

Mike 1A

LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna



Key Features

- Supports LoRa, Sigfox, ISM 868 MHz, ISM 915 MHz bands
- Supports 5G NR / 4G LTE / 3G UMTS / 2G GSM
- Supports LTE Cat M, LTE Cat NB, NR Cat NB
- Supports Dual-Band Wi-Fi 2.4 GHz & 5 GHz Bands
- Supports Bluetooth and BLE, Zigbee, ISM 2.4 GHz, & IEEE 802.15.4 bands
- Magnetic mount

General Description

The Mike 1A magnetic mount antenna is a popular, versatile antenna used in many ISM applications as well as cellular 5G and 4G users. Typical applications for this antenna are utility metering, alarm panels and sensor monitoring.

A variety of connector options and cable lengths are available, and others can be specified for small volume orders.

Additional Considerations

- Simple to fit in place
- Magnetic mounting allows for micro adjustments in positioning to optimise signal strength

M Magnetic	5G New Radio	4G LTE	3G UMTS	2G GSM
ISM 868	ISM 915	ISM 2.4G	IEEE 802.15.4	LoRa Wireless
SF Sigfox	BLE Bluetooth	AoA Bluetooth	AoD Bluetooth	WiFi 2.4G & 5G
ZB Zigbee	Z Wave	WLAN 2400	WiFi 4 802.11n	WiFi 5 802.11ac
WiFi 6 802.11ax	HNT Helium	W Weightless		



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Electrical Specifications

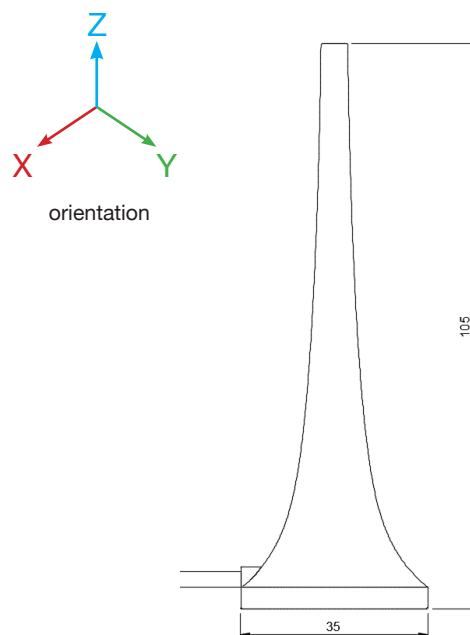
Impedance:	50 Ohm
Polarization:	Vertical
Max Input Power:	60 W
Ground plane independent:	No

Environmental Specifications

Operating Temperature range:	-45 to +75 °C
Storage Temperature range:	-45 to +75 °C

Mechanical Specifications

Dimensions:	105 mm (Height) x 34 mm (Base)
Weight:	20 g
Cable:	RG174
Connector:	SMA Male / FME Female
Mounting method:	Magnetic
Housing materials:	ABS

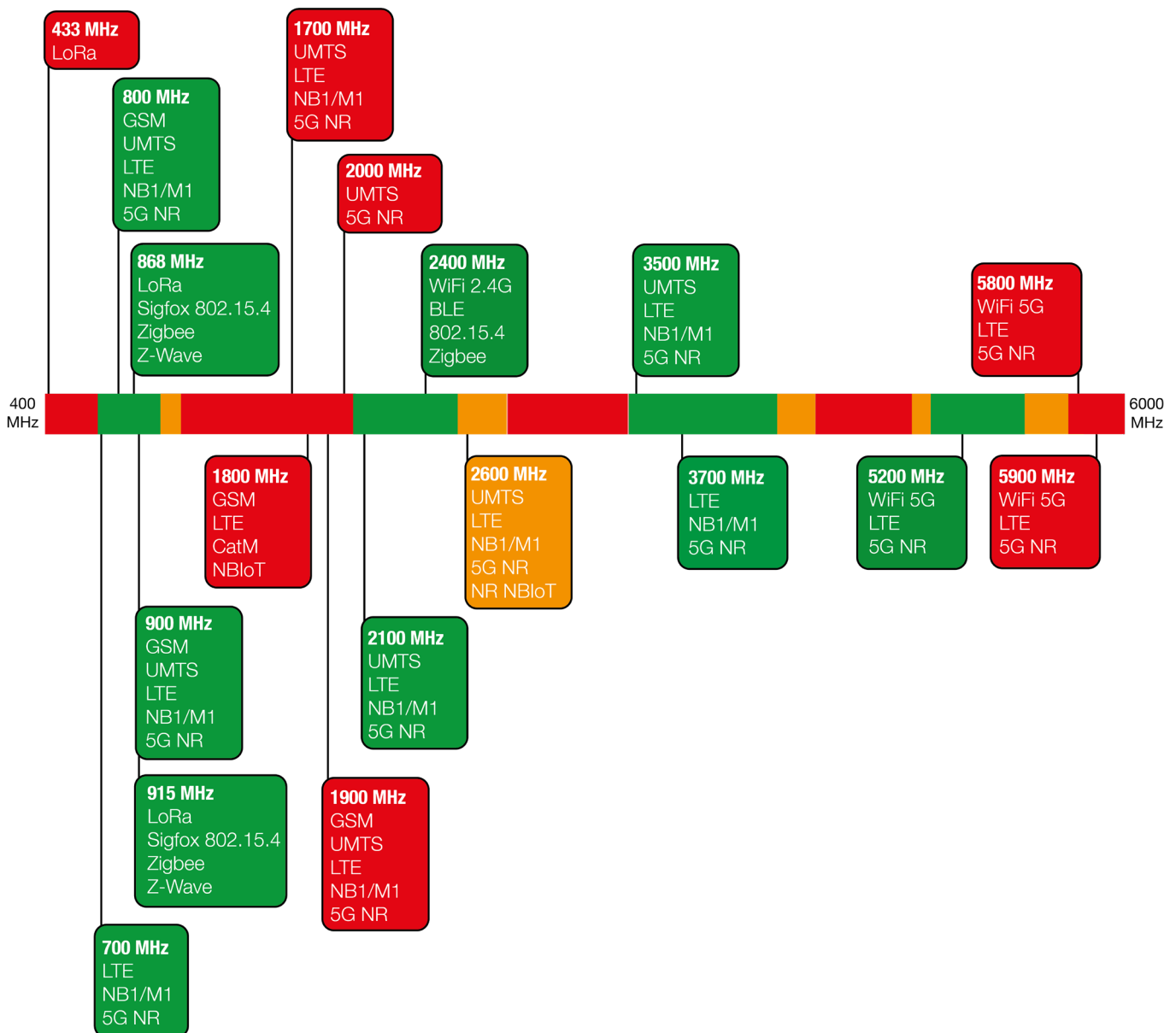




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Spectrum Coverage



● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable



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:				●	●	●	●					

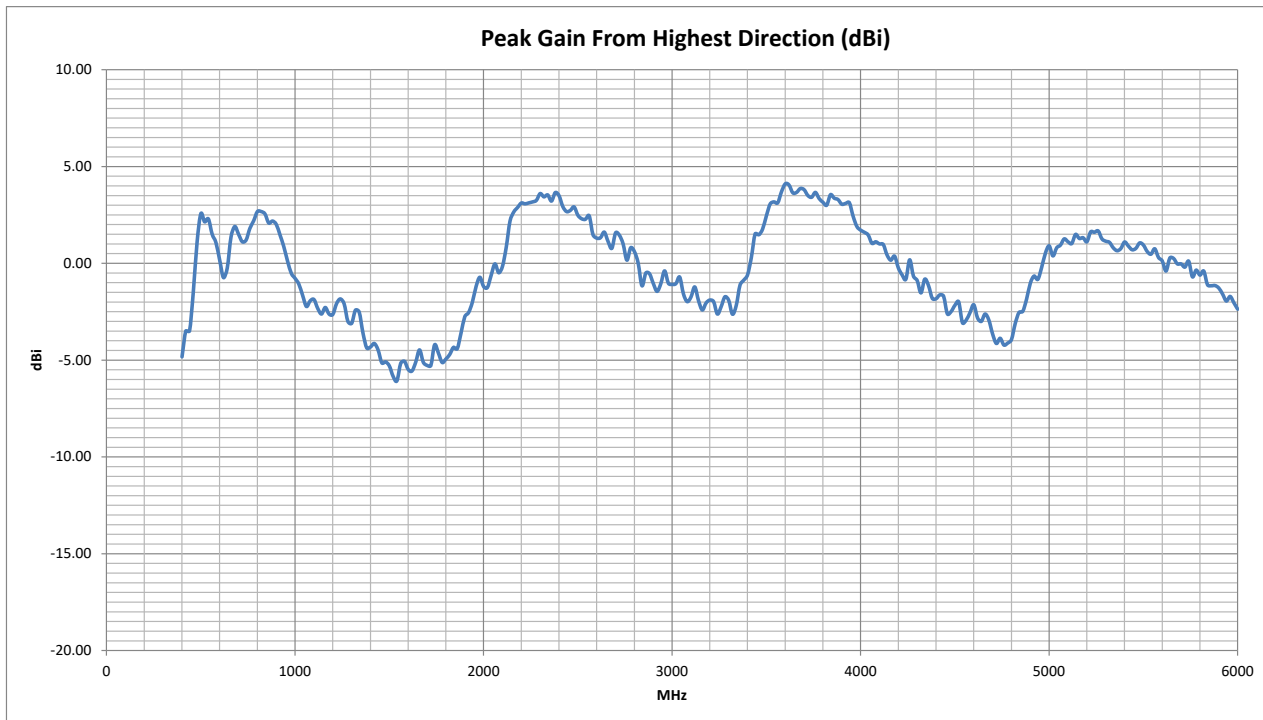
Usable Cellular Frequency Support (2000 MHz – 5900 MHz)

	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:												

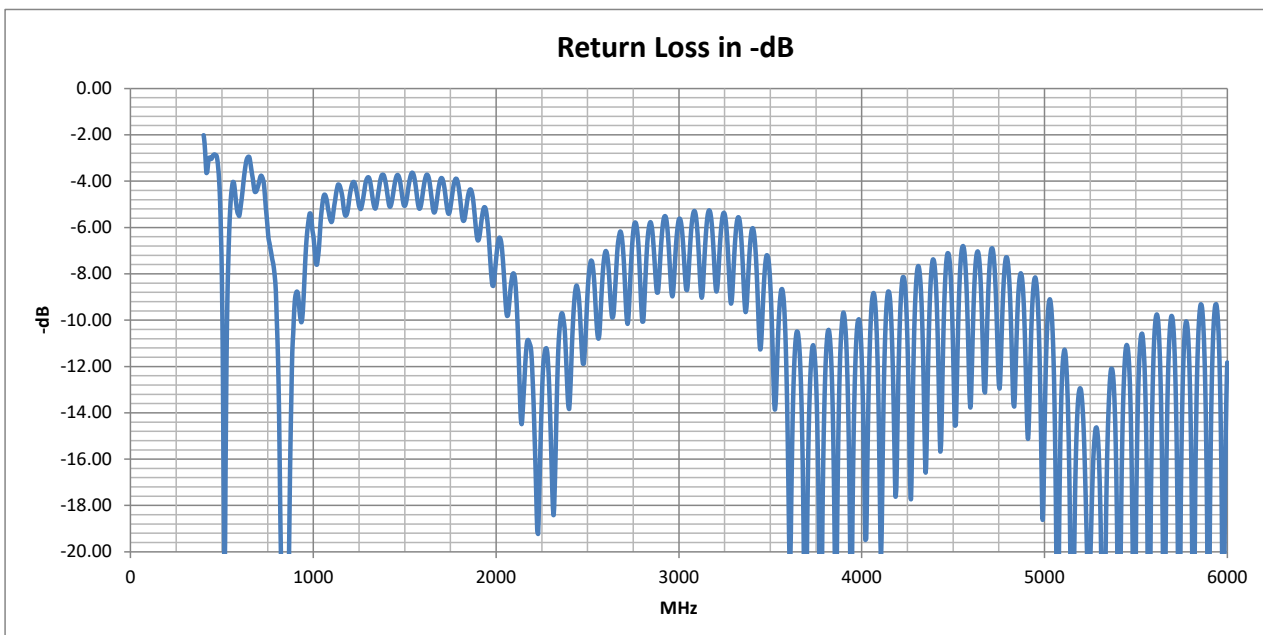
Usable ISM Frequency Support (433 MHz - 5800 MHz)

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

Peak Gain vs. Frequency



Return Loss

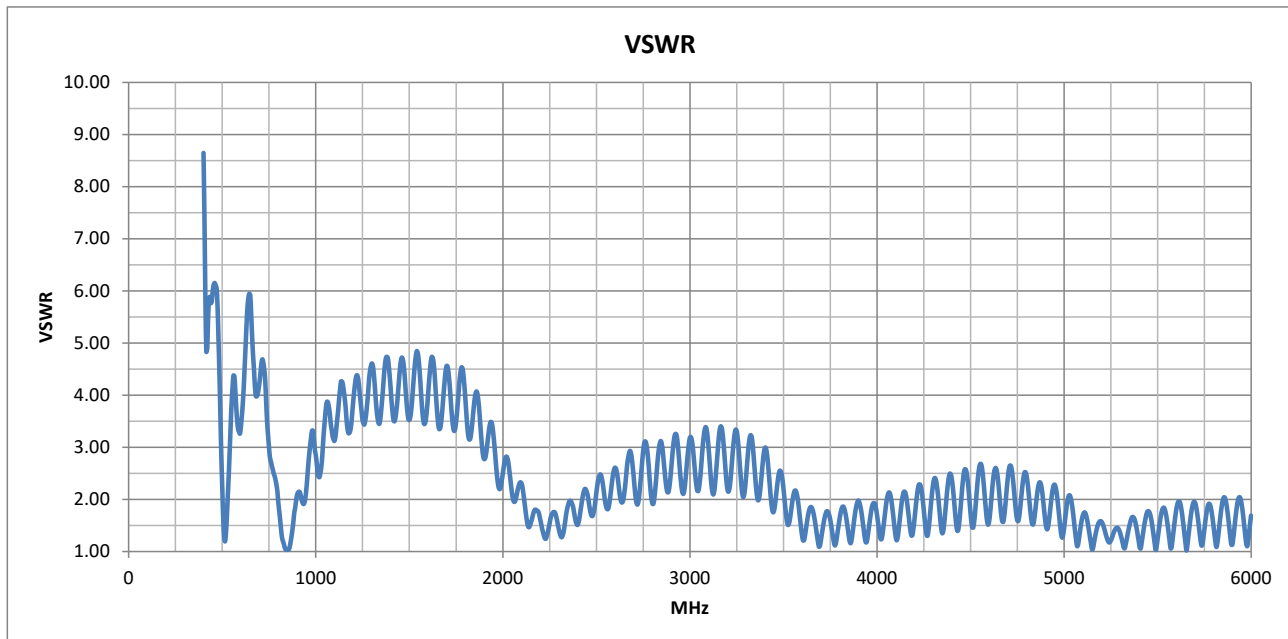




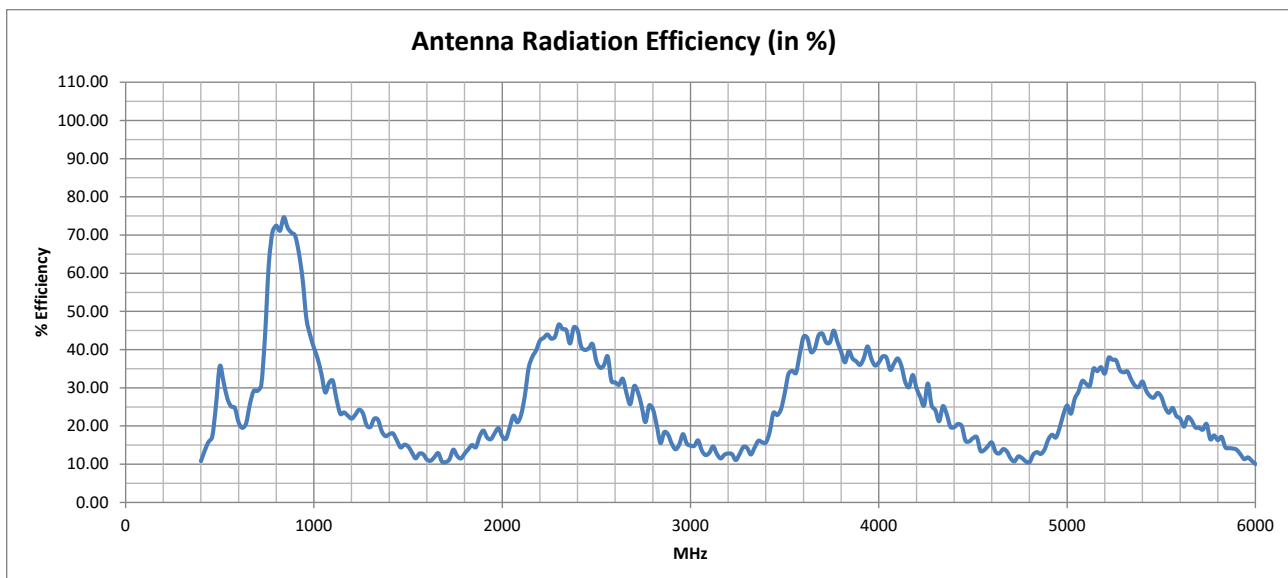
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VSWR



Radiation Efficiency





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	17.62	33.59	3.48	2.11	●
PCS-1900	2	2	2	2	n2	n2	1850 - 1910 MHz	1930 - 1990 MHz	16.77	17.95	4.07	3.48	●
DCS-1800	3	3	3	3	n3	n3	1710 - 1785 MHz	1805 - 1880 MHz	12.22	14.71	4.53	4.07	●
	4	4	4	4			1710 - 1755 MHz	2110 - 2155 MHz	12.44	32.03	4.42	2.11	●
GSM-850	5	5	5	5	n5	n5	824 - 849 MHz	869 - 894 MHz	73.52	70.63	1.21	1.95	●
	6						830 - 840 MHz	875 - 885 MHz	73.76	70.66	1.14	1.74	●
	7	7	7	7	n7	n7	2500 - 2570 MHz	2620 - 2690 MHz	36.27	29.30	2.48	2.93	●
E-GSM-900	8	8	8	8	n8	n8	880 - 915 MHz	925 - 960 MHz	69.33	56.53	2.15	2.66	●
	9	9					1749.9 - 1784.9 MHz	1844.9 - 1879.9 MHz	12.03	15.33	4.53	4.07	●
	10	10					1710 - 1770 MHz	2110 - 2170 MHz	12.37	33.59	4.42	2.11	●
	11	11	11	11			1427.9 - 1447.9 MHz	1475.9 - 1495.9 MHz	16.43	14.94	4.41	4.34	●
	12	12	12	12	n12	n12	699 - 716 MHz	729 - 746 MHz	29.72	42.08	4.69	4.32	●
	13	13	13	13	n13	n13	777 - 787 MHz	746 - 756 MHz	70.80	53.66	2.48	3.19	●
	14	14	14	14	n14		788 - 798 MHz	758 - 768 MHz	71.87	63.29	2.31	2.76	●
		17		17			704 - 716 MHz	734 - 746 MHz	29.90	43.81	4.69	3.94	●
		18	18	18	n18	n18	815 - 830 MHz	860 - 875 MHz	71.77	71.45	1.41	1.41	●
	19	19	19	19			830 - 845 MHz	875 - 890 MHz	73.94	70.55	1.14	1.84	●
	20	20	20	20	n20	n20	832 - 862 MHz	791 - 821 MHz	73.37	71.85	1.11	2.25	●
	21	21	21	21			1447.9 - 1462.9 MHz	1495.9 - 1510.9 MHz	14.85	14.36	4.72	3.73	●
	22	22					3410 - 3490 MHz	3510 - 3590 MHz	22.30	35.18	2.92	2.17	●
		24	24	24	n24		1626.5 - 1660.5 MHz	1525 - 1559 MHz	12.04	12.11	4.69	4.84	●
	25	25	25	25	n25	n25	1850 - 1915 MHz	1930 - 1995 MHz	16.84	17.96	4.07	3.48	●
	26	26	26	26	n26		814 - 849 MHz	859 - 894 MHz	72.91	70.93	1.45	1.95	●
		27	27				807 - 824 MHz	852 - 869 MHz	71.54	72.04	1.70	1.26	●
		28	28	28	n28	n28	703 - 748 MHz	758 - 803 MHz	36.16	68.89	4.69	2.76	●

● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable



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
		28A					703 - 733 MHz	758 - 788 MHz	32.07	67.33	4.69	2.76	●
		29			n29		N/A	717 - 728 MHz	N/A	32.45	N/A	4.66	●
		30			n30		2305 - 2315 MHz	2350 - 2360 MHz	45.98	42.46	1.34	1.97	●
		31	31	31			452.5 - 457.5 MHz	462.5 - 467.5 MHz	16.84	19.25	6.13	6.12	●
	32	32					N/A	1452 - 1496 MHz	N/A	14.81	N/A	4.72	●
		33					1900 - 1920 MHz	1900 - 1920 MHz	17.87	17.87	3.15	3.15	●
		34			n34		2010 - 2025 MHz	2010 - 2025 MHz	16.90	16.90	2.82	2.82	●
		35					1850 - 1910 MHz	1850 - 1910 MHz	16.77	16.77	4.07	4.07	●
		36					1930 - 1990 MHz	1930 - 1990 MHz	17.95	17.95	3.48	3.48	●
		37					1910 - 1930 MHz	1910 - 1930 MHz	17.13	17.13	3.42	3.42	●
		38			n38		2570 - 2620 MHz	2570 - 2620 MHz	31.72	31.72	2.61	2.61	●
		39	39		n39		1880 - 1920 MHz	1880 - 1920 MHz	17.94	17.94	3.42	3.42	●
		40	40		n40		2300 - 2400 MHz	2300 - 2400 MHz	44.74	44.74	1.97	1.97	●
		41	41	41	n41	n41	2496 - 2690 MHz	2496 - 2690 MHz	32.60	32.60	2.93	2.93	●
		42	42	42			3400 - 3600 MHz	3400 - 3600 MHz	28.79	28.79	2.99	2.99	●
		43	43	43			3600 - 3800 MHz	3600 - 3800 MHz	42.26	42.26	1.85	1.85	●
		44					703 - 803 MHz	703 - 803 MHz	52.82	52.82	4.69	4.69	●
		45					1447 - 1467 MHz	1447 - 1467 MHz	14.83	14.83	4.72	4.72	●
		46			n46		5150 - 5925 MHz	5150 - 5925 MHz	25.21	25.21	2.04	2.04	●
		47			n47		5855 - 5925 MHz	5855 - 5925 MHz	13.69	13.69	2.04	2.04	●
		48			n48		3550 - 3700 MHz	3550 - 3700 MHz	40.62	40.62	2.17	2.17	●
		49					3550 - 3700 MHz	3550 - 3700 MHz	40.62	40.62	2.17	2.17	●
		50			n50		1432 - 1517 MHz	1432 - 1517 MHz	14.94	14.94	4.72	4.72	●
		51			n51		1427 - 1432 MHz	1427 - 1432 MHz	17.19	17.19	3.73	3.73	●
		52					3300 - 3400 MHz	3300 - 3400 MHz	14.74	14.74	3.23	3.23	●

● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable



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
		53			n53		2483.5 - 2495 MHz	2483.5 - 2495 MHz	39.32	39.32	1.97	1.97	●
		65		65	n65	n65	1920 - 2010 MHz	2110 - 2200 MHz	17.72	35.90	3.48	2.11	●
		66	66	66	n66	n66	1710 - 1780 MHz	2110 - 2200 MHz	12.27	35.90	4.53	2.11	●
		67			n67		N/A	738 - 758 MHz	N/A	50.88	N/A	3.64	●
		68					698 - 728 MHz	753 - 783 MHz	30.73	65.10	4.69	2.88	●
		69					N/A	2570 - 2620 MHz	N/A	31.72	N/A	2.61	●
		70		70	n70	n70	1695 - 1710 MHz	1995 - 2020 MHz	10.68	17.08	4.56	2.82	●
		71	71	71	n71		663 - 698 MHz	617 - 652 MHz	28.46	20.78	4.90	5.95	●
		72	72	72			451 - 456 MHz	461 - 466 MHz	16.73	18.63	6.13	6.14	●
		73	73	73			450 - 455 MHz	460 - 465 MHz	16.67	18.22	6.12	6.15	●
		74	74	74	n74		1427 - 1470 MHz	1475 - 1518 MHz	15.60	14.50	4.72	4.38	●
		75			n75		N/A	1432 - 1517 MHz	N/A	14.94	N/A	4.72	●
		76			n76		N/A	1427 - 1432 MHz	N/A	17.19	N/A	3.73	●
					n77		3300 - 4200 MHz	3300 - 4200 MHz	33.55	33.55	3.23	3.23	●
					n78		3300 - 3800 MHz	3300 - 3800 MHz	31.37	31.37	3.23	3.23	●
					n79		4400 - 5000 MHz	4400 - 5000 MHz	15.10	15.10	2.68	2.68	●
					n80		1710 - 1785 MHz	N/A	12.22	N/A	4.53	N/A	●
					n81		880 - 915 MHz	N/A	69.33	N/A	2.15	N/A	●
					n82		832 - 862 MHz	N/A	73.37	N/A	1.11	N/A	●
					n83		703 - 748 MHz	N/A	36.16	N/A	4.69	N/A	●
					n84		1920 - 1980 MHz	N/A	17.62	N/A	3.48	N/A	●
		85	85	85	n85		698 - 716 MHz	728 - 746 MHz	29.69	41.74	4.69	4.36	●
					n86		1710 - 1780 MHz	N/A	12.27	N/A	4.53	N/A	●
		87	87	87			410 - 415 MHz	420 - 425 MHz	12.50	13.81	5.88	5.54	●
		88	88	88			412 - 417 MHz	422 - 427 MHz	12.77	14.04	5.46	5.66	●

● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable



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	73.52	N/A	1.21	N/A	●
					n90	n90	2496 - 2690 MHz	2496 - 2690 MHz	32.60	32.60	2.93	2.93	●
					n91		832 - 862 MHz	1427 - 1432 MHz	73.37	17.19	1.11	3.73	●
					n92		832 - 862 MHz	1432 - 1517 MHz	73.37	14.94	1.11	4.72	●
					n93		880 - 915 MHz	1427 - 1432 MHz	69.33	17.19	2.15	3.73	●
					n94		880 - 915 MHz	1432 - 1517 MHz	69.33	14.94	2.15	4.72	●
					n95		2010 - 2025 MHz	N/A	16.90	N/A	2.82	N/A	●
					n97		2300 - 2400 MHz	N/A	44.74	N/A	1.97	N/A	●
					n98		1880 - 1920 MHz	N/A	17.94	N/A	3.42	N/A	●
					n99		1626.5 - 1660.5 MHz	N/A	12.04	N/A	4.69	N/A	●
					n101		1900 - 1910 MHz	1900 - 1910 MHz	18.33	18.33	2.86	2.86	●
				103			787 - 788 MHz	757 - 758 MHz	71.41	59.74	2.33	2.78	●

● 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.



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	15.11	5.89	-3.4926	●
IMT 868 MHz	863 - 870 MHz	71.52	1.28	2.13	●
ISM 915 MHz	902 - 928 MHz	66.29	2.15	1.955	●
ISM 2.4 GHz	2400 - 2500 MHz	40.66	2.20	3.49	●
Wi-Fi 2.4G	2401 - 2483 MHz	40.99	2.20	3.462	●
Wi-Fi 2.4G (USA)	2401 - 2473 MHz	40.97	2.20	3.462	●
Wi-Fi 2.4G (Japan)	2401 - 2495 MHz	40.79	2.20	3.462	●
Wi-Fi 5G (all channels)	5150 - 5990 MHz	24.15	2.04	1.67	●
Wi-Fi 5G (Ch 32-48)	5150 - 5250 MHz	35.74	1.58	1.635	●
Wi-Fi 5G (Ch 32-64)	5150 - 5330 MHz	35.39	1.58	1.67	●
Wi-Fi 5G (Ch 32-161)	5150 - 5815 MHz	27.02	1.96	1.67	●
Wi-Fi 5G (Ch 32-173)	5150 - 5875 MHz	26.02	2.04	1.67	●
ISM 5.8 GHz	5725 - 5875 MHz	16.64	2.04	0.11	●

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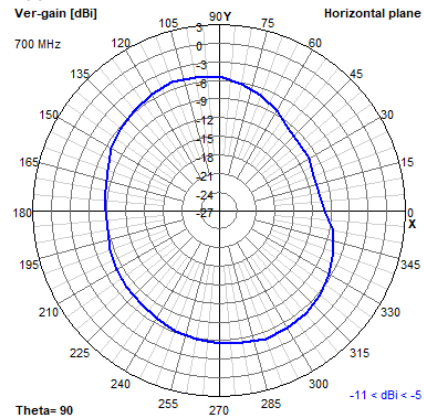


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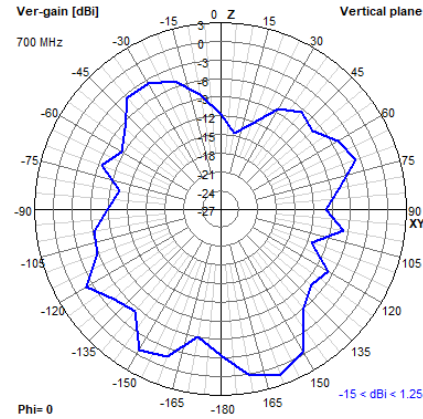
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2D Radiation Plots

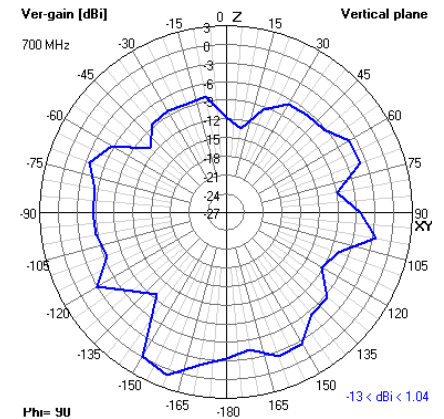
700 MHz XY



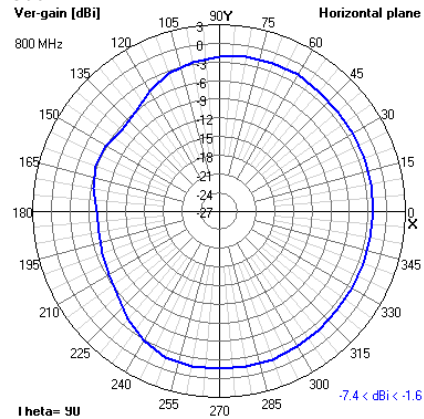
XZ



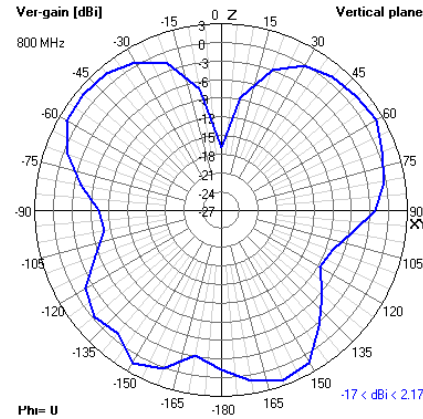
YZ



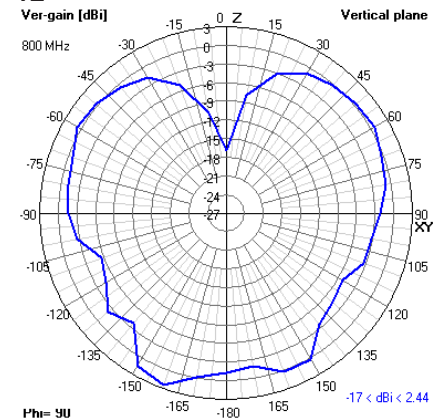
800 MHz XY



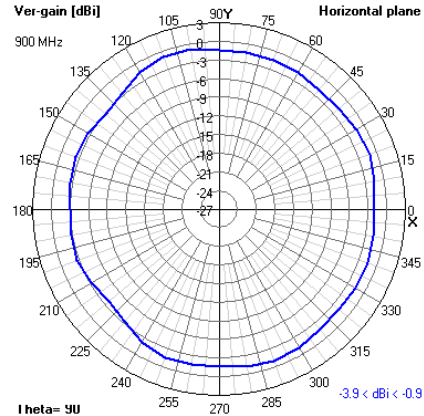
XZ



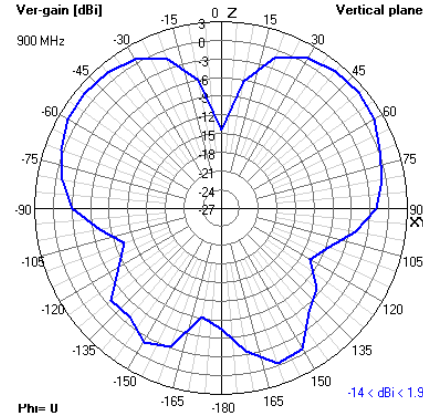
YZ



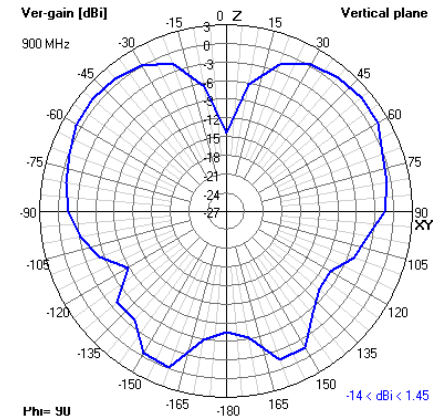
900 MHz XY



XZ



YZ



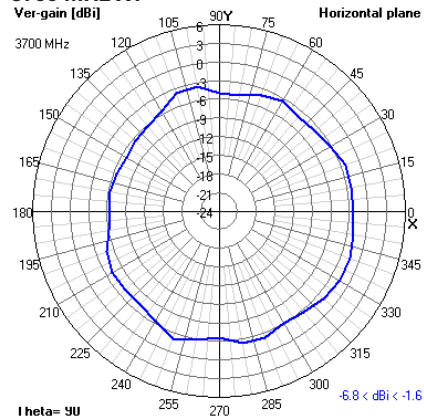


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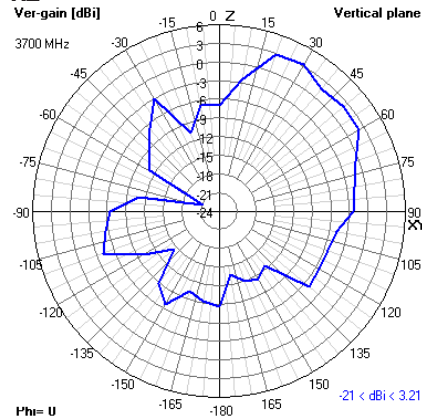
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2D Radiation Plots

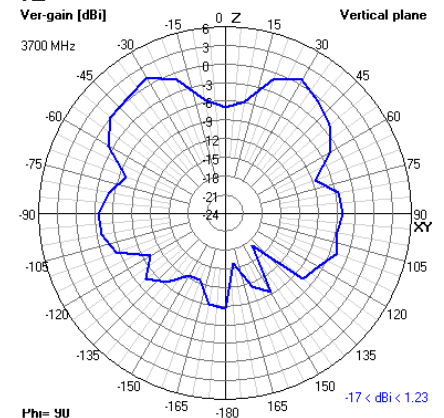
3700 MHz XY



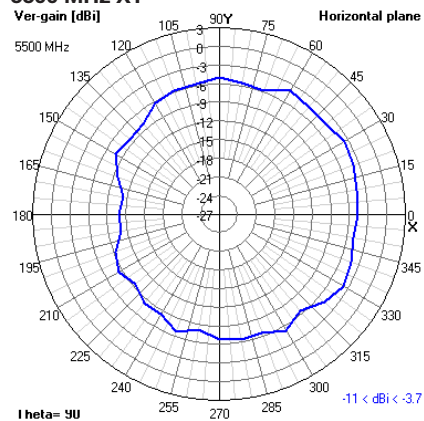
XZ



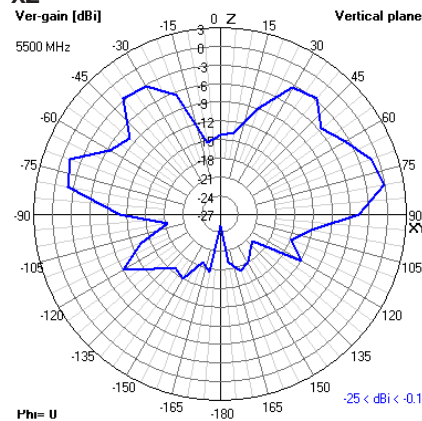
YZ



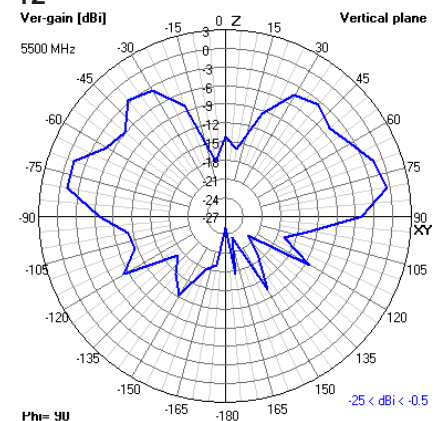
5500 MHz XY



XZ



YZ



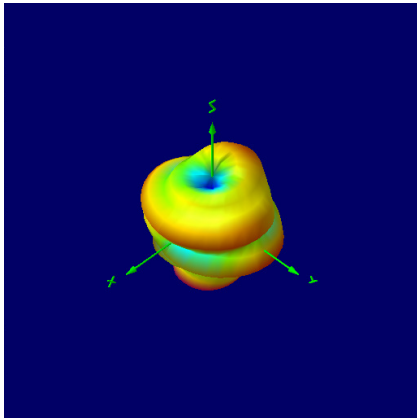


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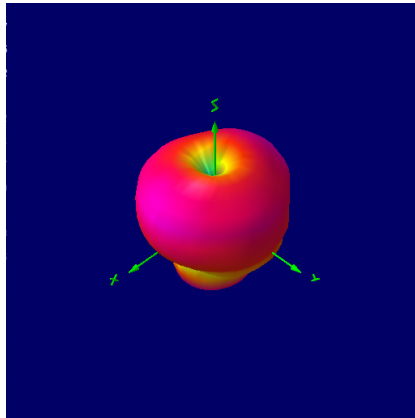
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3D Radiation Plots

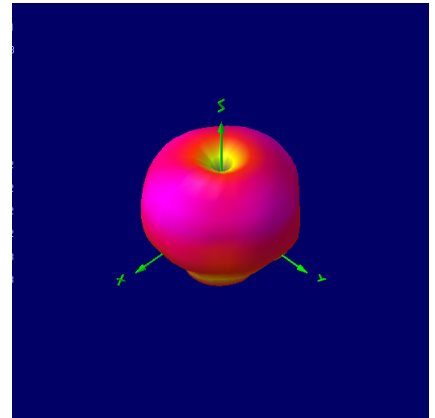
700 MHz



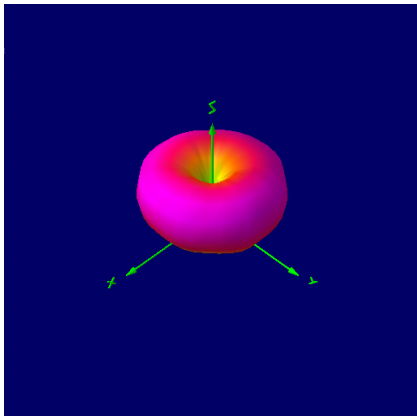
800 MHz



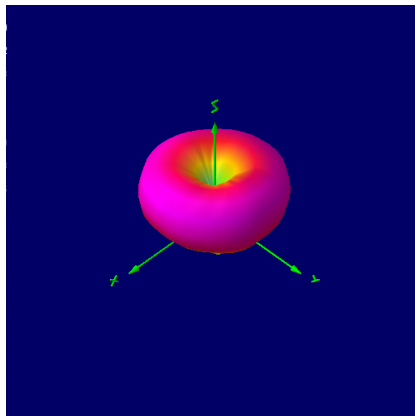
900 MHz



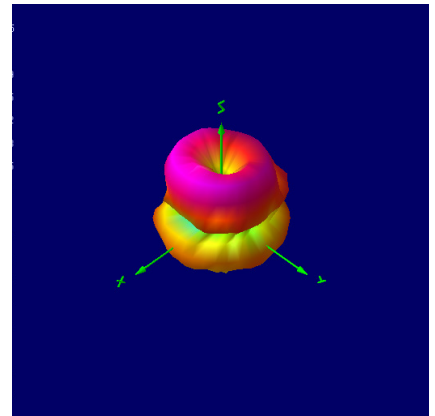
2300 MHz



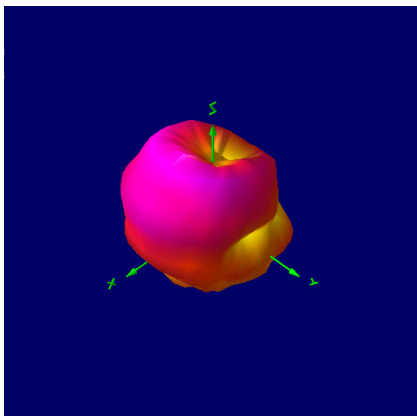
2400 MHz



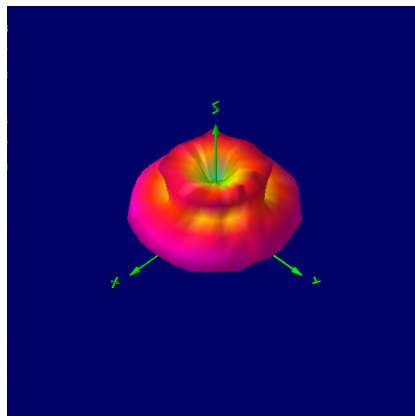
3500 MHz



3700 MHz



5500 MHz



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





Mike 1A

LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna

Ordering Details:

Part Number	Description
MIKE1A/1.2M/SMAM/S/S/20	LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna SMA Male Connector 1.2M Cable
MIKE1A/2.5M/SMAM/S/S/20	LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna SMA Male Connector 2.5M Cable
MIKE1A/2.5M/FMEF/S/S/20	LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna FME Female Connector 2.5M Cable
MIKE1A/5M/FMEF/S/S/20	LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna FME Female Connector 5M Cable
MIKE1A/5M/SMAM/S/S/20	LPWAN/Bluetooth/Zigbee/Z-Wave Stubby Magmount Antenna SMA Male Connector 5M Cable

Mouser Electronics

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Siretta:

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[MIKE1A/5M/FMEF/S/S/20](#)