# M1227HCT-SMA-GN

## L1/L2 GPS GLONASS ACTIVE ANTENNA

Part #: 100-00105-01

### Description

The M1227HCT-SMA-GN is a high performance antenna designed for the L1/L2 GPS and GLONASS bands for GNSS satellite applications. The antenna is built on proprietary Maxtena Helicore® technology. This technology provides exceptional pattern control, polarization purity and high efficiency in a very compact form factor. The M1227HCT-SMA-GN is rated IP-67 when mounted for added protection. The antenna is designed for applications requiring greater accuracy than what L1 only antennas can provide.

### Electrical Specification

| Parameter | Specification | |
|---|---|---|
| Frequency Range | 1217-1250 MHz (L2) | 1565-1610 MHz (L1) |
| Total peak gain | 30 dBic | 28 dBic |
| Axial Ratio | ≤ 1 dB (0.5 dB typical) | ≤ 1 dB (0.5 dB typical) |
| VSWR | <1.5 | <1.5 |
| Passive peak gain | 2 dBic @ 1227 MHz | 2 dBic @ 1575 MHz |
| Total gain | 30 dBic @ 1227 MHz | 28 dBic @ 1575 MHz<br>28 dBic @ 1602 MHz |
| Out-of-band rejection | >50 dB | |
| Current drain | 25 mA (typ) | |
| Voltage | 3-12 V | |
| Noise figure | 1.5 dB (typical) | |
| RF interference rating | 50 V/m out of band | |

### Mechanical Specification

| Parameter | Specification |
|---|---|
| Antenna Dimensions | Ø 18.5 × 135 mm |
| Operating Temperature | -30˚C to + 85˚C |
| Storage Temperature | -40˚C to + 85˚C |
| RF Connector | SMA male |
| Antenna Housing | PC/ABS |
| Cable | Stainless Steel With Black Coathing |
| Indicator O-Ring | Red Silicone |
| Weight | 45 g |
| Environmental | IP67 |

### Features

- Very low axial ratio
- IP-67 mounted
- Ultra lightweight - 45 grams
- Ground plane independent

### Applications

- Precision navigation
- Precision timing
- Military & security
- Asset tracking
- Oil & gas industries
- Navigation devices
- Mining equipment
- LBS & M2M applications
- Handheld devices
- Law enforcement

MAXTENA

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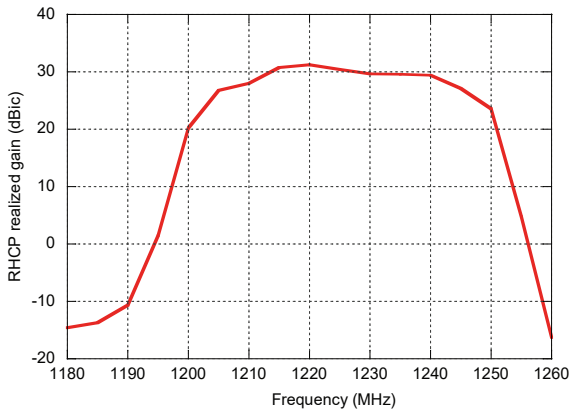


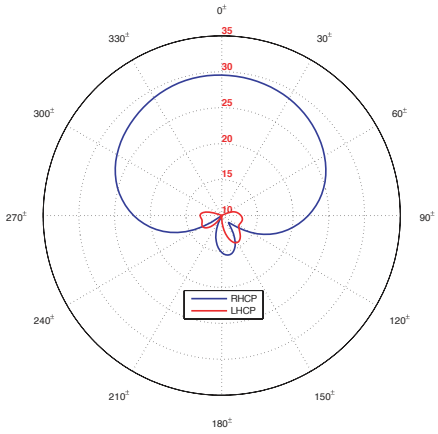


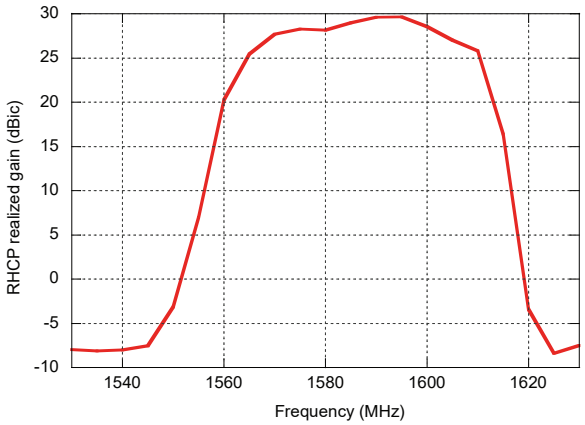


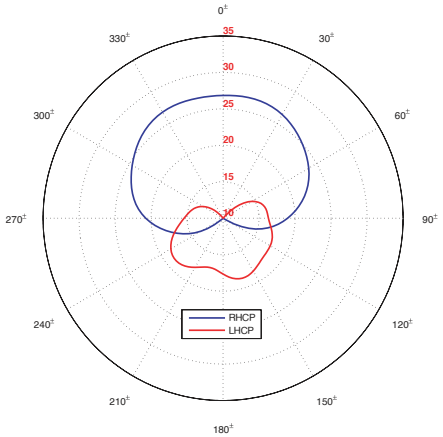


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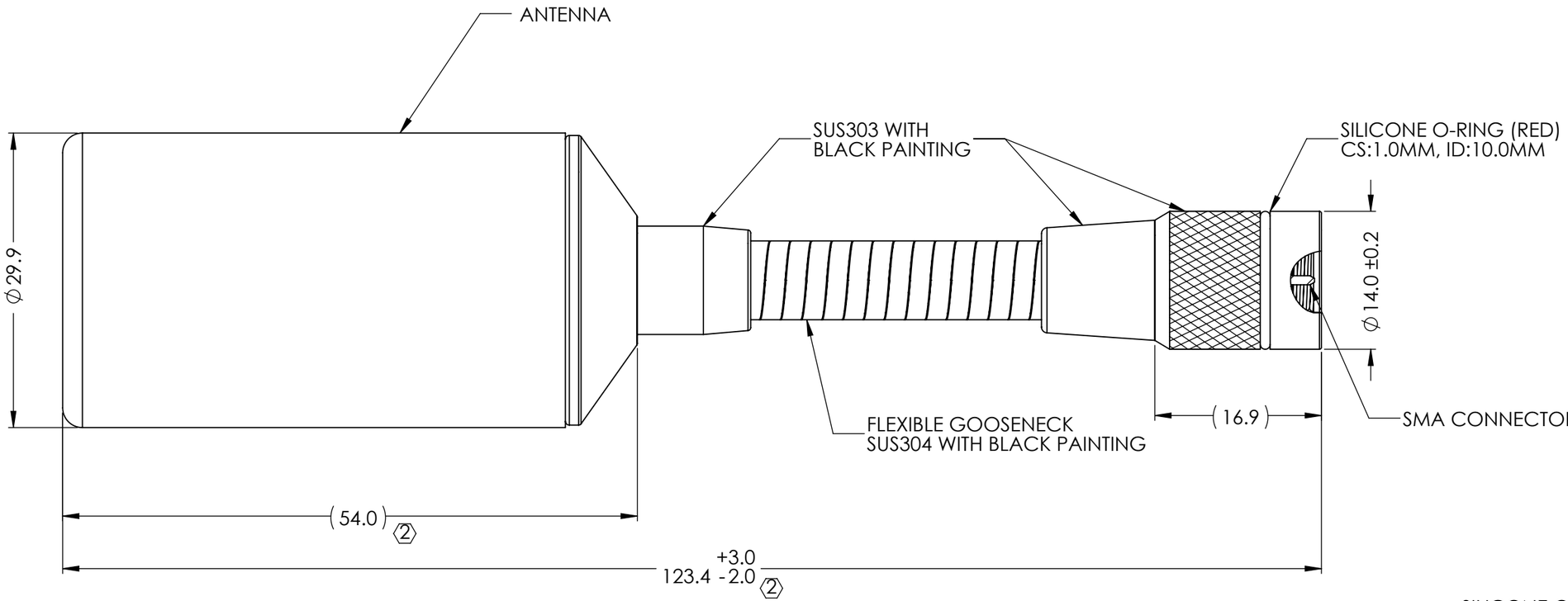
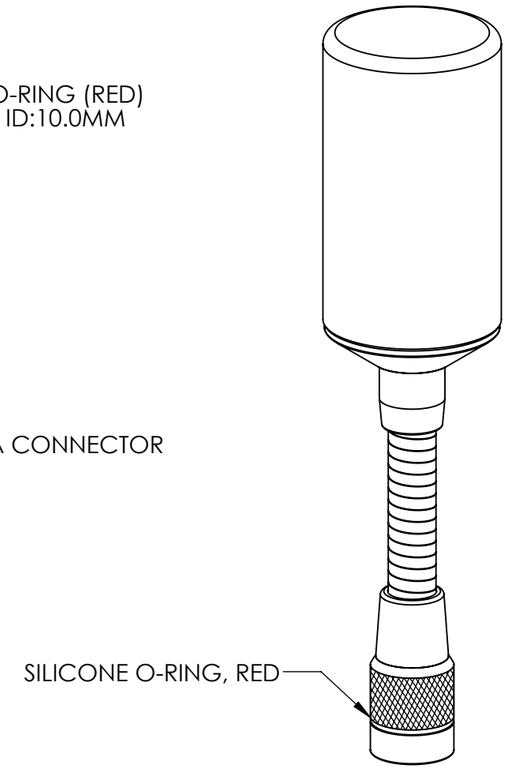
| DRAWING REVISION HISTORY | | | |
|---|---|---|---|
| REV | DESCRIPTION | DATE | BY |
| 1 | INITIAL RELEASE | 2019-06-05 | ZX |
| 2 | UPDATE TO THREADED VERSION | 2021-10-11 | ZX |

NOTES:

1. CONNECTOR: SMA MALE.
2. MATERIAL:
   - ANTENNA HOUSING: PC/ABS BLACK PLASTIC;
   - CABLE: STAINLESS STEEL WITH BLACK COATING;
   - INDICATOR O-RING: RED SILICONE.
3. OPERATIONAL TEMPERATURE: -30°C~+85°C.
4. STORAGE TEMPERATURE: -40°C~+85°C.
5. WATERPROOF GRADE: IP67.




| UNLESS OTHERWISE SPECIFIED: | | NAME | DATE |
|---|---|---|---|
| DIMENSIONS ARE IN MM<br>TOLERANCES:<br>FRACTIONAL ±<br>ANGULAR: MACH ± .5° BEND ±<br>ONE PLACE DECIMAL ± .5<br>TWO PLACE DECIMAL ± .20 | DRAWN | ZX | 2021-10-11 |
| | CHECKED | | |
| | ENG APPR. | NPC | 2021-10-11 |
| | MFG APPR. | | |
| INTERPRET GEOMETRIC TOLERANCING PER: | Q.A. | | |

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.

MAXTENA, INC

TITLE:
100-00105-01
ASSEMBLY, TOP,
M1227HCT-SMA-GN

| SIZE | DWG. NO. | REV |
|---|---|---|
| B | 117-00285-01 | 2 |
| CAGE CODE: 5KQH7 | SCALE: NONE | SHEET 1 OF 1 |