DA004 Project Antenna Material Requirements Specification

Customer name: XieChuang

Customer product name: DA004

Product name: WIFI 1 antenna

Product specification: See the BOM table for more details

Product code: 400104250

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order number	edition	state	Start and end date	person liable	page number	remarks
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The Supplier acknowledges the signature of the following documents:

Responsible person / date		IQC/ date	Review / Date	Approval / Date
MD				
RF				

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

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

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications for DA004 products.

This requirement applies to DA004 Antenna selection, testing and acceptance of the products.

1.2 Project basic information

Antenna name:	**DA004**
Antenna band:	WIFI:2.4G-2.5G 5.1G-5.8G
Antenna material:	FPC antenna + coaxis

2. Technical index requirements

2.1 Active Reporting

2.2 Test instructions

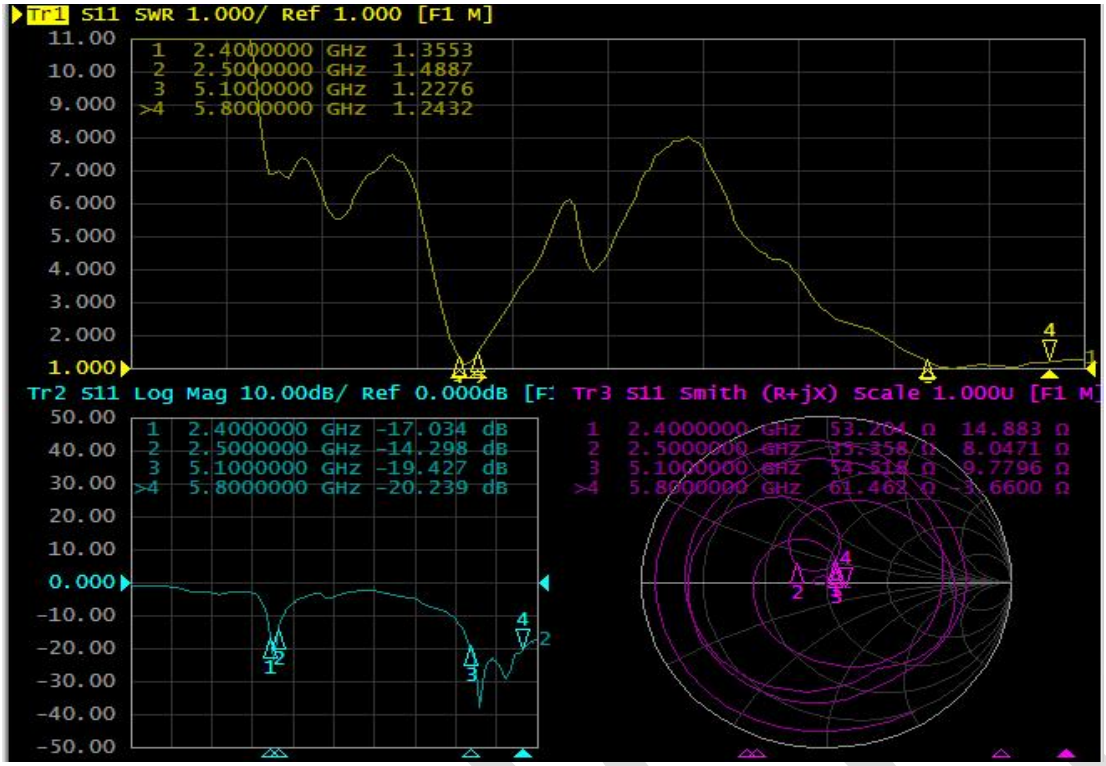
Test tools: Agilent8960 instrument, R & S CMW500, full wave far field ETS dark room, high precisio n positioning system and its controller and computer with automatic test program

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.

2.2.1 ANT-1 Antenna (Figure file LOGMAG + VSWR + SMITH)



2.2.2 WIFI-1-Antenna efficiency and gain

Passive Test For 2400MHz~2500MHz				
Freq	Effi	Effi	Gain	
(MHz)	(%)	(dB)	(dBi)	
2400	60.1%	-2.21	2.88	
2410	60.3%	-2.20	3.04	
2420	60.8%	-2.16	3.15	
2430	61.4%	-2.12	3.31	
2440	62.1%	-2.07	3.42	
2450	63.4%	-1.98	3.53	
2460	63.2%	-1.99	3.48	
2470	62.8%	-2.02	3.23	
2480	62.2%	-2.06	3.04	
2490	61.5%	-2.11	2.89	
2500	60.7%	-2.17	2.97	

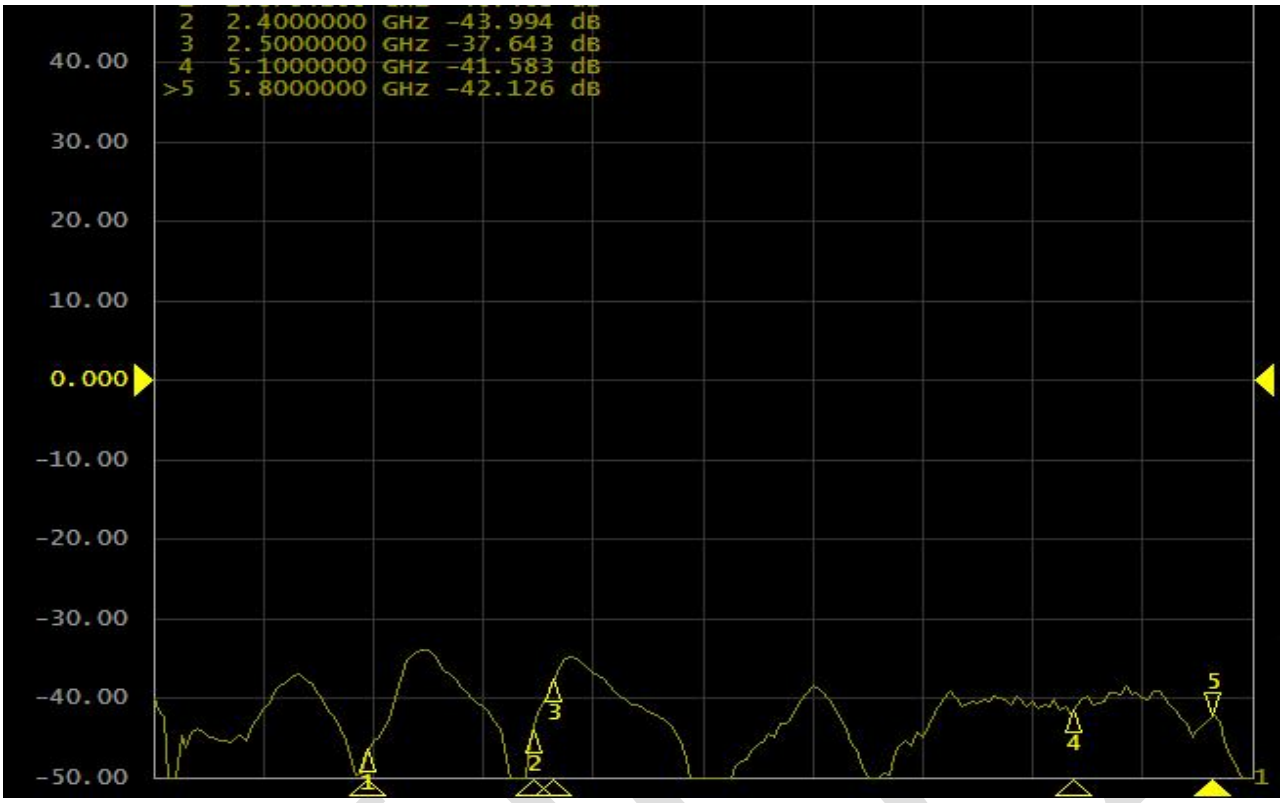
Passive Test For 5100MHz~5800MHz			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
5170.0	59.6%	-2.25	2.87
5210.0	60.1%	-2.21	2.96
5250.0	60.4%	-2.19	3.03
5290.0	60.9%	-2.15	3.08
5330.0	61.2%	-2.13	3.15
5370.0	62.5%	-2.04	3.35
5410.0	63.4%	-1.98	3.47
5450.0	64.1%	-1.93	3.57
5490.0	63.8%	-1.95	3.42
5530.0	63.2%	-1.99	3.37
5570.0	62.6%	-2.03	3.31
5610.0	61.9%	-2.08	3.27
5650.0	61.4%	-2.12	3.35
5690.0	60.7%	-2.17	3.22
5730.0	60.5%	-2.18	3.05
5770.0	60.8%	-2.16	3.09
5810.0	61.2%	-2.13	3.11
5850.0	60.3%	-2.20	2.98

2.2.3 Antenna active parameters

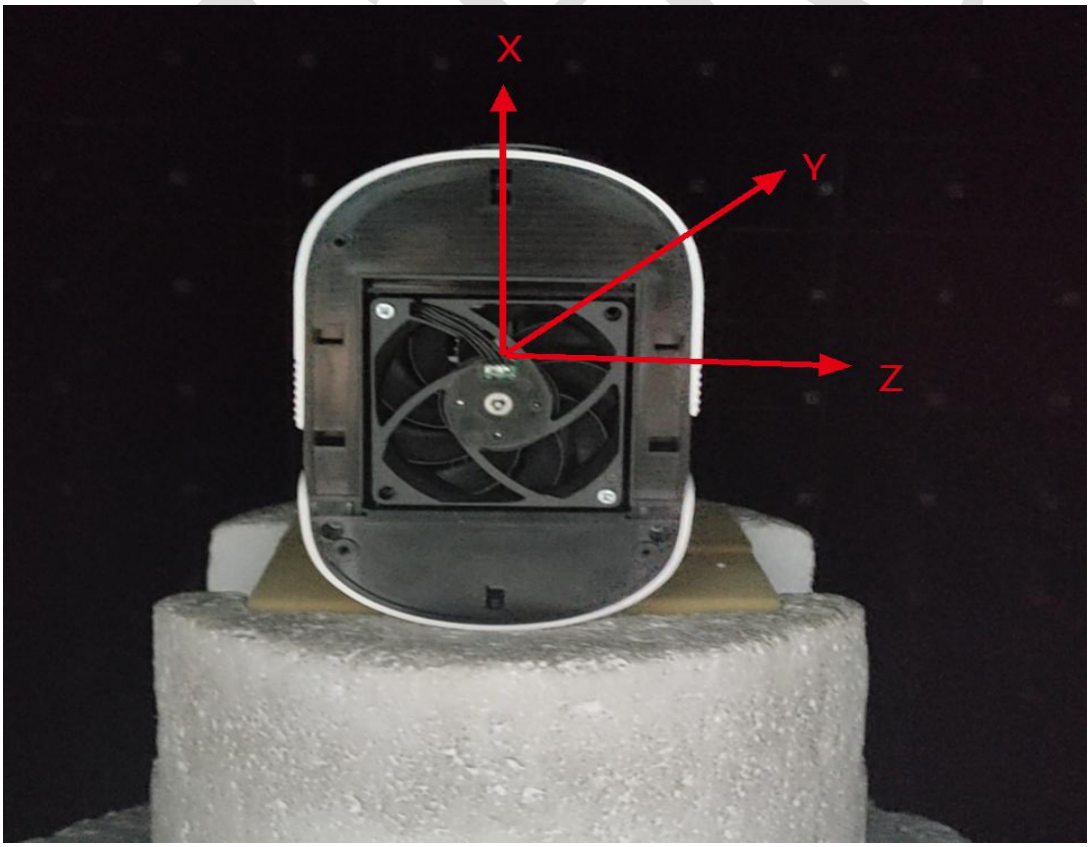
	802. 11	channel number	Single-root antenna- -J3		Single-root antenna-J4	
			TRP (db)	TIS (dbm)	TRP (db)	TIS (dbm)
WIFI	11B （11M）	CH1	18.35	-84.74	18.25	-84.09
		CH6	18.57	-85.22	18.12	-85.12
		CH11	18.86	-84.86	18.04	-84.33
	11A （54M）	CH36	15.48	-72.46	15.67	-72.33
		CH149	16.12	-72.61	16.23	-72.19
		CH165	16.26	-72.55	16.38	-72.42

	802. 11	channel number	J3+J4	
			TRP (db)	TIS (dbm)
WIFI	11B （11M）	CH1	20.36	-85.75
		CH6	20.51	-86.29
		CH11	20.75	-86.53
	11A （54M）	CH36	17.44	-75.23
		CH149	17.89	-74.88
		CH165	18.53	-74.26

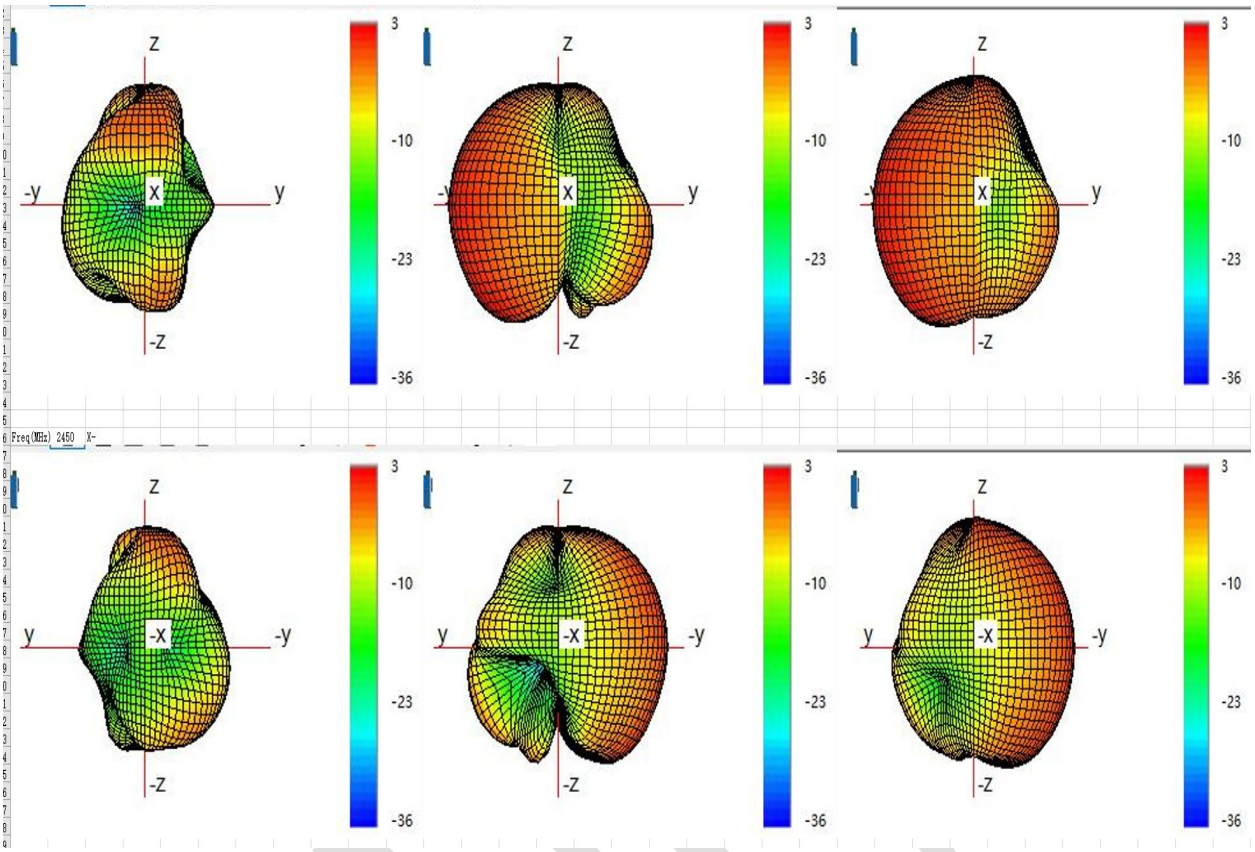
2.2.4 Antenna isolation



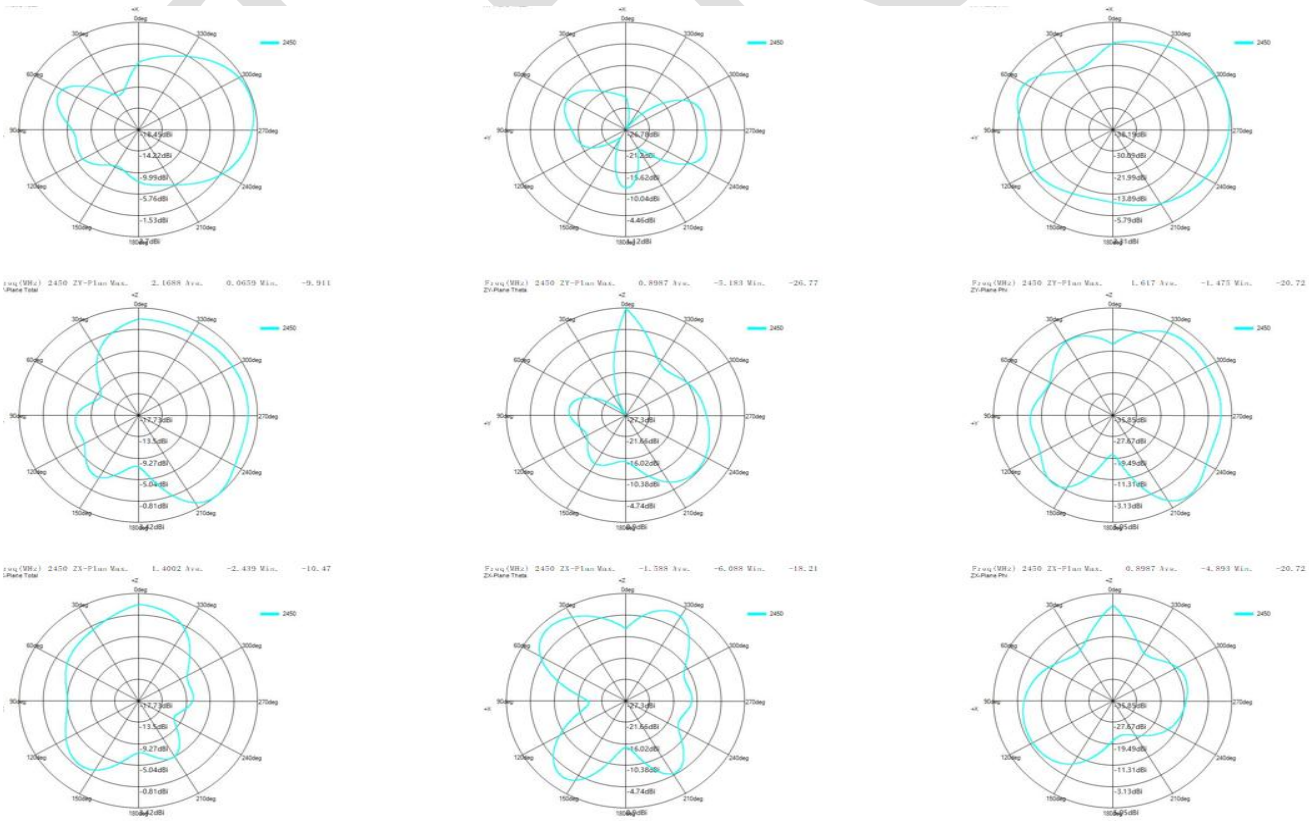
2.2.5. Coordinate system of the whole machine



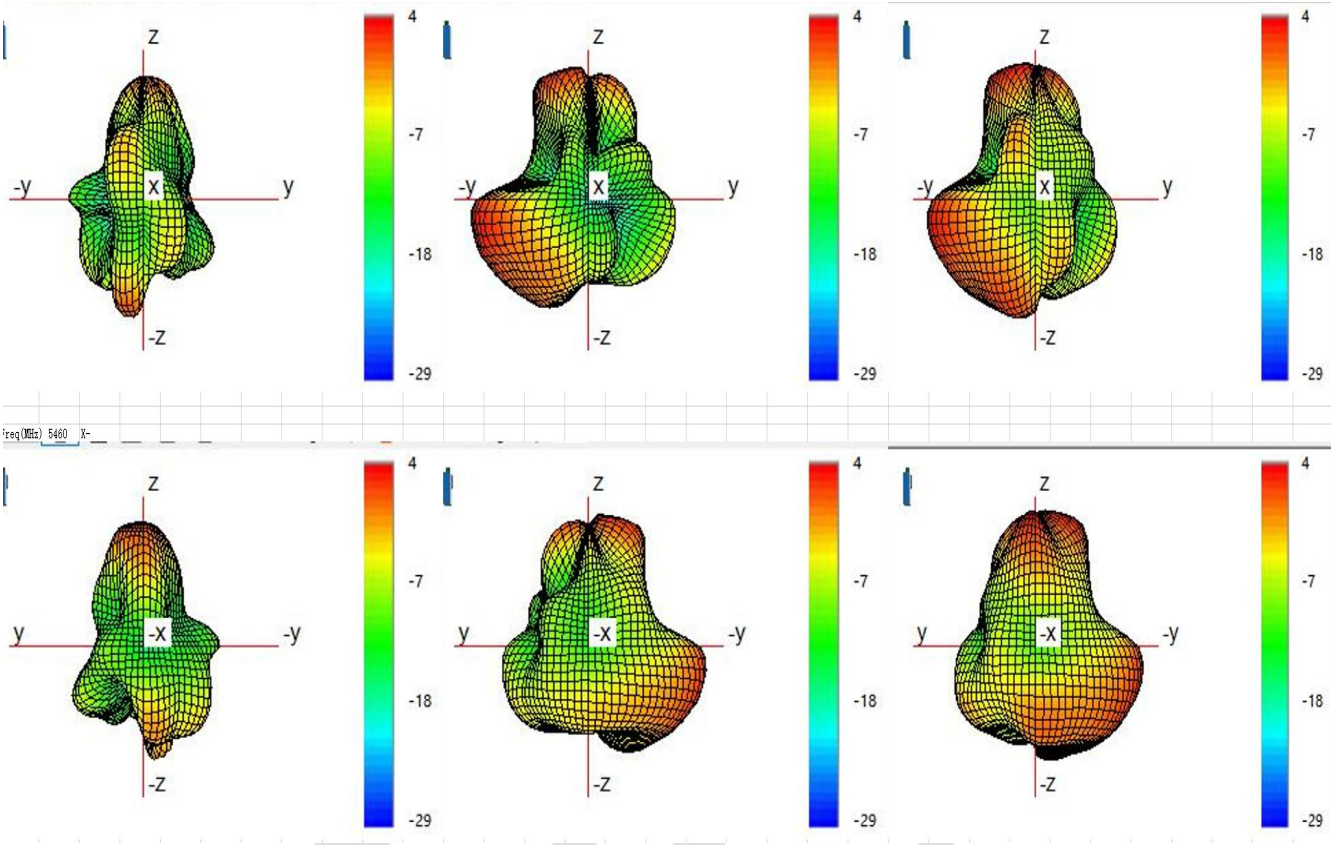
2.2.6 ANT1-2.4G



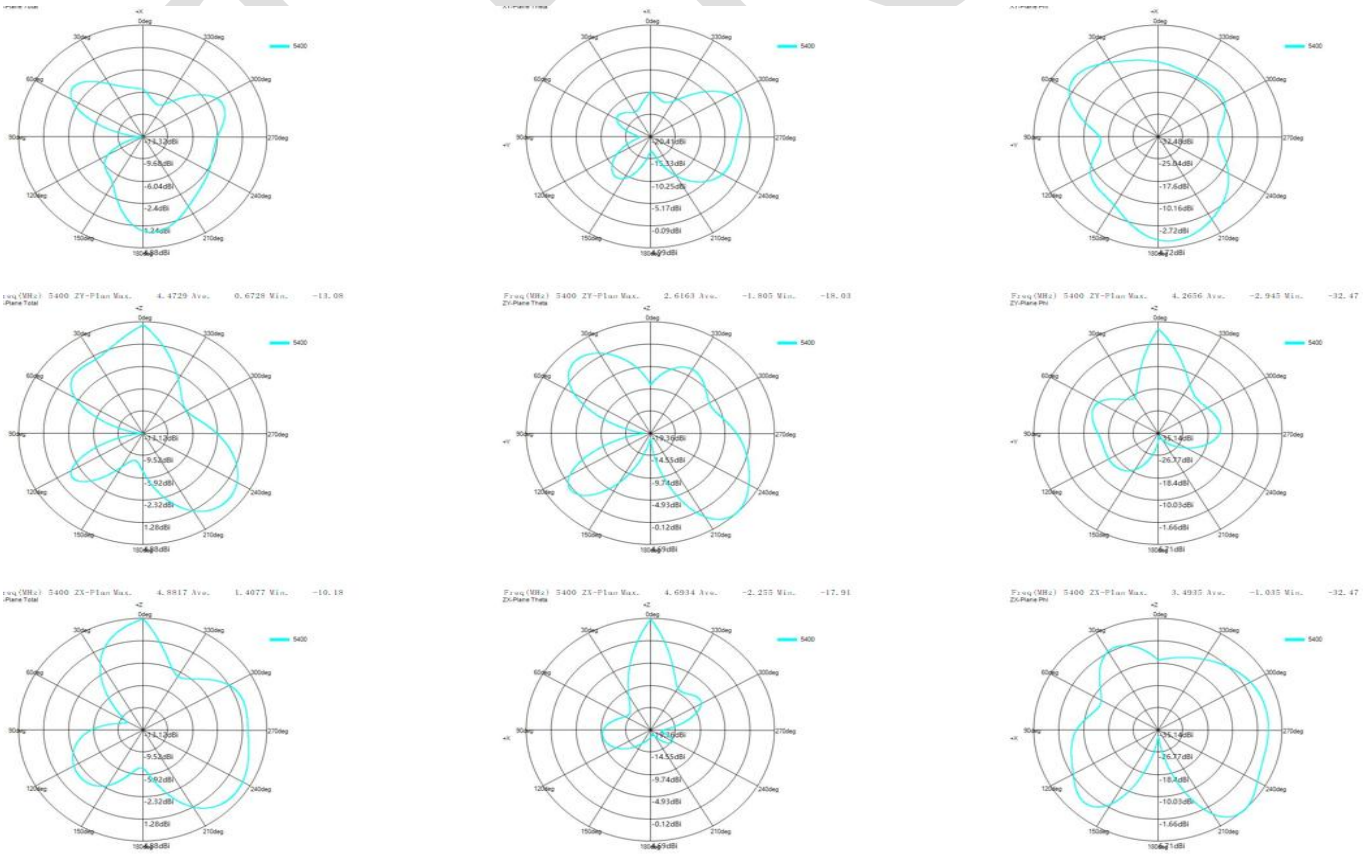
2.2.7 ANT1-2.4G



2.2.8 ANT1-5.8G



2.2.9 ANT1-5.8G



2.2.10 Antenna position-ANT 1-J3

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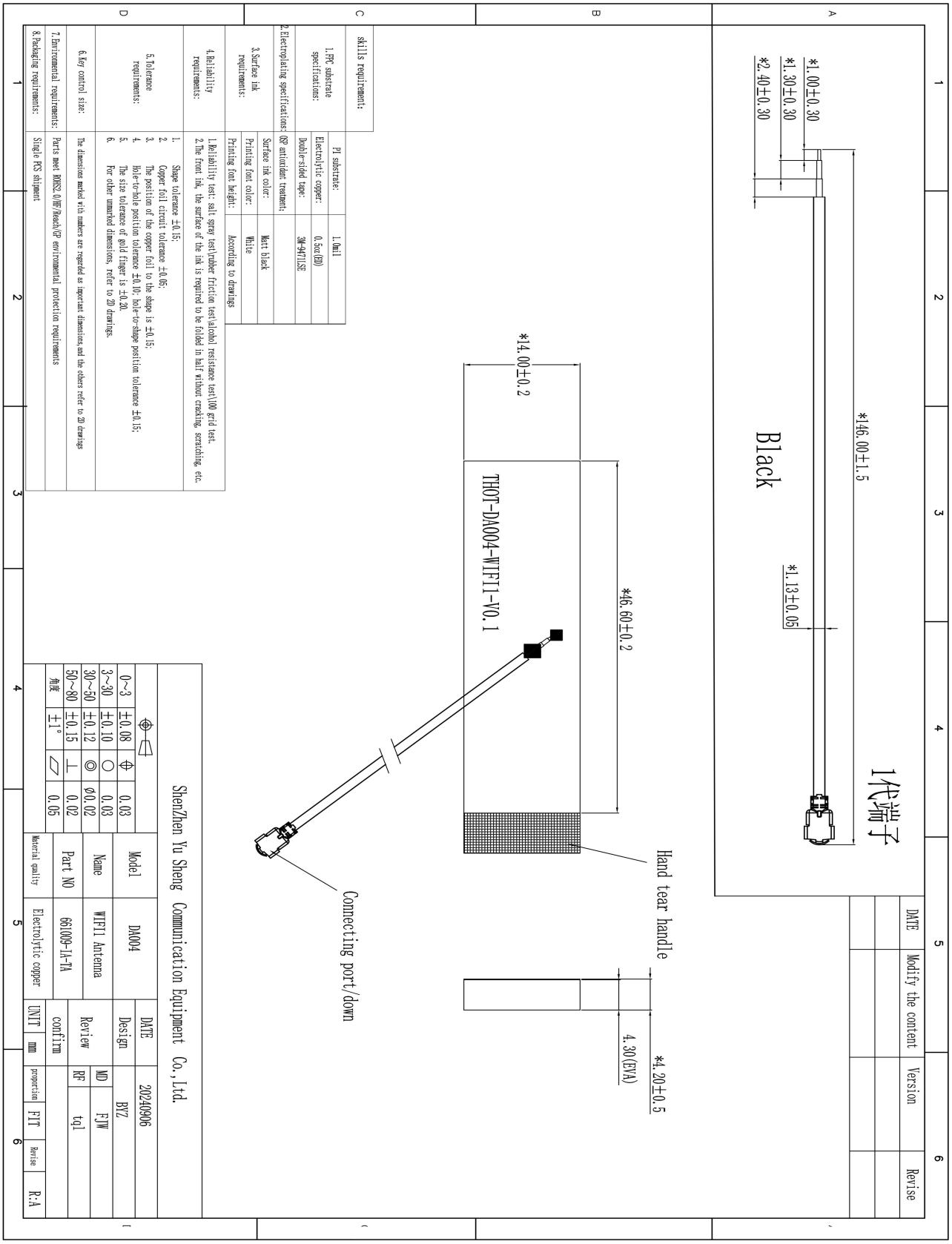
3. Engineering drawing

3.1 WIFI1



4. Bill Of Material

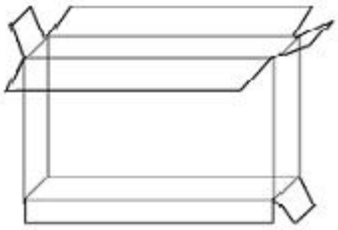
Shenzhen Yusheng Communication Equipment Co.,LTD

661009 (DA004)-BOM-BOM

edition : T:A client : 661 Type of aircTCft : 661006 Set a date : 2024/8/21

Item number	*Material code	*Material name	name	*Machine type	Specification and model	colour	*UNIT.	dosage	remark
1	661009-IA-TA	WIFI1 antenna		S-DN003D	Black WIFI1-FPC welded coaxial line, fitted to EVA	black	PCS	1	
1.1	661009-IA-01-TA	WIFI1-FPC		S-DN003D	Black WIFI1-FPC electrolytic copper 1 half white character 43.20*19.60* 0.12mm	black	PCS	1	
1.2	661009-IA-02-TA	WIFI1-EVA		S-DN003D	Black 43.20*19.60*4.0mm	black	PCS	1	
1.3	661009-IA-03-TA	WIFI1-CABLE		S-DN003D	First generation terminal φ 1.13*146.00 mm	black	PCS	1	
1.4	661009-IA-04-TA	WIFI1-weld		S-DN003D	weld+fitted to EVA	black	PCS	1	
verify :			examine :			manufacture : BYZ			

5.Package schematic diagram

Packaging method diagram		
product name	Antenna components	
P / N	661009	
Project model	DA004	
File details	Carton Size 1: 270*260*200MM Carton Size 2: 260*200*200MM Carton Size 3: Depending on the order quantity / volume	
	Boating method	Packaging by order quantity
	Total number of binning	Packaging by order quantity
labeling requirement	Tag Size 1: Universal use 100 * 100mm Tag Size 2: According to customer requirements	
matters need attention		
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		
2. Storage temperature: room temperature		
3. Preservation conditions: store them in a cool and dry place		