

## 2J7A83Bc

4× 5GNR MIMO Screw Mount

### Key Features

#### Cable 1 - 4: 5GNR

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

Screw Mount

Heavy Duty antenna

High Performance

Ground Plane Independent

Anti-Rotation Mounting

Customizable Cable and Connector

Dimensions: Ø 96 x H 90 mm

Certificates: IP67, IP69, Ik09



## 1. Antenna and electrical specifications

Cable 1

| Parameters           | 5G NR Antenna                                                                                       |                                                                                                                                                                                 |                                 |                      |
|----------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------|
| Technologies         | 5G, 4G, 3G and 2G                                                                                   |                                                                                                                                                                                 |                                 |                      |
| Standards            | 5G NR/4G LTE/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     |
| 5G NR 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                   |                      |
| 4G LTE 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 |
| 3G CELL 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                             |                      |
| 2G CELL Bands        | 710, 750, 810T, 850, 900P,<br>900E, 900R                                                            | 1800DCS, 1900PCS                                                                                                                                                                |                                 |                      |
| CDMA CELL 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)     | ~-5.4                                                                                               | ~-12.5                                                                                                                                                                          | ~-11.4                          | ~-12.2               |
| VSWR                 | ~3.6:1                                                                                              | ~1.9:1                                                                                                                                                                          | ~1.9:1                          | ~1.8:1               |
| Efficiency (%)       | ~30.0                                                                                               | ~46.5                                                                                                                                                                           | ~42.1                           | ~42.0                |
| Peak Gain (dBi)      | ~0.1                                                                                                | ~3.9                                                                                                                                                                            | ~3.4                            | ~3.9                 |
| Average Gain (dB)    | ~-5.3                                                                                               | ~-3.4                                                                                                                                                                           | ~-3.8                           | ~-3.8                |
| Impedance (Ohm)      | 50                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Polarisation         | Linear                                                                                              |                                                                                                                                                                                 |                                 |                      |
| Radiation Pattern    | Omni-Directional                                                                                    |                                                                                                                                                                                 |                                 |                      |
| Max. Input Power (W) | 35                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Connector Type       | SMA-Male Standard (Other Connectors Available)                                                      |                                                                                                                                                                                 |                                 |                      |
| Cable Length         | 300 cm Standard (Any Cable Length Available)                                                        |                                                                                                                                                                                 |                                 |                      |
| Cable Type           | LL195 Standard (Other Cables Available)                                                             |                                                                                                                                                                                 |                                 |                      |

Cable 2

| Parameters           | 5G NR Antenna                                                                                       |                                                                                                                                                                                 |                                 |                      |
|----------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------|
| Technologies         | 5G, 4G, 3G and 2G                                                                                   |                                                                                                                                                                                 |                                 |                      |
| Standards            | 5G NR/4G LTE/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     |
| 5G NR 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                   |                      |
| 4G LTE 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 |
| 3G CELL 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                             |                      |
| 2G CELL Bands        | 710, 750, 810T, 850, 900P,<br>900E, 900R                                                            | 1800DCS, 1900PCS                                                                                                                                                                |                                 |                      |
| CDMA CELL 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)     | ~-5.8                                                                                               | ~-13.2                                                                                                                                                                          | ~-12.5                          | ~-12.8               |
| VSWR                 | ~3.4:1                                                                                              | ~1.8:1                                                                                                                                                                          | ~1.8:1                          | ~1.7:1               |
| Efficiency (%)       | ~31.1                                                                                               | ~47.6                                                                                                                                                                           | ~40.9                           | ~41.0                |
| Peak Gain (dBi)      | ~-1.3                                                                                               | ~-4.0                                                                                                                                                                           | ~-3.0                           | ~-3.6                |
| Average Gain (dB)    | ~-5.1                                                                                               | ~-3.3                                                                                                                                                                           | ~-3.9                           | ~-3.9                |
| Impedance (Ohm)      | 50                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Polarisation         | Linear                                                                                              |                                                                                                                                                                                 |                                 |                      |
| Radiation Pattern    | Omni-Directional                                                                                    |                                                                                                                                                                                 |                                 |                      |
| Max. Input Power (W) | 35                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Connector Type       | SMA-Male Standard (Other Connectors Available)                                                      |                                                                                                                                                                                 |                                 |                      |
| Cable Length         | 300 cm Standard (Any Cable Length Available)                                                        |                                                                                                                                                                                 |                                 |                      |
| Cable Type           | LL195 Standard (Other Cables Available)                                                             |                                                                                                                                                                                 |                                 |                      |

**Cable 3**

| 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)     | ~-5.0                                                                                               | ~-12.3                                                                                                                                                                          | ~-11.9                          | ~-11.8               |
| VSWR                 | ~4.1:1                                                                                              | ~1.9:1                                                                                                                                                                          | ~1.9:1                          | ~1.9:1               |
| Efficiency (%)       | ~30.0                                                                                               | ~47.0                                                                                                                                                                           | ~41.9                           | ~44.4                |
| Peak Gain (dBi)      | ~-0.7                                                                                               | ~3.8                                                                                                                                                                            | ~3.6                            | ~4.0                 |
| Average Gain (dB)    | ~-5.4                                                                                               | ~-3.4                                                                                                                                                                           | ~-3.8                           | ~-3.5                |
| Impedance (Ohm)      | 50                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Polarisation         | Linear                                                                                              |                                                                                                                                                                                 |                                 |                      |
| Radiation Pattern    | Omni-Directional                                                                                    |                                                                                                                                                                                 |                                 |                      |
| Max. Input Power (W) | 35                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Connector Type       | SMA-Male Standard (Other Connectors Available)                                                      |                                                                                                                                                                                 |                                 |                      |
| Cable Length         | 300 cm Standard (Any Cable Length Available)                                                        |                                                                                                                                                                                 |                                 |                      |
| Cable Type           | LL195 Standard (Other Cables Available)                                                             |                                                                                                                                                                                 |                                 |                      |

**Cable 4**

| 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)     | ~-5.5                                                                                               | ~-12.7                                                                                                                                                                          | ~-11.8                          | ~-12.7               |
| VSWR                 | ~3.7:1                                                                                              | ~1.9:1                                                                                                                                                                          | ~1.9:1                          | ~1.9:1               |
| Efficiency (%)       | ~30.6                                                                                               | ~46.3                                                                                                                                                                           | ~42.1                           | ~42.1                |
| Peak Gain (dBi)      | ~-0.9                                                                                               | ~3.6                                                                                                                                                                            | ~3.3                            | ~4.3                 |
| Average Gain (dB)    | ~-5.2                                                                                               | ~-3.4                                                                                                                                                                           | ~-3.8                           | ~-3.8                |
| Impedance (Ohm)      | 50                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Polarisation         | Linear                                                                                              |                                                                                                                                                                                 |                                 |                      |
| Radiation Pattern    | Omni-Directional                                                                                    |                                                                                                                                                                                 |                                 |                      |
| Max. Input Power (W) | 35                                                                                                  |                                                                                                                                                                                 |                                 |                      |
| Connector Type       | SMA-Male Standard (Other Connectors Available)                                                      |                                                                                                                                                                                 |                                 |                      |
| Cable Length         | 300 cm Standard (Any Cable Length Available)                                                        |                                                                                                                                                                                 |                                 |                      |
| Cable Type           | LL195 Standard (Other Cables Available)                                                             |                                                                                                                                                                                 |                                 |                      |

**Antenna Measurement Conditions:**

Mounted on Metal Plate of 30 x 30 cm

200 cm of Cable LL195

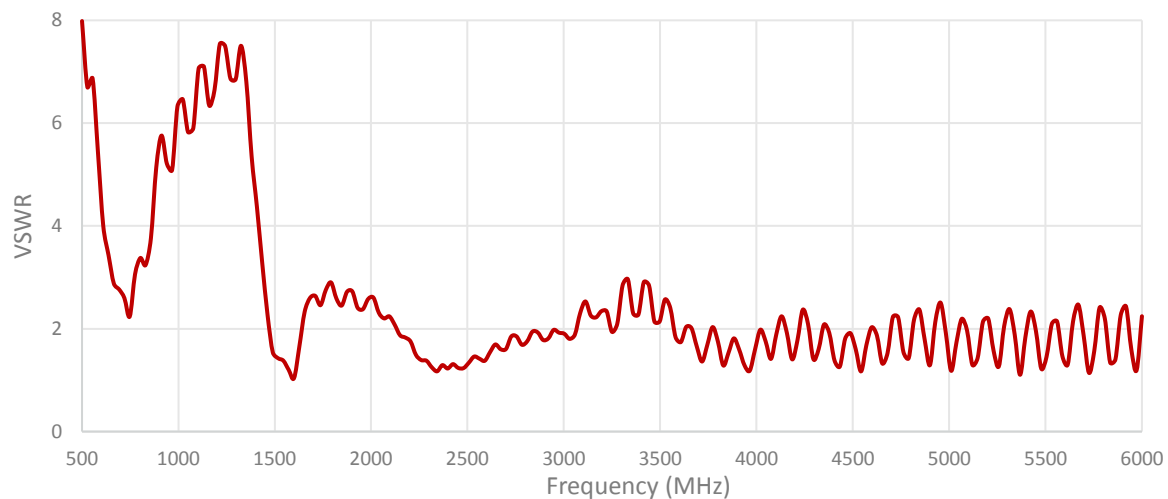
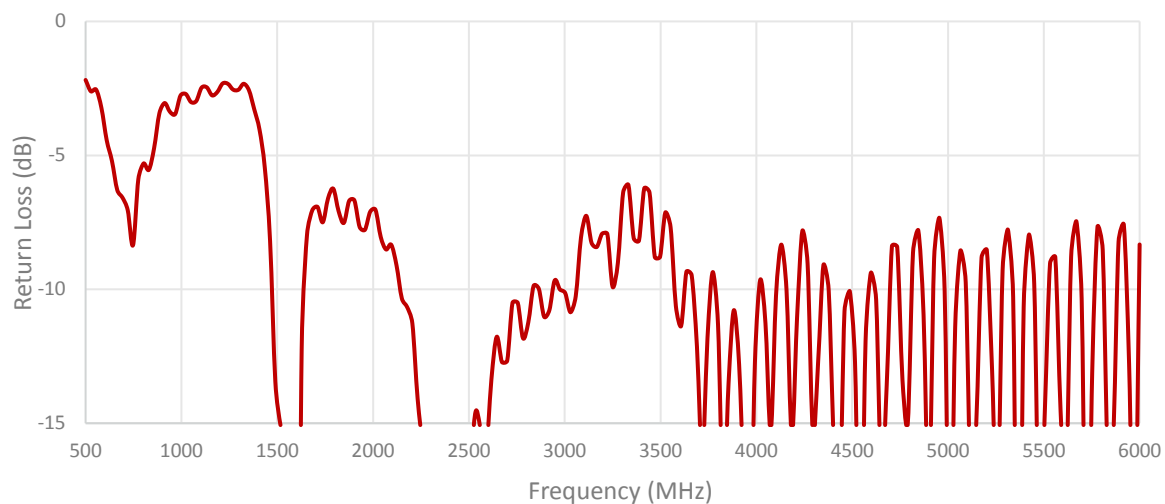
Measured in Certified CTIA 3D Anechoic Chamber

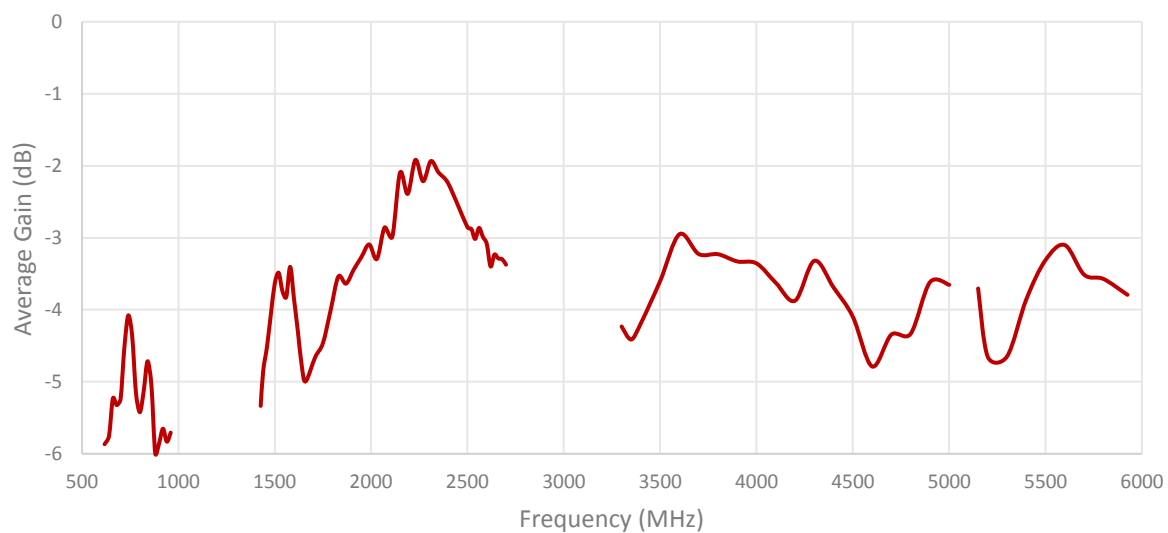
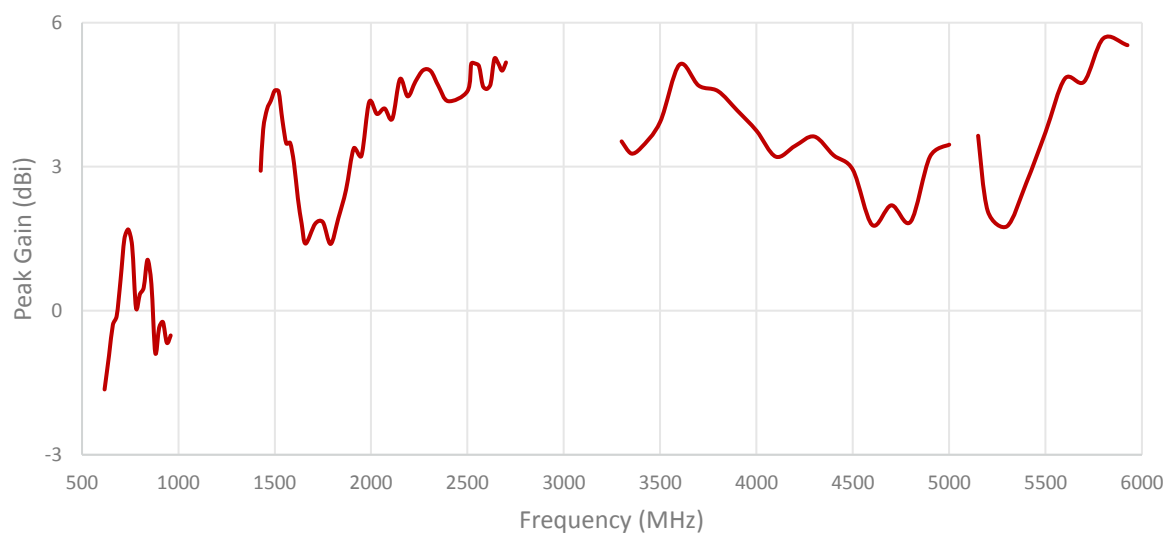
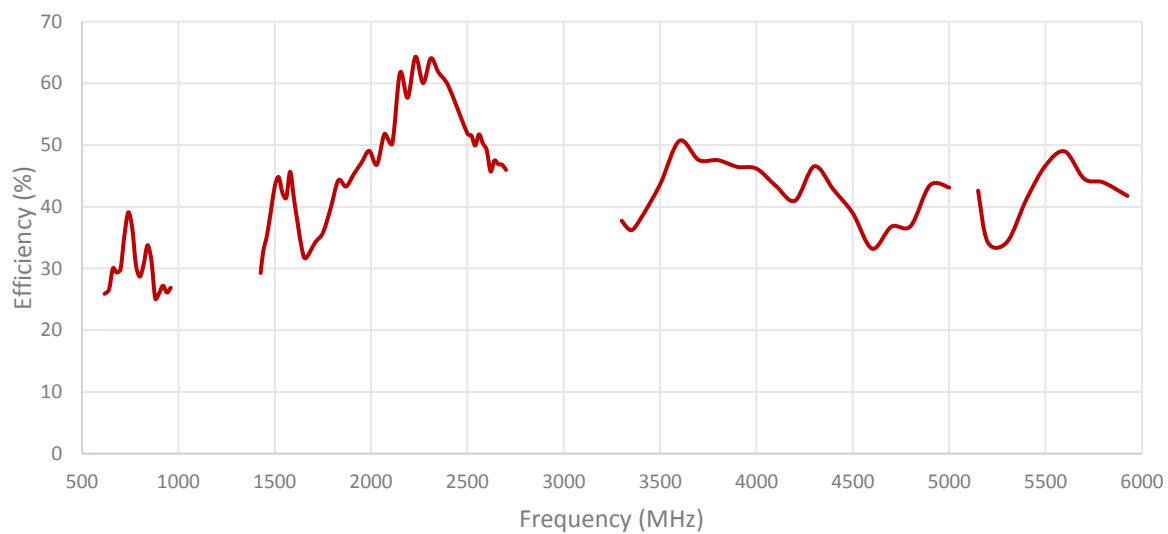
## 2. Mechanical and environmental specifications

| Specifications            | 2J7A83Bc         |
|---------------------------|------------------|
| Mounting Type             | Screw Mount      |
| Dimensions (mm)           | Ø 96 x H 90      |
| Max. Tighten Torque (Nm)  | 6 Nm             |
| Radome                    | ASA              |
| Radome color              | White, Black     |
| Antenna Base              | ASA              |
| Operating Temperature (C) | -40 to +85       |
| Storage Temperature (C)   | -40 to +85       |
| Substance Compliance      | RoHS             |
| Certificates              | IP67, IP69, Ik09 |

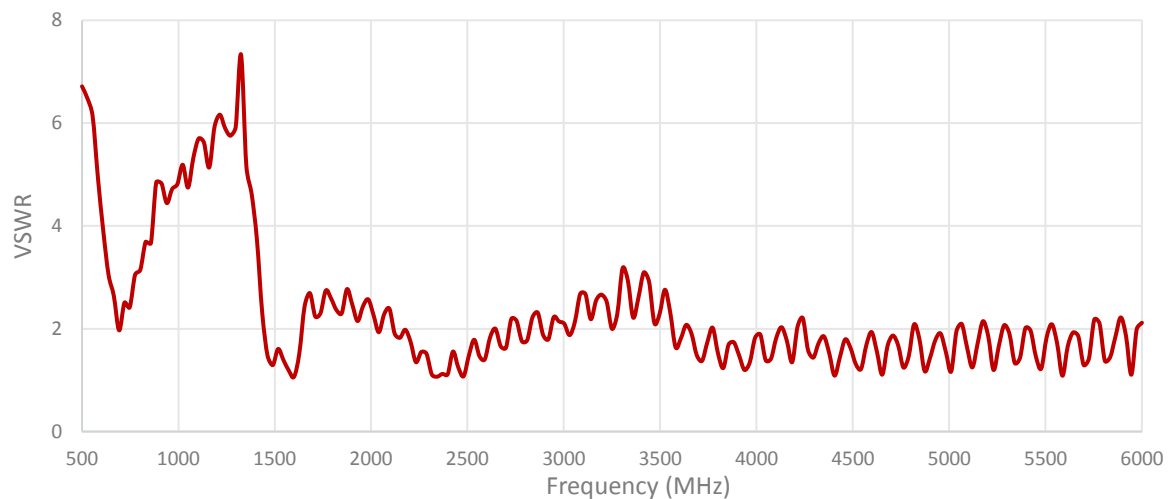
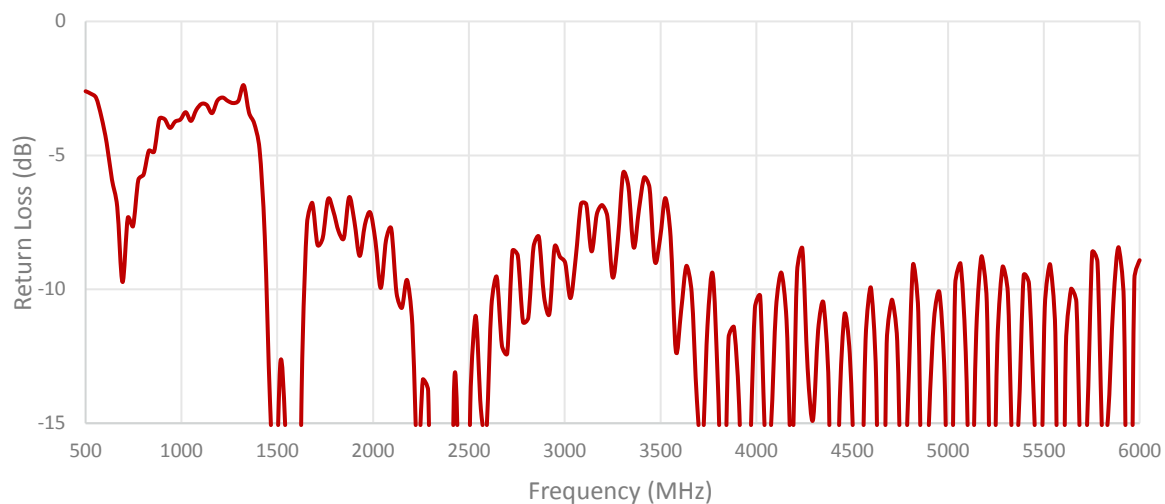
### 3. Antenna parameters

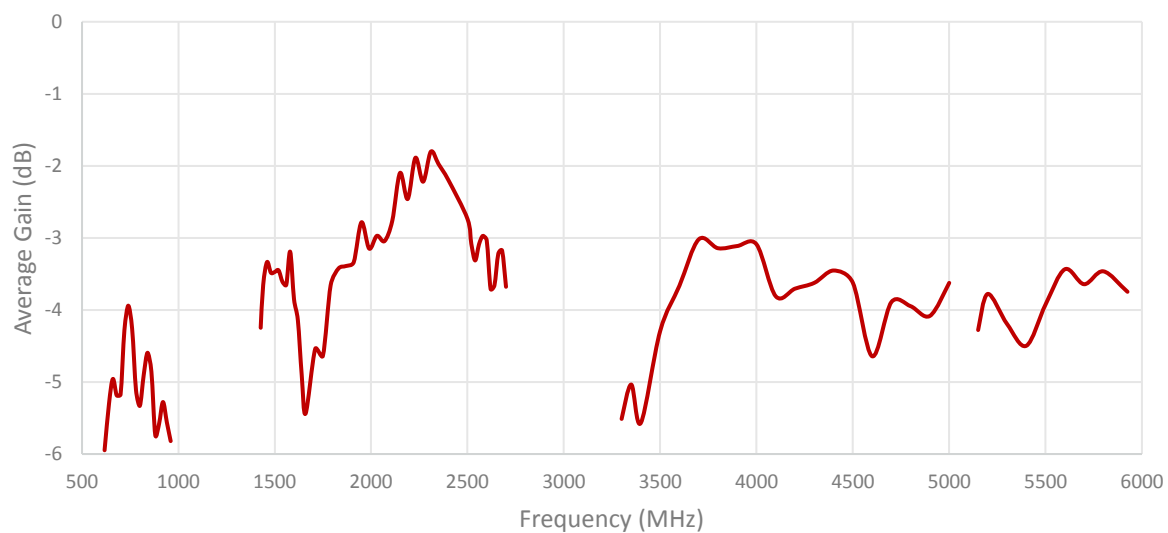
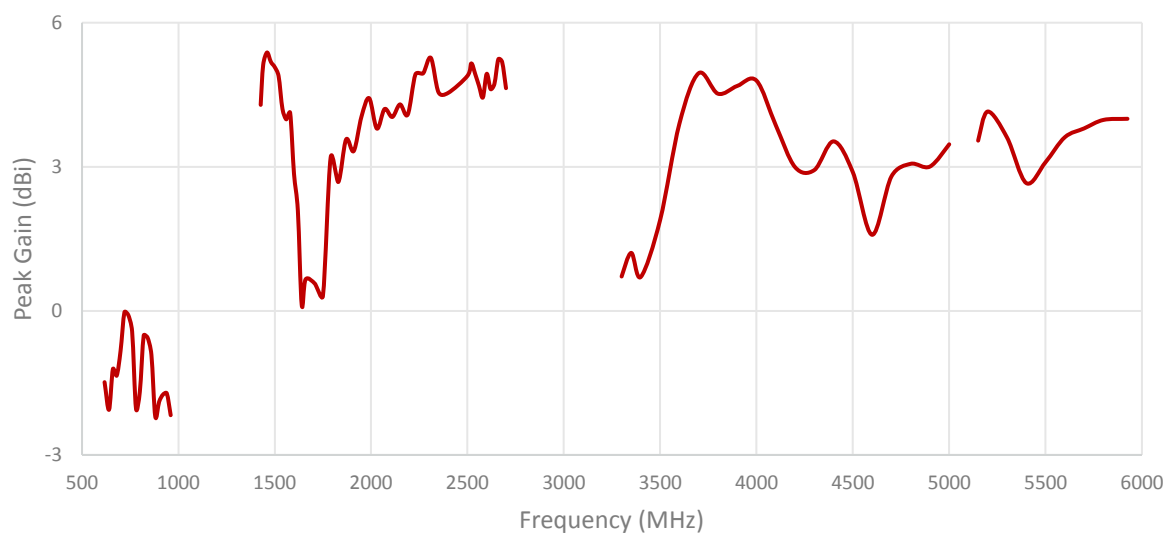
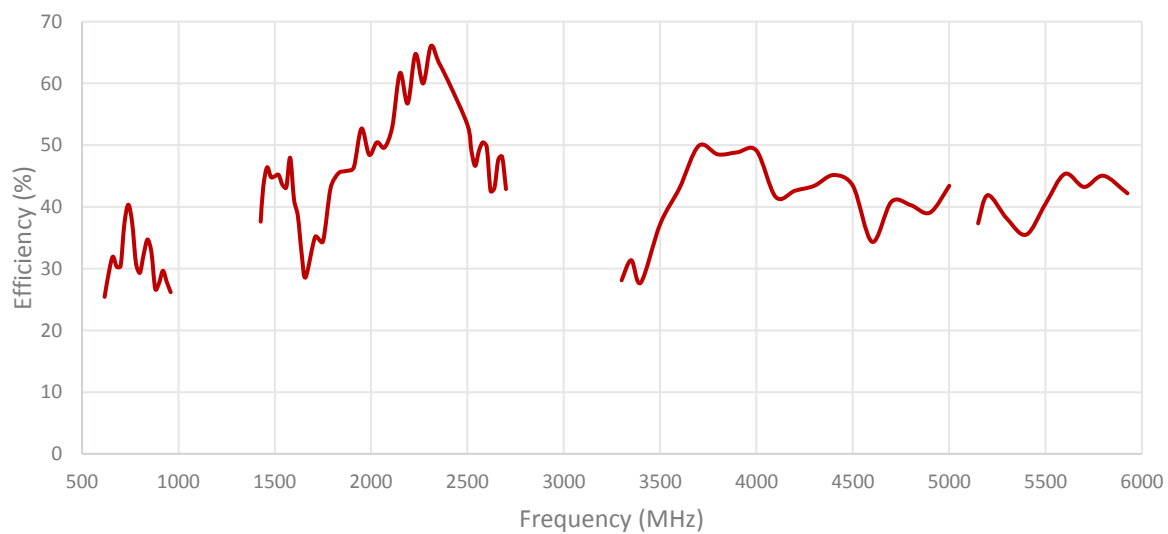
**Cable 1: 5GNR**



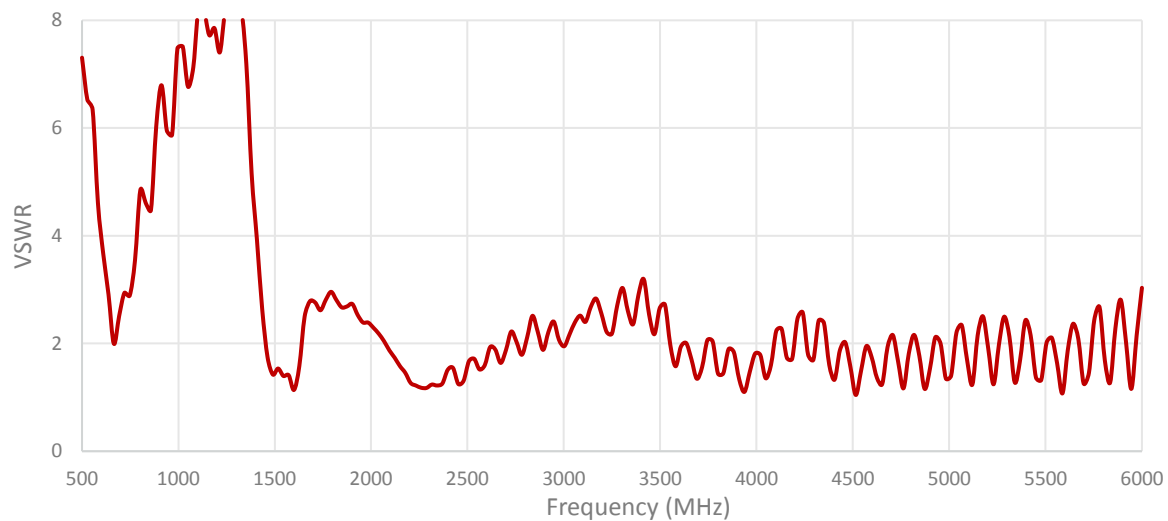
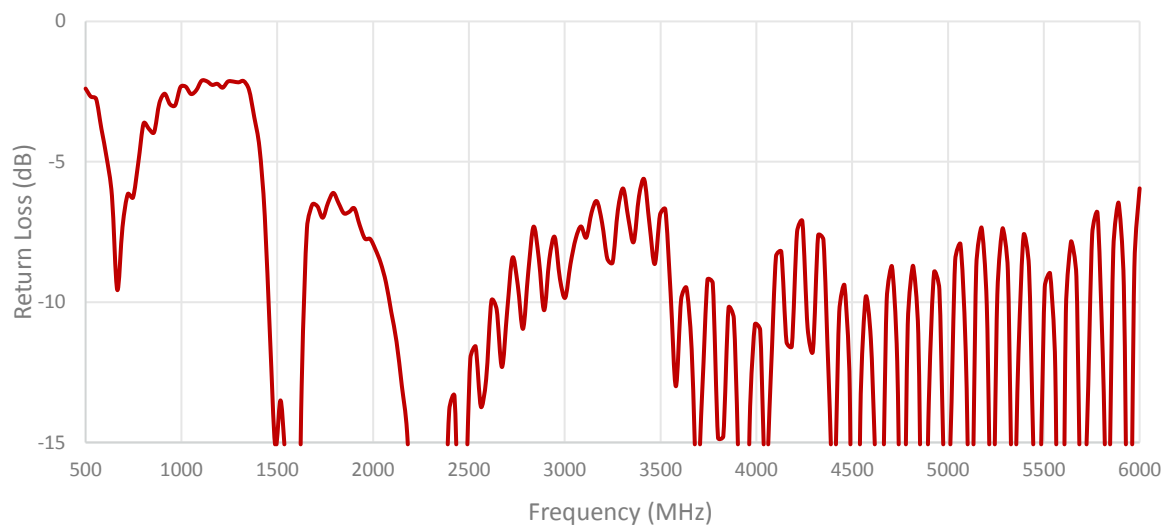


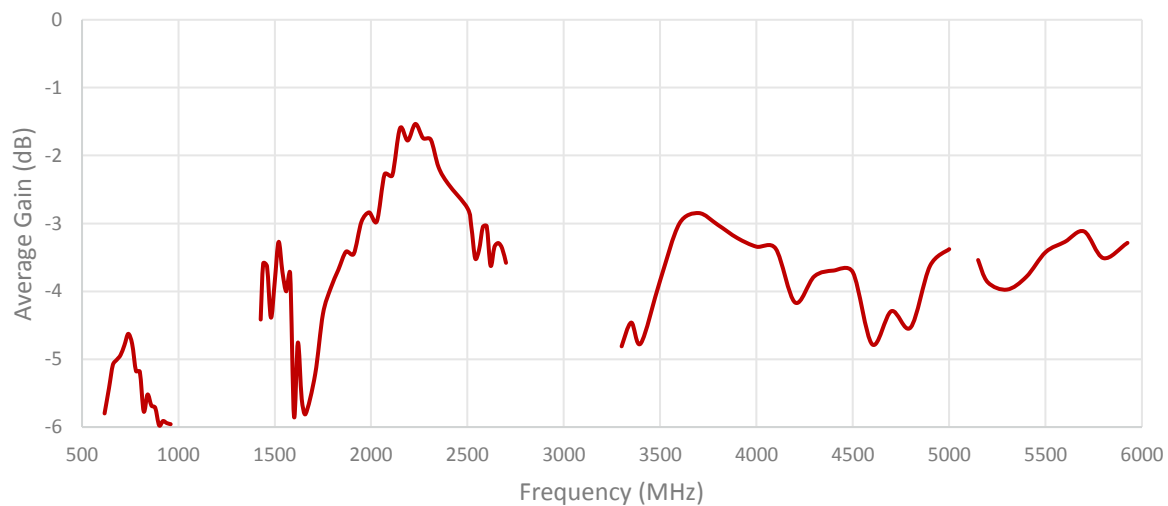
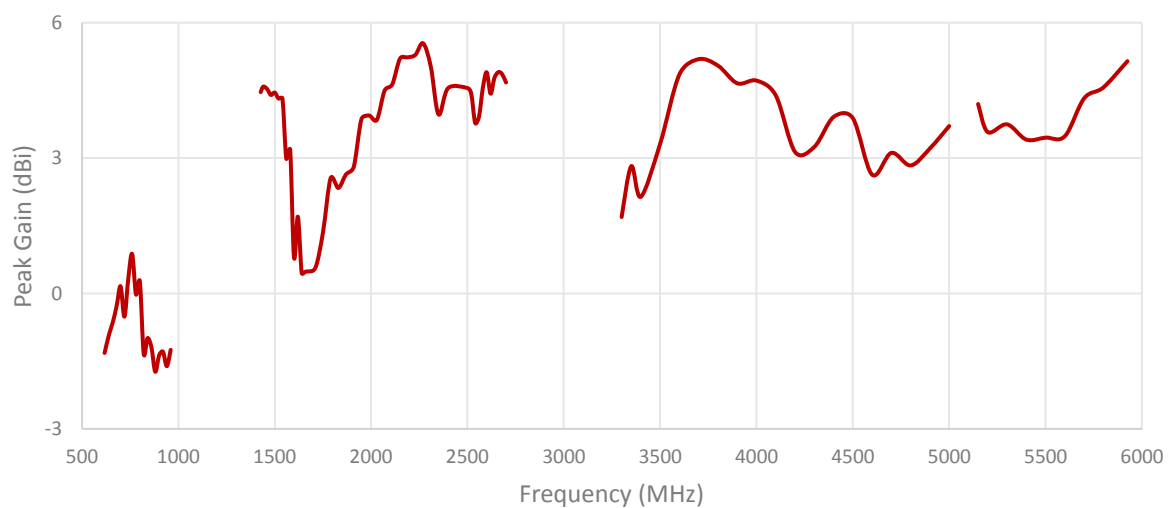
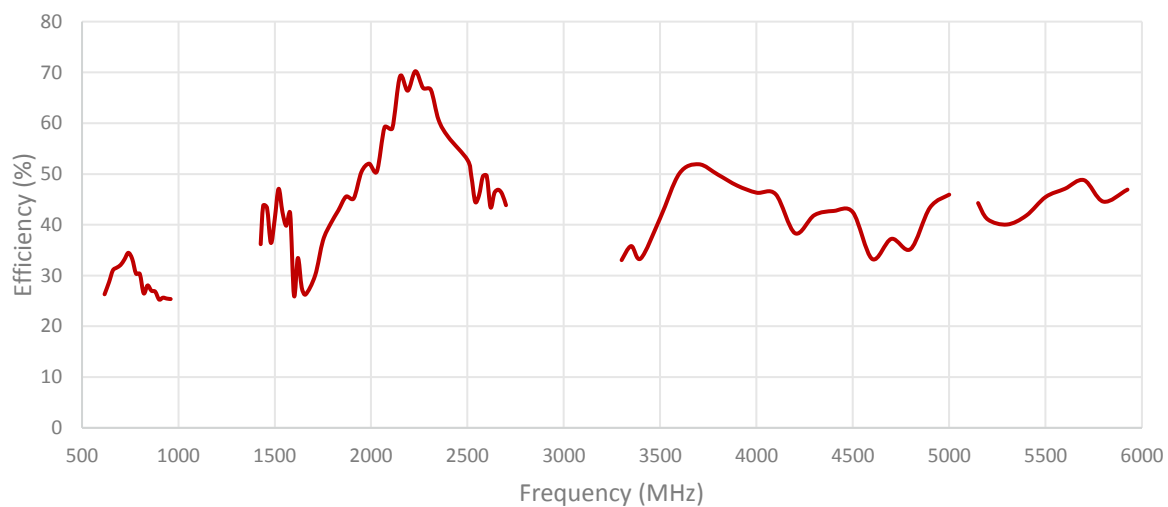
**Cable 2: 5GNR**



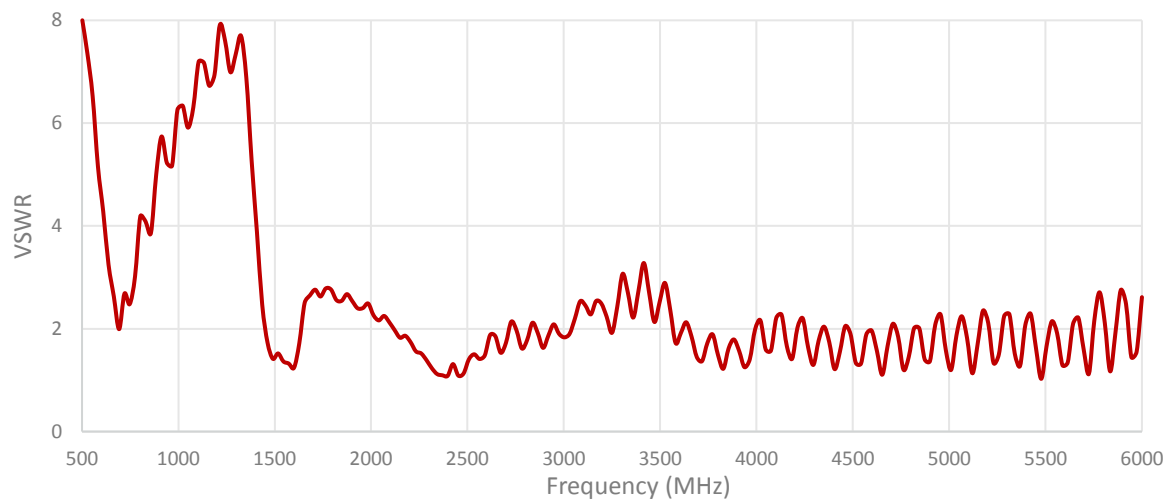
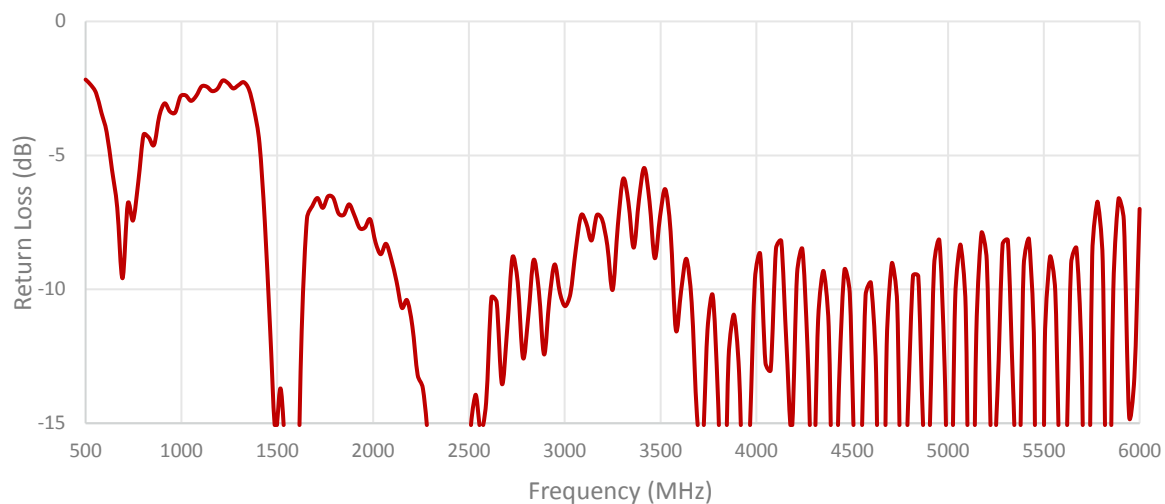


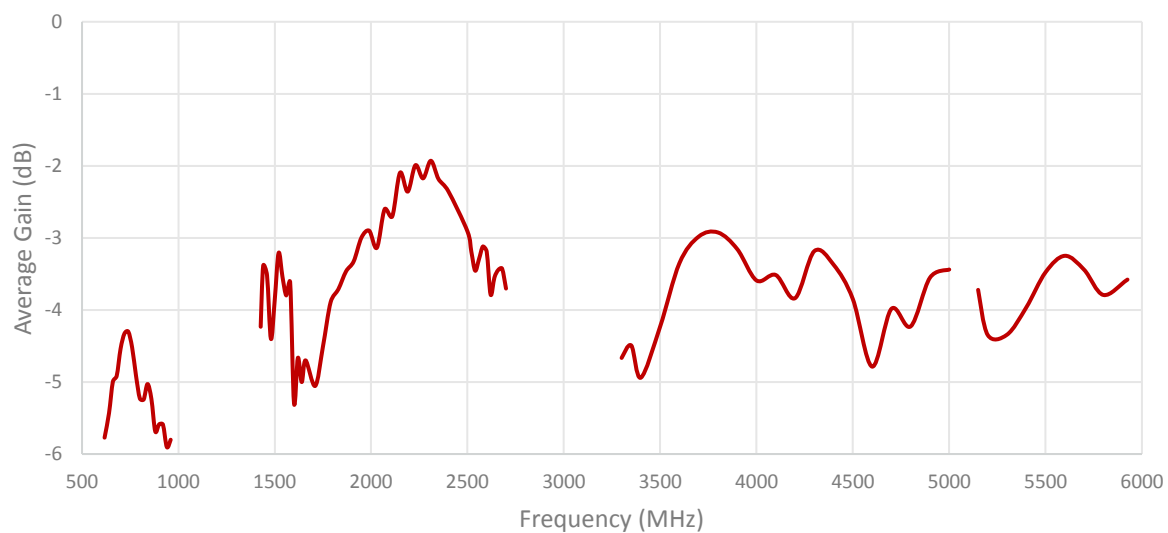
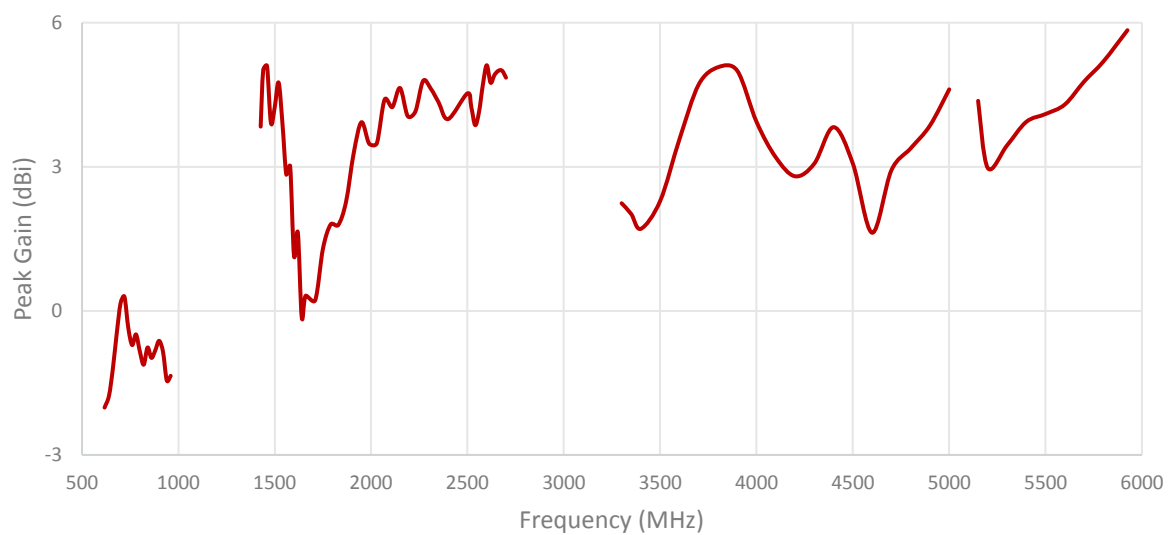
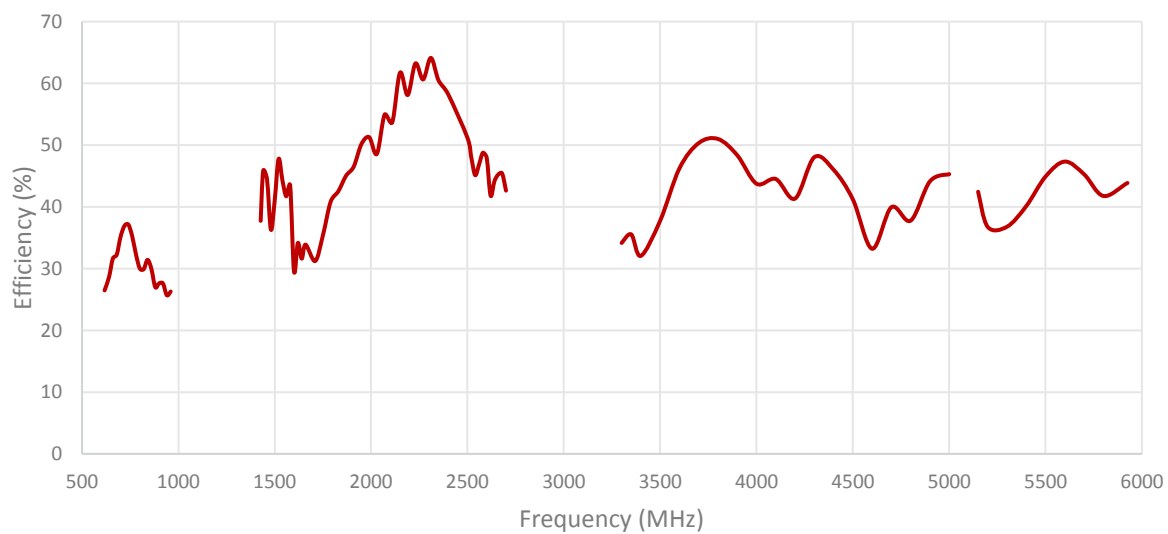
**Cable 3: 5GNR**



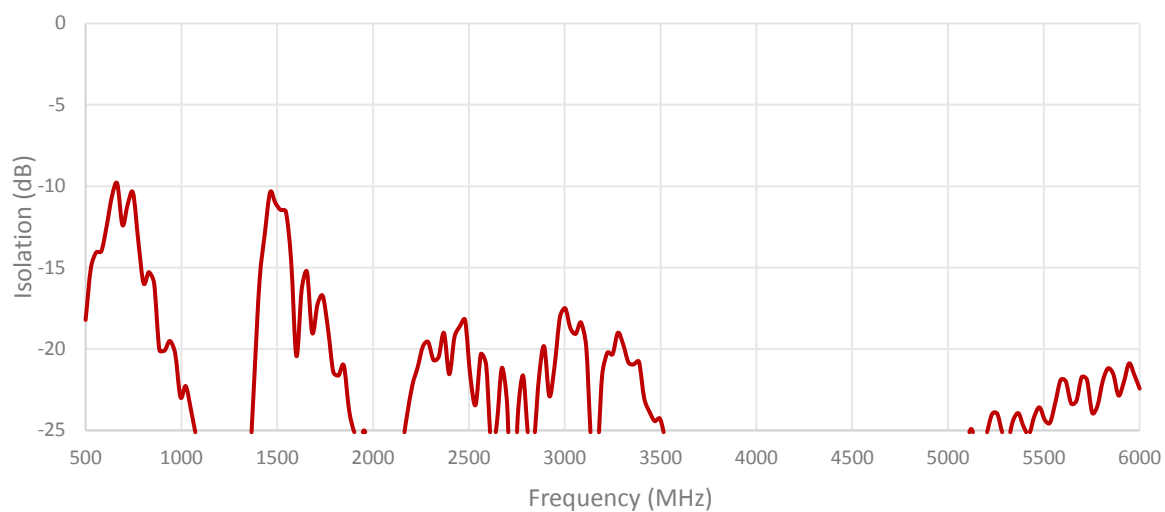


**Cable 4: 5GNR**

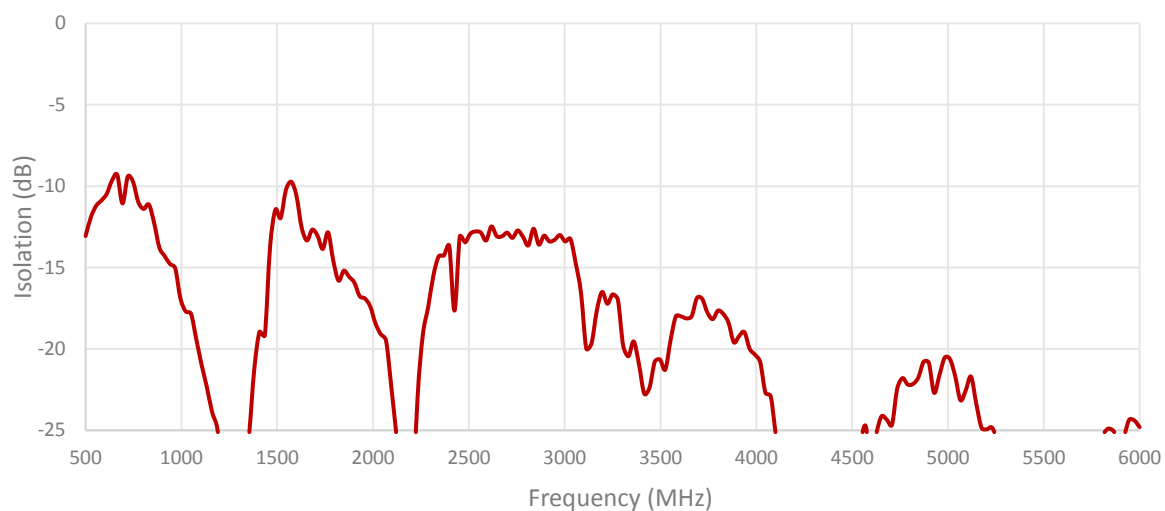




### ISOLATION FOR CABLES 1 AND 2

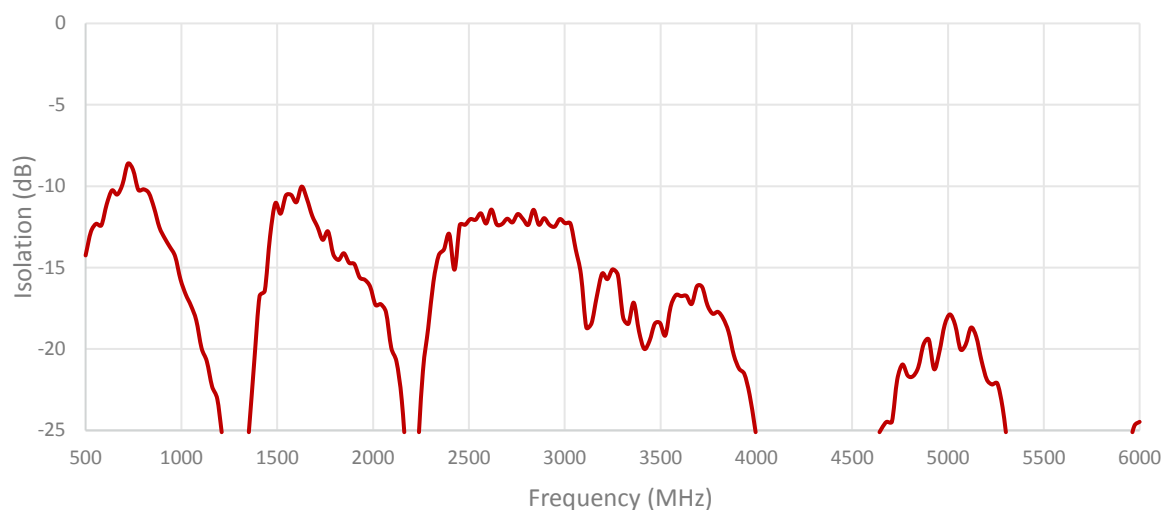


### ISOLATION FOR CABLES 1 AND 3

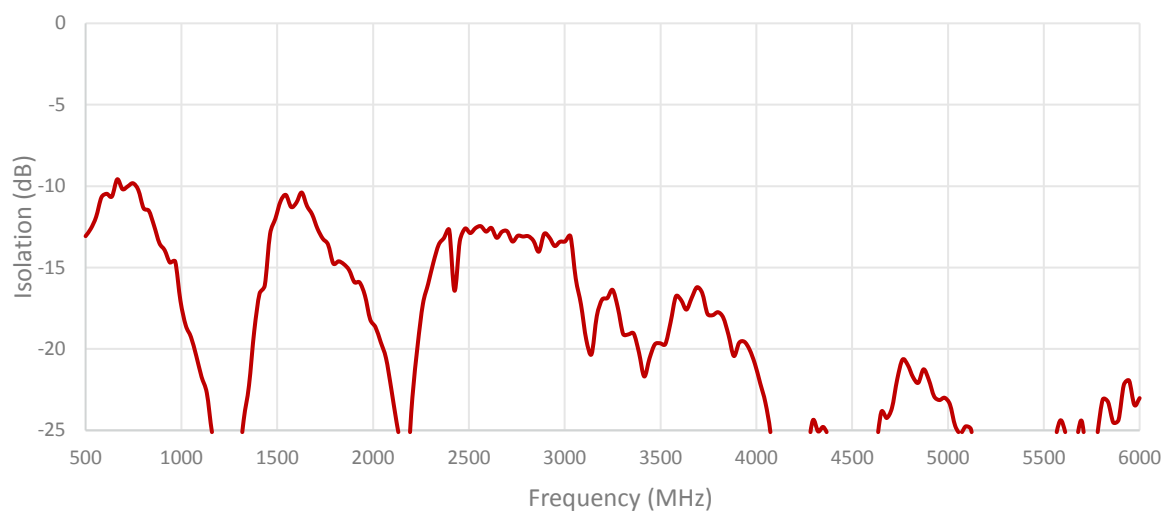


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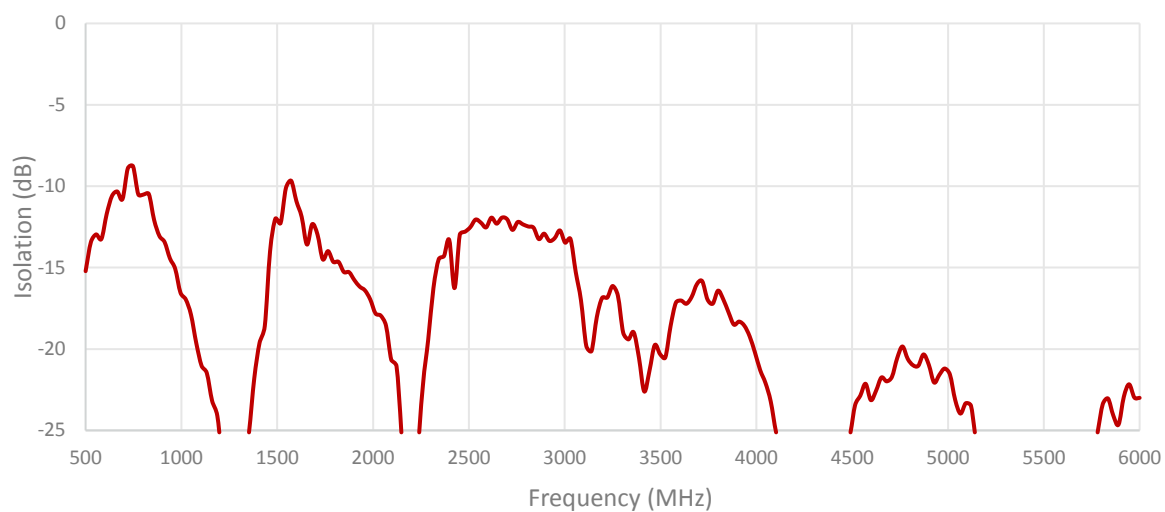
#### ISOLATION FOR CABLES 1 AND 4



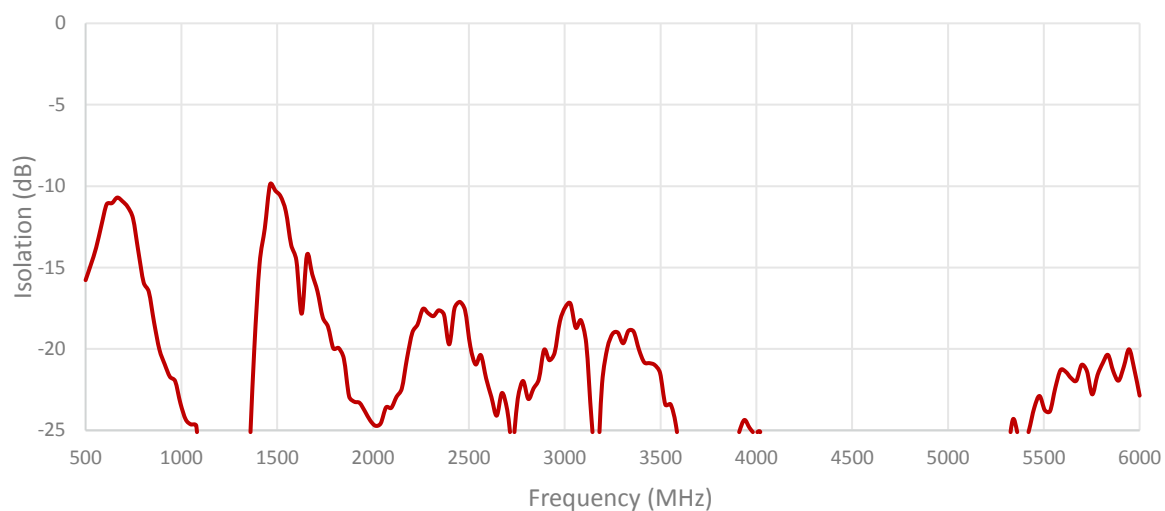
#### ISOLATION FOR CABLES 2 AND 3



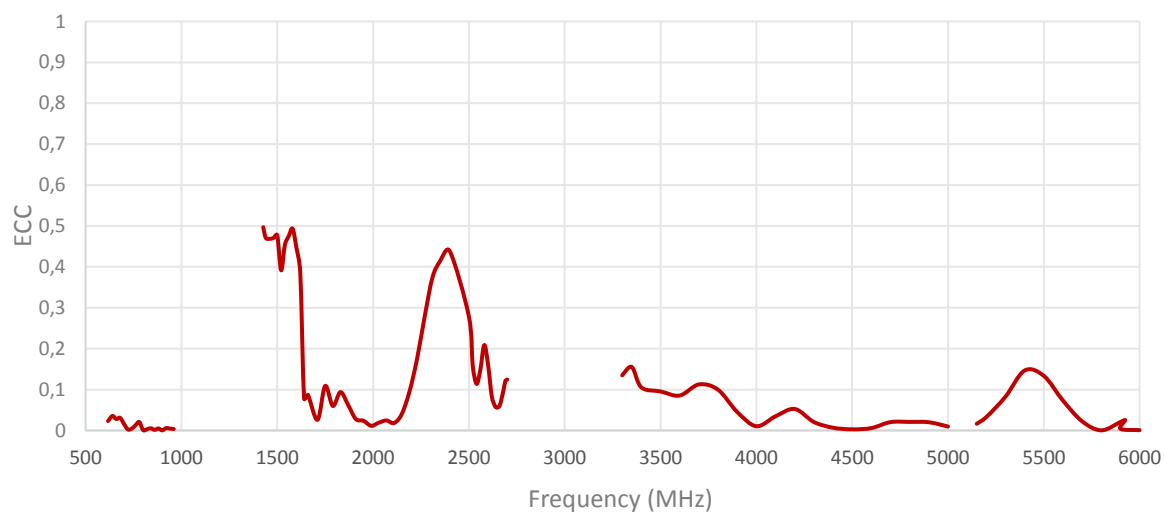
#### ISOLATION FOR CABLES 2 AND 4



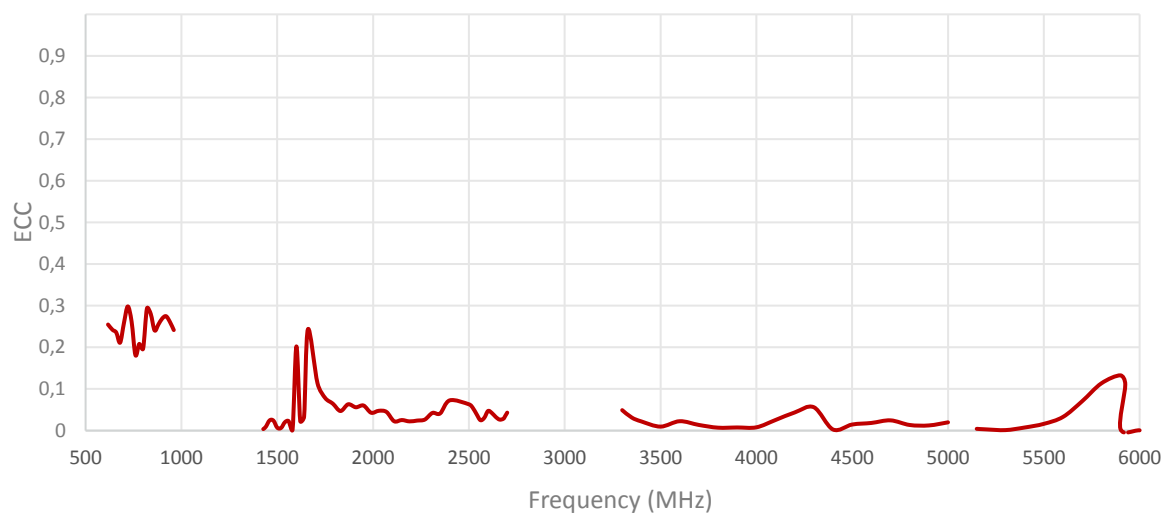
#### ISOLATION FOR CABLES 3 AND 4



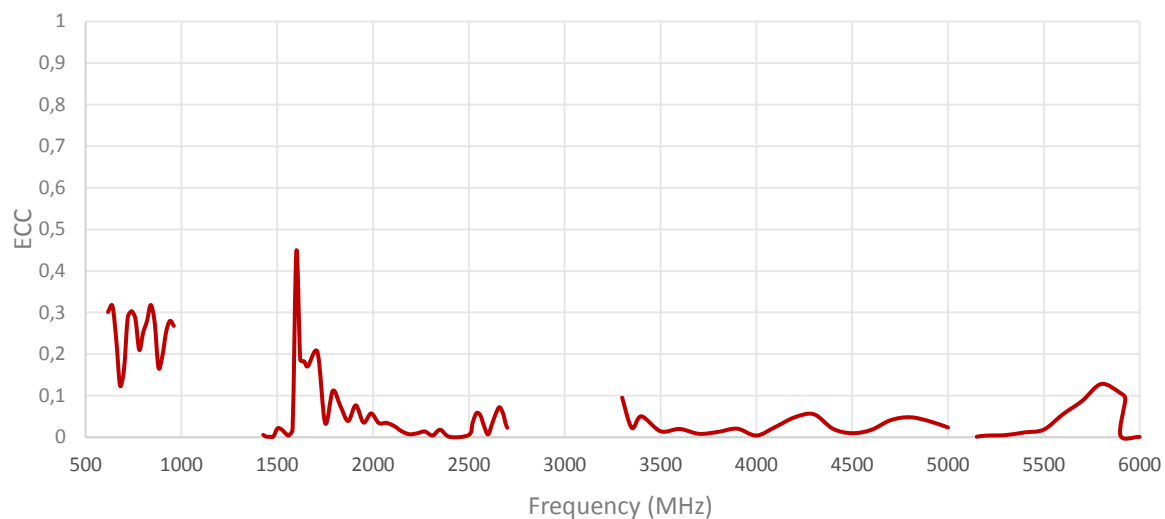
#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2



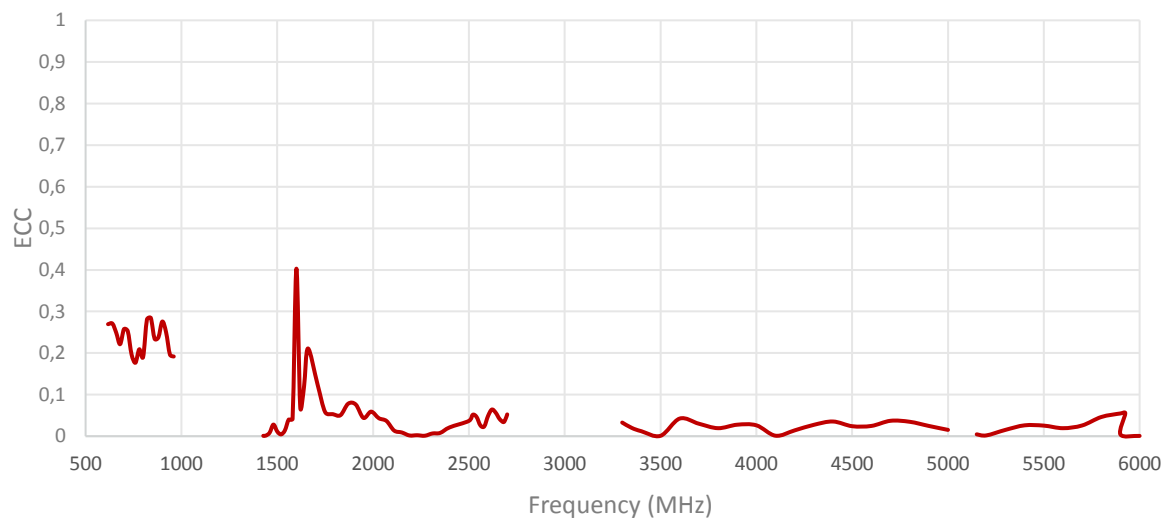
#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 3



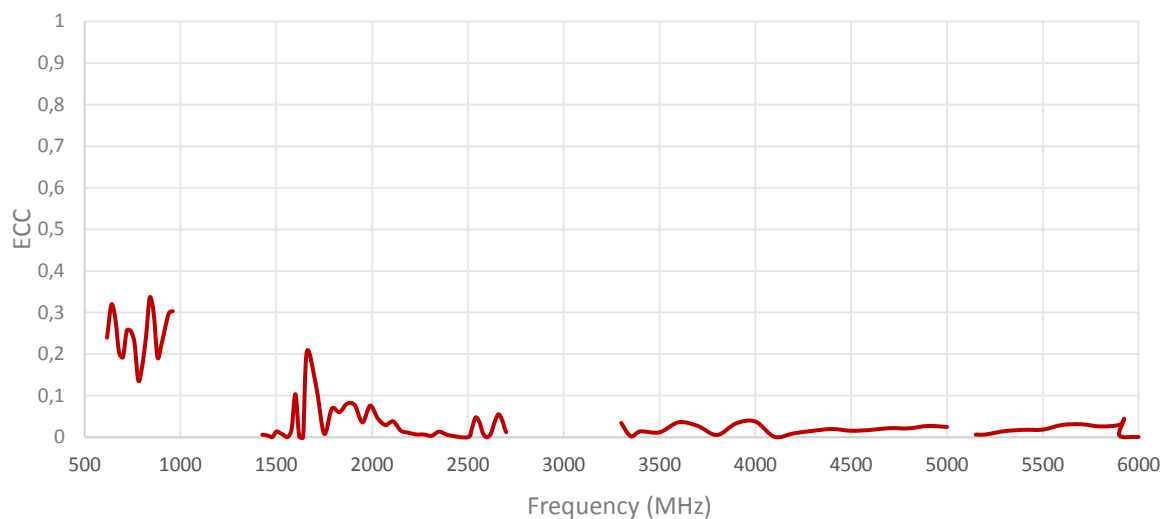
#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 4



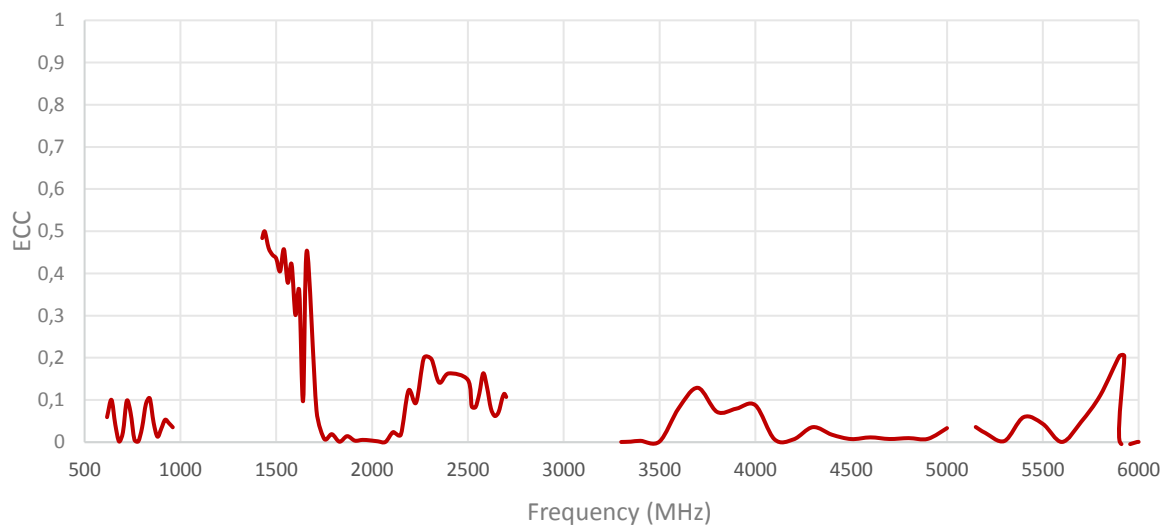
#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 2 AND 3



#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 2 AND 4



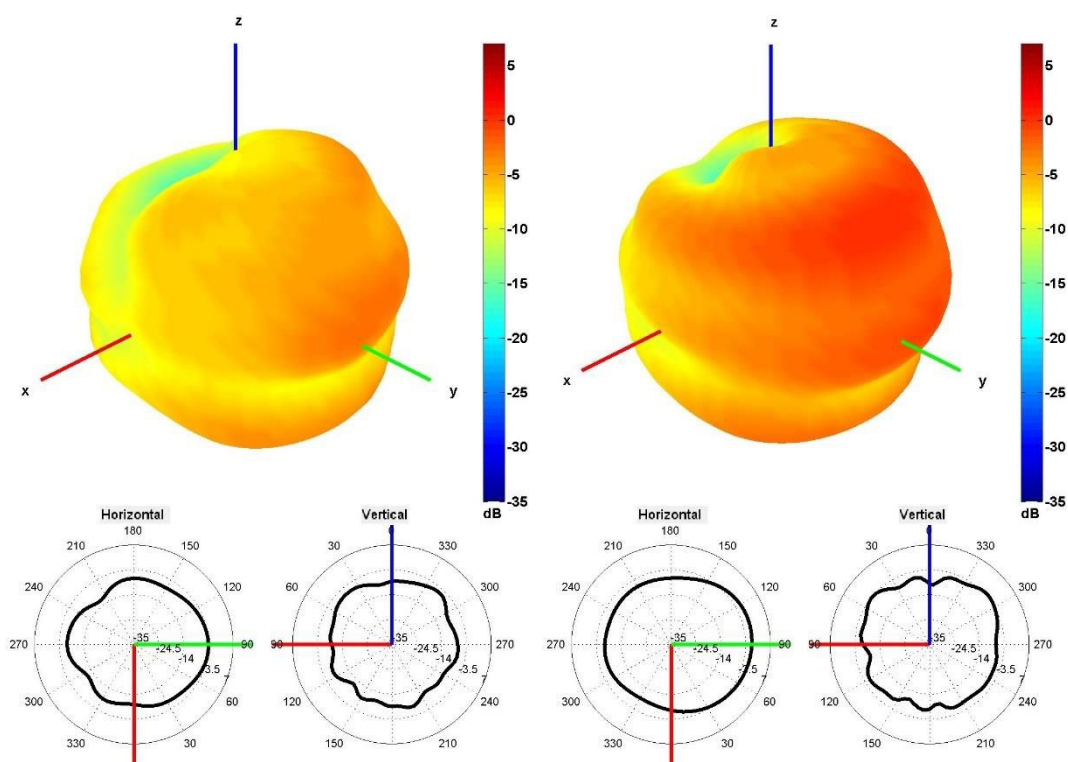
#### ENVELOPE CORRELATION COEFFICIENT FOR CABLES 3 AND 4



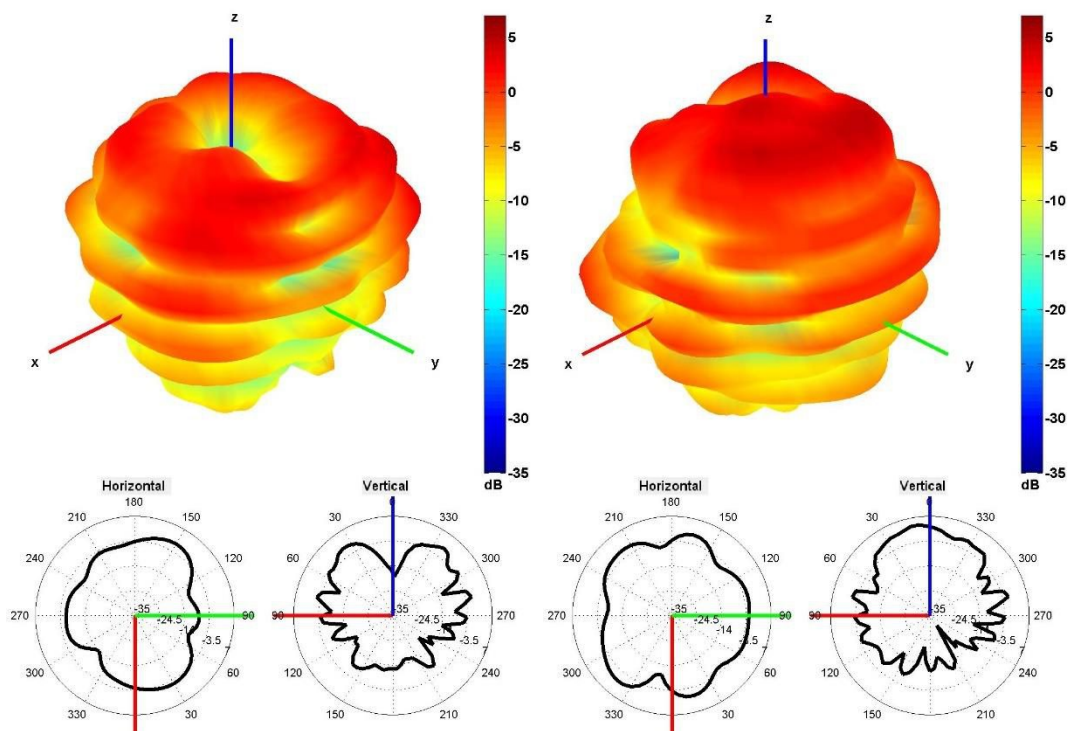


Radiation pattern reference

Cable 1: 5GNR

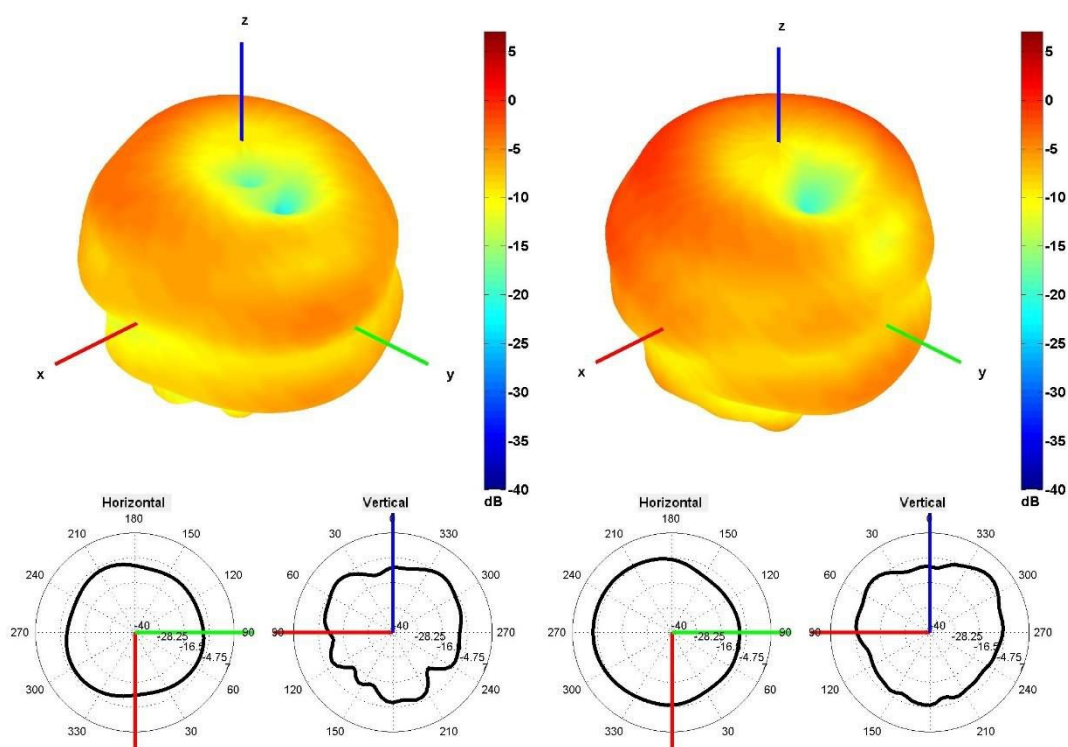


750 and 2500 MHz Radiation pattern

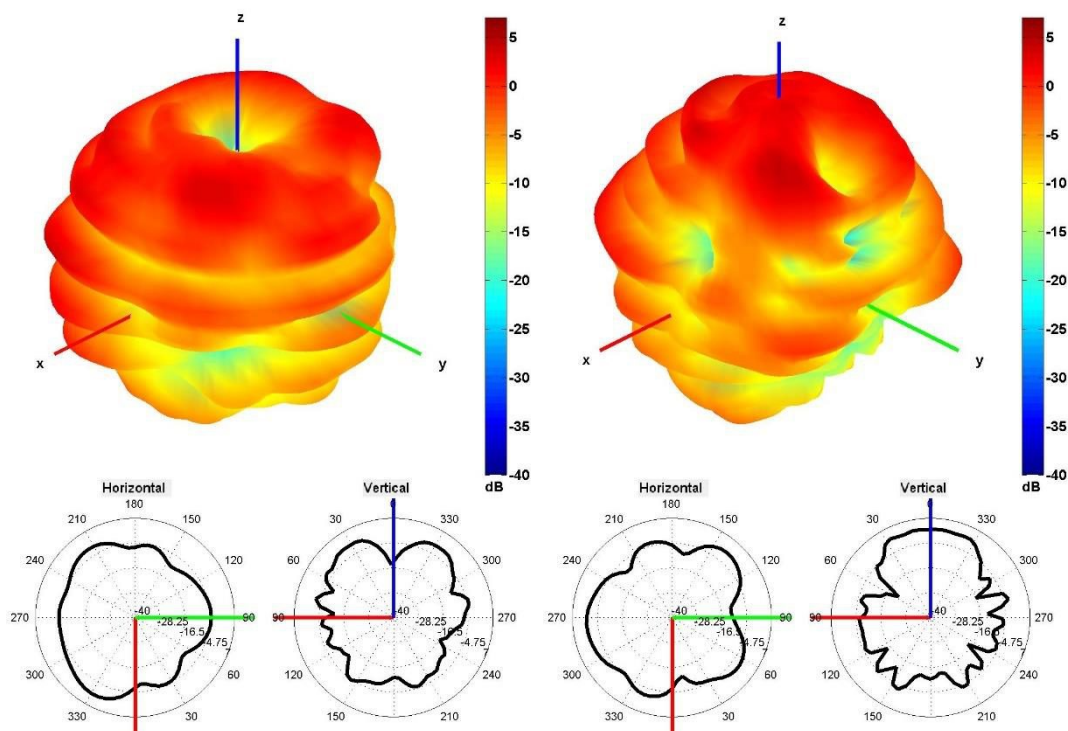


Cable 2: 5GNR

4500 and 5500 MHz Radiation pattern

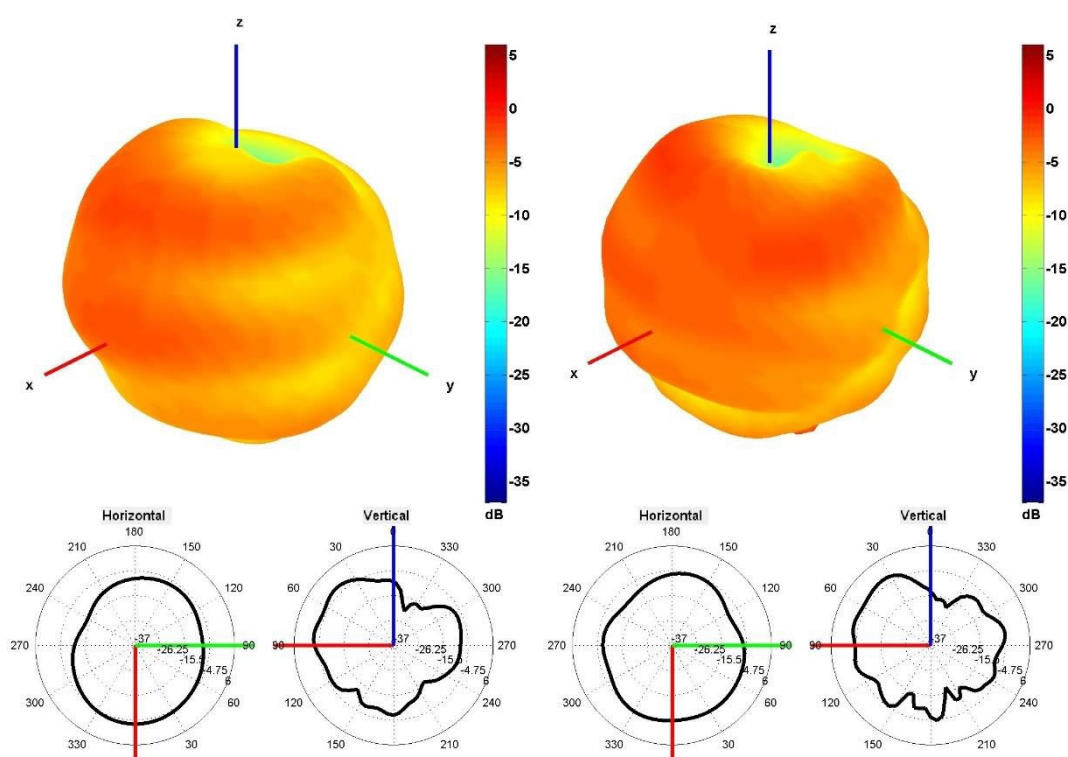


750 and 2500 MHz Radiation pattern

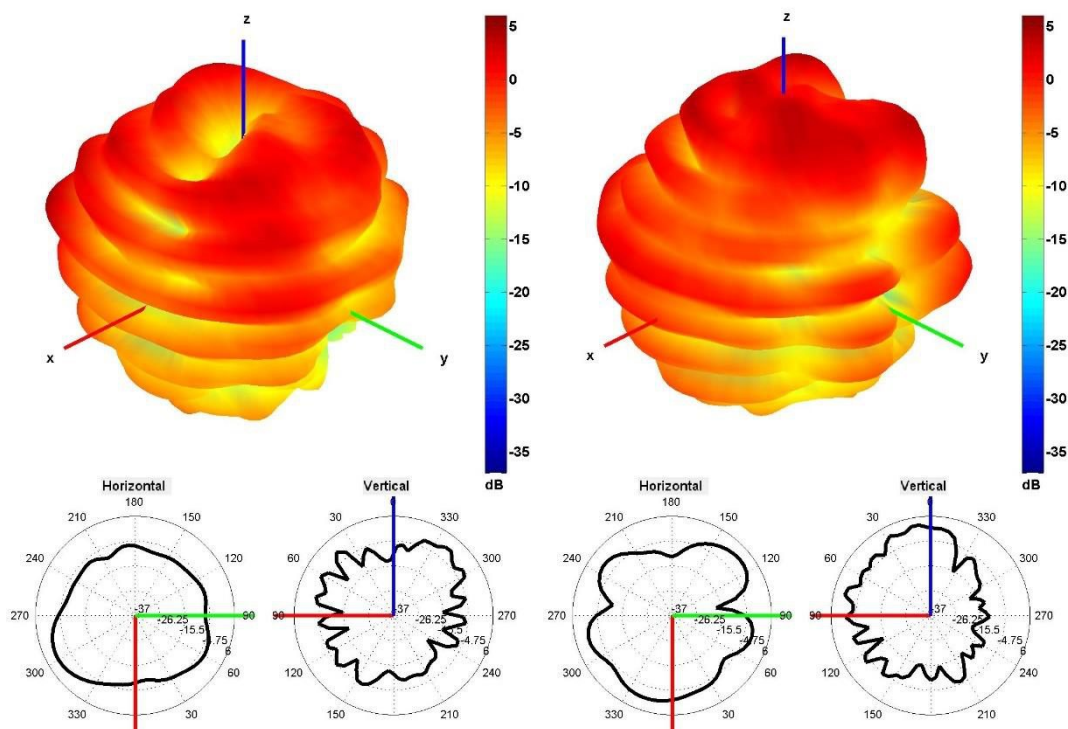


Cable 3: 5GNR

4500 and 5500 MHz Radiation pattern

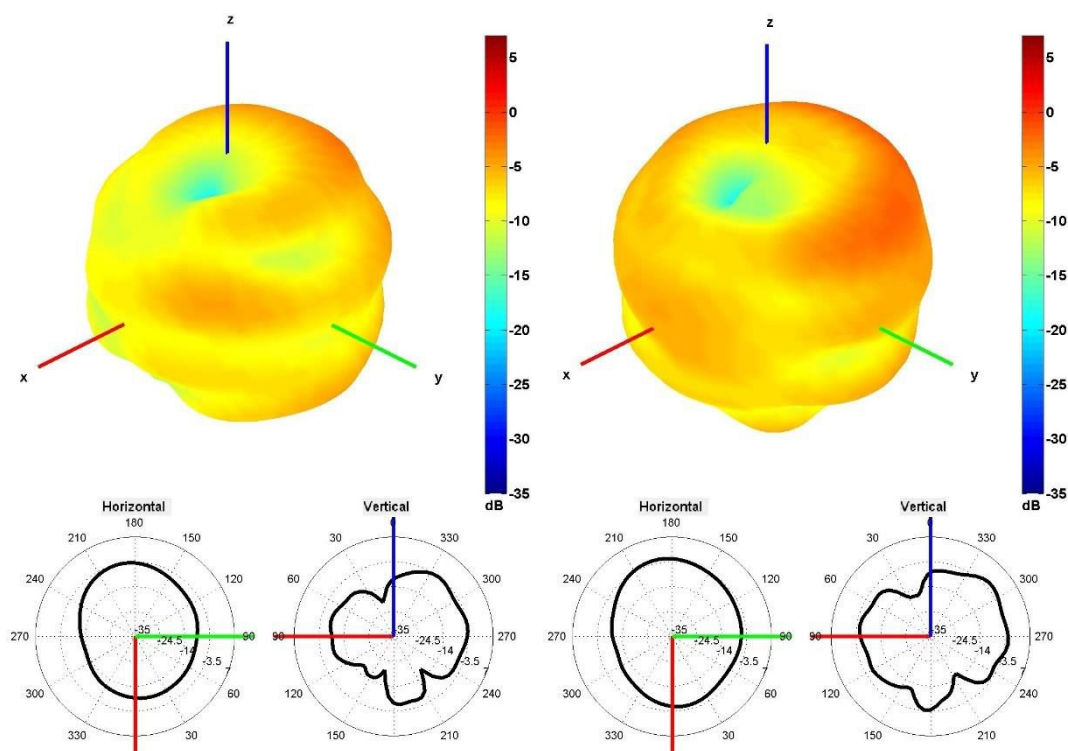


750 and 2500 MHz Radiation pattern

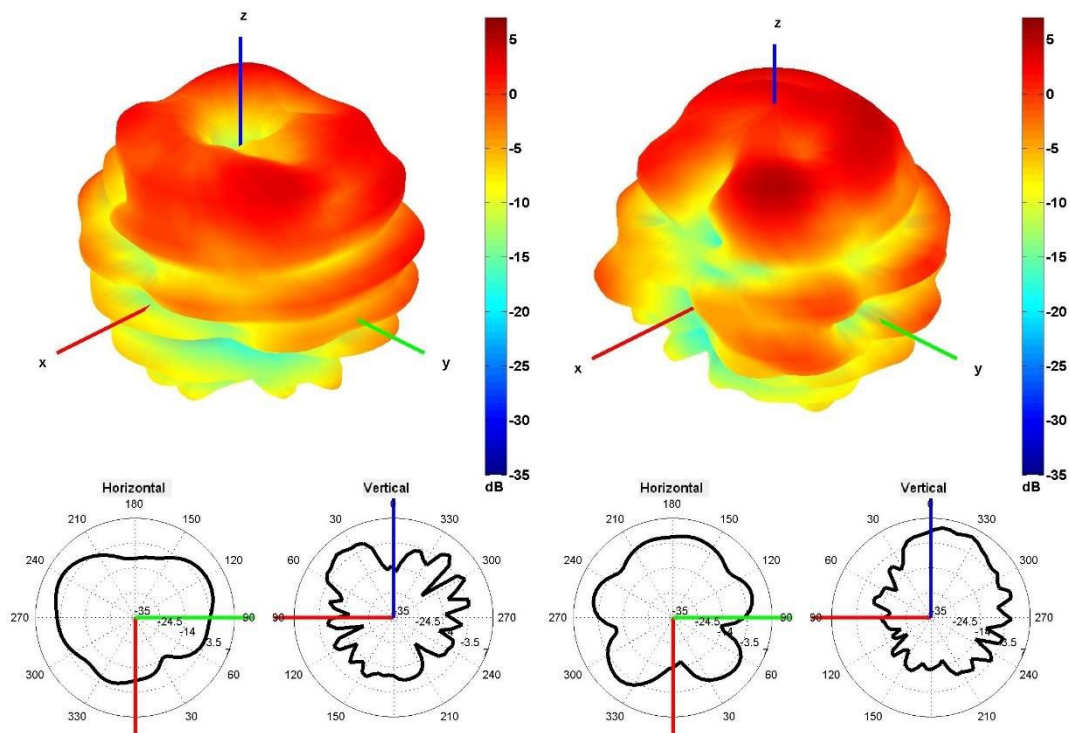


Cable 4: 5GNR

4500 and 5500 MHz Radiation pattern

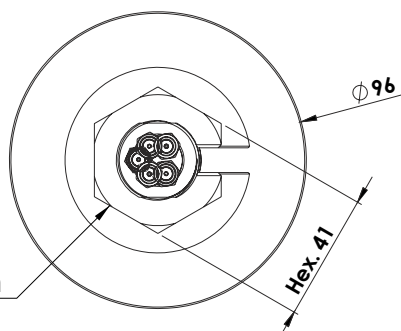
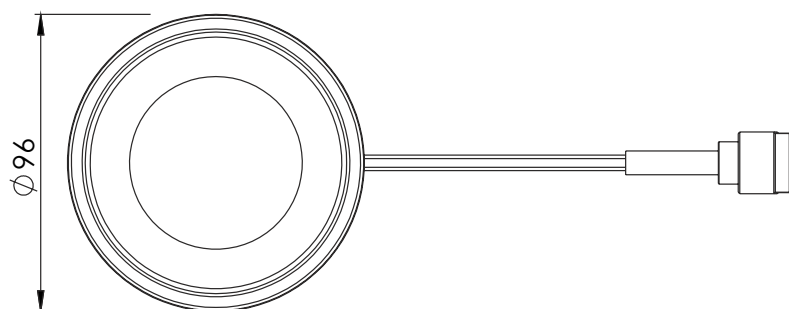
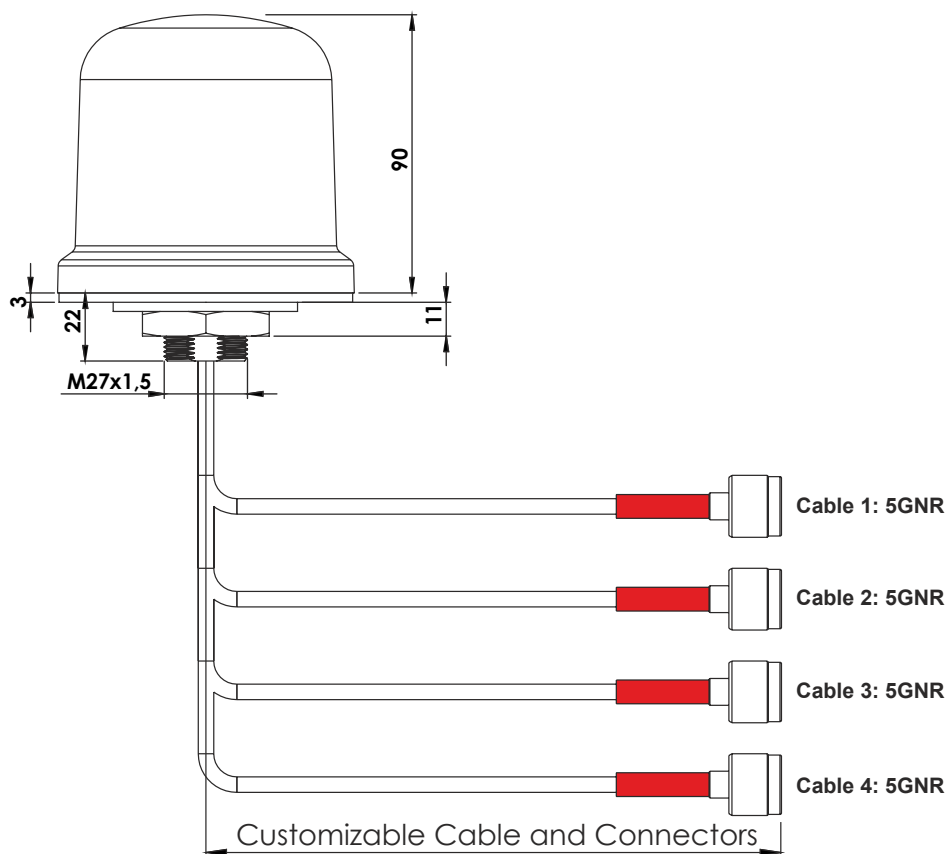


750 and 2500 MHz Radiation pattern

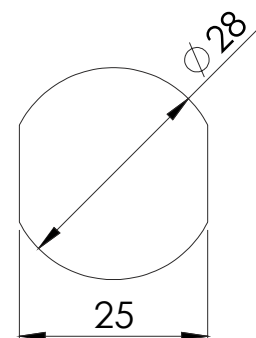


4500 and 5500 MHz Radiation pattern

## 4. Antenna drawings



Mounting hole



Note: Dimensions are in millimeters  
\*Dimensions are after mounting  
\*\*Max. Torque= 6 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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