

FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

13.3" LCD Touch Monitor

Model: QM-133BD-OPDR03, QM-133xxxxxxxxxxxxxx (where x may be alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related contructions and critical components)

Trade Name: 

Issued to

**Quixant PLC Taiwan Branch
12F., No. 150, Jianyi Road, Zhonghe Dist., New Taipei City, 23511, Taiwan (R.O.C.)**

Issued by

**Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)**
Issued Date: April 28, 2022

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		April 28, 2022		Initial Issue	ALL	Doris Chu

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1. TEST RESULT CERTIFICATION

Applicant: Quixant PLC Taiwan Branch
12F., No. 150, Jianyi Road, Zhonghe Dist., New Taipei City,
23511, Taiwan (R.O.C.)

Manufacturer: Quixant PLC Taiwan Branch
12F., No. 150, Jianyi Road, Zhonghe Dist., New Taipei City,
23511, Taiwan (R.O.C.)

Equipment Under Test: 13.3" LCD Touch Monitor



Trade Name:

Model: QM-133BD-OPDR03, QM-133xxxxxxxxxxxxxx (where x may be alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related contructions and critical components)

Date of Test: April 21 ~ 22, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15.209	Compliance
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

We hereby certify that:

All test results conform to above mentioned standards.

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part15.203, Part15.207, Part15.209. Part15.215. The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

A handwritten signature in black ink, appearing to read "Shawn Wu".

Shawn Wu
Supervisor
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	13.3" LCD Touch Monitor
Trade Name	Quixant
Model Number	QM-133BD-OPDR03, QM-133xxxxxxxxxxxxxxxxx (where x may be alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related contructions and critical components)
Model Discrepancy	The suffix of "X" (where x may be alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related contructions and critical components) on model number is just for marketing purpose only.
Received Date	April 21, 2022
Power Supply	Power from Power Adapter MEAN WELL / GST90A12 I/P: 100-240Vac, 1.3A, 50-60Hz O/P: 12Vdc, 6.67A, 80W
Frequency Band	115 ~ 145KHz
Antenna Designation	Coil Antenna

Remark:

1. For more details, refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. Disclaimer: Variant information between/among model numbers / trademarks are provided by the applicant, test results of this report are applicable to the sample EUT received of main test model name.

3. TEST SUMMARY

Standard Sec.	Chapter	Test Item	Result
15.215	7.1	20dB Bandwidth	Pass
15.209	7.2	Transmitter Radiated Emission	Pass
15.207	7.3	AC Power-line Conducted Emission	Pass
15.203	7.4	Antenna Requirement	Pass

4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013 , ANSI C63.4 2014 and FCC CFR 47 Part 15.203, 15.207.15.209,15.215.

4.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

4.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207.15.209, 15.215 under the FCC Rules Part 15 Subpart C and ANSI C63.10: 2013.

4.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in ANSI C63.10: 2013, Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz was using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. The EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in ANSI C63.10: 2013.

4.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in other rules, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

(b) Except as provided by other rules, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

4.5 DESCRIPTION OF TEST MODES

The EUT (model: QM-133BD-OPDR03) had been tested under operating condition.

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Power supply Mode	Mode 1: EUT power by Adapter
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

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

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Loop Probe	LANGER EMV-TECHNIK	RF-R 50-1	02-2644	01/24/2022	01/23/2023
EXA Signal Analyzer	KEYSIGHT	N9010B	MY55460167	09/07/2021	09/06/2022
Software			N/A		

Conducted Emission Room					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
CABLE	EMCI	CFD300-NL	CERF	06/28/2021	06/27/2022
EMI Test Receiver	R&S	ESCI	100064	07/05/2021	07/04/2022
LISN	SCHAFFNER	NNB 41	03/10013	02/15/2022	02/14/2023
Software			EZ-EMC(CCS-3A1-CE-WUGU)		

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/19/2021	07/18/2022
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/23/2022	02/22/2023
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	12/28/2021	12/27/2022
Loop Ant	COM-POWER	AL-130	121051	04/13/2022	04/12/2023
Pre-Amplifier	EMEC	EM330	060609	02/23/2022	02/22/2023
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	12/06/2021	12/05/2022
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

Remark:

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 9K~30M	+/- 2.25
3M Semi Anechoic Chamber / 30M~1G (Horizontally)	+/- 3.91
3M Semi Anechoic Chamber / 30M~1G (Vertically)	+/- 4.57
3M Semi Anechoic Chamber / 1G~6G	+/- 5.20
3M Semi Anechoic Chamber / 6G~18G	+/- 5.18
3M Semi Anechoic Chamber / 18G~40G	+/- 3.68

Remark: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5.4 Facilities and Test location

All measurement facilities used to collect the measurement data are located at
No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan. (R.O.C.)
CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	Jack Chen	-
Radiation	Ray Li	-
Conducted	Jack Chen	-

Remark: The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC public Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
	N/A				

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

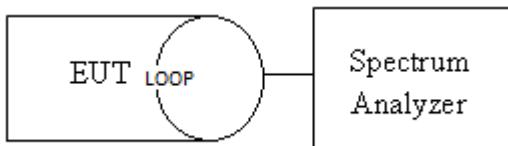
7. TEST REQUIREMENTS

7.1 20dB BANDWIDTH

Definition

According to FCC Part 15.215 (c) ,Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Configuration

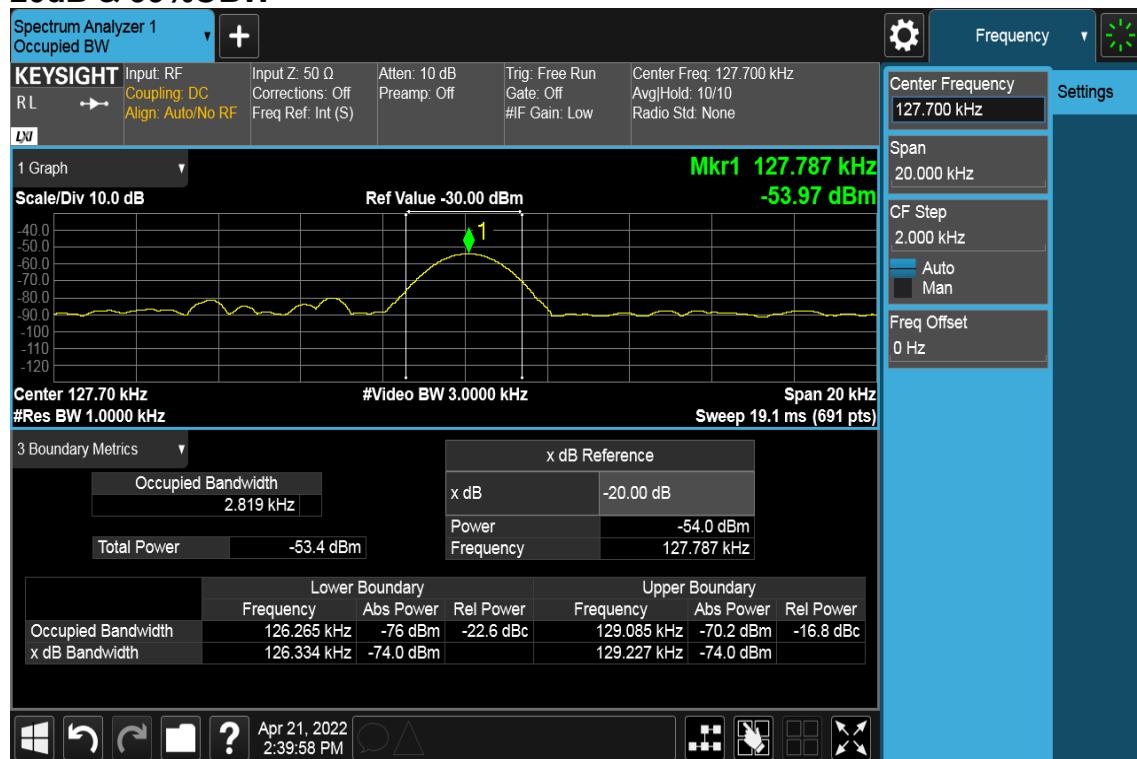


TEST PROCEDURE

The Loop antenna connected to the spectrum analyzer, was touching to the transmitter antenna. Set the RBW=200Hz, VBW=1kHz, Detector = Peak, Trace mode = Max hold, Sweep = 500ms. Measure the maximum width of the emission that is constrained by the frequencies associated with the Occupied Bandwidth.

TEST RESULTS

No non-compliance noted

Temperature: 22.9°C**Test Date:** April 21, 2022**Humidity:** 61% RH**Tested by:** Jack Chen**Test Data****20dB & 99%OBW**

7.2 TRANSMITTER RADIATED EMISSION

LIMIT

- According to FCC PART 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μ V/m)	Measurement Distance (m)
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

Remark: Except as provided in other rules, fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

- In the above emission table, the tighter limit applies at the band edges.

Below 30MHz

Frequency (MHz)	Field Strength		Measurement Distance (meter)	Field Strength (dB μ V/m)	Measurement Distance (meter)
	(μ V/m)	(dB μ V/m)			
0.009 - 0.490	2400/F(kHz)	48.52 – 13.80	300	128.52–93.80	3
0.490 - 1.705	24000/F(kHz)	33.80 – 22.97	30	73.80– 62.97	3
1.705 – 30.0	30	29.54	30	69.54	3

Remark: According to Part 15.31(f)(2), the transfer formula as below:

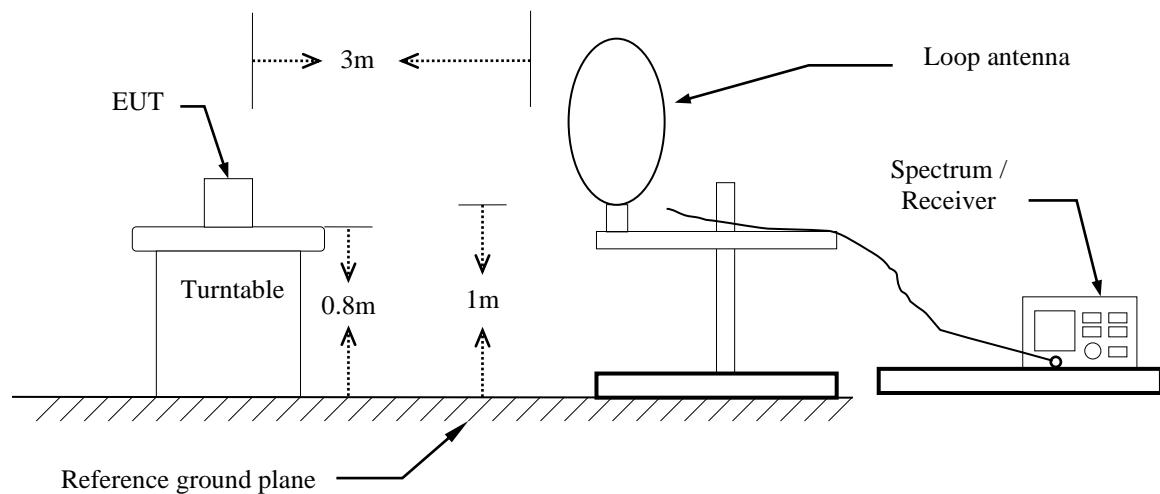
Limit@3m= 20log(Limit@300m) + 40log (Limit define distance(300m)/ (Measurement distance(3m)))

Above 30MHz

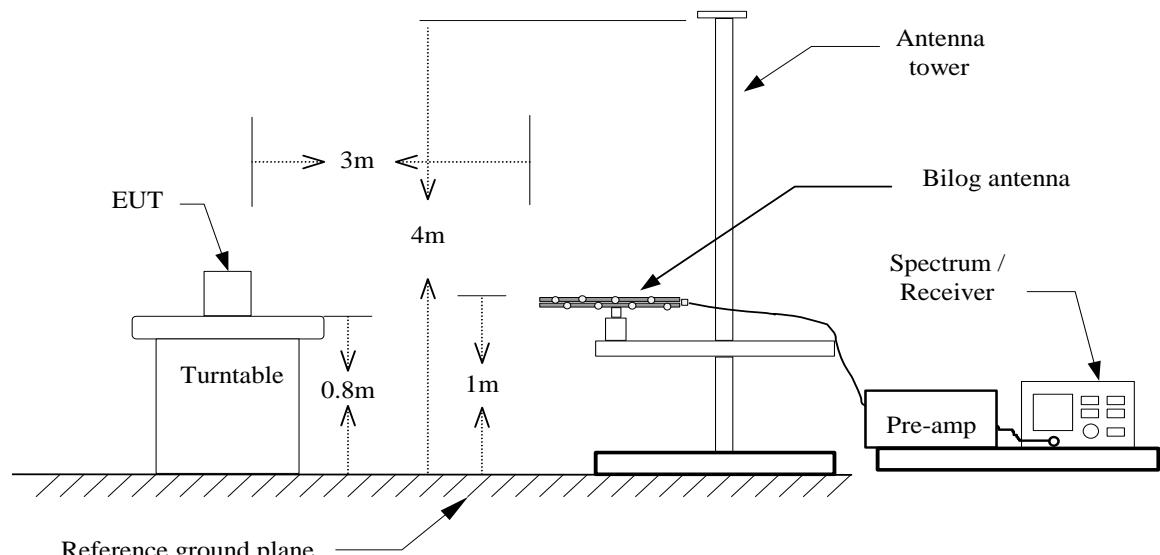
Frequency (MHz)	Field Strength		Measurement Distance (meter)
	(μ V/m)	(dB μ V/m)	
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Test Configuration

9kHz ~ 30MHz



30MHz ~ 1GHz



TEST PROCEDURE

For 9KHz ~ 30MHz

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

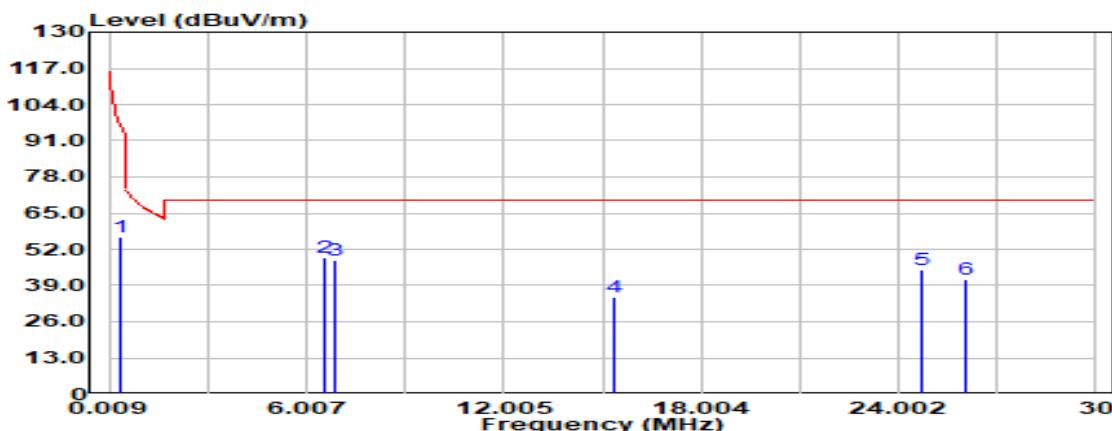
Below 1GHz:

RBW=200kHz / VBW=600kHz / Sweep=AUTO

7. Repeat above procedures until the measurements for all frequencies are complete.
8. Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

For 30MHz ~ 1GHz

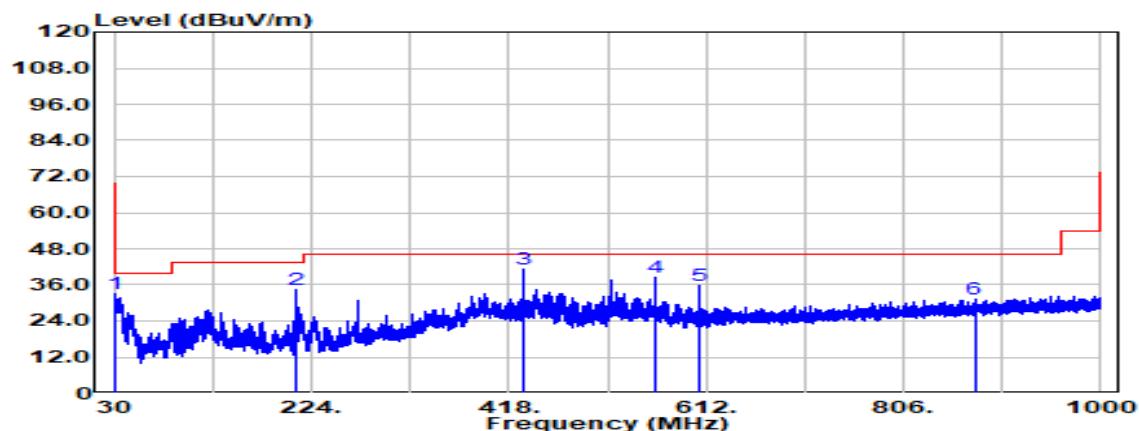
1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

9 kHz – 30MHz**Operation Mode:** Charge mode**Test Date:** April 22, 2022**Temperature:** 22.9°C**Tested by:** Ray Li**Humidity:** 52% RH**Antenna Pol.:** Horizontal

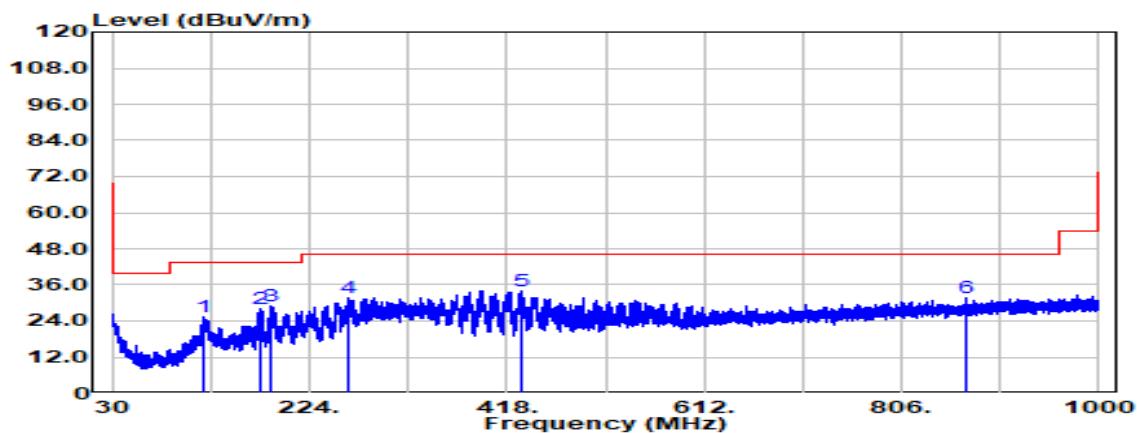
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit @3m dB μ V/m	Margin dB
0.379	Peak	43.24	13.37	56.61	96.03	-39.42
6.528	Peak	34.20	14.89	49.08	69.54	-20.46
6.866	Peak	33.32	14.93	48.26	69.54	-21.28
15.383	Peak	19.77	15.27	35.05	69.54	-34.49
24.736	Peak	30.54	14.32	44.86	69.54	-24.68
26.040	Peak	27.17	14.07	41.24	69.54	-28.30

Remark:

1. The frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.
2. For 9-90kHz, 110kHz-490kHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit. For other frequencies, the Peak value was under the Quasi-peak limit, therefore the Quasi-peak value compliance with the limit. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.

Below 1 GHz**Operation Mode:** Charge mode**Test Date:** April 22, 2022**Temperature:** 22.9°C**Tested by:** Ray Li**Humidity:** 52% RH**Antenna Pol.:** Vertical

Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dB μ V)	Factor (dB)	Actual FS (dB μ V/m)	Limit @3m (dB μ V/m)	Margin (dB)
31.576	Peak	36.84	-3.84	33.00	40.00	-7.00
208.844	Peak	46.48	-12.29	34.19	43.50	-9.31
431.944	Peak	46.53	-5.36	41.18	46.00	-4.82
561.560	Peak	41.29	-2.86	38.43	46.00	-7.57
604.725	Peak	38.41	-2.50	35.92	46.00	-10.08
875.840	Peak	29.46	1.86	31.32	46.00	-14.68

Operation Mode: Charge mode**Test Date:** April 22, 2022**Temperature:** 22.9°C**Tested by:** Ray Li**Humidity:** 52% RH**Antenna Pol.:** Horizontal

Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dB μ V)	Factor (dB)	Actual FS (dB μ V/m)	Limit @3m (dB μ V/m)	Margin (dB)
120.574	Peak	34.92	-9.47	25.45	43.50	-18.05
174.773	Peak	39.51	-11.64	27.87	43.50	-15.63
187.140	Peak	40.73	-11.68	29.05	43.50	-14.45
262.194	Peak	41.56	-9.98	31.58	46.00	-14.42
431.944	Peak	39.51	-5.36	34.15	46.00	-11.85
869.899	Peak	29.75	1.82	31.57	46.00	-14.43

7.3 AC CONDUCTED EMISSION

LIMIT

According to §15.207(a) , for an intentional radiator 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, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

Test Configuration

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete

TEST RESULTS

PASS

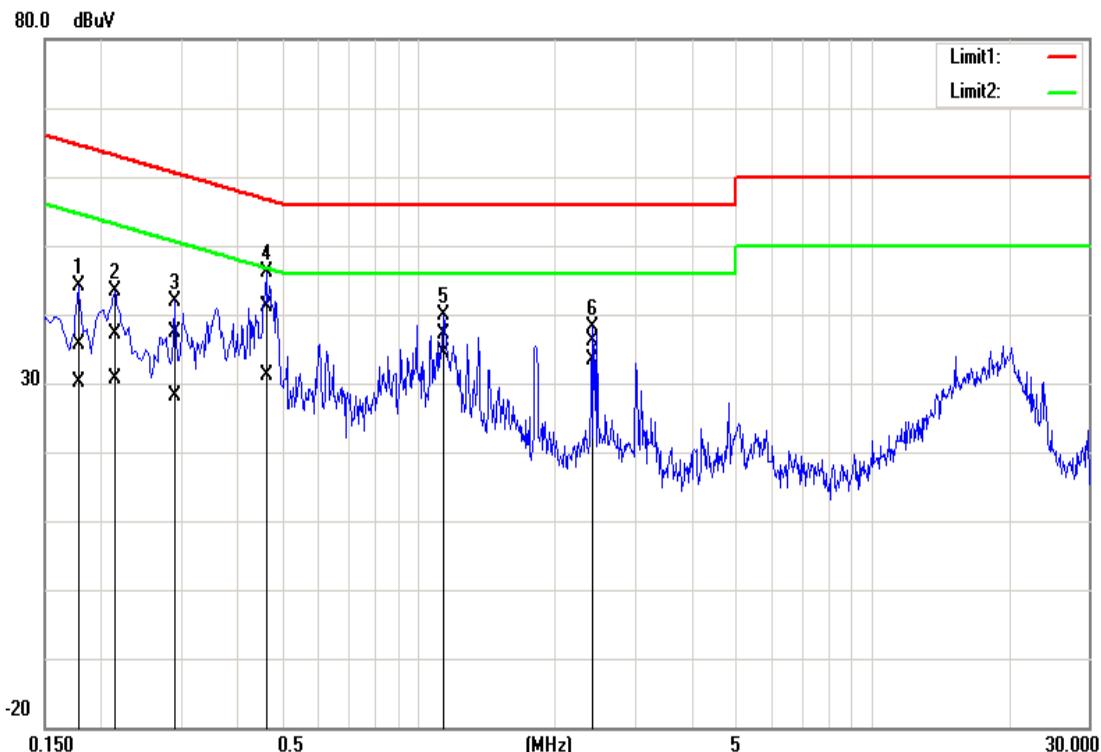
Test Mode:	Mode 1	Temp/Hum	23.3(°C)/ 60%RH
Phase:	Line	Test Date	April 21, 2022
		Test Engineer	Jack Chen



Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
0.3580	26.87	19.97	10.19	37.06	30.16	58.77	48.77	-21.71	-18.61	Pass
0.4380	26.79	17.81	10.19	36.98	28.00	57.10	47.10	-20.12	-19.10	Pass
0.4540	32.52	24.03	10.19	42.71	34.22	56.80	46.80	-14.09	-12.58	Pass
0.4620	32.83	22.42	10.19	43.02	32.61	56.66	46.66	-13.64	-14.05	Pass
0.4780	31.82	22.61	10.19	42.01	32.80	56.37	46.37	-14.36	-13.57	Pass
1.1380	28.63	25.46	10.21	38.84	35.67	56.00	46.00	-17.16	-10.33	Pass

Note: Correction factor = LISN loss + Cable loss.

Test Mode:	Mode 1	Temp/Hum	23.3(°C)/ 60%RH
Phase:	Neutral	Test Date	April 21, 2022
		Test Engineer	Jack Chen



Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
0.1780	25.38	19.90	10.17	35.55	30.07	64.57	54.58	-29.02	-24.51	Pass
0.2140	27.03	20.34	10.17	37.20	30.51	63.04	53.05	-25.84	-22.54	Pass
0.2900	27.17	17.86	10.17	37.34	28.03	60.52	50.52	-23.18	-22.49	Pass
0.4620	30.94	20.88	10.18	41.12	31.06	56.66	46.66	-15.54	-15.60	Pass
1.1380	26.92	24.07	10.20	37.12	34.27	56.00	46.00	-18.88	-11.73	Pass
2.4140	25.85	23.07	10.23	36.08	33.30	56.00	46.00	-19.92	-12.70	Pass

Note: Correction factor = LISN loss + Cable loss.

7.4 ANTENNA REQUIREMENT

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

- End of Test Report -