



Product Name: HB80DF External Antenna

Part Number: H2MA703F104100

Features:

- Supporting: (L1+L5) GPS/GLONASS/BDS/Galileo/QZSS/IRNSS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS & REACH Compliant
- Pre-filtering

Applications:

- Navigation systems or position tracking systems
- Car Navigation
- Security Surveillance

External Antenna

MODEL: HB80DF

Version: Preliminary

I. Patch antenna Specifications:

Items	Specifications			
Navigation	BDS B1/	GPS L1/ Galileo E1/ QZSS L1	GLONASS G1/	GPS L5 Galileo E5a/ BDS B2/ QZSS L5 IRNSS L5
Center Frequency (MHz)	1561	1575.42	1602	1176.45
Return loss (dB)	<-10 Typ.	<-10 Typ.	<-10 Typ.	<-10 Typ.
Efficiency (%)	72 Typ.	73 Typ.	54 Typ.	53 Typ.
Average Gain (dB)	-1.4 Typ.	-1.3 Typ.	-2.7 Typ.	-2.7 Typ.
Peak Gain (dBi)	5.0 Typ.	5.1 Typ.	4.2 Typ.	3.1 Typ.
Axial Ratio (dB)	1.5 Typ.	1.4 Typ.	2.0 Typ.	2.9 Typ.
Polarization	RHCP			
Impedance (Ω)	50			

II. Low noise amplifier Specifications:

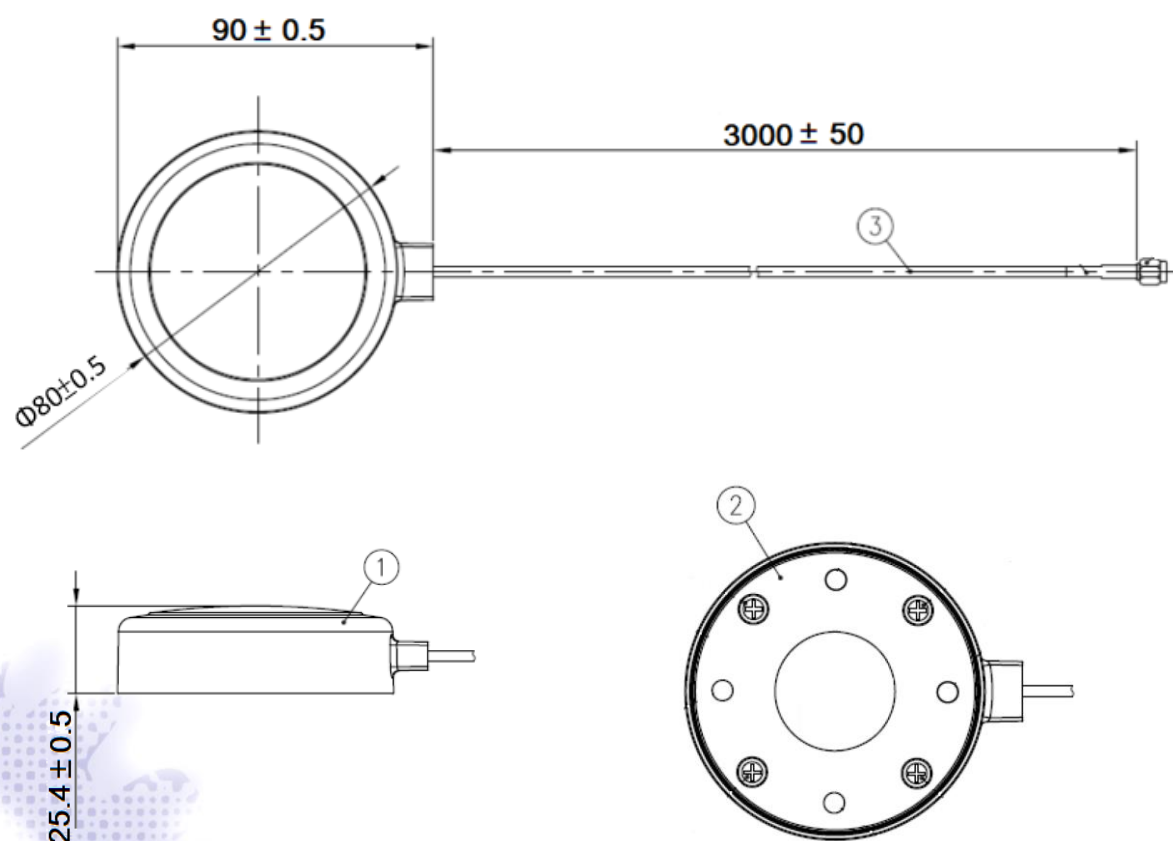
Items	Specifications			
Navigation	BDS B1	GPS L1	GLONASS G1	L5 Band
Center Frequency (MHz)	1561	1575.42	1602	1176.45
Gain (dB)	28 $\pm$ 3 Typ.	28 $\pm$ 3 Typ.	28 $\pm$ 3 Typ.	28 $\pm$ 3 Typ.
Noise Figure (dB)	3.0 Typ.	2.7 Typ.	3.0 Typ.	3.0 Typ.
Input Voltage (V)	DC = 3.0 $\pm$ 0.3			
Current (mA)	12.5 Typ. (at DC 3V)			
Impedance (Ω)	50			

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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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III. Antenna Dimensions (unit: mm):

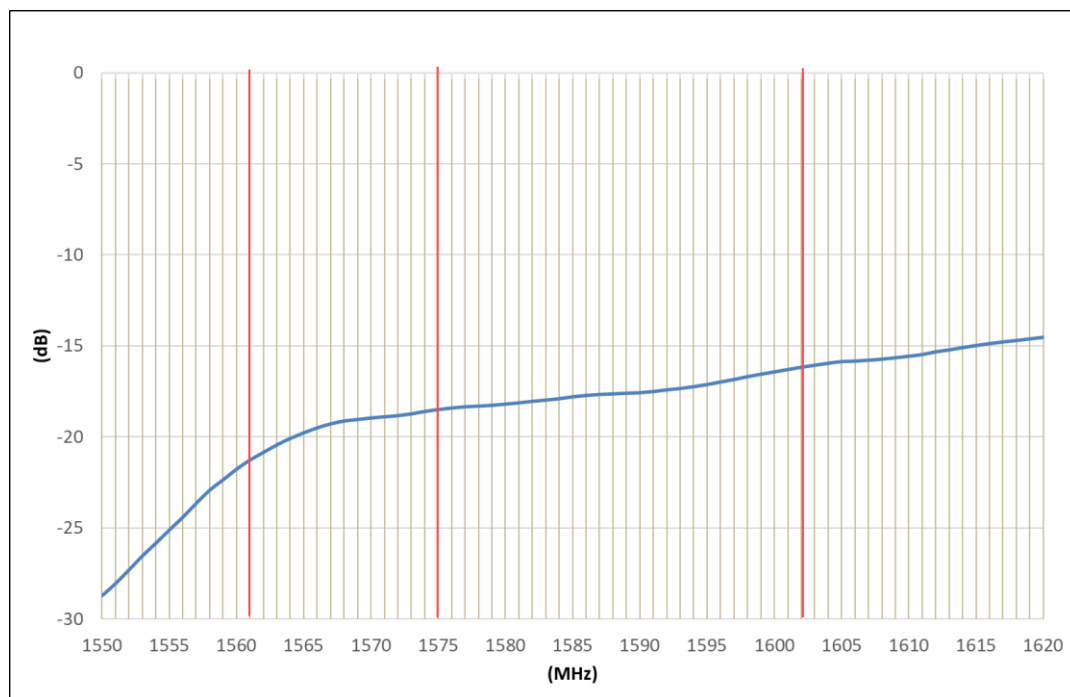


Item	Name	Material	Color	Q'ty
1	Top Housing	PC+ABS	Black	1
2	Bottom Base	Zinc Alloy	Ni Plated	1
3	Connector cable $\varnothing 2.7\text{mm}$	PVC	Black	1

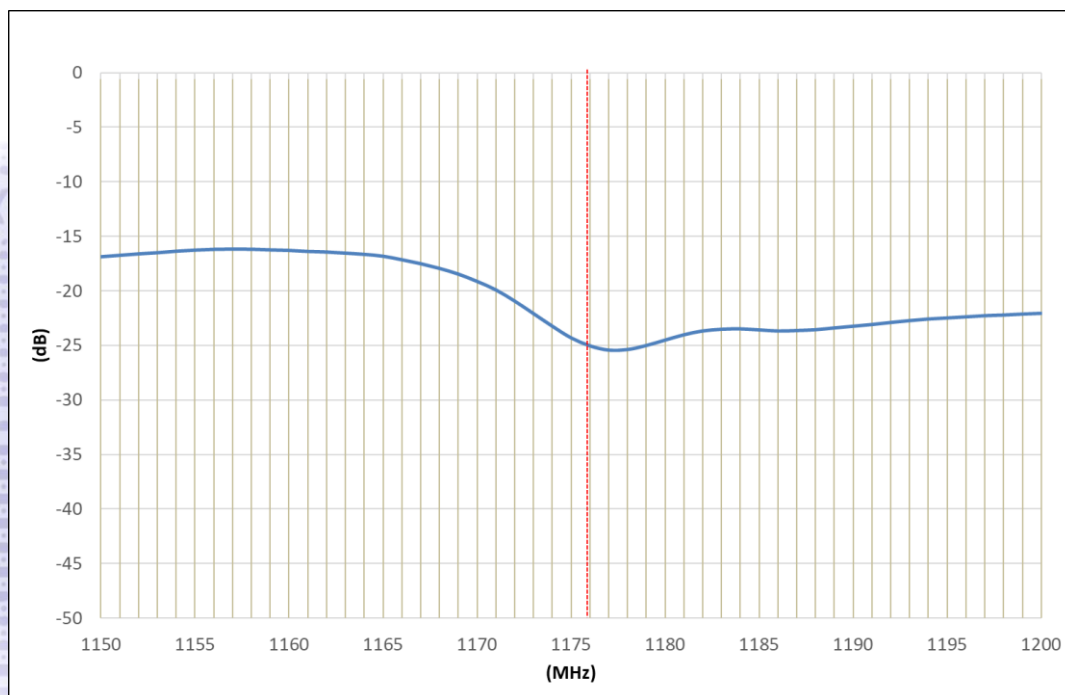
IV. Properties:

a) Return loss (dB)

L1 Band (1561 & 1575.42 & 1602MHz)



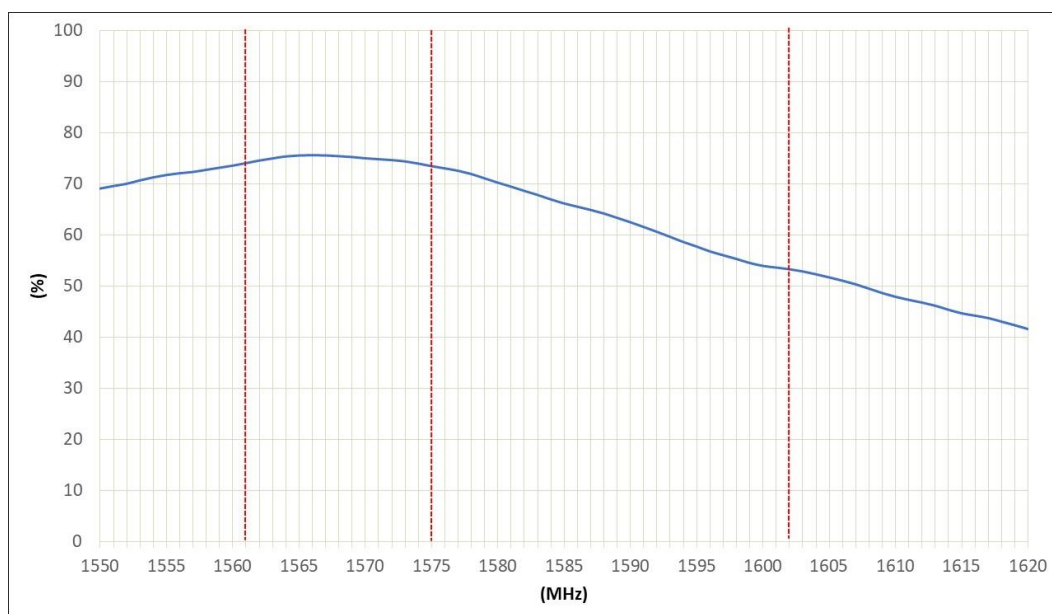
L5 Band (1176.45 MHz)



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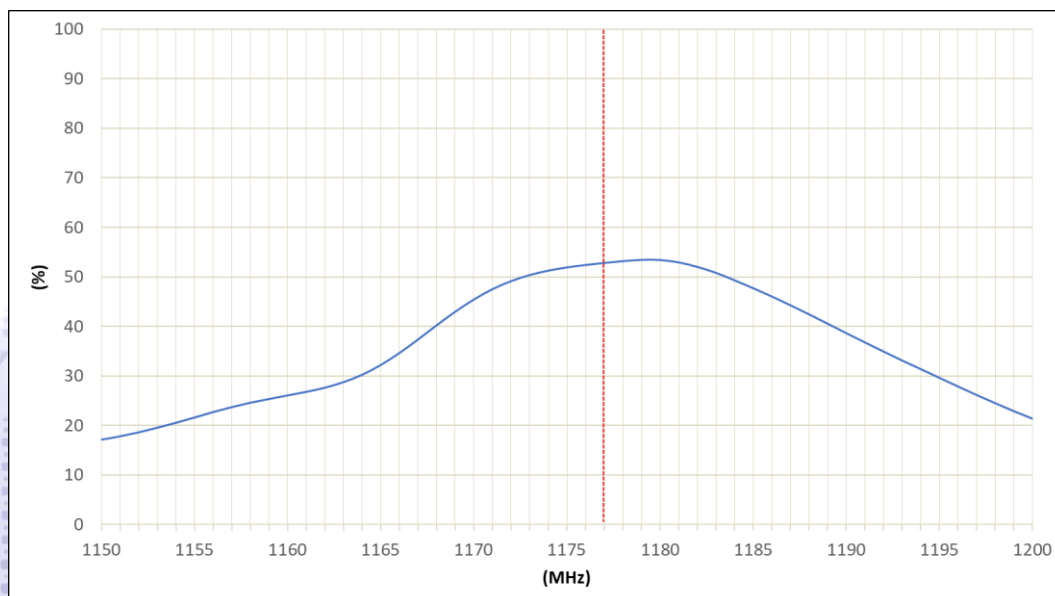
b) Efficiency (%)

L1 Band (1561 & 1575.42 & 1602MHz)



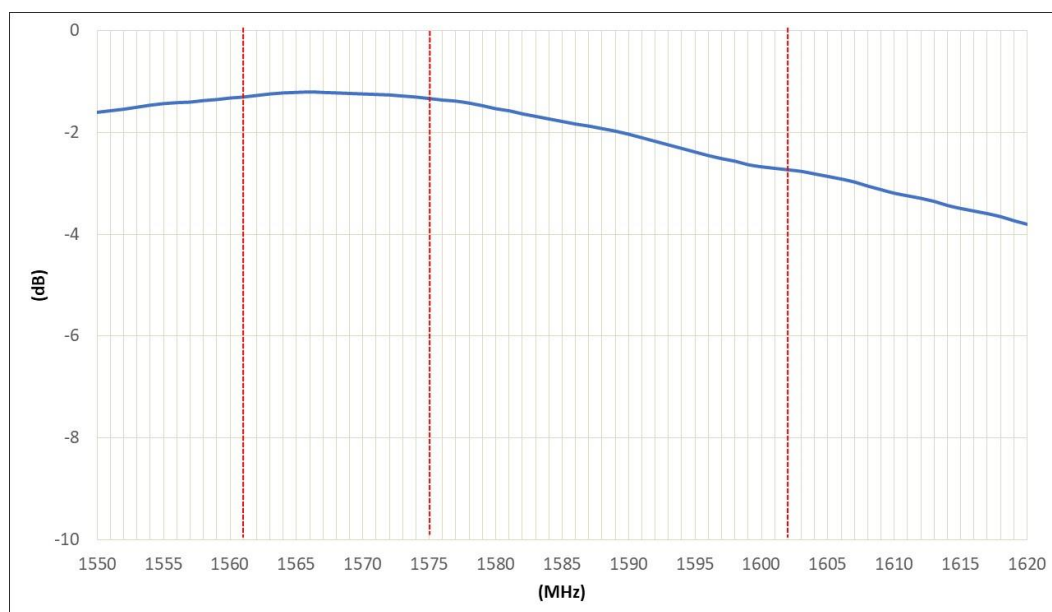
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L5 Band (1176.45 MHz)

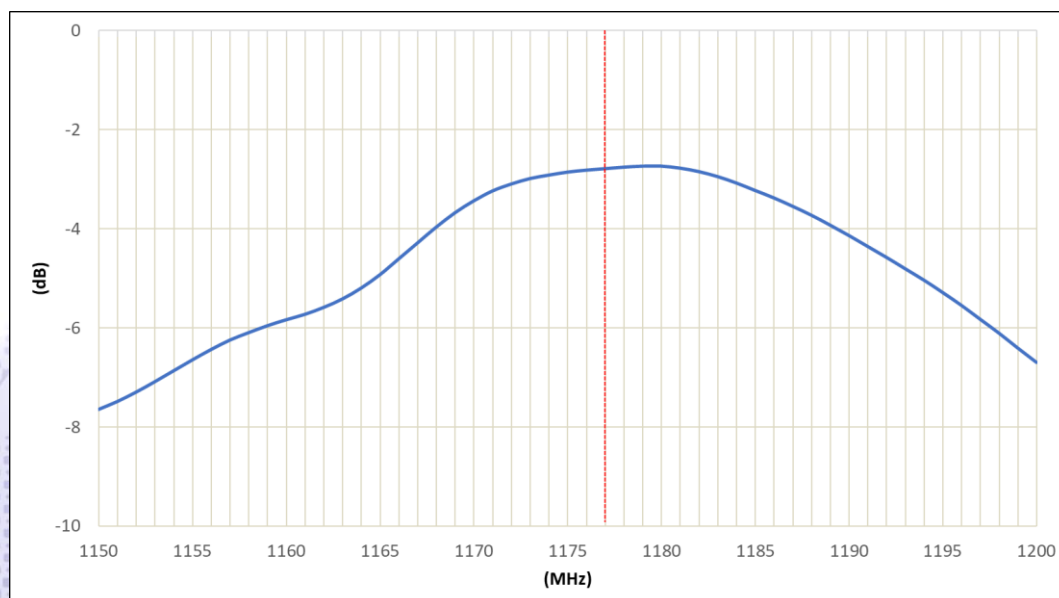


c) Average Gain (dB)

L1 Band (1561 & 1575.42 & 1602MHz)



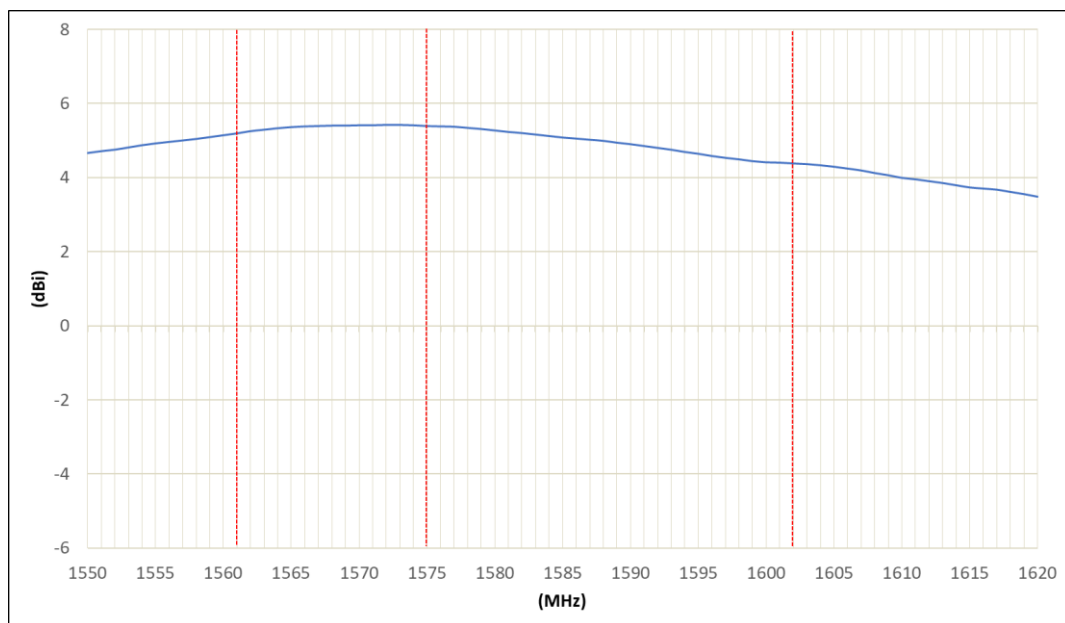
L5 Band (1176.45 MHz)



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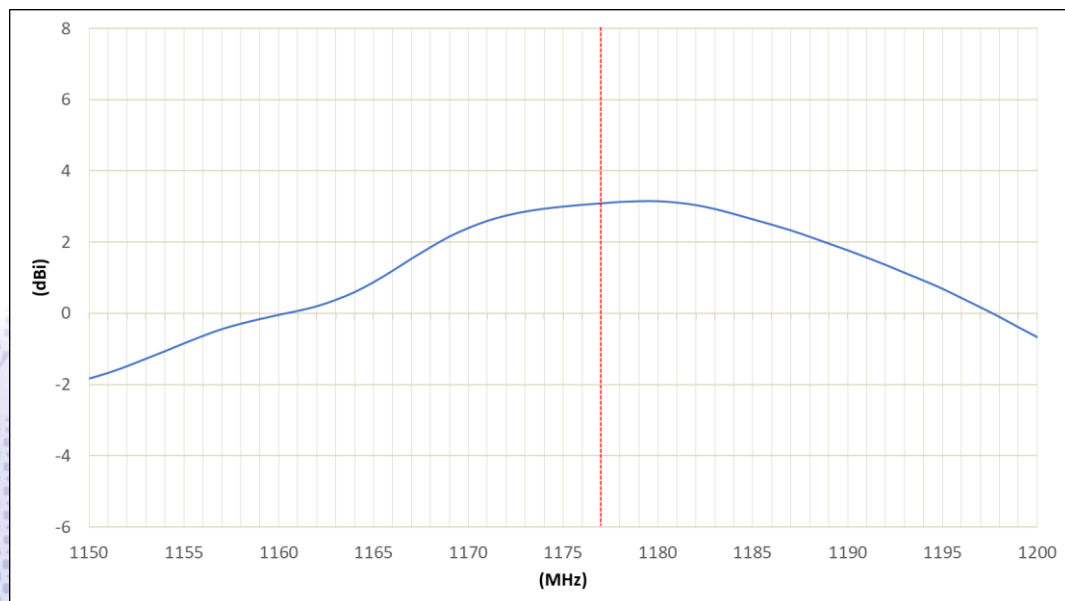
d) Peak Gain (dBi)

L1 Band (1561 & 1575.42 & 1602MHz)



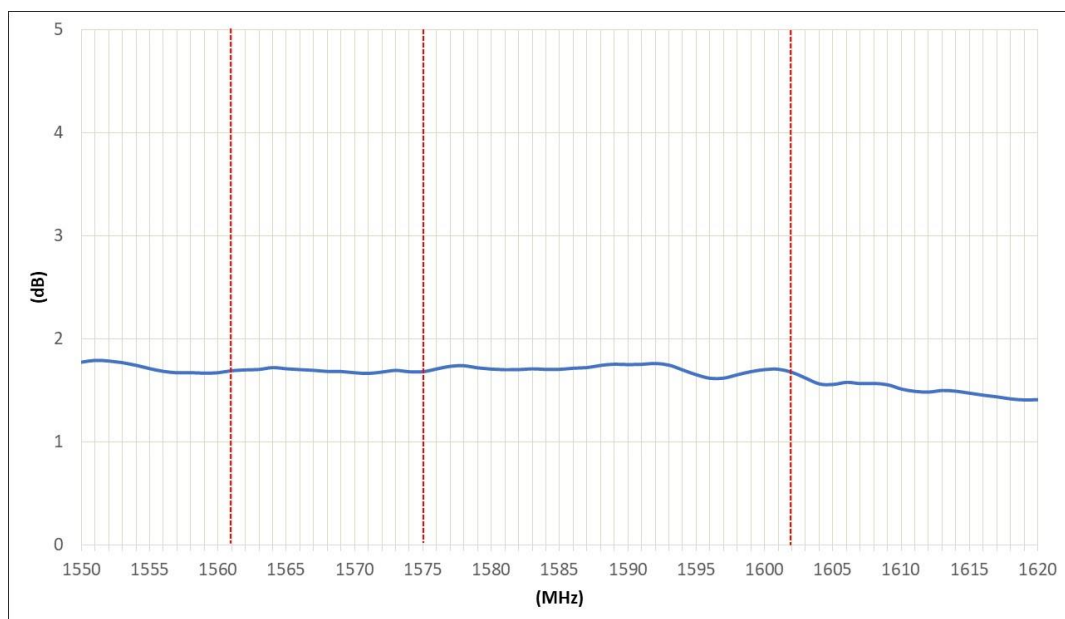
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L5 Band (1176.45 MHz)

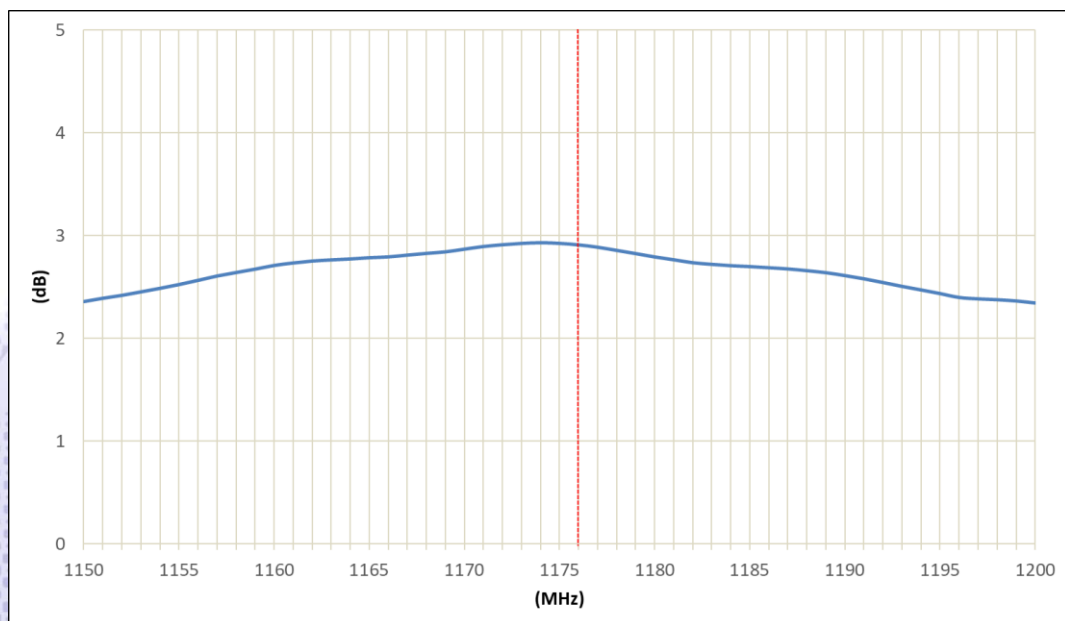


e) Axial Ratio (dB)

L1 Band (1561 & 1575.42 & 1602MHz)



L5 Band (1176.45 MHz)



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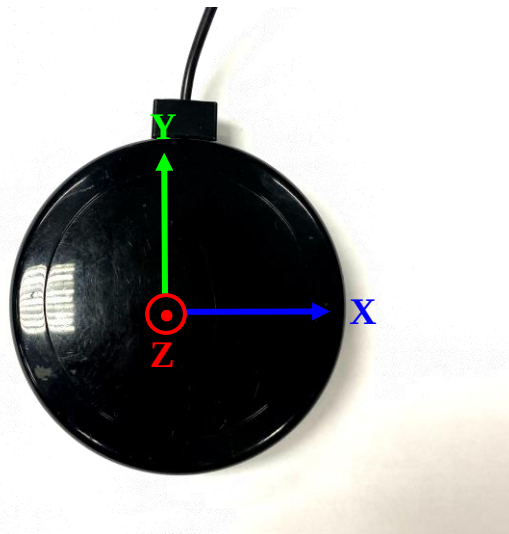
V. Antenna Radiation Pattern Measurement:

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

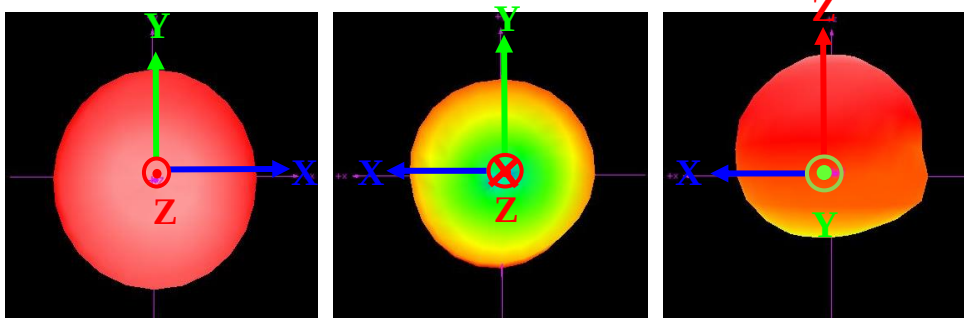


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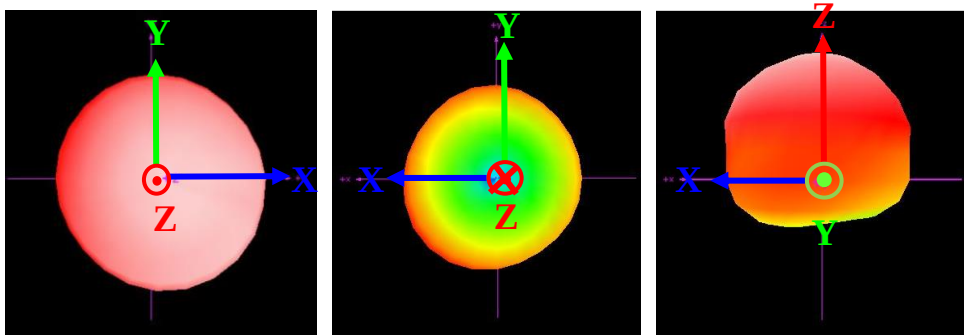
3D Radiation Gain Pattern



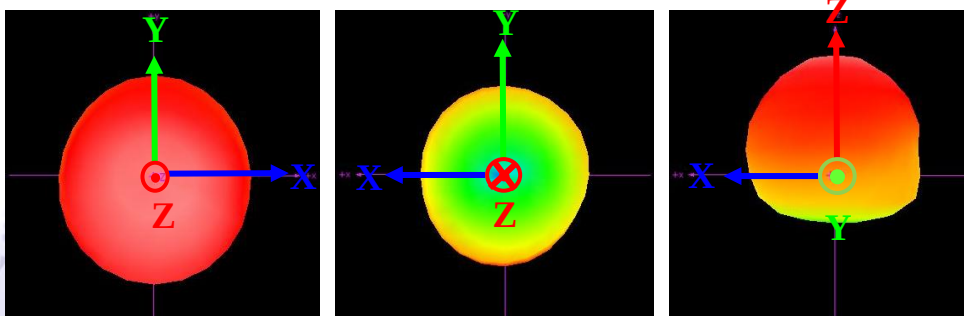
a) 1561 MHz (unit: dBi)



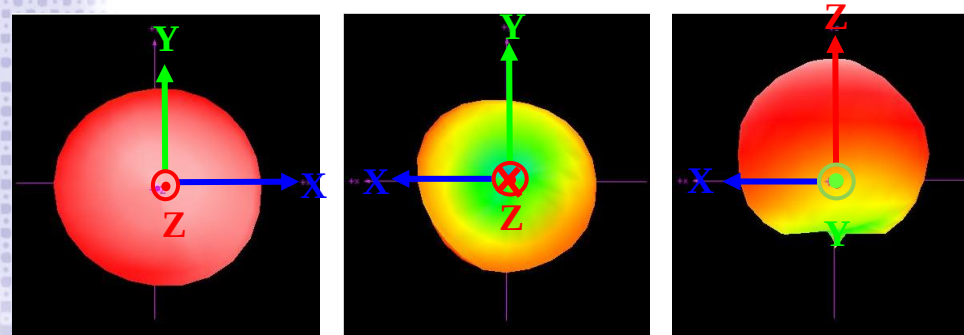
b) 1575.42 MHz (unit: dBi)



c) 1602 MHz (unit: dBi)



d) 1176.45 MHz (unit: dBi)



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VI. Package

a) Weight:

Unit Weight: 210 ± 25 (g)

b) Quantity:

Each PE : 1 pcs

Each outer carton : 100 pcs

Step	Pictures	Descriptions																		
1		First, put one antenna into a PE bag (160x165 mm), PE bags are sealed by sealing machine .																		
2		Put all the PE bags into the carton. Each carton should contain 100 pcs of antenna.																		
3	 <table border="1" data-bbox="488 1762 735 1937"><tr><td>Unictron P/N :</td><td colspan="2">H2M3A023C20100</td></tr><tr><td>Part No. :</td><td colspan="2">120300000230A</td></tr><tr><td>PO No. :</td><td colspan="2">DSR1805074JA</td></tr><tr><td>Q'TY :</td><td>100</td><td>PCS</td></tr><tr><td>D/C :</td><td colspan="2">1821</td></tr><tr><td>DATE :</td><td colspan="2">2018.05.21</td></tr></table>	Unictron P/N :	H2M3A023C20100		Part No. :	120300000230A		PO No. :	DSR1805074JA		Q'TY :	100	PCS	D/C :	1821		DATE :	2018.05.21		After wrapping the carton, place the barcode label on the top right corner of the carton.
Unictron P/N :	H2M3A023C20100																			
Part No. :	120300000230A																			
PO No. :	DSR1805074JA																			
Q'TY :	100	PCS																		
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