

# 3-Ft Dual-Pole Antenna

With E-Stabilizer Antenna Specifications

## 3-Ft Dual-Pole Antenna Quick Look

- Stabilized 90 cm (3 ft) E-band
- 71 GHz to 86 GHz
- Dual-polarized
- Parabolic antenna



### General Specifications

|                   |                              |
|-------------------|------------------------------|
| Part Number       | N800085L006A                 |
| Antenna Type      | Point-to-point (PTP) antenna |
| Performance       | High performance             |
| Diameter, Nominal | 0.9 m (3 ft)                 |
| Polarization      | Dual, V and H                |
| Antenna Color     | Gray                         |
| Radome Color      | Gray                         |
| Radome Material   | Plastic                      |
| RoHS 2015/863/EC  | Compliant                    |

### Electrical Specifications

|                   |                                                   |                       |                                                                                            |
|-------------------|---------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------|
| Frequency Range   | 71–86 GHz                                         | VSWR (Return Loss)    | 1.5 : 1 (14 dB)                                                                            |
| Antenna Interface | Cambium dual polarization with circular interface | Regulatory Compliance | ETSI EN 302 217-4 V2.1.1 (2017-05)<br>FCC CFR 47 Part 101.115                              |
| Gain, Low Band    | 54.0 dBi                                          | Side-Lobe Suppression | ETSI EN 302 217-4 V2.1.1 Class 3 (below 2° steering in azimuth)<br>FCC CFR 47 Part 101.115 |
| Gain, High Band   | 55.5 dBi                                          | Cross Polarization    | ETSI EN 302 217-4 V2.1.1 Class 3B<br>FCC CFR 47 Part 101.115                               |
| 3 dB Beamwidth    | 0.3°                                              | Operating Voltage     | -37 to -57 VDC                                                                             |
| XPD               | 25 dB                                             | Power Consumption     | 6 W max                                                                                    |
| F/B Ratio         | 71 dB                                             |                       |                                                                                            |

## 3-Ft Single-Pole Antenna

### Stabilizing System

|               |                                |
|---------------|--------------------------------|
| Beam Steering | ±4° for initial alignment      |
| Range         | ±2° for vibration compensation |

### Elevation Compensation Performance

| Vibration Frequency | Sensor        | Maximum Compensated Amplitude | Compensation Accuracy |
|---------------------|---------------|-------------------------------|-----------------------|
| DC–0.1 Hz           | Accelerometer | ±2°                           | 0.5°                  |
| 0.1–3 Hz            | Gyroscope     | ±2°                           | 0.5°                  |
| 3–6 Hz              | Gyroscope     | ±1.5°                         | 0.5°                  |
| 6–10 Hz             | Gyroscope     | ±1°                           | 0.5°                  |

### Azimuth Compensation Performance

| Vibration Frequency | Sensor    | Maximum Compensated Amplitude | Compensation Accuracy |
|---------------------|-----------|-------------------------------|-----------------------|
| 0.2 – 3 Hz          | Gyroscope | ±2°                           | 0.5°                  |
| 3 – 6 Hz            | Gyroscope | ±1.5°                         | 0.5°                  |
| 6 – 10 Hz           | Gyroscope | ±1°                           | 0.5°                  |

### Loss vs Steering Angle

| Steering Angle | Loss at Perfect Tracking (Vibrations) | Tracking Inaccuracy Loss (Vibrations) | Total  | Steering Angle |
|----------------|---------------------------------------|---------------------------------------|--------|----------------|
| 0°             | 0 dB                                  | 1 dB                                  | 1 dB   | 0°             |
| 0.5°           | 0.4 dB                                | 1 dB                                  | 1.4 dB | 0.5°           |
| 1°             | 1.5 dB                                | 1 dB                                  | 2.5 dB | 1°             |
| 1.5°           | 3 dB                                  | 1 dB                                  | 4 dB   | 1.5°           |
| 2°             | 4.5 dB                                | 1 dB                                  | 5.5 dB | 2°             |

### Interfaces

|       |                  |
|-------|------------------|
| Power | 3 pins           |
| Data  | 100Base-T, RJ-45 |

## 3-Ft Single-Pole Antenna

### Environmental

|            |                        |
|------------|------------------------|
| Wind Speed | ETSI EN 302 085 V1.1.2 |
| Survival   | 252 km/h               |
| Operation  | 164 km/h               |

### Loss vs Steering Angle

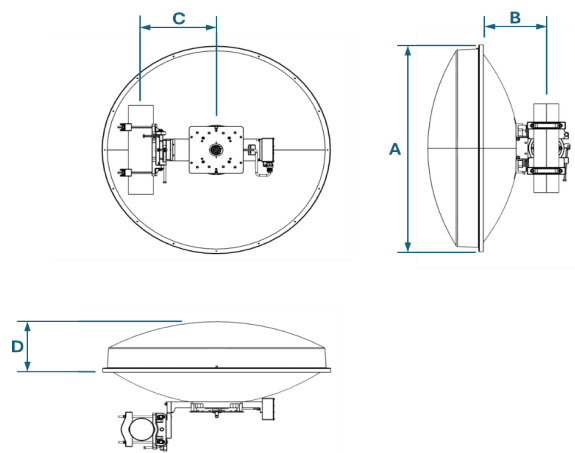
| Test                | Standard            | Duration    | Temperature    | Conditions   |
|---------------------|---------------------|-------------|----------------|--------------|
| Low Temperature     | IEC-60068-2-1       | 72 h        | -55°C          |              |
| High Temperature    | IEC-60068-2-2       | 72 h        | +71°C          |              |
| Temperature Cycling | IEC-60068-2-14      | 1 h         | -45°C to +70°C | 3 cycles     |
| Vibration           | IEC-60721-3-4       | 30 min/axis |                | Random (4M5) |
| Mechanical Shock    | IEC-60721-3-4       |             |                | 4M5          |
| Humidity            | EN300 019-2-4 T4.1E | 144 h       |                | 95%          |
| Water Tightness     | IEC 60529           |             |                | IP66         |
| Solar Radiation     | ASTM G53            | 1000 h      |                |              |
| Salt Spray          | IEC-60068-2-11 Ka   | 500 h       |                |              |
| Ice and Snow        |                     |             |                | 25 mm radial |

### Standards

|     |                                                                                                                                                                                                                                                            |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC | FCC CFR 47 part 15: 2021, Class A (US)<br>ICES-003: 2020 issue 7, Class A (Canada)<br>EN 300 489-1 Class A, EN 300489-4 Class A (Europe)<br>EN55032<br>EN55035<br>GR-1089-GORE: 2011 Issue 6, Section 4.2.2(R4-2) (US)<br>IEEE1613.1 Section 6.2 (Table 3) |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 3-Ft Single-Pole Antenna

### Outline Dimensions



|   |          |
|---|----------|
| A | 1,050 mm |
| B | 306 mm   |
| C | 360 mm   |
| D | 239 mm   |

### Package Dimensions

**Size** 1,170 mm x 1,170 mm x 470 mm

**Weight** 33 kg

**Antenna Weight** 12 kg

**Mounting Bracket Weight** 4 kg

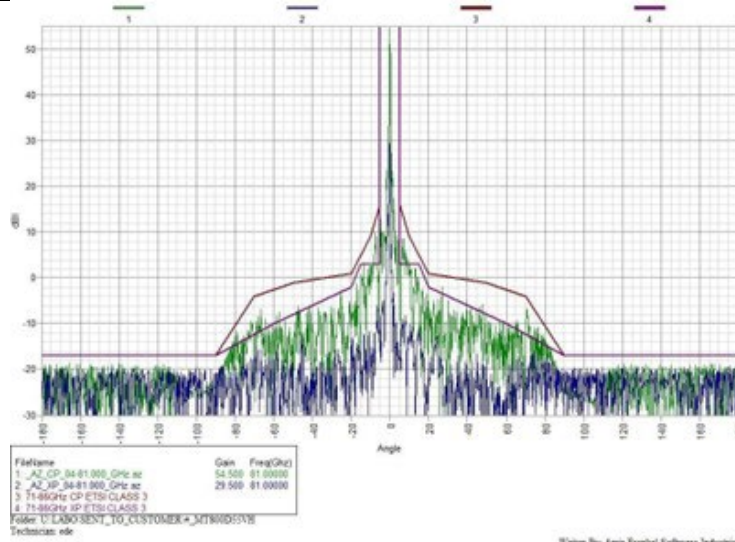
### Pole Dimensions

**Diameter** 50.8 mm x 114.3 mm  
(2 in x 4.5 in)

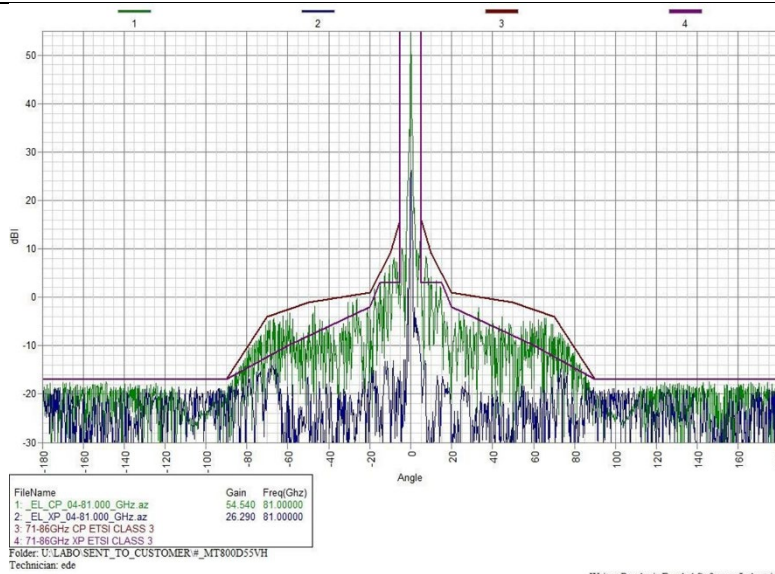
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### Radiation Pattern Envelope

#### Azimuth and Cross Polarization 81 GHz



#### Elevation and Cross Polarization 81 GHz



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