



Product Name: High-Accuracy GNSS Active Antenna

Part Number: EG-42W-AS-A01

Features:

- Substantial and environmental-resistance structure
- Proprietary antenna design provides the flexibility to reach a range of operational goals
- Support GPS L1/ GLONASS L1/ BeiDou L1/ GPS L2/ GPS L5 Bands
- IP67 grade waterproof
- Multi-Constellation and Signal-Frequency for faster initialization
- RoHS & REACH Compliant

Applications:

- Geospatial Surveys
- Single & Multiple frequencies RTK positioning
- Vehicle Tracking
- Security Surveillance

High-Accuracy GNSS Active Antenna

MODEL: EG-42W-AS-A01

Rev.A

I. Specifications:

Items	Specifications				
Passive Antenna Performance					
Application Bands	GPS_L5	GPS_L2	BeiDou_L1	GPS_L1	GLONASS_L1
Frequencies (MHz)	1176	1227	1561	1575.42	1602
Efficiency (%)	7.48	6.78	54.58	43.95	29.04
Average Gain (dBi)	-11.26	-11.69	-2.63	-3.57	-5.37
Peak Gain (dBi)	-6.14	-11.69	3.24	2.48	0.69
Axial Ratio	1.34	1.29	2.24	2.16	2.38
V.S.W.R	< 2				
Return loss (dB)	< -10				
Test Condition	Free Space				
Impedance (Ω)	50				
Polarization	R.H.C.P. (Right Handed Circular Polarization)				
Active Antenna Performance					
Application bands	GPS_L5	GPS_L2	BeiDou_L1	GPS_L1	GLONASS_L1
Frequencies (MHz)	1176 \pm 5	1227 \pm 5	1561 \pm 5	1575.42 \pm 1.023	1602 \pm 5
Gain (dB)	42	43	40	39	39
Noise Figure (dB)	2.7	2.9	3.2	3.0	3.2
Operation Voltage (V)	3.3 ~ 5.0				
Current Consumption (mA)	26 \pm 3				
Output Impedance (Ω)	50				

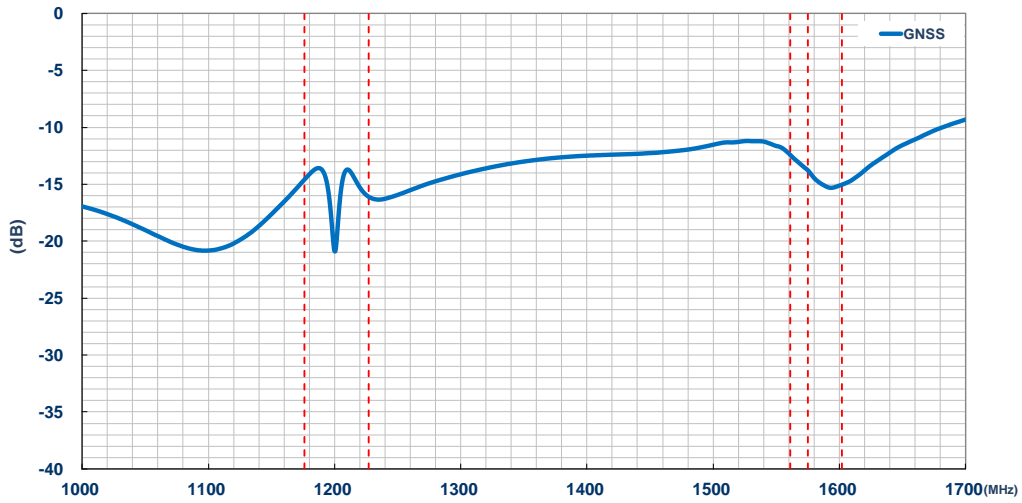
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Out of Band Rejection										
Application Bands	1176		1227		1561		1575.42		1602	
Frequencies (MHz)	500	1270	500	1270	1270	1650	1270	1650	1270	1650
	~	~	~	~	~	~	~	~	~	~
	1100	1530	1100	1530	1530	3000	1530	3000	1530	3000
Out of Band Rejection (dB)	67	47	68	48	45	68	44	67	44	67
ESD Protection										
Contact Discharge (KV)	± 8									
Air Discharge (KV)	± 15									
Physical Condition										
Dimension (mm)	φ138.4(D) x 50.0(H)									
Connector	TNC (SBJ)									
Weight (g)	331									
Environmental Conditions										
Operation Temperature	-40 ~ +85 °C									
Storage Temperature	-40 ~ +85 °C									
Waterproof	IP67									
Relative Humidity	+40±2 °C,90~95% R.H									
Electronic Discharge	EN61000-4-2: 20KV Air-discharge ; 8KV Contact-discharge									
Enclosure Rating	IEC 60529 standard: IP67									
Solar Radiation	MIL-STD 810E, SAE 1961									
Mechanical Shock	MIL-STD-810G, Method 516.6 a. Procedure I, Functional shock									
Vibration	Antenna Non-Working 5G/30min Antenna Working 2.5G/30min									
Chemical Resistance	Alcohol 、 Plastic and Vinyl cleaner 、 Glass cleaner 、 Saline Solution 、 Soapy water									

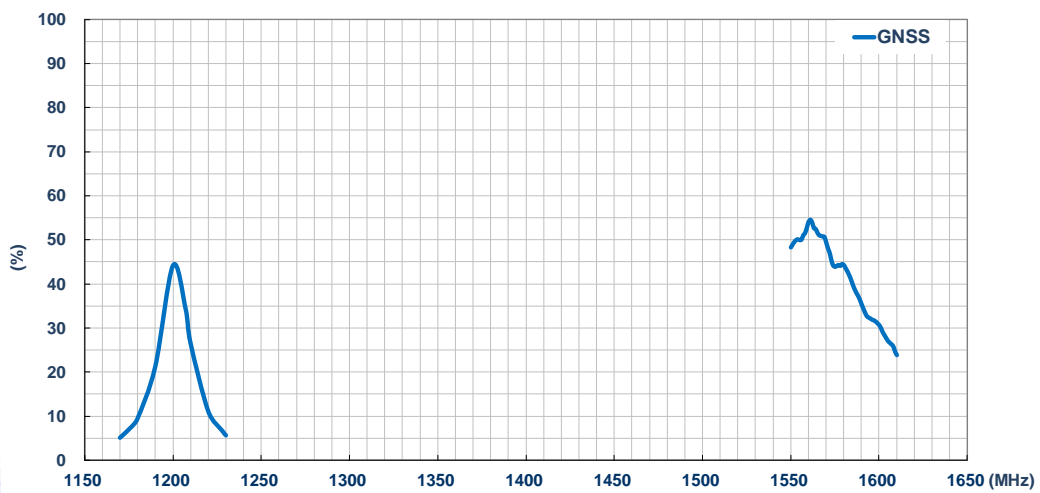
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II. Antenna Technical Parameters:

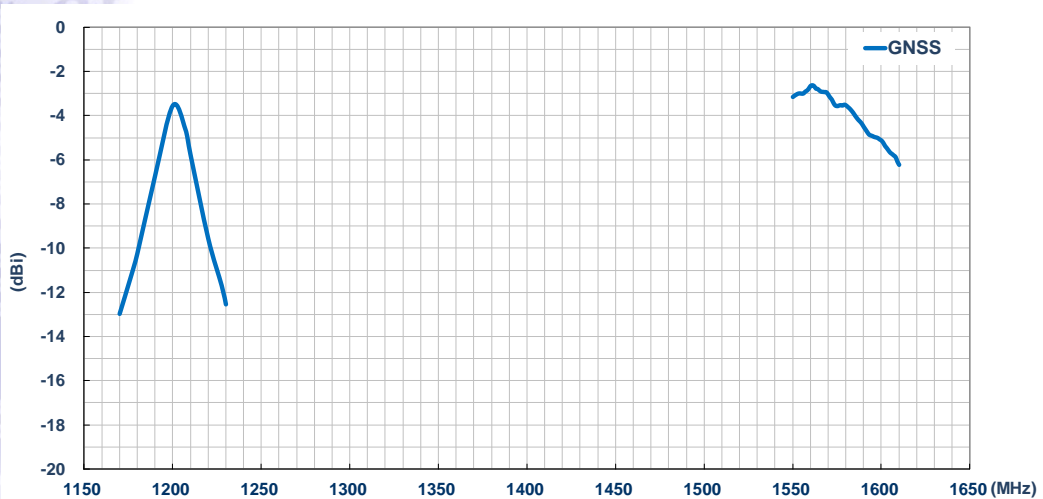
S11 (dB)



Efficiency (%)

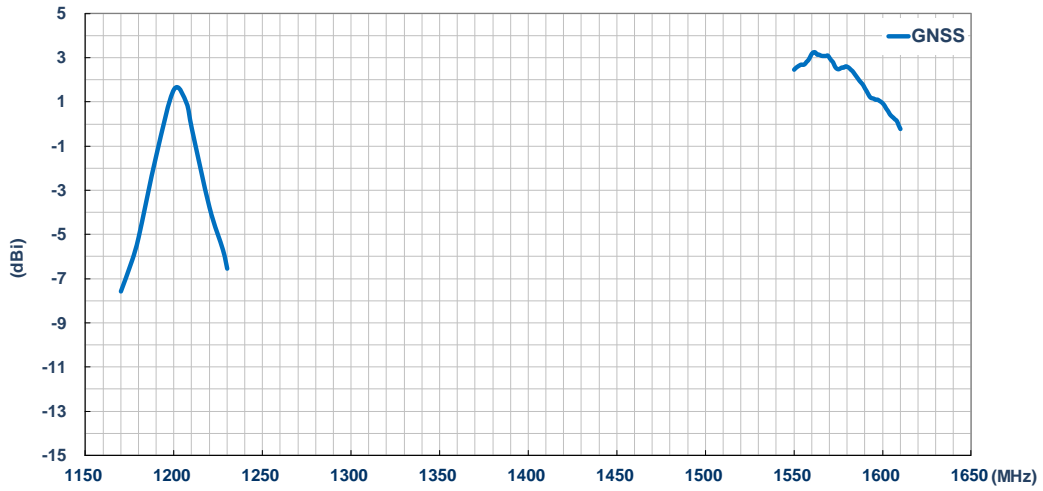


Average Gain (dBi)

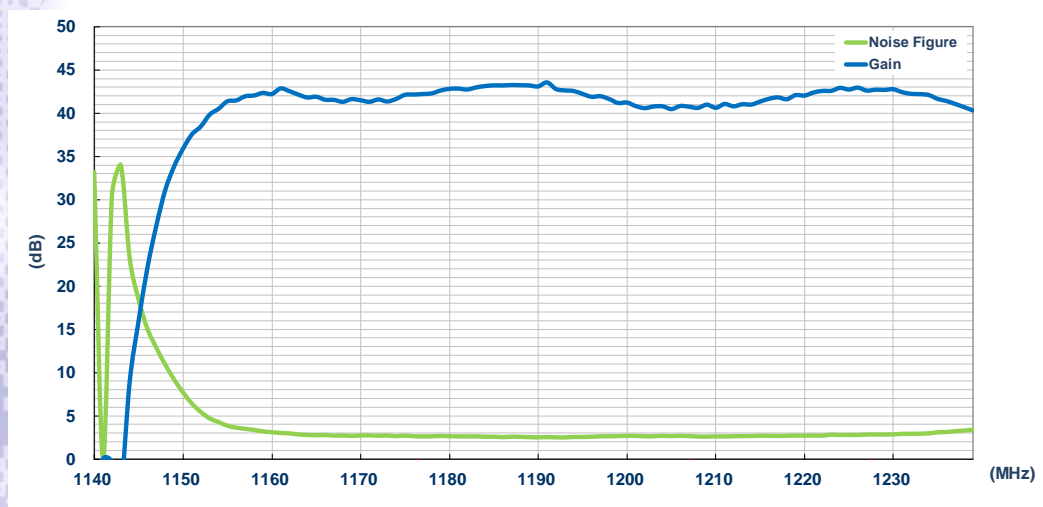
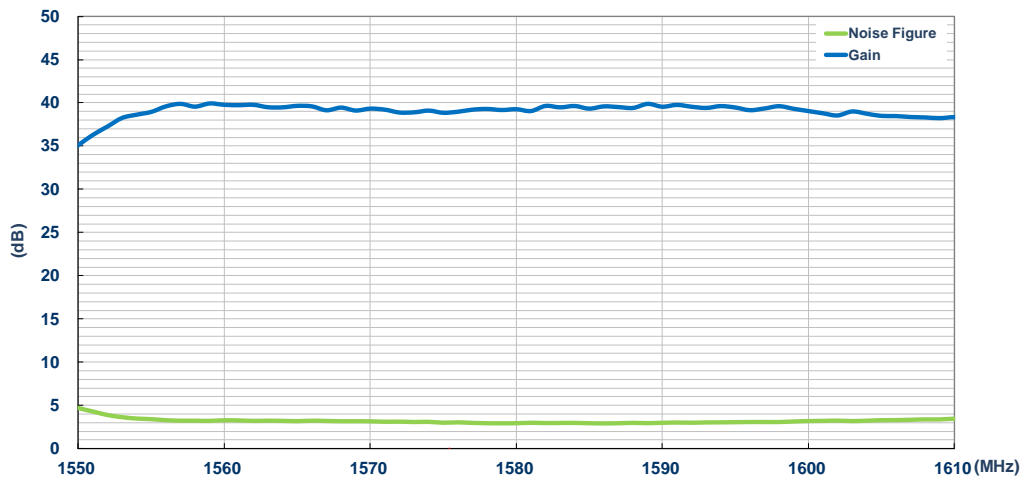


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Peak Gain (dBi)

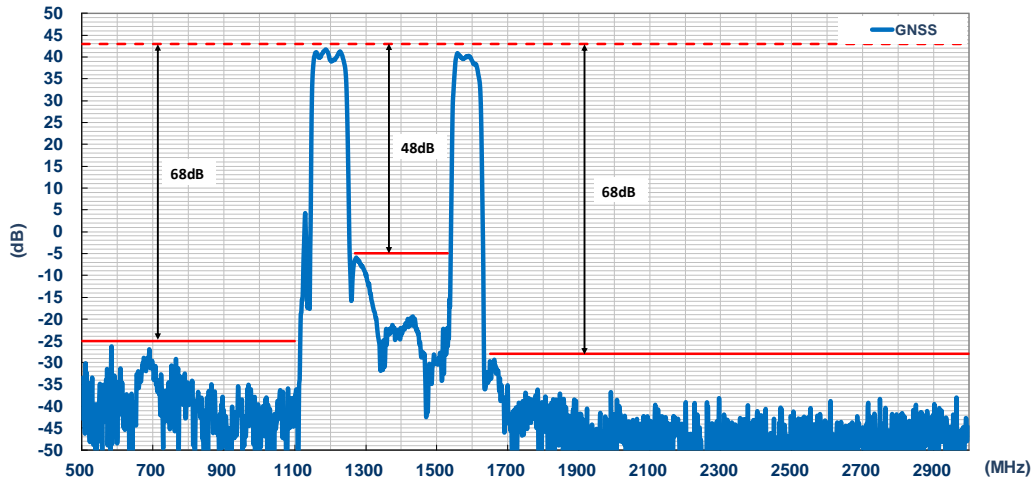


Noise Figure & Gain (dB)



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Out of Band Rejection (dB)



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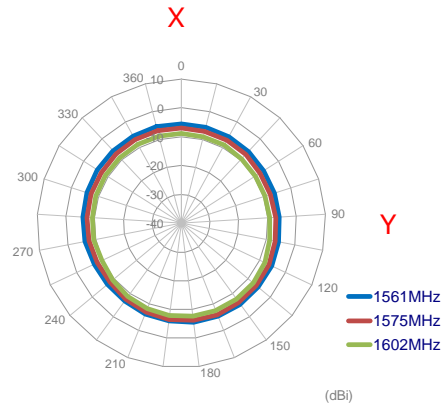
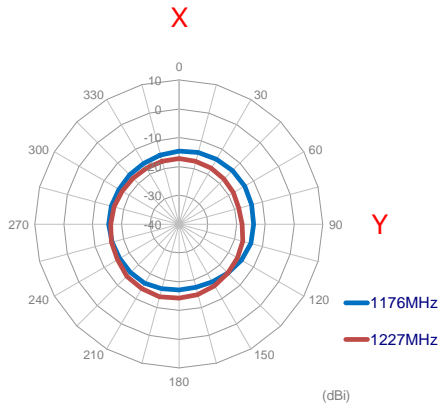
III. Antenna Radiation Pattern Measurement:

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

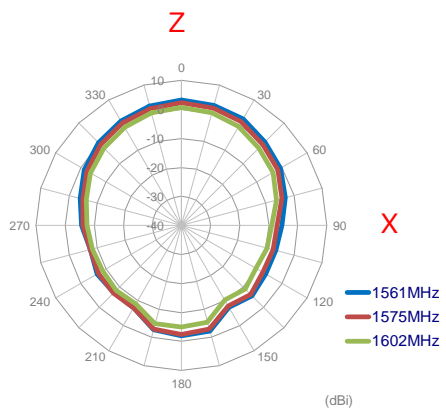
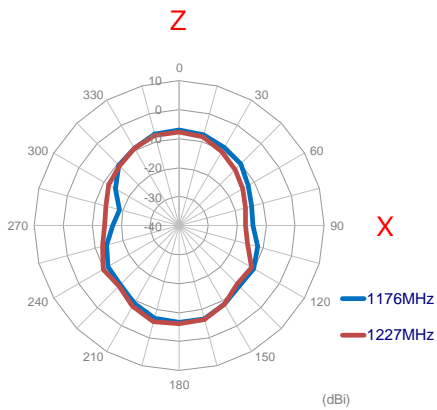


IV. 2D Radiation Pattern:

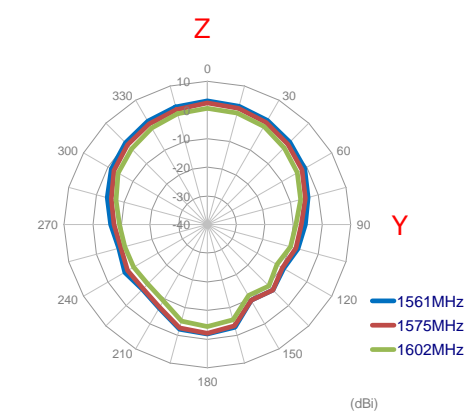
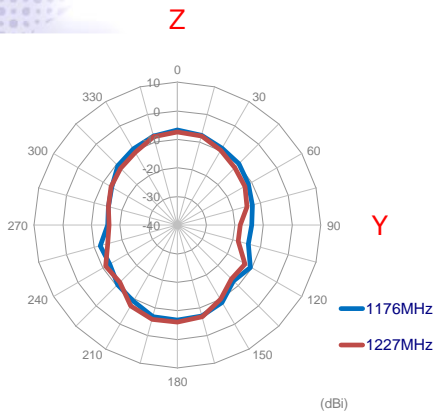
X-Y Plane



X-Z Plane

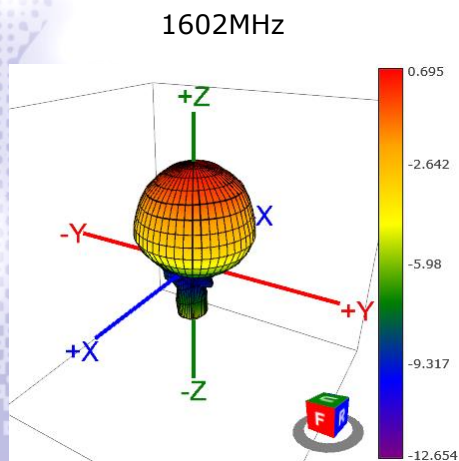
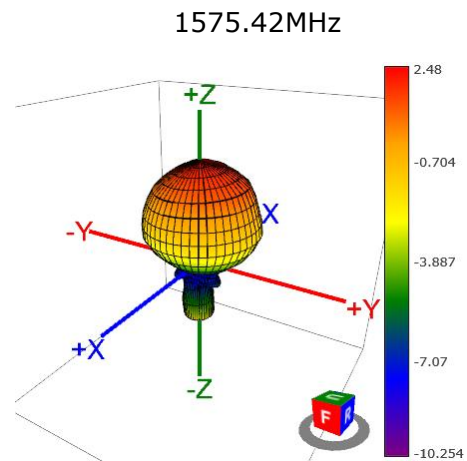
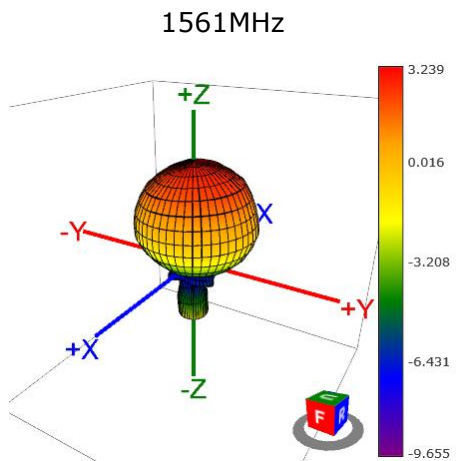
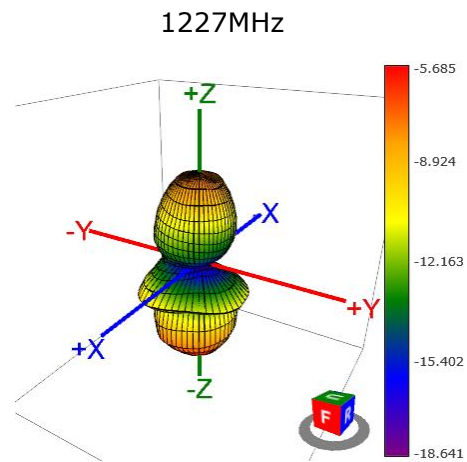
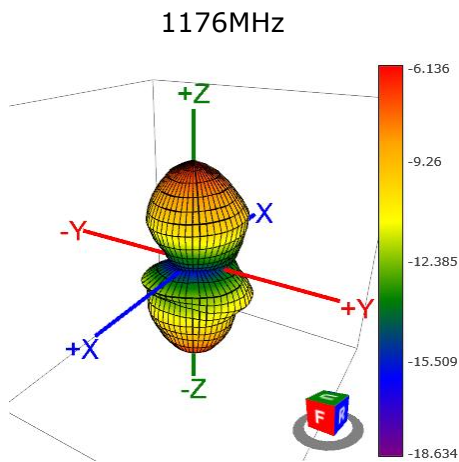


Y-Z Plane



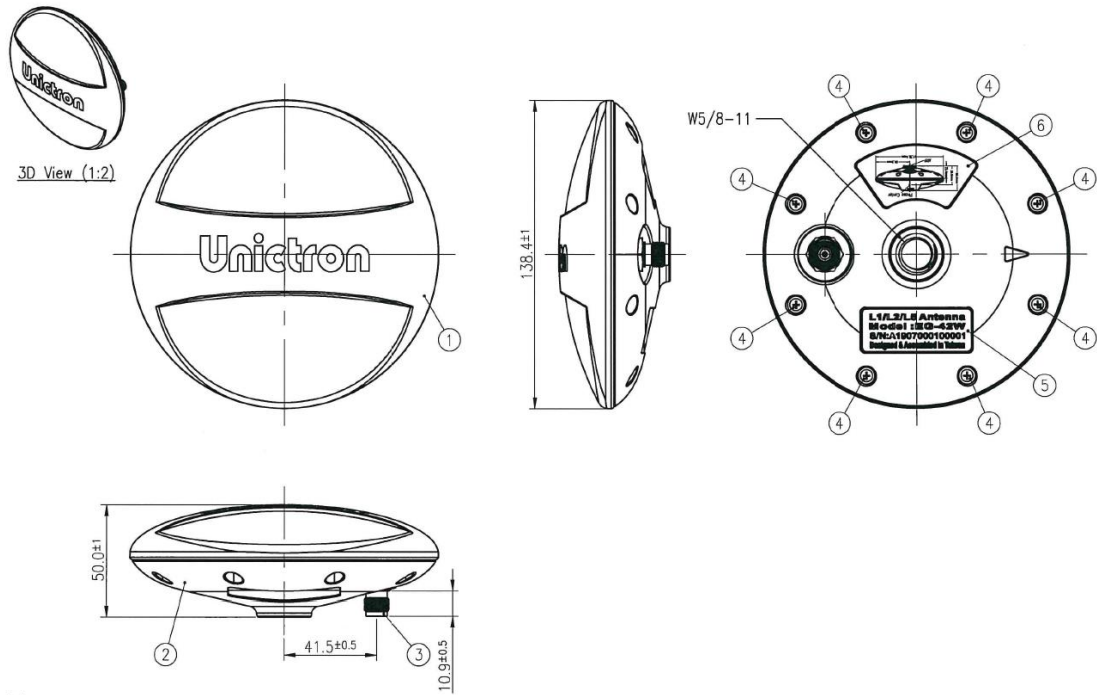
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V. 3D Radiation Pattern:



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VI. Mechanical Drawing (Unit:mm):



Notes:
 1. All material must be RoHS compliant.
 2. IP Code : IP67.

6	Label-2	PET	White	1
5	Label-1	PET	White	1
4	M3x10 Screw	Steel	Ni Plated	8
3	TNC(SBJ) Connector	Brass	Ni Plated	1
2	Bottom Base	Aluminum Alloy	Black	1
1	Top Housing	PC	White	1
No	NAME	MATERIAL	FINISH	Q'TY

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