Shenzhen Hetuo Technology Co., LTD
Room 1808, Building B, Zhongfang Jingyuan Building, News Road, Zijin Community, Lianhua Sub-d, Futian District, Shenzhen City

Sample Acknowledgment

Sample Approved Sheet

Acknowledgment of the contract (OW02)

Customer name: Dongguan Liesheng Electronic Co., Ltd.

Customer model: OW02

Brand Co-tuo produced HT-OW02-R-V3

Hetao Judging review team

work out	examine and verify	ratify	Time of completion of the letter of acknowledgment
Zhong Xiaoming	Wu Shouping	Dai Tingting	2024.09.12

Liesheng (customer) determines the audit team

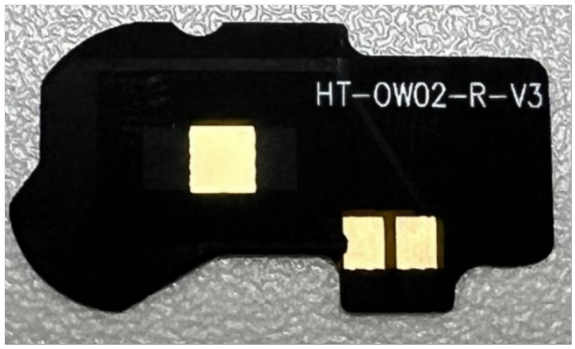
Number of the letter of acknowledgment Date of provision of the letter of acknowledgment

admit	examine and verify	ratify	Date of recognition
Review items: ☐ 3 copies of letter of recognition ☐ specification/drawing ☐ test report ☐ sample PCS ☐ safety code ☐HSF			
Evaluation result: ☐ Accept ☐ Conditional acceptance ☐ Reject			

Item	date	order of the edition	revision note	remarks
1	2024.09.12	A0	initial issue	
2				

1. Antenna picture

The report mainly provides the test status of the electrical properties parameters of HT-OW02-R-V3
The HT-OW02-R-V3 antenna is a BT Band . The antenna Picture and assembly are shown below.



FPC Antenna picture & assembly picture

2.Antenna Test Equipment Introduction

Test of antenna input characteristics using A gilent E 5071 C and Agilent 5062A vector network analyzer; The radiation pattern of the antenna are tested using the S atimo starlab 3 D near field Anechoic Chamber , and the instrument is used to agilent8960 E 5515 and A gilent E 4438 C. The test coordinates of the darkroom are as follows:

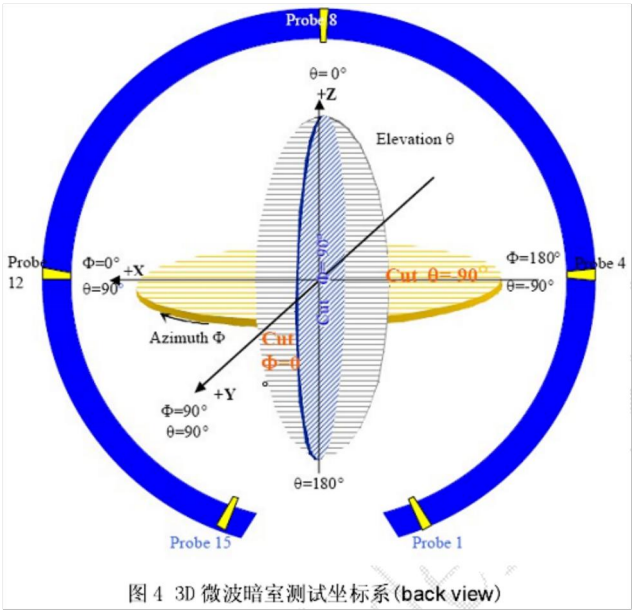


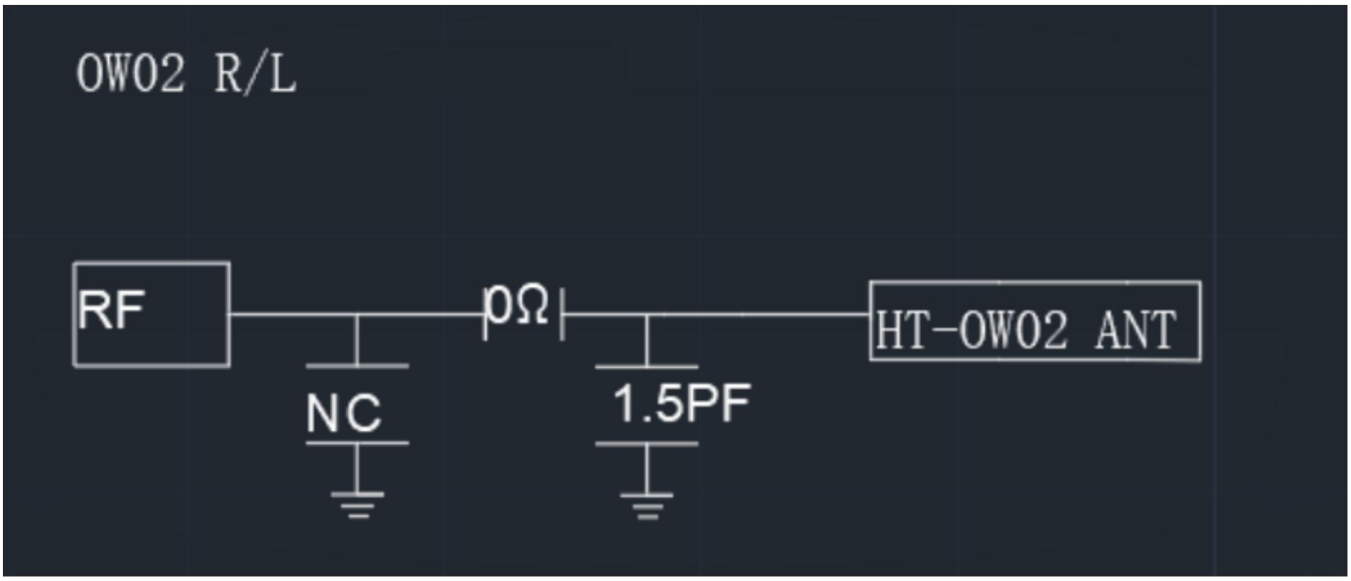
图 4 3D 微波暗室测试坐标系(back view)

3 . Electrical Specification

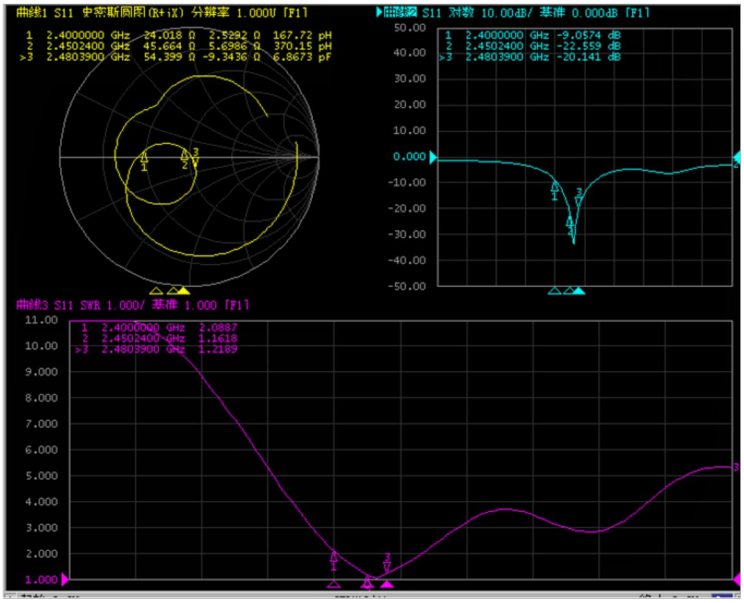
3-2 Passive S11 parameter

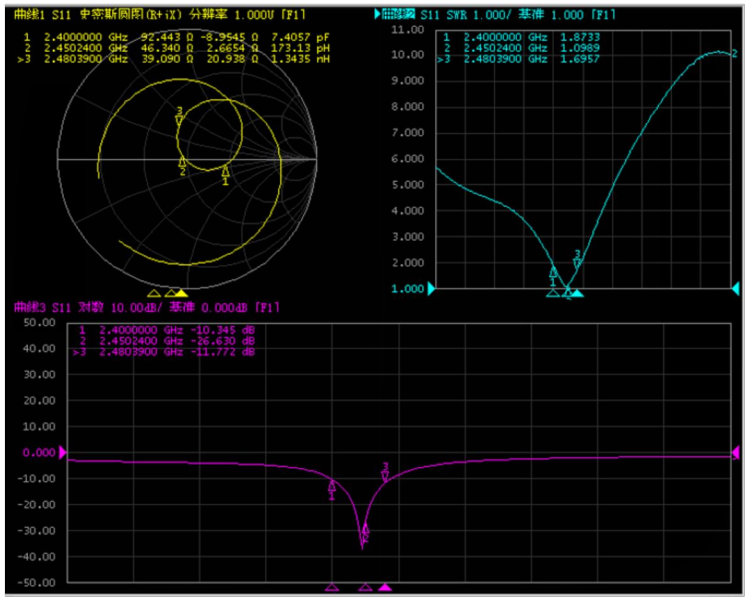
Measuring Method is a 50Ω coaxial cable is connected to the antenna . Then this cable i

s connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

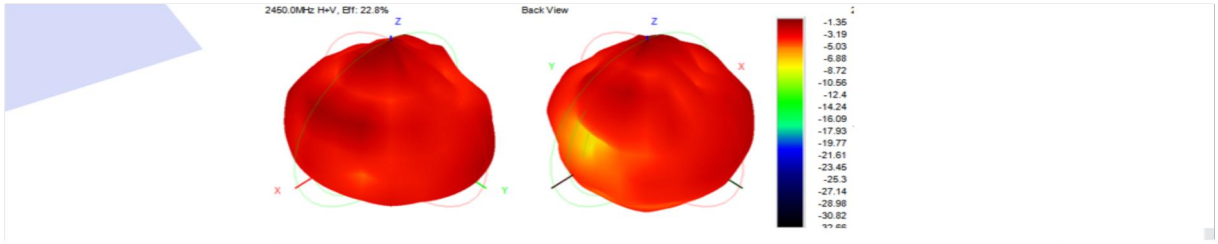


VSWR





Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-9.37	-9.00	-8.34	-7.59	-7.23	-7.08	-6.96	-7.21	-7.46	-7.79	-7.97
Gain (dBi)	-4.15	-4.42	-3.23	-2.14	-2.52	-1.73	-1.63	-1.86	-1.84	-2.47	-2.93
Efficiency (%)	11.57	12.59	14.65	17.42	18.94	19.59	20.12	18.99	17.93	16.65	15.95
Directivity (dB)	5.22	4.58	5.11	5.45	4.70	5.35	5.33	5.36	5.63	5.31	5.04
Peak Gain Position (Theta)	30.00	90.00	75.00	90.00	0.00	0.00	0.00	0.00	15.00	15.00	75.00
Peak Gain Position (Phi)	120.00	105.00	120.00	105.00	165.00	15.00	120.00	135.00	120.00	120.00	135.00
Efficiency ThetaPol (%)	4.34	4.60	5.39	6.53	7.70	8.73	9.32	8.31	7.87	7.06	6.23
Efficiency PhiPol (%)	7.23	7.99	9.26	10.89	11.23	10.86	10.81	10.68	10.06	9.58	9.72
Upper Hem. Efficiency (%)	7.05	7.66	9.08	11.09	12.14	12.55	12.90	11.85	11.18	10.19	9.65
Lower Hem. Efficiency (%)	4.52	4.94	5.56	6.33	6.80	7.05	7.22	7.15	6.74	6.46	6.30



OTA DATA R （FS）

Test Equipment:	R&S CMW500			
Test Condition:	3D chamber			
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT		0	-1.87	-84.25
		39	-0.45	-83.52
		78	0.31	-84.88

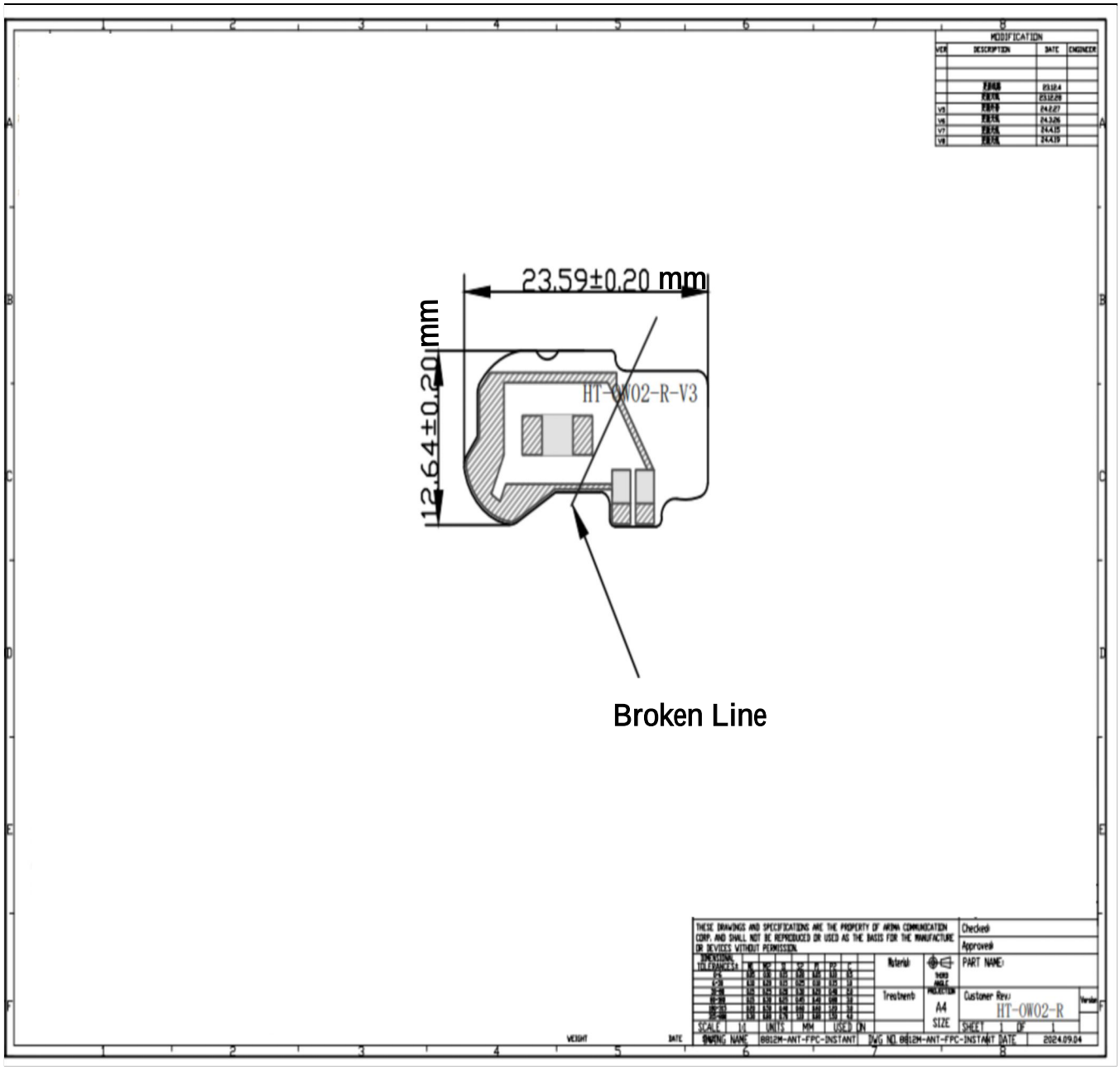
TA DATA R （BH）

Test Equipment:	R&S CMW500			
Test Condition:	3D chamber			
Band	Wireless Protocol	Channel	TRP(dBm)	TIS(dBm)
BT		0	-2.46	-82.32
		39	-1.33	-81.65
		78	-0.45	-82.75

4. Mechanical Specification:

Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 10


MODIFICATION
VER
DESCRIPTION
DATE
ENGINEER
23.59±0.20 mm
12.64±0.20 mm
HT-OW02-R-V3
Broken Line
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF AKINA COMMUNICATION CORP. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR DEVICES WITHOUT PERMISSION.
Checked
Approved
PART NAME:
Material
Treatment
A4
SIZE
Customer Rev.:
HT-OW02-R
SCALE
1:1
UNITS
MM
USED ON
DRAWING NAME
DWG NO.
SHEET
OF
DATE
2024.09.04