

User's Manual

Site Vantage

SV1396



Company Overview

RFI Technology Solutions (abbreviated as RFI) has been serving the needs of the wireless communications market for over 40 years. First founded as a manufacturer of antenna systems, RFI has grown to be a key player in the development, manufacturing and distribution of wireless technology and energy products. Through our extensive network of resellers, systems integrators and retail outlets, RFI is a key supplier to both industry and Government.

Our research and manufacturing facilities have talented people, sophisticated test equipment, state of the art software with class leading manufacturing systems and techniques. Additionally, we have in place a quality management program which is certified to ISO9001, environmental management system certification to ISO14001 and occupational health and safety standard AS4801 giving our customers complete confidence in everything we do.

RFI's products are truly innovative and as a result we are active around the globe taking our Australian designed and manufactured products to key markets in Asia Pacific, the Americas and EMEA regions via offices 'In-region' in addition to exporting directly to in excess of 50 countries.

One of RFI's key principals is to remain totally customer focused as we recognise our future depends on the success of our customers. We know that to be chosen as your supplier we must add value to your business and to achieve this we will work hard to deliver the best product when and where you need it and back this up with the very best technical support available.



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Table of Contents

Table of Co	ontent	ts	4
List of Table	es		11
List of Figu	res		13
List of Acro	nyms	5	15
1 Introdu	uction	to the User Manual	17
Part A: Pro	duct I	Information	18
2 Produc	ct Des	scription	19
2.1 S	Site Va	antage	19
2.1.1	Des	cription	19
2.1.2	Key	Features	22
2.1.	2.1	SNMP	22
2.1.3	Турі	ical Connection Diagram	23
2.1.4	Phy	sical and Visual Interfaces	24
2.1.	.4.1	Alarm LED Indicator	31
2.1.	4.2	Power LED Indicator, Front	33
2.1.	.4.3	Ethernet Ports LED Status	34
2.1.	.4.4	DC Power Connector	35
2.1.	4.5	Factory Reset Button	36
2.1.	4.6	SAM Interface Connector	37
2.1.	4.7	Inputs / Outputs Connector	38
2.1.	4.8	Mating Connector for the Inputs / Outputs Connector	39
2.1.5	Inte	rnal Coin Battery	40
2.1.6	Diffe	erences Between the ASM and the Site Vantage	41
2.1.7 Confoi	Ope rmity	eration of the Site Vantage in North America – Compliance and Decla	aration of 45
2.1.	.7.1	FCC Part 15	45
2.1.	7.2	ISED – ICES-003 with reference to RSS-Gen	45
2.2 A	ntenr	na Line Coupler	46
2.2.1	Des	cription	46
2.2.2	Key	Features	47
2.2.3	Phy	sical Interfaces	48
2.3 S	Site Al	arm Module	50
2.3.1	Des	cription	50
2.3.2	Key	⁷ Features	51



	2.3.3	Physical and Visual Interfaces	52
	2.3	3.3.1 DC Power Connector	56
	2.3	3.3.2 Communication Connectors	57
	2.3	3.3.3 Digital Outputs Connectors	58
	2.3	3.3.4 Digital Inputs Connectors	59
	2.3	3.3.5 "General Purpose" Inputs	60
3	Tech	nical Specifications	61
;	3.1	Site Vantage	61
	3.1.1	Site Vantage's Dimensions	65
	3.2	Antenna Line Coupler	66
	3.3	SAM	67
4	Orde	ring Information	69
4	4.1	Site Vantage	69
4	4.2	Antenna Line Coupler	69
4	4.3	SAM	69
4	4.4	Accessories	70
5	Firm	vare Licence Agreement	71
	5.1	Introduction	71
ļ	5.2	Disclaimer	71
Pa	rt B: Uı	npack, Install and Calibrate the Site Vantage	73
6	Warn	ings	74
(6.1	Occupational Health & Safety / Work Safe and Safety Warnings	74
(6.2	Earth Bonding	75
(6.3	Temperature	75
(6.4	High Voltage and Surge Protection	75
(6.5	Electrostatic Discharge	75
(6.6	Antenna, Cable and Passive Components Installation and Requirements	76
7	Unpa	ick the Site Vantage	77
8	Insta	Il and Calibrate the Site Vantage	78
ł	8.1	Before you Begin: Background Information – Site Vantage's Setup	79
ł	8.2	Before you Begin: Parts List	81
ł	8.3	Installation and Calibration Steps	85
	8.3.1	Select the Location	86
	8.3.2	Make the Required Cables	87
	8.3.3	Connect the Equipment in Preparation for Calibration	91
	8.3.4	Calibrate the Site Vantage	94



	8.	3.4.1	Calibrate the TX Ports	95
	8.	3.4.2	Calibrate the RX Ports	102
	8.3.5	Cor	nnect the Equipment for Normal Operation	106
Part	C: O	perate	the Site Vantage	111
9	Set l	Jp the	Site Vantage for Normal Operation	112
10	The	Site Va	intage's GUI	114
10).1	Acces	s the Site Vantage's GUI	114
10).2	Backg	round Information	115
	10.2.	1 T	he Site Vantage's GUI	115
	10.2.	2 F	unctions of Each Screen	117
	10.2.	3 L	Jser Roles	118
11	Conf	igure t	he Site Vantage's Settings	120
11	.1	Acces	s the "Settings" Screen	120
11	.2	Chang	ge the Default Passwords for the Three Users Roles	121
11	.3	Select	t the Units for the Forward Power, Reflected Signal and the Temperature	.124
11	.4	Config	gure the Site Vantage's "Identity" Fields	125
11	.5	Config	gure the Network Settings	126
11	.6	Config	gure the Site Vantage's Date and Time	129
11	.7	Config	gure the Site Vantage's SNMP Settings	130
	11.7.	1 C	Configure the SNMP Agent Settings	130
	11.7.	2 A	Add SNMP Destinations	131
	11.7.	3 Т	est SNMP Destinations	135
	11.7.	4 E	dit the Information of an SNMP Destination	136
	11.7.	5 C	Delete an SNMP Destination	137
11	.8	Config	gure the Site Vantage's Security Settings	138
12	Dash	board		141
12	2.1	Backg	round Information – Dashboard	141
12	2.2	Acces	s the Dashboard Screen	142
12	2.3	Use th	ne Alarm History Graph's Menu	143
13	TX N	Ionitor	Screen – Monitor TX Channels	144
13	3.1	Backg	round Information – TX Monitor	144
13	3.2	Acces	s the TX Monitor Screen	149
13	3.3	Add T	X Channels to Monitor	150
13	3.4	Edit th	ne Information of a Monitored TX Channel	153
13	3.5	Delete	a Monitored TX Channel	154
13	3.6	Set Al	arm Thresholds for the Monitored TX Channels	155



13.7	View TX Channels' Live Data	157
13.8	View TX Channels' Historical Data	161
13.9	Filter TX Channels	165
13.10	Sort the TX Channels' Data	166
14 RX I	Monitor Screen – Monitor RX Channels	168
14.1	Background Information – RX Monitor	168
14.2	Access the RX Monitor Screen	172
14.3	Monitor the Composite RF Power Levels	173
14.4	Add RX Channels to Monitor	174
14.5	Edit the Information of a Monitored RX Channel	176
14.6	Delete an RX Channel	177
14.7 and th	Set Alarm Thresholds for the Composite RF Power Measured by Each RX e Monitored RX Channels	Port ک 178
14.8	View RX Channels' Live Data	181
14.9	View RX Channels' Historical Data	
14.10	Filter RX Channels	
14.11	Sort the RX Channels' Data	
15 Adja	cent Sites Screen – Monitor Adjacent Sites Control Channels	
15.1	Background Information – Adjacent Sites	
15.2	Access the Adjacent Sites Screen	
15.3	Add Adjacent Site Control Channels to Monitor	
15.4	Edit the Information of a Monitored Adjacent Site Control Channel	
15.5	Delete a Monitored Adjacent Site Control Channel	200
15.6	Set Alarm Thresholds for the Monitored Adjacent Site Control Channels	201
15.7	View Adjacent Site Control Channels' Live Data	203
15.8	View Adjacent Site Control Channels' Historical Data	204
15.9	Filter Adjacent Site Control Channels	207
15.10	Sort the Adjacent Site Control Channels' Data	208
16 RF 1	Fests Screen – Conduct RF Tests	210
16.1	Background Information – RF Tests	210
16.2	Access the RF Tests Screen	216
16.3	Antenna Isolation Test – Measure the Antenna Isolation	217
16.3	.1 Test Description – Antenna Isolation Test	217
16.3	.2 Set Up the Antenna Isolation Test(s)	219
16.3	.3 Conduct an Antenna Isolation Test	223
16.3	.4 Cancel an Antenna Isolation Test in Progress	224



16.3	.5	Schedule Antenna Isolation Tests	225
16.3	.6	Cancel All Scheduled Antenna Isolation Tests	228
16.3	.7	View Antenna Isolation Test Results	229
16.4 Presele	RX ector	Preselector Characterisation Test – Determine the Performance of the RX	233
16.4	.1	Test Description – RX Preselector Characterisation Test	233
16.4	.2	Set Up the RX Preselector Characterisation Test(s)	236
16.4	.3	Conduct an RX Preselector Characterisation Test	241
16.4	.4	Cancel an RX Preselector Characterisation Test in Progress	242
16.4	.5	Schedule an RX Preselector Characterisation Test	243
16.4	.6	Cancel All Scheduled RX Preselector Characterisation Tests	246
16.4	.7	View RX Preselector Characterisation Test Results	247
16.5	ТХ (Carrier Suppression Test – Measure the Suppression of the TX Signal	252
16.5	.1	Test Description – TX Carrier Suppression Test	252
16.5	.2	Set Up the TX Carrier Suppression Test(s)	255
16.5	.3	Conduct a TX Carrier Suppression Test	259
16.5	.4	Cancel a TX Carrier Suppression Test in Progress	260
16.5	.5	Schedule a TX Carrier Suppression Test	261
16.5	.6	Cancel All Scheduled TX Carrier Suppression Tests	264
16.5	.7	View TX Carrier Suppression Test Results	265
17 Exte	rnal I	Inputs Screen – Monitor External Inputs	269
17.1	Bac	kground Information – External Inputs	269
17.2	Acc	ess the External Inputs Screen	274
17.3	Add	External Inputs to Monitor	275
17.4	Edit	the Information of an External Input	278
17.5	Disa	able and Re-Enable an External Input	279
17.5	.1	Disable an External Input	279
17.5	.2	Re-Enable an External Input	280
17.6	Dele	ete an External Input	281
17.7	Set	Alarm Thresholds for the Monitored External Inputs	282
17.8	Viev	v External Inputs' Live Data	285
17.9	Viev	v External Inputs' Historical Data	286
17.10	F	ilter External Inputs	288
17.11	S	ort the External Inputs' Data	289
18 Alarr	ns S	creen – View Alarm Information	291
18.1	Bac	kground Information – Alarms	291



18.2	Access the Alarms Screen	296
18.3	Change the Period Displayed	297
18.4	Filter Alarms	298
18.5	Sort Alarms' Data	299
19 Notif	fications Screen – Use Notifications to Send SNMP Traps and Energise Relays	300
19.1	Background Information – Notifications	300
19.2	Access the Notifications Screen	305
19.3	Add Notification Rules	306
19.4	Edit the Information of a Notification Rule	309
19.5	Disable/Enable a Notification Rule	310
19.5	.1 Disable a Notification Rule	310
19.5	.2 Enable a Notification Rule	310
19.6	Delete a Notification Rule	311
19.7	Reset to Default Notification Rules	312
19.8	Monitor the Relays	313
19.9	Select the Relays' Energise Mode	314
19.10	Operate the Relays in Test Mode	315
19.11	Filter Relays	316
20 Calib	pration Screen – Calibrate the Site Vantage	317
20.1	Background Information – Calibration	317
20.2	Disable TX and RX Ports	321
21 Setti	ings Screen	323
21.1	Background Information – Settings	323
21.2	Access the Settings Screen	329
21.3	Review the System Information	330
21.4	Export and Import the Site Vantage's Configuration	331
21.4	.1 Export the Site Vantage's Configuration	331
21.4	.2 Import Into the Site Vantage the Configuration from Another Site Vantage	.332
21.5	Reset the Site Vantage	333
21.6	Collect and Download Diagnostic Data for Remote Support	335
21.7	Upgrade the Site Vantage's Firmware	336
21.8	Review the Site Vantage's Internal Alarms	338
21.9	Reboot the Site Vantage	340
22 Log	Out of the GUI	341
23 All S	ite Vantage's Functions	342
Part D: S	Supporting Resources	349



24	Trou	Ibleshooting – Accessing the GUI	349
2	4.1	Accessing the GUI Via the "ETH1" Port Using a Windows Computer	349
2	4.2	Accessing the GUI Via the "ETH2" or "ETH3" Ports	350
2	4.3	Forgotten IP Addresses	350
25	Add	itional Supporting Information	351
26	Con	tact Information	351



List of Tables

Table 1 – Site Vantage's Physical and Visual Interfaces	30
Table 2 – Alarm Light Pattern and System Status	32
Table 3 – Power Light Pattern and System Status	33
Table 4 – Ethernet Ports LED Status	34
Table 5 – DC Power Connector Pin Function Table	35
Table 6 – DB9(M) Connector Pin Function Table	37
Table 7 - ASM vs Site Vantage Differences and Advantages	44
Table 8 – Antenna Line Coupler's Physical Interfaces	49
Table 9 – SAM's Physical and Visual Interfaces	55
Table 10 – DC Power Connector Pin Function Table	56
Table 11 – DB15(M) Connector Pin Function Table, SAM Connected to a Site Vantage	57
Table 12 – Polarised 3-pin Phoenix Connector Pin Function Table	58
Table 13 – Polarised 2-pin Phoenix Connector Pin Function Table	59
Table 14 – Polarised 8-pin Phoenix Connector Pin Function Table	60
Table 15 – Technical Specifications of the Site Vantage	64
Table 16 – Technical Specifications of the Antenna Line Coupler	66
Table 17 – Technical Specifications of the SAM	68
Table 18 – Site Vantage's Ordering Information	69
Table 19 – Antenna Line Coupler's Ordering Information	69
Table 20 – SAM's Ordering Information	69
Table 21 – Accessories' Ordering Information	70
Table 22 – Site Vantage's Minimum Setup	80
Table 23 – Equipment in a Typical Setup	80
Table 24 – Steps to Set Up the Site Vantage for Normal Operation	. 113
Table 25 – Functions of Each of the 10 screens	. 117
Table 26 – User Roles, Default Passwords and Access Levels	. 118
Table 27 – Functions of the Dashboard Screen	.141
Table 28 – Functions of the Live Status Tab ("TX Monitor" Screen)	.146
Table 29 – Functions of the History Tab ("TX Monitor" Screen)	.147
Table 30 – Functions of the Alarm Profiles Tab ("TX Monitor" Screen)	.148
Table 31 – Meaning of the Format of the Measurement Box	.157
Table 32 – Data Sorting Icons ("TX Monitor" Screen)	.166
Table 33 – Functions of the Live Status Tab ("RX Monitor" Screen)	.169
Table 34 – Functions of the History Tab ("RX Monitor" Screen)	.170
Table 35 – Functions of the Alarm Profiles Tab ("RX Monitor" Screen)	.171
Table 36 – Meaning of the Format of the Measurement Box	.181
Table 37 – Data Sorting Icons ("RX Monitor" Screen)	.190
Table 38 – Functions of the Live Status Tab ("Adjacent Sites" Screen)	.193



Table 39 – Functions of the History Tab ("Adjacent Sites" Screen)	194
Table 40 – Functions of the Alarm Profiles Tab ("Adjacent Sites" Screen)	195
Table 41 – Meaning of the Format of the Measurement Box	203
Table 42 – Data Sorting Icons ("Adjacent Sites" Screen)	208
Table 43 – Site Vantage's Tests	210
Table 44 – Functions of the Antenna Isolation Tests Tab ("RF Tests" Screen)	211
Table 45 – Functions of the RX Preselector Characterisation Tab ("RF Tests" Screen)	213
Table 46 – Functions of the TX Carrier Suppression Test Tab ("RF Tests" Screen)	215
Table 47 – Functions of the Live Status Tab ("External Inputs" Screen)	271
Table 48 – Functions of the History Tab ("External Inputs" Screen)	272
Table 49 – Functions of the Alarm Profiles Tab ("External Inputs" Screen)	273
Table 50 – Data Sorting Icons ("External Inputs" Screen)	289
Table 51 – User Manual Sections where Alarm Thresholds are Defined	291
Table 52 – Functions of the Active Alarms Tab ("Alarms" Screen)	294
Table 53 – Functions of the Alarm History Tab ("Alarms" Screen)	295
Table 54 – Data Sorting Icons ("Alarms" Screen)	299
Table 55 – Default Notification Rules Purpose	301
Table 56 – Functions of the Notification Rules Tab ("Notifications" Screen)	302
Table 57 – Functions of the Relays Sub-Tab ("Notifications" Screen)	303
Table 58 – Functions of the SNMP Traps Sub-Tab ("Notifications" Screen)	304
Table 59 – De-energised and Energised Relays	313
Table 60 – Functions of the TX Ports Tab ("Calibration" Screen)	319
Table 61 – Functions of the RX Ports Tab ("Calibration" Screen)	320
Table 62 – Functions of the System Information Tab ("Settings" Screen)	324
Table 63 – Functions of the User Management Tab ("Settings" Screen)	325
Table 64 – Functions of the Configuration Tab ("Settings" Screen)	326
Table 65 – Functions of the Maintenance Tab ("Settings" Screen)	327
Table 66 – Functions of the System Health Tab ("Settings" Screen)	328
Table 67 – Data Types	333
Table 68 – Data Types That Reset for Each Reset Type	333
Table 69 – All Site Vantage's Functions	348



List of Figures

Figure 1 - Site Vantage, Front	20
Figure 2 - Site Vantage, Rear	21
Figure 3 – Typical Connection Diagram	23
Figure 4 – Site Vantage's Physical and Visual Interfaces, Front	24
Figure 5 – Site Vantage's Physical and Visual Interfaces, Rear	24
Figure 6 – Alarm LED Indicator	31
Figure 7 – Power LED Indicator, Front	33
Figure 8 – ETH1 Port	34
Figure 9 – ETH2 and ETH3 Port	34
Figure 10 – Ethernet port's LEDs	34
Figure 11 – DC Power Connector Pinout	35
Figure 12 – Mating Connector (MSTB 2,5/ 2-STF-5,08)	35
Figure 13 – "FACTORY RESET" Button	36
Figure 14 – DB9(M) Connector Pinout	37
Figure 15 – "INPUTS / OUTPUTS" Connector Pinout	38
Figure 16 – Inputs/Outputs Connector Pin Function	38
Figure 17 – Mating Connector (DFMC 1,5/10-STF-3,5)	39
Figure 18 - Antenna Line Coupler	47
Figure 19 – Antenna Line Coupler's Physical Interfaces, Top View	48
Figure 20 - Site Alarm Module (SAM)	50
Figure 21 – SAM's Physical and Visual Interfaces, Front	52
Figure 22 – SAM's Physical and Visual Interfaces, Rear	52
Figure 23 – DC Power Connector Pinout	56
Figure 24 – Mating Connector (MSTB 2,5/ 2-STF-5,08)	56
Figure 25 – DB15(M) Connector Pinout	57
Figure 26 – Polarised 3-pin Phoenix Connector Pinout	58
Figure 27 – Mating Connector (MSTB 2,5/ 3-ST-5,08)	58
Figure 28 – Polarised 2-pin Phoenix Connector Pinout	59
Figure 29 – Mating Connector (MSTB 2,5/ 2-ST-5,08)	59
Figure 30 – Polarised 8-pin Phoenix Connector Pinout	60
Figure 31 – Mating Connector (MSTB 2,5/ 8-ST-5,08)	60
Figure 32 – Site Vantage's Dimensions, Height and Width	65
Figure 33 – Site Vantage's Dimensions, Depth	65
Figure 34 – Summary of the Installation and Calibration Process	78
Figure 35 – Site Vantage's Minimum Setup	79
Figure 36 – Steps to Set Up the Site Vantage for Normal Operation	112
Figure 37 – Main Menu, Tabs and Horizontal Sub-Tabs	115
Figure 38 – Vertical Sub-Tabs	116



Figure 39 – Functions of the "Dashboard" Screen	141
Figure 40 – Functions of the Live Status Tab – 1 ("TX Monitor" Screen)	145
Figure 41 – Functions of the Live Status Tab – 2 ("TX Monitor" Screen)	145
Figure 42 – Functions of the History Tab ("TX Monitor" Screen)	147
Figure 43 – Functions of the Alarm Profiles Tab ("TX Monitor" Screen)	148
Figure 44 – Functions of the Live Status Tab ("RX Monitor" Screen)	169
Figure 45 – Functions of the History Tab ("RX Monitor" Screen)	170
Figure 46 – Functions of the Alarm Profiles Tab ("RX Monitor" Screen)	171
Figure 47 – Functions of the Live Status Tab ("Adjacent Sites" Screen)	193
Figure 48 – Functions of the History Tab ("Adjacent Sites" Screen)	194
Figure 49 – Functions of the Alarm Profiles Tab ("Adjacent Sites" Screen)	195
Figure 50 – Functions of the Antenna Isolation Tests Tab ("RF Tests" Screen)	211
Figure 51 – Functions of the RX Preselector Characterisation Tab ("RF Tests" Screen)	212
Figure 52 – Functions of the TX Carrier Suppression Test Tab ("RF Tests" Screen)	214
Figure 53 – Test Signal Path During an Antenna Isolation Test	218
Figure 54 – Test Signal Path During an RX Preselector Characterisation Test	235
Figure 55 – Test Signal Path During a TX Carrier Suppression Test	254
Figure 56 - "INPUTS / OUTPUTS" Connector on the Rear of the Site Vantage	269
Figure 57 – Analogue and Digital External Inputs Grouped on the Alarm Profiles Tab	270
Figure 58 – Functions of the Live Status Tab ("External Inputs" Screen)	271
Figure 59 – Functions of the History Tab ("External Inputs" Screen)	272
Figure 60 – Functions of the Alarm Profiles Tab ("External Inputs" Screen)	273
Figure 61 – Major and Minor Thresholds	292
Figure 62 – Functions of the Active Alarms Tab ("Alarms" Screen)	294
Figure 63 – Functions of the Alarm History Tab ("Alarms" Screen)	295
Figure 64 – Functions of the Notification Rules Tab ("Notifications" Screen)	302
Figure 65 – Functions of the Relays Sub-Tab ("Notifications" Screen)	303
Figure 66 – Functions of the SNMP Traps Sub-Tab ("Notifications" Screen)	304
Figure 67 – "Notification Rule" and "State" Columns of the "Relays" Sub-Tab	313
Figure 68 – Background Information on Calibration	318
Figure 69 – Functions of the TX Ports Tab ("Calibration" Screen)	319
Figure 70 – Functions of the RX Ports Tab ("Calibration" Screen)	320
Figure 71 – Functions of the System Information Tab ("Settings" Screen)	323
Figure 72 – Functions of the User Management Tab ("Settings" Screen)	325
Figure 73 – Functions of the Configuration Tab ("Settings" Screen)	326
Figure 74 – Functions of the Maintenance Tab ("Settings" Screen)	327
Figure 75 – Functions of the System Health Tab ("Settings" Screen)	328



List of Acronyms

Acronym	Definition
AC	Alternating Current
AMD	Amendment
AS	Australian Standards
ASM	Antenna System Monitor
AUX	Auxiliary
AWG	American Wire Gauge
CA	Certificate Authority
CISPR	Comité International Spécial des Perturbations Radioélectriques
	(Special International Committee on Radio Interference)
CSR	Certificate Signing Request
DC	Direct Current
DHCP	Dynamic Host Configuration Protocol
DI	Digital Input
DNS	Domain Name System
EN	European Norm
ESD	Electrostatic Discharge
EXT	External
F	Female
FCC	Federal Communications Commission
FWD	Forward
GND	Ground
GUI	Graphical User Interface
I/P	Input
IC	Industry Canada
ICES	Interference-Causing Equipment Standard
IEC	International Electrotechnical Commission
IMD	Intermodulation Distortion
IP	Ingress Protection
ISED	Innovation, Science and Economic Development Canada
LED	Light-Emitting Diode
LMR	Land Mobile Radio



Acronym	Definition
LNA	Low-Noise Amplifier
М	Male
NZS	New Zealand Standards
OHS	Occupational Health and Safety
PIM	Passive Intermodulation
PIP	Peak Instantaneous Power
PSU	Power Supply Unit
REF	Reference
REST	Representational State Transfer
REV	Reverse
RF	Radio Frequency
RoHS	Restriction of Hazardous Substances in Electrical and Electronic Equipment
RSM	Receive Systems Module
RSS	Radio Standards Specification
RSSI	Received Signal Strength Indicator
RTU	Real Time Clock
RU	Rack Unit
RX	Receive or Receiver
SAM	Site Alarm Module
SNMP	Simple Network Management Protocol
TDMA	Time Division Multiple Access
ТХ	Transmit or Transmitter
VDC	Volts Direct Current
VSWR	Voltage Standing Wave Ratio
WHS	Work Health and Safety



1 Introduction to the User Manual

This manual provides the required information to install and operate the Site Vantage safely and efficiently. It consists of the following four parts:

• Part A: Product Information

This part contains:

- A description of the Site Vantage, the Antenna Line Coupler and the Site Alarm Module (SAM)
- Technical specifications
- Ordering information
- RFI's firmware licence agreement
- The declaration of conformity to operate the Site Vantage in North America.

• Part B: Unpack, Install and Calibrate the Site Vantage

This part explains how to unpack, install and calibrate the Site Vantage. It also provides important safety warnings (section 6) to ensure the Site Vantage is installed, calibrated and operated safely.

• Part C: Operate the Site Vantage

This part explains how to use the Graphical User Interface (GUI) to operate the Site Vantage. It provides one section for each of the 15 GUI screens, explaining in detail all functions of the Site Vantage.

• Part D: Supporting Resources

This part provides relevant supporting resources, including RFI's contact information.

To install and operate the Site Vantage:

- 1. Read **Part A** to understand the Site Vantage and its associated equipment
- 2. Complete Part B to install the Site Vantage
- 3. Complete **Part C** to operate the Site Vantage.



Part A: Product Information

To understand the Site Vantage and its associated equipment:

Understand the Site Vantage and Its Associated Equipment

- 1. Read section "2. Product Description" of this manual.
- 2. Read section **"3. Technical Specifications**" of this manual.
- 3. Read section "5. Firmware Licence Agreement" of this manual.

Note: Section **"4. Ordering Information**" contains the ordering information for the Site Vantage, Antenna Line Coupler and the SAM.



2 <u>Product Description</u>

This section describes the features and functions of the Site Vantage, the Antenna Line Coupler and the Site Alarm Module (SAM).

2.1 Site Vantage

2.1.1 Description

The Site Vantage measures the performance of an RF site, enabling network operators to minimise the cost of ownership of RF sites by optimising maintenance and maximising network availability:

• Optimising maintenance

The Site Vantage provides real-time, in-depth critical data about the RF site's performance and potential faults, allowing operators to:

- Address failures before they occur
- Ensure the RF site operates as intended, without needing to send a technician onsite
- Reduce the frequency and duration of maintenance activities and health checks.

• Maximising network availability

The Site Vantage helps operators minimise downtime by:

- Alerting operators about faults as soon as they happen, enabling immediate action
- Providing data to diagnose faults, so technicians arrive at the RF site with the right information and tools.

The Site Vantage's modern hardware and software architecture underpins its innovative RF monitoring capabilities, including:

- Fast monitoring of forward and reverse transmitted power per channel, for more than 80 channels
- Fast monitoring of RX RSSI levels per channel, for more than 80 channels
- Measuring TX to RX antenna loss (isolation), for all TX-RX antenna combinations
- Determining the performance of the RX preselector
- Measuring the suppression of the base stations' TX frequencies by the RX subsystem
- Broadband operation (132 to 960MHz), enabling RF monitoring of dual or multiband sites using a single Site Vantage.



The Site Vantage features:

- Three separate pairs of FWD and REV transmitter (TX) inputs, as well as three separate receiver (RX) inputs, enabling the Site Vantage to monitor:
 - Multiple TX combiners and antennas
 - RX diversity systems
 - RF sites with standalone RX monitoring antennas.
- Four outputs and inputs. It can also be connected to up to ten SAMs, providing up to 100 extra outputs and 140 extra inputs (refer to section 2.3 for more information on the SAMs).

Designed with the user in mind, the Site Vantage is easy to install, and its intuitive GUI clearly displays the monitored data. Its modern architecture allows for the addition of advanced software features in the future, such as remote troubleshooting.



Figure 1 - Site Vantage, Front





Figure 2 - Site Vantage, Rear



2.1.2 Key Features

Key features of the Site Vantage include:

- Remote and automated RF site monitoring and fault finding to minimise on-site maintenance and operational costs
- Non-intrusive and channelised monitoring of TX forward and reverse power, return loss as well as RX RSSI in multi-channel, digital and analogue LMR systems
- Advanced RF tests to:
 - Measure the loss (isolation) between the TX and the RX antennas
 - Characterise the shape of the frequency response of the RX preselector to determine its performance
 - Measure the suppression of the base stations' TX signals by the RX subsystem.
- Broadband operation supporting frequencies from 132 to 960MHz
- Fast channel scan rates
- Three pairs of FWD and REV inputs and three RX inputs
- Broad input voltage range from 12 to 60VDC

Note:

- The lowest DC input voltage the Site Vantage can accept is 10.5VDC, which represents a tolerance of -12.5%. IEC/EN 62368.1:2023 specifies a tolerance of -15%
- The highest DC input voltage the Site Vantage can accept is 60VDC, as it automatically shuts down when connected to an input voltage higher than 60VDC.
- Advanced cyber security features
- Integrated digital outputs and analogue/digital inputs
- Hardware is ready for future advanced RF monitoring software features
- Onboard RF "AUX" and "SIG GEN" ports for easy on-site troubleshooting
- Compact design
- 1RU, 19" rack frame mounting
- Supports HTTPS and SNMP v3 protocols.

2.1.2.1 SNMP

The Site Vantage supports the three major SNMP versions: v1, v2c, and v3.

SNMPv3 allows network management via secure authentication and encryption.

The Site Vantage's SNMP provides SNMP GET for data retrieval and SNMP TRAP/REPORT for event notifications.



2.1.3 Typical Connection Diagram

Figure 3 below illustrates a typical connection diagram for the Site Vantage.

Note:

- The Site Vantage requires an Antenna Line Coupler, as it uses the forward and reverse power sampled by the Antenna Line Coupler for its TX monitoring. Refer to section 2.1.7 for more information on the Antenna Line Coupler
- Refer to section 4.2 for the Antenna Line Coupler's ordering information.



Figure 3 – Typical Connection Diagram



2.1.4 Physical and Visual Interfaces

Figure 4, Figure 5 and Table 1 describe the Site Vantage's physical and visual interfaces.



Figure 5 – Site Vantage's Physical and Visual Interfaces, Rear



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
1	AUX	BNC(F)	 The AUX port is currently not in use. Future firmware updates will enable the AUX port, which will have two functions: To output a signal of a known frequency and amplitude. To monitor one of the Site Vantage's TX or RX ports using external test equipment. This is done: Using the Site Vantage's GUI, the user can select one of the TX or RX ports. As a result, the AUX port becomes connected to the selected TX or RX port The user can connect external test equipment to the AUX
			port to measure the signals present in the selected TX or RX port.



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
2	10 MHz REF IN	BNC(F)	To lock the Site Vantage to an external 10MHz reference frequency, such as a base station's reference frequency output, a GPS reference, etc.
			Note:
			 It is recommended to use an external 10MHz reference frequency, as it enhances the Site Vantage's frequency accuracy
			 An external 10MHz reference frequency can be connected to the 10 MHz REF IN port at any time, using a BNC(M) connector
			 Once an external 10MHz reference frequency is connected to the 10 MHz REF IN port, the Site Vantage automatically detects and uses it.
3	MICRO SD	Micro SD Port	To connect a micro-SD card to the Site Vantage.
4	ALARM (LED)	N/A	This LED illuminates or flashes to provide a summary of the Site Vantage's alarms and/or faults.
			Note: Refer to section 2.1.4.1 for more information.
5	POWER (LED)	N/A	This LED illuminates or flashes to provide a summary of the Site Vantage's system status.
			Note: Refer to section 2.1.4.2 for more information.



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
6	ETH1	RJ45	To connect a PC to the Site Vantage, to access the Site Vantage's GUI. The LEDs of the Ethernet port illuminate or flash to provide information about the network connection.
			Note:
			 Refer to section 2.1.4.3 for information on the LEDs of the Ethernet port
			 Refer to section 10.1 for information on how to access the Site Vantage's GUI
			 The default IP address of the "ETH1" port is 192.168.1.200. Refer to section 11.5 for information on how to change this IP address.
7	POWER (LED)	N/A	This LED illuminates in green as soon as the power supply is connected to the Site Vantage, to indicate the Site Vantage has been powered on.
8	DC Power Connector	Polarised 2-pin Phoenix	To connect a power source to the Site Vantage. The DC power input is reverse polarity protected.
			Note:
			 Refer to section 8.3.3 for information on powering the Site Vantage
			Refer to section 2.1.4.4 for information on the function of the connector's pins.



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
9	SAM INTERFACE	DB9(M)	To connect a SAM(s) to the Site Vantage.
			Note:
			Refer to section 2.3 for more information on the SAM
			• Refer to section 2.1.4.5 for information on the function of the connector's pins.
10	FACTORY RESET	N/A	To conduct a factory reset.
			Note: Refer to section 2.1.4.5 for more information.
11	ETH2	RJ45	To connect the Site Vantage to an existing network, so that any PC
12	ETH3		on the network can remotely access the Site Vantage. The LEDs of the Ethernet ports illuminate or flash to provide information about the network connection.
			Note:
			 The two Ethernet ports are bridged and operate as a 2-port switch
			 Refer to section 2.1.4.3 for information on the LEDs of the Ethernet ports
			 Refer to section 10.1 for information on how to access the Site Vantage's GUI.
13	SIG GEN	BNC(F)	The SIG GEN port is currently not in use.
			Future firmware updates will enable the SIG GEN port, which will be able to output a signal of a known frequency and amplitude.



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
14	INPUTS / OUTPUTS	Polarised 20-pin Phoenix	The connector provides four input ports and four output ports, the function of which is:
			 Input ports: sensors can be connected to the input ports (i.e. a temperature probe, analogue voltage and digital inputs, etc.)
			• Output ports: hardware which needs to be actioned based on an alarm can be connected to the output ports.
			Note: Refer to section 2.1.4.7 for information.
15	Earth connection	M6 earth studs	To earth the Site Vantage to a suitable earthing point of the 19" rack frame, using:
			 A crimp connector or a 2-hole lug (LCD6-14B-L manufactured by Panduit); and
			• 1.5mm ² (14AWG) minimum cross-sectional area conductor.
16	RX ports	BNC(F)	To connect to the RX subsystem, to measure RX RSSI.



Id (Figure 4 and Figure 5)	Name	Connector Type	Function
17	TX ports (FWD and REV)	4.3-10(F)	To connect to the FWD and REV ports of the Antenna Line Coupler, to measure TX forward and reverse power.
			In addition, the REV ports can output a signal of a known frequency and amplitude.
			Note:
			 The Site Vantage contains three pairs of FWD and REV TX ports (FWD1 and REV1, FWD2 and REV2 and FWD3 and REV3)
			 Each pair of TX ports can be used to connect to an Antenna Line Coupler
			 Each Antenna Line Coupler must be connected to the same pair of ports (i.e. Antenna Line Coupler 1 can be connected to the FWD1 and REV1 ports)
			• The REV ports are used to output a signal during antenna isolation tests and RX preselector characterisation tests. Refer to section 16 for more information.

Table 1 – Site Vantage's Physical and Visual Interfaces



2.1.4.1 Alarm LED Indicator

The alarm LED indicator on the front of the Site Vantage (Figure 6) illuminates or flashes to provide a summary of the Site Vantage's alarms and/or faults.



Figure 6 – Alarm LED Indicator

The different light patterns of the alarm LED indicate:

Light Pattern	System Status		
Switched off	Either:		
	• Status 1: The Site Vantage is not powered; or		
	• Status 2: All the following conditions are true:		
	 The Site Vantage is powered 		
	 The operating system has booted 		
	 There are no alarms triggered by the data acquired by the Site Vantage 		
	 There are no faults with the Site Vantage. 		
Solid orange	The Site Vantage is powered on, but the operating system has not yet booted.		
Slow flashing orange	At least one of the following statuses is true:		
	• Status 1: The data acquired by the Site Vantage has triggered a minor alarm		
	• Status 2: A minor fault exists with the Site Vantage (i.e. over temperature).		
	Note: Minor alarms triggered by the data acquired by the Site Vantage are determined by the user-configured thresholds. Refer to section 18 for more information.		



Light Pattern	System Status
Fast flashing red	At least one of the following statuses is true:
	 Status 1: The data acquired by the Site Vantage has triggered a major alarm
	• Status 2: A major fault exists with the Site Vantage.
	Note:
	Examples of major faults with the Site Vantage include:
	 Signals exceed input limits
	 Corrupt configuration
	 Failure to deliver SNMP traps.
	 Major alarms triggered by the data acquired by the Site Vantage are determined by the user-configured thresholds. Refer to section 18 for more information.
Solid red	A critical fault exists with the Site Vantage, which can only be repaired by RFI.
	Note: Examples of critical faults with the Site Vantage include:
	Hardware failure of a voltage rail
	Missing calibration fields.

Table 2 – Alarm Light Pattern and System Status



2.1.4.2 Power LED Indicator, Front

The power LED indicator located on the front (Figure 7) of the Site Vantage illuminates or flashes to provide a summary of the Site Vantage's system status.



Figure 7 – Power LED Indicator, Front

The different light patterns of the power LED (front) indicate:

Light Pattern	System Status	
Switched off	Either:	
	• Status 1: The Site Vantage is not powered; or	
	• Status 2: The polarity of the power supply is incorrect.	
Solid orange	The Site Vantage is powered on, but the operating system has not yet booted.	
Solid green	The Site Vantage is powered on, and the operating system has booted.	
Flashing, alternating orange and green	The "FACTORY RESET" button has been held down for 10 seconds but has not yet been released.	
	Note: Refer to section 2.1.4 for more information on the "FACTORY RESET" button.	

Table 3 – Power Light Pattern and System Status



2.1.4.3 Ethernet Ports LED Status

The LEDs of the Ethernet port (RJ45) located on the front (ETH1, Figure 8) of the Site Vantage, and the LEDs of the Ethernet ports (RJ45) located on its rear (ETH2 and ETH3, Figure 9), illuminate or flash to provide information about the network connection.





Figure 9 – ETH2 and ETH3 Port

Each Ethernet port (RJ45) has two LEDs, a green one on its left and an orange one on its right.



Figure 10 – Ethernet port's LEDs

The different patterns of these two LEDs indicate:

Indicator	Light Pattern	Status
Green	Off	Link is down
	Solid green	Link is up (10, 100 or 1000 Mbps)
Orange	Off	Link is down
	Flashing orange	Link is up (10, 100 or 1000 Mbps)

Table 4 – Ethernet Ports LED Status



2.1.4.4 DC Power Connector

Figure 11 below illustrates the pin numbers on the polarised 2-pin Phoenix connector.



Figure 11 – DC Power Connector Pinout

Table 5 below lists the function of each pin:

Pin	Function
1	DC power input negative
2	DC power input positive

Table 5 – DC Power Connector Pin Function Table

Refer to section 2.1.4.4.1 for information on the mating connector (MSTB 2,5/ 2-STF-5,08).

2.1.4.4.1 Mating Connector for the DC Power Connector

The commercial information for the mating connector (Figure 12) is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1777989
- OEM's part name: MSTB 2,5/ 2-STF-5,08

Note:

- The mating connector for the DC Power Connector is supplied with the Site Vantage
- The AC-to-DC plugpack compatible with the Site Vantage supplied by RFI has been terminated with the mating connector for the DC Power Connector. Refer to section 4.4 for the plugpack's ordering information.



Figure 12 – Mating Connector (MSTB 2,5/ 2-STF-5,08)



2.1.4.5 Factory Reset Button

The "FACTORY RESET" button (Figure 13) is used to conduct a "full configuration reset", which:

- Resets the Site Vantage's system configuration and IP data to its factory settings
- Does not erase the data records, which include the data measured by the Site Vantage and the alarm history.

Note:

- Refer to section 21.5 for more information on the "full configuration reset"
- The data records must be reset using the GUI. Refer to section 21.5 for information on how to reset the data records.



Figure 13 – "FACTORY RESET" Button

To conduct the factory reset:

- 1. Press and hold the "FACTORY RESET" button, for a minimum of 10 seconds, until the power LED indicator (front Figure 7) flashes, alternating orange and green.
- 2. Release the "FACTORY RESET" button, which triggers:
 - The power LED indicator (front Figure 7) to revert to a solid orange colour
 - The Site Vantage's configuration and IP data to return to its factory settings
 - The Site Vantage to reboot, which then causes the power LED indicator (front Figure 7) to change to a solid green colour.

Note:

- It can take up to 5 minutes for the Site Vantage to reboot
- Refer to section 2.1.4.2 for more information on the power LED indicator located on the front (Figure 7) of the Site Vantage.


2.1.4.6 SAM Interface Connector

Figure 14 below illustrates the pin numbers on the DB9(M) connector.



Figure 14 – DB9(M) Connector Pinout

Table 6 below lists the function of each pin:

Pin	Function
1	Communications bus – GND
2	Communications bus – RX
3	Not connected
4	Not connected
5	Internal connection – DO NOT USE
6	Communications bus – TX
7	Not connected
8	Not connected
9	Not connected

Table 6 – DB9(M) Connector Pin Function Table



2.1.4.7 Inputs / Outputs Connector

The "INPUTS / OUTPUTS" connector provides four outputs and four inputs. Figure 15 below illustrates the pin numbers on the "INPUTS / OUTPUTS" connector.



Figure 15 – "INPUTS / OUTPUTS" Connector Pinout

Figure 16 below illustrates the function of each pin:

Note: The function of each pin can be reconfigured.



Figure 16 – Inputs/Outputs Connector Pin Function

The mating connector (DFMC 1,5/10-STF-3,5) is supplied with the Site Vantage. Refer to section 2.1.4.8 for information on the mating connector, including how to set it up.



2.1.4.8 Mating Connector for the Inputs / Outputs Connector

2.1.4.8.1 Information On the Mating Connector

The mating connector (Figure 17):

- Has push-in connections
- Is compatible with single or multi-strand wires sized from 0.25mm² to 1.5mm² (24 to 16AWG).

The commercial information for the mating connector is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1790373
- OEM's part name: DFMC 1,5/10-STF-3,5



Figure 17 – Mating Connector (DFMC 1,5/10-STF-3,5)

Note: The mating connector is supplied with Site Vantage.

2.1.4.8.2 Connect the External Input's Wires to the Mating Connector

To connect the external input's wires to the mating connector:

- 1. Strip 10mm of insulation from the wires
- 2. Push each wire into its corresponding wire socket, until the push-in connection closes, securing the wire.

2.1.4.8.3 Remove a Wire from the Mating Connector

To remove a wire from the mating connector, use a small (maximum 2.7mm width) flat-blade screwdriver to push the orange button above the wire socket until it clicks and releases the wire.

2.1.4.8.4 Connect the Mating Connector to the Site Vantage

To connect the mating connector to the Site Vantage's "INPUTS / OUTPUTS" connector:

- 1. Manually connect the mating connector to the Site Vantage's "INPUTS / OUTPUTS" connector
- 2. Secure the mating connector by installing two retaining screws, one at each side of the connector.

Note: Use a small (maximum 2.7mm width) flat-blade screwdriver to install the two retaining screws.



2.1.5 Internal Coin Battery

The Site Vantage uses an internal coin battery for its Real Time Clock (RTC) function.

The internal coin battery:

- Is connected to the Site Vantage's microcontroller
- Is only used to maintain the Site Vantage's RTC function, and only when the Site Vantage is powered off
- Is not used when the Site Vantage is powered on
- Has a typical lifetime of more than 10 years, as the Site Vantage is continuously powered on during normal operation.

Internal Coin Battery Voltage

• When the internal coin battery voltage falls below a threshold level, a minor alarm is triggered and becomes active

Note: Refer to section 18 for information on alarms.

- If the internal coin battery fails, the user can, either:
 - Continue using the Site Vantage, relying solely on network connection timing for its RTC function; or
 - Return the Site Vantage to RFI for internal coin battery replacement.



2.1.6 Differences Between the ASM and the Site Vantage

The Site Vantage is the new version of RFI's Antenna System Monitor (ASM) product. The table below lists the main differences between the ASM and the Site Vantage, and the advantages these differences represent:

The ASM	The Site V	antage	
Features	Features	Advantages	
Has one receiver (RX) input. Can be fitted with a Receive Systems Module (RSM) to house more receiver (RX) inputs.	Has three receiver (RX) inputs. An RSM is not required. Note: The RSM is not compatible with the Site Vantage.	Enhanced monitoring capability: up to three RX antennas can be connected without the need for an RSM.	
 Has four pairs (FWD and REV) of TX inputs, which are internally combined, making it impossible to: Determine from which TX input a signal came from Generate an internal test signal from an individual REV port. As a result, the ASM cannot conduct antenna isolation tests or RX preselector characterisation tests. 	 Has three pairs (FWD and REV) of TX inputs. Each pair is internally controlled, enabling the user to: Determine from which TX input a signal came from Generate an internal test signal from an individual REV port. As a result, the Site Vantage can conduct antenna isolation tests and RX preselector characterisation tests. 	 Enhanced monitoring capability: The Site Vantage can provide data about each TX antenna separately (i.e. can identify which TX antenna is faulty) The Site Vantage can measure the loss (isolation) between all TX-RX antenna combinations The Site Vantage can determine the performance of each RX preselector. 	
Has a slower channel scan rate than the Site Vantage.	Unlike the ASM, the Site Vantage can simultaneously scan 15 TX channels (15 TX FWD and REV pairs) or 30 RX channels, resulting in a much faster channel scan rate than the ASM.	Improved fault-finding: the Site Vantage detects fault conditions significantly faster than the ASM.	



The ASM	The Site Vantage			
Features	Features	Advantages		
 Does not have: External inputs (i.e. to connect external sensors) External outputs (i.e. to action external hardware). Requires a SAM to have inputs (i.e. to connect external sensors to monitor site conditions such as ambient temperature, battery voltages, site access doors, etc.) and outputs (i.e. to action external hardware based on an alarm triggered by the Site Vantage). Note: The ASM does have RF inputs (TX and RX). 	 Has four inputs and four outputs, configurable using the Site Vantage's GUI: The four inputs can be used to connect external sensors to monitor site conditions. The first input is to connect a temperature probe. The other three inputs are general-purpose inputs, which can be digital or analogue The four outputs are digital and can be used to action hardware based on an alarm triggered by the Site Vantage. In addition, up to 10 SAMs can be connected to the Site Vantage to increase the number of inputs and outputs available (refer to section 2.3 for more information). 	New integrated input and output capabilities: four inputs and four outputs are available without having to purchase a SAM.		
Requires four different models to monitor the four frequency bands. Note: The four frequency bands are VHF 132-174MHz, UHF 380-520MHz, UHF 746-870MHz and UHF 870-960MHz.	A single model can monitor the four frequency bands.	Increased flexibility: the same Site Vantage can monitor multiple base stations, even if they operate in different frequency bands.		



The ASM	The Site Vantage		
Features	Features	Advantages	
 There are two versions: One version operates within a range of 9-36VDC The other version operates within a range of 36-60VDC. 	 Operates within a range of 12-60VDC. Note: The lowest DC input voltage the Site Vantage can accept is 10.5VDC, which represents a tolerance of -12.5%. IEC/EN 62368.1:2023 specifies a tolerance of -15% The highest DC input voltage the Site Vantage can accept is 60VDC, as it automatically shuts down when connected to an input voltage higher than 60VDC. 	Increased flexibility: the Site Vantage operates within a larger voltage range.	
 Depending on the model has either one or two Ethernet ports: ASMxxxxK1 series: one Ethernet port ASMxxxxK2 series: two Ethernet ports. 	 Has three Ethernet ports: One Ethernet port on the front Two Ethernet ports on the rear. Note: The two Ethernet ports are bridged and operate as a 2-port switch. 	 Increased connectivity: The two rear Ethernet ports can be used to connect the Site Vantage to an existing network for remote access At the same time, the front Ethernet port can be used to connect the Site Vantage to another network or can be used by a technician to access the Site Vantage when on-site. 	
Is 2RU tall.	Is 1RU tall.	Space efficiency: the Site Vantage uses less rack space which is generally scarce.	



The ASM	The Site Vantage		
Features	Features	Advantages	
Has basic GUI history pages.	GUI history pages are more user-friendly.	More user-friendly: users can easily analyse historical data.	
The user's manual and the installation guide are two separate documents.	The user's manual (this document) includes all required installation instructions.	More user-friendly: less documents to file.	

Table 7 - ASM vs Site Vantage Differences and Advantages



2.1.7 Operation of the Site Vantage in North America – Compliance and Declaration of Conformity

2.1.7.1 FCC Part 15

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

2.1.7.2 ISED – ICES-003 with reference to RSS-Gen

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme ICES-003 du Canada.



2.2 Antenna Line Coupler

2.2.1 Description

Whenever TX forward and reverse power is present in the RF site, the Antenna Line Coupler feeds the Site Vantage with a sample of this power, which the Site Vantage utilises for its TX monitoring.

Note: Antenna Line Couplers are required for the Site Vantage to measure TX forward and reverse power. If the Site Vantage is not used for this purpose, Antenna Line Couplers are not required.

One Antenna Line Coupler can be connected to one TX feeder and its associated TX antenna (Figure 3). Up to three Antenna Line Couplers can be connected to a Site Vantage.

The Antenna Line Couplers are non-intrusive, in-line, 4-port, directional couplers which have minimal insertion loss, and each is capable of handling up to 750 Watts of RF power. To maintain the PIM and PIP ratings of the couplers, the following connectors are used:

- 4.3-10(F) connectors on the input "FROM COMBINER" port and the output "TO ANTENNA" port
- N-type(F) connectors on the "FWD" and "REV" coupling ports.

There are three models of the Antenna Line Coupler, each operating in a different frequency band (130-180MHz, 380-550MHz or 746-960MHz).

Note:

- If the TX forward and reverse power of an RF site is to be measured using the Site Vantage:
 - At least one Antenna Line Coupler operating in the appropriate frequency band for the RF site will be required
 - Several Antenna Line Couplers will be required to monitor several TX antennas (one Site Vantage can monitor up to three TX antennas, using three Antenna Line Couplers). If the TX antennas operate in different frequency bands, ensure that each selected Antenna Line Coupler operates in the appropriate frequency band for its respective antenna.
- Refer to section 4.2 for the Antenna Line Coupler's ordering information.





Figure 18 - Antenna Line Coupler

2.2.2 Key Features

Key features of an Antenna Line Coupler include:

- Suitable for sampling of TX forward and reverse power
- Minimal insertion loss
- PIM and PIP rated
- Low VSWR
- Compact design
- 1RU, 19" rack frame mounting.



2.2.3 Physical Interfaces

Figure 19 and Table 8 describe the Antenna Line Coupler's physical interfaces.



Figure 19 – Antenna Line Coupler's Physical Interfaces, Top View

Id (Figure 19)	Name	Connector Type	Function
1	FROM COMBINER	4.3-10(F)	 To connect to the TX combiner to enable TX forward power (FWD) sampling
			 To pass the TX signal with minimal loss from the TX combiner to the TX antenna.
2	FWD	N-type(F)	To sample the TX forward power (FWD) from the TX combiner
			 To send the TX forward power (FWD) sample to the FWD port of the Site Vantage, via an RF cable.
3	REV	N-type(F)	To sample the TX reverse power (REV) from the TX antenna feeder
			 To send the TX reverse power (REV) sample to the REV port of the Site Vantage, via an RF cable.
4	TO ANTENNA	4.3-10(F)	 To connect to the TX antenna feeder to enable TX reverse power (REV) sampling
			 To pass the TX signal with minimal loss from the TX combiner to the TX antenna.



Id (Figure 19)	Name	Connector Type	Function
5	Earth connection	M5 and M6 earth studs	To earth the Antenna Line Coupler to a suitable earthing point of the 19" rack frame, using 1.5mm ² (14AWG) minimum cross-sectional area conductor.

Table 8 – Antenna Line Coupler's Physical Interfaces



2.3 Site Alarm Module

2.3.1 Description

The SAM is an optional module which connects to the Site Vantage and provides 10 digital outputs and 14 inputs. Up to ten SAMs can be easily connected in a daisy chain to the Site Vantage.

Each SAM features:

- 10 digital outputs (i.e. can action hardware based on an alarm triggered by the Site Vantage)
- 14 inputs:
 - 10 digital inputs
 - Four "general purpose" inputs, either digital or analogue, which can monitor site conditions such as ambient temperature, battery voltages, site access doors, etc.
- Front and rear LEDs that provide a visual indication of the status of all output and input states.

Once the SAM(s) are connected to the Site Vantage:

- The Site Vantage auto-detects the connected SAMs
- Using the Site Vantage's GUI, the user can configure the digital outputs and inputs.

There are two SAM models, each operating in a different voltage range (9-36VDC or 36-60VDC).

RFI SITE ALARM MODULE	1 3 3 4 ETT (P 0 0 0 0	1 2 3 4 5 6 7 8 9 10 DI 2 3 4 5 6 7 8 9 10 ALARM	Power
		FRONT	
COMMUNICATION POWER COMERIA COMMUNICATION POWER COMMUNICATION COMUNICATION COMUNICATIO	¹ DI ALARM ² DI ALARM ³ DI ALARM ⁴	DI ALARIM ⁶ DI ALARIM ⁷ DI AL	ARM ⁸ DI ALARM ⁹ DI ALARM ¹⁰ DI 1 2 3 4
		REAR	

Figure 20 - Site Alarm Module (SAM)



2.3.2 Key Features

Key features of a SAM include:

- Up to 10 user configurable digital outputs
- Up to 10 user configurable digital inputs
- Up to 4 user configurable, general purpose, temperature, analogue or digital inputs
- Latched alarm outputs for Hot/Standby base station and Auto-Change Over antenna control
- Expandable to a total of 10 SAMs per Site Vantage
- The communications interface is daisy chained between the Site Vantage and the respective SAMs
- If the Site Vantage is powered by DC, the power supply is daisy chained between the Site Vantage and the respective SAMs

Note: If the Site Vantage is powered by AC, the power supply cannot be daisy chained between the Site Vantage and the SAMs. An extra AC power source is required to power all SAMs, which can be daisy chained between all SAMs.

- Auto detected by the Site Vantage when connected
- 10 notification LEDs, duplicated both on the front and on the rear of the SAM, provide a visual indication of the status of all 10 output states
- 14 notification LEDs, duplicated both on the front and on the rear of the SAM, provide a visual indication of the status of all 14 input states
- Compact design
- 1RU, 19" rack frame mounting.



2.3.3 Physical and Visual Interfaces

Figure 21, Figure 22 and Table 9 describe the SAM's physical and visual interfaces.



Figure 21 – SAM's Physical and Visual Interfaces, Front



Figure 22 – SAM's Physical and Visual Interfaces, Rear



Id (Figure 21 and Figure 22)	Name	Connector Type	Function
1	EXT I/P (LEDs)	N/A	These LEDs illuminate in yellow to indicate one or several of the four "general purpose" inputs have been triggered.
			The number of the illuminated LED corresponds to the number of the input triggered.
			Note: If the input does not have any alarm associated with it, its corresponding LED will not illuminate.
2	DI and ALARM (LEDs)	N/A	These LEDs illuminate to indicate one or several of the 10 digital inputs and/or outputs have been triggered.
			The LEDs in the first row, labelled "DI" correspond to the 10 digital inputs, and they illuminate in yellow.
			The LEDs in the second row, labelled "ALARM" correspond to the 10 digital outputs, and they illuminate in red.
			The number of the illuminated LED corresponds to the number of the input/output triggered.
			Note: If the input/output does not have any alarm associated with it, its corresponding LED will not illuminate.
3	POWER (LED)	N/A	This LED illuminates in green to indicate the SAM is powered on. If this LED does not illuminate, either the SAM has no power or the polarity is incorrect.
			This LED will "pulse" at regular intervals to indicate communication activity between the SAM and the host Site Vantage.



Id (Figure 21 and Figure 22)	Name	Connector Type	Function
4	POWER	Polarised 2-pin Phoenix	To connect a power source to the SAM. The DC power input is reverse polarity protected.
			Note: Refer to section 2.3.3.1 for information on the function of the connector's pins.
5	COMMUNICATION	DB15(M)	To connect the SAM to the Site Vantage and/or to another SAM.
			Note: Refer to section 2.3.3.2 for information on the function of the connector's pins.
6	SAM ID	Rotary SAM address	To select the unique ID of a SAM.
		switch	Note:
			 All SAMs connected to the same Site Vantage must have a unique ID
			• The unique ID of each SAM does not need to be sequential (i.e. two SAMs can be connected to a Site Vantage, one with ID 3 and the other with ID 7).
7	Earth connection	M5 earth stud	To earth the SAM to a suitable earthing point of the 19" rack frame, using 1.5mm ² (14AWG) minimum cross-sectional area conductor.
8	ALARM	Polarised 3-pin Phoenix	10 digital output ports: hardware which needs to be actioned based on an alarm triggered by the Site Vantage can be connected to the output ports.
			Note: Refer to section 2.3.3.3 for information on the function of the connector's pins.



Id (Figure 21 and Figure 22)	Name	Connector Type	Function
9	DI	Polarised 2-pin Phoenix	10 digital input ports: sensors can be connected to the input ports.
			Note: Refer to section 2.3.3.4 for information on the function of the connector's pins.
10	ALARM (LEDs)	N/A	These LEDs illuminate in red to indicate their corresponding digital output has been triggered.
11	DI (LEDs)	N/A	These LEDs illuminate in yellow to indicate their corresponding digital input has been triggered.
12	EXT I/P	Polarised 8-pin Phoenix	Four "general purpose" alarm inputs: sensors can be connected to the input ports.
			Note: Refer to section 2.3.3.5 for information on the function of the connector's pins.
13	EXT I/P (LEDs)	N/A	These LEDs illuminate in yellow to indicate one or several of the four "general purpose" inputs have been triggered.
			The number of the illuminated LED corresponds to the number of the input triggered.
14	Earth connection	M6 earth stud	To earth the SAM to a suitable earthing point of the 19" rack frame, using 1.5mm ² (14AWG) minimum cross-sectional area conductor.

Table 9 – SAM's Physical and Visual Interfaces



2.3.3.1 DC Power Connector

Figure 23 below illustrates the pin numbers on the polarised 2-pin Phoenix connector.



Figure 23 – DC Power Connector Pinout

Table 10 below lists the function of each pin:

Pin	Function
1	DC power input positive
2	DC power input negative

Table 10 – DC Power Connector Pin Function Table

Refer to section 2.3.3.1.1 for information on the mating connector (MSTB 2,5/ 2-STF-5,08).

2.3.3.1.1 Mating Connector for the DC Power Connector

The commercial information for the mating connector (Figure 12) is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1777989
- OEM's part name: MSTB 2,5/ 2-STF-5,08

Note:

- The mating connector for the DC Power Connector is not supplied with the SAM
- The AC-to-DC plugpack compatible with the SAM supplied by RFI has been terminated with the mating connector for the DC Power Connector. Refer to section 4.4 for the plugpack's ordering information.



Figure 24 – Mating Connector (MSTB 2,5/ 2-STF-5,08)



2.3.3.2 Communication Connectors

Figure 25 below illustrates the pin numbers on the DB15(M) connector.



Figure 25 – DB15(M) Connector Pinout

Table 11 below lists the function of each pin, when a SAM is connected to the Site Vantage:

Pin	Function
1	Communications bus – GND
2	Communications bus – RX
3	Not used
4	Not used
5	Not used
6	Not used
7	Not used
8	Not used
9	Communications bus – TX
10	Not used
11	Not used
12	Not used
13	Not used
14	Not used
15	Not used

Table 11 – DB15(M) Connector Pin Function Table, SAM Connected to a Site Vantage



2.3.3.3 Digital Outputs Connectors

Figure 26 below illustrates the pin numbers on the Polarised 3-pin Phoenix connector (digital outputs).



Figure 26 – Polarised 3-pin Phoenix Connector Pinout

Table 12 below lists the function of each pin:

Pin	Function
1	Output relay common
2	Normally open
3	Normally closed

Table 12 – Polarised 3-pin Phoenix Connector Pin Function Table

Refer to section 2.3.3.3.1 for information on the mating connectors (MSTB 2,5/ 3-ST-5,08).

2.3.3.3.1 Mating Connectors for the Digital Outputs Connectors

The commercial information for the mating connector (Figure 27) is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1757022
- OEM's part name: MSTB 2,5/ 3-ST-5,08

Note: The mating connectors for the digital outputs connectors are not supplied with the SAM.



Figure 27 – Mating Connector (MSTB 2,5/ 3-ST-5,08)



2.3.3.4 Digital Inputs Connectors

Figure 28 below illustrates the pin numbers on the Polarised 2-pin Phoenix connector (digital inputs).



Figure 28 – Polarised 2-pin Phoenix Connector Pinout

Table 13 below lists the function of each pin:

Pin	Function
1	Digital input
2	Ground

Table 13 – Polarised 2-pin Phoenix Connector Pin Function Table

Refer to section 2.3.3.4.1 for information on the mating connectors (MSTB 2,5/ 2-ST-5,08).

2.3.3.4.1 Mating Connectors for the Digital Inputs Connectors

The commercial information for the mating connector (Figure 29) is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1757019
- OEM's part name: MSTB 2,5/ 2-ST-5,08

Note: The mating connectors for the digital inputs connectors are not supplied with the SAM.



Figure 29 – Mating Connector (MSTB 2,5/ 2-ST-5,08)



2.3.3.5 "General Purpose" Inputs

Figure 30 below illustrates the pin numbers on the Polarised 8-pin Phoenix connector.



Figure 30 – Polarised 8-pin Phoenix Connector Pinout

Table 14 below lists the function of each pin:

Pin	Function
1	Temperature / Digital / 0 to +5VDC
2	Ground
3	Digital / +5VDC to -60VDC / +60VDC to -60VDC
4	Ground
5	Digital / +5VDC to -60VDC / +60VDC to -60VDC
6	Ground
7	Digital / +5VDC to -60VDC / +60VDC to -60VDC
8	Ground

Table 14 – Polarised 8-pin Phoenix Connector Pin Function Table

Refer to section 2.3.3.5.1 for information on the mating connectors (MSTB 2,5/ 8-ST-5,08).

2.3.3.5.1 Mating Connectors for the "General Purpose" Inputs

The commercial information for the mating connector (Figure 31) is:

- OEM: PHOENIX CONTACT
- OEM's item number: 1757077
- OEM's part name: MSTB 2,5/ 8-ST-5,08

Note: The mating connectors for the "general purpose" inputs are not supplied with the SAM.



Figure 31 – Mating Connector (MSTB 2,5/ 8-ST-5,08)



3 <u>Technical Specifications</u>

This section lists the technical specifications of the Site Vantage, the Antenna Line Coupler and the SAM.

3.1 Site Vantage

Technical Specifications of the Site Vantage			
Model number	SV1396		
Frequency range MHz	132-960		
Number of monitored channels	More than 80		
Available TX FWD and REV power monitoring input ports	3		
Measured RF parameters	TX forward power per channel		
	TX reverse power per channel		
	RX level per channel		
	RX composite level		
Supported RF tests	Antenna isolation tests		
	RX preselector characterisation tests		
	TX carrier suppression tests		
RX monitoring port input range <i>dBm</i>	-125 to -50		
Channel measurement	• 6.25		
bandwidths <i>kHz</i>	• 12.5		
	• 20		
	• 25		
RF measurement accuracy	±1		
(typ.) <i>dB</i>	Note: This accuracy is achieved after calibrating the Site Vantage on-site. Refer to section 8.3.4 for information on how to calibrate it.		



Technical Specifications of the Site Vantage	
Conducted emissions	Complies with:
	• FCC part 15 (15.207)
	• IEC 61000.6.1:2016
	• IEC 61000.6.4:2018
	• AS/NZS CISPR 32:2015 AMD 1:2020
	ISED: ICES-003 with reference to RSS-Gen
Radiated emissions	Complies with:
	• FCC part 15 (15.209)
	FCC part 15B
	 IEC 61000.6.1:2016
	 IEC 61000.6.4:2018
	 AS/NZS CISPR 32:2015 AMD 1:2020
	ISED: ICES-003 with reference to RSS-Gen
RF termination connectors	• TX ports (FWD & REV): 4.3-10(F),
	• RX ports: BNC(F)
	AUX port: BNC(F)
	 10MHz REF IN port: BNC(F)
	 SIG GEN port: BNC(F)
Communication interface port	• 1 x front mounted Ethernet port (RJ45)
	• 2 x rear mounted Ethernet ports (RJ45)
SAM Interface	Rear mounted DB9(M)
Programmable inputs and outputs	 4 x Inputs (digital, analogue and temperature sensor inputs)
	4 x Digital outputs
Visual alarm notification	Front panel mounted LED
Configurable alarms	Summary fault
	TX FWD power
	• VSWR
	RSSI (antenna isolation)



Technical Specifications of the Site Vantage		
Alarm reporting	• SNMP v1, v2c and v3	
	Relay outputs	
Power supply options (rated for	DC: 12-60VDC maximum	
only)	AC: 90-264VAC input with 48VDC/60W maximum output capacity, using the optional plugpack (manufactured by RFI)	
	Note:	
	 ES1 rating requires a maximum input voltage of 60VDC and PS2 rating requires a maximum power capacity of 100W, achieved using a suitably rated input current limiting device appropriate for the input voltage used 	
	 The lowest DC input voltage the Site Vantage can accept is 10.5VDC, which represents a tolerance of -12.5% (IEC/EN 62368.1:2023 specifies a tolerance of -15%) 	
	 The highest DC input voltage the Site Vantage can accept is 60VDC, as it automatically shuts down when connected to an input voltage higher than 60VDC. 	
DC power connector	Polarised 2-pin Phoenix connector	
Power consumption (typ.) W	35	
Mounting	1RU, 19" rack mounting	
Net dimensions (including	H 43.6 / 1.71	
33) <i>mm / in</i>	W 483 / 19	
	D 251.9/9.9	
Net weight (max.) <i>kg / lb</i>	4.2 / 9.25	
Environmental rating	IP20	
Operational temperature range °C / °F	-30 to +60 / -22 to +140	



Technical Specifications of the Site Vantage		
Compliance	• FCC part 15 (15.207 and 15.209)	
	FCC part 15B	
	• IEC 61000.6.1:2016	
	• IEC 61000.6.4:2018	
	• IEC/EN 62368.1:2023	
	• AS/NZS 62368.1:2022	
	• AS/NZS CISPR 32:2015 AMD 1:2020	
	 ISED: ICES-003 with reference to RSS-Gen 	
	RoHS 3	

Table 15 – Technical Specifications of the Site Vantage



3.1.1 Site Vantage's Dimensions

Figure 32 and Figure 33 below illustrate the Site Vantage's dimensions.







Figure 33 – Site Vantage's Dimensions, Depth



3.2 Antenna Line Coupler

Technical Specifications of the Antenna Line Coupler				
Model number		SPxxxx-y440-43FF1RU		
Model number frequency (SPxxxx)	SP1318-2440- 43FF1RU	SP3855-4440- 43FF1RU	SP7496-4440- 43FF1RU	
Frequency range MHz		130-180	380-550	746-960
Insertion loss (max.) dB		0.05		
Input and output return lo	ss (min.) <i>dB</i>	20		
VSWR (max.)		1:1.2		
Directivity (min.) dB		27		
Coupling loss dB		40 (+/-0.7)		
Input power (max.) W		750		
Peak instantaneous powe	er (max.) <i>kW</i>	16 (+72dBm)		
PIM 3rd OIP - 2 x 43 dBm carriers (min.) <i>dBc</i>		-140dBc		
Connectors:		4.3-10(F)		
"TO ANTENNA" (output)				
"FROM COMBINER"				
Connectors: FWD and REV coupling ports		N-type(F)		
Mounting		1RU, 19" rack n	nounting	
Net dimensions mm / in	Н	43.60 / 1.71	43.60 / 1.71	43.60 / 1.71
	W	483 / 19	483 / 19	483 / 19
	D	77/3	135 / 5.31	135 / 5.31
Operational temperature	range °C / °F	-30 to +60 / -22 to +140		
Compliance		RoHS 3		

Table 16 – Technical Specifications of the Antenna Line Coupler



3.3 SAM

Technical Specifications of the SAM		
Model number	SAM0000	SAM0000-48
Alarm outputs	10	
Alarm contact type	Dry relay N.O. / Common	/ N.C.
Alarm contact rating (max.)	50VDC 1A	
Alarm inputs	• 10 configurable digital	inputs
	 4 configurable, genera temperature, analogue 	l-purpose inputs: or digital
Alarm inputs	Digital logic:	
	• "0" = < 2.5VDC	
	• "1" = > 2.5VDC	
	Temperature:	
	 -55°C to +125°C; or 	
	• -67°F to +257°F	
	Analogue:	
	OVDC to +5VDC; or	
	 +60VDC to -60VDC; or 	
	• +5VDC to -60VDC	
Visual alarm notification	Front and rear panel mou	nted LEDs
Power supply VDC	9-36	36-60



Technical Specifications of the SAM		
Connectors	Note: All connectors are located on the rear of the SAM.	
	 1 x Polarised 8-pin Phoenix connector ("general purpose" inputs) 	
	 10 x Polarised 3-pin Phoenix connector (digital outputs) 	
	 10 x Polarised 2-pin Phoenix connector (digital inputs) 	
	 2 x Polarised 2-pin Phoenix connector (power supply) 	
	• 2 x DB15(M) (communication)	
Mounting	1RU, 19" rack mounting	
Net dimensions (approx.) <i>mm / in</i>	H 45 / 1.75	
	W 483 / 19	
	D 77/3	
Net weight (approx.) <i>kg / lb</i>	1 / 2.2	
Operational temperature range °C / °	F -30 to +60 / -22 to +140	

Table 17 – Technical Specifications of the SAM



4 Ordering Information

4.1 Site Vantage

The ordering information for the Site Vantage is:

RFI Model Number	Description
SV1396	Site Vantage

 Table 18 – Site Vantage's Ordering Information

4.2 Antenna Line Coupler

The ordering information for the Antenna Line Coupler is:

RFI Model Number	Description
SP1318-2440-43FF1RU	Antenna Line Coupler, 130-180MHz, 40dB, 4.3-10(F) In /Out, N(F) Coupling Ports, 750W, 1RU
SP3855-4440-43FF1RU	Antenna Line Coupler, 380-550MHz, 40dB, 4.3-10(F) In /Out, N(F) Coupling Ports, 750W, 1RU
SP7496-4440-43FF1RU	Antenna Line Coupler, 740-960MHz, 40dB, 4.3-10(F) In /Out, N(F) Coupling Ports, 750W, 1RU

Table 19 – Antenna Line Coupler's Ordering Information

4.3 SAM

The ordering information for the SAM is:

RFI Model Number	Description
SAM0000	Site Alarm Module, 9-36VDC
SAM0000-48	Site Alarm Module, 36-60VDC
SAM0000-TS	Site Alarm Module, Temperature Sensor c/w 15ft / 5m cable
SAM0000-CK	Site Alarm Module, Connector Kit, 10 x 2way / 10 x 3way / 1 x 8way connectors

Table 20 – SAM's Ordering Information



4.4 Accessories

The ordering information for the accessories compatible with the Site Vantage and the SAM is:

RFI Model Number	Description
ASM0048AU-AC	Plugpack 90-264VAC 48VDC c/w 6ft/1.8m AU IEC Power Cable
ASM0048US-AC	Plugpack 90-264VAC 48VDC c/w 6ft/1.8m US IEC Power Cable

Table 21 – Accessories' Ordering Information



5 **Firmware Licence Agreement**

This statement must be read in its entirety prior to the loading or use of the Firmware provided by RFI.

5.1 Introduction

By loading any product related Firmware, you agree without reserve with all the conditions as detailed in this RFI Firmware License Agreement.

The term "Firmware" for the sake of this statement includes all software or firmware upgrades, either as a new installation, revision, patches or upgrades. Any reference to software, for the purposes of this license agreement, will therefore be included in the term Firmware.

RFI Technology Solutions, abbreviated as RFI, refers to the Australian registered company RF Industries Pty Ltd.

The copyright of all Firmware relating to this product remains the property in whole of RFI and is therefore protected by the respective international copyright or trademark laws.

You agree that by using and or downloading any of the Site Vantage product specific Firmware, that you have fully understood and agree to comply and be bound by all of the conditional requirements as detailed in this Firmware License Agreement and accept the disclaimer thereof.

RFI reserves the right to update and change, from time to time, any attribute, function, feature and in the main any content of the Firmware and any documentation attributed and referenced to the Firmware underwritten by this Firmware License Agreement without notice to existing users.

The use of this Firmware is non-exclusive and non-sub licensable, nor does it give the user the right to re-sell, lease, loan, distribute, or transfer the Firmware nor the rights thereof.

This Firmware License Agreement grants or implies no right, title, or interest in any intellectual property owned or licensed by RFI.

5.2 Disclaimer

Use of any Firmware enabling operation of the Site Vantage or providing support for the Site Vantage is at the user's discretion and risk. RFI will not be held responsible or liable for any damage or loss that results from the downloading and or use of the Firmware or incompatibilities or other problems experienced as a result of any combination of operating system(s), firmware, or software the user may use.

RFI will not be held responsible or liable for any inaccuracies, completeness or inadequacy regarding the Firmware as the basis of the provision of the Firmware is on a "fit-for-purpose, best effort" approach.

RFI will not be liable to the user for claims and liabilities of any kind arising out of or in any way related to the use of the Firmware by the user or any third party.



The failure of RFI to exercise or enforce any right or provision of this Firmware License Agreement shall not constitute a waiver of such right or provision.


Part B: Unpack, Install and Calibrate the Site Vantage

To unpack, install and calibrate the Site Vantage:

Unpack, Install and Calibrate the Site Vantage				
1.	Under	stand the Site Vantage and its associated equipment:		
	a.	Read section "2. Product Description" of this manual		
	b.	Read section "3. Technical Specifications" of this manual		
	C.	Read section "5. Firmware Licence Agreement" of this manual.		
2.	Adher	e to all relevant warnings:		
	Follow	section " 6. Warnings " of this manual.		
3.	Unpack the Site Vantage:			
	Comp	ete section " 7. Unpack the Site Vantage " of this manual.		
4.	Install	and calibrate the Site Vantage:		
	a.	Read section " 8.1. Before you Begin: Background Information – Site Vantage's Setup" of this manual		
	b.	Read section "8.2. Before you Begin: Parts List" of this manual		
	C.	Complete section "8.3. Installation and Calibration Steps" of this manual.		

Note: Read this part of the manual only after understanding the Site Vantage and its associated equipment. To achieve this, read sections "**2. Product Description**", "**3. Technical Specifications**" and "**5. Firmware Licence Agreement**" of this manual.



6 Warnings

This section provides important safety warnings to ensure the Site Vantage is installed, calibrated and operated safely.

6.1 **Occupational Health & Safety / Work Safe and Safety** Warnings

Only a suitably qualified person should be allowed to install and commission this equipment after becoming familiar with all the safety and installation instructions contained in this User Manual. It will be assumed that a qualified person will have a fundamental knowledge of the installation's objectives and use common sense where safety warnings are not necessarily explicit.



On unpacking the equipment, familiarise yourself with the equipment, reading and following all warning labels attached to the equipment. Please ensure that the warning labels are kept in a legible condition and replace if necessary.

Ensure all general, regional, and site-specific installation and safety regulations are adhered to when working on high voltage installations, as well as regulations covering use of tools and personal protective equipment.

It is the responsibility of the network operator or service provider to have in place and implemented compliant Occupational Health and Safety (OHS) / Work Health and Safety (WHS) procedures as applicable, detailing prevention measures to avoid health hazards which may be associated with radiation from the antenna(s) connected to this equipment. Please ensure familiarisation and compliance to country specific regulations on RF exposure.

Ensure all adjustable settings comply with intended use and applicable National, State and Regional regulatory requirements.

Ensure that access to this equipment is restricted to qualified personnel only.

NOTE: For compliance the Site Vantage shall be powered using an approved supply cord and plug.

The mains power socket outlet shall be installed near the equipment and shall be easily accessible.

There is no on/off switch on the Site Vantage and the Antenna Line Coupler. The Site Vantage becomes active and commences its start-up routine as soon as power is connected via the provided power cable.

Do not allow the Site Vantage and the Antenna Line Coupler or any associated equipment to become wet or to be subjected to a corrosive environment, humidity, or temperatures outside the specified operating ranges.

Do not operate the Site Vantage and the Antenna Line Coupler near any flammable substances or in a flammable atmosphere.

Ensure that all RF termination connectors are fully mated and tightened using correct torque values.

Should an upgrade or maintenance require any further deconstruction or access to the equipment, the AC or DC power supply should be disconnected and isolated.

6.2 Earth Bonding

Equipment earthing/grounding threaded studs are provided on the rear of the Site Vantage and the Antenna Line Coupler. The Site Vantage and the Antenna Line Coupler must be adequately bonded to the installation site's earth/grounding connection point using the studs provided.

6.3 Temperature

Owing to probable power dissipation within the equipment, the exposed portion of the equipment may reach relatively elevated temperatures above ambient.

6.4 High Voltage and Surge Protection

There is limited surge protection built into the PSU of the equipment, however additional site-specific lighting protection, voltage surge protection and earth bonding may be required to reduce the risk of damage.

Regarding external antenna connections to the Site Vantage and the Antenna Line Coupler, RFI recommends the use of adequate coaxial lightning protection and earth bonding through grounding kits on the RF feeder cables prior to termination into the respective RF termination connectors on the Site Vantage and the Antenna Line Coupler.

AC or DC mains should also be afforded surge protection, along with the Ethernet connection (if connected) into the Site Vantage.

6.5 Electrostatic Discharge

Although the modules and exposure of the interconnect sockets / pins have been designed to significantly reduce the risk of electrostatic discharge (ESD), precautions must be observed during installation and maintenance to protect all the modules within the equipment.











6.6 Antenna, Cable and Passive Components Installation and Requirements

The technician in charge of installation must ensure that the equipment is set up accurately according to the manufacturer's guidelines and installation plan. It is crucial to adhere to sound engineering practices to prevent any potential radio frequency (RF) interference. If necessary, the output level of the system should be decreased to address any issues with intermodulation di

the system should be decreased to address any issues with intermodulation distortion (IMD) interference that may occur.

This manual proposes:

- The recommended specifications for couplers
- Suitable cabling for use with this equipment.



7 Unpack the Site Vantage

To unpack the Site Vantage:

Unpack the Site Vantage

- 1. a. Inspect the shipping boxes for damage before opening them.
 - b. Proceed as follows:

If the shipping box(es) are	Then
Damaged	a. Do not open the boxes.
	b. Document the damage (i.e. take pictures).
	c. Contact RFI to discuss how to proceed.
Not damaged	Open the boxes.

2. a. Ensure all items have been received and inspect them for damage.

Note: RFI's products are shipped in multiple boxes, as follows:

- One box for each Site Vantage ordered, with each box containing:
 - One Site Vantage
 - One 2-pin Phoenix mating connector, already connected to the DC power connector on the rear of the Site Vantage (refer to section 2.1.4 for more information on DC power connector and the 2-pin Phoenix mating connector)
 - One 20-pin Phoenix mating connector, already connected to the "INPUTS / OUTPUTS" connector on the rear of the Site Vantage (refer to section 2.1.4 for more information on "INPUTS / OUTPUTS" connector and the 20-pin Phoenix mating connector).
- If Antenna Line Couplers have been ordered, one box for each Antenna Line Coupler, with each box containing one Antenna Line Coupler only.
- If AC-to-DC plugpacks have been ordered, one box for each AC-to-DC plugpack, with each box containing one AC-to-DC plugpack only.
- b. Proceed as follows:

lf	Then
All items have been received and none are damaged	Proceed to section 8 to install and calibrate the Site Vantage.
Not all items have been received and/or some items are damaged	a. Document any damage (i.e. take pictures).b. Contact RFI to discuss how to proceed.



8 Install and Calibrate the Site Vantage

This section explains how to install and calibrate the Site Vantage.

Note: Ensure to:

- Adhere to all warnings listed in section 6 before installing and calibrating the Site Vantage
- Understand all information in sections 2 to 5 before installing and calibrating the Site Vantage.

The flowchart below summarises the installation and calibration process:



Figure 34 – Summary of the Installation and Calibration Process



8.1 Before you Begin: Background Information – Site Vantage's Setup

Figure 35 and Table 22 below describe the minimum setup required to operate the Site Vantage. Table 23 below lists other equipment which could be connected to the Site Vantage.

Note:

- The numbered connections in Figure 35 correspond to each of the rows in Table 22
- The "post RF path gain/loss" in Figure 35 represents any physical difference that might exist between the base station's RX path and the Site Vantage's RX path (i.e. the cable between the RX subsystem and the base station might be longer than the cable between the RX subsystem and the Site Vantage). The Site Vantage calibrates (adding a loss or a gain as required) for this difference to ensure the base station and the Site Vantage report the same RX signal.



Figure 35 – Site Vantage's Minimum Setup



ld (Figure 35)	Equipment Connected	Notes
1	The TX antenna and its associated TX combiner connected to the Antenna Line Coupler (Figure 35) using the TX feeder cable.	 One Antenna Line Coupler is required for each TX antenna to be monitored Up to three TX antennas (and its associated TX combiners) can be connected to a Site Vantage, using three Antenna Line Couplers.
2	The Antenna Line Coupler connected to the Site Vantage (Figure 35).	Up to three Antenna Line Couplers can be connected to a Site Vantage.
3	The RX antenna and its associated RX subsystem connected to the Site Vantage (Figure 35).	Up to three RX antennas (and its associated RX subsystems) can be connected to a Site Vantage.

Table 22 – Site Vantage's Minimum Setup

In addition, the following equipment could be connected to the Site Vantage:

Optional Equipment	Notes
A standalone RX monitoring antenna and its associated RX subsystem could be connected to the Site Vantage (Figure 3).	Up to three RX antennas (and its associated RX subsystems) can be connected to a Site Vantage.
	Note: When using a standalone RX monitoring antenna, ensure that the RF level into the RX port of the Site Vantage is less than or equal to –50dBm, using an adequate attenuator or filter if required.
External outputs and inputs could be connected to the Site Vantage (Figure 3).	Up to four external outputs and four external inputs can be connected to a Site Vantage.
	Note: The number of external outputs and inputs can be increased by connecting SAMs. Refer to section 2.3 for more information.
SAMs could be connected to the Site Vantage (Figure 3).	Up to ten SAMs can be connected to a Site Vantage.

Table 23 – Equipment in a Typical Setup



8.2 Before you Begin: Parts List

The following parts are required to install and calibrate the Site Vantage.

Parts List			
1.	Site Vantage.		
2.	Antenna Line Coupler(s).		
	Note:		
	One Antenna Line Coupler is required for each TX antenna that will be monitored		
	Up to 3 Antenna Line Couplers can be connected to a Site Vantage		
	• Refer to section 4.2 for the Antenna Line Coupler's ordering information.		
3.	19" rack frame (EIA standard).		
	Note: The Site Vantage and the Antenna Line Coupler(s) must be installed into the 19" rack frame as fixed installations, without using rack slides.		
4.	Industry standard 19" rack fasteners.		
5.	Fastening tools to fasten the 19" rack fasteners.		
6.	A reel of RF coaxial cable.		
	Note:		
	It is recommended to use 50ohm double-shielded or solid jacket coaxial cable		
	 The length of cable required will vary from site to site and depending on how many TX and RX antennas are to be monitored. 		
7.	4.3-10(M) connectors.		
	Note: The number of connectors required will vary from site to site:		
	 If the site has TX feeder cables already connecting the TX combiner(s) to the TX antenna(s), then three 4.3-10(M) connectors are required for each Antenna Line Coupler used 		
	 If the site does not already have TX feeder cables, then four 4.3-10(M) connectors are required for each Antenna Line Coupler used. 		
8.	N-type(M) connectors.		
	Note: Two N-type(M) connectors are required for each Antenna Line Coupler used.		
9.	BNC(M) connectors.		
	Note: One BNC(M) connector is required for each RX subsystem to be connected to the Site Vantage.		
10	. The correct cable cutting and connector preparation tools to terminate the cables.		



Parts List

- 11. The spanners required to torque the connectors to the values recommended by the manufacturer.
- 12. DC power cable.

Note: Only required if the Site Vantage is to be powered using DC power.

13. The tools required to terminate the DC power cable using the 2-pin Phoenix plug supplied with the Site Vantage.

Note:

- Only required if the Site Vantage is to be powered using DC power
- Usually, the tools required are a small flat-blade screwdriver, wire cutters and wire strippers.
- 14. An AC-to-DC plugpack compatible with the Site Vantage.

Note:

- Only required if the Site Vantage is to be powered using AC power
- Refer to section 4.4 for the ordering information for the AC-to-DC plugpack compatible with the Site Vantage supplied by RFI.

15. CAT6 Ethernet cables terminated with RJ45 connectors.

Note:

- One CAT6 Ethernet jumper cable is required to connect a computer to the Site Vantage
- If the Site Vantage will be permanently connected to an existing network, one CAT6 Ethernet cable of sufficient length will be required to connect the Site Vantage to the existing network.
- 16. Optionally, an external 10MHz reference frequency, with a BNC(M) connector to connect to the 10 MHz REF IN port. This port has a BNC(F) connector.

Note:

- It is recommended to use an external 10MHz reference frequency, as it enhances the Site Vantage's frequency accuracy
- An external 10MHz reference frequency can be connected to the 10 MHz REF IN port at any time
- Once an external 10MHz reference frequency is connected to the 10 MHz REF IN port, the Site Vantage automatically detects and uses it.



Parts List

17. If external inputs will be connected to the Site Vantage:

- The mating connector (DFMC 1,5/10-STF-3,5), which is supplied with the Site Vantage (refer to section 2.1.4.8)
- The tools required to connect the external inputs' wires to the mating connector (section 2.1.4.8.2) and to connect the mating connector to the Site Vantage (section 2.1.4.8.4).

Note: Usually the tools required are a small flat-blade screwdriver (maximum 2.7mm width), wire cutters and wire strippers.

18. 1.5mm² (14AWG) minimum cross-sectional area conductor.

Note: This conductor will be used to earth the Site Vantage and the Antenna Line Coupler(s).

19. A crimp connector or a 2-hole lug (LCD6-14B-L manufactured by Panduit).

Note: This cable connector/lug will be used to earth the Site Vantage.

20. A laptop computer with a web browser installed.

Note: Recommended web browsers to use are Chrome, Edge, Firefox and Safari.

21. A signal generator, with:

 A 4.3-10(M) connector to connect to the "FROM COMBINER" (input) port and the "TO ANTENNA" (output) port of the Antenna Line Coupler. These ports have 4.3-10(F) connectors

Note: If the signal generator does not have a 4.3-10(M) connector, then an adaptor will be required to be able to connect the signal generator to the 4.3-10(F) connectors of the "FROM COMBINER" (input) port and the "TO ANTENNA" (output) port of the Antenna Line Coupler.

• A connector to connect to the pre-selectors(s).

Note: The pre-selector(s) connector type will vary from site to site.



Parts List	
22. A spe	ctrum analyser, with:
•	A 4.3-10(F) connector to connect to the end of the cable that would connect to the "FWD" port of the Site Vantage and to connect to the end of the cable that would connect to the "REV" port of the Site Vantage. These cables have 4.3-10(M) connectors
	Note: Spectrum analysers in this frequency range typically have an N-type(F) input connector; therefore, an N-type (M) to 4.3-10(F) adaptor will be required.
•	A connector to connect to the end of the cable that connects to the RX port of the base station
	Note: The cable connector type will vary from site to site.
•	A BNC(F) connector to connect to the end of the cable that would connect to the "RX" port of the Site Vantage. This cable has a BNC(M) connector.
	Note: Spectrum analysers in this frequency range typically have an N-type(F) input connector; therefore, an N-type (M) to BNC(F) adaptor will be required.
23. Equip	ment to measure the length of the cables:
•	To measure the TX feeder cable length between the Antenna Line Coupler and the TX antenna
•	To measure the RX feeder cable length.
24. The d	ata sheet of:
•	The cable used to connect the Antenna Line Coupler to the TX antenna
•	The Tower Top (Masthead) Amplifier

• The RX feeder cable.



8.3 Installation and Calibration Steps

To install and calibrate the Site Vantage, complete sections 8.3.1 to 8.3.5 in order.

WARNING

Do not power up the Site Vantage before it is indicated in section 8.3.3, step 5 of this section.

WARNING

The Site Vantage does not have an on/off switch.

The Site Vantage becomes powered as soon as it is connected to the power supply.

WARNING

Only connect/disconnect equipment and/or cables when indicated in the relevant steps.

Only connect equipment and/or cables as indicated in the relevant steps.

WARNING

Ensure to power down the transmitters indicated in section 8.3.3, step 1.

WARNING

Earthing should always be carried out in accordance with recognised standards and engineering practices.



8.3.1 Select the Location

Select the Location

- 1. Select a location for the 19" rack frame, where the Site Vantage and the Antenna Line Coupler(s) will be installed, that:
 - Is dry, free from vibrations and corrosive substances
 - Does not have high heat or humidity
 - Does not receive direct sunlight.
- 2. Select the location of the Site Vantage and the required Antenna Line Coupler(s) in the 19" rack frame, considering that:
 - The operational temperature range of the Site Vantage and the Antenna Line Coupler(s) is -30°C to +60°C / -22°F to +140°F
 - If more than one Site Vantage is installed in the same rack, leave at least 1RU of empty space between them
 - A cable must run from the TX combiner(s) to the Antenna Line Coupler(s), and a cable must run from the Antenna Line Coupler(s) to the TX antenna(s)
 - The Antenna Line Coupler(s) can be installed either above or below the Site Vantage
 - More than one Antenna Line Coupler might be required: one Antenna Line Coupler is required for each TX antenna that will be monitored (up to three Antenna Line Couplers can be connected to a Site Vantage)
 - The Site Vantage and the Antenna Line Coupler(s) must be installed as fixed installations, without using rack slides
 - The RF coaxial cable length required to make the connections: although there is no maximum cable length, it is recommended to keep the cable losses below 3dB. These cable losses add to the coupling loss. Although the coupling loss can be calibrated out, having high cabling losses will marginally reduce the effective lower-level dynamic range measurement of the Site Vantage. Lower loss cables can be used to reduce cable losses when using longer cable runs with cable losses exceeding 3dB.



8.3.2 Make the Required Cables

Note:

- When making RF coaxial cables, it is recommended to:
 - Use 50ohm double-shielded or solid jacket RF coaxial cables
 - Use the correct cable cutting and connector preparation tools to terminate the 4.3-10, N-type and BNC connectors, to reduce the possibility of Passive Inter-Modulation (PIM) products
 - Label both ends of the cables so they can be easily identified.
- No RF coaxial cables are provided with the Site Vantage because the optimal length for these cables varies for each installation
- Follow these steps after completing section 8.3.1.





Mak	Make the Required Cables					
2.	Make Line	Make the required RF coaxial cables to connect the TX combiner(s) to the Antenna Line Coupler(s).				
		Antenna ^{FWD} To Line FROM ANTENNA Coupler COMBINER REV	TX Combiner — TX Base Station			
	To do) SO:				
	•	Make the required number of cables: one combiner to its associated Antenna Line	e cable is required to connect each TX Coupler			
	•	Terminate one end of each cable with a 4	.3-10(M) connector			
		Note: This end of the cable will connect t the Antenna Line Coupler. This port uses	o the "FROM COMBINER" (input) port of a 4.3-10(F) connector.			
	•	Terminate the other end of the cable with TX combiner.	the connector required to connect to the			
		Note: The cable connector type will vary	from site to site.			
3.	lf req TX a	uired, make the required RF cables to co ntenna(s).	nnect the Antenna Line Coupler(s) to the			
	TX Antenna TO ANTENNA REV ANTENNA Coupler					
	To do) SO:				
	a.	Determine if the cables are required:				
	If there are Then					
		TX feeder cables already connecting the TX combiner(s) to the TX antenna(s)	No more cables are required, as the existing TX feeder cables will be used to connect each Antenna Line Coupler to its associated TX antenna. Go to step 4.			
		No TX feeder cables already connecting the TX combiner(s) to the TX antenna(s)	One RF cable will be required to connect each Antenna Line Coupler to its associated TX antenna. Go to step 3.b.			







Make the Required Cables

5. Proceed as follows:

If the Site Vantage will be powered using	Then	
DC power	Make a cable to connect the DC power source to the Site Vantage, terminating the cable using the 2-pin Phoenix plug.	
	Note:	
	Observe the correct polarity when terminating the cable using the 2-pin Phoenix plug	
	 The 2-pin Phoenix plug is supplied with the Site Vantage. 	
AC power	Locate an AC-to-DC plugpack compatible with the Site Vantage.	
	Note: Refer to section 4.4 for the ordering information for the AC-to-DC plugpack compatible with the Site Vantage supplied by RFI.	

Note:

• The power cables will connect to the 2-pin Phoenix socket on the rear of the Site Vantage



- Do not connect the Site Vantage to the power supply yet.
- 6. Make the required cables to earth the Site Vantage and the Antenna Line Coupler, using:
 - 1.5mm² (14AWG) minimum cross-sectional area conductor for both the Site Vantage and the Antenna Line Coupler
 - A crimp connector / 2-hole lug (LCD6-14B-L manufactured by Panduit) for the Site Vantage.



8.3.3 Connect the Equipment in Preparation for Calibration

Note: Follow these steps after completing section 8.3.2.









Connect the Equipment in Preparation for Calibration

5.

WARNING

The Site Vantage does not have an on/off switch.

The Site Vantage becomes powered as soon as it is connected to the power supply.

Connect the power supply to the Site Vantage, as follows:

If the Site Vantage will be powered using	Then	
DC power	Use the power cable made in section 8.3.2, step 5 to connect the DC power source to the 2-pin Phoenix socket on the rear of the Site Vantage.	
AC power	Use the AC-to-DC plugpack to connect the AC power source to the 2-pin Phoenix socket on the rear of the Site Vantage.	
	Note: Refer to section 4.4 for the ordering information for the AC-to-DC plugpack compatible with the Site Vantage supplied by RFI.	
Result: The Site Vantage is	s now powered on.	
Note: The Site Vantage can be powered with:		
DC power from 12V	DC and 3.3A to 60VDC and 0.7A	
The lowest DC input voltage the Site Vantage can accept is 10.5VDC		
The highest DC inp	ut voltage the Site Vantage can accept is 60VDC	

• AC power 90-264VAC with a compatible AC-to-DC plugpack.



8.3.4 Calibrate the Site Vantage

Note: Follow these steps after completing section 8.3.3.

Calibrate the Site Vantage

- 1. Access the Site Vantage's GUI. To do so:
 - a. Plug one end of the CAT6 Ethernet cable into the "ETH1" port on the front of the Site Vantage, and the other end into the computer's Ethernet port.

	•	•		•	
MICRO SD	ALARM	POWER	ETH1	•	

b. In the computer, open a web browser and type the following IP address into the address field: <u>192.168.1.200</u>

Note:

- Recommended web browsers to use are Chrome, Edge, Firefox and Safari
- 192.168.1.200 is the default IP address of the "ETH1" port. Refer to section 11.5 for information on how to change this IP address
- If the Site Vantage's GUI cannot be accessed after typing the address, refer to section 24 for troubleshooting information.
- c. Enter the username: master
- d. Enter the password: master
- e. Click "Login".

2. Click "Calibration", from the main menu on the left-hand side of the screen.



Result: The "TX Ports" tab of the "Calibration" screen appears.



8.3.4.1 Calibrate the TX Ports

Ca	librate	the TX Ports			
1.	On the "TX Ports" tab, select a TX port where an Antenna Line Coupler will be connected to the Site Vantage.				
	Exam of the	ple: If an Antenna Line Coupler will be connected to the "FWD1" and "REV1" ports Site Vantage, select "TX Port 1".			
	TX Po	rt 1			
	TX Po TX Po	rt 2 rt 3			
2.	Tick "	Enable Port".			
	Ena	ble Port			
3.	In the	" Name " field, type in a name for the port.			
	GRN0	001			
4.	Deterr	nine the forward coupling loss, to do this:			
	a.	Connect the signal generator to the "FROM COMBINER" (input) port of the Antenna Line Coupler (A).			
		Note: Connect to the Antenna Line Coupler that will be connected to the TX port of the Site Vantage selected in step 1.			
	b.	Set up the spectrum analyser:			
		 Connect the spectrum analyser to the end of the cable that would connect to the "FWD" port of the Site Vantage (B) that has been selected in step 1 			
		Ensure the frequency is centred on centre of the TX band			
		Ensure the spectrum analyser is ready to measure.			
	C.	Inject a signal: Using the signal generator, inject a signal at point (A) with:			
		• TX level = 0 dBm			
		 Frequency = <centre band="" of="" the="" tx=""></centre> 			



Calibrate the TX Ports					
<pre>d. Measure the signal: Using the spectrum analyser centred on the frequency</pre>					
۵	the injected signal, measure the level at point (B).				
 e. Calculate the forward coupling loss: obtained by calculating (A) – (B). f. Input the calculated loss in the "Forward Coupling Loss" field of the GU! 					
	Forward Coupling Loss * dB				
g.	Disconnect the signal generator.				
h.	Disconnect the spectrum analyser.				





- To do this:
 - a. Feed the cables through the rear of the 19" rack frame.
 - b. Push the cables through so they come out the front of the 19" rack frame.
 - c. Connect the cables to the Antenna Line Coupler whilst it is sitting outside the rack frame.

Note: The Antenna Line Coupler will later be pushed back into the 19" rack frame.

d. Torque the connectors to the values recommended by the manufacturer.





the injected signal, measure the level at point (B).
e. Calculate the reverse coupling loss: obtained by calculating (A) – (B).







Calibrate the TX Ports

- 8. Determine the antenna feeder loss, to do this:
 - a. Get the cable data sheet.
 - b. Get the cable length's distance (d) between the TX antenna and the Antenna Line Coupler.







To do this:

a. Connect the cable that comes out of the "FWD" port of the Antenna Line Coupler to the "FWD" port of the Site Vantage for which it has been calibrated.

Example: If it has been calibrated for the TX1 port, connect it to the "FWD1" port.

b. Connect the cable that comes out of the "REV" port of the Antenna Line Coupler to the "REV" port of the Site Vantage for which it has been calibrated.

Example: If it has been calibrated for the TX1 port, connect it to the "REV1" port.

Note:

- Feed the cables through the rear of the 19" rack frame
- Push the cables through so they come out the front of the 19" rack frame
- Connect the cables to the Site Vantage whilst it is sitting outside the rack frame
 Note: The Site Vantage will later be pushed back into the 19" rack frame.
- Connect and torque completely a cable before connecting and torquing the next one. This is to ensure there is enough space for the spanner to fit
- Torque the connectors to the values recommended by the manufacturer.

8.3.4.2 Calibrate the RX Ports

Cali	Calibrate the RX Ports				
1.	Click " RX Ports ".				
	TX Ports RX Ports				
	Result: The "RX Ports" tab of the "Calibration" screen appears.				
2.	On the left menu, select an RX port where an RX subsystem will be connected to the Site Vantage.				
	Example: If an RX subsystem will be connected to the "RX2" port of the Site Vantage, select "RX Port 2".				
	RX Port 1				
	RX Port 2				
	RX Port 3				
3.	Tick "Enable Port".				
	Enable Port				
4.	In the "Name" field, type in a name for the port.				
	Name TestRX2				
5.	In the " Reference Frequency " field, type in the reference frequency for the RX port.				
	Note:				
	• The reference frequency should be set to the centre of the pre-selector pass band				
	The reference frequency must NOT be a channel frequency.				
	Reference Frequency				
	150.00000 MHZ				
6.	Determine the "RX Subsystem Gain" and the "Base Station Gain Offset". To do this:				
	a. Calculate the Tower Top (Masthead) Amplifier gain: Using the data sheet of the Tower Top (Masthead) Amplifier, calculate its net gain (A), including its pre- selector. If there is no Tower Top (Masthead) Amplifier this value is zero.				





- Ensure the spectrum analyser is ready to measure.
- i. Inject a signal: Using a signal generator, inject a signal at point (F) with:
 - TX level = -50 dBm





- k. Set up the spectrum analyser:
 - Connect the spectrum analyser to the end of the cable that would connect to the "RX" port of the Site Vantage that has been selected in step 2
 - Ensure the spectrum analyser is centred on the reference frequency, which should be set to the centre of the pre-selector pass band
 - Ensure the spectrum analyser is ready to measure.
- I. Inject a signal: Using a signal generator, inject a signal at point (F) with:
 - TX level = -50 dBm
 - Frequency = <reference frequency>

Note: The reference frequency should be set to the centre of the preselector pass band.

- m. **Measure the signal at the Site Vantage:** Using a spectrum analyser, centred on the reference frequency, measure the level at point (H).
- n. Disconnect the spectrum analyser.



Calibrate the RX Ports				
	0.	Calculate the "RX Subsystem Gain" and the "Base Station Gain Offset": Obtained by calculating:		
	 RX subsystem gain = (A) – (B) + (G) – (F) 			
		 Base station gain offset = (G) – (H). 		
	Input the calculated "RX Subsystem Gain" in the GUI:			
		RX Subsystem Gain 2.0 dB		
	q. Input the calculated "Base Station Gain Offset" in the GUI:			
		3.0 dB		
	r.	Click "Submit".		
:	s.	Disconnect the signal generator.		
1	t.	Connect the feeder cable to the pre-selector(s).		
7. Rep Site	Repeat steps 2 to 6 for all RX ports where an RX subsystem will be connected to the Site Vantage.			



8.3.5 Connect the Equipment for Normal Operation

Note: Follow these steps after completing section 8.3.4.



To do this:

- a. Feed the cables through the rear of the 19" rack frame.
- b. Push the cables through so they come out the front of the 19" rack frame.
- c. Connect the cables to the Site Vantage whilst it is sitting outside the rack frame.

Note: The Site Vantage will later be pushed back into the 19" rack frame.

- d. Connect and torque completely a cable before connecting and torquing the next one. This is to ensure there is enough space for the spanner to fit.
- e. Torque the connectors to the values recommended by the manufacturer.

Note: When using a standalone RX monitoring antenna, ensure that the RF level into the RX port of the Site Vantage is less than or equal to –50dBm, using an adequate attenuator or filter if required.



Connect the Equipment for Normal Operation

- 2. To have the Site Vantage permanently connected to an existing network, use the rear Ethernet ports ("ETH2" and "ETH3") and configure their IP address. To do this:
 - a. Connect a CAT6 Ethernet cable from the network to one of the rear Ethernet ports ("ETH2" and "ETH3").



b. Using the Site Vantage's GUI, click "**Settings**", from the main menu on the lefthand side of the screen.

Note: The GUI is currently being accessed using the front Ethernet port "ETH1", as described in section 8.3.4, step 1.

- c. Click "Configuration".
- d. Click "Network Configuration".



e. On the "Rear Ports (ETH2 & ETH3)" section, proceed as follows:

То	Then
Automatically assign an IP address to the rear ports (ETH2 and ETH3) using DHCP	 i. Tick "Enable DHCP". ii. Click "Apply". iii. Take a note of the assigned "IP Address", "Subnet Mask Bits" and "Gateway".
Manually assign an IP address to the rear ports (ETH2 and ETH3)	 Type in the "IP Address" to be used when accessing the Site Vantage via the rear ports ("ETH2" and "ETH3").
	b. Type in the "Subnet Mask Bits".
	c. Type in the "Gateway".
	d. Click " Apply ".



3. F	If the computer used to access the Site Vantage's GUI (section 8.3.4, step 1) is to	Then		
	Be permanently connected to the "ETH1" port on the front of the Site Vantage	Click "Logout".		
	Not be permanently connected to the "ETH1" port on the front of the Site Vantage	 a. Click "Logout". Logout b. Disconnect the CAT6 Ethernet cable from the "ETH1" port on the front of the Site Vantage. 		
4. C c	Dptionally, connect an external 10MHz reference on the front of the Site Vantage, using a BNC(N Note: • The 10 MHz REF IN port uses a BNC(F) ca	e frequency to the 10 MHz REF IN port) connector.		
	 It is recommended to use an external 10MHz reference frequency, as it enhances the Site Vantage's frequency accuracy 			
	 An external 10MHz reference frequency can be connected to the 10 MHz REF IN port at any time 			
	 Once an external 10MHz reference frequency is connected to the 10 MHz REF IN port, the Site Vantage automatically detects and uses it. 			
	SITE VANTAGE	10 MHz REF IN		




Connect the Equipment for Normal Operation	
8. Install the Site Vantage and the Antenna Line Coupler(s) into the 19" rack fra this:	ame. To do
 Push the Site Vantage and the Antenna Line Coupler(s) from their position outside the rack frame, with all the cables already connected, back into rack frame 	tions the 19"
 Secure the Site Vantage and the Antenna Line Coupler(s) into the 19" r using 19" rack fasteners. 	rack frame
Note: The Site Vantage and the Antenna Line Coupler(s) must be installed installations, without using rack slides.	as fixed
9.	
WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices.	ed
WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using:	ed
WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using: • The M6 earth studs located on the rear of the Site Vantage	ed
WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using: • The M6 earth studs located on the rear of the Site Vantage • The M5 and M6 earth studs located on the rear of the Antenna Line Co	ed ng point of pupler(s)
 WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using: The M6 earth studs located on the rear of the Site Vantage The M5 and M6 earth studs located on the rear of the Antenna Line Coupler (14AWG) minimum cross-sectional area conductor 	ed ng point of oupler(s)
 WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using: The M6 earth studs located on the rear of the Site Vantage The M5 and M6 earth studs located on the rear of the Antenna Line Co 1.5mm² (14AWG) minimum cross-sectional area conductor A crimp connector / 2-hole lug (LCD6-14B-L manufactured by Panduit) Vantage. 	ed ng point of oupler(s) for the Site
 WARNING Earthing should always be carried out in accordance with recognise standards and engineering practices. Earth the Site Vantage and the Antenna Line Coupler(s) to a suitable earthin the 19" rack frame, using: The M6 earth studs located on the rear of the Site Vantage The M5 and M6 earth studs located on the rear of the Antenna Line Co 1.5mm² (14AWG) minimum cross-sectional area conductor A crimp connector / 2-hole lug (LCD6-14B-L manufactured by Panduit) Vantage. 10. Power up all transmitters that were powered down during the installation of t Vantage. 	ed ng point of pupler(s) for the Site



Part C: Operate the Site Vantage

To operate the Site Vantage:

Ор	Operate the Site Vantage	
1.	Set up the Site Vantage for normal operation:	
	Complete section "9. Set Up the Site Vantage for Normal Operation"	
2.	Access the GUI:	
	Complete section "10. The Site Vantage's GUI" of this manual.	

3. Utilise all functions of the Site Vantage:

Utilise all functions of the Site Vantage:

Complete sections 11 to 22 of this manual.

Note: Sections 11 to 22 provide detailed explanations of each of the 15 GUI screens, including all the functions available on each screen.

Note: Section 23 contains a list of all the Site Vantage's functions, allowing users to quickly locate specific functions.



9 Set Up the Site Vantage for Normal Operation

After installing and calibrating the Site Vantage, it must be set up for normal operation. Figure 36 and Table 24 below list the setup steps.

Note: Not all steps are compulsory (i.e. a user might choose not to schedule any RF tests). However, the more steps are completed, the more performance information the Site Vantage will be able to provide.



Figure 36 – Steps to Set Up the Site Vantage for Normal Operation



Table 24 below lists the steps to set up the Site Vantage for normal operation.

Note: Not all steps are compulsory (i.e. a user might choose not to schedule any RF tests). However, the more steps are completed, the more performance information the Site Vantage will be able to provide.

Screen	Step	Instructions
-	1. Access the GUI	Section 10.1
Settings	2. Configure the settings	Section 11
TX monitor	3.1. Add TX channels	Section 13.3
	3.2. Set alarm thresholds	Section 13.6
RX monitor	4.1. Add RX channels	Section 14.4
	4.2. Set alarm thresholds	Section 14.7
Adjacent sites	5.1. Add adjacent site channels	Section 15.3
	5.2. Set alarm thresholds	Section 15.6
RF tests –	6.1.1. Set up the antenna isolation tests	Section 16.3.2
isolation tests	6.1.2. Set alarm thresholds	Section 16.3.2
	6.1.3. Schedule the tests	Section 16.3.5
RF tests – RX preselector	6.2.1. Set up the RX preselector characterisation tests	Section 16.4.2
characterisation	6.2.2. Set alarm thresholds	Section 16.4.2
	6.2.3. Schedule the tests	Section 16.4.5
RF tests – TX	6.3.1. Set up the TX carrier suppression tests	Section 16.5.2
suppression	6.3.2. Set alarm thresholds	Section 16.5.2
tests	6.3.3. Schedule the tests	Section 16.5.5
External inputs	7.1. Add external inputs	Section 17.3
	7.2. Set alarm thresholds	Section 17.7
Notifications	7.1. Add notification rules	Section 19.3
	7.2. Select the relays' energise mode	Section 19.9

Table 24 – Steps to Set Up the Site Vantage for Normal Operation



10 The Site Vantage's GUI

10.1 Access the Site Vantage's GUI

To access the Site Vantage's GUI, follow the steps below:

Acc	ess the Site Vantage's G	SUI
1.	Proceed as follows:	
	If the Site Advantage has	Then
	Been connected to an existing network, using the "ETH2" or "ETH3" ports on the rear of the Site Vantage (refer to section 8.3.5, step 2 for more details)	 a. Connect a computer to the same network where the Site Vantage has been connected. b. In the computer, initiate a web browser and type in the IP address of the rear Ethernet ports ("ETH2" and "ETH3") configured when installing the Site Vantage (section 8.3.5, step 2).
		c. Enter the username: masterd. Enter the password: mastere. Click "Login".
	Not been connected to an existing network	a. Plug one end of the CAT6 Ethernet cable into the "ETH1" port on the front of the Site Vantage, and the other end into a computer's Ethernet port.b. In the computer, initiate a web browser and type the
		 following IP address into the address field: <u>192.168.1.200</u> c. Enter the username: master d. Enter the password: master e. Click "Login".

Note:

- Recommended web browsers to use are Chrome, Edge, Firefox and Safari
- The IP address 192.168.1.200 is the factory default IP address for the "ETH1" port on the front of the Site Vantage
- Refer to section 11.5 for information on how to change the IP address of the Ethernet ports
- The Site Vantage has three different user roles, each with a different access level. Refer to section 10.2.3 for more information
- To set up the Site Vantage for normal operation, access the GUI as the "master" user role.



10.2 Background Information

10.2.1 The Site Vantage's GUI

The GUI consists of a main menu and 10 screens (Figure 37). After logging into the GUI, the main menu and the "Dashboard" screen appear.

The main menu (Figure 37):

- Is a vertical menu on the left-hand side of the screen
- Provides access to the 10 screens, by clicking their titles
- Highlights the active screen in light blue
- Is always visible, and it shrinks if the window size is small.

Some of the screens are divided into tabs, and some of the screens also contain horizontal or vertical sub-tabs:

- The active tab is highlighted in blue (Figure 37)
- The active horizontal sub-tab is highlighted in grey (Figure 37)
- The active horizontal sub-tab is highlighted in blue (Figure 38).

ARFI	Notification Rules Not	fication Targets - Active tab high	lighted in blue	
SITE VANTAGE	👸 Relays 💷 S	Horizontal sub-tabs -	Active sub-tab	Filter by 👻
😸 Dashboard	ID	Notification Rule	Energise Mode	State
TX Monitor	Output 1	All For all alarms with any severity	De-energise on alarm 👻	
🗙 Adjacent Sites	Main	RX channel power out of range Trigger 1: RX channel active power alarms on all RX channels Trigger 2: RX channel noise floor alarms on all RX channels	De-energise on alarm	
A RF Tests	s o menu	TX channel forward power out of range Trigger 1: TX channel forward power alarms on all TX channels	De-energise on alarm	A C B
External Inputs	Output 4	TX channel reflected signal out of range Trigger 1: TX channel reflected signal alarms on all TX channels	De-energise on alarm 👻	
Alarms	P Screen	No notification rule	De-energise on alarm 👻	A C B
Calibration	in light blue	No notification rule	De-energise on alarm 👻	
🕼 Settings	Digital output 3	No notification rule	De-energise on alarm 👻	
	Digital output 4	No notification rule	De-energise on alarm 👻	
	E Digital output 6	No notification rule	De-energise on alarm 👻	
	Digital output 7	No notification rule	De-energise on alarm 👻	
	Digital output 8	No notification rule	De-energise on alarm 👻	A C B
	Digital output 9	No notification rule	De-energise on alarm 👻	
	Digital output 10	No notification rule	De-energise on alarm 👻	A C B
Ex Logout	Digital output 1	No notification rule	De-energise on alarm 👻	
Logout	Digital output 2	No notification rule	De-energise on alarm 👻	A C B

Figure 37 – Main Menu, Tabs and Horizontal Sub-Tabs



RFI	TX Ports RX Ports
SITE VANTAGE	TX Port 1
88 Dashboard	TX Port 2
TX Monitor	TX Port 3
ビ RX Monitor	Forward Ocuping Loss • 40.0 dB
🔀 Adjacent Sites	Reverse Coupling Loss •
A RF Tests	40.0 dB
External Inputs	Antenna Feeder Loss* 3.0 dB
🗗 Alarms	
	Submit Cancel
Sealibration	
19 Settings	
	Vertical sub-tabs - Active
	sub-tab nignlighted in blue
[→ Logout	

Figure 38 – Vertical Sub-Tabs

The user can select the units the GUI will display (refer to section 11.3 for more information). The units selected when writing this manual are:

- Forward power: dBm
- Reflected signal: VSWR
- Temperature: Celsius.



10.2.2 Functions of Each Screen

Table 25 below describes the functions of each of the 10 screens and references their corresponding section in the manual.

Screen	Function	Instructions
1. Dashboard	To summarise the performance of the monitored parameters	Section 11
	 To list the next scheduled RF tests and to show the alarm history. 	
2. TX Monitor	To monitor TX channels and to set alarm thresholds for them.	Section 13
3. RX Monitor	To monitor composite RF power levels and RX channels, and to set alarm thresholds for them.	Section 14
4. Adjacent Sites	To monitor adjacent site control channels and to set alarm thresholds for them.	Section 15
5. RF Tests	To conduct and schedule three RF tests:	Section 16
	1. Antenna isolation tests	
	2. RX preselector characterisation tests	
	3. TX carrier suppression tests.	
6. External inputs	To monitor external inputs connected to the Site Vantage or to SAMs and to set alarm thresholds for them.	Section 17
7. Alarms	To view the alarms currently active and the history of past alarms.	Section 18
8. Notifications	To create and manage notification rules which send SNMP traps and energise/de-energise relays based on active alarms, and to test relays.	Section 19
9. Calibration	To calibrate the Site Vantage, during its installation.	Section 20
10. Settings	To provide system information and to allow users to configure the Site Vantage's settings.	Section 11 and section 21

Table 25 – Functions of Each of the 10 screens



10.2.3 User Roles

The Site Vantage has three different user roles, each with a different access level. Each user role has a default password. Table 26 below lists all the user roles, usernames, default passwords and explains their access level.

User Role	Username	Default Password	Access Level
master	master	master	Can manage and modify:
			The system configuration, which includes:
			 TX, RX and adjacent sites monitored channels
			 RF tests
			 External inputs
			 Notifications
			 Calibration settings.
			Data records, which includes:
			 Data measured by the Site Vantage
			 The alarm history.
			 The system settings (all settings in the "Settings" screen)
			 All user roles, including changing passwords for all user roles.
admin	admin	admin	 Can manage and modify data records, which includes:
			 Data measured by the Site Vantage
			 The alarm history.
			 Can change the password for the user roles of admin and user.
user	user	user	Has read-only access to the data measured by the Site Vantage and the alarm history.

Table 26 – User Roles, Default Passwords and Access Levels

Note:

- To set up the Site Vantage for normal operation, access the GUI as the "master" user role
- To access the GUI with different user roles, log in using the corresponding username and password



• For security reasons, it is recommended to change the default passwords. Refer to section 11.2 for instructions on how to do so.



11 Configure the Site Vantage's Settings

The "Settings" screen contains the settings required to set up the Site Vantage for normal operation, amongst other functions.

Note:

- This section (section 11) contains the steps that should be completed to set up the Site Vantage for normal operation (not all steps are compulsory).
- Section 21 contains detailed information of all the actions the user can make within the "Settings" screen.

11.1 Access the "Settings" Screen

To access the "Settings" screen:

Acc	ess the Settings Scre	en
1.	Access the Site Vanta	age's GUI.
	Note: Refer to section	n 10.1 for instructions on how to access the GUI.
2.	Click "Settings", from	n the main menu on the left-hand side of the screen.
	Settings Result: The "System	Information" tab of the "Settings" screen appears.
2	Dressed as follower	
3.	Proceed as follows:	
	To access the	Click
	"User	"User Management".
	Management" tab	System Information User Management Configuration Maintenance System Health
	"Configuration" tab	"Configuration".
		System Information User Management Configuration Maintenance System Health



11.2 Change the Default Passwords for the Three Users Roles

Note:

• As described in section 10.2.3, the Site Vantage has three different user roles, each with a different access level. Each user role has a default password. The user roles and their default passwords are:

User Role	Username	Default Password
master	master	master
admin	admin	admin
user	user	user

• For security reasons, it is recommended to change the default passwords.

To change the default passwords:

Cha	nge t	he Default Passwords
1.	On t	he "User Management" tab, click "User Information".
	s	ystem Information User Management Configuration
	Us	er Information V User Information (master)
	Us	er Preferences Assigned User Groups: System admin
	Not tab o	e: Refer to section 11.1 for information on how to access the "User Management" of the "Settings" screen.
2.	Cha	nge the Default Password for the " <u>master</u> " User Role
	On t	he "User Information (master)" section:
	a.	Type in the "Master Password" (the default password is "master").
	b.	Type in the "New Password".
	C.	Repeat the new password in the "Repeat Password" field.
	d.	Click "Apply".
	e.	Take a note of the new password for the "master" user role.



✓ User Information (master)
Assigned User Groups: System admin Data admin Technician SNMP read
Change Password
Master Password *
New Password *
Penast Password *
Apply Discard Changes
Change the Default Password for the "admin" User Role
On the " User Information (admin) " section:
a. Type in the "Master Password" (the default password is "master").
b. Type in the "New Password".
c. Repeat the new password in the "Repeat Password" field.
d. Click "Apply".
e. Take a note of the new password for the "admin" user role.
Assigned User Groups: Data admin Technician SNMP read
Change Password
Master Password *
New Password *
Repeat Password *
Apply Discard Changes
Change the Default Password for the " <u>user</u> " User Role
On the "User Information (user)" section:
a. Type in the "Master Password" (the default password is "master").
b. Type in the "New Password".
c. Repeat the new password in the "Repeat Password" field.
d. Click " Apply ".
e. Take a note of the new password for the "user" user role



nge the Default Passwords	
User Information (user)	
Assigned User Groups: Technician	
Change Password	
Master Password *	
New Password *	
Repeat Password *	
Apply Discard Changes	



11.3 Select the Units for the Forward Power, Reflected Signal and the Temperature

To select the units the Site Vantage will display for the forward power, the reflected signal and the temperature:

Select the Units		
. On the "User Management" tab, click "User Preferences".		
User Information User Preferences		
Note: Refer to section 11.1 for information on how to access the "User Management" tab of the "Settings" screen.		
2. a. Select the unit for the forward power from the drop-down menu. The options are:		
• dBm		
• Watt.		
b. Select the unit for the reflected signal from the drop-down menu. The options are:		
VSWR		
Return Loss.		
c. Select the unit for the temperature from the drop-down menu. The options are:		
Celsius		
Fahrenheit.		
d. Click " Apply ".		
Forward Power Unit dBm		
✓ Reflected Signal Unit VSWR ▼		
Celsius -		
Apply Discard Changes		



11.4 Configure the Site Vantage's "Identity" Fields

To configure the Site Vantage's "Identity" fields:

Configure the Site Vantage's "Identity" Fields		
1. On the " Configuration " tab, click " Identity ".		
Identity		
Network Configuration		
Date and Time		
SNMP		
Security Settings		
Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.		
2. a. Type in the "Host Name".		
b. Type in the "Organization".		
c. Type in the "Site Name".		
d. Type in the "Site Location".		
e. Click " Apply ".		
Host Name *		
SiteVantage.Local.24090320		
RFI Technology Solutions		
Site Name		
Publicly Accessible		
Site Location Adelaide Engineering Lab		
Apply Discard Changes		



11.5 Configure the Network Settings

To configure the network settings:

Note: The IP address for the rear Ethernet ports ("ETH2" and "ETH3") has already been configured during the installation and calibration process. Refer to section 8.3.5 for more information.

Con	Configure the Network Settings		
1.	1. On the " Configuration " tab, click " Network Configuration ".		
	Identity Network Configuration Date and Time SNMP		
Security Settings			
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.		
2.	2. If you want to change the IP address of the front Ethernet port ("ETH1"), on the "Front port ("ETH1")" section, proceed as follows:		
	То	Then	
	Automatically assign an IP address to the front port ("ETH1") using DHCP	a. Tick "Enable DHCP".	
		b. Click " Apply ".	
		 c. Take a note of the assigned "IP Address" and "Subnet Mask Bits". 	
	Manually assign an IP address to the front port ("ETH1")	 Type in the "IP Address" to be used when accessing the Site Vantage via the front port ("ETH1"). 	
		b. Type in the "Subnet Mask Bits".	
		c. Click " Apply ".	



Configure the Network Settings	
✓ Front Port (ETH1)	
Enable DHCP	
IP Address * 10.3.5.230	
Subnet Mask Bits *	
Apply Discard Changes	

3. To configure the Site Vantage's DNS, on the DNS section, proceed as follows:

×

То	Then
Automatically assign static	 Tick "Use DHCP assigned servers".
servers using DHCP	b. Click " Apply ".
	c. Take a note of the assigned static servers listed under "Current Servers".
Manually assign static servers	a. In the " Static Servers " text box, type in the IP address of the static server.
	 Press enter to enter the IP address of the static server.
	c. Repeat steps i. and ii. for all the IP addresses of the static servers to be used.

\vee DNS	
Use DHCP a	ssigned servers
Static Server	8
1.1.1.1 🛞 (8.8.8.8 🙁 1.0.0.1 🙁 8.8.4.4 😒

Type and press enter

Current Servers		
1.1.1.1		
8.8.8.8		

1.0.0.1 8.8.4.4

Apply Discard Changes



Configure the Network Settings		
Note: If it is required to delete an IP address of a static server, click the cross next to the IP address.		
Static servers		
1.1.1.1 🛞 8.8.8 🛞 1.0.0.1 🛞 8.8.4.4 🚫		
2606:4700:4700::1111 🔇 2001:4860:48888 🔇		
2606:4700:4700::1001 🛞 2001:4860:4860::8844 🗵		
Type and press enter		



11.6 Configure the Site Vantage's Date and Time

Note:

- All Site Vantage units have their date and time synchronised before they leave the factory
- During normal operation, it is recommended that the Site Vantage's date and time are synchronised with an NTP server, as described in this section.

To configure the Site Vantage's date and time:

Con	Configure the Site Vantage's Date and Time	
1.	On the "Configuration" tab, click "Date and Time".	
	Identity	
	Network Configuration	
	Date and Time SNMP	
	Security Settings	
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.	
2.	Enter the NTP servers to be used. To do this:	
	a. In the " NTP Servers " text box, type in the name of the NTP server.	
	b. Press enter to enter NTP server.	
	c. Repeat steps a. and b. for all the names of the NTP servers to be used.	
	NTP Servers time.google.com Type and press enter	
3.	If it is required to delete an NTP server, click the cross next to the NTP server name.	
	NTP Servers	
	time.google.com Type and press enter	
4.	Select the time zone to be used from the drop-down menu.	
	- Timezone	
	Australia/Adelaide	
5.	Click " Apply ".	
	Result: The Site Vantage's date and time are now synchronised with the selected NTP server.	



11.7 Configure the Site Vantage's SNMP Settings

Note:

- The person configuring the Site Vantage's SNMP settings is expected to be proficient in SNMP
- The Site Vantage will use SNMP to send notifications. Refer to section 19 for more information.

11.7.1 Configure the SNMP Agent Settings

To configure the SNMP agent settings:

Configure the SNMP Agent Settings		
On the " Configuration " tab, click " SNMP ".		
Identity		
Network Configuration		
Date and Time		
SNMP		
Security Settings		
Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.		
2. On the "SNMP Agent Settings" section:		
a. Enter the "System Contact".		
b. Enter the "System Name".		
c. Enter the "System Location".		
d. Click " Apply ".		
SNMP Agent Settings		
System Description RFI SiteVantage, Model SV1396, Version master-20250329-005333-5e07f91, Hw Revision C, Serial 24090320		
System Object ID 1.3.6.1.4.1.32327.2.2.4		
System Contact *		
- System Name * SiteVantage Local		
System Location *		
Apply Discard Changes		



11.7.2 Add SNMP Destinations

To add SNMP destinations:

Add SNMP Destinations		
1.	On the "Configuration" tab, click "SNMP".	
	Identity	
	Network Configuration	
	Date and Time	
	SNMP	
	Security Settings	
	Note: Refer to the "Settings" s	section 11.1 for information on how to access the "Configuration" tab of screen.
2.	On the " SNMP Destinations " section, click " + Add Destination ", from the right-hand side of the screen.	
	SNMP Destinations	Enable Test Mode + Add Destination
	Result: The "Add SNMP Destination" dialog appears.	



3.	Complete the "Add SNMP Destination" dialog with the following relevant information:
	Destination section
	Enable SNMP field (required):
	 If ticked: SNMP will be enabled
	 If unticked: SNMP will be disabled.
	Server name field (required): Enter the SNMP server name
	• Server address field (required): Enter the SNMP destination server address.
	Destination
	Enable SNMP
	Server Name *
	Server Address *
	Version section
	• Version field (required): Select the SNMP version to be used from the drop-
	down menu.
	Note: If the SNMP version selected is v3, additional security fields will appear.
	Version SNUP Version*
	Security section
	• If the selected SNMP version is v1 or v2c, complete the following field:
	 Community string field (required): Enter the community string.
	Version SNMP Version*
	VI *
	Community String *
	 If the selected SNMP version is v3, complete the following fields:
	- Auth user field (required): Enter the authentication user
	 Auth protocol field (required): Select the authentication protocol from the drop-down menu
	 Auth password field (required): Enter the authentication password
	 Priv protocol field (required): Select the privacy protocol from the drop down menu
	 Priv password field (required): Enter the privacy password

- **Engine ID field**: Enter the security engine ID.



_ SNMP Version * v3	~
Security	
Auth User *	
Auth Protocol *	
MD5	~
Auth Password *	
Priv Protocol *	
None	~
Priv Password *	
Engine ID	

Traps section

- Enable SNMP trap field (required):
 - If ticked: The Site Vantage will list the SNMP destination and use it to send SNMP traps as determined by the notification rules
 - If unticked: The Site Vantage will list the SNMP destination, but it will not use it.
- **Trap port field** (required): Enter the port number the Site Vantage will use to send the SNMP trap
- Enable inform mode field (required):
 - If ticked: Inform mode will be active, and the Site Vantage will expect to receive an acknowledgement from the SNMP manager confirming the SNMP trap has been received. If the Site Vantage does not receive an acknowledgement, it will resend the SNMP trap
 - If unticked: Inform mode will be inactive, and the Site Vantage will not expect to receive confirmation that the SNMP trap has been delivered.
- If "Enable Inform Mode" has been ticked, complete the following fields:
 - Inform timeout field (required): Enter, in seconds, the maximum time to wait for the SNMP trap to be delivered. If the SNMP trap is not delivered within this time, it will be considered undelivered
 - Inform max. retries field (required): Enter the maximum number of attempts the Site Vantage will make to send the SNMP trap in case the initial attempt fails.

Enable SNMP Trap
Trap Port *
Enable Inform Mode
Inform Timeout *
Inform Max Retries *



Add SNMP Destinations													
Get section													
Enable SNMP GET field (required):													
- If ticked: SNMP GET will be enabled.													
- If unticked: SNMP GET will be disabled.													
• Listener port field (required): Enter the Site Vantage's port to be used to SNMP GET requests. It must be unique.													
GET Enable SNMP GET Listener Port * Port on this board for SNMP Get requests. Must be unique.													
 Click "Save". Result: The SNMP destination is now listed on the "SNMP Destinations" section. 													
Server Name Server Address Version SNMP Enabled Trap Port Trap Enabled GET Port GET Enabled Actions													
Local 1 10.3.5.48 v2c 🛇 162 🛇 10162 📀 🗄													
5. Repeat steps 2 to 4 for all SNMP destinations to be added.													



11.7.3 Test SNMP Destinations

To test SNMP destinations:

Test SNMP Destinations													
1.	On the " Configuration " tab, click " SNMP ".												
	Identity												
	Network Configuration												
	Date and Time												
	SNMP												
	Security Settings												
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.												
2.	On the "SNMP Destinations" section, click the "Enable Test Mode" toggle.												
	SNMP Destinations Enable Test Mode + Add Destination												
	Result: The test mode becomes active.												
	SNMP Destinations Enable Test Mode + Add Destination												
3.	Click the menu icon of the SNMP destination to test.												
	Local 1 10.3.5.48 v2c 🥥 162 🖉 10162 🥥 📋												
4.	Click "Test SNMP" from the drop-down menu.												
	Test SNMP												
	Edit												
	Delete												
	Result: A test SNMP trap is sent to the SNMP destination.												
5.	Repeat steps 3 and 4 for all SNMP destinations to be added.												
6.	Once all the required SNMP destinations have been tested, click the "Enable Test Mode" toggle.												
	SNMP Destinations Enable Test Mode + Add Destination												
	Result: The test mode becomes inactive.												
	SNMP Destinations Enable Test Mode + Add Destination												



11.7.4 Edit the Information of an SNMP Destination

To edit the information of an SNMP destination:

Edit the Information of an SNMP Destination										
1.	On the "Configuration" tab, click "SNMP".									
	Identity									
	Network Configuration									
	Date and Time									
	SNMP Security Settings									
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.									
2.	On the "SNMP Destinations " section, click the [•] menu icon of the SNMP destination to be edited.									
	Local 1 10.3.5.48 v2c 🥥 162 🥥 10162 🖉 🚺									
3.	Click "Edit" from the drop-down menu.									
	Test SNMP									
	Edit									
	Delete									
	Result: The "Edit SNMP Destination" dialog appears.									
4.	Edit the required fields.									
	Note: The "Edit SNMP Destination" dialog contains the same fields as the "Add SNMP Destination" dialog. For more information on these fields, refer to Section 11.7.2.									
5.	Click "Save".									



11.7.5 Delete an SNMP Destination

To delete an SNMP destination:

Dele	Delete an SNMP Destination											
1.	On the "Configuration" tab, click "SNMP".											
	Identity											
	Network Configuration											
	Date and Time											
	SNMP											
	Security Settings											
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of the "Settings" screen.											
2.	On the "SNMP Destinations " section, click the * menu icon of the SNMP destination											
	to be deleted.											
	Local 1 10.3.5.48 v2c 🤡 162 ⊘ 10162 🧭 🚺											
3.	Click "Delete" from the drop-down menu.											
	Test SNMP											
	Edit											
	Delete											



11.8 Configure the Site Vantage's Security Settings

Note: The person configuring the Site Vantage's security settings is expected to be proficient in web security.

To configure the Site Vantage's security settings:

Con	Configure the Site Vantage's Security Settings											
1.	On the "Configuration" tab, click "Security Settings".											
	Identity											
	Network Configuration											
	Date and Time											
	SNMP											
	Security Settings											
	Note: Refer to section 11.1 for information on how to access the "Configuration" tab of											
	the "Settings" screen.											
2.	To enable HTTPS, on the "Web Server Configuration" section:											
	a. Tick "Enable HTTPS.											
	b. Enter the "Server Port".											
	c. Click " Apply ".											
	✓ Web Server Configuration											
	Enable HTTPS											
	Server Port * HTTP server listens on port 80											
	Apply Discard Changes											
3.	Generate a New SSL Private/Public Key Pair and a New Self-Signed Certificate											
•	On the "SSI Key Management " section to generate a new SSI private/public key pair											
	and a new self-signed certificate, click "Generate SSL Key and certificate".											
	Note:											
	 The Site Vantage already comes with a self-signed certificate generated at the factory 											
	 Clicking "Generate SSL Key and certificate" will invalidate all existing certificates. 											
	✓ SSL Key Management											
	Generate SSL Key & Certificate Generate SSL key & Certificate. Generate SSL key & Certificate											



Configure the Site Vantage's Security Settings

4. Use a Self-Signed Certificate

To use a self-signed certificate, on the "Self-signed Certificate Management" section:

- a. Click "Generate self-signed certificate".
- b. Click "Download self-signed certificate".
- c. Import the download self-signed certificate into your web browser to eliminate the security warnings generated by the browser.

Note: The "Self-signed Certificate Details" contains key information about the self-signed certificate.

erate Self-signed Certificate trate self-signed certificate using the existing SS	Generate Self-signed Certificate					
vnload Self-signed Certificate nload the self-signed certificate to be imported i ings.	Download Self-signed Certificate					
 Self-signed Certificate Details 						
Country	AU					
State/Province	South Australia					
Locality	Adelaide					
Organisation	RFI					
Organisation Unit	DEV					
Common Name	SiteVantage.Local.24090320					
Subject Alternative Names	SiteVantage.Local.24090320					
Start Date	2025-04-05T07:57:05Z					
Expiry Date	2027-04-05T07:57:05Z					
Serial Number	1A:0F:9B:93:8C:60:54:01:D7:F1:98:6E:92:88:6A:A4:C1:	:83:DC:88				
Public Key Size	2048 bits					
ublic Key Algorithm BSAPublicKey						



Con	nfigur	e the Site Vantage's Security Settings											
5.	Use	a Certificate Issued by a Certificate Authority (CA)											
	To u	se a certificate issued by a CA, on the "CA Certificate Management" section:											
a. Complete the fields of the certificate signing request. These are:													
		- Common Name											
		- Organization											
		- Country											
		- State/Province											
		- Locality											
		 Organizational Unit 											
		 Subject Alternative Names. 											
		Generate Certificate Signing Request											
		Common Name *											
		Organization *											
		Country *											
		State/Province											
		Locality											
		Organizational Unit											
		Subject Alternative Names											
		Generate Certificate Signing Request											
	b.	Click "Generate Certificate Signing Request".											
	C.	Click "Download CSR".											
	d.	Send the downloaded CSR to a certificate authority, requesting a CA certificate.											
	e.	When the CA certificate is received from the certificate authority, click " Upload CA Certificate " and upload the CA certificate.											

Result: The CA certificate details appear on the "CA Certificate Details" section.



12 Dashboard

12.1 Background Information – Dashboard

The "Dashboard" screen:

- Summarises the performance of the monitored parameters
- Lists the next scheduled RF tests and shows the alarm history.

Ĩ	¢		Site Nam Location: A	e: Publicly Acce Adelaide Engineer	ssible ing Lab										Site Vantage Local	Time: 01:25:16 PM, 27 May 2 Time: 01:55:16 PM, 27 May 2	5
	s	ITE VANTAGE	Channe	d Group Health			RF Performance						Antenna Health				
	_		Channe	el Group	Status	_	тх	Power	RX		RF Status	Noise Floor	тх	Status	RX	Status	
I 1 H	- 88	Dashboard	08M		⊘ Good		TX1	⊘ Good	RX1 (b	estRX]	⊗ Major	⊘ Good	TX1	Major	RX1 [testRX]	Major	
			GRN		⊘ Good		TX2	⊘ Good	RX2		⊘ Good	Ø Good	TX2	Ø Good	RX2	⊘ Good	
	Ø	TX Monitor	Police		⊘ Good	41	TX3	⊘ Good	RX3		⊘ Good	⊘ Good	TX3	⊘ Good	RX3	⊘ Good	
	Ľ	RX Monitor	-	2	< 1 2	,											
	~	Adjacent Sites	Externa	I Inputs	-		Next Scheduled	Tests					Site Vantage Health				
	~	Adjacent Sitea	Туре		Status		Test			Next Scheduled Time			Туре		Status		
	٨٨	RF Tests	Temp	erature	⊘ Good		Antenna Isolati	ion Tests		Not Schedul	ed		Temperature		Ø Good		
			Volta	ge	⊘ Good		RX Preselector	Characterisation		02:00:00 PM	l, 27 May 25		Internal Rails		⊘ Good		
	•	External Inputs	Digita	d .	Ø Good		TX Carrier Supp	pression Tests		Not Schedul	ed						
	с <mark>0</mark>	Alarma															
		- Contraction															
		Notifications	Alarm H	History - Last 7 day	5												L.,
	8	Calibration								Major Alarr	ms 📒 Minor A	larms			$_{\pm}$	5580 +	3
		Settings			Adjacent site channel	l power	1										
					Analog Antenna	voltage	1										
					Digi Pre-selector characte	tal input risation	1										
					RX channel activ RX channel activ	e power	1										
					RX composit	e power											
					SAM	rmware											
					TX carrier sup	ression	-										
					TX channel forwar TX channel reflecte	d power d signal	-										
							0		0.3			0.6		0.9		1.2	
	[→	Logout															

Figure 39 – Functions of the "Dashboard" Screen

Dashboard User Actions	Id (Figure 39)	Instructions
Access the "Dashboard" screen	1	Section 12.2
Navigate between pages	2	Section 12.2
Use the alarm history graph's menu	3	Section 12.3

Table 27 – Functions of the Dashboard Screen



12.2 Access the Dashboard Screen

To access the "Dashboard" screen:

Access the Dashboard Screen				
1.	1. Proceed as follows:			
	lf you	Then		
	Have not accessed the Site	Access the Site Vantage's GUI.		
vantage's GUI	Note: Refer to section 10.1 for instructions on how to access the Site Vantage's GUI.			
		Result: The "Dashboard" screen appears.		
	Are in any screen of the GUI.	Click " Dashboard ", from the main menu on the left- hand side of the screen.		
		SITE VANTAGE		
		B Dashboard		
		Note: Refer to section 10.1 for instructions on how to access the Site Vantage's GUI.		
		Result: The "Dashboard" screen appears.		
2.	2. To navigate between pages, click the corresponding icon.			



12.3 Use the Alarm History Graph's Menu

To use the alarm history graph's menu:





13 TX Monitor Screen – Monitor TX Channels

13.1 Background Information – TX Monitor

The "TX Monitor" screen allows users to:

- Add and manage TX channels
- Review and manage the TX channels' data measured by the Site Vantage (forward power in dBm and VSWR)
- Set alarm thresholds for the monitored TX channels.

TX Monitoring

Monitoring TX channels:

- Allows operators to ensure the TX antenna operates as intended, without needing to send a technician on-site
- Provides data to diagnose faults related to the TX antenna.

After setting alarm thresholds for the TX channels, the Site Vantage can notify operators if the alarms are triggered, allowing operators to immediately correct any faults.

"TX Monitor" Screen Tabs

The "TX Monitor" screen has three tabs:

- **Tab 1 Live status:** Displays the current performance data of the monitored TX channels. Figure 40, Figure 41 and Table 28 below describe the actions the user can make within the tab
- **Tab 2 History:** Displays the historical performance data of the monitored TX channels. Figure 42 and Table 29 below describe the actions the user can make within the tab
- **Tab 3 Alarm profiles:** Displays the alarm thresholds set for the monitored TX channels. Figure 43 and Table 30 below describe the actions the user can make within the tab.


Tab 1 –	Live	Status	("TX	Monitor"	Screen)
---------	------	--------	------	----------	---------

			2						6			
			Live Status	History	Alarm Profiles		Filter channels b	All	+		hannel	3
	SITE VANTA	⊢∣	No. 🔺	Frequency (MHz)	Name	Radio Protocol	Forward Power (dBm)	VSWR	Last Heard	Status	_	
	SB Dashboard		1	135.800000	Police Ch1	P25		1.46	2 minutes ago	Inactive	⊡ • 4	4
Ľ	TX Monitor	Ę.	3	400.600000	3	FM (12.5 kHz)		1.79	a minute ago	Inactive	:	
	Adjacent Sites	Ľ,	○ ⁴	410.800000	4	FM (12.5 kHz)	28.3	1.61	Now	 Active 	÷	
	A RF Tests 5		11	400.200000	Fire 1	FM (12.5 kHz)	30.6	1.47	2 minutes ago	Inactive	÷	
	External Inputs	Γ	01	30.000000	1	FM (12.5 kHz)	28.5	1.42	a few seconds ago	Inactive	:	
	Alarms	2	2	150.400000	2	FM (12.5 kHz)		1.40	a minute ago	Inactive	i	
	Notifications Galibration	ř	3	150.600000	3	FM (12.5 kHz)	30.4	1.63	a few seconds ago	Inactive	÷	
	0 Settings		4	150.800000	4	FM (12.5 kHz)	29.8	1.50	a minute ago	Inactive	I	
			0 •	900.000000	0	FM (12.5 kHz)	30.8	1.52	Now	Active		
			01	900.200000	1	FM (12.5 kHz)		1.45	a few seconds ago	Inactive	i	
		ξ <u>Έ</u>	2	900.400000	2	FM (12.5 kHz)	30.1	1.69	a few seconds ago	Inactive	i	
			3	900.600000	3	FM (12.5 kHz)	30.3	1.40	a few seconds ago	Inactive	÷	
			4	900.800000	4	FM (12.5 kHz)		1.59	a few seconds ago	Inactive	i	
	[→ Logout											

Figure 40 – Functions of the Live Status Tab – 1 ("TX Monitor" Screen)

				9 11
		Live Sta	History Alarm Profiles	Last 30 Minutes Filter channels by All Channel Go to list view + Add Channel
~~~~~		No. 🔺	Frequency (MHz)	29.3 dBm 1.55:1
SK Dashboard	հ մ		135.800000 1 Police Ch1	Forward power VSWR
RX Monitor	,		400.600000 3 3	Forward Power
▶ Adjecent Sites	F	0	410.800000 4 4	
A RF Tests			400.200000 11 Fire 1	
🗗 Alarms			30.000000 1 1	28.0
▲ Notifications	~		150.400000 2 2	
Calibration	¥	0	150.600000 3 3	Reflected Signal
		0	150.800000 4 4	
		0	900.000000 0 0	
			900.200000 1 1	13.40 13.45 13.50 13.55 14.00 14.05 27 May 27 May 27 May 27 May 27 May 27 May
	5X1		900.400000 2 2	- TX1 - 400 800000 MHz
		0	900.600000 3 3	
		0	900.800000 4 4	
[→ Logout				

Figure 41 – Functions of the Live Status Tab – 2 ("TX Monitor" Screen)



Live Status Tab User Actions ("TX Monitor" Screen)	Id (Figure 40 and Figure 41)	Instructions
Access the "TX Monitor" screen	1	Section 13.2
Access the "Live Status" tab	2	Section 13.2
Add TX channels to monitor	3	Section 13.3
Edit the information of a monitored TX channel	4	Section 13.4
Delete a monitored TX channel	4	Section 13.5
View TX channels' live data	4	Section 13.7
	5	
Filter TX channels	6	Section 13.9
Sort the TX channels' data	7	Section 13.10
View the data of one or more TX channels	8	Section 13.7
Change the time length displayed in the graphs	9	Section 13.7
Save a graph as an image	10	Section 13.7
Stop viewing the data of all TX channels	11	Section 13.7

Table 28 – Functions of the Live Status Tab ("TX Monitor" Screen)







Figure 42 – Functions of the History Tab ("TX Monitor" Screen)

History Tab User Actions ("TX Monitor" Screen)	Id (Figure 42)	Instructions
Access the "TX Monitor" screen	1	Section 13.2
Access the "History" tab	2	Section 13.2
View the data of one or more TX channels	3	Section 13.8
Change the time length displayed in the graphs	4	Section 13.8
Save a graph as an image	5	Section 13.8
Zoom in on a graph	5	Section 13.8
Reset the zoom level	5	Section 13.8
View the graph's data	5	Section 13.8
Restore the chart to its original view	5	Section 13.8
Filter TX channels	6	Section 13.9
Sort the TX channels' data	7	Section 13.10

Table 29 – Functions of the History Tab ("TX Monitor" Screen)



### Tab 3 – Alarm Profiles ("TX Monitor" Screen)

			2										
		Live Status	History Alarm Profiles				Forward P	ower (dBm)		Reflected Po	ower (VSWF	0	
88 Dashboard 4	⊢	No. 🔺	Name	Frequency (MHz)	Radio Protocol	<u> </u>	▲		△		<u> </u>	•	_
TX Monitor	1	1	Police Ch1	135.800000	P25	10.0	20.0	•	•	•	•		
RX Monitor		3	3	400.600000	FM (12.5 kHz)	•	•	•	•	•		-	
Adjacent Sites	¥	4	4	410.800000	FM (12.5 kHz)	•	•	•	•		•	:	
External Inputs		11	Fire 1	400.200000	FM (12.5 kHz)	10.0	15.0	35.0	40.0	1.92	2.32	:	
Alarms		1	1	30.00000	FM (12.5 kHz)								
△ Notifications		2	2	150.400000	EM (12 5 kHz)								
Calibration	1X2	3	3	150 600000	EM (12.5 kHz)								
				150.000000	FM (12 E Max)								
		4	•	130.00000	PM (12.3 KH2)	· ·	•	· ·	•		•	•	
		0	0	900.000000	FM (12.5 kHz)	1.0	2.0	40.0	45.0	1.92	2.32	:	
		1	1	900.200000	FM (12.5 kHz)	•	•	•	•		•	:	
	TX3	2	2	900.400000	FM (12.5 kHz)		•	•	•		•	:	
		3	3	900.600000	FM (12.5 kHz)		•	•	•			:	
		4	4	900.800000	FM (12.5 kHz)		•	•	•		•	:	
[→ Logout													

Figure 43 – Functions of the Alarm Profiles Tab ("TX Monitor" Screen)

Alarm Profiles Tab User Actions ("TX Monitor" Screen)	ld (Figure 43)	Instructions
Access the "TX Monitor" screen	1	Section 13.2
Access the "Alarm Profiles" tab	2	Section 13.2
Set alarm thresholds for the monitored TX channels	3	Section 13.6
Reset the alarm threshold values	3	Section 13.6
Sort the TX channels' data	4	Section 13.10

Table 30 – Functions of the Alarm Profiles Tab ("TX Monitor" Screen)



# **13.2 Access the TX Monitor Screen**

To access the "TX Monitor" screen:

Acce	Access the TX Monitor Screen				
1.	Access the Site Vantage's	GUI.			
	Note: Refer to section 10.1	for instructions on how to access the GUI.			
2.	Click "TX Monitor", from th	e main menu on the left-hand side of the screen.			
	Result: The "Live Status" t	ab of the " <b>TX Monitor</b> " screen appears.			
3.	Proceed as follows:				
	To access the	Click			
	"Live Status" tab	"Live Status", from the top of the screen.			
		<b>Note:</b> The "Live Status" tab is displayed by default when accessing the "TX Monitor" screen.			
	"History" tab "History", from the top of the screen.				
	"Alarm Profiles" tab	"Alarm Profiles", from the top of the screen.			



# 13.3 Add TX Channels to Monitor

To add TX channels for the Site Vantage to monitor:

Add	Add TX Channels to Monitor						
1.	On the "Live Status" tab, click " <b>+ Add Channel</b> ", from the top right-hand side of the screen.						
	Live Status History Alarm Profiles Filter channels by All - + Add Channel + Add Channel						
	Note the "T	: Refer to section 13.2 for inform IX Monitor" screen.	nation on how to access the "Live Status" tab of				
	Resu	Ilt: The "Add TX Channel" dialog	appears.				
2.	Com	olete the "Add TX Channel" dialo	og with the following relevant information:				
	•	<b>Port field</b> (required): Select the the channel's TX antenna has be	Site Vantage's TX port (TX1, TX2 or TX3) where een connected				
	٠	Frequency field (required): Ent	er the channel's frequency, in MHz				
	•	Name field (optional): Enter a n	ame for the channel				
	•	Radio protocol field (required)	: Select the channel's radio protocol				
	•	Id field (optional): Enter a nume	erical Id for the channel (i.e. 1 or 2 or 3, etc.)				
	•	Channel group membership fi group, as follows:	eld (optional): Add the channel to a channel				
		If the name of the required group membership is	Then				
		Already in the "Channel Group Membership" drop- down menu	Select the required group membership from the "Channel Group Membership" drop-down menu.				
		Not available in the "Channel Group Membership" drop- down menu	<ul> <li>a. Click "Add Channel Group".</li> <li>Channel Group Membership Add Channel Group</li> <li>b. In the "Channel Group Name" field, type in a name for the group.</li> <li>Channel Group Name Finter channel group name</li> <li>Name cannot be empty</li> <li>c. Click "Add".</li> <li>Note: Once a group membership has been added once, it will be available in the "Channel Group Membership" drop-down menu.</li> </ul>				



# Add TX Channels to Monitor d. Select the required group membership from the "Channel Group Membership" dropdown menu. Enable monitoring field (optional): If ticked: The Site Vantage will list the channel and display its live information If unticked: The Site Vantage will list the channel, but it will not display its live information. Activity trigger power level field (optional): Enter the minimum power level (as measured at the Antenna Line Coupler's input) for the Site Vantage to consider the channel to be active and to start displaying its live information, in dBm. **Example:** If the activity trigger power level entered is 10dBm, the Site Vantage will consider the channel to be active once its power reaches 10dBm and will start displaying its live information. When the channel's power level is below 10dBm, the Site Vantage will consider the channel inactive and will stop displaying its live information. Note: If a TX channel is always expected to be active (i.e. a control channel), set the activity trigger power level to a very low value (i.e. -99dBm) to ensure that any power drop is recognised by the Site Vantage as a true power drop, rather than the channel becoming inactive. This will also cause the Site Vantage to trigger any alarms set for the channel If a TX channel always expected to be active has its activity trigger power level set to a higher value (i.e. 0dBm), then a power drop that lowers the power level below 0dBm causes the Site Vantage to incorrectly recognise the channel as inactive. In this case, the Site Vantage will not trigger any alarms, as the Site Vantage does not trigger alarms when a channel becomes inactive. Note: Fields with an asterisk in the GUI and in red below are required. Add TX Channel TX Port * Frequency (MHz) Name Radio Protocol * Channel Number Channel Group Membership Add Channel Grou Enable Monitoring Activity Trigger Power Level (dBm) as measured at the coupler's input



#### Add TX Channels to Monitor

- 3. Click "Save".
- 4. Repeat steps 1 to 3 for all the TX channels to be monitored.



# **13.4 Edit the Information of a Monitored TX Channel**

To edit the information of a monitored TX channel:

Edit	Edit the Information of a Monitored TX Channel								
1.	On the "Live Status" tab, click the • menu icon of the channel to be edited.								
	No. 🔺 Frequency (MHz) Name Radio Protocol Forward Power (dBm) VSWR Last Heard Status								
	1         135.800000         Police Ch1         P25         30.8         1.48         a few seconds ago         Inactive         I								
	<b>Note:</b> Refer to section 13.2 for information on how to access the "Live Status" tab of the "TX Monitor" screen.								
2.	Click "Edit Settings" from the drop-down menu.								
	Chart								
	Edit settings								
	Delete								
	Result: The "Edit TX Channel" dialog appears.								
3.	Edit the required fields.								
	<b>Note:</b> The "Edit TX Channel" dialog contains the same fields as the "Add TX Channel" dialog. For more information on these fields, refer to Section 13.3 step 2.								
4.	Click " <b>Save</b> ".								



# 13.5 Delete a Monitored TX Channel

To delete a monitored TX channel:

Dele	Delete a Monitored TX Channel								
1.	On the "Live Status" tab, click the • menu icon of the channel to be deleted.								
	No. A Frequency (MHz) Name Radio Protocol Forward Power (dBm) VSWR Last Heard Status								
	1 133.800000 Police Ch1 P25 30.8 1.48 a few seconds ago I inactive								
	<b>Note:</b> Refer to section 13.2 for information on how to access the "Live Status" tab of the "TX Monitor" screen.								
2.	Click " <b>Delete</b> " from the drop-down menu.								
	Chart								
	Edit settings								
	Delete								
3.	Click "Delete" when prompted.								
	Delete tx channel?								
	Are you sure you want to delete this channel?								
	CANCEL DELETE								



# **13.6 Set Alarm Thresholds for the Monitored TX Channels**

If required, set alarm thresholds for one or more monitored TX channels:

#### Note:

- A minor/major alarm is triggered and becomes active when a measurement falls outside the set minor/major alarm thresholds for that measurement
- An active alarm:
  - Causes the alarm LED indicator on the front of the Site Vantage to illuminate. Refer to section 2.1.4.1 for more information
  - Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.
- Users can decide the meaning of a minor alarm and a major alarm.

#### Example:

- A minor alarm could be when a measurement indicates that the equipment needs to be closely monitored
- A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired.

Set Alarm Thresholds for the Monitored TX Channels									
1.	Access the "Alarm Profiles" tab.								
	<b>Note:</b> Refer to section 13.2 for information on how to access the "Alarm Profiles" tab of the "TX Monitor" screen.								
2.	Click the menu icon corresponding to the TX channel you want to set alarm thresholds for.								
	No.	Name	Frequency (MHz)	Radio Protocol	Forward Power (dBm) Reflected Power (VSWR)				
	1	Police Ch1	135.800000	P25	10.0 20.0				
3.	Click "Edit	Settings" f	from the drop	o-down menu	١.				
	Edit settings	S							



#### Set Alarm Thresholds for the Monitored TX Channels

4. Input the alarm threshold values as follows:

To input a	Complete text box
<b>Major lower</b> threshold limit for the forward power (in dBm)	A (see screenshot below)
<b>Minor lower</b> threshold limit for the forward power (in dBm)	B (see screenshot below)
<b>Minor upper</b> threshold limit for the forward power (in dBm)	C (see screenshot below)
<b>Major upper</b> threshold limit for the forward power (in dBm)	D (see screenshot below)
Minor upper threshold limit for the reflected power (VSWR)	E (see screenshot below)
<b>Major upper</b> threshold limit for the reflected power (VSWR)	F (see screenshot below)

#### Note:

- Major thresholds trigger major alarms
- Minor thresholds trigger minor alarms
- All thresholds are optional.





# 13.7 View TX Channels' Live Data

#### Note:

- The "Live Status" tab shows the current TX measurements, as well as a graph of the data collected in the last 30 minutes
- Table 31 below shows the meaning of the format of the measurement boxes used in the "Live Status" tab
- When measuring TDMA systems, the forward power column does not display time slots, as all signals are transmitted at the same forward power level
- To view the entire data history of the TX channels, refer to section 13.8.

Measurement Box Format	Meaning
Green border 30.1	Active signal
Greyed out 28.2	Last signal measured
Orange 27.3 🛕	The measurement has triggered a minor alarm
Red 29.3 🛞	The measurement has triggered a major alarm

Table 31 – Meaning of the Format of the Measurement Box

To view TX channels' live data:

Viev	v TX	Chan	nels' Liv	ve Data	a									
1.	On the "Live Status" tab, either:													
	•	<b>Option 1:</b> Select the tick box corresponding to the TX channel you want to view the data for; or												
		No. 🔺	Freque	ncy (MHz)	Name									
		1	135.	800000	Police Ch1									
	•	<b>Optio</b> view t	<b>n 2:</b> Clic he data	k the	menu ic n click " <b>C</b> l	on corresp h <b>art</b> " from	onding the dr	g to the T op-down	X channel you want to menu.					
		No. 🔺	Frequency (MHz)	Name	Radio Protocol	Forward Power (dBm)	VSWR	Last Heard	Status					
		01	135.800000	Police Ch1	P25	29.5	1.52	Now	Active					
		3	400.600000	3	FM (12.5 kHz)	30.4	1.42	a minute ago	Inactive     Chart     Edit settings					
		4	410.800000	4	FM (12.5 kHz)	31.3	1.51	Now	Active     Delete					
	Re: •	sult: T A gra	he follov aph of fo	ving ap orward	pear, for t power (dB	he selecte sm) agains	d char t time,	nnel: displayir	ng the last 30 minutes of					





Viev	v TX (	Channels' Live Data												
	•	A graph of reflected power (VSWR) against time, displaying the last 30 minutes of data.												
		Reflected Signal												
		<b>F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F F</b>												
3.	То с	hange the time length displayed in the graphs:												
	a.	Click "Last 30 Minutes".												
		Last 30 Minutes     Filter channels by     All     Go to list view     + Add Channel												
	b.	Select the time length from the available options.												
		Last 30 Minutes Filter channels by												
		C Last 5 Minutes												
		Last 30 Minutes												
		Cancel Apply												
	C.	Click "Apply".												
	Re	sult:												
	•	The graphs now display data for the selected time length												
	•	The "Last 30 Minutes" button has been updated to indicate the new time length (i.e. if "Last 5 Minutes" was selected, the button now reads "Last 5 Minutes").												
		Last 5 Minutes     Filter channels by     All     Go to list view     + Add Channel												
4.	To re	ead the graph's data points, hover the mouse over the graph area.												
5.	To s	ave a graph as an image:												
	а.	Click " <b>Save as Image</b> " in the graph menu, from the top right-hand side of the graph.												
		└┘ Save as Image												
	b.	Save the image file.												



Vie	View TX Channels' Live Data											
6.	6. To stop viewing the data of:											
	One, several or all TX channels: Untick their corresponding tick boxes											
	All TX channels: Click "Go to list view".											
	Last 30 Minutes     Filter channels by     All <ul> <li>Go to list view</li> <li>+ Add Channel</li> </ul> <ul> <li>+ Add Channel</li> </ul> <ul> <li>Image: Add Channel</li> <li>Image: Add C</li></ul>											



# **13.8 View TX Channels' Historical Data**

To view TX channels' historical data:

**Note:** This allows to view the entire data history of the TX channels. To view only the data collected in the last 30 minutes, refer to section 13.7.

View TX Channels' Historical Data 1. Access the "History" tab. **Result:** The following appear, for the first channel of the list: A graph of forward power (dBm) against time, displaying the last 24 hours of data . Forward Power 100C 36.0 (dBm) 34.0 32.0 Power 30.0 28.0 table is a base based on the والمنوز ورسيارك الفنياتين 붎 26.0 16:00 20:00 00:00 27 May 04:00 08:00 27 May 12:00 27 May 26 May 26 May 27 May A graph of reflected power (VSWR) against time, displaying the last 24 hours of data **Reflected Signal** 11100 2.00 1.80 ALMAN I VSWR 1.60 1.40 1.20 1.00 16:00 26 May . 00:00 27 May 04:00 27 May 12:00 27 Ma 20:00 26 May 08:00 27 May A graph of utilization (%) against time, displaying the last 24 hours of data. Utilization 11100 100.0 80.0 60.0 40.0 20.0 helidend huhrduk Mummer When when the www 0.0 12:00 00:00 16:00 20:00 04:00 08:00 22 Mar 21 Mar 21 Mar 21 Mar 22 Mar 22 Mar Note: Refer to section 13.2 for information on how to access the "History" tab of the "TX Monitor" screen.



Viev	w TX (	Channe	ls' Hi	storical Dat	а								
2.	To v	iew the	data d	of another ch	annel o	on the li	st:						
	a.	Tick the	e tick box of the required channel.										
			1	135.800000 Police Ch1									
			2	140.000000 Admin channel									
		<b>Result</b> channe	: The el are	data of the f displayed si	first cha multane	annel of eously.	the list and	I the data of	f the required				
	b.	Untick	the tio	ck box of the	first ch	annel o	f the list.						
		$\bigcirc$	1	<b>135.800000</b> Police Ch1									
			2	<b>140.000000</b> Admin channel									
		Result	: Only	/ the data of	the tick	ked char	nnel is disp	layed.					
3.	To v you	iew the owned want to	data o view t	of one or mo the data for.	re TX c	hannels	, select the	e tick boxes	of all the channels				
		1	135.8 Police	<b>00000</b> Ch1									
		3	<b>400.6</b> 3	00000									
	(	4	<b>410.8</b> 4	00000									
	Res	ult: The	follov	ving appear,	for all t	ticked cl	nannels:						
	•	A graph	n of fo	orward powe	r (dBm)	) agains	t time, disp	playing the la	ast 24 hours of data				
		Forward	Power					上 1 1					
		( <b>ugp</b> ) <b>Jane</b> 31.5 31.0 30.5 30.0 29.5 29.0	hipping	hlanallatan fa ^l an da	ndaddanaafi	addyn Handeryn yn	ha da	her a start the second s					
		₩ 28.5 2	16:00 26 May	20:00 26 May	00:00 27 May	04:00 27 May	08:00 27 May	12:00 27 May					
				- <b>—</b> TX1 - 135.80000	0 MHz 🔶 TX1	- 400.600000 MHz	TX1 - 410.800000 N	1Hz					







Viev	v TX Channels' Historical Data
	• The "Last 24 Hours" button has been updated to indicate the new time length (i.e. if "Last 7 Days" was selected, the button now reads "Last 7 Days").
	Last 7 Days Filter channels by All
5.	To read the graph's data points, hover the mouse over the graph area.
6.	To save a graph as an image:
	<ul> <li>Click "Save as Image" in the graph menu, from the top right-hand side of the graph.</li> </ul>
	⊥ 1 1 1 C Save as Image
	b. Save the image file.
7.	To zoom in on the graph:
	a. Click " <b>Zoom</b> " in the graph menu.
	b. Using the mouse, drag a box over the graph area where you want to zoom in on.
	c. To reset the zoom level, click "Zoom Reset" in the graph menu.
	⊥ 1 1 1 2 Zoom Reset
8.	View the graph's data:
	• To view the data the graph is plotting, click "Data View"
	上 古 首 C Data View
	• To refresh the data displayed, click "Refresh"
	• To close the data window and see the graph again, click "Close".
9.	To restore the chart to its original view, click "Restore".
	上 口 自 C Restore
10.	To stop viewing the data of a selected channel, untick its tick box.



# 13.9 Filter TX Channels

To filter TX channels, allowing you to visualise only the TX channels you want and hide the rest:

Filte	ilter TX Channels										
1.	On either the "Live Status" or t down menu.	On either the "Live Status" or the "History" tab, click the " <b>Filter channels by</b> " drop- down menu.									
	Filter channels by All -										
	<b>Note:</b> The "Filter channels by" the "History" tabs. Refer to see	<b>Note:</b> The "Filter channels by" drop-down menu appears on both the "Live Status" and the "History" tabs. Refer to section 13.2 for information on how to access them.									
	<b>Result:</b> The filter menu appea "Ports", "Monitored" and "Char	rrs, with the available filters grouped into three sections: nnel Group".									
2.	Tick one or several filters from one or several sections ("Ports", "Monitored" and "Channel Group") to filter the channels displayed in the "TX Monitor" screen.										
	Note:										
	• Several filters can be com	bined to further refine the channels displayed									
	• The three sections allow to	o filter data in the following manner:									
	- "Ports" section: Filte	ers channels by TX port									
	<ul> <li>"Monitored" section status</li> </ul>	: Filters channels by "Monitored" and "Not monitored"									
	<ul> <li>"Groups" section: Fill</li> </ul>	ilters channels by channel group.									
3.	To remove filters, proceed as	follows:									
	To remove	Then									
	All filters (i.e. to display all	Click "All" on the filter menu.									
	TX channels)	All									
		All 15									
		Result: All TX channels are visible.									
	Selected filters	Untick the filters to be removed from the filter menu.									



# 13.10Sort the TX Channels' Data

To sort the TX channels' data, allowing you visualise the data in a desired order:

#### Note:

- Data is sorted by clicking some of the headers (refer to steps 1 to 4 below)
- Clicking the header once, sorts the data in ascending order
- Clicking the header twice, sorts the data in descending order
- Subsequent clicks will alternate between ascending and descending order
- Table 32 below explains the meaning of the icons used to sort the data:

lcon		Indicates
	Arrow up	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in ascending order.</li> </ul>
•	Arrow down	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in descending order.</li> </ul>

 Table 32 – Data Sorting Icons ("TX Monitor" Screen)

#### Sort TX Channels' Data Live Status Tab 1. On the "Live Status" tab, click the headers "No.", "Frequency (MHz)", "Name" or "Radio Protocol" to sort the TX channels' data according to the header clicked. Live Status History Alarm Profiles + Add Channel Filter channels by All -No. 🔺 Frequency (MHz) Name Radio Protocol Forward Power (dBm) VSWR Last Heard Statue Π1 135.800000 Police Ch1 P25 1.53 a minute ago : Inactive **○** 3 : 400.600000 3 FM (12.5 kHz) 1.52 a few seconds ago Inactive Note: Refer to section 13.2 for information on how to access the "Live Status" tab of the "TX Monitor" screen. 2. **History Tab** On the "History" tab, click the headers "No." or "Frequency (MHz)" to sort the TX channels' data according to the header clicked. Live Status History Alarm Profiles Last 24 Hours Filter channels by All Frequency (MHz) Forward Power 1000 400.400000 supercalifagfili 135.80000 $\cap$ 400.600000 ∩ ₃ 04:00 27 May 12:00 27 May 410.800000 O 4 Note: Refer to section 13.2 for information on how to access the "History" tab of the "TX Monitor" screen.



#### Sort TX Channels' Data

#### 3. Alarm Profiles Tab

On the "Alarm Profiles" tab, click the headers **"No."**, "**Frequency (MHz)**", "**Name**" or "Radio Protocol" to sort the TX channels' data according to the header clicked.

No. 🔺	Name	Frequency (MHz)	Radio Protocol
1	Police Ch1	135.800000	P25
2	2	400.400000	FM (12.5 kHz)

**Note:** Refer to section 13.2 for information on how to access the "Alarm Profiles" tab of the "TX Monitor" screen.

#### 4. Sort Data when Viewing Graphs

When viewing graphs of the TX channels' data, click the headers **"No."** or **"Frequency (MHz)**" to sort the TX channels' data according to the header clicked.

No. 🔺	Frequency (MHz)		30.7 dBm	1.41:1				
1	135.800000 Police Ch1		Forward power	VSWR				
0 3	<b>400.600000</b> 3	For	ward Power					
4	<b>410.800000</b> 4	(mBb	35.0 30.0 <b>()</b>		<b>ь</b> р 1			
0 11	400.200000 Fire 1	F Power (	25.0 20.0 15.0					
0 1	<b>30.000000</b> 1	æ	10.0 15.3 27 M	0 15:35 ny 27 May	15:40 27 May	15:45 27 May	15:50 27 May	15:55 27 May
$\cap$	150.400000				TX1 - 135.800000	MHz		

**Note:** Refer to sections 13.7 and 13.8 for information on how to view graphs of the TX channel's data.



# 14 RX Monitor Screen – Monitor RX Channels

### **14.1 Background Information – RX Monitor**

The "RX Monitor" screen allows users to:

- Add and manage RX channels
- Review and manage the composite RF power levels' data measured by the Site Vantage (signal level in dBm)
- Review and manage the monitored RX channels' data measured by the Site Vantage (active signal level in dBm and noise floor in dBm)
- Set alarm thresholds for the composite RF power levels and the monitored RX channels.

#### **RX Monitoring**

Monitoring composite RX power levels and RX channels:

- Allows operators to ensure the RX antenna operates as intended, without needing to send a technician on-site
- Provides data to diagnose faults related to the RX antenna.

After setting alarm thresholds for the RX power levels and RX channels, the Site Vantage can notify operators if the alarms are triggered, allowing operators to immediately correct any faults.

#### "RX Monitor" Screen Tabs

The "RX Monitor" screen has two tabs:

- **Tab 1 Live status:** Displays the current performance data of the composite RF power levels and the monitored RX channels. Figure 44 and Table 33 below describe the actions the user can make within the tab
- **Tab 2 History:** Displays the historical performance data of the composite RF power levels and the monitored RX channels. Figure 45 and Table 34 below describe the actions the user can make within the tab
- **Tab 3 Alarm profiles:** Displays the alarm thresholds set for the composite RF power levels and the monitored RX channels. Figure 46 and Table 35 below describe the actions the user can make within the tab.





				2	]							5				
				Live Stat	History	Alarm Profil	es		Filter channels by All					+ Add Cl	iannel 🚽	3
	🛞 Dashboa	rd		composi	te tr rower		RX1 [testRX]			RX2			RX3			
_	Z TX Monif	tor		Signal Lev	el (dBm)		< -60.0			-55.9			< -60.0			
	RX Monit	tor Sites	l.	Channel	RF Power											
	∩A RF Tests	6	$\mapsto$	No. 🔺	Frequency (MHz)	Name	Radio Protocol	RX Level (dBm)				Noise Floor (dBm)	Last Heard	Status		
	External	Inputs		1	400.000000	0	FM (12.5 kHz)					-108.6	a few seconds ago	Inactive	: ←	4
	dlarms 🗗			1	400.200000	182	FM (12.5 kHz)					-107.5	a minute ago	Inactive	:	
	▲ Notificat	ions		2	400.400000	2	FM (12.5 kHz)	-59.5				-107.6	Now	Active		
	Calibratio	on	stRX]	3	400.600000	3	FM (12.5 kHz)	-59.2				-107.9	a few seconds ago	Inactive	1	
	tuj Settings		RX1 [te	3	400.020000		FM (12.5 kHz)	-58.9				-107.5	a few seconds ago	Inactive	1	
				4	400.800000	4	FM (12.5 kHz)	-59.5				-107.5	Now	Active		
				20	450.000000	TETRA Ch3	TETRA	-60.2	-61.9	-105.7 -	103.9	-109.0	Now	Active		
				21	650.000000		LSM	-60.4				-107.3	Now	Active		
				0	150.000000	0	FM (12.5 kHz)	-62.8				-107.9	a few seconds ago	<ul> <li>Inactive</li> </ul>	:	
				1	150.200000	1	FM (12.5 kHz)	-58.9				-108.1	a few seconds ago	<ul> <li>Inactive</li> </ul>	:	
			8	2	150.400000	2	FM (12.5 kHz)	-63.8				-107.8	a minute ago	Inactive	1	
	[→ Logout		2	2	431.500000	GRN Ch2	P25	-105.2	-64.6			-107.9	Now	Active	1	
				3	150.600000	3	FM (12.5 kHz)	-59.6				-107.3	Now	Active	;	

Figure 44 – Functions of the Live Status Tab ("RX Monitor" Screen)

Live Status Tab User Actions ("RX Monitor" Screen)	ld (Figure 44)	Instructions
Access the "RX Monitor" screen	1	Section 14.2
Access the "Live Status" tab	2	Section 14.2
Add RX channels to monitor	3	Section 14.4
Edit the information of a monitored RX channel	4	Section 14.5
Delete a monitored RX channel	4	Section 14.6
Filter RX channels	5	Section 14.10
Sort the RX channels' data	6	Section 14.11

Table 33 – Functions of the Live Status Tab ("RX Monitor" Screen)







Figure 45 – Functions of the History Tab ("RX Monitor" Screen)

History Tab User Actions ("RX Monitor" Screen)	Id (Figure 45)	Instructions
Access the "RX Monitor" screen	1	Section 14.2
Access the "History" tab	2	Section 14.2
View the data of one or more composite RF power levels	3	Section 14.9
View the data of one or more RX channels	4	Section 14.9
Change the time length displayed in the graphs	5	Section 14.9
Save a graph as an image	6	Section 14.9
Zoom in on a graph	6	Section 14.9
Reset the zoom level	6	Section 14.9
View the graph's data	6	Section 14.9
Restore the chart to its original view	6	Section 14.9
Filter RX channels	7	Section 14.10
Sort the RX channels' data	8	Section 14.11

 Table 34 – Functions of the History Tab ("RX Monitor" Screen)



### Tab 3 – Alarm Profiles ("RX Monitor" Screen)

	2													
			Live Status History	Alarm Profiles										
	88	Dashboard		Composite Kr Power						Signal Level (	(Bm)			
	Ø	TX Monitor		RX Port	RX Subsystem Gain	Ref Frequency (MHz)								
	•	RX Monitor		RX1 [testRX]	2.0	400.000000				•			- 3	1
	× ^A	Adjacent Sites RF Tests		RX2	2.0	150.000000					•	;		
		External Inputs		RX3	4.0	900.000000						:		
	ď	Alarms												
	△ Notifications ☑ Calibration			Channel RF Power										
	2	Calibration	Ι.					Signal Le	rvel (dBm)	Noise Flo	or (dBm)	_		
	8	Calibration Settings 5	┝	No.	Name	Frequency (MHz)	Radio Protocol	Signal Le	evel (dBm)	Noise Flo	ior (dBm)	•		7
	5	Calibration Settings 5	ŀ	No	Name 0	Frequency (MHz) 400.000000	Radio Protocol FM (12.5 kHz)	Signal Le	-45.0	-30.0	-10.0	•	+4	]
	5	Calibration Settings 5	ŀ	No. 🔺	Name 0 182	Frequency (MHz) 400.000000 400.200000	Radio Protocol FM (12.5 kHz) FM (12.5 kHz)	-50.0	-45.0 -45.0	-30.0	-10.0		- 4	]
	5	Celibration Settings 5	-	No	Name 0 182 2	Frequency (MHz)           400.00000           400.200000           400.400000	Radio Protocol FM (12.5 kHz) FM (12.5 kHz)	-50.0 -50.0 -50.0	-45.0 -45.0	-30.0 -50.0	-10.0 -40.0	•	+ 4	]
	3	Calibration Settings 5	estRX]	No. • 1 1 2 3	Name 0 182 2 3	Frequency (MHz)           400.000000           400.400000           400.400000	Radio Protocol FM (12.5 kHz) FM (12.5 kHz) FM (12.5 kHz) FM (12.5 kHz)	-50.0 -50.0 -50.0	-45.0 -45.0 -45.0 -45.0	-30.0 -30.0 -50.0 -	-10.0 -40.0	•	+ <u>4</u>	]
	3	Celibration Settings 5	RX1 [testRX]	Ho.	Hame 0 1&2 2 3	Frequency (ABE2) 400.00000 400.00000 400.40000 400.60000	Radia Protocol FM (12.5 km) FM (12.5 km) FM (12.5 km) FM (12.5 km) FM (12.5 km)	-50.0 -50.0 -50.0 -50.0	-45.0 -45.0 - 45.0 	Noise Fic -30.0 -50.0 -	-10.0 -40.0		<b>-</b> 4	]
	3	Calibration Settings 5	RX1 [testRX]	HS         -           1         -           2         -           3         -           4         -	Hame 0 1&2 2 3 4	Frequency (MHz) 400.00000 400.00000 400.400000 400.00000 400.00000	Radio Protocol FM (12.5 bite) FM (12.5 bite) FM (12.5 bite) FM (12.5 bite) FM (12.5 bite) FM (12.5 bite)	-50.0 -50.0 -50.0 -50.0 -50.0	-45.0 -45.0 -45.0 -	Noise Fic -30.0 -50.0 -	-10.0 -40.0 -		<b></b> 4	]
	8	Calibration Settings 5	RX1 [testRX]	No.         -           1         -           2         -           3         -           4         -           20         -	Name           0           1&2           2           3           4           TETRA Ch3	Frequency (MHz)           400.00000           400.00000           400.00000           400.00000           400.00000           400.00000           400.00000           400.00000           400.00000           400.00000	Radio Protocol FM (12.5.516) FM (12.5.516) FM (12.5516) FM (12.5516) FM (12.5516) FM (12.5516) TM (12.5516) TETRA	-50.0 -50.0 -50.0 -50.0 -50.0 -50.0 -50.0	vel (dBm) -45.0 -45.0 - - - - - -	Noise Fig -30.0 -30.0 - - - - - - - - - - - - -	-10.0 -40.0 -		<del>•</del> 4	]

Figure 46 – Functions of the Alarm Profiles Tab ("RX Monitor" Screen)

Alarm Profiles Tab User Actions ("RX Monitor" Screen)	Id (Figure 46)	Instructions
Access the "RX Monitor" screen	1	Section 14.2
Access the "History" tab	2	Section 14.2
Set alarm thresholds for the composite RF power levels	3	Section 14.7
Set alarm thresholds for the monitored RX channels	4	Section 14.7
Sort the RX channels' data	5	Section 14.11

Table 35 – Functions of the Alarm Profiles Tab ("RX Monitor" Screen)



# 14.2 Access the RX Monitor Screen

To access the "RX Monitor" screen:

Acce	Access the RX Monitor Screen						
1.	Access the Site Vantage's GUI.						
	Note: Refer to section 10.1	for instructions on how to access the GUI.					
2.	Click "RX Monitor", from th	e main menu on the left-hand side of the screen.					
	Result: The "Live Status" to	ab of the "RX Monitor" screen appears.					
3.	Proceed as follows:						
	To access the Click						
	"Live Status" tab	"Live Status", from the top of the screen.					
	<b>Note:</b> The "Live Status" tab is displayed by default when accessing the "RX Monitor" screen.						
	"History" tab "History", from the top of the screen.						
	"Alarm Profiles" tab	"Alarm Profiles", from the top of the screen.					



# **14.3 Monitor the Composite RF Power Levels**

The composite RF power levels received by the Site Vantage's RX ports (RX1, RX2 and RX3) are automatically displayed in the "Composite RF Power" section of the "Live Status" tab for all the Site Vantage's RX ports enabled during the calibration process.

**Note:** Refer to section 8.3.4.2 for more information on how to enable the Site Vantage's RX ports.

Composite RF Power			
	RX1 [testRX]	RX2	RX3
Signal Level (dBm)	-29.9	-56.3	< -60.0



# 14.4 Add RX Channels to Monitor

To add RX channels for the Site Vantage to monitor:

Add	Add RX Channels to Monitor						
1.	On the "Live Status" tab, click " <b>+ Ad</b> screen.	<b>d Channel</b> ", from the top right-hand side of the					
	Live Status History Alarm Profiles	Filter channels by All - Add Channel					
	<b>Note:</b> Refer to section 14.2 for inform the "RX Monitor" screen.	nation on how to access the "Live Status" tab of					
	Result: The "Add RX Channel" dialo	og appears.					
2.	Complete the "Add RX Channel" dia	log with the following relevant information:					
	• <b>RX port field</b> (required): Selec where the channel's RX antenr	t the Site Vantage's RX port (RX1, RX2 or RX3) na has been connected					
	• Name field (optional): Enter a	name for the channel					
	• Number field (optional): Enter etc.)	a numerical ld for the channel (i.e. 1 or 2 or 3,					
	• RX frequency field (required):	Enter the channel's frequency, in MHz					
	Radio protocol field (required	): Select the channel's radio protocol					
	Channel group membership group, as follows:	field (optional): Add the channel to a channel					
	If the name of the required group membership is	Then					
	Already in the "Channel Group Membership" drop- down menu	Select the required group membership from the "Channel Group Membership" drop-down menu.					
	Not available in the "Channel	a. Click "Add Channel Group".					
	down menu	Channel Group Membership   Add Channel Group					
		b. In the " <b>Channel Group Name</b> " field, type in a name for the group.					
		Channel Group Name Enter channel group name Name cannot be empty					
		c. Click "Add".					
		<b>Note:</b> Once a group membership has been added once, it will be available in the " <b>Channel Group Membership</b> " drop-down menu.					



KX (	Channels to Monitor
	d. Select the required group membership from the "Channel Group Membership" drop- down menu.
٠	Enable monitoring field (optional):
	- If ticked: The Site Vantage will list the channel and display its live information
	<ul> <li>If unticked: The Site Vantage will list the channel, but it will not display its live information.</li> </ul>
•	Activity trigger power level field (optional): Enter the minimum power level for the Site Vantage to consider the channel active and to start displaying its live information in the "RX Level (dBm)" column.
st its Si	art displaying the channel's live information in the "RX Level (dBm)" column once s power reaches -100dBm. When the channel's power level is below -100dBm, th ite Vantage will consider the channel inactive.
Not	e: Fields with an asterisk in the GUI and in red below are required.
Not Add	e: Fields with an asterisk in the GUI and in red below are required.
Add	e: Fields with an asterisk in the GUI and in red below are required.
Add	e: Fields with an asterisk in the GUI and in red below are required.
Add RX Nat	e: Fields with an asterisk in the GUI and in red below are required. RX Channel Port* T
Note Add Rx Nat	e: Fields with an asterisk in the GUI and in red below are required.   RX Channel   Port*   me   annel Number
Not Add RX Nai Chi	e: Fields with an asterisk in the GUI and in red below are required.   IRX Channel   Port*   me   annel Number   Frequency (MHz)*
Not Add RX Nai Chi RX	e: Fields with an asterisk in the GUI and in red below are required.   IRX Channel   Port*   me   annel Number Frequency (MHz)*   Jio Protocol*
Not Add Rx Nai Chi Rx Rad	e: Fields with an asterisk in the GUI and in red below are required.
Adc RX Nai Chi Chi	e: Fields with an asterisk in the GUI and in red below are required.  RX Channel  Port*  me annel Number  Frequency (MHz)*  dia Protocol*  The Add Channel Group Enable Monitoring
Noti Adc RX Nai Chi Chi Chi Acti	e: Fields with an asterisk in the GUI and in red below are required.
Noti Adc RX Nai Chi Chi Chi Chi Act	e: Fields with an asterisk in the GUI and in red below are required.
Noti Adc Rx Nai Chi Chi Chi Act	e: Fields with an asterisk in the GUI and in red below are required.



# 14.5 Edit the Information of a Monitored RX Channel

To edit the information of a monitored RX channel:

Edit	Edit the Information of a Monitored RX Channel							
1.	1. On the "Live Status" tab, click the menu icon of the RX channel to be edited.							
	No. 🔺 Frequency (MHz) Name Radio Protocol RX Level (dBm) Noise Floor (dBm) Last Heard Status							
	1 400.00000 0 FM (12.5 kHz) -59.8 -107.6 a few seconds ago • Inactive							
	<b>Note:</b> Refer to section 14.2 for information on how to access the "Live Status" tab of the "RX Monitor" screen.							
2.	Click "Edit Settings" from the drop-down menu.							
	Edit settings							
	Delete							
	Result: The "Edit RX Channel" dialog appears.							
3.	Edit the required fields.							
	<b>Note:</b> The "Edit RX Channel" dialog contains the same fields as the "Add RX Channel" dialog. For more information on these fields, refer to section 14.4 step 2.							
4.	Click " <b>Save</b> ".							



# 14.6 Delete an RX Channel

To delete a monitored RX channel:

Dele	Delete a Monitored RX Channel							
1.	On the "Live Status" tab, click the • menu icon of the channel to be deleted.							
	No. 🔺 Frequency (MHz) Name Radio Protocol RX Level (dBm) Noise Floor (dBm) Last Heard Status							
	1 400.00000 0 FM (12.5 kHz) -59.8 -107.6 a few seconds ago • Inactive							
	<b>Note:</b> Refer to section 14.2 for information on how to access the "Live Status" tab of the "RX Monitor" screen.							
2.	Click " <b>Delete</b> " from the drop-down menu. Edit settings Delete							
3.	Click "Delete" when prompted.							
	Delete RX Channel?							
	Are you sure you want to delete this rx channel?							
	Cancel Delete							



# 14.7 Set Alarm Thresholds for the Composite RF Power Measured by Each RX Port and the Monitored RX Channels

If required, set alarm thresholds for:

- The composite RF power measured by each RX port
- The monitored RX channels.

#### Note:

- A minor/major alarm is triggered and becomes active when a measurement falls outside the set minor/major alarm thresholds for that measurement
- An active alarm:
  - Causes the alarm LED indicator on the front of the Site Vantage to illuminate. Refer to section 2.1.4.1 for more information
  - Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.
- Users can decide the meaning of a minor alarm and a major alarm.

#### Example:

- A minor alarm could be when a measurement indicates that the equipment needs to be closely monitored
- A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired.



Set Alarm Thresholds for the Composite RF Power Measured by Each RX Port and the Monitored RX Channels

1. Access the "Alarm Profiles" tab.

**Note:** Refer to section 14.2 for information on how to access the "Alarm Profiles" tab of the "RX Monitor" screen.

2.

Click the • menu icon corresponding to the composite RF power or the RX channel you want to set alarm thresholds for.

					Signal Level (d	IBm)	
RX Port	RX Subsystem Gain	Ref Frequency (MHz)		•		<u> </u>	
RX1 [testRX]	2.0	400.000000			•	•	÷
RX2	2.0	150.000000			•	•	:
RX3	4.0	900.000000			•	•	÷
Channel RF Power				Signal Level (dBm)	Noise Floo	or (dBm)	
No. 🔺	Name	Frequency (MHz)	Radio Protocol	• <u> </u>		<u> </u>	
1	0	400.000000	FM (12.5 kHz)	-50.0 -45.0	-30.0	-10.0	÷
1	182	400.200000	FM (12.5 kHz)	-50.0 -45.0	•	•	:
2	2	400.400000	FM (12.5 kHz)	-50.0 -45.0	-50.0	-40.0	:
3	3	400.600000	FM (12.5 kHz)				÷

- 3. Click "Edit Settings" from the drop-down menu.
- 4. To trigger alarms for the composite RF power measured by an RX port:
  - a. Input the required alarm threshold values as follows:

To input a	Complete text box
<b>Minor upper</b> threshold limit for the signal level (in dBm)	A (see screenshot below)
<b>Major upper</b> threshold limit for the signal level (in dBm)	B (see screenshot below)

#### Note:

- Major thresholds trigger major alarms
- Minor thresholds trigger minor alarms
- All thresholds are optional.








### 14.8 View RX Channels' Live Data

#### Note:

- The "Live Status" tab shows the current RX measurements
- Table 36 below shows the meaning of the format of the measurement boxes used in the "Live Status" tab
- When measuring TDMA systems, the "RX Level" column displays a value for each of the measured time slots
- The noise floor value displayed is the minimum signal measured in a five-minute window
- To view the entire data history of the RX channels, refer to section 14.9.

Measurement Box	Format	Meaning
Green border	30.1	Active signal
Greyed out	28.2	Last signal measured
Orange 2	7.3 🛕	The measurement has triggered a minor alarm
Red 2	9.3 🛞	The measurement has triggered a major alarm

 Table 36 – Meaning of the Format of the Measurement Box

To view RX channels' live data:

View	/iew RX Channels' Live Data										
1.	On	the '	'Live S	Status	s" tab,	for each of the moni	tored R	X chan	nels:		
	<ul> <li>The RX level (in dBm) is displayed</li> </ul>										
		No. 🔺	Frequency (MHz)	Name	Radio Protocol	RX Level (dBm)	Noise Floor (dBm)	Last Heard	Status		
		1	400.000000	0	FM (12.5 kHz)	-57.8	-107.4	a few seconds ago	<ul> <li>Inactive</li> </ul>	:	
		1	400.200000	182	FM (12.5 kHz)	-58.3	-108.0	Now	Active	:	
		2	400.400000	2	FM (12.5 kHz)	-56.5	-107.9	a few seconds ago	Inactive	:	
		3	400.020000		FM (12.5 kHz)	-56.7	-108.0	a minute ago	Inactive	:	
		3	400.600000	3	FM (12.5 kHz)	-57.4	-107.7	Now	Active	:	
		4	400.800000	4	FM (12.5 kHz)	-61.9	-107.0	a few seconds ago	Inactive	:	
		20	450.000000	TETRA Ch3	TETRA	-107.9 -62.4 -105.3 -103.8	-107.9	Now	Active	:	
	•	The	noise	floor	level	(in dBm) is displayed	l.				
		No.	Frequency (MHz)	Name	Radio Protocol	RX Level (dBm)	Noise Floor (dBm)	Last Heard	Status		
			400.000000	140	FM (12.5 KHZ)	-61.9	-107.7	a minute ago	<ul> <li>mactive</li> </ul>	•	
			400.200000	10/2	FM (12.5 KHZ)	-62.3	107.0	New	• Active	•	
		2	400.400000	2	FM (12.5 KHz)	-59.2	-107.9	NOW	<ul> <li>Active</li> </ul>	•	
		3	400.600000	3	FM (12.5 kHz)	-61.5	-107.4	a few seconds ago	Inactive	:	
		3	400.020000		FM (12.5 kHz)	-63.4	-108.0	a minute ago	<ul> <li>Inactive</li> </ul>	:	
		4	400.800000	4	FM (12.5 kHz)	-59.4	-107.9	Now	<ul> <li>Active</li> </ul>	:	
		20	450.000000	TETRA Ch3	TETRA	-60.5 -50.8 -106.6 -60.5	-107.9	Now	<ul> <li>Active</li> </ul>	:	



#### View RX Channels' Live Data

#### Note:

- The composite RF power levels are also displayed on the "Live Status" tab, as described in section 14.3
- Refer to section 14.2 for information on how to access the "Live Status" tab of the "RX Monitor" screen.



## 14.9 View RX Channels' Historical Data

To view RX channels' historical data:

**Note:** This allows to view the entire data history of the RX channels. To view only the current measurements, refer to section 14.8.

Access the "Hi	story" tab.						
Result: The fo	llowing app	ear, for tl	ne first RX	channel o	f the list:		
<ul> <li>A graph o data</li> </ul>	of active sign	nal level	(dBm) agai	nst time, o	displaying	the last 24 h	nours of
Active Signal I	_evel					水 to 5 0 O	
(Lug 65.0 -60.0 -60.0 -60.0 -70.0	ny her even i più a sepport none i dialante dana positi many kao			n in an		interior program politica a series and the later of the	
-75.0	12:00 27 May	16:00 27 May	20:00 27 May	00:00 28 May	04:00 28 May	08:00 28 May	
A graph o     Noise Floor	it noise flooi	r (dBm) a	against time	e, displayı	ng the las	st 24 hours of	data
						2010 	
E 0.00 - 40.0 - 60.0 - 0.00 - 100.0 - 120.0						~~~~~	
	12:00 27 May	16:00 27 May	20:00 27 May	00:00 28 May	04:00 28 May	08:00 28 May	
A graph o	f utilization	(%) agai	nst time, di	splaying t	he last 24	l hours of dat	ta.
Utilization						* 1 1 8 0	
80.0 60.0 40.0 20.0	Ang White May and Marke			, he way a part of the part of	www.white	NALANN	
	12:00 27 May	16:00 27 May	20:00 27 May	00:00 28 May	04:00 28 May	08:00 28 May	
<b>Note:</b> Refer to "RX Monitor" s	section 14. creen.	2 for info	rmation on	how to a	ccess the	"History" tab	of the



Viev	w RX (	hannels' Historical Data
2.	To vi	ew the data of another RX channel on the list:
	a.	Tick the tick box of the required RX channel.
		No. Frequency (MHz)
		<b>1 400.000000</b>
		400.200000 1 1&2
		<b>Result:</b> The data of the first RX channel of the list and the data of the required RX channel are displayed simultaneously.
	b.	Untick the tick box of the first RX channel of the list.
		No. Frequency (MHz)
		400.000000 1 0
		<b>400.200000</b> <b>1</b> 182
		Result: Only the data of the ticked RX channel is displayed.
3.	To vi	ew the data of the composite RF power measured by an RX port, select the tick
	Com	nosite RE Power
	0011	
	RX	
	L	
	<b>Res</b> ticke	It: A graph of composite RF power level (dBm) against time appears, for the l composite RF power, displaying the last 24 hours of data.
	Compo	ite RF Power
	(IBm)	
	Level (d	
		12:00     16:00     20:00     00:00     04:00     08:00       27 May     27 May     27 May     28 May     28 May     28 May
4.	To vi same view	ew the data of any combination of composite RF power levels/RX channels at the time, select the tick boxes of all the RF power levels/RX channels you want to the data for.



View RX Channels' Historical D	ata		
Composite RF Power			
RX Port			
RX1 [testRX]			
RX2			
RX3			
Channel RF Power			
No.  Frequency (MHz)			
400.000000 1 0			
400.200000			
<b>2 400.400000</b> 2			
Result:			
n If acyaral composite PE	nower lovels have be	on ticked a gran	b of composite DE
<ul> <li>If several composite KF</li> <li>power level (dBm) again</li> </ul>	st time appears. for a	all ticked RX ports	s. displaving the last
24 hours of data:	,,,,,,,,,,,,,,,,,,		, , , , , , , , , , , , , , , , , , ,
Composite RF Power			
			net statute ( vite discription ^{of} ) Multin
	ير السير السير سار اس الس الس	المستنبية البدر السرا ال	
-60.0 12:00 27 May	16:00 20:00 27 May 27 May	00:00 04:00 28 May 28 May	08:00 28 May
	- RX1 - RX2 - RX3		

- If several RX channels have been ticked, the following appear, for all ticked channels:
  - A graph of active signal level (dBm) against time, displaying the last 24 hours of data









	RX Channels' Historical Data
	Last 24 Hours Filter channels by All
	Last 24 Hours
	Last 30 Days
	C Start Date
	C End Date
	05/27/2025 03:40 PM
	Cancel Apply
	c. Click "Apply".
	Result:
	The graphs now display data for the selected time length
	• The "Last 24 Hours" button has been updated to indicate the new time length (i.e. if "Last 7 Days" was selected, the button now reads "Last 7 Days").
	Last 7 Days Filter channels by All
6.	To read the graph's data points, hover the mouse over the graph area.
7.	To save a graph as an image:
	a. Click "Save as Image" in the graph menu, from the top right-hand side of the graph.
	⊥ 1 □ ■ C Save as Image
	b. Save the image file.
8.	To zoom in on the graph:
	a. Click " <b>Zoom</b> " in the graph menu.
	b. Using the mouse, drag a box over the graph area where you want to zoom in on.
	c. To reset the zoom level, click <b>zoom Reset</b> in the graph menu.
	<ul> <li>C. To reset the zoom level, click Zoom Reset in the graph menu.</li> <li>⊥ □ □ □ □ □</li> <li>∠ □ □ □ □ □</li> <li>Zoom Reset</li> </ul>
	c. To reset the zoom level, click <b>∠oom Reset</b> in the graph menu.
	c. To reset the zoom level, click <b>Zoom Reset</b> in the graph menu. ⊥ to the comment of the comm







# 14.10Filter RX Channels

To filter RX channels, allowing you to visualise only the RX channels you want and hide the rest:

Filte	Filter RX Channels							
1.	On either the "Live Status" or to down menu.	the "History" tab, click the "Filter channels by" drop-						
	Filter channels by All -							
	<b>Note:</b> The "Filter channels by" the "History" tabs. Refer to see	' drop-down menu appears on both the "Live Status" and ction 14.2 for information on how to access them.						
	<b>Result:</b> The filter menu appear "Ports", "Monitored" and "Chai	ars, with the available filters grouped into three sections: nnel Group".						
2.	Tick one or several filters from one or several sections ("Ports", "Monitored" and "Channel Group") to filter the channels displayed in the "RX Monitor" screen.							
	Note:							
	• Several filters can be com	bined to further refine the channels displayed						
	• The three sections allow to	o filter data in the following manner:						
	- "Ports" section: Filte	ers channels by RX port						
	<ul> <li>"Monitored" section status</li> </ul>	: Filters channels by "Monitored" and "Not monitored"						
	<ul> <li>"Groups" section: F</li> </ul>	ilters channels by channel group.						
3.	To remove filters, proceed as	follows:						
	To remove	Then						
	All filters (i.e. to display all RX channels)	Click "All" on the filter menu.						
	Selected filters	Untick the filters to be removed from the filter menu.						
	L	<u> </u>						



### 14.11Sort the RX Channels' Data

To sort the RX channels' data, allowing you visualise the data in a desired order: **Note**:

- Data is sorted by clicking some of the headers (refer to the steps below)
- Clicking the header once, sorts the data in ascending order
- Clicking the header twice, sorts the data in descending order
- Subsequent clicks will alternate between ascending and descending order
- Table 37 below explains the meaning of the icons used to sort the data:

lcon		Indicates
	Arrow up	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in ascending order.</li> </ul>
•	Arrow down	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in descending order.</li> </ul>

 Table 37 – Data Sorting Icons ("RX Monitor" Screen)

#### Sort RX Channels' Data Live Status Tab 1. On the "Live Status" tab, click the headers "No.", "Frequency (MHz)", "Name" or "Radio Protocol" to sort the RX channels' data according to the header clicked. Filter channels by All Live Status History Alarm Profiles -+ Add Cha Composite RF Power RX1 [testRX] RX2 RX3 Signal Level (dBm) -30.0 -51.2 < -60.0 Channel RF Power No. 🔺 Frequency (MHz) Name Radio Protocol RX Level (dBm) 400.000000 1 0 FM (12.5 kHz) -107.8 : a few seconds ago Inactive 400.200000 1&2 FM (12.5 kHz) -57.7 -107.8 Active : 1 Now Note: Refer to section 14.2 for information on how to access the "Live Status" tab of the "RX Monitor" screen. 2. **History Tab** On the "History" tab, click the headers "No." or "Frequency (MHz)" to sort the TX channels' data according to the header clicked.





Sort RX Channels' Data				
Live Status History Alarm Pro	files			
Composite RF Power	Activ			
RX Port	(m			
RX2	dBi			
RX3	Le			
Channel RF Power				
No. 🔺 Frequency (MHz)	Nois			
400.000000 1 0	(m			
400.200000 1 182	evel (dB			
<b>2 400.400000</b> 2	2			
<b>Note:</b> Refer to section "RX Monitor" screen.	n 14.2 for informa	tion on how to acce	ess the "History" tab	o of the
3. Alarm Profiles Tab				
On the "Alarm Profile "Radio Protocol" to so	s" tab, click the he ort the data accor	eaders " <b>No.</b> ", " <b>Nam</b> ding to the header o	e", "Frequency (M clicked.	<b>Hz)</b> " or
Channel RF Power		-		
No. 🔺 N	ame	Frequency (MHz)	Radio Protocol	
1 0		400.000000	FM (12.5 kHz)	
1 1	&2	400.200000	FM (12.5 kHz)	
<b>Note:</b> Refer to section the "RX Monitor" scre	n 14.2 for informa en.	tion on how to acce	ess the "Alarm Profi	les" tab of



# 15 <u>Adjacent Sites Screen – Monitor Adjacent Sites Control</u> <u>Channels</u>

# 15.1 Background Information – Adjacent Sites

The "Adjacent Sites" screen allows users to:

- Add and manage adjacent site control channels
- Review and manage the adjacent site control channels' data measured by the Site Vantage (RX level in dBm)
- Set alarm thresholds for the monitored adjacent site control channels.

### Adjacent Site Monitoring

- Adjacent site: An adjacent site is an RF site neighbouring the RF site monitored by the Site Vantage
- Adjacent site control channel: An adjacent site control channel is the control channel used by the neighbouring RF site. It is considered the control channel should always be transmitting
- Adjacent site control channel monitoring:

The Site Vantage will constantly monitor adjacent sites' control channels (the Site Vantage will not consider a control channel to be inactive below a certain power level threshold). Monitoring adjacent sites control channels allows to detect potential faults as follows:

- If the power of one adjacent site control channel drops, the Site Vantage can alert of a potential fault with that control channel
- If the Site Vantage is monitoring several adjacent sites control channels, and the power of all control channels drops, this indicates a potential fault with the RX antenna monitored by the Site Vantage.

#### "Adjacent Sites" Screen Tabs

The "Adjacent Sites" screen has three tabs:

- **Tab 1 Live status:** Displays the current performance data of the monitored adjacent site control channels. Figure 47 and Table 38 below describe the actions the user can make within the tab
- **Tab 2 History:** Displays the historical performance data of the monitored adjacent site control channels. Figure 48 and Table 39 below describe the actions the user can make within the tab
- **Tab 3 Alarm profiles:** Displays the alarm thresholds set for the monitored adjacent site control channels. Figure 49 and Table 40 below describe the actions the user can make within the tab.



			2				5	
	REI		Live Status	History Alarm Profiles			Filter channels by All	- Add Channel - 3
	SITE VAN		Tag	Frequency (MHz)	Name	Radio Protocol	RF Power	
	88 Dashboard	tRX]	0	399.800000	alarm	FM (12.5 kHz)	-65.7	[+ 4
	TX Monitor	RX1 [te	12	909.000000		FM (12.5 kHz)	-62.1	
	K RX Monitor							
1	🕨 🔀 Adjacent Sites	RX2	1	149.800000	1	FM (12.5 kHz)	-61.6	i
	A RF Tests	KX3	2	899.800000	2	FM (12.5 kHz)	-61.1	:
	External Inputs							
	Alarms							
	Calibration							
	Settings							
	[→ Logout							

Tab 1 – Live Status ("Adjacent Sites" Screen)

Figure 47 – Functions of the Live Status Tab ("Adjacent Sites" Screen)

Live Status Tab User Actions ("Adjacent Sites" Screen)	Id (Figure 47)	Instructions
Access the "Adjacent Sites" screen	1	Section 15.2
Access the "Live Status" tab	2	Section 15.2
Add adjacent site control channels to monitor	3	Section 15.3
Edit the information of a monitored adjacent site control channel	4	Section 15.4
Delete a monitored adjacent site control channel	4	Section 15.5
Filter adjacent site control channels	5	Section 15.9
Sort the adjacent site control channels' data	6	Section 15.10

Table 38 – Functions of the Live Status Tab ("Adjacent Sites" Screen)







Figure 48 – Functions of the History Tab ("Adjacent Sites" Screen)

History Tab User Actions ("Adjacent Sites" Screen)	Id (Figure 48)	Instructions
Access the "Adjacent Sites" screen	1	Section 15.2
Access the "History" tab	2	Section 15.2
View the data of one or more adjacent site control channels	3	Section 15.8
Change the time length displayed in the graphs	4	Section 15.8
Save a graph as an image	5	Section 15.8
Zoom in on a graph	5	Section 15.8
Reset the zoom level	5	Section 15.8
View the graph's data	5	Section 15.8
Restore the chart to its original view	5	Section 15.8
Filter adjacent site control channels	6	Section 15.9
Sort the adjacent site control channels' data	7	Section 15.10

Table 39 – Functions of the History Tab ("Adjacent Sites" Screen)



				[	2								
			Live Status	History	larm Profiles				RF Pow	ır (dBm)			
	88 Dashboard 4	⊢	Tag		Name	Frequency (MHz)	Radio Protocol	<u> </u>	<u> </u>	4		•	
	TX Monitor	testRX[	0		alarm	399.800000	FM (12.5 kHz)	•	•	-55.0	-50.0	<b>:</b> +	3
	کن RX Monitor	1X2	12			909.000000	FM (12.5 kHz)					:	
1	Adjacent Sites	RX2	1		1	149.800000	FM (12.5 kHz)		•	•	•	:	
	External Inputs	EX3	2		2	899.800000	FM (12.5 kHz)	•	•	•		:	
	 ♪ Notifications												
	Calibration												
	Settings												
	[→ Logout												

### Tab 3 – Alarm Profiles ("Adjacent Sites" Screen)

Figure 49 – Functions of the Alarm Profiles Tab ("Adjacent Sites" Screen)

Alarm Profiles Tab User Actions ("Adjacent Sites" Screen)	ld (Figure 49)	Instructions
Access the "Adjacent Sites" screen	1	Section 15.2
Access the "Alarm Profiles" tab	2	Section 15.2
Set alarm thresholds for the monitored TX channels	3	Section 15.6
Reset the alarm threshold values	3	Section 15.6
Sort the adjacent site control channels' data	4	Section 15.10

Table 40 – Functions of the Alarm Profiles Tab ("Adjacent Sites" Screen)



### 15.2 Access the Adjacent Sites Screen

To access the "Adjacent Sites" screen:

#### Access the Adjacent Sites Screen

1. Access the Site Vantage's GUI.

**Note:** Refer to section 10.1 for instructions on how to access the GUI.

2. Click "Adjacent Sites", from the main menu on the left-hand side of the screen.

**Result:** The "Live Status" tab of the "Adjacent Sites" screen appears.

3. Proceed as follows:

To access the	Click			
"Live Status" tab	"Live Status", from the top of the screen.			
	<b>Note:</b> The "Live Status" tab is displayed by default when accessing the "Adjacent Sites" screen.			
"History" tab	"History", from the top of the screen.			
"Alarm Profiles" tab	"Alarm Profiles", from the top of the screen.			



### 15.3 Add Adjacent Site Control Channels to Monitor

To add to the Site Vantage adjacent site control channels to be monitored:

Add Adjacent Site Control Channels to Monitor							
1.	On the "Live Status" tab, click " <b>+ Add Channel</b> ", from the top right-hand side of the screen.						
	Live Status History Alarm Profiles Filter channels by All + Add Channel						
	<b>Note:</b> Refer to section 15.2 for information on how to access the "Live Status" tab of the "Adjacent Sites" screen.						
	Result: The "Add Adjacent Site Channel" dialog appears.						
2.	Complete the "Add Adjacent Site Channel" dialog with the following relevant information:						
	• <b>RX port field</b> (required): Select the Site Vantage's RX port (RX1, RX2 or RX3) corresponding to the RX antenna used to monitor the control channel						
	Name field (optional): Enter a name for the channel						
	• Channel tag (optional): Enter a numerical Id for the channel (i.e. 1 or 2 or 3, etc.)						
	• <b>RX frequency field</b> (required): Enter the channel's frequency, in MHz						
	Radio protocol field (required): Select the channel's radio protocol						
	Enable monitoring field (optional):						
	- If ticked: The Site Vantage will list the channel and display its live information						
	<ul> <li>If unticked: The Site Vantage will list the channel, but it will not display its live information.</li> </ul>						
	Note: Fields with an asterisk in the GUI and in red below are required.						
	Add Adjacent Site Channel						
	RX Port *						
	Name						
	Channel Tag						
	RX Frequency (MHz) *						
	Enable Monitoring						
	Cancel Save						
3.	Click " <b>Save</b> ".						



### Add Adjacent Site Control Channels to Monitor

4. Repeat steps 1 to 3 for all the adjacent site control channels to be monitored.



# 15.4 Edit the Information of a Monitored Adjacent Site Control Channel

To edit the information of a monitored adjacent site control channel:

Edit the Information of a Monitored Adjacent Site Control Channel								
1.	On the "Live Status" tab, click the menu icon of the channel to be edited.							
	Tag	Frequency (MHz)	Name	Radio Protocol	RF Power			
	0	399.800000	alarm	FM (12.5 kHz)	-61.4	i		
	<b>Note:</b> Refer to section 15.2 for information on how to access the "Live Status" tab of the "Adjacent Sites" screen.							
2.	Click "	Edit Settings" f	rom the drop-o	down menu.				
	Edit settings Delete							
	Result: The "Edit Adjacent Site Channel" dialog appears.							
3.	Edit the required fields.							
	<b>Note:</b> The "Edit Adjacent Site Channel" dialog contains the same fields as the "Add Adjacent Site Channel" dialog. For more information on these fields, refer to section 15.3 step 2.							
4.	Click "	Save".						



# 15.5 Delete a Monitored Adjacent Site Control Channel

To delete a monitored adjacent site control channel:

Delete a Monitored Adjacent Site Control Channel								
1.	On the "Live Status" tab, click the menu icon of the channel to be deleted.							
	Tag Freque	ncy (MHz)	Name	Radio Protocol	RF Power			
	0 399.	800000	alarm	FM (12.5 kHz)	-61.4	•		
	<b>Note:</b> Refer to the "Adjacent	o section 15.2 Sites" screen	for informati	on on how to	access the "Live St	tatus" tab of		
2.	Click "Delete'	" from the dro	o-down menu	l.				
	Edit settings							
		1						
	Delete							
3.	Click "Delete"	" when promp	ted.					
	Delete Adjacent Site Channel?							
	Are you sure you want to delete this channel?							
		Cancel Delete						



# 15.6 Set Alarm Thresholds for the Monitored Adjacent Site Control Channels

If required, set alarm thresholds for one or more monitored adjacent site control channels:

#### Note:

- A minor/major alarm is triggered and becomes active when a measurement falls outside the set minor/major alarm thresholds for that measurement
- An active alarm:
  - Causes the alarm LED indicator on the front of the Site Vantage to illuminate. Refer to section 2.1.4.1 for more information
  - Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.
- Users can decide the meaning of a minor alarm and a major alarm.

#### Example:

- A minor alarm could be when a measurement indicates that the equipment needs to be closely monitored
- A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired.

Set	Set Alarm Thresholds for the Monitored Adjacent Site Control Channels								
1.	Access the "Alarm Profiles" tab.								
	<b>Note:</b> Refer to section 15.2 for information on how to access the "Alarm Profiles" tab of the "Adjacent Sites" screen.								
2.	Click the menu icon corresponding to the adjacent site control channel you want to set alarm thresholds for.								
	Тад	Name	Frequency (MHz)	Radio Protocol	RF Power (dBm)				
	0	alarm	399.800000	FM (12.5 kHz)	55.0 -50.0				
3.	Click "Edit	Settings" from	the drop-down r	menu.					
	Edit settings	•							



#### Set Alarm Thresholds for the Monitored Adjacent Site Control Channels

4. Input the alarm threshold values as follows:

To input a	Complete text box
Major lower threshold limit for the RF power (in dBm)	A (see screenshot below)
Minor lower threshold limit for the RF power (in dBm)	B (see screenshot below)
Minor upper threshold limit for the RF power (in dBm)	C (see screenshot below)
Major upper threshold limit for the RF power (in dBm)	D (see screenshot below)

#### Note:

- Major thresholds trigger major alarms
- Minor thresholds trigger minor alarms
- All thresholds are optional.



5. Click the menu icon and click "**Save**" from the drop-down menu.

**Note:** To reset the alarm threshold values, click the [•] menu icon and click "**Reset**" from the drop-down menu.

6. Repeat steps 2 to 5 for all adjacent site control channels you want to set alarm thresholds for.



# 15.7 View Adjacent Site Control Channels' Live Data

#### Note:

- The "Live Status" tab shows the current adjacent site control channels measurements
- Table 41 below shows the meaning of the format of the measurement boxes used in the "Live Status" tab
- When measuring TDMA systems, the "RF Power" column displays a value for each of the measured time slots
- To view the entire data history of the adjacent site control channels, refer to section 15.8.

Measurement Box Format	Meaning
Green border 30.1	Active signal
Greyed out 28.2	Last signal measured
Orange 27.3 A	The measurement has triggered a minor alarm
Red 29.3 (8)	The measurement has triggered a major alarm

 Table 41 – Meaning of the Format of the Measurement Box

To view the adjacent site control channels' live data:

#### View Adjacent Site Control Channels' Live Data 1. On the "Live Status" tab, for each of the monitored adjacent site control channels, the RF power is displayed. Tag Frequency (MHz) Radio Protocol Name 0 399.800000 alarm FM (12.5 kHz) -65.6 : 12 909.000000 FM (12.5 kHz) -58.1 : Note: Refer to section 15.2 for information on how to access the "Live Status" tab of

the "Adjacent Sites" screen.



### **15.8 View Adjacent Site Control Channels' Historical Data**

To view the adjacent site control channels' historical data:

**Note:** This allows to view the entire data history of the adjacent site control channels. To view only the current measurements, refer to section 15.7.

Viev	View Adjacent Site Control Channels' Historical Data									
1.	Acce	ess the	"Histo	ory" tab.						
	<b>Result:</b> For the first adjacent site control channel of the list, a graph of RF power (dBm) against time appears, displaying the last 24 hours of data.									
	RF Power								平口口目 C	
		(Eg) 10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (10.0 (1		er fen fin fen en sen fin fen en sen sen sen sen sen sen sen sen se	ta ina ka	n fersen en seu a sin fersen en seu a s	nt forsen in fyrstaan in tersterin ffi na de see, in featrale, sikening	na hairin filisin karana in Mana karang	pingan menangan penangan Una bahapan ping diakin saking	
			12 27	2:00 May	16:00 27 May	20:00 27 May	00:00 28 May	04:00 28 May	08:00 28 May	
	<b>Not</b> e "Adj	e: Refer acent S	to se ites" :	ection 15 screen.	.2 for	informatio	on on hov	v to acce	ss the "Hist	ory" tab of the
2.	To v	iew the	data	of anoth	er adja	acent site	control c	hannel o	n the list:	
	a.	Tick th	e tick	box of t	he req	luired adj	acent site	e control o	channel.	
			1	<b>400.0000</b>	00					
			1	<b>400.20000</b> 1&2	00					
		Result of the	t: The	e data of red adjao	the fir cent si	st adjace te control	nt site co channel	ntrol chai are displ	nnel of the ayed simul	list and the data taneously.
	b.	Untick	the ti	ick box c	of the f	irst adjac	ent site c	ontrol cha	annel of the	e list.
			1	<b>400.00000</b>	)					
			1	<b>400.20000</b> 1&2	)					
	Res	<b>ult:</b> Onl	y the	data of	the ticl	ked adjac	ent site c	ontrol ch	annel is dis	played.
3.	To view the data of one or more adjacent site control channels, select the tick boxes of all the channels you want to view the data for.									



View Adjacent Site Control Channels' Historical Data						
400.000000 1 0						
<b>400.200000</b> <b>1</b> 1&2						
<b>2 2 400.400000 2 2</b>						
<b>Result:</b> A graph of RF power (dBm) against time appears, for all ticked channels, displaying the last 24 hours of data.						
RF Power 业 1 1 目 〇						
00:00 04:00 06:00 12:00 16:00 20:00 31 Mar 31 Mar 31 Mar 31 Mar 31 Mar 31 Mar 31 Mar - → RX1 - 399.800000 MHz -→ RX1 - 475.000000 MHz -→ RX1 - 909.000000 MHz						
4. To change the time length displayed in the graphs:						
a. Click "Last 24 Hours".						
Last 24 Hours Filter channels by All						
b. Select the time length from the available options or enter a custom date range						
<b>Note:</b> When entering a custom date range, select "Custom" and type in the start						
and end dates or select them by clicking the calendar icon						
C Last Hour						
Last 24 Hours						
O Last 7 Days						
O Last 30 Days						
C Custom						
05/26/2025 03:40 PM						
End Date05/27/2025 03:40 PM						
Cancel Apply						
c. Click " <b>Apply</b> ".						
Result:						
• The graphs now display data for the selected time length						
<ul> <li>The "Last 24 Hours" button has been updated to indicate the new time length (i.e. if "Last 7 Days" was selected, the button now reads "Last 7 Days").</li> </ul>						
Last 7 Days Filter channels by All						







## **15.9 Filter Adjacent Site Control Channels**

To filter adjacent site control channels, allowing you to visualise only the adjacent site control channels you want and hide the rest:

Filte	Iter Adjacent Site Control Channels							
1.	On either the "Live Status" or the "History" tab, click the " <b>Filter channels by</b> " drop- down menu.							
	Filter channels by All -							
	<b>Note:</b> The "Filter by" drop-down menu appears on both the "Live Status" and the "History" tabs. Refer to section 15.2 for information on how to access them.							
<b>Result:</b> The filter menu appears, with the available filters grouped into two s "Ports" and "Monitored".								
2.	Tick one or several filters from one or several sections ("Ports" and "Monitored") to filter the channels displayed in the "Adjacent Sites" screen.							
	Note:							
	• Several filters can be com	bined to further refine the channels displayed						
	• The two sections allow to	filter data in the following manner:						
	<ul> <li>"Ports" section: Filte</li> </ul>	ers channels by RX port						
	<ul> <li>"Monitored" section status.</li> </ul>	: Filters channels by "Monitored" and "Not monitored"						
3.	To remove filters, proceed as	follows:						
	To remove	Then						
	All filters (i.e. to display all	Click "All" on the filter menu.						
	adjacent site control	All						
	channels)	All 15						
		Result: All adjacent site control channels are visible.						
	Selected filters	Untick the filters to be removed from the filter menu.						



# 15.10Sort the Adjacent Site Control Channels' Data

To sort the adjacent site control channels' data, allowing you visualise the data in a desired order:

#### Note:

- Data is sorted by clicking some of the headers (refer to steps 1 to 3 below)
- Clicking the header once, sorts the data in ascending order
- Clicking the header twice, sorts the data in descending order
- Subsequent clicks will alternate between ascending and descending order
- Table 42 below explains the meaning of the icons used to sort the data:

lcon		Indicates
	Arrow up	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in ascending order.</li> </ul>
•	Arrow down	<ul> <li>The header used to sort the data</li> </ul>
		- The data has been sorted in descending order.

Table 42 – Data Sorting Icons ("Adjacent Sites" Screen)

Sort Adjacent Site Control Channels' Data						
1.	Live Status Tab					
	On the "Live Status" tab, click the headers <b>"Tag"</b> , " <b>Frequency (MHz)</b> ", " <b>Name</b> " or "Radio Protocol" to sort the adjacent site control channels' data according to the header clicked.					
	Tag         Frequency (MHz)         Name         Radio Protocol         RF Power					
	0 399.800000 alarm FM (12.5 kHz) -53.7					
2.	the "Adjacent Sites" screen. 2. History Tab					
	On the "History" tab, click the headers <b>"Tag"</b> or " <b>Frequency (MHz)</b> " to sort the adjacent site control channels' data according to the header clicked.					
	Tag 🔺 Frequency (MHz)					
	475.000000 Blah					
	<b>Note:</b> Refer to section 15.2 for information on how to access the "History" tab of the "Adjacent Sites" screen.					



#### Sort Adjacent Site Control Channels' Data

#### 3. Alarm Profiles Tab

On the "Alarm Profiles" tab, click the headers "**No.**", "**Frequency (MHz)**", "**Name**" or "Radio Protocol" to sort the adjacent site control channels' data according to the header clicked.

					RF Power (dBm)			
Tag	Name	Frequency (MHz)	Radio Protocol	• <u></u>	▲		∆ ⊗	•
0	alarm	399.800000	FM (12.5 kHz)	•	•	-55.0	-50.0	:

**Note:** Refer to section 15.2 for information on how to access the "Alarm Profiles" tab of the "Adjacent Sites" screen.



# 16 <u>RF Tests Screen – Conduct RF Tests</u>

### **16.1 Background Information – RF Tests**

The "RF Tests" screen allows users to set up, conduct, schedule and analyse the results of the three tests that the Site Vantage can conduct, which are described in Table 43 below.

Test	Description
1. Antenna Isolation Test	Measures the loss (isolation) between the TX and the RX antennas.
	Note: Refer to section 16.3.1 for more information.
2. RX Preselector Characterisation Test	Characterises the shape of the frequency response of the RX preselector to determine its performance.
3. TX Carrier Suppression Test	Measures the suppression of the base stations' TX signals by the RX subsystem.
	Note: Refer to section 16.5.1 for more information.
	Table 43 – Site Vantage's Tests

These tests allow operators to ensure the RF site operates as intended and provide data to diagnose faults.

#### "RF Tests" Screen Tabs

The "RF Tests" screen has three tabs:

- Tab 1 Antenna isolation tests: Allows users to manage the antenna isolation tests. Figure 50 and Table 44 below describe the actions the user can make within the tab
- Tab 2 RX preselector characterisation: Allows users to manage the RX preselector characterisation tests. Figure 51 and Table 45 below describe the actions the user can make within the tab
- **Tab 3 TX carrier suppression tests:** Allows users to manage the TX carrier suppression tests. Figure 52 and Table 46 below describe the actions the user can make within the tab.





### Tab 1 – Antenna Isolation Tests ("RF Tests" Screen)

Figure 50 – Functions of the Antenna Isolation Tests Tab ("RF Tests" Screen)

Antenna Isolation Tests Tab User Actions ("RF Tests" Screen)	ld (Figure 50)	Instructions
Access the "RF Tests" screen	1	Section 16.2
Access the "Antenna Isolation Tests" tab	2	Section 16.2
Set up the antenna isolation test(s)	3	Section 16.3.2
Schedule antenna isolation tests	3	Section 16.3.5
Cancel all scheduled antenna isolation tests	3	Section 16.3.6
Conduct an antenna isolation test	4	Section 16.3.3
Cancel an antenna isolation test	4	Section 16.3.4
View test results in the "Results" section	5	Section 16.3.7
View test instance details	6	Section 16.3.7
Select the time range you want to see the history for	7	Section 16.3.7
Select the TX port you want to see the history for	8	Section 16.3.7
Select the RX port you want to see the history for	9	Section 16.3.7
Use the graph's options	10	Section 16.3.7

Table 44 – Functions of the Antenna Isolation Tests Tab ("RF Tests" Screen)





Tab 2 – RX Preselector Characterisation ("RF Tests" Screen)

Figure 51 – Functions of the RX Preselector Characterisation Tab ("RF Tests" Screen)

RX Preselector Characterisation Tab User Actions ("RF Tests" Screen)	ld (Figure 51)	Instructions
Access the "RF Tests" screen	1	Section 16.2
Access the "RX Preselector Characterisation" tab	2	Section 16.2
Set up the RX preselector characterisation test(s)	3	Section 16.4.2
Schedule RX preselector characterisation tests	3	Section 16.4.5
Cancel all scheduled RX Preselector Characterisation Tests	3	Section 16.4.6
Conduct an RX preselector characterisation test	4	Section 16.4.3
Cancel an RX preselector characterisation test	4	Section 16.4.3
View test results in the "Results" section	5	Section 16.4.7
Select the RX port you want to see the results for	6	Section 16.4.7
View test instance details	7	Section 16.4.7
Select the time range you want to see the history for	8	Section 16.4.7
Select the RX port you want to see the history for	9	Section 16.4.7
Select the test frequencies you want to see the history for	10	Section 16.4.7



RX Preselector Characterisation Tab User Actions ("RF Tests" Screen)	ld (Figure 51)	Instructions
Display the results in a table/chart format	11	Section 16.4.7
Use the graph's options	12	Section 16.4.7

Table 45 – Functions of the RX Preselector Characterisation Tab ("RF Tests" Screen)





Tab 3 – TX Carrier Suppression Test ("RF Tests" Screen)

Figure 52 – Functions of the TX Carrier Suppression Test Tab ("RF Tests" Screen)

TX Carrier Suppression Test Tab User Actions ("RF Tests" Screen)	ld (Figure 52)	Instructions
Access the "RF Tests" screen	1	Section 16.2
Access the "TX Carrier Suppression Tests" tab	2	Section 16.2
Set up the TX carrier suppression test(s)	3	Section 16.5.2
Schedule TX carrier suppression tests	3	Section 16.5.5
Cancel all scheduled TX Carrier Suppression Tests	3	Section 16.5.6
Conduct a TX carrier suppression test	4	Section 16.5.3
Cancel a TX carrier suppression test	4	Section 16.5.4
View test results in the "Results" section	5	Section 16.5.7
View test instance details	6	Section 16.5.7
Select the time range you want to see the history for	7	Section 16.5.7
Select the RX port you want to see the history for	8	Section 16.5.7
Select the TX channels you want to see the history for	9	Section 16.5.7



TX Carrier Suppression Test Tab User Actions ("RF Tests" Screen)	ld (Figure 52)	Instructions
Use the graph's options	10	Section 16.5.7

Table 46 – Functions of the TX Carrier Suppression Test Tab ("RF Tests" Screen)



## 16.2 Access the RF Tests Screen

To access the "RF Tests" screen:

Acc	Access the RF Tests Screen			
1.	Access the Site Vantage's GUI.			
	Note: Refer to section 10.1 for instructions on how to access the GUI.			
2.	Click "RF Tests", from the r	main menu on the left-hand side of the screen.		
	Result: The "Antenna Isola	tion Tests" tab of the "RF Tests" screen appears.		
3.	Proceed as follows:			
	To access the	Click		
	"Antenna Isolation Tests" tab	"Antenna Isolation Tests", from the top of the screen.		
		<b>Note:</b> The "Antenna Isolation Tests" tab is displayed by default when accessing the "RF Tests" screen.		
	"RX Preselector Characterisation" tab	" <b>RX Preselector Characterisation</b> ", from the top of the screen.		
	"TX Carrier Suppression Tests" tab	" <b>TX Carrier Suppression Tests</b> ", from the top of the screen.		


# **16.3** Antenna Isolation Test – Measure the Antenna Isolation

# 16.3.1 Test Description – Antenna Isolation Test

An antenna isolation test uses a signal to measure the power loss (isolation) between the TX and the RX antenna(s), for a single frequency for a specific TX-RX antenna combination. The Site Vantage can run multiple tests to measure the power loss (isolation) for all possible TX-RX antenna combinations.

The test operates:

- 1. A test signal is generated by the Site Vantage and travels through the system, as follows:
  - A. A test signal of a known power level is generated from the Site Vantage's reverse port (Figure 53).

**Note:** The antenna isolation test is conducted at the reference frequency, which was set for each RX port during the calibration process. Refer to section 8.3.4 for more information on the calibration process.

- B. The test signal travels through the Antenna Line Coupler and the TX feeder cable to the TX antenna, where it experiences power losses (Figure 53).
- C. The test signal is transmitted by the TX antenna (Figure 53).
- D. The test signal is received by the RX antenna (Figure 53).
- E. The test signal travels through the RX subsystem, where it where it might experience a power loss or a power gain, depending on the configuration of the RX subsystem (Figure 53).
- F. The test signal travels through the "post RF path gain/loss", where it might experience a power loss or a power gain (Figure 53).

**Note:** The "post RF path gain/loss" represents any physical difference that might exist between the base station's RX path and the Site Vantage's RX path (i.e. the cable between the RX subsystem and the base station might be longer than the cable between the RX subsystem and the Site Vantage). The Site Vantage calibrates (adding a loss or a gain as required) for this difference to ensure the base station and the Site Vantage report the same RX signal.

- G. The test signal is received by the Site Vantage's RX port (Figure 53).
- 2. The Site Vantage measures the power level of the test signal received.
- 3. The Site Vantage calculates the power loss (isolation) between the TX and RX antenna(s), which is the difference between the theoretical RX signal the Site Vantage should have received and the actual RX signal the Site Vantage has measured, given the following are known:
  - The power level at which the test signal was generated from the Site Vantage's REV port
  - The TX losses before the TX antenna
  - The RX losses / gains before the RX port caused by the RX subsystem



- The RX losses / gains before the RX port caused by the "post RF path gain/loss"
- The theoretical power level at which the test signal should have been received at the RX port
- The power level at which the test signal was received at the RX port.
- 4. If the test results exceed any of the alarm thresholds specified by the user, the Site Vantage will generate a minor or a major alarm in accordance with the threshold exceeded.



Figure 53 – Test Signal Path During an Antenna Isolation Test



# 16.3.2 Set Up the Antenna Isolation Test(s)

To set up the antenna isolation test(s):

Set l	Up the Anter	nna Isol	ation Test(s)							
1.	Access the	"Antenn	a Isolation Te	sts" tab.						
	<b>Note:</b> Refer Tests" tab.	to sect	ion 16.2 for in	structions on I	how to access the "Ante	nna Isolation				
2.	Click "More	", fror	n the top right	-hand side of	the screen.					
	Note: The options of the "More" menu are inaccessible while a test is in progress.									
3.	Click "Settin	ngs" fro	m the drop-do	wn menu.						
	More Settings Schedule Result: The	e "Anten	na Isolation Te	est Settings" o	lialogue opens.					
	Antenna isolation le	st Settings								
	TX Port	Enable	RX Port	× A	Alarm Thresholds (dB)					
	TX1 <u>Add Receiver</u>			-						
	TX2 Add Receiver		•							
	TX3 Add Receiver									
						Close				
4.	For a TX po	ort to be	tested (TX1, T	FX2 or TX3), c	click "Add Receiver".					
	TX Port	Enable	RX Port	⊗ ∆	Alarm Thresholds (dB)					
	TX1 Add Receiver				•					
	Note: The T that will gen	X port f erate th	for which the r le test signal (	eceiver has b Figure 53).	een added will be the T	K (reverse) port				
5.	Tick " <b>Enabl</b>	<b>e</b> ".								
	TX Port	Enable	RX Port	8	Alarm Thresholds (dB)	8				
	TX1 Add Receiver		RX1 [testRX] v							
6.	Select a rec	eiver (F	RX) port from t	he drop-down	menu.					



TX Port	Enable	RX Port	Alarm Thresholds (dB)
TX1 Add Receiver	$\bigtriangledown$	RX2 🔺	
TX2 Add Receiver		- RX1 [testRX]	
TX3		RX2	
		RX3	
Note:			
• The s 53)	selected I	RX port will be	the RX port that will receive the test signal (Figur
• This	will calcu	late the antenr	na isolation between the TX port (step 4) and the
selec	ted RX p	ort (this step).	
Example	: If the R>	X2 port has been seen as the seen as the second se	en selected against the TX3 port, the test will
calculate	the anten	na isolation be	etween the TX antenna connected to the TX3 port
and the R	X antenn	a connected to	o the RX2 port.
ТХЗ		BX2	<b>*</b>
Add receiver	U		
If required	l, input th	e alarm thresh	nold values to trigger a minor and/or a major alarm
	•		
when the	antenna	isolation result	ts obtained are outside of the indicated thresholds
when the do so, pro	antenna oceed as	isolation result follows:	ts obtained are outside of the indicated thresholds
do so, pro	antenna oceed as	Isolation result follows:	ts obtained are outside of the indicated thresholds Complete text box
the the do so, pro	antenna oceed as t a	Isolation result follows:	ts obtained are outside of the indicated thresholds Complete text box the power loss
when the do so, pro <b>To inpu</b> <b>Major lo</b> (isolatio	antenna oceed as t a ower thre n) in dBm	Isolation result follows: eshold limit for t	ts obtained are outside of the indicated thresholds           Complete text box           the power loss         A           (see screenshot below)
when the do so, pro <b>To inpu</b> <b>Major lo</b> (isolatio	antenna oceed as t a ower thre n) in dBm	Isolation result follows: eshold limit for t	ts obtained are outside of the indicated thresholds           Complete text box           the power loss         A (see screenshot below)
when the do so, pro <b>To inpu</b> <b>Major lo</b> (isolatio <b>Minor lo</b>	antenna oceed as t a ower thre n) in dBm ower thre	Isolation result follows: eshold limit for t n eshold limit for t	ts obtained are outside of the indicated thresholds           Complete text box           the power loss         A (see screenshot below)           the power loss         B
when the do so, pro <b>To inpu</b> <b>Major le</b> (isolatio <b>Minor le</b> (isolatio	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm	Isolation result follows: eshold limit for t n eshold limit for t	ts obtained are outside of the indicated thresholds           Complete text box           the power loss         A (see screenshot below)           the power loss         B (see screenshot below)
when the do so, pro <b>To inpu</b> <b>Major lo</b> (isolatio <b>Minor lo</b> (isolatio <b>Minor u</b>	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm	Isolation result follows: eshold limit for t eshold limit for t n eshold limit for	ts obtained are outside of the indicated thresholds          Complete text box         the power loss       A (see screenshot below)         the power loss       B (see screenshot below)         the power loss       C
when the do so, pro <b>To inpu</b> <b>Major lo</b> (isolatio <b>Minor lo</b> (isolatio <b>Minor u</b> (isolatio	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm pper thre n) in dBm	Isolation result follows: eshold limit for the shold limit for the shold limit for the shold limit for	ts obtained are outside of the indicated thresholds          Complete text box         the power loss       A (see screenshot below)         the power loss       B (see screenshot below)         the power loss       C (see screenshot below)         the power loss       C (see screenshot below)
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when the do so, pro To inpu Major la (isolatio Minor la (isolatio Minor u (isolatio Major u (isolatio	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm pper thre n) in dBm	Isolation result follows: Ishold limit for the shold limit for the shold limit for the shold limit for the shold limit for	ts obtained are outside of the indicated thresholds          Complete text box         the power loss       A (see screenshot below)         the power loss       B (see screenshot below)         the power loss       C (see screenshot below)         the power loss       D (see screenshot below)         the power loss       D
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when the do so, pro To inpu Major la (isolatio Minor la (isolatio Minor u (isolatio Major u (isolatio	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm oper thre n) in dBm oper thre n) in dBm	Isolation result follows: eshold limit for the eshold limit for the eshold limit for the main for the shold limit for the shold limit for the shold limit for	ts obtained are outside of the indicated thresholds          Complete text box         the power loss       A         (see screenshot below)         the power loss       B         (see screenshot below)         the power loss       C         (see screenshot below)         the power loss       D         (see screenshot below)
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when the do so, pro To inpu Major la (isolatio Minor la (isolatio Minor u (isolatio Major u (isolatio TX1 Add Receiver Note: • Majo • Mino	antenna oceed as t a ower thre n) in dBm ower thre n) in dBm oper thre n) in dBm pper thre n) in dBm	Isolation result follows: eshold limit for the eshold limit for the eshold limit for the eshold limit for the main for the eshold limit for the eshold limit for the eshold limit for the eshold limit for the eshold limit for the eshold limit for the eshold limit for the eshold limit for the eshold limit for eshold limit for the eshold limit for the eshold limit for	ts obtained are outside of the indicated thresholds          Complete text box         the power loss       A         (see screenshot below)         the power loss       B         (see screenshot below)         the power loss       C         (see screenshot below)         the power loss       D         or alarms       or alarms



Set I	Up the Antenna Isolation Test(s)									
	The alarm threshold values are optional									
	An active alarm:									
	<ul> <li>Causes the alarm LED indicator on the front of the Site Vantage to illuminate.</li> <li>Refer to section 2.1.4.1 for more information</li> </ul>									
	<ul> <li>Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.</li> </ul>									
	<ul> <li>Users can decide the meaning of a minor alarm and a major alarm (i.e. a minor alarm could be when a measurement indicates that the equipment needs to be closely monitored. A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired).</li> </ul>									
8.	Click the menu icon and click " <b>Save</b> " from the drop-down menu.									
	TX Port Enable RX Port Alarm Thresholds (dB)									
	TX1         RX2         -80         -60         -40         -20         I									
	TX2 Save									
9.	If more receiver (RX) ports are required:									
	a. Click "Add Receiver". A new receiver (RX) port line appears.									
	TX Port Enable RX Port Alarm Thresholds (dB)									
	TX1 RX2 -80 -60 -40 -20									
	RX1 [testRX] -									
	b. Repeat steps 5 to 8 for the new receiver (RX) port.									
	Note:									
	<ul> <li>Up to three receiver (RX) ports (RX1, RX2 and RX3) can be added for each TX port to be tested</li> </ul>									
	<ul> <li>This will calculate the antenna isolation between the TX port (step 4) and all the selected RX ports.</li> </ul>									
	<b>Example:</b> If the RX1, RX2 and RX3 ports have been selected against the TX3 port, the test will calculate the antenna isolation between the TX antenna connected to the TX3 port and the RX antennas connected to the RX1, RX2 and RX3 ports.									
	TX3 Add Receiver RX1 [testRX] -									
	RX2 -									
	RX3 -									



Set	Set Up the Antenna Isolation Test(s)						
10.	If it is required to delete a receiver (RX) port line, click the [•] menu and click " <b>Delete</b> " from the drop-down menu.						
11.	Repeat steps 4 to 10 for each TX-RX antenna combination to be tested.						



## **16.3.3 Conduct an Antenna Isolation Test**

To conduct an antenna isolation test:

**Note:** The antenna isolation test(s) must be set up before they can be conducted. Refer to section 16.3.2 for instructions on how to set up antenna isolation tests.

Со	nduct an Antenna Isolation Test
1.	Access the "Antenna Isolation Tests" tab.
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "Antenna Isolation Tests" tab.
2.	Click " <b>Test Now</b> ", from the top right-hand side of the screen.
	Note:
	Test results are displayed only after the test has been completed

• Once the test begins, the "Test Now" button becomes a "Cancel running test..." button. Refer to section 16.3.4 for more information.



# **16.3.4** Cancel an Antenna Isolation Test in Progress

To cancel an antenna isolation test in progress:

Note: Refer to section 16.3.3 for instructions on how to conduct an antenna isolation test.

Car	ncel an Antenna Isolation Test in Progress					
1.	Access the "Antenna Isolation Tests" tab.					
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "Antenna Isolation Tests" tab.					
2.	Click "Cancel running test".					
	Cancel running test					
	Note: Test results are displayed only after the test has been completed.					



### 16.3.5 Schedule Antenna Isolation Tests

To schedule Antenna Isolation Tests to run daily, weekly or monthly:

### Schedule an Antenna Isolation Test

1. Access the "Antenna Isolation Tests" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "Antenna Isolation Tests" tab.

2. Click "More...", from the top right-hand side of the screen.

Note: The options of the "More..." menu are inaccessible while a test is in progress.

3. Click "Schedule" from the drop-down menu.



**Result:** The "Antenna Isolation Test Schedule Settings" dialog appears.

4. Complete the "Antenna Isolation Test Schedule Settings" dialog with the following required information:

Note: Fields with an asterisk in the GUI and in red below are required.

- **Repeat tests field** (required): select the frequency at which the Site Vantage will conduct the antenna isolation tests. The options are:
  - Daily: To conduct the tests every day at a specific time
  - Weekly: To conduct the tests every week, on specific days, at a specific time
  - Monthly: To conduct the tests every month, on a specific day of the month, at a specific time
  - Hourly: To conduct the tests every specified number of hours.
- **Time / Weekdays / Date fields** (required): provide more information on the testing frequency. Proceed as follows:

If the selected test frequency is	Then select
Daily	The time at which to conduct the tests.
	Note: The time can be typed in or selected by clicking the clock icon ^(C) .
	- Time * 04:00 AM



Schedule an Antenna Iso	lation Test
Weekly	<ul> <li>The days of the week on which to conduct the tests, from the drop-down menu</li> <li>Note: Tick as many days as required.</li> <li>Weekdays*</li> <li>Monday</li> <li>Monday</li> <li>Monday</li> <li>Monday</li> <li>Wednesday</li> <li>Friday</li> <li>Saturday</li> <li>The time at which to conduct the tests.</li> <li>Note: The time can be typed in or selected by clicking the clock icon S.</li> <li>Pepeet Testa*</li> <li>Weekdays*</li> <li>Weekdays*</li> <li>Monday, Wednesday</li> <li>Time*</li> </ul>
Monthly	<ul> <li>The day of the month on which to conduct the tests Note: The day can be typed in or selected by clicking the calendar icon . </li> <li> Preper Tests* Monthly Ime* Od:00 AM </li> <li>The time at which to conduct the tests. Note: The time can be typed in or selected by clicking the clock icon . Monthly Ime* Output Ime* I</li></ul>



hours; and Every hour	I he time at which to conduct the tests.      Repeat Tests *      Every 6 Hours      Time *      04:00 AM      ①
Tick " <b>Enable</b> ".	04:00 AM
Note:	
<ul> <li>Note:</li> <li>When "Enable runs the sched</li> </ul>	" is ticked: The Site Vantage saves the testing schedule settin luled tests accordingly

- When "Enable" is unticked: The Site Vantage saves the testing schedule settings, but it does not run any scheduled tests.

5. Click "Save".



### 16.3.6 Cancel All Scheduled Antenna Isolation Tests

To cancel all scheduled Antenna Isolation Tests:

### **Cancel All Scheduled Antenna Isolation Test**

1. Access the "Antenna Isolation Tests" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "Antenna Isolation Tests" tab.

2. Click "More...", from the top right-hand side of the screen.

Note: The options of the "More..." menu are inaccessible while a test is in progress.

3. Click "Schedule" from the drop-down menu.

Result: The "Antenna Isolation Test Schedule Settings" dialog appears.

- 4. Untick "Enable".
- 5. Click "Save".



# 16.3.7 View Antenna Isolation Test Results

To view the antenna isolation test results obtained:

### View Antenna Isolation Test Results

1. Access the "Antenna Isolation Tests" tab.

### Note:

- Refer to section 16.2 for instructions on how to access the "Antenna Isolation Tests" tab
- The "Results" section of the "Antenna Isolation Tests" tab displays the test results of the test selected in the "Test Instance" drop-down menu

•	intenna Isolat	ion Tests	RX Preselector Characteri	isation	TX Carrier Sup	pression Tests							
Г	Results								Test Instance	run - 11:47:39	9 AM, 28 May	25 - Test N	w More
						Receiver							
			RX1 [testRX] 400.000000 MHz			RX2 150.000000 MH	Iz			RX3 900.00000	00 MHz		
itter	TX1					99.5 🛞							
<b>Fransm</b>	TX2					•							
ſ	тхз									•			
	$\sim$ Test Inst	ance Details	S Fail (major)										
	Start Time Duration Triggered by	: 11:47:39 : 2 sec : master	9 AM, 28 May 25										
						Ti	me Range		TX Ports			RX Ports	
	History						Last 7 days	*	All		*	All	*
											¥ ti	白白〇 生 🛛	
	9	0							•				
	-3 -3		,		,		,						Time
	0	0 00:00 1 May	00:00 22 May	00:00 23 May	00:00 24 May	2	00:00 5 May	00:00 26 May		00:00 27 May	00:00 28 Ma	D	
							or i fasario()						

• The "History" section of the "Antenna Isolation Tests" tab displays all test results for a time range, for the selected TX and RX ports.

							l'est instance				
	Results						😢 Test run	1-11:47:39 AM, 28 M	ay 25 -	Test Now	More
				R	leceiver						
		RX1 [testRX] 400.000000 MHz		R 1	X2 50.000000 MHz			RX3 900.000000 MHz			
ter	TX1			9	19.5 🛞						
nsmit	TX2										
Ē	TX3										
	Test Instance Deta	Is 🗙 Fail (major)									
	On at 71 mar 1 1 1 1	200 AM 00 May 05									
Г	Start Time : 11:4 Duration : 2 se Triggered by : mas	7:39 AM, 28 May 25 5 Ier									
ſ	Start Time : 11:4 Duration : 2 se Triggered by : mas	7:39 AM, 28 May 25 5 Jer			Time Range		TX Ports		RX Ports		
[	Start Time : 11:4 Duration : 2 se Triggered by : mas	7:39 AM, 28 May 25 5 ter			Time Range Last 7 days	v	TX Ports All		RX Ports All	i	
	Burtine : 114 Duration : 124 Triggered by : mas	239 AM, 28 May 25 eff			Time Range Last 7 days	•	TX Ports All	بلا	RX Ports	C & al	Time
	Start Time : 114 : Duration : 2 se Triggered by : mas	239 AM, 28 May 25 and and 0000 20 May	0000 23 May	0.00 24 May	Time Range Last 7 days	• 00.00 28 May	TX Ports All	- 	RX Ports	C 쇼 m	Time



#### **View Antenna Isolation Test Results**

### 2. View Test Results in the "Results" Section

Select the test instance you want to see the test results for. To do this:

- a. Click the "Test Instance" drop-down menu, from the top right-hand side of the screen.
- b. Select the test date when the test instance was conducted.

Note: The test date can be typed in or selected by clicking the calendar icon <a>I</a>.

- c. Choose if you want to see all tests, only the successful tests or only the failed tests.
- d. Select the test instance you want to see the results for, from the drop-down menu.
- e. Click "Select instance".

	Test Instance
а	😆 Test run - 11:47:39 AM, 28 May 25 🔺
b	Test Date 28/05/2025
c	All Tests     Successful Tests     Failed Tests
	Test instances on 28 May 25
d	😮 Test run - 11:47:39 AM, 28 May 25 👻
е	Select instance Close

**Result:** The "Results" section of the "Antenna Isolation Tests" tab displays the test results of the test instance selected.

### Note:

- To close the "Test Instance" drop-down menu without selecting a test instance, click "Close".
- To see more details, click "Test Instance Details" to expand the menu.



### 3. View a History of Results in the "History" Section

Select the time range and the ports you want to see the history of results for. To do this:

a. Select the time range you want to see the history for, from the "Time Range" drop-down menu:

Time Range		
Last 7 davs	,	

i. Select "Last 7 Days", "Last 30 days" or select "Choose custom date range".

**Note:** When selecting a custom date range, select "Choose custom date range" and type in the start and end dates or select them by clicking the calendar icon  $\Box$ .



View Antenna Isolation Test Results		
	History No history found be	Last 7 days Last 30 days Choose custom date range Start date 31/10/2024 End date 07/11/2024 Cancel Apply
	Click " <b>Apply</b> ".	
	History	Last 7 days
		O Last 30 days
	No history found be	Choose custom date range
		31/10/2024
		07/11/2024
		Cancel Apply
	Note: To close click "Cancel".	the "Time Range" drop-down menu without selecting a time range,
b. If re dov	equired, select t wn menu.	he TX port you want to see the history for, from the "TX Port" drop-
TX P	orts	
A	All .	•
c. If re dov	equired, select t wn menu.	he RX port you want to see the history for, from the "RX Ports" drop-
RX P	Ports	
А	All	•
4. To read	the graph's data	a points, hover the mouse over the graph area.
5. To save	a graph as an ir	mage:
a. (	Click " <b>Save as l</b> i	mage" in the graph menu, from the top right-hand side of the graph.
	⊻ 1 □ 目 C Save as Image	
b. S	Save the image	file.







# 16.4 RX Preselector Characterisation Test – Determine the Performance of the RX Preselector

# 16.4.1 Test Description – RX Preselector Characterisation Test

An RX Preselector Characterisation Test uses multiple test signals at multiple test frequencies to characterise the shape of the frequency response of the RX preselector and therefore to determine the performance of the RX preselector.

The test operates as follows:

1. The user specifies all the frequencies to be used.

**Note:** In addition to using the specified frequencies, the Site Vantage will also use the reference frequency, which was set for each RX port during the calibration process. (Refer to section 8.3.4 for more information on the calibration process).

- 2. A test signal is generated by the Site Vantage and travels through the system, as follows:
  - A. A test signal at one of the specified frequencies, or at the reference frequency, and of a known power level is generated from the Site Vantage's reverse (REV) port (Figure 54).
  - B. The test signal is transmitted by the TX antenna (Figure 54).
  - C. The test signal is received by the RX antenna (Figure 54).
  - D. The test signal travels through the RX preselector (Figure 54).

Note: The RX preselector is part of the RX subsystem.

- E. The test signal is received by the Site Vantage's RX port (Figure 54).
- 3. Step 2 will be repeated until all the specified frequencies and the reference frequency are tested.
- 4. The Site Vantage's GUI displays the response result generated by the reference frequency as the RX subsystem gain value entered by the user during the calibration process (i.e. 1dB), regardless of the measured value of the response generated by the reference frequency during the test (refer to section 20 for more information on the calibration process).
- 5. The Site Vantage's GUI displays the response results generated by the test frequencies as the result of the following calculation:
  - i. **Step 1:** The Site Vantage calculates the difference between the measured value of the response generated by each frequency and the measured value of the response generated by the reference frequency during the test.
  - ii. **Step 2:** The Site Vantage adds the difference calculated in step 1 to the RX subsystem gain value entered by the user during the calibration process.

**Note:** This process can determine the shape of the frequency response of the RX preselector, not its absolute gain.



### Examples:

- All the examples below assume:
  - The RX subsystem gain value entered by the user during the calibration process was 1dB
  - The response the reference frequency generated was measured to be 0dB.
- **Example 1:** Given the reference frequency generated a response of 0dB during the test, and the RX subsystem gain value entered by the user during the calibration process was 1dB, the Site Vantage will display a response of 1dB for the reference frequency
- **Example 2:** If frequency 1 generated a response of 0dB, the Site Vantage will display a response of 1dB for frequency 1. This is calculated as follows:
  - The difference between the measured frequency 1 response (0dB) and the measured reference frequency response (0dB) is 0dB
  - The difference (0dB) added to the RX subsystem gain value (1dB) is 1dB.
- **Example 3:** If frequency 1 generated a response of 1dB, the Site Vantage will display a response of 2dB for frequency 1. This is calculated as follows:
  - The difference between the measured frequency 1 response (1dB) and the measured reference frequency response (0dB) is 1dB
  - The difference (1dB) added to the RX subsystem gain value (1dB) is 2dB.
- **Example 4:** If frequency 1 generated a response of -1dB, the Site Vantage will display a response of 0dB for frequency 1. This is calculated as follows:
  - The difference between the measured frequency 1 response (-1dB) and the measured reference frequency response (0dB) is -1dB
  - The difference (-1dB) added to the RX subsystem gain value (1dB) is 0dB.
- 6. If the test results exceed any of the alarm thresholds specified by the user, the Site Vantage will generate a minor or a major alarm in accordance with the threshold exceeded.





Figure 54 – Test Signal Path During an RX Preselector Characterisation Test



# 16.4.2 Set Up the RX Preselector Characterisation Test(s)

To set up the RX preselector characterisation test(s):

Set Up the RX Preselector Characterisation Test(s)		
1.	Access the "RX Preselector Characterisation" tab.	
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "RX Preselector Characterisation" tab.	
2.	Click " <b>More…</b> ", from the top right-hand side of the screen.	
	Note: The options of the "More" menu are inaccessible while a test is in progress.	
3.	Click "Settings" from the drop-down menu.	
	RX Preselector Characterisation Test Settings	
	Choose RX port to add/modify the test settings RX Port RX1 [testRX] ~	
	Test Settings	
	Enabled TX Port TX1 * Test Frequencies (MHz) Reference Frequency - 400.000000	
	Alarm Threshold Masks	
	No thresholds configured. Add Threshold Points	
	Cancel Save	
4.	Select from the drop-down menu the RX port associated with the RX preselector to be characterised.	
	<b>Example:</b> If the RX preselector to be characterised has been connected to the RX1 port of the Site Vantage, select RX1.	
	<b>Note:</b> The selected RX port will be the RX port that will receive the test signal (Figure 54).	
	Choose RX port to add/modify the test settings	
	Test Settings     RX1 [testRX]       RX2	
	Enabled TX Port RX3	



Set	Up the RX Preselector Characterisation Test(s)
5.	Tick "Enabled".
	Test Settings
	Enabled     TX Port     Test Frequencies (MHz)       400.000000     Type and press enter       X   Reference Frequency - 400.000000
6.	For the RX port selected in step 4, select a TX port from the drop-down menu.
	Image: Second
	Alarm Threshold N TX3
	<b>Note:</b> The selected TX port will be TX (reverse) port that will generate the test signal (Figure 54).
7.	Enter the test frequencies to be used during the test. To do this:
	a. In the "Test frequencies (MHz)" text box, type in the test frequency
	b. Press enter to enter the frequency
	c. Repeat steps a. and b. for all the test frequencies
	Note:
	• At least one test frequency is required in addition to the reference frequency
	<ul> <li>The reference frequency is automatically included in the "Test frequencies (MHz)" text box</li> </ul>
	The reference frequency is required.
	Image: Second system         TX Port TX1         Test Frequencies (ABD)           Image: Second system         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX Port TX1         Image: Second system         Image: Second system           Image: TX1         Image: Second system
8.	If it is required to delete a test frequency, click the cross icon next to the frequency.
	Test Frequencies (MHz)           400.000000         395.000000         405.000000
	Type and press enter
	Reference Frequency - 400.000000



Set	Jp the RX Preselector Characterisation Test(s)
9.	If you would like to set up alarm tresholds, click "Add Threshold Points".
	Test Settings
	TX Port         Test Frequencies (MHz)           400.000000         395.000000         410.000000         415.000000         450.000000         X           Type and press enter         Type and press enter         X
	Alarm Threshold Masks No thresholds configured. Add Threshold Points
	Result: The "Alarm Thresholds Masks" menu appears.
	Frequency Gain(dB)
	Add Infreshold Points 口口目上
	Image: State of the state o
10.	395.000 400.000 405.000 410.000 415.000 420.000 425.000 420.000 435.000 435.000 446.000 445.000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.0000 450.00000 450.0000 450.000000 450.0000 450.0000000000
	Frequency Gain(dB)
	158



### Set Up the RX Preselector Characterisation Test(s)

11. For the frequency typed in in step 10, input the required alarm threshold values as follows:

To input a	Complete text box
Major lower threshold limit for the gain, in dB	A (see screenshot below)
Minor lower threshold limit for the gain, in dB	B (see screenshot below)
Minor upper threshold limit for the gain, in dB	C (see screenshot below)
Major upper threshold limit for the gain, in dB	D (see screenshot below)
Frequency	Gain(dB)



#### Note:

158

- Major thresholds trigger major alarms
- Minor thresholds trigger minor alarms
- The alarm threshold values are optional
- An alarm is triggered and becomes active when a measurement falls outside the set alarm thresholds for that measurement
- An active alarm:
  - Causes the alarm LED indicator on the front of the Site Vantage to illuminate. Refer to section 2.1.4.1 for more information
  - Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.
- Users can decide the meaning of a minor alarm and a major alarm (i.e. a minor alarm could be when a measurement indicates that the equipment needs to be closely monitored. A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired).



Set Up the RX Preselector Characterisation Test(s)			
12.	Repeat steps 10 and 11 for all the frequencies for which to set up alarm thresholds. If extra frequency lines are required, click " <b>Add Threshold Points</b> ".		
	Alarm Threshold Masks		
	Frequency	Gain(dB)	
	Add Threshold Points		
	Note: At least two frequencies with its a	associated alarm thresholds are required.	
13.	If it is required to delete a frequency line, click the menu and click "Delete".		
	Gain(dB)		
	<u> </u>		
		:	
		E Delete	
14.	Click "Save".		
15.	Repeat steps 4 to 14 for all the RX port characterised.	s associated with the RX preselectors to be	



# **16.4.3 Conduct an RX Preselector Characterisation Test**

To conduct an RX preselector characterisation test:

**Note:** The RX preselector characterisation test(s) must be set up before they can be conducted. Refer to section 16.4.2 for instructions on how to set up RX preselector characterisation tests.

### **Conduct an RX Preselector Characterisation Test**

1. Access the "RX Preselector Characterisation" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "RX Preselector Characterisation" tab.

2. Click "Test Now", from the top right-hand side of the screen.

Note:

- Test results are displayed only after the test has been completed
- Once the test begins, the "Test Now" button becomes a "Cancel running test..." button. Refer to section 16.4.4 for more information.



# 16.4.4 Cancel an RX Preselector Characterisation Test in Progress

To cancel an RX preselector characterisation test in progress:

**Note:** Refer to section 16.4.3 for instructions on how to conduct an RX preselector characterisation test.

Can	Cancel and RX Preselector Characterisation Test in Progress		
1.	Access the "RX Preselector Characterisation" tab.		
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "RX Preselector Characterisation" tab.		
2.	Click "Cancel running test".		
	Cancel running test		
	Note: Test results are displayed only after the test has been completed.		



# **16.4.5** Schedule an RX Preselector Characterisation Test

To schedule RX Preselector Characterisation Tests to run daily, weekly or monthly:

Schedule an RX Preselector Characterisation Test			
1.	. Access the "RX Preselector Characterisation" tab.		
	<b>Note:</b> Refer to section 16 Characterisation" tab.	6.2 for instructions on how to access the "RX Preselector	
2.	Click "More", from the	top right-hand side of the screen.	
	Note: The options of the	"More" menu are inaccessible while a test is in progress.	
3.	<ul> <li>Click "Schedule" from the drop-down menu.</li> <li>More</li> <li>Settings</li> <li>Schedule</li> </ul>		
	Result: The "RX Presele	ctor Characterisation test schedule settings" dialog appears.	
4.	Complete the "RX Presel following required information	ector Characterisation test schedule settings" dialog with the ation:	
	Note: Fields with an aste	risk in the GUI and in red below are required.	
	• <b>Repeat tests field</b> (required): select the frequency at which the Site Vantage will conduct the RX preselector characterisation tests. The options are:		
	<ul> <li>Daily: To conduct the tests every day at a specific time</li> </ul>		
	- Weekly: To conduct the tests every week, on specific days, at a specific time		
	<ul> <li>Monthly: To conduct the tests every month, on a specific day of the month, at a specific time</li> </ul>		
	<ul> <li>Hourly: To conduct the tests every specified number of hours.</li> </ul>		
	<ul> <li>Time / Weekdays / Date fields (required): provide more information on the testing frequency. Proceed as follows:</li> </ul>		
	If the selected test frequency is	Then select	
	Daily	The time at which to conduct the tests.	
		Note: The time can be typed in or selected by clicking the clock icon ^(C) .	
		Time* 04:00 AM	



Schedule an RX Preselector Characterisation Test		
Weekly	<ul> <li>The days of the week on which to conduct the tests, from the drop-down menu</li> <li>Note: Tick as many days as required.</li> <li>Weekdays*</li> <li>All</li> <li>Sunday</li> <li>Monday</li> <li>Tuesday</li> <li>Wednesday</li> <li>Thursday</li> <li>Friday</li> <li>Saturday</li> </ul> • The time at which to conduct the tests. Note: The time can be typed in or selected by clicking the clock icon S. Repeat Tests* Weekdays* Weekdays* Time* 07:15 AM	
Monthly	<ul> <li>The day of the month on which to conduct the tests Note: The day can be typed in or selected by clicking the calendar icon . </li> <li> Repeat Tests* Monthly Dete* Dete* Od:00 AM </li> <li> The time at which to conduct the tests. Note: The time can be typed in or selected by clicking the clock icon .</li></ul>	



Schedule an RX Preselector Characterisation Test		
		Repeat Tests * Monthly ~
		O1
		- Time * 04:00 AM (S)
	Every 12 / 6 / 3 hours; and	The time at which to conduct the tests.
	Every hour	Every 6 Hours
		04:00 AM
•	Tick " <b>Enable</b> "	
	Note:	
	<ul> <li>When "Enable" i runs the schedu</li> </ul>	s ticked: The Site Vantage saves the testing schedule settings, and led tests accordingly
	<ul> <li>When "Enable" i but it does not re</li> </ul>	s unticked: The Site Vantage saves the testing schedule settings, un any scheduled tests.

5. Click "Save".



## 16.4.6 Cancel All Scheduled RX Preselector Characterisation Tests

To cancel all scheduled RX Preselector Characterisation Tests:

### Cancel All Scheduled RX Preselector Characterisation Tests

1. Access the "RX Preselector Characterisation" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "RX Preselector Characterisation" tab.

2. Click "More...", from the top right-hand side of the screen.

Note: The options of the "More..." menu are inaccessible while a test is in progress.

3. Click "Schedule" from the drop-down menu.

**Result:** The "RX Preselector Characterisation test schedule settings" dialog appears.

- 4. Untick "Enable".
- 5. Click "Save".



# 16.4.7 View RX Preselector Characterisation Test Results

To view the RX preselector characterisation test results obtained:

### View RX Preselector Characterisation Test Results

1. Access the "RX Preselector Characterisation" tab.

Note:

- Refer to section 16.2 for instructions on how to access the "RX Preselector Characterisation tests" tab
- The "Results" section of the "RX Preselector Characterisation tests" tab displays the test results of the test selected in the "Test Instance" and "RX Port" drop-down menus



• The "History" section of the "RX Preselector Characterisation tests" tab displays all test results for a time range, for the selected RX port and test frequencies.



### 2. View Test Results in the "Results" Section

Select the test instance you want to see the test results for. To do this:

a. Click the "Test Instance" drop-down menu, from the top right-hand side of the screen.



View RX I	Preselector Characterisation Test Results	
b. S	Select the test date when the test instance was conducted.	
N	<b>lote:</b> The test date can be typed in or selected by clicking the calendar icon $ar{ar{ar{ar{b}}}}$ .	
c. C	Choose if you want to see all tests, only the successful tests or only the failed tests.	
d. S	Select the test instance you want to see the results for, from the drop-down menu.	
e. C	Click " <b>Select instance</b> ".	
	Test Instance	
l l	Comparison         Compari	
[	b Test Date 28/05/2025	
	All Tests	
[	C Successful Tests	
	General Failed Tests	
	Test instances on 28 May 25	
	d 🛛 Test run - 11:47:39 AM, 28 May 25 👻	
	e Select instance Close	
t. S	f. Select the RX port you want to see the test results for, from the "RX Port" drop-down	
1	RX1 [testRX] Test Now More	
L	RX I [test Now More	
Resul test re	It: The "Results" section of the "RX Preselector Characterisation tests" tab displays the esults of the test instance and RX port selected.	
Note:		
• 1	o close the "Test Instance" drop-down menu without selecting a test instance, click	
	Close .	
• 1	o see more details, click " <b>Test Instance Details</b> " to expand the menu.	
	✓ Test Instance Details	
3. View	a History of Results in the "History" Section	
Selec	t the time range and the ports you want to see the history of results for. To do this:	
a. S	Select the time range you want to see the history for, from the "Time Range" drop-down	
n	nenu:	
	Time Range	
	Last 7 days 🔹	
	i. Select "Last 7 Days", "Last 30 days" or select "Choose custom date range".	



ew RX Pro	eselector Char	acterisation Test	Results			
	Note: When selecting a custom date range, select "Choose custom date range" and					
	type in the sta	rt and end dates or	or select them by clicking the calendar icon $\Box$ .			
	History	Last 7 days				
		🔵 Last 30 days				
	No history found be	O Choose custom date range				
		Start date				
		End date 07/11/2024				
		Cancel	Apply			
ii	Click " <b>Apply</b> "					
		<u>-</u>				
	History	Last 7 days				
		🔵 Last 30 days				
	No history found be	O Choose custom date range				
		Start date				
		End date 07/11/2024				
		Cancel	Apply			
	Note: To close click "Cancel"	e the "Time Range"	drop-down menu wi	thout selecting a time range,		
b. If rec dowr	quired, select the	e RX port(s) you w	ant to see the histor	y for, from the "RX Port" drop-	-	
Time R	ange	RX Port	Test Frequencies (MHz)			
Las	st 7 days	RX1 [testRX]	✓ All	Switch to Table View		
c. If rec the "	quired, select the Test frequencie	e test frequency or s (MHz)" drop-dow	frequencies you wa n menu.	nt to see the history for, from		
Time R	ange	RX Port	Test Frequencies (MHz)			
Las	st 7 days	RX1 [testRX]	✓ All	Switch to Table View		
Note:						
• The	e "Switch to Table View" button displays the history of results in a table format					
Time Ra	ange	RX Port	Test Frequencies (MHz)			
Las	t 7 days	RX1 [testRX]	- All	Switch to Table View		



View RX Preselector Characterisation Test Results				
• After clicking the "Switch to Table View" button, it becomes "Switch to Chart View", which allows the history of results to be displayed again in a chart format.				
Time Range RX Port Test Frequencies (MHz)				
Last 7 days  RX1 [testRX]  All  Switch to Chart View				
4. To read the graph's data points, hover the mouse over the graph area.				
5. To save a graph as an image:				
a. Click " <b>Save as Image</b> " in the graph menu, from the top right-hand side of the graph.				
⊥ 1 B C ½ ₪ Save as Image				
b. Save the image file.				
6. To zoom in on the graph:				
a. Click " <b>Zoom</b> " in the graph menu.				
b. Using the mouse, drag a box over the graph area where you want to zoom in on.				
c. To reset the zoom level, click " <b>Zoom Reset</b> " in the graph menu.				
⊥ 1 1 1 C 1 Zoom Reset				
7. View the graph's data:				
<ul> <li>To view the data the graph is plotting, click "Data View"</li> </ul>				
上 口 日 C Data View				
• To refresh the data displayed, click " <b>Refresh</b> "				
• To close the data window and see the graph again, click "Close".				
To restore the chart to its original view, click "Restore".				
上 古 自 C <u>M ml</u> Restore				
9. Change the graph type:				
• To display a line chart, click "Switch to Line Chart"				
上口口 Switch to Line Chart				
• To display a bar chart, click "Switch to Bar Chart".				



### **View RX Preselector Characterisation Test Results**

```
上 古 臣 〇 <u>小</u> 回
Switch to Bar Chart
```

### Note:

- The graph type displayed by default is a line chart
- The graph type button highlighted in blue indicates the type of graph displayed.



# 16.5 TX Carrier Suppression Test – Measure the Suppression of the TX Signal

# 16.5.1 Test Description – TX Carrier Suppression Test

A TX carrier suppression test uses TX signals generated by the base stations to measure the suppression of the base stations' TX frequencies by the RX subsystem.

The test operates as follows:

1. The user specifies all the TX frequencies to be tested and the maximum time the Site Vantage will wait for the base stations to generate these frequencies

Note:

- Because this test requires TX frequencies generated by the base stations, the Site Vantage will have to wait for the base stations to generate these TX frequencies
- The TX signal suppression can be calculated for as many TX channels as required.
- 2. When the test commences, the Site Vantage starts scanning for the TX frequencies to be tested.
- 3. When a base station generates one of the TX frequencies to be tested, the signal travels through the system as follows:
  - A. The signal travels from the base station to the Antenna Line Coupler (Figure 55).
  - B. The signal travels through the Antenna Line Coupler to:
    - i. The "FWD" port of the Site Vantage, where it is measured by the Site Vantage (Figure 55).
    - ii. The TX antenna, where it is transmitted (Figure 55).
  - C. The signal is received by the RX antenna (Figure 55).
  - D. The signal travels through the RX preselector (Figure 55).

**Note:** The RX preselector is part of the RX subsystem.

- E. The signal is received by the Site Vantage's RX port (Figure 55), where it is measured.
- 4. The Site Vantage calculates the TX signal suppression as the difference between the signal the base station generated (step 3) and the signal that returned to the RX port of the base station (step 6).

Note:

 The signal the base station generated (step 3) has been measured by the Site Vantage's FWD port. The Site Vantage has been calibrated to account for any differences between the base station's TX port and the Site Vantage's FWD port


- The signal that returned to the RX port of the base station (step 6) has been measured by the Site Vantage's RX port. The Site Vantage has been calibrated to account for any differences between the base station's RX port and the Site Vantage's RX port
- Refer to section 8.3.4 for more information on the calibration process.
- 5. Steps 2 to 4 will be repeated until all the specified TX frequencies to be tested have been measured, or until the time the user has allocated for this test finishes. If the base stations have not generated all the required TX frequencies before the time finishes, the test will be marked as incomplete and only the results for the TX frequencies that have been generated by the base stations will be displayed.
- 6. If the test results exceed any of the alarm thresholds specified by the user, the Site Vantage will generate a minor or a major alarm in accordance with the threshold exceeded.

**Note:** In some instances, if the TX signal has been greatly suppressed, the Site Vantage might not be able to measure the signal that is received at its RX port (step 7). Factors that limit the dynamic range of this measurement are:

- The power level at which the TX signal was generated
- The TX losses before the TX antenna
- The loss (isolation) between the TX and RX antennas
- The RX losses before the RX port caused by the RX subsystem (which includes the RX preselector).





Figure 55 – Test Signal Path During a TX Carrier Suppression Test



# **16.5.2** Set Up the TX Carrier Suppression Test(s)

To set up the TX carrier suppression test(s):

Set l	Jp the TX Carrier Suppression Test(s)
1.	Access the "TX Carrier Suppression Tests" tab.
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "TX Carrier Suppression Tests" tab.
2.	Click " <b>More</b> ", from the top right-hand side of the screen.
	Note: The options of the "More" menu are inaccessible while a test is in progress.
3.	Click "Settings" from the drop-down menu.
	More Settings Schedule
	<b>Result:</b> The "TX Carrier Suppression Test Settings" dialogue opens.
	TX Carrier Suppression Test Settings TX Channel (MHz) Enable RX Port Max wait time to wait Alarm Thresholds
	for TX channel activity
	Select Channel   Add Channel
	TX2           Select Channel         Add Channel
	723
	Select Channel
	Close
4.	Select a TX channel from the drop-down menu for which to measure the suppression
	<b>Note:</b> The TX channels are listed in the drop-down menus of their corresponding TX port (i.e. if channel "10" corresponds to the TX2 port, channel "10" will be listed in the TX2 drop-down menu).
	Select Channel         Add Channel           TX1 - 400.200000 MHz [11: Fire 1]         Cice           TX1 - 400.600000 MHz [3: 3]         Add Channel           TX1 - 410.800000 MHz [4: 4]         Add Channel           TX1 - 135.800000 MHz [1: Police Ch1]         TK
	Select Channel
5.	Click "Add channel".



Set L	p the TX Carrier Suppression Test(s)	
	TX1	
	TX1 - 400.200000 MHz [11: Fire 1] × -	
6.	Tick " <b>Enable</b> ".	
	TX Channel (MHz) Enable	
	TX1	
	TX1 - 400.200000 MHz [11: Fire 1] Add Receiver	
7.	Select a receiver (RX) port from the drop-down menu.	
	TX Channel (MHz) Enable RX Port	
	TX1	
	TX1 - 400.200000 MHz [11: Fire 1]         RX1 [testRX] →           Add Receiver         RX1 [testRX] →	
	Select Channel RX1 [testRX]	
	TX2 RX2	
	Select Channel	
	<b>Note:</b> The Site Vantage will calculate the TX suppression the signal generated by the TX channel selected in step 4 the RX port selected in this step.	as the difference between and the signal received in
8.	Type in the "Max. wait time to wait for TX channel activ	vity", in seconds.
	TX Channel (MHz) Enable RX P	ort Max wait time to wait for TX channel activity
	TX1	
	TX1 - 400.200000 MHz [11: Fire 1]	11 [testRX] - 300 sec
	<b>Note:</b> If the base station has not generated the required T finishes, the test will be marked as incomplete and only the frequencies that have been generated by the base station	TX frequency before the time ne results for the TX ns will be displayed.
9.	If required, input the alarm threshold values to trigger a m when the TX suppression results obtained are outside of do so, proceed as follows:	inor and/or a major alarm the indicated thresholds. To
	To input a	Complete text box
	<b>Major lower</b> threshold limit for the TX suppression in dB	A (see screenshot below)
	<b>Minor lower</b> threshold limit for the TX suppression in dB	B (see screenshot below)



Set Up the TX Carrier Suppression Test(s)	
<b>Minor upper</b> threshold limit for the TX suppression in dB	C (see screenshot below)
<b>Major upper</b> threshold limit for the TX suppression in dB	D (see screenshot below)
Note:	
Minor thresholds trigger minor alarms	
The alarm threshold values are optional	
An active alarm:	
<ul> <li>Causes the alarm LED indicator on the front of the Refer to section 2.1.4.1 for more information</li> </ul>	ne Site Vantage to illuminate.
<ul> <li>Can trigger one or several SNMP traps to be ser energised/de-energised. Refer to section 19 for</li> </ul>	nt and/or a relay to be more information.
<ul> <li>Users can decide the meaning of a minor alarm and alarm could be when a measurement indicates that t closely monitored. A major alarm could be when a m the equipment needs to be immediately repaired).</li> </ul>	a major alarm (i.e. a minor he equipment needs to be easurement indicates that
10. Click the menu and click "Save" from the drop-down m	enu.
Save Delete	
<ul><li>11. If you would like to calculate the TX suppression betweer</li><li>4 and another receiver (RX) port:</li></ul>	the channel selected in step
a. Click "Add Receiver".	
<b>Result:</b> A new receiver (RX) port line appears.	
TX Channel (MHz) Enable RX Port Max wait time to wait for TX channel activity	Alarm Thresholds
TX1         TX1 -400.200000 MHz [11: Fire 1]         Image: Comparison of the state of the sta	-90 -85 -20 -15 <b>:</b>



Set	Up th	e TX Carrier Suppressi	on Test	(s)						
	b. Repeat steps 6 to 10 for the new receiver (RX) port.									
	<b>Not</b> cha	e: Up to three receiver (F nnel to be tested.	RX) port	s (RX1	, RX2 and ∣	RX3) ca	n be a	added	for e	each TX
12.	lf it	is required to:								
	•	Edit a receiver (RX) port down menu	line, cli	ck the	• menu ar	nd click '	'Edit"	from	the d	rop-
		TX Channel (MHz)	Enable	RX Port	Max wait time to wait for TX channel activity		Alarm Thre	esholds		
		TX1			•	⊗ ∆		_		8
		TX1 - 400.200000 MHz [11: Fire 1] Add Receiver	$\bigtriangledown$	RX1 [testRX]	300 sec	-90	-85	-20	-15	
			$\bigtriangledown$	RX2	300 sec		-			Edit Delete
			${ \bigtriangledown}$	RX3	300 sec	•			•	
	•	Delete a receiver (RX) p drop-down menu.	ort line,	click t	he • menu	and clic	ck " <b>D</b> e	elete"	from	the
		TX Channel (MHz)	Enable	RX Port	Max wait time to wait for TX channel activity		Alarm Thre	esholds		
		TX1			•	⊗ ∆				8
		TX1 - 400.200000 MHz [11: Fire 1] Add Receiver	$\bigtriangledown$	RX1 [testRX]	300 sec	-90	-85	-20	-15	:
			$\bigtriangledown$	RX2	300 sec					Edit
			$\bigtriangledown$	RX3	300 sec					·
13.	Rep freq	eat step 4 to 12 for all TX uencies by the RX subsy	< chann stem.	els for	which to m	easure	the su	ippres	sion	of their
14.	Clic	k " <b>Close</b> ".								



### **16.5.3 Conduct a TX Carrier Suppression Test**

To conduct a TX carrier suppression test:

**Note:** The TX carrier suppression test(s) must be set up before they can be conducted. Refer to section 16.5.2 for instructions on how to set up TX carrier suppression tests.

Con	duct a TX Carrier Suppression Test	
1.	Access the "TX Carrier Suppression Tests" tal	b.
	<b>Note:</b> Refer to section 16.2 for instructions on h Suppression Tests" tab.	ow to access the "TX Carrier
2.	Click "Test Now", from the top right-hand side o	f the screen.
	Antenna isolation tests RX preselector characterisation TX carrier suppression tests	
	Results	Test Instance  Test run - 04:30:00 AM, 21 Oct 24  Test now More
	Note:	
	• Test results are displayed only after the test	st has been completed
	Once the test begins, the "Test Now" button button. Refer to section 16.5.4 for more infi	n becomes a "Cancel running test" formation.



### 16.5.4 Cancel a TX Carrier Suppression Test in Progress

To cancel a TX carrier suppression test in progress:

**Note:** Refer to section 16.5.3 for instructions on how to conduct a TX carrier suppression test.

Can	cel a TX Carrier Suppression Test in Progress			
1.	Access the "TX Carrier Suppression Tests" tab.			
	<b>Note:</b> Refer to section 16.2 for instructions on how to access the "TX Carrier Suppression Tests" tab.			
2.	Click "Cancel running test".			
	Cancel running test			
	Note: Test results are displayed only after the test has been completed.			



## 16.5.5 Schedule a TX Carrier Suppression Test

To schedule TX Carrier Suppression Tests to run daily, weekly or monthly:

### Schedule a TX Carrier Suppression Test

1. Access the "TX Carrier Suppression Tests" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "TX Carrier Suppression Tests" tab.

2. Click "More...", from the top right-hand side of the screen.

Note: The options of the "More..." menu are inaccessible while a test is in progress.

3. Click "Schedule" from the drop-down menu.

More
Settings
Schedule

Result: The "TX Carrier Suppression Test Schedule Settings" dialog appears.

4. Complete the "TX Carrier Suppression Test Schedule Settings" dialog with the following required information:

Note: Fields with an asterisk in the GUI and in red below are required.

- **Repeat tests field** (required): select the frequency at which the Site Vantage will conduct the TX carrier suppression tests. The options are:
  - Daily: To conduct the tests every day at a specific time
  - Weekly: To conduct the tests every week, on specific days, at a specific time
  - **Monthly:** To conduct the tests every month, on a specific day of the month, at a specific time
  - Hourly: To conduct the tests every specified number of hours.
- **Time / Weekdays / Date fields** (required): provide more information on the testing frequency. Proceed as follows:

If the selected test frequency is	Then select
Daily	The time at which to conduct the tests.
	Note: The time can be typed in or selected by clicking the clock icon $^{\textcircled{O}}$ .
	Repeat Tests * Daily Time * Od:00 AM
	04.00 AM



Schedule a TX Carrier Supp	pression Test
Weekly	<ul> <li>The days of the week on which to conduct the tests, from the drop-down menu</li> <li>Note: Tick as many days as required.</li> <li>Weekdays*</li> <li>All</li> <li>Sunday</li> <li>Monday</li> <li>Tuesday</li> <li>Wednesday</li> <li>Thursday</li> <li>Friday</li> <li>Saturday</li> <li>The time at which to conduct the tests.</li> <li>Note: The time can be typed in or selected by clicking the clock icon ①.</li> <li>Repeat Tests*</li> <li>Weekdays*</li> <li>Weekdays*</li> <li>Weekdays*</li> <li>Time*</li> <li>Time*</li> </ul>
Monthly	<ul> <li>The day of the month on which to conduct the tests Note: The day can be typed in or selected by clicking the calendar icon . </li> <li> Repeat Tests* Monthly Date* Date* Date* Date* Od:00 AM </li> <li> The time at which to conduct the tests. Note: The time can be typed in or selected by clicking the clock icon .</li></ul>



Schedule a	TX Carrier Suppre	ession Test
		Repeat Tests *
		Date*
		- Time *
Ev ho	very 12 / 6 / 3 ours; and very hour	The time at which to conduct the tests.       Repeat Tests*      Every 6 Hours      Time*      04:00 AM
• Tic	k " <b>Enable</b> "	
No	te:	
-	When "Enable" is runs the schedule	ticked: The Site Vantage saves the testing schedule settings, and d tests accordingly
_	When "Enable" is but it does not run	unticked: The Site Vantage saves the testing schedule settings, any scheduled tests.
5. Click "S	ave".	



### 16.5.6 Cancel All Scheduled TX Carrier Suppression Tests

To cancel all scheduled TX Carrier Suppression Tests:

### Cancel All Scheduled TX Carrier Suppression Test

1. Access the "TX Carrier Suppression Tests" tab.

**Note:** Refer to section 16.2 for instructions on how to access the "TX Carrier Suppression Tests" tab.

2. Click "More...", from the top right-hand side of the screen.

Note: The options of the "More..." menu are inaccessible while a test is in progress.

3. Click "Schedule" from the drop-down menu.

**Result:** The "TX Carrier Suppression Test Schedule Settings" dialog appears.

- 4. Untick "Enable".
- 5. Click "Save".



### 16.5.7 View TX Carrier Suppression Test Results

To view the TX carrier suppression test results obtained:

#### View TX Carrier Suppression Test Results

1. Access the "TX Carrier Suppression Tests" tab.

Note:

- Refer to section 16.2 for instructions on how to access the "TX Carrier Suppression Tests" tab
- The "Results" section of the "TX Carrier Suppression Tests" tab displays the test results of the test selected in the "Test Instance" drop-down menu

9	Antenna Isolation	Tests RX Preselector Characterisation	TX Carrier Suppression Tes	sts		
Г	Results				Test Instance Test run - 04:53:31 PM, 03 Ma	r 25 - Test Now More
					Receiver	
	TX Channel		RX1 [testRX]		RX2	RX3
¥	400.000000 MH	2				· ·
TX2						
TX3					•	· ·
	✓ Test Instance	e Details Success				
	Start Time : Duration : Triggered by :	04:53:31 PM, 03 Mar 25 12 sec admin				
	History			Time Range	RX Ports	TX Channels
	Thistory			Last 7 days 👻	*	*
	No history	found between 12:00:00 AM, 21 May 25 - 11:59	9:59 PM, 28 May 25			

• The "History" section of the "TX Carrier Suppression Tests" tab displays all test results for a time range, for the selected TX and RX ports.

				Test Instance			
	Results			Test run - 04:53:3	1 PM, 03 Mar 25 - Test Now		
				Receiver			
	TX Channel	RX1 [testRX]		RX2	RX3		
ž	400.000000 MHz						
TX2				•			
TX3							
	V Test Instance Details 🔗 Success						
	Start Time     :     04:53:31 PM, 03 Mar 25       Duration     :     12 sec       Triggered by     :     admin						
	History		Time Range	RX Ports	TX Channels		
	i notory		Last 7 days	•	*		
	No history found between 12:00:00 A	M, 21 May 25 - 11:59:59 PM, 28 May 25					



#### View TX Carrier Suppression Test Results

#### 2. View Test Results in the "Results" Section

Select the test instance you want to see the test results for. To do this:

- a. Click the "Test Instance" drop-down menu, from the top right-hand side of the screen.
- b. Select the test date when the test instance was conducted.

Note: The test date can be typed in or selected by clicking the calendar icon  $\square$ .

- c. Choose if you want to see all tests, only the successful tests or only the failed tests.
- d. Select the test instance you want to see the results for, from the drop-down menu.
- e. Click "Select instance".

	Test Instance						
а	😆 Test run - 11:47:39 AM, 28 May 25 🔺						
Ь	Test Date 28/05/2025						
c	All Tests     Successful Tests     Failed Tests						
	Test instances on 28 May 25						
d	8 Test run - 11:47:39 AM, 28 May 25 👻						
е	Select instance Close						

**Result:** The "Results" section of the "TX Carrier Suppression Tests" tab displays the test results of the test instance selected.

#### Note:

- To close the "Test Instance" drop-down menu without selecting a test instance, click "Close"
- To see more details, click "Test Instance Details" to expand the menu.



#### 3. View a History of Results in the "History" Section

Select the time range and the ports you want to see the history of results for. To do this:

a. Select the time range you want to see the history for, from the "Time Range" drop-down menu:

Time Range	
Last 7 davs	,

iii. Select "Last 7 Days", "Last 30 days" or select "Choose custom date range".

**Note:** When selecting a custom date range, select "Choose custom date range" and type in the start and end dates or select them by clicking the calendar icon  $\Box$ .



View TX Car	rier Suppressi	on Test Results
	History No history found be	<ul> <li>Last 7 days</li> <li>Last 30 days</li> <li>Choose custom date range</li> <li>Start date</li> <li>31/10/2024</li> <li>End date</li> <li>07/11/2024</li> <li>Cancel Apply</li> </ul>
iv.	Click "Apply".	
	History	Last 7 days
	No history found be	Choose custom date range
		Cancel Apply
	Note: To close click "Cancel".	the "Time Range" drop-down menu without selecting a time range,
b. If red dow	quired, select tl n menu.	he RX port you want to see the history for, from the "RX Ports" drop-
RX Por	ts	
		TV shappel you want to good the history for from the "TV
C. II Tei Cha	nnels" drop-dov	wn menu.
TX Cha	nnels	•
4. To read th	he graph's data	a points, hover the mouse over the graph area.
5. To save a	a graph as an ir	nage:
a. C	lick " <b>Save as Ir</b>	<b>mage</b> " in the graph menu, from the top right-hand side of the graph.
[	⊥ 1 1 1 C Save as Image	
b. Sa	ave the image	file.



Vie	w TX Carrier Suppression Test Results
6.	To zoom in on the graph:
	a. Click " <b>Zoom</b> " in the graph menu.
	b. Using the mouse, drag a box over the graph area where you want to zoom in on.
	c. To reset the zoom level, click "Zoom Reset" in the graph menu.
	上 古 目 C ┶ 페 Zoom Reset
7.	View the graph's data:
	• To view the data the graph is plotting, click "Data View"
	上口口 Data View
	• To refresh the data displayed, click "Refresh"
	• To close the data window and see the graph again, click "Close".
8.	To restore the chart to its original view, click "Restore".
	上 古 D D M M M M M M M M M M M M M M M M M
9.	Change the graph type:
	• To display a line chart, click "Switch to Line Chart"
	上 1 1 1 1 ○ <u>小</u> 皿 Switch to Line Chart
	• To display a bar chart, click "Switch to Bar Chart".
	上 古 自 O <u>小 皿</u> Switch to Bar Chart
	Note:
	The graph type displayed by default is a line chart
	• The graph type button highlighted in blue indicates the type of graph displayed.



# 17 External Inputs Screen – Monitor External Inputs

### **17.1 Background Information – External Inputs**

The "External Inputs" screen manages the external inputs monitored by the Site Vantage, connected to the Site Vantage or to one or several SAMs. It allows users to:

- Add and manage external inputs
- Review the status of the external inputs
- Set alarm thresholds for the external inputs.

The external inputs monitored by the Site Vantage and managed through the "External Inputs" screen allow users to monitor site conditions such as ambient temperature, battery voltages, site access doors, etc., ensuring the RF site operates as intended.

After setting alarm thresholds for the external inputs, the Site Vantage can notify operators if the alarms are triggered, allowing operators to immediately correct any undesired site condition.

### Note:

- The external inputs are optional
- The external inputs can be connected either before or after configuring them using the GUI
- The Site Vantage has four external inputs, which monitor site conditions. The first external input is to connect a temperature probe. The other three external inputs are general-purpose inputs, which can be digital or analogue
- The number of external inputs can be increased by connecting SAMs. Refer to section 2.3 for more information
- The external inputs are connected to the Site Vantage using the rear "INPUTS / OUTPUTS" connector and the mating connector.
  - Refer to section 2.1.4.7 for information on the "INPUTS / OUTPUTS" connector
  - Refer to section 2.1.4.8 for information on the mating connector, including how to set it up.



Figure 56 - "INPUTS / OUTPUTS" Connector on the Rear of the Site Vantage



#### "External Inputs" Screen Tabs

The "External Inputs" screen has two tabs:

- **Tab 1 Live status:** Displays the current measurements/status of the external inputs. Figure 58 and Table 47 below describe the actions the user can make within the tab
- **Tab 2 History:** Displays the historical measurements/status of the external inputs. Figure 59 and Table 48 below describe the actions the user can make within the tab
- **Tab 3 Alarm profiles:** Displays the alarm thresholds set for the external inputs. Figure 60 and Table 49 below describe the actions the user can make within the tab.

Note:

- Analogue external inputs are grouped and displayed at the top of the screen, before the digital external inputs (Figure 57)
- Digital external inputs are grouped and displayed below the analogue external inputs (Figure 57).

	Live Status History Alarm Profiles							
Ana	alogue External Inputs				Thre	sholds		
	ID 🔺	Name	Function	•••••••	▲		<u>A</u> <u>O</u>	•
ooard	in2	analog tst2	Analog Voltage	•		26.0V	30.0V	:
-uo	temp1	temp1	Temperature	•		•	•	:
QW	ai1	ai1	Temperature	•	•	•	•	:
SA	ai3	ai3	Analog Voltage	•		•	•	:
SAM4	ai2	4-ai2	Analog Voltage		•	•	•	:
6W	ai1	9-ai1	Analog Voltage	•	•	•	•	:
SA	ai4	9-ai4	Analog Voltage		•	•	•	:
Dig	ital External Inputs							
	ID 🔺	Name	Function			Alarm Severit	ty	
board	in1	ON_BOARD: IN1	Digital Input			No Alarm	~	:
-uo	in3	dgtl tst 3	Digital Input			No Alarm	~	:
SAM4	di4	4-di4	Digital Input			No Alarm	÷	:

Figure 57 – Analogue and Digital External Inputs Grouped on the Alarm Profiles Tab



		2			[	5		
RFI		Live Status Histo	Alarm Profiles		Filter by All	*	+ Add External Input	3
SITE VAR		ID 🔺	Name	Function	Last Value	Status		
88 Dashboard		in1	ON_BOARD: IN1	Digital Input	Inactive	Enabled	÷+-	4
TX Monitor	P	in2	analog tst2	Analog Voltage	18.7 V	Enabled	I	
🕑 RX Monitor	On-bo	in3	dgti tst 3	Digital Input	Inactive	Enabled	:	
Adjacent Sites		temp1	temp1	Temperature	27.4 °C	Enabled	i	
External inputs	OW	ai1	ai1	Temperature	27.1 °C	Enabled	I	
Alarms	3	ai3	ai3	Analog Voltage	22.3 V	Enabled	:	
Calibration	M4	ai2	4-ai2	Analog Voltage	20.3 V	Enabled	I	
0 Settings	75	di4	4-di4	Digital Input	Active	Enabled	:	
	AM9	ail	9-ai1	Analog Voltage	19.7 V	Enabled	÷	
	~	ai4	9-ai4	Analog Voltage	22.3 V	Enabled	:	
[→ Logout								

### Tab 1 – Live Status ("External Inputs" Screen)

Figure 58 – Functions of the Live Status Tab ("External Inputs" Screen)

Live Status Tab User Actions ("External Inputs" Screen)	ld (Figure 58)	Instructions
Access the "External Inputs" screen	1	Section 17.2
Access the "Live Status" tab	2	Section 17.2
Add external inputs to monitor	3	Section 17.3
Edit the information of an external input	4	Section 17.4
Disable and re-enable an external input	4	Section 17.5
Delete an external input	4	Section 17.6
Filter external inputs	5	Section 17.10
Sort the external inputs' data	6	Section 17.11

Table 47 – Functions of the Live Status Tab ("External Inputs" Screen)







Figure 59 – Functions of the History Tab ("External Inputs" Screen)

History Tab User Actions ("External Inputs" Screen)	Id (Figure 59)	Instructions
Access the "External Inputs" screen	1	Section 17.2
Access the "History" tab	2	Section 17.2
View the data of one or more external inputs	3	Section 17.9
Save a graph as an image	4	Section 17.9
Zoom in on a graph	4	Section 17.9
Reset the zoom level	4	Section 17.9
View the graph's data	4	Section 17.9
Restore the chart to its original view	4	Section 17.9
Sort the external inputs' data	5	Section 17.11

Table 48 – Functions of the History Tab ("External Inputs" Screen)



				2	]								
			Live Status History	Alarm Prof	iles				Thre	sholds			
	88 Dashboard 6		ID 🔺	Name	•	Function		<u> </u>	Δ		△ ⊘	•	
	TX Monitor	poard	in2	analo	ig tst2	Analog Vol	tage	•	•	26.0V	30.0V	÷	- 3
	C RX Monitor	-eo	temp1	temp	1	Temperatu	re	•	•	•	•	:	
_	A RF Tests	ę	ai1	ai1		Temperatu	re	•	•	•	•	:	
	External Inputs	SAI	ai3	ai3		Analog Vol	tage	•	•	•	•	:	
	Alarms	SAM4	ai2	4-ai2		Analog Vol	tage	•	•	•	•	:	
	Calibration		ai1	9-ai1		Analog Vol	tage					:	
	🚺 Settings	SAMS	ai4	9-ai4		Analog Vol	tage	•	•	•	•	:	
			ID 🔺		Name		Function			Alarm Se	verity		
		board	in1		ON_BOARD: IN1		Digital Input			No Alar	m ~	:	- 4
		-uo	in3		dgtl tst 3		Digital Input			No Alar	m -	:	
		SAM4	di4		4-di4		Digital Input			No Alar	m -	:	
										5	٦		
	[→ Logout									Ľ			

### Tab 3 – Alarm Profiles ("External Inputs" Screen)

Figure 60 – Functions of the Alarm Profiles Tab ("External Inputs" Screen)

Alarm Profiles Tab User Actions ("External Inputs" Screen)	Id (Figure 60)	Instructions
Access the "External Inputs" screen	1	Section 17.2
Access the "Alarm Profiles" tab	2	Section 17.2
Set alarm thresholds for the monitored analogue external inputs	3	Section 17.7
Set alarm thresholds for the monitored digital external inputs	4	Section 17.7
Select the alarm severity for the monitored digital external inputs	5	Section 17.7
Sort the external inputs' data	6	Section 17.11

Table 49 – Functions of the Alarm Profiles Tab ("External Inputs" Screen)



### 17.2 Access the External Inputs Screen

To access the "External Inputs" screen:

Acce	Access the External Inputs Screen						
1.	Access the Site Vantage's GUI.						
	Note: Refer to section 10.1 for instructions on how to access the GUI.						
2.	Click "External Inputs", from the main menu on the left-hand side of the screen.						
	Result: The "Live Status" tab of the "External Inputs" screen appears.						
3.	Proceed as follows:						
	To access the Click						
	"Live Status" tab	"Live Status", from the top of the screen.					
		<b>Note:</b> The "Live Status" tab is displayed by default when accessing the "External Inputs" screen.					
	"History" tab "History", from the top of the screen.						
	"Alarm Profiles" tab	"Alarm Profiles", from the top of the screen.					



## 17.3 Add External Inputs to Monitor

To add external inputs for the Site Vantage to monitor:

Add	l External I	nputs to Monitor							
1.	On any of the external inputs screen's tabs, click " <b>+ Add External Input</b> ", from the top right-hand side of the screen.								
	Live Status Histo	Alarm Profiles		Filter by All	✓ + Add Ext	ternal input			
	ID 🔺	Name	Function	Last Value	Status				
	in1	ON_BOARD: IN1	Digital Input	Active	Enabled	÷			
	<b>Note:</b> The "+ Add External Input" button appears on all the external inputs screen's tabs. Refer to section 17.2 for information on how to access them. <b>Result:</b> The "Add External Input" dialog appears.								



ſ	2.	Cor	nplete the "Add External Input" dialog:
		•	Hardware module field (required): Select from the drop-down menu the hardware module to which the external input to be added has been connected. The options are:
			<ul> <li>On-board: Select on-board if the external input has been connected to the Site Vantage</li> </ul>
			<ul> <li>Site alarm module 0-9: Select the SAM where the external input has been connected.</li> </ul>
			<b>Note:</b> Each SAM has a unique ID, which is selected using the rotary switch on its rear. Refer to section 2.3.3 for more information.
		•	Line ID field (required): Select from the drop-down menu the ID of the input port where the external input has been connected.
			If the external input has been connected to the Site Vantage, the options are:
			<ul> <li>temp1: If the external input is a temperature probe</li> </ul>
			<ul> <li>in1-3: For all other external inputs.</li> </ul>
			If the external input has been connected to a SAM, the options are:
			<ul> <li>ai1-4: If the external input has been connected to one of the four "general purpose" inputs</li> </ul>
			<ul> <li>di1-10: If the external input has been connected to one of the 10 digital inputs.</li> </ul>
		•	Name field (required): Enter a name for the external input
		•	<b>Function field</b> (required): Select from the drop-down menu the type of external input. The options are:
			<ul> <li>Digital input: If the external input is digital, also select from the drop-down menu its polarity</li> </ul>
			Function *       Digital Input       Image: Second se
			<ul> <li>Analog input: If the external input is analog, also select from the drop-down menu its range</li> </ul>
			Function *
			- Temperature.
		•	Enabled field (optional):
			<ul> <li>If ticked: The Site Vantage will list the external input and display its live information</li> </ul>

- **If unticked:** The Site Vantage will list the external input, but it will not display its live information.



Add External Inputs to Monitor				
<b>Note:</b> Fields with an asterisk in the GUI and in red below are required.				
Add External Input				
Hardware Module *				
Line ID *				
Name				
Function *       Digital Input   Polarity *				
Enabled				
Cancel Add				
3. Click "Add".				
4. Repeat steps 1 to 3 for all external inputs to be monitored.				



# **17.4 Edit the Information of an External Input**

To edit the information of a monitored external input:

Edit	Edit the Information of an External Input								
1.	On the "Li	On the "Live Status" tab, click the • menu icon of the external input to be edited.							
	ID 🔺	Name	Function	Last Value	Status				
	in1	ON_BOARD: IN1	Digital Input	Inactive	Enabled	1			
	Note: Ref the "Exter	er to section 17.2 nal Inputs" scree	? for information on า.	how to access	s the "Live Status	s" tab of			
2.	Click "Edi	t Settings" from t	he drop-down mer	าน.					
	Edit settin	as							
	Lattoettin	90							
	Disable								
	Delete								
	Result: The "Edit External Input" dialog appears.								
3.	Edit the required fields.								
	<b>Note:</b> The Input" dial	e "Edit External In og. For more info	put" dialog contain rmation on these f	s the same fiel ields, refer to s	ds as the "Add E ection 17.3 step	External 2.			
4.	Click "Sav	/e".							



## **17.5 Disable and Re-Enable an External Input**

# 17.5.1 Disable an External Input

To disable a monitored external input:

Disa	Disable an External Input					
1.	On the "Liv	ve Status" tab, cli	ck the	: m	nenu icon of the external input to be disabled.	
	ID 🔺	Name ON_BOARD: IN1	Function Digital Inpu	ıt	Last Value Status Inactive Enabled	
	Note: Refe the "Extern	er to section 17.2 nal Inputs" screer	for inf	orma	ation on how to access the "Live Status" tab of	
2.	Proceed a	s follows:				
	To disab	le an external in	put	The	en	
	Using the	e drop-down men	u	a.	Click "Disable" from the drop-down menu.	
					Edit settings	
					Disable	
					Delete	
				b.	Click "Disable" when prompted.	
	Using the dialog	e "Edit Settings"		a.	Click "Edit Settings" from the drop-down	
	alaiog				Edit settings	
					Disable	
					Delete	
				b.	Untick "Enabled".	
				C.	Click " <b>Save</b> ".	
	Result: Th will not dis	ne external input i play its live inforr	s now nation.	disa	abled. The Site Vantage will list the input, but it	



## 17.5.2 Re-Enable an External Input

To re-enable an external input:

Re-E	Re-Enable an External Input						
1.	On the "Live Status" tab, click the	• menu icon of the external input to be re-enabled.					
	ID         Name         Function           in1         ON_BOARD: IN1         Digital Input	Last Value Status tt - Disabled					
	<b>Note:</b> Refer to section 17.2 for inf the "External Inputs" screen.	formation on how to access the "Live Status" tab of					
2.	Proceed as follows:						
	To re-enable an external input	Then					
	Using the drop-down menu	a. Click "Enable" from the drop-down menu.					
		Edit settings					
		Enable					
		Delete					
		b. Click "Enable" when prompted.					
	Using the "Edit Settings" dialog	a. Click " <b>Edit Settings</b> " from the drop-down menu.					
		Edit settings					
		Disable					
		Delete					
		b. Tick " <b>Enabled</b> ".					
		c. Click " <b>Save</b> ".					
	<b>Result:</b> The external input is now display its live information.	enabled. The Site Vantage will list the input and					



## 17.6 Delete an External Input

To delete a monitored external input:

Dele	Delete an External Input						
3.	On the "Liv	ve Status" tat	o, click the • me	nu icon of the exter	nal input to	be deleted.	
	ID 🔺	Name	Function	Last Value	Status		
	in1	ON_BOARD: IN1	Digital Input	Inactive	Enabled	1	
	Note: Refe the "Exterr	er to section nal Inputs" sc	17.2 for informati reen.	on on how to acces	ss the "Live	Status" tab of	
4.	Click "Dele	ete" from the	drop-down menu	I.			
	Edit setting	js					
	Disable						
	Delete						
5.	Click "Delete" when prompted.						
	Delete External Input?						
	Are you sure you want to delete this external input?						
Cancel							



### **17.7 Set Alarm Thresholds for the Monitored External Inputs**

If required, set alarm thresholds for one or more monitored external inputs:

#### Note:

- A minor/major alarm is triggered and becomes active when a measurement falls outside the set minor/major alarm thresholds for that measurement
- An active alarm:
  - Causes the alarm LED indicator on the front of the Site Vantage to illuminate. Refer to section 2.1.4.1 for more information
  - Can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.
- Users can decide the meaning of a minor alarm and a major alarm.

### Example:

- A minor alarm could be when a measurement indicates that the equipment needs to be closely monitored
- A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired.

### Set Alarm Thresholds for the Monitored External Inputs

1. Access the "Alarm Profiles" tab.

**Note:** Refer to section 17.2 for information on how to access the "Alarm Profiles" tab of the "External Inputs" screen.

#### 2.

Click the [•] menu icon corresponding to the external input you want to set alarm thresholds for.

### Note:

- The external input can either be analogue or digital
- Analogue external inputs are grouped and displayed at the top of the screen, before the digital external inputs (Figure 57)
- Digital external inputs are grouped and displayed below the analogue external inputs (Figure 57).

### Analogue External Inputs

						Thres	holds		
	ID 🔺	Name	Function	•	 4	_		<u> </u>	•
board	in2	analog tat2	Analog Voltage		•		26.0V	30.0V	:
ő	temp1	temp1	Temperature		•				:
Di	igital External Input	ts							
ID	•	Name	Function			Ala	rm Severity		



#### Set Alarm Thresholds for the Monitored External Inputs

3. Click "Edit Settings" from the drop-down menu.

Edit settings

#### 4. Proceed as follows:

#### • If the external input is analogue:

Input the alarm threshold values for the analogue external inputs as follows:

To input a	Complete text box
<b>Major lower</b> threshold limit for the analogue external input	A (see screenshot below)
<b>Minor lower</b> threshold limit for the analogue external input	B (see screenshot below)
<b>Minor upper</b> threshold limit for the analogue external input	C (see screenshot below)
<b>Major upper</b> threshold limit for the analogue external input	D (see screenshot below)

#### Note:

- Major thresholds trigger major alarms
- Minor thresholds trigger minor alarms
- All thresholds are optional.



• If the external input is digital:

Select from the drop-down menu the alarm response. The options are:

- No alarm: The digital input will not trigger an alarm
- **Minor:** The digital input will trigger a minor alarm
- **Major:** The digital input will trigger a major alarm.



Set	Set Alarm Thresholds for the Monitored External Inputs					
	Alarm Severity					
	No Alarm					
	No Alarm					
	Minor					
	Major					
5.	<ul> <li>Click the menu icon and click "Save" from the drop-down menu.</li> <li>Note: To reset the alarm threshold values, click the menu icon and click "Reset" from the drop-down menu.</li> </ul>					
6.	Repeat steps 3 to 5 for all ext	ernal inputs you want to set alarm thresholds for.				



### 17.8 View External Inputs' Live Data

### Note:

- The "Live Status" tab shows the current measurements/status of the external inputs
- To view the entire data history of the external inputs, refer to section 17.9.

To view the external inputs' live data:

<b>View</b> 1.	<b>/ External</b> On the "L displayed	Inputs' Live Data ive Status" tab, for	each external input	t, the current m	neasurement/statu	s is		
	ID	Name 👻	Function	Last Value	Status			
	temp1	temp1	Temperature	25.9 °C	Enabled	:		
	in1	ON_BOARD: IN1	Digital Input	Inactive	Enabled	i		
	Refer to section 17.2 for information on how to access the "Live Status" tab of the "External Inputs" screen.							



### **17.9 View External Inputs' Historical Data**

To view external inputs' historical data:

**Note:** This allows to view the entire data history of the external inputs. To view only the current measurements/status, refer to section 17.8.

View External Inputs' Historical Data						
1.	Access the "History"	tab.				
	<b>Result:</b> For the first external input of the list, a graph of measurements/status against time appears, displaying the last 24 hours of data.					
	<b>Note:</b> Refer to section 17.2 for information on how to access the "History" tab of the "External Inputs" screen.					
2.	To view the data of a	nother externa	al input on the list:			
	a. Tick the tick b	ox of the requ	uired external input.			
	<b>i</b> n1	ON_BOARD:IN1 Digital Input				
	in2	analog tst2 Analog Voltage				
	<b>Result:</b> The date external input a	ta of the first e re displayed si	external input of the list and the data of the required simultaneously.			
b. Untick the tick box of the first external input of the list.						
	in1	Digital Input				
	<b>i</b> n2	analog tst2 Analog Voltage				
	Result: Only the dat	a of the ticked	l external input is displayed.			
3.	To view the data of o inputs you want to vi	ne or more ex ew the data fo	kternal inputs, select the tick boxes of all the external or.			
	ID	Name				
	<b>i</b> n1	<b>dgti tst 1</b> Digital input				
	<b>i</b> n2	analog tst2 Analog voltage				
	<b>i</b> n3	dgtl tst 3 Digital input				
	temp1	<b>temp1</b> Temperature				
	<b>Result:</b> Graphs of m inputs, displaying the	easurements/s e last 24 hours	/status against time appear, for all ticked external s of data.			







# **17.10Filter External Inputs**

To filter external inputs, allowing you to visualise only the external inputs you want and hide the rest:

Filter External Inputs					
1.	On the "Live Status" tab, click	the "Filter by" drop-down menu.			
	Filter by All	~			
	<b>Note:</b> Refer to section 17.2 fo the "External Inputs" screen.	r information on how to access the "Live Status" tab of			
<b>Result:</b> The filter menu appears, with the available filters grouped into two section "Chassis" and "Monitored".					
2.	Tick one or several filters from filter the external inputs displa	n one or several sections ("Chassis" and "Monitored") to yed in the "External Inputs" screen.			
	Note:				
	• Several filters can be com	bined to further refine the external inputs displayed			
	• The two sections allow to	filter data in the following manner:			
	<ul> <li>"Chassis" section: F connected to the Site</li> </ul>	Filters external inputs based on whether they have been Vantage or to a SAM			
	<ul> <li>"Monitored" section monitored" status.</li> </ul>	: Filters external inputs by "Monitored" and "Not			
3.	To remove filters, proceed as	follows:			
	To remove	Then			
	All filters (i.e. to display all	Click "All" on the filter menu.			
	external inputs)	Filter by All			
		Result: All external inputs are visible.			
	Selected filters	Untick the filters to be removed from the filter menu.			
	L				


# 17.11Sort the External Inputs' Data

To sort the external inputs' data, allowing you visualise the data in a desired order: **Note**:

- Data is sorted by clicking some of the headers (refer to steps 1 to 3 below)
- Clicking the header once, sorts the data in ascending order
- Clicking the header twice, sorts the data in descending order
- Subsequent clicks will alternate between ascending and descending order
- Table 50 below explains the meaning of the icons used to sort the data:

lcon		Indicates
	Arrow up	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in ascending order.</li> </ul>
•	Arrow down	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in descending order.</li> </ul>

 Table 50 – Data Sorting Icons ("External Inputs" Screen)

#### Sort External Inputs' Data

### 1. Live Status Tab

On the "Live Status" tab, click the headers "**ID**", "**Name**" or "**Function**" to sort the external inputs' data according to the header clicked.

	ID 🔺	Name	Function
On-board	in1	ON_BOARD: IN1	Digital Input
	in2	analog tst2	Analog Voltage
	in3	dgtl tst 3	Digital Input

**Note:** Refer to section 17.2 for information on how to access the "Live Status" tab of the "External Inputs" screen.

## 2. History Tab

On the "History" tab, click the headers "**ID**" or "**Name**" to sort the external inputs' data according to the header clicked.

ID	Name
<b>i</b> n1	<b>dgtl tst 1</b> Digital input

**Note:** Refer to section 17.2 for information on how to access the "History" tab of the "External Inputs" screen.



### Sort External Inputs' Data

### 3. Alarm Profiles Tab

On the "Alarm Profiles" tab, click the headers "**ID**", "**Name**" or "**Function**" to sort the external inputs' data according to the header clicked.

	ID 🔺	Name	Function
	in1	ON_BOARD: IN1	Digital Input
board	in2	analog tst2	Analog Voltage
q-n0	in3	dgtl tst 3	Digital Input

**Note:** Refer to section 17.2 for information on how to access the "Alarm Profiles" tab of the "External Inputs" screen.



# 18 Alarms Screen – View Alarm Information

# **18.1 Background Information – Alarms**

The "Alarms" screen allows users to:

- View the alarms currently active, to quickly identify any potential faults at the RF site
- View the history of past alarms, to understand the performance of the RF site over time.

## Alarm Thresholds

An alarm is triggered and becomes active when a measurement falls outside the set alarm thresholds for that measurement. The alarm thresholds are defined in:

Alarm Thresholds for	Defined in
TX channels	Section 13.6
Composite RF power	Section 14.7
RX channels	Section 14.7
Adjacent site control channels	Section 15.6
Antenna isolation tests	Section 16.3.2
RX preselector characterisation tests	Section 16.4.2
TX carrier suppression tests	Section 16.5.2
External inputs	Section 17.7

Table 51 – User Manual Sections where Alarm Thresholds are Defined

**Note:** In addition to the alarm thresholds listed in Table 51 above, a minor alarm will be triggered and become active when the Site Vantage's internal coin battery voltage falls below a threshold level. Refer to section 2.1.5 for information on the internal coin battery.



## Alarm Types

There are two types of alarms:

- **Major alarms:** Major alarms become active when a measurement falls outside a major threshold (Figure 61)
- **Minor alarms:** Minor alarms become active when a measurement falls outside a minor threshold (Figure 61)
- Users can decide the meaning of a minor alarm and a major alarm.

#### Example:

- A minor alarm could be when a measurement indicates that the equipment needs to be closely monitored
- A major alarm could be when a measurement indicates that the equipment needs to be immediately repaired.



Figure 61 – Major and Minor Thresholds

## Alarm LED Indicator

When an alarm becomes active, the alarm LED indicator on the front of the Site Vantage will illuminate. Refer to section 2.1.4.1 for more information on what the different light patterns of the alarm LED indicate.

## Notifications (SNMP Traps and Relays)

An active alarm can trigger one or several SNMP traps to be sent and/or a relay to be energised/de-energised. Refer to section 19 for more information.

#### "Alarms" Screen Button

When one or several internal alarms are active, the "Alarms" screen button will indicate the number of active alarms.





## "Alarms" Screen Tabs

The "Alarms" screen has two tabs:

- **Tab 1 Active alarms:** Displays the alarms currently active. Figure 62 and Table 52 below describe the actions the user can make within the tab
- **Tab 2 Alarm history:** Displays the history of past alarms. Figure 63 and Table 53 below describe the actions the user can make within the tab.







Figure 62 – Functions of the Active Alarms Tab ("Alarms" Screen)

Active Alarms Tab User Actions ("Alarms" Screen)	Id (Figure 62)	Instructions
Access the "Alarms" screen	1	Section 18.2
Access the "Active Alarms" tab	2	Section 18.2
Use the page options	3	Section 18.2
Filter alarms	4	Section 18.4
Sort the alarms' data	5	Section 18.5

Table 52 – Functions of the Active Alarms Tab ("Alarms" Screen)







Figure 63 – Functions of the Alarm History Tab ("Alarms" Screen)

Alarm History Tab User Actions ("Alarms" Screen)	Id (Figure 63)	Instructions
Access the "Alarms" screen	1	Section 18.2
Access the "Alarm History" tab	2	Section 18.2
Use the page options	3	Section 18.2
Change the period displayed	4	Section 18.3
Filter alarms	5	Section 18.4
Sort the alarms' data	6	Section 18.5

Table 53 – Functions of the Alarm History Tab ("Alarms" Screen)



## 18.2 Access the Alarms Screen

To access the "Alarms" screen:

## Access the Alarms Screen 1. Access the Site Vantage's GUI. Note: Refer to section 10.1 for instructions on how to access the GUI. 2. Click "Alarms", from the main menu on the left-hand side of the screen. Result: The "Active Alarms" tab of the "Alarms" screen appears. 3. Proceed as follows: To access the Click "Active Alarms" tab "Active Alarms", from the top of the screen. **Note:** The "Active Alarms" tab is displayed by default when accessing the "Alarms" screen. "Alarm History" tab "Alarm History", from the top of the screen. Note: On either the "Active Alarms" or the "Alarm History" tab, to change how many alarms are displayed per page or to navigate between pages, click the corresponding icons from the bottom right-hand side of the screen. Rows per page: 10 👻 1-2 of 2 < >



# 18.3 Change the Period Displayed

To change the period displayed:

Change the Period Displayed				
1. On the "Alarm History" tab, to change the period displayed:				
a. Click " <b>Last 24 Hours</b> ".				
Last 24 Hours				
b. Select the time length from the available options or enter a custom date range.				
Note: When entering a custom date range, select "Custom" and type in the start				
and end dates or select them by clicking the calendar icon $oxtimes$ .				
C Last Hour				
Last 24 Hours				
O Last 7 Days				
C Last 30 Days				
Custom				
05/26/2025 03:40 PM				
- End Date				
Cancel Apply				
c. Click " <b>Apply</b> ".				
Result:				
The "Alarm History" tab now displays data for the selected time length				
• The "Last 24 Hours" button has been updated to indicate the new time length (i.e. if "Last 7 Days" was selected, the button now reads "Last 7 Days").				
Last 7 Days				
<b>Note:</b> Refer to section 18.2 for information on how to access the "Alarm History" tab of the "Alarms" screen.				



# 18.4 Filter Alarms

To filter alarms, allowing you to visualise only the alarms you want and hide the rest:

Filte	ilter Alarms			
1.	On either the "Active Alarms" or the "Alarm History" tab, click the " <b>Filter by</b> " drop-down menu.			
	Filter by All	y All -		
	<b>Note:</b> The "Filter by" drop-down menu appears on both the "Active Alarms" and the "Alarm History" tabs. Refer to section 18.2 for information on how to access them.			
	<b>Result:</b> The filter menu appears, with the available filters grouped into two sections: "Metric" and "Severity".			
2.	. Tick one or several filters from one or several sections (i.e. "Metric" and/or "Severity to filter the alarms displayed in the "Alarms" screen.			
	Note:			
<ul> <li>Several filters can be combined to further refine the alarms displayed</li> </ul>				
	<ul> <li>The two sections allow to filter data in the following manner:</li> </ul>			
<ul> <li>"Metric" section: Filters alarms based on the metric monitored</li> </ul>				
	<ul> <li>"Severity" section: Filters alarms based on whether they are major or mi</li> </ul>			
3.	3. To remove filters, proceed as follows:			
	To remove	Then		
	All filters (i.e. to display all alarms)	Click "All" on the filter menu.		
		Filter by All All All		
		Result: All alarms are visible.		
	Selected filters	Untick the filters to be removed from the filter menu.		



# 18.5 Sort Alarms' Data

To sort the alarms' data, allowing you visualise the data in a desired order:

## Note:

- Data is sorted by clicking some of the headers (refer to steps 1 and 2 below)
- Clicking the header once, sorts the data in ascending order
- Clicking the header twice, sorts the data in descending order
- Subsequent clicks will alternate between ascending and descending order
- Table 54 below explains the meaning of the icons used to sort the data:

lcon		Indicates
	Arrow up	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in ascending order.</li> </ul>
•	Arrow down	<ul> <li>The header used to sort the data</li> </ul>
		<ul> <li>The data has been sorted in descending order.</li> </ul>

#### Table 54 – Data Sorting Icons ("Alarms" Screen)

Sort	Sort Alarms' Data					
1.	Active Alarms Tab					
	On the "Active Alarms" tab, click the headers " <b>Subject</b> ", " <b>Metric</b> ", " <b>Severity</b> " or " <b>Start</b> <b>Time</b> " to sort the Alarms' data according to the header clicked.					
	Subject	Metric	Severity	Start Time	Duration	
	RX 2 TX 1 - 150.000000 MHz	Antenna isolation	🛞 Major	<b>a day ago</b> 11:47:39 AM, 28 May 25	a day	
2.	Note: Refer to sect the "Alarms" screen Alarm History Tab	ion 18.2 for info	ormation on h	ow to acces	s the "Active A	Alarms" tab of
	On the "Alarm Histo <b>Time</b> " or " <b>End Time</b>	ory" tab, click th e" to sort the Al	ne headers " <b>S</b> larms' data ac	<b>ubject</b> ", " <b>Me</b> cording to th	etric", "Severi ne header clic	<b>ty</b> ", " <b>Start</b> ked.
	Subject Metric	Severity	Start Time	End Time	Duration	
		,	No Alarm History.			
	<b>Note:</b> Refer to secti the "Alarms" screen	ion 18.2 for info	ormation on h	ow to acces	s the "Alarm H	listory" tab of



# 19 <u>Notifications Screen – Use Notifications to Send SNMP</u> <u>Traps and Energise Relays</u>

# **19.1 Background Information – Notifications**

The "Notifications" screen allows users to:

- Create and manage notification rules that:
  - Energise/de-energise one relay based on active alarms
  - Send SNMP traps based on active alarms.

**Note:** Refer to section 11.7 for information on how to configure the SNMP settings.

• Manage and test the relays connected to the Site Vantage or to one or several SAMs.

The purpose of the "Notifications" screen is to make operators aware of active alarms (by sending SNMP traps and energising/de-energising relays based on active alarms). This, in turn, enables them to:

- 1. Identify faults as soon as they happen,
- 2. Immediately correct them.

## **SNMP** Traps

- **SNMP traps:** Are messages that a device (such as the Site Vantage) sends to a network management system. The device that sends the SNMP traps:
  - Decides when to send the SNMP traps
  - Uses the SNMP traps to communicate information to the network management system (i.e. a measurement has triggered an alarm).
- Network management system: It is a platform that, among other functions, collects information from connected devices (such as the Site Vantage) and can alert operators (i.e. it can alert operators that the Site Vantage has made a measurement that has triggered an alarm)
- **Purpose of the SNMP traps:** The Site Vantage uses SNMP traps to notify a network management system when an alarm is active. The network management system then alerts operators of such alarms.

**Purpose of the relays:** The Site Vantage can energise/de-energise relays when an alarm is active. The relays can then action hardware to alert operators of such alarms.



### "Notifications" Screen Tabs

The "Notifications" screen has two tabs: "Notification Rules" and "Notification Targets". In turn, the "Notification Targets" tab has two sub-tabs: "Relays" and "SNMP Traps".

- **Tab 1 Notification rules:** Allows users to create and manage the notification rules. Figure 64 and Table 56 below describe the actions the user can make within the tab
- **Tab 2 Notification targets:** Provides access to the "Relays" and "SNMP Traps" sub-tabs.
  - Tab 2.1 Relays: Allows users to manage and test the relays. Figure 65 and Table 57 below describe the actions the user can make within the tab
  - Tab 2.2 SNMP traps: Allows users to view the SNMP trap destinations. Refer to section 11.7 for information on how to configure the SNMP settings. Figure 66 and Table 58 below describe the actions the user can make within the tab.

## Default Notification Rules

The "Notification Rules" tab contains four default notification rules, each targeting one of the four Site Vantage's digital outputs, labelled "Output 1" to "Output 4".

#### Note:

- The default notification rules can be reconfigured, refer to section 19.4 for more information
- The Site Vantage's digital outputs can action hardware, connected to the Site Vantage using the "INPUTS / OUTPUTS" connector on the rear of the Site Vantage.

Notification Rule Name	Purpose	
All	To trigger the Site Vantage's digital output 1 (Output 1) when <b>any alarm</b> is active.	
RX channel power out	To trigger the Site Vantage's digital output 2 (Output 2) when:	
of range	<ul> <li>An alarm triggered by an RX channel's level is active; and/or</li> </ul>	
	<ul> <li>An alarm triggered by an RX channel's noise floor is active.</li> </ul>	
TX channel forward power out of range	To trigger the Site Vantage's digital output 3 (Output 3) when <b>an alarm triggered by a TX channel's forward power</b> is active.	
TX channel reflected signal out of range	To trigger the Site Vantage's digital output 4 (Output 4) when <b>an alarm triggered by a TX channel's reflected signal</b> is active.	

The purpose of each default notification rule is:

#### Table 55 – Default Notification Rules Purpose





Tab 1 – Notification Rules ("Notifications" Screen)

Figure 64 – Functions of the Notification Rules Tab ("Notifications" Screen)

Notification Rules Tab User Actions ("Notifications" Screen)	ld (Figure 64)	Instructions
Access the "Notifications" screen	1	Section 19.2
Access the "Notification Rules" tab	2	Section 19.2
Add notification rules	3	Section 19.3
Edit the information of a notification rule	4	Section 19.4
Disable/enable a notification rule	4	Section 19.5
Delete a notification rule	4	Section 19.6
Reset to default notification rules	5	Section 19.7

Table 56 – Functions of the Notification Rules Tab ("Notifications" Screen)





				2	1	E	
		N	otification Rules	Notification Targets		<b></b>	
	SITE VANT <mark>/</mark> 3	-	Relays	E SNMP Traps	Test Mod	e 刘 Filter by	All 👻
	88 Dashboard		ID	Notification Rule	Energise Mode		State
	TX Monitor		Output 1	All For all alarms with any severity	4 De-energise on alarm	•	
	RX Monitor	ooard	Output 2	RX channel power out of range Trigger 1: RX channel active power alarms on all RX chan Trigger 2: RX channel noise floor alarms on all RX channe	De-energise on alarm	•	A C B
	A RF Tests	1-40	Output 3	TX channel forward power out of range Trigger 1: TX channel forward power alarms on all TX cha	De-energise on alarm	•	
	External Inputs		Output 4	TX channel reflected signal out of range Trigger 1: TX channel reflected signal alarms on all TX ch	De-energise on alarm	-	
1	Alarms     Notifications		Digital output 1	No notification rule	De-energise on alarm	•	A C B
· · ·	Calibration		Digital output 2	No notification rule	De-energise on alarm	•	A C B
	60 Settings		Digital output 3	No notification rule	De-energise on alarm	•	A C B
		•	Digital output 4	No notification rule	De-energise on alarm	•	A C B
		module	Digital output 5	No notification rule	De-energise on alarm	•	A C B
		ite alarn	Digital output 6	No notification rule	De-energise on alarm	•	A C B
		0	Digital output 7	No notification rule	De-energise on alarm	-	A C B
			Digital output 8	No notification rule	De-energise on alarm	•	A C B
			Digital output 9	No notification rule	De-energise on alarm	•	A C B
	[→ Logout		Digital output 10	No notification rule	De-energise on alarm	-	A C B

Figure 65 – Functions of the Relays Sub-Tab ("Notifications" Screen)

Relays Sub-Tab User Actions ("Notifications" Screen)	ld (Figure 65)	Instructions
Access the "Notifications" screen	1	Section 19.2
Access the "Notification Targets" tab	2	Section 19.2
Access the "Relays" sub-tab	3	Section 19.2
Select the relays' energise mode	4	Section 19.9
Operate the relays in test mode	5	Section 19.10
Filter relays	6	Section 19.11

Table 57 – Functions of the Relays Sub-Tab ("Notifications" Screen)





			2						
		Notification Rules	Notification Targets	1	4				
	88 Dashboard	Server Name Local 1	Server Address	Version v2c	SNMP Enabled	Trap Port	Trap Enabled	GET Port 10162	GET Enabled
	<ul> <li>☑ RX Monitor</li> <li>➢ Adjacent Sites</li> </ul>	Local 1 Kalibre SV Test	10.3.5.150 dev-obm.kalibre.com.au	v2c v2c	0 0	162 162	0 0	10163 10000	© ©
	RF Tests     External Inputs								
1	Adams     Adams     Adams     Adams     Calibration								
	🕅 Settings								
	[−→ Logout								

Figure 66 – Functions of the SNMP Traps Sub-Tab ("Notifications" Screen)

SNMP Traps Sub-Tab User Actions ("Notifications" Screen)	ld (Figure 66)	Instructions
Access the "Notifications" screen	1	Section 19.2
Access the "Notification Targets" tab	2	Section 19.2
Access the "SNMP Traps" sub-tab	3	Section 19.2
View SNMP traps	4	Section 11.7

 Table 58 – Functions of the SNMP Traps Sub-Tab ("Notifications" Screen)



# **19.2 Access the Notifications Screen**

To access the "Notifications" screen:

Acc	ess the Notifications Scre	en			
1.	Access the Site Vantage's	GUI.			
	Note: Refer to section 10.1	for instructions on how to access the GUI.			
2.	Click "Notifications", from the main menu on the left-hand side of the screen.				
	Result: The "Notifications" screen appears.				
3.	Proceed as follows:				
	To access the	Then			
	"Notification Rules" tab	Click "Notification Rules", from the top of the screen.			
		<b>Note:</b> The "Notification Rules" tab is displayed by default when accessing the "Notifications" screen.			
	"Relays" sub-tab	a. Click "Notification Targets", from the top of the			
	Note: "Relays" is a sub-	screen.			
	tab of the "Notification Targets" tab.	b. Click " <b>Relays</b> ".			
	"SNMP Traps" sub-tab	a. Click "Notification Targets", from the top of the			
	Note: "SNMP Traps" is	screen.			
	a sub-tab of the "Notification Targets" tab.	b. Click " <b>SNMP Traps</b> ".			

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# **19.3 Add Notification Rules**

To add notification rules:

Note: Each notification rule can:

- Send SNMP traps to all the SNMP destinations for which traps have been enabled (Refer to section 11.7 for information on how to configure the SNMP settings); and/or
- Energise/de-energise one relay based on active alarms.

Ade	d Notification Rules			
1.	On the "Notification Rules" tab, click " <b>+ Add Notification Rule</b> ", from the top right-hand side of the screen.			
	Notification Rules Notification Targets Reset to Defaults			
	<b>Note:</b> Refer to section 19.2 for information on how to access the "Notification Rules" tab of the "Notifications" screen.			
	Result: The "Add Notification Rule" dialog appears.			
2.	Complete the "1. Add Triggers" section of the "Add Notification Rule" dialog with the following relevant information:			
	Name field (required): Enter a name for the notification rule			
	Metric field (required): Select the metric that will trigger the notification			
	<ul> <li>Severity field (required): Tick the alarm severity level that will trigger the notification. To select both minor and major alarms, tick both options</li> </ul>			
	• <b>Specify subjects field</b> (required): Select the subject that will trigger the notification. The options available to select depend on the metric chosen.			
	Note: Fields with an asterisk in the GUI and in red below are required.			
	Add Notification Rule			
	Name			
	1. Add Triggers			
	V Trigger 1			
	Tx Channel Forward Power    Severity			
	Specify subjects			
	All TX channels      Choose by channel group			
	Choose by TX port			
	+ Add Trigger			
	2. Add Targets			
	C Enable SNMP Trap			
	Relay ~			
	Cancel			
L				



lf mo	ore triggers are required:
a.	Click " <b>+ Add Trigger</b> ".
	Add Notification Rule
-	Name
	1 Add Triangen
	<ul> <li>&gt; Trigger 1</li> </ul>
	Metric Tx Channel Forward Power
	Specify subjects
	III TX channels
	Choose by channel group
	Choose by TX port
	+ Add Trigger
	2. Add Targets
	C Enable SNMP Trap
	Relay -
b. If it i	Repeat step 2 for the new trigger. is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the
b. If it i trigg Note	Repeat step 2 for the new trigger. Is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. <b>e:</b> At least one trigger is required.
b. If it i trigg Note	Repeat step 2 for the new trigger. The required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. The At least one trigger is required.
b. If it i trigg Note	Repeat step 2 for the new trigger. is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. <b>e:</b> At least one trigger is required.
b. If it i trigg Note Add No Rule 1 1. Add	Repeat step 2 for the new trigger. is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. <b>e:</b> At least one trigger is required. trification Rule
b. If it i trigg Note Add No Rule 1 1. Add Tigger	Repeat step 2 for the new trigger. is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. e: At least one trigger is required. Infication Rule
b. If it i trigg Note Add No Rule 1 1. Add 1. Add Trigger	Repeat step 2 for the new trigger. Is required to remove a trigger, click the "Remove" button corresponding to the ger to be removed. e: At least one trigger is required. tfication Rule Trigges trigger tr
b. If it i trigg Note Add No Rule 1 1. Add Trigger Tx Char Specify sud	Repeat step 2 for the new trigger. Is required to remove a trigger, click the " <b>Remove</b> " button corresponding to the ger to be removed. e: At least one trigger is required. triffication Rule Trigger trigge
b. If it i trigg Note Add No Rule 1 1. Add ¹ Trigger Meric Tx Char Specify sul Choc	<pre>crew website</pre> Repeat step 2 for the new trigger. Is required to remove a trigger, click the "Remove" button corresponding to the ger to be removed. e: At least one trigger is required. e: At least one trigger is required. ripers ripers to ment to
b. If it i trigg Note Add No Add No Rule 1 1. Add Trigger Marie 1 1. Add Trigger All T: Choc Choc	<pre>cut Intervert Interve</pre>
b. If it i trigg Note Add No Rule 1 1. Add Tx Char Specify sul Choc Choc Choc Choc	<pre>crew with the second seco</pre>
b. If it i trigg Note Add No Add No Add No Name Rule 1 1. Add V Trigger Maric Tx Char Specify sul All T: Choo Choo Choo V Trigger Metric	<pre>cut</pre> Repeat step 2 for the new trigger. Is required to remove a trigger, click the "Remove" button corresponding to the ger to be removed. Is At least one trigger is required. Is At least one trigger is required. If
b. If it i trigg Note Add No Rule 1 1. Add Trigger Mars Tx Char Specify auf Choc Choc Trigger Metric Hetric	<pre>regulate the term of the term of term of</pre>
b. If it i trigg Note Add No Add No Add No Name Rule 1 1. Add Tx Char Specify aud All T: Choco Choco Choco Choco Add No 2. Add	<pre>cer eta </pre> Repeat step 2 for the new trigger. is required to remove a trigger, click the "Remove" button corresponding to the ger to be removed. e. At least one trigger is required. trigger
b. If it i trigg Note Add No Add No Rule 1 1. Add Trigger Marc Tx Char Specify auf Choc C	<pre>current control c</pre>



Add	Notification Rules			
5.	Complete the "2. Add Targets" of the "Add Notification Rule" dialog with the following relevant information:			
	Enable SNMP trap field:			
	<ul> <li>If ticked: When the notification is triggered, it will send SNMP traps to all the SNMP destinations for which traps have been enabled</li> </ul>			
	- If unticked: No SNMP traps will be sent when the notification is triggered.			
	• <b>Relay field:</b> If required, select from the drop-down menu the relay that the notification will energise/de-energise.			
	Relay			
	Note:			
	At a minimum, either tick "Enable SNMP trap" or select a relay			
	• Refer to section 11.7 for information on how to configure the SNMP settings.			
6.	Click "Add".			
7.	Repeat steps 1 to 6 above to add all the required notification rules.			



# **19.4 Edit the Information of a Notification Rule**

To edit the information of a notification rule:

Edit	the Information of a Notification Rule					
1.	On the "Notification Rules" tab, click the [•] menu icon of the notification rule to be edited.					
	Name Triggers	Targets	State Actions			
	All For all alarms with any severity	1: ON_BOARD: OUT1 SNMP trap enabled	Enabled			
	<b>Note:</b> Refer to section 19.2 for information on how to tab of the "Notifications" screen.	access the "N	otification Rules"			
2.	Click "Edit Settings" from the drop-down menu.					
	Edit					
	Disable					
	Delete					
	<b>Result:</b> The "Edit Notification Rule" dialog appears.					
3.	Edit the required fields.					
	<b>Note:</b> The "Edit Notification Rule" dialog contains the Notification Rule" dialog. For more information on these	same fields as se fields, refer	s the "Add to section 19.3.			
4.	Click " <b>Update</b> ".					



# **19.5** Disable/Enable a Notification Rule

# 19.5.1 Disable a Notification Rule

To disable a notification rule:

Note: Notification rules are enabled by default when created.

Disa	able a Notification Rule	
1.	On the "Notification Rules" tab, click the • men	u icon of an enabled notification rule.
	Name Triggers	Targets State Actions
	All For all alarms with any severity	1: ON_BOARD: OUT1     Enabled
	<b>Note:</b> Refer to section 19.2 for information on h tab of the "Notifications" screen.	ow to access the "Notification Rules"
2.	Click "Disable" from the drop-down menu.	
	Edit	
	Disable	
	Delete	
	Result:	
	The notification rule becomes disabled	
	• The notification rule's line becomes greyed	d out to indicate it is disabled.
	<b>Note:</b> When an alarm becomes active, if it is as rule, the Site Vantage will not send any notificat appear on the "Alarms" screen (refer to section screen).	sociated with a disabled notification ions. However, the alarm will still 18 for more information on the "Alarms"

# 19.5.2 Enable a Notification Rule

To enable a notification rule:

Ena	Enable a Notification Rule		
1.	On the "Notification Rules" tab, click the • menu icon of a disabled notification rule.		
2.	Click "Enable" from the drop-down menu.		
	Edit		
	Enable		
	Delete		
	Result: The notification rule becomes enabled.		



# **19.6 Delete a Notification Rule**

To delete a notification rule:

Delete a Notification Rule							
1.	On the "Notification deleted.	Rules" tab, click th	e • menu icon of	the notificat	ion rule	e to be	
	Name	Triggers		Targets	State	Actions	
	All	For all alarms with any severity		<ul> <li>1: ON_BOARD: OUT1</li> <li>SNMP trap enabled</li> </ul>	Enabled	:	
2.	Note: Refer to section tab of the "Notification Click "Delete" from the Edit Disable	on 19.2 for informa ons" screen. he drop-down mer	tion on how to ac	cess the "No	otificatio	on Rule	es"
3.	Click "Delete" when	prompted.					



## **19.7 Reset to Default Notification Rules**

The button "Reset to Defaults":

- Removes all notification rules created by the users
- Resets the system to its default notification rules. Refer to section 19.1 for more information.

Res	set to Default Notification Rules					
1.	On the "Notification Rules" tab, click " <b>Reset to Defaults</b> ", from the top right-hand side of the screen.					
	<b>Note:</b> Refer to section 19.2 for information on how to access the "Notification Rules" tab of the "Notifications" screen.					
2.	Click " <b>Confirm</b> " when prompted.					
	Confirm reset					
	Are you sure you want to reset to defaults?					
	Cancel					
	Result:					
	All notification rules created by the users have been removed					
	• The system has been reset to its four default notification rules. Refer to section 19.1 for more information.					



## **19.8 Monitor the Relays**

The "Relays" sub-tab automatically displays:

- The four Site Vantage's outputs
- All SAMs' outputs.

### Note:

- Refer to section 19.2 for information on how to access the "Relays" sub-tab of the "Notifications" screen
- The "Notification Rule" column (Figure 67) indicates which notification rule (if any) is targeting each relay:
  - Refer to section 19.3 for instructions on how to add notification rules, including selecting relays as a target of a notification rule (step 5)
  - For information on how to change the relay targeted by a notification rule, refer to section 19.4.
- The "State" column (Figure 67) indicates the state of each relay. Table 59 shows the graphics used to indicate when a relay is de-energised and when it is energised.

ID	Notification Rule	Energise Mode	State	
Output 1	All For all alarms with any severity	De-energise on alarm 💌		
Output 2	RX channel power out of range Trigger 1: RX channel active power alarms on all RX channels Trigger 2: RX channel noise floor alarms on all RX channels	De-energise on alarm 👻		
Output 3	TX channel forward power out of range Trigger 1: TX channel forward power alarms on all TX channels	De-energise on alarm 💌	A C B	
Output 4	TX channel reflected signal out of range Trigger 1: TX channel reflected signal alarms on all TX channels	De-energise on alarm 💌		

Figure 67 – "Notification Rule" and "State" Columns of the "Relays" Sub-Tab

Graphic	Meaning
A C B	The relay is de-energised.
	The relay is energised.

Table 59 – De-energised and Energised Relays



# **19.9 Select the Relays' Energise Mode**

To select the relays' energise mode:

1.	On the "Relays" sub-tab, locate the "Energise Mode" column.						
	Notification Rules Notification Targets						
		👸 Relays 💷 SNMP Traps		Test Mode	Test Mode D Filter by All -		
		ID	Notification Rule	Energise Mode	State		
		Output 1	All	De-energise on alarm	ſ, Ţ, Ţ,		
	ioard	Output 2	RX channel power out of range Trigger 1: RX channel active power alarms on all RX channels Trigger 2: RX channel noise floor alarms on all RX channels	De-energise on alarm 👻			
	Qu-t	Output 3	TX channel forward power out of range Trigger 1:TX channel forward power alarms on all TX channels	De-energise on alarm 👻			
		Output 4	TX channel reflected signal out of range Trigger 1: TX channel reflected signal alarms on all TX channels	De-energise on alarm 👻			
	Fc op	or eacl otions • I	h relay, select the relevant er are: Energise on alarm: Select th	nergise mode from the his option to energise th	drop-down menu. The ne relay when its associated		
2.	Fc op	or eacl otions • I	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene	drop-down menu. The ne relay when its associated rgise the relay when its		
	Fc op	or eacl otions • [ 6 • [ 6 c	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene	drop-down menu. The ne relay when its associated rgise the relay when its		
2.	Fc op	or eacl otions • E 6 • [ 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene	drop-down menu. The ne relay when its associated rgise the relay when its		
	Fc op	Dr eaclotions	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene ret this option to de-ene	drop-down menu. The ne relay when its associated rgise the relay when its		
	Fc op	Dr eaclo Ditions • [ 6 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene Text Mode	drop-down menu. The ne relay when its associated rgise the relay when its		
	Fc op	Dr eaclo bitions • E • E • E • E • E • E • E • E	h relay, select the relevant er are: Energise on alarm: Select the alarm is active De-energise on alarm: Sele associated alarm is active.	nergise mode from the his option to energise th ect this option to de-ene Text Mode	drop-down menu. The ne relay when its associated rgise the relay when its		
		Dr eaclo btions • E • E • E • E • E • E • E • E	h relay, select the relevant er are: Energise on alarm: Select th alarm is active De-energise on alarm: Sele associated alarm is active. Notification Targets Notification Rule Al Fell alarms with any servity Notification Rule Al Fell alarms of the service Notification Rule Al Fell alarms of the service Notification Rule Al Toger 1 25 channel nove on al RC channels Tiggre 2 & Channel nove on al RC channels Tiggre 2 & Channel nove on al RC channels	nergise mode from the his option to energise th ect this option to de-ene Text Mode Energise on darm • De-energise on darm •	drop-down menu. The ne relay when its associated rgise the relay when its		



# 19.10Operate the Relays in Test Mode

To operate the relays in test mode:

**Note:** The test mode allows users to ensure the relays perform as expected when energised/de-energised by a notification rule.

Оре	Operate the Relays in Test Model						
1.	On the "Relays" sub-tab, click the "Test Mode" toggle.						
	Notification Rules	Notification Targets					
	👸 Relays 🧾	SNIMP Traps		т	est Mode Filter by All	¥	
	ID	Notification Rule		Energise Mode	Sta	ite	
	Output 1	For all alarms with any severity		De-energise on alarm 👻		8	
	Note: Re the "Notif	fer to section 19.2 fications" screen.	for inform	nation on h	ow to access	the "Rela	ays" sub-tab of
	Result:						
	• The	test mode becom	es active				
	• The	"Test Mode" toggl	le become	s blue to ir	ndicate the te	st mode is	s active
	• A tir moo	ner clock appears de. The test mode	below the will autom	"Test Mod atically sw	e" toggle to i itch off after :	ndicate th 2 minutes	e time left in test
	Tes	o1:47					
2.	Click the / de-ener	"Energise / De-er gised as a test.	<b>nergise</b> " b	utton corre	esponding to	the relays	to be energised
	ID	Notification Rule	Energis	se Mode	State		
	Output 1	All For all alarms with any severity	De-e	nergise on alarm 👒	A C B	Energise	
	Output 2	RX channel power out of range Trigger 1: RX channel active power alarms on all RX channels Trigger 2: RX channel noise floor alarms on all RX channels	De-e	nergise on alarm 👻	A C B	Energise	
	Output 3	TX channel forward power out of range Trigger 1: TX channel forward power alarms on all TX channels	De-e	nergise on alarm 👻		De-energis	•
l	Output 4	TX channel reflected signal out of range Trigger 1: TX channel reflected signal alarms on all TX channels	s De-er	nergise on alarm 👻		De-energis	
3.	To switch	off test mode, eit	her:				
	Clic	k the " <b>Test Mode</b> "	toggle, or				
	Wait until the timer expires						
	Rosult: ]	The "Test Mode" to	ade beco	mes arev t	o indicato the	a tast mor	le is inactive
	Nesun.		iggie beeo	nics grey i			
	Test Mo	ode					
	Note: Wi	nen test mode is s g to their operatior	witched of al rules.	f, all relays	return to the	eir normal	operating states



# **19.11Filter Relays**

To filter relays, allowing you to visualise only the relays you want and hide the rest:

Filte	Filter Relays					
1.	On the "Relays" sub-tab, click	the "Filter by" drop-down menu.				
	Filter by All	▼				
	<b>Note:</b> Refer to section 19.2 for the "Notifications" screen.	or information on how to access the "Relays" sub-tab of				
	<b>Result:</b> The filter menu appear "Hardware module" and "Activ	ars, with the available filters grouped into two sections: /e alarm".				
2.	Tick one or several filters fron alarm") to filter the relays disp	n one or several sections ("Hardware module" and "Active played in the "Relays" sub-tab.				
	Note:					
	• Several filters can be com	bined to further refine the relays displayed				
	• The two sections allow to	filter data in the following manner:				
	<ul> <li>"Hardware module" connected to the Site</li> </ul>	<b>section</b> : Filters relays based on whether they have been Vantage or to a SAM				
	<ul> <li>"Monitored" section active or not.</li> </ul>	a: Filters relays based on whether its associated alarm is				
3.	To remove filters, proceed as	follows:				
	To remove	Then				
	All filters (i.e. to display all	Click "All" on the filter menu.				
	relays)	Filter by All All				
		Result: All relays are visible.				
	Selected filters	Untick the filters to be removed from the filter menu.				
	L	·				



# 20 <u>Calibration Screen – Calibrate the Site Vantage</u>

# **20.1 Background Information – Calibration**

The "Calibration" screen allows users to calibrate the Site Vantage, to ensure it performs accurate measurements. The Site Vantage must be calibrated as part of the installation process, before it can begin normal operations:

- Refer to section 8 for instructions on how to install and calibrate the Site Vantage
- Refer to section 8.3.4 for instructions on how to calibrate the Site Vantage.

The Site Vantage must be calibrated to:

- TX signals:
  - FWD power: The Site Vantage must be calibrated to account for the physical differences between the base station's TX port (where the TX signals are generated) (marked in red in Figure 68) and the Site Vantage's FWD port (marked in purple in Figure 68). Once calibrated, the Site Vantage will account for these physical differences to ensure the base station and the Site Vantage report the same FWD signals
  - REV power: The Site Vantage must be calibrated to account for any physical differences between the base station's REV path (highlighted in orange in Figure 68) and the Site Vantage's REV path (highlighted in yellow in Figure 68). Once calibrated, the Site Vantage will account for these physical differences to ensure the base station and the Site Vantage report the same REV signals.
- **RX signals:** The Site Vantage must be calibrated to account for any physical differences between the base station's RX path (highlighted in blue in Figure 68) and the Site Vantage's RX path (highlighted in green in Figure 68) (i.e. the cable between the RX subsystem and the base station might be longer than the cable between the RX subsystem and the Site Vantage). Once calibrated, the Site Vantage will account for these physical differences to ensure the base station and the Site Vantage report the same RX signals.

**Note:** In Figure 68, the "post RF path gain/loss" represents any physical differences between the base station's RX path and the Site Vantage's RX path.





Figure 68 – Background Information on Calibration

#### "Calibration" Screen Tabs

The "Calibration" screen has two tabs:

- **Tab 1 TX ports:** Calibrates the TX ports. Figure 69 and Table 60 below describe the actions the user can make within the tab
- **Tab 2 RX ports:** Calibrates the RX ports. Figure 70 and Table 61 below describe the actions the user can make within the tab.







Figure 69 – Functions of the TX Ports Tab ("Calibration" Screen)

TX Ports Tab User Actions ("Calibration" Screen)	ld (Figure 69)	Instructions
Access the "Calibration" screen	1	Section 8.3.4
Access the "TX Ports" tab	2	Section 8.3.4
Select a TX port	3	Section 8.3.4.1
Enable the TX port	4	Section 8.3.4.1
Disable the TX port	4	Section 20.2
Enter the port's name and calibration parameters	5	Section 8.3.4.1
Submit the changes made	6	Section 8.3.4.1

Table 60 – Functions of the TX Ports Tab ("Calibration" Screen)







Figure 70 – Functions of the RX Ports Tab ("Calibration" Screen)

RX Ports Tab User Actions ("Calibration" Screen)	ld (Figure 70)	Instructions
Access the "Calibration" screen	1	Section 8.3.4
Access the "RX Ports" tab	2	Section 8.3.4
Select an RX port	3	Section 8.3.4.2
Enable the RX port	4	Section 8.3.4.2
Disable the RX port	4	Section 20.2
Enter the port's name and calibration parameters	5	Section 8.3.4.2
Submit the changes made	6	Section 8.3.4.2

Table 61 – Functions of the RX Ports Tab ("Calibration" Screen)



# 20.2 Disable TX and RX Ports

To disable TX and RX ports:

## Note:

- Disabling a TX or RX port will cause the Site Vantage to stop measuring anything (i.e. TX/RX channels, composite RF power, etc.) related to that port
- TX/RX ports should only be disabled when nothing is connected to them.

## Disable TX and RX Ports

1. Access the Site Vantage's GUI.

Note: Refer to section 10.1 for instructions on how to access the GUI.

2. Click "Calibration", from the top right-hand side of the screen.

**Result:** The "TX Ports" tab of the "Calibration" screen appears.

## 3. Proceed as follows:

To disable	Then
TX ports	a. Click the TX port to disable.          TX Port 1         TX Port 2         TX Port 3
	b. Untick "Enable Port".
	<ul> <li>c. Click "Submit".</li> <li>Result: The Site Vantage will stop measuring anything related t the disabled port.</li> </ul>
	d. Repeat steps a. to c. for all TX ports to be disabled.
RX ports	<ul> <li>a. Click "RX Ports", from the top of the screen.</li> <li>b. Click the RX port to disable.</li> <li>RX Port 1</li> <li>RX Port 2</li> <li>RX Port 3</li> </ul>



Disal	Disable TX and RX Ports				
	C.	Untick "Enable Port".			
		Enable Port			
	d.	Click "Submit".			
		<b>Result:</b> The Site Vantage will stop measuring anything related to the disabled port.			
	e.	Repeat steps b. to d. for all RX ports to be disabled.			



# 21 Settings Screen

## 21.1 Background Information – Settings

The "Settings" screen has five tabs:

- **Tab 1 System Information:** For each specific Site Vantage unit, it displays its identity parameters and its hardware and software versions. Figure 71 and Table 62 below describe the actions the user can make within the tab
- Tab 2 User Management: Allows changing user roles' passwords and selecting measurement units. Figure 72 and Table 63 below describe the actions the user can make within the tab
- **Tab 3 Configuration:** Allows configuring network and security parameters. Figure 73 and Table 64 below describe the actions the user can make within the tab
- **Tab 4 Maintenance:** Allows managing the Site Vantage configuration, running diagnostic tools and updating its firmware. Figure 74 and Table 65 below describe the actions the user can make within the tab
- **Tab 5 System Health:** Displays the Site Vantage's internal active alarms and alarm history. The Site Vantage's internal alarms are triggered when issues are detected within the Site Vantage system. Figure 75 and Table 66 below describe the actions the user can make within the tab.



## Tab 1 – System Information ("Settings" Screen)

Figure 71 – Functions of the System Information Tab ("Settings" Screen)



System Information Tab User Actions ("Settings" Screen)	Id (Figure 71)	Instructions
Access the "Settings" screen	1	Section 21.2
Access the "System Information" tab	2	Section 21.2
Review the system information	3	Section 21.3
Reboot the Site Vantage	4	Section 21.9

Table 62 – Functions of the System Information Tab ("Settings" Screen)


	2			5
	rstem Information User Management	Configuration Maintenance	System Health	Reboot
88 Dashboard Use	r Information	master)		
TX Monitor	r Preferences Assigned User Groups	s: System admin Data admin	Technician SNMP read	
کن RX Monitor	Change Password			
🔀 Adjacent Sites	4 Master Password *			
A RFTests	New Password *			
Li Alarms	Repeat Password *			
⚠ Notifications	Apply Discard	Changes		
Calibration				
Settings	<ul> <li>✓ User Information (a)</li> </ul>	admin)		
	Assigned User Groups	s: Data admin Technician SM	MMP read	
	Change Password			
	Master Password *			
	New Password *			
	Repeat Password *			
[→ Logout	Apply Discard	Changes		

Figure 72 – Functions of the User Management Tab ("Settings" Screen)

User Management Tab User Actions ("Settings" Screen)	ld (Figure 72)	Instructions
Access the "Settings" screen	1	Section 21.2
Access the "User Management" tab	2	Section 21.2
Manage the passwords for the three user roles	3	Section 11.2
Select the units for the forward power, reflected signal and the temperature	4	Section 11.3
Reboot the Site Vantage	5	Section 21.9

Table 63 – Functions of the User Management Tab ("Settings" Screen)



		2	8
		System Information User Management Configuration Mainten	nce System Health Reboot
	88 Dashboard 3 17 X Monitor 17 RX Monitor 5 18 RX Monitor 5 19 RX Monitor 7 19 RX Monitor 7 19 External Inputs	Identity Network Configuration Date and Time SNMP Security Settings Recommendation Adelaide Engineering Lab	
	Alarms     Notifications     Calibration	Apply Discard Changes	
1-	Setting:		
	[→ Logout		

Tab 3 – Configuration ("Settings" Screen)

Figure 73 – Functions of the Configuration Tab ("Settings" Screen)

Configuration Tab User Actions ("Settings" Screen)	Id (Figure 73)	Instructions
Access the "Settings" screen	1	Section 21.2
Access the "Configuration" tab	2	Section 21.2
Configure the "Identity" fields	3	Section 11.4
Configure the network settings	4	Section 11.5
Configure the date and time	5	Section 11.6
Configure the SNMP agent settings	6	Section 11.7
Configure the security settings	7	Section 11.8
Reboot the Site Vantage	8	Section 21.9

Table 64 – Functions of the Configuration Tab ("Settings" Screen)



Tab 4 – Maintenance ("Settings" Screen)

			2	6
		System Information	User Management Configuration Maintenance System Health	Reboot
	SITE VANTAGE			
		Config Management	Expand Configuration t configuration, including RF channels, RF tests, external inputs, SNMP settings (excluding SNMPv3 harm/notification rules.	Export Configuration
	☑ RX Monitor 5 Adiacent Sites	Firmware Update	Import Configuration Import and apply a configuration file. This will overwrite the current settings.	Import Configuration
	A RF Tests		Reset Configuration Reset configurations but retain IP settings, preserving existing data. This process may take around 4 minutes.	Reset Configuration
	External Inputs     Alarms		Full Configuration Reset All configurations will be reset to default values, preserving existing data. This process may take around 4 minutes.	Full Configuration Reset
	<ul><li>▲ Notifications</li><li>✓ Calibration</li></ul>		Factory Reset All configurations and data will be wiped out to recover to factory state. This process may take around 9 minutes.	Factory Reset
1	Settings			
	[→ Logout			

Figure 74 – Functions of the Maintenance Tab ("Settings" Screen)

Maintenance Tab User Actions ("Settings" Screen)	Id (Figure 74)	Instructions
Access the "Settings" screen	1	Section 21.2
Access the "Maintenance" tab	2	Section 21.2
Export and import the Site Vantage's configuration	3	Section 21.4
Reset the Site Vantage	3	Section 21.5
Collect and download diagnostic data	4	Section 21.6
Upgrade the Site Vantage's firmware	5	Section 21.7
Reboot the Site Vantage	8	Section 21.9

Table 65 – Functions of the Maintenance Tab ("Settings" Screen)





					2		5
	RFI	System Information	User Management	Configuration Mai	ntenance System Health		Reboot
	SITE VAN 3 88 Dashboard	Active Alarms Alar	m History	•		Filter by All	٣
	TX Monitor	Subject	Metric	Severity	Start Time	Duration	
	ビ RX Monitor			N	o Active Alarms.		
	🔀 Adjacent Sites					Rows per page: 10 - 0-0 of 0	< >
	A RF Tests						
	External Inputs						
	1 Alarms						
	A Notifications						
	Calibration						
1  -	🕨 Settings						
	[→ Logout						

Figure 75 – Functions of the System Health Tab ("Settings" Screen)

System Health Tab User Actions ("Settings" Screen)	Id (Figure 75)	Instructions
Access the "Settings" screen	1	Section 21.2
Access the "System Health" tab	2	Section 21.2
Review the Site Vantage's active internal alarms	3	Section 21.8
Review the Site Vantage's internal alarm history	4	Section 21.8
Reboot the Site Vantage	5	Section 21.9

Table 66 – Functions of the System Health Tab ("Settings" Screen)



### 21.2 Access the Settings Screen

To access the "Settings" Screen:

### Access the Settings Screen

1. Access the Site Vantage's GUI.

Note: Refer to section 10.1 for instructions on how to access the GUI.

2. Click "**Settings**", from the main menu on the left-hand side of the screen.

**Result:** The "System Information" tab of the "Settings" screen appears.

3. Proceed as follows:

To access the	Click
"System Information" tab	"System Information", from the top of the screen.
	<b>Note:</b> The "System Information" tab is displayed by default when accessing the "Settings" screen.
"User Management" tab	"User Management", from the top of the screen.
"Configuration" tab	"Configuration", from the top of the screen.
"Maintenance" tab	"Maintenance", from the top of the screen.
"System Health" tab	"System Health", from the top of the screen.



### 21.3 Review the System Information

To review the system information:

Rev	eview the System Information				
1.	On the "Sy " <b>Hardware</b>	rstem Information" tab, review the information provided on the " <b>Identity</b> ", are and " <b>Software</b> " sections.			
	<b>Note:</b> Refe tab of the "	er to section 21.2 for information on how to access the "System Informati 'Settings" Screen.	on"		
	System Inform	nation User Management Configuration Maintenance System Health Reboot			
	Identity				
	Model Serial	SV1396 24090320			
	Hardware				
	Revision	C			
	Band	- 12 to 960 MHz			
	Variant	3EG			
	Software				
	Package	1.0.2			
	FPGA	1.0.4			
	Core	1.0.2			
	Backend	1.0.2			
	Frontend	1.0.2			



### 21.4 Export and Import the Site Vantage's Configuration

To copy the configuration of a Site Vantage into another Site Vantage, the configuration to be copied can be exported from the first Site Vantage and then imported into the second Site Vantage.

### 21.4.1 Export the Site Vantage's Configuration

To export the Site Vantage's configuration:

Ехр	ort the Site Vantage's Configuration
1.	On the "Maintenance" tab, click "Config Management".
	System Information User Management Configuration Maintenance
	Config Management       Export Configuration         Export the current configuration, including RF channels, RF tests, external inpu         Diagnostics
	Firmware Update Import Configuration Import and apply a configuration file. This will overwrite the current settings.
	<b>Note:</b> Refer to section 21.2 for information on how to access the "Maintenance" tab of the "Settings" Screen.
2.	Click "Export Configuration".
	<b>Result:</b> The Site Vantage generates a file with its configuration. The configuration file includes:
	The system configuration, which includes:
	<ul> <li>TX, RX and adjacent sites monitored channels</li> </ul>
	- RF tests
	<ul> <li>External inputs</li> </ul>
	- Notifications
	<ul> <li>Calibration settings.</li> </ul>
	<ul> <li>The system settings: all settings in the "Settings" screen, excluding the IP settings, user roles passwords and SNMP passwords.</li> </ul>
3.	Save the configuration file generated by the Site Vantage.



# 21.4.2 Import Into the Site Vantage the Configuration from Another Site Vantage

To import into the Site Vantage the configuration from another Site Vantage:

Import the Configuration from Another Site Vantage			
1.	On the "Maintenance" tab, click "Config Management".		
	System Information User Management Configuration Maintenance		
	Config Management       Export Configuration         Export the current configuration, including RF channels, RF tests, external inpu         Diagnostics		
	Firmware Update Import Configuration Import and apply a configuration file. This will overwrite the current settings.		
	<b>Note:</b> Refer to section 21.2 for information on how to access the "Maintenance" tab of the "Settings" Screen.		
2.	Click "Import Configuration".		
3.	Open the Site Vantage configuration file to be imported.		
	Result:		
	• The configuration from the configuration file will be loaded into the Site Vantage		
	<ul> <li>The Site Vantage will be updated to include the loaded system configuration and the system settings, excluding the IP settings, user roles passwords and SNMP passwords</li> </ul>		
	<ul> <li>The IP settings, user roles passwords and SNMP passwords will remain the same as they were before loading the configuration file.</li> </ul>		



### 21.5 Reset the Site Vantage

There are three types of data that can be reset. These are listed in Table 67 below.

Data Type	Data Included	
System	TX, RX and adjacent sites monitored channels	
configuration	RF tests	
	External inputs	
	Notifications	
	Calibration settings.	
IP	IP settings	
Data records	Data measured by the Site Vantage	
	The alarm history.	

Table 67 – Data Types

The Site Vantage can perform three different resets. Table 68 below lists, for each reset type, the data types that are reset and the data types that are maintained.

	Data Type			
Reset Type	System configuration	IP	Data records	
Reset configuration	Reset	Maintained	Maintained	
Full configuration reset	Reset	Reset	Maintained	
Factory reset	Reset	Reset	Reset	

 Table 68 – Data Types That Reset for Each Reset Type



To reset the Site Vantage:

Reset the Site Vantage			
1. On the "Maintenance" tab, click "Config Management".			
	System Informat	tion User Management Configuration Maintenance	
	Config Management	Export Configuration Export the current configuration, including RF channels, RF tests, external inpu	
	Firmware Update	Import Configuration Import and apply a configuration file. This will overwrite the current settings.	
	<b>Note:</b> Refe the "Setting	r to section 21.2 for information on how to access the "Maintenance" tab of s" Screen.	
2.	Reset the S	Site Vantage	
	<ul> <li>To conduct a reset configuration, click "Reset Configuration"</li> </ul>		
	• To conduct a full configuration reset, click "Full Configuration Reset"		
	• To conduct a <b>factory reset</b> , click "Factory Reset".		
	Note:		
	<ul> <li>Refer to Table 67 above for an explanation of the three data types that can be reset</li> </ul>		
	<ul> <li>Refer to Table 68 above for an explanation of the data types that are reset and the data types that are maintained for each of the three different resets.</li> </ul>		
	Config Management Diagnostics	Export Configuration Export the current configuration, including RF channels, RF tests, external inputs, SNMP settings (excluding SNMPv3 Export Configuration passwords), and alarm/notification rules.	
	Firmware Update	Import Configuration Import and apply a configuration file. This will overwrite the current settings. Import Configuration	
		Reset Configuration Reset configurations but retain IP settings, preserving existing data. This process may take around 4 minutes. Reset Configuration	
		Full Configuration Reset All configurations will be reset to default values, preserving existing data. This process may take around 4 minutes. Full Configuration Reset	
		Factory Reset All configurations and data will be wiped out to recover to factory state. This process may take around 9 minutes. Factory Reset	



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### 21.6 Collect and Download Diagnostic Data for Remote Support

A file containing diagnostic data from the Site Vantage can be downloaded and sent to RFI for remote support. To collect and download the diagnostic data:

Collect and Download Diagnostic Data for Remote Support			
1.	On the "Maintenance" tab, click "Diagnostics".		
	System Information User Management Configuration Maintenance		
	Config Management Collect Diagnostics Data		
	Diagnostics       Firmware Update		
	<b>Note:</b> Refer to section 21.2 for information on how to access the "Maintenance" tab of the "Settings" Screen.		
2.	Click "Collect Diagnostics Data".		
	Result: The Site Vantage generates a file containing diagnostic data.		
3.	Save the diagnostic file generated by the Site Vantage.		
4.	Email the diagnostic file to RFI, for remote support.		



### 21.7 Upgrade the Site Vantage's Firmware

RFI will publish firmware upgrades in RFI's website (www.rfi.com.au) and may notify users that an upgrade is available by email. To upgrade the Site Vantage's firmware:

Upgrade the Site Vantage's Firmware			
1.	Save the firmware upgrade image file to your computer.		
	Note:		
	• Firmware upgrade image files can be downloaded from internet. RFI will provide the link to the relevant download page		
	<ul> <li>Firmware upgrade image files normally use an "FFP" file extension (Firmware &amp; File system Package).</li> </ul>		
2.	Read all published service bulletins to understand the possible impacts of the firmware upgrade.		
	<b>Note:</b> Firmware upgrades can impact existing Site Vantage configurations and/or may have other implications for the Site Vantage.		
3.	On the "Maintenance" tab, click "Firmware Update".		
	System Information User Management Configuration Maintenance		
	Config Management Diagnostics		
	Firmware Update		
	<b>Note:</b> Refer to section 21.2 for information on how to access the "Maintenance" tab of the "Settings" Screen.		



Upgrade the Site Vantage's Firmware			
4.	Proceed as follows:		
	To initiate the upgrade, either	Then	
	Click the software update area	Select the firmware upgrade image file saved in your computer.	
		Result: The firmware upgrade begins.	
	Drag and drop the firmware upgrade image file saved in your computer to the software update area	<b>Result:</b> The firmware upgrade begins.	
Firmware Update			
		nd drop a software update image file to this area.	
	Update not started.		
	Note:		
	• You can click the messages section to expand it and see the progress messages		
	♥ Messages		
	• You may need to clear your browser's cache to view the upgraded GUI screens.		



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### 21.8 Review the Site Vantage's Internal Alarms

The Site Vantage system will monitor its health and trigger minor or major internal alarms when issues are present. To review the Site Vantage's internal alarms:

Review the Site Vantage's Internal Alarms			
1.	Review the active internal alarms		
	On the "System Health" tab, click "Active Alarms". Result: The Site Vantage lists all the active internal alarms.		
System Information User Management Configuration Maintenance System Health			
	Active Alarms Alarm History All 💌		
	Subject Metric Severity Start Time Duration		
	No Active Alarms.		
	Note:		
	<ul> <li>When one or several internal alarms are active, both the "Settings" screen button and the "System Health" tab button will indicate the number of active alarms</li> <li>Settings</li> </ul>		
<ul> <li>To filter the active internal alarms, allowing you to visualise only the alarms yo want and hide the rest, click the "Filter by" drop-down menu</li> </ul>			
	Filter by All		
<ul> <li>To change how many alarms are displayed per page or to navigate between click the corresponding icons from the bottom right-hand side of the screen</li> </ul>			
	Rows per page: $10 - 1-2 \text{ of } 2 < >$		
	• Refer to section 21.2 for information on how to access the "System Health" tab of the "Settings" Screen.		



Review the Site Vantage's Internal Alarms			
2.	Review the internal alarm history		
	On the "System Health" tab, click "Alarm History".		
	Result: The Site Vantage lists the history of internal alarms.		
	System Information     User Management     Configuration     Maintenance     System Health     Rebot       Active Alarms     Alarm History     Last 24 Hours     Filter by     All     ~		
	Note:		
• To change the time period for displaying the alarm history, click the "Last 24 Hours" button and select the desired period			
	<ul> <li>To filter the active internal alarms, allowing you to visualise only the alarms you want and hide the rest, click the "Filter by" drop-down menu</li> </ul>		
	Filter by All		
	• To change how many alarms are displayed per page or to navigate between pages, click the corresponding icons from the bottom right-hand side of the screen		
	Rows per page: $10 - 1-2 \text{ of } 2 \rightarrow 3$		
	<ul> <li>Refer to section 21.2 for information on how to access the "System Health" tab of the "Settings" Screen.</li> </ul>		



### 21.9 Reboot the Site Vantage

To reboot the Site Vantage:

Reboot the Site Vantage			
1.	On the " <b>Settings</b> " screen, click " <b>Reboot</b> ".		
	System Information User Management Configuration Maintenance System Health Reboot		
	Note: Refer to section 21.2 for information on how to access the "Settings" Screen.		
2. Click " <b>Reboot</b> " when prompted.			
	Reboot?		
	Are you sure you want to reboot?		
	Cancel		
	Result: The Site Vantage reboots.		
	Note: It might take up to five minutes for the Site Vantage to complete a reboot.		



# 22 Log Out of the GUI

To log out of the Site Vantage's GUI:





# 23 All Site Vantage's Functions

Table 69 below lists all the Site Vantage's functions:

Note: The purpose of Table 69 is to allow users to quickly locate specific functions.

Screen	Function	Instructions
TX monitor	Access the "TX Monitor" screen	Section 13.2
	Access the "Live Status" tab	Section 13.2
	Add TX channels to monitor	Section 13.3
	Edit the information of a monitored TX channel	Section 13.4
	Delete a monitored TX channel	Section 13.5
	View TX channels' live data	Section 13.7
	Filter TX channels	Section 13.9
	Sort the TX channels' data	Section 13.10
	View the data of one or more TX channels	Section 13.7, 13.8
	Change the time length displayed in the graphs	Section 13.7, 13.8
	Save a graph as an image	Section 13.7, 13.8
	Stop viewing the data of all TX channels	Section 13.7
	Access the "History" tab	Section 13.2
	Zoom in on a graph	Section 13.8
	Reset the zoom level	Section 13.8
	View the graph's data	Section 13.8
	Restore the chart to its original view	Section 13.8
	Access the "Alarm Profiles" tab	Section 13.2
	Set alarm thresholds for the monitored TX channels	Section 13.6
	Reset the alarm threshold values	Section 13.6
RX monitor	Access the "RX Monitor" screen	Section 14.2
	Access the "Live Status" tab	Section 14.2
	Add RX channels to monitor	Section 14.4



Screen	Function	Instructions
	Edit the information of a monitored RX channel	Section 14.5
	Delete a monitored RX channel	Section 14.6
	Filter RX channels	Section 14.10
	Sort the RX channels' data	Section 14.11
	Access the "History" tab	Section 14.2
	View the data of one or more composite RF power levels	Section 14.9
	View the data of one or more RX channels	Section 14.9
	Change the time length displayed in the graphs	Section 14.9
	Save a graph as an image	Section 14.9
	Zoom in on a graph	Section 14.9
	Reset the zoom level	Section 14.9
	View the graph's data	Section 14.9
	Restore the chart to its original view	Section 14.9
	Set alarm thresholds for the composite RF power levels	Section 14.7
	Set alarm thresholds for the monitored RX channels	Section 14.7
Adjacent	Access the "Adjacent Sites" screen	Section 15.2
sites	Access the "Live Status" tab	Section 15.2
	Add adjacent site control channels to monitor	Section 15.3
	Edit the information of a monitored adjacent site control channel	Section 15.4
	Delete a monitored adjacent site control channel	Section 15.5
	Filter adjacent site control channels	Section 15.9
	Sort the adjacent site control channels' data	Section 15.10
	Access the "History" tab	Section 15.2
	View the data of one or more adjacent site control channels	Section 15.8
	Change the time length displayed in the graphs	Section 15.8
	Save a graph as an image	Section 15.8



Screen	Function	Instructions
	Zoom in on a graph	Section 15.8
	Reset the zoom level	Section 15.8
	View the graph's data	Section 15.8
	Restore the chart to its original view	Section 15.8
	Access the "Alarm Profiles" tab	Section 15.2
	Set alarm thresholds for the monitored TX channels	Section 15.6
	Reset the alarm threshold values	Section 15.6
RF tests	Access the "RF Tests" screen	Section 16.2
	Access the "Antenna Isolation Tests" tab	Section 16.2
	Set up the antenna isolation test(s)	Section 16.3.2
	Schedule antenna isolation tests	Section 16.3.5
	Cancel all scheduled antenna isolation tests	Section 16.3.6
	Conduct an antenna isolation test	Section 16.3.3
	Cancel an antenna isolation test	Section 16.3.4
	View test results in the "Results" section	Section 16.3.7, 16.4.7, 16.5.7
	View test instance details	Section 16.3.7
	Select the time range you want to see the history for	Section 16.3.7
	Select the TX port you want to see the history for	Section 16.3.7
	Select the RX port you want to see the history for	Section 16.3.7
	Use the graph's options	Section 16.3.7
	Access the "RX Preselector Characterisation" tab	Section 16.2
	Set up the RX preselector characterisation test(s)	Section 16.4.2
	Schedule RX preselector characterisation tests	Section 16.4.5
	Cancel all scheduled RX Preselector Characterisation Tests	Section 16.4.6
	Conduct an RX preselector characterisation test	Section 16.4.3
	Cancel an RX preselector characterisation test	Section 16.4.3



Screen	Function	Instructions
	Select the RX port you want to see the results for	Section 16.4.7
	Select the test frequencies you want to see the history for	Section 16.4.7
	Display the results in a table/chart format	Section 16.4.7
	Access the "TX Carrier Suppression Tests" tab	Section 16.2
	Set up the TX carrier suppression test(s)	Section 16.5.2
	Schedule TX carrier suppression tests	Section 16.5.5
	Cancel all scheduled TX Carrier Suppression Tests	Section 16.5.6
	Conduct a TX carrier suppression test	Section 16.5.3
	Cancel a TX carrier suppression test	Section 16.5.4
	Select the TX channels you want to see the history for	Section 16.5.7
External	Access the "External Inputs" screen	Section 17.2
inputs	Access the "Live Status" tab	Section 17.2
	Add external inputs to monitor	Section 17.3
	Edit the information of an external input	Section 17.4
	Disable and re-enable an external input	Section 17.5
	Delete an external input	Section 17.6
	Filter external inputs	Section 17.10
	Sort the external inputs' data	Section 17.11
	Access the "History" tab	Section 17.2
	View the data of one or more external inputs	Section 17.9
	Save a graph as an image	Section 17.9
	Zoom in on a graph	Section 17.9
	Reset the zoom level	Section 17.9
	View the graph's data	Section 17.9
	Restore the chart to its original view	Section 17.9
	Access the "Alarm Profiles" tab	Section 17.2



Screen	Function	Instructions
	Set alarm thresholds for the monitored analogue external inputs	Section 17.7
	Set alarm thresholds for the monitored digital external inputs	Section 17.7
	Select the alarm severity for the monitored digital external inputs	Section 17.7
Alarms	Access the "Alarms" screen	Section 18.2
	Access the "Active Alarms" tab	Section 18.2
	Use the page options	Section 18.2
	Filter alarms	Section 18.4
	Sort the alarms' data	Section 18.5
	Access the "Alarm History" tab	Section 18.2
	Change the period displayed	Section 18.3
Notifications	Access the "Notifications" screen	Section 19.2
	Access the "Notification Rules" tab	Section 19.2
	Add notification rules	Section 19.3
	Edit the information of a notification rule	Section 19.4
	Disable/enable a notification rule	Section 19.5
	Delete a notification rule	Section 19.6
	Reset to default notification rules	Section 19.7
	Access the "Notification Targets" tab	Section 19.2
	Access the "Relays" sub-tab	Section 19.2
	Select the relays' energise mode	Section 19.9
	Operate the relays in test mode	Section 19.10
	Filter relays	Section 19.11
	Access the "SNMP Traps" sub-tab	Section 19.2
	View SNMP traps	Section 11.7
Calibration	Access the "Calibration" screen	Section 8.3.4
	Access the "TX Ports" tab	Section 8.3.4



Screen	Function	Instructions
	Select a TX port	Section 8.3.4.1
	Enable the TX port	Section 8.3.4.1
	Disable the TX port	Section 20.2
	Enter the port's name and calibration parameters	Section 8.3.4.1, 8.3.4.2
	Submit the changes made	Section 8.3.4.1, 8.3.4.2
	Access the "RX Ports" tab	Section 8.3.4
	Select an RX port	Section 8.3.4.2
	Enable the RX port	Section 8.3.4.2
	Disable the RX port	Section 20.2
Settings	Access the "Settings" screen	Section 21.2
	Access the "System Information" tab	Section 21.2
	Review the system information	Section 21.3
	Reboot the Site Vantage	Section 21.9
	Access the "User Management" tab	Section 21.2
	Manage the passwords for the three user roles	Section 11.2
	Select the units for the forward power, reflected signal and the temperature	Section 11.3
	Access the "Configuration" tab	Section 21.2
	Configure the "Identity" fields	Section 11.4
	Configure the network settings	Section 11.5
	Configure the date and time	Section 11.6
	Configure the SNMP agent settings	Section 11.7
	Configure the security settings	Section 11.8
	Access the "Maintenance" tab	Section 21.2
	Export and import the Site Vantage's configuration	Section 21.4
	Reset the Site Vantage	Section 21.5
	Collect and download diagnostic data	Section 21.6



Screen	Function	Instructions
	Upgrade the Site Vantage's firmware	Section 21.7

Table 69 – All Site Vantage's Functions



# Part D: Supporting Resources

### 24 Troubleshooting – Accessing the GUI

### 24.1 Accessing the GUI Via the "ETH1" Port Using a Windows Computer

**Note:** Follow the steps below if you are having trouble accessing the GUI, when a Windows computer is connected using a CAT6 Ethernet cable into the **"ETH1" port on the front of the Site Vantage**.

### Troubleshooting – Accessing the GUI Via the "ETH1" Port

- 1. Set your computer to the same IP range as the Site Vantage. To do so, in the computer:
  - a. Click the "Start" button.
  - b. Open the "Control Panel".
  - c. Open the "Network and Sharing Centre".
  - d. Click "Change Adapter Settings".
  - e. Select the "**Local Area Connection**" corresponding to the computer's Ethernet port where the Ethernet cable has been connected.
  - f. Click "Change Settings of this Connection".
  - g. Select "Internet Protocol Version 4 (TCP/IPv4)".
  - h. Click "Properties".
  - i. Take a note of your current computer's settings.
  - j. Select "Use the following IP address".
  - k. Enter the following "IP address": 192.168.1.101
  - I. Enter the following "Subnet mask": 255.255.255.0
  - m. Enter the following "Default gateway": 192.168.1.254
  - n. Click "OK".
  - o. Retry the connection:
    - i. In the computer, initiate a web browser and type the following IP address into the address field: <u>192.168.1.200</u>
    - ii. Enter the username: master
    - iii. Enter the password: master
    - iv. Click "Login".



#### Note:

- Once you have finished working with the Site Vantage and you disconnect your computer from it, you might need to revert your computer to its original settings noted in step i. above
- The IP address 192.168.1.200 is only valid for the "ETH1" port on the front of the Site Vantage.

### 24.2 Accessing the GUI Via the "ETH2" or "ETH3" Ports

**Note:** Follow the steps below if you are having trouble accessing the GUI, via the "ETH2" or "ETH3" ports on the rear of the Site Vantage.

### Troubleshooting – Accessing the GUI Via the "ETH2" or "ETH3" Ports

1. Access the GUI via the "ETH1" port on the front of the Site Vantage.

Note: Refer to section 10.1 for information on how to do this.

2. Change the IP address of the rear Ethernet ports ("ETH2" and "ETH3").

**Note:** Refer to section 11.5 for information on how to do this.

- 3. a. Log out of the GUI.
  - b. Disconnect the CAT6 Ethernet cable from the "ETH1" port on the front of the Site Vantage.
- 4. Access the GUI via the rear Ethernet ports ("ETH2" and "ETH3").

**Note:** Refer to section 10.1 for information on how to do this.

### 24.3 Forgotten IP Addresses

#### Troubleshooting – Forgotten IP Addresses

- 1. If the IP addresses of the front port ("ETH1") and the rear ports ("ETH2" and "ETH3") are forgotten, and the Site Vantage's GUI can no longer be accessed, you can either:
  - Reset the Site Vantage to its factory settings. Refer to section 2.1.4.5 for more information; or
  - Use IT tools to determine the IP addresses of these ports.

**Note:** The use of such IT tools is outside the scope of this manual.



# 25 Additional Supporting Information

Visit the RFI website (<u>www.rfi.com.au</u>) for additional supporting information on the Site Vantage, including:

- The Site Vantage specifications sheet
- The Site Vantage quick start guide.

# 26 Contact Information

For more information on the Site Vantage and its applications, please contact your nearest RFI Sales Office. Contact details can be found at: <u>https://www.rfi.com.au/contact</u>

For more information on RFI products, please visit us at <u>www.rfi.com.au</u>