

TEST REPORT

EMC Test for WSP-LL400

APPLICANT
WOOSIM SYSTEMS INC.

REPORT NO.
HCT-EM-2508-FC001

DATE OF ISSUE
August 6, 2025

Tested by
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TEST REPORT

FCC Certification

REPORT NO.

HCT-EM-2508-FC001

DATE OF ISSUE

August 06, 2025

FCC ID.

QDDWSP-LL400

Applicant**WOOSIM SYSTEMS INC.**

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

Product Name

4INCH LINERLESS PRINTER

Model Name

WSP-LL400

Date of Test

July 31, 2025 to August 02, 2025

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	August 06, 2025	Initial Release

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-LL400
Product Name	4INCH LINERLESS PRINTER
Model Name	WSP-LL400
Frequency Range	Bluetooth: 2 402 MHz ~ 2 480 MHz
Rated Voltage	AC 100 ~ 240 V, 50 ~ 60 Hz DC 24 V, 2.0 A
Manufacturer	WOOSIM SYSTEMS INC.

NOTE1. As shown in the photo below, the RS232C port located on the rear side of the EUT is an unused port.



NOTE2. The RS232C port shown in the photo below is a debugging port provided by the manufacturer for test setup purposes.



2.2 Power Source

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

Power supply: AC 120 V, 60 Hz

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 LINERLESS PRINTER	WSP-LL400	-	WOOSIM SYSTEMS INC.
AC/DC Adapter ^{NOTE1.}	SOY-2400200-332-A	-	Shenzhen SOY Technology Co., Ltd.
Paper holder	-	-	WOOSIM SYSTEMS INC.
Notebook PC	NT550XEZ	-	SAMSUNG Electronics Co., Ltd.
Notebook PC Adapter	EP-TA845 001	-	SOLUM VINA COMPANY LIMITED
AP	N104i	N104i 100080901289	ipTIME
AP Adapter	FLDE0501000K	-	FAIRONE ELECTRONICS

NOTE1. The AC/DC adapter is included in the box with the EUT.

INPUT: 100~240 VAC, 50/60 Hz, 1.5 A

OUTPUT: 24 VDC, 2.0 A

NOTE2. A USB Type A to B cable and thermal roll paper are included in the box with the EUT.

2.4 Cable Description

[Idle Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	DC IN	N	N	(P) 1.5
AC/DC Adapter	AC IN	N	N	(P) 1.8

“(D)” data cable and “(P)” power cable

[USB+Printing+Cutting Mode]

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	DC IN	N	N	(P) 1.5
	USB Type B	N	Y	(D) 1.0
AC/DC Adapter	AC IN	N	N	(P) 1.8
Notebook PC	LAN	N	N	(D) 2.0
	DC IN	N	N	(P) 1.8
Notebook PC Adapter	AC IN	N	N	(P) -
AP	DC IN	N	N	(P) 1.5
AP Adapter	AC IN	N	N	(P) -

“(D)” data cable and “(P)” power cable.

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

[Idle Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	DC IN	N	N/A	Y	EUT END
AC/DC Adapter	AC IN	N	N/A	N	N/A

[USB+Printing+Cutting Mode]

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	DC IN	N	N/A	Y	EUT END
	USB Type B	N	N/A	Y	BOTH END
AC/DC Adapter	AC IN	N	N/A	N	N/A
Notebook PC	LAN	N	N/A	N	N/A
	DC IN	N	N/A	Y	EUT END
Notebook PC Adapter	AC IN	N	N/A	N	N/A
AP	DC IN	N	N/A	Y	AP END
AP Adapter	AC IN	N	N/A	N	N/A

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 μ V)	Class A Average (dB μ V)	Class B Quasi-Peak (dB μ V)	Class B Average (dB μ V)
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 μ V 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

- 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.
- The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- 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.
- 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.
- 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 (μV/m)	Quasi-Peak (dBμV/m)	Antenna Distance (m)	Field Strength (μV/m)	Quasi-Peak (dBμV/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 (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/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

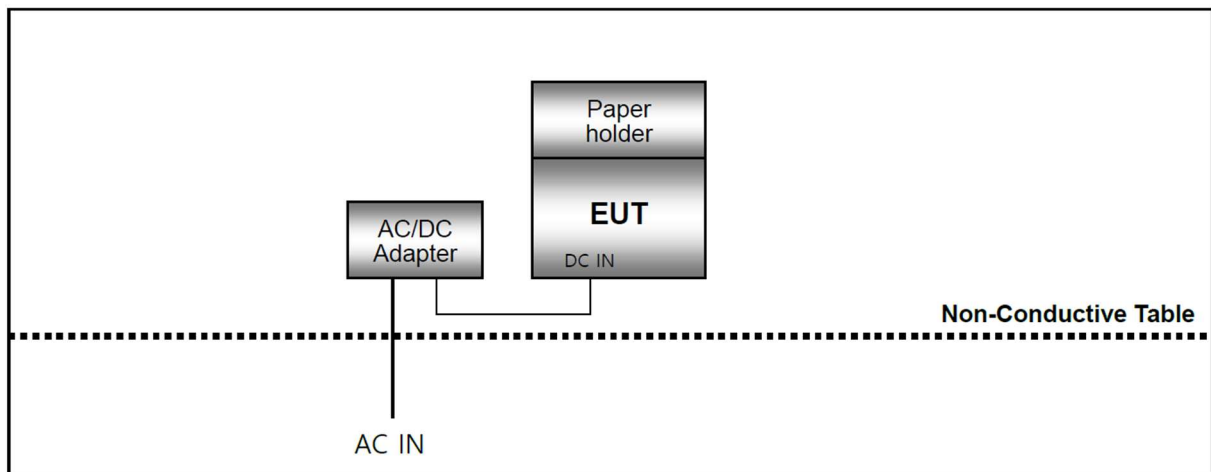
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

3.4 Configuration of Tested System

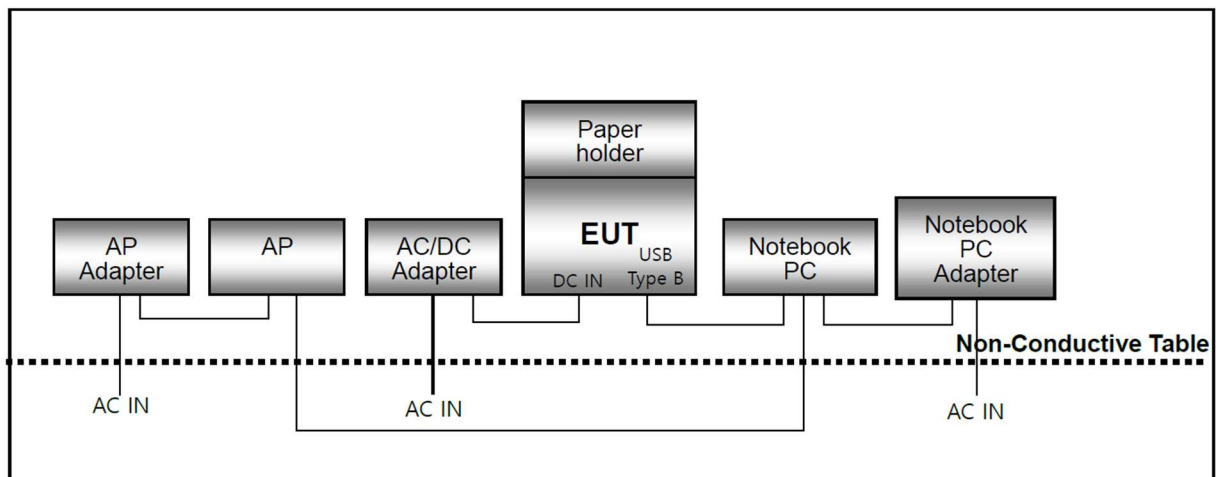
The EUT was configured in the following manner.:

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

[Idle Mode]



[USB+Printing+Cutting Mode]



3.5 Operating Mode 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.

Idle Mode

The EUT is in Idle mode for Bluetooth connection.

USB+Printing+Cutting Mode

After connecting a cable between the EUT's USB port and the notebook PC, the EUT receives commands through the program provided by the manufacturer. Then, the EUT operates continuously in printing and cutting modes.

4. TEST SITES CONDITIONS

4.1 Test Facility

Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014. The normalized site attenuations (30 MHz to 1 GHz) and site validation (1 GHz to 18 GHz) were performed in accordance with the standard in ANSI C63.4-2014 and ANSI 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 U_{CISPR} 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

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

<input checked="" type="checkbox"/>	EMI Test Receiver	ESR7	ROHDE&SCHWARZ	101910	1 year	2025.08.27
<input checked="" type="checkbox"/>	LISN	ENV216	ROHDE&SCHWARZ	102245	1 year	2026.07.15
<input checked="" type="checkbox"/>	LISN	ENV216	ROHDE&SCHWARZ	100073	1 year	2026.04.29
<input checked="" type="checkbox"/>	Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

Antenna conducted power emission

<input type="checkbox"/>	EMI Test Receiver	ESCI	ROHDE&SCHWARZ	100584	1 year	2026.05.07
<input type="checkbox"/>	Impedance Matching Pad	PE7070	PASTERNAK	5	1 year	2026.01.08
<input type="checkbox"/>	Software	EMC32	ROHDE&SCHWARZ	-	N/A	-

Radiated emission up to 1 GHz

<input checked="" type="checkbox"/>	EMI Test Receiver	ESW44	ROHDE&SCHWARZ	101946	1 year	2025.11.08
<input checked="" type="checkbox"/>	Bilog Antenna	VULB9168	Schwarzbeck	255	2 year	2027.02.27
<input checked="" type="checkbox"/>	Antenna Mast	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
<input checked="" type="checkbox"/>	Turn Table	DS2000-S	INNCO SYSTEM	-	N/A	-
<input checked="" type="checkbox"/>	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					
<input checked="" type="checkbox"/> EMI Test Receiver	ESW44	ROHDE&SCHWARZ	101946	1 year	2025.11.08
<input checked="" type="checkbox"/> Horn Antenna	HF907	ROHDE&SCHWARZ	103160	1 year	2025.10.15
<input checked="" type="checkbox"/> Power Amplifier	TK-PA18H	TESTEK	170034-L	1 year	2025.10.14
<input type="checkbox"/> Horn Antenna	BBHA 9170	Schwarzbeck	BBHA 9170 #786	1 year	2025.10.30
<input type="checkbox"/> Power Amplifier	TK-PA1840H	TESTEK	170030-L	1 year	2026.02.13
<input checked="" type="checkbox"/> Antenna Mast	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
<input checked="" type="checkbox"/> Turn Table	DS2000-S	INNCO SYSTEM	-	N/A	-
<input checked="" type="checkbox"/> 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)	2025.07.31		
Temperature	min. 22.1 °C	Relative Humidity	min. 37.5 %
	max. 25.2 °C		max. 44.5 %
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	Idle Mode		
	USB+Printing+Cutting 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

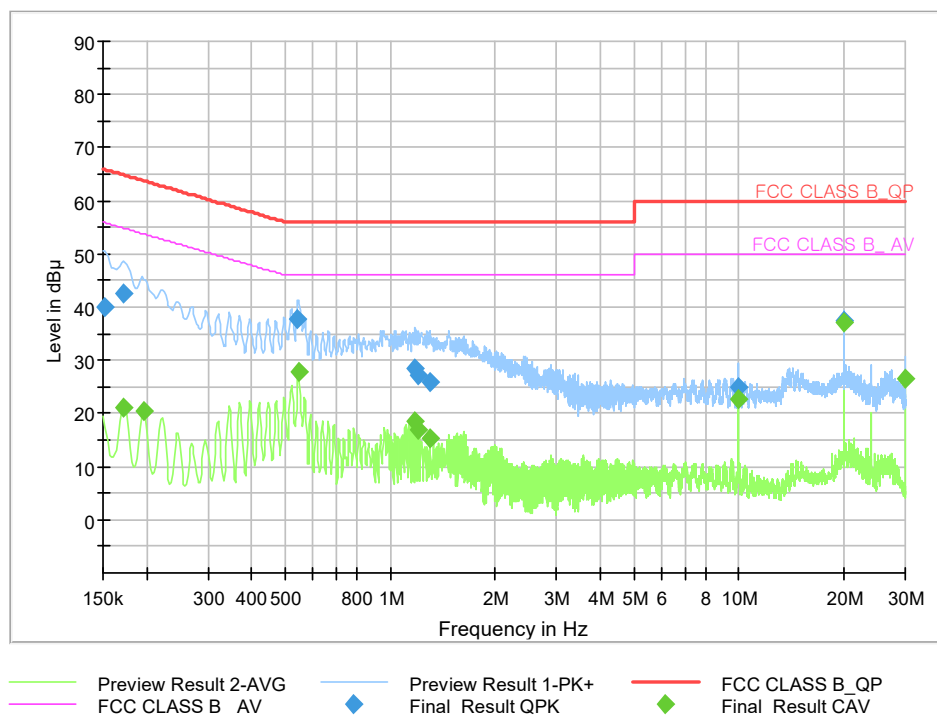
If it's an AC mains cable, the readings includes both Live (L1) and Neutral (N).

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

6.1.2 Measurement Data

[Idle Mode]

Full Spectrum

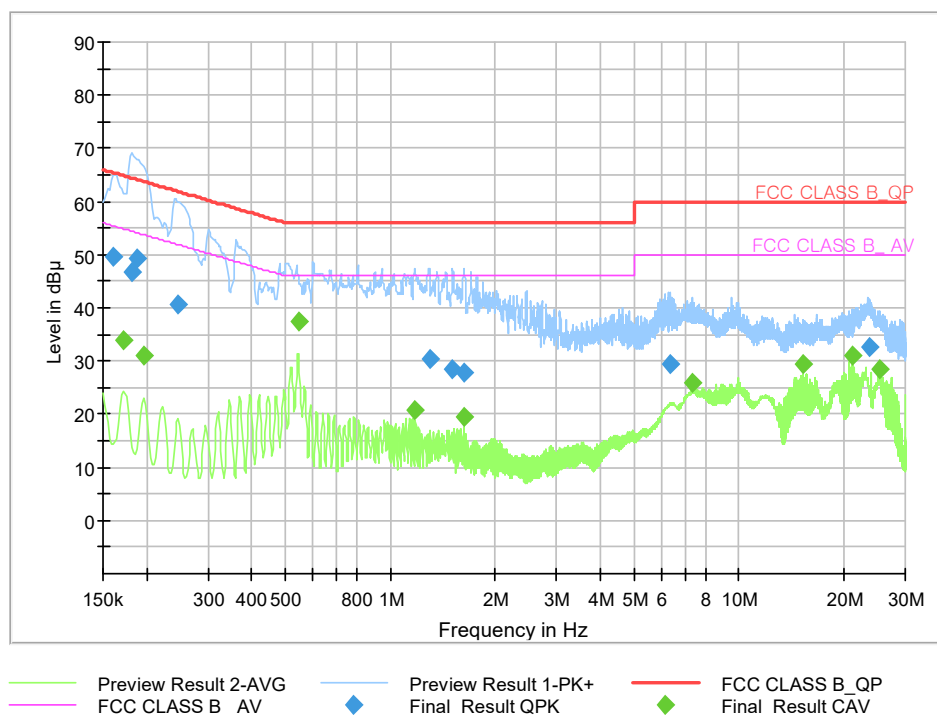


Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.1523	39.99	65.88	25.88	N	9.6
0.1725	42.57	64.84	22.27	L1	9.6
0.5428	37.86	56.00	18.14	N	9.6
1.1795	28.43	56.00	27.57	N	9.6
1.2043	27.05	56.00	28.95	N	9.6
1.3055	25.83	56.00	30.17	N	9.6
9.9995	24.94	60.00	35.06	L1	9.9
20.0008	37.52	60.00	22.48	N	10.0

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.1725	21.13	54.84	33.71	L1	9.6
0.1973	20.29	53.73	33.44	L1	9.6
0.5450	27.71	46.00	18.29	L1	9.7
1.1795	18.51	46.00	27.49	N	9.6
1.2043	16.80	46.00	29.20	N	9.6
1.3033	15.23	46.00	30.77	N	9.6
9.9995	22.71	50.00	27.29	L1	9.9
20.0008	37.21	50.00	12.79	N	10.0
29.9998	26.66	50.00	23.34	N	10.0

[USB+Printing+Cutting Mode]

Full Spectrum



Frequency (MHz)	QuasiPeak (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.1613	49.68	65.40	15.72	N	9.6
0.1815	46.60	64.42	17.82	L1	9.6
0.1883	49.15	64.11	14.97	L1	9.6
0.2468	40.75	61.87	21.11	L1	9.7
1.2943	30.51	56.00	25.49	N	9.6
1.5103	28.51	56.00	27.49	N	9.6
1.6273	27.69	56.00	28.31	N	9.6
6.3815	29.26	60.00	30.74	L1	9.8
23.6773	32.55	60.00	27.45	N	10.0

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.1725	33.96	54.84	20.88	L1	9.6
0.1973	31.18	53.73	22.55	L1	9.6
0.5450	37.49	46.00	8.51	N	9.6
1.1818	20.61	46.00	25.39	N	9.6
1.6228	19.34	46.00	26.66	N	9.6
7.3603	25.79	50.00	24.21	N	9.8
15.2398	29.36	50.00	20.64	N	9.9
21.2405	31.02	50.00	18.98	N	10.0
25.2410	28.38	50.00	21.62	N	10.0

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
	max.	°C	
			min. %
			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	---		

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)	2025.08.02		
Temperature	min. 21.7 °C	Relative Humidity	min. 36.4 %
	max. 25.0 °C		max. 42.1 %
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	Idle Mode USB+Printing+Cutting 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

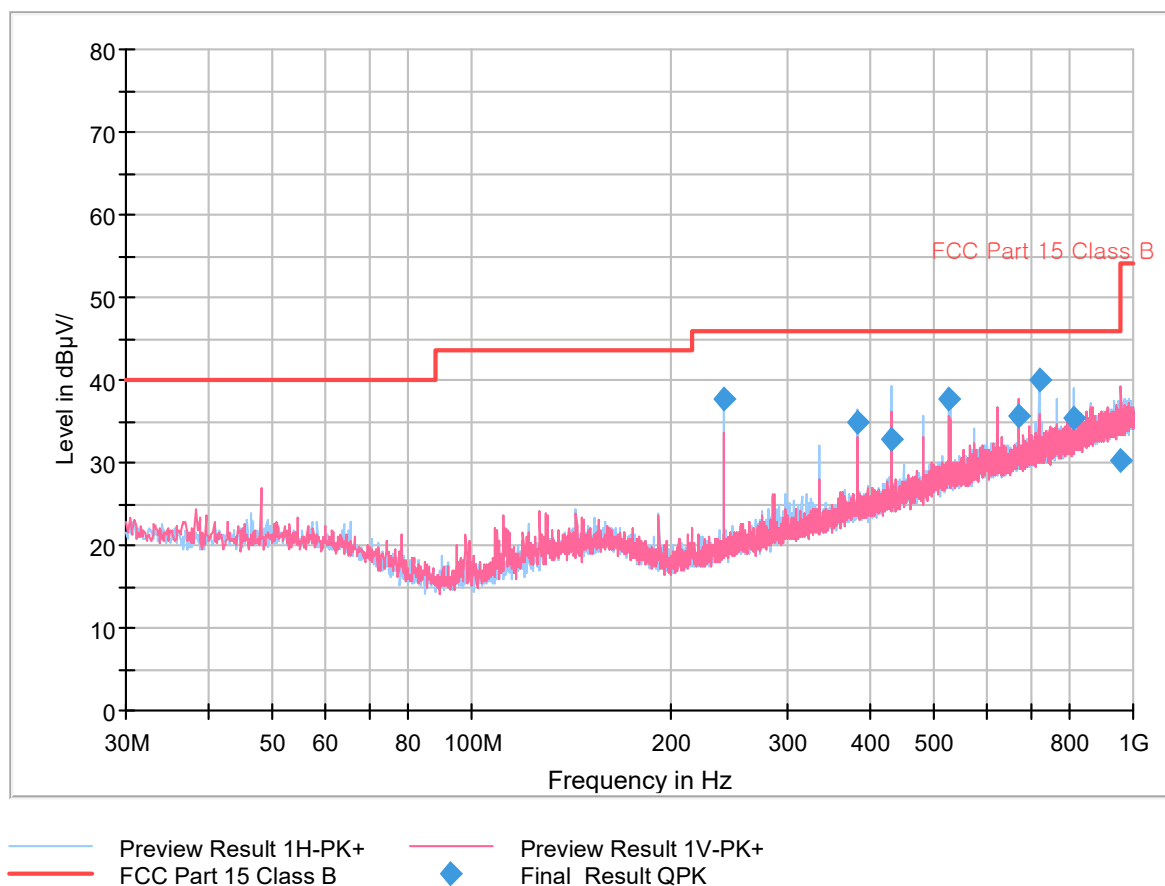
C: Corr. in dB (Cable loss + Antenna factor - Amplifier gain)

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

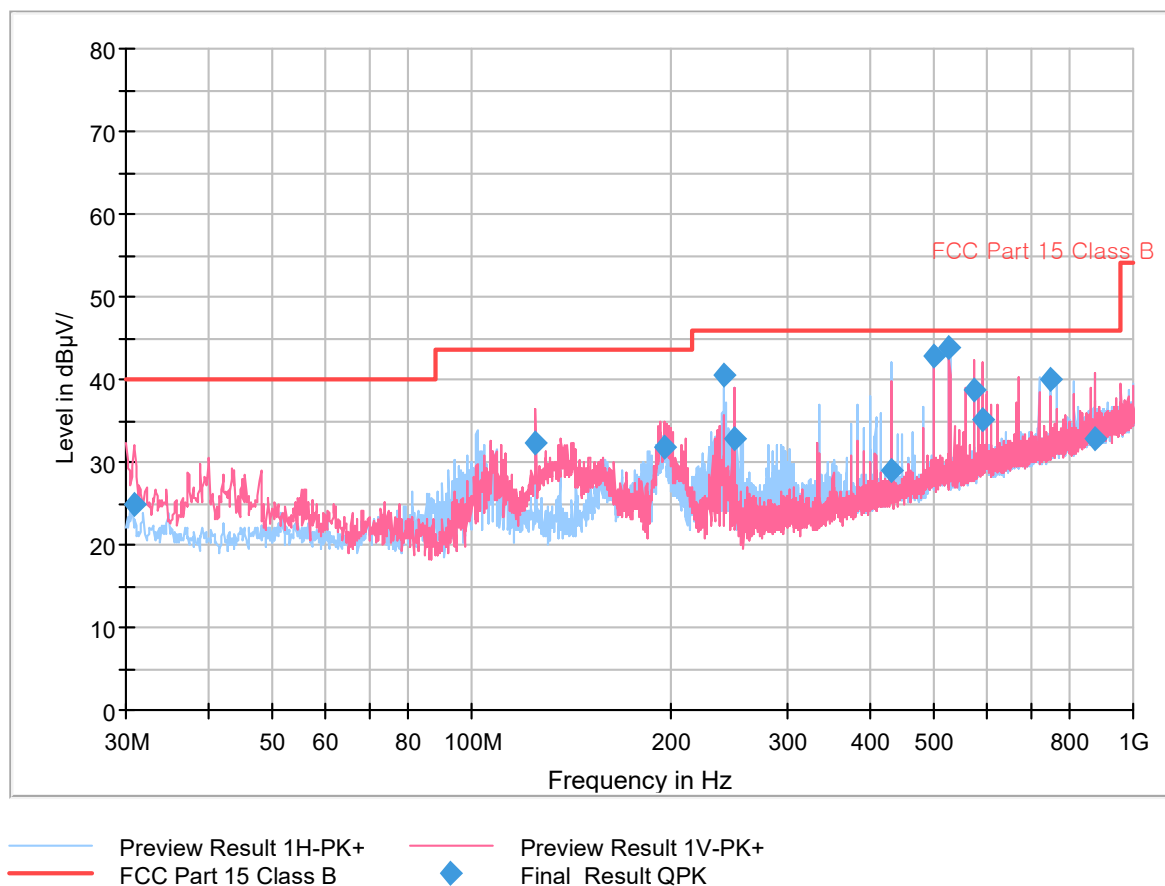
[Idle Mode]
Full Spectrum



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
240.0252	37.70	46.00	8.30	125.2	H	278.0	19.2
384.0182	34.94	46.00	11.06	100.0	H	95.0	23.3
432.0689	32.92	46.00	13.08	100.0	H	140.0	24.5
527.9786	37.69	46.00	8.31	174.5	H	271.0	26.9
672.0050	35.56	46.00	10.44	100.0	V	227.0	29.6
720.0104	39.89	46.00	6.11	108.0	H	1.0	30.3
816.0549	35.48	46.00	10.52	100.0	H	81.0	31.6
960.1113	30.32	54.00	23.68	107.0	V	2.0	33.4

[USB+Printing+Cutting Mode]

Full Spectrum



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.9397	24.90	40.00	15.10	125.2	V	203.0	18.9
124.8996	32.30	43.50	11.20	114.4	V	299.0	18.2
195.7480	31.83	43.50	11.67	100.0	V	249.0	17.9
239.9950	40.58	46.00	5.42	125.2	H	166.0	19.2
249.9340	32.95	46.00	13.05	125.2	H	314.0	19.6
432.1022	28.89	46.00	17.11	101.4	H	149.0	24.5
500.0139	42.70	46.00	3.30	100.0	H	222.0	26.3
528.0163	43.94	46.00	2.06	174.3	H	2.0	26.9
575.9724	38.82	46.00	7.18	100.0	V	114.0	27.9
592.0897	35.07	46.00	10.93	113.3	V	84.0	28.2
750.0109	40.04	46.00	5.96	225.1	H	318.0	30.7
875.0822	32.80	46.00	13.20	399.9	V	41.0	32.4

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)	2025.08.02		
Temperature	min. 21.7 °C	Relative Humidity	min. 36.4 %
	max. 25.0 °C		max. 42.1 %
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	Idle Mode USB+Printing+Cutting 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)

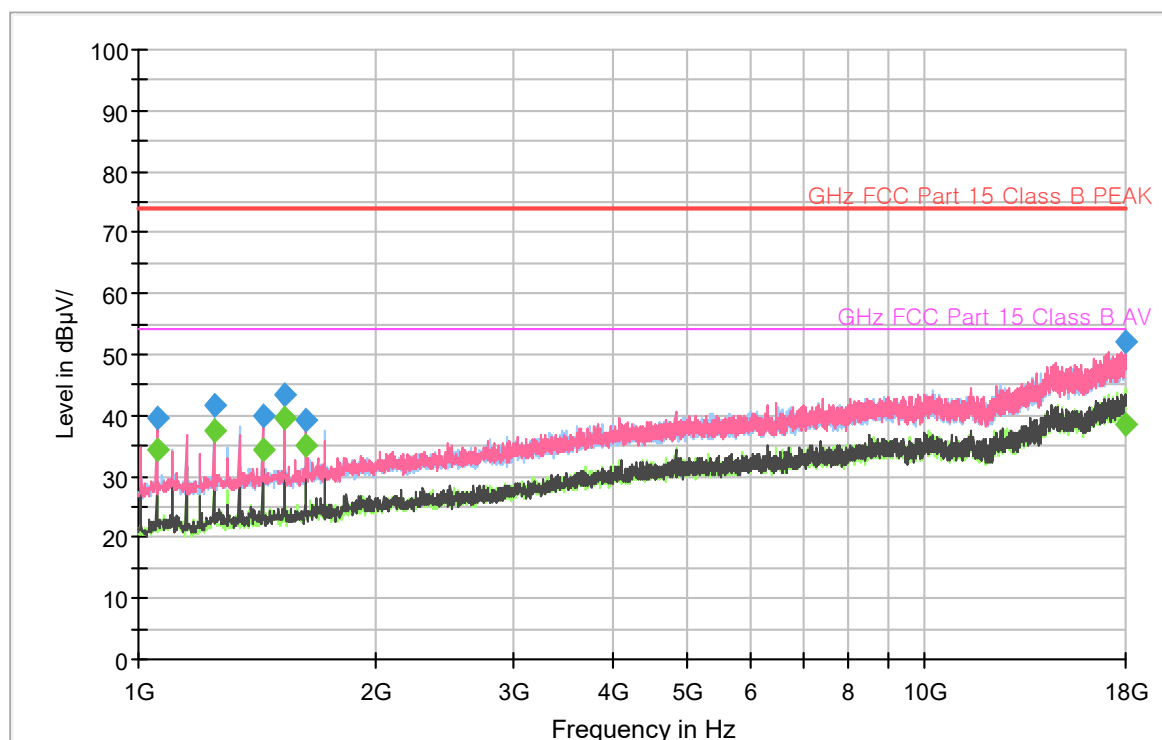
Margin in dB: Limit - A

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

6.4.2 Measurement Data

[Idle Mode]

Full Spectrum



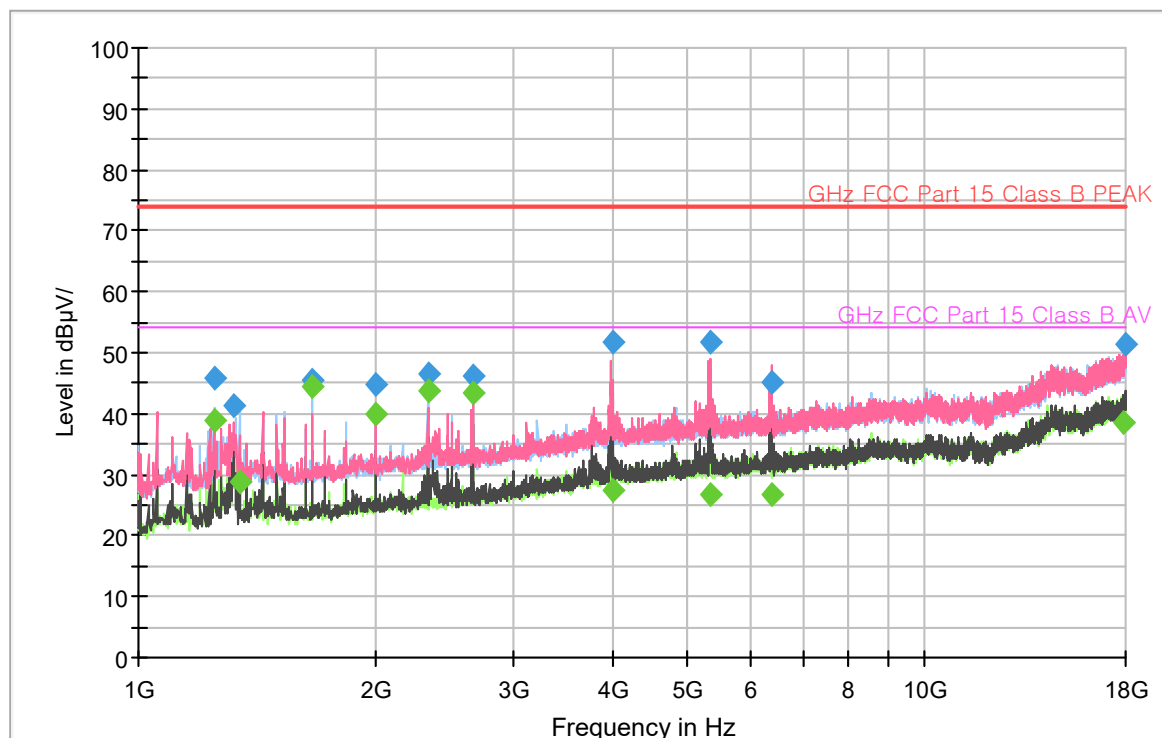
— Preview Result 2H-AVG — Preview Result 1H-PK+
— Preview Result 1V-PK+ — GHz FCC Part 15 Class B AV
— GHz FCC Part 15 Class B PEAK ◆ Final_Result PK+
◆ Final_Result CAV

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1056.0250	39.51	74.00	34.49	207.5	V	224.0	-30.9
1247.9850	41.60	74.00	32.40	193.0	H	95.0	-29.9
1440.0450	39.99	74.00	34.01	104.0	V	61.0	-28.9
1536.0450	43.43	74.00	30.57	99.9	H	194.0	-28.3
1632.0350	39.22	74.00	34.78	103.8	V	170.0	-27.7
17991.6162	52.02	74.00	21.98	99.8	H	197.0	7.1

Frequency (MHz)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1056.0600	34.23	54.00	19.77	196.3	V	218.0	-30.9
1248.0100	37.40	54.00	16.60	196.3	H	85.0	-29.9
1440.0350	34.31	54.00	19.69	101.4	V	55.0	-28.9
1535.9950	39.51	54.00	14.49	99.8	H	184.0	-28.3
1632.0900	34.91	54.00	19.09	103.4	V	177.0	-27.7
17978.0050	38.68	54.00	15.32	174.3	H	76.0	7.0

[USB+Printing+Cutting Mode]

Full Spectrum



— Preview Result 2H-AVG — Preview Result 1H-PK+
— Preview Result 2V-AVG — Preview Result 1V-PK+
— GHz FCC Part 15 Class B PEAK — GHz FCC Part 15 Class B AV
◆ Final_Result PK+ ◆ Final_Result CAV

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1248.0000	45.69	74.00	28.31	125.2	H	317.0	-29.9
1320.1750	41.48	74.00	32.52	103.7	V	280.0	-29.5
1666.6100	45.48	74.00	28.52	124.9	H	295.0	-27.5
1999.9800	44.82	74.00	29.18	177.9	H	218.0	-25.4
2333.3550	46.63	74.00	27.37	125.2	H	252.0	-24.1
2666.6550	46.02	74.00	27.98	100.0	H	259.0	-22.7
4008.2550	51.65	74.00	22.35	100.0	V	0.0	-17.1
5337.4000	51.86	74.00	22.14	176.2	V	25.0	-13.7
6396.4100	45.03	74.00	28.97	191.9	V	2.0	-11.7
17982.3950	51.50	74.00	22.50	124.9	V	303.0	7.0

Frequency (MHz)	CAverage (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1247.9650	39.06	54.00	14.94	103.7	H	329.0	-29.9
1344.1300	28.68	54.00	25.32	100.0	V	280.0	-29.4
1666.6600	44.36	54.00	9.64	100.0	H	264.0	-27.5
1999.9900	39.99	54.00	14.01	100.6	H	263.0	-25.4
2333.3050	43.80	54.00	10.20	100.3	H	265.0	-24.1
2666.6600	43.33	54.00	10.67	100.0	H	264.0	-22.7
4004.0900	27.44	54.00	26.56	100.0	V	0.0	-17.1
5336.9700	26.83	54.00	27.17	196.0	V	2.0	-13.7
6398.8950	26.80	54.00	27.20	176.3	V	4.0	-11.6
17940.1400	38.40	54.00	15.60	174.2	V	265.0	6.8

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-2508-FC001-P	August 06, 2025	Initial Release

End of report