



New Infinite Balun, Warped Half-Wavelength Dual Quadrifilar Helix Antennas with Better Gain & C/N (47to50), High Multipath Rejection, Broader Beamwidth (155Deg), & Higher Front/Back Ratio (>24dB) For Handheld, Mobile, UAV, Light Weight, and High Degree of Movement Applications

L1 GPS/Glonass + Iridium/Inmarsat Antennas  
 P/N: HL1IRA-XSM-4-3 (Active); P/N: HL1IRP-XSM-4-3 (Passive)



ISO 9001:2008/FAA Approved Facility

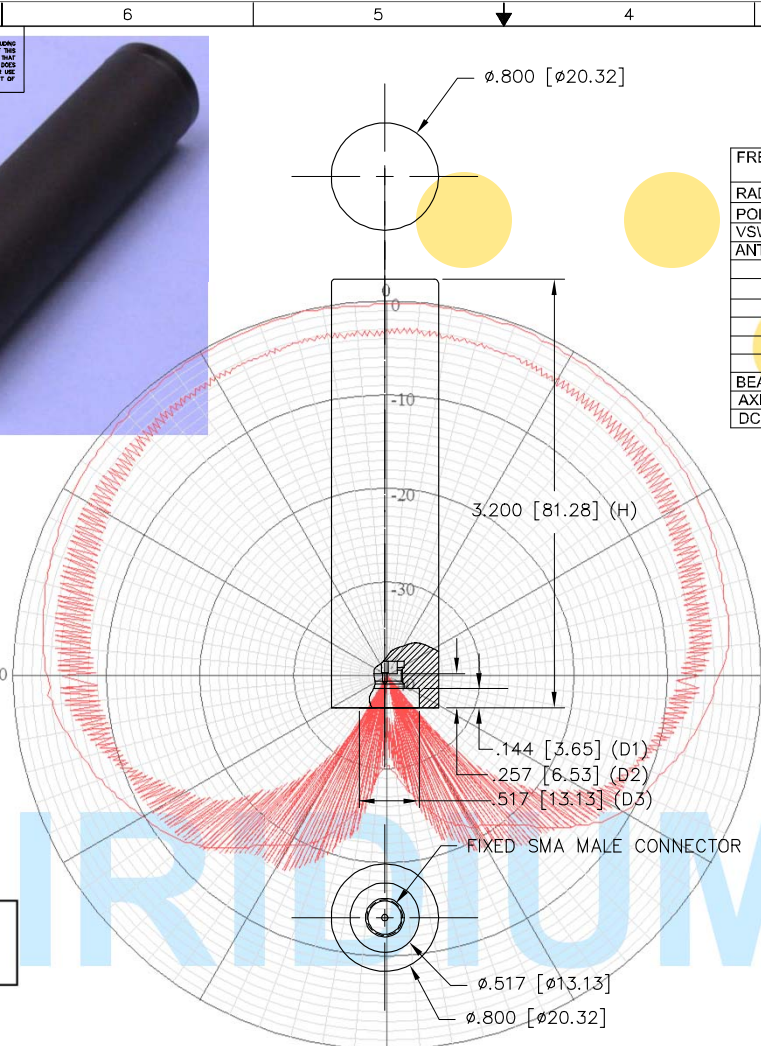
Antenna Mounts: <http://www.antcom.com/documents/catalogs/PeripheralAntennaProducts2.pdf>

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

NOTICE OF PROPRIETARY RIGHTS  
 THE FOLLOWING CONTAINS CONFIDENTIAL, TECHNICAL DATA INCLUDING TRADE SECRETS PROPRIETARY TO ANTCOM CORP. DISCLOSURE OF THE DATA TO ANY OTHER PARTY WITHOUT WRITTEN CONSENT OF ANTCOM CORP. IS LIMITED TO USE WITHIN YOUR COMPANY ONLY AND DOES NOT INCLUDE MANUFACTURE OR REPRODUCTION. ANY OTHER USE IS EXPRESSLY PROHIBITED WITHOUT PRIOR WRITTEN CONSENT OF ANTCOM CORP.



D1, D2, D3, and H Dimensions can be Customized.



**SPECIFICATIONS**

ZONE	REVISIONS				
	REV	DESCRIPTION	DATE	APPROVED	
<b>ELECTRICAL:</b>					
FREQUENCY (MHz):	Omnistar/L-Band Rx INMARSAT (1542.50 ±17.5)	L1 GPS (1575.42 ±15)	L1 GLONASS (1598 - 1609)	IRIDIUM (1610-1626)	Tx INMARSAT (1642.50 ±17.5)
RADIATION PATTERN:	HEMISPHERICAL				
POLARIZATION:	RHCP				
VSWR:	< 1.5:1				
ANTENNA GAIN (dBic):					
@ 90° (Zenith):	+0.3	+1.1	+1.9	+2.3	+1.2
@ 10° Elevation:	-3.2	-2.1	-1.3	-0.8	-1.8
@ 20° Elevation:	-2.2	-1.1	-0.4	+0.1	-1.0
@ 30° Elevation:	-1.6	-0.4	+0.2	+0.6	-0.5
@ 45° Elevation:	-0.7	+0.4	+0.9	+1.3	+0.3
@ 70° Elevation:	+0.1	+1.1	+1.5	+1.9	+0.9
BEAM WIDTH (3dB):	155°	155°	155°	155°	155°
AXIAL RATIO:	1dB	1dB	1dB	1dB	1dB
DC GROUNDING:	YES (LIGHTNING PROTECTION)				

**LNA OPTION:**

LNA GAIN: 27 dB (-A), 33 dB (-A3), 44 dB (-A4)  
 LNA NOISE FIGURE: 1.5 dB  
 LNA P 1dB Out: +13 dBm  
 VOLTAGE/CURRENT: (+2.4 TO +5) Volts DC / (15 TO 25) mA

**MECHANICAL:**

SIZE: DIAMETER: 0.80 in. [20.32 mm]  
 HEIGHT: 3.20 in. [81.28 mm]  
 WEIGHT: 0.705 oz (20 g)  
 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: FIXED SMA MALE (OPTION: MCX, SMA, MCX, MMCX, QMA, BNC or Cable)

**ENVIRONMENTAL:**

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

**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

<b>FREQUENCY:</b> L1: L1/Glonass L1L2: L1L2/Glonass IR: Iridium IR: Inmarsat/Iridium T: Thuraya L1L2IR: L1L2 GPS/Glonass/Iridium L1IN: L1 GPS/Glonass/Inmarsat/Iridium L1L2IN: L1L2 GPS/Glonass/Inmarsat/Iridium SXR: S-BAND (RHCP) X = 1 (2.4 - 2.5)GHz, X = 2 (2.3 - 2.4)GHz SXL: S-BAND (LHCP) X = 3 (2.0 - 2.3)GHz	<b>POLARIZATION:</b> R: RHCP L: LHCP	<b>LNA:</b> A: WITH 27 dB Gain LNA A3: WITH 33 dB Gain LNA A4: WITH 44 dB Gain LNA P: WITHOUT LNA	<b>CONNECTOR:</b> S: SMA; SM: SMA MALE Q: QMA; P: PINS M: MCX; MM: MMCX N: N; NB: N-Bulkhead T: TNC; TB: TNC-Bulkhead	<b>COLOR:</b> -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: NATURAL MOLDED BLACK WITH GLASS FILL -5: TAN #; FS 2344B or 3344B, FED-STD-595 PAINT
--	--	---	--	--

P/N: HL1IRA1-XSM-4-3

NOTES: UNLESS OTHERWISE SPECIFIED:  
 1. DIMENSIONS IN BRACKETS ARE IN MILLIMETERS [mm]

QUANTITY REQD	DESCRIPTION	PART NO	MATERIAL	FINISH	TEST
1					

DATE	BY	DESCRIPTION
May-25-11	S. HUYNH	ORIGINALLY DESIGNED
May-25-11	S. HUYNH	ORIGINALLY DESIGNED
Feb-21-14	S. HUYNH	UPDATED
Feb-21-14	P. TRAN	UPDATE DRAWN
Feb-21-14	S. HUYNH	APPROVED

<b>ANTCOM CORP.</b> TORRANCE, CALIFORNIA	
GPS/INMARSAT/GLONASS/IRIDIUM HELIX ANTENNA	
REV: D	REV: A
DESCRIPTION: 3CVE1	DESCRIPTION: HL1IRA1-XSM-4-3
SCALE: 1/1	SHEET: 1 OF 1

Antenna Mounts/Adapters: <http://www.antcom.com/documents/catalogs/PeripheralAntennaProducts2.pdf>  
 NMO Connector Option is Now Available for Some Antennas