Shenzhen Maya Communication Equipment Co., LTD

Product performance and Specification Acknowledgement

name of material: E957JES

Sample Color: black

Sample types: FPC

Customer Model:

☐ Open the appearance of

Supplier: Shenzhen Maya Communication Equipment Co., LTD.

fiction	structure	character	ratify	Send sample date
				2023.05.26

Customer: Oni Technology

department	affirm	date	state	sign and seal
electron				
structure				
character				

project				

1. Confidentiality requirements: Shenzhen Maya Communication Equipment Co., Ltd. has the proprietary technology of this product, without Shenzhen Maya communication equipment Limited agrees in writing not to be disclosed to any company or individual.

2. Special Note: All parties must carefully read the "Special Terms and Conditions" and the contents of the catalogue before signing this document. After signing this document, the representatives of both parties shall be deemed to have reached an agreement with this document, and both parties are willing to abide by it.

Shenzhen Maya Communication Equipment Co., LTD

special clause

1. For the performance and structure confirmation section

★ Please effectively confirm the appearance and performance of the product before signing the confirmation letter.

★ Please be sure to provide the final trial production machine to us or take it back for verification before mass production.

★ Since the product of this admission is highly sensitive, please keep the test machine for subsequent traceability.

★ Because this product is customized items, the use of pertinence is strong, the customer in the material replacement or used for non-specified project, please be sure to change the material or the machine back to verify the RF performance, otherwise, may lead to the use of the design status, the storage debugging prototype function confirmation, to ensure that our debugging sample function completely normal, to prevent the abnormal antenna performance of antenna performance error.

2. About product storage issues

★ Because the product surface printing ink, back glue, electroplating objects, please be sure to confirm in the storage or transportation process in the temperature between 23℃ -27℃, relative humidity below 60%, no strong acid, no sulfur, no oxygen environment storage or transportation.

★ Due to the harsh environmental requirements of the product back glue, please assemble the product within the optimal service period after receiving the product to ensure the reliability of the product.

3. Agreement on product use

★ Due to the special structure of the product, please use the product, and the paste objects must not be residual chemical agent (release agent, etc.) or try not to use raw materials with release agent, in order to ensure the product use state, please use the paste object surface before the product, to ensure that the paste object surface without any chemical residue.

4. Statement the quality of this product

★ Due to the influence of the above factors, it is suggested that the optimal use period of this product is 12 months, overdue will affect the use effect of the product. Our company will provide lifelong consultation and paid replacement service for this product.

★ This product is a special customized device. Please inspect the appearance, quantity and performance of the product according to the standards stipulated in the Product Performance and Specifications Recognition within 7 days after receiving the product. overdue, the quality of the product shall be deemed to meet the standards agreed by both parties.

★ Verification method: seal proof of acceptance.

catalogue

1. Frequband for customer antenna debugging and design

frequency	frequency range
W IFI	WIFI 2G.4
else	/

2. Product hand, machine and antenna diagram

Mobile phone figure

3. Electric performance

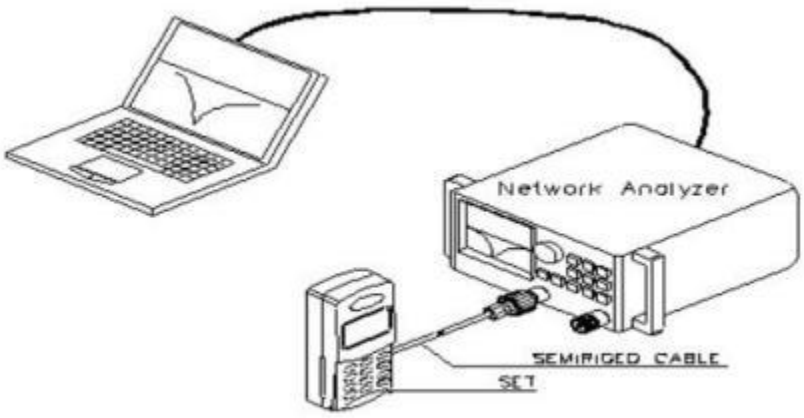
3.1 Description of the test method and the data

implementor name	use
Vector Network Analyzer	S 11/Impedance / Passive Test
Agilent 8960 SP 6010 R &S CMU 200	Mobile phone mobile communication device test including GSM, GPRS, EDGE, CDMA2000,1 xEV-DO, TD-SCDMA, WCDMA, and HSDPA
R &S CMW 500 MT 8820C	Containing TD-SCDMA, WCDMA, and HSDPA, LTE, WIFI, GPS mobile phone mobile communication equipment test
SP 9500E	Contains 5G, SA, and NSA
Agilent E 4438C	Test for the active GPS
MVG Chamber	Passive Test / OTA active Test / Efficiency /Gain

3.2 Passive Test Report (Passive Test Report)

Test equipment: network analyzer

Test method: use a 50 ohm CABLE cable to export the data from the instrument test port, use the SMA connector of the hand mechanism after the calibration part, and record the data such as echo loss or standing wave ratio corresponding to the relevant frequency point.



测试示意图

3.3 Active Test Report (Active Test Report)

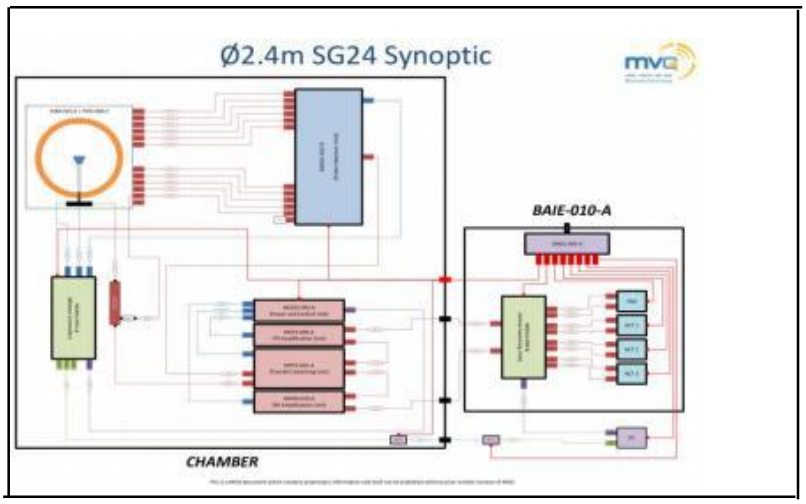
TRP /TIS

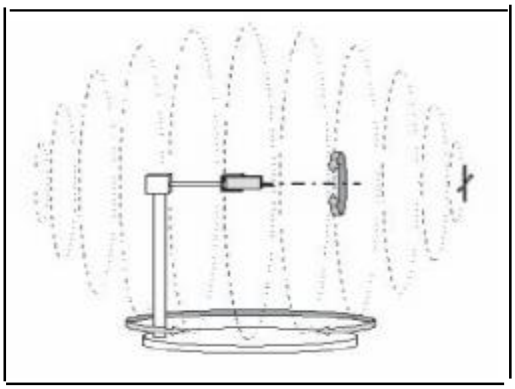
Test tools: comprehensive tester, network analyzer, full radio far field ETS, The French MVG SG24LT (Satmio) near-field 3D microwave dark chamber, High-precision positioning system and its controller and computer test environment with automatic test program: temperature 22℃ ± 3℃, Humidity 60% ± 15% test method: test method and calculation of TRP of system software during the TRP test, The DUT (Device Under Test) is in the maximum transmitting power state, Select high school, low three channels for testing, Controlling the position of the DUT through the positioning system, With 15 degrees as the step length, Measure the effective radiation power (EIRP) at each point in the three-dimensional space, By integrating the average over the sphere, The calculation formula is as follows:

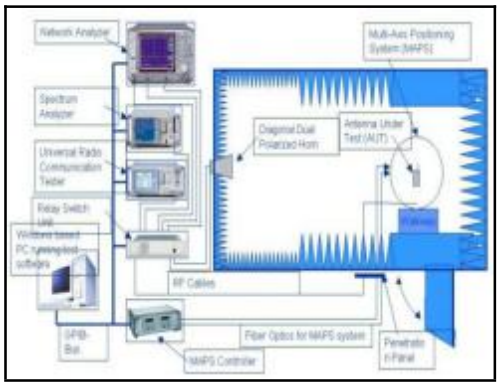
$$TRP \cong \frac{\pi}{2NM}\sum_{i=1}^{N-1}\sum_{j=0}^{M-1}\left[EiRP_{\theta}(\theta_i,\phi_j)+EiRP(\theta_i,\phi_j)\right]\sin(\theta_i)$$

In the TIS test, DUT is in the maximum transmitting power state, and three channels, high and low, are selected for the test. By controlling the position of DUT, measuring the receiving sensitivity of each point in the 3-dimensional space, and calculate the average value on the sphere by integrating. The calculation formula is as follows:

$$TIS \cong \frac{2NM}{\pi\sum_{i=1}^{N-1}\sum_{j=0}^{M-1}\left[\frac{1}{EIS_{\theta}(\theta_i,\phi_j)}+\frac{1}{EIS_{\phi}(\theta_i,\phi_j)}\right]\sin(\theta_i)}$$





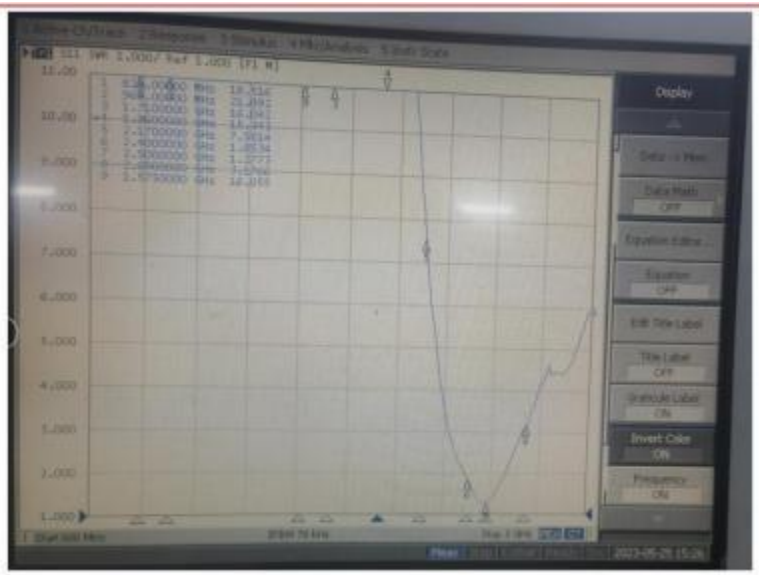

Network Analyzer
Spectrum Analyzer
Universal Radio Communication Tester
Relay Switch Unit
Wireless based PC running test software
GPIB-Bus
Multi-Axis Positioning System (MAPS)
Diagonal Dual Polarized Horn
Antenna Under Test (AUT)
RF Cables
Fiber Optics for MAPS system
MAPS Controller
Penetrator Panel

3.4 Active OTA TRP / TIS data

BAND	WiFi_11b_CCK_11M		
CHANNAL	L	M	H
TRP	14.69	15.26	14.99
TIS	--	--	-78.34

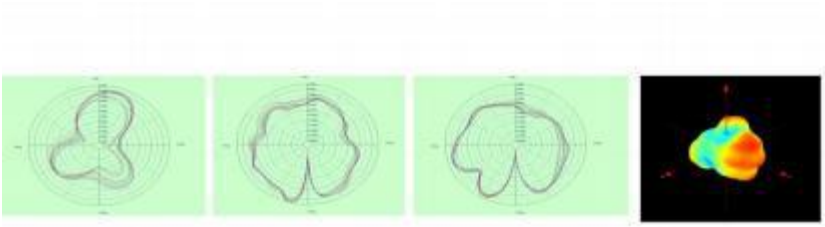
3.5 Non-Active (Passive Test) data

被测物

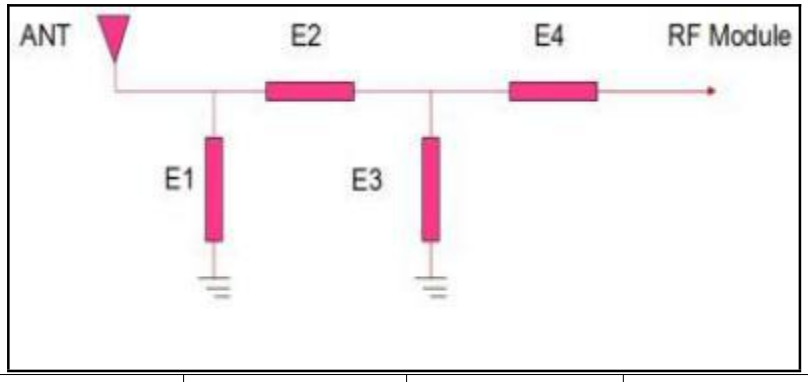


天线无源数据

Frequency	Efficiency	Efficiency . dB	Frequency	Gain . dB
2.4E+09	53%	-2.7762	2.4E+09	2.397087
2.41E+09	52%	-2.80763	2.41E+09	2.633969
2.42E+09	52%	-2.80639	2.42E+09	2.967277
2.43E+09	55%	-2.56974	2.43E+09	3.086052
2.44E+09	56%	-2.52062	2.44E+09	2.890512
2.45E+09	56%	-2.49061	2.45E+09	3.006355
2.46E+09	57%	-2.43261	2.46E+09	2.881678
2.47E+09	58%	-2.33223	2.47E+09	2.772369
2.48E+09	57%	-2.46175	2.48E+09	2.514157
2.49E+09	56%	-2.55028	2.49E+09	2.341894
2.5E+09	56%	-2.53603	2.5E+09	2.444133



4. Matching circuit description



B AND	main antenna	triangle	diversity antenna
E l ement	V alue	V alue	V alue
E 1(0402)			
E 2(0402)			
E 3(0402)			
E 4(0402)			

5. Environmental treatment

6. Structural drawings