SANAV
San Jose Technology, Inc.

GNSS
4G LTE
RoHS Compliant

Product Name: MT-4B Series_ 2-in-1 4G LTE/ GNSS Combination Antenna, Screw Mount

Part Number: MT-4B-AC-BL03

Features:

- 1*LTE, 1*GNSS Antenna Combination
- 4G LTE 698-960MHz, 1710-2170MHz, 2300-2690MHz Supporting
- GPS / GLONASS / BEIDOU L1 Band
- Excellent Out of Band Suppression, Up to 55 dB
- 27dB Active Peak Gain
- Customizable Cables and Connectors
- RoHS & REACH Compliant

Applications:

- Fleet Management & Telematics
- Vehicle Tracking

SANAV

2-in-1 4G LTE/GNSS Combination Antenna, Screw Mount

MODEL: MT-4B-AC-BL03

WI-RD-D-281 V1.0

I. Specifications:

Category	GNSS		
Passive Antenna Performance			
Application Band	BeiDou	GPS	GLONASS
Frequency (MHz)	1561	1575.42	1602
Efficiency (%)	49.89	42.76	58.61
Average Gain (dBi)	-3.02	-3.69	-2.32
Peak Gain (dBi)	1.21	1.21	1.44
V.S.W.R	< 2		
Return loss (dB)	< -10		
Impedance (Ω)	50		
Polarization	R.H.C.P. (Right Handed Circular Polarization)		
Active Antenna Performance			
Application band	BeiDou	GPS	GLONASS
Frequency (MHz)	1561 ± 2.046	1575.42 ± 1.023	1602 ± 5
Gain (dB)	27	27	27
Noise (dB)	0.98	0.98	0.92
Current Consumption	9.0mA (typical)		
Output Impedance (Ω)	50		
GNSS _Out of Band Rejection			
Frequency (MHz)	600 ~ 1300	1300 ~ 1530	1650 ~ 3000
Gain (dB)	55	30	30
ESD Protection	+/- 8 KV (direct discharge) +/- 15KV (air discharge)		
Cable/Connector	5 meters H-100 / SMA(Male)		

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Category	LTE					
Application Band	LTE 700	GSM 850/900	DCS	PCS	UMTS1	LTE2600
Frequency (MHz)	698 ~ 824	824 ~ 960	1710 ~ 1880	1850 ~ 1990	1920 ~ 2170	2300 ~ 2690
Efficiency (%)	28.73	16.26	41.39	45.37	45.72	60.13
Average Gain (dBi)	-5.42	-7.89	-3.83	-3.43	-3.40	-2.21
Peak Gain (dBi)	0.15	-2.17	2.52	2.71	2.71	7.93
V.S.W.R	< 2					
Return loss (dB)	< -10					
Test Condition	230 x 300 mm² (Evaluation Board)					
Impedance (Ω)	50					
Polarization	Linear					
Physical Condition						
Dimension (mm)	φ 65(D) x 20(H)					
Environmental Conditions						
Operation Temperature	-40 ~ +85 °C					
Storage Temperature	-40 ~ +85 °C					

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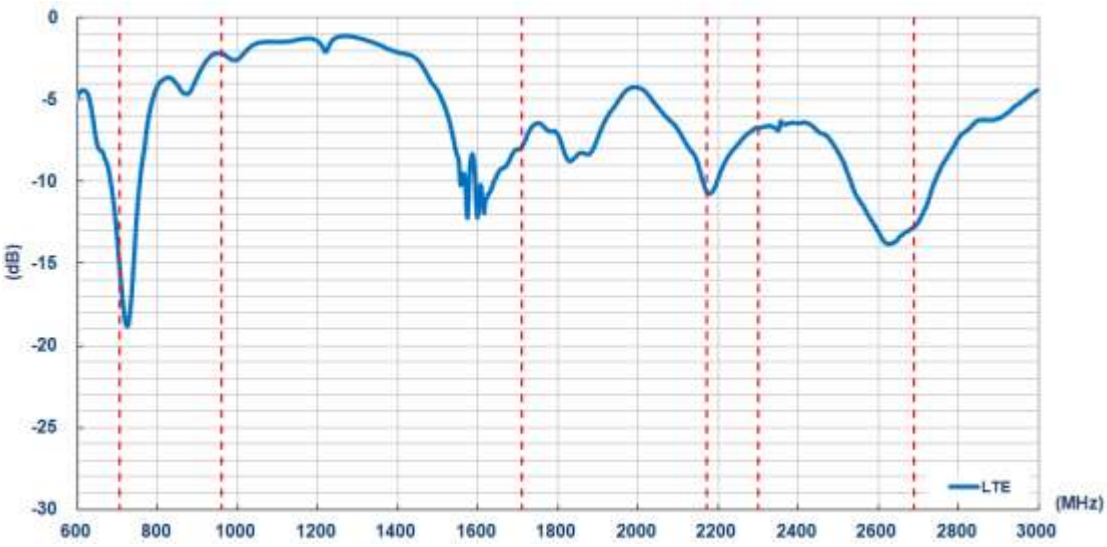
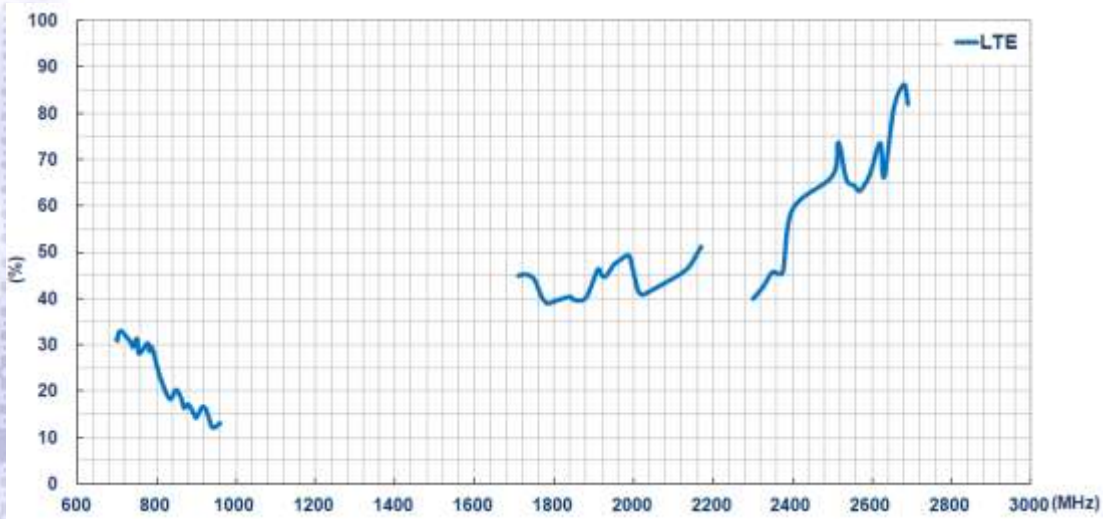
II. Antenna Technical Parameters:

- **Passive Antenna Performance**

S11 (dB) - LTE



Efficiency (%) - LTE



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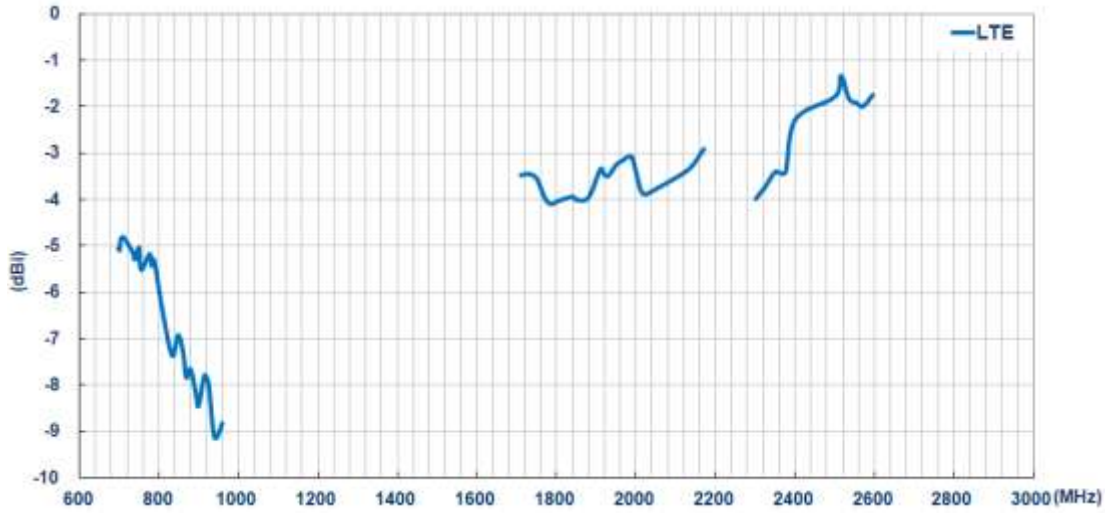
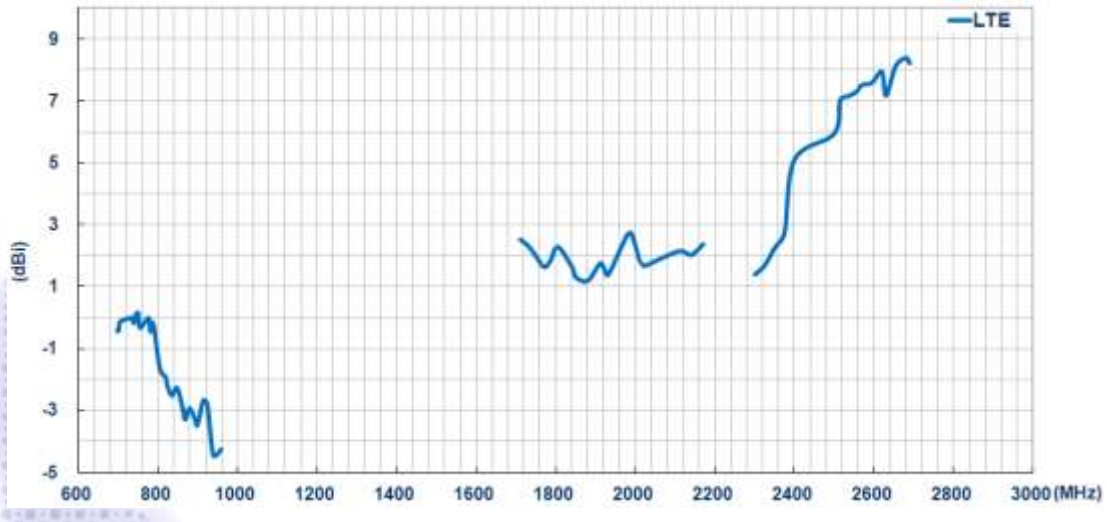
Average Gain (dBi) - LTE

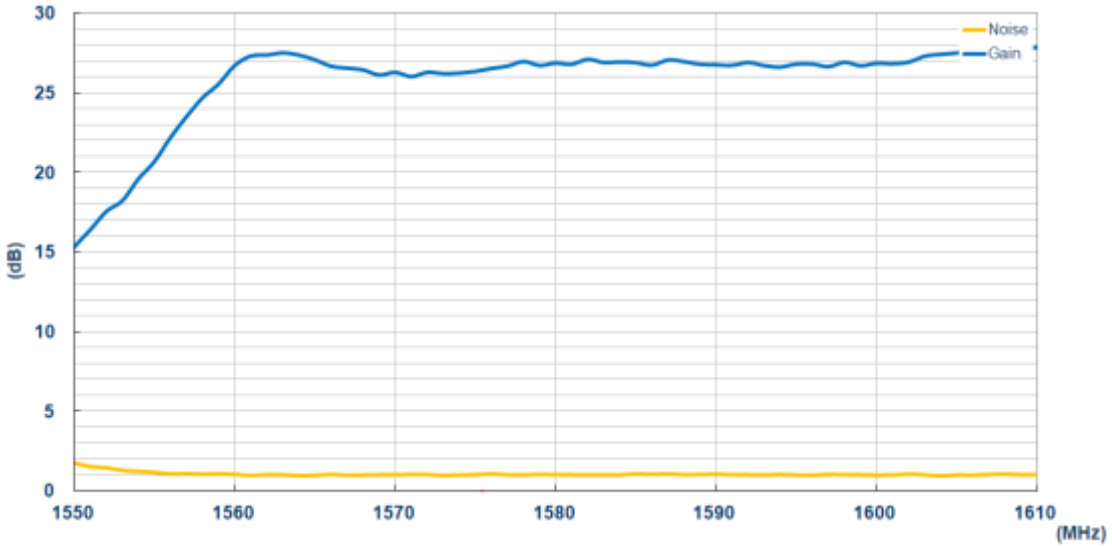


Peak Gain (dBi) - LTE

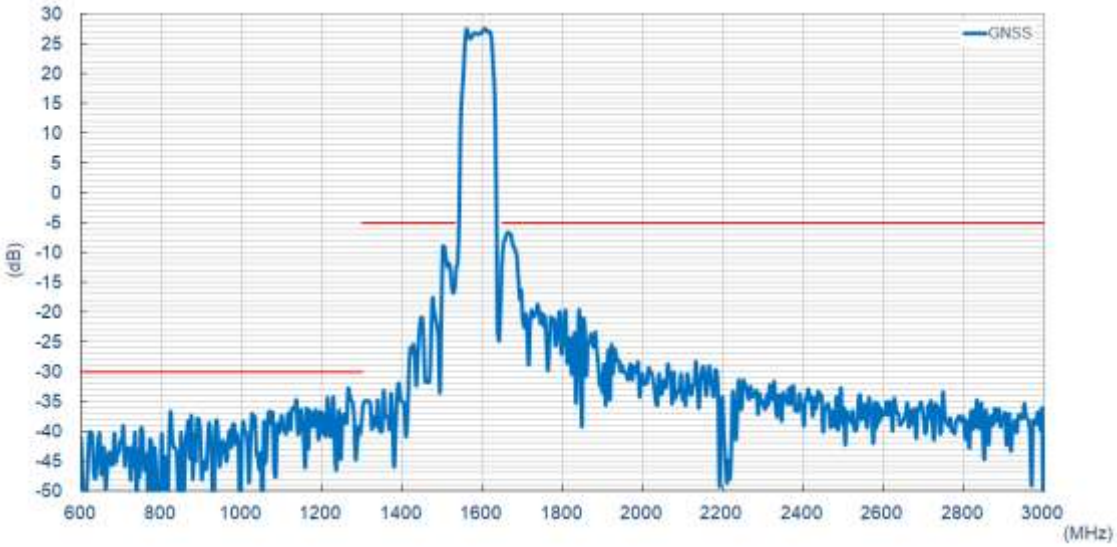


Active Antenna Performance

Noise & Gain (dB)



Out Of Band Rejection (dB)



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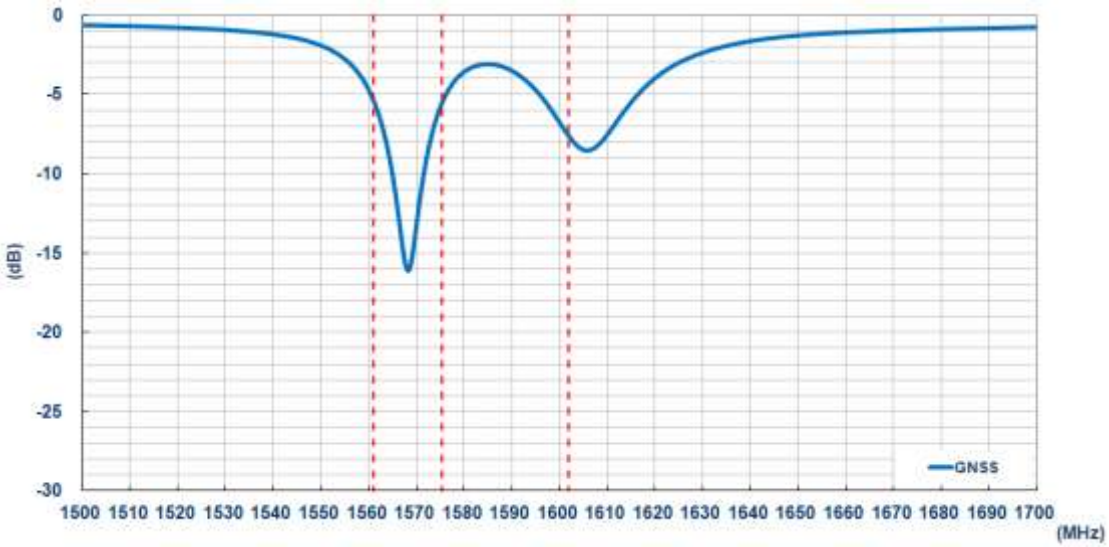
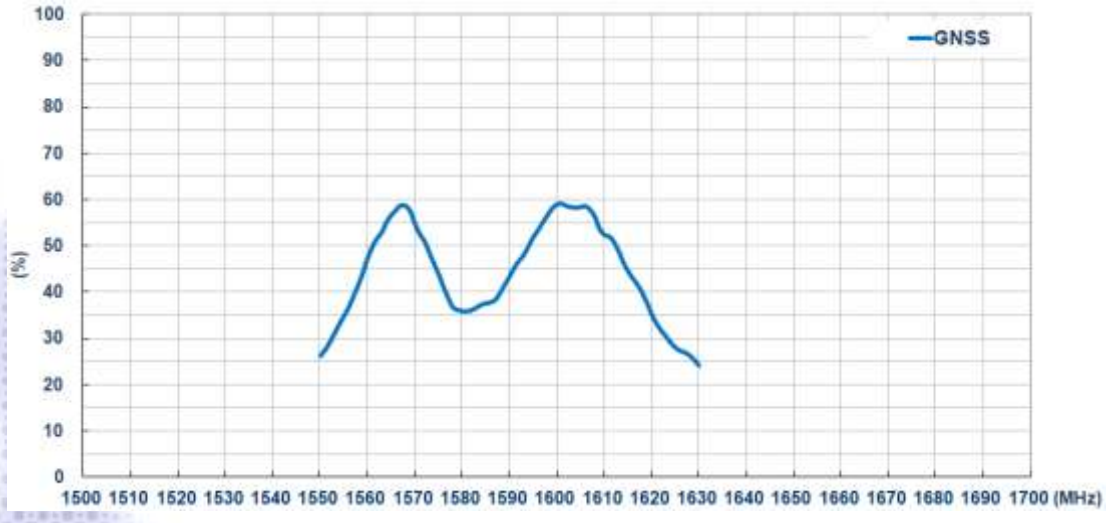
S11 (dB) - GNSS



Efficiency (%) - GNSS



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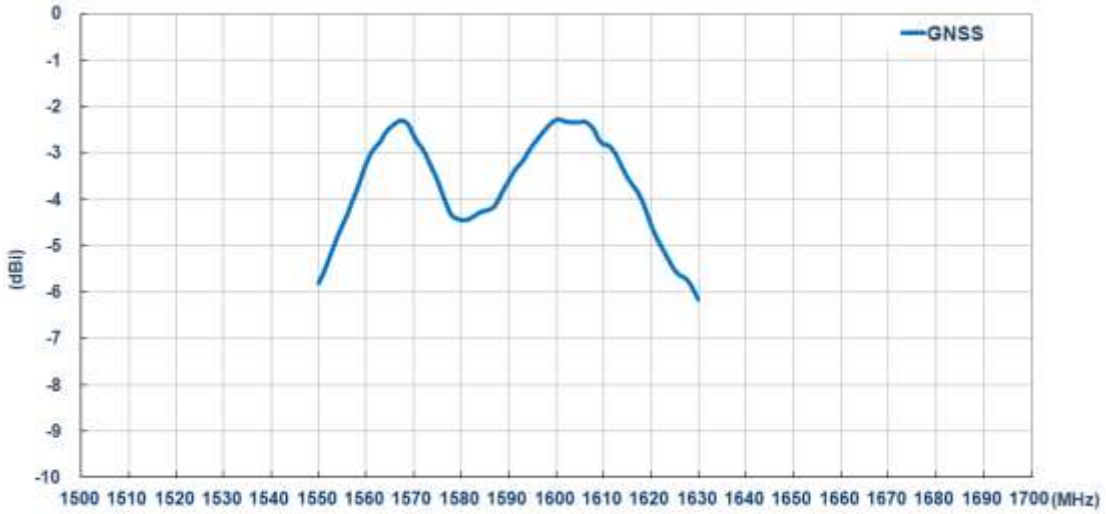
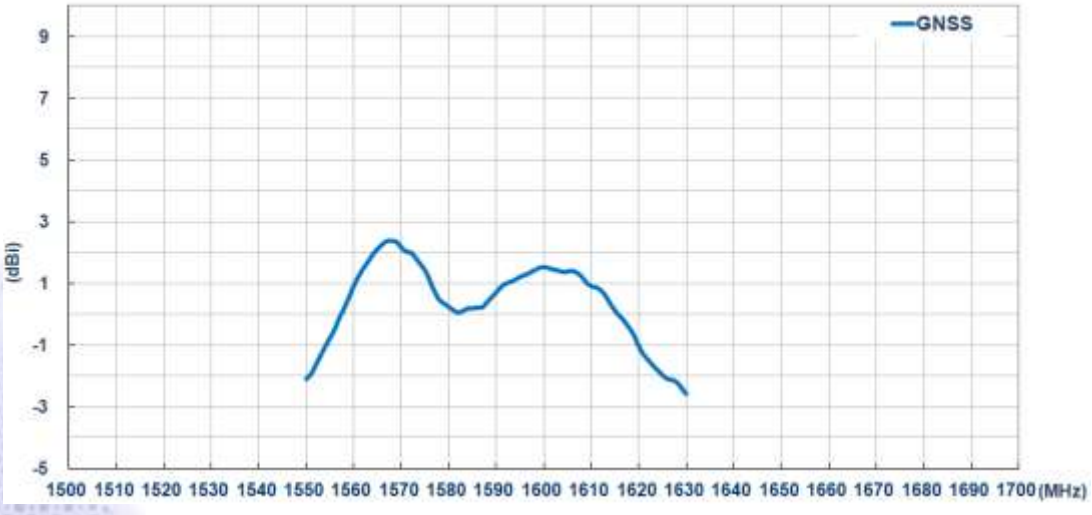
Average Gain (dBi) - GNSS



Peak Gain (dBi) - GNSS



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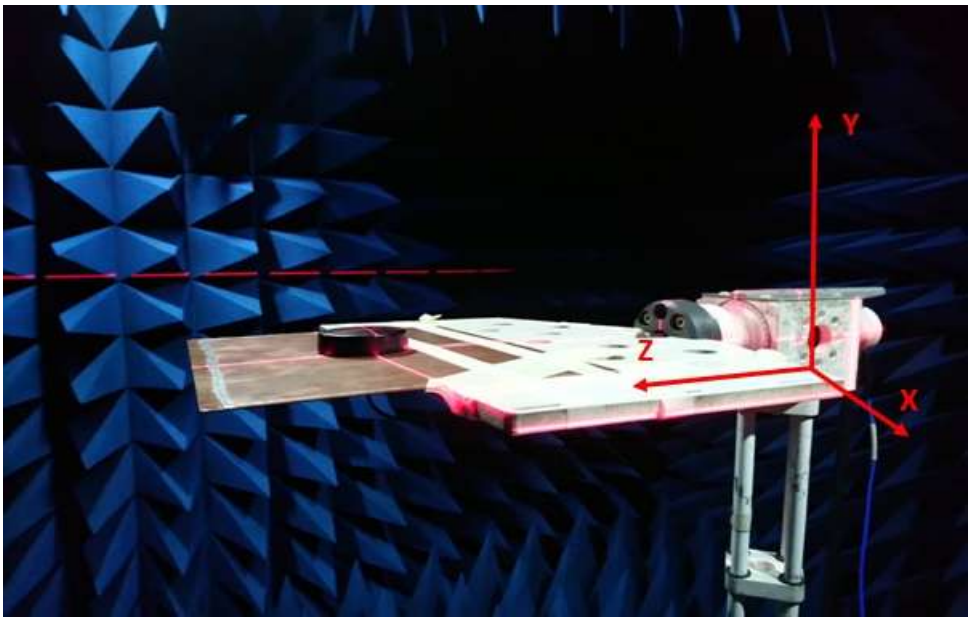
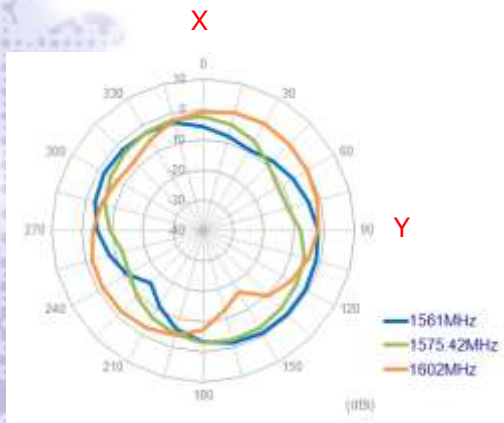
III. Antenna Radiation Pattern Measurement:

The antenna radiation patterns were measured in Anechoic Chamber.
The measurement setup as below,

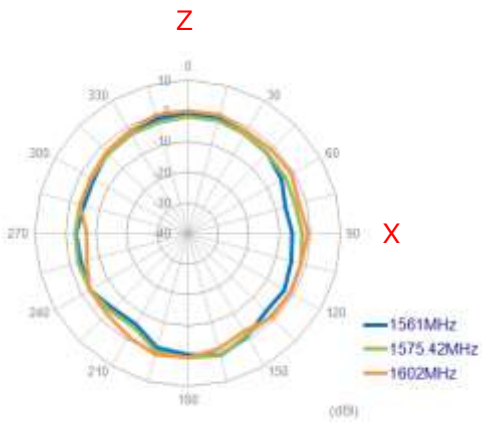


IV. 2D Radiation Pattern:

GNSS X-Y Plane



GNSS X-Z Plane



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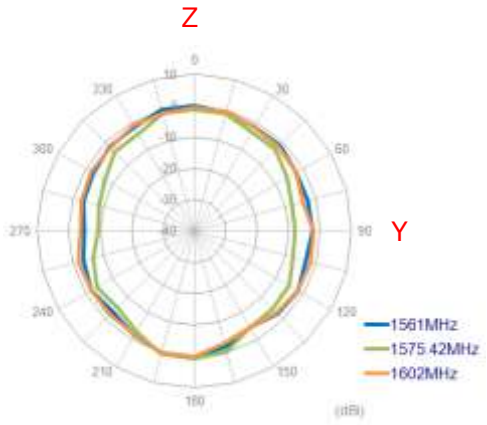
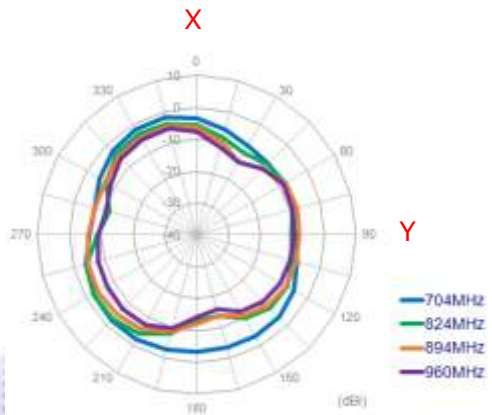
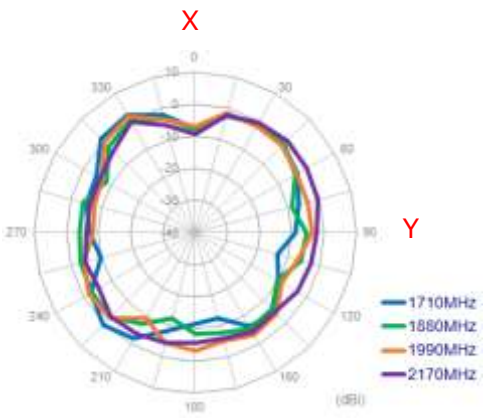
GNSS Y-Z Plane

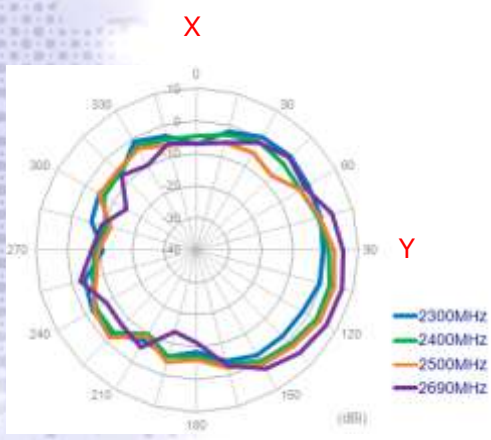


LTE

X-Y Plane







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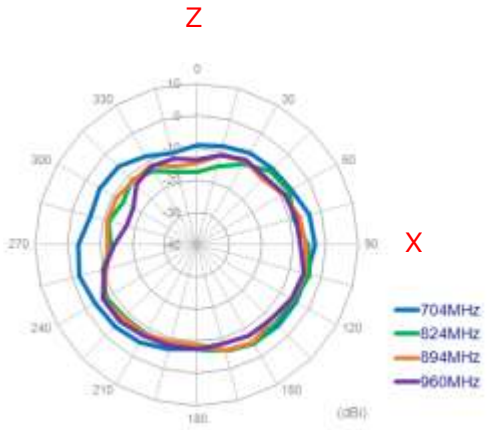
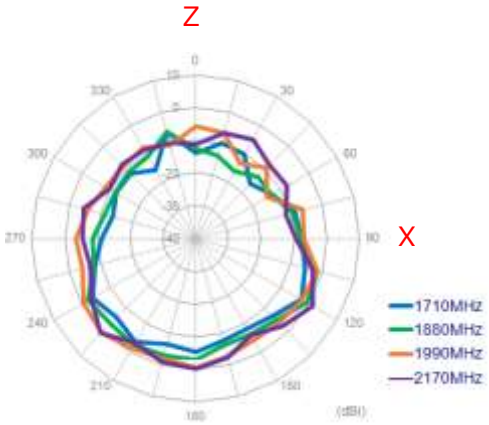
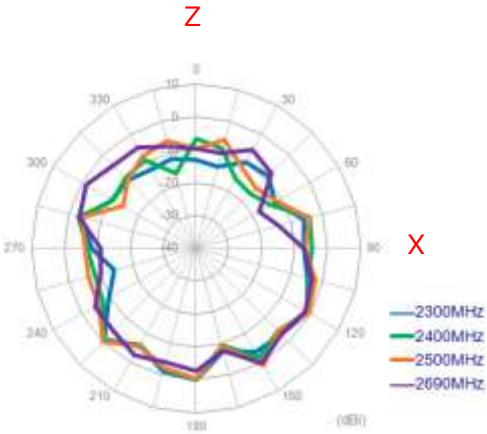
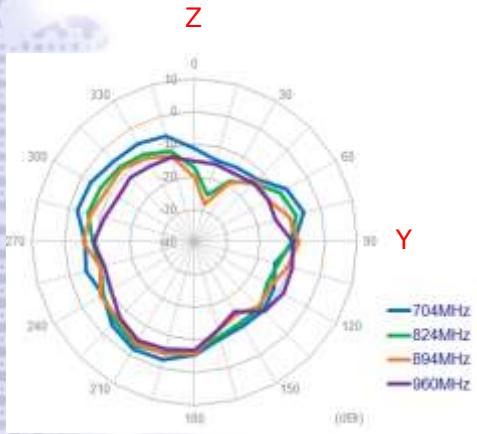
X-Z Plane

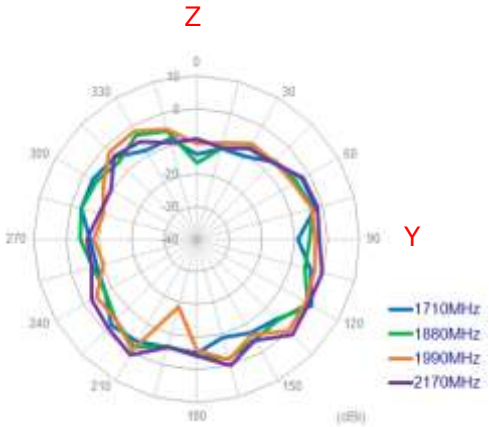


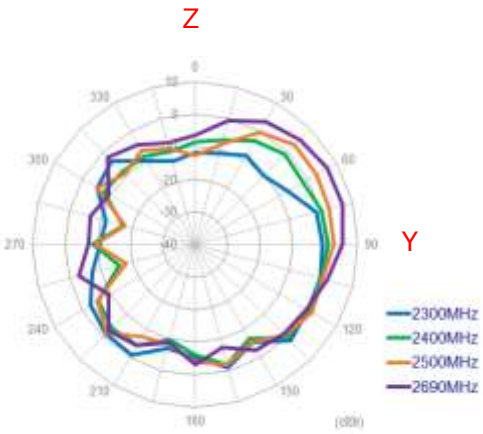




Y-Z Plane



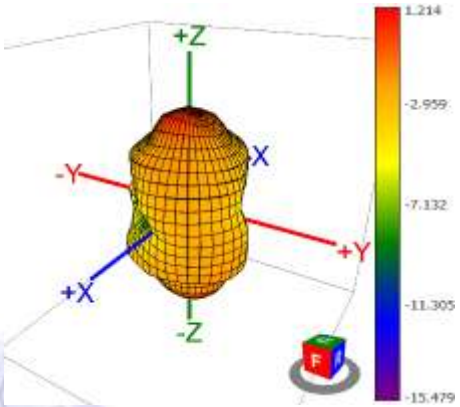




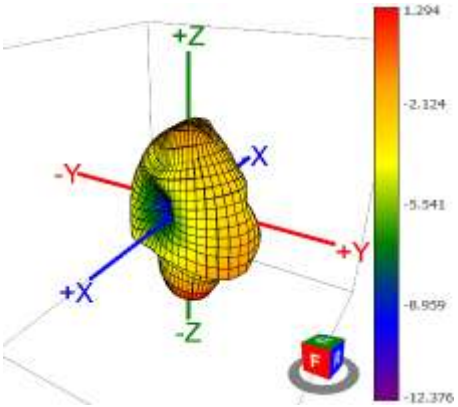
V. 3D Radiation Pattern:

GNSS

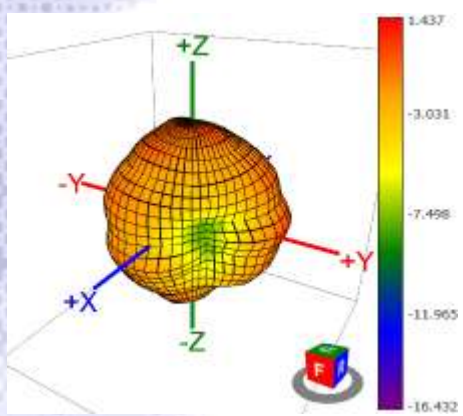
1561MHz



1575.42MHz

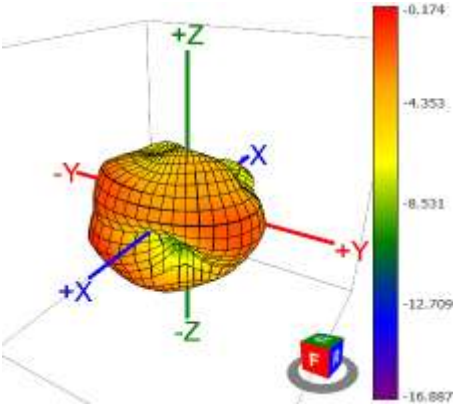


1602MHz

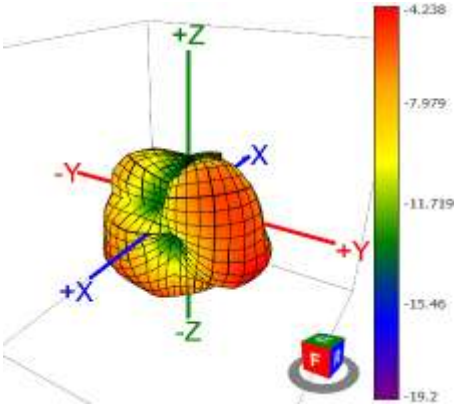


LTE

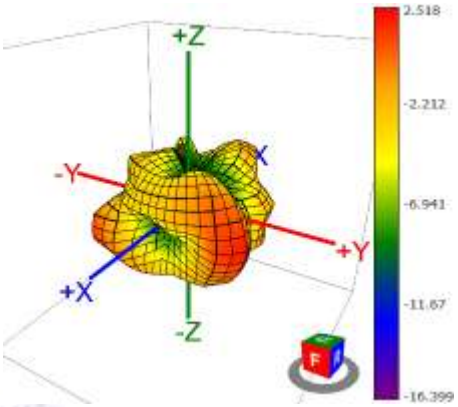
704MHz



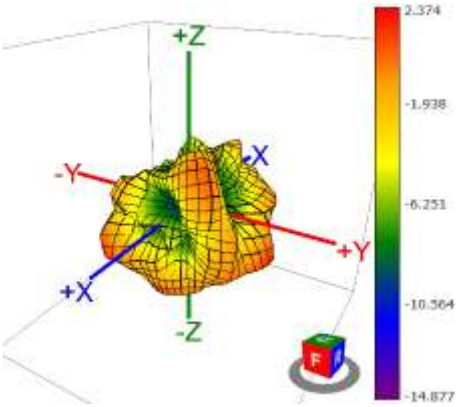
960MHz



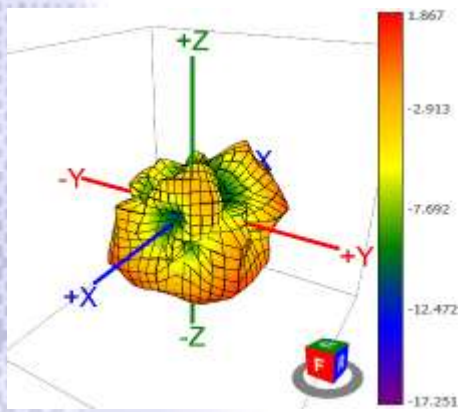
1710MHz



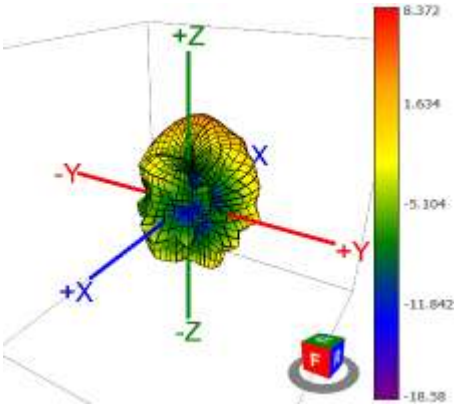
2170MHz



2300MHz



2690MHz



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VI. Mechanical Drawing (Unit:mm):