

NGPM5050DU1R227G2AF

L1 + L2 High Precision Patch Antenna



Features

- Supporting: (L1+L2) GPS/BDS/Galileo/QZSS/IRNSS/GLONASS
- 50 x 50 Dimensions
- Stable and reliable performance
- RoHs Complaint

Applications

- Automotive telematics
- Marine
- Navigation



Specifications

Electrical		
Frequency Bands	GPS L1 GLONASS G1 Galileo E1 BDS B1 QZSS L1	GPS L2 GLONASS G2 QZSS L2
Frequency Range	1575.42 MHz	1227.6 MHz
Peak Gain (typ.)	4.5 dBi	6.2 dBi
Average Gain (typ.)	-3.0 dB	-1.2 dB
Efficiency (typ.)	53%	78%
Return Loss (typ.)	<-10 dB typ.	
Axial Ratio (Typ.)	< 3 dB	
Polarization	RHCP	
Impedance	50Ω	
Environmental		
Operating Temperature	-40℃~+85℃	
Storage Temperature (Antenna with packing sealed)	-5℃~+40℃	
Relative Humidity	10 ~ 70 %	
RoHS Compliant	Yes	

*= The above specification on based on testing conditions. Actual results may vary. Please contact NIC for more details

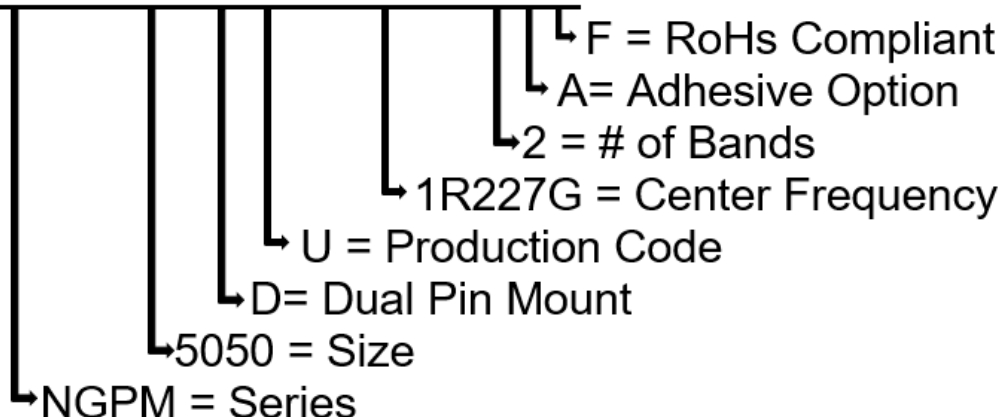
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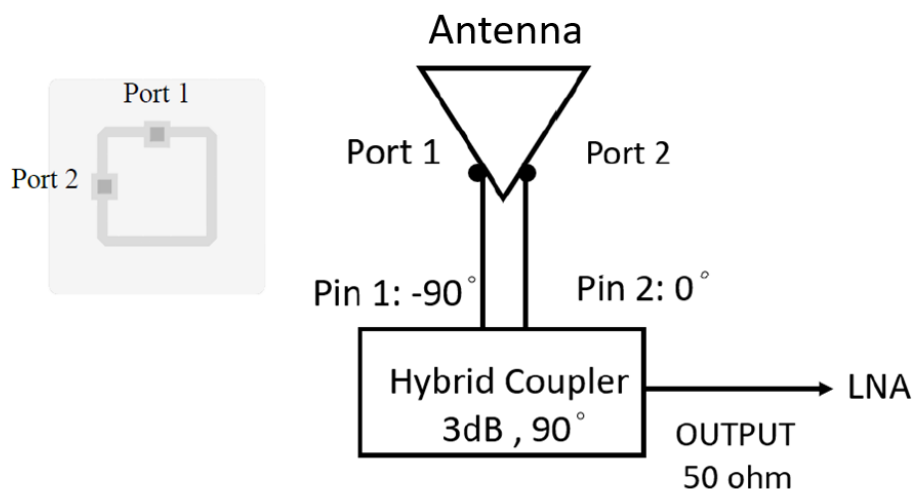


Part number Breakdown

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Block Diagram

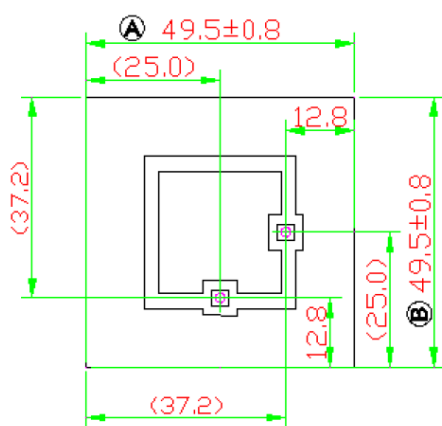


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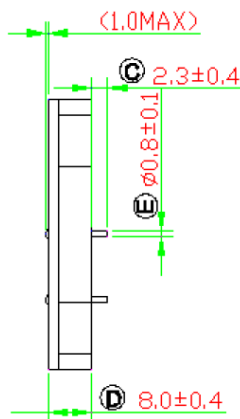
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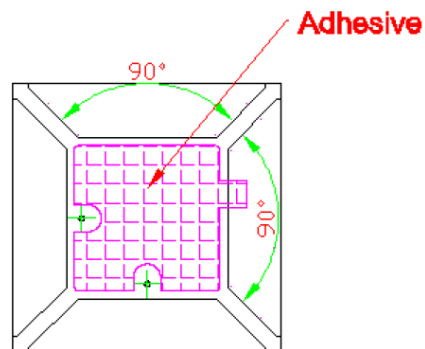
Part Number Breakdown



Top View



Side View



Bottom View

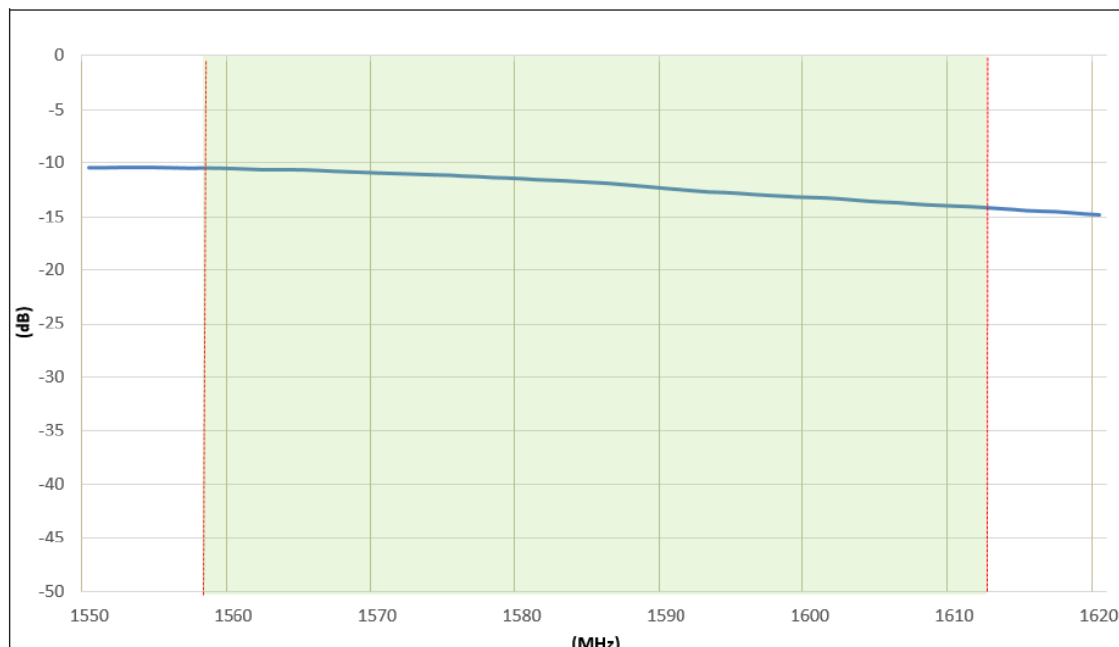
NOTE:
1. All materials are RoHS 2.0 compliant.
2. "A~E" Critical Dimensions.
3. "()" Reference Dimensions.

Dimensions (mm) & Mechanical

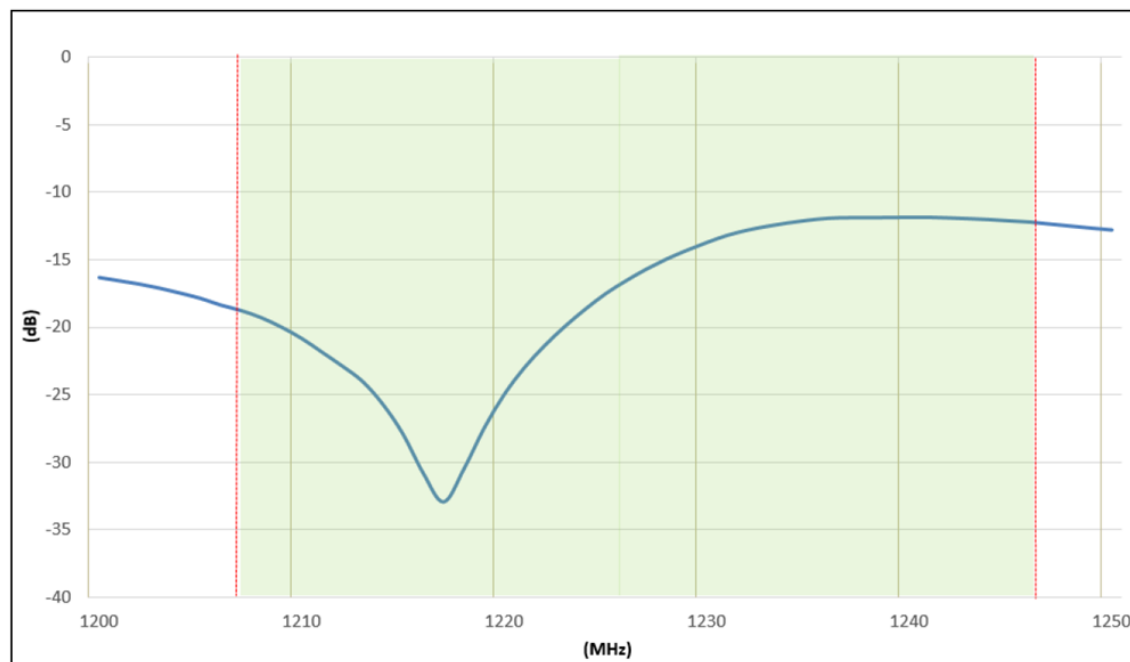
Body Length	49.5 ± 0.8
Width	49.5 ± 0.8
Thickness	8 ± 0.4
Pin Diameter	0.8 ± 0.1
Mounting Method	Pin
Ground Plane	100 x 100 mm
Material	Ceramic

Return loss (dB)

GNSS L1 Band (with coupler)

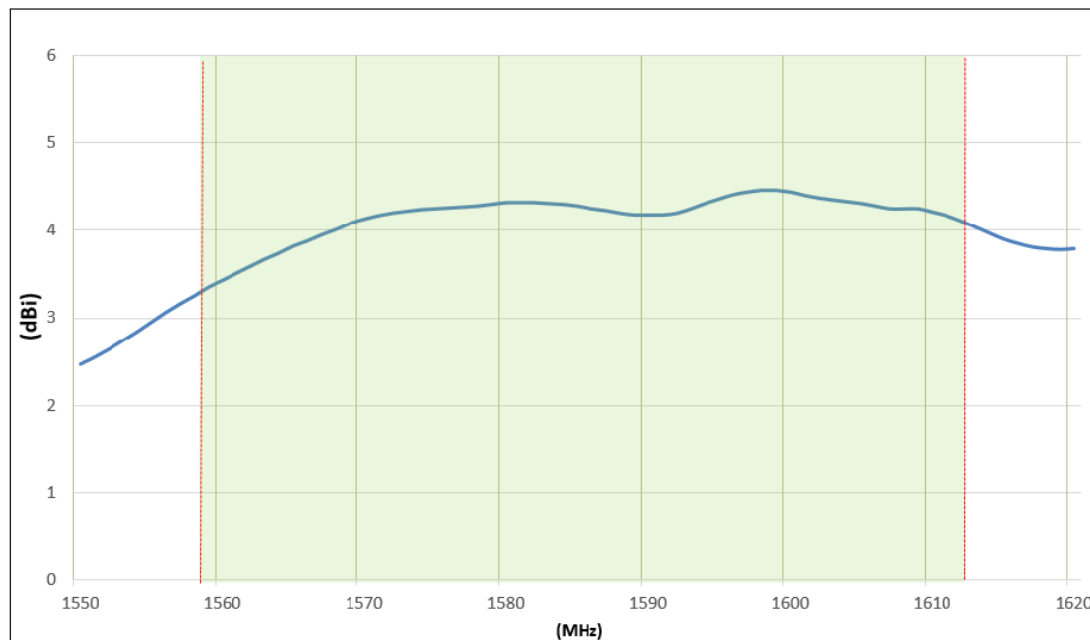


GNSS L2 Band (with coupler)

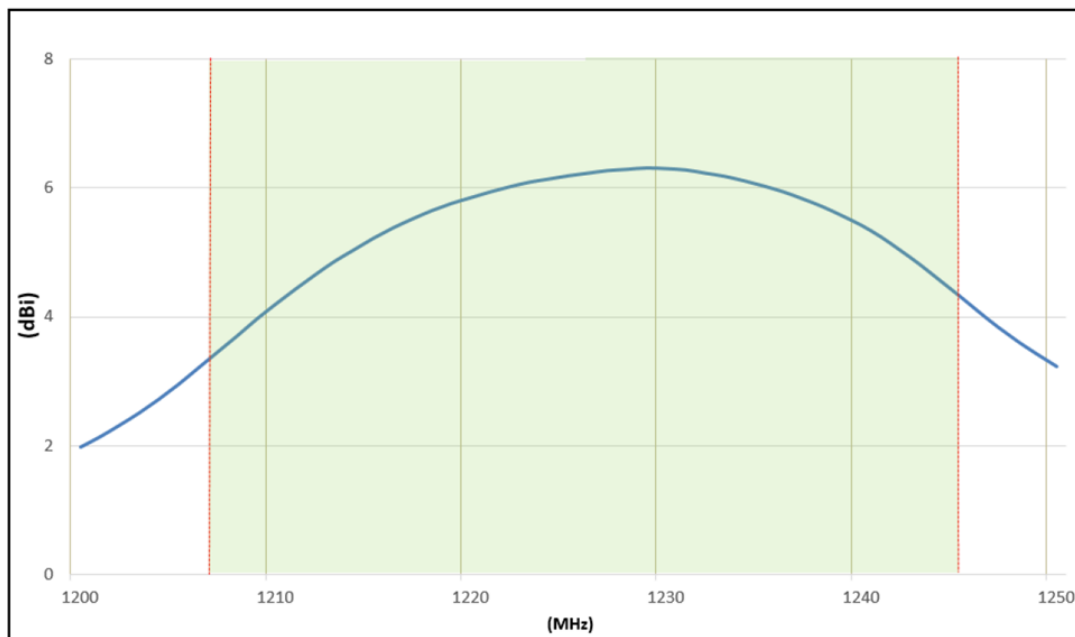


Peak Gain vs. Frequency (with coupler)

GNSS L1 Band



GNSS L2 Band



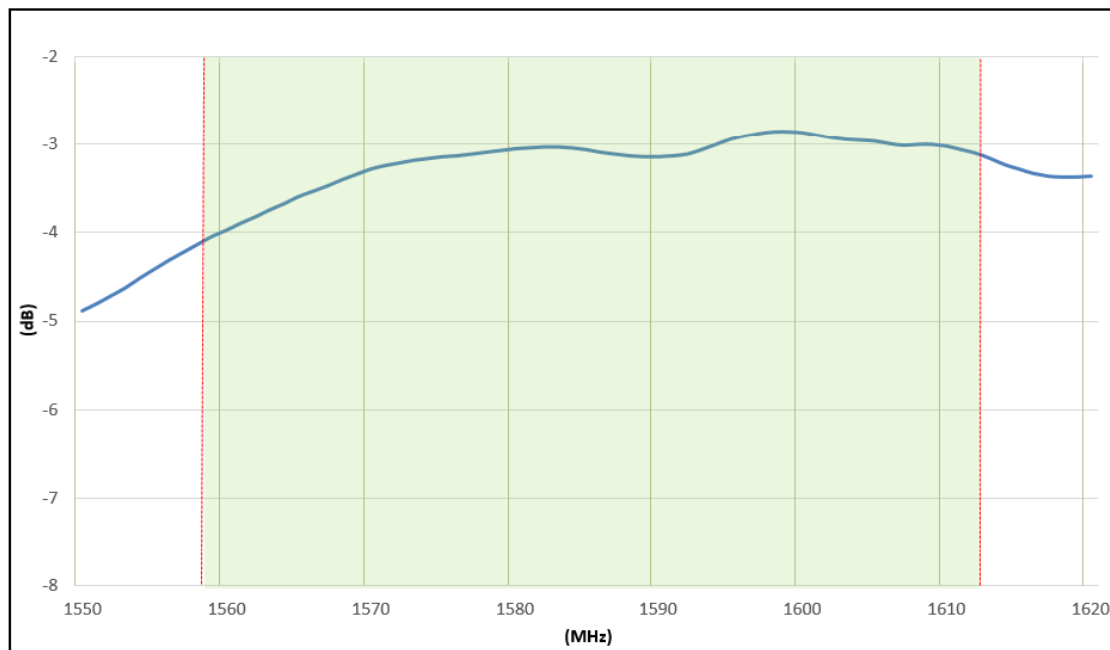
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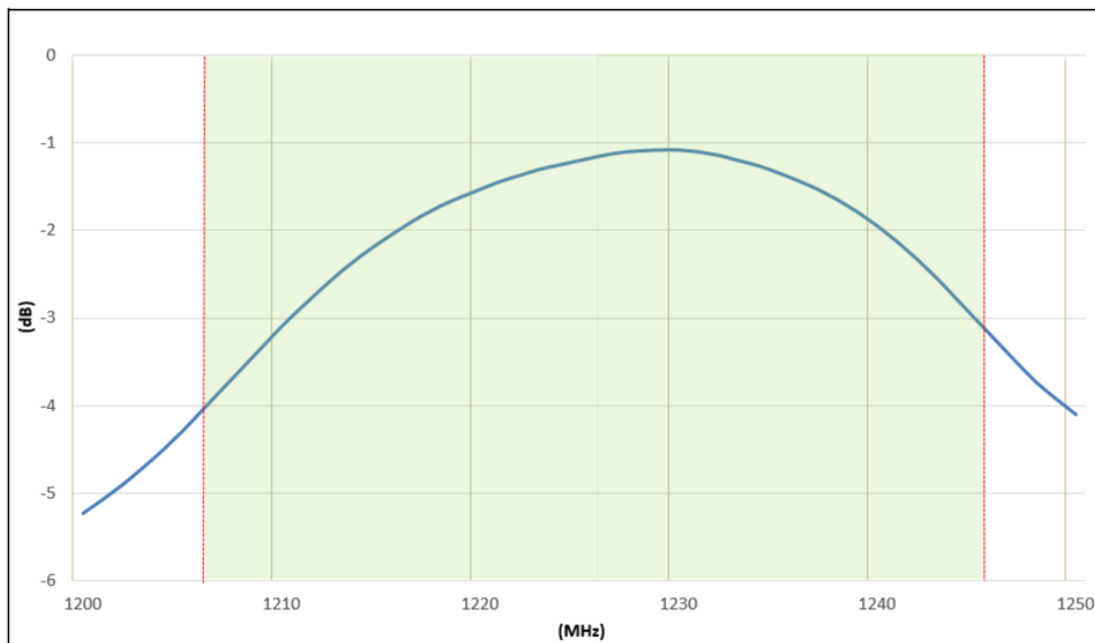


Average Gain(dB) (with coupler)

GNSS L1 Band

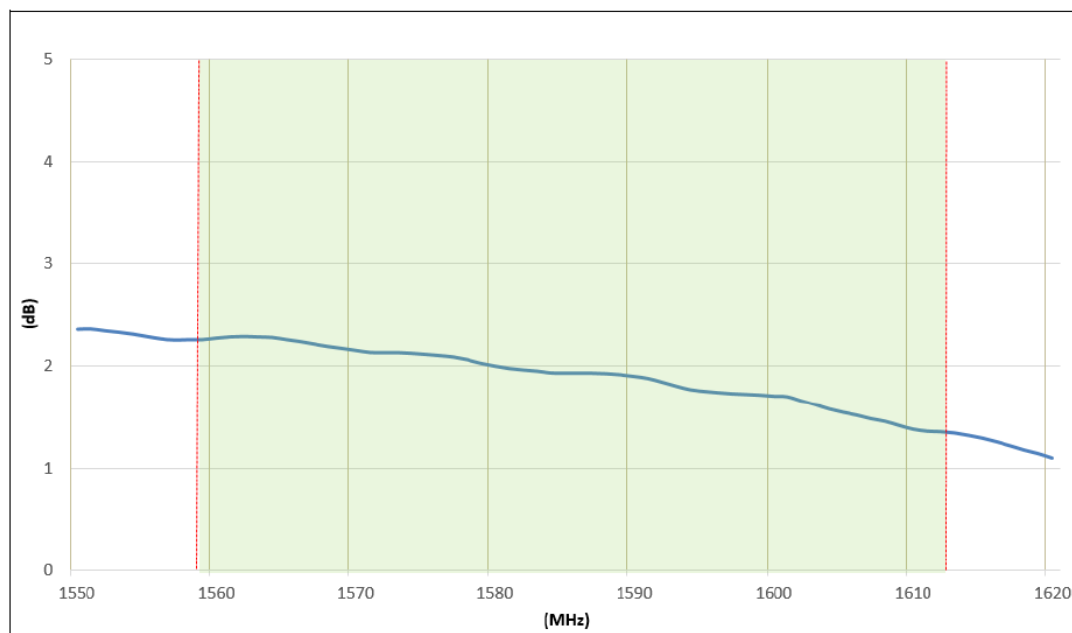


GNSS L2 Band

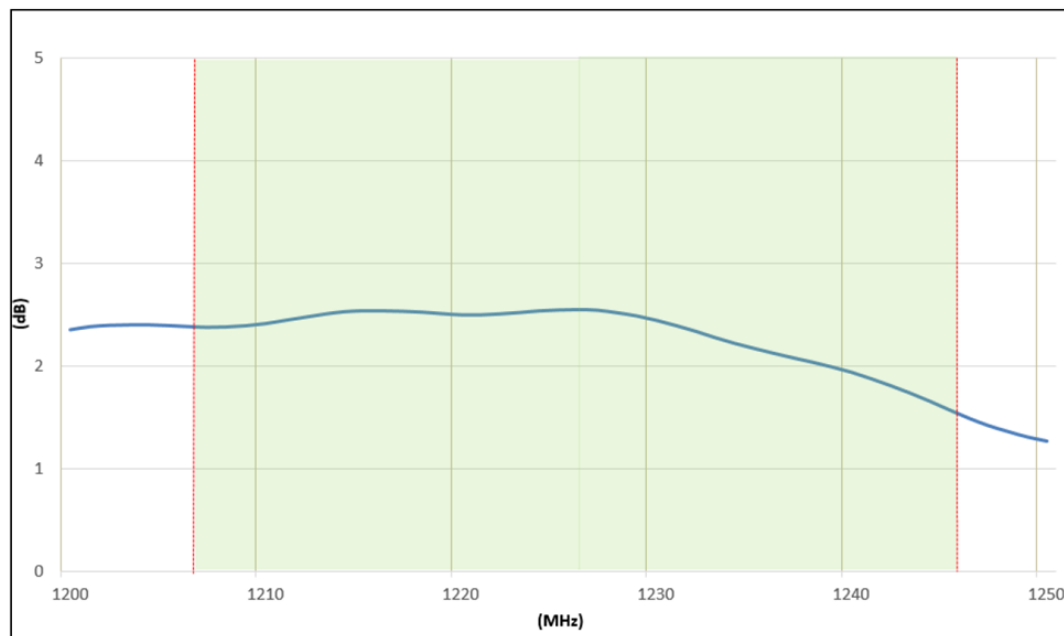


Axial vs. Frequency (with coupler)

GNSS L1 Band



GNSS L2 Band



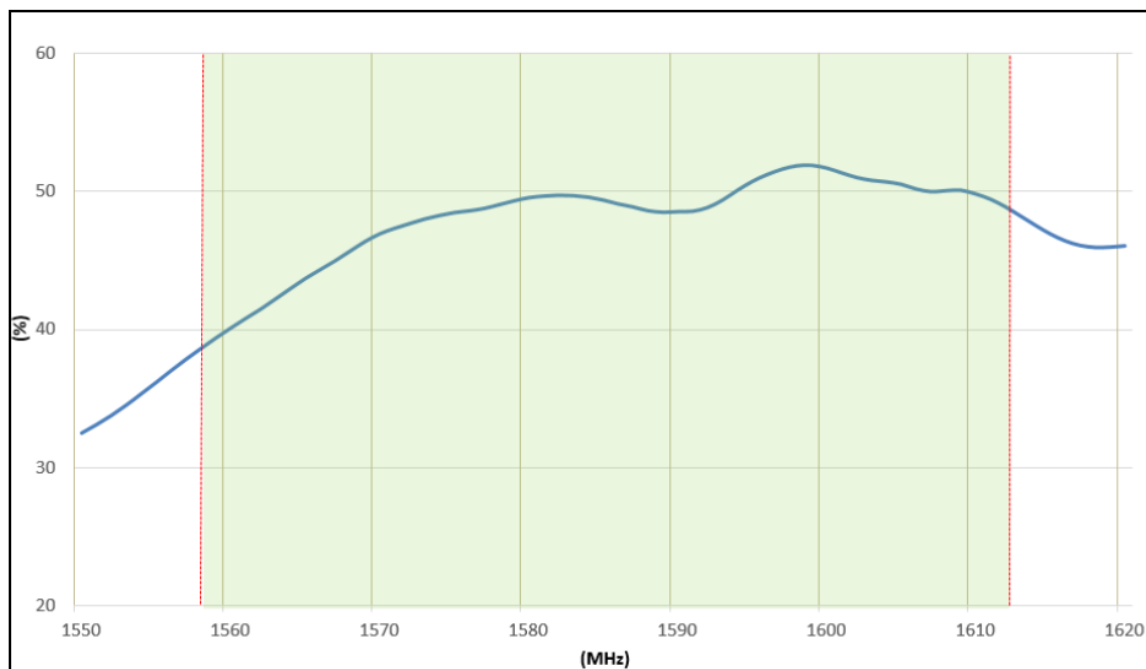
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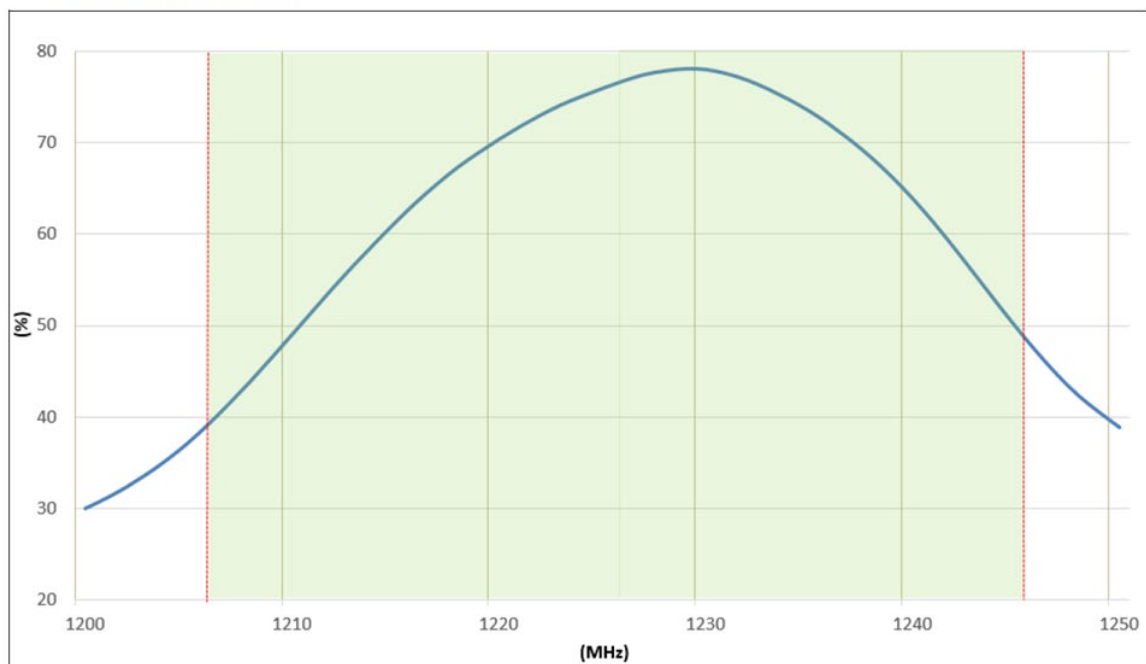


Efficiency (%) (with coupler)

GNSS L1 Band

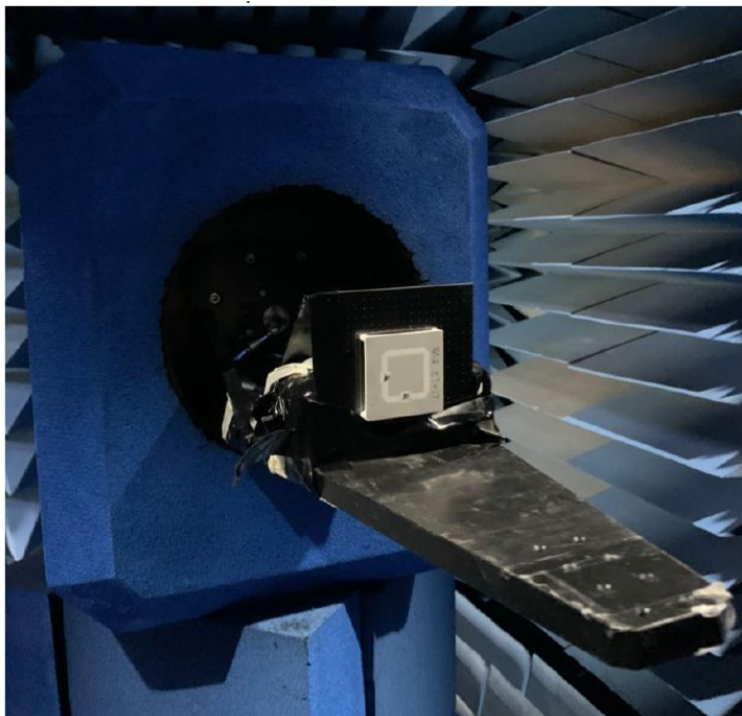


GNSS L2 Band

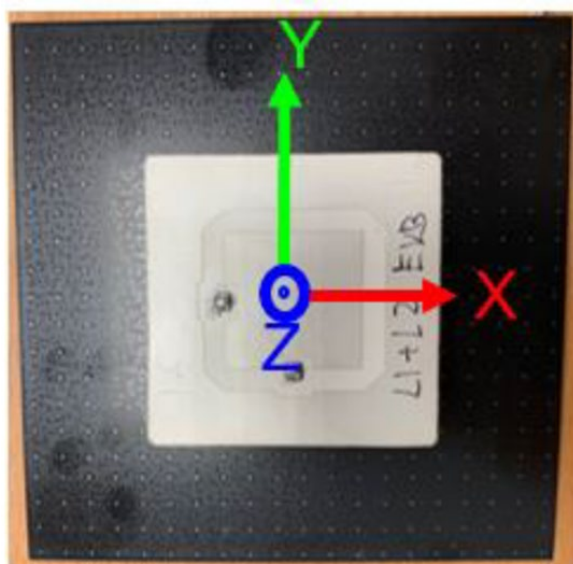


Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in a 3D Anechoic Chamber. The measurement setup is as show below.



2D Radiation Gain Pattern

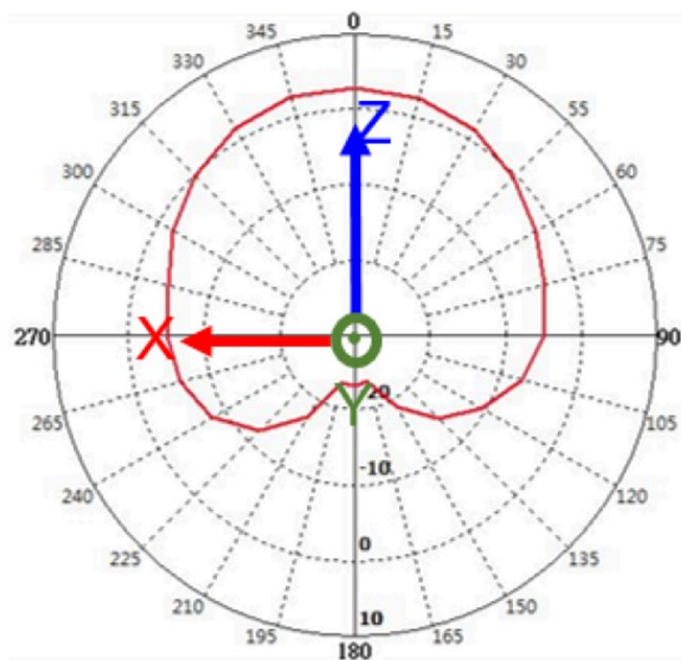


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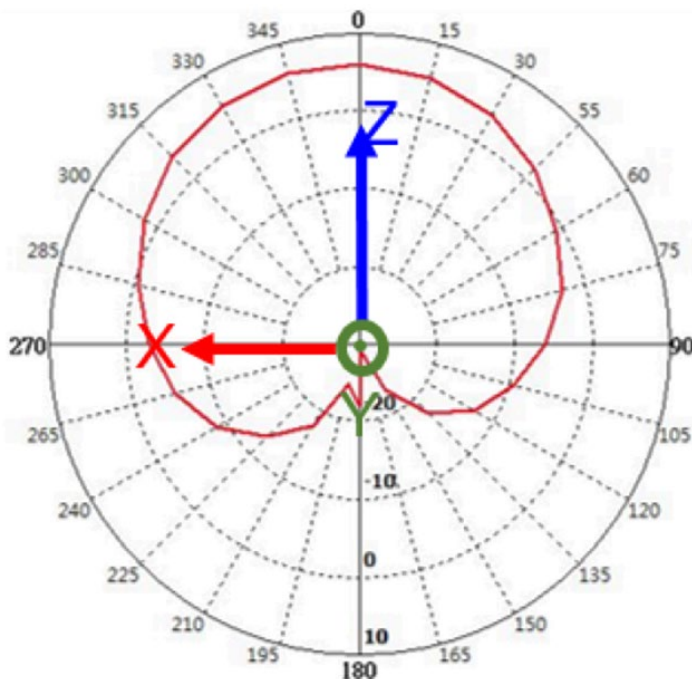
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GNSS L1 Band @1575.42MHz (unit: dBi)



GNSS L2 Band @1227.6MHz (unit: dBi)



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Packing

Weight:

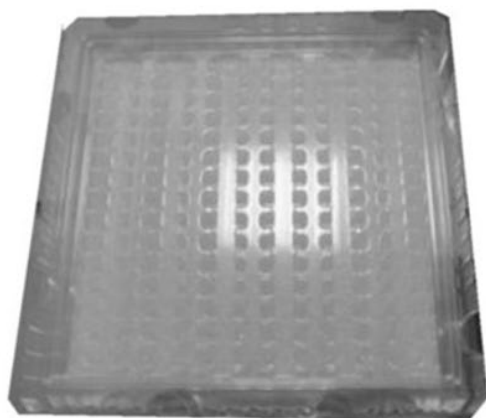
Unit Weight: 38.8 ± 4 g

Quantity:

Each Vacuum Bag: 150 pcs

Each Outer Box: 150 pcs

Tray: 150 pcs



Carton: 150 pcs

