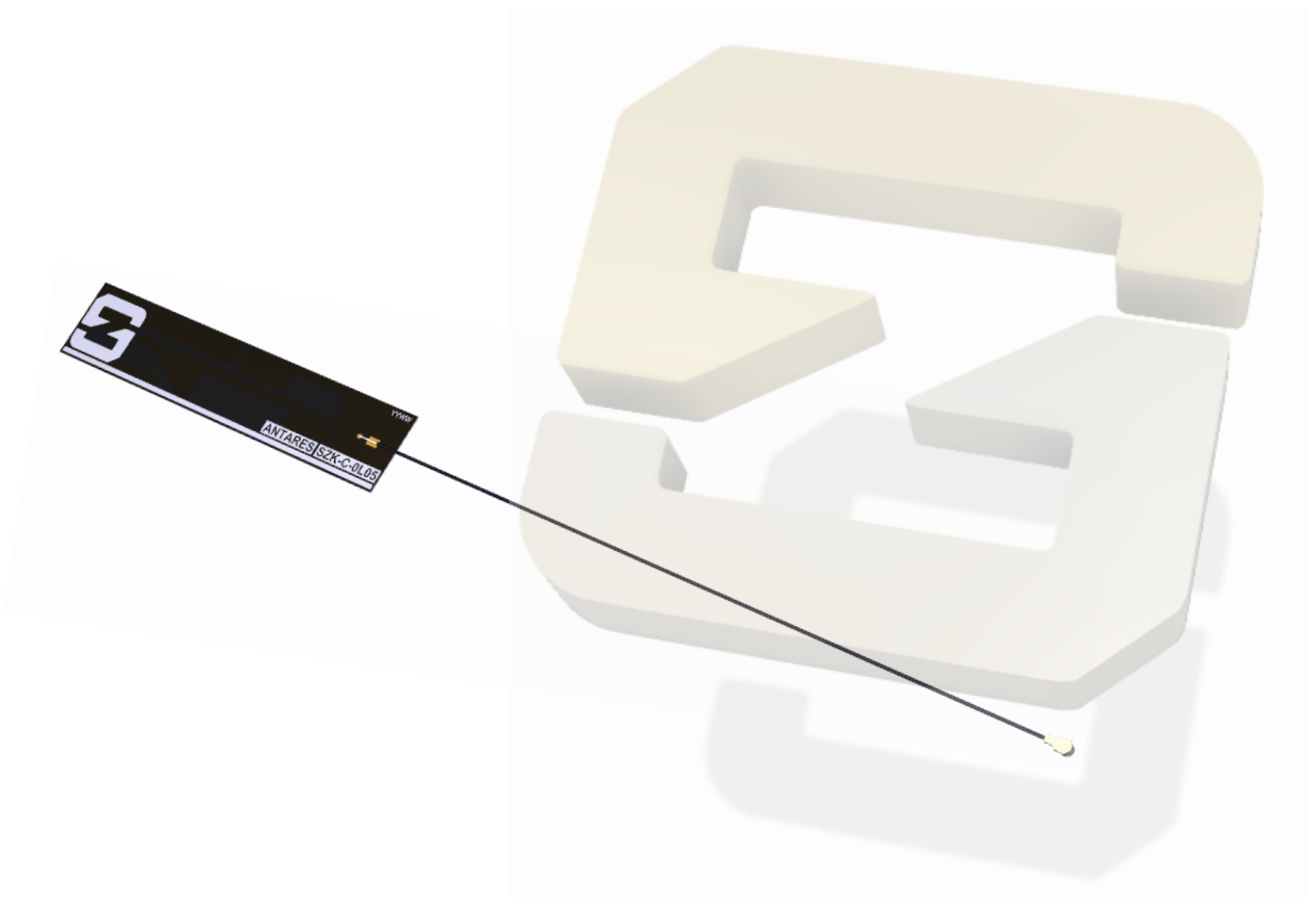




## 5G/4G/3G/2G Cellular FPC Antenna

SZK-C-0L05

5G LTE: 617 - 960; 1427-1660; 1710 - 2200; 2300 - 2400; 2496 - 2690; 3300-4200; 4400-5000 MHz



**Name:** ANTARES

**Part Number:** SZK-C-0L05

**Description:** 5G LTE FPC with cable and connector IPEX MHFI (U.FL)

- Flexible PCB Antenna using 3M 468 adhesive
- Dimensions: 100 x 20 x 0.2 (mm)
- Cable: 180mm length, 1.13mm diameter
- RoHS & Reach Compliant



## 5G/4G/ 3G/2G Cellular FPC Antenna

## SZK-C-0L05

5G LTE: 617 - 960; 1427-1660; 1710 - 2200; 2300 - 2400; 2496 - 2690; 3300-4200; 4400-5000 MHz

### Description

A Flexible antenna for 5G/4G LTE/3G/2G/NB-IoT/CATM applications. For use internal to a device which requires an integrated antenna solution. High performance with an ultra-small form factor for simple integration.

- Ultra-small 5G FPC Antenna at only 100 x 20 (mm)
- For 5G and global cellular applications.
- Simple integration, plug and operate the device without designing onboard antenna.
- Can be tuned for various environments and plastic thickness with additional Pi network, free tuning service available.
- Alternate cable lengths and connectors available upon request
- [sales@synzen.com.tw](mailto:sales@synzen.com.tw)

### Applications

Industrial/Scientific/Medical  
Smart Grid

M2M Industrial  
Remote Monitoring

Smart Meters  
Femtocells





## General Specifications

### Mechanical Specifications

<b>Part Number</b>	SZK-C-0L05
<b>Name</b>	ANTARES
<b>Dimensions</b>	100 x 20 x 0.2 (mm)
<b>Weight</b>	<1g
<b>Antenna Type</b>	FPC + Cable
<b>Cable Length</b>	180mm, Black
<b>Cable Type</b>	Mini Coax $\varnothing$ 1.13mm
<b>Connector</b>	MHFI (U.FL Compatible)
<b>Adhesive backing</b>	3M 468

### RF Specifications

Frequency Range (MHz)	617-960	1427-1660	1710-2200	2300-2400
<b>Average Efficiency (Linear)</b>	>50%	>50%	>65%	>70%
<b>Peak Gain (dBi)</b>	2.60	3.20	3.10	3.70
<b>S11 (max) dB</b>	<-4.98	<-3.90	<-13.7	<-11.8
<b>VSWR (max)</b>	4.19:1	4.70:1	1.52:1	1.65:1
<b>Impedance</b>	50 $\Omega$			
<b>Polarization</b>	Linear			
<b>Max Input Power</b>	5W			

Frequency Range (MHz)	2500-2690	3300-4200	4400-5000
<b>Average Efficiency (Linear)</b>	>65%	>80%	>35%
<b>Peak Gain (dBi)</b>	4.50	4.40	5.50
<b>S11 (max) dB</b>	<-10.5	<-14.4	<-5.6
<b>VSWR (max)</b>	1.85:1	1.54:1	3.12:1

Note: All performance stated is measured 2.0mm ABS plastic, RF chokes used to prevent cable radiation.

### Environmental Specifications

<b>Operational Temperature</b>	-40 to +85 ( $^{\circ}$ C)
<b>Storage Temperature</b>	-10 to +40 ( $^{\circ}$ C)
<b>Relative Humidity</b>	$\leq$ 75%



## Bands Covered by SZK-C-0L05

### Supported band list

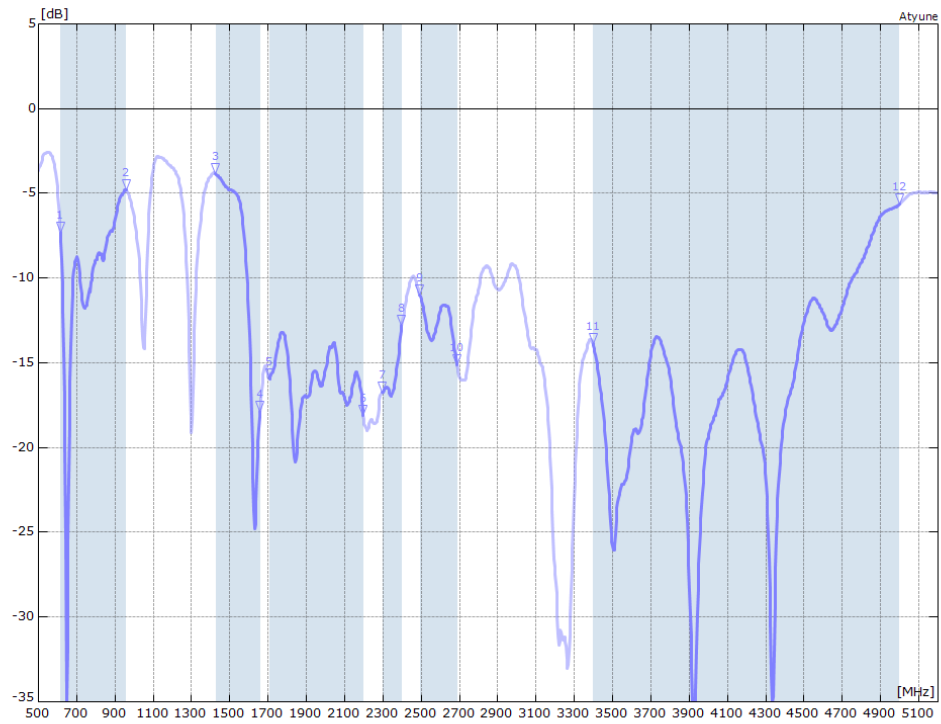
Band	Frequency Band	Uplink(MHz)	Downlink (MHz)	Supported
1	2100	1920-1980	2110-2170	YES
2	1900	1850-1910	1930-1990	YES
3	1800	1710-1785	1805-1880	YES
4	1700	1710-1755	2110-2155	YES
5	850	824-849	869-894	YES
7	2600	2500-2570	2620-2690	YES
8	900	880-915	869-894	YES
10	1700	1710-1770	2110-2170	YES
11	1500	1427.9-1447.9	1475.9-1495.9	YES
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	YES
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	YES
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	YES
46	5200		5150-5925	YES
47	5900		5855-5925	YES
48	3600		3550-3700	YES
50	1500		1430-1517	YES
51	1500		1427-1432	YES
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	YES
77			3300-4200	YES
78			3300-3800	YES
79			4400-5000	YES

Supported Bands represent at least 40% efficiency

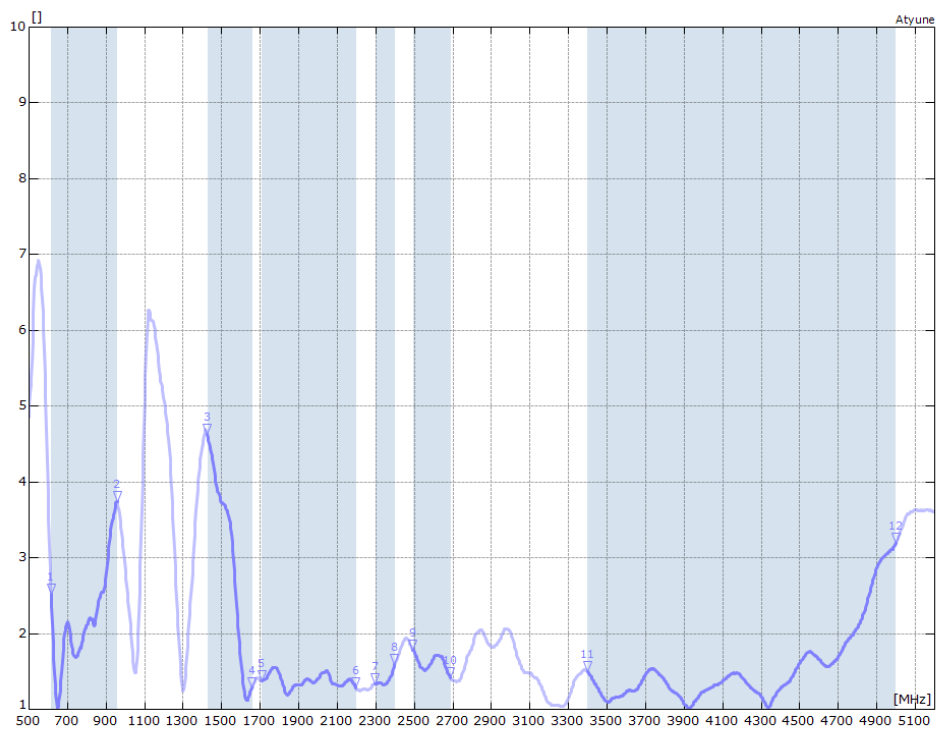


## RF Characteristics

### S11 Parameter



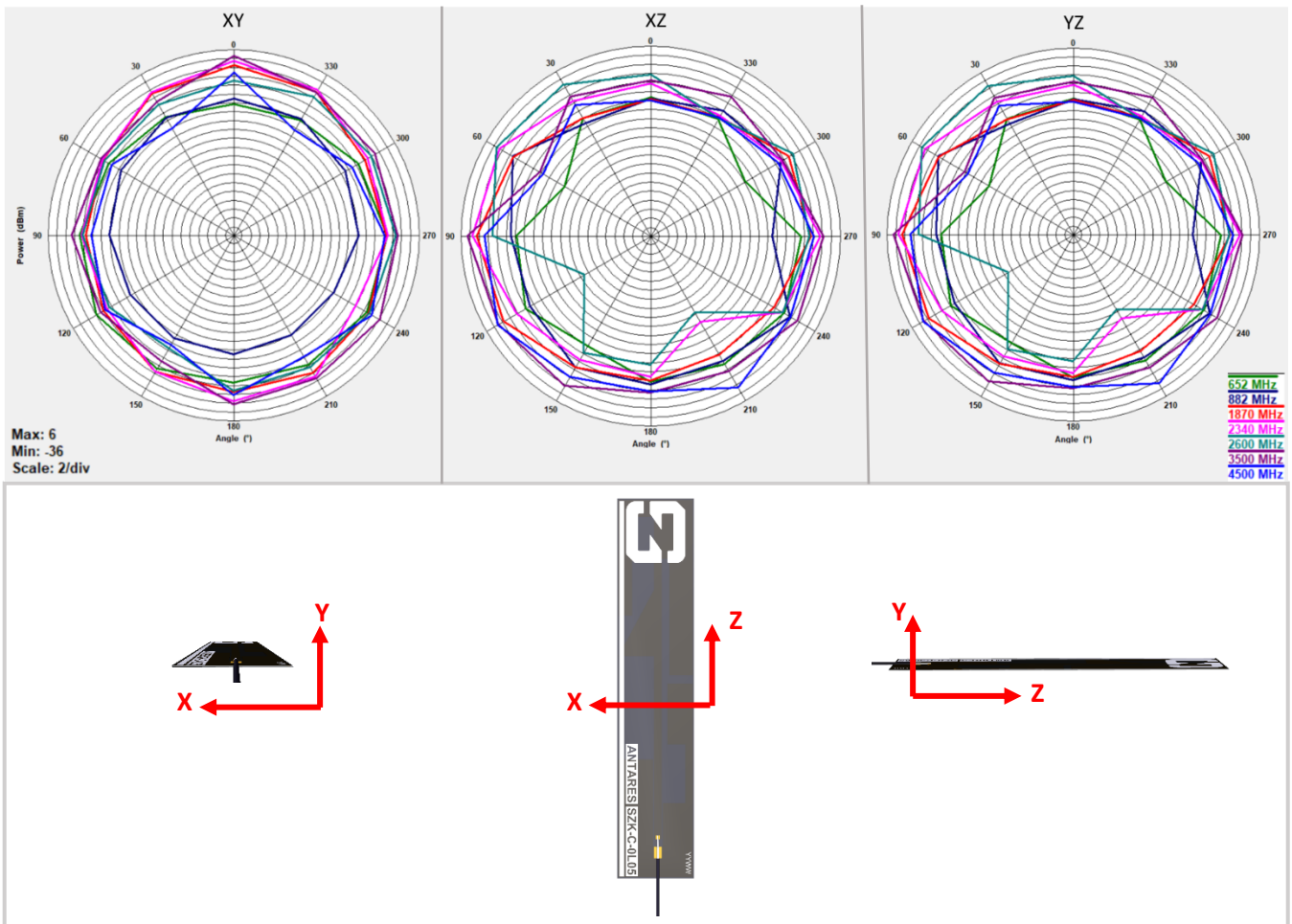
### VSWR



## Radiated Performance

### 2D Polar Plot

The data shown was measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation.

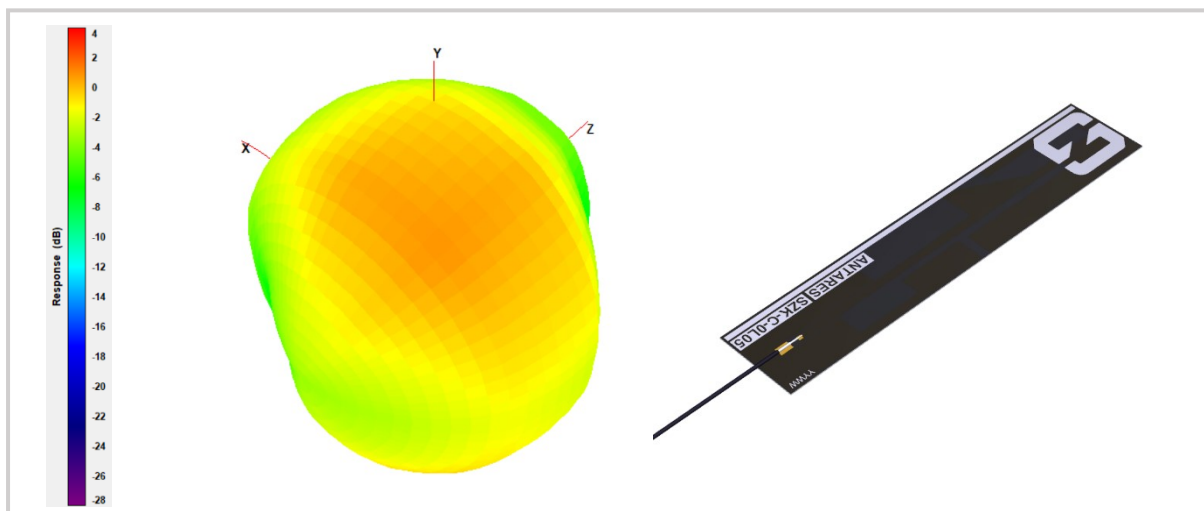
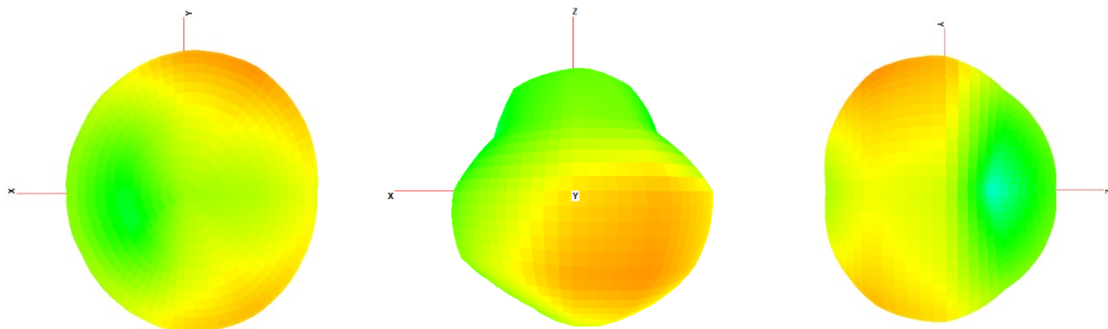
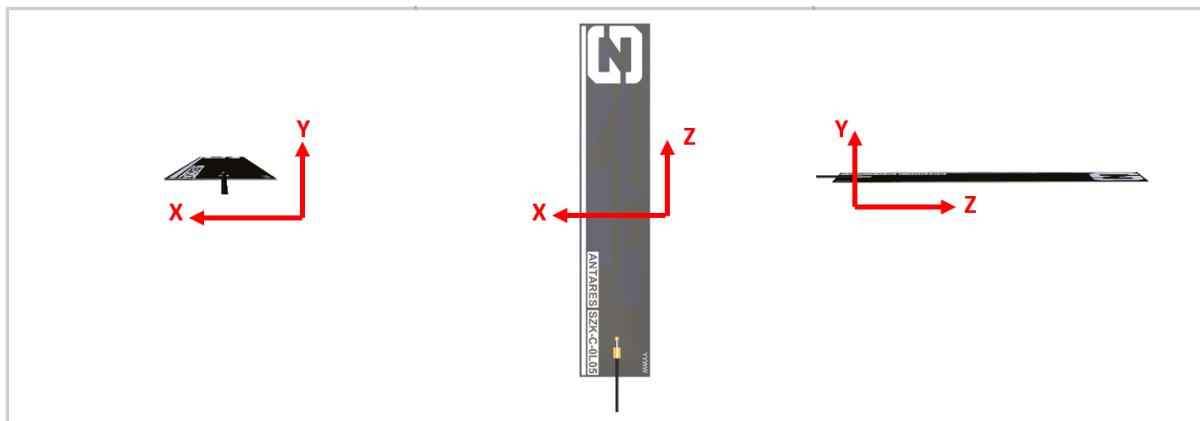




## Radiated Performance

### 3D Radiation Pattern at 650MHz

The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 650MHz.

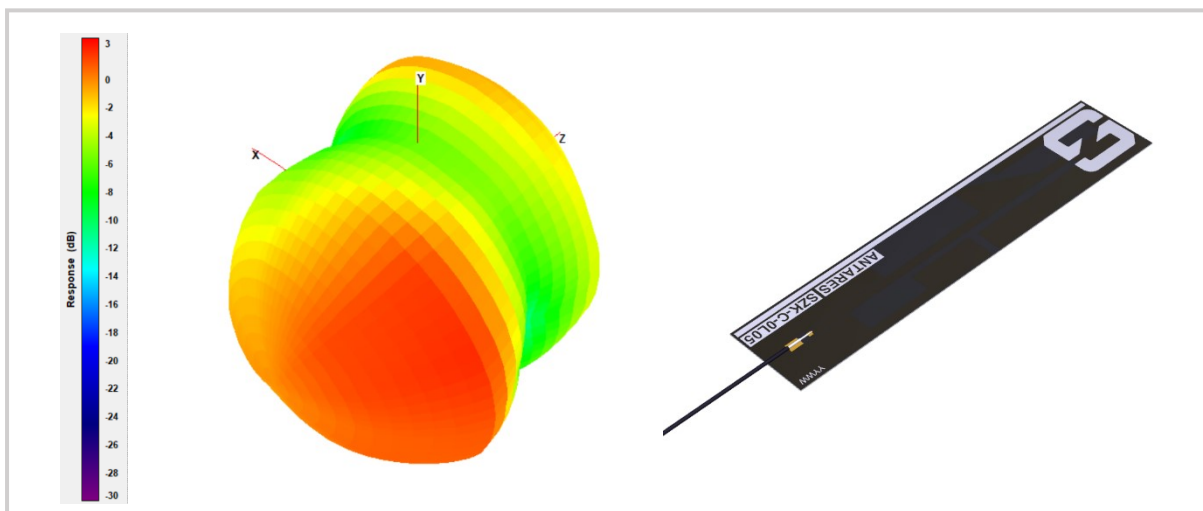
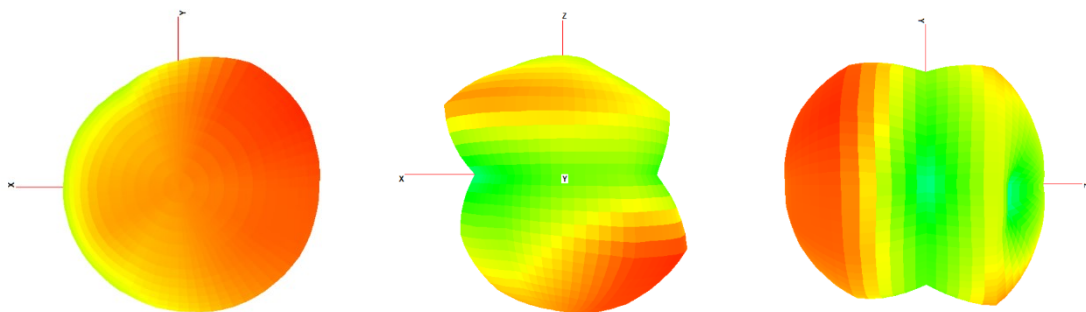
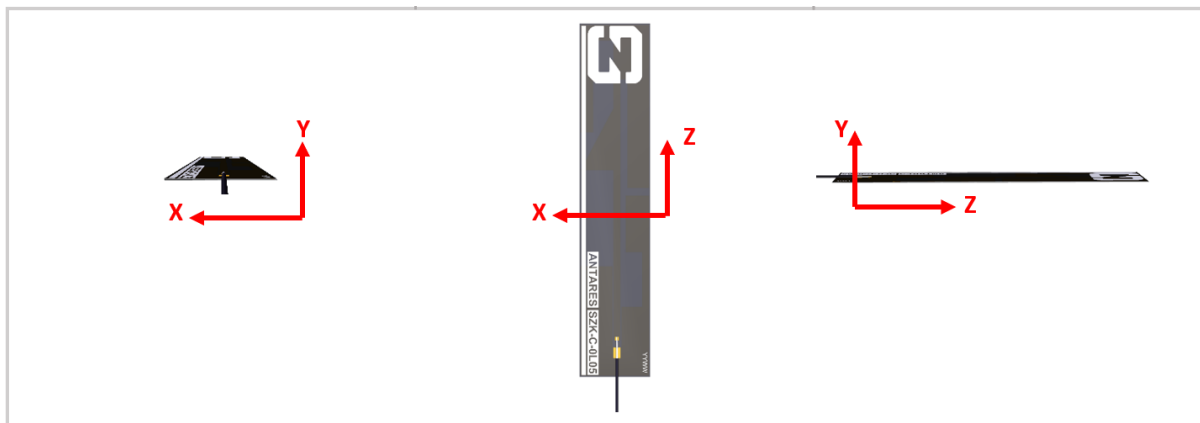




## Radiated Performance

### 3D Radiation Pattern at 880MHz

The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 880MHz.

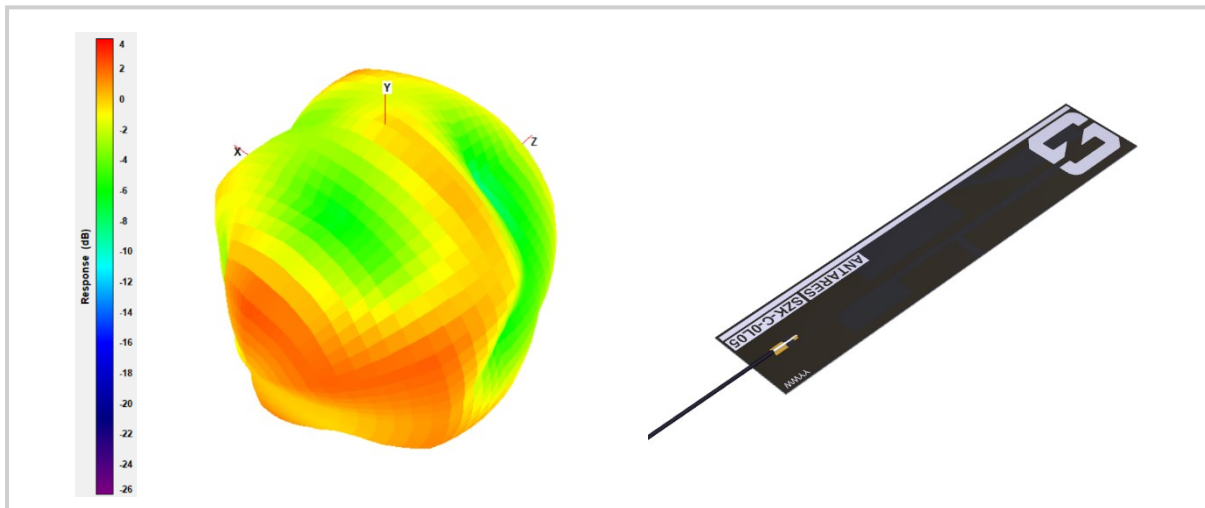
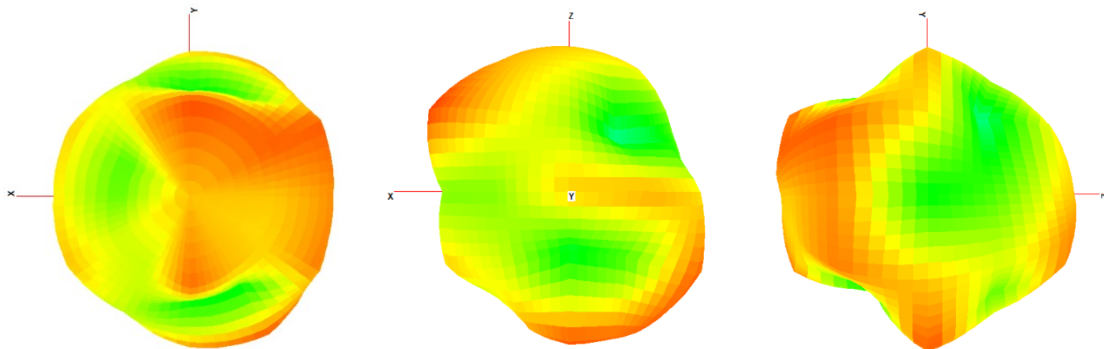
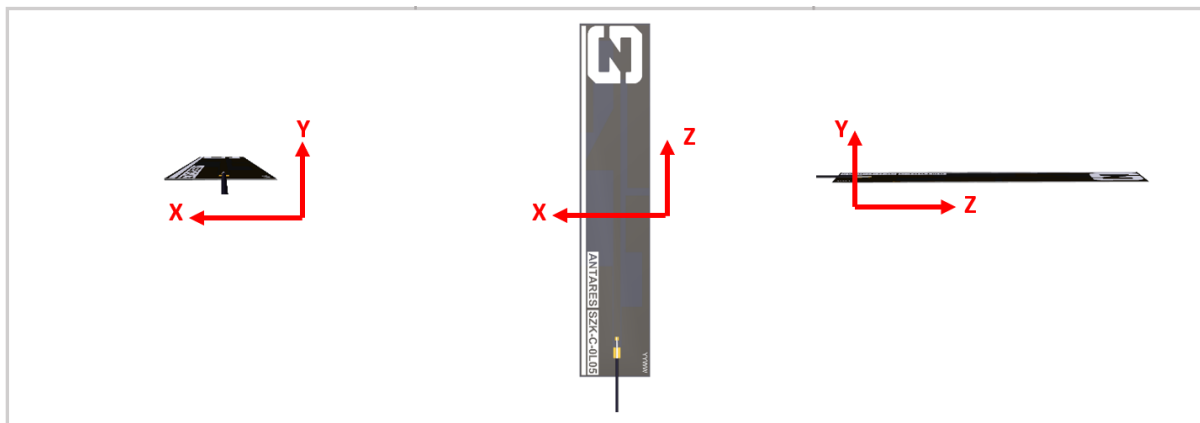




## Radiated Performance

### 3D Radiation Pattern at 1575MHz

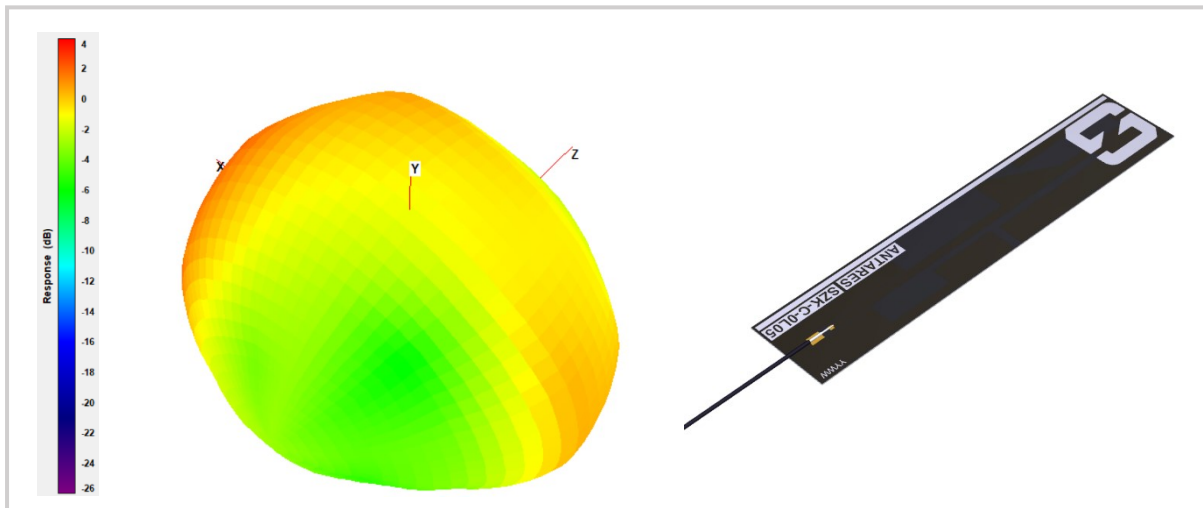
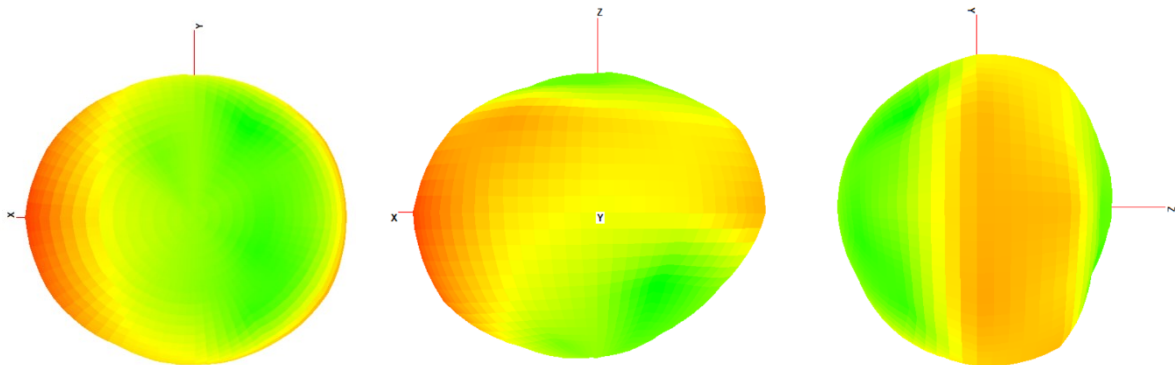
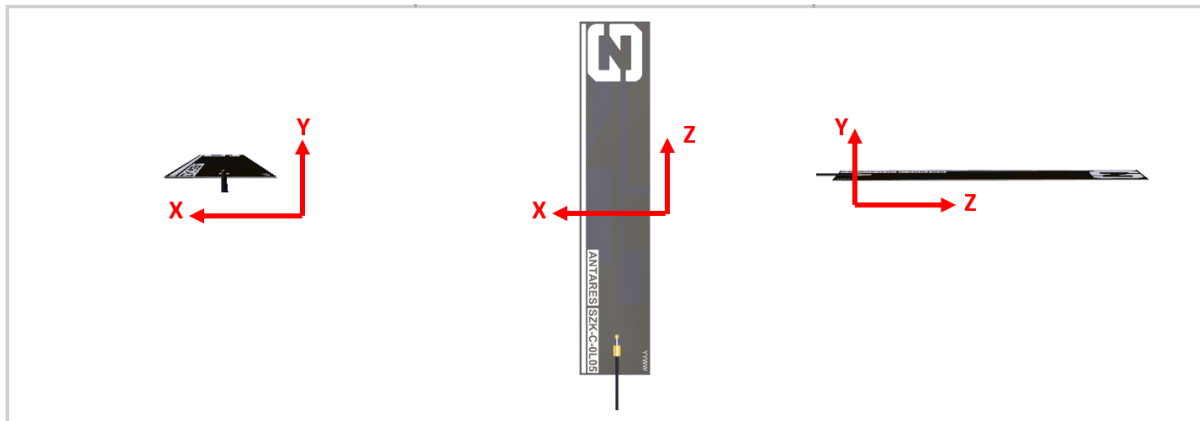
The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 1575MHz.



## Radiated Performance

### 3D Radiation Pattern at 1880MHz

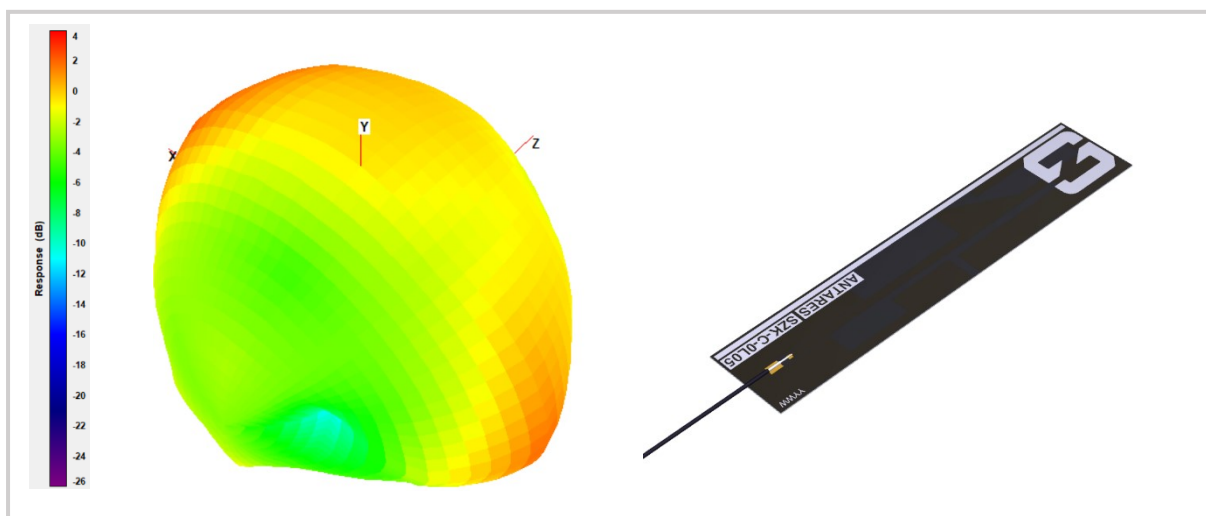
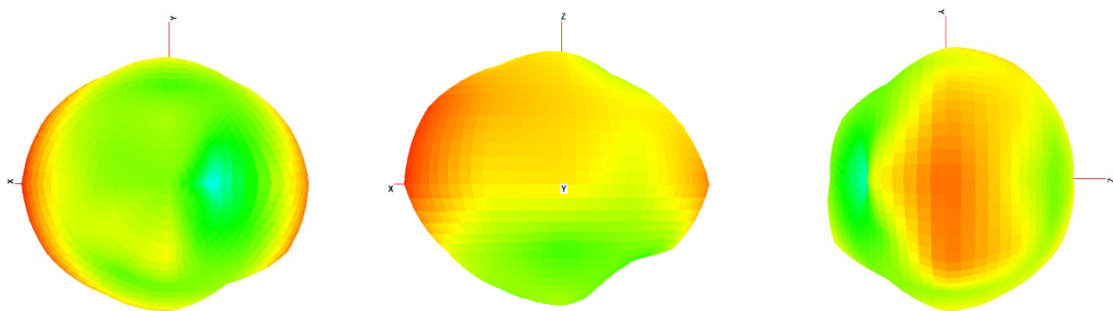
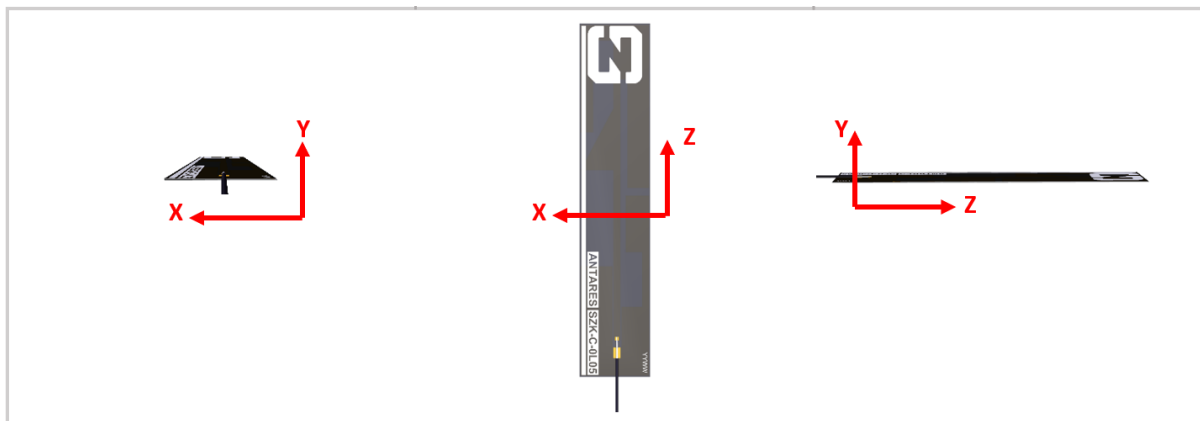
The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 1800MHz.



## Radiated Performance

### 3D Radiation Pattern at 2350MHz

The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 2350MHz.

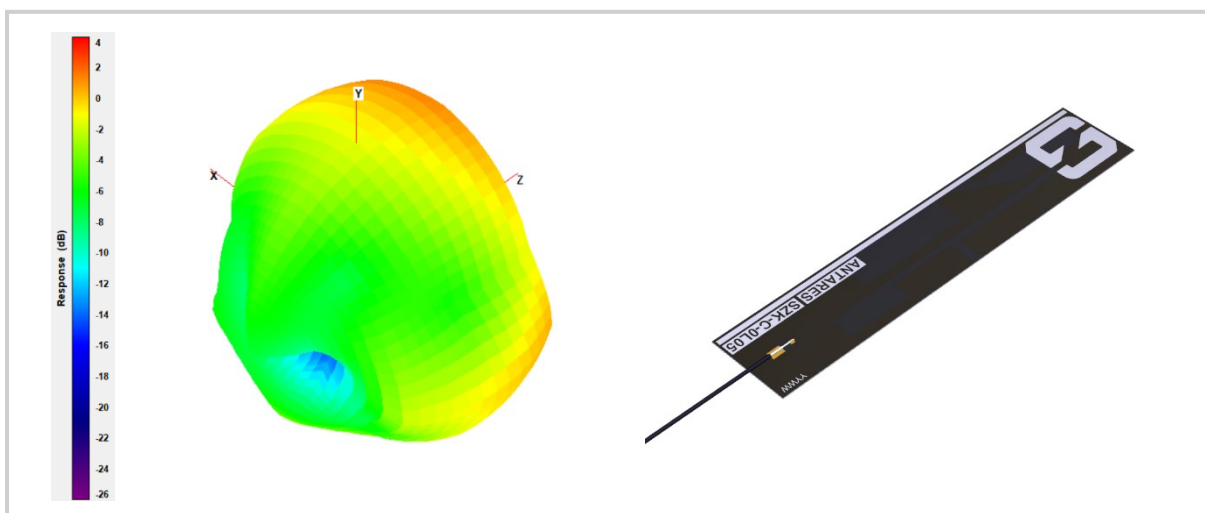
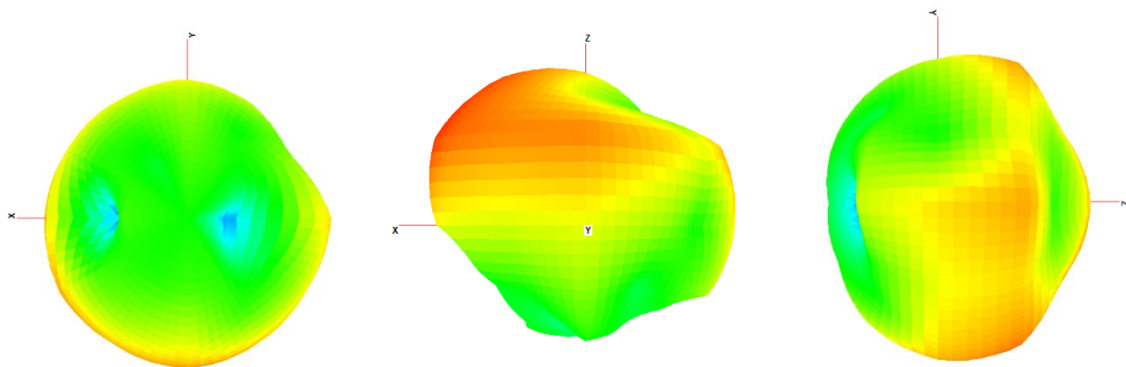
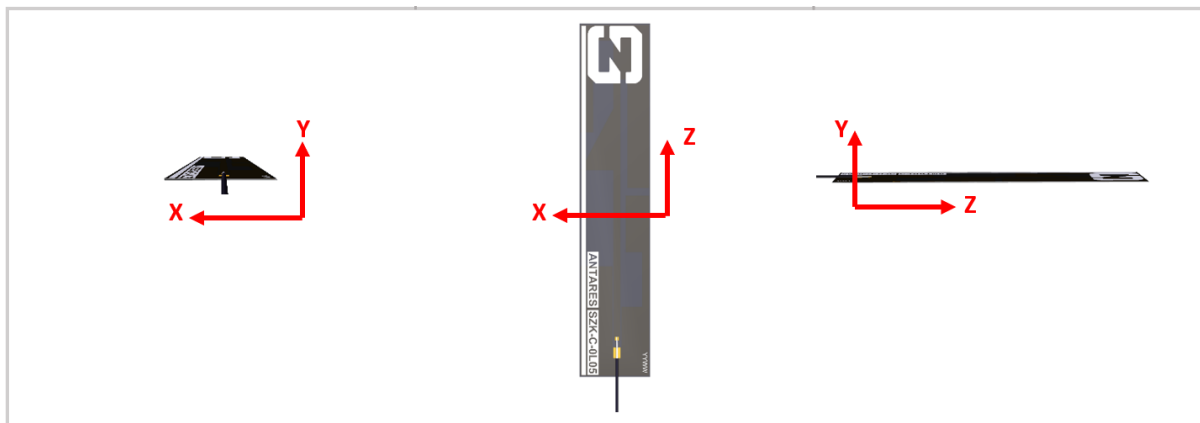




## Radiated Performance

### 3D Radiation Pattern at 2600MHz

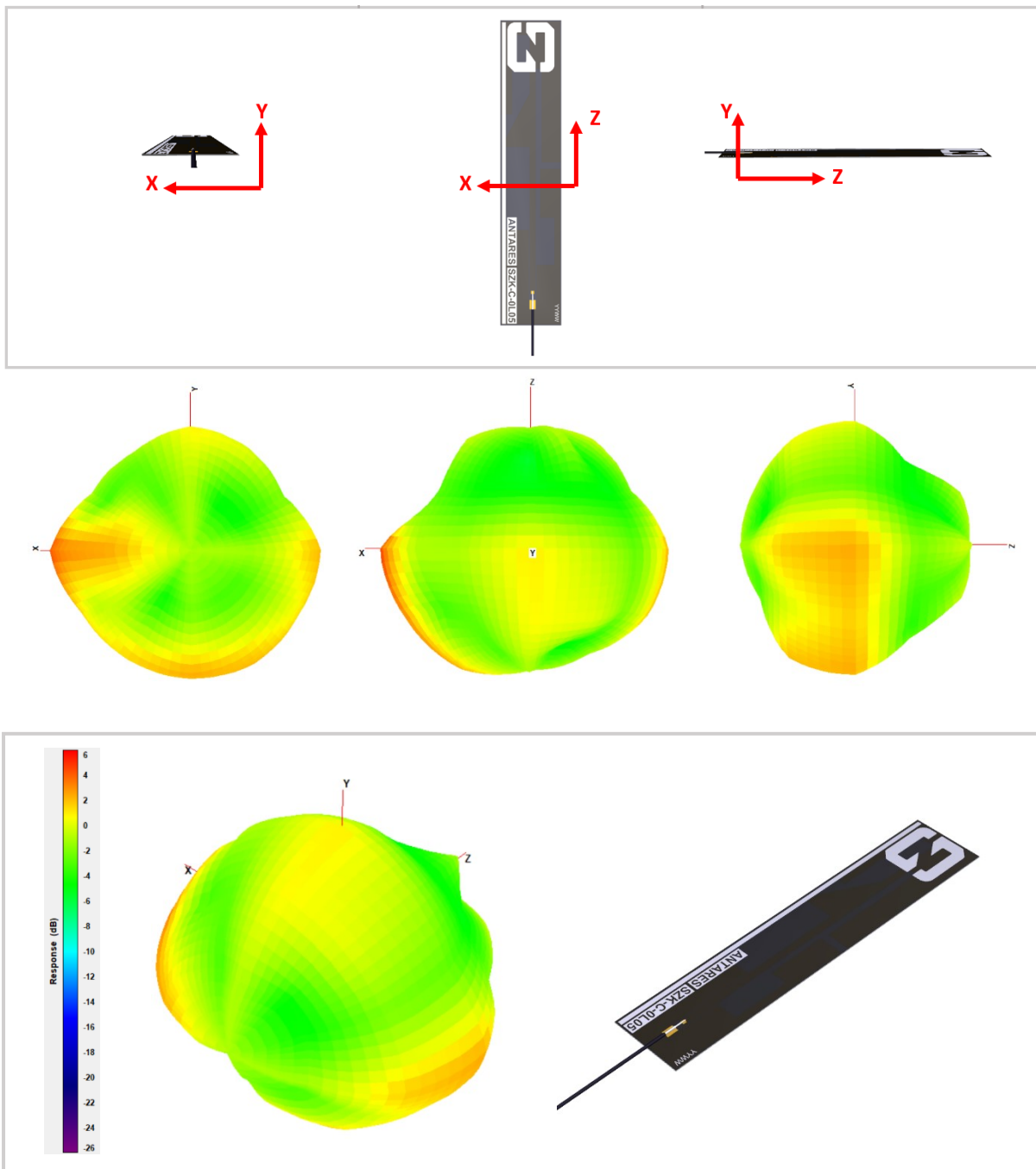
The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 2600MHz.



## Radiated Performance

### 3D Radiation Pattern at 3500MHz

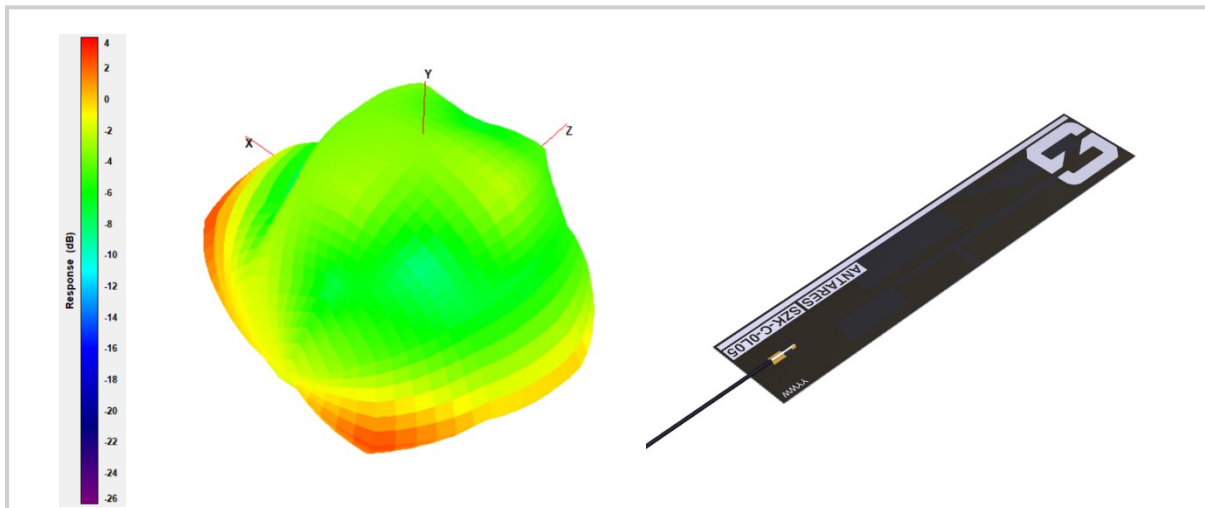
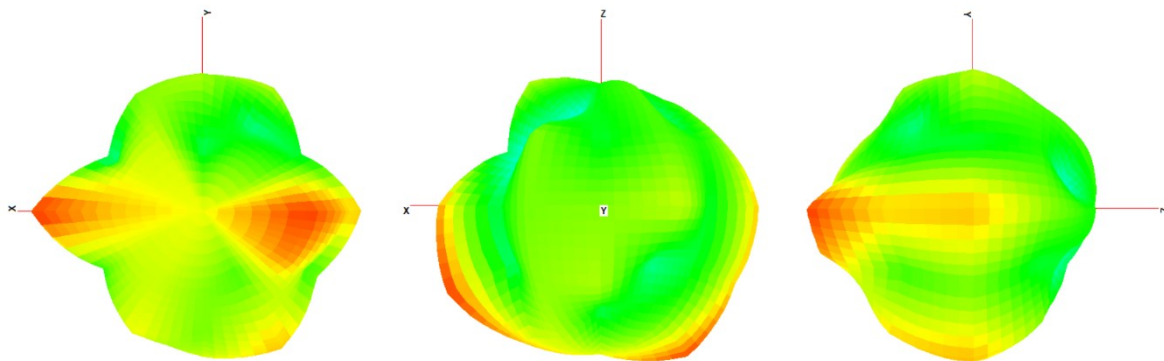
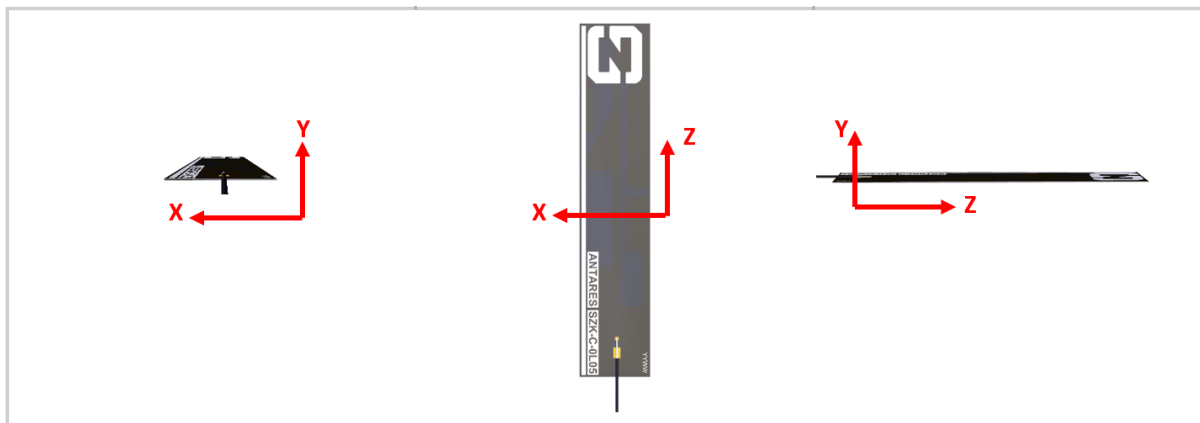
The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 3500MHz.



## Radiated Performance

### 3D Radiation Pattern at 4500MHz

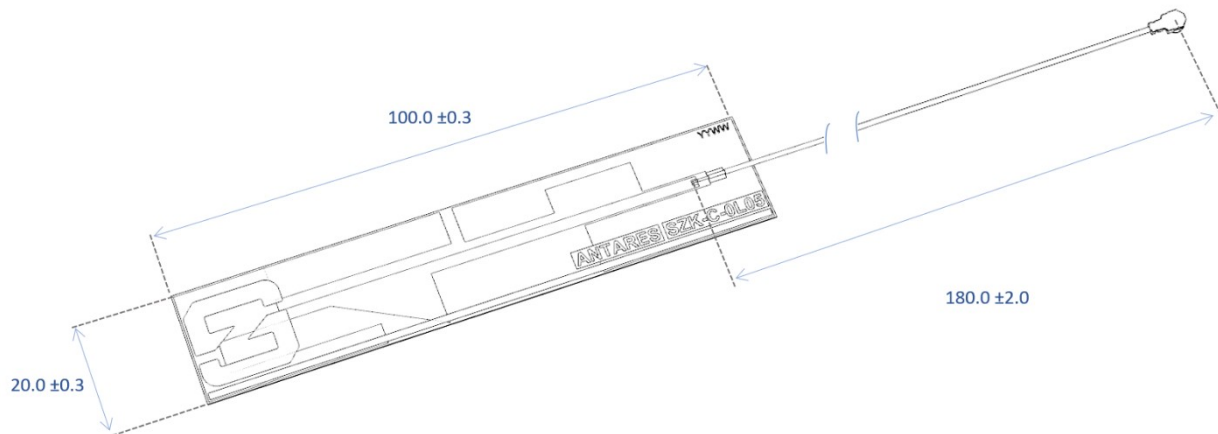
The data shown was measured on measured on 2.0mm ABS plastic, RF chokes used to prevent cable radiation. The frequency point shown here is 4500MHz.





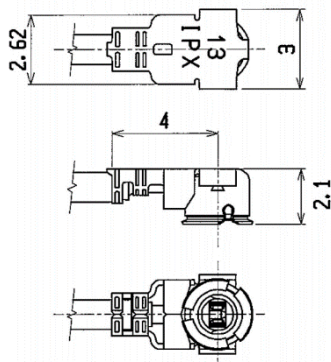
## Mechanical

### Antenna Mechanical Drawing



All dimensions in mm

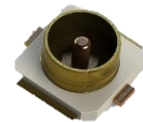
The plug connector on the antenna is an IPEX MHFI.



**Suitable PCB mating connector (U.FL) example**

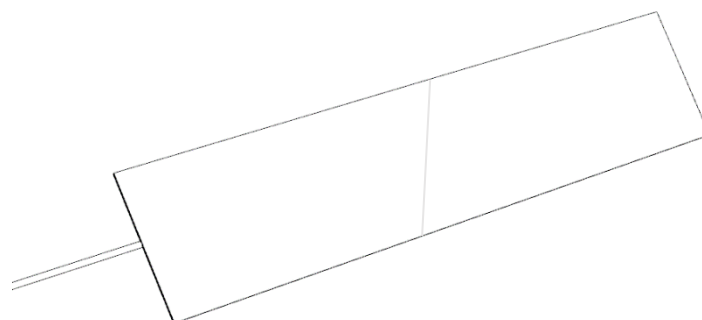
**Joymax:** Model: CT-MPB01X

[www.joymax.com.tw](http://www.joymax.com.tw)



### 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

### Bag and Packaging Information

Antennas Individually packed in PE bag (1 antenna per bag)





100pcs per larger PE bag with product label

Bag dimensions = 180 x 100(mm)



Label

		<b>SYNZEN</b>	
SYNZEN PRECISION TECHNOLOGY			
Part Number:	SZK-C-0L05		
			
Description :	5G LTE FPC Antenna		
Name:	ANTARES	<small>A3, 4F, No. 58, Zhouzi St, Neihu Dist., Taipei City, 11493, Taiwan Tel: +886 (02) 2659 8030 www.synzen.com.tw</small>	
Quantity:	1000		
Date code:	YYWW		

- 1000pcs per carton
- Carton dimensions = 33.7 x 32.2 x 10 (cm)





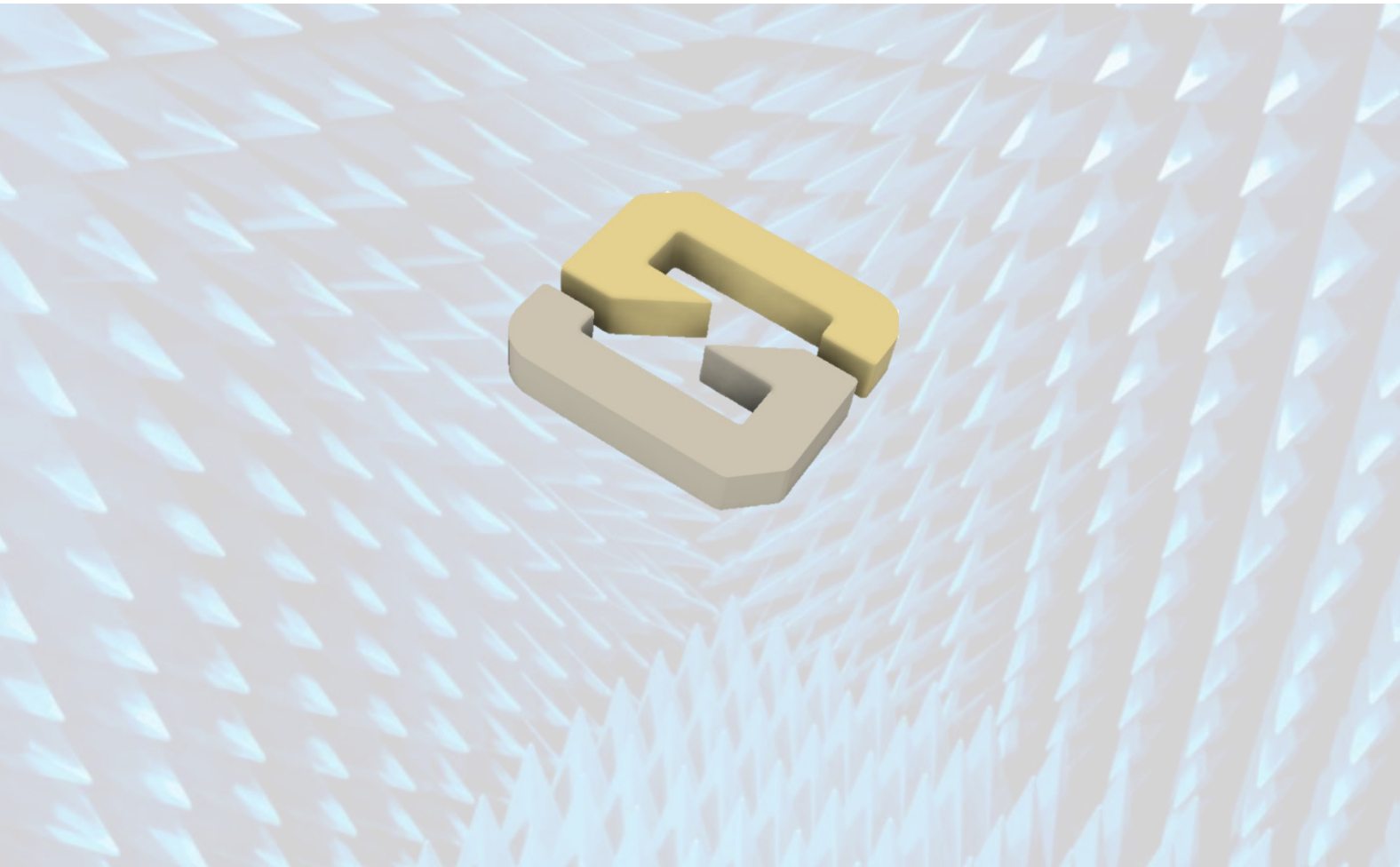
## Environmental

### Material Regulation

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



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