

West Coast Imports, Inc.

RF TEST REPORT

Report Type:

FCC Part 15.249 RF report

Model:

FLSL75204

REPORT NUMBER:

240300805HAN-001

ISSUE DATE:

July 5, 2024

DOCUMENT CONTROL NUMBER:

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Applicant: West Coast Imports, Inc.

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Manufacturer: West Coast Imports, Inc.

6000 Bandini Boulevard Commerce California, 90040, USA

Factory:

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45/5 Moo3 Nong SAM SAK, BanBung Chonburi, Thailand 20170

FCC ID: 2BF57-FLSL75204**SUMMARY:**

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2023): Radio Frequency Devices (Subpart C)**ANSI C63.10 (2020):** American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices**PREPARED BY:**Project Engineer
Offa Zhou**REVIEWED BY:**Reviewer
Wakeyou Wang

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TEST REPORT**Revision History**

Report No.	Version	Description	Issued Date
240300805HAN-001	Rev. 01	Initial issue of report	July 5, 2024

TEST REPORT**Measurement result summary**

TEST ITEM	FCC REFERENCE	RESULT
Radiated emission	15.249 & 15.209	Pass
Power line conducted emission	15.207	Pass
Assigned bandwidth (20dB bandwidth)	15.215(c)	Pass
Antenna requirement	15.203	Pass

Notes: 1: NA =Not Applicable

2: Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

3: Additions, Deviations and Exclusions from Standards: None.

TEST REPORT**1 GENERAL INFORMATION****1.1 Description of Equipment Under Test (EUT)**

Product name:	5000 Lumen Linkable Light
Type/Model:	FLSL75204
Description of EUT:	The EUT covered in the report is LED lights with mechanical switch, suitable for dry and damp location use only, which has a transceiver with HF system 5.8GHz. Therefore, this model was tested.
Rating:	120VAC, 60Hz Receptacle: Max. 120VAC, 6A
Category of EUT:	Class B
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	March 25, 2024
Date of test:	April 6, 2024 ~ May 25, 2024

1.2 Technical Specification

Channel Frequency:	5780MHz
Modulation:	FSK
Channel Number:	1
Support Standards:	SRD
Antenna type	PCB antenna

TEST REPORT**1.3 Description of Test Facility**

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

TEST REPORT**2 TEST SPECIFICATIONS****2.1 Standards or specification**

47CFR Part 15 (2023)
ANSI C63.10 (2020)

2.2 Mode of operation during the test

Within this test report, EUT was tested under all available operation modes and tested under its rating voltage and frequency. Other voltage and frequency is specified if used.

2.3 Test software list

Test Items	Software	Manufacturer	Version
Radiated emission	ES-K1	R&S	V1.71
Conducted emission	ESxS-K1	R&S	V2.1.0

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
1	/	/	/

2.5 Test environment condition:

Test items	Temperature	Humidity
Radiated emission	23°C	53%
Assigned bandwidth (20dB bandwidth)	23°C	53%
Power line conducted emission	20°C	55%

TEST REPORT
2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESR7	EC 6194	2025-02-27
<input checked="" type="checkbox"/>	A.M.N.	R&S	ESH2-Z5	EC 3119	2024-11-19
<input checked="" type="checkbox"/>	Shielded room	Zhongyu	-	EC 2838	2025-01-11
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESIB 26	EC 3045	2024-08-22
<input checked="" type="checkbox"/>	Bilog Antenna	TESEQ	CBL 6112B	EC 6411	2024-09-12
<input checked="" type="checkbox"/>	Horn antenna	Tonscend	bha9120d	EC 6432-2	2025-03-20
<input checked="" type="checkbox"/>	Horn antenna	ETS	3117	EC 4792-1	2024-09-15
<input checked="" type="checkbox"/>	Horn antenna	TOYO	HAP18-26W	EC 4792-3	2026-09-12
<input checked="" type="checkbox"/>	Pre-amplifier	R&S	AFS42-00101800-25-S-42	EC 5262	2024-06-15
<input checked="" type="checkbox"/>	Semi-anechoic chamber	Albatross project	-	EC 3048	2024-07-08
RF test					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	PXA Signal Analyzer	Keysight	N9030A	EC 5338	2025-03-07
<input checked="" type="checkbox"/>	Power sensor	Agilent	U2021XA	EC 5338-1	2025-03-07
<input checked="" type="checkbox"/>	Vector Signal Generator	Agilent	N5182B	EC 5175	2025-03-07
<input checked="" type="checkbox"/>	MXG Analog Signal Generator	Agilent	N5181A	EC 5338-2	2025-03-07
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESCI 7	EC 4501	2025-03-09
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Therom-Hygrograph	Testo	175h1	EC 6640	2024-08-28
<input checked="" type="checkbox"/>	Therom-Hygrograph	Testo	175h1	EC 6643	2024-08-28
<input checked="" type="checkbox"/>	Pressure meter	Shanghai Mengde	YM3	EC 3320	2024-08-16

TEST REPORT**2.7 Measurement uncertainty**

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

Test item	Measurement uncertainty
Maximum peak output power	± 0.74dB
Radiated Emissions in restricted frequency bands below 1GHz	± 4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	± 5.02dB
Emission outside the frequency band	± 2.89dB
Power line conducted emission	± 3.19dB

TEST REPORT

3 Radiated emission

Test result: **PASS**

3.1 Limit

Fundamental Frequency (MHz)	Fundamental limit (dB μ V/m)	Harmonic limit (dB μ V/m)
<input type="checkbox"/> 902 - 928	94	54
<input type="checkbox"/> 2400 - 2483.5	94	54
<input checked="" type="checkbox"/> 5725 - 5875	94	54
<input type="checkbox"/> 24000 - 24250	108	68

The radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits:

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

3.2 Measurement Procedure

For Radiated emission below 30MHz:

- 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.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Both X and Y axes of the antenna are set to make the measurement.
- 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.
- The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

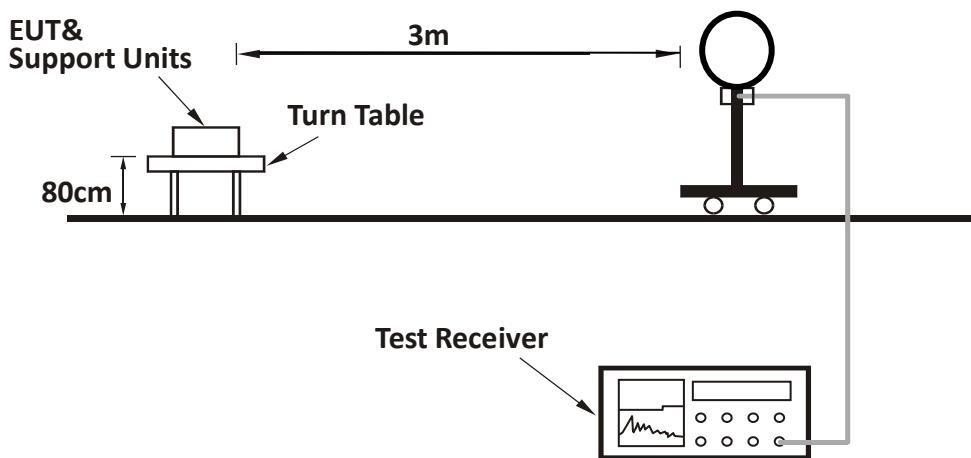
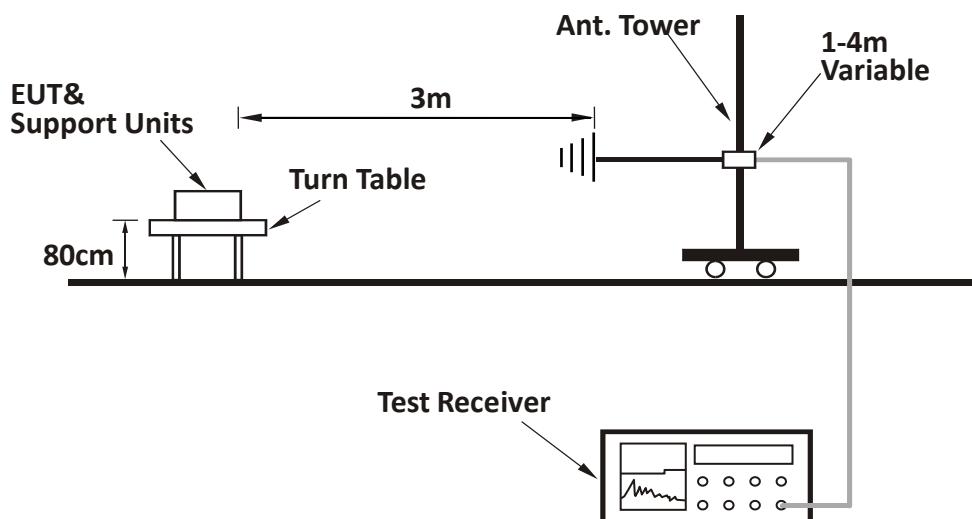
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

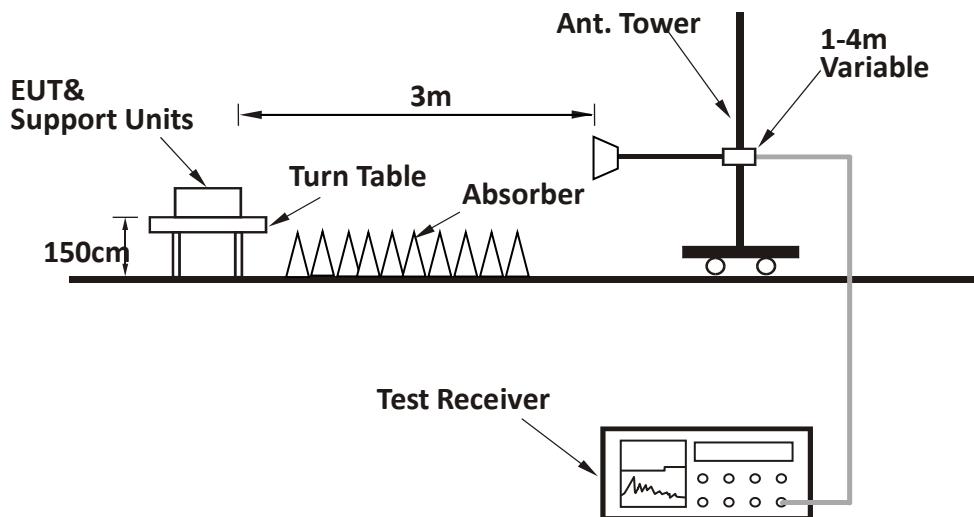
TEST REPORT**For Radiated emission above 30MHz:**

- a) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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 detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or $3 \times RBW$ (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported

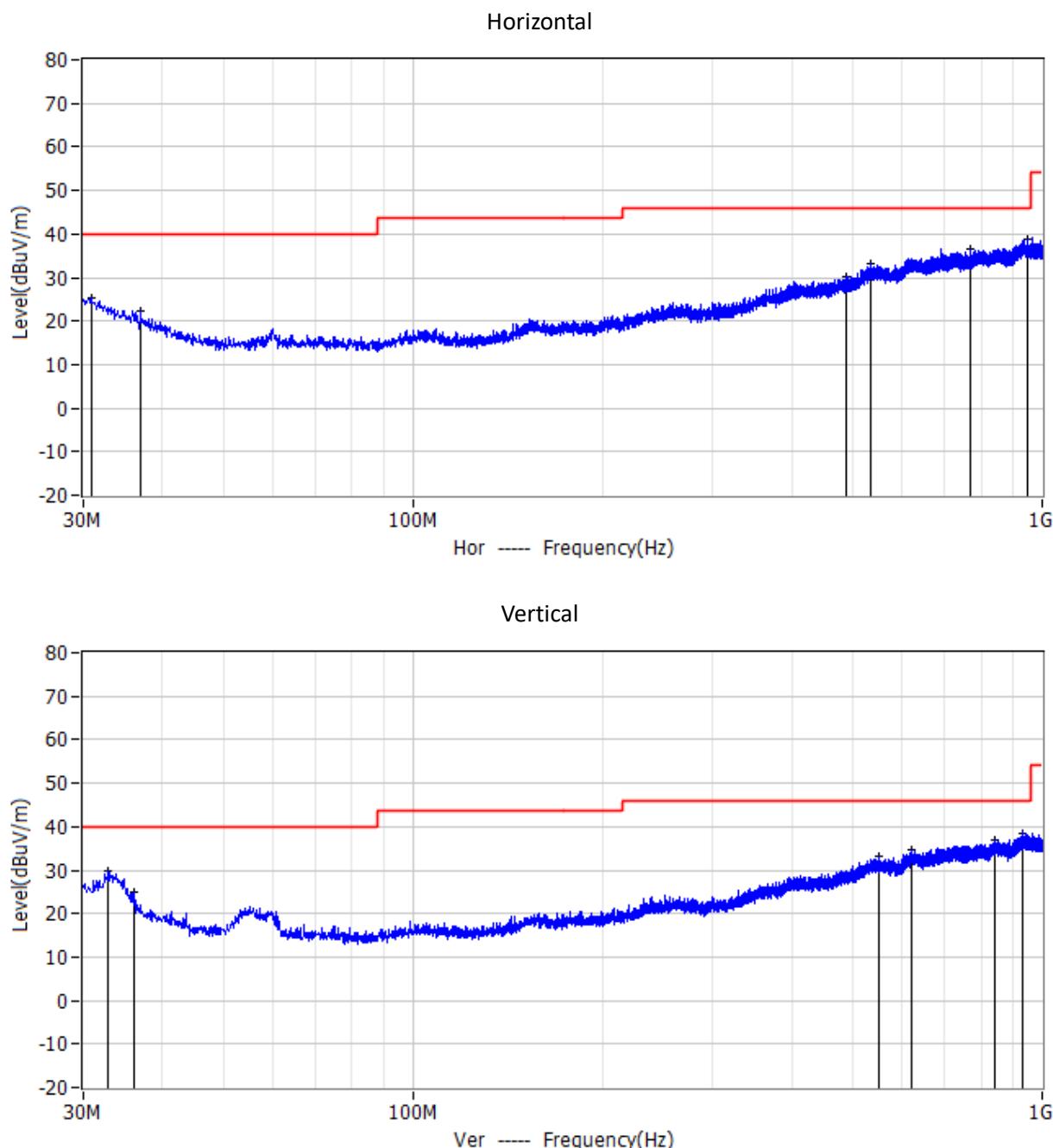
TEST REPORT**3.3 Test Configuration****For Radiated emission below 30MHz:****For Radiated emission 30MHz to 1GHz:**

TEST REPORT**For Radiated emission above 1GHz:**

TEST REPORT**3.4 Test Results of Radiated Emissions**

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

The worst waveform from 30MHz to 1000MHz is listed as below:



TEST REPORT**Test data below 1GHz**

Antenna	Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Factor dB/m	Delta (dB)	Detector
H	30.873	25.20	40.00	16.30	-14.80	PK
H	36.984	22.20	40.00	12.60	-17.80	PK
H	489.489	30.20	46.00	20.00	-15.80	PK
H	534.303	33.10	46.00	22.30	-12.90	PK
H	769.819	36.60	46.00	24.60	-9.40	PK
H	947.717	38.70	46.00	26.70	-7.30	PK
V	32.910	29.90	40.00	14.90	-10.10	PK
V	36.208	25.10	40.00	13.00	-14.90	PK
V	549.241	33.20	46.00	22.10	-12.80	PK
V	620.342	34.60	46.00	23.90	-11.40	PK
V	840.144	37.00	46.00	25.40	-9.00	PK
V	931.615	38.60	46.00	27.10	-7.40	PK

Remark: 1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.
2. Level = Original Receiver Reading + Factor
3. Delta= Level - Limit
4. If the PK Level is lower than AV limit, the AV test can be elided.

TEST REPORT
Test result above 1GHz:

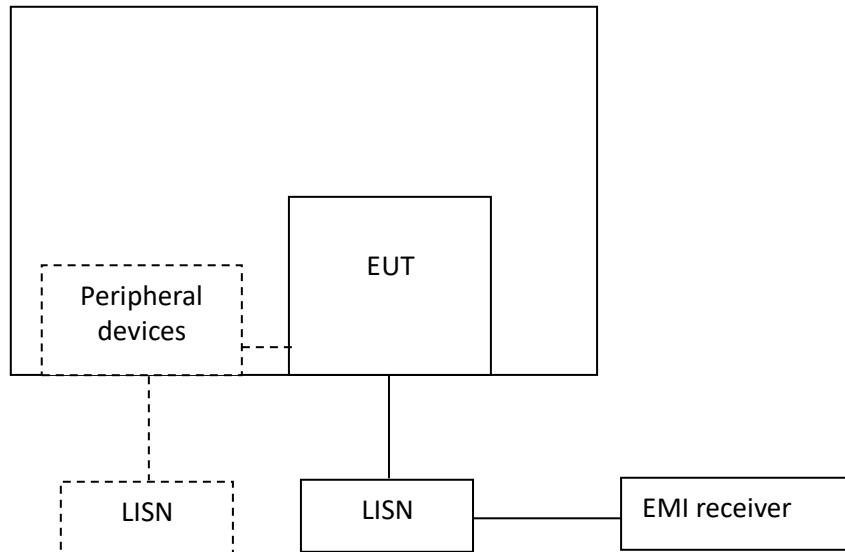
Antenna	Frequency (MHz)	Corrected Reading (dB μ V/m)	Correct Factor (dB/m)	Limit (dB μ V/m)	Margin (dB)	Detector
H	5460.00	32.40	-14.10	74.00	41.60	PK
V	5460.00	33.10	-14.10	74.00	40.90	PK
H	5725.00	37.60	-13.30	74.00	36.40	PK
V	5725.00	37.60	-13.30	74.00	36.40	PK
H	5780.00	59.60	-13.20	94.00	34.40	PK
V	5780.00	59.60	-13.20	94.00	34.40	PK
H	5875.00	37.10	-12.80	74.00	36.90	PK
V	5875.00	36.70	-12.80	74.00	37.30	PK
H	11560.00	69.40	-3.40	74.00	4.60	PK
H	11560.00	43.70	-3.40	54.00	10.30	AV
V	11560.00	69.40	-3.40	74.00	4.60	PK
V	11560.00	43.80	-3.40	54.00	10.20	AV
H	17340.00	72.60	-0.10	74.00	1.40	PK
H	17340.00	49.40	-0.10	54.00	4.60	AV
V	17340.00	72.60	-0.10	74.00	1.40	PK
V	17340.00	49.00	-0.10	54.00	5.00	AV

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (- Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
 2. Corrected Reading = Original Receiver Reading + Correct Factor
 3. Margin = Limit - Corrected Reading
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

TEST REPORT**4 Power line conducted emission****Test result:** **PASS****4.1 Limit**

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

4.2 Test Configuration

TEST REPORT**4.3 Measurement Procedure**

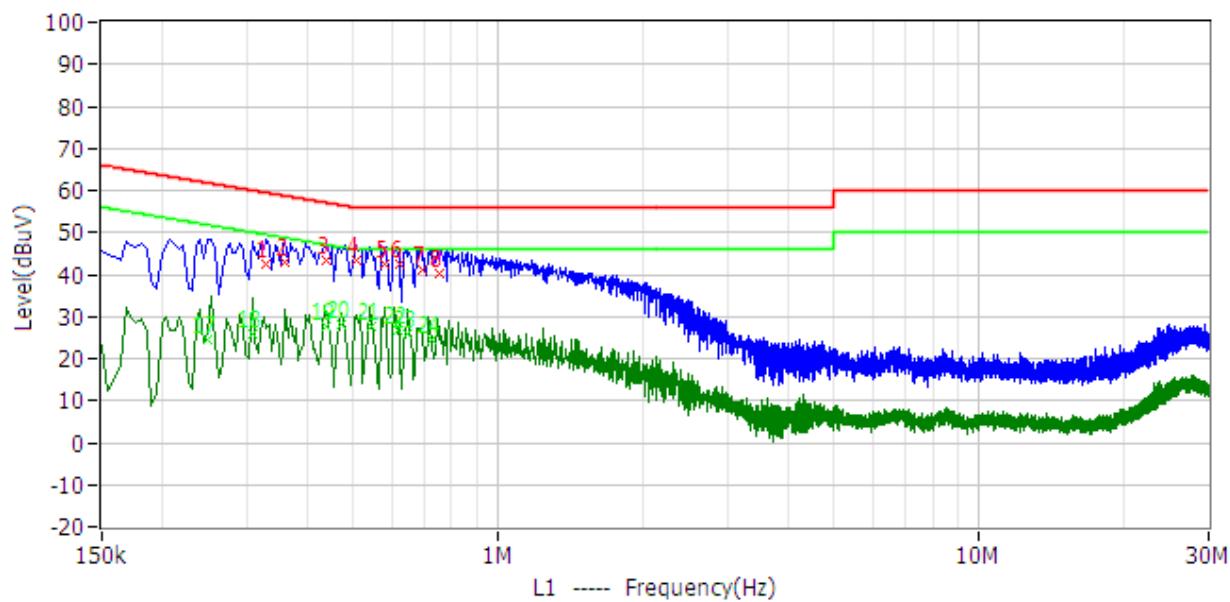
Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

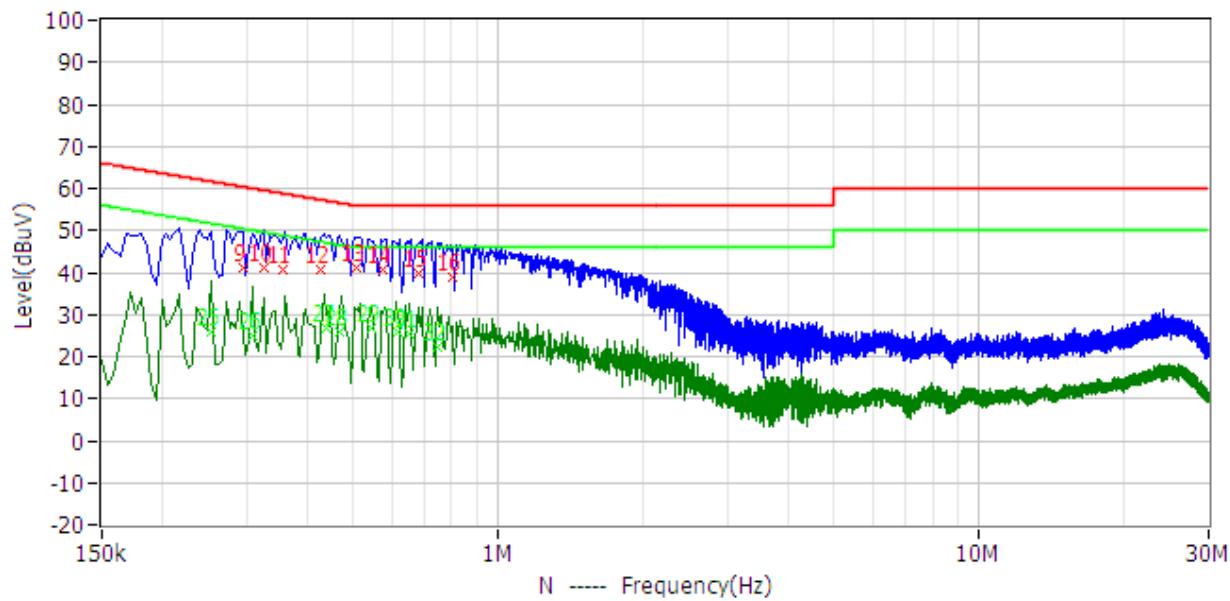
The bandwidth of the test receiver is set at 9 kHz.

TEST REPORT**4.4 Test Results of Power line conducted emission**

L line



N line



TEST REPORT

No.	Frequency	Limit dB μ V	Level dB μ V	Delta dB	Factor dB	Detector	Phase
1	330.000kHz	59.5	42.4	-17.1	10.2	QP	L1
2	361.500kHz	58.7	42.8	-15.9	10.2	QP	L1
3	438.000kHz	57.1	43.4	-13.7	10.2	QP	L1
4	505.500kHz	56.0	43.2	-12.8	10.2	QP	L1
5	582.000kHz	56.0	42.4	-13.6	10.2	QP	L1
6	622.500kHz	56.0	42.3	-13.7	10.2	QP	L1
7	694.500kHz	56.0	41.2	-14.8	10.2	QP	L1
8	757.500kHz	56.0	40.4	-15.6	10.2	QP	L1
9	294.000kHz	60.4	41.0	-19.4	10.2	QP	N
10	325.500kHz	59.6	41.3	-18.3	10.2	QP	N
11	357.000kHz	58.8	40.5	-18.3	10.2	QP	N
12	429.000kHz	57.3	40.7	-16.6	10.2	QP	N
13	505.500kHz	56.0	41.2	-14.8	10.2	QP	N
14	577.500kHz	56.0	40.5	-15.5	10.2	QP	N
15	685.500kHz	56.0	39.9	-16.1	10.2	QP	N
16	807.000kHz	56.0	39.0	-17.0	10.2	QP	N
17	249.000kHz	51.8	24.6	-27.2	10.2	CAV	L1
18	307.500kHz	50.0	26.0	-24.0	10.2	CAV	L1
19	438.000kHz	47.1	27.6	-19.5	10.2	CAV	L1
20	474.000kHz	46.4	28.0	-18.4	10.2	CAV	L1
21	546.000kHz	46.0	27.7	-18.3	10.2	CAV	L1
22	618.000kHz	46.0	26.6	-19.4	10.2	CAV	L1
23	645.000kHz	46.0	25.8	-20.2	10.2	CAV	L1
24	726.000kHz	46.0	24.3	-21.7	10.2	CAV	L1
25	253.500kHz	51.6	25.9	-25.7	10.2	CAV	N
26	307.500kHz	50.0	24.9	-25.1	10.2	CAV	N
27	438.000kHz	47.1	26.7	-20.4	10.2	CAV	N
28	469.500kHz	46.5	25.7	-20.8	10.2	CAV	N
29	546.000kHz	46.0	26.8	-19.2	10.2	CAV	N
30	618.000kHz	46.0	26.0	-20.0	10.2	CAV	N
31	654.000kHz	46.0	25.5	-20.5	10.2	CAV	N
32	748.500kHz	46.0	22.2	-23.8	10.2	CAV	N

Remark: 1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.

2. Level = Original Receiver Reading + Factor

3. Delta= Level - Limit

4. If the PK Level is lower than AV limit, the AV test can be elided.

TEST REPORT**5 Assigned bandwidth (20dB bandwidth)**

Test result: **PASS**

5.1 Limit

Intentional radiators must be designed to ensure that the 20dB bandwidth of the emission is contained within the allocated frequency band.

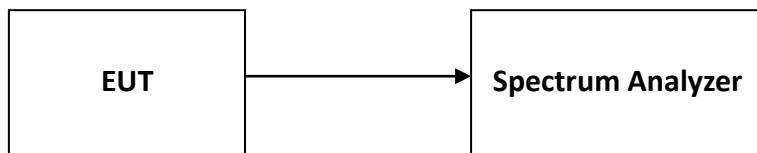
If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

5.2 Measurement Procedure

The 20dB Bandwidth is measured using the Spectrum Analyzer.

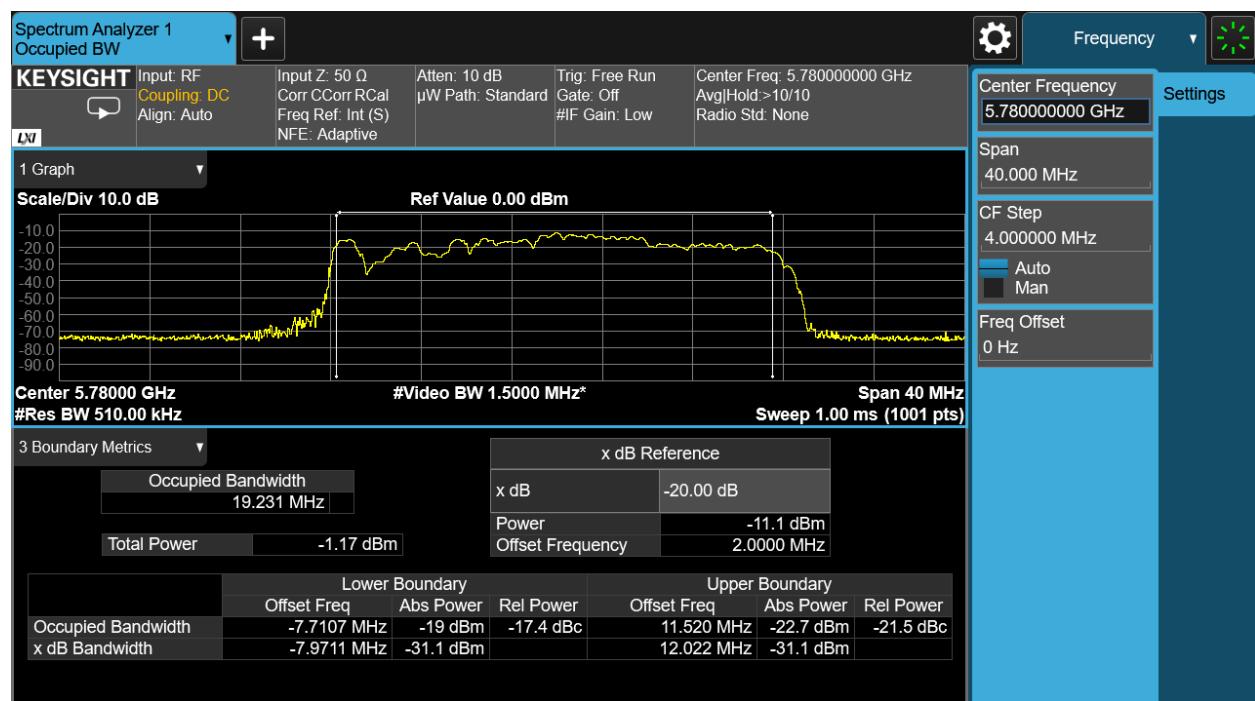
Set Span = 2 to 5 times the OBW, RBW = approximately 1% to 5% of the OBW, $VBW \geq 3 * RBW$, Sweep = auto, Detector = peak, Trace = max hold.

The test was performed at 1 channel.

5.3 Test Configuration

TEST REPORT
5.4 The results

Test Mode	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)	F _L at 20dB BW (MHz)	F _H at 20dB BW (MHz)
5.8G	5780.00	19.993	19.231	5772.028	5792.022
Limit		N/A	N/A	> 5725.000	< 5875.000
Result	Complied				



TEST REPORT

6 Antenna requirement

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.

Result:

EUT uses permanently attached antenna to the intentional radiator, so it can comply with the provisions of this section.

***** END *****