

# PL-7641BGF

## 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



## 1. Antenna Description

### **PL76xxB** “The Mini-Shaker Series”

#### **A Small Size Solution for Big Challenges**

At just 50mm height, the *PL76xxB* 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,” *PL76xxB*. 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		
<b>Standards</b>	2G,3G and 4G		
<b>Band (MHz)</b>	700/850/900	1700/1800/1900/2100	2600
<b>Frequency (MHz)</b>	698-960	1710-2170	2500-2700
<b>Return Loss (dB)</b>	~-10.1	~-11.5	~-7.5
<b>VSWR</b>	~2.1:1	~1.8:1	~2.5:1
<b>Efficiency (%)</b>	~56.4	~56.1	~37.8
<b>Peak Gain (dBi)</b>	~-2.6	~-3.2	~-1.4
<b>Average Gain (dB)</b>	~-2.5	~-2.5	~-4.2
<b>Impedance (Ohm)</b>	50		
<b>Polarisation</b>	Linear		
<b>Radiation Pattern</b>	Omni-Directional		
<b>Max. Input Power (W)</b>	25		
<b>Connector Type</b>	SMA-Male Standard (Other Connectors Available)		
<b>Cable Length</b>	300 cm Standard (Any Cable Length Available)		
<b>Cable Type</b>	DACAR302 Standard (Other Cables Available)		

**Cable 2**

Parameters	GPS/GLONASS Antenna	
<b>Standard</b>	GPS/QZSS/Galileo	GLONASS
<b>Band (MHz)</b>	1575	1602
<b>Frequency(MHz)</b>	1575.42	1598-1606
<b>Patch Size (mm)</b>	25 x 25 x 4	
<b>Return Loss (dB)</b>	<=-15.0 dB	
<b>VSWR</b>	<=1.4:1 dB	
<b>Impedance</b>	50	
<b>Radiation Pattern</b>	Hemispherical	
<b>Polarization</b>	RHCP	
<b>Saw Filter</b>	Pre-filter	
<b>Active Gain (dB)</b>	28 @ 2.7 V	
<b>Noise Figure (dB)</b>	1.5 Typ	
<b>Voltage (V)</b>	1.5 – 3.6	
<b>Current (mA)</b>	9 Typ	
<b>Power Consumption (mW)</b>	24.3 Typ	
<b>ESD Protection (kV)</b>	2kV	
<b>Connector Type</b>	SMA-Male Standard (Other Connectors Available)	
<b>Cable Length</b>	300 cm Standard (Any Cable Length Available)	
<b>Cable Type</b>	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

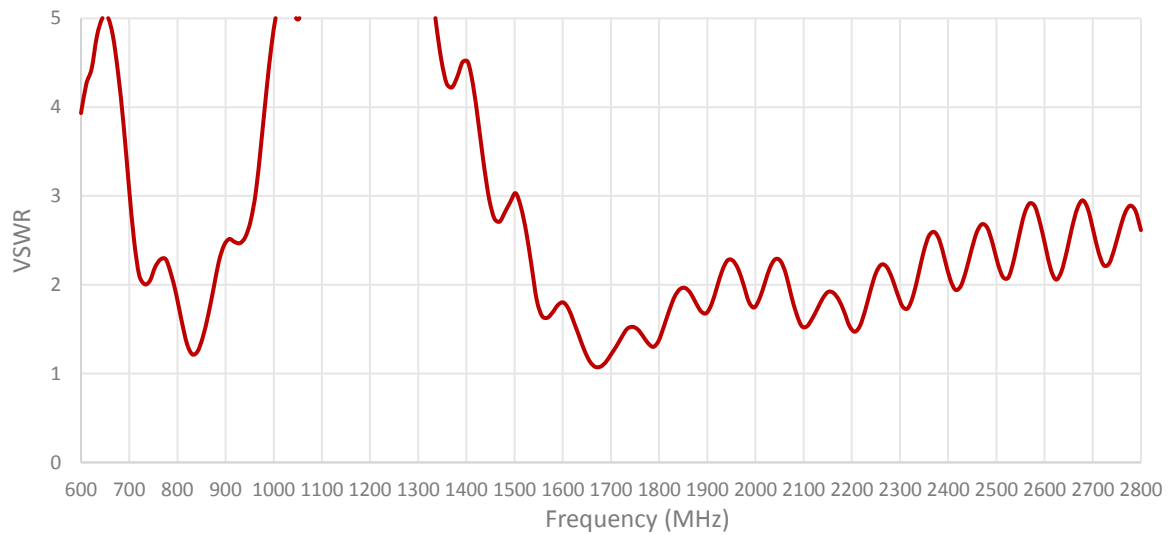
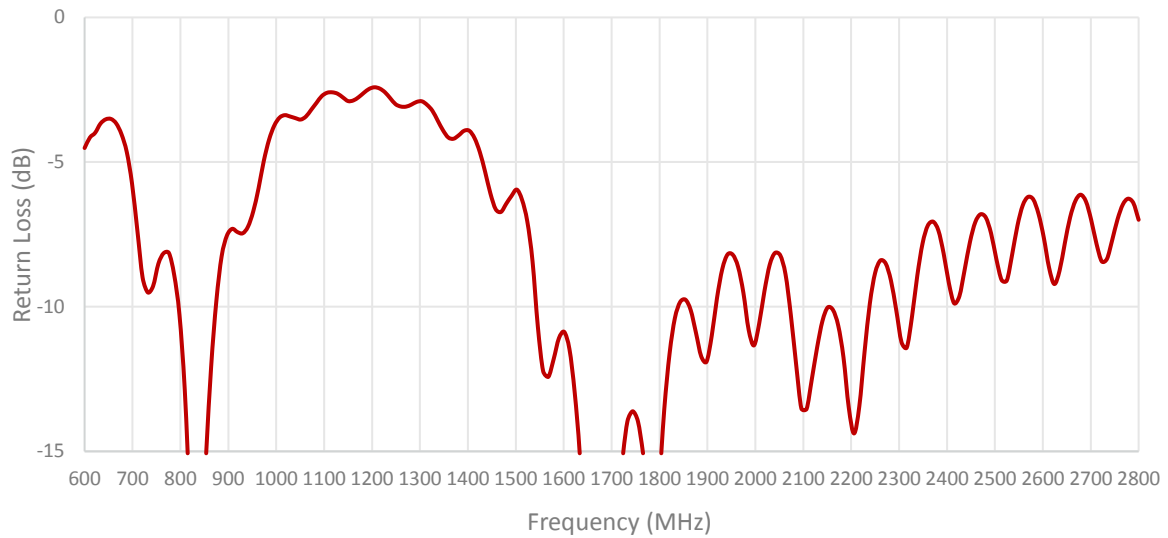
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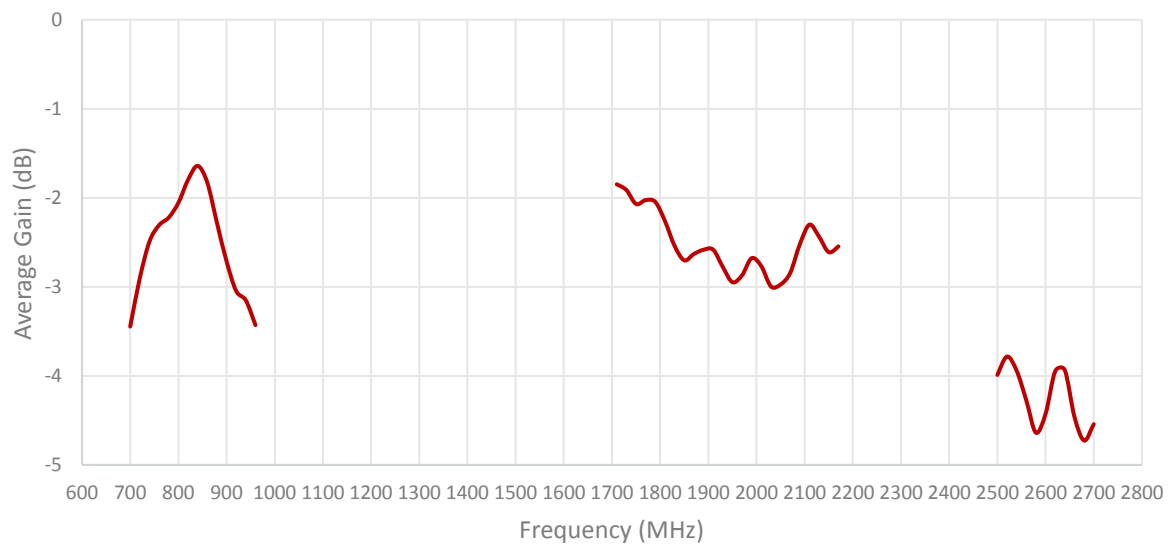
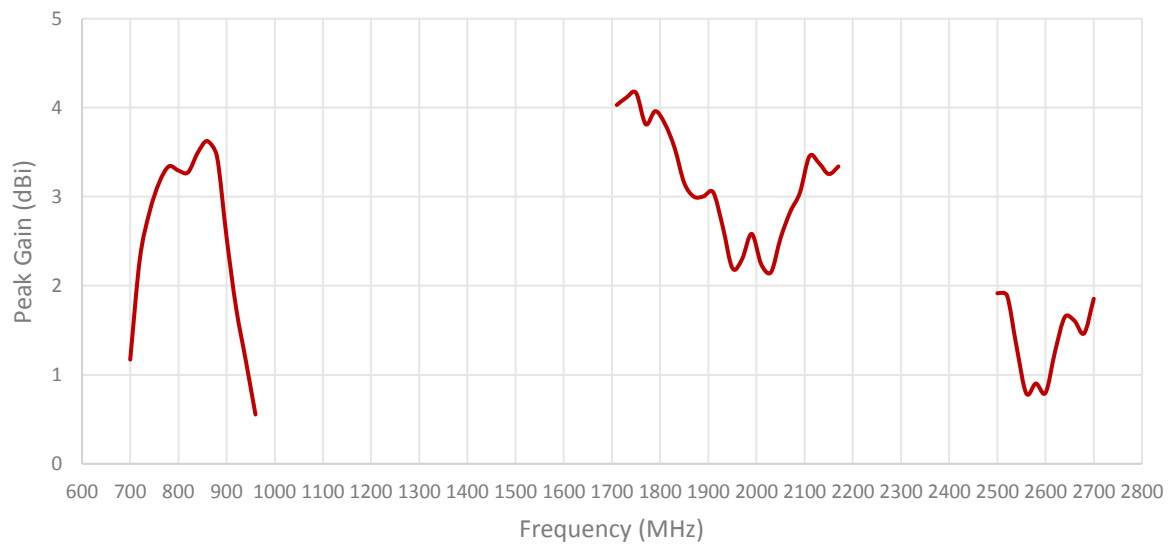
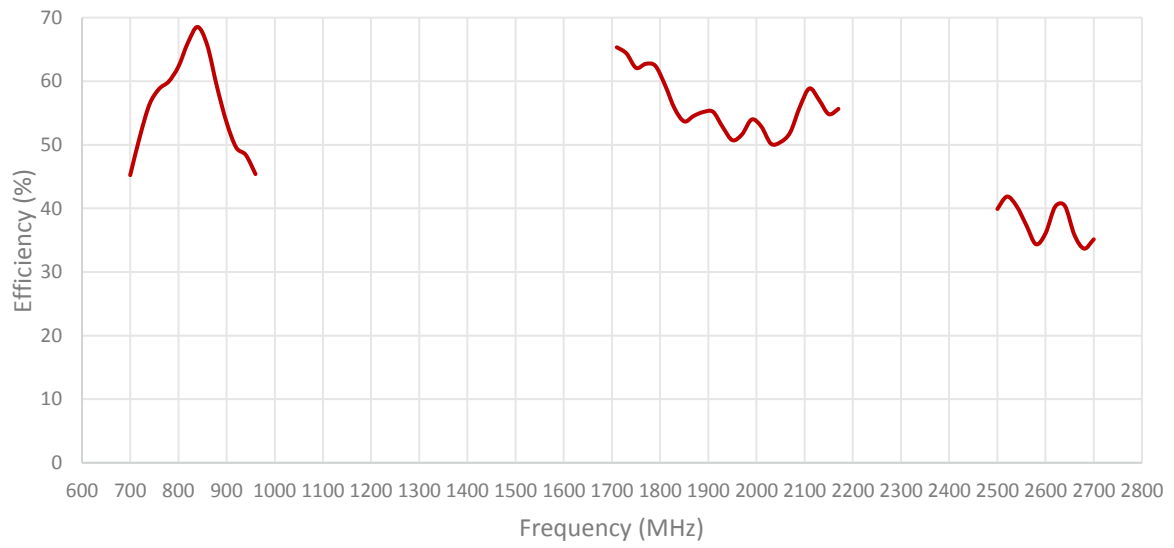
### 3. Mechanical and environmental specifications

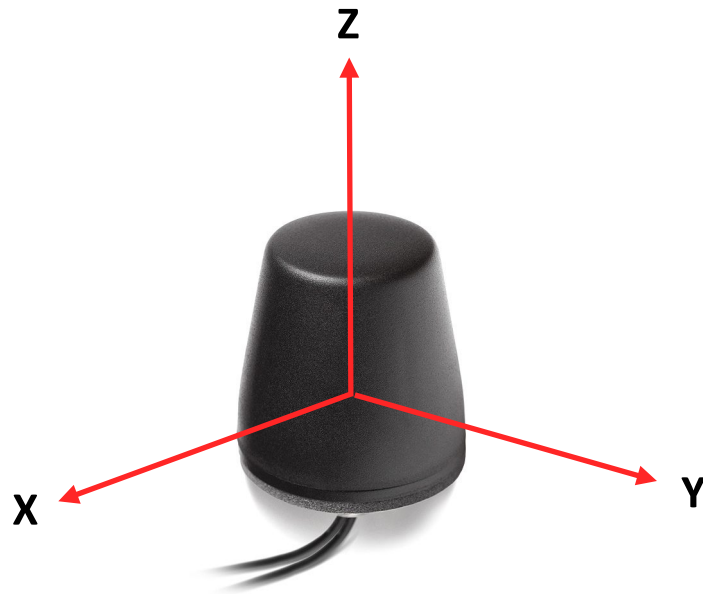
Specifications	<b><i>PL7641BGF</i></b>
<b>Mounting Type</b>	Screw Mount
<b>Dimensions (mm)</b>	Ø 50 x 50.8
<b>Radome Type</b>	ASA
<b>Radome Color</b>	Black
<b>Antenna Base</b>	Zamak
<b>Gasket</b>	Double Sided Foam
<b>Operating Temperature (C)</b>	-40 to +85
<b>Storage Temperature (C)</b>	-40 to +85
<b>Substance Compliance</b>	RoHS

## 4. Antenna parameters

Table 1: CELLULAR/LTE

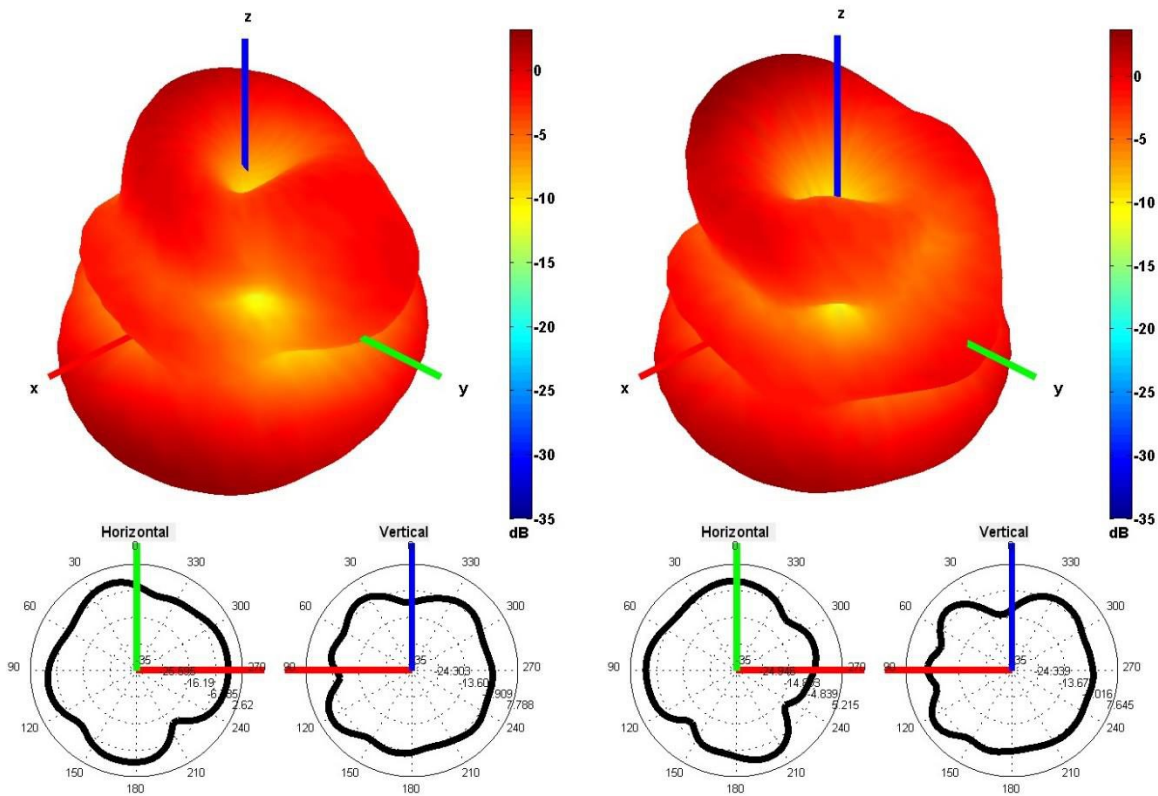




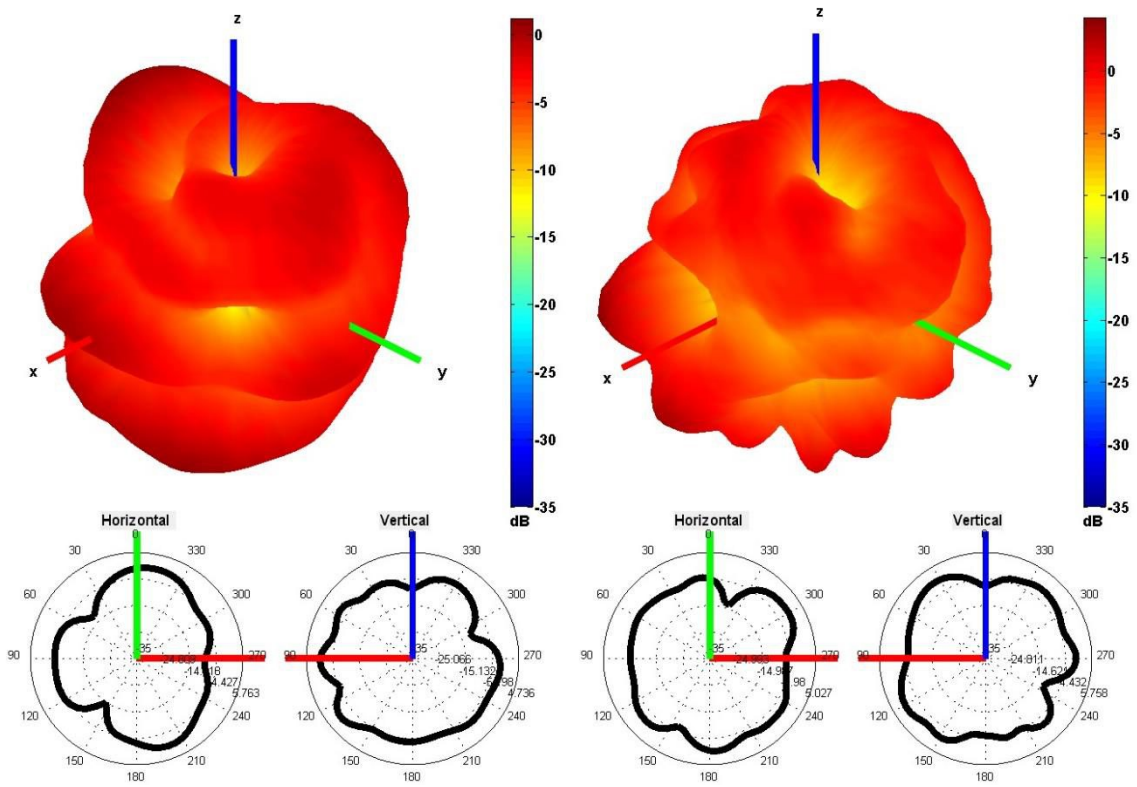


Radiation pattern reference

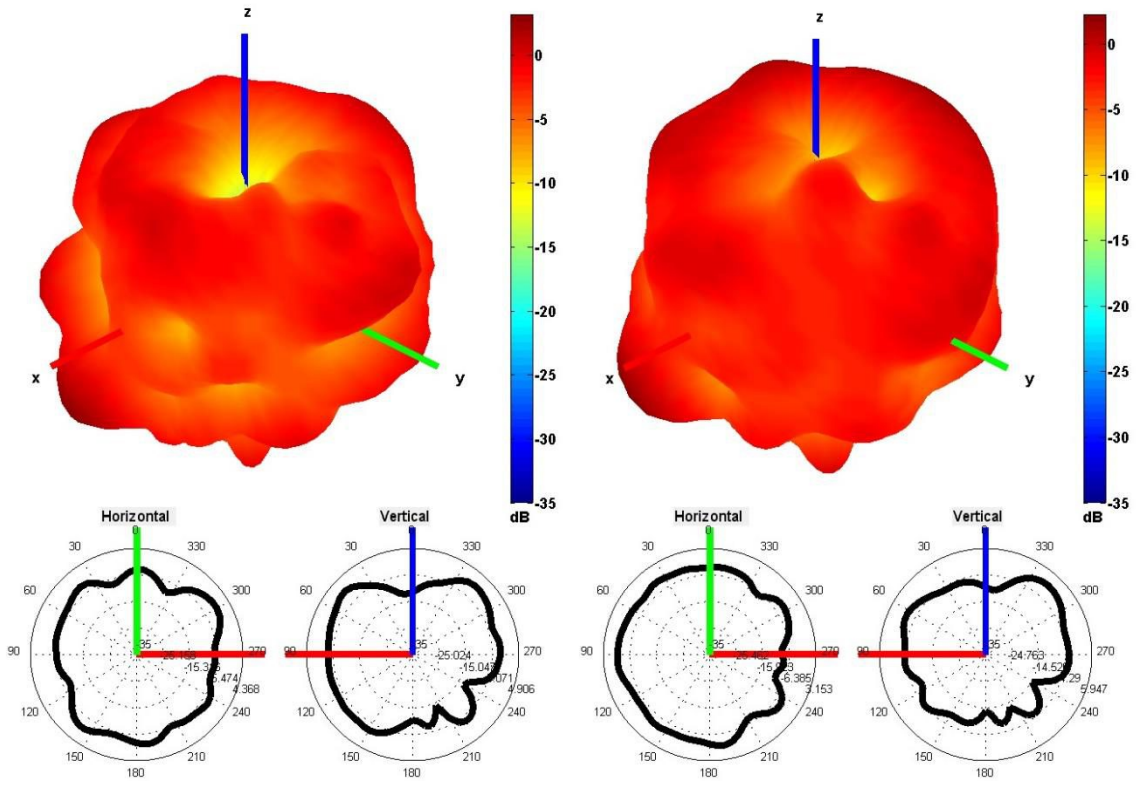
Cable 1: CELLULAR/LTE



750 and 850 MHz Radiation pattern

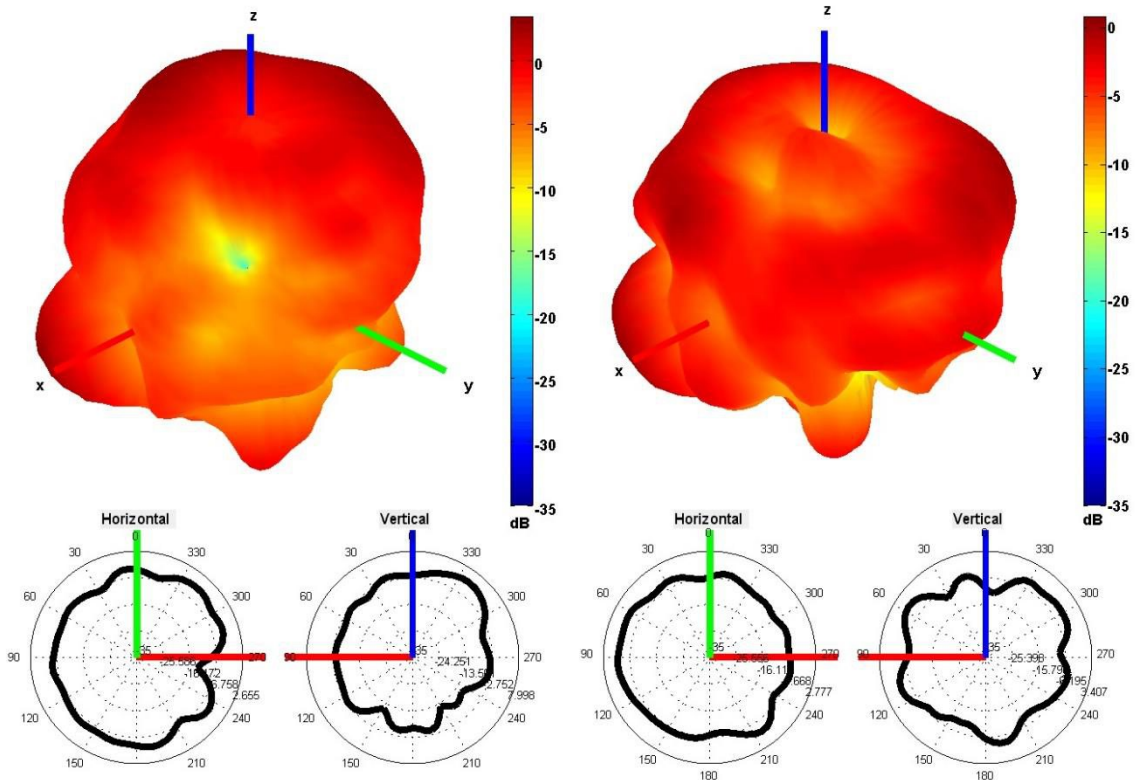


940 and 1750 MHz Radiation pattern



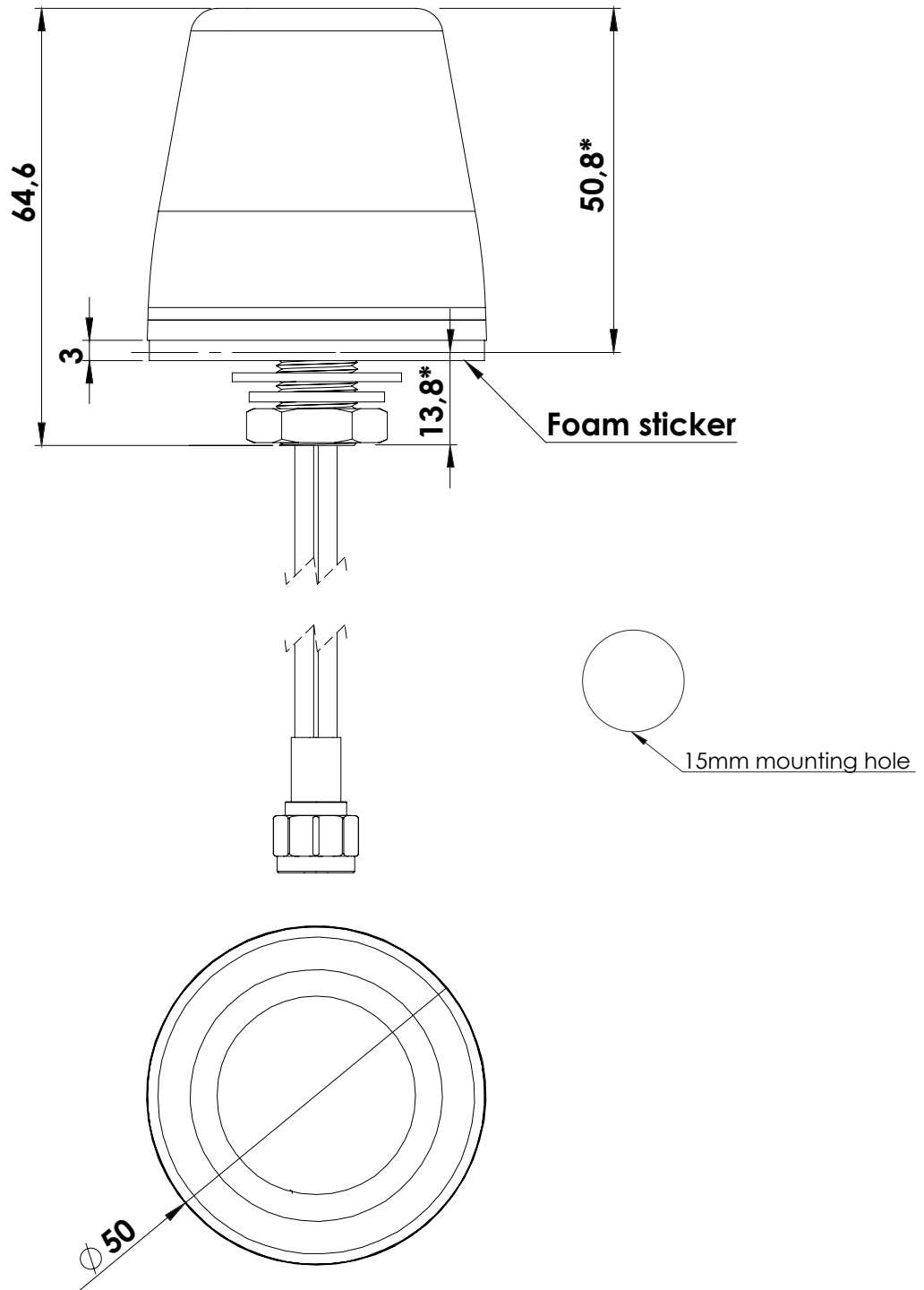
1850 and 1950 MHz Radiation pattern





2100 and 2600 MHz Radiation pattern

## 5. Antenna drawings



\* Dimensions after mounting

6. Antenna Images

