antenna conceptor

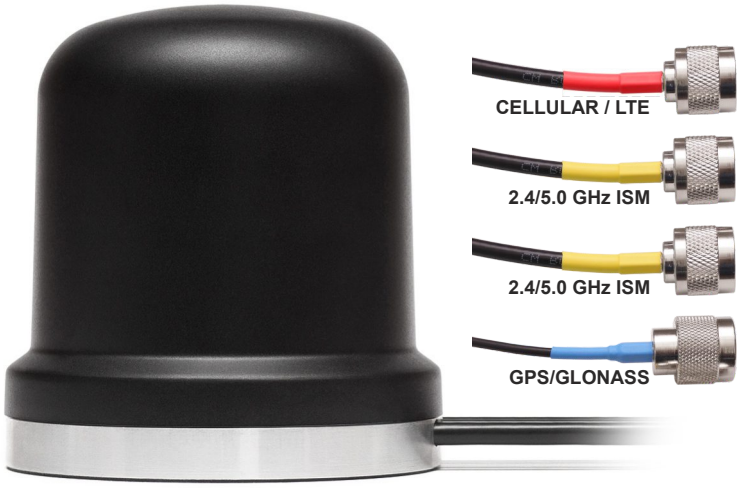
Product Datasheet

2J7050MGFb

CELLULAR/LTE, 2.4/5.0 GHz ISM MIMO and GNSS Magnetic Mount

Key Features

Cable 1: CELLULAR / LTE
Cable 2 and 3: 2.4/5.0 GHz ISM
Cable 4: GPS/GLONASS/QZSS/Galileo
Magnetic Mount
Heavy Duty antenna
High Performance
Ground Plane Independent
Customizable Cable and Connector
Dimensions: Ø 96 × 102 mm
Certificates: IP67, IP69, IK09



1. 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)	~-12.5	~-14.2	~-16.4
VSWR	~1.7:1	~1.7:1	~1.4:1
Efficiency (%)	~50.7	~52.7	~58.4
Peak Gain (dBi)	~0.9	~4.4	~5.5
Average Gain (dB)	~-3.2	~-2.8	~-2.3
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	LL195 Standard (Other Cables Available)		

Cable 2

Parameters	2.4/5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-10.3	~-15.5
VSWR	~1.9:1	~1.5:1
Efficiency (%)	~40.1	~45.2
Peak Gain (dBi)	~3.6	~5.4
Average Gain (dB)	~-4.0	~-3.5
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	LL195 Standard (Other Cables Available)	

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 × 30 cm

200 cm of LL195 Cable

Measured in Certified CTIA 3D Anechoic Chamber

Cable 3

Parameters	2.4/5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-11.7	~-17.4
VSWR	~1.8:1	~1.4:1
Efficiency (%)	~45.4	~45.7
Peak Gain (dBi)	~4.3	~5.2
Average Gain (dB)	~-3.4	~-3.6
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	LL195 Standard (Other Cables Available)	

Cable 4

Parameters	GPS/GLONASS Antenna	
Standard	GPS/QZSS/Galileo	GLONASS
Band (MHz)	1575	1602
Frequency(MHz)	1575.42	1598-1610
Return Loss (dB)	<=-14	
VSWR	<=1.5:1	
Impedance	50	
Radiation Pattern	Hemispherical	
Polarization	RHCP	
Saw Filter	Post-Filter	
Active Gain (dB)	23 @ 3 V, 24 @ 5 V	
Noise Figure (dB)	1.2	
Voltage (V)	2.7 - 5.5	
Current Consumption (mA)	15 - 25	
Power Consumption (mW)	40.5 - 137.5	
Out of Band Rejection (dBc)	~32	
Connector Type	SMA-Male Standard (Other Connectors Available)	
Cable Length	300 cm Standard (Any Cable Length Available)	
Cable Type	LL100 Standard (Other Cables Available)	

Antenna Measurement Conditions:

Mounted on Metal Plate of 30 × 30 cm

200 cm of LL195 Cable

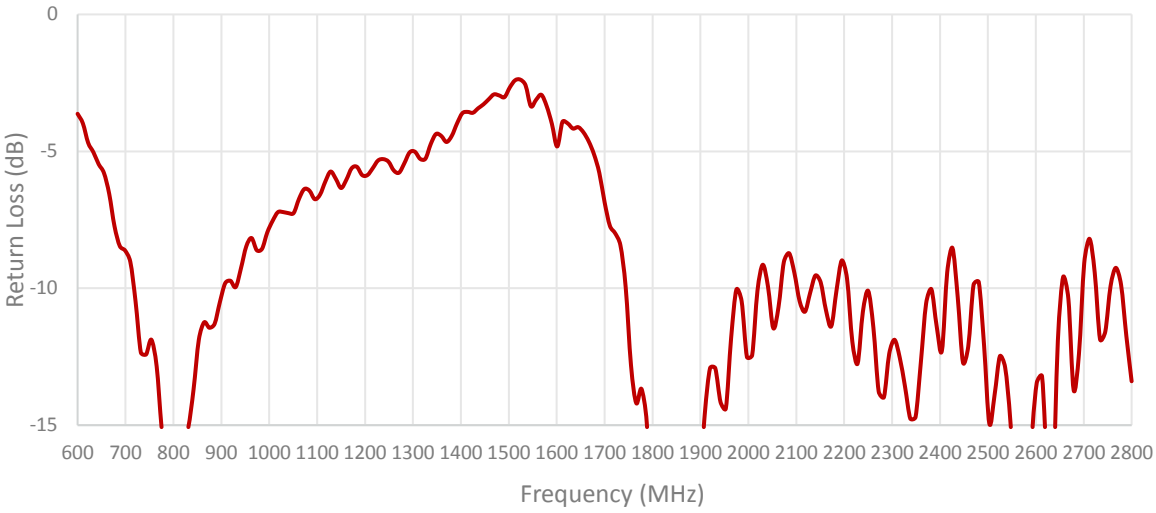
Measured in Certified CTIA 3D Anechoic Chamber

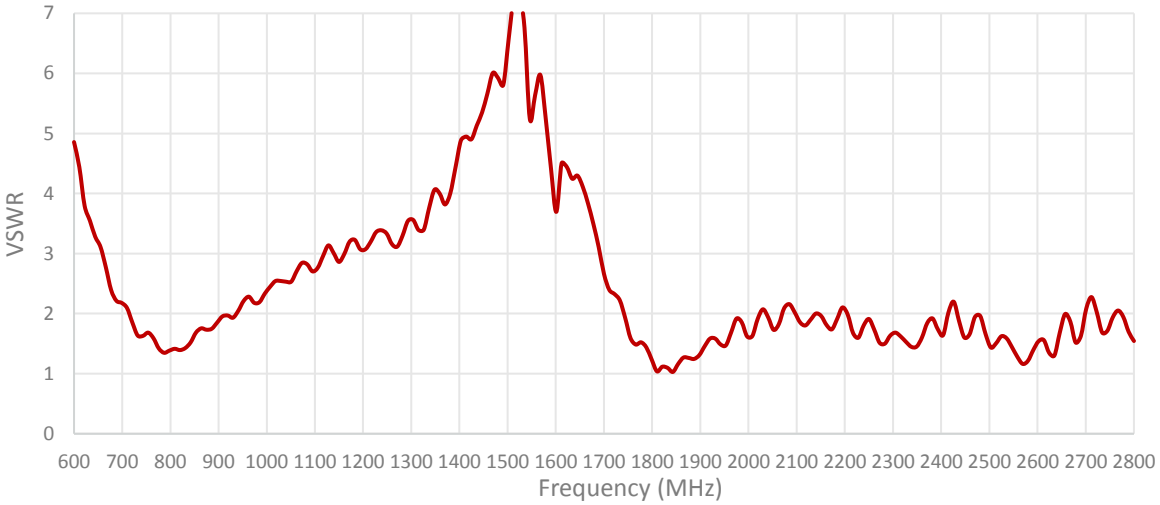
2. Mechanical and environmental specifications

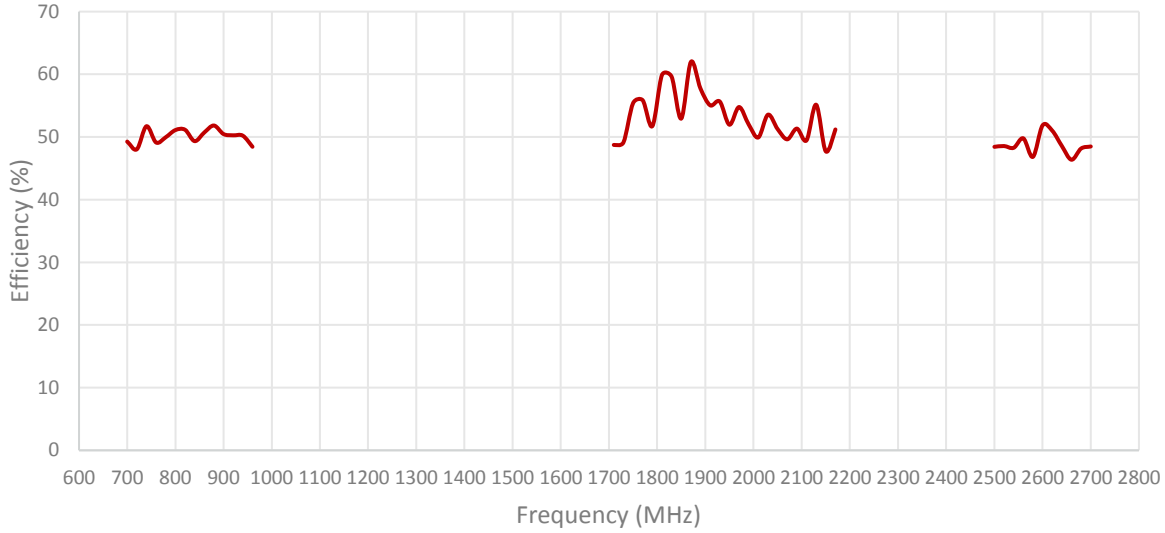
Specifications	2J7050MGFb
Mounting Type	Magnetic Mount
Dimensions (mm)	Ø 96 × 102
Radome	ASA
Radome color	White, Black
Antenna Base	Alluminium alloy
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Certificates	IP67, IP69, IK09

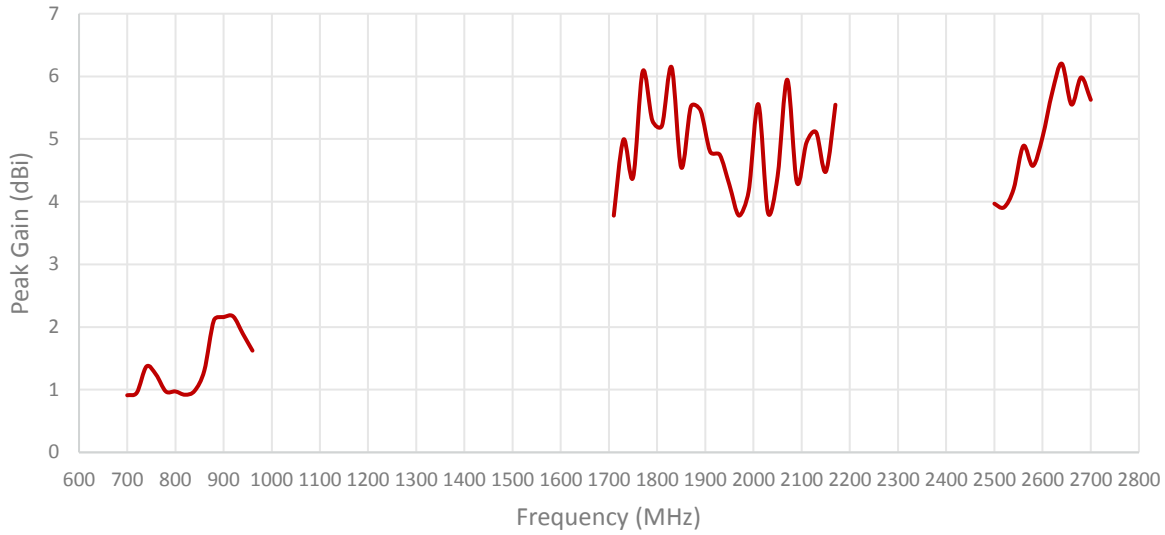
3. Antenna parameters

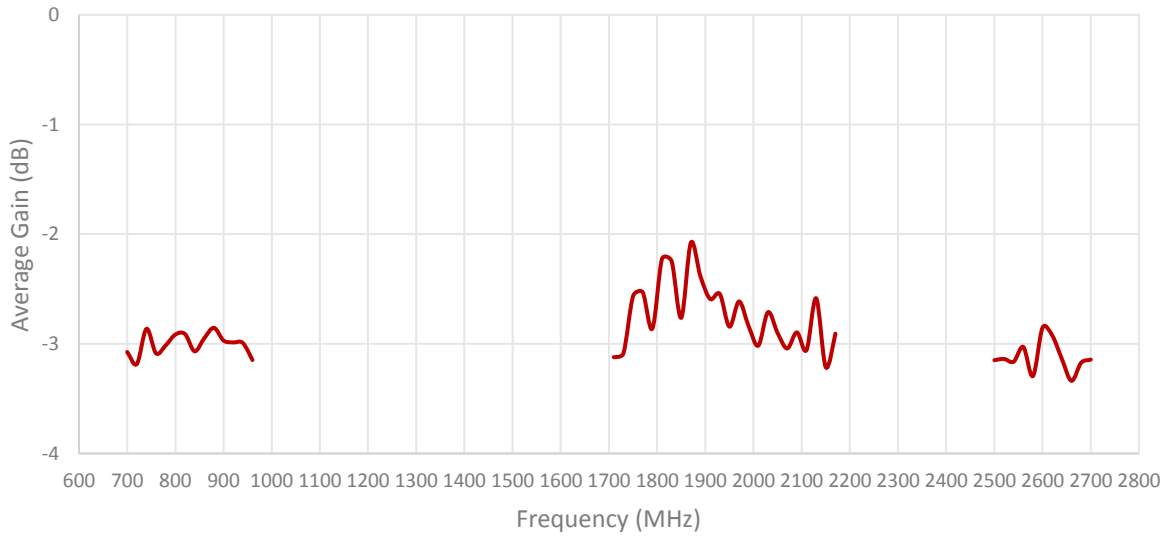
Cable 1: CELLULAR/LTE



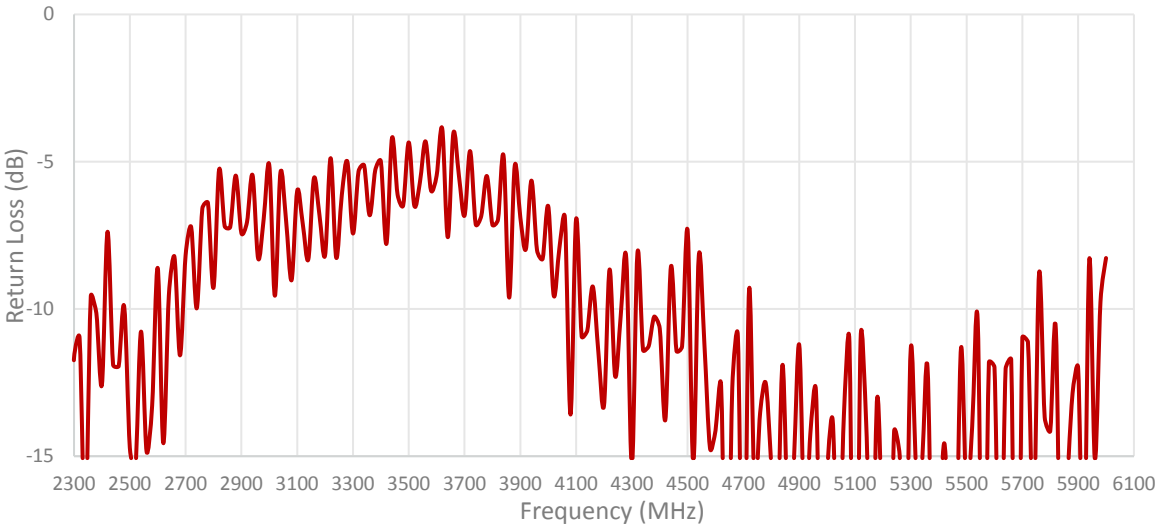


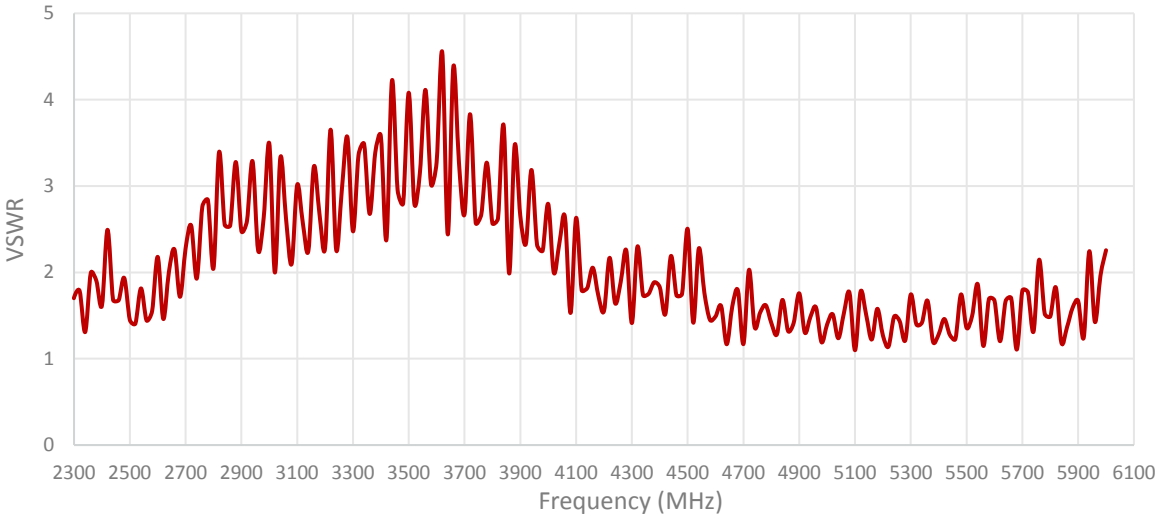

Efficiency (%)
70
60
50
40
30
20
10
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

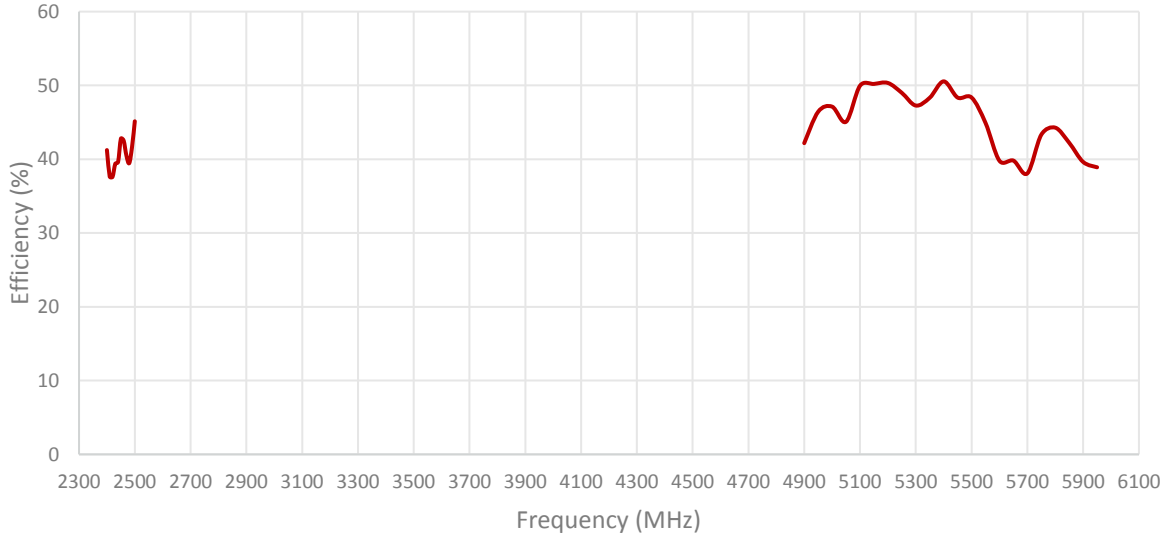

Peak Gain (dBi)
7
6
5
4
3
2
1
0
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

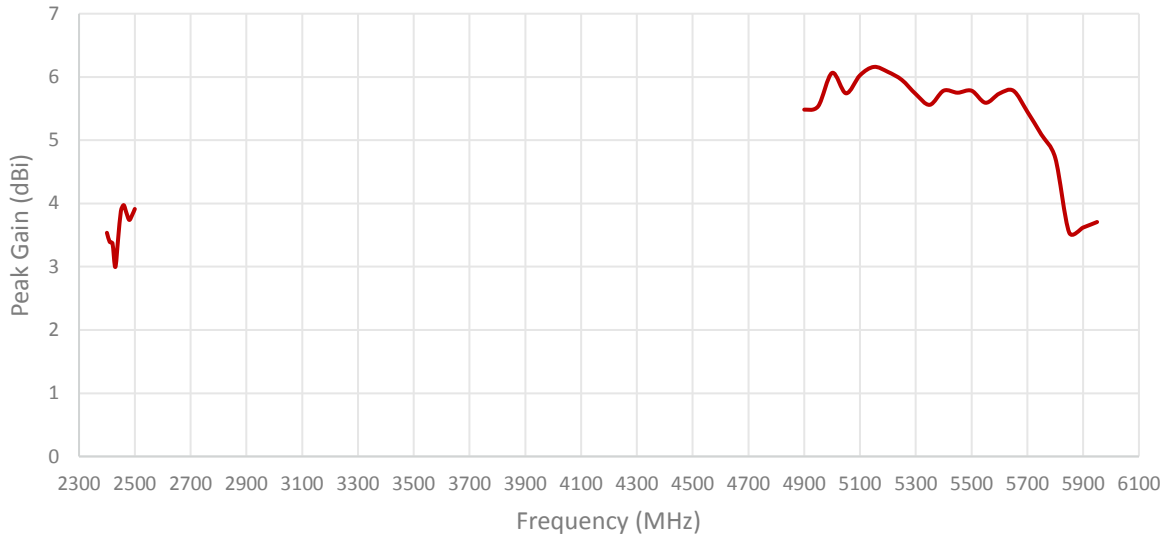

Average Gain (dB)
0
-1
-2
-3
-4
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

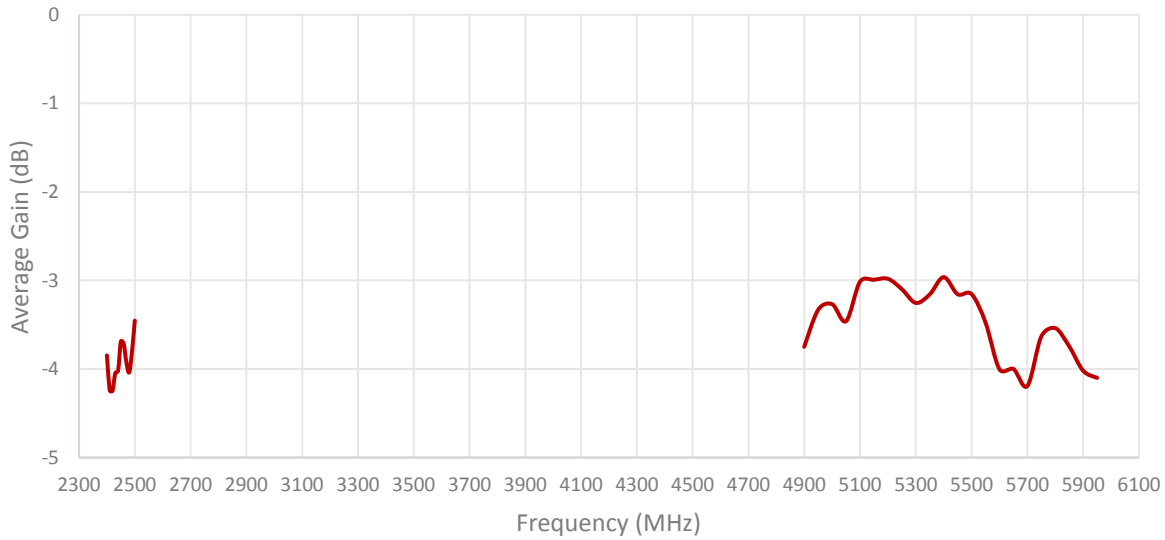
Cable 2: 2.4/5.0 GHz ISM



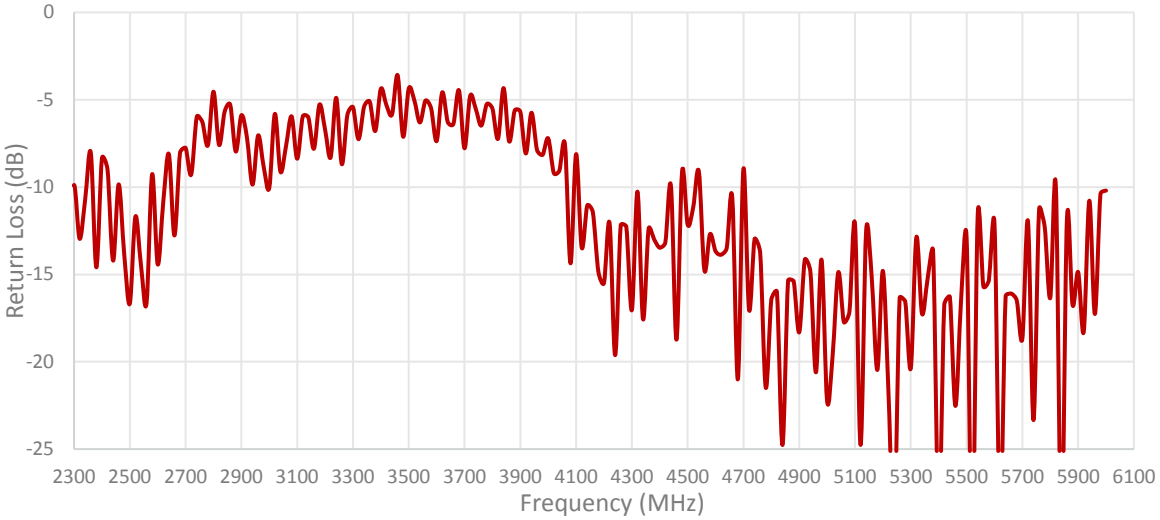


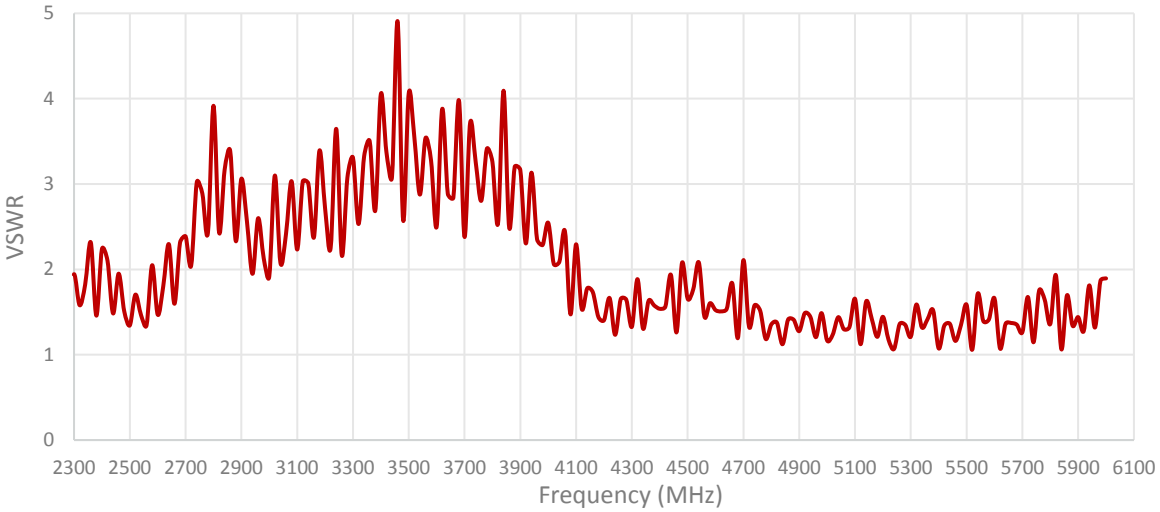

Efficiency (%)
60
50
40
30
20
10
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

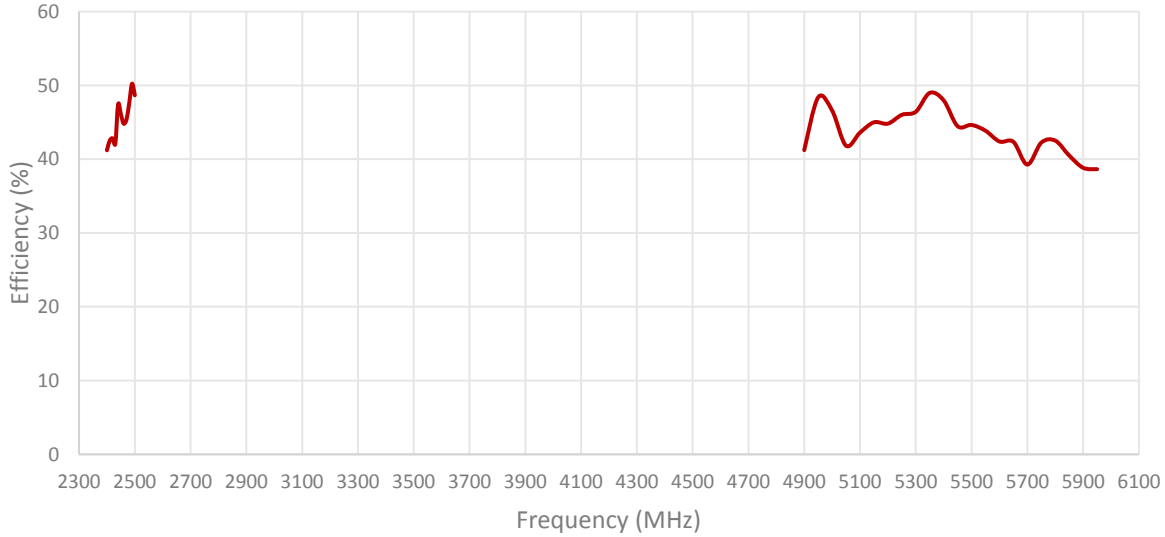

Peak Gain (dBi)
7
6
5
4
3
2
1
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

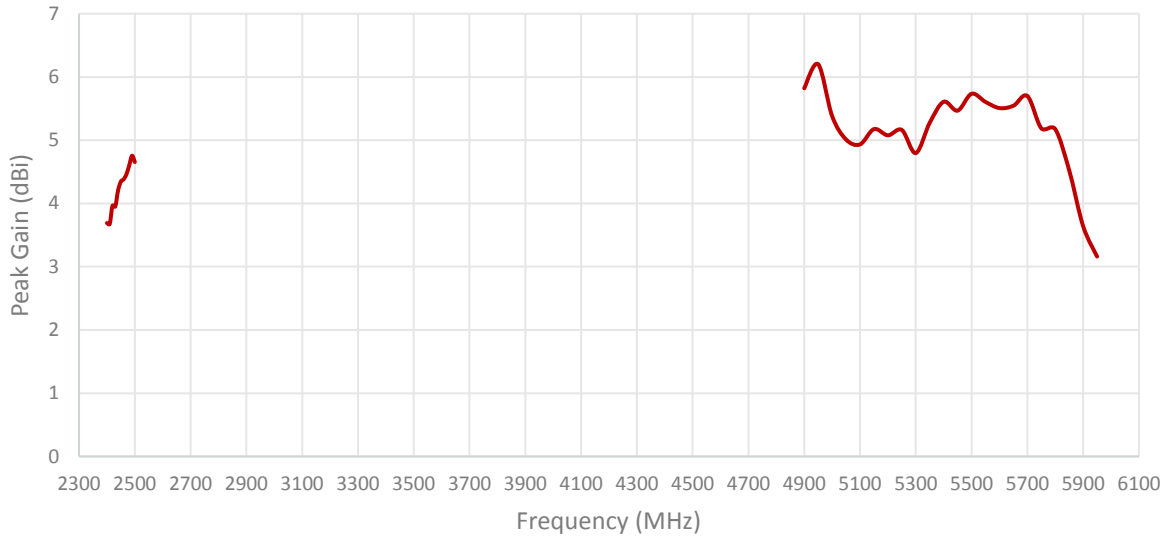

Average Gain (dB)
0
-1
-2
-3
-4
-5
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

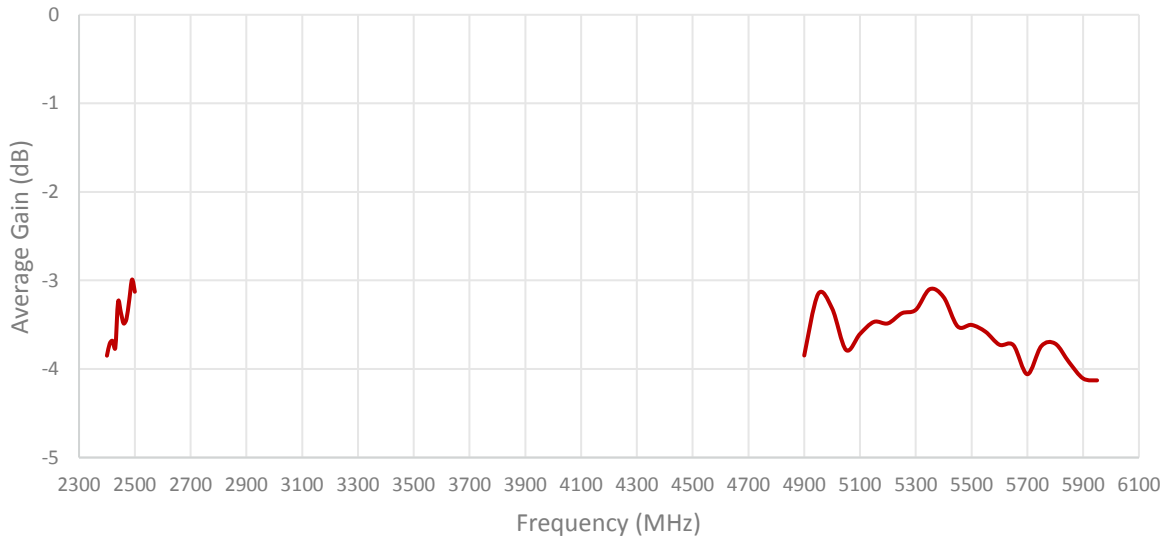
Cable 3: 2.4/5.0 GHz ISM



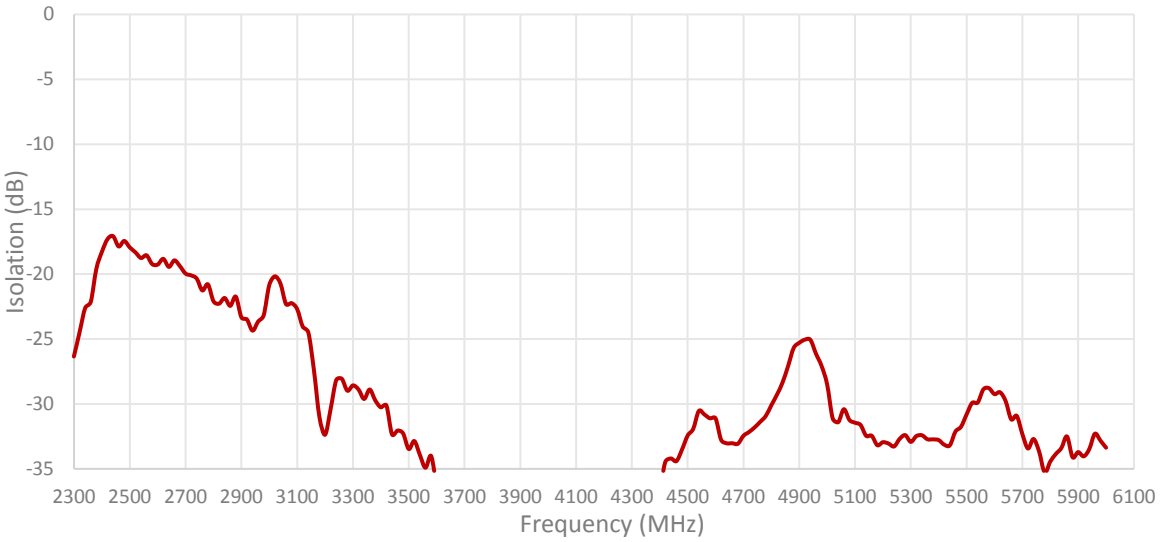



Efficiency (%)
60
50
40
30
20
10
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

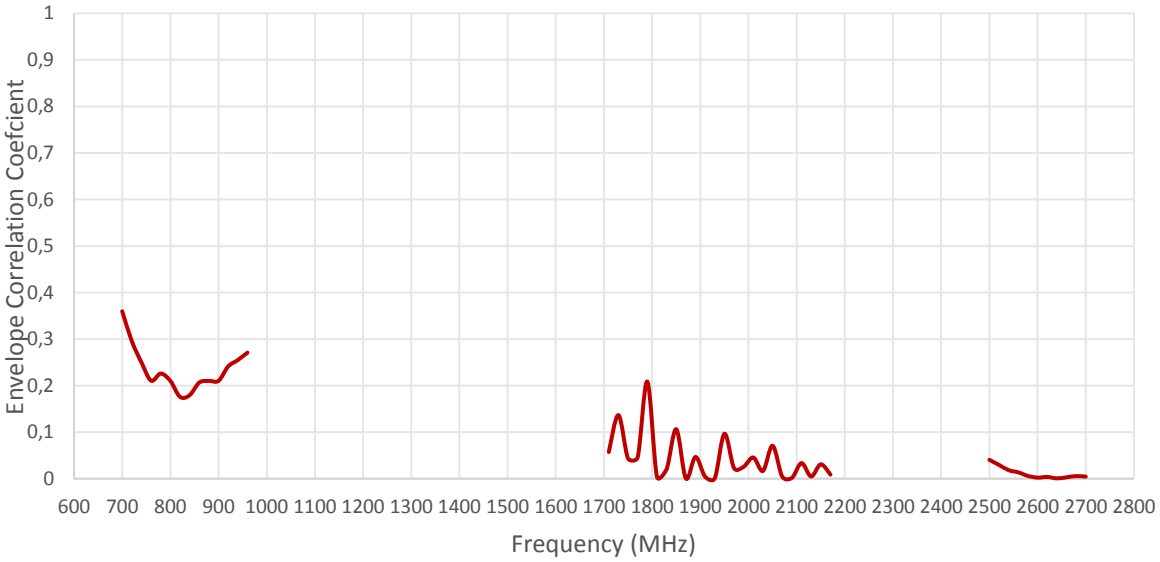

Peak Gain (dBi)
7
6
5
4
3
2
1
0
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

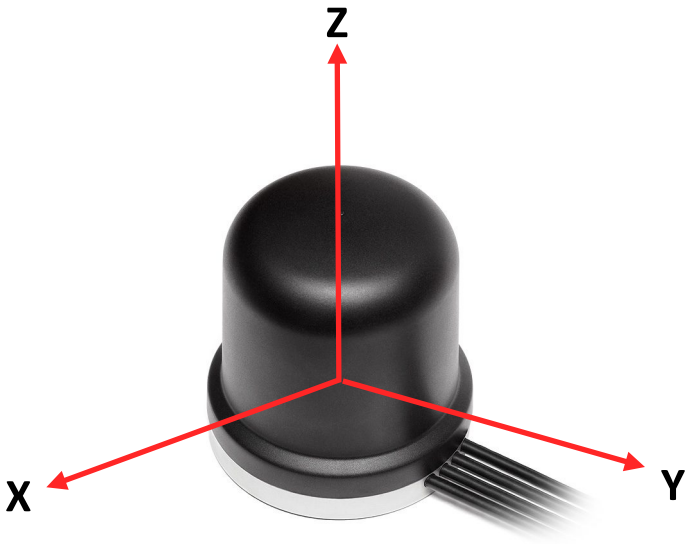

Average Gain (dB)
0
-1
-2
-3
-4
-5
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)

ISOLATION FOR CABLES 2 AND 3



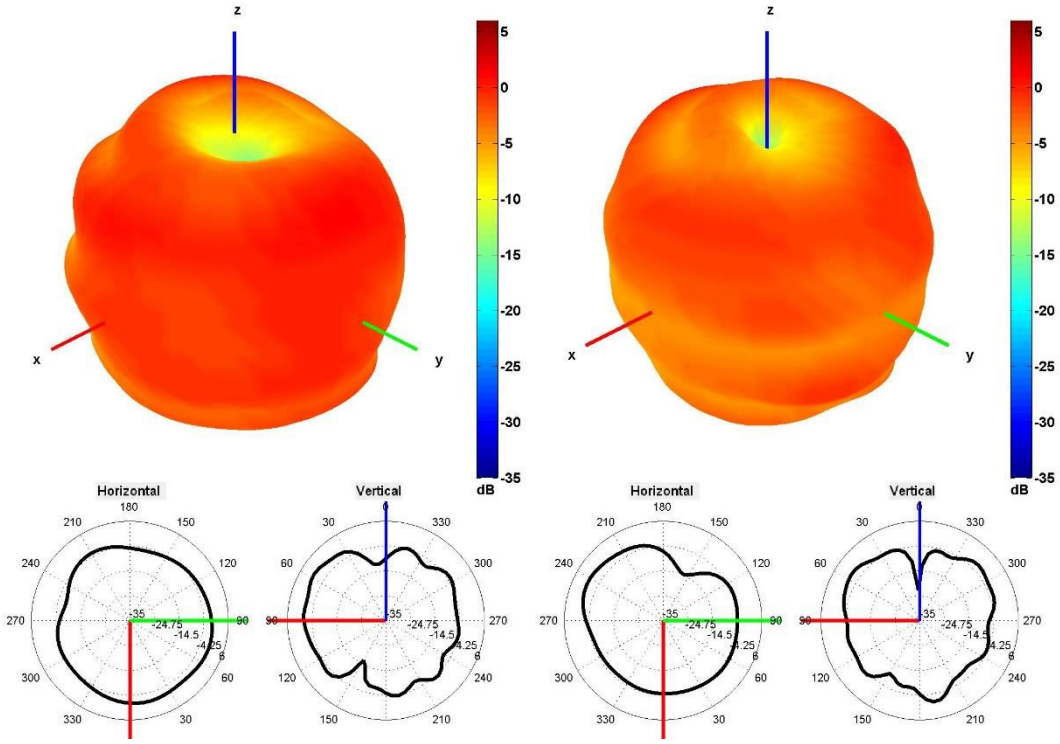
ENVELOPE CORRELATION COEFICIENT FOR CABLES 2 AND 3



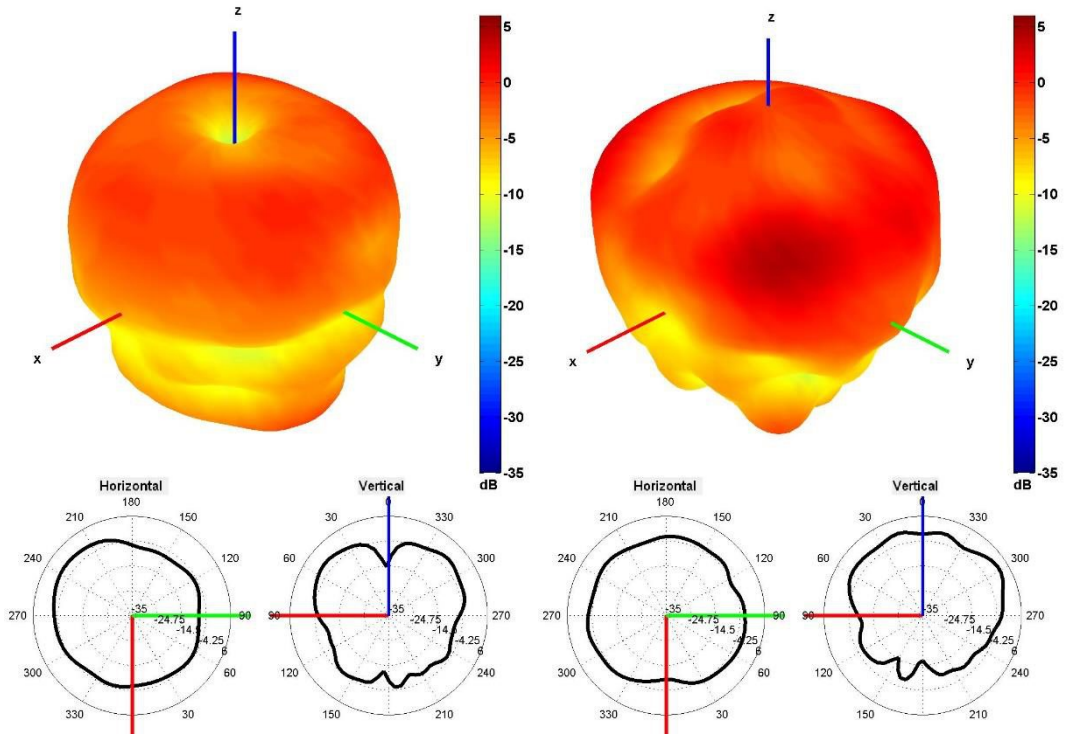


Radiation pattern reference

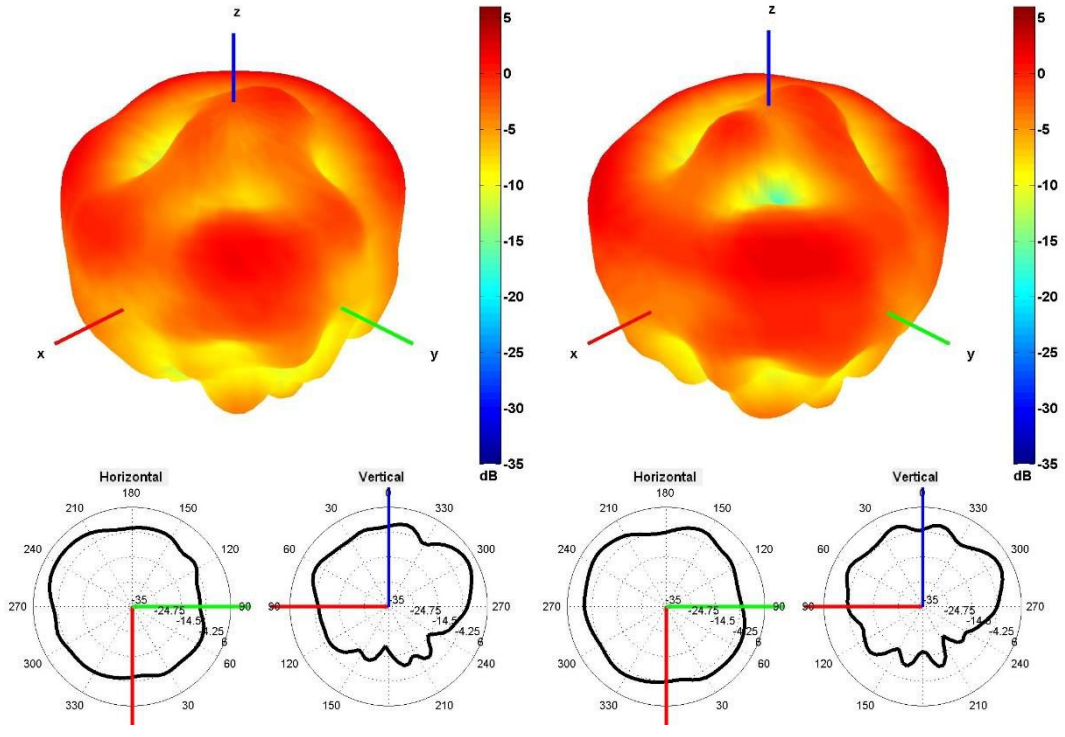
Cable 1: CELLULAR/LTE



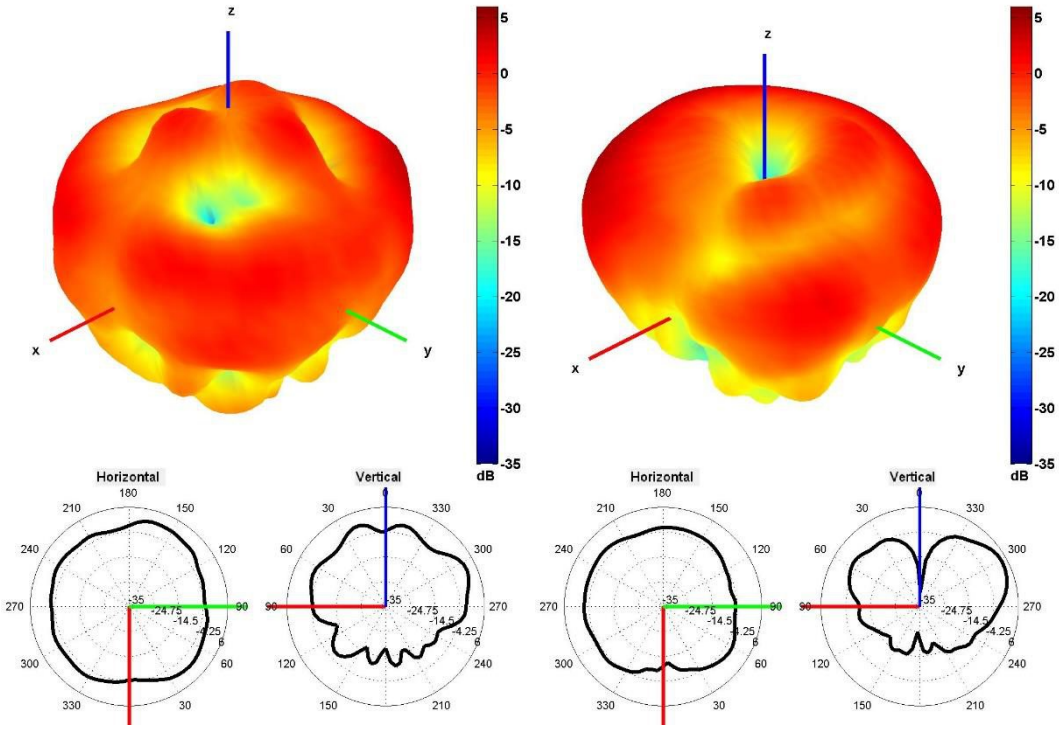
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

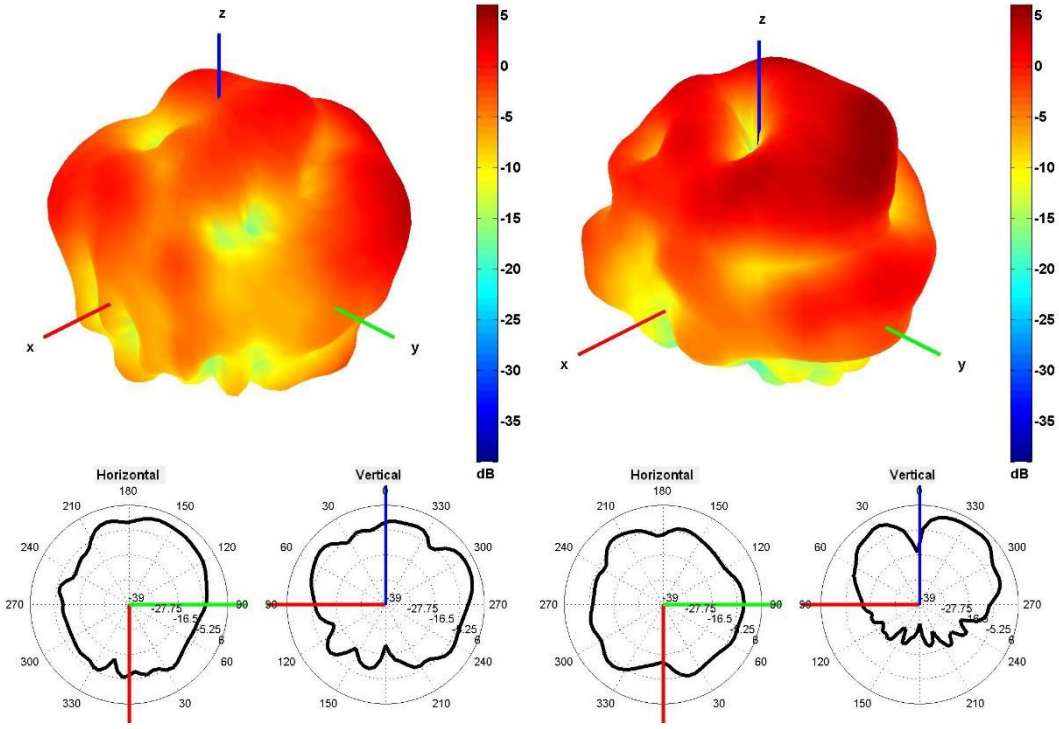


1850 and 1950 MHz Radiation pattern



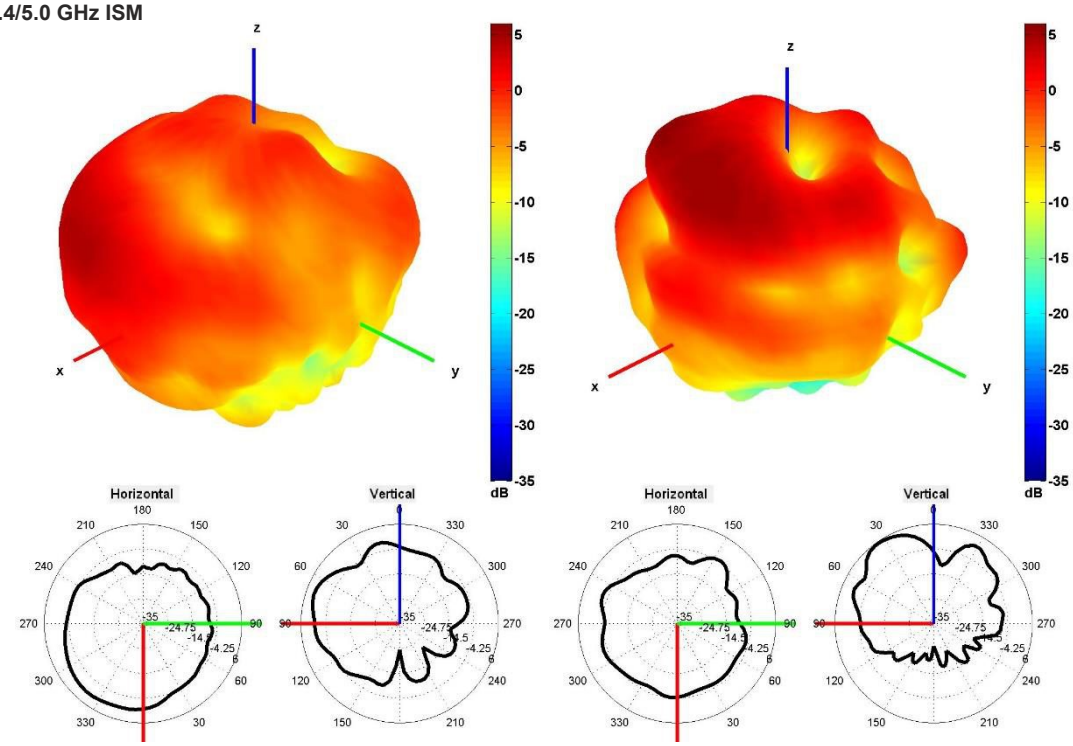
2100 and 2600 MHz Radiation pattern

Cable 2: 2.4/5.0 GHz ISM



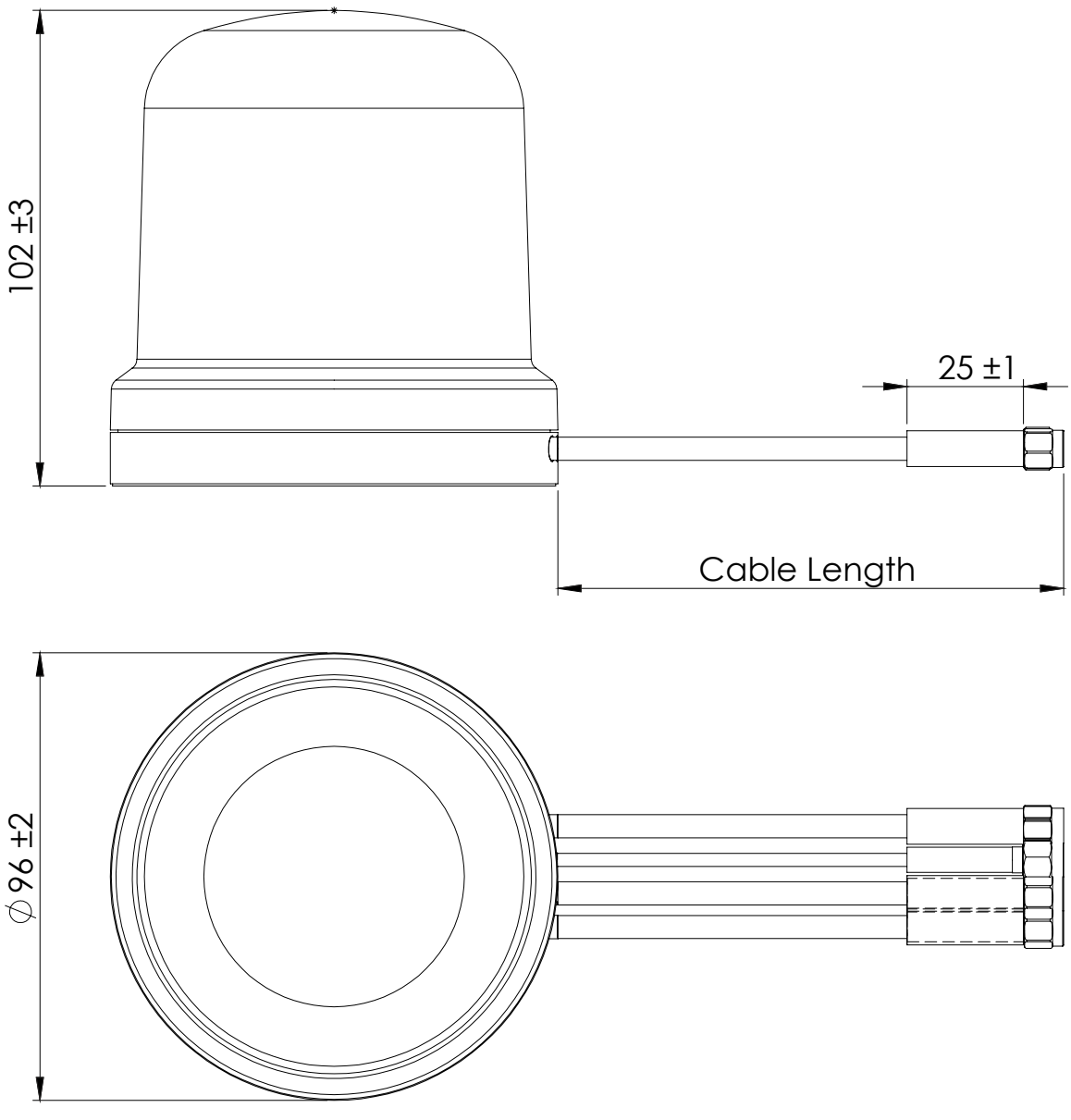
2450 and 5500 MHz Radiation pattern

Cable 3: 2.4/5.0 GHz ISM



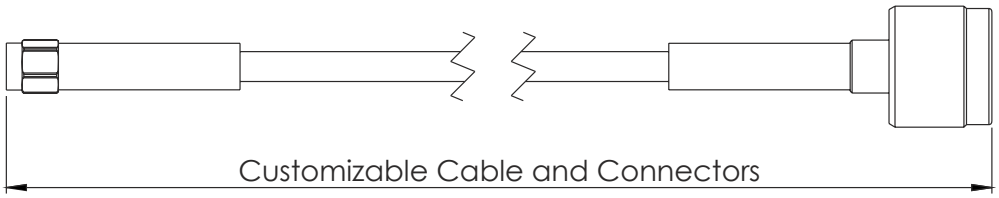
2450 and 5500 MHz Radiation pattern

4. Antenna drawings



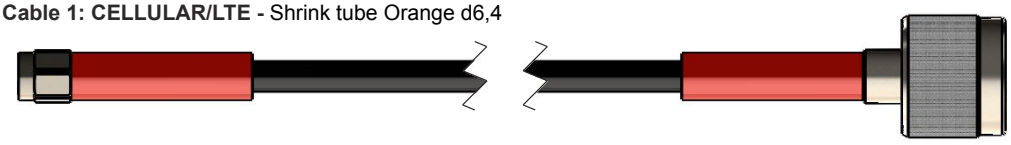
Note: Dimensions are in milimeters

5. Jumper cables drawings - Optional



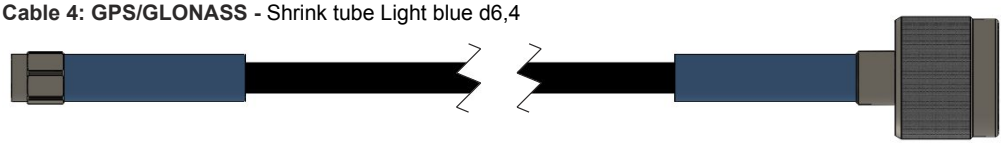
C318N-LMR195-C91N OST - 1×

Cable 1: CELLULAR/LTE - Shrink tube Orange d6,4



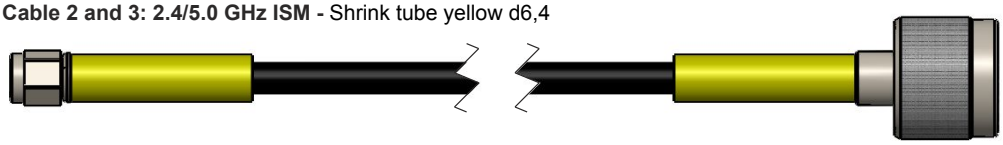
C318N-LMR195-C91N BST

Cable 4: GPS/GLONASS - Shrink tube Light blue d6,4



C318N-LMR195-C151N GST - 2×

Cable 2 and 3: 2.4/5.0 GHz ISM - Shrink tube yellow d6,4



6. Antenna Images

МАКРО ГРУПП

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 качестве ISO 9001-2015
- необходимые сертификаты и лицензии