



**5G / 4G LTE / LTE450 FR4 Antenna with Cable**

**SZK-C-3L29**

450-470; 617-960; 1420-1660; 1710-2200; 2300-2400; 2500-2690; 3300-4200; 4400-5000MHz

**Description**

A Flexible antenna for 5G/4GLTE/LTE 450/NB-IoT/CATM applications. For use internal to a device which requires an integrated antenna solution. High performance with a small form factor for simple integration.

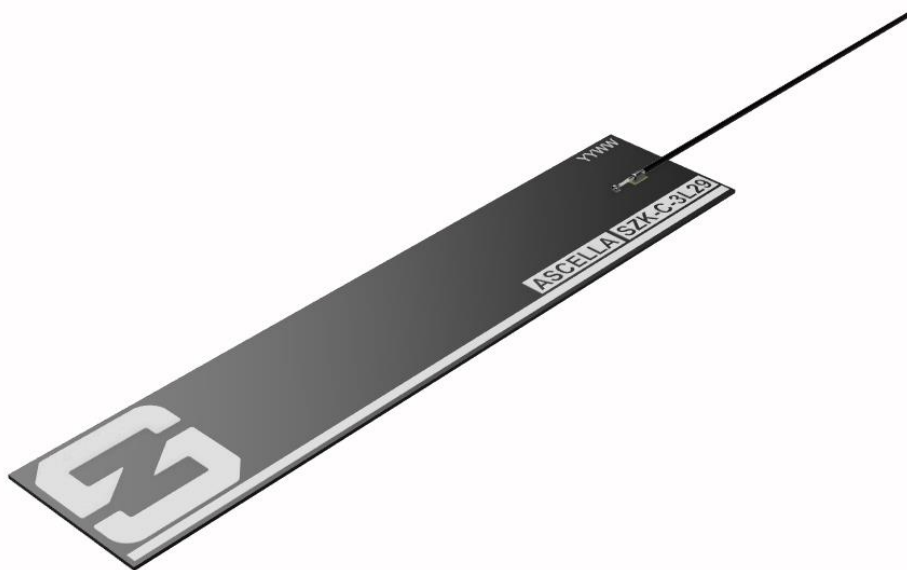
- For 5G/4G LTE/LTE450 and NB-IoT LTE Applications.
- Simple integration, plug and operate the device without designing onboard antenna.
- Small form factor of 100.0 x 20.0 x 0.60 (mm)
- Alternate cable lengths and connectors available upon request, contact [sales@synzen.com.tw](mailto:sales@synzen.com.tw)

**Applications**

Payment Terminals  
Smart Grid

M2M Industrial  
Healthcare

Smart Meters  
Tracking





## General Specifications

### Mechanical Specifications

Part Number	SZK-C-3L29
Name	ASCELLA
Dimensions	100.0 x 20.0 x 0.20 (mm)
Weight	<0.5g
Antenna Type	FR4 Self-Adhesive
Cable Length	300mm
Cable type	Mini Coax $\varnothing$ 1.13mm
Connector	MHFI (U. FL Compatible)
Adhesive backing	3M 468

### RF Specifications

5G/4G LTE/NB-IoT Bands	Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBi)	Impedance	Polarization
B31	450-470	>20	-4.40	50 $\Omega$	Linear
B5,8,12,13,14,18,19,20,26,27,28,85	617-960	>50	3.70		
B11,21,32,74	1427-1660	>50	3.30		
B1,2,3,4,9,23,35,39,66	1710-2200	>50	1.40		
B40	2300-2400	>50	2.90		
B7,38,41	2500-2690	>50	3.20		
B42,43,48,77,78	3300-4200	>70	6.20		
B79	4400-5000	>40	4.90		

### Environmental Specifications

Operational Temperature	-40 to +85 (°C)
Storage Temperature	-10 to +40 (°C)
Relative Humidity	≤75%



## 4G LTE Bands

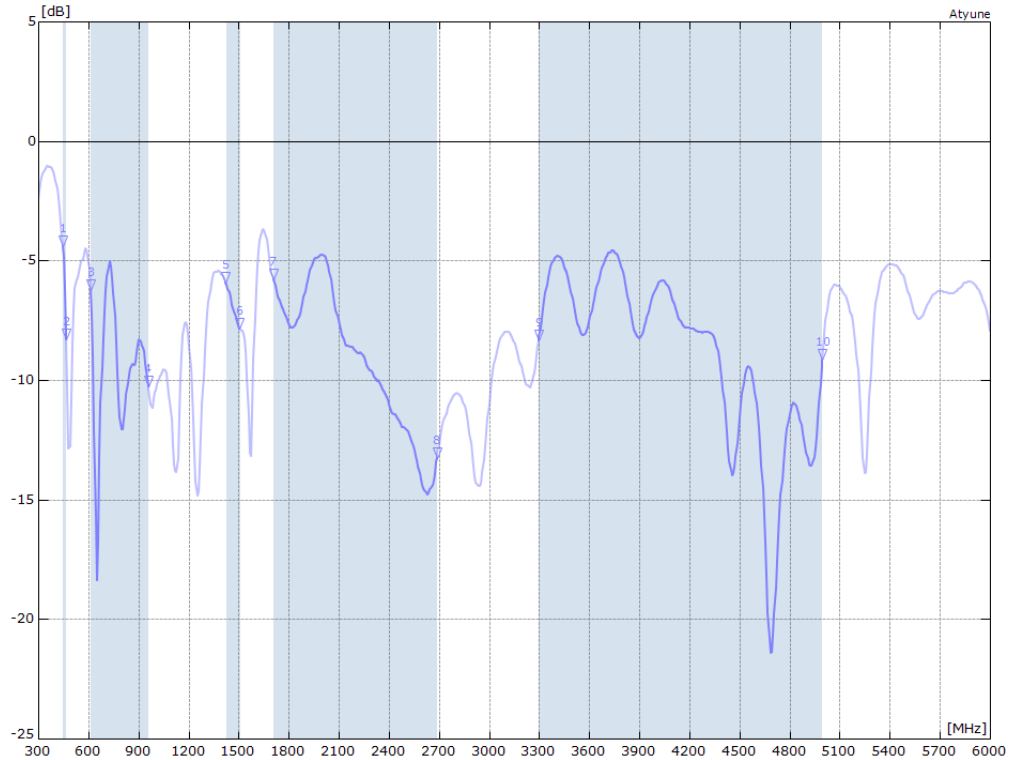
### Supported Band List

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	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	YES
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		No
47	5900	5855-5925		No
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
85		698-716	728-746	YES

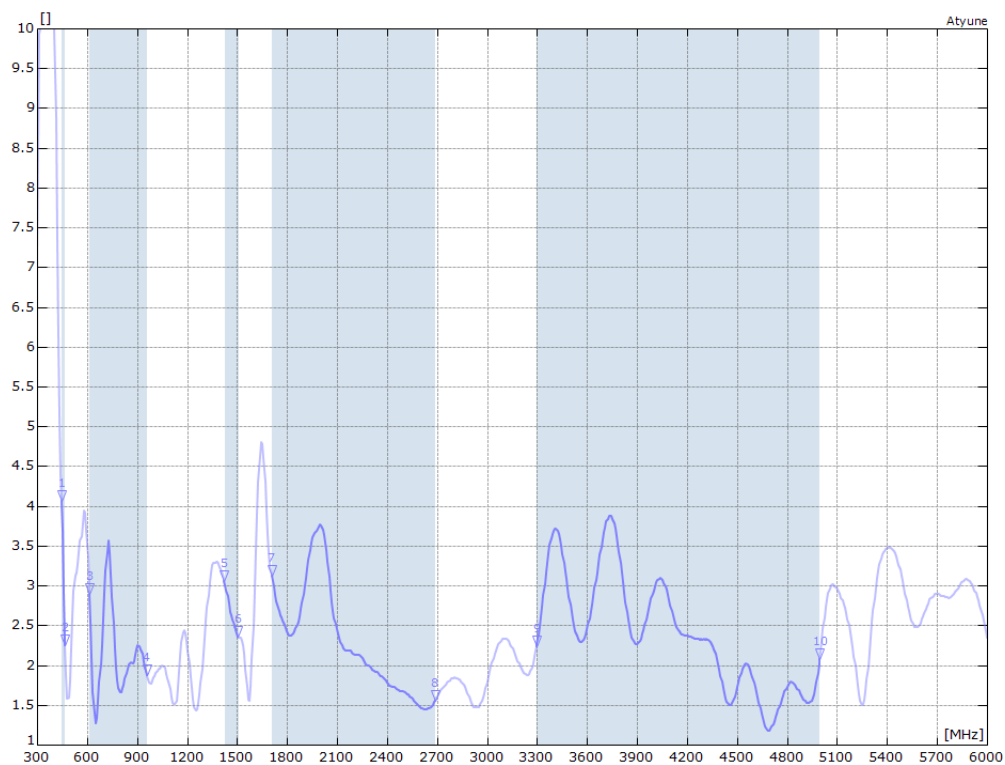


## RF Characteristics

### S11 Parameter



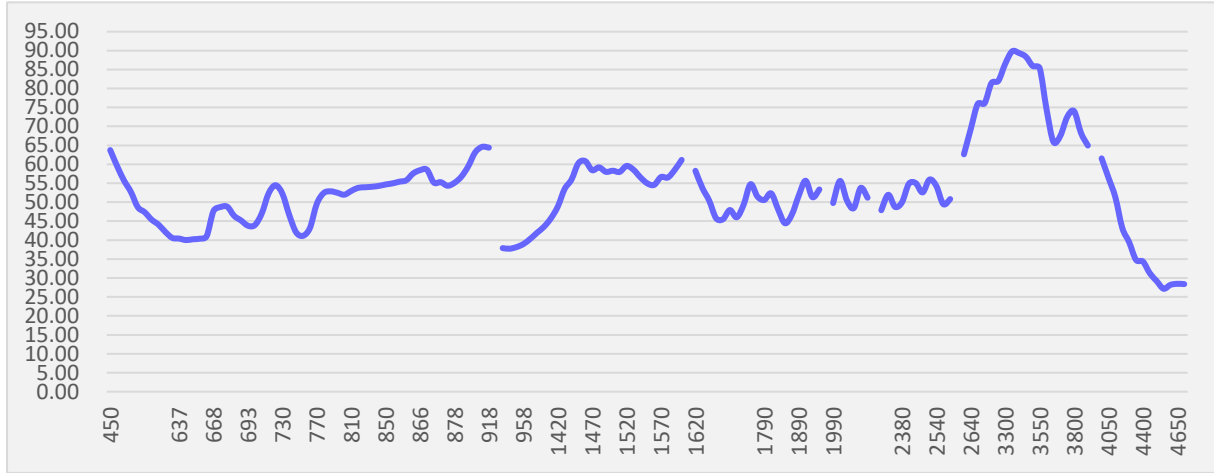
### VSWR



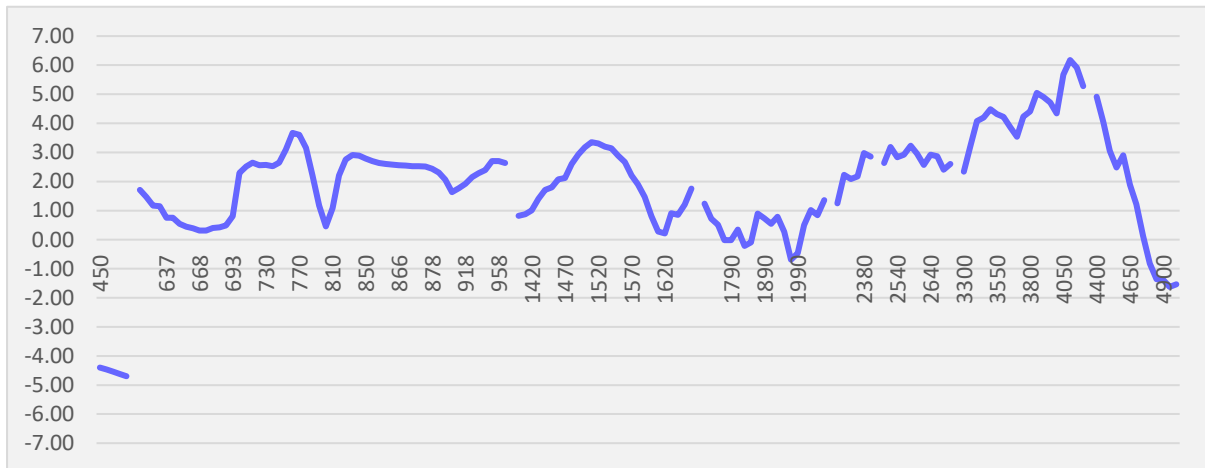


## Antenna Performance

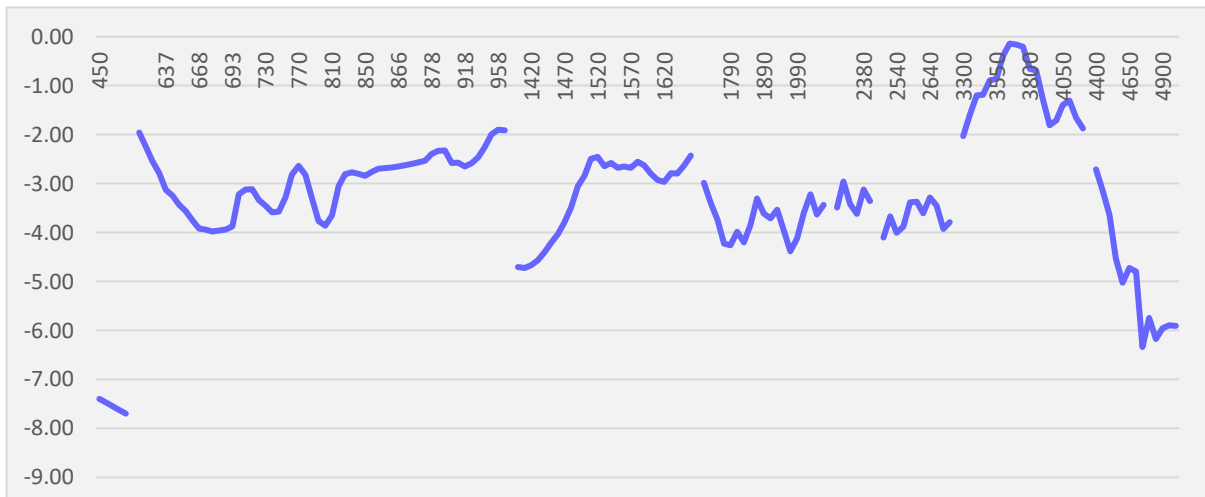
### Efficiency



### Peak Gain



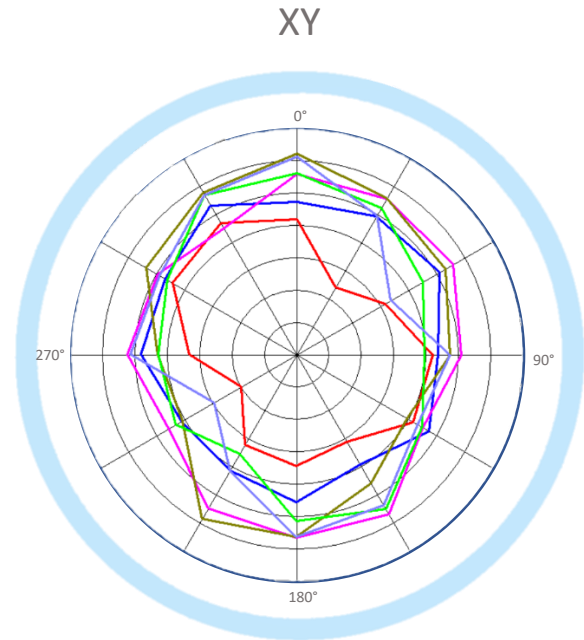
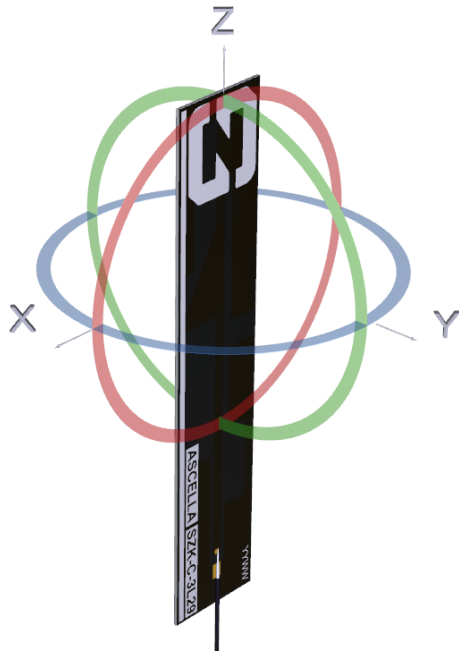
### Average Gain



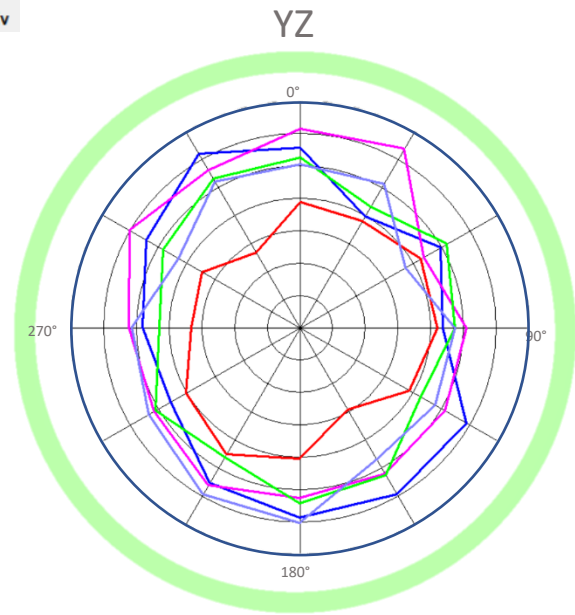
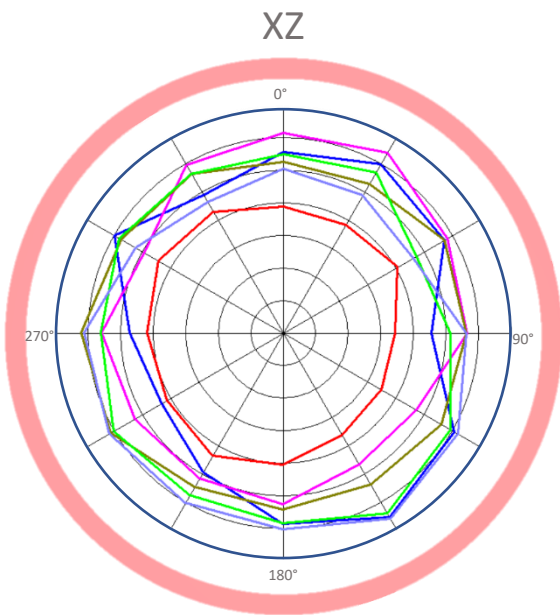


# Radiated Performance

## 2D Polar Plot 698-2690MHz



440	Max: 5
714	Min: -30
870	Scale: 5/div
1870	
2380	
2600	

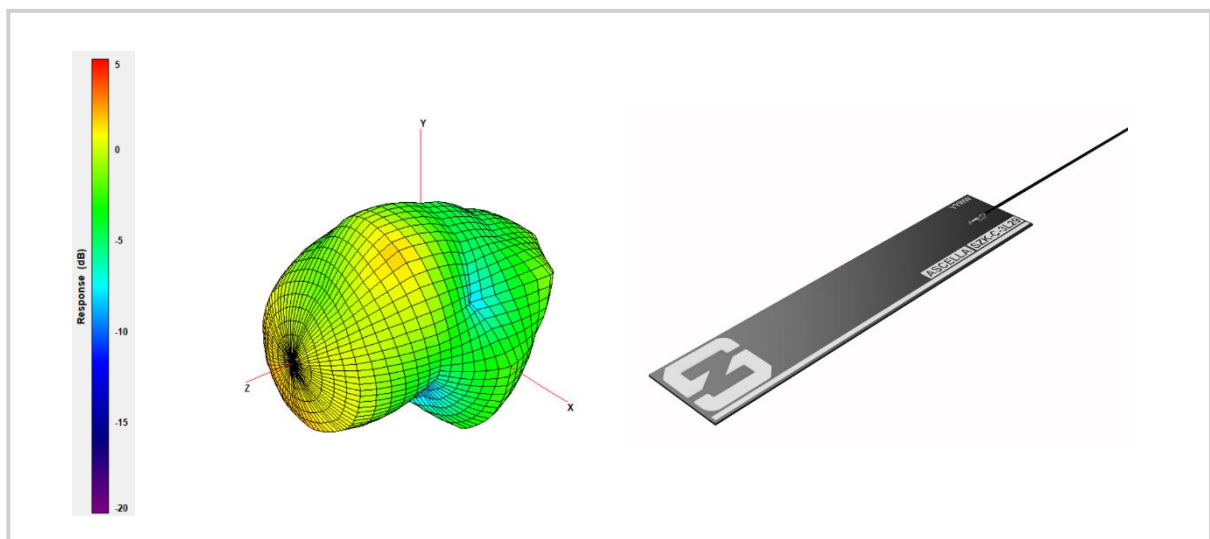
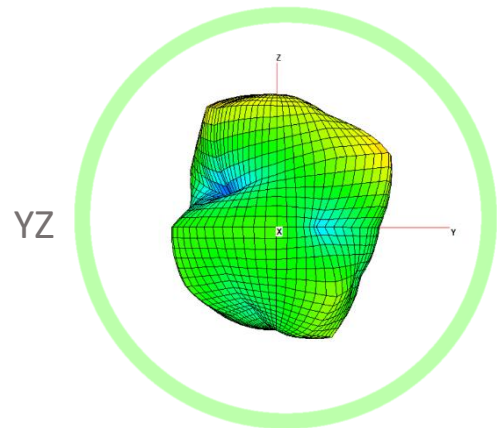
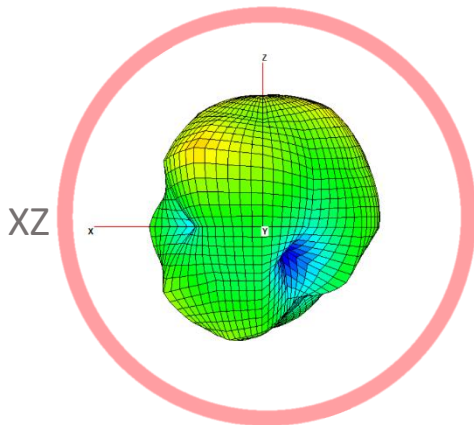
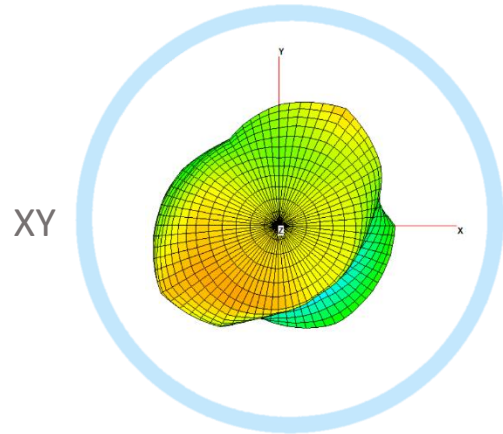
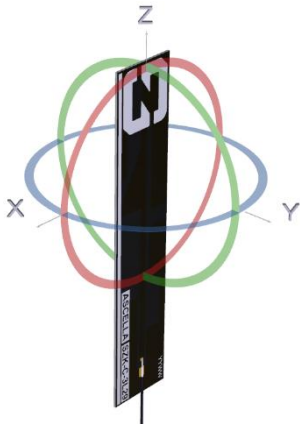




## Radiated Performance

### 3D Radiation Pattern at 880MHz

The frequency point shown here is 880MHz.

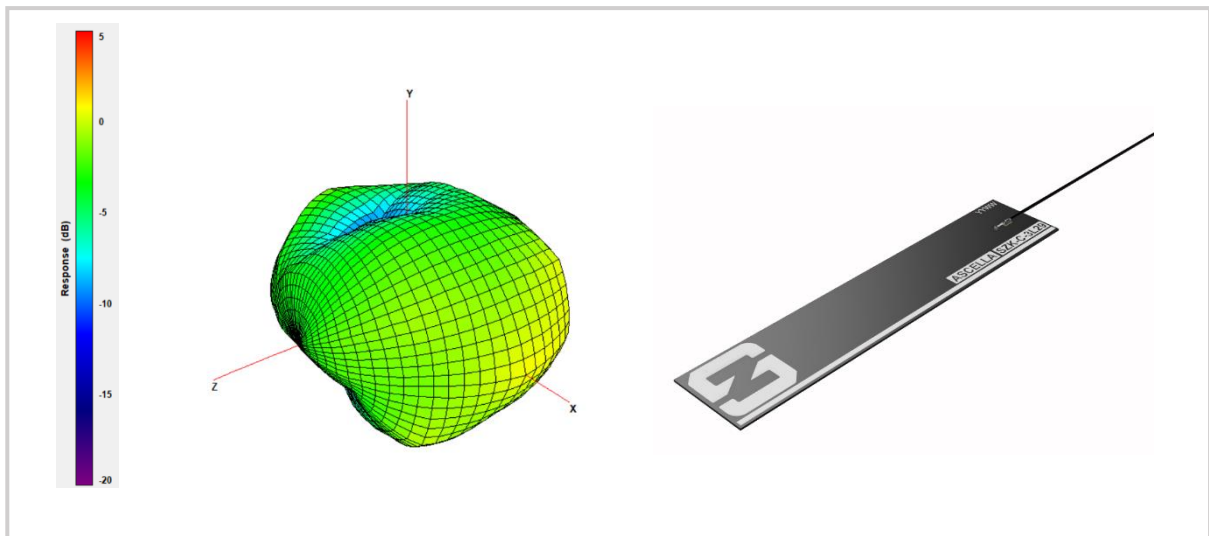
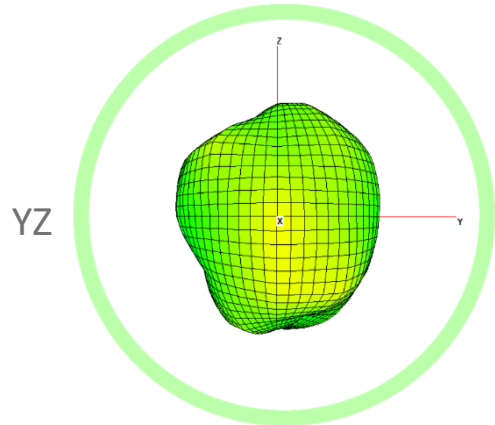
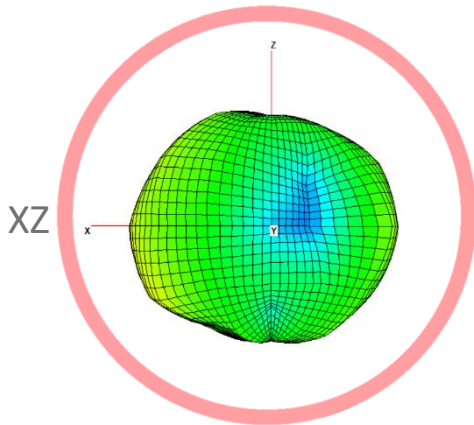
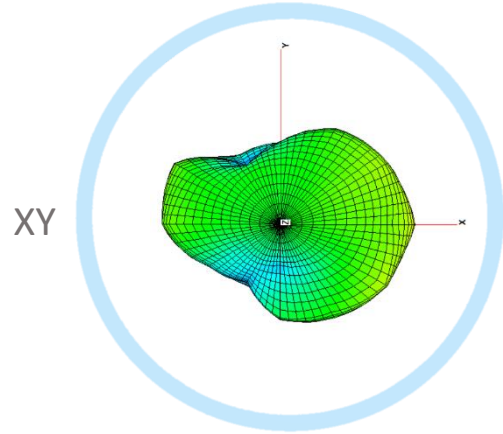
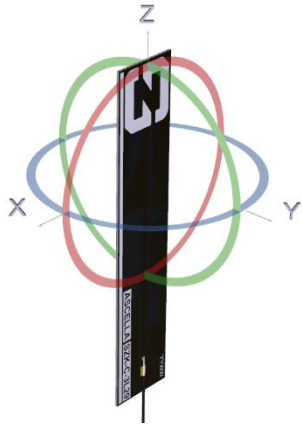




## Radiated Performance

### 3D Radiation Pattern at 1880MHz

The frequency point shown here is 1880MHz.



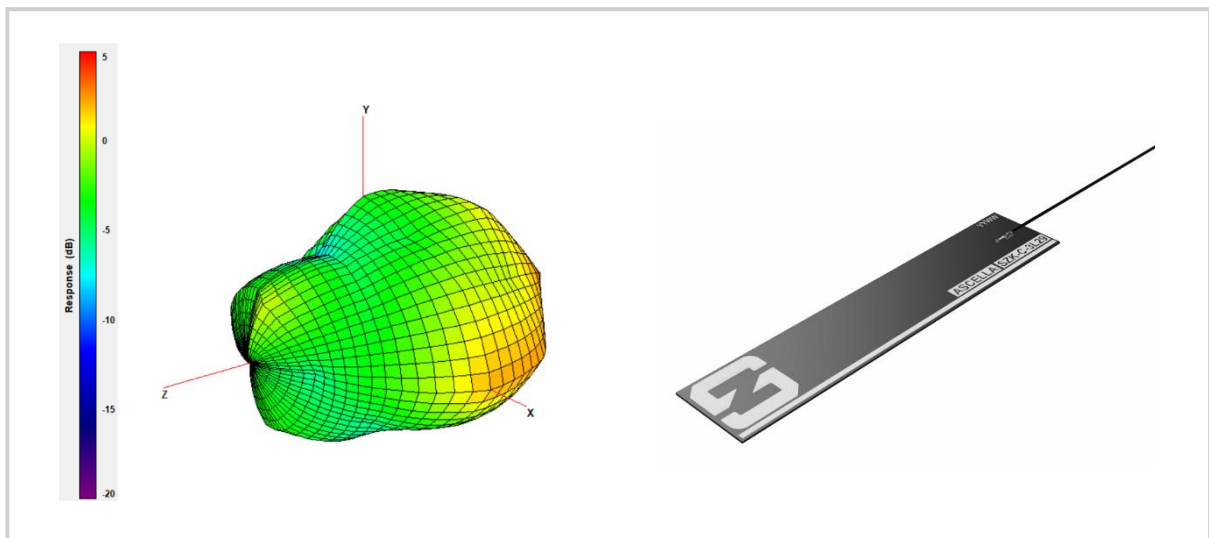
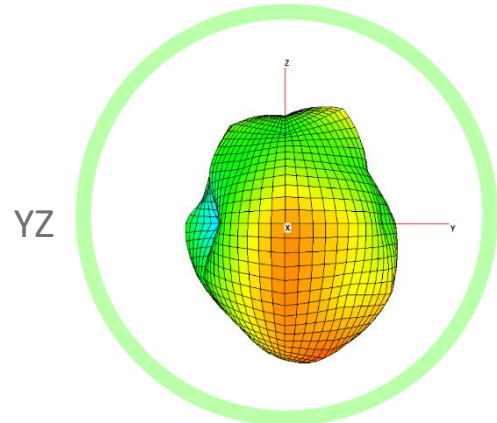
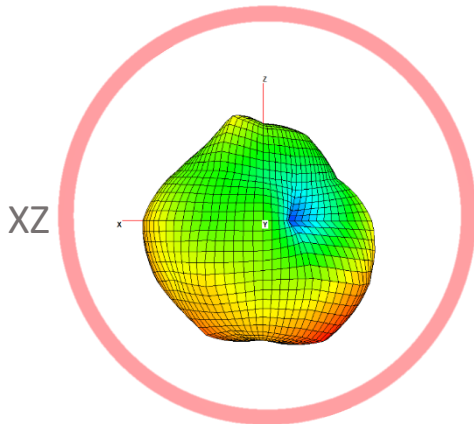
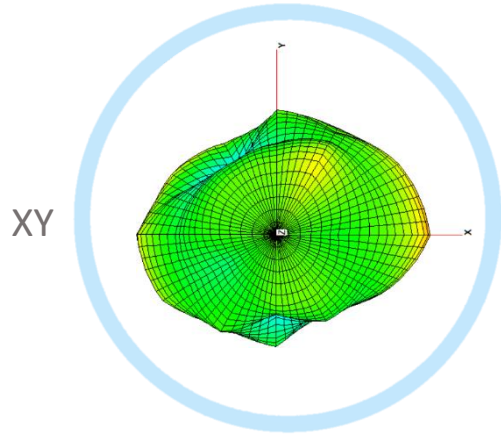
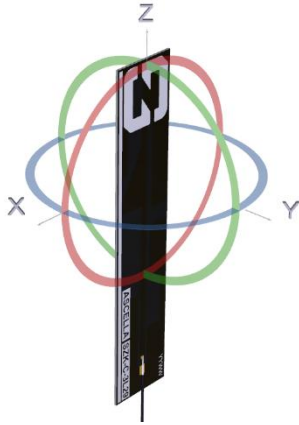




## Radiated Performance

### 3D Radiation Pattern at 2600MHz

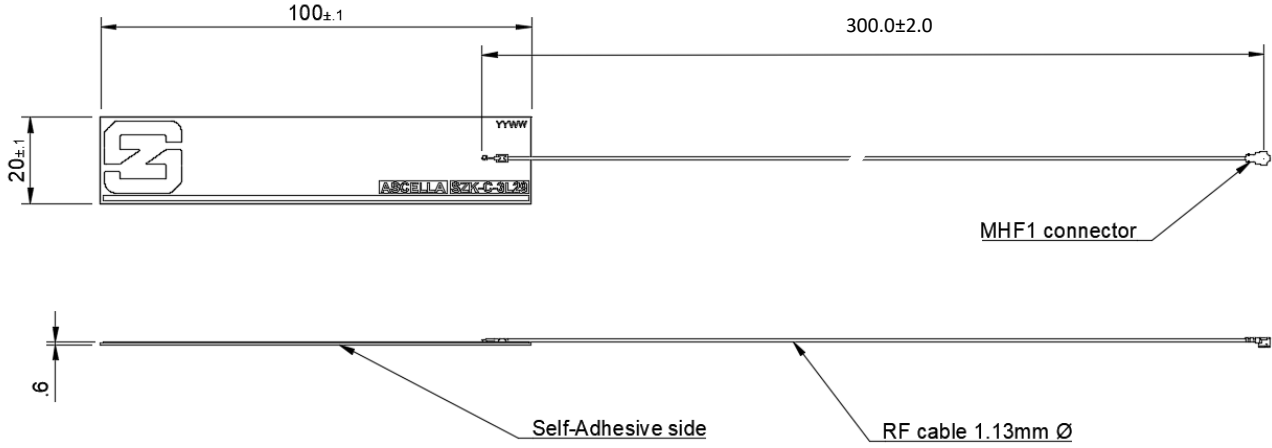
The frequency point shown here is 2600MHz.





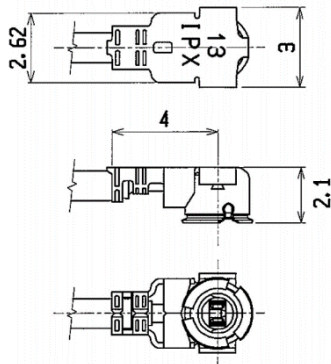
## Mechanical

### Antenna Mechanical Drawing



All Dimensions in mm

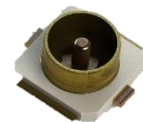
The plug connector on the antenna is an IPEX MHFI.



**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 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)

		<b>SYNZEN</b>
		SYNZEN PRECISION TECHNOLOGY
Part Number:	SZK-C-3L29-300-01	
		
Description :	5G/LET450 FR4 Antenna 300mm cable MHFI	
Name:	ASCELLA	A3, 4F, No. 58, Zhouzi St, Neihu Dist., Taipei City, 11493, Taiwan
Quantity:	100	Tel: +886 (02) 2659 8030
Date Code:	YYWW	www.synzen.com.tw

#### Label

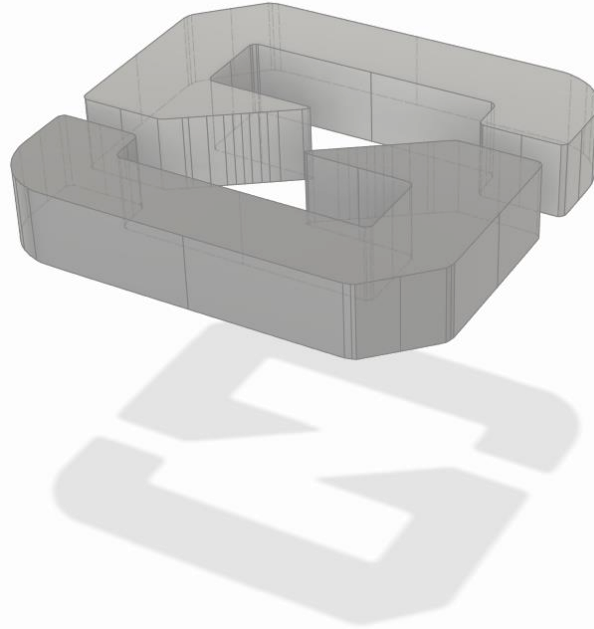
1. 1000pcs per carton
2. Carton dimensions = 33.7 x 32.2 x 10 (cm)



## 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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