

FCC Test Report

APPLICANT : Numera Systems US, Inc
EQUIPMENT : Mobile Personal Emergency Response System
BRAND NAME : Libris
MODEL NAME : NUML3-AS1, NUML3-AG1, NUML3-AW1
FCC ID : 2BN8B-L3
STANDARD : 47 CFR Part 15 Subpart B
CLASSIFICATION : Certification
TEST DATE(S) : Jun. 13, 2025 ~ Jun. 23, 2025

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC552401	Rev. 01	Initial issue of report	Jul. 29, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 13.19 dB at 0.433 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 13.16 dB at 128.70 MHz

Conformity Assessment Condition:

The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. Please refer to each test results in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1. General Description

1.1. Applicant

Numera Systems US, Inc

44 EAST BEAVER CREEK RD #16 RICHMOND HILL, ON, CANADA

1.2. Manufacturer

Numera Systems US, Inc

44 EAST BEAVER CREEK RD #16 RICHMOND HILL, ON, CANADA

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Personal Emergency Response System
Brand Name	Libris
Model Name	NUML3-AS1, NUML3-AG1, NUML3-AW1
FCC ID	2BN8B-L3
EUT supports Radios application	WCDMA/LTE Bluetooth LE WLAN 2.4GHz (Rx only) GNSS
IMEI Code	Conduction/Radiation: 866229077403838
HW Version	V1.1
SW Version	V02
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The differences between three model names are as below:

Model name	Description
NUML3-AS1	The appearance color is matte silver
NUML3-AG1	The appearance color is matte gold
NUML3-AW1	The appearance color is white

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV : 1710 MHz ~ 1755 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 12 : 699 MHz ~ 716 MHz Bluetooth LE: 2400 MHz ~ 2483.5 MHz
Rx Frequency	WCDMA Band II: 1930 MHz ~ 1990 MHz WCDMA Band IV : 2110 MHz ~ 2155 MHz LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 12 : 729 MHz ~ 746 MHz Bluetooth LE: 2400 MHz ~ 2483.5 MHz WLAN 2.4GHz : 2400 MHz ~ 2483.5 MHz GNSS : 1559 MHz ~ 1610 MHz
Antenna Type	WWAN : LDS Antenna Bluetooth : LDS Antenna WLAN : LDS Antenna GNSS: LDS Antenna
Type of Modulation	WCDMA : BPSK HSPA : QPSK HSPA+ : 16QAM(16QAM not support uplink) DC-HSDPA : 64QAM LTE: QPSK / 16QAM Bluetooth LE : GFSK GNSS : BPSK

1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Test Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH07-KS	CN1257	314309

1.7. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH07-KS	AUDIX	E3	210616
2.	CO01-KS	AUDIX	E3	6.2009-8-24

1.8. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 15 Subpart B
- ♦ ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

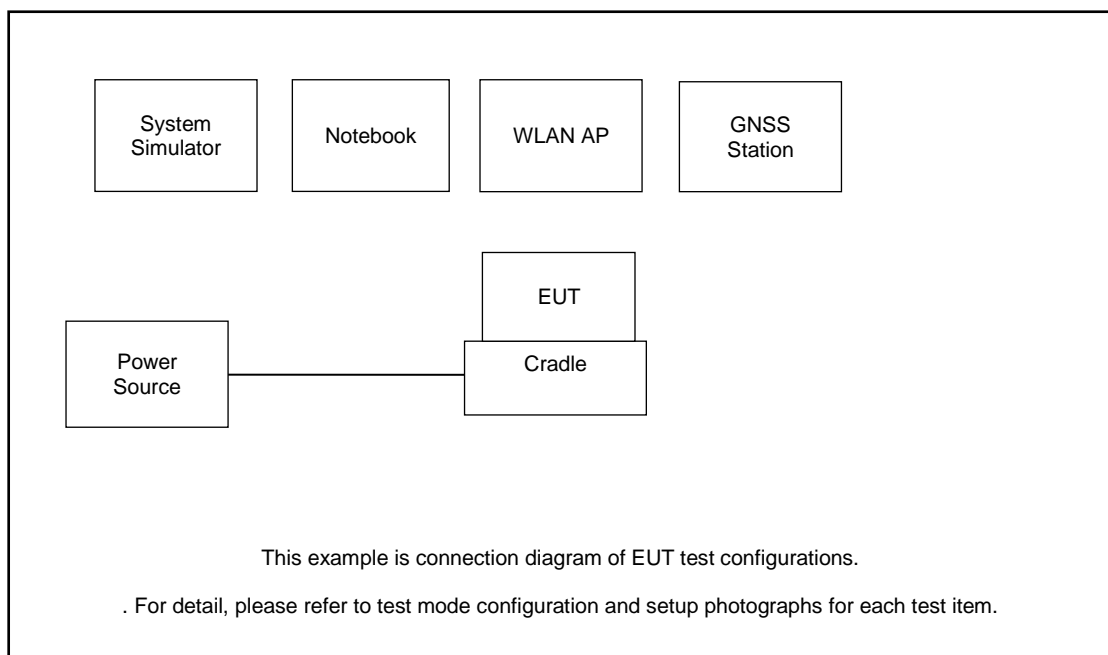
2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1: WWAN RX + Bluetooth Idle + WLAN (2.4G) RX + GNSS Rx + Battery + USB Cable (Charging from Cradle) + SIM 1
Radiated Emissions	Mode 1: WCDMA Band V Rx(Middle) + Bluetooth Idle + WLAN (2.4G) RX + GNSS Rx + Battery + USB Cable (Charging from Cradle) + SIM 1
	Mode 2: LTE Band 12 Rx(Low) + Bluetooth Idle + WLAN (2.4G) RX + GNSS Rx + Battery + USB Cable (Charging from Cradle) + SIM 1
	Mode 3: LTE Band 12 Rx(High) + Bluetooth Idle + WLAN (2.4G) RX + GNSS Rx + standalone + SIM 1
Remark: <ol style="list-style-type: none">1. The worst case of AC is mode 1; only the test data of this mode is reported.2. The worst case of RE is mode 2; only the test data of this mode is reported.3. Pre-scanned Low/Middle/High channels, the worst channel was recorded in this report.	

2.2.Connection Diagram of Test System



The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
2.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
3.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
4.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
5.	Libris Aura Charging Cradle	Libris	N/A	N/A	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in WCDMA or LTE Rx mode during the testing.

Bluetooth idle with charging cradle.

Turn on GNSS function to make the EUT receive continuous signals from GNSS station.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

<Class B Limit>

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

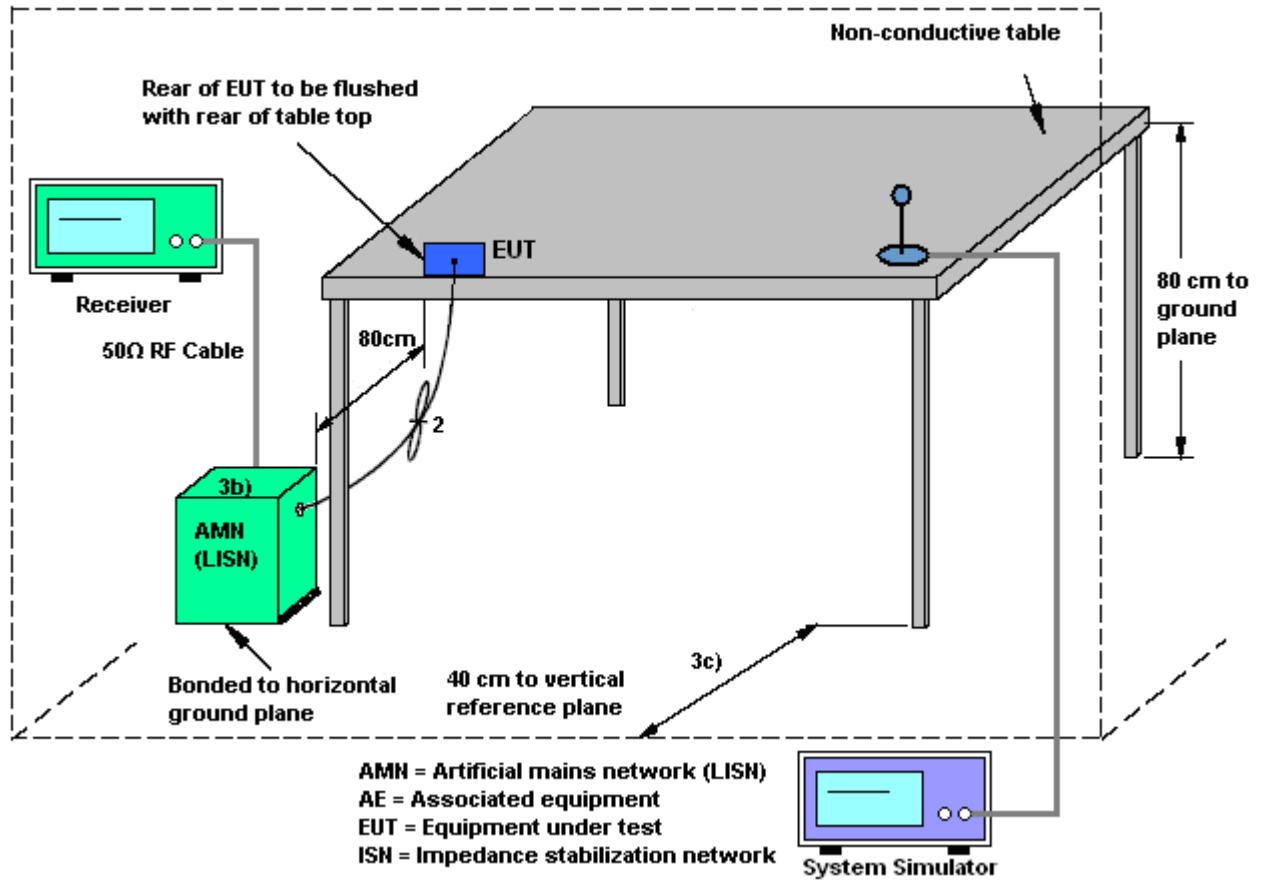
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

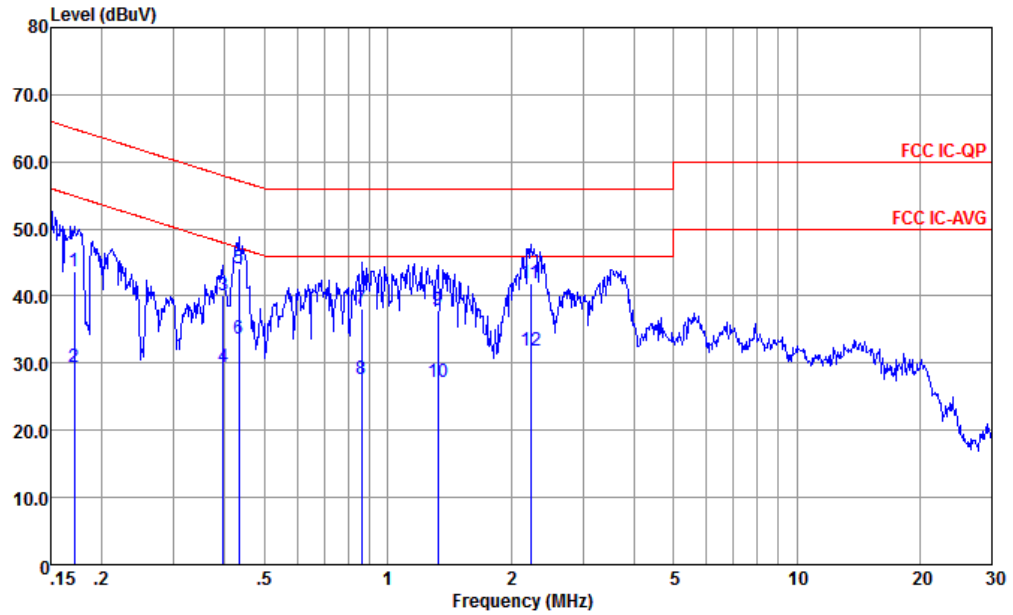
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

Test Engineer :	Amos	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

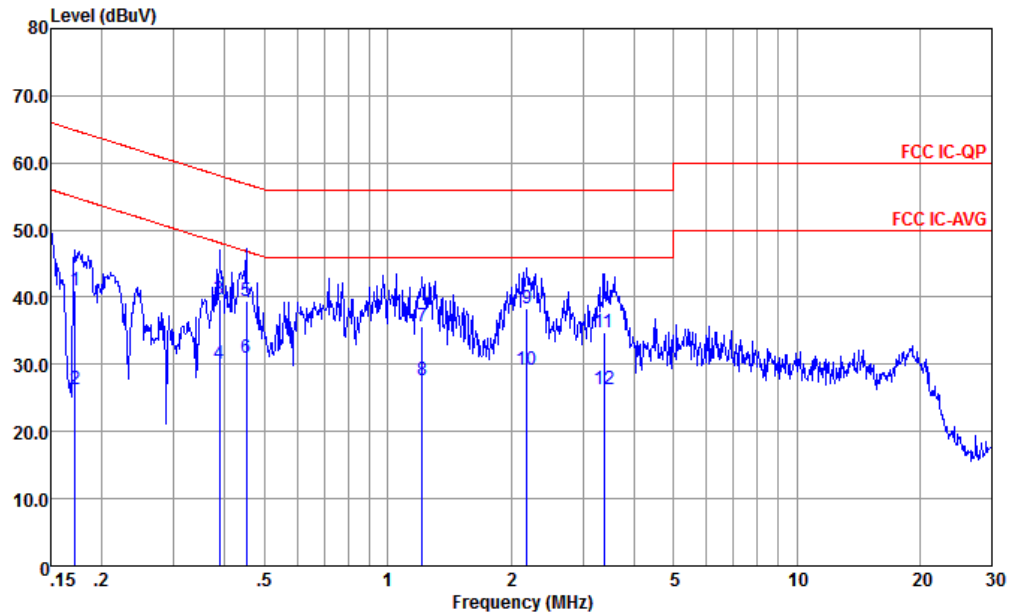


Site : CO01-KS
Condition : FCC IC-QP LISN-060105-L 24+80 LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.171	43.57	-21.33	64.90	32.87	0.25	10.45	QP
2	0.171	29.30	-25.60	54.90	18.60	0.25	10.45	Average
3	0.396	40.04	-17.91	57.95	29.20	0.35	10.49	QP
4	0.396	29.44	-18.51	47.95	18.60	0.35	10.49	Average
5 *	0.433	44.01	-13.19	57.20	33.20	0.35	10.46	QP
6	0.433	33.71	-13.49	47.20	22.90	0.35	10.46	Average
7	0.862	38.19	-17.81	56.00	27.50	0.39	10.30	QP
8	0.862	27.69	-18.41	46.00	16.90	0.39	10.30	Average
9	1.324	37.86	-18.14	56.00	27.20	0.40	10.26	QP
10	1.324	27.26	-18.74	46.00	16.60	0.40	10.26	Average
11	2.237	41.85	-14.15	56.00	31.19	0.42	10.24	QP
12	2.237	31.85	-14.15	46.00	21.19	0.42	10.24	Average



Test Engineer :	Amos	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC IC-QP LISN-060105-N 24+80 NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.172	40.90	-23.96	64.86	30.20	0.25	10.45	QP
2	0.172	26.20	-28.66	54.86	15.50	0.25	10.45	Average
3	0.387	39.63	-18.49	58.12	28.80	0.34	10.49	QP
4	0.387	30.13	-17.99	48.12	19.30	0.34	10.49	Average
5	0.452	39.39	-17.46	56.85	28.60	0.34	10.45	QP
6 *	0.452	30.99	-15.86	46.85	20.20	0.34	10.45	Average
7	1.216	35.72	-20.28	56.00	25.10	0.36	10.26	QP
8	1.216	27.52	-18.48	46.00	16.90	0.36	10.26	Average
9	2.190	38.23	-17.77	56.00	27.60	0.39	10.24	QP
10	2.190	29.13	-16.87	46.00	18.50	0.39	10.24	Average
11	3.381	34.81	-21.19	56.00	24.19	0.40	10.22	QP
12	3.381	26.21	-19.79	46.00	15.59	0.40	10.22	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

<Class B Limit>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

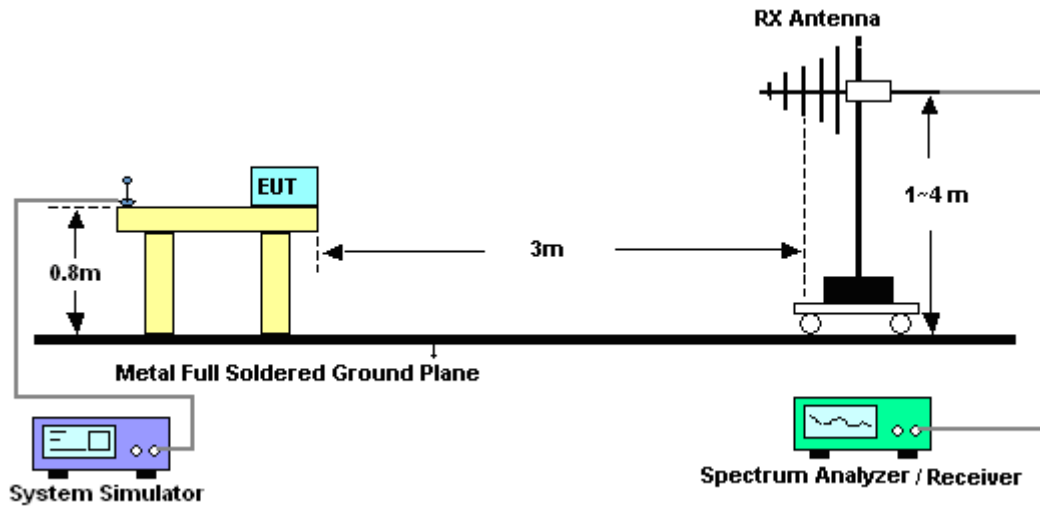
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

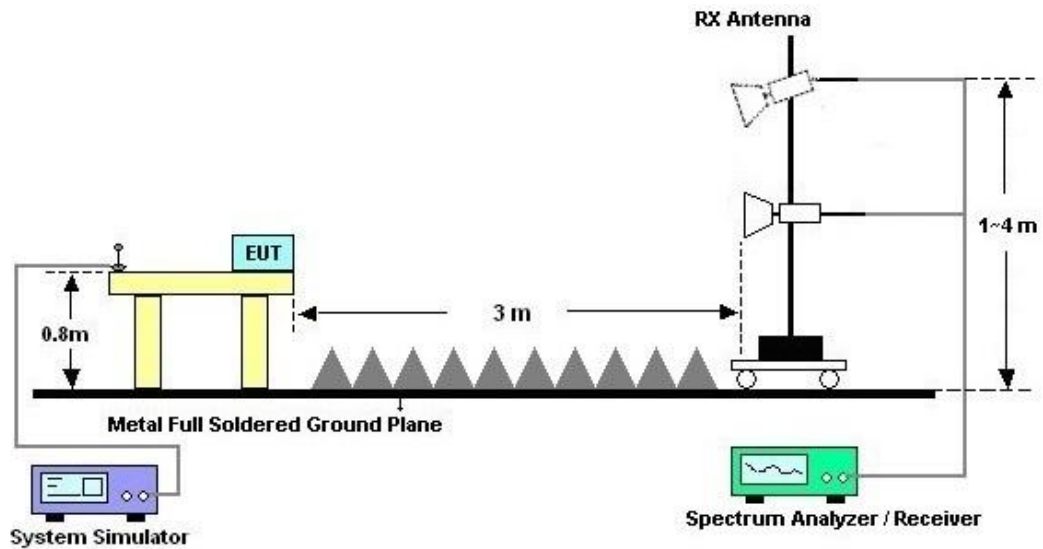
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBμV/m) = 20 log Emission level (μV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
10. Exploratory radiated emissions testing of handheld and/or body-worn devices shall include rotation of the EUT through three orthogonal axes (X/Y/Z Plane) to determine the orientation (attitude) that maximizes the emissions.

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

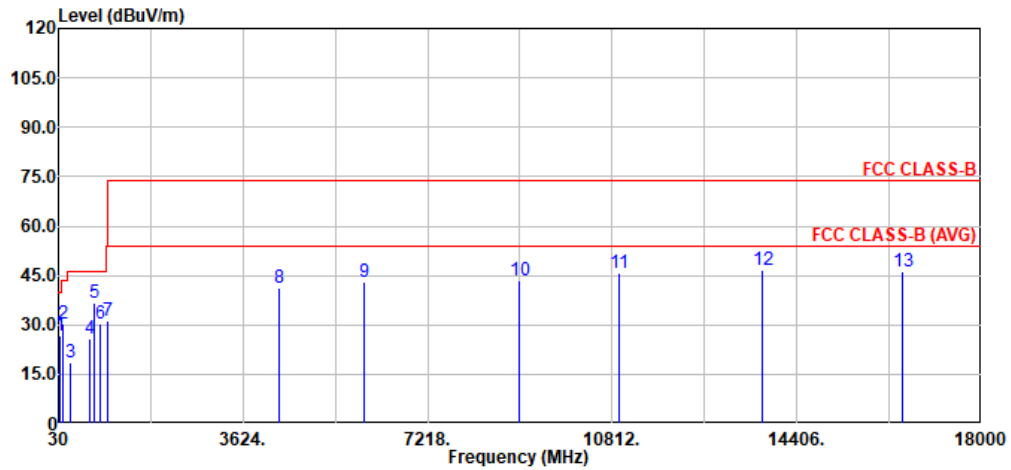


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Test Engineer :	Levi Zhuo	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Remark :	#5 is system simulator signal which can be ignored.		

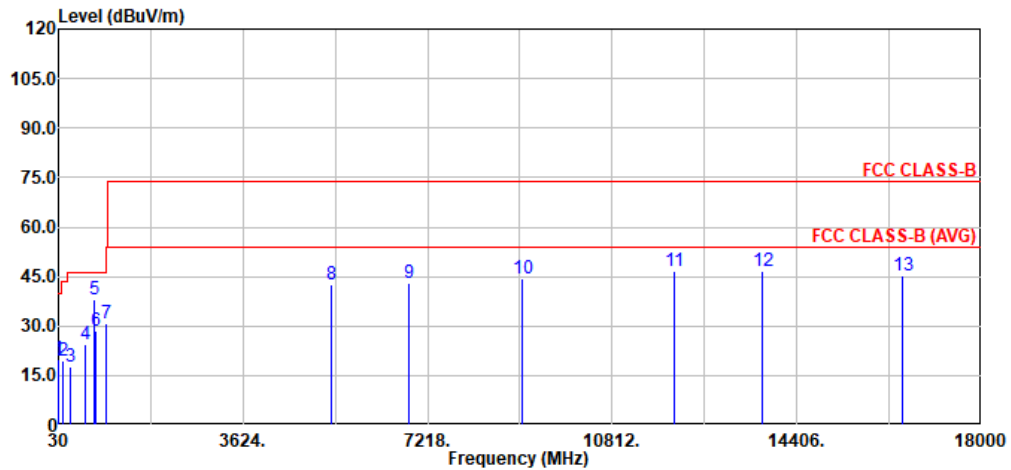


Site : 03CH07-KS
Condition: FCC CLASS-B 3m 3117 SN 00240132 Horizontal

	Freq	Level	Limit	Over	Read	Ant	Cable	Preamp	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	47.95	26.66	40.00	-13.34	42.53	15.19	1.06	32.12	---	---	Peak
2	128.70	30.34	43.50	-13.16	43.14	17.54	1.72	32.06	---	---	Peak
3	253.83	18.35	46.00	-27.65	28.82	18.95	2.44	31.86	---	---	Peak
4	633.83	25.96	46.00	-20.04	27.91	26.30	3.85	32.10	---	---	Peak
5	737.62	36.78			36.59	27.97	4.13	31.91	---	---	Peak
6	851.83	30.36	46.00	-15.64	27.74	29.67	4.43	31.48	---	---	Peak
7	979.39	31.28	54.00	-22.72	26.05	30.81	4.76	30.34	---	---	Peak
8	4336.25	41.02	74.00	-32.98	62.94	33.85	10.23	66.00	---	---	Peak
9	5976.75	42.96	74.00	-31.04	61.86	35.36	12.13	66.39	---	---	Peak
10	9007.00	43.65	74.00	-30.35	60.45	36.23	15.07	68.10	---	---	Peak
11	10932.25	45.82	74.00	-28.18	57.37	38.03	17.27	66.85	---	---	Peak
12	13745.75	46.43	74.00	-27.57	52.75	38.95	19.33	64.60	---	---	Peak
13	16470.00	46.30	74.00	-27.70	50.18	41.68	20.84	66.40	---	---	Peak



Test Engineer :	Levi Zhuo	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH07-KS
Condition: FCC CLASS-B 3m 3117 SN 00240132 Vertical

	Freq	Level	Limit	Over	Read	Ant	Cable	Preamp	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	cm	deg	
1	30.24	20.08	40.00	-19.92	26.44	25.02	0.83	32.21	---	---	Peak
2	127.24	19.44	43.50	-24.06	32.25	17.54	1.71	32.06	---	---	Peak
3	257.47	17.80	46.00	-28.20	27.79	19.45	2.46	31.90	---	---	Peak
4	562.77	24.31	46.00	-21.69	27.07	25.97	3.61	32.34	---	---	Peak
5	736.89	38.19			38.04	27.94	4.13	31.92	---	---	Peak
6	750.71	28.56	46.00	-17.44	28.03	28.10	4.17	31.74	---	---	Peak
7	956.35	30.89	46.00	-15.11	26.27	30.57	4.70	30.65	---	---	Peak
8	5352.00	42.38	74.00	-31.62	62.45	34.79	11.42	66.28	---	---	Peak
9	6852.25	42.84	74.00	-31.16	61.03	35.60	13.39	67.18	---	---	Peak
10	9066.50	44.27	74.00	-29.73	60.84	36.33	15.21	68.11	---	---	Peak
11	12007.50	46.57	74.00	-27.43	55.54	38.91	17.93	65.81	---	---	Peak
12	13741.50	46.65	74.00	-27.35	52.97	38.94	19.33	64.59	---	---	Peak
13	16474.25	45.11	74.00	-28.89	48.97	41.70	20.84	66.40	---	---	Peak

Note:

- Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
MXE EMI Receiver	Keysight	N9038A	MY57290151	3Hz~8.4GHz	Jul. 04, 2024	Jun. 13, 2025	Jul. 03, 2025	Radiation (03CH07-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz~44G,MAX 30dB	Oct. 11, 2024	Jun. 13, 2025	Oct. 10, 2025	Radiation (03CH07-KS)
Bilog Antenna	TESEQ	CBL 6111D	49921	30MHz~1GHz	Mar. 24, 2025	Jun. 13, 2025	Mar. 23, 2026	Radiation (03CH07-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00240132	1GHz~18GHz	Jul. 06, 2024	Jun. 13, 2025	Jul. 05, 2025	Radiation (03CH07-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Oct. 22, 2024	Jun. 13, 2025	Oct. 21, 2025	Radiation (03CH07-KS)
Amplifier	EM	EM18G40GGA	060737	18~40GHz	Jan. 03, 2025	Jun. 13, 2025	Jan. 02, 2026	Radiation (03CH07-KS)
Amplifier	SONOMA	310N	380826	9KHz~1GHz	Jul. 03, 2024	Jun. 13, 2025	Jul. 02, 2025	Radiation (03CH07-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Jun. 13, 2025	NCR	Radiation (03CH07-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Jun. 13, 2025	NCR	Radiation (03CH07-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Jun. 13, 2025	NCR	Radiation (03CH07-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 16, 2025	Jun. 23, 2025	Apr. 15, 2026	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Aug. 20, 2024	Jun. 23, 2025	Aug. 19, 2025	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Dec. 24, 2024	Jun. 23, 2025	Dec. 23, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 09, 2024	Jun. 23, 2025	Oct. 08, 2025	Conduction (CO01-KS)

NCR: No Calibration Required

5. Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.84 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.20 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.88 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.34 dB
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----- THE END -----