Specification For Approval

Customer： Shenzhen XilaiHe Technology Co., Ltd

Customer P/N：

Tengxiang P/N： TC167

Description : ANTENNA

Tengxiang Checked By:	Customer Approved By:

Manufacturer: Shenzhen XilaiHe Technology Co., Ltd
Address: 505, Building 10, Imperial Garden, No. 7, Futian South Road, Futian Street, Port Community, Futian District Shenzhen

1. Specification

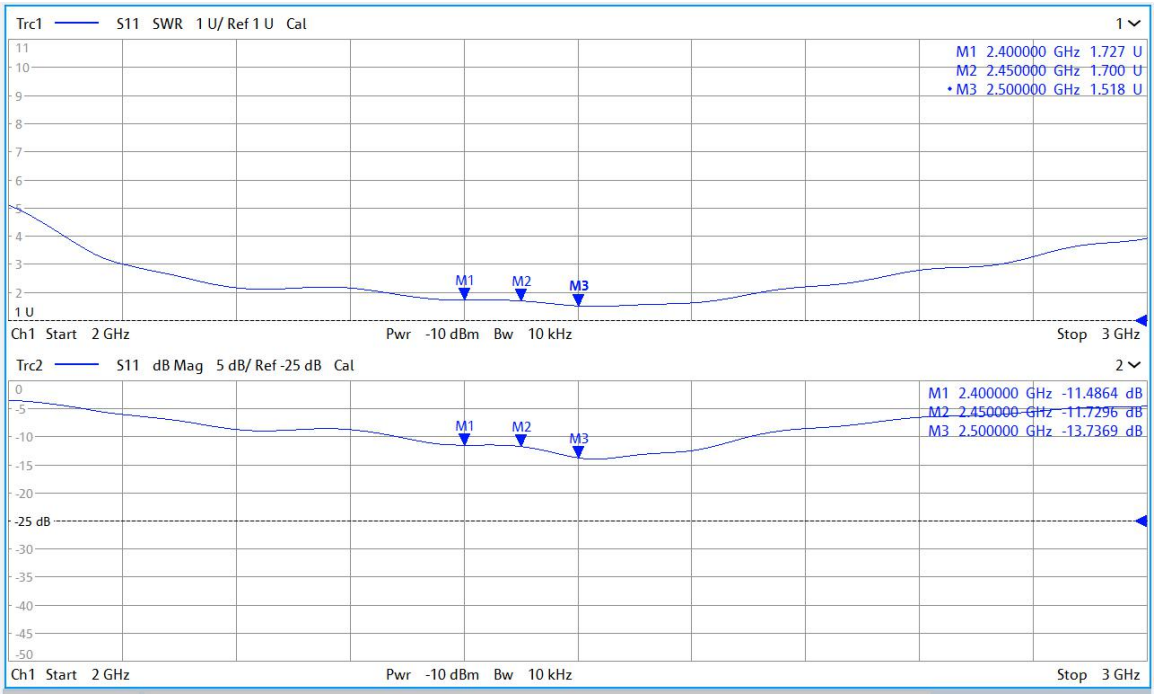
Sample Photo	
	
A. Electrical Characteristics	
Frequency	**2400-2500MHz**
S.W.R.	**<= 2.0**
Antenna Gain	**2 dBi**
Polarization	**Linear**
Impedance	**50 Ohm**
B. Material & Mechanical Characteristics	
Material of Radiator	**Cu**
Material of Plastic	**FPC**
Cable Type	**1.13 GRAY**
Connector Type	**/**
C. Environmental	
Operation Temperature	**- 40 ˚C ~ + 80 ˚C**
Storage Temperature	**- 40 ˚C ~ + 80˚C**

2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual	Directive DUT specification

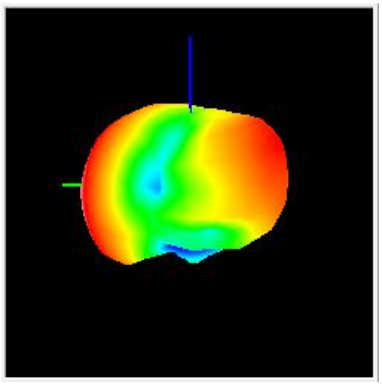
		calibration to test	
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	MIL-STD-202G, 211A, cond. E 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	MIL-STD-202G, 101E, cond. B 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	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	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.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 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 EU 2015/863

3. Antenna - S Parameter Test Data

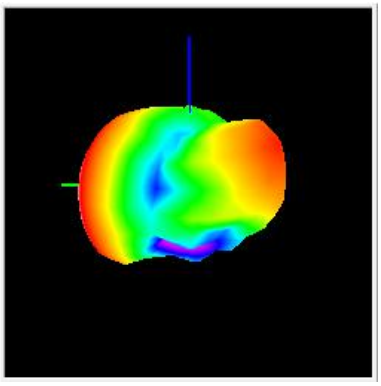


4. Antenna - Radiation Pattern Test Data

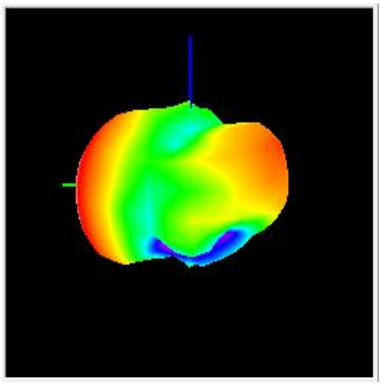
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
1	2400.0	2400.00	1.93	5.87	40.4%	-3.94	1.93	90	90	-20.69	150	195	-5.22	22.62	7.15	-15.47
2	2410.0	2410.00	2.05	6.12	39.1%	-4.08	2.05	90	90	-19.54	150	195	-5.17	21.59	7.22	-14.37
3	2420.0	2420.00	1.90	6.04	38.5%	-4.15	1.90	90	90	-18.69	150	195	-5.44	20.58	7.34	-13.24
4	2430.0	2430.00	1.95	6.13	38.2%	-4.18	1.95	90	90	-18.07	150	210	-5.45	20.02	7.40	-12.62
5	2440.0	2440.00	2.25	6.27	39.6%	-4.02	2.25	90	90	-17.48	150	210	-5.20	19.74	7.46	-12.28
6	2450.0	2450.00	2.40	6.21	41.6%	-3.81	2.40	90	90	-17.86	135	210	-5.16	20.26	7.56	-12.71
7	2460.0	2460.00	2.66	6.72	39.2%	-4.06	2.66	90	90	-18.95	135	210	-5.03	21.60	7.68	-13.92
8	2470.0	2470.00	2.70	6.82	38.8%	-4.11	2.70	90	90	-20.36	135	210	-5.07	23.07	7.77	-15.30
9	2480.0	2480.00	2.79	6.87	39.1%	-4.08	2.79	90	90	-20.47	135	210	-5.01	23.26	7.81	-15.45
10	2490.0	2490.00	3.01	6.84	41.4%	-3.83	3.01	90	90	-19.19	135	210	-4.78	22.20	7.78	-14.41
11	2500.0	2500.00	3.22	6.88	43.0%	-3.66	3.22	90	90	-17.62	135	165	-4.61	20.84	7.82	-13.01



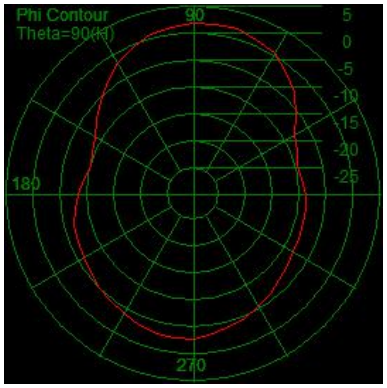
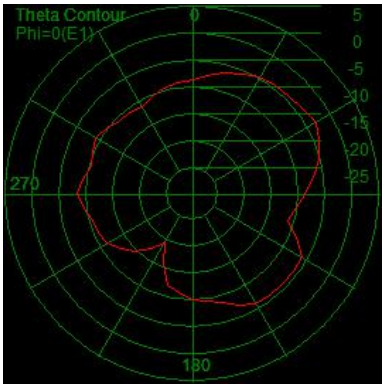
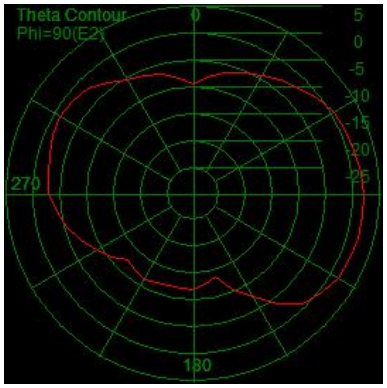
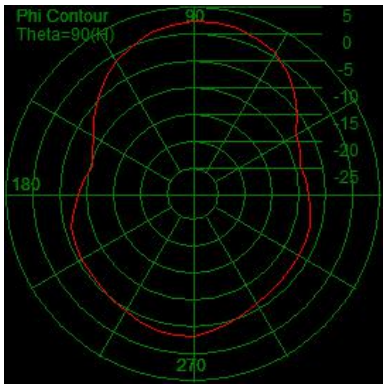
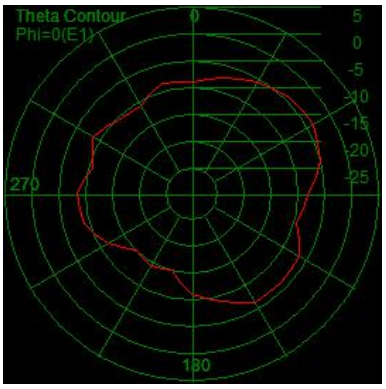
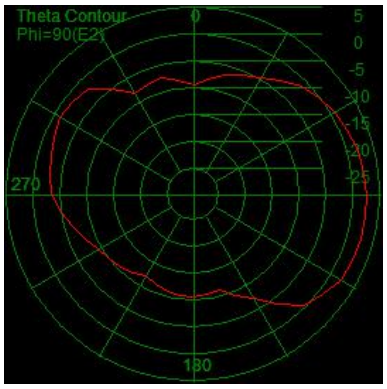
2400MHz



2450MHz



2500MHz

	XY_Plane	XZ_Plane	YZ_Plane
2400MHz			
2450MHz			
2500MHz