

NGPM5050DU1R575G3AF

L1+L2+L5 High Precision Patch Antenna



Features

- Supporting: (L1+L2+L5) GPS/BDS/Galileo/QZSS/IRNSS/GLONASS
- 50 x 50 Dimensions
- Stable and reliable performance
- RoHs Complaint

Applications

- Automotive telematics
- Safety of life transportation
- Marine
- Navigation



Specifications

Electrical			
Frequency Bands	GPS L1 Galileo E1 BDS B1 QZSS L1	GPS L2/ GLONASS G2/ QZSS L2	GPS L5 Galileo E5a BDS B2 QZSS L5 IRNSS L5
Frequency Range	1575.42 MHz	1227.6 MHz	1176.45 MHz
Peak Gain (typ.)	5.3 dBi	2.3 dBi	2.7 dBi
Average Gain (typ.)	-1.8 dB	-5.0 dB	-4.5 dB
Efficiency (typ.)	66%	32%	35%
Return Loss (typ.)	<-10 dB typ.		
Axial Ratio (Typ.)	< 3 dB		
Polarization	RHCP		
Impedance	50Ω		
Environmental			
Operating Temperature	-40°C~+85°C		
Storage Temperature (Antenna with packing sealed)	-5°C~+40°C		
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

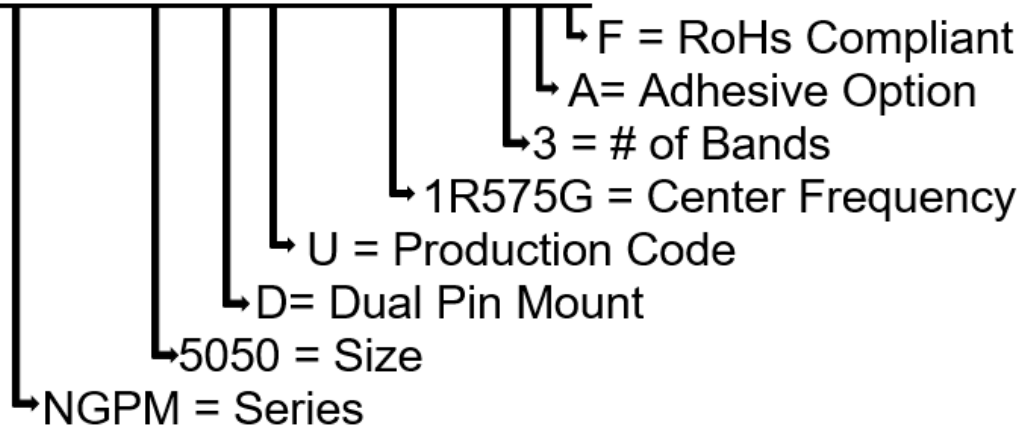
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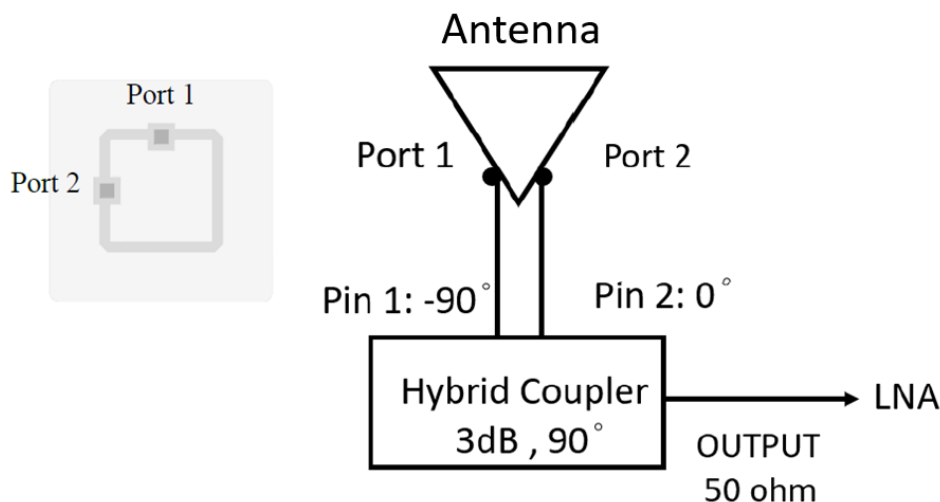


Part number Breakdown

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Block Diagram

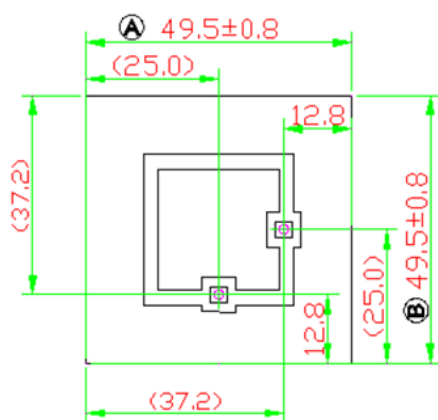


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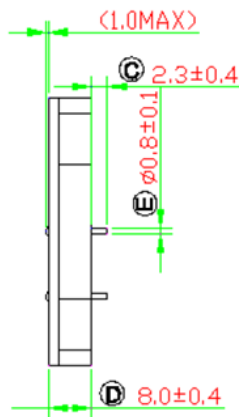
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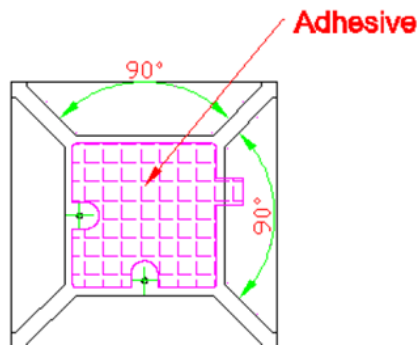
Part Number Breakdown



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

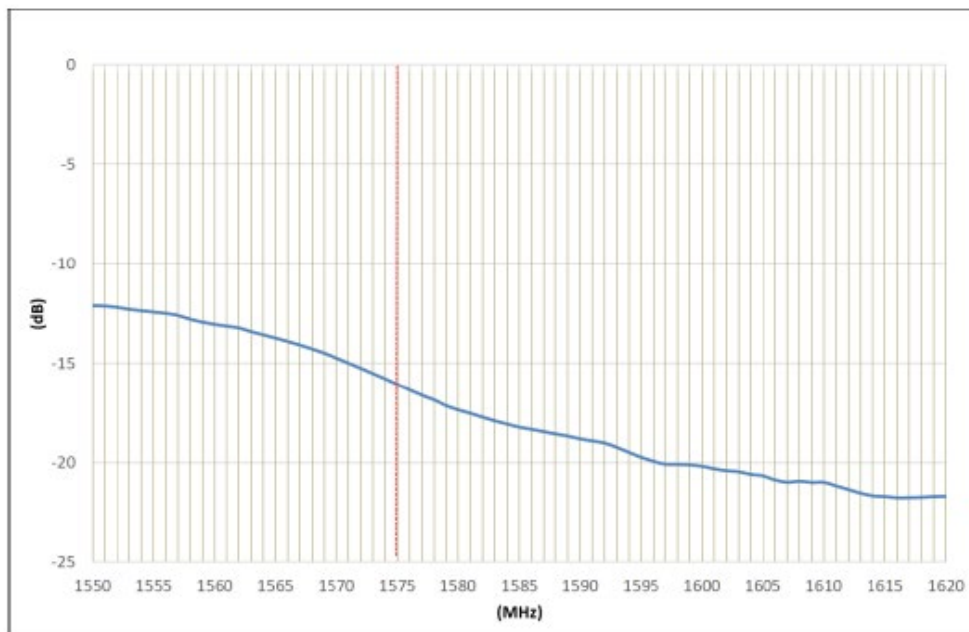
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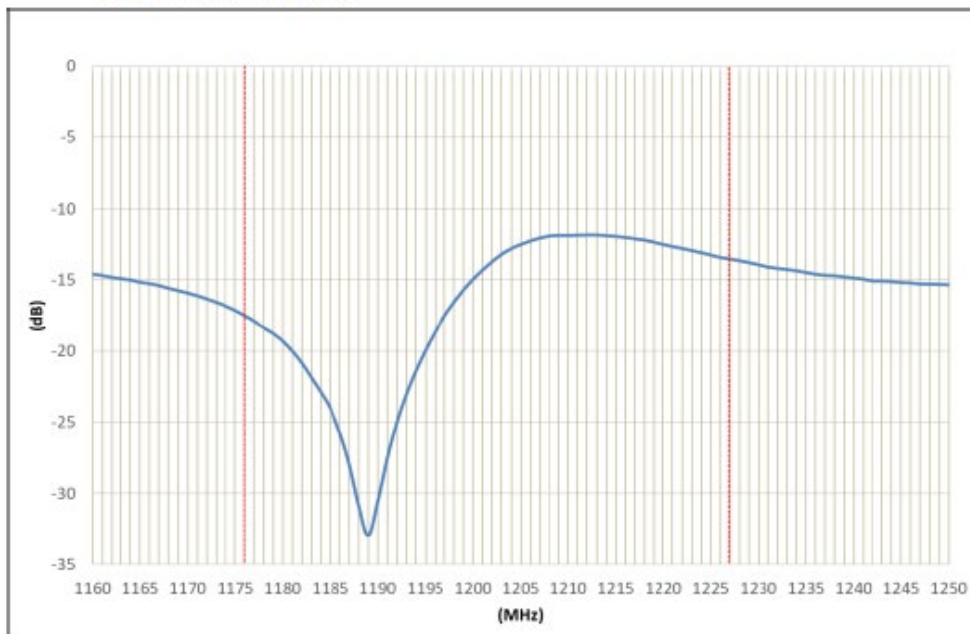


Return loss (dB) (with coupler)

GNSS L1 Band



GNSS L2+L5 Band

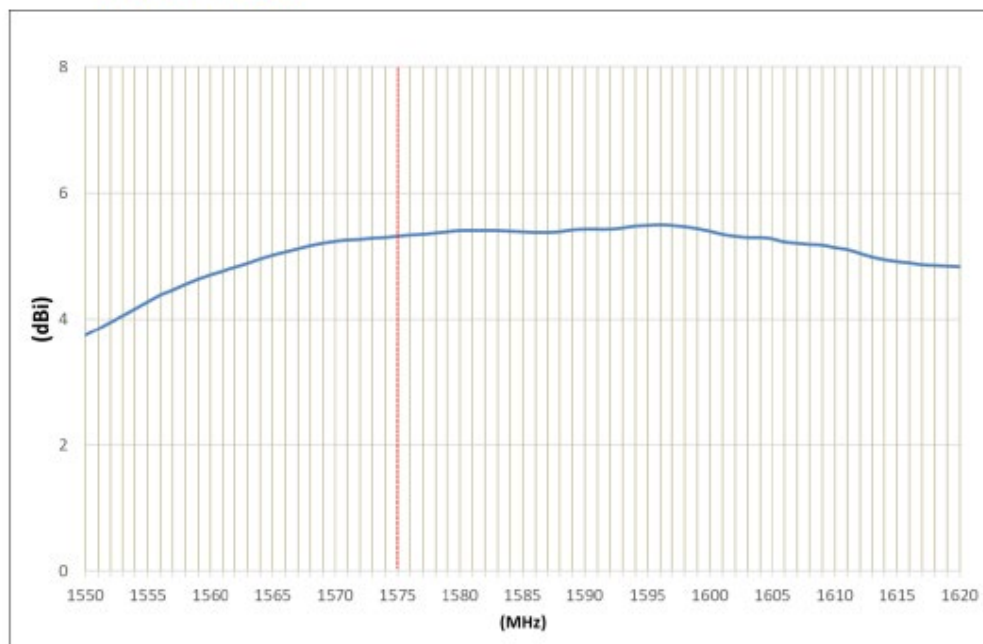


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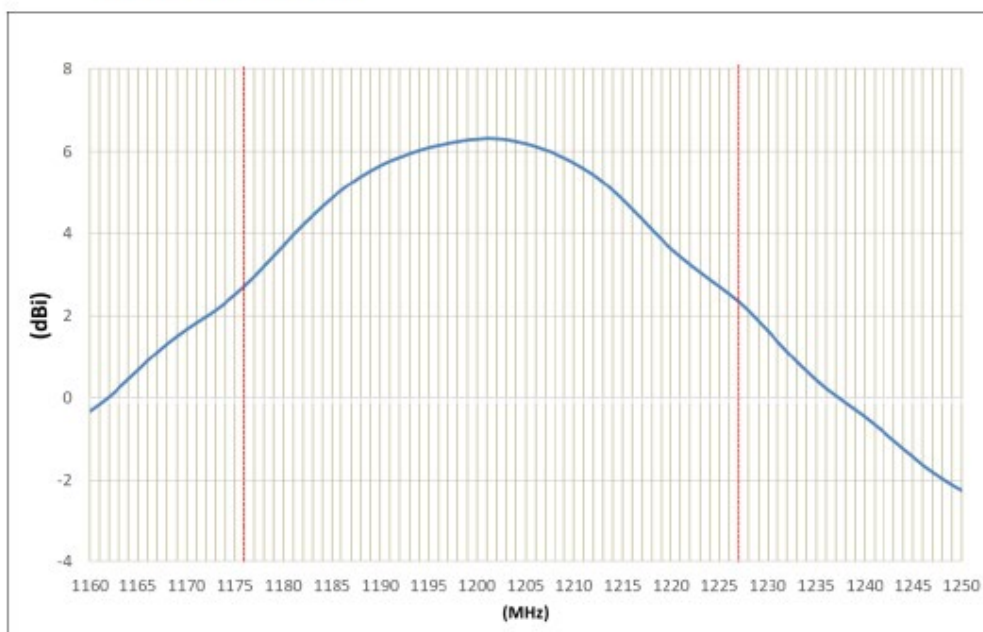
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Peak Gain vs. Frequency (with coupler)
GNSS L1 Band



GNSS L2+L5 Band

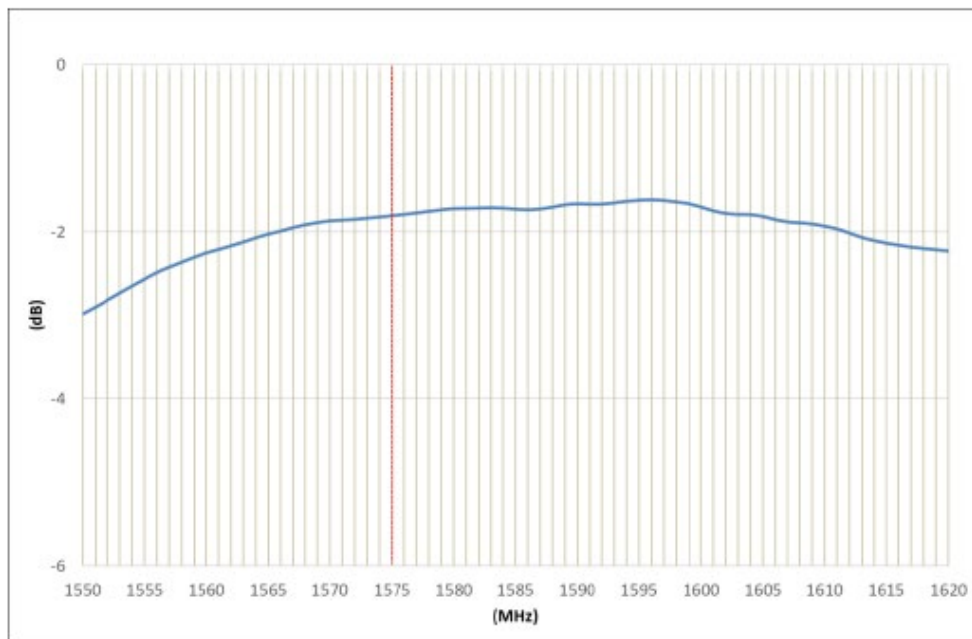


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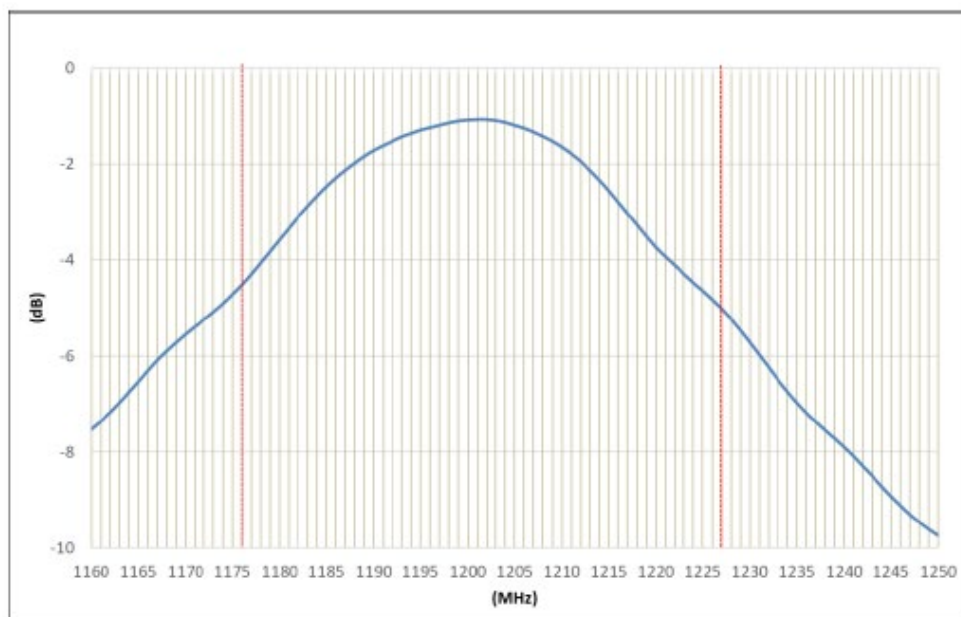
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Average Gain(dB) (with coupler)
GNSS L1 Band



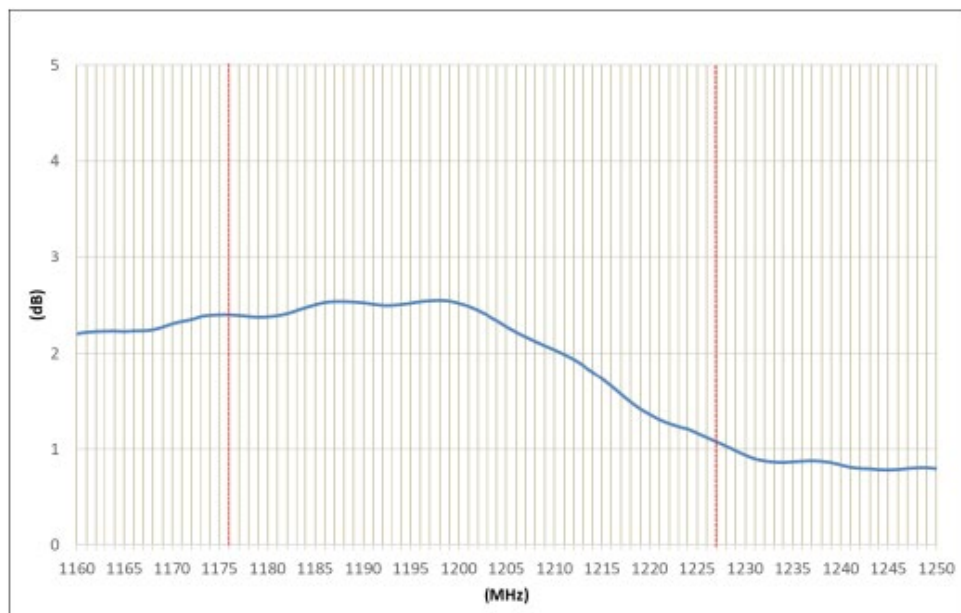
GNSS L2+L5 Band



Axial vs. Frequency (with coupler) GNSS L1 Band



GNSS L2+L5 Band



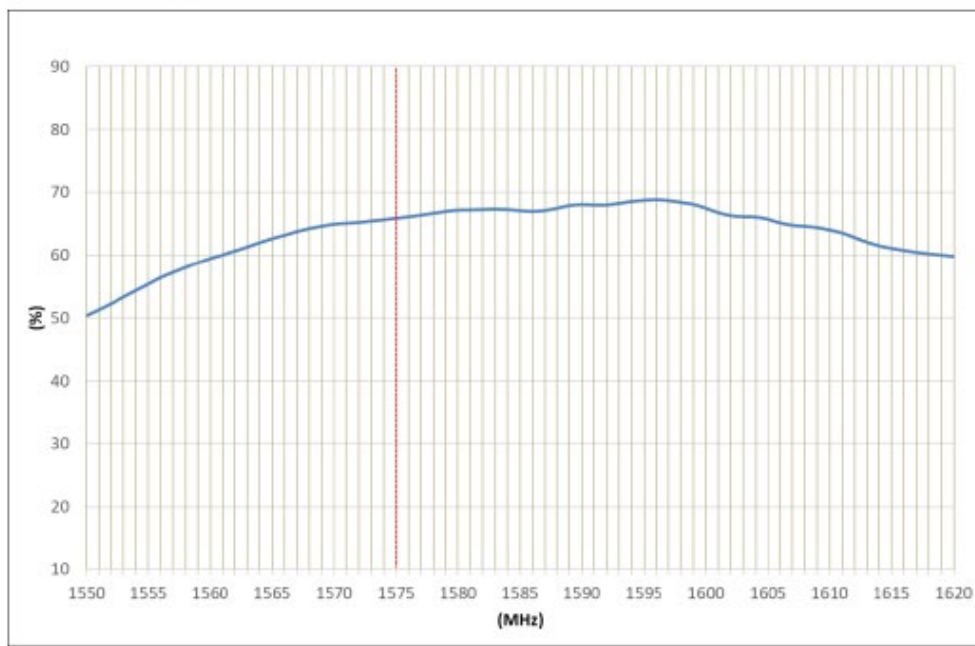
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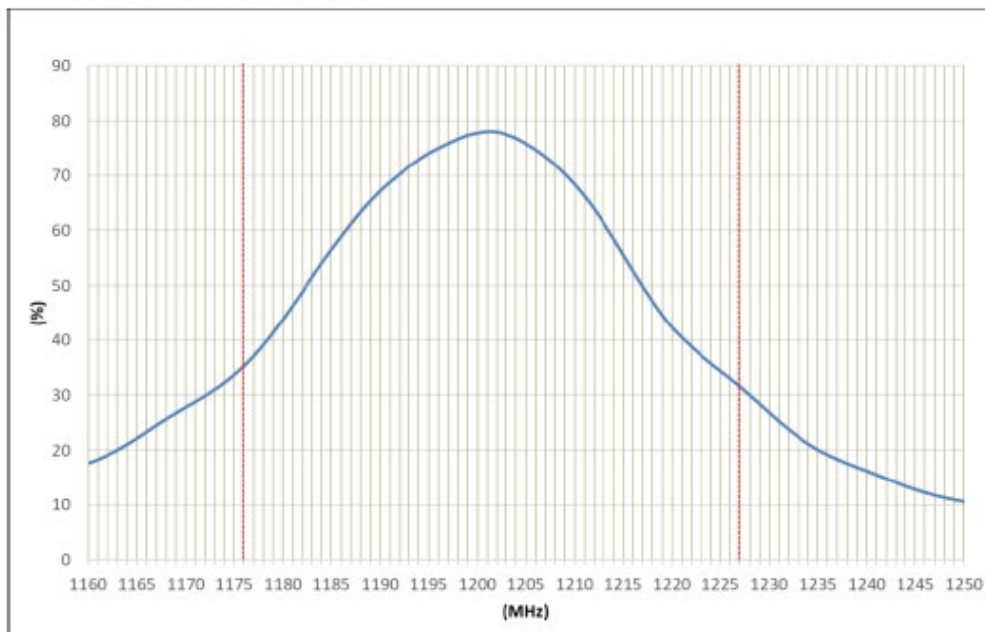


Efficiency (%) (with coupler)

GNSS L1 Band

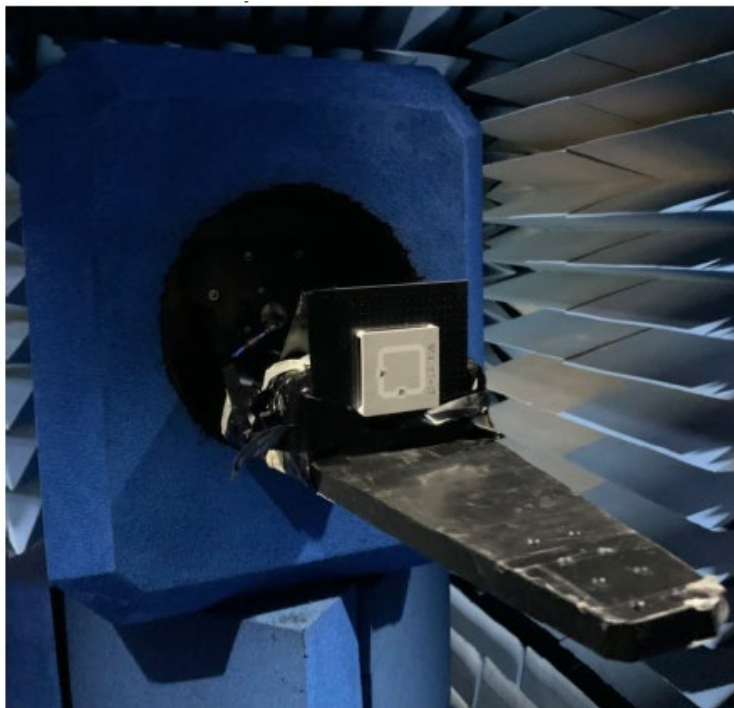


GNSS L2+L5 Band

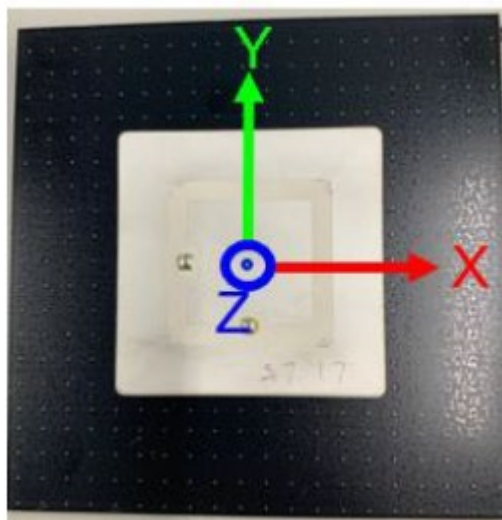


Antenna Radiation Pattern Measurement:

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



2D Radiation Gain Pattern



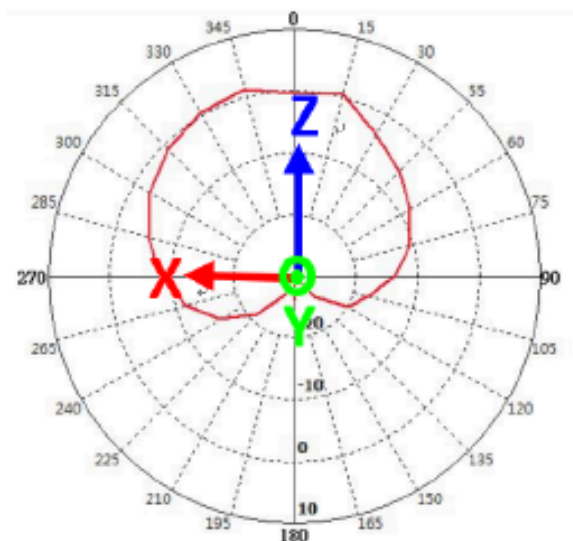
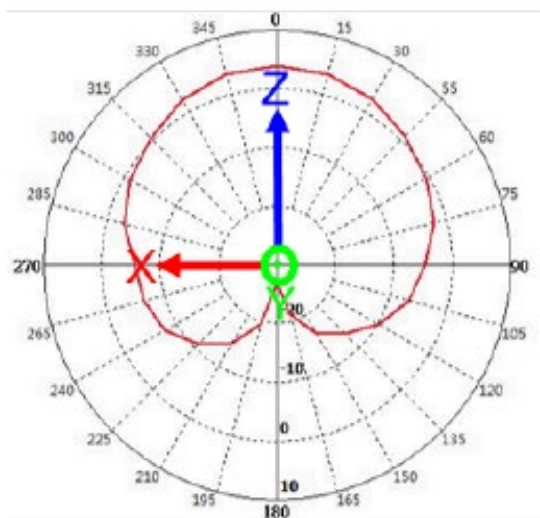
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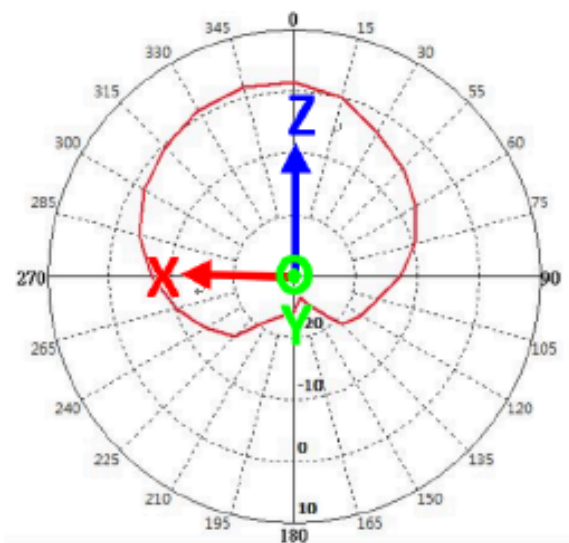


GNSS L1 Band @1575.42MHz (unit: dBi)

GNSS L2 Band @1227.6MHz (unit: dBi)



GNSS L5 Band @1176.45MHz (unit: dBi)



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Packing

Weight:

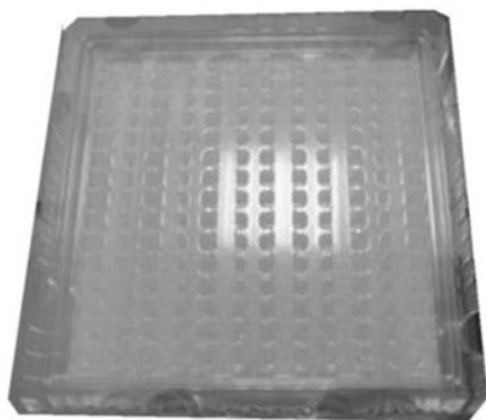
Unit Weight: 38.8 ± 4 g

Quantity:

Each Vacuum Bag: 150 pcs

Each Outer Box: 150 pcs

Tray: 150 pcs



Carton: 150 pcs

