Antenna Test Report

Report No.: TWZN20230615001PA01

PRODUCT DESIGNATION : PCB Antenna

BRAND NAME : N/A

MODEL NAME : A17

APPLICANT : Tie Wei Intelligent Technology Co., Ltd.

DATE OF ISSUE : MaY. 31,2023

REPORT VERSION : V1.0

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	MAY.06,2023	Valid	Initial release

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1. PRODUCT INFORMATON

General information	
Applicant	**Shenzhen tie Wei Intelligent Technology Co. , Ltd.**
Address	**Room 601, Fenghua Science & Technology Building, high-tech South Seven Road, Yuehai Street Science and Technology Park, Nanshan District, Shenzhen City**
Manufacturer	**Shenzhen tie Wei Intelligent Technology Co. , Ltd.**
Address	**Room 601, Fenghua Science & Technology Building, high-tech South Seven Road, Yuehai Street Science and Technology Park, Nanshan District, Shenzhen City**
Factory	**Shenzhen tie Wei Intelligent Technology Co. , Ltd.**
Address	**Room 601, Fenghua Science & Technology Building, high-tech South Seven Road, Yuehai Street Science and Technology Park, Nanshan District, Shenzhen City**
ProductDesignation	PCB Antenna
Brand Name	N/A
Test Model	A17
Date of test	MAY.10,2023 to MAY.30,2023
Report Template	AGCRT-ER-PA/V1.0
Technical information	
Frequency Range	2400MHz-2500MHz
Test Frequencies	2400MHz, 2410MHz, 2420MHz, 2430MHz, 2440MHz, 2450MHz, 2460MHz, 2470MHz, 2480MHz, 2490MHz, 2500MHz
Antenna Type	PCB Antenna
Dimensions	12.1mm*3.6mm
Impedance	50 Ω
Maximum test values	Gain: 2.853dBi; Efficiency: 46.320%; VSWR: 1.212:1

Prepared By Cool Quan

Cool Quan
(Project Engineer) May.31,2023

Reviewed By Calvin Wang

Calvin Wang
(Reviewer) May.31,2023

Approved By Max Zhou

Max Zhou
(Authorized Officer) May.31,2023

2. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community,Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

3. TEST EQUIPMENT LIST

Equipment	Manufacturer	Model	Cal. Date	Cal. Due
ANTENNA MEASUREMENT SYSTEM	ETS-Lindgren	AMS-8600	Nov. 26, 2022	Nov. 25, 2023
Network Analyzer	R&S	101443	Oct. 14, 2022	
Test Software	ETS-Lindgren	EMQuest (Ver V1.12)	N/A	N/A

4. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty
in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of VSWR, Uc = ±1.5dB
- Uncertainty of Gain, Uc = ±0.8dB

5. TEST SUMMARY LIST

NO.	Test item	Remark
1	VSWR	--
2	Gain and efficiency	--
3	Radiation pattern	--

6. TEST RESULTS

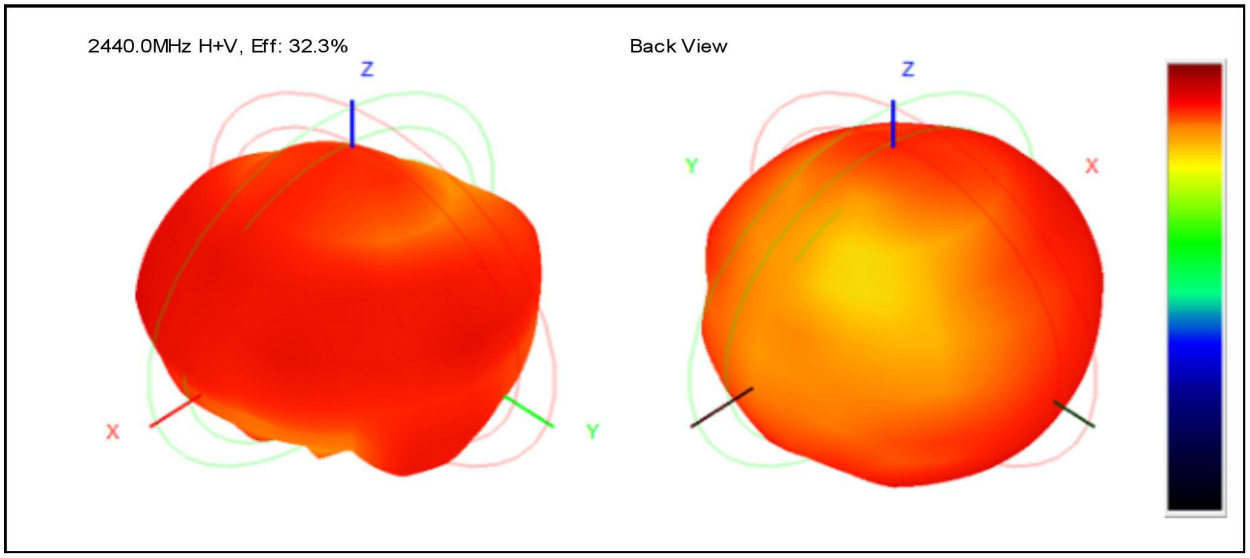
6.1. VSWR

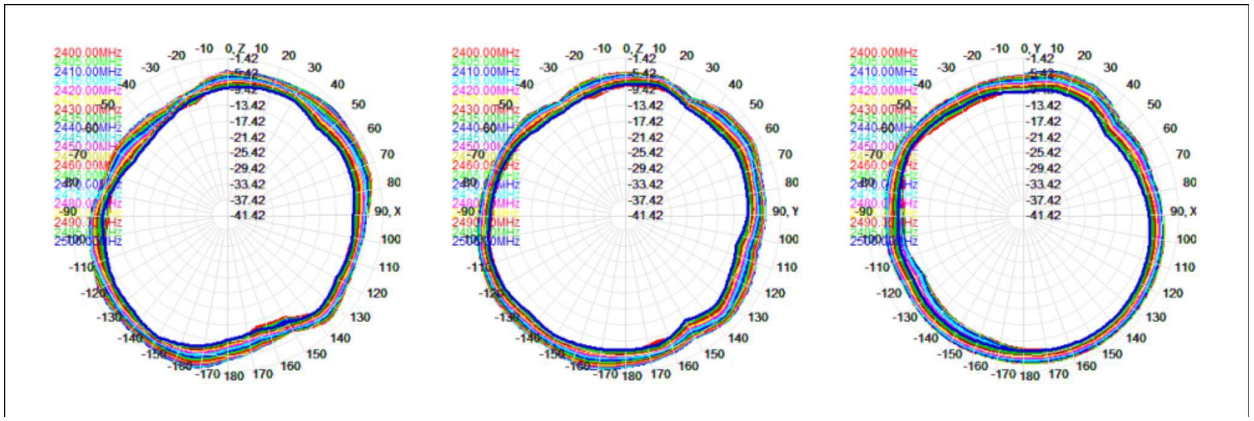
Frequency(MHz)	VSWR
2402	1.173:1
2410	1.212:1
2450	1.203:1
2480	1.074:1

6.2. GAIN AND EFFICIENCY

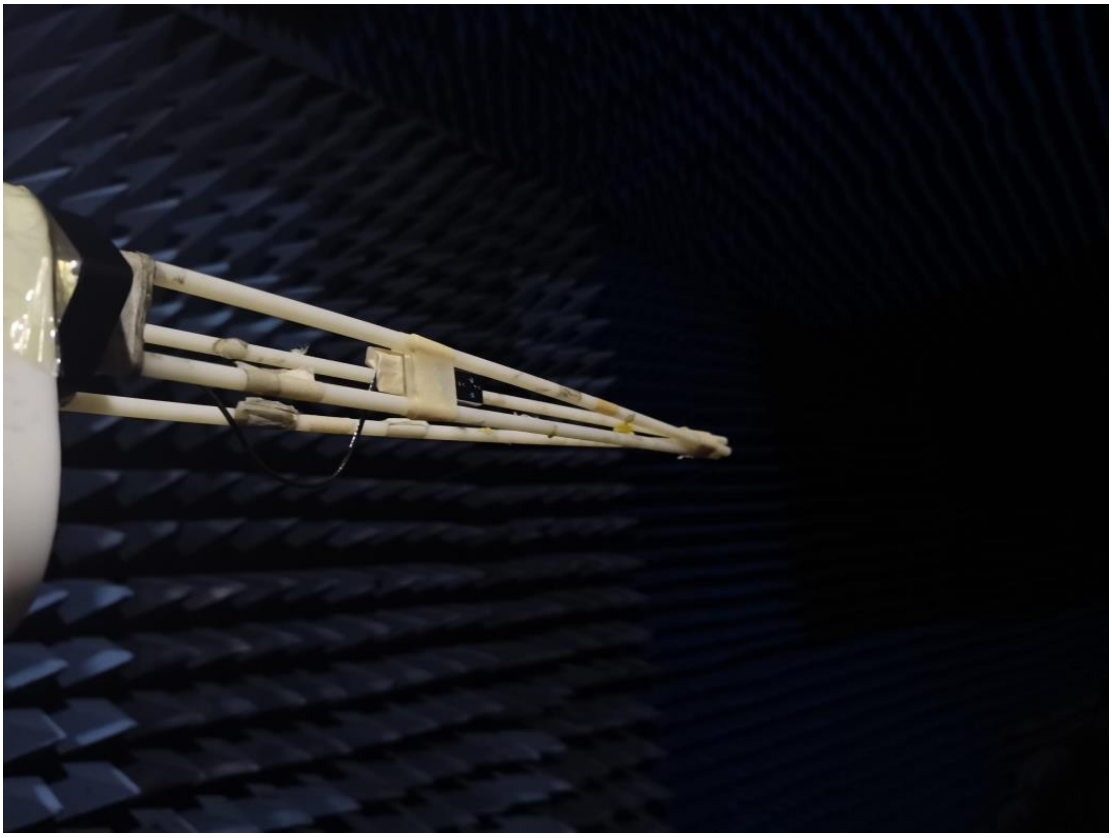
Frequency(MHz)	Efficiency(dB)	Efficiency(%)	Gain(dBi)
2400	-4.331	37.230	1.554
2410	-4.269	37.766	1.450
2420	-4.454	36.188	1.170
2430	-4.321	37.320	1.298
2440	-3.899	41.130	1.744
2450	-3.723	42.834	2.052
2460	-3.787	42.209	2.017
2470	-4.058	39.652	1.774
2480	-3.760	42.472	2.098
2490	-3.602	44.055	2.449
2500	-3.384	46.320	2.853

6.3. RADIATION PATTERN





APPENDIX A: PHOTOGRAPHS OF TEST SETUP



APPENDIX B: PHOTOGRAPHS OF EUT

TOP VIEW OF EUT

BACK VIEW OF EUT

Dimensional drawing of antenna