



FAA Approved Facility

# Dual Polarization (RHCP/LHCP) L1/L2 GPS Antenna

P/N: 1.9G1215RL-PP-XRS-X Rev B

1.9" Square Configurations with Back Mounting Option

"-PL-" or "-AL-" for Limiter Options for High Power Pulse Protection



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1.91 [48.56] SQ.

4xR.50 [R12.70]  
4xR.72 [R18.19]

0.36 [9.02] (+/-0.010in)

0.10" (PIN), 0.25" [6.37] (MCX/MMCX), .53 [13.46] (SMA/R-SMA), 0.57" [14.53] (TNC), 0.83" [21.00] (TNC-BH), 0.72" [18.29] (N, N-BH)

4X 4-40 UNF-2A  
X 0.100in DEEP

2X.15 [3.77]

MOUNTING:  
ADHESIVE

2X .756 [19.20]

2X 1.512 [38.40]

2xØ.37 [Ø9.52]

2X.25 [6.48]

SMA Right Angle Female Con.  
(OPTION:TNC, TNC Bulkhead,N,  
N-Bulkhead, MCX, MMCX, or Cable)  
Clearance Hole: 0.4" Dia.  
0.52" Dia . for TNC Con.  
0.63" Dia. for N Con.

2xØ.37 [Ø9.52]

2X.25 [6.48]

**SPECIFICATIONS**

ZONE	REVISIONS			
	REV	DESCRIPTION	DATE	APPROVED

**ELECTRICAL:**

	L1: (1575.42±12) MHz			L2: (1227.60±12) MHz		
FREQUENCY:						
RADIATION PATTERN:	HEMISPHERICAL					
POLARIZATION:	RHCP/LHCP					
VSWR:	< 1.5:1			< 1.5:1		
IMPEDANCE	50 ohms			50 ohms		
ANTENNA GAIN (dBic):	Free Space	3 in G.P.	4 ft G.P.	Free Space	3 in G.P.	4 ft G.P.
@ 90 ° (ZENITH):	+2.7	+4.7	+3.1	+1.5	+3.3	+4.5
@ 10 ° Elevation:	-4.4	-1.9	-1.9	-6.7	-3.8	-3.5
@ 20 ° Elevation:	-2.3	-0.3	+0.6	-5.6	-2.0	-0.8
@ 30 ° Elevation:	-0.8	+1.4	+1.7	-4.5	-0.5	+1.4
@ 60 - 90 ° Elevation:	>2.0	>3.9	>2.4	> 0.0	>2.7	>2.2
BEAM WIDTH (3dB):	113 Deg.	114 Deg.	143 Deg.	85 Deg.	106 Deg.	74 Deg.
AXIAL RATIO:	2 dB			2 dB		
LIGHTNING PROTECTION:	DC GROUNDING					

**LNA OPTION:**

LNA GAIN: (21.0+/-2.0) dB  
LNA NOISE FIGURE: 1.8 dB  
LNA P 1dB Out: +16 dBm  
VOLTAGE/CURRENT: (+2.8 TO +28) Volts DC / (15 TO 25) mA

**MECHANICAL:**

SIZE: 1.912in.[48.56mm] SQ.  
HEIGHT: 0.36 in. [9.02 mm]  
WEIGHT: 2.3 oz. (65 g)  
FINISH: SKYDROLRESISTANTPOLYURETHANENAMEL  
BASE IRIDITEPER MIL-C-5441  
MATERIAL: 6061-T6ALUMINUMALLOYBASE  
THERMOSETPLASTICRADOME,UV, ABRASIONAND  
SKYDROL RESISTANCE  
CONNECTOR: 0.030" DIA. PIN, 0.100" LONG  
(OPTION:SMA, TNC, TNC-Bulkhead,N, N-Bulkhead,  
MCX, MMCX, or Cable)

**ENVIRONMENTAL:**

TEMPERATURE: -67 °F TO +185 °F [-55 °C TO +85 °C]  
ALTITUDE: 70,000ft.  
VIBRATION: >30 G's  
LEAKAGE: HERMETICALLYSEAL

**FEDERAL & MILITARY SPECIFICATIONS**

**DESIGN TO:** FAA TSO-C144, DO-160D, DO-228, MIL-C-5541,  
MIL-E-5400, MIL-I-45208A, AND MIL-STD-810

QTY	DESCRIPTION	PART NO	SPECIFICATION	MATERIAL	FINISH	ITEM NO.
1	ADHESIVE GASKET	12345G-3M-1G	-	-	-	1

**UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES**  
FRACTIONS DECIMALS ANGLES  
± 1/64 .0005 ± 1°  
TOLERANCES ARE:  
XXX.XXX ± .010 ± 1°  
TOLERANCE SYN PER ANSI Y14.5  
REMOVE ALL BURRS  
BREAK EXTERNAL EDGES .005 TO .015  
FILLETS R .005 TO R .030  
SCREW THREADS PER MIL-S-8879  
DIA'S ON A COMMON 6.25-.005  
MACHINED SURFACES  
DO NOT SCALE DRAWING

**ANTCOM CORP.** TORRANCE CALIFORNIA

**1.9" SQUARE, L1/L2 PASSIVE RHCP/LHCP GPS ANTENNA**

DRAWN: [Signature]  
CHECKED: [Signature]  
ENGINEER: [Signature]  
APPROVED: S. HUYNH Sep-19-01  
D 3CVE1  
SCALE 1/1  
SHEET 1 OF 1

**SIZE:**  
1: 2" SQ  
1.9: 1.9" SQ  
2: 2.6" DIA  
3: 3.5" DIA  
4: MINI ARINC

**FREQ. BAND:**  
1215: L1/L2  
15: L1 ONLY

**POLARIZATION:**  
RL: RHCP/LHCP  
VL: VER/HOR

**LNA:**  
A: WITH LNA  
AL: WITH LNA/LIMITER  
P: WITHOUT LNA  
PL: WITHOUT LNA and THINNER (HEIGHT = 0.58")

**CABLE'S LENGTH**  
X: NO CABLE  
M: MAG. N: NO MAG.  
# : CABLE LENGTH (IN)  
R: RIGHT ANGLE CON

**CONNECTOR**  
S: SMA; RS: SMA-R; P: PINS  
M: MCX; MM: MMCX  
N, NB: N, N-Bulkhead  
T, TB: TNC, TNC-Bulkhead

**COLOR**  
-1: GLOSS WHITE #17925 PER FED-STD-595B  
-2: LUSTERLESS GRAY #36320 PER FED-STD-595B  
-3: OLIVE DRAB GREEN #34031 PER FED-STD-595B  
-4: LUSTERLESS BLACK #37038 PER FED-STD-595B

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Wide Band GNSS Option Is Available

Antenna Mounts: http://www.antcom.com/documents/catalogs/PeripheralAntennaProducts2.pdf  
Amplifiers/Power Divider/Combiner/Filter: http://www.antcom.com/documents/catalogs/PeripheralAntennaProducts1.pdf