



Product Name: External GNSS L1 / L2 / L6 Antenna

Part Number: EG-45B-BC-A01

Features:

- Support GPS L1/ GLONASS L1/ BeiDou L1/ GPS L2 / GPS L6 Bands
- Excellent Out of Band Rejection, Up to 65dB
- 39dB Active Peak Gain
- Robust Enclosure, IP67 Waterproof
- RoHS & REACH Compliant

Applications:

- Unmanned Aerial Vehicle (Drone) Navigation
- For all location-based services which need light-weighted GNSS L1 / L2 / L6 Antenna

External GNSS L1 / L2 / L6 Antenna

MODEL: EG-45B-BC-A01

Rev.A

I. Specifications:

Items	Specifications				
Passive Antenna Performance					
Application Bands	GPS L2	GPS L6	BeiDou L1	GPS L1	GLONASS L1
Frequencies (MHz)	1227	1278.75	1561	1575.42	1602
Efficiency (%)	20.70	22.96	55.21	52.12	34.51
Average Gain (dBi)	-6.84	-6.39	-2.58	-2.83	-4.62
Peak Gain (dBi)	-1.81	-1.33	1.63	1.34	-0.07
Axial Ratio	1.1	1.31	2.22	2.38	2.69
V.S.W.R	< 2				
Return loss (dB)	< -10				
Test Conditions	Free Space				
Impedance (Ω)	50				
Polarization	R.H.C.P. (Right-Handed Circular Polarization)				
Active Antenna Performance					
Application bands	GPS L2	GPS L6	BeiDou L1	GPS L1	GLONASS L1
Frequencies (MHz)	1227 \pm 5	1278 \pm 5	1561 \pm 5	1575.42 \pm 1.023	1602 \pm 5
Gain (dB)	45	44	40	41	40
Noise Figure (dB)	1.4	1.3	1.6	1.6	1.6
Operation Voltage (V)	3.3 ~ 5				
Current Consumption (mA)	27 \pm 3				
Output Impedance (Ω)	50				

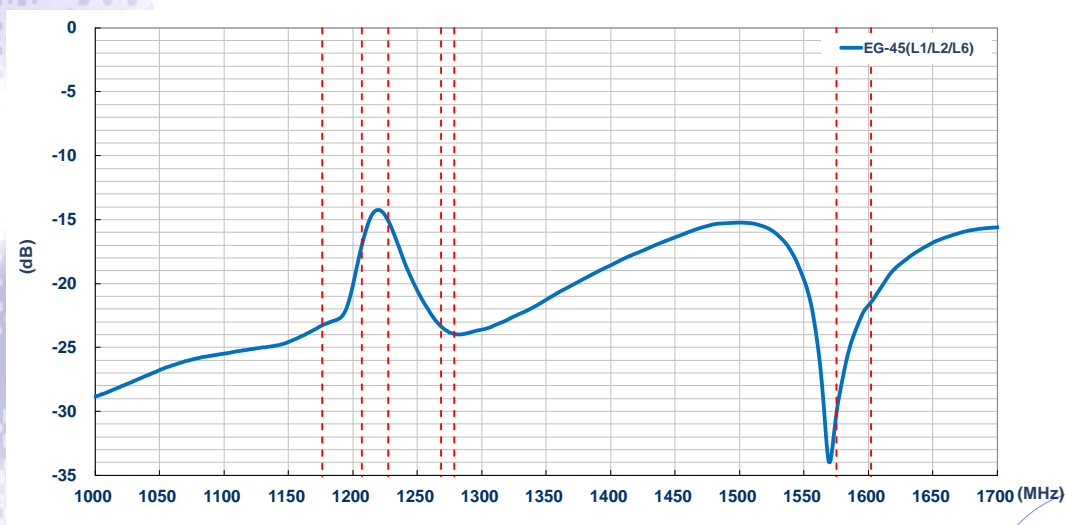
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Out of Band Rejection				
Frequencies (MHz)	600 ~ 1150	1360 ~ 1530	1360 ~ 1530	1650 ~ 3000
Out of Band Rejection (dB)	70	67	63	78
ESD Protection				
Contact Discharge (KV)	± 8			
Air Discharge (KV)	± 15			
Mechanical Specifications				
Dimensions (mm)	φ 29.77(D) x 57.68(H)			
Waterproof	IP67			
Connector	SMA (Male)			
Environmental Conditions				
Operation Temperature (°C)	-40 ~ +85			
Storage Temperature (°C)	-40 ~ +85			
Relative Humidity	95% non-condensing			

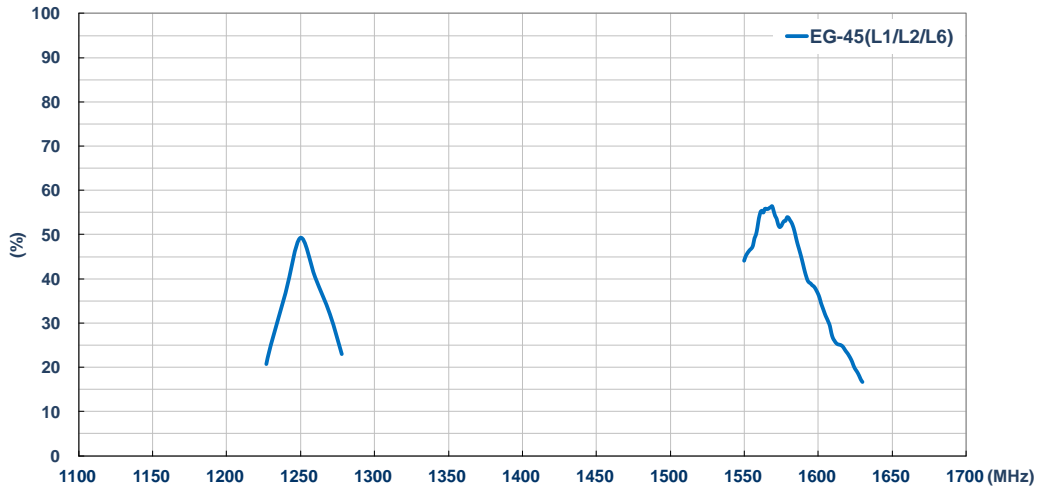
II. Passive Electrical Properties:

A) Testing Condition : Free Space

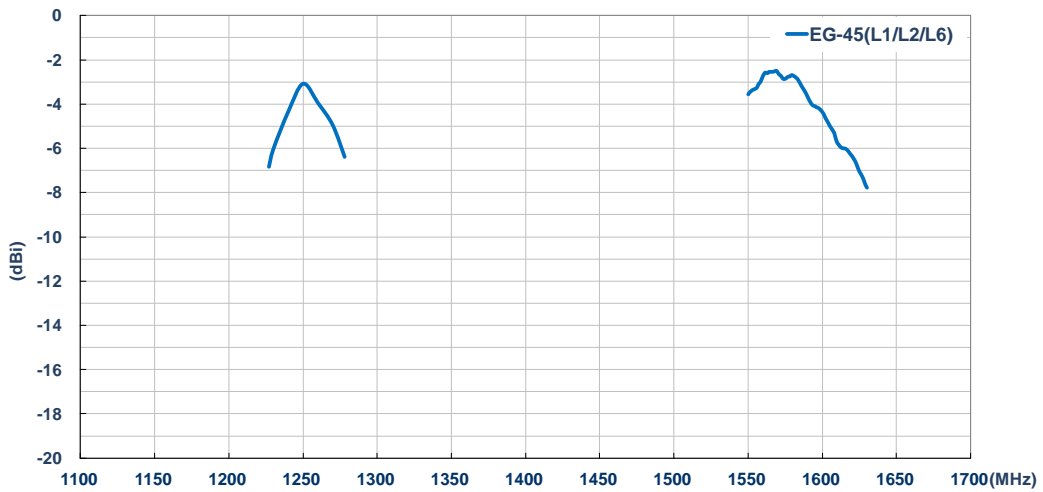
S11 (dB)



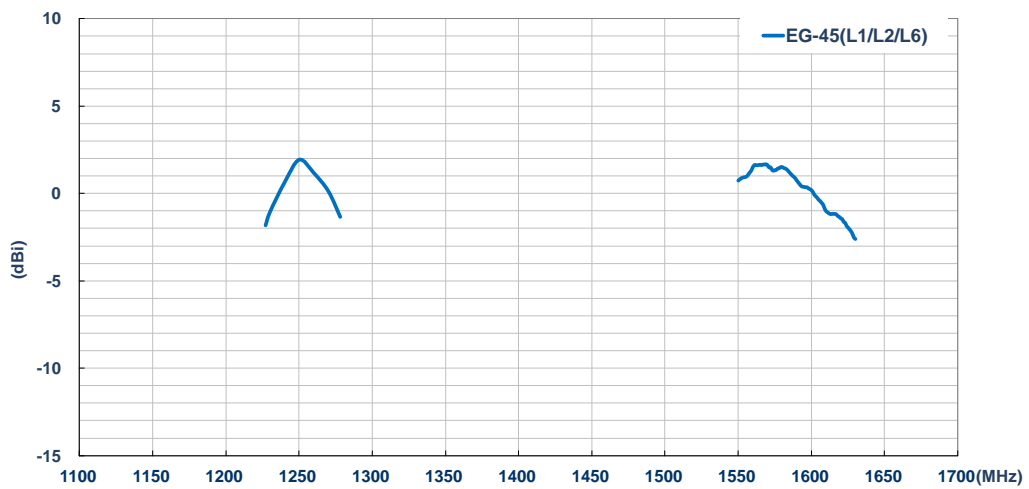
Efficiency (%)



Average Gain (dBi)

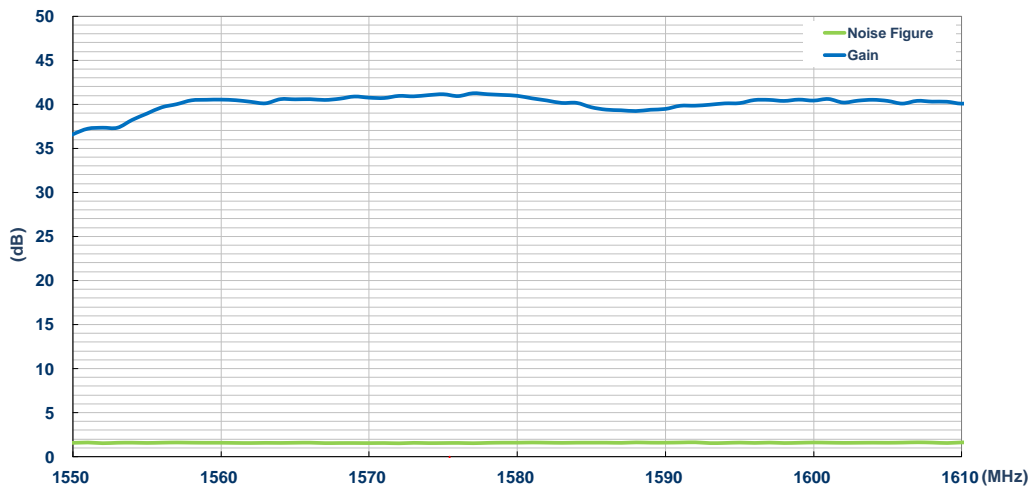
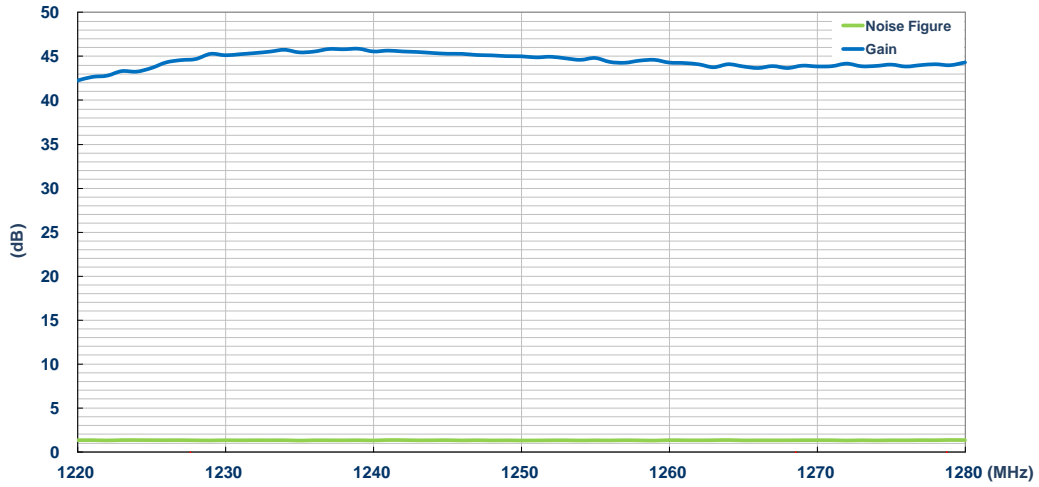


Peak Gain (dBi)

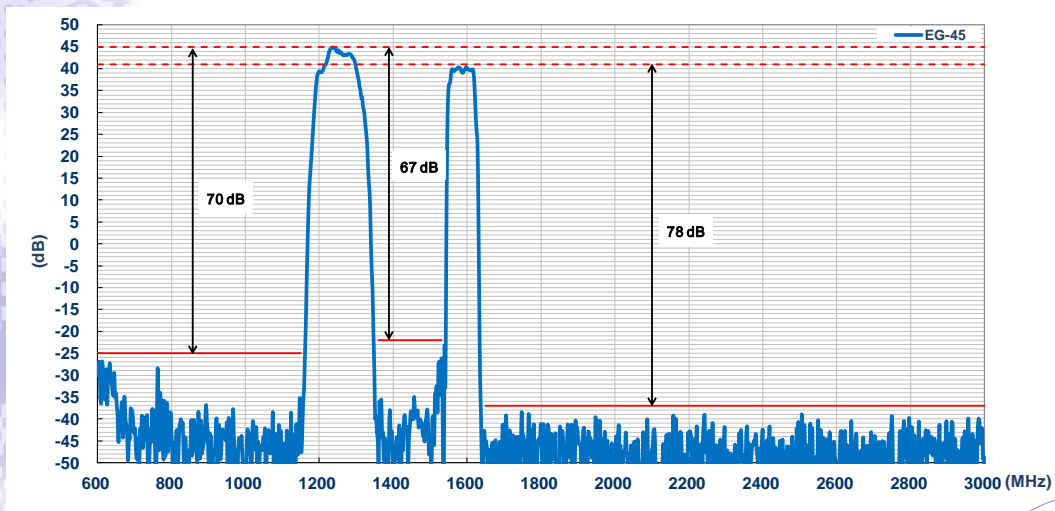


III. Active Electrical Properties:

Noise Figure & Gain (dB)



Out of Band Rejection (dB)

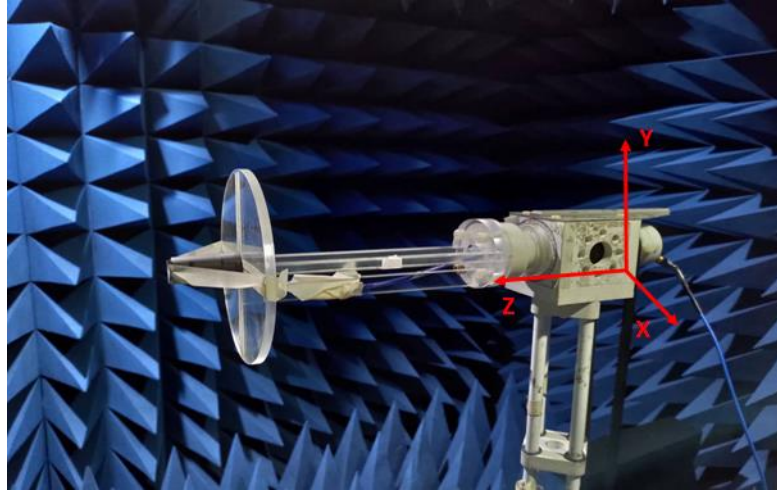


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IV. Antenna Radiation Pattern Measurement:

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

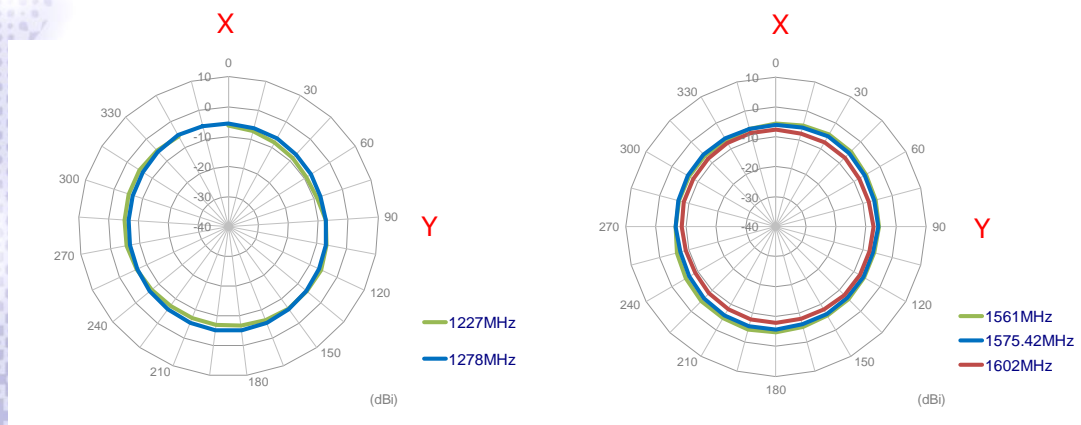
Free Space



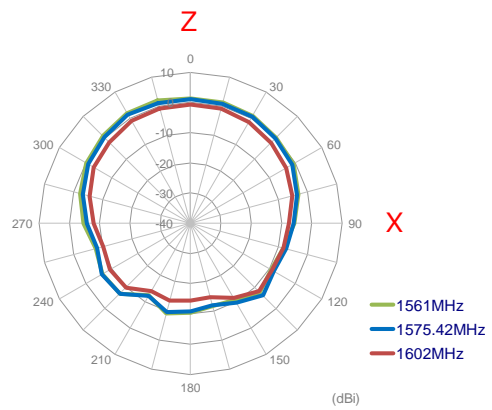
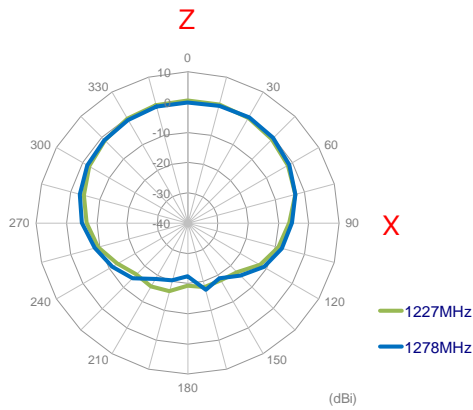
A) 2D Radiation Pattern:

a) Free Space

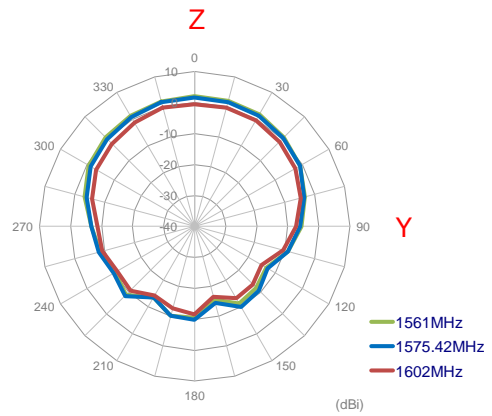
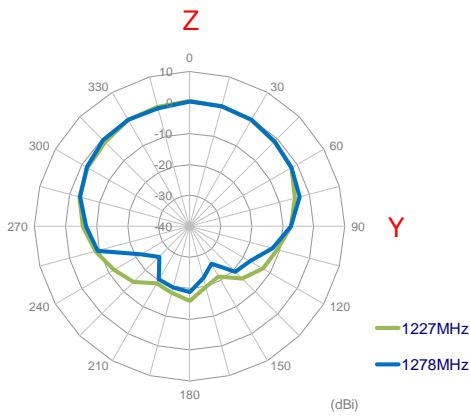
X-Y Plane



X-Z Plane



Y-Z Plane

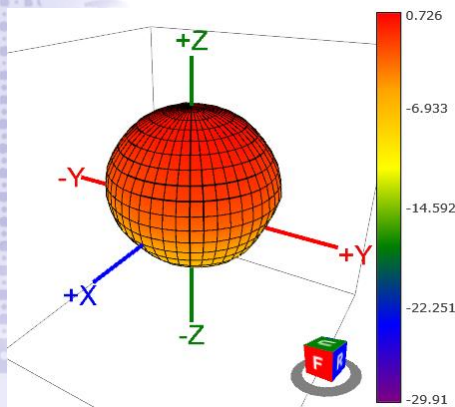


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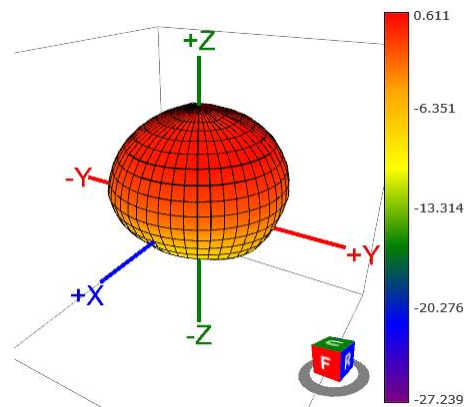
B) 3D Radiation Pattern:

a) Free Space

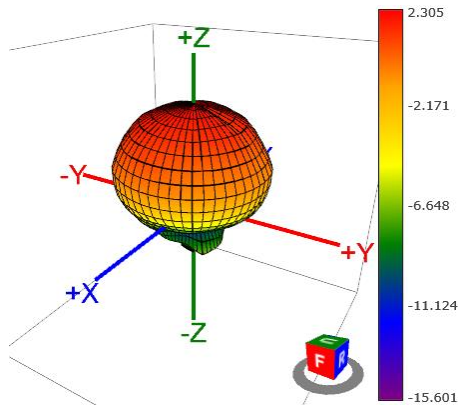
1227MHz



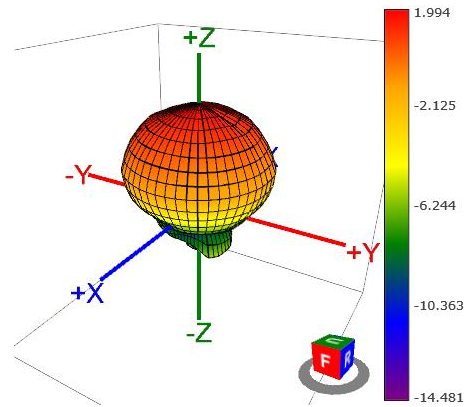
1278MHz



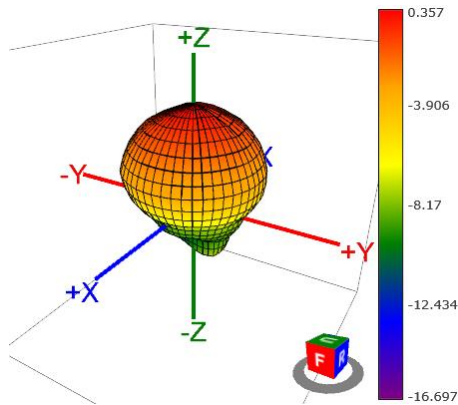
1561MHz



1575MHz



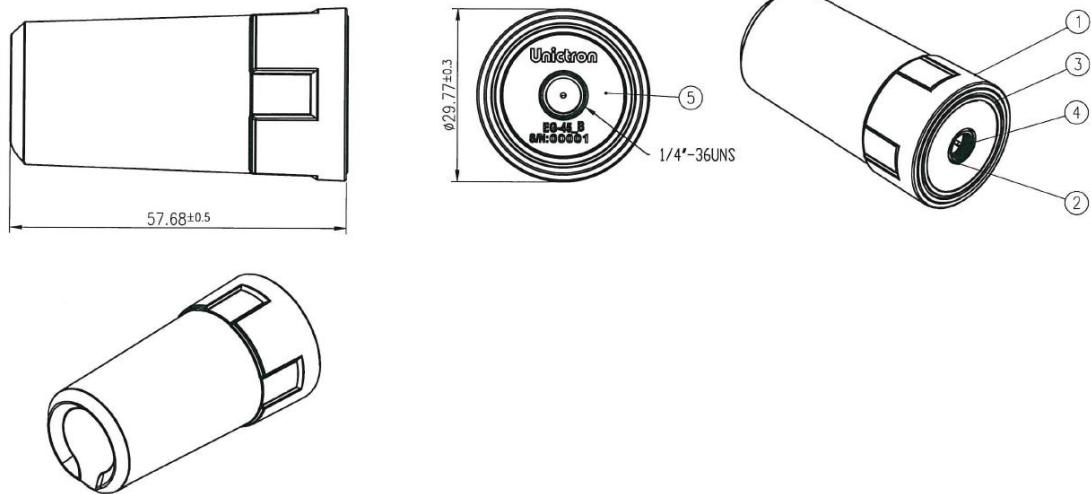
1602MHz



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V. Mechanical Drawing (Unit:mm):



Notes:

1. All material must be RoHS compliant.
2. IP Code : Waterproof grade can reach IP67 once installed on a mating surface.

5	Label	PET	Silver	1
4	SMA PLUG	Brass	Au Plated	1
3	O-ring	Silicone	Black	1
2	Base	PC	Black	1
1	Top housing	PC	Black	1
No	NAME	MATERIAL	FINISH	Q'TY

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