

2J7A50BGFa

2× CELLULAR/LTE MIMO, 2× 2.4/5.0 GHz ISM MIMO and GNSS

Key Features

Cable 1 and 2: CELLULAR / LTE

Cable 3 and 4: 2.4/5.0 GHz ISM

Cable 5: GPS/GLONASS/QZSS/Galileo

Screw Mount

Lightweight Plastic Base

High Performance

Ground Plane Independent

Customizable Cable and Connector

Dimensions: Ø 96 x H 90 mm

Certificates: IP67, IP69, IK09



1. Antenna and electrical specifications

Cable 1

Parameters	CELLULAR / LTE Antenna		
Standards	4GLTE/FirstNet/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G2G		
Band (MHz)	700/850/900	1700/1800/1900/2100	2600
Frequency (MHz)	698-960	1710-2170	2500-2700
Return Loss (dB)	~-10.6	~-16.3	~-13.9
VSWR	~2.0:1	~1.4:1	~1.5:1
Efficiency (%)	~45.1	~47.1	~46.8
Peak Gain (dBi)	~-0.9	~3.3	~4.4
Average Gain (dB)	~-3.5	~-3.3	~-3.3
Impedance (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	LL195 Standard (Other Cables Available)		

Cable 2

Parameters	CELLULAR / LTE Antenna		
Standards	4GLTE/FirstNet/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G2G		
Band (MHz)	700/850/900	1700/1800/1900/2100	2600
Frequency (MHz)	698-960	1710-2170	2500-2700
Return Loss (dB)	~-10.9	~-16.1	~-14.4
VSWR	~1.9:1	~1.4:1	~1.5:1
Efficiency (%)	~45.1	~46.6	~48.2
Peak Gain (dBi)	~-1.4	~3.0	~4.7
Average Gain (dB)	~-3.5	~-3.3	~-3.2
Impedance (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	LL195 Standard (Other Cables Available)		

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 x 30 cm
 200 cm of Cable LL195
 Measured in Certified CTIA 3D Anechoic Chamber

Cable 3

Parameters	2.4/5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-12.6	~-14.4
VSWR	~1.6:1	~1.5:1
Efficiency (%)	~44.9	~35.9
Peak Gain (dBi)	~4.8	~3.0
Average Gain (dB)	~-3.5	~-4.5
Impedance (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	LL195 Standard (Other Cables Available)	

Cable 4

Parameters	2.4/5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-11.5	~-14.7
VSWR	~1.7:1	~1.6:1
Efficiency (%)	~41.7	~35.7
Peak Gain (dBi)	~4.6	~3.1
Average Gain (dB)	~-3.8	~-4.5
Impedance (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	LL195 Standard (Other Cables Available)	

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 x 30 cm
 200 cm of Cable LL195
 Measured in Certified CTIA 3D Anechoic Chamber

Cable 5

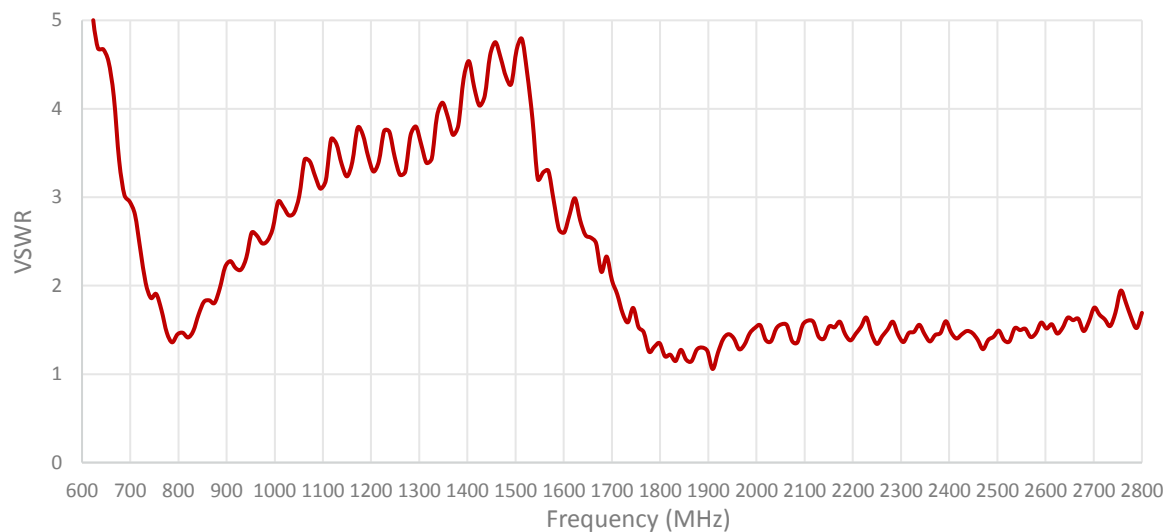
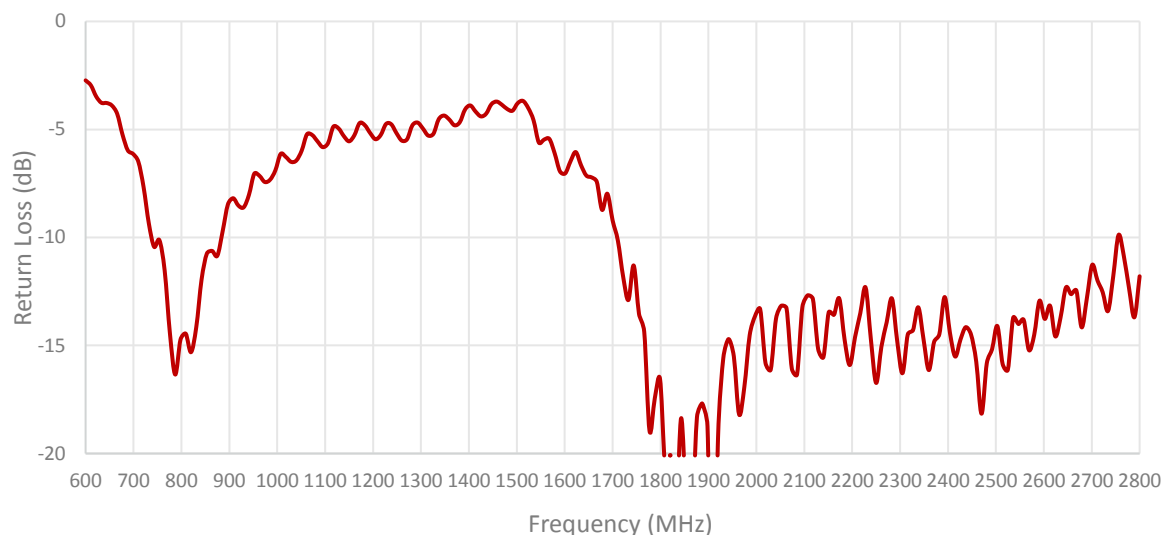
Parameters	GPS/GLONASS Antenna	
Standard	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency(MHz)	1575.42	1598-1610
Return Loss (dB)	<=-14	
VSWR	<=1.5:1	
Impedance	50	
Radiation Pattern	Hemispherical	
Polarization	RHCP	
Saw Filter	Post-Filter	
Active Gain (dB)	23 @ 3 V, 24 @ 5 V	
Noise Figure (dB)	1.2	
Voltage (V)	2.7 - 5.5	
Current Consumption (mA)	15 - 25	
Power Consumption (mW)	40.5 - 137.5	
Out of Band Rejection (dBc)	~32	
Connector Type	SMA-Male Standard (Other Connectors Available)	
Cable Length	300 cm Standard (Any Cable Length Available)	
Cable Type	LL100 Standard (Other Cables Available)	

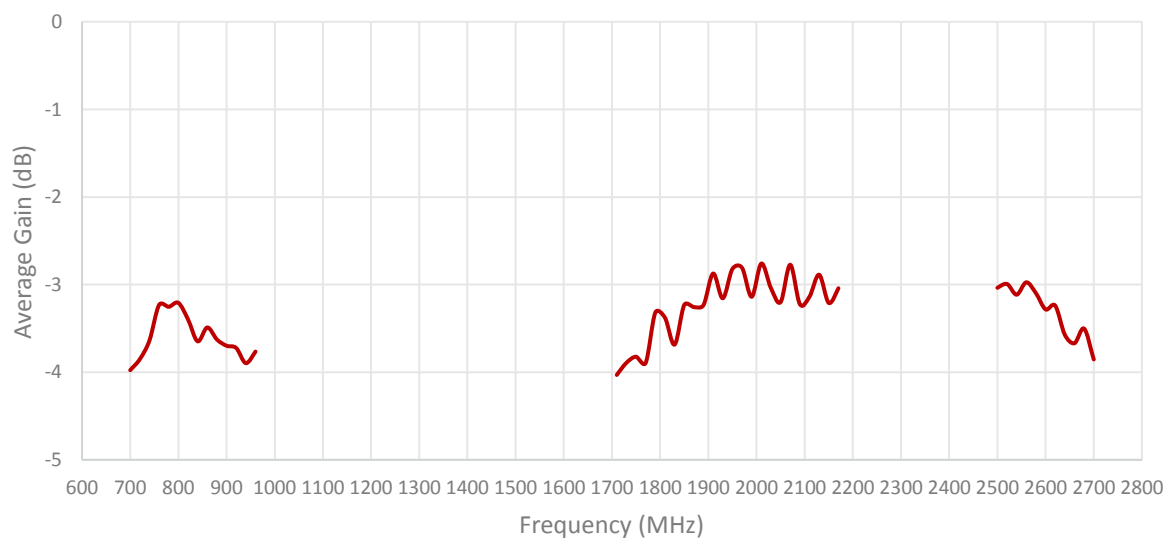
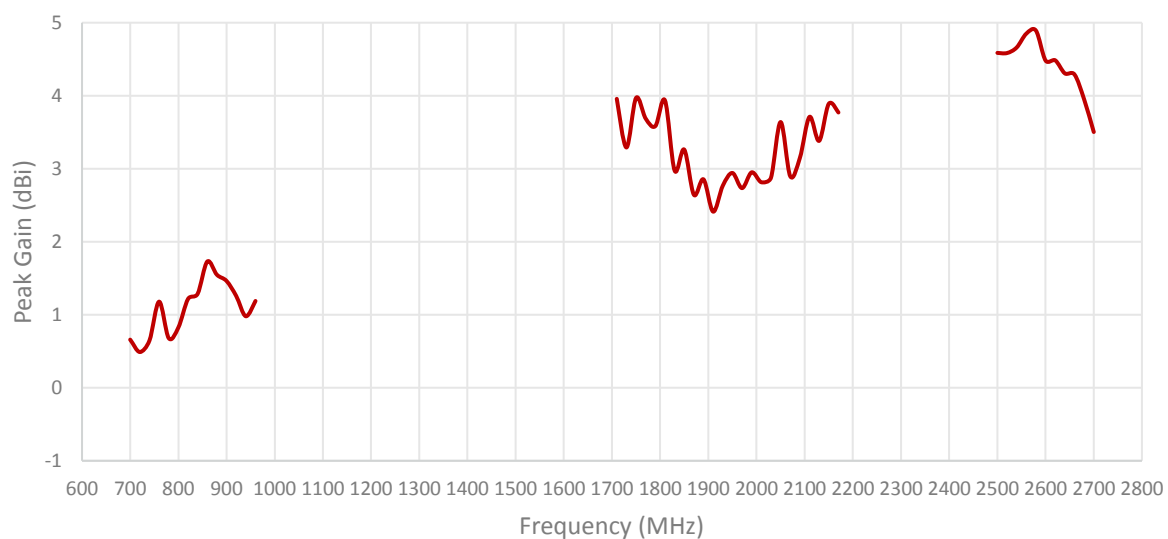
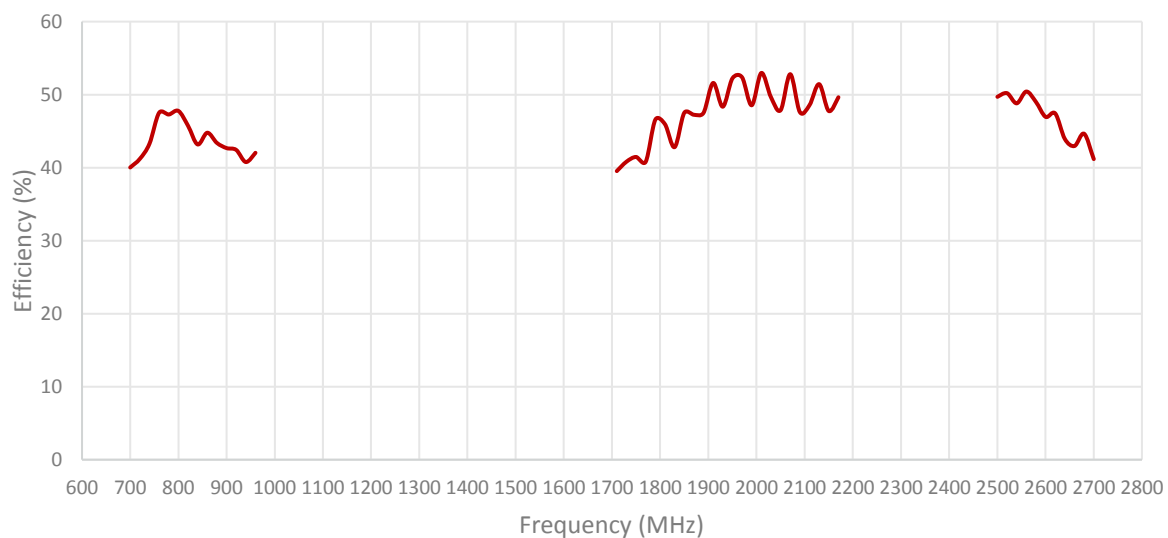
2. Mechanical and environmental specifications

Specifications	2J7A50BGFa
Mounting Type	Screw Mount
Dimensions (mm)	Ø 96 x H 90
Max. Tighten Torque (Nm)	6 Nm
Radome	ASA
Radome color	White, Black
Antenna Base	ASA
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69, IK09

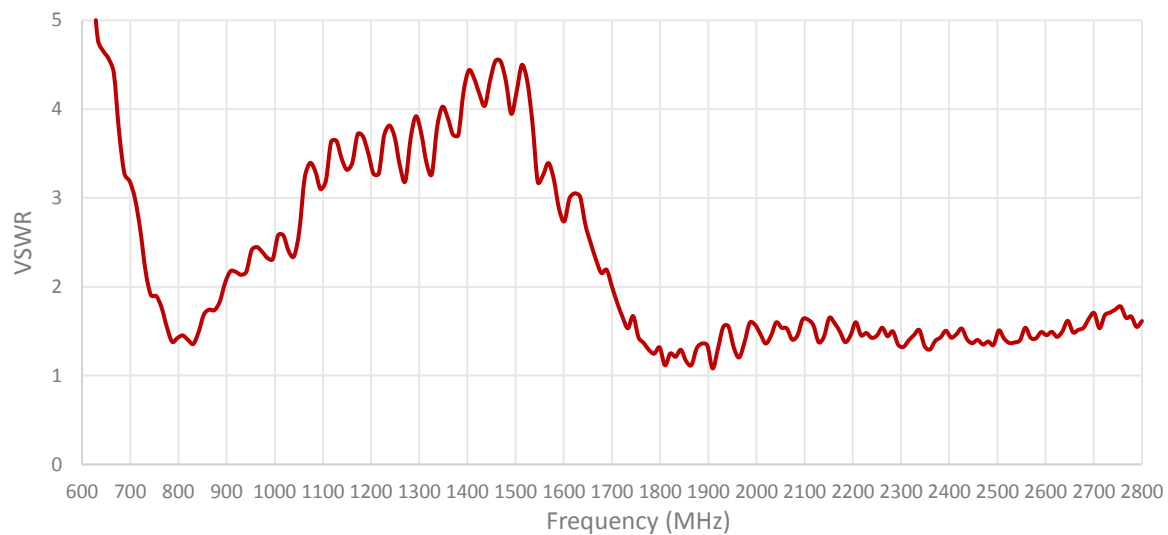
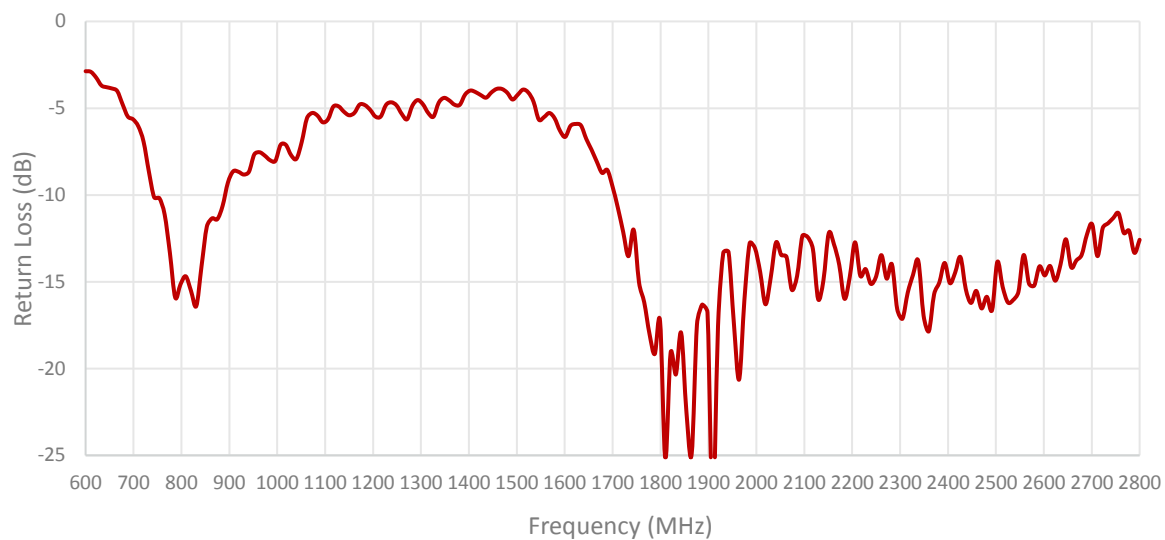
3. Antenna parameters

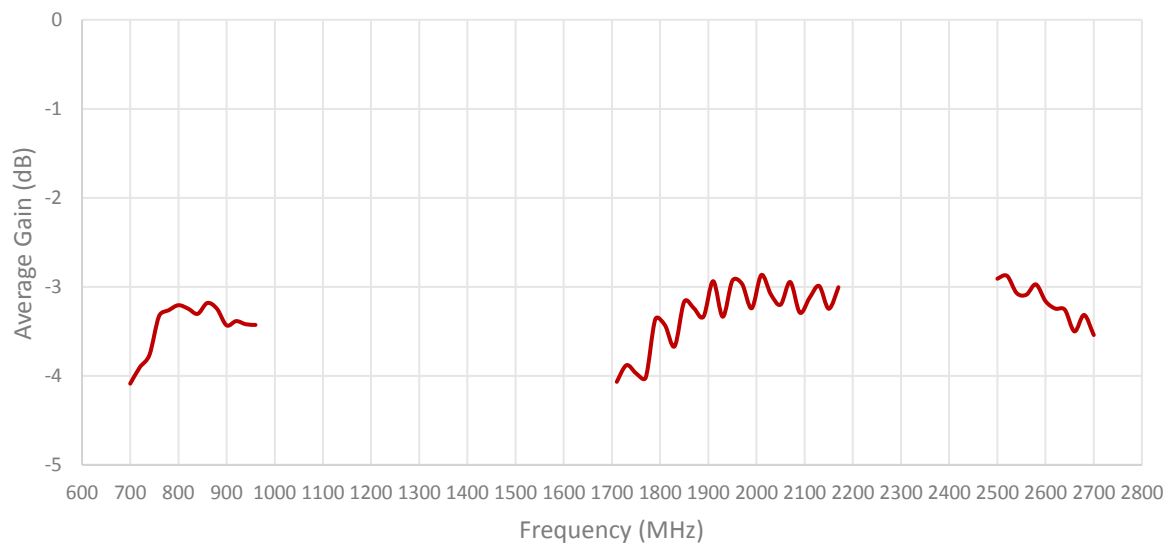
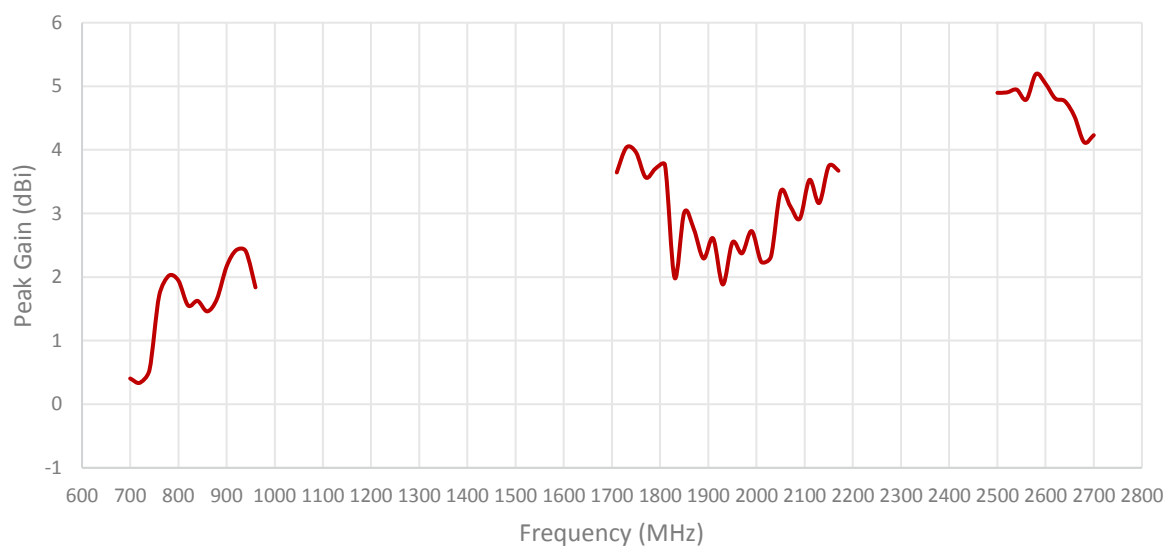
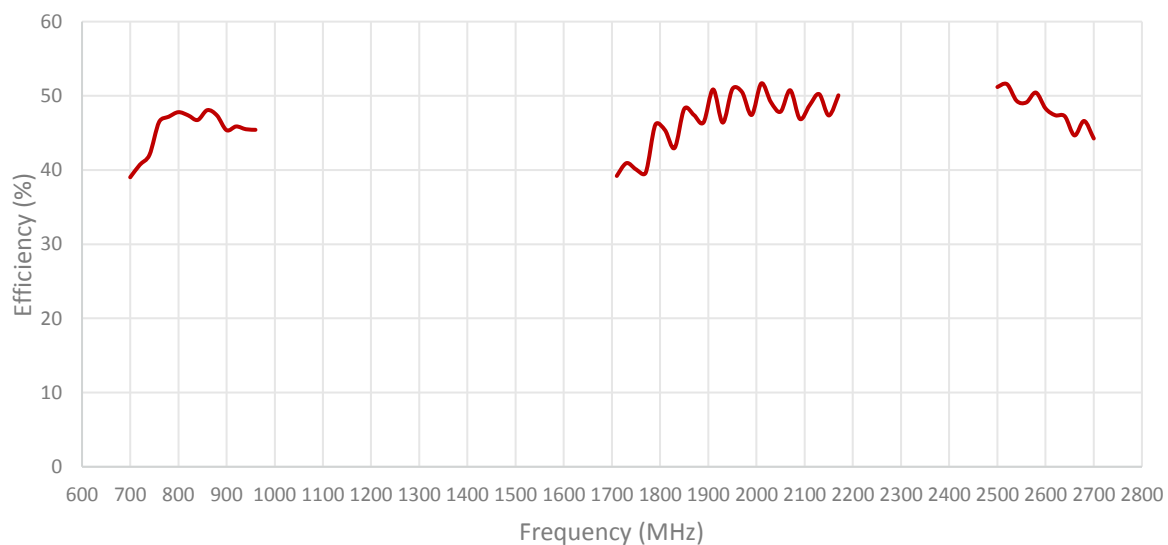
Cable 1: CELLULAR/LTE



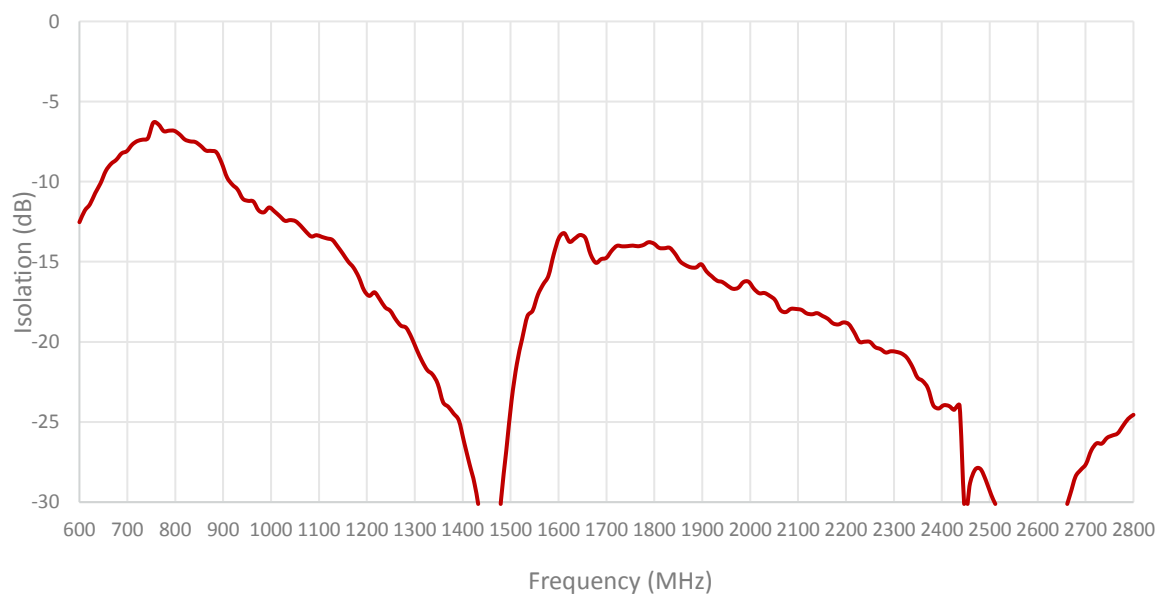


Cable 2: CELLULAR/LTE

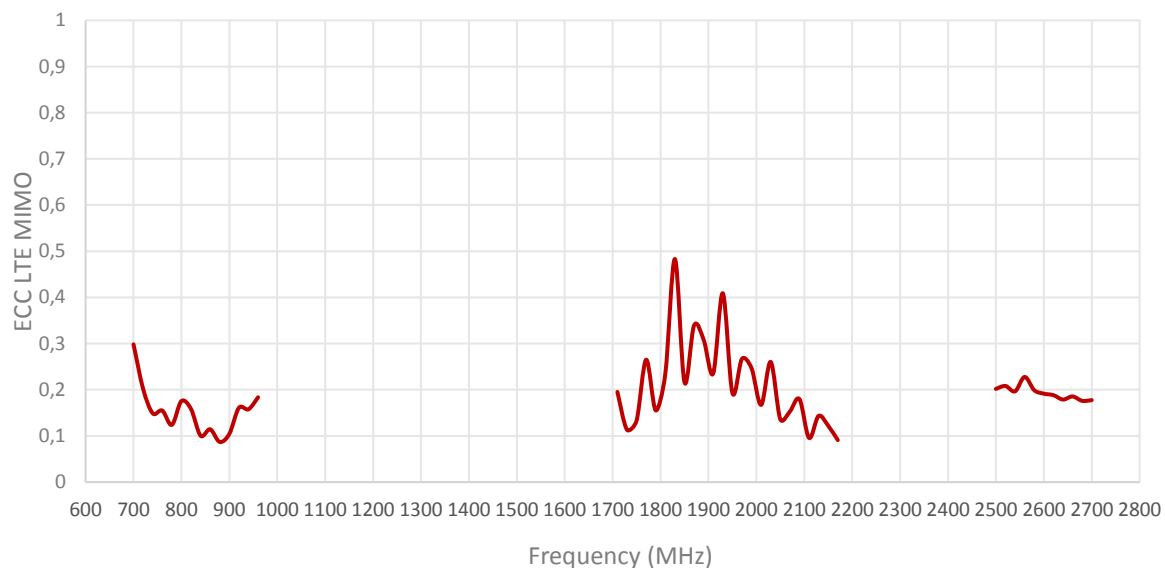




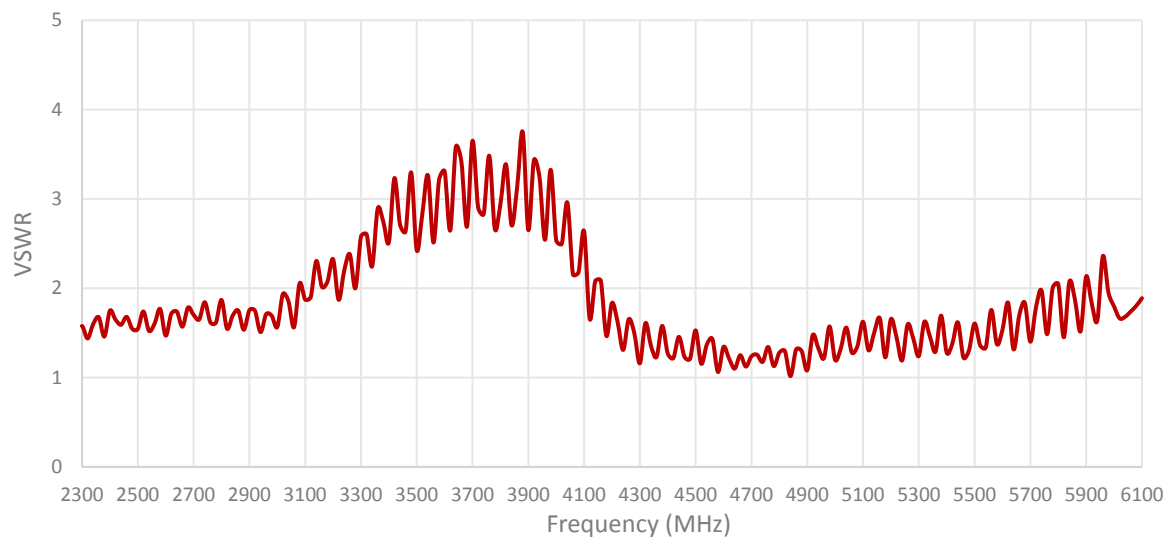
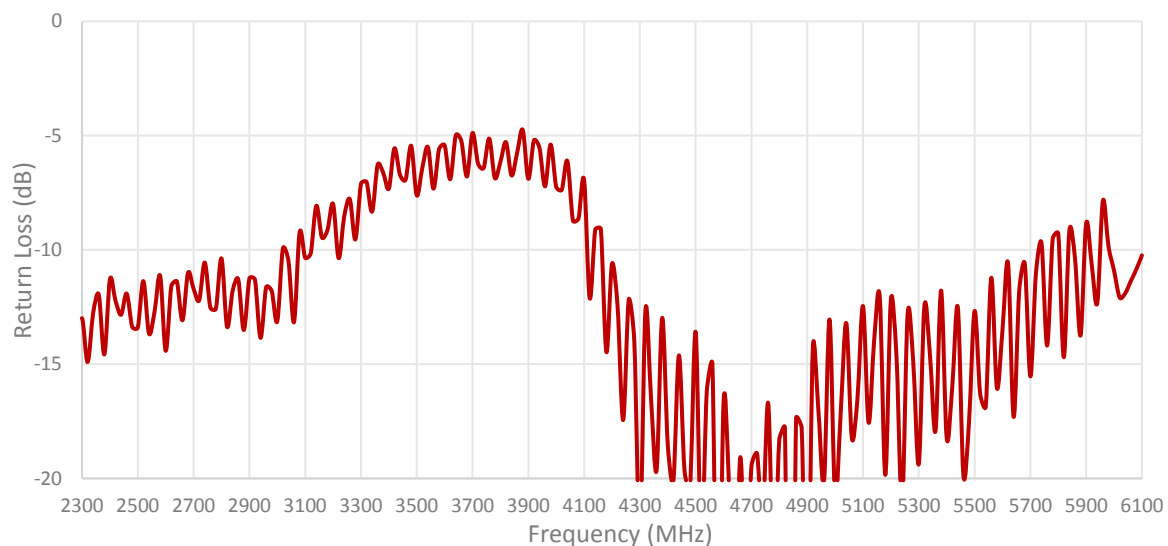
ISOLATION FOR CABLES 1 AND 2

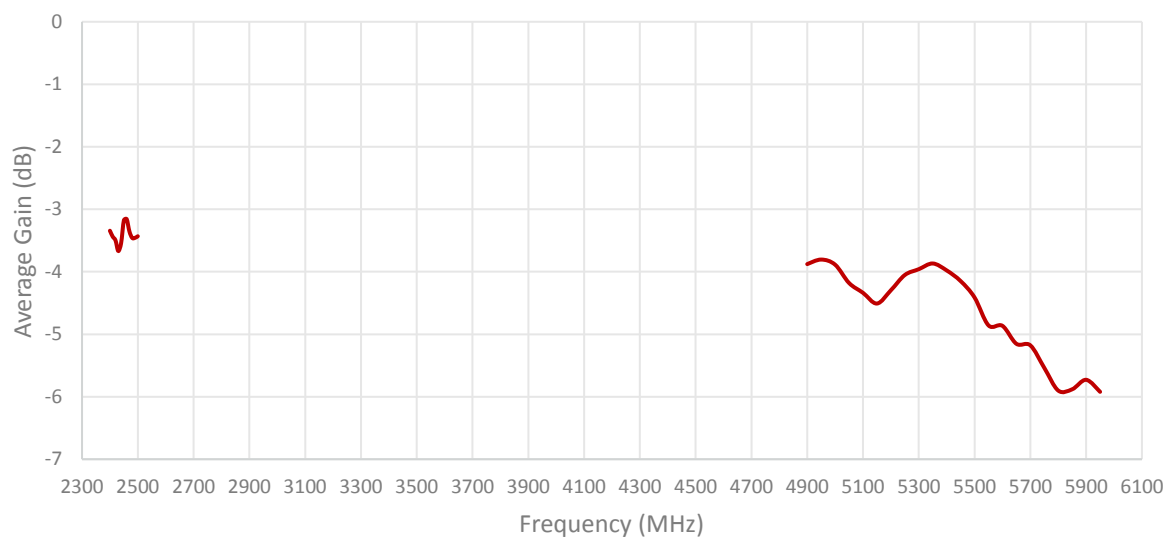
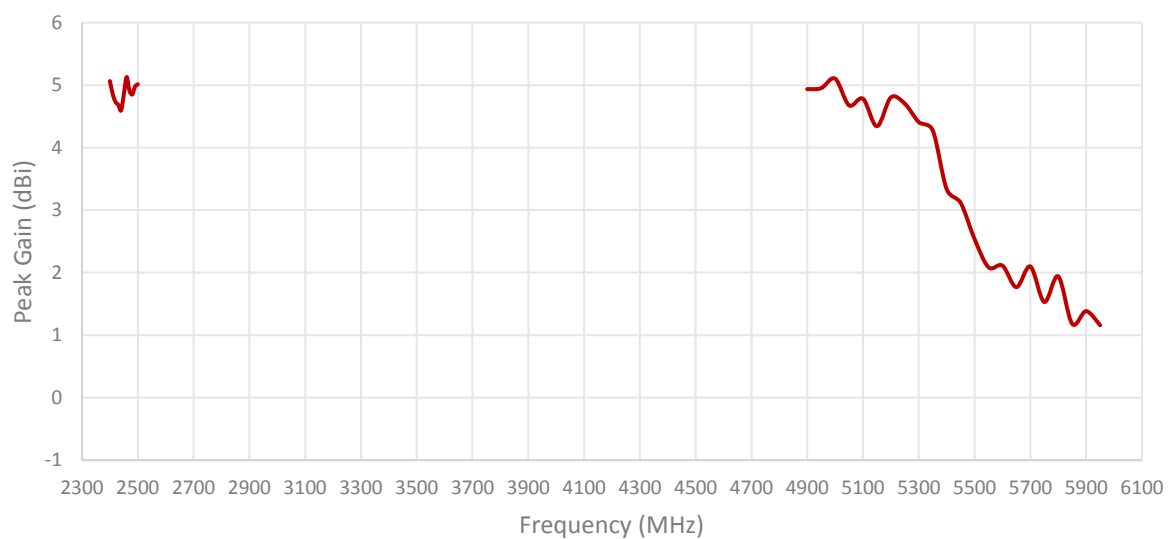
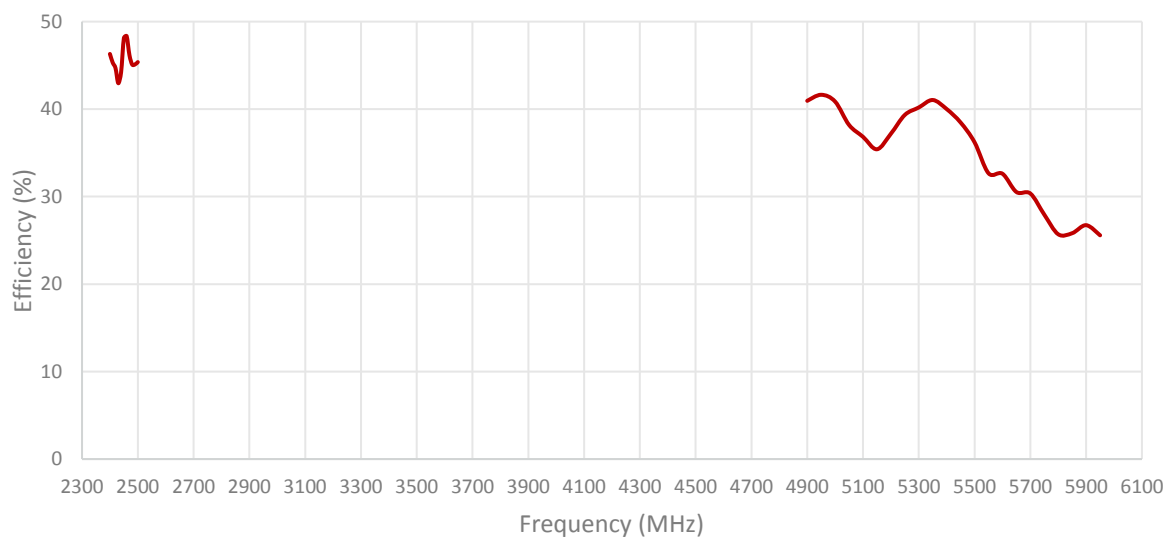


ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2

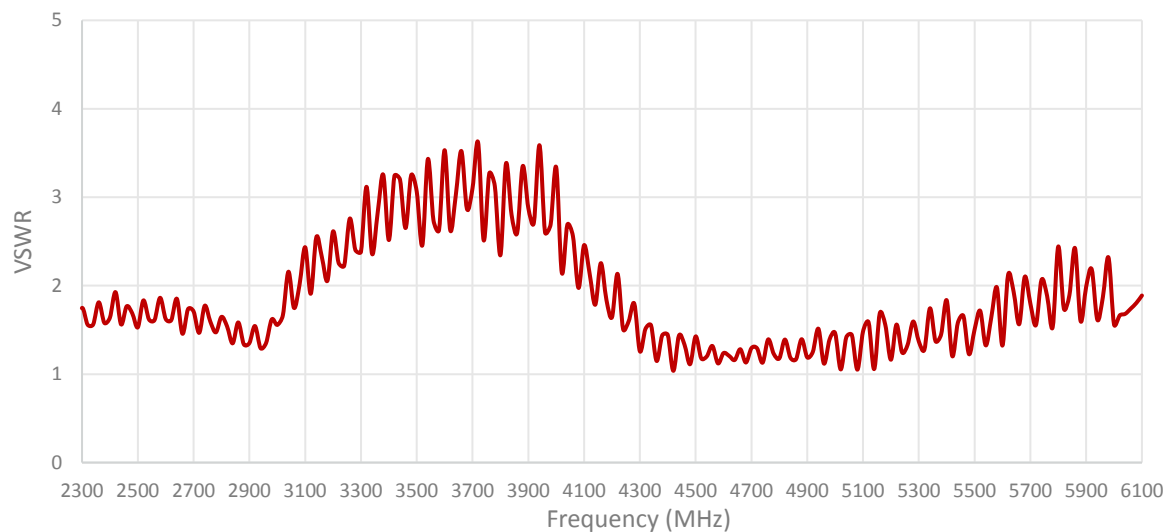
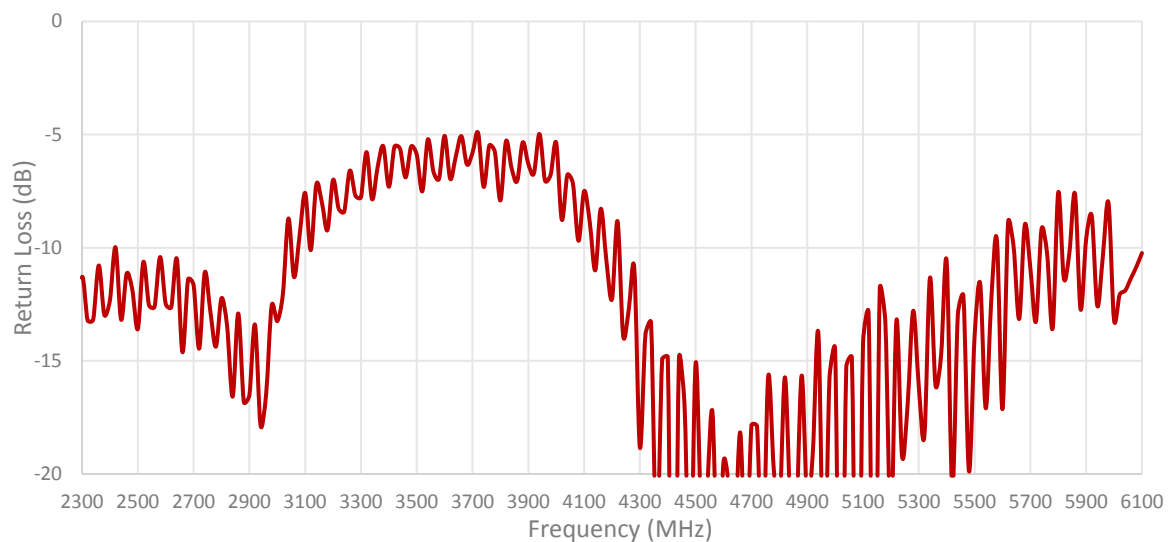


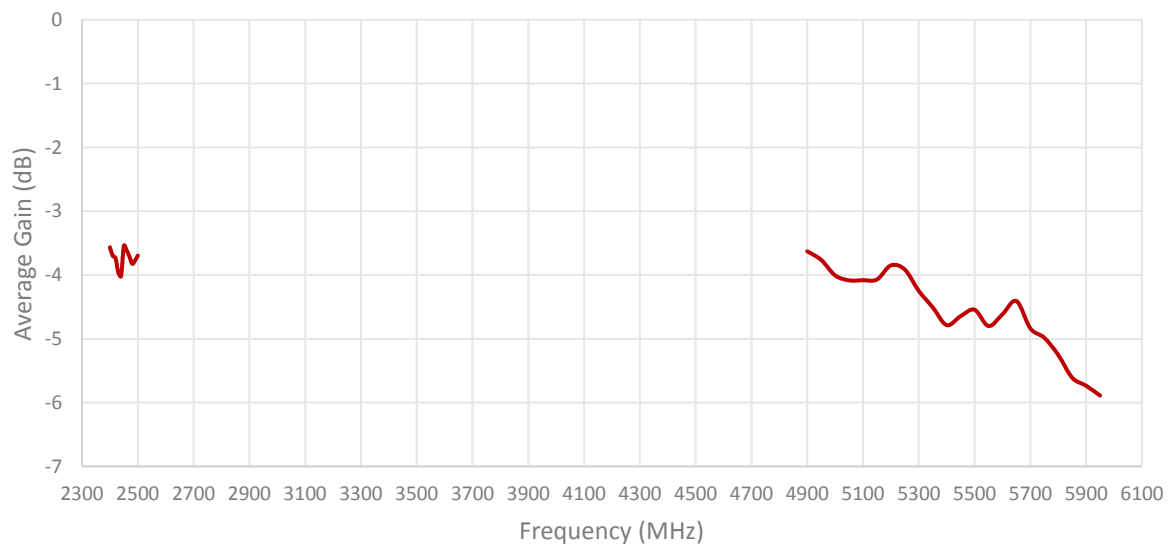
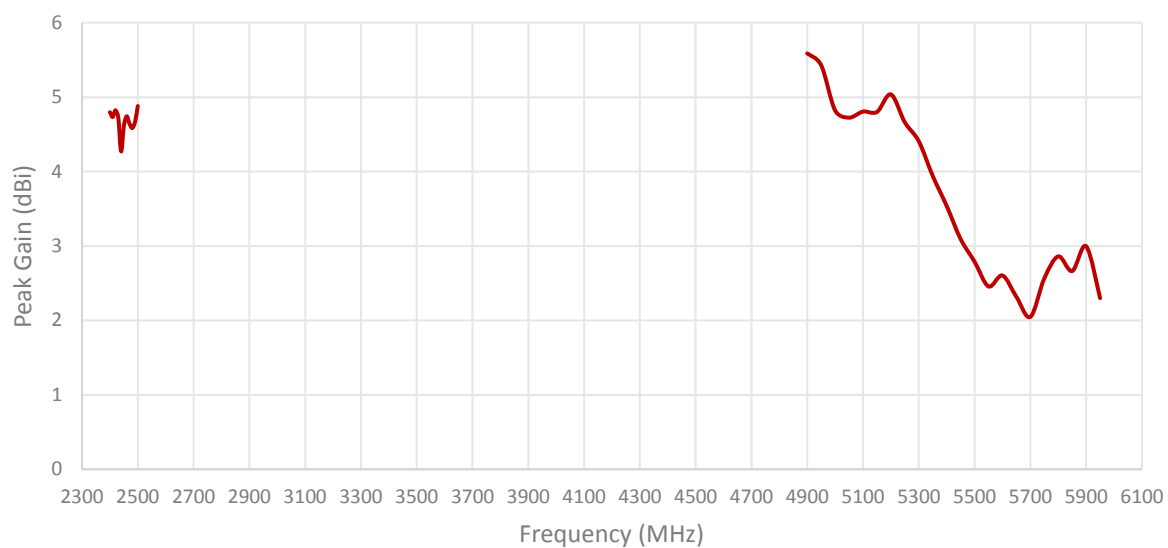
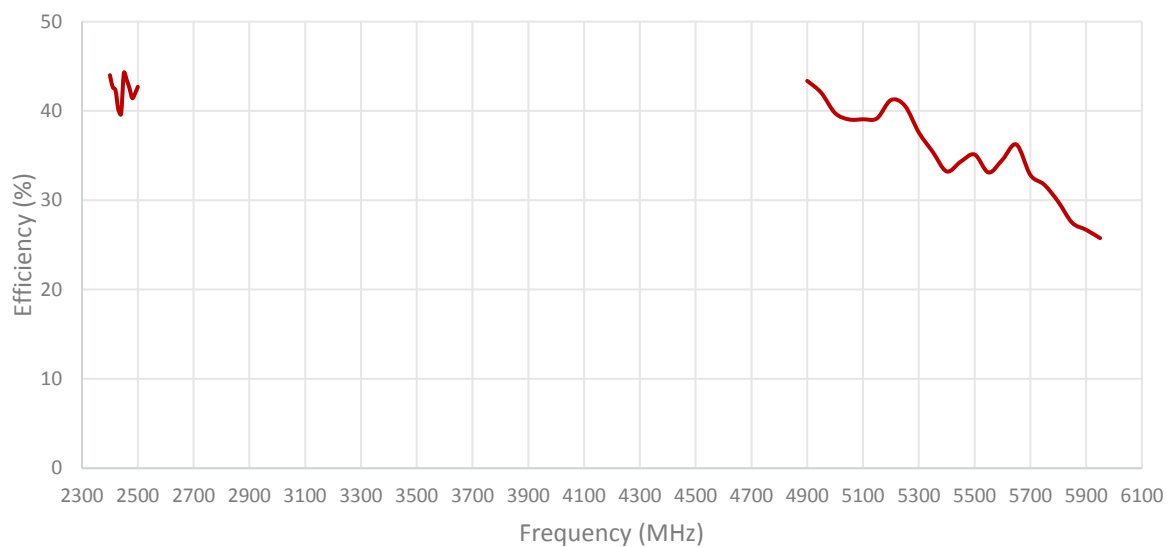
Cable 3: 2.4/5.0 GHz ISM



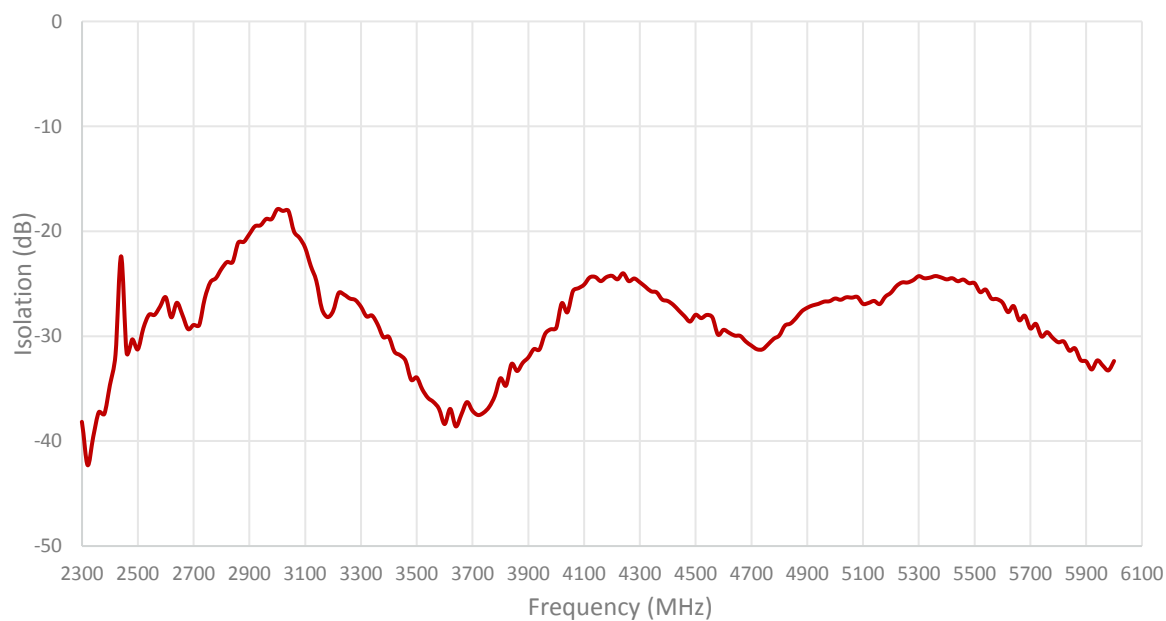


Cable 4: 2.4/5.0 GHz ISM

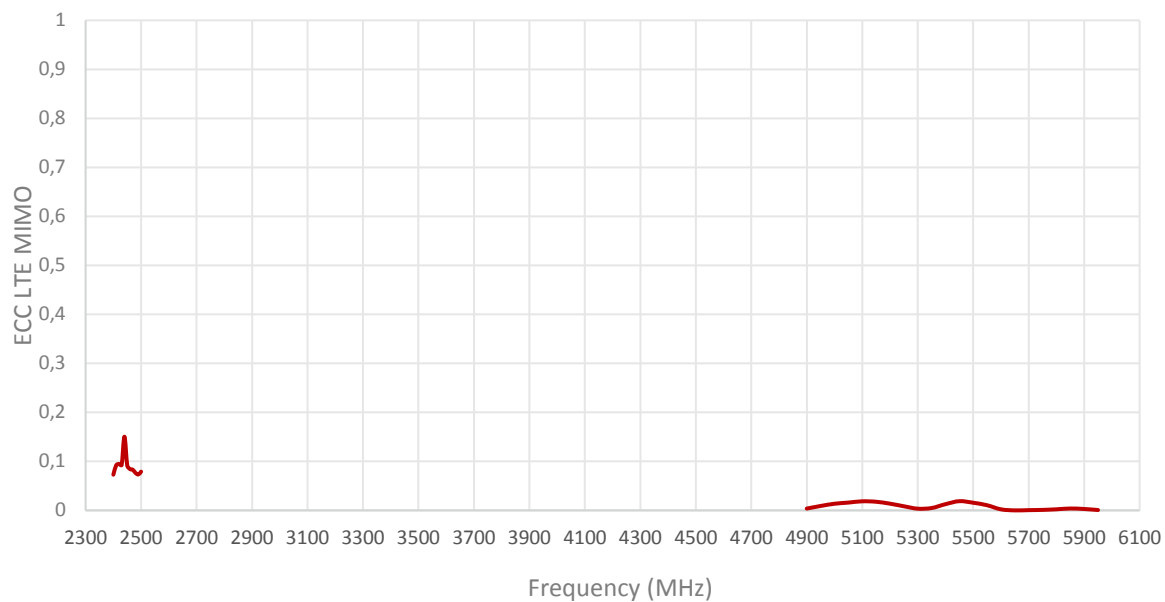




ISOLATION FOR CABLES 3 AND 4



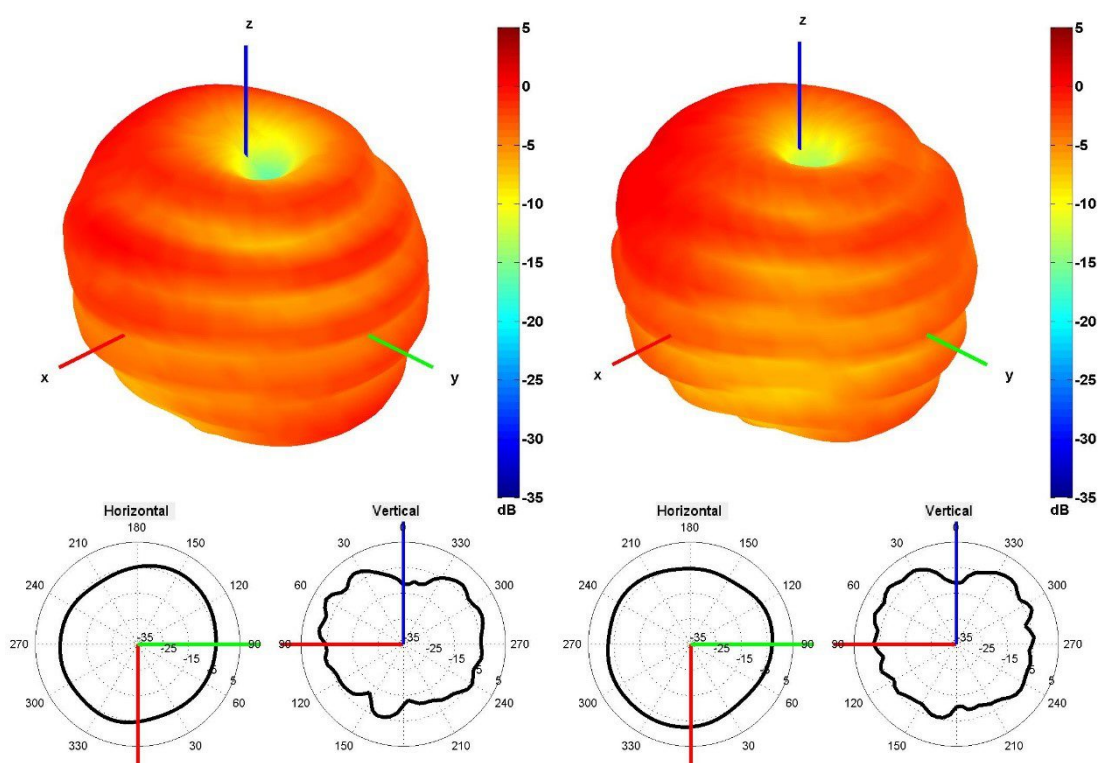
ENVELOPE CORRELATION COEFFICIENT FOR CABLES 3 AND 4



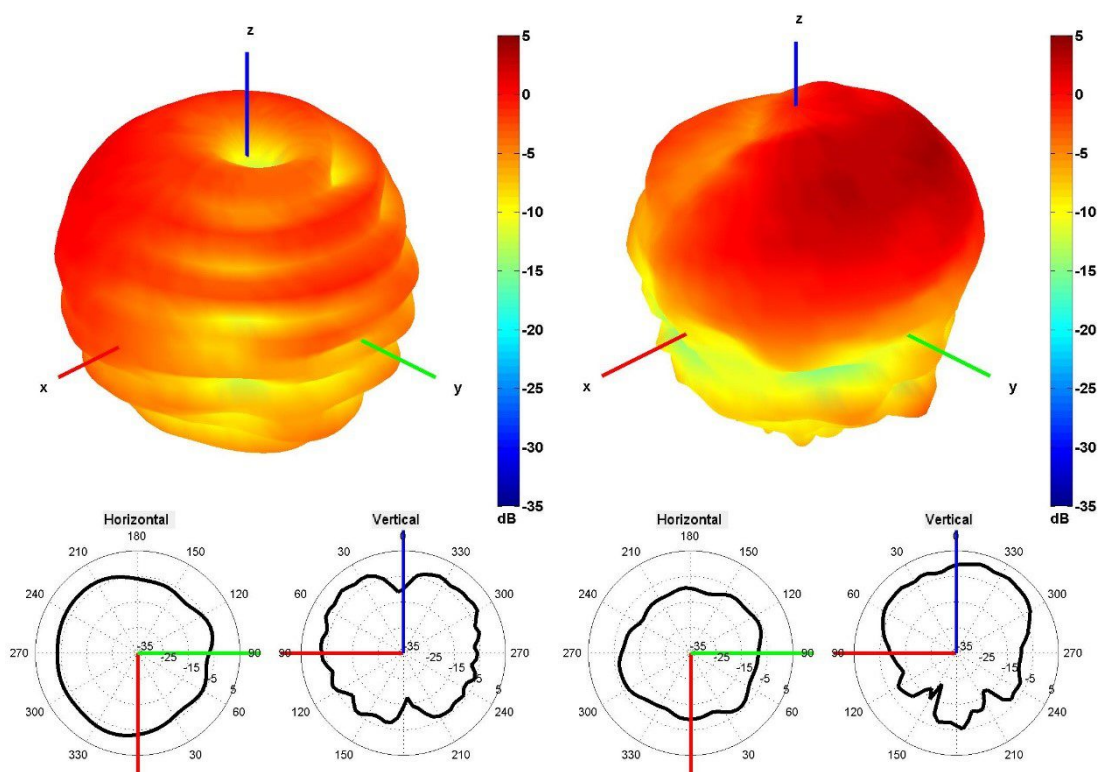


Radiation pattern reference

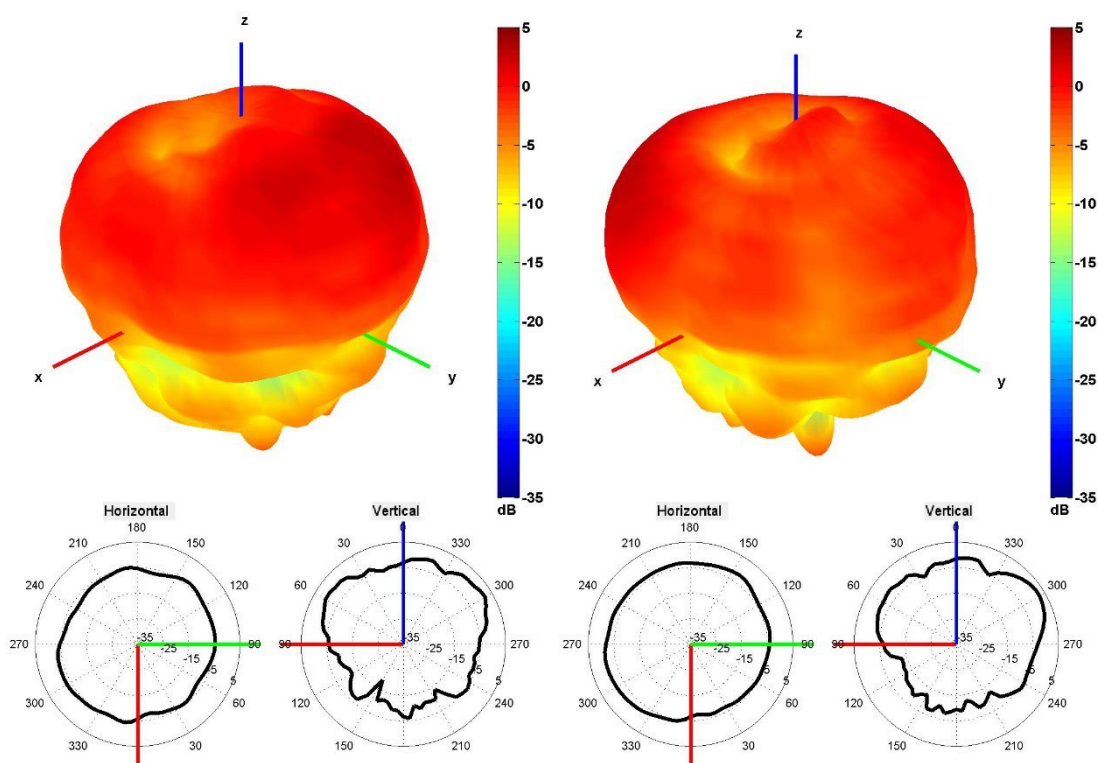
Cable 1: CELLULAR/LTE



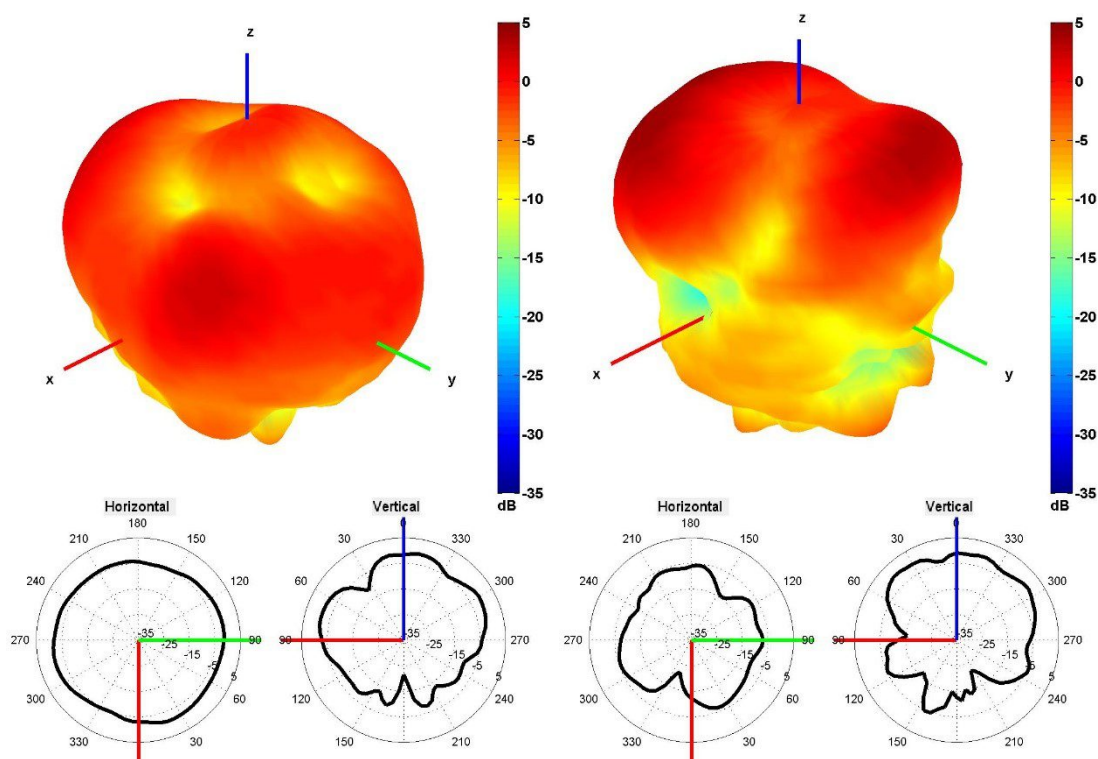
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

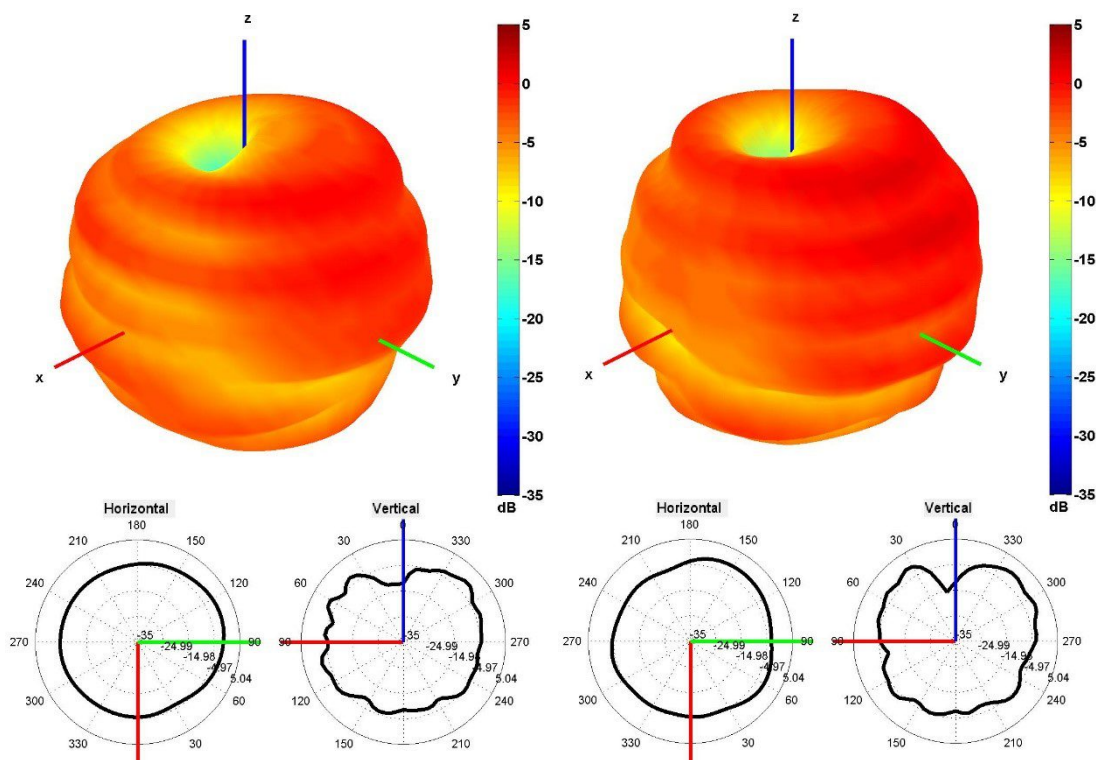


1850 and 1950 MHz Radiation pattern

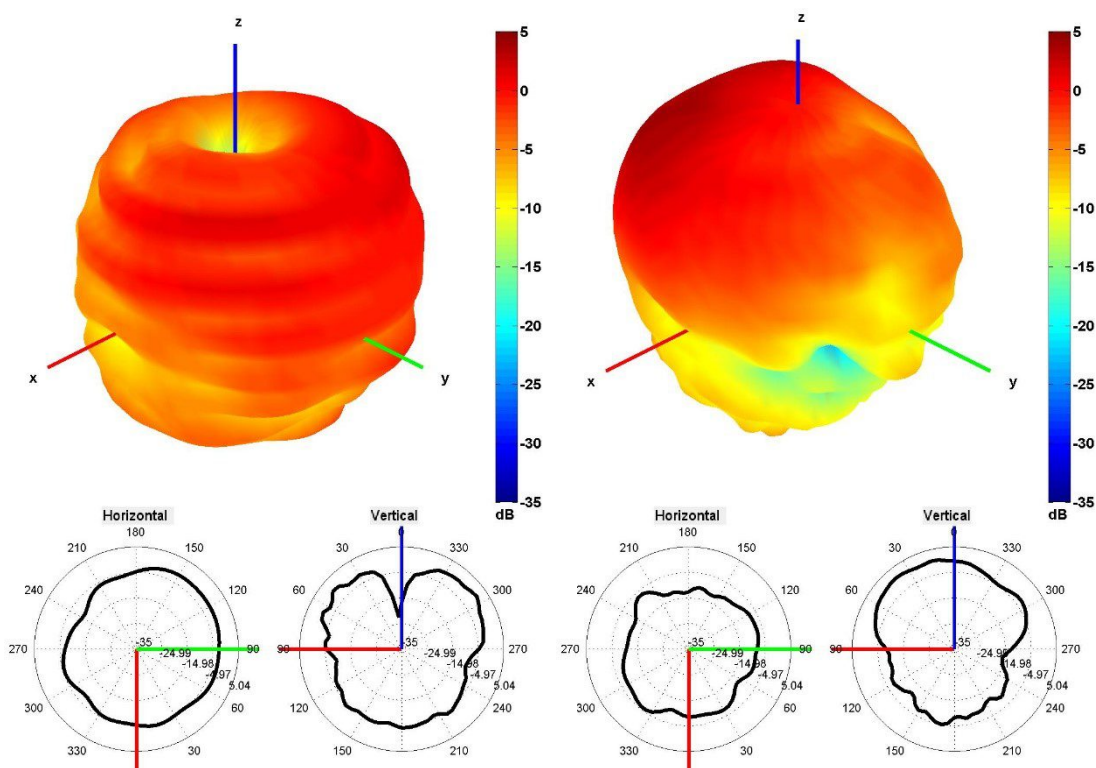


2100 and 2600 MHz Radiation pattern

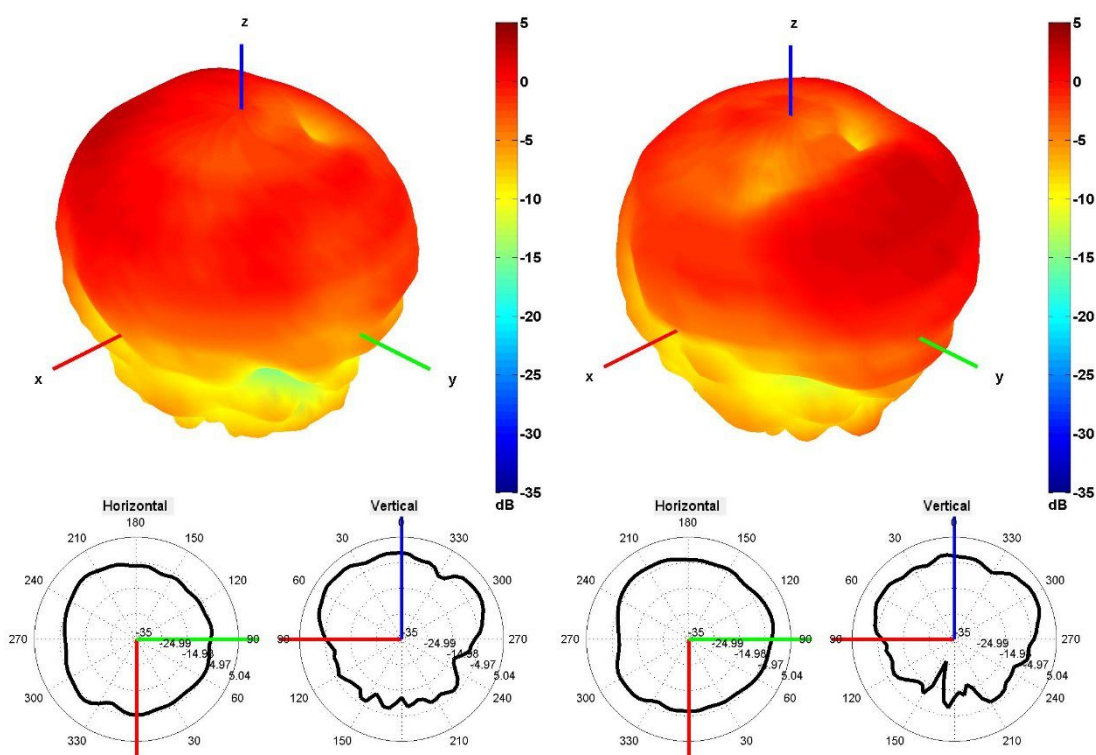
Cable 2: CELLULAR/LTE



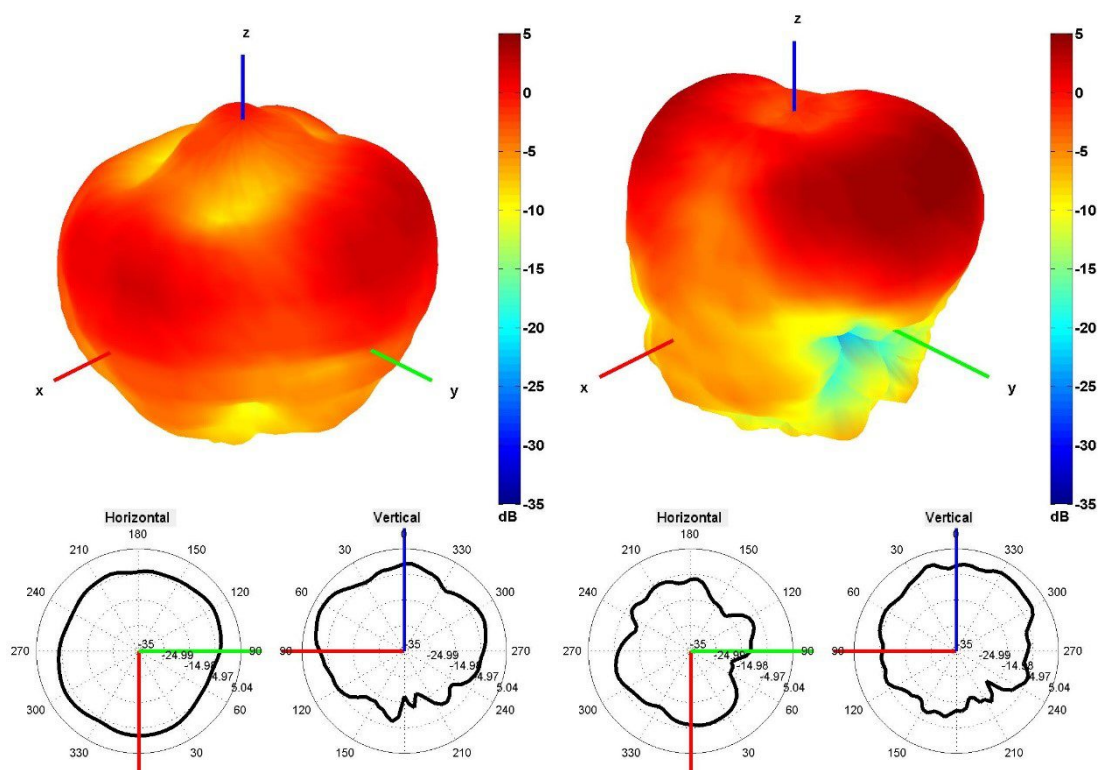
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

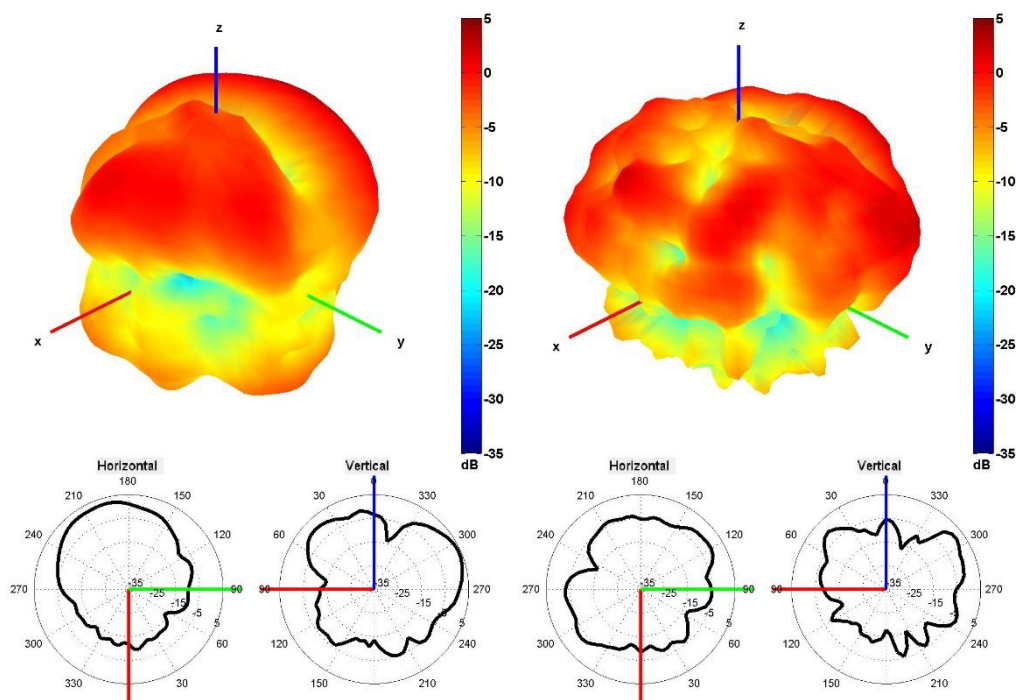


1850 and 1950 MHz Radiation pattern



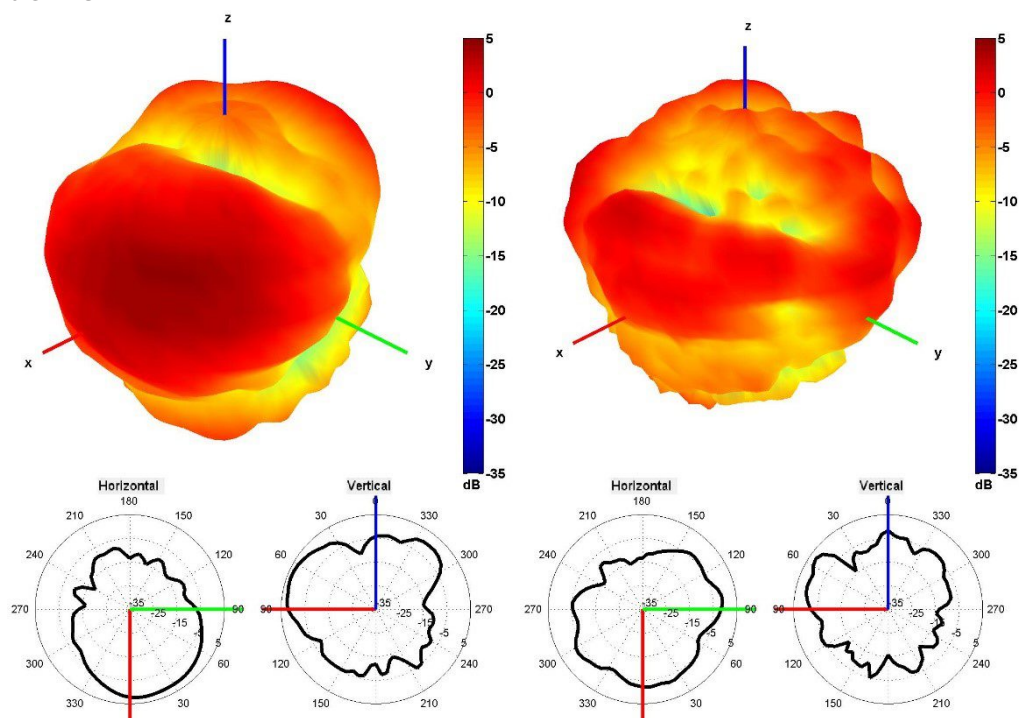
2100 and 2600 MHz Radiation pattern

Cable 3: 2.4/5.0 GHz ISM



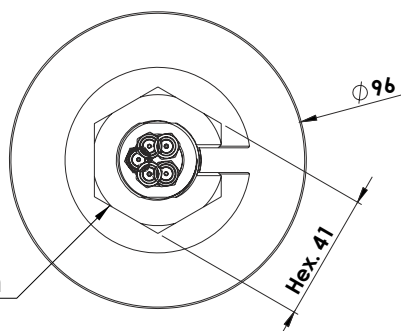
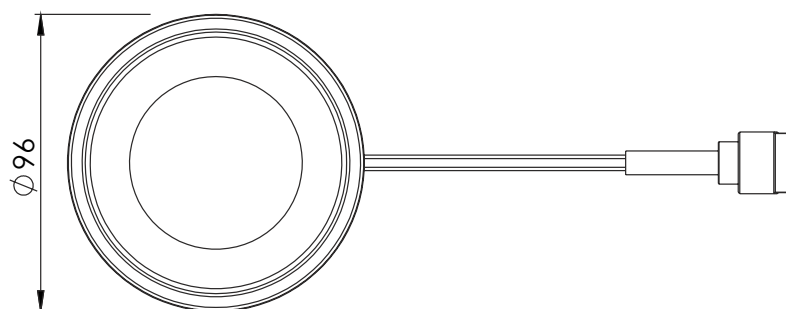
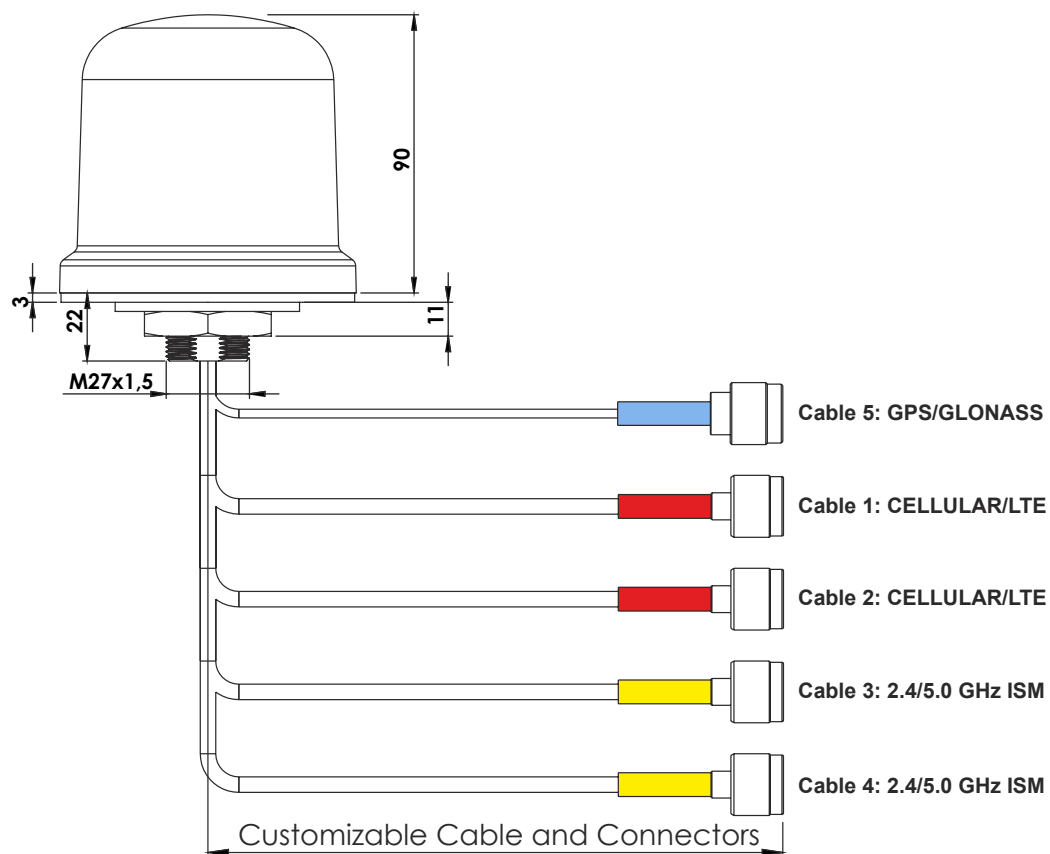
2450 and 5500 MHz Radiation pattern

Cable 4: 2.4/5.0 GHz ISM

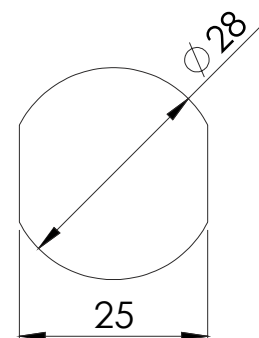


2450 and 5500 MHz Radiation pattern

4. Antenna drawings



Mounting hole



Note: Dimensions are in millimeters
*Dimensions are after mounting
**Max. Torque= 6 Nm

5. Antenna Images

