G980-H Project antenna specification

Customer name: 360

Customer product name: G980-H

Product name: Antenna assembly

Product specification: see BOM for details

material code: GPSceramic antenna： 231100321;White copper antenna：231100320（kemugin）

Change Content CV:

order number	edition	state	Start and end date	person liable	page number	remarks
1	editio princeps	editio princeps	2023-12-14	Li Jieyi	11	

The Supplier acknowledges the signature that:

Responsible person / date		IQC/ date	Review / Date	Approval / Date
MD	Feng Jiwu	Su Guanfeng	Zeng Xiang hao	
RF	Chen Kehong			

The Demander acknowledges the signature (please send it back after the confirmation):

The demander the result: □ qualified □ unqualified			
Development & Design Engineer / Date	SQE Engineer / Date	Purchasing Leader / Date	Development Manager approval / date

catalogue

1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications for G980-H products.

This requirement applies to the selection, testing and acceptance of G980-H antenna.

1.2 Project basic information

Antenna name:	**G980-H**
Antenna frequency:	WIFI/GPS:2.4G/5.8G GPS+BD
Antenna material:	Shrapnel / ceramics
Antenna Type	Metal

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
Active test	TRP,TIS	Integrated tester, microwave darkroom

2.2 Active Reporting

2.2.1 Test instructions

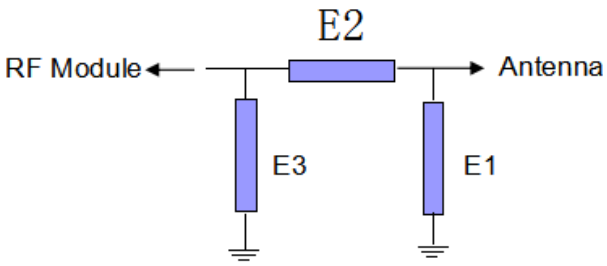
Test tools: Agilent8960 instrument, R & SCMW500, full wave far field ETS dark room, high precision positioning system and its controller and computer with automatic test program

Test environment: temperature 22℃± 3℃, humidity 50% ± 15%

Test method: DUT is fixed in the center of the turntable with H plane, on the same horizontal line as the center of the horn antenna.

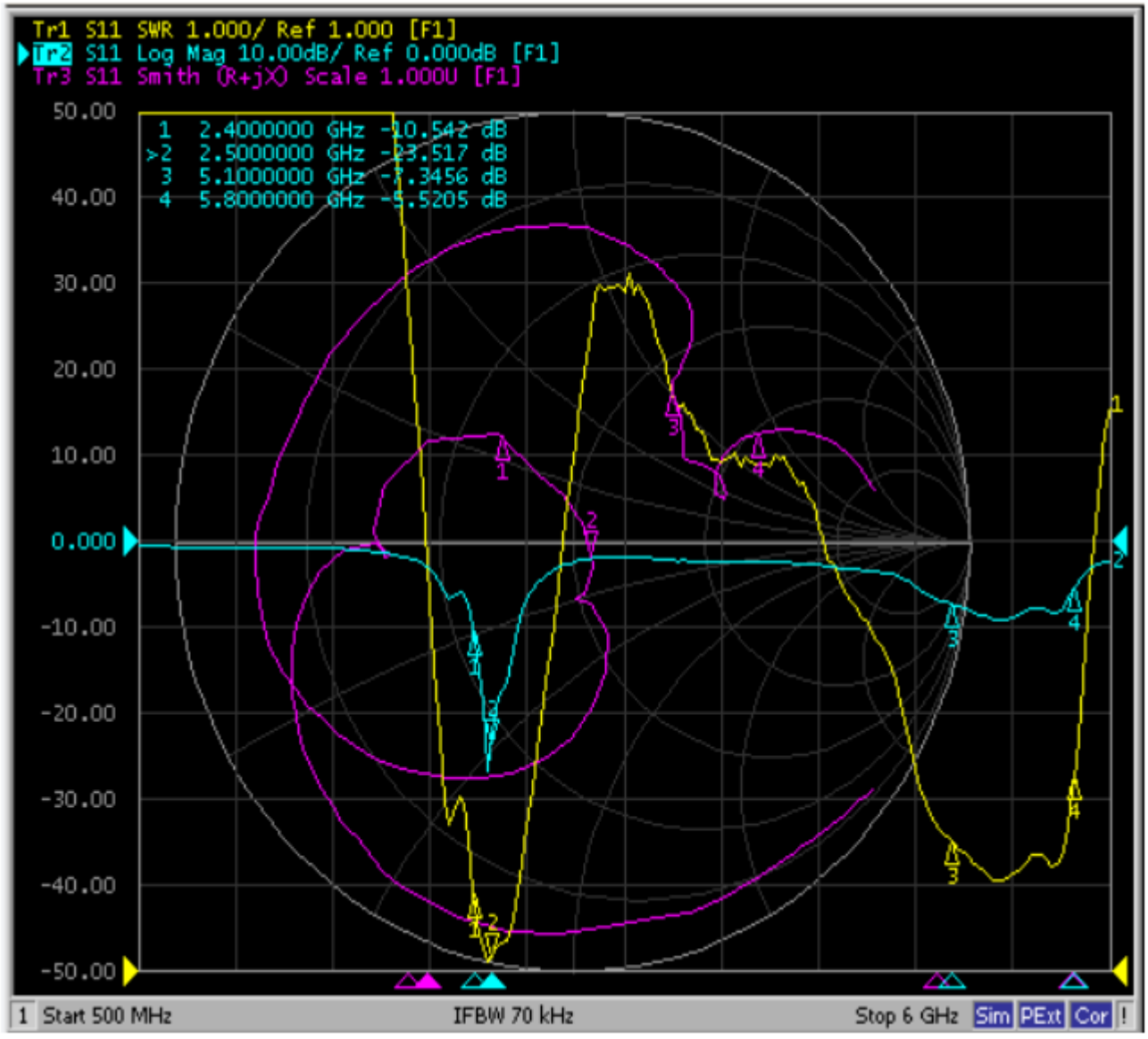
The positioning system enables the DUT to rotate in the whole sphere to satisfy the high-precision 3 D positioning. Each RF instrument and turntable controller communicate with the PC with automatic test software through the GPIB interface.

2.2.2 Antenna matching



Element	Value
E1 (0201)	Debugging prototype status, unchanged
E2 (0201)	
E3 (0201)	

2.2.3 Antenna passive parameters



2.2.4 ota data-no extended camera is added

	2.4 b model			5G a model		
Channel	1	6	12	36	149	165
TRP(dBm)	15.24	15.46	14.97	14.92	13.78	13.34
TIS(dBm)	-81.40	-81.66	-81.12	-69.74	-70.48	-71.04

2.2.5 ota data-Plus extension camera

	2.4 b model			5G a model		
Channel	1	6	12	36	149	165
TRP(dBm)	15.24	15.49	14.35	13.38	13.25	13.07
TIS(dBm)	-79.79	-79.41	-79.24	-67.52	-67.65	-67.85

2.2.6 Antenna passive parameters

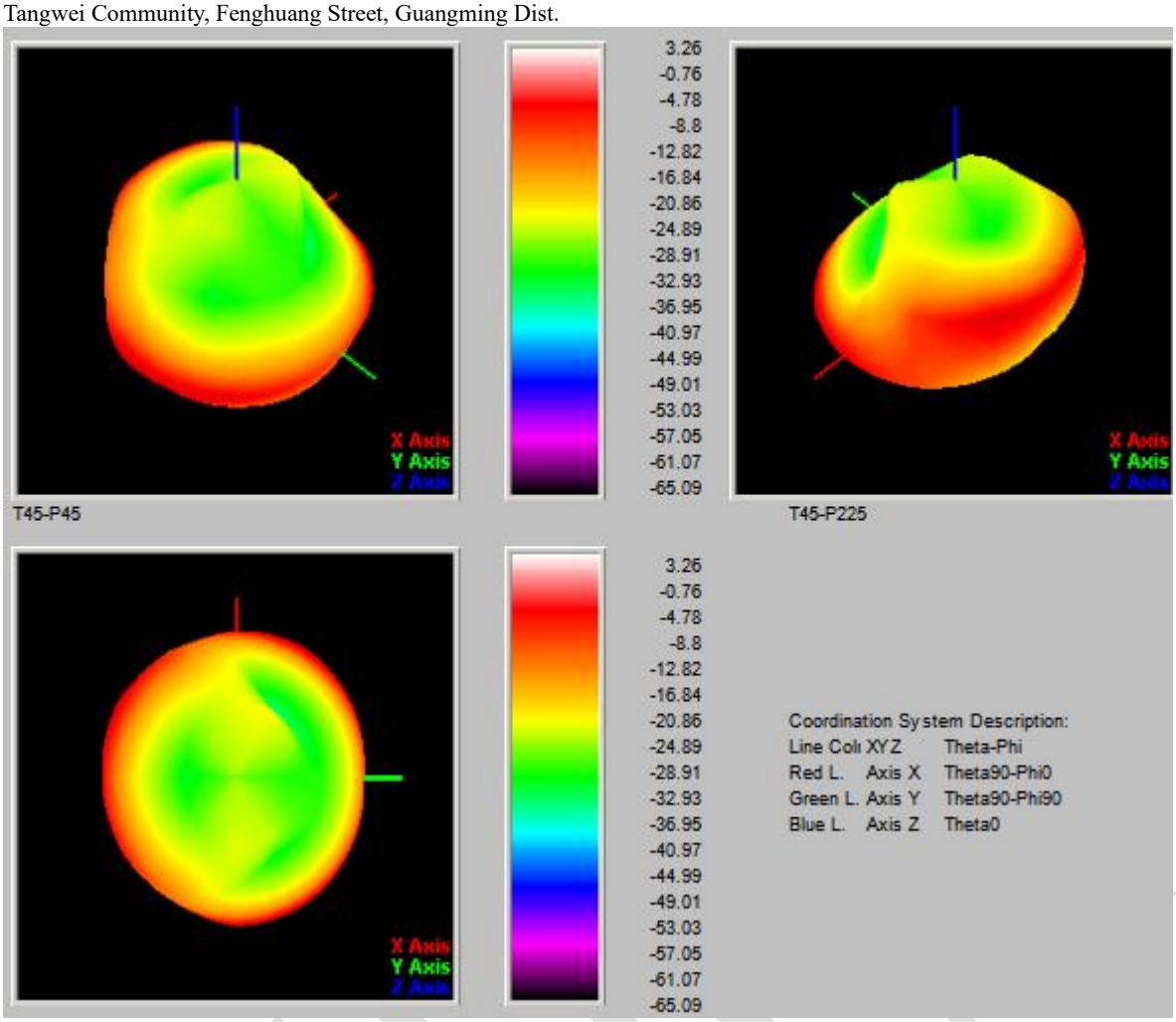
Freq(2.4G)	Effi(%)	Gain（dbi）
2400MHZ	42.1	1.50
2410MHZ	42.5	1.61
2420MHZ	43.8	1.74
2430MHZ	45.6	2.01
2440MHZ	47.9	2.14
2450MHZ	51.0	2.30
2460MHZ	49.2	1.78
2470MHZ	47.2	1.67
2480MHZ	43.6	1.59
2490MHZ	38.5	1.57
2500MHZ	36.7	1.40

Freq(5G)	Effi(%)	Freq(5G)	Effi(%)
5100MHZ	30.1	5750MHZ	33.6
5150MHZ	33.3	5800MHZ	34.6
5200MHZ	36.4		
5250MHZ	37.5		
5300MHZ	38.9		
5350MHZ	41.5		
5400MHZ	39.2		
5450MHZ	38.7		
5500MHZ	37.9		
5550MHZ	36.6		
5600MHZ	34.2		
5650MHZ	33.7		
5700MHZ	35.4		

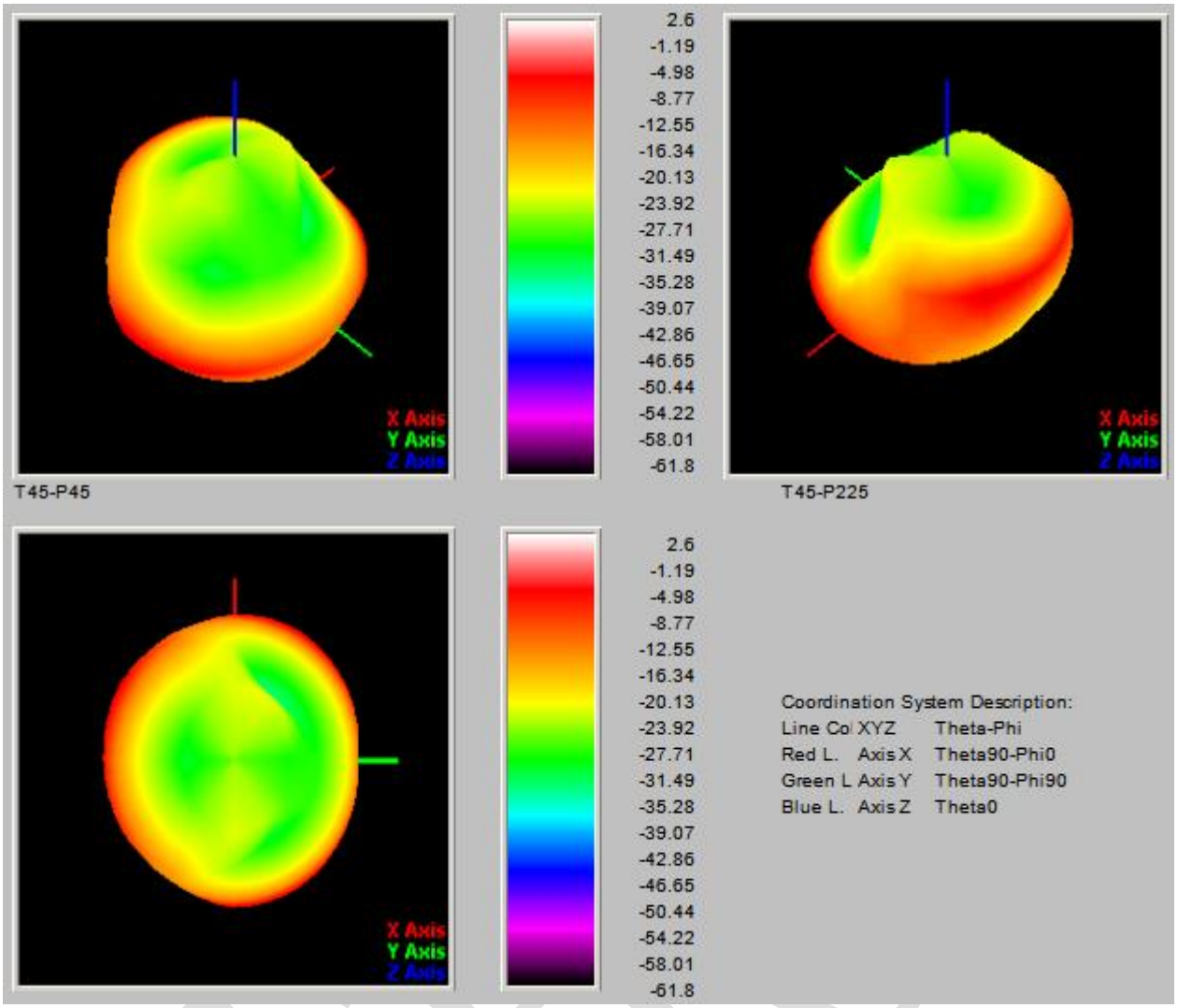
Freq(5G)	Gain (dbi)	Freq(5G)	Gain (dbi)
5100MHZ	0.65	5750MHZ	1.20
5150MHZ	0.74	5800MHZ	1.30
5200MHZ	0.85		
5250MHZ	0.77		
5300MHZ	0.68		
5350MHZ	0.85		
5400MHZ	1.11		
5450MHZ	1.02		
5500MHZ	1.32		
5550MHZ	1.25		
5600MHZ	1.60		
5650MHZ	1.52		
5700MHZ	1.36		

2.2.7 Directional diagram

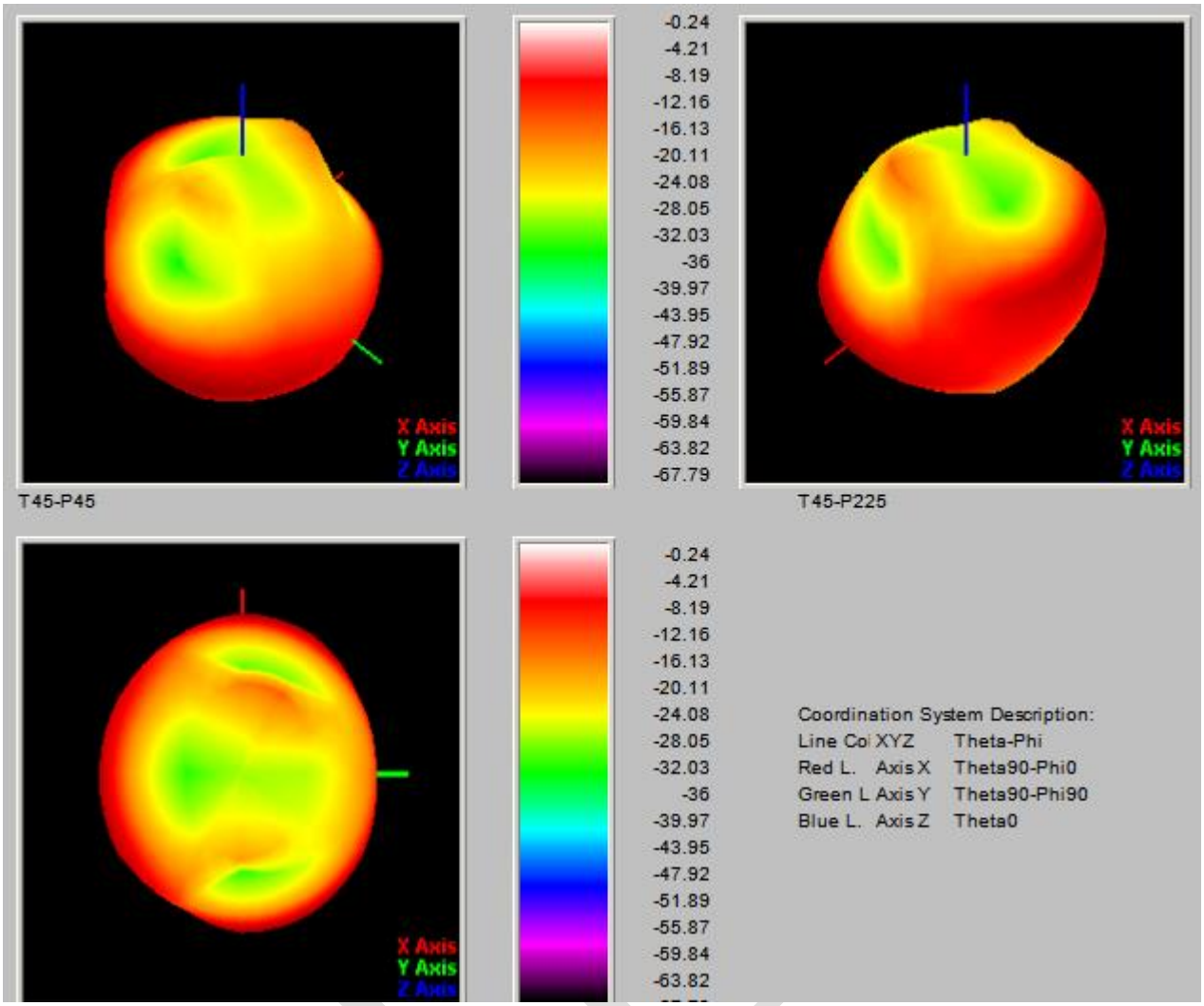
2.4G wifi


3.26
-0.76
-4.78
-8.8
-12.82
-16.84
-20.86
-24.89
-28.91
-32.93
-36.95
-40.97
-44.99
-49.01
-53.03
-57.05
-61.07
-65.09
X Axis
Y Axis
Z Axis
T45-P45
T45-P225
Coordination System Description:
Line Col XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L. Axis Y Theta90-Phi90
Blue L. Axis Z Theta0

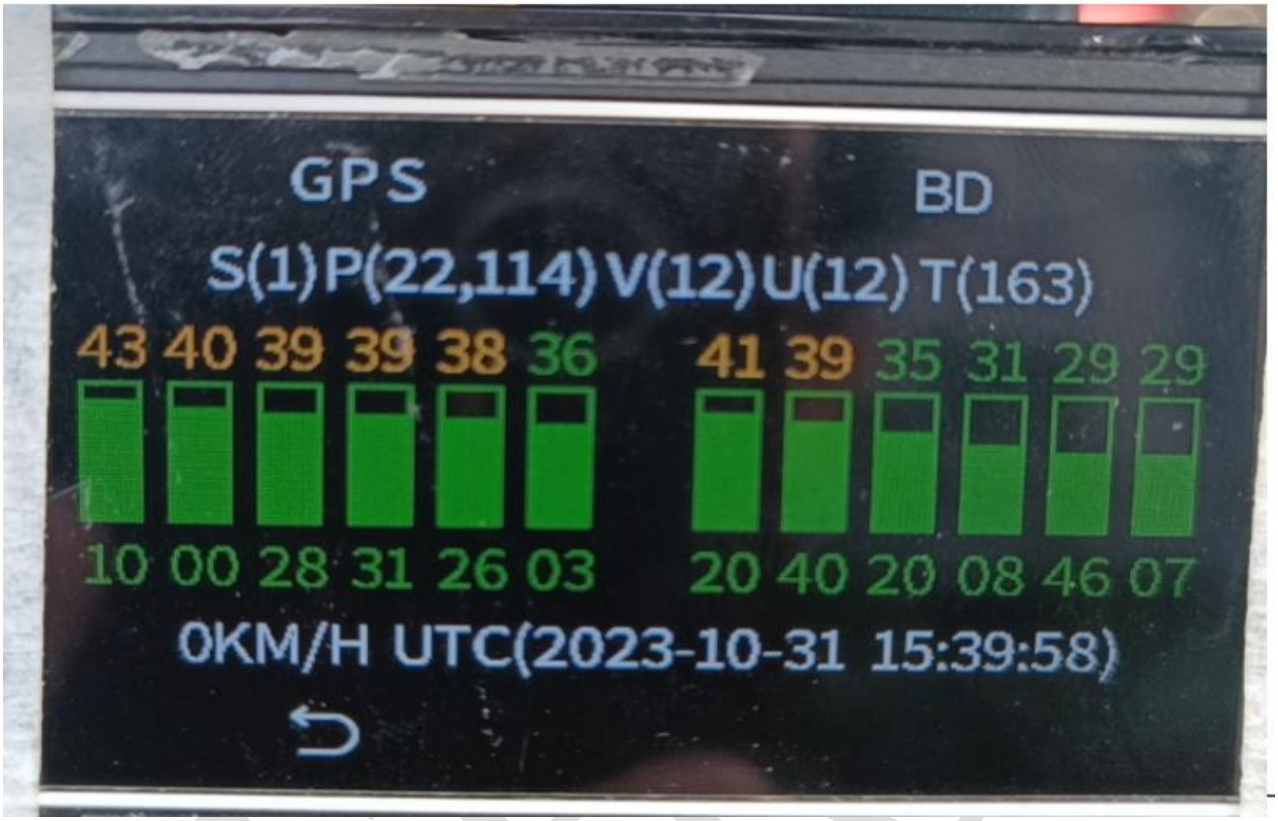
5.8G-WIFI


2.6
-1.19
-4.98
-8.77
-12.55
-16.34
-20.13
-23.92
-27.71
-31.49
-35.28
-39.07
-42.86
-46.65
-50.44
-54.22
-58.01
-61.8
X Axis
Y Axis
Z Axis
T45-P45
T45-P225
Coordination System Description:
Line Co XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L Axis Y Theta90-Phi90
Blue L. Axis Z Theta0

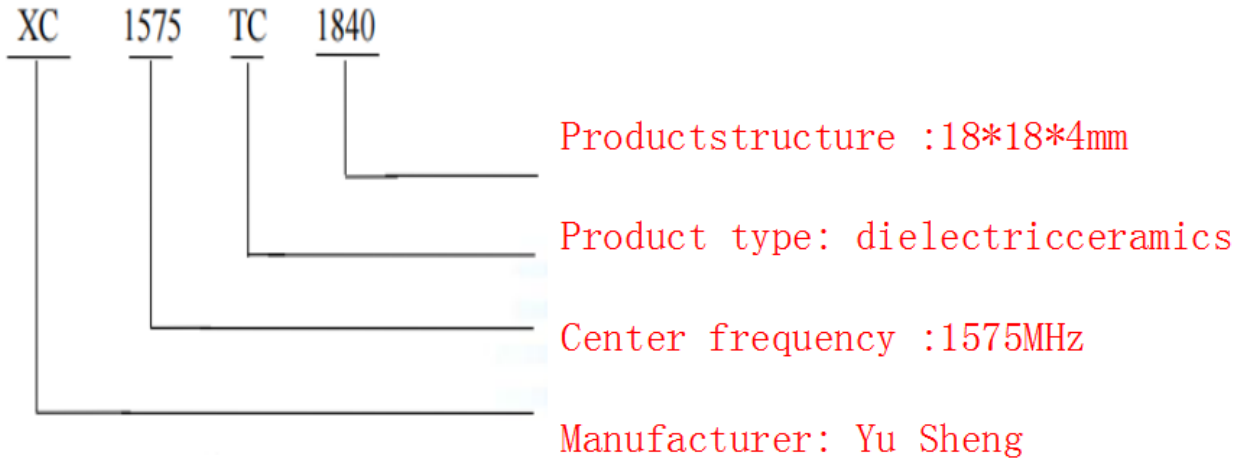
GPS


-0.24
-4.21
-8.19
-12.16
-16.13
-20.11
-24.08
-28.05
-32.03
-36
-39.97
-43.95
-47.92
-51.89
-55.87
-59.84
-63.82
-67.79
X Axis
Y Axis
Z Axis
T45-P45
T45-P225
Coordination System Description:
Line Col XYZ Theta-Phi
Red L. Axis X Theta90-Phi0
Green L Axis Y Theta90-Phi90
Blue L. Axis Z Theta0

2.2.8 GPS test data



2.2.9 Model No

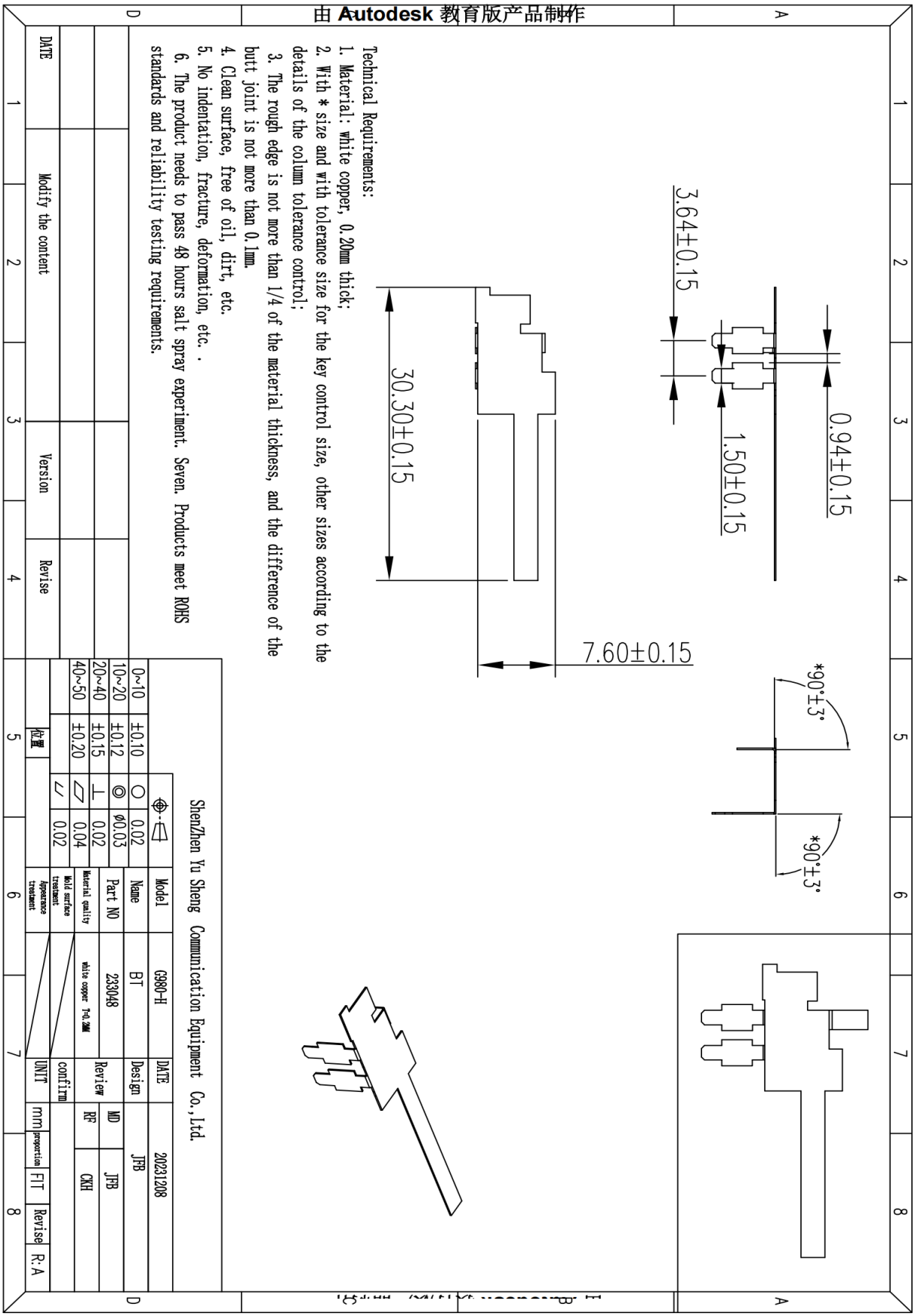


2.2.10 Structure and materials

NO	Name	Structure and material
1	Antenna substrate	Microwave dielectrics
2	Pin	Copper tinned alloy
3	Radiant surface	Silver plating
4	Ground plane	Silver plating

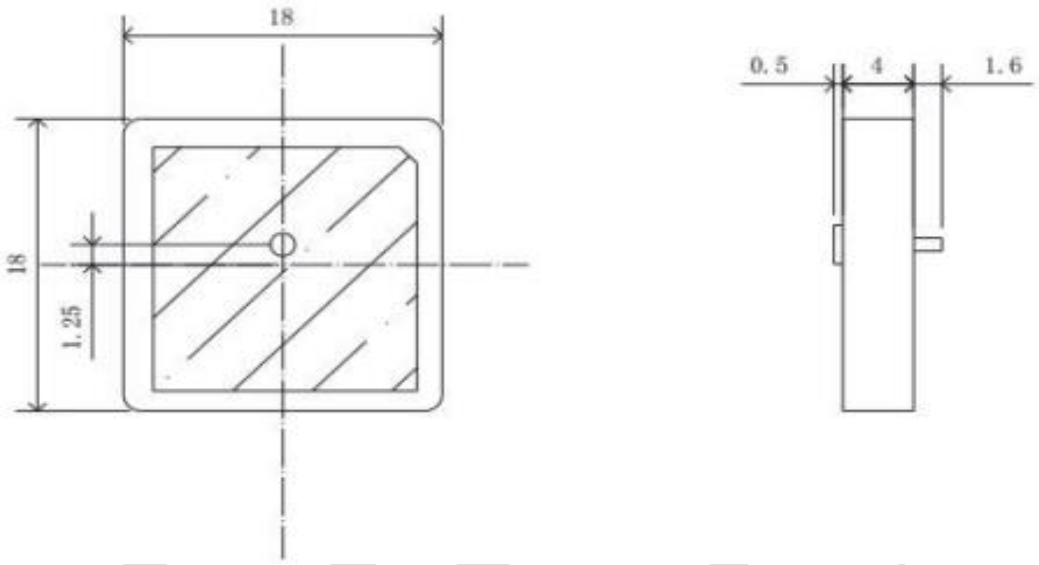
3.structural drawings

shrapnel


由 Autodesk 教育版产品制作
Technical Requirements:
1. Material: white copper, 0.20mm thick;
2. With * size and with tolerance size for the key control size, other sizes according to the details of the column tolerance control;
3. The rough edge is not more than 1/4 of the material thickness, and the difference of the butt joint is not more than 0.1mm.
4. Clean surface, free of oil, dirt, etc.
5. No indentation, fracture, deformation, etc. .
6. The product needs to pass 48 hours salt spray experiment. Seven. Products meet ROHS standards and reliability testing requirements.
3.64±0.15
0.94±0.15
1.50±0.15
30.30±0.15
7.60±0.15
*90°±3°
*90°±3°
ShenZhen Yu Sheng Communication Equipment Co.,Ltd.
Model
G380-H
DATE
20231208
Name
BT
Design
JFB
Part NO
233048
Review
MD
JFB
Material quality
white copper T=0.20MM
RF
CXH
confirm
UNIT
mm
proportion
FIT
Revise
R:A
Modify the content
Version
Revise
DATE
由 Autodesk 教育版产品制作

GPS antenna

L: 18.0±0.2mm W: 18.0±0.2mm H: 4.0±0.1mm



4. Bill Of Material

Shenzhen Yu Sheng communication preparation Co., LTD
Shenzhen Yusheng Communication Equipment Co.,LTD

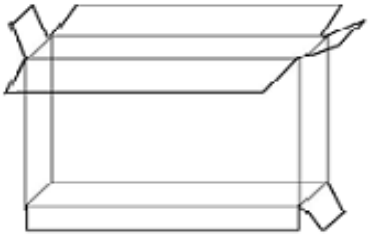
233048 (G980-H) -BOM

edition: R:A client: 233 Type of aircraft: 233048 Set a date: 2023/12/08

Item	*Material code	*Material name	name	*Machine type	Specification and model	colour	*UNIT.	dosage	remark
1	233048-IA-RA	BT Antenna		G980-H	white copper T=0.2MM 30.30*7.80*6.25mm	black	PCS	1	
1.1	233028-IA-RA-01	BT Antenna		G980-H	white copper T=0.2MM 30.30*7.80*6.25mm	black	PCS	1	
1.2	233048-IB-RA	GPS Antenna		G980-H	Ceramic powder Brush the silver oars 18*18*4MM	black	PCS	1	
2	233048-IB-RA-01	GPS Antenna		G980-H	Ceramic powder Brush the silver oars 18*18*4MM	black	PCS	1	

verify: examine: manufacture: FJW

5.Packaging diagram

<table>
<tr><td colspan="3">Packaging method diagram</td></tr>
<tr><td>product name</td><td colspan="2">antenna</td></tr>
<tr><td>P / N</td><td colspan="2">233048</td></tr>
<tr><td>Project model</td><td colspan="2">G980-H</td></tr>
<tr><td rowspan="3">File details</td><td>Carton Size 1:
270*260*200MM
Carton Size 2:
260*200*200MM
Carton Size 3:
Depending on the order quantity / volume</td><td>  </td></tr>
<tr><td>Boating method</td><td>Packaging by order quantity</td></tr>
<tr><td>Total number of binning</td><td>Packaging by order quantity</td></tr>
<tr><td>labeling requirement</td><td>Tag Size 1:
Universal use
100 * 100mm
Tag Size 2:
According to customer requirements</td><td></td></tr>
<tr><td colspan="3">matters need attention</td></tr>
<tr><td colspan="3">1. Due to the limitation of order quantity, the packing method of each material is the size of the box according to the total quantity of the order or the physical volume</td></tr>
</table>

2. Storage temperature: room temperature
3. Preservation conditions: store them in a cool and dry place

(This figure is only a packaging diagram, subject to the actual mass production)