

TEST REPORT

Reference No...... : WTX22X02018108W-1
FCC ID : RZO-IEDG-WMTV-1
Applicant : Mizco International Inc
Address : 80 Essex Avenue East Avenel, NJ 07001 United States
Manufacturer : HONG KONG ETECH GROUPS LIMITED
Address : 16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area,
Xixiang Road, Baoan District, Shenzhen
Product Name : Universal USB Dongle
Model No..... : IEDG-WMTV-BL
Standards : FCC Part 15.249
Date of Receipt sample : 2022-02-16
Date of Test..... : 2022-02-16 to 2022-03-16
Date of Issue : 2022-03-16
Test Report Form No. : WTX_Part 15_249W
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:

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Report version

Version No.	Date of issue	Description
Rev.00	2022-03-16	Original
/	/	/

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

General Description of EUT	
Product Name:	Universal USB Dongle
Trade Name:	/
Model No.:	IEDG-WMTV-BL
Adding Model(s):	IEDG-WMTV-GRN, IEDG-WMTV-PK, IEDG-WMTV-BK, EQT6-211103
Rated Voltage:	DC 5V
Battery Capacity	/
Power Adapter Model:	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model IEDG-WMTV-BL, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	2402MHz-2480MHz
Max. Field Strength:	89.60dBuV/m
Modulation:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	-5.92dBi
<i>Note: The Antenna Gain is provided by the customer and can affect the validity of results.</i>	

1.2 Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902-928MHz, 2400-2483.5MHz, 5725-5875MHz, and 24.0-24.25GHz.

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which results in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

1.4 Test Facility

Address of the test laboratory

Laboratory: Waltek Testing Group (Shenzhen) Co., Ltd.

Address: 1/F., Room 101, Building 1, Hongwei Industrial Park, Liuxian 2nd Road, Block 70 Bao'an District, Shenzhen, Guangdong, China

FCC – Registration No.: 125990

Waltek Testing Group (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Waltek Testing Group (Shenzhen) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Low Channel	2402MHz
TM2	Middle Channel	2440MHz
TM3	High Channel	2480MHz

Test Conditions	
Temperature:	22~25 °C
Relative Humidity:	50~55 %.
ATM Pressure:	1019 mbar

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E445	EB12648265

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	$\pm 0.42\text{dB}$
Occupied Bandwidth	Conducted	$\pm 1.5\%$
Conducted Spurious Emission	Conducted	$\pm 2.17\text{dB}$
Conducted Emissions	Conducted	9-150kHz $\pm 3.74\text{dB}$
		0.15-30MHz $\pm 3.34\text{dB}$
Transmitter Spurious Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-26GHz $\pm 3.92\text{dB}$

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1075	Communication Tester	Rohde & Schwarz	CMW500	148650	2021-03-27	2022-03-26
SEMT-1063	GSM Tester	Rohde & Schwarz	CMU200	114403	2021-03-27	2022-03-26
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2021-03-27	2022-03-26
SEMT-1079	Spectrum Analyzer	Agilent	N9020A	US47140102	2021-03-27	2022-03-26
SEMT-1080	Signal Generator	Agilent	83752A	3610A01453	2021-03-27	2022-03-26
SEMT-1081	Vector Signal Generator	Agilent	N5182A	MY47070202	2021-03-27	2022-03-26
SEMT-1028	Power Divider	Weinschel	1506A	PM204	2021-03-27	2022-03-26
SEMT-1082	Power Divider	RF-Lambda	RFLT4W5M18G	14110400027	2021-03-27	2022-03-26
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	/	/
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	/	/
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	/	/
SEMT-C004	Cable	Zheng DI	2M0RFC	/	/	/
SEMT-C005	Cable	Zheng DI	1M0RFC	/	/	/
SEMT-C006	Cable	Zheng DI	1M0RFC	/	/	/
☒ Chamber A: Below 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2021-03-27	2022-03-26
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-03-27	2022-03-26
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2021-04-12	2022-04-11
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2021-03-19	2023-03-18
SEMT-1068	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2021-03-19	2023-03-18
☒ Chamber A: Above 1GHz						
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2021-03-27	2022-03-26
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2021-03-27	2022-03-26
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2021-04-12	2022-04-11
SEMT-1042	Horn Antenna	ETS	3117	00086197	2021-03-19	2023-03-18
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91705	2021-04-27	2023-04-26

				82		
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2021-04-27	2022-04-26
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2021-03-27	2022-03-26
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2021-03-27	2022-03-26
☐ Chamber B: Below 1GHz						
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2021-04-09	2023-04-08
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2021-04-12	2022-04-11
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2021-05-06	2022-05-05
☐ Chamber C: Below 1GHz						
SEMT-1319	EMI Test Receiver	Rohde & Schwarz	ESIB 26	100401	2021-12-03	2022-12-02
SEMT-1343	Trilog Broadband Antenna	Schwarz beck	VULB 9168	1194	2021-05-28	2023-05-27
SEMT-1333	Amplifier	HP	8447F	2944A03869	2021-04-15	2022-04-14
☒ Conducted Room 1#						
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2021-04-12	2022-04-11
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2021-04-15	2022-04-14
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2021-04-12	2022-04-11
☐ Conducted Room 2#						
SEMT-1334	EMI Test Receiver	Rohde & Schwarz	ESPI	101259	2021-04-12	2022-04-11
SEMT-1336	LISN	Rohde & Schwarz	ENV 216	100097	2021-04-12	2022-04-11

Software List			
Description	Manufacturer	Model	Version
EMI Test Software (Radiated Emission)*	Farad	EZ-EMC	RA-03A1
EMI Test Software (Conducted Emission)*	Farad	EZ-EMC	RA-03A1

*Remark: indicates software version used in the compliance certification testing.

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§15.207(a)	Conducted Emission	Compliant
§15.209(a)(f)	Radiated Spurious Emissions	Compliant
§15.249(a)	Field Strength of Emissions	Compliant
§15.249(d)	Out of Band Emission	Compliant
§15.215(c)	Emission Bandwidth	Compliant

N/A: Not applicable.

3. Antenna Requirements

3.1 Standard Applicable

According to FCC Part 15.203, 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.

3.2 Test Result

This product has a PCB antenna, fulfill the requirement of this section.

4. Radiated Emissions

4.1 Standard Applicable

According to §15.249(a), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental (milli-volts/meter)	Field strength of Harmonics (micro-volts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

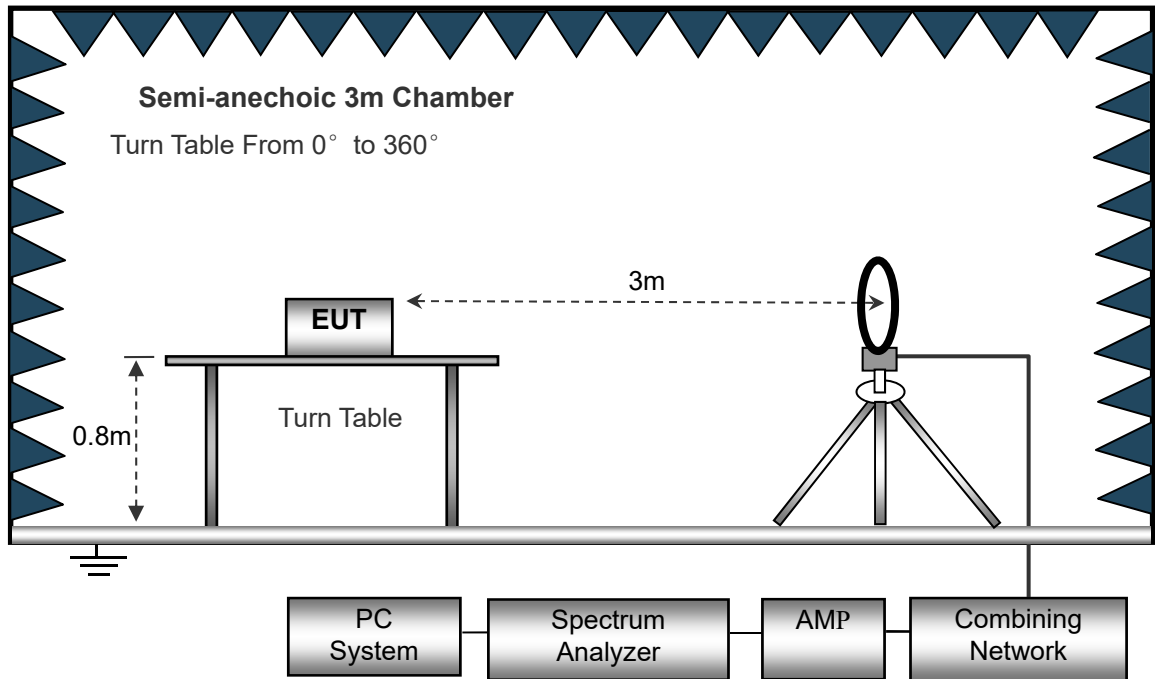
4.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.249(a) and FCC Part 15.209 Limit.

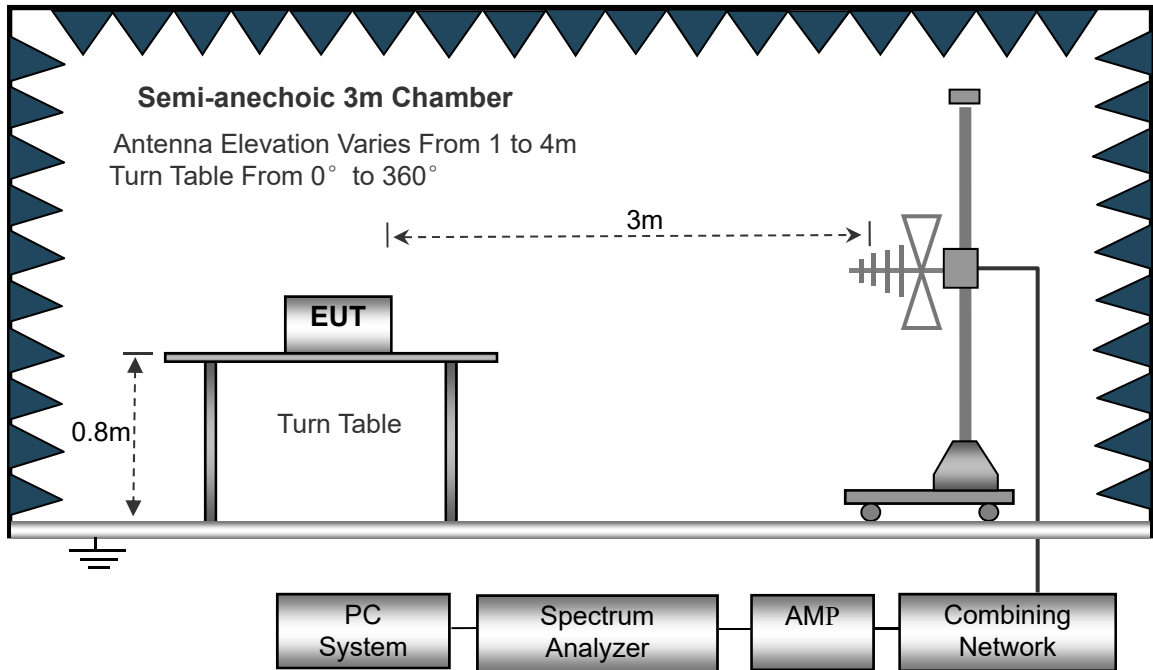
The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

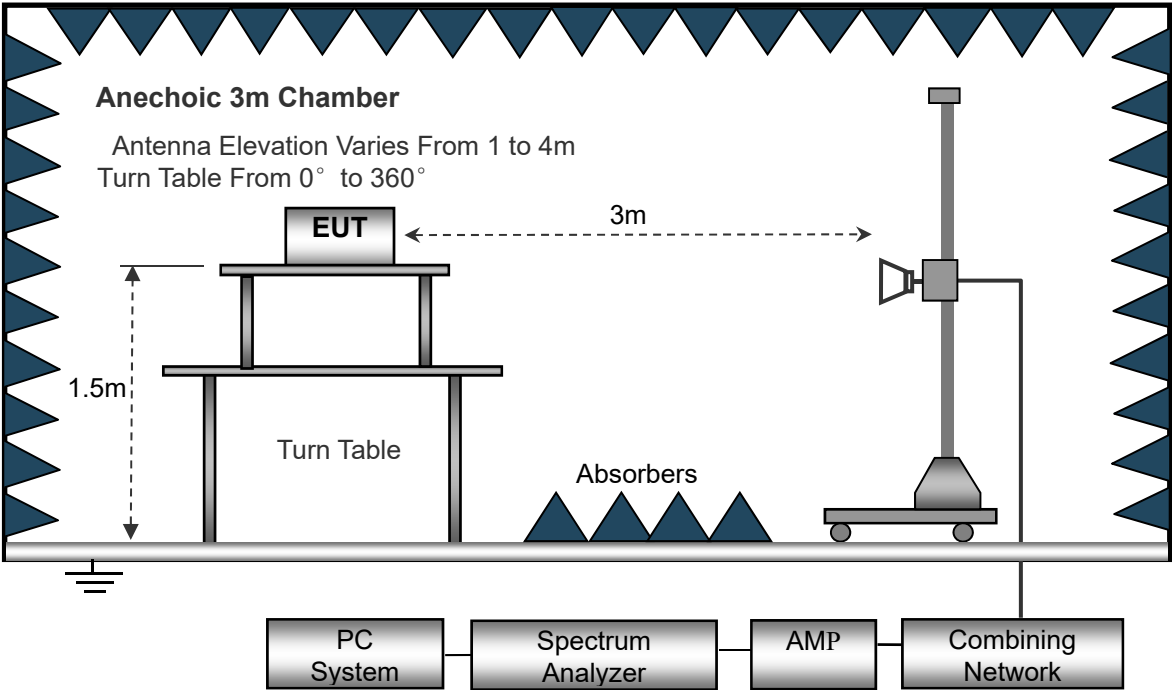
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30MHz to 1GHz.



The test setup for emission measurement above 1GHz.



Frequency :9kHz-30MHz
RBW=10KHz,
VBW =30KHz
Sweep time= Auto
Trace = max hold
Detector function = peak

Frequency :30MHz-1GHz
RBW=120KHz,
VBW=300KHz
Sweep time= Auto
Trace = max hold
Detector function = peak, QP

Frequency :Above 1GHz
RBW=1MHz,
VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto
Trace = max hold
Detector function = peak, AV

4.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit. The equation for margin calculation is as follows:

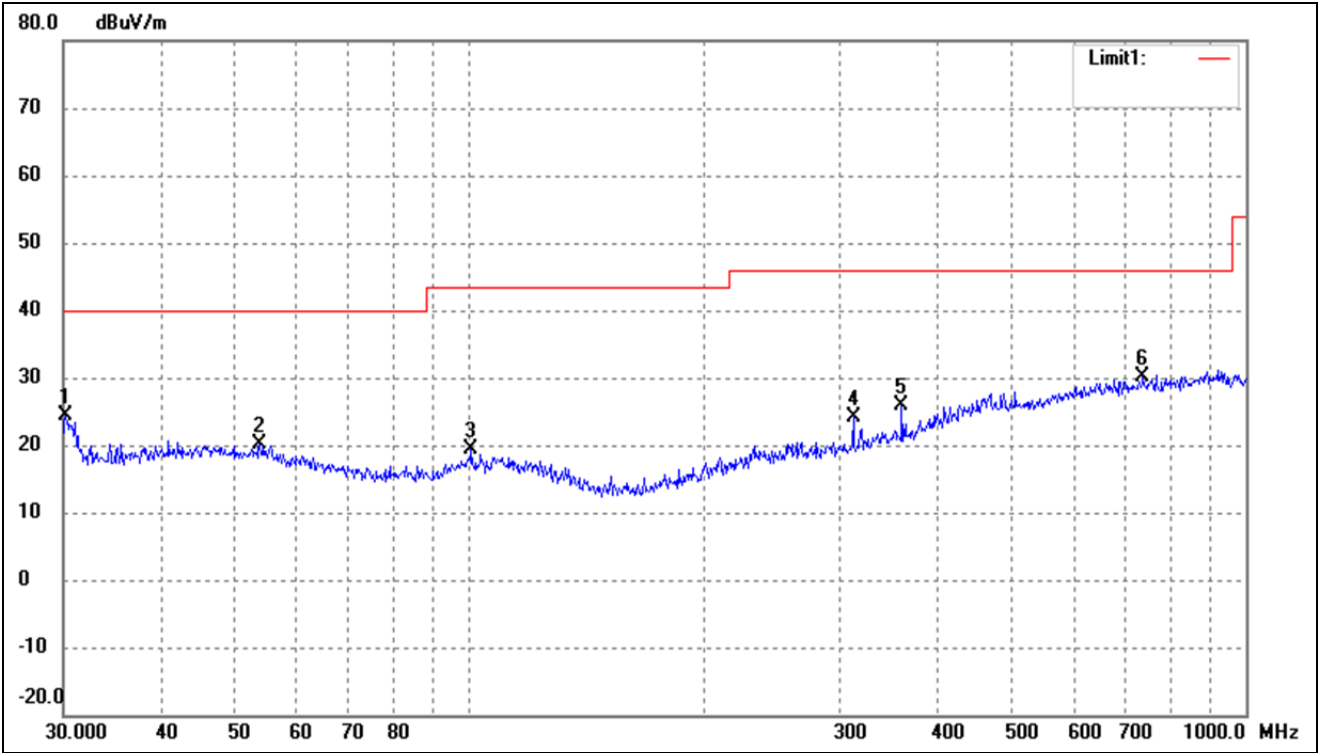
$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15C Limit}$$

4.4 Summary of Test Results/Plots

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

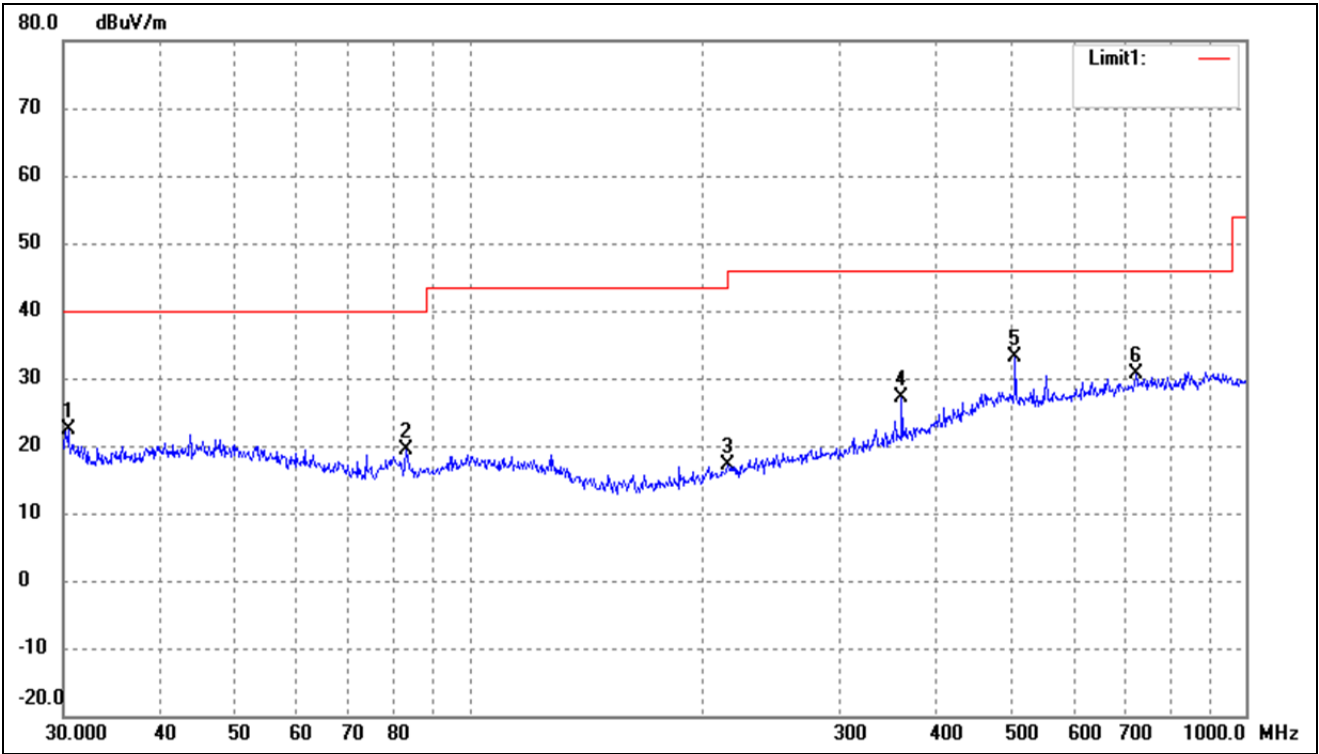
➤ Spurious Emissions Below 1GHz

Test Channel	Low(worst case)	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	30.2111	33.83	-9.41	24.42	40.00	-15.58	-	-	peak
2	53.6932	27.59	-7.49	20.10	40.00	-19.90	-	-	peak
3	100.5806	28.09	-8.73	19.36	43.50	-24.14	-	-	peak
4	312.1794	30.84	-6.59	24.25	46.00	-21.75	-	-	peak
5	360.4477	31.00	-5.09	25.91	46.00	-20.09	-	-	peak
6	737.0714	28.48	1.67	30.15	46.00	-15.85	-	-	peak

Test Channel	Low(worst case)	Polarity:	Vertical
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	()	(cm)	
1	30.4238	31.61	-9.34	22.27	40.00	-17.73	-	-	peak
2	82.9385	30.18	-10.69	19.49	40.00	-20.51	-	-	peak
3	215.2678	26.35	-9.28	17.07	43.50	-26.43	-	-	peak
4	360.4477	32.13	-5.09	27.04	46.00	-18.96	-	-	peak
5	504.7062	34.35	-1.22	33.13	46.00	-12.87	-	-	peak
6	721.7259	29.04	1.57	30.61	46.00	-15.39	-	-	peak

Remark: ‘-’Means’ the test Degree and Height are not recorded by the test software and only show the worst case in the test report.

Spurious Emissions Above 1GHz

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2402MHz							
2402.400	100.29	-10.69	89.60	114	-24.40	H	PK
2402.100	99.07	-10.69	88.38	94	-5.62	H	AV
4804.000	51.61	-6.13	45.48	74.00	-28.52	H	PK
7206.000	49.83	-1.64	48.19	74.00	-25.81	H	PK
2402.425	91.36	-10.69	80.67	114	-33.33	V	PK
2402.211	86.45	-10.69	75.76	94	-18.24	V	AV
4804.000	50.27	-6.13	44.14	74.00	-29.86	V	PK
7206.000	49.86	-1.64	48.22	74.00	-25.78	V	PK
Middle Channel-2440MHz							
2439.853	83.45	-10.65	72.80	114	-41.20	H	PK
2439.977	77.49	-10.65	66.84	94	-27.16	H	AV
4880.000	52.16	-5.93	46.23	74.00	-27.77	H	PK
7320.000	47.94	-1.58	46.36	74.00	-27.64	H	PK
2440.715	76.89	-10.65	66.24	114	-47.76	V	PK
2440.615	72.54	-10.65	61.89	94	-32.11	V	AV
4880.000	51.10	-5.93	45.17	74.00	-28.83	V	PK
7320.000	49.14	-1.58	47.56	74.00	-26.44	V	PK
High Channel-2480MHz							
2480.300	87.66	-10.58	77.08	114	-36.92	H	PK
2480.025	86.68	-10.58	76.10	94	-17.90	H	AV
4960.000	50.47	-5.71	44.76	74.00	-29.24	H	PK
7440.000	49.13	-1.52	47.61	74.00	-26.39	H	PK
2480.137	79.65	-10.58	69.07	114	-44.93	V	PK
2480.105	76.78	-10.58	66.20	94	-27.80	V	AV
4960.000	49.82	-5.71	44.11	74.00	-29.89	V	PK
7440.000	48.80	-1.52	47.28	74.00	-26.72	V	PK

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured. The measurements greater than 20dB below the limit from 9kHz to 30MHz..

5. Out of Band Emissions

5.1 Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

As the radiation test, set the Lowest and Highest Transmitting Channel, observed the outside band of 2400MHz to 2483.5MHz, than mark the higher-level emission for comparing with the FCC rules.

5.3 Summary of Test Results/Plots

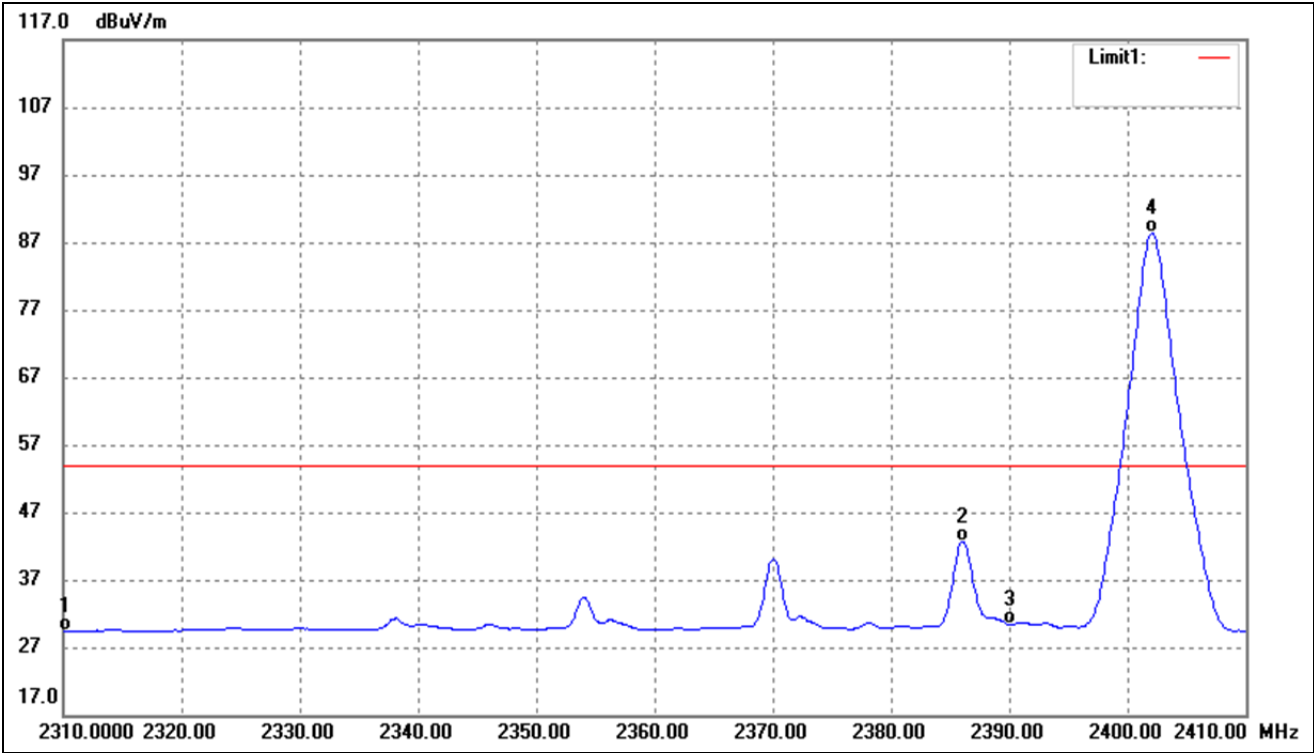
Test mode	Frequency	Limit	Result
	MHz	dBuV / dBc	
Lowest	2310.00	<54dBuV	Pass
	2390.00	<54dBuV	Pass
	2400.00	<54dBuV	Pass
Highest	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.249 requirements.

Please refer to the test plots as below.

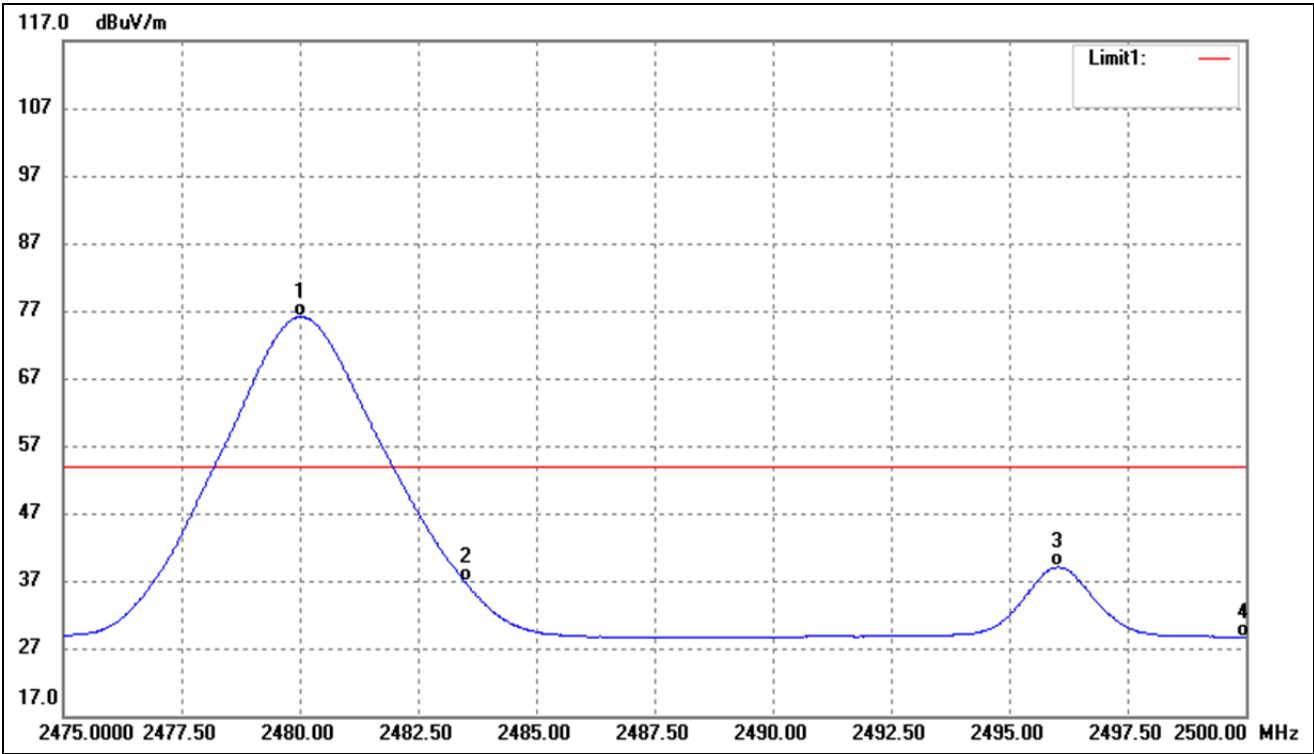
RBW: 1MHz; VBW: 3MHz

Test Channel	Low	Polarity:	Horizontal (worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	40.25	-10.82	29.43	54.00	-24.57	Ave Detector
	2310.000	53.01	-10.82	42.19	74.00	-31.81	Peak Detector
2	2386.100	53.45	-10.71	42.74	54.00	-11.26	Ave Detector
	2353.700	63.75	-10.75	53.00	74.00	-21.00	Peak Detector
3	2390.000	41.00	-10.70	30.30	54.00	-23.70	Ave Detector
	2390.000	53.44	-10.70	42.74	74.00	-31.26	Peak Detector
4	2402.100	99.07	-10.69	88.38	/	/	Ave Detector
	2402.400	100.29	-10.69	89.60	/	/	Peak Detector

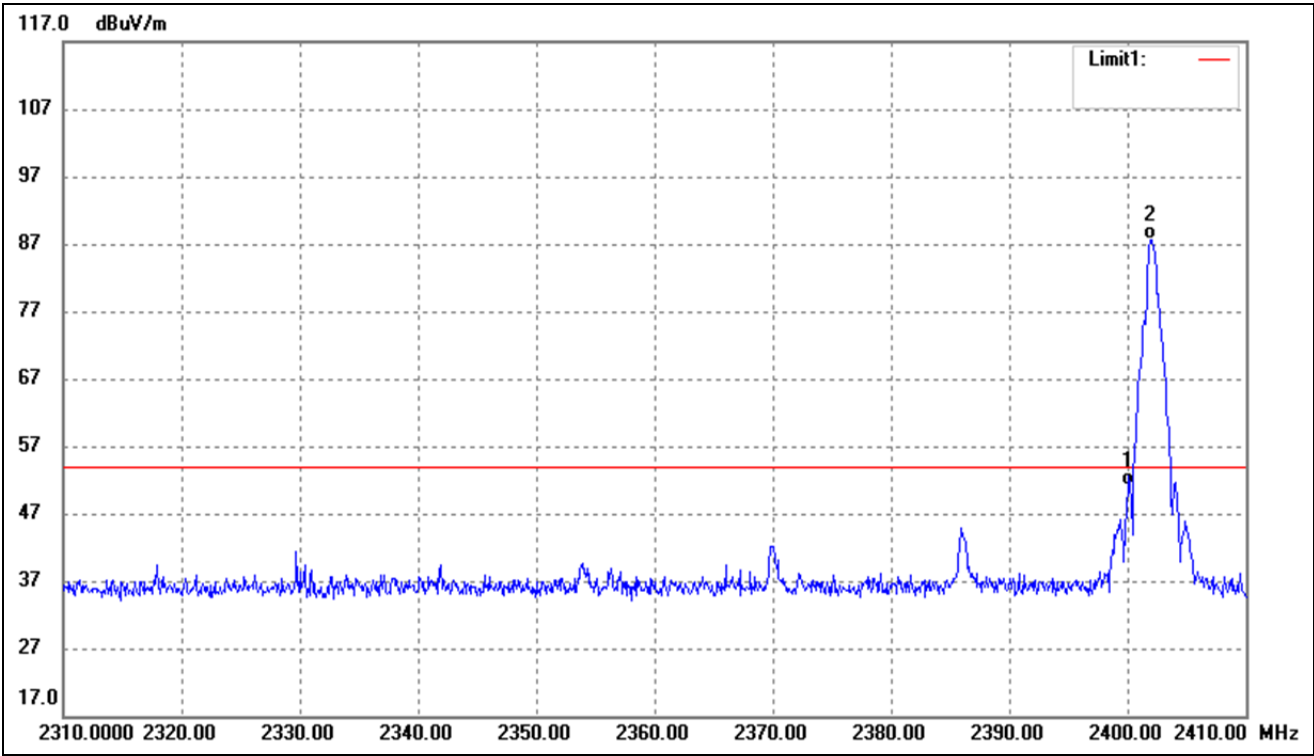
Test Channel	High	Polarity:	Horizontal (worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2480.025	86.68	-10.58	76.10	/	/	Ave Detector
	2480.300	87.66	-10.58	77.08	/	/	Peak Detector
2	2483.500	47.36	-10.58	36.78	54.00	-17.22	Ave Detector
	2483.500	56.12	-10.58	45.54	74.00	-28.46	Peak Detector
3	2496.000	49.57	-10.55	39.02	54.00	-14.98	Ave Detector
	2495.850	57.25	-10.55	46.70	74.00	-27.30	Peak Detector
4	2500.000	39.18	-10.55	28.63	54.00	-25.37	Ave Detector
	2500.000	51.50	-10.55	40.95	74.00	-33.05	Peak Detector

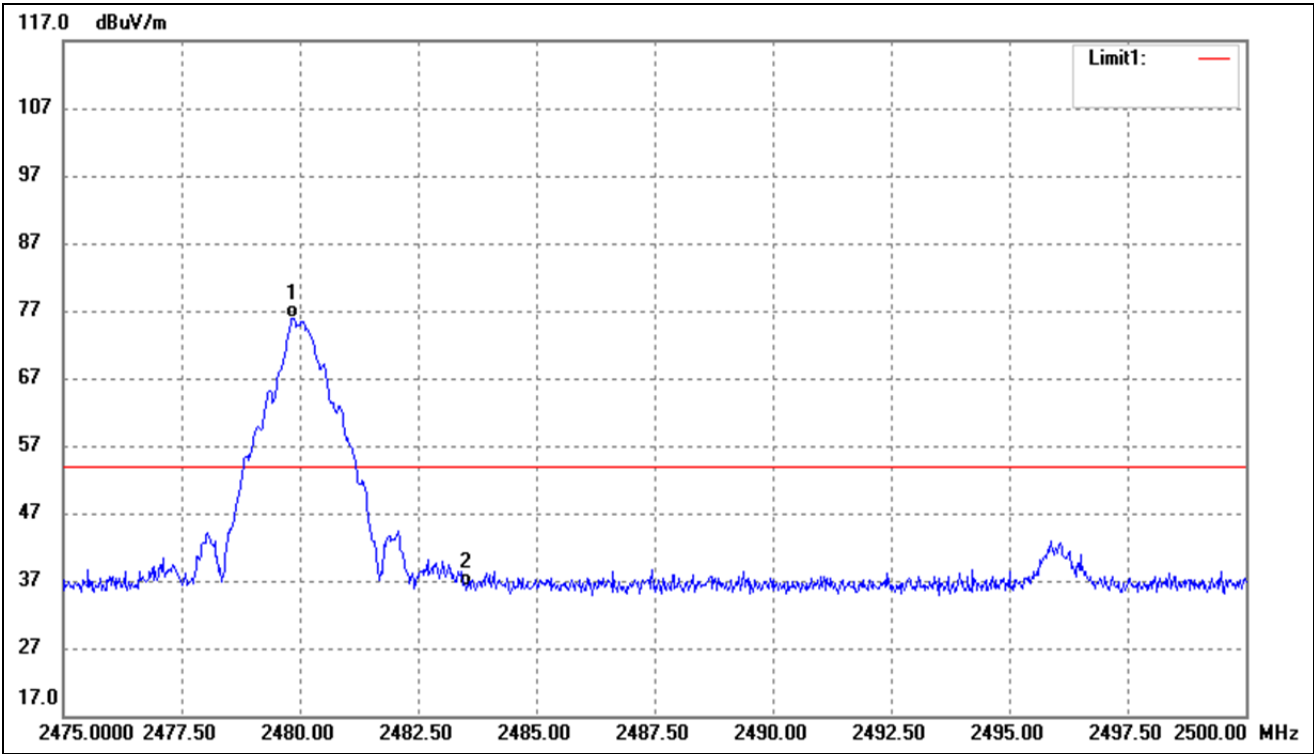
Band edge
RBW: 100kHz; VBW: 300kHz

Test Channel	Low	Polarity:	Horizontal (worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2400.000	61.94	-10.69	51.25	54.00	-2.75	Ave Detector
	2400.000	62.29	-10.69	51.60	74.00	-22.40	Peak Detector
2	2401.900	98.34	-10.69	87.65	/	/	Ave Detector
	2401.900	98.50	-10.69	87.81	/	/	Peak Detector

Test Channel	High	Polarity:	Horizontal (worst case)
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2479.850	86.53	-10.58	75.95	/	/	Ave Detector
	2479.850	86.56	-10.58	75.98	/	/	Peak Detector
2	2483.500	46.60	-10.58	36.02	54.00	-17.98	Ave Detector
	2483.500	47.45	-10.58	36.87	74.00	-37.13	Peak Detector

6. Emission Bandwidth

6.1 Standard Applicable

According to 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 20dB 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. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. 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.

6.2 Test Procedure

According to the ANSI 63.10-2013, the emission bandwidth test method as follows.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

Set span = 1MHz, centered on a transmitting channel

RBW $\geq$ 1% 20dB Bandwidth, VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

All the trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission, use the marker-delta function to measure and record the 20dB down and 99% bandwidth of the emission.

6.3 Summary of Test Results/Plots

Test Channel	20dB Bandwidth(kHz)
Low Channel	1243
Middle Channel	1246
High Channel	1257

Please refer to the following test plots:

Low Channel	Agilent Ch Freq 2.402 GHz Trig Free Occupied Bandwidth Center 2.402000000 GHz Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Offst 1 dB Center 2.402 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 10 ms (1001 pts) Span 3 MHz Occupied Bandwidth 1.1416 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error 35.618 kHz x dB Bandwidth 1.243 MHz Freq/Channel Center Freq 2.40200000 GHz Start Freq 2.40050000 GHz Stop Freq 2.40350000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin
Middle Channel	Agilent Ch Freq 2.44 GHz Trig Free Occupied Bandwidth Center 2.440000000 GHz Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Offst 1 dB Center 2.44 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 10 ms (1001 pts) Span 3 MHz Occupied Bandwidth 1.1500 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error 39.306 kHz x dB Bandwidth 1.246 MHz Trace/View 1 Trace 2 3 Clear Write Max Hold Min Hold View Blank More 1 of 2
High Channel	Agilent Ch Freq 2.48 GHz Trig Free Occupied Bandwidth Center 2.480000000 GHz Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Offst 1 dB Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Sweep 10 ms (1001 pts) Span 3 MHz Occupied Bandwidth 1.1750 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error 89.374 kHz x dB Bandwidth 1.257 MHz Freq/Channel Center Freq 2.48000000 GHz Start Freq 2.47850000 GHz Stop Freq 2.48150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Scale Type Log Lin

7. Conducted Emissions

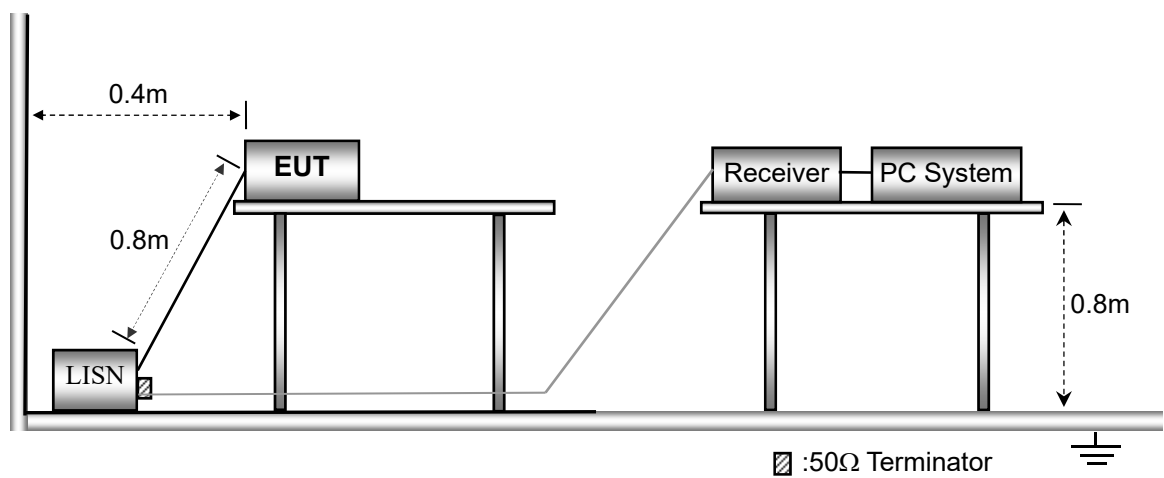
7.1 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle.

The spacing between the peripherals was 10cm.

7.2 Basic Test Setup Block Diagram



7.3 Test Receiver Setup

During the conducted emission test, the test receiver was set with the following configurations:

Start Frequency 150kHz

Stop Frequency 30MHz

Sweep Speed Auto

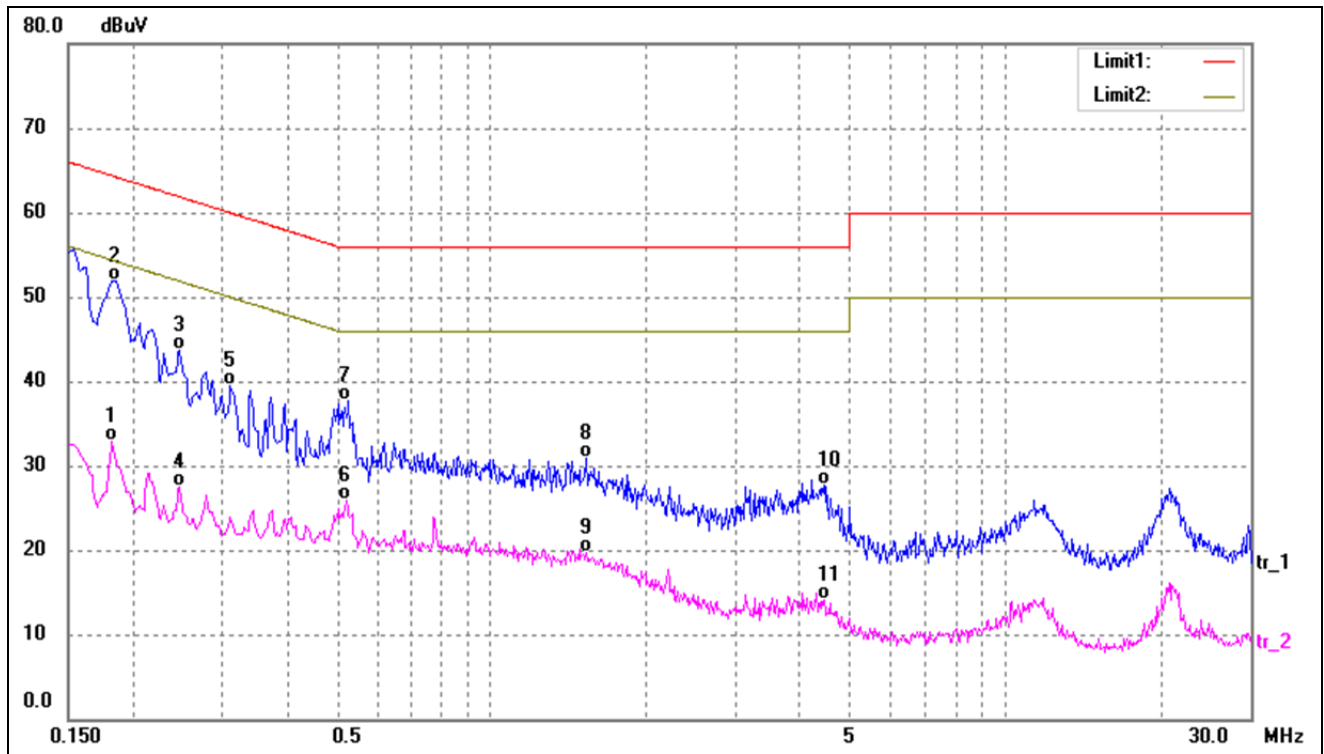
IF Bandwidth..... 10kHz

Quasi-Peak Adapter Bandwidth 9kHz

Quasi-Peak Adapter Mode Normal

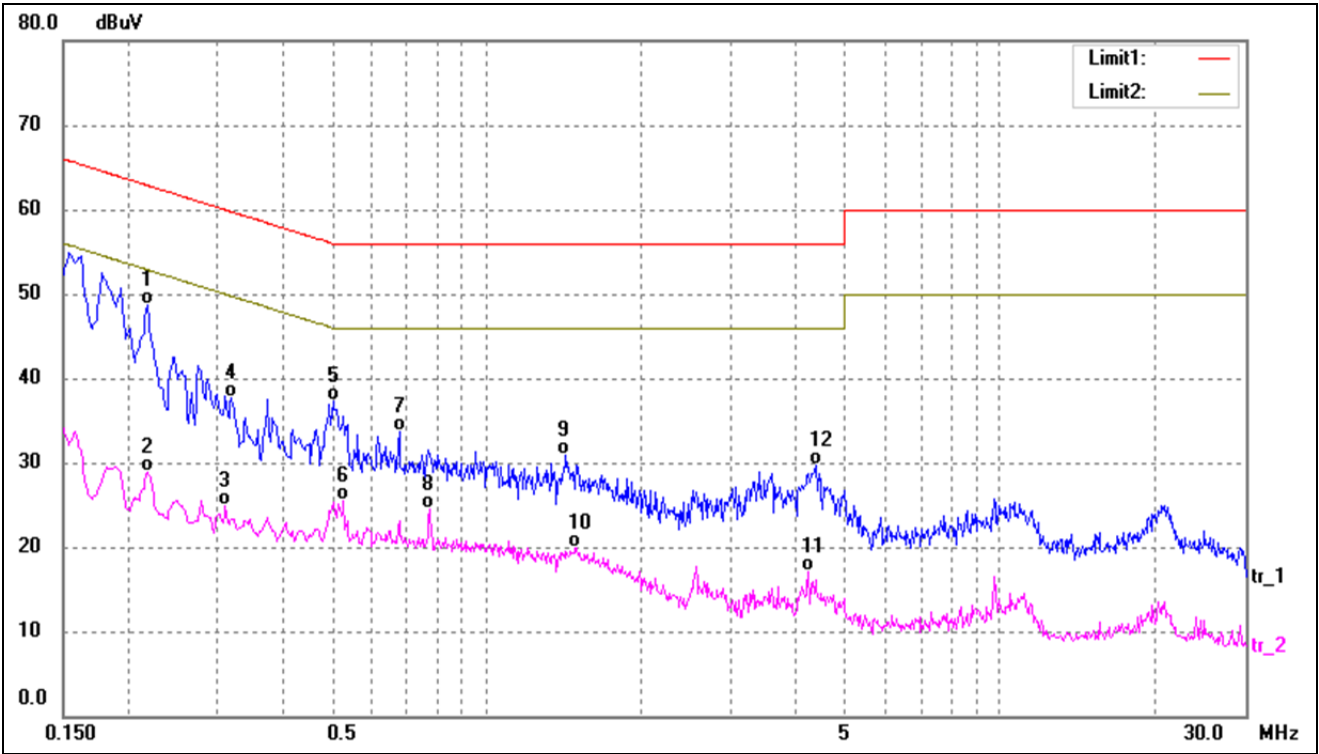
7.4 Summary of Test Results/Plots

Test Mode	Communication	AC120V 60Hz	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1820	22.48	10.37	32.85	54.39	-21.54	AVG
2*	0.1860	41.51	10.37	51.88	64.21	-12.33	QP
3	0.2460	33.36	10.35	43.71	61.89	-18.18	QP
4	0.2460	17.17	10.35	27.52	51.89	-24.37	AVG
5	0.3100	29.25	10.33	39.58	59.97	-20.39	QP
6	0.5220	15.68	10.27	25.95	46.00	-20.05	AVG
7	0.5260	27.36	10.28	37.64	56.00	-18.36	QP
8	1.5300	20.49	10.33	30.82	56.00	-25.18	QP
9	1.5300	9.36	10.33	19.69	46.00	-26.31	AVG
10	4.4420	17.75	10.02	27.77	56.00	-28.23	QP
11	4.4420	4.03	10.02	14.05	46.00	-31.95	AVG

Test Mode	Communication	AC120V 60Hz	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.2180	38.34	10.36	48.70	62.89	-14.19	QP
2	0.2180	18.49	10.36	28.85	52.89	-24.04	AVG
3	0.3100	14.48	10.33	24.81	49.97	-25.16	AVG
4	0.3180	27.46	10.33	37.79	59.76	-21.97	QP
5	0.5020	27.09	10.26	37.35	56.00	-18.65	QP
6	0.5260	15.14	10.28	25.42	46.00	-20.58	AVG
7	0.6780	23.31	10.37	33.68	56.00	-22.32	QP
8	0.7780	13.98	10.43	24.41	46.00	-21.59	AVG
9	1.4260	20.55	10.38	30.93	56.00	-25.07	QP
10	1.4940	9.57	10.35	19.92	46.00	-26.08	AVG
11	4.2260	7.10	10.03	17.13	46.00	-28.87	AVG
12	4.3740	19.74	10.03	29.77	56.00	-26.23	QP

APPENDIX PHOTOGRAPHS

Please refer to “ANNEX”

******* END OF REPORT *******