

NGPM3030DU1R176G2AF

L1 + L5 High Precision Patch Antenna

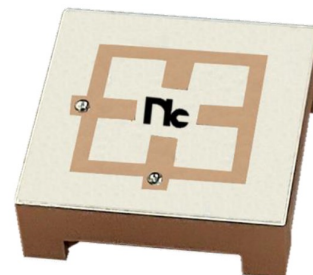


Features

- Supporting: (L1+L5) GPS/BDS/Galileo/QZSS/IRNSS/GLONASS
- 30x30 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	1176.5 MHz
Peak Gain (Typ.)	4.26 dBi	3.3 dBi
Average Gain (Typ.)	-2.0 dB	-3.1 dB
Efficiency (Typ.)	62%	48%
Return Loss (Typ.)	< -10 dB typ.	
Axial Ratio (Typ.)	< 3 dB	
Polarization	RHCP	
Impedance	50Ω	
Environmental		
Operating Temperature	-40°C~+105°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**

****= After the product is unpacked (not used for more than a week), it needs to be sealed package to prevent the silver surface of the product from being oxidized and discolored. ***

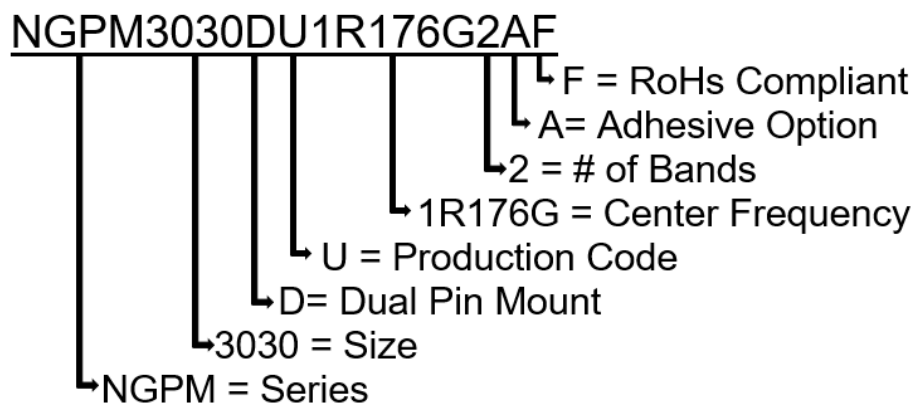
The oxidation and discoloration of the silver surface of the product will not affect the functional electrical properties

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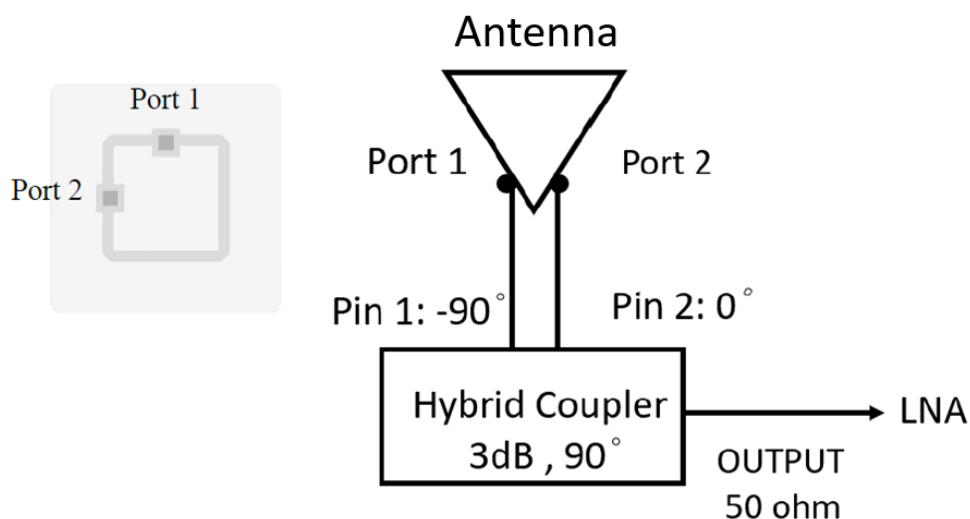
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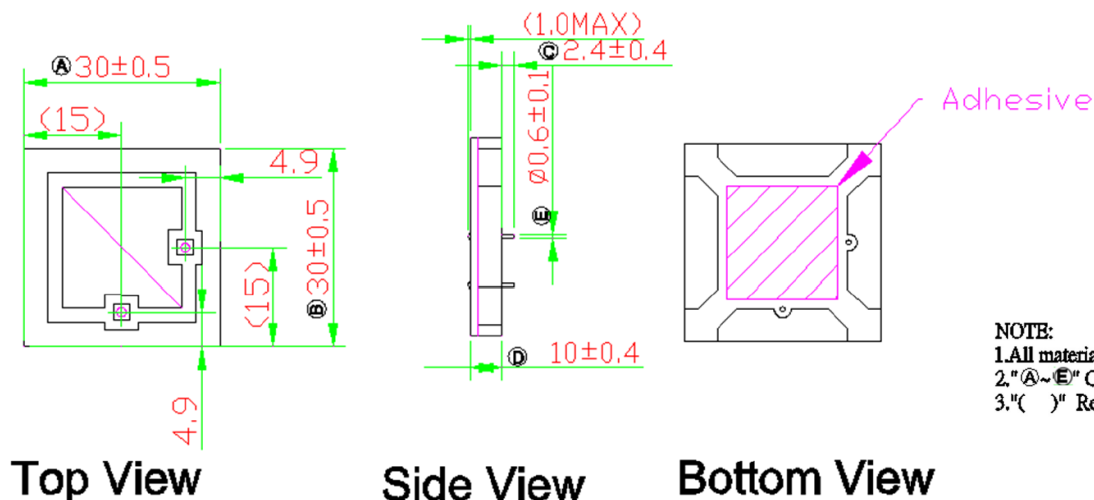
Part Number Breakdown



Block Diagram



Dimension Drawing



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

Dimensions (mm) & Mechanical

Body Length (A)	30 ± 0.5
Width (B)	30 ± 0.5
Thickness (D)	10 ± 0.4
Pin Diameter	0.6 ± 0.1
Mounting Method	Adhesive
Ground Plane	100 x 100 mm

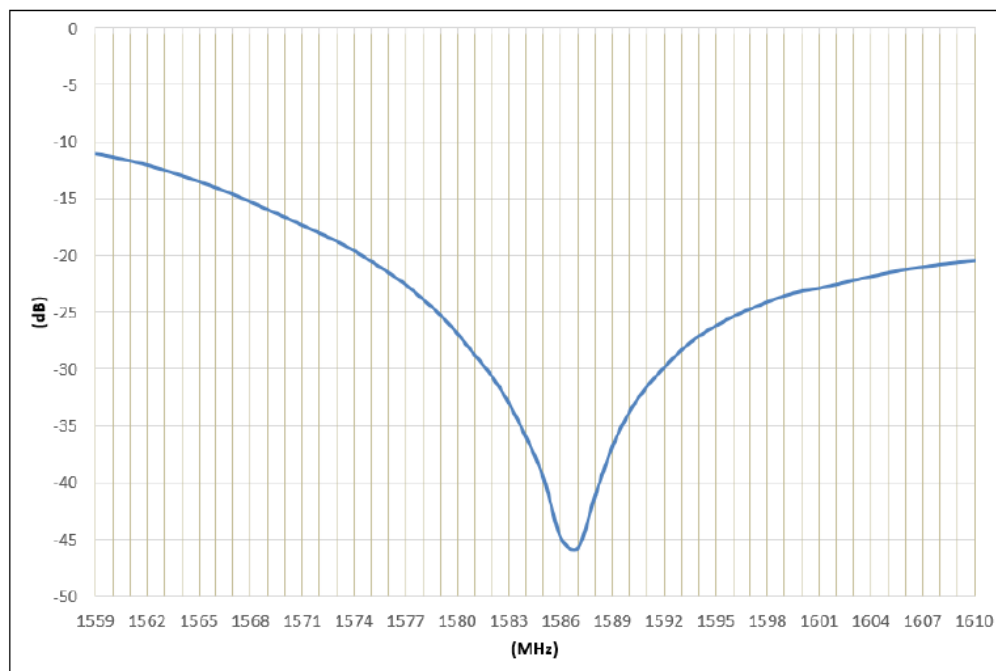
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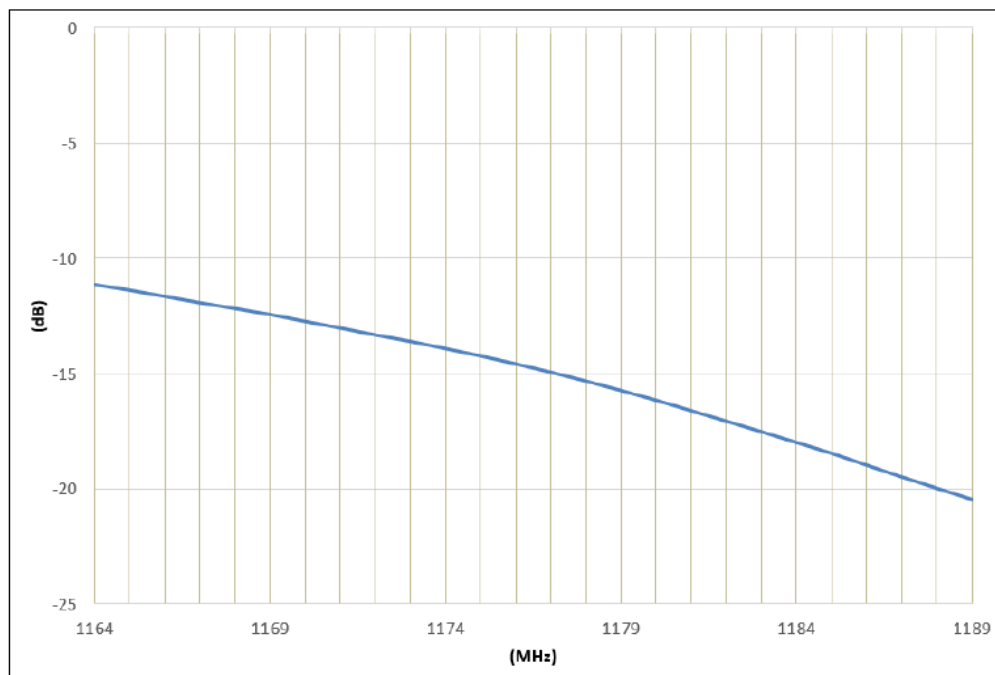


Return loss (dB) (with coupler)

GNSS L1 Band



GNSS L5 Band

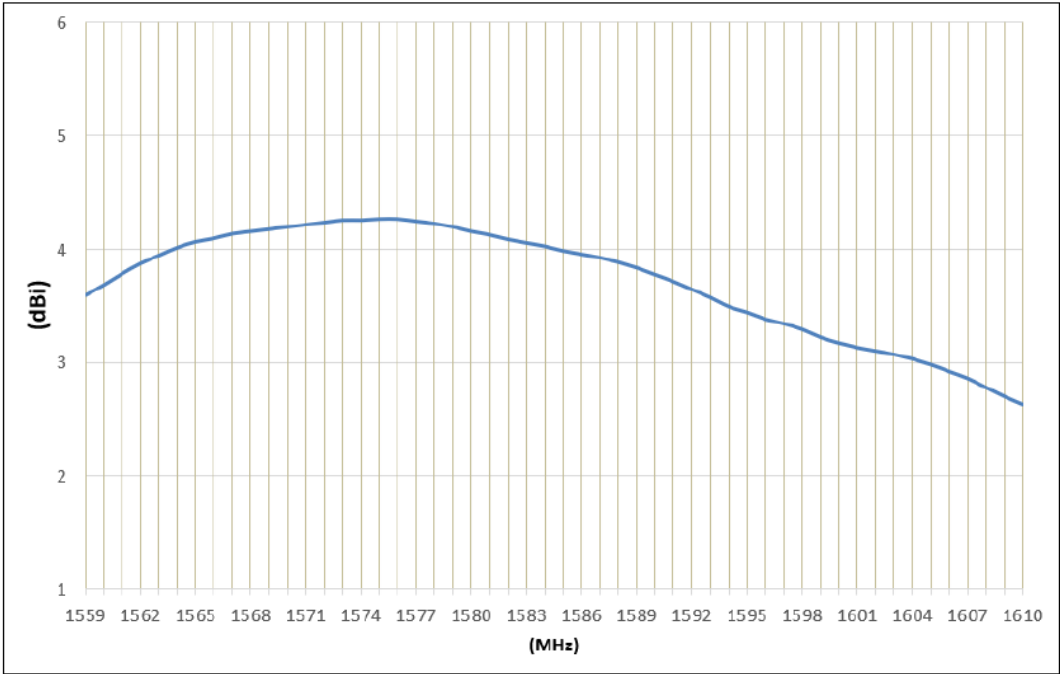


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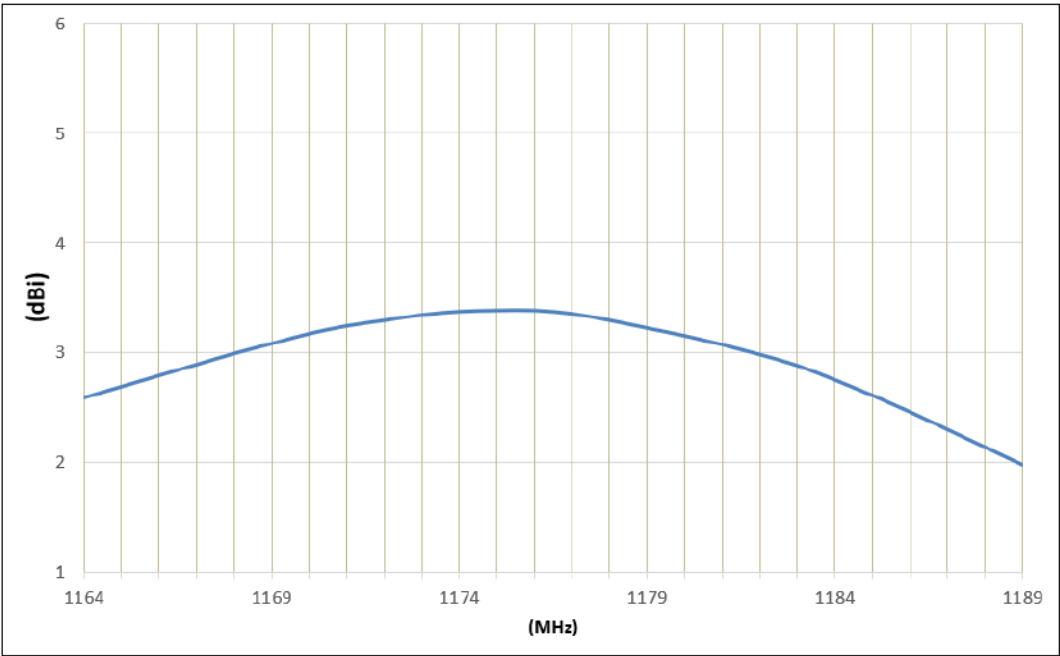
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Peak Gain vs. Frequency (with coupler)
GNSS L1 Band



GNSS L5 Band

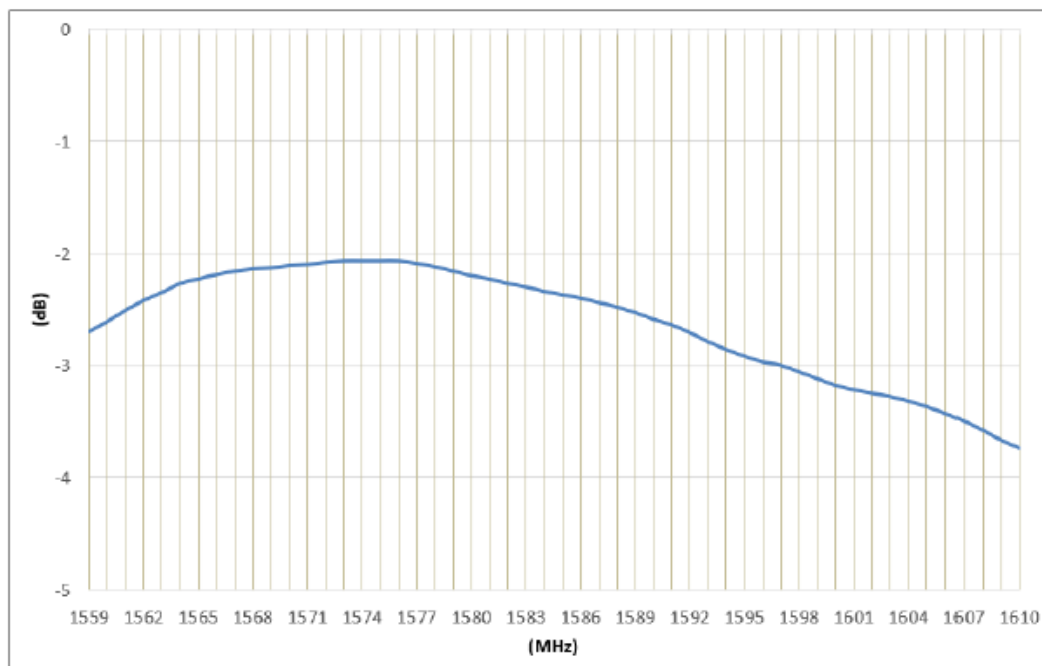


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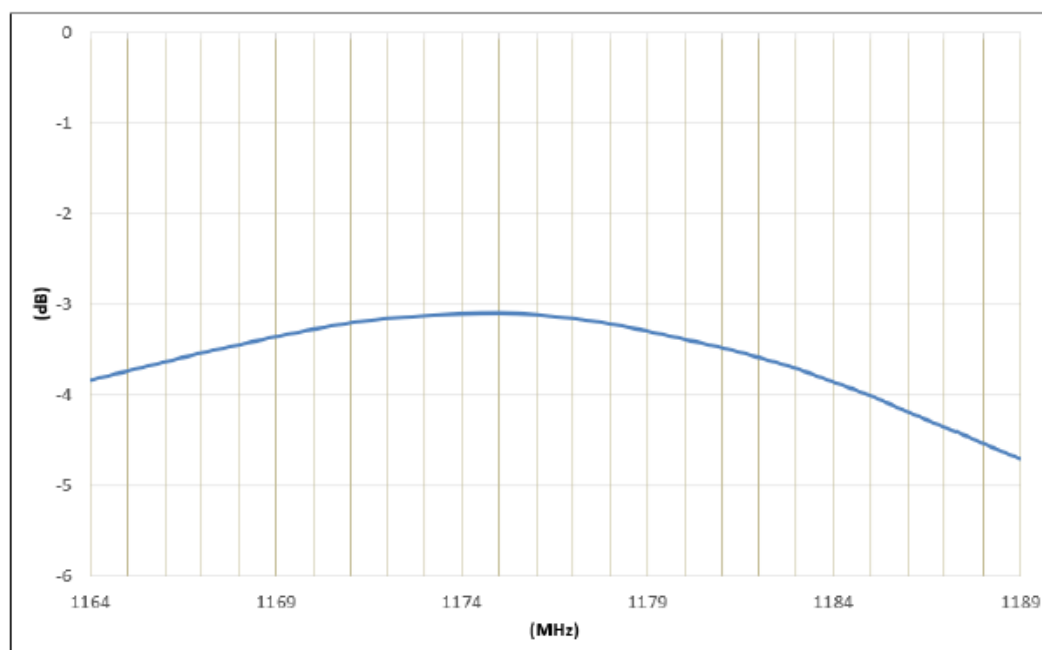
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Average Gain(dB) (with coupler)
GNSS L1 Band

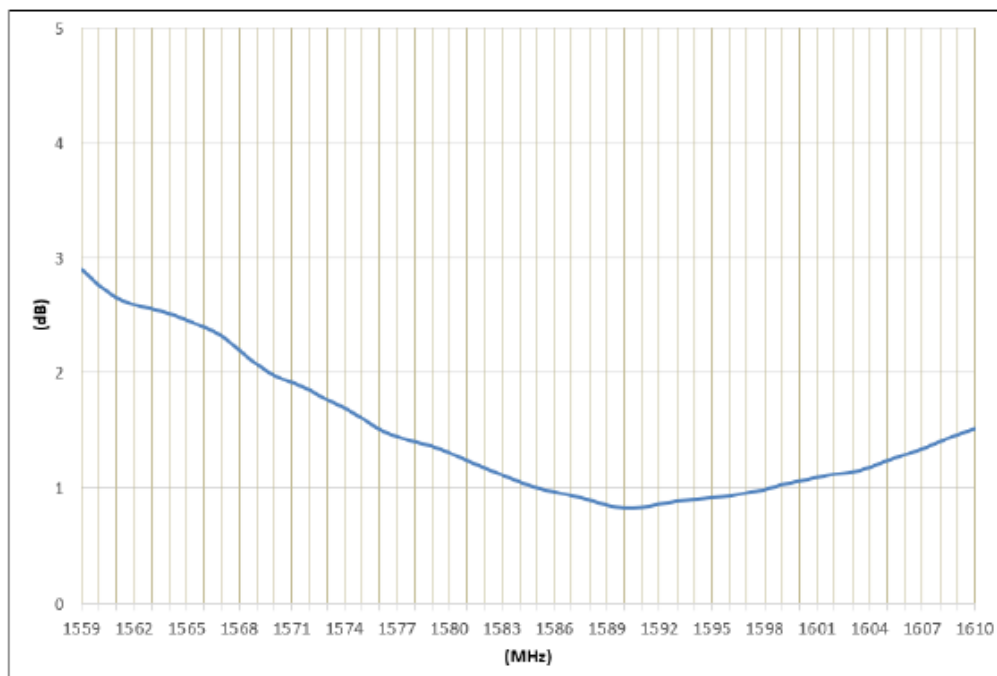


GNSS L5 Band

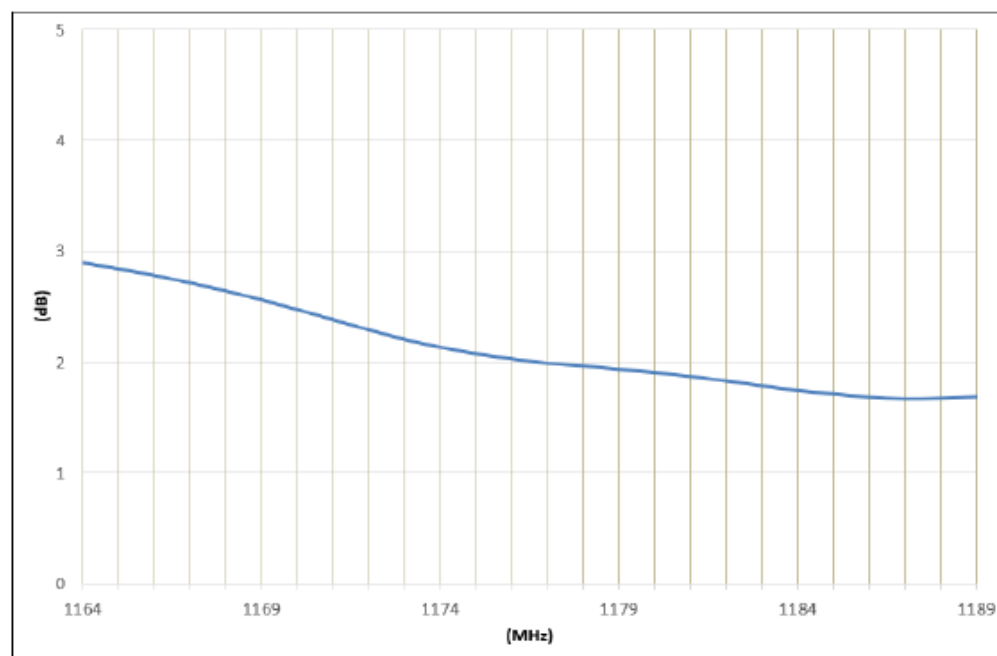


Axial vs. Frequency (with coupler)

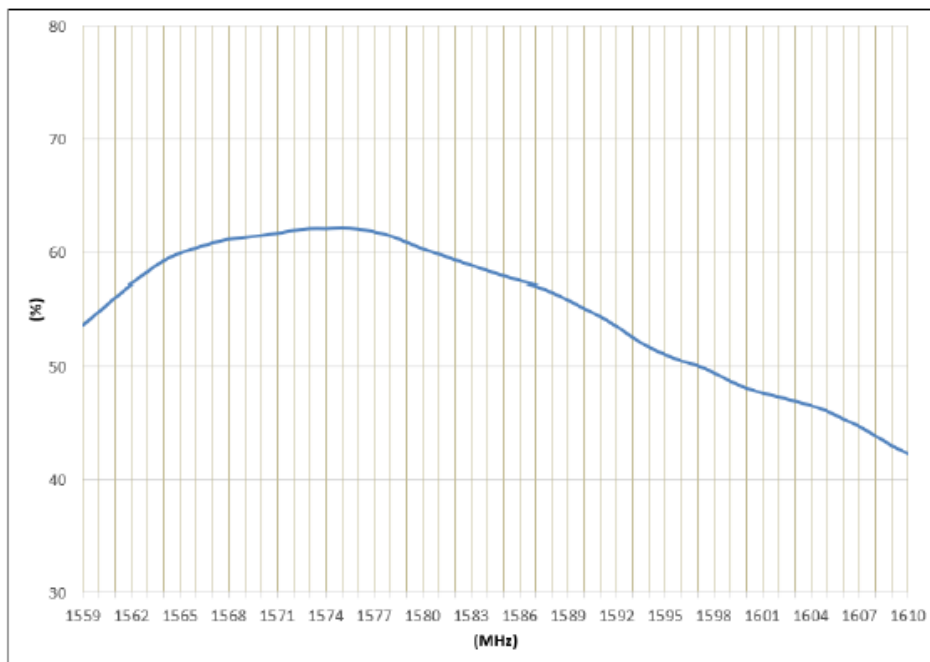
GNSS L1 Band



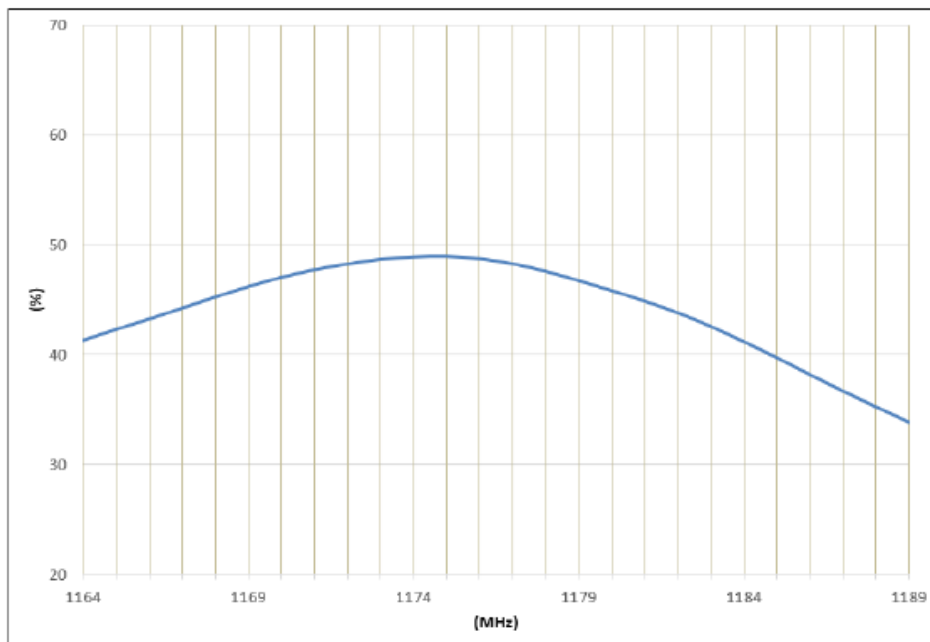
GNSS L5 Band



Efficiency (%) (with coupler)
GNSS L1 Band

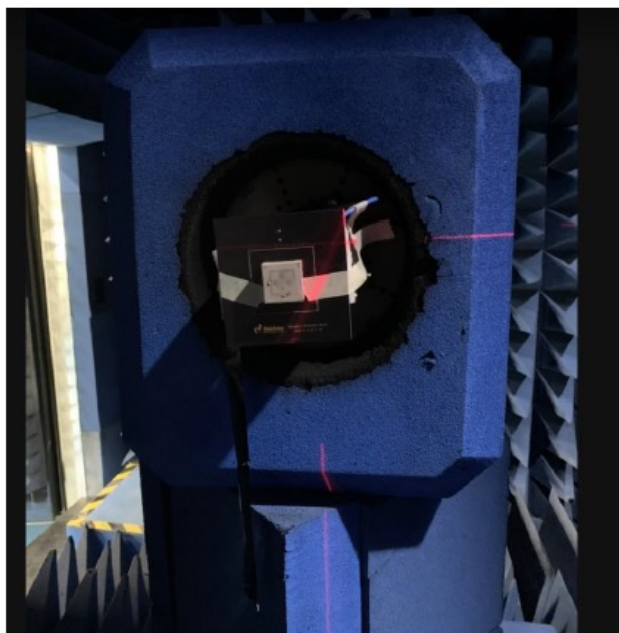


GNSS L5 Band

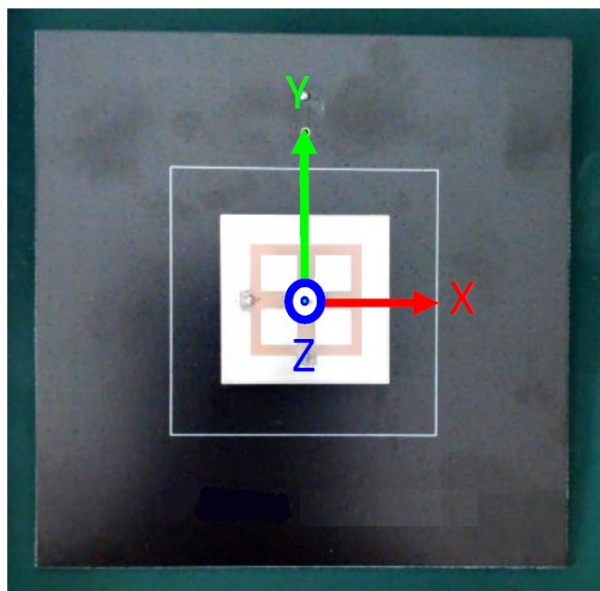


Antenna Radiation Pattern Measurement:

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



2D Radiation Gain Pattern

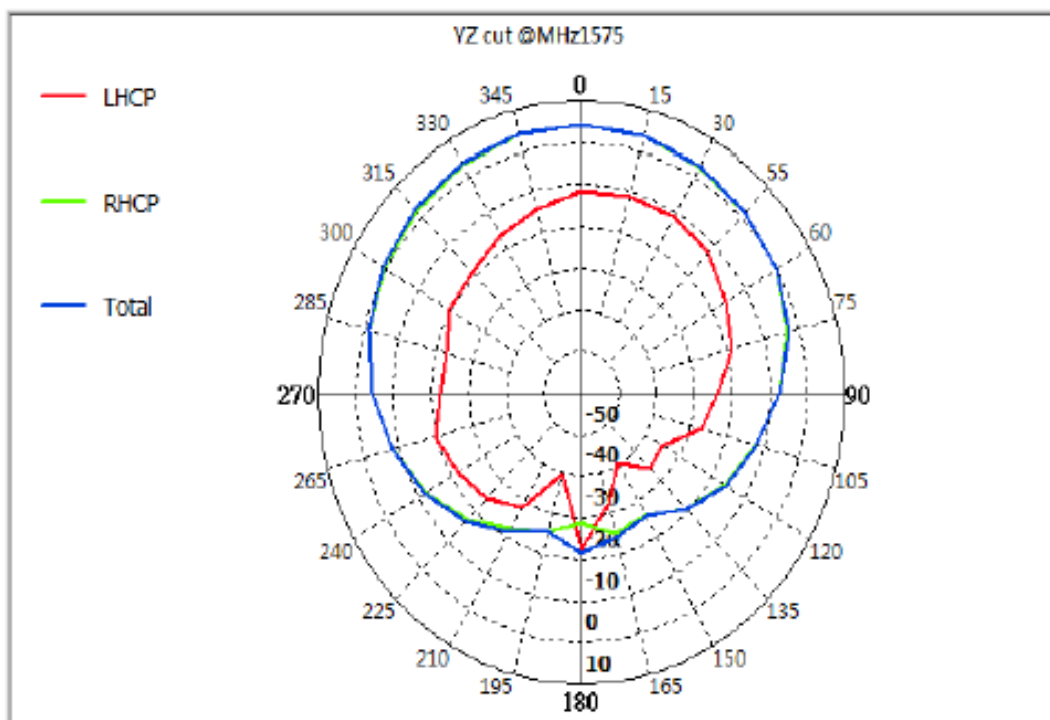
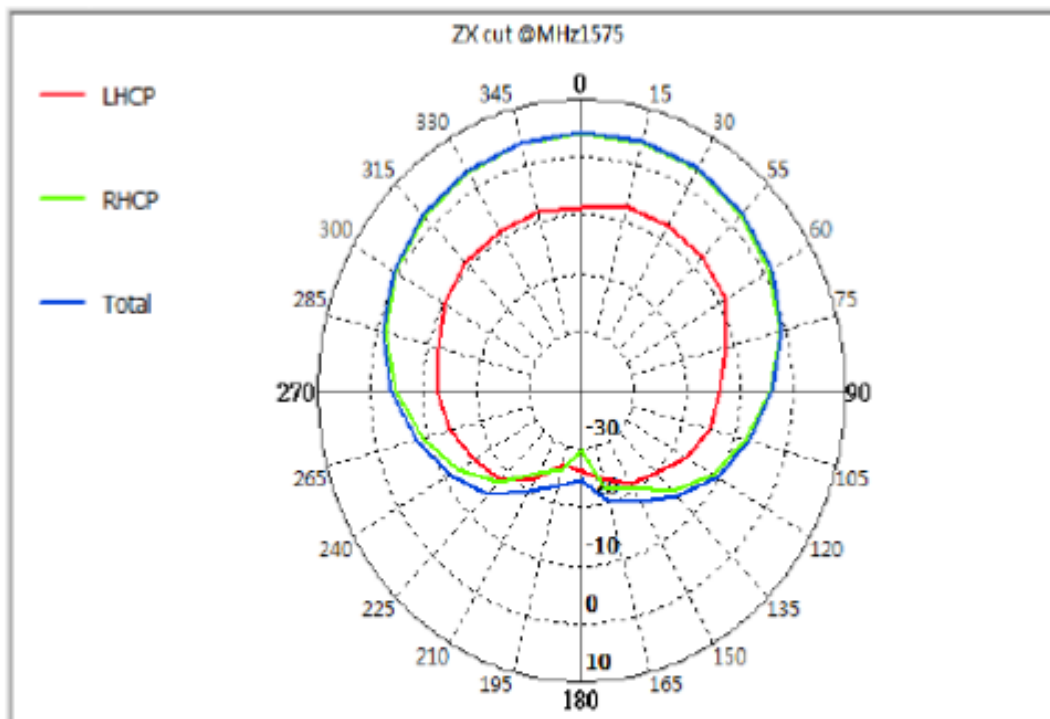


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GNSS L1 Band @1575.42MHz (unit: dBi)

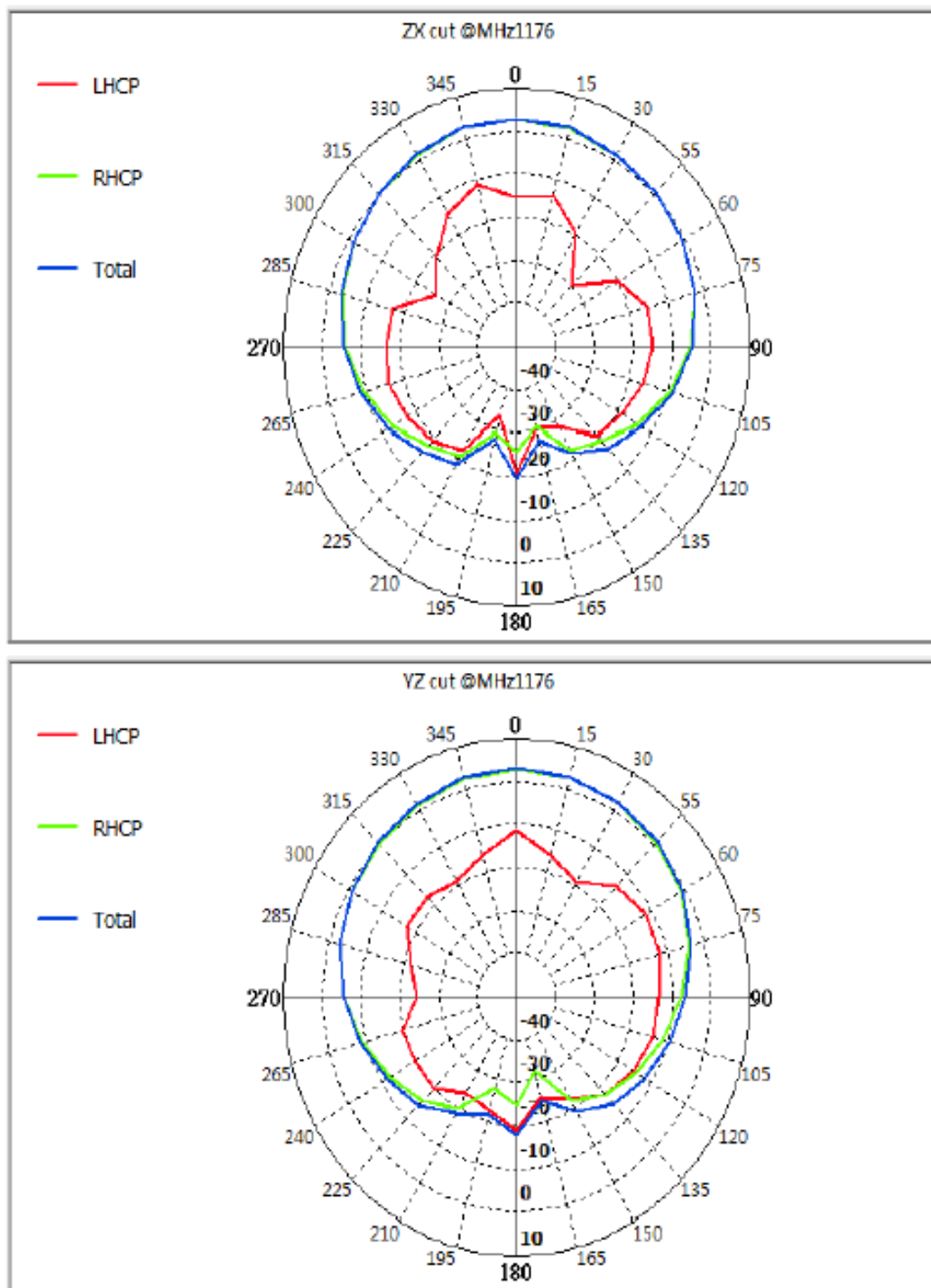


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GNSS L5 Band @1176.45MHz (unit: dBi)



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Packing

Weight:

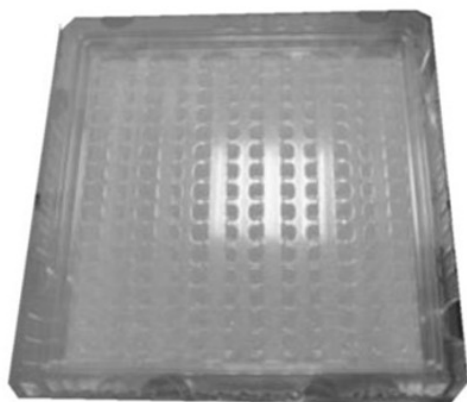
Unit Weight: 28 ± 5 g

Quantity:

Each Vacuum Bag: 125 pcs

Each Outer Box: 500 pcs

Tray: 125 pcs



Carton: 500 pcs

