

SHENZHEN MTCCO., LTD



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SHENZHEN MTCCO., LTD

APPROVALSHEET

MANUFACTORY: SHENZHEN SOUTH STAR TECHNOLOGY CO., LTD

DESCRIPTION: BT Antenna SPECIFICATION: 1.37Black, total
length, L=220mm

PARTNO.: 3. N101. 2235 MODEL NO.: D1R AIR

PARTNO.: 304ANT00751 D A T E: 2026. 01. 20

APPROVEDBY

Engineer	PCB Engineer	Safety Compliance Engineer	Parts Engineer	Manager
APPROVEDBY				
date:				

Note: This acknowledgement letter needs to be accompanied by detailed sample specifications, drawing materials, etc. There are four complete sets of materials in total. The number of samples shall not be less than 3.



History

Version	Date	Change Description	Note
1.0	2026.01.20	First edition	



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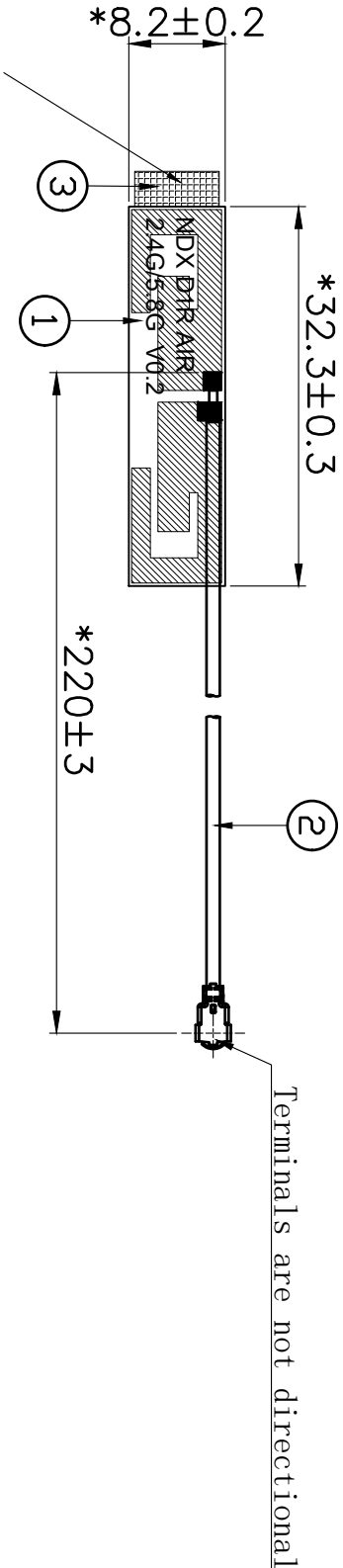
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The basic parameters:

A. Electrical Characteristics	
Frequency	2400-2485MHz
VSWR	≤ 2
Efficiency	>50%
Impedance	50 Ohm
Polarization	Linear
Gain	2.03dBi@2400MHz 1.91dBi@2440MHz 2.28dBi@2480MHz
Note:	
B. Material & Mechanical Characteristics	
Material of Radiator	PCB
Cable Type	Ø1.13mm Gray
Cable length	220mm
Connector Type	Mini Con.-1
Antenna Dimensions	32mm* 8.2mm* 0.6mm
weight	
C. Environmental	
Operation Temperature	-30°C ~ +65°C
Storage Temperature	-40°C ~ +70°C
Humidity Range	0~99%

Rev		Description	Date	Remark
A		New drawing	2025-12-05	
B				



* 0.6 ± 0.1 (PCB)

0.15 ± 0.05 (Tape)

Note:

1. Marked "*" is the key size, and Marking "CpK" requires process capability analysis;
2. Unmarked tolerance refer to the Undeclared tolerance table;
3. The electrical property meets the requirements of the specification;
4. All parts shall meet the requirements of RoHS2.0 and REACH、POPs
5. PCB silkscreen or text is used solely for internal traceability and project differentiation, Do not use for other purposes, Font position, size, format, etc. are not required, and font blurriness is not considered an anomaly.

 South Star	东莞市南斗星科技集团有限公司			
	Dongguan South Star Technology Group co., Ltd			

Undeclared tolerance table				Project	D1R AIR	Designed by	ZC	2025-12-05
0.5~6	± 0.1	—	0.1	Part Name	BT2 Antenna	RF by	CBJ	2025-12-05
>6~30	± 0.2	○	0.1	Part No.	3.N101.2235	Approved by	LSL	2025-12-05
>30~120	± 0.3	◎	0.1	Customer	/	Unit	mm	
>120~400	± 0.5	⊥	0.1	P/N		Scale	FIT	Rev
>400~1000	± 0.8	∠	0.1	Page 1 of 1	Third Angle			A
>1000	± 1.2	Angle	$\pm 1.0^\circ$					

3	1.Z03.0384	Tape	3M9448A	1	
2	2.A01.2956	Cable	1.13mm/ Gray cable+Mini Con.-1	1	Ca.Mei /Lei jiang
1	2.A21.1204	PCB	FR-4/Black	1	
No.	Part NO.	Name	Specification	Amount	Remark
1					

Connector orientation	
Cable L≤ 100	±45°
100<L≤ 200	±90°
Cable L>200	Don't control



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Test Equipment & Conditions

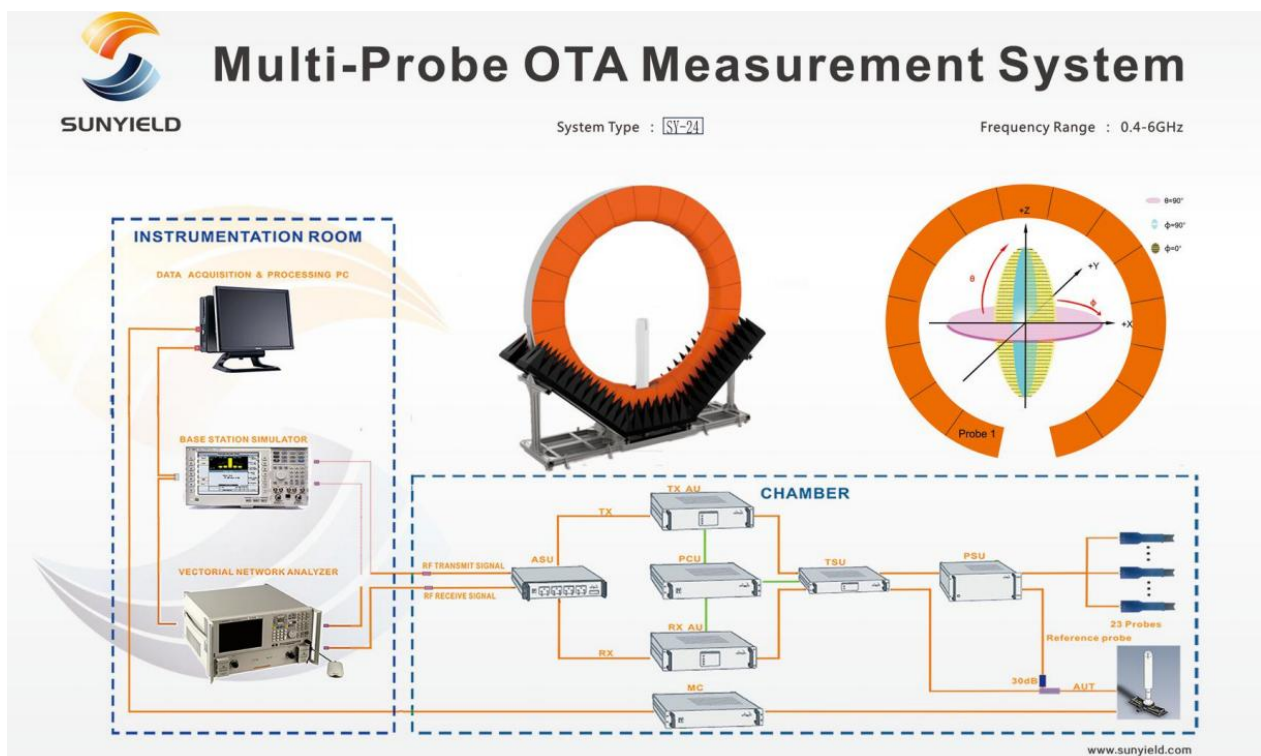
1. NetWork Analyzers:

Keysight E5071C

2. Comprehensive tester:

CMW500 、 MT8000A、 MT8862A

3. 3D Chamber Test System:

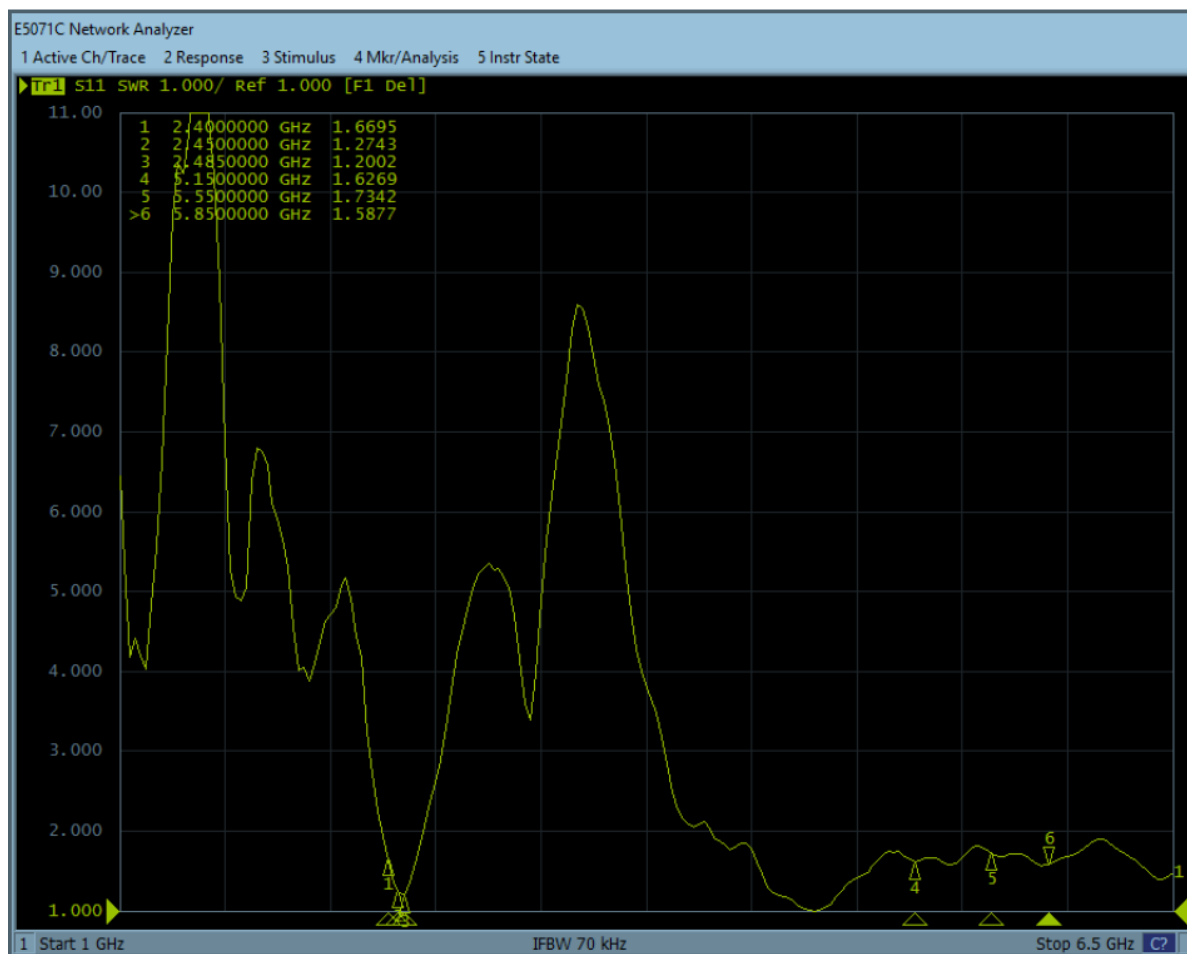




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Antenna Impedance: S11





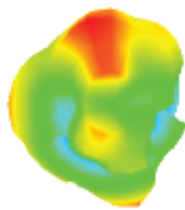
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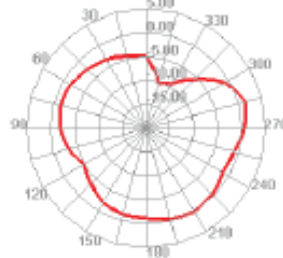
Efficiency & Gain:

Freq (MHz)	Effi (%)	Gain (dBi)
2400	53.82	2.03
2410	57.15	2.03
2420	58.26	1.93
2430	59.43	2.11
2440	59.89	1.91
2450	61.71	1.87
2460	66	2.08
2470	67.78	2.3
2480	65.89	2.28
2490	65.54	2.34
2500	68.13	2.7

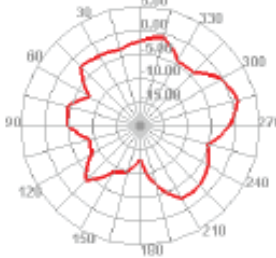
2400.000MHz



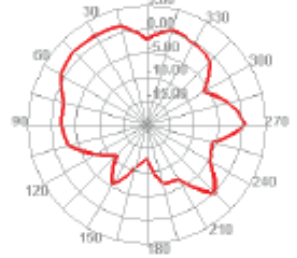
2400.000MHz H



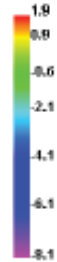
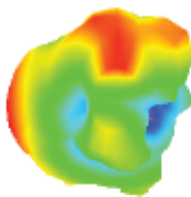
2400.000MHz E1



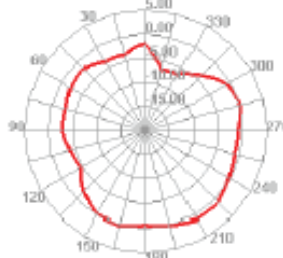
2400.000MHz E2



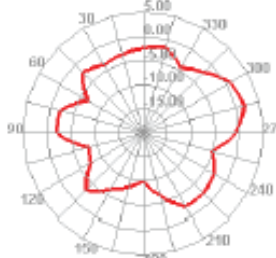
2440.000MHz



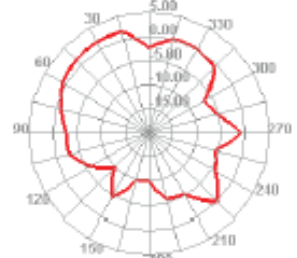
2440.000MHz H



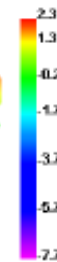
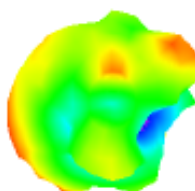
2440.000MHz E1



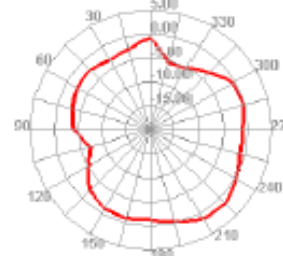
2440.000MHz E2



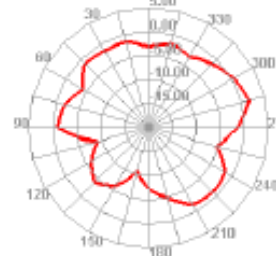
2480.000MHz



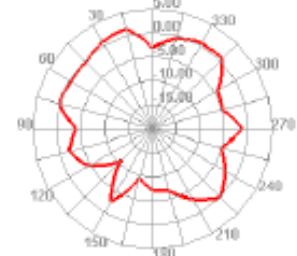
2480.000MHz H



2480.000MHz E1



2480.000MHz E2



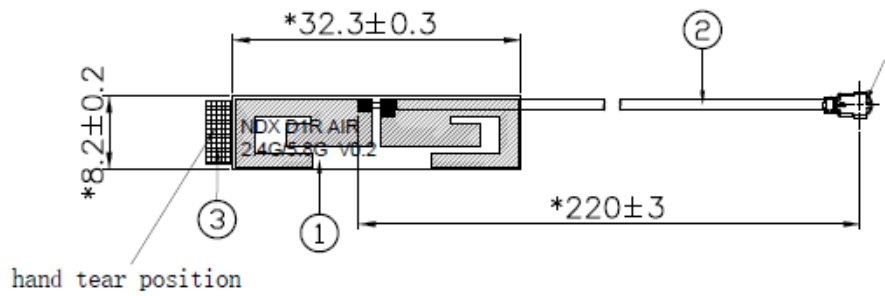


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Antenna material composition table and antenna assembly picture:

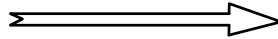
List of antenna materials	
material name	Materials Main raw materials
PCB	FR4
Cable	FEP
Terminal	Gold-plated copper
Tin wire	Sn



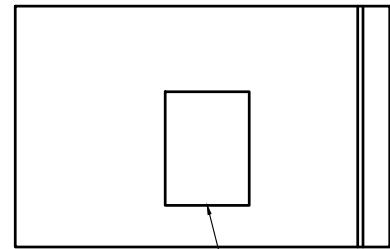


Name : D1R AIR Antenna	Version: A

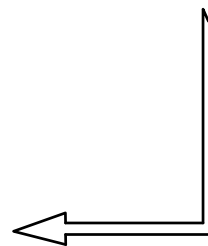
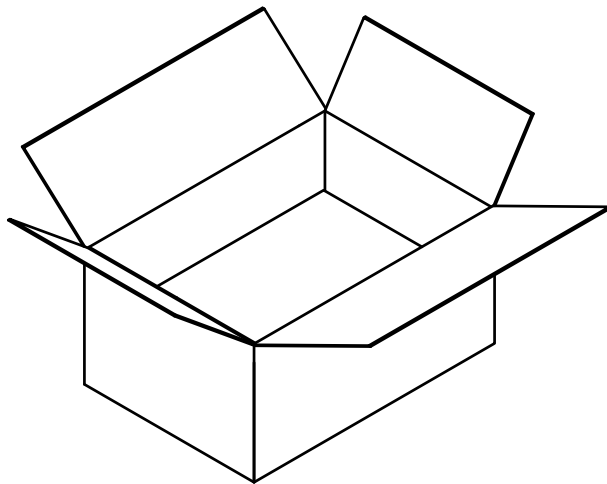
1. The Product



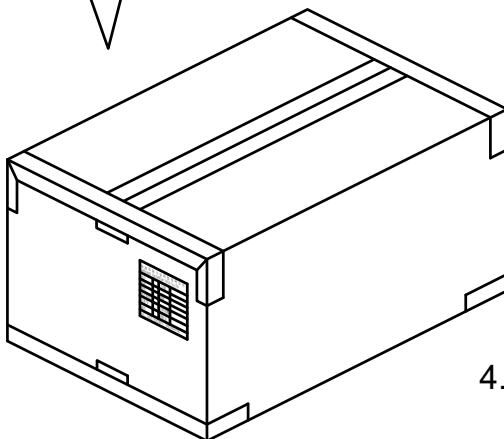
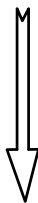
2. 200PCS/per Bag



label



3. Packing (subject to actual packing) .



4. Seal the box and label the carton .

DESIGNED By: ZC

APPROVED By: LSL