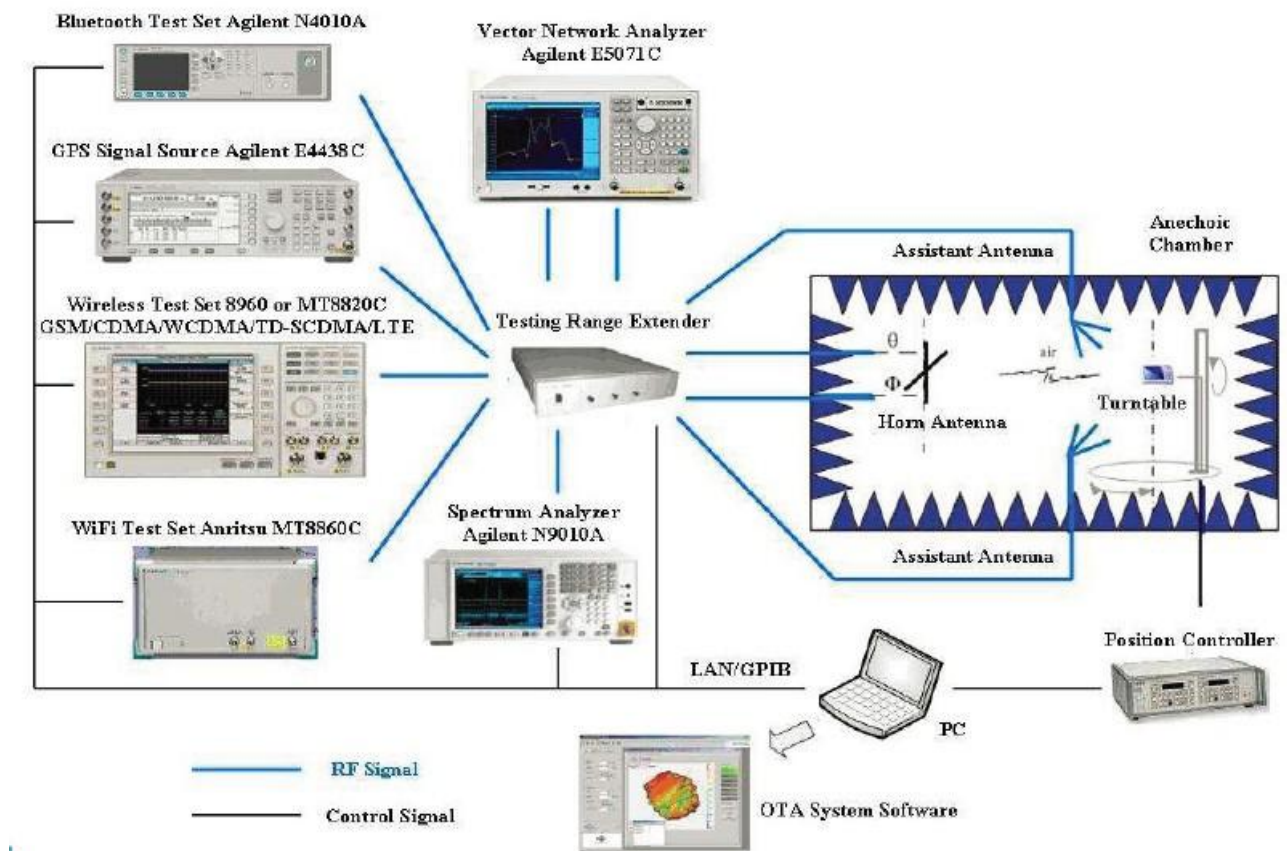


Antenna specification for approval

Customer name			
Model			
Antenna band	2. 4GHZ		
Antenna type	BL022-FPC ANT		
Antenna material	FPC		
FPC color	black		
Material number	BL022-FPC ANT		
Baren accepted the signature		Client acknowledges signature	
structure		Purchase	
QC		structure	
radio frequency		engineering	
To examine		QC	
SSS date 2024. 9. 6	Seal area	SSS date 2024. 9. 6	Seal area

1: Device support&testable antenna types



天线功能	频率范围	测试仪器	测试方式	测试标准
2G天线 (GSM)	824MHz-960MHz, 1710MHz-1990MHz	5071B、8960、 OTA暗室	有源测试、无源测试	索沃德标准、客户要求
3G天线 (WCDMA/TDSCDMA/CDMA-EVDO/2000)	824MHz-960MHz, 1710MHz-2170MHz	5071B、8960、 OTA暗室	有源测试、无源测试	索沃德标准、客户要求
4G天线 (LTE-FDD/LTE-TDD)		5071B、CMW500、 SP8011、OTA暗室	有源测试、无源测试	索沃德标准、客户要求
WIFI天线	2.4GHz-2.48GHz, 5.15GHz-5.35GHz, 5.725GHz-5.825GHz	5071B、CMW500、 OTA暗室、路由器 、PC	有源测试、无源测试 、APK实测、吞吐量 测试	索沃德标准、客户要求
BT天线	2.4GHz-2.48GHz	5071B、OTA暗室 、蓝牙音箱	无源测试、实测	索沃德标准、客户要求
定位天线 (GPS、GLONASS、北斗、伽利略)	1575.42MHz±10MHz 1602MHz±0.5625MHz 1561MHz±2.046MHz	5071B、OTA暗室 、APK	无源测试、实测	索沃德标准、客户要求
NFC天线	13.56MHz	5071B、专用测试 治具、OTA暗室、 APK	无源测试、实测	索沃德标准、客户要求
遥控天线	433MHz	5071B、OTA暗室	无源测试、实测	索沃德标准、客户要求

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 BT 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:

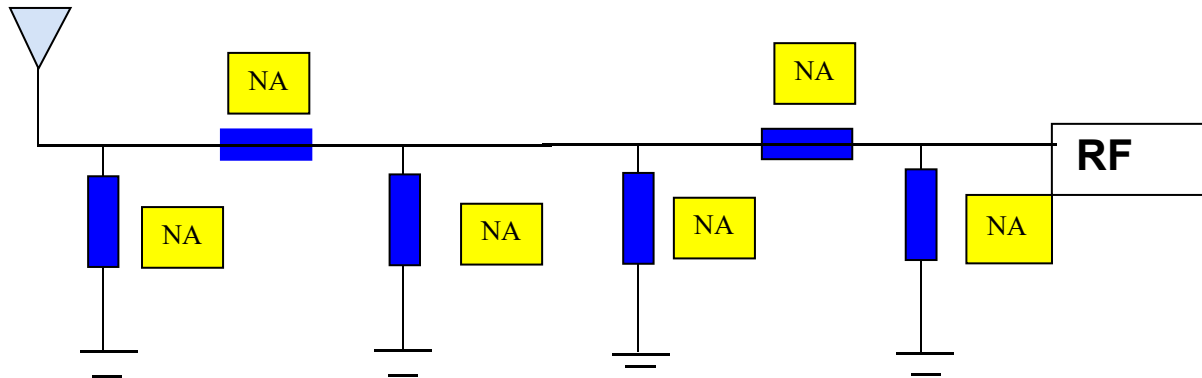
Description	2. 4GHZ~2. 5GHz	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Antenna Efficiency	≥ 40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

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

三: Match circuit diagrams, machine images, and antenna images

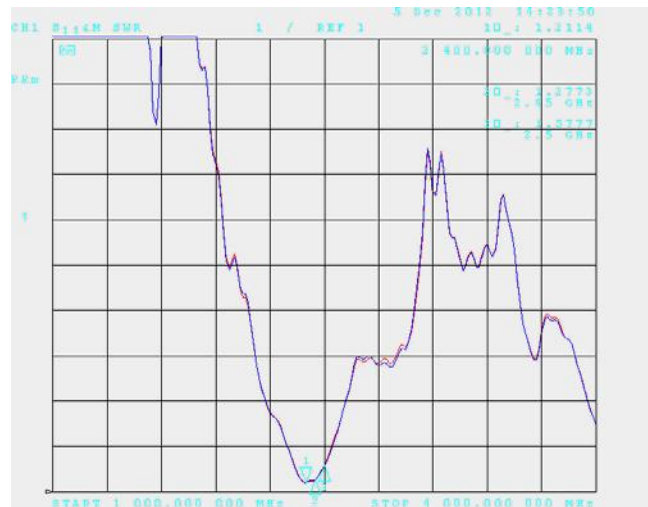
(1) matching circuit



(2) Machine images&antenna images

1: Gold plating and immersion; 3: Surface black matte ink; 4: Compliant with the latest environmental requirements: RoHS&REACH; 5: Whole board shipment;

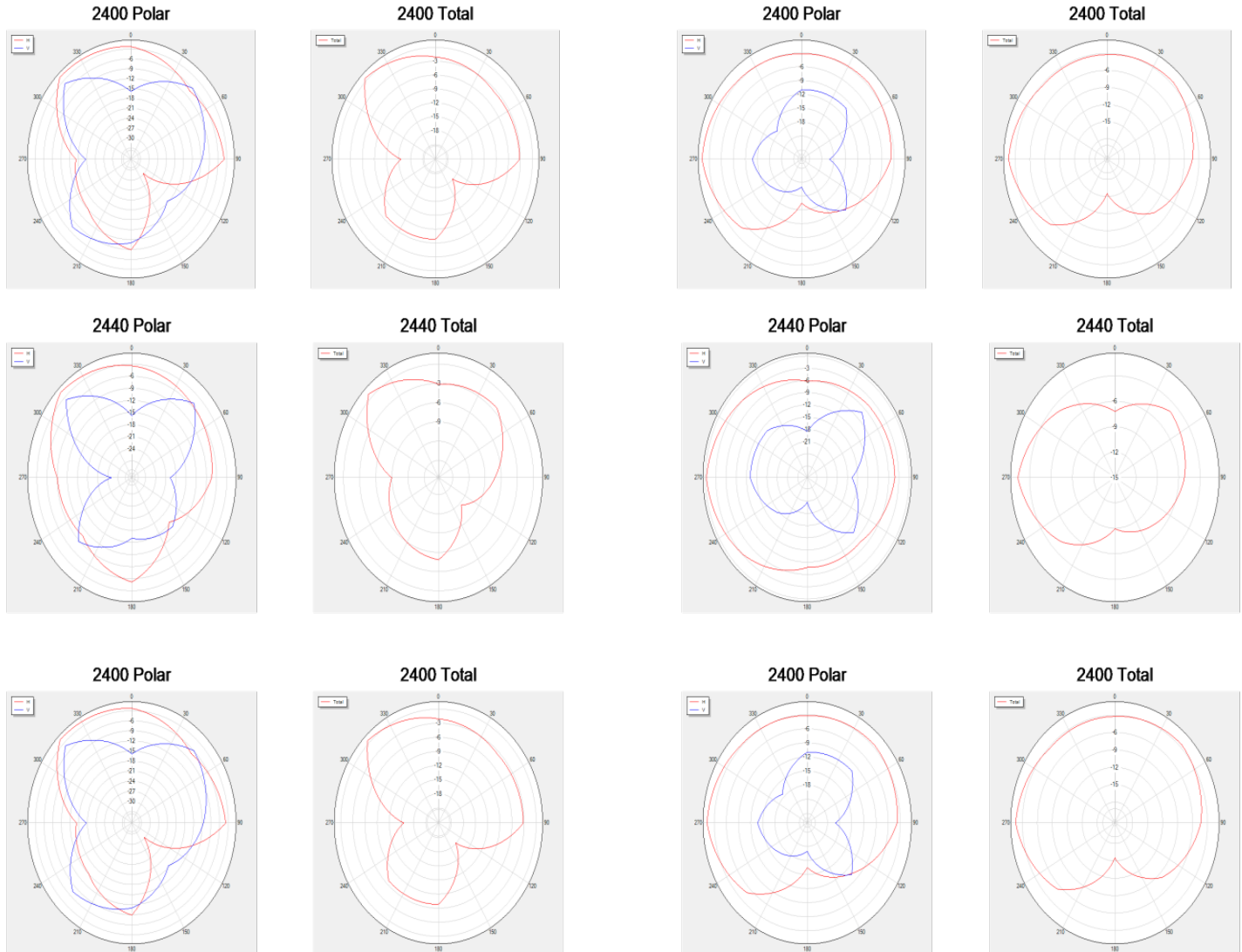
四:Antenna standing wave ratio&antenna efficiency(VSWR)



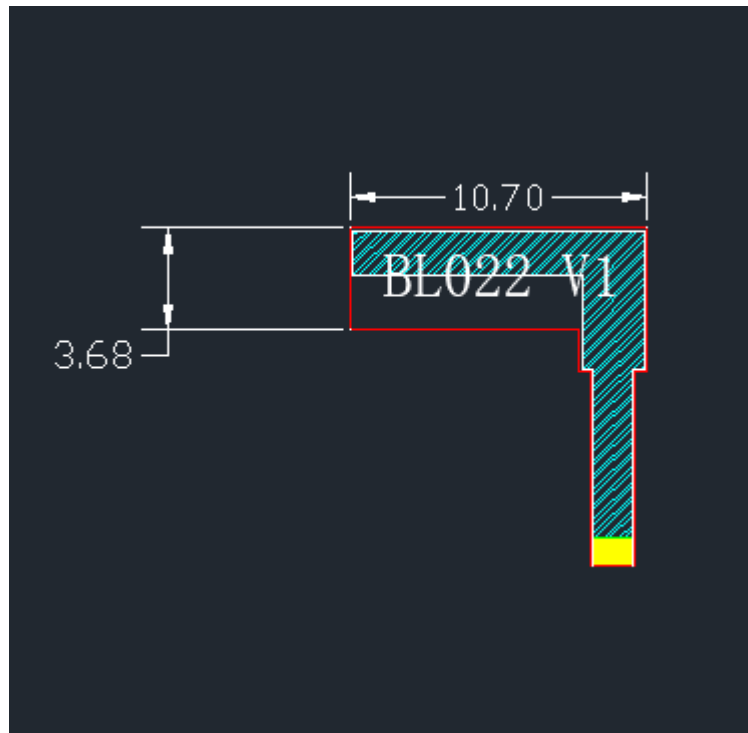
Frequency (MHz)	VSWR
2400	1.25
2450	1.18
2500	1.16

Frequency	Effic	Perce	Gain
2400	-3.79	41.83%	1.35
2410	-3.6	43.7%	1.48
2420	-3.59	43.71%	1.75
2430	-3.49	44.8%	1.9
2440	-3.98	40%	2.01
2450	-3.7	42.62%	2.58
2460	-3.95	40.31%	2.7
2470	-3.74	42.28%	3.05
2480	-3.71	42.56%	3
2490	-3.92	40.55%	2.6
2500	-4.06	39.26%	2.02

五:3D pattern



六： Structural drawings



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