

Antenna specification for approval

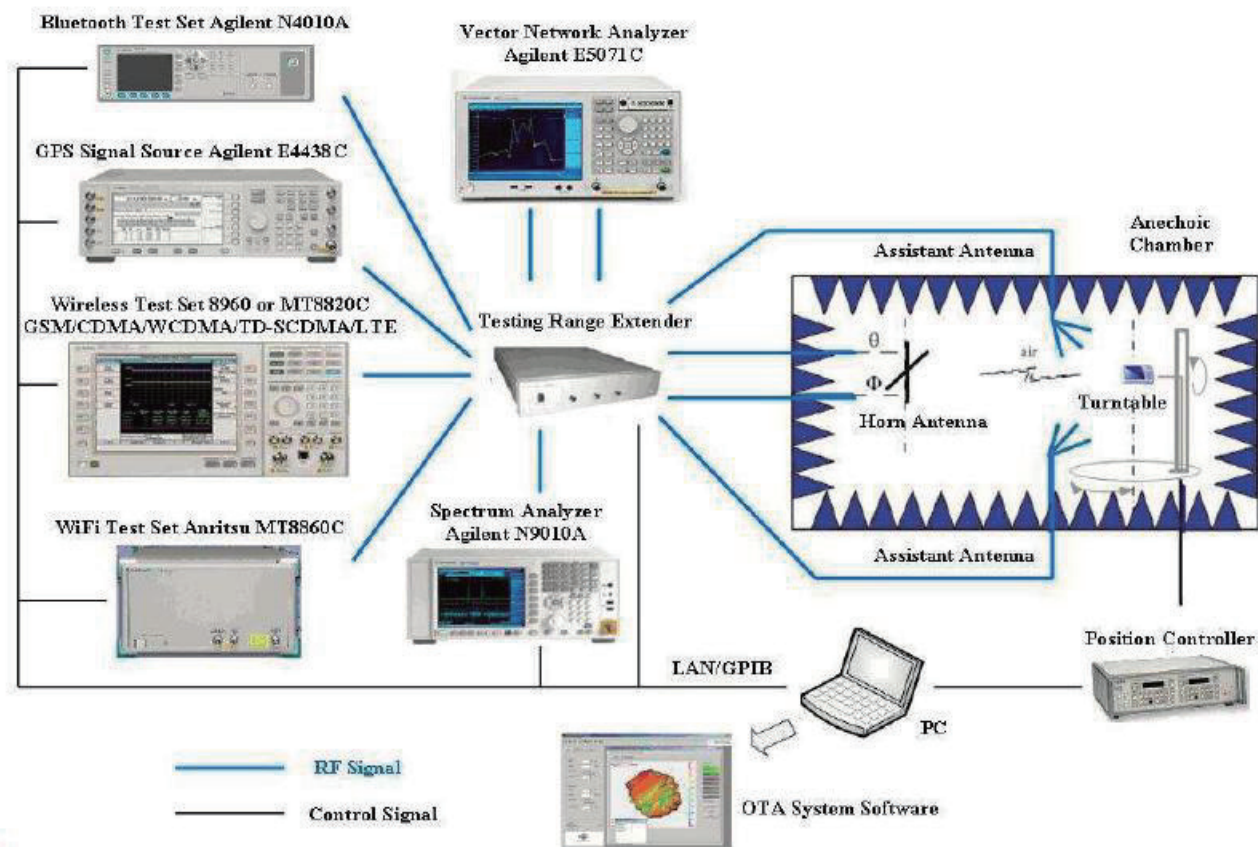
Customer name	Gomeidi		
Model	YV096-M39 special rearview mirror -8188FTV module		
Antenna frequency	2.4GHZ		
Antenna function	WIFI antenna		
Antenna material	FPC	FPC color	black
model	SF1948A-1B2-A		
Material number	SF1948A-1L11G-115-A		
Customer Part Number			
Ward accepted the signature		Client acknowledges signature	
structure		Purchase	
Document control		structure	
radio frequency		engineering	
To examine		QC	
Responsible LTT		To examine	
date 2023.03.31	Seal area	date 2023.03.31	Seal area

Serial number	Certification number	Material type	Date of issue	Remarks
1	A2220186128101ER1	Tinned copper wire	2022-05-17	One year
2	CANEC2227657302	halogen	2022-12-28	One year
3	CANEC2227657303	Adhesive	2022-12-28	One year
4	SHAEC23000346911	FEP sheath	2023-01-13	One year
5	SHAEC22004639301	FEP insulation	2022-12-15	One year
6	SZXC2203054804	Tin wire	2022-09-19	One year
7	SZXC2203054808	Tin	2022-09-19	One year
8	ETR22300684	Printing ink	2022-08-09	One year
9	EKR22501369	Substrate	2022-05-27	One year
10	CANEC2227574118	EVA foam	2023-01-03	One year
11	SZXC2202709609	Conductive cloth	2022-08-16	One year
12	CANEC2218227002	Gold plating	2022-08-30	One year

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1:Device Support & Testable Antenna Type



Antenna function	Frequency range	testing instrument	testing mode	Testing standards
2G-Antenna (GSM)	824MHz-960MHz 1710MHz-1990MHz	5071B,8960,OTA-darkroom	Active testing passive testing	Suo Ward standard, customer requirement
3G-Antenna (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz 1710MHz-2170MHz	5071B,8960,OTA-darkroom	Active testing passive testing	Suo Ward standard, customer requirement
4G-Antenna (LTE-FDD/LTE-TDD)		5071B,CMW500,SP8011,OTA-darkroom	Active testing passive testing	Suo Ward standard, customer requirement
WIFI-Antenna	2.4GHz-2.48GHz 5.15GHz-5.35GHz 5.725GHz-5.825GHz	5071B,CMW500,OTA-darkroom, router,PC	Active testing passive testing, APK Testing Throughput testing	Suo Ward standard, customer requirement
BT-Antenna	2.4GHz-2.48GHz	5071B,OTA-darkroom, Bluetooth Speaker	Passive testing, actual measurement	Suo Ward standard, customer requirement
Positioning-antenna (GPS,Glonass, Beidou, Galileo)	1575.42MHz±10MHz 1602MHz±0.5625MHz 1561MHz±2.046MHz	5071B,OTA-darkroom,APK	Passive testing, actual measurement	Suo Ward standard, customer requirement
NFC-Antenna	13.56MHz	5071B,OTA-darkroom,APK, Specialized testing fixture	Passive testing, actual measurement	Suo Ward standard, customer requirement
Remote control antenna	433MHz	5071B,OTA-darkroom	Passive testing, actual measurement	Suo Ward standard, customer requirement

2: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 WIFI antenna.
- 2.Antenna shape size: Meet the requirement of MID
- 3.Antenna band: 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:

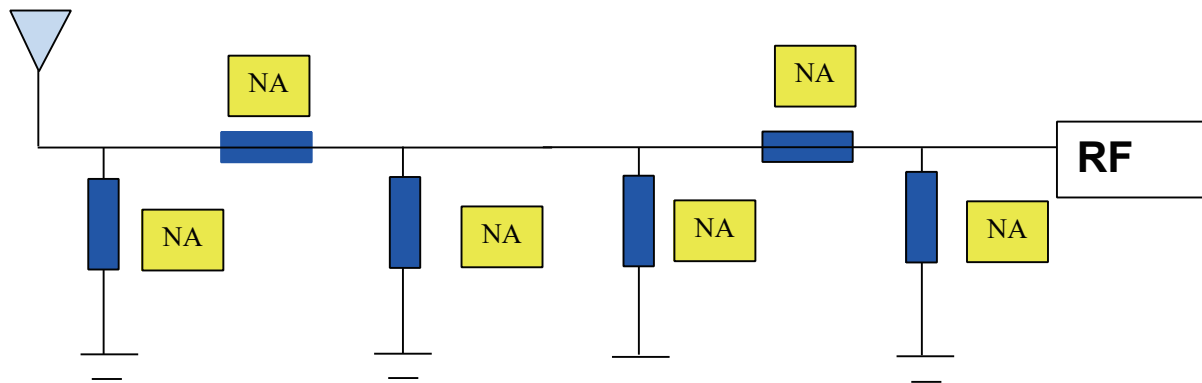
Description	2. 4GHZ~2. 5GHz	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Antenna Efficiency	≥ 40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

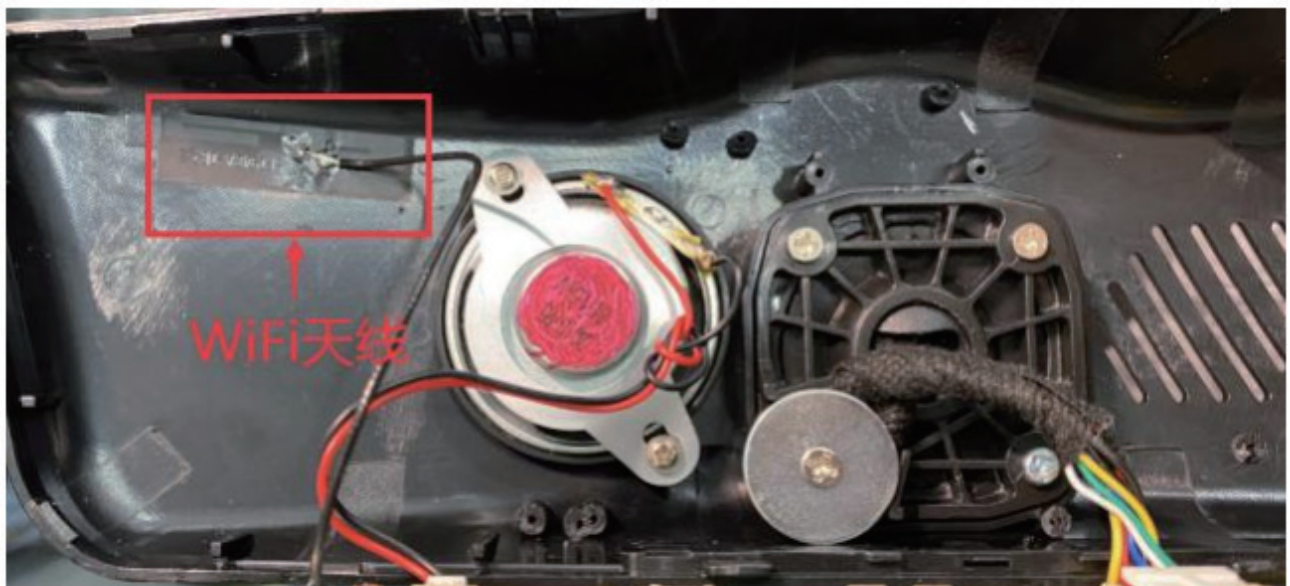
Mechanical Dimension	
Cable Length	115mm/GRAY
Description	WIFI antenna
Material	FPC
Coaxial Cable	50Ω/O. D. 1.13mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

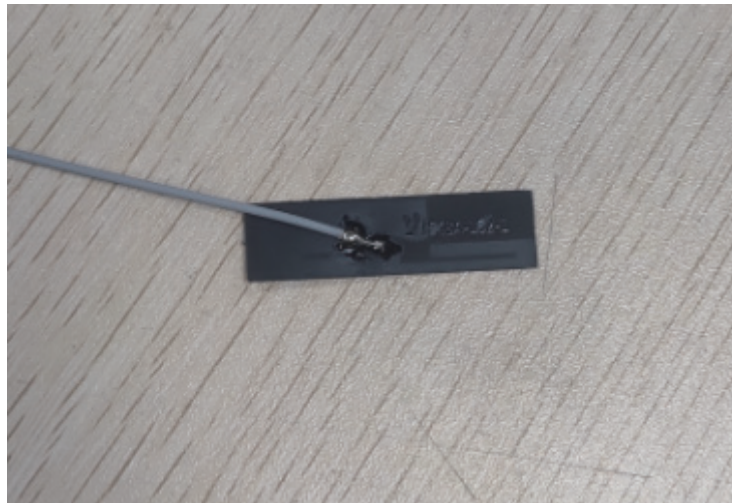
3: Matching circuit diagram & machine picture & antenna picture

(1) Matching circuit

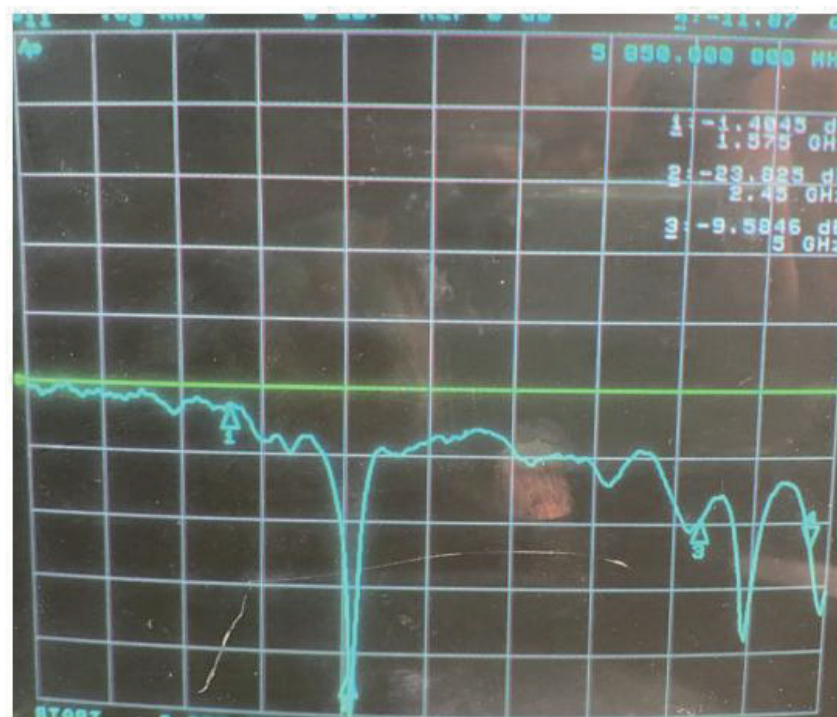


(2) Machine picture & antenna picture





4:Antenna standing wave ratio & Antenna Efficiency



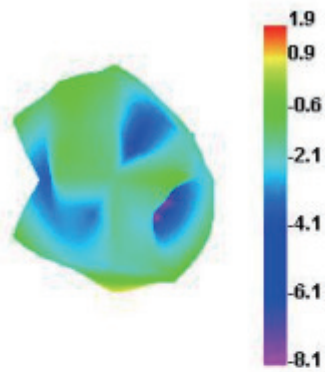
Passive Test For 2.4G			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	34.07	-4.68	1.88
2410	33.11	-4.8	2.14
2420	34.38	-4.64	2.53
2430	34.91	-4.57	2.66
2440	38.49	-4.15	3.02
2450	41.03	-3.87	3.32
2460	39.86	-3.99	3.16
2470	37.89	-4.21	2.88
2480	38.73	-4.12	2.76
2490	41.21	-3.85	2.9
2500	43.75	-3.59	2.98

5 :Antenna map

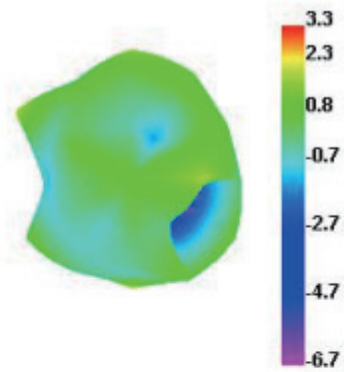
Actual test effect	
Model number	1
testing environment	Soward R&D Center
Test equipment	iphone 13
test distance	10 meters

6 :3D pattern

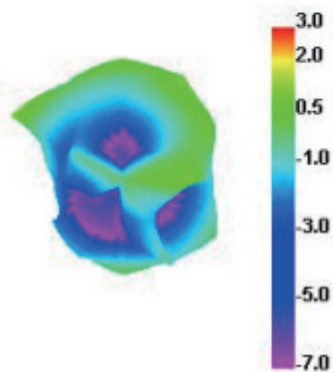
2400.000MHz



2450.000MHz



2500.000MHz



7 :Structural drawing

