



Tango 11A

ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna



Key Features

- Supports 5G NR / 4G LTE / 3G UMTS / 2G GSM
- Supports LTE Cat M, LTE Cat NB, NR Cat NB bands
- Supports Wi-Fi 2.4 GHz and 5 GHz spectrum
- Supports LoRa, Sigfox, ISM 868 MHz, ISM 915 MHz, IEEE 802.15.4
- Supports Bluetooth, Zigbee, WLAN2400, WLAN5800, ISM 2.4 GHz, ISM 5.8 GHz

Additional Considerations

- IP67 weatherproof rating makes it suitable for internal or external use
- Low profile design for covert and anti-theft applications

General Description

The Tango 11A puck antenna operates on 850/1800/1900/2100MHz bands supporting quad band GSM/GPRS networks throughout Europe, Asia and Africa with the addition of 3G UMTS, 4G/5G LTE and Dual Band Wi-Fi.

The tough case and through hole mount design makes it suitable for use in external environments like high sided vehicles. The RF cable is fed via the through hole mount base to ensure no cable is visible when fixed and the rubber 'skirt' around the base protects against water ingress.

The antenna is finished with an SMA Male connector and comes in different cable lengths. Alternative connector types and cable lengths can be specified for small volume orders.

○ Wall/Pole	2G GSM	3G UMTS	4G LTE	5G New Radio
LTE Cat M	LTE NB IoT	NR NB IoT	ISM 868	ISM 2.4G
ISM 5.8G	IEEE 802.15.4	LoRa Wireless	SF Sigfox	BLE Bluetooth
WiFi 2.4G & 5G	WiFi 4 802.11n	WiFi 5 802.11ac	WiFi 6 802.11ax	ZB Zigbee
Z Wave	WLAN 2400	WLAN 5800	HNT Helium	W Weightless
IP 67				



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Electrical Specifications

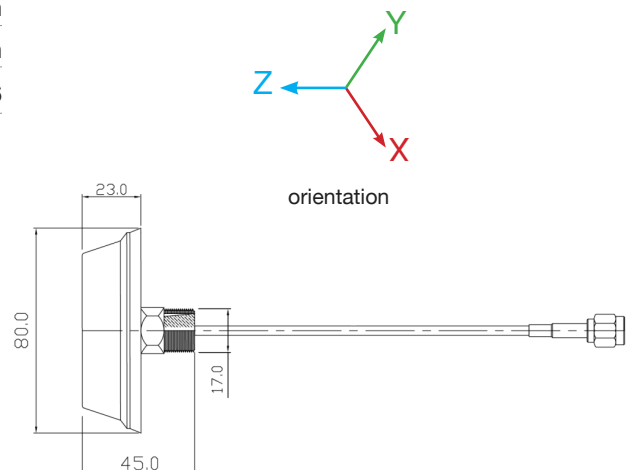
Impedance:	50 Ohm
Polarization:	Vertical
Max Input Power:	50 W
Ground plane independent:	Yes

Environmental Specifications

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

Mechanical Specifications

Dimensions:	23 mm height x 80 mm diameter
Weight:	85 g
Connector:	SMA Male
Cable:	RG174
Mounting method:	M17 Screw Mount
Mounting Screw Length:	22 mm
Max Panel Thickness:	13 mm
Radome materials:	Nylon PA6

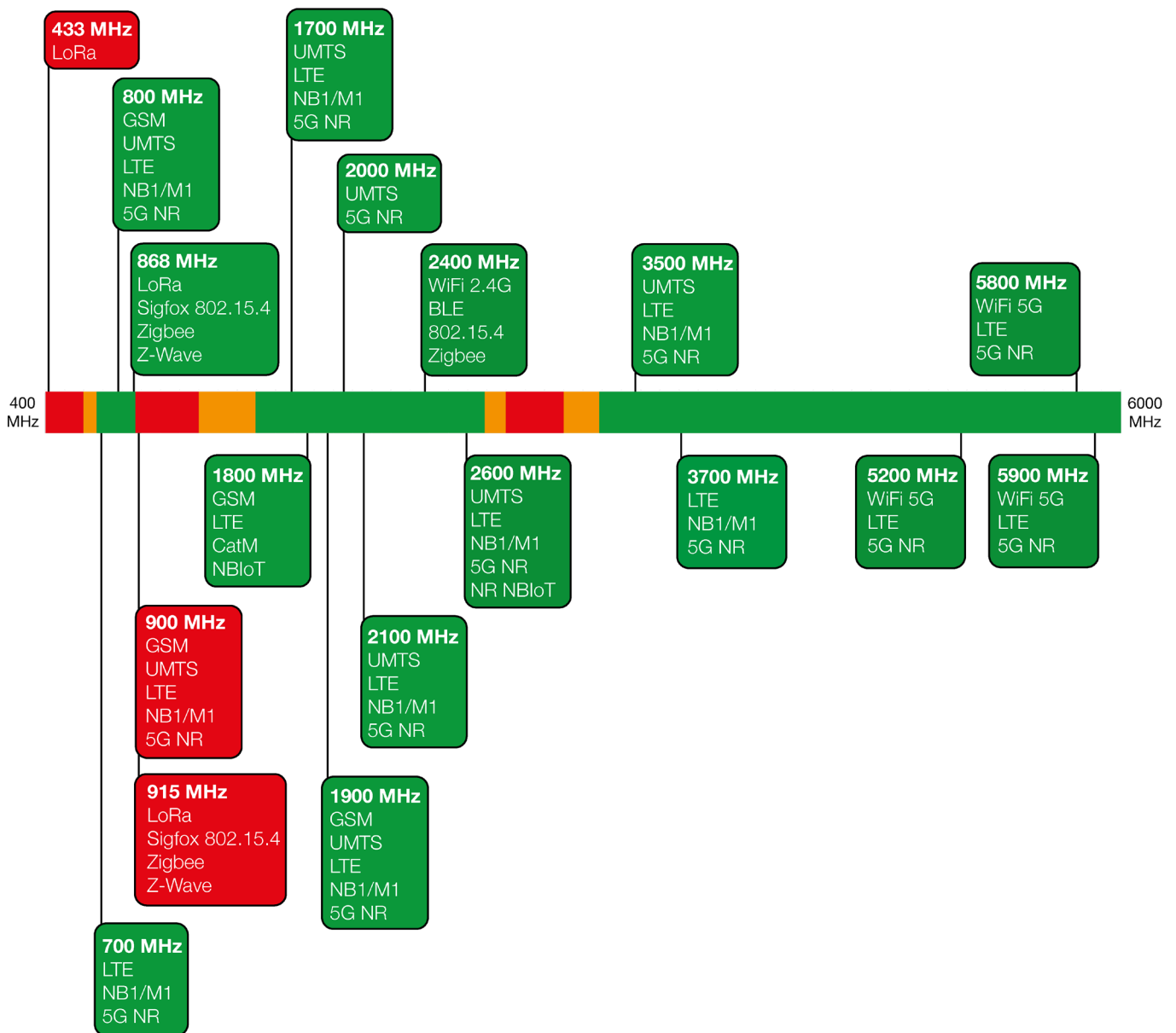




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Spectrum Coverage



● 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)

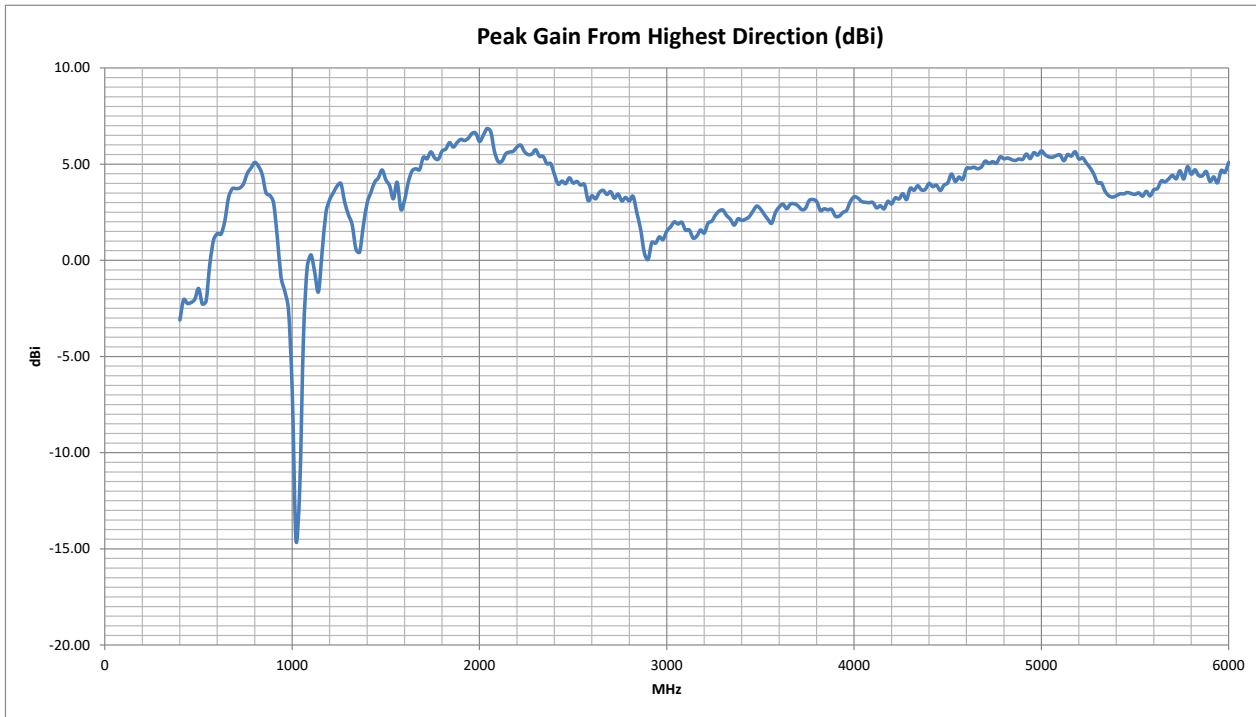
	433	868	915	2450	5800
Bluetooth				●	
IEEE 802.15.4		●		●	
LoRa		●			
Sigfox		●			
WiFi 2.4G				●	
WiFi 5G					●
Zigbee		●		●	
Z-Wave		●			



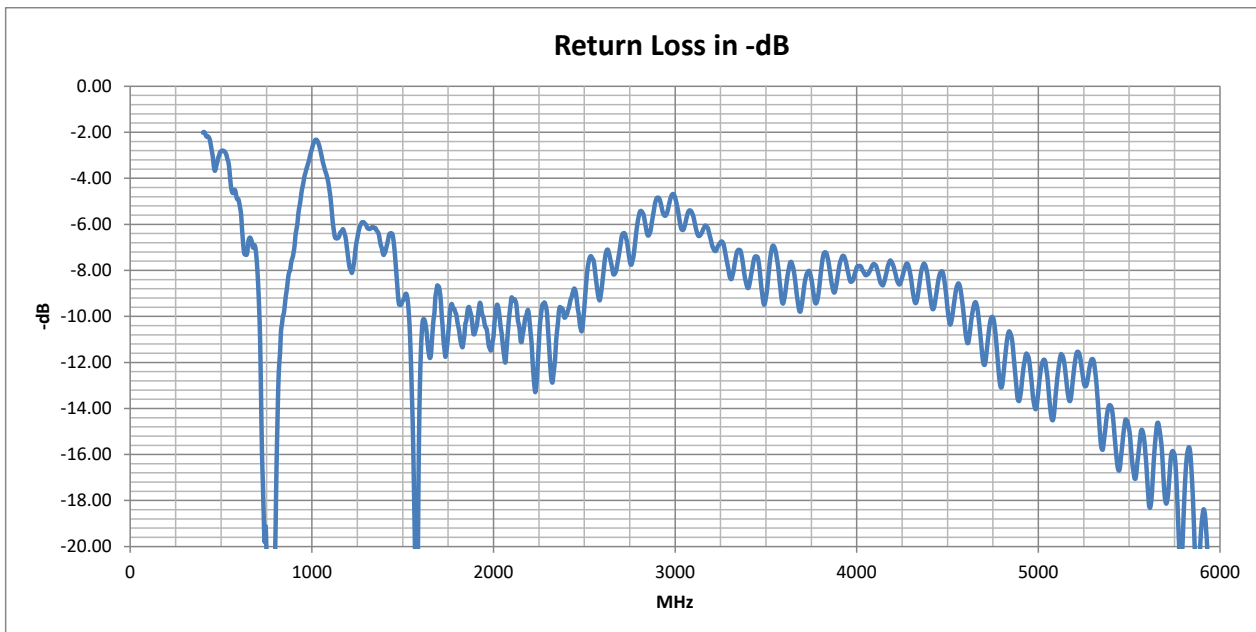
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Peak Gain vs. Frequency



Return Loss

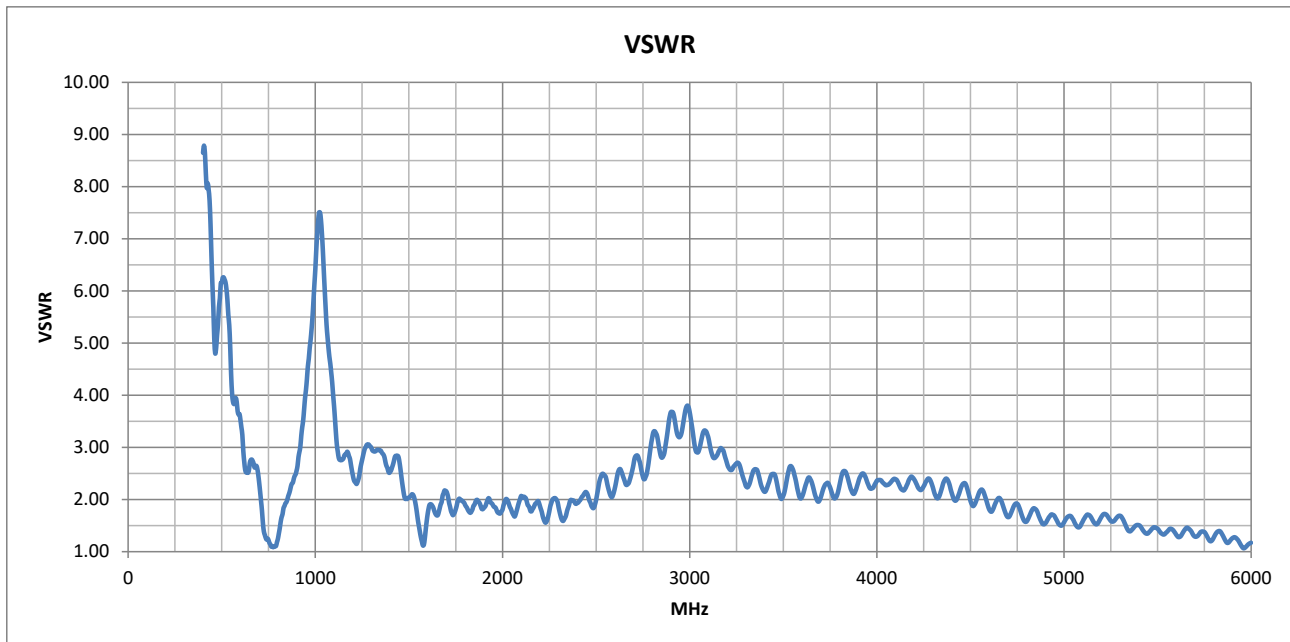




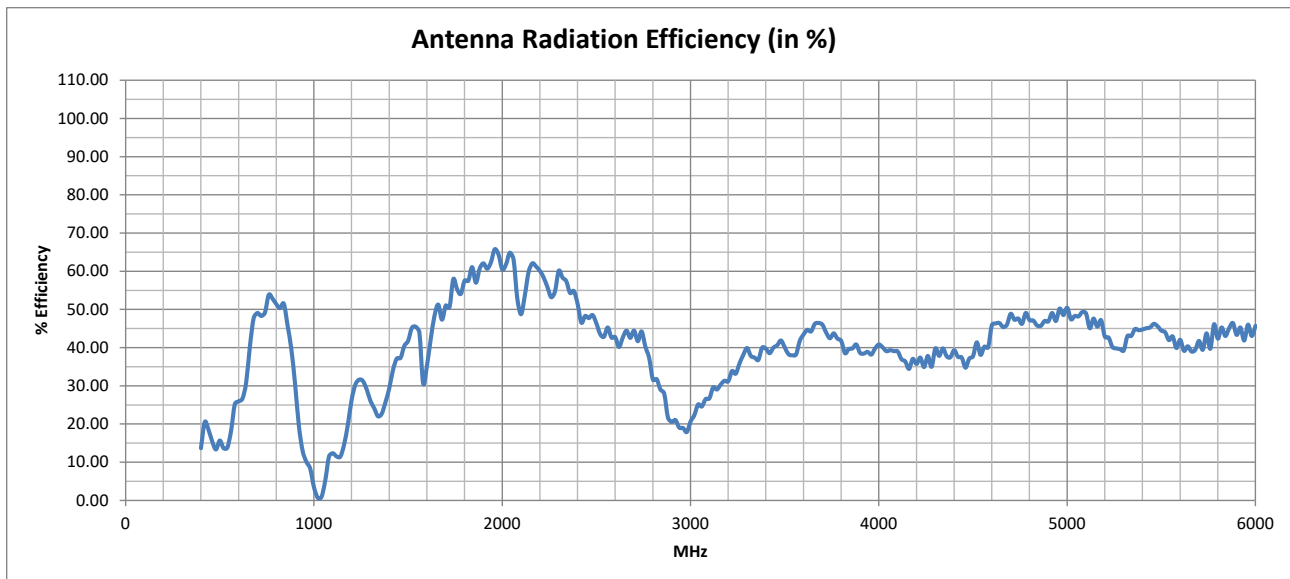
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VSWR



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	63.56	58.30	2.02	2.05	●
PCS-1900	2	2	2	2	n2	n2	1850 - 1910 MHz	1930 - 1990 MHz	60.04	63.95	1.99	2.01	●
DCS-1800	3	3	3	3	n3	n3	1710 - 1785 MHz	1805 - 1880 MHz	54.55	58.77	2.04	1.99	●
	4	4	4	4			1710 - 1755 MHz	2110 - 2155 MHz	54.37	57.12	2.04	2.05	●
GSM-850	5	5	5	5	n5	n5	824 - 849 MHz	869 - 894 MHz	50.76	38.57	1.98	2.48	●
	6						830 - 840 MHz	875 - 885 MHz	51.23	39.44	1.92	2.40	●
	7	7	7	7	n7	n7	2500 - 2570 MHz	2620 - 2690 MHz	44.16	42.86	2.49	2.58	●
E-GSM-900	8	8	8	8	n8	n8	880 - 915 MHz	925 - 960 MHz	31.30	13.21	2.91	4.54	●
	9	9					1749.9 - 1784.9 MHz	1844.9 - 1879.9 MHz	55.05	58.72	2.01	1.99	●
	10	10					1710 - 1770 MHz	2110 - 2170 MHz	54.58	58.30	2.04	2.05	●
	11	11	11	11			1427.9 - 1447.9 MHz	1475.9 - 1495.9 MHz	36.62	40.81	2.84	2.06	●
	12	12	12	12	n12	n12	699 - 716 MHz	729 - 746 MHz	48.79	49.29	2.35	1.33	●
	13	13	13	13	n13	n13	777 - 787 MHz	746 - 756 MHz	52.69	51.75	1.10	1.24	●
	14	14	14	14	n14		788 - 798 MHz	758 - 768 MHz	51.91	53.62	1.22	1.15	●
		17		17			704 - 716 MHz	734 - 746 MHz	48.70	49.49	2.18	1.27	●
		18	18	18	n18	n18	815 - 830 MHz	860 - 875 MHz	50.59	43.49	1.83	2.30	●
	19	19	19	19			830 - 845 MHz	875 - 890 MHz	51.09	38.35	1.94	2.45	●
	20	20	20	20	n20	n20	832 - 862 MHz	791 - 821 MHz	49.15	51.12	2.14	1.67	●
	21	21	21	21			1447.9 - 1462.9 MHz	1495.9 - 1510.9 MHz	37.33	42.42	2.75	2.07	●
	22	22					3410 - 3490 MHz	3510 - 3590 MHz	40.25	39.18	2.49	2.64	●
		24	24	24	n24		1626.5 - 1660.5 MHz	1525 - 1559 MHz	48.40	45.04	1.87	2.07	●
	25	25	25	25	n25	n25	1850 - 1915 MHz	1930 - 1995 MHz	60.13	63.80	1.99	2.01	●
	26	26	26	26	n26		814 - 849 MHz	859 - 894 MHz	50.68	40.28	1.98	2.48	●
		27	27				807 - 824 MHz	852 - 869 MHz	50.64	45.61	1.71	2.24	●
		28	28	28	n28	n28	703 - 748 MHz	758 - 803 MHz	48.96	52.67	2.22	1.30	●

● 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	48.62	53.14	2.22	1.15	●
		29			n29		N/A	717 - 728 MHz	N/A	48.45	N/A	1.69	●
		30			n30		2305 - 2315 MHz	2350 - 2360 MHz	59.23	55.10	1.77	1.95	●
		31	31	31			452.5 - 457.5 MHz	462.5 - 467.5 MHz	16.20	14.90	5.90	4.94	●
	32	32					N/A	1452 - 1496 MHz	N/A	39.36	N/A	2.65	●
		33					1900 - 1920 MHz	1900 - 1920 MHz	61.38	61.38	1.98	1.98	●
		34			n34		2010 - 2025 MHz	2010 - 2025 MHz	61.72	61.72	2.01	2.01	●
		35					1850 - 1910 MHz	1850 - 1910 MHz	60.04	60.04	1.99	1.99	●
		36					1930 - 1990 MHz	1930 - 1990 MHz	63.95	63.95	2.01	2.01	●
		37					1910 - 1930 MHz	1910 - 1930 MHz	61.06	61.06	2.02	2.02	●
		38			n38		2570 - 2620 MHz	2570 - 2620 MHz	42.33	42.33	2.54	2.54	●
		39	39		n39		1880 - 1920 MHz	1880 - 1920 MHz	61.38	61.38	1.98	1.98	●
		40	40		n40		2300 - 2400 MHz	2300 - 2400 MHz	56.15	56.15	1.99	1.99	●
		41	41	41	n41	n41	2496 - 2690 MHz	2496 - 2690 MHz	43.27	43.27	2.58	2.58	●
		42	42	42			3400 - 3600 MHz	3400 - 3600 MHz	39.90	39.90	2.64	2.64	●
		43	43	43			3600 - 3800 MHz	3600 - 3800 MHz	44.28	44.28	2.42	2.42	●
		44					703 - 803 MHz	703 - 803 MHz	50.95	50.95	2.22	2.22	●
		45					1447 - 1467 MHz	1447 - 1467 MHz	37.48	37.48	2.77	2.77	●
		46			n46		5150 - 5925 MHz	5150 - 5925 MHz	42.93	42.93	1.72	1.72	●
		47			n47		5855 - 5925 MHz	5855 - 5925 MHz	44.97	44.97	1.27	1.27	●
		48			n48		3550 - 3700 MHz	3550 - 3700 MHz	43.74	43.74	2.59	2.59	●
		49					3550 - 3700 MHz	3550 - 3700 MHz	43.74	43.74	2.59	2.59	●
		50			n50		1432 - 1517 MHz	1432 - 1517 MHz	39.68	39.68	2.84	2.84	●
		51			n51		1427 - 1432 MHz	1427 - 1432 MHz	35.60	35.60	2.84	2.84	●
		52					3300 - 3400 MHz	3300 - 3400 MHz	38.38	38.38	2.58	2.58	●

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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
		53			n53		2483.5 - 2495 MHz	2483.5 - 2495 MHz	47.52	47.52	1.91	1.91	●
		65		65	n65	n65	1920 - 2010 MHz	2110 - 2200 MHz	63.02	59.18	2.02	2.05	●
		66	66	66	n66	n66	1710 - 1780 MHz	2110 - 2200 MHz	54.56	59.18	2.04	2.05	●
		67			n67		N/A	738 - 758 MHz	N/A	51.07	N/A	1.25	●
		68					698 - 728 MHz	753 - 783 MHz	48.66	53.20	2.38	1.18	●
		69					N/A	2570 - 2620 MHz	N/A	42.33	N/A	2.54	●
		70		70	n70	n70	1695 - 1710 MHz	1995 - 2020 MHz	50.81	61.14	2.17	2.01	●
		71	71	71	n71		663 - 698 MHz	617 - 652 MHz	46.53	30.24	2.75	2.85	●
		72	72	72			451 - 456 MHz	461 - 466 MHz	16.43	15.05	6.04	5.02	●
		73	73	73			450 - 455 MHz	460 - 465 MHz	16.59	15.16	6.13	5.08	●
		74	74	74	n74		1427 - 1470 MHz	1475 - 1518 MHz	37.12	41.92	2.84	2.09	●
		75			n75		N/A	1432 - 1517 MHz	N/A	39.68	N/A	2.84	●
		76			n76		N/A	1427 - 1432 MHz	N/A	35.60	N/A	2.84	●
					n77		3300 - 4200 MHz	3300 - 4200 MHz	40.17	40.17	2.64	2.64	●
					n78		3300 - 3800 MHz	3300 - 3800 MHz	41.35	41.35	2.64	2.64	●
					n79		4400 - 5000 MHz	4400 - 5000 MHz	44.44	44.44	2.31	2.31	●
					n80		1710 - 1785 MHz	N/A	54.55	N/A	2.04	N/A	●
					n81		880 - 915 MHz	N/A	31.30	N/A	2.91	N/A	●
					n82		832 - 862 MHz	N/A	49.15	N/A	2.14	N/A	●
					n83		703 - 748 MHz	N/A	48.96	N/A	2.22	N/A	●
					n84		1920 - 1980 MHz	N/A	63.56	N/A	2.02	N/A	●
		85	85	85	n85		698 - 716 MHz	728 - 746 MHz	48.80	49.26	2.38	1.35	●
					n86		1710 - 1780 MHz	N/A	54.56	N/A	2.04	N/A	●
		87	87	87			410 - 415 MHz	420 - 425 MHz	17.95	20.26	8.65	8.06	●
		88	88	88			412 - 417 MHz	422 - 427 MHz	18.63	20.07	8.49	8.06	●

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● 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	50.76	N/A	1.98	N/A	●
					n90	n90	2496 - 2690 MHz	2496 - 2690 MHz	43.27	43.27	2.58	2.58	●
					n91		832 - 862 MHz	1427 - 1432 MHz	49.15	35.60	2.14	2.84	●
					n92		832 - 862 MHz	1432 - 1517 MHz	49.15	39.68	2.14	2.84	●
					n93		880 - 915 MHz	1427 - 1432 MHz	31.30	35.60	2.91	2.84	●
					n94		880 - 915 MHz	1432 - 1517 MHz	31.30	39.68	2.91	2.84	●
					n95		2010 - 2025 MHz	N/A	61.72	N/A	2.01	N/A	●
					n97		2300 - 2400 MHz	N/A	56.15	N/A	1.99	N/A	●
					n98		1880 - 1920 MHz	N/A	61.38	N/A	1.98	N/A	●
					n99		1626.5 - 1660.5 MHz	N/A	48.40	N/A	1.87	N/A	●
					n101		1900 - 1910 MHz	1900 - 1910 MHz	61.73	61.73	1.88	1.88	●
				103			787 - 788 MHz	757 - 758 MHz	52.30	53.25	1.10	1.15	●

● 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	19.14	7.81	-2.1735	●
IMT 868 MHz	863 - 870 MHz	43.80	2.25	3.4905	●
ISM 915 MHz	902 - 928 MHz	22.53	3.32	2.832	●
ISM 2.4 GHz	2400 - 2500 MHz	48.02	2.14	4.47	●
Wi-Fi 2.4G	2401 - 2483 MHz	48.13	2.14	4.4445	●
Wi-Fi 2.4G (USA)	2401 - 2473 MHz	48.10	2.14	4.4445	●
Wi-Fi 2.4G (Japan)	2401 - 2495 MHz	48.06	2.14	4.4445	●
Wi-Fi 5G (all channels)	5150 - 5990 MHz	43.01	1.72	5.65	●
Wi-Fi 5G (Ch 32-48)	5150 - 5250 MHz	43.72	1.72	5.65	●
Wi-Fi 5G (Ch 32-64)	5150 - 5330 MHz	42.27	1.72	5.65	●
Wi-Fi 5G (Ch 32-161)	5150 - 5815 MHz	42.64	1.72	5.65	●
Wi-Fi 5G (Ch 32-173)	5150 - 5875 MHz	42.80	1.72	5.65	●
ISM 5.8 GHz	5725 - 5875 MHz	43.57	1.39	4.87	●

● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable

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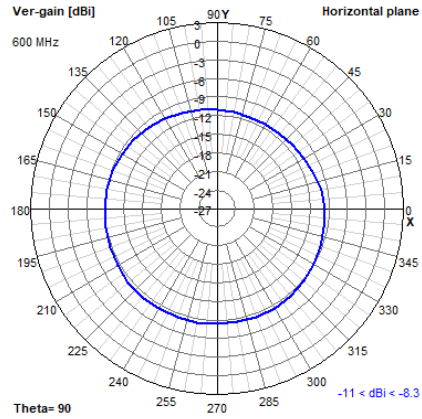


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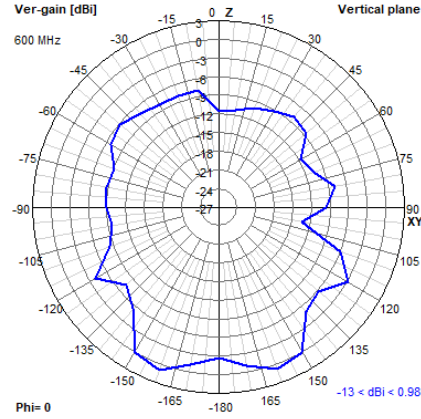
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2D Radiation Plots

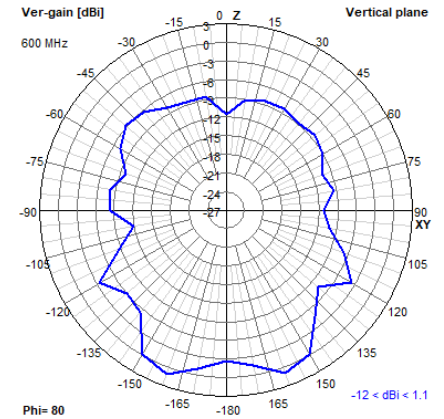
600 MHz XY



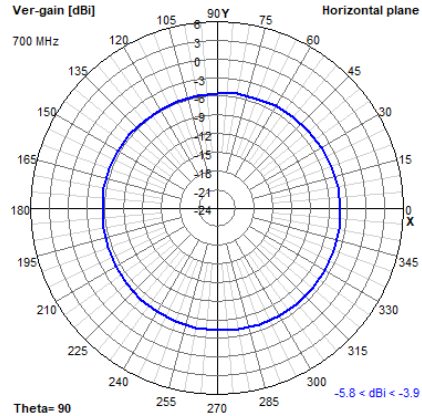
XZ



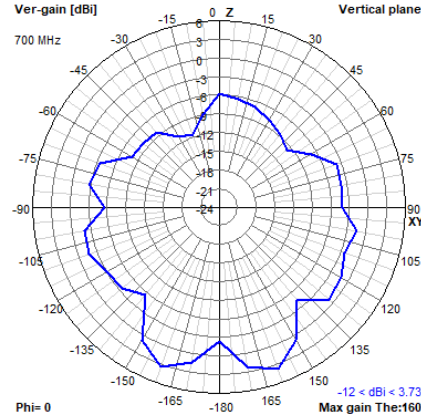
YZ



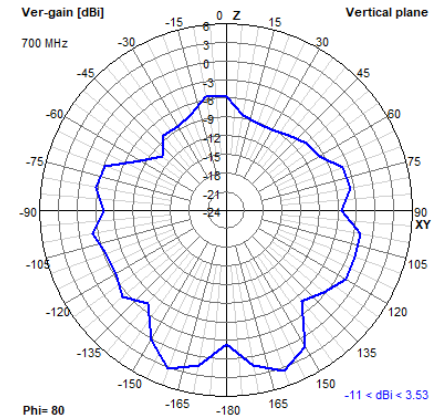
700 MHz XY



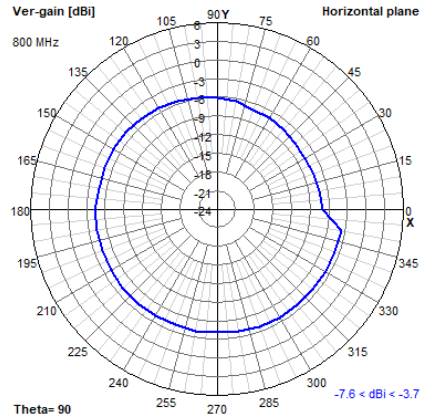
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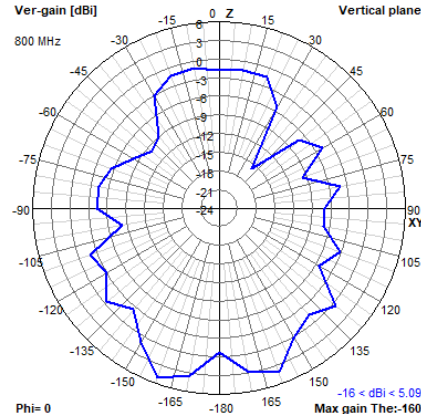
YZ



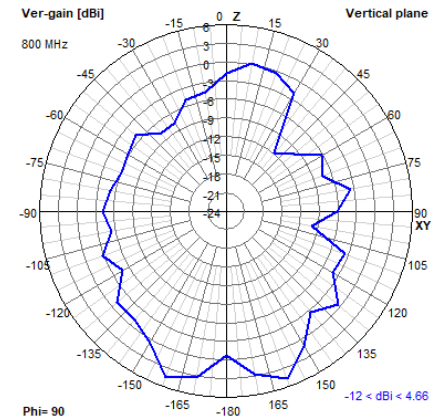
800 MHz XY



XZ



YZ



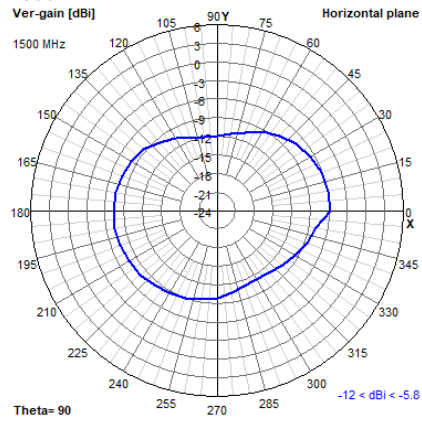


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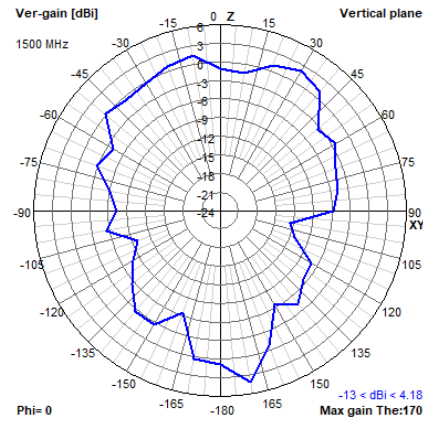
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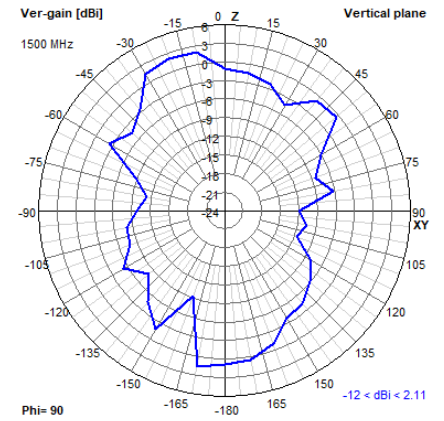
1500 MHz XY



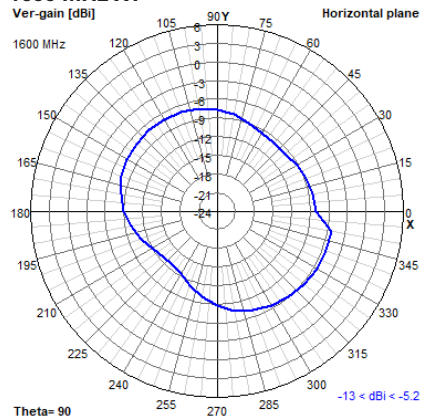
XZ



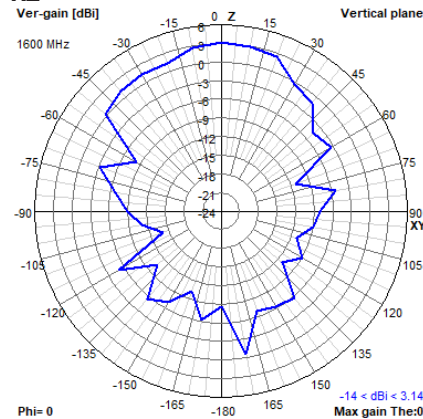
YZ



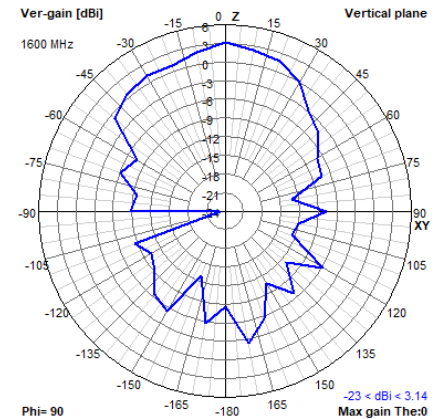
1600 MHz XY



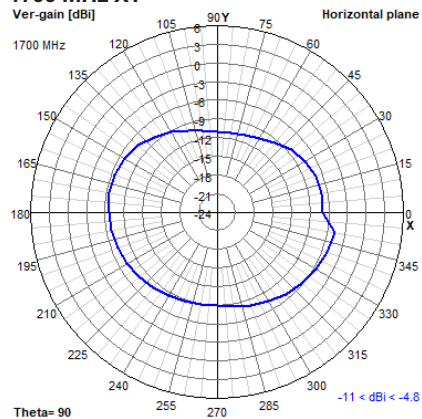
XZ



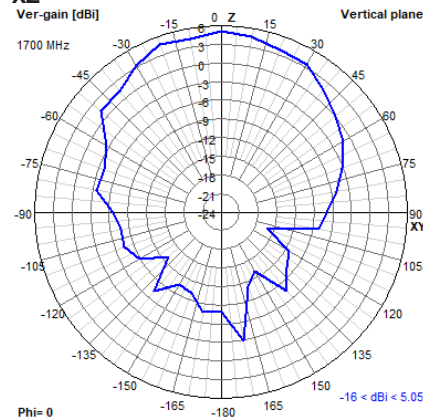
YZ



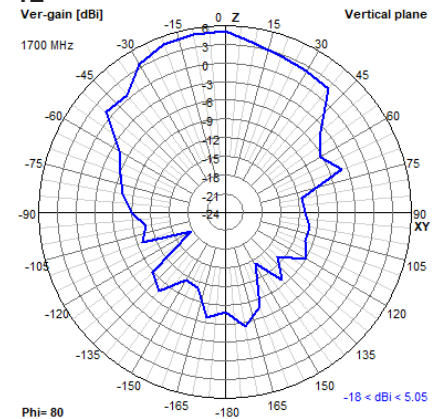
1700 MHz XY



XZ



YZ



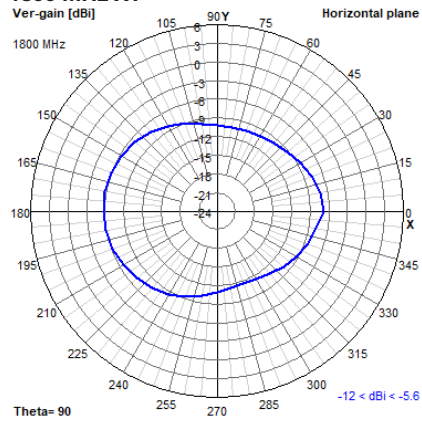


Tango 11A

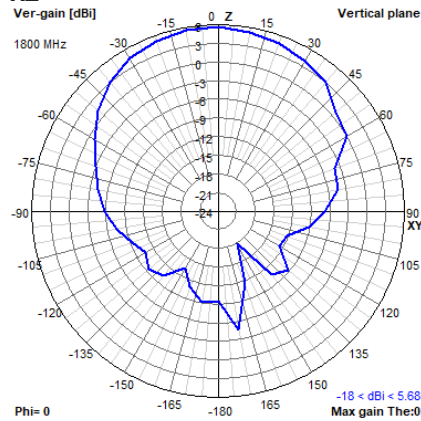
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

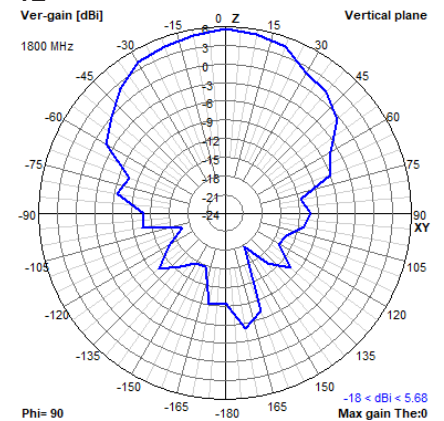
1800 MHz XY



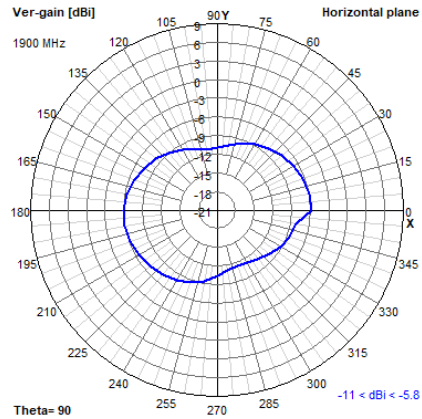
XZ



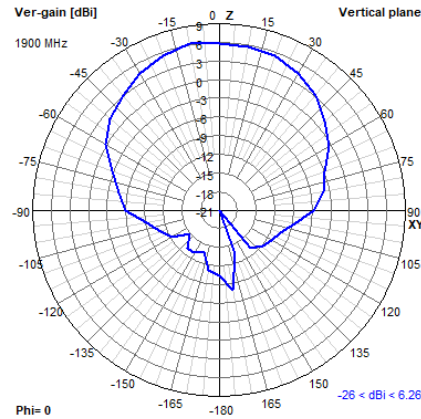
YZ



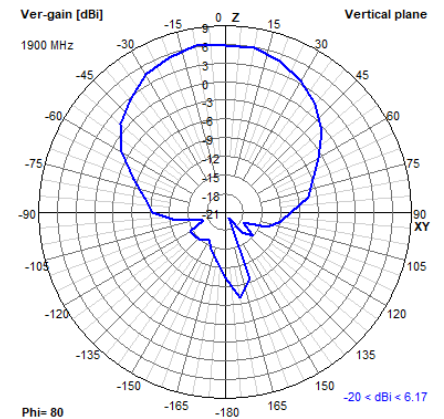
1900 MHz XY



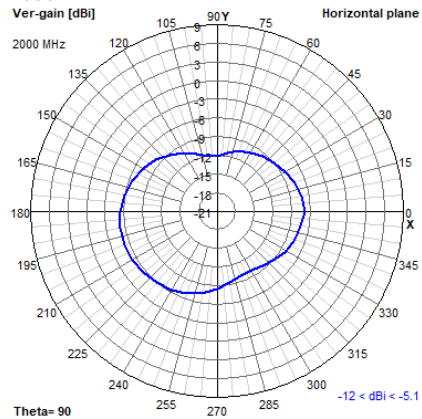
XZ



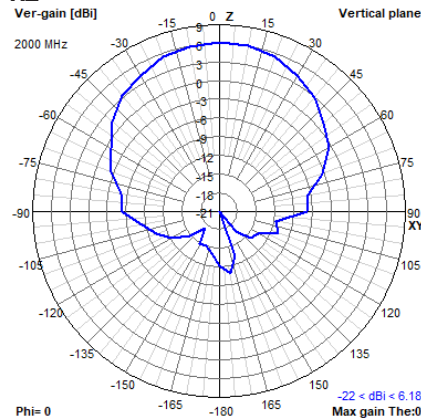
YZ



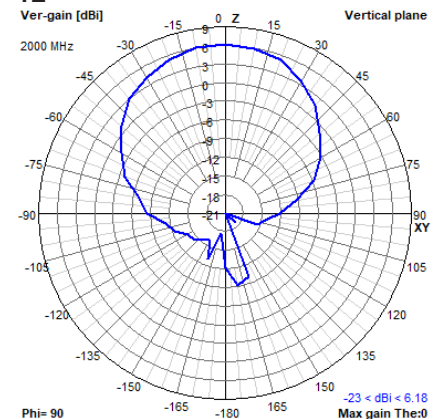
2000 MHz XY



XZ



YZ



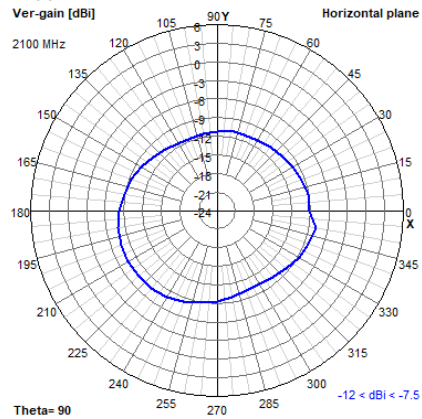


Tango 11A

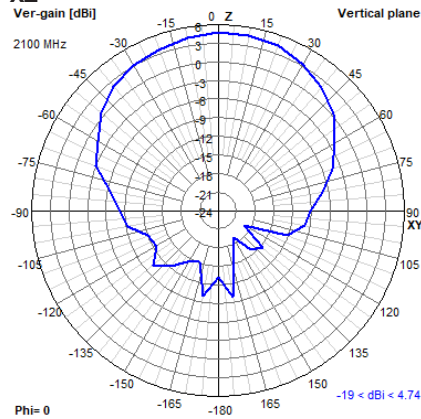
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

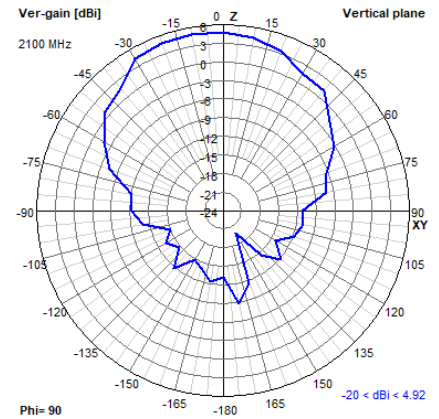
2100 MHz XY



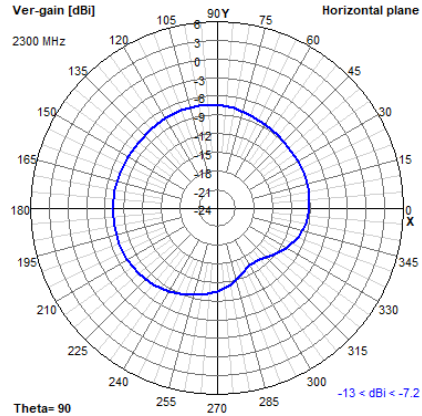
XZ



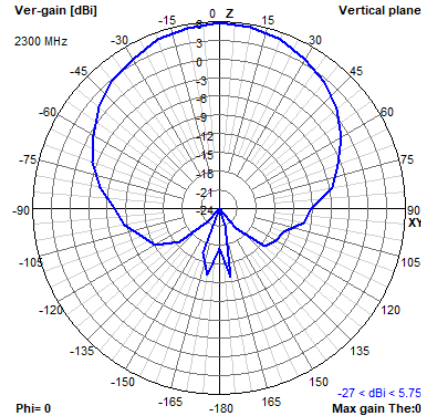
YZ



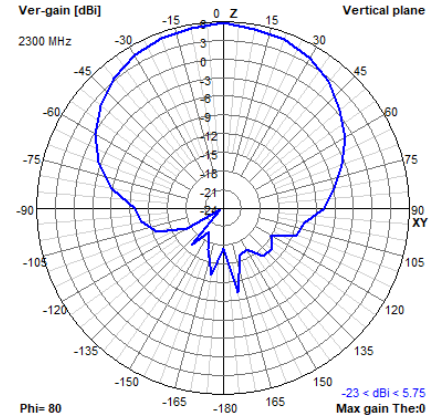
2300 MHz XY



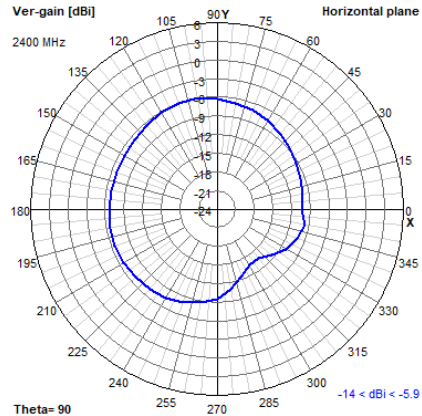
XZ



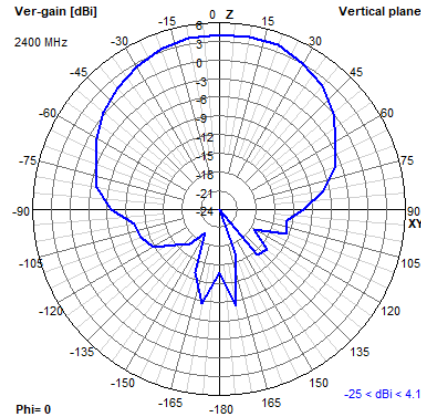
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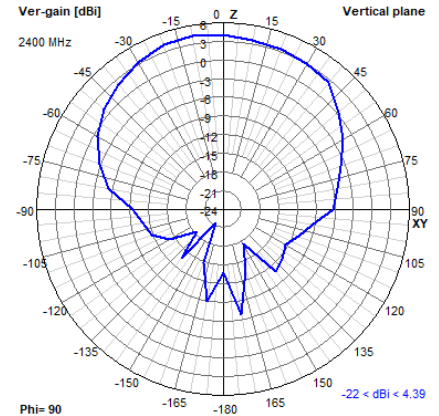
2400 MHz XY



XZ



YZ



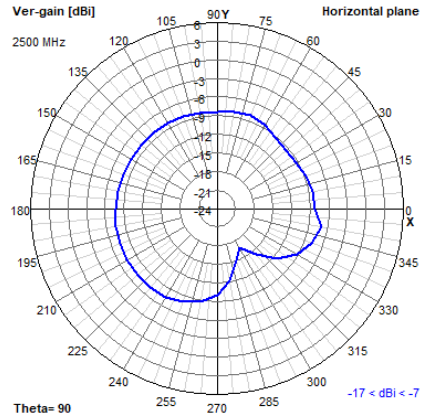


Tango 11A

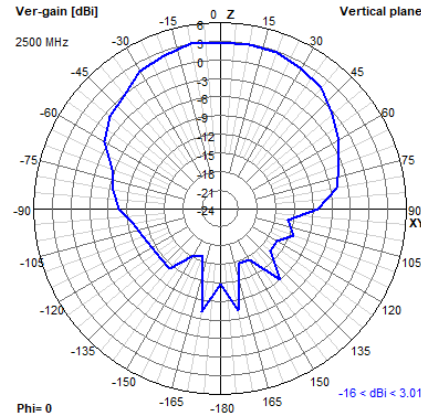
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

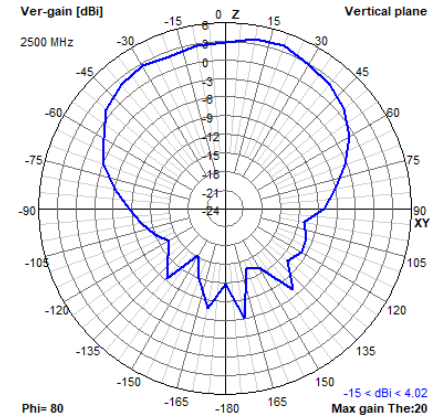
2500 MHz XY



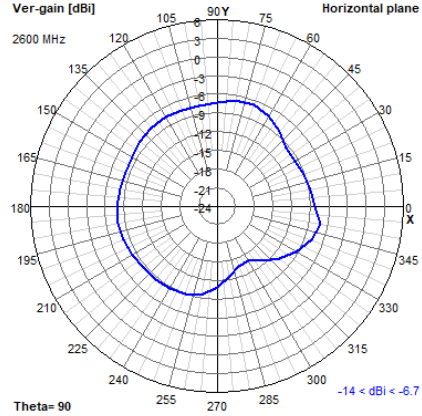
XZ



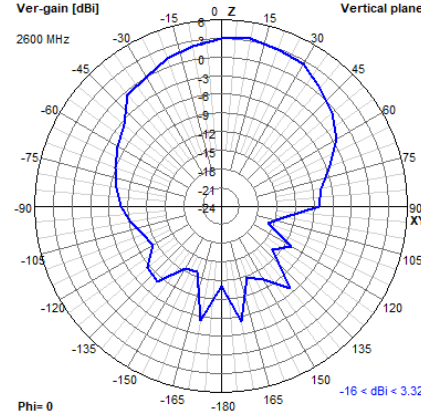
YZ



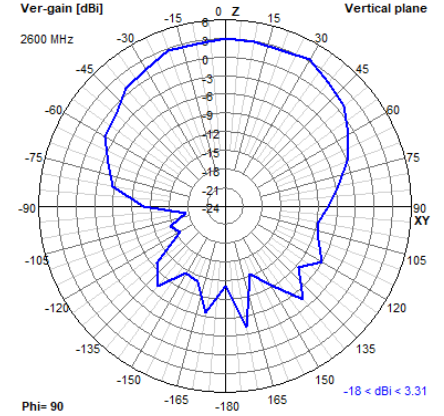
2600 MHz XY



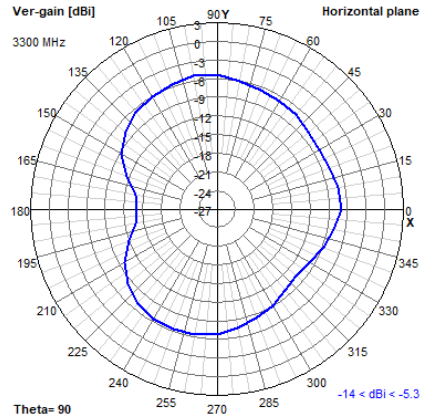
XZ



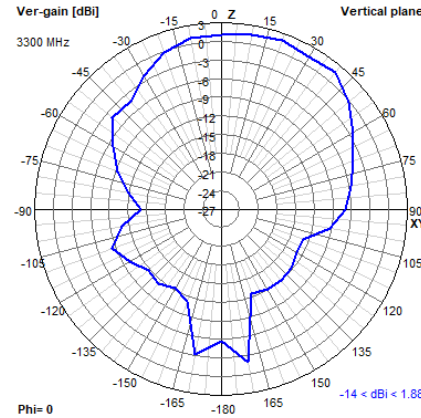
YZ



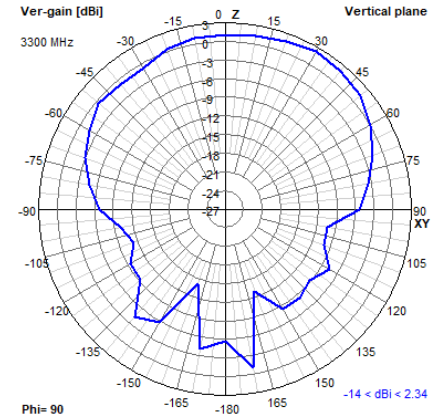
3300 MHz XY



XZ



YZ



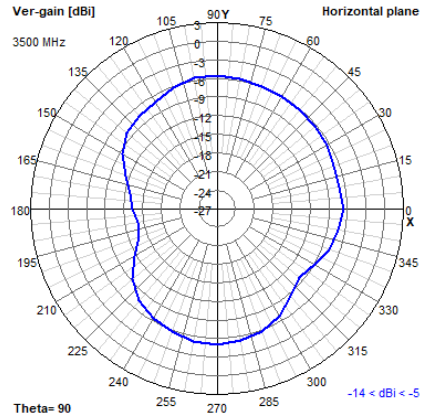


Tango 11A

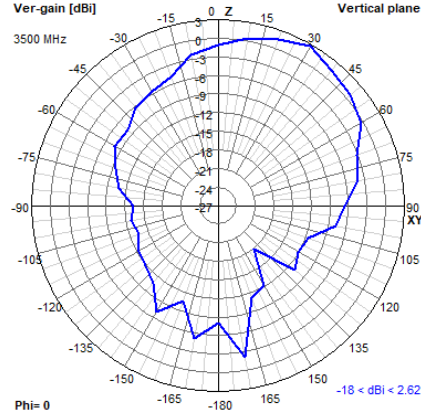
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

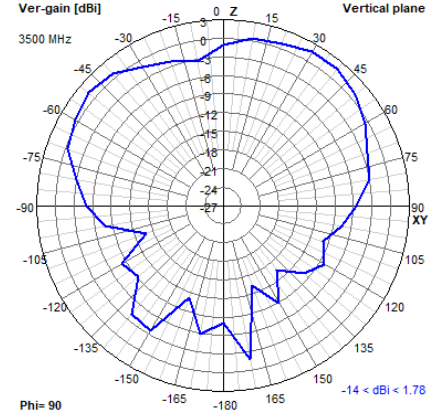
3500 MHz XY



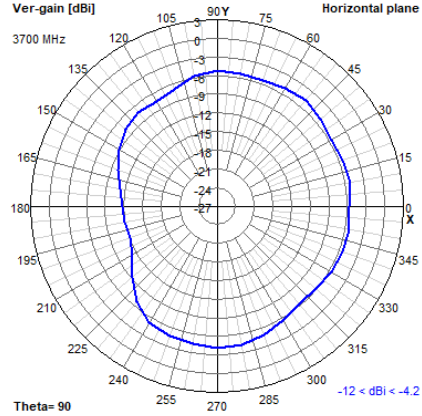
XZ



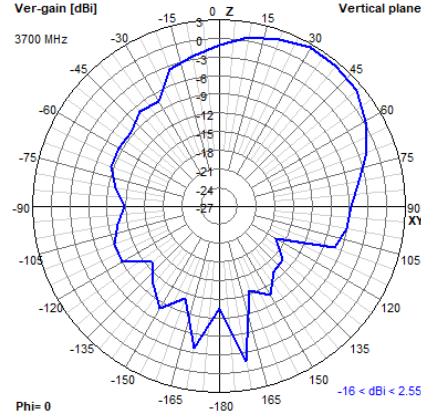
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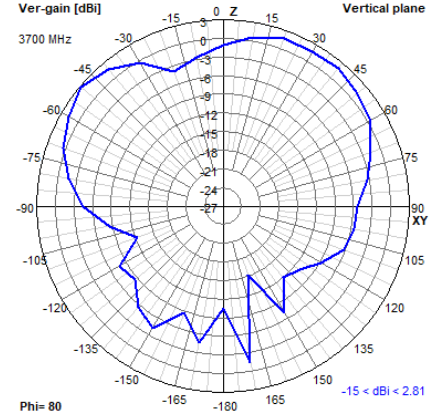
3700 MHz XY



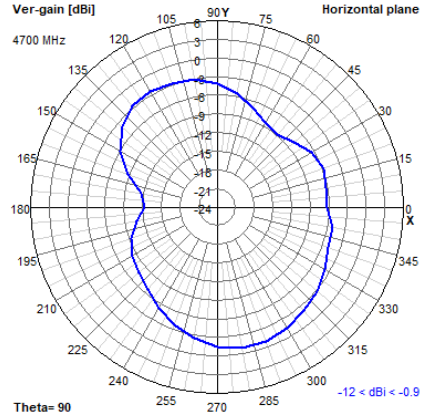
XZ



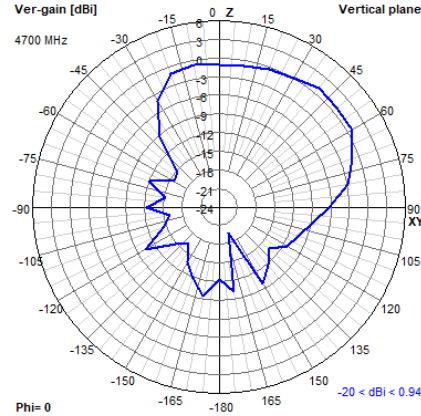
YZ



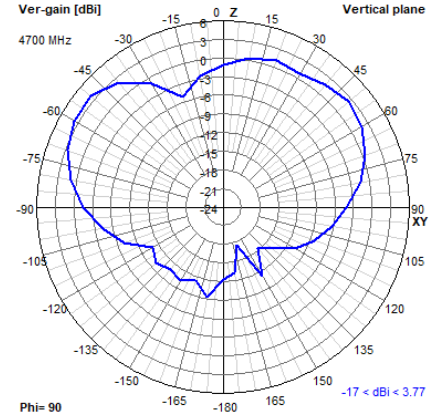
4700 MHz XY



XZ



YZ



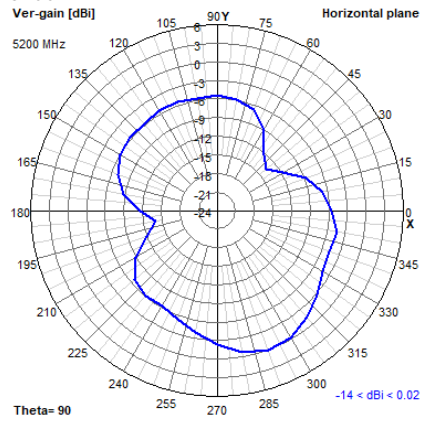


Tango 11A

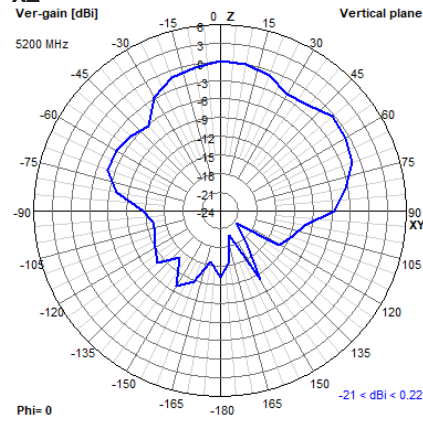
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

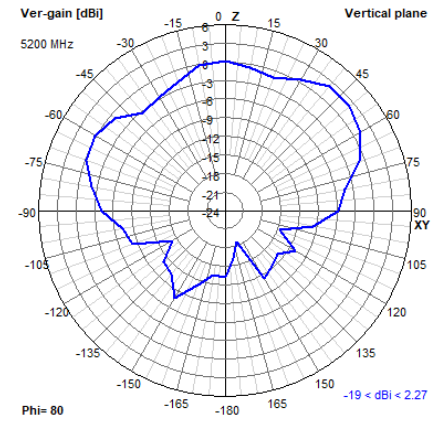
5200 MHz XY



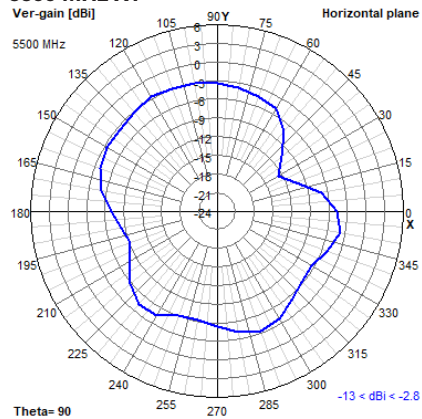
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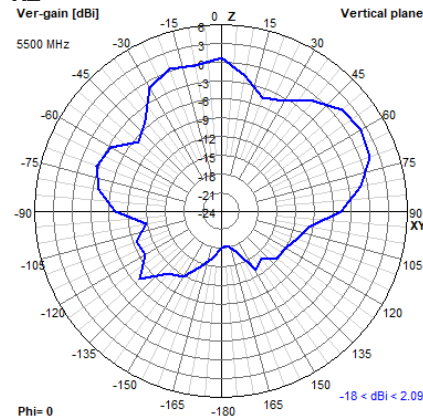
YZ



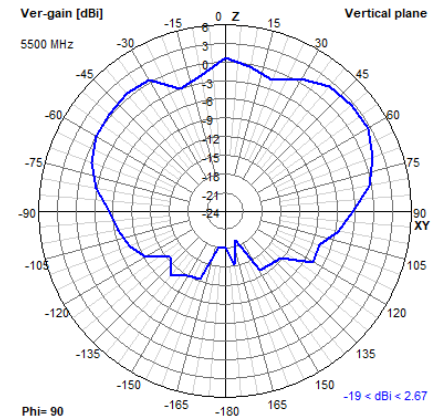
5500 MHz XY



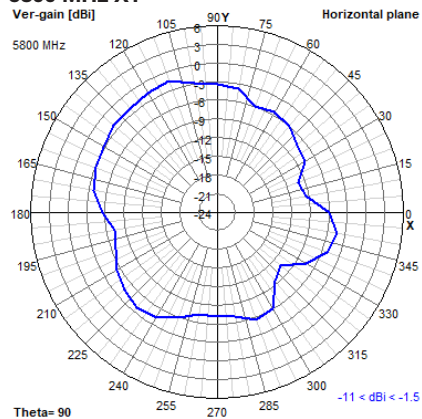
XZ



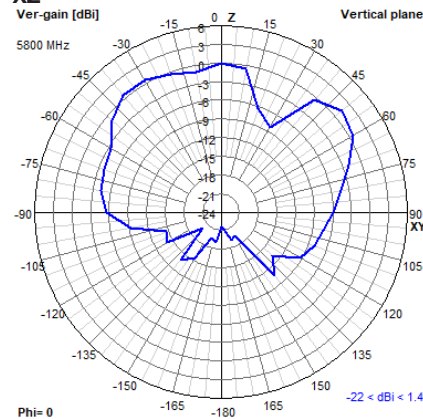
YZ



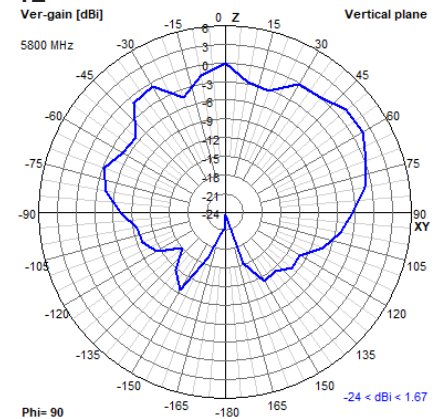
5800 MHz XY



XZ



YZ



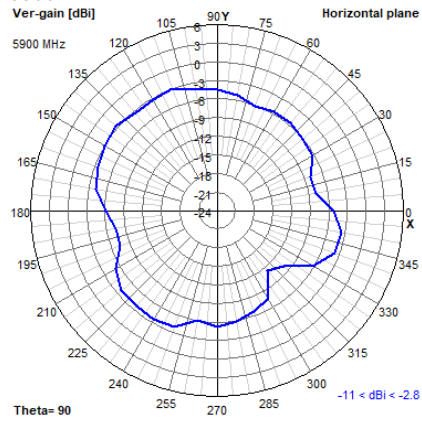


Tango 11A

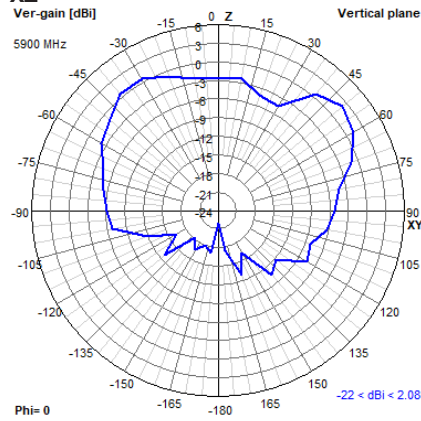
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

2D Radiation Plots

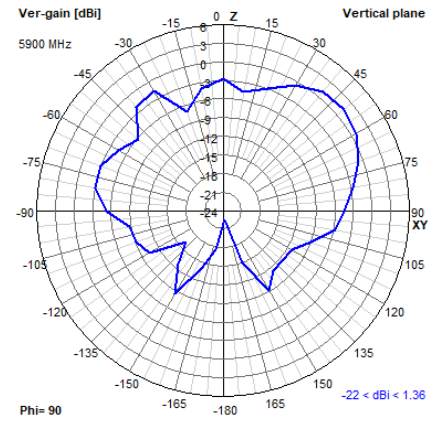
5900 MHz XY



XZ



YZ



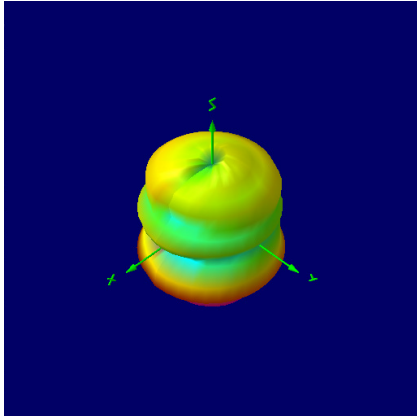


Tango 11A

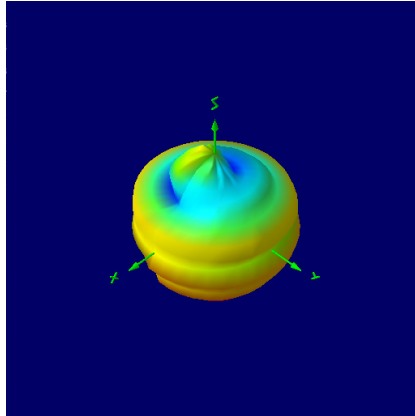
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

3D Radiation Plots

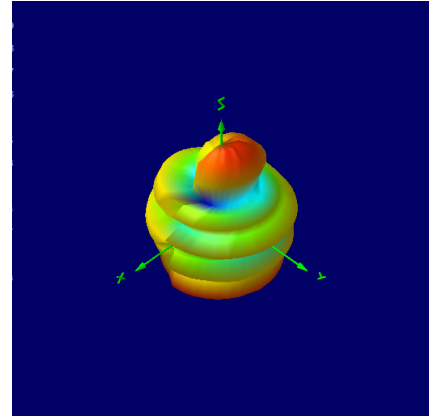
600 MHz



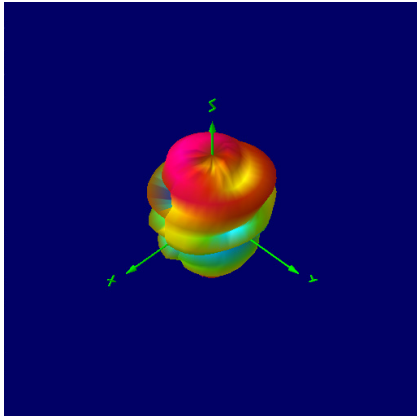
700 MHz



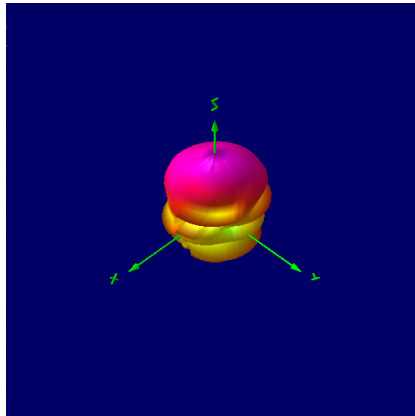
800 MHz



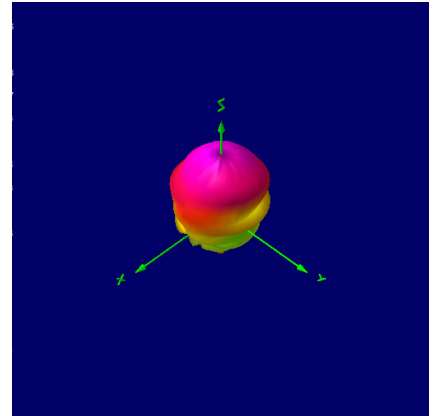
1500 MHz



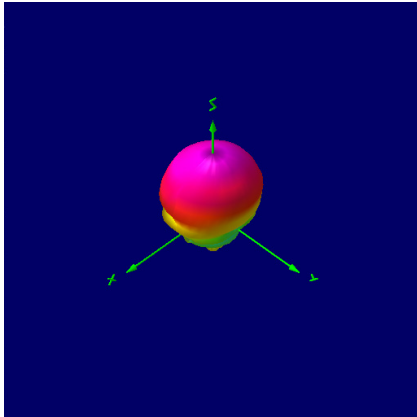
1600 MHz



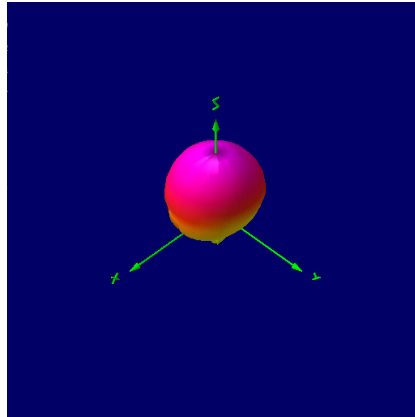
1700 MHz



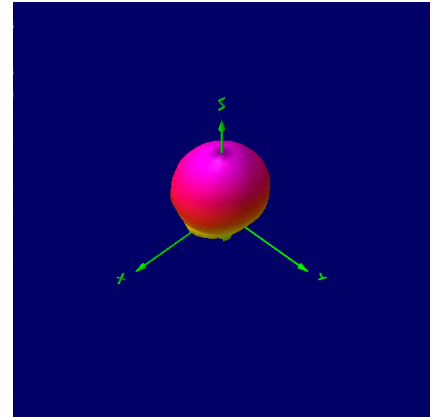
1800 MHz



1900 MHz



2000 MHz



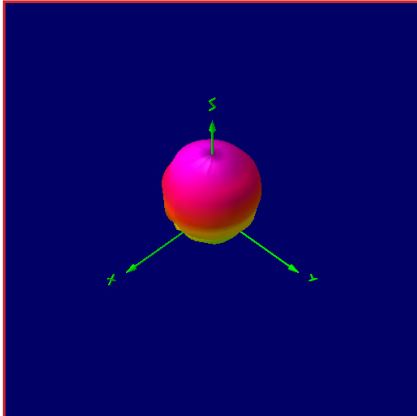


Tango 11A

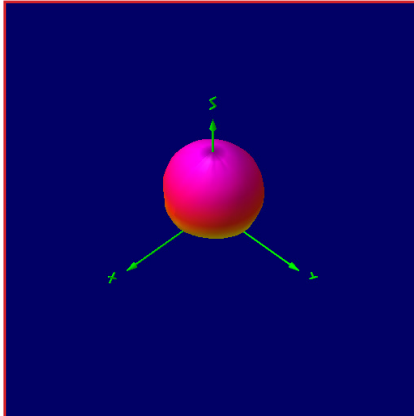
ISM & Dual-Band Wi-Fi/5G,4G Through Hole Puck Antenna

3D Radiation Plots

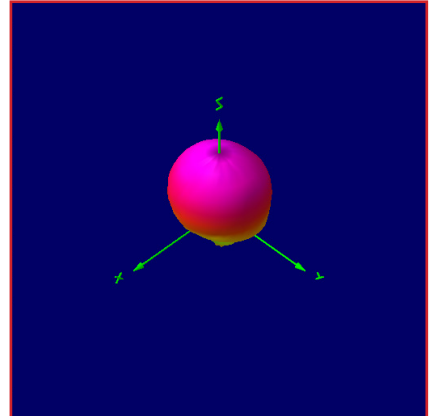
2100 MHz



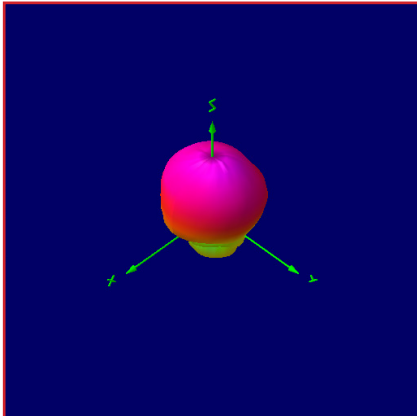
2300 MHz



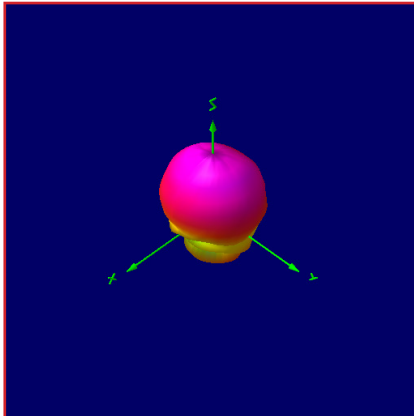
2400 MHz



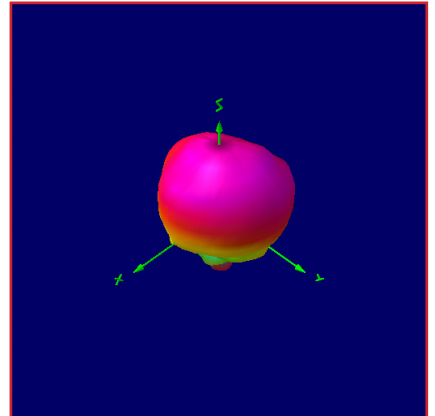
2500 MHz



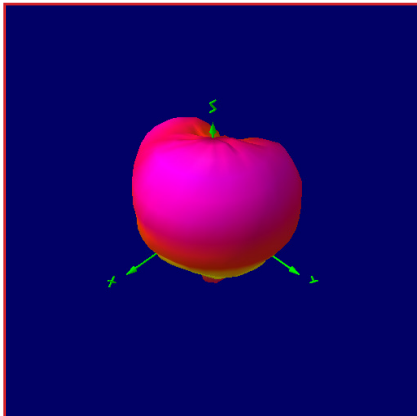
2600 MHz



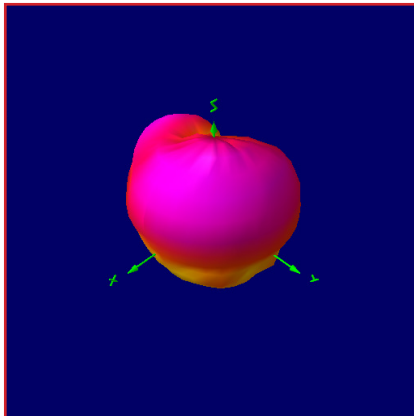
3300 MHz



3500 MHz



3700 MHz



4700 MHz

