

FCC TEST REPORT

Applicant..... : Voxx Electronics Corporation

Address..... : 2365 Pontiac Road, Auburn Hills, Michigan 48326 - USA

Manufacturer..... : Nutek Corporation

Address..... : No. 167, Lane 235, Bauchiau Rd, Xindian District, New Taipei City 23145,
Taiwan

Factory..... : Nutek Corporation

Address..... : No. 167, Lane 235, Bauchiau Rd, Xindian District, New Taipei City 23145,
Taiwan

Product Name..... : BT Keypad

Brand Name..... : N/A

Model No. : 2424VD, 100-10334, BPACC

FCC ID..... : EZS2424VD

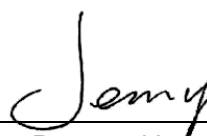
Measurement Standard..... : 47 CFR FCC Part 15, Subpart B, Class B

Receipt Date of Samples.... : December 23, 2025

Date of Tested..... : December 23, 2025 to December 29, 2025

Date of Report..... : January 20, 2026

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd., this report shall not be reproduced except in full.



Prepared by

Jenny Liu / Project Engineer



Approved by

Iori Fan / Authorized Signatory

Table of Contents

1. Summary of Test Result.....	4
2. General Description of EUT.....	5
3. Configuration of EUT	6
4. Description of Support Device	7
5. Test Facility.....	7
6. Test Conditions.....	8
7. Measurement Uncertainty	8
8. Measurement Bandwidths	8
9. Deviations and Abnormalities from Standard Conditions.....	8
10. Sample Calculations.....	9
11. Documentation Requirements.....	10
12. Conducted Emission Measurement	12
13. Radiated Emission Measurement	14
14. Measuring Devices and Test Equipment	21

Revision History

[illegible]

1. Summary of Test Result

EMISSION				
Standard	Test Clause	Test Item	Result	Remarks
47 CFR FCC Part 15, Subpart B, Class B; ANSI C63.4-2014	§15.107(a)	Conducted Emission	N/A	---
	§15.109(a)	Radiated Emission	PASS	---

Note: The device is powered by coin cell battery and cannot connect to the public low-voltage network.

2. General Description of EUT

Product Information	
Product Name:	BT Keypad
Main Model Name:	2424VD
Additional Model Name:	100-10334, BPACC
Model Difference:	All the models are identical in electrical circuit design, PCB Layout, components and internal wiring, and the difference is model name only due to trading purpose.
S/N:	Not State
Brand Name:	N/A
Hardware Version:	Not State
Software Version:	Not State
Rating:	DC 3.0V by CR 2025 coin cell battery
Classification:	Class B
Operation Frequency:	Above 108MHz
Typical arrangement:	Tabletop
I/O Port:	Refer to the user's manual
Accessories Information	
Cable:	N/A
Other:	N/A
Additional Information	
Note:	According to the model differences, all tests were performed on 2424VD.
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

3. Configuration of EUT

Description of Test Modes

Test Mode		Description
1.	Normal Working	Inset a DC 3.0V CR 2025 coil battery into the device and turn on the EUT to set it working normally.

Block Diagram of Configuration



Note:

- a. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

4. Description of Support Device

N/A

5. Test Facility

Test Site:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations:	The Laboratory has been assessed and proved to be in compliance with CNAS/CL01 Listed by CNAS, August 13, 2018 The Certificate Registration Number is L5795. The Certificate is valid until August 13, 2030 The Laboratory has been assessed and proved to be in compliance with ISO17025 Listed by A2LA, November 01, 2017 The Certificate Registration Number is 4429.01 The Certificate is valid until December 31, 2030 Listed by FCC, November 06, 2017 Test Firm Registration Number: 907417 Listed by Industry Canada, June 08, 2017 The Certificate Registration Number. Is 9743A
Test Site Location:	Room 101, 1101, Building 2, No. 61, Hongmei Section, Wangsha Road, Hongmei Town, Dongguan, Guangdong, 523000 People's Republic of China

6. Test Conditions

No.	Test Item	Test Mode	Test Voltage	Tested by	Remarks
1.	Conducted Emission	---	---	---	---
2.	Radiated Emission	1	DC 3.0V	Sean	See note 1

Note:

- The testing climatic conditions for temperature, humidity, and atmospheric pressure are within: 15~35°C, 30~60% and 86~106KPa.
- DC 3V comes from the CR2032 coin cell battery. A new Battery was used during the test.

7. Measurement Uncertainty

No.	Test Item	Frequency	Uncertainty	Remarks
1.	Conducted Emission (AC Mains)	9KHz ~ 150KHz	± 3.01 dB	---
		150KHz ~ 30MHz	± 2.46 dB	---
2.	Radiated Emission Test	30MHz ~ 1GHz	± 5.63 dB	---
		Above 1GHz	± 5.16 dB	---

Note:

- This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
- The measurement uncertainty levels above are estimated and calculated according to CISPR 16-4-2.

8. Measurement Bandwidths

No.	Frequency Range (MHz)	Peak Level (kHz)	Quasi-Peak Level (kHz)	Average Level (kHz)
1.	0.01 ~ 0.15	0.3	0.2	0.2
2.	0.15 ~ 30.0	10.0	9.0	9.0
3.	30 ~ 1000	100.0	120.0	120.0
4.	Above 1000	1000.0	N/A	1000.0

Note:

Measurements were made using the bandwidths and detectors specified by the standard. No video filter was used.

9. Deviations and Abnormalities from Standard Conditions

The EUT configurations are recommended and required by the manufacturer.

10. Sample Calculations

Conducted Emission						
Freq. (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1539	49.42	9.98	59.40	65.79	-6.39	QP

Where,

Freq. = Emission frequency in MHz

Reading Level = Spectrum Analyzer/Receiver Reading

Corrector Factor = Insertion loss of LISN + Cable Loss + RF Switching Unit attenuation

Measurement = Reading + Corrector Factor

Limit = Limit stated in standard

Margin = Measurement - Limit

Detector = Reading for Quasi-Peak / Average / Peak

Radiated Emission						
Freq. (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
285.1099	44.00	-5.80	38.20	46.00	-7.80	QP

Where,

Freq. = Emission frequency in MH

Reading Level = Spectrum Analyzer/Receiver Reading

Corrector Factor = Antenna Factor + Cable Loss - Pre-amplifier

Measurement = Reading + Corrector Factor

Limit = Limit stated in standard

Over = Margin, which calculated by Measurement - Limit

Detector = Reading for Quasi-Peak / Average / Peak

11. Documentation Requirements

Label requirements:

a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or Supplier's Declaration of Conformity shall be labeled as follows:

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, 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.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is impracticable to label it with the statement specified under paragraph (a) of this section in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

User's Manual requirements (Information to user):

(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.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If the EUT was tested with special shielded cables the operator's manual for such product shall also contain the following statements or their equipment:

Shielded interface cables and/or AC power cord, if any, must be used in order to comply with the emission limits.

12. Conducted Emission Measurement

LIMIT

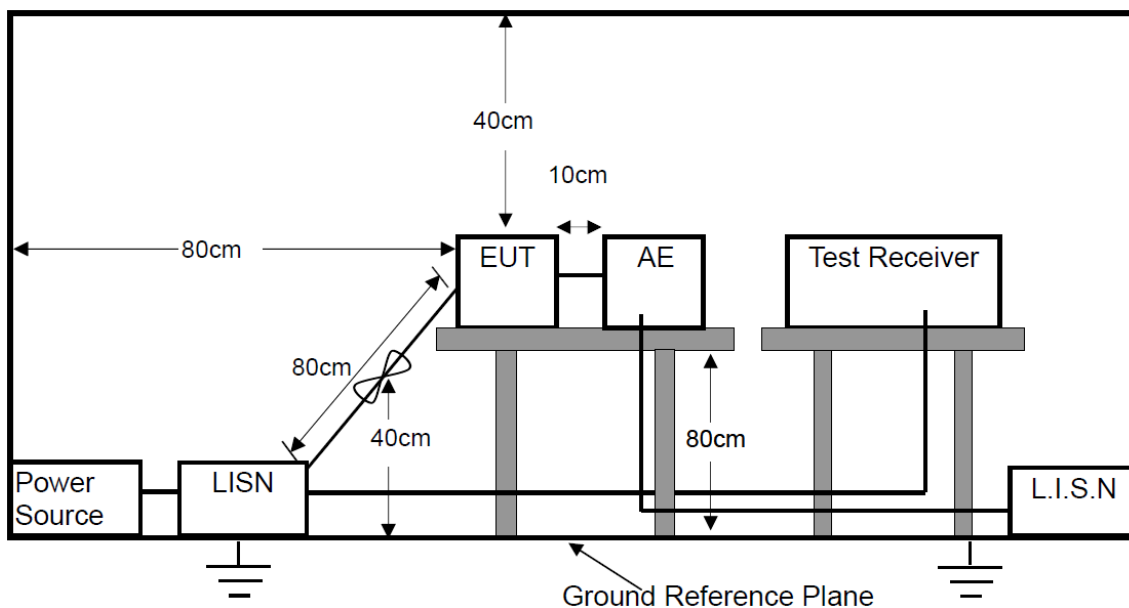
Limits for conducted disturbance for the AC mains power ports:

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 to 0.5	79	66	66 to 56	56 to 46
0.5 to 5	73	60	56	46
5 to 30	73	60	60	50

- Note:
1. If the limits for the average detector are met when using the quasi-peak detector, then the limits for the measurements with the average detector are considered to be met.
 2. The higher value measured with and without the outer conductor screen of the antenna terminal connected to earth is considered.
 3. Television receivers with teletext facilities should be tested in teletext mode with teletext Picture.
 4. The lower limit shall apply at the transition frequencies.
 5. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz.

BLOCK DIAGRAM OF TEST SETUP

Conducted Disturbance at the Mains power Ports



TEST PROCEDURES

- a. The EUT was placed on a wooden table 0.8m height from the metal ground plan and 0.4m from the conducting wall of the shielding room and it was kept at 0.8m from any other grounded conducting surface.
- b. Configure the EUT and support devices as per section 3.
- c. All I/O cables and support devices were positioned as per ANSI C63.4-2014.
- d. Connect mains power port of the EUT to a line impedance stabilization network (LISN) and wired network port to Asymmetric Artificial Network (AAN).
- e. Connect all support devices to the other LISN and AAN, if needed.
- f. Turn on the EUT and all support devices, and make it run stably.
- g. Set the detector and measurement bandwidth of test-receiver system as per ANSI C63.4-2014.
- h. Scan the frequency range from 150KHz to 30MHz at both sides of AC line for conducted interference checking
- i. Repeat the above scans in each mode and record the test data.

TEST RESULTS

Not applicable.

13. Radiated Emission Measurement

LIMITS

Below 1GHz:

Frequency range MHz	☐ Class A Field Strengths Limit		☒ Class B Field Strengths Limit	
	$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$	$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
		3m		3m
30 ~ 88	90	49.0	100	40.0
88 ~ 216	150	53.5	150	43.5
216 ~ 960	210	56.4	200	46.0
960 ~ 1000	300	59.5	500	54.0

Note:

1. Emission level $(\text{dB})\mu\text{V} = 20 \log \text{Emission level } \mu\text{V/m}$
2. The smaller limit shall apply at the cross point between two frequency bands.

Above 1GHz:

Frequency (GHz)	Measuring the distance at 3m			
	☐ Class A		☒ Class B	
	Peak $\text{dB}(\mu\text{V}/\text{m})$	Average $\text{dB}(\mu\text{V}/\text{m})$	Peak $\text{dB}(\mu\text{V}/\text{m})$	Average $\text{dB}(\mu\text{V}/\text{m})$
1-40	79.5	60	74	54

Note:

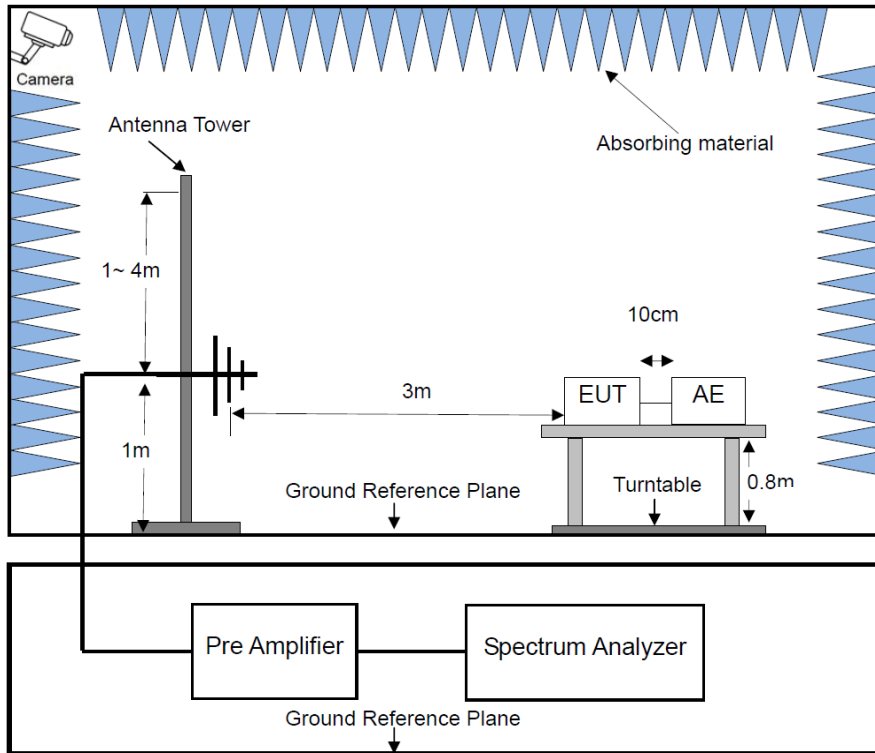
1. The smaller limit shall apply at the cross point between two frequency bands.

Required frequency range of radiated measurement (§15.33)

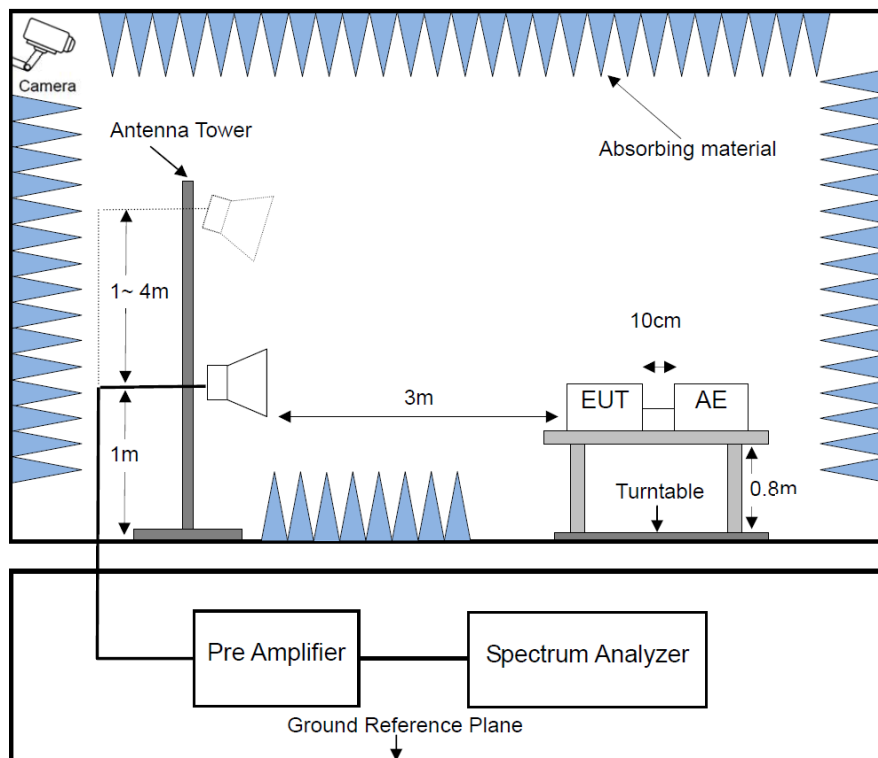
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705–108	1000
108–500	2000
500–1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, Whichever is lower.

BLOCKDIAGRAM OF TEST SETUP

Below 1GHz:



Above 1GHz:



TEST PROCEDURES

- a. The EUT was placed on a rotatable wooden table top 0.8m above ground.
- b. The EUT was set 3m away from the receiving antenna which was mounted on the top of a variable height antenna tower.
- c. Configure the EUT and support devices as per section 3.
- d. All I/O cables and support devices were positioned as per ANSI C63.4-2014.
- e. Connect mains power port of the EUT to the outlet socket under the turntable and connect all other support devices to other outlet socket under the turntable.
- f. Turn on the EUT and all support devices, and make it run stably.
- g. Set the detector and measurement bandwidth of test-receiver system as per ANSI C63.4-2014.
- h. Scan the frequency range from 30MHz to 1000MHz for radiation emissions checking.
- i. Emissions were scanned and measured rotating the EUT from 0 to 360 degrees and positioning the antenna from 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- j. Repeat the above scans in each mode and channel and record the test data.

TEST RESULTS

PASS

Please refer to the following pages.

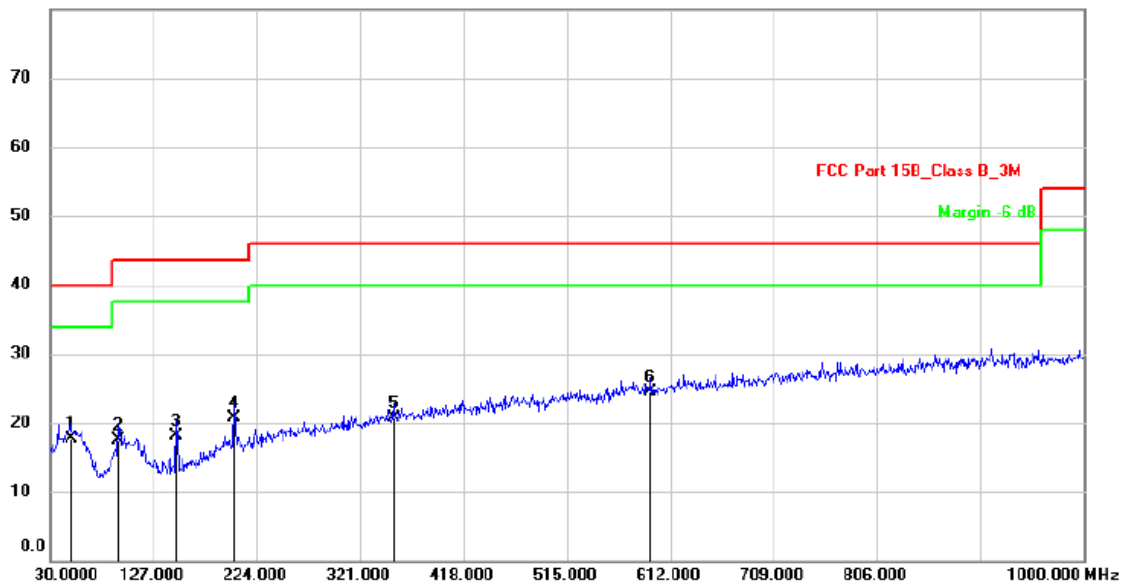
M/N: 2424VD	Testing Voltage: DC 3.0V
Polarization: Horizontal	Detector: QP
Test Mode: 1	Distance: 3m

Radiated Emission Measurement

Date: 2025/12/29

Time: 15:40:39

80.0 dBuV/m



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		49.4000	25.18	-7.38	17.80	40.00	-22.20	QP	
2		94.0199	27.92	-10.32	17.60	43.50	-25.90	QP	
3		148.3400	30.96	-12.76	18.20	43.50	-25.30	QP	
4		202.6600	30.18	-9.38	20.80	43.50	-22.70	QP	
5		352.0400	26.15	-5.35	20.80	46.00	-25.20	QP	
6	*	593.5700	25.05	-0.55	24.50	46.00	-21.50	QP	

Note 1: Other emissions are lower than 20dB below the allowable limit.

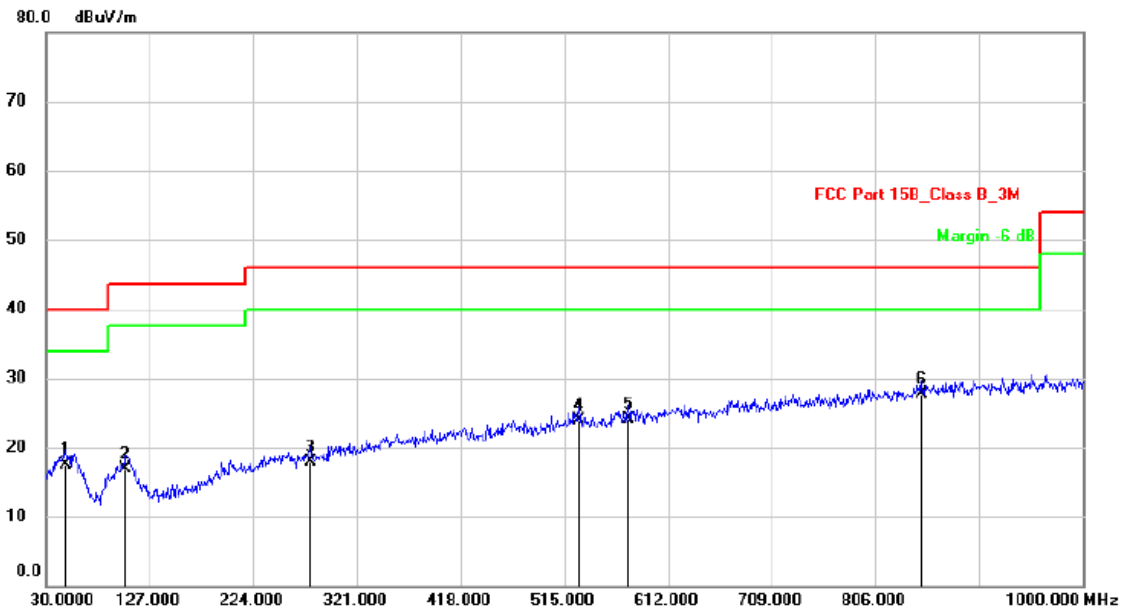
Note 2: *:Maximum data x:Over limit !:over margin

M/N: 2424VD	Testing Voltage: DC 3.0V
Polarization: Vertical	Detector: QP
Test Mode: 1	Distance: 3m

Radiated Emission Measurement

Date: 2025/12/29

Time: 15:34:54



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		48.4300	24.97	-7.37	17.60	40.00	-22.40	QP	
2		104.6900	26.42	-9.52	16.90	43.50	-26.60	QP	
3		277.3500	25.26	-7.26	18.00	46.00	-28.00	QP	
4		528.5800	25.94	-2.04	23.90	46.00	-22.10	QP	
5		575.1400	25.02	-0.92	24.10	46.00	-21.90	QP	
6	*	848.6800	24.15	3.55	27.70	46.00	-18.30	QP	

Note 1: Other emissions are lower than 20dB below the allowable limit.

Note 2: *:Maximum data x:Over limit !:over margin

M/N: 2424VD

Testing Voltage: DC 3.0V

Polarization: Horizontal

Detector: Peak & AVG

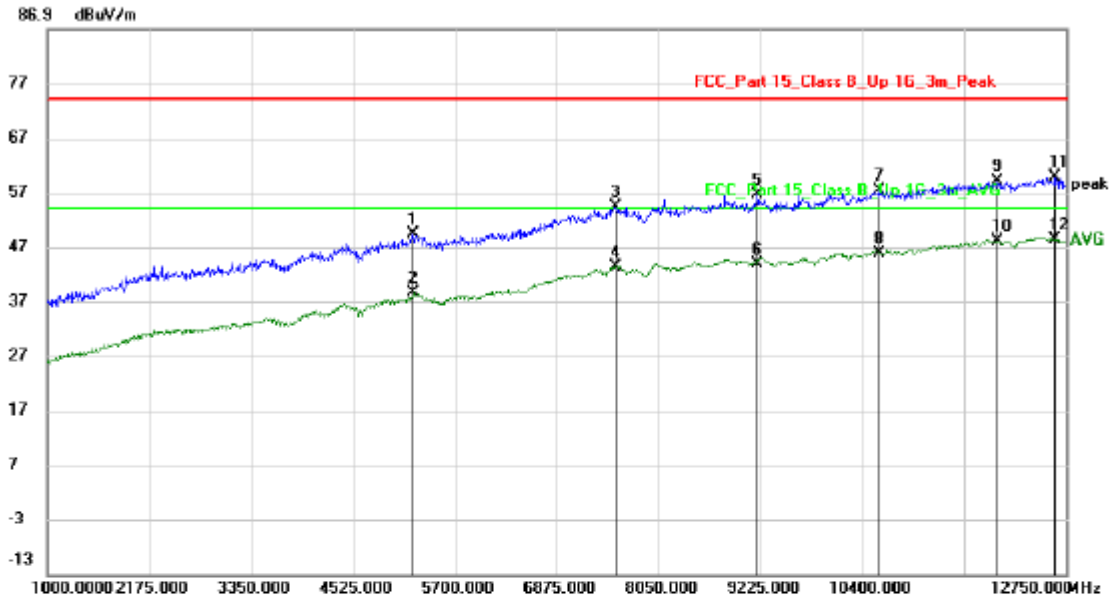
Test Mode: 1

Distance: 3m

Radiated Emission Measurement

Date: 2025/12/29

Time: 15:52:46



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		5218.250	44.75	4.57	49.32	74.00	-24.68	peak	
2		5218.250	33.85	4.57	38.42	54.00	-15.58	AVG	
3		7556.500	44.54	9.79	54.33	74.00	-19.67	peak	
4		7556.500	33.60	9.79	43.39	54.00	-10.61	AVG	
5		9189.750	46.37	10.27	56.64	74.00	-17.36	peak	
6		9189.750	33.63	10.27	43.90	54.00	-10.10	AVG	
7		10599.750	45.15	12.12	57.27	74.00	-16.73	peak	
8		10599.750	33.68	12.12	45.80	54.00	-8.20	AVG	
9		11962.750	45.34	13.62	58.96	74.00	-15.04	peak	
10		11962.750	34.35	13.62	47.97	54.00	-6.03	AVG	
11		12620.750	45.51	14.38	59.89	74.00	-14.11	peak	
12	*	12620.750	33.92	14.38	48.30	54.00	-5.70	AVG	

Note 1: Other emissions are lower than 20dB below the allowable limit.

Note 2: *:Maximum data x:Over limit !:over margin

M/N: 2424VD

Testing Voltage: DC 3.0V

Polarization: Vertical

Detector: Peak & AVG

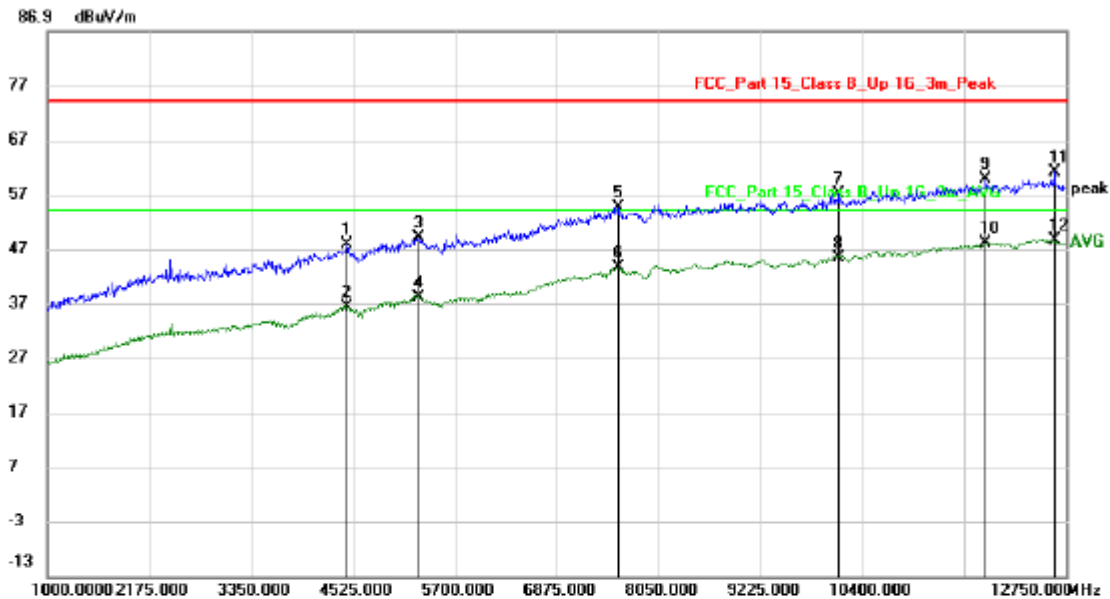
Test Mode: 1

Distance: 3m

Radiated Emission Measurement

Date: 2025/12/29

Time: 15:46:30



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4454.500	44.96	2.89	47.85	74.00	-26.15	peak	
2		4454.500	33.39	2.89	36.28	54.00	-17.72	AVG	
3		5288.750	44.56	4.57	49.13	74.00	-24.87	peak	
4		5288.750	33.38	4.57	37.95	54.00	-16.05	AVG	
5		7591.750	44.78	9.72	54.50	74.00	-19.50	peak	
6		7591.750	33.90	9.72	43.62	54.00	-10.38	AVG	
7		10118.000	46.01	11.11	57.12	74.00	-16.88	peak	
8		10118.000	34.28	11.11	45.39	54.00	-8.61	AVG	
9		11821.750	46.08	13.59	59.67	74.00	-14.33	peak	
10		11821.750	34.48	13.59	48.07	54.00	-5.93	AVG	
11		12609.000	46.70	14.38	61.08	74.00	-12.92	peak	
12	*	12609.000	34.04	14.38	48.42	54.00	-5.58	AVG	

Note 1: Other emissions are lower than 20dB below the allowable limit.

Note 2: *:Maximum data x:Over limit !:over margin

14. Measuring Devices and Test Equipment

☐ For Conducted Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	101152	Aug. 21, 2025	1 Year
2.	L.I.S.N	Rohde & Schwarz	ENV 216	101317	Aug. 21, 2025	1 Year
3.	L.I.S.N	Schwarzbeck	NNLK8129	00558	Aug. 23, 2025	1 Year
4.	RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Aug. 21, 2025	1 Year
5.	Test Software	EZ	EZ EMC, NTC-3A1.1	N/A	N/A	N/A
6.	Pluse limiter	EM	PL00903	2409	Aug. 28, 2025	1 Year
7.	L.I.S.N	MTRAC	PWL-50-3200 A	2405	Aug. 23, 2025	1 Year
8.	PV L.I.S.N	Schwarzbeck	PVDC8301	00148	Aug. 22, 2025	1 Year

☒ For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESRP	102505	Aug. 21, 2025	1 Year
2.	Spectrum Analyzer	Keysight	N9010B	MY62170254	Aug. 21, 2025	1 Year
3.	Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 22, 2025	2 Year
4.	Loop Antenna	Schwarzbeck	FMZB 1513	1513-272	Aug. 16, 2025	2 Year
5.	Horn Antenna	COM-Power	AH-118	071078	Aug. 16, 2025	2 Year
6.	Pre-Amplifier	HP	HP 8447D	2944A08219	Aug. 22, 2025	1 Year
7.	Pre-Amplifier	Agilent	8449B	3008A02301	Aug. 23, 2025	1 Year
8.	Chamber	YIHENG	9*6*6m	N/A	Sep. 22, 2025	2 Year
9.	Test Software	EZ	EZ EMC, NTC-3A1.1	N/A	N/A	N/A
10.	CDN	KEHUAN	KH3663E	366330847	Aug. 21, 2025	1 Year

---End---