

FCC Test Report

Report No.: RFBERD-WTW-P23010334-1

FCC ID: 2AFZZPIPA

Test Model: 23031MPADC

Received Date: Dec. 28, 2022

Test Date: Mar. 10 ~ Mar. 13, 2023

Issued Date: Apr. 17, 2023

Applicant: Xiaomi Communications Co., Ltd.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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33383, Taiwan

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RFBERD-WTW-P23010334-1	Original Release	Apr. 17, 2023

1 Certificate of Conformity

Product: Stylus for Tablet

Brand: Xiaomi

Test Model: 23031MPADC

Sample Status: Engineering Sample

Applicant: Xiaomi Communications Co., Ltd.

Test Date: Mar. 10 ~ Mar. 13, 2023

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.209)
ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Gina Liu , **Date:** Apr. 17, 2023
Gina Liu / Specialist

Approved by : Jeremy Lin , **Date:** Apr. 17, 2023
Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.209)			
FCC Clause	Test Item	Result	Remarks
15.207	Conducted emission test	Pass	Meet the requirement of limit. Minimum passing margin is -15.95 dB at 0.16535 MHz.
15.209	Radiated emission test	Pass	Meet the requirement of limit. Minimum passing margin is -9.7 dB at 35.82 MHz and 105.67 MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Stylus for Tablet
Brand	Xiaomi
Test Model	23031MPADC
Status of EUT	Engineering Sample
Power Supply Rating	Refer to note
Operating Frequency	145 kHz
Field Strength	-4.60 dB μ V/m
Antenna Connector	N/A
Accessory Device	Refer to note
Data Cable Supplied	N/A

Note:

1. The EUT uses following accessories.

Battery		
Brand	Model	Specification
UTL	U56260	Power Rating : Charging to Li-ion Battery(internal circuit): 3.7 VDC, 40mAh,0.148Wh, 203Wh/L

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Description of Test Modes

1 channel is provided to this EUT:

Channel	Frequency (kHz)
1	145

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To		Description
	RE<1G	PLC	
-	√	√	-

Where **RE<1G**: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-axis**.

Radiated Emission Test (Below 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel
-	1	1

Power Line Conducted Emission Test:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel
-	1	1

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested By
RE	21 deg. C, 68 % RH	3.7 Vdc	Thomas Cheng
PLC	21.8 deg. C, 63 % RH	3.7 Vdc	Thomas Cheng

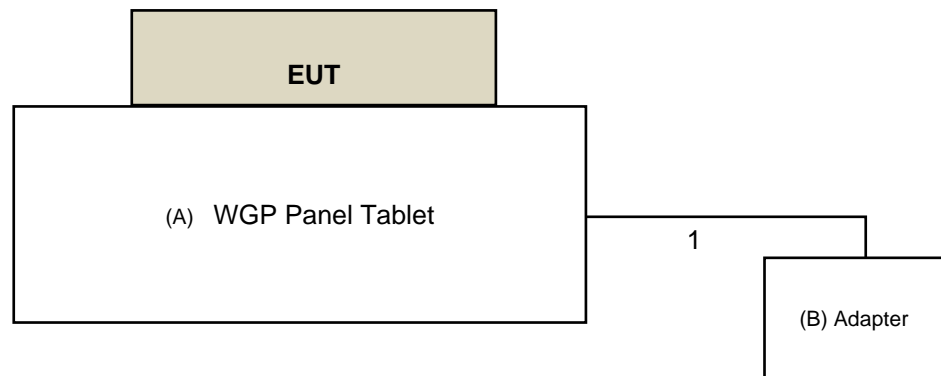
3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	WGP Panel Tablet	Xiaomi	M82-P01-CN-AS1-10243	NA	NA	Supplied by applicant
B	Adapter	APPLE	A1385	NA	NA	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	type-c to type-a	1	1	y	0	Provided by Lab

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.209)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Agilent	N9038A	MY55420137	2022/04/27	2023/04/26
Spectrum Analyzer Agilent	N9010A	MY52220207	2023/01/03	2024/01/02
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	2022/04/11	2023/04/10
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	2022/11/13	2023/11/12
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	2022/10/21	2023/10/20
Fixed Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	2022/04/05	2023/04/04
Loop Antenna TESEQ	HLA 6121	45745	2022/07/27	2023/07/26
Preamplifier EMCI	EMC 330H	980112	2022/10/01	2023/09/30
Preamplifier EMCI	EMC 012645	980115	2022/10/01	2023/09/30
RF Coaxial Cable EMCI	EMC104-SM-SM-8000	171005	2022/10/01	2023/09/30
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	2022/10/01	2023/09/30
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	2022/09/15	2023/09/14
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 10.

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable 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, except for the frequency band (9 kHz-90 kHz, 110 kHz-490 kHz) set to average and peak detect function.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

For Radiated Emission above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters 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 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak or peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Note:

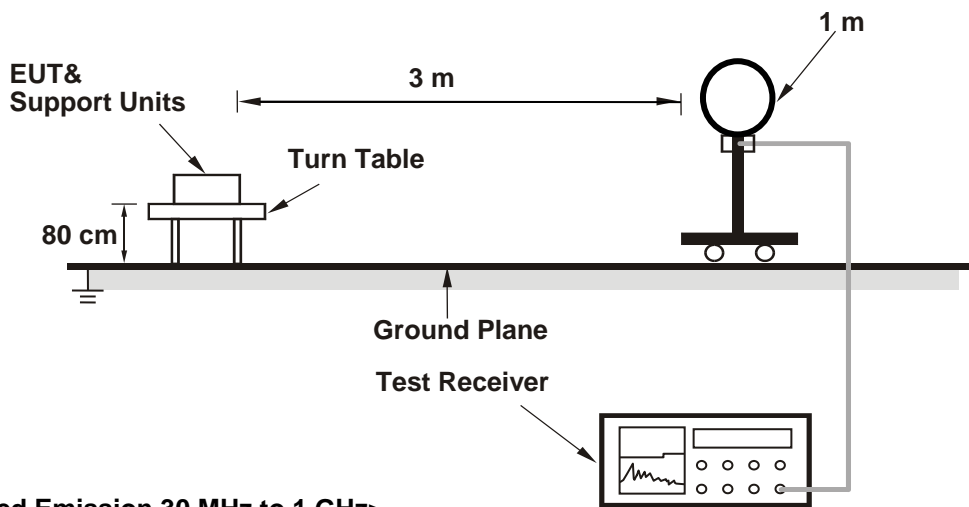
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP), Average detection (AV) or Peak detection (PK) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

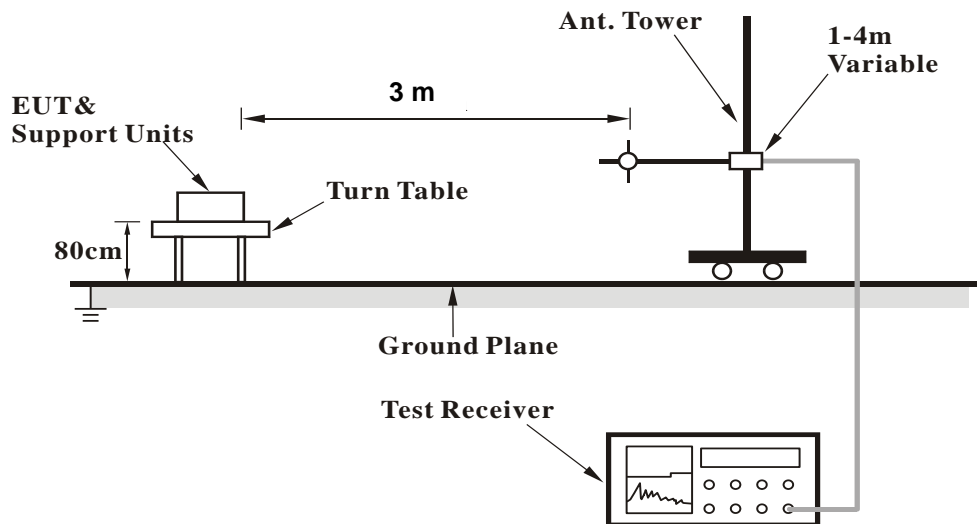
No deviation.

4.1.5 Test Setup

<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.

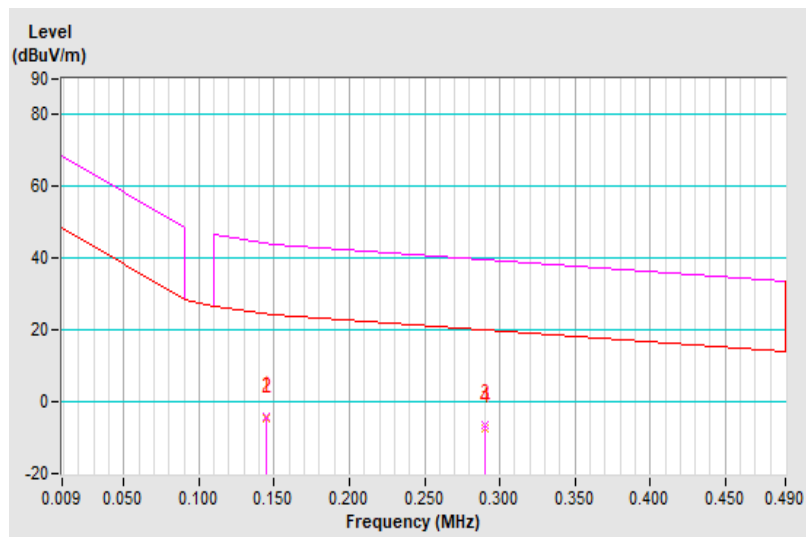
4.1.7 Test Results

Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Average Peak
Frequency Range	9 kHz ~ 490 kHz		

Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.145	-4.00 PK	44.40	-48.40	1.00	190	56.30	-60.30
2	0.145	-4.60 AV	24.40	-29.00	1.00	190	55.70	-60.30
3	0.290	-6.50 PK	38.40	-44.90	1.00	220	53.50	-60.00
4	0.290	-7.40 AV	18.40	-25.80	1.00	220	52.60	-60.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

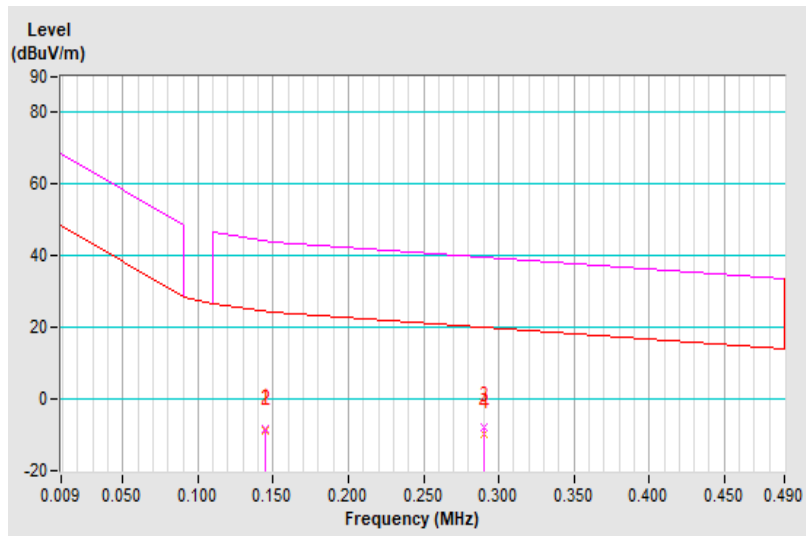


Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Average Peak
Frequency Range	9 kHz ~ 490 kHz		

Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.145	-8.20 PK	44.40	-52.60	1.00	78	52.10	-60.30
2	0.145	-8.80 AV	24.40	-33.20	1.00	78	51.50	-60.30
3	0.290	-8.10 PK	38.40	-46.50	1.00	96	51.90	-60.00
4	0.290	-9.80 AV	18.40	-28.20	1.00	96	50.20	-60.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

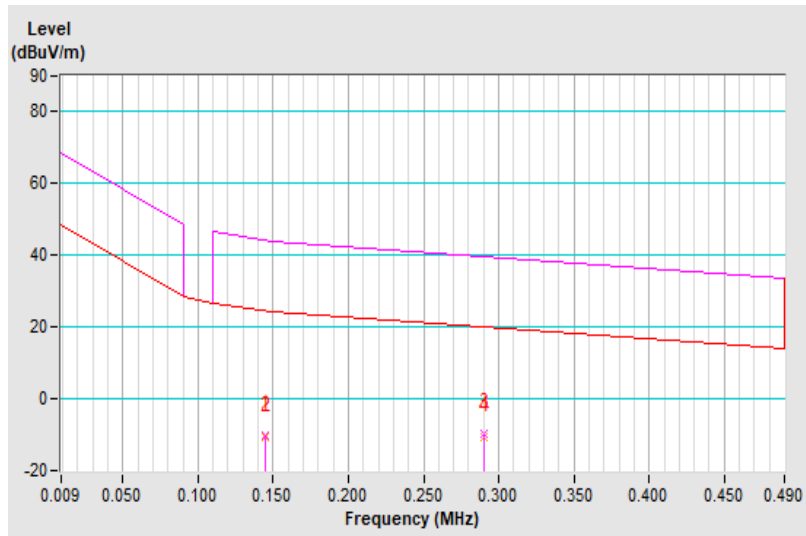


Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Average Peak
Frequency Range	9 kHz ~ 490 kHz		

Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.145	-10.00 PK	44.40	-54.40	1.00	358	50.30	-60.30
2	0.145	-10.60 AV	24.40	-35.00	1.00	358	49.70	-60.30
3	0.290	-9.90 PK	38.40	-48.30	1.00	344	50.10	-60.00
4	0.290	-10.90 AV	18.40	-29.30	1.00	344	49.10	-60.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

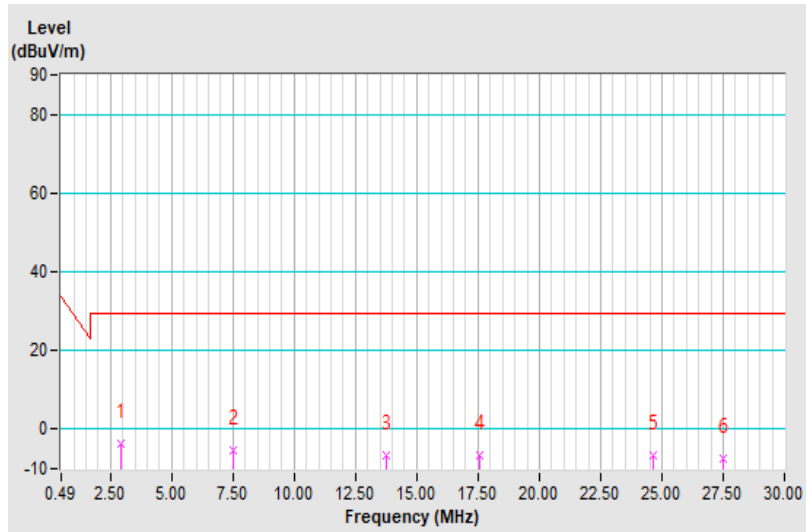


Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Quasi-Peak
Frequency Range	490 kHz ~ 30 MHz		

Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2.950	-3.70 QP	29.50	-33.20	1.00	30	16.10	-19.80
2	7.540	-5.40 QP	29.50	-34.90	1.00	116	13.70	-19.10
3	13.740	-6.40 QP	29.50	-35.90	1.00	330	11.80	-18.20
4	17.550	-6.50 QP	29.50	-36.00	1.00	229	11.60	-18.10
5	24.630	-6.50 QP	29.50	-36.00	1.00	212	11.60	-18.10
6	27.480	-7.30 QP	29.50	-36.80	1.00	298	10.80	-18.10

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

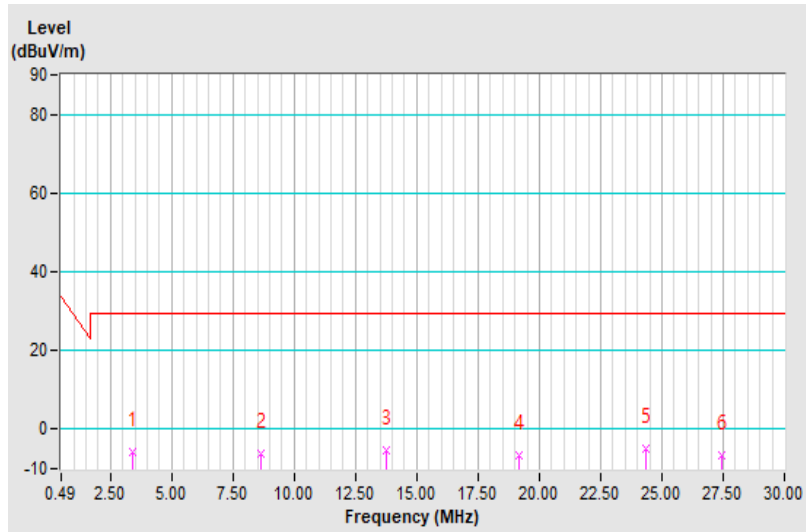


Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Quasi-Peak
Frequency Range	490 kHz ~ 30 MHz		

Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3.430	-5.70 QP	29.50	-35.20	1.00	18	14.20	-19.90
2	8.620	-6.30 QP	29.50	-35.80	1.00	287	12.40	-18.70
3	13.770	-5.40 QP	29.50	-34.90	1.00	116	12.80	-18.20
4	19.170	-6.50 QP	29.50	-36.00	1.00	8	11.60	-18.10
5	24.330	-4.90 QP	29.50	-34.40	1.00	18	13.20	-18.10
6	27.450	-6.80 QP	29.50	-36.30	1.00	3	11.30	-18.10

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

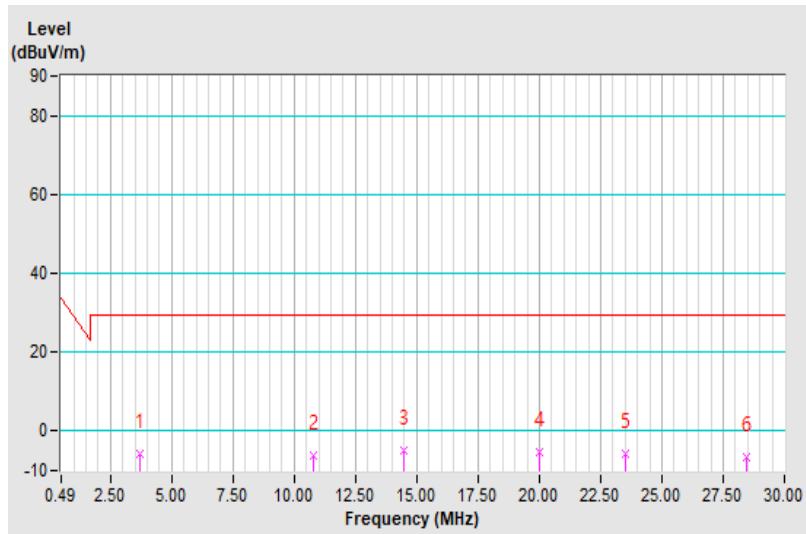


Test Mode	Transmit mode		
Channel	CH 1	Detector Function & Bandwidth	Quasi-Peak
Frequency Range	490 kHz ~ 30 MHz		

Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3.730	-5.80 QP	29.50	-35.30	1.00	2	14.10	-19.90
2	10.780	-6.20 QP	29.50	-35.70	1.00	341	12.00	-18.20
3	14.460	-4.90 QP	29.50	-34.40	1.00	345	13.30	-18.20
4	19.980	-5.20 QP	29.50	-34.70	1.00	180	12.90	-18.10
5	23.490	-5.80 QP	29.50	-35.30	1.00	11	12.30	-18.10
6	28.470	-6.70 QP	29.50	-36.20	1.00	334	11.40	-18.10

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

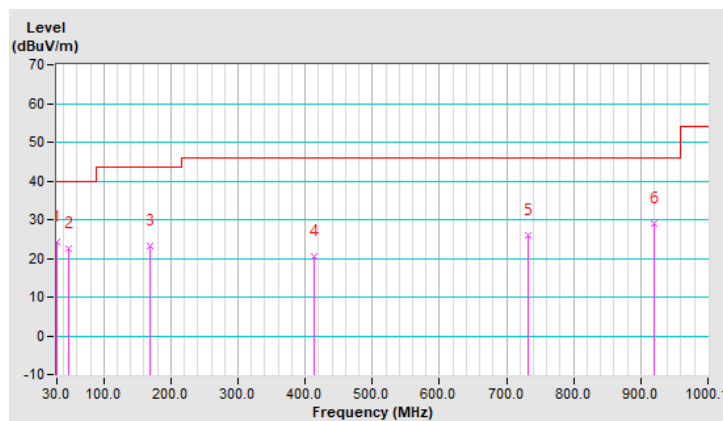


Channel	CH 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	24.2 QP	40.0	-15.8	2.00 H	288	36.9	-12.7
2	48.43	22.6 QP	40.0	-17.4	1.00 H	17	34.8	-12.2
3	168.72	23.2 QP	43.5	-20.3	1.00 H	307	36.1	-12.9
4	413.19	20.4 QP	46.0	-25.6	1.50 H	18	29.6	-9.2
5	731.38	25.9 QP	46.0	-20.1	1.00 H	18	28.8	-2.9
6	920.55	29.0 QP	46.0	-17.0	1.50 H	16	29.8	-0.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

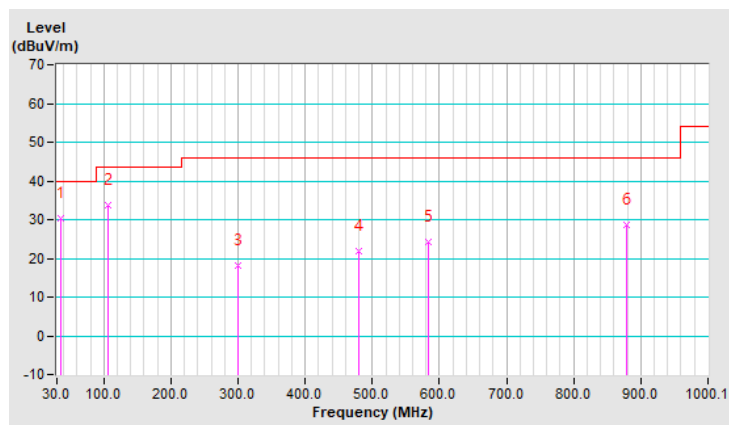


Channel	CH 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	35.82	30.3 QP	40.0	-9.7	1.50 V	149	43.1	-12.8
2	105.67	33.8 QP	43.5	-9.7	2.00 V	2	49.6	-15.8
3	299.69	18.0 QP	46.0	-28.0	1.00 V	350	29.8	-11.8
4	479.16	21.9 QP	46.0	-24.1	1.50 V	326	29.3	-7.4
5	583.93	24.2 QP	46.0	-21.8	1.00 V	47	29.9	-5.7
6	878.84	28.7 QP	46.0	-17.3	2.00 V	11	29.9	-1.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102412	2022/12/21	2023/12/20
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	2022/09/03	2023/09/02
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	2023/03/07	2024/03/06
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	2022/09/22	2023/09/21
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2 (Conduction 2).
 3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

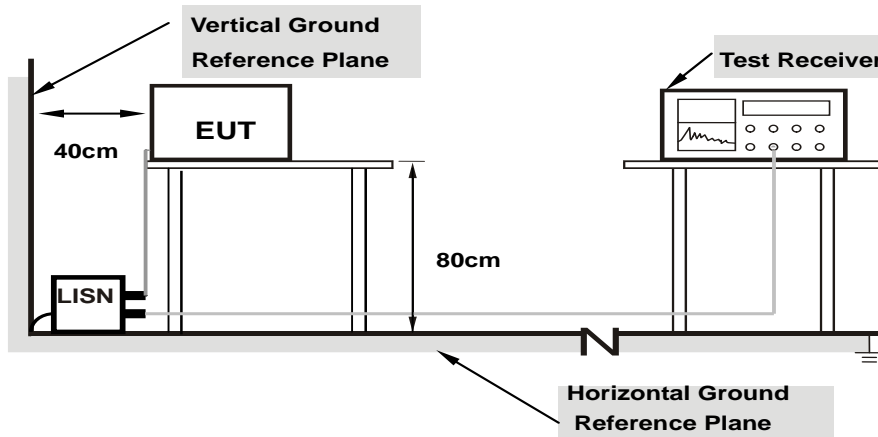
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz - 30 MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

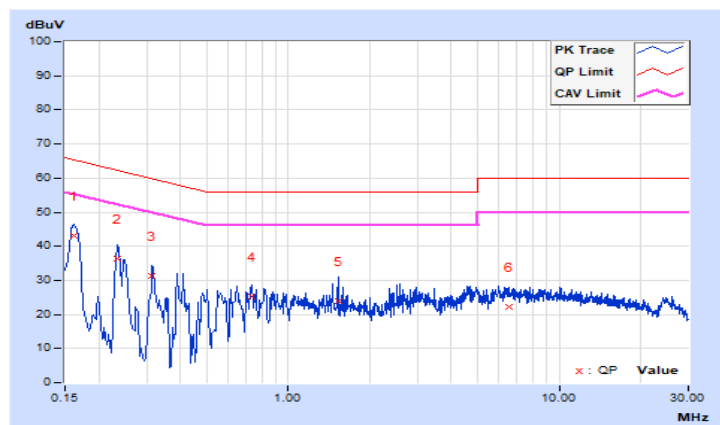
4.2.7 Test Results

Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Tested by	Thomas Cheng	Environmental Conditions	21.8°C, 63% RH

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	0.14	43.01	31.94	43.15	32.08	65.37	55.37	-22.22	-23.29
2	0.23400	0.14	36.10	18.13	36.24	18.27	62.31	52.31	-26.07	-34.04
3	0.31400	0.15	31.01	13.76	31.16	13.91	59.86	49.86	-28.70	-35.95
4	0.73000	0.16	25.20	13.82	25.36	13.98	56.00	46.00	-30.64	-32.02
5	1.52600	0.18	23.71	11.62	23.89	11.80	56.00	46.00	-32.11	-34.20
6	6.56200	0.38	21.94	12.93	22.32	13.31	60.00	50.00	-37.68	-36.69

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

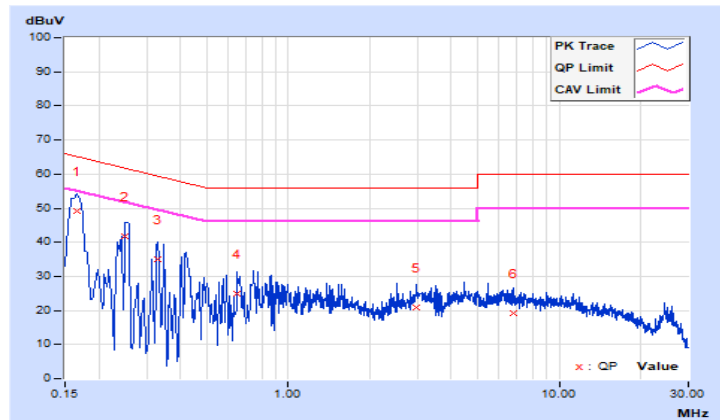


Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Tested by	Thomas Cheng	Environmental Conditions	21.8°C, 63% RH

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16535	0.17	49.07	38.15	49.24	38.32	65.19	55.19	-15.95	-16.87
2	0.25000	0.18	41.66	27.80	41.84	27.98	61.76	51.76	-19.92	-23.78
3	0.32976	0.18	34.81	19.80	34.99	19.98	59.46	49.46	-24.47	-29.48
4	0.65000	0.19	24.56	14.35	24.75	14.54	56.00	46.00	-31.25	-31.46
5	2.98600	0.26	20.73	12.61	20.99	12.87	56.00	46.00	-35.01	-33.13
6	6.79400	0.38	18.72	10.29	19.10	10.67	60.00	50.00	-40.90	-39.33

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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