acknowledgement

product description:	Manufacturer:	Shenzhen Yusheng Communication Equipment Co., LTD	Project model: TIT 21 Specifications / Colors: Date of signature: Note: (This cover requires supplier seal)
	Material Name:		
	Material Code:	R:a	☐QC engineering drawing sample☐ ☐Reliability test report þ Packaging mode
appendix:	version number:		
	þ Electrical and mechanical performance description (specifications) ☐ manufacturing flow chart ☐☐The CPK reports the full-size measurement report ☐List of raw materials / RoHS Report / HF / REACH		(Everything that needs to be provided needs a filling color) ratify:

ADD: 407-411, Floor 4, Building 2, Yuntai Chuanggu Park, southeast of the intersection of Guangming Avenue and Dongchang Road, Guangming District, Shenzhen

The above should be filled in by the supplier and the following by Aidu

	department	**Confirm content**				**Confirm the results**	**Valfirm person / date**
Technical confirmation column	Supplier quality	☐ RoHS material ☐ Non-RoHS materials	☐ Compliance with the REACH requirements	☐ Meet the halogen-free requirements	☐ Other environmental protection requirements		
	Design department ID:	☐ Customer request ID	☐ color confirmation	☐ Surface process validation	☐ Shell, hardware, key material		
	construction engineer	☐ 2D drawing file dimensional confirmation ☐ Specification and technical requirements	☐ Focus on controlling the dimension labeling ☐ electrical performance parameters	☐ adaptation validation ☐ function	☐ Shell, hardware, key material ☐ effect		
	hardware engineer	☐ 2D drawing file dimensional confirmation ☐ Specification and technical requirements	☐ Focus on controlling the dimension labeling ☐ electrical performance parameters	☐ adaptation validation ☐ function	☐ Shell, hardware, key material ☐ effect		
	Research and	☐ Test criteria confirm the	☐ Normative dimension annotation	☐ reliability verification	☐ Function ☐ effect		

	development quality:	☐ appearance	(key ruler cun)	☐ adaptation validation			

Final Confirmation of the Project Manager:	☐ Acknowledge the completeness of the book and materials ☐ Normalization of dimensions (key dimensions)	☐ Specification and technical requirements ☐ appearance	☐ Electrical performance parameters ☐ function ☐ effect

Conditions of recognition: ☐ formal recognition

☐ limited recognition

☐ disallow

Distribution department: ☐ IQC ☐ supplier ☐ customer ☐ after-sales ☐ SQE / text control

☐ other_____

catalogue

1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements specifications for TIT 21 products.

This requirement applies to the selection, testing and acceptance of TIT 21 antennas.

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
S11 parameter	Standing wave ratio, echo loss	network analyzer
Active test	TRP,TIS	Integrated tester, microwave darkroom
Passive test	Gain, efficiency	network analyzer

2.2 Active Reporting

2.2.1 Test instructions

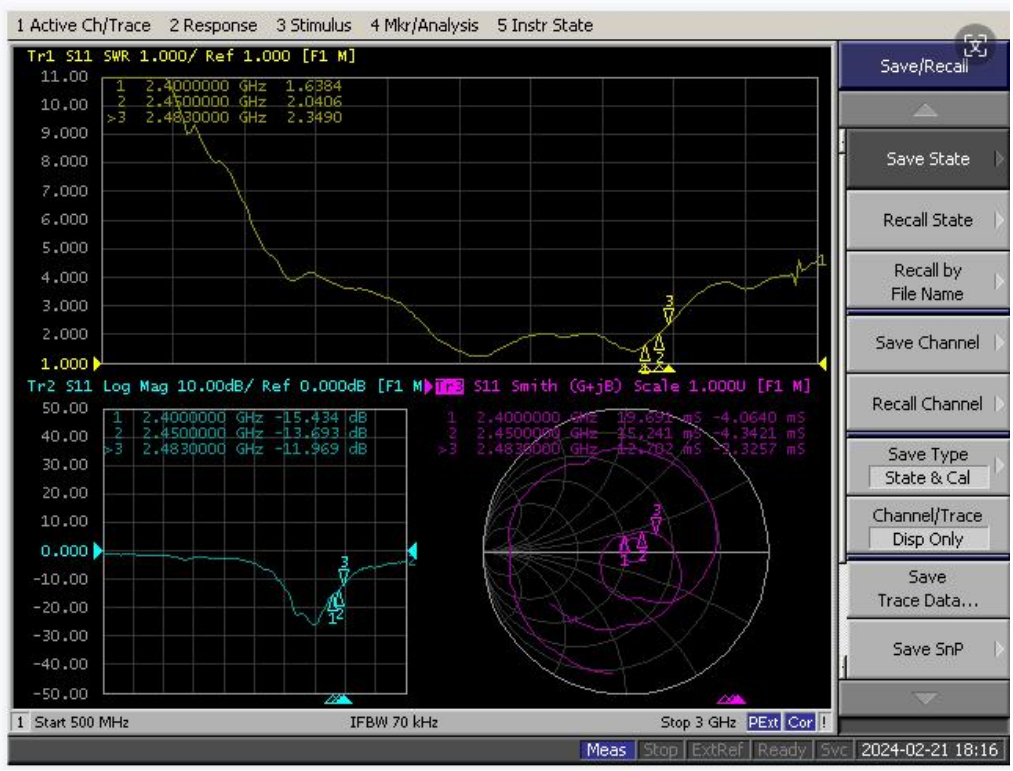
Test tools: Agilent8960 instrument, R & SCMW500, full wave far field ETS dark room, high precision positioning system and its controller and computer with automatic test program

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

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

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

2.2.2 Antenna S11 passive parameters



2.2.3 Active parameter of BT antenna-FS

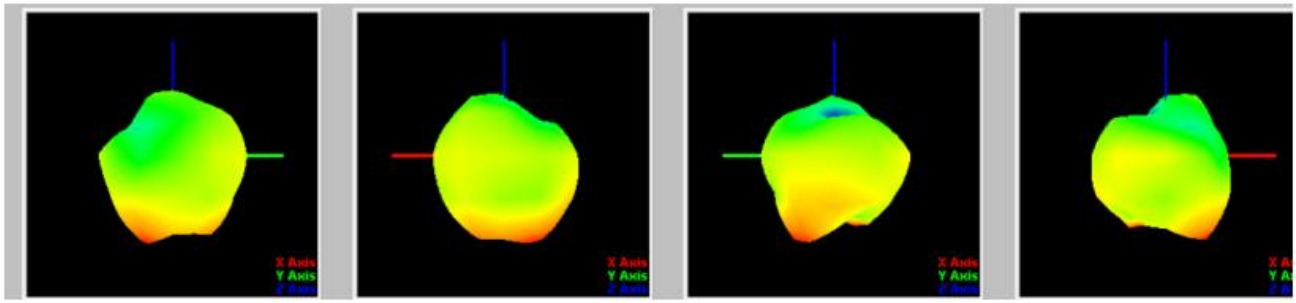
Test	FS								
Test Point ID	1	2	3	4	5	6	7	8	9
Freq.(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480
Efficiency (%)	14.7	15.1	15.7	16.2	16.6	15.5	15.2	14.8	14.3
productiveness (dB)	-8.3	-8.2	-8.0	-7.9	-7.8	-8.1	-8.2	-8.3	-8.4
gain (dBi)	-3.7	-3.5	-3.4	-3.3	-3.2	-3.4	-3.5	-3.6	-3.8

2.2.4BT Antenna passive parameter-ARM

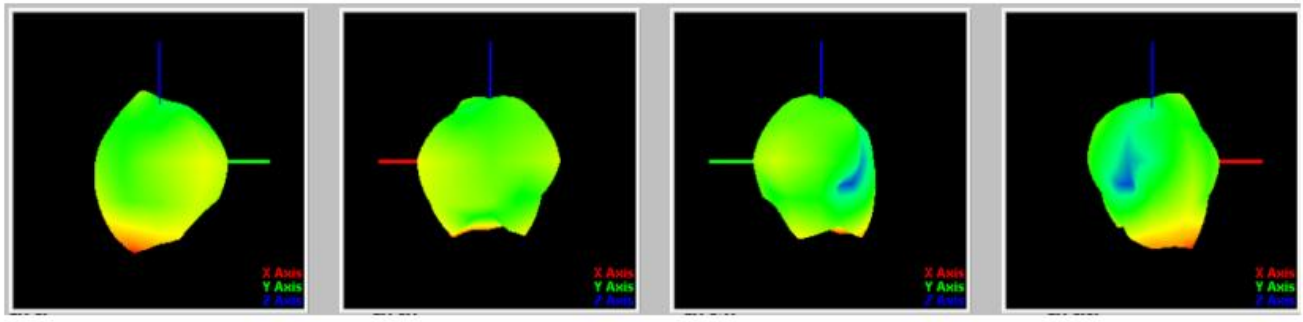
Test	ARM								
Test Point ID	1	2	3	4	5	6	7	8	9
Freq.(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480
Efficiency (%)	8.7	9.3	9.4	10.2	10.4	9.7	9.2	8.7	8.5
productiveness (dB)	-10.6	-10.3	-10.3	-9.9	-9.8	-10.1	-10.4	-10.6	-10.7
gain (dBi)	-5.8	-5.7	-5.4	-5.3	-5.2	-5.4	-5.5	-5.7	-5.9

2.2.5 Antenna direction diagram-BT

FS

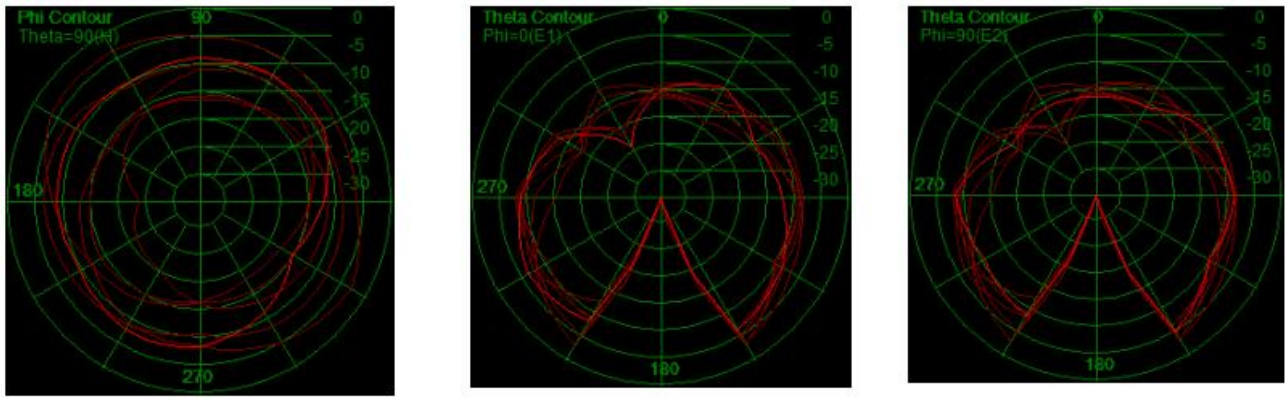


ARM

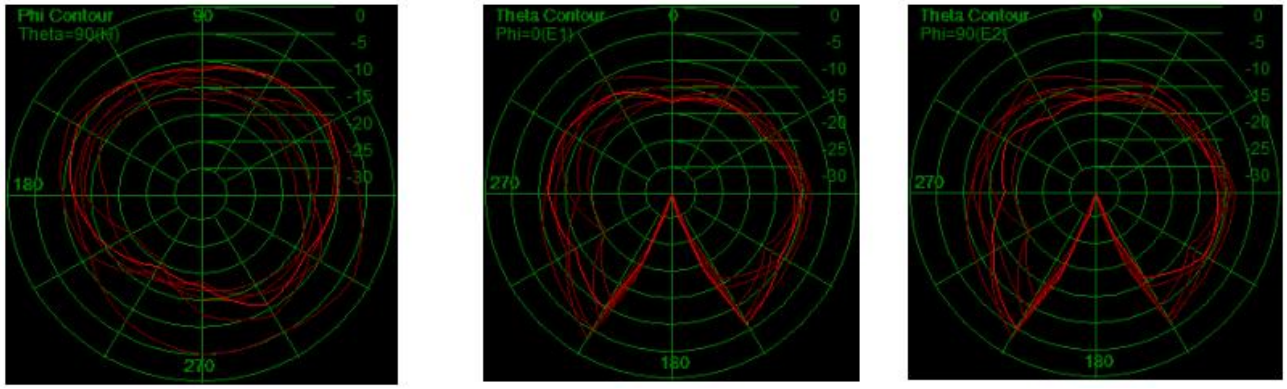


2.2.6 Antenna Plan-BT-ARM

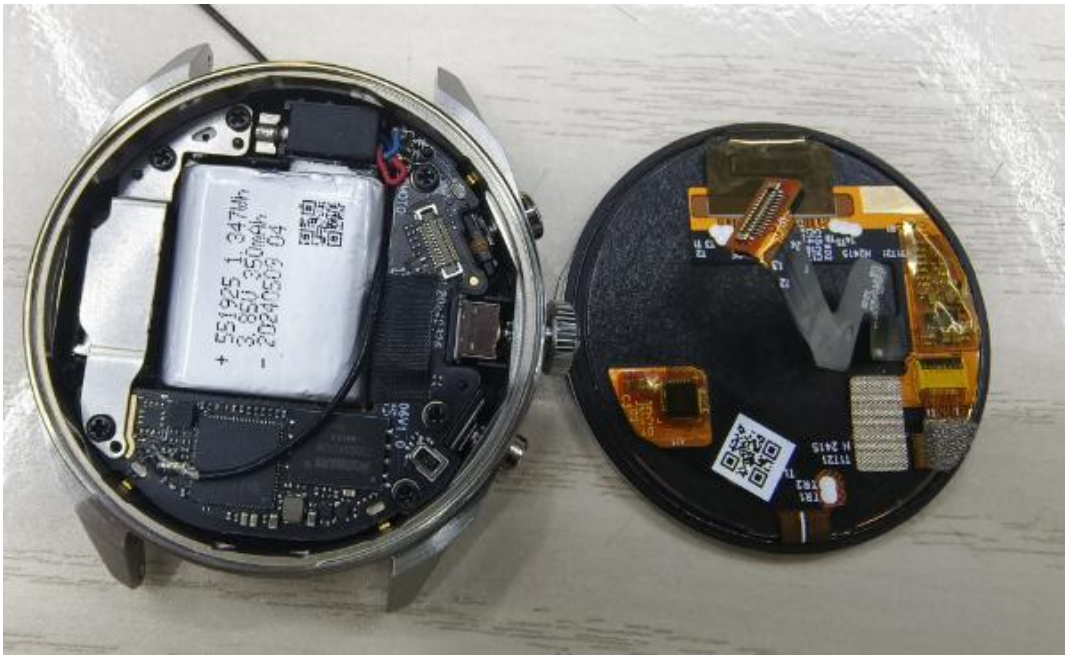
FS



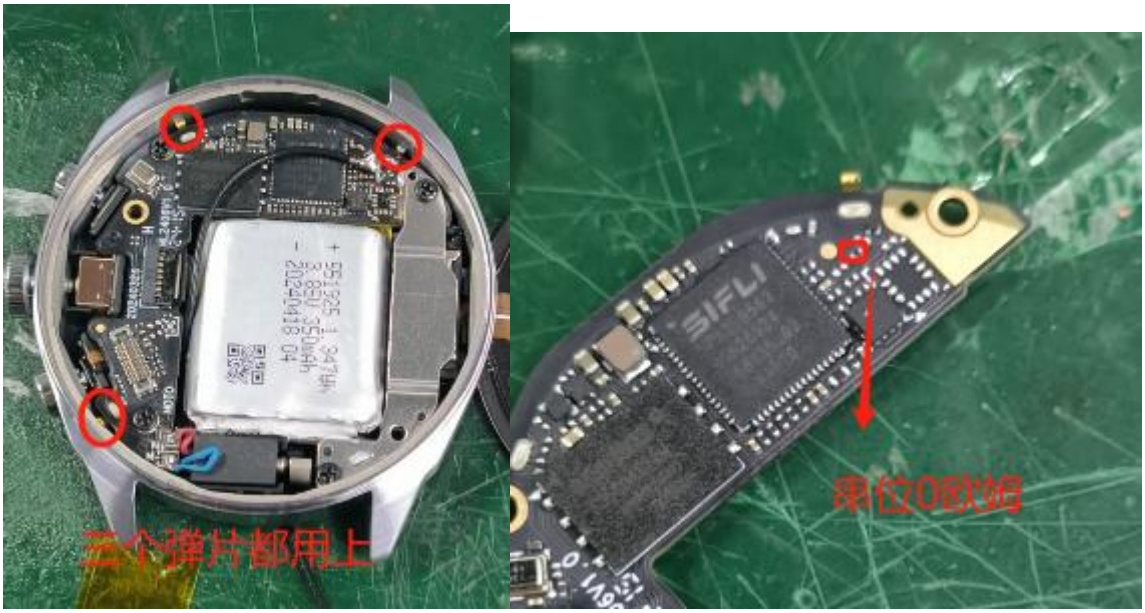
ARM



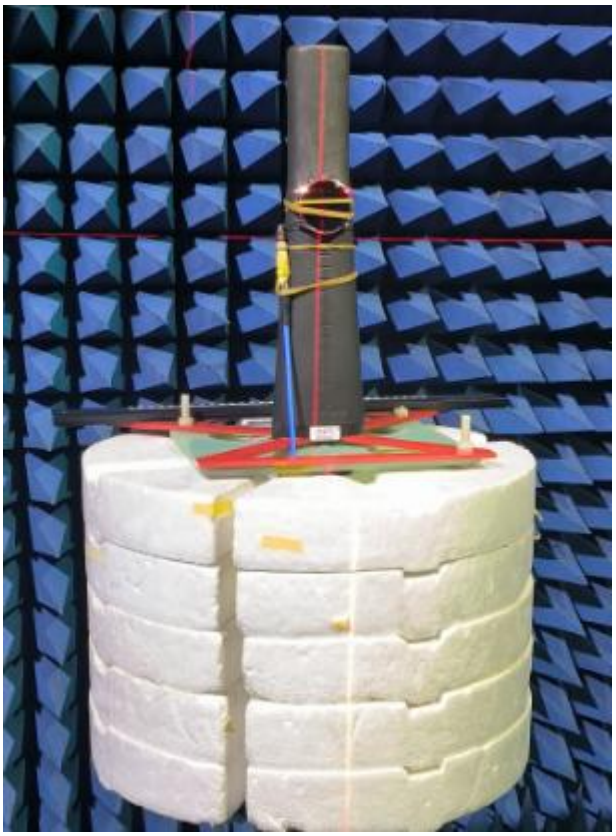
2.2.7 Treatment of the antenna environment



2.2.8 Antenna matching



2.2.9 Test picture of the antenna environment



Antenna size