



FAA Approved Facility

# 5-Element-5-Channel (5 RHCP) CRPA L1/L2 GPS/Glonass Antenna Array

P/N: 5NF-4.5CG1215P-XS-X *Rev B*

**(Improved Gain)** (4.50" Dia. x 0.748" (19mm) Thick)

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



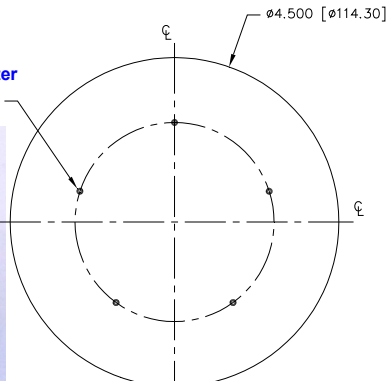
ANTCOM CORPORATION . 367 Van Ness Way, Suite 602 . Torrance, CA 90501 . Tel: (310) 782-1076 . Fax: (310) 782-1086 . E-mail: antennas@antcom.com . http://www.antcom.com

Wide Band GNSS Option Is Available

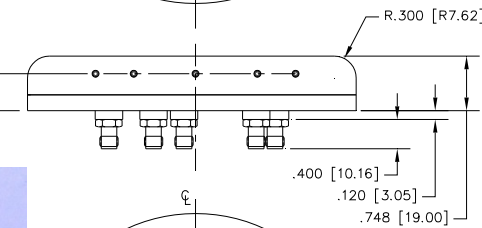
NOTICE OF PROPRIETARY RIGHTS  
THIS DOCUMENT CONTAINS CONFIDENTIAL TECHNICAL DATA INCLUDING TRADE SECRETS PROPRIETARY TO ANTCOM CORP. DISCLOSURE OF THIS DATA TO YOU IS EXPRESSLY CONDITIONED UPON YOUR AGREEMENT THAT ITS USE IS LIMITED TO USE WITHIN YOUR COMPANY ONLY (SUCH USE DOES NOT INCLUDE MANUFACTURE OR REPRODUCTION). ANY OTHER USE IS EXPRESSLY PROHIBITED WITHOUT PRIOR WRITTEN CONSENT OF ANTCOM CORP.



**X, Y Phase Center**  
5x Equally Space  
On 2.724" DIA.



**Z Phase Center**  
.506 [12.85]



Mounting:  
5 x 10-32 Top  
x0.2in deep  
72° Apart  
on 1.802in Rad.

5x SMA-F  
72° Apart  
on 1.205in Rad.

## SPECIFICATIONS

### ELECTRICAL:

		REVISIONS		
ZONE	REV	DESCRIPTION	DATE	APPROVED
A		IMPROVED GAIN	SEP-21-06	S.H
B		REVISED HEIGHT PER RAYTHEON SPECS	JAN-08-13	S.H

FREQUENCY:	L1: (1575.42 ± 24) MHz	L2: (1227.60 ± 24) MHz
RADIATION PATTERN:	HEMISPHERICAL	
POLARIZATION:	RHCP	RHCP
VSWR:	< 2.0:1	< 2.0:1
IMPEDANCE:	50 ohms	
ELEMENT ANTENNA GAIN (dBic):	3 in G.P.	3 in G.P.
@ 90° (ZENITH):	+ 3.8	+ 2.7
@ 10° Elevation:	- 4.3	- 6.3
@ 20° Elevation:	- 2.2	- 4.2
@ 30° Elevation:	- 0.7	- 2.4
@ 60 - 90° Elevation:	> 2.5	> 1.3
BEAM WIDTH (3dB):	120 Deg.	90 Deg.
HIGH POWER PROTECTION	OPTIONAL: WITH FILTER/LIMITER (INPUT: +50dBm, OUPUT: +30 dBm)	

### LNA OPTION:

LNA GAIN: (22.0±2.0) dB  
LNA NOISE FIGURE: 1.8 dB  
LNA P 1dB Out: +16 dBm  
VOLTAGE/CURRENT: (+2.5 TO +5) Volts DC / (15 TO 25) mA

### MECHANICAL:

SIZE: 4.50 in. [ 114.3 mm] DIAMETER  
HEIGHT: 0.748 in. [19.00 mm]  
WEIGHT: 10 oz. (283g)  
FINISH: SKYDROL RESISTANT POLYURETHANE ENAMEL BASE IRIDITE PER MIL-C-5441  
MATERIAL: 6061-T6 ALUMINUM ALLOY BASE COMPOSITE RADOME, IMPACT, ABRASION, UV, SOLVENT, SKYDROL RESISTANCE, AND FIRE RETARDANT  
CONNECTOR: SMA FEMALE (OPTION: SMB, SSMB, SMC, SSMC, MCX, MMCX)

### 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-5541, MIL-E-5400, MIL-I-45208A, MIL-STD-810, AND SAE J1455

### ACCEPTANCE TEST PROCEDURE:

ATP-GPS-L1L2-100

CONFORMALITY:	SIZE (INCHES):	SHAPE:	LNA:	CONFORMAL RADIUS OPTION:
CC: CONFORMAL/CURVED	3.75" SQ.	C: CIRCULAR	A: WITH LNA	-3: 3.000" RADIUS (SDBII)
CF: CONFORMAL/FLAT	3.5" SQ.	S: SQUARE	AL: WITH LNA/LIMITER (INPUT: +50dBm, OUPUT: +30 dBm)	-3.5N: 3.500" RADIUS (NETFIRE, GMLRS, NLOS)
NF: NOT CONFORMAL/FLAT	3.5" CIRCULAR	T: TRIANGULAR	P: WITHOUT LNA	-4P: 4.000" RADIUS (PAVENWAY)
NC: NOT CONFORMAL/CURVED		H: HEXAGON	PL: PASSIVE WITH LIMITER	-4M: 6.000" RADIUS (MAVERICK)
		R: RECTANGULAR	P2L: PASSIVE WITH LIMITER/ 1 DUAL LINEAR (E/H)	-7.5EM: 7.500" RADIUS (EGBU, MALD)
				-14A: 14.00" RADIUS (ACMI)
				-X: X" RADIUS (Ø: Flat, No Radius)
				-F: FLAT (WITHOUT RADOME)

**P/N: 5NF-4.5CG1215P-XS-4**

NUMBER OF ELEMENT:	CABLE'S LENGTH:	CONNECTOR:	COLOR:
X: NO CABLE	S: SMA, P: PINS	-1: GLOSS WHITE #17925 PER FED-STD-595B	
M: MAG, N: NO MAG	M: MCX, MM: MMCX	-2: LUSTERLESS GRAY #36320 PER FED-STD-595B	
#: CABLE LENGTH (IN)	N: NB, N: N-Bulkhead	-3: OLIVE DRAB GREEN #34031 PER FED-STD-595B	
R: RIGHT ANGLE CON.	T, TB, TNC, TNC-Bulkhead	-4: LUSTERLESS BLACK #37038 PER FED-STD-595B	

5	MOUNTING SCREWS: 10-32, 3/4"	MS24693C274	1
DESCRIPTION		PART NO	REV
QUANTITY REQD		PARTS LIST	
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES ± 1/64 .015 ± .002 .002 ± .01</p> <p>TOLERANCE SURF PER ANS Y14.5 REMOVE ALL BURRS BREAK EXTERNAL EDGES .005 TO .010 FILE TO .002 TO .010 S20W SURFACES PER MIL-S-8879 DATS ON A COMMON 25.000 MACHINED SURFACES</p> <p>DO NOT SCALE DRAWING</p>			
ORIGINALLY DRAWN	S. HUYNH	ANTCOM CORP. TORRANCE, CALIFORNIA	
ORIGINALLY DESIGNED	S. HUYNH	4.5in DIA. 5-ELEMENT, 5-RHCP CRPA L1/L2 GPS ANTENNA ARRAY	
UPDATED	S. HUYNH		
UPDATE DRAWN	P. TRIN		
APPROVED	S. HUYNH		
DATE	CAGE NO	DRAWING NO	REV
JULY-10-07	D13CVE1	5NF-4.5CG1215P-XS-4	B
JULY-10-07			BY
JAN-09-13			SCALE 1/1
JAN-09-13			SHEET 1 OF 1

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