

TEST REPORT

Product Name : CM3588S system-on-module

Model Number : CM3588S

Prepared for : BOARDCON EMBEDDED DESIGN LIMITED
Address : 2007-2011 Haofang Tianji Plaza, 11008 Beihuan Avenue,
Nanshan District, Shenzhen, Guangdong, China. 518051

Prepared by : EMTEK (SHENZHEN) CO., LTD.
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Report Number : ENS2604240169E00101R
Date(s) of Tests : April 29, 2026 to May 08, 2026
Date of issue : May 09, 2026



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TEST REPORT DESCRIPTION

Applicant : BOARDCON EMBEDDED DESIGN LIMITED
 Manufacturer : BOARDCON EMBEDDED DESIGN LIMITED
 Trade Mark : 
 Product Name : CM3588S system-on-module
 Model Number : CM3588S
 Rating : DC 12V from adapter

Measurement Procedure Used:


FCC CFR Title 47, Part 15, Subpart B
 ANSI C63.4-2014

The device described above is tested by EMTEK (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and EMTEK (SHENZHEN) CO., LTD. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK (SHENZHEN) CO., LTD.

Date of Test : April 29, 2026 to May 08, 2026

Prepared by : 
 Hu Min/Editor

Reviewer : 
 Guo Kaimin/Supervisor

Approved & Authorized Signer : 
 Wang Li/Manager



Modified Information

Version	Report No.	Revision Data	Summary
/	ENS2604240169E00101R	/	Original Version



1. SUMMARY OF TEST RESULTS

EMISSION		
Description of Test Item	Standard & Limits	Results
Conducted Emission at Mains Terminals	FCC CFR Title 47, Part 15, Subpart B, Class B ANSI C63.4-2014	Pass
Radiated Emission	FCC CFR Title 47, Part 15, Subpart B, Class B ANSI C63.4-2014	Pass



2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product Name : CM3588S system-on-module

Model Number : CM3588S

Sample ID : ENS2604240169E001-01

Applicant : BOARDCON EMBEDDED DESIGN LIMITED

Address : 2007-2011 Haofang Tianji Plaza, 11008 Beihuan Avenue, Nanshan District, Shenzhen, Guangdong, China. 518051

Manufacturer : BOARDCON EMBEDDED DESIGN LIMITED

Address : 2007-2011 Haofang Tianji Plaza, 11008 Beihuan Avenue, Nanshan District, Shenzhen, Guangdong, China. 518051

Date of Received : April 29, 2026

Date of Test : April 29, 2026 to May 08, 2026

2.2. Independent Operation Modes

A. ON

2.3. Test Manner

Test Items	Test Voltage	Operation Modes	Worst case
Conducted Emission	AC 120V/60Hz	Mode A	Mode A
Radiated emissions(Up to 1 GHz)	AC 120V/60Hz	Mode A	Mode A
Radiated Emission Measurement (Above 1GHz)	AC 120V/60Hz	Mode A	Mode A

2.4. Description of Test Facility

Site Description
EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L2291.

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA

The Certificate Number is 4321.01.

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

2.5. Test Software

Item	Software
Conducted Emission	: EMTEK(Ver.CON-03A1)-Shenzhen
Radiated Emission	: EMTEK(Ver.RA-03A1)-Shenzhen

2.6. Description of Support Device

Adapter	: Model: KE036A-12003000 Input: 100-240V~50/60Hz, 0.8A Max Output: DC12V, 3.0A
LED Display	: Manufacturer: ViewSonic (VP2780-4K) M/N: VS16006 S/N: U8L175100178
Laptop	: Manufacturer: Lenovo M/N: ThinkBook 14 G6 IRL-SE S/N: PW0BW4DP CE, FCC: DOC
Mouse	: Manufacturer: Lenovo M/N: MO28UOL S/N: 44D2639 CE, FCC
Keyboard	: Manufacturer: Lenovo M/N: KB-0225 S/N: 41A5039 CE, FCC

2.7. Measurement Uncertainty

Test Item	Uncertainty
Conducted Emission Uncertainty (Conduction 1#)	: 1.56dB(9k-150kHz)---AMN 1.42dB(150k-30MHz)---AMN
Radiated Emission Uncertainty (3m 3# Chamber)	: 4.28dB (30M~1GHz Polarize: H) 4.86dB (30M~1GHz Polarize: V) 4.90dB (1~6GHz) 5.30dB (6~18GHz)
Uncertainty for test site temperature and humidity	: 0.6°C 4%



3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For Conducted Emission Measurement

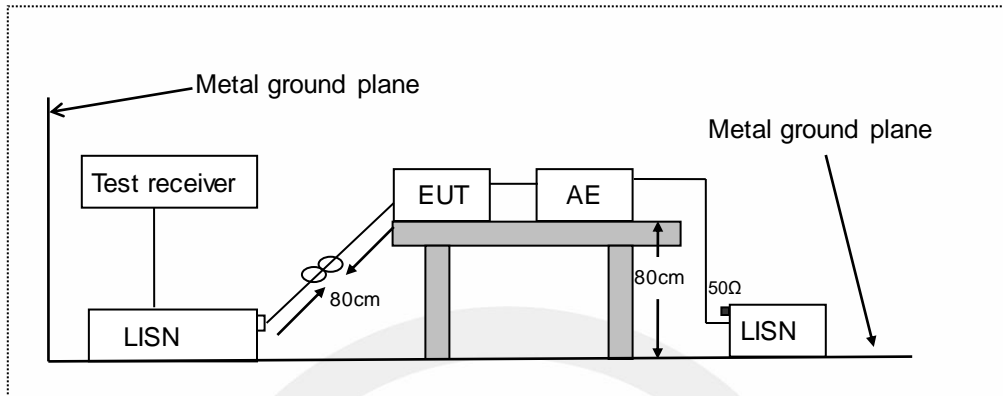
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
<input checked="" type="checkbox"/>	EMI Test Receiver	Rohde & Schwarz	ESCI	101384	May 09, 2025	1 Year
<input checked="" type="checkbox"/>	AMN	Rohde & Schwarz	ENV216	101161	May 09, 2025	1 Year
<input checked="" type="checkbox"/>	AMN	Kyoritsu	KNW-407	8-1492-9	May 10, 2025	1 Year

3.2. For Radiated Emission Measurement

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
<input checked="" type="checkbox"/>	EMI Test Receiver	Rohde & Schwarz	ESU 26	100154	May 09, 2025	1 Year
<input checked="" type="checkbox"/>	Pre-Amplifier	Lunar EM	LNA30M3G-25	J10100000070	May 09, 2025	1 Year
<input checked="" type="checkbox"/>	Bilog Antenna	Schwarzbeck	VULB9163	661	May 18, 2025	2 Year
<input checked="" type="checkbox"/>	Horn antenna	Schwarzbeck	BBHA9120D	9120D-1178	Aug. 09, 2025	2 Year
<input checked="" type="checkbox"/>	Pre-Amplifie	EMC Solutions	TRLA-010180 G55	26033001	April 14, 2026	1 Year

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



LISN: Line Impedance Stabilization Network
 AE: Associated equipment
 EUT: Equipment under test

4.2. Limits

FCC Part 15, Subpart B, Class B

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50 ~ 5.00	56.0	46.0
5.00 ~ 30.00	60.0	50.0

NOTE1-The lower limit shall apply at the transition frequencies.
 NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

4.3. Test Procedure

The EUT was placed on a table 0.8 m height from the metal ground plane and 0.4 m from the conducting wall of the shielding room and it was kept at least 0.8 m from any other grounded conducting surface.

All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units.

Connect EUT to the power mains through a artificial mains network (AMN). Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

All the support units are connecting to the other LISN.

The LISN provides 50 ohm coupling impedance for the measuring instrument.

Both sides of AC line were checked for maximum conducted interference.

The frequency range from 150 kHz to 30 MHz was sweep.

Set the test-receiver system to quasi peak detect function and average detect function, and to measure the conducted emissions values.

Test results were obtained from the following equation:

Emission Level (dB μ V) = LISN Factor (dB) + Cable Loss (dB) + Reading (dB μ V)

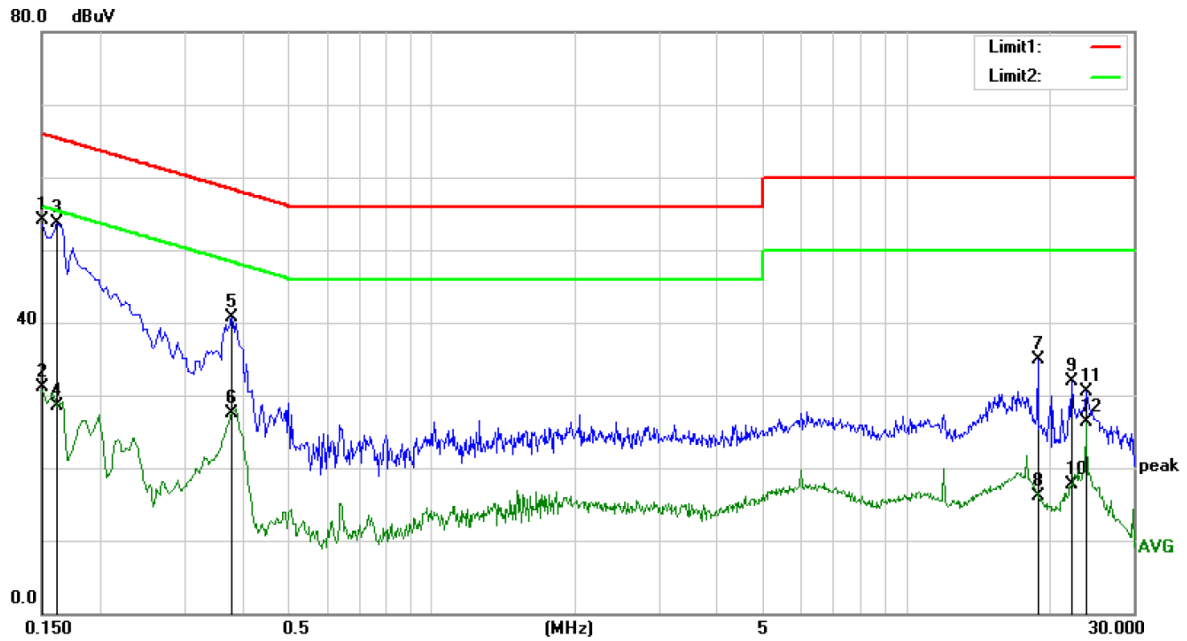
Margin (dB) = Emission Level (dB μ V) - Limit (dB μ V)

4.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.

Temperature : 23.5°C
Humidity : 47%
Atmospheric Pressure : 101kpa
Test Engineer : Sheng Zhuowen
Test Date : 2026-05-06



Site Conduction #1

Phase: **L1**

Temperature: 23.5

Limit: (CE)FCC PART 15 class B_QP

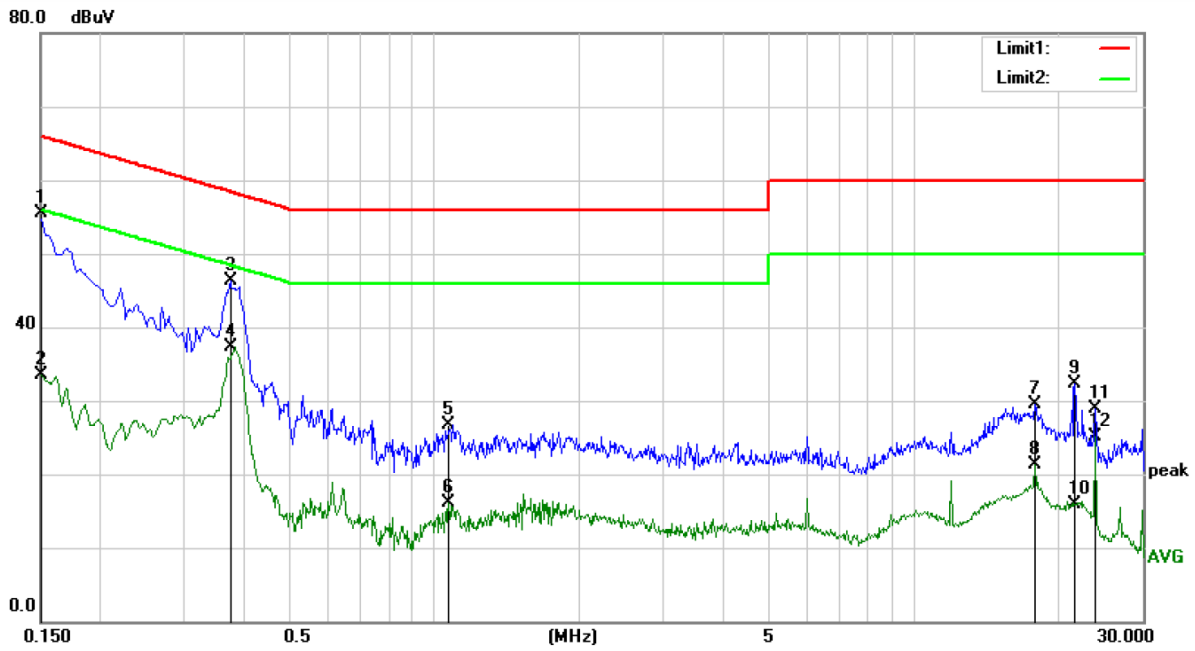
Power: AC 120V/60Hz

Humidity: 47 %

Mode: On

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	44.37	9.73	54.10	66.00	-11.90	QP	
2		0.1500	21.36	9.73	31.09	56.00	-24.91	AVG	
3	*	0.1620	44.04	9.72	53.76	65.36	-11.60	QP	
4		0.1620	18.74	9.72	28.46	55.36	-26.90	AVG	
5		0.3780	31.04	9.67	40.71	58.32	-17.61	QP	
6		0.3780	17.93	9.67	27.60	48.32	-20.72	AVG	
7		18.8740	24.71	10.22	34.93	60.00	-25.07	QP	
8		18.8740	5.87	10.22	16.09	50.00	-33.91	AVG	
9		22.2020	21.76	10.23	31.99	60.00	-28.01	QP	
10		22.2020	7.57	10.23	17.80	50.00	-32.20	AVG	
11		23.8860	20.29	10.21	30.50	60.00	-29.50	QP	
12		23.8860	16.10	10.21	26.31	50.00	-23.69	AVG	



Site Conduction #1

Phase: **N**

Temperature: 23.5

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 47 %

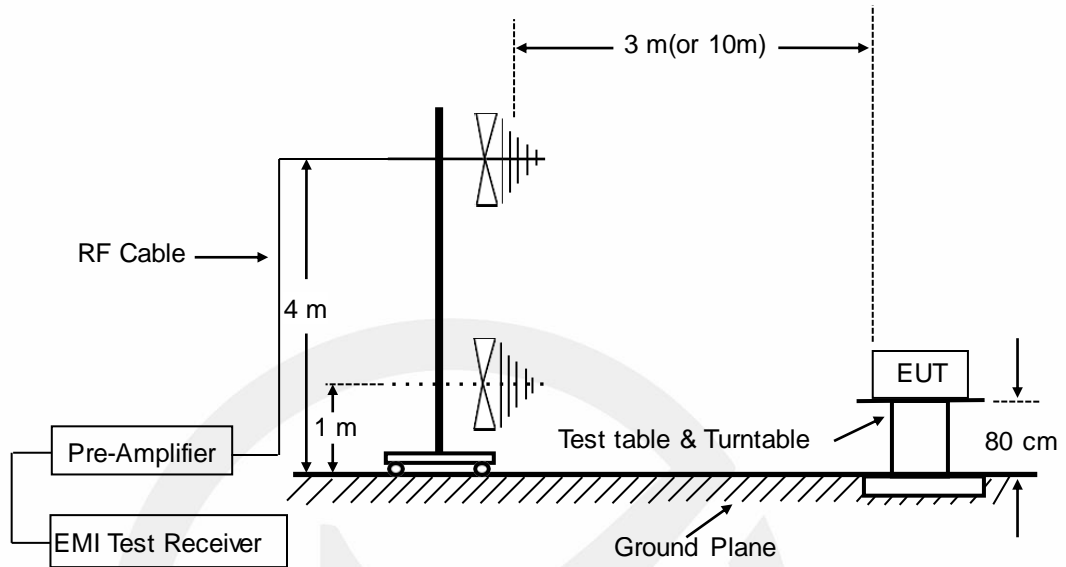
Mode: On

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1500	45.88	9.64	55.52	66.00	-10.48	QP	
2		0.1500	23.95	9.64	33.59	56.00	-22.41	AVG	
3		0.3740	36.68	9.65	46.33	58.41	-12.08	QP	
4		0.3740	27.71	9.65	37.36	48.41	-11.05	AVG	
5		1.0700	17.14	9.65	26.79	56.00	-29.21	QP	
6		1.0700	6.46	9.65	16.11	46.00	-29.89	AVG	
7		17.9140	19.31	10.10	29.41	60.00	-30.59	QP	
8		17.9140	11.19	10.10	21.29	50.00	-28.71	AVG	
9		21.6340	22.06	10.16	32.22	60.00	-27.78	QP	
10		21.6340	5.75	10.16	15.91	50.00	-34.09	AVG	
11		23.8860	18.77	10.17	28.94	60.00	-31.06	QP	
12		23.8860	14.94	10.17	25.11	50.00	-24.89	AVG	

5. RADIATED EMISSION MEASUREMENT(UP TO 1GHz)

5.1. Block Diagram of Test Setup



5.2. Radiated Limit

FCC Part 15, Subpart B, Class B

Frequency MHz	Distance Meters	Field Strengths Limit	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

5.3. Test Procedure

The EUT was placed on a non-conductive table whose total height equaled 80cm. All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units.

The EUT was set 3 meters (or 10 meters) away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.

The turntable can rotate 360 degree to determine the position of the maximum emission level.

The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.

The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

The bandwidth of the Receiver is set at 120 kHz.

Test results were obtained from the following equation:

Emission level (dB μ V/m) = Antenna Factor - Amp Factor + Cable Loss + Reading

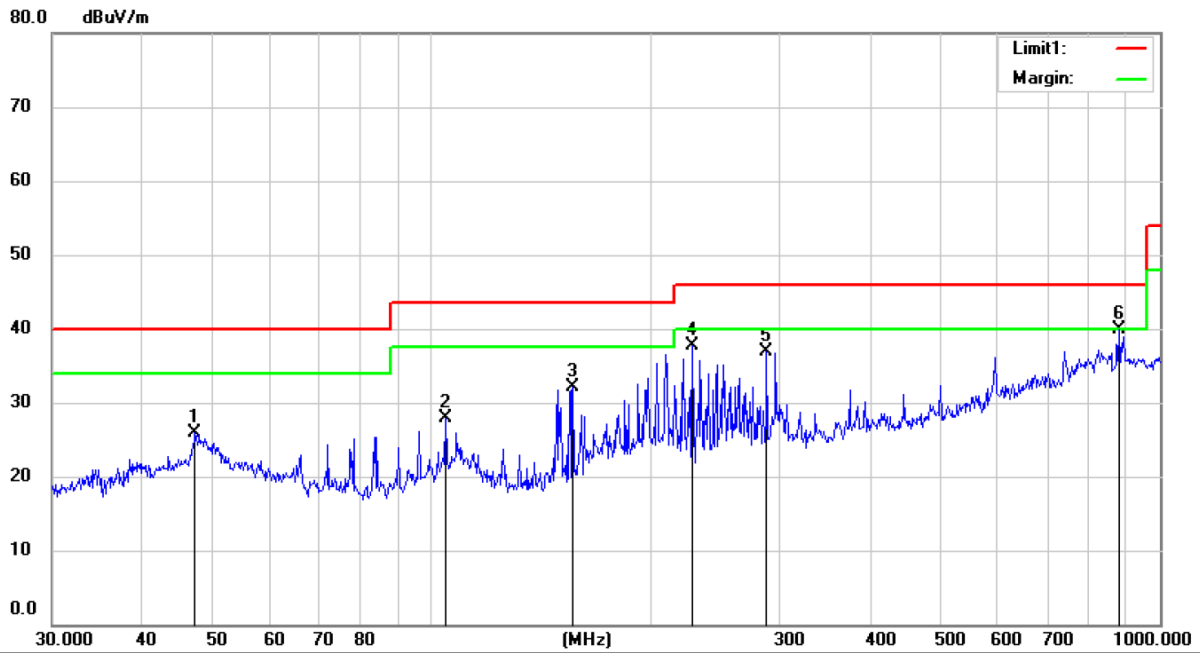
Margin (dB) = Emission Level (dB μ V/m) - Limit (dB μ V/m)

5.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.

Temperature : 22.6°C
Humidity : 49%
Atmospheric Pressure : 101kpa
Test Engineer : Zhang Songhui
Test Date : 2026-04-29



Site 3m Chamber #3

Polarization: *Horizontal*

Temperature: 22.6 C

Limit: (RE)FCC PART 15 CLASS B

Power: AC 120V/60Hz

Humidity: 49 %

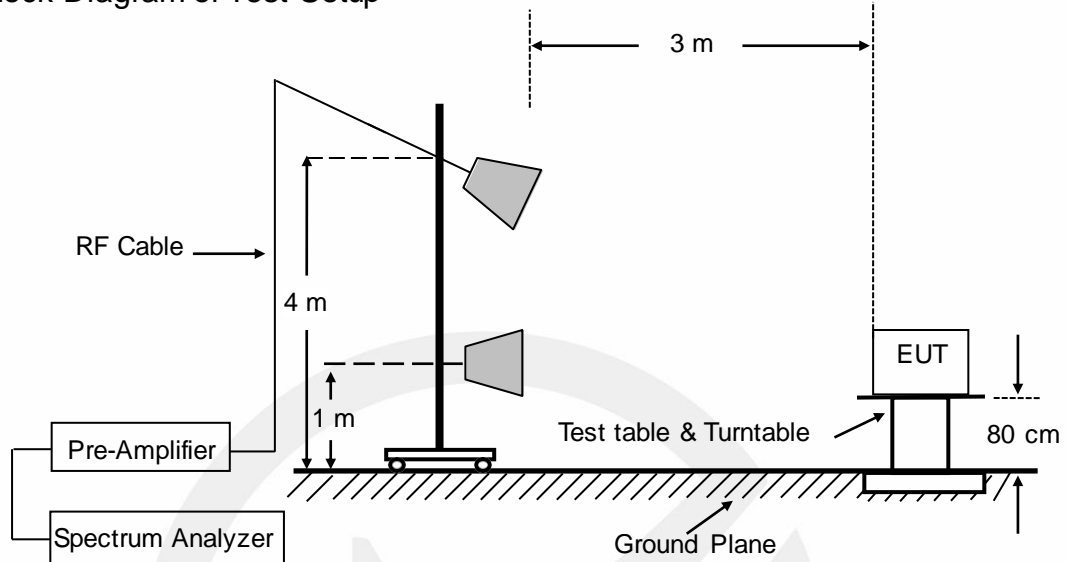
Mode: ON

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		47.2426	33.02	-7.02	26.00	40.00	-14.00	QP		
2		104.3071	36.46	-8.61	27.85	43.50	-15.65	QP		
3		156.0468	42.57	-10.40	32.17	43.50	-11.33	QP		
4		227.9902	44.48	-6.86	37.62	46.00	-8.38	QP		
5		287.9904	41.13	-4.23	36.90	46.00	-9.10	QP		
6	*	880.2484	32.34	7.58	39.92	46.00	-6.08	QP		

6. RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)

6.1. Block Diagram of Test Setup



6.2. Radiated Limit

FCC Part 15, Subpart B, Class B

Frequency range MHz	Average limit dB(μ V/m)	Peak limit dB(μ V/m)
Above 1000	54	74

Note: The highest internal source of an EUT is defined as the highest frequency generated or used in the device or on which the EUT operates or tunes. If the highest frequency of the internal sources of the EUT is less than 1.705 MHz, the measurement shall only be made up to 30 MHz. If the highest frequency of the internal sources of the EUT is between 1.705 MHz and 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.

6.3. Test Procedure

The EUT was placed on a non-conductive table whose total height equaled 80cm. All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units. Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

The EUT was set 3 meters away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.

The turntable can rotate 360 degree to determine the position of the maximum emission level.

The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.

The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

The frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with peak detector for peak values, and use RBW=1 MHz and VBW=10 Hz with peak detector for Average Values.

Test results were obtained from the following equation:

Emission level (dB μ V/m) = Antenna Factor - Amp Factor +Cable Loss + Reading

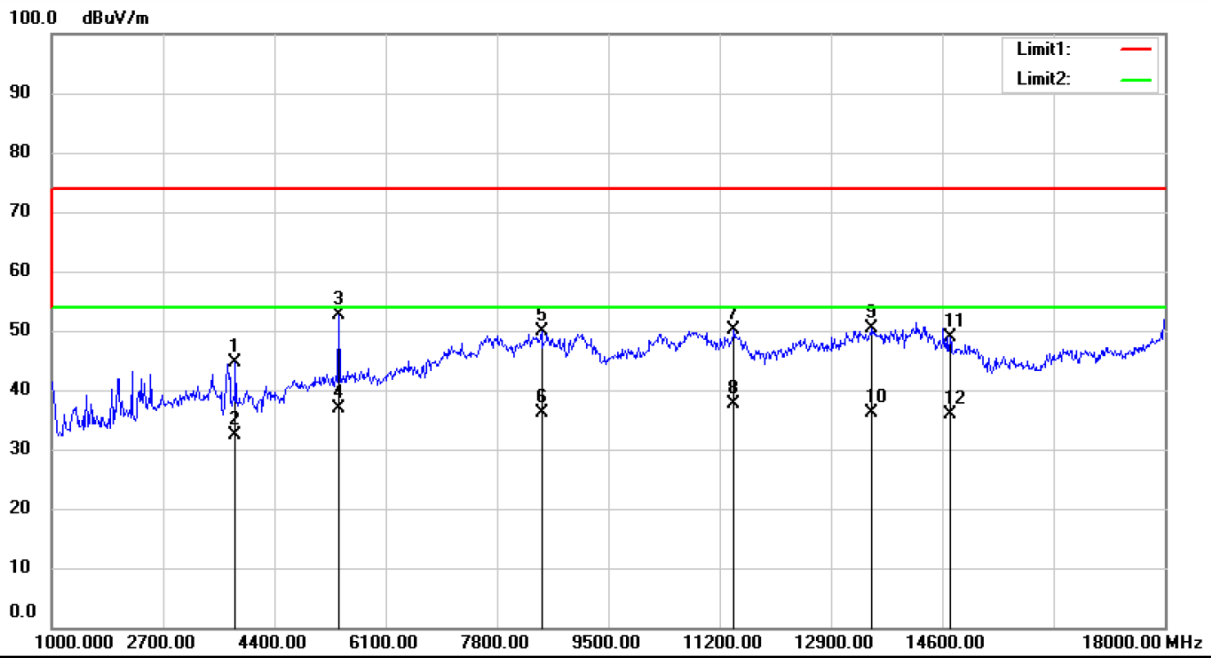
Margin (dB) = Emission Level (dB μ V/m) - Limit (dB μ V/m)

6.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.

Temperature : 24.8°C
Humidity : 51%
Atmospheric Pressure : 101kpa
Test Engineer : Zhang Songhui
Test Date : 2026-05-01



Site 3m Chamber #3

Polarization: **Horizontal**

Temperature: 24.8 C

Limit: (RE)FCC PART 15 CLASS B

Power: AC 120V/60Hz

Humidity: 51 %

Mode: ON

Note:

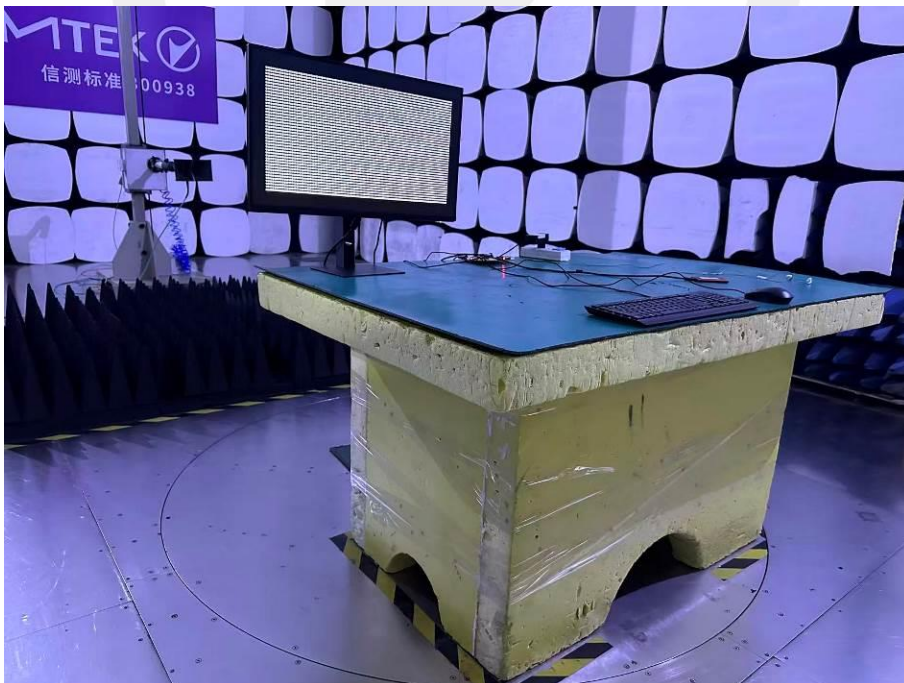
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		3813.500	64.33	-19.67	44.66	74.00	-29.34			peak
2		3813.500	52.07	-19.67	32.40	54.00	-21.60			AVG
3		5398.750	67.72	-15.20	52.52	74.00	-21.48			peak
4		5398.750	52.20	-15.20	37.00	54.00	-17.00			AVG
5		8494.875	60.19	-10.36	49.83	74.00	-24.17			peak
6		8494.875	46.56	-10.36	36.20	54.00	-17.80			AVG
7		11433.75	59.90	-9.77	50.13	74.00	-23.87			peak
8	*	11433.75	47.37	-9.77	37.60	54.00	-16.40			AVG
9		13529.00	57.70	-7.35	50.35	74.00	-23.65			peak
10		13529.00	43.45	-7.35	36.10	54.00	-17.90			AVG
11		14723.25	54.97	-6.18	48.79	74.00	-25.21			peak
12		14723.25	42.08	-6.18	35.90	54.00	-18.10			AVG

7. PHOTOGRAPHS

7.1. Photos of Conducted Emission Measurement



7.2. Photos of Radiation Emission Measurement



APPENDIX A: Label Requirements

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under part 73 of this chapter, land mobile operation under part 90 of this chapter, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



APPENDIX B: Warning Statement

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

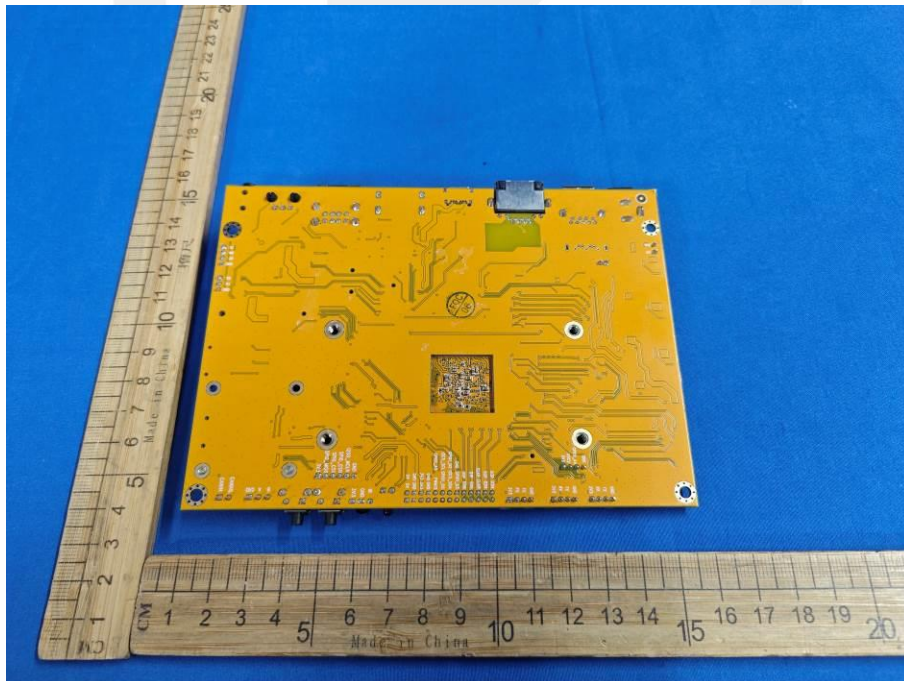
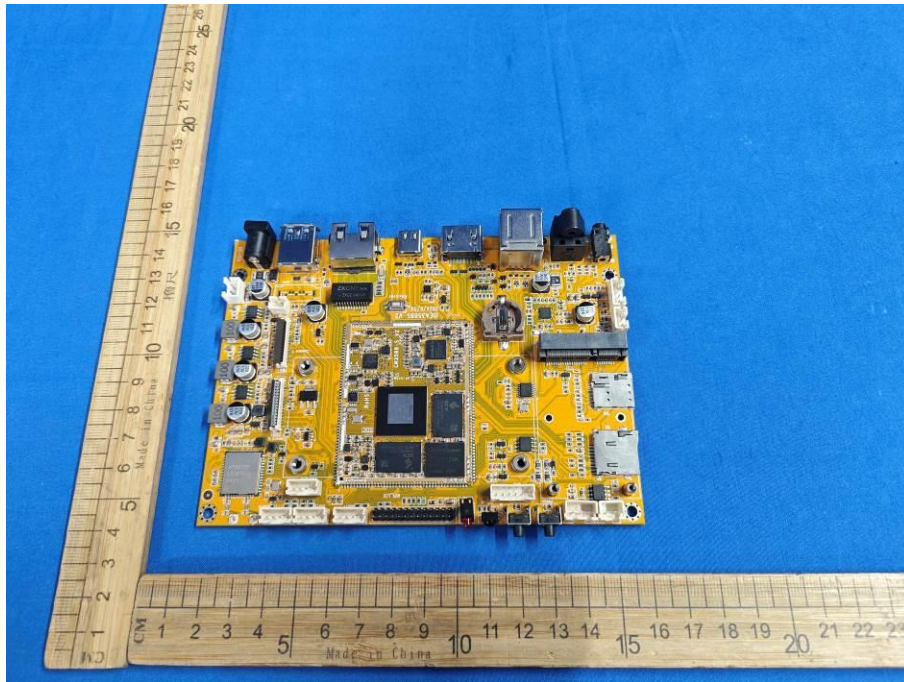
(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

APPENDIX C: Photos of EUT



*** End of Report ***

Statement

- 1 . This report is invalid without the signature of the authorized approver and "special seal for testing".
- 2 . This report shall not be copied partly without authorization.
- 3 . The test results or observations are applicable only to tested sample. Client shall be responsible for representativeness of the sample and authenticity of the material.
- 4 . The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
- 5 . The test results or observations are provided in accordance with measured value, without taking risks caused by uncertainty into account. Without explicit stipulation in special agreements, standards or regulations, EMTEK shall not assume any responsibility.
- 6 . Objections shall be raised within 20 days from the date receiving the report.