



Shenzhen CTL Testing Technology Co., Ltd.
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TEST REPORT

47 CFR Part 15, Subpart C 15.247

Report Reference No.: CTL2602252021-WF05

Compiled by:
(printed name+signature)

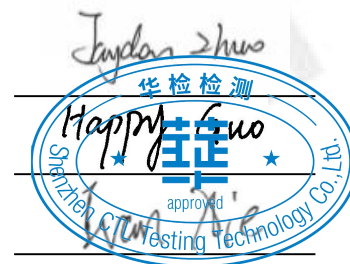
Jayden Zhuo

Reviewed by:
(printed name+signature)

Happy Guo

Approved by:
(printed name+signature)

Ivan Xie



Product Name..... : Intelligent TPMS Diagnostic Tool

Model/Type reference..... : VENU VT5

List Model(s)..... : N/A

Trade Mark..... : THINKCAR, MUCAR

FCC ID..... : 2AUARVENUVT5

Applicant's name..... : THINKCAR TECH CO., LTD.

Address of applicant..... : 2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China

Test specification..... :

Standard..... : 47 CFR Part 15, Subpart C 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.

TRF Originator..... : Shenzhen CTL Testing Technology Co., Ltd.

Master TRF..... : Dated 2011-01

Date of receipt of test item..... : Mar. 24, 2026

Date of Test Date..... : Mar. 24, 2026-Apr. 20, 2026

Date of Issue..... : Apr. 21, 2026

Result..... : Pass

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TEST REPORT

Test Report No. :	CTL2602252021-WF05	Apr. 21, 2026
		Date of issue

Equipment under Test : Intelligent TPMS Diagnostic Tool

Sample No : CTL260225202002, CTL260225202003

Model /Type : VENU VT5

Listed Models : N/A

Applicant : **THINKCAR TECH CO., LTD.**

Address : 2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China

Manufacturer : **THINKCAR TECH CO., LTD.**

Address : 2606, building 4, phase II, TiananYungu, Gangtou community, Bantian, Longgang District, Shenzhen, China

Test result	Pass *
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The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

** Modified History **

[illegible]

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

[FCC Rules Part 15.207,15.209, 15.215\(c\)](#)

[ANSI C63.10: 2020](#)

1.2. Test Description

47 CFR Part 15, Subpart C 15.247		
Electric Field Radiated Emissions	FCC Part 15 C (Section15.209)	PASS
20dB Bandwidth/99% Bandwidth	FCC Part 15 C (Section15.215(c))	PASS
Conducted Emissions	FCC Part 15 C (Section15.207)	PASS

Note: N/A= not applicable

1.3. Test Facility

1.3.1 Test laboratory

Company Name:	Shenzhen CTL Testing Technology Co., Ltd.
Address 1:	Zone A.1/F..Warehouse 2.Baisha Technology Park, No.3011,Shahexi Road, Nanshan District,Shenzhen.518055,P.R.C.
Address 2:	Fl.A1, Bldg.A3, No.2533 GuanGuang Road, Fenghuang Community Fenghuang Street, Guangming District, Shenzhen, Guangdong, PR.C

1.3.2 Test location

All tests were performed at:

Company Name:	Shenzhen CTL Testing Technology Co., Ltd.
☐ Main location	Zone A.1/F..Warehouse 2.Baisha Technology Park, No.3011,Shahexi Road, Nanshan District,Shenzhen.518055,P.R.C.
☒ Satellite location	Fl.A1, Bldg.A3, No.2533 GuanGuang Road, Fenghuang Community Fenghuang Street, Guangming District, Shenzhen, Guangdong, PR.C

1.3.3 Laboratory accreditation

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L7497

Shenzhen CTL Testing Technology Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No. 4343.01

Shenzhen CTL Testing Technology Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

IC CAB identifier: CN0041

Main Company Number :9618B

Satellite Company Number:35187

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with Main Company Number:9618B and Satellite Company Number:35187.

FCC-Registration No.: 399832**Designation No.: CN1216**

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation No.: CN1216. Test Firm Registration 399832.

Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen CTL Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CTL laboratory is reported:

Test	Measurement Uncertainty	Notes
Conducted Emission 0.15-30MHz	$\pm 3.11\text{dB}$	(1)
Radiated Emission 0.009~30MHz	$\pm 3.66\text{dB}$	(1)
Radiated Emission 30~1000MHz	$\pm 4.5\text{dB}$	(1)
20dB Emission Bandwidth	$\pm 1.9\%$	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.
- (2) Decision rule for Statement of Conformity: The measurement uncertainty is not taken into account but only measured result.

1.4. Auxiliary test equipment information

Manufacturer	Description	Model	Serial Number
Huawei	SuperCharge	HW-100225C00	HC78E2N4121901

2. GENERAL INFORMATION

2.1. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	18°C-28°C
Relative Humidity:	30%-60%
Air Pressure:	965Pa-1030Pa

2.2. General Description of EUT

Product Name:	Intelligent TPMS Diagnostic Tool
Model/Type reference:	VENU VT5
EUT Rated Voltage:	DC 3.7V, charged by AC adapter
Test Voltage:	DC 3.7V, charged by AC adapter
125KHz	
Modulation:	ASK
Operation frequency:	125KHz
Channel number:	1
Antenna type:	Loop Antenna

Note1: For more details, please refer to the user's manual of the EUT.

2.3. Equipments Used during the Test

Conducted Emission					
Test Equipment	Manufacturer	Model No.	Serial No.	Last calibration	Calibration Due
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1166.5950.03	2026/01/05	2027/01/04
LISN	ROHDE & SCHWARZ	ESH2-Z5	860014/010	2026/01/05	2027/01/04
Limitator	ROHDE & SCHWARZ	ESH3-Z2	100408	2026/01/05	2027/01/04
Software:					
Name of Software:			Version:		
ES-K1			V1.71		

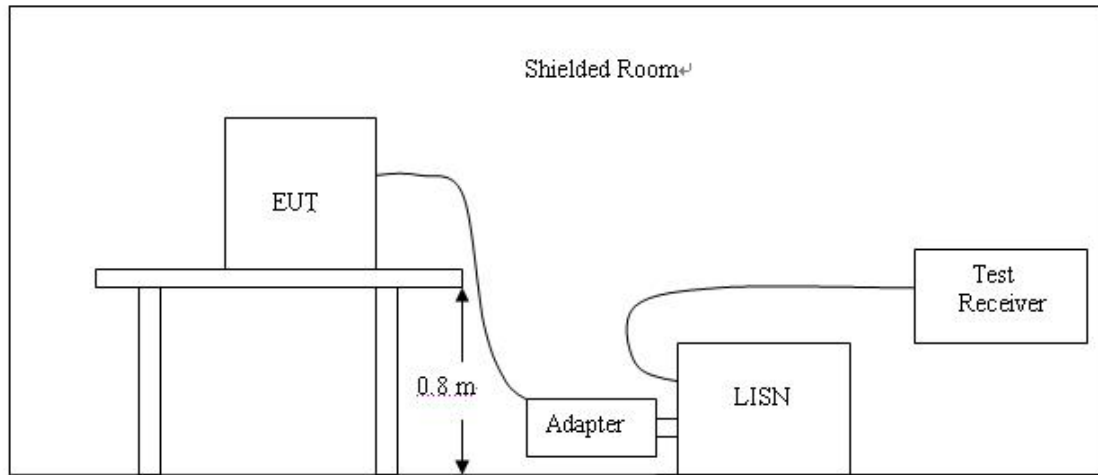
Radiated Emission					
Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
Active Loop Antenna	Da Ze	ZN30900A	/	2025/07/02	2026/07/01
ULTRA-BROADBAND ANTENNA	Sunol Sciences Corp.	JB1 Antenna	A061713	2025/07/02	2026/07/01
Amplifier	Brief&Smart	LNA-4018	2104197	2025/07/03	2026/07/02
EMI Test Receiver	ROHDE & SCHWARZ	ESPI	100434	2025/07/02	2026/07/01
Software:					
Name of Software:			Version:		
EZ_EMC(Below 1GHz)			V1.1.4.2		
EZ_EMC(Above 1GHz)			V1.1.4.2		

RF Conducted					
Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due
Spectrum Analyzer	Keysight	N9020A	MY53420874	2025/07/03	2026/07/02
Temperature/Humidity Meter	Ji Yu	MC501	/	2025/07/03	2026/07/02
Software:					
Name of Software:			Version:		
TST-PASS			V2.0.2		

3. TEST CONDITIONS AND RESULTS

3.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

- 1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10:2020.
- 2 Support equipment, if needed, was placed as per ANSI C63.10:2020
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2020
- 4 The adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane
- 5 All support equipments received AC power from a second LISN, if any.
- 6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
- 8 During the above scans, the emissions were maximized by cable manipulation.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

AC Power Conducted Emission Limit

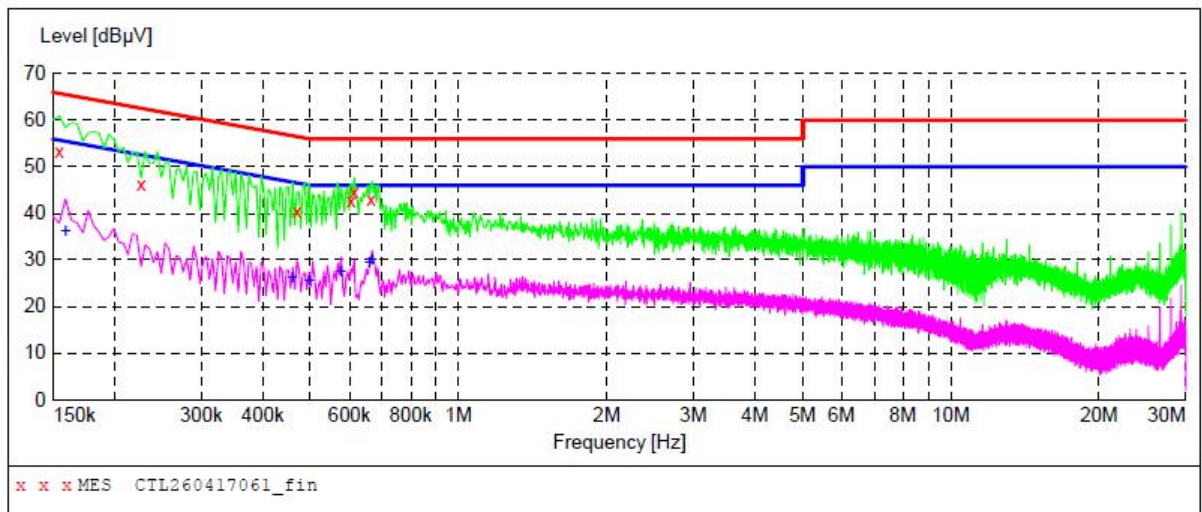
For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following :

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

TEST RESULTS**SCAN TABLE: "Voltage (9K-30M)FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL260417061_fin"**

4/17/2026 3:31PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.154500	53.30	10.3	66	12.5	QP	L1	GND
0.226500	46.20	10.3	63	16.4	QP	L1	GND
0.469500	40.30	10.4	57	16.2	QP	L1	GND
0.604500	42.80	10.5	56	13.2	QP	L1	GND
0.613500	44.70	10.5	56	11.3	QP	L1	GND
0.663000	43.00	10.5	56	13.0	QP	L1	GND

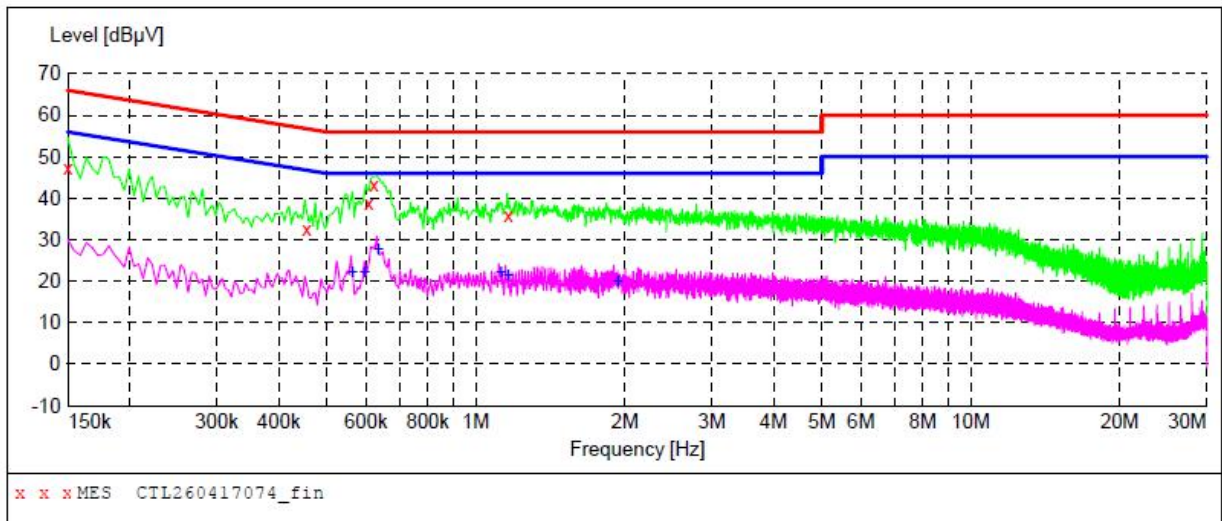
MEASUREMENT RESULT: "CTL260417061_fin2"

4/17/2026 3:31PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.159000	36.20	10.3	56	19.3	AV	L1	GND
0.460500	26.30	10.4	47	20.4	AV	L1	GND
0.496500	25.70	10.4	46	20.4	AV	L1	GND
0.577500	27.60	10.4	46	18.4	AV	L1	GND
0.658500	29.40	10.5	46	16.6	AV	L1	GND
0.667500	30.10	10.5	46	15.9	AV	L1	GND

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL260417074_fin"**

4/17/2026 4:09PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	47.40	10.3	66	18.6	QP	N	GND
0.456000	32.40	10.4	57	24.4	QP	N	GND
0.609000	38.70	10.5	56	17.3	QP	N	GND
0.622500	43.10	10.5	56	12.9	QP	N	GND
1.162500	36.00	10.7	56	20.0	QP	N	GND

MEASUREMENT RESULT: "CTL260417074_fin2"

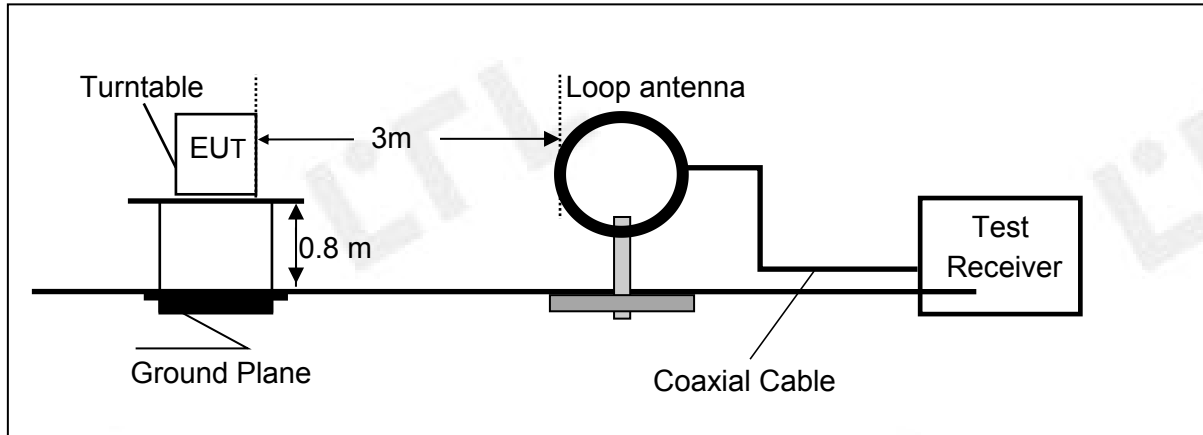
4/17/2026 4:09PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.564000	22.40	10.4	46	23.6	AV	N	GND
0.595500	22.20	10.5	46	23.8	AV	N	GND
0.636000	27.60	10.5	46	18.4	AV	N	GND
1.126500	22.20	10.7	46	23.8	AV	N	GND
1.162500	21.60	10.7	46	24.4	AV	N	GND
1.936500	20.10	10.7	46	25.9	AV	N	GND

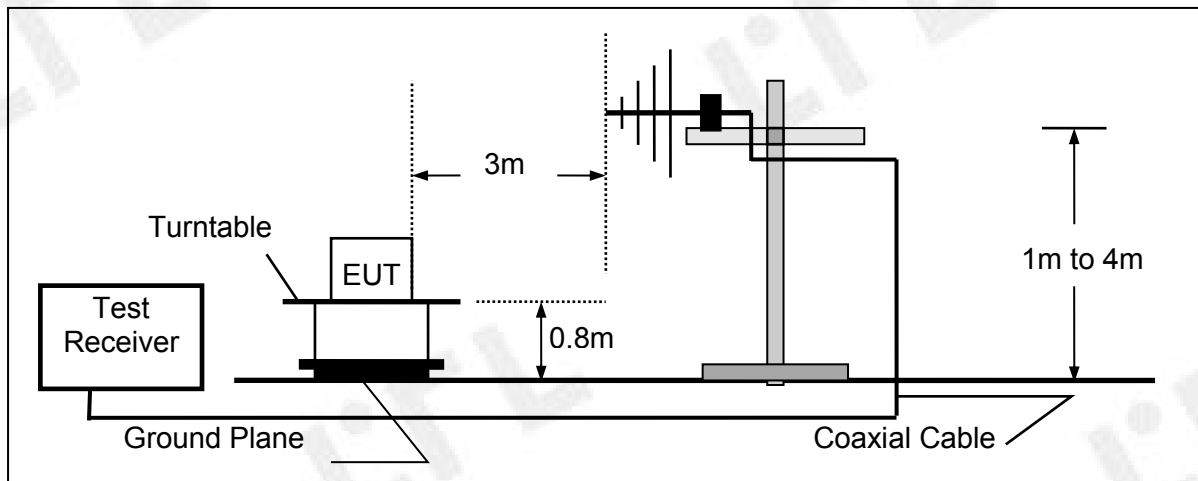
3.2. Radiated Emission

TEST CONFIGURATION

Radiated Emission Test Set-Up
Frequency range 9KHz – 30MHz



Frequency range 30MHz – 1000MHz



TEST PROCEDURE

- 1 The EUT was placed on a turn table which is 0.8m above ground plane.
- 2 Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0°C to 360°C to acquire the highest emissions from EUT
- 3 And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4 Repeat above procedures until all frequency measurements have been completed.

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

For example

Frequency (MHz)	FS (dBμV/m)	RA (dBμV/m)	AF (dB)	CL (dB)	AG (dB)	Transd (dB)
300.00	40	58.1	12.2	1.6	31.90	-18.1

$$\text{Transd} = \text{AF} + \text{CL} - \text{AG}$$

RADIATION LIMIT

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

9k~30MHz:

Frequency Range (MHz)	E-field Strength Limit @ 30m (mV/m)	E-field Strength Limit @ 3m (dBμV/m)
0.009-0.490	2400/F(kHz)	129-94
0.490-1.705	24000/F(kHz)	74-63
1.705-30	30	70

Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:

$$\text{Extrapolation(dB)} = 40\log_{10}(\text{Measurement Distance/Specification Distance})$$

Note:

- (1) The tighter limit shall apply at the edge between two frequency bands.
- (2) dBuV/m = 20*log(uV/m)

30M~1GHz:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

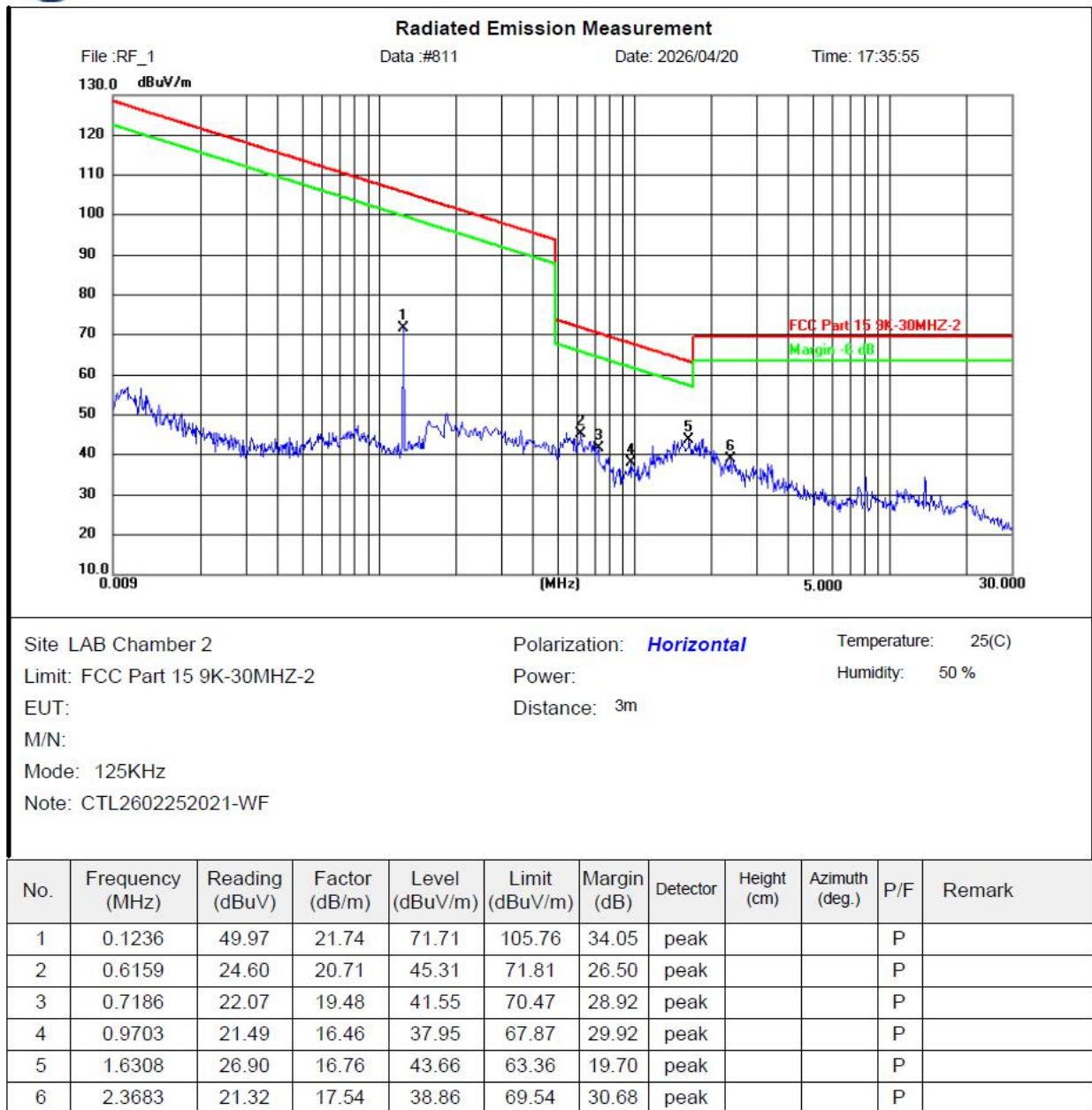
Note:

- (1) The tighter limit shall apply at the edge between two frequency bands.
- (2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

TEST RESULTS**WORST-CASE RADIATED EMISSION BELOW 30 MHz**



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Tel: +86-755-89486194



Remark: 1. Data of measurement within this frequency range shown “-” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

2. The test limit distance is 3m limit.

3. PK means Peak Value, QP means Quasi Peak Value, AV means Average Value.

4. F means Fundamental Frequency.

Radiated Emission Test Data 30-1000MHz:

Horizontal



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Unit 01A&B&C&D-1, Building A3, Guangming Sci-Tech Park, Guan Guang Road, Fenghu

Radiated Emission Measurement

File :RF2

Data :#2427

Date: 2026/04/18

Time: 16:44:50

70.0 dBuV/m



Site LAB Chamber 1

Polarization: **Horizontal**

Temperature: 25(C)

Limit: FCC Part15 Class C_30-1000MHz

Power:

Humidity: 50 %

EUT:

Distance: 3m

M/N:

Mode: 125KHz

Note: CTL2602252021-WF

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	145.3505	52.44	-18.79	33.65	43.50	9.85	peak	100	53	P	
2	162.0413	55.13	-19.40	35.73	43.50	7.77	peak	100	81	P	
3	164.9074	56.81	-19.59	37.22	43.50	6.28	peak	100	90	P	
4	177.5091	55.90	-20.54	35.36	43.50	8.14	peak	100	72	P	
5	187.0956	55.07	-21.29	33.78	43.50	9.72	peak	100	256	P	
6	211.5264	53.20	-20.89	32.31	43.50	11.19	peak	100	284	P	

Vertical



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Unit 01A&B&C&D-1, Building A3, Guangming Sci-Tech Park, Guan Guang Road, Fenghu

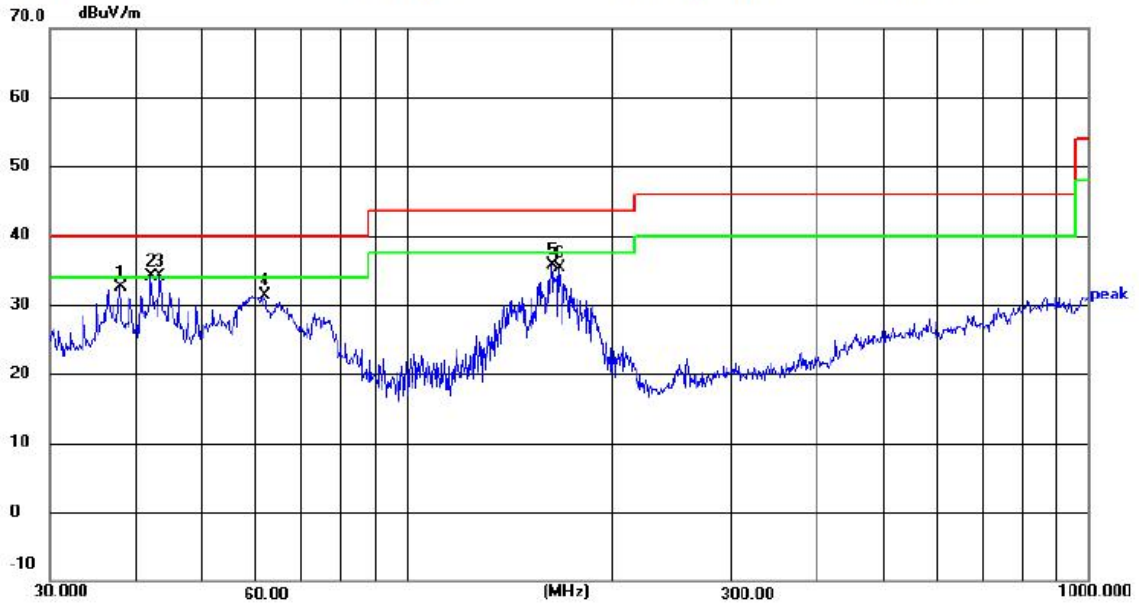
Radiated Emission Measurement

File :RF2

Data :#2428

Date: 2026/04/18

Time: 16:45:35



Site LAB Chamber 1

Limit: FCC Part15 Class C_30-1000MHz

EUT:

M/N:

Mode: 125KHz

Note: CTL2602252021-WF

Polarization: **Vertical**

Power:

Distance: 3m

Temperature: 25(C)

Humidity: 50 %

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	37.9450	47.96	-15.46	32.50	40.00	7.50	peak	100	159	P	
2	42.1542	52.15	-18.12	34.03	40.00	5.97	peak	100	131	P	
3	43.5057	53.09	-19.08	34.01	40.00	5.99	peak	100	178	P	
4	61.7781	55.47	-24.15	31.32	40.00	8.68	peak	100	67	P	
5	163.1818	55.26	-19.50	35.76	43.50	7.74	peak	100	196	P	
6	167.2368	54.95	-19.65	35.30	43.50	8.20	peak	100	196	P	

3.3. 20dB Bandwidth/99% Bandwidth

Limit

The 20dB bandwidth shall be less than 80% of the permitted frequency band.

Test Procedure

The 20dB bandwidth is measured with a spectrum analyzer connected via a receive antenna placed near the EUT while the EUT is operating in transmission mode.

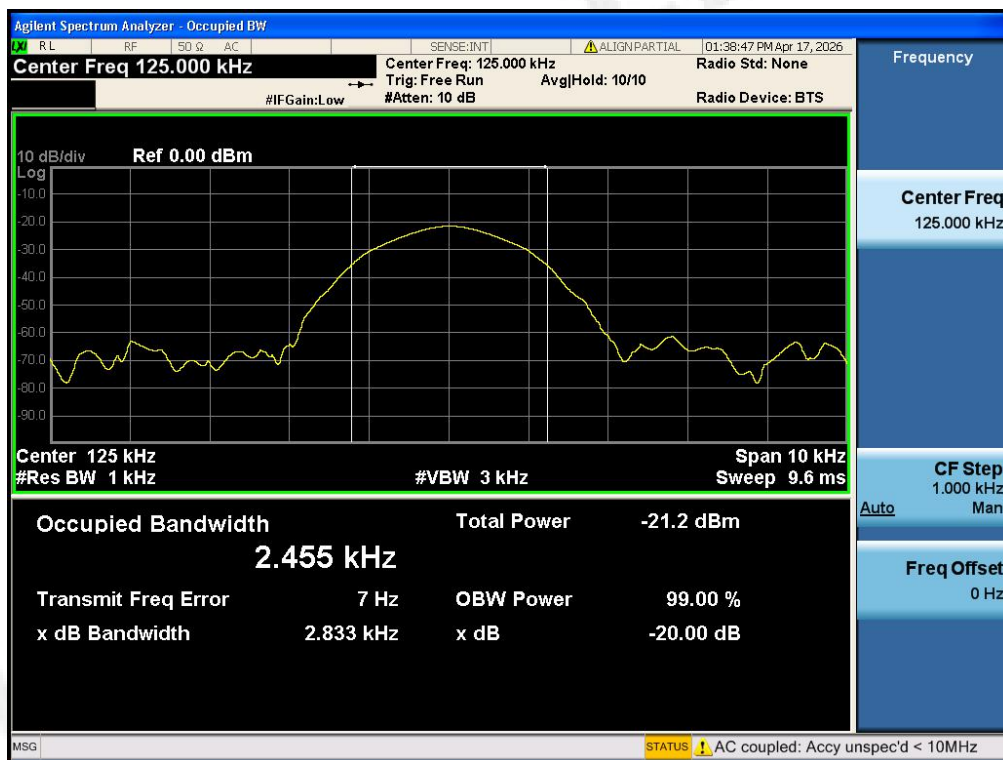
The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

Test Configuration



Test Results

Frequency(MHz)	20dB bandwidth(KHz)	99% OBW(KHz)	Result
0.125	2.833	2.455	Pass



Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 1KHz to perform the occupied bandwidth test.

3.4. Antenna Requirement

Standard Applicable

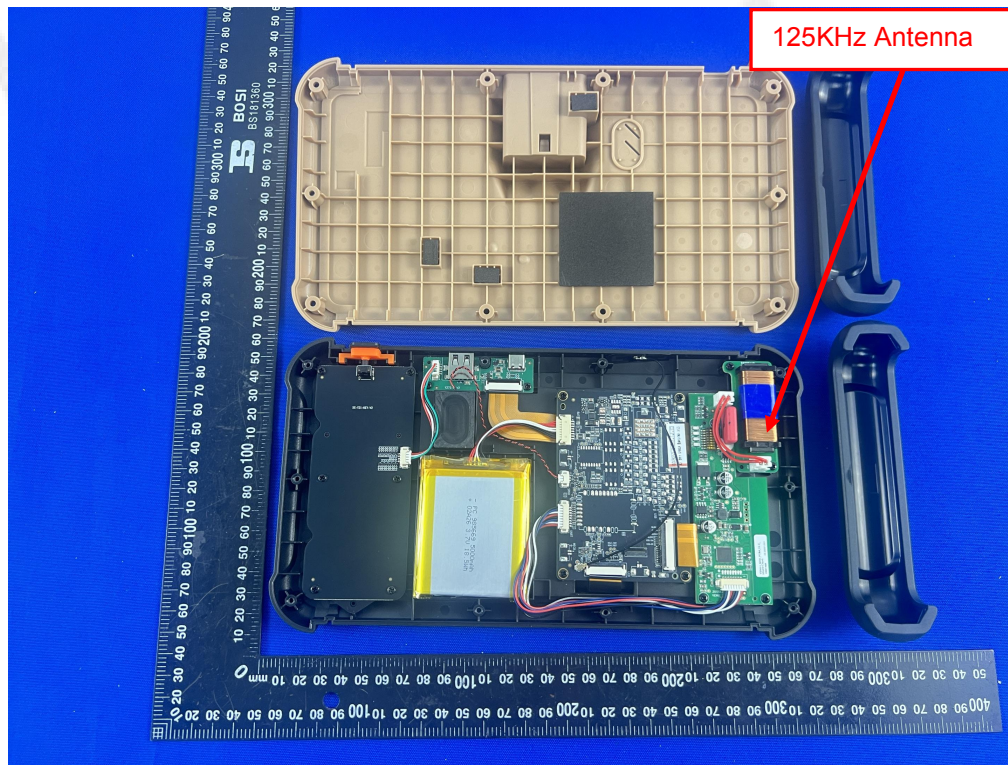
For intentional device, according to FCC 47 CFR Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited

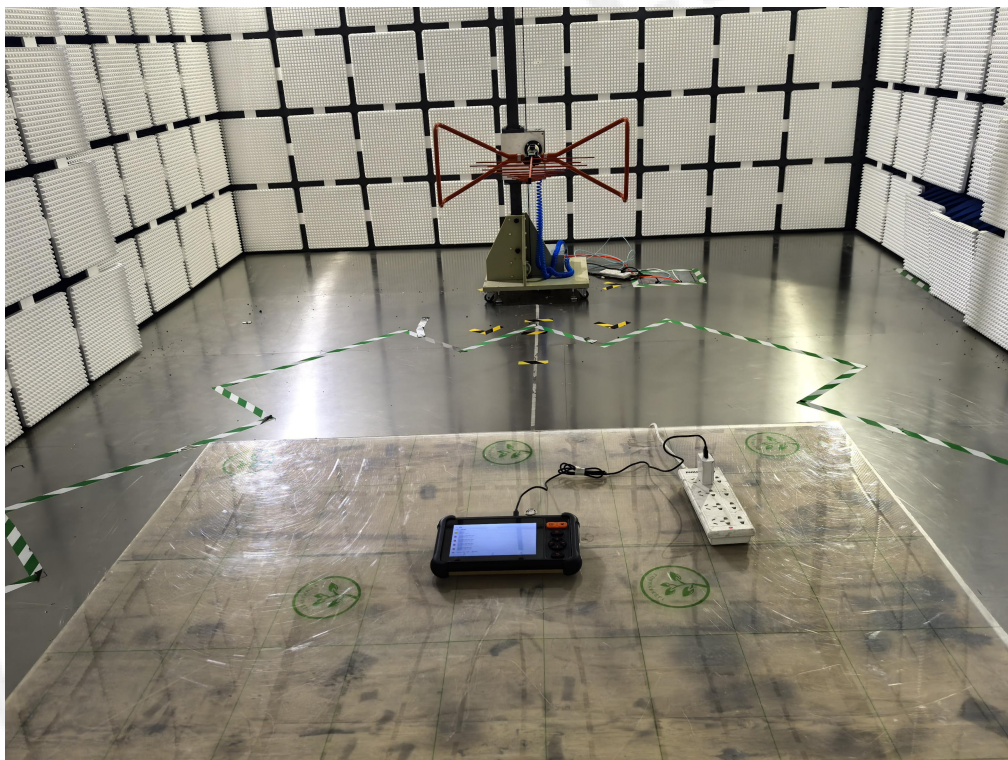
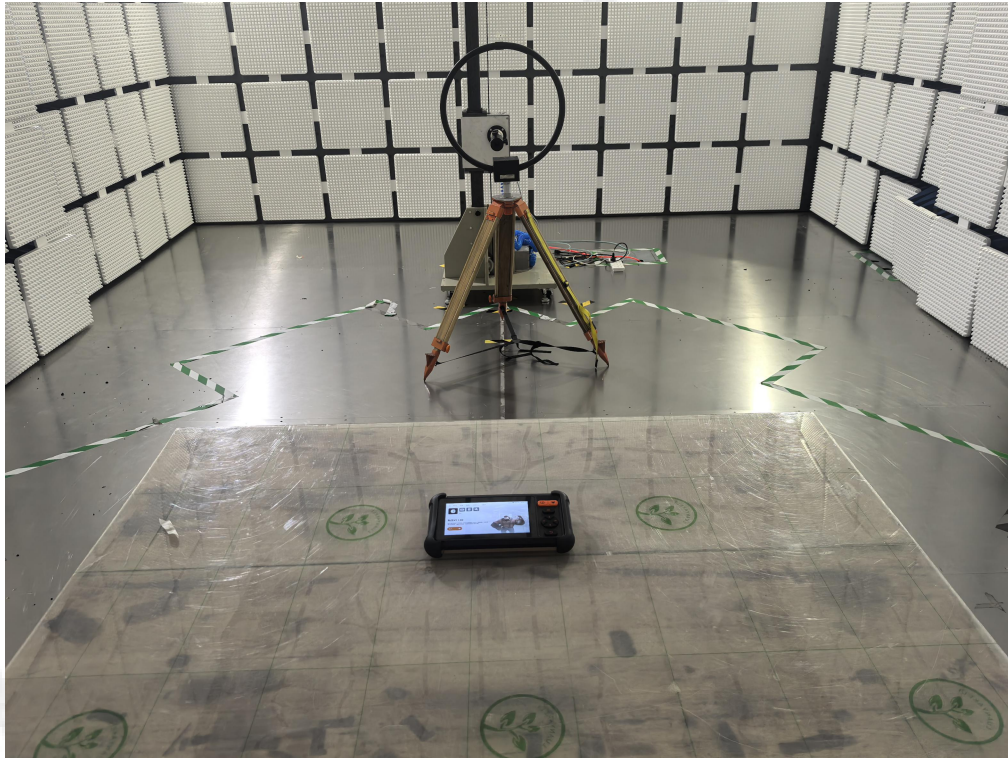
Refer to statement below for compliance

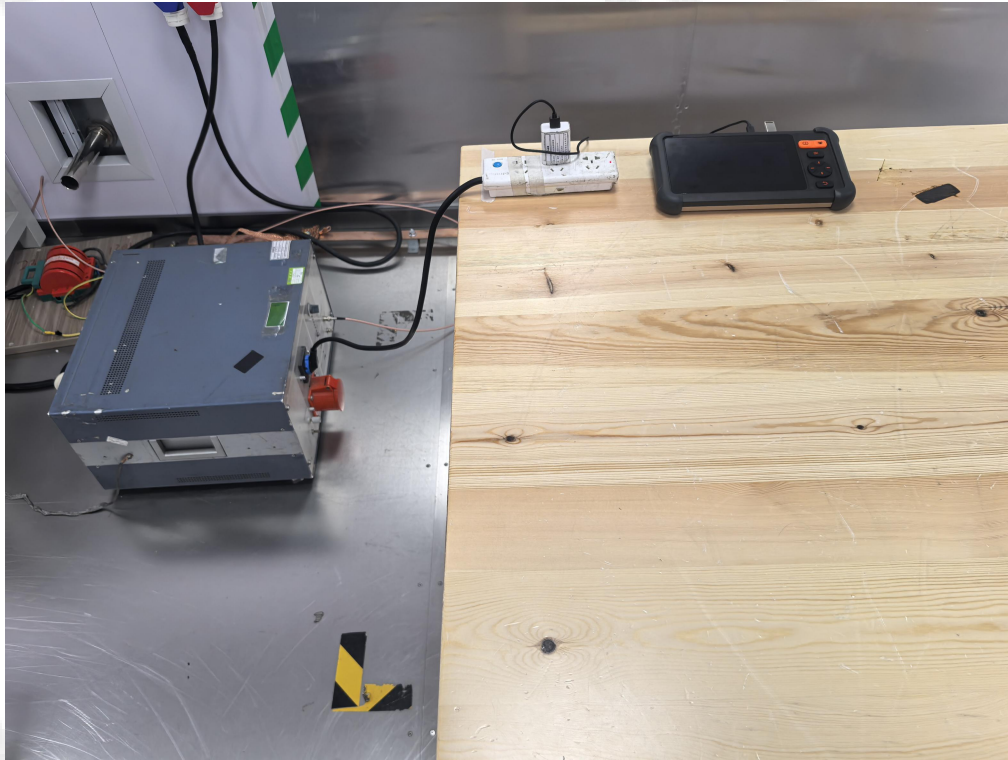
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction



4. Test Setup Photos of the EUT





5. External and Internal Photos of the EUT

Reference to the test report No.CTL2602252021-WF01

***** End of Report *****