

Product Name: NB80DG Antenna Module

Part Number: H2M1W011129900

Features:

- Supporting: L1+L5 GPS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS & REACH Compliant
- Pre-filtering

Applications:

- Navigation systems or position tracking systems
- Hand-held devices when GPS function is needed, e.g., PDA, Smart phone, PND.

Antenna Module

MODEL: NB80DG

Version: Preliminary

I. Patch antenna Specifications:

Items	Specifications	
Navigation	L1 Band	L5 Band
Center Frequency (MHz)	1575.42	1176.45
Return loss (dB)	<-10 Typ.	<-10 Typ.
Efficiency (%)	65 Typ.	56 Typ.
Average Gain (dB)	-1.9 Typ.	-2.5 Typ.
Peak Gain (dBi)	4.6 Typ.	2.6 Typ.
Axial Ratio (dB)	<3 Typ.	<3 Typ.
Polarization	RHCP	
Impedance (Ω)	50	

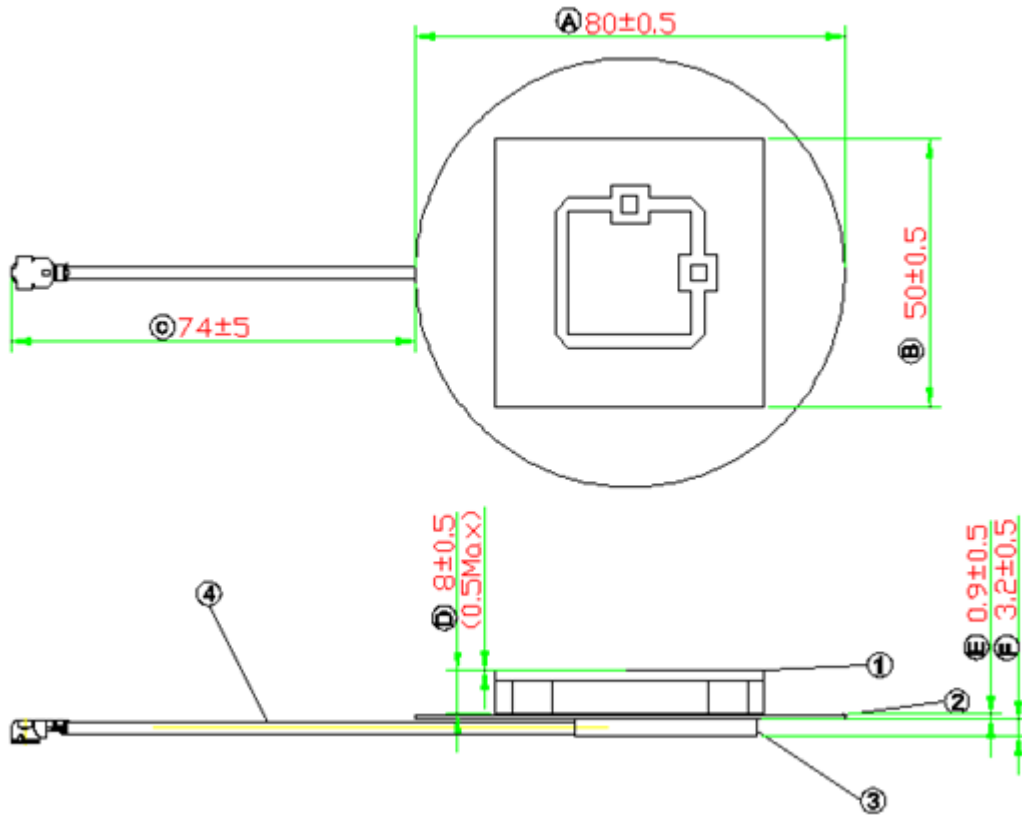
II. Low noise amplifier Specifications:

Items	Specifications	
Navigation	L1 Band	L5 Band
Center Frequency (MHz)	1575.42	1176.45
Gain (dB)	23 Typ.	23 Typ.
Noise Figure	2.8 Typ.	2.8 Typ.
Input Voltage	DC = 3.3 \pm 0.3	
Current	18 mA Typ.	
Impedance (Ω)	50	

Environmental Conditions	
Operation & Storage Temperature ($^{\circ}$ C)	-40 ~ +85
Storage Temperature ($^{\circ}$ C) (Antenna with packing sealed)	-5 ~ +40
Relative Humidity	10 ~ 70 %

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III. Antenna Dimensions (unit: mm):



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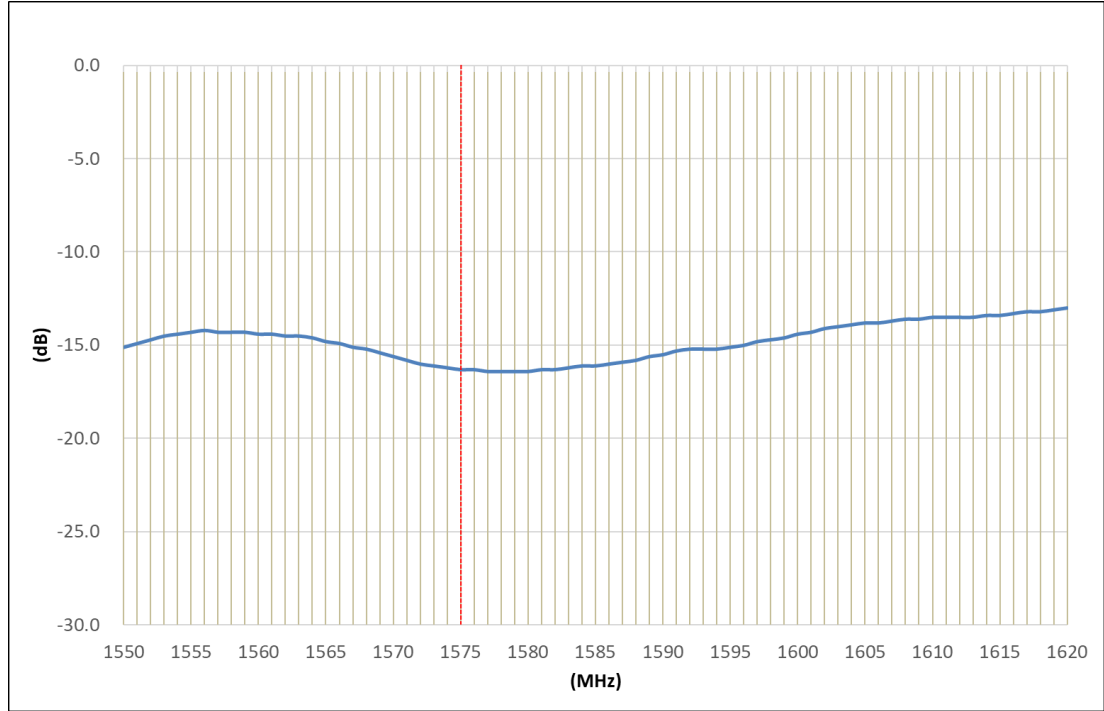
NOTE:

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

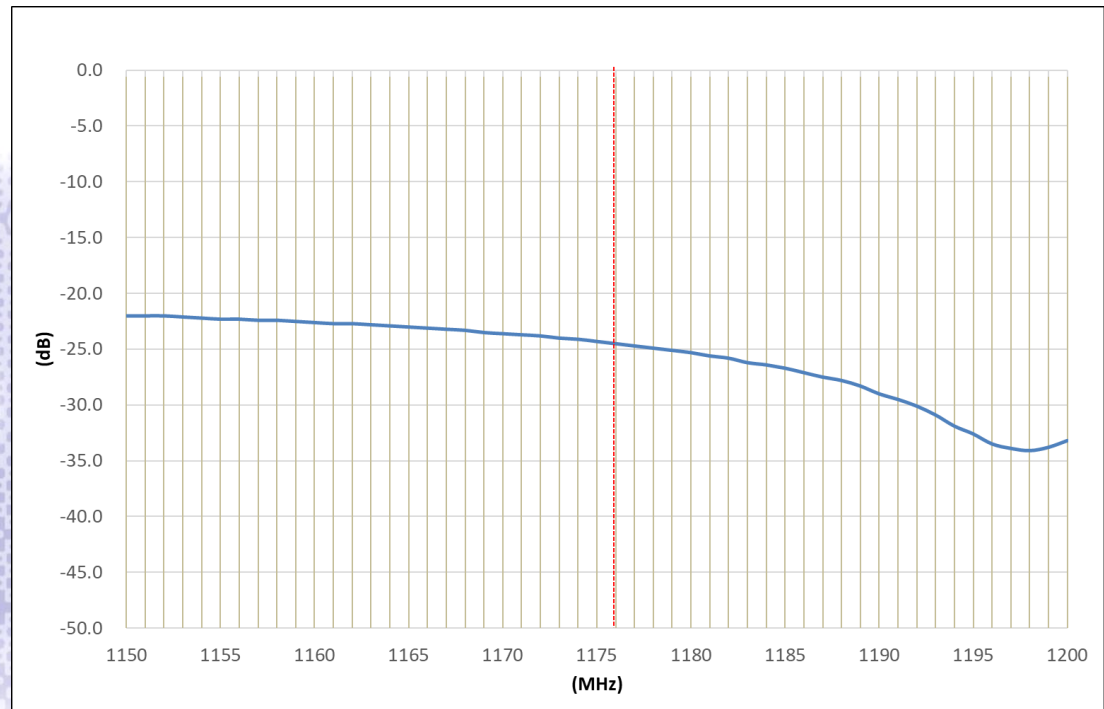
ITEM	Name	Material	Color	Q'ty
1	Castle 508	Ceramic		1
2	LNA Module	FR4	Black	1
3	Shielding Case	Tin(SPTE)		1
4	IPEX Connector(MHF I)_Cable ϕ 1.13mm L=100mm	FEP	Gray	1

IV. Properties:

a) Return loss (dB) L1 Band (1575.42 MHz)

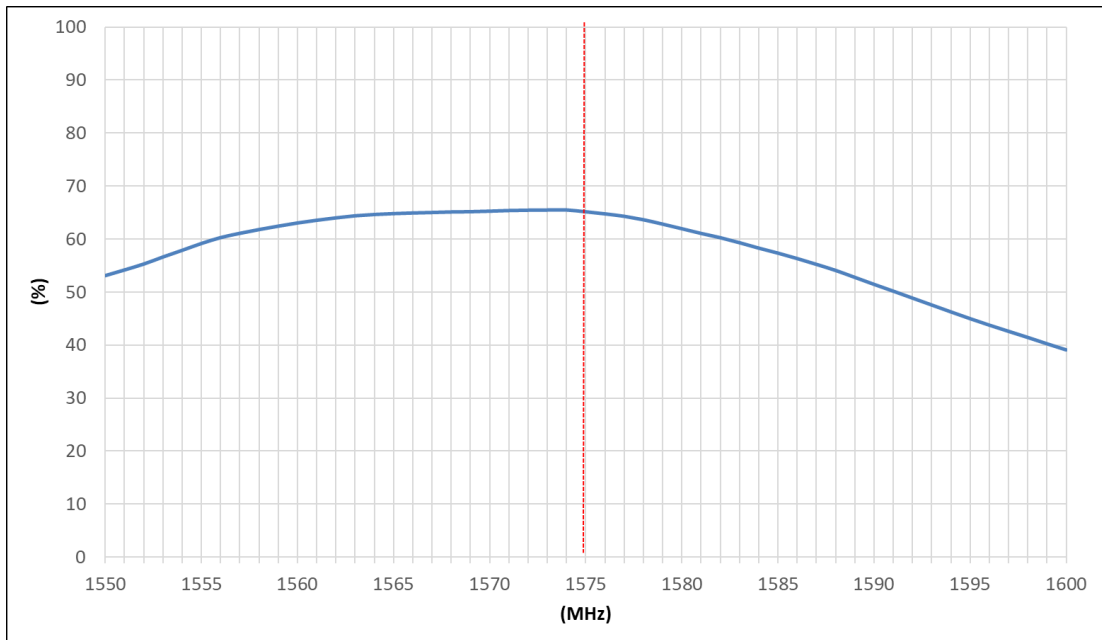


L5 Band (1176.45 MHz)



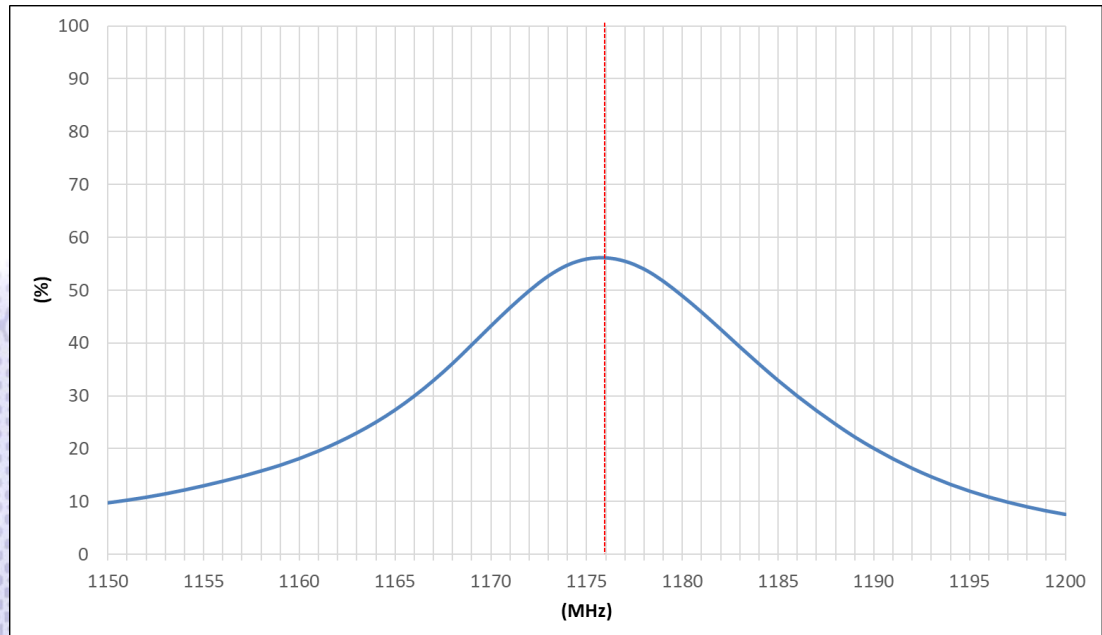
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b) Efficiency (%)
L1 Band (1575.42 MHz)

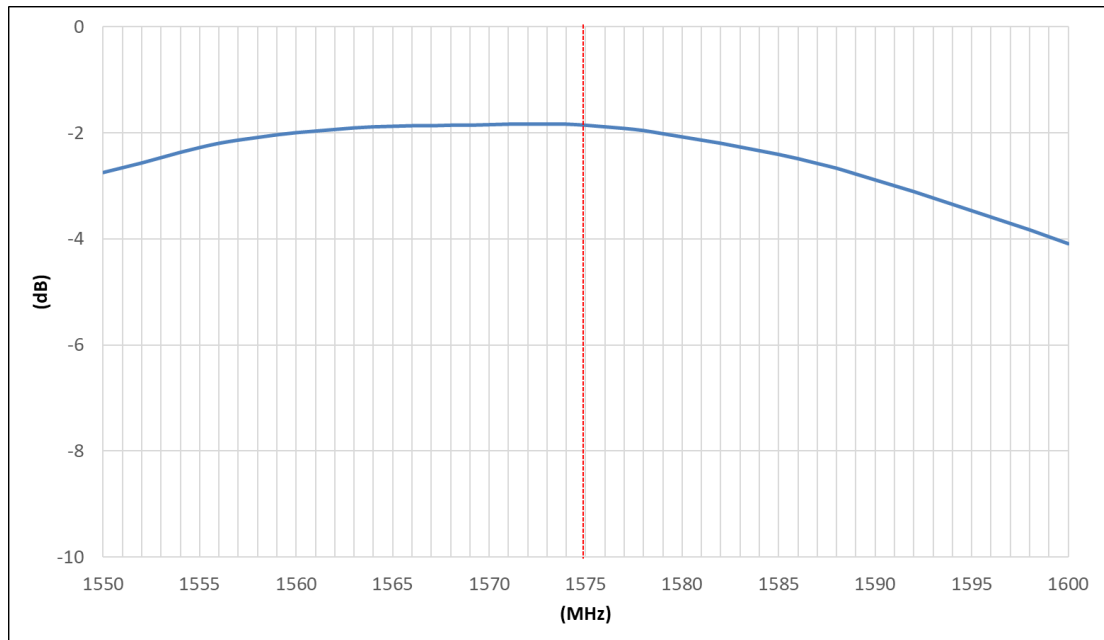


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L5 Band (1176.45 MHz)

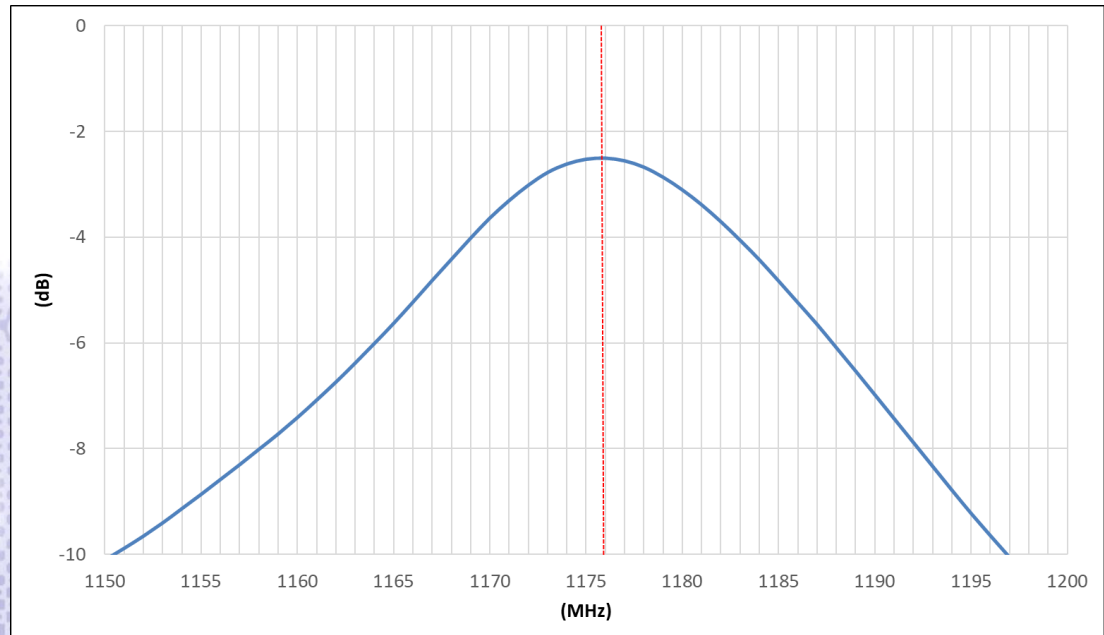


c) Average Gain (dB)
L1 Band (1575.42 MHz)

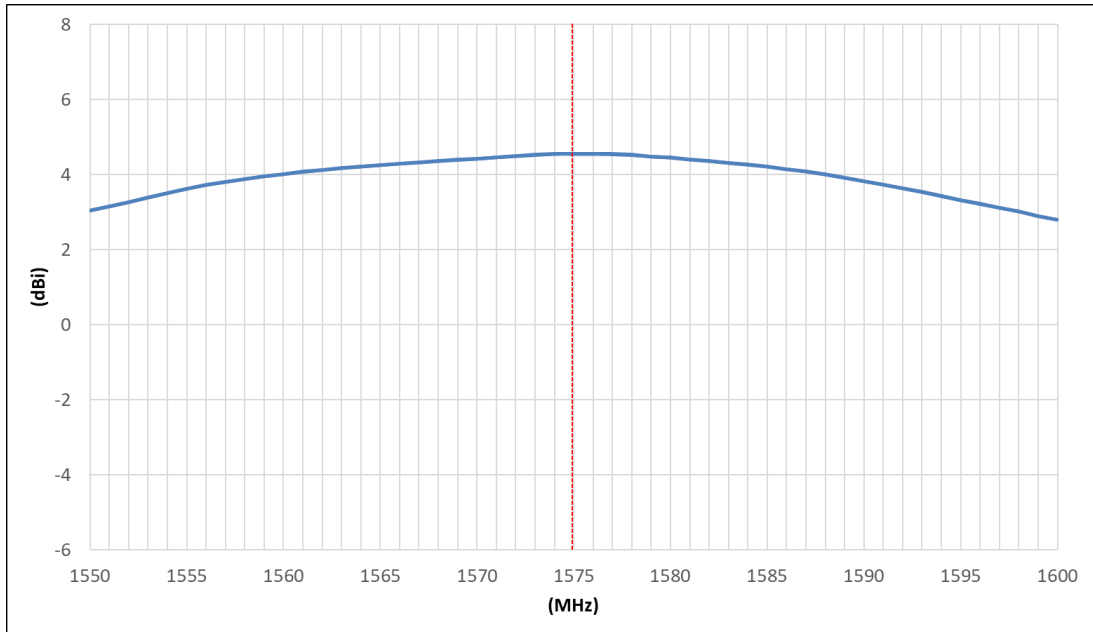


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L5 Band (1176.45 MHz)

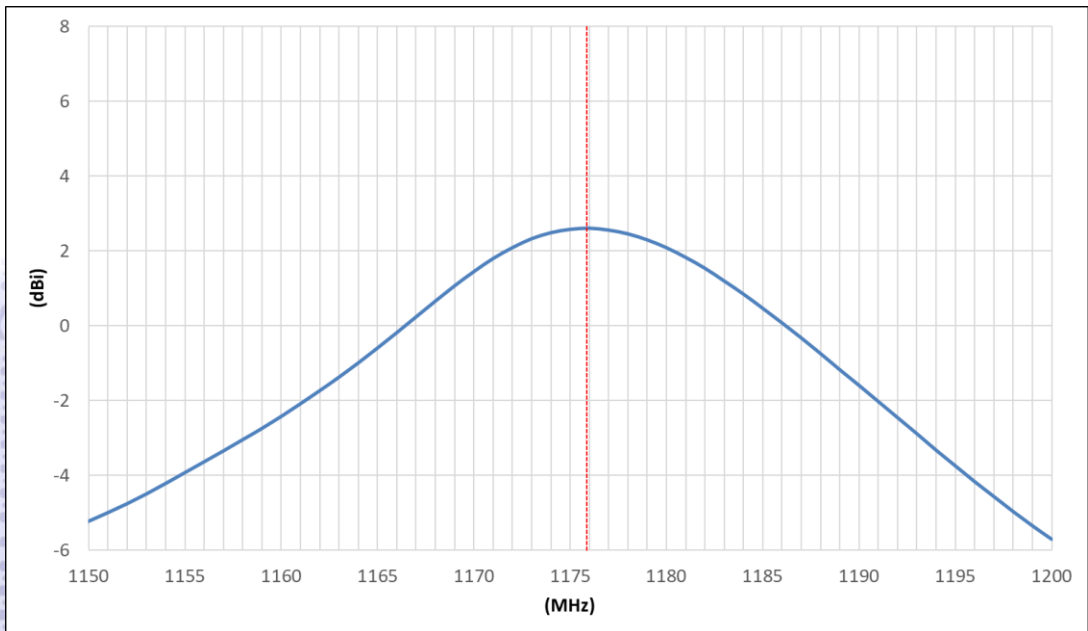


d) Peak Gain (dBi)
L1 Band (1575.42 MHz)

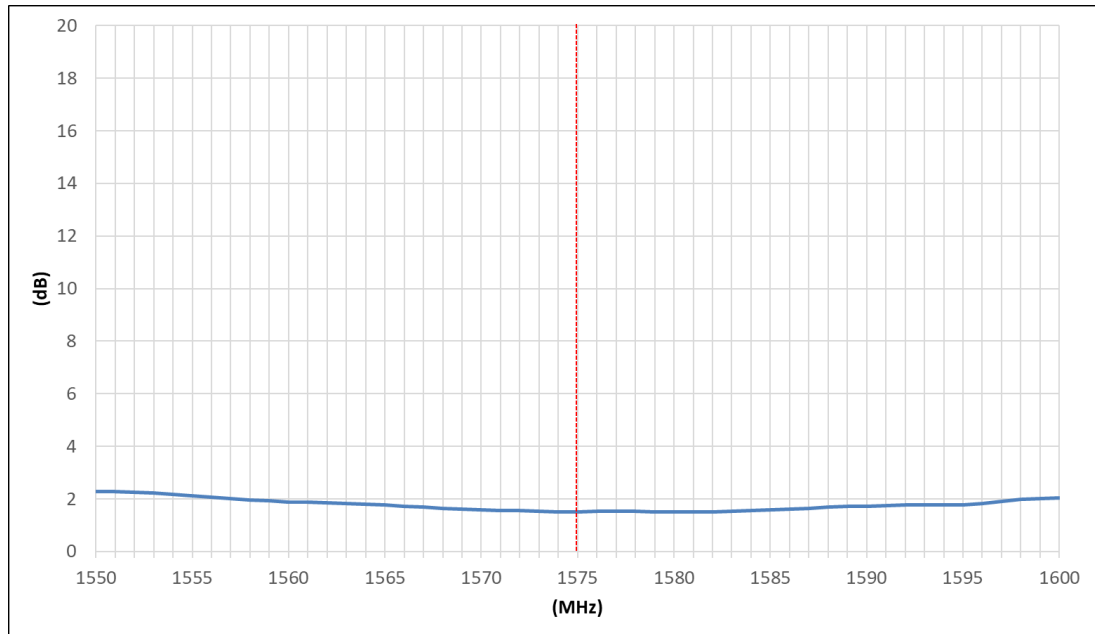


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L5 Band (1176.45 MHz)

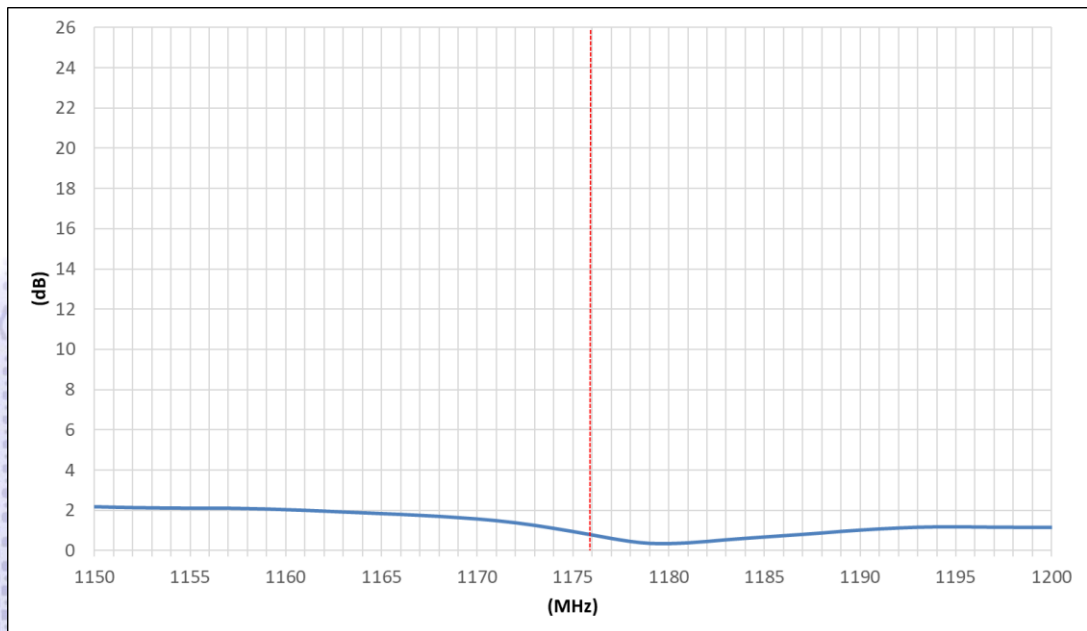


e) Axial Ratio (dB)
L1 Band (1575.42 MHz)



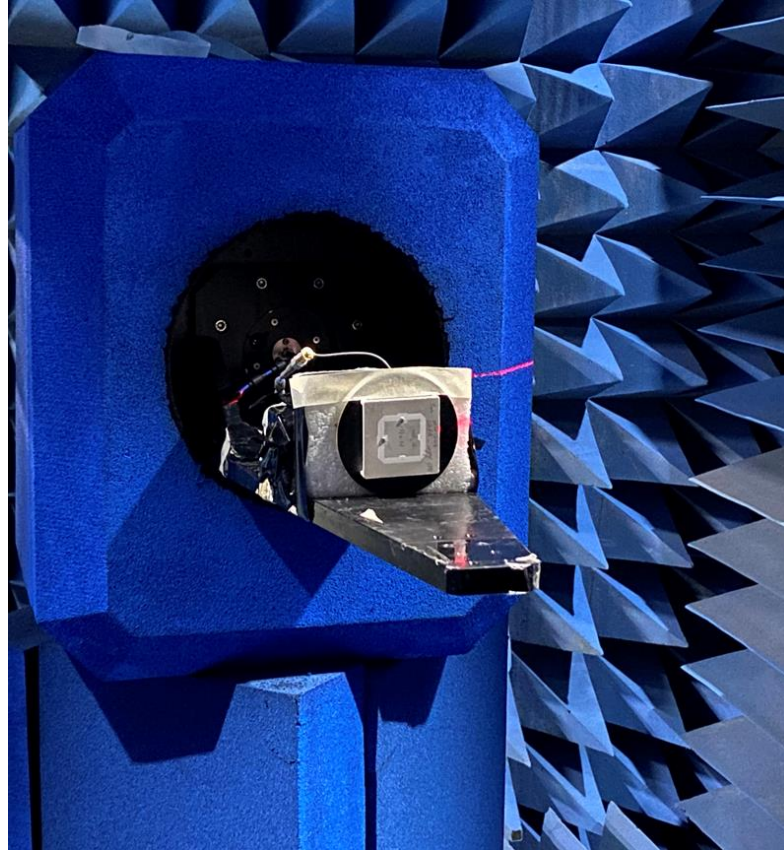
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L5 Band (1176.45 MHz)



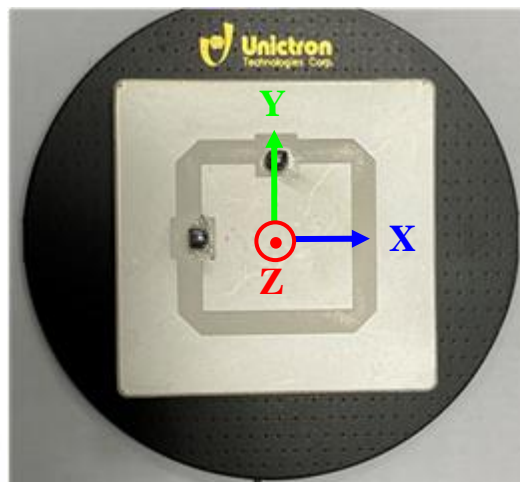
V. Antenna Radiation Pattern Measurement:

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

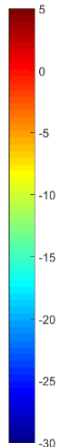
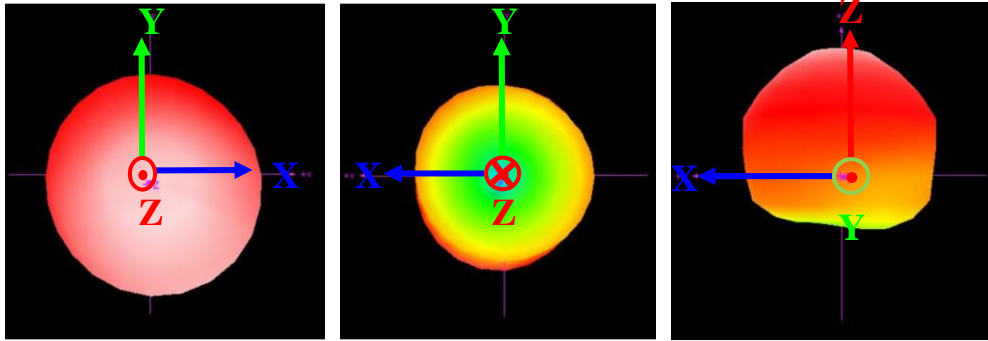


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3D Radiation Gain Pattern

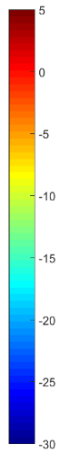
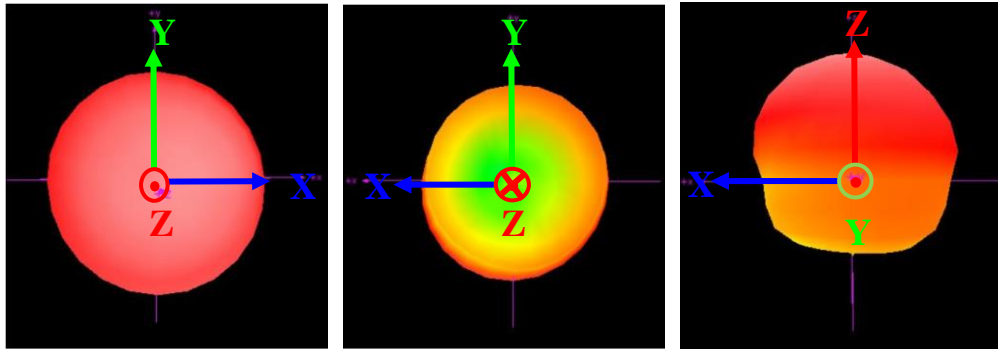


a) 1575.42 MHz (unit: dBi)






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b) 1176.45 MHz (unit: dBi)



VI. Package

- a) Weight:
Unit Weight: 52.8 ± 5 (g)
- b) Quantity:
Each PE bag : 1 pcs
Each outer carton : 100 pcs

Step	Pictures	Descriptions
1		<p>First, put one antenna into a PE bag (160x165 mm), PE bags are sealed by sealing machine .</p>
2		<p>Put all the PE bags into the carton. Each carton should contain 100 pcs of antenna.</p>
3		<p>After wrapping the carton, place the barcode label on the top right corner of the carton.</p>

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