

General Description



The Delta 68 is a compact DIN-rail mounted antenna designed for reliable wireless connectivity in industrial infrastructure equipment. Supporting 2G, 3G, 4G LTE, LTE-M, NB-IoT and 5G NR, together with Wi-Fi, Bluetooth and ISM technologies, it is ideal for industrial IoT gateways, smart utility equipment and connected control systems.

With approximately 0-3 dBi gain, the Delta 68 delivers dependable omnidirectional performance while supporting multiple wireless technologies from a single antenna, reducing installation complexity and the need for multiple antennas.

The DIN EN 50022 / IEC 60715 mounting format enables fast, secure installation on standard 35 mm DIN rails – creating a neat, space-efficient installation while maintaining the correct vertical orientation. A right-angle Fakra-D jack connector is supplied as standard, with alternative connector options available for greater installation flexibility.

Key Features

- Provides connectivity for 2G, 3G, 4G LTE, LTE-M, NB-IoT & 5G NR
- Supports Wi-Fi, Bluetooth & ISM wireless technologies
- 0-3 dBi gain
- DIN EN 50022 / IEC 60715 35 mm DIN-rail mounting
- Rugged housing suited to long-term infrastructure deployments

Typical Applications

- Electrical and control cabinets
- Smart metering and utility infrastructure
- Industrial routers and IoT gateways
- Building automation and smart infrastructure
- Remote monitoring and telemetry systems

				
Wideband Coverage	0-3 dBi Gain	Cellular 2G-5G Support	Wi-Fi & ISM 2.4 GHz & 5 GHz	DIN-Rail Mount DIN EN 50022 / IEC 60715

Product Features

2G GSM	3G UMTS	4G LTE	5G NR	BLE Bluetooth h	IEEE 802.15. 4	ISM 868	ISM 915	ISM 2.4G	LoRa Wireless	LTE CAT-M
LTE NB-IoT	WIFI 4 802.11n	WIFI 5 802.11a c	WIFI 6 802.11a x							

Cellular Band Support

B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
B13	B14	B17	B18	B19	B20	B21	B23	B25	B26	B27
B28	B29	B30	B32	B33	B34	B35	B36	B37	B38	B39
B40	B41	B43	B45	B50	B51	B53	B54	B65	B66	B67
B69	B70	B74	B75	B76	B103	B106	B111			

5G NR Band Support

n1	n2	n3	n5	n7	n8	n13	n14	n18	n20	n25
n26	n28	n29	n30	n34	n38	n39	n40	n41	n50	n51
n53	n54	n65	n66	n67	n70	n74	n75	n76	n80	n81
n82	n84	n86	n89	n90	n91	n92	n93	n94	n95	n97
n98	n100	n101	n106	n109	n110					

Electrical Specifications

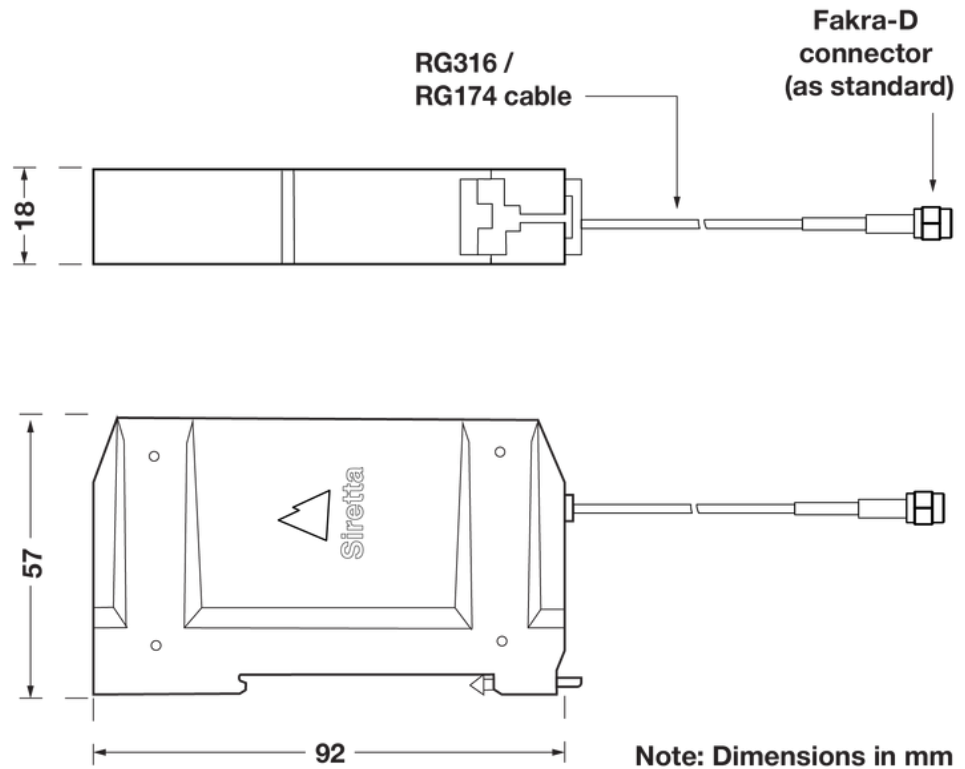
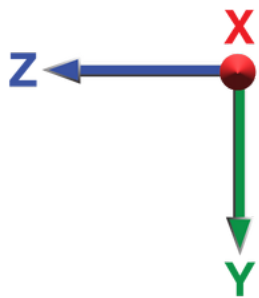
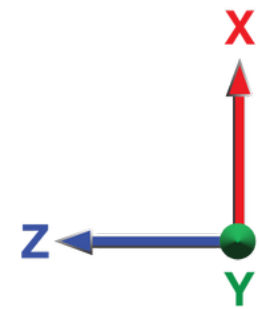
Frequency Range:	700–960 MHz 1700–6000 MHz
Impedance:	50 Ohm
Polarisation:	Vertical
Gain	0–3 dBi
Average Spherically Integrated Total Gain:	Approx. –5 to –1 dBi (frequency dependent)
Max Input Power:	10 W
Ground plane:	Tested on DIN-rail

Environmental Specifications

Operating Temperature range:	–30°C to 70°C
Storage Temperature range:	–40°C to 85°C

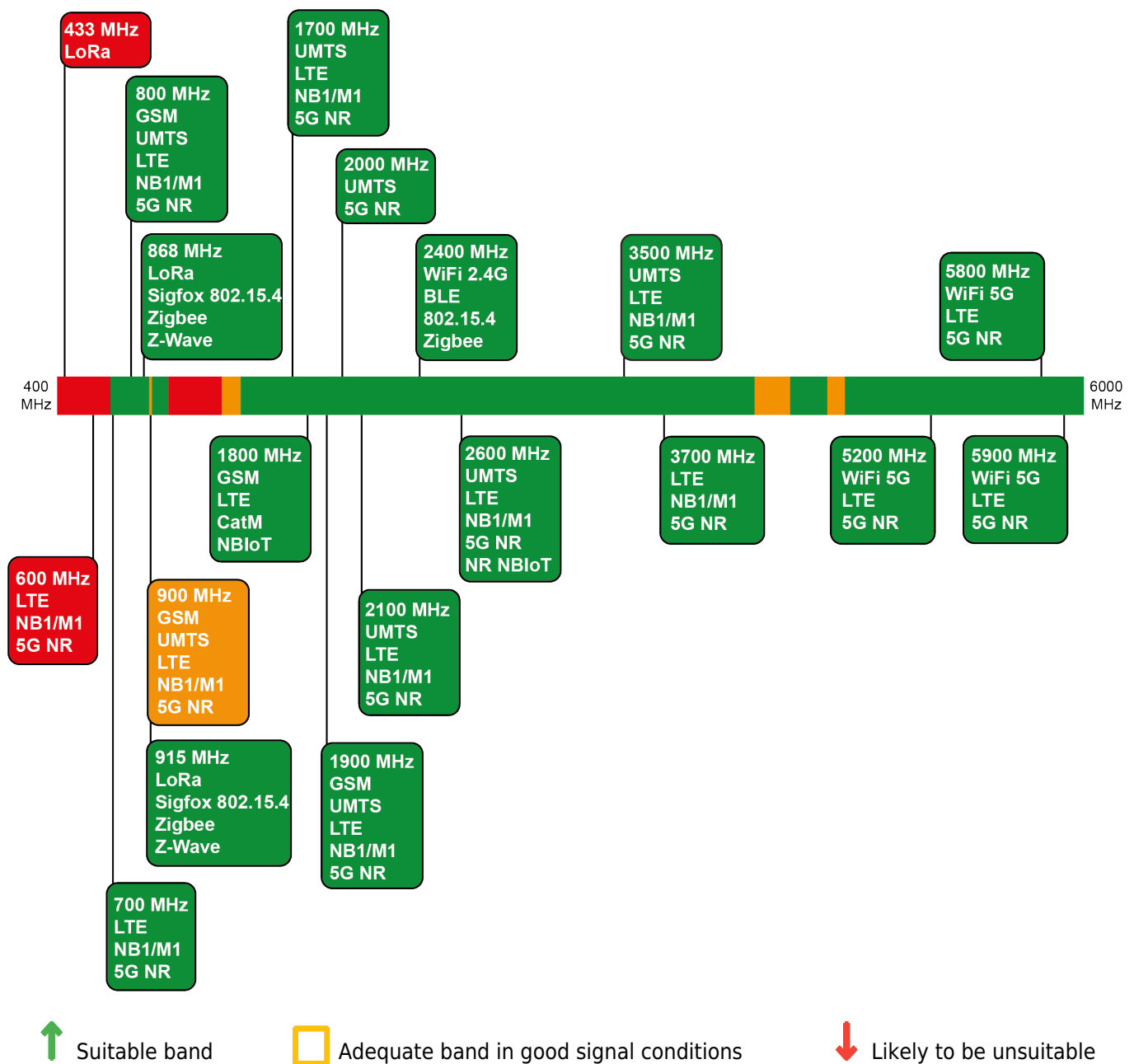
Mechanical Specifications

Dimensions:	L = 92 mm W = 57 mm D = 18 mm
Weight:	36 g
Cable:	RG316 / RG174
Connector:	Fakra-D as standard (alternative connector options available on request)
Mounting method:	DIN-rail
Housing materials:	ABS (Black)
Flammability Rating:	UL94-V0

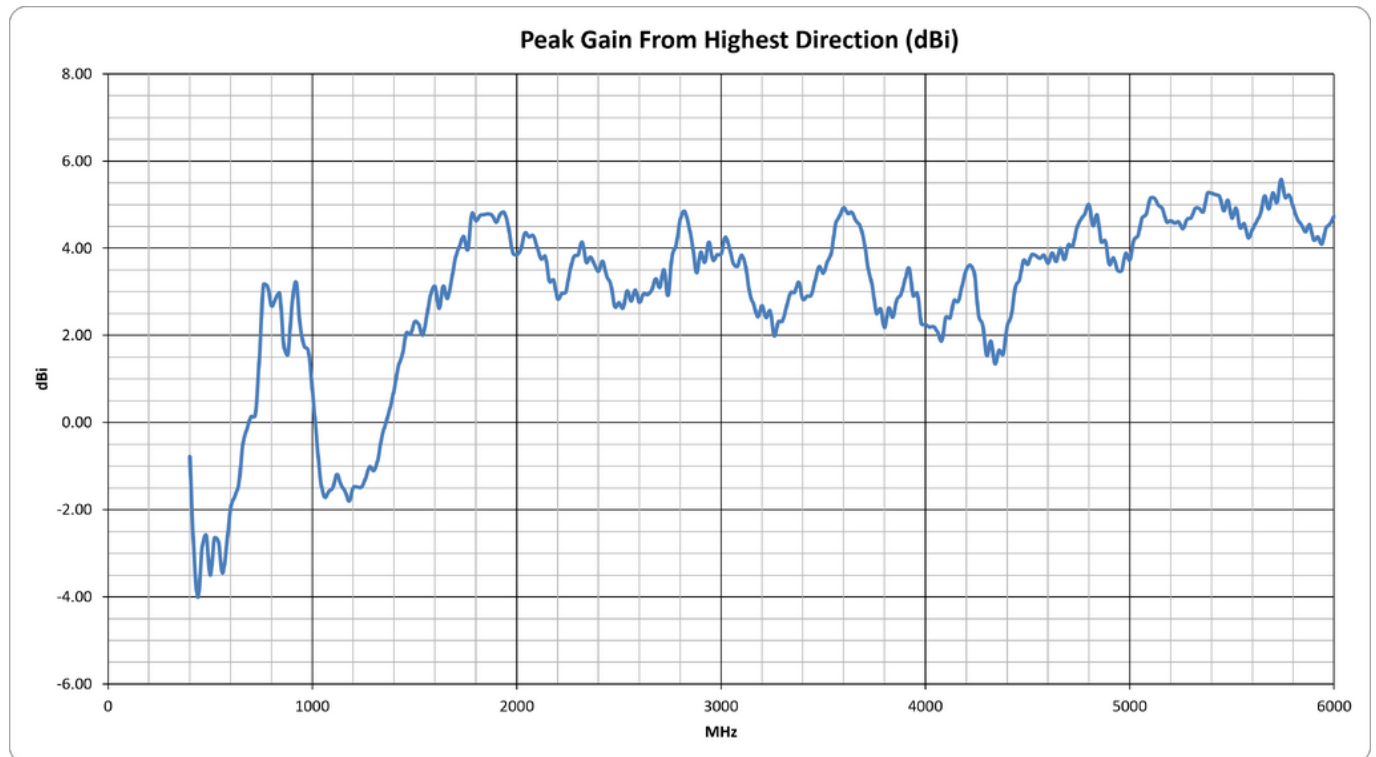


Spectrum Coverage*

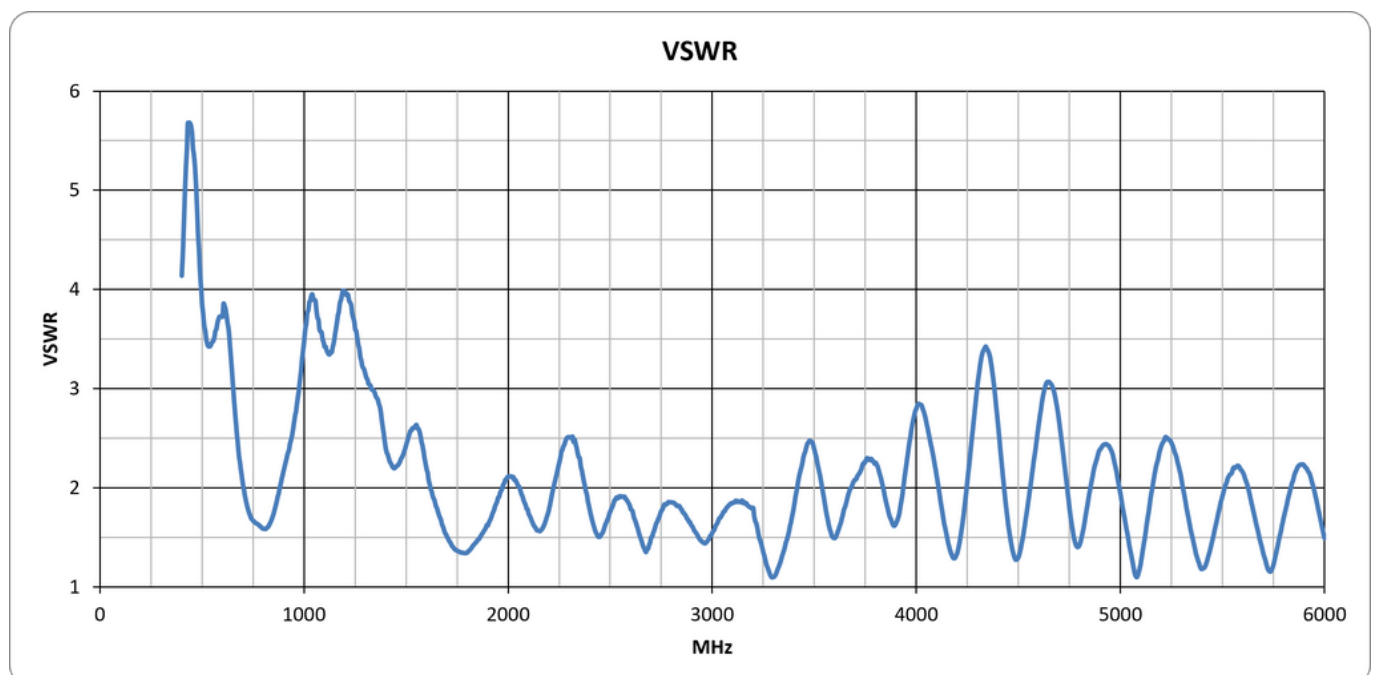
The Spectral View Diagram visually describes the performance of the antenna from 400 MHz to 6000 MHz. Key frequencies are marked highlighting the technology used and the colour represents the performance at that frequency, taking into consideration the VSWR and radiated efficiency of the antenna.



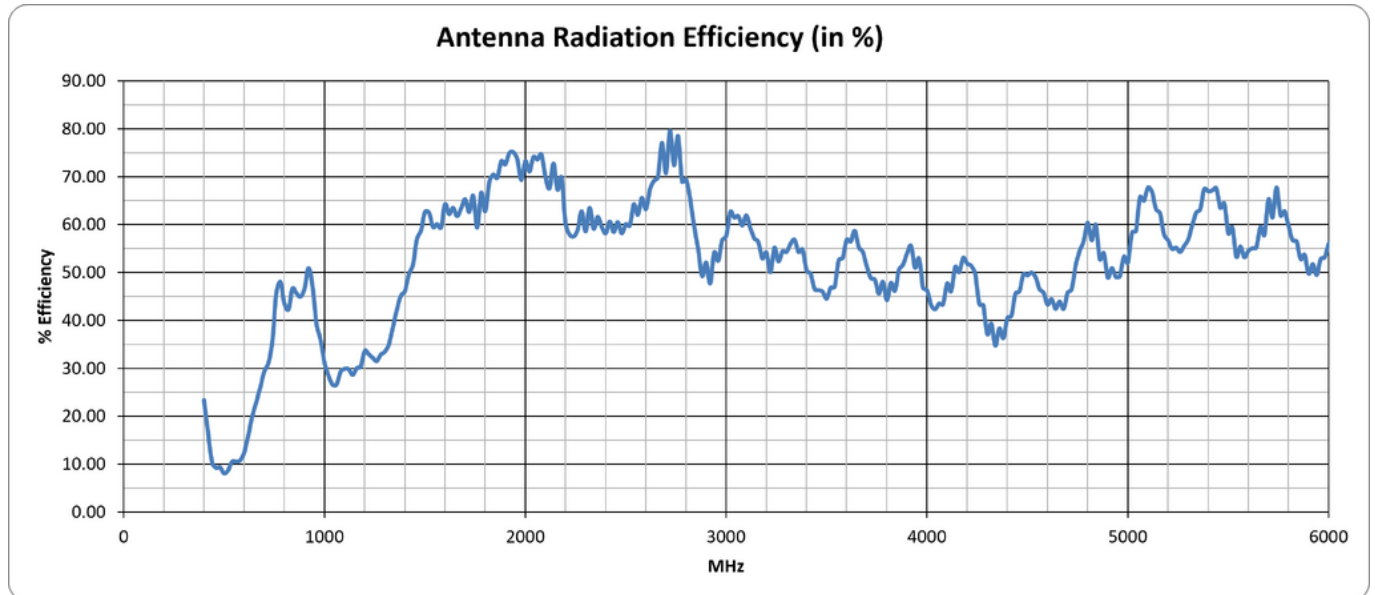
Peak Gain vs. Frequency



VSWR



Radiation Efficiency



Cellular Bands*

GSM (2G) Bands	UMTS (3G) Bands	E-UTRA (4G) Bands	NR (5G) Bands	Uplink (MHz)	Downlink (MHz)	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
	1	1	n1	1920 - 1980	2110 - 2170	73.65	69.43	2.05	1.69	↑
PCS-1900	2	2	n2	1850 - 1910	1930 - 1990	72.03	72.87	1.67	2.09	↑
DCS-1800	3	3	n3	1710 - 1785	1805 - 1880	63.57	69.68	1.46	1.56	↑
	4	4		1710 - 1755	2110 - 2155	63.87	69.92	1.46	1.69	↑
GSM-850	5	5	n5	824 - 849	869 - 894	45.46	45.38	1.73	2.12	↑
	6			830 - 840	875 - 885	45.57	45.12	1.68	2.04	↑
	7	7	n7	2500 - 2570	2620 - 2690	61.91	71.18	1.91	1.68	↑
E-GSM-900	8	8	n8	880 - 915	925 - 960	46.81	45.53	2.31	2.77	↑
	9	9		1749.9 - 1784.9	1844.9 - 1879.9	62.94	70.91	1.36	1.56	↑
	10	10		1710 - 1770	2110 - 2170	63.13	69.43	1.46	1.69	↑
	11	11		1427.9 - 1447.9	1475.9 - 1495.9	51.70	59.95	2.23	2.40	↑
	12	12	n12	699 - 716	729 - 746	30.03	35.38	2.05	1.75	↑
	13	13	n13	777 - 787	746 - 756	47.47	41.24	1.62	1.68	↑
	14	14	n14	788 - 798	758 - 768	45.14	46.07	1.60	1.65	↑
		17		704 - 716	734 - 746	30.25	36.07	1.99	1.73	↑
		18	n18	815 - 830	860 - 875	43.06	45.43	1.63	1.94	↑
	19	19		830 - 845	875 - 890	45.89	45.27	1.71	2.09	↑
	20	20	n20	832 - 862	791 - 821	46.04	43.39	1.83	1.60	↑
	21	21		1447.9 - 1462.9	1495.9 - 1510.9	55.73	62.52	2.24	2.51	↑
	22	22		3410 - 3490	3510 - 3590	47.15	49.96	2.47	2.30	↑

GSM (2G) Bands	UMTS (3G) Bands	E-UTRA (4G) Bands	NR (5G) Bands	Uplink (MHz)	Downlink (MHz)	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
		24	n24	1626.5 - 1660.5	1525 - 1559	62.82	60.20	1.94	2.63	↑
	25	25	n25	1850 - 1915	1930 - 1995	72.19	72.79	1.69	2.10	↑
	26	26	n26	814 - 849	859 - 894	44.63	45.43	1.73	2.12	↑
		27		807 - 824	852 - 869	42.69	45.71	1.61	1.90	↑
		28	n28	703 - 748	758 - 803	33.01	46.14	2.00	1.65	↑
		28A		703 - 733	758 - 788	31.34	46.90	2.00	1.65	↑
		29	n29		717 - 728	-	31.74	-	1.85	↑
		30	n30	2305 - 2315	2350 - 2360	61.07	61.03	2.52	2.30	↑
		31	n31	452.5 - 457.5	462.5 - 467.5	9.53	9.28	5.51	5.29	↓
	32	32			1452 - 1496	-	58.41	-	2.40	↑
		33		1900 - 1920	1900 - 1920	73.80	73.80	1.72	1.72	↑
		34	n34	2010 - 2025	2010 - 2025	71.61	71.61	2.11	2.11	↑
		35		1850 - 1910	1850 - 1910	72.03	72.03	1.67	1.67	↑
		36		1930 - 1990	1930 - 1990	72.87	72.87	2.09	2.09	↑
		37		1910 - 1930	1910 - 1930	74.71	74.71	1.77	1.77	↑
		38	n38	2570 - 2620	2570 - 2620	64.83	64.83	1.91	1.91	↑
		39	n39	1880 - 1920	1880 - 1920	73.38	73.38	1.72	1.72	↑
		40	n40	2300 - 2400	2300 - 2400	60.46	60.46	2.52	2.52	↑
		41	n41	2496 - 2690	2496 - 2690	65.97	65.97	1.91	1.91	↑
		42		3400 - 3600	3400 - 3600	48.66	48.66	2.47	2.47	↑
		43		3600 - 3800	3600 - 3800	51.78	51.78	2.30	2.30	↑
		44		703 - 803	703 - 803	39.84	39.84	2.00	2.00	↑

GSM (2G) Bands	UMTS (3G) Bands	E-UTRA (4G) Bands	NR (5G) Bands	Uplink (MHz)	Downlink (MHz)	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
		45		1447 - 1467	1447 - 1467	55.99	55.99	2.25	2.25	↑
		46	n46	5150 - 5925	5150 - 5925	59.00	59.00	2.51	2.51	↑
		47	n47	5855 - 5925	5855 - 5925	51.99	51.99	2.24	2.24	↑
		48	n48	3550 - 3700	3550 - 3700	54.99	54.99	2.08	2.08	↑
		49		3550 - 3700	3550 - 3700	54.99	54.99	2.08	2.08	↑
		50	n50	1432 - 1517	1432 - 1517	58.03	58.03	2.55	2.55	↑
		51	n51	1427 - 1432	1427 - 1432	50.60	50.60	2.24	2.24	↑
		52		3300 - 3400	3300 - 3400	54.88	54.88	1.81	1.81	↑
		53	n53	2483.5 - 2495	2483.5 - 2495	59.09	59.09	1.74	1.74	↑
		54	n54	1670 - 1675	1670 - 1675	62.79	62.79	1.68	1.68	↑
		65	n65	1920 - 2010	2110 - 2200	73.03	68.43	2.11	1.79	↑
		66	n66	1710 - 1780	2110 - 2200	63.38	68.43	1.46	1.79	↑
		67	n67		738 - 758	-	39.74	-	1.70	↑
		68	n68	698 - 728	753 - 783	30.65	46.34	2.06	1.66	↑
		69			2570 - 2620	-	64.83	-	1.91	↑
		70	n70	1695 - 1710	1995 - 2020	64.79	72.32	1.53	2.11	↑
		71	n71	663 - 698	617 - 652	26.19	18.81	2.72	3.77	↓
		72	n72	451 - 456	461 - 466	9.61	9.27	5.55	5.33	↓
		73		450 - 455	460 - 465	9.67	9.26	5.59	5.35	↓
		74	n74	1427 - 1470	1475 - 1518	54.05	61.24	2.27	2.56	↑
		75	n75		1432 - 1517	-	58.03	-	2.55	↑
		76	n76		1427 - 1432	-	50.60	-	2.24	↑
			n77	3300 - 4200	3300 - 4200	50.02	50.02	2.85	2.85	↑

GSM (2G) Bands	UMTS (3G) Bands	E-UTRA (4G) Bands	NR (5G) Bands	Uplink (MHz)	Downlink (MHz)	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
			n78	3300 - 3800	3300 - 3800	51.15	51.15	2.47	2.47	↑
			n79	4400 - 5000	4400 - 5000	49.24	49.24	3.07	3.07	□
			n80	1710 - 1785		63.57	-	1.46	-	↑
			n81	880 - 915		46.81	-	2.31	-	↑
			n82	832 - 862		46.04	-	1.83	-	↑
			n83	703 - 748		33.01	-	2.00	-	↑
			n84	1920 - 1980		73.65	-	2.05	-	↑
		85	n85	698 - 716	728 - 746	29.98	35.25	2.06	1.76	↑
			n86	1710 - 1780		63.38	-	1.46	-	↑
		87	n87	410 - 415	420 - 425	19.05	15.69	4.95	5.40	↓
		88	n88	412 - 417	422 - 427	18.35	15.08	5.05	5.51	↓
			n89	824 - 849		45.46	-	1.73	-	↑
			n90	2496 - 2690	2496 - 2690	65.97	65.97	1.91	1.91	↑
			n91	832 - 862	1427 - 1432	46.04	50.60	1.83	2.24	↑
			n92	832 - 862	1432 - 1517	46.04	58.03	1.83	2.55	↑
			n93	880 - 915	1427 - 1432	46.81	50.60	2.31	2.24	↑
			n94	880 - 915	1432 - 1517	46.81	58.03	2.31	2.55	↑
			n95	2010 - 2025		71.61	-	2.11	-	↑
			n97	2300 - 2400		60.46	-	2.52	-	↑
			n98	1880 - 1920		73.38	-	1.72	-	↑
			n99	1626.5 - 1660.5		62.82	-	1.94	-	↑
			n100	874.4 - 880	919.4 - 925	45.08	50.51	2.00	2.38	↑

GSM (2G) Bands	UMTS (3G) Bands	E-UTRA (4G) Bands	NR (5G) Bands	Uplink (MHz)	Downlink (MHz)	Average Upload Efficiency (%)	Average Download Efficiency (%)	Maximum Upload VSWR	Maximum Download VSWR	Use Indicator
			n101	1900 - 1910	1900 - 1910	73.21	73.21	1.67	1.67	↑
		103		787 - 788	757 - 758	46.38	44.54	1.60	1.65	↑
			n105	663 - 703	612 - 652	26.59	18.34	2.72	3.82	↓
		106	n106	896 - 901	935 - 940	46.46	47.67	2.19	2.52	↑
		107			612 - 652	-	18.34	-	3.82	↓
		108			470 - 698	-	14.69	-	5.05	↓
			n109	703 - 733	1432 - 1517	31.34	58.03	2.00	2.55	↑
			n110	1390 - 1395	1432 - 1435	45.78	51.00	2.54	2.22	↑
		111		1800 - 1810	1820 - 1830	64.32	69.27	1.37	1.42	↑
		112			470 - 608	-	10.09	-	5.05	↓
		113			606 - 698	-	21.56	-	3.85	↓



Suitable band



Adequate band in good signal conditions



Likely to be unsuitable

ISM Standards Frequency Support*

Application	Frequency Range (MHz)	Efficiency (%)	Maximum VSWR	Peak Gain from highest direction (dBi)	Use Indicator
ISM 433 MHz	433.05 - 434.79	12.22	5.68	-3.65	↓
ISM 868 MHz	863 - 870	45.47	1.91	1.74	↑
ISM 915 MHz	902 - 928	49.34	2.41	3.22	↑
ISM 2.4 GHz	2400 - 2500	59.41	1.77	3.70	↑
Wi-Fi 2.4G	2401 - 2483	59.45	1.76	3.70	↑

Application	Frequency Range (MHz)	Efficiency (%)	Maximum VSWR	Peak Gain from highest direction (dBi)	Use Indicator
Wi-Fi 2.4G (USA)	2401 - 2473	59.57	1.76	3.70	↑
Wi-Fi 2.4G (Japan)	2401 - 2495	59.40	1.76	3.70	↑
Wi-Fi 5G (all channels)	5150 - 5990	58.46	2.51	5.58	↑
Wi-Fi 5G (Ch 32-48)	5150 - 5250	57.45	2.51	4.95	↑
Wi-Fi 5G (Ch 32-64)	5150 - 5330	57.15	2.51	4.95	↑
Wi-Fi 5G (Ch 32-161)	5150 - 5815	59.92	2.51	5.58	↑
Wi-Fi 5G (Ch 32-173)	5150 - 5875	59.52	2.51	5.58	↑
ISM 5.8 GHz	5725 - 5875	59.59	2.22	5.58	↑
UWB band group 1, BAND_ID 1	3168 - 3696	52.35	2.47	4.93	↑
UWB band group 1, BAND_ID 2	3696 - 4224	48.60	2.85	4.22	↑
UWB band group 1, BAND_ID 3	4224 - 4752	44.24	3.42	4.58	□
UWB band group 2, BAND_ID 4	4752 - 5280	57.14	2.51	5.15	↑
UWB band group 2, BAND_ID 5	5280 - 5808	60.70	2.25	5.58	↑



Suitable band

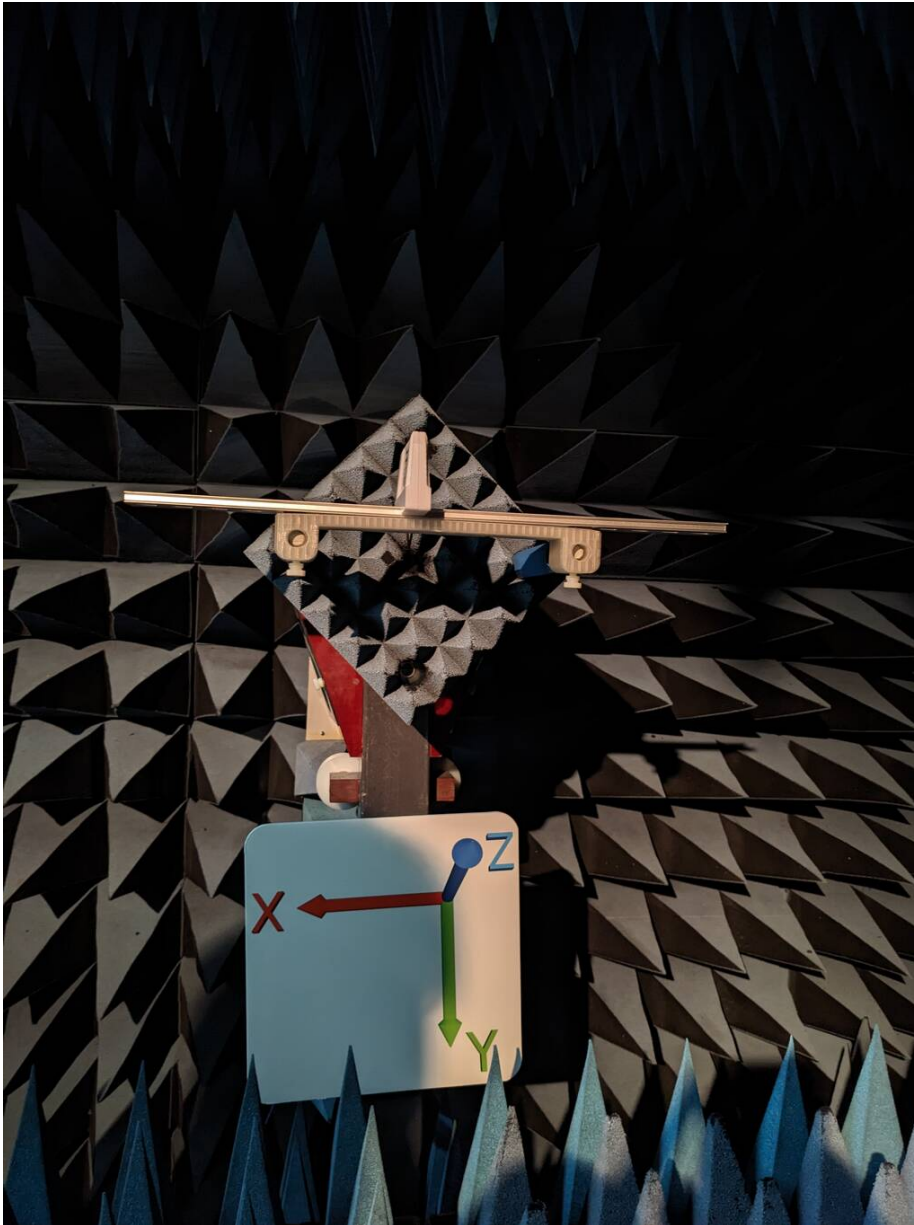


Adequate band in good signal conditions



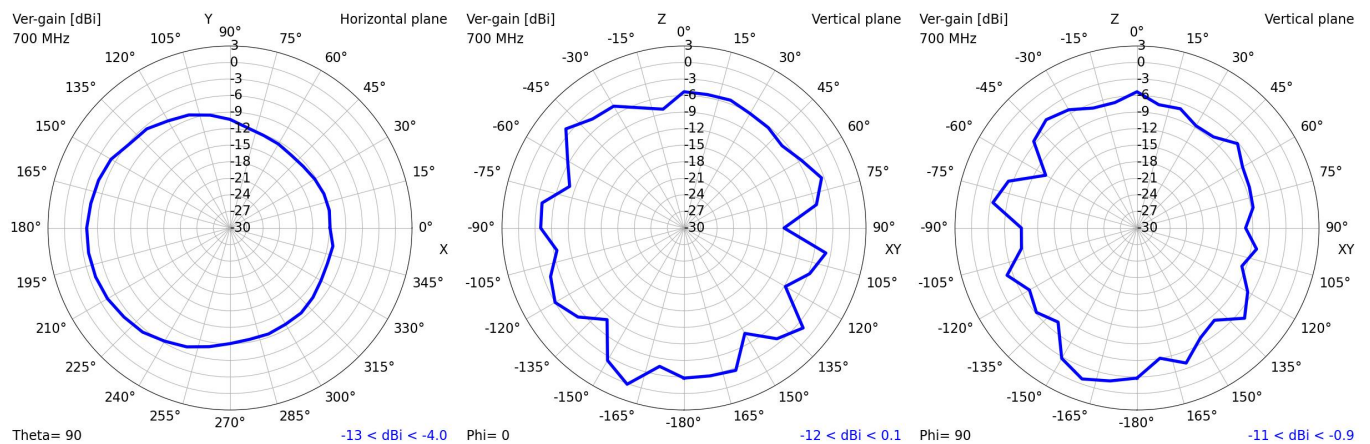
Likely to be unsuitable

Test Setup (on DIN-rail in Free Space)

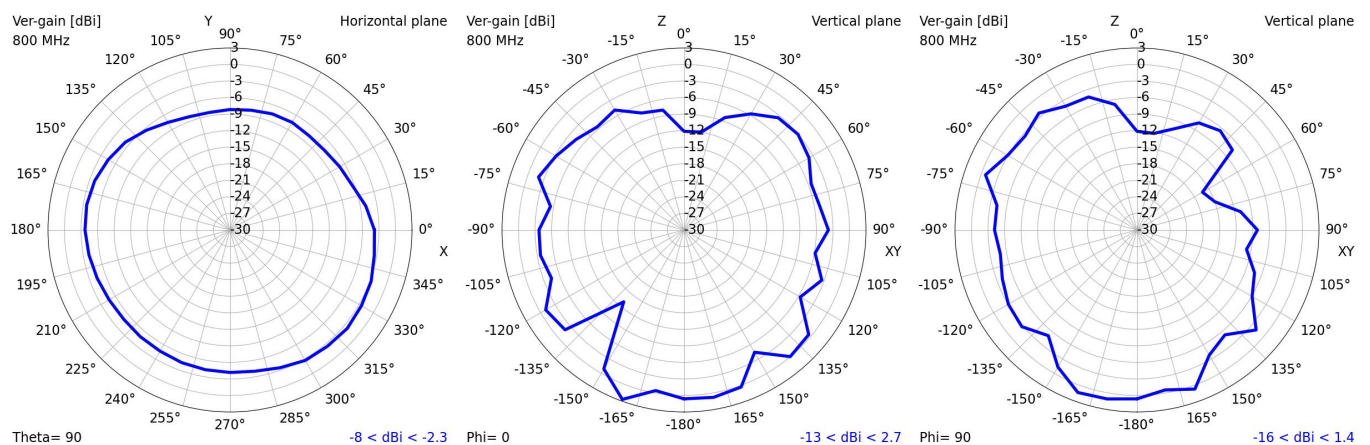


2D Radiation Plots

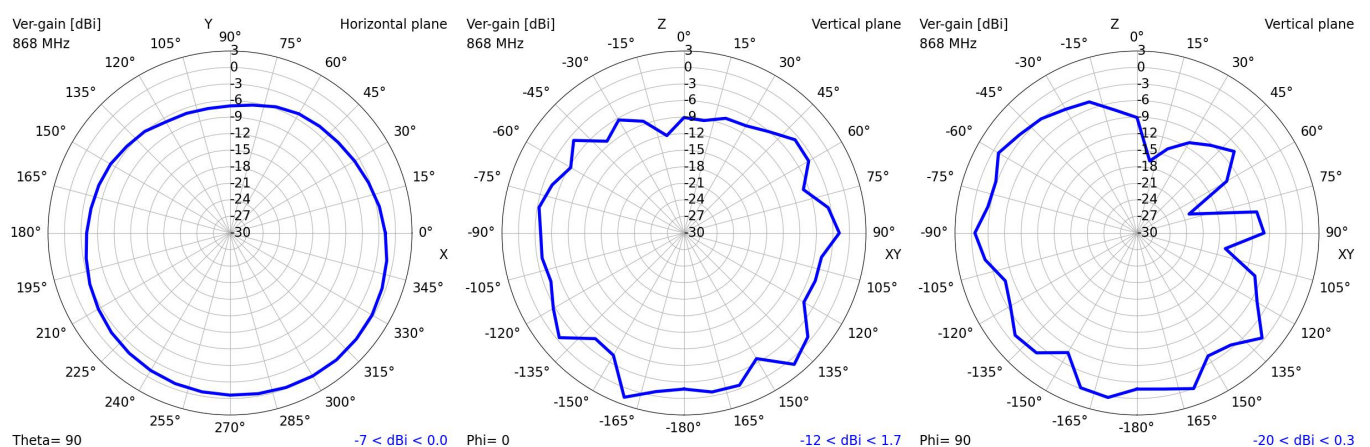
700 MHz



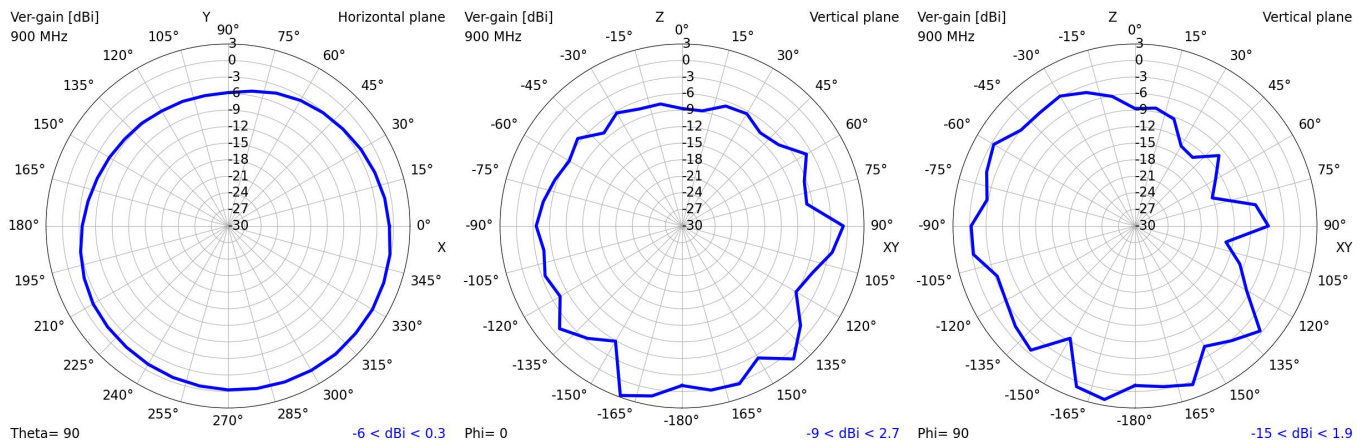
800 MHz



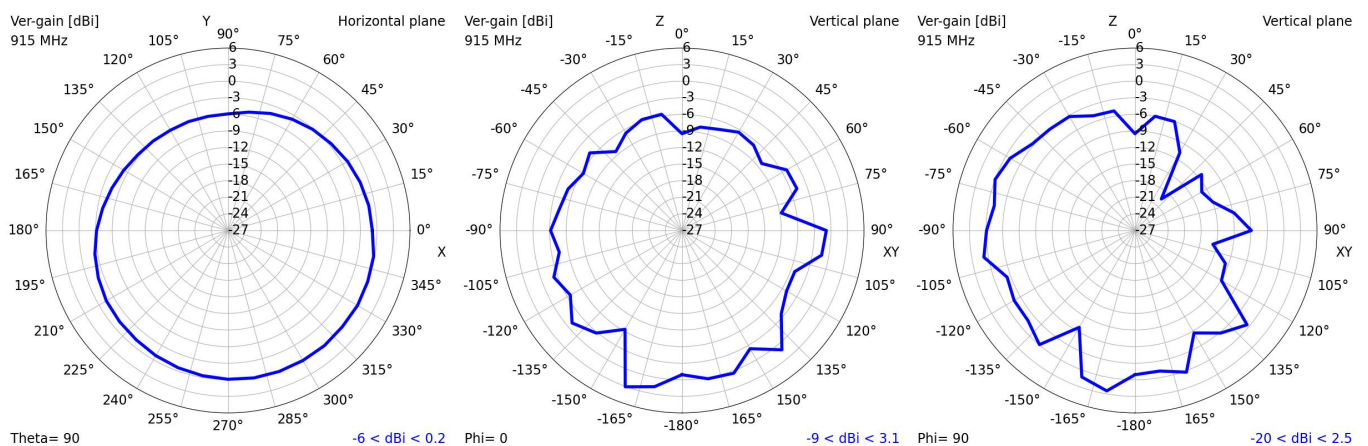
868 MHz



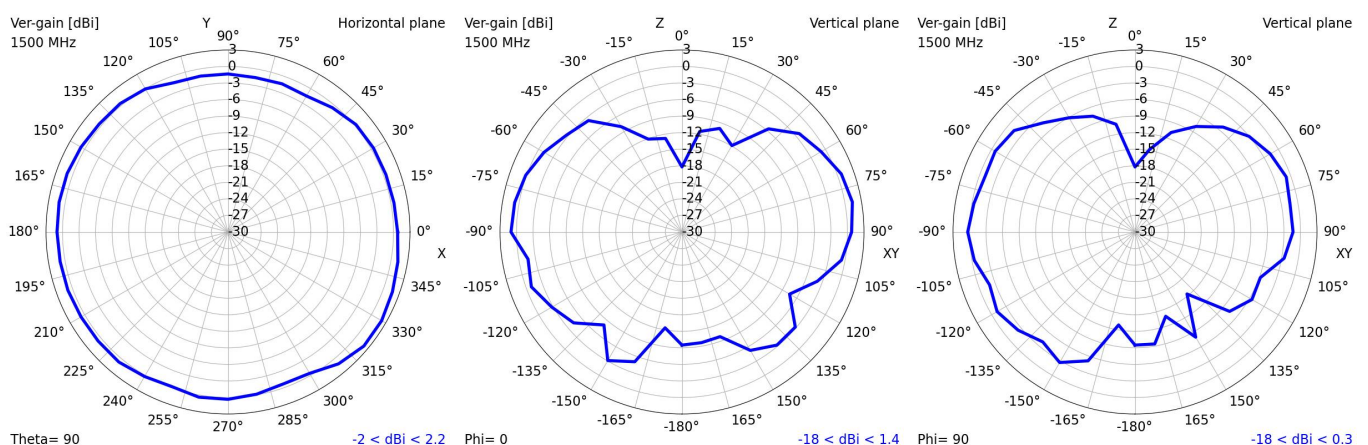
900 MHz



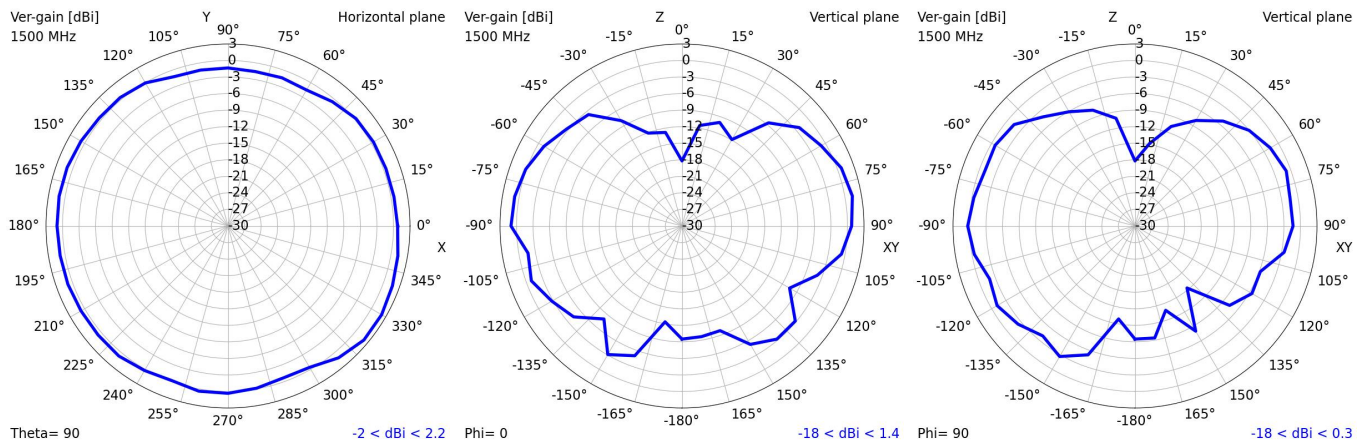
915 MHz



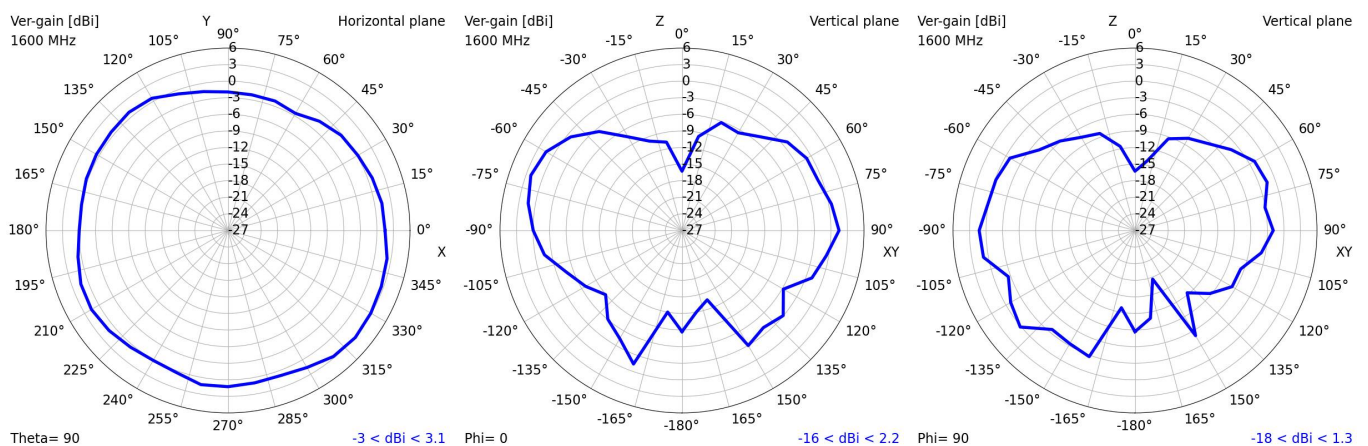
1400 MHz



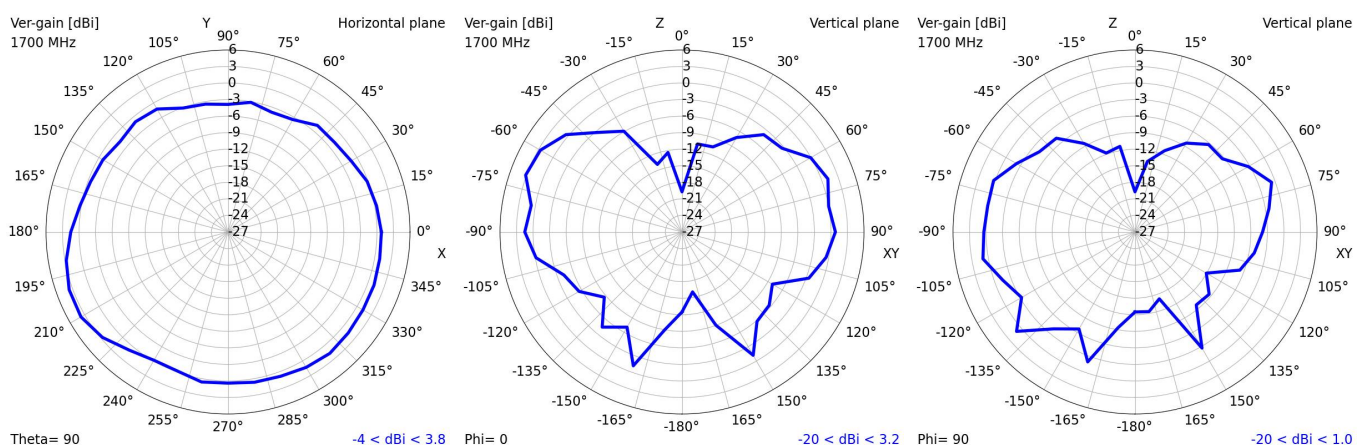
1500 MHz



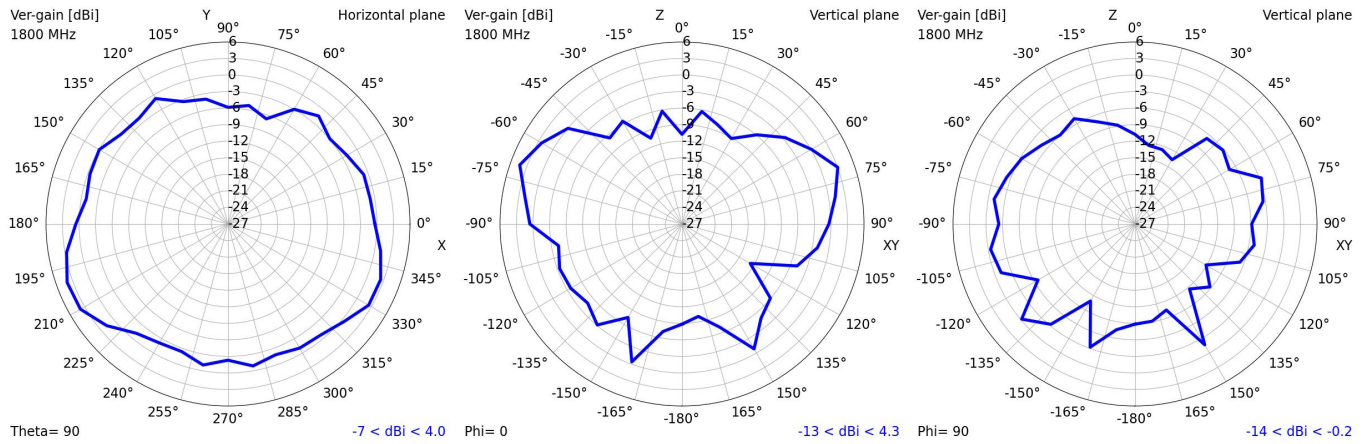
1600 MHz



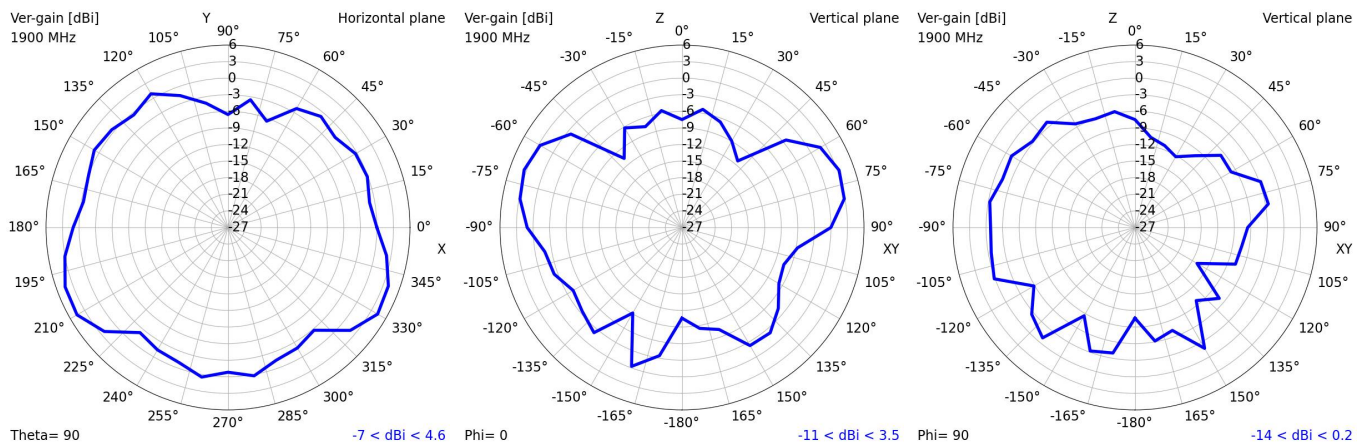
1700 MHz



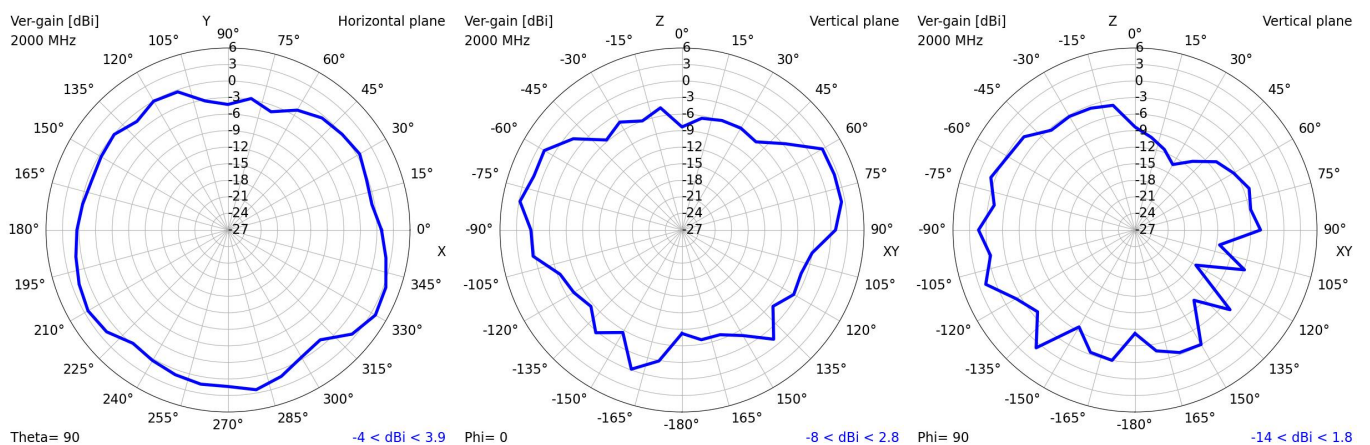
1800 MHz



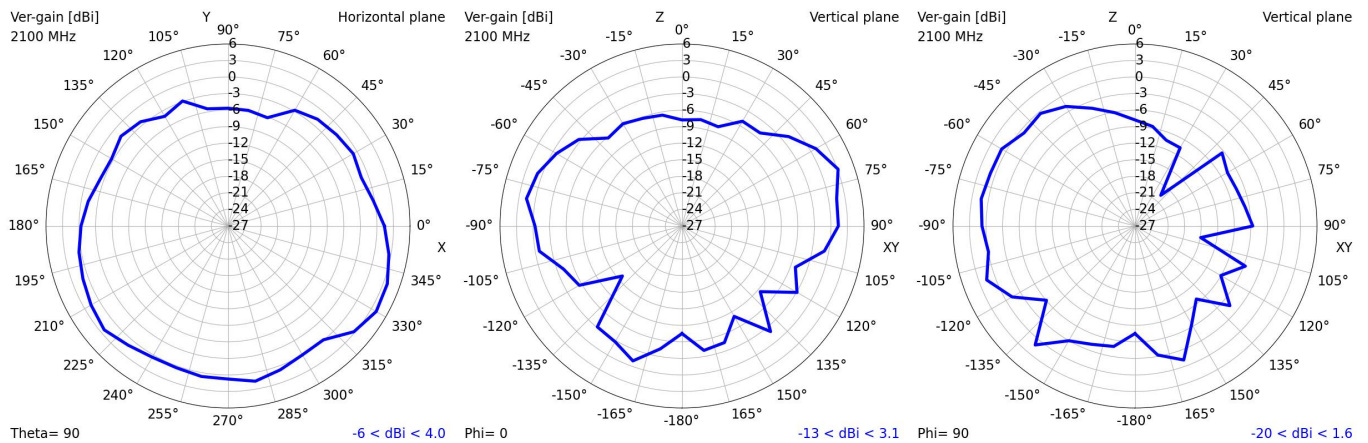
1900 MHz



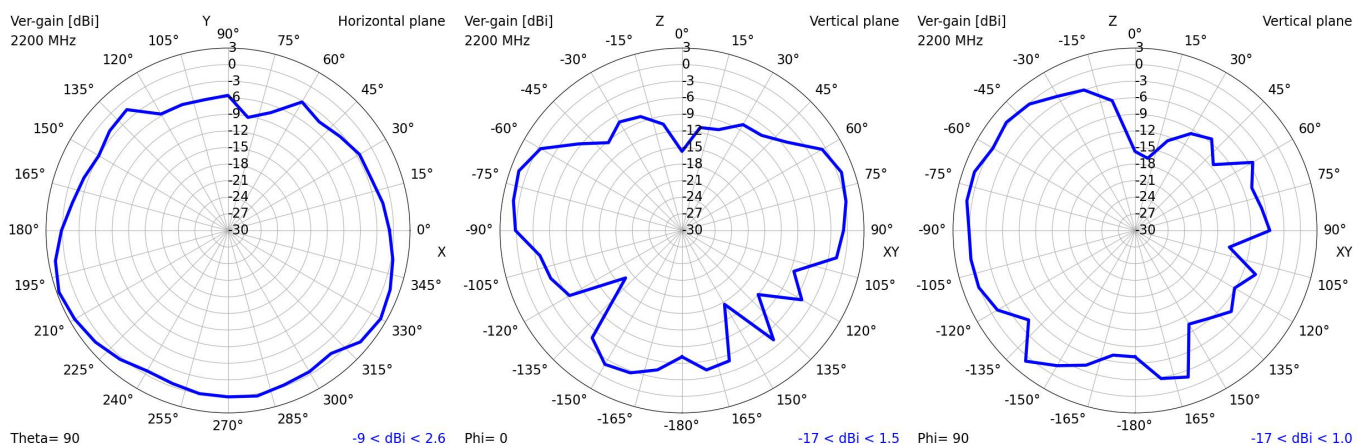
2000 MHz



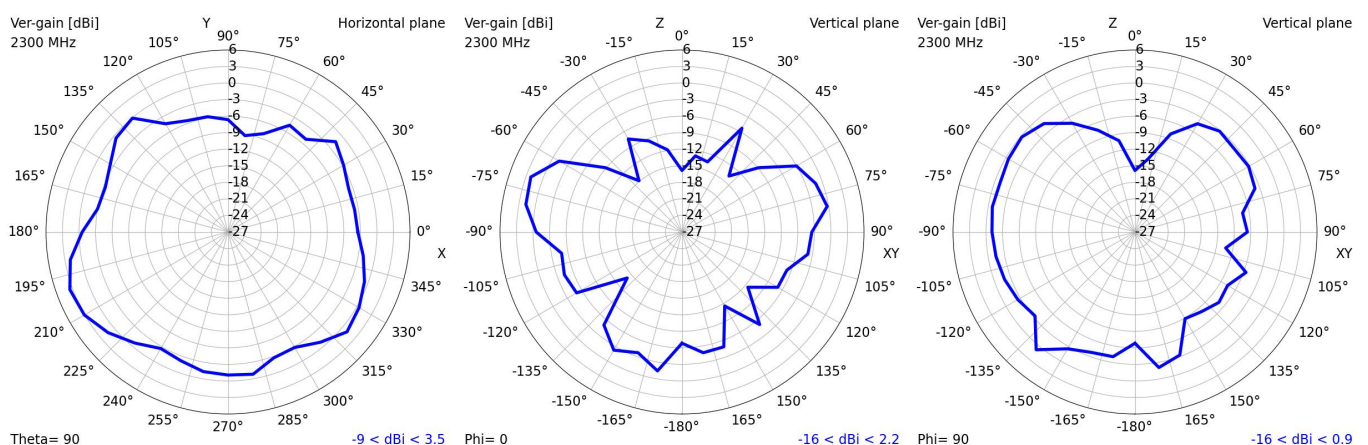
2100 MHz



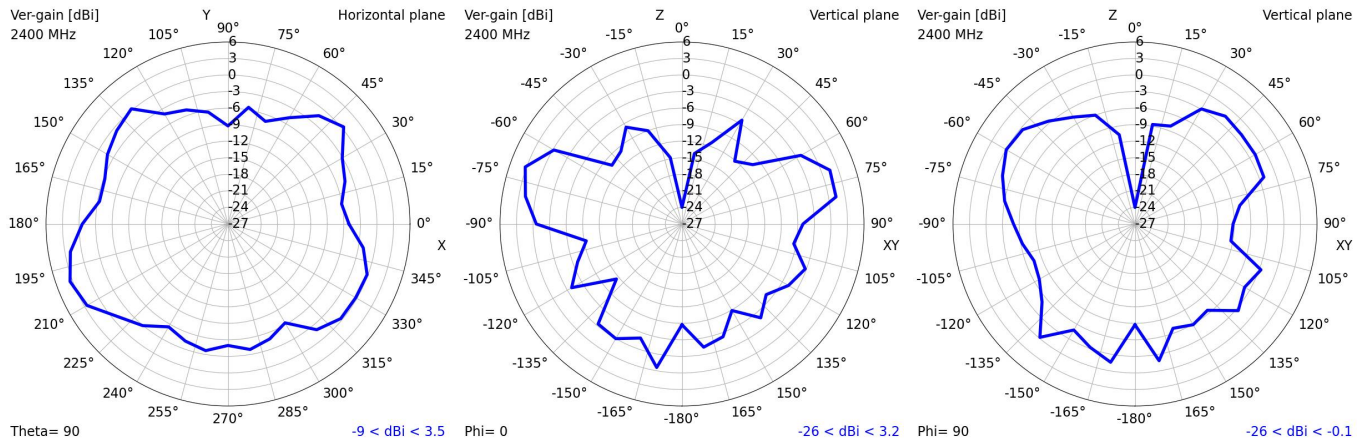
2200 MHz



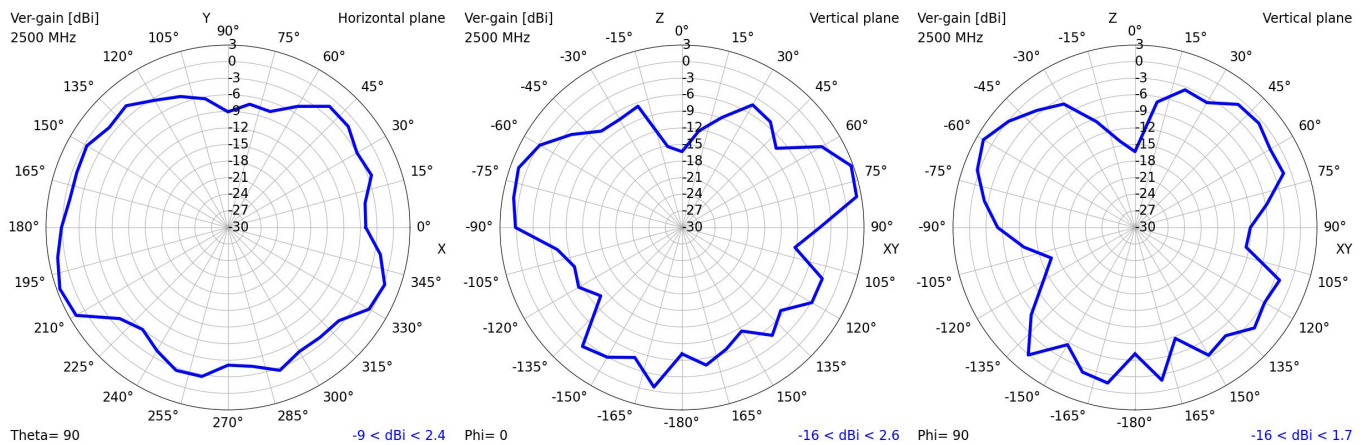
2300 MHz



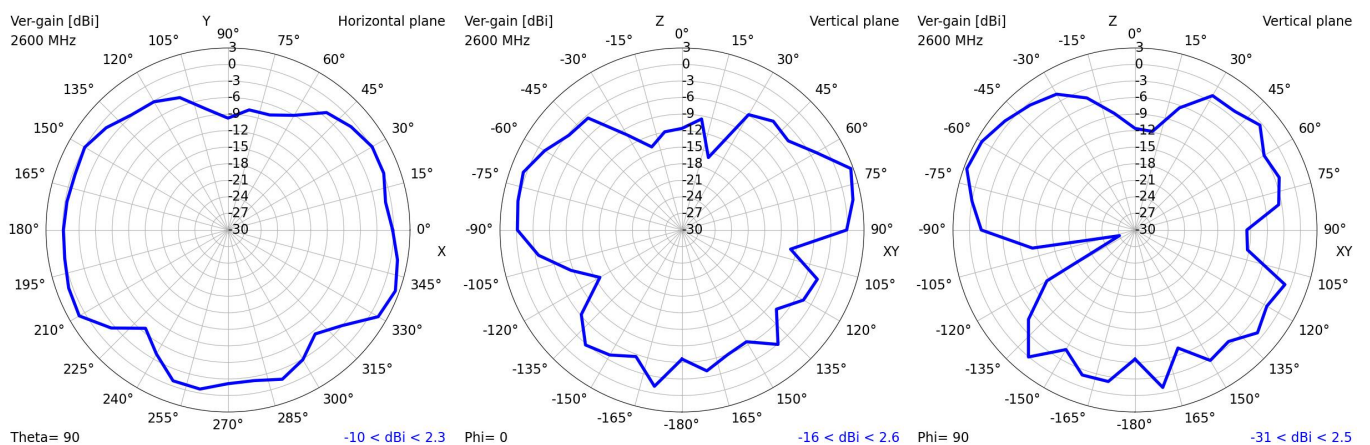
2400 MHz



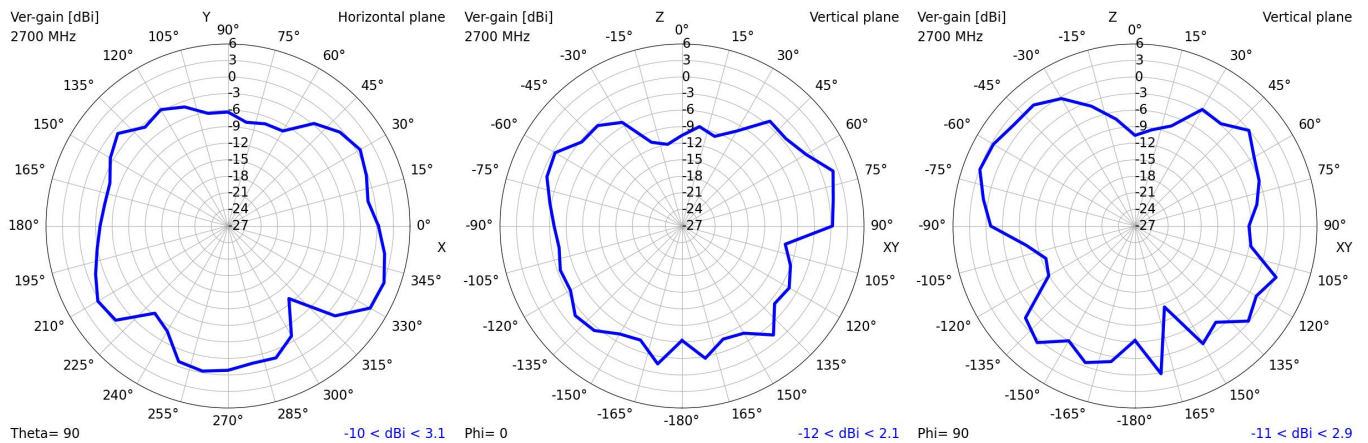
2500 MHz



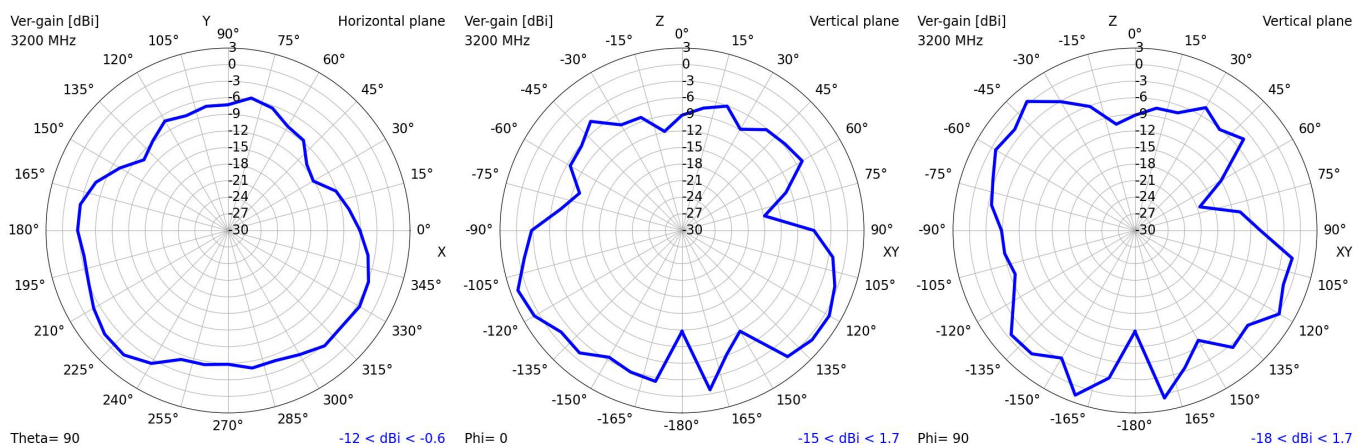
2600 MHz



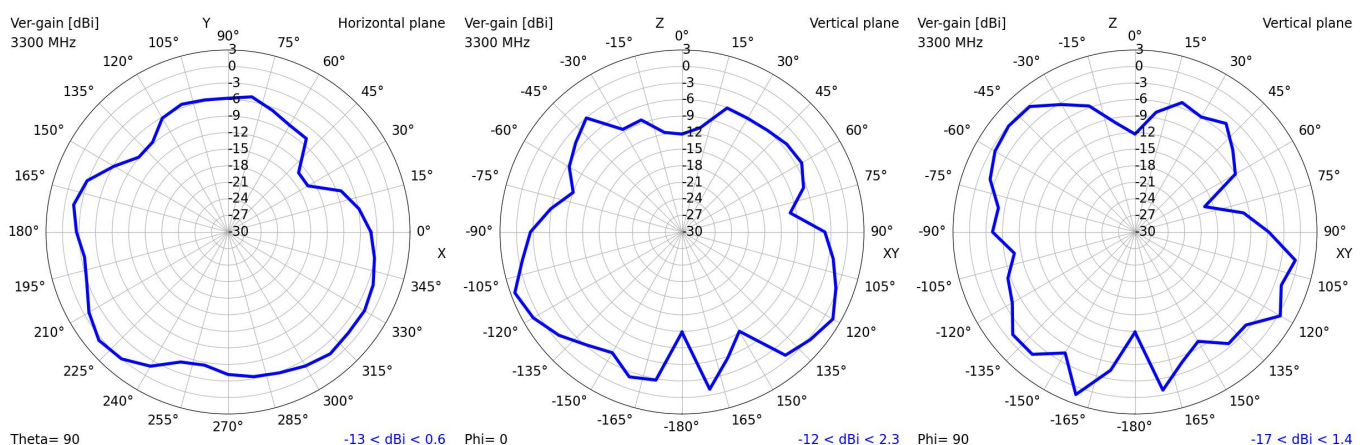
2700 MHz



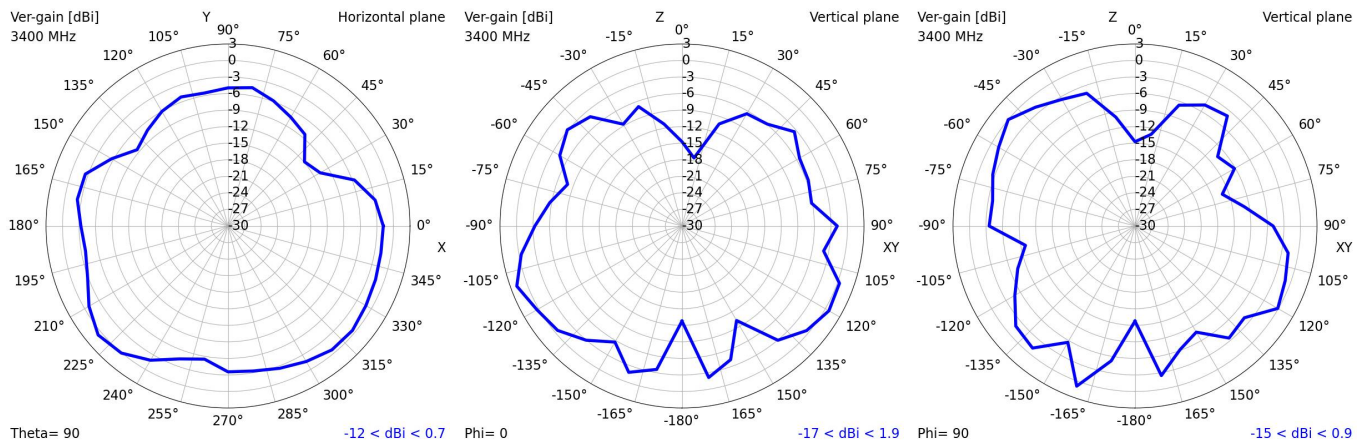
3200 MHz



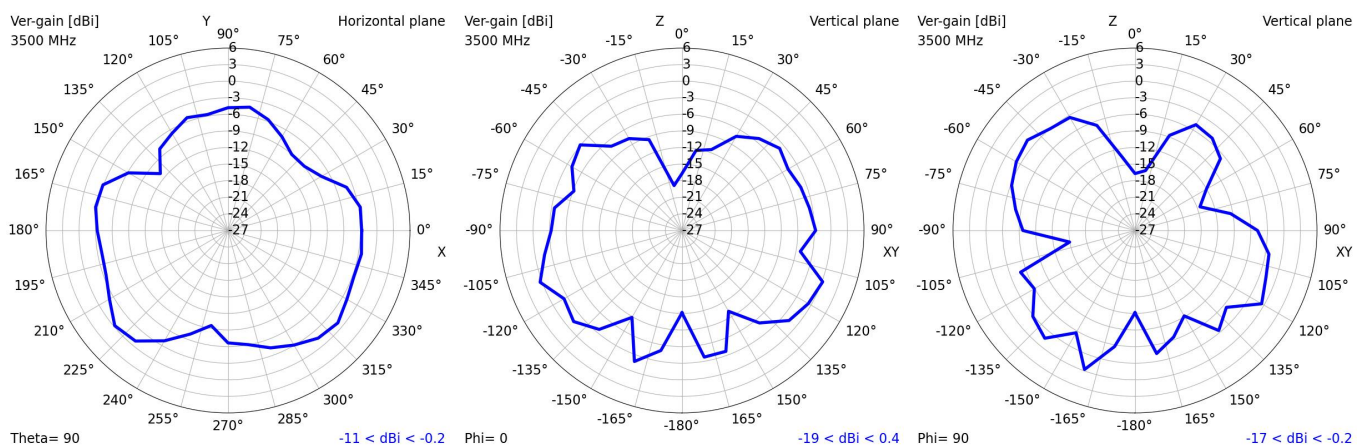
3300 MHz



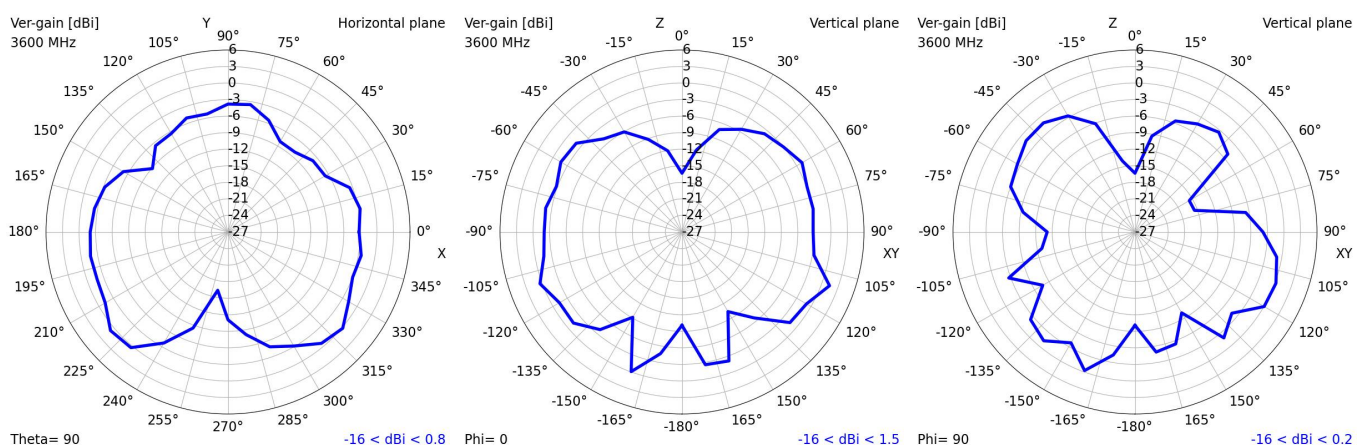
3400 MHz



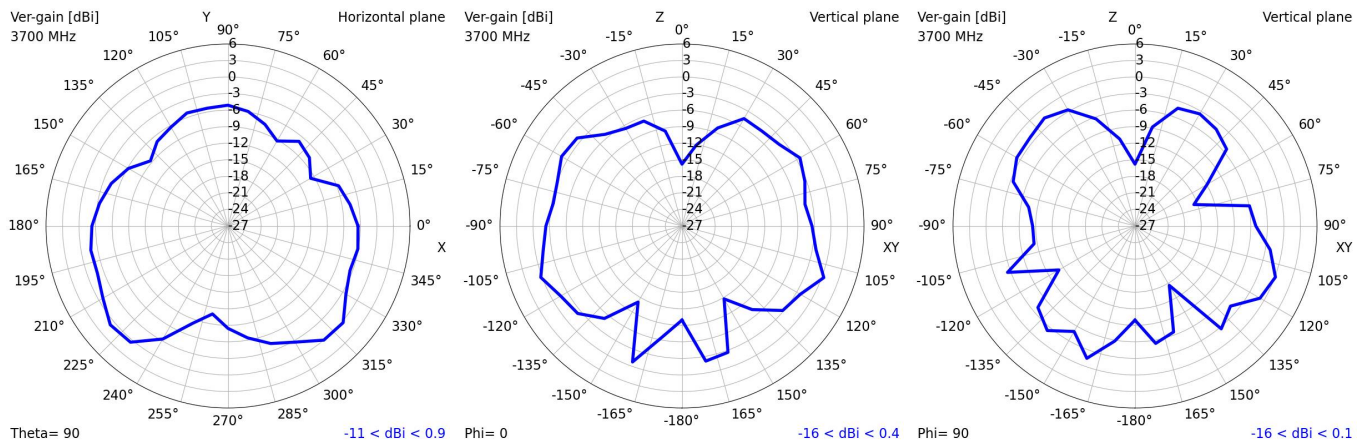
3500 MHz



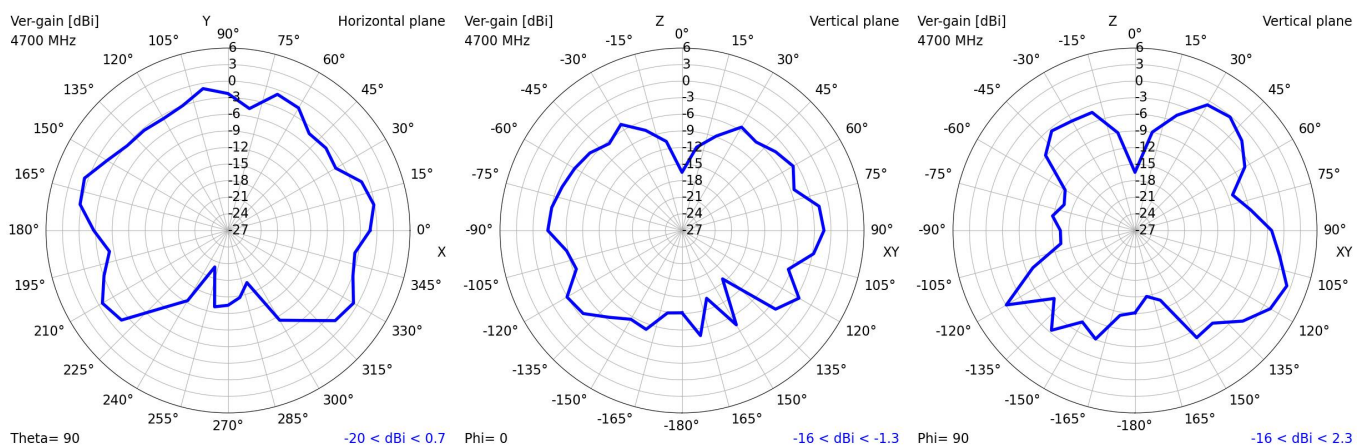
3600 MHz



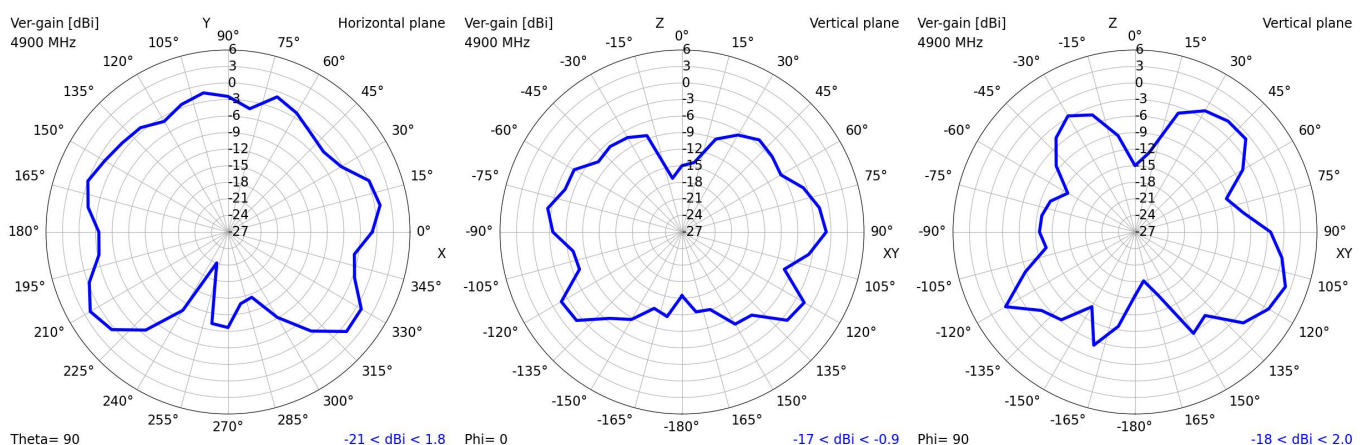
3700 MHz



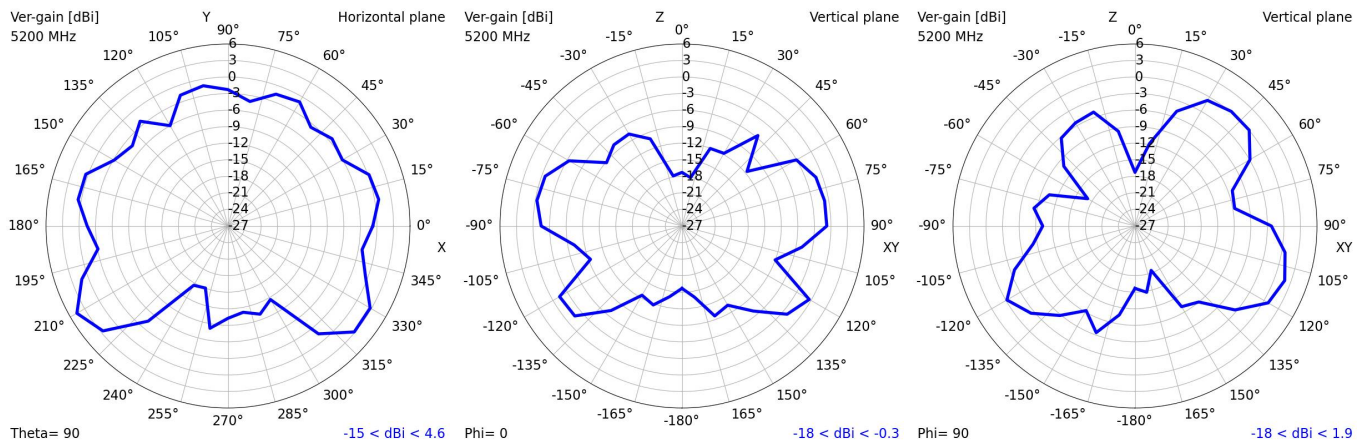
4700 MHz



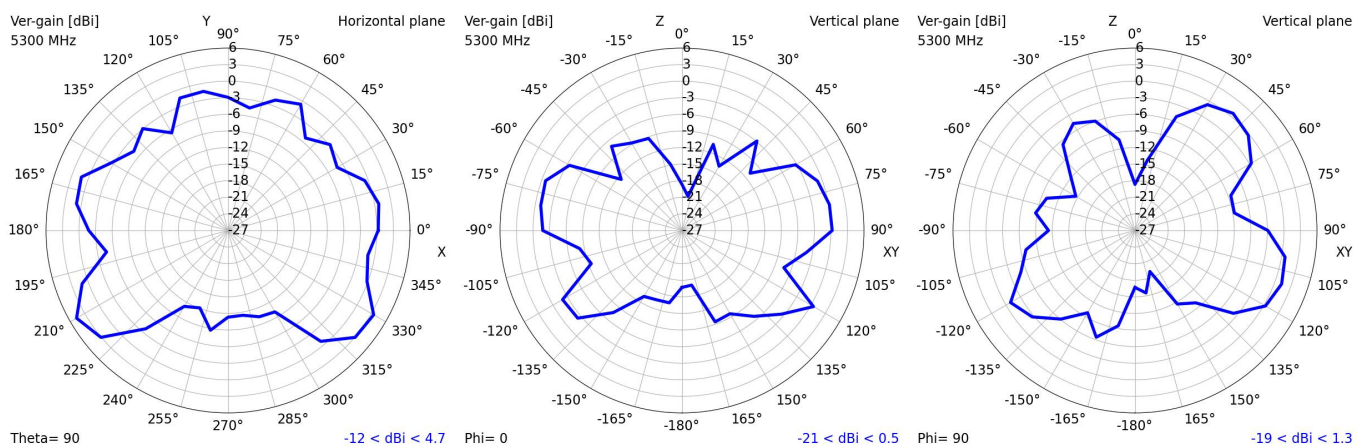
4900 MHz



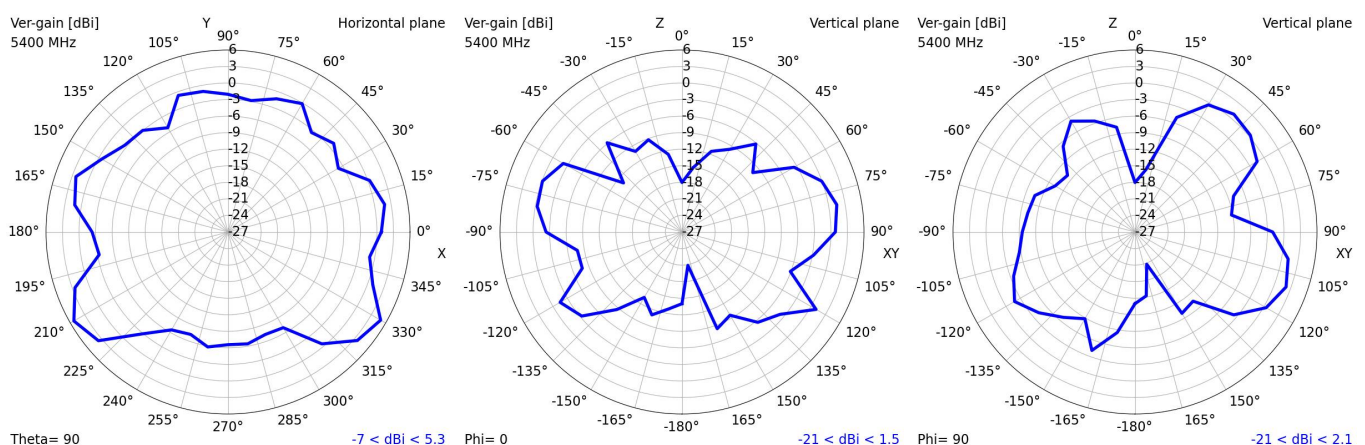
5200 MHz



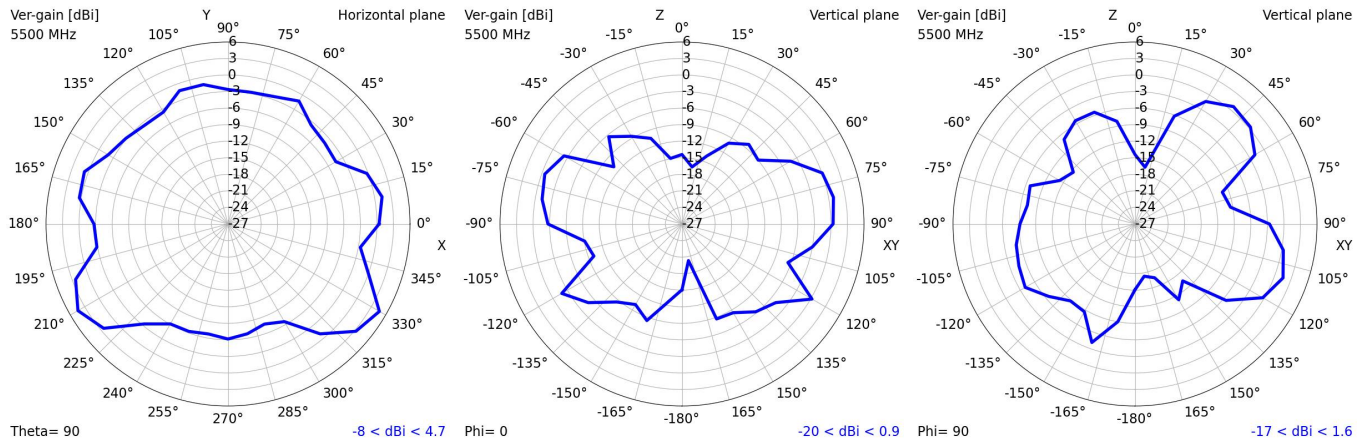
5300 MHz



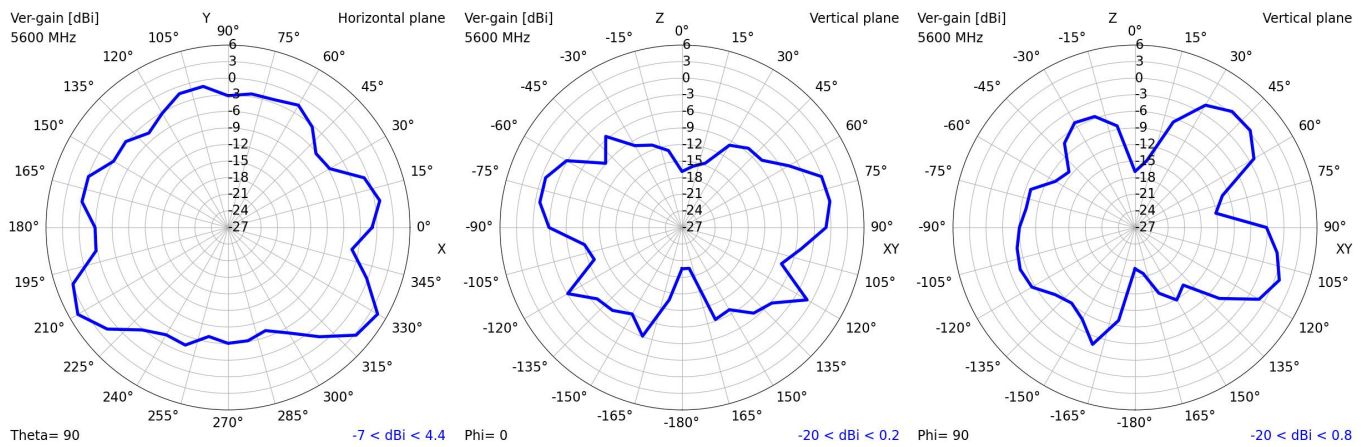
5400 MHz



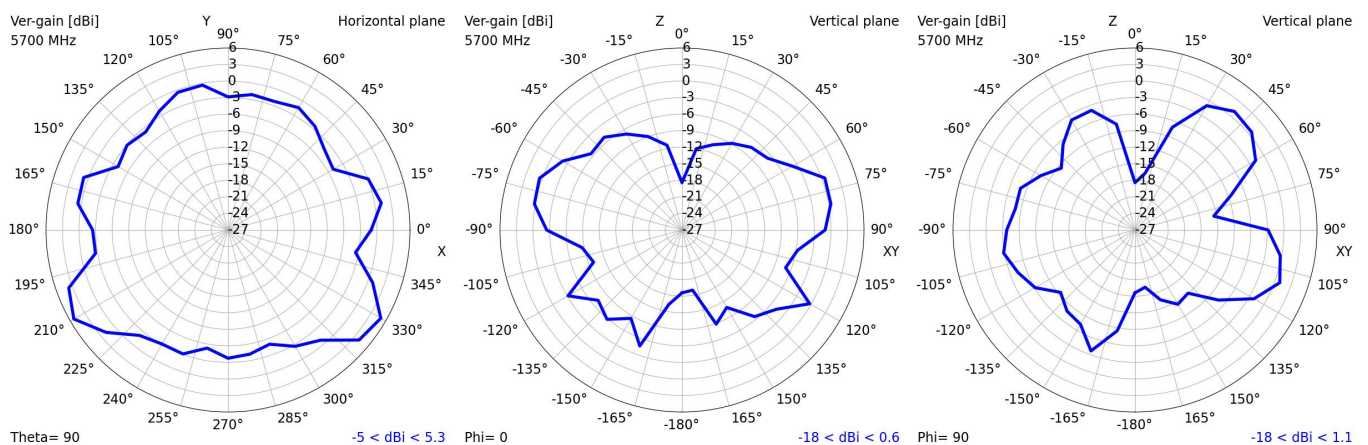
5500 MHz



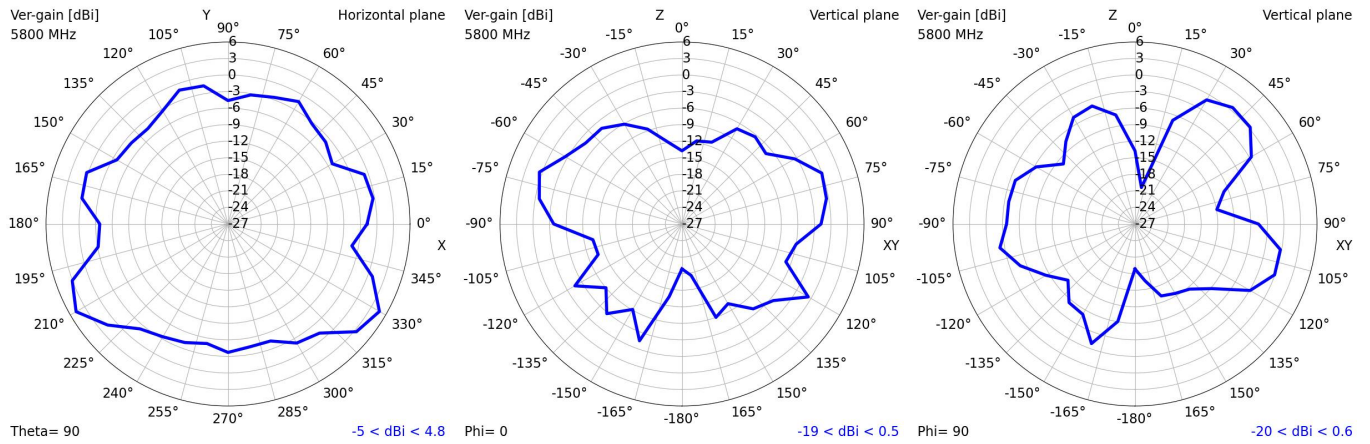
5600 MHz



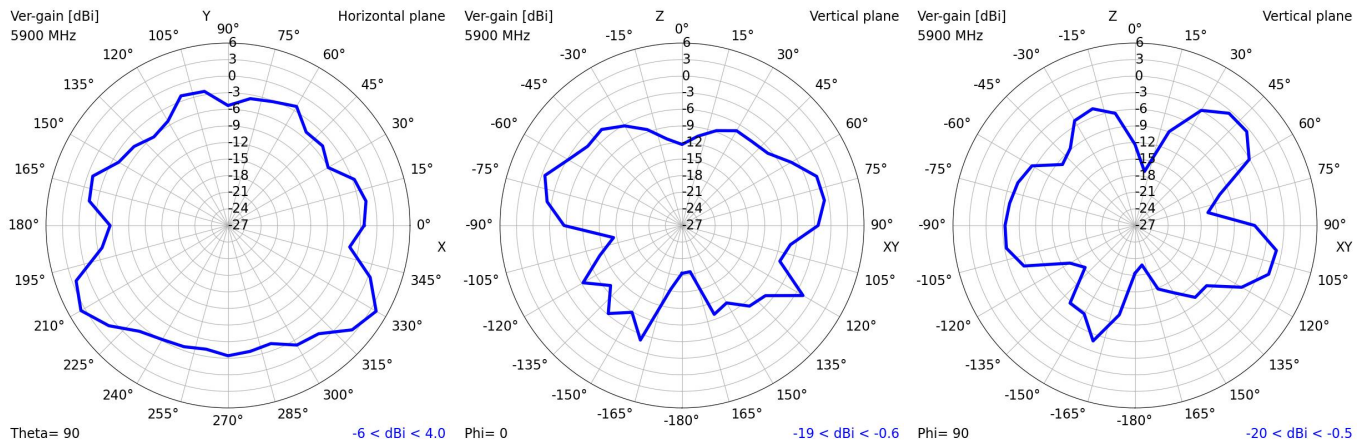
5700 MHz



5800 MHz

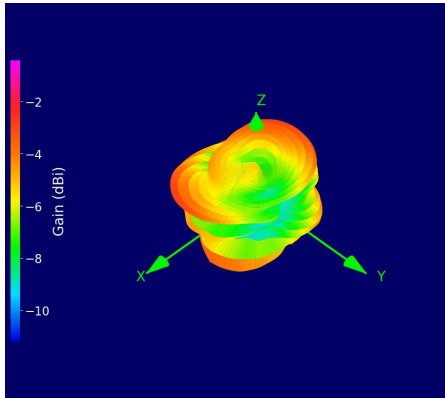


5900 MHz

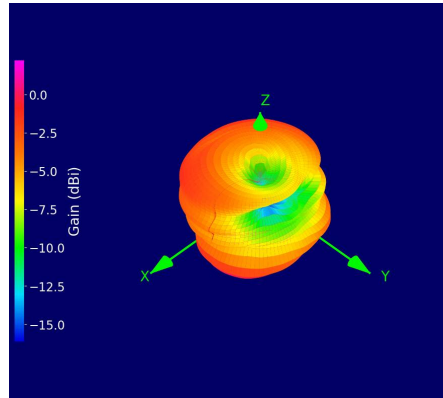


3D Radiation Plots

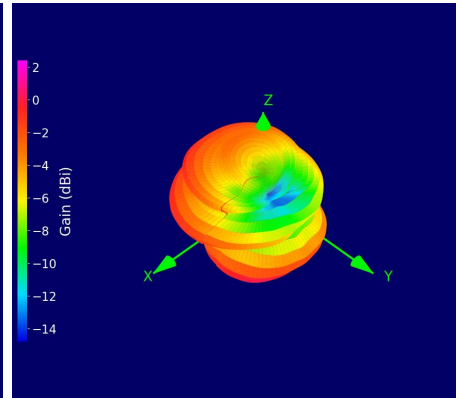
700 MHz



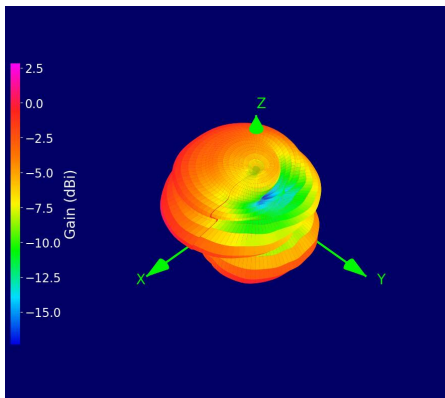
800 MHz



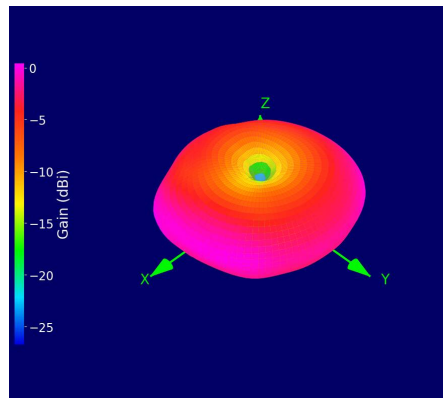
900 MHz



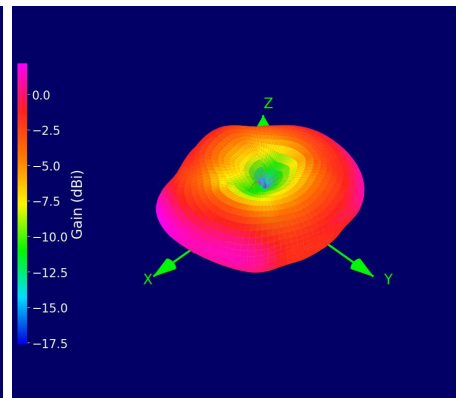
915 MHz



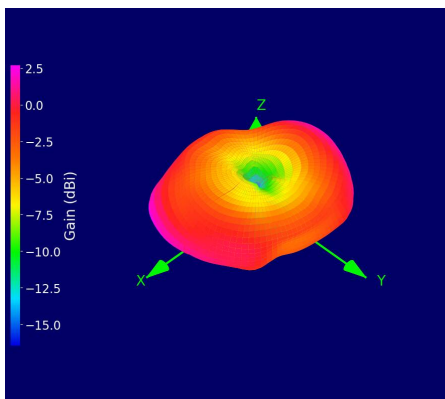
1400 MHz



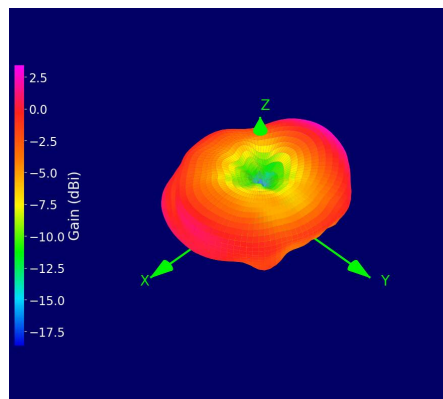
1500 MHz



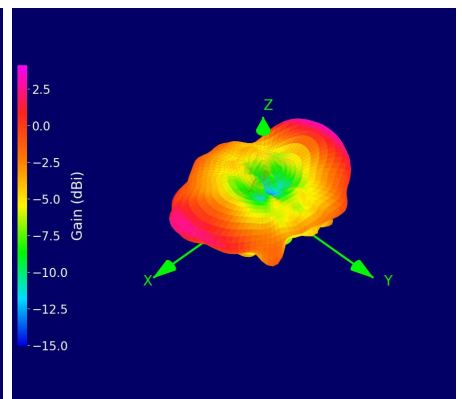
1600 MHz



1700 MHz



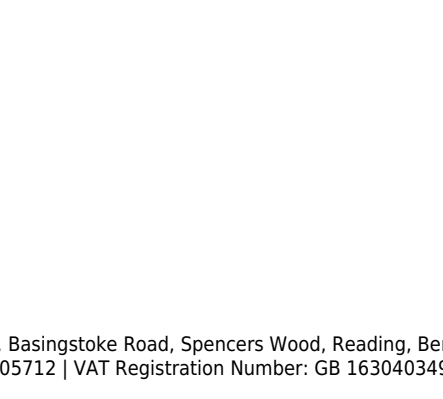
1800 MHz



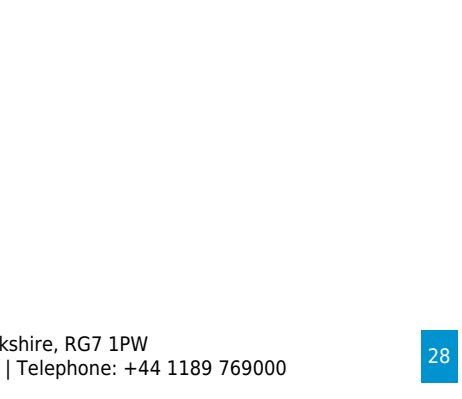
1900 MHz

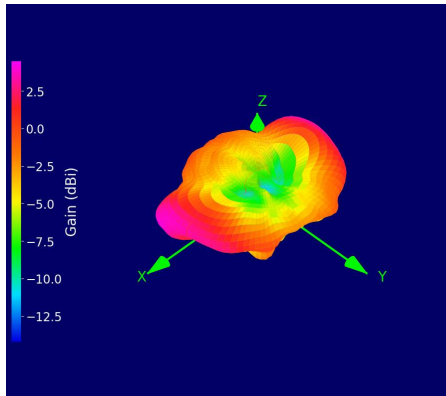


2000 MHz

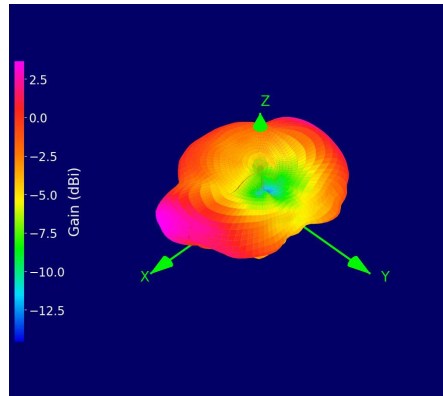


2100 MHz

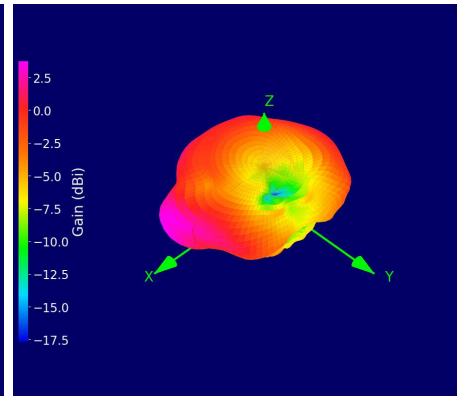




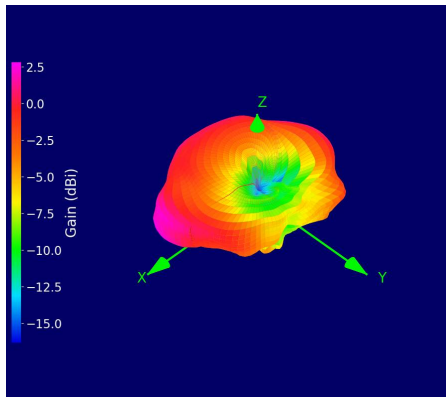
2200 MHz



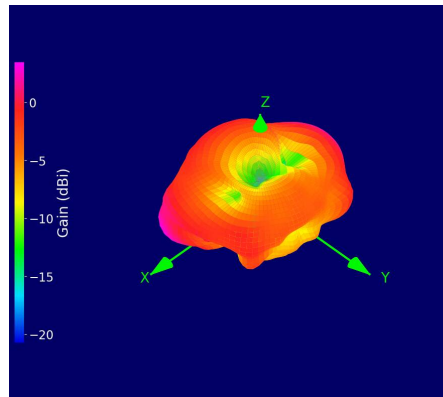
2300 MHz



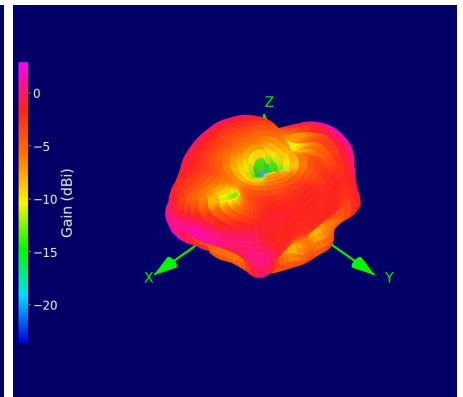
2400 MHz



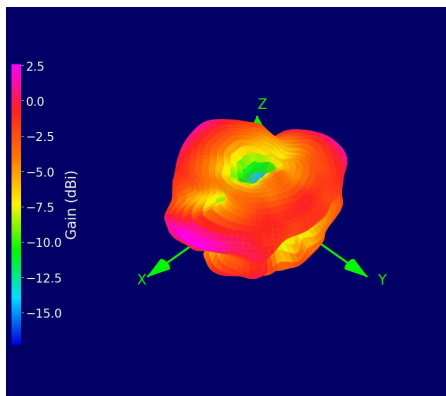
2500 MHz



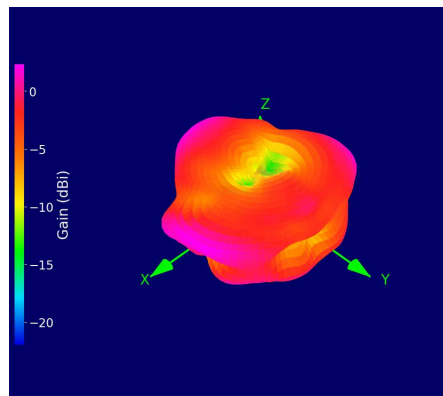
2600 MHz



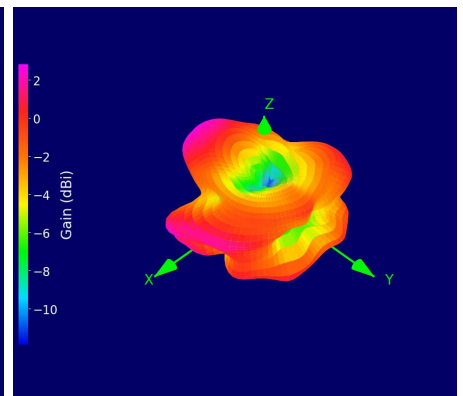
2700 MHz



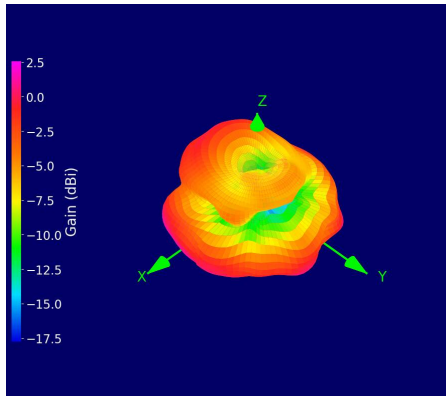
3200 MHz



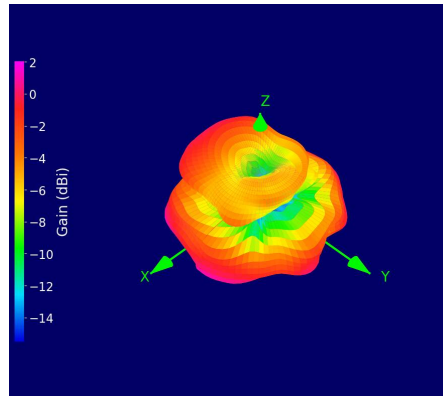
3300 MHz



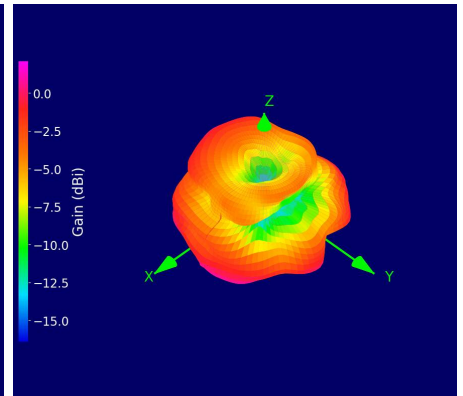
3400 MHz



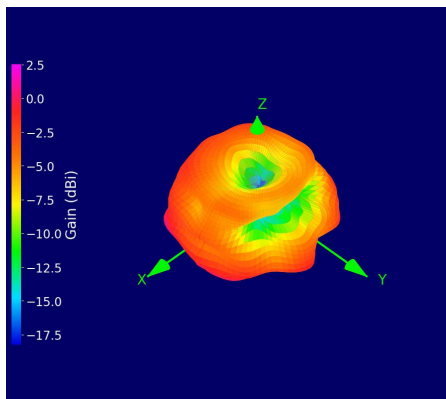
3500 MHz



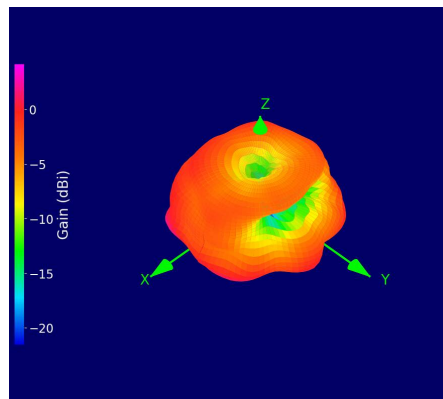
3600 MHz



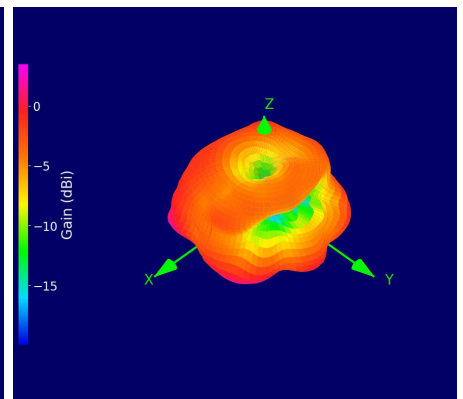
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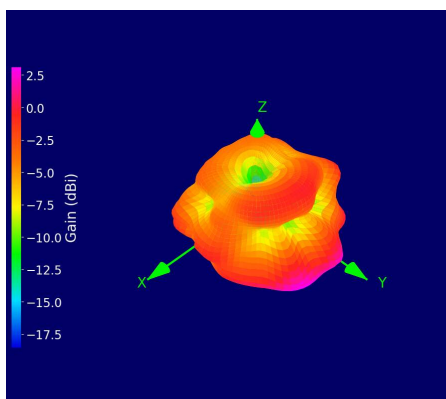
4700 MHz



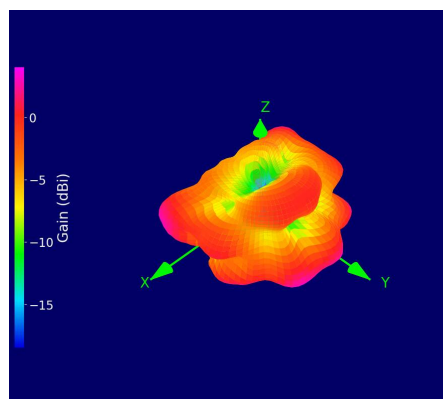
5200 MHz



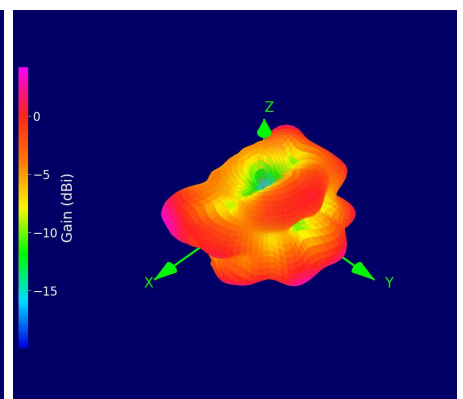
5300 MHz



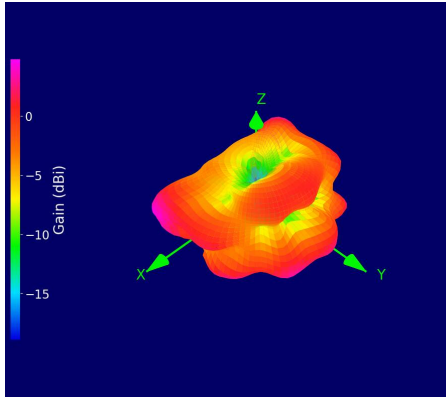
5400 MHz



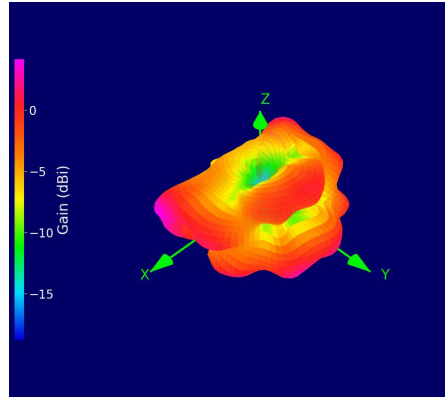
5500 MHz



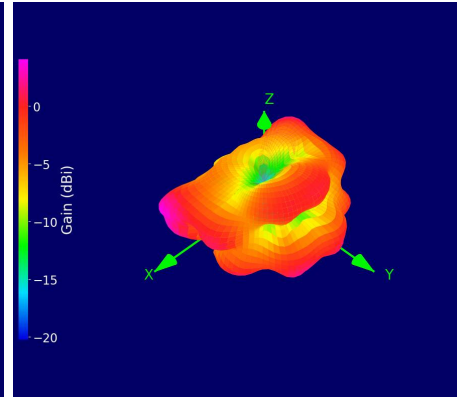
5600 MHz



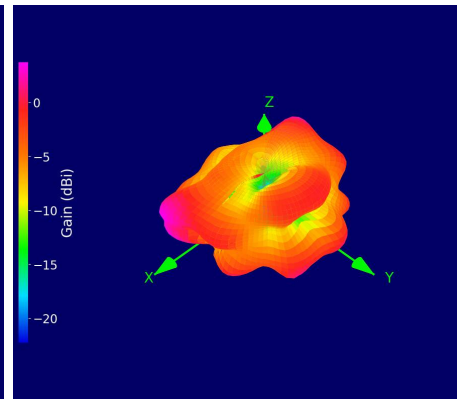
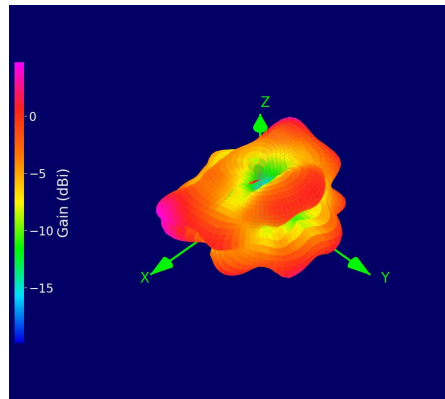
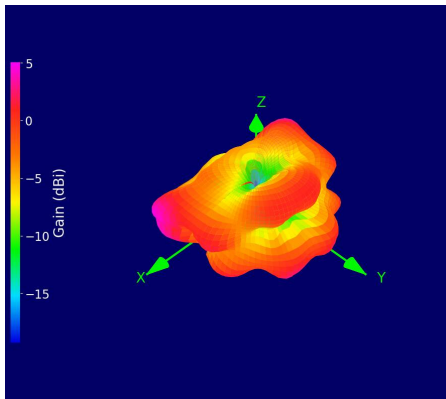
5700 MHz



5800 MHz



5900 MHz



Ordering Details

Part Number	Description
DELTA68/0.2M/FAKRA-D/S/S/xx	Wideband 5G/4G, IoT & Wi-Fi DIN-Rail Antenna 0.2m Cable and Fakra-D Connector

About Siretta

Founded in 1998 and headquartered in Reading, United Kingdom, Siretta is a leading wireless communications company specialising in the design, manufacture, and supply of industrial IoT solutions.

Siretta's product portfolio includes:

- Antennas, plus their associated Cable Assemblies & Adapters
- Cellular Network Analysers
- Industrial Modems
- Industrial Routers
- Associated Cloud Management

Siretta supplies products directly and via a worldwide network of distributors, into numerous markets and applications across the globe.

Siretta's distribution partners range from industrial IoT specialists through to global catalogue organisations.

Whether "off the shelf" or custom solutions are required, Siretta has a wide portfolio of products to fit many types of application.

Siretta's extensive knowledge and experience in the wireless market allows support of a wide range of customer applications, focusing on frequencies between 400 MHz to 6 GHz. These encompass modems, routers and antennas for:

- Cellular technologies: GSM / UMTS / LTE / 5G NR (SA & NSA)
- LPWAN technologies: LTE-M / NB-IoT
- Global positioning technologies: GNSS (GPS / GLONASS / Galileo / BeiDou / QZSS / NavIC)
- Short range technologies: Wireless LAN / Bluetooth / Zigbee / ISM band / LoRa / Sigfox
- Satellite technologies: NTN NB-IoT

With a heavy emphasis on design, Siretta has a team of dedicated Engineers and Product Managers, who specialise in wireless applications.

Siretta continually makes significant investment in R&D endeavouring to provide customers with market leading, future-proofed, wireless solutions. Siretta works closely with many technology partners to stay at the forefront of industrial IoT.

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accordance with applicable regulatory, safety, and local compliance requirements within the country of use.

Performance characteristics, coverage, gain, and network operation may vary depending on installation environment, device configuration, network conditions, cable losses, mounting position, and surrounding structures. Any application deployed using Siretta antenna products should be fully evaluated and tested within the intended operating environment prior to deployment.

Siretta Ltd reserves the right to make modifications, additions, and deletions to this document due to typographical errors, inaccurate information, or improvements to the product at any time and without notice. Such changes will be incorporated into new editions of this document.

Please refer to the Siretta wiki for the latest version of this document.

***IMPORTANT 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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