

RFI
TECHNOLOGY SOLUTIONS

Meander® Collinear Solutions



About RFI

RFI is a global technology solutions company, specialising in wireless coverage. RFI has one of the largest, most innovative and experienced wireless solutions teams with dedicated engineers, product managers, deployment engineers, logistics, distribution and R&D staff.

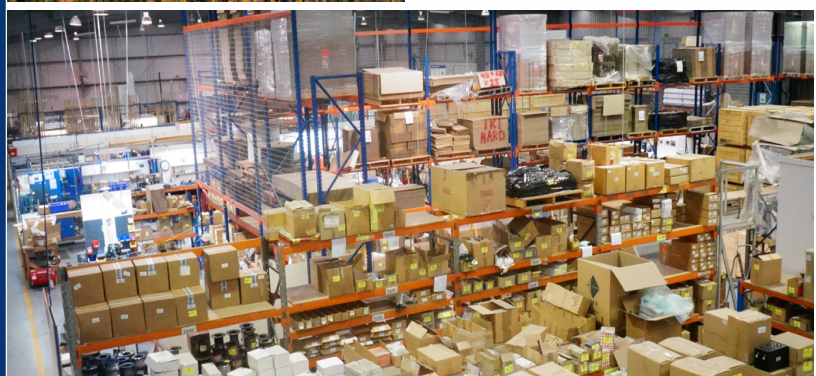
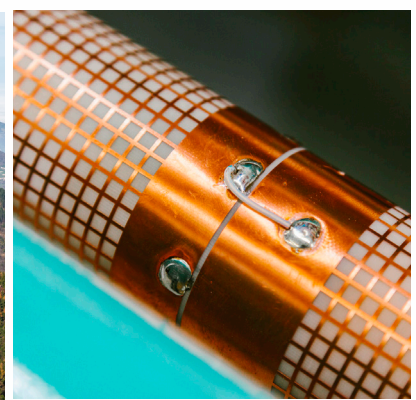
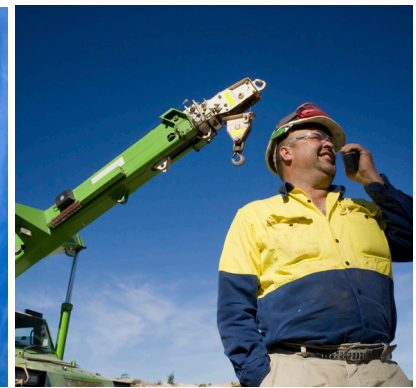
Our network of international sales offices means that all customers get the attention and advice they require, providing local support on a global scale. This includes our 16,000 ft² American office and distribution center with local product stock and engineering services for the Americas region.

RFI develops, manufactures and distributes world-class, high performance, wireless products including; antenna systems, rebroadcast & monitoring equipment, power systems and cabling and connectors. RFI is recognised as a market leader in wireless products and offers the best products backed with outstanding technical support.

RFI is continually strengthening its technology solutions portfolio, including the recent acquisition of Maxon Australia, allowing us to offer industry leading M2M solutions.

Award Winning Manufacturing

RFI is proud to be an award winning manufacturer with wireless coverage products that perform on a global stage. RFI Technology solutions are manufactured in Australia and exported to 80 + countries. RFI operates manufacturing sites in Victoria and South Australia, both with a proud history in quality, safety and environmental performance. Our two sites include Australia's largest antenna manufacturing facility, producing world class Antenna and Multicoupling Systems for both Domestic and International Markets and the only Australian manufacturing site producing frequency translating repeater systems.



Meander® Antenna Solutions

The Meander® family is a complete and extensive antenna offering, covering 130-930 MHz, with exceptional bandwidth capability in an extremely light-weight and low profile package. These antennas are an extremely versatile replacement for any antenna range available in the market.

Performance

RFI's patented Meander® antennas tick the box in every area for performance, providing wide, full band coverage, high power rating, and exceptional PIP and low PIM performance. Purchasing a Meander® antenna ensures a highly reliable, cost effective, light-weight solution for everything from multi-carrier environments in mission-critical applications to typical telemetry and SCADA applications.

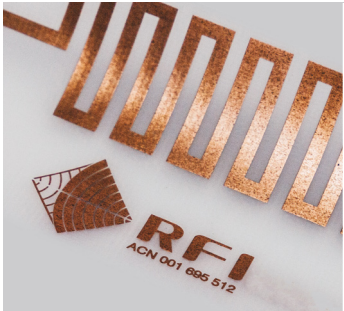
Meander® Technology

Using RFI's patented Meander® PCB technology, the meander elements have been printed on a single continuous sided PCB. By removing all the joints and variations typified in the construction of standard high gain collinears, many benefits ensue, including ultra low PIM, high PIP rating, pattern repeatability, weight reduction, and exceptional reliability.

Features Include:

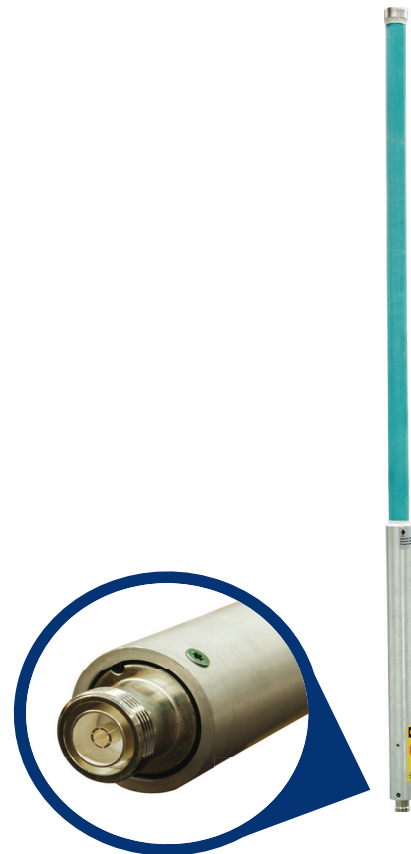
- High power capability
- -150 PIM rated, with outstanding PIM stability
- 25kW PIP rating
- 0dBd - 9dBd options
- Excellent bandwidth characteristics, with full band coverage
- Exceptional pattern stability
- Superior manufacturing
- Extremely light weight
- Direct grounding for better stability and reduction of static precipitation

USA Patent No. 6,909,403, European Patent No. 1411588, Aust Patent No. 2003255049. Chinese Patent No. ZL200310100548.5 and Indian Patent No. 254674.



VHF Meander® Collinear Antennas

- PIM rated, individually tested
- PIP rated to endure rigorous multi-carrier environments
- Large bandwidth
- Exceptional 400W continuous power rating
- Lightweight
- Rugged build
- High reliability



COL51 Series (130-174MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 5 Models covering 130-174MHz in 10MHz bands • Unity gain. • Exceptional beamwidth over full band. • Useful for close in coverage, telemetry and control station systems. 		
COL53 Series (130-174MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 5 Models covering 130-174MHz in 10 MHz bands. • 4dBd gain. • Medium gain, with great coverage characteristics, including strong null fill. • Useful for a good mix of gain and close in coverage, including local VHF coverage in multi-carrier environments. 		
COL54 Series (145-174MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 4 Models covering 145-174MHz in 10MHz bands. • 6 dBd gain. • High gain, with great coverage characteristics and strong main lobe. • Useful for long range coverage in multi-carrier combined systems. 		

VHF Meander® Collinear Antennas

Electrical Specifications

Model	Gain dBi (dBd)	Frequency	Bandwidth	E Plane*	Power W	Passive IM 3rd order dBc*	Peak Instantaneous Power kW						
COL51-140	2.1 (0)	130 - 140	Full band	100	400	-150	25						
COL51-150		140 - 150		106									
COL51-160		150 - 160		92									
COL51-166		156 - 166		75									
COL51-174		162 - 172		82									
COL53-140	6.1 (4)	130 - 140		24				400	-150	25			
COL53-150		140 - 150											
COL53-160		150 - 160											
COL53-166		156 - 166											
COL53-174		162 - 172											
COL54-155	8.1 (6)	145 - 155		17							400	-150	25
COL54-160		150 - 160											
COL54-166		156 - 166											
COL54-174		162 - 174											

Mechanical Specifications

Model	Construction	Length mm	Project Area cm²	Weight	Wind Gust	Shipping Weight	Shipping Dimensions
COL51-140	76mm Composite fibreglass sky	2300	1705	11	>240	13	Ø100 x 2500mm
COL51-150		2100	1588				Ø100 x 2300mm
COL51-160		2200	1683				Ø100 x 2400mm
COL51-166		2200	1636				
COL51-174		2100	1597				Ø100 x 2300mm
COL53-140	blue radome & Ecofilm plated aluminium mount tube	5500	4870	19		22	Ø100 x 5700mm
COL53-150		5200	4600	18		21	Ø100 x 5400mm
COL53-160		5000	4460	18		21	Ø100 x 5200mm
COL53-166		4800	4342	17		20	Ø100 x 5000mm
COL53-174		4800	4218	17		20	
COL54-155		6500	5906	23	217	26	Ø100 x 6700mm
COL54-160		6500	5810	21	>240	24	
COL54-166		6500	5640	2		23	
COL54-174		6000	5420	19		22	Ø100 x 6200mm



UHF Meander® Collinear Antennas

- PIM rated, individually tested
- PIP rated to endure rigorous multi-carrier environments
- Exceptional Bandwidth
- Comprehensive range, covering UHF band, gain and coverage options.
- Exceptional 250W continuous power rating
- Lightweight, high durability
- High reliability



COL41 Series (380-520MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 5 Models covering 380-520MHz, in 20MHz bands • Unity gain. • Exceptional beamwidth over full band. • Useful for close in coverage, telemetry and control station systems. 		
COL43 Series (380-520MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 6 Models covering 380-520MHz in 20MHz bands • 4dBd gain. • Medium gain, with great coverage characteristics, including strong null fill. • Useful for a good mix of gain and close in coverage. • Including localised multi-carrier environments. LMR, critical systems, telemetry, transport. 		
COL45 SERIES (350-520MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 7 models, and the most comprehensive and versatile of the Meander™ series. • Covering 350-520MHz in 20MHz bands. • 7 dBd gain. • High gain, with great coverage characteristics, and strong main lobe. • Useful for medium to long range coverage. • Including multi-carrier combined systems in LMR, critical systems, public safety, telemetry, mining, and transport. 		
COL410 Series (145-174MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 6 Models covering 380-520, in 20MHz bands • 9 dBd gain. • High gain, with great coverage characteristics and strong main lobe. • Useful for long range coverage in multi-carrier combined systems. Including multi-carrier combined systems in LMR, critical systems and public safety. 		

UHF Meander® Collinear Antennas

Electrical Specifications

Model	Gain dBi (dBd)	Frequency	Bandwidth	E Plane °	Power W	Passive IM 3rd order dBc*	Peak Instantaneous Power kW
COL81-806	2.1 (0)	746 - 806	Full Band	67	250	-150	25
COL81-870		806 - 870					
COL81-930		850 - 930					
COL84-806	7.1 (5)	746 - 806		16			
COL84-870		806 - 870					
COL84-930		850 - 930					
COL85-806	9.1 (7)	746 - 806		13			
COL85-870		806 - 870					
COL85-930		850 - 930					
COL811-806	11.1 (9)	746 - 806		7			
COL811-824		796 - 824					
COL811-870		806 - 870					
COL811-930		850 - 930					

Mechanical Specifications

Model	Construction	Length mm	Project Area cm²	Weight	Wind Gust	Shipping Weight	Shipping Dimensions
COL81-806	38mm Composite fibreglass sky blue radome & 500 x Ø48.5mm Ecofilm plated aluminium mount tube	1100	437	2.2	>240	4	Ø70 x 1300mm
COL81-870							
COL81-930							
COL84-806		1716	726	3		5	Ø70 x 2000mm
COL84-870		1633	680				
COL84-930		1567	647				
COL85-806		1960	844	2.1		4.1	Ø70 x 2100mm
COL85-870		1860	785				Ø70 x 2000mm
COL85-930		1780	736				Ø70 x 2000mm
COL811-806		3610	1629	11.5		5	Ø70 x 3800mm
COL811-824		3520	1599	11			Ø70 x 3700mm
COL811-870		3390	1512	11			Ø70 x 3500mm
COL811-930		3200	1428	10			Ø70 x 3400mm



800 MHz Meander® Collinear Antennas

- PIM rated, individually tested
- PIP rated to endure rigorous multi-carrier environments
- Exceptional bandwidth
- Comprehensive range, covering 800MHz band, gain and coverage options
- Includes ISM900 band coverage
- Exceptional 250W continuous power rating
- Lightweight, high durability
- High reliability



COL81 Series (746-930MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 3 models covering 746-930MHz in full bands. • Unity gain. • Exceptional beamwidth over full band. • Useful for close in coverage, telemetry and control station systems. 		
COL84 Series (746-930MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 3 models covering 746-930MHz in full bands. • 5 dBd gain. • Medium gain, with great coverage characteristics. • Useful for a good mix of gain and close in coverage. • Including localised multi-carrier environments, LMR, critical systems, telemetry, and transport. 		
COL85 SERIES (746-930MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 3 models covering 746-930MHz in full bands. • 7 dBd gain. • Great coverage characteristics, with strong main lobe, and good null fill. • Useful for medium to long range coverage. • Including multi-carrier combined systems in LMR, critical systems, public safety, telemetry, mining, transport. 		
COL811 Series(746-930MHz)	Typical VSWR Response	Typical E-Plane
<ul style="list-style-type: none"> • 4 models covering 746-930MHz in full bands. • 9 dBd gain. • High gain, with great coverage characteristics, and strong main lobe. • Useful for long range, large area coverage in multi-carrier combined systems. • Including multi-carrier combined systems in LMR, critical systems, public safety and telemetry. 		

800 MHz Meander® Collinear Antennas

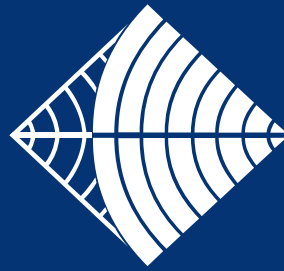
Electrical Specifications

Model	Gain dBi (dBd)	Frequency	Bandwidth	E Plane °	Power W	Passive IM 3rd order dBc*	Peak Instantaneous Power kW
COL81-806	2.1 (0)	746 - 806	Full Band	67	250	-150	25
COL81-870		806 - 870					
COL81-930		850 - 930					
COL84-806	7.1 (5)	746 - 806		16			
COL84-870		806 - 870					
COL84-930		850 - 930					
COL85-806	9.1 (7)	746 - 806		13			
COL85-870		806 - 870					
COL85-930		850 - 930					
COL811-806	11.1 (9)	746 - 806		7			
COL811-824		796 - 824					
COL811-870		806 - 870					
COL811-930		850 - 930					

Mechanical Specifications

Model	Construction	Length mm	Project Area cm²	Weight	Wind Gust	Shipping Weight	Shipping Dimensions
COL81-806	38mm Composite fibreglass sky blue radome & 500 x Ø48.5mm Ecofilm plated aluminium mount tube	1100	437	2.2	>240	4	Ø70 x 1300mm
COL81-870							
COL81-930							
COL84-806		1716	726	3		5	Ø70 x 2000mm
COL84-870		1633	680				
COL84-930		1567	647				
COL85-806		1960	844	2.1		4.1	Ø70 x 2100mm
COL85-870		1860	785				Ø70 x 2000mm
COL85-930		1780	736				Ø70 x 2000mm
COL811-806		3610	1629	11.5		5	Ø70 x 3800mm
COL811-824		3520	1599	11			Ø70 x 3700mm
COL811-870		3390	1512	11			Ø70 x 3500mm
COL811-930		3200	1428	10			Ø70 x 3400mm





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