antenna conceptor

Product Datasheet

2J7641BGF

CELLULAR/LTE and GNSS Screw Mount

Key Features

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

Cable 2: GPS/GLONASS/QZSS/Galileo
- 1575-1606 MHz

Screw Mount
Anti-Rotation Mechanism
Ground Plane Independent
Customizable Cable and Connector
Dimensions: Ø 50 x 50.8 mm
Certificates: IP67, IP69



1. Antenna Description

2J76xxB "The Mini-Shaker Series"

A Small Size Solution for Big Challenges

At just 50mm height, the 2J76xxB low-profile antenna is the perfect solution when integration and installation in tight areas are required.

This antenna was designed with two major factors in consideration: installation capabilities and cost-effectiveness for its package size. The antenna's unique design allows it to function on top of any surface without any interference making it ideal for those installations where the mounting point is plastic or metal enclosures.

A Versatile Antenna

This slim antenna is available in two configurations. For data only use, the 1-in-1 LTE option provides superior signal quality and throughput. Equipped with a SAW pre-filter configuration for high protection against LNA burn-out, the 2-in-1 LTE/GNSS will provide the best accuracy where location-based applications and data are needed. For application in ISM bands, we offer variances including 915MHz, 868Mhz, and 2400/5000 MHz. These configurations can be implemented with or without GNSS.

With new design capabilities and techniques in addition to the waterproof and dustproof IP67 protection rating, this antenna also includes a high-grade UV protective plastic that makes it ideal and safe for any outdoor installations for an extended period of time.

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 Cables
- 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

868 MHz / 915 MHz ISM Cables
- Sigfox, LoRa, ZigBee, ISM

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

GPS/GLO Cable
- GPS, GLONASS
- Galileo, QZSS, L1, E1

Fully Customizable

The antenna comes with a fully customizable cable length and connector type and it can be packaged with a standard RF cable or a low-loss cable which allows for a better range and reception.

Feel free to refer to our website or contact the sales team for more information on the "The Mini-Shaker Series," 2J76xxB. All our antennas are engineered to the highest quality and are geared for superior performance. We also provide comprehensive antenna design support including testing and manufacturing for custom antenna solutions to meet any specific application requirements.

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)	~-10.1	~-11.5	~-7.5
VSWR	~2.1:1	~1.8:1	~2.5:1
Efficiency (%)	~56.4	~56.1	~37.8
Peak Gain (dBi)	~2.6	~3.2	~1.4
Average Gain (dB)	~-2.5	~-2.5	~-4.2
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	DACAR302 Standard (Other Cables Available)		

Cable 2

Parameters	GPS/GLONASS Antenna	
Standard	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 (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)	

Antenna Measurement Conditions:

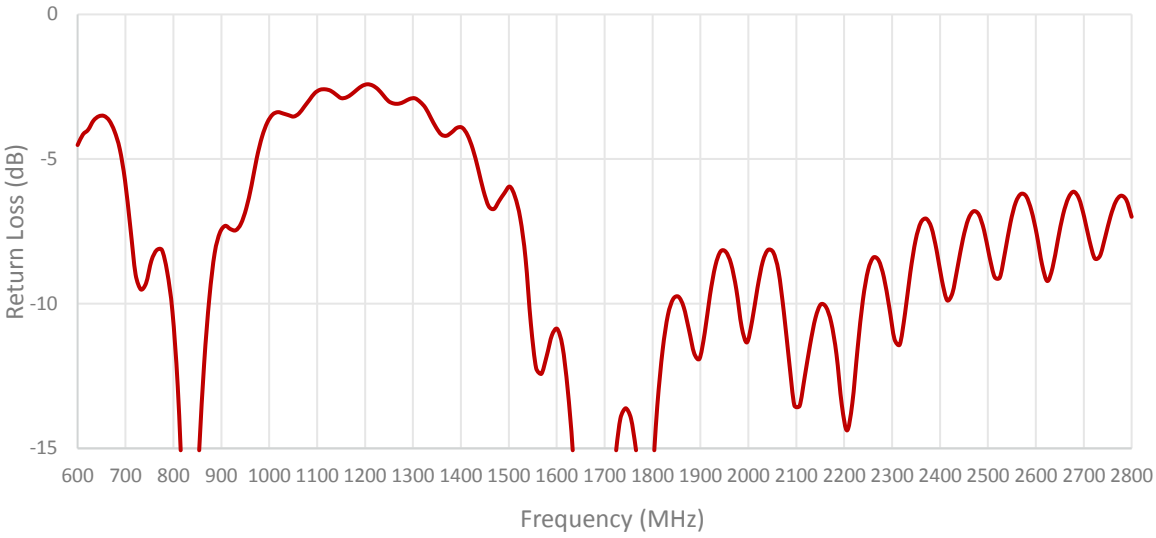
Mounted on 30 x 30 cm Ground Plane
DACAR302 200 cm Cable Length
Measured in Certified CTIA 3D Anechoic Chamber

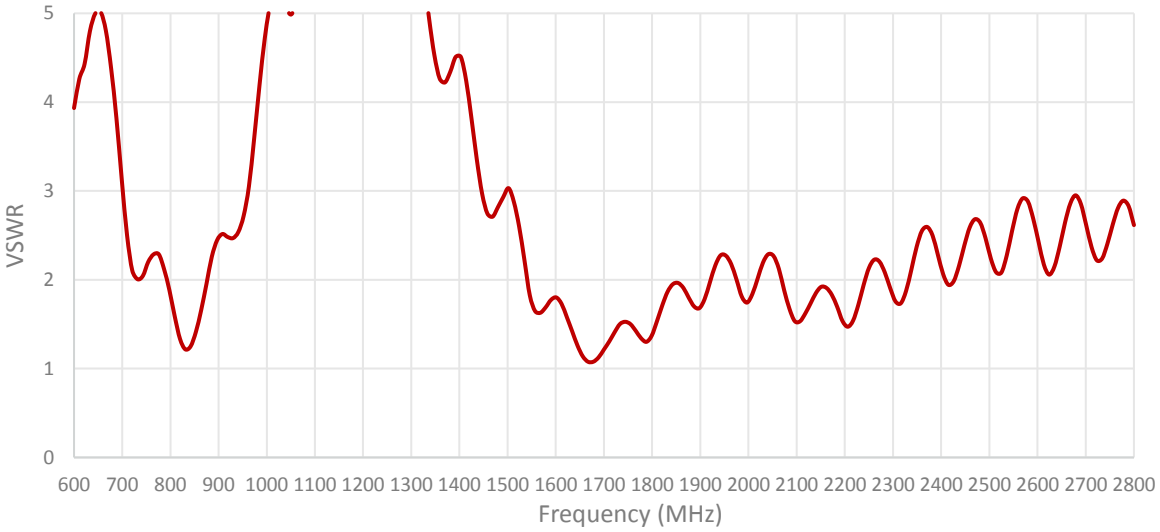
3. Mechanical and environmental specifications

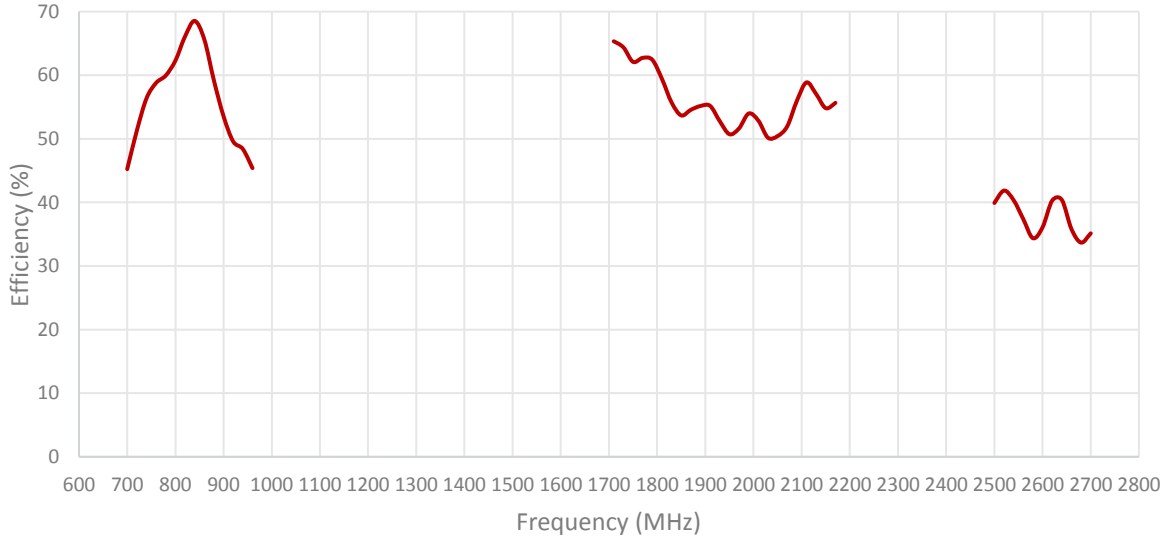
Specifications	2J7641BGF
Mounting Type	Screw Mount
Dimensions (mm)	Ø 50 x 50.8
Max. Tighten Torque (Nm)	3 Nm
Radome Type	ASA
Radome Color	Black
Antenna Base	Zamak
Gasket	Double Sided Foam
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69

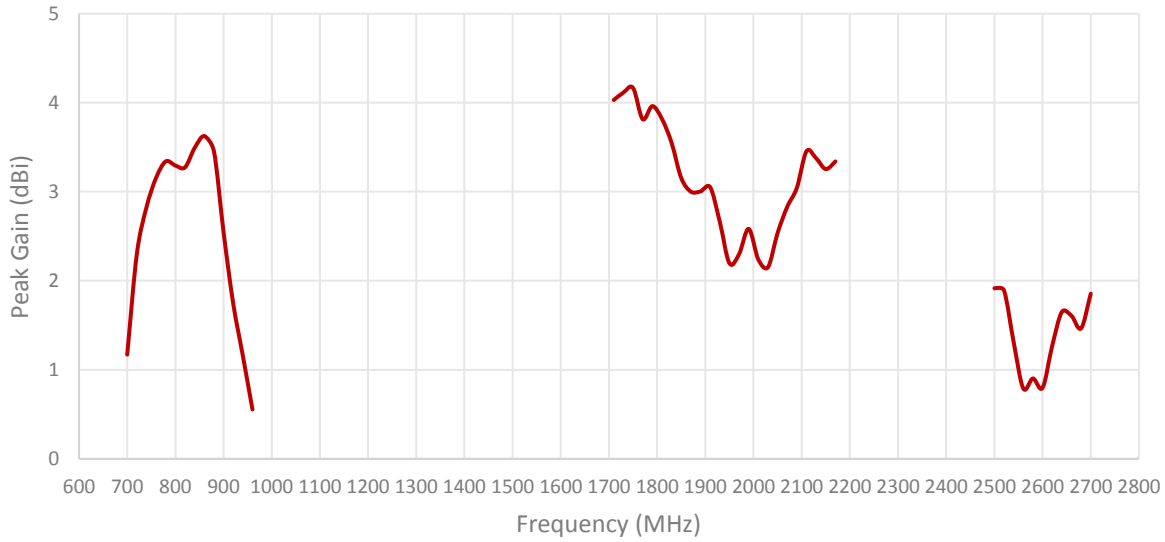
4. Antenna parameters

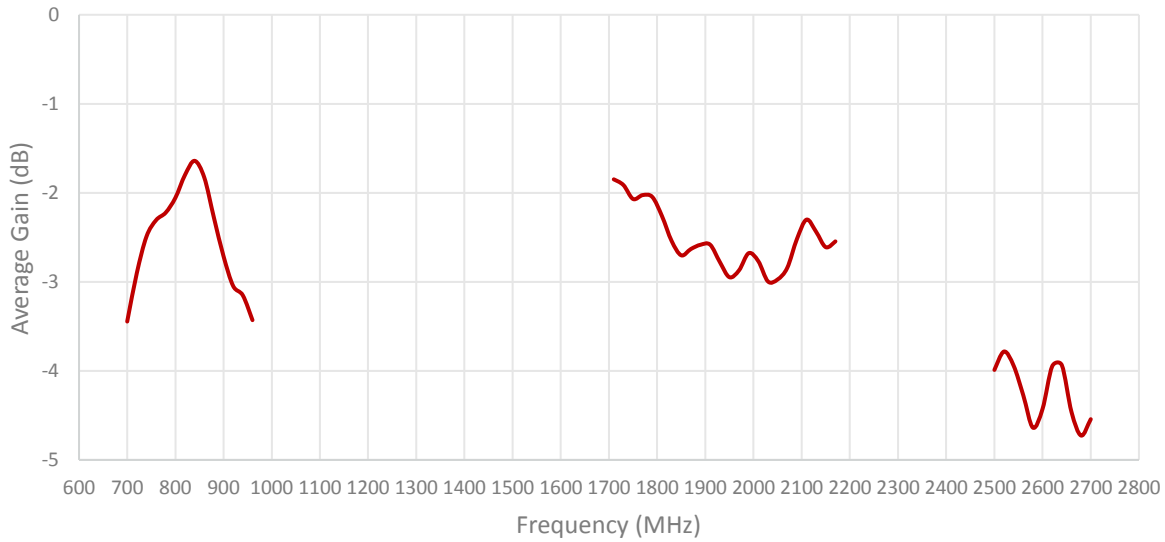
Cable 1: CELLULAR/LTE

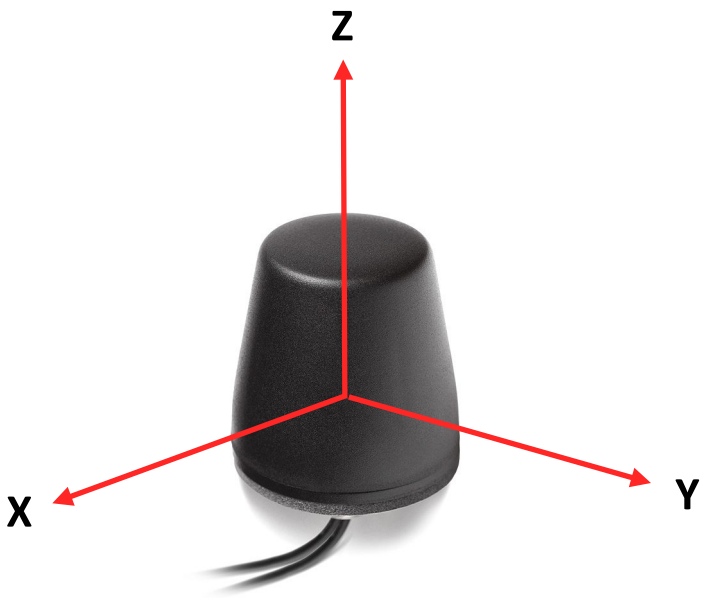





Efficiency (%)
70
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

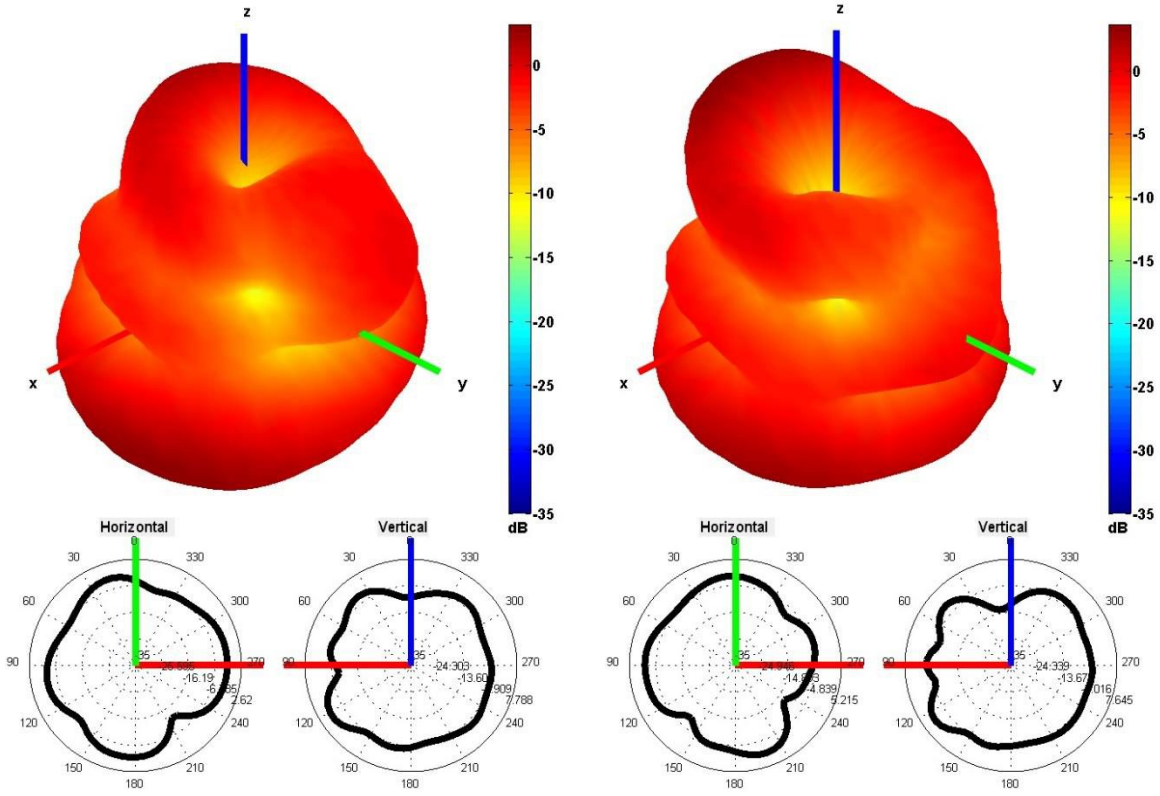

Peak Gain (dBi)
5
4
3
2
1
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)


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)

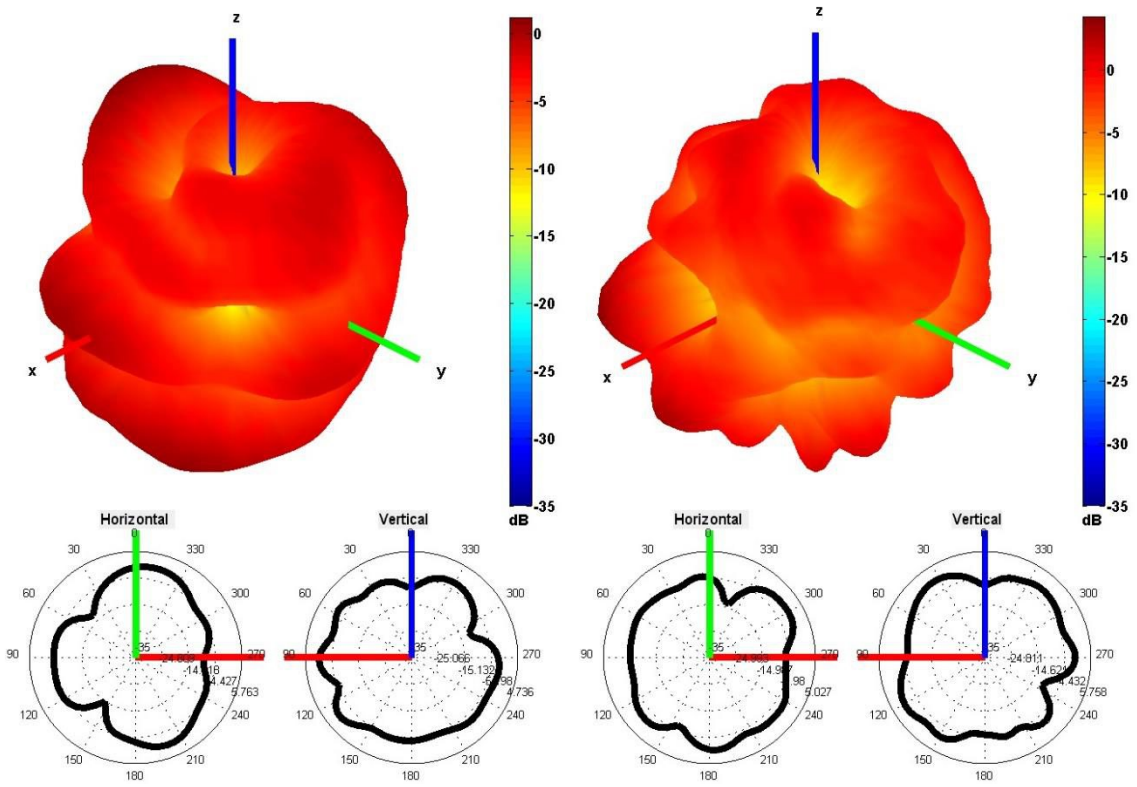


Radiation pattern reference

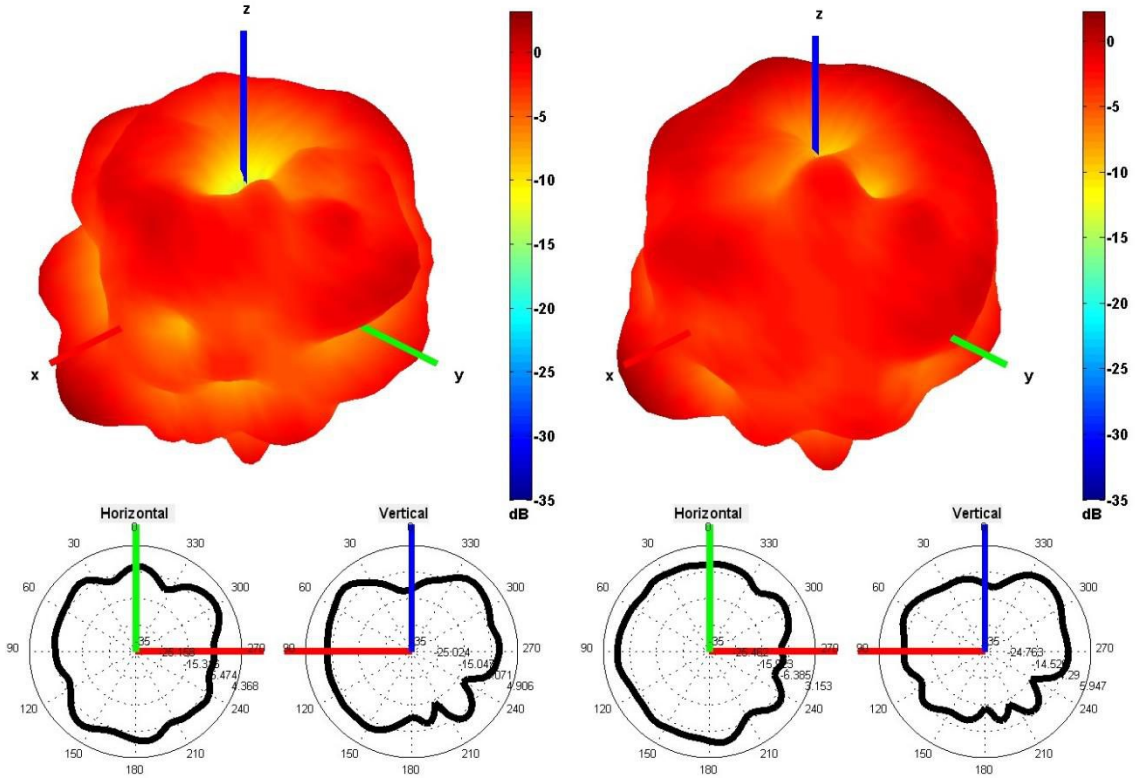
Cable 1: CELLULAR/LTE



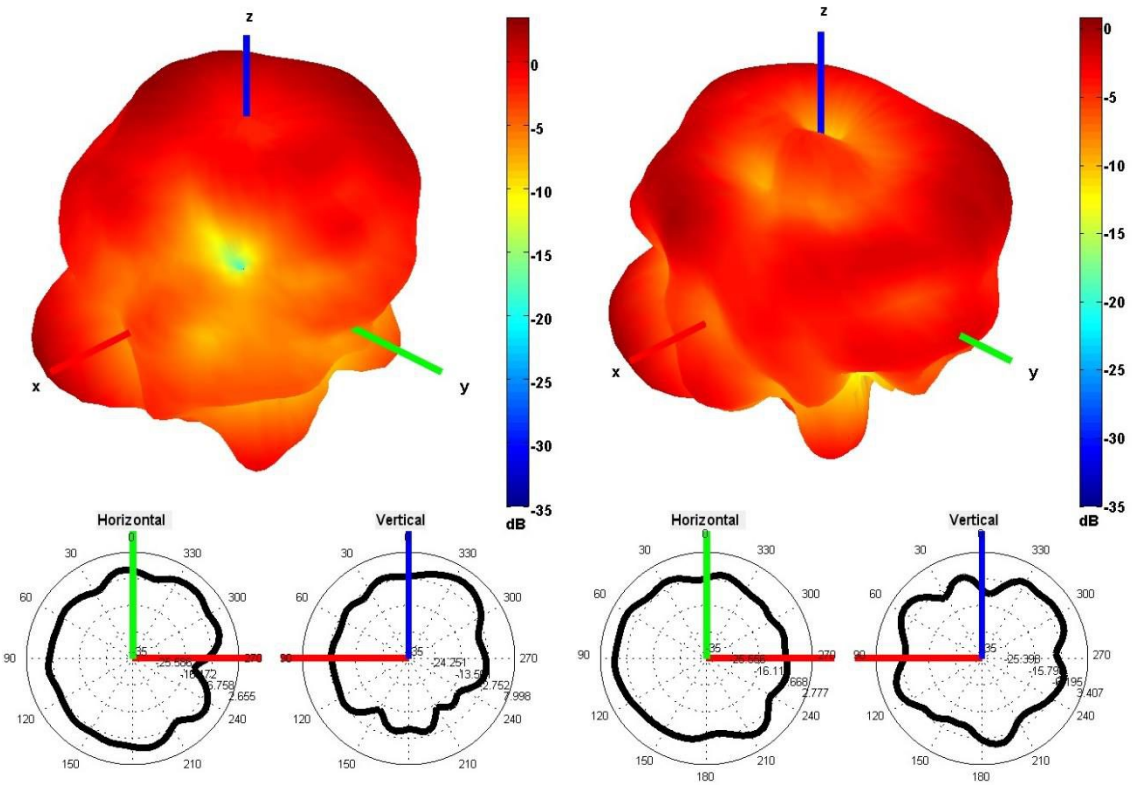
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

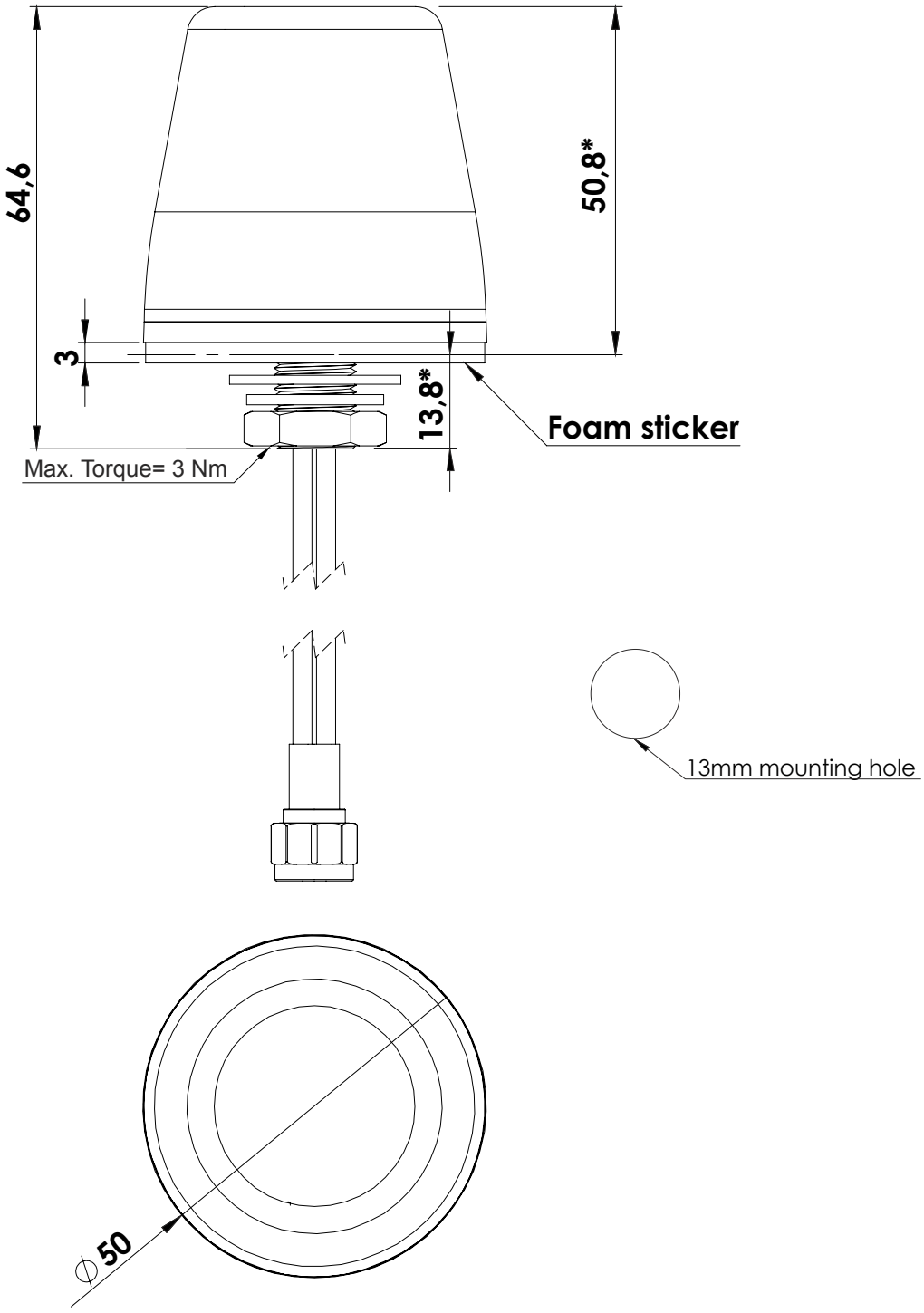


1850 and 1950 MHz Radiation pattern



2100 and 2600 MHz Radiation pattern

5. Antenna drawings



Note: Dimensions are in milimeters
***Dimensions are after mounting**
****Max. Torque= 3 Nm**

6. Antenna Images





