



4G LTE / NB-IoT FPC Antenna

SZK-C-2L20

698-960; 1710-2200; 2300-2400; 2500-2690MHz

Description

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

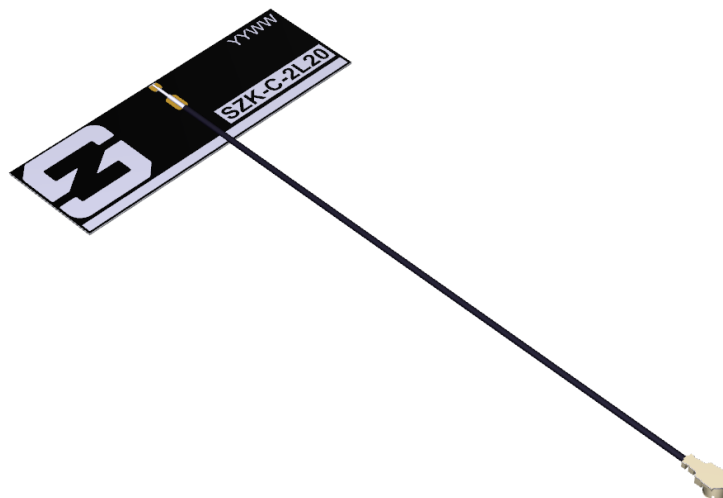
- For 4G and NB-IoT LTE Applications.
- High performance yet ultra-small
- Simple integration, plug and operate the device without designing onboard antenna.
- Small form factor of 44.0 x 15.0 x 0.20 (mm)
- Alternate cable lengths and connectors available upon request, contact sales@synzen.com.tw

Applications

Payment Terminals
Smart Grid

M2M Industrial
Healthcare

Smart Meters
Tracking





General Specifications

Mechanical Specifications

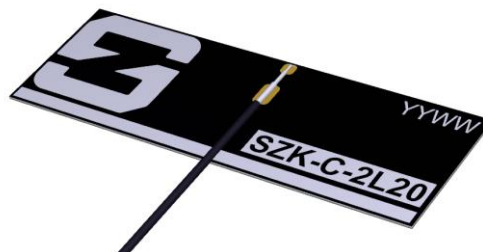
Part Number	SZK-C-2L20
Name	PETRA
Dimensions	44.0 x 15.0 x 0.20 (mm)
Weight	<0.5g
Antenna Type	FPC Self-Adhesive
Cable Length	150mm
Cable type	Mini Coax \varnothing 1.13mm
Connector	MHFI (U. FL Compatible)
Adhesive backing	3M 468

RF Specifications

4G LTE/NB-IoT Bands	Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBi)	Impedance	Polarization
B5,8,12,13,14,18,19,20,26,27,28,85	698-960	>55	3.35	50 Ω	Linear
B1,2,3,4,9,23,35,39,66	1710-2200	>50	2.37		
B40	2300-2400	>50	2.21		
B7,38,41	2500-2690	>55	2.59		

Environmental Specifications

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





4G LTE Bands

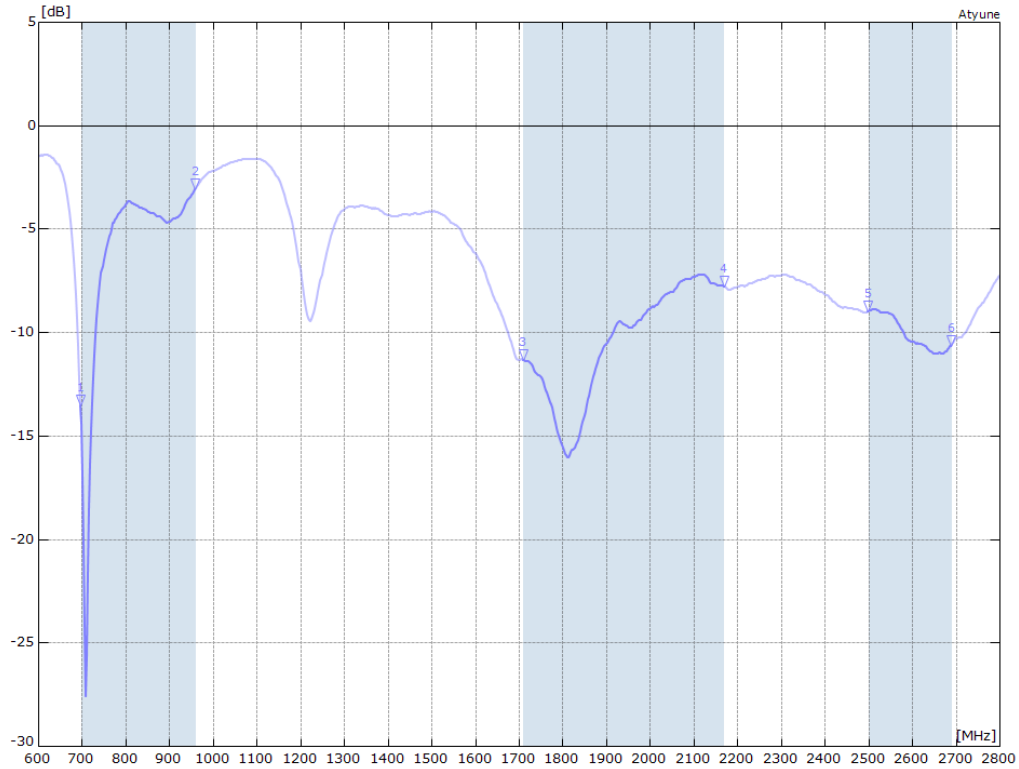
Supported Band List

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	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	YES
22	3500	3410-3490	3510-3590	YES
24	1600	1626.5-1660.5	1525-1559	NO
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	NO
43	3700		3600-3800	NO
44	700		703-803	YES
45	1500		1447-1467	NO
46	5200		5150-5925	NO
47	5900		5855-5925	NO
48	3600		3550-3700	NO
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	NO
74			1427-1518	NO
77			3300-4200	NO
78			3300-3800	NO
79			4400-5000	NO
85		698-716	728-746	YES

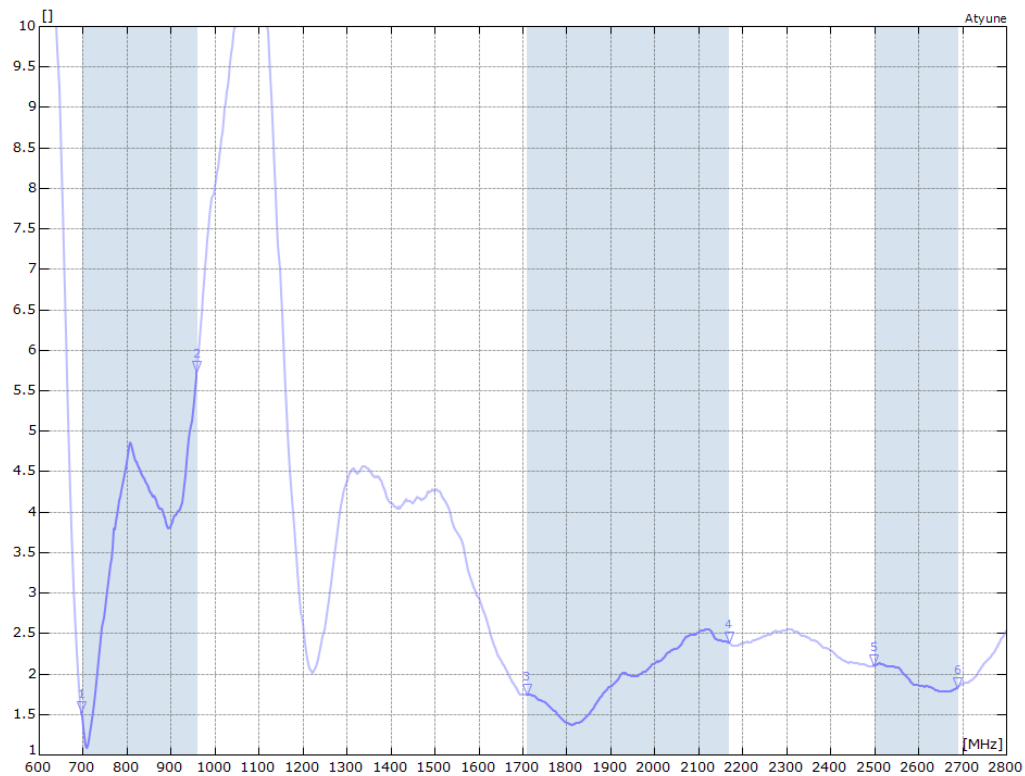


RF Characteristics

S11 Parameter



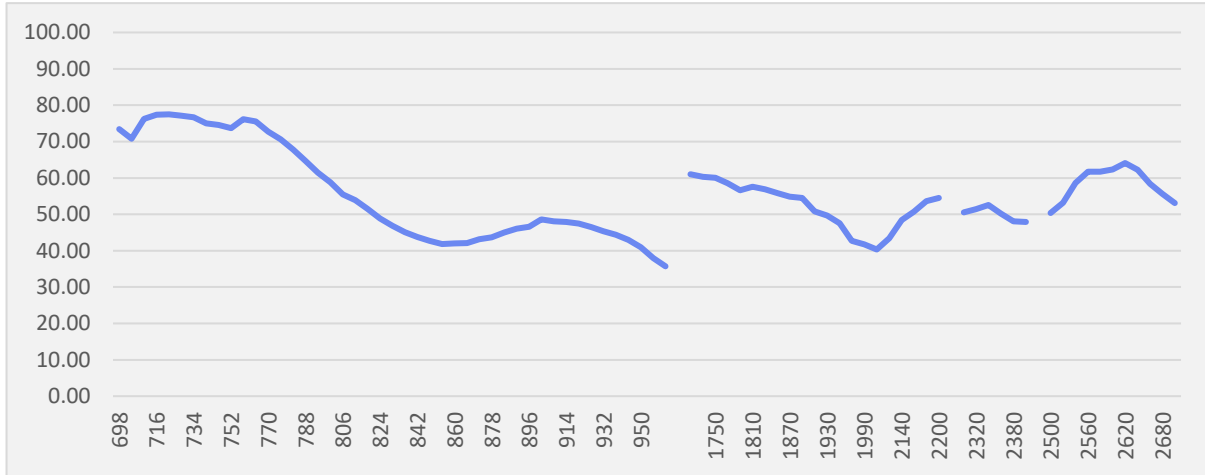
VSWR



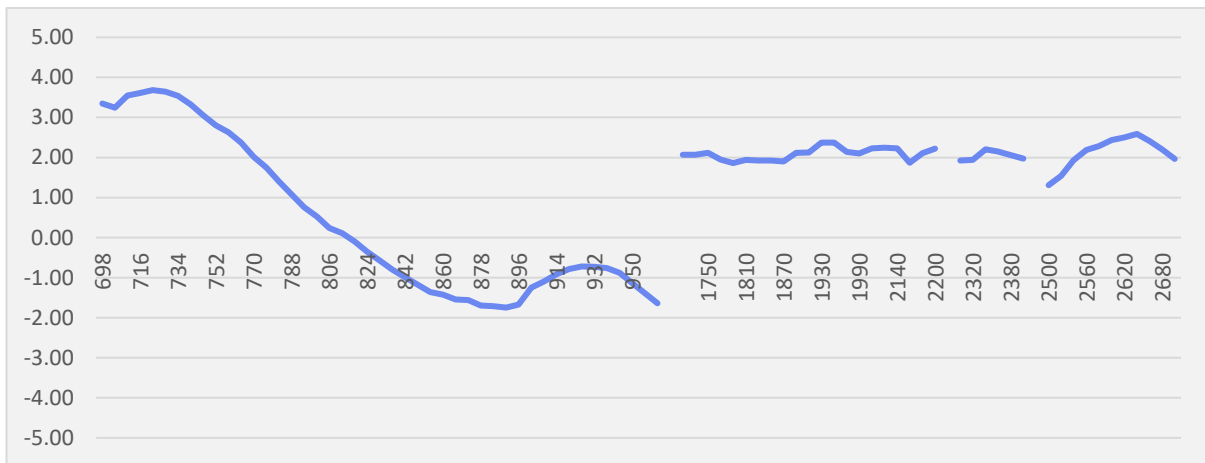


Antenna Performance

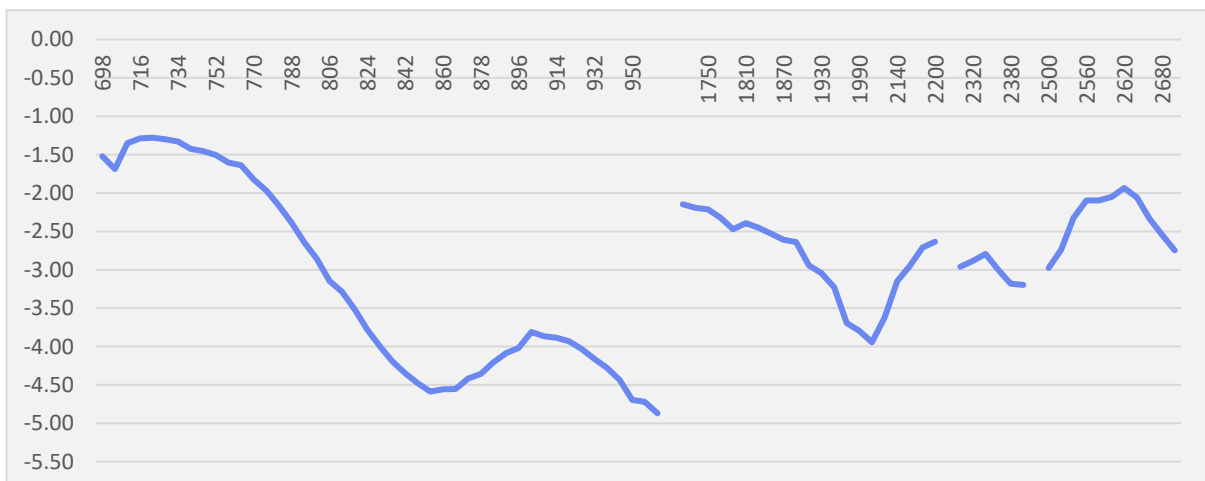
Efficiency



Peak Gain



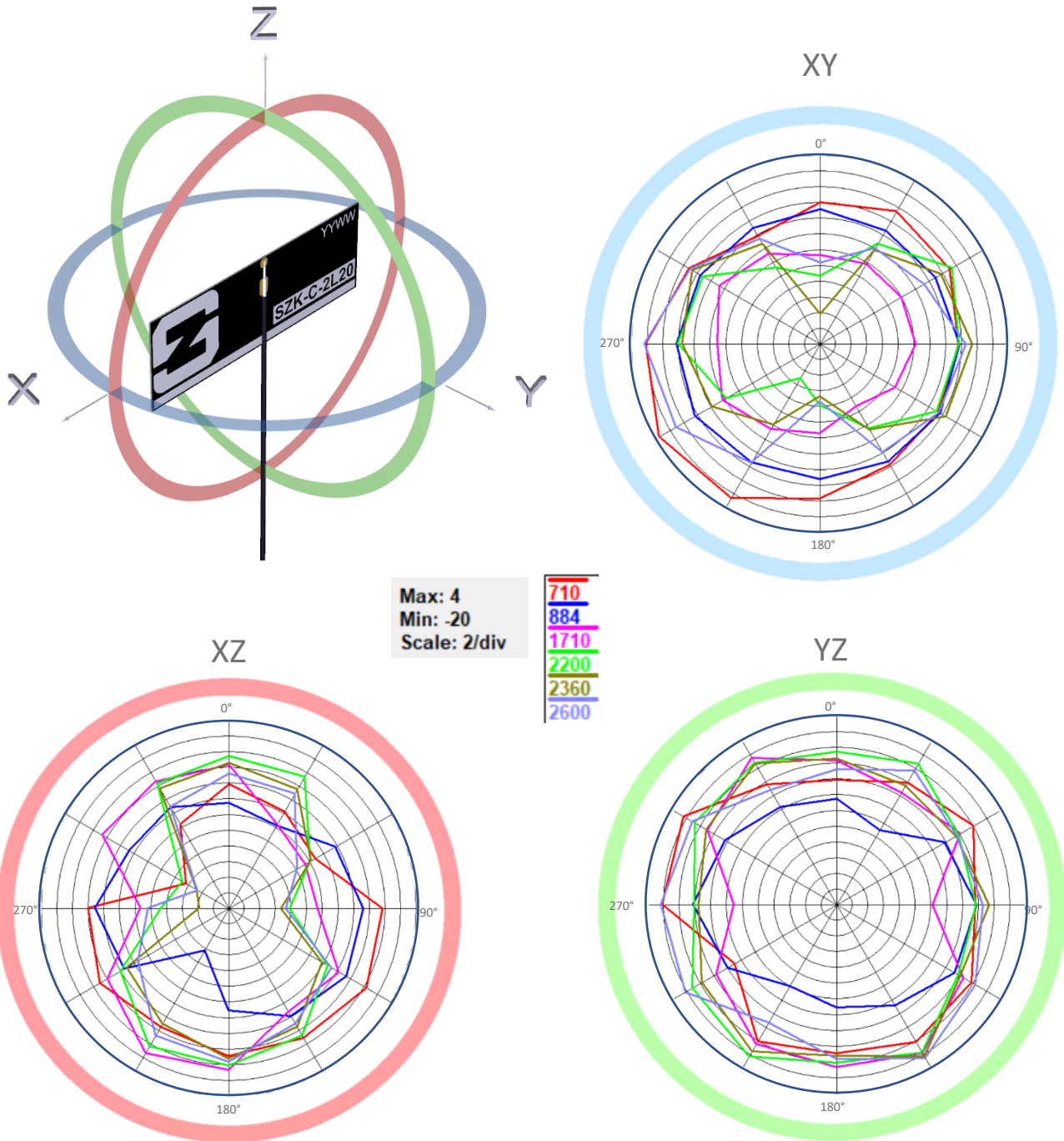
Average Gain





Radiated Performance

2D Polar Plot 698-2690MHz

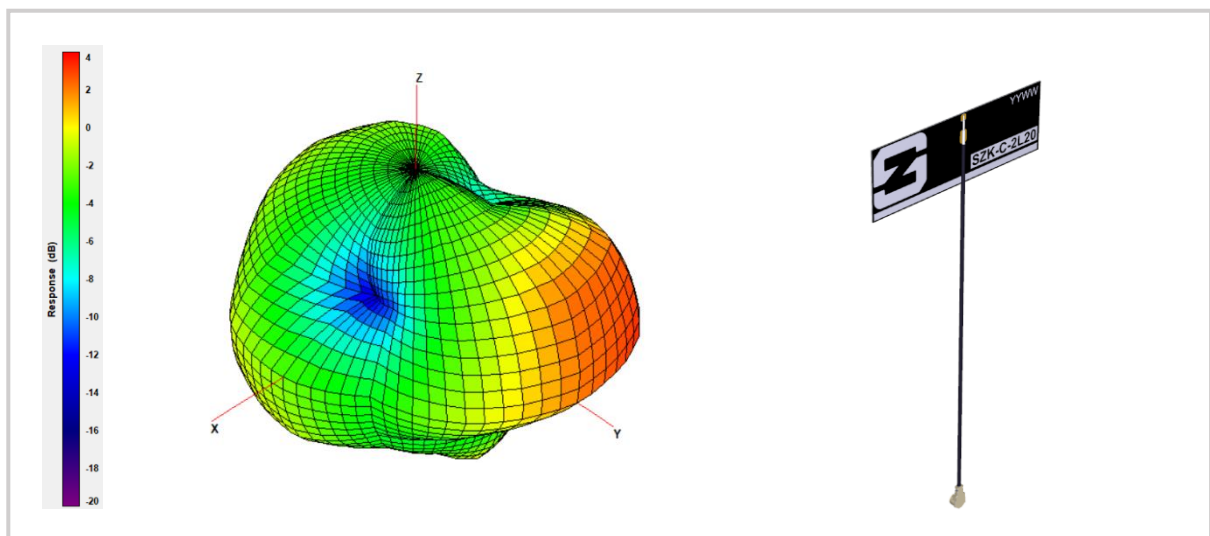
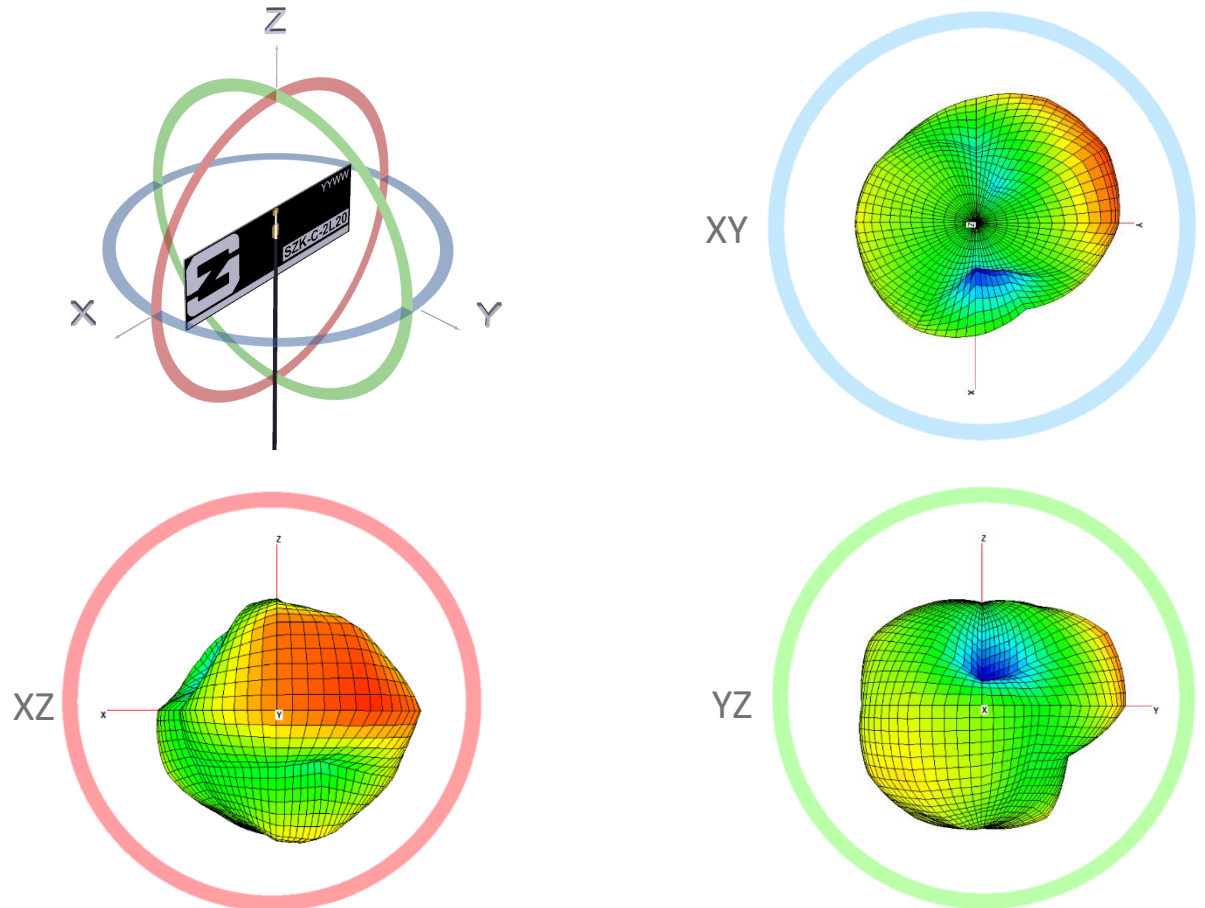




Radiated Performance

3D Radiation Pattern at 714MHz

The frequency point shown here is 714MHz.

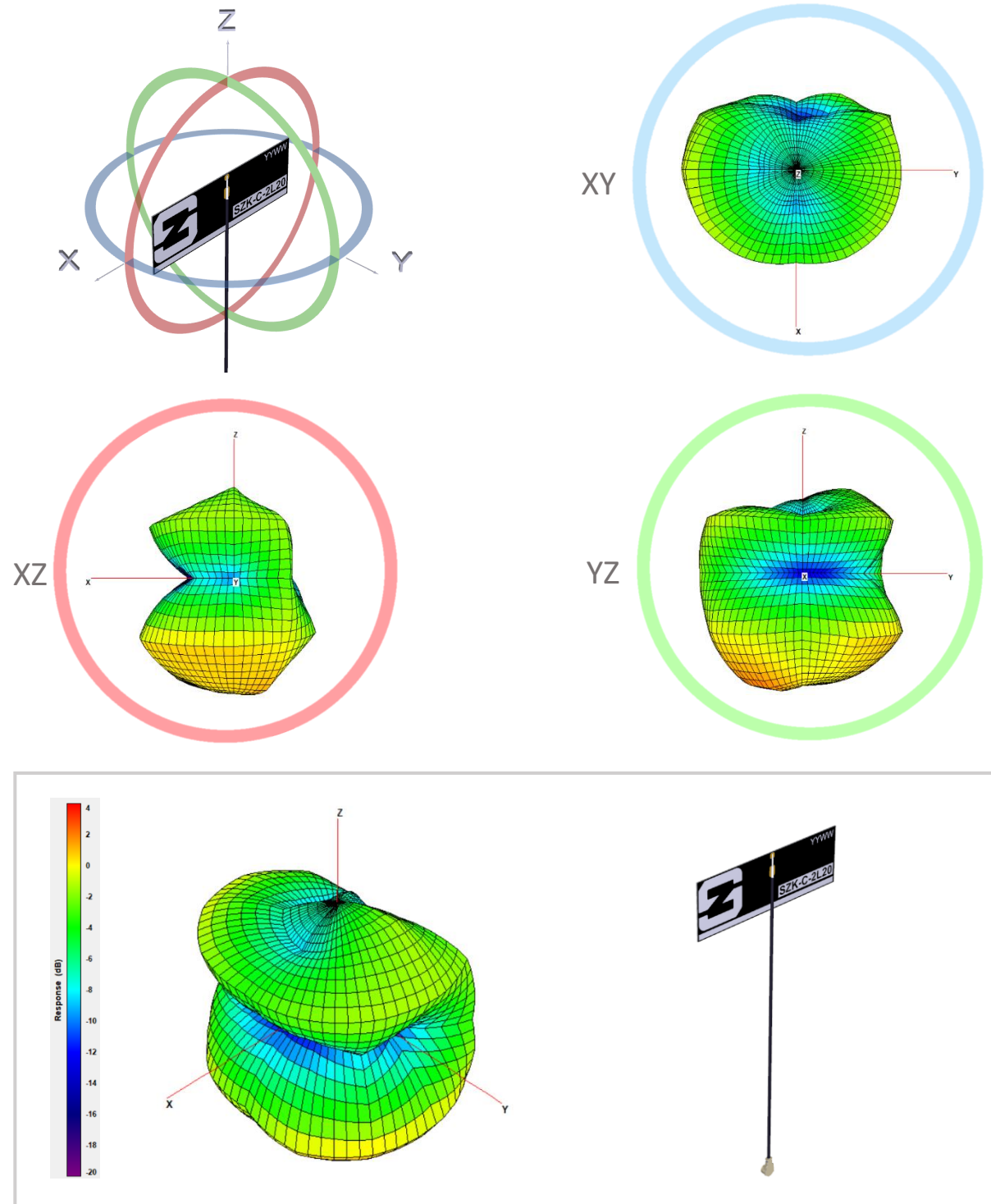




Radiated Performance

3D Radiation Pattern at 1880MHz

The frequency point shown here is 915MHz.

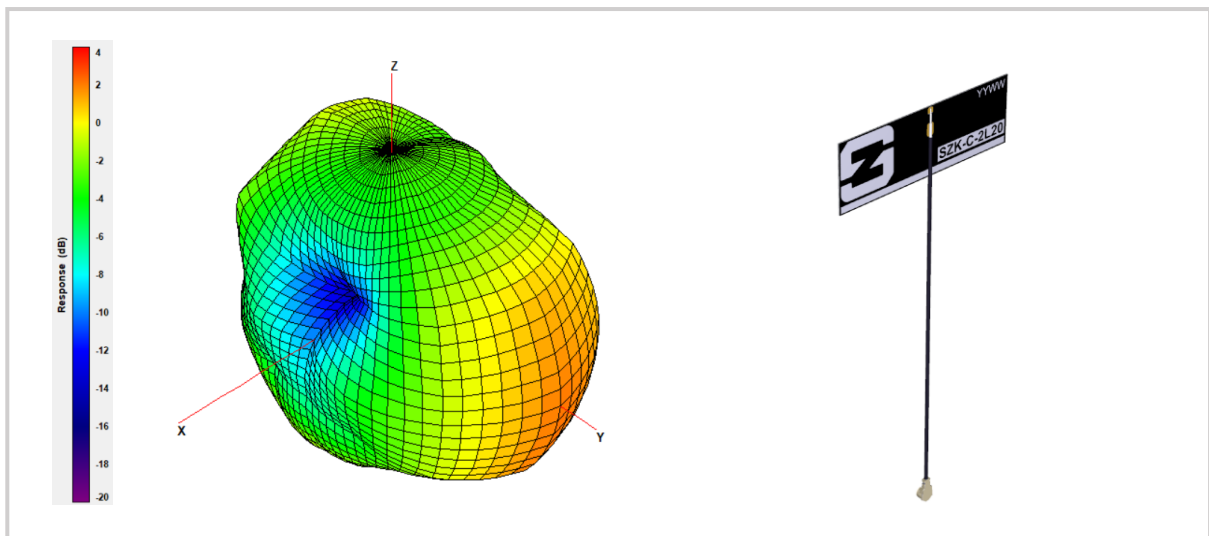
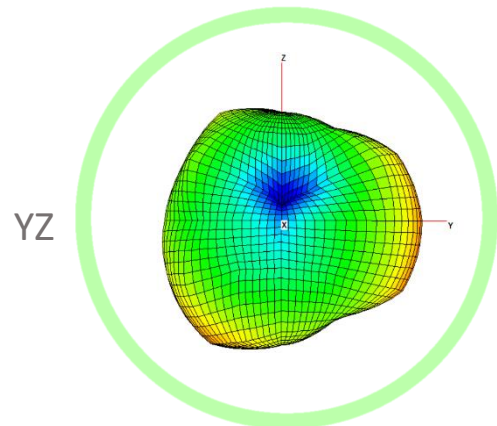
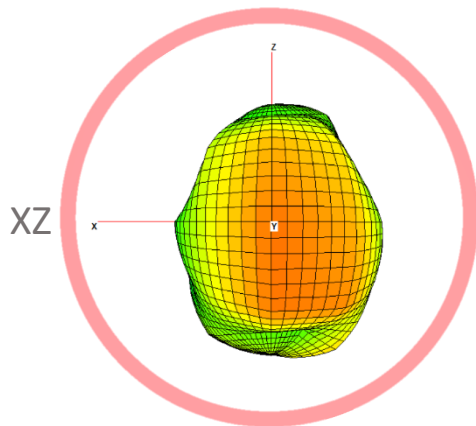
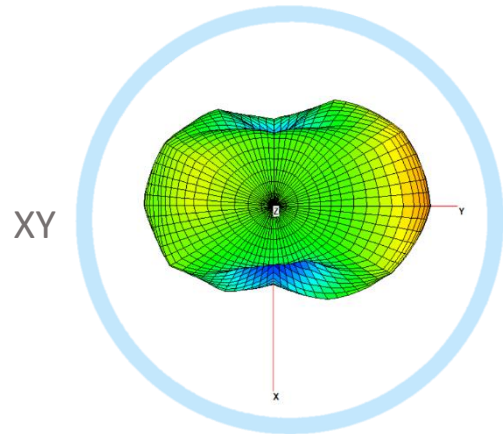
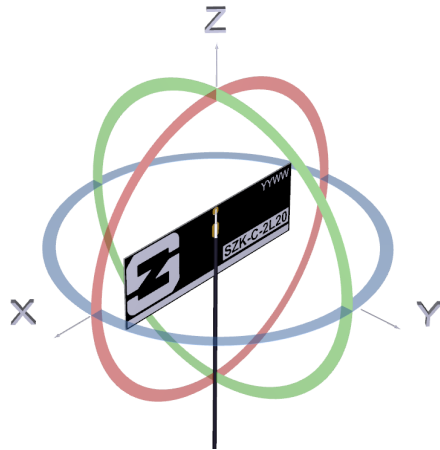




Radiated Performance

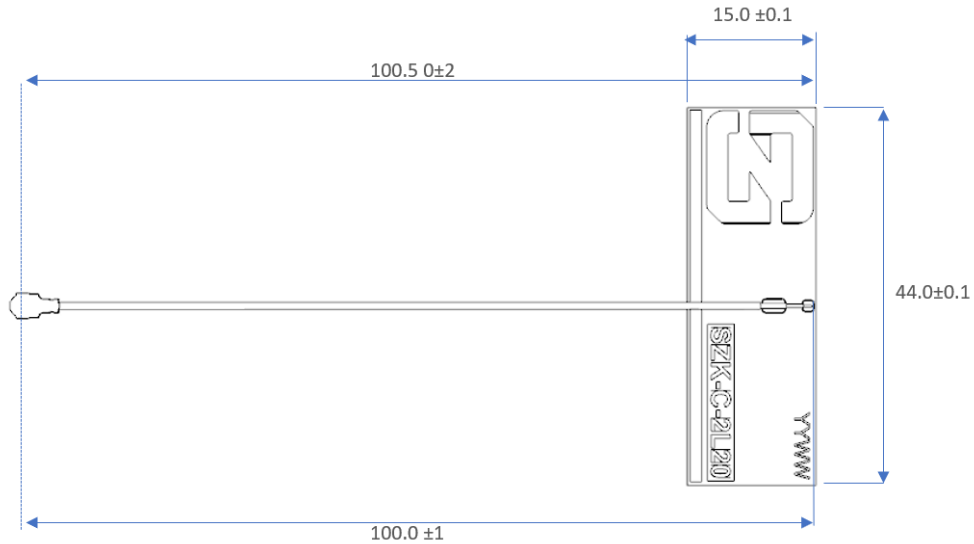
3D Radiation Pattern at 2600MHz

The frequency point shown here is 2600MHz.



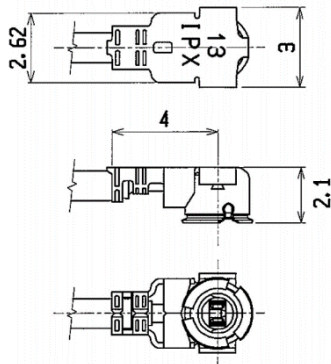
Mechanical

Antenna Mechanical Drawing



All Dimensions in mm

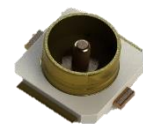
The plug connector on the antenna is an IPEX MHFI.



Suitable PCB mating connector (U.FL) example

Joymax: Model: CT-MPB01X

www.joymax.com.tw



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)

	
SYNZEN SYNZEN PRECISION TECHNOLOGY	
Part Number:	SZK-C-2L20
	
Description :	4G LTE/NB-IoT FPC antenna
Name:	PETRA
Quantity:	100
Date Code:	YYWW
<small>A3, 4F, No. 58, Zhouzi St, Neihu Dist., Taipei City, 11493, Taiwan Tel: +886 (02) 2659 8030 www.synzen.com.tw</small>	

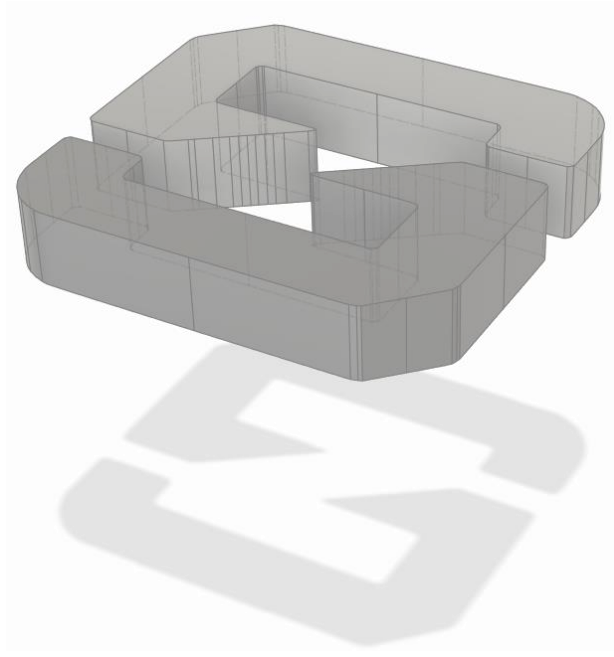
1. 1000pcs per carton
2. Carton dimensions = 33.7 x 32.2 x 10 (cm)



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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