



Specification

for

HUB3 BLE1 Antenna

Customer Part Number

Our company part number

WA-HUB3 BLE1 Antenna-FPC Prepared

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Catalogue

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1. Both Parties Hereby Confirm

1.1 Customer Confirmation and Signature

client:

Customer Department/Position	Signature of the verifier	Confirm Date
Hardware/RF		
Structure		
Project manager		
Business/Procurement		
Examine and verify		

1.2 Shuodian Technology Confirms Signature

Department/Position	Signature of the verifier	Confirm Date
Antenna Engineer		
Construction engineer		
Project manager		
QA		
Examine and verify		



2. General Matters

2.1 Scope of Application

This antenna is used in the HUB3-BLE1 antenna.

2.2 Operating Temperature Range

The operating temperature range of this product is -20 °C to +65 °C.

2.3 Storage Temperature Range

This product should be stored at -30 to +75 °C.

3. General Product Specifications Table

NO .	ITEMS	DETAILS
1	Type	HUB3 BLE1
2	Frequency range	2400MHz-2500MHz
3	VSWR	≤ 2.0
4	Gain	$4.0 \pm 1\text{dBi}$
5	Impedance	$50\ \Omega$
6	Antenna type	PIFA
7	Antenna image	



4. Product Specifications

4.1 Product Structure Parameters

4.11 Product Material Composition:

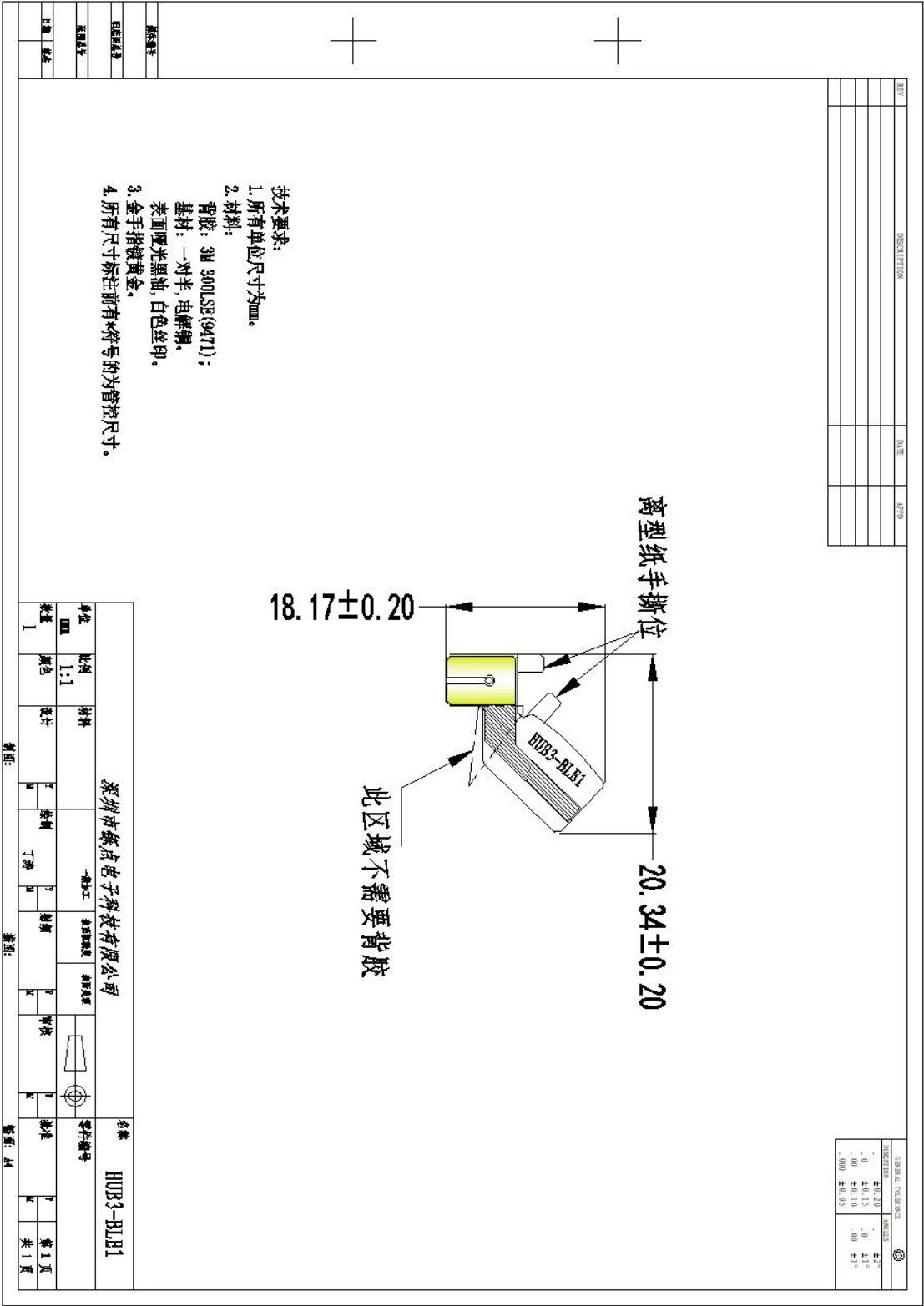
Order number	Material	Specifications(MM)
1	FPC	20.34*18.17 Black

4.11 Surface

The product exhibits good appearance, with no scratches, sweat stains, protrusions, or other defects that could significantly compromise its aesthetic quality.

4.12 Structure Size

product drawing:





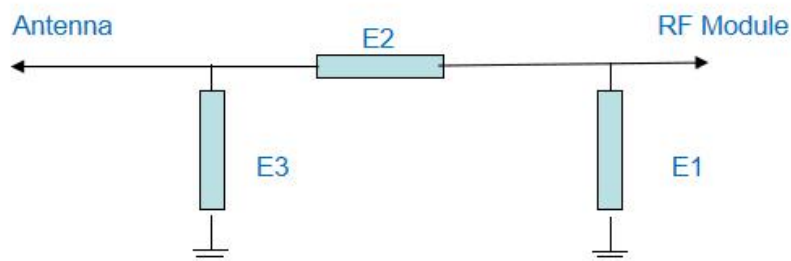
4. 2. Electrical Performance Test Data of the Product

4.21 Test Environment and Instrumentation

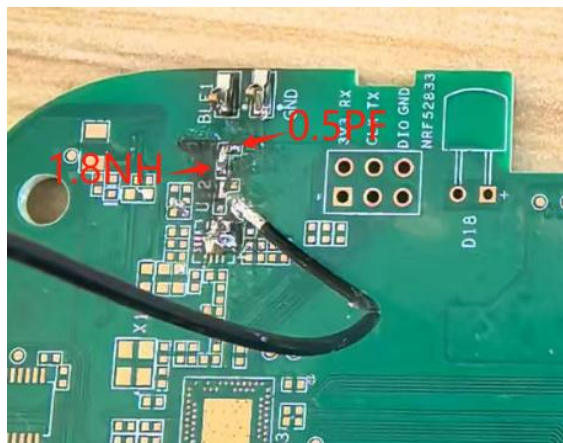
Testing environment:	Testing facility:
Temperature: 10℃——+30℃	Network analyzer
Relative humidity: ≤80% (+40℃)	KEYSIGHT E5071C
Atmospheric pressure: 750mmkg±30mmkg	Multi-probe microwave anechoic chamber

4.22 Electrical Performance Test Data of the Product:

BLE 1 antenna matching parameters:



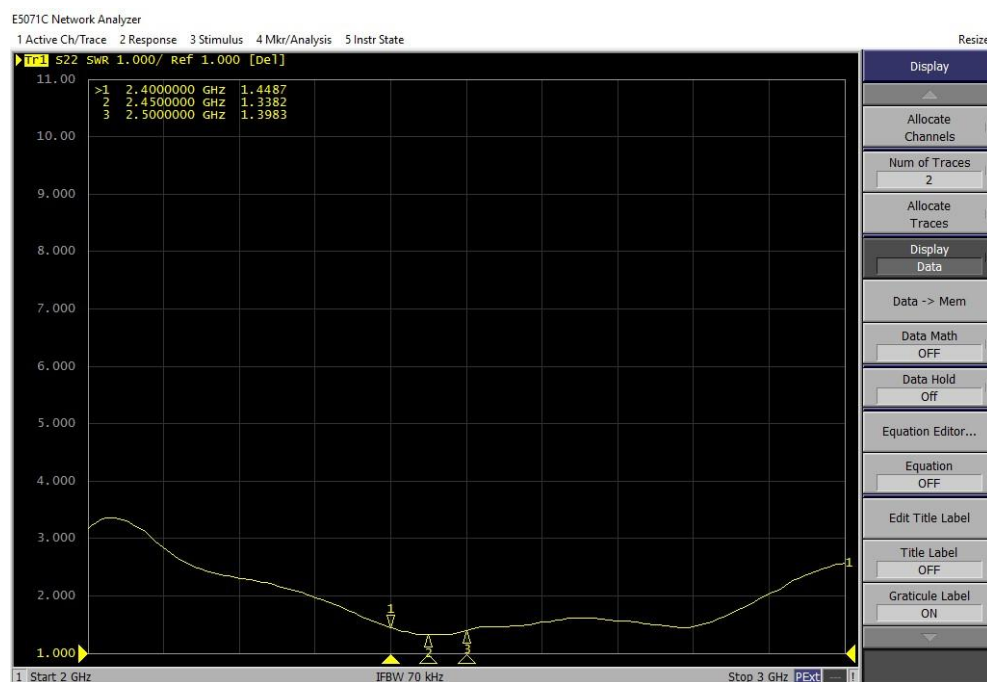
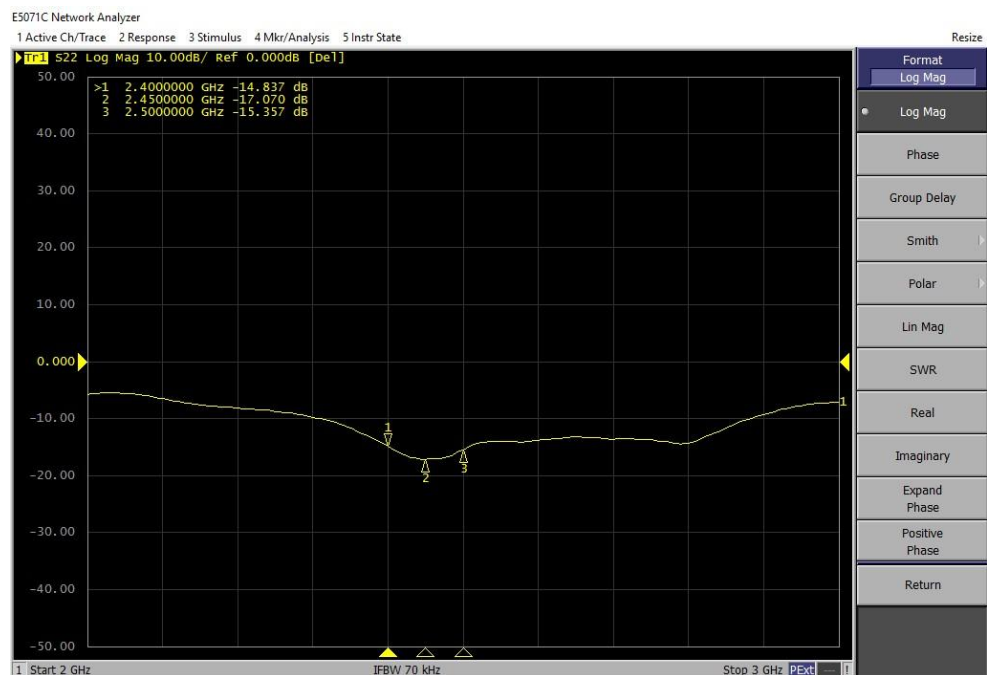
Element	Value
E1(0402)	NC
E2(0402)	1.8NH
E3(0402)	0.5PF





4. 22. 1 产品的 S11 图:

Marker (MHz)	2400	2450	2500
ReturnLoss	-14.83	-17.07	-15.35
VSWR	1.44	1.33	1.39





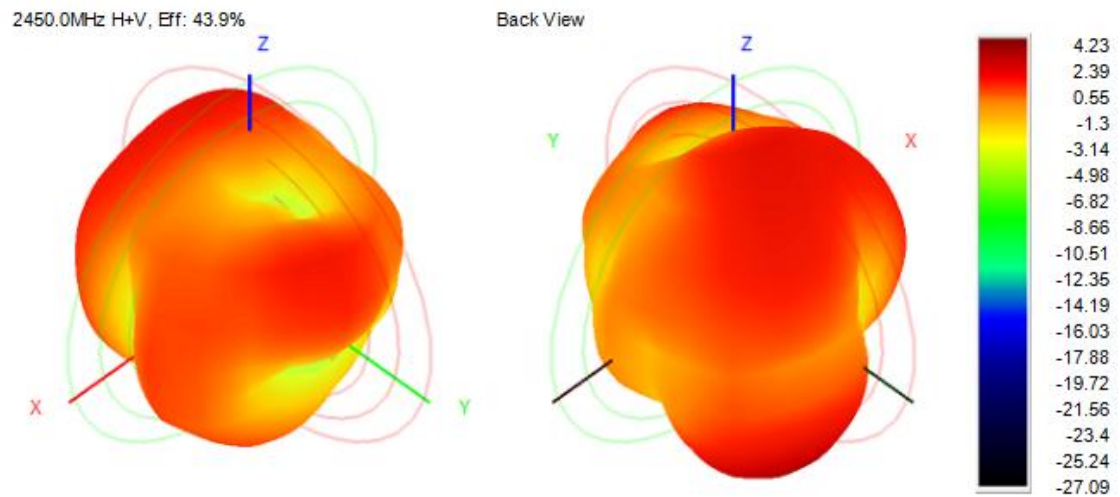
4.22.2 Antenna gain efficiency and radiation pattern:

Antenna Gain Efficiency:

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	4.16	4.16	4.11	4.03	4.16	4.23	4.43	4.45	4.10	4.00	3.77
Efficiency (%)	45.07	44.01	43.49	42.85	43.90	43.94	44.32	44.11	42.54	42.79	42.37

Direction Map:

2450MHz:





5. 产品包装方式

包装方式:

自封袋包装，每包 200PCS。

6. 文档履历

文件编号/Document No.	
日期/Release Date	2024/12/27
编制/Author	Hungjie
复核/Review	WH

文件历次表

Revised History

Date	Version	Revised Record
2024/12/27	1.00	New Project