antenna conceptor

Product Datasheet

2J4A50PCF

CELLULAR/LTE, 2.4/5.0 GHz ISM and GNSS Adhesive Mount

Key Features

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

Cable 2: 2.4/5.0 GHz ISM
- 2410-2490 MHz
- 4920-5925 MHz

Cable 3: GPS/GLONASS/BeiDou/QZSS/Galileo
- 1561-1606 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, Vibration



1. Antenna Description

2J4A50PCF "The Condor Series"

A stellar performance in a compact system

With a size reduction of up to 50% in comparison with other antennas in the market and the highest performance for a 3-in-1 antenna solution, single package the Condor 2J4A50PCF antenna is the most competitive solution on the market. Users can opt for other configurations in the same enclosure such as 2-in-1, 4-in-1 or 5-in-1 antenna as per their needs, please check our website or contact our sales team for questions and details.

If you are looking for an antenna that is sleek in design and makes no compromises on efficiency and performance, then 2J4A50PCF is the best option. Engineered according to the latest technological advancements, this antenna provides LTE-MIMO, 2.4/5.0GHz-MIMO and GNSS applications delivering very high-efficiency uninterrupted data transfers at maximum speed, achieved by the low Envelope Correlation Coefficient at the LTE-MIMO Antennas.

Worldwide solution

The key feature here is that 2J4A50PCF is compatible with all LTE, 4G, 3G or 2G network ecosystems. With countless applications and customer-centric benefits, high-precision, low noise and low power consumption GNSS active ceramic antenna stands out among its competition, compatible for GPS, Glonass, BeiDou, Galileo and QZSS geolocation technologies. High gain WiFi antenna is included in the package for all channels and standards in the 2.4 and 5.0GHz bands.

Typical applications

- Infotainment systems
- WiFi hotspot
- HD video transmission
- Dash cameras
- Connected cars
- Self-driving cars
- Fleet management
- Gateways
- Routers
- Public transportation
- Logistics
- And others

Compatibility Standards

LTE Cable
- CAT 1 2 3 4 5 6 7 8 9 10 11 12
- NB-IoT, LTE-NB1, CAT-M1, CAT-M2, WCDMA, UMTS, HSPA,
- EDGE GRPS, GSM, CDMA

2.4/5.0 Cable
- WiFi, Bluetooth, BLE, ISM
- DSRC, V2V, V2X
- Sigfox, LoRa, ZigBee, RPMA, LPWAN

GPS/GLO/BEI Cable
- GPS, GLONASS, BeiDou
- Galileo, QZSS, L1, E1, B1

Installation and Durability

The 2J4A50PCF can be easily installed or hidden in any part of your environment and application; on the top or bottom surfaces including windshields, dash, plastic, etc., as it comes equipped with a separate double adhesive pad that secures it safely. This product includes a low loss double shielded cable with fully customized length and connector that provides maximum antenna performance and reliability, avoiding drop connections, higher speed data, higher gain, etc. 3-in-1 feature allows for a quick handling in places where other solutions fail to implement and eliminates the need for the extensive labor involved in the installation of the product, saving time and resources.

Not only does this technology assure smooth performance, but it also comes bearing safety guarantee. With IP67 and IP69K ingress rating, our product provides maximum protection against dust and water and allows high pressure and steam cleaning. Passing drop test and vibration provides extra robustness ensuring longevity of the product, making it a cost-effective solution. Certificates for independent lab test are available under NDA.

The UV coating allows maximum protection against extensive outdoor use in extreme environments and temperatures.

2. 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)	~-12.4	~-17.9	~-9.4
VSWR	~1.7:1	~1.3:1	~2.0:1
Efficiency (%)	~64.3	~64.9	~49.9
Peak Gain (dBi)	~2.4	~3.9	~1.9
Average Gain (dB)	~-1.9	~-1.9	~-3.1
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	LMR195 (Other Cables Available)		

Cable 2

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)	~-10.0	~-11.4
VSWR	~1.9:1	~1.9:1
Efficiency (%)	~46.7	~36.0
Peak Gain (dBi)	~2.4	~2.5
Average Gain (dB)	~-3.3	~-4.5
Impendance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	25	
Connector Type	RP-SMA-Male Standard (Other Connectors Available)	
Cable Length	300 cm Standard (Any Cable Length Available)	
Cable Type	LMR195 Standard (Other Cables Available)	

Antenna Measurement Conditions:

Mounted on Plastic Plate of 30 x 30 cm

200 cm of Cable LMR195

Measured in Certified CTIA 3D Anechoic Chamber

Cable 3

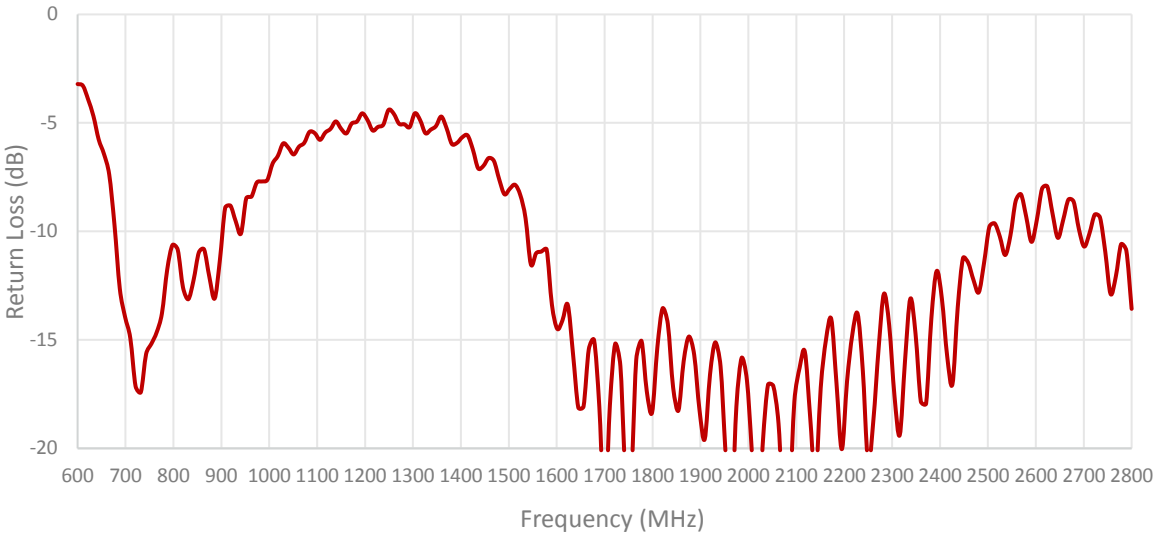
Parameters	GPS/GLONASS/BeiDou Antenna		
Standards	BeiDou	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1561	1575	1602
Frequency(MHz)	1561.098	1575.42	1598-1610
Patch Size (mm)	25 x 25 x 4		
Return Loss (dB)	<=-15.0 dB		
VSWR	<=1.4:1 dB		
Impedance	50		
Radiation Pattern	Hemispherical		
Polarization	RHCP		
Saw 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	LMR100 Standard (Other Cables Available)		

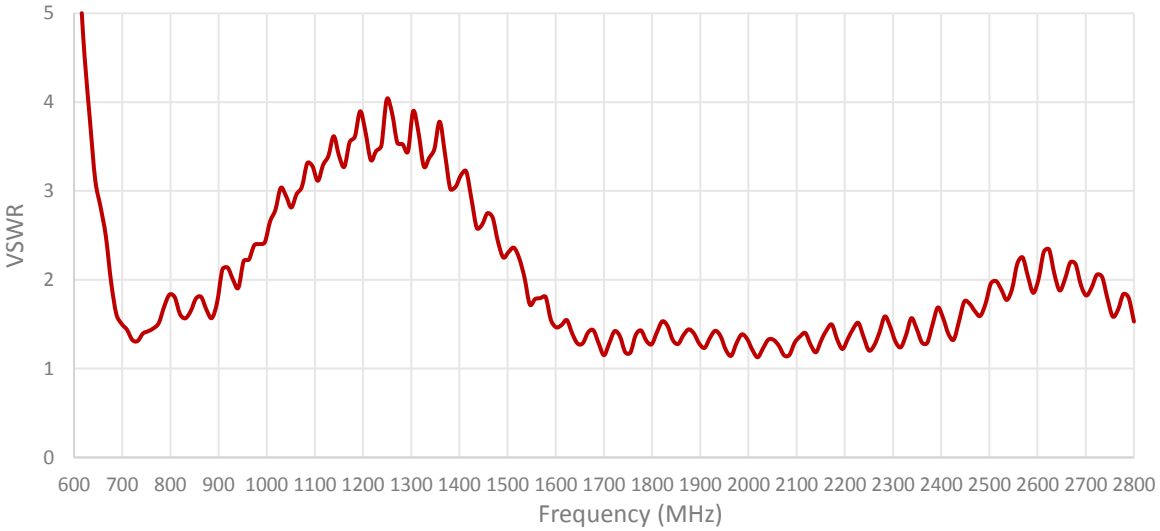
3. Mechanical and environmental specifications

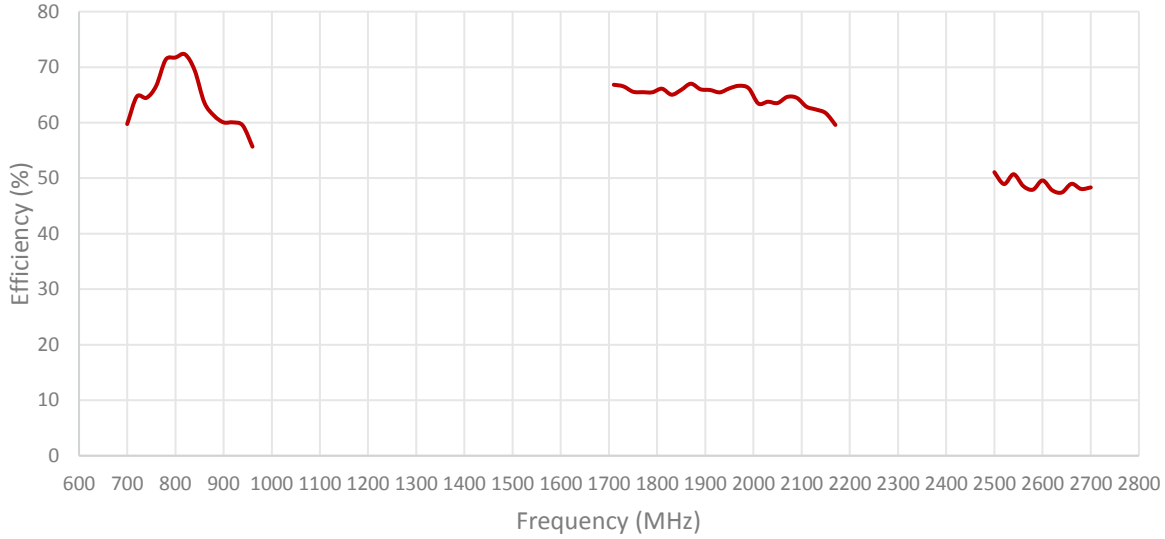
Specifications	2J4A50PCF
Mounting Type	Adhesive Mount
Dimensions (mm)	61.8 x 155.6 x 17.0
Radome Type	ABS UV Stable
Radome color	Black
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69, Vibration

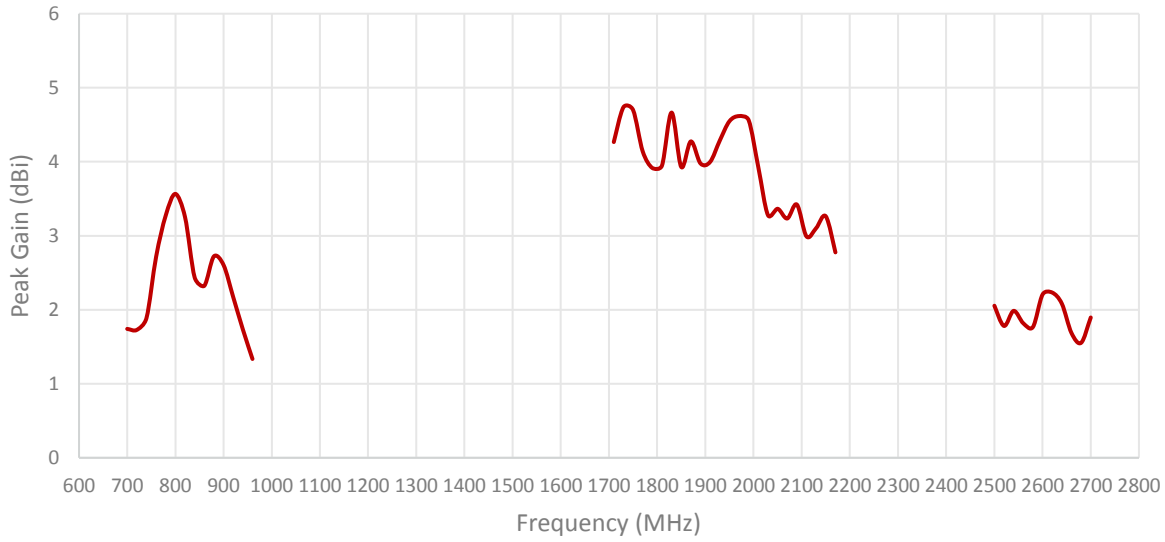
4. Antenna parameters

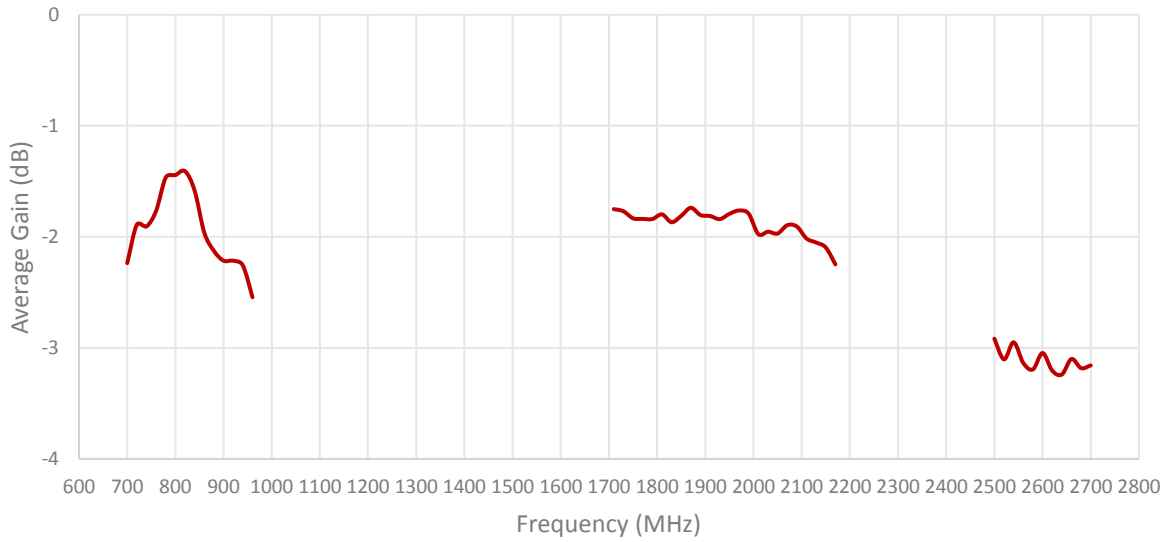
Cable 1: CELLULAR/LTE



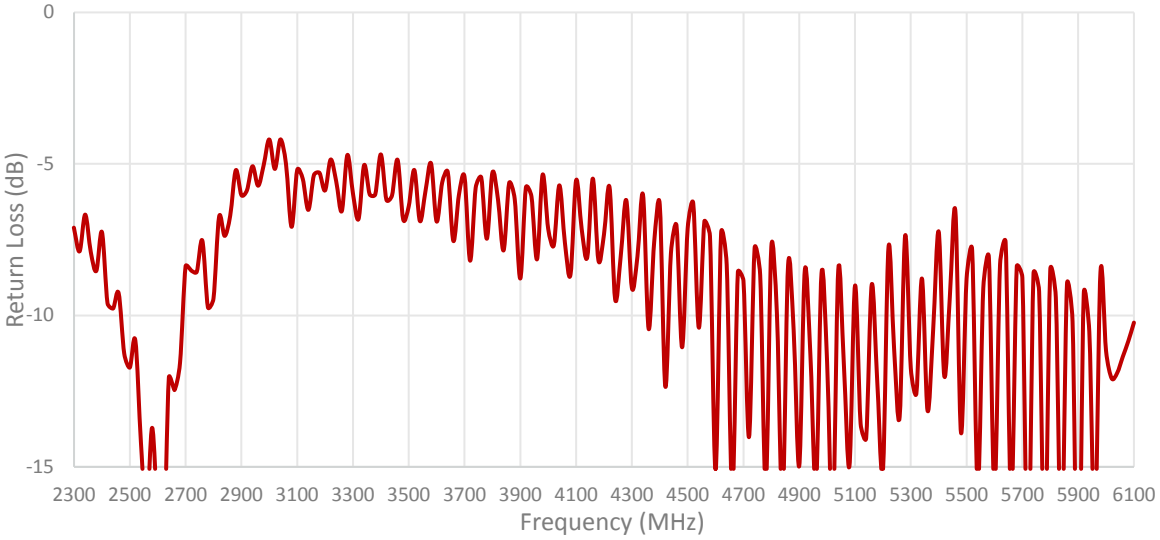


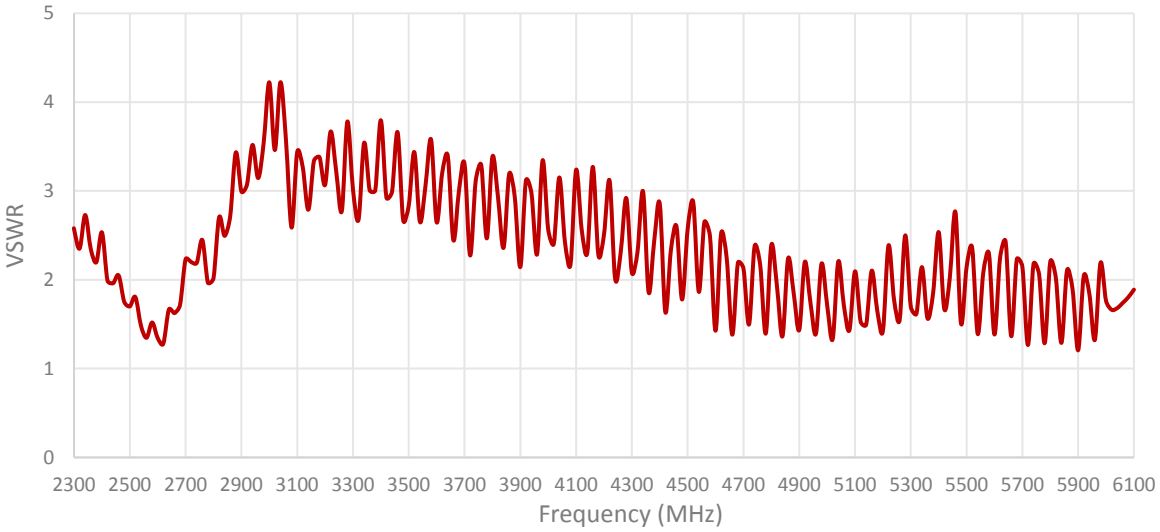

Efficiency (%)
80
70
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

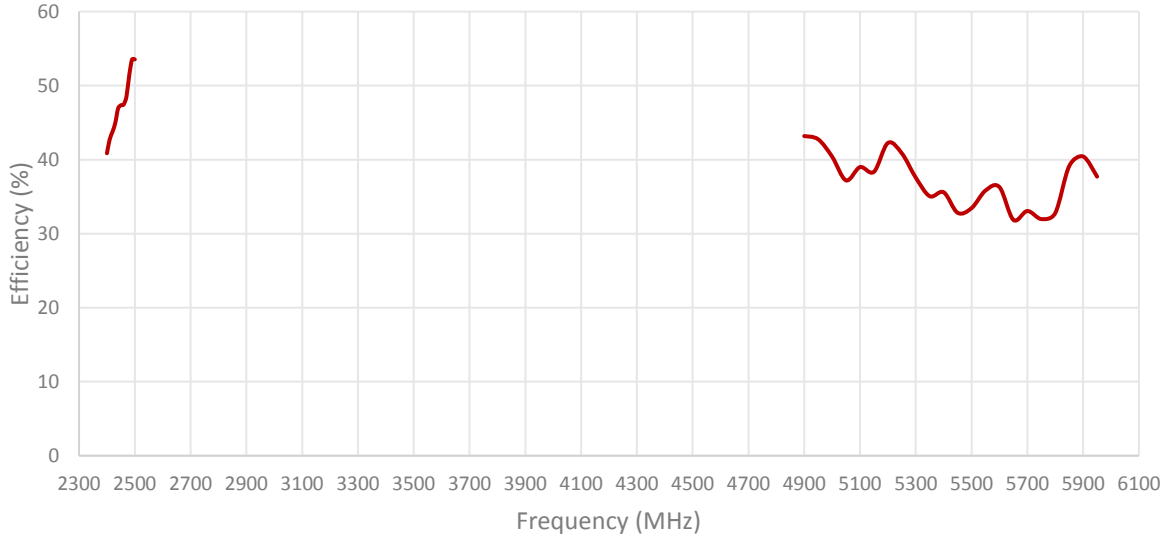

Peak Gain (dBi)
6
5
4
3
2
1
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

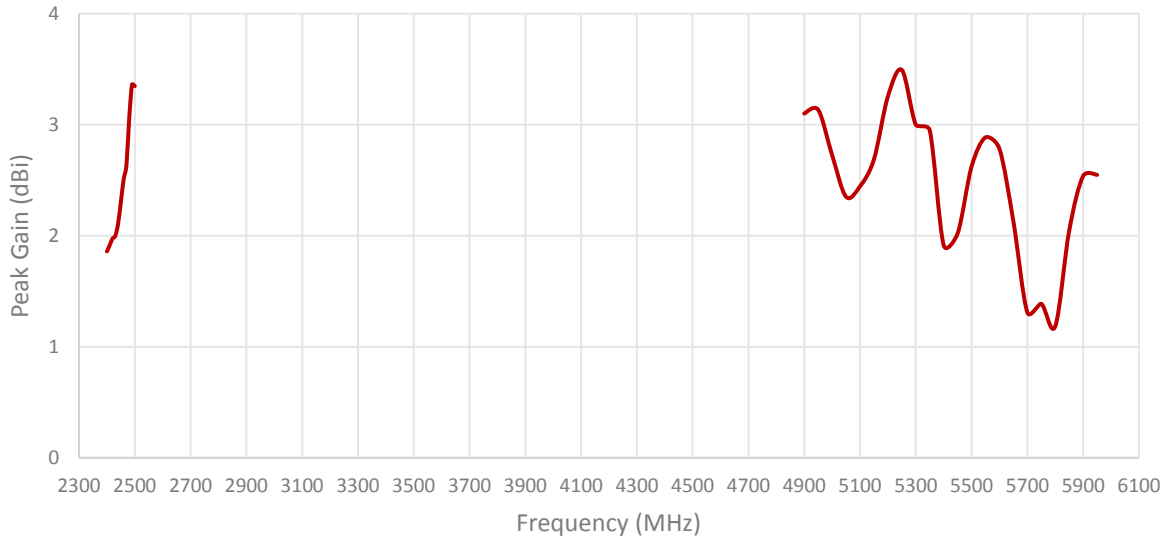

Average Gain (dB)
0
-1
-2
-3
-4
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

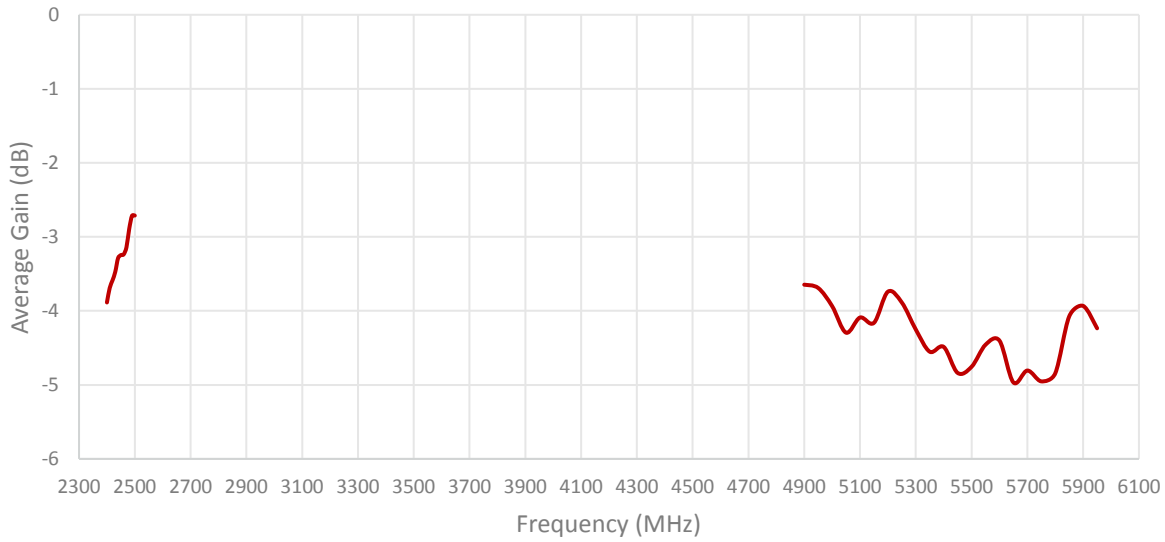
Cable 2: 2.4/5.0 GHz ISM

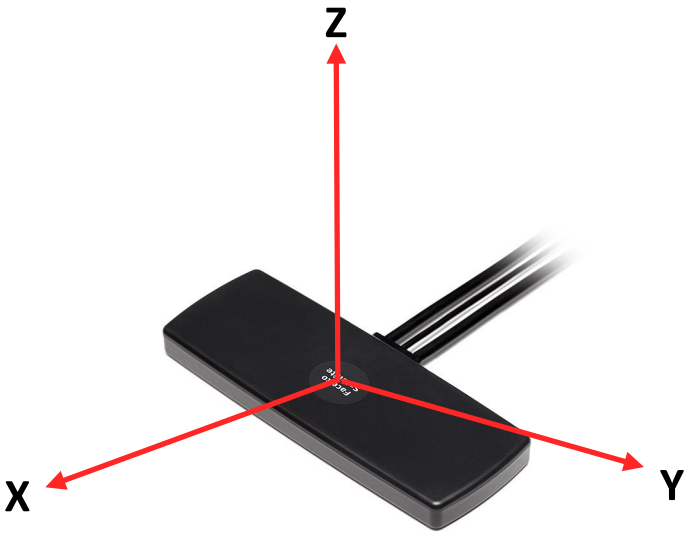





Efficiency (%)
60
50
40
30
20
10
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

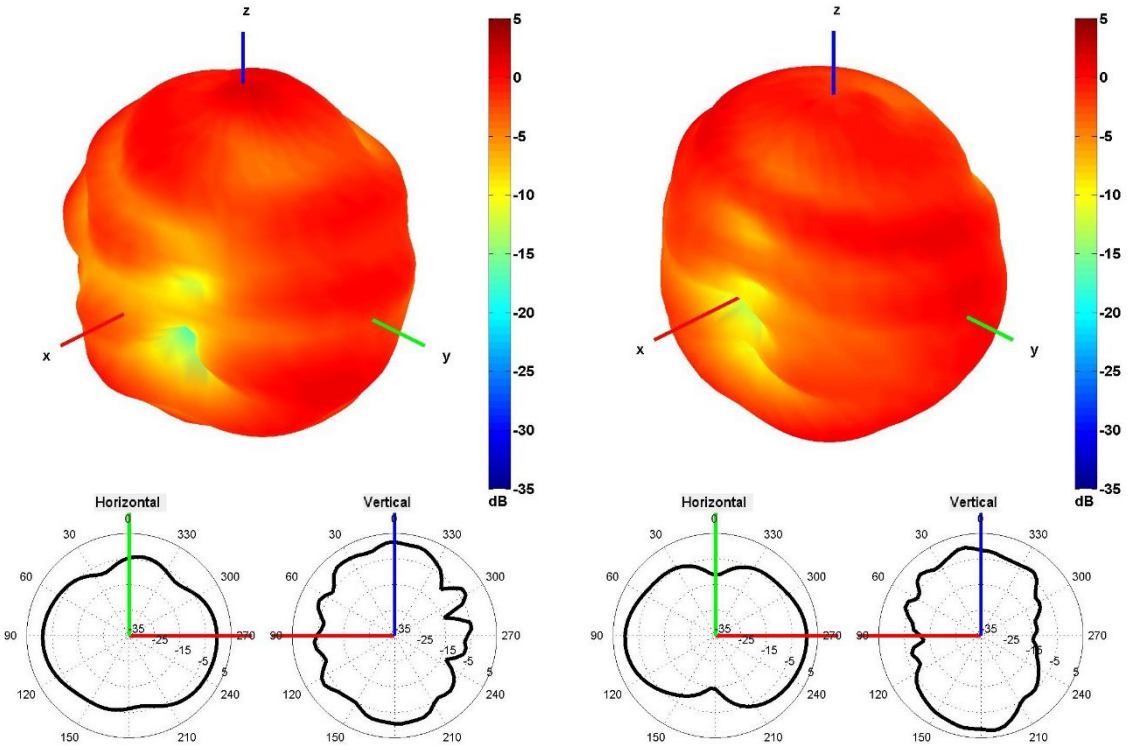

Peak Gain (dBi)
4
3
2
1
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)


Average Gain (dB)
0
-1
-2
-3
-4
-5
-6
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

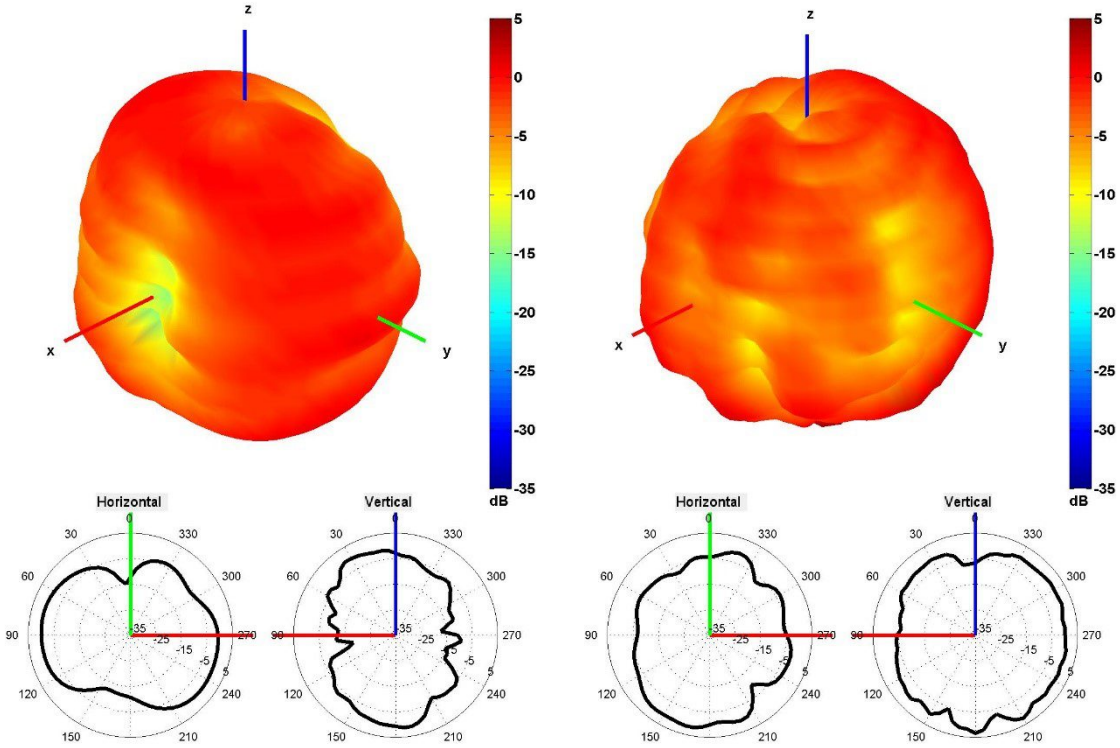


Radiation pattern reference

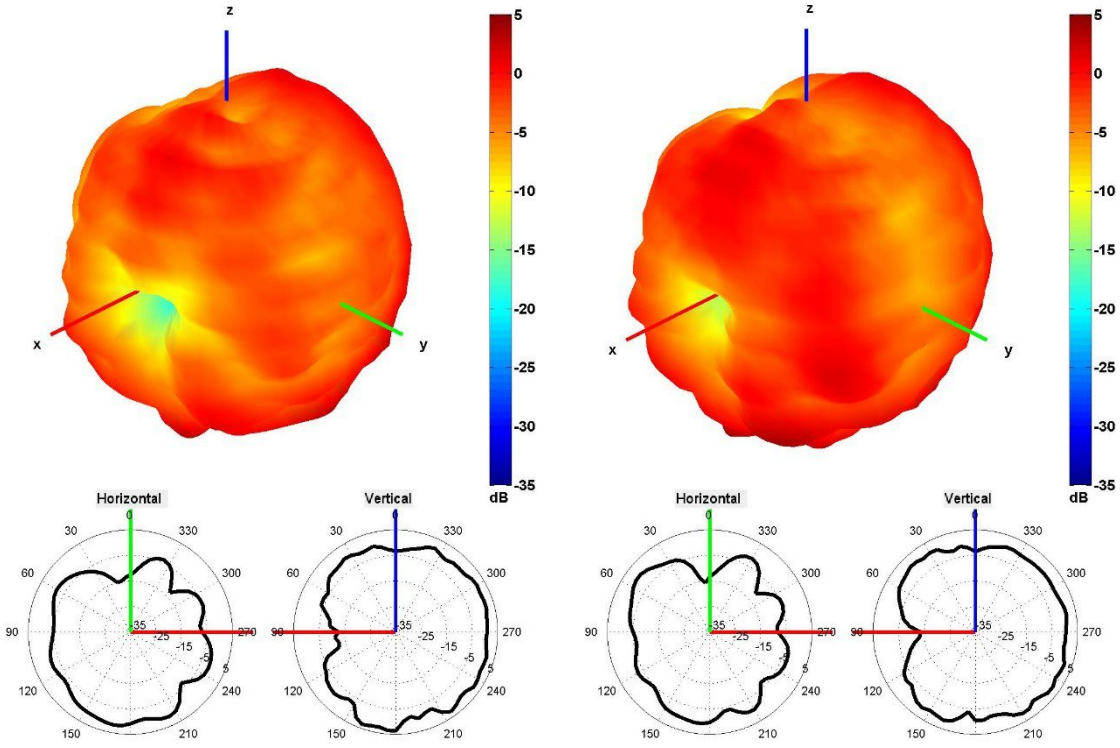
Cable 1: CELLULAR/LTE



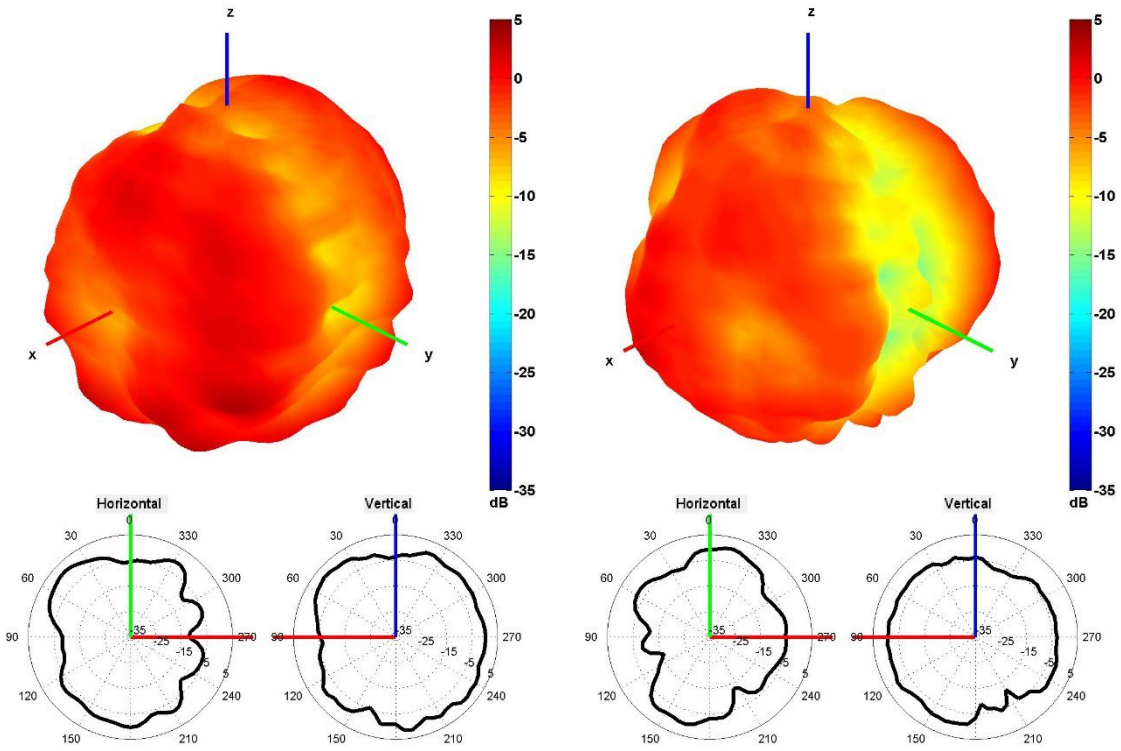
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

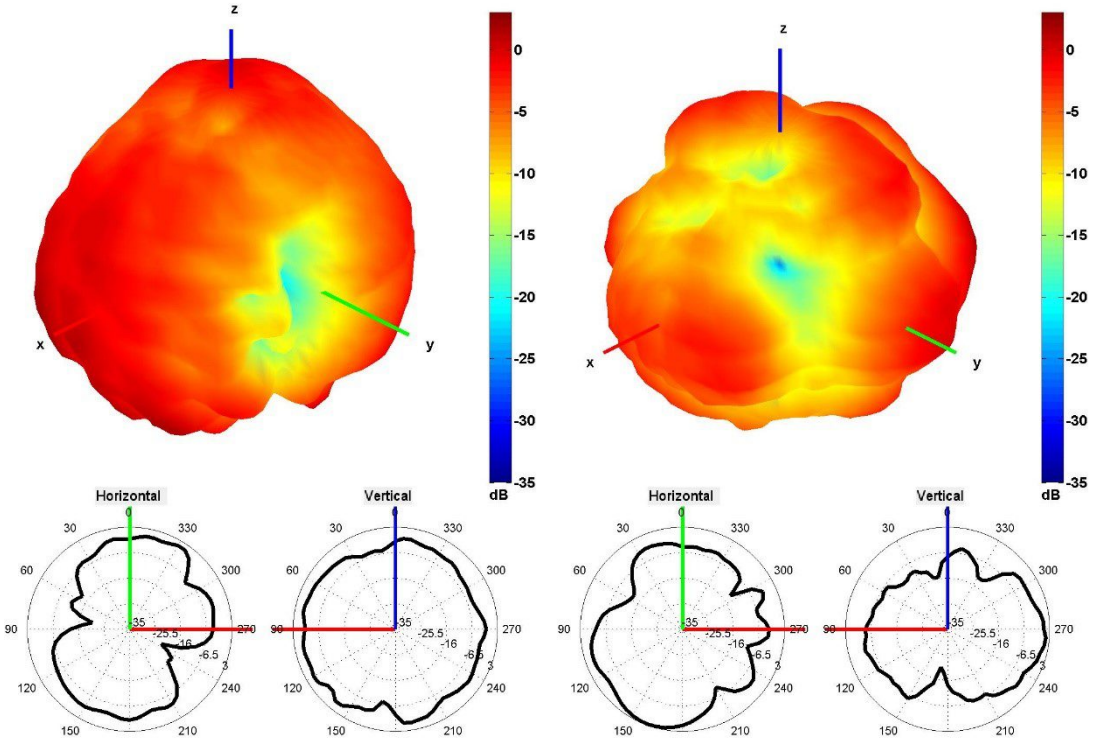


1850 and 1950 MHz Radiation pattern



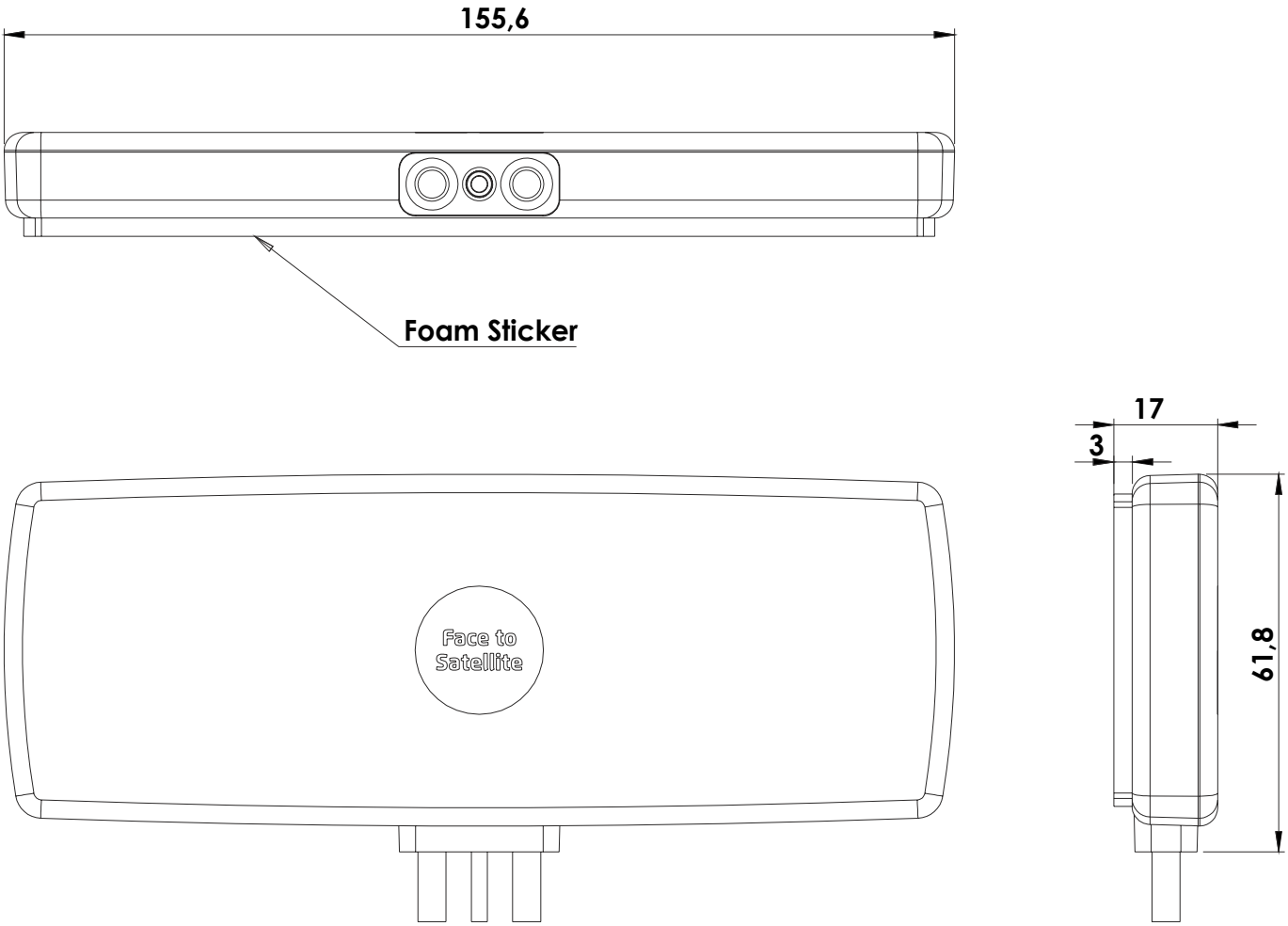
2100 and 2600 MHz Radiation pattern

Cable 2: 2.4/5.0 GHz ISM



2450 and 5500 MHz Radiation pattern

5. Antenna drawings



6. Antenna Images













