

NGPM5050DU1R176G2AF

L1 + L5 High Precision Patch Antenna



Features

- Supporting: (L1+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 L5 Galileo E5a BDS B2/ QZSS L5 IRNSS L5
Frequency Range	1575.42 MHz	1176.45 MHz
Peak Gain (typ.)	5.3 dBi	6.3 dBi
Average Gain (typ.)	-1.8 dB	-0.8 dB
Efficiency (typ.)	66%	83%
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

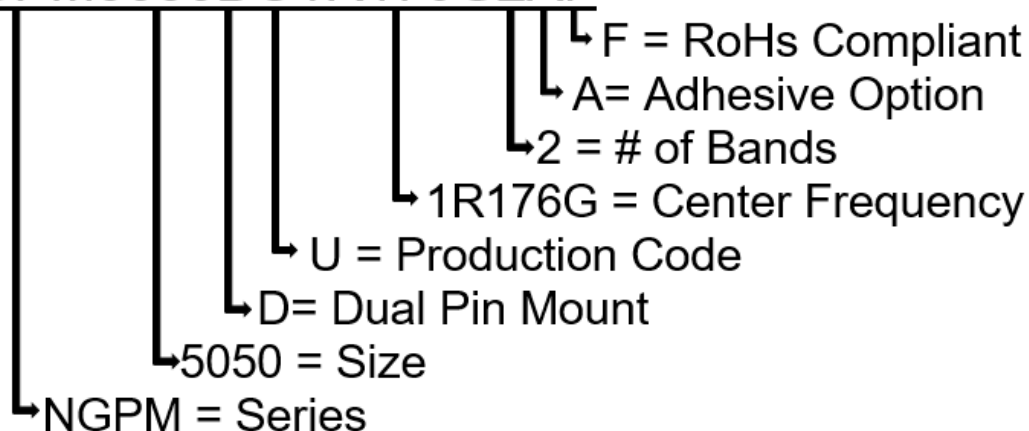
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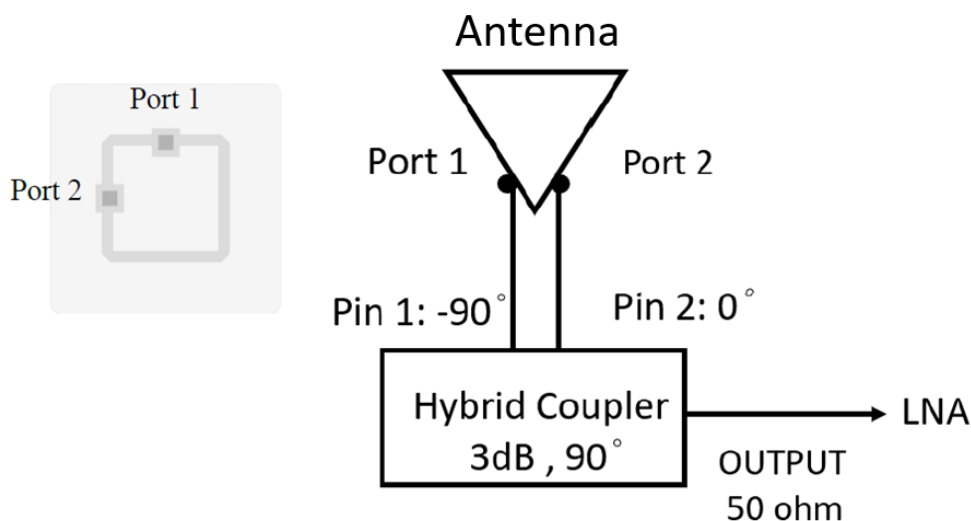


Part number Breakdown

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Block Diagram

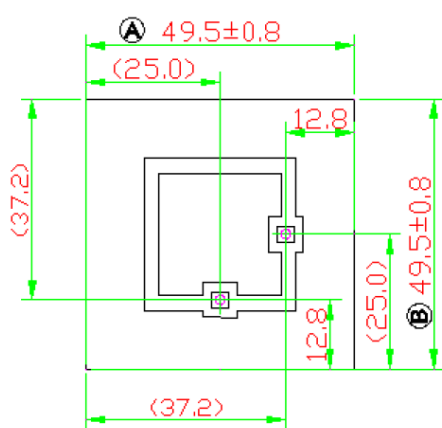


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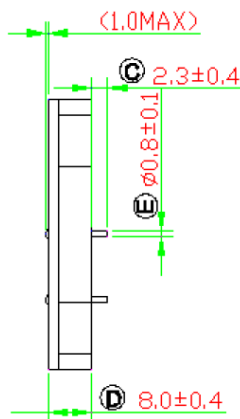
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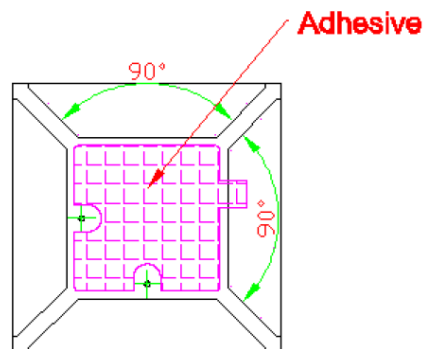
Part Number Breakdown



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

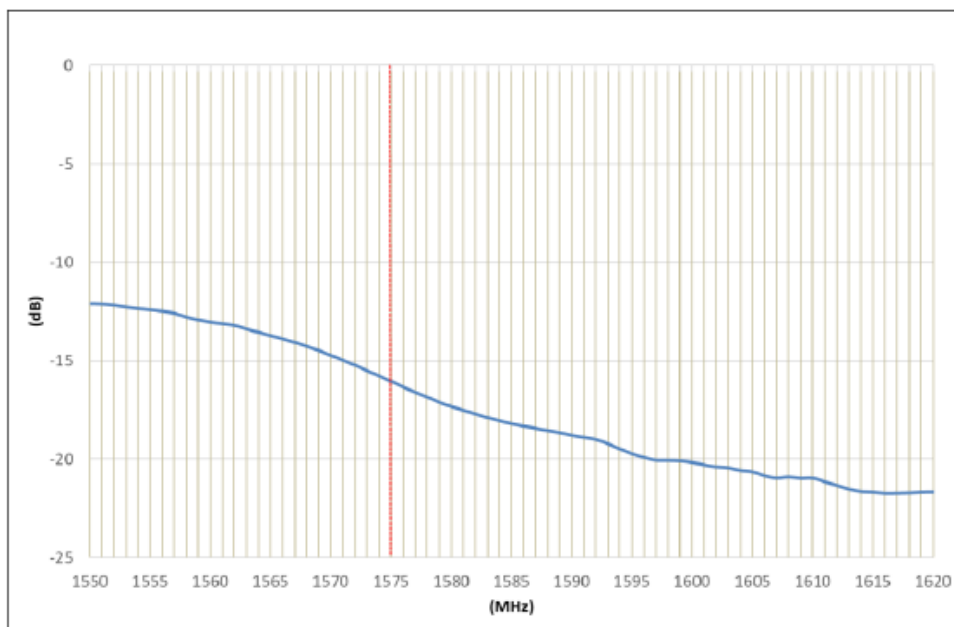
Body Length	49.5 ± 0.8
Width	49.5 ± 0.8
Thickness	8 ± 0.4
Pin Diameter	0.8 ± 0.1
Mounting Method	Pin
Ground Plane	100 x 100 mm
Material	Ceramic

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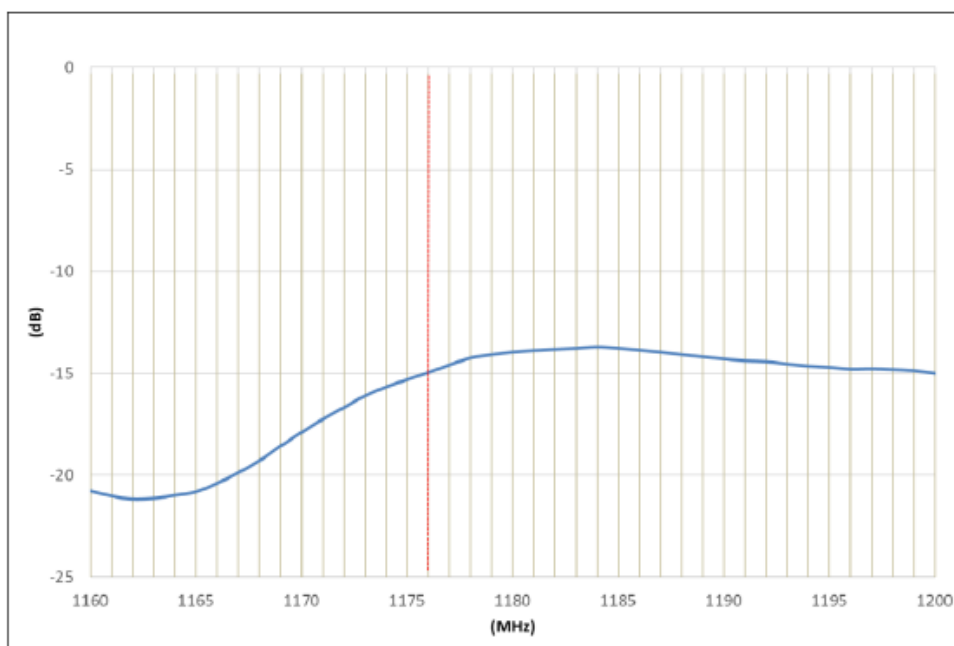
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Return loss (dB) (with coupler)
GNSS L1 Band

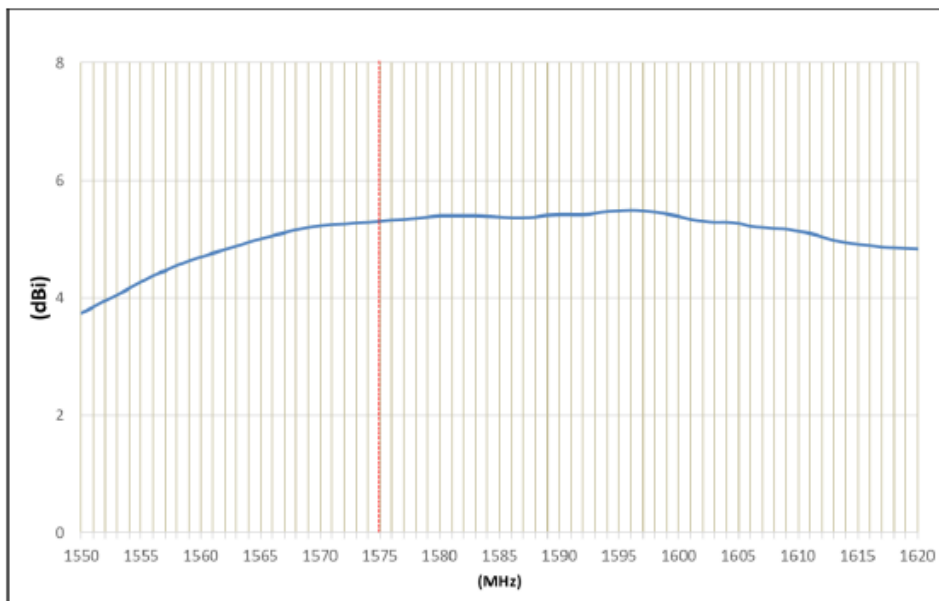


GNSS L5 Band

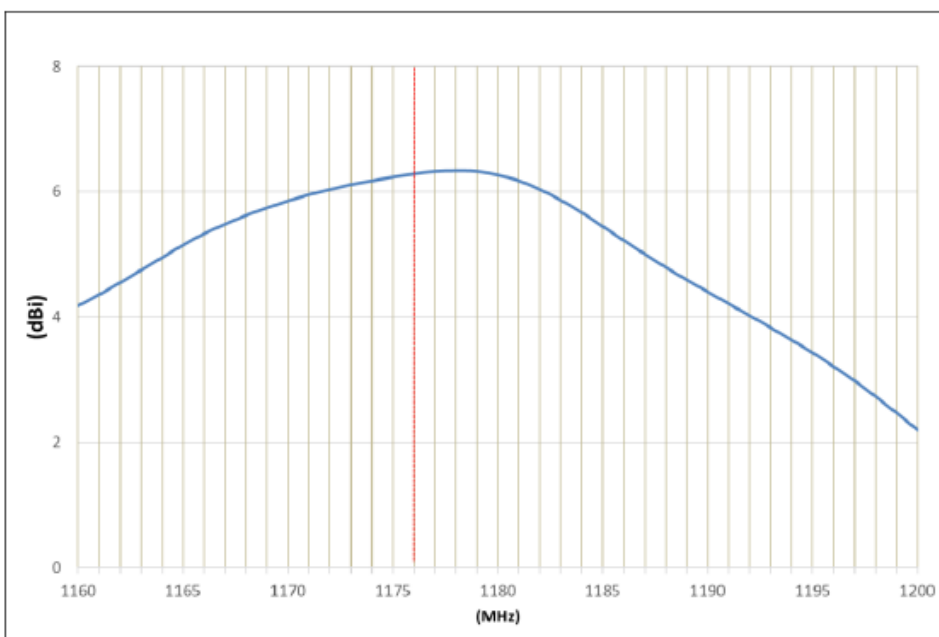


Peak Gain vs. Frequency (with coupler)

GNSS L1 Band



GNSS L5 Band



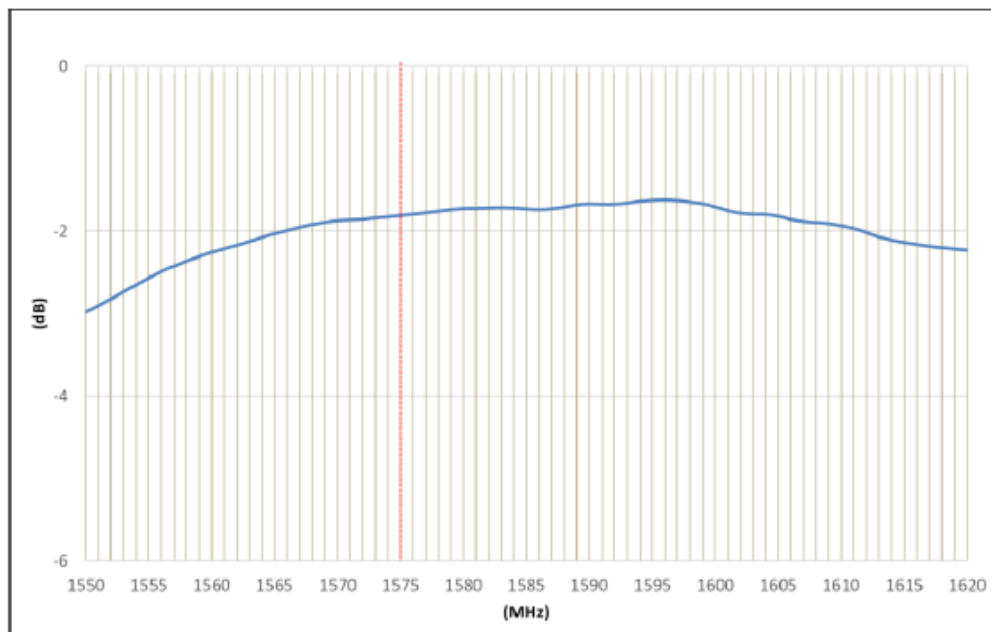
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L1 + L5 High Precision Patch Antenna

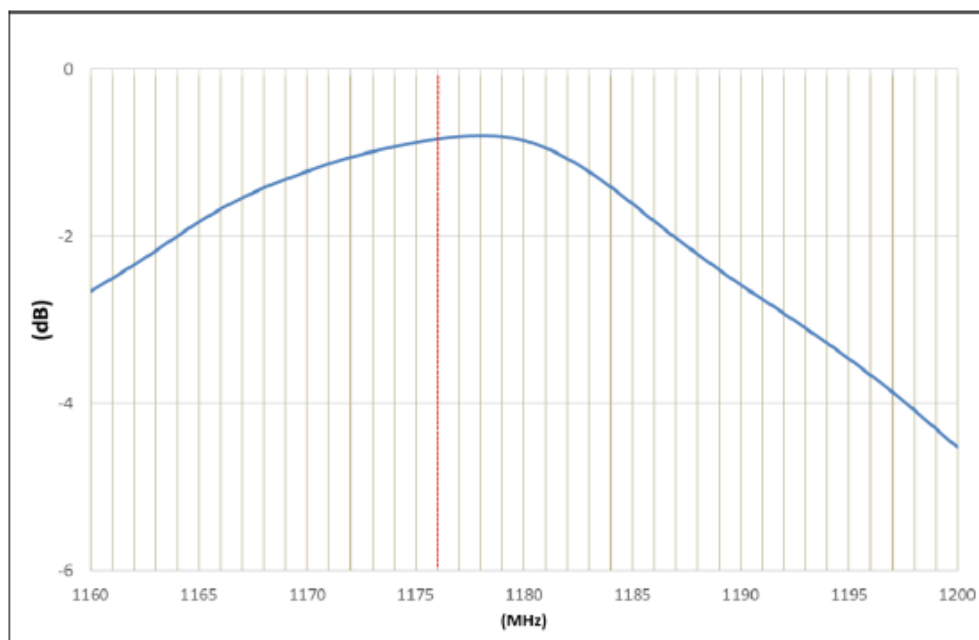


Average Gain(dB) (with coupler)

GNSS L1 Band



GNSS L5 Band



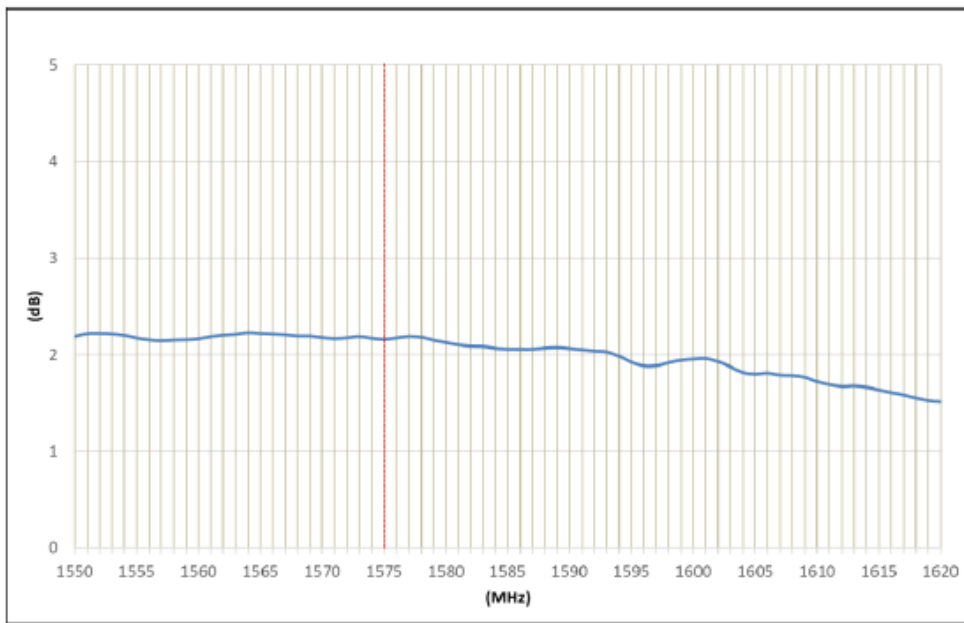
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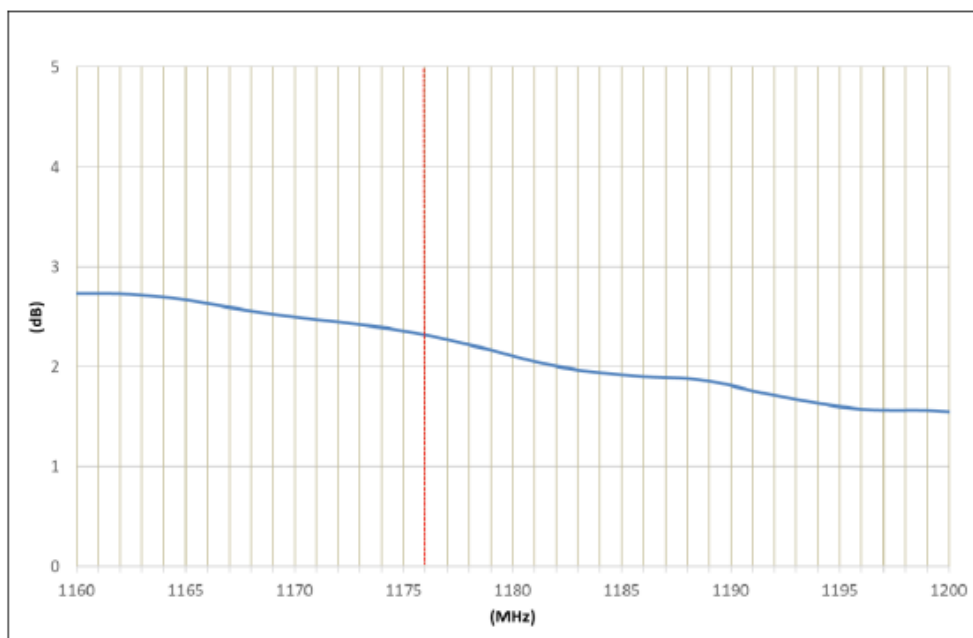


Axial vs. Frequency (with coupler)

GNSS L1 Band

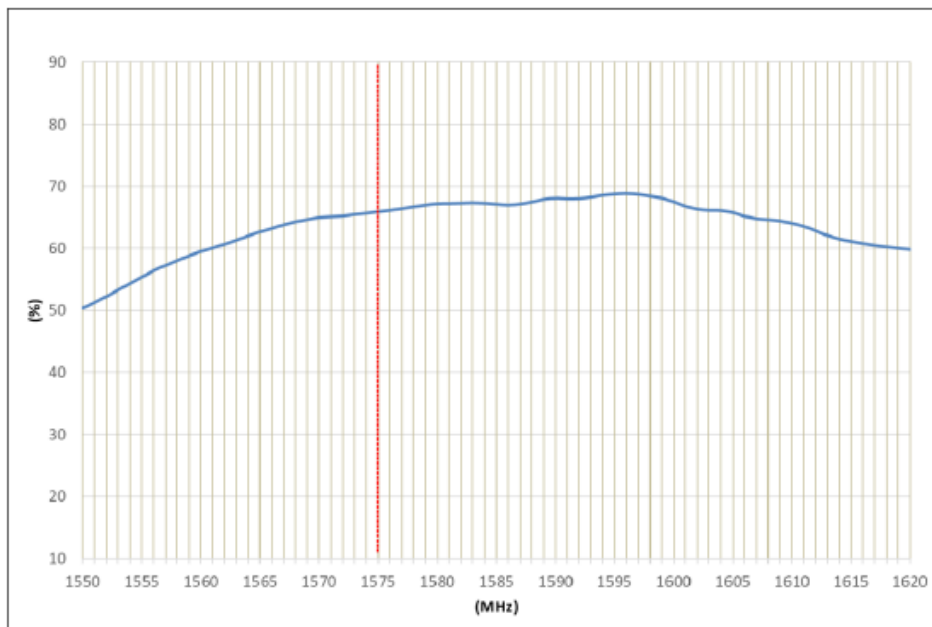


GNSS L5 Band

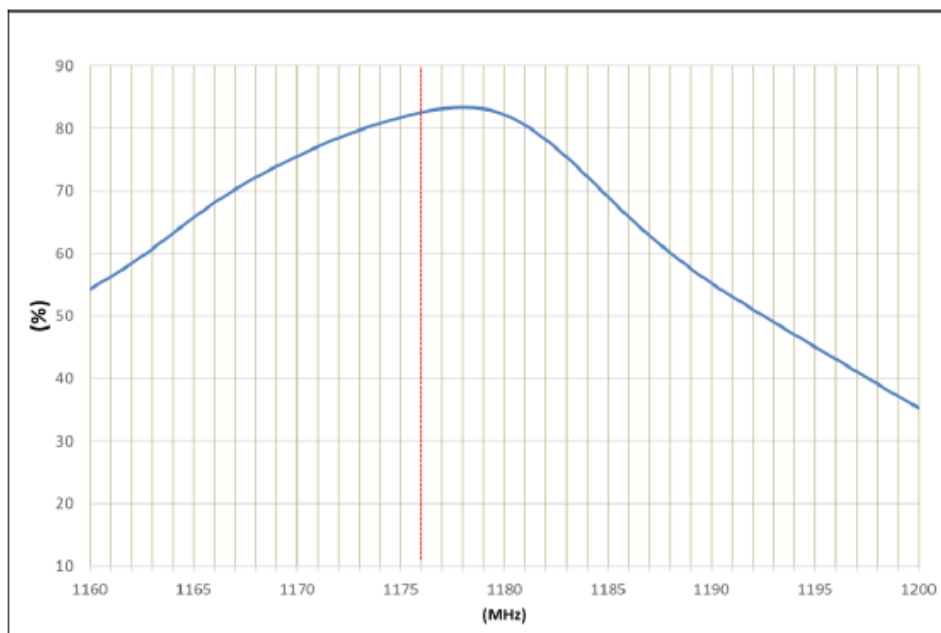


Efficiency (%) (with coupler)

GNSS L1 Band

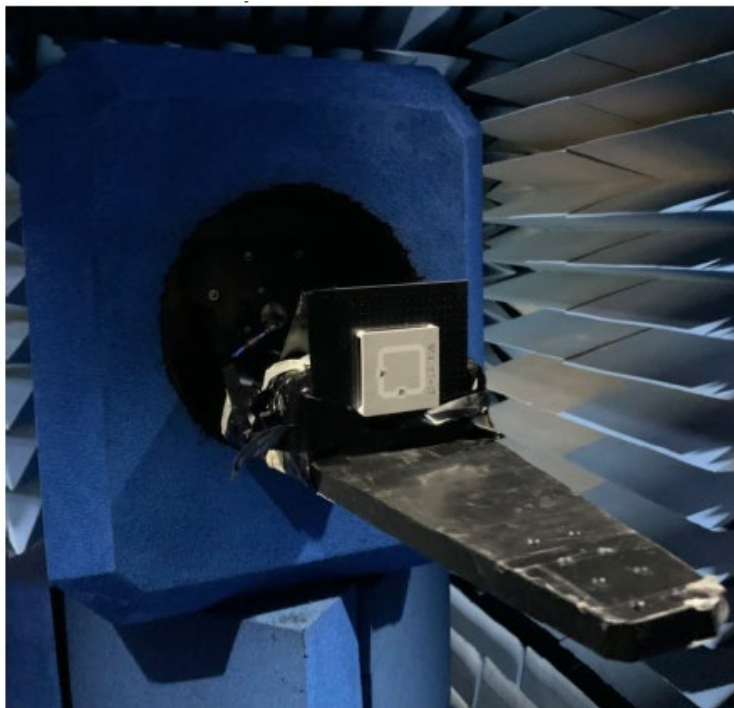


GNSS L5 Band

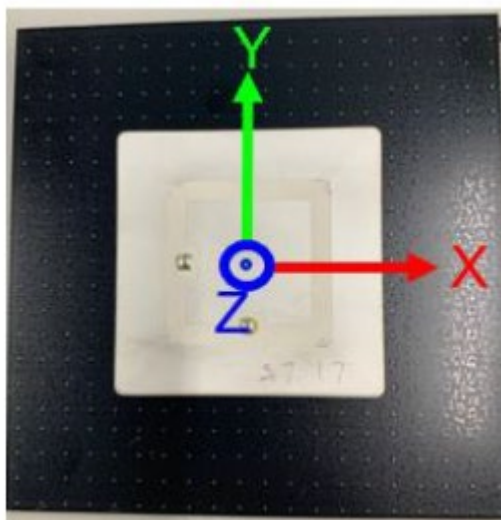


Antenna Radiation Pattern Measurement:

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



2D Radiation Gain Pattern

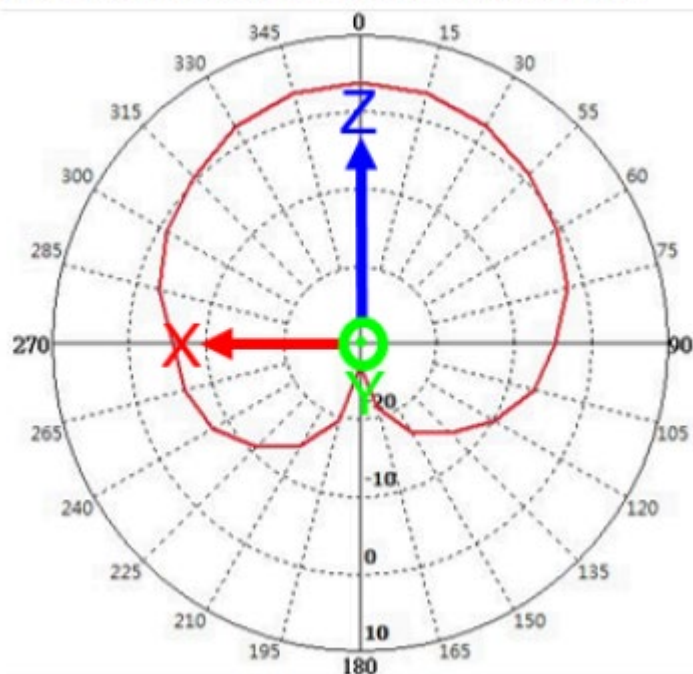


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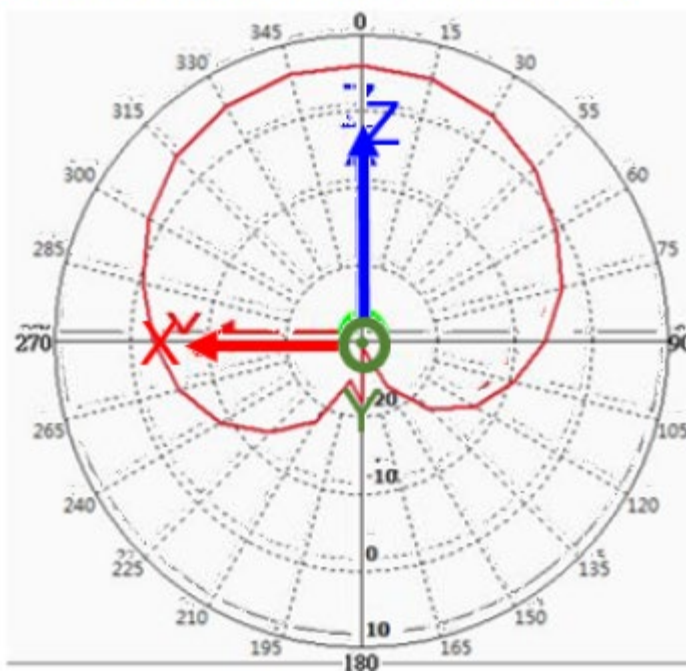
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GNSS L1 Band @1575.42MHz (unit: dBi)



GNSS L5 Band @1176.45MHz (unit: dBi)



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Packing

Weight:

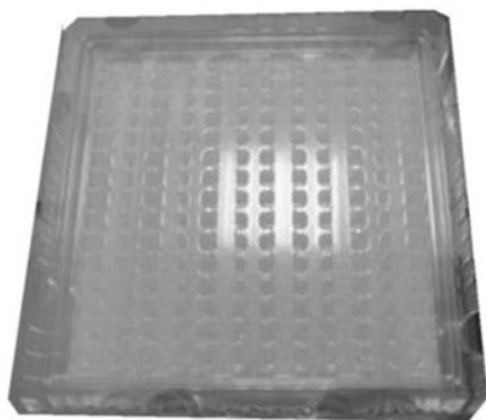
Unit Weight: 38.8 ± 4 g

Quantity:

Each Vacuum Bag: 150 pcs

Each Outer Box: 150 pcs

Tray: 150 pcs



Carton: 150 pcs

