

TEST REPORT

EMC Test for WSP-MC460

APPLICANT
WOOSIM SYSTEMS INC.

REPORT NO.
HCT-EM-2603-FC004-R1

DATE OF ISSUE
March 27, 2026

Tested by
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Technical Manager
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TEST REPORT

FCC Certification

REPORT NO.

HCT-EM-2603-FC004-R1

DATE OF ISSUE

March 27, 2026

FCC ID.

QDDWSP-MC460

Applicant**WOOSIM SYSTEMS INC.**

60, Sandan-ro 388beon-gil, Galsan-myeon, Hongseong-gun,
Chungcheongnam-do, Republic of Korea

Product Name

4INCH MOBILE PRINTER

Model Name

WSP-MC460

Date of Test

February 19, 2026 to March 10, 2026
March 24, 2026

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing Lab
(Address: See clause 1.2)

Test Standard Used

FCC CFR 47 PART 15 Subpart B Class B
ANSI C63.4-2014

Test Results

Refer to the present document

Manufacturer

WOOSIM SYSTEMS INC.

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	March 11, 2026	Initial Release
1	March 27, 2026	Additional test was performed. (Added the IC Reading mode)

Notice

Content

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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1. TESTING LABORATORY

1.1 General Information

Organization Name	HCT Co., Ltd.
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Telephone	+82 31 645 6300
FAX	+82 31 645 6401

1.2 Location of the Test Site

The test site is located at the following address.;

Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
Telephone	+82 31 645 6300
FAX	+82 31 645 6401

2. GENERAL INFORMATION

2.1 Description of EUT

FCC ID.	QDDWSP-MC460
Product Name	4INCH MOBILE PRINTER
Model Name	WSP-MC460
Frequency Range	Bluetooth: 2 402 MHz ~ 2 480 MHz
Rated Power	Rating: DC 5 V, 2 A Battery: DC 7.2 V, 3000 mAh
Manufacturer	WOOSIM SYSTEMS INC.

2.2 Power Source

During the test, the following power supply levels are utilized/provided.;

Power supply: AC 120 V, 60 Hz / DC 7.2 V (Battery)

2.3 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Serial Number	Manufacturer
4INCH MOBILE PRINTER (EUT)	WSP-MC460	-	WOOSIM SYSTEMS INC.
AC/DC Adapter	P12DUSB050200 EK	-	Something High Electric (Xiamen) Company Inc.
Notebook PC	NT550XEZ	-	SAMSUNG Electronics Co., Ltd.
Notebook PC Adapter	EP-TA845 001	-	SOLUM VINA COMPANY LIMITED
AP	DIR-806M	-	D-Link
AP Adapter	EP-TA200 003	-	Dongyang E&P
MOUSE	MS116c	-	DELL
IC Card	-	-	-

NOTE1. The AC/DC adapter is not included in the box with the EUT.
INPUT: 100~240 VAC, 50/60 Hz, 0.3 A
OUTPUT: 5.0 VDC, 2.0 A

NOTE2. A USB Type-C to Type-A cable is included in the box, and a ferrite core is applied near the USB Type-C connector (EUT end) of the cable at the manufacturer's request.

*. Cable Name: 49-04122

*. Manufacturer: Something High Electric Company Inc.



2.4 Cable Description

[USB+Print+Cutting Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C	Y	Y	(D) 1.2
Notebook PC	USB Type C	Y	N/A	(P) 1.8
	USB Type A	N/A	N	(D) 1.8
	LAN	N/A	N	(D) 1.5
AP	Micro USB	Y	N/A	(P) 1.5

[Charging Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C	Y	N/A	(P) 1.2

[Bluetooth Idle Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	-	-	-	-

[IC Reading Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C	Y	Y	(D) 1.2
	Card Slot	N/A	N/A	-
Notebook PC	USB Type C	Y	N/A	(P) 1.8
	USB Type A	N/A	N	(D) 1.8
	LAN	N/A	N	(D) 1.5
AP	Micro USB	Y	N/A	(P) 1.5

(D) Data cable, (P) Power cable

2.5 Noise Suppression Parts on Cable (I/O Cable)

[USB+Print+Cutting Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C	Y	EUT End	Y	Both End
Notebook PC	USB Type C	N	N/A	Y	Both End
	USB Type A	N	N/A	Y	Notebook End
	LAN	N	N/A	N	N/A
AP	Micro USB	N	N/A	Y	Both End

[Charging Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C	Y	EUT End	Y	Both End

[Bluetooth Idle Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	-	N/A	N/A	N/A	N/A

[IC Reading Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C	Y	EUT End	Y	Both End
	Card Slot	N/A	N/A	N/A	N/A
Notebook PC	USB Type C	N	N/A	Y	Both End
	USB Type A	N	N/A	Y	Notebook End
	LAN	N	N/A	N	N/A
AP	Micro USB	N	N/A	Y	Both End

3. DESCRIPTION OF TEST

3.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).

If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).

Other support units were connected to the power mains through another LISN.

The two LISNs provide $50\ \Omega$ / $50\ \mu\text{H}$ of coupling impedance for the measuring instrument.

b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.

c. The frequency ranges from 150 kHz to 30 MHz was searched.

Conducted Emission Limits

Frequency (MHz)	Class A Quasi-Peak (dB μV)	Class A Average (dB μV)	Class B Quasi-Peak (dB μV)	Class B Average (dB μV)
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. The more stringent limit applies at transition frequencies.

[*] The limit level in dB μV decreases linearly with the logarithm of frequency.

3.2 Antenna Conducted Power Measurements

The test procedure was in accordance with ANSI C63.4-2014, Clause 12.2.6.

Antenna-conducted power measurements shall be performed on each broadcast reception tuner input in accordance with the requirements of the applicable regulatory authority. For example, see 47 CFR paragraph 15.111 and ANSI C63.4 paragraph 12.1.5 and Appendix H5 (test method) with the following clarifications:

- a. With the TV tuned to each channel [e.g., channel 2 to channel 69], the level of the local oscillator frequency and the second harmonic shall be measured and recorded for each tuner.
- b. Antenna-conducted power measurements shall be performed with the EUT antenna terminals connected directly to either a spectrum analyzer or another measurement instrument conforming to ANSI C63.2 or CISPR 16-1 or the latest revision thereof, if the antenna impedance matches the impedance of the measuring instrument.

Otherwise, use a balun or impedance-matching network to connect the measuring instrument to the antenna terminals of the EUT. Manufacturer-supplied interconnect cabling or wiring shall be used, or if none is supplied, the cable shall be commercially available and a maximum of 2 m in length. Losses in decibels in any balun or impedance-matching network used shall be added to the measured value in dB μ V.

Antenna Conducted Power Emission Limits

Frequency (MHz)	Limits (dB μ V)	
	Quasi-Peak	Peak
30 to 1 000	51.7	-
1 000 to 2 150	-	51.7

3.3 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 8.3

- a. The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi-anechoic chamber.
The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- g. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. (1 GHz to 40 GHz)

Radiated Emission Limits

Frequency (MHz)	Class A			Class B		
	Antenna Distance (m)	Field Strength ($\mu\text{V/m}$)	Quasi-Peak (dB $\mu\text{V/m}$)	Antenna Distance (m)	Field Strength ($\mu\text{V/m}$)	Quasi-Peak (dB $\mu\text{V/m}$)
30 to 88	10	90	39.0	3	100	40.0
88 to 216	10	150	43.5	3	150	43.5
216 to 960	10	210	46.4	3	200	46.0
Above 960	10	300	49.5	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Class A		Class B		
		Peak (dB $\mu\text{V/m}$)	Average (dB $\mu\text{V/m}$)	Peak (dB $\mu\text{V/m}$)	Average (dB $\mu\text{V/m}$)	
Above 1 000	3	80	60	74	54	

Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

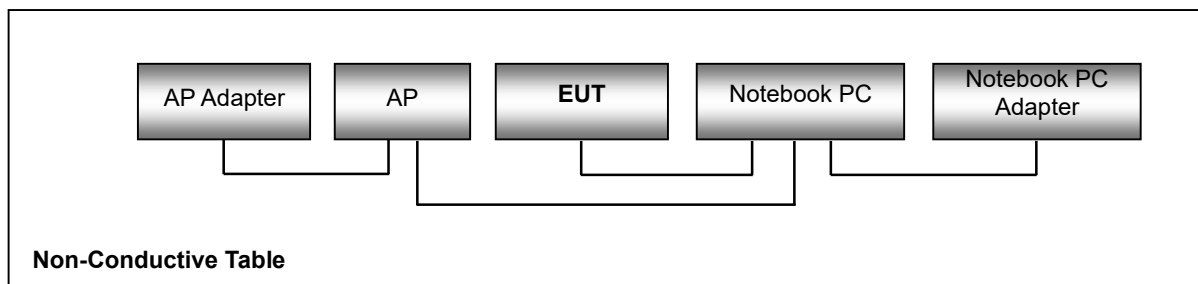
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

3.4 Configuration of Tested System

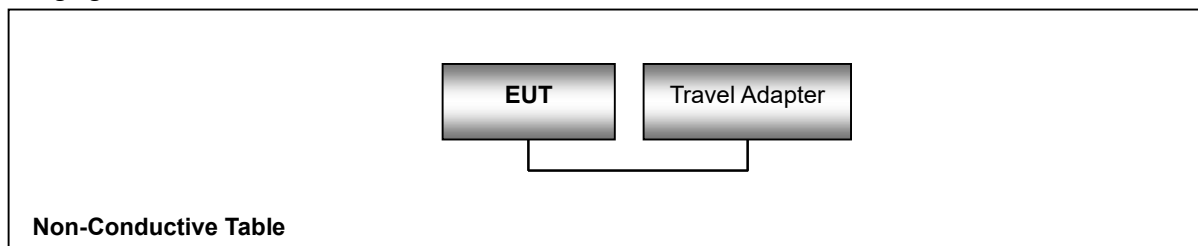
The EUT was configured in the following manner.

At the request of the manufacturer, the configuration of the tests was arranged.

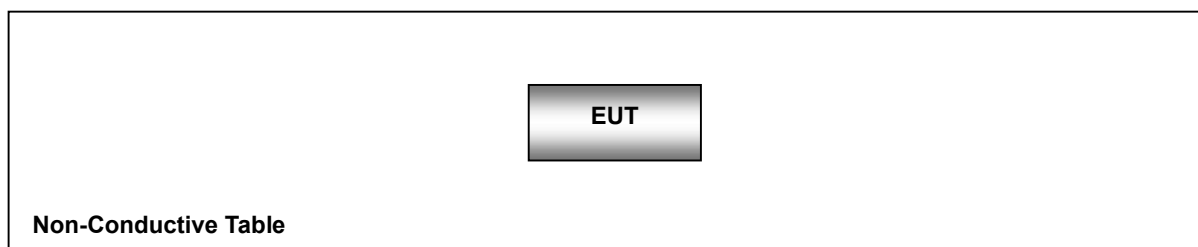
[USB+Print+Cutting Mode]



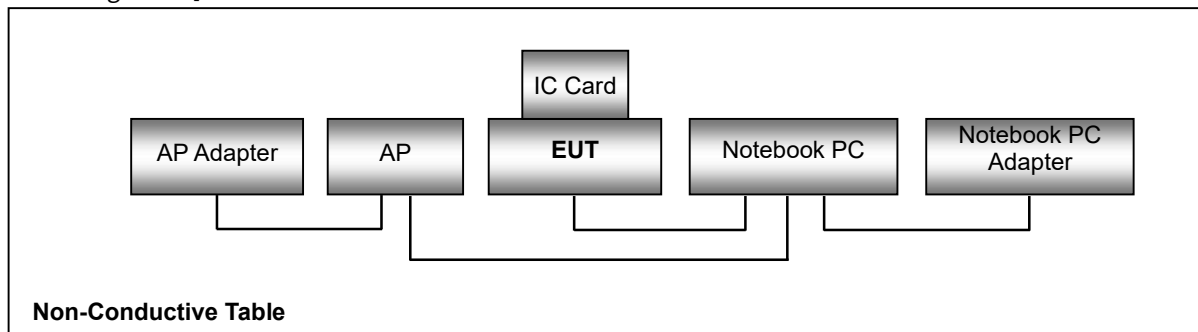
[Charging Mode]



[Bluetooth Idle Mode]



[IC Reading Mode]



3.5 Operation of EUT

During the preliminary and final tests, the following operating mode was investigated.

The following operating mode was tested after connecting all peripheral devices.

USB+Print+Cutting Mode

The EUT was connected to a PC via a USB cable, and the software provided by the manufacturer was executed to keep the EUT in a printing and cutting operation during the test.

Charging Mode

According to the user manual, the EUT is powered off and charges its internal battery through the AC/DC adapter.

Bluetooth Idle Mode

The EUT was powered on and remained in an idle mode.

IC Reading Mode

The EUT was connected to a PC via a USB cable, and the software provided by the manufacturer was executed to keep the EUT in IC card reading operation during the test.

4. TEST SITES CONDITIONS

4.1 Test Facility

The SAC (Semi Anechoic Chamber) and conducted measurement facilities used for collecting radiated data were constructed in accordance with the requirements of ANSI C63.4-2014 + C63.4a-2017.

Our laboratories are accredited and designated in accordance with the provisions of Radio Waves ACT and International Standard ISO/IEC 17025:2017. (National Radio Research Agency, CABID No. KR0032)

4.2 Measuring Instrument Calibration

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017.

4.3 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the UCISPR measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Phenomenon	Test Site (Chamber)	Expanded Uncertainty	
Conducted Emission	EMI Shield Room	2.0 dB	
Antenna Conducted Power Emission	EMI Shield Room	N/A	
Radiated emission	3 m Semi Anechoic Chamber #1	30 MHz to 1 GHz	5.1 dB
	3 m Semi Anechoic Chamber #1	1 GHz to 18 GHz	4.8 dB
	3 m Semi Anechoic Chamber #1	18 GHz to 40 GHz	N/A

4.4 Decision Rules and Statements of Conformity

Simple Acceptance

5. MEASURING EQUIPMENT

Type	Model Name	Manufacturer	Serial Number	Cal. Cycle	Next Cal. Date (yy.mm.dd)
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Conducted emission

☒	EMI Test Receiver	ESR7	ROHDE&SCHWARZ	101910	1 year	2026.08.20
☒	LISN	ENV216	ROHDE&SCHWARZ	102245	1 year	2026.07.15
☒	LISN	ENV216	ROHDE&SCHWARZ	100073	1 year	2026.04.29
☒	Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

Antenna conducted power emission

☐	EMI Test Receiver	ESCI	ROHDE&SCHWARZ	100584	1 year	2026.05.07
☐	Impedance Matching Pad	PE7070	PASTERNAK	5	1 year	2027.01.07
☐	Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

Radiated emission up to 1 GHz

☒	EMI Test Receiver	ESW44	ROHDE&SCHWARZ	101946	1 year	2026.11.04
☒	Bilog Antenna	VULB9168	Schwarzbeck	255	2 year	2027.02.27
☒	Antenna Mast	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒	Antenna master controller	CO3000	INNCO SYSTEM	-	N/A	-
☒	Turn Table	DS2000-S	INNCO SYSTEM	-	N/A	-
☒	Turn Table controller	CO3000	INNCO SYSTEM	-	N/A	-
☒	Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

Type	Model Name	Manufacturer	Serial Number	Cal. Cycle	Next Cal. Date (yy.mm.dd)
Radiated emission above 1 GHz					
☒ EMI Test Receiver	ESW44	ROHDE&SCHWARZ	101946	1 year	2026.11.04
☒ Horn Antenna	HF907	ROHDE&SCHWARZ	103160	1 year	2026.10.14
☒ Power Amplifier	TK-PA18H	TESTEK	170034-L	1 year	2026.10.02
☐ Horn Antenna	BBHA 9170	Schwarzbeck	BBHA9170 #786	1 year	2026.10.27
☐ Power Amplifier	TK-PA1840H	TESTEK	170030-L	1 year	2026.10.27
☒ Antenna Mast	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒ Antenna master controller	CO3000	INNCO SYSTEM	CO3000/870 /35990515/L	N/A	-
☒ Turn Table	DS2000-S	INNCO SYSTEM	-	N/A	-
☒ Turn Table controller	CO3000	INNCO SYSTEM	-	N/A	-
☒ Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

6. EMISSION TEST SUMMARY

6.1 Conducted Emission

6.1.1 Operating Conditions

The test results of conducted emission at mains ports provide the following information:

Date of Test (yy.mm.dd)	2026.02.19 / 2026.03.24		
Temperature	min. 18.6 °C	Relative Humidity	min. 28.5 %
	max. 25.2 °C		max. 37.1 %
Test Site	EMI Shield Room		
Test Standard Used	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014		
Frequency Range	0.15 MHz to 30 MHz		
Detector / Bandwidth	Quasi-Peak, CISPR-Average / 9 kHz (6 dB)		
Operating Mode	USB+Print+Cutting Mode Charging Mode IC Reading Mode		
Test Result	PASS		

A disturbance voltage is calculated by the following equation:

$$A = B + C$$

Where

A: QuasiPeak or CAverage in dBμV

B: Meter reading in dBμV

C: Corr. in dB (Cable loss + LISN factor)

Margin in dB: Limit - A

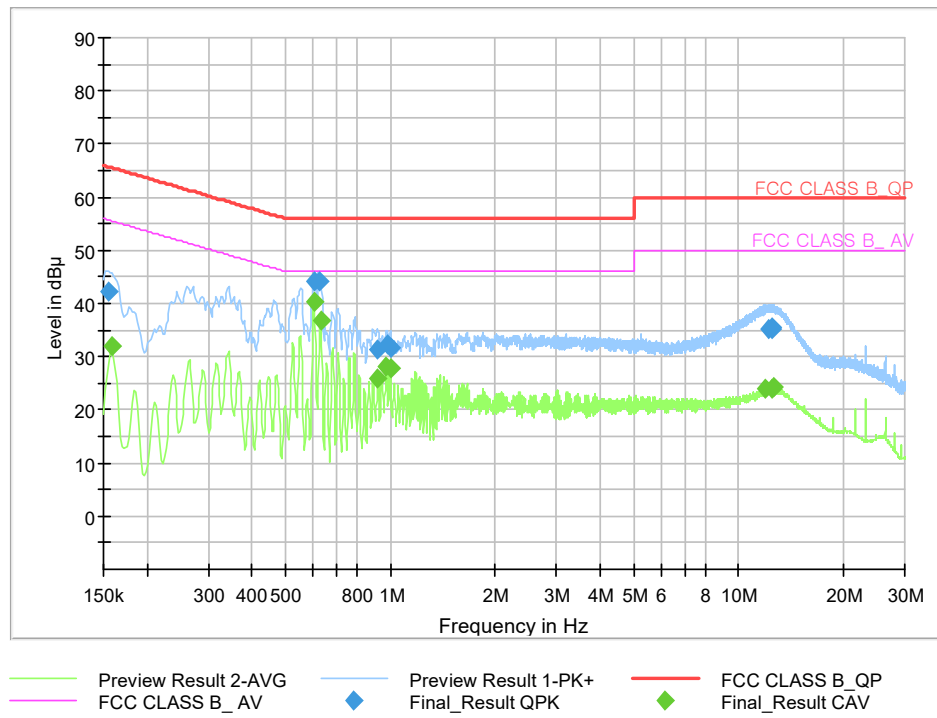
If it's an AC mains cable, the readings includes both Live (L1) and Neutral (N).

The measurements for both Live (L1) and Neutral (N) from the LISN are combined into a single graph.

6.1.2 Measurement Data

[Charging Mode]

Full Spectrum



[QuasiPeak]

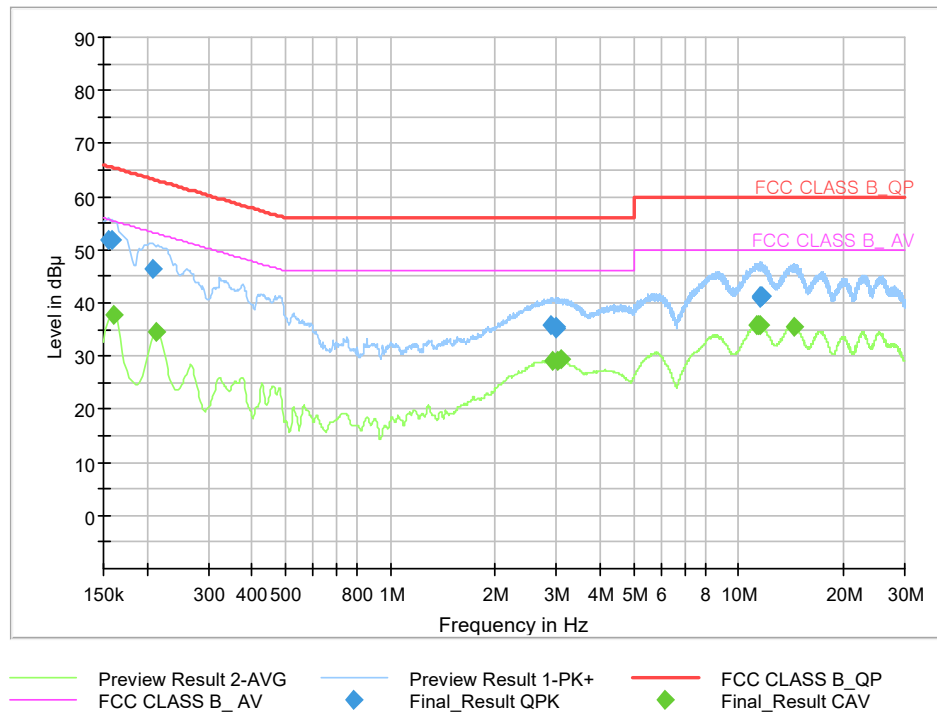
Frequency [MHz]	QuasiPeak [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1545	42.23	9.7	N	23.52	65.75
0.6080	44.07	9.7	N	11.93	56.00
0.6260	44.23	9.7	N	11.77	56.00
0.9163	31.49	9.8	N	24.51	56.00
0.9770	32.25	9.8	N	23.75	56.00
1.0040	31.79	9.8	N	24.21	56.00
12.2090	35.31	10.2	N	24.69	60.00
12.4138	35.29	10.3	N	24.71	60.00
12.4183	35.58	10.3	N	24.42	60.00

[CAverage]

Frequency [MHz]	CAverage [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1590	31.84	9.7	N	23.68	55.52
0.6035	40.18	9.7	N	5.82	46.00
0.6305	36.82	9.7	N	9.18	46.00
0.9208	25.97	9.8	N	20.03	46.00
0.9748	28.09	9.8	N	17.91	46.00
0.9995	27.81	9.8	N	18.19	46.00
11.9098	23.87	10.2	N	26.13	50.00
12.4183	23.95	10.3	N	26.05	50.00
12.6005	24.23	10.3	N	25.77	50.00

[USB+Print+Cutting Mode]

Full Spectrum



[QuasiPeak]

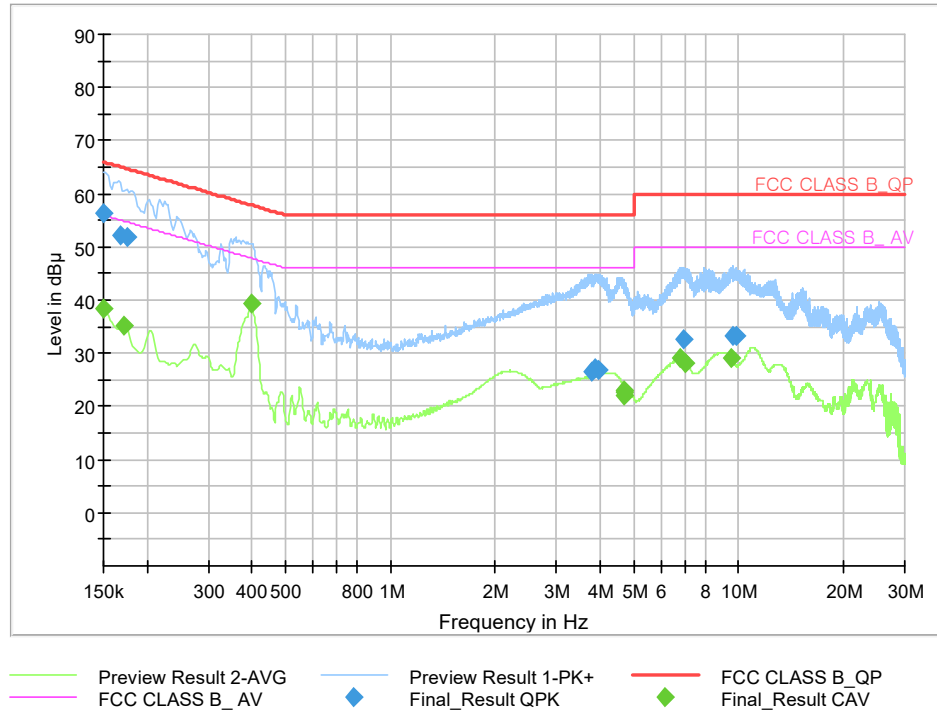
Frequency [MHz]	QuasiPeak [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1545	51.90	9.8	L1	13.85	65.75
0.1590	51.95	9.8	L1	13.57	65.52
0.2085	46.48	9.7	N	16.79	63.27
2.9053	35.98	9.8	N	20.02	56.00
2.9773	35.55	9.8	N	20.45	56.00
3.0020	35.31	9.8	N	20.69	56.00
11.4845	41.32	10.2	N	18.68	60.00
11.5408	41.09	10.2	N	18.91	60.00
11.5970	41.14	10.2	N	18.86	60.00

[CAverage]

Frequency [MHz]	CAverage [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1613	37.91	9.7	N	17.49	55.40
0.2130	34.70	9.7	N	18.39	53.09
2.9390	29.16	9.8	N	16.84	46.00
3.0178	29.25	9.8	N	16.75	46.00
3.0785	29.33	9.8	N	16.67	46.00
11.3270	35.96	10.2	N	14.04	50.00
11.3585	35.96	10.2	N	14.04	50.00
11.4665	35.84	10.2	N	14.16	50.00
14.4253	35.66	10.3	N	14.34	50.00

[IC Reading Mode]

Full Spectrum



[QuasiPeak]

Frequency [MHz]	QuasiPeak [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1500	56.46	9.8	L1	9.54	66.00
0.1680	52.13	9.7	N	12.93	65.06
0.1748	51.93	9.8	L1	12.80	64.73
3.8030	26.52	9.9	N	29.48	56.00
3.8863	27.05	9.9	N	28.95	56.00
3.9560	27.01	9.9	N	28.99	56.00
6.9710	32.78	10.0	N	27.22	60.00
9.6688	33.21	10.1	L1	26.79	60.00
9.8510	33.33	10.1	N	26.67	60.00

[CAverage]

Frequency [MHz]	CAverage [dBμV]	Corr. [dB]	Line	Margin [dB]	Limit [dBμV]
0.1500	38.35	9.7	N	17.65	56.00
0.1725	35.23	9.7	N	19.61	54.84
0.3975	39.21	9.8	L1	8.69	47.91
4.6670	21.95	9.9	N	24.05	46.00
4.6940	22.70	9.9	N	23.30	46.00
4.7008	23.00	9.9	N	23.00	46.00
6.8203	29.25	10.0	L1	20.75	50.00
7.0408	28.23	10.1	L1	21.77	50.00
9.4933	29.26	10.1	N	20.74	50.00

6.2 Antenna Conducted Power Emission (Not Applicable)

6.2.1 Operating Condition

The test results of antenna conducted power emission provide the following information.;

Date of Test (yy.mm.dd)	---				
Temperature	min.	°C	Relative Humidity	min.	%
	max.	°C		max.	%
Test Site	EMI Shield Room				
Test Method Used	ANSI C63.4-2014				
Frequency Range	30 MHz to 2150 MHz				
Detector / Bandwidth	For frequencies ≤ 1 GHz: Quasi-peak / 120 kHz For frequencies ≥ 1 GHz: Peak / 1 MHz				
Operating Mode	---				
Test Result	---				

NOTE. This test is not applicable because the EUT does not have tuner ports.

6.2.2 Measurement Data

Not applicable

6.3 Radiated Emission up to 1 GHz

6.3.1 Operating Condition

The test results of radiated emission provide the following information:

Date of Test (yy.mm.dd)	2026.03.10 / 2026.03.24		
Temperature	min. 17.8 °C	Relative Humidity	min. 30.4 %
	max. 25.1 °C		max. 37.5 %
Test Site	3 m Semi Anechoic Chamber #1		
Used Test Standard	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014		
Frequency Range	30 MHz to 1 000 MHz		
Detector / Bandwidth	Quasi-Peak / 120 kHz (6 dB)		
Measurement Distance	3 m		
Antenna Height	1 m to 4 m		
Antenna Polarity	Horizontal, Vertical		
Operating Mode	USB+Print+Cutting Mode Charging Mode Bluetooth Idle Mode IC Reading Mode		
Test Result	PASS		

A field strength is calculated by the following equation.;

$$A = B + C$$

Where

A: Field strength (Quasi Peak) in dBμV/m

B: Meter reading in dBμV/m

C: Corr. in dB (Cable loss + Antenna factor - Amplifier gain)

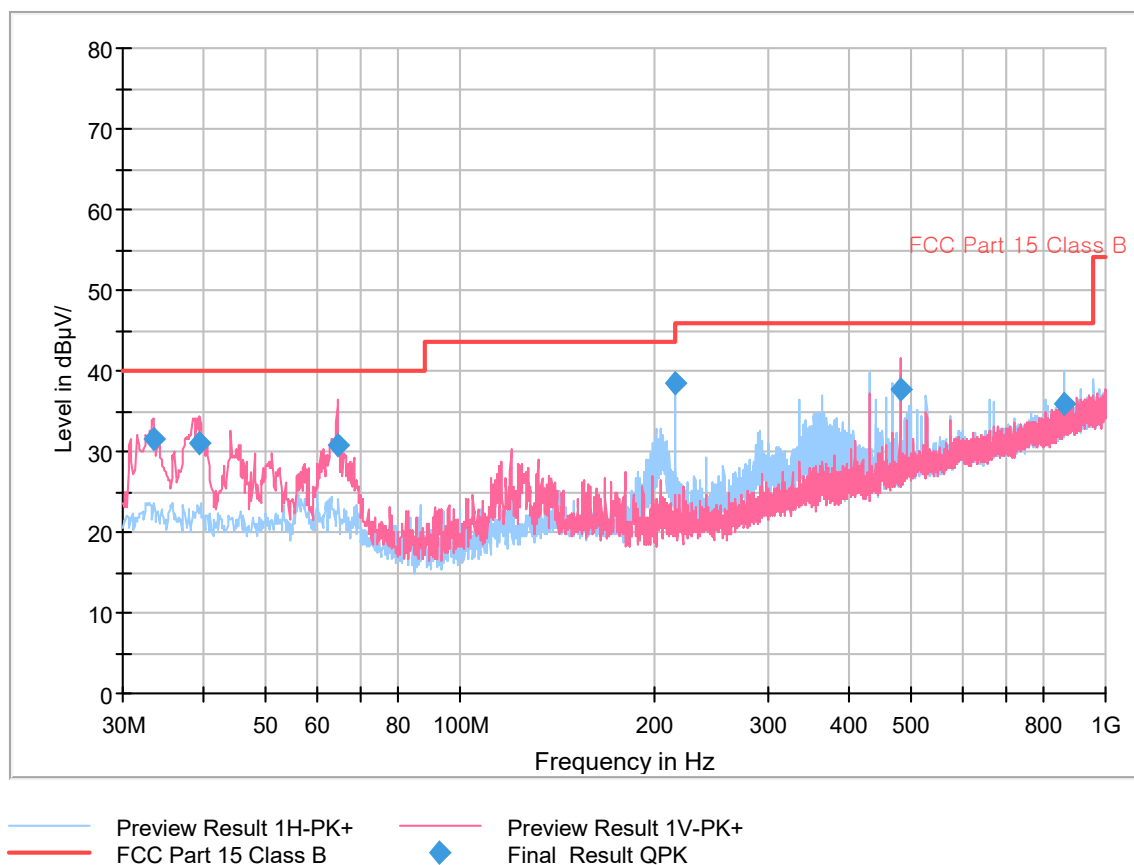
Margin in dB: Limit - A

The measurements' polarities are H and V, where H means horizontal and V means vertical.

6.3.2 Measurement Data

[USB+Print+Cutting Mode]

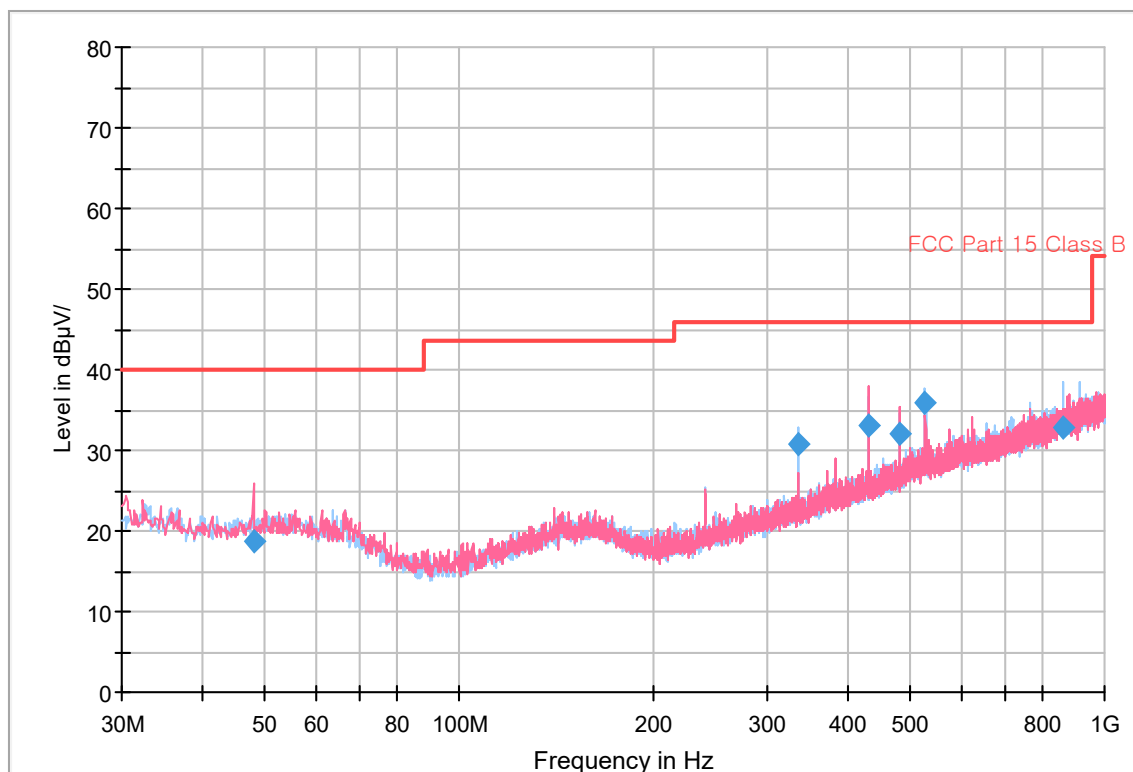
Full Spectrum



Frequency	QuasiPeak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
33.3950	31.66	100.0	V	334.0	19.0	8.34	40.00
39.4575	30.92	100.0	V	341.0	19.5	9.08	40.00
64.5563	30.87	125.3	V	272.0	19.3	9.13	40.00
215.9975	38.50	125.1	H	205.0	18.3	5.00	43.50
479.9588	37.80	125.3	V	189.0	25.8	8.20	46.00
864.0788	36.01	100.0	H	209.0	32.3	9.99	46.00

[Charging Mode]

Full Spectrum

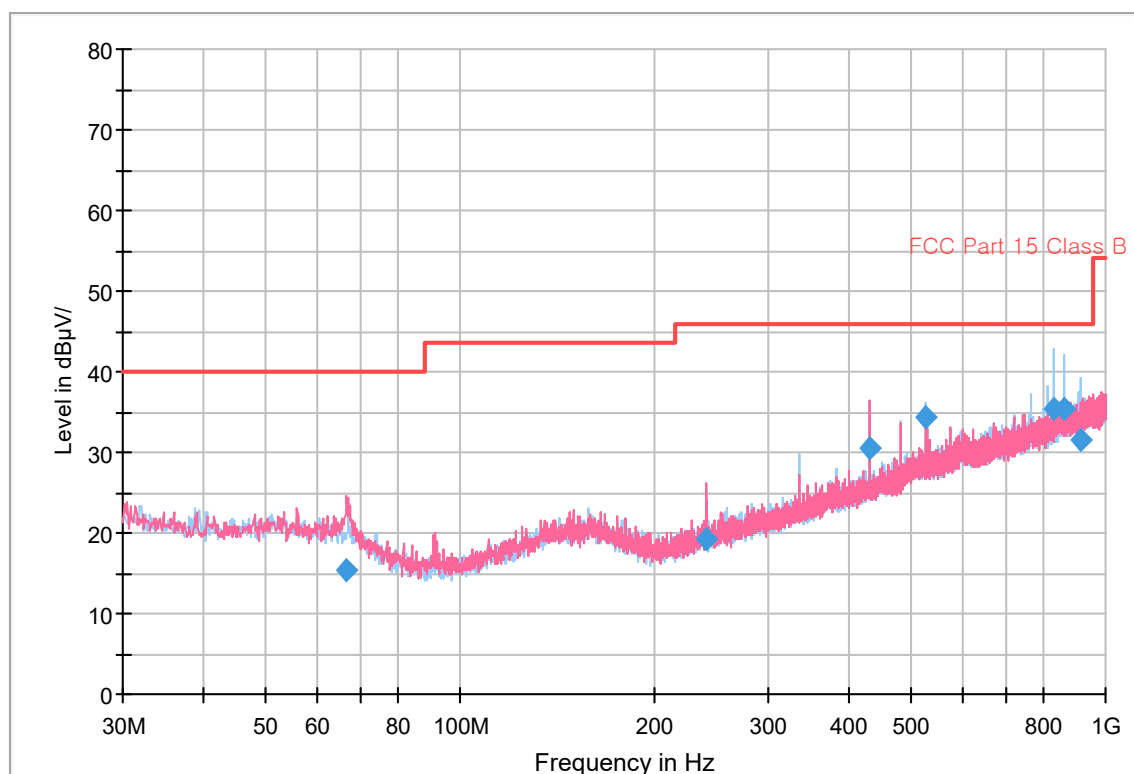


— Preview Result 1H-PK+ — Preview Result 1V-PK+
— FCC Part 15 Class B ◆ Final_Result QPK

Frequency	QuasiPeak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
47.9450	18.83	100.0	V	15.0	20.3	21.17	40.00
336.0350	30.75	100.0	H	136.0	22.2	15.25	46.00
432.0650	33.17	107.3	V	228.0	24.5	12.83	46.00
480.0800	32.04	125.2	V	158.0	25.8	13.96	46.00
527.9738	35.97	175.2	H	142.0	26.9	10.03	46.00
864.0788	32.78	100.0	H	0.0	32.3	13.22	46.00

[Bluetooth Idle Mode]

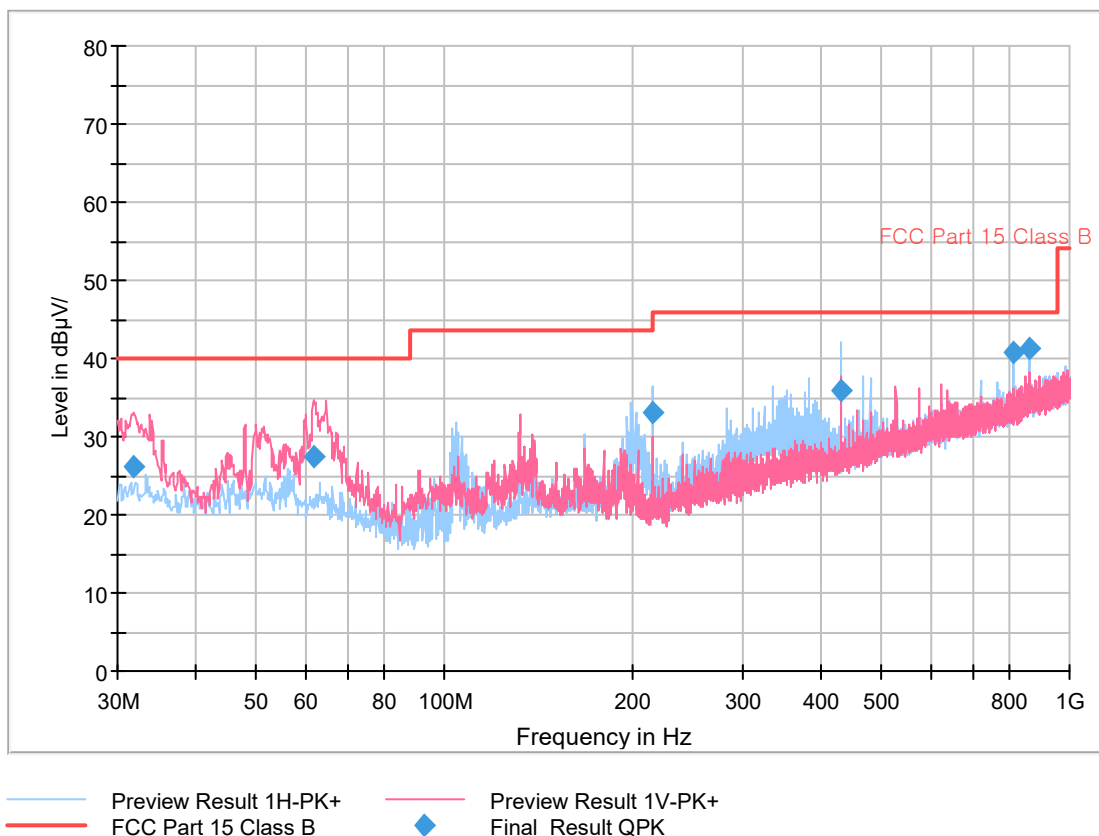
Full Spectrum



Frequency	QuasiPeak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
66.7388	15.35	302.8	V	347.0	19.0	24.65	40.00
240.2475	19.22	325.2	V	15.0	19.3	26.78	46.00
432.0650	30.41	100.0	H	263.0	24.5	15.59	46.00
527.9738	34.48	175.2	H	124.0	26.9	11.52	46.00
830.3713	35.47	225.1	H	288.0	31.8	10.53	46.00
864.0788	35.40	100.0	H	176.0	32.3	10.60	46.00
912.0938	31.58	100.0	H	6.0	32.9	14.42	46.00

[IC Reading Mode]

Full Spectrum



Frequency	QuasiPeak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
31.9400	26.16	100.0	V	245.0	18.9	13.84	40.00
61.6463	27.52	100.0	V	118.0	19.7	12.48	40.00
215.9975	33.05	125.0	H	338.0	18.3	10.45	43.50
432.0650	35.93	100.0	H	320.0	24.5	10.07	46.00
816.0638	40.72	100.0	H	0.0	31.6	5.28	46.00
864.0788	41.20	100.0	H	173.0	32.3	4.80	46.00

6.4 Radiated Emission above 1 GHz

6.4.1 Operating Condition

The test results of radiated emission provide the following information:

Date of Test (yy.mm.dd)	2026.03.10 / 2026.03.24		
Temperature	min. 17.8 °C	Relative Humidity	min. 30.4 %
	max. 25.1 °C		max. 37.5 %
Test Site	3 m Semi Anechoic Chamber #1		
Used Test Standard	FCC CFR 47 PART 15 Subpart B Class B ANSI C63.4-2014		
Detector / Bandwidth	Peak, CISPR-Average / 1 MHz		
Highest Frequency	2480 MHz		
Tested Frequency Range	1 GHz to 18 GHz		
Measurement Distance	3 m		
Antenna Height	1 m to 4 m		
Antenna Polarity	Horizontal, Vertical		
Operating Mode	USB+Print+Cutting Mode Charging Mode Bluetooth Idle Mode IC Reading Mode		
Test Result	PASS		

A field strength is calculated by the following equation:

$$A = B + C$$

Where

A: Field strength (Peak or CAverage) in dBμV/m

B: Meter reading in dBμV/m

C: Corr. in dB (Cable loss + Antenna factor - Amplifier gain)

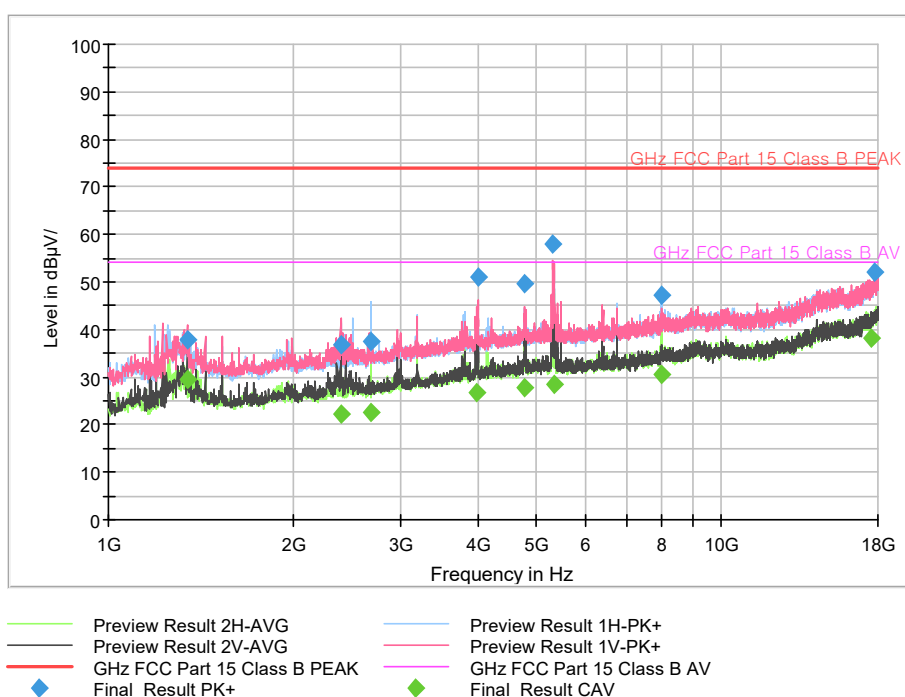
Margin in dB: Limit - A

The measurements' polarities are H and V, where H means horizontal and V means vertical.

6.4.2 Measurement Data

[USB+Print+Cutting Mode]

Full Spectrum



[Peak]

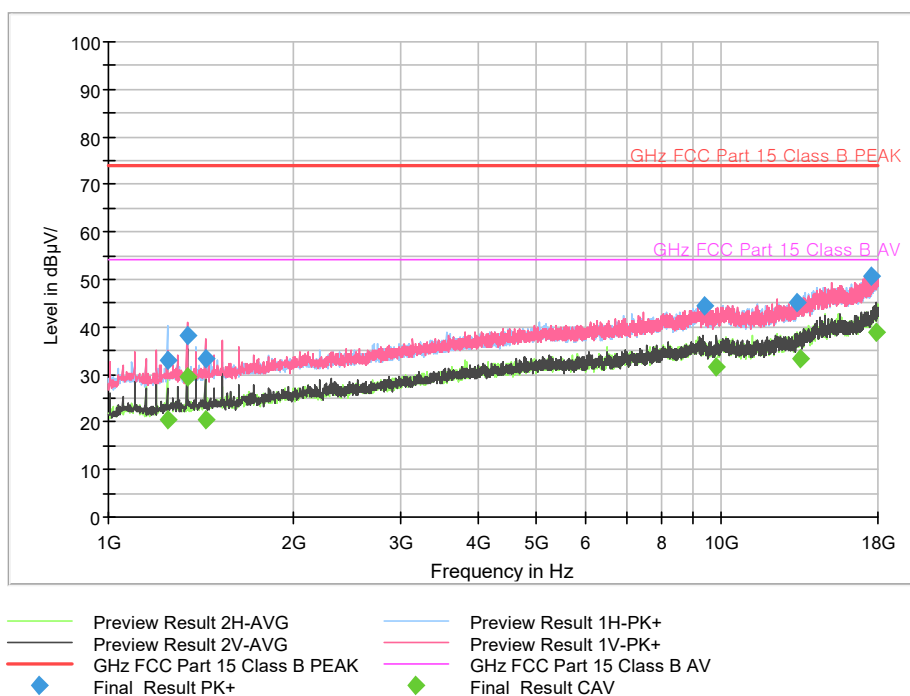
Frequency	Peak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1343.4000	37.77	199.6	V	149.0	-29.0	36.23	74.00
2395.7000	36.97	199.7	V	218.0	-23.4	37.03	74.00
2683.0000	37.34	299.9	H	283.0	-22.1	36.66	74.00
4002.2000	51.02	100.0	V	171.0	-16.8	22.98	74.00
4777.4000	49.54	300.1	V	214.0	-14.4	24.46	74.00
5318.0000	58.13	199.6	V	0.0	-13.1	15.87	74.00
7983.6000	47.33	299.9	H	271.0	-8.9	26.67	74.00
17768.8000	51.91	199.7	V	351.0	6.8	22.09	74.00

[CAverage]

Frequency	CAverage	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1343.4000	29.42	199.7	V	149.0	-29.0	24.58	54.00
2392.3000	22.33	199.7	V	218.0	-23.4	31.67	54.00
2683.0000	22.65	299.8	H	283.0	-22.1	31.35	54.00
3998.8000	26.59	300.0	V	303.0	-16.8	27.41	54.00
4777.4000	27.61	299.8	V	214.0	-14.4	26.39	54.00
5328.2000	28.51	299.8	H	157.0	-13.1	25.49	54.00
7983.6000	30.58	299.8	H	271.0	-8.9	23.42	54.00
17561.4000	38.31	100.0	V	341.0	5.6	15.69	54.00

[Charging Mode]

Full Spectrum



[Peak]

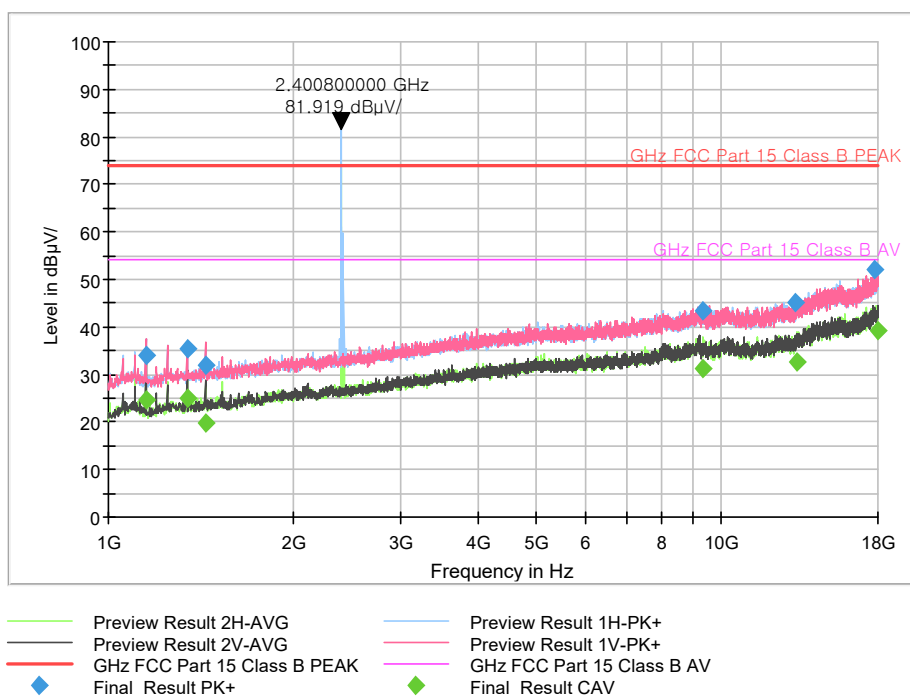
Frequency	Peak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1246.5000	33.00	299.9	H	141.0	-29.5	41.00	74.00
1343.4000	38.12	199.7	V	136.0	-29.0	35.88	74.00
1438.6000	33.27	400.0	V	0.0	-28.5	40.73	74.00
9381.0000	44.47	299.9	H	27.0	-7.6	29.53	74.00
13287.6000	45.02	100.0	H	265.0	-2.7	28.98	74.00
17595.4000	50.69	400.0	V	109.0	5.8	23.31	74.00

[CAverage]

Frequency	CAverage	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1246.5000	20.46	300.1	H	141.0	-29.5	33.54	54.00
1343.4000	29.62	299.6	V	170.0	-29.0	24.38	54.00
1438.6000	20.32	400.0	V	0.0	-28.5	33.68	54.00
9831.5000	31.59	199.6	V	212.0	-6.9	22.41	54.00
13442.3000	33.37	400.0	V	137.0	-2.4	20.63	54.00
17858.9000	38.91	199.6	V	325.0	7.3	15.09	54.00

[Bluetooth Idle Mode]

Full Spectrum



[Peak]

Frequency	Peak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1151.3000	33.94	400.0	H	1.0	-30.0	40.06	74.00
1343.4000	35.57	200.1	V	147.0	-29.0	38.43	74.00
1438.6000	32.03	399.9	V	0.0	-28.5	41.97	74.00
9340.2000	43.41	399.9	H	256.0	-7.6	30.59	74.00
13217.9000	45.19	100.0	H	213.0	-2.8	28.81	74.00
17801.1000	52.25	100.0	V	8.0	6.9	21.75	74.00

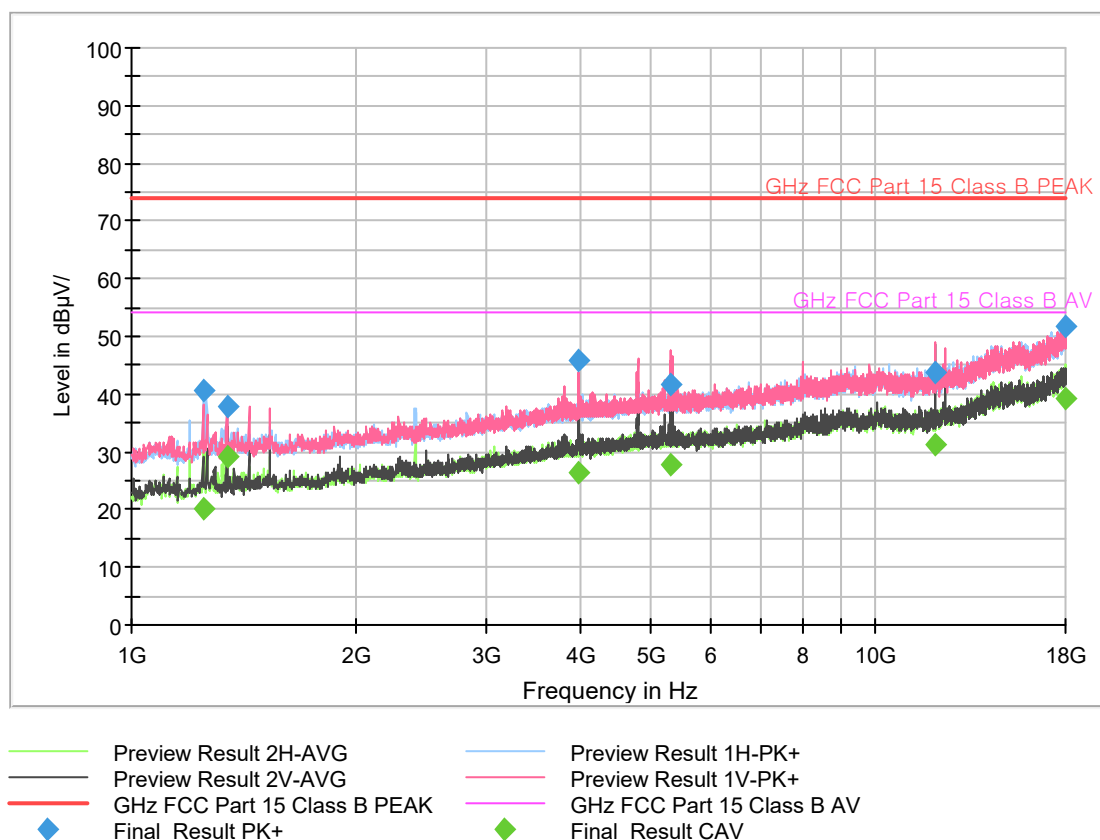
[CAverage]

Frequency	CAverage	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1151.3000	24.51	299.6	V	46.0	-30.0	29.49	54.00
1343.4000	25.02	100.0	V	140.0	-29.0	28.98	54.00
1438.6000	19.75	400.0	V	0.0	-28.5	34.25	54.00
9336.8000	31.22	100.0	H	359.0	-7.6	22.78	54.00
13241.7000	32.66	200.1	H	42.0	-2.7	21.34	54.00
17996.6000	39.32	300.1	V	164.0	8.0	14.68	54.00

*. Bluetooth Rx Frequency: 2.4008 GHz

[IC Reading Mode]

Full Spectrum



[Peak]

Frequency	Peak	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1249.9000	40.47	200.3	H	12.0	-29.5	33.53	74.00
1343.4000	37.76	100.0	V	237.0	-29.0	36.24	74.00
3997.1000	45.89	200.3	V	0.0	-16.8	28.11	74.00
5294.2000	41.83	100.0	V	186.0	-13.2	32.17	74.00
12009.2000	43.77	100.0	V	0.0	-4.0	30.23	74.00
17954.1000	51.60	300.3	H	352.0	7.8	22.40	74.00

[CAverage]

Frequency	CAverage	Height	Pol.	Azimuth	Corr.	Margin	Limit
[MHz]	[dBμV/m]	[cm]	[H/V]	[deg]	[dB]	[dB]	[dBμV/m]
1249.9000	20.24	200.3	H	12.0	-29.5	33.76	54.00
1343.4000	29.23	100.0	V	237.0	-29.0	24.77	54.00
3983.5000	26.56	300.2	V	313.0	-16.8	27.44	54.00
5294.2000	27.89	100.0	V	186.0	-13.2	26.11	54.00
12010.9000	31.40	100.0	V	0.0	-4.0	22.60	54.00
17976.2000	39.24	300.2	V	13.0	7.9	14.76	54.00

APPENDIX A. TEST SETUP PHOTO

Please refer to Appendix. A and test setup photo file no. as follows;

File No.	Date of Issue	Description
HCT-EM-2603-FC004-R1-P	March 27, 2026	Initial Release

End of report