



EMC TEST REPORT

Report No.: 20250317G05164X-W1

Product Name: 5G Mobile Phone

FCC ID: 2BGHD-VTL202402

IC: 32468-VTL202402

Model No. : VTL-202402

Trade Name: Vertu

Applicant: Chengdu Xiaochen Technology Co., Ltd

Address: 3rd Floor, Building B15, Ganzhizhongguo Chengdu Center, No.777
HuaFu Avenue Shuangliu County, Chengdu City, Sichuan province, China

Received Date: 2025.03.17

Dates of Testing: 2025.03.19-2025.04.09

Issued by: CCIC Southern Testing Co., Ltd.

Lab Location: Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan
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Test Report

Product Name : 5G Mobile Phone

Model No. : VTL-202402

Applicant..... : Chengdu Xiaochen Technology Co., Ltd

Applicant Address..... : 3rd Floor, Building B15, Ganzhizhongguo Chengdu Center, No.777
Huafu Avenue Shuangliu County, Chengdu City, Sichuan province,
China

Manufacturer..... : VERTU INTERNATIONAL CORPORATION LIMITED

Manufacturer Address : Chase Business Centre 39-41 Chase Side London England N14 5BP

Test Standards : 47 CFR Part 15 Subpart B
ICES-003 Issue 7

Test Result..... : PASS

Tested by : Deng Shanfei

Deng Shanfei, Test Engineer

2025.04.10

Reviewed by : Sun Jiaohui

Sun Jiaohui, Senior Engineer

2025.04.10

Approved by : Chris You

Chris You, Manager

2025.04.10



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Change History		
Issue	Date	Reason for change
1.0	2025.04.10	First edition



1. GENERAL INFORMATION

1.1 EUT Description

EUT Name	5G Mobile Phone
Power supply	Battery 1#Model No: Li3909T45P8h383646 Manufacturer: SCUD (Fujian) Electronics Co., Ltd.
	2#Model No: Li3934T45P8h675654 Manufacturer: SCUD (Fujian) Electronics Co., Ltd.
	AC Adapter Model No: FC139U I/P: 100-240V~50/60Hz 1.5A Max
	O/P: PD: 5.0V 3.0A 15.0W 9.0V 3.0A 27.0W 12.0V 3.0A 36.0W 15.0V 3.0A 45.0W 20.0V 3.25A 65.0W
	PPS: 3.3-11.0V 5.0A Max Manufacturer: Dongguan Aohai Technology Co., Ltd.

Note 1: The EUT is a 5G Mobile Phone;

Note 2: All the patterns have been tested and only the worst results are recorded in the report.

Note 3: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

1.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B & ICES-003:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Radio Frequency Devices
2	ICES-003 Issue 7	Information Technology Equipment (Including Digital Apparatus) — Limits and Methods of Measurement

Test detailed items/section required by FCC & ISED rules and results are as below:

No.	Section	Description	Result
1	15.107	Conducted Emission	PASS
2	15.109	Radiated Emission	PASS
3	ICES-003 Issue 7 Section3.2.1	Conducted Emission	PASS
4	ICES-003 Issue 7 Section3.2.2	Radiated Emission	PASS

NOTE:

- (1) The EUT has been tested according to 47 CFR Part 15 Subpart B, CLASS B. The test procedure is according to ANSI C63.4:2014.
- (2) The EUT has been tested according to ICES 003 Issue 7. The test procedure is according to ANSI C63.4:2014.



1.3 Facilities and Accreditations

1.3.1 Facilities

☒ CCIC-SET Lab 1

Address: Electronic Testing Building, No.43, Shahe Road, Xili Street, Nanshan District, Shenzhen, Guangdong, China

FCC-Registration No.: CN1283

CCIC Southern Testing Co., Ltd EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Designation Number: CN1283, valid time is until Jun. 30th, 2025.

ISED Registration: 11185A, CAB number: CN0064

CCIC Southern Testing Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A on Aug. 04, 2016, valid time is until Jun. 30th, 2025.

A2LA Code: 5721.01

CCIC-SET is a third party testing organization accredited by A2LA according to ISO/IEC 17025. The accreditation certificate number is 5721.01.

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

☐ CCIC-SET Lab 4

Address: No.125, Hongmei Section, Wangsha Road, Hongmei Town, Dongguan City, Guangdong Province, China

CNAS L1659

CCIC Southern Testing Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

1.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15°C - 35°C
Relative Humidity (%):	25% -75%



Atmospheric Pressure (kPa):	86kPa-106kPa
-----------------------------	--------------

1.3.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission:	Uc = 3.2 dB (k=2)
Uncertainty of Radiated Emission: (30MHz~1GHz)	Uc = 5.8 dB (k=2)
Uncertainty of Radiated Emission: (1~6GHz)	Uc = 5.1 dB (k=2)
Uncertainty of Radiated Emission: (6~18GHz)	Uc = 5.5 dB (k=2)

2. TEST CONDITIONS SETTING

2.1 Test Peripherals

The following is a listing of the EUT and peripherals utilized during the performance of EMC test:

Support Equipment:

Description	Brand name	Model	Serial No.	FCCID
Notebook	Lenovo	ThinkPad E14 Gen 2	/	/

Support Cable:

Description	Shield Type	Ferrite Core	Length
/	/	/	/

2.2 Test Mode

Note 4: The EUT is a 5G Mobile Phone; It could support the following operating mode and frequency band:

GSM 850/1900; WCDMA Band 2/4/5;

LTE Band 2/4/5/7/12/17/25/26/41/66;

NR Band N1/N2/N3/N5/N7/N8/N20/N25/N28/N38/N40/N41/N66/N77/N78;

GNSS; 2.4G/5G/6G/7G WIFI; Bluetooth; NFC

Note 5: The EUT have the following typical setups during the test:

Setup1: GSM 850 Traffic + Charger;

Setup2: GSM 1900 Traffic + Charger;

Setup3: WCDMA Band 2 Traffic + Charger;

Setup4: WCDMA Band 4 Traffic + Charger;

Setup5: WCDMA Band 5 Traffic + Charger;

Setup6: LTE Band 2 Traffic + Charger;

Setup7: LTE Band 4 Traffic + Charger;

Setup8: LTE Band 5 Traffic + Charger;

Setup9: LTE Band 7 Traffic + Charger;

Setup10: LTE Band 12 Traffic + Charger;

Setup11: LTE Band 17 Traffic + Charger;

Setup12: LTE Band 25 Traffic + Charger;

Setup13: LTE Band 26 Traffic + Charger;

Setup14: LTE Band 41 Traffic + Charger;

Setup15: LTE Band 66 Traffic + Charger;

Setup16: NR Band N1 Traffic + Charger;

Setup17: NR Band N2 Traffic + Charger;



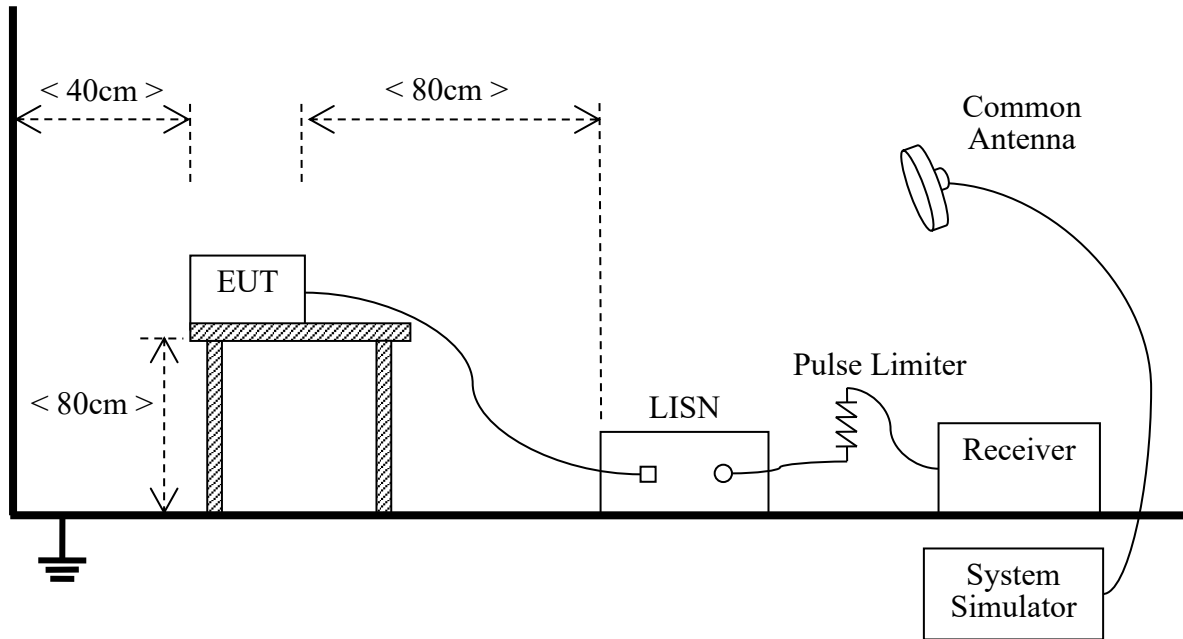
Setup18: NR Band N3 Traffic + Charger;
Setup19: NR Band N5 Traffic + Charger;
Setup20: NR Band N7 Traffic + Charger;
Setup21: NR Band N8 Traffic + Charger;
Setup22: NR Band N20 Traffic + Charger;
Setup23: NR Band N28 Traffic + Charger;
Setup24: NR Band N38 Traffic + Charger;
Setup25: NR Band N40 Traffic + Charger;
Setup26: NR Band N41 Traffic + Charger;
Setup27: NR Band N66 Traffic + Charger;
Setup28: NR Band N77 Traffic + Charger;
Setup29: NR Band N78 Traffic + Charger;
Setup30: GNSS + Charger;
Setup31: 2.4G WIFI + Charger;
Setup32: 5G WIFI + Charger;
Setup33: 6G WIFI + Charger;
Setup34: 7G WIFI + Charger;
Setup35: Bluetooth + Charger;
Setup36: NFC + Charger;
Setup37: EUT + Notebook PC + DATA;
Setup38: Idle + Charger;

Note 6: All the patterns have been tested and only the worst results are recorded in the report.

2.3 Test Setup and Equipments List

2.3.1 Conducted Emission

A. Test Setup:



The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides $50\Omega/50\mu\text{H}$ of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

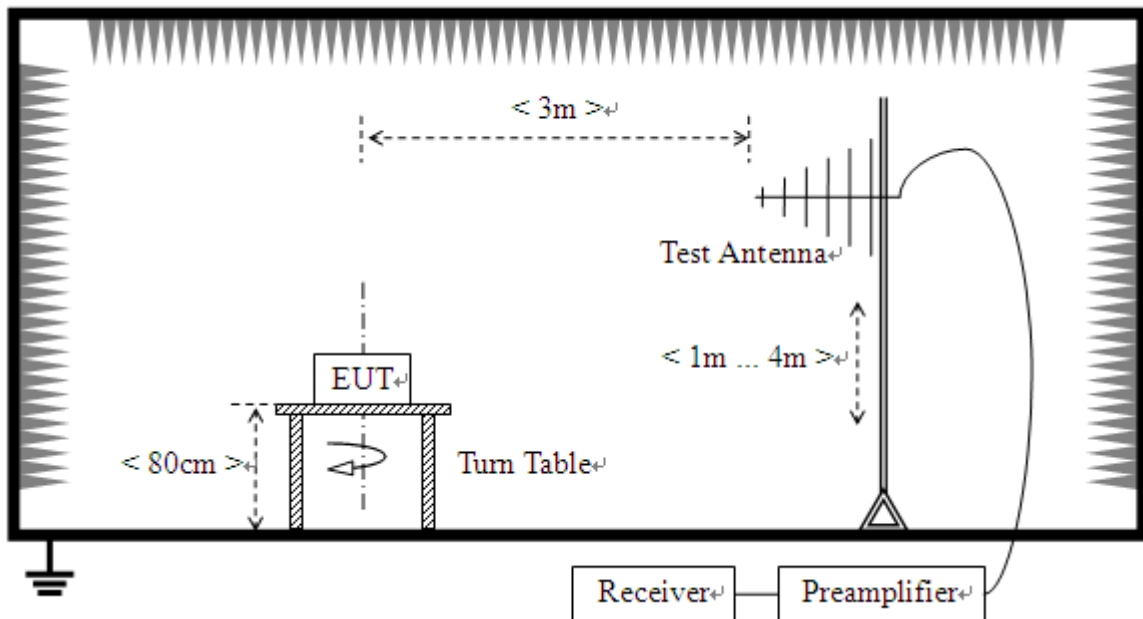
B. Equipments List:

Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due. Date
Test Receiver	KEYSIGHT	ESR3	A181103297	2025.03.18	2026.03.17
LISN	ROHDE&SCHWARZ	ENV216	A140701847	2024.05.23	2025.05.22
Cable	MATCHING PAD	W7	/	2024.08.02	2025.08.01

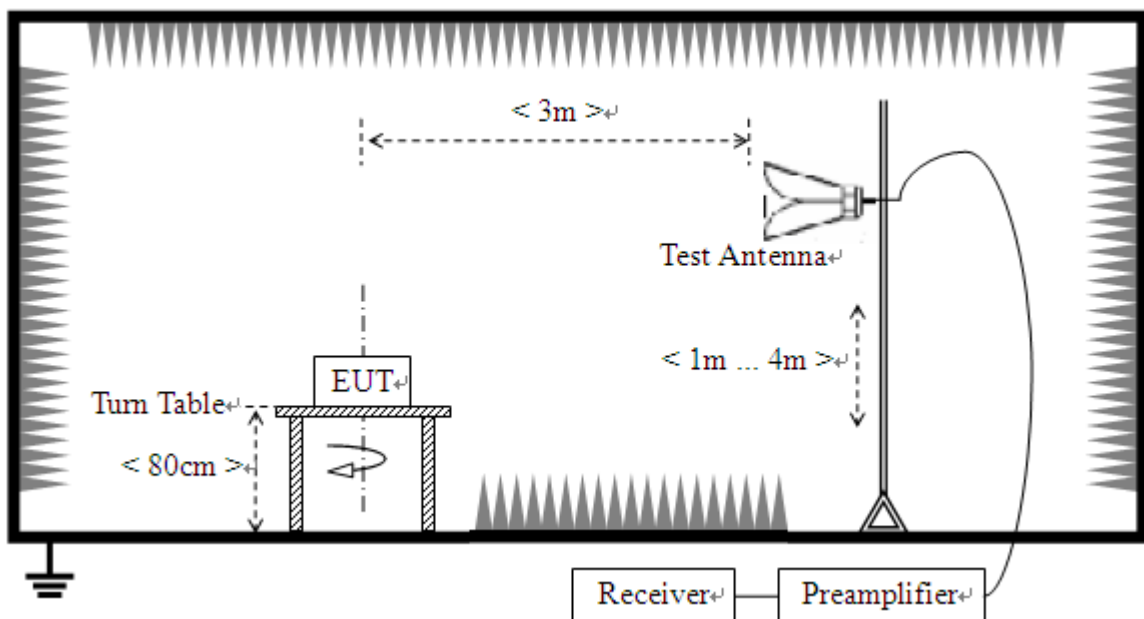
2.3.2 Radiated Emission

A. Test Setup:

- 1) For radiated emissions from 30MHz to 1GHz



- 2) For radiated emissions above 1GHz



**B. Test Procedure**

The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower.

For the test Antenna:

- 1) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

C. Equipments List:

Description	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due. Date
EMI Test Receiver	ROHDE&SCHWARZ	ESIB7	A0501375	2025.01.13	2026.01.12
Broadband Ant.	ETC	MCTD2786	A150402239	2024.06.01	2025.05.31
3M Anechoic Chamber	Albatross	SAC-3MAC 9*6*6m	A0412375	2024.02.27	2027.02.27
EMI Test Receiver	ROHDE&SCHWARZ	ESW26	A180502935	2024.05.24	2025.05.23
5M Anechoic Chamber	Albatross	SAC-5MAC 12.8x6.8x6.4m	A0304210	2022.03.25	2025.06.07
EMI Horn Ant.	ROHDE&SCHWARZ	HF906	A0304225	2024.04.02	2027.04.01

3. 47 CFR PART 15B REQUIREMENTS

3.1 Conducted Emission

3.1.1 Requirement

According to FCC section 15.107 and ICES-003, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- The limit subjects to the Class B digital device.
- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.1.2 Test Description

See section 2.3.1 of this report.

3.1.3 Test Result

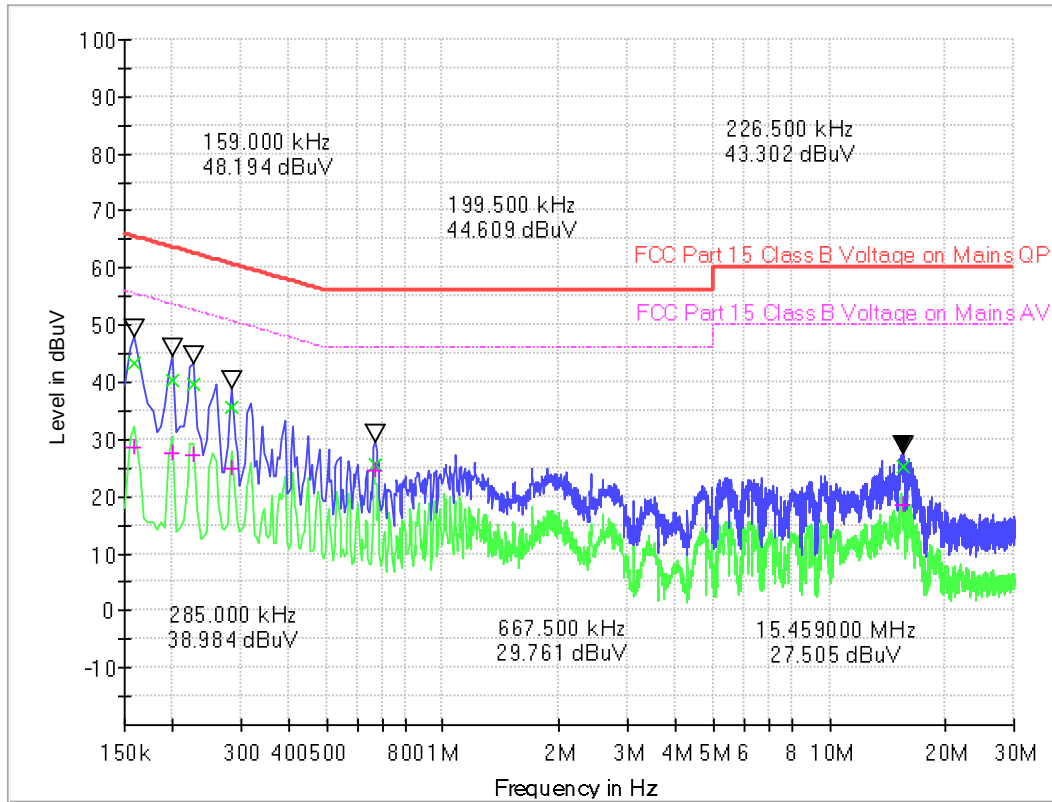
The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

Note:

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a Nominal 120V AC, 50/60Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Test voltage and frequency (120V AC, 60Hz)

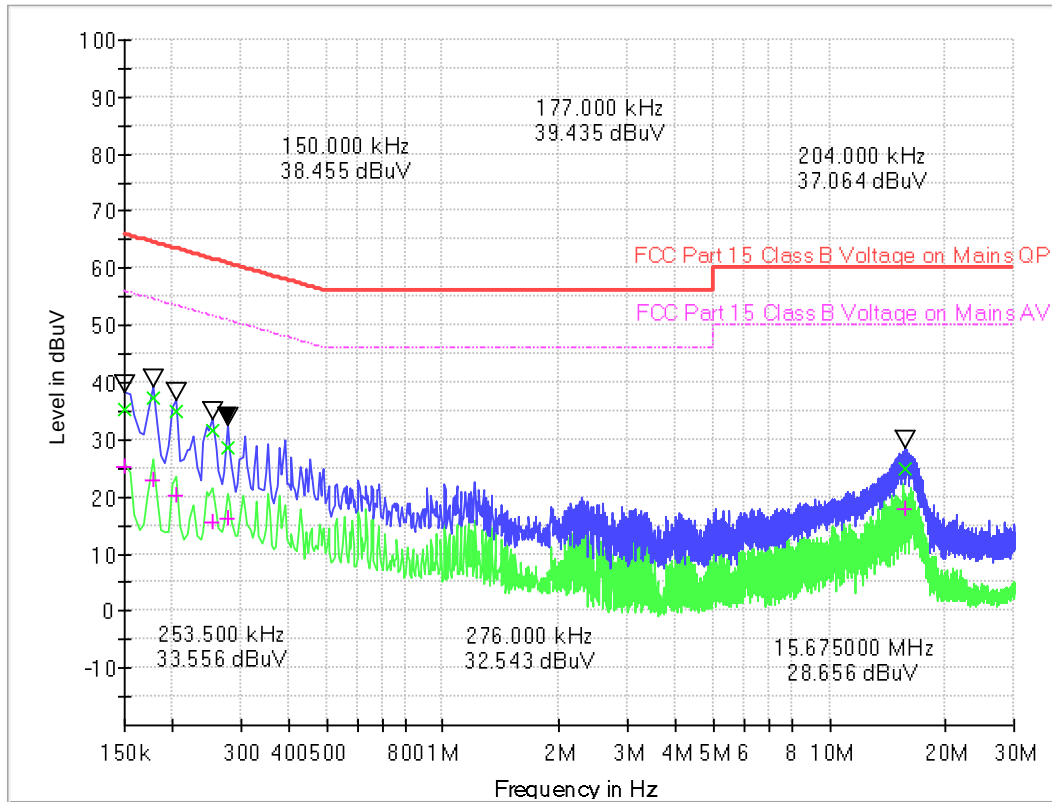
A. Mains terminal disturbance voltage, L phase, Setup 1



(Plot A: L Phase)

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV (dB)	Limit - AV (dB μ V)
0.159000	43.20	28.68	9.9	22.32	65.52	26.84	55.52
0.199500	40.39	27.72	9.9	23.24	63.63	25.91	53.63
0.226500	39.51	27.18	9.9	23.07	62.58	25.40	52.58
0.285000	35.63	24.89	9.9	25.04	60.67	25.78	50.67
0.667500	25.73	24.44	9.9	30.27	56.00	21.56	46.00
15.459000	25.22	18.49	10.5	34.78	60.00	31.51	50.00

B. Mains terminal disturbance voltage, N phase, Setup 1



(Plot B: N Phase)

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Corr. (dB)	Margin - QPK	Limit - QPK	Margin - AV (dB)	Limit - AV (dB μ V)
0.150000	35.19	25.15	9.9	30.81	66.00	30.85	56.00
0.177000	37.21	22.93	9.9	27.42	64.63	31.70	54.63
0.204000	35.00	20.21	9.9	28.45	63.45	33.24	53.45
0.253500	31.58	15.43	9.9	30.06	61.64	36.21	51.64
0.276000	28.54	16.19	9.9	32.40	60.94	34.75	50.94
15.675000	24.86	17.97	10.5	35.14	60.00	32.03	50.00

3.2 Radiated Emission

3.2.1 Requirement

According to FCC section 15.109 and ICES-003, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength		Field Strength Limitation at 3m Measurement Dist	
	$\mu\text{V/m}$	Dist	($\mu\text{V/m}$)	(dBuV/m)
30.0 - 88.0	100	3m	100	$20\log 100$
88.0 - 216.0	150	3m	150	$20\log 150$
216.0 - 960.0	200	3m	200	$20\log 200$
Above 960.0	500	3m	500	$20\log 500$

- For frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.
- Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.
- For below 1G: QP detector RBW 120 kHz, VBW 300 kHz.

For Above 1G: PK detector RBW 1MHz, VBW 3MHz for PK value; AV detector RBW 1MHz, VBW 10Hz for AV value.

Note:

- The tighter limit shall apply at the boundary between two frequency range.
- Limitation expressed in dBuV/m is calculated by $20\log \text{Emission Level}(\mu\text{V/m})$.
- If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $Ld1 = Ld2 * (d2/d1)^2$.

Example:

F.S Limit at 30m distance is $30\mu\text{V/m}$, then F.S Limitation at 3m distance is adjusted as

$$Ld1 = L1 = 30\mu\text{V/m} * (10)^2 = 100 * 30\mu\text{V/m}.$$



3.2.2 Test Description

See section 2.3.2 of this report.

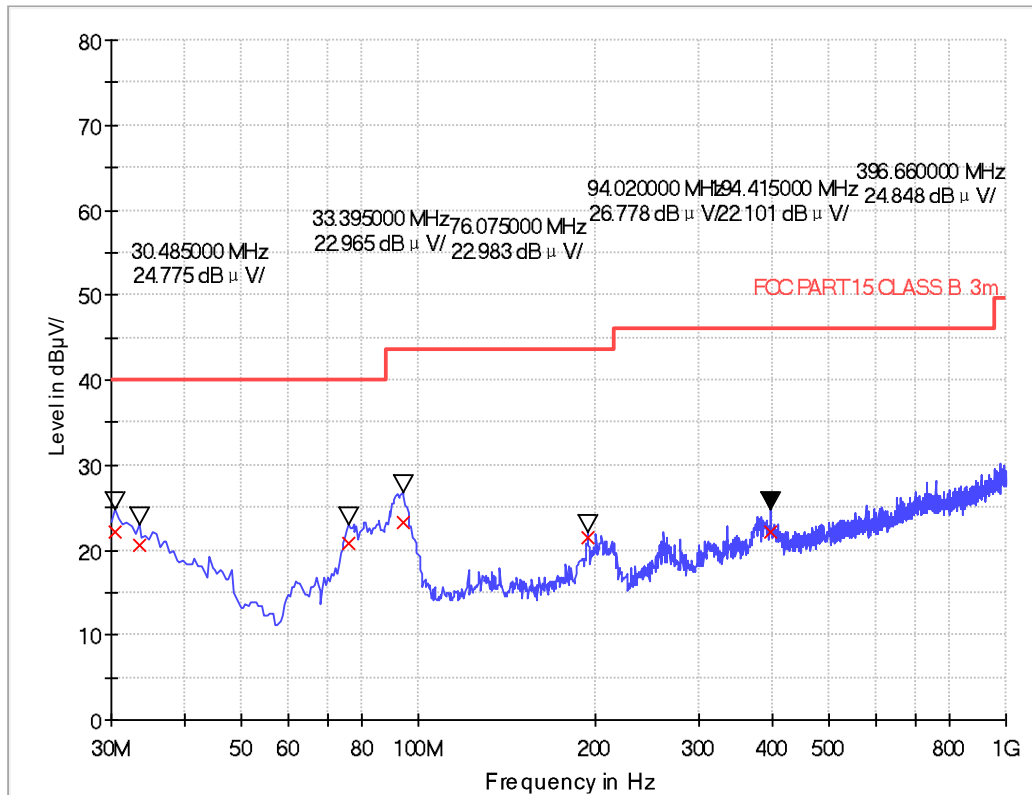
3.2.3 Test Result

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Note: All radiated emission tests were performed in X, Y, Z axis direction, and only the worst axis test condition was recorded in this test report.

A. Radiation disturbances, antenna polarization: Vertical, Setup 1



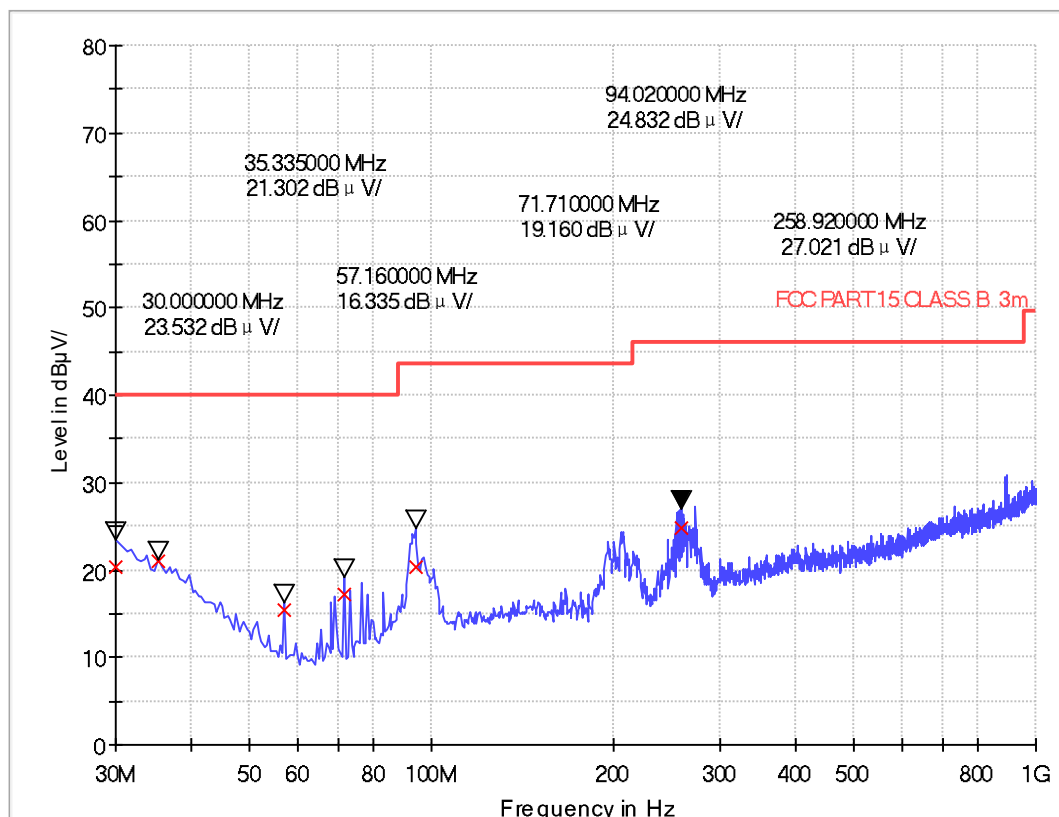
(Plot C: Test Antenna Vertical 30M - 1G)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Antenna	Corr. (dB/m)	Verdict
30.48	22.05	120.000	103	40.0	17.95	Vertical	19.1	Pass
33.40	20.50	120.000	108	40.0	19.50	Vertical	17.5	Pass
76.08	20.78	120.000	101	40.0	19.22	Vertical	7.4	Pass
94.00	23.34	120.000	106	43.5	20.16	Vertical	9.5	Pass
194.40	21.36	120.000	102	43.5	22.14	Vertical	11.7	Pass
396.64	22.22	120.000	104	46.0	23.78	Vertical	16.8	Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value–Emission Level.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. Only the antenna height (from 1m to 4m) at maximum reading are recorded.

B. Radiation disturbances, antenna polarization: Horizontal, Setup 1



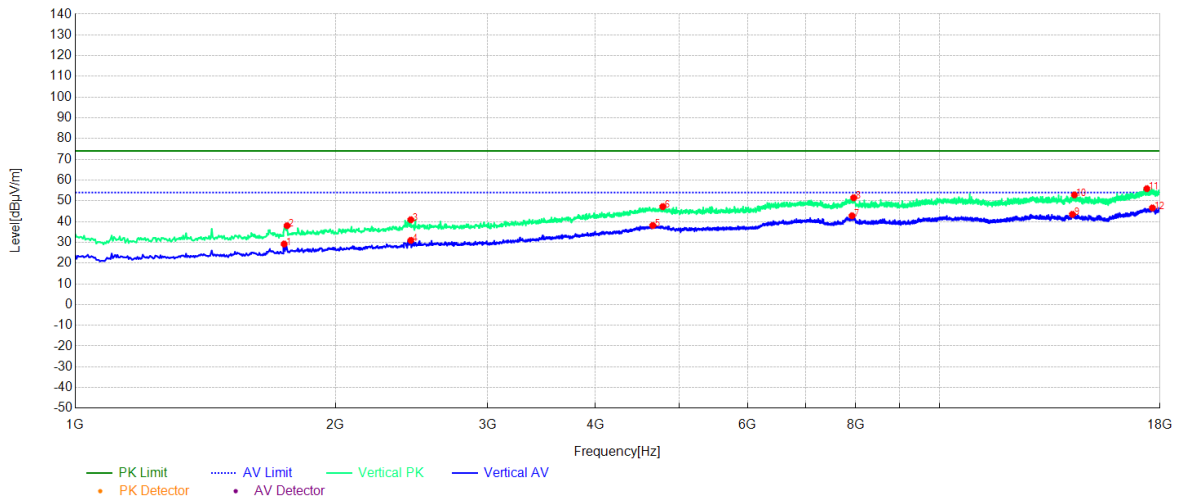
(Plot D: Test Antenna Horizontal 30M - 1G)

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)	Antenna	Corr. (dB/m)	Verdict
30.00	20.41	120.000	106	40.0	19.59	Horizontal	19.4	Pass
35.32	20.95	120.000	102	40.0	19.05	Horizontal	16.5	Pass
57.16	15.46	120.000	103	40.0	24.54	Horizontal	6.4	Pass
71.72	17.11	120.000	107	40.0	22.89	Horizontal	6.6	Pass
94.00	20.37	120.000	106	43.5	23.13	Horizontal	9.5	Pass
258.92	24.82	120.000	105	46.0	21.18	Horizontal	13.8	Pass

Remark:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB).
3. Margin value = Limit value–Emission Level.
4. The emission levels of other frequencies are very lower than the limit and not show in test report.
5. Only the antenna height (from 1m to 4m) at maximum reading are recorded.

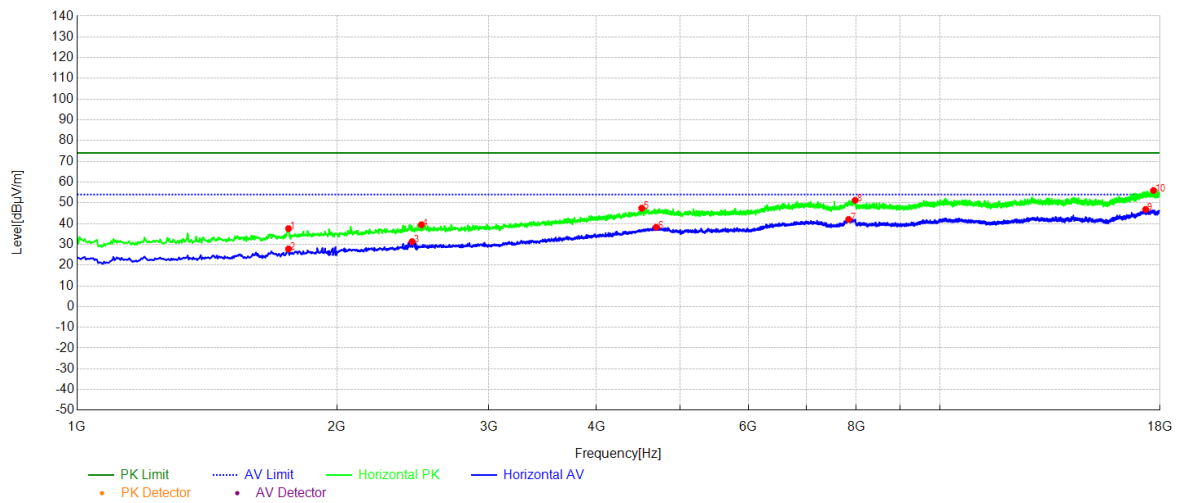
A. Radiation disturbances, antenna polarization: Vertical, Setup1



(Plot M: Test Antenna Vertical 1G – 18G)

NO	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin[dB μV/m]	Trace	Height [cm]	Angle [°]	Polarity
1	1744.75	29.17	-12.52	54.00	24.83	AV	109	145	Vertical
2	1758.35	38.02	-12.45	74.00	35.98	PK	102	163	Vertical
3	2445.29	40.88	-9.58	74.00	33.12	PK	105	337	Vertical
4	2445.29	30.93	-9.58	54.00	23.07	AV	106	335	Vertical
5	4659.13	38.12	0.25	54.00	15.88	AV	107	242	Vertical
6	4784.96	47.19	0.42	74.00	26.81	PK	102	75	Vertical
7	7923.78	42.78	5.31	54.00	11.22	AV	103	286	Vertical
8	7957.79	51.47	5.38	74.00	22.53	PK	105	351	Vertical
9	14252.45	43.49	9.97	54.00	10.51	AV	101	357	Vertical
10	14330.67	52.86	10.03	74.00	21.14	PK	108	152	Vertical
11	17381.08	55.87	14.29	74.00	18.13	PK	106	254	Vertical
12	17639.53	46.57	14.63	54.00	7.43	AV	104	193	Vertical

B. Radiation disturbances, antenna polarization: Horizontal, Setup1



(Plot N: Test Antenna Horizontal 1G – 18G)

NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin[dB μV/m]	Trace	Height [cm]	Angle [°]	Polarity
1	1758.35	37.56	-12.45	74.00	36.44	PK	109	306	Horizontal
2	1758.35	27.77	-12.45	54.00	26.23	AV	102	307	Horizontal
3	2445.29	31.29	-9.58	54.00	22.71	AV	106	152	Horizontal
4	2506.50	39.43	-9.33	74.00	34.57	PK	108	35	Horizontal
5	4512.90	47.42	-0.42	74.00	26.58	PK	105	84	Horizontal
6	4689.74	38.24	0.33	54.00	15.76	AV	101	307	Horizontal
7	7838.77	42.00	5.02	54.00	12.00	AV	102	212	Horizontal
8	7974.80	51.20	5.41	74.00	22.80	PK	107	109	Horizontal
9	17319.86	46.81	14.11	54.00	7.19	AV	106	65	Horizontal
10	17687.14	55.97	14.82	74.00	18.03	PK	103	251	Horizontal

-----End of Report-----