



FCC ID: 2AQUNQM-133BD
Report No.: T180730W02-RP

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Rev. 02

FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

13.3" LCD Touch Monitor

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

Issued to

Quixant PLC Taiwan Branch
12F., No. 150, Jianyi Road, Zhonghe Dist., New Taipei City 23511, Taiwan

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
<http://www.ccsrf.com>
Issued Date: August 27, 2018

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	August 27, 2018	Initial Issue	ALL	Allison Chen
01	September 4, 2018	1. Remove below description in section 4.5. 2. Remove below description of loop antenna in section 5.2. 3. Revise test procedure and remark description in section 8.2.	P.9-10, 18-19	Allison Chen
02	September 12, 2018	1. Revise remark description in section 8.2.	P.19	Allison Chen

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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

Equipment Under Test: 13.3" LCD Touch Monitor

Trade Name: 

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

Date of Test: August 13 ~ 15, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15.209	No non-compliance noted

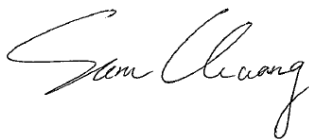
We hereby certify that:

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:




Sam Chuang
Manager
Compliance Certification Services Inc.

Tested by:



Jerry Chuang
Engineer
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	13.3" LCD Touch Monitor
Trade Name	
Model Number	QM-133BD-OPDR03; QM-133xxxxxxxxxxxxxxxxxxxxxx (where x may be Alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related constructions and critical components)
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (where x may be Alphanumeric character, symbol or blank for marketing purpose only, and no impact safety related constructions and critical components) on model number is just for marketing purpose only.
Received Date	July 30, 2018
Power Supply	Power from AC adapter. (120V/60Hz) MW / GST90A12-P1M I/P: 100-240Vac, 50-60Hz, 1.3A O/P: 12Vdc, 6.67A
Frequency Band	145 kHz
Antenna Designation	Coil Antenna

Remark:

1. The sample selected for test was production product and was provided by manufacturer.

3. TEST SUMMERY

Standard Sec.	Chapter	Test Item	Result
15.215	8.1	20dB Bandwidth	Pass
15.209	8.2	Transmitter Radiated Emission	Pass
15.207	8.3	AC Power-line Conducted Emission	Pass
15.203	8.4	Antenna Requirement	Pass

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4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013 , ANSI 63.4 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.

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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.

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4.5 DESCRIPTION OF TEST MODES

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

After verification, all tests were carried out with the worst case test modes as shown below.

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 via power cable
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 via power cable
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. 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.

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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

Remark: Each piece of equipment is scheduled for calibration once a year.

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Spectrum Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	06/29/2018	06/28/2019
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	02/08/2018	02/07/2019
Loop Ant	COM-POWER	AL-130	121051	03/21/2018	03/20/2019
Pre-Amplifier	EMEC	EM330	060609	06/29/2018	06/28/2019
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/31/2018	05/30/2019
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

AC-line Conduction Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
CABLE	EMCI	CFD300-NL	CERF	07/03/2018	07/02/2019
EMI Test Receiver	R&S	ESCI	100064	07/24/2018	07/23/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	02/09/2018	02/08/2019
LISN	SCHAFFNER	NNB41	03/10013	02/06/2018	02/05/2019

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 6dB bandwidth	+/- 1.4003
RF output power, conducted	+/- 1.1372
Power density, conducted	+/- 1.4003
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

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

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6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Tel: 886-2-2299-9720 / Fax: 886-2-2299-9721

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

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

7.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Cable length & Type Describe
	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.

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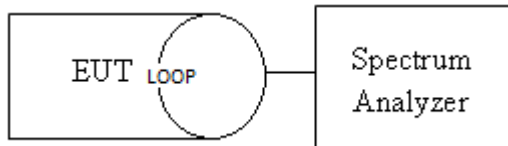
8. TEST REQUIREMENTS

8.1 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=1KHz, VBW ≥ 3 x RBW, 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.

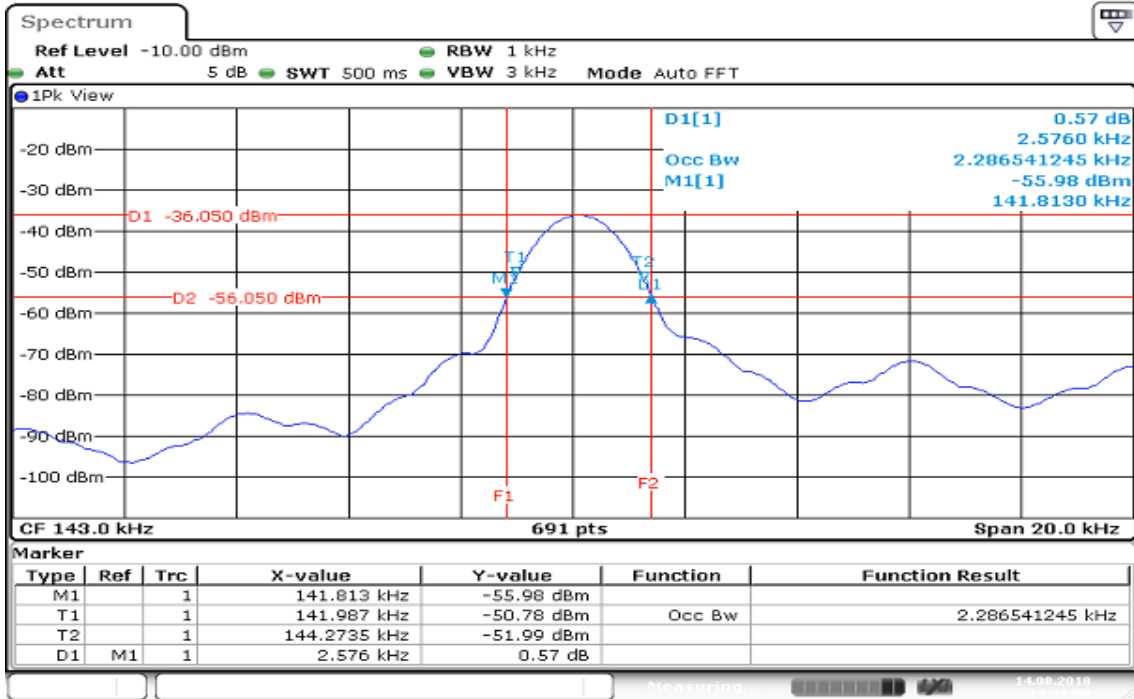
TEST RESULTS

No non-compliance noted

Test Condition	Frequency(kHz)	99% Bandwidth (kHz)	F _L at 20dB BW (kHz)	F _H at 20dB BW (kHz)	20dB Bandwidth (kHz)	Limit
Charging mode	143.0	2.2865	141.8130	144.3890	2.5760	N/A

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Test Data



Date: 14 AUG 2018 14:47:51

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8.2 TRANSMITTER RADIATED EMISSION

LIMIT

1. 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 ($\mu\text{V/m}$)	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.

2. 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 $\mu\text{V/m}$)	Measurement Distance (meter)
	($\mu\text{V/m}$)	(dB $\mu\text{V/m}$)			
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:

$\text{Limit}@3\text{m} = 20\log(\text{Limit}@300\text{m}) + 40\log(\text{Limit define distance}(300\text{m}) / (\text{Measurement distance}(3\text{m})))$

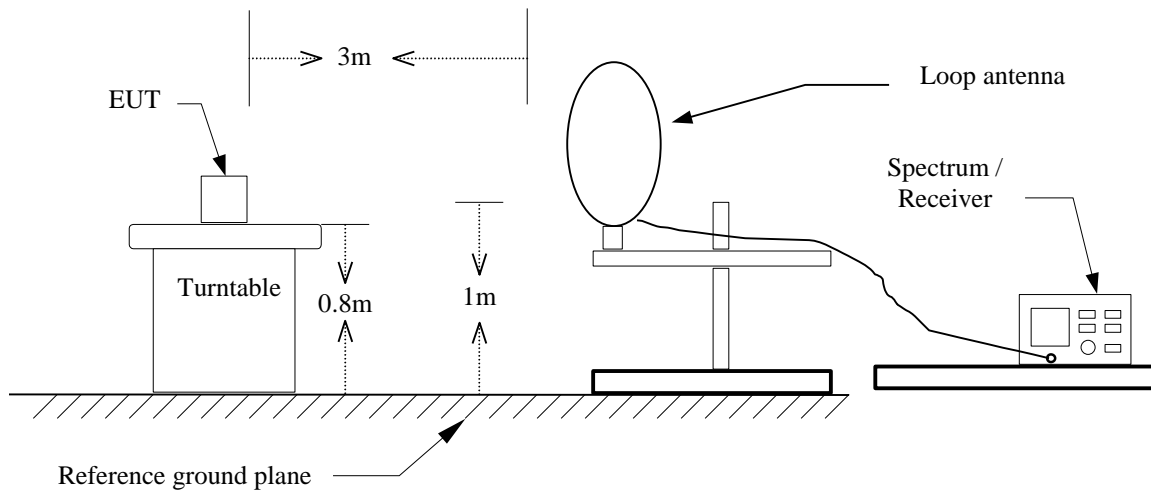
Above 30MHz

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

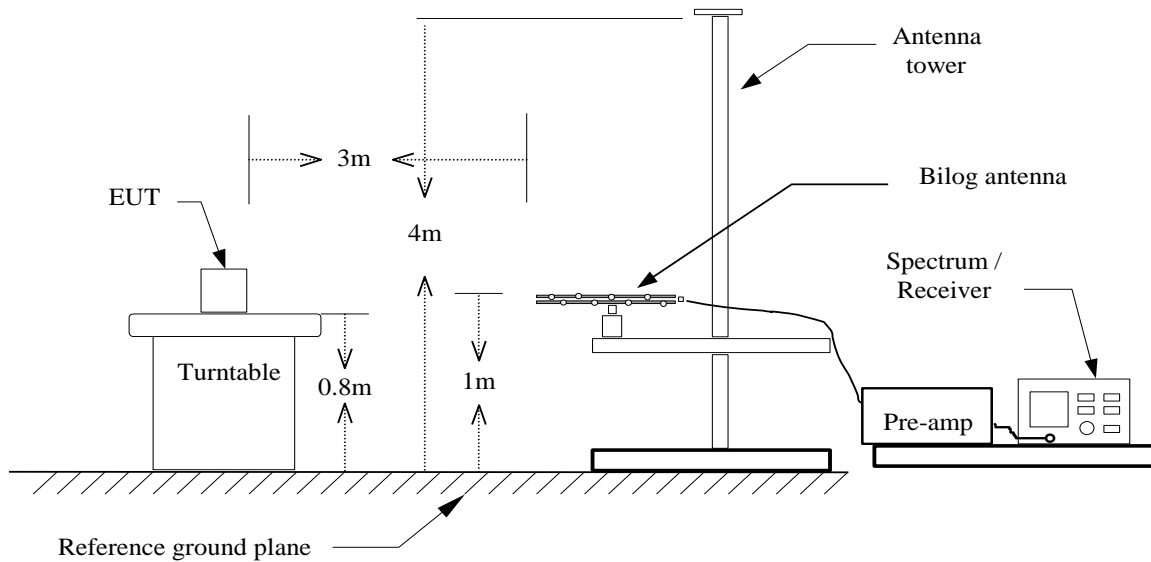
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Test Configuration

9kHz ~ 30MHz



30MHz ~ 1GHz



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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.

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9 kHz - 490 kHz

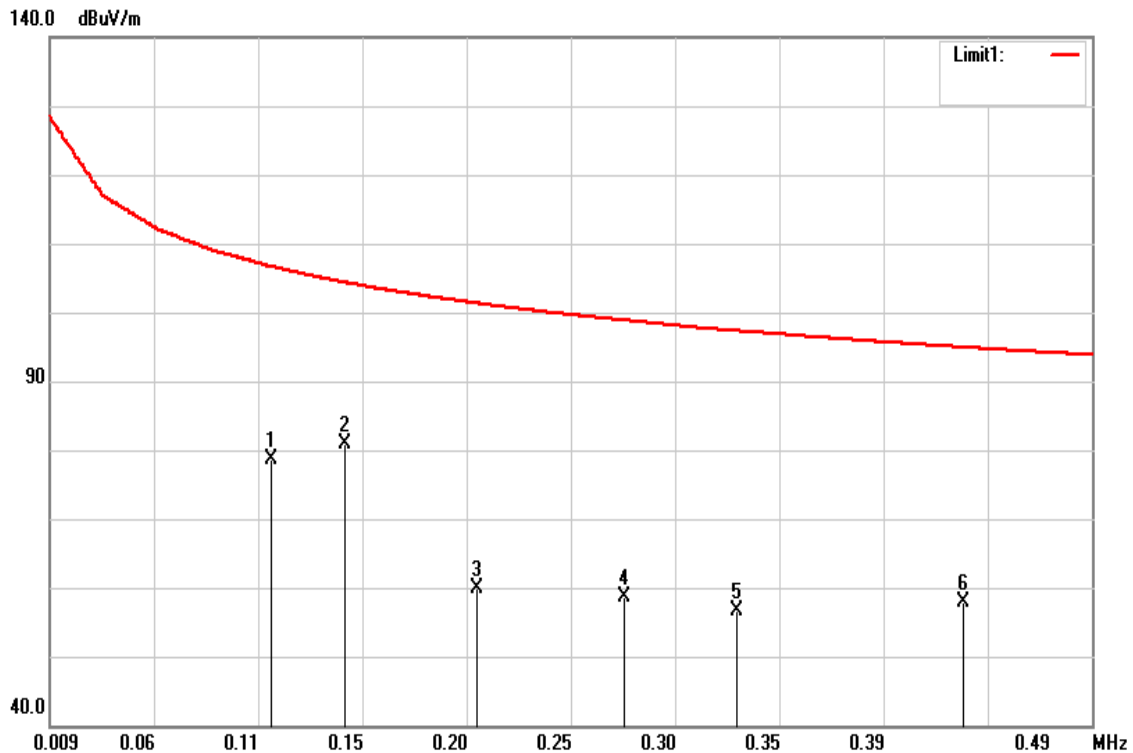
Operation Mode: Charge mode

Test Date: August 14, 2018

Temperature: 23.5°C

Tested by: Jerry Chuang

Humidity: 45% RH



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
0.1115	65.25	13.42	78.67	106.64	-27.97	peak
0.1451	67.49	13.49	80.98	104.36	-23.38	peak
0.2062	46.32	13.62	59.94	101.30	-41.36	peak
0.2740	44.79	13.77	58.56	98.85	-40.29	peak
0.3260	42.74	13.83	56.57	97.31	-40.74	peak
0.4308	43.96	13.87	57.83	94.91	-37.08	peak

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. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.

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490 kHz - 30 MHz

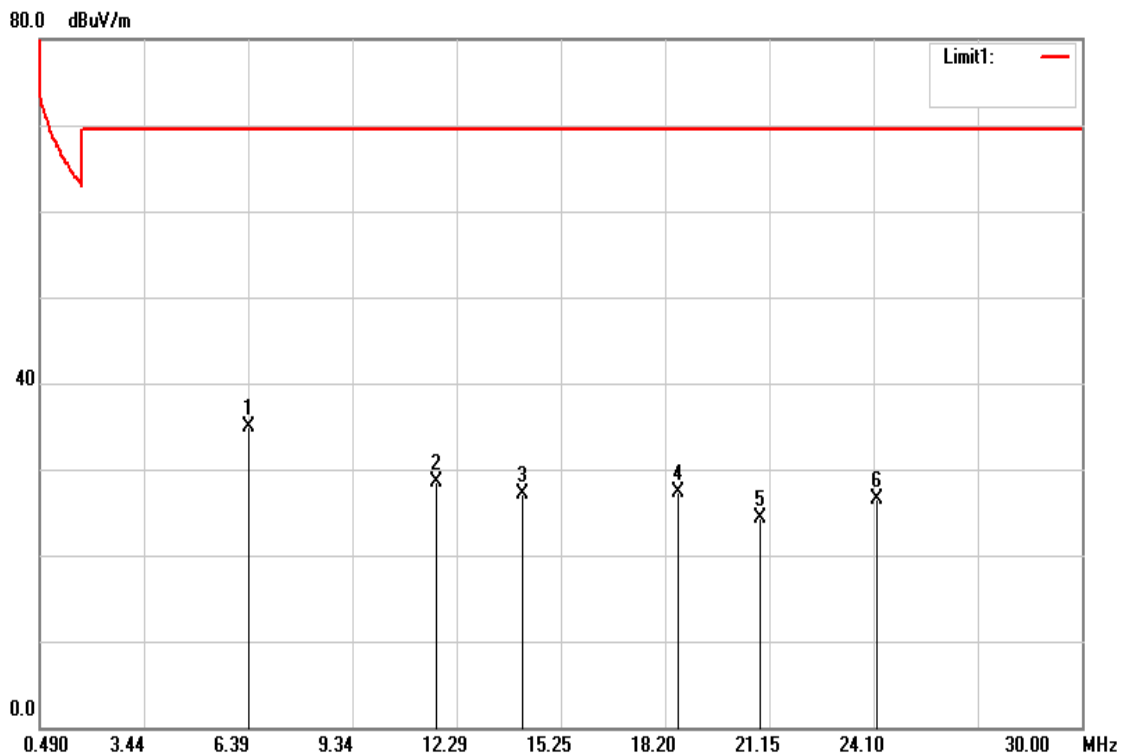
Operation Mode: Charge mode

Test Date: August 14, 2018

Temperature: 23.5°C

Tested by: Jerry Chuang

Humidity: 45% RH



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
6.3920	20.14	14.73	34.87	69.54	-34.67	peak
11.7333	13.29	15.25	28.54	69.54	-41.00	peak
14.1531	11.93	15.13	27.06	69.54	-42.48	peak
18.5796	12.38	14.91	27.29	69.54	-42.25	peak
20.8814	9.75	14.65	24.40	69.54	-45.14	peak
24.1865	12.47	13.94	26.41	69.54	-43.13	peak

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Below 1 GHz

Operation Mode: Charge mode

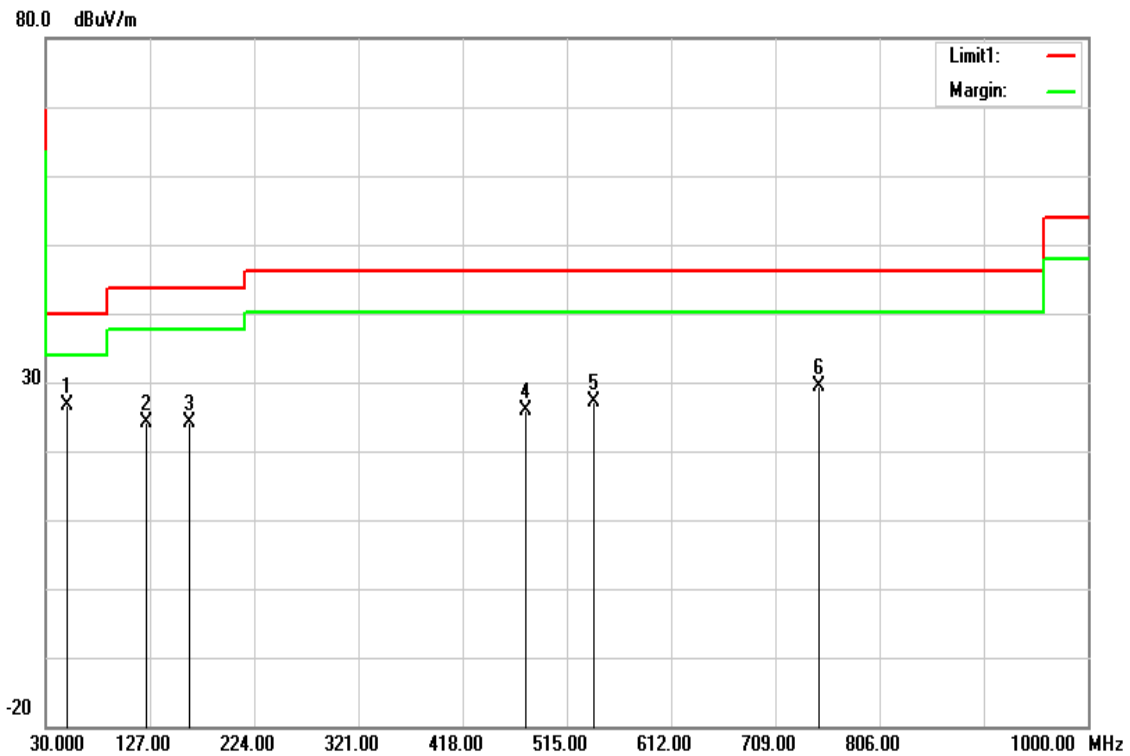
Test Date: August 14, 2018

Temperature: 23.5°C

Tested by: Jerry Chuang

Humidity: 45% RH

Ant.Polar.: Vertical

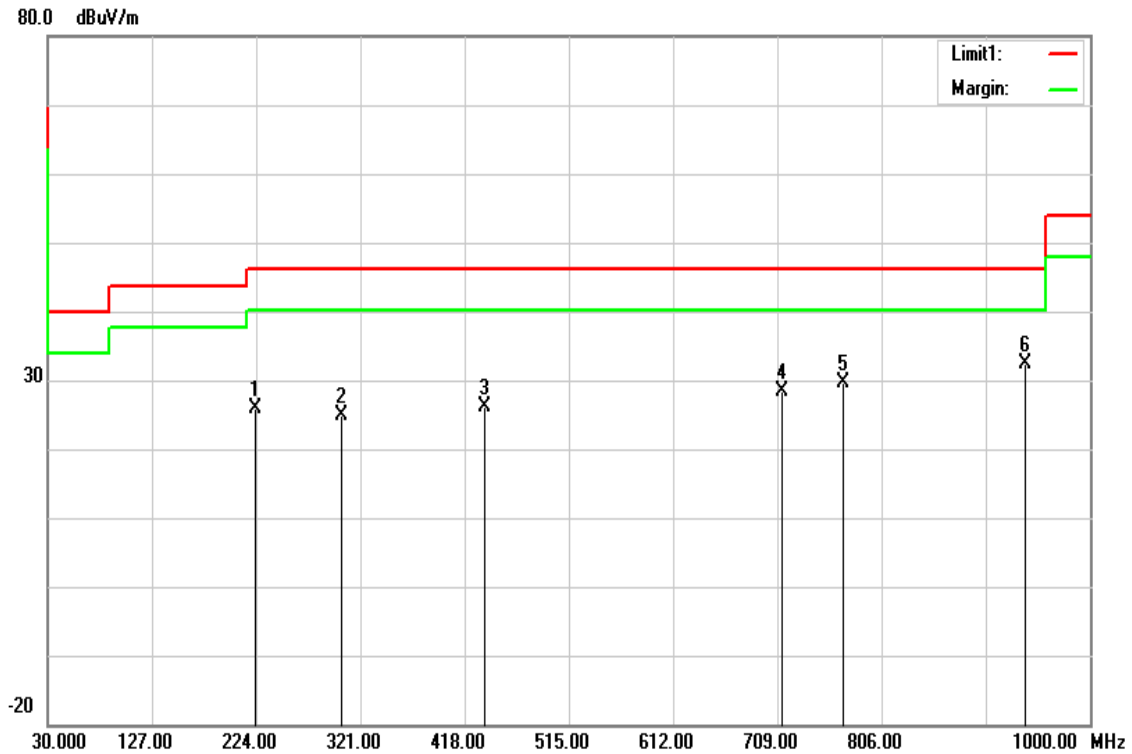


Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
50.3700	41.35	-14.67	26.68	40.00	-13.32	peak
123.1200	32.77	-8.59	24.18	43.52	-19.34	peak
163.8600	34.01	-9.76	24.25	43.52	-19.27	peak
477.1700	28.12	-2.33	25.79	46.02	-20.23	peak
540.2200	28.61	-1.51	27.10	46.02	-18.92	peak
749.7400	27.23	2.15	29.38	46.02	-16.64	peak

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Operation Mode: Charge mode
Temperature: 23.5°C
Humidity: 45% RH

Test Date: August 14, 2018
Tested by: Jerry Chuang
Ant.Polar.: Horizontal



Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
223.0300	36.56	-10.64	25.92	46.02	-20.10	peak
303.5400	32.26	-7.40	24.86	46.02	-21.16	peak
436.4300	29.66	-3.56	26.10	46.02	-19.92	peak
713.8500	26.68	1.70	28.38	46.02	-17.64	peak
770.1100	27.14	2.51	29.65	46.02	-16.37	peak
939.8600	27.10	5.23	32.33	46.02	-13.69	peak

8.3 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

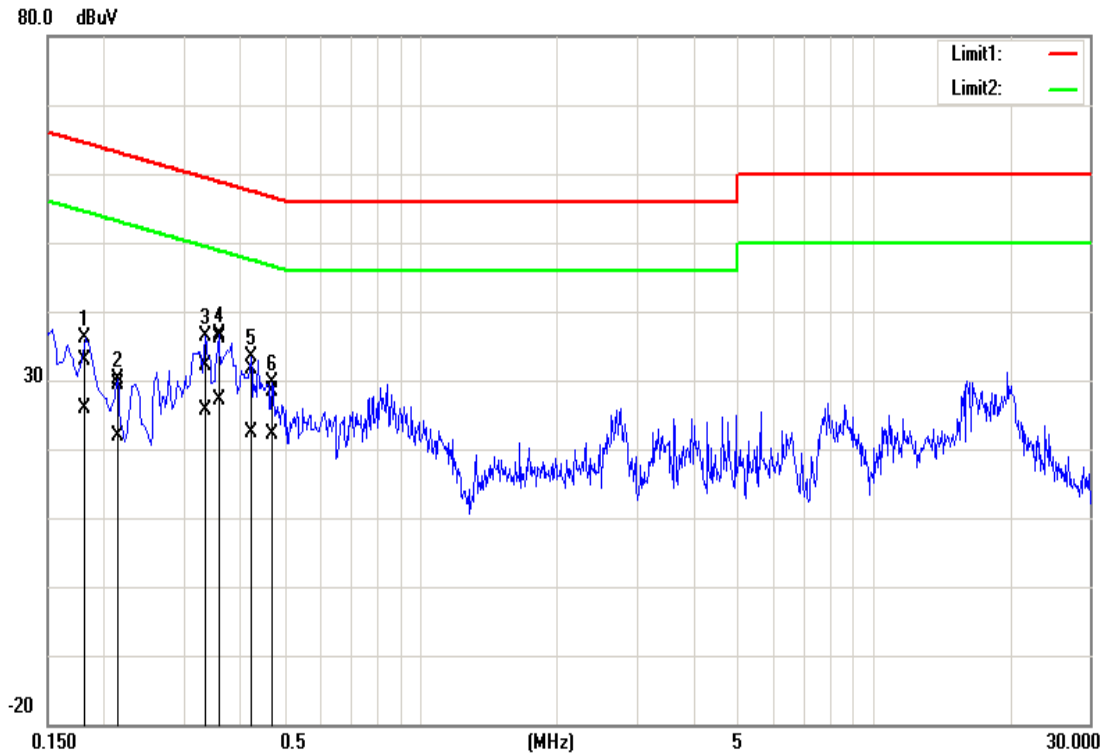
TEST RESULTS

Pass.

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Test Data

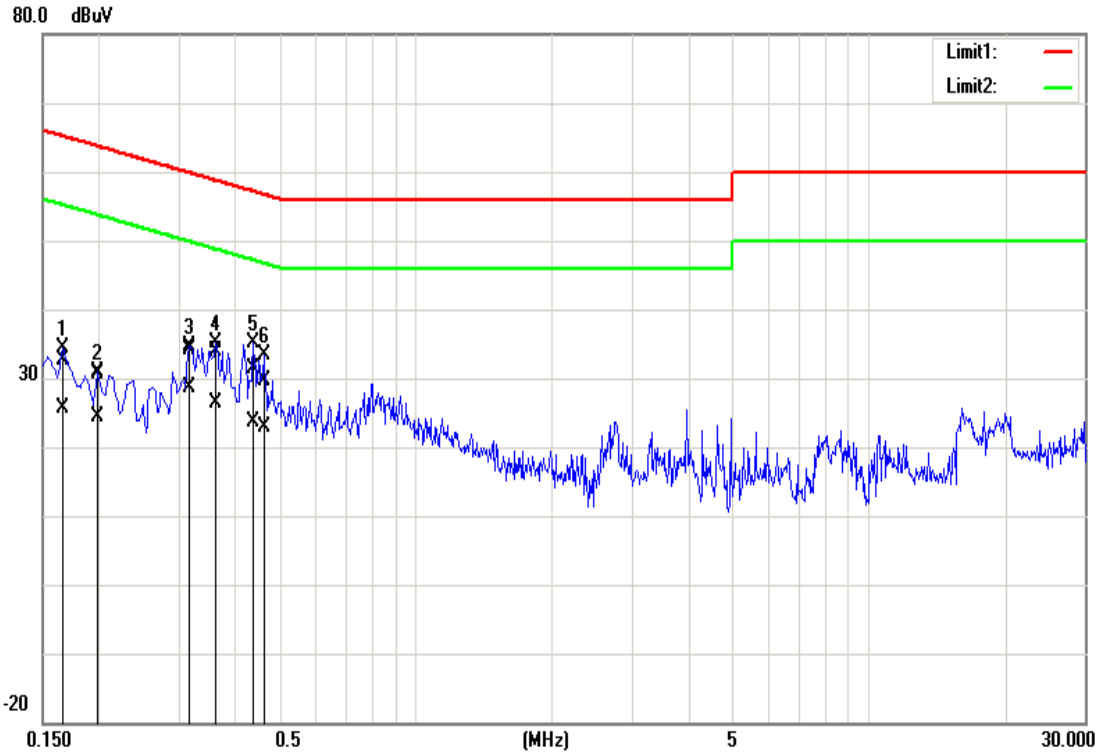
Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Line	Test Date	2018/08/15
		Test Engineer	Dally Hong



No.	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
1	0.1820	32.72	25.78	0.11	32.83	25.89	64.39	54.39	-31.56	-28.50	Pass
2	0.2140	29.22	21.82	0.11	29.33	21.93	63.05	53.05	-33.72	-31.12	Pass
3	0.3340	31.96	25.43	0.12	32.08	25.55	59.35	49.35	-27.27	-23.80	Pass
4*	0.3580	35.97	26.97	0.12	36.09	27.09	58.77	48.77	-22.68	-21.68	Pass
5	0.4220	31.53	22.18	0.12	31.65	22.30	57.41	47.41	-25.76	-25.11	Pass
6	0.4620	28.22	21.94	0.12	28.34	22.06	56.66	46.66	-28.32	-24.60	Pass

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Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Neutral	Test Date	2018/08/15
		Test Engineer	Dally Hong



No.	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
1	0.1660	32.40	25.48	0.14	32.54	25.62	65.16	55.16	-32.62	-29.54	Pass
2	0.1980	30.44	24.28	0.13	30.57	24.41	63.69	53.69	-33.12	-29.28	Pass
3*	0.3180	34.03	28.51	0.13	34.16	28.64	59.76	49.76	-25.60	-21.12	Pass
4	0.3620	33.78	26.21	0.13	33.91	26.34	58.68	48.68	-24.77	-22.34	Pass
5	0.4380	31.34	23.41	0.13	31.47	23.54	57.10	47.10	-25.63	-23.56	Pass
6	0.4620	29.59	22.77	0.13	29.72	22.90	56.66	46.66	-26.94	-23.76	Pass

8.4 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 --