

VHF Meander Collinear Antenna

130-174MHz
COL53 Series

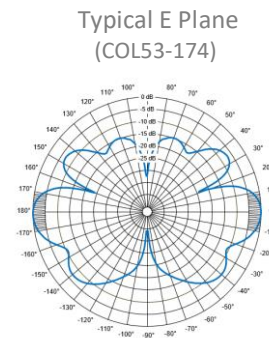
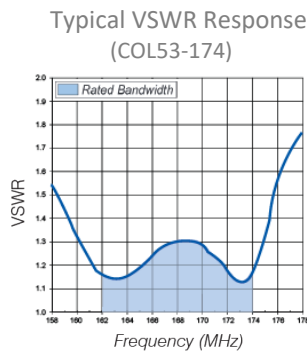


Meander™ collinear antennas has been specifically designed for wireless applications requiring high performance, broad bandwidth and exceptional PIM and PIP specifications.

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 the dipole elements 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 its operating bandwidth.

Features:

- Excellent bandwidth providing full band coverage
- Internally DC grounded for lightning protection and reduction of precipitation noise
- Low -150dBc PIM performance and excellent 25kW PIP rating
- Patented Meander PCB design for optimum RF stability and repeatability



Electrical Specifications

| Model Number | COL53-140-P | COL53-150-P | COL53-160-P | COL53-166-P | COL53-174-P |
|--|-------------------|-------------|-------------|-------------|-------------|
| Nominal Gain <i>dBi</i> (<i>dBi</i>) | 4 (6.1) | | | | |
| Frequency <i>MHz</i> | 130 – 140 | 140 – 150 | 150 – 160 | 156 – 166 | 162 – 174 |
| Tuned Bandwidth | Full band | | | | |
| VSWR | <1.5:1 (14dB) | | | | |
| Nominal Impedance Ω | 50 | | | | |
| E Plane Beamwidth $^\circ$ | 23 | | | | |
| H Plane Beamwidth $^\circ$ | Omni ± 0.5 dB | | | | |
| Input Power <i>W</i> | 400 | | | | |
| Peak Instantaneous Power <i>kW</i> | 25 | | | | |
| Passive IM (2 x 43dBm) <i>dBc</i> | -150 | | | | |

Mechanical Specifications

| Model Number | COL53-140-P | COL53-150-P | COL53-160-P | COL53-166-P | COL53-174-P | |
|---|--|--|--|--|--|------------|
| Construction | Ecofilm Aluminium mount tube with sky blue fibreglass radome | | | | | |
| Length <i>mm</i> (<i>in</i>) | 5500 (217) | 5200 (205) | 5000 (197) | 4900 (192) | 4800 (187) | |
| Weight <i>kg</i> (<i>lb</i>) | 19 (42) | 18 (40) | 18 (40) | 17 (38) | 17 (38) | |
| Termination | 4.3-10 type Female | | | | | |
| Mount Area <i>mm</i> (<i>in</i>) | 750 x \varnothing 90 (29.5 x \varnothing 3.5) | | | | | |
| Suggested Clamps | 3 x UC114 | | | | | |
| Projected Area | No Ice | 4869 (5.2) | 4610 (5.0) | 4460 (4.8) | 4332 (4.7) | 4218 (4.5) |
| | Ice | 6152 (6.6) | 5812 (6.3) | 5634 (6.1) | 5471 (5.9) | 5315 (5.7) |
| Lateral Thrust @ 160km/h <i>N</i> (100mph <i>lb</i>) | 577 (130) | 545 (123) | 529 (119) | 513 (116) | 500 (112) | |
| Torque @ 160km/h <i>Nm</i> (100mph <i>ft-lb</i>) | 1174 (866) | 1029 (759) | 957 (706) | 893 (659) | 839 (619) | |
| Wind Gust Rating <i>km/h</i> (<i>mph</i>) | 240 (150) | | | | | |
| Shipping Weight <i>kg</i> (<i>lb</i>) | 22 (49) | 21 (46) | 21 (46) | 20 (44) | 20 (44) | |
| Shipping dimensions L x dia <i>mm</i> (<i>in</i>) | 5700 x \varnothing 100 (224 X \varnothing 4) | 5400 x \varnothing 100 (213 X \varnothing 4) | 5200 x \varnothing 100 (205 X \varnothing 4) | 5100 x \varnothing 100 (201 X \varnothing 4) | 5000 x \varnothing 100 (197 X \varnothing 4) | |