Turtle beach Project Antenna Material Requirements Specification

Customer Name: Tianjian

Customer Product Name: Turtle beach

Product Name: R-BT Antenna

Supplier Model: 336084-IB R-BT Antenna

Change History:

order number	edition	state	availability date	person liable	page number	remarks
1	R:A	editio princeps	2026-9-28	Li Jieyi	12	

Supplier's acknowledgment signature:

Responsible Person/Date		IQC/ date -	Review/Date	Approved/Date
MD	Bi Yezhi	Su Guanfeng	Zeng Xianghao	
RF	Feng Xixian			

Buyer's acknowledgment signature (please return after signing):

Buyer's determination result: □ Qualified □ Unqualified			
Development and Design Engineer / Date	SQE Engineer/Date	Procurement Manager/Date	Development Department Manager's Approval/Date

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1. Overview

1.1 Scope of Application

This specification defines the technical requirements for antennas and material specifications for Turtle beach products.

This requirement applies to the selection, testing, and acceptance of Turtle beach antennas.

1.2 Project Basic Information

Antenna Name:	Turtle beach
Antenna Frequency:	BT：2400MHZ-2500MHZ
Antenna Material:	R-BT Antenna

2. Requirements for Technical Specifications

2.1 Test Items and Equipment Overview

List	test item	equipment
Active Testing	TRP,TIS	Comprehensive tester, microwave anechoic chamber

2.2 Active Reporting

2.2.1 Testing Instructions

Testing equipment: Agilent 8960 comprehensive tester, R&SC MW500, fully electromagnetic far-field E TS anechoic chamber, high-precision positioning system with its controller, and a computer equipped w ith automated testing software.

Test Environment: Temperature 22°C ± 3°C, Humidity 50% ± 15%

Test Method: The DUT is mounted on the H-plane at the center of the turntable, aligned horizontally with the center of the speaker antenna.

The positioning system enables the DUT to rotate across the entire spherical surface, achieving high-precision three-dimensional positioning. All RF instruments, turntable controllers, and PCs equipped with automatic testing software communicate via GPIB interfaces.

2.2.2 Mainboard data transmission-Headphones-R

OTA	TX（dBm)	RXdBm)
CH0	10	-93
CH39	10	-93
CH78	10	-93

2.2.3 Active Antenna Parameters-Earphones-R

freedom

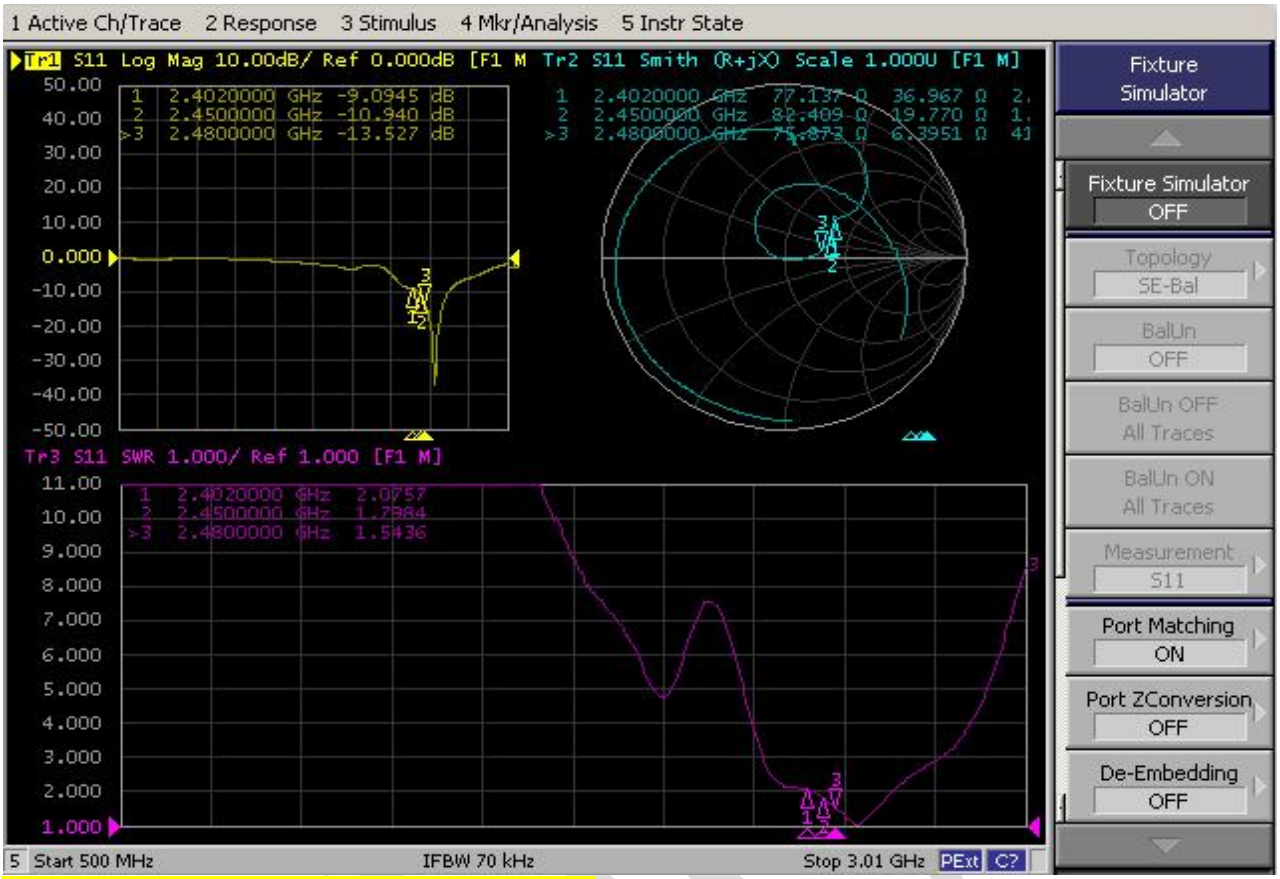
OTA	TXdBm)	RXdBm)
CH0	2.37	-87.51
CH39	3.38	-87.96
CH78	3.97	-88.12

headform

OTA	TXdBm)	RXdBm)
CH0	-0.16	-85.09
CH39	0.45	-85.44
CH78	0.86	-85.76

THOT

2.2.4 Passive Antenna Parameters – EFF%



R	freedom

Freq	Effi(%)	Gain(dBi)
2400	17.94%	-5.82
2410	18.35%	-5.51
2420	19.11%	-5.16
2430	19.97%	-4.87
2440	20.16%	-4.47
2450	20.48%	-4.55
2460	20.79%	-4.62
2470	21.34%	-4.94
2480	21.51%	-5.05

R	headform	
Freq	Effi(%)	Gain(dBi)
2400	7.35%	-6.34
2410	7.48%	-5.99
2420	7.51%	-5.55
2430	7.76%	-5.15
2440	7.89%	-5.04
2450	8.14%	-4.92
2460	8.42%	-4.98
2470	8.55%	-5.78
2480	8.34%	-6.21

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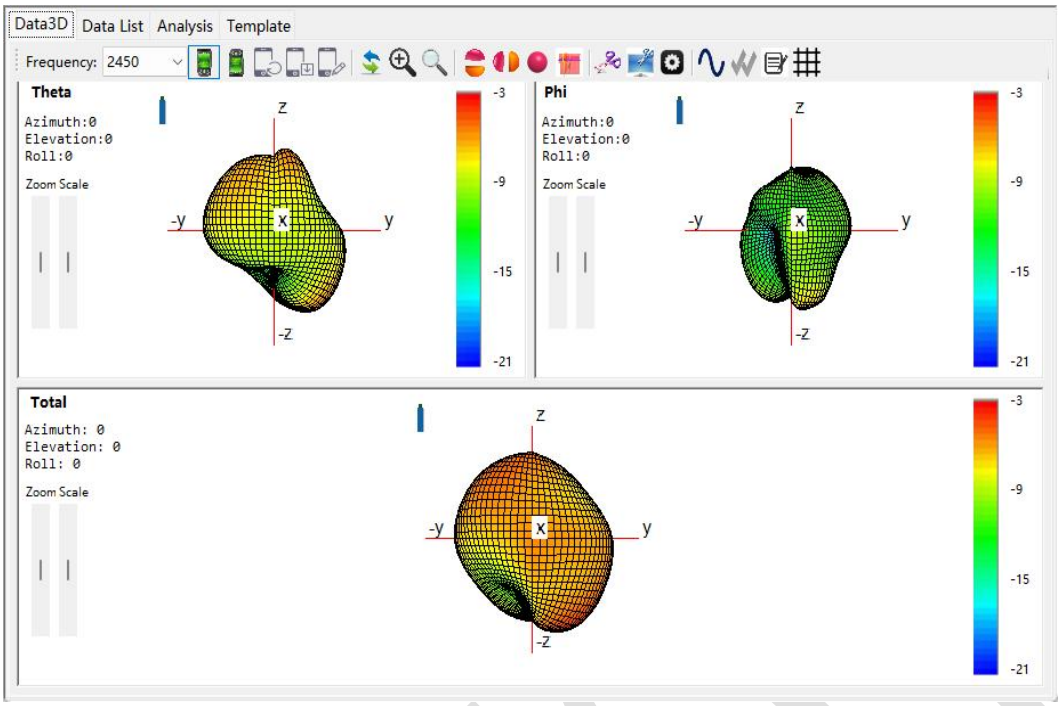
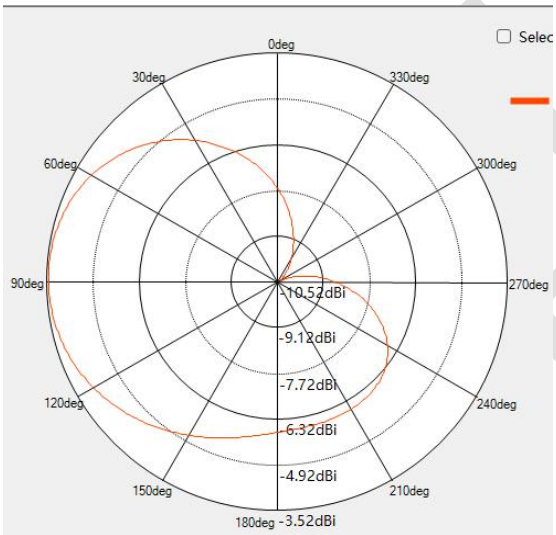
2.2.6 Impedance Diagram-Headphones (R)





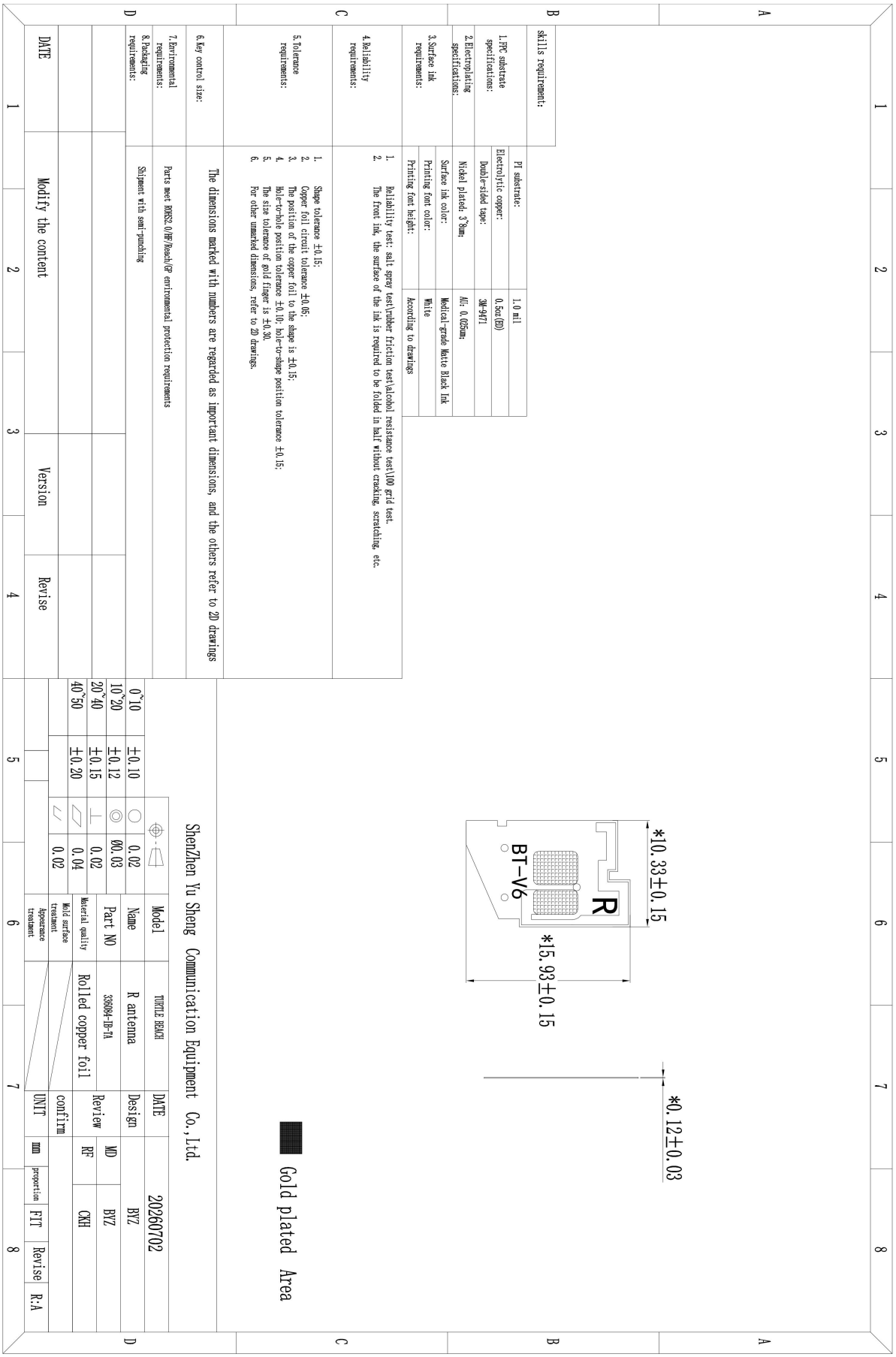
2.2.7 Range Test

test method：	1. Range Test: Connect a mobile phone to a Bluetooth headset, place the phone on a non-metallic stand at a height of 60 cm, have the tester wear the headset and walk toward a distant point while simultaneously rotating 360 degrees. Measure the maximum distance at which the call audio and music audio within the headset remain uninterrupted.

Test Location：	In the open outdoor area beneath our company building (see test environment)		
testing facility：	Iphone 6		
test result：	listen to music	16M	

3. Structural drawings

3.1 R- BT Antenna



4. Bill Of Material

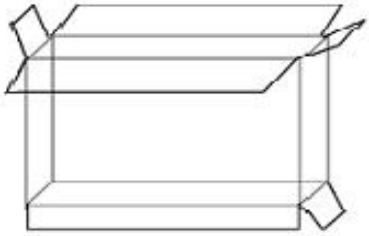
Shenzhen Yusheng Communication Equipment Co.,LTD

336084(TURTLE BEACH)BOM

Edition: T:A client: 336 Type of airc TCft: 336084 Set a date: 2026/6/11

Item number	*Material code	*Material name	name	*Machine type	Specification and model	colour	*UNIT.	dosage	remark
2	336084 -IB-TA	R-BT antenna		TURTLE BEACH	Black R-FPC, ED Copper, 1-to-2 Split, Gold Plated, 10.33 x 15.93 x 0.12 mm	black	PCS	1	
2.1	336084-IB-01-TA	R-BT-FPC		TURTLE BEACH	Black R-FPC, ED Copper, 1-to-2 Split, Gold Plated, 10.33 x 15.93 x 0.12 mm	black	PCS	1	
verify:			examine:			manufacture: BYZ			

5. Packaging Image

Packaging Method Diagram		
product name	R-BT Antenna	
P / N	336084	
Project Model	Turtle beach	
Packaging Details	Carton Size 1: 270*260*200MM Paper Box Size 2: 260*200*200MM Carton Size 3: Based on order quantity/volume	
	Packaging Method	Pack by order quantity
	Total number of boxes packed	Pack by order quantity
labeling requirement	Label Size 1: General 100*100 mm Label Size 2: According to customer requirements	
matters need attention		
1. Due to order quantity limits, the packaging size for each material is determined based on either the total order quantity or actual volume.		
2. Storage temperature: Room temperature		
3. Storage conditions: Store in a cool, dry place		

(This image is a schematic representation of the packaging; please refer to the actual mass-produced version for details.)

6. Manufacturer Information

6.1 **Manufacturer Name**: Shenzhen Yusheng Communication Equipment Co., Ltd.

6.2 **Manufacturer Address**： 407–411,4th Floor, Building 2, Nantai Yunchuang Valley Park, located on the southeast side of the intersection of Guangming Avenue and Dongchang Road, Guangming District, Shenzhen

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