

COL54 Series

VHF Meander™ Collinear

145-174 MHz



This range of Meander™ collinear antennas have been specifically designed for VHF 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: 6909403B

European Patent: 1411588

Australian Patent: 2003255049

China 200310100548.5 / India 844/CHE/2003



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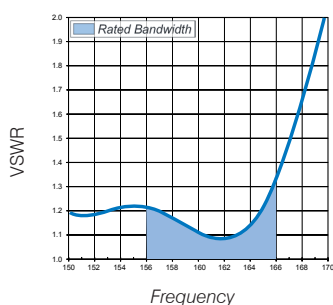
145-174 MHz



Electrical Specifications				
Model Number	COL54-155	COL54-160	COL54-166	COL54-174
Nominal Gain <i>dBd</i> (<i>dBi</i>)	6 (8.1)			
Frequency <i>MHz</i>	145 - 155	150 - 160	156 - 166	162 - 174
Tuned Bandwidth <i>MHz</i>	10	10	10	12
VSWR	<1.5 :1			
Nominal Impedance Ω	50			
Vertical Beamwidth°	17			
Horizontal Beamwidth°	Omni +/- 0.5dB			
Input Power <i>Watts</i>	400	350		
Passive IM 3rd order (2x20W) <i>dBc</i>	-150			
Peak Instantaneous Power <i>kW</i>	25			

Mechanical Specifications					
Model Number		COL54-155	COL54-160	COL54-166	COL54-174
Construction		Composite fiberglass sky blue radome, aluminum mounting tube			
Length <i>inches</i>		260	256	249	239
Radome Diameter <i>inches</i>		3			
Weight <i>lbs</i>		50.7	46	44	42
Shipping Weight <i>lbs</i>		66.2	99	97	95
Shipping Dimensions <i>inches</i>	H	5.9	6		
	W	5.9	6		
	L	275.6	261	256	247
Termination		Bulkhead mounted 7/16 DIN	7/16" DIN fixed female		
Mounting Area <i>inches</i>		30" x 3.5" diam. aluminum			
Suggested Clamps (not included)		UC1143			
Projected area <i>ft²</i>	No ice	6.4	6.3	6.1	5.8
	with ice	8.0	7.9	7.7	7.4
Lateral (Thrust) @ 100mph <i>lbs</i>		157	155	151	145
Wind Gust Rating <i>mph</i>		135	> 150		
Torque @ 100mph <i>ft-lbs</i>		1524	1296	1212	1105

Typical VSWR Response (COL54-166)



COL54-160 - E Plane

