



SYNZEN

PRODUCT DATASHEET

ALUDRA | FPC Adhesive Antenna | 5G

Part Number / Name

- SZK-C-3L31
- ALUDRA

Features

- Constellation class ultra small
- Omnidirectional
- Dimensions: 44.0 x 15.0 x 0.2 (mm)

Applications

- Smart Meters
- Femtocells
- Remote Monitoring
- Smart Grid
- Asset Tracking
- Wearable Tech



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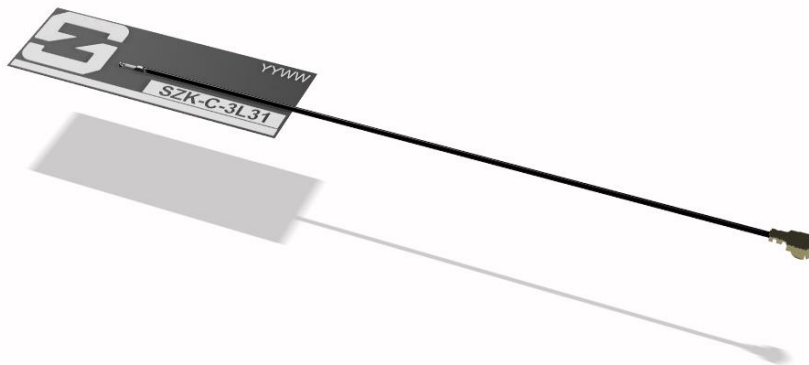
Introduction

Introducing ALUDRA innovative antenna from Synzen: Ready to transform your wireless experience with unbridled speed and efficiency, Synzen's 5G FPC antenna is here to set new standards in 5G connectivity.

- For 5G and global cellular applications
- Simple integration, plug and be operational without designing on board antenna.
- Can be tuned to your device using additional Pi network.
- Alternate cable lengths and connectors available upon request.

Typical Applications

- Asset Tracking
- Precision agriculture
- Smart cities
- Fleet management
- Personal Safety
- Emergency response
- Wearable Tech



General Specifications

Part Number	SZK-C-3L31
Name	ALUDRA
Dimensions	44.0 x 15.0 x 0.2 (mm)
Antenna Type	FPC + Cable
Weight	<1.5g
Connector	MHF1
Cable Length	100mm
Adhesive backing	3M 868

*Alternate cable length/connectors are available upon request.

Electrical / RF Specifications*

Band	Frequency Range (MHz)	Avg Efficiency (%)	Peak Gain (dBi)	Impedance	Polarization
5GNR/4G LTE B5,8,12,13,14,17,18,20,26,27,28,29,71	617-960	>55	4.20	50Ω	Linear
5GNR/4G LTE B24	1427-1660.5	>65	4.70		
5GNR/4G LTE B1,2,3,4,9,23,35,39,66	1710-2200	>65	4.44		
5GNR/4G LTE B40	2300-2400	>75	4.83		
5GNR/4G LTE B7,38,41	2490-2690	>75	4.69		
5GNR/4G LTE B22,42,43,48,77,78	3300-4200	>70	5.30		

Note: All performance stated is measured 2mm ABS plastic, RF chokes used to prevent cable radiation.

Environmental Specifications

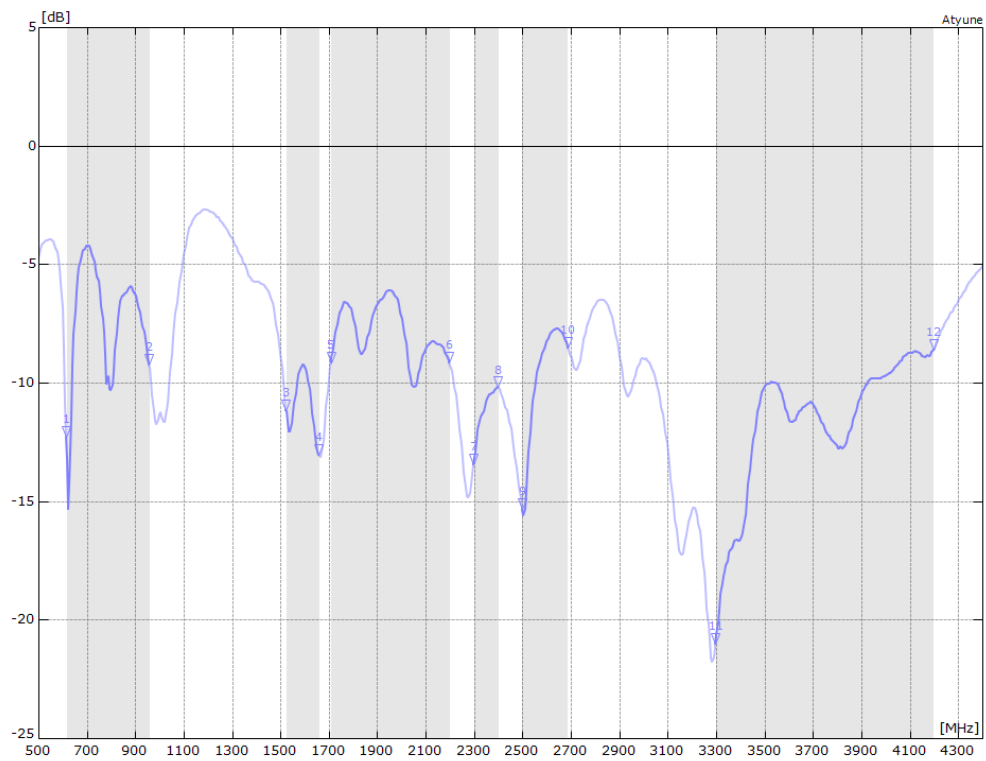
Operational Temperature	-40 to +85 (°C)
Storage Temperature	-10 to +40 (°C)
Relative Humidity	≤75%
Moisture Sensitivity Level (MSL)	NA
RoHs & REACH compliant	Yes

Supported Band List

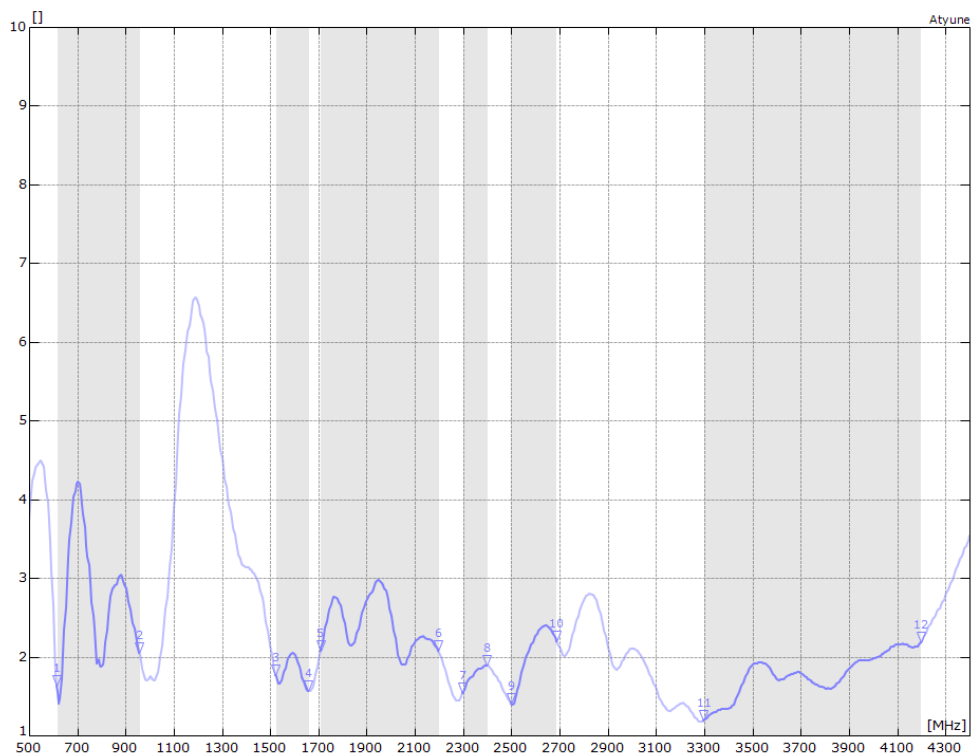
Band	Frequency Band	Uplink(MHz)	Downlink (MHz)	Supported
1	2100	1920-1980	2110-2170	YES
2	1900	1850-1910	1930-1990	YES
3	1800	1710-1785	1805-1880	YES
4	1700	1710-1755	2110-2155	YES
5	850	824-849	869-894	YES
7	2600	2500-2570	2620-2690	YES
8	900	880-915	925-960	YES
9		1749.9-1784.9	1844.9-1879.9	YES
10	1700	1710-1770	2110-2170	YES
11	1500	1427.9-1447.9	1475.9-1495.9	NO
12	700	699-716	729-746	YES
13	700	777-787	746-756	YES
14	700	788-798	758-768	YES
17	700	704-716	734-746	YES
18	850	815-830	860-875	YES
19	850	830-845	875-890	YES
20	800	832-862	791-821	YES
21	1500	1447.9-1462.9	1495.9-1510.9	NO
22	3500	3410-3490	3510-3590	YES
24	1600	1626.5-1660.5	1525-1559	YES
25	1900	1850-1915	1930-1995	YES
26	850	814-849	859-894	YES
27	800	807-824	852-869	YES
28	700	703-748	758-803	YES
29	700	N/A	717-728	YES
30	2300	2305-2315	2350-2360	YES
31		452.5-457.5	462.5-467.5	NO
32	1500	N/A	1452-1496	NO
33	2100	1900-1920		YES
34	2100	2010-2025		YES
35	1900	1850-1910		YES
36	1900	1930-1990		YES
37		1910-1930		YES
38	2600	2570-2620		YES
39	1900	1880-1920		YES
40	2300	2300-2400		YES
41	2500	2496-2690		YES
42	3500	3400-3600		YES
43	3700	3600-3800		YES
44	700	703-803		YES
45	1500	1447-1467		NO
46	5200	5150-5925		NO
47	5900	5855-5925		NO
48	3600	3550-3700		YES
50	1500	1430-1517		NO
51	1500	1427-1432		NO
65	2100	1920-2010	2110-2200	YES
66	1700	1710-1780	2110-2200	YES
67	700	N/A	738-758	YES
68	700	698-728	753-783	YES
69	2600	N/A	2570-2620	YES
70	2000	1695-1710	1995-2020	YES
71		663-698	617-652	YES
74		1427-1518		NO
77		3300-4200		YES
78		3300-3800		YES
79		4400-5000		NO
85		698-716	728-746	YES

RF Characteristics

S₁₁

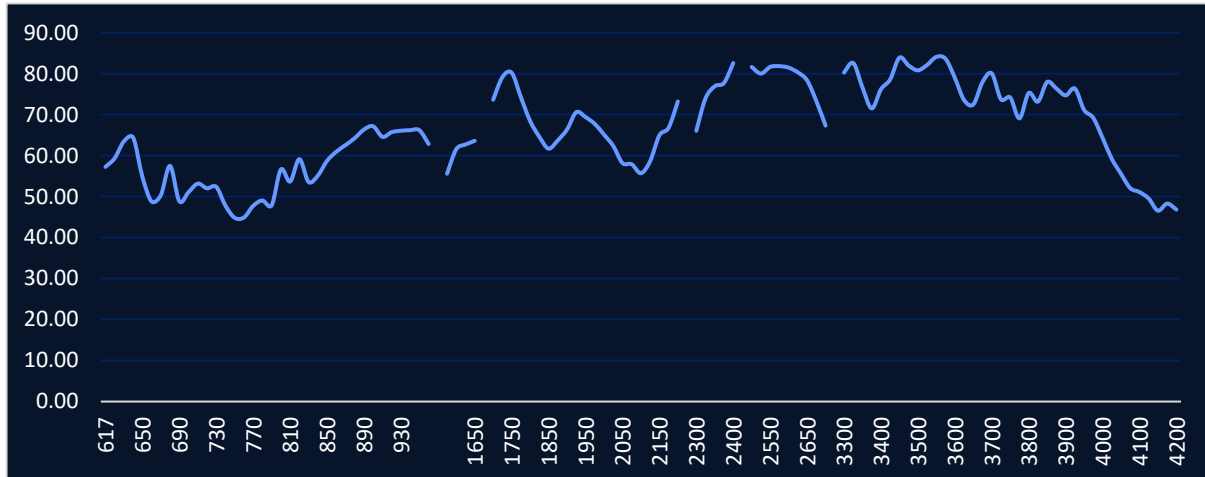


VSWR

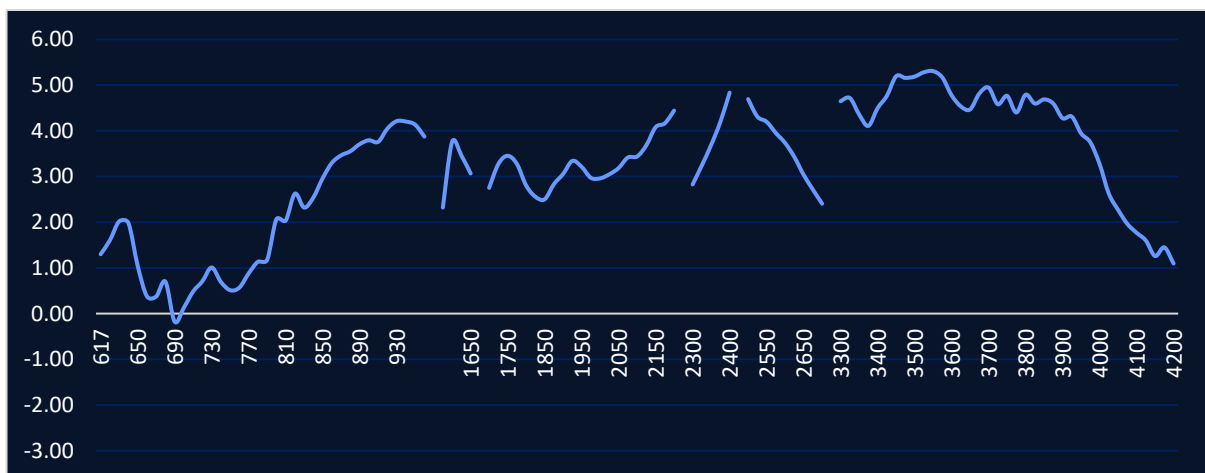


Performance

Efficiency



Peak Gain



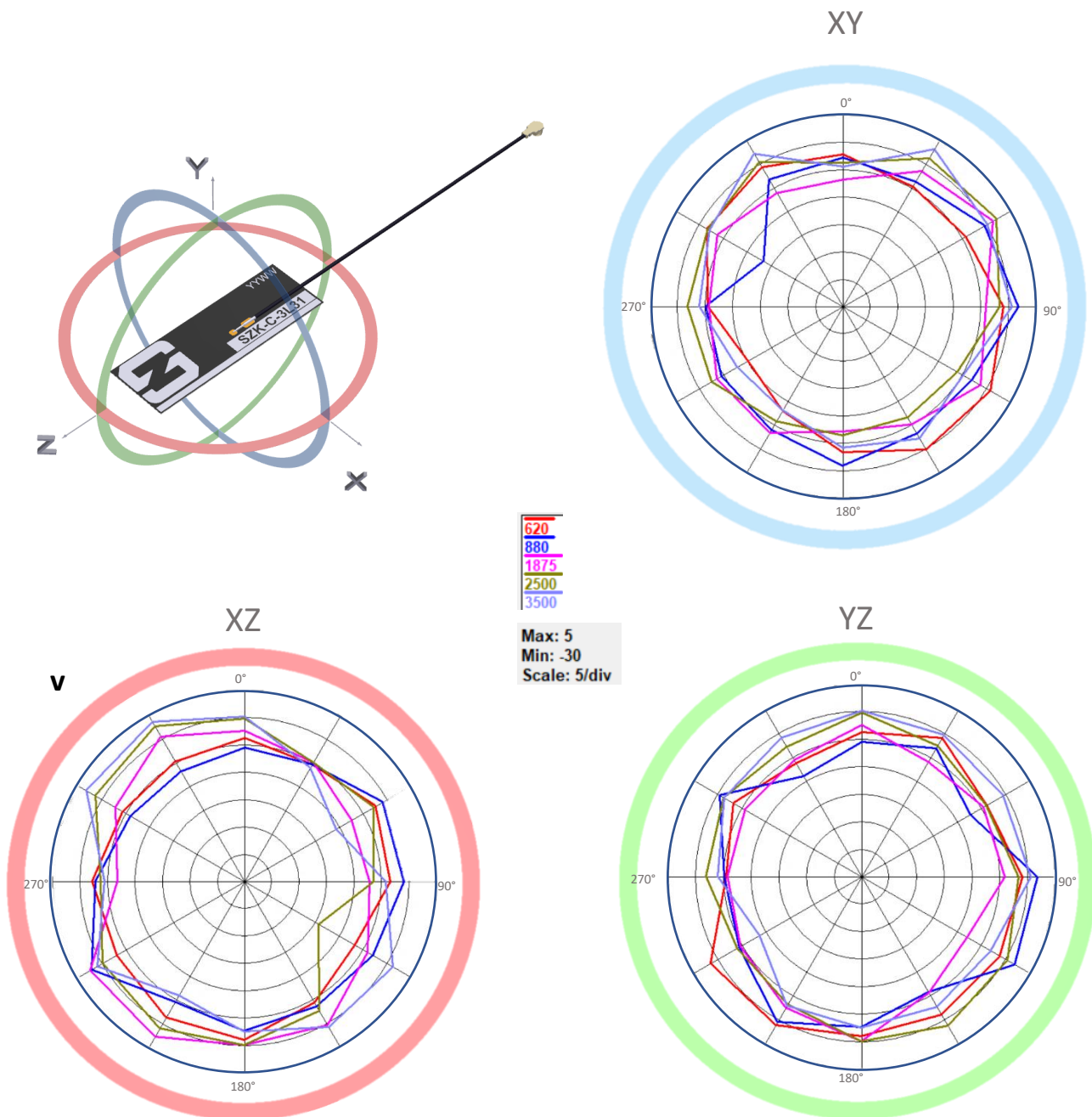
Average Gain



Radiated Performance – 2D

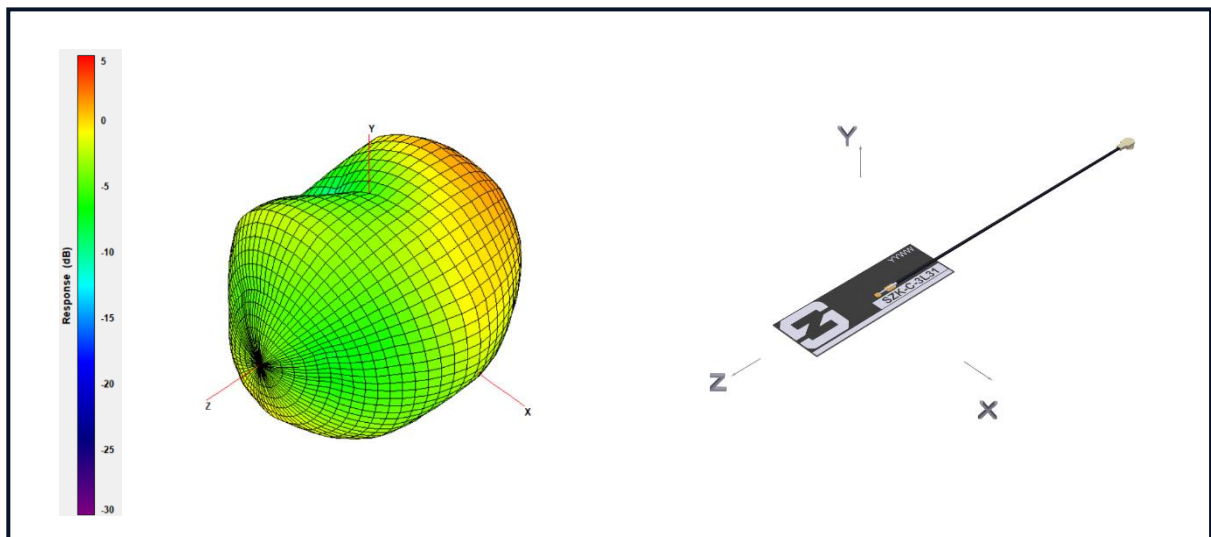
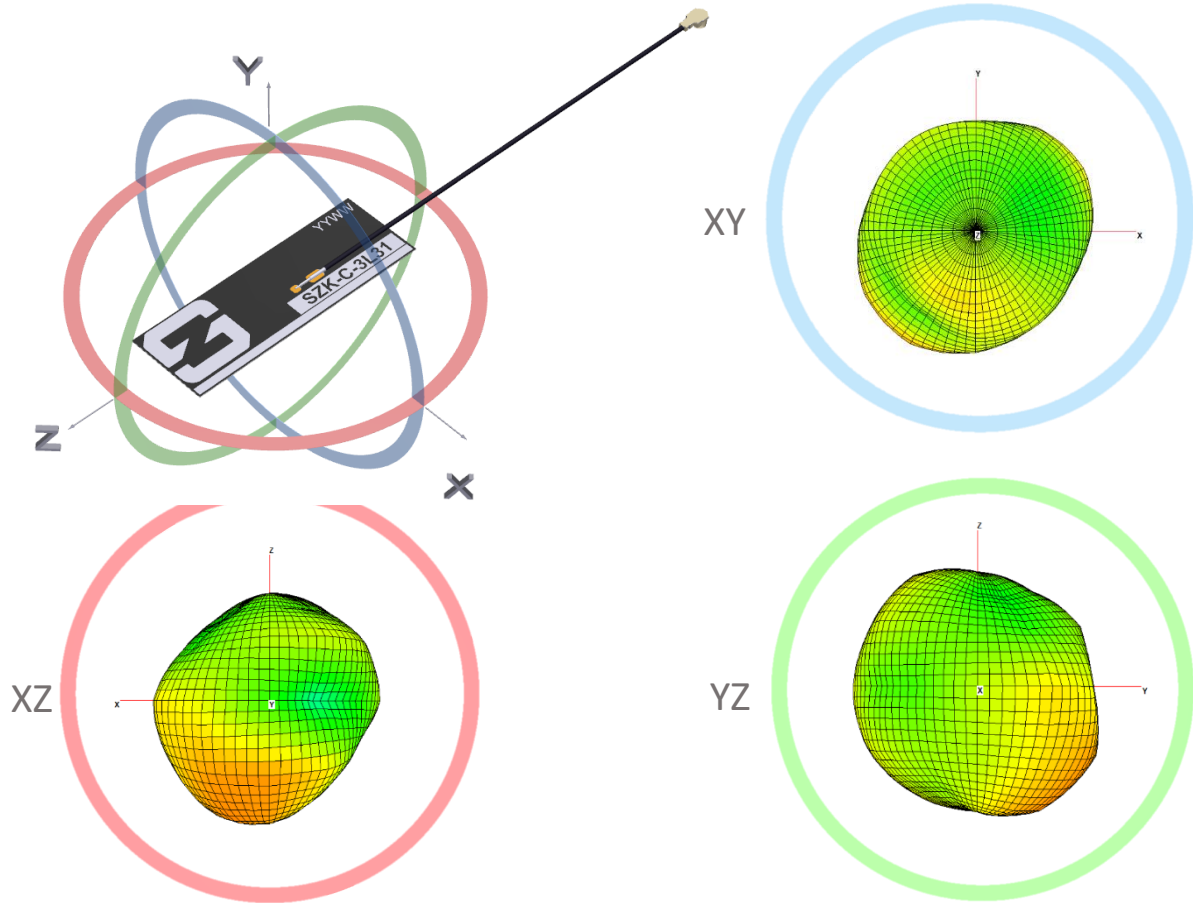
2D Polar Plot 617-4200MHz

The data shown was measured on a 2mm thick section of ABS.



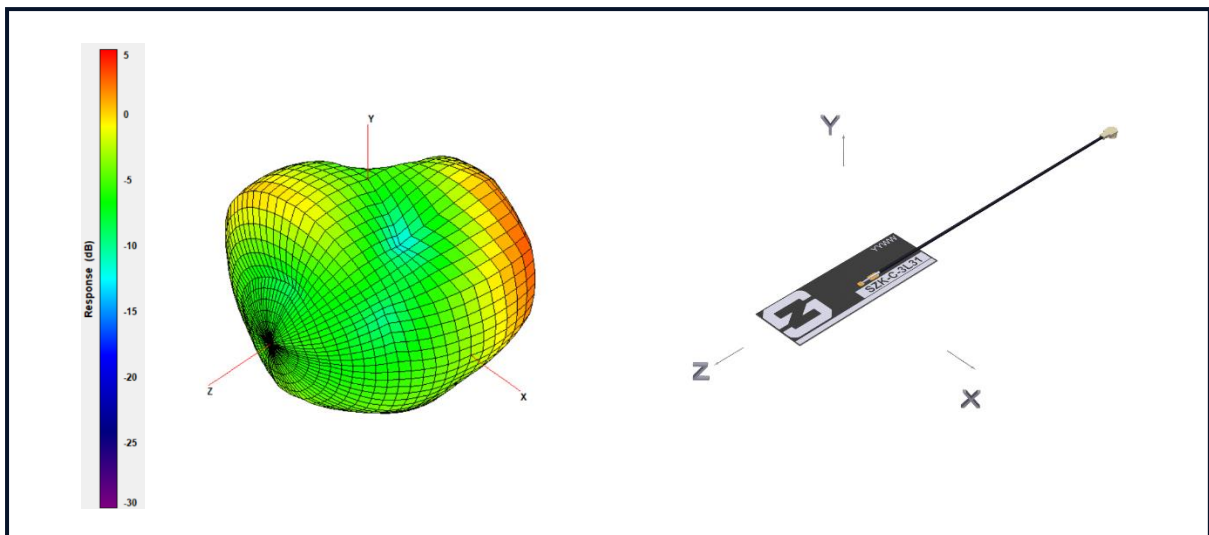
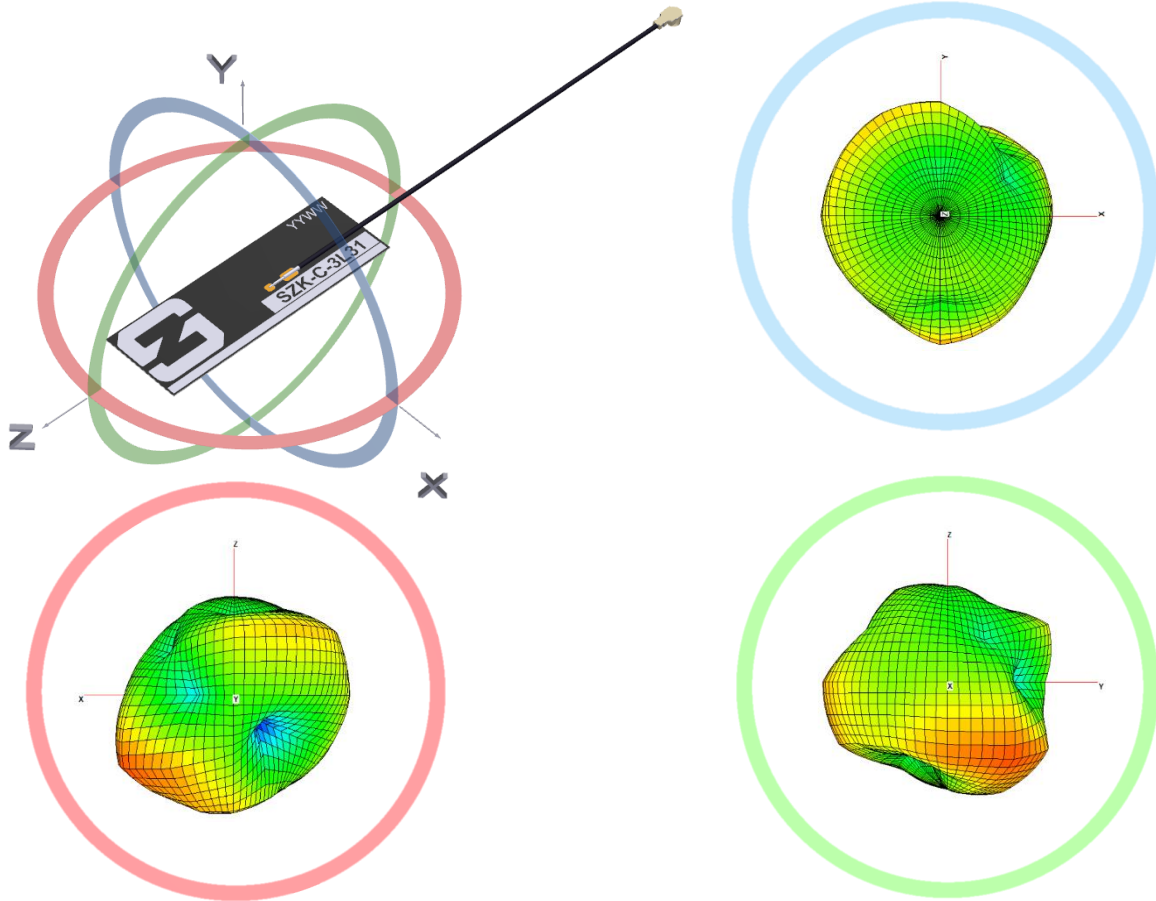
Radiated Performance – 3D at 650MHz

The data shown was measured on a 2mm thick section of ABS.



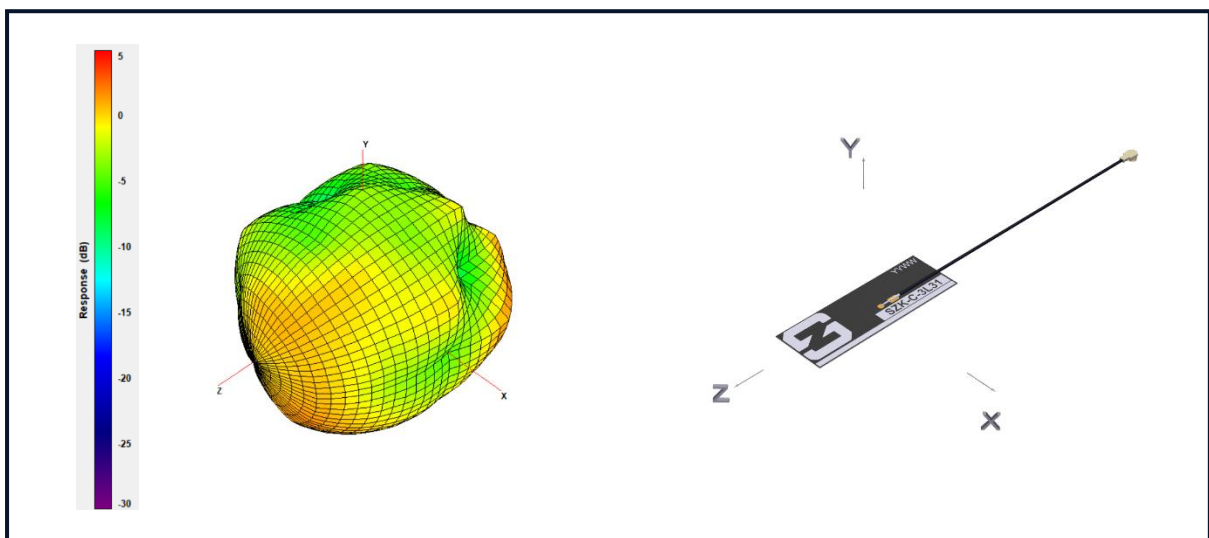
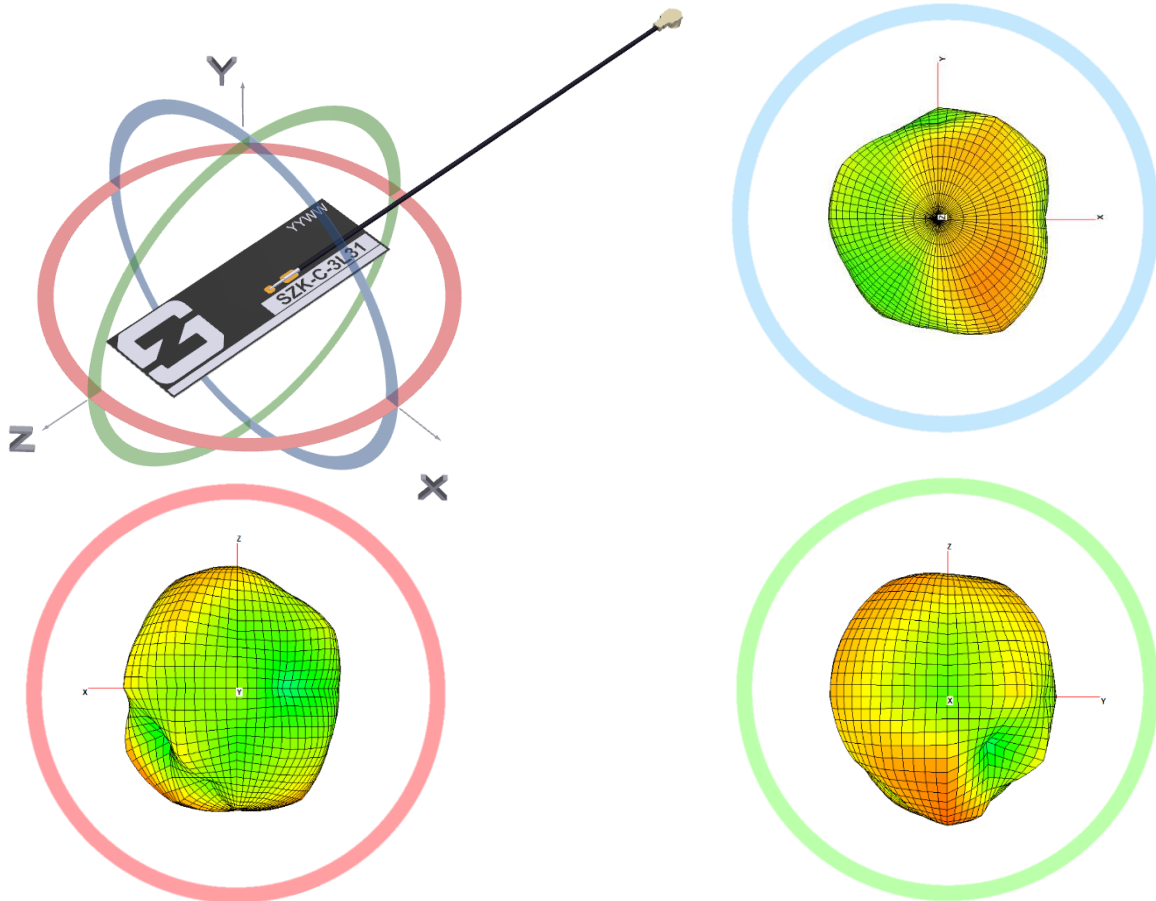
Radiated Performance – 3D at 880MHz

The data shown was measured on a 2mm thick section of ABS.



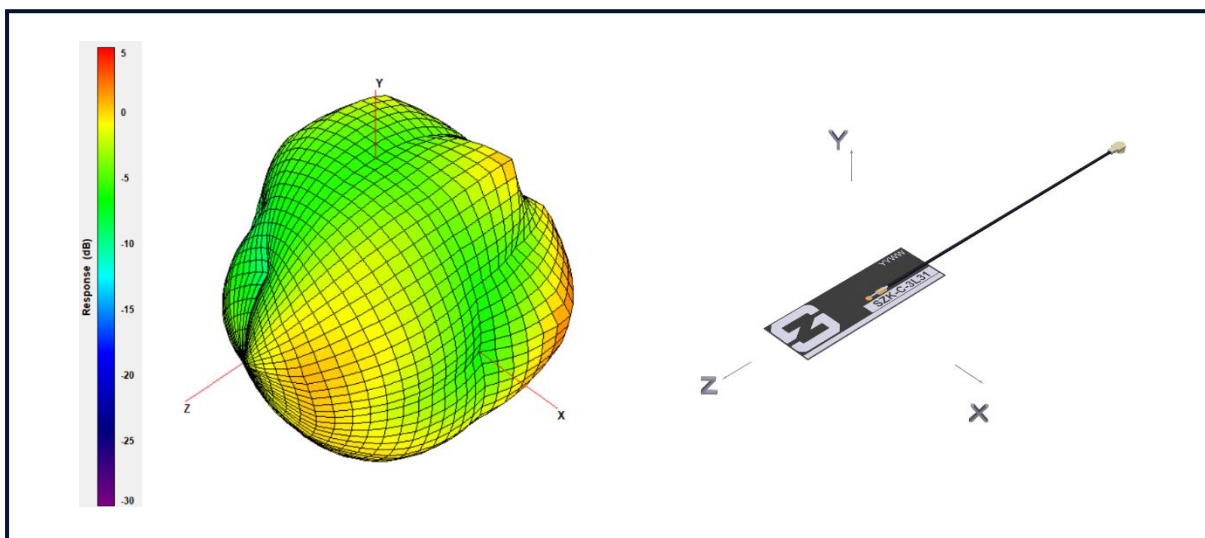
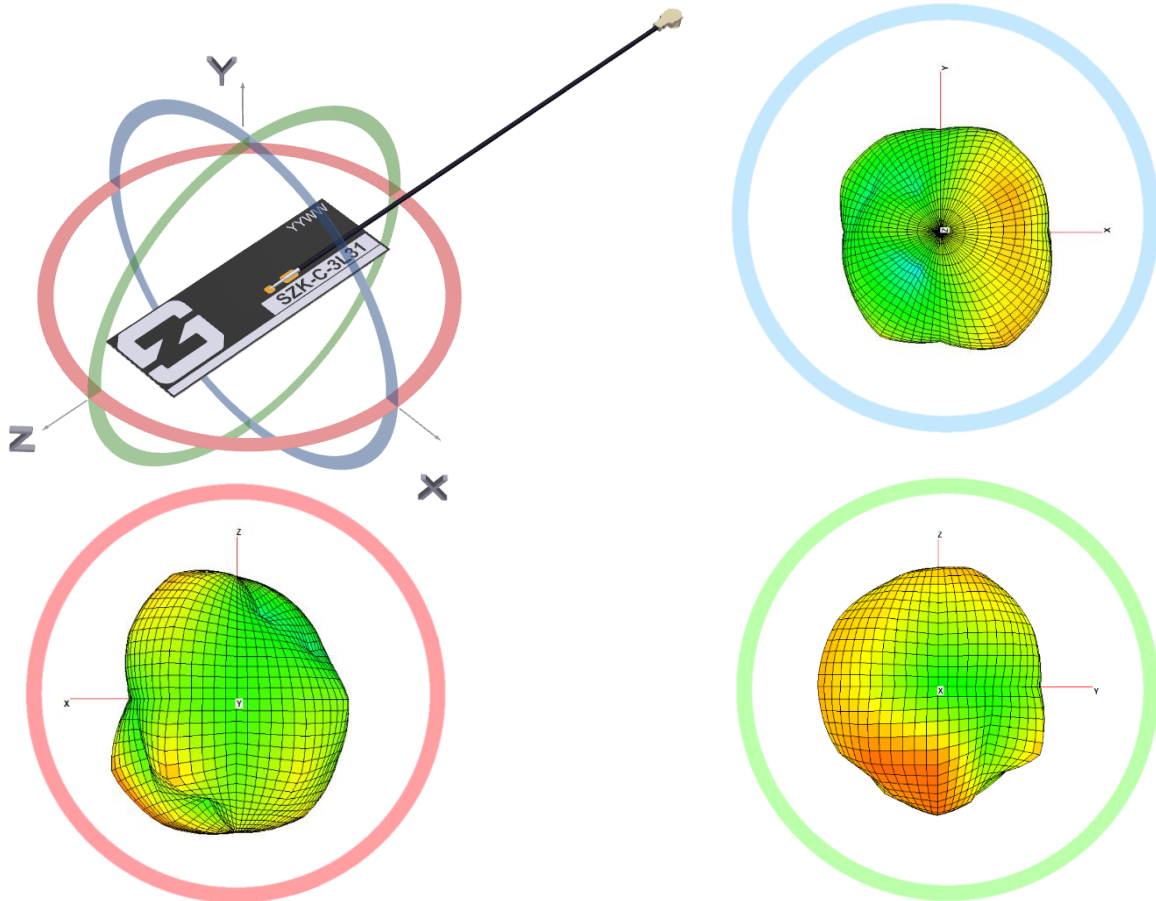
Radiated Performance – 3D at 1575MHz

The data shown was measured on a 2mm thick section of ABS.



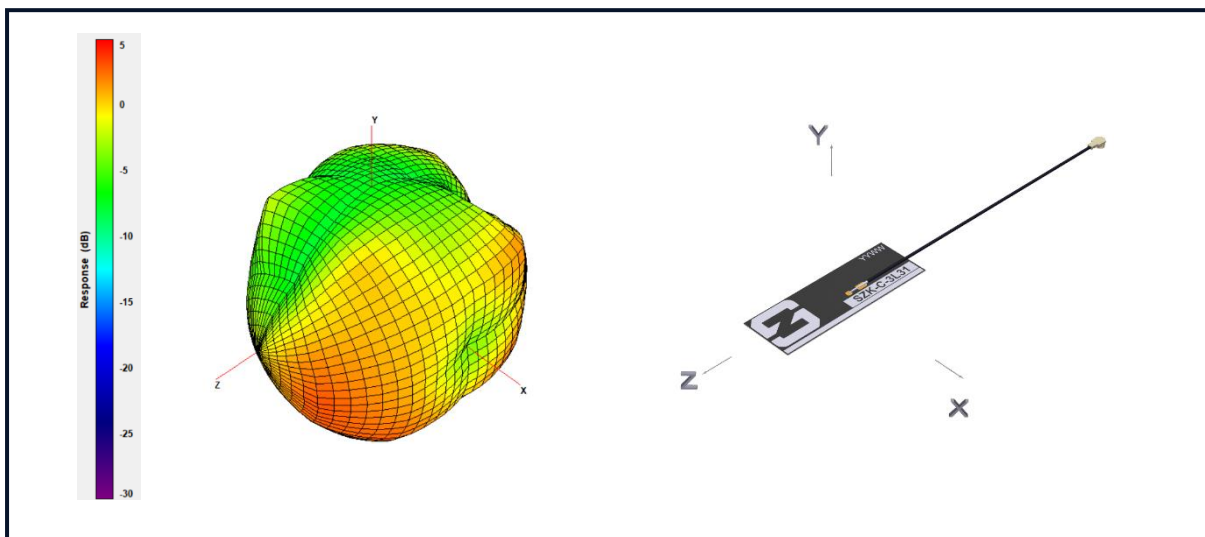
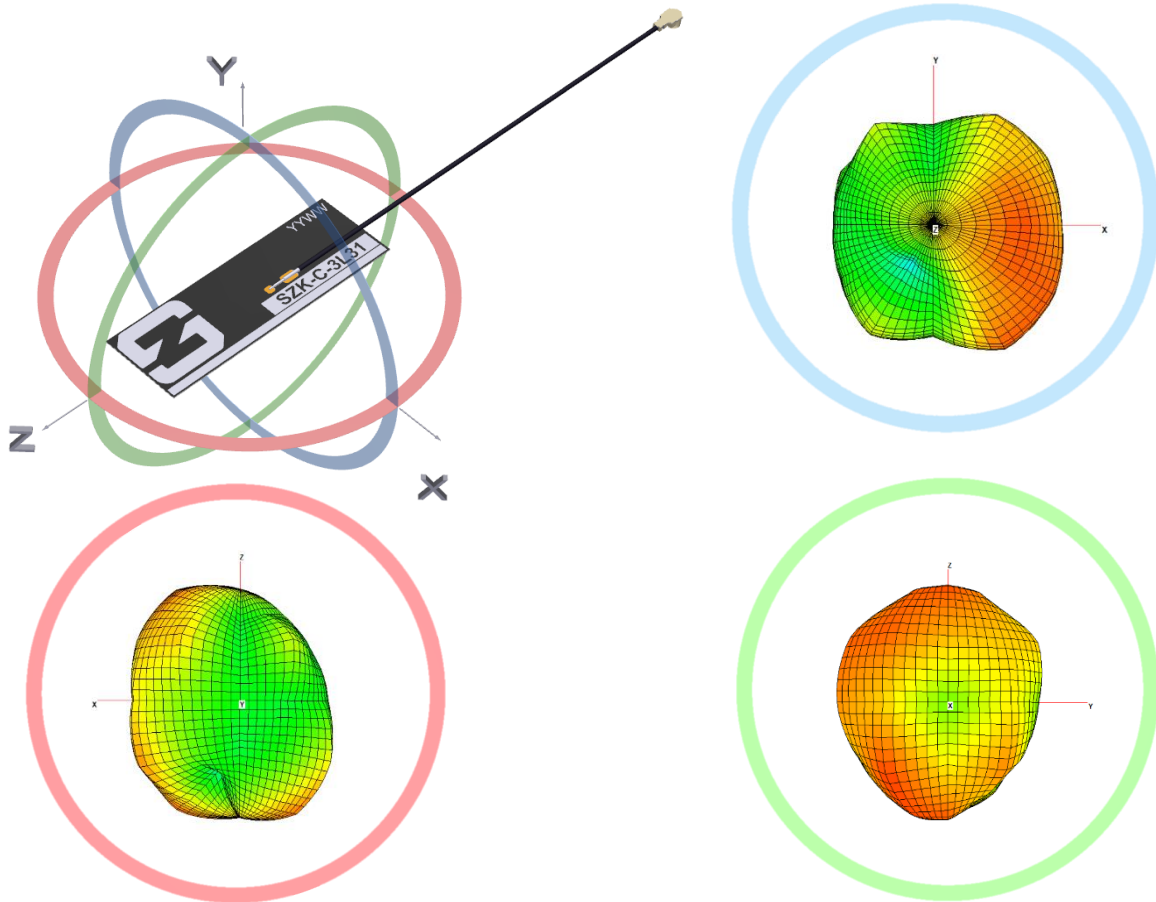
Radiated Performance – 3D at 1880MHz

The data shown was measured on a 2mm thick section of ABS.



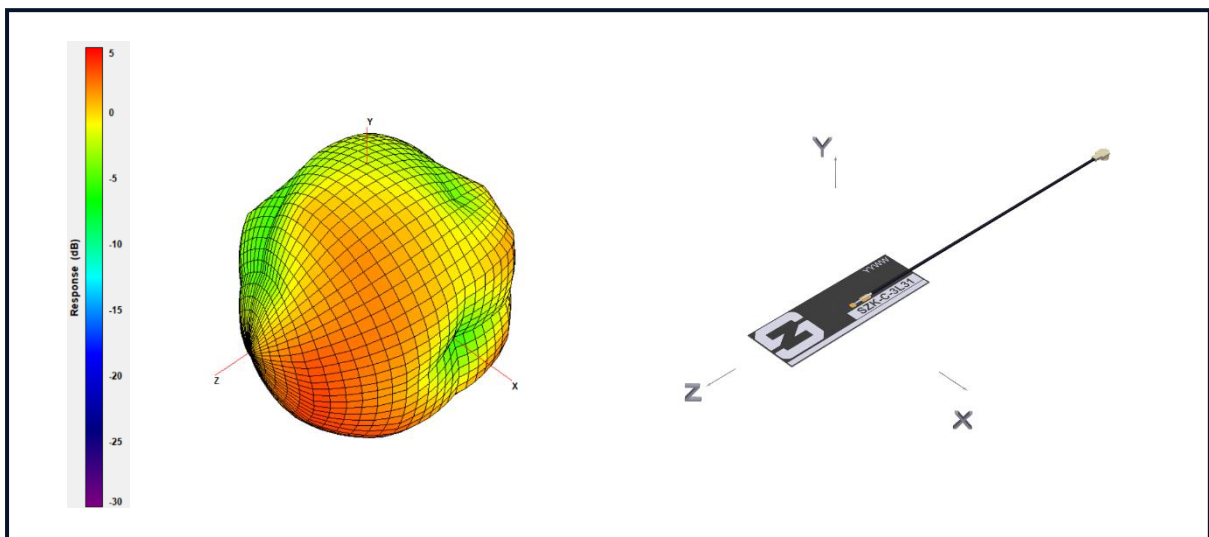
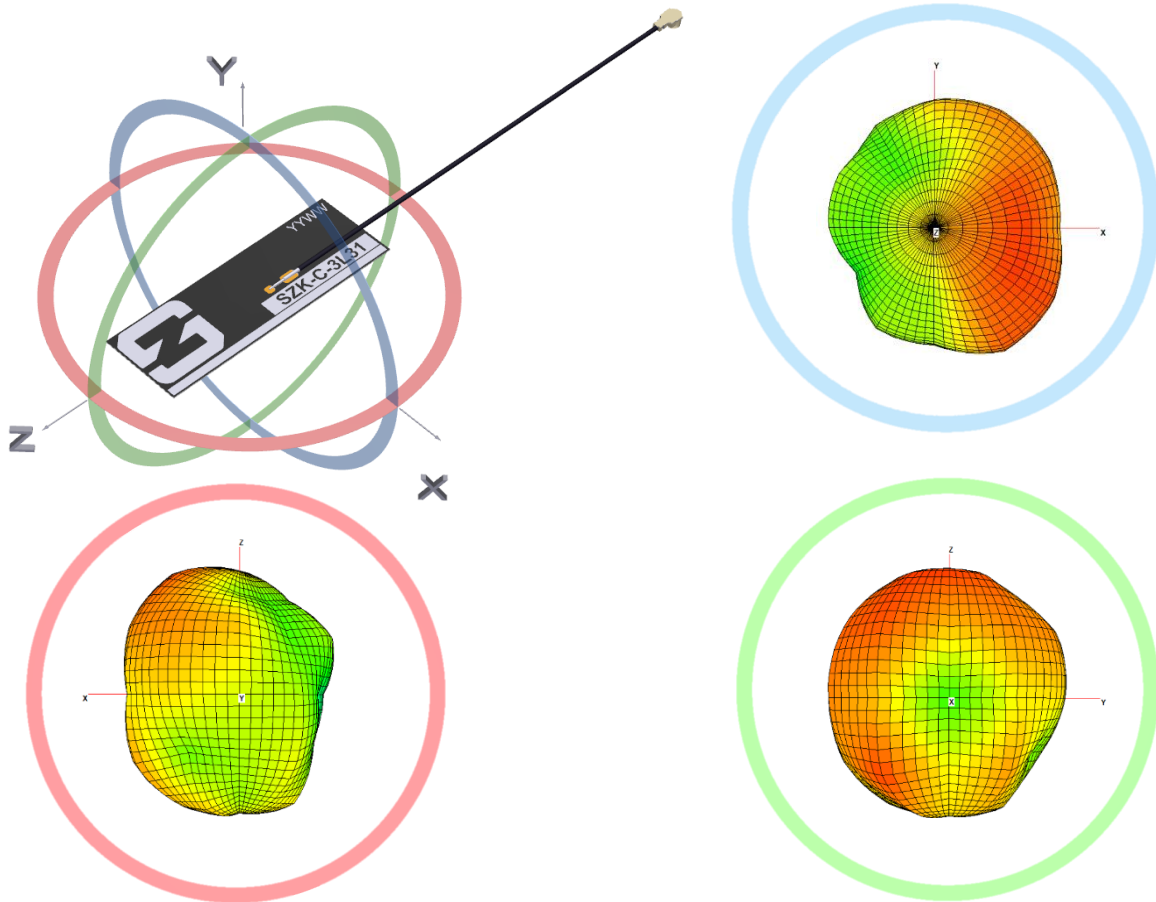
Radiated Performance – 3D at 2350MHz

The data shown was measured on a 2mm thick section of ABS.



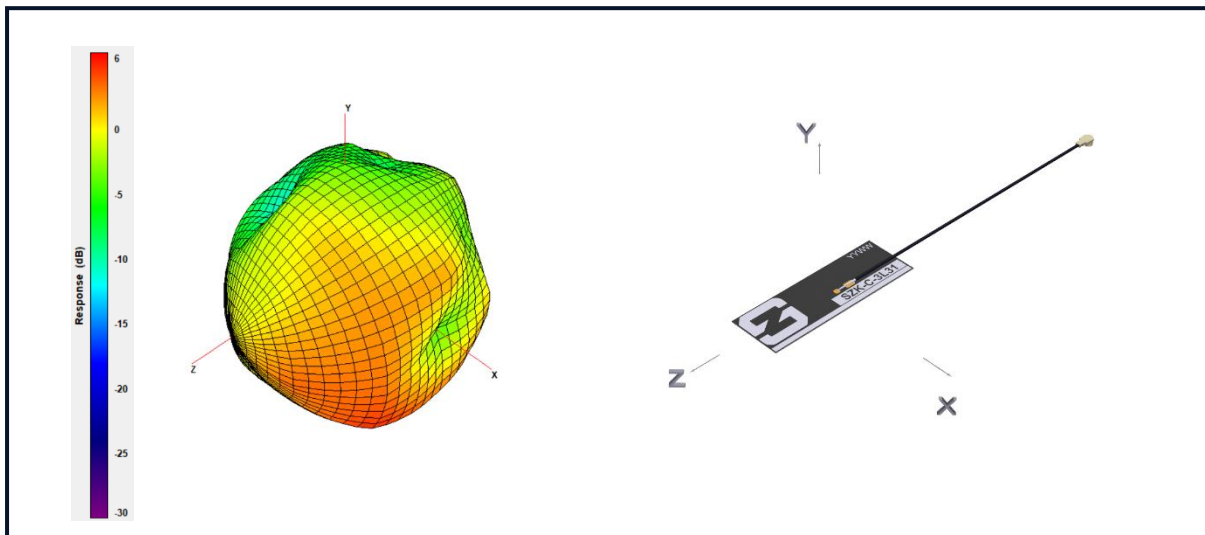
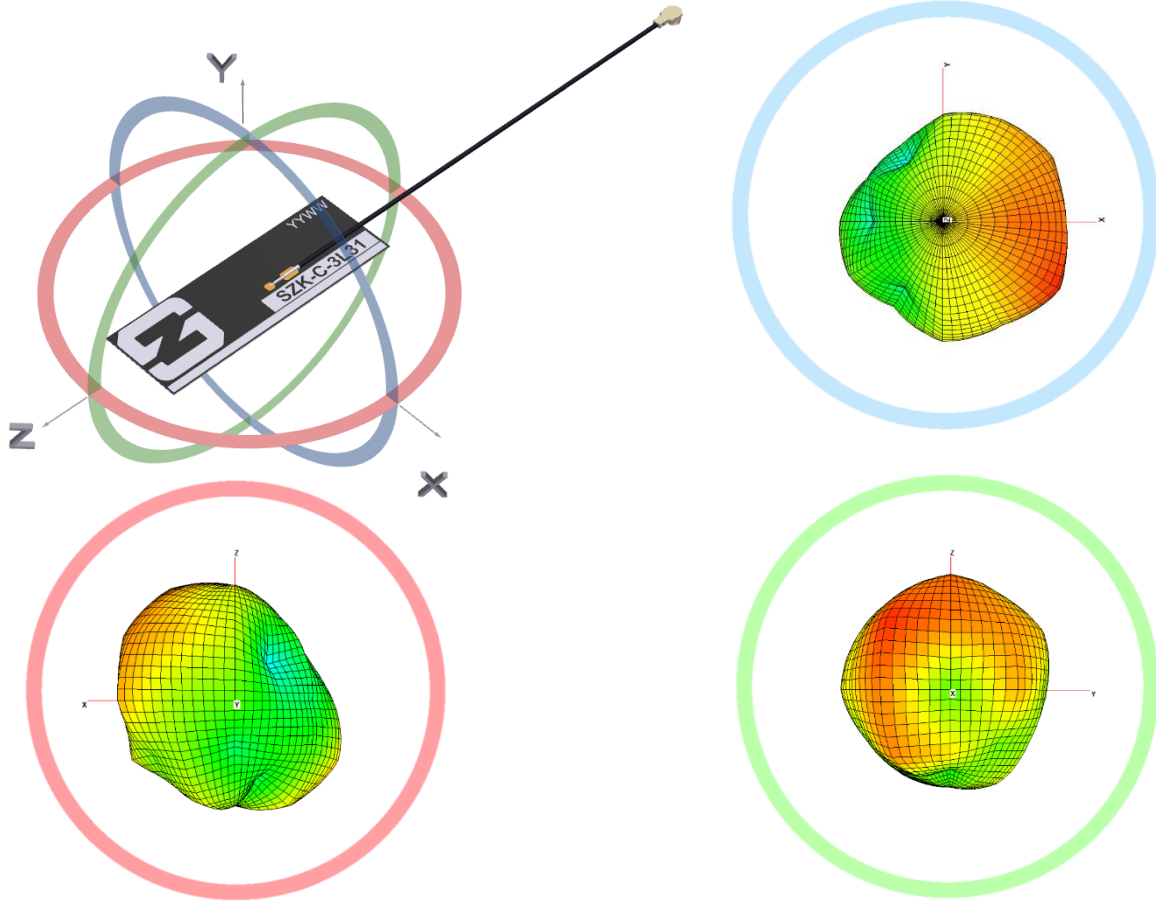
Radiated Performance – 3D at 2600MHz

The data shown was measured on a 2mm thick section of ABS.

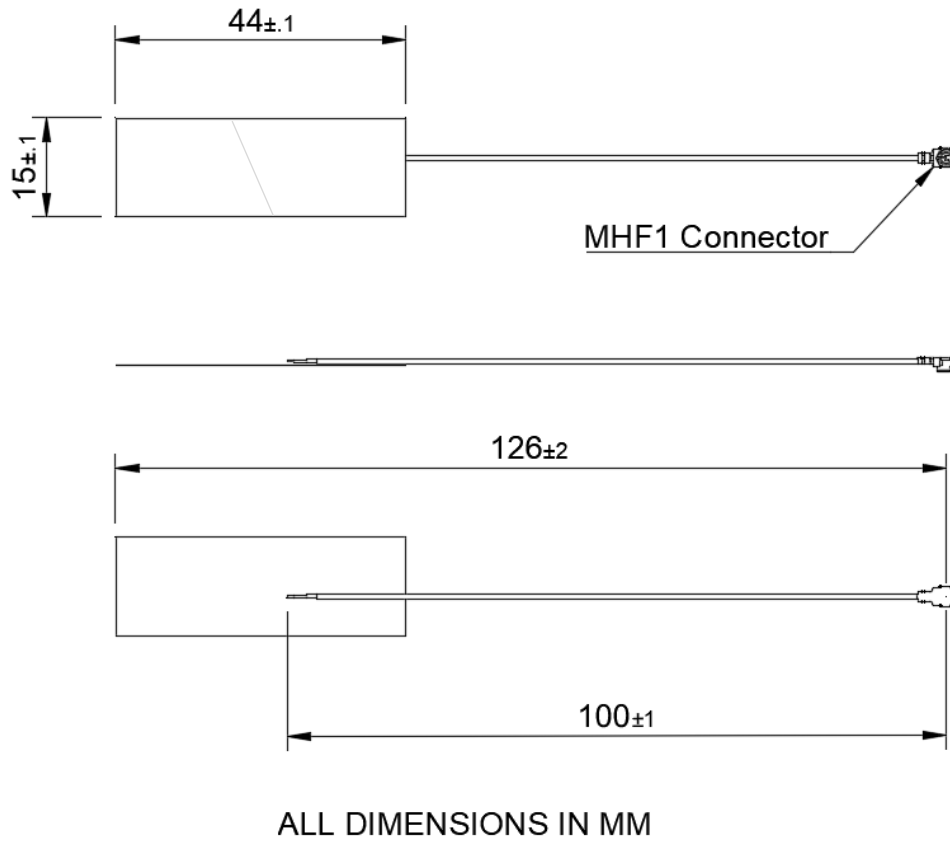


Radiated Performance – 3D at 3500MHz

The data shown was measured on a 2mm thick section of ABS.



Mechanical Drawing



Adhesive Backing

The antenna comes with 3M 468 adhesive backing upon a PI Kapton substrate. An easy peel cut is on the back side for easy cover removal.

Packaging

Antennas packed in PE bag (20 per bag)

Small bag dimensions: 28.5 x 9.5 (cm)

100pcs per larger PE bag with product label

Bag dimensions = 30 x 19 (cm)

Label

 SYNZEN SYNZEN PRECISION TECHNOLOGY	
Part Number:	SZK-C-2U05 
Description :	Ultra-Wide-Band FPC antenna, 100mm cable, MHF1 connector
Name:	LUPI
Quantity:	1000
Date Code:	YYWW
A3, 4F, No. 58, Zhouzi St, Neihu Dist., Taipei City, 11493, Taiwan Tel: +886 (02) 2659 8030 www.synzen.com.tw	

Environmental

Material Regulation

The antenna has been tested to conform to RoHS requirements. A certificate of conformance is available upon request.



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