active 2J Antennas

Product Datasheet

2J4A56PGFa

CELLULAR/LTE MIMO, IRIDIUM and GNSS
Adhesive Mount

Key Features

Cable 1 and 2: CELLULAR / LTE
- 698-960 MHz
- 1710-2170 MHz
- 2500-2700 MHz

Cable 3: IRIDIUM
- 1616-1627 MHz

Cable 4: GPS/GLONASS/QZSS/Galileo
- 1575-1606 MHz

Adhesive Mount
High Performance
Ground Plane Independent
Customizable Cable and Connector
Dimensions: 61.8 x 155.6 x 17.0 mm
Certificates: IP67, IP69

1. Antenna and electrical specifications

Cable 1

Parameters	CELLULAR / LTE Antenna		
Standards	2G,3G and 4G		
Band (MHz)	700/850/900	1700/1800/1900/2100	2600
Frequency (MHz)	698-960	1710-2170	2500-2700
Return Loss (dB)	~-9.6	~-15.3	~-7.3
VSWR	~2.1:1	~1.6:1	~2.7:1
Efficiency (%)	~46.3	~49.4	~29.9
Peak Gain (dBi)	~-0.5	~1.4	~-0.9
Average Gain (dB)	~-3.4	~-3.1	~-5.3
Impendance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male Standard (Other Connectors Available)		
Cable Length	300 cm Standard (Any Cable Length Available)		
Cable Type	LL100 Standard (Other Cables Available)		

Cable 2

Parameters	CELLULAR / LTE Antenna		
Standards	2G,3G and 4G		
Band (MHz)	700/850/900	1700/1800/1900/2100	2600
Frequency (MHz)	698-960	1710-2170	2500-2700
Return Loss (dB)	~-8.8	~-15.0	~-9.8
VSWR	~2.3:1	~1.5:1	~2.1:1
Efficiency (%)	~43.4	~49.2	~32.8
Peak Gain (dBi)	~0.1	~2.0	~-0.6
Average Gain (dB)	~-3.6	~-3.1	~-4.9
Impendance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male Standard (Other Connectors Available)		
Cable Length	300 cm Standard (Any Cable Length Available)		
Cable Type	LL100 Standard (Other Cables Available)		

Antenna Measurement Conditions:

Mounted on Plastic Plate of 30 x 30 cm

200 cm of Cable LL100

Measured in Certified CTIA 3D Anechoic Chamber

Cable 3

Parameters	IRIDIUM Antenna
Standards	Iridium
Band (MHz)	1621
Frequency (MHz)	1616-1627
Return Loss (dB)	~-18.8
VSWR	~1.2:1
Efficiency (%)	~76
Peak Gain (dBi)	~4.5
Average Gain (dB)	~-1.1
Impendance (Ohm)	50
Polarisation	RHCP
Radiation Pattern	Hemispherical
Axial Ratio (dB)	3 max
Connector Type	SMA-Male Standard (Other Connectors Available)
Cable Length	300 cm Standard (Any Cable Length Available)
Cable Type	LL100 Standard (Other Cables Available)

Cable 4

Parameters	GPS/GLONASS/BeiDou Antenna	
Standards	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency(MHz)	1575.42	1598-1606
Patch Size (mm)	25 x 25 x 4	
Return Loss (dB)	<=-15.0 dB	
VSWR	<=1.4:1 dB	
Impedance	50	
Radiation Pattern	Hemispherical	
Polarization	RHCP	
Saw Filter	Pre-filter	
Active Gain (dB)	28 @ 2.7 V	
Noise Figure (dB)	1.5 Typ	
Voltage (V)	1.5 – 3.6	
Current Consumption (mA)	9 Typ	
Power Consumption (mW)	24.3 Typ	
ESD Protection (kV)	2kV	
Connector Type	SMA-Male Standard (Other Connectors Available)	
Cable Length	300 cm Standard (Any Cable Length Available)	
Cable Type	LL100 Standard (Other Cables Available)	

Antenna Measurement Conditions:

Mounted on Plastic Plate of 30 x 30 cm

200 cm of Cable LL100

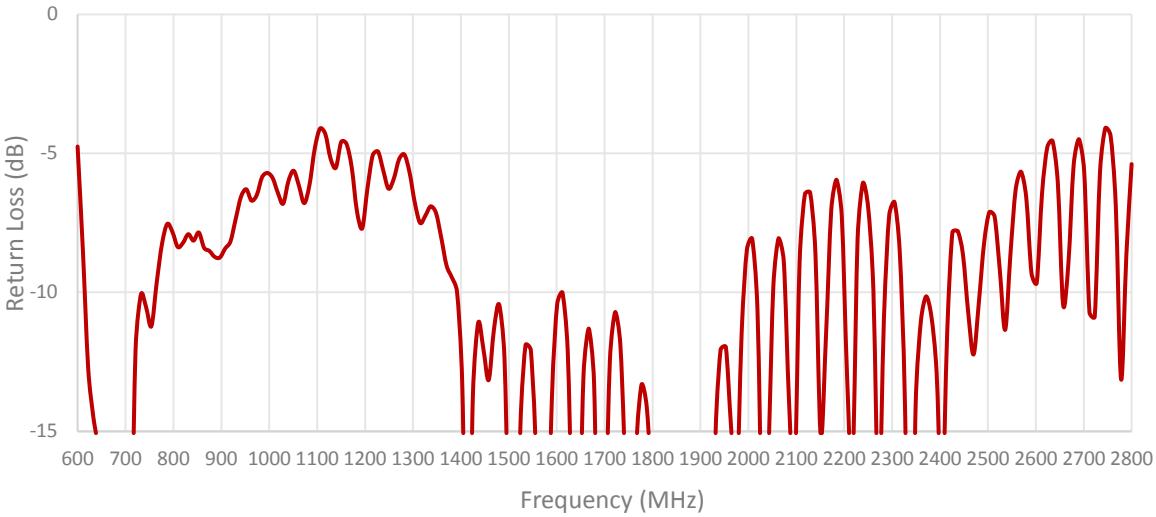
Measured in Certified CTIA 3D Anechoic Chamber

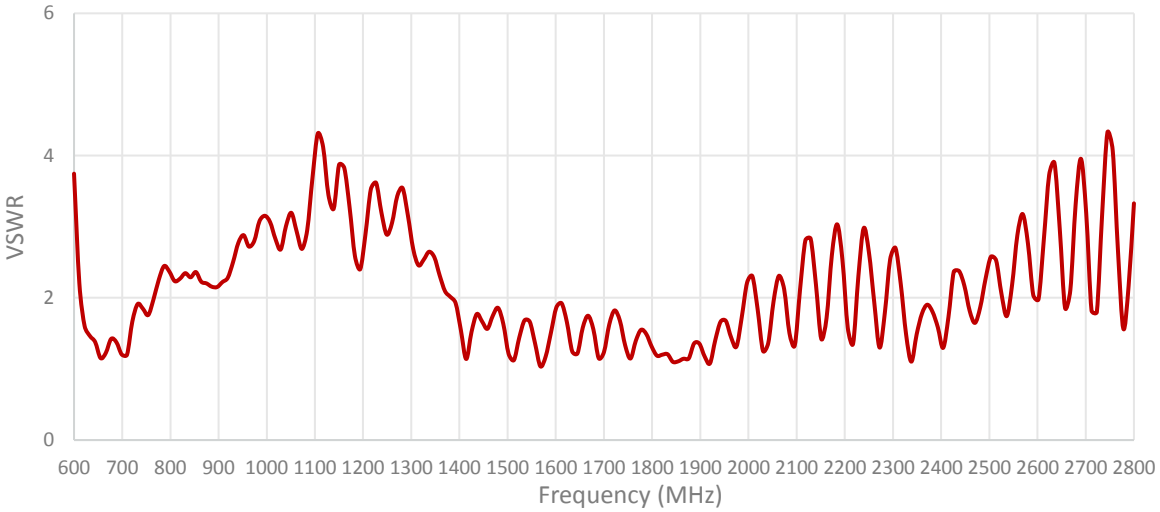
2. Mechanical and environmental specifications

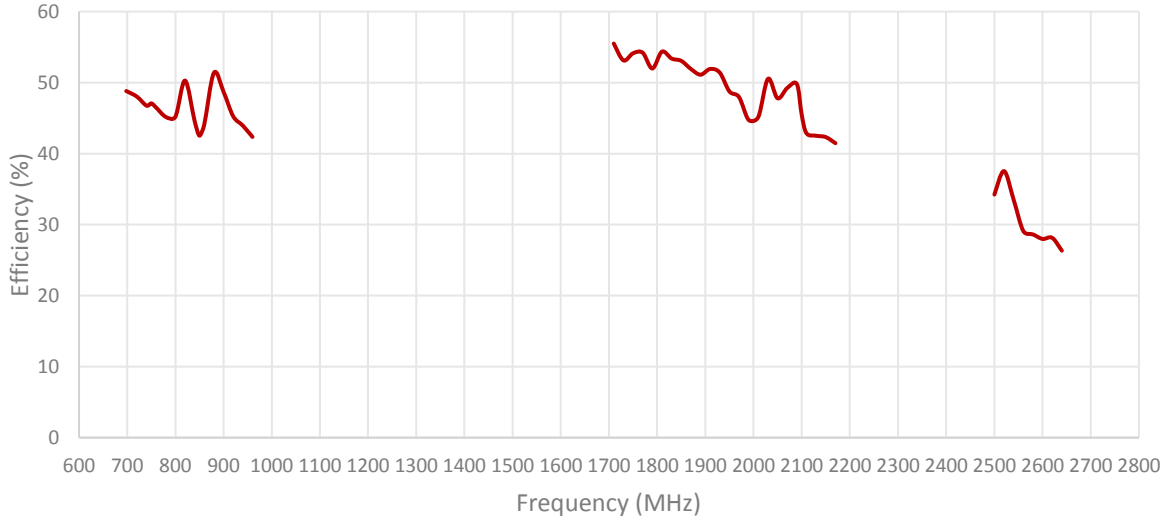
Specifications	2J4A56PGFa
Mounting Type	Adhesive Mount
Dimensions (mm)	61.8 x 155.6 x 17.0
Radome Type	ASA
Radome color	Black
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69

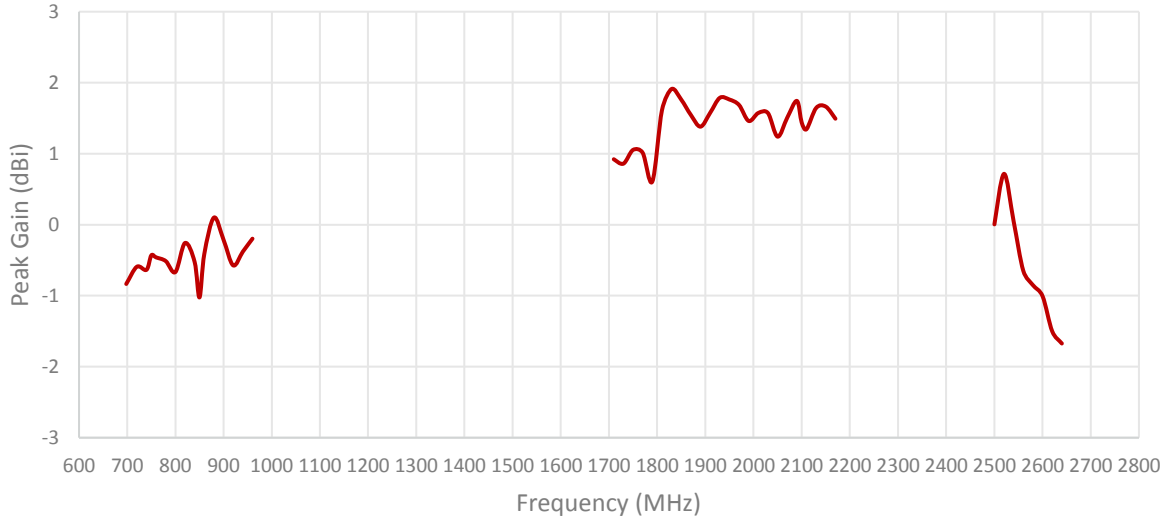
3. Antenna parameters

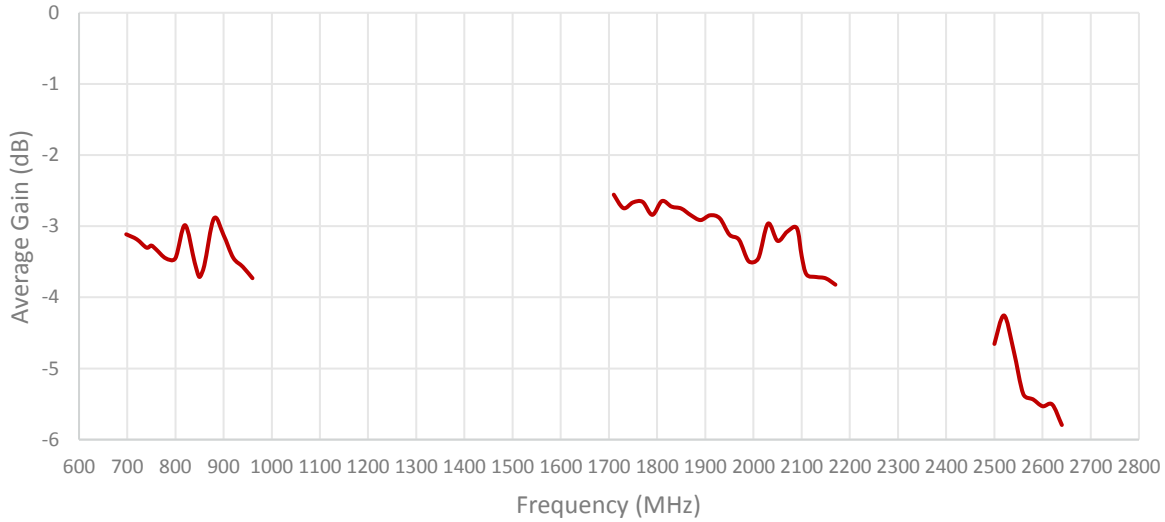
Cable 1: CELLULAR/LTE



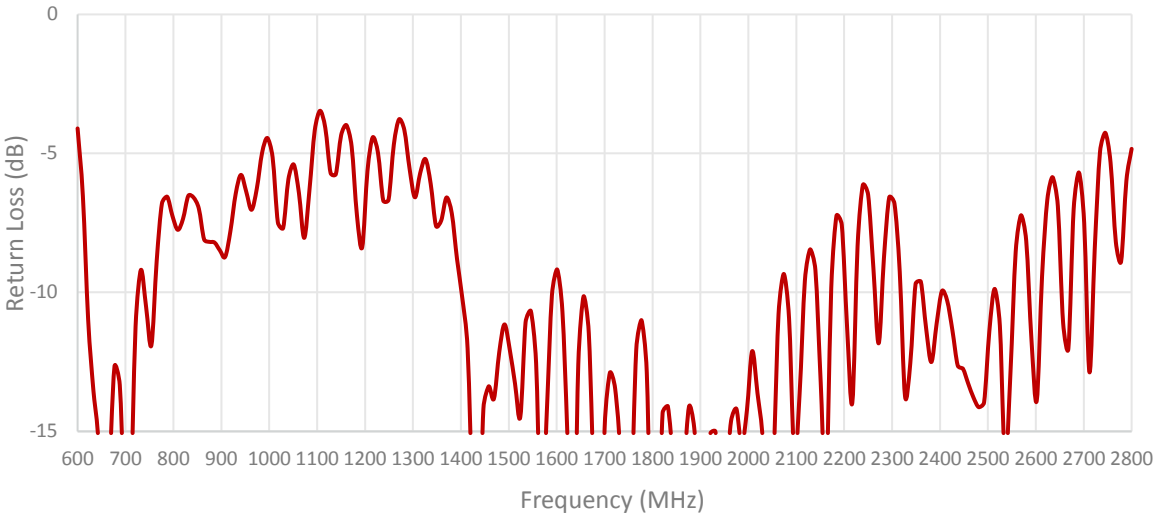


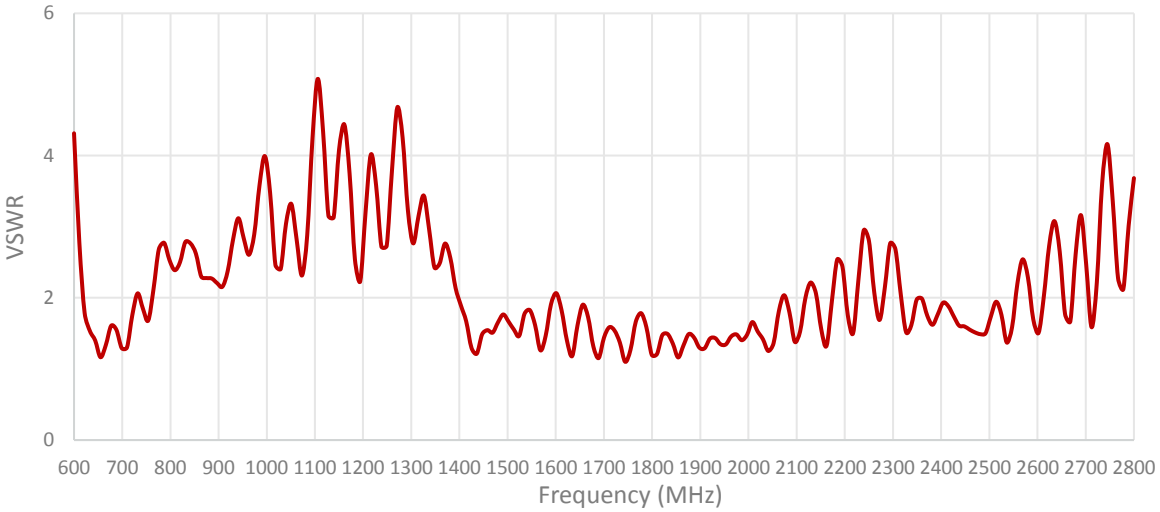

Efficiency (%)
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

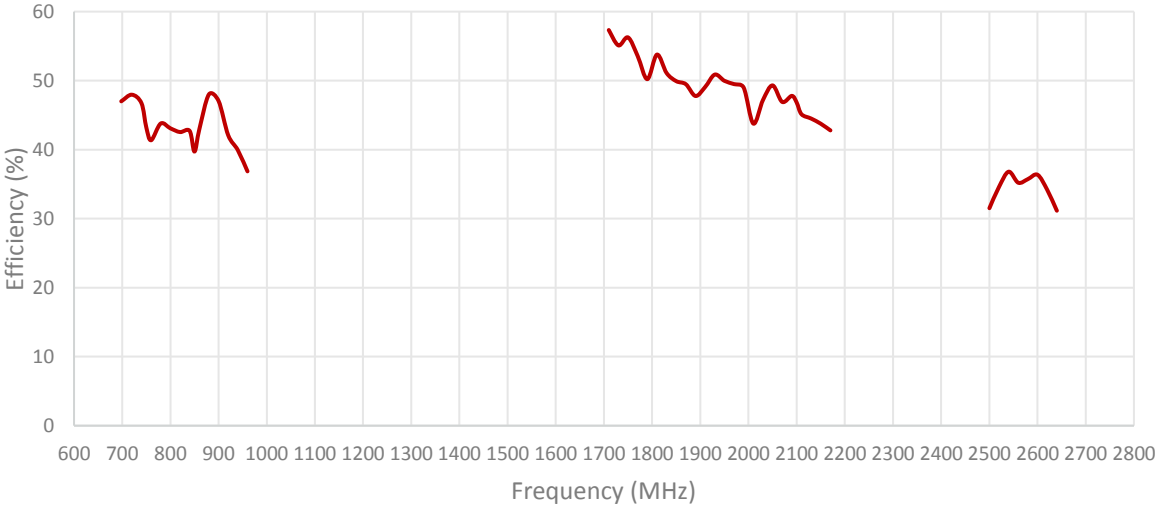

Peak Gain (dBi)
3
2
1
0
-1
-2
-3
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

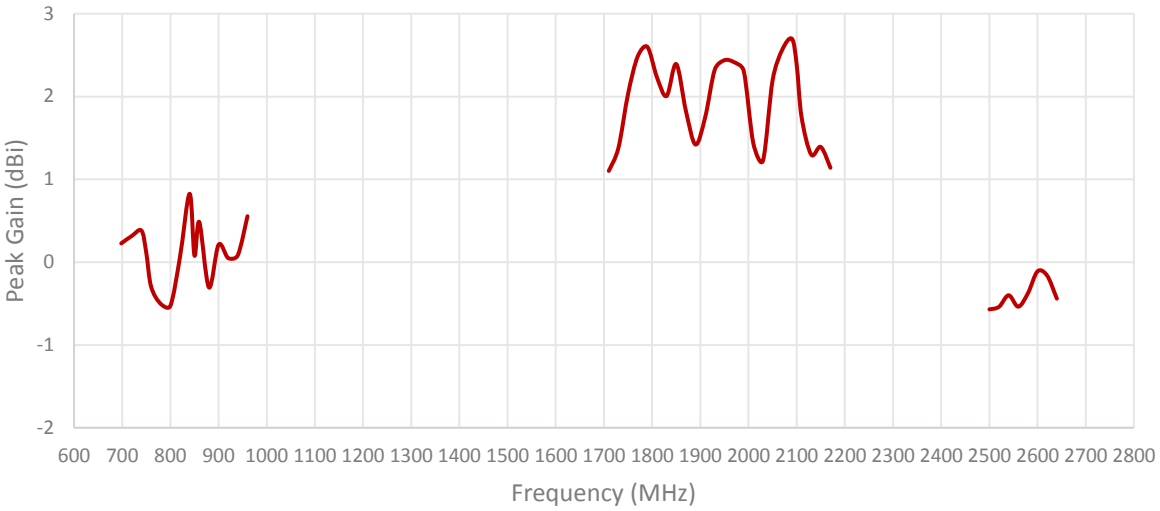

Average Gain (dB)
0
-1
-2
-3
-4
-5
-6
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

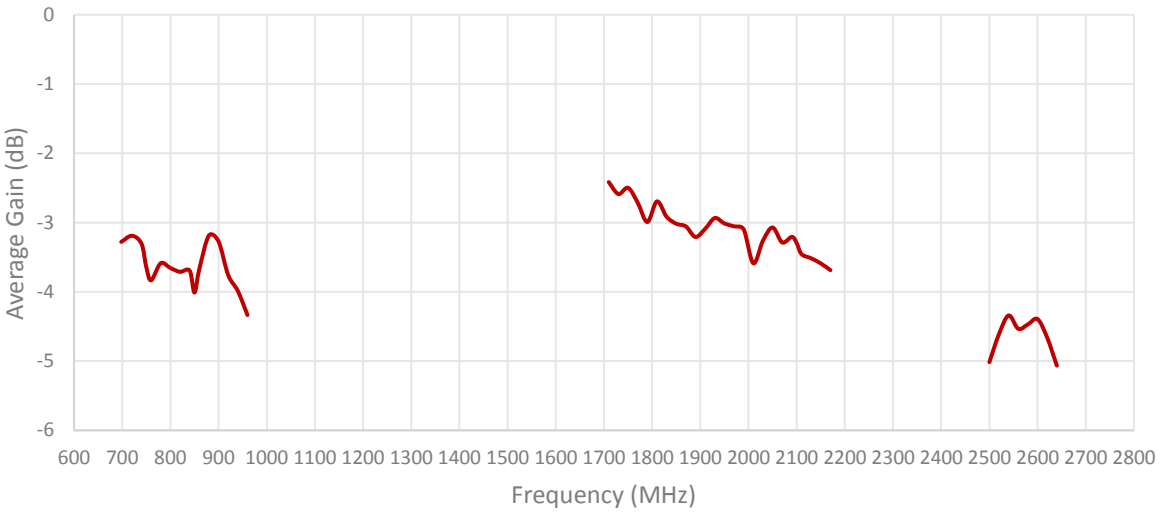
Cable 2: CELLULAR/LTE



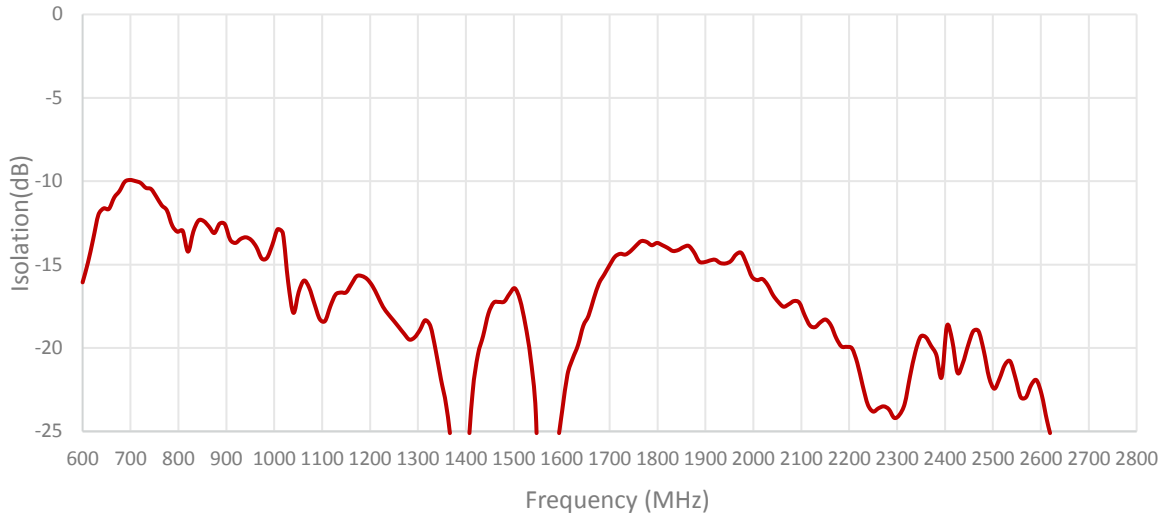



Efficiency (%)
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

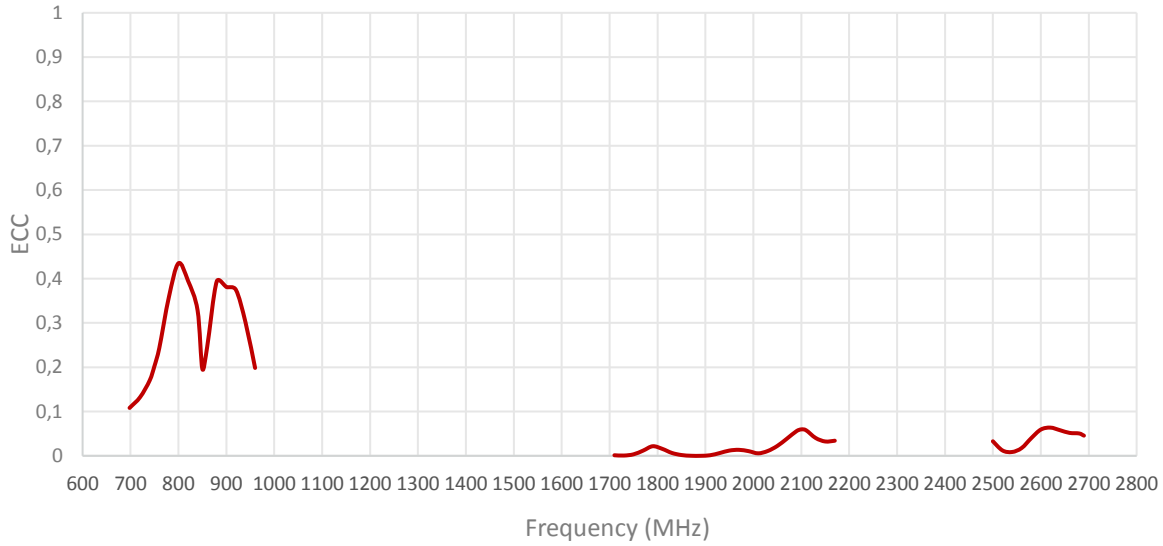

Peak Gain (dBi)
3
2
1
0
-1
-2
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

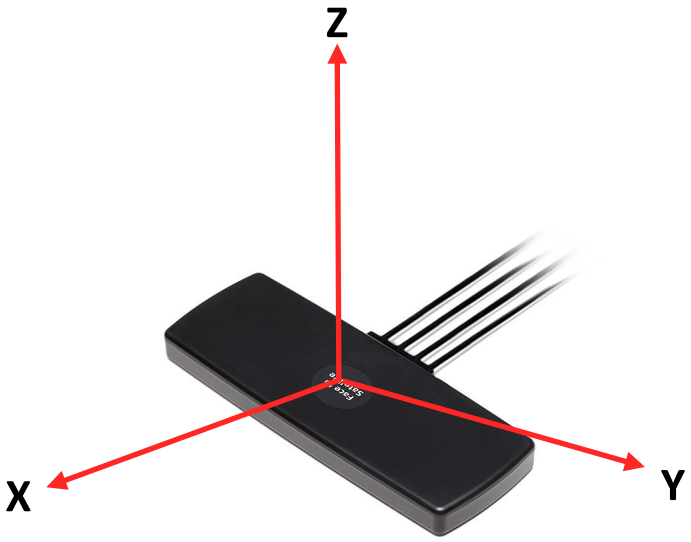

Average Gain (dB)
0
-1
-2
-3
-4
-5
-6
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

ISOLATION FOR CABLES 1 AND 2 (CELLULAR/LTE)



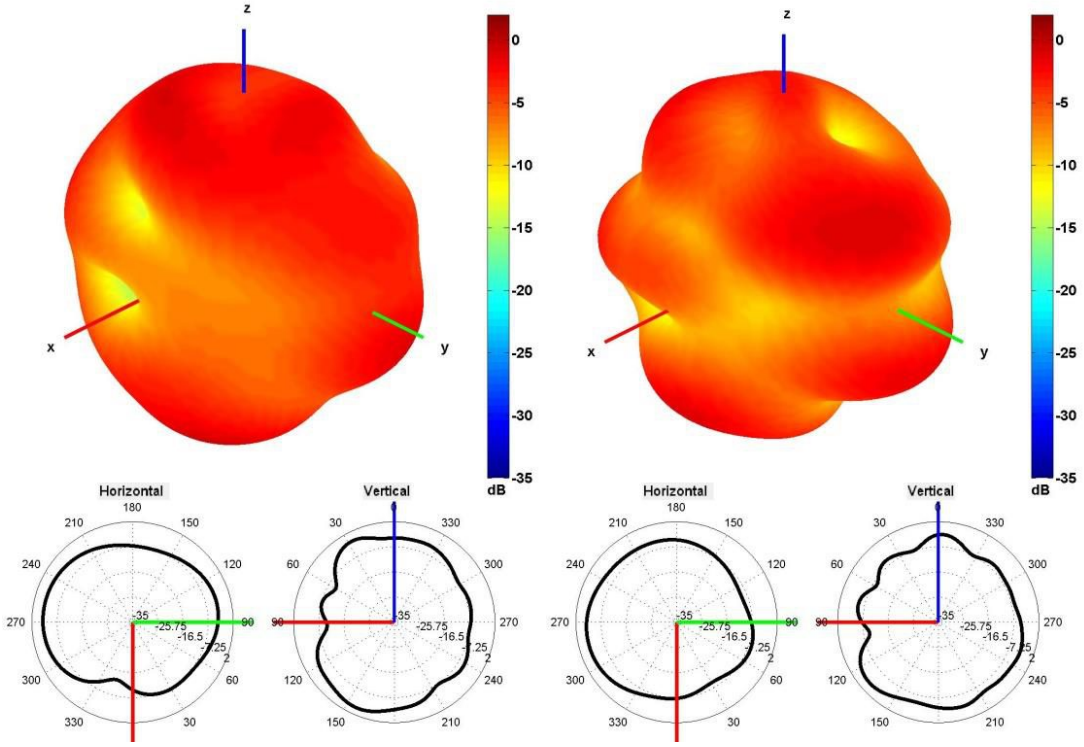
ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2 (CELLULAR/LTE)



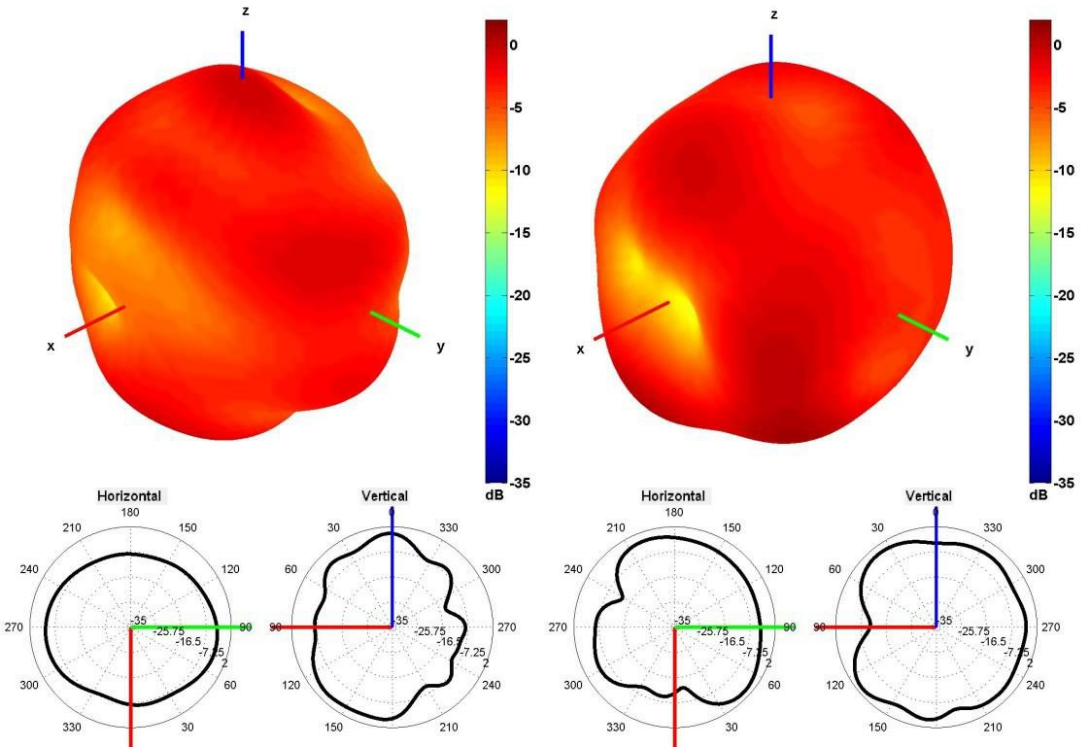


Radiation pattern reference

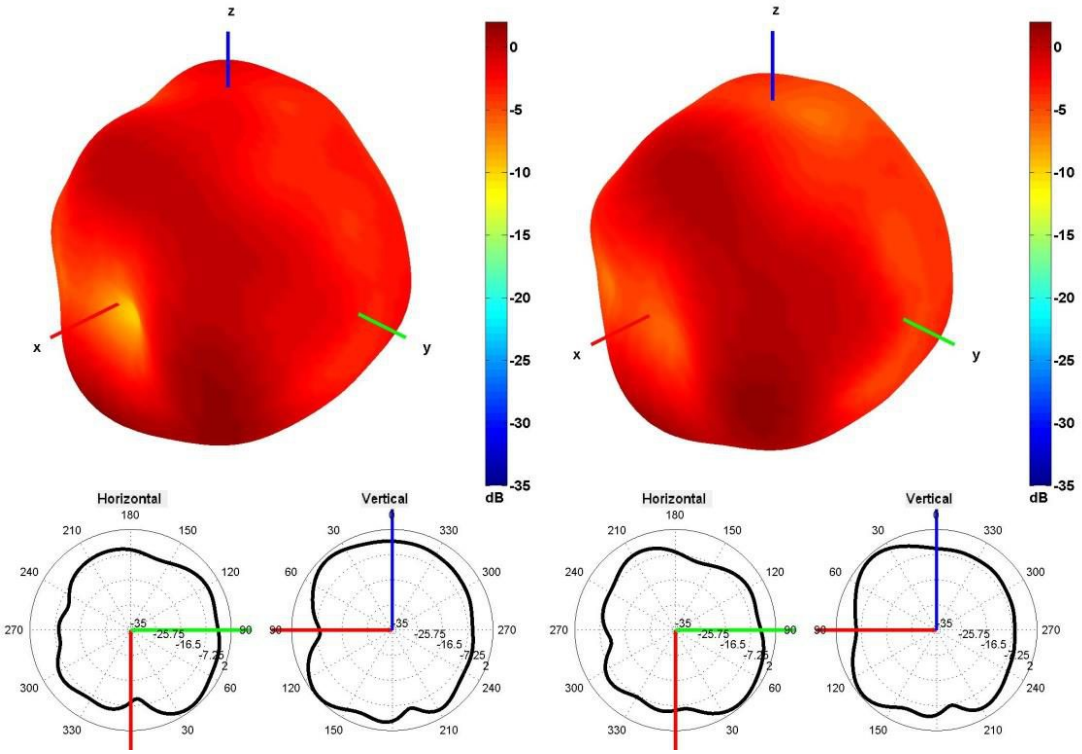
Cable 1: CELLULAR/LTE



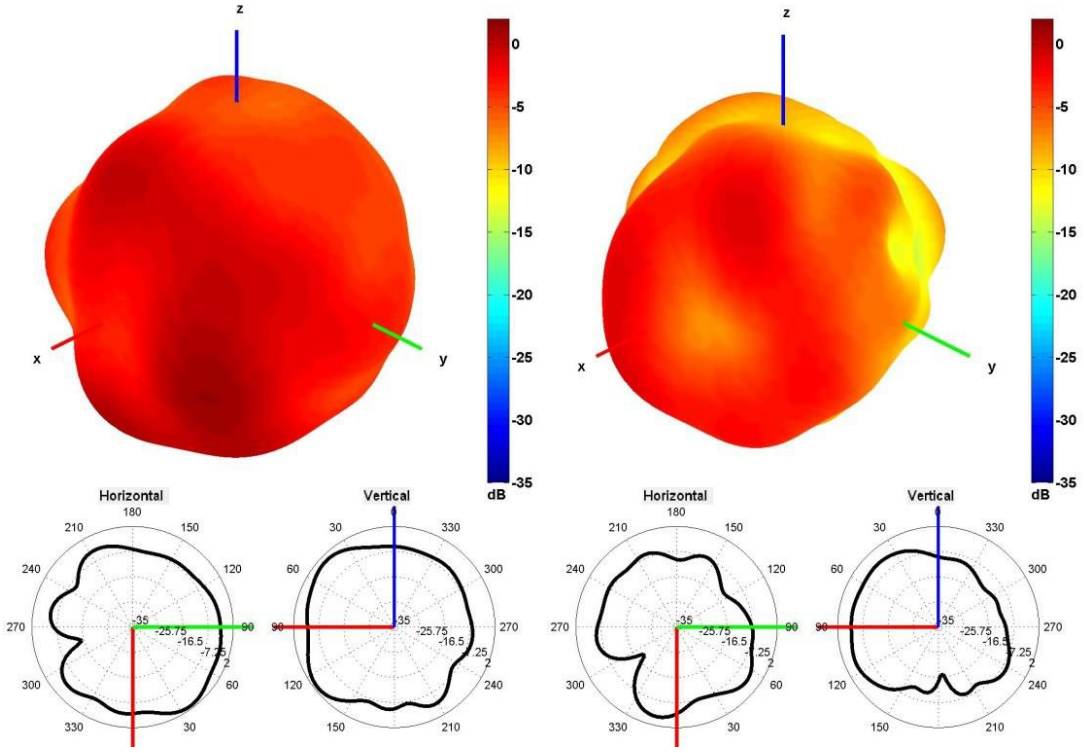
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

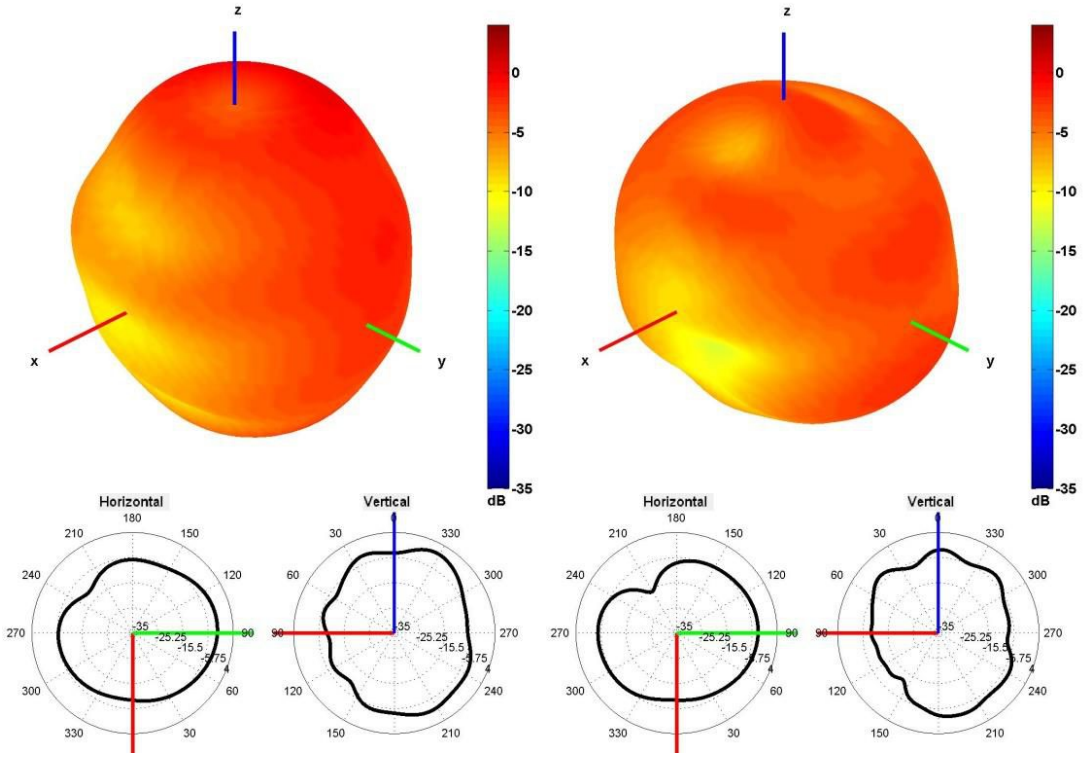


1850 and 1950 MHz Radiation pattern

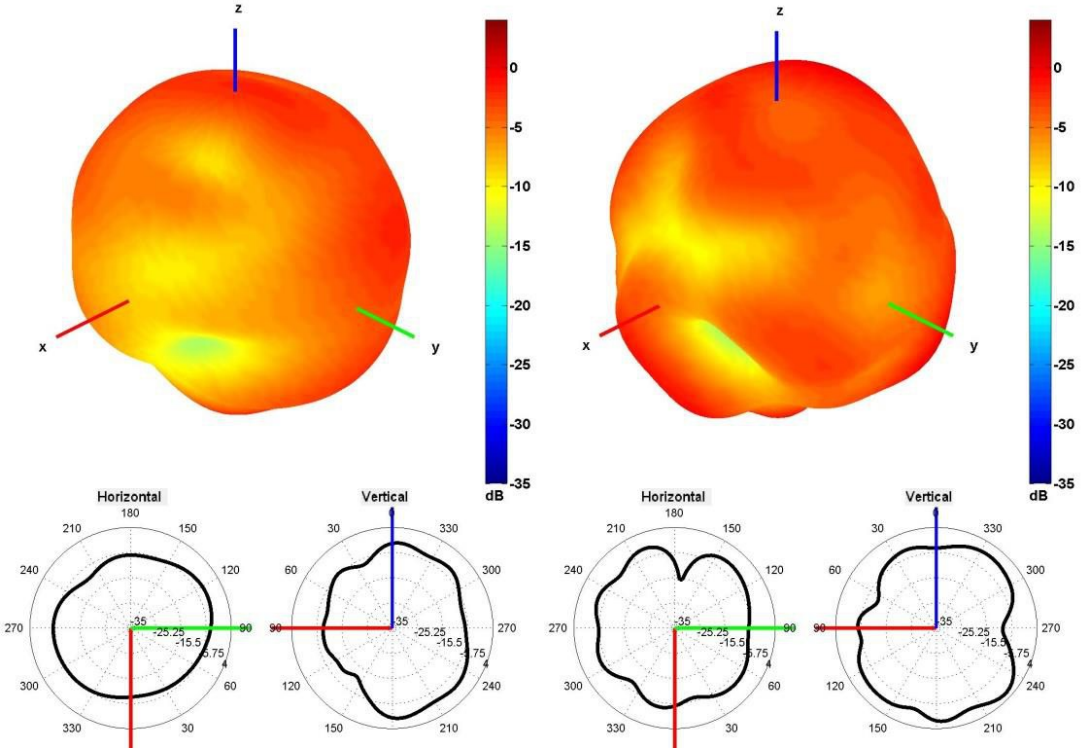


2100 and 2600 MHz Radiation pattern

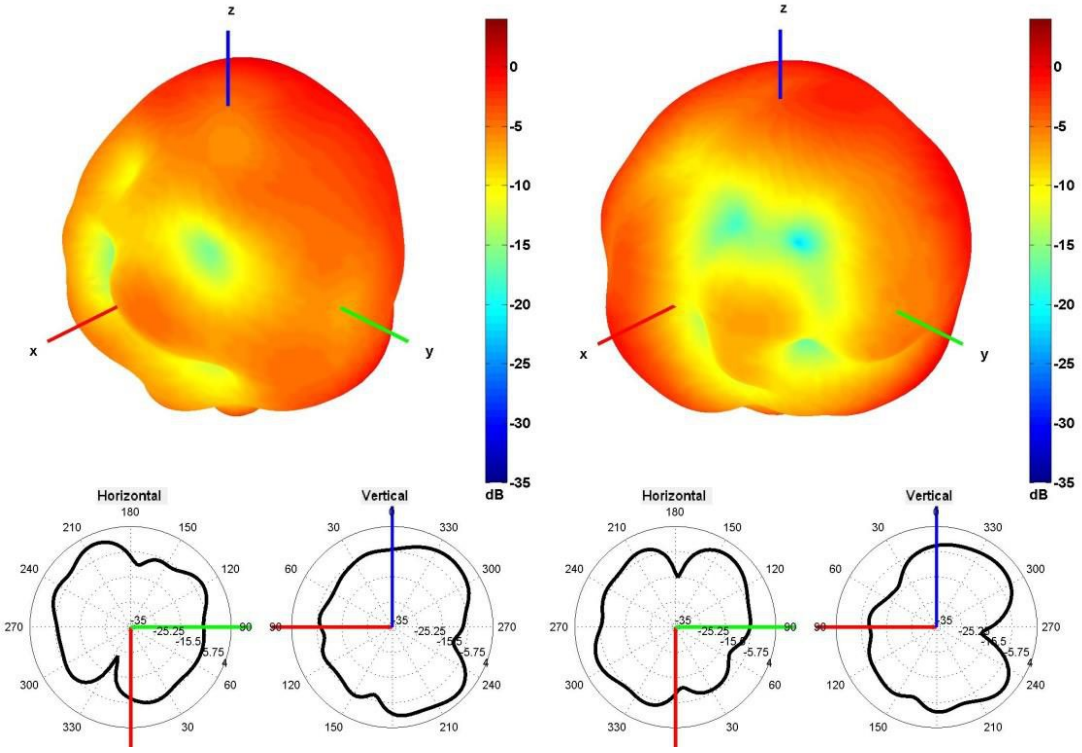
Cable 2: CELLULAR/LTE



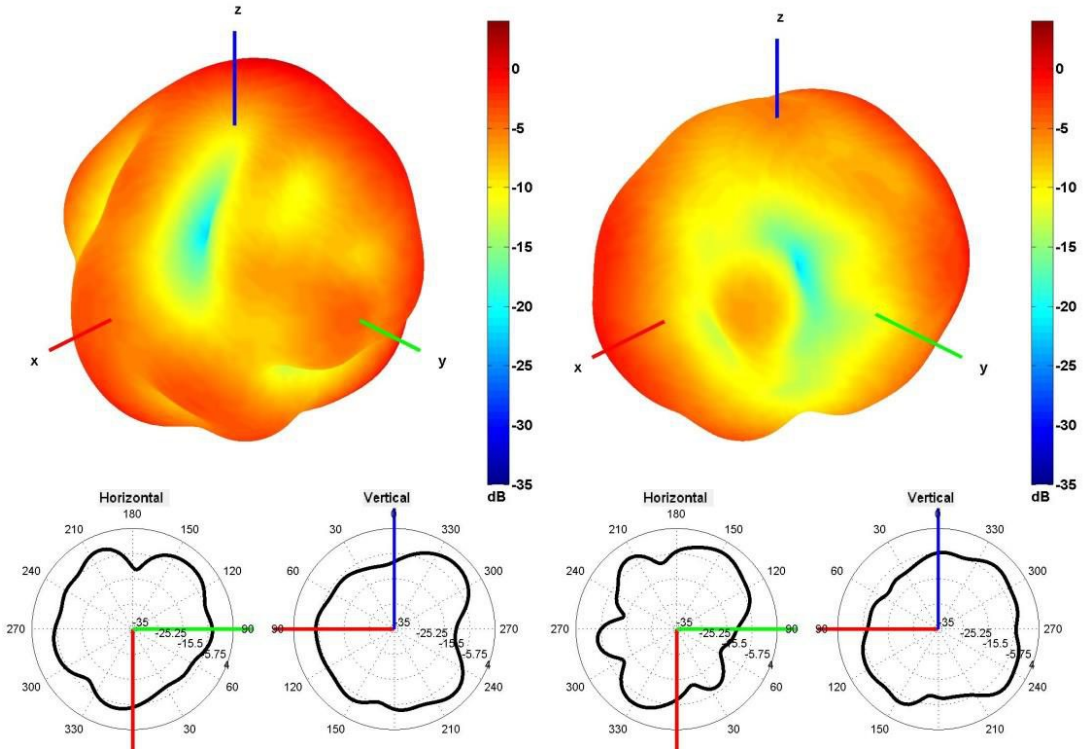
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

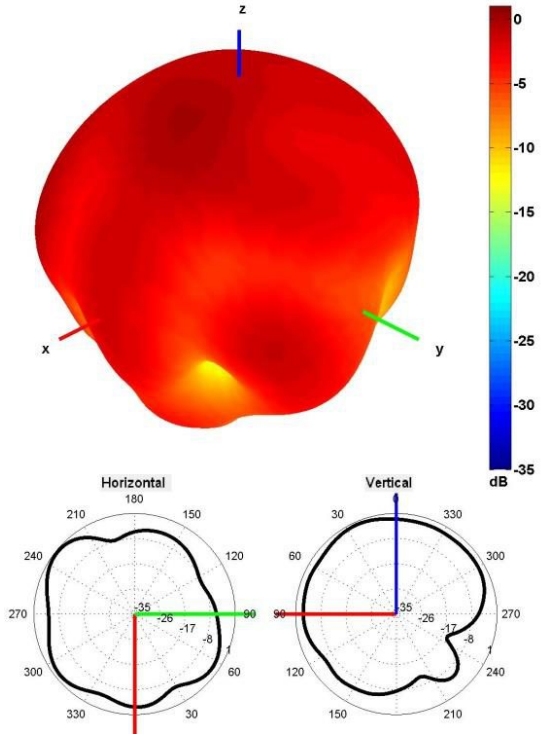


1850 and 1950 MHz Radiation pattern



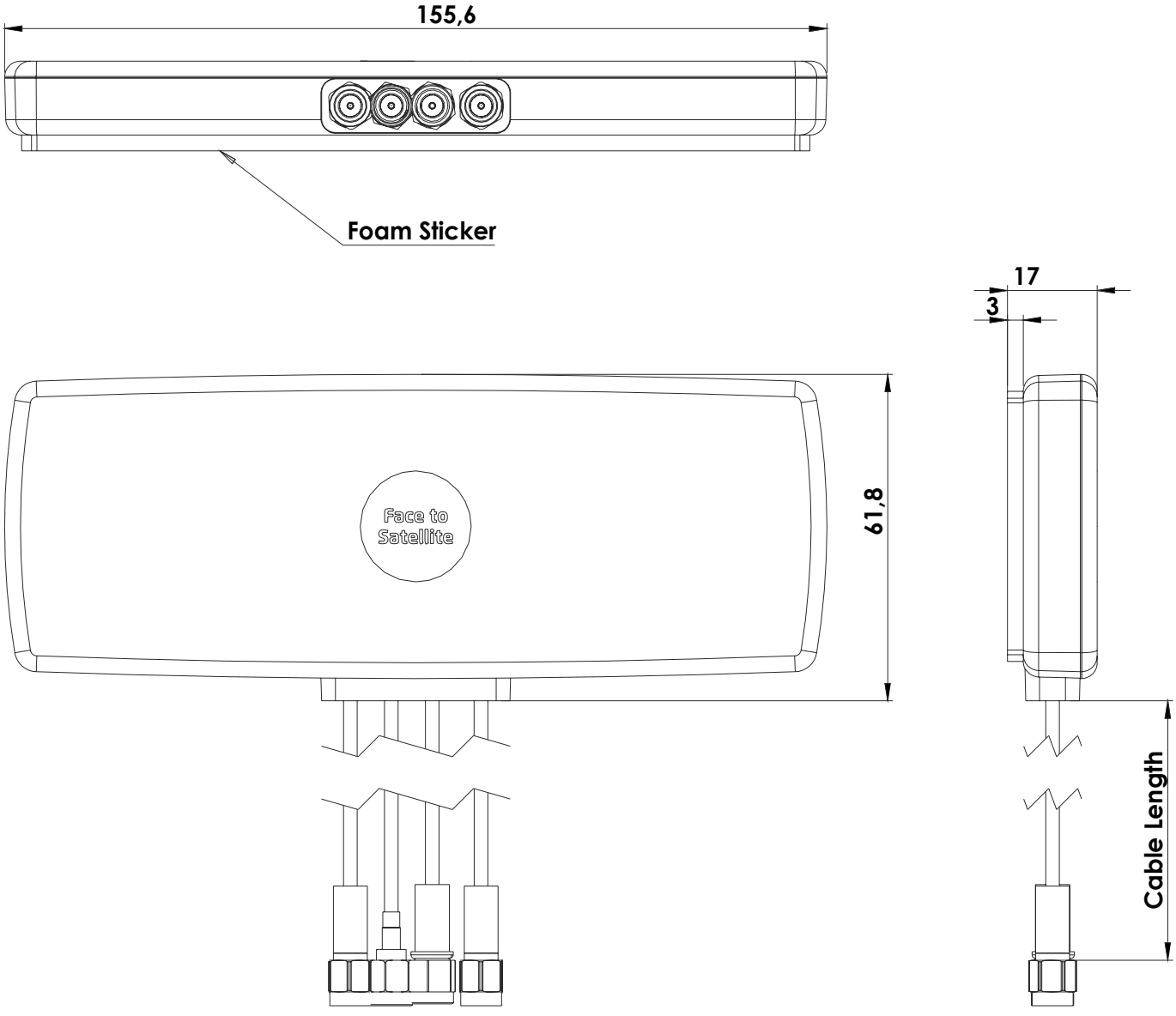
2100 and 2600 MHz Radiation pattern

Cable 3: IRIDIUM



1621 MHz Radiation pattern

4. Antenna drawings



5. Antenna Images