Siretta

Enabling Industrial IoT

Mike 15

IP65 4G / LoRa Magnetic 460 mm Whip Antenna

General Description

The Mike 15 is a high-performance 4G LTE antenna that also excels in providing reliable wireless connectivity for Bluetooth, Wi-Fi, and ISM LoRa applications.

Designed for versatile use, the Mike 15 supports 4G LTE networks while also performing exceptionally well in the 2.4 GHz band, making it ideal for Bluetooth and Wi-Fi communications. Additionally, it covers the 868/915 MHz ISM bands, ensuring strong connectivity for LoRa and other IoT applications.

With its magnetic mount, the Mike 15 allows for quick and damage-free installation and removal on any surface. It is also IP65-rated, making it a robust choice for outdoor use in demanding environments.

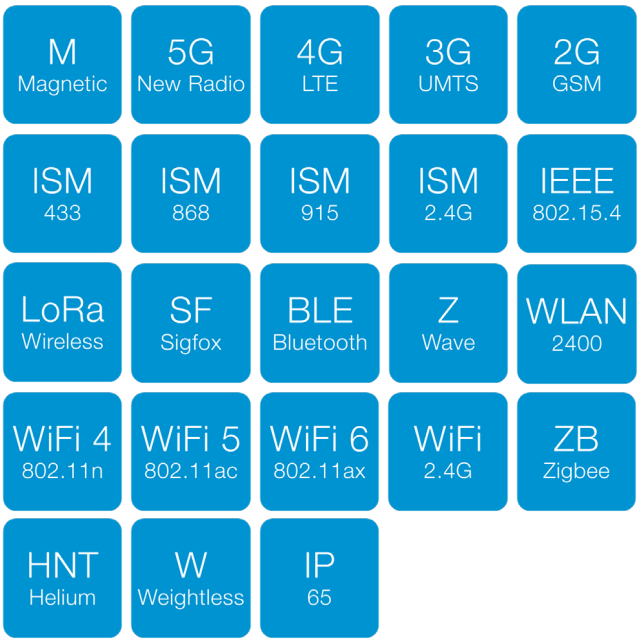
Custom connector options and cable lengths are available for larger orders to suit specific installation needs.

Key Features

- Supports 4G LTE / 3G UMTS / 2G Quad-band GSM and some 5G NR bands
- Supports LTE Cat M, LTE Cat NB, NR Cat NB
- Supports Wi-Fi 2.4 GHz spectrum
- Supports Bluetooth and BLE, Zigbee, ISM 2.4 GHz, & IEEE 802.15.4 bands
- Supports LoRa, Sigfox, ISM 868 MHz, ISM 915 MHz bands
- Supports ISM 433 MHz band
- Magnetic mount
- IP65 - highest level of dust protection and can withstand water jets from all directions

Additional Considerations

- Coverage for 2.4G Wi-Fi, Bluetooth and Zigbee
- Allows quick and easy implementation into target applications
- Magnetic mounting allows versatility in positioning



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Electrical Specifications

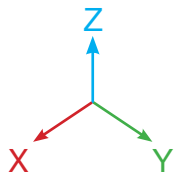
Impedance:	50 Ohm
Polarization:	Linear
Max Input Power:	10 W
Ground plane independent:	Yes

Environmental Specifications

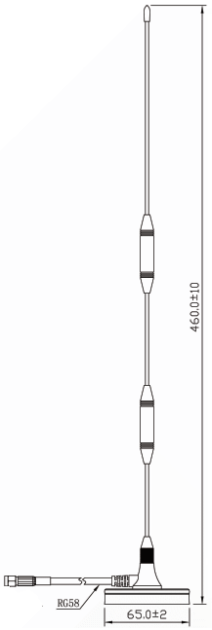
Operating Temperature range:	40 to +85 °C
Storage Temperature range:	40 to +85 °C

Mechanical Specifications

Dimensions:	460 mm (Height) x 65 mm (Base)
Weight:	360 g
Cable:	RG58
Connector:	SMA Male / FME Female
Mounting method:	Magnetic
Housing materials:	ABS



orientation



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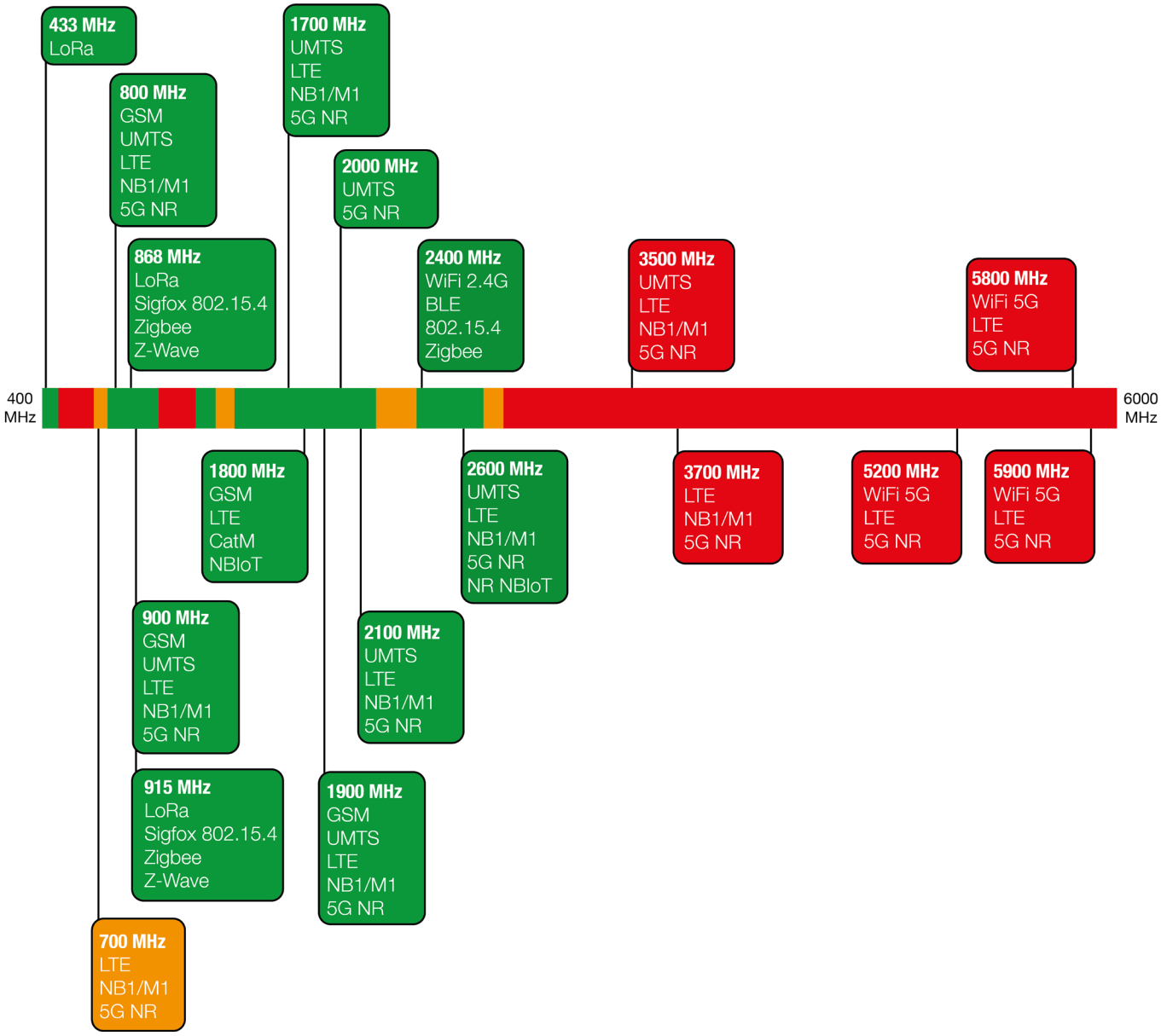
Spectrum Coverage



Suitable band Adequate band in good signal conditions Likely to be unsuitable

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Usable Cellular Frequency Support (410 MHz – 1900 MHz)

	410	450	600	700	800	850	900	1500	1600	1700	1800	1900
GSM Bands:						●	●				●	●
UMTS Bands:				●	●	●	●	●		●	●	●
LTE Bands:		●		●	●	●	●	●	●	●	●	●
LTE Cat M Bands:		●		●	●	●	●	●	●	●	●	●
LTE Cat NB Bands:		●		●	●	●	●	●	●	●	●	●
5G NR Bands:				●	●	●	●	●	●	●	●	●
NR Cat NB Bands:				●	●	●	●			●	●	●

Usable Cellular Frequency Support (2000 MHz – 5900 MHz)

	2000	2100	2300	2400	2500	2600	3300	3500	3700	4700	5200	5900
GSM Bands:												
UMTS Bands:		●				●						
LTE Bands:	●	●	●	●	●	●						
LTE Cat M Bands:		●			●	●						
LTE Cat NB Bands:		●			●	●						
5G NR Bands:	●	●	●	●	●	●						
NR Cat NB Bands:		●			●	●						

Usable ISM Frequency Support (433 MHz - 5800 MHz)

	433	868	915	2450	5800
Bluetooth				●	
IEEE 802.15.4		●	●	●	
LoRa	●	●	●		
Sigfox		●	●		
WiFi 2.4G				●	
WiFi 5G					
Zigbee		●	●	●	
Z-Wave		●	●		

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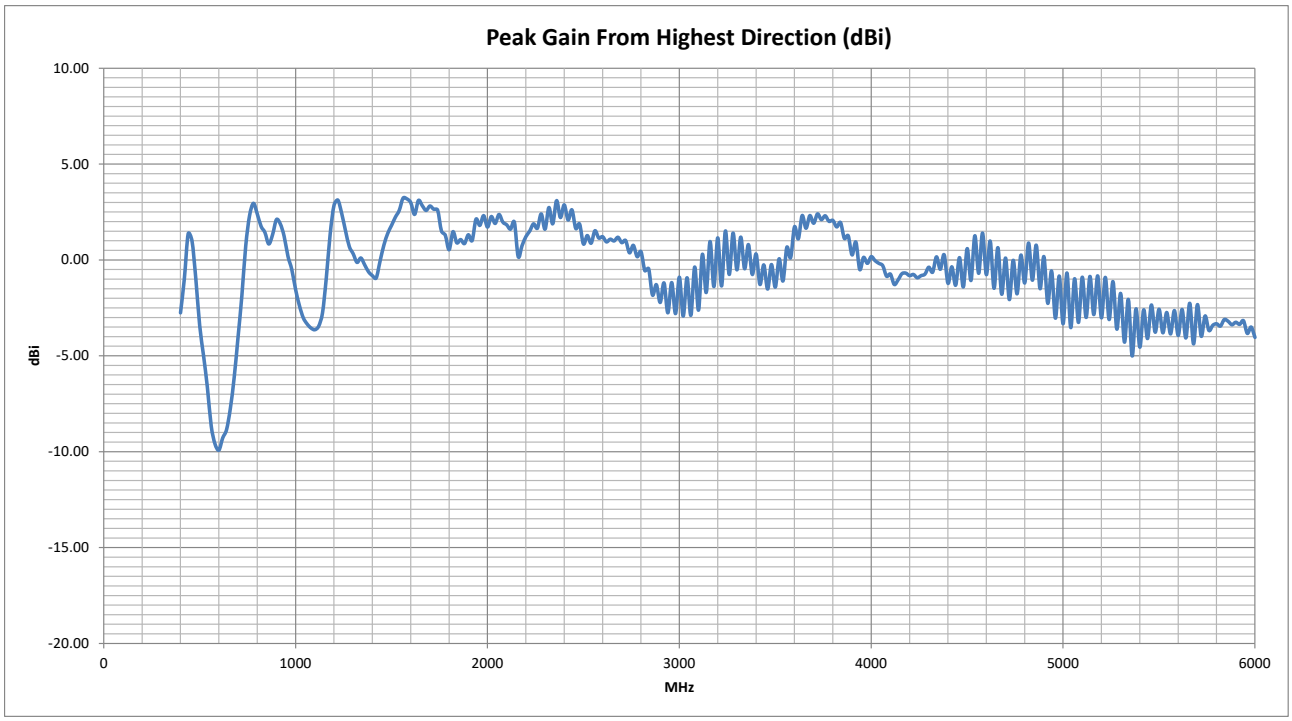
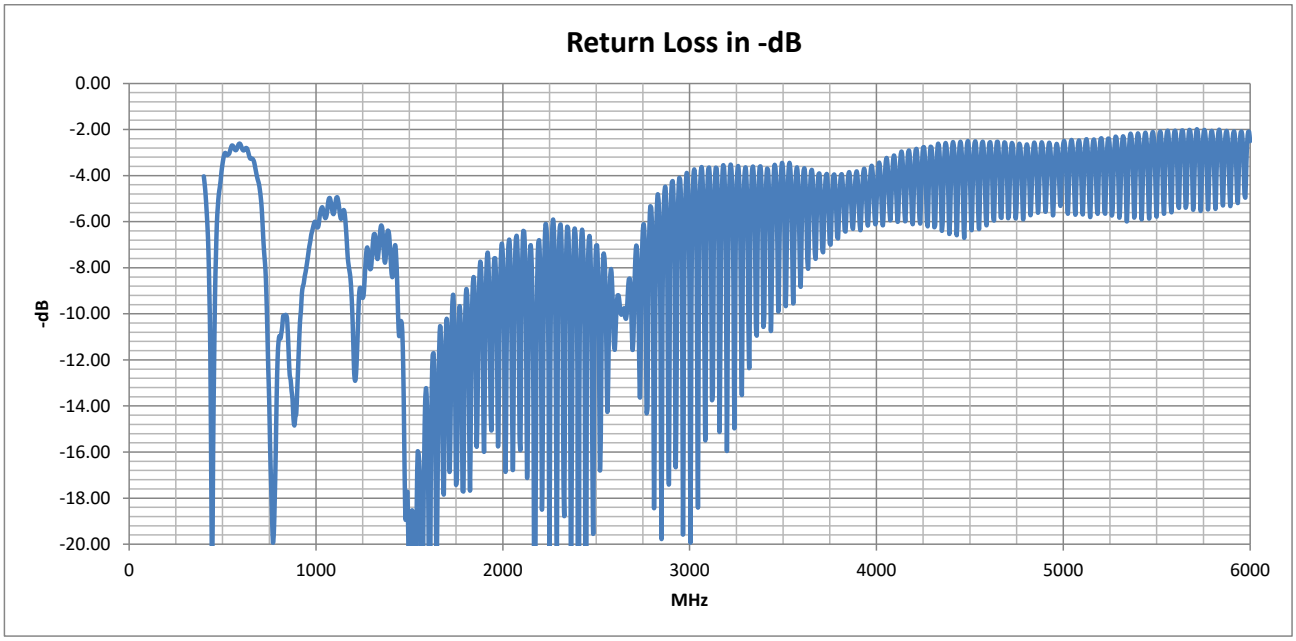
Peak Gain vs. Frequency



Return Loss



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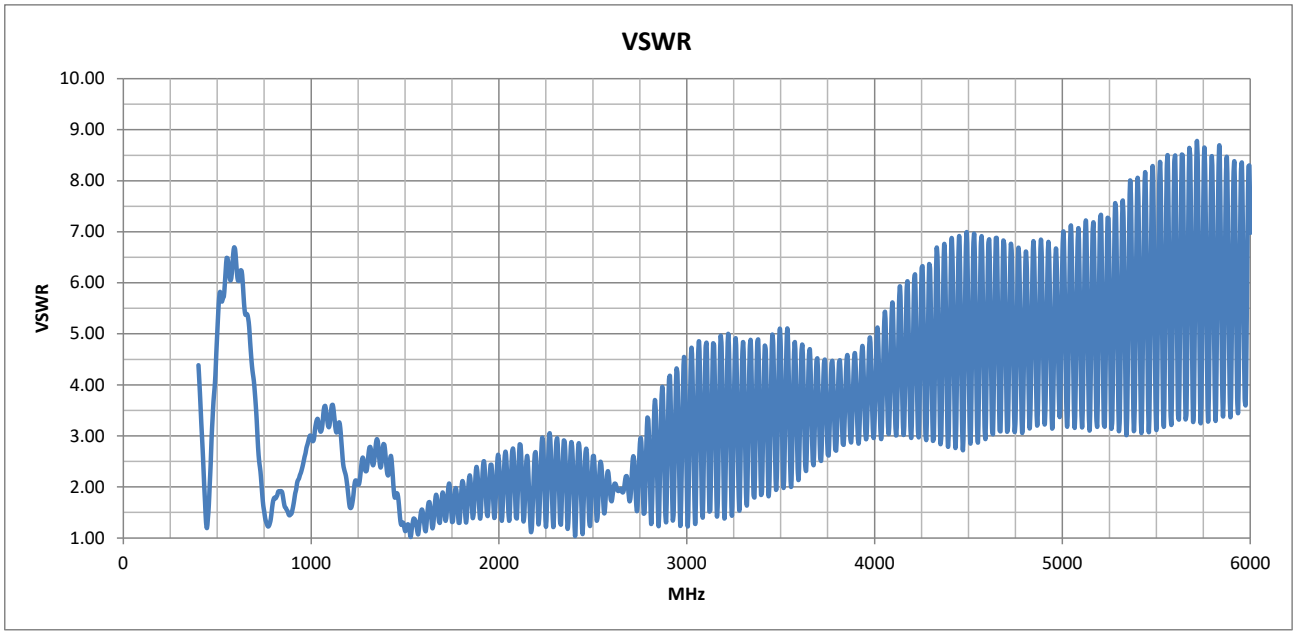
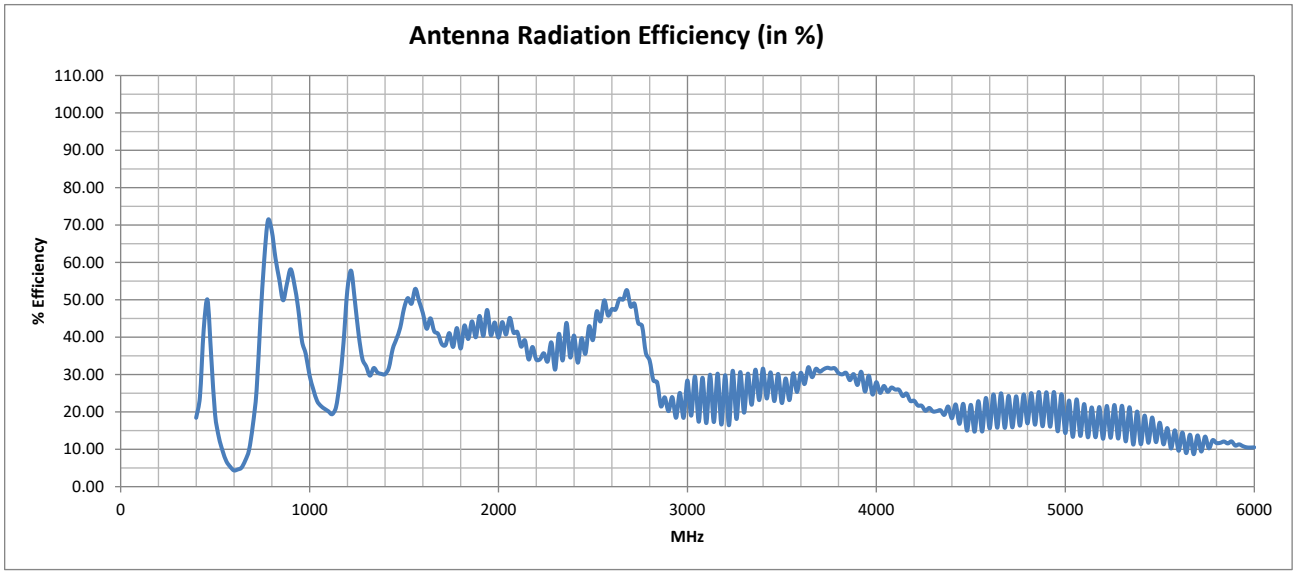
VSWR



Radiation Efficiency



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Cellular Standards Band Support

GSM (2G) Band	UMTS (3G) Band	E-UTRA (4G) Band	Cat M E-UTRA Band	Cat NB E-UTRA Band	NR (5G) Band	Cat NB NR (5G) Band	Uplink	Downlink	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
	1	1	1	1	n1	n1	1920 - 1980 MHz	2110 - 2170 MHz	43.34	37.21	2.50	2.83	●
PCS-1900	2	2	2	2	n2	n2	1850 - 1910 MHz	1930 - 1990 MHz	42.90	43.48	2.39	2.43	●
DCS-1800	3	3	3	3	n3	n3	1710 - 1785 MHz	1805 - 1880 MHz	39.51	41.60	2.07	2.39	●
	4	4	4	4			1710 - 1755 MHz	2110 - 2155 MHz	39.25	38.00	2.07	2.83	●
GSM-850	5	5	5	5	n5	n5	824 - 849 MHz	869 - 894 MHz	56.45	54.46	1.92	1.56	●
	6						830 - 840 MHz	875 - 885 MHz	56.87	54.18	1.92	1.52	●
	7	7	7	7	n7	n7	2500 - 2570 MHz	2620 - 2690 MHz	45.75	50.32	2.60	2.21	●
E-GSM-900	8	8	8	8	n8	n8	880 - 915 MHz	925 - 960 MHz	56.40	46.27	1.87	2.50	●
	9	9					1749.9 - 1784.9 MHz	1844.9 - 1879.9 MHz	39.74	42.28	1.98	2.39	●
	10	10					1710 - 1770 MHz	2110 - 2170 MHz	39.04	37.21	2.07	2.83	●
	11	11	11	11			1427.9 - 1447.9 MHz	1475.9 - 1495.9 MHz	36.11	44.10	2.51	1.32	●
	12	12	12	12	n12	n12	699 - 716 MHz	729 - 746 MHz	19.99	42.01	3.90	2.33	●
	13	13	13	13	n13	n13	777 - 787 MHz	746 - 756 MHz	70.70	53.30	1.43	1.61	●
	14	14	14	14	n14		788 - 798 MHz	758 - 768 MHz	69.51	62.09	1.72	1.34	●
		17		17			704 - 716 MHz	734 - 746 MHz	21.16	44.27	3.65	2.12	●
		18	18	18	n18	n18	815 - 830 MHz	860 - 875 MHz	60.47	51.51	1.91	1.61	●
	19	19	19	19			830 - 845 MHz	875 - 890 MHz	56.17	54.69	1.92	1.52	●
	20	20	20	20	n20	n20	832 - 862 MHz	791 - 821 MHz	53.55	65.99	1.92	1.86	●
	21	21	21	21			1447.9 - 1462.9 MHz	1495.9 - 1510.9 MHz	38.91	48.06	1.88	1.23	●
	22	22					3410 - 3490 MHz	3510 - 3590 MHz	26.84	26.91	4.98	5.11	●
		24	24	24	n24		1626.5 - 1660.5 MHz	1525 - 1559 MHz	43.62	50.29	1.73	1.38	●
	25	25	25	25	n25	n25	1850 - 1915 MHz	1930 - 1995 MHz	42.86	43.32	2.41	2.63	●
	26	26	26	26	n26		814 - 849 MHz	859 - 894 MHz	57.91	53.41	1.92	1.62	●
		27	27				807 - 824 MHz	852 - 869 MHz	62.82	50.93	1.90	1.76	●
		28	28	28	n28	n28	703 - 748 MHz	758 - 803 MHz	32.37	67.55	3.70	1.78	●

● Suitable band ● Adequate band in good signal conditions ● Likely to be unsuitable

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GSM (2G) Band	UMTS (3G) Band	E-UTRA (4G) Band	Cat M E-UTRA Band	Cat NB E-UTRA Band	NR (5G) Band	Cat NB NR (5G) Band	Uplink	Downlink	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
		28A					703 - 733 MHz	758 - 788 MHz	26.23	66.78	3.70	1.46	●
		29			n29		N/A	717 - 728 MHz	N/A	28.40	N/A	2.81	●
		30			n30		2305 - 2315 MHz	2350 - 2360 MHz	36.13	41.34	2.95	2.88	●
		31	31	31			452.5 - 457.5 MHz	462.5 - 467.5 MHz	48.02	46.17	1.84	2.71	●
	32	32					N/A	1452 - 1496 MHz	N/A	41.96	N/A	1.88	●
		33					1900 - 1920 MHz	1900 - 1920 MHz	43.04	43.04	2.50	2.50	●
		34			n34		2010 - 2025 MHz	2010 - 2025 MHz	43.22	43.22	2.14	2.14	●
		35					1850 - 1910 MHz	1850 - 1910 MHz	42.90	42.90	2.39	2.39	●
		36					1930 - 1990 MHz	1930 - 1990 MHz	43.48	43.48	2.43	2.43	●
		37					1910 - 1930 MHz	1910 - 1930 MHz	41.91	41.91	2.50	2.50	●
		38			n38		2570 - 2620 MHz	2570 - 2620 MHz	47.03	47.03	2.31	2.31	●
		39	39		n39		1880 - 1920 MHz	1880 - 1920 MHz	42.94	42.94	2.50	2.50	●
		40	40		n40		2300 - 2400 MHz	2300 - 2400 MHz	37.81	37.81	2.95	2.95	●
		41	41	41	n41	n41	2496 - 2690 MHz	2496 - 2690 MHz	47.60	47.60	2.60	2.60	●
		42	42	42			3400 - 3600 MHz	3400 - 3600 MHz	26.86	26.86	5.11	5.11	●
		43	43	43			3600 - 3800 MHz	3600 - 3800 MHz	30.81	30.81	4.79	4.79	●
		44					703 - 803 MHz	703 - 803 MHz	50.45	50.45	3.70	3.70	●
		45					1447 - 1467 MHz	1447 - 1467 MHz	39.15	39.15	1.88	1.88	●
		46			n46		5150 - 5925 MHz	5150 - 5925 MHz	13.95	13.95	8.77	8.77	●
		47			n47		5855 - 5925 MHz	5855 - 5925 MHz	11.53	11.53	8.47	8.47	●
		48			n48		3550 - 3700 MHz	3550 - 3700 MHz	29.46	29.46	4.84	4.84	●
		49					3550 - 3700 MHz	3550 - 3700 MHz	29.46	29.46	4.84	4.84	●
		50			n50		1432 - 1517 MHz	1432 - 1517 MHz	42.39	42.39	2.34	2.34	●
		51			n51		1427 - 1432 MHz	1427 - 1432 MHz	34.20	34.20	2.54	2.54	●
		52					3300 - 3400 MHz	3300 - 3400 MHz	26.48	26.48	4.89	4.89	●

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		53			n53		2483.5 - 2495 MHz	2483.5 - 2495 MHz	41.25	41.25	2.25	2.25	●
		65		65	n65	n65	1920 - 2010 MHz	2110 - 2200 MHz	42.76	36.81	2.63	2.83	●
		66	66	66	n66	n66	1710 - 1780 MHz	2110 - 2200 MHz	39.35	36.81	2.07	2.83	●
		67			n67		N/A	738 - 758 MHz	N/A	50.88	N/A	1.93	●
		68					698 - 728 MHz	753 - 783 MHz	23.08	64.51	3.94	1.44	●
		69					N/A	2570 - 2620 MHz	N/A	47.03	N/A	2.31	●
		70		70	n70	n70	1695 - 1710 MHz	1995 - 2020 MHz	38.27	41.67	1.89	2.63	●
		71	71	71	n71		663 - 698 MHz	617 - 652 MHz	10.79	5.12	5.33	6.25	●
		72	72	72			451 - 456 MHz	461 - 466 MHz	47.43	47.32	1.72	2.56	●
		73	73	73			450 - 455 MHz	460 - 465 MHz	47.03	48.09	1.64	2.45	●
		74	74	74	n74		1427 - 1470 MHz	1475 - 1518 MHz	37.77	46.36	2.54	1.33	●
		75			n75		N/A	1432 - 1517 MHz	N/A	42.39	N/A	2.34	●
		76			n76		N/A	1427 - 1432 MHz	N/A	34.20	N/A	2.54	●
					n77		3300 - 4200 MHz	3300 - 4200 MHz	27.76	27.76	6.03	6.03	●
					n78		3300 - 3800 MHz	3300 - 3800 MHz	28.36	28.36	5.11	5.11	●
					n79		4400 - 5000 MHz	4400 - 5000 MHz	19.97	19.97	7.00	7.00	●
					n80		1710 - 1785 MHz	N/A	39.51	N/A	2.07	N/A	●
					n81		880 - 915 MHz	N/A	56.40	N/A	1.87	N/A	●
					n82		832 - 862 MHz	N/A	53.55	N/A	1.92	N/A	●
					n83		703 - 748 MHz	N/A	32.37	N/A	3.70	N/A	●
					n84		1920 - 1980 MHz	N/A	43.34	N/A	2.50	N/A	●
		85	85	85	n85		698 - 716 MHz	728 - 746 MHz	19.76	41.55	3.94	2.36	●
					n86		1710 - 1780 MHz	N/A	39.35	N/A	2.07	N/A	●
		87	87	87			410 - 415 MHz	420 - 425 MHz	21.95	26.30	3.66	2.90	●
		88	88	88			412 - 417 MHz	422 - 427 MHz	22.51	28.10	3.50	2.74	●

● Suitable band ● Adequate band in good signal conditions ● Likely to be unsuitable

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Cellular Standards Band Support

GSM (2G) Band	UMTS (3G) Band	E-UTRA (4G) Band	Cat M E-UTRA Band	Cat NB E-UTRA Band	NR (5G) Band	Cat NB NR (5G) Band	Uplink	Downlink	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
					n89		824 - 849 MHz	N/A	56.45	N/A	1.92	N/A	●
					n90	n90	2496 - 2690 MHz	2496 - 2690 MHz	47.60	47.60	2.60	2.60	●
					n91		832 - 862 MHz	1427 - 1432 MHz	53.55	34.20	1.92	2.54	●
					n92		832 - 862 MHz	1432 - 1517 MHz	53.55	42.39	1.92	2.34	●
					n93		880 - 915 MHz	1427 - 1432 MHz	56.40	34.20	1.87	2.54	●
					n94		880 - 915 MHz	1432 - 1517 MHz	56.40	42.39	1.87	2.34	●
					n95		2010 - 2025 MHz	N/A	43.22	N/A	2.14	N/A	●
					n97		2300 - 2400 MHz	N/A	37.81	N/A	2.95	N/A	●
					n98		1880 - 1920 MHz	N/A	42.94	N/A	2.50	N/A	●
					n99		1626.5 - 1660.5 MHz	N/A	43.62	N/A	1.73	N/A	●
					n101		1900 - 1910 MHz	1900 - 1910 MHz	44.37	44.37	2.07	2.07	●
				103			787 - 788 MHz	757 - 758 MHz	70.26	58.53	1.46	1.36	●

● Suitable band ● Adequate band in good signal conditions ● Likely to be unsuitable

NOTE: For each frequency band, Siretta provides a traffic light indication to show the suitability of the antenna for use at that frequency band. Determination of exactly what makes an antenna good or bad at any frequency is subjective.

The view presented is that of Siretta's engineering team having taken into account the efficiency and VSWR measurements. The end user is advised to use their own criteria and/or testing to confirm suitability.

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ISM Standards Frequency Support

Application	Frequency Range	Efficiency (%)	Maximum VSWR	Peak Gain from highest direction (dBi)	Use Indicator
ISM 433 MHz	433.05 - 434.79 MHz	36.57	1.85	0.749	●
ISM 868 MHz	863 - 870 MHz	51.29	1.60	1.075	●
ISM 915 MHz	902 - 928 MHz	54.97	2.11	2.078	●
ISM 2.4 GHz	2400 - 2500 MHz	38.26	2.86	2.87	●
Wi-Fi 2.4G	2401 - 2483 MHz	37.70	2.86	2.8305	●
Wi-Fi 2.4G (USA)	2401 - 2473 MHz	37.11	2.86	2.8305	●
Wi-Fi 2.4G (Japan)	2401 - 2495 MHz	38.16	2.86	2.8305	●
Wi-Fi 5G (all channels)	5150 - 5990 MHz	13.70	8.77	-0.83	●
Wi-Fi 5G (Ch 32-48)	5150 - 5250 MHz	16.84	7.33	-0.83	●
Wi-Fi 5G (Ch 32-64)	5150 - 5330 MHz	16.98	7.61	-0.83	●
Wi-Fi 5G (Ch 32-161)	5150 - 5815 MHz	14.33	8.77	-0.83	●
Wi-Fi 5G (Ch 32-173)	5150 - 5875 MHz	14.12	8.77	-0.83	●
ISM 5.8 GHz	5725 - 5875 MHz	11.81	8.70	-2.92	●

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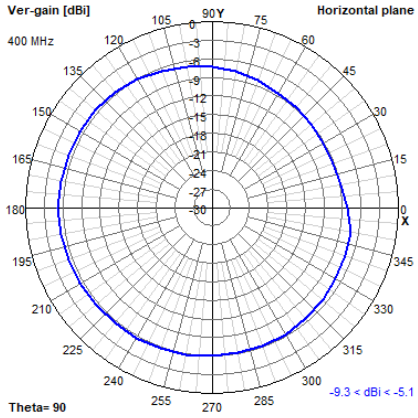
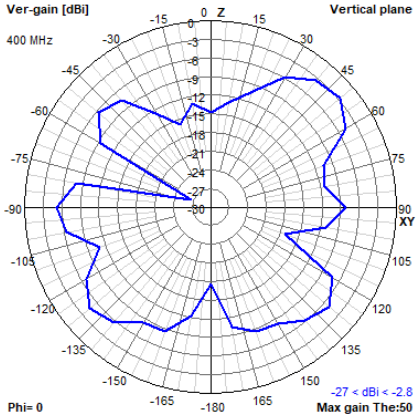
2D Radiation Plots

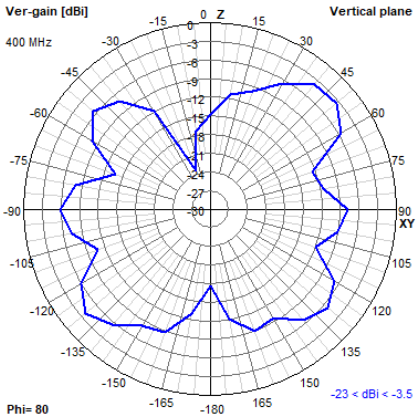
400 MHz XY



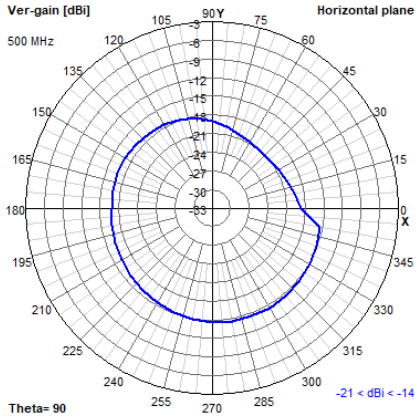
XZ



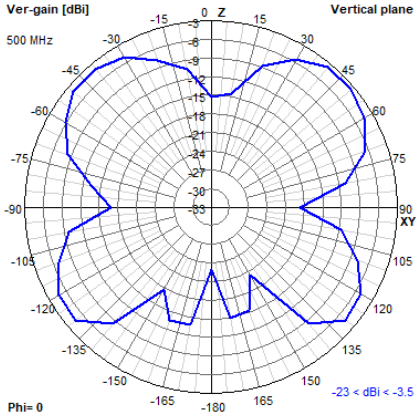
YZ



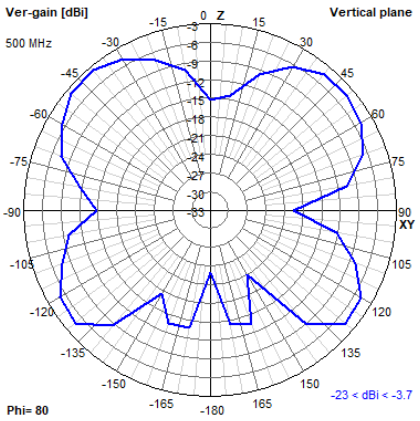
500 MHz XY



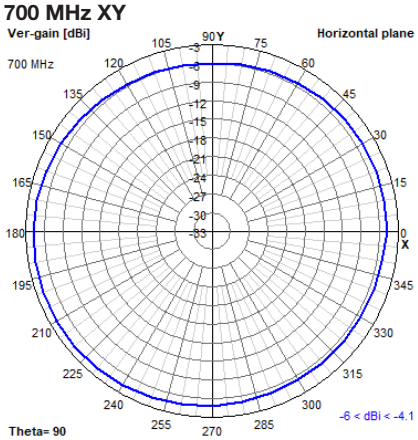
XZ



YZ



700 MHz XY



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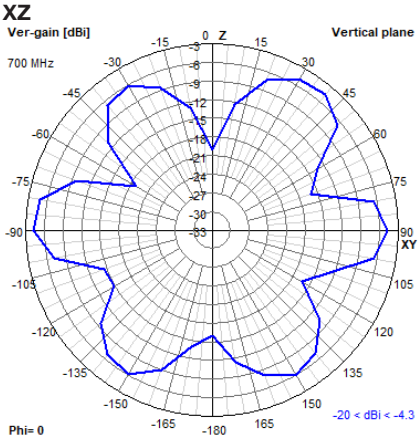

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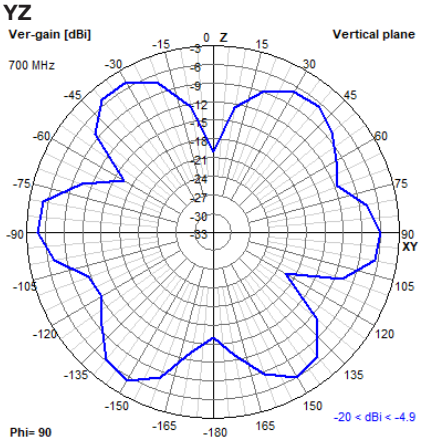

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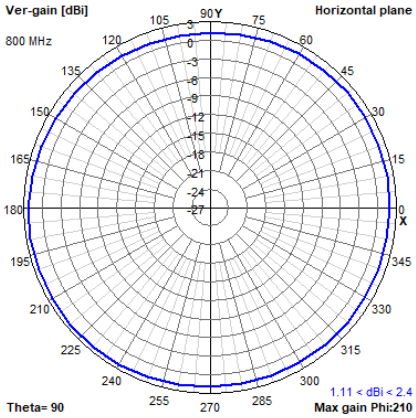
Enabling Industrial IoT

Mike 15

IP65 4G / LoRa Magnetic 460 mm Whip Antenna

2D Radiation Plots

800 MHz XY



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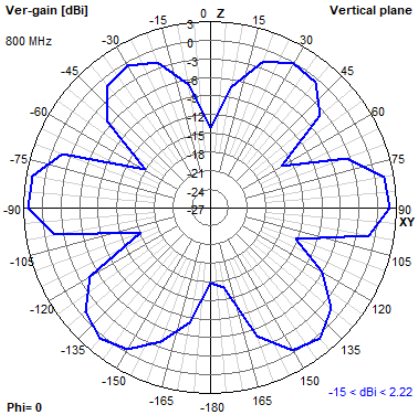

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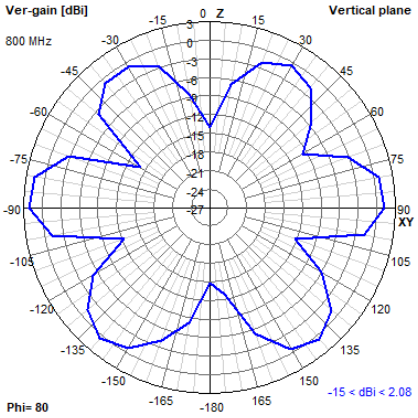
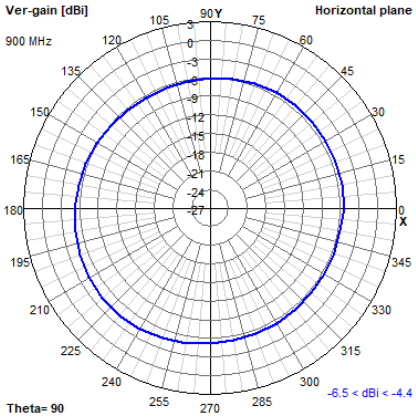


900 MHz XY



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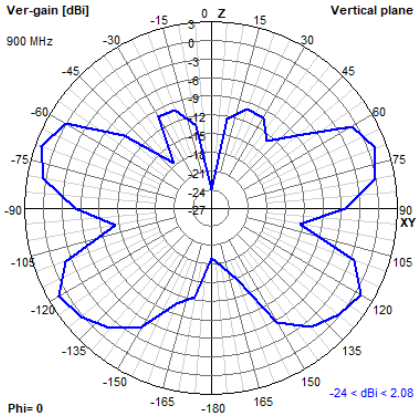

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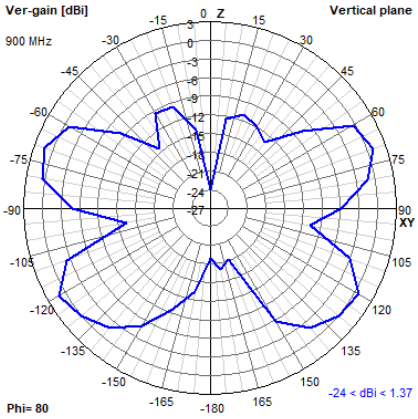
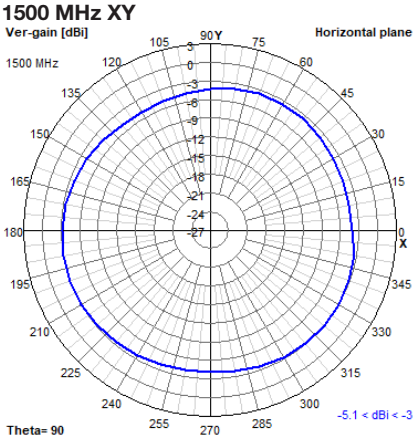


1500 MHz XY



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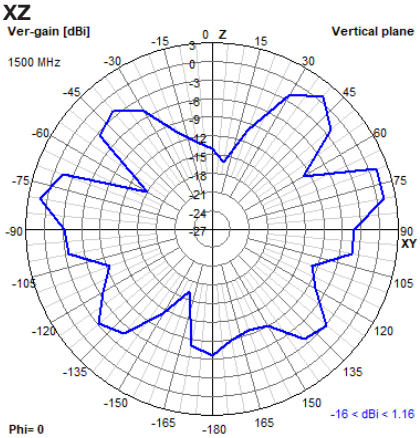

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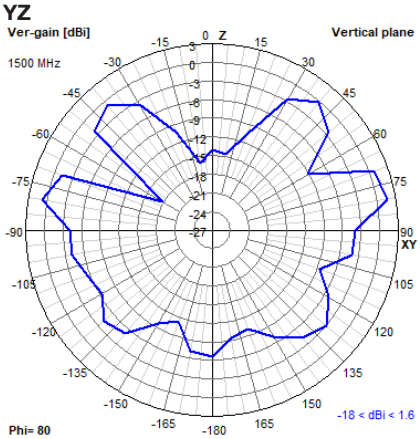

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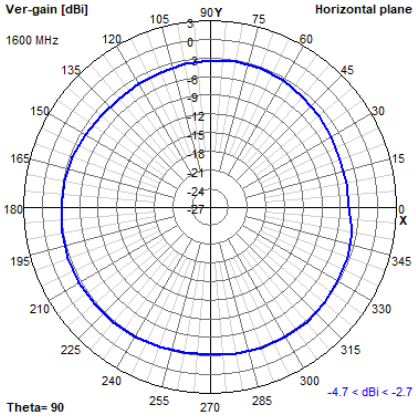
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

2D Radiation Plots

1600 MHz XY



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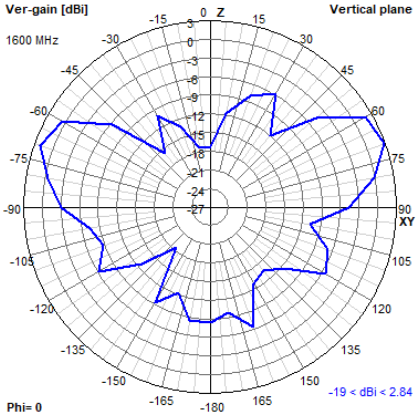

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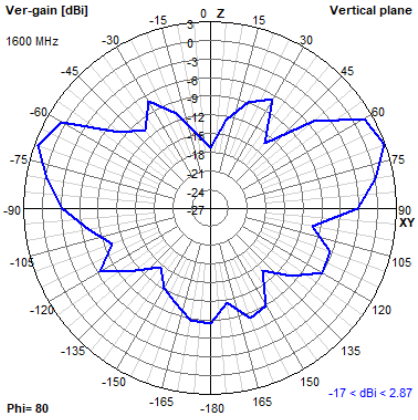
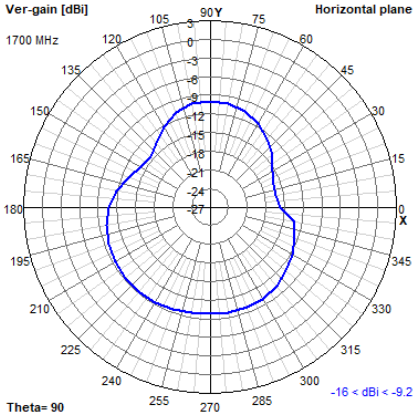


1700 MHz XY



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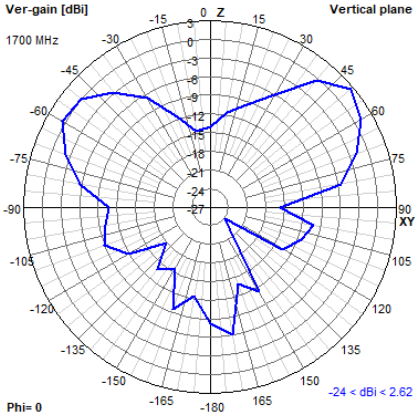

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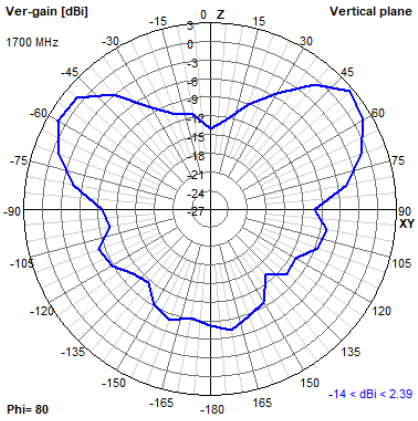
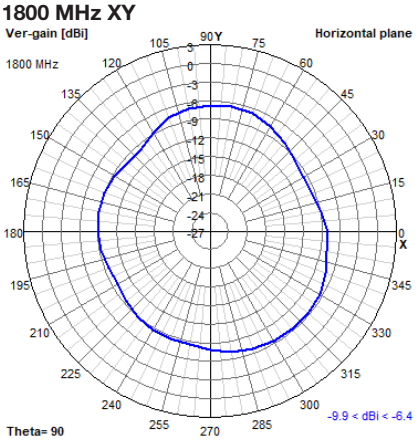


1800 MHz XY



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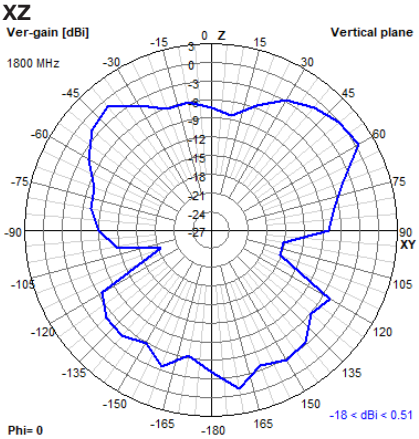

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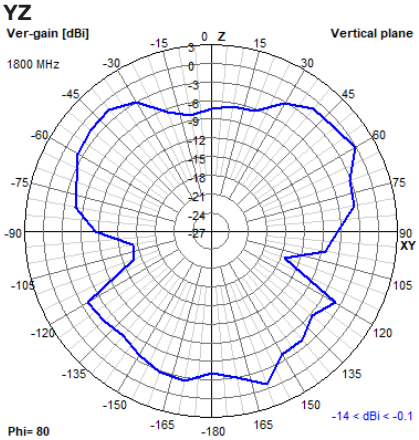

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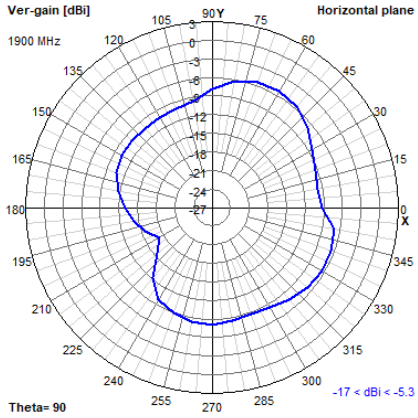
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

2D Radiation Plots

1900 MHz XY



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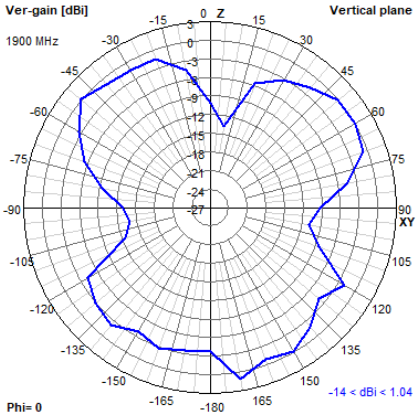

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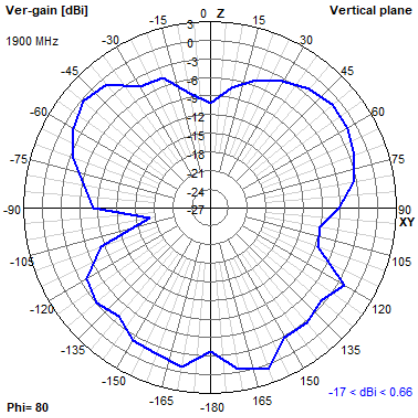
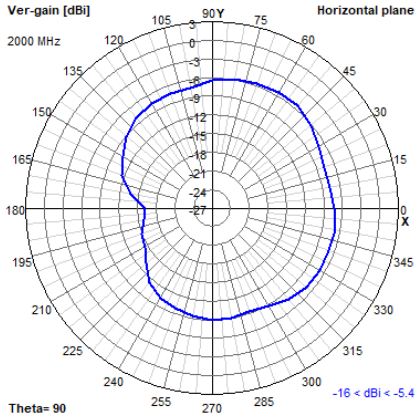


2000 MHz XY



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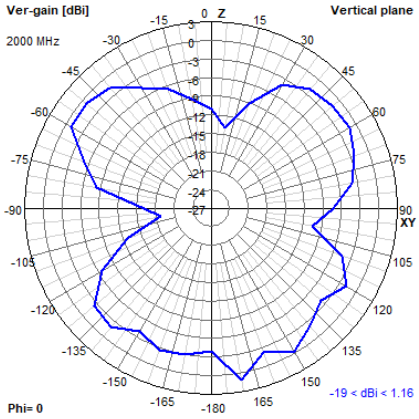

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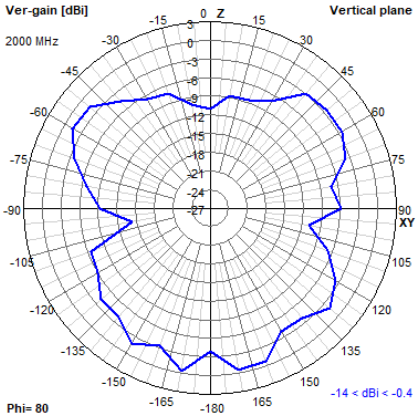
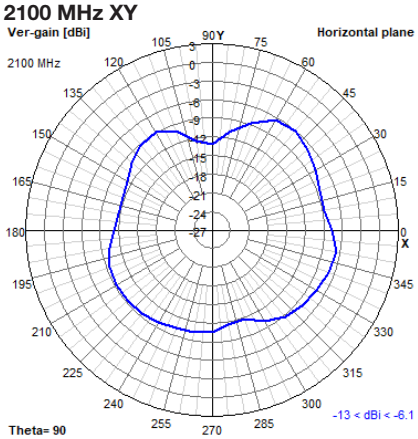


2100 MHz XY



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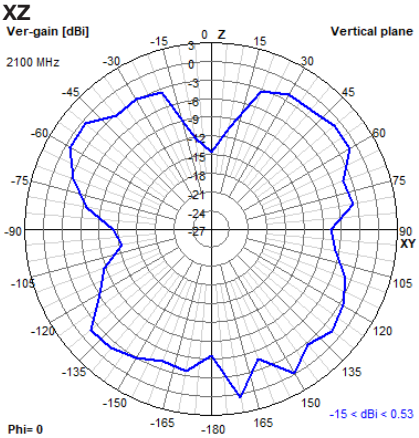

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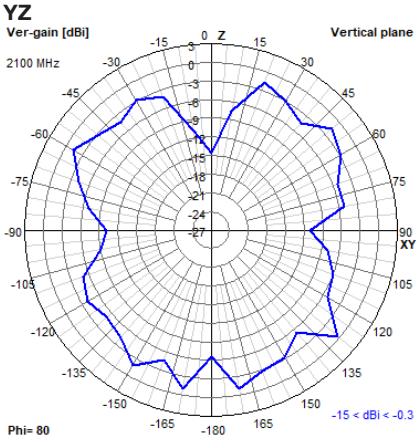

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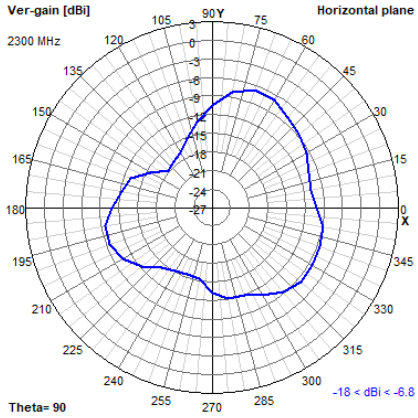
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

2D Radiation Plots

2300 MHz XY



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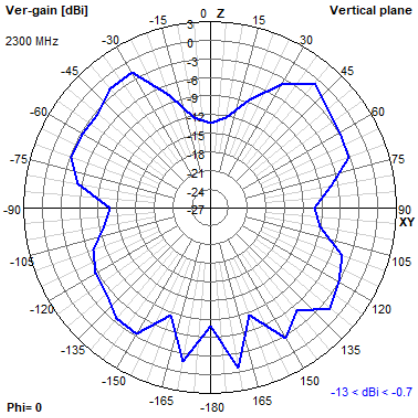

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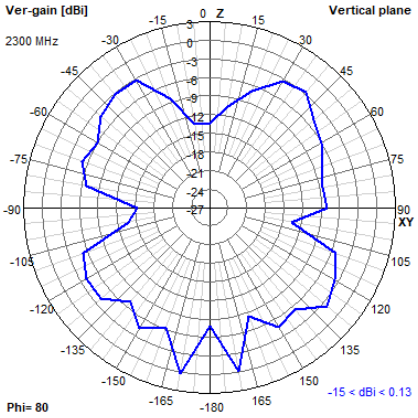
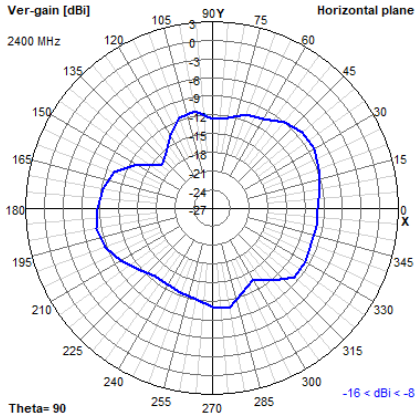


2400 MHz XY



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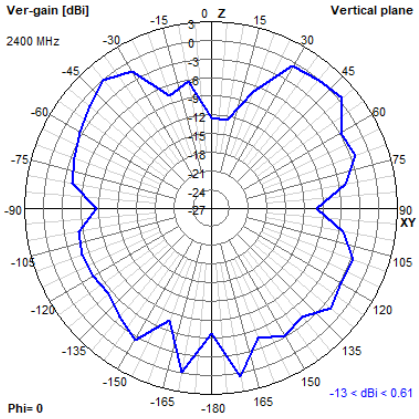

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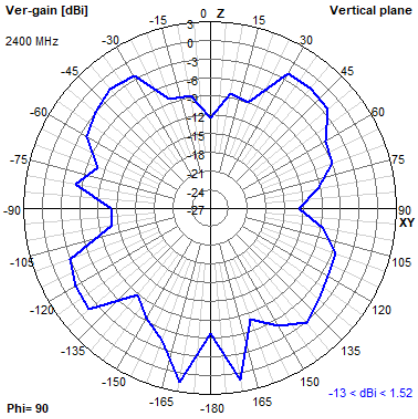
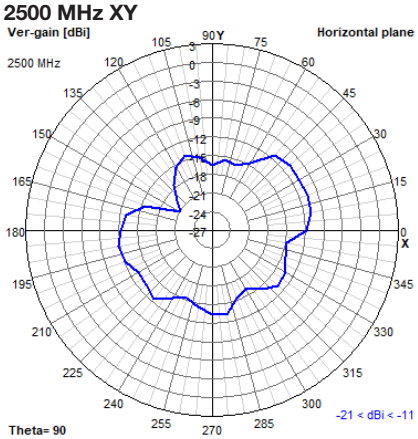


2500 MHz XY



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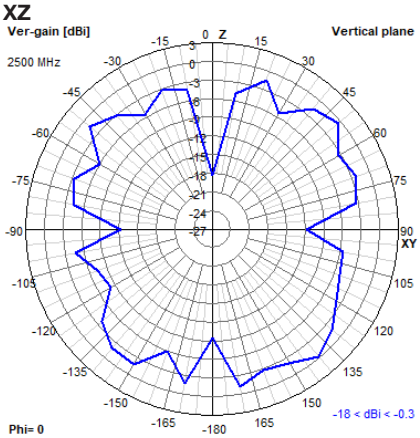

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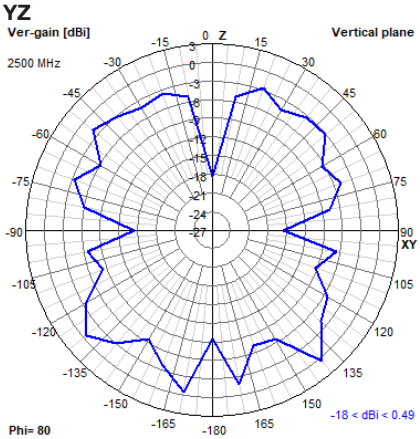

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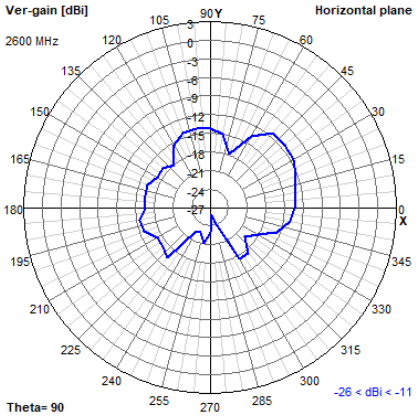
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

2D Radiation Plots

2600 MHz XY



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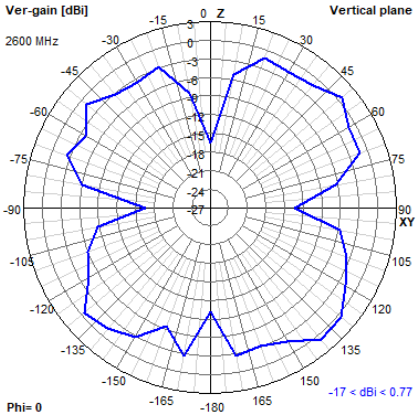

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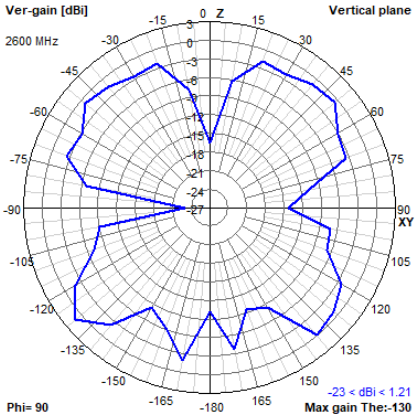

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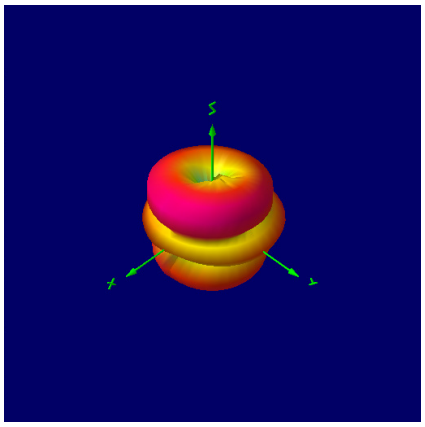
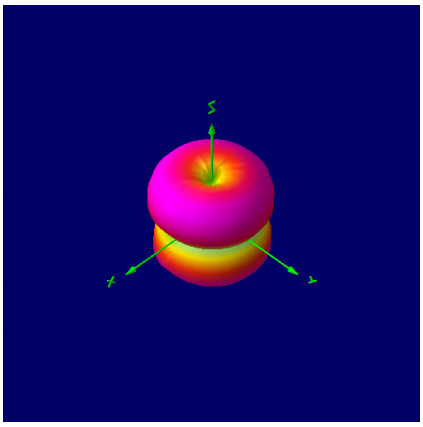
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

3D Radiation Plots

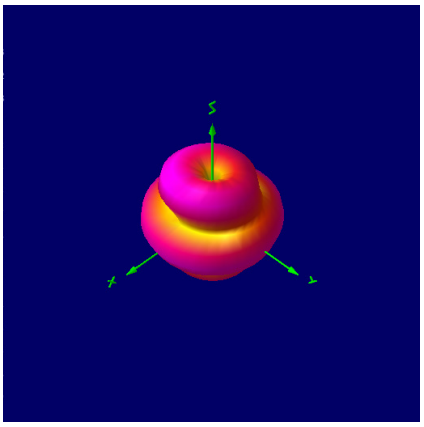
400 MHz



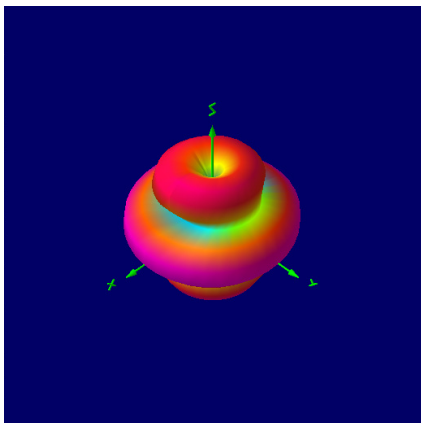
500 MHz



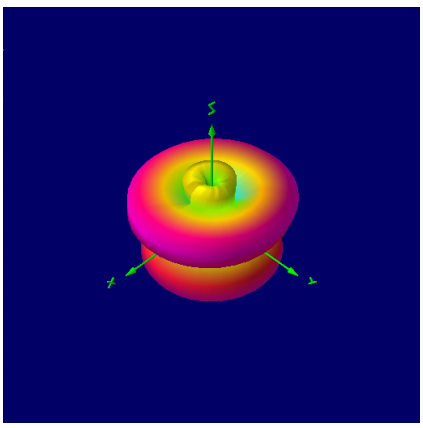
700 MHz



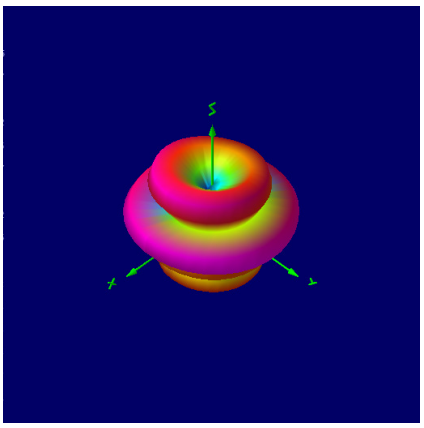
800 MHz



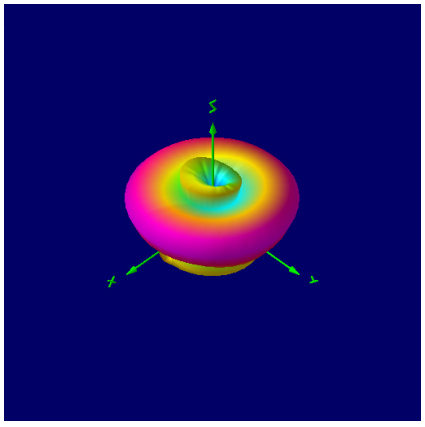
900 MHz



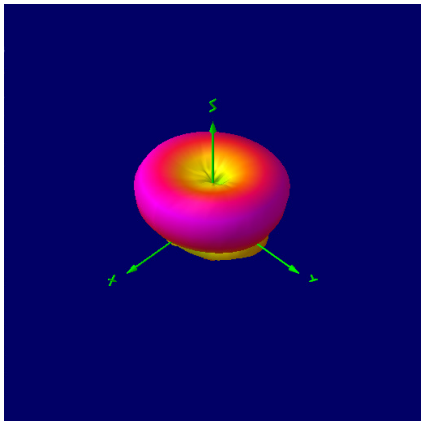
1500 MHz



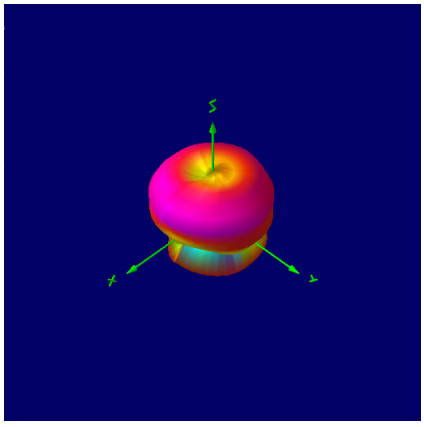
1600 MHz



1700 MHz



1800 MHz



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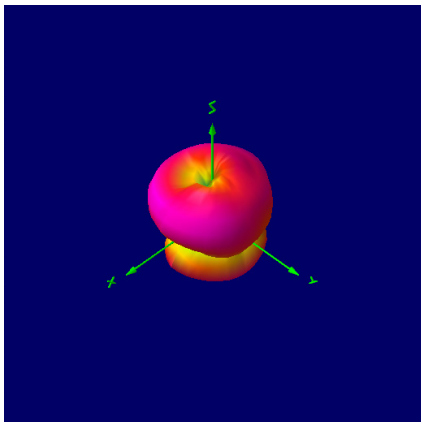
Mike 15

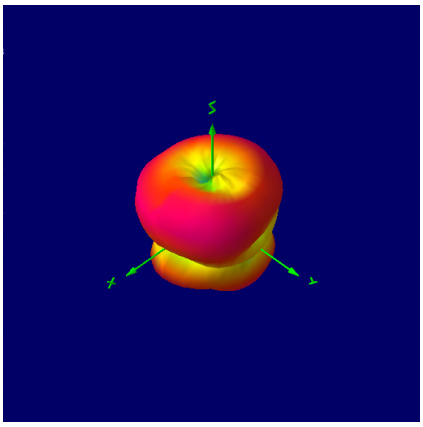
IP65 4G / LoRa Magnetic 460 mm Whip Antenna

3D Radiation Plots

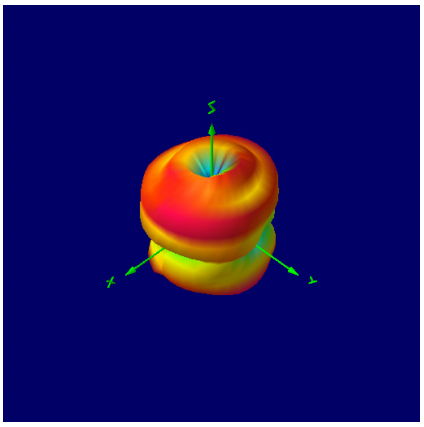
1900 MHz



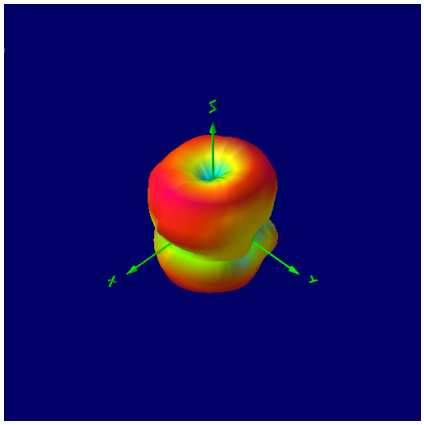
2000 MHz



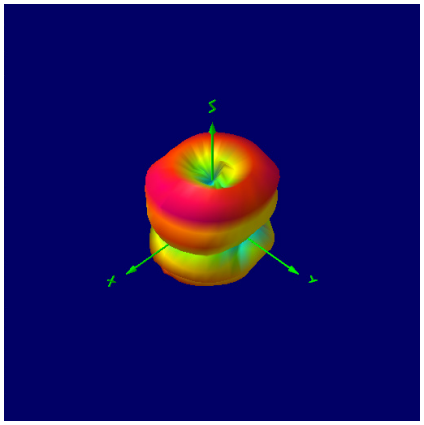
2100 MHz



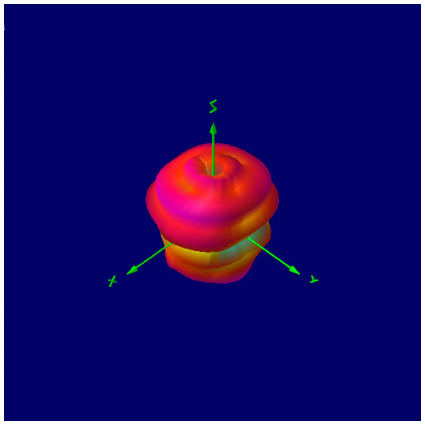
2300 MHz



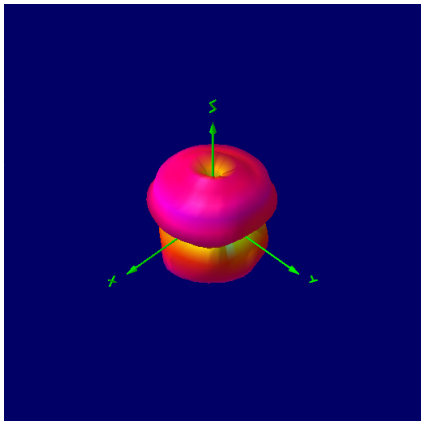
2400 MHz



2500 MHz



2600 MHz



NOTE: All 3D radiation plots are shown with Theta = 45 and Phi = 45.

Siretta

Enabling Industrial IoT

Mike 15

IP65 4G / LoRa Magnetic 460 mm Whip Antenna

Ordering Details:

Part Number	Description
MIKE15/2.5M/FMEF/S/S/26	LoRa/SigFox/Bluetooth/Zigbee Magnetic 460mm Whip Antenna FME Female Connector 2.5M Cable
MIKE15/2.5M/SMAM/S/S/26	LoRa/SigFox/Bluetooth/Zigbee Magnetic 460mm Whip Antenna SMA Male Connector 2.5M Cable