

GWP-SUPR-BT project antenna material requirements specification

Customer name: Concord

Customer product name: GWP-SUPR-BT-R antenna

Size of product : See BOM for details

Material code: 107-0701300B2

Supplier model: 336064-IB

Changes in resume:

order number	edition	state	Start and end dates	person liable	page number	remarks
1	editio princeps	editio princeps	2025-6-10	Li Jieyi	10	

Supplier's Acknowledgment signature:

Responsible person/date		IQC/ date	Audit/date	Ratification/date
MD	Bi Yezhi	Su Guanfeng	Chen Kehong	
RF	Jiang Mingfei			

Signature of the buyer (please send it back after signing):

Result of buyer's determination: ☐ Qualified ☐ Unqualified			
Development design engineer/date	SQE engineer/date	Procurement officer/date	Approved by the Development Manager / Date

catalogue

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1. Overview

1.1 Scope of application

This requirement specifies the antenna technical requirements and material requirements for product GWP-SUPR-BT.

This requirement applies to the selection, testing and acceptance of GWP-SUPR-BT antennas.

1.2 Basic information of the project

Antenna name:	<u>GWP-SUPR-BT</u>
Antenna frequency:	BT
Antenna material:	FPC

2. Technical index requirements

2.1 Introduction of test items and equipment

inventory	test item	equipment
S11 parameters	Standing wave ratio, return loss	network analyzer
Active testing	TRP,TIS	Comprehensive tester, microwave anechoic chamber
Passive testing	Gain, efficiency	Network analyzer

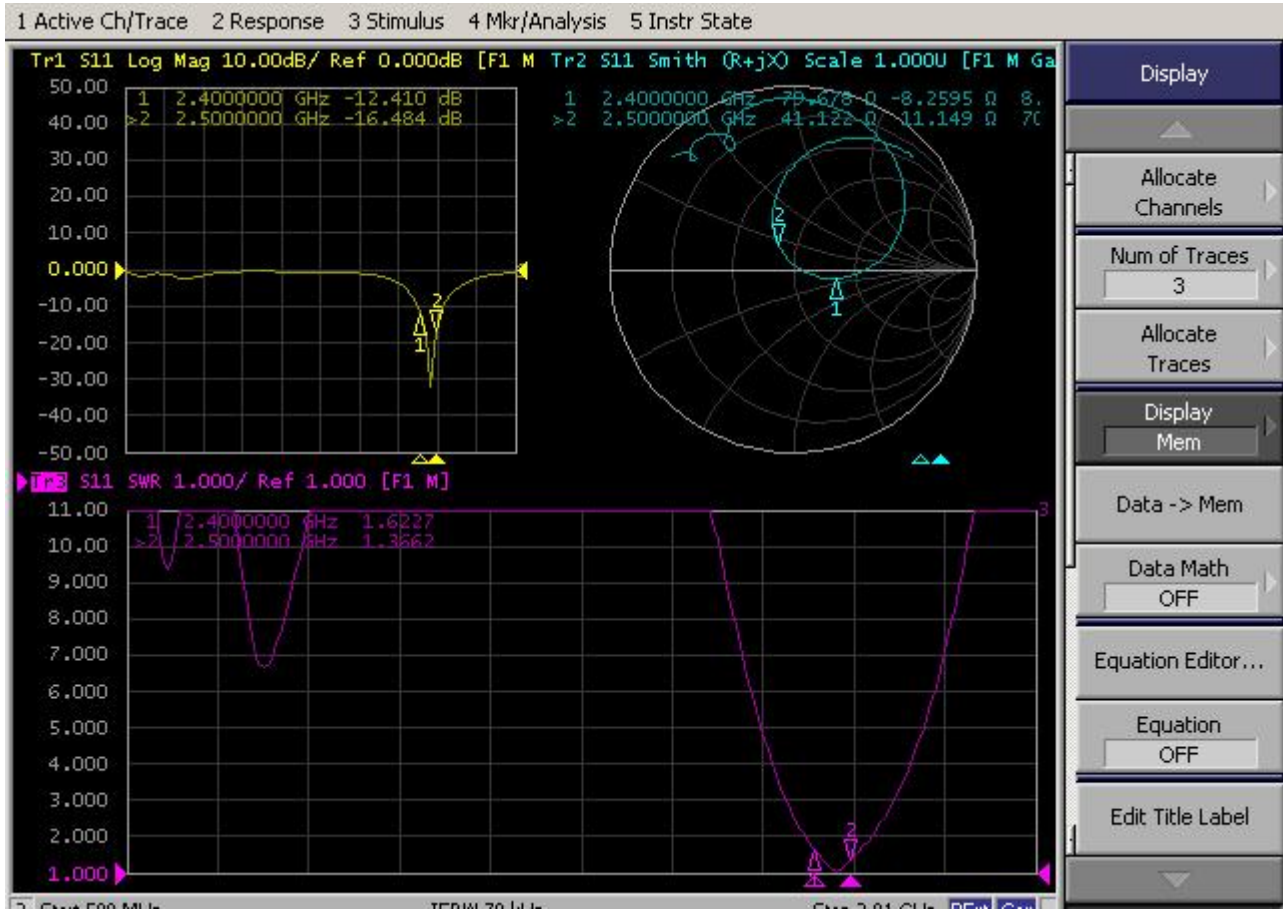
2.2 Passive reporting

2.2.1 Description of passive testing

Test equipment: network analyzer

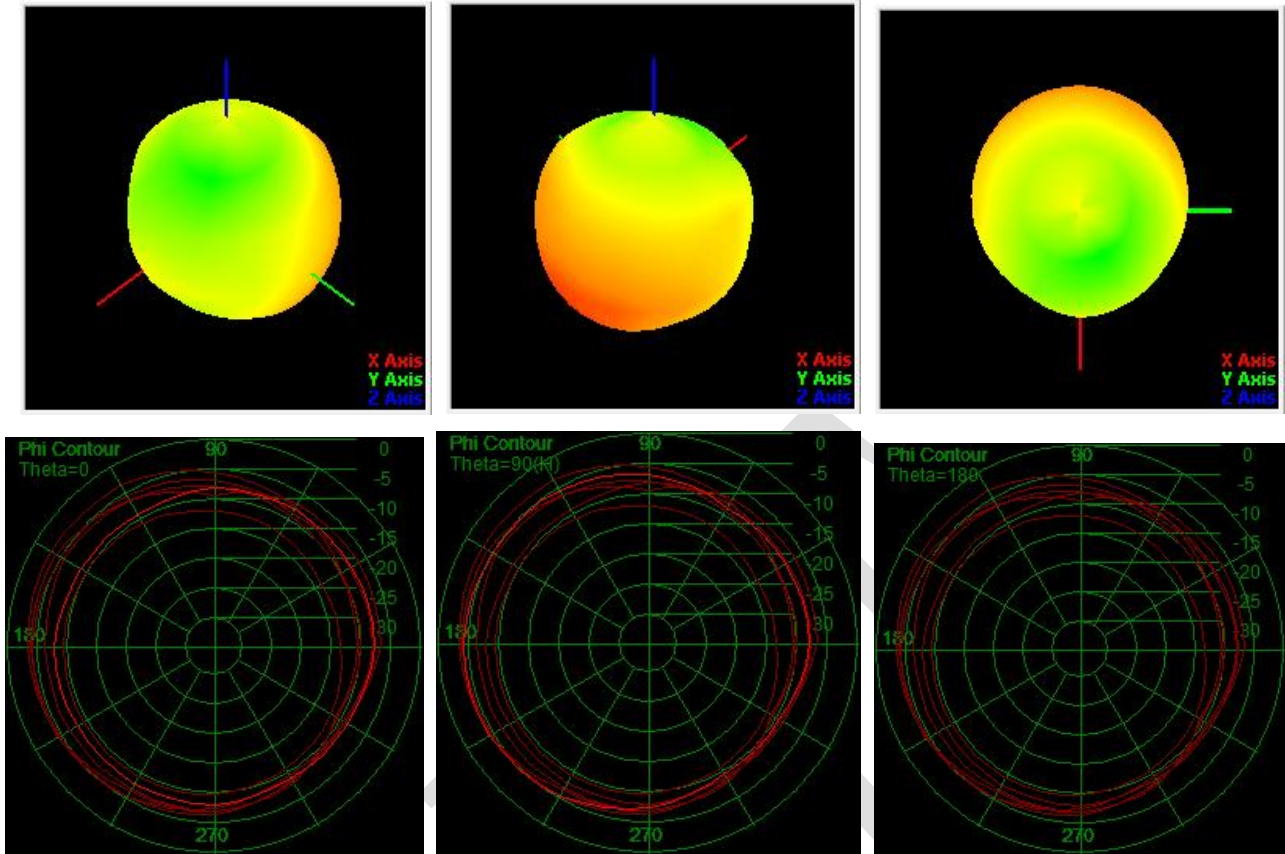
Test method: A 50 ohm CABLE cable is exported from the test port of the instrument, and the SMA connector of the mobile phone fixture is connected after calibration with a calibrated piece, and the return loss or standing wave ratio corresponding to the relevant frequency points are recorded.

2.2.2 Antenna passive parameters



Freq	Effi(%)	Gain (dBi)
2400.0	14.22%	-5.88
2410.0	14.57%	-5.76
2420.0	14.89%	-5.72
2430.0	15.17%	-5.68
2440.0	15.39%	-5.44
2450.0	15.78%	-5.37
2460.0	15.22%	-5.62
2470.0	14.86%	-5.74
2480.0	14.35%	-5.89
2490.0	13.93%	-6.07
2500.0	13.78%	-6.23

2.2.3 Antenna passive parameter pattern



2.2.4 Active antenna parameters

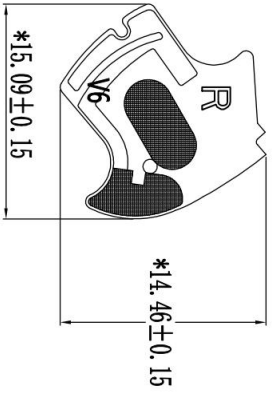
Channel No.	free space /R	
	TRP (dBm)	TIS (dBm)
0	1.72	-85.26
39	1.85	-85.43
78	2.07	-85.55

Channel No.	Head ear /R	
	TRP (dBm)	TIS (dBm)
0	-0.24	-82.37
39	-0.15	-82.63
78	-0.08	-82.71

2.2.7 Antenna field measurement data

test method	1. Distance test: Connect the mobile phone to the Bluetooth headset, place the mobile phone on a non-metallic bracket 60cm high, and the tester wears the headset to walk far away while rotating 360 degrees at the same time. Measure the distance when the call sound and music sound in the headset do not break at the limit.	
	2. Close-up test: The tester carries the mobile phone with him (preferably in the back pocket of the pants opposite the main ear of the Bluetooth headset) to test whether there is any breakage when rotating the human body.	
	3. Test with both hands: The tester wears headphones and connects to the mobile phone to play music. Two states are tested: 1) test with fingertips facing up to check whether the music is broken; 2) test with fingertips facing back to check whether the music is broken.	
Test site:	In the open area outside our building (see test environment)	
testing facility :	Apple 6	
test result :	listen to music	1. When the left and right ears are mutually dominant, the test distance is 14M.
		2. Close range has not been tested yet.
		3. Cover your ears with both hands and do not test yet.

3.Structural drawings

1		2		3		4		5		6		7		8																																				
A skills requirements: <table border="1"> <tr> <td>1. PCB substrate specifications:</td> <td>PI substrate: Electrolytic copper: Double-sided tape:</td> <td>1.0 mil 0.5oz(30) 3M-9711LS</td> </tr> <tr> <td>2. Electroplating specifications:</td> <td>Nickel plate: 3µm Surface ink color:</td> <td>4H, 0.025mm Matt black</td> </tr> <tr> <td>3. Surface ink requirements:</td> <td>Printing font color:</td> <td>Bright black</td> </tr> <tr> <td></td> <td>Printing font height:</td> <td>According to drawings</td> </tr> </table> 4. Reliability requirements: 1. Reliability test: salt spray test\rubber friction test\alcohol 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. B  C 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 unnamed dimensions, refer to 2D drawings. D 6. Key control size: The dimensions marked with numbers are regarded as important dimensions, and the others refer to 2D drawings																1. PCB substrate specifications:	PI substrate: Electrolytic copper: Double-sided tape:	1.0 mil 0.5oz(30) 3M-9711LS	2. Electroplating specifications:	Nickel plate: 3µm Surface ink color:	4H, 0.025mm Matt black	3. Surface ink requirements:	Printing font color:	Bright black		Printing font height:	According to drawings																							
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Shenzhen Yu Sheng Communication Equipment Co., Ltd. <table border="1"> <tr> <td>Model</td> <td>GPR-SUPR-BT</td> <td>DATE</td> <td colspan="2">2025.5.12</td> </tr> <tr> <td>Name</td> <td>R antenna</td> <td>Design</td> <td>MD</td> <td>BYZ</td> </tr> <tr> <td>Part NO</td> <td>330064-1B-7A</td> <td>Review</td> <td>RF</td> <td>CKH</td> </tr> <tr> <td>Material quality</td> <td>Electrolytic copper</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hold surface treatment</td> <td></td> <td>confirm</td> <td></td> <td></td> </tr> <tr> <td>Appearance treatment</td> <td></td> <td>UNIT</td> <td>mm</td> <td>proportion</td> </tr> <tr> <td></td> <td></td> <td>FIT</td> <td>Revise</td> <td>R-A</td> </tr> </table>																Model	GPR-SUPR-BT	DATE	2025.5.12		Name	R antenna	Design	MD	BYZ	Part NO	330064-1B-7A	Review	RF	CKH	Material quality	Electrolytic copper				Hold surface treatment		confirm			Appearance treatment		UNIT	mm	proportion			FIT	Revise	R-A
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Shenzhen Yusheng Communication Equipment Co., LTD

4. Bill Of Material



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336064 (GWP-SUPR-BT) BOM

edition: T:A

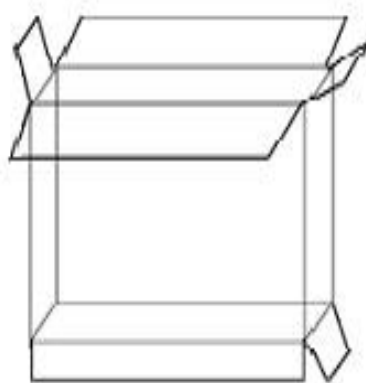
client: 336

Type of aircraft: 336064

Set a date: 2025/5/12

Item	*Material code	*Material name	name	*Machine type	Specification and model	colour	*UNIT.	dosage	remark
2	336064-IB-TA	R Antenna		GWP-SUPR-BT	BLACK R-FPC Electrolytic copper 14.46*15.09*0.12mm	black	PCS	1	
2.1	336064-IB-01-TA	R Antenna-FPC		GWP-SUPR-BT	BLACK R-FPC Electrolytic copper 14.46*15.09*0.12mm	black	PCS	1	
verify:			examine:				manufacture: BYZ		

5. Packaging diagram

Packaging method diagram		
P / N	336064	
Project model	<u>GWP-SUPR-BT</u>	
Details of packing	Carton size 1: 270*260*200MM Carton size 2: 260*200*200MM Carton size 3: Depending on the quantity/volume of orders	
	Packaging method	Pack according to order quantity
	Total number of boxes packed	Pack according to order quantity
labeling requirement	Tag size 1: General 100*100mm Tag size 2: At the customer's request	
matters need attention		
1. Due to the limitation of order quantity, the packing method of each material is selected according to the total quantity of the order or the actual volume of the box		
2. Storage temperature: room temperature		
3. Storage conditions: store in a cool and dry place		