

## **CW-WZ-0053**

### **5G External Antenna**

#### **Key Features**

Frequency: 617-960 MHz/1575-2700MHz/3300-3800MHz/5125-5925MHz

SMA Male Connector

External Rubber

Dimensions 221\*27 mm



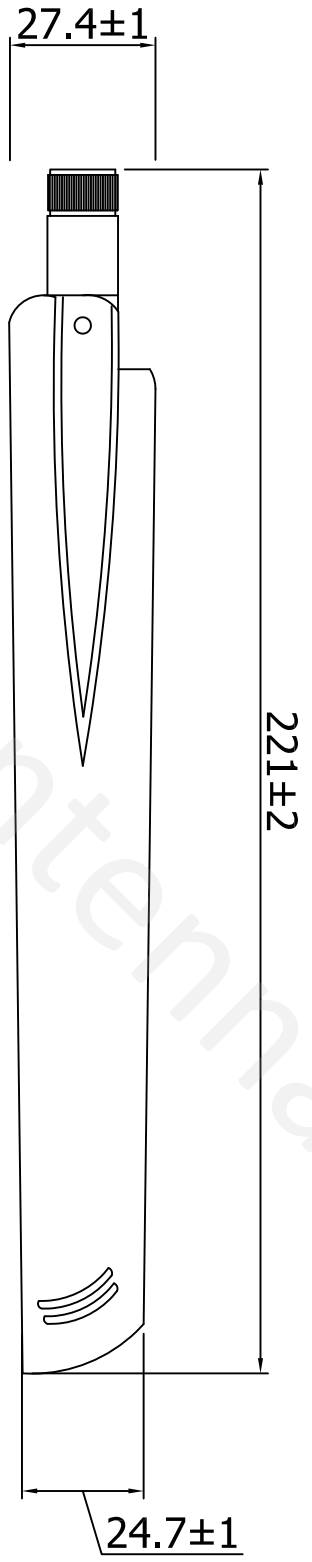
## 1. Antenna Electrical Characteristics

Band (MHz)				
Frequency (MHz)	617-960MHZ	1575-2700MHZ	3300-3800MHZ	5125-5925MHZ
VSWR	2.5:1	2.5:1	2.5:1	2:1
Efficiency (%)	68.79%	65.45%	61.66%	51.29%
Peak Gain (dBi)	3.53	3.57	2.84	5.02
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/ABS
Cable Type	RG178
Connector Type	SMA male
Dimensions (mm)	221*27
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	2021/08/10	New issue



Specification(Free Test):  
 Frequency Range: 617-960MHZ/1575-2700NHZ  
 3300-3800MHZ/5125-5925MHZ  
 Impedance: 50Ω  
 V.S.W.R: ≤2.5/2.5/2.5/2

5	Rod sleeve	Black ABS	1						
4	Fixed seat	Black PC+PBT	1						
3	PCB	FR4	1						
2	Cable	RG 178 single silver wire	1						
1	Connector	SMA male	1						
NO	Name	Description	QTY	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-0053				
.XXX	±0.1	Drawing		REV	Unit	File			
				X1	m/m	Sheet	1/1		



## 4. Antenna test parameters

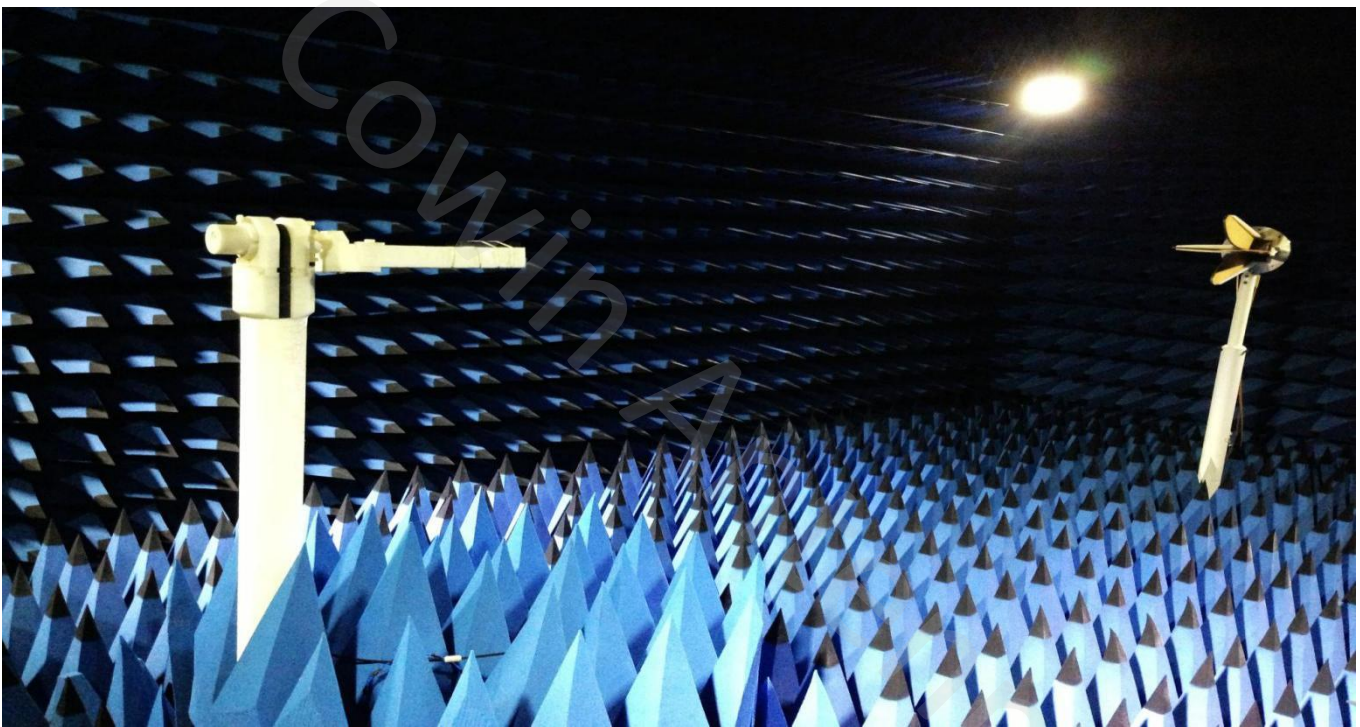
### Antenna Measurement Conditions:

Mounted on Ground Plane of 280 x 80 mm

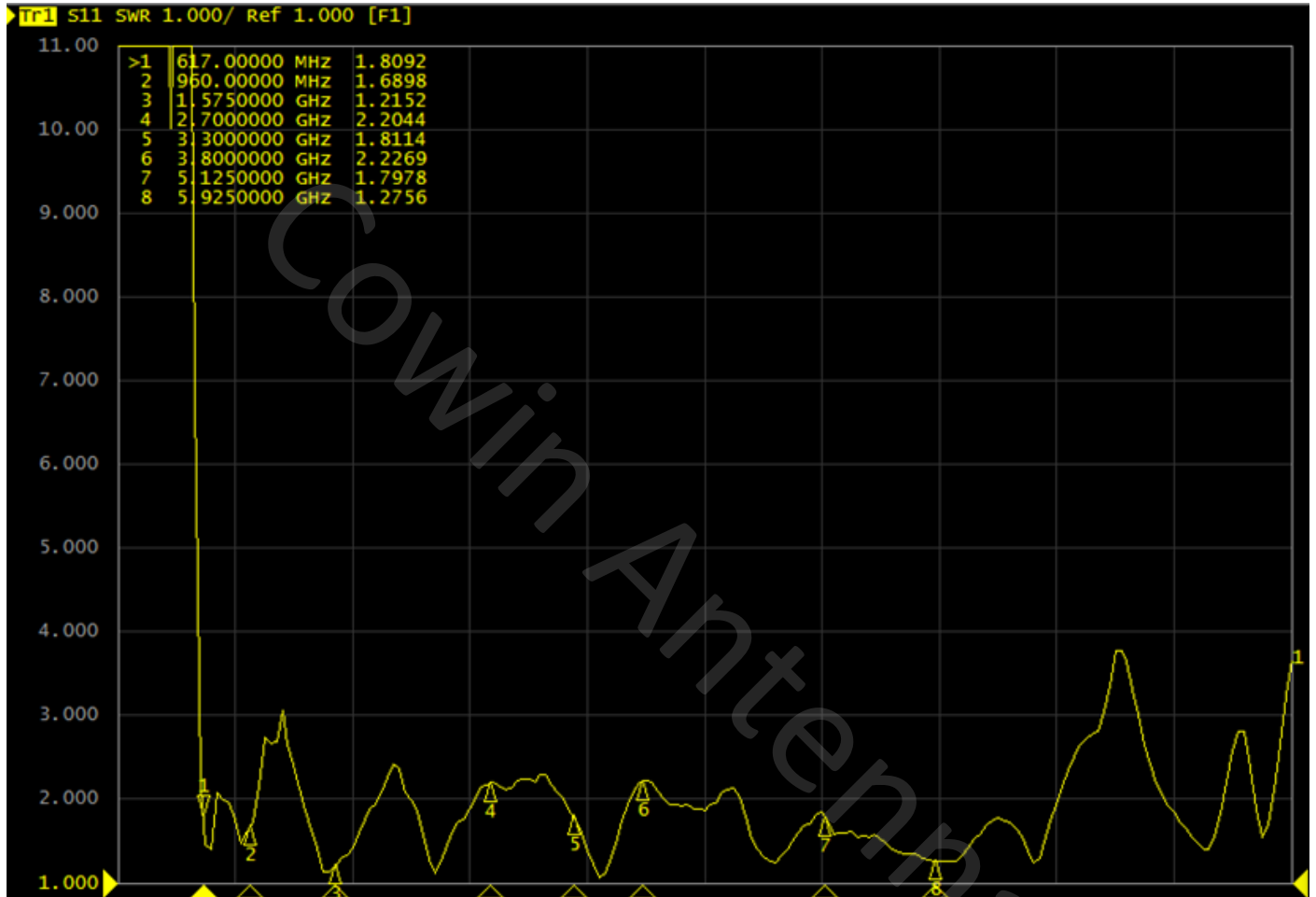
Measured in Certified 3D Anechoic Chamber

The network analyzer is Agilent 5071c

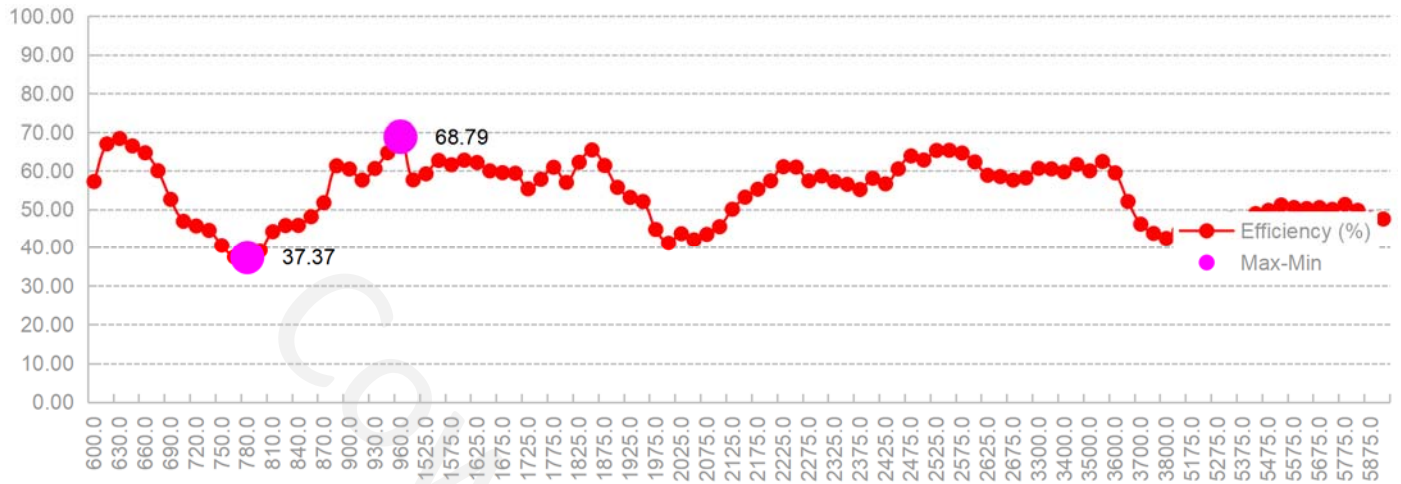
The comprehensive tester is Agilent cmv500



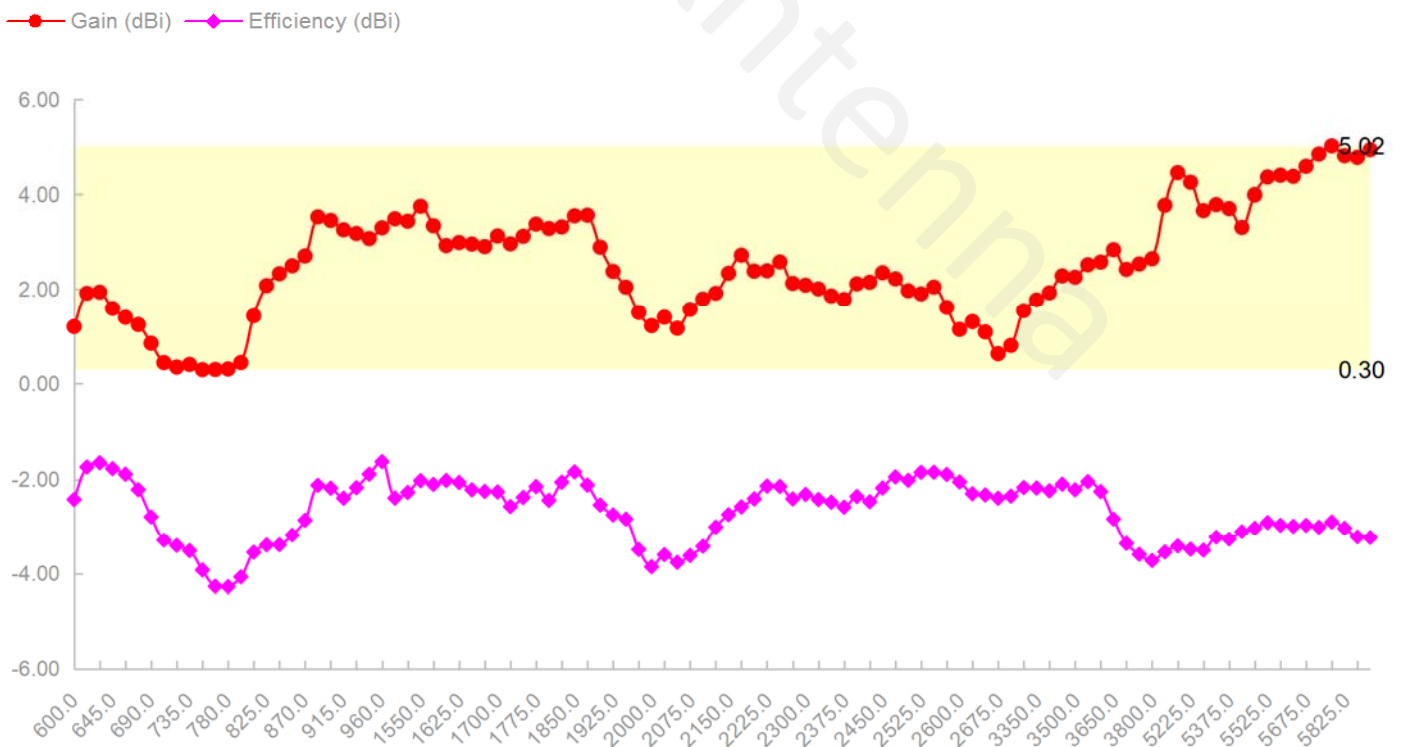
## 4.1 VSWR



## 4.2 Efficiency

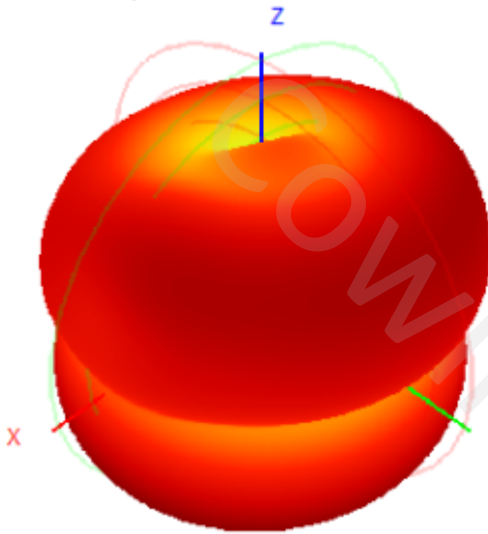


## 4.3 Peak gain

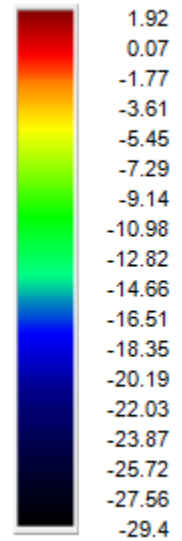
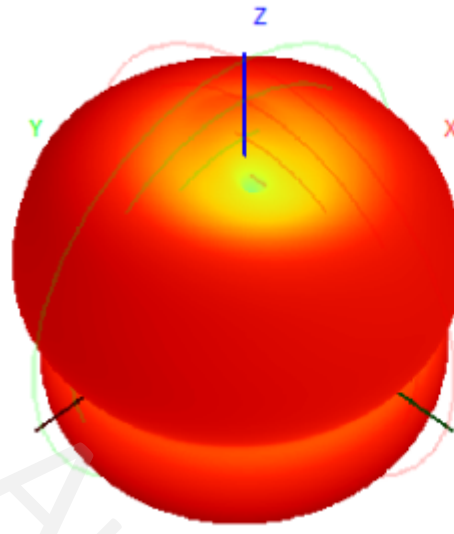


## 4.4 3D&2D Radiation Patterns

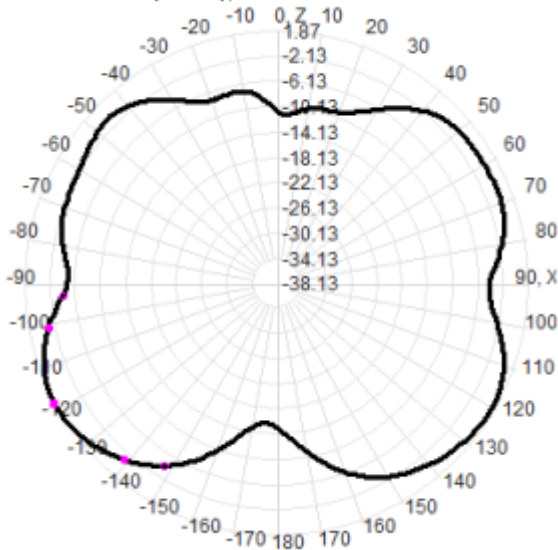
615.0MHz H+V, Eff: 67.0%



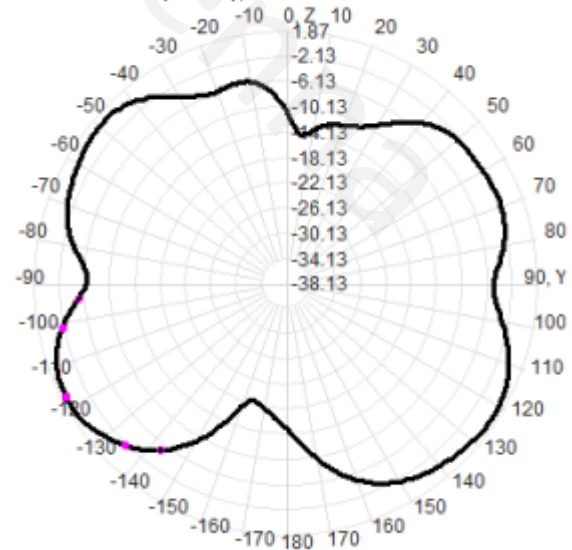
Back View



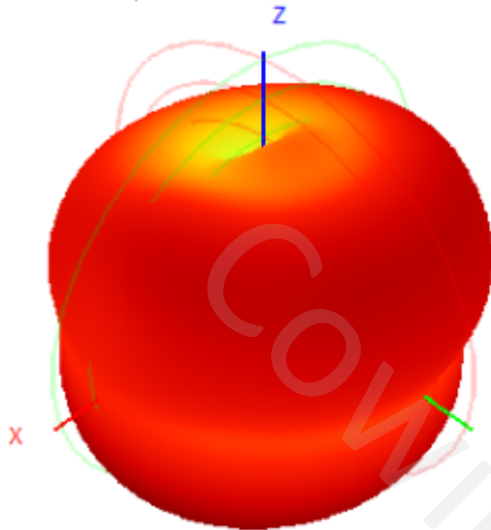
615.0MHz Total(E1-XZ), Max= 1.87dBi



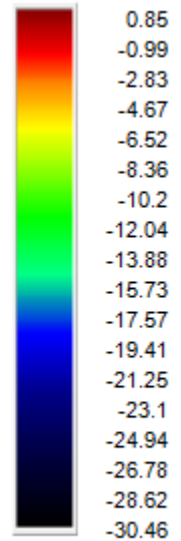
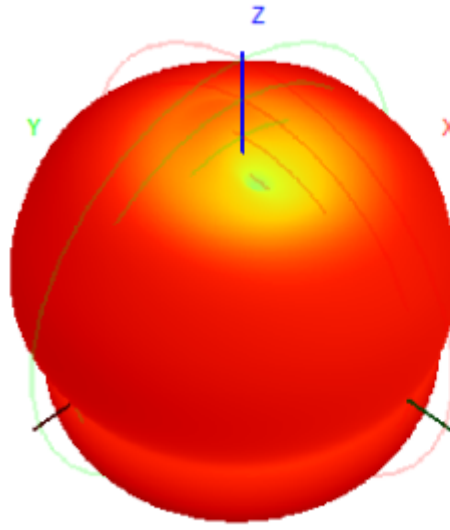
615.0MHz Total(E2-YZ), Max= 1.05dBi



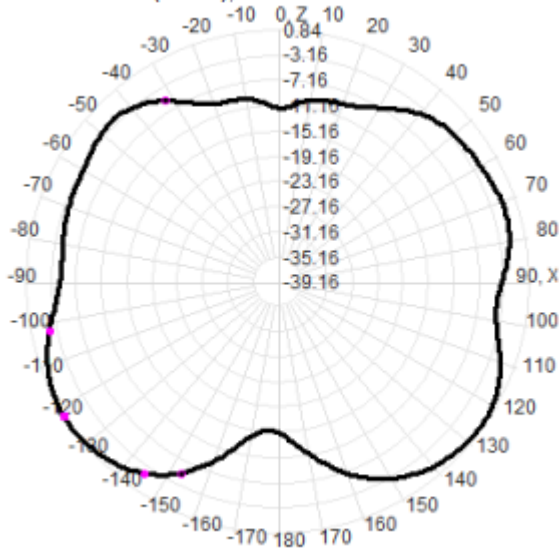
690.0MHz H+V, Eff: 52.6%



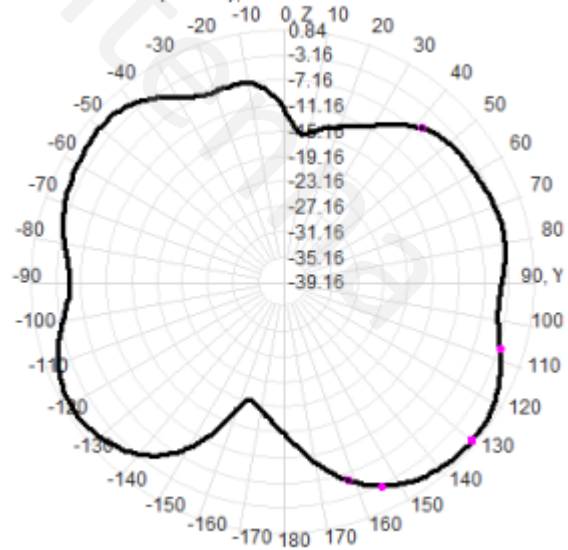
Back View



690.0MHz Total(E1-XZ), Max= 0.84dBi



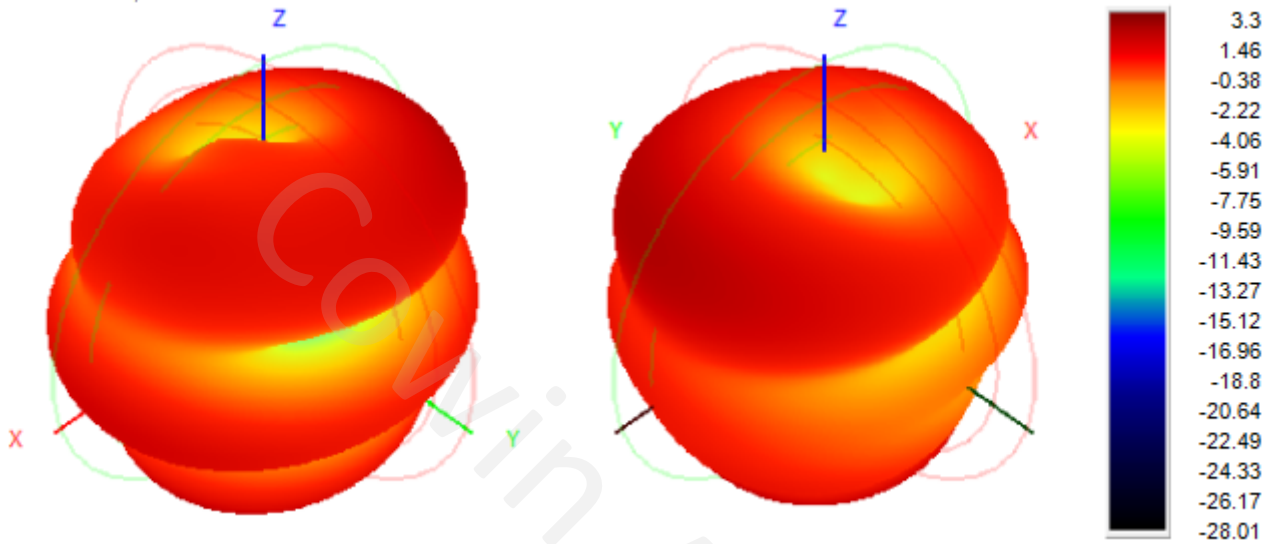
690.0MHz Total(E2-YZ), Max= -0.11dBi





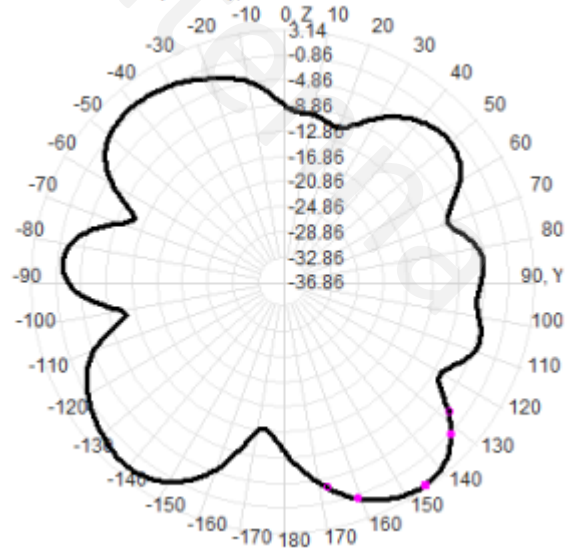
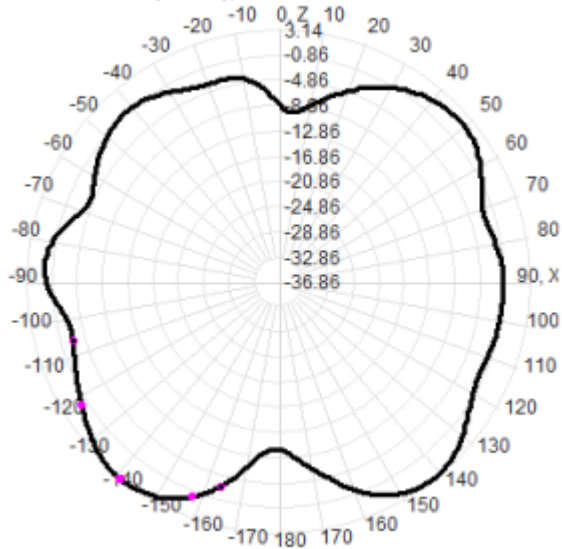
960.0MHz H+V, Eff: 68.8%

Back View

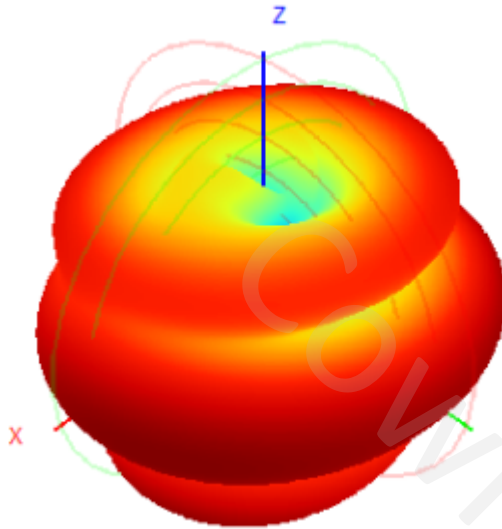


960.0MHz Total(E1-XZ), Max= 3.14dBi

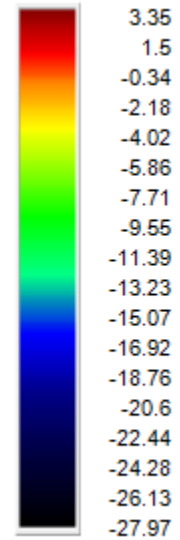
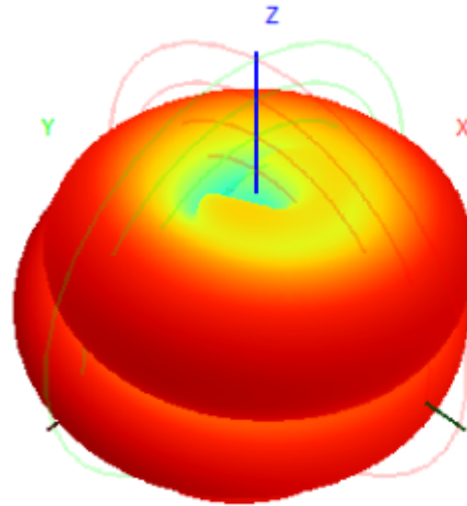
960.0MHz Total(E2-YZ), Max= 2.31dBi



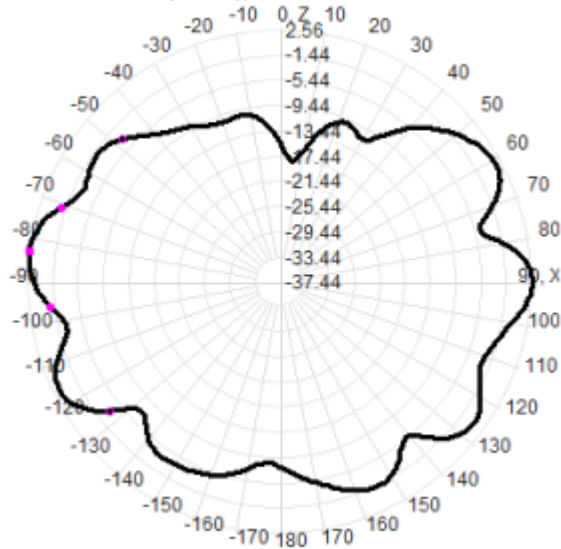
1575.0MHz H+V, Eff: 61.6%



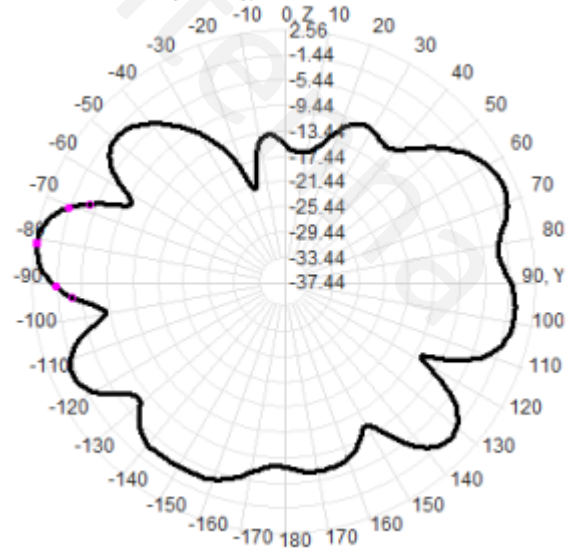
Back View



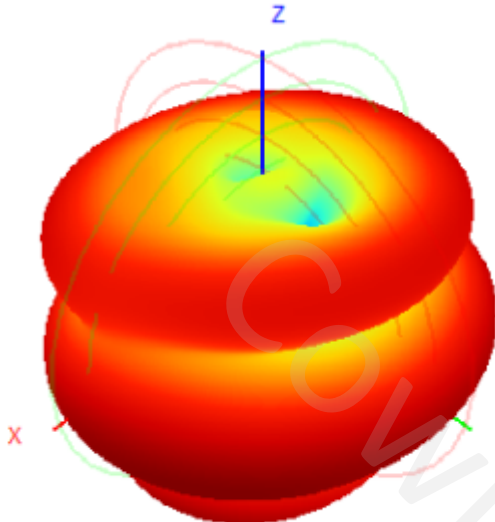
1575.0MHz Total(E1-XZ), Max= 2.56dBi



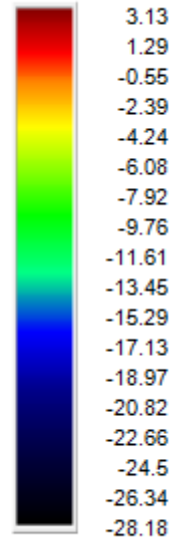
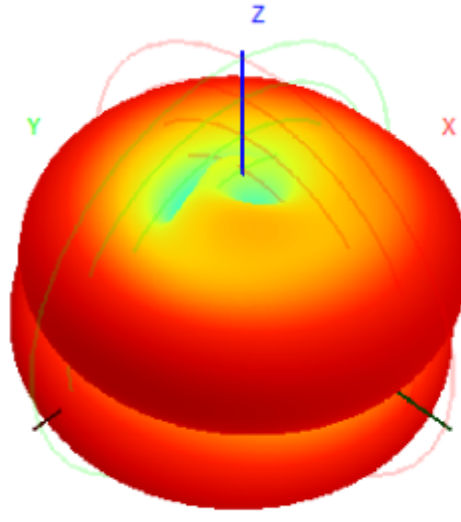
1575.0MHz Total(E2-YZ), Max= 2.19dBi



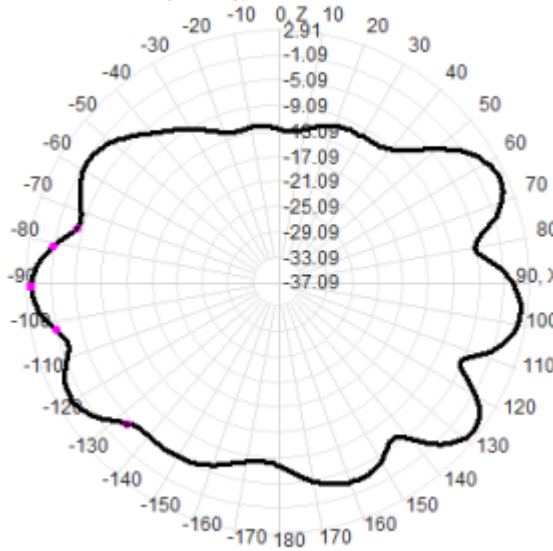
1700.0MHz H+V, Eff: 59.4%



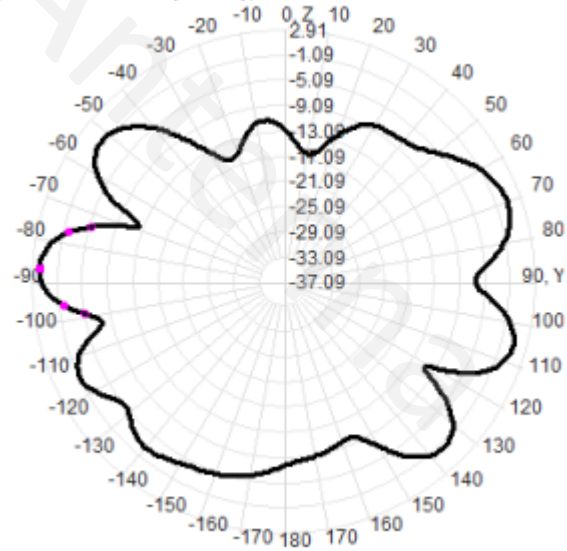
Back View



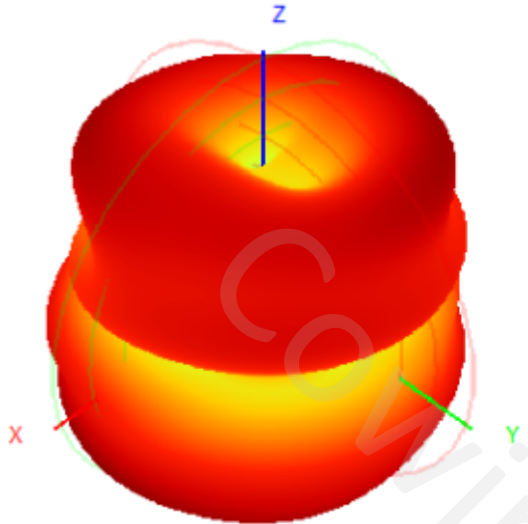
1700.0MHz Total(E1-XZ), Max= 1.99dBi



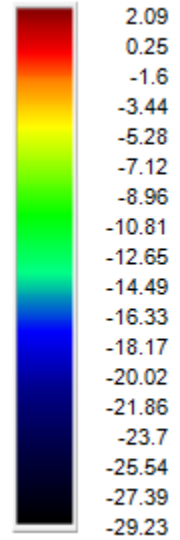
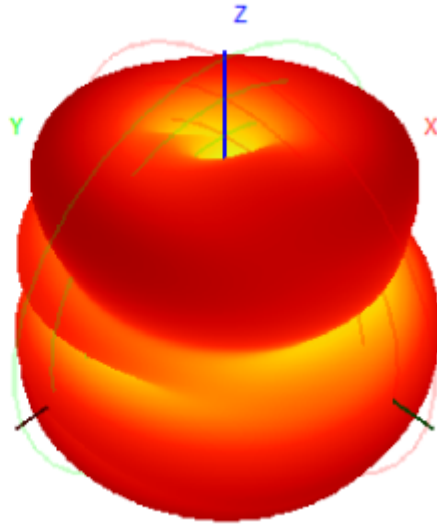
1700.0MHz Total(E2-YZ), Max= 1.74dBi



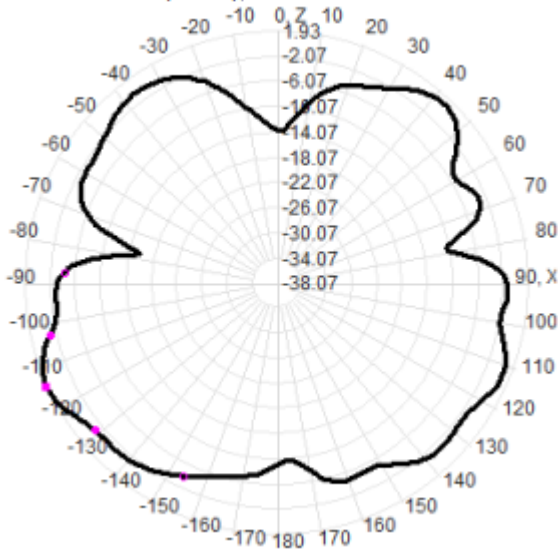
2300.0MHz H+V, Eff: 58.7%



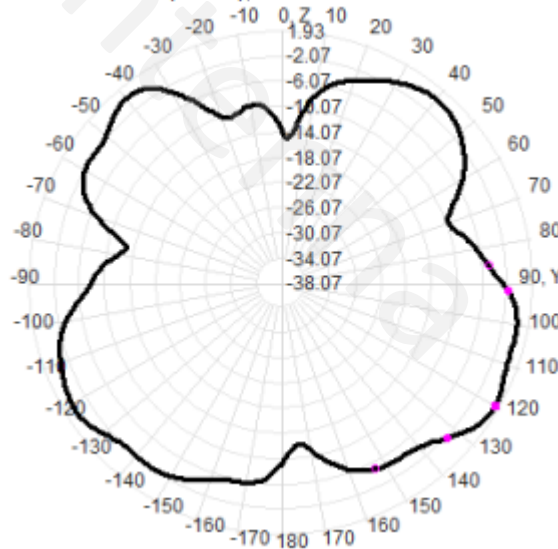
Back View



2300.0MHz Total(E1-XZ), Max= 1.93dBi

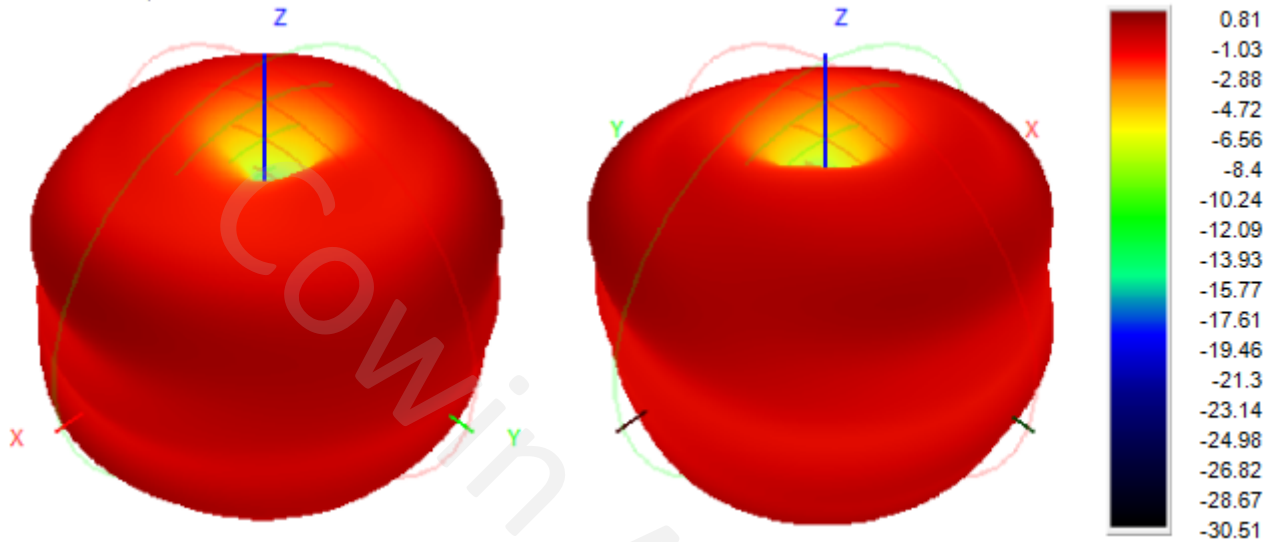


2300.0MHz Total(E2-YZ), Max= 0.92dBi



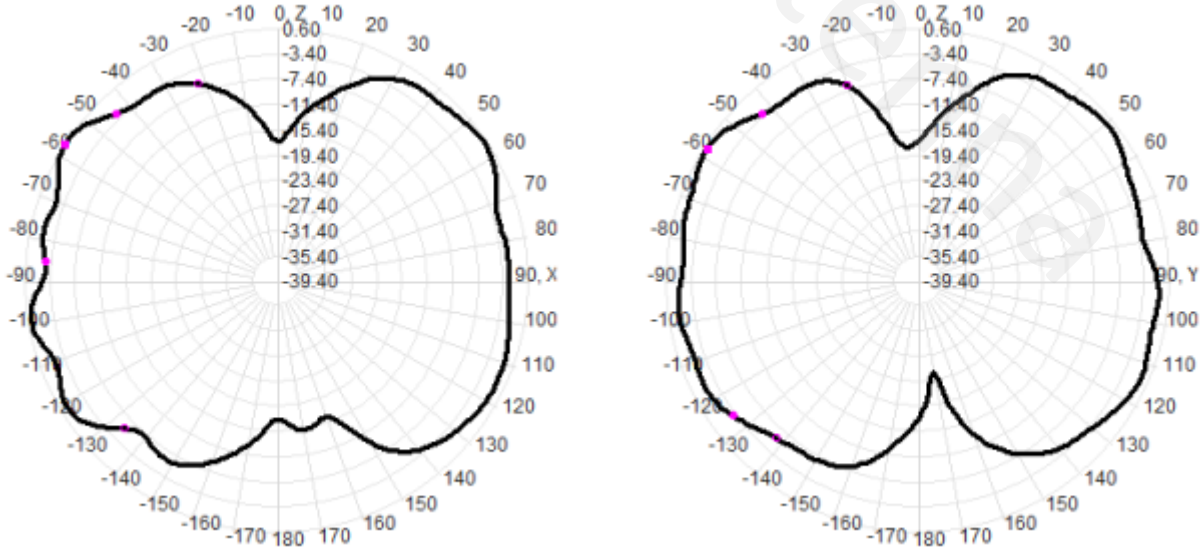
2700.0MHz H+V, Eff: 58.2%

Back View

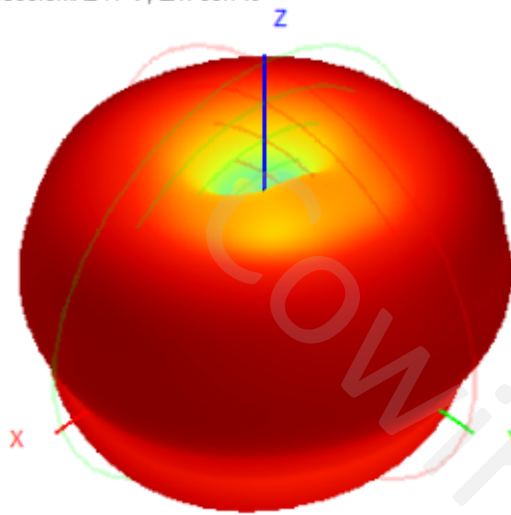


2700.0MHz Total(E1-XZ), Max= 0.60dBi

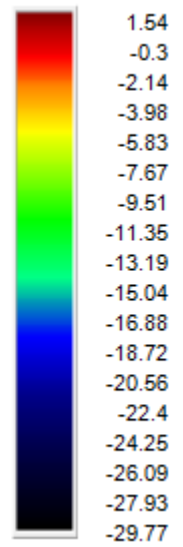
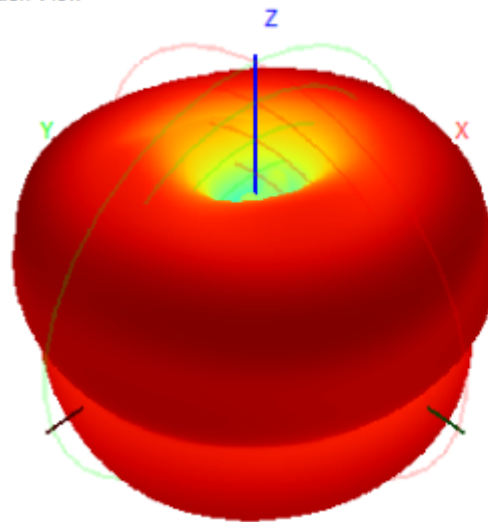
2700.0MHz Total(E2-YZ), Max= 0.03dBi



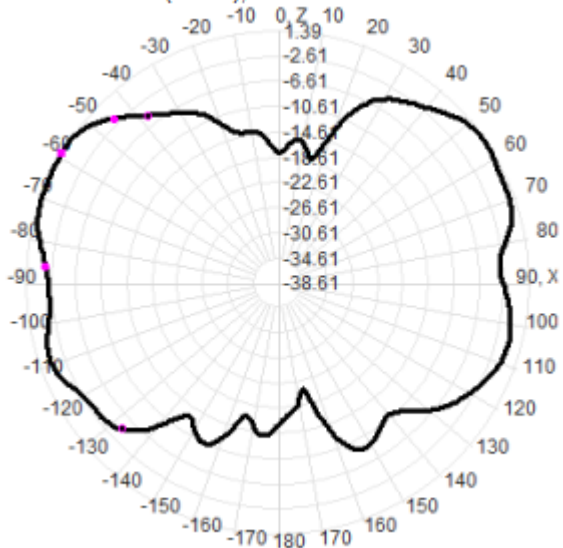
3300.0MHz H+V, Eff: 60.7%



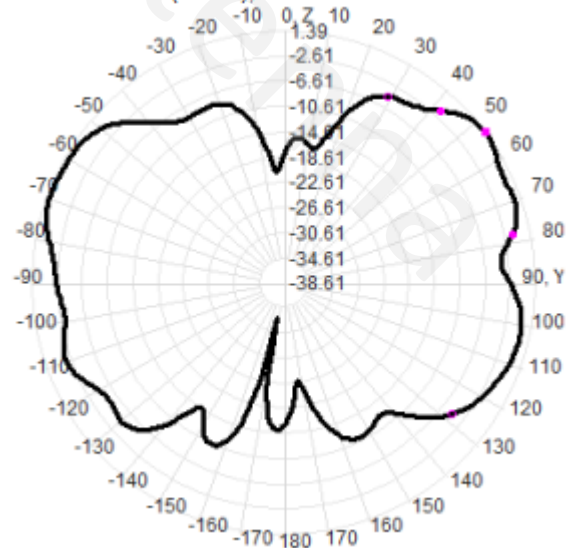
Back View



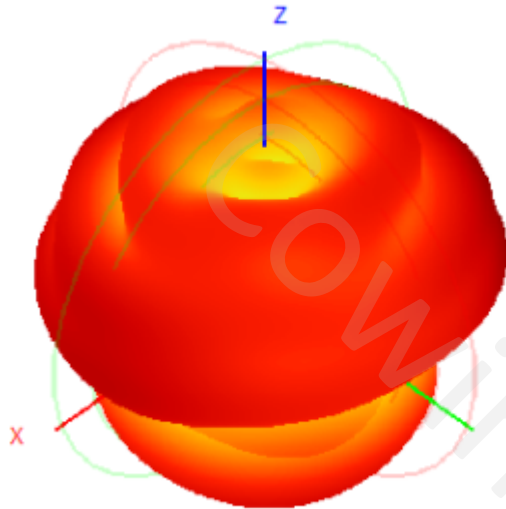
3300.0MHz Total(E1-XZ), Max= 1.39dBi



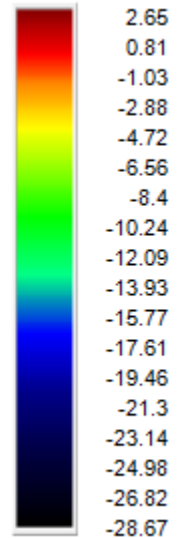
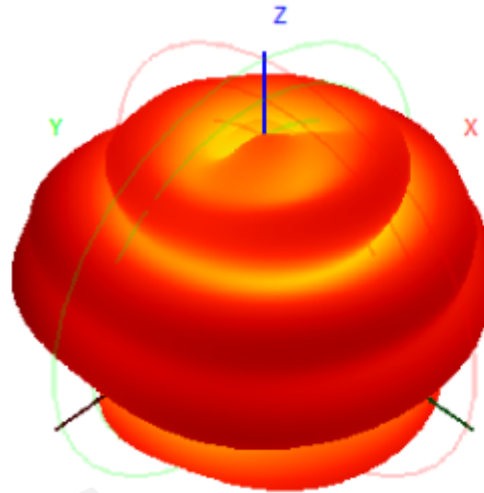
3300.0MHz Total(E2-YZ), Max= 1.24dBi



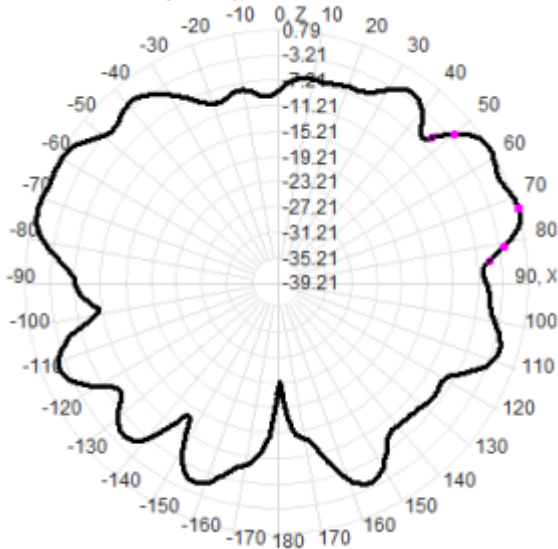
3800.0MHz H+V, Eff: 42.4%



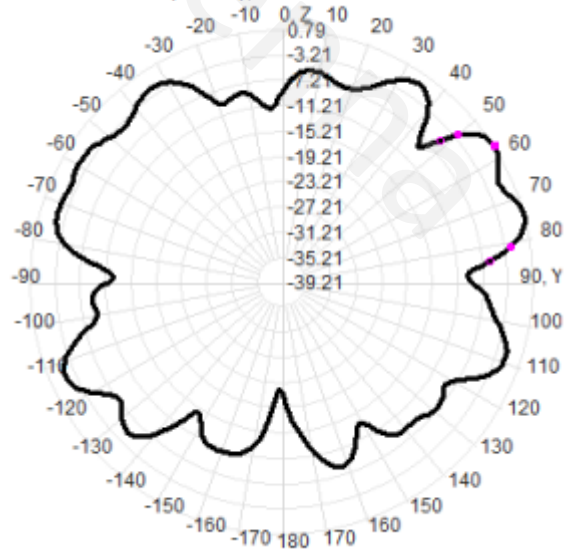
Back View



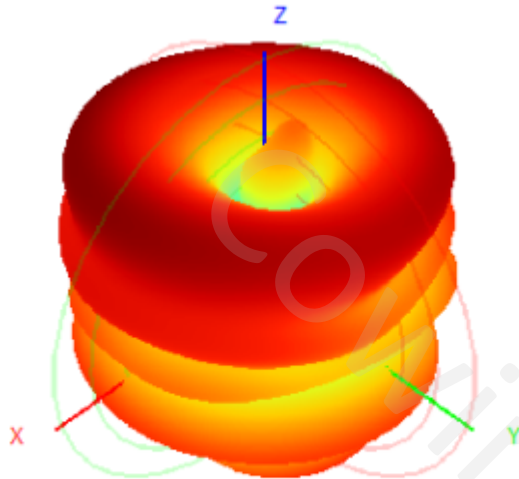
3800.0MHz Total(E1-XZ), Max= 0.79dBi



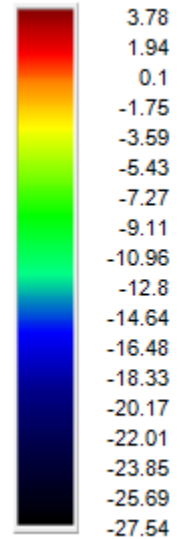
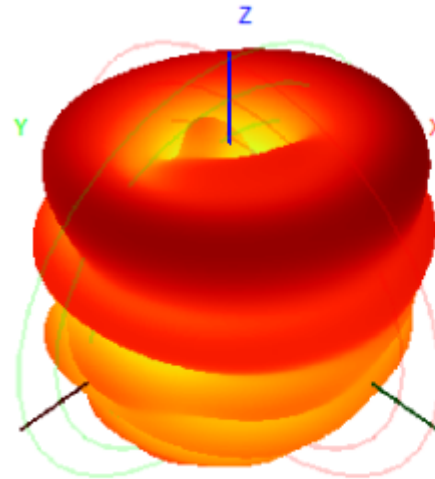
3800.0MHz Total(E2-YZ), Max= 0.71dBi



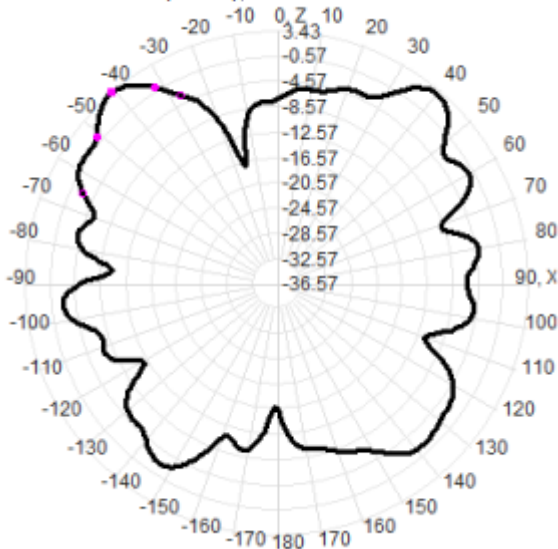
5125.0MHz H+V, Eff: 44.3%



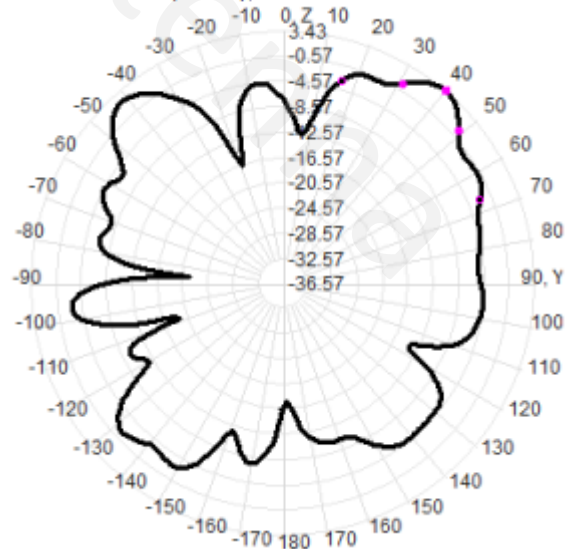
Back View



5125.0MHz Total(E1-XZ), Max= 3.43dBi

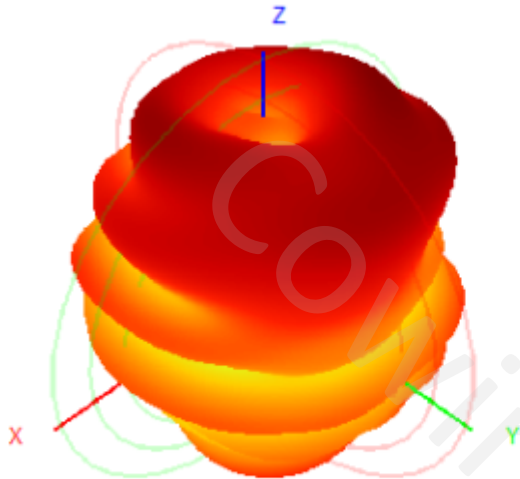


5125.0MHz Total(E2-YZ), Max= 3.37dBi

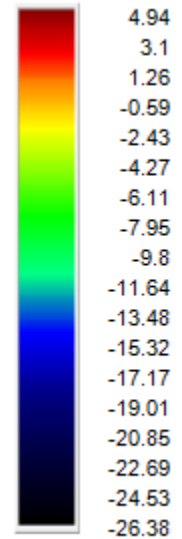
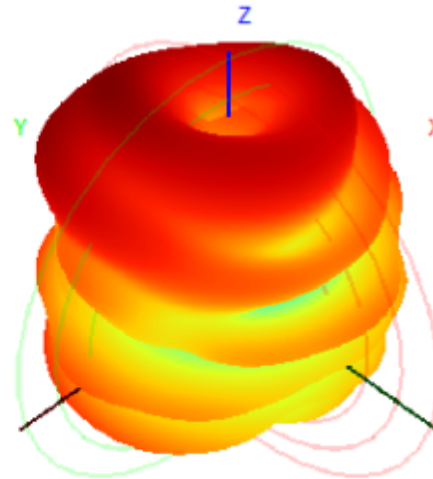




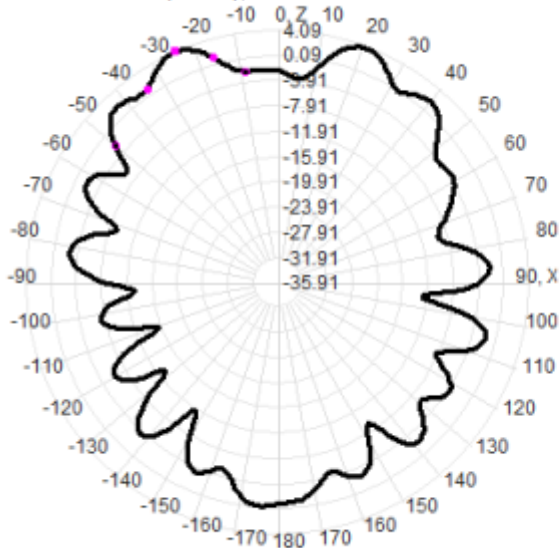
5925.0MHz H+V, Eff: 47.5%



Back View



5925.0MHz Total(E1-XZ), Max= 4.09dBi



5925.0MHz Total(E2-YZ), Max= 3.95dBi

