

# 2J7A84JBGFc-B16J

4x 5GNR MIMO and GPS/GLONASS Pole/Screw Mount

## Key Features

### Cable 1 - 4: 5GNR

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

### Cable 5: GPS/GLONASS/QZSS/Galileo

- 1575-1606 MHz

Pole/Screw Mount

Heavy Duty antenna

High Performance

Ground Plane Independent

Anti-Rotation Mounting

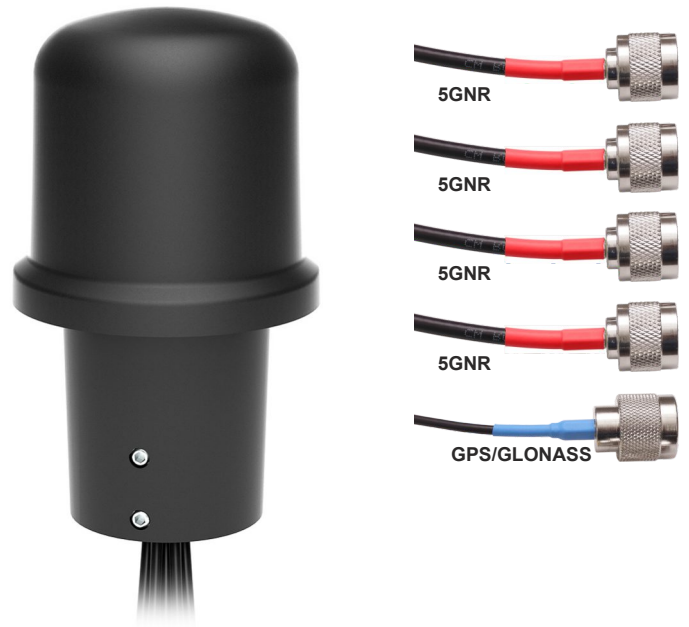
Customizable Cable and Connector

Dimensions:

Ø 96 × H 160 - Pole Mount

Ø 96 × H 91 - Screw Mount

Certificates: IP67, IP69, IK09



## 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, 1900, 2000, 2100, 2300, 2500, 2600	3300, 3500, 3600, 3700, 4500	5200, 5500, 5800
5GNR Bands	n5, n8, 12, n20, n28, n71, n81, n82, n83,	n1, n2, n3, n7, n25, n34, n38, n39, n40, n41, n50, n51, n66, n70, n74, n75, n76, n80, n84, n86	n77, n78, n79	
4GLTE Bands	B5, B6, B8, B12, B13, B14, B17, B18, B19, B20, B26, B27, B28, B29, B44, B67, B68, B71, B85	B1, B2, B3, B4, B7, B9, B10, B11, B21, B23, B24, B25, B30, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B45, B50, B51, B65, B66, B69, B70, B74, B75, B76	B22, B42, B43, B48, B49, B52	B46, B47, B252, B255
3GCELL Bands	B5, B6, B8, B12, B13, B14, B19, B20, B26	B1, B2, B3, B4, B7, B9, B10, B11, B21, B25, B32, B33, B34, B35, B36, B37, B38, B39, B40	B22	
2GCELL Bands	710, 750, 810T, 850, 900P, 900E, 900R	1800DCS, 1900PCS		
CDMACELL Bands	BC0, BC2, BC3, BC7, BC9, BC10, BC12, BC18, BC19	BC1, BC4, BC6, BC8, BC13, BC14, BC15, BC16, 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/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, 1900, 2000, 2100, 2300, 2500, 2600	3300, 3500, 3600, 3700, 4500	5200, 5500, 5800
5G NR Bands	n5, n8, 12, n20, n28, n71, n81, n82, n83,	n1, n2, n3, n7, n25, n34, n38, n39, n40, n41, n50, n51, n66, n70, n74, n75, n76, n80, n84, n86	n77, n78, n79	
4GLTE Bands	B5, B6, B8, B12, B13, B14, B17, B18, B19, B20, B26, B27, B28, B29, B44, B67, B68, B71, B85	B1, B2, B3, B4, B7, B9, B10, B11, B21, B23, B24, B25, B30, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B45, B50, B51, B65, B66, B69, B70, B74, B75, B76	B22, B42, B43, B48, B49, B52	B46, B47, B252, B255
3GCELL Bands	B5, B6, B8, B12, B13, B14, B19, B20, B26	B1, B2, B3, B4, B7, B9, B10, B11, B21, B25, B32, B33, B34, B35, B36, B37, B38, B39, B40	B22	
2GCELL Bands	710, 750, 810T, 850, 900P, 900E, 900R	1800DCS, 1900PCS		
CDMA CELL Bands	BC0, BC2, BC3, BC7, BC9, BC10, BC12, BC18, BC19	BC1, BC4, BC6, BC8, BC13, BC14, BC15, BC16, 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	5G NR Antenna			
Technologies	5G, 4G, 3G and 2G			
Standards	5G NR/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, 1900, 2000, 2100, 2300, 2500, 2600	3300, 3500, 3600, 3700, 4500	5200, 5500, 5800
5G NR Bands	n5, n8, 12, n20, n28, n71, n81, n82, n83,	n1, n2, n3, n7, n25, n34, n38, n39, n40, n41, n50, n51, n66, n70, n74, n75, n76, n80, n84, n86	n77, n78, n79	
4GLTE Bands	B5, B6, B8, B12, B13, B14, B17, B18, B19, B20, B26, B27, B28, B29, B44, B67, B68, B71, B85	B1, B2, B3, B4, B7, B9, B10, B11, B21, B23, B24, B25, B30, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B45, B50, B51, B65, B66, B69, B70, B74, B75, B76	B22, B42, B43, B48, B49, B52	B46, B47, B252, B255
3GCELL Bands	B5, B6, B8, B12, B13, B14, B19, B20, B26	B1, B2, B3, B4, B7, B9, B10, B11, B21, B25, B32, B33, B34, B35, B36, B37, B38, B39, B40	B22	
2GCELL Bands	710, 750, 810T, 850, 900P, 900E, 900R	1800DCS, 1900PCS		
CDMA CELL Bands	BC0, BC2, BC3, BC7, BC9, BC10, BC12, BC18, BC19	BC1, BC4, BC6, BC8, BC13, BC14, BC15, BC16, 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			
<b>Technologies</b>	5G, 4G, 3G and 2G			
<b>Standards</b>	5GNR/4GLTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G			
<b>Frequency (MHz)</b>	617-960	1427-2690	3300-5000	5150-5925
<b>Band (MHz)</b>	600, 700, 850, 900	1500, 1600, 1700, 1800, 1900, 2000, 2100, 2300, 2500, 2600	3300, 3500, 3600, 3700, 4500	5200, 5500, 5800
<b>5GNR Bands</b>	n5, n8, 12, n20, n28, n71, n81, n82, n83,	n1, n2, n3, n7, n25, n34, n38, n39, n40, n41, n50, n51, n66, n70, n74, n75, n76, n80, n84, n86	n77, n78, n79	
<b>4GLTE Bands</b>	B5, B6, B8, B12, B13, B14, B17, B18, B19, B20, B26, B27, B28, B29, B44, B67, B68, B71, B85	B1, B2, B3, B4, B7, B9, B10, B11, B21, B23, B24, B25, B30, B32, B33, B34, B35, B36, B37, B38, B39, B40, B41, B45, B50, B51, B65, B66, B69, B70, B74, B75, B76	B22, B42, B43, B48, B49, B52	B46, B47, B252, B255
<b>3GCELL Bands</b>	B5, B6, B8, B12, B13, B14, B19, B20, B26	B1, B2, B3, B4, B7, B9, B10, B11, B21, B25, B32, B33, B34, B35, B36, B37, B38, B39, B40	B22	
<b>2GCELL Bands</b>	710, 750, 810T, 850, 900P, 900E, 900R	1800DCS, 1900PCS		
<b>CDMACELL Bands</b>	BC0, BC2, BC3, BC7, BC9, BC10, BC12, BC18, BC19	BC1, BC4, BC6, BC8, BC13, BC14, BC15, BC16, BC20, BC21		
<b>Return Loss (dB)</b>	~-5.5	~-12.7	~-11.8	~-12.7
<b>VSWR</b>	~3.7:1	~1.9:1	~1.9:1	~1.9:1
<b>Efficiency (%)</b>	~30.6	~46.3	~42.1	~42.1
<b>Peak Gain (dBi)</b>	~-0.9	~3.6	~3.3	~4.3
<b>Average Gain (dB)</b>	~-5.2	~-3.4	~-3.8	~-3.8
<b>Impedance (Ohm)</b>	50			
<b>Polarisation</b>	Linear			
<b>Radiation Pattern</b>	Omni-Directional			
<b>Max. Input Power (W)</b>	35			
<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>	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

Cable 5

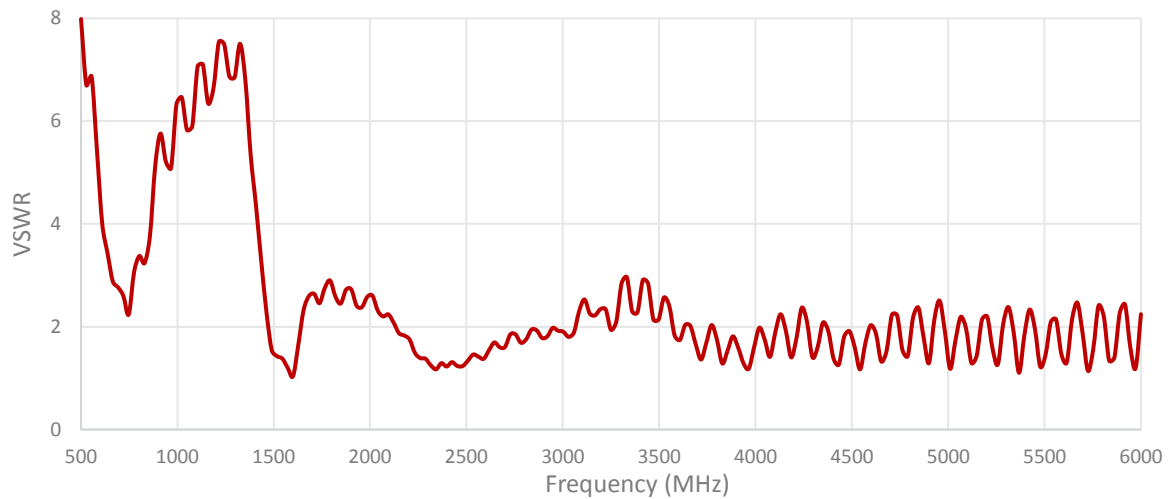
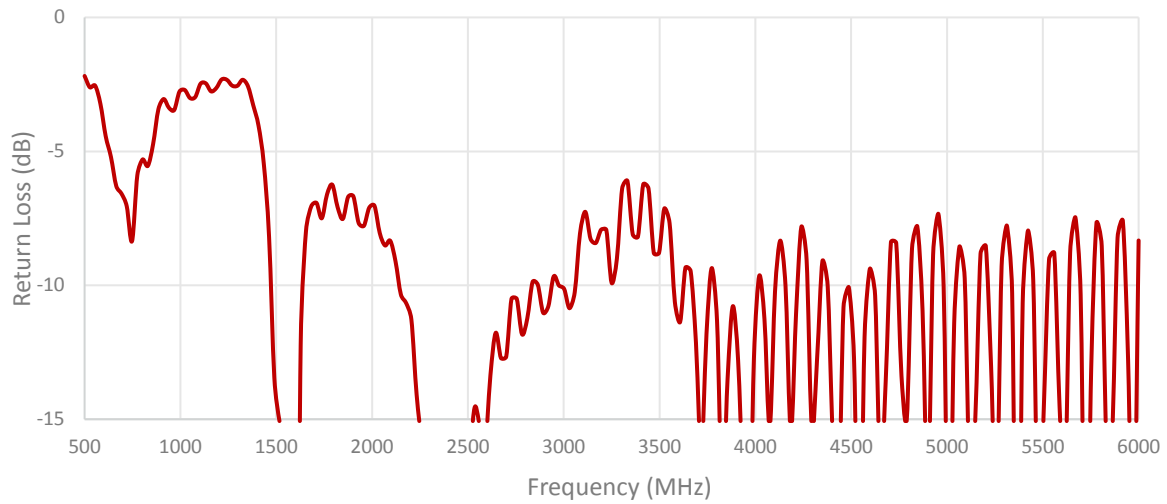
Parameters	GPS/GLONASS Antenna	
	GPS/QZSS/Galileo	GLONASS
<b>Standard</b>	GPS/QZSS/Galileo	GLONASS
<b>Band (MHz)</b>	1575	1602
<b>Frequency(MHz)</b>	1575.42	1598-1610
<b>Return Loss (dB)</b>	<=-14	
<b>VSWR</b>	<=1.5:1	
<b>Impedance</b>	50	
<b>Radiation Pattern</b>	Hemispherical	
<b>Polarization</b>	RHCP	
<b>Saw Filter</b>	Post-Filter	
<b>Active Gain (dB)</b>	23 @ 3 V, 24 @ 5 V	
<b>Noise Figure (dB)</b>	1.2	
<b>Voltage (V)</b>	2.7 - 5.5	
<b>Current Consumption (mA)</b>	15 - 25	
<b>Power Consumption (mW)</b>	40.5 - 137.5	
<b>Out of Band Rejection (dBc)</b>	~32	
<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>	LL100 Standard (Other Cables Available)	

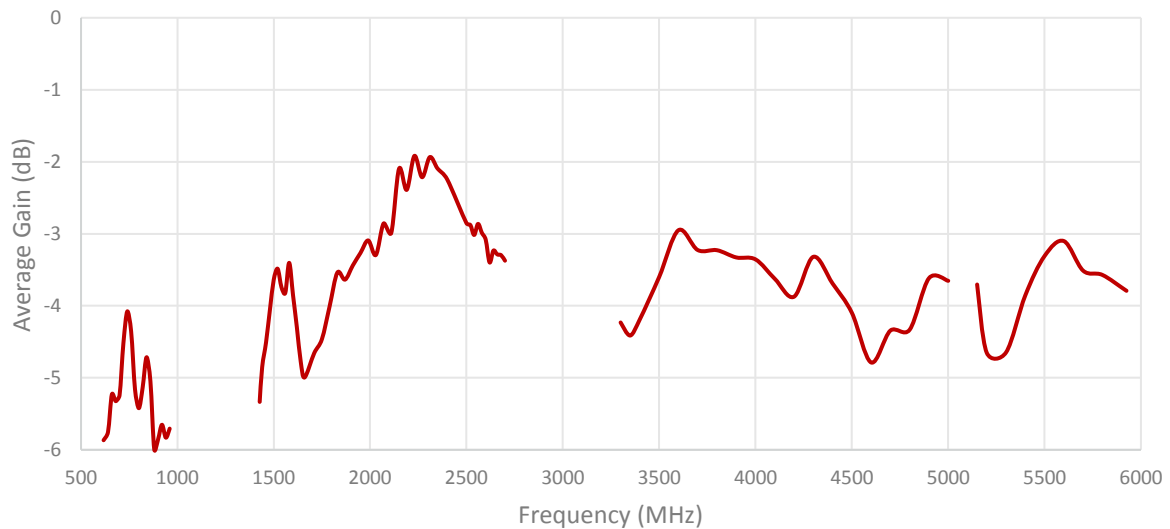
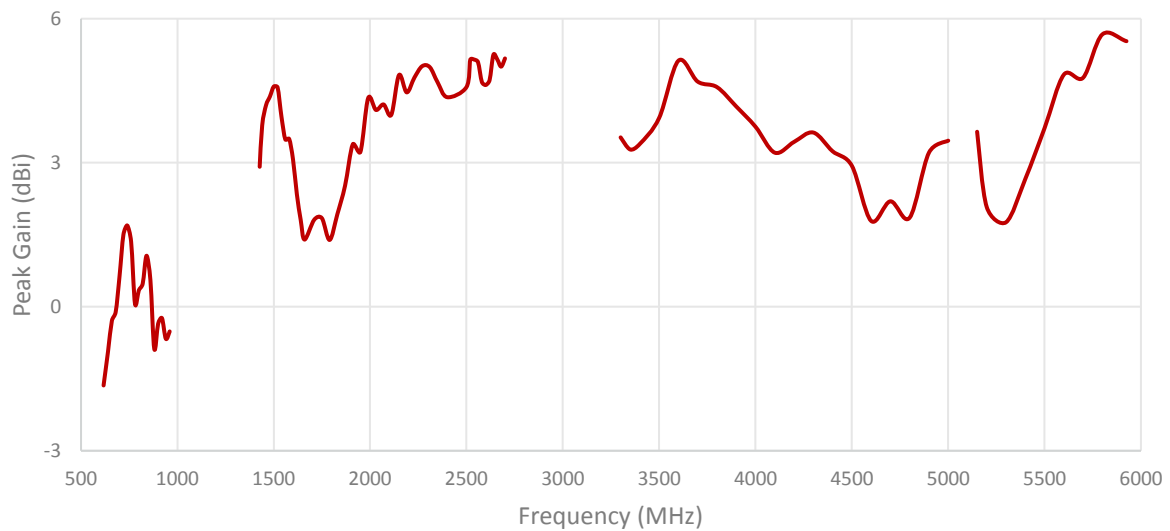
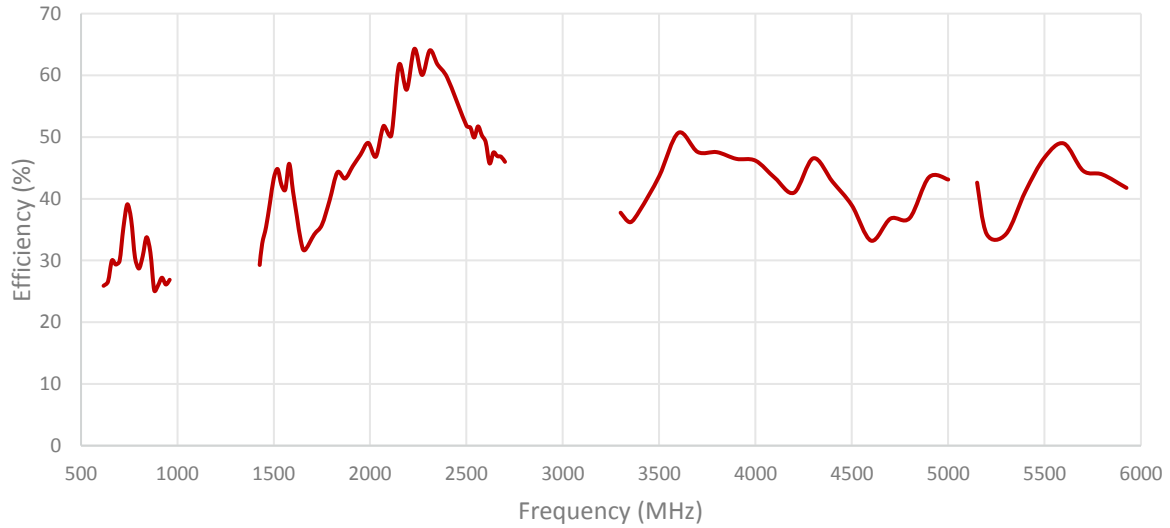
## 2. Mechanical and environmental specifications

Specifications	2J7A84JBGFc-B16J
<b>Mounting Type</b>	Pole (for pole with max Ø 43mm) / Screw Mount (max 7mm surface thickness)
<b>Dimensions (mm)</b>	Ø 96 × H 160 - Pole Mount / Ø 96 × H 91 - Screw Mount
<b>Max. Tighten Torque (Nm)</b>	6 Nm (for Screw Mount)
<b>Radome</b>	ASA
<b>Radome color</b>	White, Black
<b>Antenna Base</b>	ASA
<b>Operating Temperature (C)</b>	-40 to +85
<b>Storage Temperature (C)</b>	-40 to +85
<b>Substance Compliance</b>	RoHS
<b>Certificates</b>	IP67, IP69, IK09

## 3. Antenna parameters

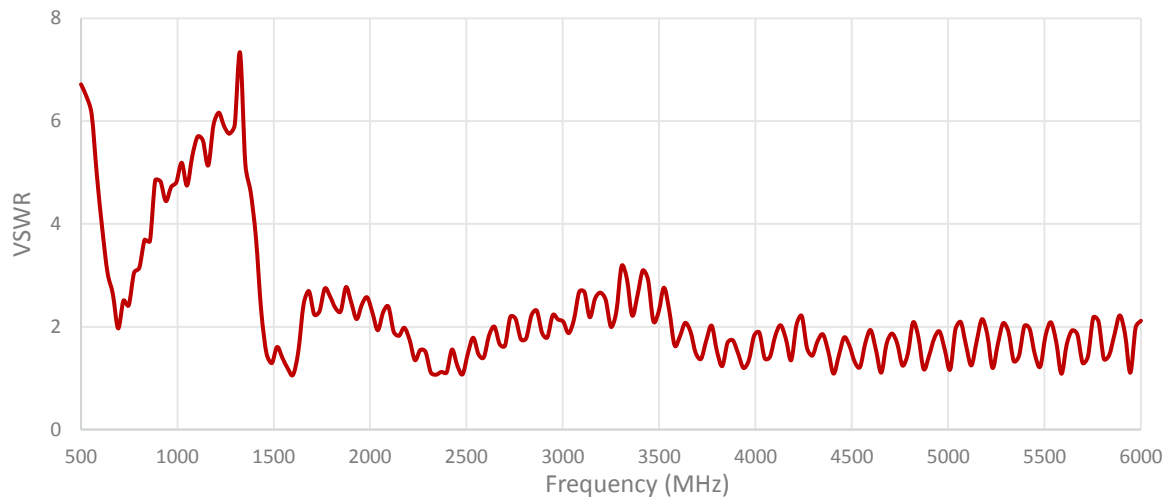
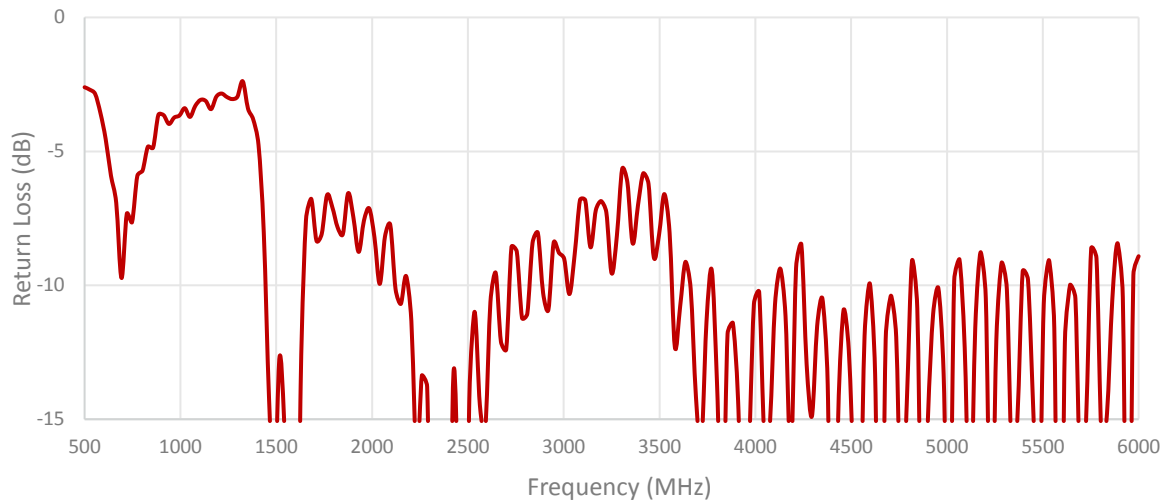
Cable 1: 5GNR

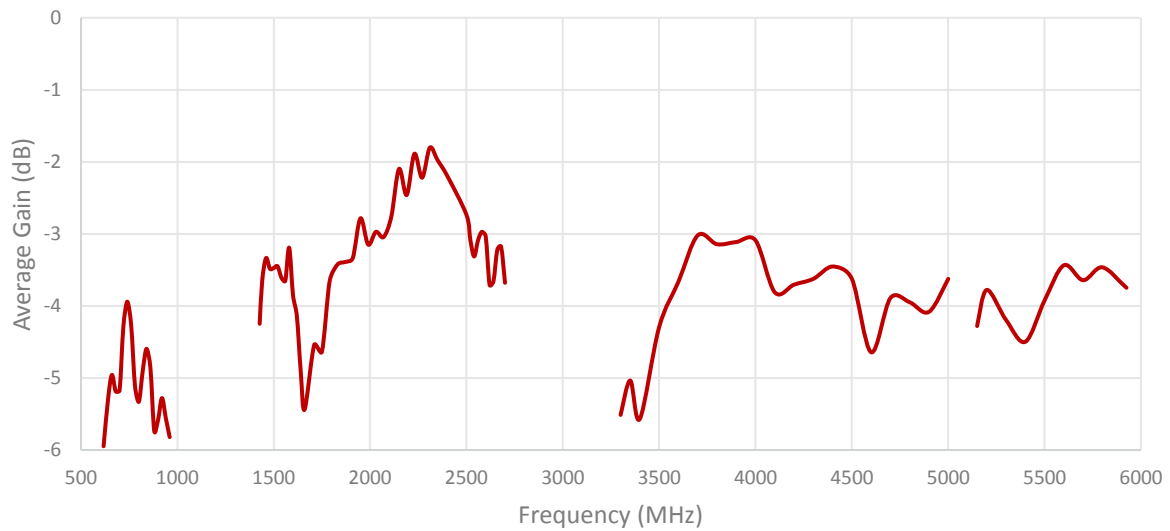
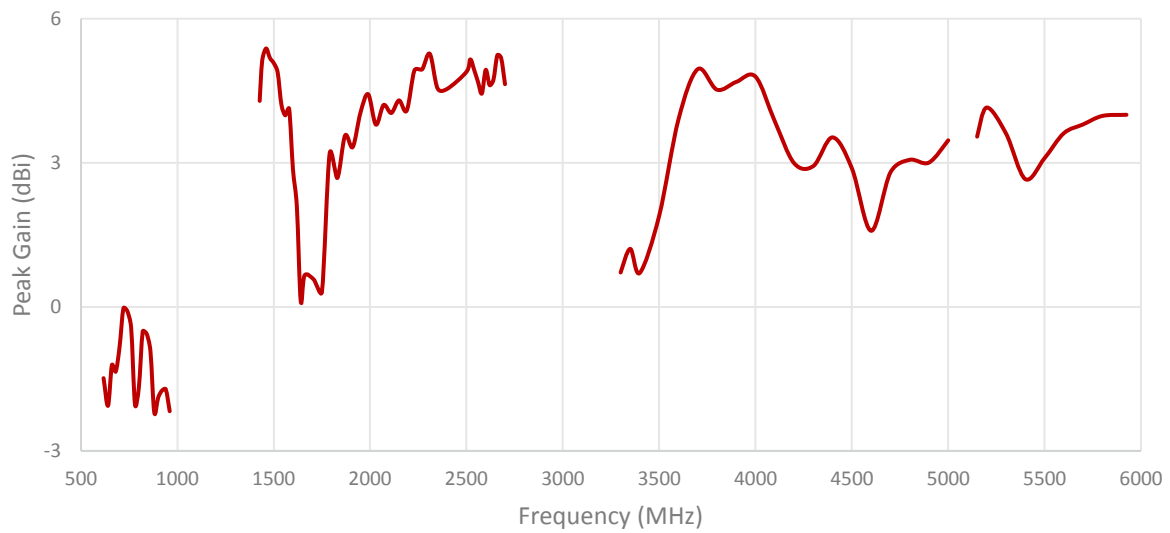
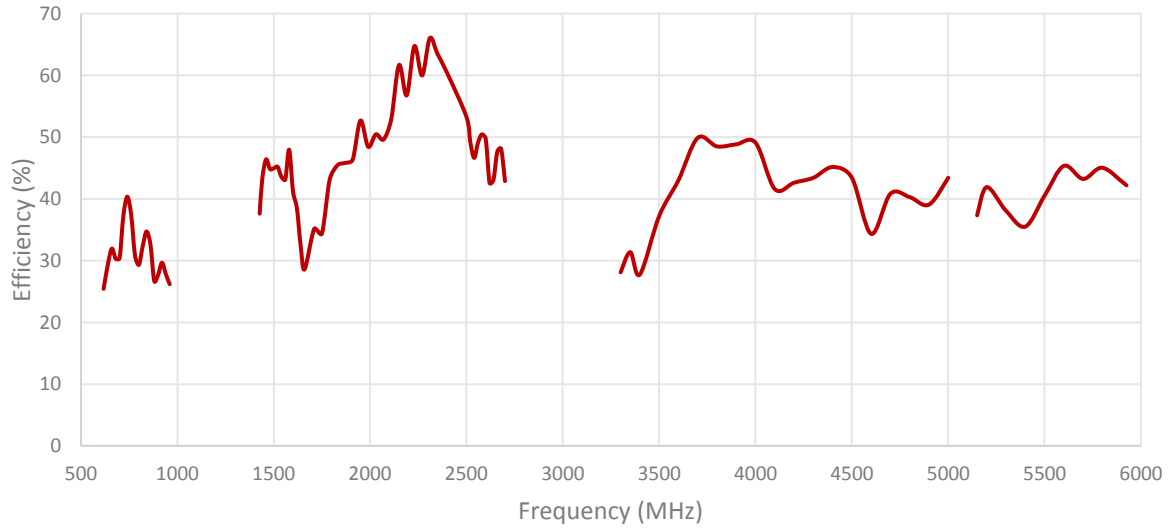




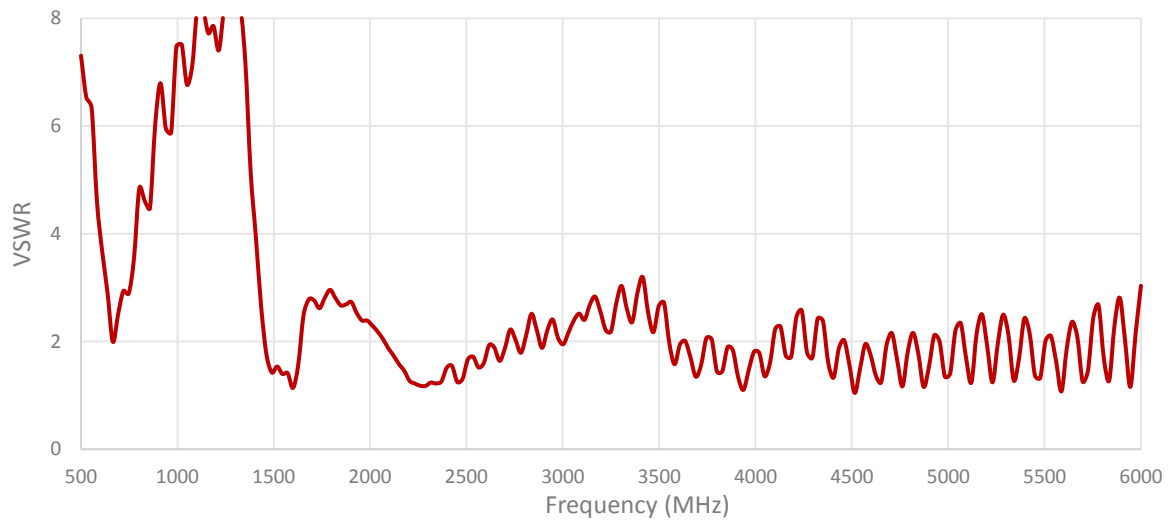
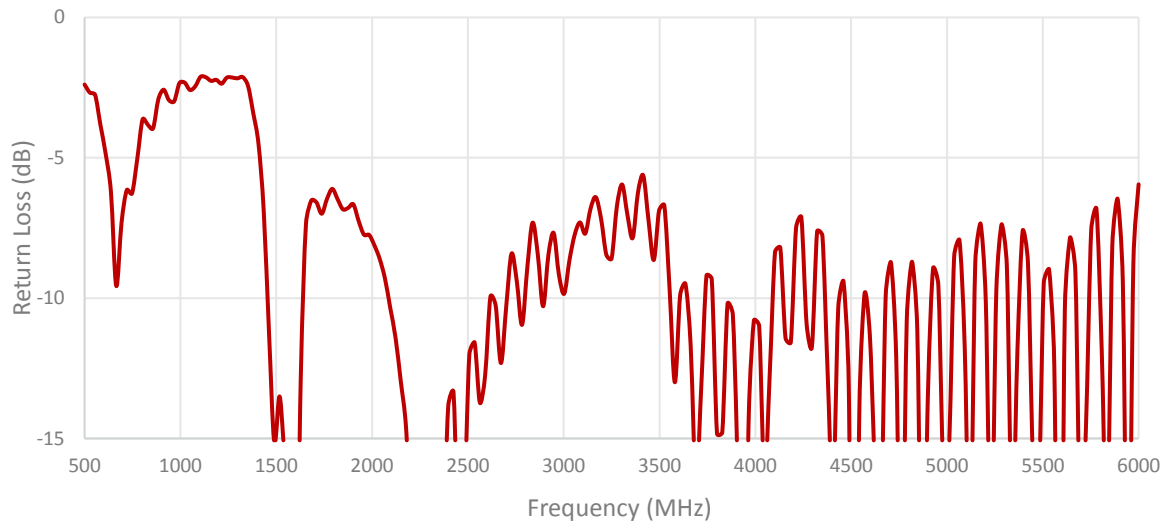


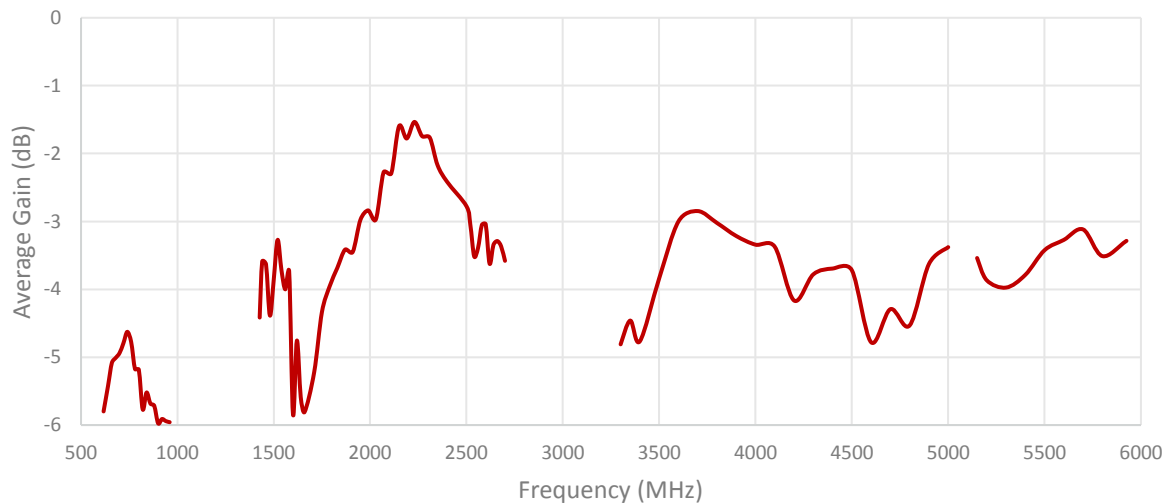
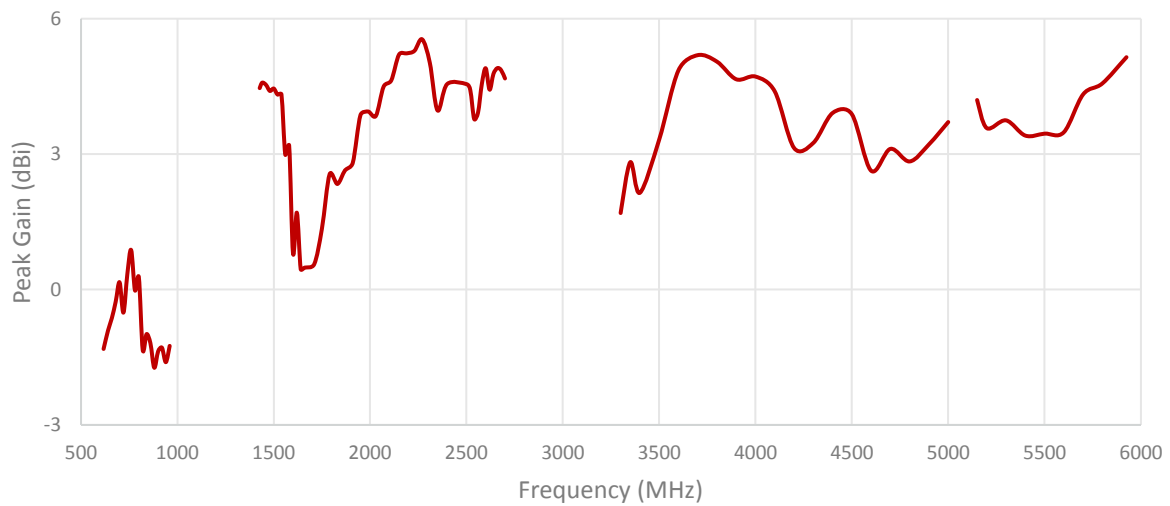
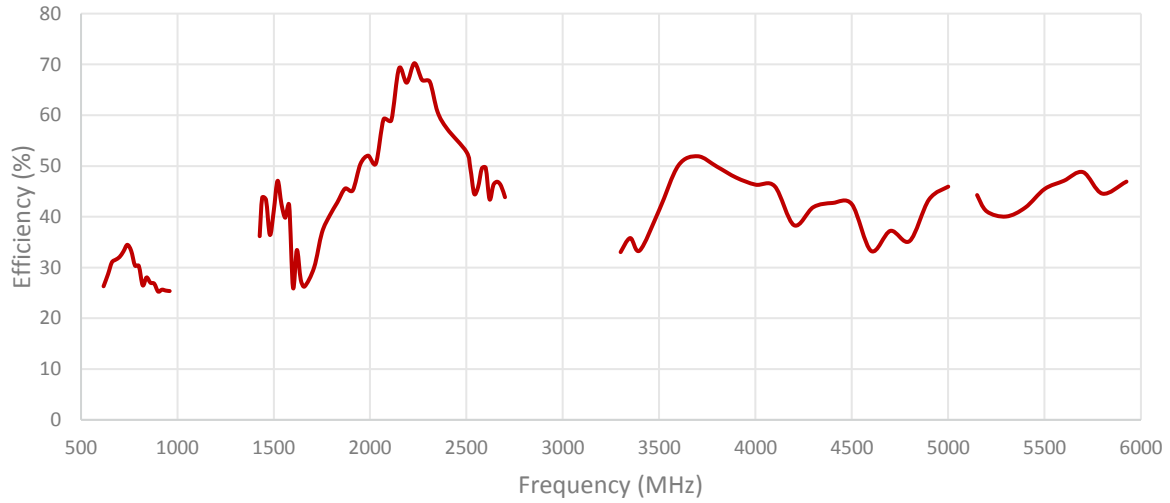
Cable 2: 5GNR



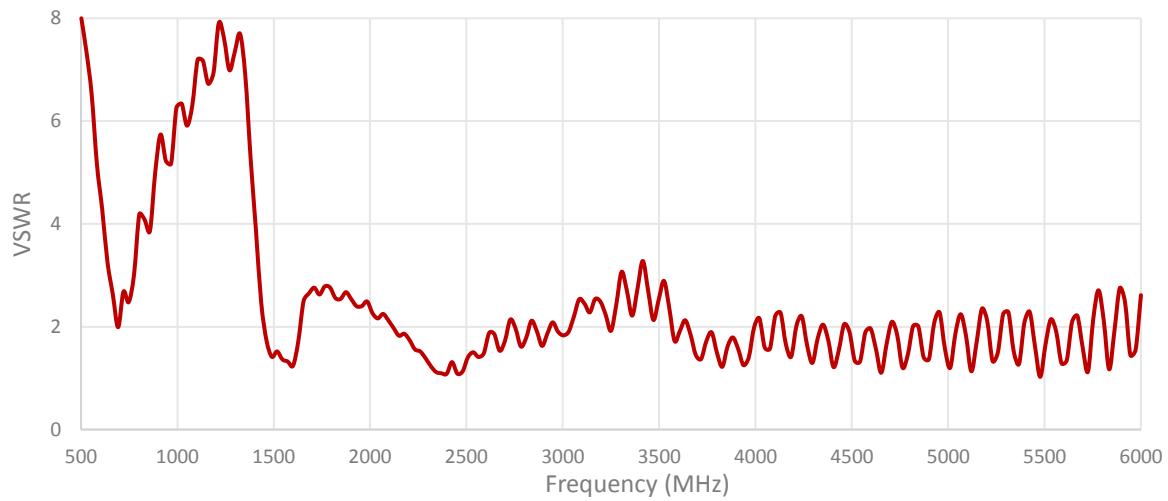
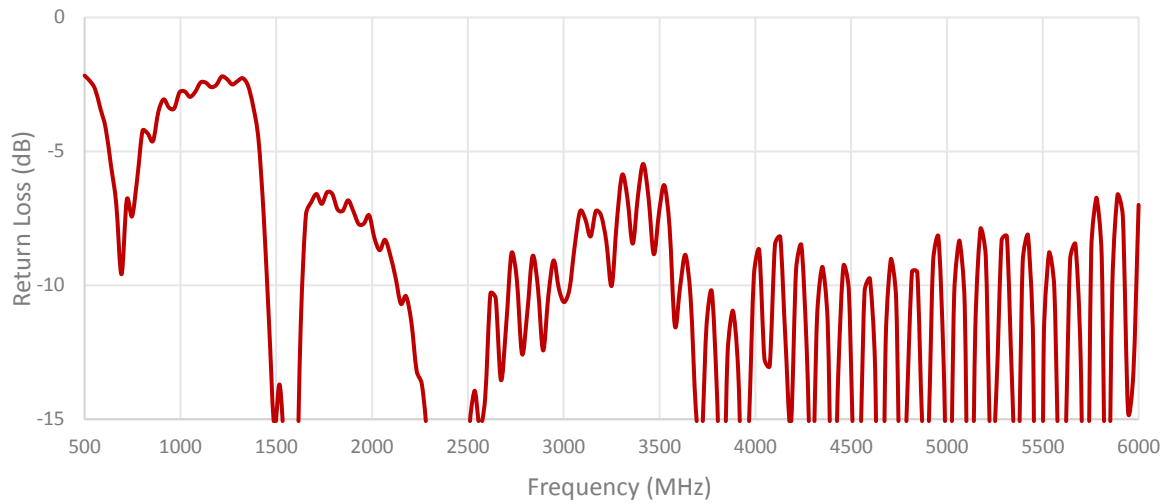


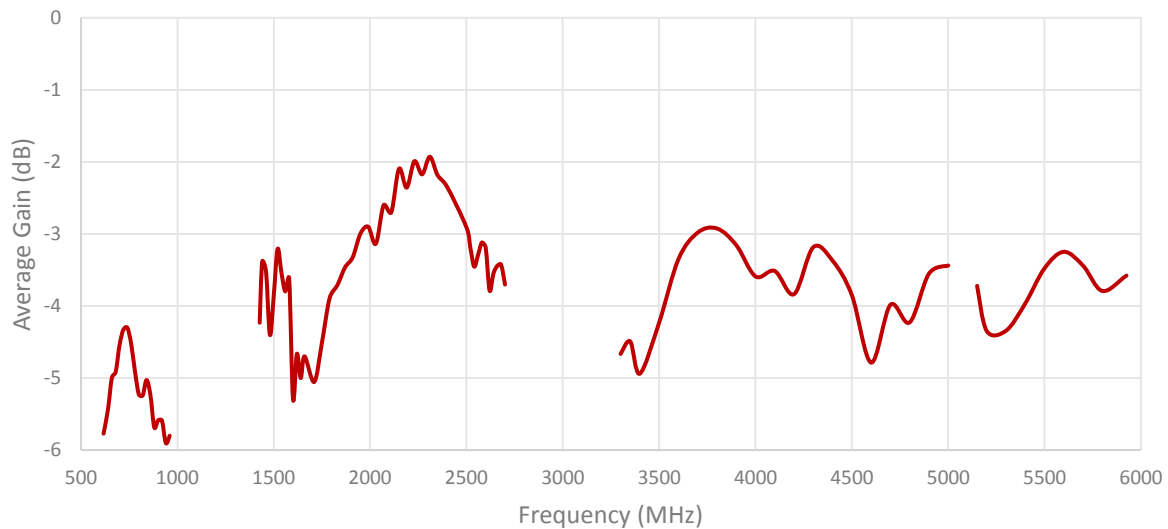
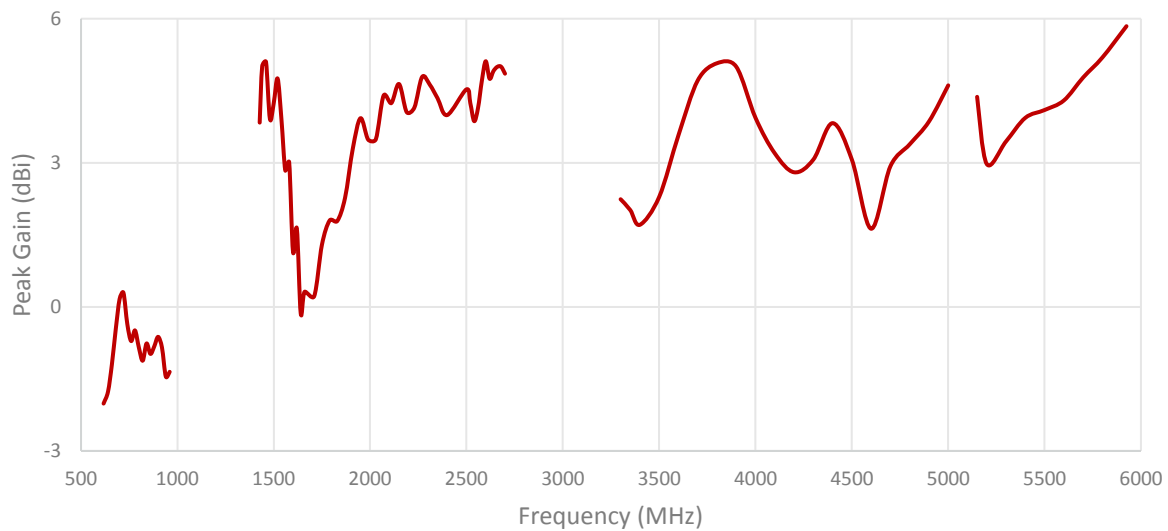
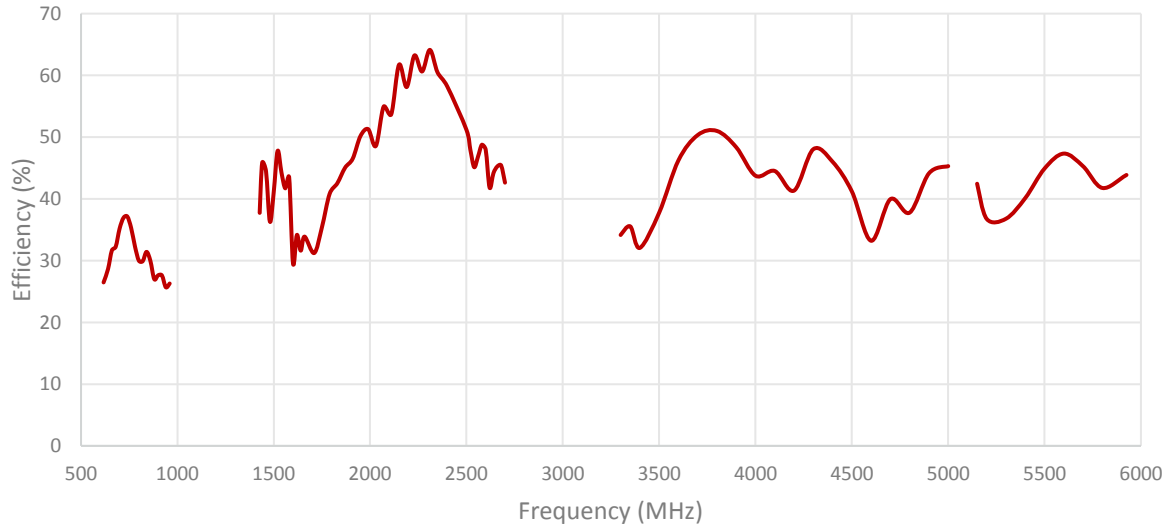
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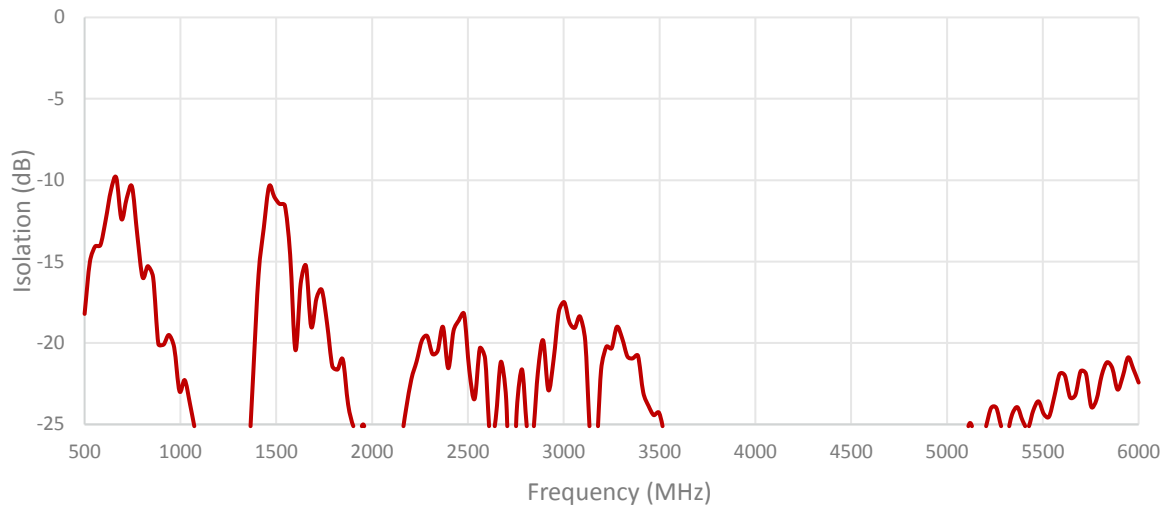


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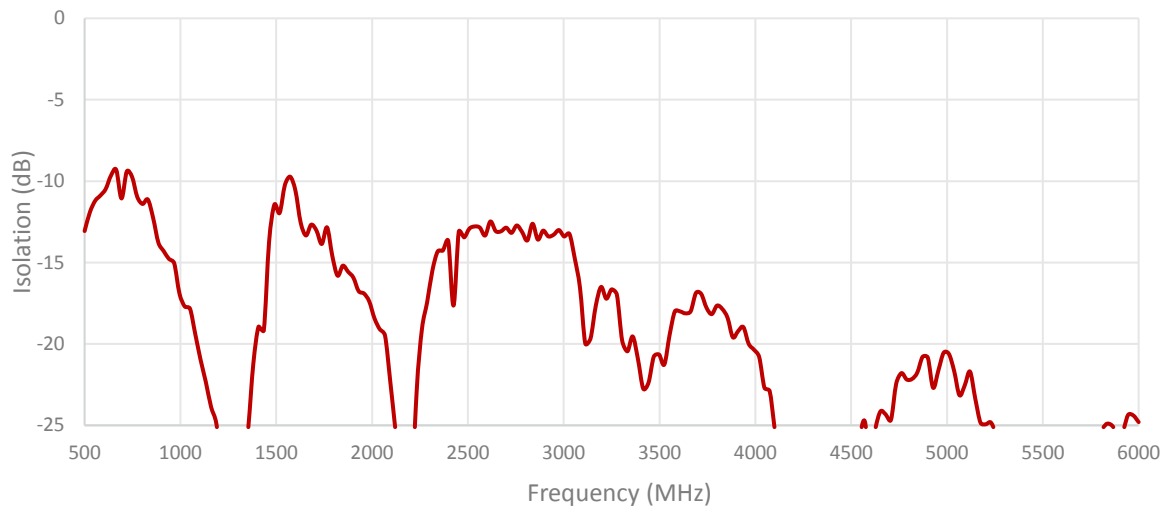




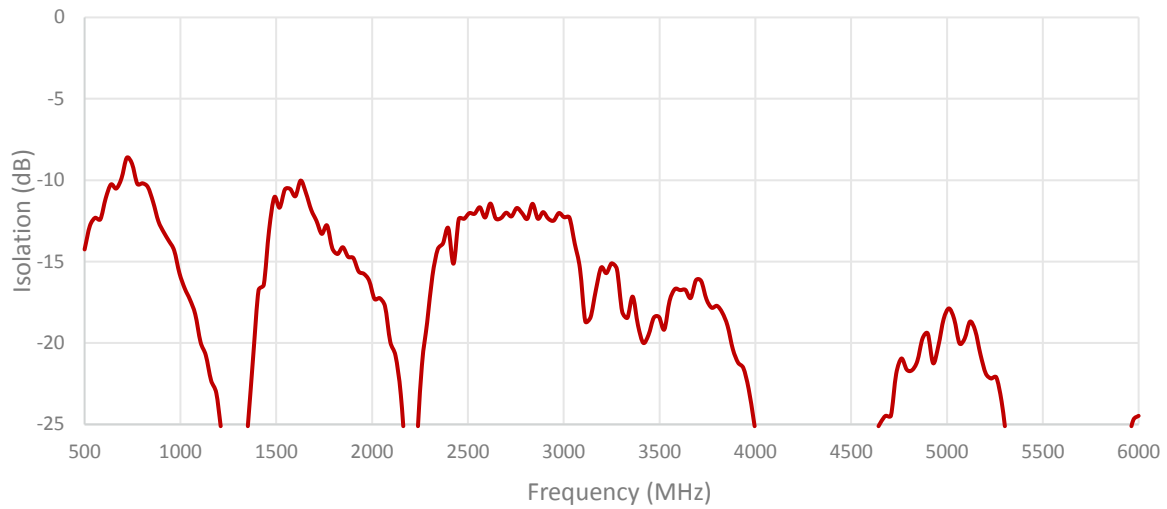
## ISOLATION FOR CABLES 1 AND 2



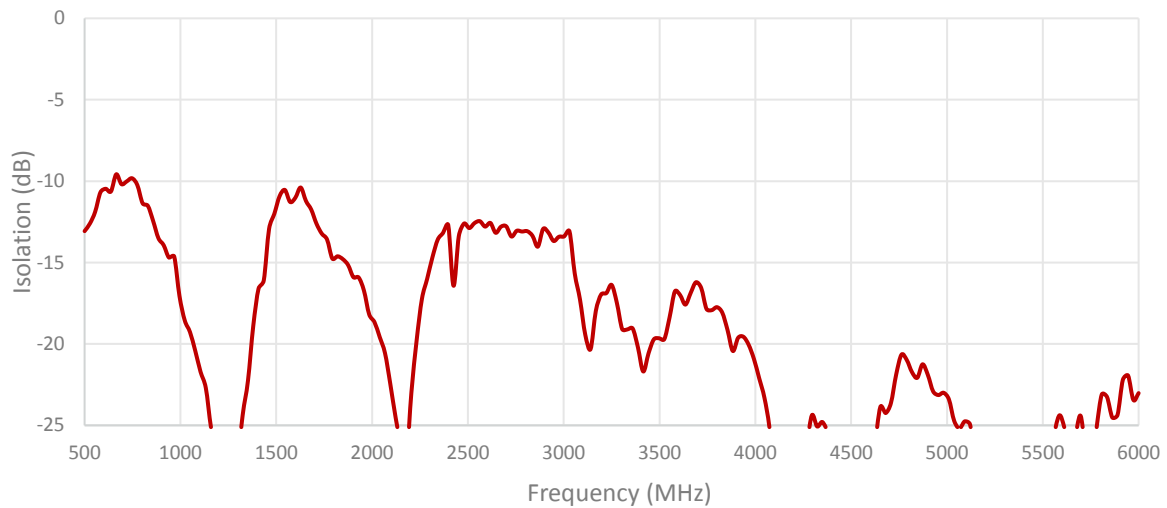
## ISOLATION FOR CABLES 1 AND 3



## ISOLATION FOR CABLES 1 AND 4

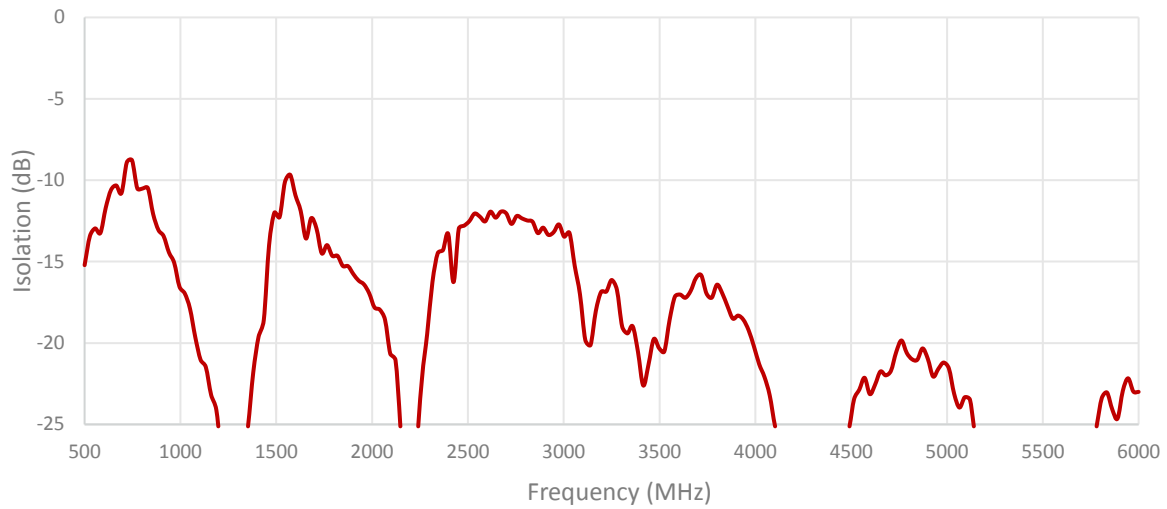


## ISOLATION FOR CABLES 2 AND 3

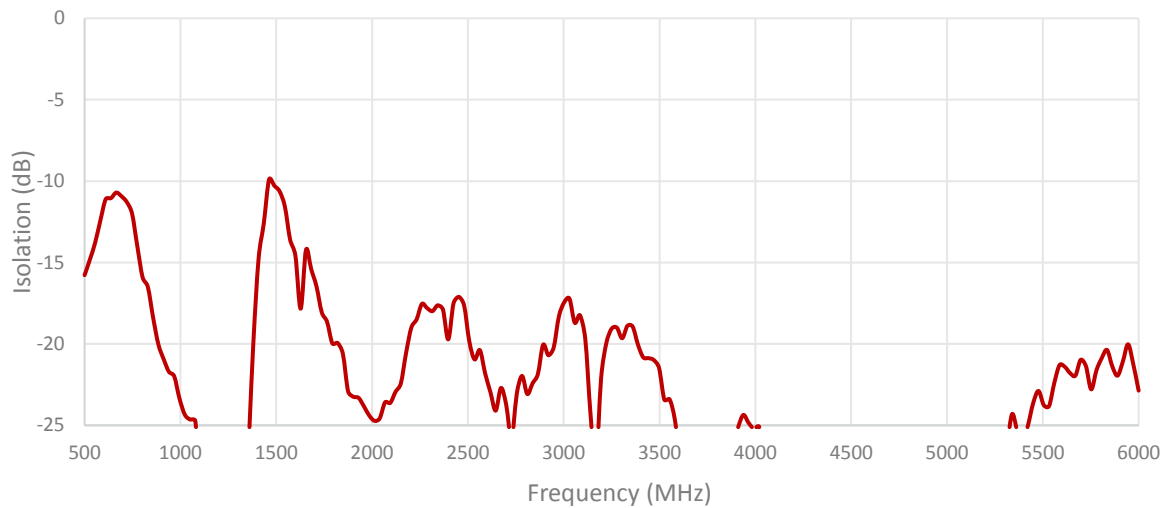




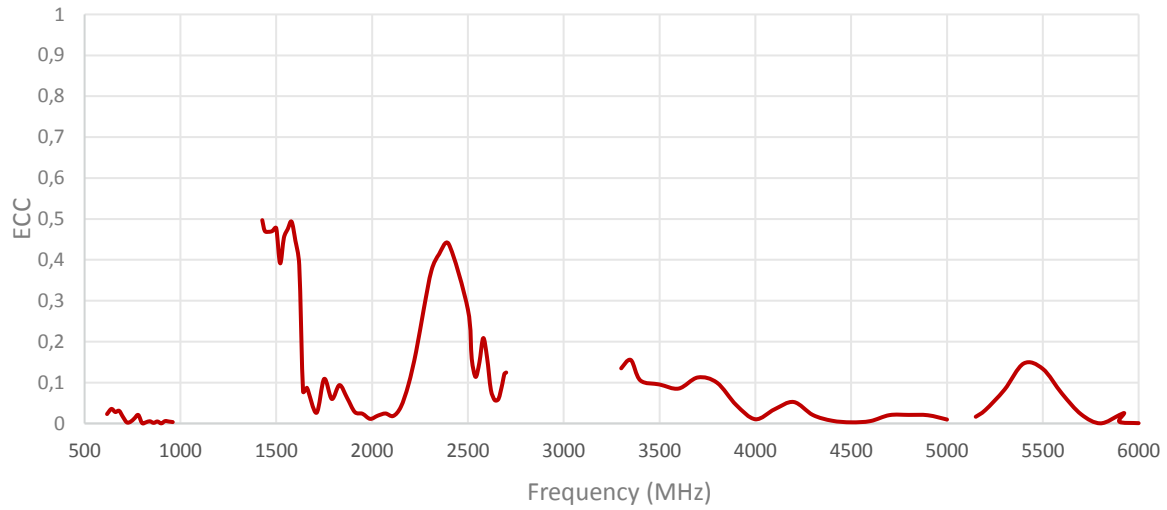
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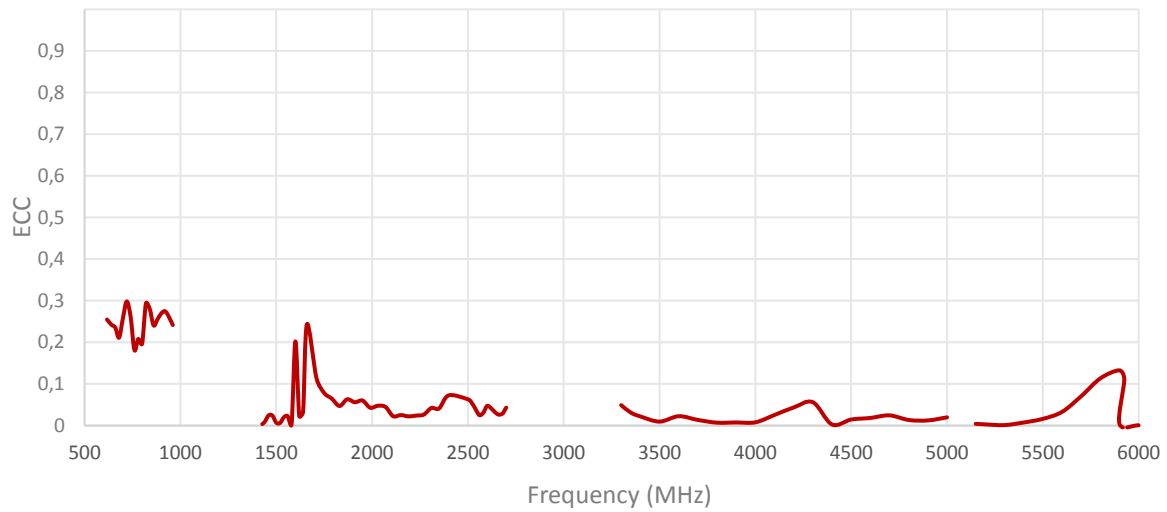
## ISOLATION FOR CABLES 3 AND 4



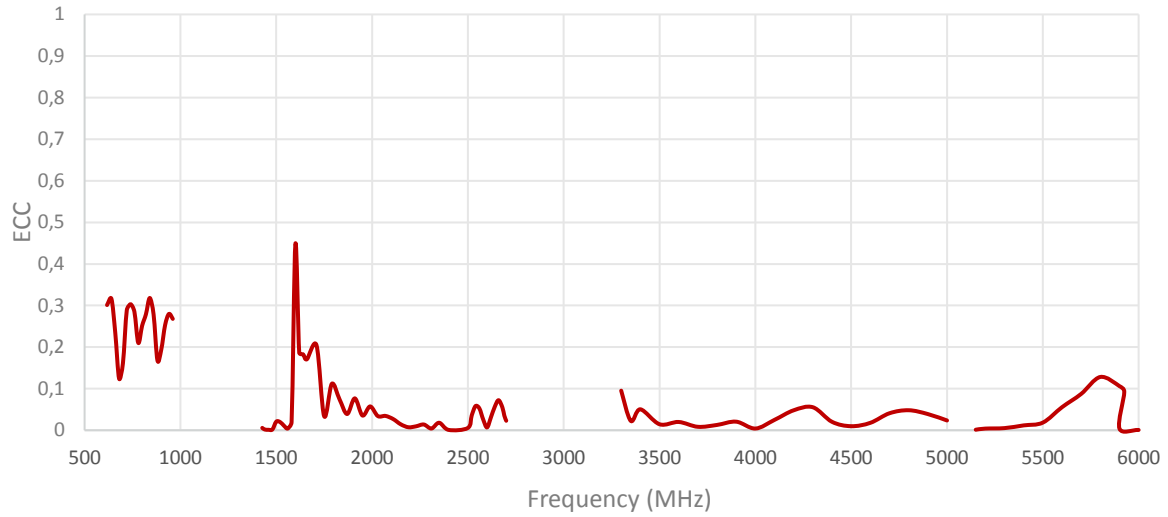
## ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 2



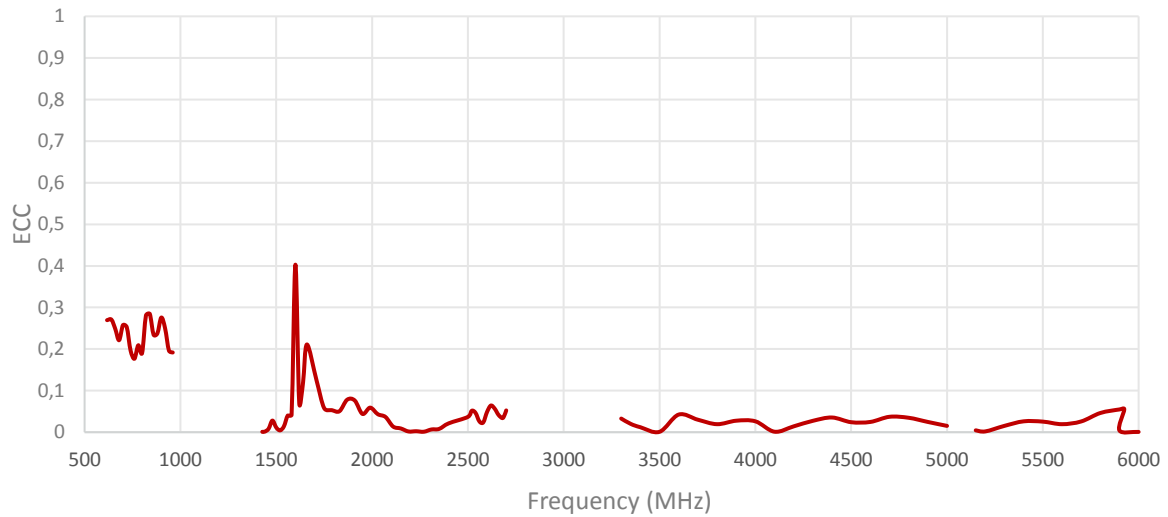
## ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 3



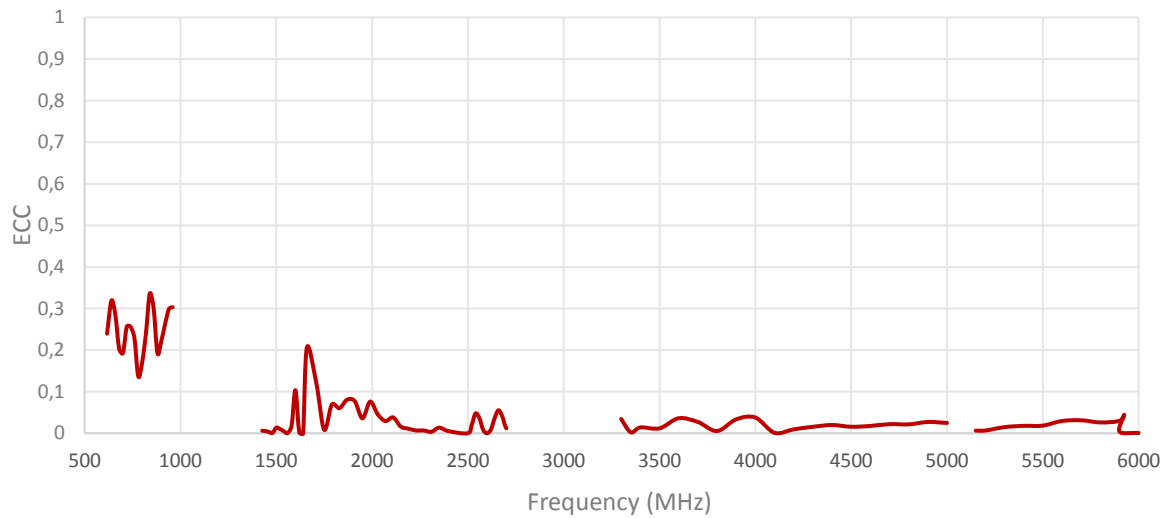
## ENVELOPE CORRELATION COEFFICIENT FOR CABLES 1 AND 4



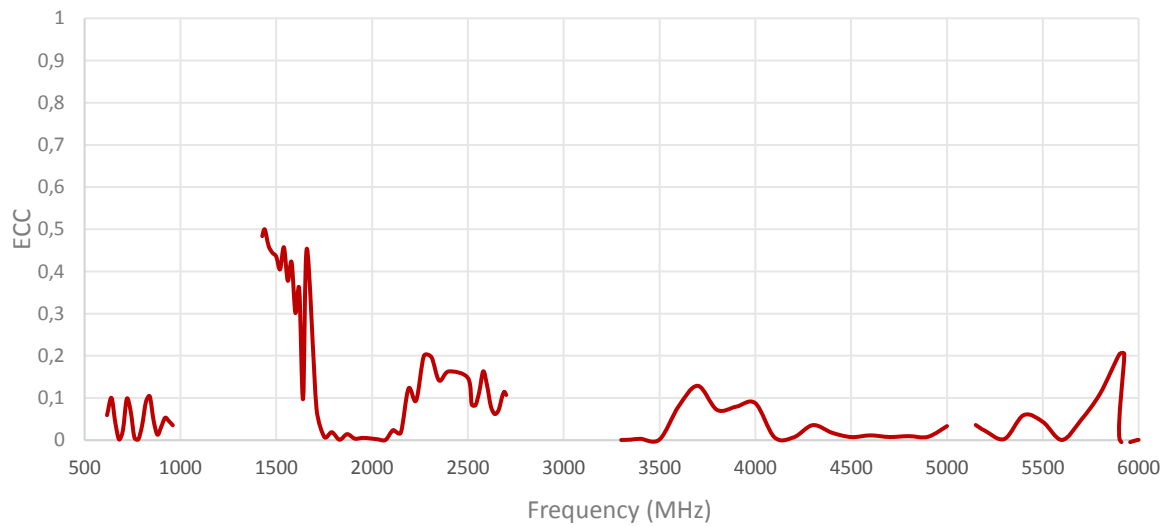
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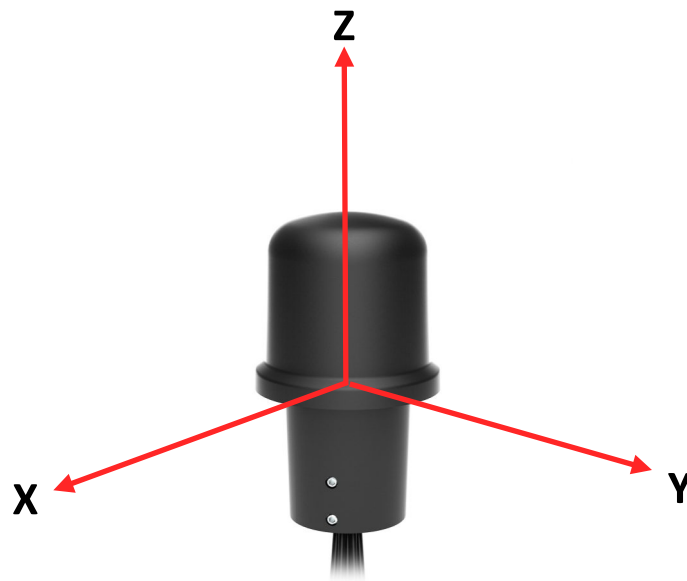


## ENVELOPE CORRELATION COEFFICIENT FOR CABLES 2 AND 4



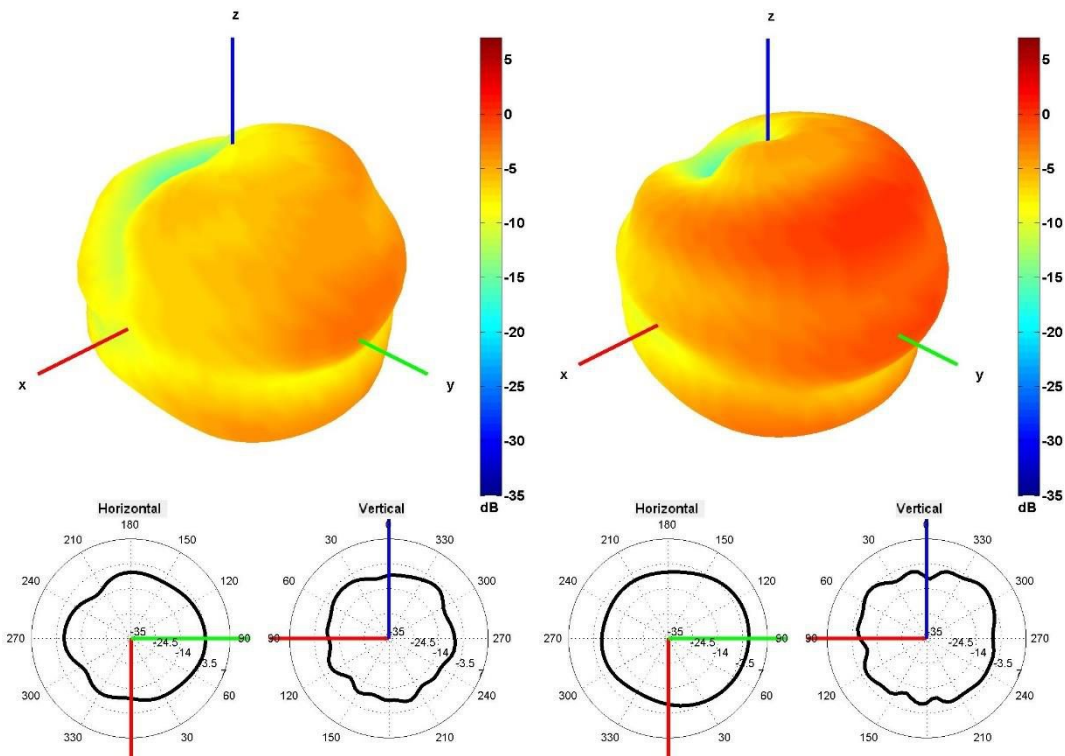
## ENVELOPE CORRELATION COEFFICIENT FOR CABLES 3 AND 4



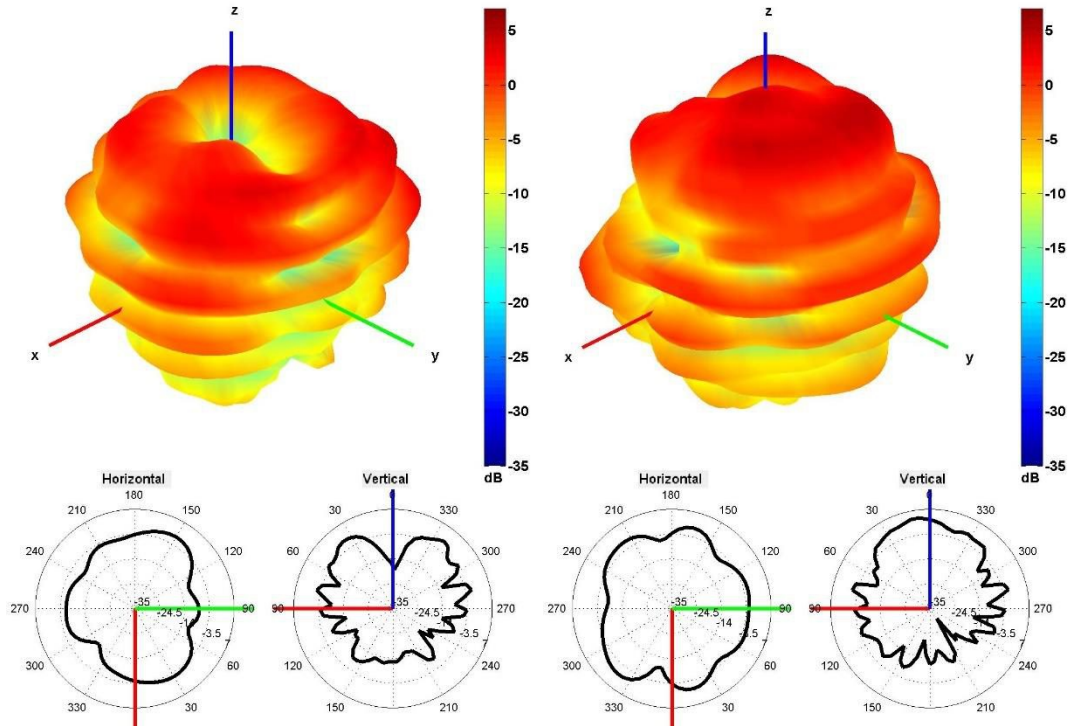


Radiation pattern reference

Cable 1: 5GNR

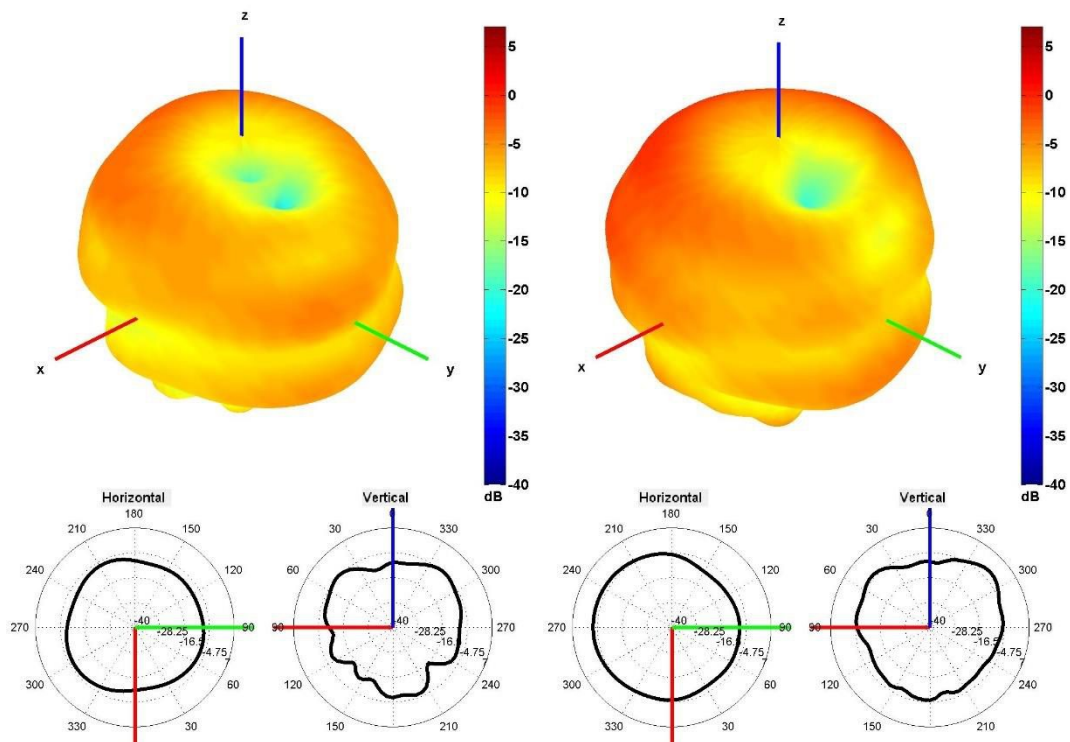


750 and 2500 MHz Radiation pattern

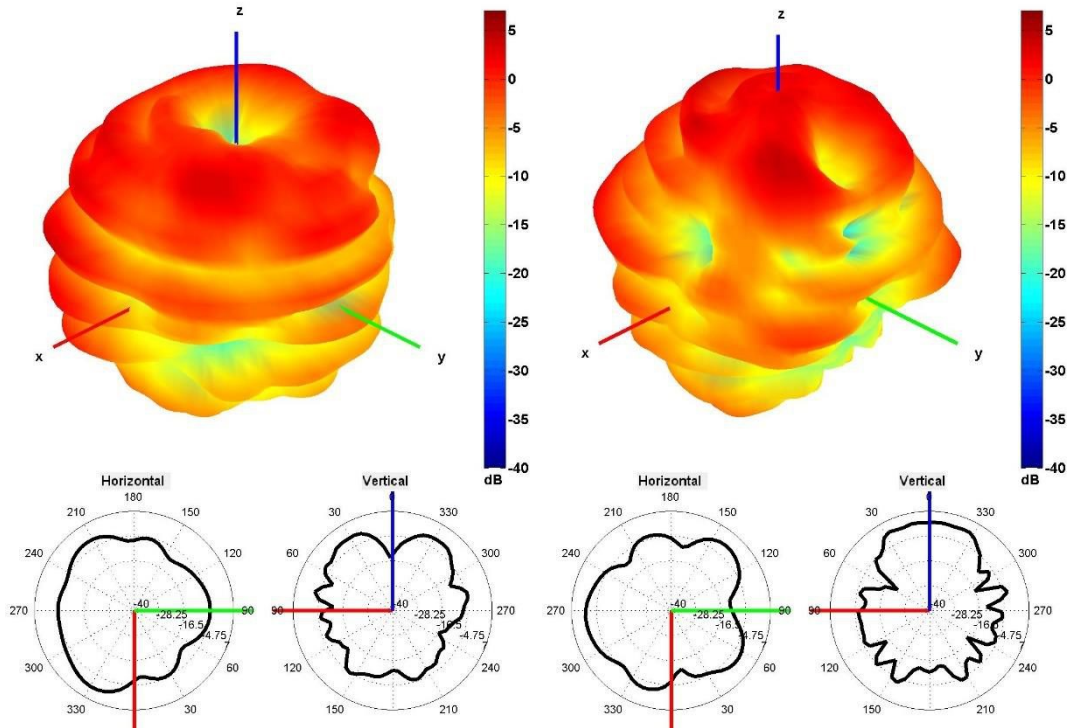


Cable 2: 5GNR

4500 and 5500 MHz Radiation pattern

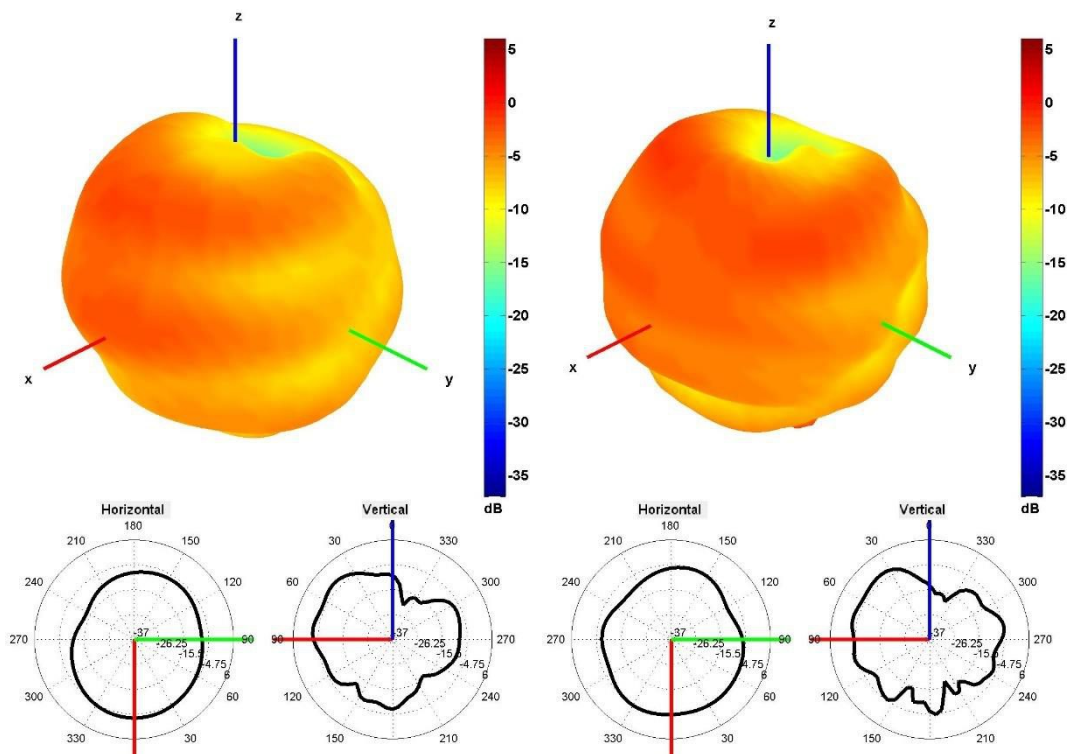


750 and 2500 MHz Radiation pattern

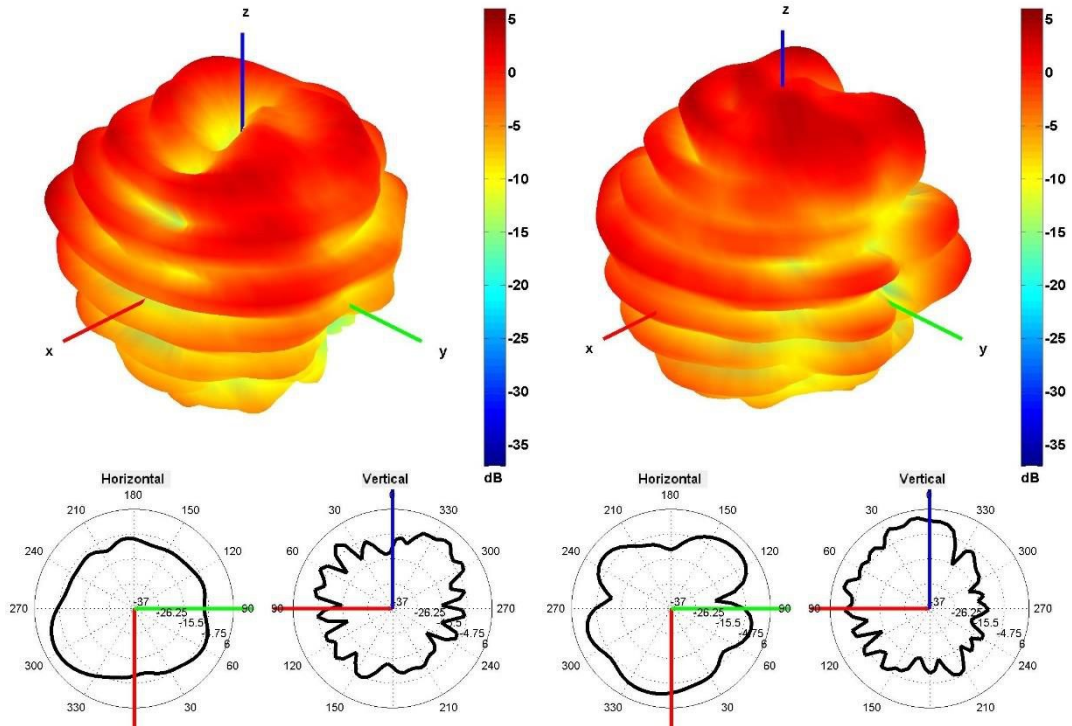


Cable 3: 5GNR

4500 and 5500 MHz Radiation pattern

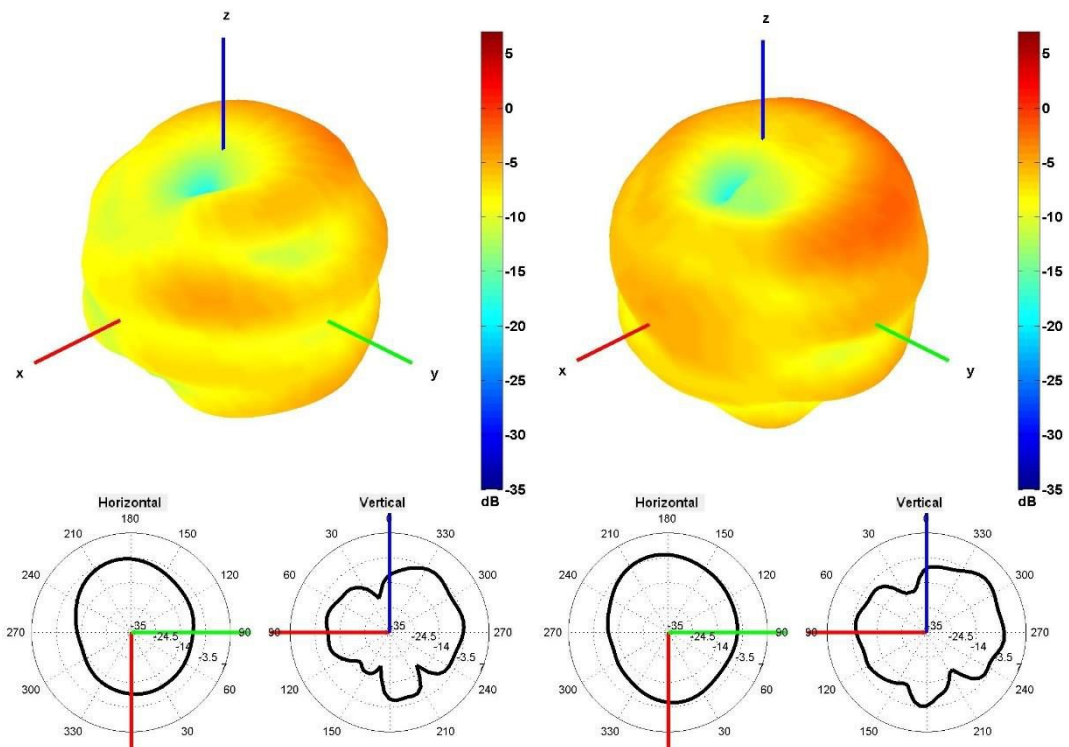


750 and 2500 MHz Radiation pattern



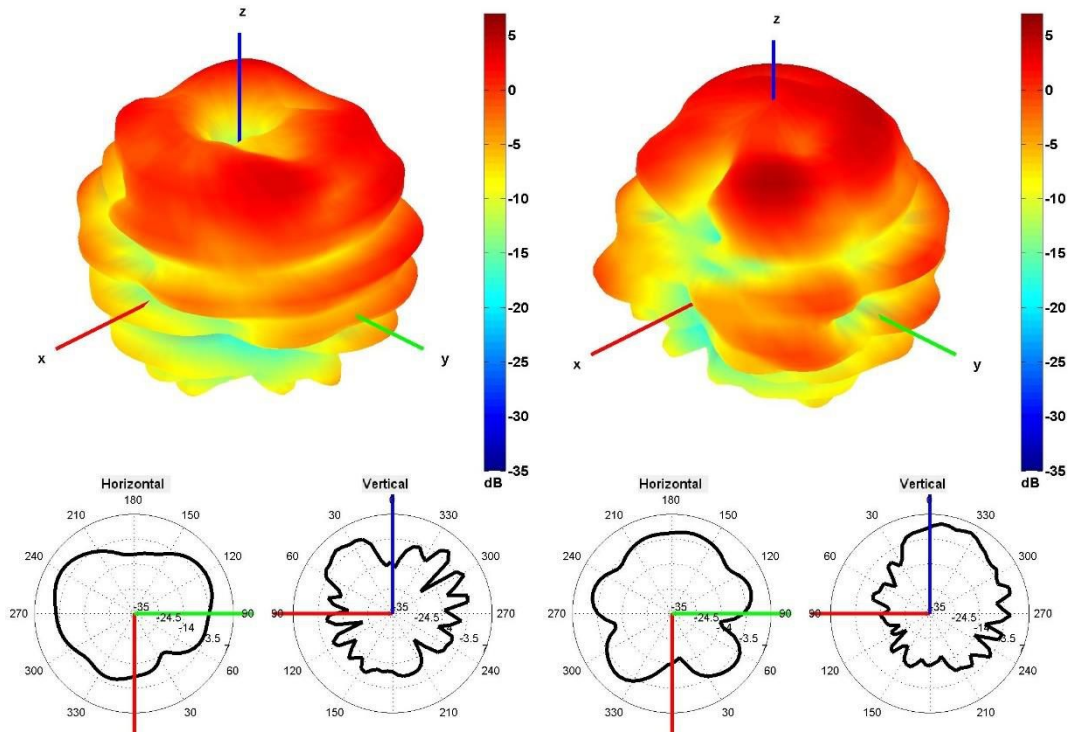
Cable 4: 5GNR

4500 and 5500 MHz Radiation pattern



750 and 2500 MHz Radiation pattern

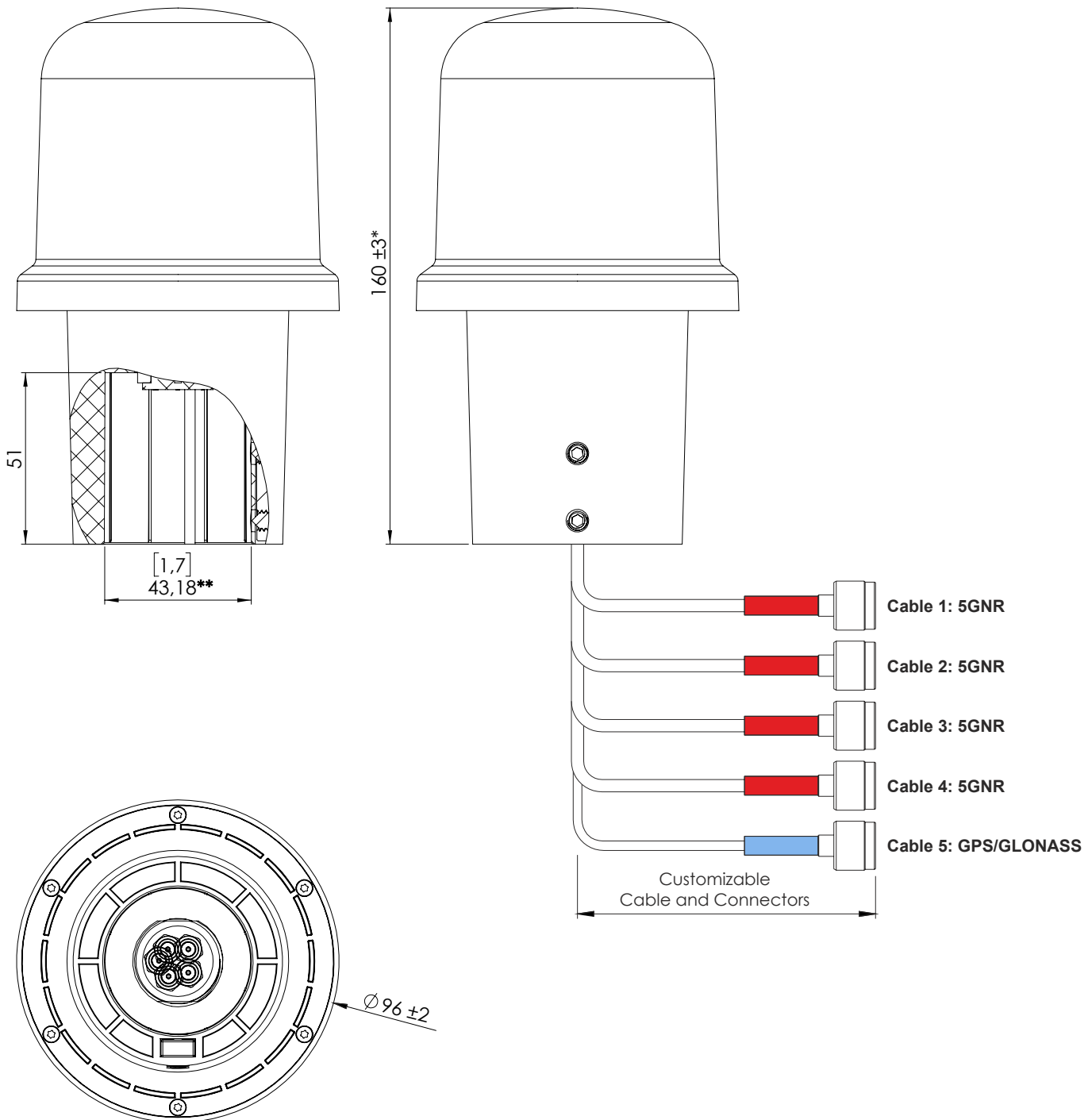




4500 and 5500 MHz Radiation pattern

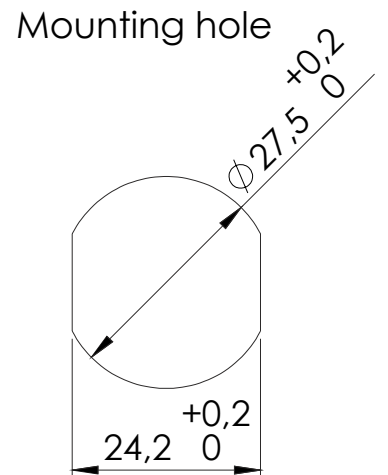
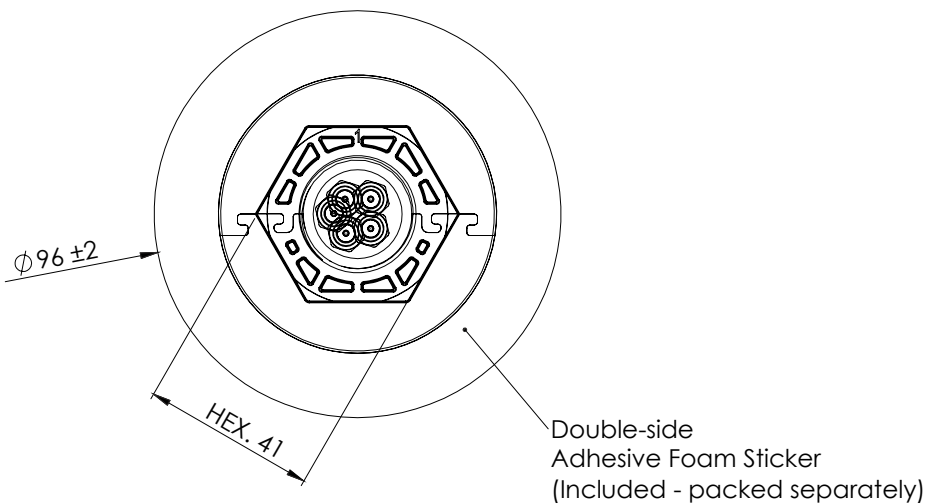
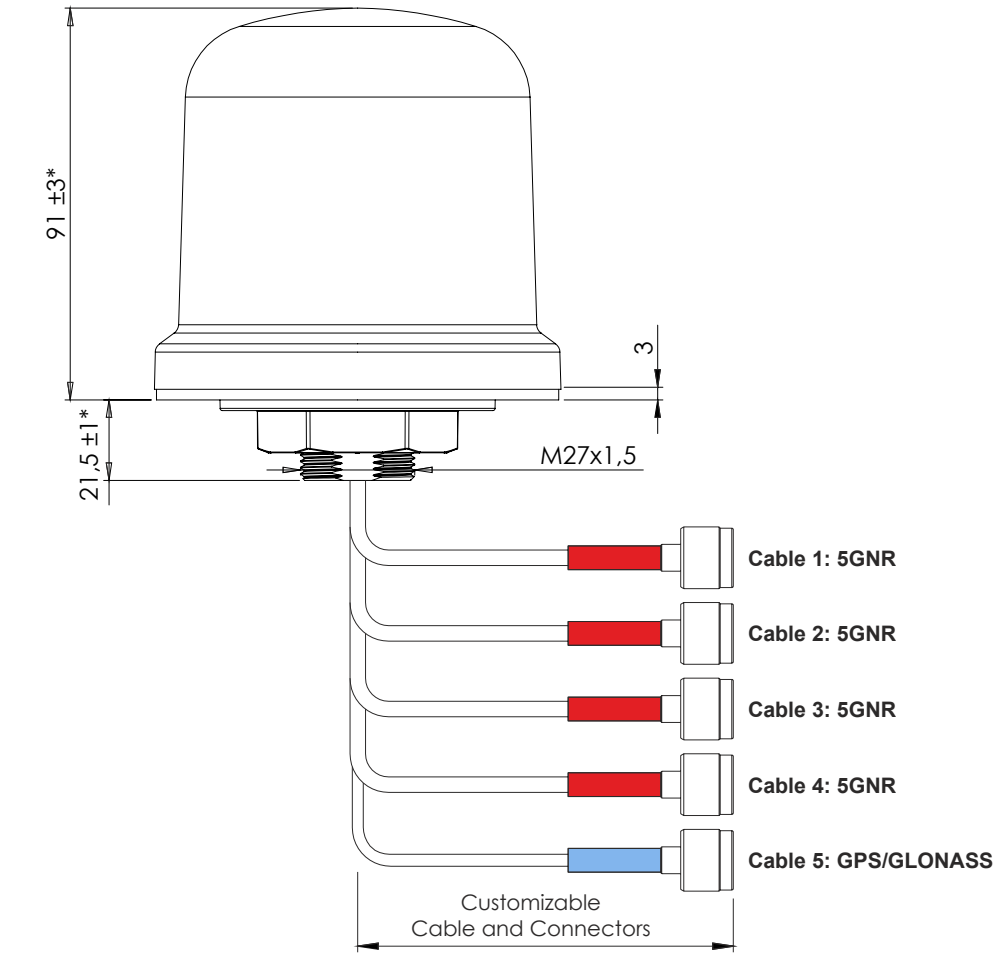
## 4. Antenna drawings

### Pole Mount option using 2JB16J Bracket



Note: Dimensions are in millimeters  
 \*Dimensions are after mounting  
 \*\*Mounting for pole Ø43 mm

## Screw Mount option



**Note: Dimensions are in millimeters**  
**\*Dimensions are after mounting**  
**Max. mounting thickness 7mm**  
**\*\*Mounting Torque= 6 Nm**

## 5. Antenna Images

