

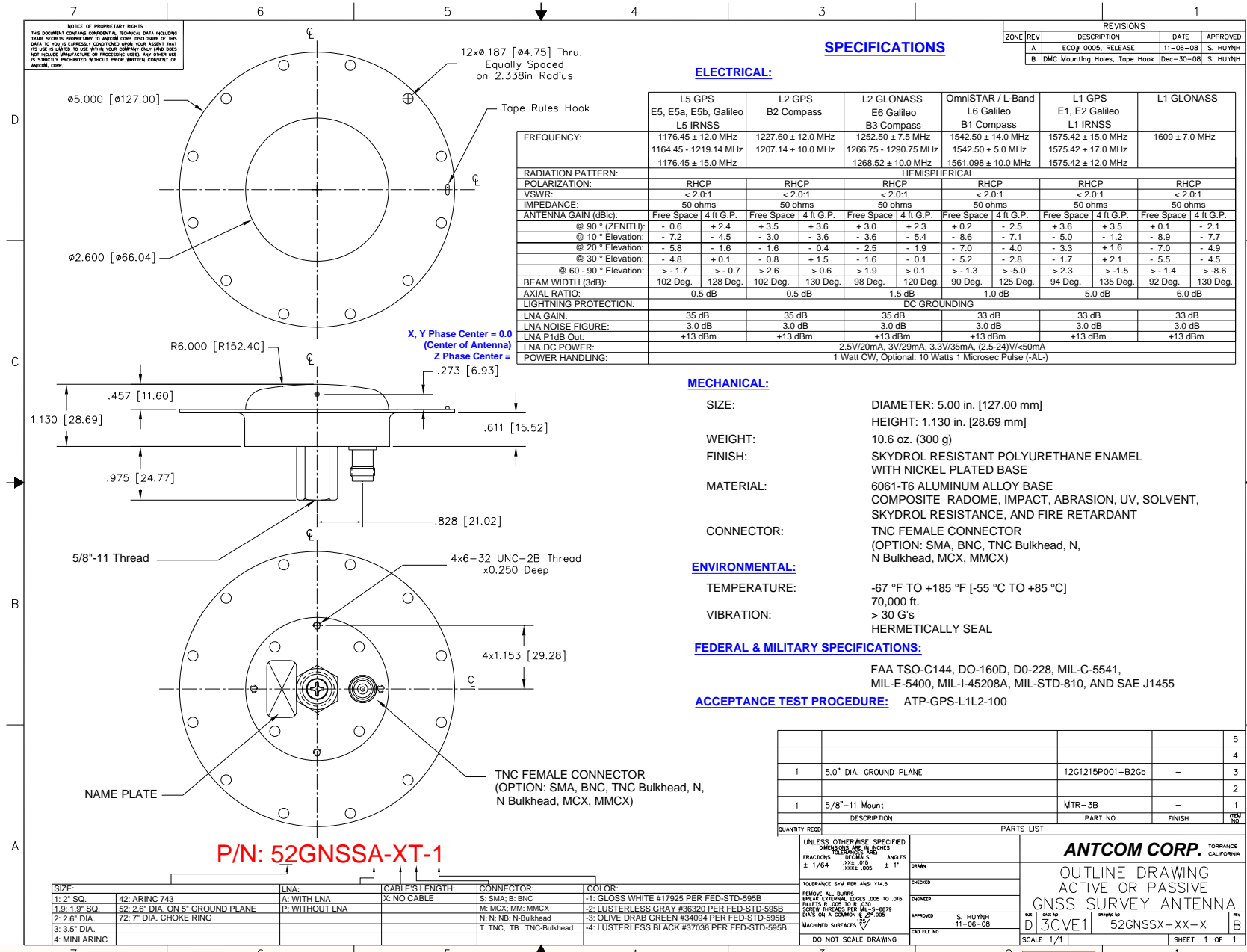


# New 5in Dia. GNSS Survey Antenna for Global Navigation Satellite Systems (GNSS) Applications

**P/N: 52GNSSA-XX-X Rev B (Survey Mount, DMC Foot Print)**



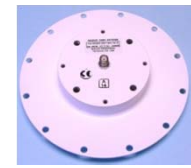
ANTCOM CORPORATION . 367 Van Ness Way, Suite 602 . Torrance, CA 90501 . Tel: (310) 782-1076 . Fax: (310) 782-1086 . E-mail: antennas@antcom.com . http://www.antcom.com





# New 5in Dia. GNSS Survey Antenna for Global Navigation Satellite Systems (GNSS) Applications

**P/N: 52GNSSA-XXR-X-DMC Rev B (DMC Foot Print)**



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**12x $\phi$ .187 [4.75] Thru. Equally Spaced on 2.338in Radius**

**Tape Rules Hook**

**$\phi$ 5.000 [127.00]**

**$\phi$ 2.600 [66.04]**

**R6.000 [R152.40]**

**.457 [11.60]**

**1.130 [28.69]**

**.611 [15.52]**

**.273 [6.93]**

**5/8"-11 Thread**

**4x6-32 UNC-2B Thread x0.250 Deep**

**4x1.153 [29.28]**

**SMA FEMALE CONNECTOR (OPTION: TNC, BNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX)**

**NAME PLATE**

**X, Y Phase Center = 0.0 (Center of Antenna)**  
**Z Phase Center = .273 [6.93]**

**P/N: 52GNSSA-XXR-1-DMC**

SIZE:	LNA:	CABLE'S LENGTH:	CONNECTOR:	COLOR:
1: 2" SQ.	42: ARINC 743	A: WITH LNA	S: SMA, B: BNC	-1: GLOSS WHITE #17925 PER FED-STD-595B
1.9: 1.9" SQ.	52: 2.6" DIA. ON 5" GROUND PLANE	X: NO CABLE	M: MCX, MM: MMCX	-2: LUSTERLESS GRAY #36320 PER FED-STD-595B
2: 2.6" DIA.	72: 7" DIA. CHOKER RING		N: N, NB: N-Bulkhead	-3: OLIVE DRAB GREEN #34094 PER FED-STD-595B
3: 3.5" DIA.			T: TNC; TB: TNC-Bulkhead	-4: LUSTERLESS BLACK #37038 PER FED-STD-595B
4: MINI ARINC				

### SPECIFICATIONS

**ELECTRICAL:**

FREQUENCY:	L5 GPS E5, E5a, E5b, Galileo L5 IRNSS	L2 GPS B2 Compass	L2 GLONASS E6 Galileo B3 Compass	OmniSTAR / L-Band L6 Galileo B1 Compass	L1 GPS E1, E2 Galileo L1 IRNSS	L1 GLONASS
	1176.45 ± 12.0 MHz 1164.45 - 1219.14 MHz 1176.45 ± 15.0 MHz	1227.60 ± 12.0 MHz 1207.14 ± 10.0 MHz	1252.50 ± 7.5 MHz 1266.75 - 1290.75 MHz 1268.52 ± 10.0 MHz	1542.50 ± 14.0 MHz 1542.50 ± 5.0 MHz 1561.098 ± 10.0 MHz	1575.42 ± 15.0 MHz 1575.42 ± 17.0 MHz 1575.42 ± 12.0 MHz	1609 ± 7.0 MHz

RADIATION PATTERN:	HEMISPHERICAL											
POLARIZATION:	RHCP	RHCP	RHCP	RHCP	RHCP	RHCP						
VSWR:	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1						
IMPEDANCE:	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms						
ANTENNA GAIN (dBi):	Free Space	4 ft G.P.	Free Space	4 ft G.P.	Free Space	4 ft G.P.	Free Space	4 ft G.P.	Free Space	4 ft G.P.	Free Space	4 ft G.P.
@ 90° (ZENITH):	- 0.6	+ 2.4	+ 3.5	+ 3.6	+ 3.0	+ 2.3	+ 0.2	- 2.5	+ 3.6	+ 3.5	+ 0.1	- 2.1
@ 10° Elevation:	- 7.2	- 4.5	- 3.0	- 3.6	- 3.6	- 5.4	- 8.6	- 7.1	- 5.0	- 1.2	- 8.9	- 7.7
@ 20° Elevation:	- 5.8	- 1.6	- 1.6	- 0.4	- 2.5	- 1.9	- 7.0	- 4.0	- 3.3	+ 1.6	- 7.0	- 4.9
@ 30° Elevation:	- 4.8	+ 0.1	- 0.8	+ 1.5	- 1.6	- 0.1	- 5.2	- 2.8	- 1.7	+ 2.1	- 5.5	- 4.5
@ 60 - 90° Elevation:	> - 1.7	> - 0.7	> 2.6	> 0.6	> 1.9	> 0.1	> - 1.3	> - 5.0	> 2.3	> - 1.5	> - 1.4	> - 8.6
BEAM WIDTH (3dB):	102 Deg.	128 Deg.	102 Deg.	130 Deg.	98 Deg.	120 Deg.	90 Deg.	125 Deg.	94 Deg.	135 Deg.	92 Deg.	130 Deg.
AXIAL RATIO:	0.5 dB		0.5 dB		1.5 dB		1.0 dB		5.0 dB		6.0 dB	
LIGHTNING PROTECTION:	DC GROUNDING											
LNA GAIN:	35 dB		35 dB		35 dB		33 dB		33 dB		33 dB	
LNA NOISE FIGURE:	3.0 dB		3.0 dB		3.0 dB		3.0 dB		3.0 dB		3.0 dB	
LNA P1dB Out:	+13 dBm		+13 dBm		+13 dBm		+13 dBm		+13 dBm		+13 dBm	
LNA DC POWER:	2.5V/20mA, 3V/29mA, 3.3V/35mA, (2.5-24)V/-50mA											
POWER HANDLING:	1 Watt CW, Optional: 10 Watts 1 Microsec Pulse (-AL-)											

**MECHANICAL:**

**SIZE:** DIAMETER: 5.00 in. [127.00 mm]  
HEIGHT: 1.130 in. [28.69 mm]

**WEIGHT:** 10.6 oz. (300 g)

**FINISH:** SKYDROL RESISTANT POLYURETHANE ENAMEL WITH NICKEL PLATED BASE

**MATERIAL:** 6061-T6 ALUMINUM ALLOY BASE COMPOSITE RADOME, IMPACT, ABRASION, UV, SOLVENT, SKYDROL RESISTANCE, AND FIRE RETARDANT

**CONNECTOR:** SMA FEMALE CONNECTOR (OPTION: TNC, BNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX)

**ENVIRONMENTAL:**

**TEMPERATURE:** -67 °F TO +185 °F [-55 °C TO +85 °C]  
70,000 ft.

**VIBRATION:** > 30 G's  
HERMETICALLY SEAL

**FEDERAL & MILITARY SPECIFICATIONS:**

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

**ACCEPTANCE TEST PROCEDURE:** ATP-GPS-L1L2-100

QUANTITY REQD	DESCRIPTION	PARTS LIST	PART NO	FINISH	REF NO.
					5
					4
1	5.0" DIA. GROUND PLANE		12G1215P001-B2Cb	-	3
					2
1	5/8"-11 Mount		MTR-3B	-	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND DECIMALS ARE TO ± 1/64 ANGLES TO ± 1°

TOLERANCE DIM PER ASME Y14.5

REMOVE ALL BURRS

BREAK EXTERNAL EDGES .005 TO .015

FILLET R .005 TO R .010

SPRUE BREAKS PER MIL-STD-883C METHOD 2000.1

DATE ON A COMMON & 2/05

MACHINED SURFACES

DO NOT SCALE DRAWING

**ANTCOM CORP.** TORRANCE CALIFORNIA

OUTLINE DRAWING  
ACTIVE OR PASSIVE  
GNSS SURVEY ANTENNA

APPROVED: S. HUYNH 11-06-08  
DATE FILED: 11-06-08

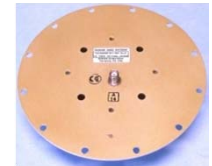
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SHEET 1 OF 1

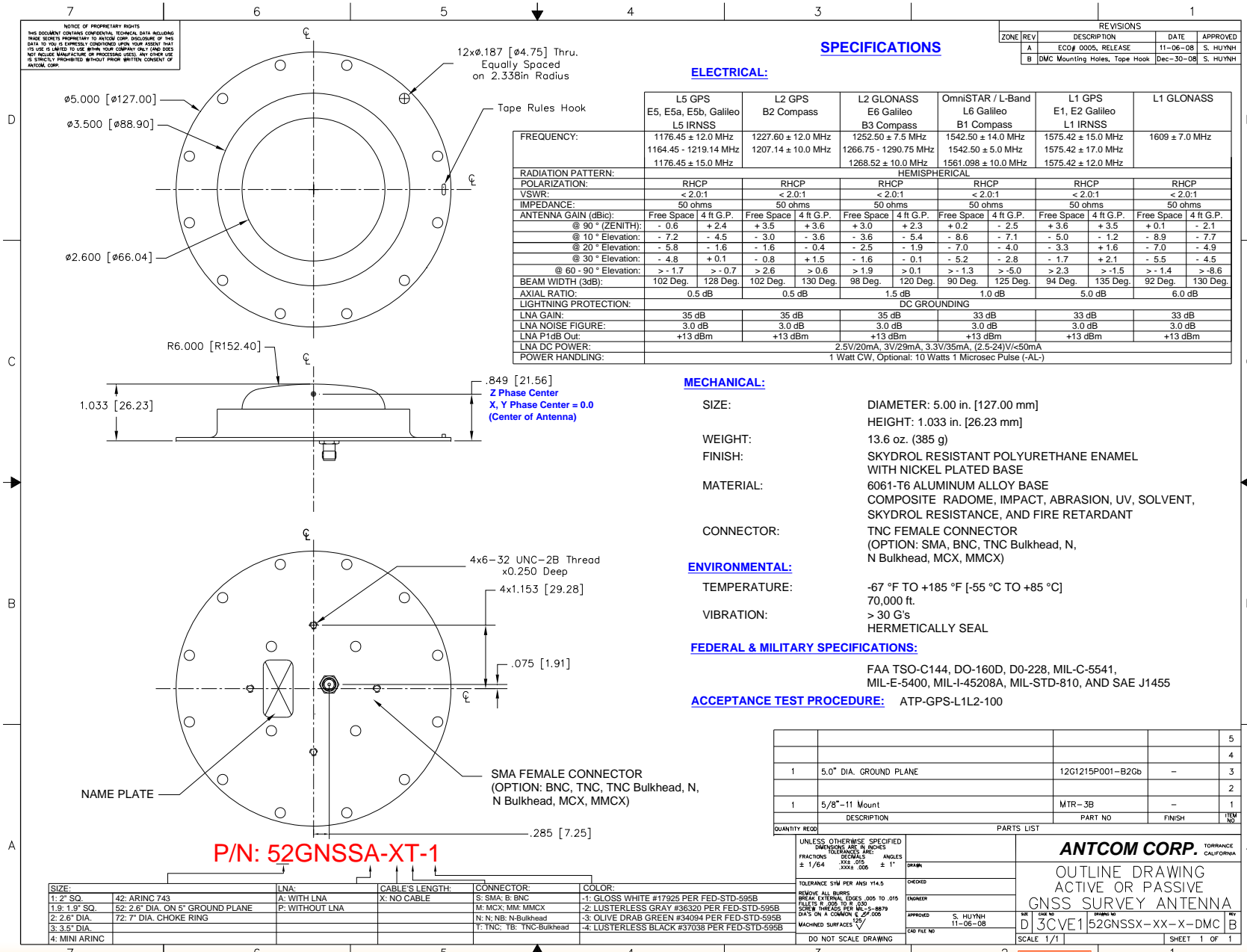


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**SPECIFICATIONS**

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
A		ECO# 0005, RELEASE	11-06-08	S. HUYNH
B		DMC Mounting Holes, Tape Hook	Dec-30-08	S. HUYNH

**ELECTRICAL:**

	L5 GPS E5, E5a, E5b, Galileo L5 IRNSS	L2 GPS B2 Compass	L2 GLONASS E6 Galileo B3 Compass	OmniSTAR / L-Band L6 Galileo B1 Compass	L1 GPS E1, E2 Galileo L1 IRNSS	L1 GLONASS
<b>FREQUENCY:</b>	1176.45 ± 12.0 MHz 1164.45 - 1219.14 MHz 1176.45 ± 15.0 MHz	1227.60 ± 12.0 MHz 1207.14 ± 10.0 MHz	1252.50 ± 7.5 MHz 1266.75 - 1290.75 MHz 1268.52 ± 10.0 MHz	1542.50 ± 14.0 MHz 1542.50 ± 5.0 MHz 1561.098 ± 10.0 MHz	1575.42 ± 15.0 MHz 1575.42 ± 17.0 MHz 1575.42 ± 12.0 MHz	1609 ± 7.0 MHz
<b>RADIATION PATTERN:</b>	HEMISPHERICAL					
<b>POLARIZATION:</b>	RHCP	RHCP	RHCP	RHCP	RHCP	RHCP
<b>VSWR:</b>	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1	< 2.0:1
<b>IMPEDANCE:</b>	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms	50 ohms
<b>ANTENNA GAIN (dBi):</b>	Free Space 4 ft G.P.	Free Space 4 ft G.P.	Free Space 4 ft G.P.	Free Space 4 ft G.P.	Free Space 4 ft G.P.	Free Space 4 ft G.P.
@ 90° (ZENITH):	- 0.6 +2.4	+ 3.5 +3.6	+ 3.0 +2.3	+ 0.2 - 2.5	+ 3.6 +3.5	+ 0.1 - 2.1
@ 10° Elevation:	- 7.2 - 4.5	- 3.0 - 3.6	- 3.6 - 5.4	- 8.6 - 7.1	- 5.0 - 1.2	- 8.9 - 7.7
@ 20° Elevation:	- 5.8 - 1.6	- 1.6 - 0.4	- 2.5 - 1.9	- 7.0 - 4.0	- 3.3 +1.6	- 7.0 - 4.9
@ 30° Elevation:	- 4.8 +0.1	- 0.8 +1.5	- 1.6 - 0.1	- 5.2 - 2.8	- 1.7 +2.1	- 5.5 - 4.5
@ 60 - 90° Elevation:	> - 1.7 > - 0.7	> 2.6 > 0.6	> 1.9 > 0.1	> - 1.3 > - 5.0	> 2.3 > - 1.5	> - 1.4 > - 8.6
<b>BEAM WIDTH (3dB):</b>	102 Deg.	128 Deg.	130 Deg.	98 Deg.	120 Deg.	90 Deg.
<b>AXIAL RATIO:</b>	0.5 dB	0.5 dB	1.5 dB	1.0 dB	5.0 dB	6.0 dB
<b>LIGHTNING PROTECTION:</b>	DC GROUNDING					
<b>LNA GAIN:</b>	35 dB	35 dB	35 dB	33 dB	33 dB	33 dB
<b>LNA NOISE FIGURE:</b>	3.0 dB	3.0 dB	3.0 dB	3.0 dB	3.0 dB	3.0 dB
<b>LNA P1dB Out:</b>	+13 dBm	+13 dBm	+13 dBm	+13 dBm	+13 dBm	+13 dBm
<b>LNA DC POWER:</b>	2.5V/20mA, 3V/29mA, 3.3V/35mA, (2.5-24V)/<50mA					
<b>POWER HANDLING:</b>	1 Watt CW, Optional: 10 Watts 1 Microsec Pulse (-AL-)					

**MECHANICAL:**

- SIZE:** DIAMETER: 5.00 in. [127.00 mm]  
HEIGHT: 1.033 in. [26.23 mm]
- WEIGHT:** 13.6 oz. (385 g)
- FINISH:** SKYDROL RESISTANT POLYURETHANE ENAMEL WITH NICKEL PLATED BASE
- MATERIAL:** 6061-T6 ALUMINUM ALLOY BASE  
COMPOSITE RADOME, IMPACT, ABRASION, UV, SOLVENT, SKYDROL RESISTANCE, AND FIRE RETARDANT
- CONNECTOR:** TNC FEMALE CONNECTOR  
(OPTION: SMA, BNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX)
- ENVIRONMENTAL:** TEMPERATURE: -67 °F TO +185 °F [-55 °C TO +85 °C]  
70,000 ft.  
VIBRATION: > 30 G's  
HERMETICALLY SEAL
- FEDERAL & MILITARY SPECIFICATIONS:** 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

SIZE:	LNA:	CABLE LENGTH:	CONNECTOR:	COLOR:
1: 2" SQ.	A: WITH LNA	X: NO CABLE	S: SMA; B: BNC	-1: GLOSS WHITE #17925 PER FED-STD-595B
1.9: 1.9" SQ.	P: WITHOUT LNA		M: MCX; MM: MMCX	-2: LUSTERLESS GRAY #36320 PER FED-STD-595B
2: 2.6" DIA.			N: N; NB: N Bulkhead	-3: OLIVE DRAB GREEN #34094 PER FED-STD-595B
3: 3.5" DIA.			T: TNC; TB: TNC-Bulkhead	-4: LUSTERLESS BLACK #37038 PER FED-STD-595B
4: MINI ARINC				

QUANTITY REQD	DESCRIPTION	PART NO	FINISH	TUM NO.
				5
				4
1	5.0" DIA. GROUND PLANE	12G1215P001-B2Gb	-	3
				2
1	5/8"-11 Mount	MTR-3B	-	1

**ANTCOM CORP.** TORRANCE CALIFORNIA

OUTLINE DRAWING  
ACTIVE OR PASSIVE  
GNSS SURVEY ANTENNA

PART NO: D|3CVE1|52GNSSX-XX-X-DMC|B|

SCALE: 1/1

SHEET 1 OF 1