

# UHF Meander™ Collinear Antennas

## COL410 Series

380-520 MHz



This range of 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.

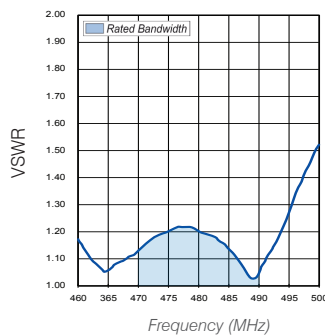
### Features:

- Excellent bandwidth providing full band coverage
- Internally DC grounded for lightning protection and the reduction of precipitation noise
- Tight controlled radiation patterns for optimum coverage
- Patented Meander™ PCB design for optimum RF pattern stability
- Industry leading PIM ratings (-150dBc) providing low IM and low noise characteristics for optimum network performance
- Excellent Peak Instantaneous Power(PIP) rating (25kW)



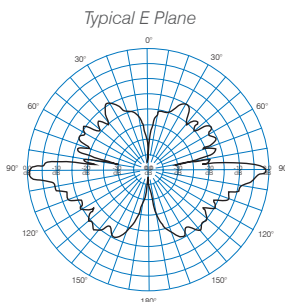
### Electrical

Typical VSWR Response



| Model Number                       | COL410-400     | COL410-420 | COL410-430 | COL410-470 | COL410-490 | COL410-520 |
|------------------------------------|----------------|------------|------------|------------|------------|------------|
| Nominal Gain dBi (dBi)             | 9(11.1)        |            |            |            |            |            |
| Frequency MHz                      | 380-400        | 400-420    | 410 - 430  | 450-470    | 470-490    | 490-520    |
| Tuned Bandwidth MHz                | Full band      |            |            |            |            |            |
| VSWR (Return Loss)                 | <1.5:1 (14dB)  |            |            |            |            |            |
| Nominal Impedance Ω                | 50             |            |            |            |            |            |
| Vertical Beamwidth°                | 7.2            |            |            |            |            |            |
| Horizontal Beamwidth°              | Omni +/- 0.5dB |            |            |            |            |            |
| Input Power W                      | 250            |            |            |            |            |            |
| Peak Instantaneous Power kW        | 25             |            |            |            |            |            |
| Passive IM 3rd order (2x20W) - dBc | -150           |            |            |            |            |            |

### Mechanical



| Model Number                   | COL410-400                                | COL410-420 | COL410-430 | COL410-470 | COL410-490 | COL410-520 |      |
|--------------------------------|---|------------|------------|------------|------------|------------|------|
| Construction                   | sky blue fibreglass radome                |            |            |            |            |            |      |
| Length m                       | 6210                                      | 5900       | 5820       | 5390       | 5200       | 4940       |      |
| Radome Diameter mm             | 65  |            |            |            |            |            |      |
| Weight kg                      | 11.5                                      | 11         | 11         | 10.5       | 10         | 10         |      |
| Termination                    | 7/16" DIN female                          |            |            |            |            |            |      |
| Mounting Area mm               | 650mm x ø76.2mm Ecofilm™ plated aluminium |            |            |            |            |            |      |
| Suggested Clamps               | 2 x UC1                                   |            |            |            |            |            |      |
| Projected area cm <sup>2</sup> | no ice                                    | 4765       | 4570       | 4474       | 4144       | 3969       | 3774 |
|                                | with ice                                  | 6620       | 6350       | 6216       | 5759       | 5519       | 5245 |
| Lateral Thrust @ 160km/h N     | 565                                       | 542        | 530        | 491        | 470        | 447        |      |
| Wind Gust Rating km/h          | 240                                       |            |            |            |            |            |      |
| Torque @ 160km/h Nm            | 1447                                      | 1320       | 1252       | 1063       | 965        | 862        |      |
| Shipping Weight Kg             | 25.5                                      | 25         | 24         | 23         | 22         | 21.5       |      |
| Shipping Dimensions mm         | H   | 115        |            |            |            |            |      |
|                                | W   | 115        |            |            |            |            |      |
|                                | L   | 6400       | 6200       | 6000       | 5600       | 5400       | 5200 |

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