

TEST REPORT

Applicant: Shenzhen Ai-Thinker Technology Co., Ltd.

Address: 410,Block C, Huafeng Smart Innovation Port.Gushu 2nd Road,Gushu Community,Xixiang Street,Baoan District,Shenzhen,China.

Product Name: Radar Module

Model Number: Rd-03

Standard(s): ETSI EN 300 440 V2.2.1 (2018-07)

The above equipment has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: CR230953046-22

Date Of Issue: 2023/9/25

Reviewed By: Calvin Chen

Title: RF Engineer

Approved By: Sun Zhong

Title: Manager

Test Laboratory: China Certification ICT Co., Ltd (Dongguan)

No. 113, Pingkang Road, Dalang Town, Dongguan,
Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

This report cannot be reproduced except in full, without prior written approval of the Company.

This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk “★”.

CONTENTS



TEST FACILITY	2
DECLARATIONS.....	2
DOCUMENT REVISION HISTORY	4
1. GENERAL INFORMATION	5
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	5
1.2 DESCRIPTION OF TEST CONFIGURATION.....	6
1.2.2 Support Equipment List and Details	6
1.2.3 Support Cable List and Details	6
1.2.4 Block Diagram of Test Setup.....	6
1.3 TEST METHODOLOGY	7
1.4 MEASUREMENT UNCERTAINTY	7
2. SUMMARY OF TEST RESULTS	8
3. REQUIREMENTS AND TEST PROCEDURES	9
3.1 EQUIVALENT ISOTROPICALLY RADIATED POWER	9
3.1.1 Applicable Standard.....	9
3.1.2 Test Procedure	9
3.2 PERMITTED RANGE OF OPERATING FREQUENCIES	10
3.2.1 Applicable Standard.....	10
3.2.2 Test Procedure	10
3.3 6 UNWANTED EMISSION IN THE SPURIOUS EMISSIONS DOMAIN	11
3.3.1 Applicable Standard.....	11
3.3.2 EUT Setup.....	11
3.3.3 Test Procedure	11
3.4 BLOCKING OR DESENSITIZATION	12
3.4.1 Applicable Standard.....	12
3.4.2 Test Procedure	12
3.5 SPURIOUS EMISSION	13
3.5.1 Applicable Standard.....	13
3.5.2 EUT Setup.....	13
3.5.3 Test Procedure	13
4. TEST DATA AND RESULTS	14
4.1 EQUIVALENT ISOTROPICALLY RADIATED POWER	14
4.3 PERMITTED RANGE OF OPERATING FREQUENCIES	15
4.4 UNWANTED EMISSION IN THE SPURIOUS EMISSIONS DOMAIN	17
4.5 BLOCKING OR DESENSITIZATION	19
5. EUT PHOTOGRAPHS	20
6. TEST SETUP PHOTOGRAPHS	27

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230953046-22	Original Report	2023/9/25

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Radar Module
EUT Model:	Rd-03
Trade Name:	 
Rated Input Voltage:	DC 3.3V
Serial Number:	2B2Q-1
EUT Received Date:	2023/9/13
EUT Received Status:	Good

Technical Specification:

Operation Frequency Range (GHz):	24-24.25
RF Output Power (EIRP) (dBm):	0.59
Number of Chains	Transmit: 1
	Receive: 1
Antenna Gain (dBi)▲:	0.5
Modulation Type:	FMCW

Accessory Information:

No.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer. Transmitting
Equipment Modifications:	No
EUT Exercise Software:	No
The extreme test conditions which were declared by the manufacturer and the normal conditions are as below: NT: Normal Temperature 25°C, LT: Low Temperature -20°C, HT: High Temperature +40°C NV: Normal Voltage 3.3Vdc, LV: Low Voltage 3.0Vdc, HV: High Voltage 3.6Vdc	

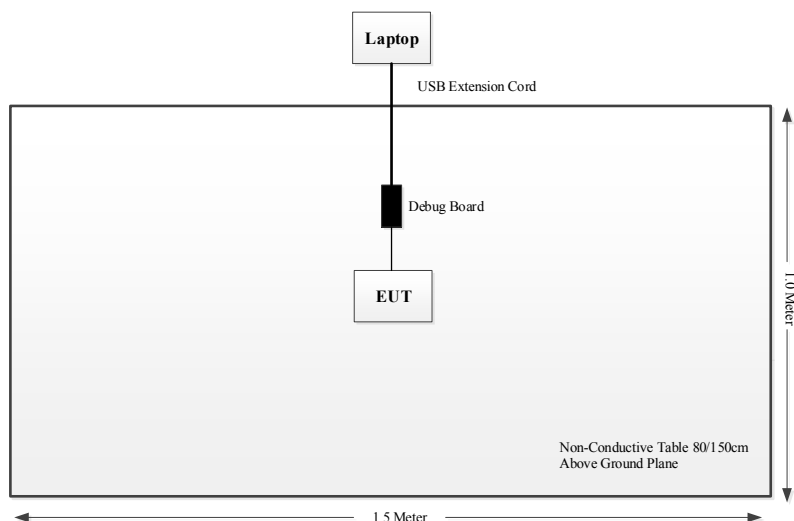
1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Lenovo	Laptop	T460S	60PDTEK8
/	Debug Board	/	/

1.2.3 Support Cable List and Details

Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
Data Cable	No	No	0.15	Debug Board	EUT
USB Cable	Yes	No	10	Laptop	Debug Board

1.2.4 Block Diagram of Test Setup



1.3 Test Methodology

All measurements contained in this report were conducted with ETSI EN 300 440 V2.2.1 (2018-07) Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum.

1.4 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Flab	Maximum allow uncertainty
Radio Frequency	$\pm 0.082 \times 10^{-6}$	$\pm 1 \times 10^{-7}$
RF Power (Conducted)	$\pm 0.61 \text{ dB}$	$\pm 2,5 \text{ dB}$
Radiated emission of transmitter, valid to 26,5 GHz	$\pm 3.62 \text{ dB}$	$\pm 6 \text{ dB}$
Radiated emission of transmitter, valid between 26,5 GHz and 66 GHz	$\pm 3.62 \text{ dB}$	$\pm 8 \text{ dB}$
Radiated emission of receiver, valid to 26,5 GHz	$\pm 3.62 \text{ dB}$	$\pm 6 \text{ dB}$
Radiated emission of receiver, valid between 26,5 GHz and 66 GHz	$\pm 3.62 \text{ dB}$	$\pm 8 \text{ dB}$
Humidity	$\pm 5\%$	$\pm 5\%$
Temperature	$\pm 1^\circ \text{C}$	$\pm 1^\circ \text{C}$
Voltage (DC)	$\pm 0.4\%$	$\pm 1\%$
Voltage (AC, <10kHz)	$\pm 1\%$	$\pm 2\%$

2. SUMMARY OF TEST RESULTS

Rule and Clause	Description of Test	Test Result
EN 300 440 Clause 4.2.2	Equivalent isotropically radiated power (e.i.r.p.)	Compliance
EN 300 440 Clause 4.2.3	Permitted range of operating frequencies	Compliance
EN 300 440 Clause 4.2.4	Unwanted emission in the spurious emissions domain	Compliance
EN 300 440 Clause 4.2.5.4	Duty cycle	Not Applicable
EN 300 440 Clause 4.2.6	Additional requirements for FHSS equipment	Not applicable*
EN 300 440 Clause 4.3.3	Adjacent channel selectivity	Not applicable**
EN 300 440 Clause 4.3.4	Blocking or desensitization	Compliance
EN 300 440 Clause 4.3.5	Spurious emission	Not Applicable***
EN 300 440 Clause 4.4	Spectrum access techniques	Not applicable****
EN 300 440 Clause 4.6.4	GBSAR antenna pattern	Not applicable*****
EN 300 440 Clause Annex F	Limits for GBSAR	Not applicable*****

Note:

The applicant declared that the equipment is belonging to category 3 receiver.

Not Applicable: Not required for 24.00-24.25 GHz.

Not Applicable*: The device is not FHSS equipment.

Not Applicable**: Not required for equipment category 3 receiver.

Not Applicable***: Receivers used in combination with permanently co-located transmitters continuously transmitting

Not Applicable****: Testing is only required for media access equipment.

Not Applicable*****: Testing is only required for GBSAR systems.

3. REQUIREMENTS AND TEST PROCEDURES

3.1 Equivalent Isotropically Radiated Power

3.1.1 Applicable Standard

According to ETSI EN 300 440 section 4.2.2, the equivalent isotropically radiated power requirement shall apply to all transmitters.

The transmitter maximum e.i.r.p. under normal and extreme test conditions is provided in table 2.

Table 2: Maximum radiated peak power (e.i.r.p.)

Frequency Bands	Power	Application	Notes
2 400 MHz to 2 483,5 MHz	10 mW e.i.r.p.	Non-specific short range devices	
2 400 MHz to 2 483,5 MHz	25 mW e.i.r.p.	Radio determination devices	
(a) 2 446 MHz to 2 454 MHz	500 mW e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and annex D
(b) 2 446 MHz to 2 454 MHz	4 W e.i.r.p.	Radio Frequency Identification (RFID) devices	See also table 4 and annex D
5 725 MHz to 5 875 MHz	25 mW e.i.r.p.	Non-specific short range devices	
9 200 MHz to 9 500 MHz	25 mW e.i.r.p.	Radio determination devices	
9 500 MHz to 9 975 MHz	25 mW e.i.r.p.	Radio determination devices	
10,5 GHz to 10,6 GHz	500 mW e.i.r.p.	Radio determination devices	
13,4 GHz to 14,0 GHz	25 mW e.i.r.p.	Radio determination devices	
17,1 GHz to 17,3 GHz	400 mW e.i.r.p.	Radio determination devices	See annex F
24,00 GHz to 24,25 GHz	100 mW e.i.r.p.	Non-specific short range devices and Radio determination devices	

3.1.2 Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.2.3

3.2 Permitted Range of Operating Frequencies

3.2.1 Applicable Standard

Per EN 300 440 section 4.2.3, The permitted range of operating frequencies includes all frequencies on which the equipment may operate within an assigned frequency band. The operating frequency range shall be declared by the manufacturer.

The frequency range of the equipment is determined by the lowest and highest frequencies occupied by the power envelope in accordance with clause 4.2.2.4, table 2. FH is the highest frequency of the power envelope, it is the frequency furthest above the frequency of maximum power where the output power envelope drops below the level of -75 dBm/Hz spectral power density (e.g. -30 dBm if measured in a 30 kHz reference bandwidth) e.i.r.p.

FL is the lowest frequency of the power envelope; it is the frequency furthest below the frequency of maximum power where the output power drops below the level of -75 dBm/Hz spectral power density (e.g. -30 dBm if measured in a 30 kHz reference bandwidth) e.i.r.p.

The occupied bandwidths and OCW of the transmitter shall be declared. Where differing modes of emission are available, all modes and their associated bandwidths shall be stated.

3.2.2 Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.3.3

3.3 6 Unwanted Emission in The Spurious Emissions Domain

3.3.1 Applicable Standard

Per EN 300 440 section 4.2.4, the maximum power limits of any unwanted emissions in the spurious domain are given in following table.

Frequency Ranges	47 to 74 MHz 87.5 to 108 MHz 174 to 230 MHz 470 to 862 MHz	Other frequencies ≤ 1000 MHz	Frequencies > 1000 MHz
State			
Operating	4 nW	250 nW	1 μW
Standby	2 nW	2 nW	20 nW

3.3.2 EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with ETSI EN 300 440. The specifications used were the ETSI EN 300 440 limits.

3.3.3 Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.2.4.3

3.4 Blocking or Desensitization

3.4.1 Applicable Standard

According to EN 300440§4.3.4, blocking is a measure of the capability of the receiver to receive a wanted modulated signal without exceeding a given degradation due to the presence of an unwanted input signal at any frequencies other than those of the spurious responses or the occupied bandwidth.

Limits:

The blocking level, for any frequency within the specified ranges, shall not be less than the values given in table 6, except at frequencies on which spurious responses are found.

Table 6: Limits for blocking or desensitization

Receiver category	Limit
1	-30 dBm + k
2	-45 dBm + k
3	-60 dBm + k

The correction factor, k , is as follows:

$$k = -20 \log f - 10 \log BW$$

Where:

- f is the frequency in GHz;
- BW is the occupied bandwidth in MHz.

The factor k is limited within the following:

- $-40 \text{ dB} < k < 0 \text{ dB}$.

The measured blocking level shall be stated in the test report.

3.4.2 Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.3.4.3

3.5 Spurious Emission

3.5.1 Applicable Standard

According to EN 300440§4.3.5, the power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.

3.5.2 EUT Setup

The radiated emission tests were performed in the 3-meter Chamber, using the setup accordance with ETSI EN 300 440. The specifications used were the ETSI EN 300 440 limits.

3.5.3 Test Procedure

According to ETSI EN 300 440 V2.2.1 (2018-07) §4.3.5.3

4. TEST DATA AND RESULTS

4.1 Equivalent Isotropically Radiated Power

Serial Number:	2B2Q-1	Test Date:	2023/9/15-2023/9/24
Test Site:	966-1	Test Mode:	Transmitting
Tester:	coco Tian	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3-26.3	Relative Humidity: (%)	59-64	ATM Pressure: (kPa)	100.2-100.5
----------------------	-----------	---------------------------	-------	------------------------	-------------

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021/2/5	2024/2/4
Mini	Preamplifier	QLW-18405536-JO	15964001005	2023/9/16	2024/9/15
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/7	2024/8/6

* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

24175 MHz

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
24175.00	H	83.39	-23.84	20.00	1.45	-5.29	20.00	25.29
24175.00	V	88.84	-17.96	20.00	1.45	0.59	20.00	19.41

Note 1: The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.

Note 2: Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

4.3 Permitted Range of Operating Frequencies

Serial Number:	2B2Q-1	Test Date:	2023/9/15-2023/9/24
Test Site:	RF	Test Mode:	Transmitting
Tester:	coco Tian	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3-26.3	Relative Humidity: (%)	59-64	ATM Pressure: (kPa)	100.2-100.5
----------------------	-----------	---------------------------	-------	------------------------	-------------

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/7	2024/8/6
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2023/3/31	2024/3/30
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28

* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

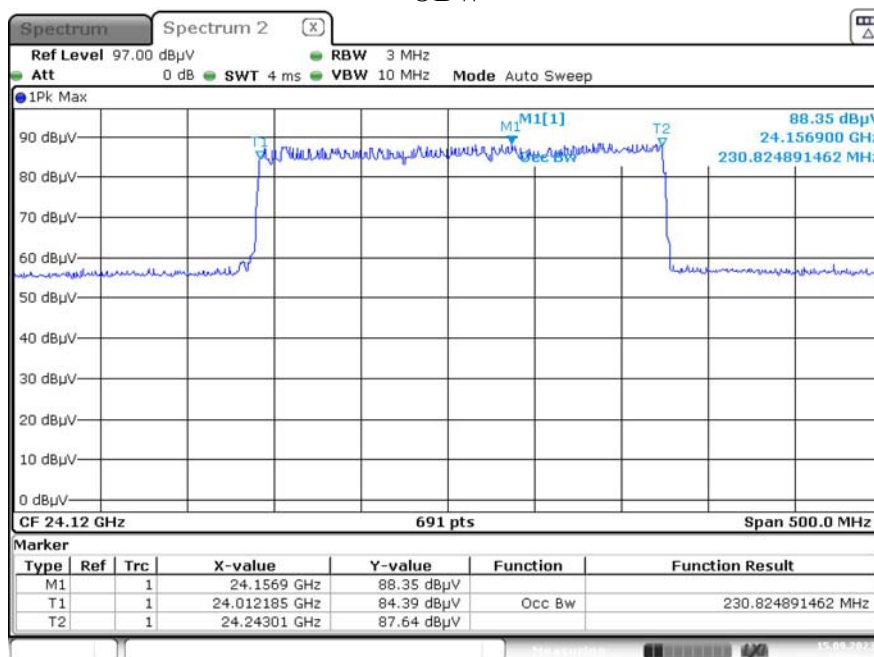
Test Conditions	Frequency (MHz)		f _L Limit (MHz)	f _H Limit (MHz)
	f _L at Low Channel	f _H at High Channel		
NVNT	24011.462	24243.730	24000	24250
LVLT	24011.421	24243.748	24000	24250
LVHT	24011.352	24243.447	24000	24250
HVLT	24011.441	24243.514	24000	24250
HVHT	24011.241	24243.571	24000	24250

Nominal Channel Bandwidth and Occupied Channel bandwidth:

Frequency (GHz)	Result (MHz)
24175	230.825

Please refer to following plots:

OBW



ProjectNo.:CR230953054-RF Tester:coco Tian

Date: 15.SEP.2023 13:05:13

4.4 Unwanted Emission in The Spurious Emissions Domain

Serial Number:	2B2Q-1	Test Date:	2023/9/15-2023/9/24
Test Site:	966-1; 966-2	Test Mode:	Transmitting
Tester:	Vic Du; coco Tian	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3~27.4	Relative Humidity: (%)	59~70	ATM Pressure: (kPa)	100.2~100.5
----------------------	-----------	---------------------------	-------	------------------------	-------------

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020/10/19	2023/10/18
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/7	2024/8/6
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/7	2024/8/6
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021/10/18	2024/10/17
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/16	2024/7/15
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021/2/5	2024/2/4
Mini	Preamplifier	QLW-18405536-JO	15964001005	2023/9/16	2024/9/15
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/7	2024/8/6
OML	Harmonic Mixer	WR19/M19HWD	U60314-1	2020/10/16	2023/10/15
OML	Horn Antenna	M19RH	11648-03	2020/10/16	2023/10/15
OML	Harmonic Mixer	WR12/M12HWD	E60119-1	2020/10/17	2023/10/16
OML	Horn Antenna	M12RH	E60119-2	2020/10/18	2023/10/17

Flann Microwave	Horn Antenna	24245-AB	28	2020/10/16	2023/10/15
Flann Microwave	Horn Antenna	861W/387	357	2020/10/16	2023/10/15

*** Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

for 25MHz~40MHz:

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
Test Frequency: 24175 MHz								
189.74	H	47.70	-64.98	0.00	0.26	-65.24	-54.00	11.24
326.74	V	46.64	-61.47	0.00	0.34	-61.81	-36.00	25.81
26279.70	H	50.37	-56.41	20.00	1.47	-37.88	-30.00	7.88
26279.70	V	52.43	-53.91	20.00	1.47	-35.38	-30.00	5.38
21478.64	H	44.16	-64.35	20.00	1.40	-45.75	-30.00	15.75
21478.64	V	43.09	-64.50	20.00	1.40	-45.90	-30.00	15.90

Note 1: The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.

Note 2: Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

for above 40GHz:

24.175 GHz

Frequency (GHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method		Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)			
48.30	H	31.52	-57.20	24.00	-33.20	-30.00	3.20
48.30	V	32.67	-56.05	24.00	-32.05	-30.00	2.05

Note 1: The unit of antenna gain is dBd for frequency below 1GHz and is dBi for frequency above 1GHz.

Note 2: Absolute Level = Substituted Level + Antenna Gain

Margin = Limit- Absolute Level

4.5 Blocking or Desensitization

Serial Number:	2B2Q-1	Test Date:	2023/9/15-2023/9/24
Test Site:	966-1	Test Mode:	Receiving
Tester:	coco Tian	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3-26.3	Relative Humidity: (%)	59-64	ATM Pressure: (kPa)	100.2-100.5
----------------------	-----------	---------------------------	-------	------------------------	-------------

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021/10/18	2024/10/17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021/2/5	2024/2/4
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/7	2024/8/6
Agilent	Signal Generator	E8247C	MY43321352	2022/11/18	2023/11/17
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022/7/16	2024/7/15

* **Statement of Traceability:** China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Note: When adding the blocking signal, there is no change in the power and bandwidth of fundamental that means no loss of the performance, which is declared by manufacturer.

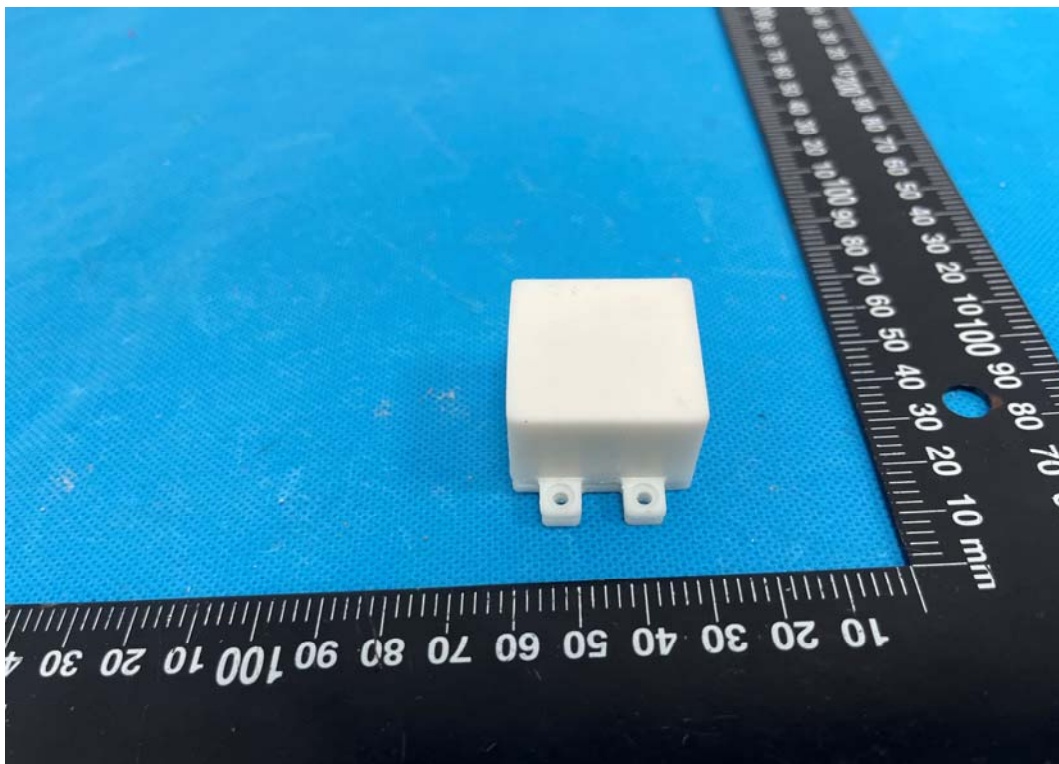
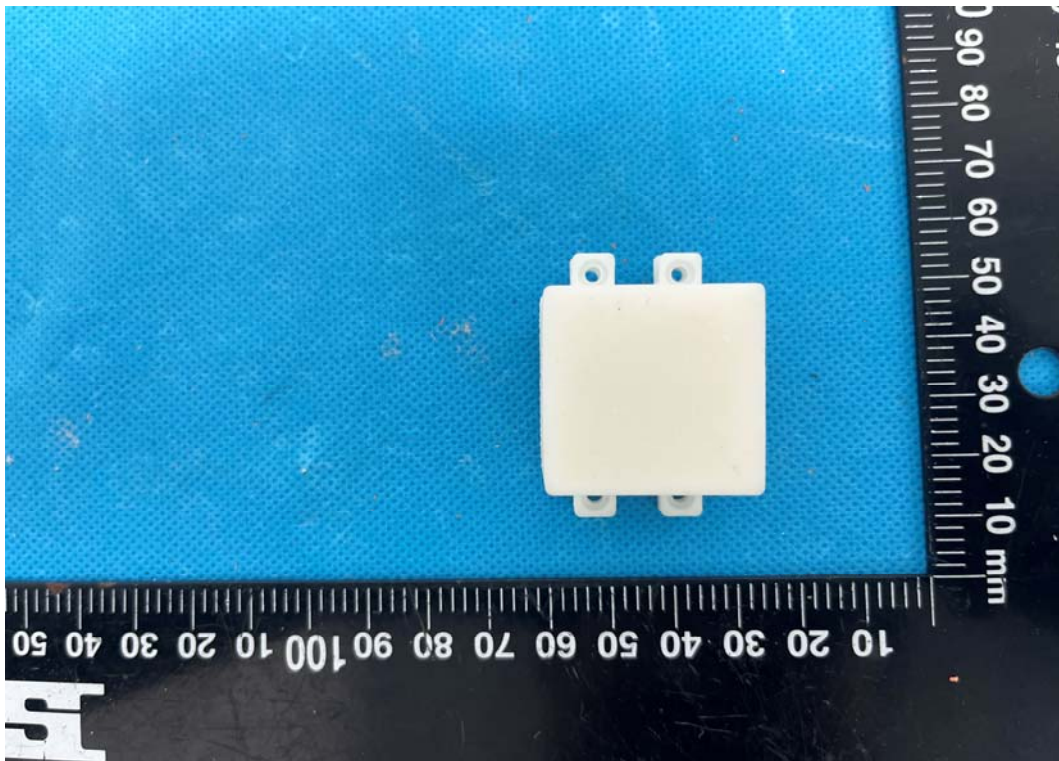
Frequency (GHz)	BW (MHz)	Blocking Signal at the band edge of OBW (MHz)		Blocking Signal (dBm)		Limit (dBm)
24.175	230.825	-10*OBW	+10*OBW	-47	-46	-100
		-20*OBW	+20*OBW	-46	-45	-100
		-50*OBW	+50*OBW	-46	-47	-100

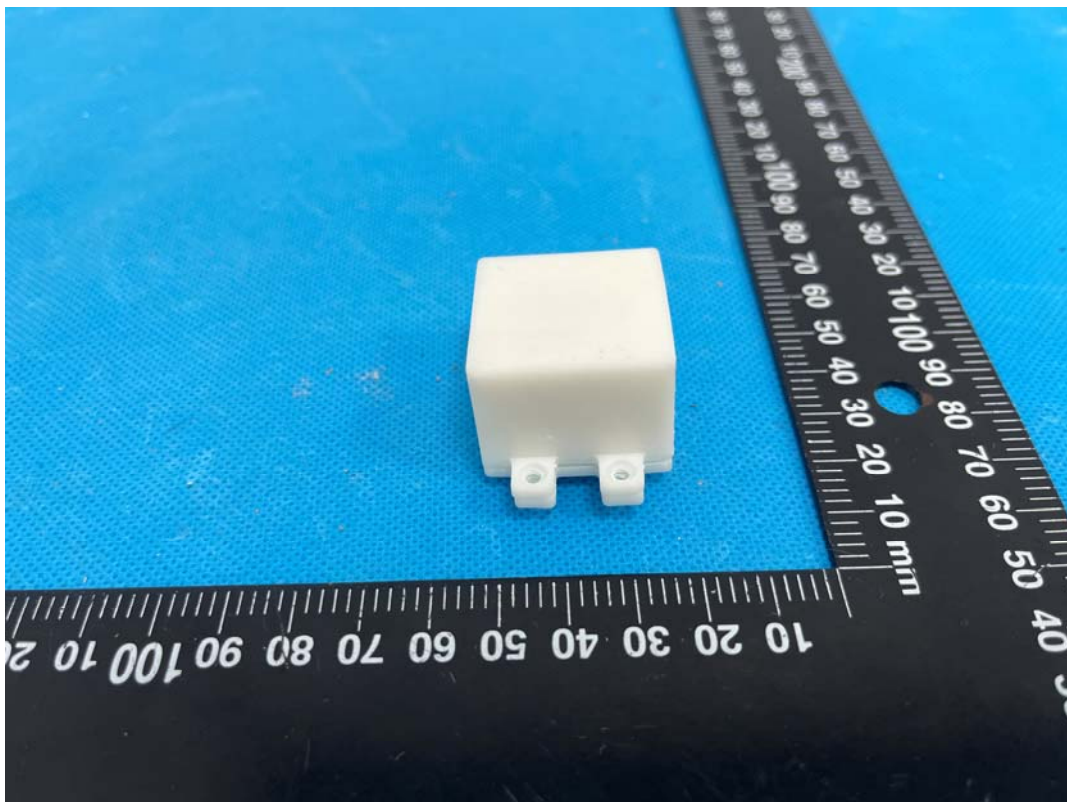
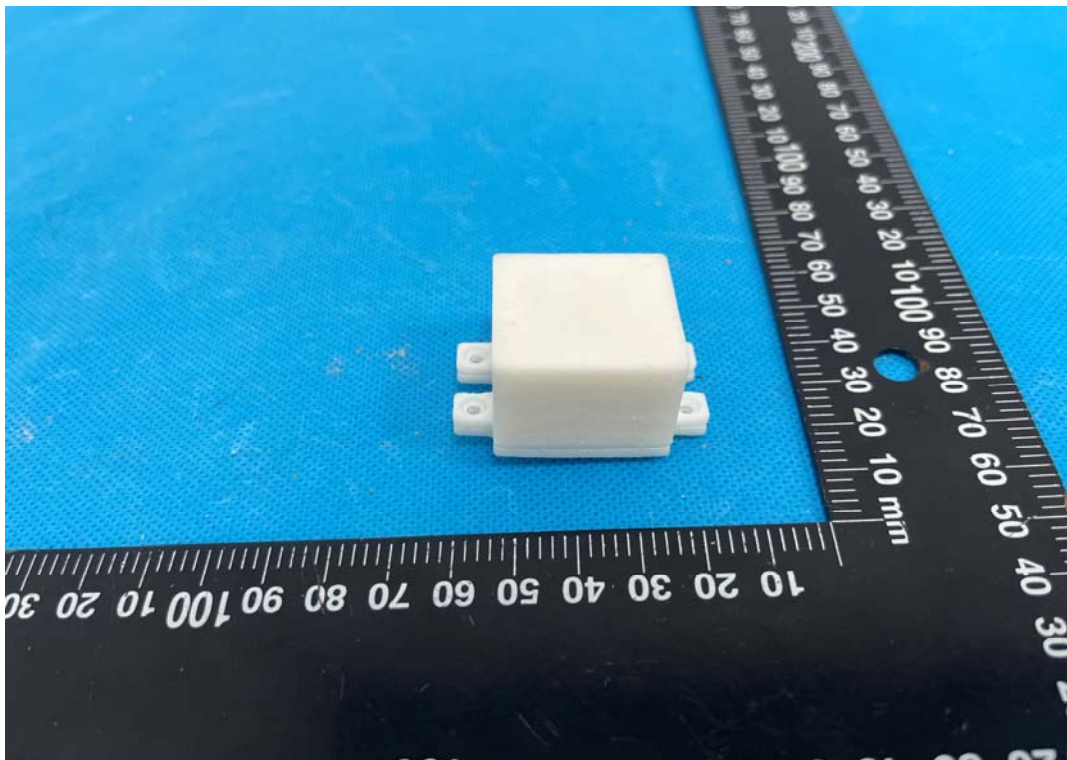
Note: $k = -20 \cdot \log(24.175) - 10 \cdot \log(230.825) = -51.3\text{dB} < -40\text{dB}$, so $k = -40\text{dB}$ should be used.

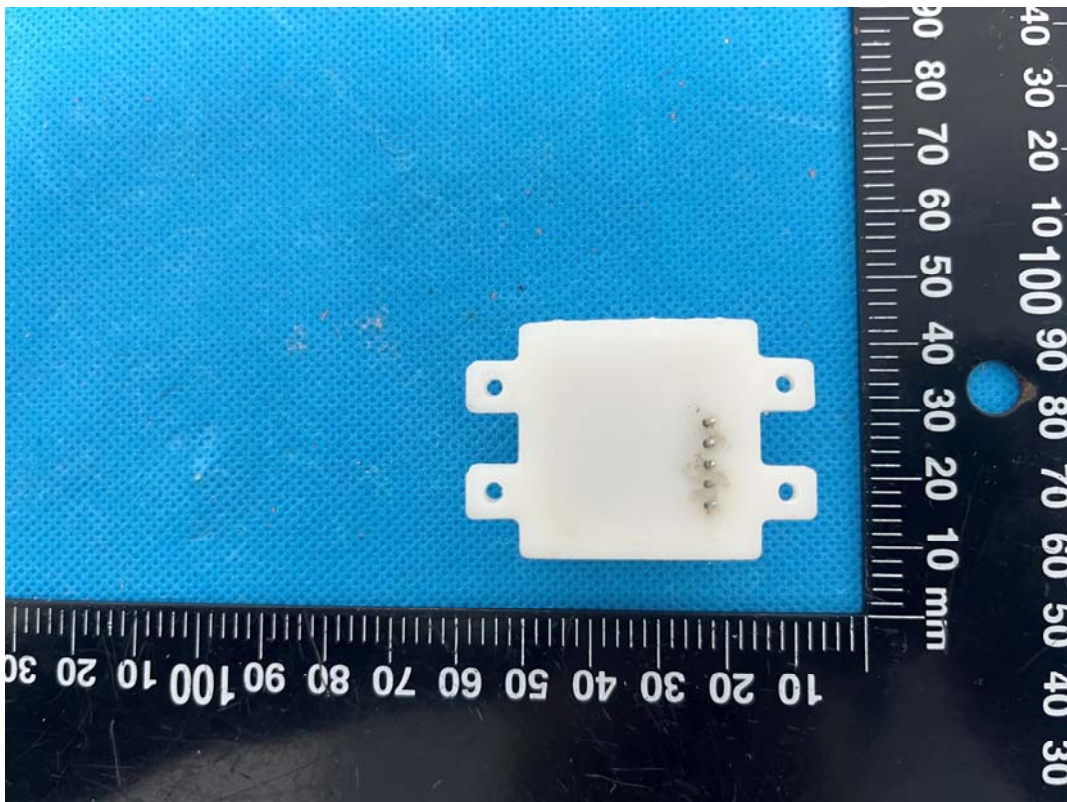
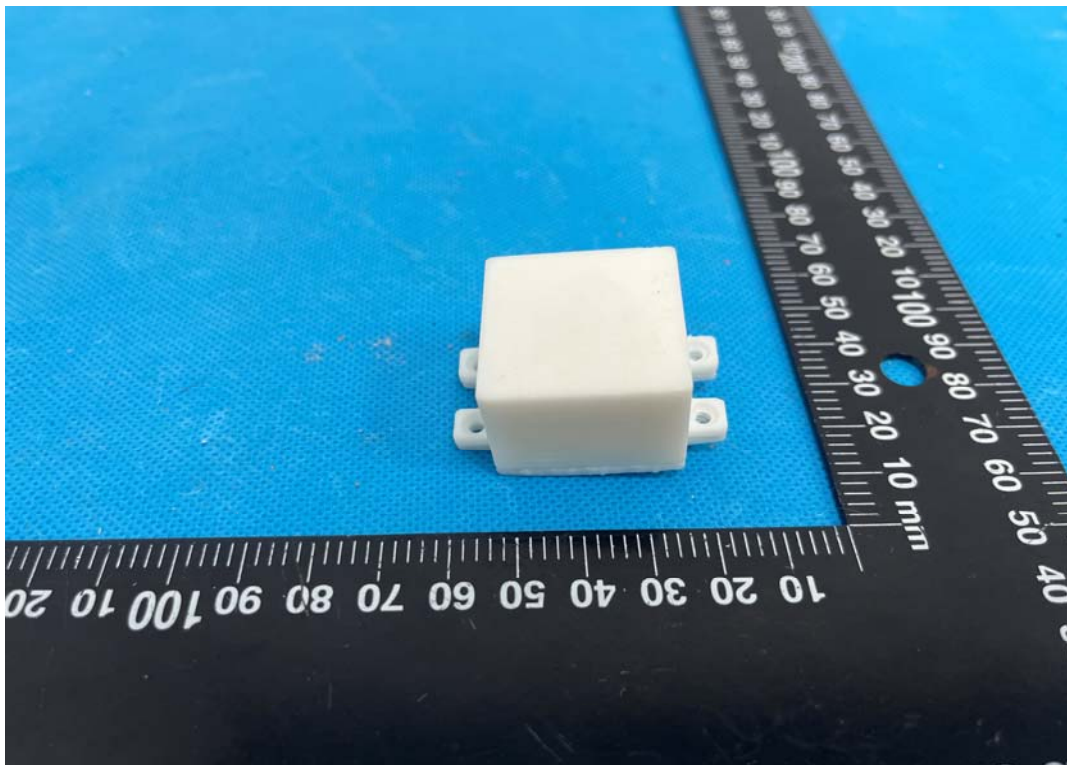
So, the Limit = $-60\text{dBm} - 40\text{dB} = -100\text{dBm}$.

5. EUT PHOTOGRAPHS

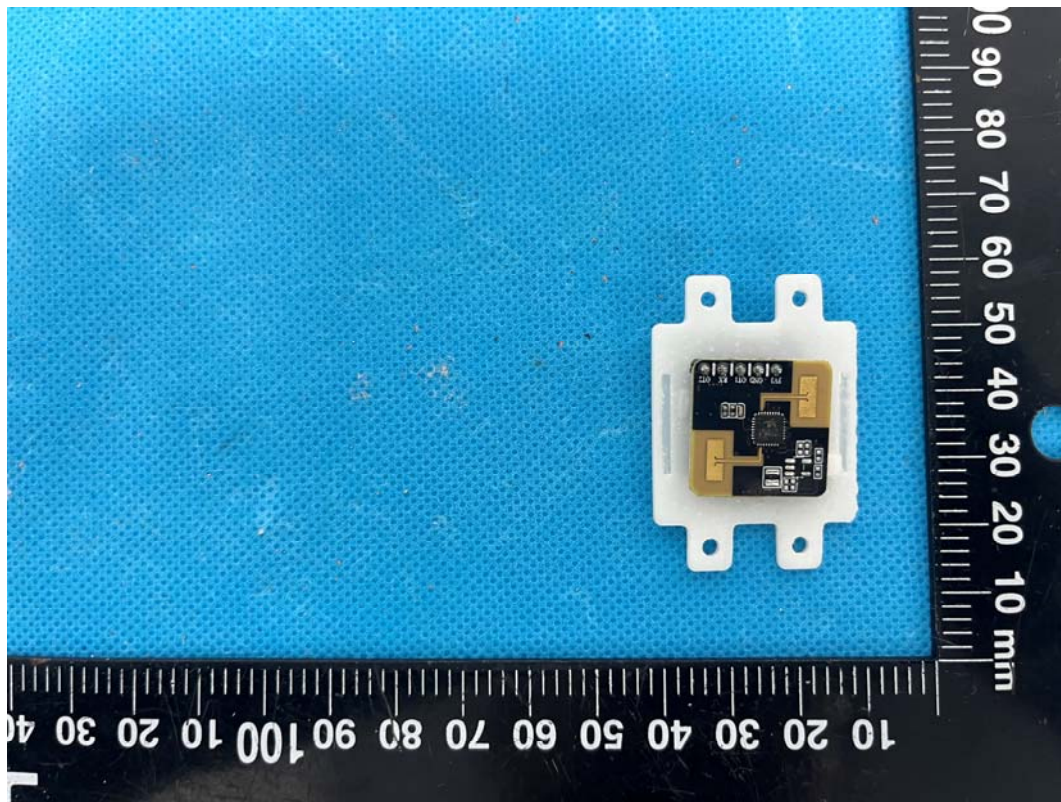
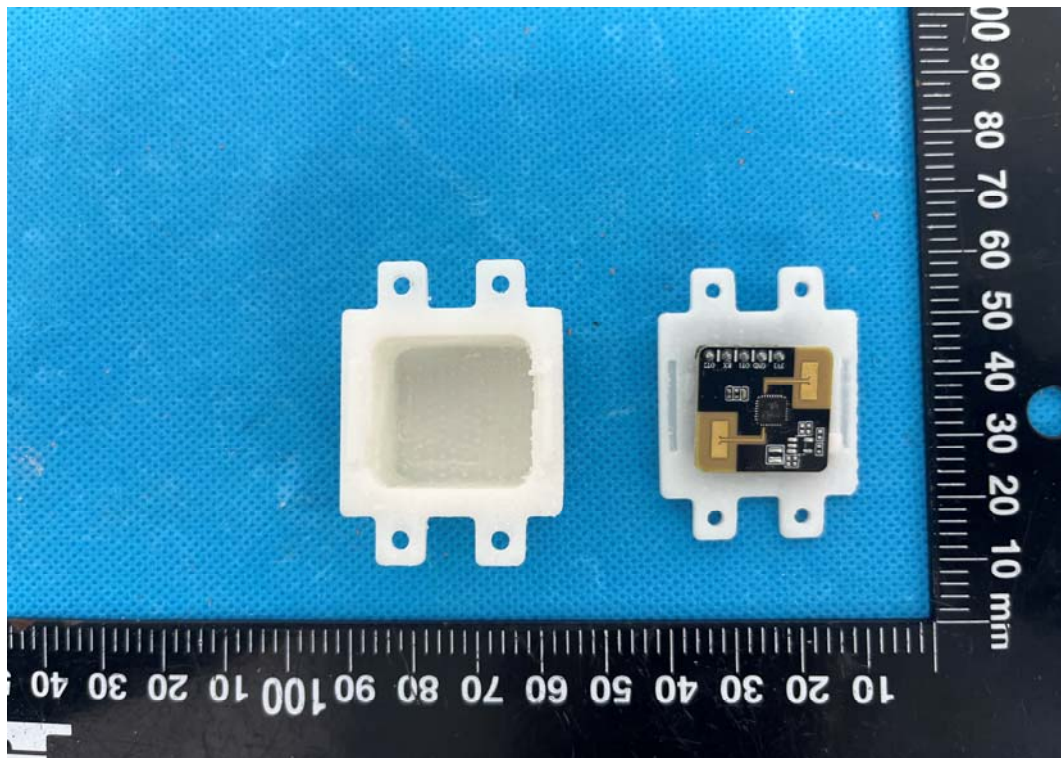
EUT

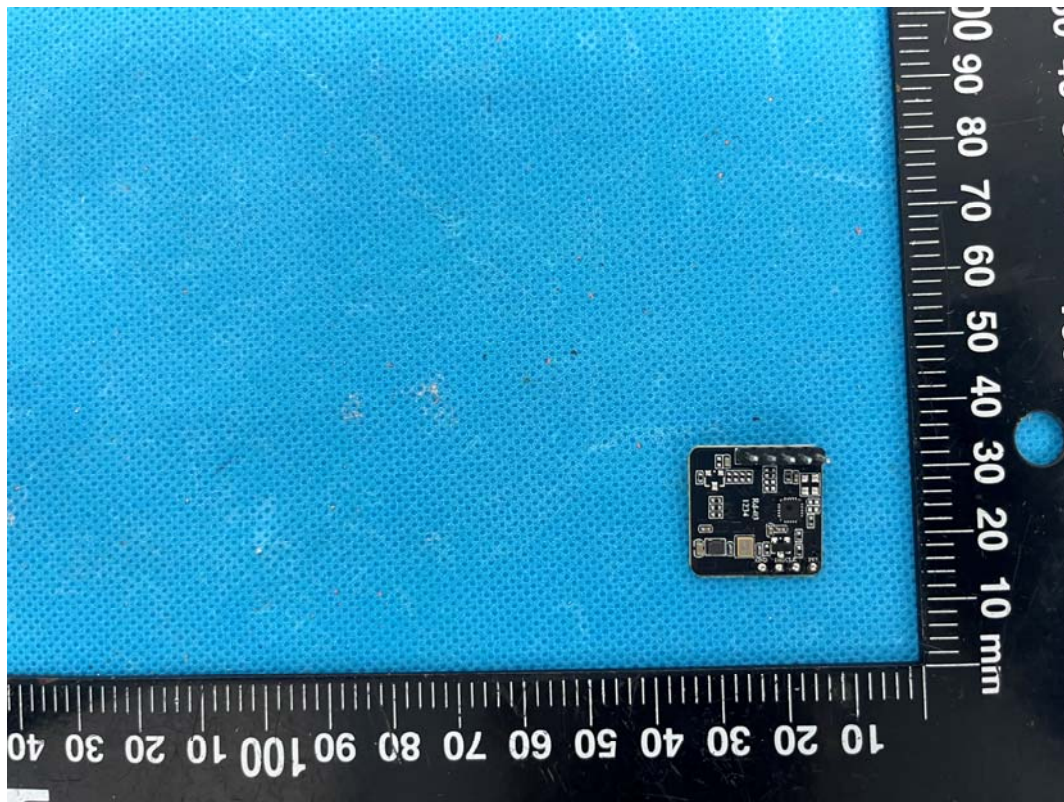
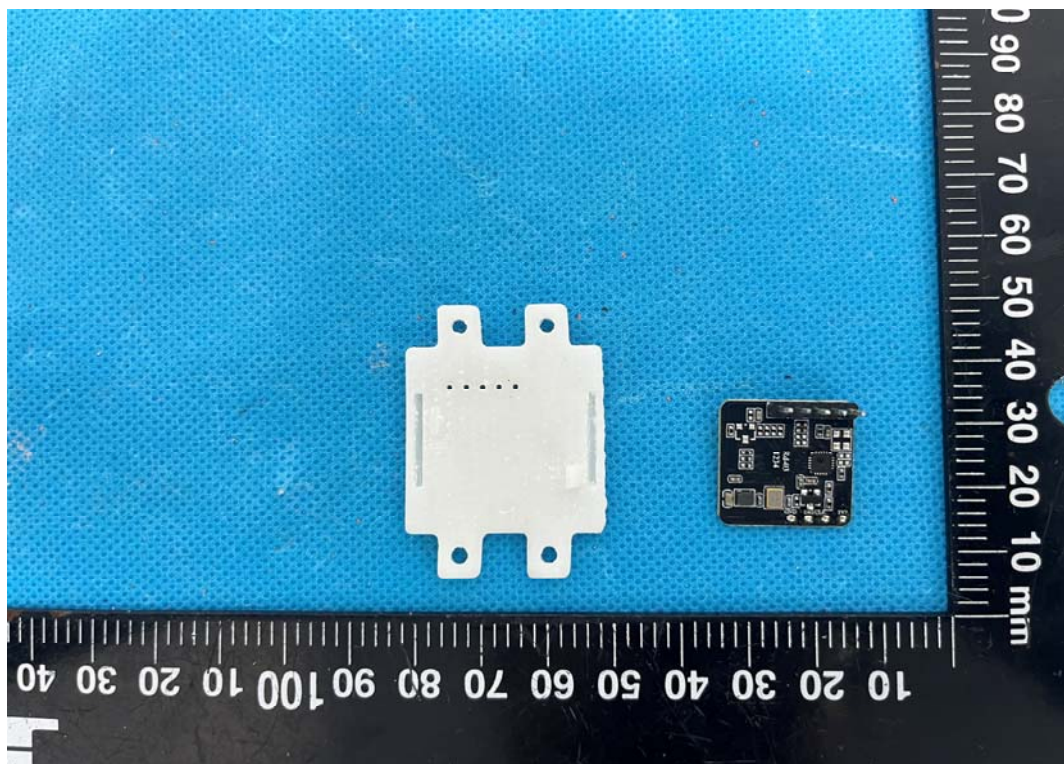


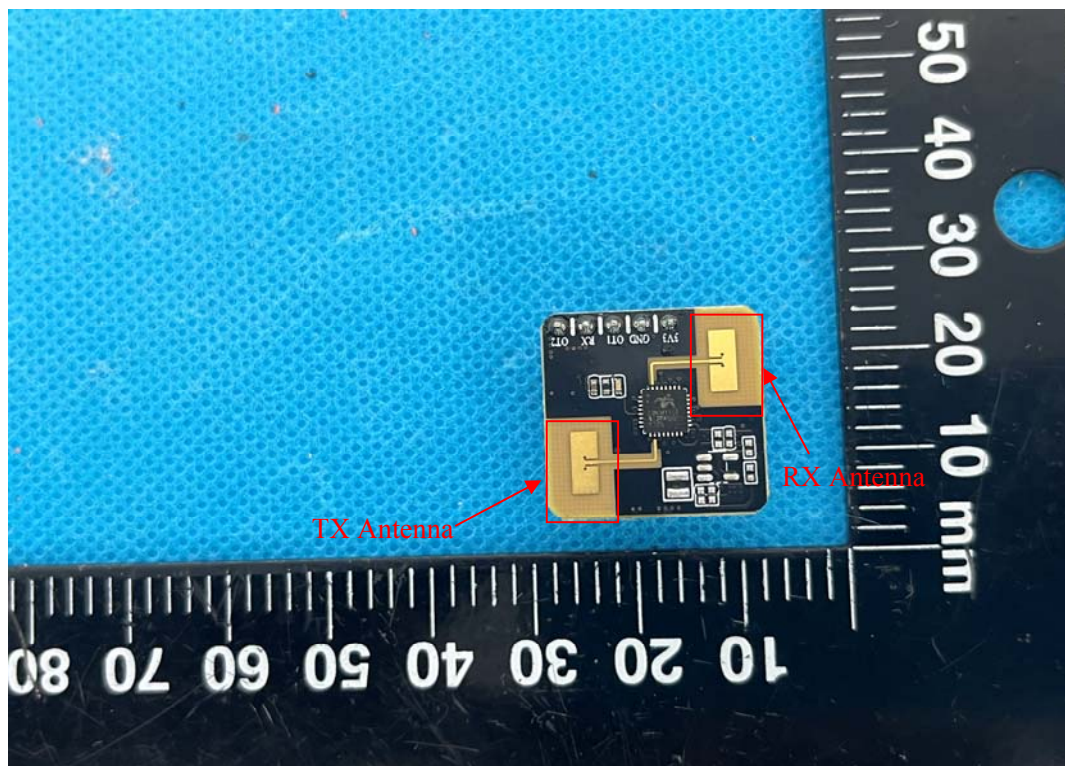




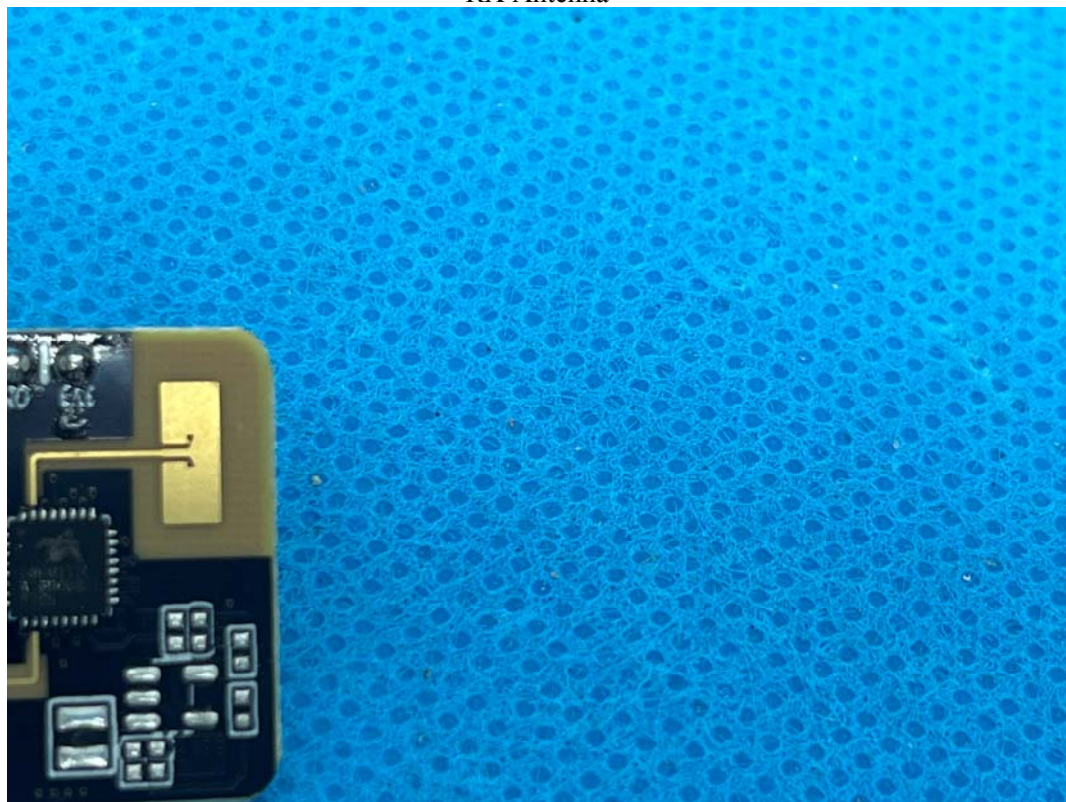
Uncover



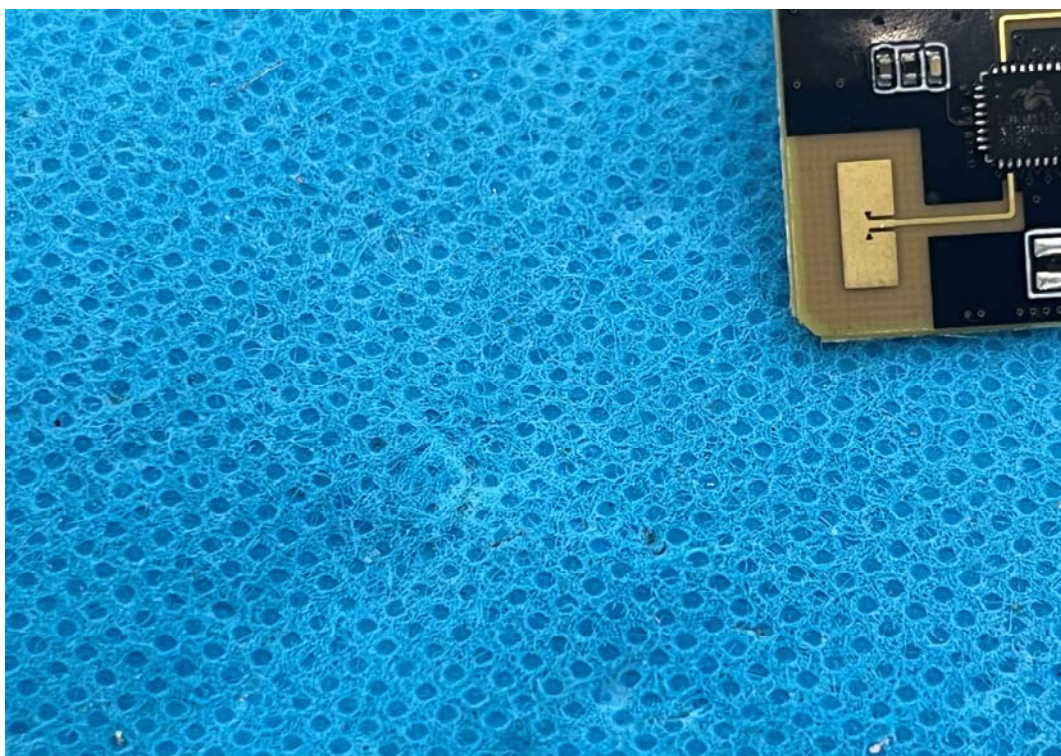




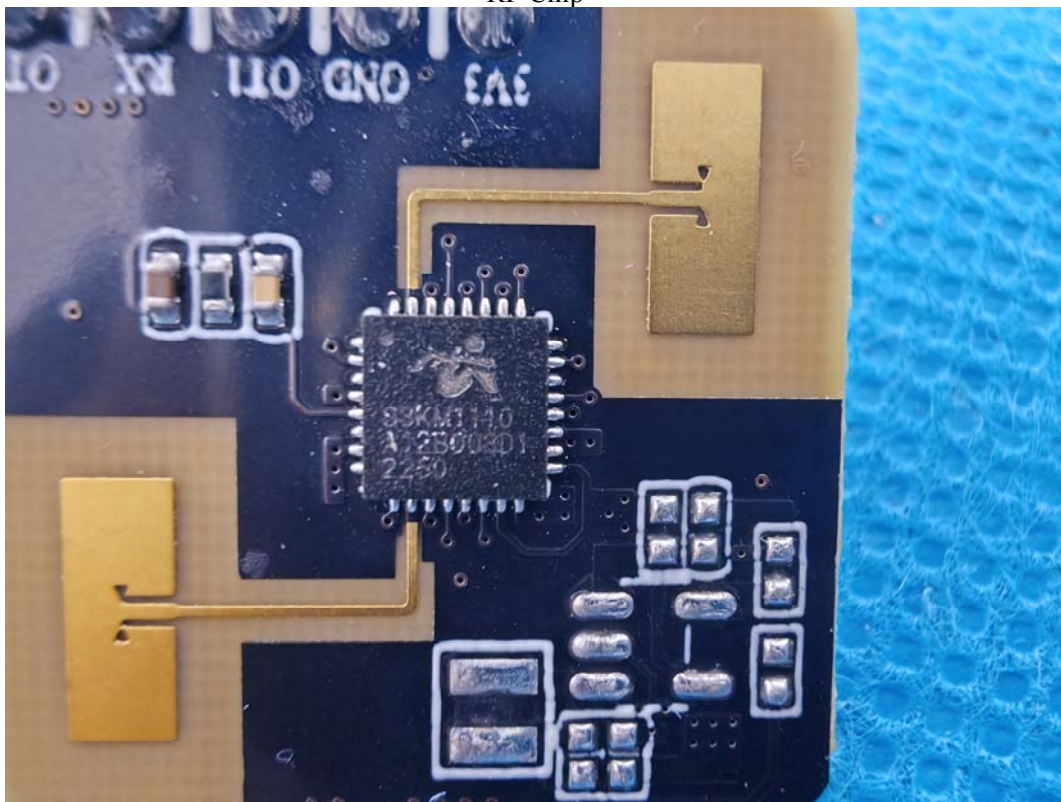
RX Antenna



TX Antenna



RF Chip



6. TEST SETUP PHOTOGRAPHS

Radiated Emissions Below 1GHz View



Radiated Emissions 1-18GHz View



Radiated Emissions 18-26.5GHz View



Radiated Emissions 26.5-40GHz View



Radiated Emissions 40-60GHz View



Radiated Emissions above 60GHz View



===== END OF REPORT =====