

BB-2J7050BGFA-150

CELLULAR / LTE MIMO, 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

Heavy Duty antenna

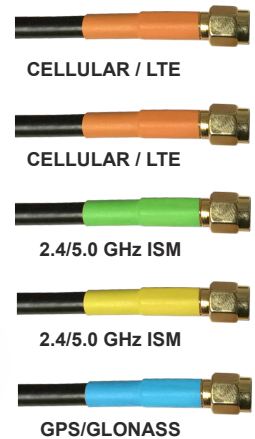
High Performance

Ground Plane Independent

Anti-Rotation Mounting

Dimensions: Ø 96 x H 90 mm

Certificates: IP67, IP69, IK09



Description

Compact heavy duty antenna designed for 4G LTE, 2.4/5.0 GHz ISM and GNSS suitable for wide range of applications within industry. Antenna is made with specific anti-rotation mounting system. Housing of the antenna is certified for standards of IP67 for water resistance, IK09 for high impact resistance and IP69K standard for high pressure and hot water ingress.



1. Antenna and electrical specifications

Cable 1

Parameters	CELLULAR / LTE Antenna		
	2G,3G and 4G		
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)	~-10.6	~-15.6	~-11.7
VSWR	~1.9:1	~1.6:1	~1.7:1
Efficiency (%)	~57	~57	~47
Peak Gain (dBi)	~-2.1	~-4.2	~-3.1
Average Gain (dB)	~-2.4	~-2.5	~-3.3
Impedance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male		
Cable Length	150 cm		
Cable Type	LMR195		

Cable 2

Parameters	CELLULAR / LTE Antenna		
	2G,3G and 4G		
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)	~-11.0	~-14.3	~-16.5
VSWR	~1.9:1	~1.6:1	~1.4:1
Efficiency (%)	~63	~54	~57
Peak Gain (dBi)	~-3.0	~-3.2	~-4.0
Average Gain (dB)	~-2.0	~-2.6	~-2.4
Impedance (Ohm)	50		
Polarisation	Linear		
Radiation Pattern	Omni-Directional		
Max. Input Power (W)	25		
Connector Type	SMA-Male		
Cable Length	150 cm		
Cable Type	LMR195		

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 x 30 cm
 200 cm of LMR195 Cable
 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)	~-10.4	~-13.6
VSWR	~1.9:1	~1.6:1
Efficiency (%)	~58	~64
Peak Gain (dBi)	~5.6	~5.5
Average Gain (dB)	~-2.3	~-1.9
Impedance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	25	
Connector Type	R-SMA	
Cable Length	150 cm	
Cable Type	LMR195	

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)	~-8.9	~-13.6
VSWR	~2.1:1	~1.6:1
Efficiency (%)	~57	~59
Peak Gain (dBi)	~5.5	~4.4
Average Gain (dB)	~-2.4	~-2.3
Impedance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	25	
Connector Type	R-SMA	
Cable Length	150 cm	
Cable Type	LMR195	

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 x 30 cm
 200 cm of LMR195 Cable
 Measured in Certified CTIA 3D Anechoic Chamber

Cable 5

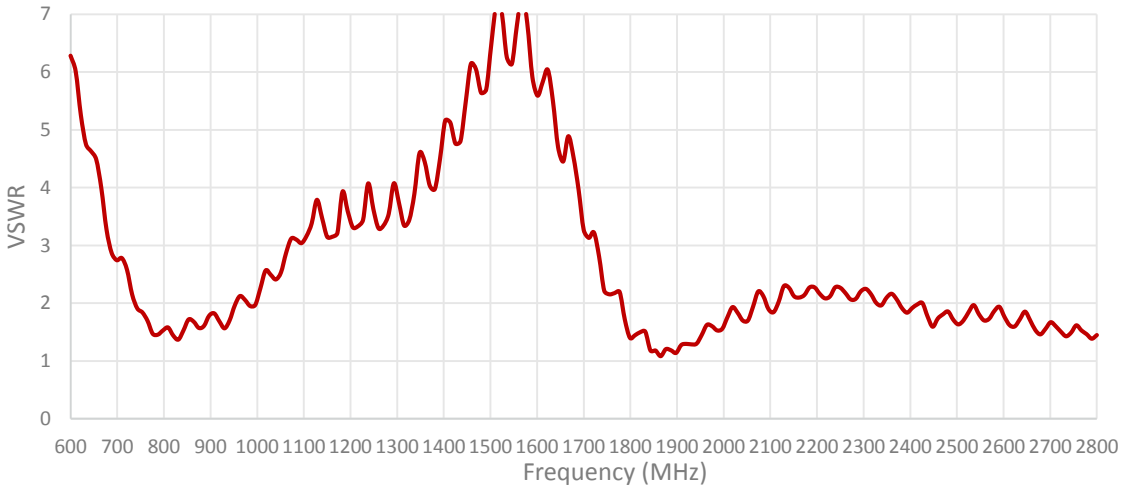
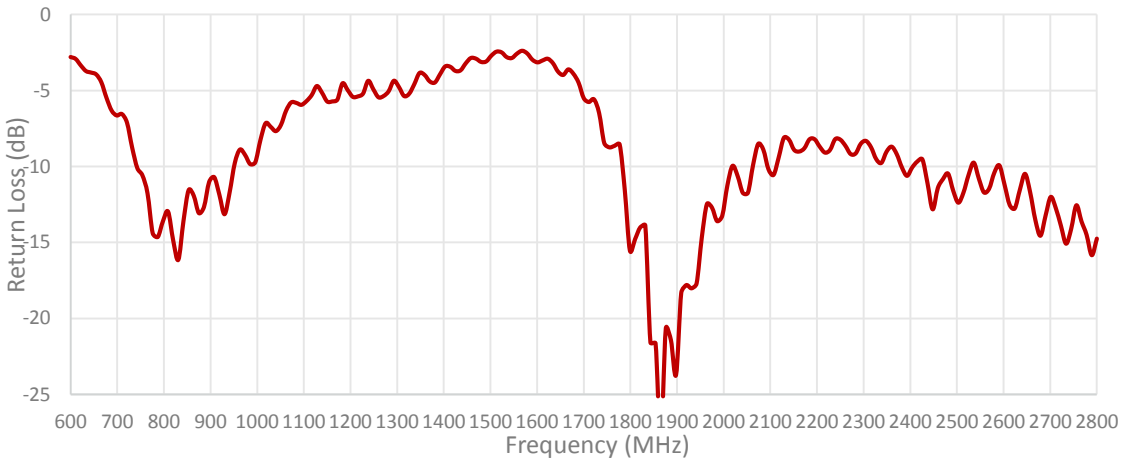
Parameters	GPS/GLONASS Antenna	
	GPS/QZSS/Galileo	GLONASS
Standard	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency(MHz)	1575.42	1598-1610
Return Loss (dB)		<=-14
VSWR		<=1.5:1
Impedance		50
Radiation Pattern		Hemispherical
Polarization		RHCP
Saw Filter		Pre-Filter
Active Gain (dB)		28 @ 2.7 V
Noise Figure (dB)		1.8 @ 2.7 V
Voltage (V)		1.5 – 3.6
Current Consumption (mA)		9 @ 2.7 V
Power Consumption (mW)		24.3 @ 2.7 V
Out of Band Rejection (dBc)		~43
ESD Protection (kV)		6
Connector Type		SMA-Male
Cable Length		150 cm
Cable Type		LMR100

2. Mechanical and environmental specifications

Specifications	BB-2J7050BGFA-150
Mounting Type	Screw Mount
Dimensions (mm)	Ø 96 x H 90
Radome	ASA
Radome color	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



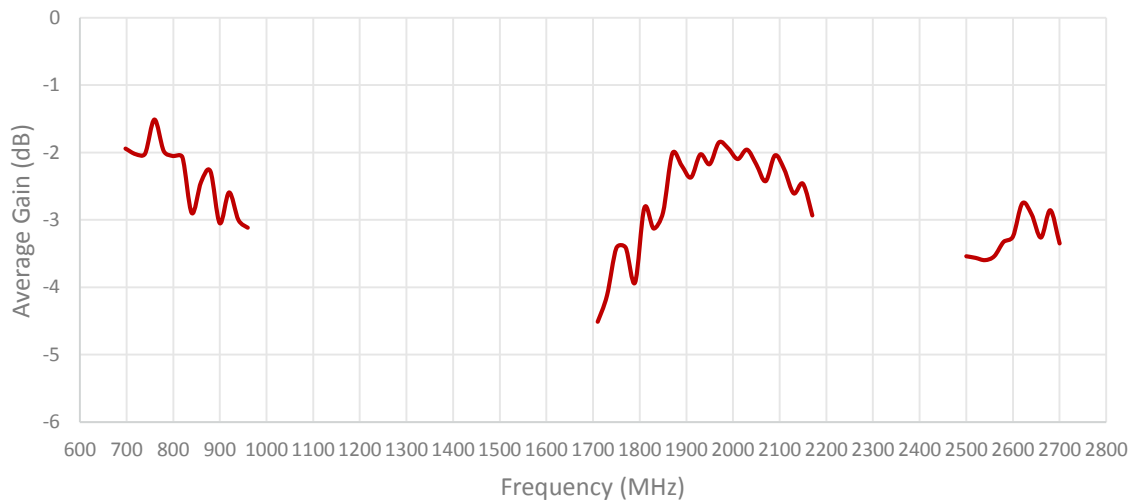
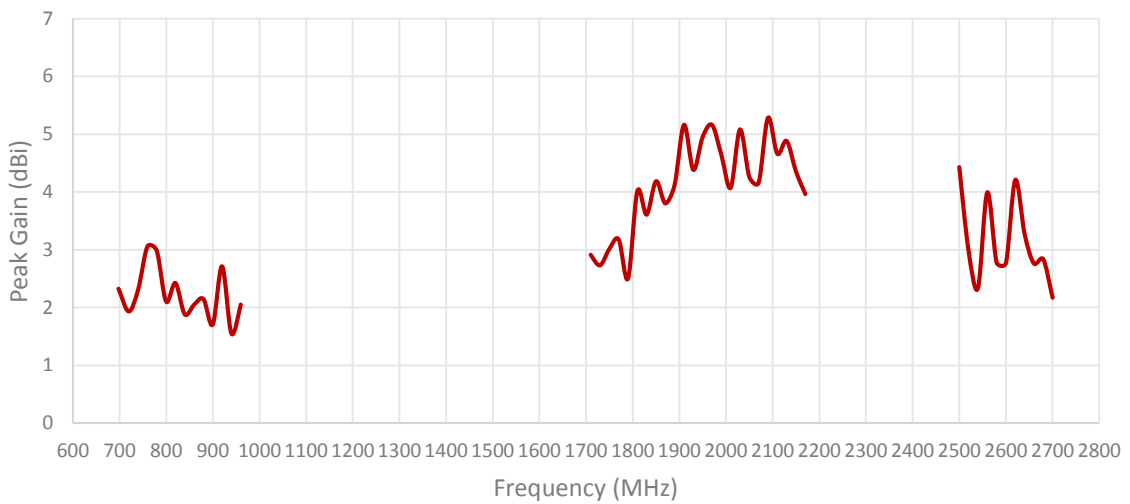
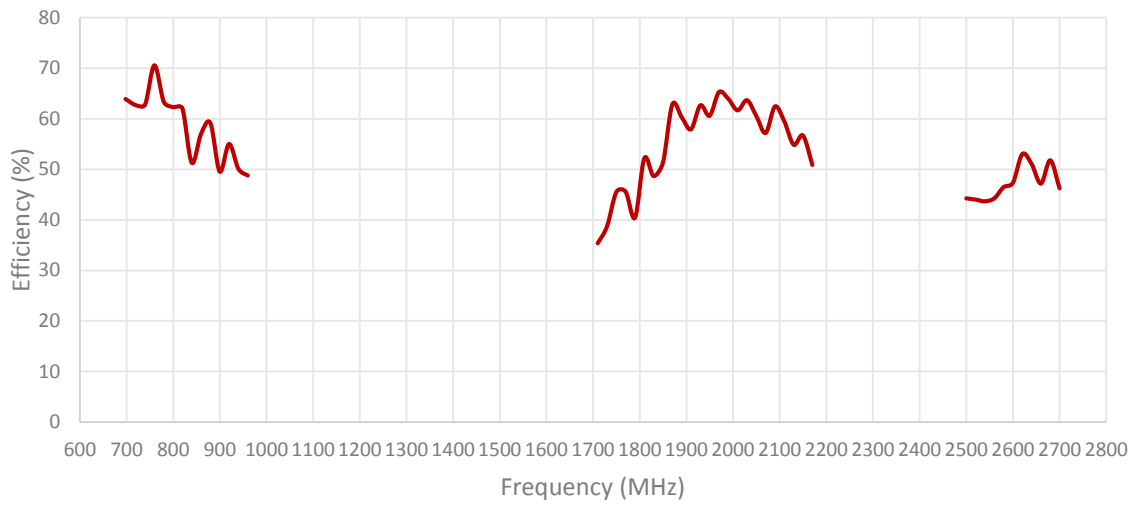
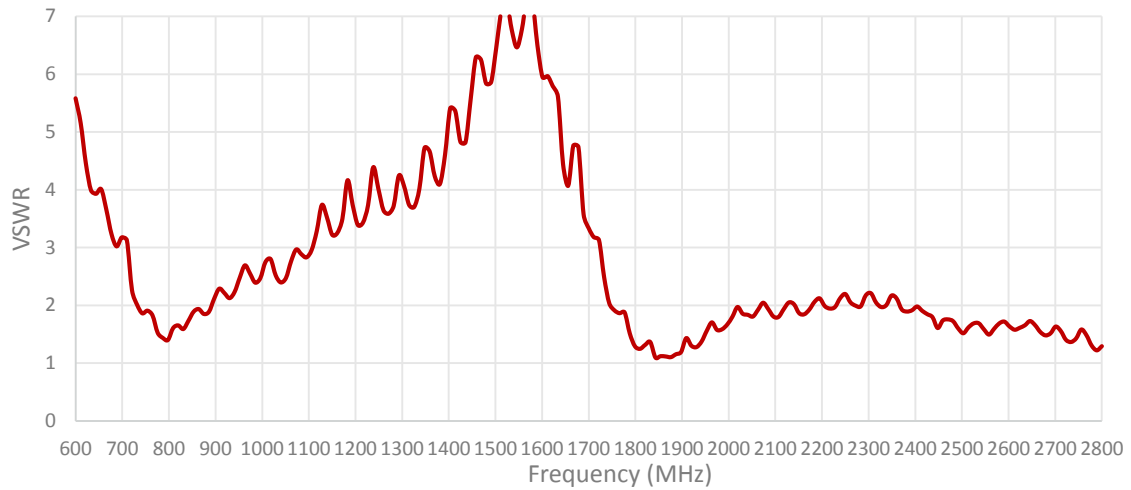
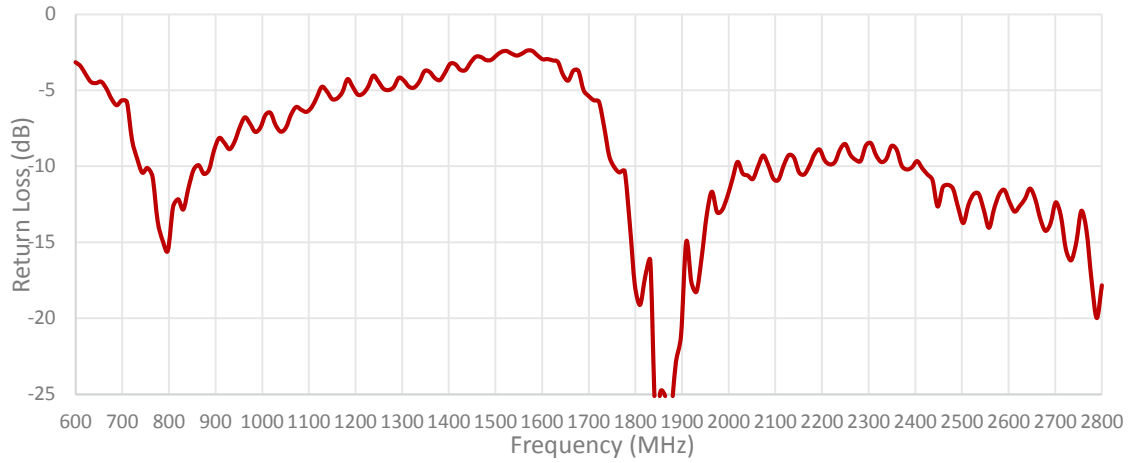
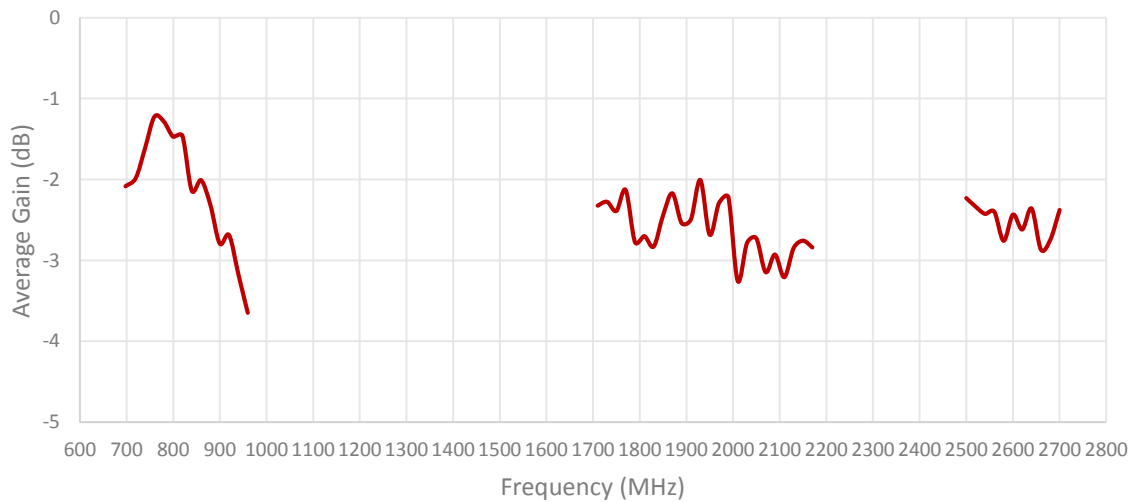
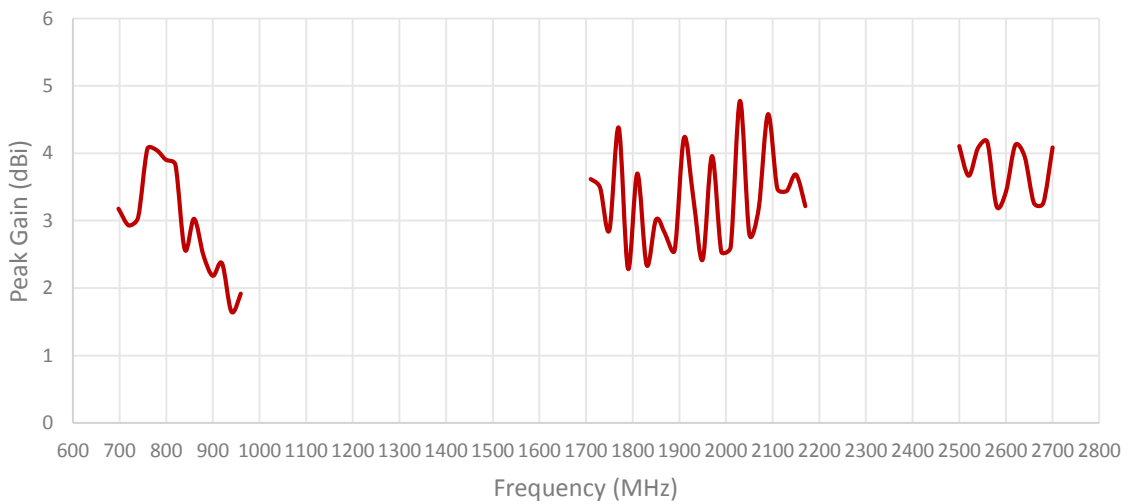
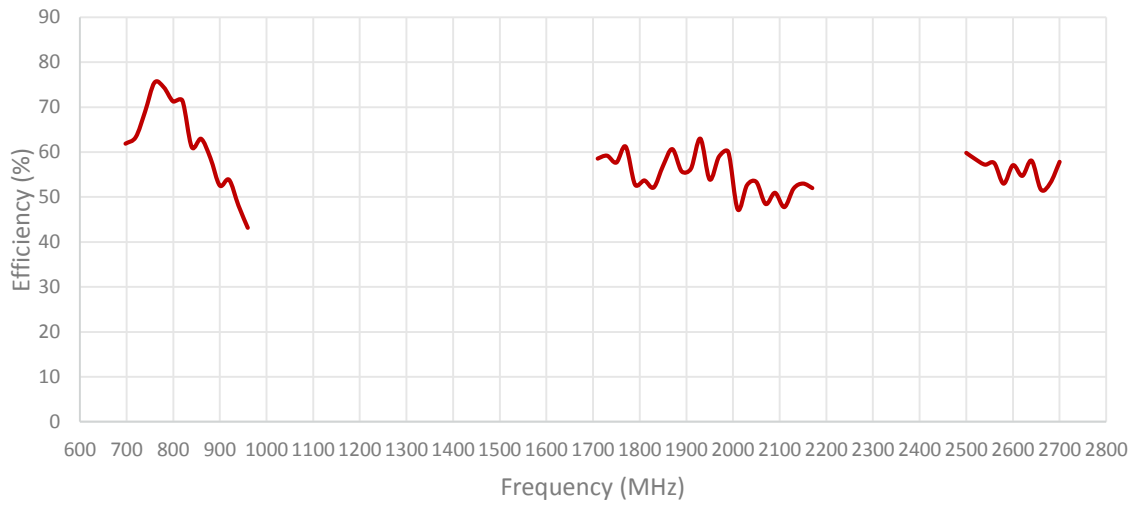
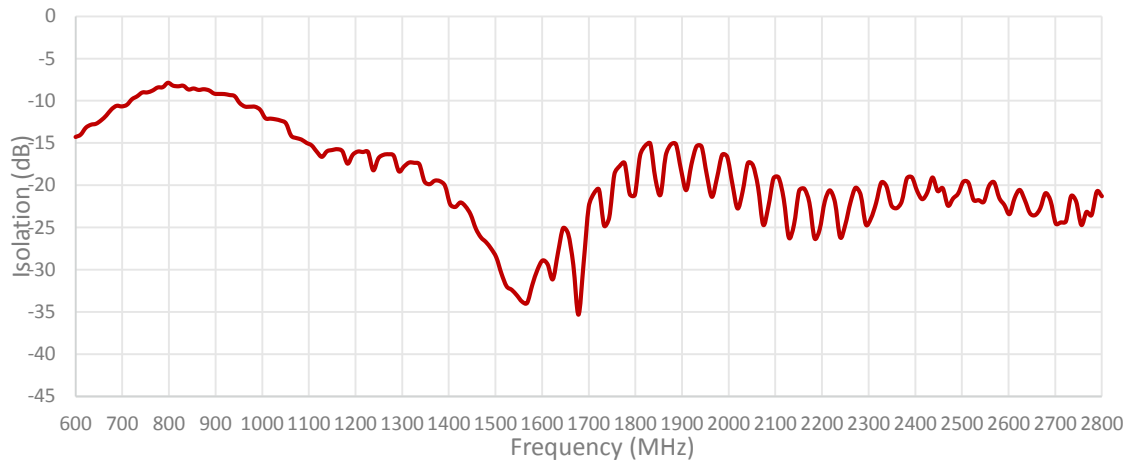


Table 2: CELLULAR/LTE

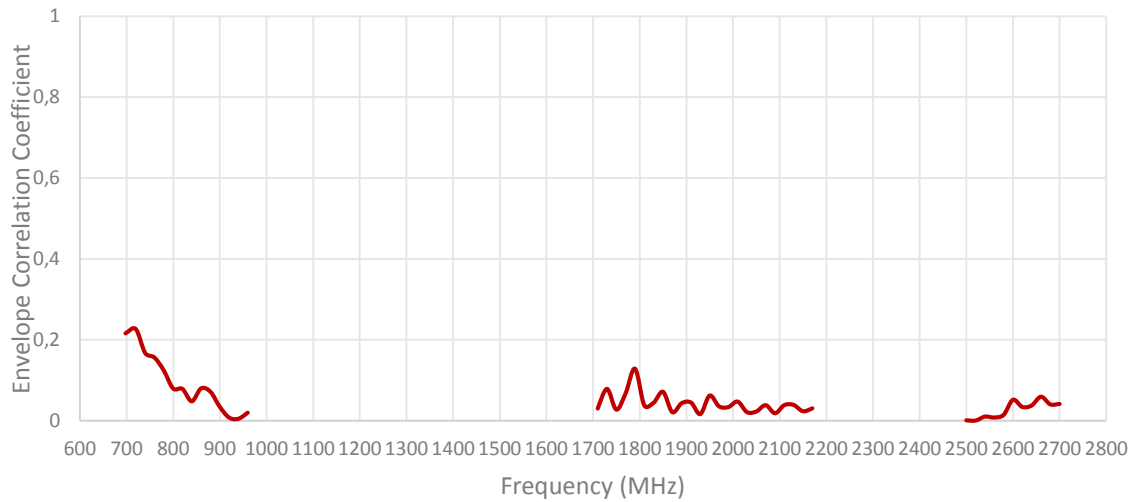




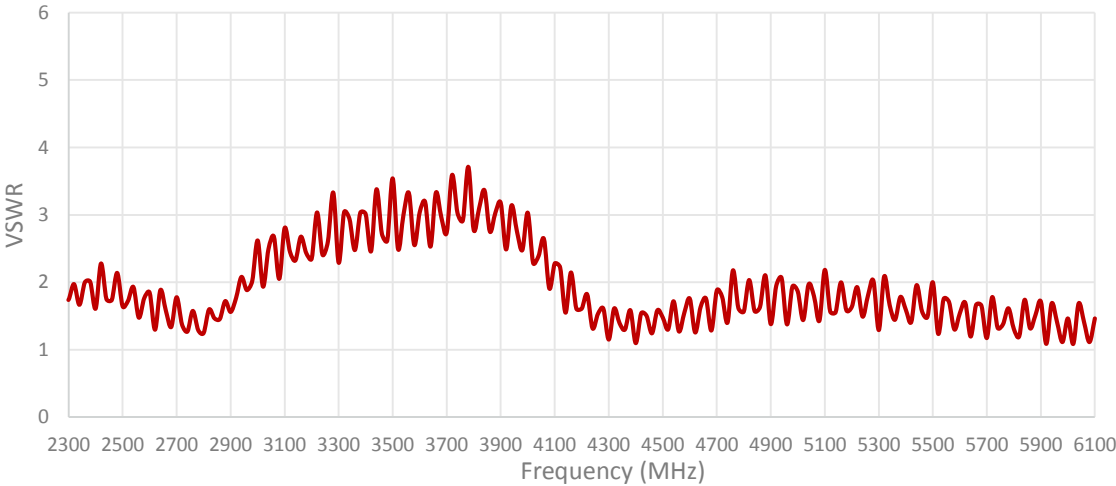
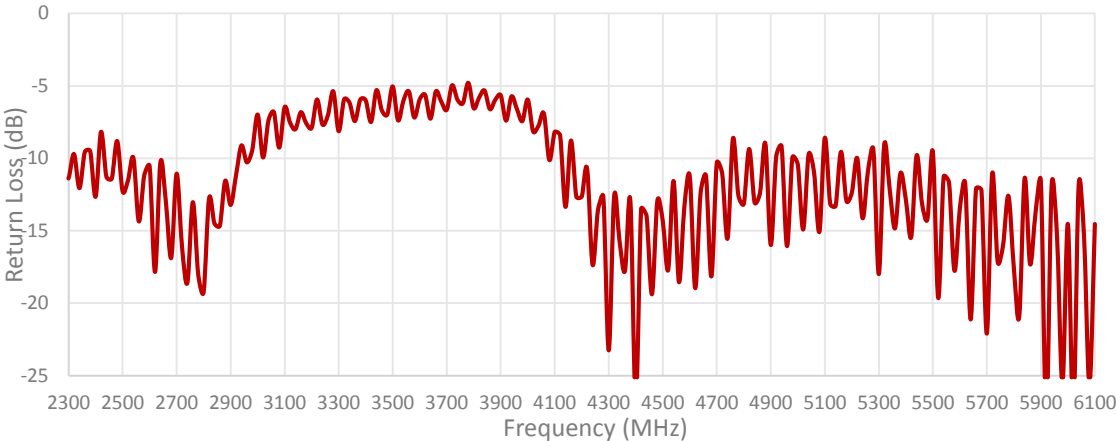
ISOLATION FOR CABLES 1 AND 2

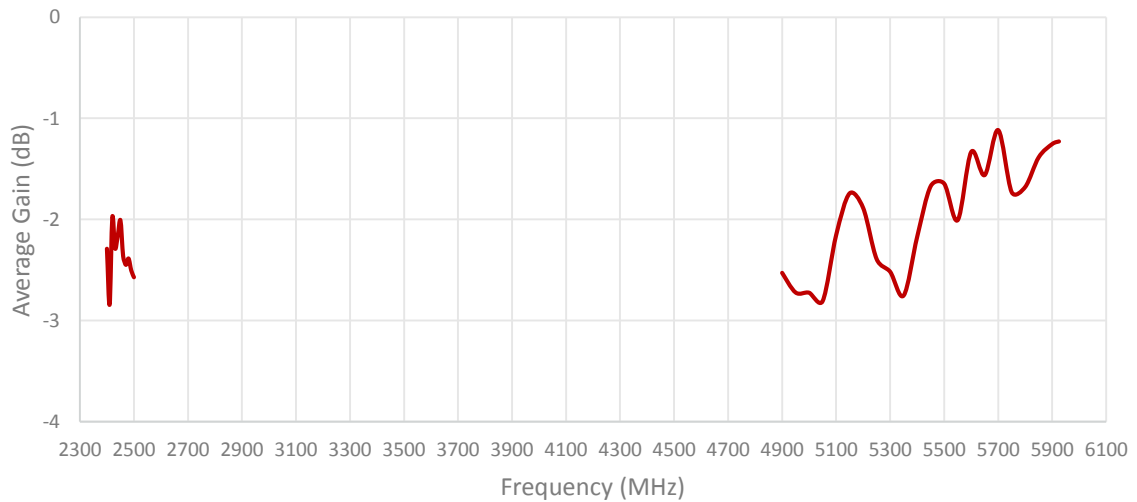
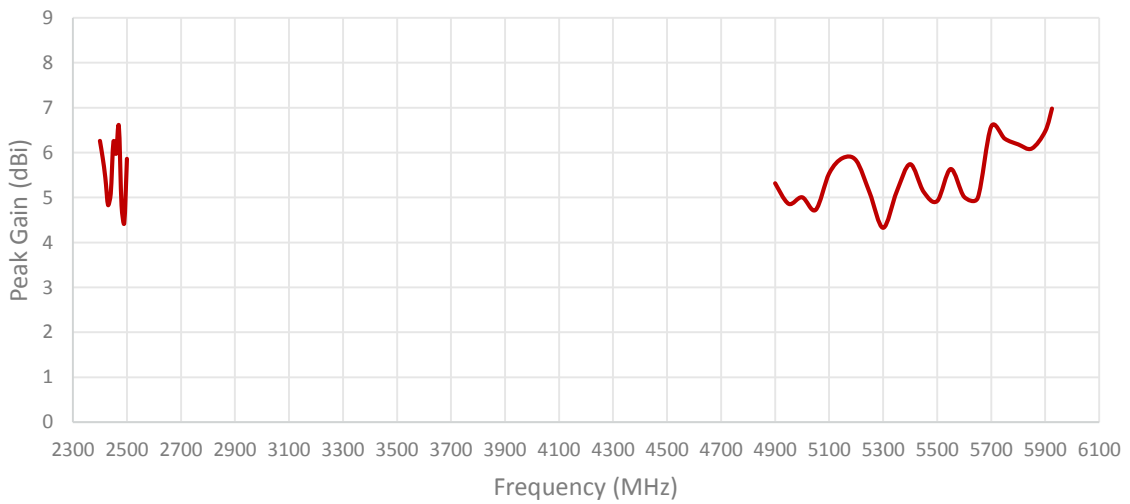
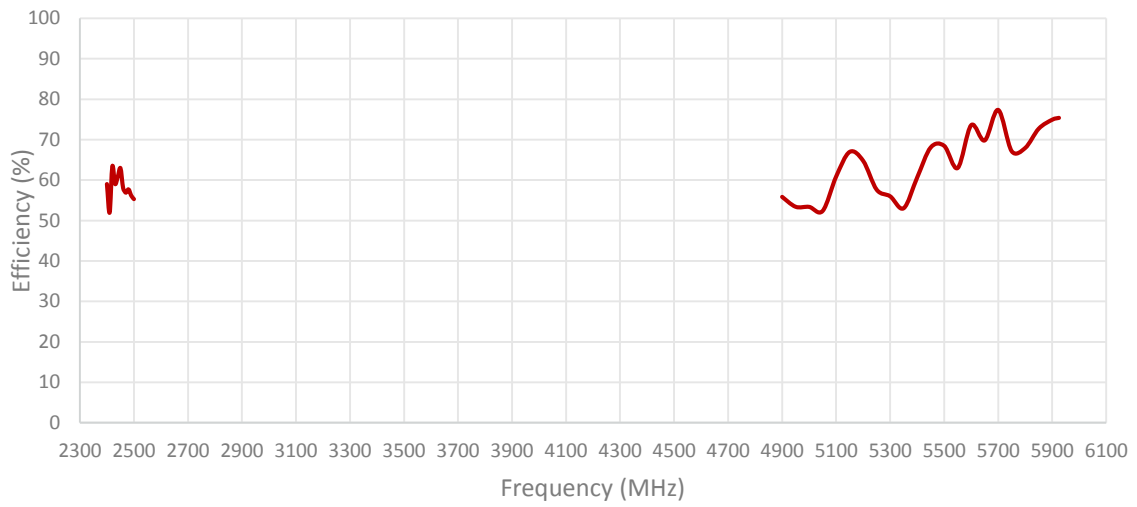


ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2

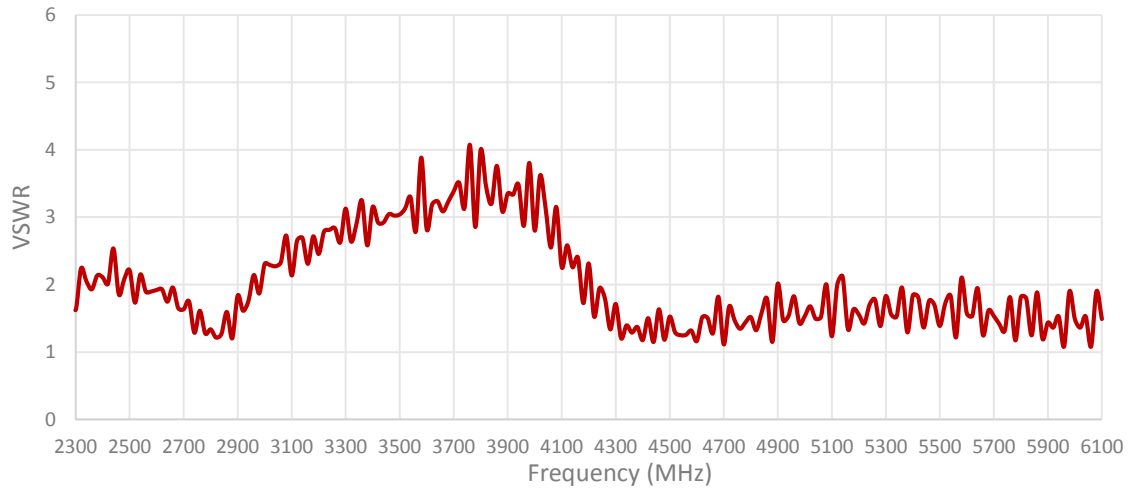
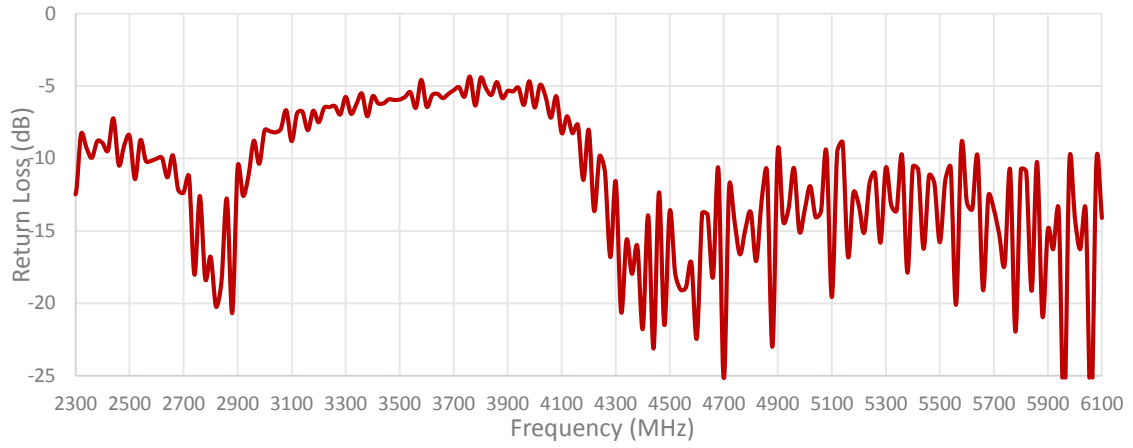


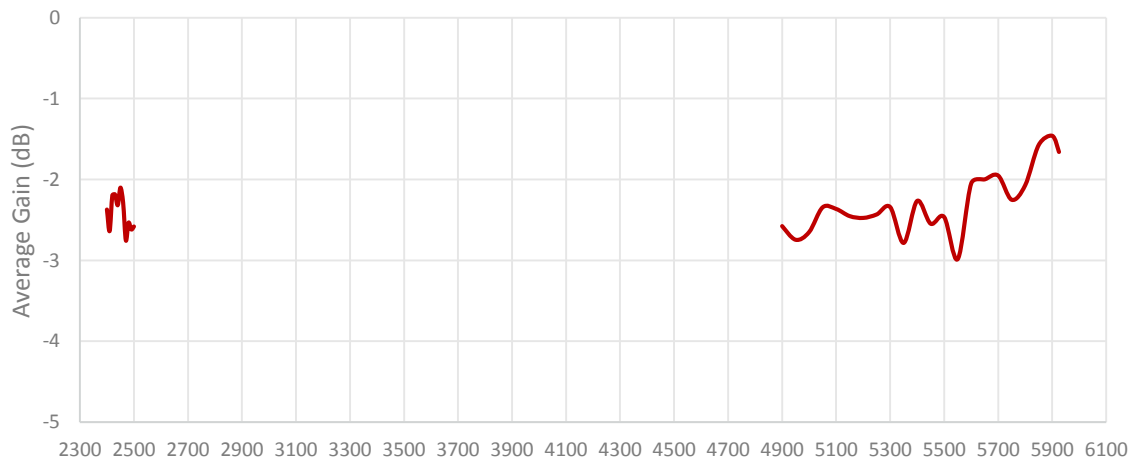
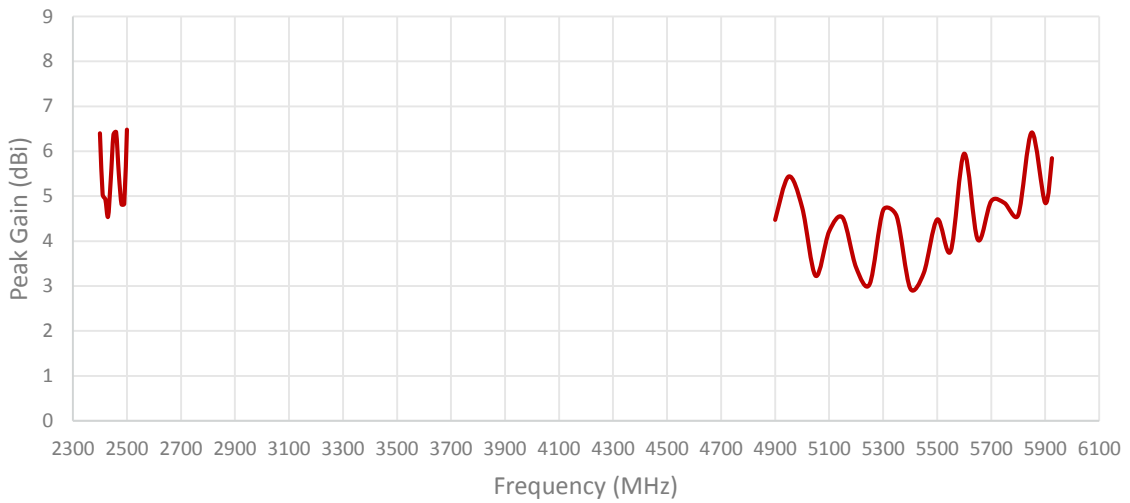
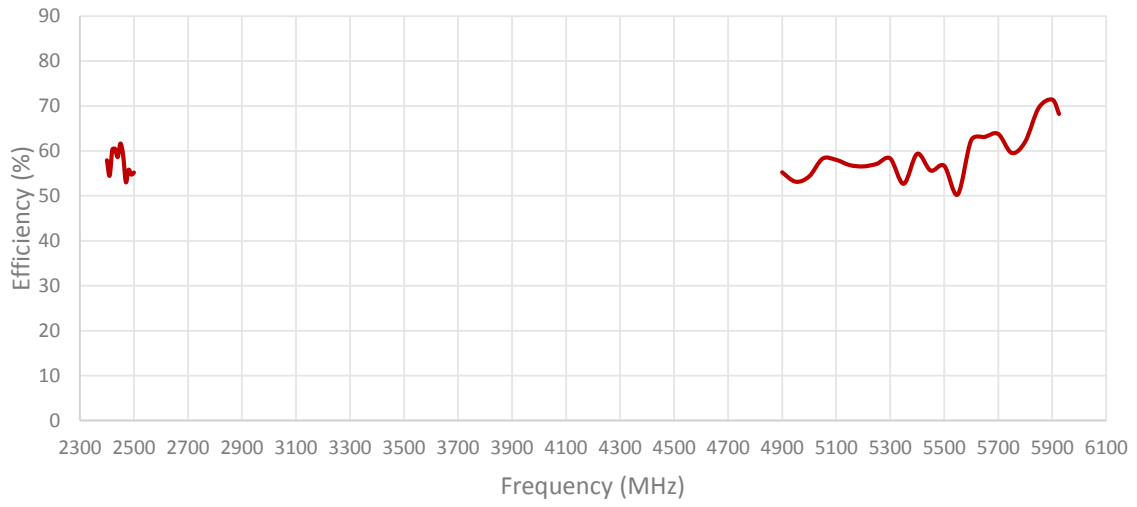
Cable 3: 2.4/5.0 GHz ISM



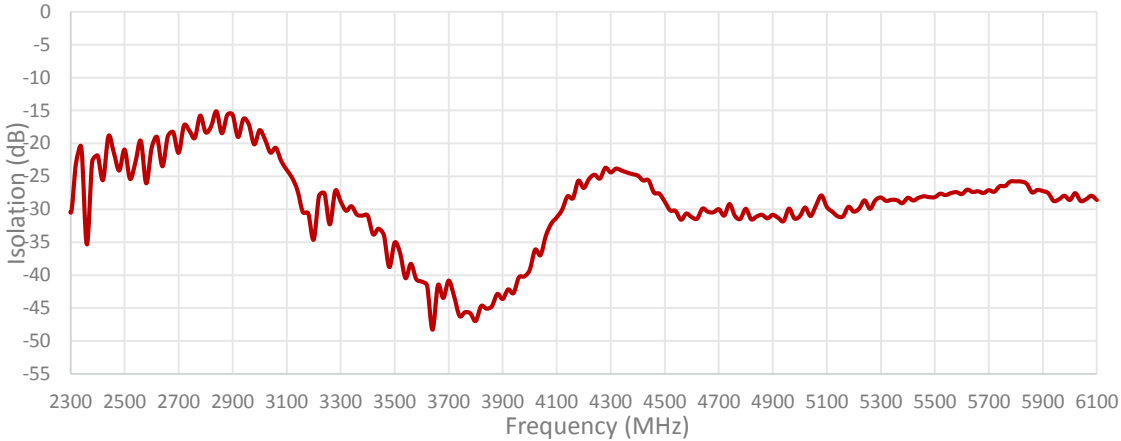


Cable 4: 2.4/5.0 GHz ISM

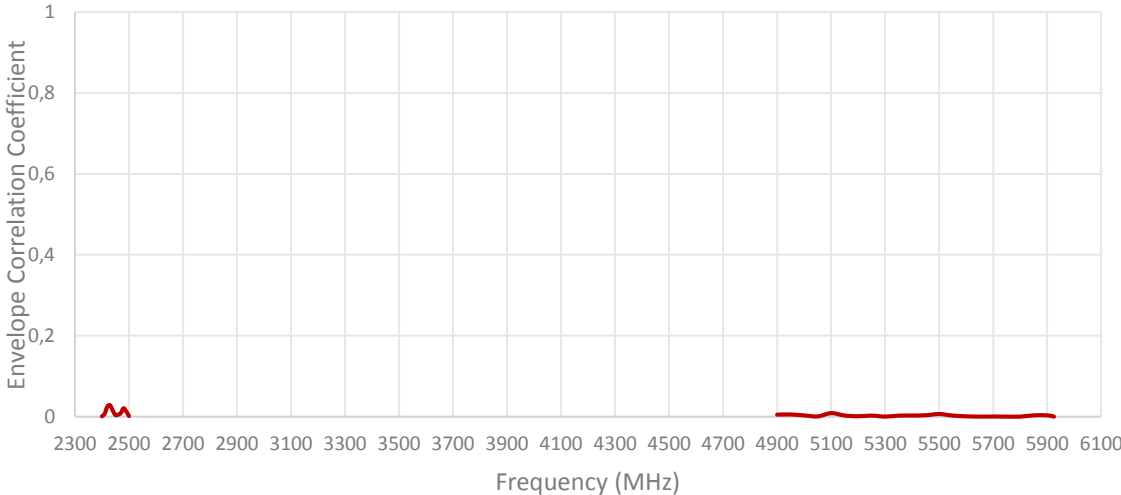


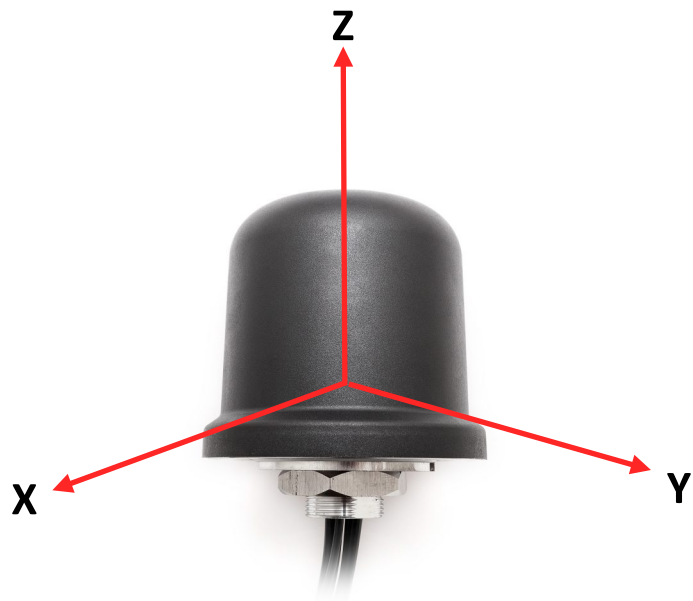


ISOLATION FOR CABLES 3 AND 4



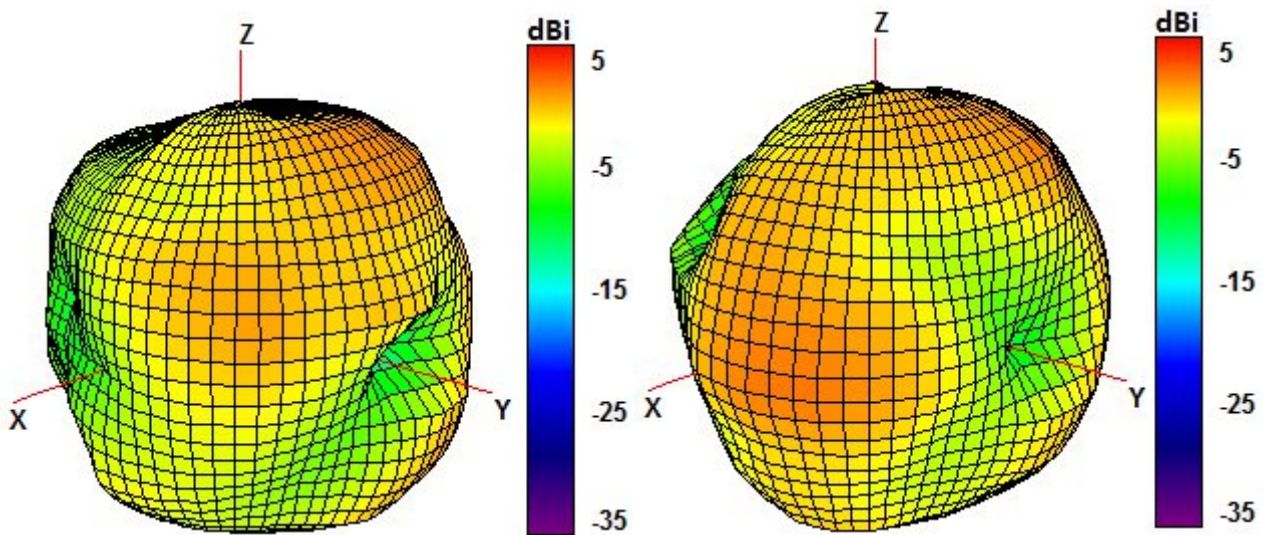
ENVELOPE CORRELATION COEFFICIENT FOR CABLES 3 AND 4



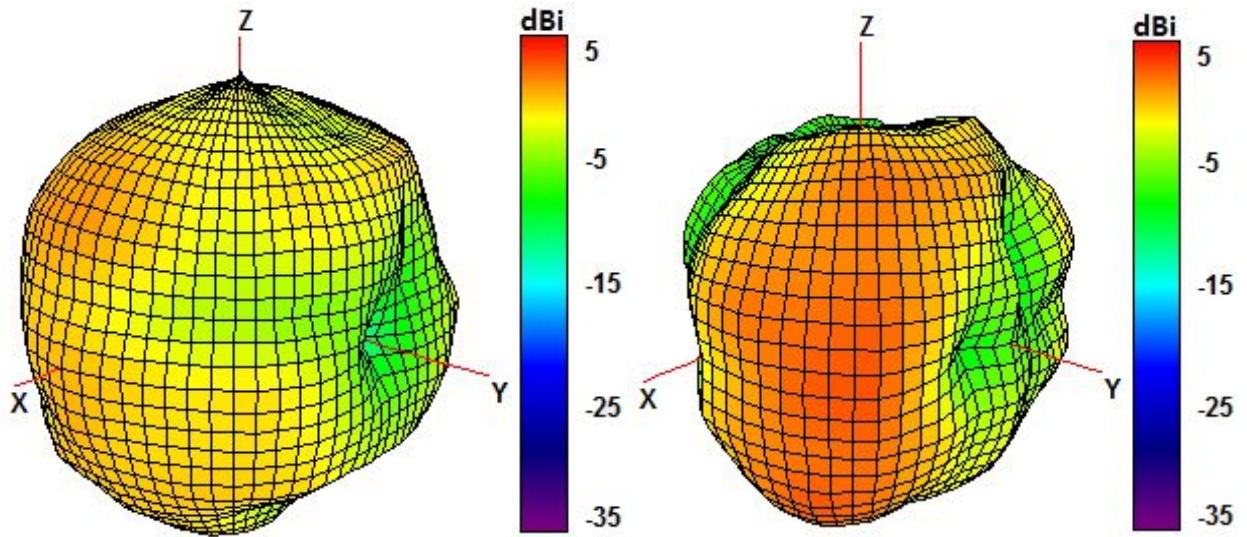


Radiation pattern reference

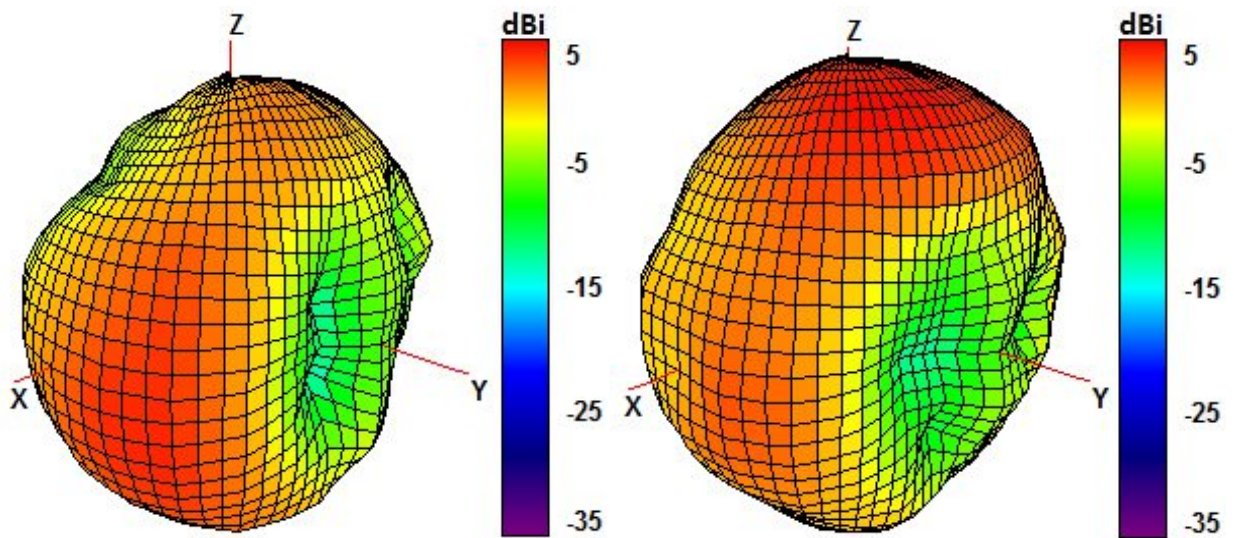
Cable 1: CELLULAR/LTE



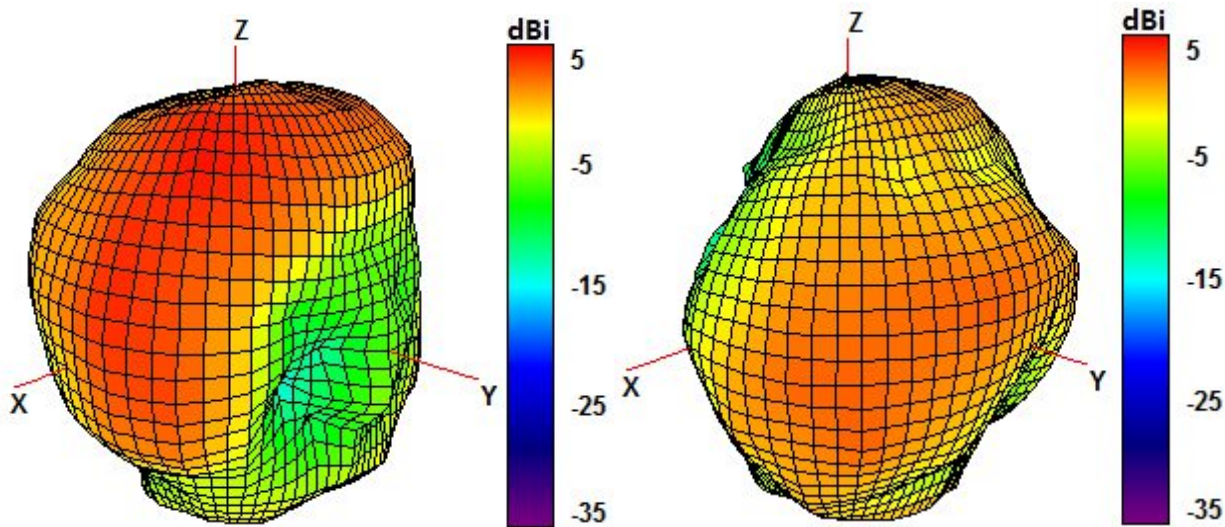
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

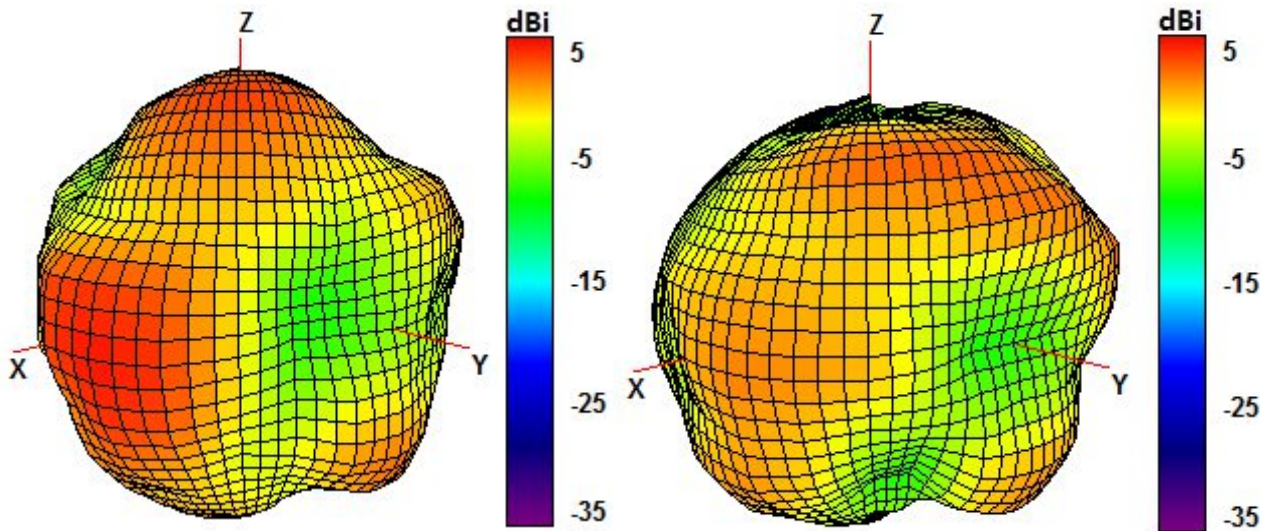


1850 and 1950 MHz Radiation pattern

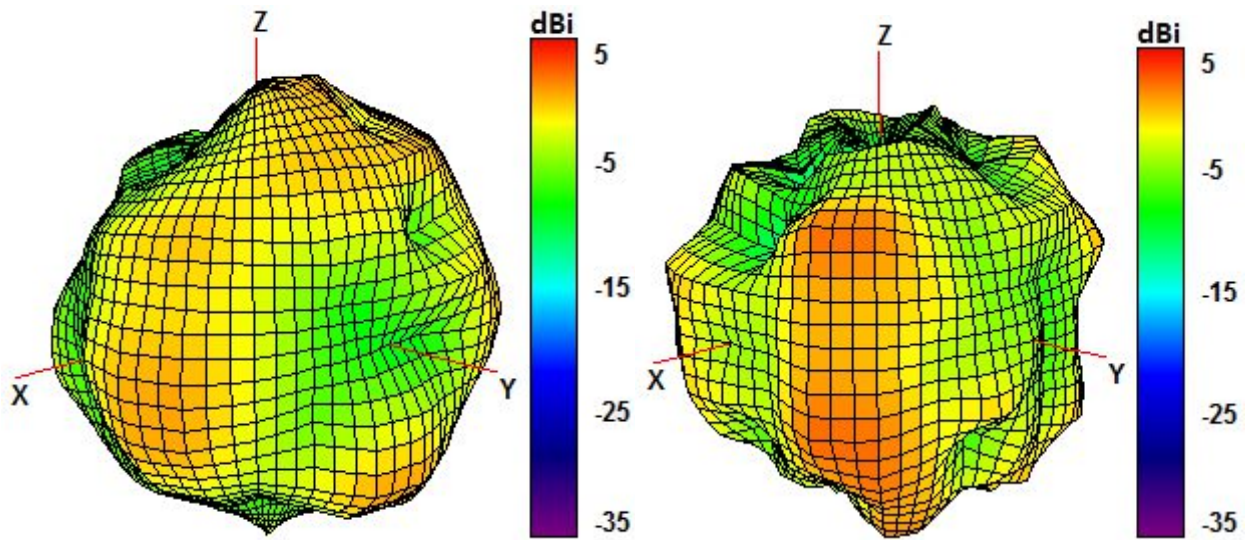


2100 and 2600 MHz Radiation pattern

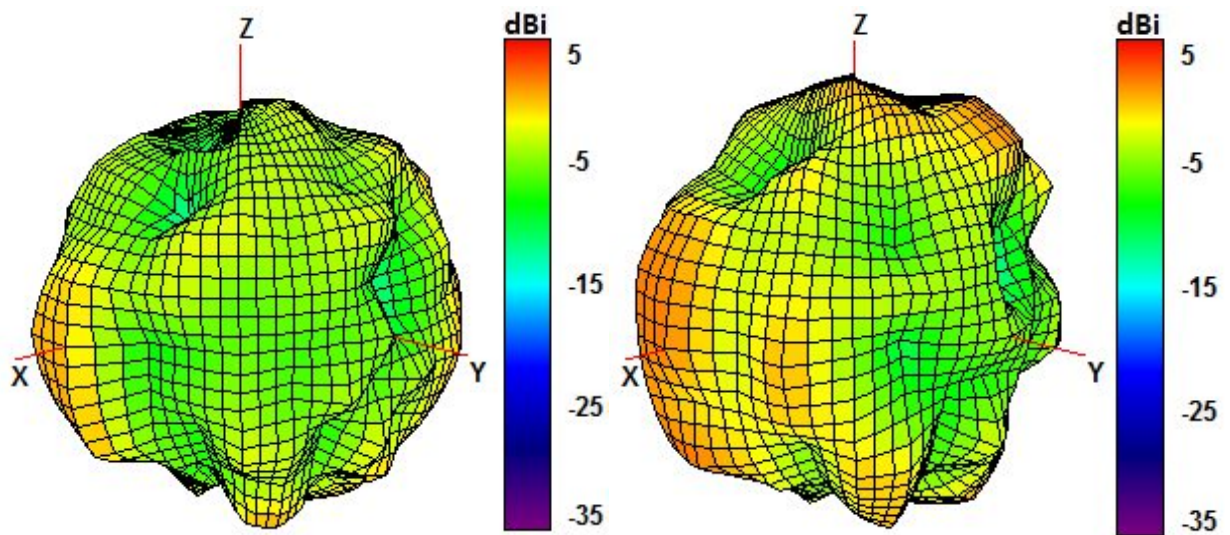
Table 2: CELLULAR/LTE



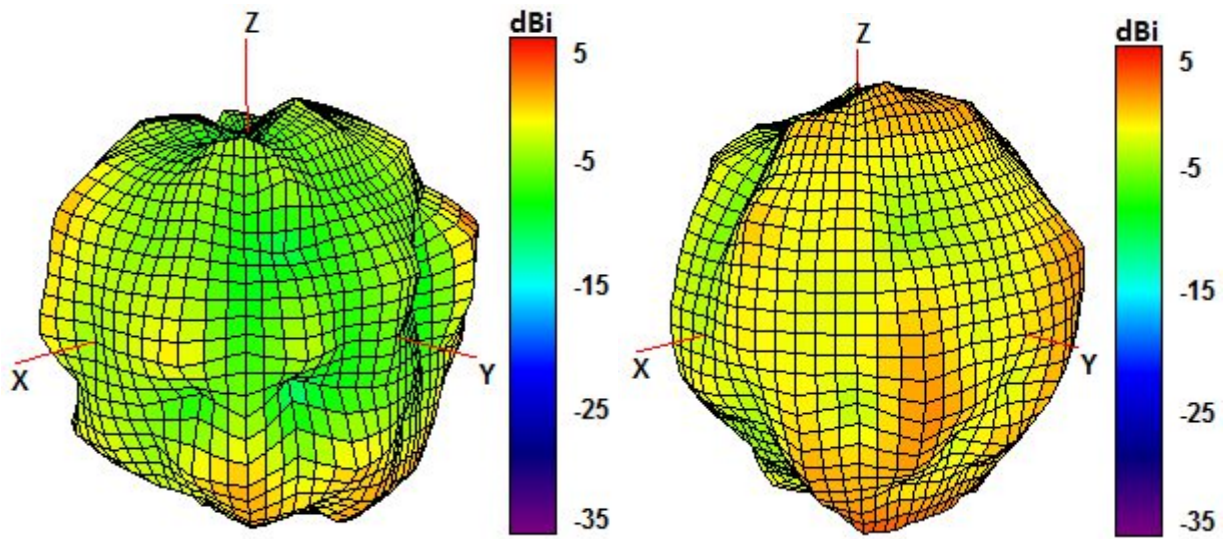
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

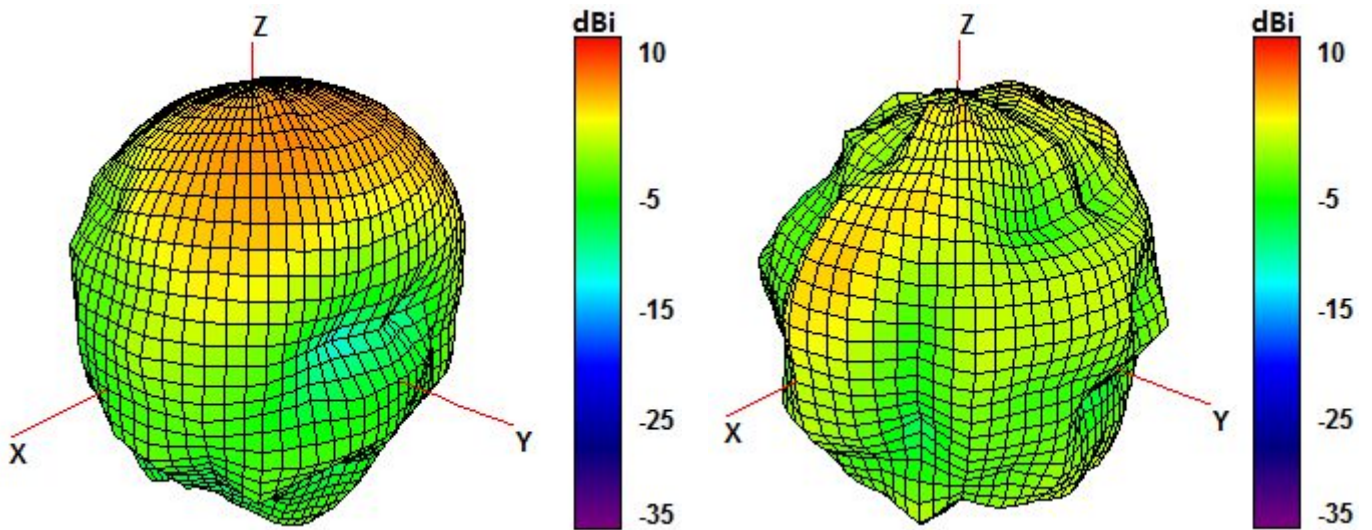


1850 and 1950 MHz Radiation pattern



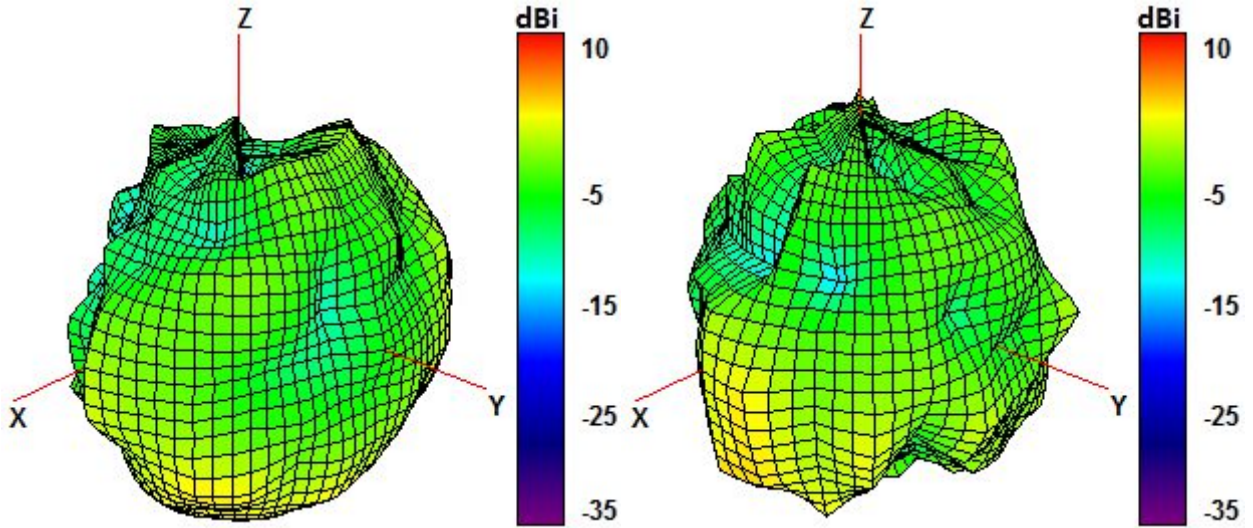
2100 and 2600 MHz Radiation pattern

Cable 3: 2.4/5.0 GHz ISM



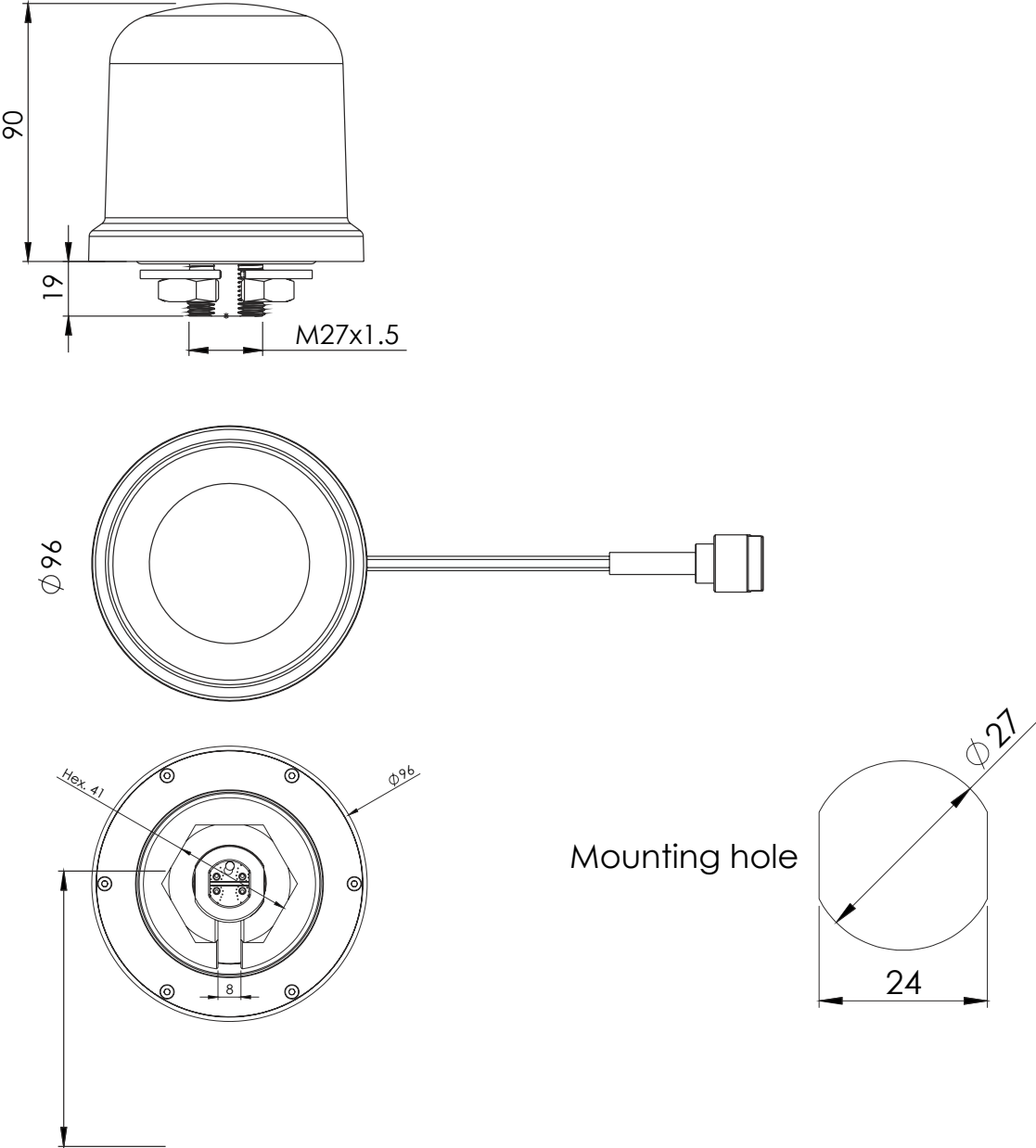
2450 and 5500 MHz Radiation pattern

Cable 4: 2.4/5.0 GHz ISM



2450 and 5500 MHz Radiation pattern

4. Antenna drawings



5. Antenna Images

