5-Element-5-Channel L1/L2 GPS / IRIDIUM CRPA Antenna

P/N: 4NF-3.5SG1215IRPL-XS5-4 Rev A

3.5” Square x 0.547” Thick

“-PL-” or “-AL-” for Limiter Options for High Power Pulse Protection

FAA Approved Facility

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Wide Band GNSS Option Is Available

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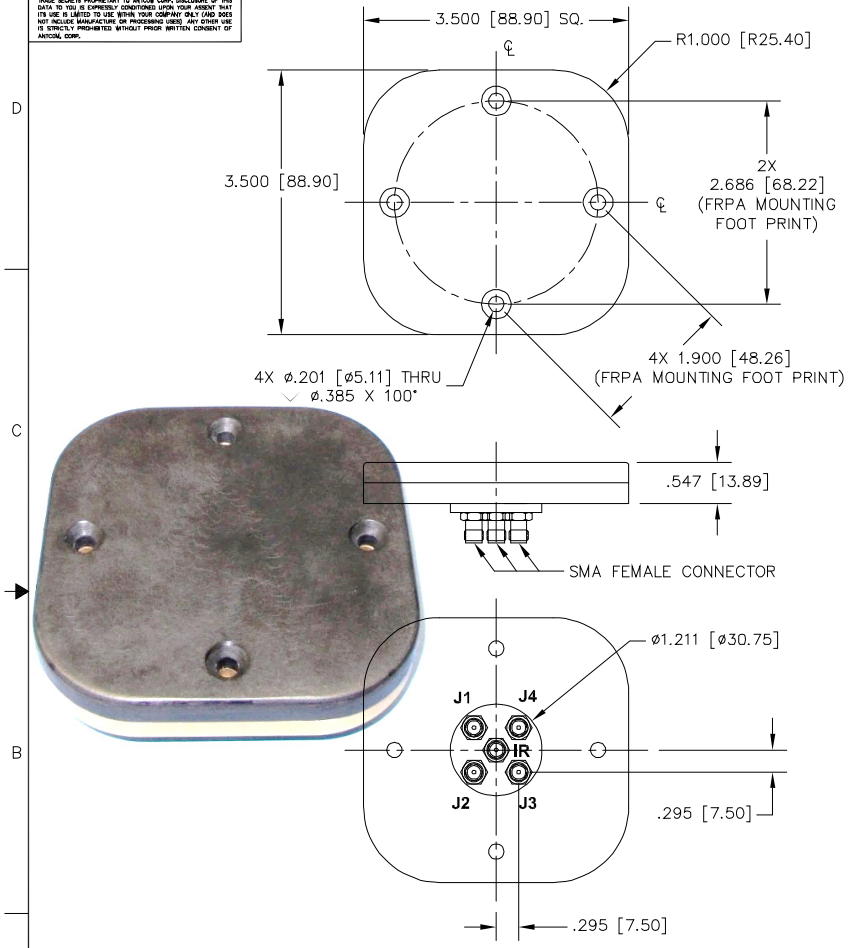

SPECIFICATIONS

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED

ELECTRICAL:

	J1/J2/J3/J4/IR				
	L1 GPS		L2 GPS		IRIDIUM
FREQUENCY:	(1575.42 ± 24) MHz		(1227.60 ± 24) MHz		(1610.0 - 1626.5) MHz
RADIATION PATTERN:	HEMISPHERICAL				HEMISPHERICAL
POLARIZATION:	RHCP		RHCP		RHCP
VSWR:	< 2.0:1		< 2.0:1		< 2.0:1
IMPEDANCE:	50 ohms		50 ohms		
ELEMENT ANTENNA GAIN (dBic):	3 in G.P.	In ARRAY	3 in G.P.	In ARRAY	3 in G.P.
@ 90 ° (ZENITH):	+ 3.8	Amplitude/	+ 2.7	Amplitude/	+ 3.8
@ 10 ° Elevation:	- 4.3	Phase	- 6.3	Phase	- 4.3
@ 20 ° Elevation:	- 2.2	Data are	- 4.2	Data are	- 2.2
@ 30 ° Elevation:	- 0.7	Available	- 2.4	Available	- 0.7
@ 60 - 90 ° Elevation:	> 2.5	in ASCII	> 1.3	in ASCII	> 2.5
BEAM WIDTH (3dB):	120 Deg.	Format	90 Deg.	Format	120 Deg.
HIGH POWER PROTECTION:	OPTIONAL: WITH FILTER/LIMITER (INPUT: +50dBm, OUPUT:+30 dBm)				

LNA OPTION:

LNA GAIN:	(22.0+/-2.0) dB	N/A
LNA NOISE FIGURE:	1.8 dB	N/A
LNA P1dB Out:	+16 dBm	N/A
VOLTAGE/CURRENT:	(+2.5 TO +5) Volts DC / (15 TO 25) mA	N/A

MECHANICAL:

SIZE:	3.50 In.[88.90 mm] SQUARE HEIGHT: 0.547 in. [13.89 mm]
WEIGHT:	7.1 oz. (201g)
FINISH:	SKYDROL RESISTANT POLYURETHANE ENAMEL BASE IRIDITE PER MIL-C-5441F
MATERIAL:	6061-T6 ALUMINUM ALLOY BASE COMPOSITE RADOME, IMPACT, ABRASION, UV, SOLVENT, SKYDROL RESISTANCE, AND FIRE RETARDANT
CONNECTOR:	SMA FEMALE (OPTION: TNC, N, BNC, MCX, MMCX or Cable)

ENVIRONMENTAL:

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

FEDERAL & MILITARY SPECIFICATIONS:

DESIGN TO: FAA TSO-C144, DO-160D, D0-228, MIL-C-5541F, MIL-E-5400, MIL-I-45208A, MIL-STD-810, AND SAE J1455

ACCEPTANCE TEST PROCEDURE: ATP-GPS-L1L2-100

FREQ. BAND:	LNA:	CONFORMAL RADIUS OPTION:
1516: L1 GPS & IRIDIUM	A: WITH LNA	-3: 3.000" RADIUS (SDB)
1215IRL: L1/L2 GPS & IRIDIUM	AL: WITH LNA/LIMITER (INPUT: +50dBm, OUPUT:+30 dBm)	-3.5N: 3.500" RADIUS (NETTIRE, GMLRS, NLOS)
1625: GLOBALSTAR	P: WITHOUT LNA	-4P: 4.000" RADIUS (PAVEWAY)
1523: GPS & XM	PL: PASSIVE WITH LIMITER	-6M: 6.000" RADIUS (MAVERICK)
1525: GPS & WI-FI	P2L: PASSIVE WITH LIMITER/ 1 DUAL LINEAR (E/H)	-7.5EM: 7.500" RADIUS (EGBU, MALD)
		-14A: 14.00" RADIUS (ACM)
		-X: X" RADIUS (0< Flat, No Radius)
		-F: FLAT (WITHOUT RADOME)

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CONFORMALITY:	SHAPE:	CONNECTOR:	COLOR:
CC: CONFORMAL/CURVED	C: CIRCULAR	S: SMA; P: PINS	-1: GLOSS WHITE #17925 PER FED-STD-595B
CF: CONFORMAL/FLAT	S: SQUARE	M: MCX; MM: MMCX	-2: LUSTERLESS GRAY #36320 PER FED-STD-595B
NF: NOT CONFORMAL/FLAT	T: TRIANGULAR	N, NB: N, N-Bulkhead	-3: OLIVE DRAB GREEN #34031 PER FED-STD-595B
NC: NOT CONFORMAL/CURVED	H: HEXAGON	T, TB: TNC, TNC-Bulkhead	-4: LUSTERLESS BLACK #37038 PER FED-STD-595B
	R: RECTANGULAR		-5: DESERT TAN #33446 PER FED-STD-595B

QUANTITY REQD	ITEM NO	DESCRIPTION	PART NO	FINISH
4	–	MOUNTING SCREWS: 10–32, 3/4"	MS24693C274	–
–2	–1	PARTS LIST		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ± 1/64, DECIMALS .XX± .015, .XXX± .005, ANGLES ± 1°. TOLERANCE SYM 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. DATUMS ON A COMMON ℄ .005. MACHINED SURFACES 125. DO NOT SCALE DRAWING.

ORIGINALLY DRAWN	S. HUYNH	July–10–07
ORIGINALLY DESIGNED	S. HUYNH	July–10–07
UPDATED	S. HUYNH	April–05–17
UPDATE DRAWN	P. TRAN	April–05–17
APPROVED	S. HUYNH	April–05–17

ANTCOM CORP. TORRANCE CALIFORNIA

3.5in SQUARE IRIDIUM/ L1L2 GPS ANTENNA ARRAY

SIZE	CAGE NO	DRAWING NO	REV
D	3CVE1	5NF-3.5SG1215IRPL-XS5-4	A

SCALE 1/1 SHEET 1 OF 1

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