# Directional antenna Data Sheet

## APPROVAL SHEET

| | |
|---|---|
| Customer Name | |
| Producs Model | **Copper Cup Antenna** |
| Customer P/N | |
| Specifications | **200-8500MHz,φ150*310mm,Output Cable,SMA-J** |
| KEESUN P/N | **KSANT-12403-A** |
| Date Prepared | **2026.10.12** |
| Revision | **1.0** |

| KEESUN | | |
|---|---|---|
| Prepare | DQE | R&D |
| | | |
| Customer | | |
| PUR | QC | R&D |
| | | |

Add：4th Floor, Building B, Haiwei Jingsong Industrial Zone Heping Community Fuhai Street, Baoan District, Shenzhen City.
Web： www.keesunantenna.com

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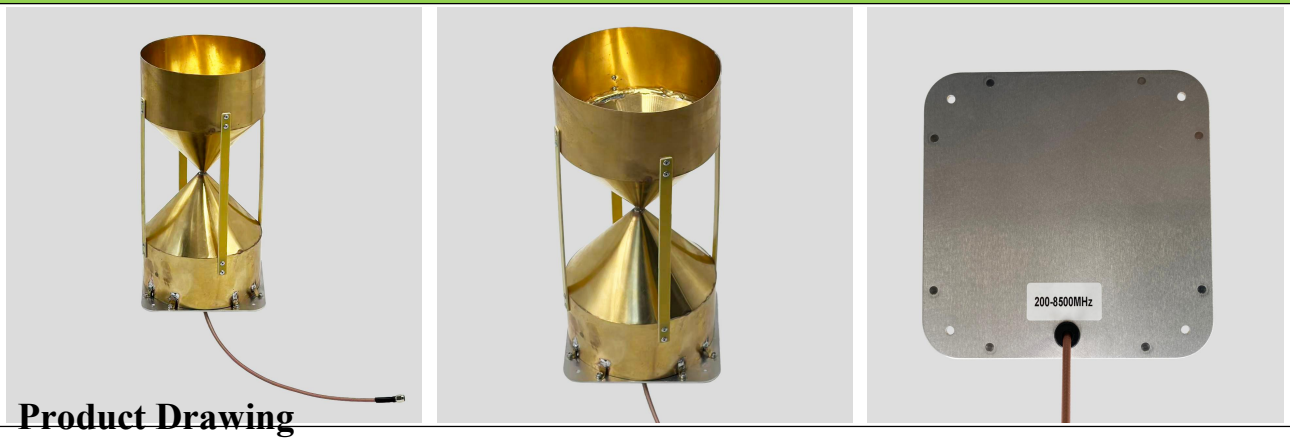
# Product Specification

| A.Electrical Characteristics | | |
|---|---|---|
| Frequency | 200-300MHz | 300-8500MHz |
| VSWR Direct Measurement | <9.0 | < 2.5 |
| Efficiency | ≈50% | ≈60% |
| Peak Gain | -4 ~ 1dBi | -1 ~ 7dBi |
| Impedance | 50 Ohm | 50 Ohm |
| Polarization | Linear | Linear |
| Horizontal Beamwidth | 360° | 360° |
| Vertical Beamwidth | 40-55° | 6-130° |
| Max Power | 100W | 100W |
| Out of Roundness | ±3 | ±2.5 |

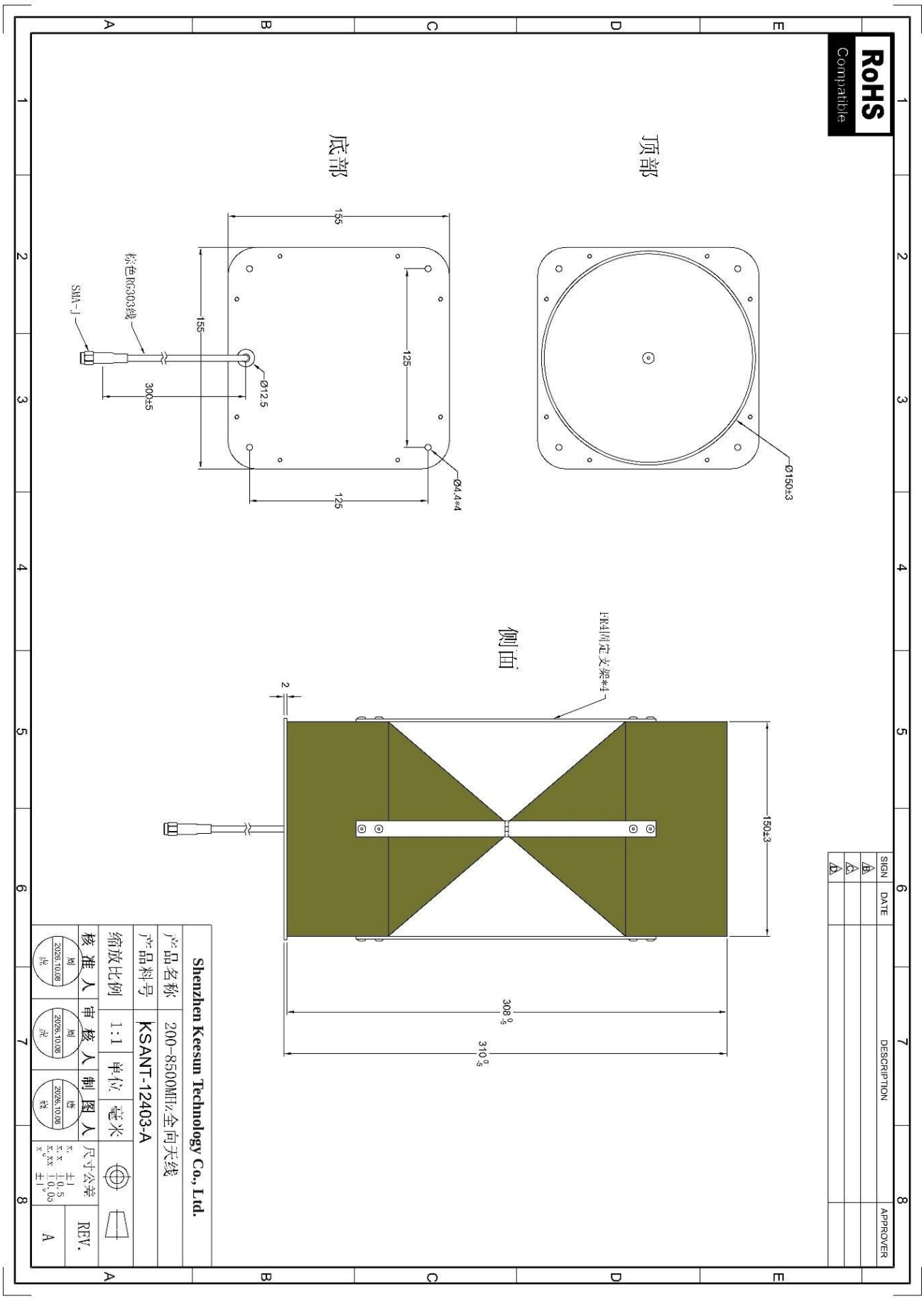
| B.Material & Mechanical | |
|---|---|
| Connector Type | RG303 cable, 30cm, terminated with SMA-J |
| Dimension | Φ150*310mm |
| Weight | 0.52Kg |
| Radome material | Without outer jacket |

| C.Environmental | |
|---|---|
| Operation Temperature | - 45˚C ~ +85 ˚C |
| Storage Temperature | - 45˚C ~ +85 ˚C |
| Operation Humidity | < 95% |
| Rated Wind Velocity | 36.9m/s |
| Lighting Protection | DC ground |

## D.Photo




Product Drawing

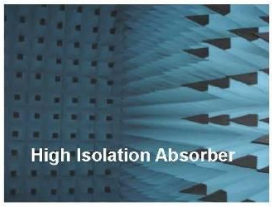

RoHS Compatible
底部
顶部
棕色RG303线
SMA-J
155
155
125
125
300±5
Ø12.5
Ø4.4*4
Ø150±3
侧面
FR4固定支架*4
2
150±3
308 0 -5
310 0 -5
SIGN
DATE
DESCRIPTION
APPROVER
Shenzhen Keesun Technology Co., Ltd.
产品名称
200-8500MHz全向天线
产品料号
KSANT-12403-A
缩放比例
1:1
单位
毫米
尺寸公差
REV.
A
核准 人
审核 人
制图 人

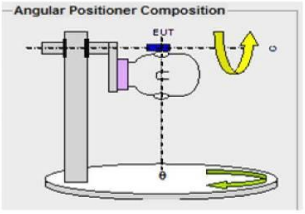
# Test Equipment & Conditions

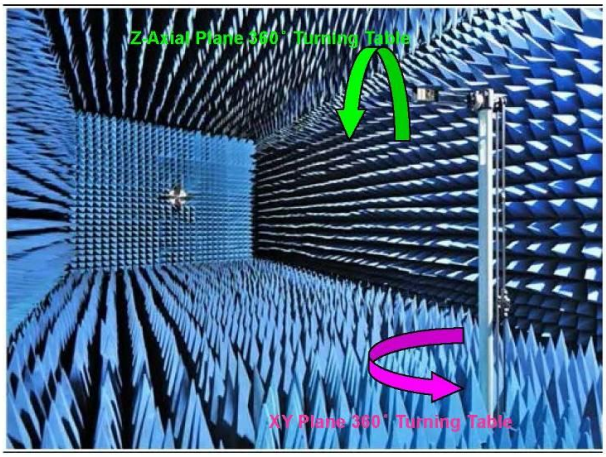
## 1、Network Analyzers： Keysight E5071C

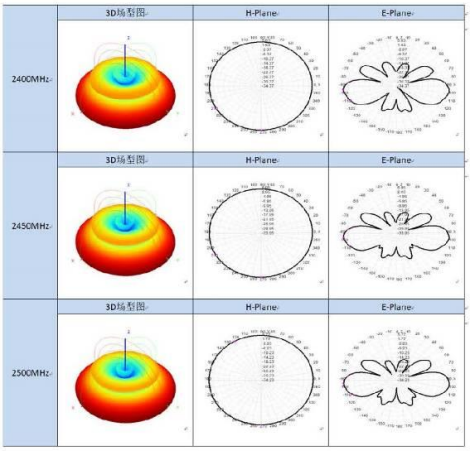
## 2、3D Chamber Test System

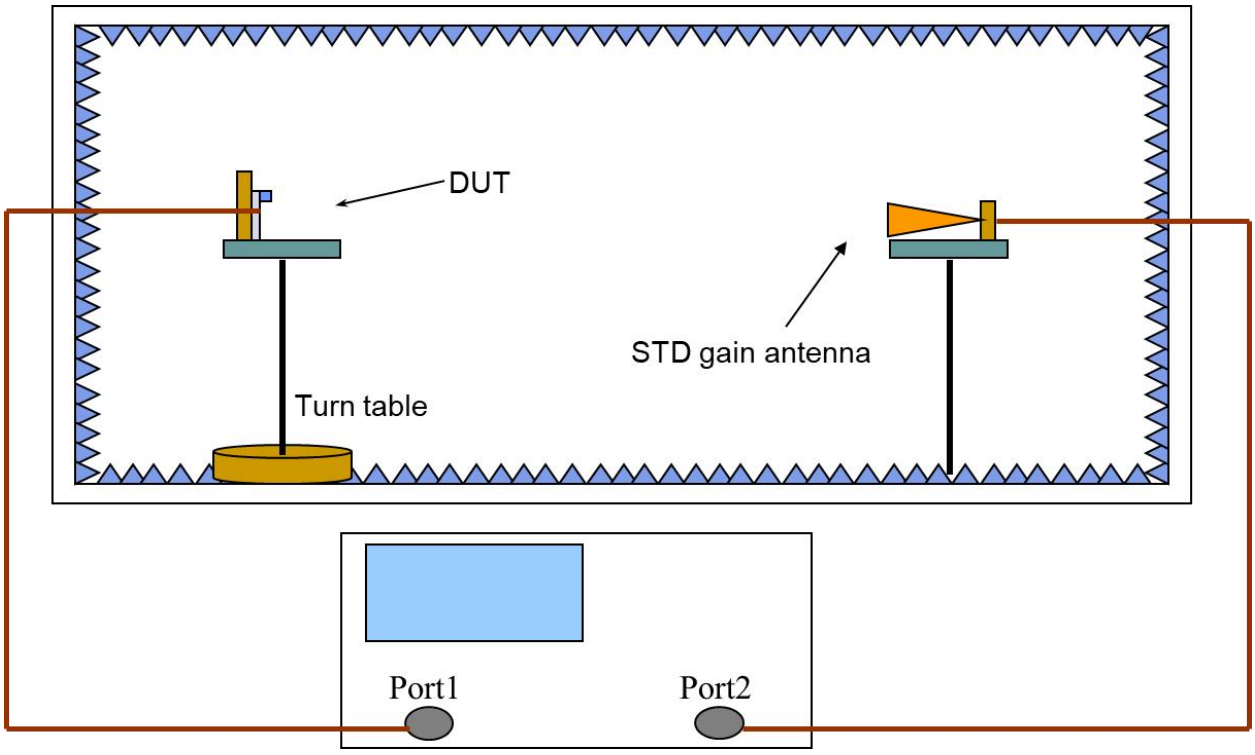
.Chamber Size: 9 x 5 x 4 m³
.Freq. Range: 0.4 ~ 18.0 GHz
.Double Ridge Horn Antenna
.VNA: Agilent E5071C
.3D Turning Table and Positioner
.ADT Solution 3D Testing Software



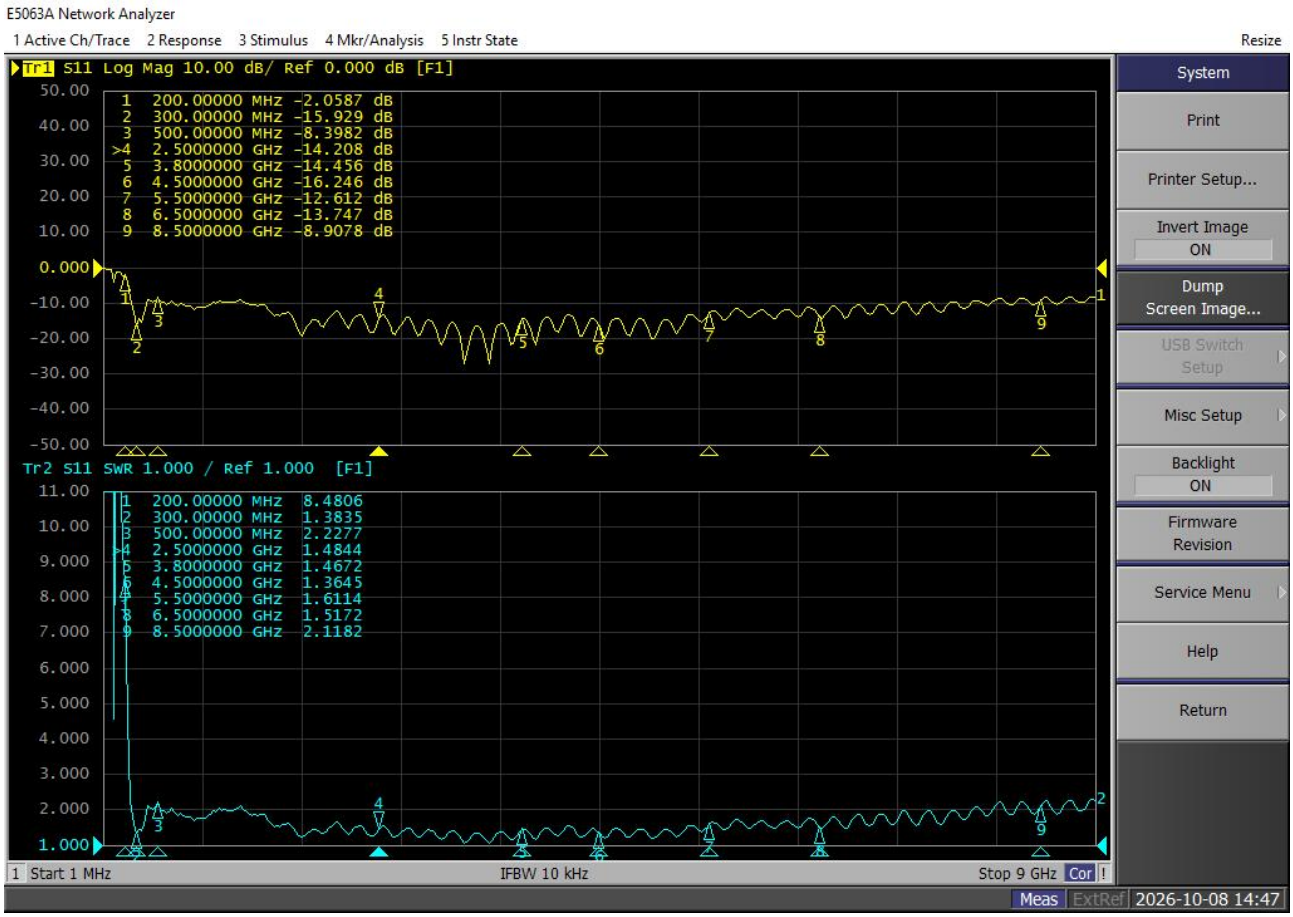



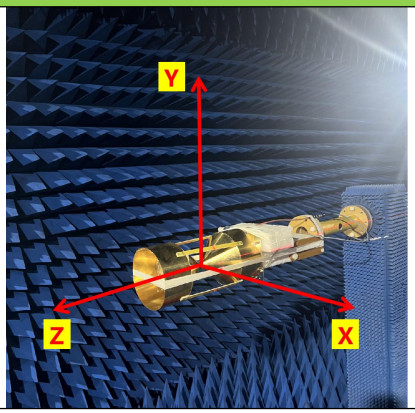
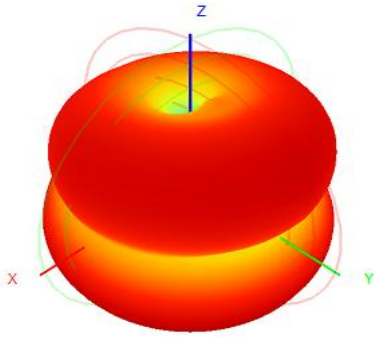
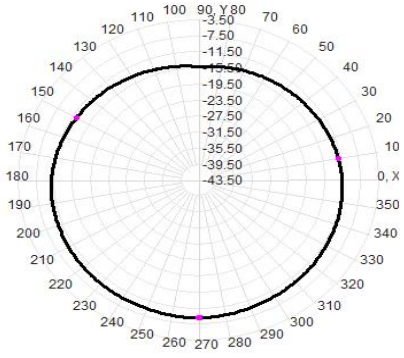
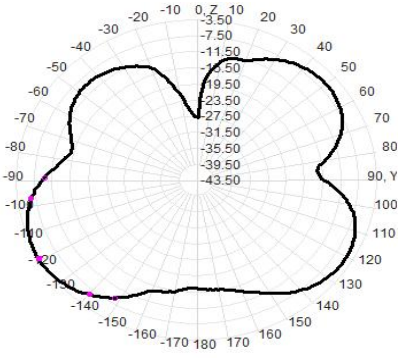
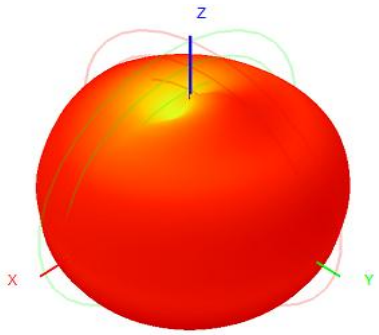
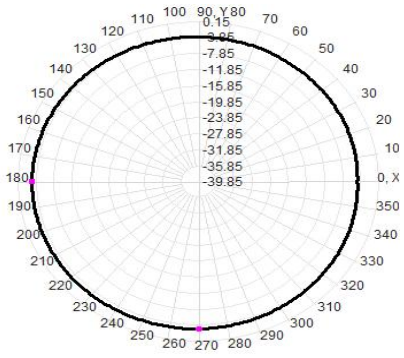
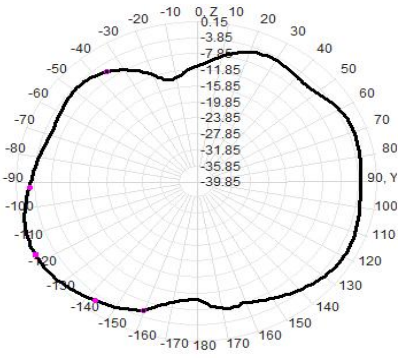
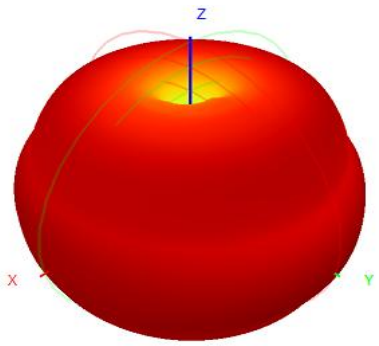
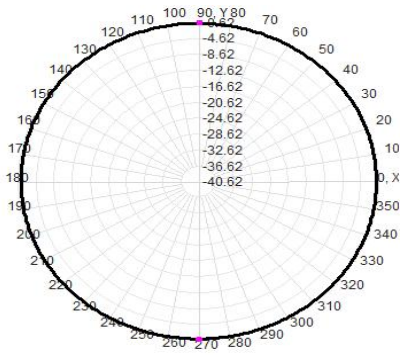
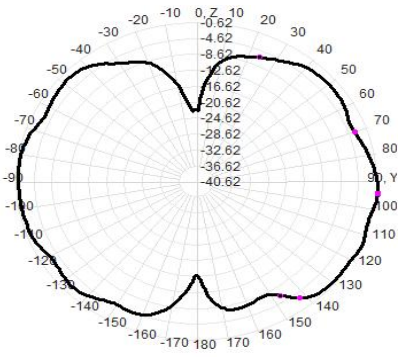
# VSWR
# Port 1

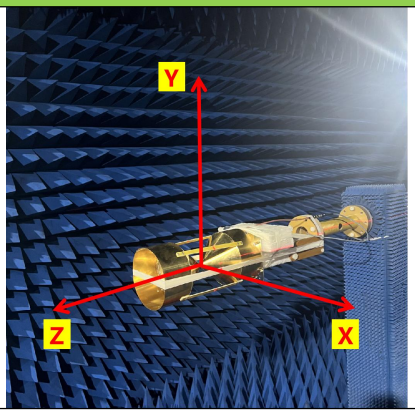
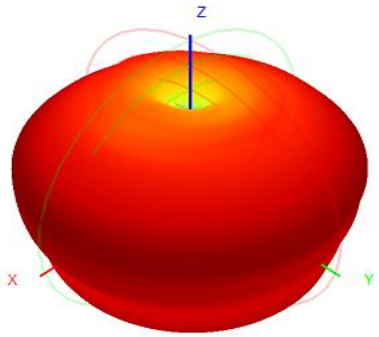
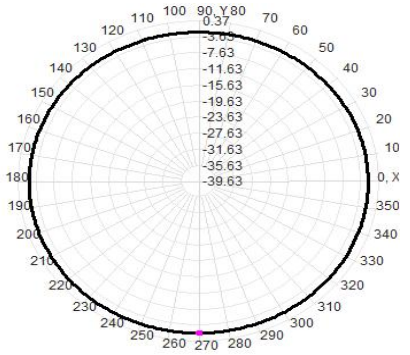
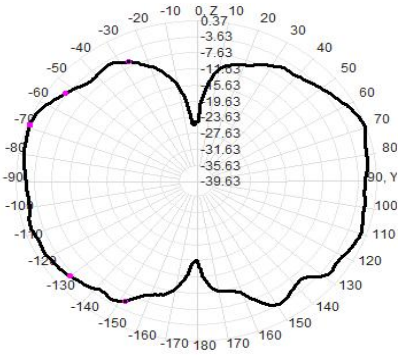
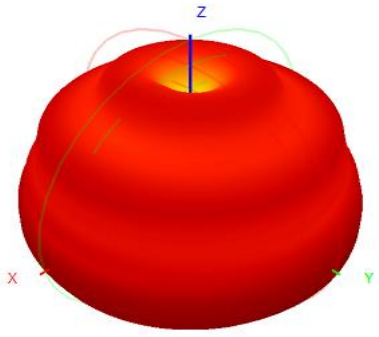
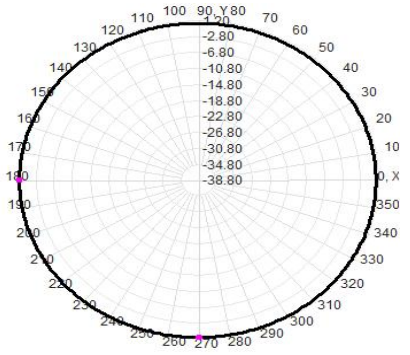
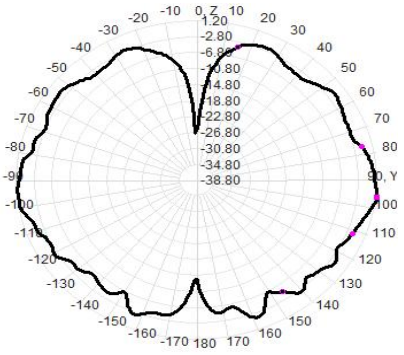
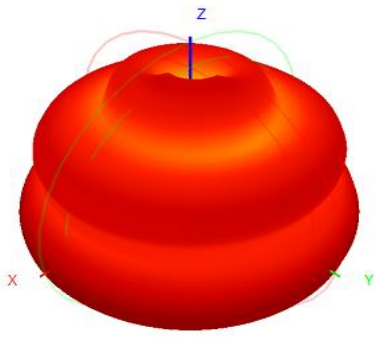
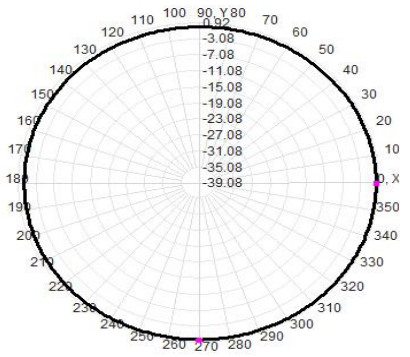
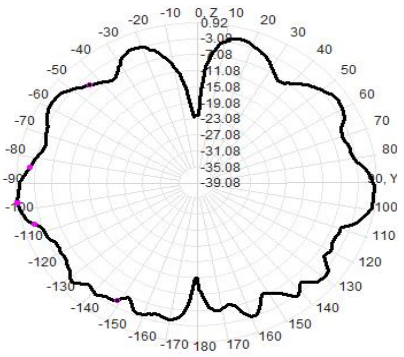

E5063A Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]
1 200.00000 MHz -2.0587 dB
2 300.00000 MHz -15.929 dB
3 500.00000 MHz -8.3982 dB
>4 2.5000000 GHz -14.208 dB
5 3.8000000 GHz -14.456 dB
6 4.5000000 GHz -16.246 dB
7 5.5000000 GHz -12.612 dB
8 6.5000000 GHz -13.747 dB
9 8.5000000 GHz -8.9078 dB
Tr2 S11 SWR 1.000 / Ref 1.000 [F1]
1 200.00000 MHz 8.4806
2 300.00000 MHz 1.3835
3 500.00000 MHz 2.2277
>4 2.5000000 GHz 1.4844
5 3.8000000 GHz 1.4672
6 4.5000000 GHz 1.3645
7 5.5000000 GHz 1.6114
8 6.5000000 GHz 1.5172
9 8.5000000 GHz 2.1182
1 Start 1 MHz
IFBW 10 kHz
Stop 9 GHz
Cor
Meas
ExtRef
2026-10-08 14:47
System
Print
Printer Setup...
Invert Image
ON
Dump
Screen Image...
USB Switch
Setup
Misc Setup
Backlight
ON
Firmware
Revision
Service Menu
Help
Return

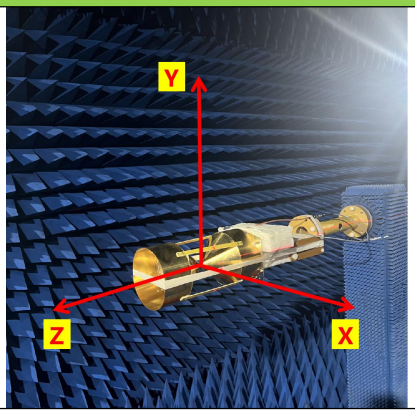
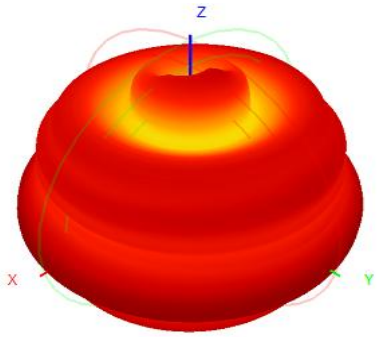
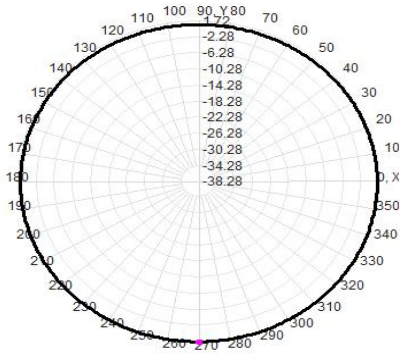
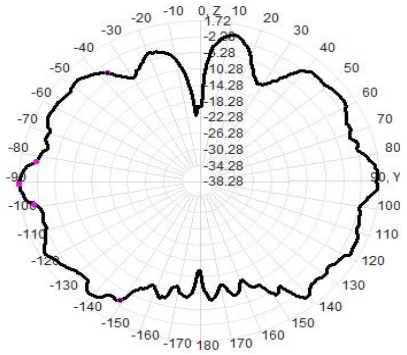
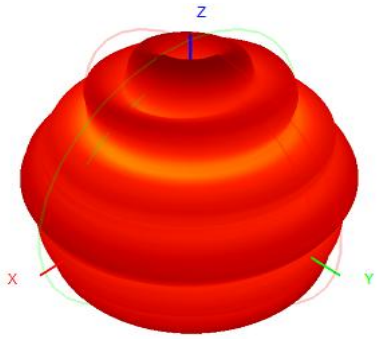
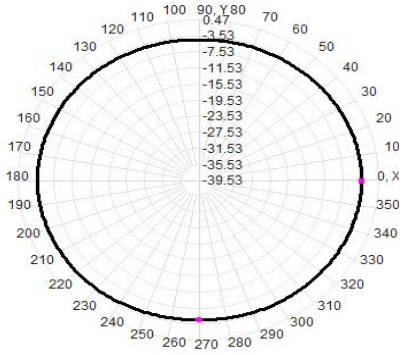
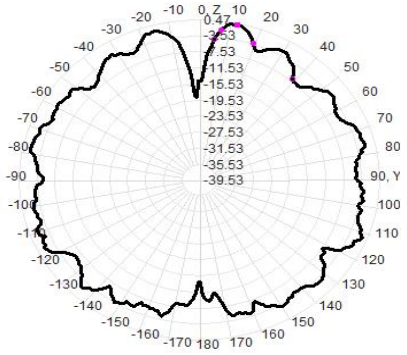
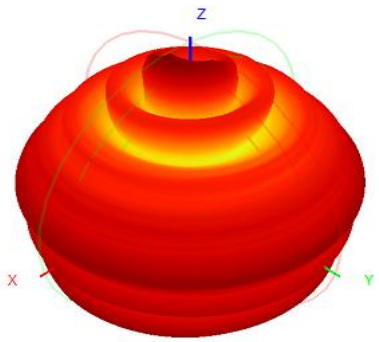
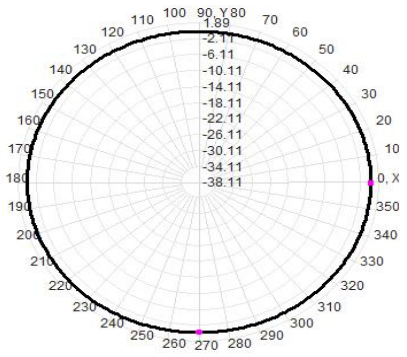
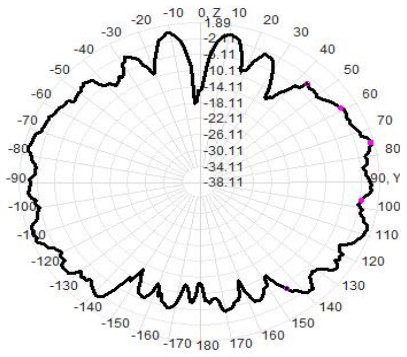
# Total Efficiency& Gain:

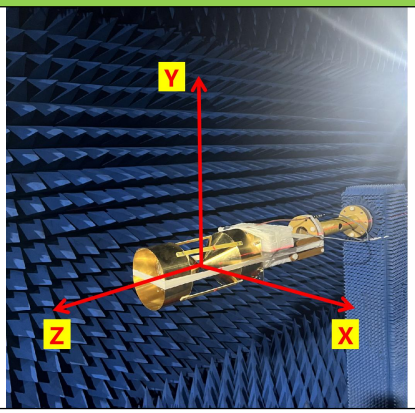
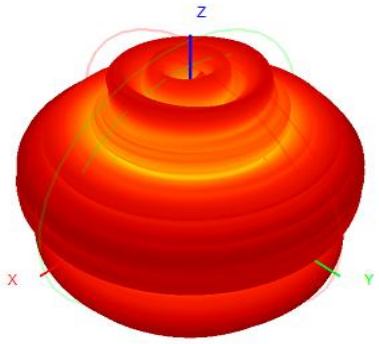
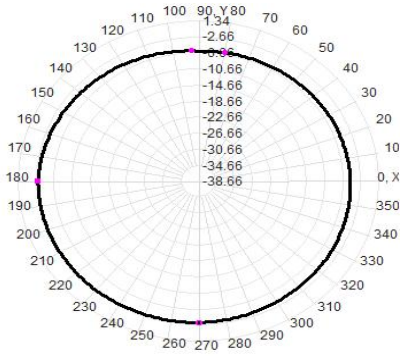
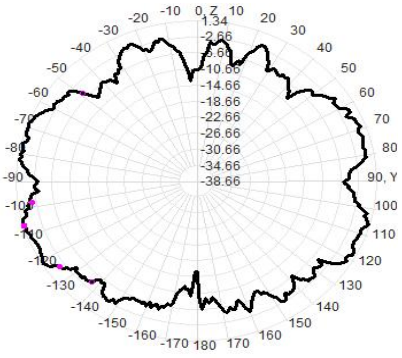
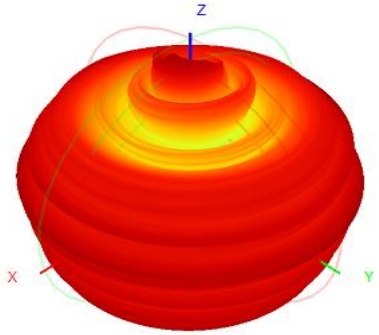
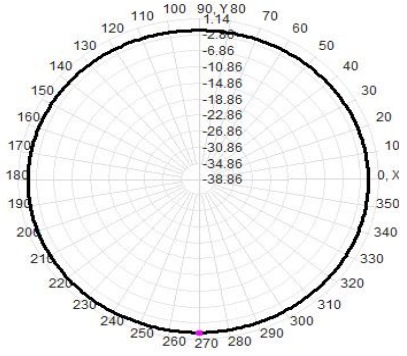
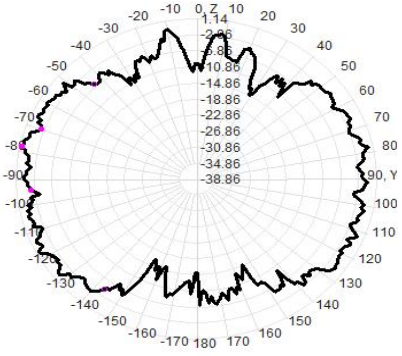
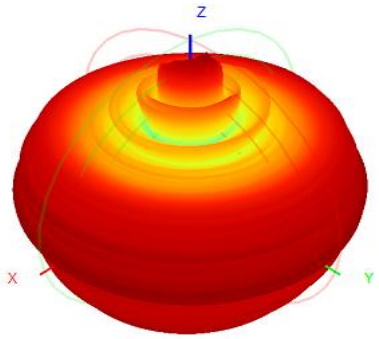
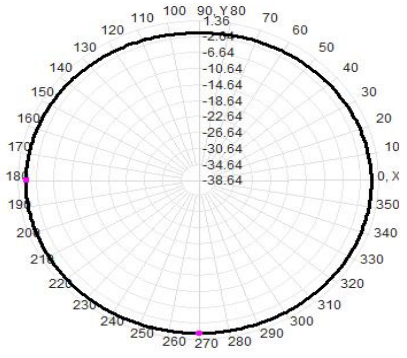
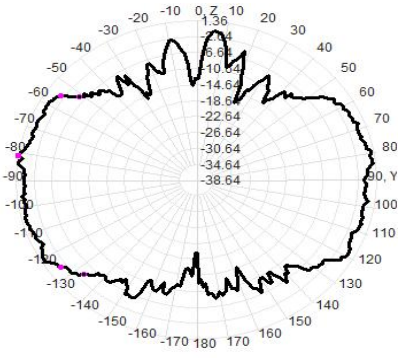
| Frequency (MHz) | Gain (dBi) | Efficiency (%) | Frequency (MHz) | Gain (dBi) | Efficiency (%) | Frequency (MHz) | Gain (dBi) | Efficiency (%) |
|---|---|---|---|---|---|---|---|---|
| 200 | -3.5 | 33.8 | 3000 | 1.2 | 52.1 | 5800 | 2.5 | 54.9 |
| 300 | 0.2 | 67.6 | 3100 | 0.1 | 52.5 | 5900 | 1.7 | 55.7 |
| 400 | 1.0 | 73.7 | 3200 | 0.7 | 51.4 | 6000 | 1.8 | 60.4 |
| 500 | 2.2 | 73.1 | 3300 | 0.0 | 56.4 | 6100 | 1.1 | 54.3 |
| 600 | 1.6 | 75.9 | 3400 | 0.2 | 51.4 | 6200 | 0.4 | 51.4 |
| 700 | 1.4 | 62.4 | 3500 | 0.3 | 54.1 | 6300 | 0.9 | 50.9 |
| 800 | 0.1 | 59.3 | 3600 | 0.6 | 51.3 | 6400 | 1.8 | 54.6 |
| 900 | -0.6 | 61.8 | 3700 | 0.7 | 56.0 | 6500 | 2.6 | 61.7 |
| 1000 | -0.2 | 67.4 | 3800 | 1.7 | 63.2 | 6600 | 2.7 | 69.7 |
| 1100 | 0.6 | 68.0 | 3900 | 1.3 | 66.2 | 6700 | 2.8 | 66.1 |
| 1200 | 0.6 | 56.7 | 4000 | 7.0 | 68.3 | 6800 | 2.5 | 67.8 |
| 1300 | 0.0 | 54.8 | 4100 | 3.8 | 67.0 | 6900 | 1.1 | 58.7 |
| 1400 | 0.4 | 53.3 | 4200 | 0.5 | 64.1 | 7000 | 1.3 | 57.6 |
| 1500 | 0.3 | 52.9 | 4300 | -0.4 | 59.4 | 7100 | 2.1 | 62.8 |
| 1600 | -0.2 | 62.5 | 4400 | 0.1 | 55.7 | 7200 | 2.0 | 61.1 |
| 1700 | -0.3 | 64.9 | 4500 | 0.6 | 56.4 | 7300 | 2.1 | 62.1 |
| 1800 | 0.4 | 66.4 | 4600 | 0.0 | 54.0 | 7400 | 2.6 | 57.0 |
| 1900 | 1.7 | 71.6 | 4700 | 0.7 | 63.4 | 7500 | 3.9 | 59.3 |
| 2000 | 1.4 | 68.7 | 4800 | 2.2 | 63.9 | 7600 | 2.6 | 56.7 |
| 2100 | 1.0 | 59.6 | 4900 | 1.4 | 55.0 | 7700 | 3.2 | 60.9 |
| 2200 | 1.1 | 63.7 | 5000 | 0.4 | 50.1 | 7800 | 1.1 | 57.1 |
| 2300 | 1.0 | 66.7 | 5100 | -0.5 | 51.2 | 7900 | 1.0 | 62.5 |
| 2400 | 1.1 | 71.3 | 5200 | 0.0 | 50.2 | 8000 | 1.4 | 69.0 |
| 2500 | 1.2 | 63.7 | 5300 | 0.7 | 54.6 | 8100 | 2.1 | 72.2 |
| 2600 | 0.7 | 54.7 | 5400 | -0.1 | 51.6 | 8200 | 2.0 | 68.4 |
| 2700 | 0.9 | 55.4 | 5500 | -0.7 | 50.7 | 8300 | 2.9 | 61.9 |
| 2800 | 0.2 | 52.2 | 5600 | -0.1 | 53.6 | 8400 | 2.8 | 58.7 |
| 2900 | 2.3 | 55.7 | 5700 | 1.6 | 51.2 | 8500 | 1.4 | 61.8 |

# Pattern plot

| | 3D | 2D-Horizontal Plane | 2D-Vertical Plane |
|---|---|---|---|
| Axis Definition |  | XY | YZ |
| 200MHz |  |  |  |
| 300MHz |  |  |  |
| 900MHz |  |  |  |

| | 3D | 2D-Horizontal Plane | 2D-Vertical Plane |
|---|---|---|---|
| Axis Definition |  | XY | YZ |
| 1800MHz |  |  |  |
| 2500MHz |  |  |  |
| 2700MHz |  |  |  |

| | 3D | 2D-Horizontal Plane | 2D-Vertical Plane |
|---|---|---|---|
| Axis Definition |  | XY | YZ |
| 3800MHz |  |  |  |
| 5000MHz |  |  |  |
| 6000MHz |  |  |  |

| | 3D | 2D-Horizontal Plane | 2D-Vertical Plane |
|---|---|---|---|
| Axis Definition |  | XY | YZ |
| 7000MHz |  |  |  |
| 7800MHz |  |  |  |
| 8500MHz |  |  |  |