APPROVAL SHEET

Customer Name	
Product Model	GNSS Antenna
Customer P/N	
Specifications	GNSS Multi-band,φ23*56mm,SMA-J
KEESUN P/N	KSANT-12048-A
Date Prepared	2025.12.10
Revision	1.0

Shenzhen KeesunTechnology Co.,LTD		
Production（Prepare）	Quality（DQE）	Research and Development)（R&D）
Customer		
Purchasin（PUR）	Quality（QC）	Research and Development)（R&D）

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Product Specification

Antenna Characteristics	
Frequency	1197-1278MHz / 1559-1606MHz
Supported Positioning signal bands	GPS: L1/L2 BDS: B1/B2/B3 GLONASS: G1/G2 Galileo: E1/E5b
Peak Gain	≥2dBi
Impedance	50 Ohm
Polarization	Right-hand circular polarization （RHCP）
Impedance	50 Ohm
Axial Ratio@zenith	≤1.5dB
Azimuth Coverage	360°
Low Noise Amplification (LNA) Characteristics	
LNA Gain	11-27dB(Typ.@25℃)
Noise Figure	≤1.5dB@25℃,Typ.
Output VSWR	≤1.8 : 1Typ. 2.0 : 1 Max
Operation Voltage	3-16V DC
Operation Current	≤45mA
Antenna Structure and Environmental Adaptability	
Connector Type	SMA-J
Dimension	Φ23*56mm
Weight	0.013Kg
Radome material	ABS
Attachment Method	Via connectors or other custom accessories.
Operation Temperature	- 45˚C ~ +85 ˚C
Storage Temperature	- 45˚C ~ +85 ˚C
Humidity	≤95%
Waterproof	IP67

Antenna Applications

Suitable for applications with strict requirements on size and weight, such as drones, micro RTK, sub-meter handheld devices/tablets, and other portable equipment.

Antenna Photos





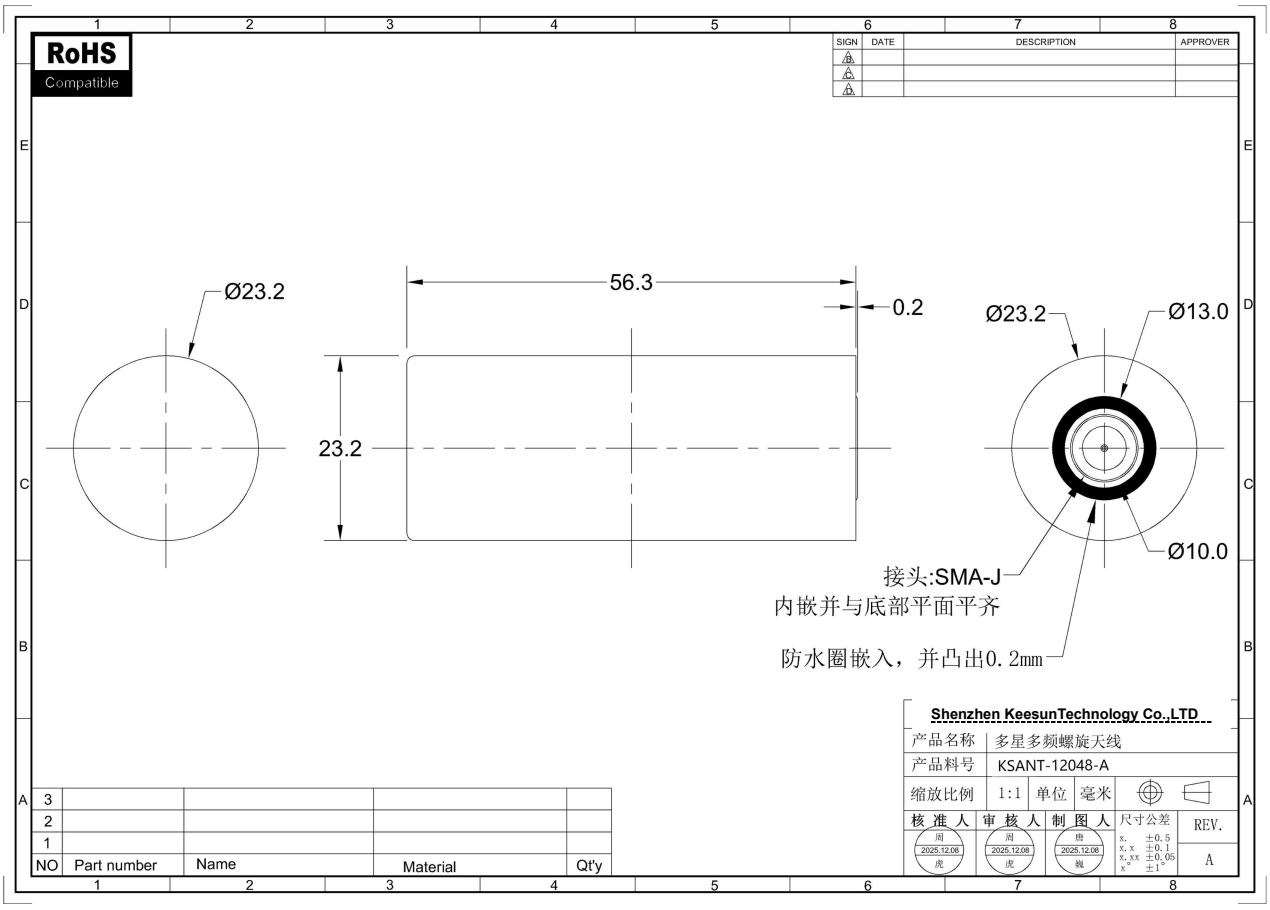
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Reliability Test

Item	Test Condition		Specification
Storage Environment	In the absence of specified conditions, the test temperature, humidity, and air pressure are as follows: 1. Temperature: -45°C ~ +85°C 2. Relative humidity: 45%–85% 3. Air pressure: 86 kPa–106 kPa		Normal electrical and mechanical performance
High-Low Temperature Test	Place the sample in 85°C and -45°C environments for 5 cycles (2 hours per cycle), then leave it under normal conditions for 1–2 hours, and inspect the appearance and quality.		Dimensions shall meet specifications, and mechanical & electrical performance shall be satisfied
Constant Damp Heat Test	After exposure to 95±3% relative humidity at 40°C for 2 hours, measure the electrical performance of the sample within 5 minutes after removal, then leave it under normal conditions for 1–2 hours and inspect the appearance and quality.		Dimensions shall meet specifications, and mechanical & electrical performance shall be satisfied
Vibration Test	Vibration frequency range: 10–55 Hz, displacement amplitude: 0.35 mm, acceleration amplitude: 50.0 m/s², number of sweep cycles: 30		Normal electrical and mechanical performance
Drop Test	Free fall from 1 m height; select different drop positions for different products (preferentially select directions prone to damage), 1 drop per position.		Normal electrical and mechanical performance
Pull Force Test	Test the withstand force using a push-pull force gauge: ≥ 20 N		Normal electrical and mechanical performance
Withstand Voltage Test	1. Insulation spark voltage: 1.5 kV 2. Sheath spark voltage: 1.5 kV 3. Insulation-to-sheath withstand voltage: 0.5 kV		Normal electrical and mechanical performance
Attenuation Value	2.0(nominal) 2.9(nominal) 3.2(nominal) 3.7(nominal) 4.3(nominal) 4.8(nominal) 5.3(nominal)	1GHz 2GHz 2.4GHz 3.0GHz 4.0GHz 5.0GHz 6.0GHz	3.3dB/m (at20℃)

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Prduct Drawing:



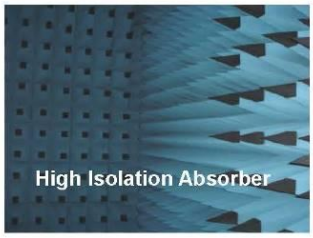
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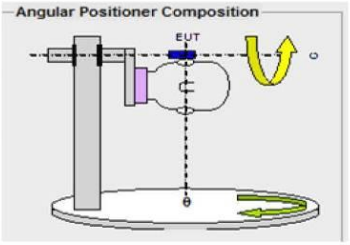
Test Equipment & Conditions

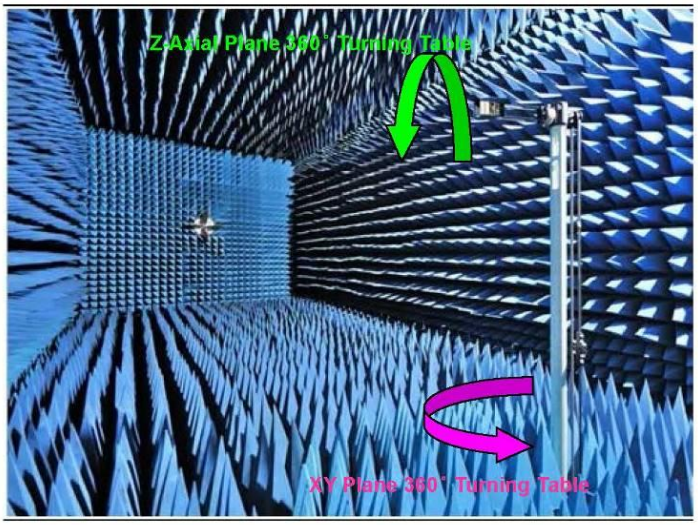
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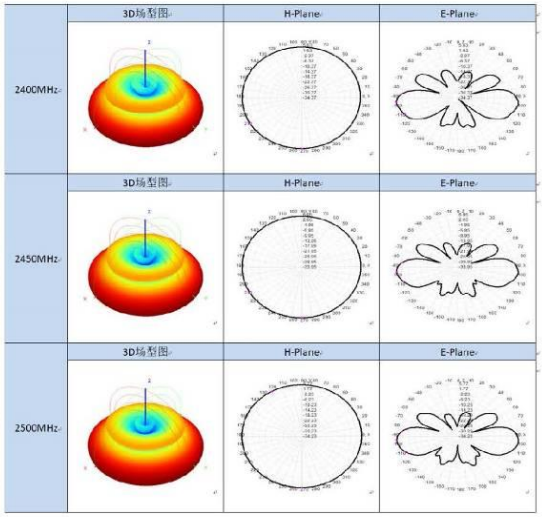
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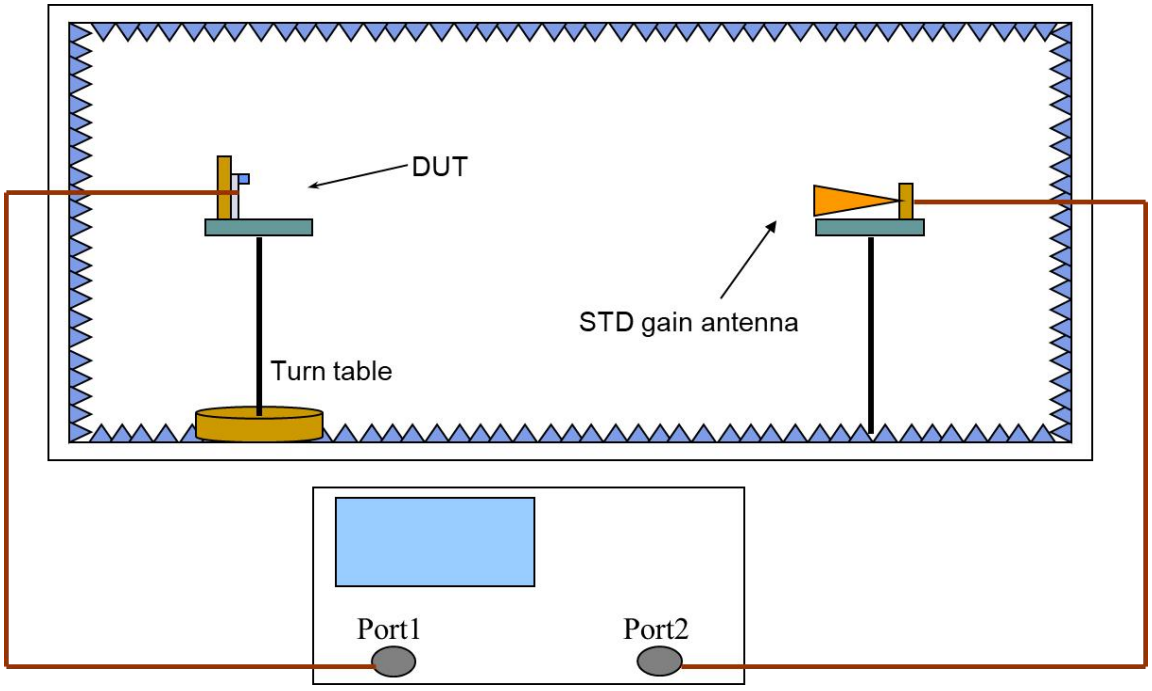
.Chamber Size: 9 x 5 x 4 m³
.Freq. Range: 0.4 ~ 18.0 GHz
.Double Ridge Horn Antenna
.VNA: Agilent E5071C
.3D Turning Table and Positioner
.ADT Solution 3D Testing Software





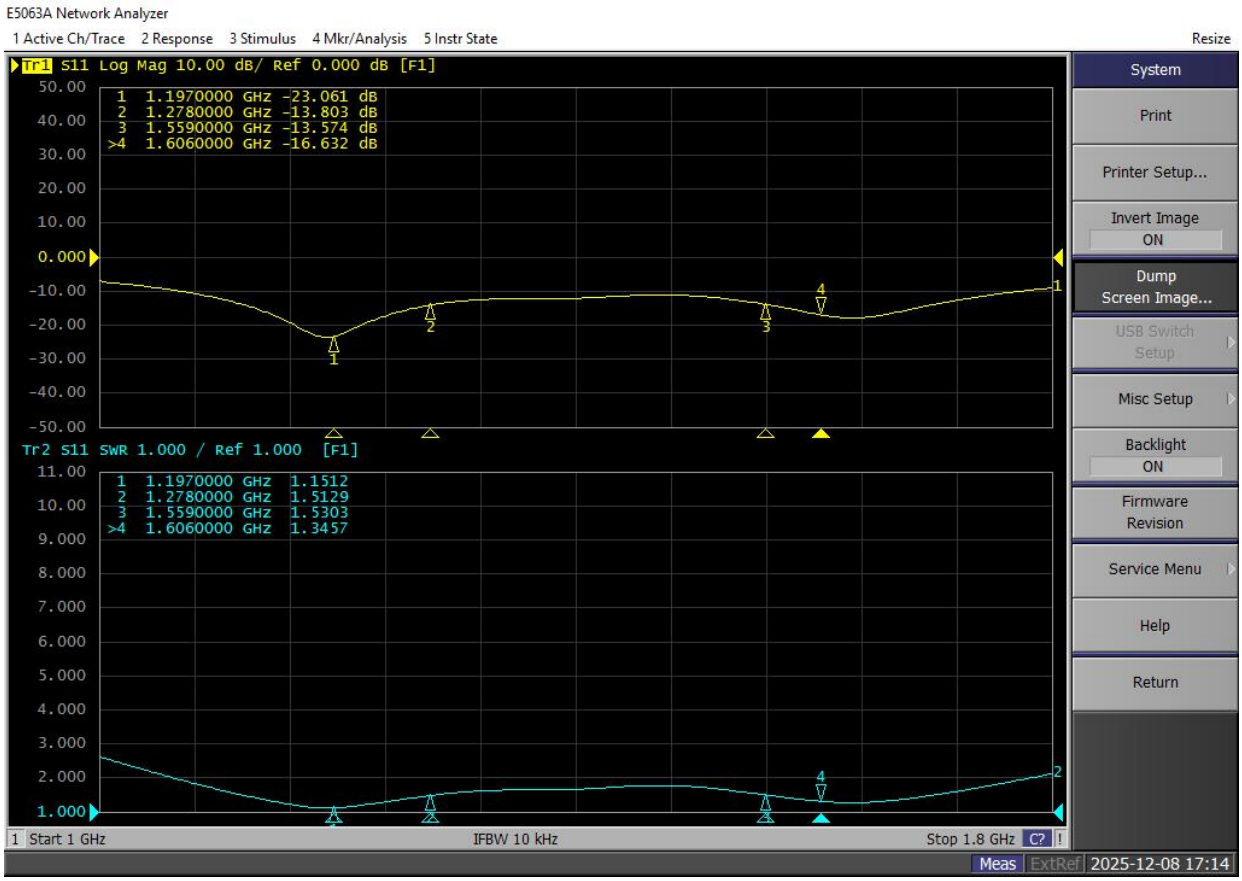






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VSWR



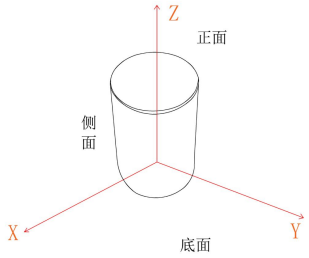
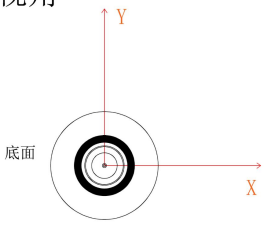
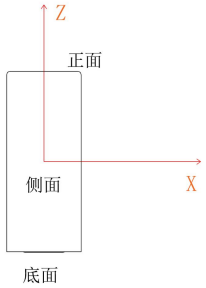
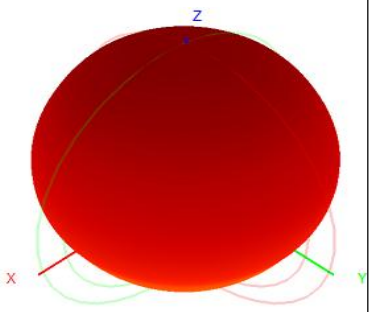
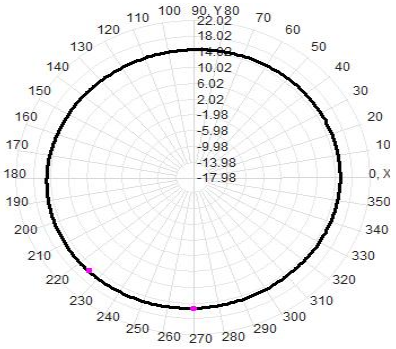
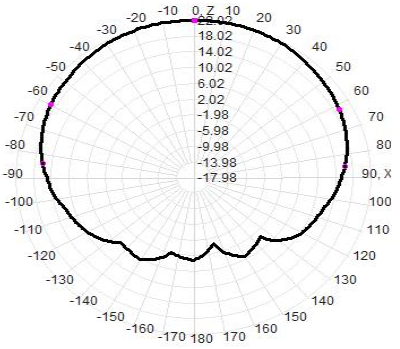
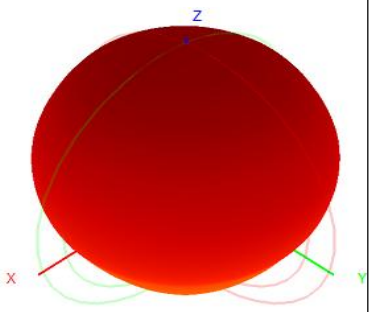
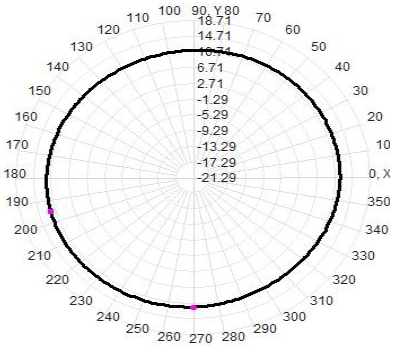
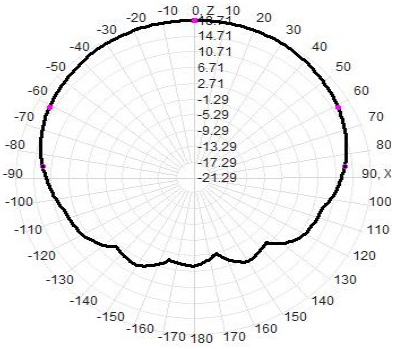
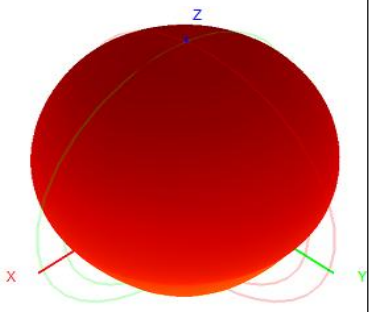
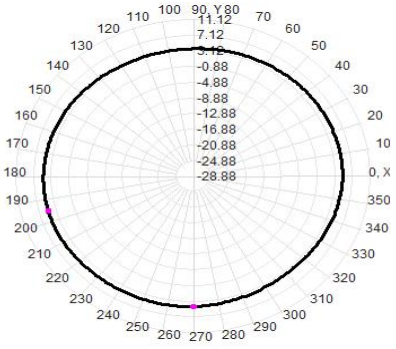
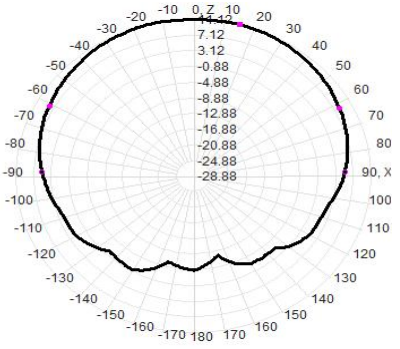
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Gain

Frequency(MHz)	Gain(dBi)	Frequency(MHz)	Gain(dBi)
1195	22.0	1555	27.3
1200	20.7	1560	26.9
1205	19.9	1565	26.6
1210	19.7	1570	26.4
1215	19.7	1575	25.9
1220	19.7	1580	26.3
1225	19.8	1585	26.5
1230	19.5	1590	26.5
1235	18.7	1595	25.8
1240	17.8	1600	25.1
1245	16.7	1605	23.5
1250	15.7	1610	22.8
1255	15.1		
1260	14.6		
1265	14.1		
1270	13.4		
1275	12.5		
1280	11.1		

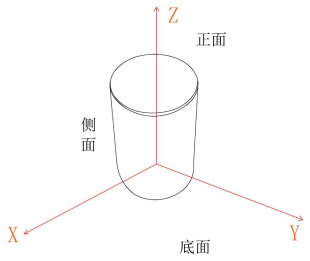
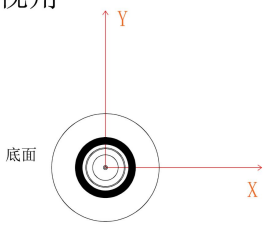
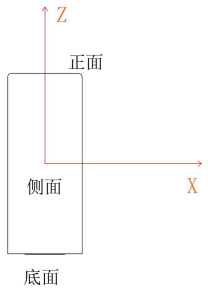
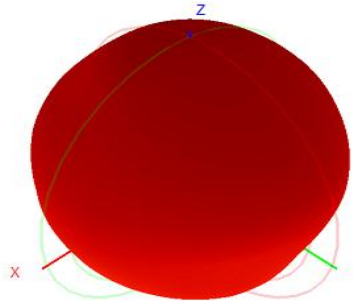
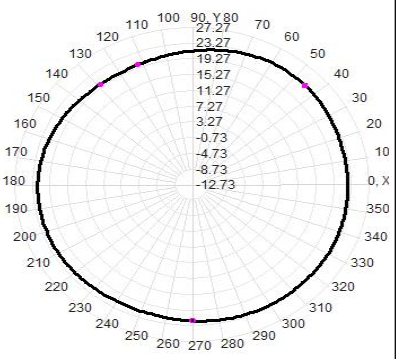
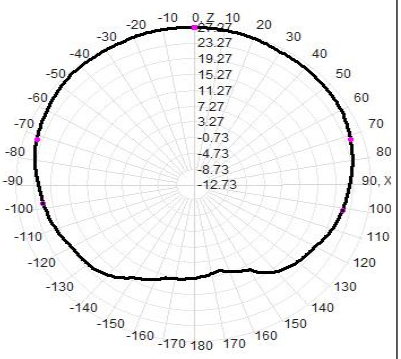
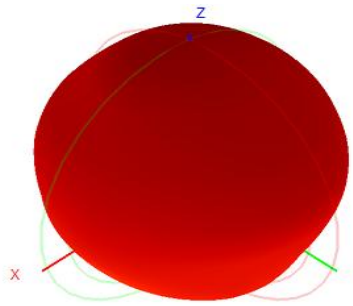
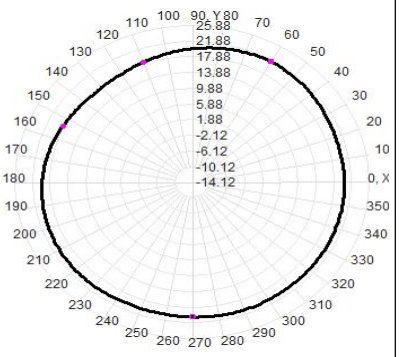
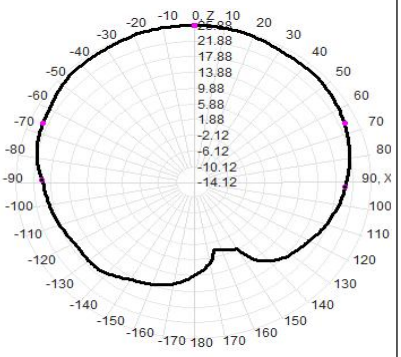
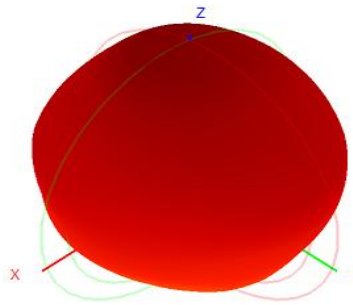
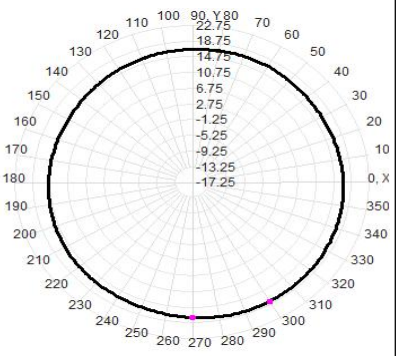
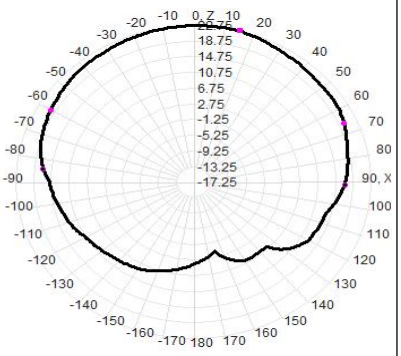
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Pattern Diagram

	3D	2D Elevation Plane	2D Elevation Plane
Axis Definition	立体视角 	底面视角 	侧面视角 
1195MHz			
1235MHz			
1280MHz			

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Pattern Diagram

	3D	2D Elevation Plane	2D Elevation Plane
Axis Definition	立体视角 	底面视角 	侧面视角 
1555MHz			
1575MHz			
1610MHz			

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