12700 Series, Airborne Antennas

12700 Series

The 12700 series antennas are robust, rigorously tested and environmentally sealed units suitable for a wide variety of GPS applications, including vehicle tracking, marine and airborne navigation.

These antennas have been tested to five DO-160 environmental test requirements, including:

- Altitude. RTCA/DO-160E, Section 4.6.1, Category F2
- Temperature and Temperature Variation Test. RTCA/DO-160E, Sections 4 and 5, Categories F2 and A
- Humidity. RTCA/DO-160D, Section 6. Category C-External Humidity Environment.
- Mechanical Shock RTCA/DO-160E, Section 7.0, Category B, Operational
- Vibration Test. RTCA/DO-160E, Section 8.0, Curves C, L, M, and Y

They feature a sealed o-ring that protects them against severe environmental conditions for reliable, long-lasting performance. Their radome is constructed of high grade polymer resin for UV and abrasion resistance. They will resist all de-icing fluids, jet fuels, and standard cleaning solvents.

Antenna Element Electrical Specifications

Frequency Band	Antenna Gain	Nominal Impedance	VSWR	Polarization	Grounding Protection	RF Input
1575.42 +/-10 MHz (GPS L1)	+4.5 dBiC nominal at zenith	50 ohms	< 1.5:1	Right hand circular	DC grounded	TNC female

Mechanical Specifications

Antenna Dimensions	Antenna Weight	Radome Color
3.4” H x 2.2” W	3.6 oz. nominal	White

Environmental Specifications

Temperature Range	Humidity
-40˚C to +85˚C	95%

Mounting

Model	Options
1270FW	Surface mount four hole pattern
1271FW	Surface mount four hole pattern
1273FW	Surface mount four hole pattern

PCTEL

Low Noise Amplifier Specifications

Frequency Band (MHz): 1575.42 +/-10 MHz (GPS L1)
Amplifier Gain: 26 dB (Part #1270FW) Passive (Part #1271FW) 35 dB (Part #1273FW)
Nominal Impedance: 50 ohms
Output VSWR: < 2.0:1
Noise Figure: 2.5 dB nominal
DC Voltage: 4.5 to 9 VDC
DC Current: ≤ 40 mA
Polarization: Right hand circular
Filtering: Dual filter