

Antenna specification for approval

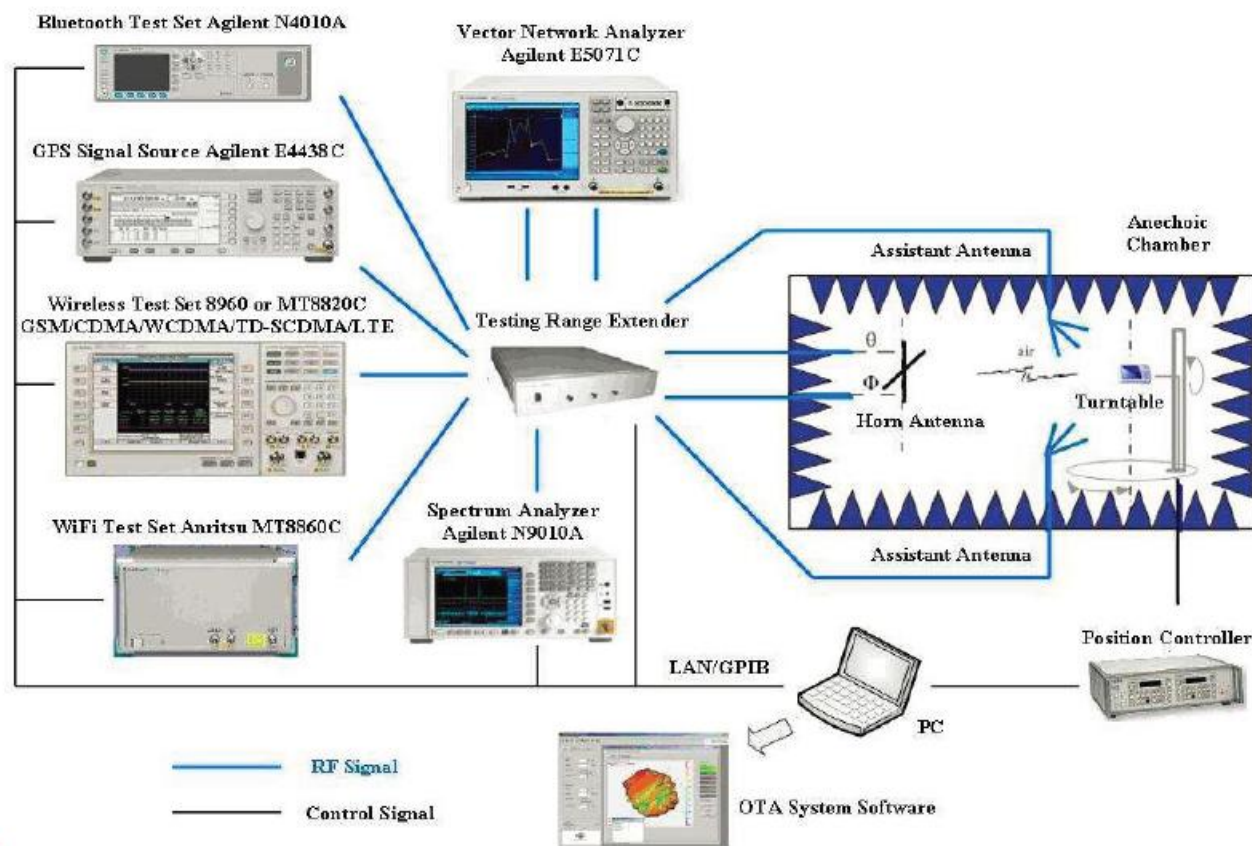
Customer name	Cheng feng		
Model	MQ825MB-8 inch Jin Lichen T8 plastic shell - Long Co GS717B motherboard -MTK8765 main control		
Antenna frequency	1.575GHZ&2.4GHz		
Antenna function	GPS&WIFI&BT antenna		
Antenna material	FPC	FPC color	black
model	ST1701A-1B2-A		
Material number	ST1701A-1B2-A		
Customer Part Number			
Ward accepted the signature		Client acknowledges signature	
structure		Purchase	
QC		structure	
radio frequency		engineering	
To examine		QC	
Responsible LTT		To examine	
date 2022.12.12	Seal area	date 2022.12.12	Seal area

Serial number	Certification number	Material type	Date of issue	Remarks
1	A2220186128101ER1	Tinned copper wire	2022-05-17	One year
2	CANEC2200386502	halogen	2022-01-12	One year
3	CANEC2200386501	Adhesive	2022-01-12	One year
4	SHAEC2200415801	FEP sheath	2022-01-15	One year
5	SHAEC2127178503	FEP insulation	2021-12-21	One year
6	SZXEC2203054804	Tin wire	2022-09-19	One year
7	SZXEC2203054808	Tin	2022-09-19	One year
8	ETR22300684	Printing ink	2022-03-09	One year
9	EKR22501369	Substrate	2022-06-27	One year
10	CANEC2124348308	EVA foam	2022-01-14	One year
11	SZXEC2202709609	Conductive cloth	2022-08-16	One year
12	CANEC2218227002	Gold plating	2022-08-30	One year

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一: Device Support & Testable Antenna Type



Antenna function	Frequency Range	test instrument	test method	standard test
2G antenna (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B、8960 OTA darkroom	Active test, passive test	Soward standards, customer requirements
3G antenna (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B、8960 OTA darkroom	Active test, passive test	Soward standards, customer requirements
4G antenna (LTE-FDD/LTE-TDD)		5071B、CMW500、 SP8011、OTA darkroom	Active test, passive test	Soward standards, customer requirements
WIFI antenna	2.4GHz-2.48GHz, 5.15GHz-5.35GHz, 5.725GHz-5.825GHz	5071B、CMW500、OTA darkroom、router、 PC	Active test, passive test, APK actual test, throughput test	Soward standards, customer requirements
BT antenna	2.4GHz-2.48GHz,	5071B、OTA darkroom 、Bluetooth Speaker	Passive test, actual test	Soward standards, customer requirements
Positioning antenna (GPS, GLONASS, Beidou, Galileo)	1.575.42MHz±10MHz 1602MHz±0.5625MHz 1561MHz±2.046MHz	5071B、OTA darkroom 、APK	Passive test, actual test	Soward standards, customer requirements
NFC antenna	13.56MHz	5071B、Dedicated test fixture、OTA darkroom、APK	Passive test, actual test	Soward standards, customer requirements
Remote control antenna	433MHz	5071B、OTA darkroom	Passive test, actual test	Soward standards, customer requirements

二: Overview

(1) Antenna performance

1. This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of GPS&WIFI&BT antenna.
2. Antenna shape size: Meet the requirement of MID
3. Antenna band: 1570MHz~1580MHz、2400MHz~2500MHz
4. Antenna material: Antenna material meet the requirement of MID
5. Adhesive performance: Adhesive performance meet the requirement of MID
6. Antenna performance meet the spec below:

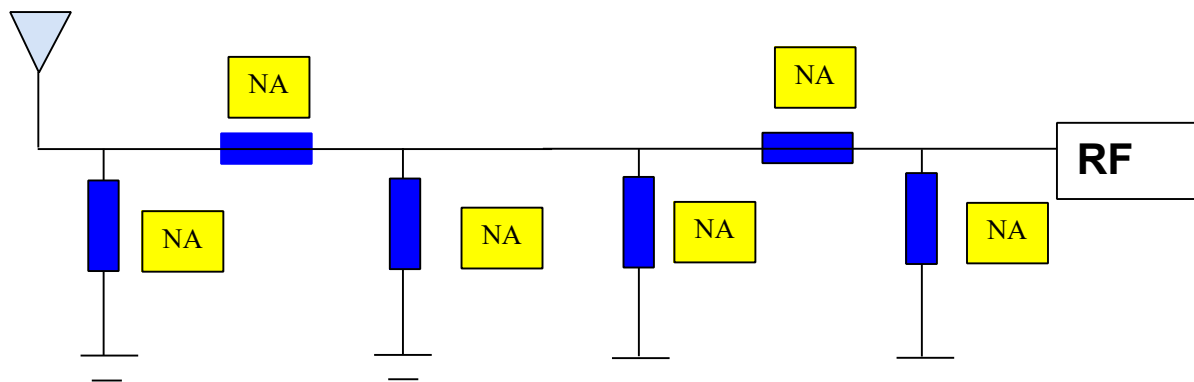
Description	1. 57GHz~1. 58GHz	2. 4GHz~2. 5GHz	Units
VSWR	≤2. 0		
Average Antenna Gain	≥-4. 5		dB
Antenna Efficiency	≥35		%
Feed Impedance	50 ohms		
Operating Temperature	-40 to +85 deg C		
Polarization / Azimuth	Linear / Omni-directional		

(2) Mechanical Information

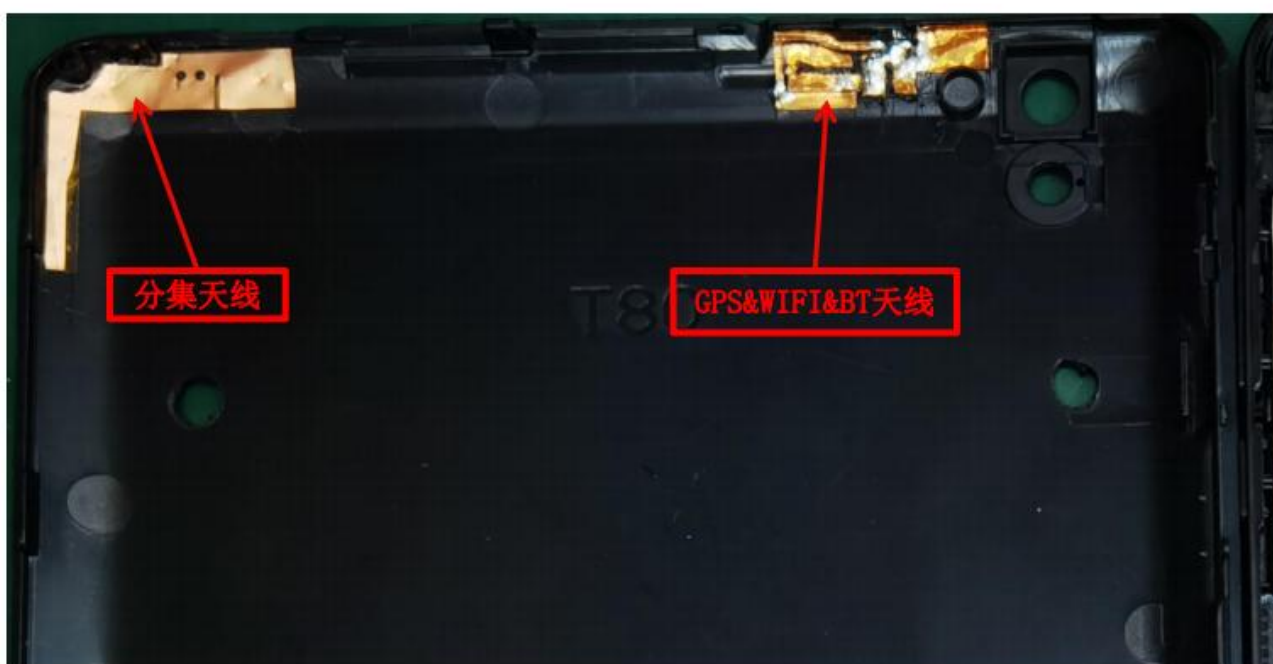
Mechanical Dimension	
Cable Length	NA
Description	GPS&WIFI&BT antenna
Material	FPC
Coaxial Cable	NA
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

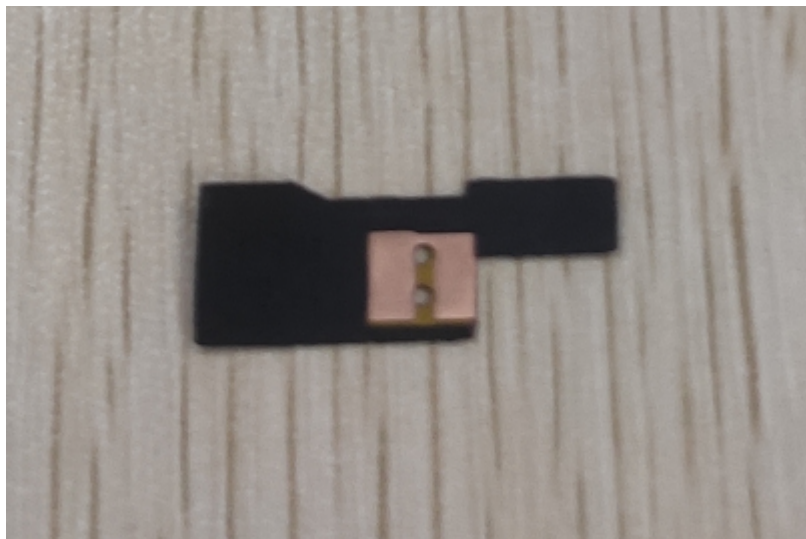
三: Matching Circuit Diagram & Machine Picture & Antenna Picture

(1) Matching circuit

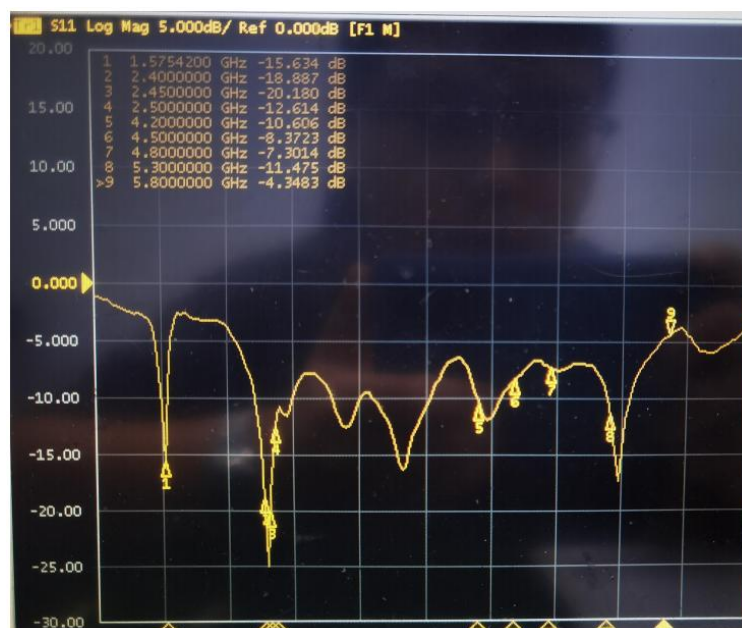


(2) Machine picture & antenna picture





四:Antenna Standing Wave Ratio & Antenna Efficiency (VSWR)



Passive Test For 2.4G-WiFi-BT										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	20.51	-6.88	-1.54	-3.69	9.396	11.111	-1.54	-17.97	48.17	48.46
2410	21.2	-6.74	-1.52	-3.67	9.722	11.476	-1.52	-18.44	48.11	48.35
2420	20.7	-6.84	-1.53	-3.68	9.611	11.093	-1.53	-18.62	48.2	48.41
2430	19.21	-7.16	-1.89	-4.04	9.041	10.168	-1.89	-19.2	48.26	48.37
2440	18.98	-7.22	-1.87	-4.02	9.054	9.931	-1.87	-19.12	48.49	48.62
2450	20.15	-6.96	-1.6	-3.75	9.689	10.463	-1.6	-19.12	48.72	48.83
2460	21.55	-6.66	-1.21	-3.36	10.371	11.182	-1.21	-19.27	48.84	48.93
2470	22.79	-6.42	-0.96	-3.11	10.946	11.842	-0.96	-19.96	48.87	48.93
2480	23.83	-6.23	-0.68	-2.83	11.352	12.478	-0.68	-19.94	49.08	49.16
2490	22.94	-6.39	-0.87	-3.02	10.82	12.119	-0.87	-19.36	49.34	49.33
2500	19.52	-7.1	-1.55	-3.7	9.029	10.487	-1.55	-19.49	49.21	49.21

Passive Test For GPS										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
1570	37.13	-4.3	-0.13	-2.28	16.388	20.738	-0.13	-11.79	42.51	42.73
1571	36.97	-4.32	-0.13	-2.28	16.298	20.674	-0.13	-11.98	42.53	42.76
1572	36.82	-4.34	-0.14	-2.29	16.223	20.594	-0.14	-12.1	42.55	42.79
1573	36.74	-4.35	-0.14	-2.29	16.195	20.548	-0.14	-12.14	42.57	42.82
1574	36.79	-4.34	-0.12	-2.27	16.199	20.587	-0.12	-12.21	42.59	42.85
1575	36.94	-4.32	-0.08	-2.23	16.268	20.677	-0.08	-12.2	42.61	42.89
1576	37.26	-4.29	-0.02	-2.17	16.407	20.851	-0.02	-12.18	42.64	42.92
1577	37.71	-4.24	0.07	-2.08	16.602	21.105	0.07	-12.19	42.66	42.95
1578	38.23	-4.18	0.16	-1.99	16.832	21.394	0.16	-12.14	42.68	42.98
1579	38.78	-4.11	0.24	-1.91	17.067	21.712	0.24	-12.03	42.7	43.01
1580	39.35	-4.05	0.35	-1.8	17.317	22.032	0.35	-12	42.72	43.04

五:Antenna field map

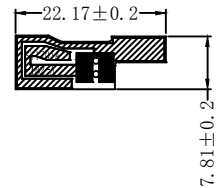
实测效果	
机型编号	1
测试环境	索沃德研发中心
测试设备	华为AM08
测试距离	>10米



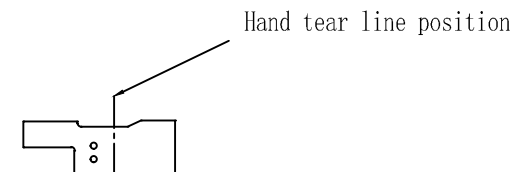


六:Structural drawing

Gum-3M300



positive



opposite

Technical requirements:

1. Please use half to half PI substrate, electrolytic copper.
2. The yellow part is the wiring part, the surface is sprayed with matt black, and the words are printed bright and black.
3. The yellow shaded parts are exposed welding points, and the process requires electrometal treatment.
4. All materials comply with the environmental protection ROHS standard.
5. The key dimension with "*" is ± 0.03 .

Test criteria:

- 1, Shape dimensions and line dimensions consistent with drawings, within controllable tolerances.
- 2, Antenna line, broken line, FPC bend to do 180 ° bending experiment, no fracture, more than 5 times PASS.
- 3, Clear, no misprints.

Packaging requirements:

1. PE sealed pocket packaging.
2. 100 pcs/bag.

SWARD

ShenZhen SWARD Communication
Technology Co.Ltd

ST1701A-1B2-A

ROHS

	signatures	date	mass	signatures	date	time markup				percentage	SI1701A-1B2-A
	RD	LZW	2019.	QC							ROHS
	RF					1			A	1:1	
	audits			approval		共 1 张				第 1 张	