

UHF Meander™ Collinear Antennas

380-520 MHz
COL410 Series



This range of Meander™ collinear antennas have been specifically designed for UHF applications requiring high performance, strong bandwidth and exceptional PIM specifications.

The patented Meander™ collinear element design allows multiple half wave elements to be stacked without the variations in cable lengths and mechanical joints which have typified the construction techniques in high gain collinear antennas. With each dipole element being printed on a single sided PCB the susceptibility to passive intermodulation is practically eliminated. Placing the elements on a board not only controls PIM but also removes manufacturing variations so that each and every antenna will provide the same pattern, tilt and VSWR characteristics over it's operating bandwidth. Consistency is guaranteed and a cost effective, reliable, high performance, low PIM antenna results.

The radome and mounting tube support this high performance antenna in a truly rugged package. Everything about these Meander™ collinears reflects the new demand for unquestioned performance electrically and physically in the most demanding public safety and industrial applications, where nothing can be left to chance.

The antenna has set frequency bands with the common bands generally available in stock.

- Strong Bandwidth
- Internally DC grounded for lightning protection and reduction of precipitation noise
- Tightly controlled radiation patterns for optimum coverage
- Patented PCB design for optimum RF pattern stability
- Full band coverage
- **Industry leading PIM ratings (-150dBc) providing low IM and low noise characteristics for optimum performance.**

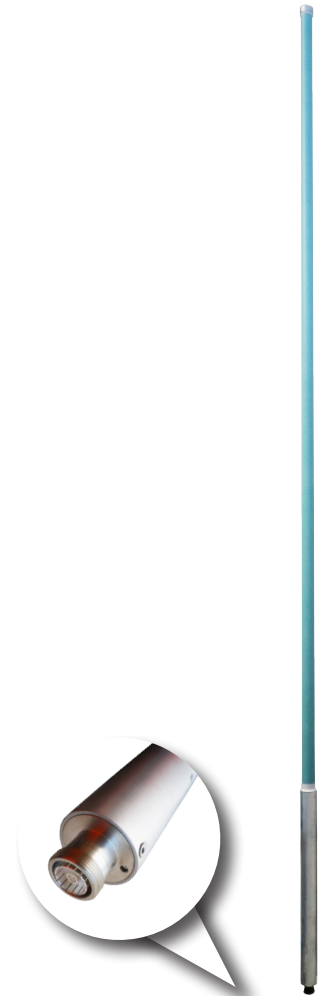
USA Patent: 6,909,403

European Patent: 1411588

Australian Patent: 2003255049

China Patent: ZL200310100548.5

India Patent: 254674



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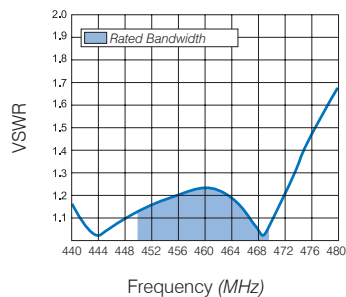
Electrical Specifications

Model Number	COL410-400	COL410-420	COL410-430	COL410-470	COL410-490	COL410-520
Nominal Gain <i>dBi</i> (<i>dBi</i>)	9 (11.1)					
Frequency <i>MHz</i>	380-400	400-420	410 - 430	450-470	470-490	490-520
Tuned Bandwidth <i>MHz</i>	20	20	20	20	20	30
VSWR	<1.5:1					
Nominal Impedance Ω	50					
Vertical Beamwidth ^a	7.2					
Horizontal Beamwidth	Omni +/- 0.5dB					
Input Power <i>Watts</i>	250					
Passive IM 3rd order (2x20W) - <i>dBc</i>	-150					
Peak Instantaneous Power <i>kW</i>	25					

Mechanical Specifications

Model Number		COL410-400	COL410-420	COL410-430	COL410-470	COL410-490	COL410-520
Construction		Composite fibreglass sky blue radome, aluminum mounting tube					
Length <i>in</i>		245	234	229	212	206	195
Radome Diameter <i>in</i>		2.6					
Weight <i>lbs</i>		26	25	25	23	22	22
Shipping Weight <i>lbs</i>		57	55	53	51	49	48
Shipping Dimensions <i>inches</i>	H	5					
	W	5					
	L	252	244	244	221	213	205
Termination		7/16" DIN fixed female					
Mounting Area <i>in</i>		30" x 3" diam. aluminum					
Suggested Clamps (not included)		UC1143					
Projected area <i>ft²</i>	no ice	5.2	5.0	4.8	4.5	4.3	4.1
	with ice	7.2	6.9	6.7	6.2	6.0	5.7
Lateral (Thrust) @ 100mph <i>lbs</i>		127	122	119	111	106	101
Wind Gust Rating <i>mph</i>		>150					
Torque @ 100mph <i>ft-lbs</i>		1068	974	923	784	712	636

Typical VSWR Response



Typical E Plane

