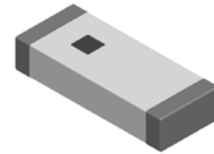


Multilayer Chip Antenna – SLDA Series

Operating Temp. : -40℃~+85℃



FEATURES

- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

APPLICATIONS

- Bluetooth, Wireless LAN, Mobile TV
- Home RF system, etc

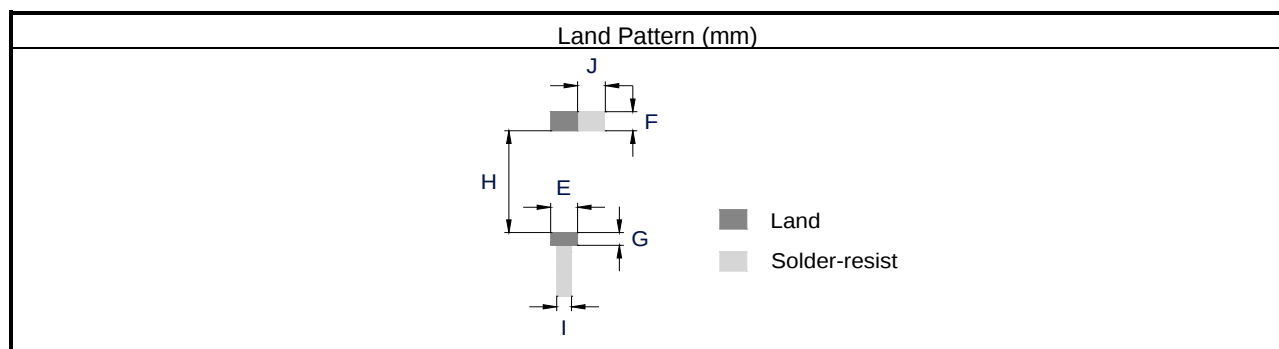
PRODUCT IDENTIFICATION

<u>SLDA</u> ①	<u>31</u> ②	<u>-2R800G</u> ③	<u>-S1</u> ④	<u>T</u> ⑤	<u>F</u> ⑥																															
①	②	②	③	⑤	⑥																															
<table><tr><th colspan="2">Type</th></tr><tr><td>SLDA</td><td>Multilayer Chip Antenna</td></tr></table>		Type		SLDA	Multilayer Chip Antenna	<table><tr><th colspan="2">(L×W) (mm)</th></tr><tr><th colspan="2">External Dimensions (L×W) (mm)</th></tr><tr><td>21</td><td>2.0×1.2</td></tr><tr><td>31</td><td>3.2×1.6</td></tr><tr><td>52</td><td>5.2×2.1</td></tr><tr><td>62</td><td>6.0×2.0</td></tr><tr><td>72</td><td>7.0×2.0</td></tr><tr><td>81</td><td>8.0×1.0</td></tr><tr><td>92</td><td>9.0×2.0</td></tr></table>		(L×W) (mm)		External Dimensions (L×W) (mm)		21	2.0×1.2	31	3.2×1.6	52	5.2×2.1	62	6.0×2.0	72	7.0×2.0	81	8.0×1.0	92	9.0×2.0	<table><tr><th colspan="2">Center Frequency</th></tr><tr><td>Example</td><td>Nominal Value</td></tr><tr><td>2R800G</td><td>2800.0MHz</td></tr><tr><td>2R450G</td><td>2450.0MHz</td></tr></table>			Center Frequency		Example	Nominal Value	2R800G	2800.0MHz	2R450G	2450.0MHz
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SHAPE AND DIMENSIONS

Type:	Dimensions (mm)
Type: SLDA21-2R450G-S1TF	Land Pattern (mm)

SHAPE AND DIMENSIONS



SHAPE AND DIMENSIONS

Series	A	B	C	D	E	F	G	H	I	J
SLDA21	2.0±0.2	1.25±0.2	0.85±0.2	0.5±0.2	1.0±0.2	1.0±0.2	1.5±0.2	-	-	-
SLDA31	3.2±0.2	1.6±0.2	1.2±0.2	0.5±0.2	1.6±0.2	0.8±0.2	0.8±0.2	2.2±0.2	1.4	1.6±0.2
SLDA52	5.2±0.2	2.1±0.2	1.0±0.2	0.5±0.2	2.3±0.2	1.5±0.2	1.0±0.2	4.0±0.2	1.4	2.3±0.2
SLDA62	6.0±0.2	2.0±0.2	1.0±0.2	0.5±0.2	2.2±0.2	1.5±0.2	1.0±0.2	5.0±0.2	1.4	2.2±0.2
SLDA72	7.0±0.2	2.0±0.2	1.0±0.2	0.5±0.2	2.2±0.2	1.5±0.2	1.0±0.2	6.0±0.2	1.4	2.2±0.2
SLDA81	8.0±0.2	1.0±0.2	1.0±0.2	0.5±0.2	1.5±0.2	1.5±0.2	1.0±0.2	7.0±0.2	1.4	1.5±0.2
SLDA92	9.0±0.2	2.0±0.2	1.0±0.2	0.5±0.2	2.2±0.2	1.5±0.2	1.0±0.2	8.0±0.2	1.4	2.2±0.2

TERINAL-CONFIGURATION

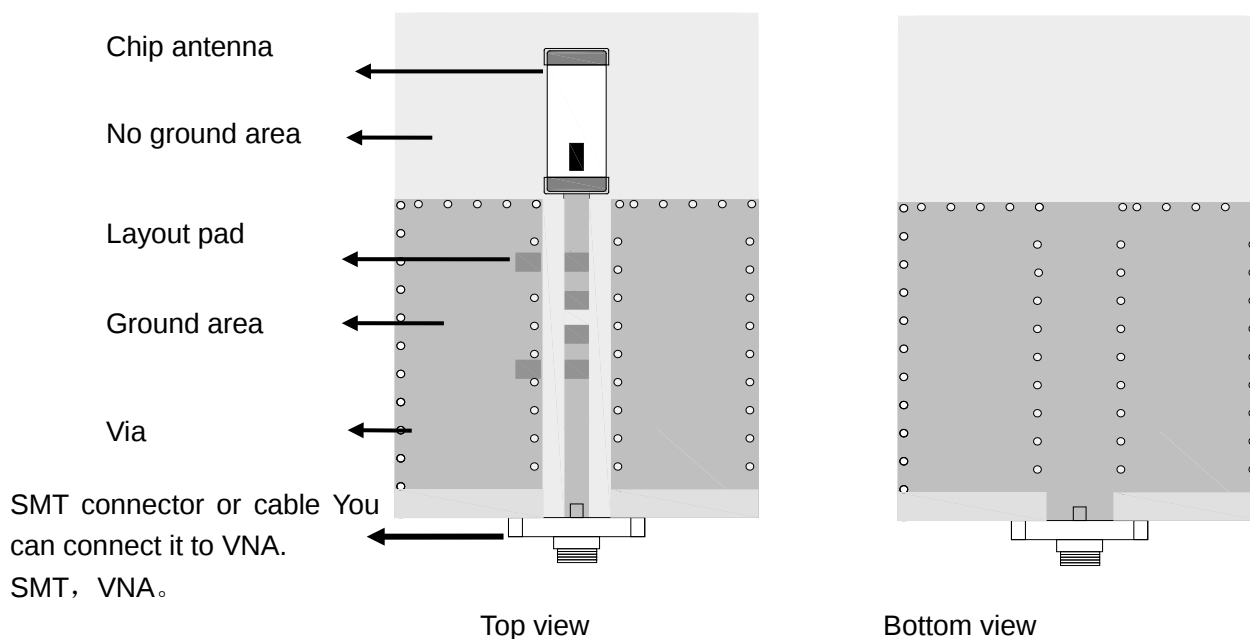
(1)



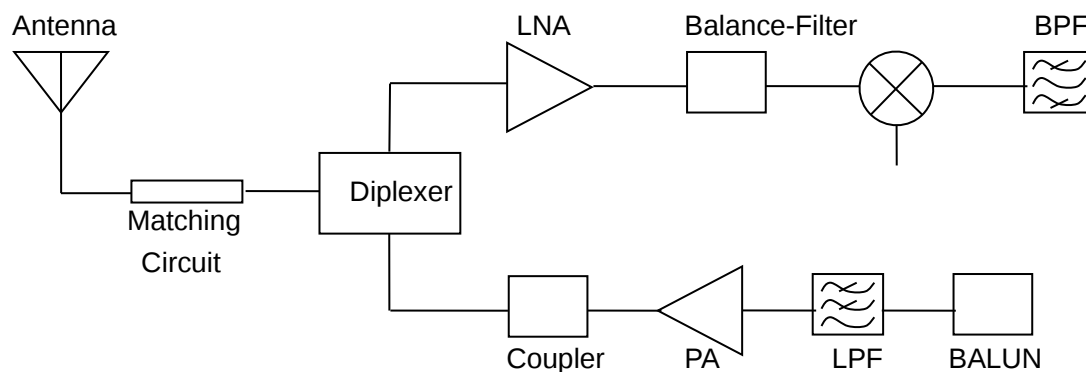
(2)

No.	Terminal Name	No.	Terminal Name
(1)	Feeding Point	(2)	NC

EVALUATION BOARD



APPLICATION GUIDE



SPECIFICATIONS

SLDA21 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA21-2R450G-S1TF	≥ 100	1.0dBi Typ.	-3.0dBi Typ.	< 2.5	50	3

SLDA31 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA31-2R800G-S1TF	≥ 100	0.5dBi Typ.	-1dBi Typ.	< 2	50	3
SLDA31-2R400G-S1TF	≥ 100	2.5dB @ (XZ-total)	-1.5dB @ (XZ-total)	< 2	50	2
SLDA31-2R450G-S2TF	≥ 100	2.5dBi @ (XZ-total)	0.5dBi @ (XZ-total)	< 2	50	2

SLDA52 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA52-2R510G-S1TF	≥ 200	2.5dBi Typ.	0.5dBi Typ.	< 2	50	
SLDA52-2R540G-S1TF	≥ 200	2.5dBi Typ.	0.5dBi Typ.	< 2	50	

SLDA62 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA62-2R640G-01TF	≥ 200	2.6dBi Typ.	0.7dBi Typ.	< 2	50	3

SLDA72 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA72-2R470G-S1TF	≥ 200	2.7dBi Typ.	1.0dBi Typ.	< 2	50	3

SLDA81 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA81-3R010G-S1TF	≥ 200	2.0dBi Typ.	0.5dBi Typ.	< 2	50	3

SPECIFICATIONS

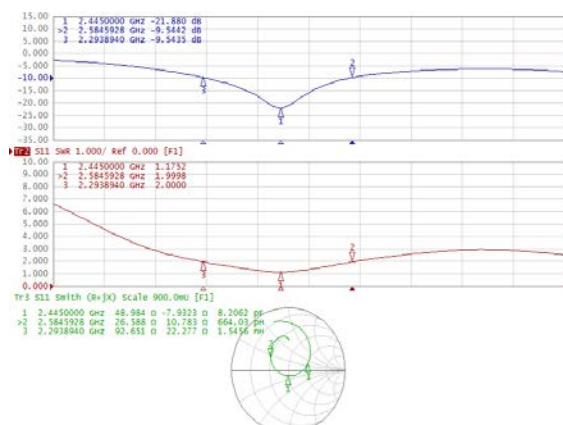
SLDA92 TYPE

Part Number	Band Width	Peak Gain	Average Gain	VSWR	Impedance	Power Capacity
	MHz	V-XZ	V-XZ	In BW	Ω	W
SLDA92-2R660G-S1TF	≥ 200	3.0dBi Typ.	1.0dBi Typ.	<2	50	3

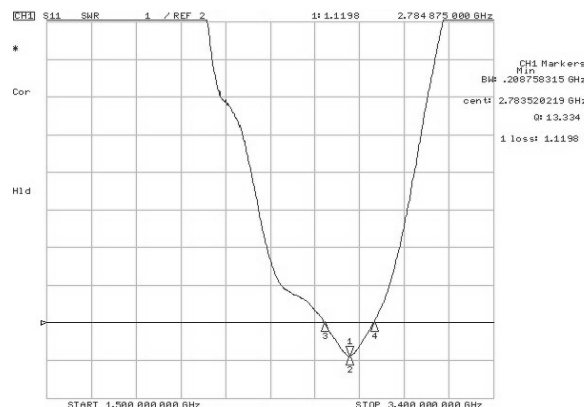
※Frequency will be changed with layout of PCB. Please contact us for appropriate design.

RETURN LOSS

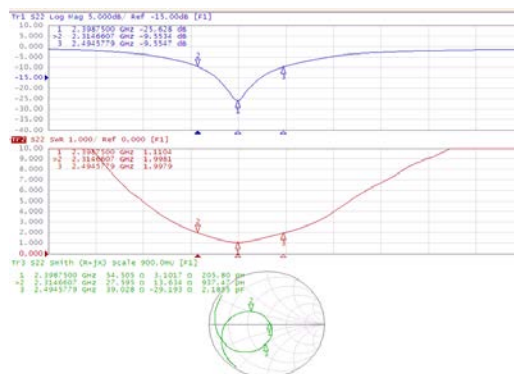
SLDA21-2R450G-S1TF



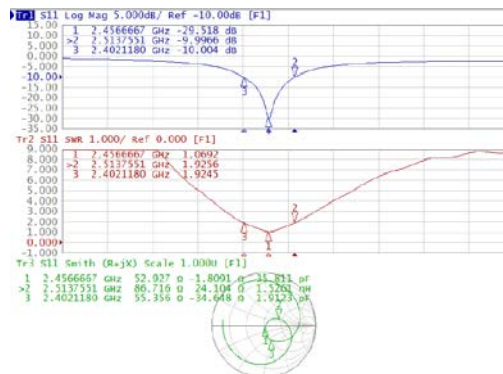
SLDA31-2R800G-S1TF



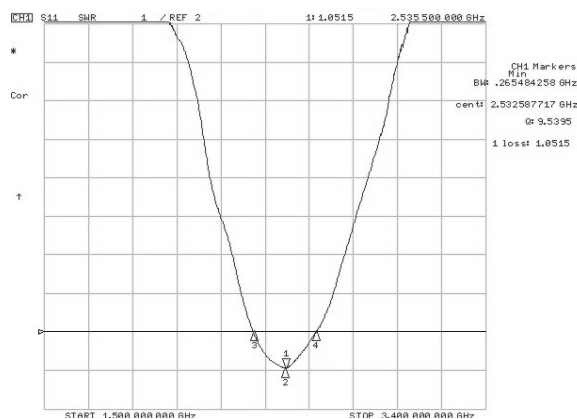
SLDA31-2R400G-S1TF



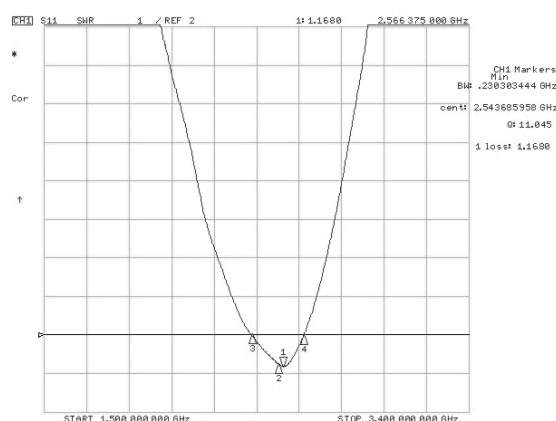
SLDA31-2R450G-S2TF



SLDA52-2R510G-S1TF

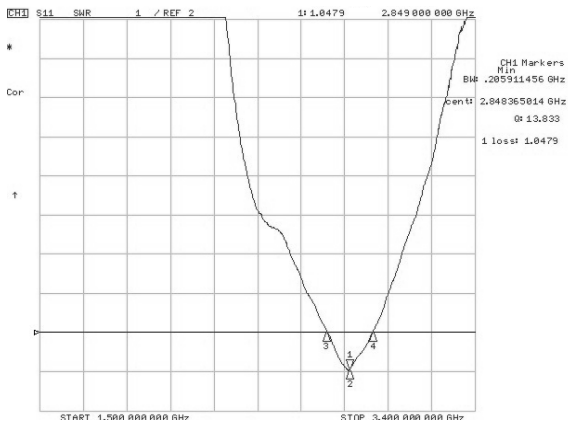


SLDA52-2R540G-S1TF

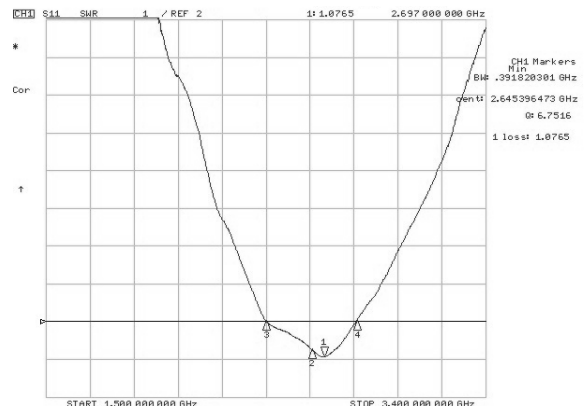


RETURN LOSS

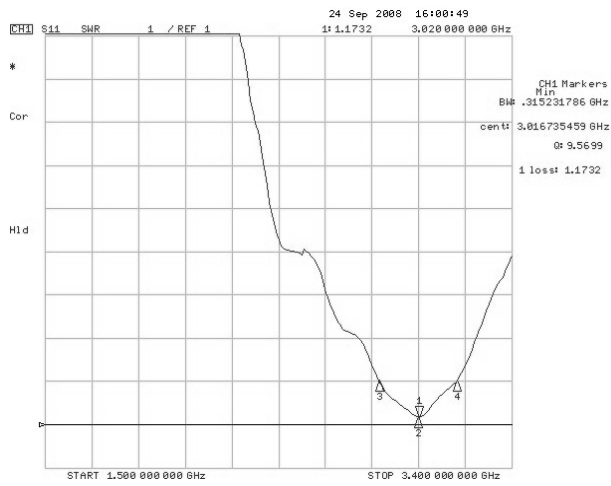
SLDA62-2R640G-01TF



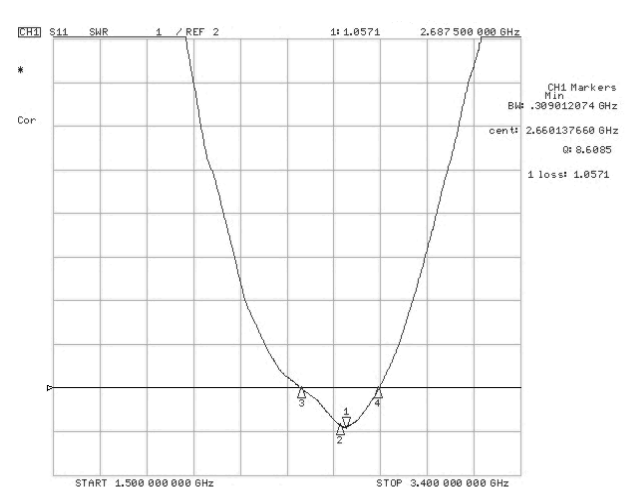
SLDA72-2R470G-S1TF



SLDA81-3R010G-S1TF



SLDA92-2R660G-S1TF



Antenna Gain, Efficiency, and Characterization report

Report No. ET-20-0622

Demo Board: Sunlord Demo PCB

Part Number: SLDA52-2R510G-S1TF

Supplier: Shenzhen Sunlord Electronics Co., Ltd.

Web: www.sunlordinc.com

Prepared By:

Weibin Chen

FAE

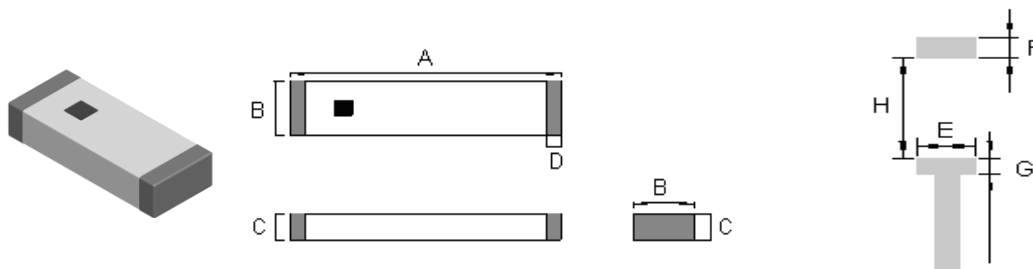
E-mail: weibin_chen@sunlordinc.com

TEL: +86-755-2983 2333-8393

1. Specifications

Antennas Type	Chip Antenna for 2.4GHz Application
Frequency	2.4G~2.5GHz
Impedance	50Ω
Polarization	Linear
Radiation pattern	Omni-directional
VSWR	2 Max
Peak Gain	5.6dBi(type)on Demo
Connector Type	w/o
Cable Type	w/o
Cable length	w/o

2. Shape and Dimensions



Unit: mm

Series	A	B	C	D.	E	F	G	H
SLDA52	5.2±0.2	2.1±0.2	1.0±0.2	0.5±0.2	2.0±0.2	1.5±0.2	1.0±0.2	4.0±0.2

3. Terminal Configuration

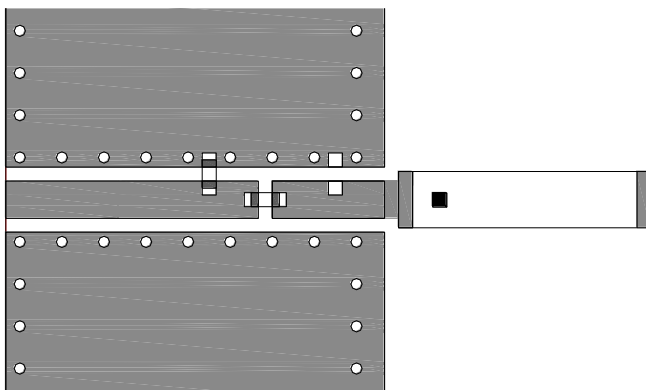


No.	Terminal Name	No.	Terminal Name
(1)	Feeding Point	(2)	NC

4. Electrical Test

4.1 Matching circuit

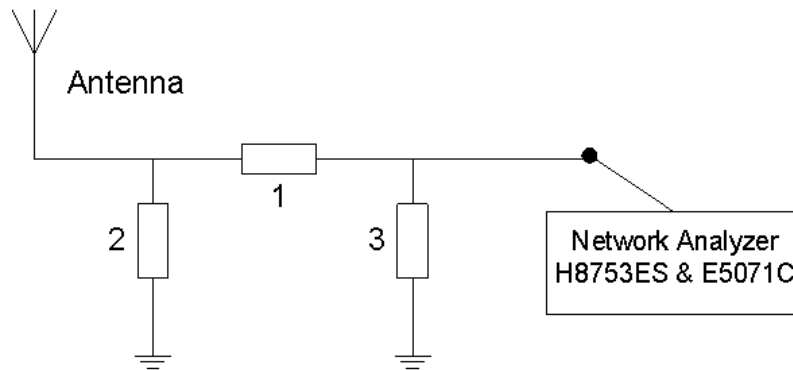
Evaluation board: 25*25mm



*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

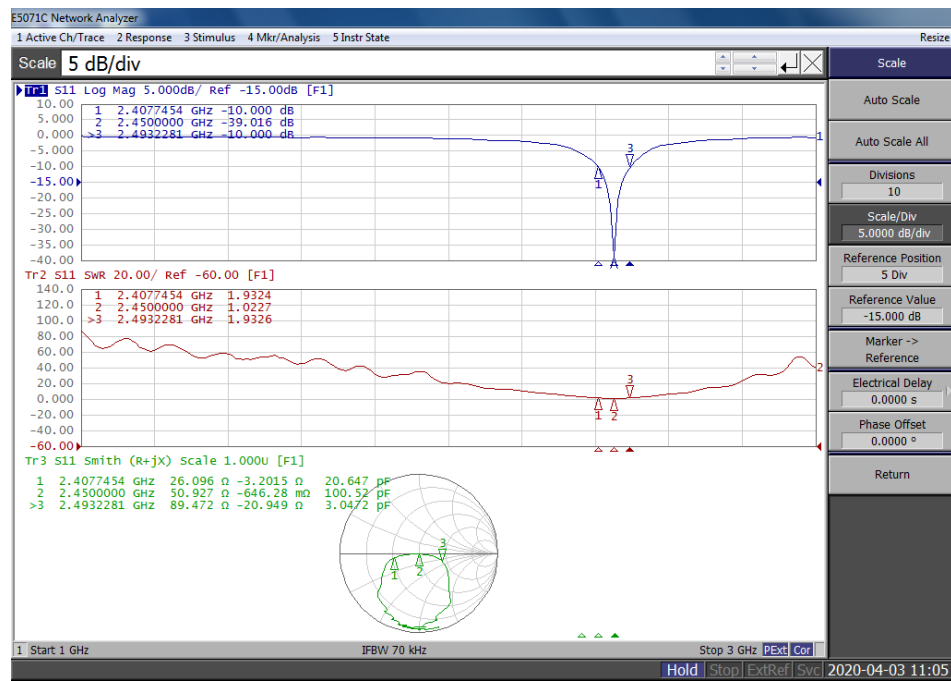
(Matching circuit and component values will be different, depending on PCB layout)

4.2 Passive Test with Network Analyzer



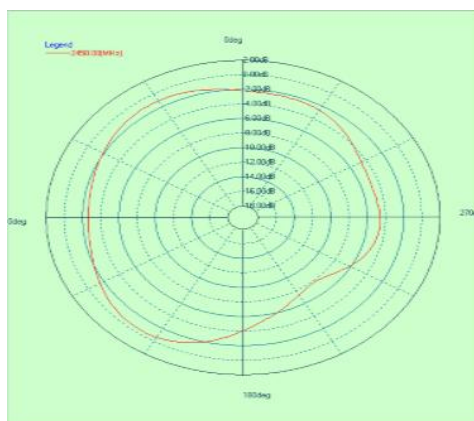
Item	Default Component	Value	Manufacturer	Part No.
Antenna	Chip Antenna	-	Sunlord	SLDA52-2R510G-S1TF
1	Inductor	1.5nH	Sunlord	SDCL1005C2N7HTDF
2	N/C	—	—	—
3	Capacitor	1.2pF	Murata	GRM1555C1H1R6CA01

4.3 Smith chart

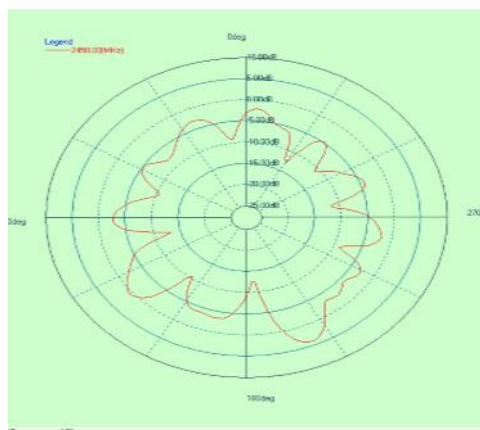


5. Radiation Pattern

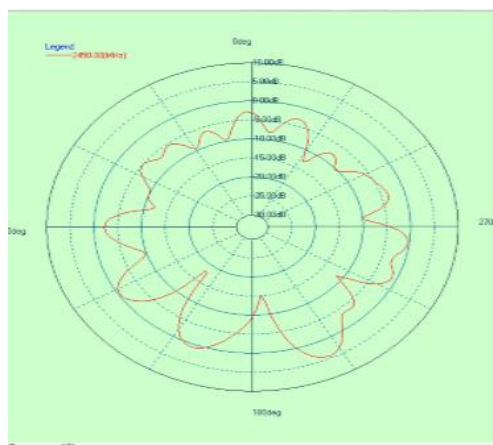
5.1 Radiation Pattern at 2.45GHz



Phi=90 deg

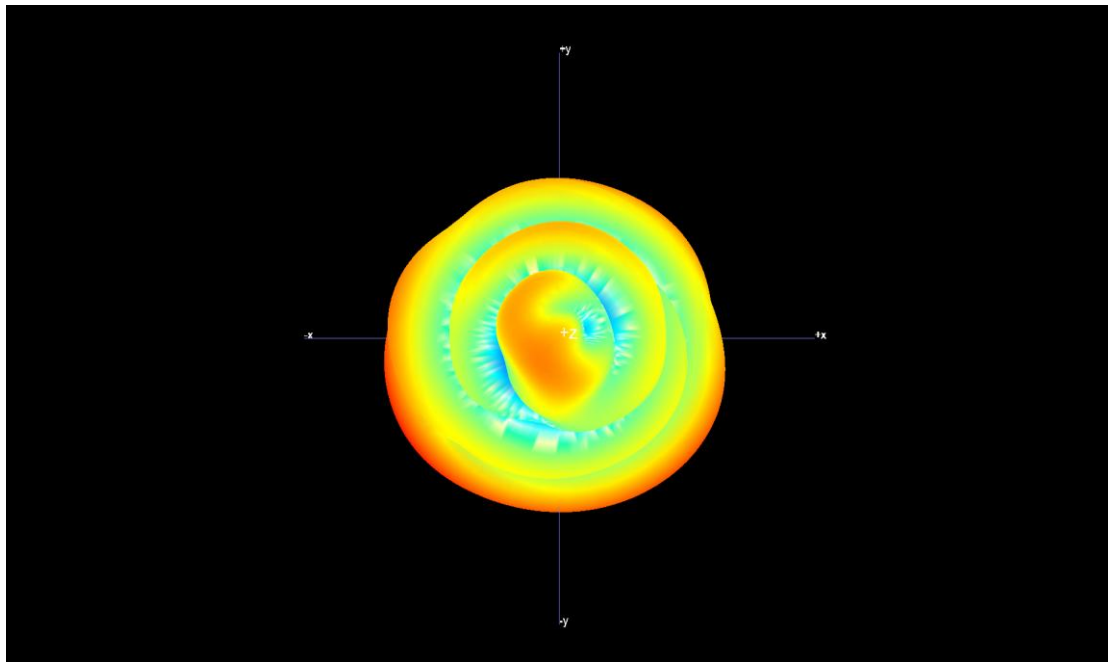


Theta=90 deg



Phi=0 deg

5.2 3D Radiation Pattern



6. Antenna Efficiency & Gain Report

Frequency (MHz)	Efficiency	Efficiency (dB)	Gain (dB)
2400	46.53%	-3.32	4.84
2410	47.99%	-3.19	5.56
2420	47.76%	-3.21	5.60
2430	45.70%	-3.40	4.99
2440	43.64%	-3.60	4.52
2450	43.32%	-3.63	4.54
2460	43.29%	-3.64	4.59
2470	42.74%	-3.69	4.71
2480	39.92%	-3.99	4.61
2490	41.18%	-3.85	4.94
2500	37.43%	-4.27	4.70

Note

1. In case using different series or manufactures' components, another value may be required to get the proper result.
2. The matching circuit with the demo board only depend on passive test. There will be some difference with active test.