



## Antenna Test Report

(G5)

## Revision History

Revision	Note	Date
V1	New Issue	2022.03.17

## Data Preview

### ANT01-GPS

Freq (MHz)	Gain (dBi)	Effi (%)
1550	-1.50	29%
1575	-0.18	35%
1610	-1.77	27%

### ANT02-WIFI

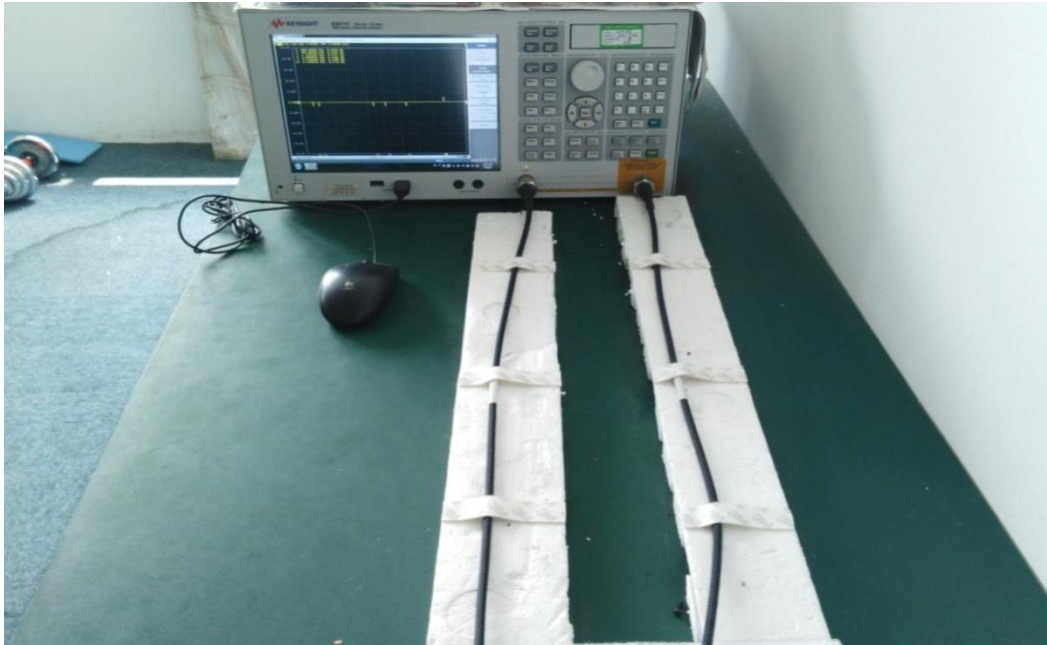
Freq (MHz)	Gain (dBi)	Effi (%)
2400	-0.49	26%
2450	-0.82	28%
2500	-0.64	26%

## 1. RF Fixture Experiment

### 1.1 Test Setup

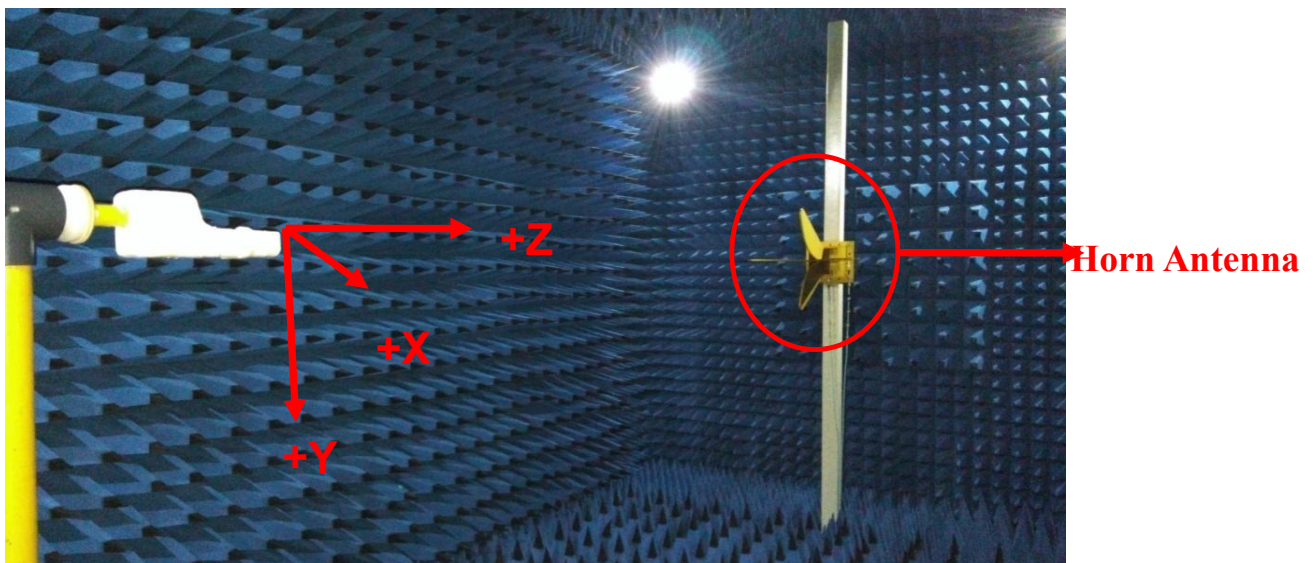
#### 1.1.1 VNA Test Setup

VSWR and Return Loss measurements ( $S_{11}$ ) were performed using an Keysight E5071C Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

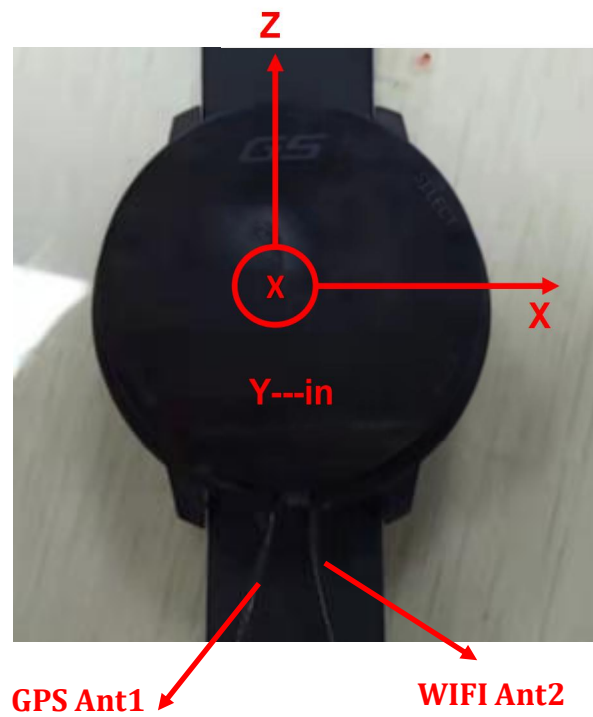


#### 1.1.2 Anechoic Chamber Test Setup

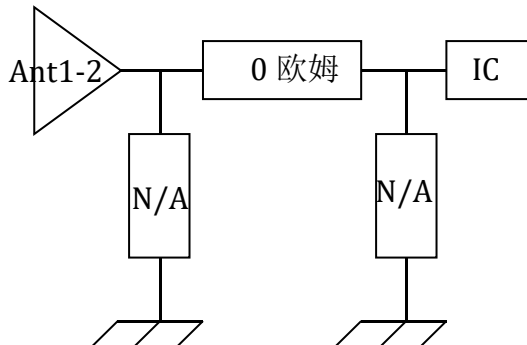
The gain of the antenna was measured in the anechoic chamber. The chamber provides less than  $-30$  dB reflectivity from 400 MHz through 6 GHz. The chamber size is: 7m\*4m\*3m. The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



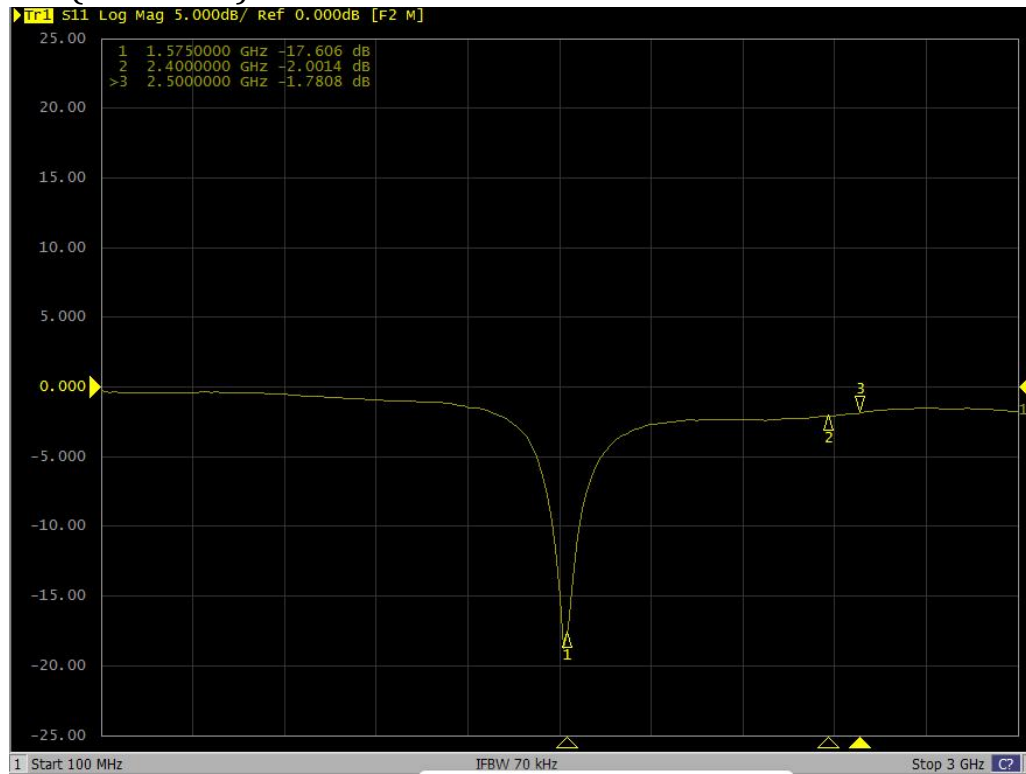
## 2. Antenna Solution



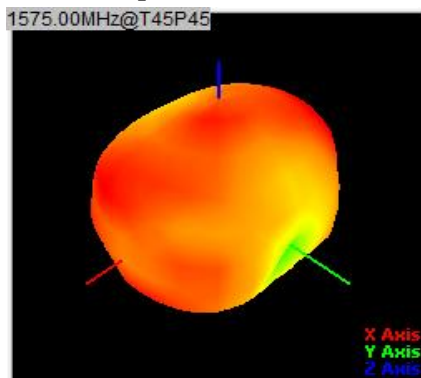
## 3. RF matching circuit for different antennas



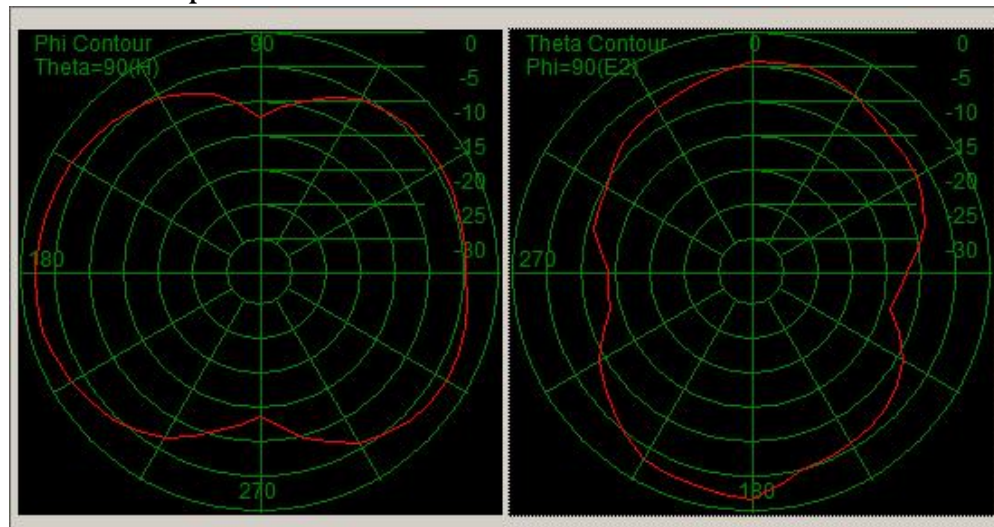
## S11(GPS-Ant1)



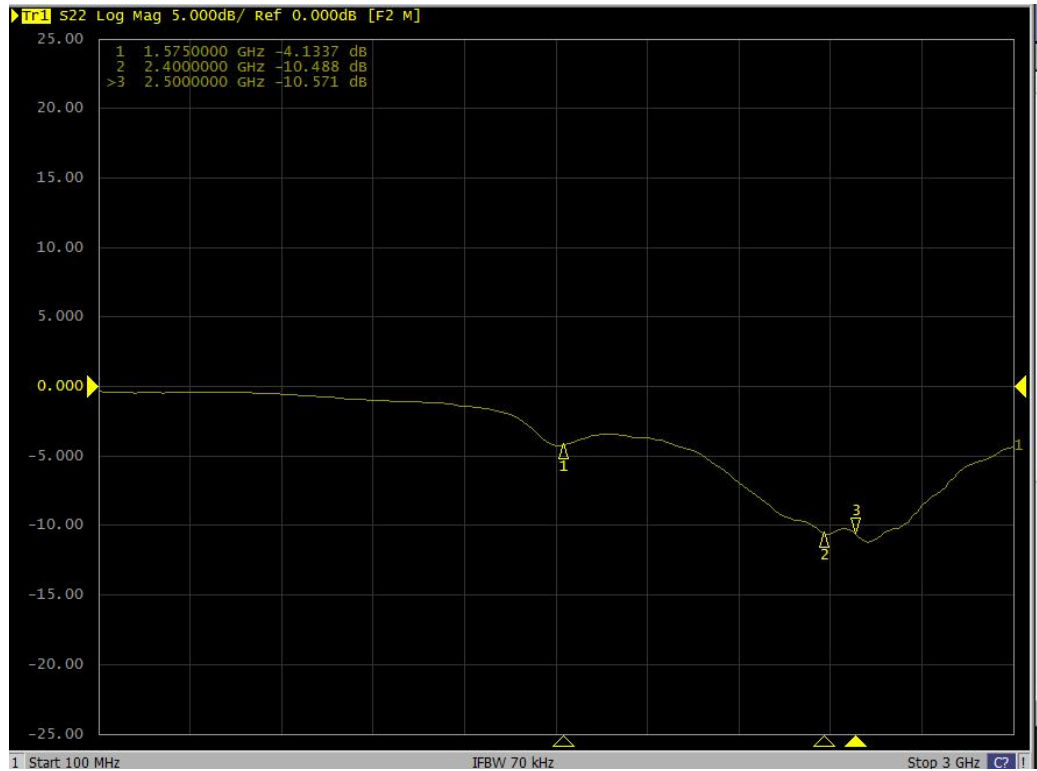
## Radiation patterns:3D



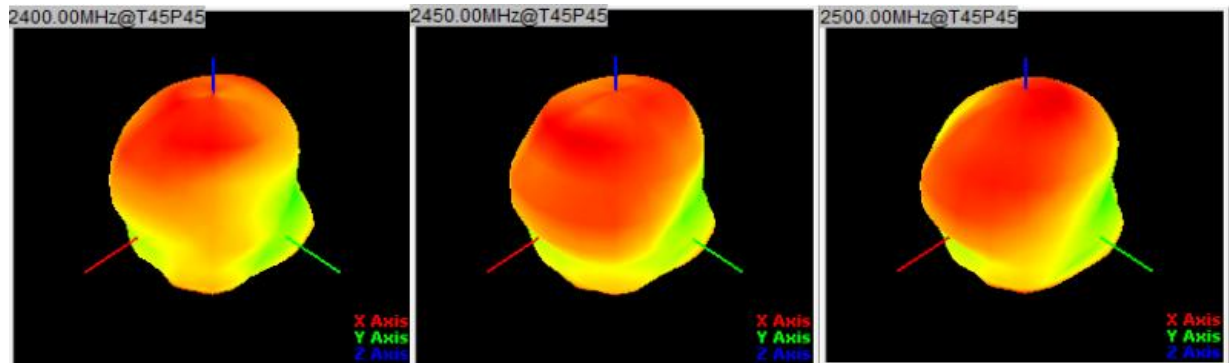
## Radiation patterns:2D



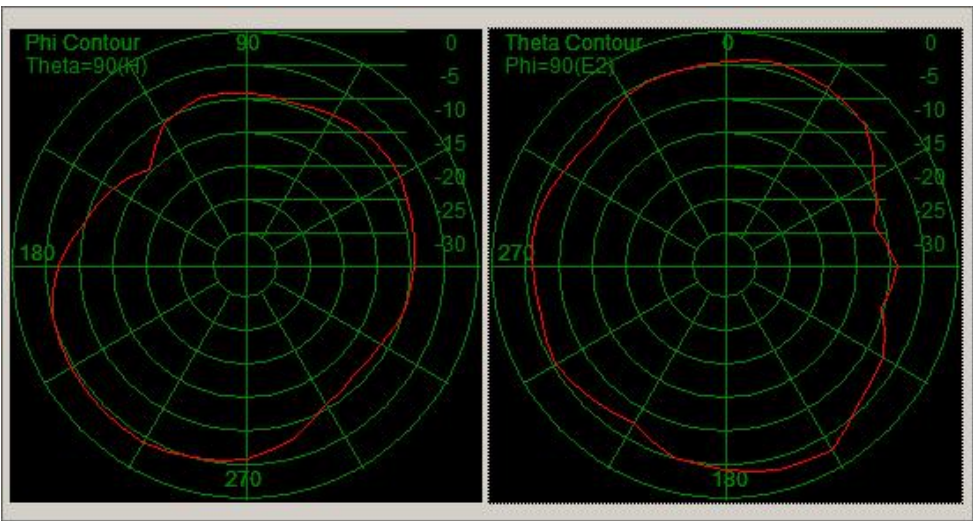
S11(WIFI-Ant2)



Radiation patterns:3D

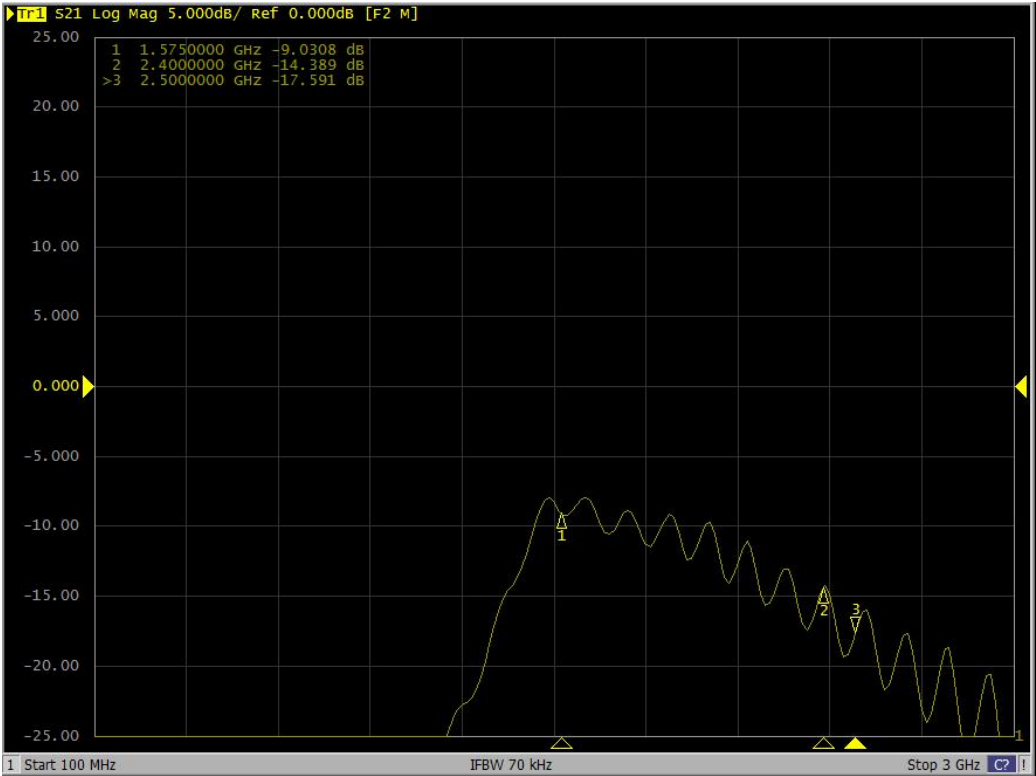


Radiation patterns:2D



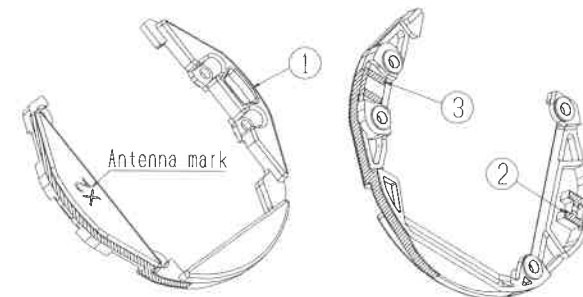
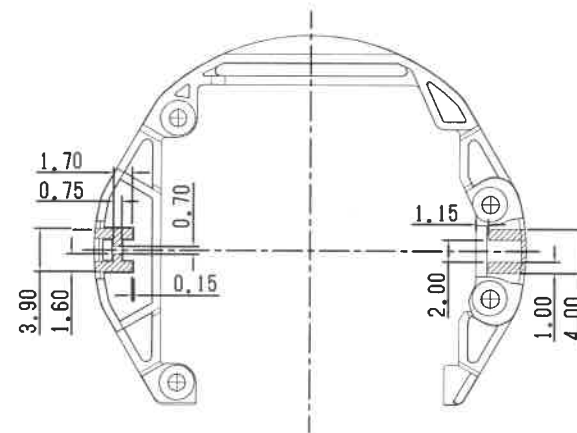
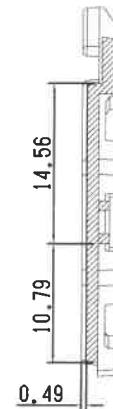
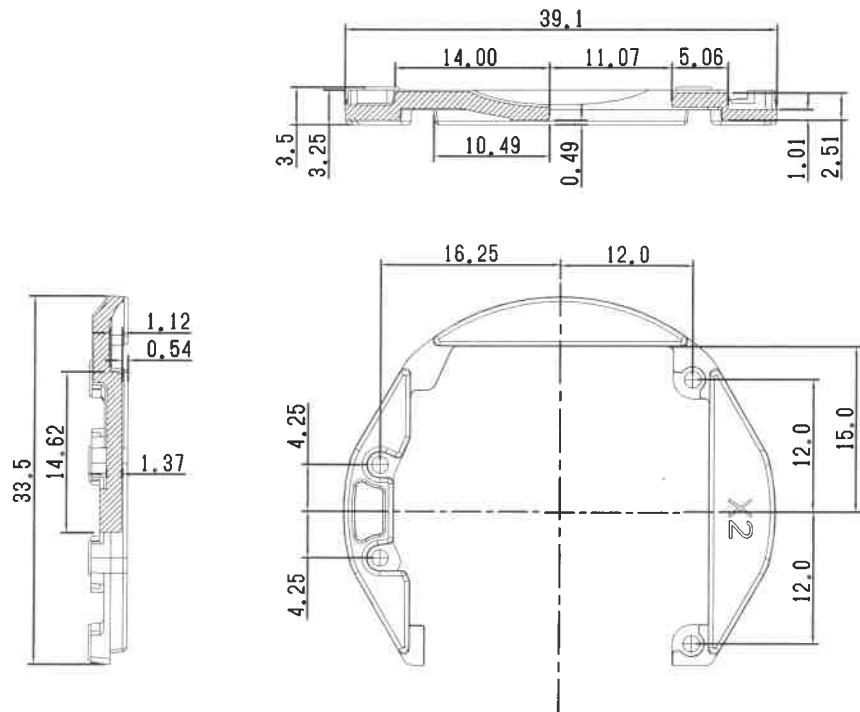


S21(Ant1,2)





REV	DATE	DESCRIPTION
X1	02/26-2023	New Issue
X2	04/19-2023	Update
A	04/19-2023	X2-A



### 1.ELECTRICAL PROPERTIES:

1.1 Frequency Range....2400~2500MHz&1575.42MHz

1.2 Impedance.....50 Ohm Nominal

1.3 VSWR.....≤3.5@2400~2500MHz

≤2.0@1575.42MHz(testing in RF Fixture)

### 2.The Plating thickness requirements:

Copper Plating:8~12μm;

Nickel Plating:2~5μm;

3.The Plating complied with the 48-hour salt spray test.

4.The Product is in conformity with ROHS2.0

3	GPS-Antenna	Copper coating,Nickel-Plated	1	ANT Version: X2
2	BT-Antenna	Copper coating,Nickel-Plated	1	
1	Bracket	PC, SABIC DX11355, Black	1	302-1-0080-X4
NO	DESCRIPTION		Q' TY	REMARK



XXX.	±2.0	APPROVED
XX.	±1.0	
X.	±0.50	CHECKED
.X	±0.20	
.XX	±0.10	DRAWING
		子云清

CUSTOMER:		
PART NO:		
PART NAME: GPS&BT Antenna For G5		
Z&X P/NO: 6000F00129		
REV	UNIT	FILE:
A	mm	SHEET: 1/1

