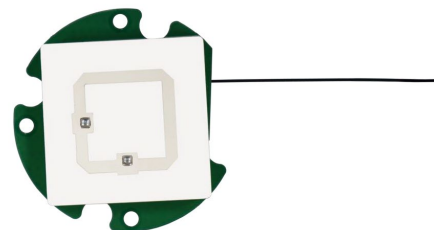


Features

- Support GPS L1 / GLONASS L1/ GPS L2 Bands
- Excellent Out of Band Rejection, Up to 60dB
- 30dB Active Peak Gain
- Customizable Cables and Connectors
- RoHS & REACH Compliant



Applications

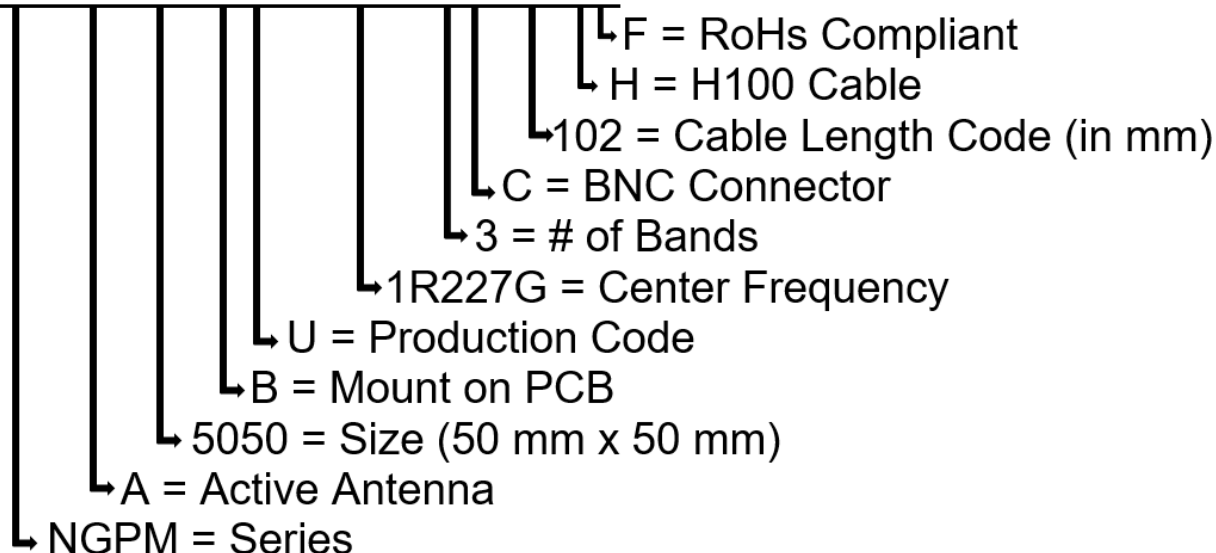
- Automotive Navigation
- For all GNSS applications with networking such as sensor, sonar multi-function gauge, etc.

Specifications

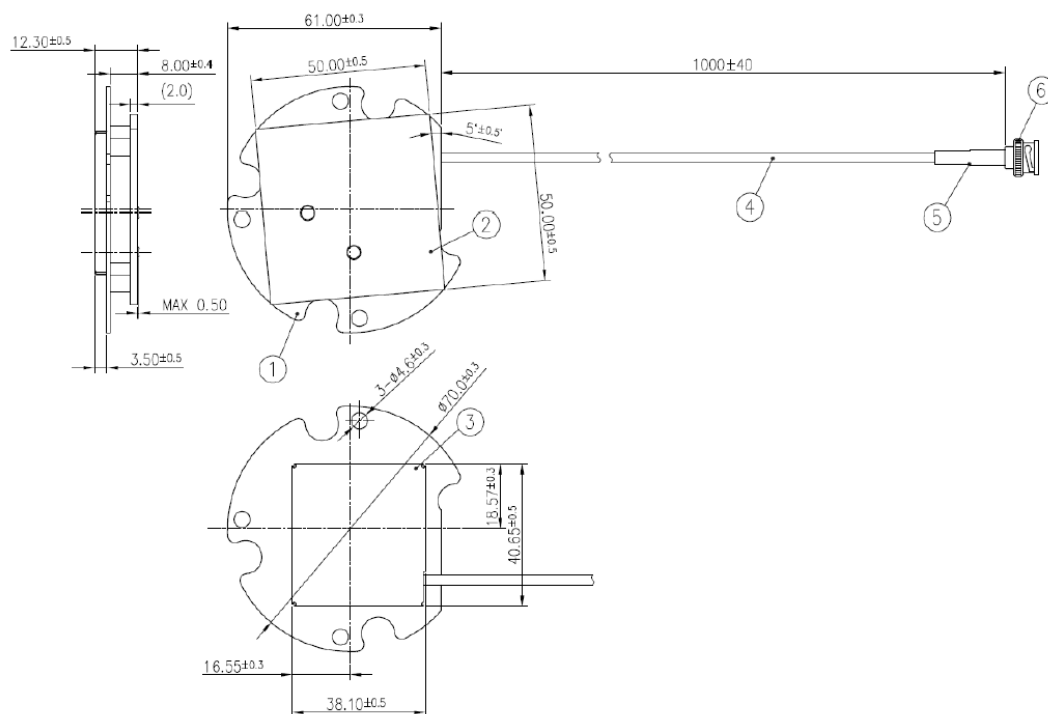
Electrical				
Frequency Bands	GPS L2		GPS L1	
Frequency Range	1227 MHz		1575.42 MHz	
Peak Gain	-11.69 dBi		2.48 dBi	
Average Gain	-11.69 dBi		-3.57 dBi	
Efficiency	6.78%		43.95%	
Axial Ratio	1.29		2.16	
VSWR	< 2			
Return Loss	< -10 dB			
Polarization	RHCP			
Impedance	50Ω			
LNA				
Frequency Bands	GPS L2		GPS L1	
Frequency Range	1227 ± 5 MHz		1575.42 ± 1.023 MHz	
Gain	35 dBi		32 dBi	
Noise Figure (typ.)	3.0 dB			
Operation Voltage	3.3 ~ 5.0 V			
Current Consumption	19 ± 2 mA			
Output Impedance	50 Ω			
Out of Band Rejection				
Frequency Bands	GPS L2		GPS L1 GLONASS L1	
Frequencies (MHz)	1340 ~ 1520	1650 ~ 3000	600 ~ 1100	1340 ~1520
Out of band Rejection	62 dB	71 dB	59 dB	59 dB
ESD Protection	+/- 8 KV (direct discharge) +/- 15 KV (air discharge)			
Environmental				
Operating Temperature	-40°C~+85°C			
Storage Temperature	-40°C~+85°C			
Relative Humidity	95% non-condensing			
RoHS Compliant	Yes			

Part Number Breakdown

NGPMA5050BU1R227G3C102HF



Dimension Drawing

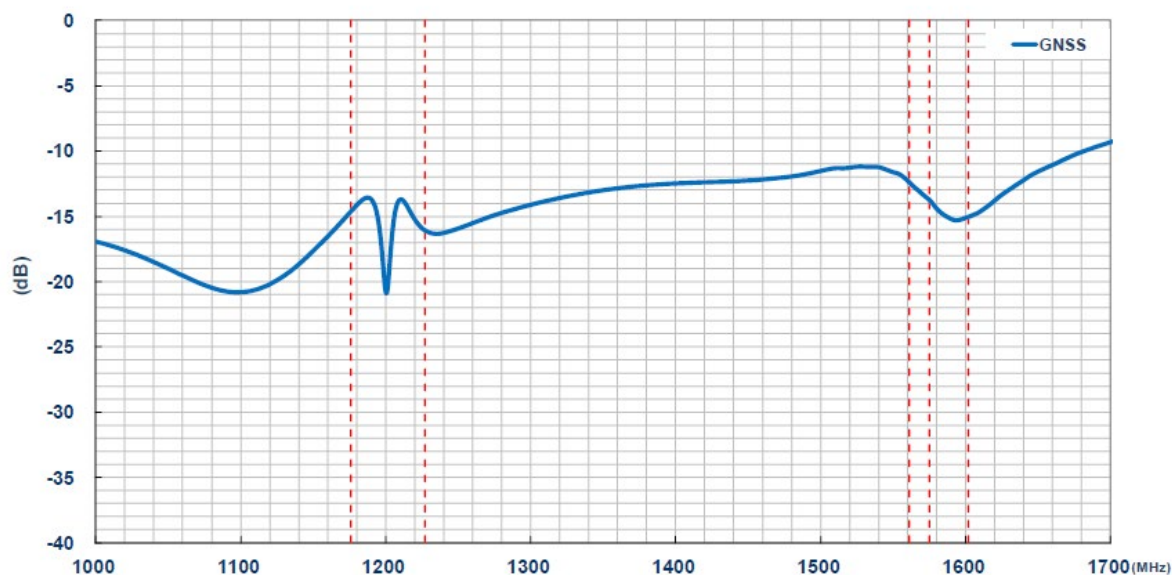


Dimensions (mm) & Mechanical

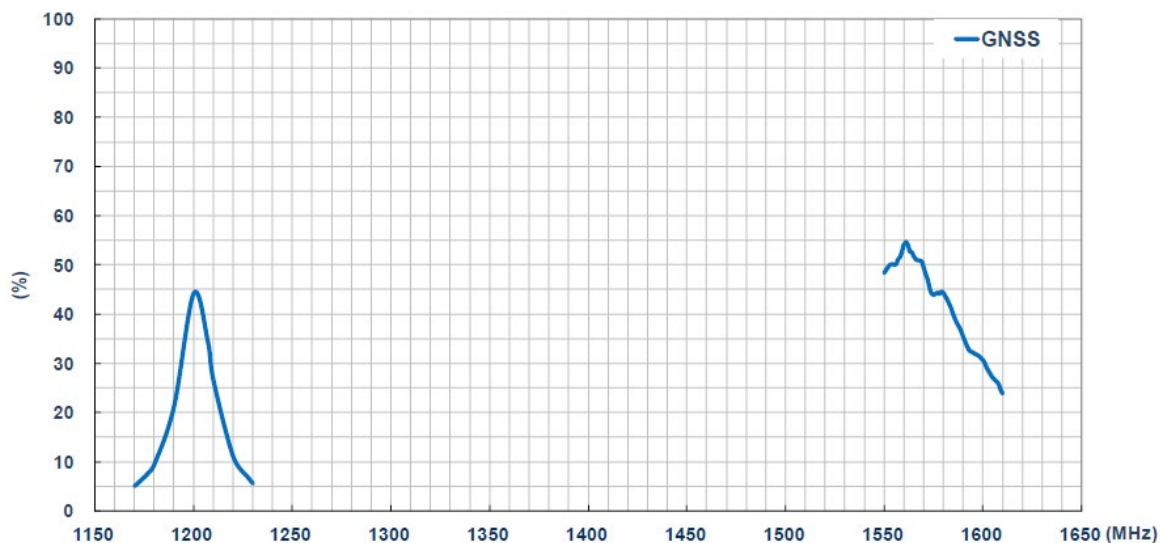
Body Length	50 ± 0.5
Width	50 ± 0.5
Height	12.3 ± 0.5
Cable Length	1000 ± 40
Cable (4)	H100
Connector (6)	BNC Male
PCB (1)	Ø 70.0 ± 0.3 x 61.0 ± 0.3
Material (2)	Ceramic

Passive Electrical Properties

S11 (dB)



Efficiency (%)

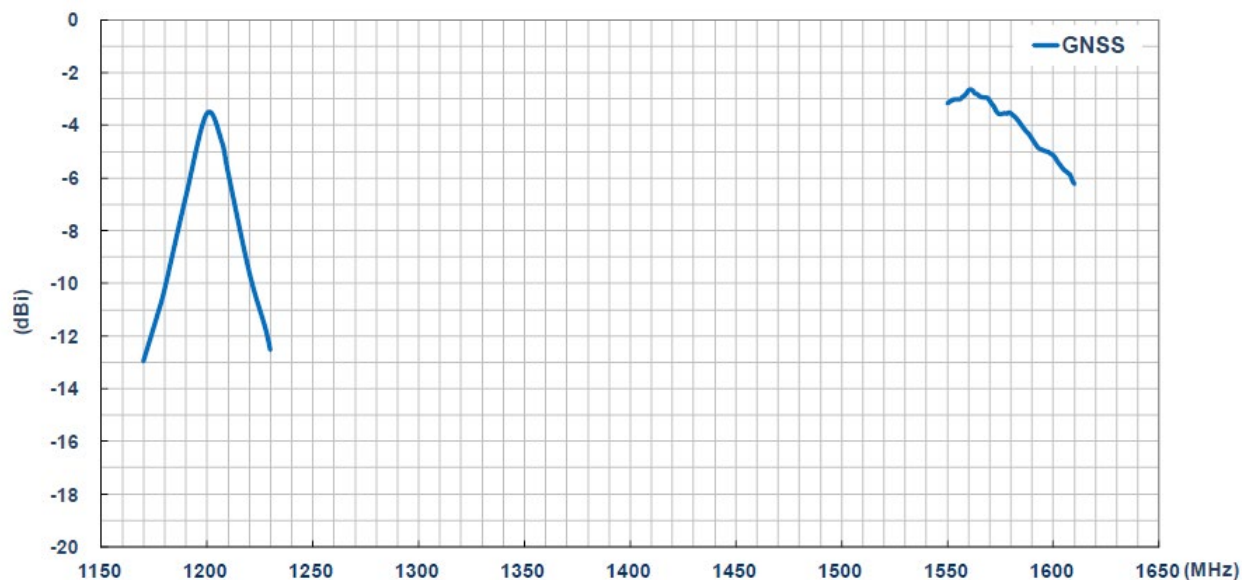


NGPMA5050BU1R227G3C102HF

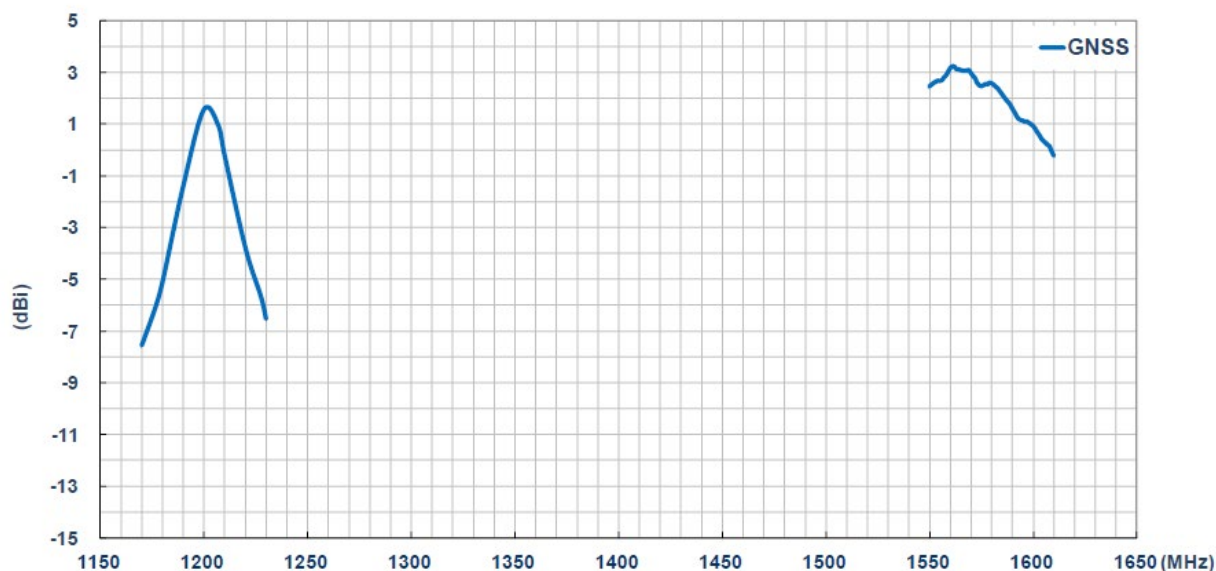
L1 & L2 GPS Active High Precision Patch Antenna



Average Gain (dBi)

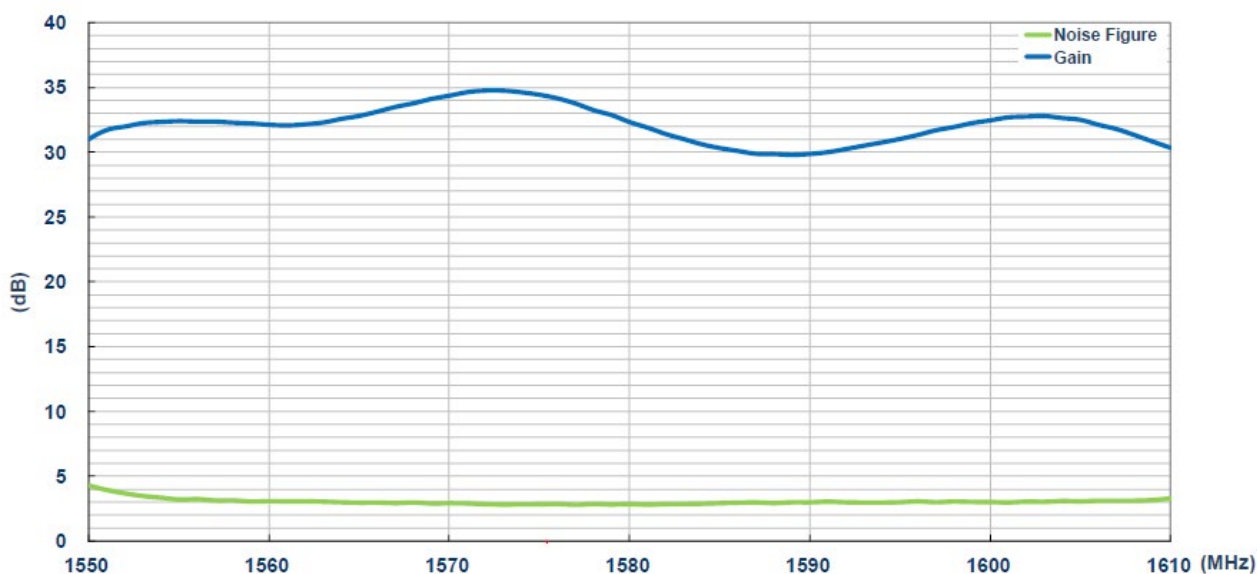
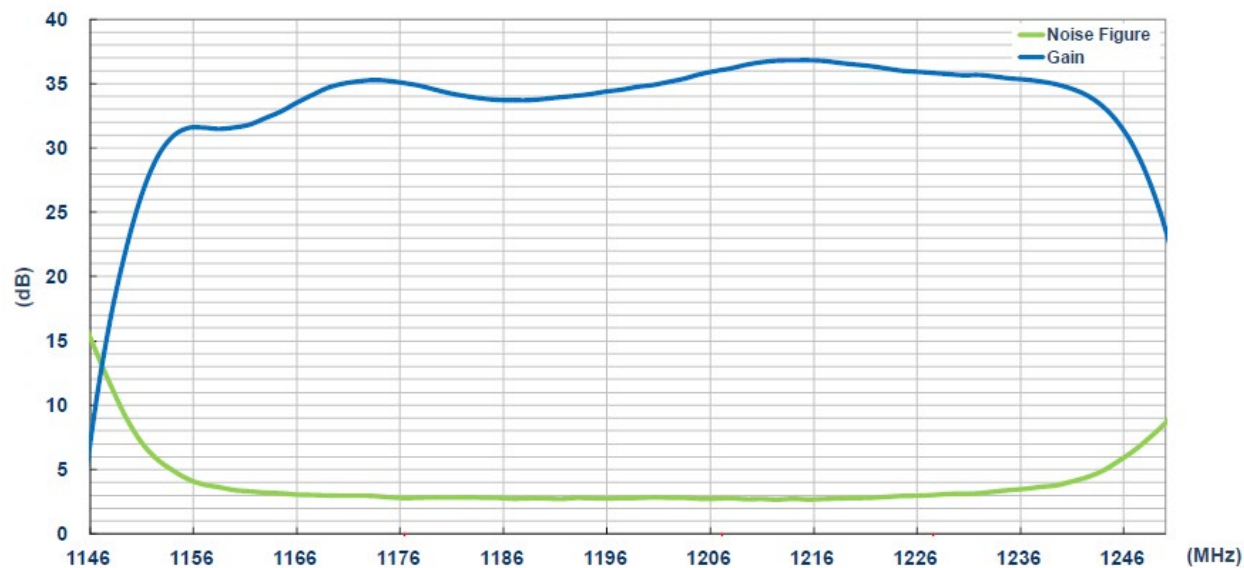


Peak Gain (dBi)

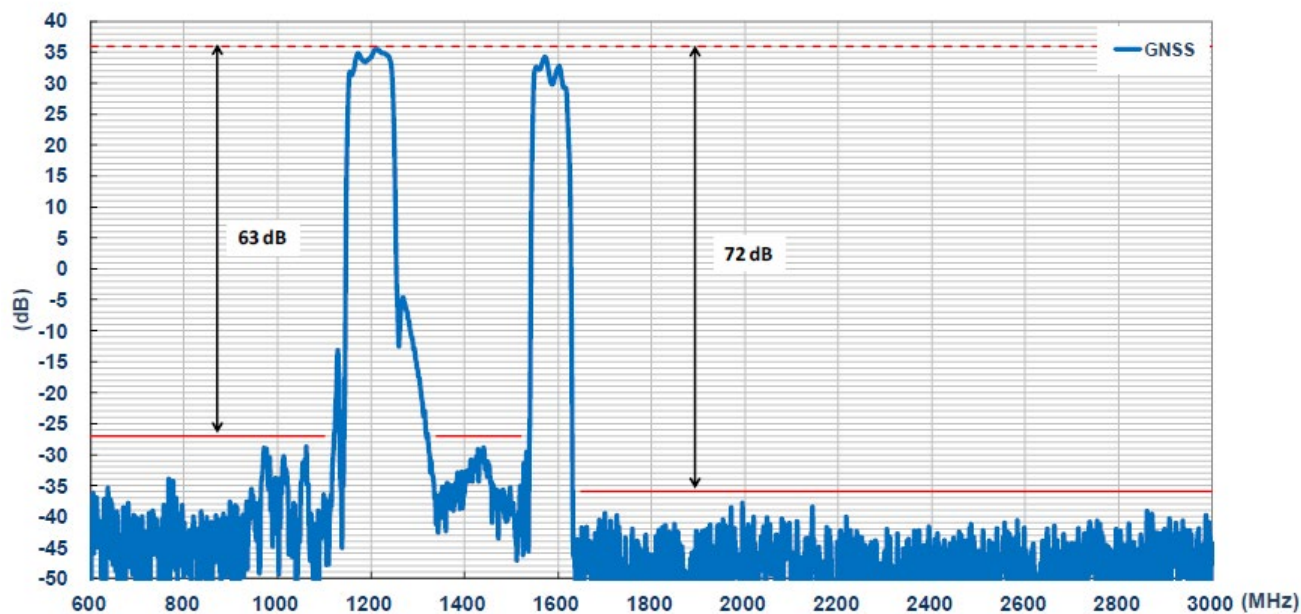


Active Electrical Properties

Noise Figure & Gain (dB)

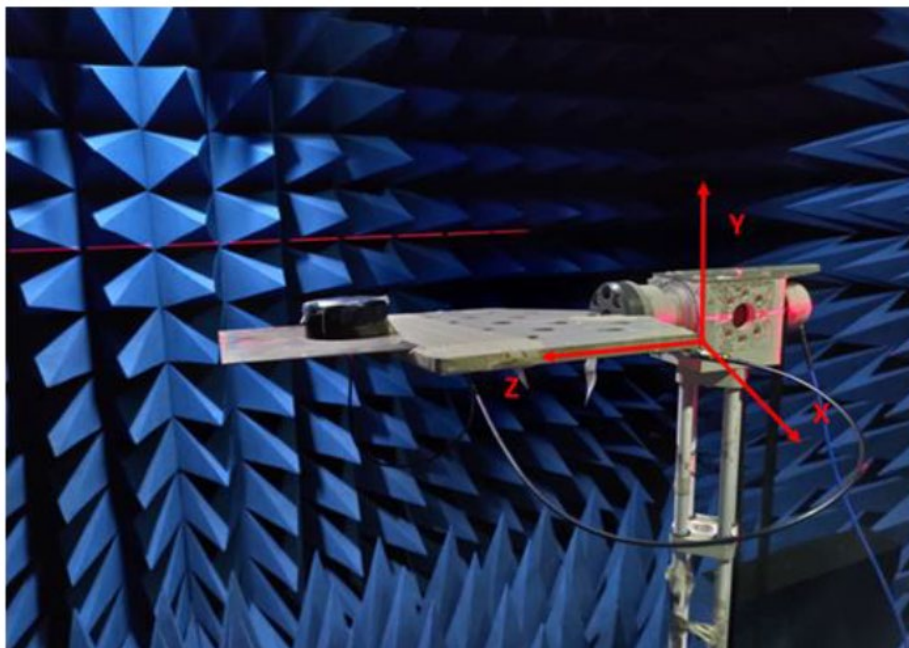


Out of Band Rejection (dB)



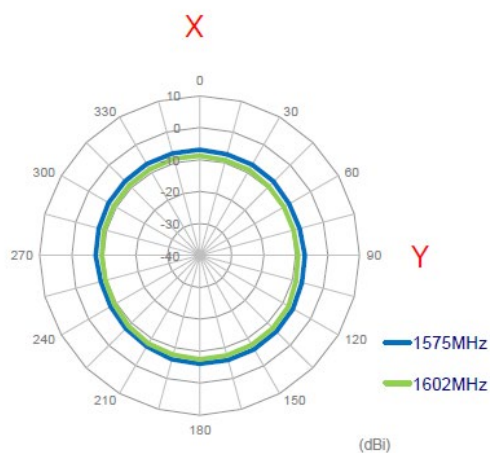
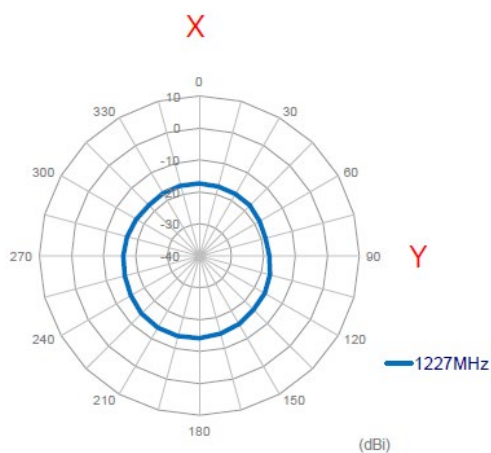
Antenna Radiation Pattern Measurement:

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



2D Radiation Patterns

X-Y Plane

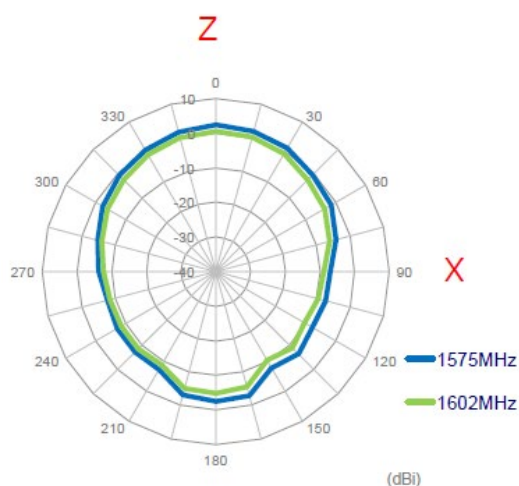
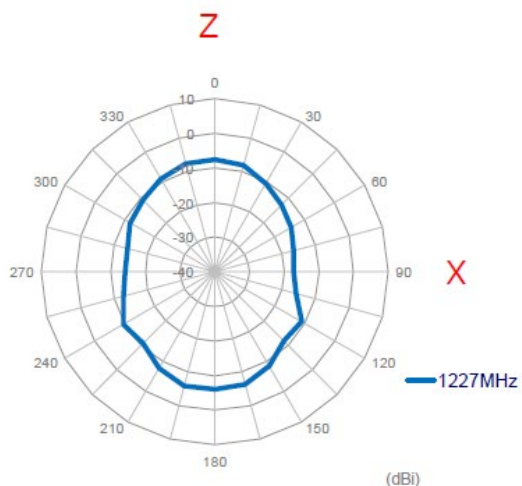


NGPMA5050BU1R227G3C102HF

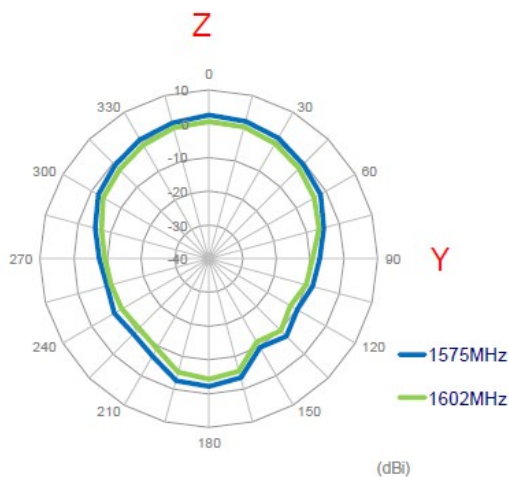
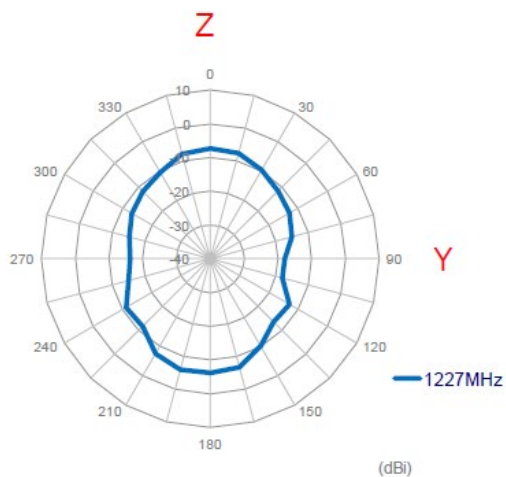
L1 & L2 GPS Active High Precision Patch Antenna



X-Z Plane

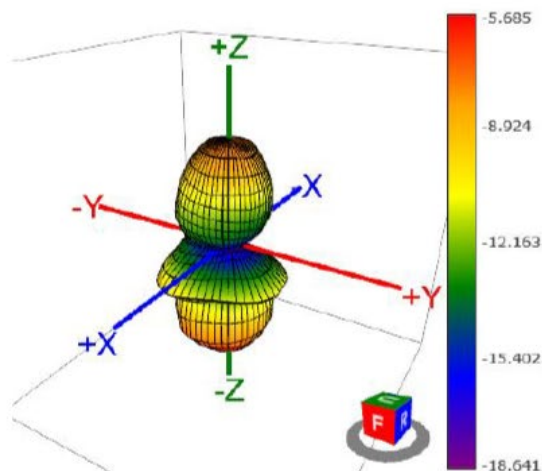


Y-Z Plane

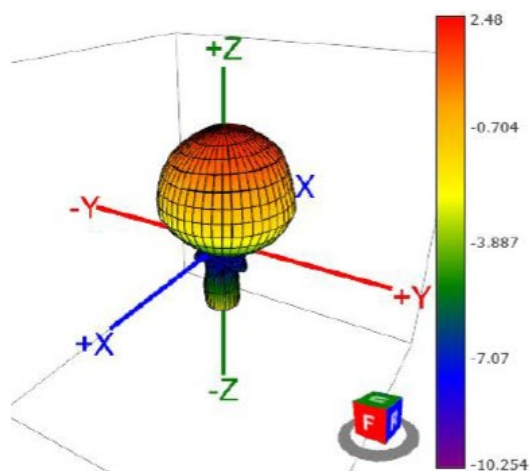


3D Radiation Patterns

1227MHz



1575.42MHz



1602MHz

