

L5: GPS L-band

Part #: 100-00174-01



The M9HCT-A-SMA is an active multi-frequency, high-accuracy, GNSS antenna for the L1/L2/L5 GPS, Galileo, Beidou, GLONASS bands, and as well as L-band correction services. The antenna is designed for applications requiring greater accuracy than L1-only antennas can provide. The antenna is built on proprietary Maxtena Helicore® technology providing exceptional pattern control, polarization purity and high-efficiency in a compact form factor. It features an integrated SMA connector and rugged IP67 automotive grade components. The M9HCT-A-SMA is ideal for applications requiring minimal integration effort or for retrofitting existing products. The antenna is equipped with an O-ring.



Parameter	Specification
Frequency	1192-1231 MHz
Peak Efficiency	46%
Polarization	RHCP
Realized Gain	1.1 dB
Axial Ratio	Max 1.2 dB at the Zenith
VSWR	Max 2:1
Beamwidth	135°

Passive Antenna Performance (L1, E1, B1, B1-2, G1)

Parameter	Specification
Frequency	1559-1606 MHz (L1, E1,
Peak Efficiency	49%
Polarization	RHCP
Realized Gain	0.5 dB
Axial Ratio	Max 0.9 dB at the Zenith
VSWR	Max 2:1
Beamwidth	125°

Passive Antenna Performance (L5)

Parameter	Specification			
Frequency	1164-1189 MHz (L5)			
Peak Efficiency	40%			
Polarization	RHCP			
Realized Gain	0.5 dB			
Axial Ratio	1.1 dB at the Zenith			
VSWR	Max 1:1			
Beamwidth	112°			



Features

- GNSS/QZSS-L1/L2, QZSS-L6, GLONASS-G1/G2, Galileo-E1/E6, BeiDou-B1/B3 + L-band
- Rugged IP67 rating with SMA mount
- · Small form factor
- Ground Plane Independent
- GIS, RTK and other high accuracy GNSS applications
- · Low power consumption
- Low phase center variation over azimuth and elevation and among different samples
- · Ultra-lightweight
- · Automotive grade electronics

Applications

- Autonomous unmanned aerial vehicles (UAVs)
- GNSS positioning
- GNSS timing
- · Sea and land container tracking
- Fleet management and asset tracking
- Marine and avionics systems
- Law enforcement
- · Public safety



L-band corrections services:

Parameter	Specification
Frequency	1539 - 1559 MHz
Gain	1.5 dB
Axial Ratio	≤ 0.5

Phase Center Variation

Maximum Phase Center Variation					
In azimuth plane	Max 10 mm				
As low as 40 degree elevation	Max 10 mm				
Between samples	Max 5 mm				
Over frequency band	Max 10 mm				

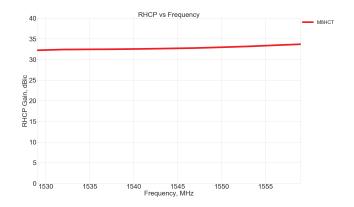
RF Specifications

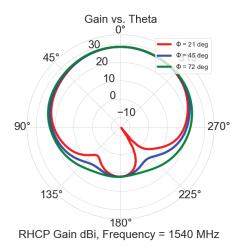
Parameter	
Conducted Gain	30 ± 3 dBi
Noise Figure	1.5 dB typical, 2 dB max
Voltage	3.0 to 5.0 V
Current	25 mA max
Out of Band Rejection	40 dBc
Group Delay Variation	Less than 5ns over GNSS bands
EMI Immunity Out of Band	30 V/m
ESD Circuit Protection	15 kv human body model air discharge

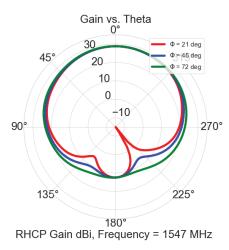
Mechanical Specifications

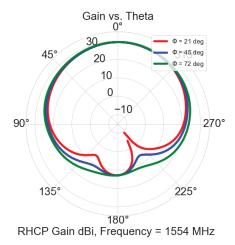
Parameter	Specification
Operating Temperature Range	Ø 34 x 51 mm
Environmental Standards	IP67 rating
Operating Temperature Range	-40 to +105°C
Cabling and Connector	No cable, male SMA connector

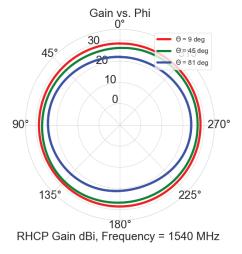


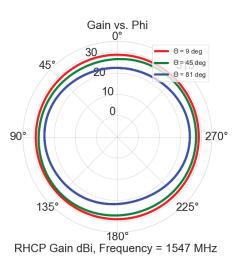


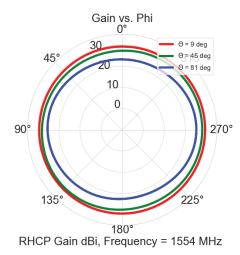






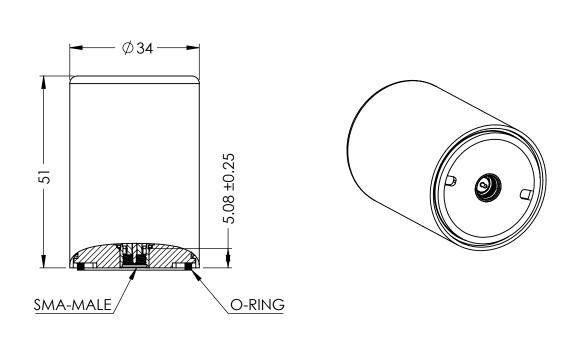








DRAWING REVISION HISTORY DESCRIPTION **REV** BY DATE INITIAL RELEASE 2021-06-09 MΡ



NOTES:

- CONNECTOR TYPE: SMA-MALE. HOUSING MATERIA: ABS/PC. COLAR: BLACK.

- DUST AND WATER-RESISTANCE: IP67.
- RECOMMEND A 4.9MM MOUNTING HEIGHT FOR MOUNTING INTERFACE SEALING AND ELECTRICAL CONNECTION
- ASSEMBLY TORQUE SHALL BE NO MORE THAN 8 IN*LB

ITEM 100-00174-01 REVISION HISTORY						
REV	DESCRIPTION	DATE	BY			
Α	INITIAL RELEASE	2021-06-09	MP			
THE IN	PROPRIETARY AL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MAXTENA, INC. ANY REPR					

ANTENNA SITTING ON THIS SURFACE -MOUNTING PANEL STANDARD SMA **BULKHEAD CONNECTOR-**SECTION A-A TYPICAL MOUNTING INTERFACE

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	UNLESS OTHERWISE SPECIFIED:		NAME	DATE		MAXTENA, INC				
TO FR. AN IN1		DRAWN	MP	2021-06-09		171/	MILINA, IINC			
	TOLERANCES: FRACTIONAL±	CHECKED	ZX	2021-06-10	TITLE:	ITLE: 100 00174 01				
	NGULAR: MACH ± .5° BEND ± NTEGER ± 2	ENG APPR.	NPC	2021-06-10		100-00174-01				
	ONE PLACE DECIMAL ± 1.0 TWO PLACE DECIMAL ± 0.50	MFG APPR.				M9HCT-A-SM				
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Mouser Electronics

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Maxtena: M9HCT-A-SMA