Product Name: Castle patch antenna with EVB - EVB+PB40D9NS

Part Number: H2BDAD1A2T0100

Features:

- Supporting (L1+L5) GPS/ BDS/Galileo/QZSS/IRNSS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS 2.0 compliance

Applications:

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

Castle patch antenna with EVB

MODEL: EVB+PB40D9NS

Version: C

I. Patch Antenna Specifications:

Items	Specifications	
Navigation	GPS L1/ Galileo E1/ BDS B1/ QZSS L1	GPS L5 Galileo E5a/ BDS B2/ QZSS L5 IRNSS L5
Center Frequency (MHz)	1575.42	1176.5
Return loss (dB)	< -10 Typ.	
Peak Gain (dBi)	5.4 Typ.	5.4 Typ.
Axial Ratio (dB)	<3 Typ.	
Average Gain(dB)	-0.7 Typ.	-1.3 Typ.
Efficiency (%)	85 Typ.	74 Typ.
Impedance (Ω)	50	
Polarization	RHCP	

Environmental Conditions	
Operation & Storage Temperature (° C)	-40 ~ +85
Storage Temperature (° C) **(Antenna with packing sealed)**	-5 ~ +40
Relative Humidity	10 ~ 70 %

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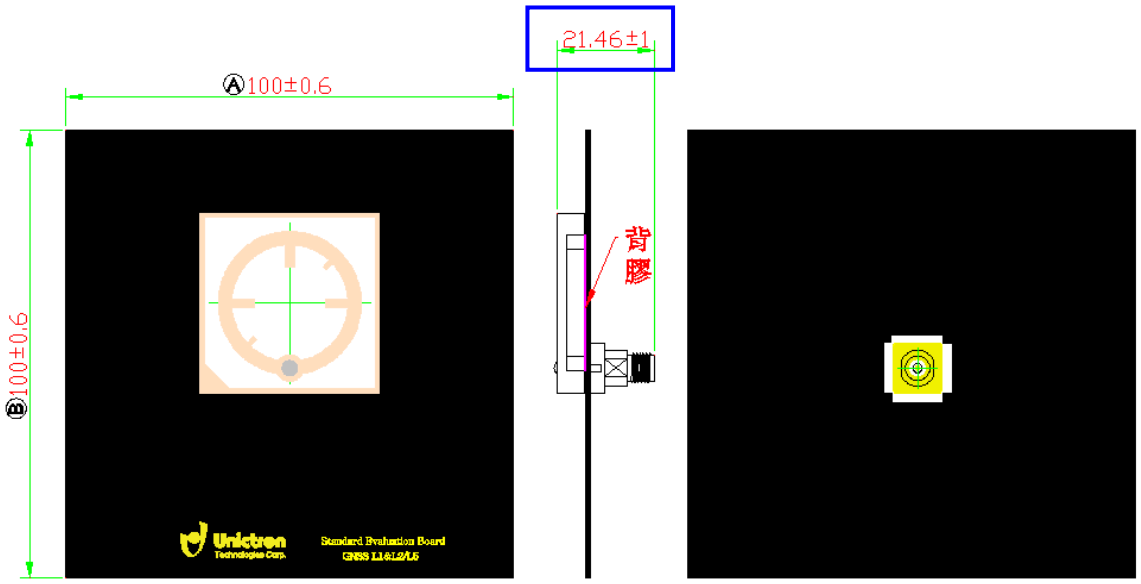
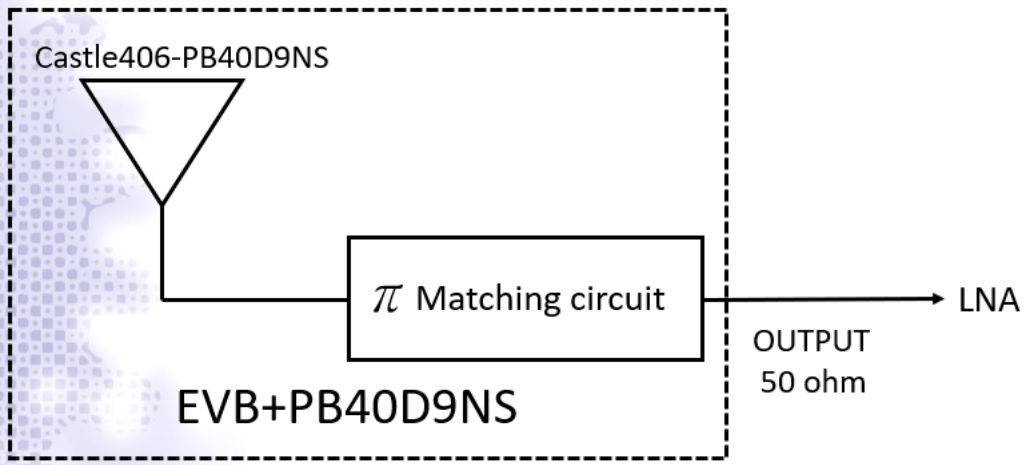
II. Antenna Dimensions (unit: mm):



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

III. Block Diagram



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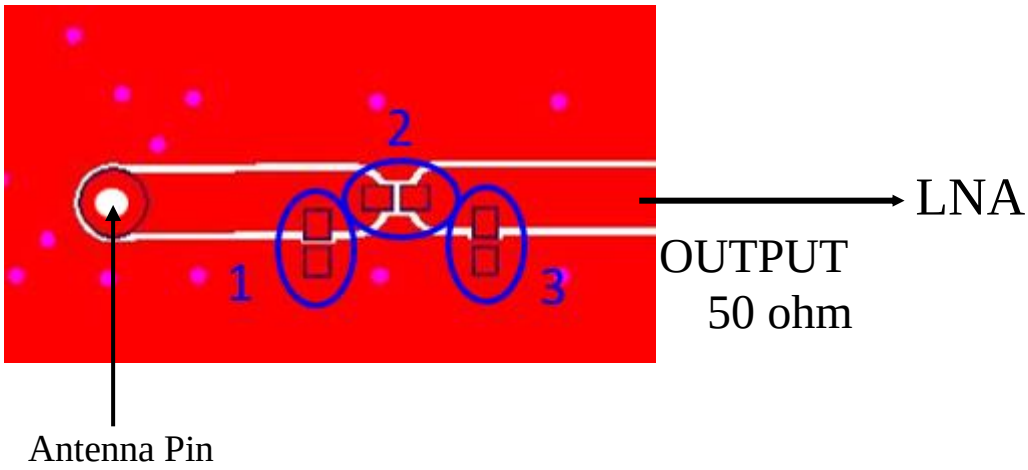
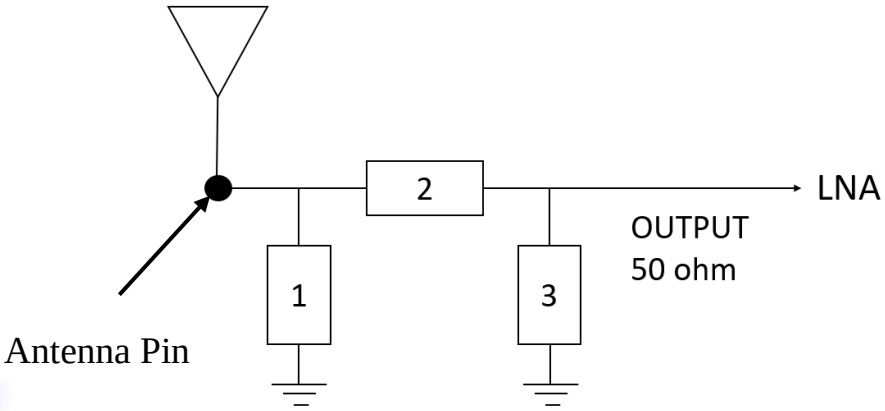
IV. Matching circuit

With the following recommended values of matching and tuning components, at our standard 100 x 100 mm2 evaluation board. However, these are typical reference values which may need to be changed when circuit boards or part vendors are different.



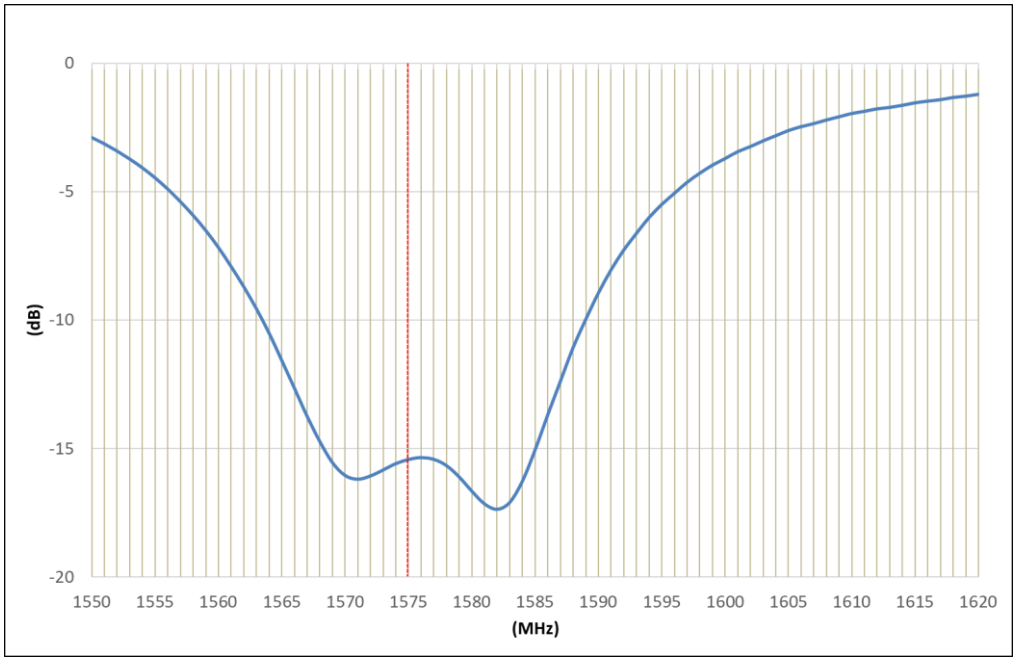


System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	N/A	-	-
2	0Ω, (0402)	-	-
3	N/A	-	-

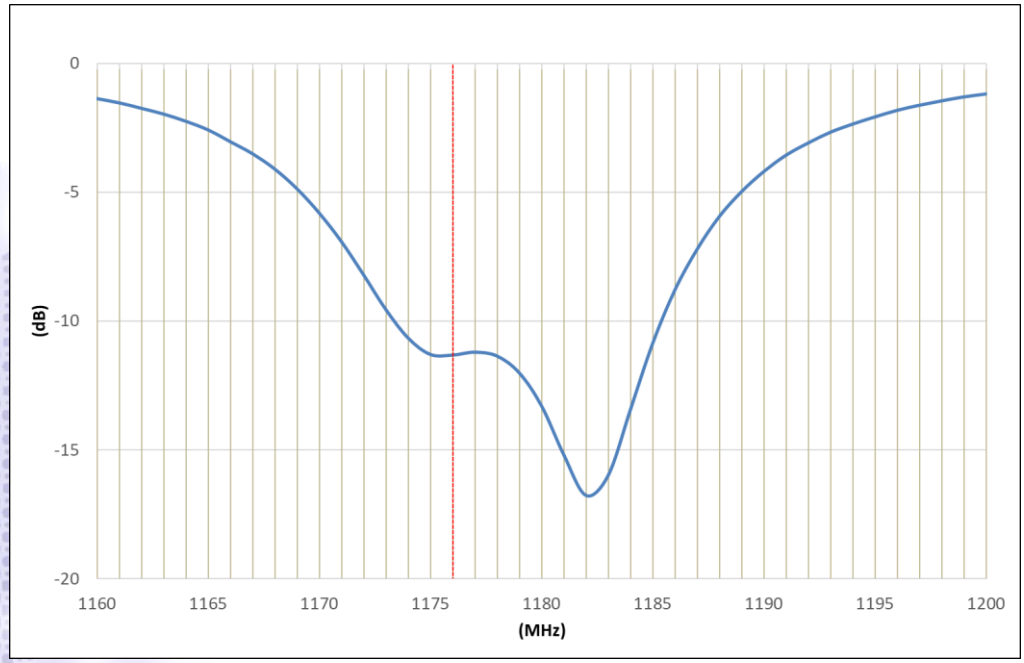
V. Properties:

a) Return loss (dB)

I. GNSS L1 Band

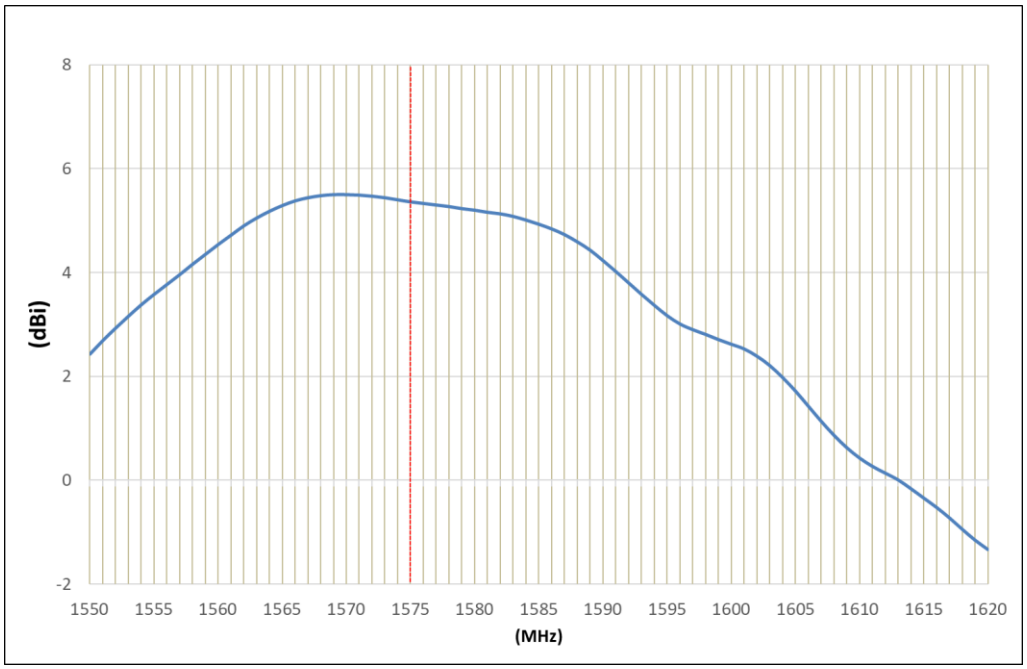


II. GNSS L5 Band

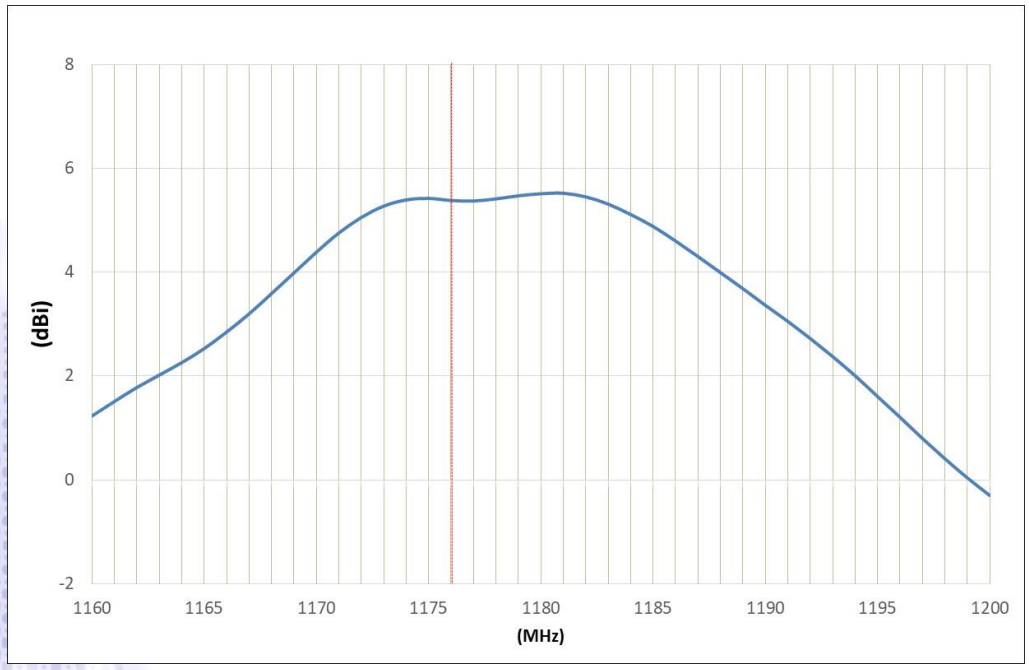


b) Peak Gain (dBi)

I. GNSS L1 Band

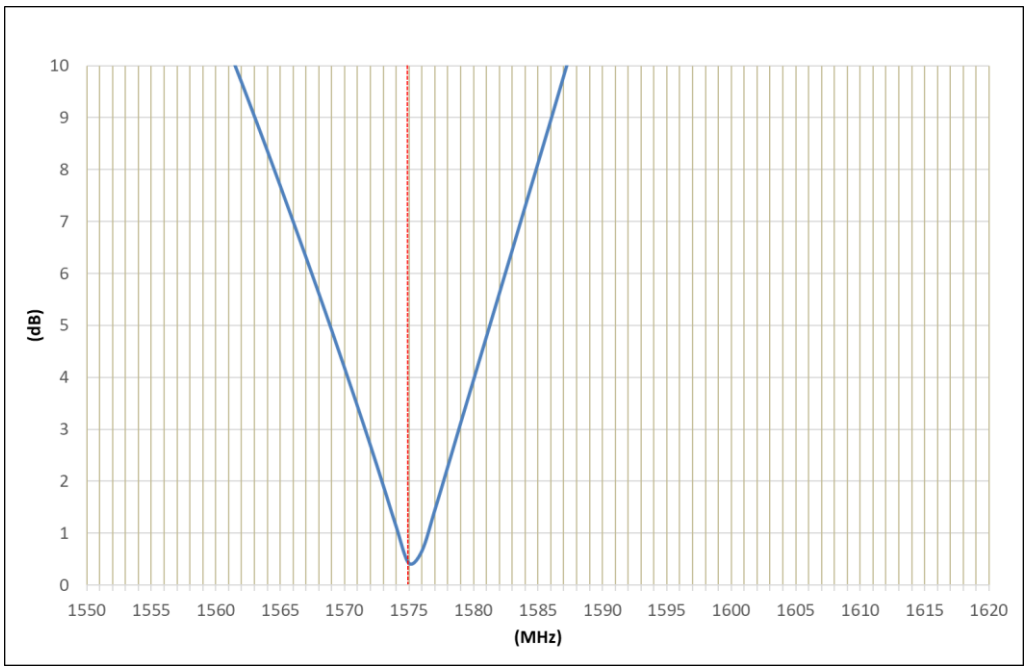


II. GNSS L5 Band

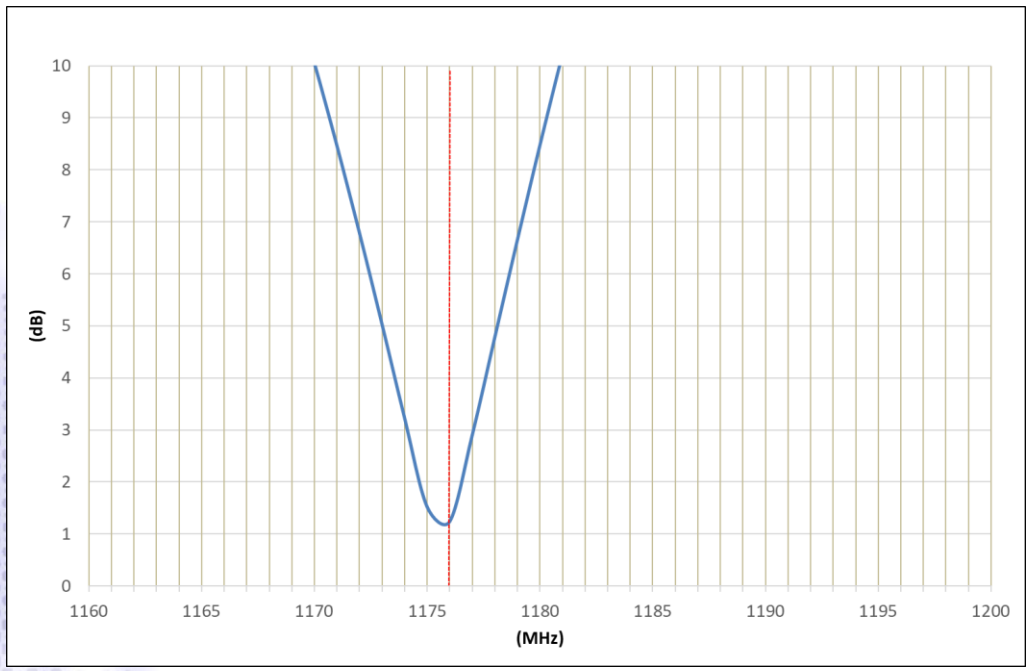


c) Axial Ratio (dB)

I. GNSS L1 Band

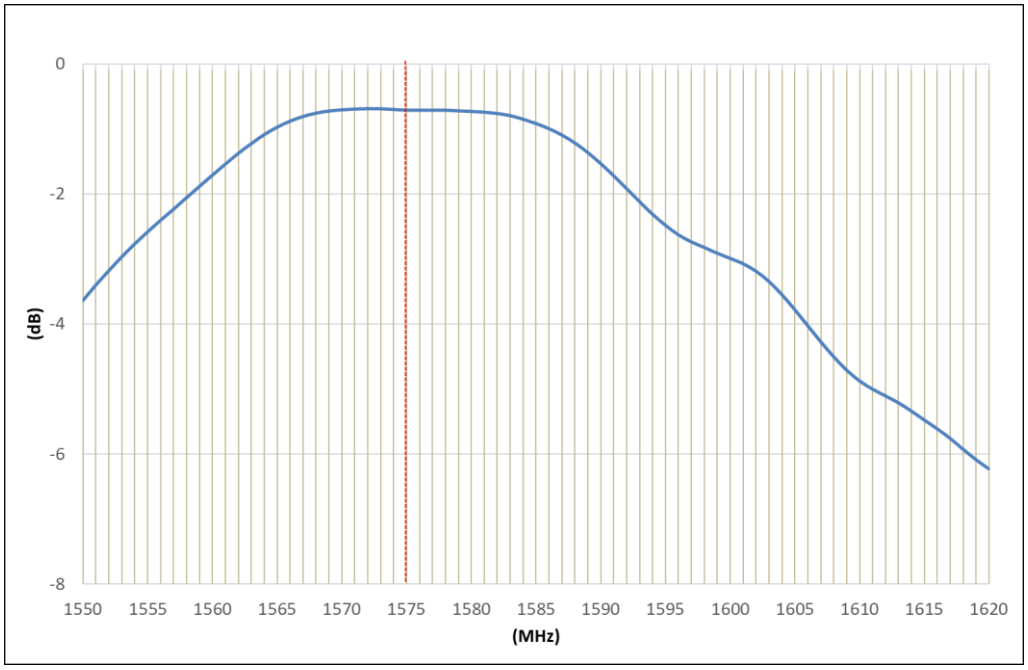


II. GNSS L5 Band

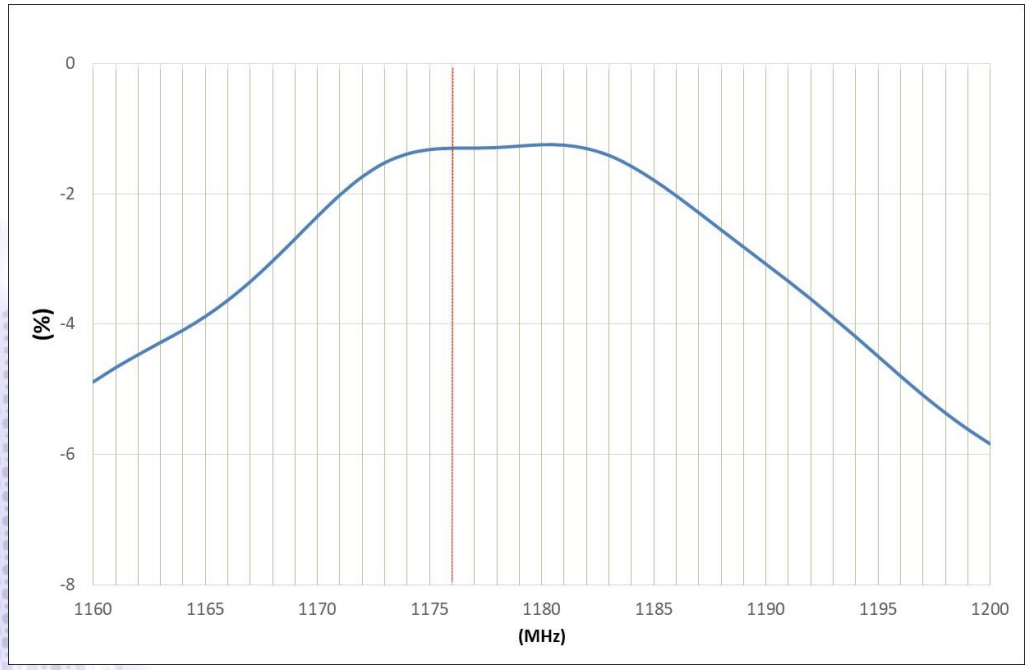


d) Average Gain(dB)

I. GNSS L1 Band

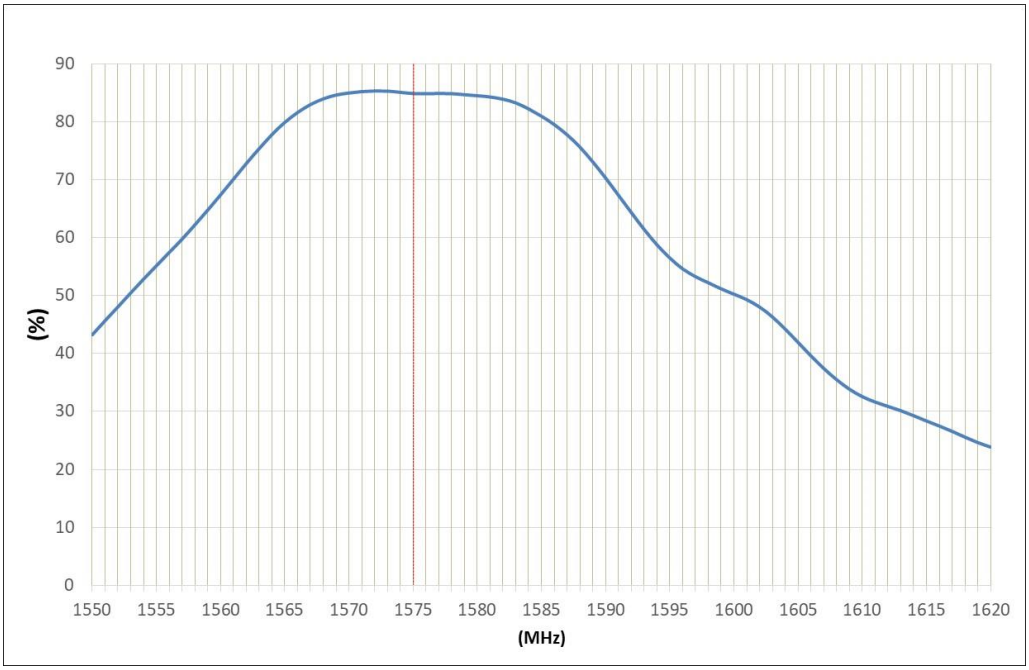


II. GNSS L5 Band

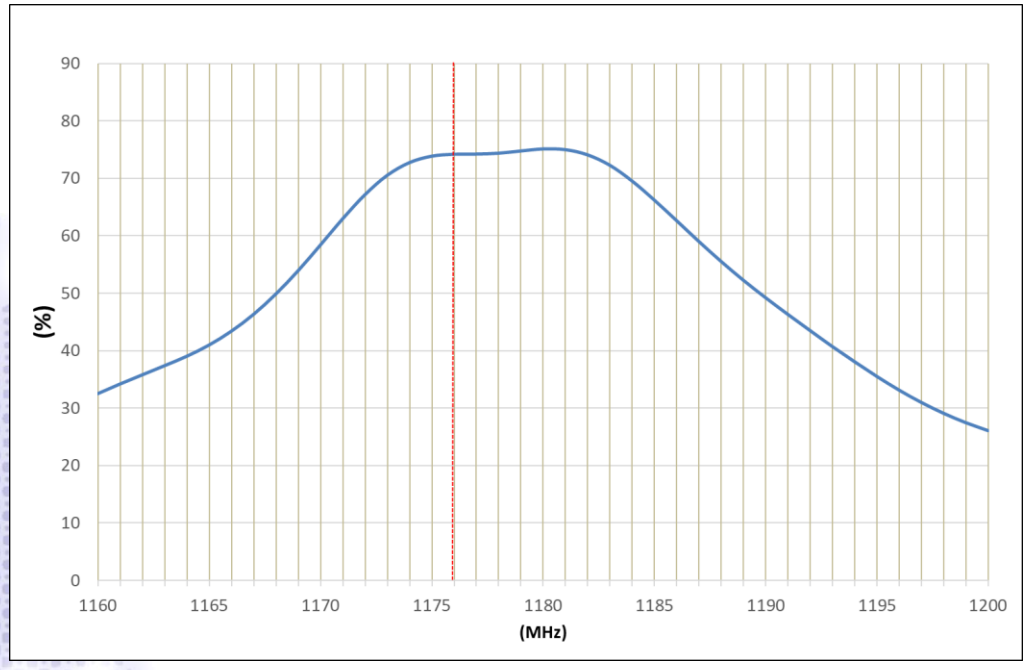


e) Efficiency (%)

I. GNSS L1 Band



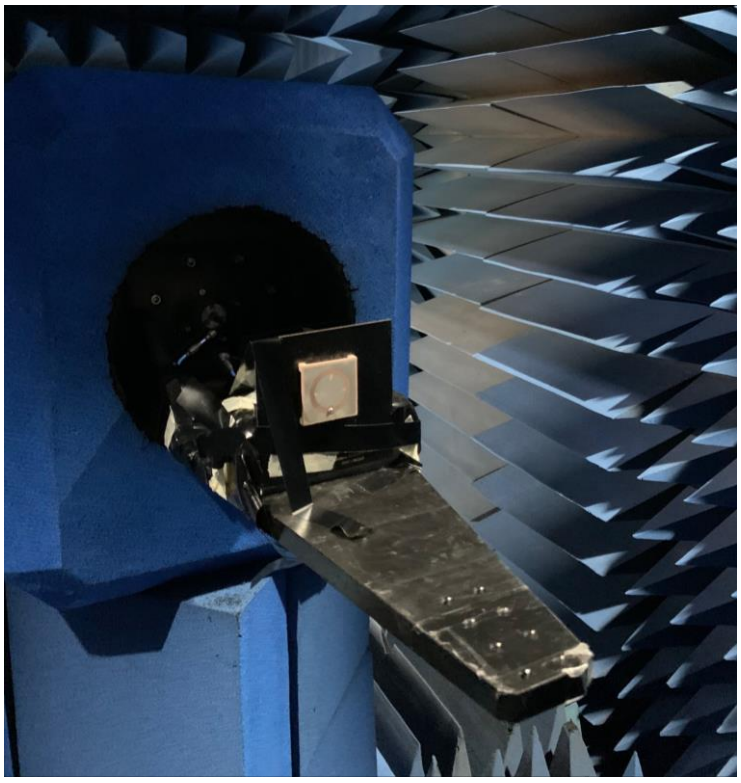
II. GNSS L5 Band



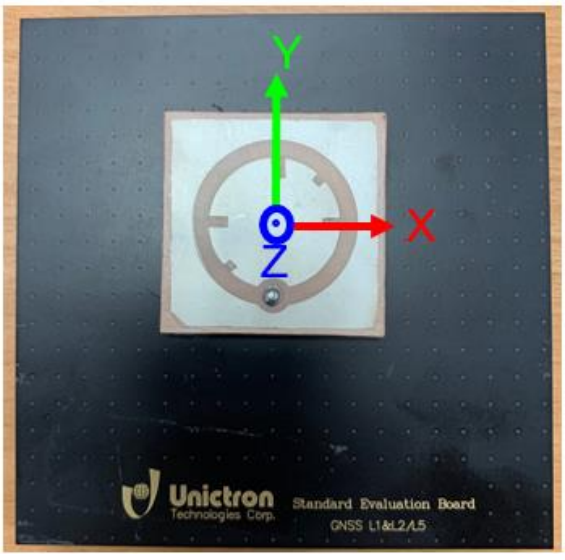
VI. Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in Unictron's 3D Anechoic Chamber.

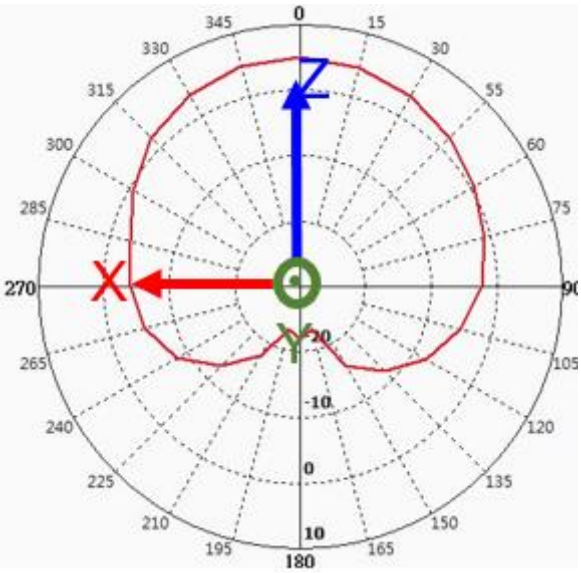
The measurement setup is as show below.



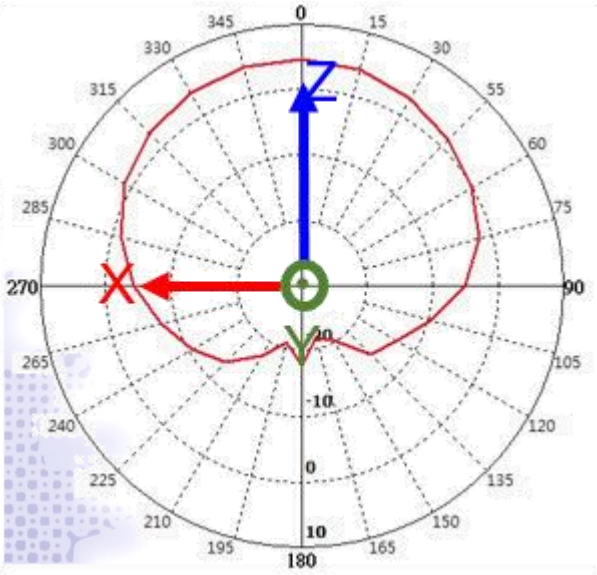
2D Radiation Gain Pattern



a) GNSS L1 Band @1575.42MHz (unit: dBi)



b) GNSS L5 Band @1176.5MHz (unit: dBi)



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VII. Packing

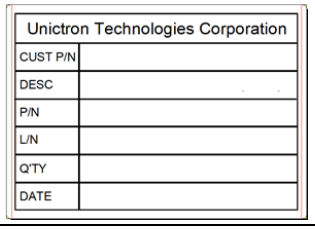
a) Weight:

Unit Weight: 54.3 ± 5 (g)

b) Quantity:

Each Pag : 1 pcs

Each outer carton : 50 pcs

Step	Pictures	Descriptions
1		Place product into a double-layered antistatic bubble bag.
2		Place packaged product into a 1.3 cubic-feet carton.
3		Place 25 antistatic double layered bubble bag in an interlace pattern in each layer, with two layers per carton, total 50pcs per carton.
4	 	Seal the carton with packaging tape. Attach label to the top left corner on the side of the carton to complete packaging.