

Material requirement specification for the SED054 project antenna

Customer name: XieChuang

Customer product name: SED054

Product name: BT antenna

Product specification: See the BOM table for more details

Product code: 400104840

Change Content CV:

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1		editio princeps	2025-7-9	Li Jieyi	10	

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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 SED054 products.

This requirement is applicable to the antenna selection, testing and acceptance of SED054 products.

1.2 Project basic information

Antenna name:	SED054
Antenna band:	BT: 2. 4G
Antenna material:	FPC antenna + coaxis

2. Technical index requirements

2.1 Active Reporting

2.2 Test instructions

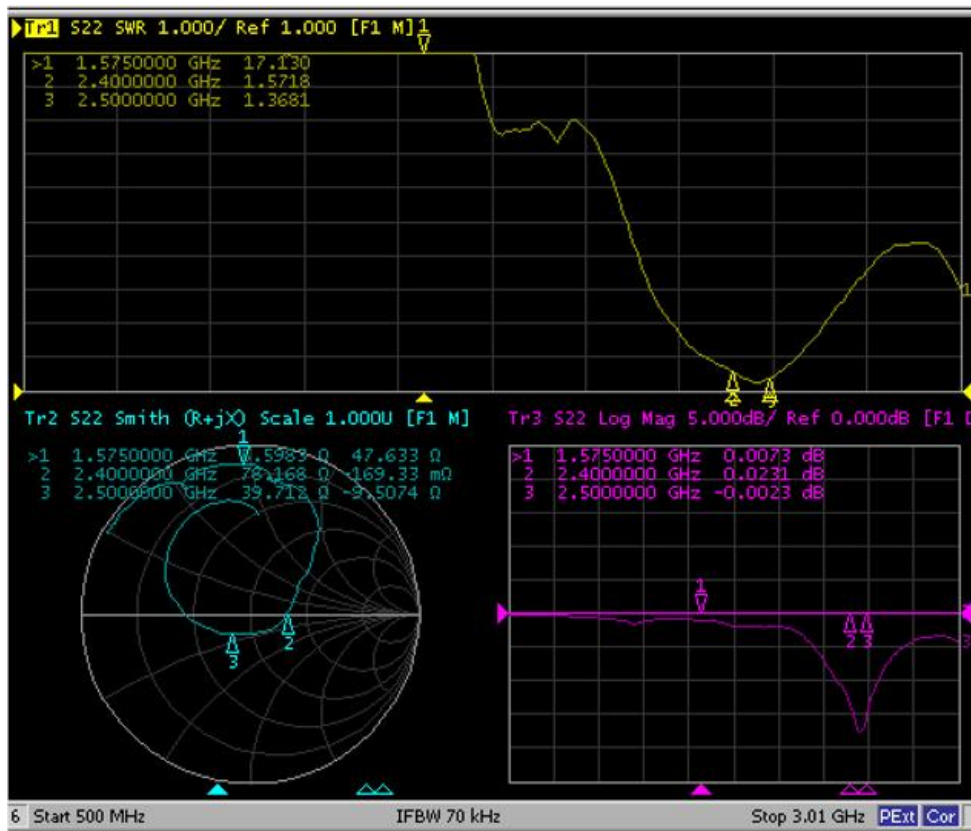
Test tools: Agilent8960 instrument, R & S CMW500, full wave far field ETS dark room, high precision positioning system and its controller and computer with automatic test program

Test environment: temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, humidity $50\% \pm 15\%$

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.

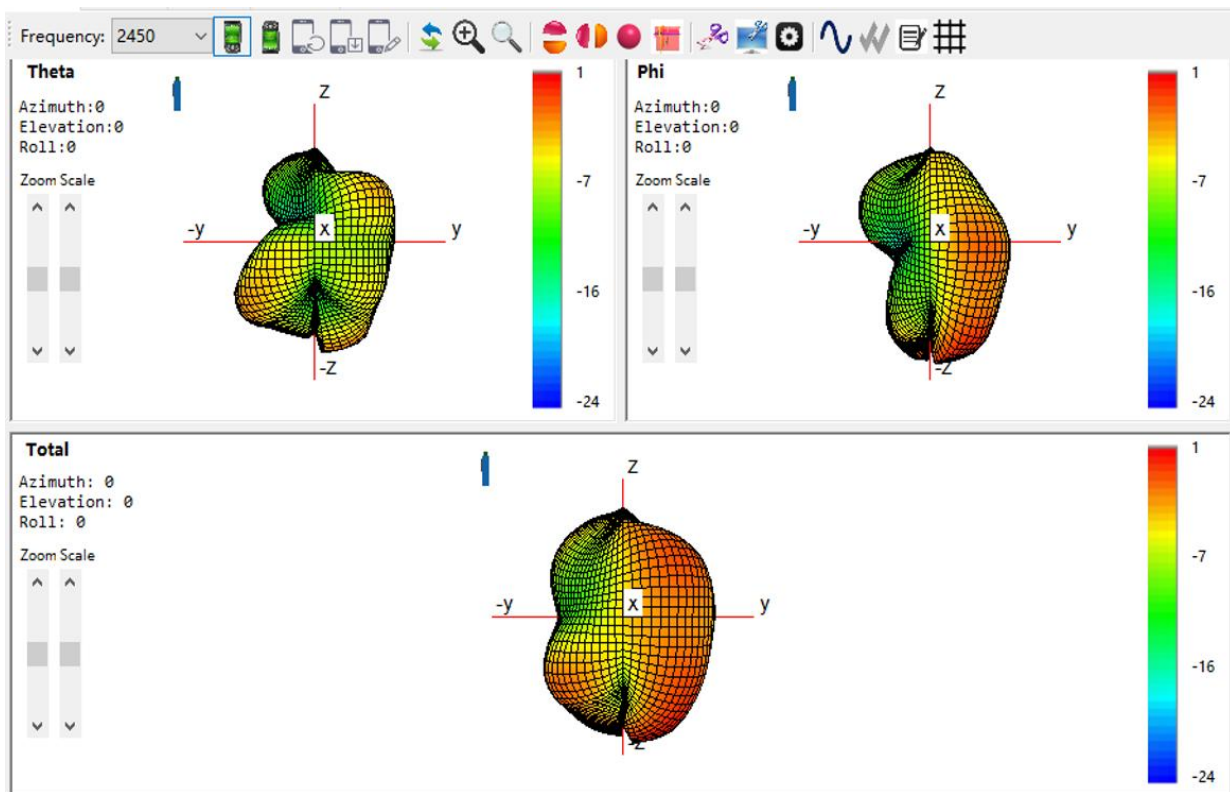
2.2.1 BT antenna passive parameters



2.2.2 BT antenna efficiency

Freq (MHz)	Effi (%)	Gain
2400	23.6	0.38
2410	24.3	0.42
2420	24.7	0.46
2430	25.1	0.48
2440	25.6	0.51
2450	26.1	0.53
2460	26.5	0.57
2470	27.3	0.54
2480	26.7	0.50
2490	25.9	0.47
2500	25.4	0.44

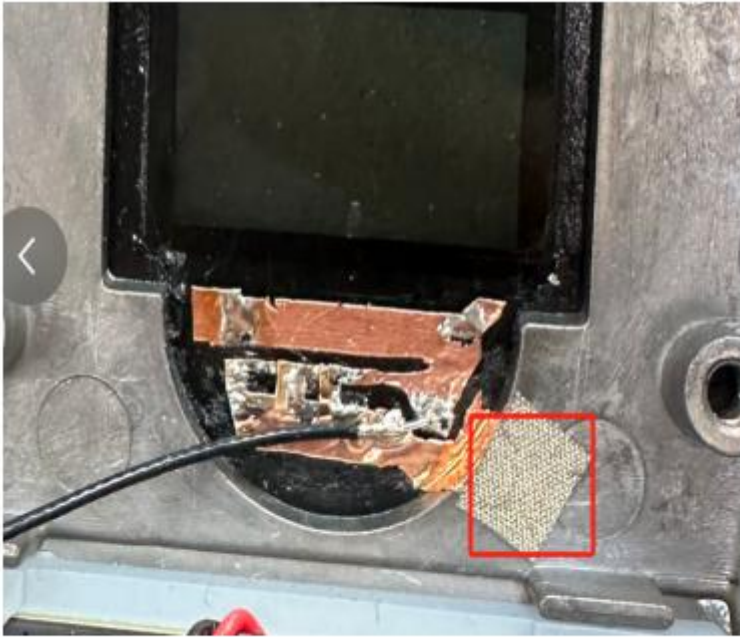
2.2.3 BT antenna pattern



2.2.4 Active antenna parameters

antenna	CH	TRP (db)	TIS (dbm)
BLE	CH0	-5.65	-85.34
	CH20	-5.53	-85.09
	CH39	-5.70	-84.12

2.2.5 Antenna environment treatment



The antenna and metal shell are grounded

3. Engineering drawings

3.1 BT

The figure is a technical drawing of a "First generation terminal". It includes a side view and a top view. The side view shows a long, thin component with a "Terminal opening facing down" at one end. Dimensions for the side view include a total length of 70 ± 1.0 , a width of 1.20 ± 0.30 , a thickness of 1.00 ± 0.30 , and a specific width of 1.13 ± 0.05 . The color is specified as "Black". The top view shows a rectangular component with a width of 25.80 ± 0.15 and a length of 13.14 ± 0.15 . The part number "TH07-SD054-BT-10-2" is printed on the top surface. The drawing is labeled with "A" at the top and "B" on the right side.

DATE		Modify the content	Version	Revise

skills requirements:	
1. PFC substrate specifications:	PI substrate: 1.0mil Electrolytic copper: 0.5oz(10) Double-sided tape: 3M-9711SS
2. Electroplating specifications:	Q2 anticorrosion treatment; Surface ink color: Matt black Printing font color: White
3. Surface ink requirements:	Printing font height: According to drawings
4. Reliability requirements:	1. Reliability test: salt spray test/abrasion resistance test/100 grid test. 2. The front ink, the surface of the ink is required to be folded in half without cracking, scratching, etc.
5. Tolerance requirements:	1. Shape tolerance ± 0.15 ; 2. Copper foil circuit tolerance ± 0.05 ; 3. The position of the copper foil to the shape is ± 0.15 ; 4. Hole-to-hole position tolerance ± 0.10 ; hole-to-shape position tolerance ± 0.15 ; 5. The size tolerance of gold finger is ± 0.20 . 6. For other unmarked dimensions, refer to 2D drawings.
6. Key control items:	The dimensions marked with numbers are required as important dimensions, and the others refer to 2D drawings
7. Environmental requirements:	Parts test: MIL-STD-883C/200/PCB/PCB/ environmental protection protection requirements
8. Packaging requirements:	Single PCS shipment

Shenzhen Yu Sheng Communication Equipment Co., Ltd.	
Model	SD054
DATE	20250408
Design	BYZ
Review	MD
RF assembly diagram	FJW
Part NO	661018-BT-7A
Material quality	Electrolytic copper
UNIT	mm
proportion	1:1
PTT	Revise
R.A	

4. Bill Of Material

661018 (SED054)-BOM

Edition : T:A

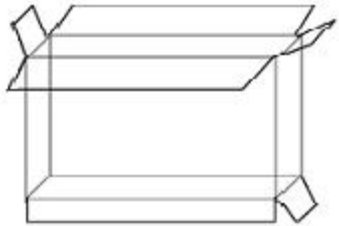
client : 661

Type of aircTCft : 661018

Set a date : 2025/4/30

Item numb	*Material code	*Material name	name	*Machine type	Specification and model	colour	*UNIT.	dosage	remark
2	661018-IB-TA	BT antenna		SED054	BT-FPC welding coaxial line	black	PCS	1	
2.1	661018-IB-01-TA	BT-FPC		SED054	BT-FPC electrolytic copper 1 half white character 25.80*13.14*0.12 mm	black	PCS	1	
2.2	661018-IB-03-TA	BT-cable		SED054	Single-head first-generation terminal $\phi 1.13$ *70MM	black	PCS	1	
2.3	661018-IB-04-TA	Assemble		SED054	weld	black	PCS	1	
2.4	TY-CSRF	network analyzer test		SED054	network analyzer test	/	PCS	1	
verify : examine : manufacture : BVZ									

5. Package schematic diagram

Packaging method diagram		
product name	Antenna components	
P / N	661018	
Project model	SED054	
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		

6.Supplier information

Supplier name: Shenzhen Yusheng Communication Equipment Co., LTD

Supplier address: 407-411,4th Floor, Building 2, Nantai Yunchuang Valley Park, southeast of the intersection of Guangming Avenue and Dongchang Road, Guangming District, Shenzhen