SPECIFIC ATIONS FOR APPROVAL

Customer Name:

Product Name: 2.4G/5.8G双频天线

Product Model: 2.4G/5.8G内置PCB天线

Part Number: AN2458-1395L130

Write By :

Issued Date: 2018-07-10

CUSTOMER

ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVED BY

SOUTHSTAR

R & D D E P T	ENGINEER R&D DEPT	APPROVAL

Product Number: AN2458-1395L130

Product Name: WIFI 2.4/5.8GHZ 高增益天线

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Product Number: AN2458-1395L130

Product Name: WIFI 2.4/5.8GHZ 高增益天线

1. Specification

A. Electrical Characteristics	
Frequency 天线频率	2400-2500MHZ ~ 4900-5900MHZ
S.W.R. 驻波比	＜ 2.5
Antenna Gain 天线增益	0-3dBi
Polarization 极化方式	Linear 线性极化
Impedance 阻抗	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator 材质	FR-4
Cable Type 线材类型	RG-1.13
Connector Type 天线接口	I-pex
Cable length 天线长度	从焊点算 12CM
C. Environmental	
Operation Temperature	- 40 ˚C ~ + 65 ˚C
Storage Temperature	- 40 ˚C ~ + 80 ˚C
Antenna Color Storage life	< 2 year

2. 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-	Holding with individual specification; force applied	1. Directive DUT specification

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	Pull Test	to axis of terminal	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 2002/95/EC
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

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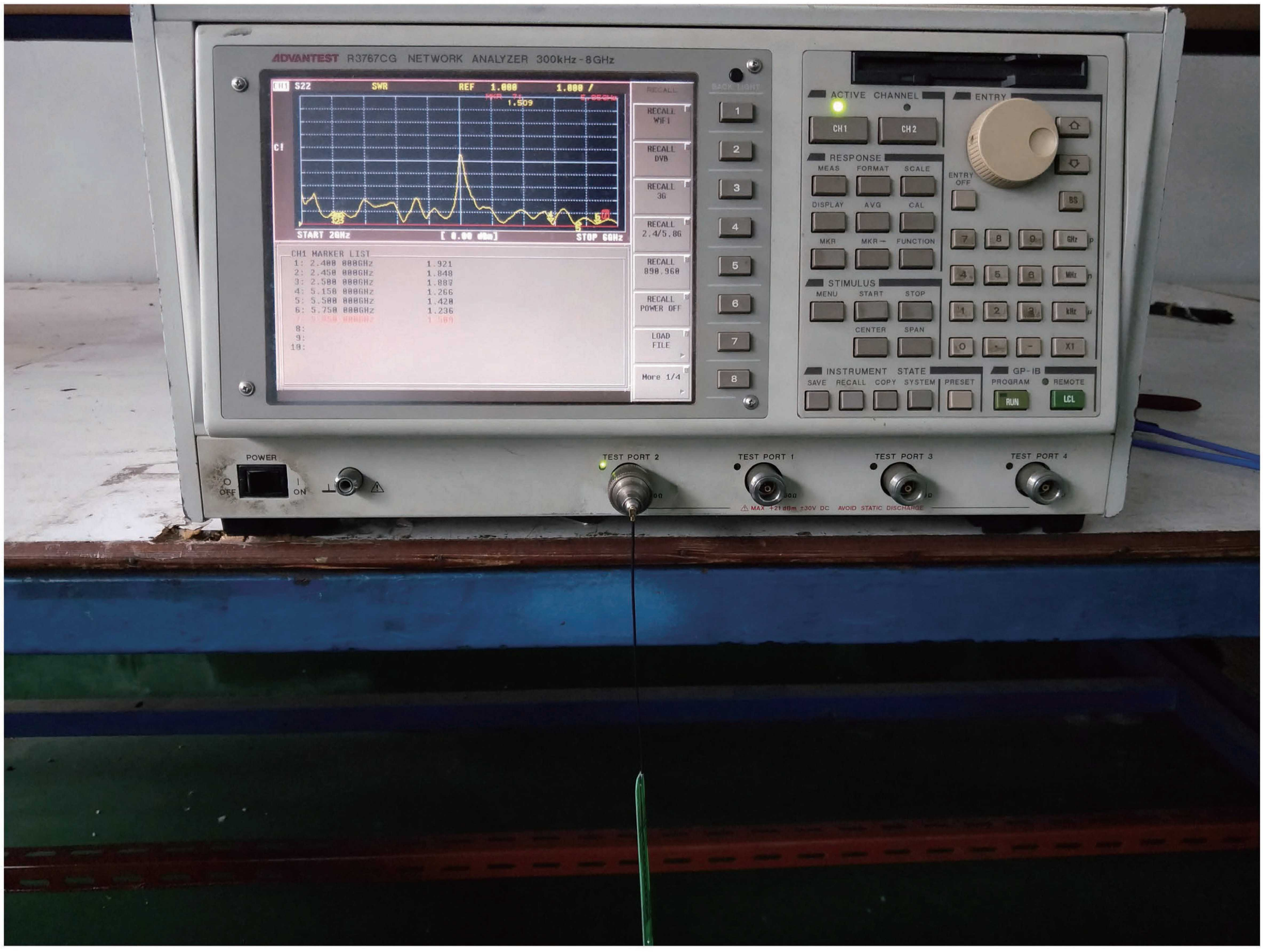
3. Antenna - S Parameter Test Data



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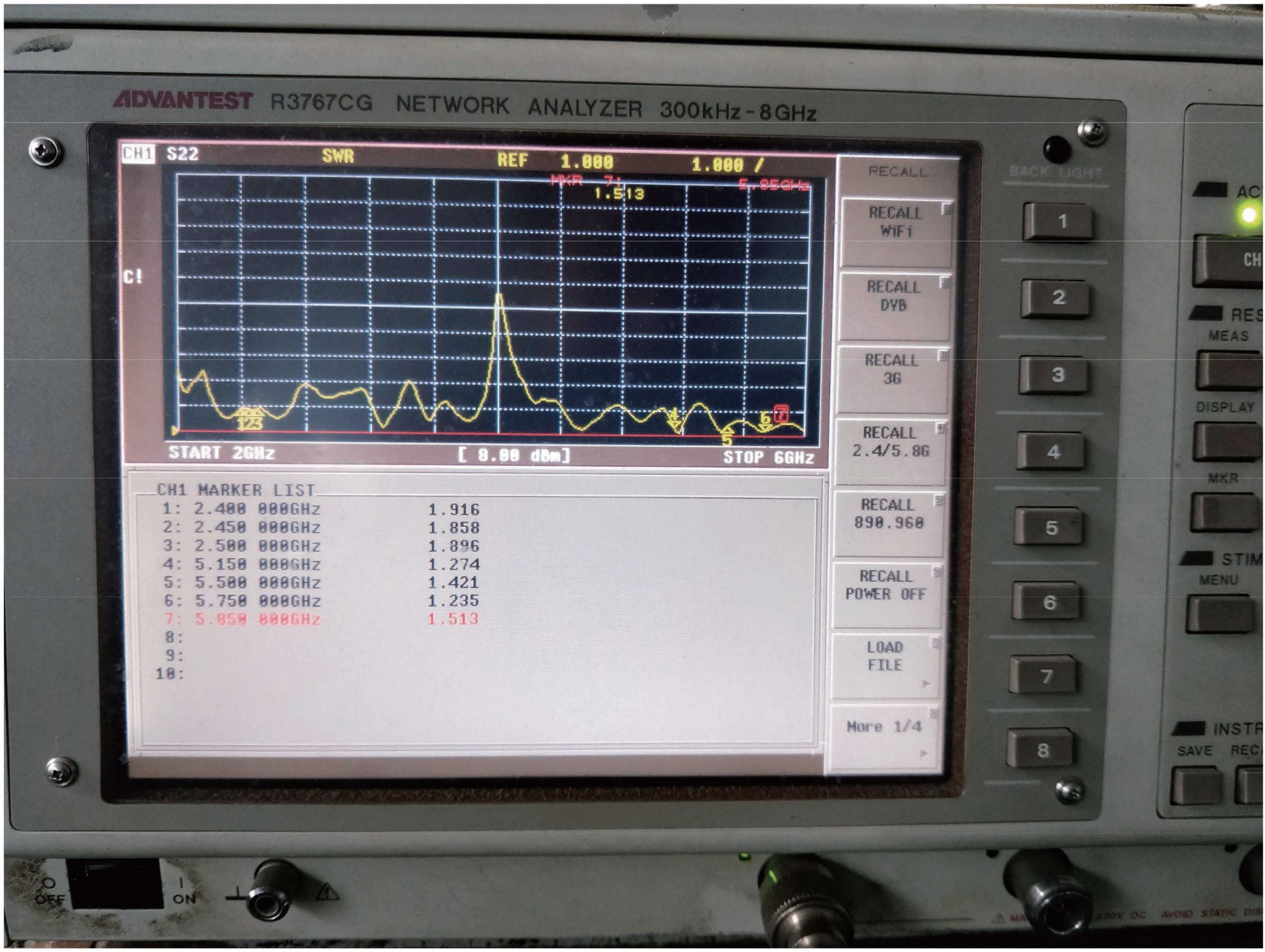
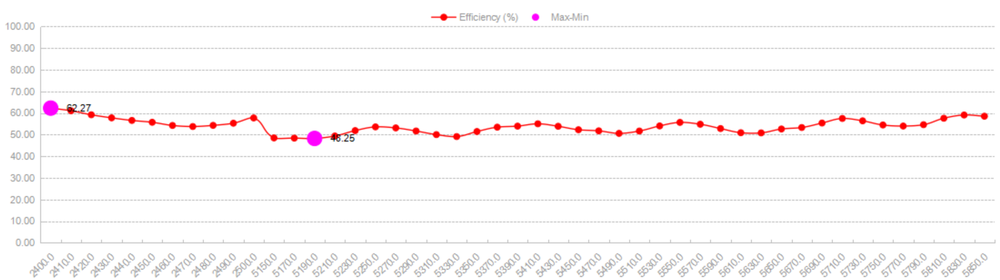
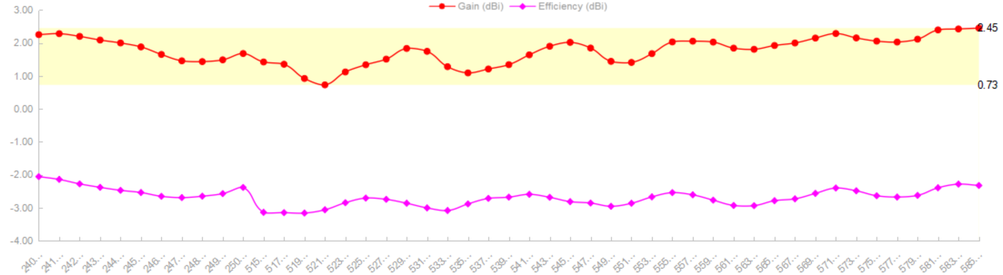
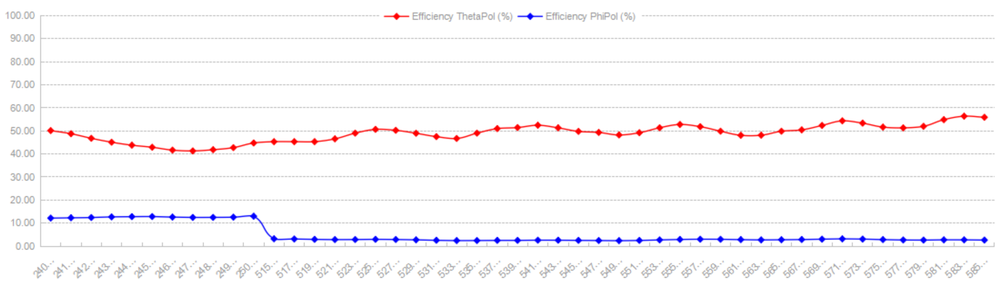


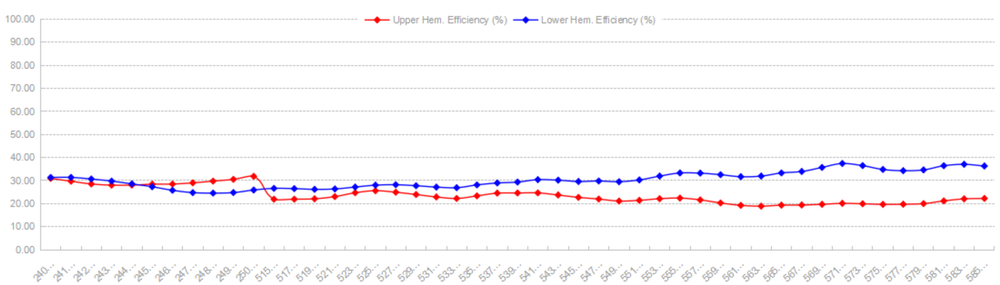
科信无线

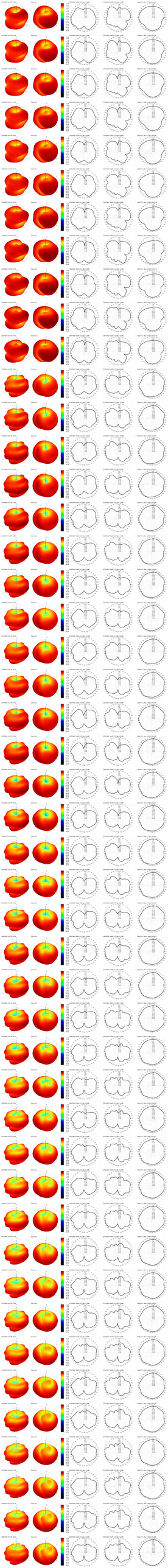
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5170.0	5190.0	5210.0	5230.0	5250.0	5270.0	5290.0	5310.0	5330.0	5350.0	5370.0	5390.0	5410.0	5430.0	5450.0	5470.0	5490.0	5510.0	5530.0	5550.0	5570.0	5590.0	5610.0	5630.0	5650.0	5670.0	5690.0	5710.0	5730.0	5750.0	5770.0	5790.0	5810.0	5830.0	5850.0
Efficiency (dBi)	-2.06	-2.14	-2.28	-2.38	-2.47	-2.54	-2.66	-2.70	-2.65	-2.57	-2.39	-3.14	-3.15	-3.17	-3.07	-2.85	-2.71	-2.75	-2.87	-3.01	-3.09	-2.89	-2.72	-2.68	-2.60	-2.69	-2.82	-2.86	-2.96	-2.87	-2.67	-2.54	-2.61	-2.77	-2.93	-2.94	-2.79	-2.73	-2.57	-2.40	-2.49	-2.64	-2.68	-2.63	-2.40	-2.29	-2.33
Gain (dBi)	2.25	2.28	2.20	2.09	2.00	1.88	1.65	1.46	1.43	1.49	1.68	1.42	1.35	0.92	0.73	1.12	1.34	1.51	1.83	1.75	1.28	1.09	1.21	1.34	1.64	1.90	2.02	1.85	1.44	1.41	1.68	2.03	2.05	2.03	1.84	1.81	1.92	2.00	2.15	2.29	2.15	2.06	2.03	2.12	2.40	2.43	2.45
Efficiency (%)	62.27	61.05	59.18	57.76	56.56	55.71	54.24	53.75	54.29	55.28	57.72	48.49	48.39	48.25	49.37	51.87	53.58	53.11	51.68	50.02	49.11	51.44	53.46	53.93	55.01	53.87	52.27	51.76	50.59	51.68	54.03	55.66	54.80	52.82	50.89	50.82	52.61	53.29	55.37	57.48	56.38	54.46	53.97	54.60	57.57	59.08	58.52
Directivity (dB)	4.31	4.43	4.48	4.47	4.48	4.42	4.31	4.15	4.09	4.06	4.07	4.57	4.51	4.09	3.79	3.97	4.05	4.26	4.70	4.75	4.37	3.98	3.93	4.02	4.23	4.59	4.84	4.71	4.40	4.28	4.35	4.58	4.67	4.80	4.78	4.75	4.71	4.73	4.72	4.69	4.64	4.70	4.71	4.74	4.79	4.71	4.78
Peak Gain Position (Theta)	115.00	115.00	115.00	114.00	114.00	113.00	113.00	150.00	66.00	67.00	70.00	87.00	89.00	91.00	116.00	73.00	75.00	83.00	85.00	87.00	89.00	91.00	92.00	92.00	85.00	85.00	87.00	89.00	93.00	95.00	91.00	90.00	89.00	89.00	90.00	93.00	96.00	96.00	93.00	91.00	91.00	91.00	93.00	95.00	96.00	94.00	92.00
Peak Gain Position (Phi)	347.00	348.00	348.00	349.00	348.00	349.00	349.00	300.00	236.00	237.00	239.00	159.00	161.00	162.00	21.00	83.00	90.00	152.00	154.00	156.00	158.00	159.00	159.00	159.00	152.00	152.00	154.00	156.00	159.00	161.00	156.00	155.00	154.00	153.00	154.00	157.00	160.00	159.00	156.00	154.00	154.00	153.00	155.00	157.00	158.00	156.00	154.00
Efficiency ThetaPol (%)	50.12	48.76	46.77	45.08	43.78	42.89	41.65	41.30	41.82	42.73	44.74	45.30	45.31	45.31	46.54	49.00	50.64	50.24	48.96	47.49	46.70	49.01	50.97	51.43	52.44	51.30	49.77	49.32	48.22	49.20	51.34	52.77	51.81	49.85	48.08	48.12	49.85	50.43	52.36	54.34	53.34	51.63	51.31	51.97	54.85	56.36	55.89
Efficiency PhiPol (%)	12.15	12.28	12.41	12.68	12.79	12.83	12.60	12.45	12.47	12.55	12.98	3.19	3.08	2.93	2.84	2.87	2.94	2.87	2.72	2.53	2.41	2.43	2.49	2.50	2.57	2.56	2.50	2.43	2.37	2.47	2.69	2.89	2.99	2.96	2.82	2.70	2.77	2.86	3.01	3.14	3.05	2.83	2.67	2.62	2.73	2.72	2.63
Upper Hem. Efficiency (%)	30.92	29.69	28.52	28.00	28.02	28.41	28.48	29.00	29.74	30.51	31.83	21.89	21.91	22.07	23.03	24.70	25.59	24.93	23.93	22.87	22.22	23.34	24.52	24.61	24.64	23.71	22.69	21.96	21.10	21.41	22.11	22.39	21.60	20.28	19.24	18.89	19.31	19.37	19.68	20.09	19.92	19.67	19.72	19.99	21.16	22.04	22.23
Lower Hem. Efficiency (%)	31.35	31.36	30.66	29.75	28.54	27.30	25.76	24.76	24.55	24.77	25.89	26.60	26.49	26.17	26.35	27.17	27.99	28.18	27.75	27.15	26.89	28.10	28.94	29.33	30.37	30.16	29.57	29.80	29.49	30.26	31.92	33.27	33.20	32.54	31.66	31.93	33.30	33.92	35.68	37.39	36.46	34.80	34.26	34.61	36.41	37.03	36.29
T90(H)圆度	8.15	7.94	8.07	8.66	9.56	10.71	11.56	11.96	11.77	11.21	10.94	7.41	6.67	5.64	5.12	4.90	5.17	6.00	6.81	6.71	5.71	4.90	4.83	5.44	6.11	6.49	6.66	6.16	5.19	4.72	5.13	6.12	6.45	6.30	5.71	5.21	4.94	5.10	5.81	6.14	5.75	5.14	4.66	4.50	4.60	4.92	5.38
Gain 15deg (dBi)																																															
E1(XZ)波瓣宽度	46.00	44.00	42.00	41.00	40.00	40.00	41.00	44.00	46.00	48.00	48.00	32.00	33.00	32.00	34.00	35.00	35.00	72.00	69.00	68.00	73.00	31.00	75.00	73.00	69.00	68.00	67.00	70.00	71.00	37.00	67.00	68.00	69.00	66.00	66.00	67.00	63.00	62.00	63.00	65.00	65.00	64.00	63.00	62.00	61.00	62.00	62.00
E1(XZ)前后比	1.38	1.34	1.23	1.10	1.05	1.04	1.00	0.96	0.88	0.89	0.99	3.96	3.87	3.53	3.30	3.52	3.85	4.17	4.20	3.98	3.75	3.89	3.95	4.34	4.49	4.27	4.02	3.64	3.88	4.49	4.65	4.32	3.87	3.50	3.16	3.07	3.99	4.67	4.75	4.26	3.54	3.30	3.22	4.08	5.21	5.83	5.68
E2(YZ)波瓣宽度	53.00	53.00	54.00	32.00	27.00	24.00	23.00	52.00	50.00	49.00	47.00	64.00	36.00	35.00	63.00	60.00	57.00	56.00	60.00	63.00	66.00	64.00	61.00	58.00	59.00	59.00	61.00	62.00	61.00	61.00	59.00	60.00	61.00	24.00	27.00	56.00	55.00	27.00	24.00	24.00	23.00	25.00	55.00	55.00	55.00	54.00	55.00
E2(YZ)前后比	0.41	0.22	0.06	0.00	0.00	0.00	0.00	0.33	0.64	0.85	1.04	4.45	4.75	5.25	5.89	6.50	6.75	6.57	6.22	6.13	6.16	6.72	7.23	7.52	7.57	7.32	7.11	6.98	7.08	7.35	7.32	6.87	6.50	6.33	6.38	6.47	6.64	6.67	6.83	7.15	7.16	6.73	6.48	6.49	6.55	6.79	7.30
最大增益处轴比(P)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
仰角10度最差(大)轴比(P)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Hc(XY)波瓣宽度	59.00	61.00	64.00	63.00	62.00	59.00	58.00	55.00	54.00	54.00	53.00	90.00	42.00	41.00	93.00	97.00	102.00	99.00	92.00	90.00	91.00	98.00	103.00	104.00	101.00	97.00	92.00	90.00	92.00	98.00	99.00	94.00	91.00	89.00	88.00	89.00	91.00	95.00	95.00	93.00	91.00	88.00	91.00	94.00	96.00	96.00	93.00
Hc(XY)前后比	0.81	0.66	0.58	0.71	0.91	1.13	1.26	1.33	1.31	1.29	1.33	1.86	1.82	1.26	0.89	0.62	0.67	1.17	1.96	2.29	1.82	1.15	0.90	1.13	1.59	2.05	2.38	2.38	1.85	1.35	1.47	1.54	1.76	1.96	1.93	1.77	1.31	0.99	0.92	1.04	1.21	1.29	1.06	0.86	0.61	0.47	0.65
Empty																																															





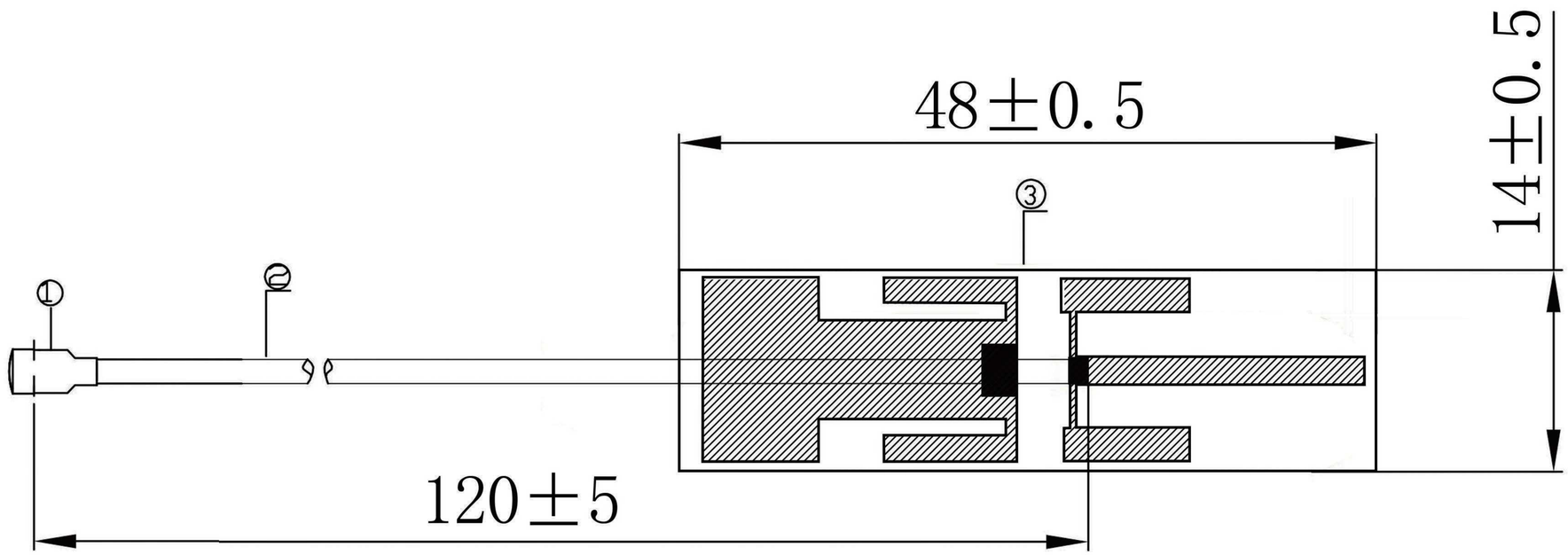






SIGN	DATE	DESCRIPTION	APPROVER
B			
C			
D			

RoHS
Compatible



备注：带*尺寸為重点控制尺寸.
未注公差参照标准公差.

序号	物料编号	物料名称规格	用量	单位
3	PCB-2458	PCB: W*L=14*48mm 黄色	1	PCS
2	RG1.13-1	线材: RG1.13 ø1.1mm 铜镀锡 黑色	0.13	M
1	IPEX	接头 IPEX-01 铜镀金	1	PCS

TITLE: 2.4-5.8G 双频PCB天线

PART NO: AN2458-1395L130 | DWG NAME: AN2458-1395L130

APPROVED BY	CHECKED BY	DESIDNED BY		Tolerance
		Xuwen 2018.1.6	UNITS: mm SCALE: 1/1 REVISION: A	X.X ±0.2 X.XX ±0.1 X° ±1°