

# VHLP2-8023/B

Base Product



0.6 m | 2 ft ValuLine® High Performance Low Profile Antenna, dual band, single polarised 71.000 – 86.000 GHz and single polarised, 21.200 – 23.600 GHz

## Product Classification

|                      |                   |
|----------------------|-------------------|
| <b>Product Type</b>  | Microwave antenna |
| <b>Product Brand</b> | ValuLine®         |

## General Specifications

|                              |  |
|------------------------------|--|
| <b>Antenna Type</b>          | VHLP - ValuLine® High Performance Low Profile Antenna, dual band |
| <b>Polarization</b>          | Single 80 GHz, Single 23 GHz                                     |
| <b>Side Struts, Included</b> | 0  |
| <b>Side Struts, Optional</b> | 0  |

## Dimensions

|                          |              |
|--------------------------|--------------|
| <b>Diameter, nominal</b> | 0.6 m   2 ft |
|--------------------------|--------------|

## Electrical Specifications

|   |  |
|---|--|
| <b>Operating Frequency Band</b>                         | 71.000 – 86.000 GHz                        |
| <b>Gain, Low Band</b>                                   | 48.5 dBi                                   |
| <b>Gain, Mid Band</b>                                   | 49.5 dBi                                   |
| <b>Gain, Top Band</b>                                   | 50 dBi                                     |
| <b>Boresite Cross Polarization Discrimination (XPD)</b> | 30 dB                                      |
| <b>Front-to-Back Ratio</b>                              | 68 dB                                      |
| <b>Beamwidth, Horizontal</b>                            | 0.5 °                                      |
| <b>Beamwidth, Vertical</b>                              | 0.5 °                                      |
| <b>Return Loss</b>                                      | 15 dB                                      |
| <b>VSWR</b>   | 1.43                                       |
| <b>Radiation Pattern Envelope Reference (RPE)</b>       | 7442B                                      |
| <b>Electrical Compliance</b>                            | ETSI 302 217 Class 3   US FCC Part 101.115 |

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## Electrical Specifications, Band 2

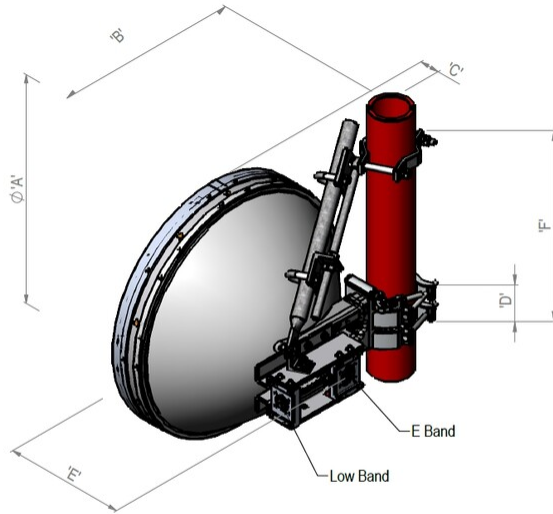
|   |  |
|---|--|
| <b>Operating Frequency Band</b>                         | 21.200 – 23.600 GHz                                    |
| <b>Gain, Low Band</b>                                   | 39.3 dBi   |
| <b>Gain, Mid Band</b>                                   | 39.4 dBi   |
| <b>Gain, Top Band</b>                                   | 39.5 dBi   |
| <b>Beamwidth, Horizontal</b>                            | 1.5 °  |
| <b>Beamwidth, Vertical</b>                              | 1.5 °  |
| <b>Boresite Cross Polarization Discrimination (XPD)</b> | 30 dB  |
| <b>Electrical Compliance</b>                            | Canada SRSP 321.8 B   ETSI 302 217 Class 3   FCC Cat A |
| <b>Front-to-Back Ratio</b>                              | 66 dB  |
| <b>Radiation Pattern Envelope Reference (RPE)</b>       | 7441   |
| <b>Return Loss</b>                                      | 15 dB  |
| <b>VSWR</b>   | 1.43   |

## Mechanical Specifications

|  |                              |
|--|------------------------------|
| <b>Compatible Mounting Pipe Diameter</b> | 50 mm–120 mm   2.0 in–4.7 in |
| <b>Fine Azimuth Adjustment Range</b>     | ±8°                          |
| <b>Fine Elevation Adjustment Range</b>   | ±15°                         |
| <b>Wind Speed at 23 GHz, operational</b> | 180 km/h   111.847 mph       |
| <b>Wind Speed at 80 GHz, operational</b> | 144 km/h   89.477 mph        |
| <b>Wind Speed, survival</b>              | 250 km/h   155.343 mph       |

## Antenna Dimensions and Mounting Information

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| Dimensions in mm (Inches) |            |            |            |           |            |            |
|---------------------------|------------|------------|------------|-----------|------------|------------|
| Antenna Size, ft (m)      | A          | B          | C          | D         | E          | F          |
| 2 (0.6)                   | 660 (25.9) | 309 (12.2) | 283 (11.1) | 106 (4.2) | 462 (18.2) | 505 (19.8) |

## Wind Forces at Wind Velocity Survival Rating

|                             |                           |
|-----------------------------|---------------------------|
| <b>Axial Force (FA)</b>     | 1693 N   380.602 lbf      |
| <b>Side Force (FS)</b>      | 814 N   182.995 lbf       |
| <b>Twisting Moment (MT)</b> | 756 N-m   6,691.164 in lb |
| <b>Zcg without Ice</b>      | 9 mm   0.354 in           |

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## Wind Forces at Wind Velocity Survival Rating Image



## Packaging and Weights

**Weight, net**

17 kg | 37.479 lb

## \* Footnotes

### Operating Frequency Band

Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.

### Gain, Mid Band

For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.

### Boresite Cross Polarization Discrimination (XPD)

The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth

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of the co-polarized main beam.

**Front-to-Back Ratio**

Denotes highest radiation relative to the main beam, at  $180^\circ \pm 40^\circ$ , across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.

**Return Loss**

The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.

**VSWR**

Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.

**Radiation Pattern Envelope Reference (RPE)**

Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of  $\pm 1^\circ$  throughout

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**Wind Speed, survival**

The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

**Axial Force (FA)**

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

**Side Force (FS)**

Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.

**Twisting Moment (MT)**

Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.