



SPECIFICATIONS FOR APPROVAL

Customer Name: Suga Macao Commercial Offshore Limited

Product Name: WIFI Antenna

Product Model: 88T

Part Number: LJF02-23070308B-R0A

Write By : Pengsiheng

Issued Date: 2023-07-03

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVAL

LEJIN

R&D DEPT	ENGINEER DEPT	APPROVAL

REV	MODIFIED DESCRIPTION	DATE	REMARK
V1.0	Initial Draft Release	2023/07/03	



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3.Product Specification

A. Electrical Characteristics	
Frequency	2400MHz ~2500 MHz 5150MHz ~5850 MHz
VSWR	<2.0
Efficiency	≥40%
Impedance	50Ohm
Polarization	Linear
Gain(2.4G)	≤2.30dB
Gain(5G)	≤2.30dB
B. Material & Mechanical Characteristics	
Material of Radiator	FPC(Black),LJWF27BF(R)
Cable Type	Φ1.13mm,L325mm,black
Connector Type	IPX1
Dimension	43.0*11.5mm
C. Environmental	
Operation Temperature	- 20 °C ~ + 70 °C
Storage Temperature	- 30 °C ~ + 85 °C
Humidity	40%~95%

4.Test Equipment & Conditions

- | | |
|----------------------------------|---------------------|
| 1.Network Analyzers | Agilent 8753D/5071C |
| 2.HSPA and LTE protocol test set | R&S CMW500 -PT |
| 3.Communications Test Set | Agilent 8960 |
| 4.3D Chamber Test System | |

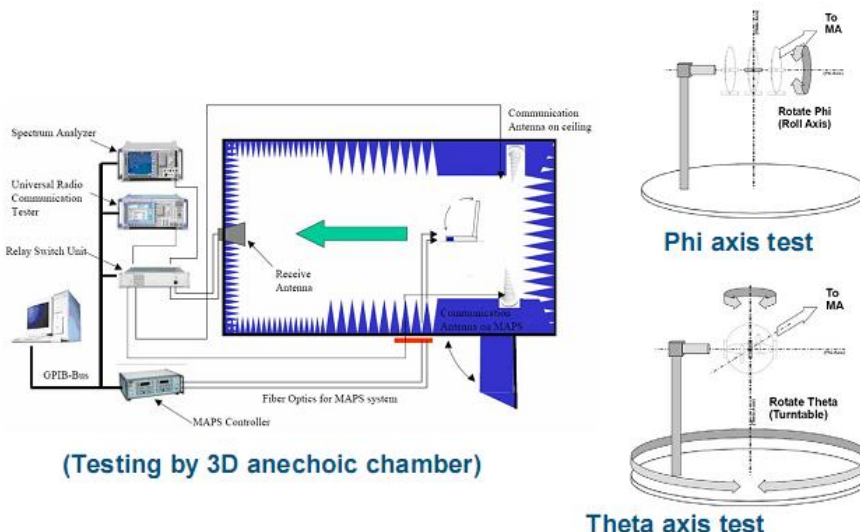




Chart 1 Test topology

5. Test Report

5.1 Voltage Standing Wave Ratio(VSWR).

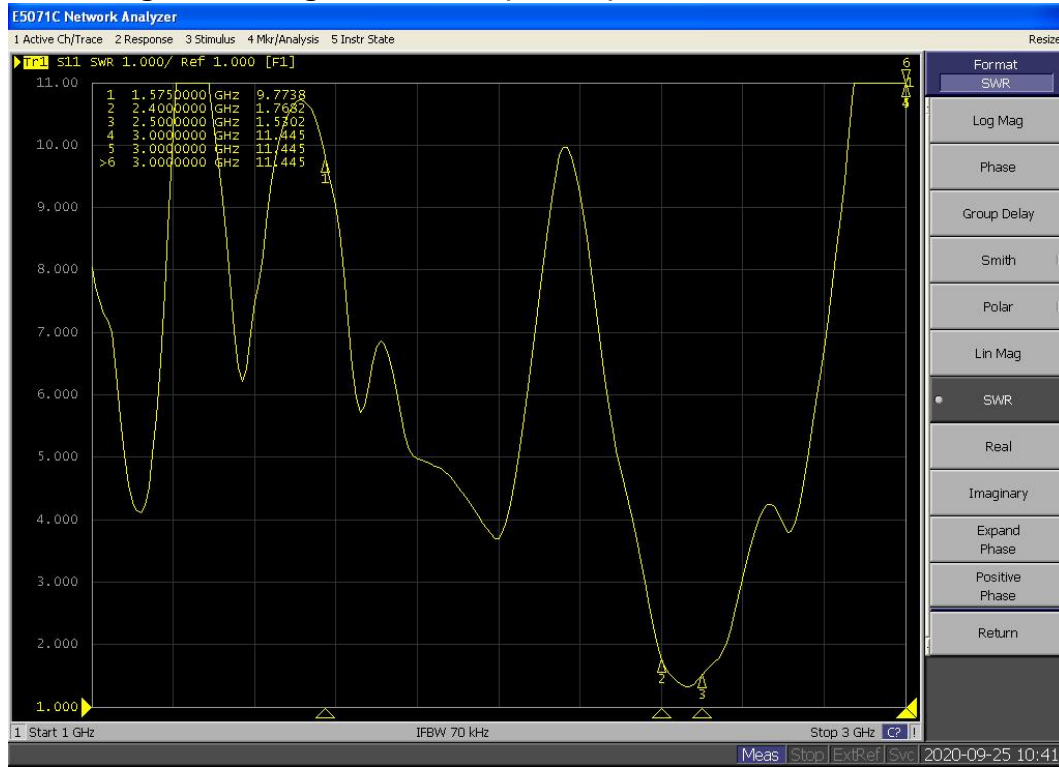


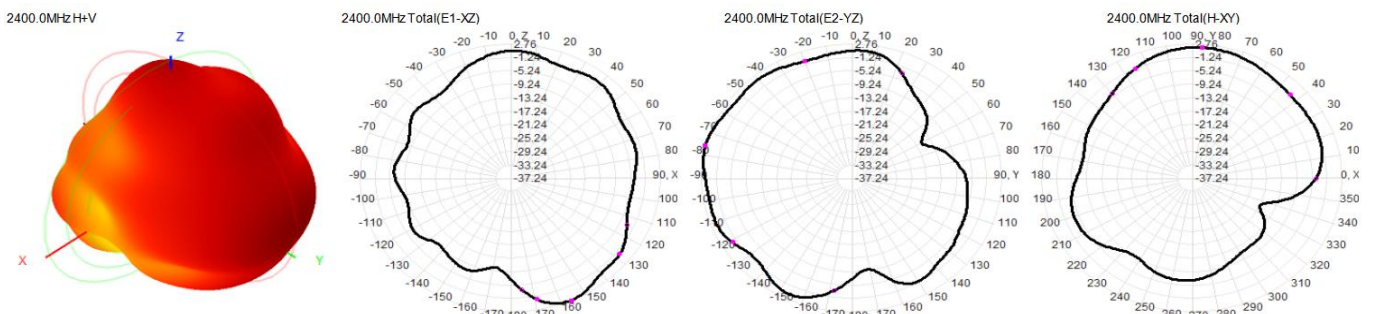
Chart 2 VSWR

5.2 Efficient and gain.

Passive Test 2.4GHz	Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
	Effi(%)	50.71	53.03	53.58	54.57	56.24	56.11	57.12	58.21	59.29	58.70	59.57
	Gain(dBi)	2.24	2.36	2.40	2.48	2.58	2.55	2.42	2.49	2.54	2.52	2.49

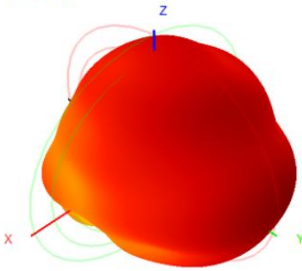
Passive Test WIFI 5G	Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850
	Effi(%)	65.42	64.86	61.34	63.49	65.85	62.95	62.64	64.74	64.41	62.95	62.57	63.05	64.52	64.46	61.54
	Gain(dBi)	2.65	2.50	2.35	2.56	2.56	2.53	2.35	2.56	2.51	2.47	2.51	2.44	2.54	2.69	2.53

5.3 Radiation pattern.

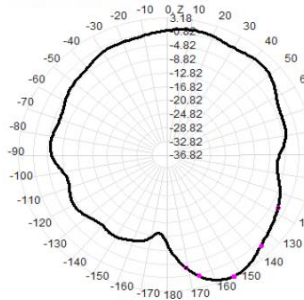




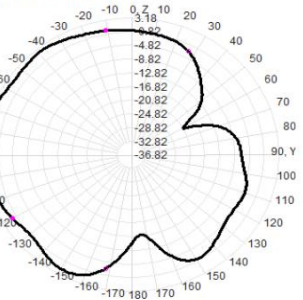
2450.0MHz H+V



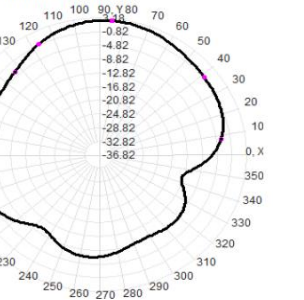
2450.0MHz Total(E1-XZ)



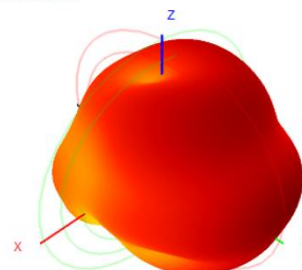
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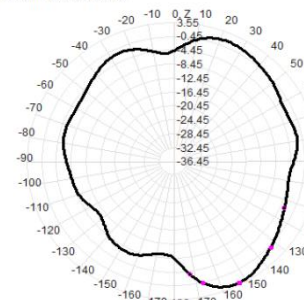
2450.0MHz Total(H-XY)



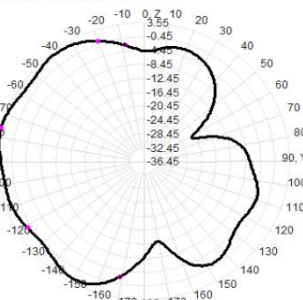
2500.0MHz H+V



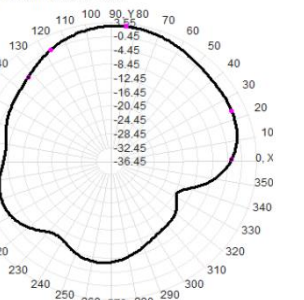
2500.0MHz Total(E1-XZ)



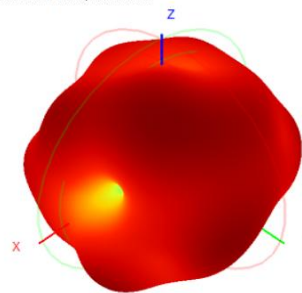
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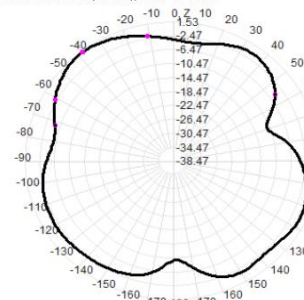
2500.0MHz Total(H-XY)



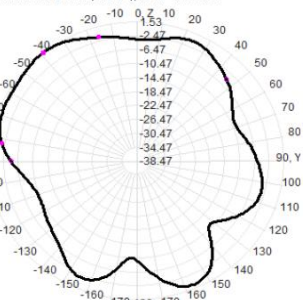
5150.0MHz H+V, Eff. 59.2%



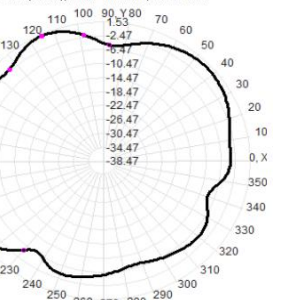
5150.0MHz Total(E1-XZ), Max= 1.16dBi



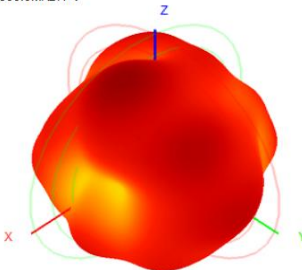
5150.0MHz Total(E2-YZ), Max= 1.53dBi



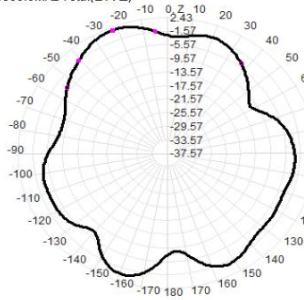
Total(H-XY), Max= 1.06dBi, CirD=9.71



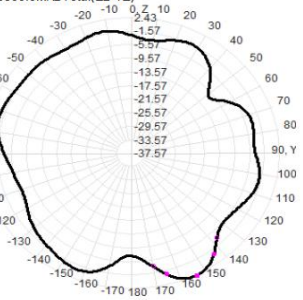
5500.0MHz H+V



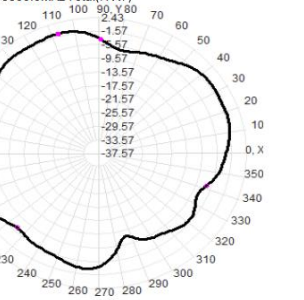
5500.0MHz Total(E1-XZ)



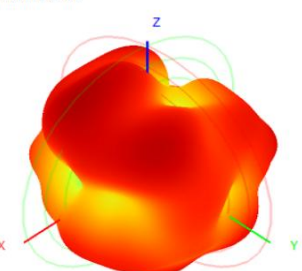
5500.0MHz Total(E2-YZ)



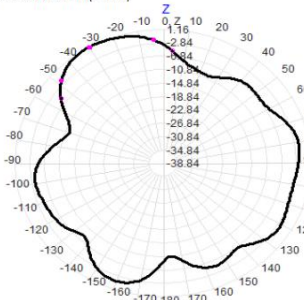
5500.0MHz Total(H-XY)



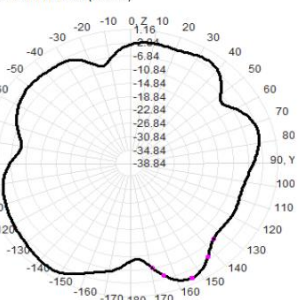
5850.0MHz H+V



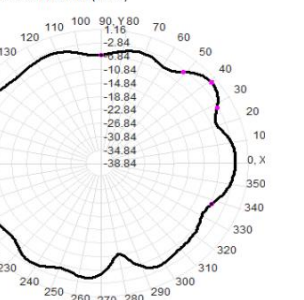
5850.0MHz Total(E1-XZ)



5850.0MHz Total(E2-YZ)



5850.0MHz Total(H-XY)





6. Reliability Test

Test Item	Test condition	Equipment	Specification	Result
1 Low Temp. Storage Test	Temperature: -30℃, Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃ ,test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
2 High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃,test antenna after 2 hours.	Temp.&Humidity Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
3 Salt-Spray Test	Placing antenna in the Salt-Spray Tester ,set the test condition , Temp: 35±2℃ Humidity: 85% NaCl salt spray :5±1%.PH value :6.5~7.2 Testtime:24hours	Salt-Spray Tester	No color change No appear rusting	PASS

7. Assemble type

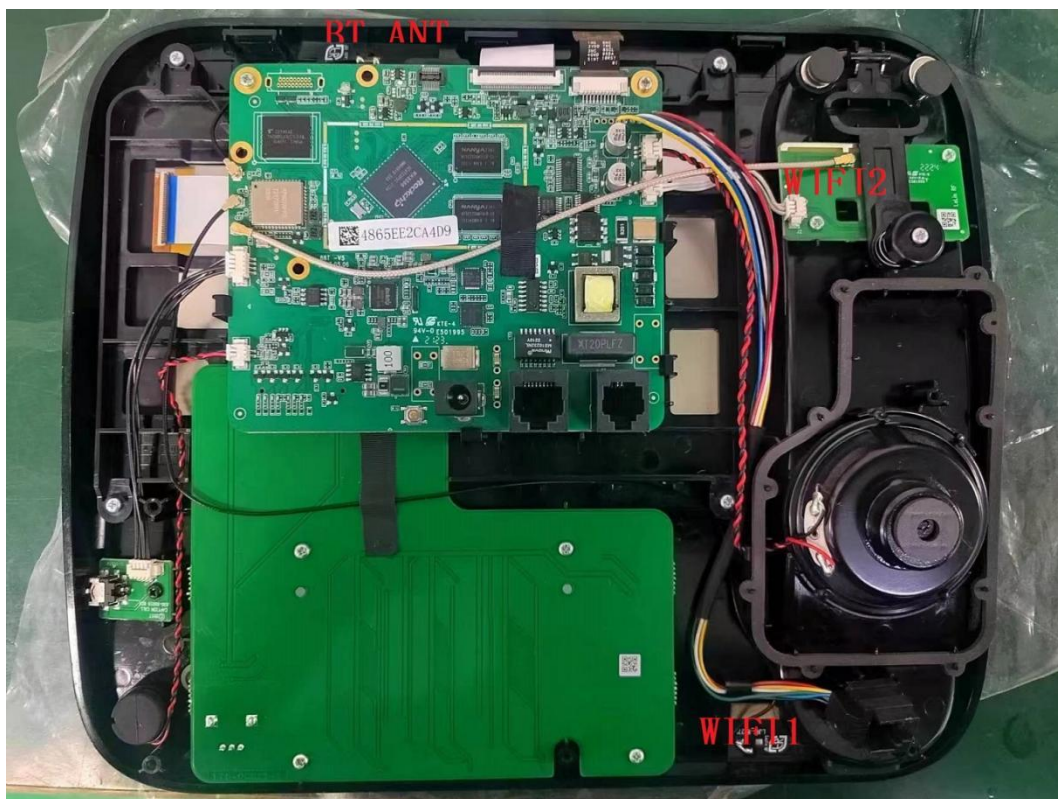
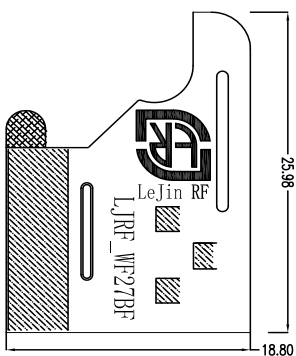
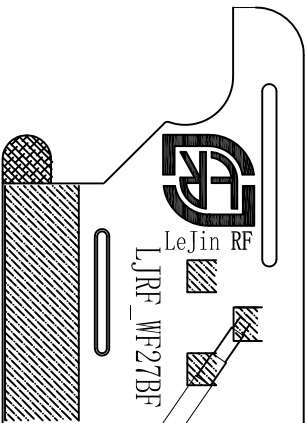
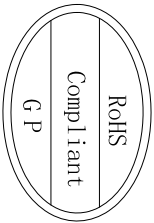


Chart 3 assemble type

8. Product Drawing



Φ1.13 coaxial cable, black, KCC-1 Connector

- Remark:**
- 1.FPC material: Electrolytic copper.
 - 2.Backing in behind: 3M300LSE.
 - 3.Tolerance : Cutting die:±0.1mm; Circuit on FPC:±0.05mm ; others are ±0.05mm.
 - 4.ROHS:(Pb,Hg,Cr+6,PBBS,PBDEs),<1000ppm; Cd,<100ppm.



深圳乐进射频科技有限公司
SHEN ZHEN LEJIN RADIO FREQUENCY CO., LTD

Project: Suga Part Name: WIFI ANT Date: 2023-07-03

Part No.: 88T Checked by: MD

Material: Material: RF Approved by: Unit: mm Scale: FIT Rev: A

Location: 40~ ±0.20 Angle: ±0.5° Treatment: LJF02-230703088-ROA

Rev	Description	Date	Remark
1	New drawing		
2			
3			
6			
7			
8			