

## 2J6984BGF

### 5GNR and GPS/GLONASS Screw Mount

#### Key Features

**Cable 1: 5GNR**

- 617-960 MHz
- 1427-2690 MHz
- 3300-5000 MHz
- 5150-5925 MHz

**Cable 2: GPS/GLONASS/QZSS/Galileo**

- 1575-1606 MHz

Screw Mount

Anti-Rotation Mechanism

Low Profile

Ground Plane Independent

Customizable Cable and Connector

Dimensions 80 × 74 × 25.6 mm

Certificates: IP67, IP69



## 1. Antenna and electrical specifications

**Cable 1**

| Parameters           | 5GNR Antenna                                                                                        |                                                                                                                                                                                 |                                 |                      |
|----------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------|
| Technologies         | 5G, 4G, 3G and 2G                                                                                   |                                                                                                                                                                                 |                                 |                      |
| Standards            | 5GNR/4GLTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G                                     |                                                                                                                                                                                 |                                 |                      |
| Frequency (MHz)      | 617-960                                                                                             | 1427-2690                                                                                                                                                                       | 3300-5000                       | 5150-5925            |
| Band (MHz)           | 600, 700, 850, 900                                                                                  | 1500, 1600, 1700, 1800,<br>1900, 2000, 2100, 2300,<br>2500, 2600                                                                                                                | 3300, 3500, 3600,<br>3700, 4500 | 5200, 5500, 5800     |
| 5GNR Bands           | n5, n8 ,12, n20, n28, n71,<br>n81, n82, n83,                                                        | n1, n2, n3, n7, n25, n34,<br>n38, n39, n40, n41, n50,<br>n51, n66, n70, n74, n75,<br>n76, n80, n84, n86                                                                         | n77, n78, n79                   |                      |
| 4GLTE Bands          | B5, B6, B8, B12, B13, B14,<br>B17, B18, B19, B20, B26,<br>B27, B28, B29, B44, B67,<br>B68, B71, B85 | B1, B2, B3, B4, B7, B9,<br>B10, B11, B21, B23, B24,<br>B25, B30, B32, B33, B34,<br>B35, B36, B37, B38, B39,<br>B40, B41, B45, B50, B51,<br>B65, B66, B69, B70, B74,<br>B75, B76 | B22, B42, B43, B48,<br>B49, B52 | B46, B47, B252, B255 |
| 3GCELL Bands         | B5, B6, B8, B12, B13, B14,<br>B19, B20, B26                                                         | B1, B2, B3, B4, B7, B9,<br>B10, B11, B21, B25, B32,<br>B33, B34, B35, B36, B37,<br>B38, B39, B40                                                                                | B22                             |                      |
| 2GCELL Bands         | 710, 750, 810T, 850, 900P,<br>900E, 900R                                                            | 1800DCS, 1900PCS                                                                                                                                                                |                                 |                      |
| CDMACELL Bands       | BC0, BC2, BC3, BC7, BC9,<br>BC10, BC12, BC18, BC19                                                  | BC1, BC4, BC6, BC8,<br>BC13, BC14, BC15, BC16,<br>BC20, BC21                                                                                                                    |                                 |                      |
| Return Loss (dB)     | ~-8.9                                                                                               | ~-9.2                                                                                                                                                                           | ~-8.2                           | ~-7.5                |
| VSWR                 | ~2.6:1                                                                                              | ~2.4:1                                                                                                                                                                          | ~2.7:1                          | ~2.5:1               |
| Efficiency (%)       | ~55.0                                                                                               | ~51.2                                                                                                                                                                           | ~25.7                           | ~28.3                |
| Peak Gain (dBi)      | ~2.3                                                                                                | ~5.1                                                                                                                                                                            | ~2.6                            | ~2.7                 |
| Average Gain (dB)    | ~-2.7                                                                                               | ~-3.1                                                                                                                                                                           | ~-6.0                           | ~-5.5                |
| 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           | D302 Standard (Other Cables Available)                                                              |                                                                                                                                                                                 |                                 |                      |

### Antenna Measurement Conditions:

Mounted on Metal Plate of 30 x 30 cm

100 cm of Cable D302

Measured in Certified CTIA 3D Anechoic Chamber

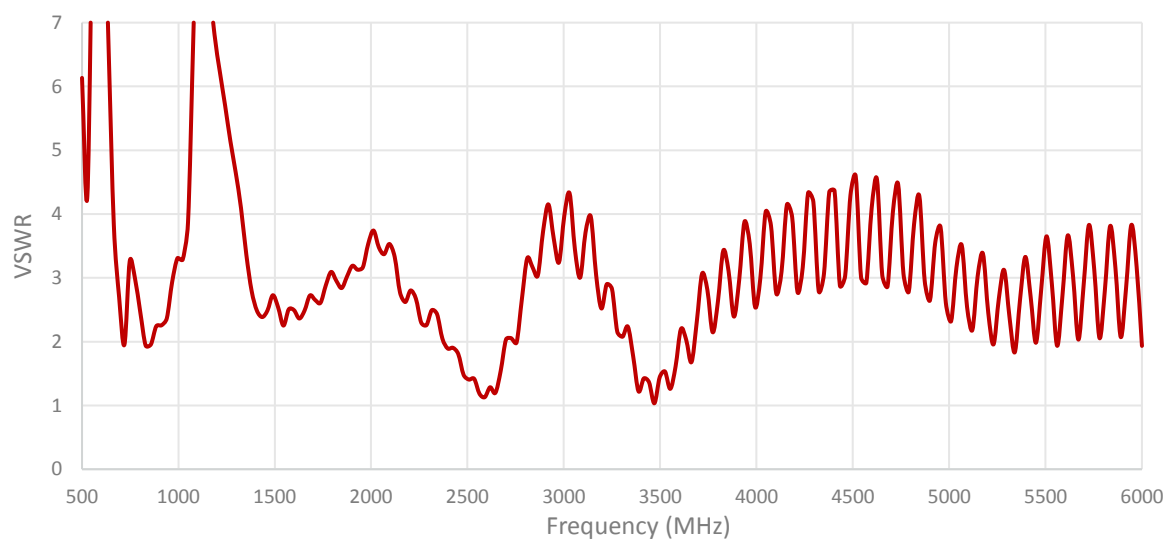
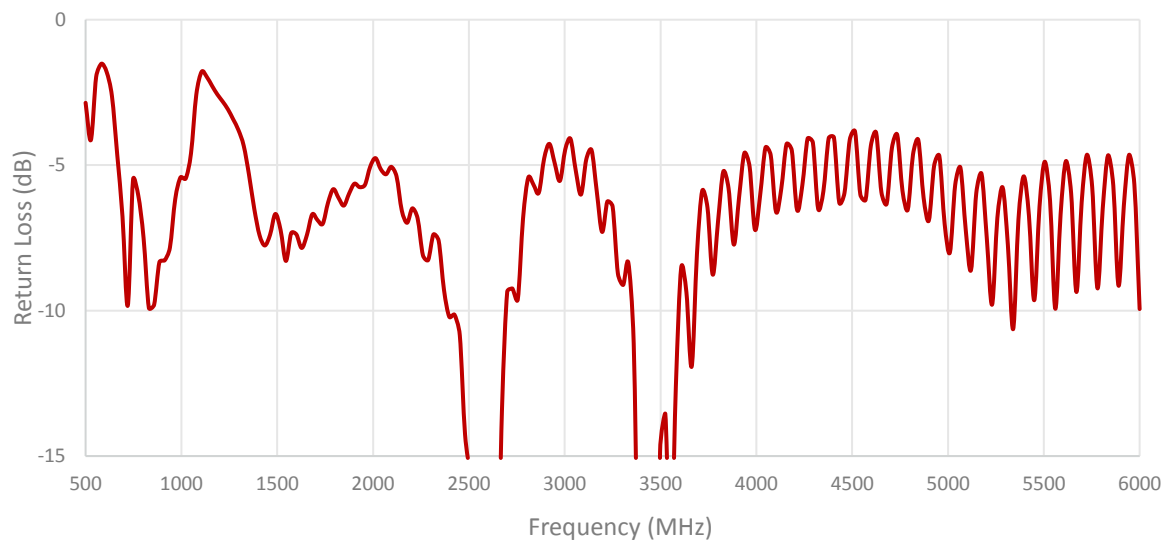
Cable 2

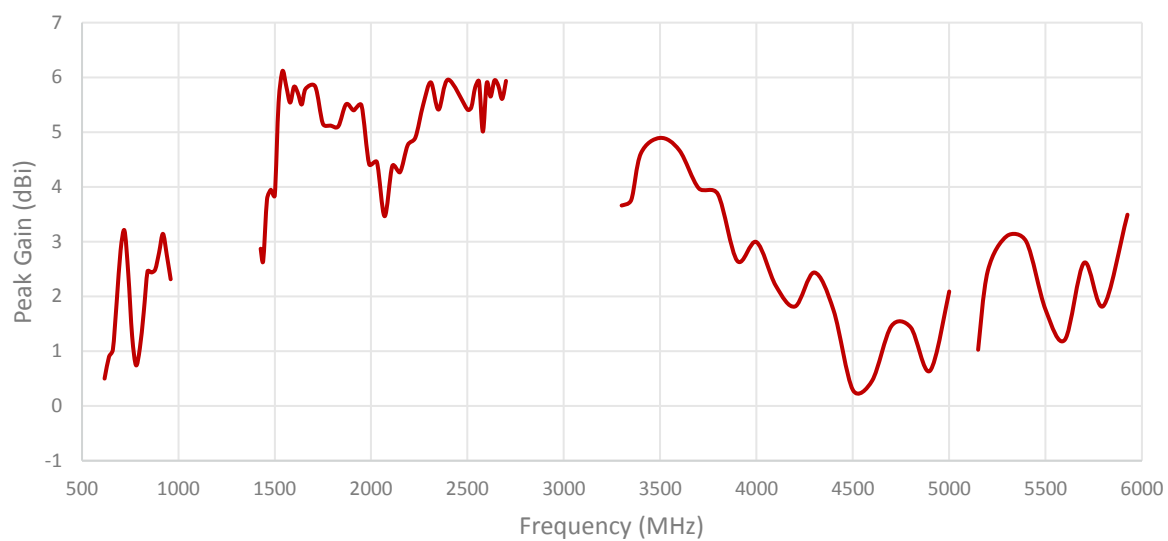
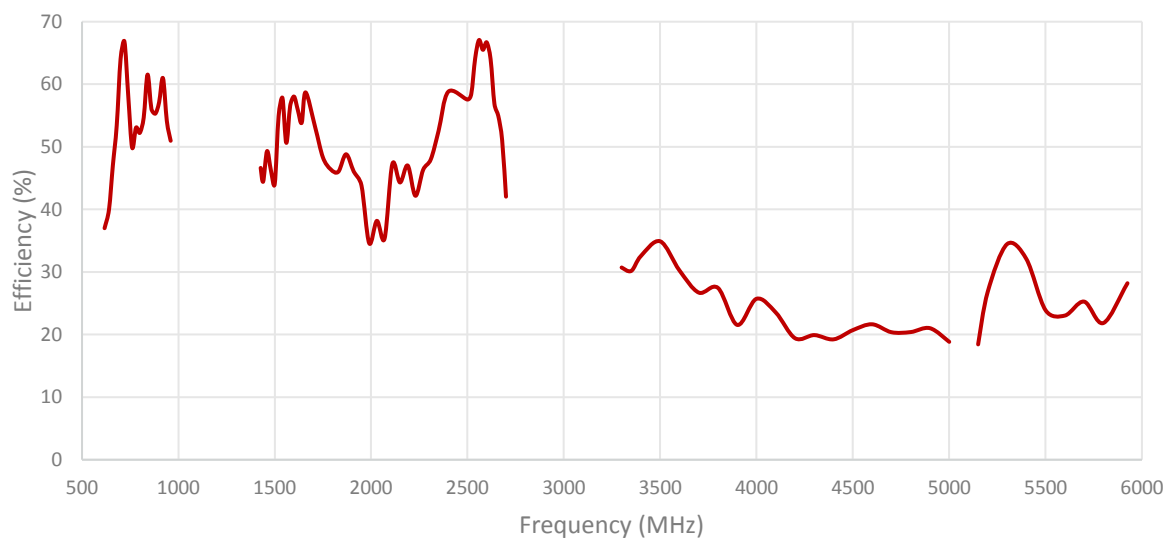
| Parameters             | GPS/GLONASS Antenna                            |           |
|------------------------|------------------------------------------------|-----------|
| Standard               | GPS/QZSS/Galileo                               | GLONASS   |
| Band (MHz)             | 1575                                           | 1602      |
| Frequency(MHz)         | 1575.42                                        | 1598-1606 |
| Patch Size (mm)        | 18 × 18 × 4                                    |           |
| Return Loss (dB)       | <=-15 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         | 2kV                                            |           |
| Connector Type         | SMA-Male Standard (Other Connectors Available) |           |
| Cable Length           | 300 cm Standard (Any Cable Length Available)   |           |
| Cable Type             | LL100 Standard (Other Cables Available)        |           |

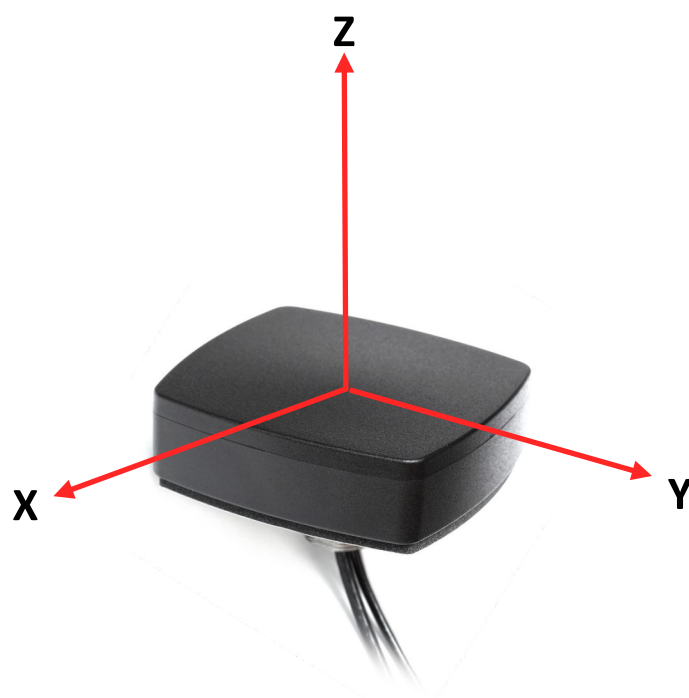
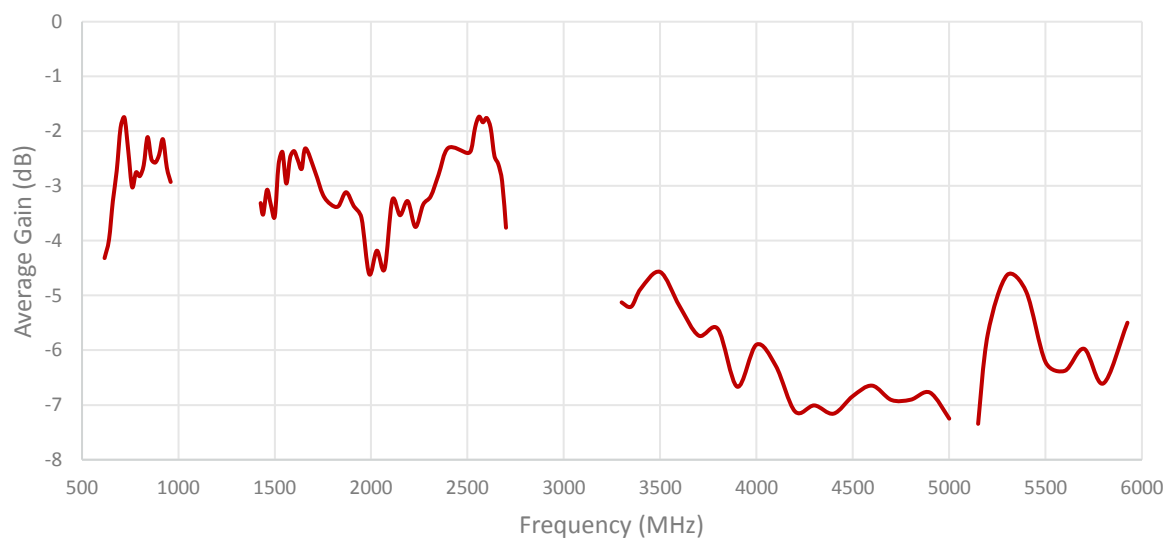
## 2. Mechanical and environmental specifications

| Specifications            | 2J6984BGF      |
|---------------------------|----------------|
| Mounting Type             | Screw Mount    |
| Dimensions (mm)           | 80 × 74 × 25.6 |
| Max. Tighten Torque (Nm)  | 5 Nm           |
| Radome Type               | ABS UV Stable  |
| Radome Color              | Black, White   |
| Operating Temperature (C) | -40 to +85     |
| Storage Temperature (C)   | -40 to +85     |
| Substance Compliance      | RoHS           |
| Certificates              | IP67, IP69     |

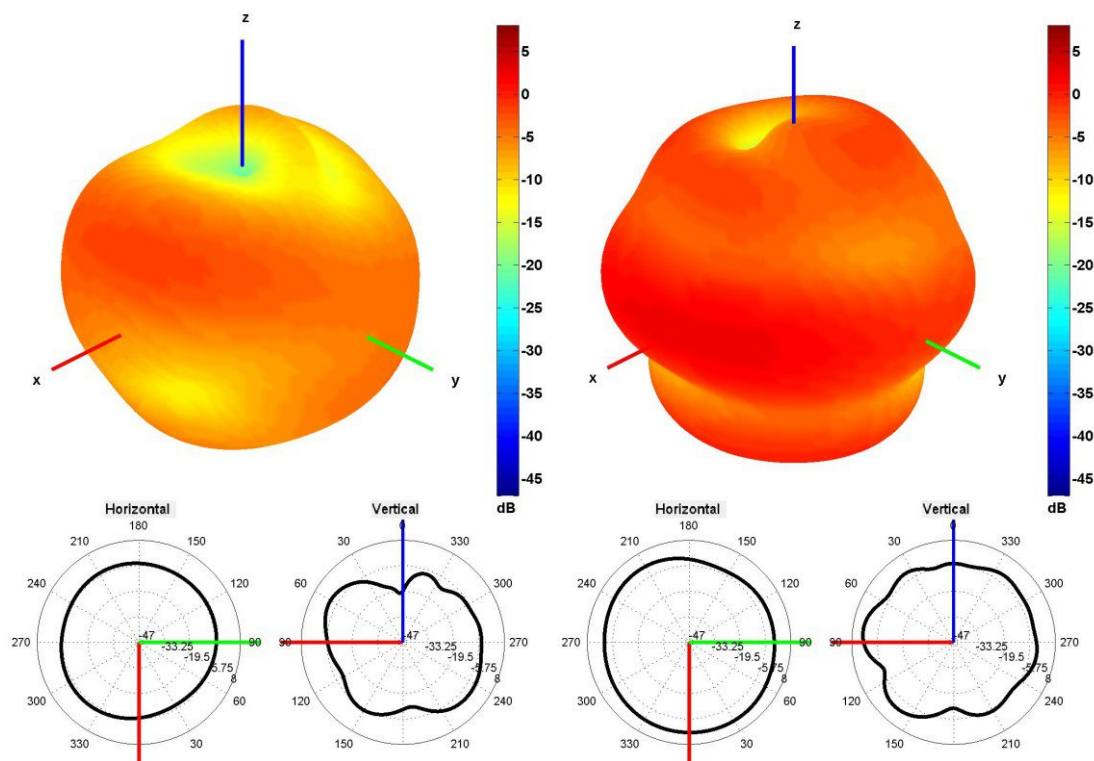
### 3. Antenna parameters



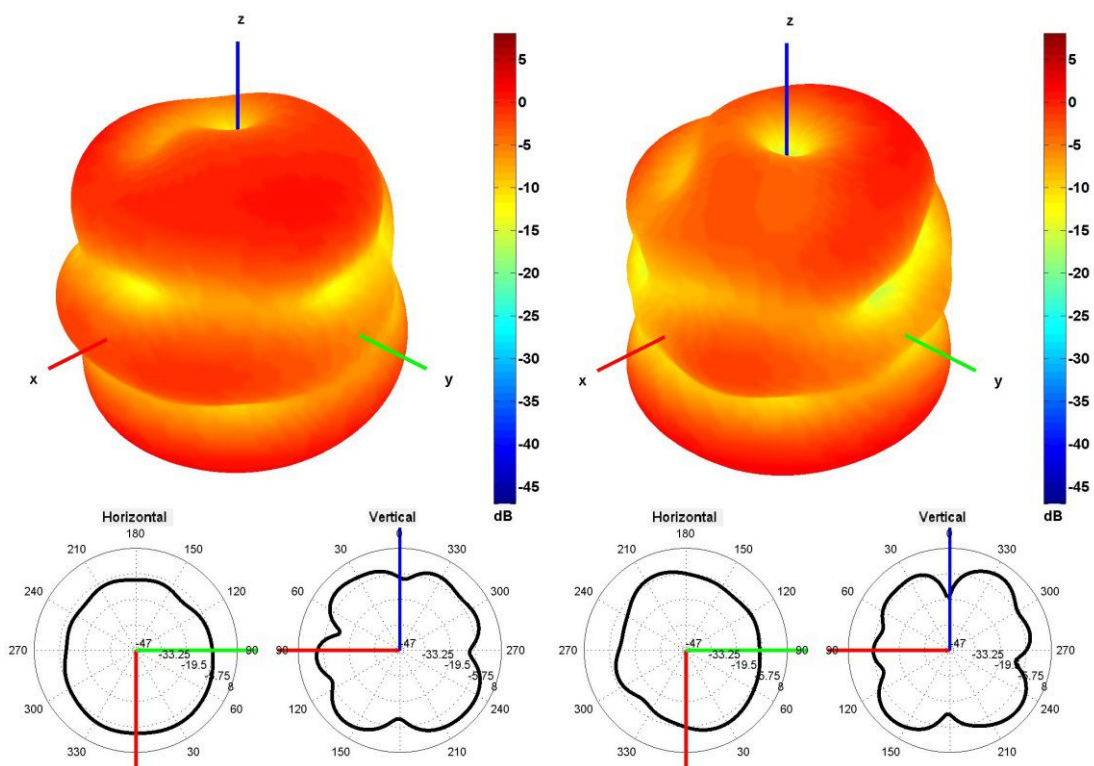




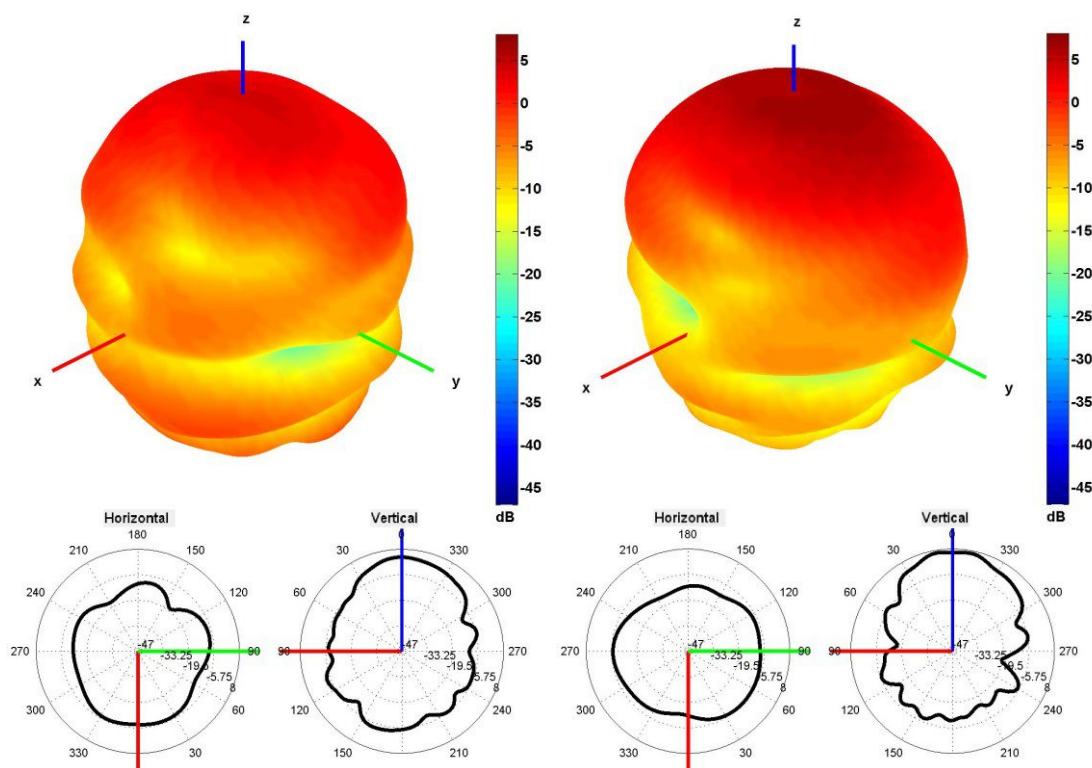
Radiation pattern reference



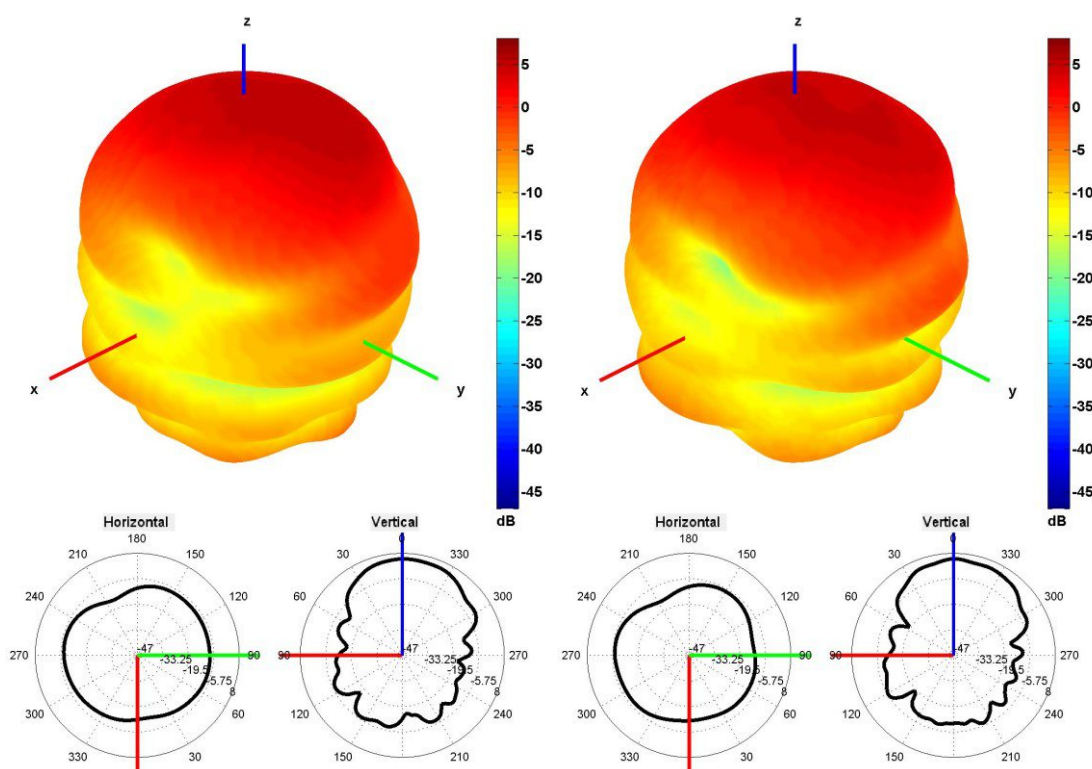
650 and 750 MHz Radiation pattern



850 and 940 MHz Radiation pattern

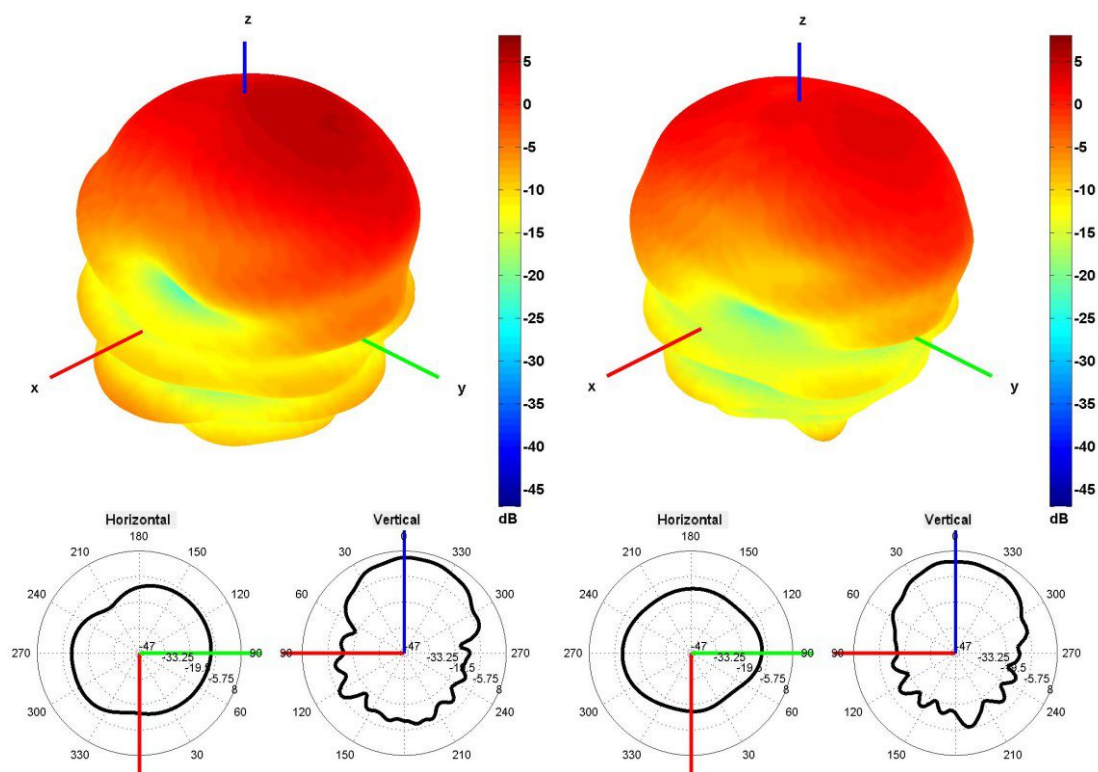


1500 and 1600 MHz Radiation pattern

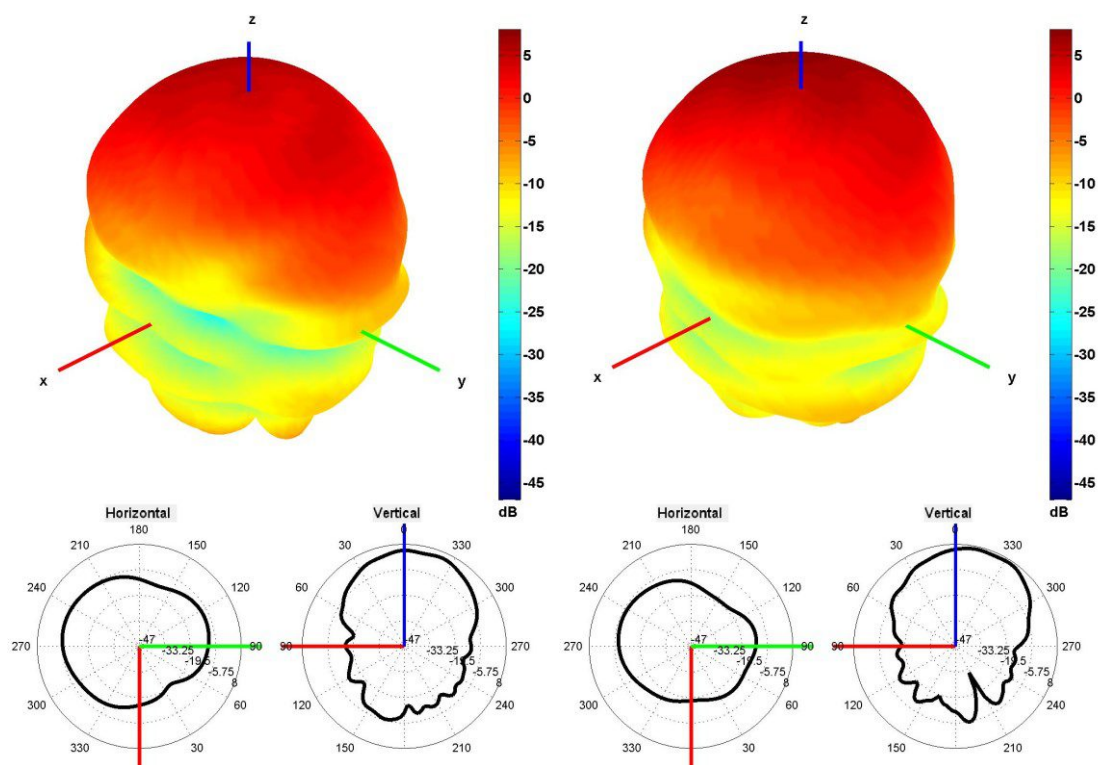


1750 and 1850 MHz Radiation pattern

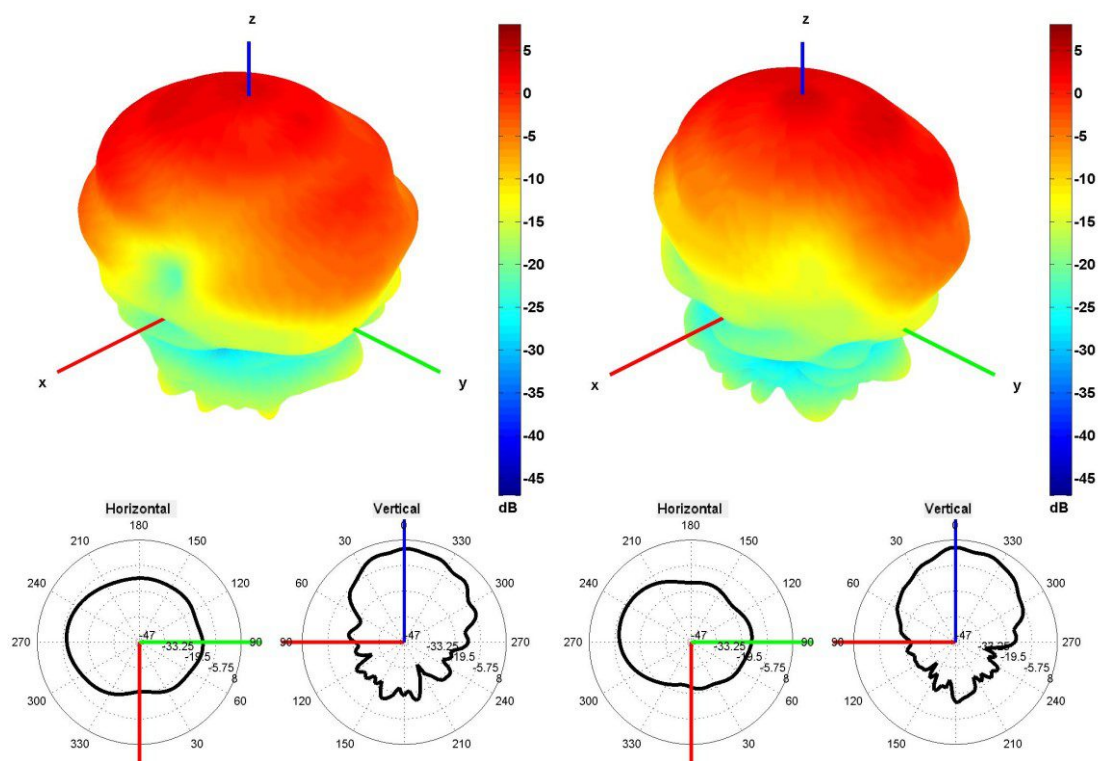




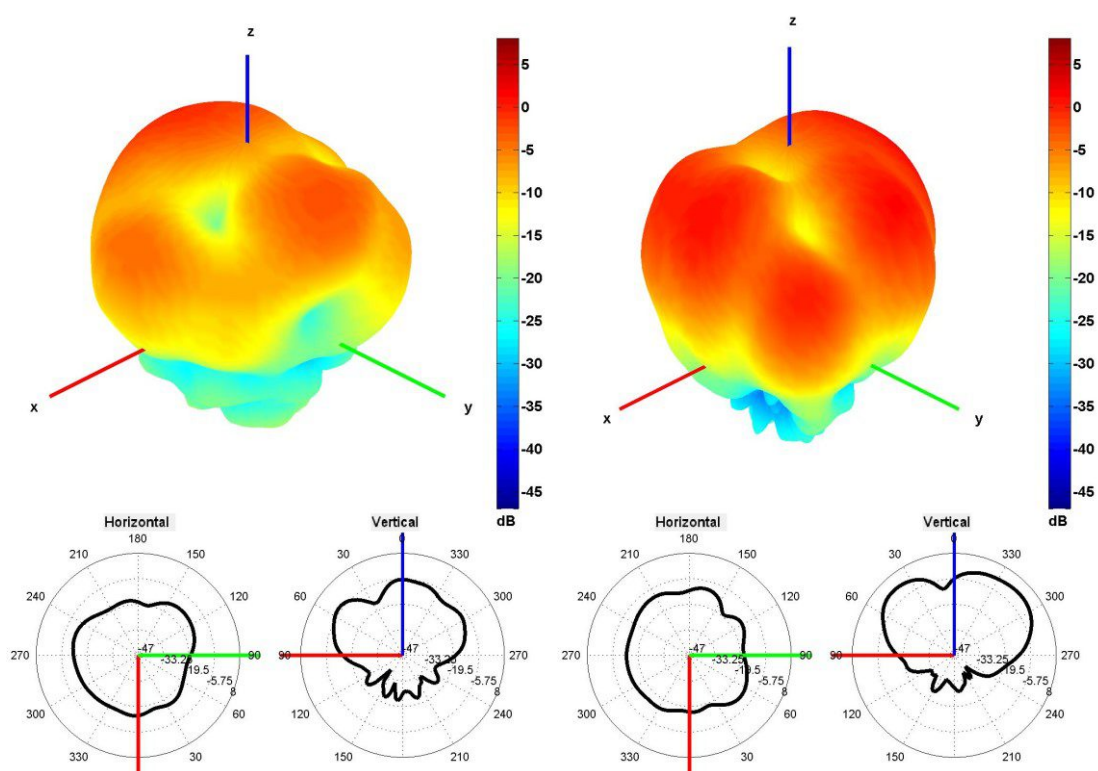
1950 and 2100 MHz Radiation pattern



2350 and 2600 MHz Radiation pattern

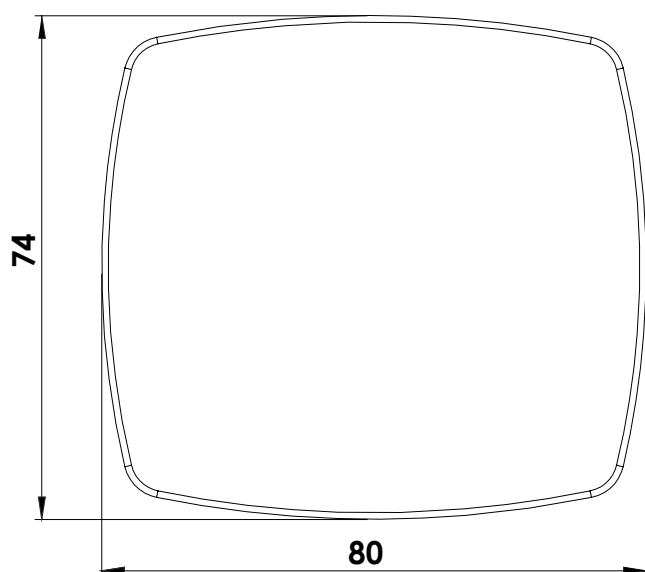
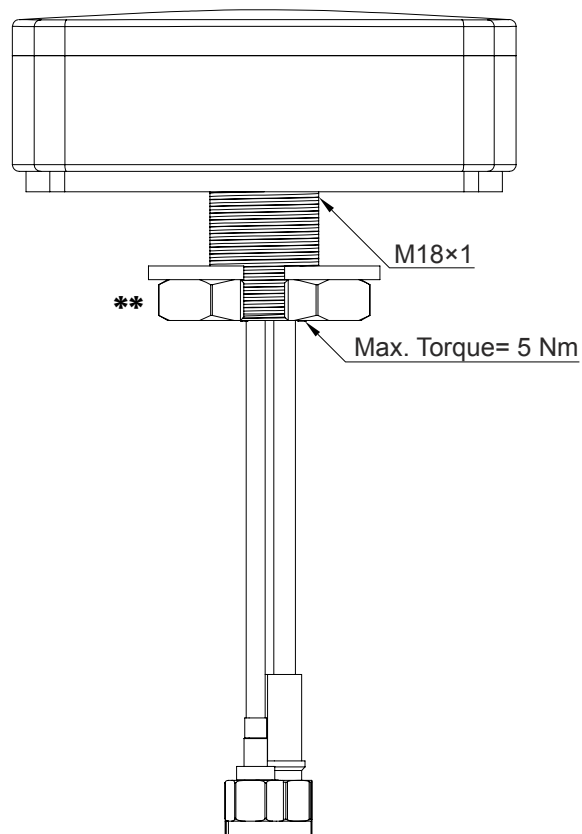
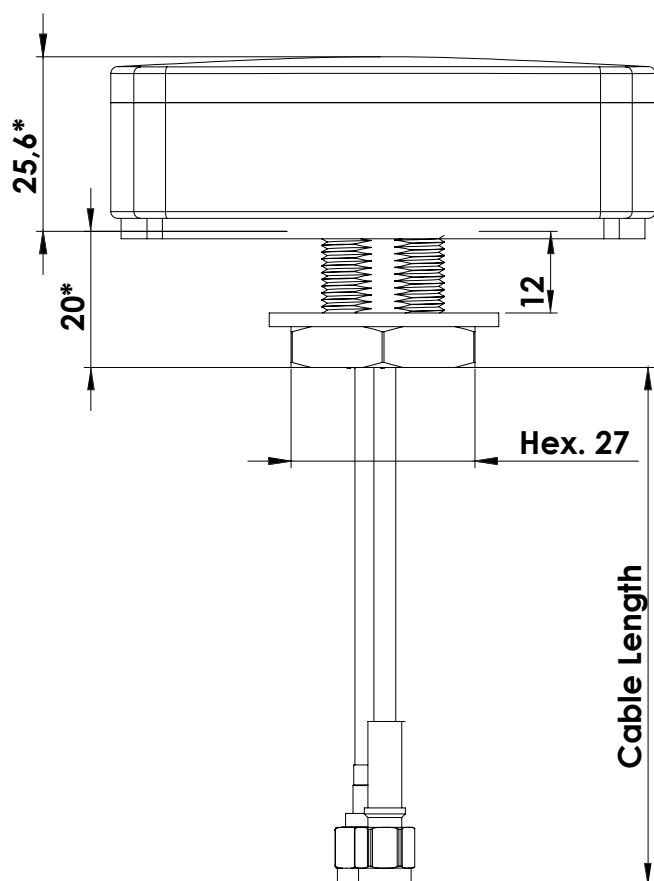


3350 and 3600 MHz Radiation pattern

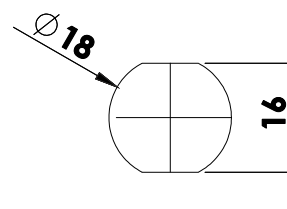


4500 and 5500 MHz Radiation pattern

## 4. Antenna drawings



### Mounting hole



Max. mounting thickness 12mm  
Note: Dimensions are in millimeters  
\*Dimensions are after mounting  
\*\*Max. Torque= 5 Nm

## 5. Antenna Images







## Макро Групп – это:

- дистрибьютор электронных компонентов с 1994 года
- контрактный производитель электроники с 2007 года с собственным производством в Санкт-Петербурге (компания Макро ЕМС, входит в ГК Макро Групп)
- поставщик полупроводниковых материалов
- комплексный поставщик электронных компонентов
- моделирование и производство полупроводниковых эпитаксиальных гетероструктур для задач оптоэлектроники

Головной офис расположен в Санкт-Петербурге. Собственные представительства в крупных промышленных городах России и стран СНГ.

## Преимущества для наших заказчиков:

- работа по тендерам с 2012 года
- оформление банковских гарантий
- отсрочки платежей
- поставка электронных компонентов по проектным ценам
- инженерная поддержка проектов заказчиков
- сертификат системы менеджмента качества ISO 9001-2015
- необходимые сертификаты и лицензии

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