

Multi-GNSS Precision Timing Antenna

GNSS/GPS Antenna – Precision Timing

GNSS-L125-DH-NF



Description

Designed to meet stringent AAR environmental standards, this multi-GNSS high performance antenna features a multi-stacked patch design covering global GNSS frequencies, a multi-stage LNA, and advanced filtering to combat the effects of adjacent band interference.

Technologies

- GPS L1/L2/L5
- GLONASS L1/L2/L3
- Galileo E1/E5/E6
- Beidou B1/B2
- QZSS L1/L2/L5

Features

- Full multi-GNSS compatibility
- Advanced out-of-band filtering
- AAR compliant
- Excellent multipath mitigation
- IP67 ingress protection



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The PCTEL® GNSS-L125-DH-NF is a multi-GNSS high performance antenna designed to meet stringent AAR environmental standards. The antenna features a multi-stacked patch design covering global GNSS frequencies, a multi-stage LNA and advanced filtering to combat the effects of adjacent band interference. The antenna has a hermetic seal and is AAR tested and approved.

Features

- High performance that meets strict AAR standards
- Versatile – Full multi-GNSS compatibility
- Excellent multipath mitigation – With multi-stacked patch design
- Combats adjacent band interference – Via advanced out-of-band filtering
- Withstands severe environmental conditions – IP67 compliant design protects against water or dust ingress
- AAR Compliant

Applications

- Timing & synchronization
- PTC rolling stock tracking
- Military vehicle tracking and asset tracking
- Precision agriculture
- Differential correction

Certifications



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Electrical Specifications – All bands

Antenna Type	Stacked Patch	
Polarization	RHCP	
Frequency Bands	1166-1260 MHz	GPS L5, GPS L2 GALILEO E5, GALILEO E5a, GALILEO E5b QZSS L5, QZSS L2 GLONASS L2OC, GLONASS L3OC BEIDOU B2a, BEIDOU B2b
	1530-1610 MHz	GPS L1 GALILEO E1 QZSS L1 GLONASS L1OC BEIDOU B1I, BEIDOU B1C

Electrical Specifications – Band Specific

Band	Center Frequency (MHz)	Gain (dB) 90° Elevation (Zenith)	Gain (dB) 45° Elevation	Gain (dB) 10° Elevation	Axial Ratio (dB) 90° Elevation (Zenith)	Axial Ratio (dB) 45° Elevation	Axial Ratio (dB) 10° Elevation	Beamwidth
GPS L1	1575.42	4.40	2.20	-1.90	2.60	2.80	2.80	107°
GPS L2	1227.60	1.80	-0.60	-4.70	0.90	1.80	4.20	100°
GPS L5	1176.45	2.00	-0.50	-4.50	1.40	1.40	4.70	100°
GALILEO E1	1575.42	4.40	2.20	-1.90	2.60	2.80	2.80	-
GALILEO E5	1191.795	2.90	0.70	-3.60	1.20	1.10	4.20	
GALILEO E5a	1176.45	2.00	-0.50	-4.50	1.40	1.40	4.70	
GALILEO E5b	1207.14	3.00	0.70	-3.40	1.00	1.20	4.10	
GLONASS L1OC	1600.995	4.00	2.10	-1.60	4.20	4.80	6.00	-
GLONASS L2OC	1248.06	0.40	-2.30	-6.10	1.10	2.10	4.60	
GLONASS L3OC	1202.025	3.00	0.80	-3.30	1.00	1.20	4.20	
BEIDOU B1I	1561.098	3.50	1.40	-2.80	2.30	2.10	2.40	-
BEIDOU B1C	1575.42	4.40	2.20	-1.90	2.60	2.80	2.80	
BEIDOU B2a	1176.45	2.00	-0.50	-4.50	1.40	1.40	4.70	
BEIDOU B2b	1207.14	3.00	0.70	-3.40	1.00	1.20	4.10	
QZSS L1	1575.42	4.40	2.20	-1.90	2.60	2.80	2.80	-
QZSS L2	1227.60	1.80	-0.60	-4.70	0.90	1.80	4.20	
QZSS L5	1176.45	2.00	-0.50	-4.50	1.40	1.40	4.70	

LNA (Low Noise Amplifier) Specifications

Gain	Nominal Impedance	ESD Protection	Noise Figure 1166-1253 MHz	Noise Figure 1530-1610 MHz	DC Input Voltage	DC Current	Out of Band Rejection
28.0 dB, typ	50 Ω	IEC-61000-4-2, 15 kV	2.40 dB, typ	2.30 dB, typ	2.80-5.50 V	32 mA, typ	≤ 1080 MHz ≥ 70dBc 1310-1450 MHz ≥ 60 dBc ≥ 1710 MHz ≥ 65 dBc

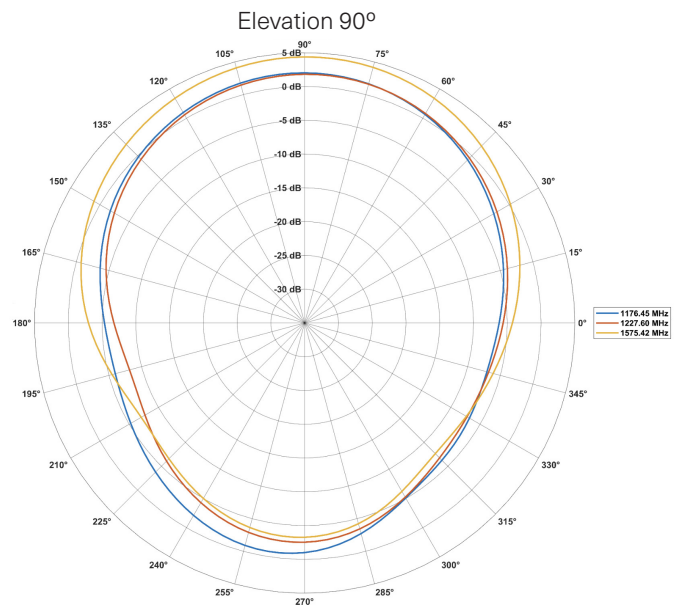
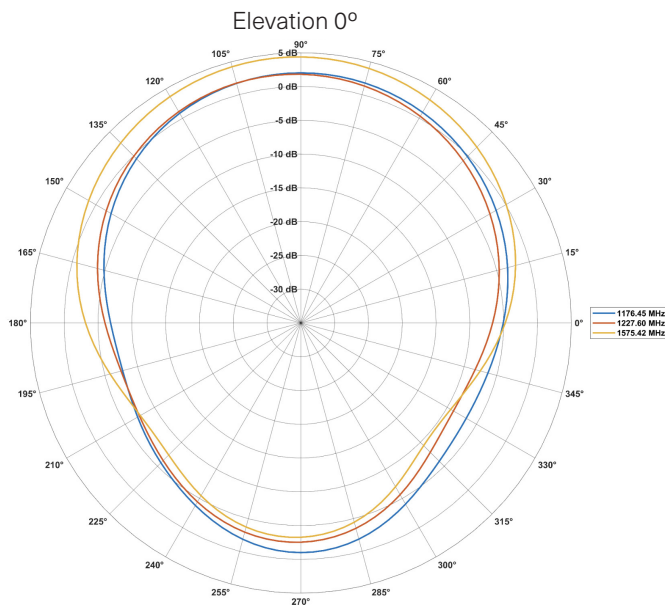
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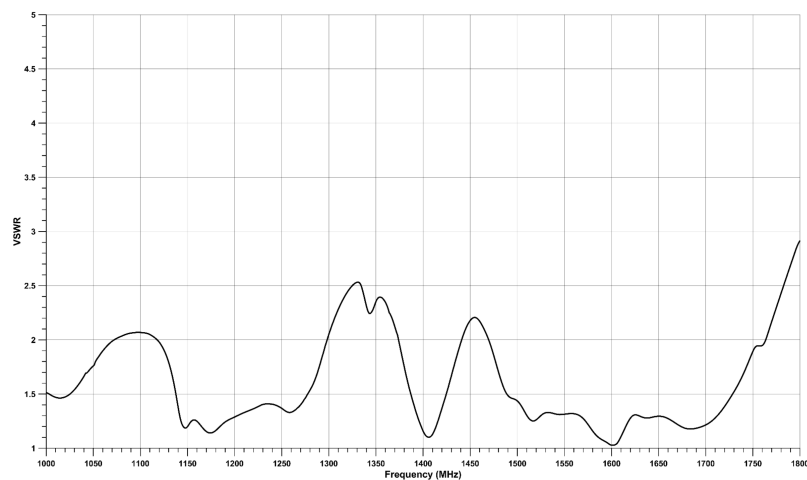
Mechanical and Environmental Specifications

Specification	Measurement
Dimensions	3.0" Dia. x 2.2" Tall (76.2 mm x 55 mm Tall)
Weight	0.53 lb (8.5 oz / 240 g)
Connector	N Female
Mount	¾" thru-hole or bracket mount
Radome Color	White
IP Rating	IP67
Radome Seal	Rubber gasket
Environmental Rating	AAR compliant, MIL-STD 810G

Radiation Patterns



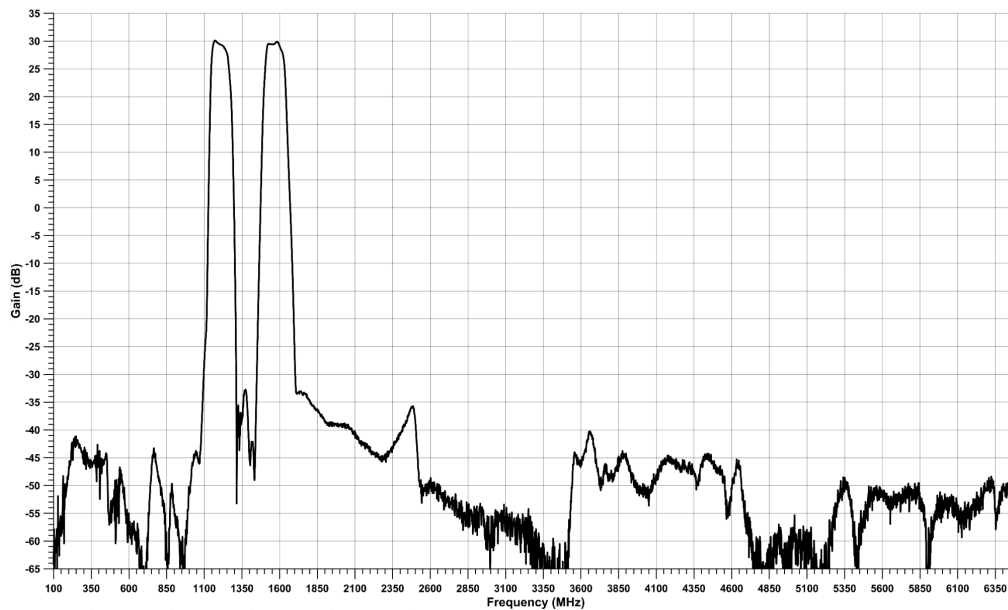
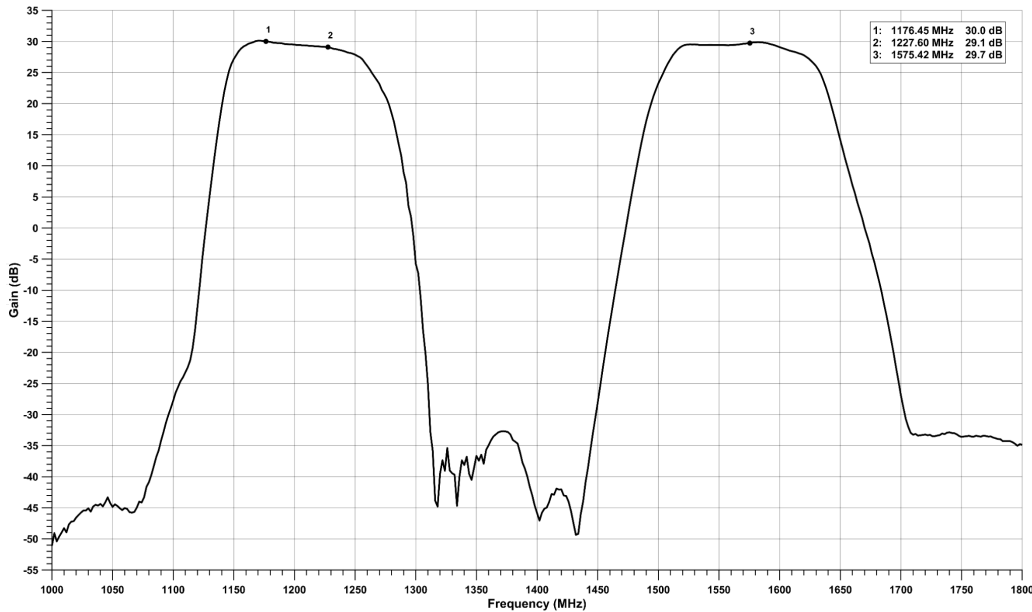
VSWR



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LNA Gain



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Solving Complex Wireless Challenges

PCTEL, an Amphenol company, is a leading global provider of wireless technology solutions, including purpose-built Industrial IoT devices, antenna systems, and test and measurement products. Trusted by our customers for decades, we solve complex wireless challenges to help organizations stay connected, transform, and grow.



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