

W130 – Antenna Specification Document for Soft-pack Projects

Customer name: Shenzhen Dunshi Electronics Co., Ltd.

Customer Product Name: W130-Soft Pack

Product Name: L-FPC Antenna

Supplier Model: Left Earphone Antenna: 336080-IA

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Change History:

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

Buyer's determination result: ☐ Qualified ☐ Unqualified			
Development 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 W130 soft-pack products.

These requirements apply to the selection, testing, and acceptance of W130 soft-pack antennas.

1.2 Basic Project Information

Antenna Name:	W130 – Soft Pack
Antenna Frequency:	BT: 2400MHz-2500MHz
Antenna Material:	FPC

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 ETS anechoic chamber, high-precision positioning system with its controller, and a computer equipped with automatic testing software.

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

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.

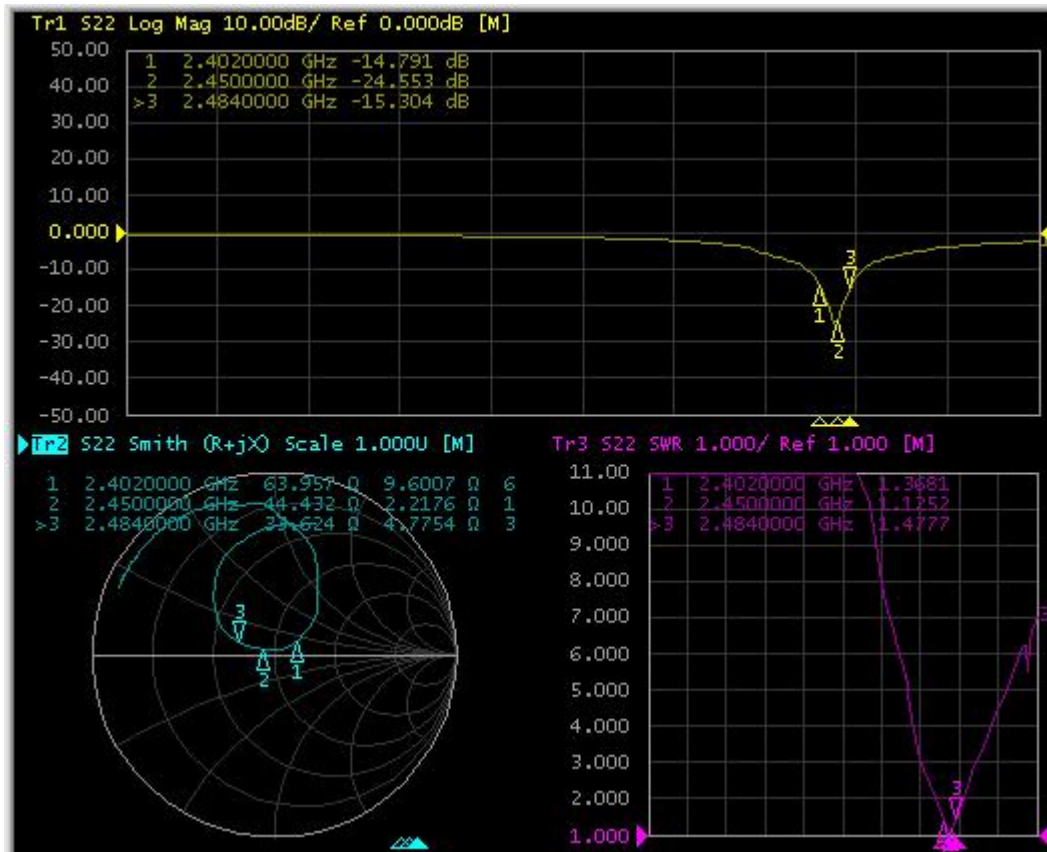
The positioning system enables the DUT to rotate across the entire spherical surface, achieving high-precision three-dimensional positioning. All RF instruments, turntable controllers, and PCs equipped with automatic testing software communicate via GPIB interfaces.

2.2.2 Conduction Data

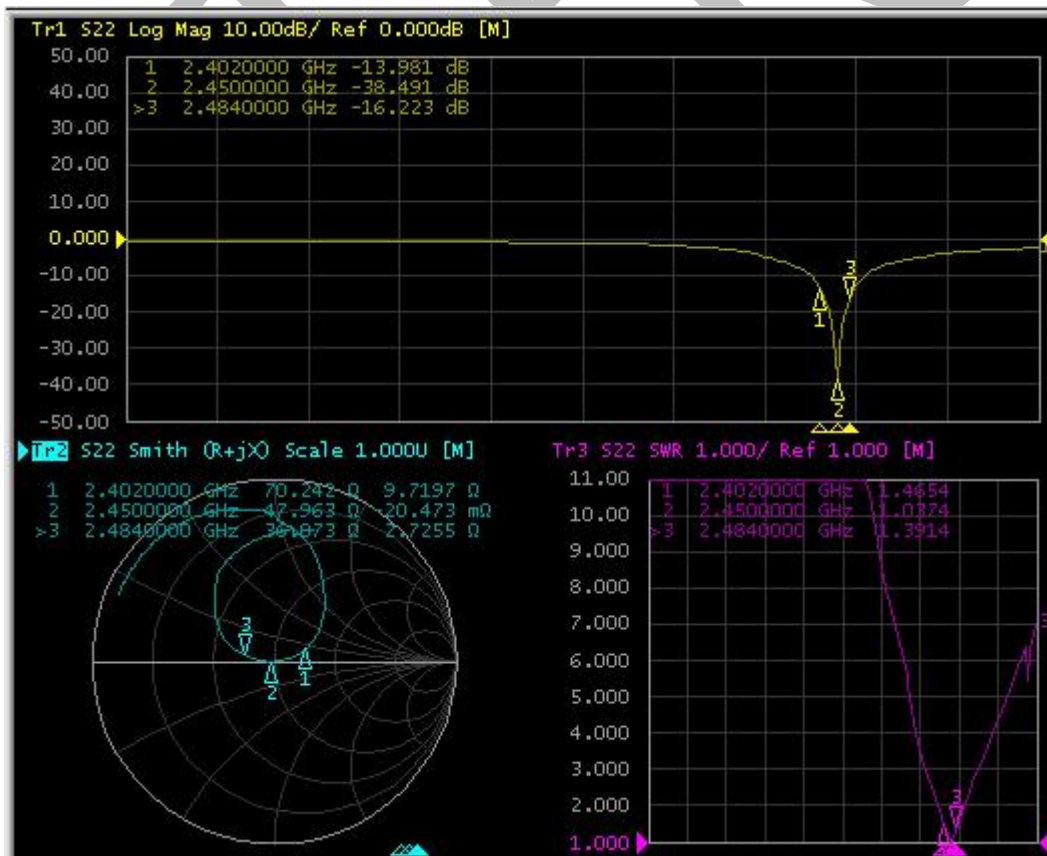
	Channel	power	sensitivity
L	0	9.9	-94.0
	39	9.9	-94.0
	78	9.9	-94.0

2.2.3 The matching circuit is shown in Figure L below

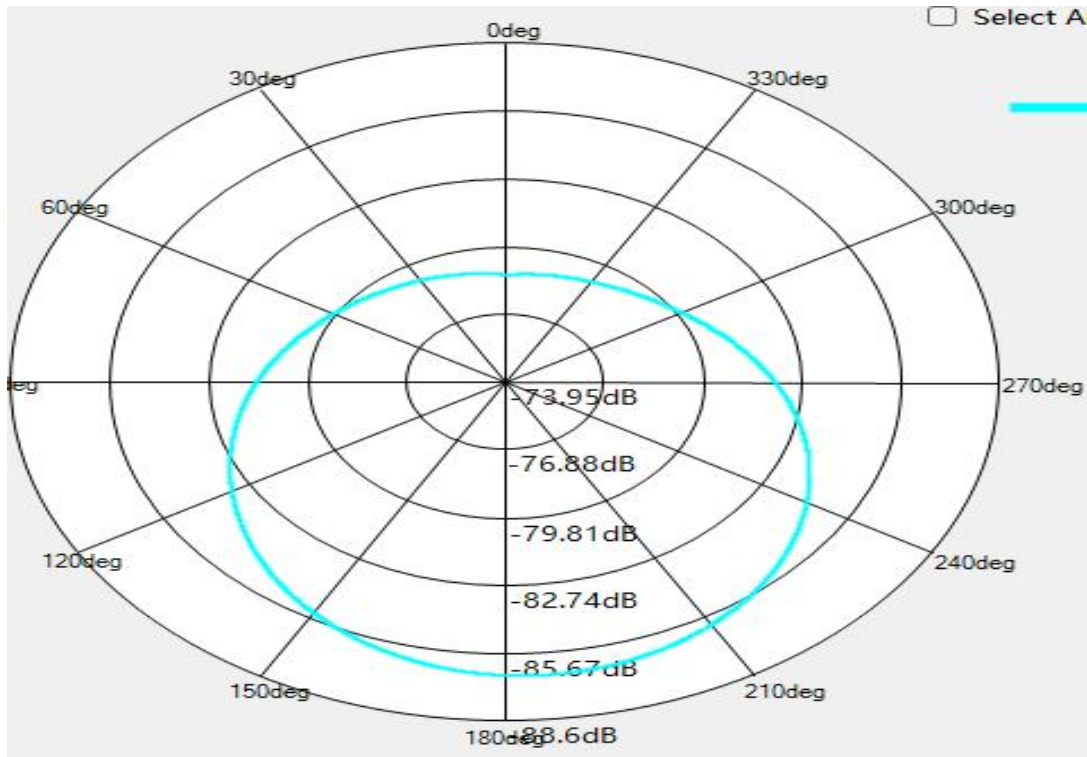
2.2.4 S11-Free-L

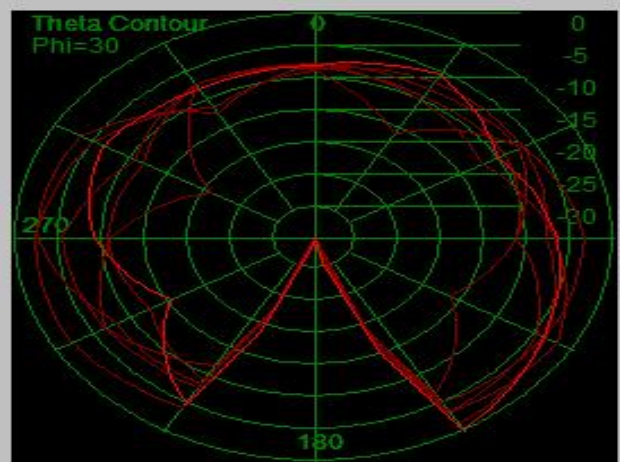
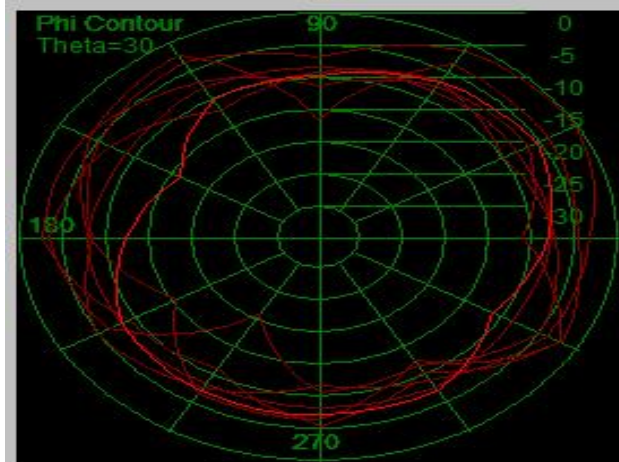
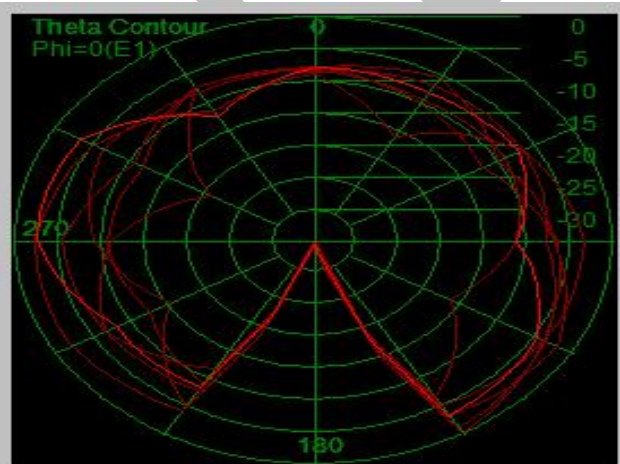
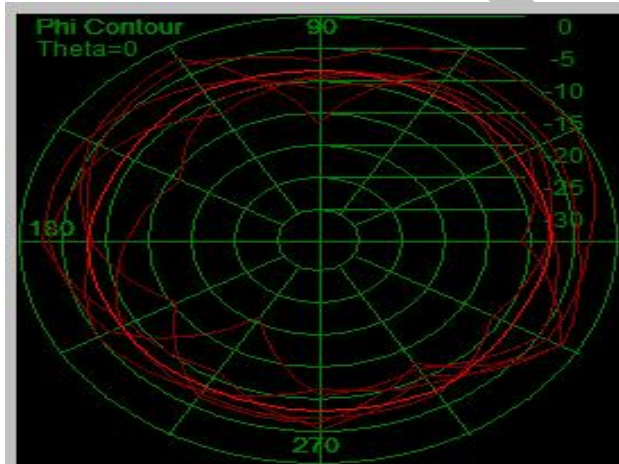
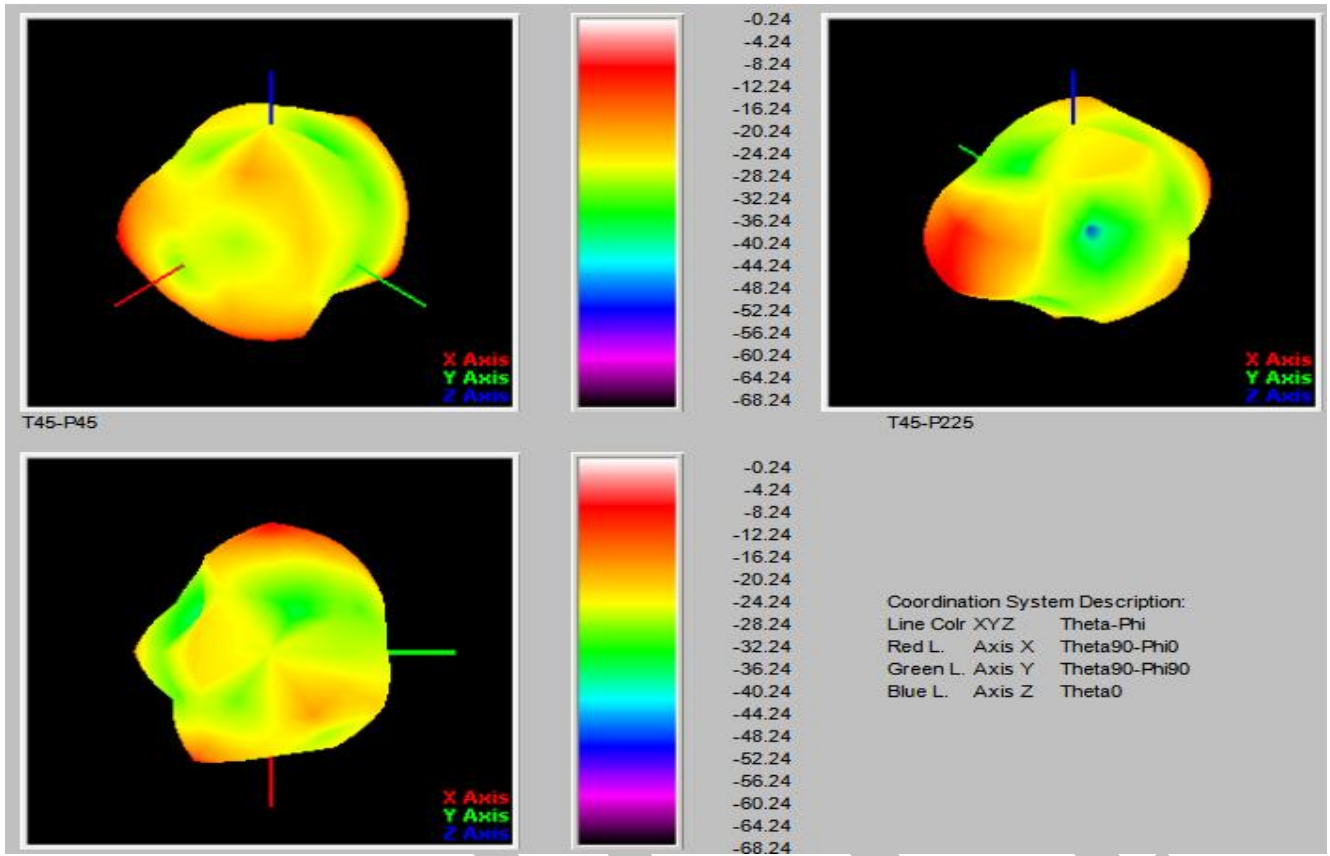


2.2.5 S11 Head Mold-L



2.2.6 Direction Diagram-L





2.2.7 Passive Data – L

freedom : Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	17.4	-0.8
2410	17.6	-0.7
2420	19.8	-0.6
2430	21.2	-0.8
2440	22.9	-0.6
2450	24.5	-0.5
2460	23.1	-0.6
2470	22.6	-0.4
2480	21.2	-0.3
2490	20.3	-0.4
2500	18.5	-0.5

headform : Freq	Effi	Gain
(MHz)	(%)	(dBi)
2400	7.8	-4.4
2410	7.9	-4.3
2420	8.9	-4.2
2430	8.8	-4.3
2440	8.6	-4.1
2450	8.7	-4.0
2460	7.3	-4.10
2470	7.5	-4.2
2480	7.2	-4.1
2490	7.1	-4.3
2500	6.9	-4.2

2.2.8 Antenna OTA

free space	Channel	TRP (dBm)	TIS (dBm)
L	0	0.68	-86.61
	39	2.34	-85.68
	78	2.94	-85.57

Head Mold Data	Channel	TRP (dBm)	TIS (dBm)
L	0	-2.01	-82.49
	39	-1.54	-82.05
	78	-1.25	-82.14

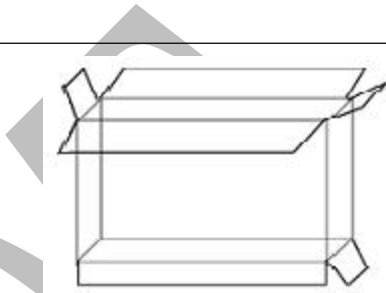
3.Structural drawings

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4. Bill Of Material

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5. Packaging Schematic Diagram

Packaging Method Diagram		
product name	FPC antenna	
P / N	336080	
Project Model	W130 – Soft Pack	
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		