

## CW-WZ-0051

### 5G External Waterproof Antenna

#### Key Features

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

N Male Connector

External Waterproof

Dimensions 176\*21mm



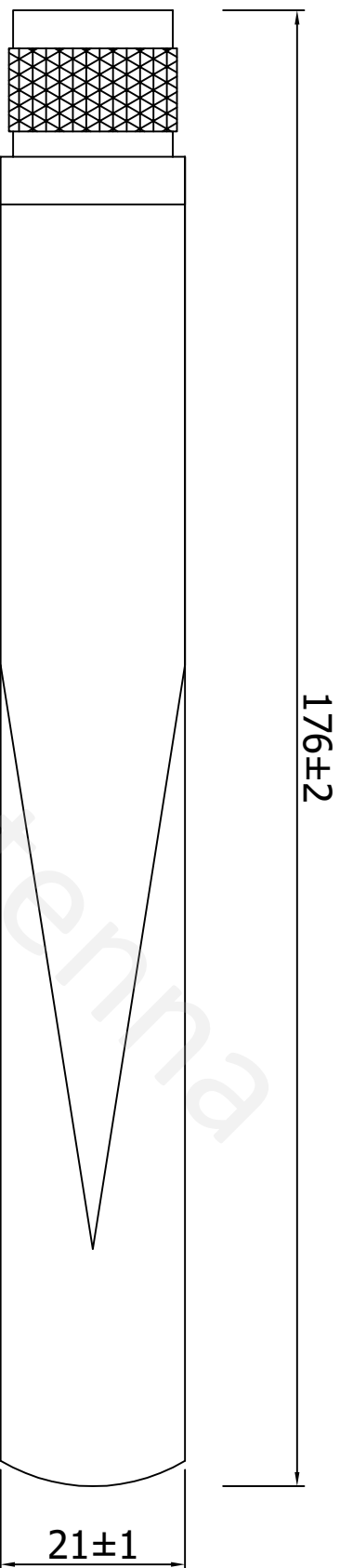
## 1. Antenna Electrical Characteristics

Frequency (MHz)	617-960MHz	1575-2700MHz	3300-3800MHz	5125-5925MHz
VSWR	2.5:1	2.5:1	3.5:1	4:1
Efficiency (%)	64.49%	68.76%	56.56%	58.02%
Peak Gain (dBi)	3.05	3.17	3.44	5
Impedance (Ohm)	50			
Polarisation	Vertical			
Max. Input Power (W)	10			
Connector Type	N male			

## 2. Material and environmental characteristics

Material of PCB	FR4
Material of Plastic	TPE
Cable Type	RG178
Connector Type	N male
Dimensions (mm)	176*21
Antenna color	White
Operation Temperature	-40 to +80
Storage Temperature	-40 to +80
Antenna Storage life(year)	10
Substance Compliance	ROHS

REV	Date	Description
X1	2021/08/03	New issue



Specification(Free Test):

Frequency Range: 617-960MHZ/1575-2700MHZ

3300-3800MHZ/5125-5925MHZ

Impedance: 50Ω

V.S.W.R: ≤2.5/2.5/3.5/4

4	Rod sleeve	White TPE	1						
3	PCB	FR4	1						
2	Cable	RG178 single silver wire	1						
1	Connector	N male head	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-0051			
.XXX	±0.1	Drawing			REV	Unit	File		
					X1	m/m	Sheet :	1/1	



**Cowin Antenna**

## 4. Antenna test parameters

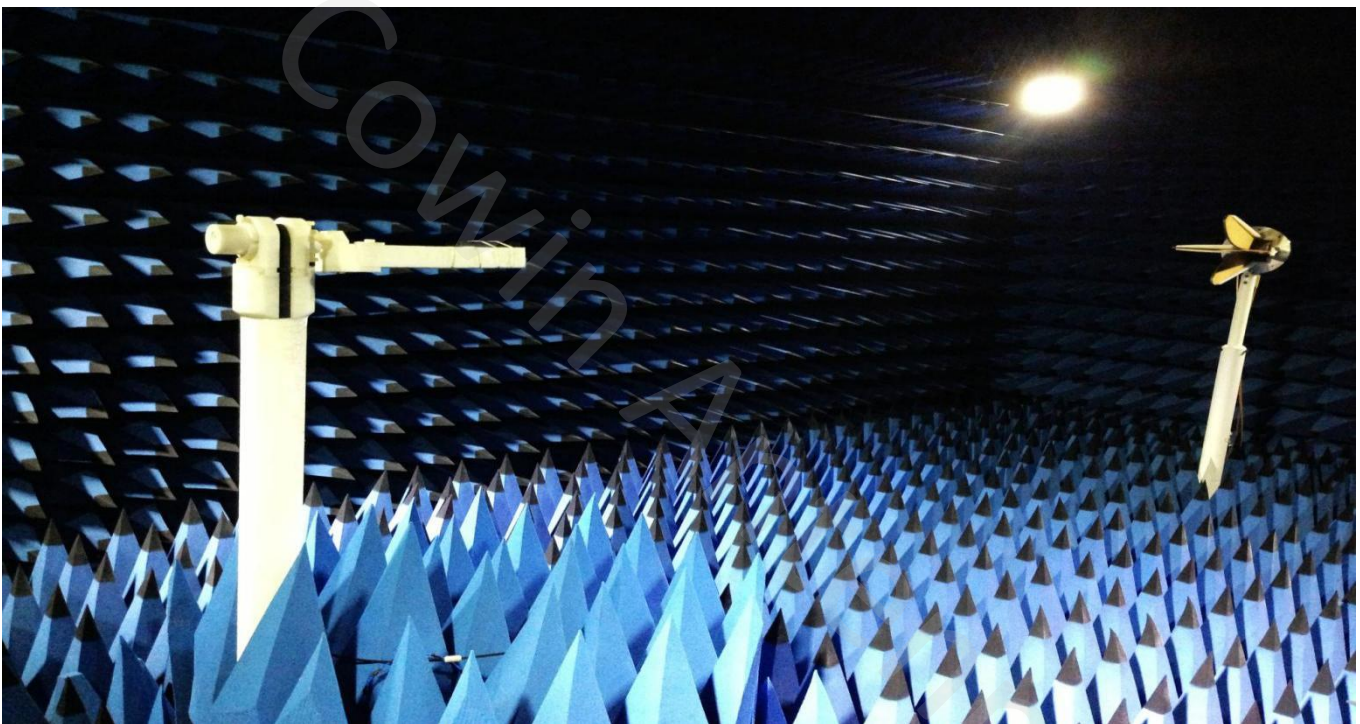
### Antenna Measurement Conditions:

Mounted on Ground Plane of 280 x 80 mm

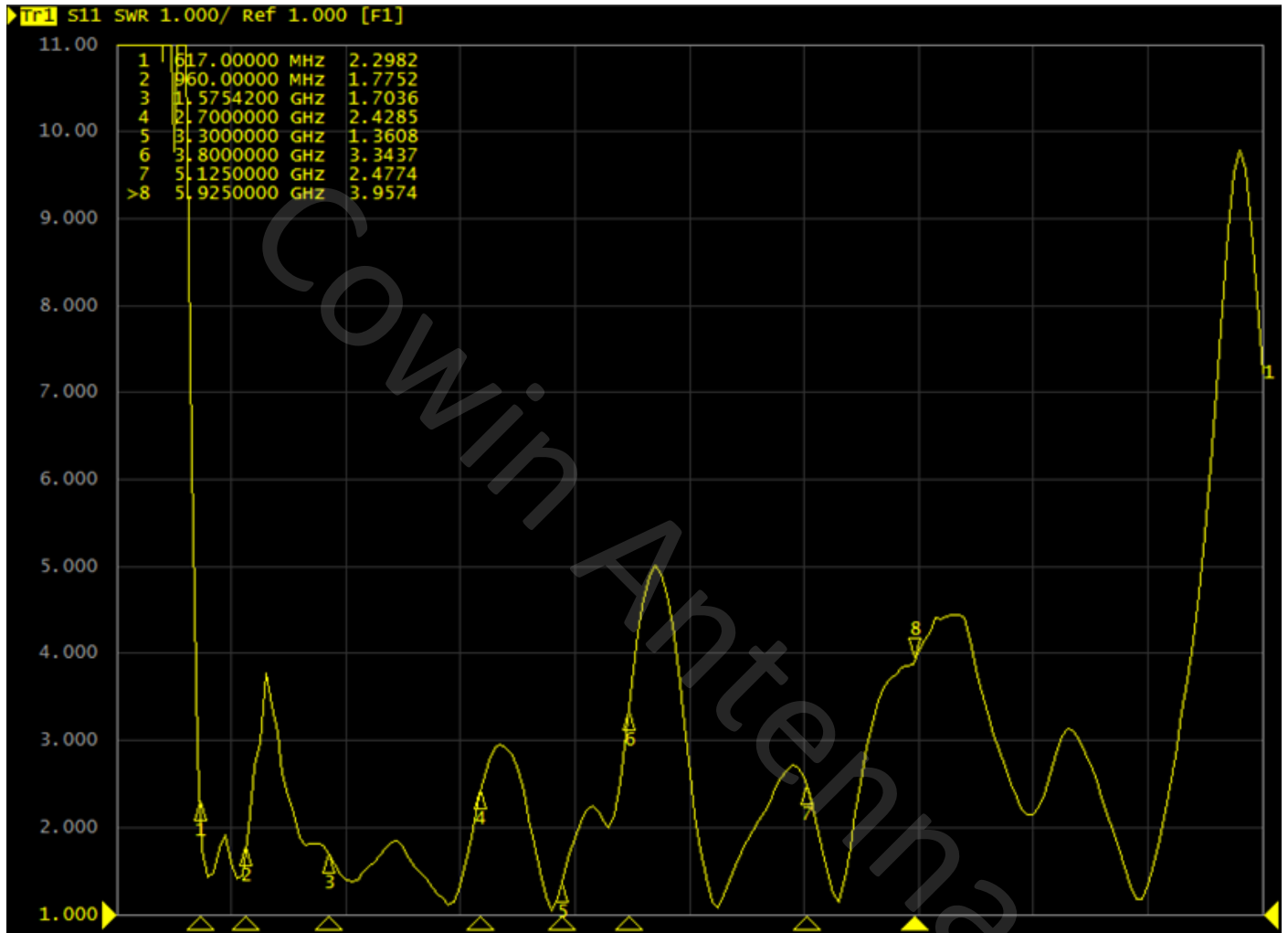
Measured in Certified 3D Anechoic Chamber

The network analyzer is Agilent 5071c

The comprehensive tester is Agilent cmv500



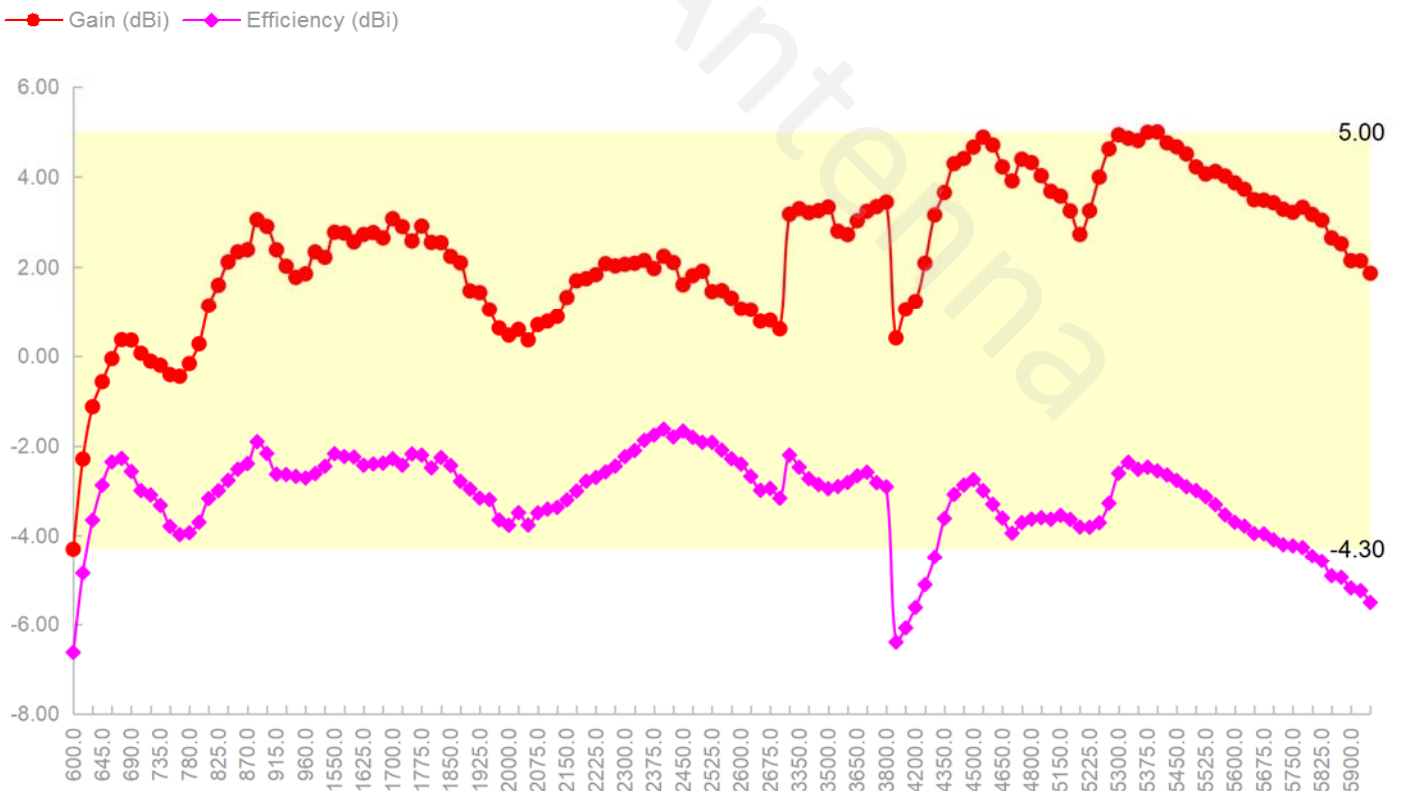
## 4.1 VSWR



## 4.2 Efficiency



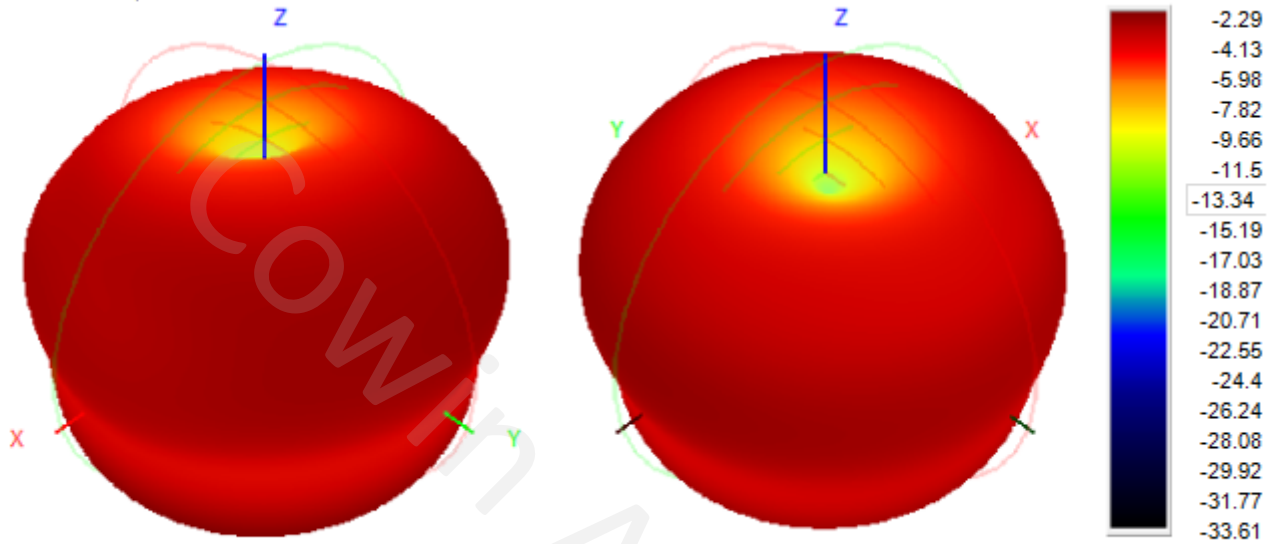
## 4.3 Peak gain



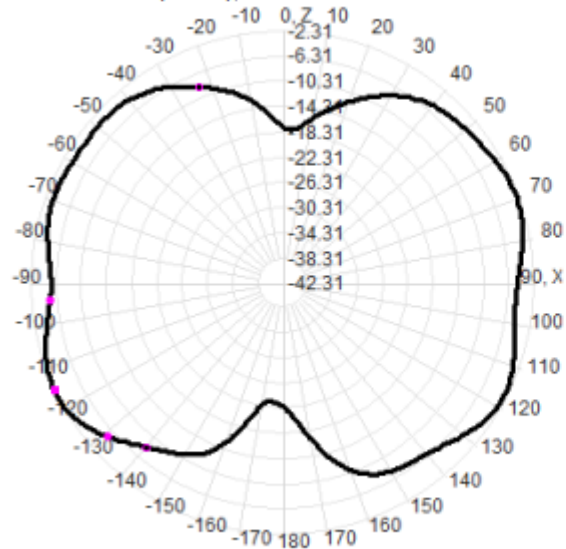
## 4.4 3D&2D Radiation Patterns

615.0MHz H+V, Eff: 32.7%

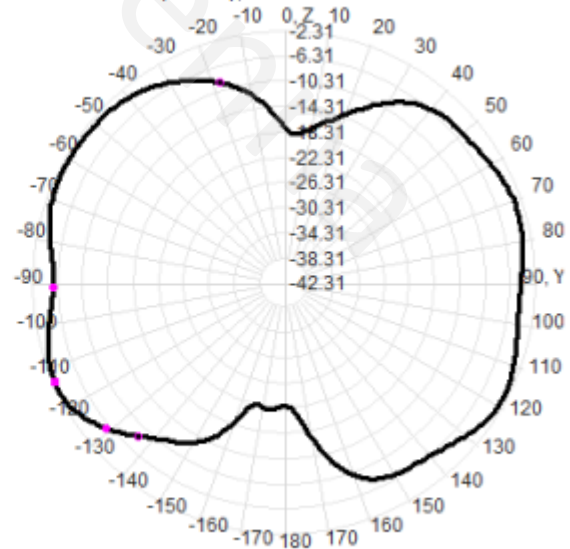
Back View



615.0MHz Total(E1-XZ), Max= -2.31dBi

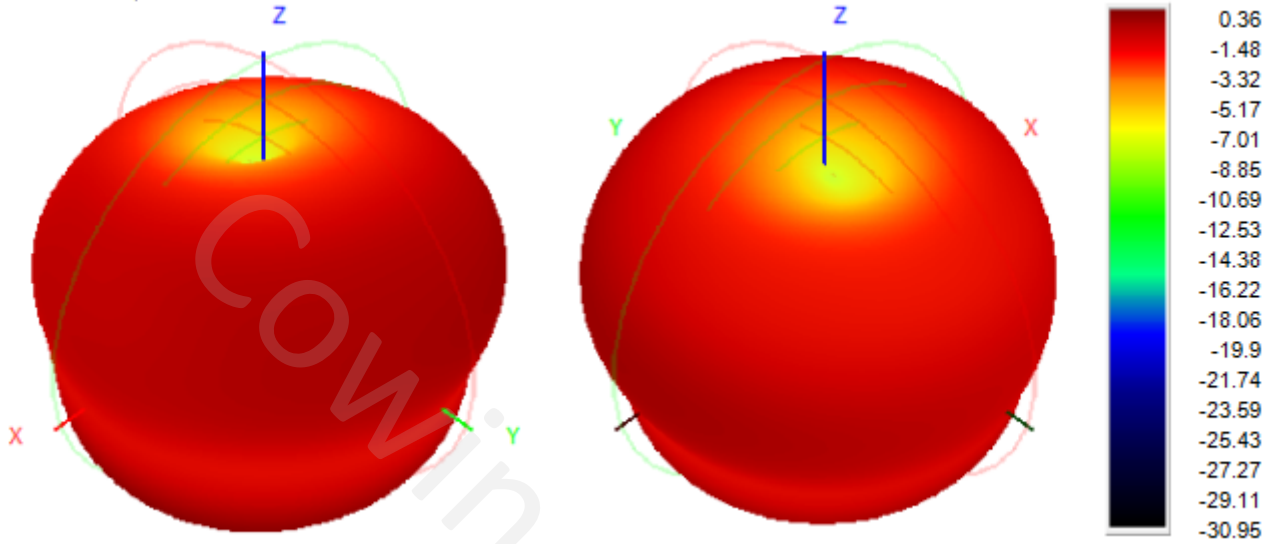


615.0MHz Total(E2-YZ), Max= -2.67dBi



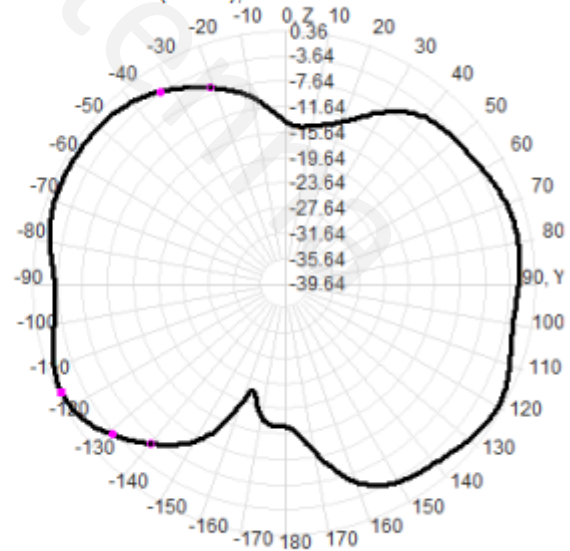
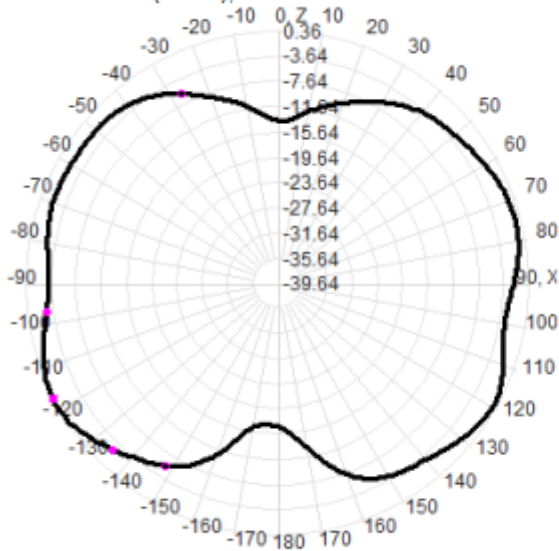
690.0MHz H+V, Eff: 55.4%

Back View



690.0MHz Total(E1-XZ), Max= 0.36dBi

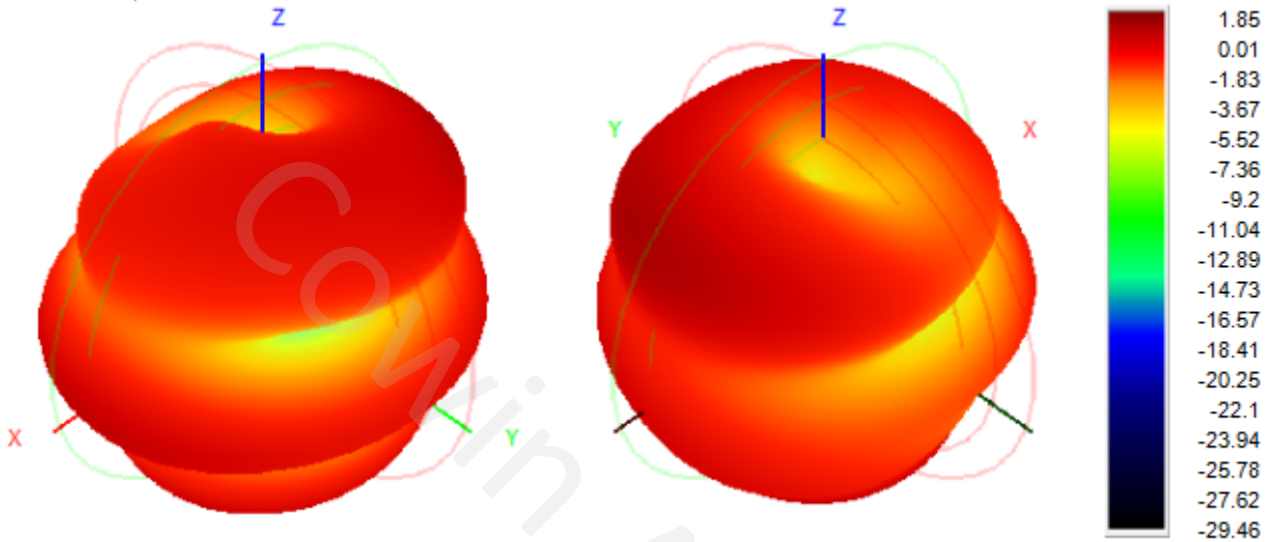
690.0MHz Total(E2-YZ), Max= -0.38dBi





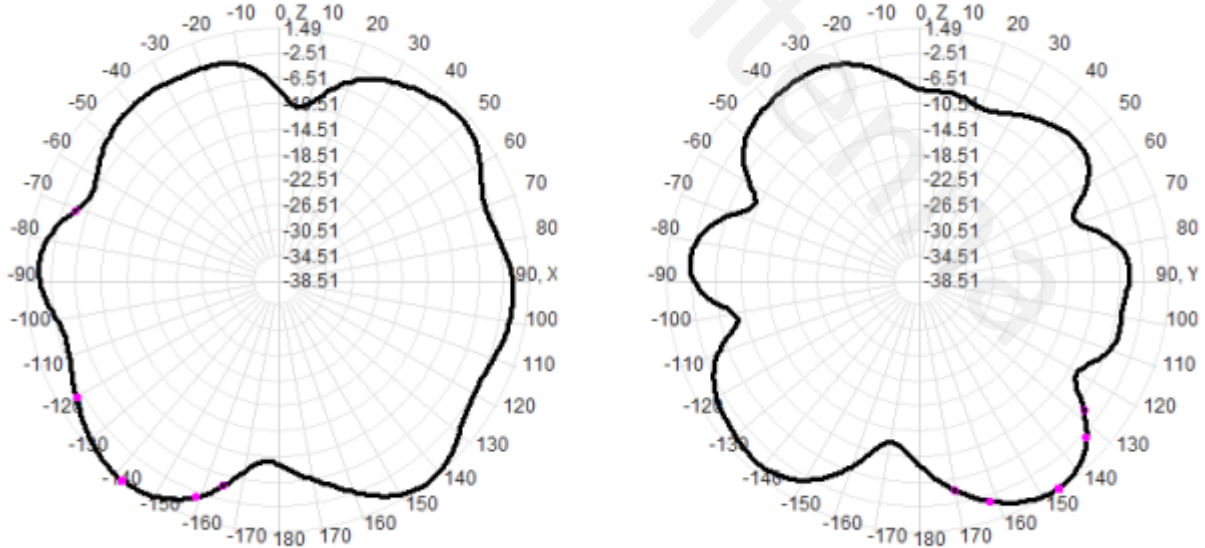
960.0MHz H+V, Eff: 53.5%

Back View



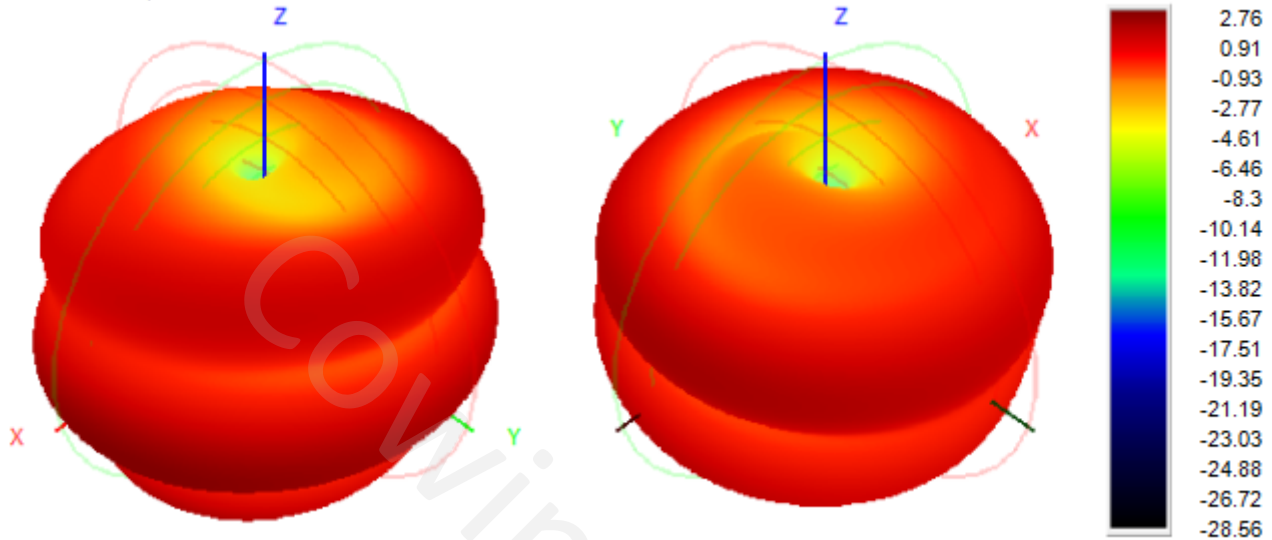
960.0MHz Total(E1-XZ), Max= 1.49dBi

960.0MHz Total(E2-YZ), Max= 1.09dBi



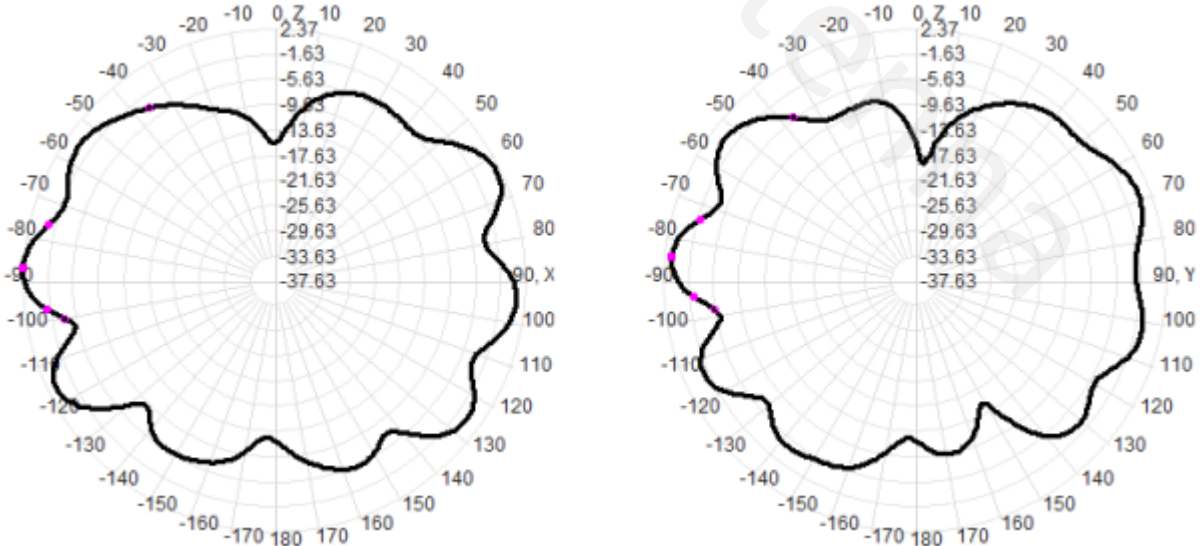
1575.0MHz H+V, Eff: 59.8%

Back View



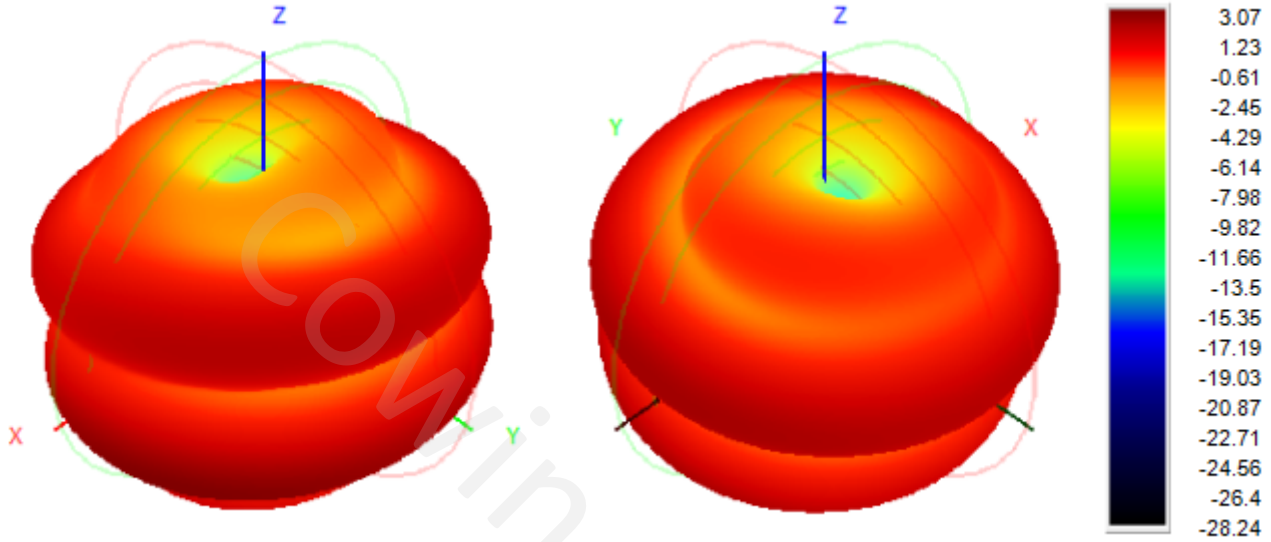
1575.0MHz Total(E1-XZ), Max= 2.37dBi

1575.0MHz Total(E2-YZ), Max= 1.15dBi



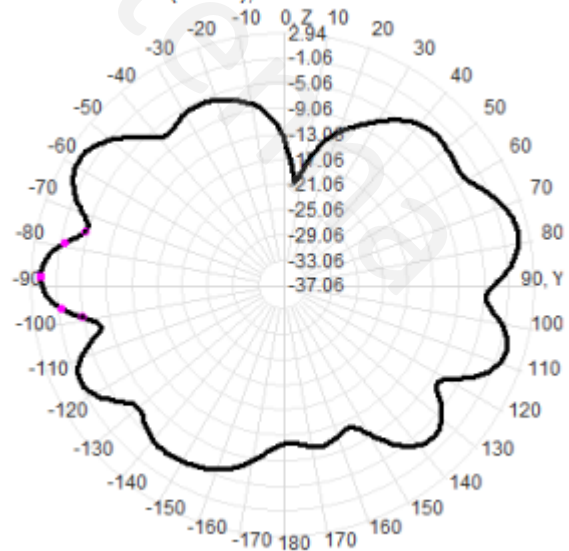
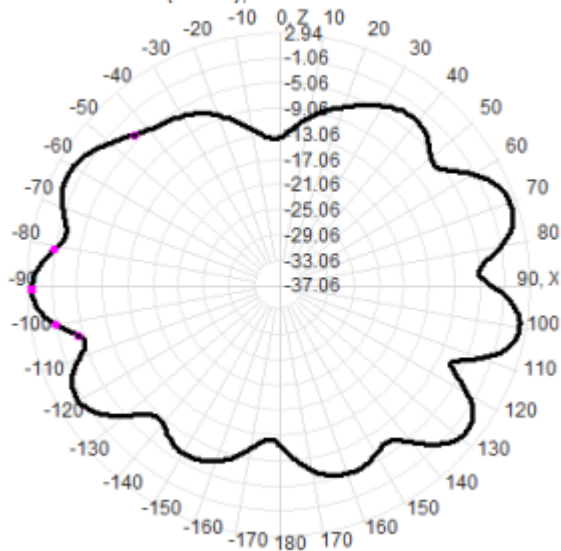
1700.0MHz H+V, Eff: 59.1%

Back View



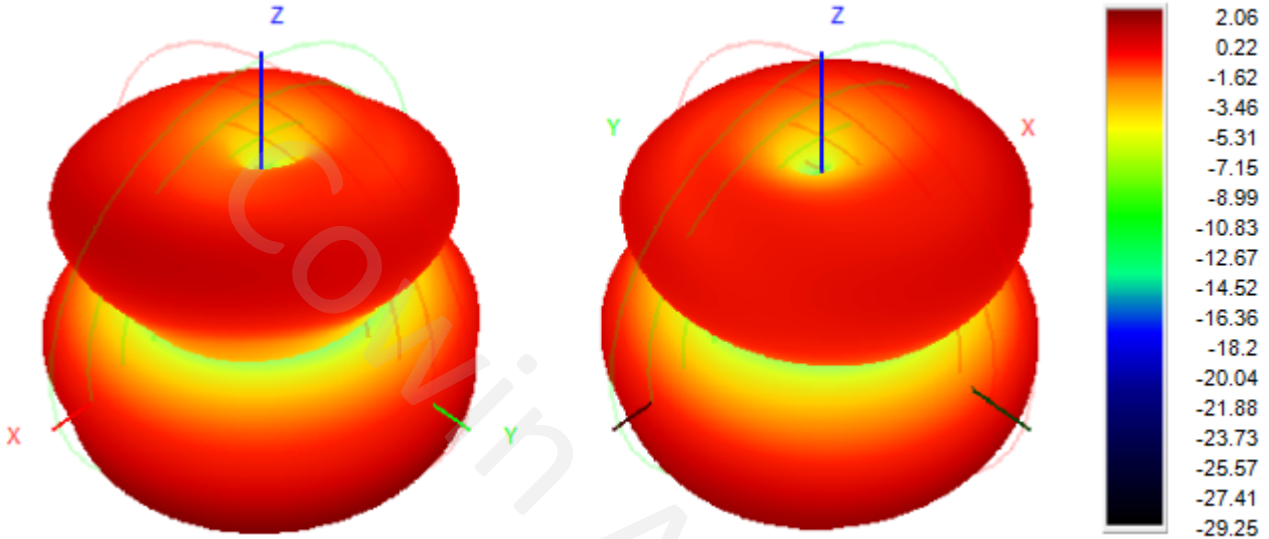
1700.0MHz Total(E1-XZ), Max= 2.14dBi

1700.0MHz Total(E2-YZ), Max= 1.44dBi



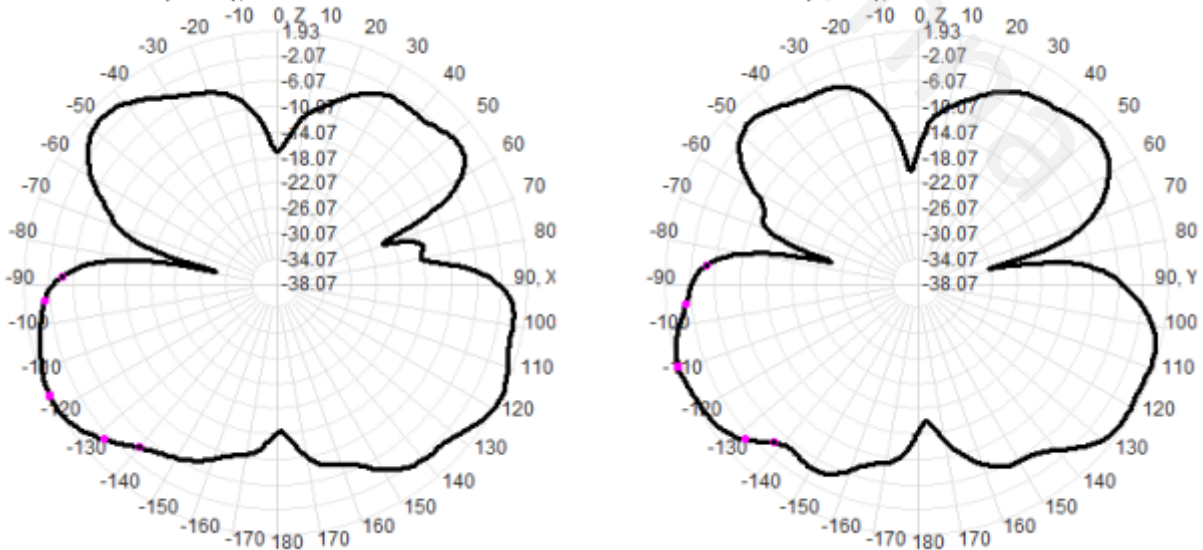
2300.0MHz H+V, Eff: 59.7%

Back View

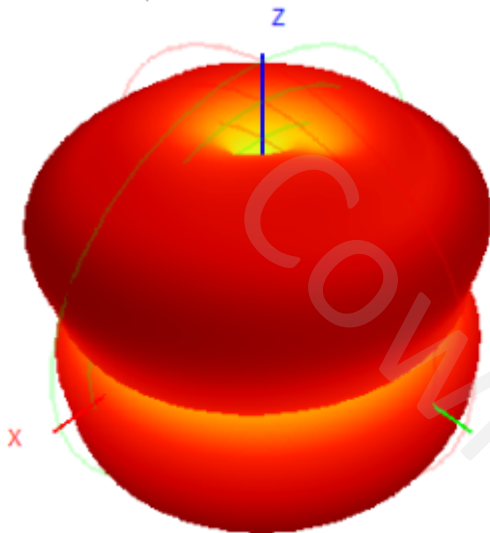


2300.0MHz Total(E1-XZ), Max= 1.93dBi

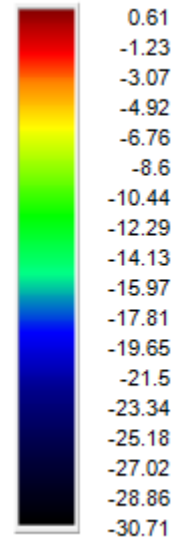
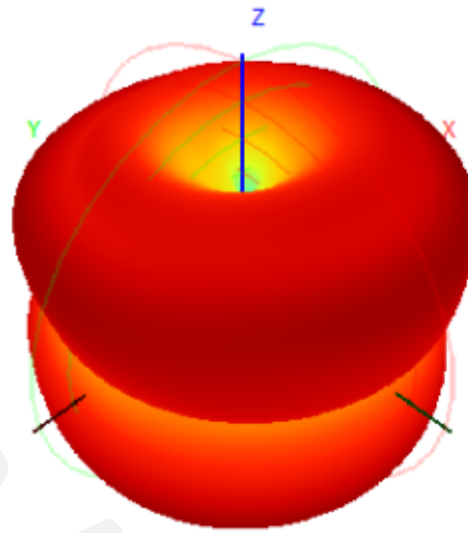
2300.0MHz Total(E2-YZ), Max= 1.92dBi



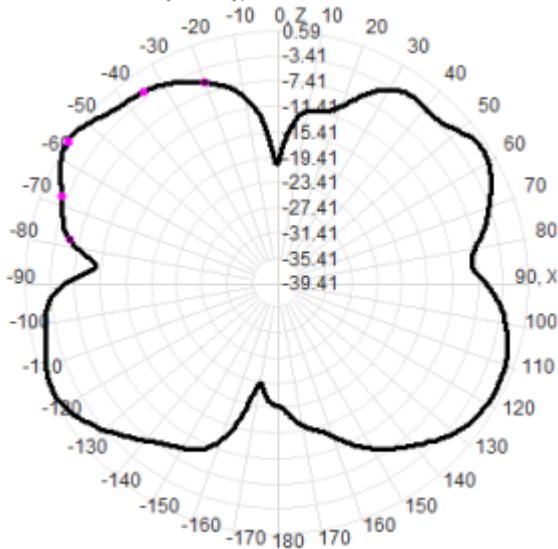
2700.0MHz H+V, Eff: 48.3%



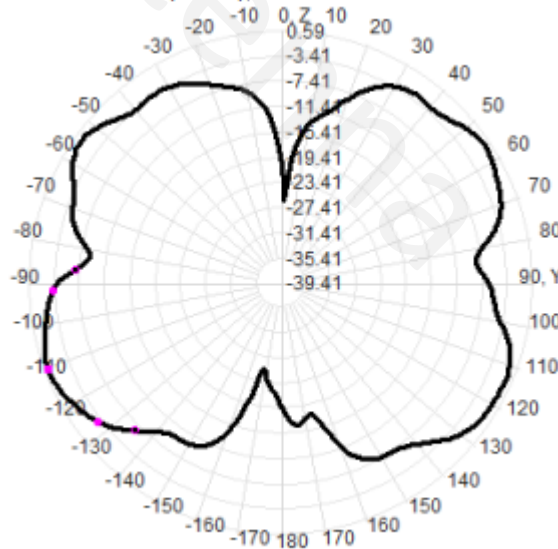
Back View



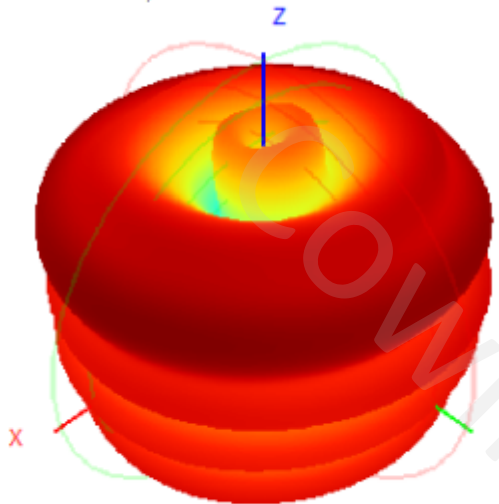
2700.0MHz Total(E1-XZ), Max= 0.59dBi



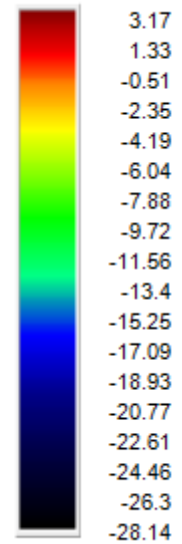
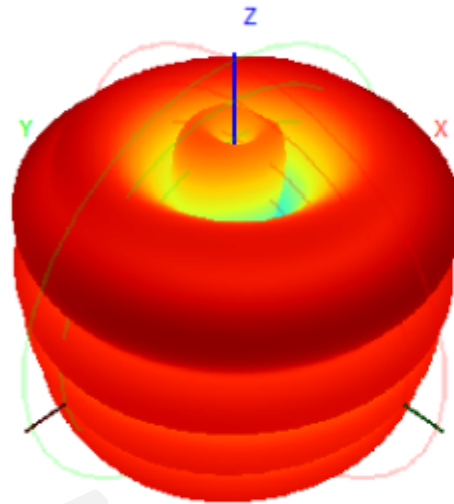
2700.0MHz Total(E2-YZ), Max= -0.05dBi



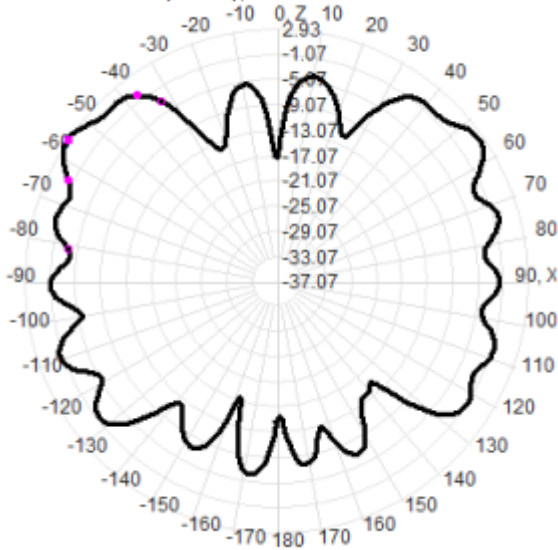
3300.0MHz H+V, Eff: 60.2%



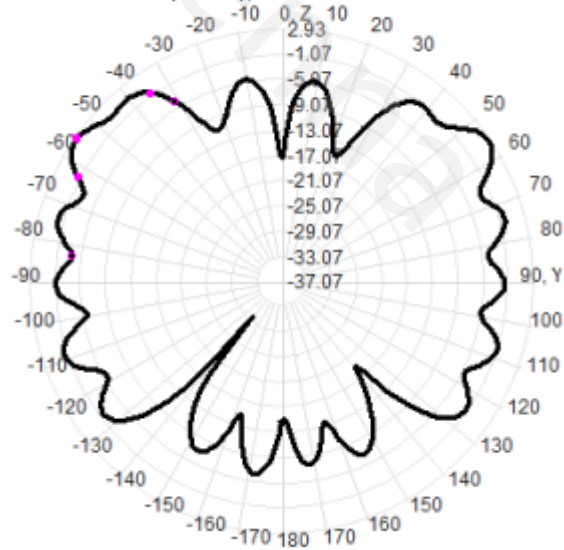
Back View



3300.0MHz Total(E1-XZ), Max= 2.93dBi

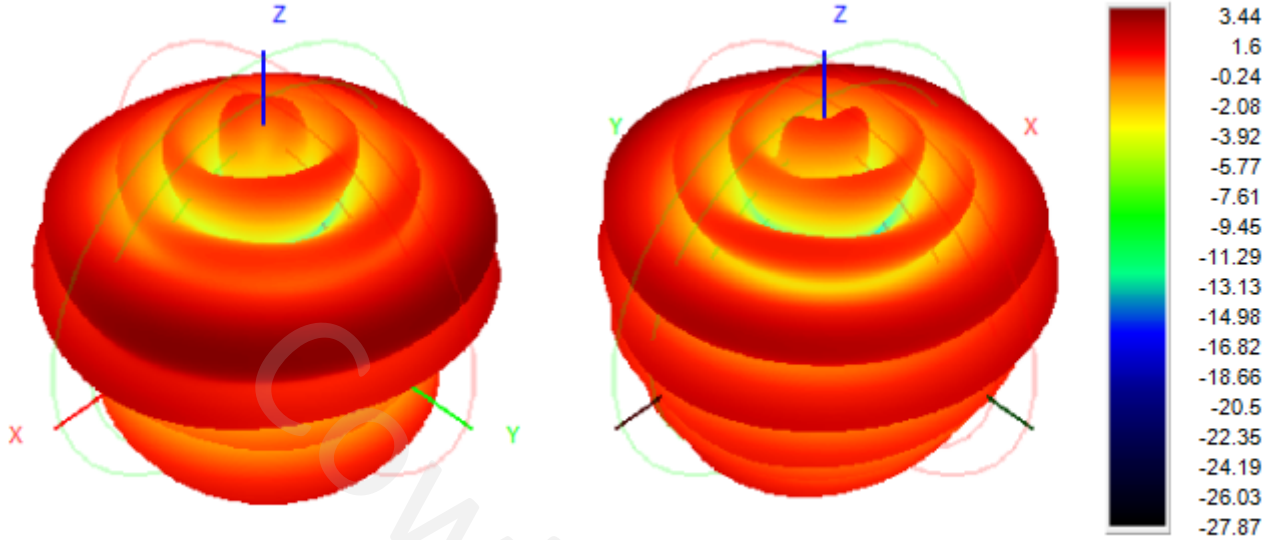


3300.0MHz Total(E2-YZ), Max= 2.56dBi

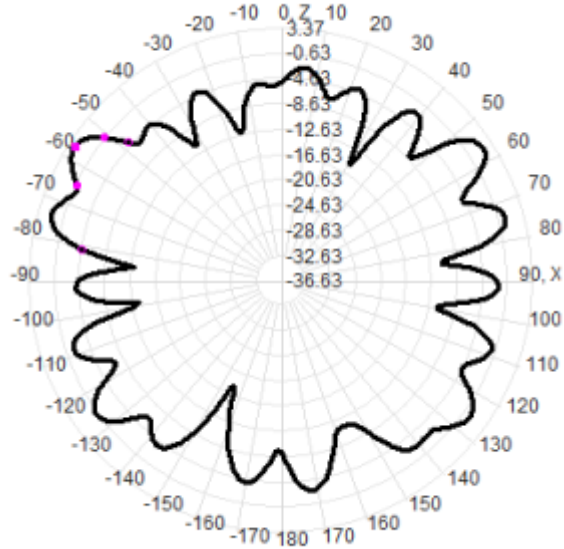


3800.0MHz H+V, Eff: 51.2%

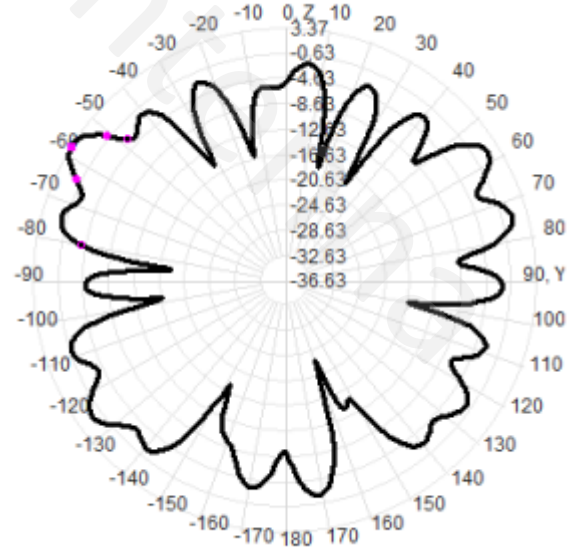
Back View



3800.0MHz Total(E1-XZ), Max= 2.29dBi

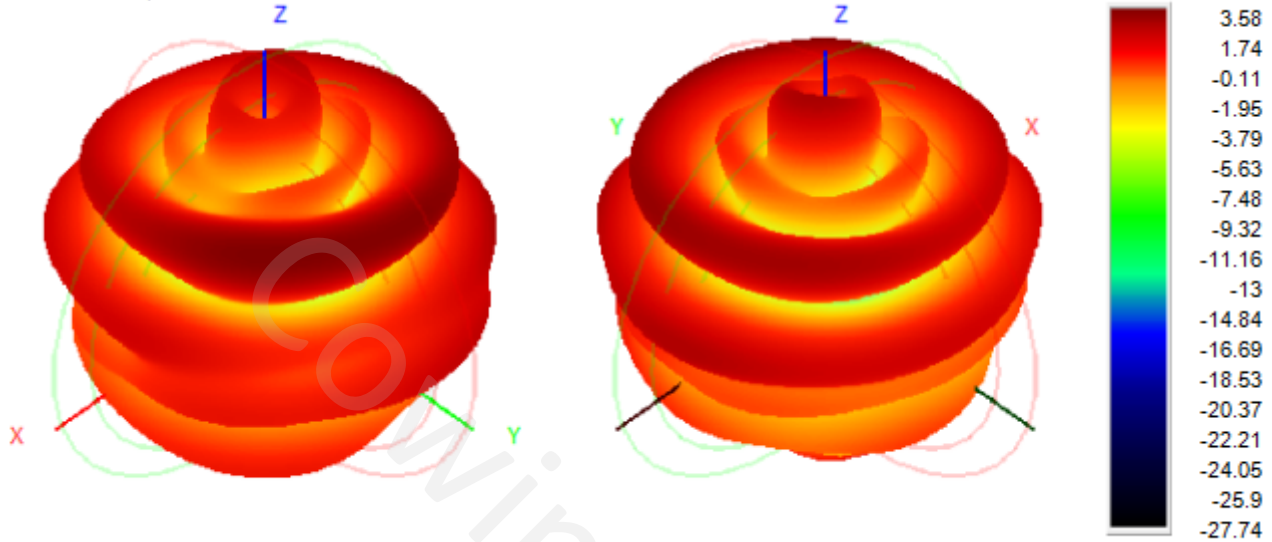


3800.0MHz Total(E2-YZ), Max= 3.37dBi



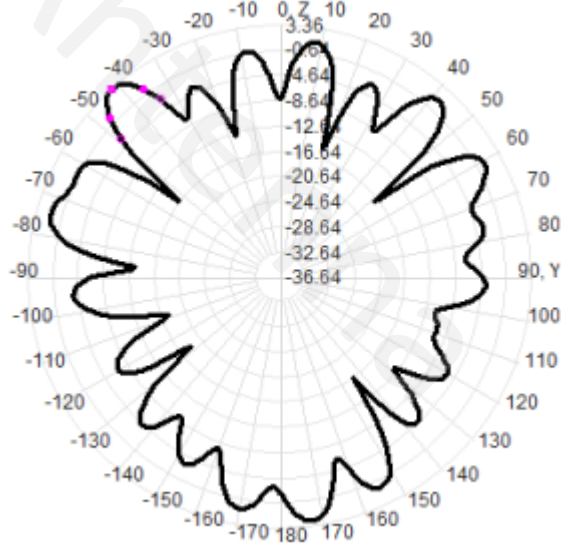
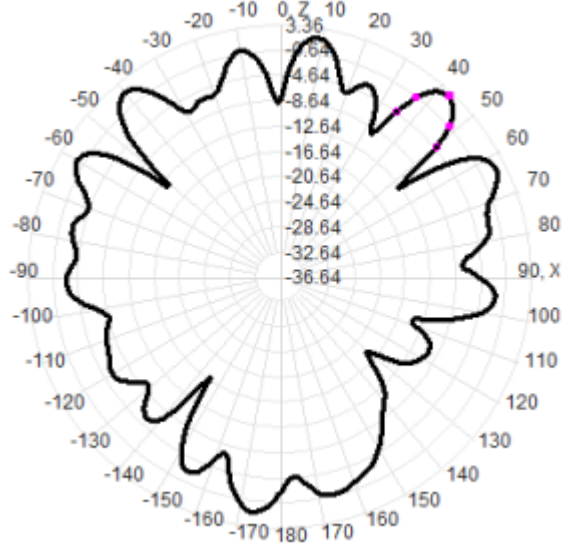
5150.0MHz H+V, Eff: 44.2%

Back View



5150.0MHz Total(E1-XZ), Max= 2.57dBi

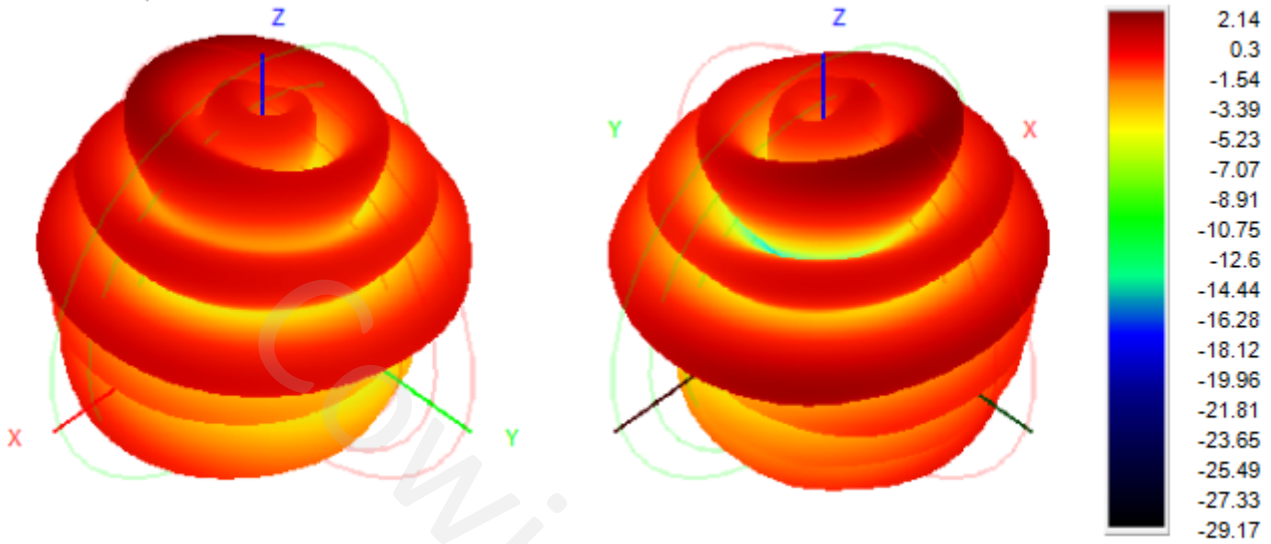
5150.0MHz Total(E2-YZ), Max= 3.36dBi





5925.0MHz H+V, Eff: 29.9%

Back View



5925.0MHz Total(E1-XZ), Max= 0.60dBi

5925.0MHz Total(E2-YZ), Max= 2.14dBi

