



## Delta 6C

5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna



### Key Features

- Supports 5G NR / 4G LTE / 3G UMTS
- Supports LTE Cat M, LTE Cat NB & NR Cat NB
- Supports Dual Band WiFi 4/5/6
- Supports Bluetooth / Zigbee / ISM 2.4 GHz / WLAN2400 / IEEE 802.15.4 Bands
- Supports ISM 5.8 GHz / WLAN5800 Bands
- Adjustable antenna position
- Omni-directional Compact Antenna

### General Description

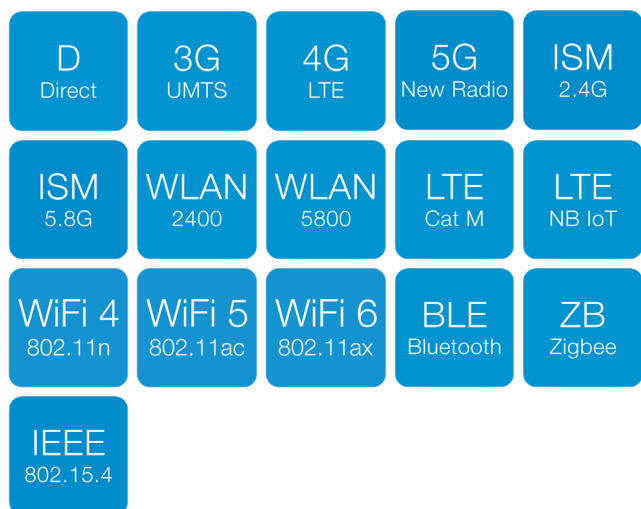
The Delta 6C antenna has excellent performance in the 2.4 GHz and 5.8 GHz WLAN bands.

Terminated with an SMA or SMA-RP male connector, the knuckle adjusts through 0°, 45° & 90° angles and swivels 360° to enable the best signal to be obtained.

The Delta 6C is a popular antenna compatible with the 802.11a, 802.11b, 802.11g, 802.11n 802.11ac and 802.11ax WLAN standards. It works well on other wireless standards from 4G/5G cellular networks, Bluetooth, Zigbee to ISM2450 applications.

### Additional Considerations

- Fits to many popular terminals
- The antenna does not rely on mounting on a metallic surface
- Meets EU compliance criteria for electronic goods





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### Electrical Specifications

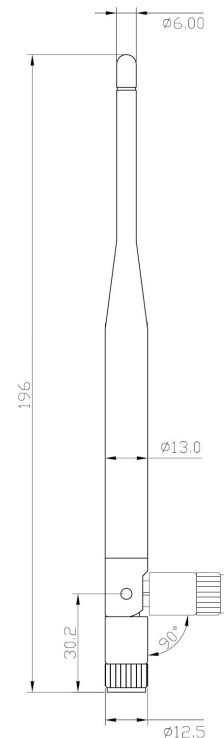
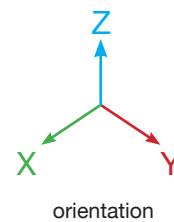
Impedance:	50 Ohm
Polarization:	Vertical
Max Input Power:	10 W
Ground plane independent:	Yes

### Environmental Specifications

Operating Temperature range:	-20 to +65 °C
Storage Temperature range:	-30 to +75 °C

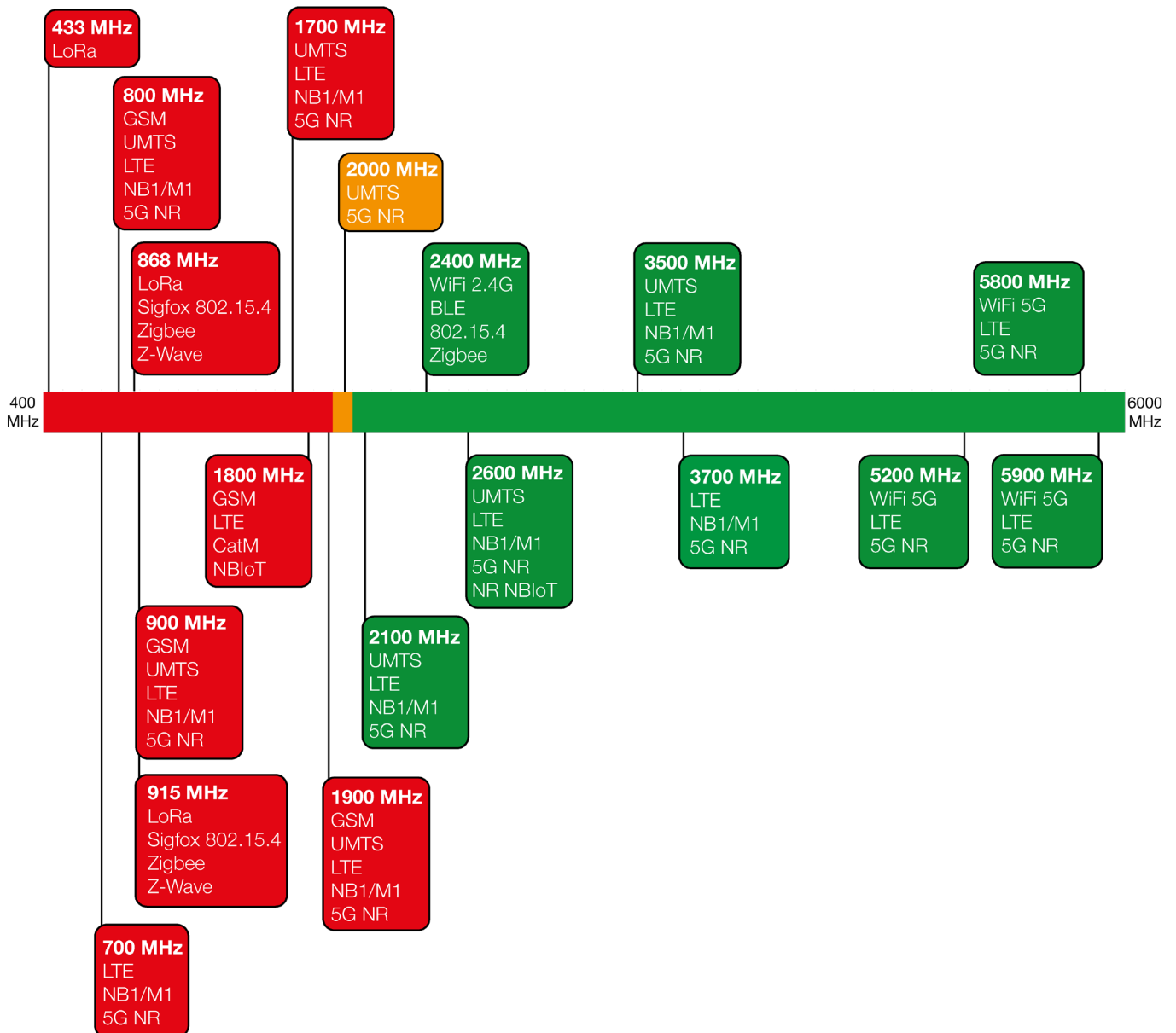
### Mechanical Specifications

Dimensions:	L196 x 13 mm base diameter
Weight:	25.6 g
Connector:	SMA male / RP-SMA male
Mounting method:	Direct Connect
Housing materials:	TPEE





### 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)

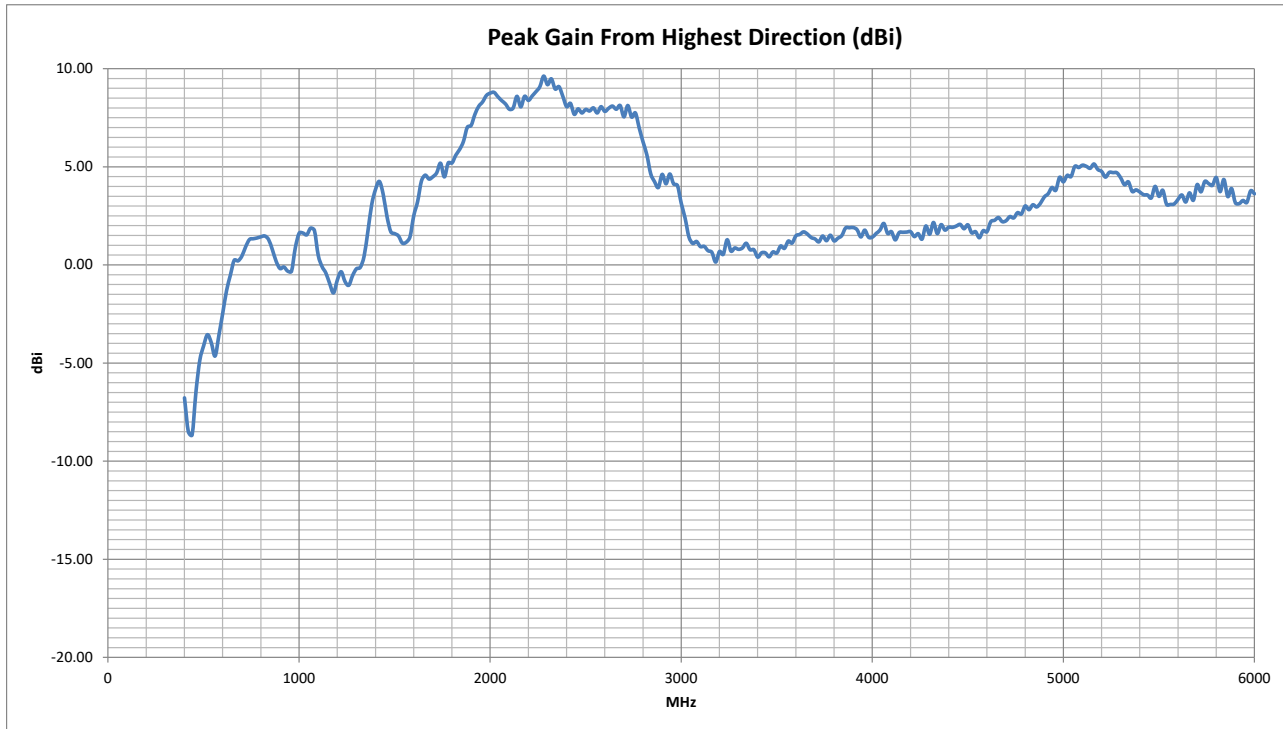
	433	868	915	2450	5800
Bluetooth				●	
IEEE 802.15.4				●	
LoRa					
Sigfox					
WiFi 2.4G				●	
WiFi 5G					●
Zigbee				●	
Z-Wave					



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### Peak Gain vs. Frequency



### Return Loss

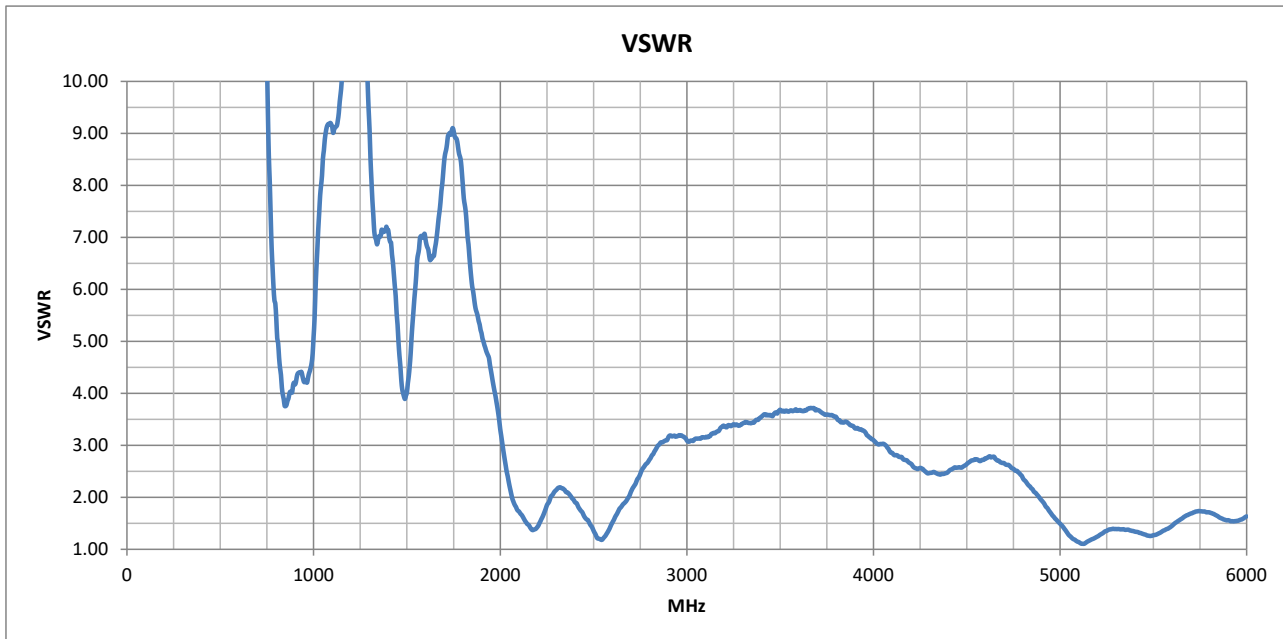




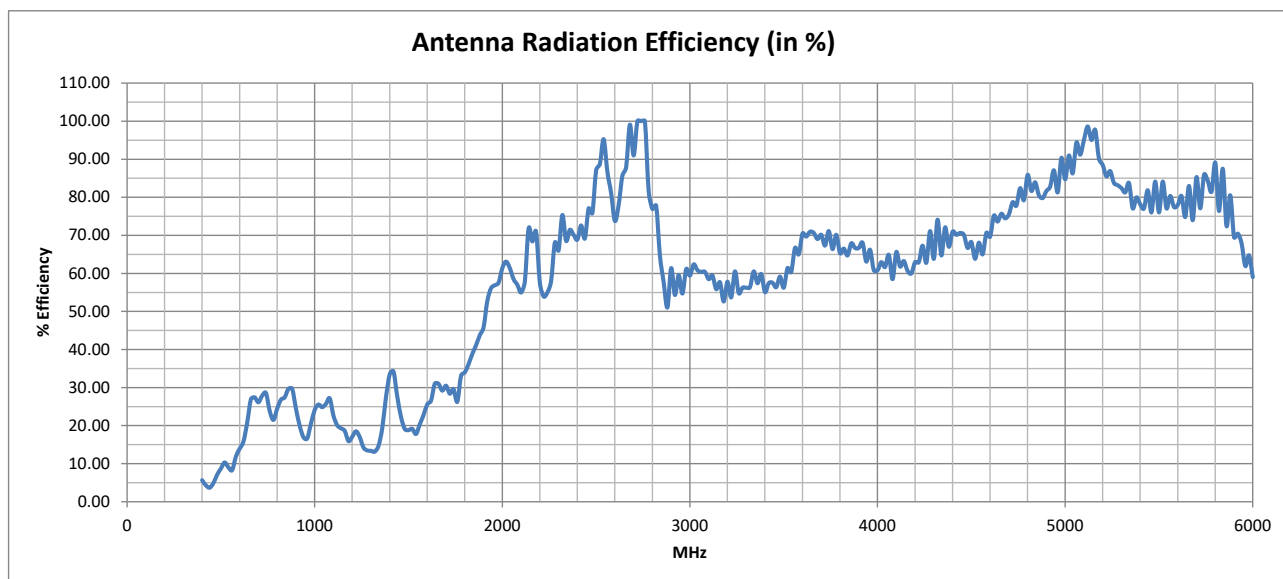
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### VSWR



### 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	56.04	65.98	4.88	1.68	●
PCS-1900	2	2	2	2	n2	n2	1850 - 1910 MHz	1930 - 1990 MHz	43.75	56.86	6.05	4.77	●
DCS-1800	3	3	3	3	n3	n3	1710 - 1785 MHz	1805 - 1880 MHz	29.16	39.03	9.10	7.75	●
	4	4	4	4			1710 - 1755 MHz	2110 - 2155 MHz	28.74	64.98	9.10	1.68	●
GSM-850	5	5	5	5	n5	n5	824 - 849 MHz	869 - 894 MHz	27.44	28.63	4.38	4.19	●
	6						830 - 840 MHz	875 - 885 MHz	27.26	29.32	4.11	4.03	●
	7	7	7	7	n7	n7	2500 - 2570 MHz	2620 - 2690 MHz	89.58	88.76	1.36	2.01	●
E-GSM-900	8	8	8	8	n8	n8	880 - 915 MHz	925 - 960 MHz	25.24	17.33	4.38	4.41	●
	9	9					1749.9 - 1784.9 MHz	1844.9 - 1879.9 MHz	29.43	41.49	9.05	6.22	●
	10	10					1710 - 1770 MHz	2110 - 2170 MHz	28.44	65.98	9.10	1.68	●
	11	11	11	11			1427.9 - 1447.9 MHz	1475.9 - 1495.9 MHz	28.44	19.07	6.39	4.06	●
	12	12	12	12	n12	n12	699 - 716 MHz	729 - 746 MHz	26.78	28.20	18.18	13.63	●
	13	13	13	13	n13	n13	777 - 787 MHz	746 - 756 MHz	21.90	25.99	6.65	11.29	●
	14	14	14	14	n14		788 - 798 MHz	758 - 768 MHz	23.40	23.54	5.89	8.91	●
		17		17			704 - 716 MHz	734 - 746 MHz	26.99	28.17	17.35	13.12	●
		18	18	18	n18	n18	815 - 830 MHz	860 - 875 MHz	26.80	29.65	4.68	4.03	●
	19	19	19	19			830 - 845 MHz	875 - 890 MHz	27.41	28.79	4.11	4.15	●
	20	20	20	20	n20	n20	832 - 862 MHz	791 - 821 MHz	28.28	25.10	4.05	5.77	●
	21	21	21	21			1447.9 - 1462.9 MHz	1495.9 - 1510.9 MHz	23.55	18.87	5.41	4.36	●
	22	22					3410 - 3490 MHz	3510 - 3590 MHz	57.45	63.38	3.65	3.69	●
		24	24	24	n24		1626.5 - 1660.5 MHz	1525 - 1559 MHz	30.38	18.68	7.03	6.65	●
	25	25	25	25	n25	n25	1850 - 1915 MHz	1930 - 1995 MHz	44.25	57.10	6.05	4.77	●
	26	26	26	26	n26		814 - 849 MHz	859 - 894 MHz	27.20	28.92	4.74	4.19	●
		27	27				807 - 824 MHz	852 - 869 MHz	26.22	29.44	5.02	3.97	●
		28	28	28	n28	n28	703 - 748 MHz	758 - 803 MHz	27.70	23.00	17.54	8.91	●

● 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	27.54	22.61	17.54	8.91	●
		29			n29		N/A	717 - 728 MHz	N/A	27.93	N/A	15.29	●
		30			n30		2305 - 2315 MHz	2350 - 2360 MHz	70.70	70.72	2.18	2.11	●
		31	31	31			452.5 - 457.5 MHz	462.5 - 467.5 MHz	4.56	5.41	18.90	21.44	●
	32	32					N/A	1452 - 1496 MHz	N/A	20.56	N/A	5.18	●
		33					1900 - 1920 MHz	1900 - 1920 MHz	49.27	49.27	5.15	5.15	●
		34			n34		2010 - 2025 MHz	2010 - 2025 MHz	62.74	62.74	3.07	3.07	●
		35					1850 - 1910 MHz	1850 - 1910 MHz	43.75	43.75	6.05	6.05	●
		36					1930 - 1990 MHz	1930 - 1990 MHz	56.86	56.86	4.77	4.77	●
		37					1910 - 1930 MHz	1910 - 1930 MHz	52.28	52.28	5.00	5.00	●
		38			n38		2570 - 2620 MHz	2570 - 2620 MHz	77.84	77.84	1.64	1.64	●
		39	39		n39		1880 - 1920 MHz	1880 - 1920 MHz	47.03	47.03	5.47	5.47	●
		40	40		n40		2300 - 2400 MHz	2300 - 2400 MHz	70.59	70.59	2.19	2.19	●
		41	41	41	n41	n41	2496 - 2690 MHz	2496 - 2690 MHz	86.19	86.19	2.01	2.01	●
		42	42	42			3400 - 3600 MHz	3400 - 3600 MHz	60.30	60.30	3.69	3.69	●
		43	43	43			3600 - 3800 MHz	3600 - 3800 MHz	69.32	69.32	3.72	3.72	●
		44					703 - 803 MHz	703 - 803 MHz	25.37	25.37	17.54	17.54	●
		45					1447 - 1467 MHz	1447 - 1467 MHz	23.23	23.23	5.45	5.45	●
		46			n46		5150 - 5925 MHz	5150 - 5925 MHz	81.15	81.15	1.73	1.73	●
		47			n47		5855 - 5925 MHz	5855 - 5925 MHz	73.60	73.60	1.61	1.61	●
		48			n48		3550 - 3700 MHz	3550 - 3700 MHz	68.90	68.90	3.72	3.72	●
		49					3550 - 3700 MHz	3550 - 3700 MHz	68.90	68.90	3.72	3.72	●
		50			n50		1432 - 1517 MHz	1432 - 1517 MHz	21.72	21.72	6.20	6.20	●
		51			n51		1427 - 1432 MHz	1427 - 1432 MHz	31.10	31.10	6.43	6.43	●
		52					3300 - 3400 MHz	3300 - 3400 MHz	57.96	57.96	3.55	3.55	●

● 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	81.06	81.06	1.47	1.47	●
		65		65	n65	n65	1920 - 2010 MHz	2110 - 2200 MHz	57.44	66.07	4.88	1.68	●
		66	66	66	n66	n66	1710 - 1780 MHz	2110 - 2200 MHz	28.87	66.07	9.10	1.68	●
		67			n67		N/A	738 - 758 MHz	N/A	26.67	N/A	12.62	●
		68					698 - 728 MHz	753 - 783 MHz	27.21	23.05	18.27	9.82	●
		69					N/A	2570 - 2620 MHz	N/A	77.84	N/A	1.64	●
		70		70	n70	n70	1695 - 1710 MHz	1995 - 2020 MHz	30.07	61.97	8.68	3.47	●
		71	71	71	n71		663 - 698 MHz	617 - 652 MHz	27.01	19.49	18.64	14.48	●
		72	72	72			451 - 456 MHz	461 - 466 MHz	4.47	5.24	18.33	21.44	●
		73	73	73			450 - 455 MHz	460 - 465 MHz	4.41	5.13	17.94	21.44	●
		74	74	74	n74		1427 - 1470 MHz	1475 - 1518 MHz	25.62	19.01	6.43	4.66	●
		75			n75		N/A	1432 - 1517 MHz	N/A	21.72	N/A	6.20	●
		76			n76		N/A	1427 - 1432 MHz	N/A	31.10	N/A	6.43	●
					n77		3300 - 4200 MHz	3300 - 4200 MHz	63.58	63.58	3.72	3.72	●
					n78		3300 - 3800 MHz	3300 - 3800 MHz	63.44	63.44	3.72	3.72	●
					n79		4400 - 5000 MHz	4400 - 5000 MHz	76.29	76.29	2.79	2.79	●
					n80		1710 - 1785 MHz	N/A	29.16	N/A	9.10	N/A	●
					n81		880 - 915 MHz	N/A	25.24	N/A	4.38	N/A	●
					n82		832 - 862 MHz	N/A	28.28	N/A	4.05	N/A	●
					n83		703 - 748 MHz	N/A	27.70	N/A	17.54	N/A	●
					n84		1920 - 1980 MHz	N/A	56.04	N/A	4.88	N/A	●
		85	85	85	n85		698 - 716 MHz	728 - 746 MHz	26.75	28.20	18.27	13.76	●
					n86		1710 - 1780 MHz	N/A	28.87	N/A	9.10	N/A	●
		87	87	87			410 - 415 MHz	420 - 425 MHz	4.80	4.22	21.81	18.06	●
		88	88	88			412 - 417 MHz	422 - 427 MHz	4.67	4.15	21.13	17.69	●

● 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	27.44	N/A	4.38	N/A	●
					n90	n90	2496 - 2690 MHz	2496 - 2690 MHz	86.19	86.19	2.01	2.01	●
					n91		832 - 862 MHz	1427 - 1432 MHz	28.28	31.10	4.05	6.43	●
					n92		832 - 862 MHz	1432 - 1517 MHz	28.28	21.72	4.05	6.20	●
					n93		880 - 915 MHz	1427 - 1432 MHz	25.24	31.10	4.38	6.43	●
					n94		880 - 915 MHz	1432 - 1517 MHz	25.24	21.72	4.38	6.20	●
					n95		2010 - 2025 MHz	N/A	62.74	N/A	3.07	N/A	●
					n97		2300 - 2400 MHz	N/A	70.59	N/A	2.19	N/A	●
					n98		1880 - 1920 MHz	N/A	47.03	N/A	5.47	N/A	●
					n99		1626.5 - 1660.5 MHz	N/A	30.38	N/A	7.03	N/A	●
					n101		1900 - 1910 MHz	1900 - 1910 MHz	47.54	47.54	5.15	5.15	●
				103			787 - 788 MHz	757 - 758 MHz	22.59	24.47	5.95	9.08	●

● 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	3.86	16.96	-8.604	●
IMT 868 MHz	863 - 870 MHz	29.65	3.98	0.68	●
ISM 915 MHz	902 - 928 MHz	21.18	4.40	-0.11	●
ISM 2.4 GHz	2400 - 2500 MHz	74.55	1.91	8.23	●
WiFi 2.4G	2401 - 2483 MHz	73.00	1.90	8.23	●
WiFi 2.4G (USA)	2401 - 2473 MHz	72.55	1.90	8.23	●
WiFi 2.4G (Japan)	2401 - 2495 MHz	74.01	1.90	8.23	●
WiFi 5G (all channels)	5150 - 5990 MHz	79.91	1.73	5.14	●
WiFi 5G (Ch 32-48)	5150 - 5250 MHz	89.62	1.35	5.14	●
WiFi 5G (Ch 32-64)	5150 - 5330 MHz	86.60	1.39	5.14	●
WiFi 5G (Ch 32-161)	5150 - 5815 MHz	81.93	1.73	5.14	●
WiFi 5G (Ch 32-173)	5150 - 5875 MHz	81.72	1.73	5.14	●
ISM 5.8 GHz	5725 - 5875 MHz	82.20	1.73	4.45	●

● Suitable band

● Adequate band in good signal conditions

● Likely to be unsuitable

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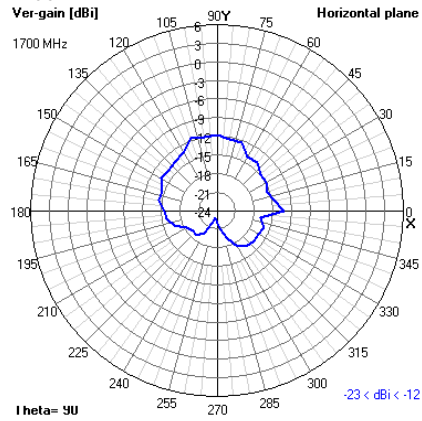


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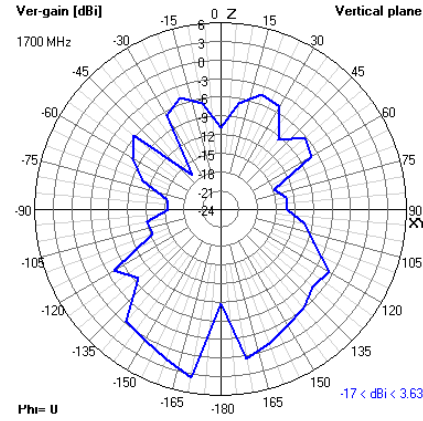
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 2D Radiation Plots

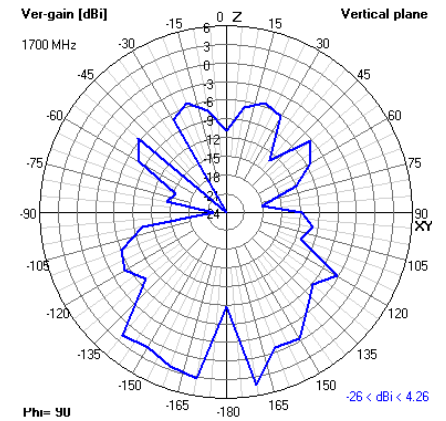
#### 1700 MHz XY



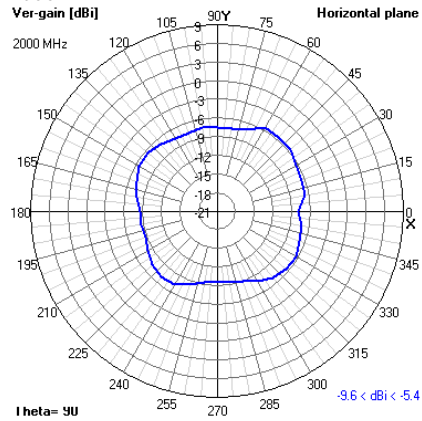
#### XZ



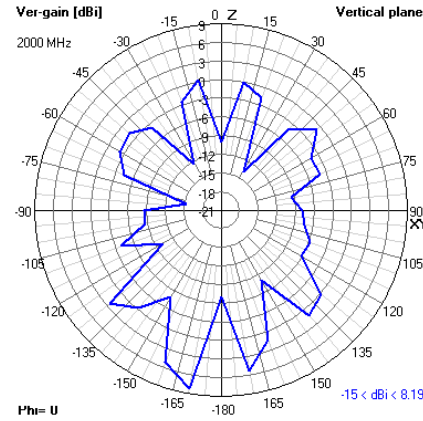
#### YZ



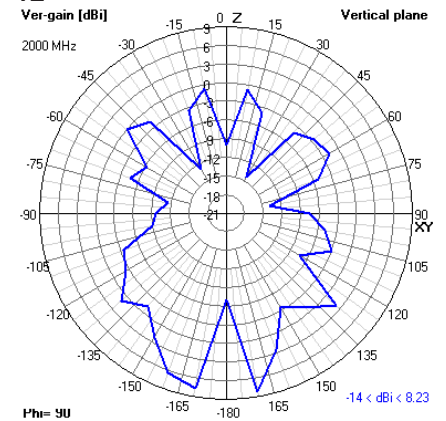
#### 2000 MHz XY



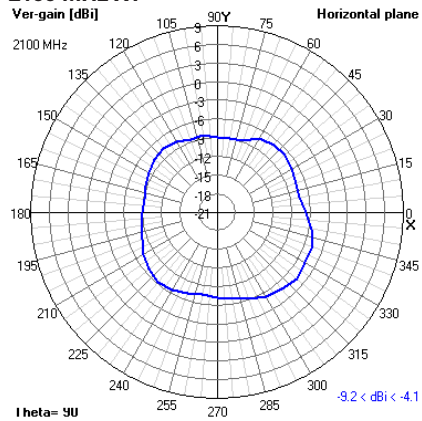
#### XZ



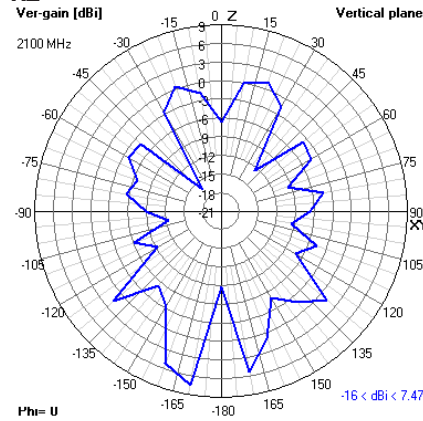
#### YZ



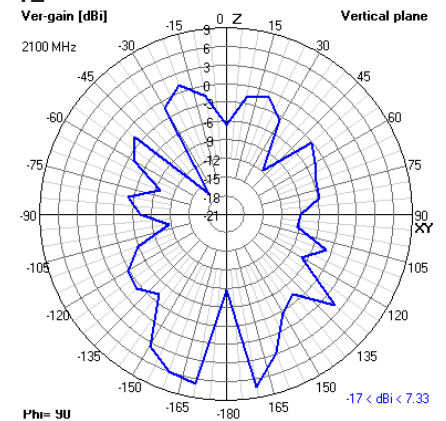
#### 2100 MHz XY



#### XZ



#### YZ



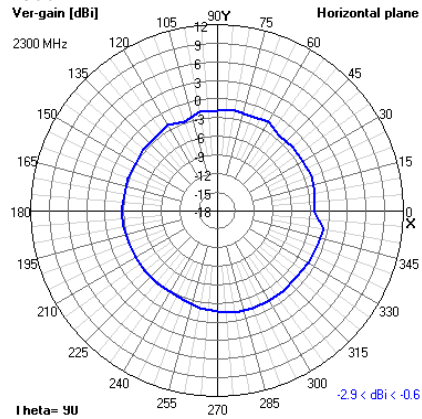


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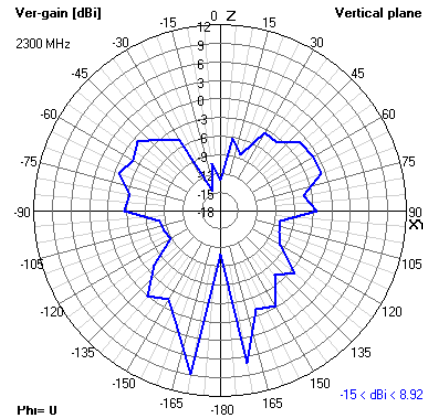
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 2D Radiation Plots

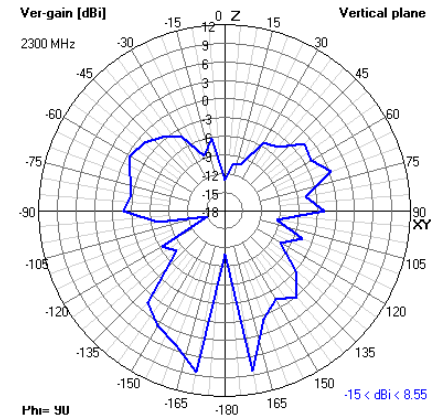
#### 2300 MHz XY



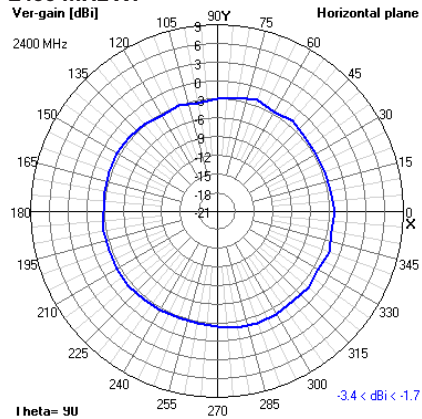
#### XZ



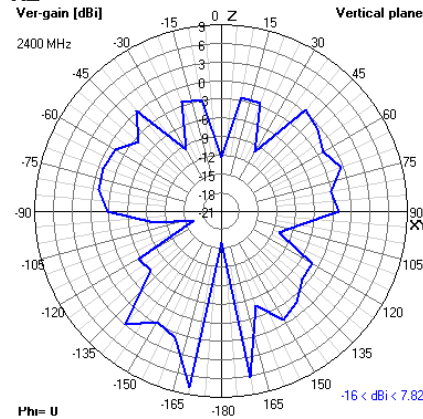
#### YZ



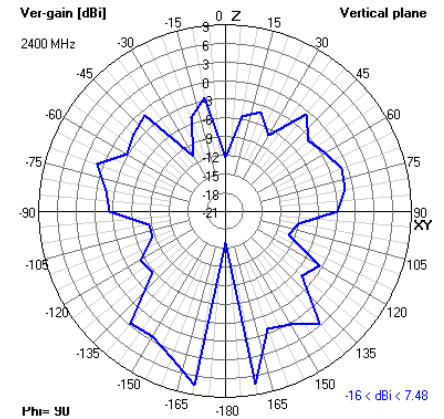
#### 2400 MHz XY



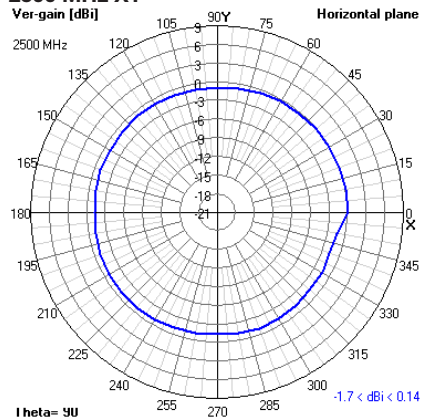
#### XZ



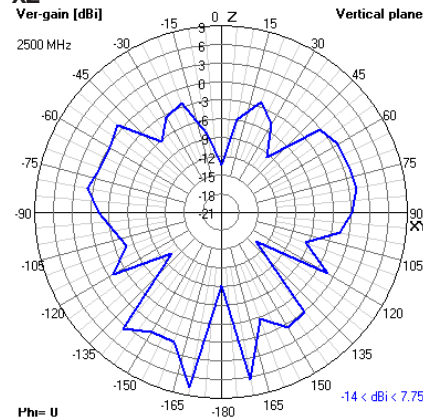
#### YZ



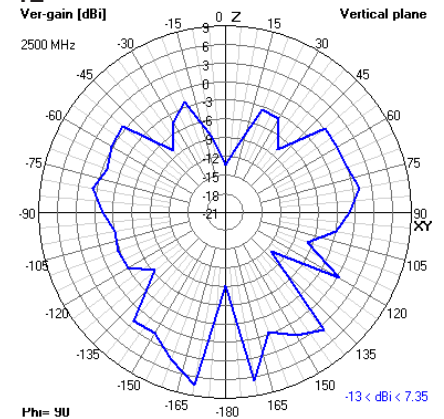
#### 2500 MHz XY



#### XZ



#### YZ



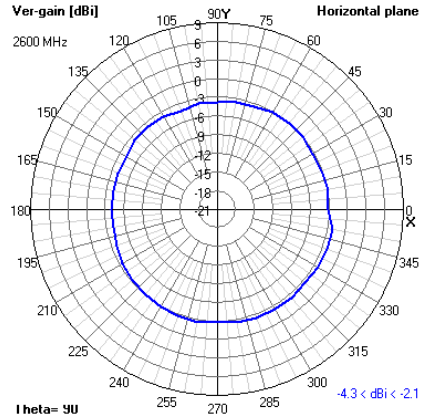


## Delta 6C

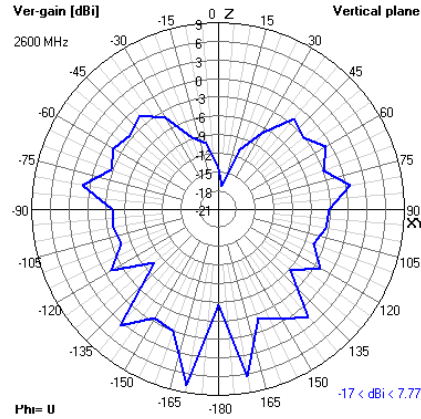
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 2D Radiation Plots

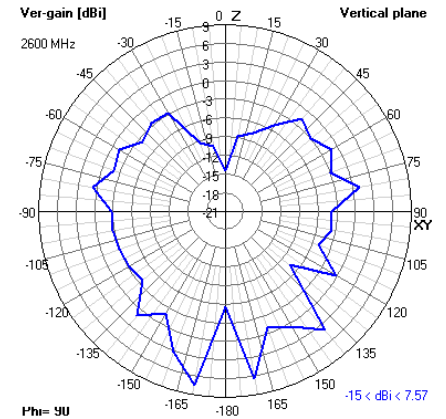
#### 2600 MHz XY



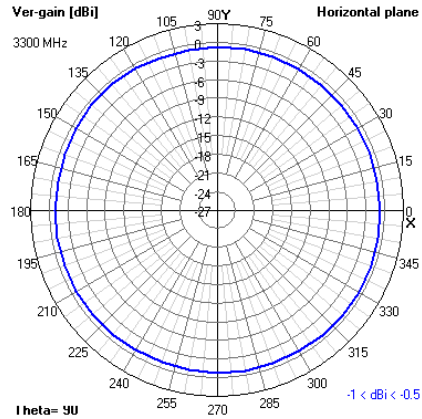
#### XZ



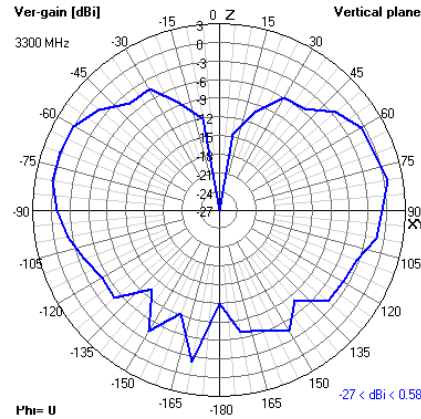
#### YZ



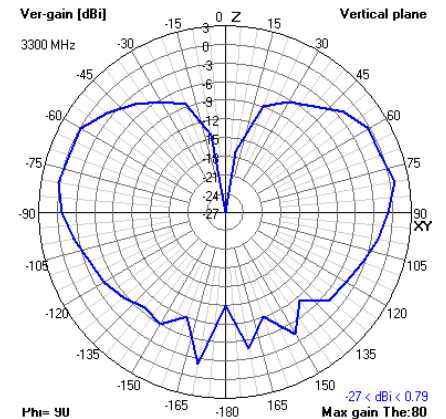
#### 3300 MHz XY



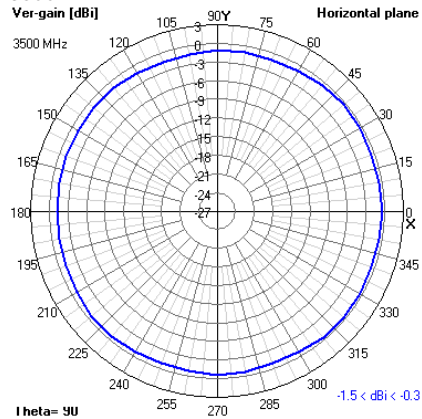
#### XZ



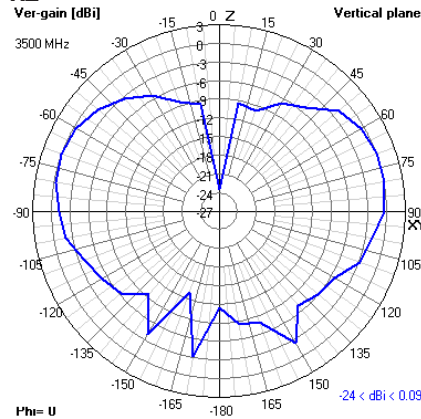
#### YZ



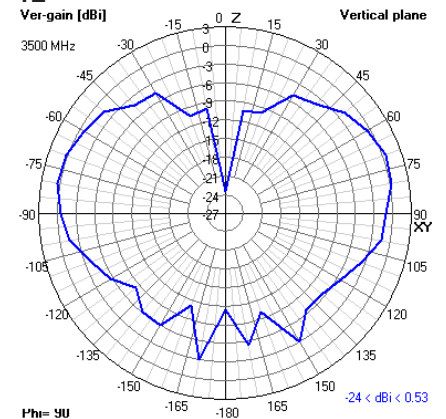
#### 3500 MHz XY



#### XZ



#### YZ



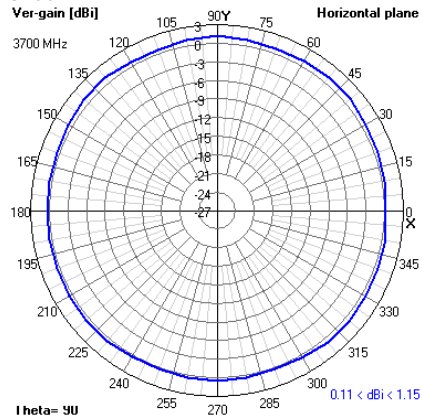


## Delta 6C

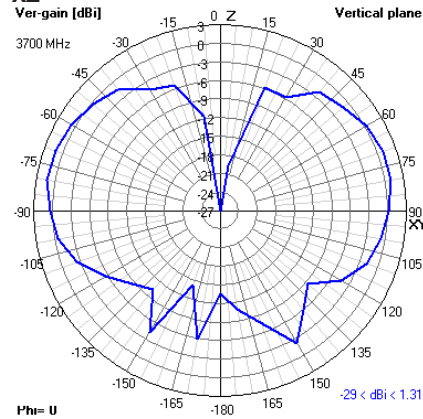
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 2D Radiation Plots

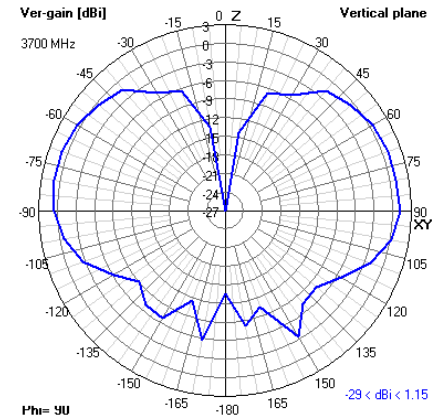
#### 3700 MHz XY



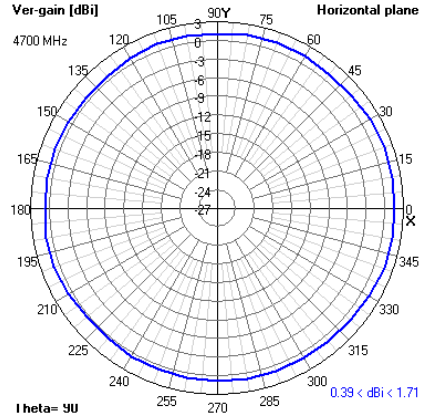
#### XZ



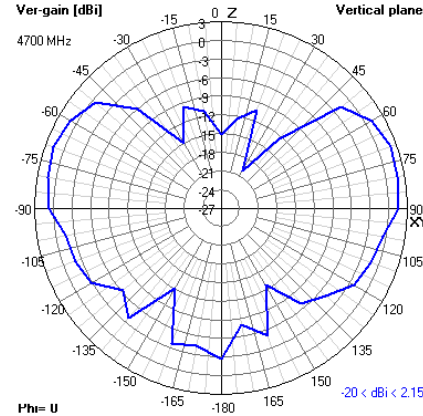
#### YZ



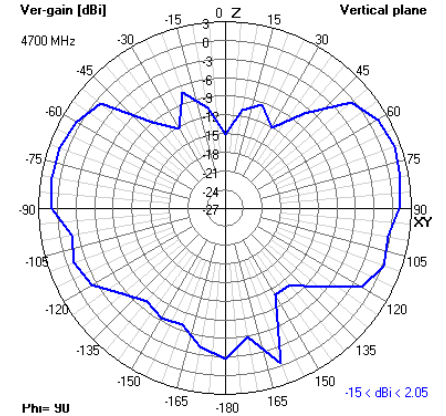
#### 4700 MHz XY



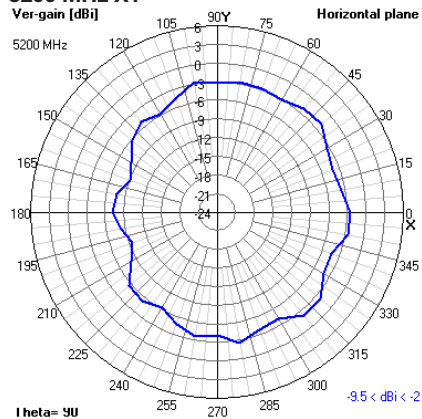
#### XZ



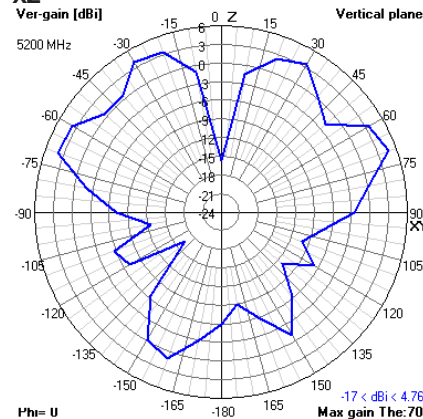
#### YZ



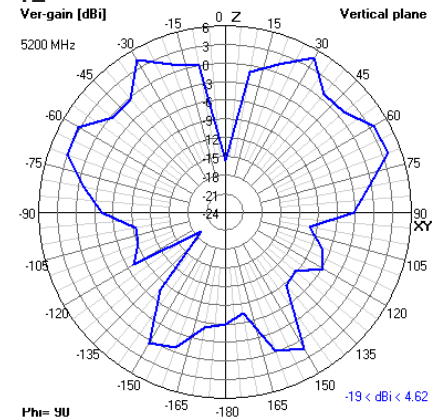
#### 5200 MHz XY



#### XZ



#### YZ



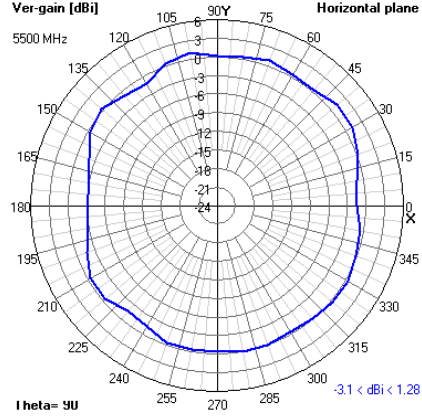


## Delta 6C

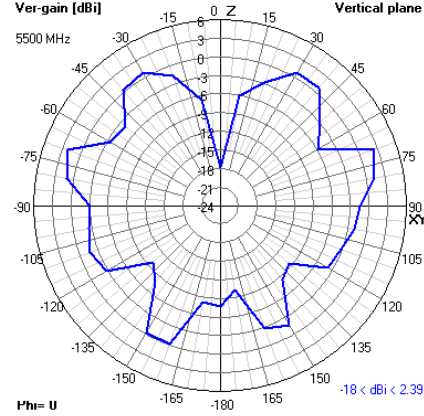
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 2D Radiation Plots

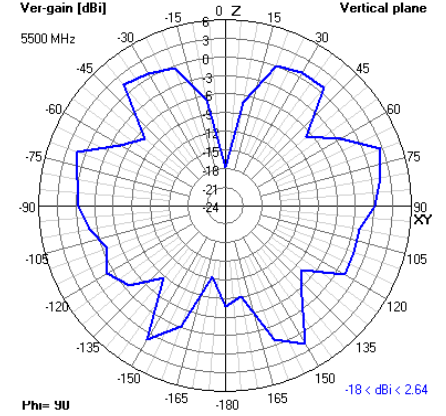
#### 5500 MHz XY



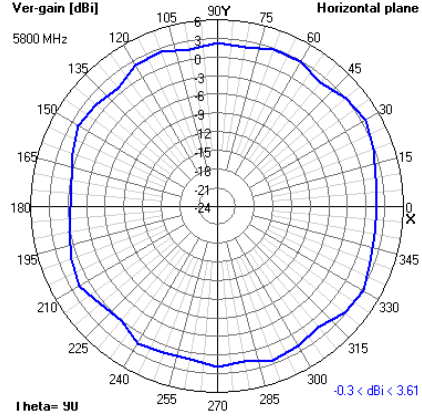
#### XZ



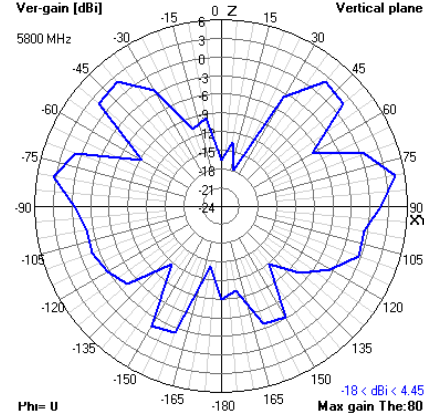
#### YZ



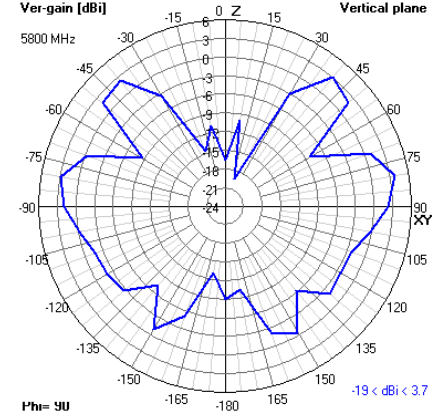
#### 5800 MHz XY



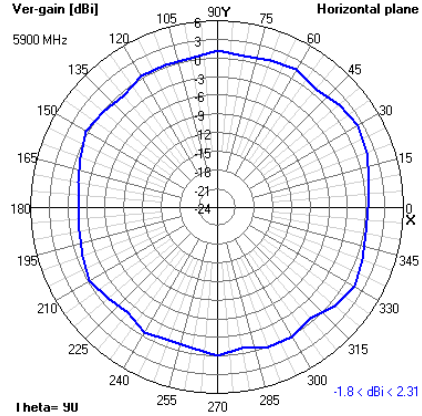
#### XZ



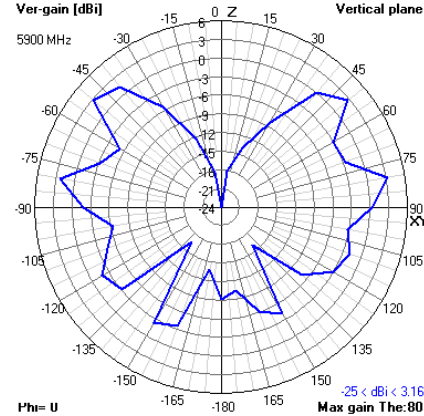
#### YZ



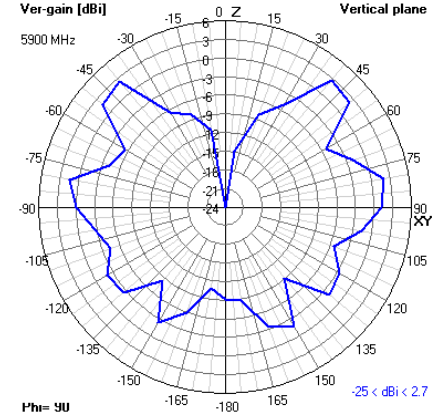
#### 5900 MHz XY



#### XZ



#### YZ





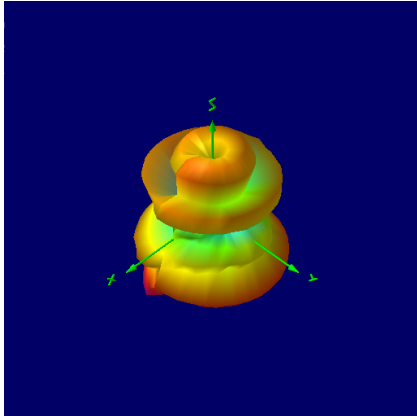


## Delta 6C

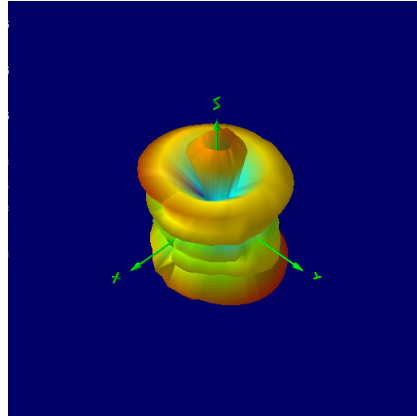
5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna

### 3D Radiation Plots

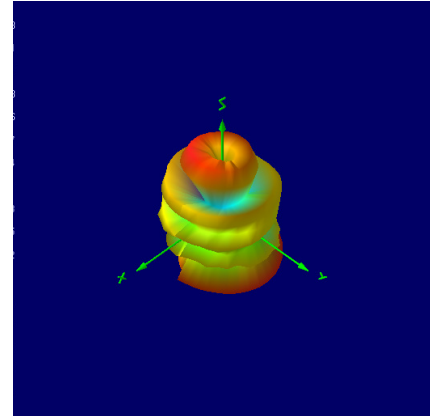
1700 MHz



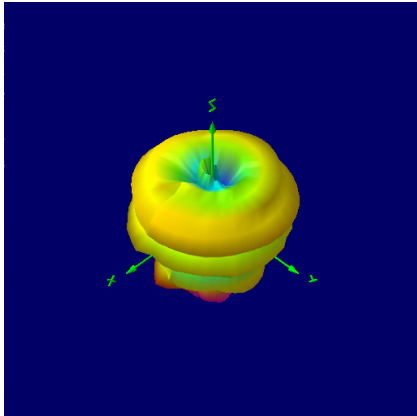
2000 MHz



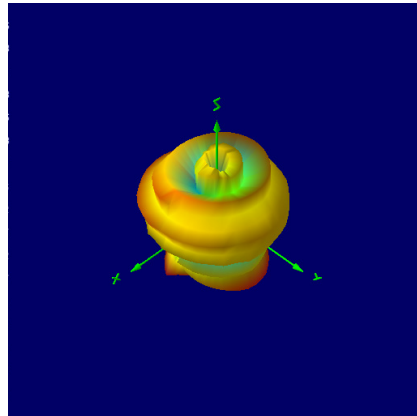
2100 MHz



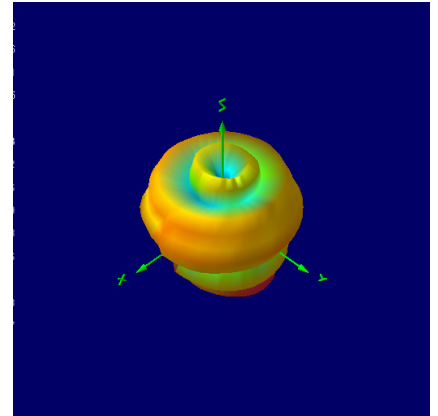
2300 MHz



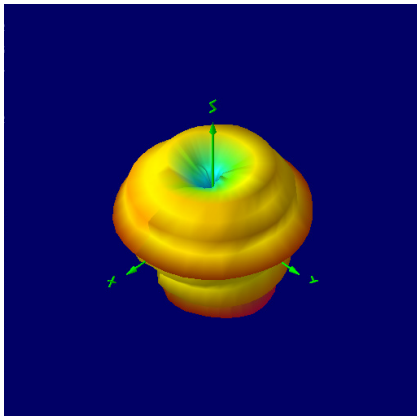
2400 MHz



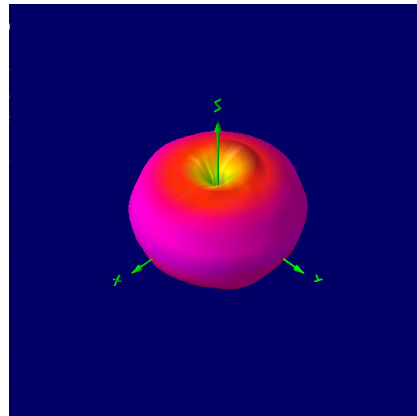
2500 MHz



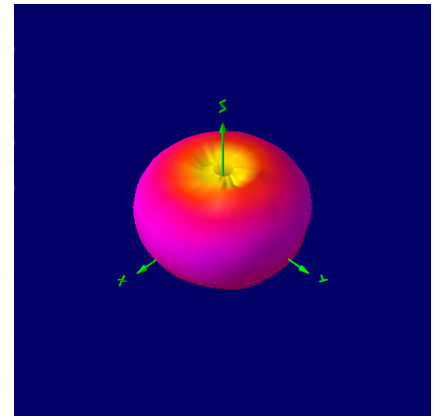
2600 MHz



3300 MHz

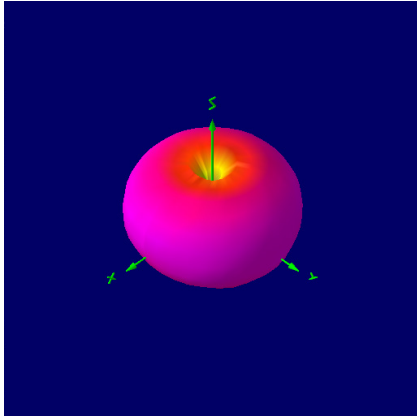


3500 MHz

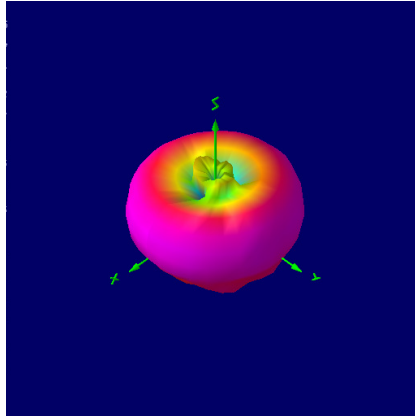


### 3D Radiation Plots

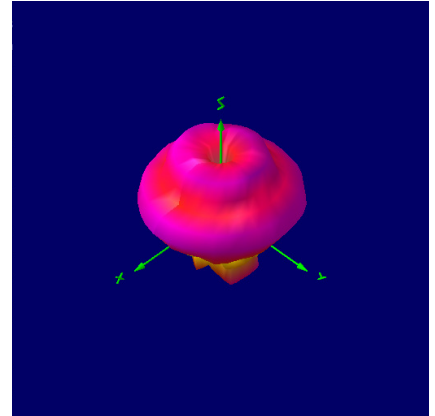
3700 MHz



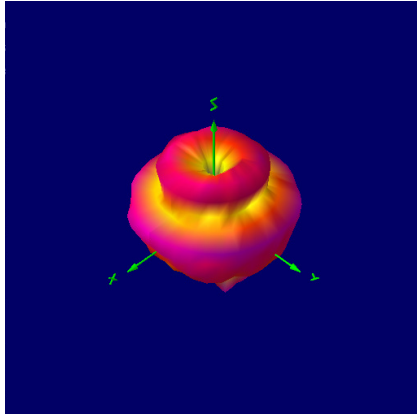
4700 MHz



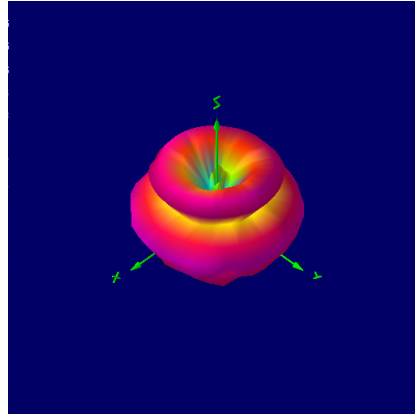
5200 MHz



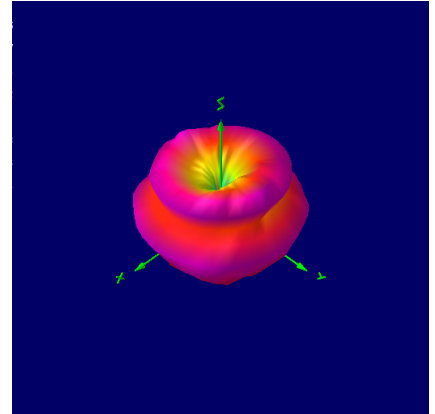
5500 MHz



5800 MHz



5900 MHz



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

Part Number	Description
DELTA6C/x/SMAM/S/RP/11	5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna SMA Male Reverse Polarity Connector
DELTA6C/x/SMAM/S/S/11	5G/4G/3G/Dual band WiFi/Bluetooth/Zigbee Antenna SMA Male Connector