antenna conceptor

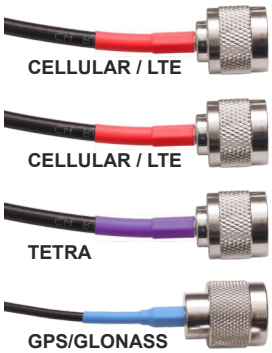
Product Datasheet

2J7114BGFa

CELLULAR/LTE MIMO, TETRA and GNSS Screw Mount

Key Features

Cable 1-2: CELLULAR / LTE
Cable 3: TETRA
Cable 4: GPS/GLONASS/QZSS/Galileo
Screw Mount
Heavy Duty antenna
High Performance
Ground Plane Dependent
Anti-Rotation Mounting
Customizable Cable and Connector
Dimensions: Ø 96 x H 130 mm
Certificates: IP67, IP69, IK09



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)	~-6.0	~-14.7	~-10.9
VSWR	~3.1:1	~1.7:1	~1.9:1
Efficiency (%)	~50.1	~50.6	~48.0
Peak Gain (dBi)	~3.2	~4.1	~3.0
Average Gain (dB)	~-3.1	~-3.0	~-3.3
Impendance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male (Other connectors available)		
Cable Length	300 cm (Customizable length available)		
Cable Type	LL195 (Other cable type 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)	~-6.3	~-14.5	~-12.3
VSWR	~2.9:1	~1.7:1	~1.7:1
Efficiency (%)	~45.0	~46.1	~50.0
Peak Gain (dBi)	~2.6	~3.8	~3.4
Average Gain (dB)	~-3.5	~-3.4	~-3.0
Impendance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male (Other connectors available)		
Cable Length	300 cm (Customizable length available)		
Cable Type	LL195 (Other cable type available)		

Antenna Measurement Conditions:

Mounted on 60 x 60 cm Ground Plane

LL195 200 cm Cable Length

Measured in Certified CTIA 3D Anechoic Chamber

Cable 3

Parameters	TETRA Antenna
Standards	TETRA
Band (MHz)	390, 420, 460
Frequency (MHz)	380-470
Return Loss (dB)	~-16.6
VSWR	~1.5:1
Efficiency (%)	~64.4
Peak Gain (dBi)	~2.1
Average Gain (dB)	~-1.9
Impendance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	25
Connector Type	Most RF Connectors (SMA-Male Standard)
Cable Length	Any Cable Length (300 cm Standard)
Cable Type	Other Cables Available (LL195 Standard)

Cable 4

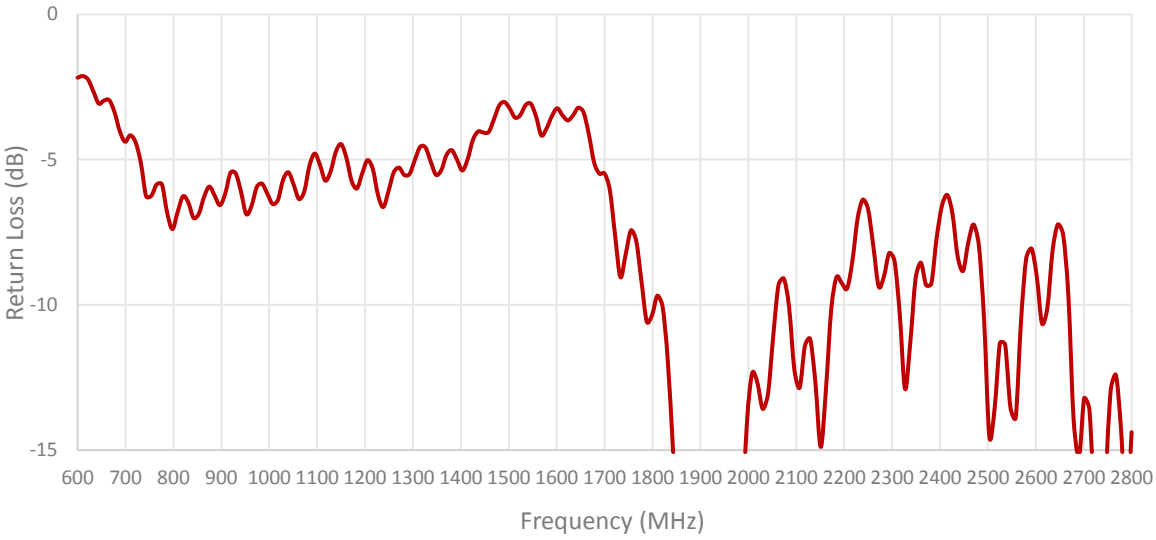
Parameters	GPS/GLONASS Antenna	
Standards	GPS/QZSS/Galileo	GLONASS
Bands (MHz)	1575	1602
Frequency (MHz)	1575.42	1598-1606
Passive Gain (dBi)	~3.6	
Impedance (Ohms)	50	
Radiation Pattern	Hemispherical	
Voltage Range (V)	1.5 - 3.6	
Active Gain (dB)	28 @ 2.7 V	
Noise Figure (dB)	1.8 @ 2.7 V	
Current Consumption (mA)	9 @ 2.7 V	
Power Consumption (mW)	24.3 @ 2.7 V	
Saw Filter Type	Pre-Filter	
Out of Band Rejection (dB)	~43	
ESD Protection (kV)	6	
Connector Type	SMA-Male Standard (Other Connectors Available)	
Cable Length	300 cm Standard (Any Cable Length Available)	
Cable Type	LL100 Standard (Other Cables Available)	

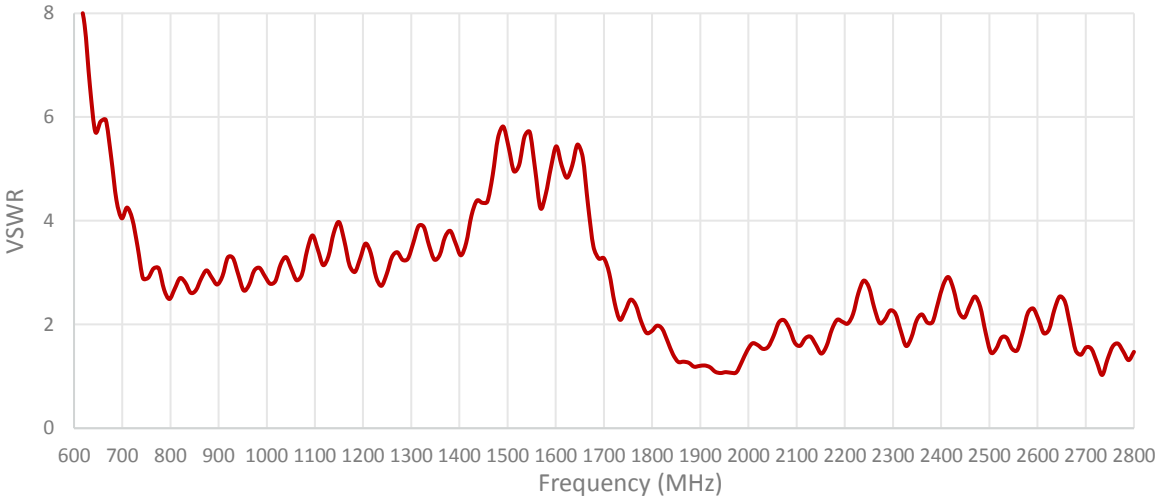
2. Mechanical and environmental specifications

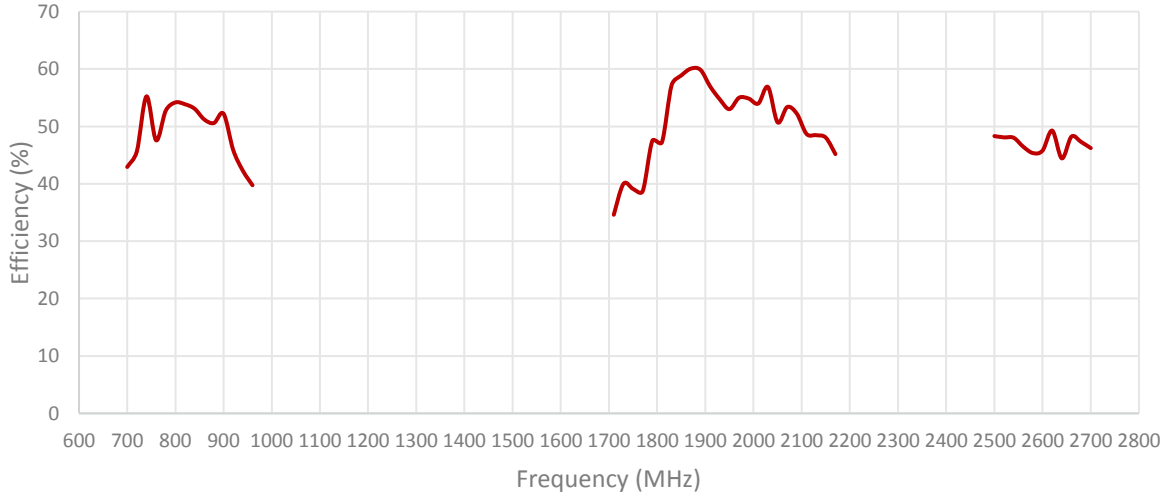
Specifications	2J7114BGFa
Mounting Type	Screw Mount
Dimensions (mm)	Ø 96 x H 130
Max. Tighten Torque (Nm)	15 Nm
Radome	ASA
Radome color	White, Black
Antenna Base	Alluminium alloy
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69, IK09

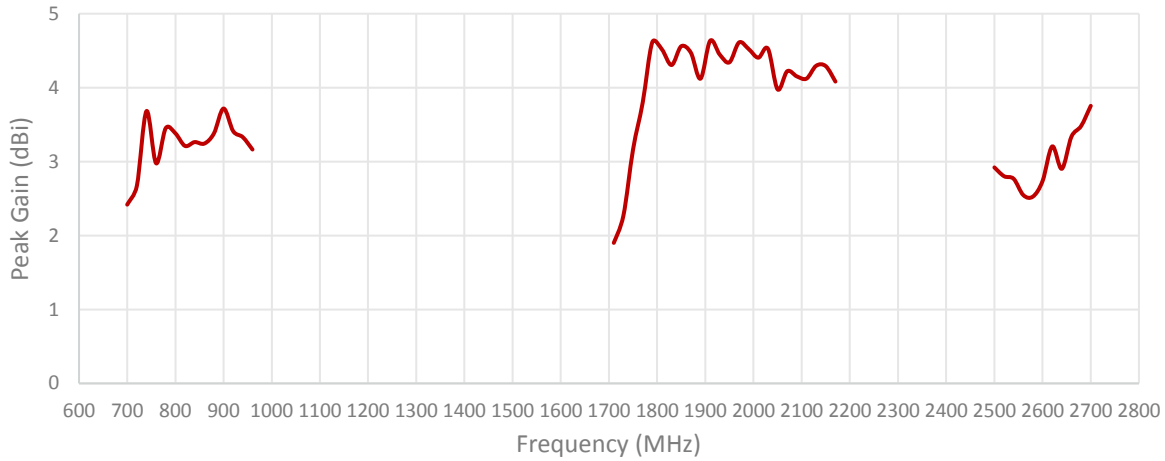
3. Antenna parameters

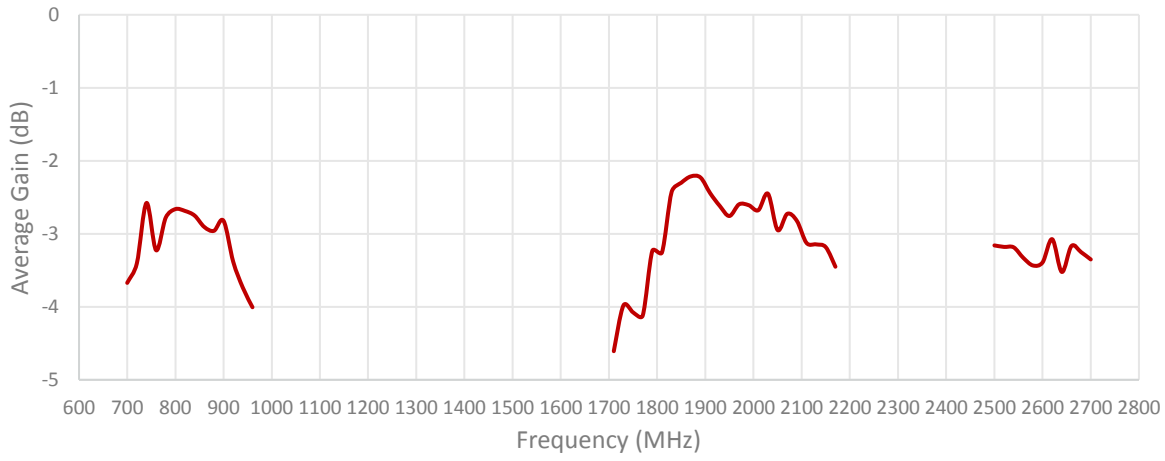
Cable 1: CELLULAR/LTE



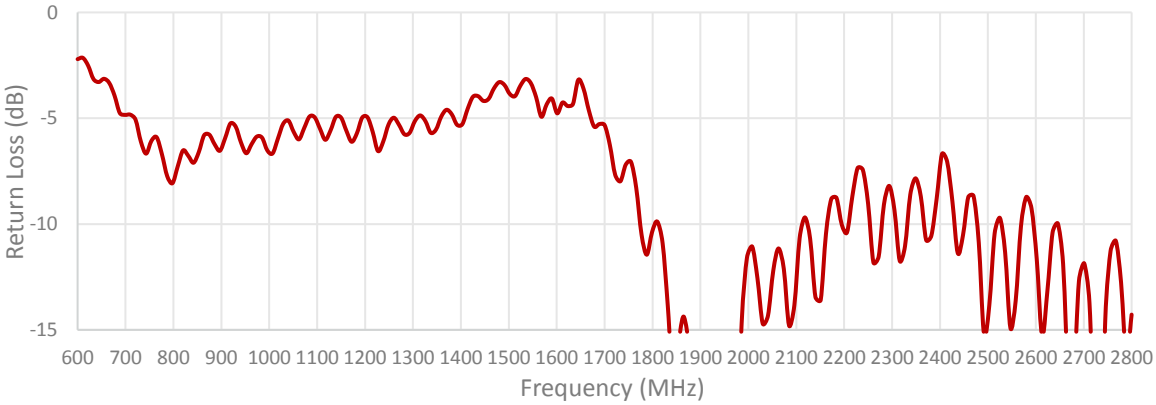


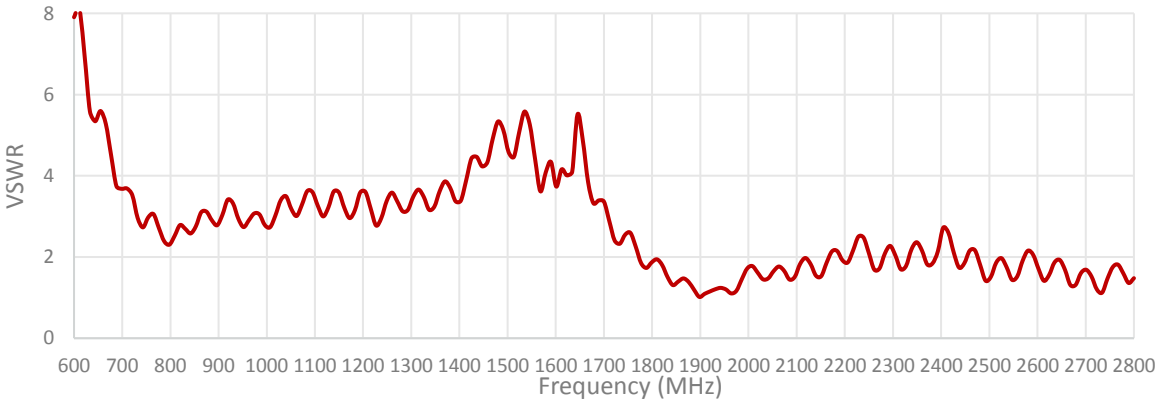

Efficiency (%)
70
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

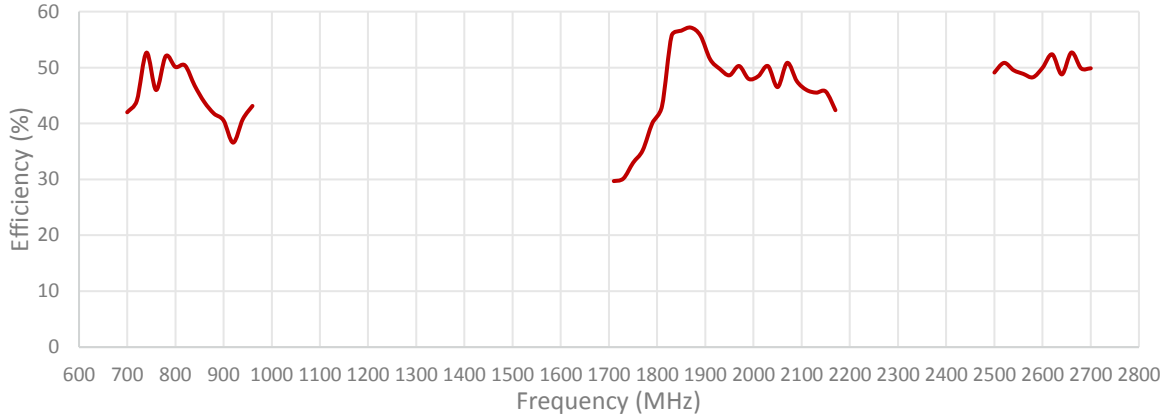

Peak Gain (dBi)
5
4
3
2
1
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

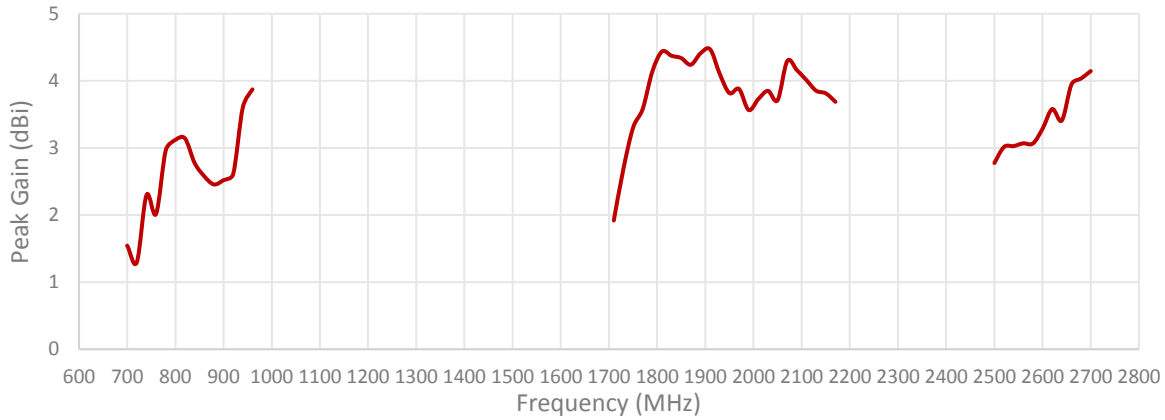

Average Gain (dB)
0
-1
-2
-3
-4
-5
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

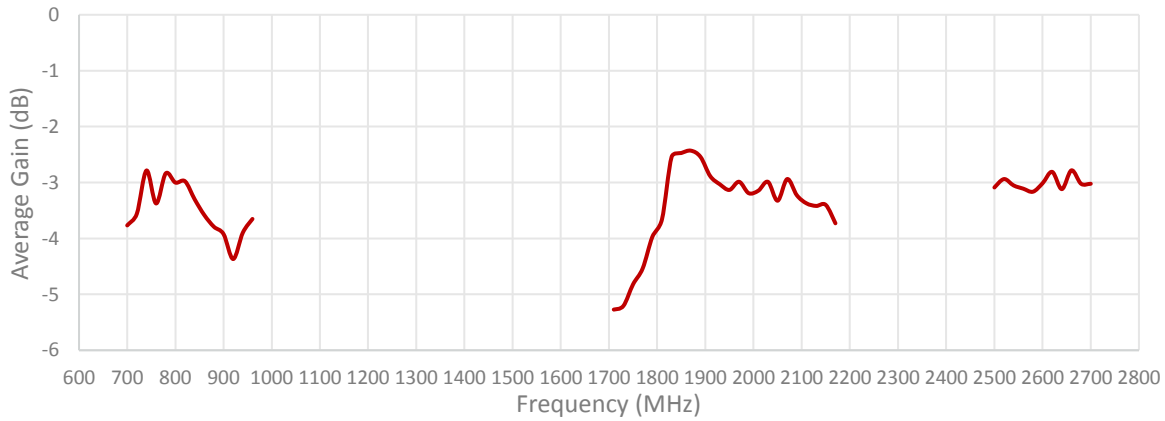
Cable 2: CELLULAR/LTE



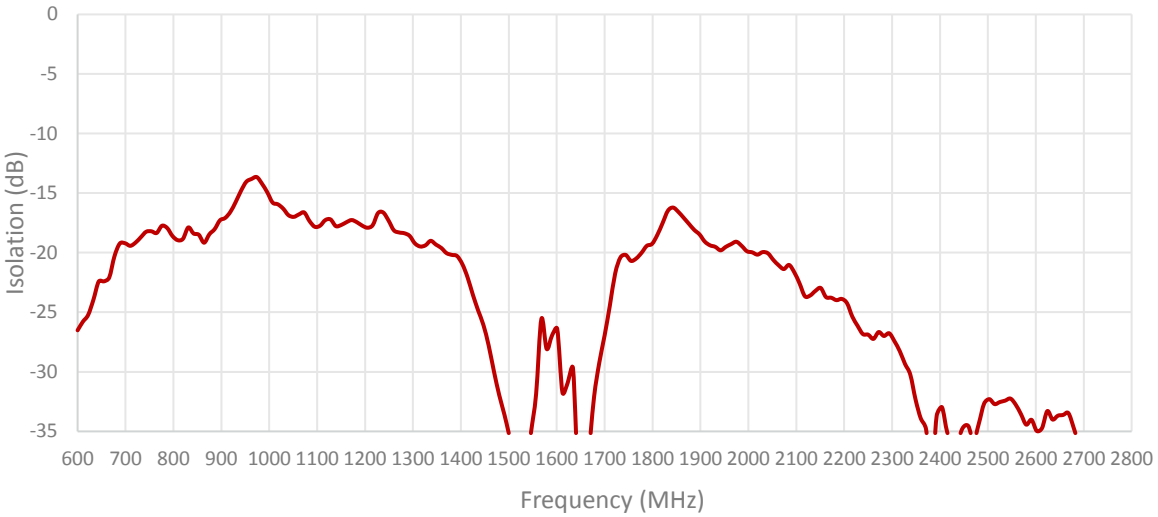



Efficiency (%)
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

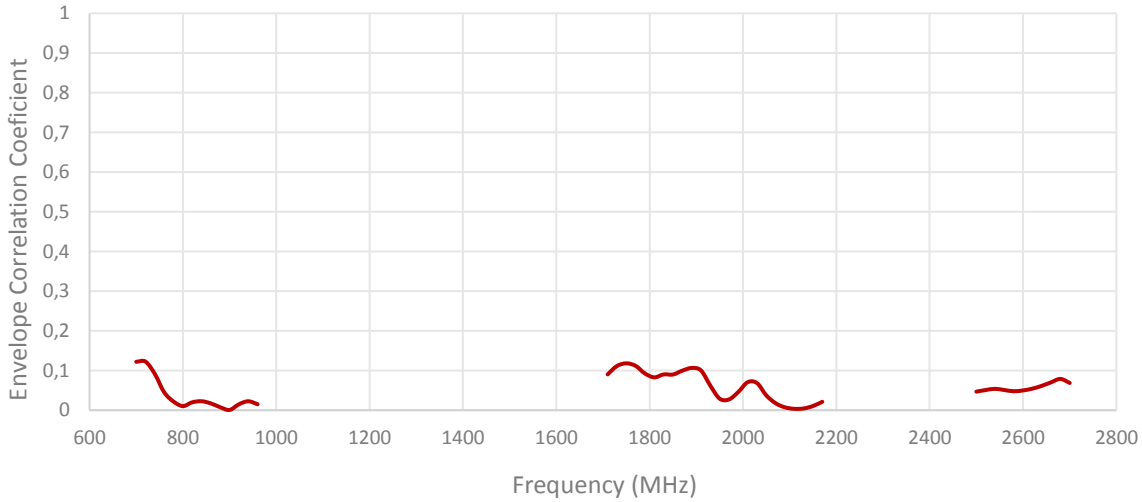

Peak Gain (dBi)
5
4
3
2
1
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)


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)

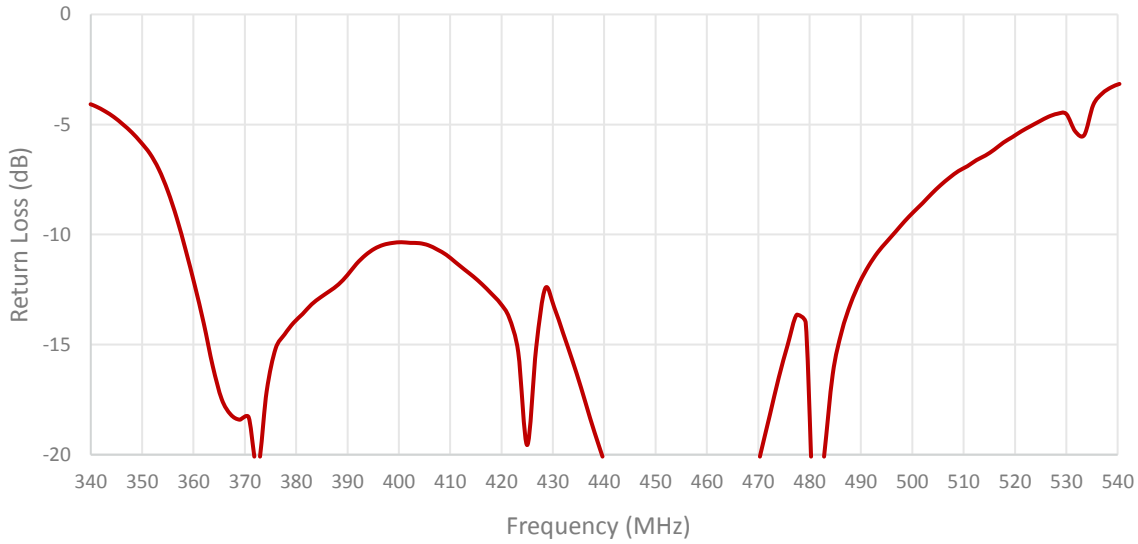
ISOLATION FOR CABLES 1 AND 2

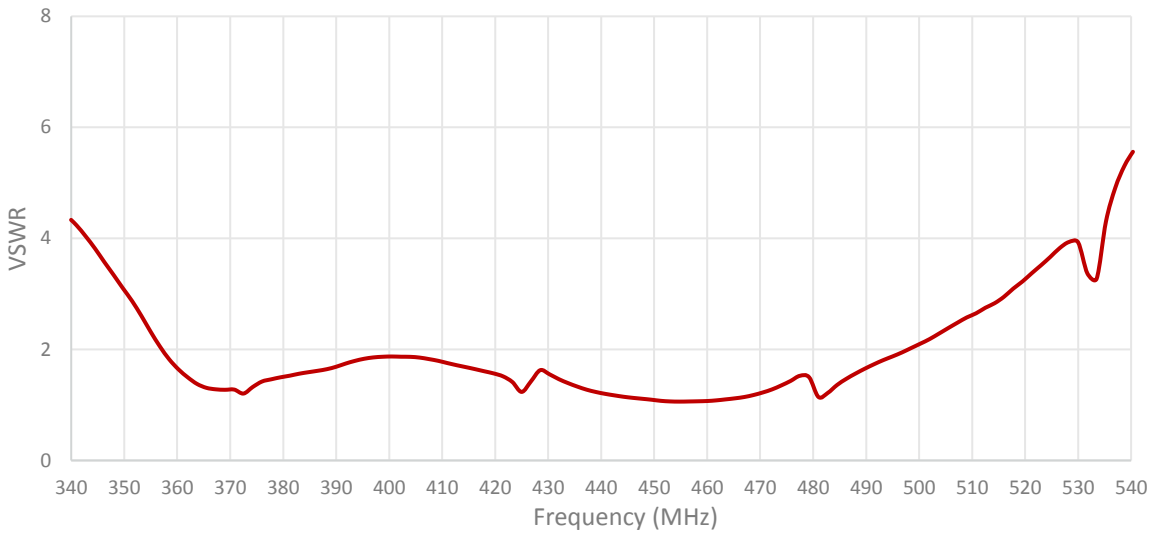


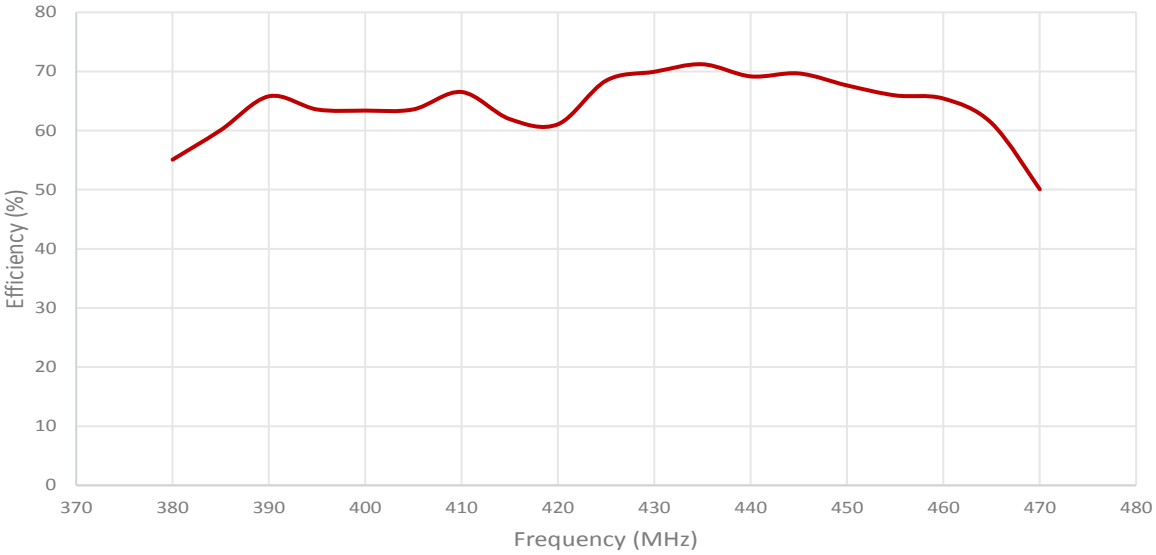
ENVELOPE CORRELATION COEFICIENT FOR CABLES 1 AND 2

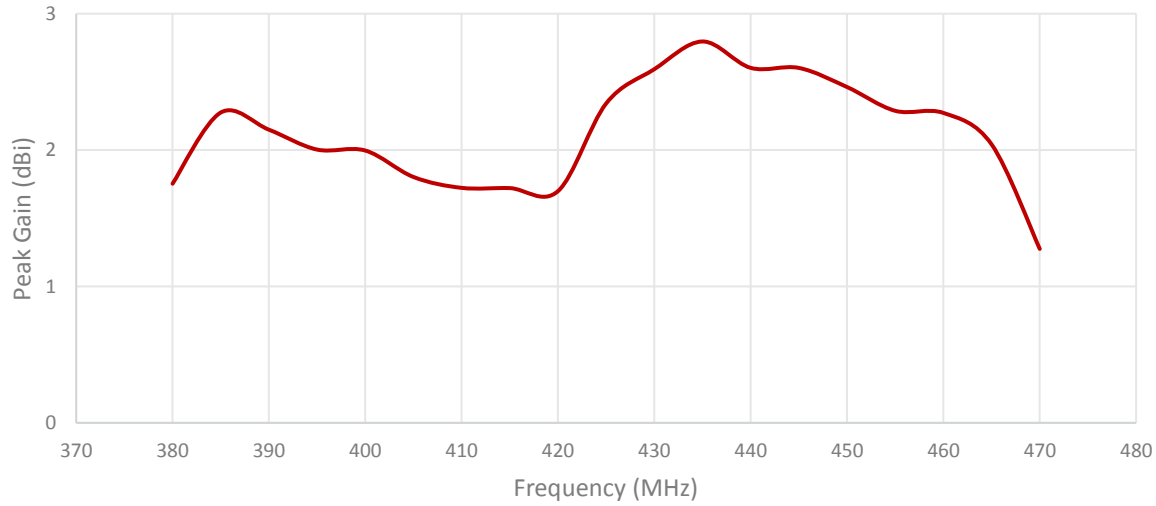


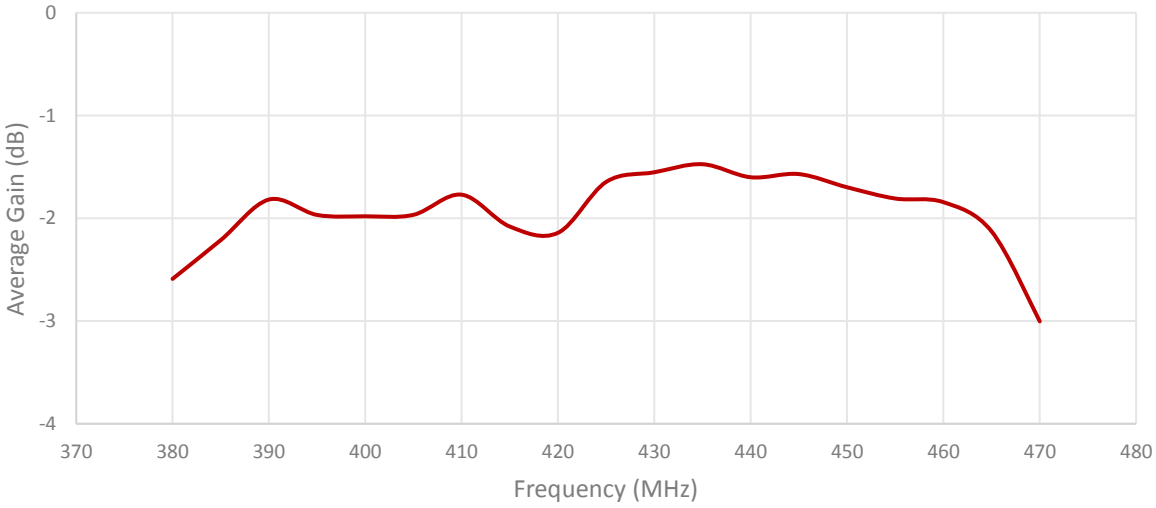
Cable 3: TETRA





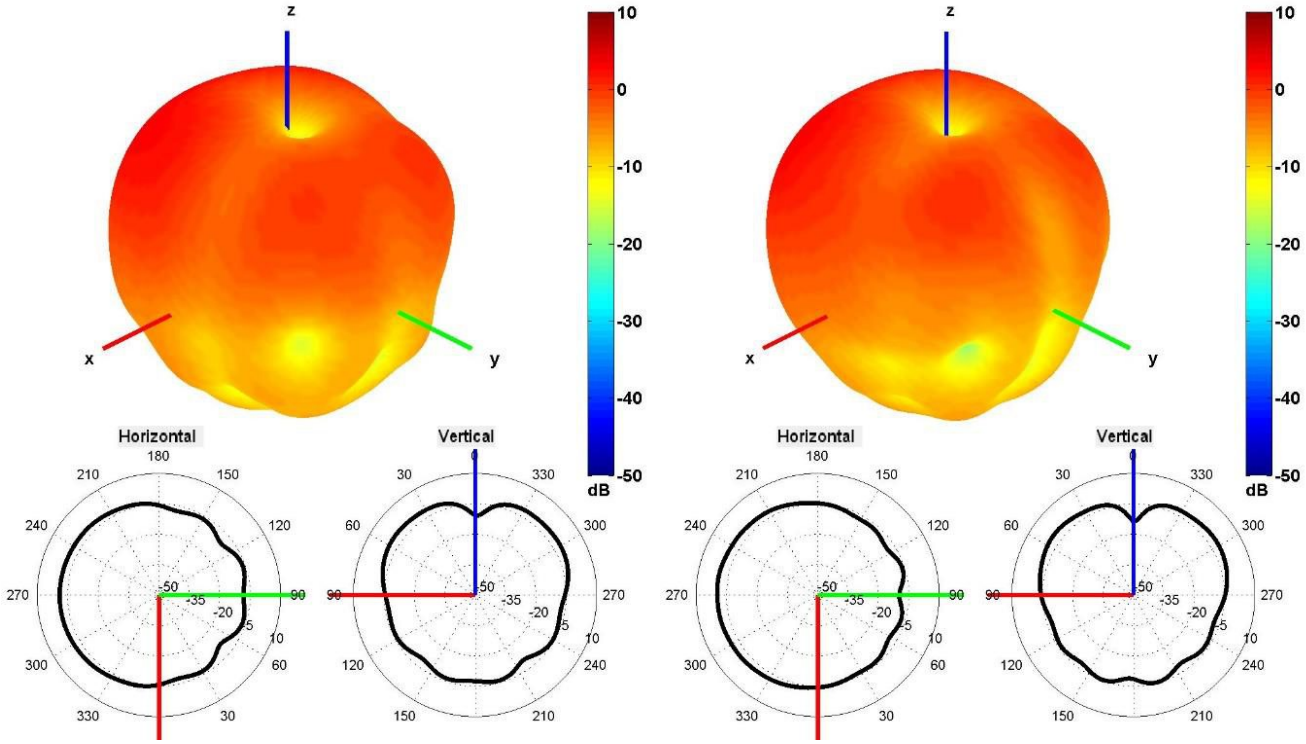

80
70
60
50
40
30
20
10
0
Efficiency (%)
370
380
390
400
410
420
430
440
450
460
470
480
Frequency (MHz)


3
2
1
0
Peak Gain (dBi)
370
380
390
400
410
420
430
440
450
460
470
480
Frequency (MHz)

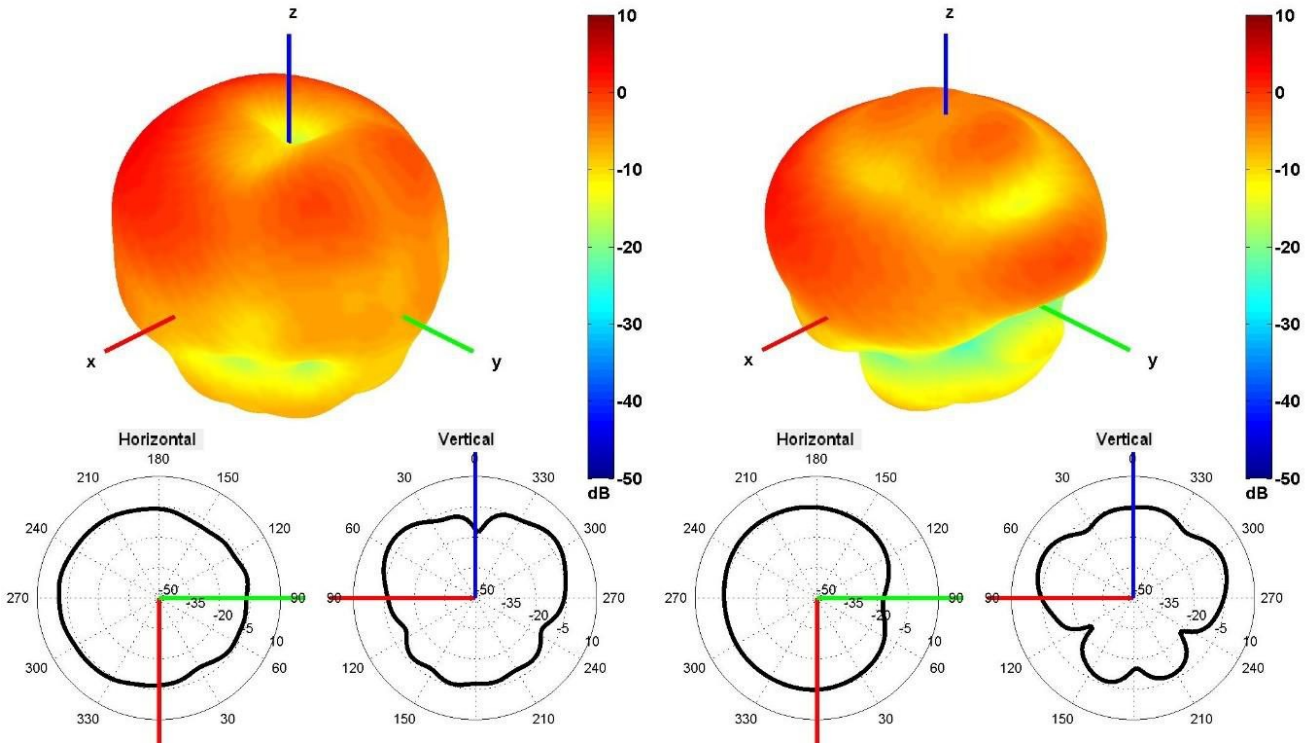

0
-1
-2
-3
-4
Average Gain (dB)
370
380
390
400
410
420
430
440
450
460
470
480
Frequency (MHz)

Radiation pattern reference

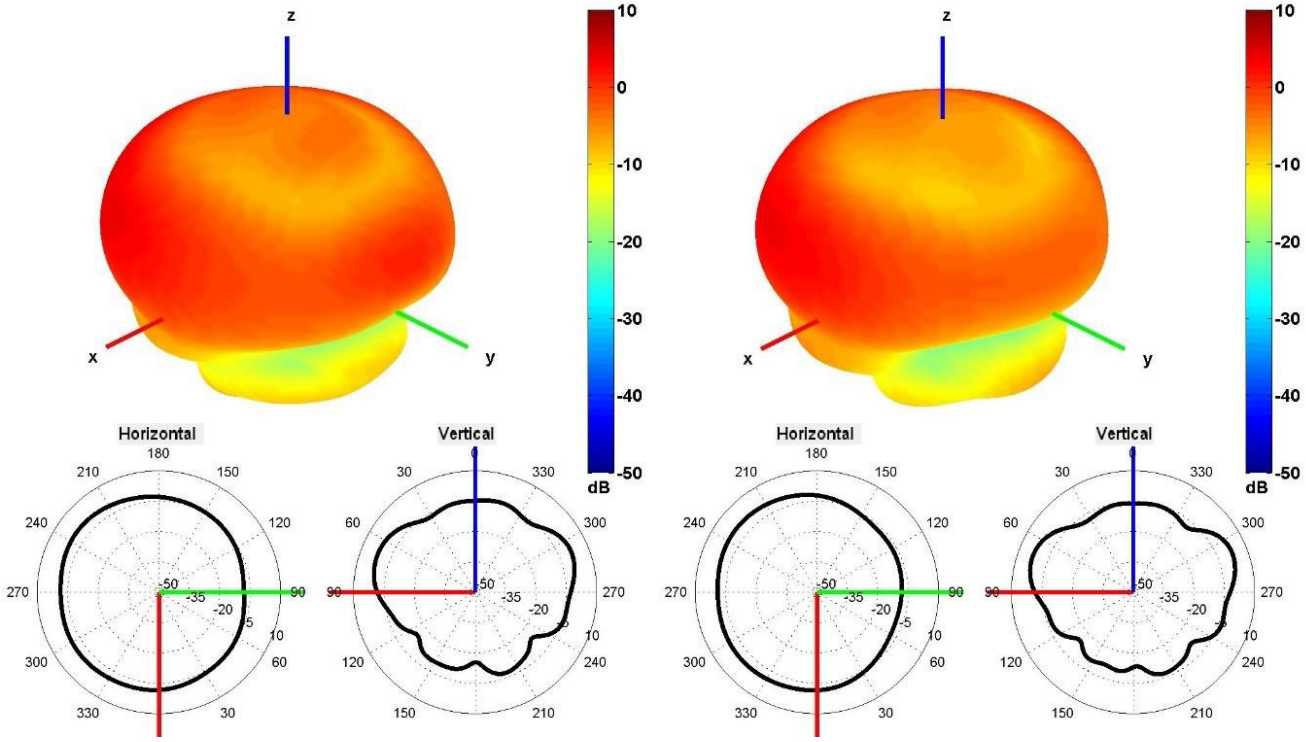
Cable 1: CELLULAR/LTE



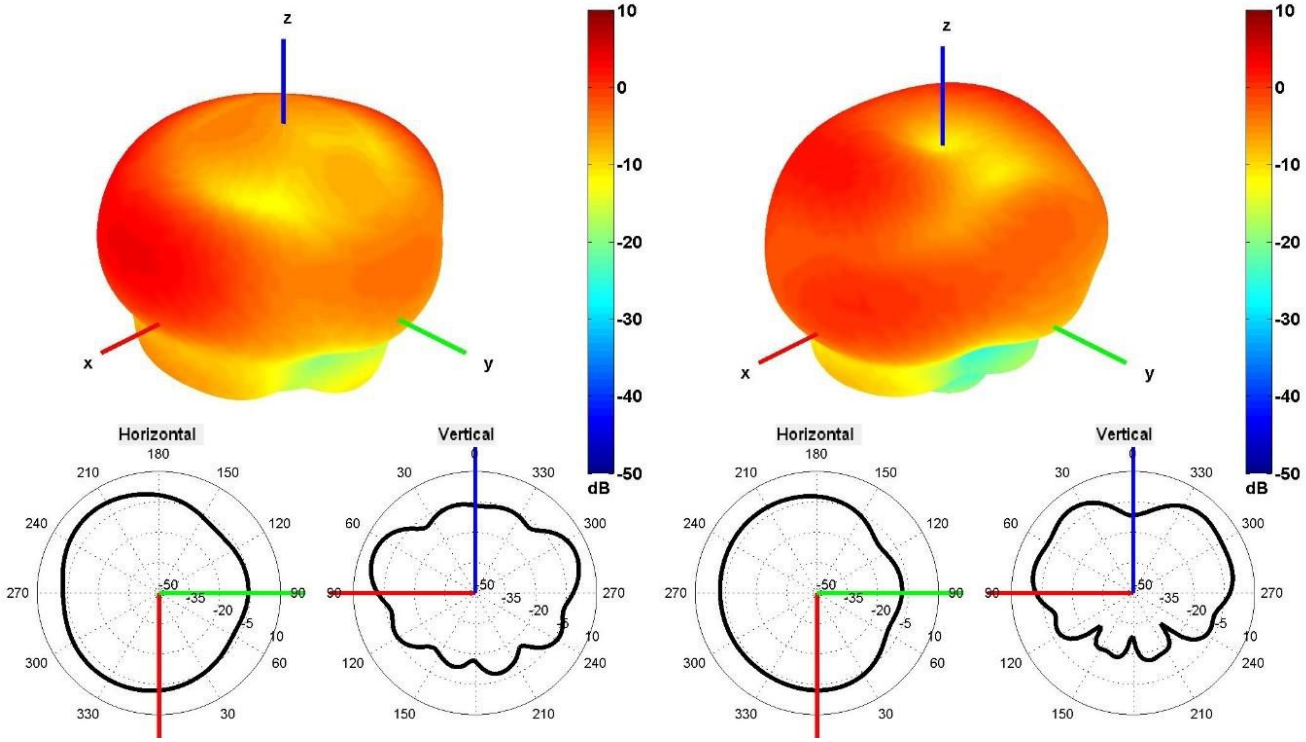
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

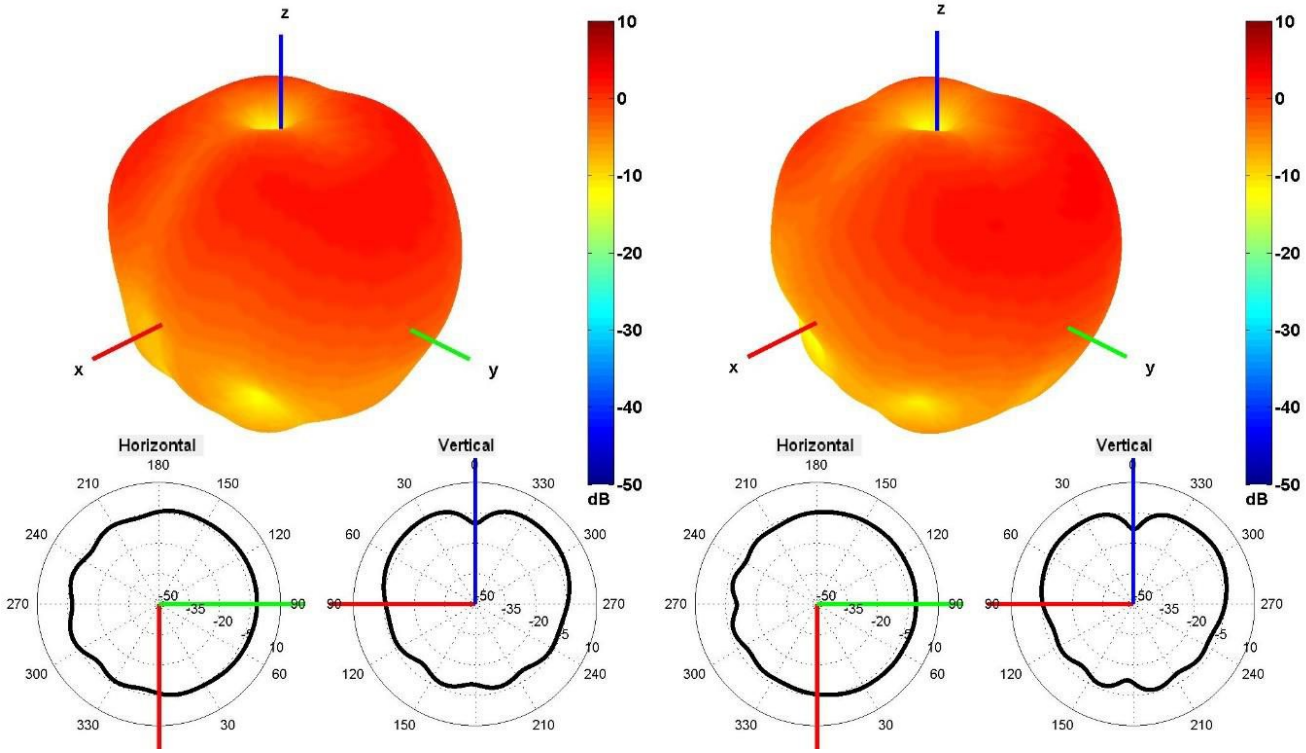


1850 and 1950 MHz Radiation pattern

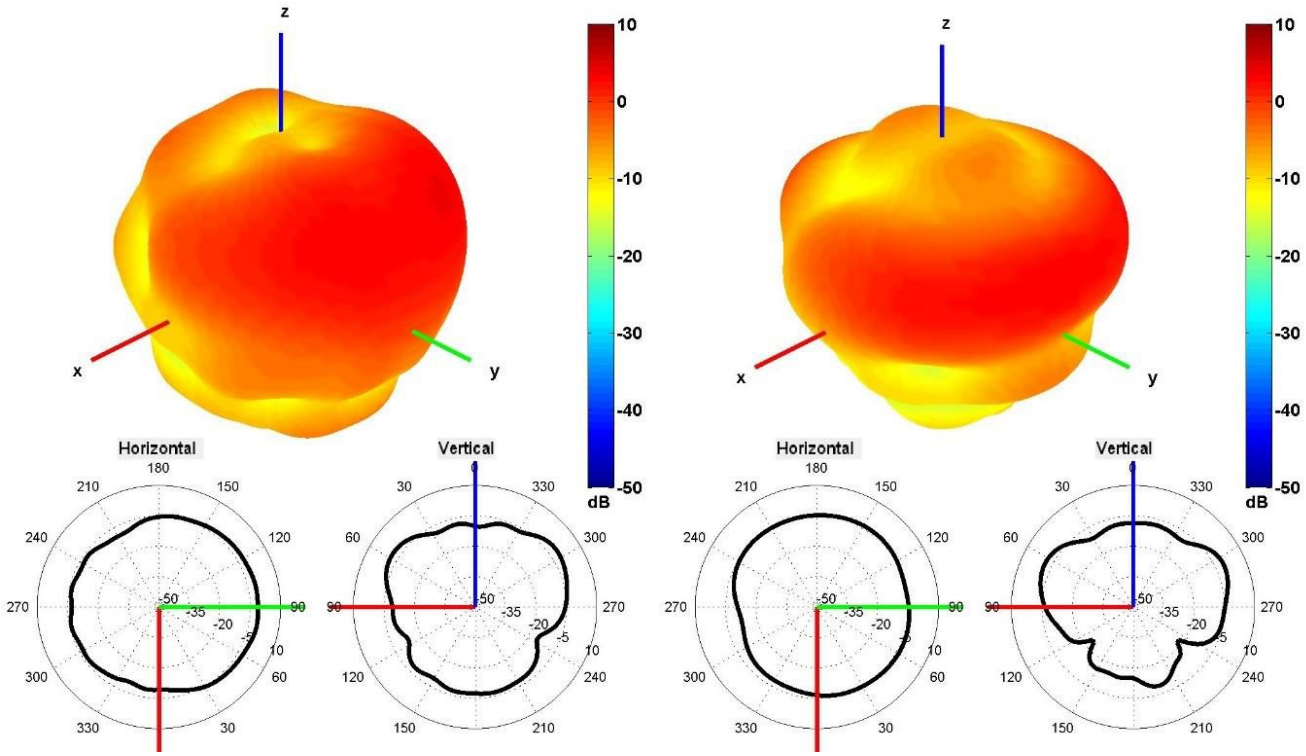


2100 and 2600 MHz Radiation pattern

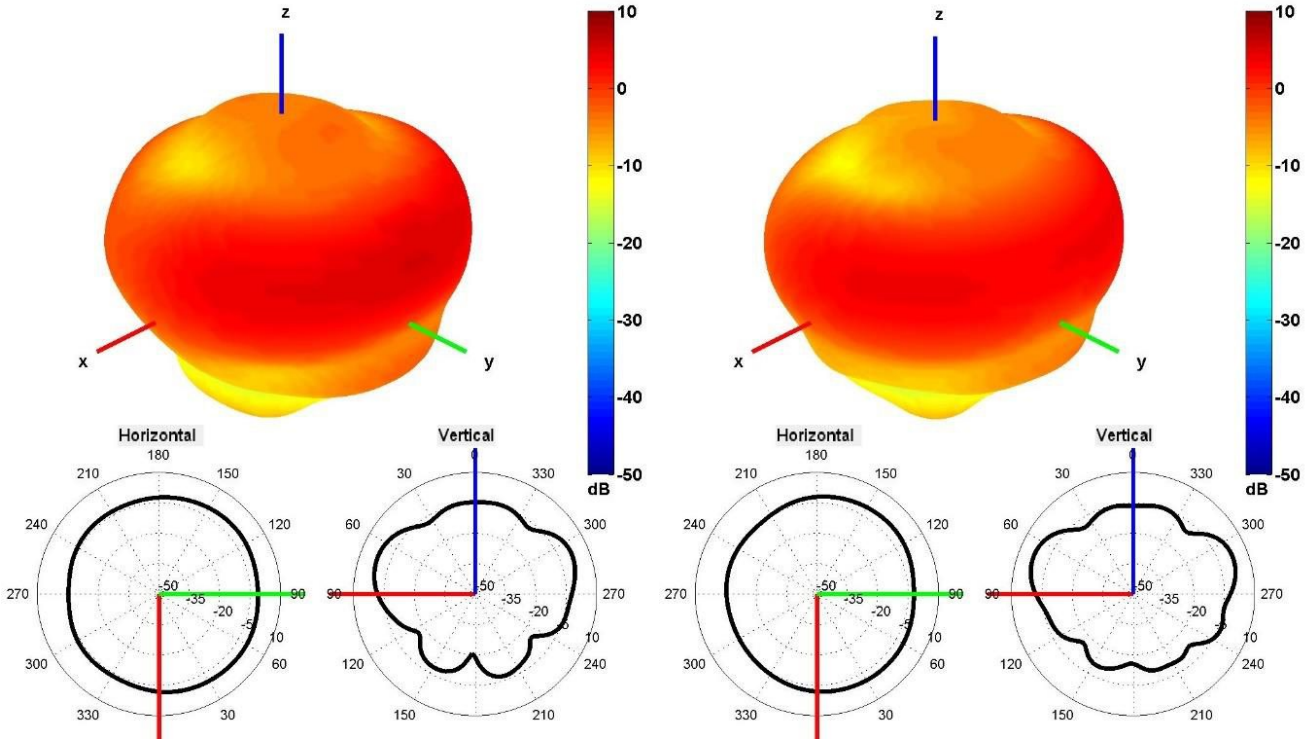
Cable 2: CELLULAR/LTE



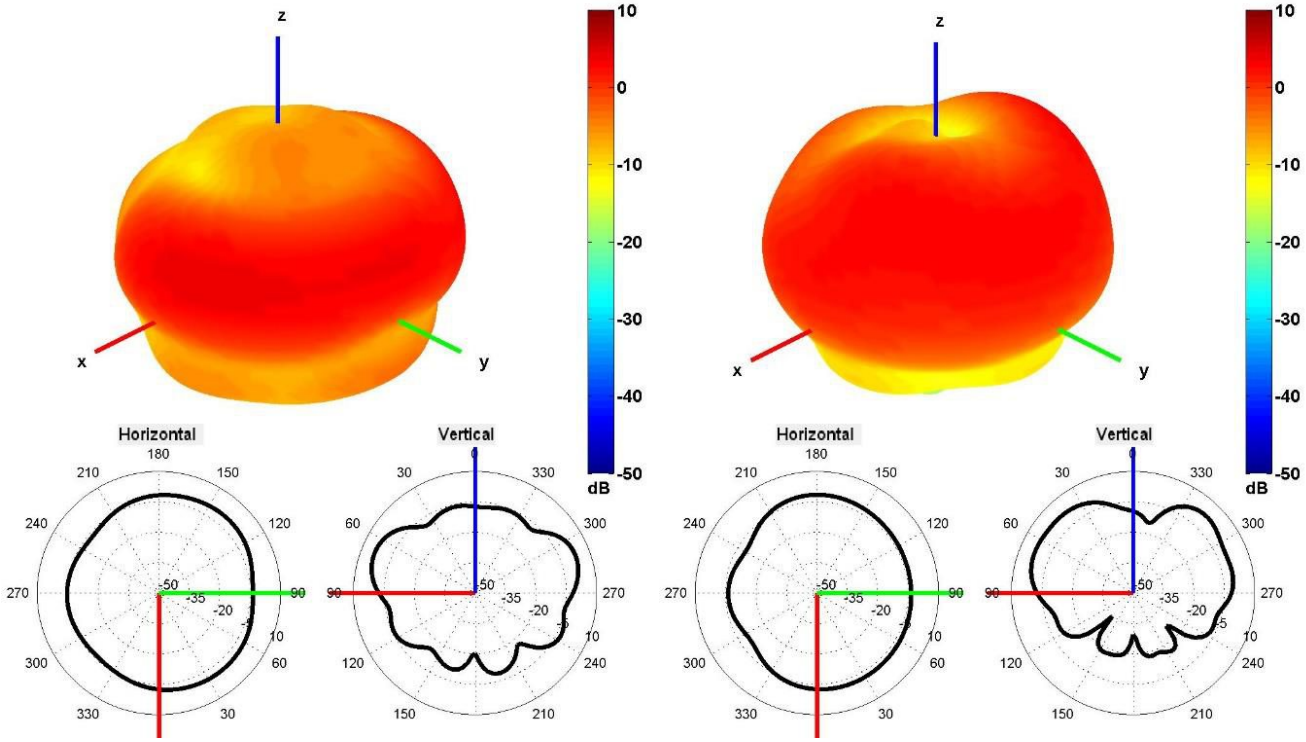
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

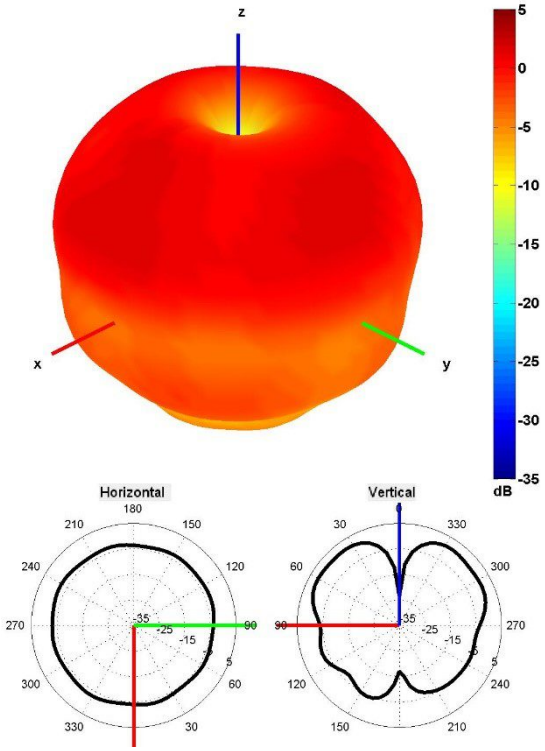


1850 and 1950 MHz Radiation pattern



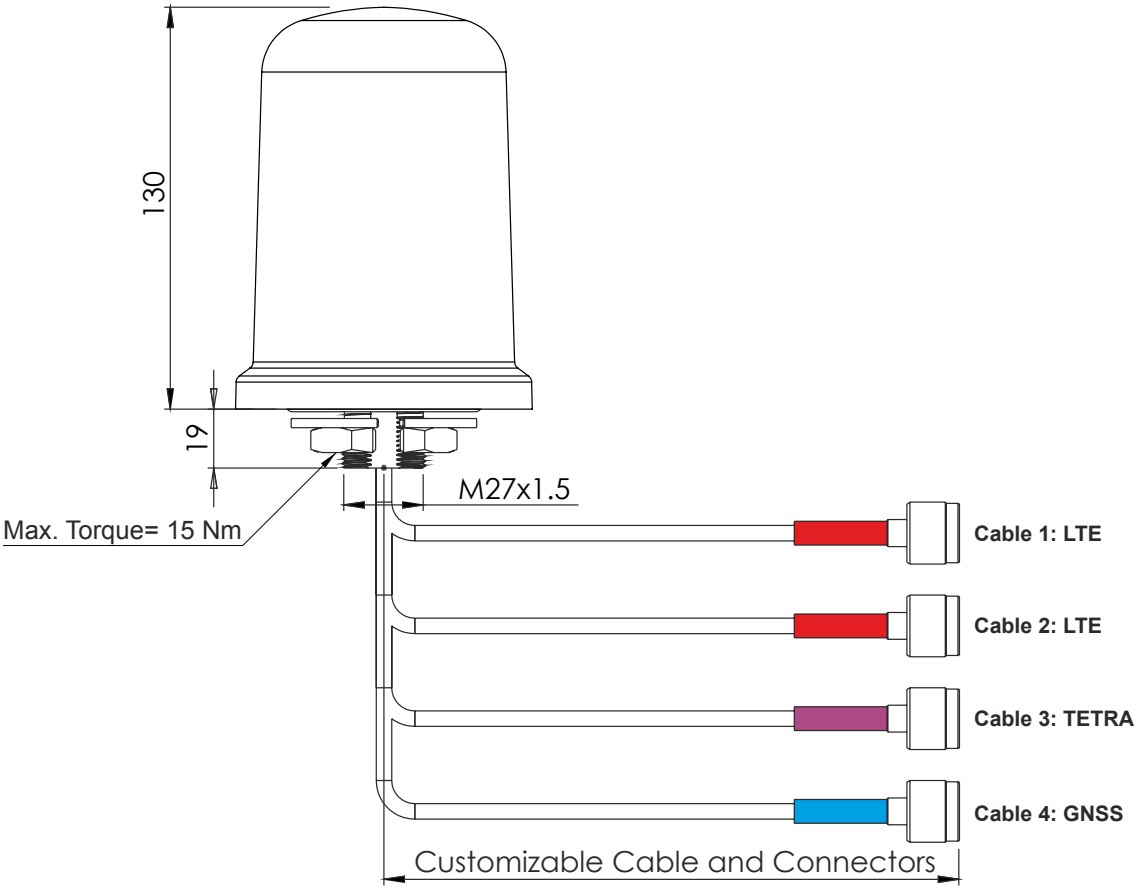
2100 and 2600 MHz Radiation pattern

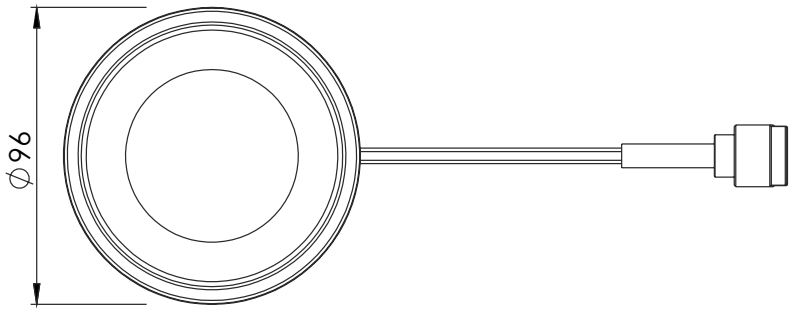
Cable 2: TETRA

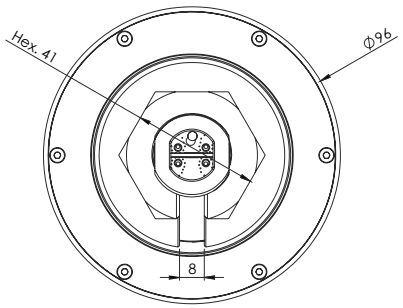


425 MHz Radiation pattern

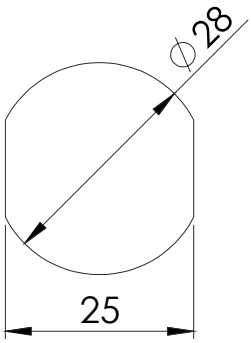
4. Antenna drawings







Mounting hole



Note: Dimensions are in milimeters
***Dimensions are after mounting**
****Max. Torque= 15 Nm**

5. Antenna Images