

## **CW-WZ-0003**

### **4G External Antenna**

#### **Key Features**

Frequency: 698-960MHz/1710-2700MHz

SMA Male Connector

External Rubber

Dimensions 158\*17.6mm



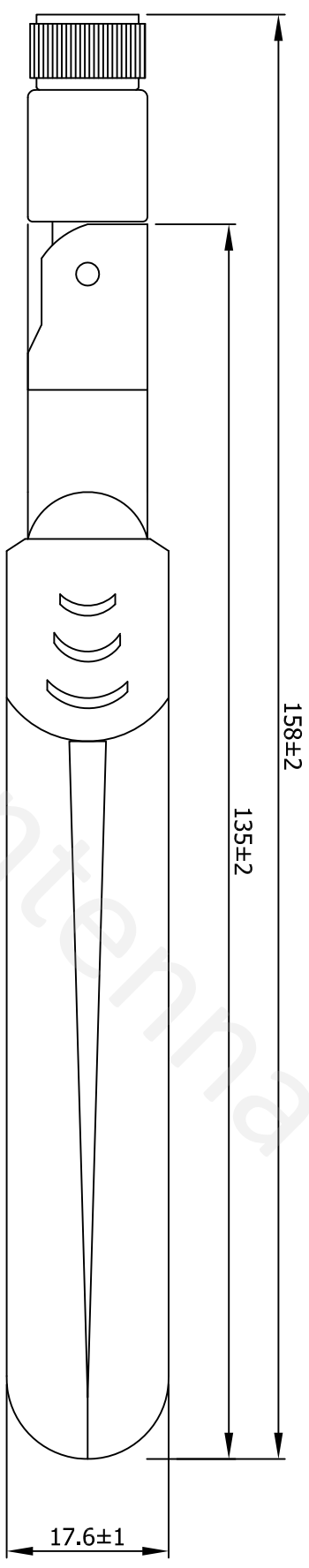
## 1. Antenna Electrical Characteristics

Band (MHz)		
Frequency (MHz)	698-960MHz	1710-2700MHz
VSWR	4:1	2.5:1
Efficiency (%)	63.76%	66.26%
Peak Gain (dBi)	1.89	4.03
Impedance (Ohm)		50
Polarisation		Vertical
Max. Input Power (W)		10
Connector Type		SMA male

## 2. Material and environmental characteristics

Material of PCB	FR4
Material of Plastic	PC+PBT/TPEE
Cable Type	RG178
Connector Type	SMA Male
Dimensions (mm)	158*17.6MM
Antenna color	Black
Operation Temperature	-40 to +80
Storage Temperature	-40 to +80
Antenna Storage life(year)	10
Substance Compliance	ROHS

REV	Date	Description
X1	2021/07/31	New issue



**Specification(Free Test):**

Frequency Range: 698-960MHZ/1710-2700MHZ  
 Impedance: 50Ω  
 V.S.W.R: ≤4.5/4

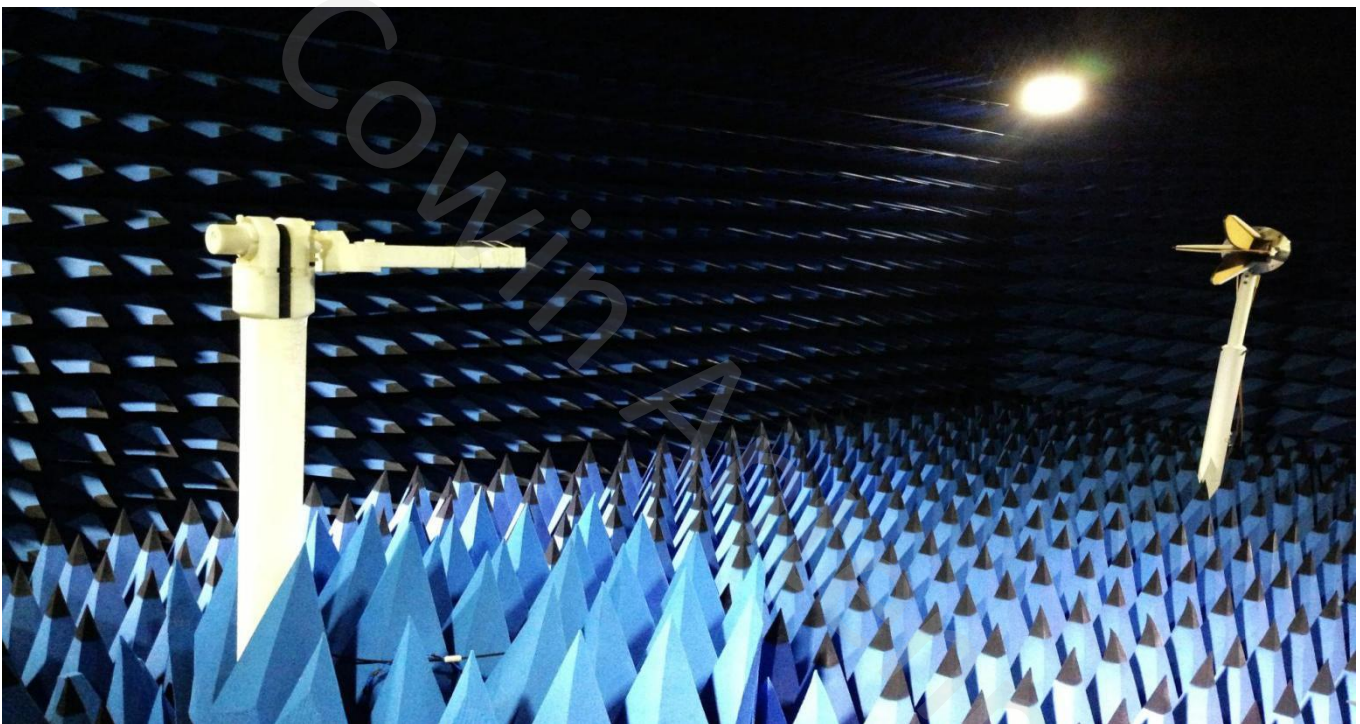
6	Radome	Black ABS	1							
5	Lower fixing seat	Black PC+PBT	1							
4	Upper fixing seat	Black PC+PBT	1							
3	Connector	Black SMA male	1							
2	Cable	RG178 Single silver wire	1							
1	PCB	FR4	1							
NO	Name	Description	Q'TY	Remark						
XX	±5.0	Approved			Customer					
X	±3.0				Part NO.					
.X	±1.0	Checked			Part name	External antenna				
.XX	±0.2				CW P/NO.	CW-WZ-0003				
.XXX	±0.1	Drawing			REV	Unit	File			
					X1	m/m	Sheet:	1/1		



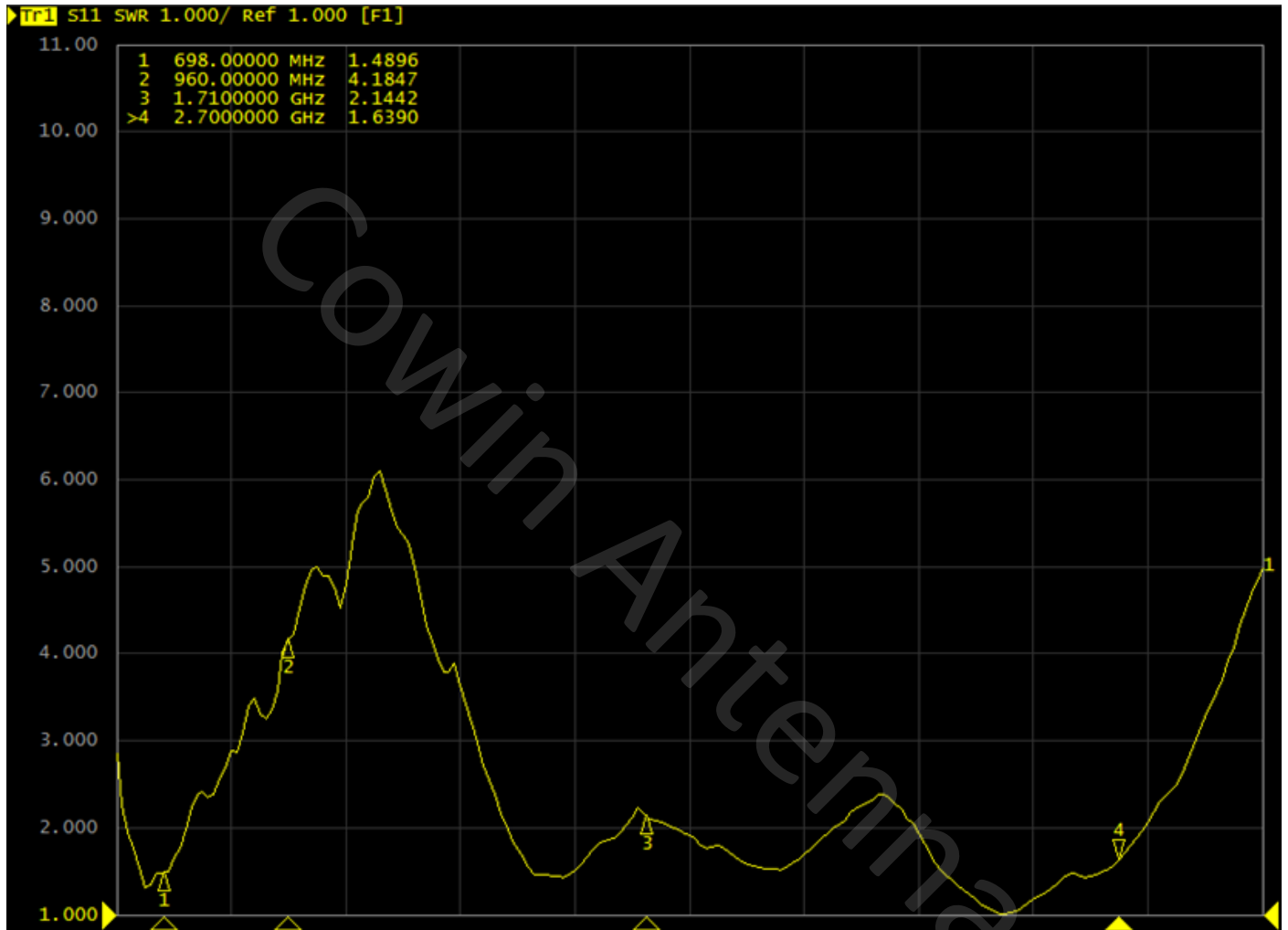
## 4. Antenna test parameters

**Antenna Measurement Conditions:**

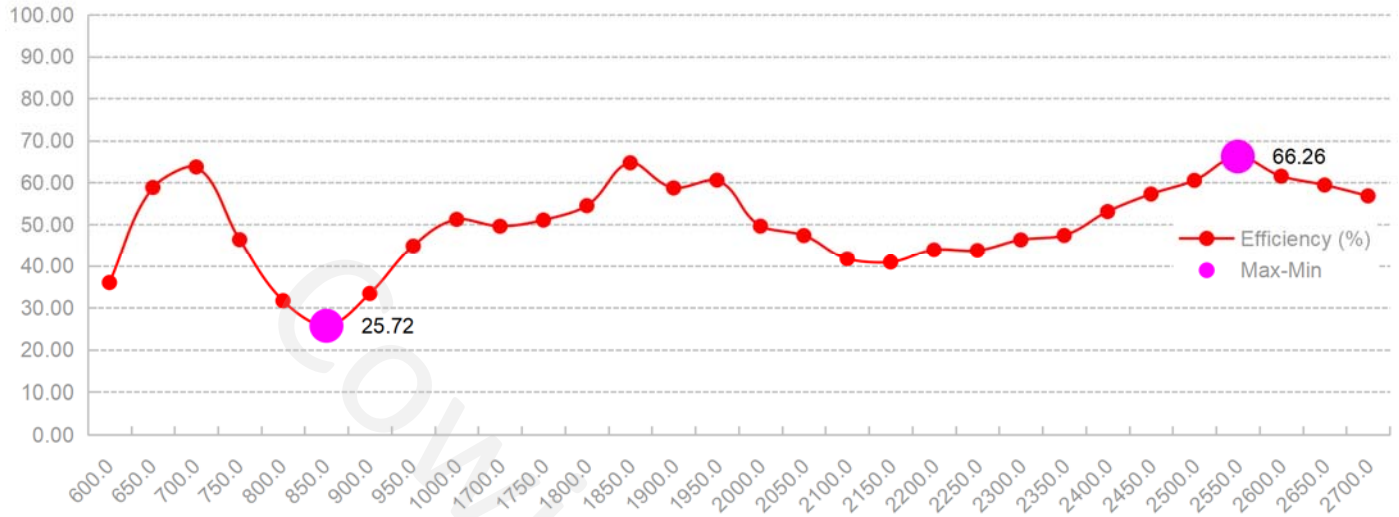
- Mounted on Ground Plane of 280 x 80 mm
- Measured in Certified 3D Anechoic Chamber
- The network analyzer is Agilent 5071c
- The comprehensive tester is Agilent cmv500



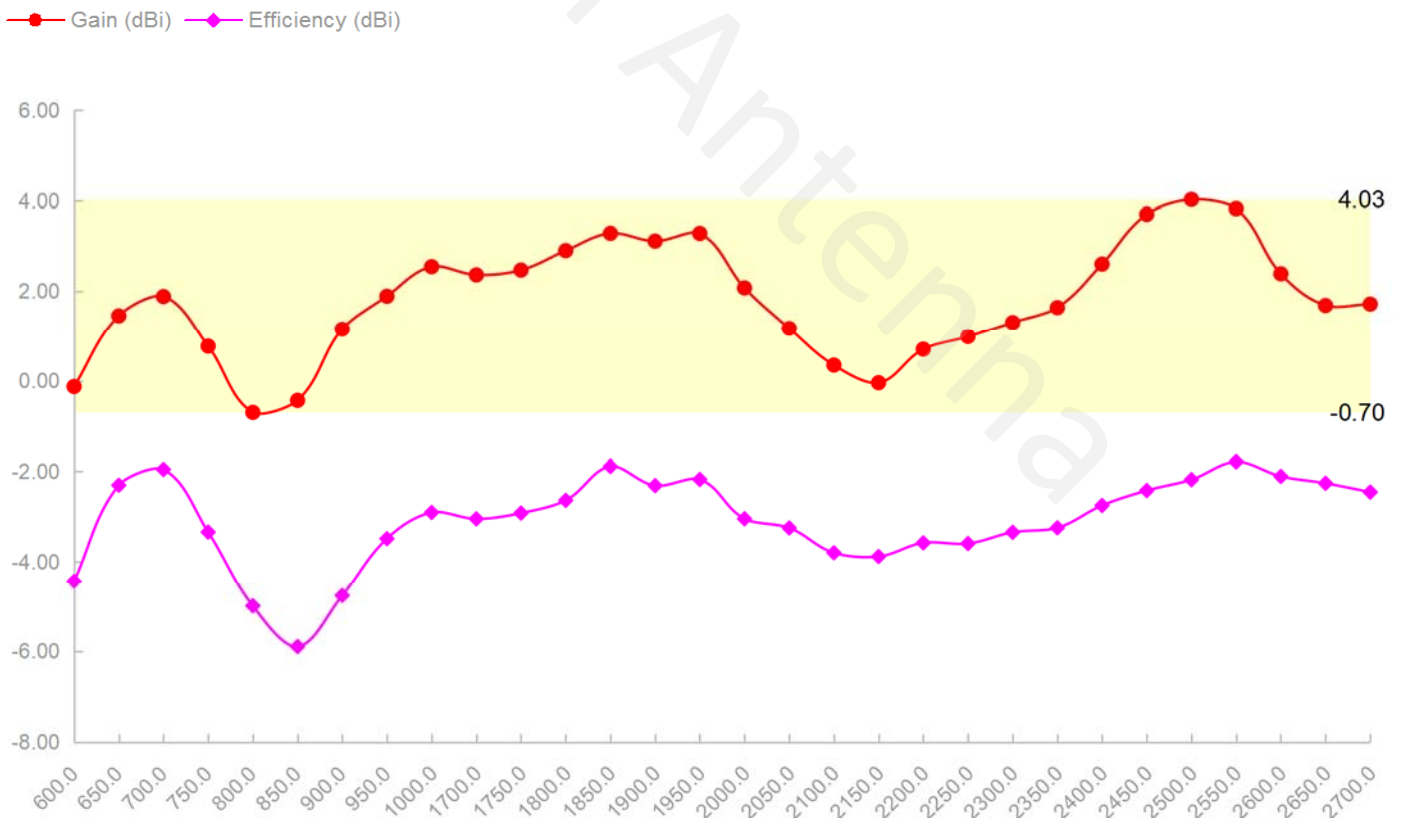
## 4.1 VSWR



## 4.2 Efficiency

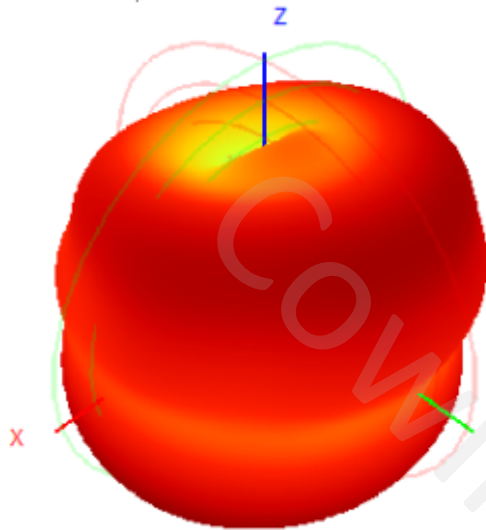


## 4.3 Peak gain

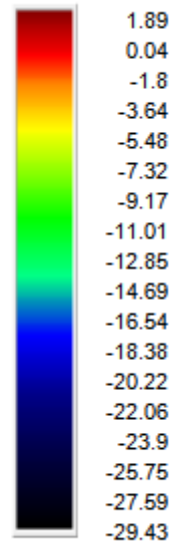
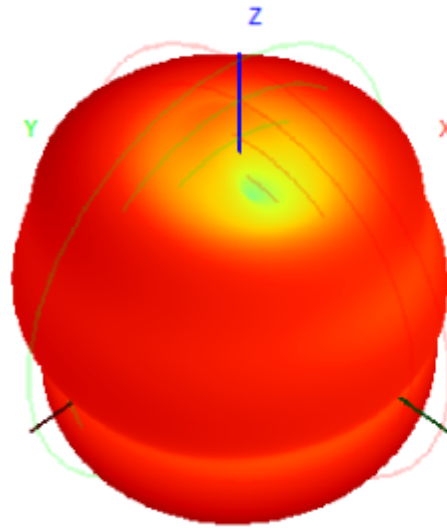


## 4.4 3D&2D Radiation Patterns

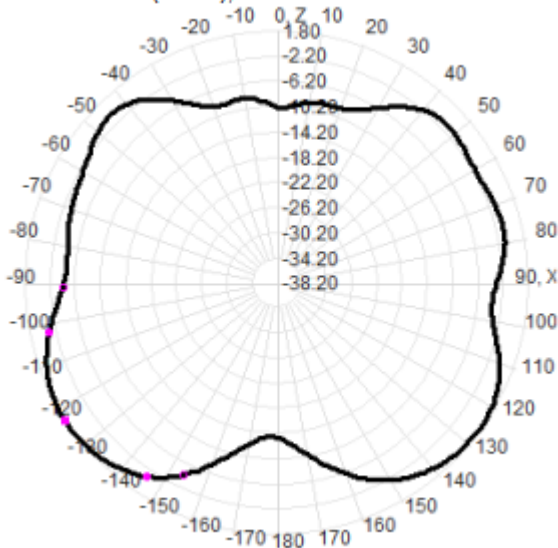
700.0MHz H+V, Eff: 63.8%



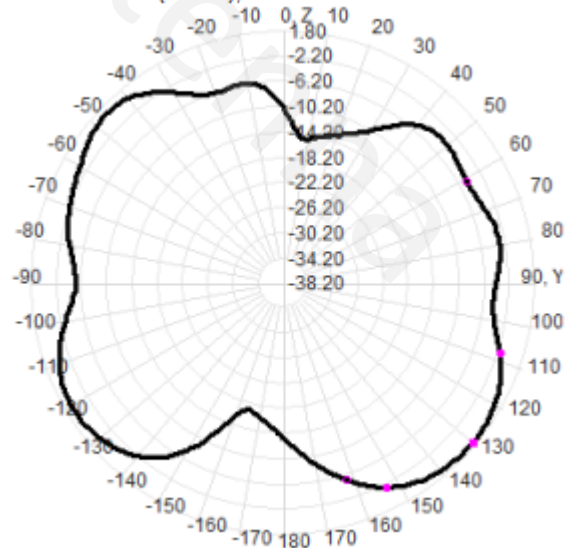
Back View



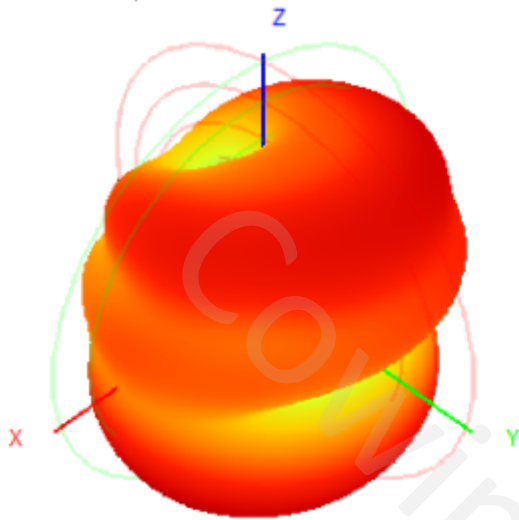
700.0MHz Total(E1-XZ), Max= 1.80dBi



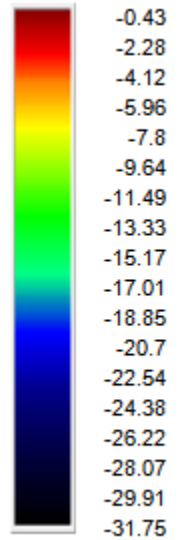
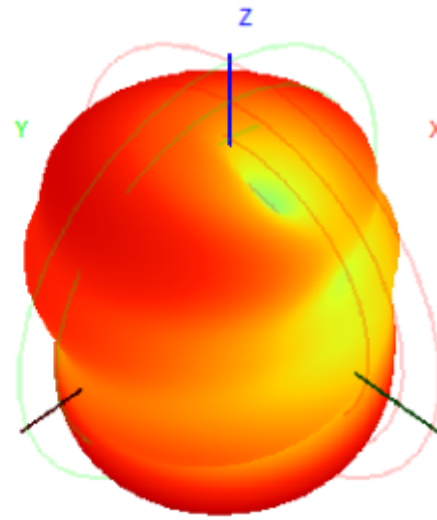
700.0MHz Total(E2-YZ), Max= 1.02dBi



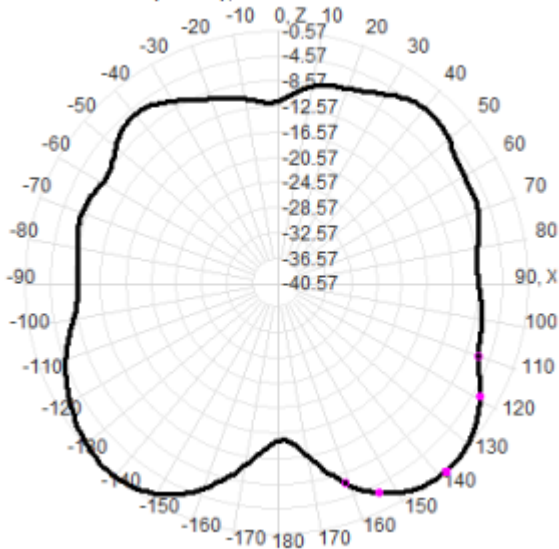
850.0MHz H+V, Eff: 25.7%



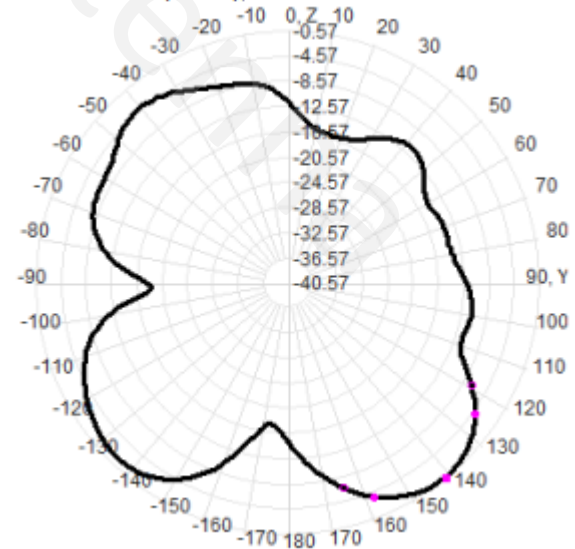
Back View



850.0MHz Total(E1-XZ), Max= -0.57dBi

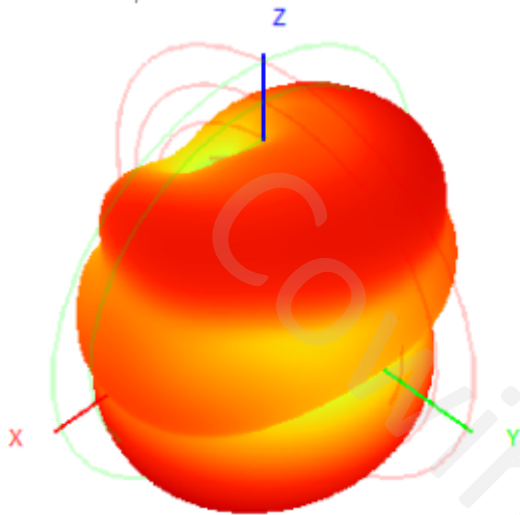


850.0MHz Total(E2-YZ), Max= -1.07dBi

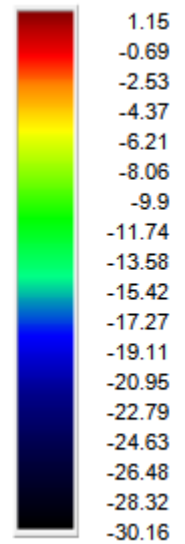
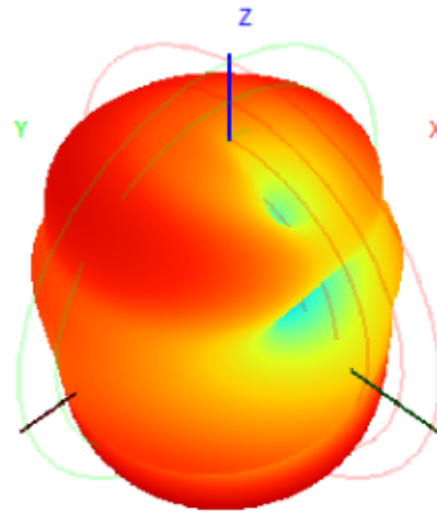




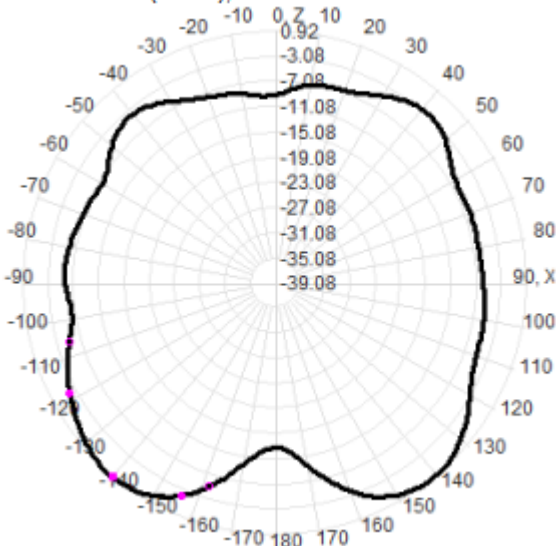
900.0MHz H+V, Eff: 33.4%



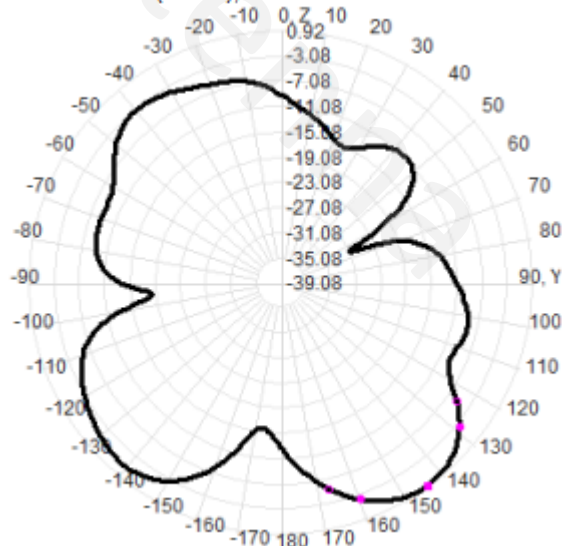
Back View



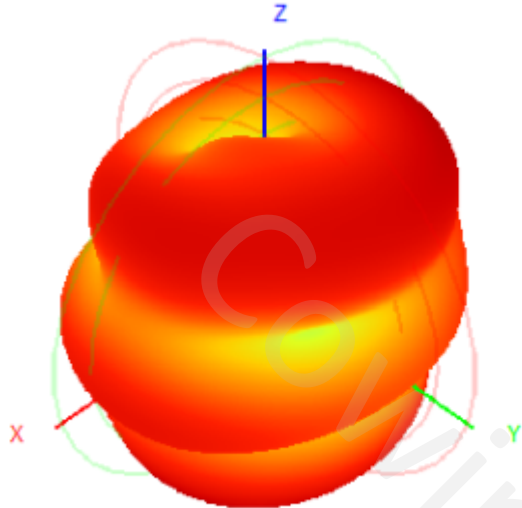
900.0MHz Total(E1-XZ), Max= 0.92dBi



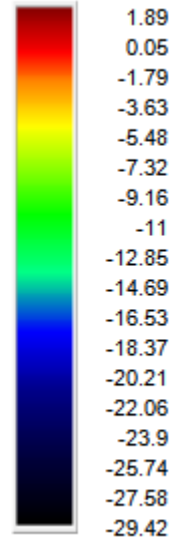
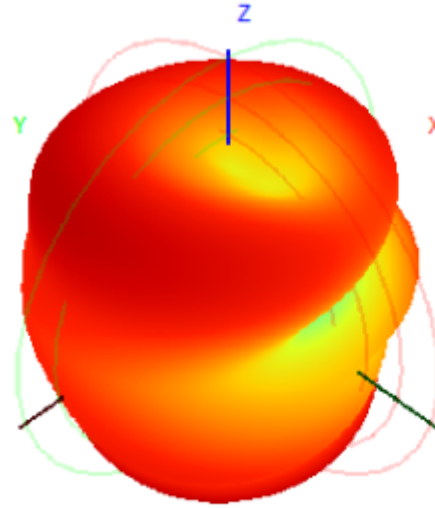
900.0MHz Total(E2-YZ), Max= 0.48dBi



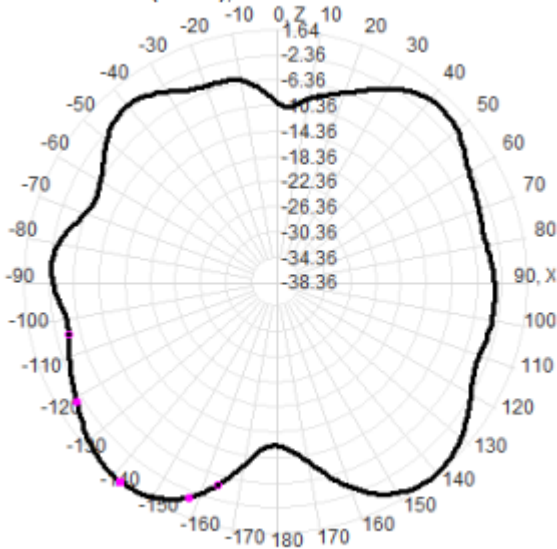
950.0MHz H+V, Eff: 44.8%



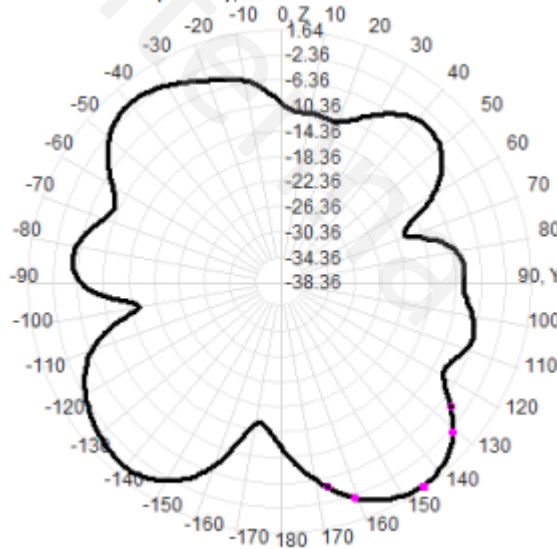
Back View



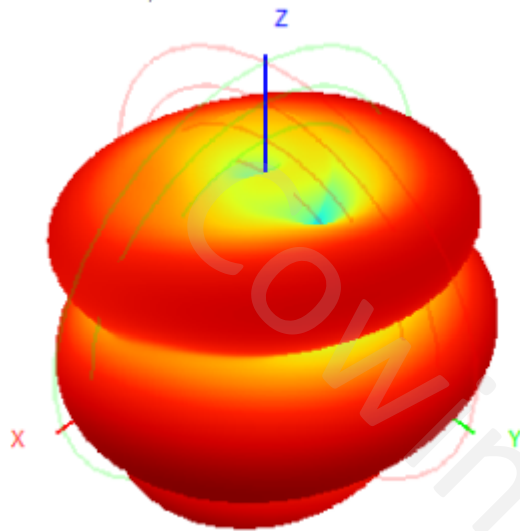
950.0MHz Total(E1-XZ), Max= 1.64dBi



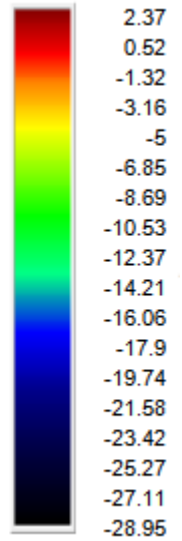
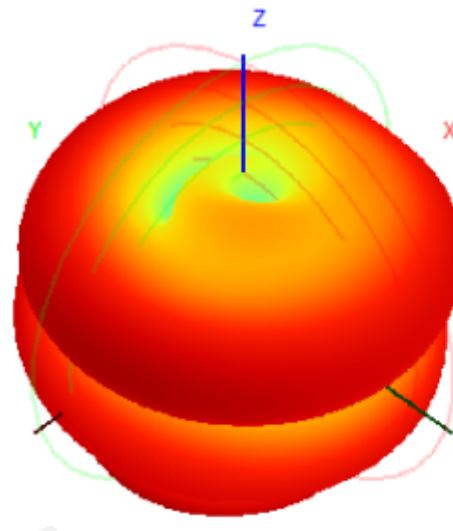
950.0MHz Total(E2-YZ), Max= 1.01dBi



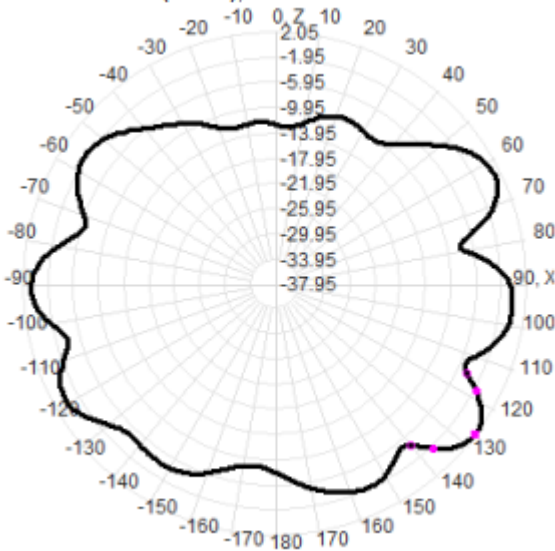
1700.0MHz H+V, Eff: 49.6%



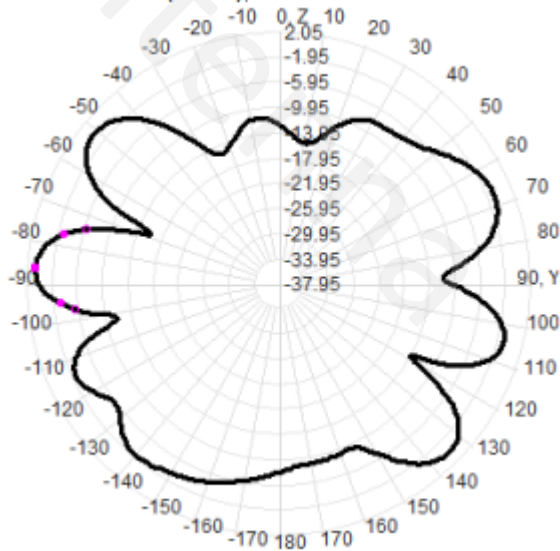
Back View



1700.0MHz Total(E1-XZ), Max= 1.65dBi

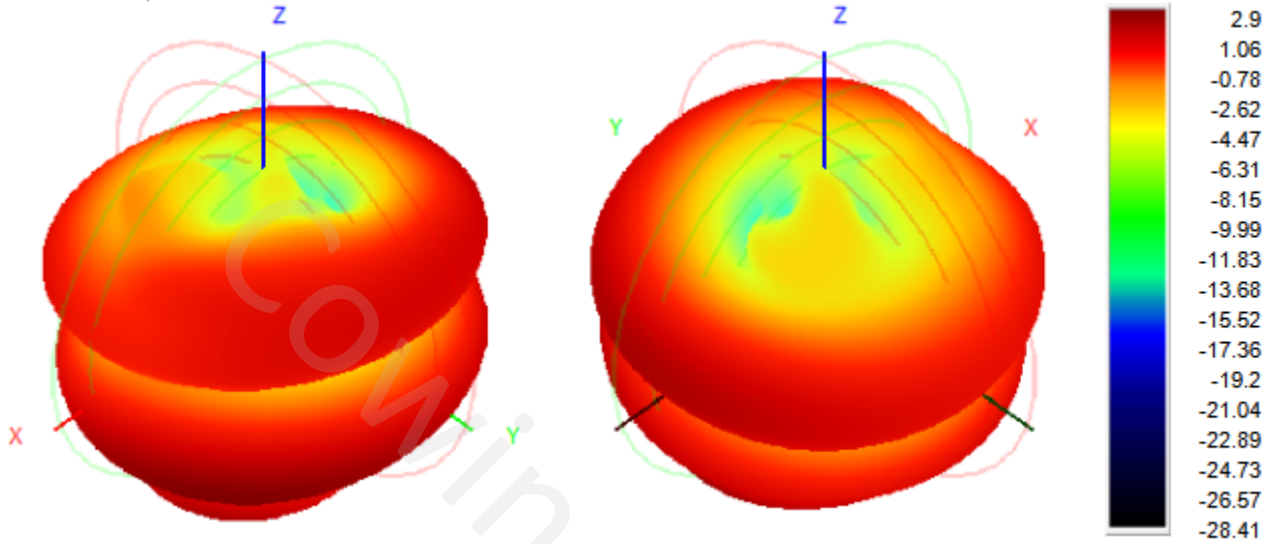


1700.0MHz Total(E2-YZ), Max= 0.75dBi



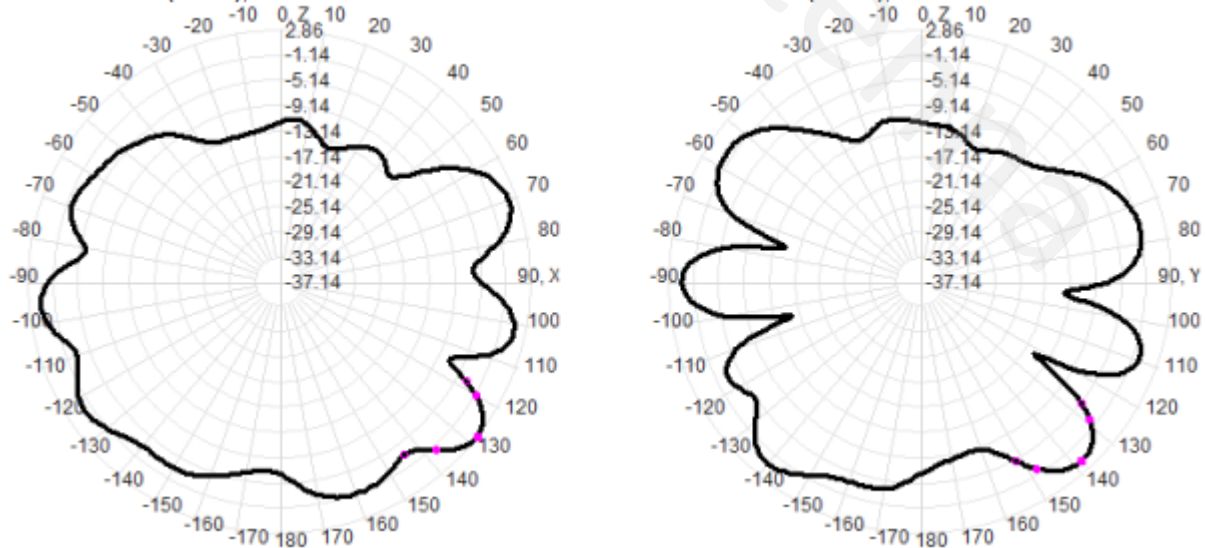
1800.0MHz H+V, Eff: 54.5%

Back View

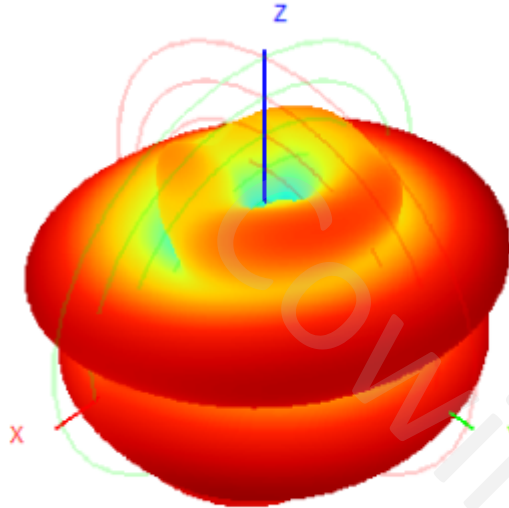


1800.0MHz Total(E1-XZ), Max= 2.50dBi

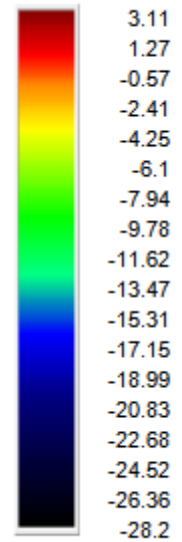
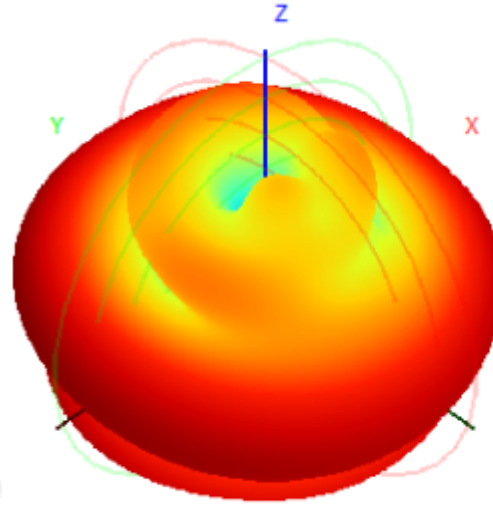
1800.0MHz Total(E2-YZ), Max= 0.99dBi



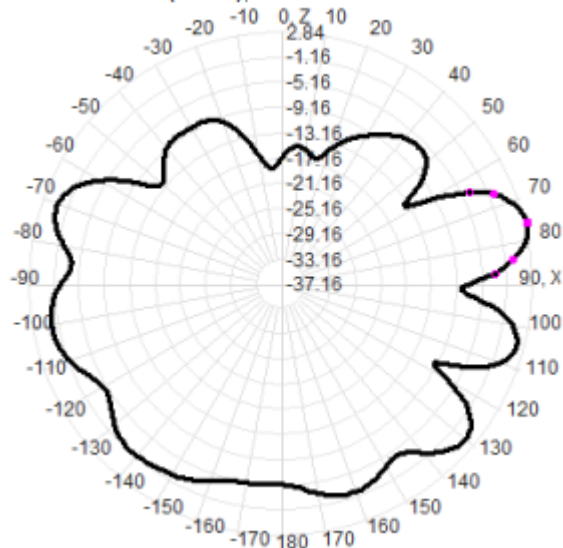
1900.0MHz H+V, Eff: 58.7%



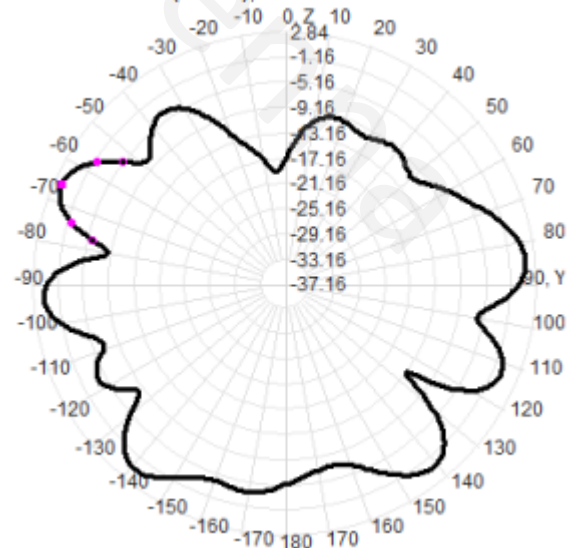
Back View



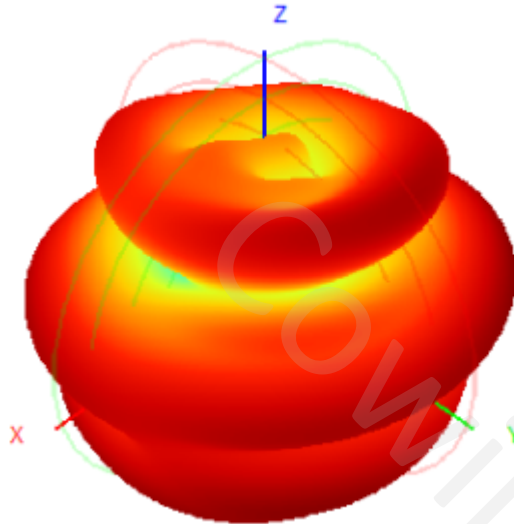
1900.0MHz Total(E1-XZ), Max= 2.84dBi



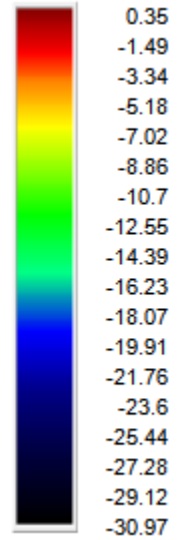
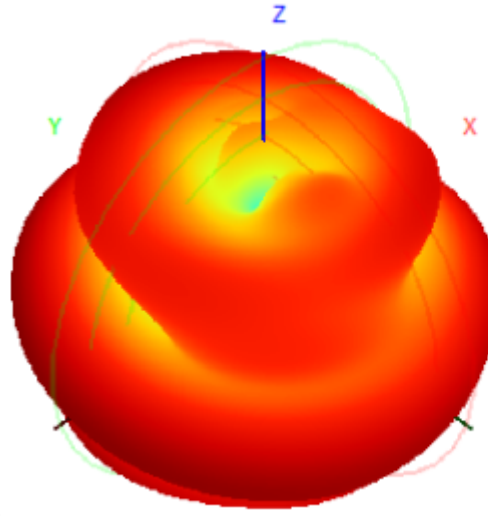
1900.0MHz Total(E2-YZ), Max= 1.49dBi



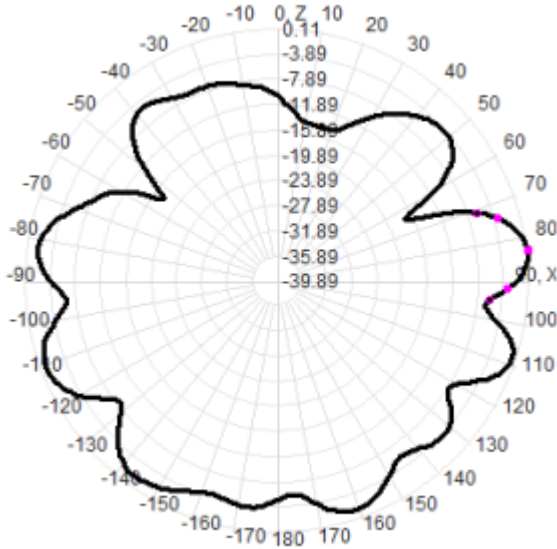
2100.0MHz H+V, Eff: 41.7%



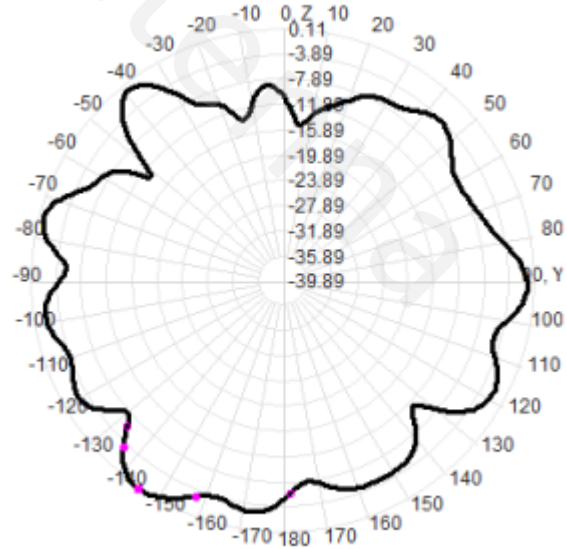
Back View



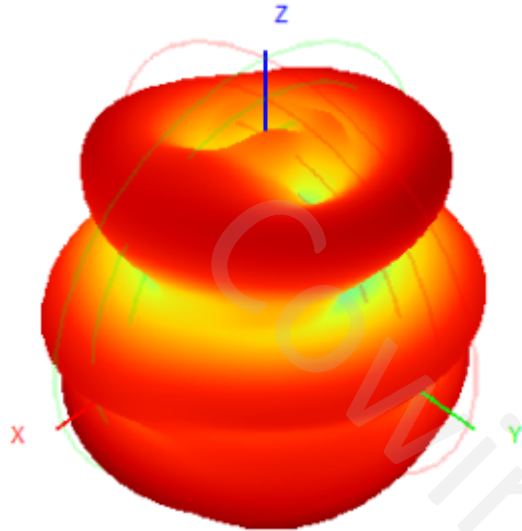
2100.0MHz Total(E1-XZ), Max= 0.01dBi



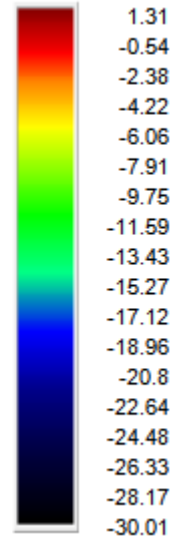
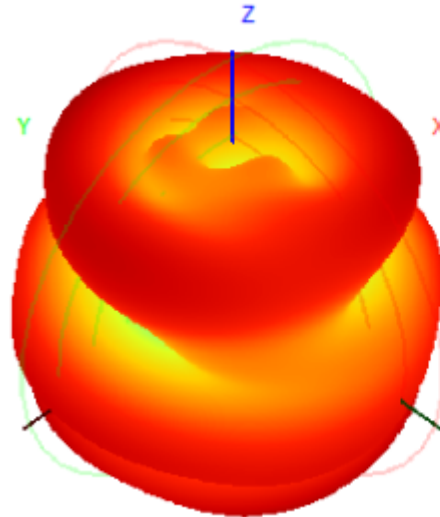
2100.0MHz Total(E2-YZ), Max= 0.11dBi



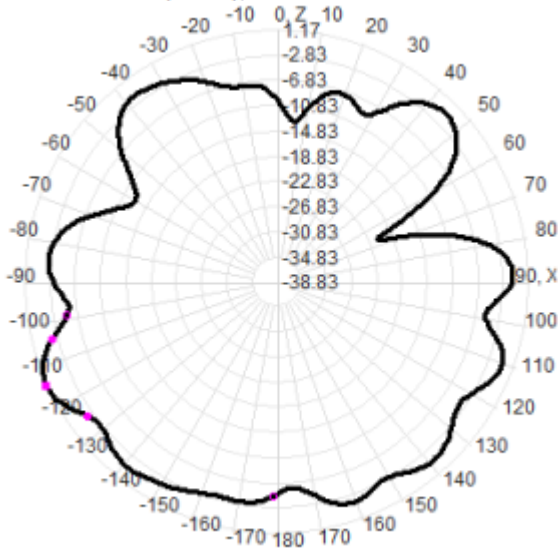
2300.0MHz H+V, Eff: 46.3%



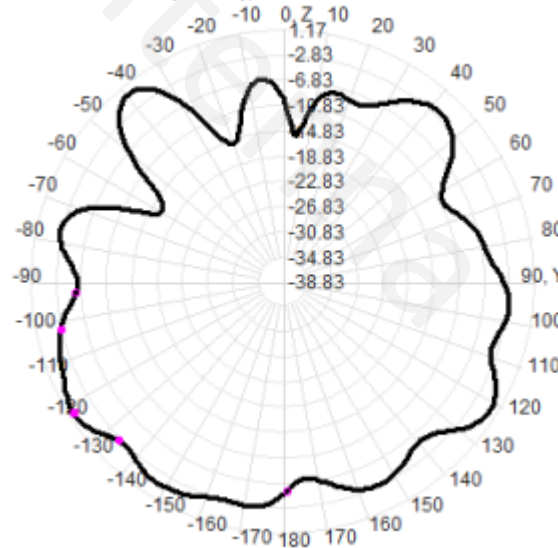
Back View



2300.0MHz Total(E1-XZ), Max= 1.17dBi

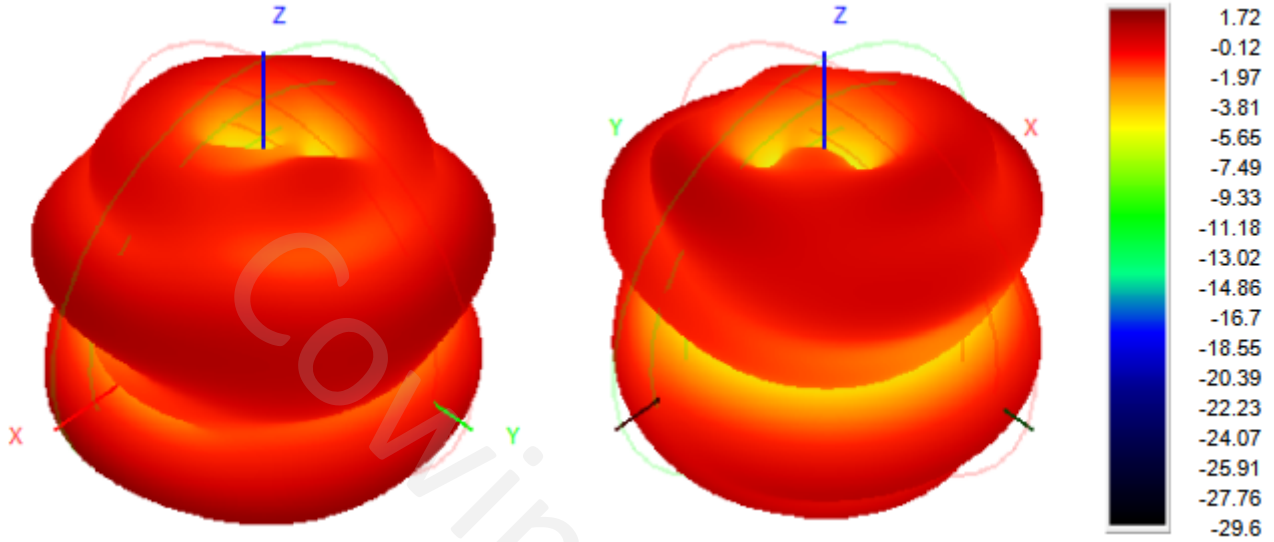


2300.0MHz Total(E2-YZ), Max= 0.27dBi



2700.0MHz H+V, Eff: 56.8%

Back View



2700.0MHz Total(E1-XZ), Max= 1.71dBi

2700.0MHz Total(E2-YZ), Max= 0.51dBi

