Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna

Index:

1. Revision History / Page 3

2. Specification / Page 4

3. Characteristics and Reliability Test / Page 5

4. Antenna - S Parameter Test Data / Page 6

5. Antenna - Radiation Pattern Test Data / Page 7 ~ 8

6. Mechanical and Packing Drawing / Page 9 ~ 10

7. Material Description and RoHS Test Report / Page 11 ~ end

Product Number: AN2450-Z4075B81B80BL
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1. Revision History

Revision	Date	Change Notification	Description
1.0	2021.10.29		

Product Number: AN2450-Z4075B81B80BL
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2. Specification

Sample Photo	
A. Electrical Characteristics	
Frequency	2400 ~ 2500 MHz 5150 ~ 5850 MHz
S.W.R.	<= 2.0 @ 2400 ~ 2500 MHz <= 2.5 @ 5150 ~ 5850 MHz
Antenna Gain	1.0 dBi @ 2400 ~ 2500 MHz 1.0 dBi @ 5150 ~ 5850 MHz
Efficiency(%)	75 % @ 2400~2500 MHz 75 % @ 5150~5850 MHz
Radiation Pattern	Omni-Directional
Max Input Power	>= 2 W
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	CU
Material of Plastic	Body: FPC
Cable Type	OD0.81
Connector Type	OP
C. Environmental	
Operation Temperature	- 40 ˚C ~ + 65 ˚C
Storage Temperature	- 40 ˚C ~ + 80 ˚C
Antenna Color Storage life	< 2 year

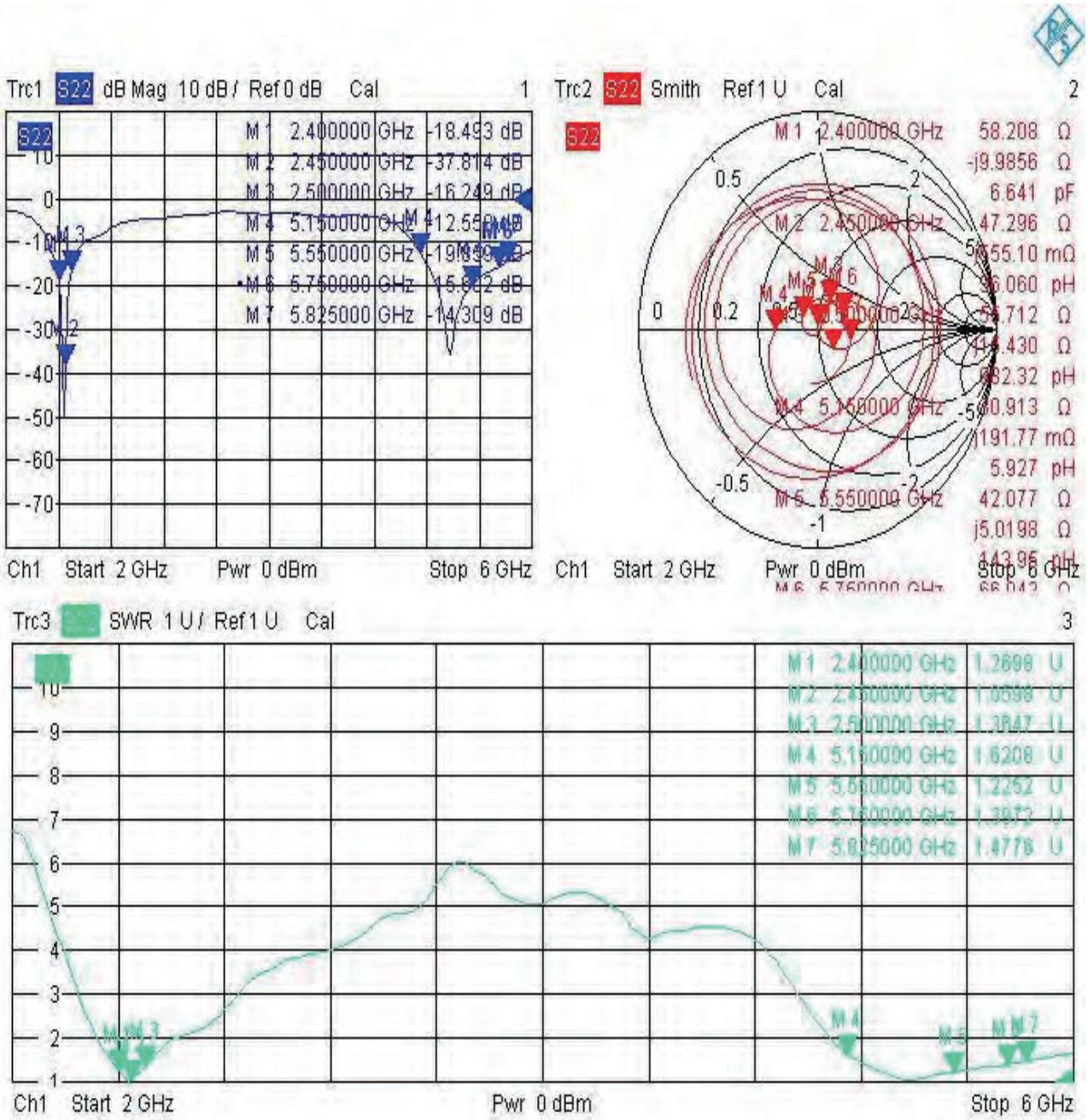
Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna

3. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2011/65/EU
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

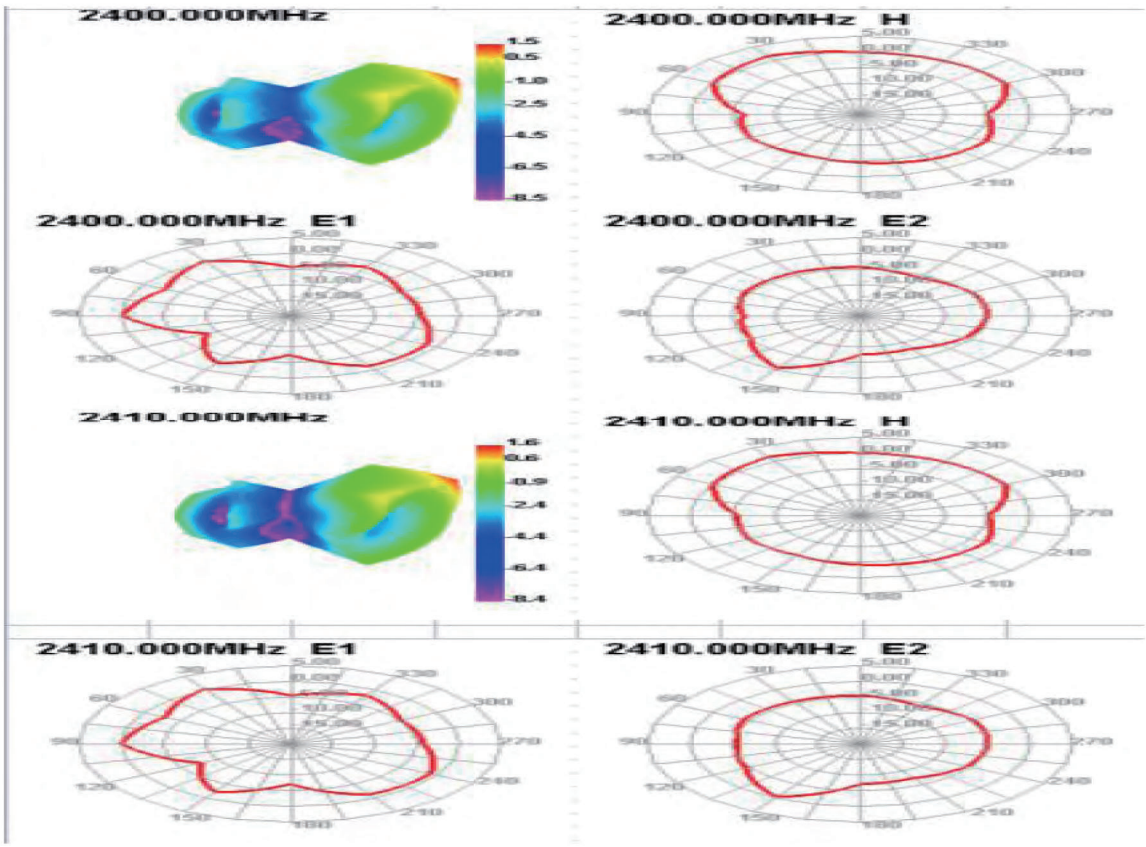
Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna

4. Antenna - S Parameter Test Data

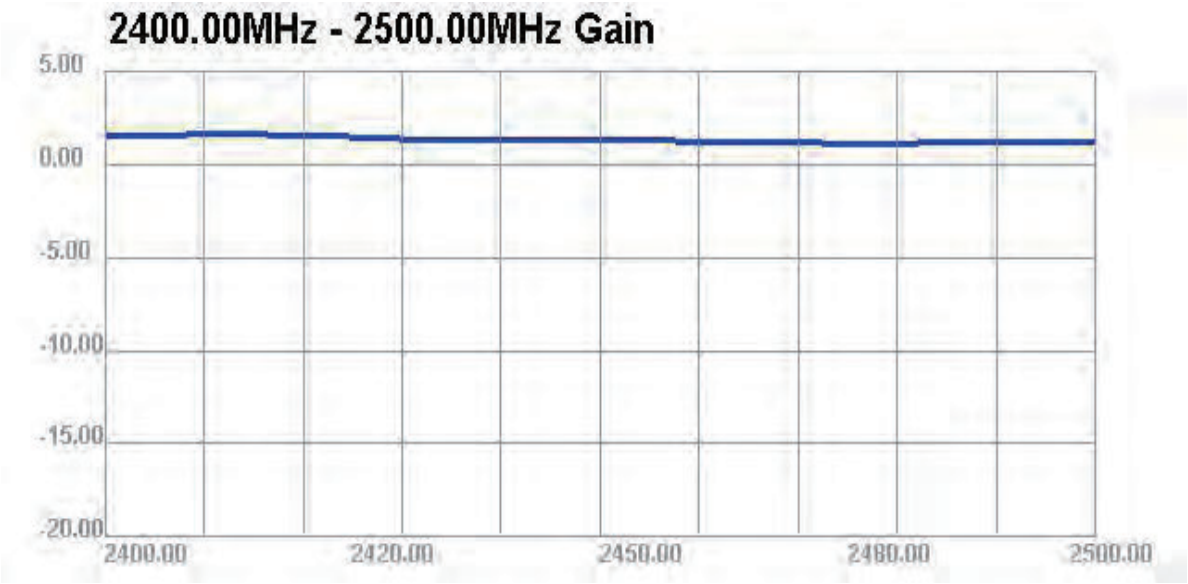


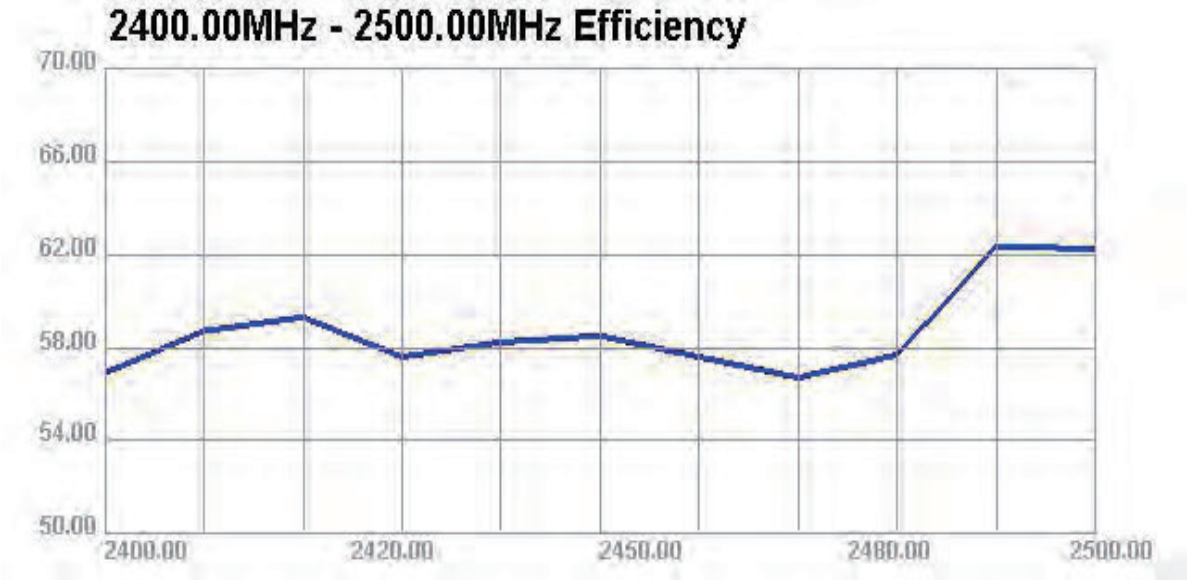
5. Antenna - Radiation Pattern Test Data

Passive Test For WIFI2400										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
2400	56.91	-2.45	0.95	-0.63	28.926	27.987	1.52	-8.76	3.97	0
2410	58.72	-2.31	1.00	-0.55	29.226	29.495	1.6	-7.95	3.91	0
2420	59.31	-2.27	0.97	-0.57	28.854	30.452	1.58	-7.44	3.85	0
2430	57.61	-2.4	0.67	-0.79	27.399	30.208	1.36	-7.44	3.75	60
2440	58.24	-2.35	0.73	-0.82	27.105	31.134	1.33	-7.4	3.68	30
2450	58.51	-2.33	0.72	-0.83	26.686	31.821	1.32	-7.59	3.65	60
2460	57.6	-2.4	0.63	-0.92	25.848	31.751	1.23	-7.85	3.62	60
2470	56.72	-2.46	0.55	-1	25.101	31.618	1.15	-7.85	3.61	60
2480	57.69	-2.39	0.51	-1.04	25.22	32.474	1.11	-7.75	3.5	60
2490	62.37	-2.05	0.65	-0.9	26.902	35.47	1.25	-7.43	3.3	60
2500	62.22	-2.06	0.61	-1	26.504	35.718	1.15	-7.53	3.21	60



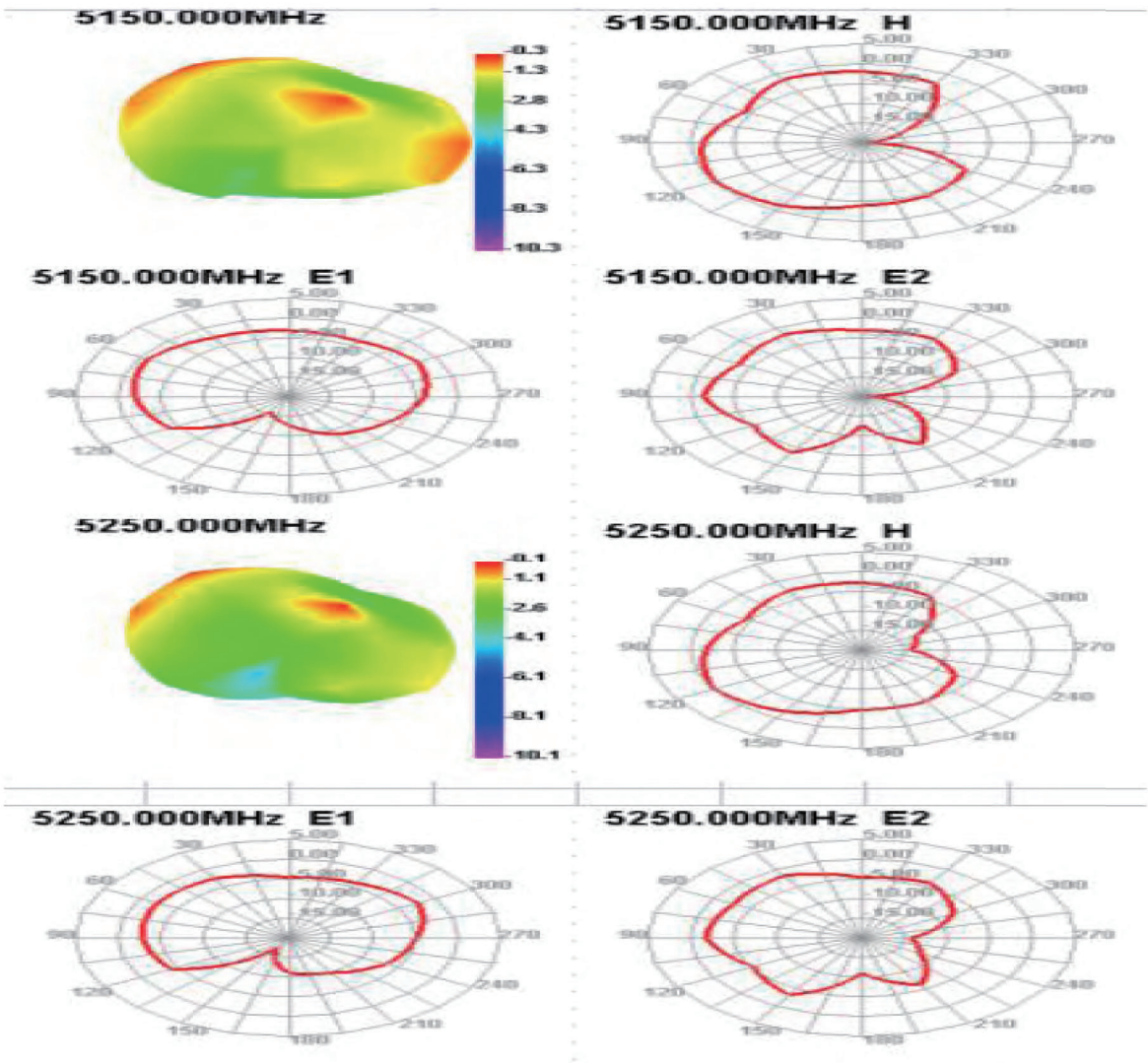
Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna





Product Number: AN2450-Z4075B81B80BL
Product Name: Antenna

Passive Test For WIFI-5G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)
5150	36.31	-4.4	-0.29	-2.44	23.018	13.289	-0.29	-20.92	4.11	150
5250	34.4	-4.63	-0.1	-2.25	22.104	12.294	-0.1	-18.14	4.54	210
5350	33.56	-4.74	-0.21	-2.36	21.725	11.837	-0.21	-17.45	4.53	90
5450	32.8	-4.84	-0.93	-3.08	21.155	11.643	-0.93	-14.55	3.91	60
5550	38.08	-4.19	-0.39	-2.54	24.271	13.809	-0.39	-12.72	3.8	60
5650	40.61	-3.91	0.35	-1.8	25.254	15.355	0.35	-12.95	4.26	60
5750	44.89	-3.48	1.00	-1.34	27.602	17.293	0.81	-13.08	4.28	60
5850	39.45	-4.04	0.18	-1.97	24.39	15.063	0.18	-12.96	4.22	60



Product Number: AN2450-Z4075B81B80BL
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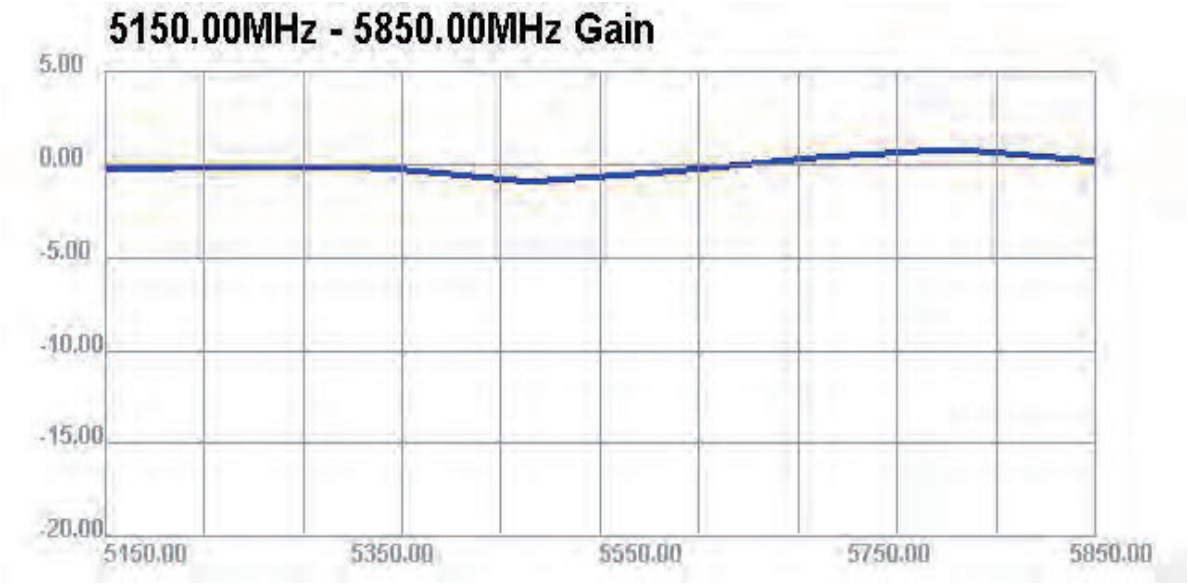
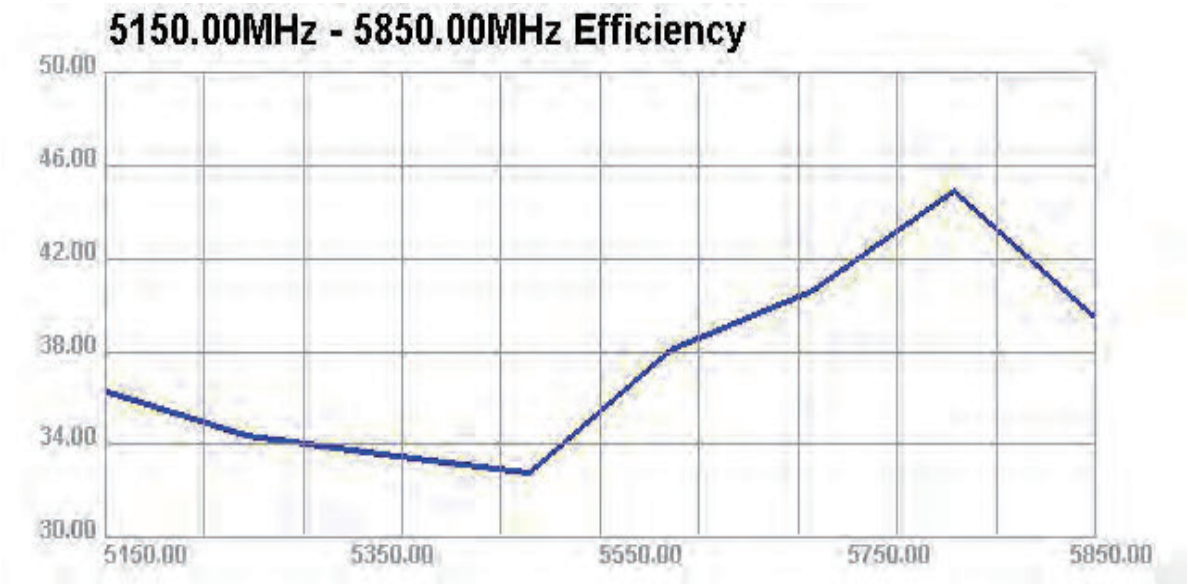
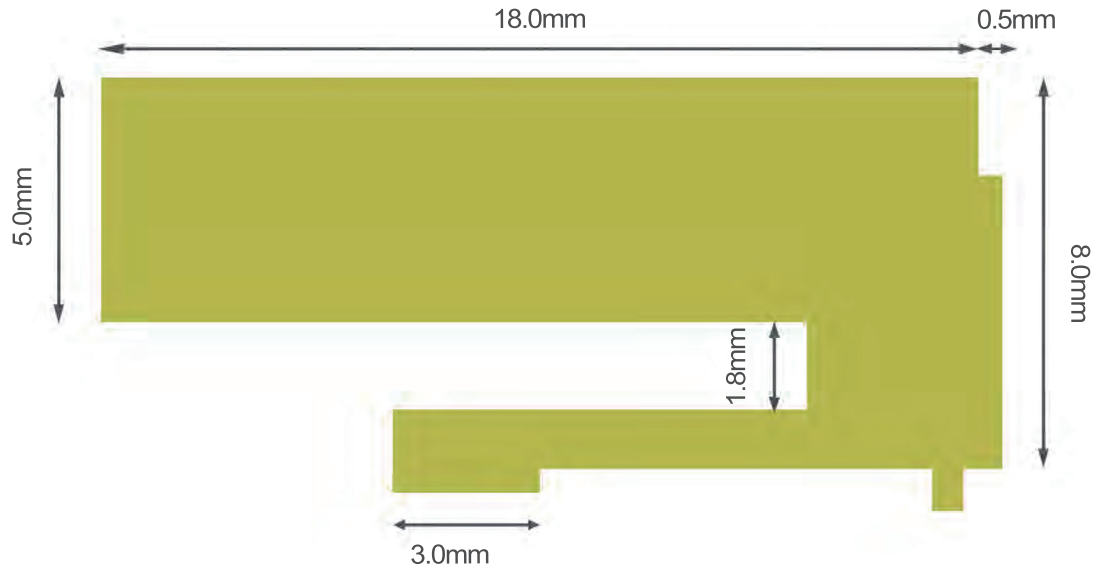




NO.	NAME	SPECIFICATION	Q'TY
1	Cable	L=80mm O.D.=0.81mm	1
2	ANTENNA	FPC	1



NOTES:

1. Electrical:
   - 1.1 Impedance: 50 OHM.
   - 1.2 Frequency:2400～5800MHz
   - 1.3 Polarization :Vertical
   - 1.4 VSWR: ≤2.0
   - 1.5 Gain: 2dBi
2. Enviromental:
   - 2.1 Storage Temperature Range: -30 TO +70℃.
   - 2.2 Operating Temperature Range: -30 TO +70℃.
3. All Materials Must Meet & Shall RoHS Request.

Assembly Drawing		Designer	ZhangShengBing	Date	2021-10-29
		Auditor		Date	
		Confirm		Date	
Product No	TC2450-Z4075A81B80BL		Proportion	1:1	Unit: mm
Version	A0	Page		1/1	
Change Mark	A	Change Num		Dongguan tengchen Electronic Technology Co., Ltd	