

COL53 Series

VHF Meander™ Collinear

130-174 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: 6,909,403

European Patent: 1411588

Australian Patent: 2003255049

China Patent: ZL200310100548.5

India Patent: 254674



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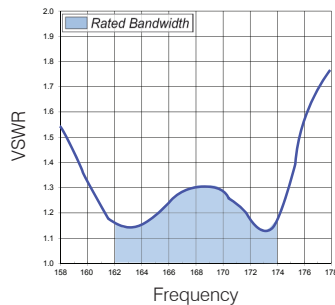
130-174 MHz



Electrical Specifications					
Model Number	COL53-140	COL53-150	COL53-160	COL53 - 166	COL53 - 174
Nominal Gain <i>dBd (dBi)</i>	4 (6.1)				
Frequency <i>MHz</i>	130 -140	140 - 150	150 - 160	156 - 166	162 - 174
Tuned Bandwidth <i>MHz</i>	10	10	10	10	12
VSWR	<1.5:1				
Nominal Impedance Ω	50				
Vertical Beamwidth°	23.4				
Horizontal Beamwidth°	Omni +/- 0.5dB				
Input Power <i>Watts</i>	400				
Passive IM 3rd order (2x20W) <i>dBc</i>	-150				
Peak Instantaneous Power <i>kW</i>	25				

Mechanical Specifications						
Model Number	COL53-140	COL53-150	COL53-160	COL53 - 166	COL53 - 174	
Construction	Composite fiberglass sky blue radome, aluminum mounting tube					
Length <i>inches</i>	215	204	197.6	192.6	187.2	
Radome Diameter <i>inches</i>	3					
Weight <i>lbs</i>	40	38	39.7	37.5	37.5	
Shipping Weight <i>lbs</i>	93	90	57.3	55.1	55.1	
Shipping Dimensions <i>inches</i>	H	6				
	W	6				
	L	223	211	212.6	206.1	200.8
Termination	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	5.3	5.0	4.79	4.67	4.53
	with ice	6.6	6.3	6.06	5.90	5.71
Lateral (Thrust) @ 100mph <i>lbs</i>	130	123	118.9	115.8	112.4	
Wind Gust Rating <i>mph</i>	>150					
Torque @ 100mph <i>ft-lbs</i>	866	759	706	662	619	

Typical VSWR Response (COL53-174)



Typical E Plane

