

# FCC Part 15C Measurement and Test Report

For

**Shenzhen Junsida Electronic Technology Co., Ltd.**

**3F Bldg 1, Zhenyingtai Industrial Park, Hebei Industrial Zone, Hualian,**

**Longhua Dist, Shenzhen, China**

**FCC ID: 2APTQ-R100**

<b>FCC Rule(s):</b>	<u>FCC Part 15.249</u>
<b>Product Description:</b>	<u>Receiver</u>
<b>Tested Model:</b>	<u>R100</u>
<b>Report No.:</b>	<u>STR18058056I</u>
<b>Sample Receipt Date:</b>	<u>2018-05-11</u>
<b>Tested Date:</b>	<u>2018-05-22 to 2017-05-30</u>
<b>Issued Date:</b>	<u>2018-05-31</u>
<b>Tested By:</b>	<u>Long Tang / Engineer</u>
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM Test Technology Co., Ltd.

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Shenzhen Junsida Electronic Technology Co., Ltd.  
Address of applicant: 3F Bldg 1, Zhenyingtai Industrial Park, Hebei Industrial Zone, Hualian, Longhua Dist, Shenzhen, China

Manufacturer: Shenzhen Junsida Electronic Technology Co., Ltd.  
Address of manufacturer: 3F Bldg 1, Zhenyingtai Industrial Park, Hebei Industrial Zone, Hualian, Longhua Dist, Shenzhen, China

General Description of EUT	
Product Name:	Receiver
Trade Name:	FMOUSE
Model No.:	R100
Adding Model(s):	/
Rated Voltage:	USB:DC5V
Power Adapter Model:	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	2408-2474MHz
Max. Field Strength:	91.41 dBuV/m
Data Rate:	1Mbps
Modulation:	FSK
Antenna Type:	PCB Antenna
Antenna Gain:	-1.66 dBi
Lowest Internal Frequency of EUT:	12MHz

## 1.2 Test Standards

The following report is prepared on behalf of the Shenzhen Junsida Electronic Technology Co., Ltd. in accordance with FCC Part 15, Subpart B, Subpart C, and section 15.107, 15.203, 15.205, 15.207, 15.209 and 15.249 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.107,15.203, 15.205, 15.207, 15.209 and 15.249 of the Federal Communication Commissions rules.

**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, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

## 1.4 Test Facility

### **FCC – Registration No.: 125990**

Shenzhen SEM Test Technology Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

### **Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology 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	2408MHz
TM2	Middle Channel	2440MHz
TM3	High Channel	2474MHz

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	E23	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 $\pm 3.84\text{dB}$
		6-18GHz $\pm 3.92\text{dB}$

## 1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2018-05-22	2019-05-21
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2018-05-22	2019-05-21
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2018-05-22	2019-05-21
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2018-05-22	2019-05-21
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2018-05-22	2019-05-21
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-08	2020-06-07
SEMT-1042	Horn Antenna	ETS	3117	00086197	2017-06-08	2020-06-07
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2017-06-08	2020-06-07
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-08	2020-06-07
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2018-05-22	2019-05-21
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2018-05-22	2019-05-21
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2018-05-22	2019-05-21
SEMT-1168	Pre-amplifier	Direction Systems Inc.	PAP-0126	14141-12838	2018-05-22	2019-05-21
SEMT-1169	Pre-amplifier	Direction Systems Inc.	PAP-2640	14145-14153	2018-05-22	2019-05-21
SEMT-1163	Spectrum Analyzer	Rohde & Schwarz	FSP40	100612	2018-05-22	2019-05-21
SEMT-1170	DRG Horn Antenna	A.H. SYSTEMS	SAS-574	571	2018-03-19	2021-03-18
SEMT-1166	Power Limiter	Agilent	N9356B	MY45450376	2018-05-22	2019-05-21
SEMT-1048	RF Limiter	ATTEN	AT-BSF-2400~2500	/	2018-05-22	2019-05-21
SEMT-1076	RF Switcher	Top Precision	RCS03-A2	/	2018-05-22	2019-05-21
SEMT-C001	Cable	Zheng DI	LL142-07-07-10M(A)	/	2018-03-19	2019-03-18
SEMT-C002	Cable	Zheng DI	ZT40-2.92J-2.92J-6M	/	2018-03-19	2019-03-18
SEMT-C003	Cable	Zheng DI	ZT40-2.92J-2.92J-2.5M	/	2018-03-19	2019-03-18
SEMT-C004	Cable	Zheng DI	2M0RFC	/	2018-03-19	2019-03-18
SEMT-C005	Cable	Zheng DI	1M0RFC	/	2018-03-19	2019-03-18
SEMT-C006	Cable	Zheng DI	1M0RFC	/	2018-03-19	2019-03-18

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## 2. SUMMARY OF TEST RESULTS

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<b>FCC Rules</b>	<b>Description of Test Item</b>	<b>Result</b>
§ 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

### **3. Antenna Requirements**

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#### **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 an integral antenna, fulfill the requirement of this section.



## 4. Radiated Emissions

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### 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)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

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

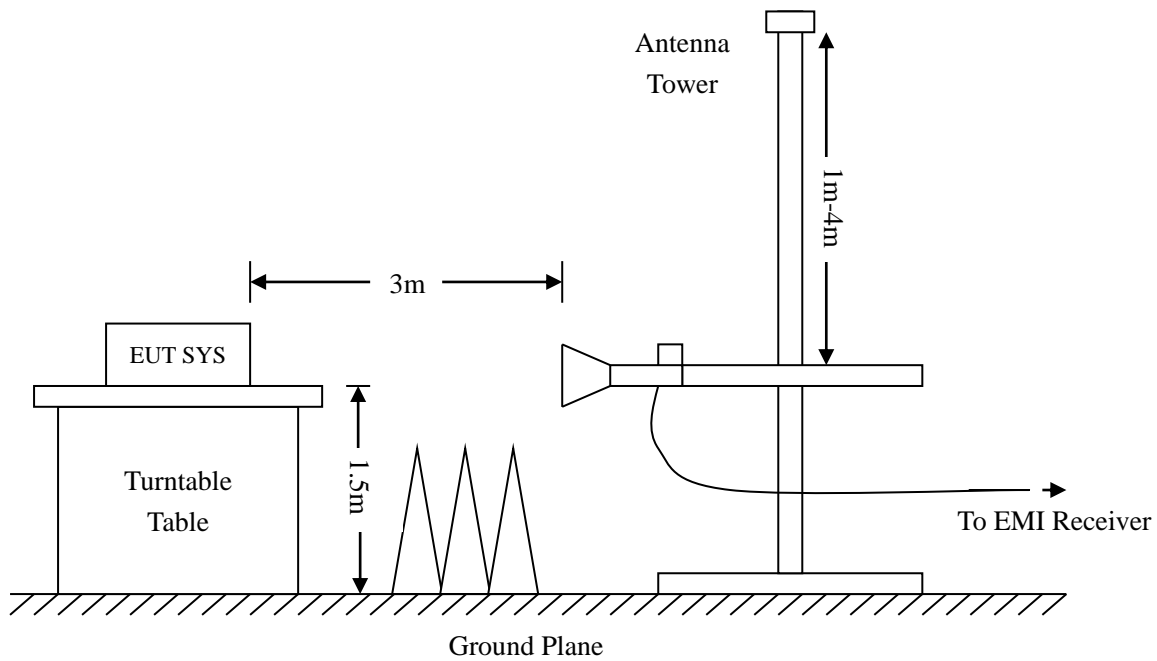
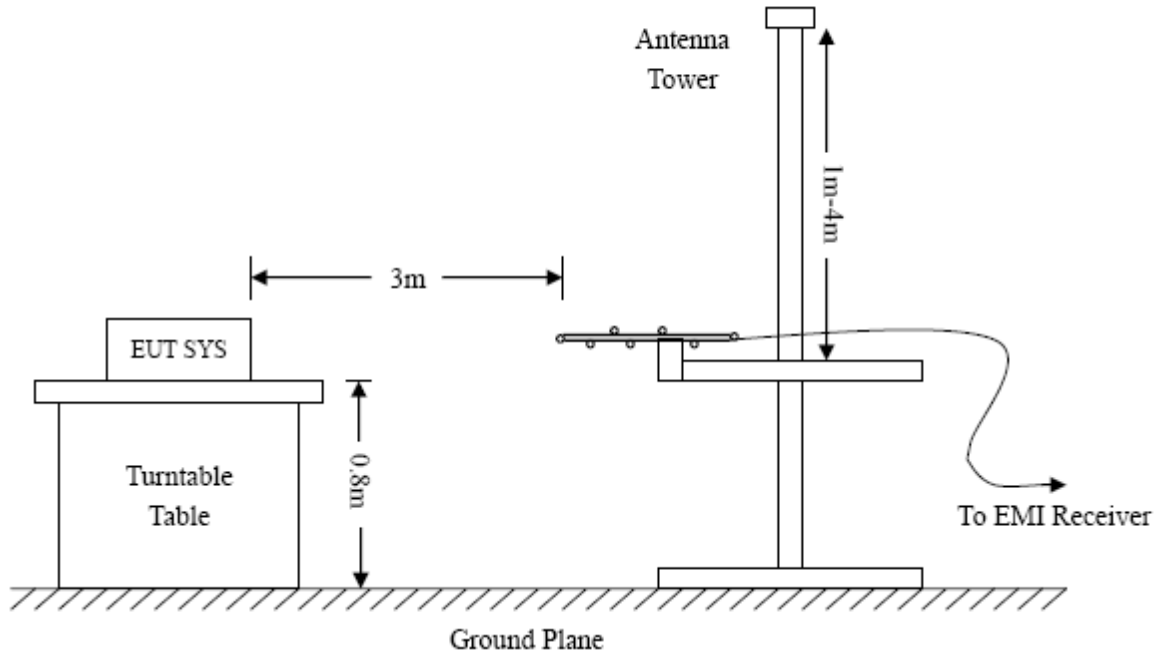
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

### 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 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



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  $-6\text{dB}\mu\text{V}$  means the emission is  $6\text{dB}\mu\text{V}$  below the maximum limit. The equation for margin calculation is as follows:

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

### 4.4 Environmental Conditions

Temperature:	24 °C
Relative Humidity:	60 %
ATM Pressure:	1012 mbar

### 4.5 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.249 standards, and had the worst margin of:

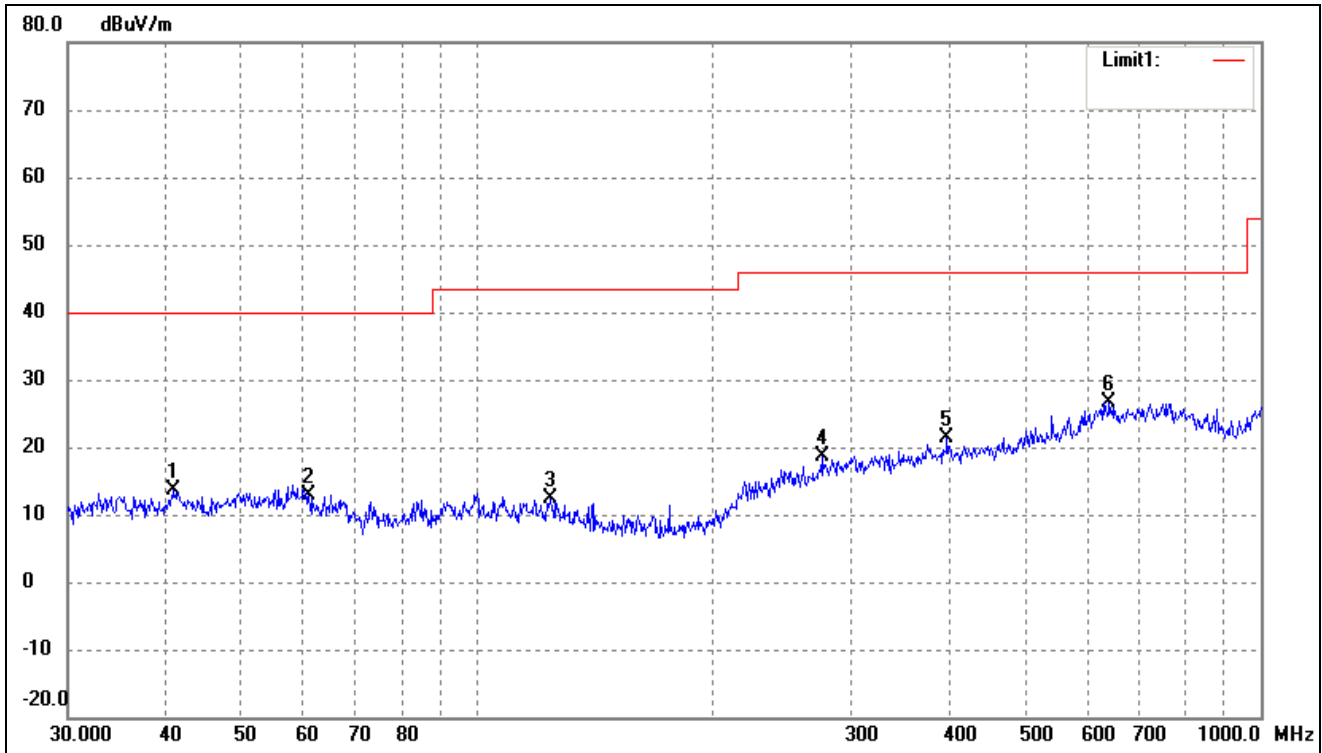
**-11.28 dB** at **896.9965 MHz** in the **Horizontal** polarization, **Middle Channel, 9 kHz to 25 GHz, 3Meters**

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

**Plot of Radiated Emissions Test Data (30MHz to 1GHz)**

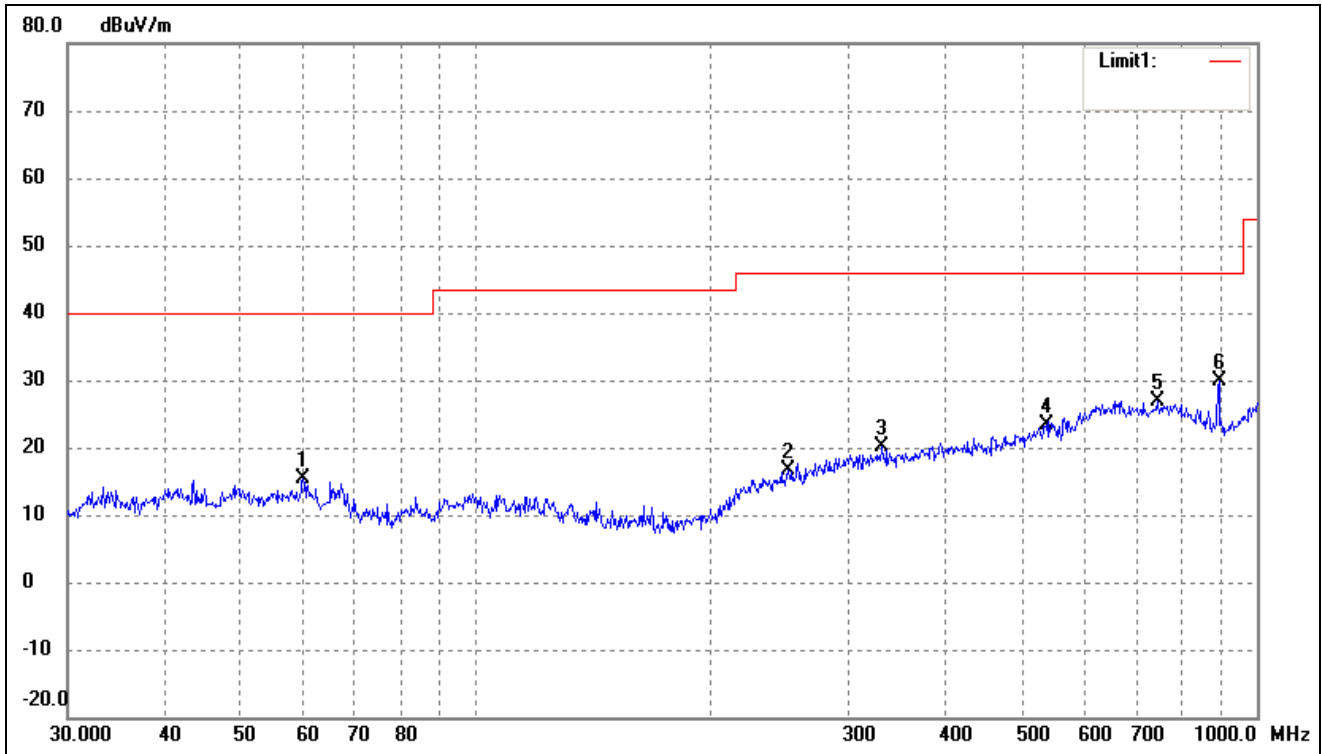
EUT: Receiver  
 Tested Model: R100  
 Operating Condition: Transmitting Low Channel (2408MHz)  
 Comment: AC120V/60Hz; USB 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	40.9881	30.05	-16.52	13.53	40.00	-26.47	294	100	peak
2	60.9176	29.63	-16.70	12.93	40.00	-27.07	93	100	peak
3	123.6985	29.36	-16.97	12.39	43.50	-31.11	119	100	peak
4	275.1570	29.24	-10.70	18.54	46.00	-27.46	102	100	peak
5	397.6334	29.33	-7.92	21.41	46.00	-24.59	264	100	peak
6	640.6110	27.67	-1.03	26.64	46.00	-19.36	254	100	peak

Test Specification: Vertical

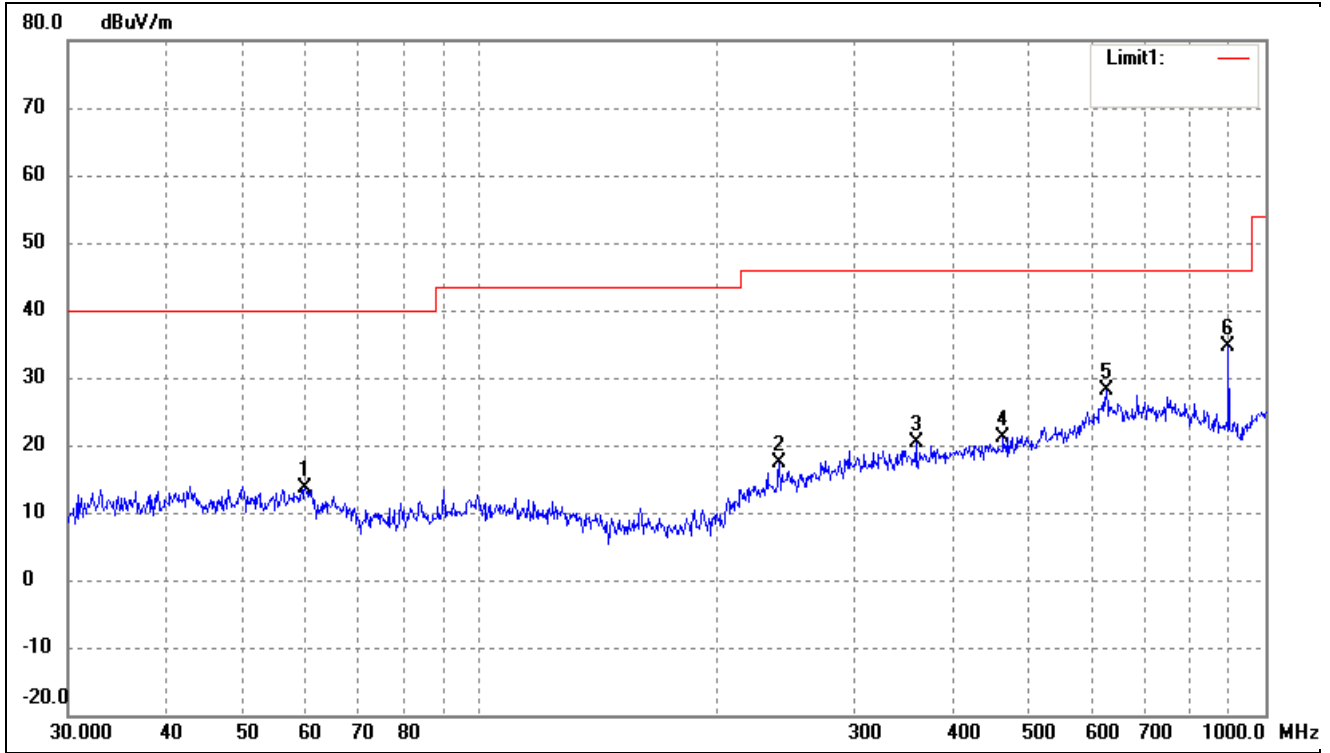


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	60.0691	31.88	-16.52	15.36	40.00	-24.64	354	100	peak
2	251.1804	28.84	-12.09	16.75	46.00	-29.25	98	100	peak
3	331.3546	29.62	-9.55	20.07	46.00	-25.93	165	100	peak
4	537.5891	28.66	-5.22	23.44	46.00	-22.56	91	100	peak
5	744.8661	26.94	-0.03	26.91	46.00	-19.09	335	100	peak
6	893.8567	32.61	-2.71	29.90	46.00	-16.10	222	100	peak

Operating Condition: Transmitting Middle Channel (2440MHz)

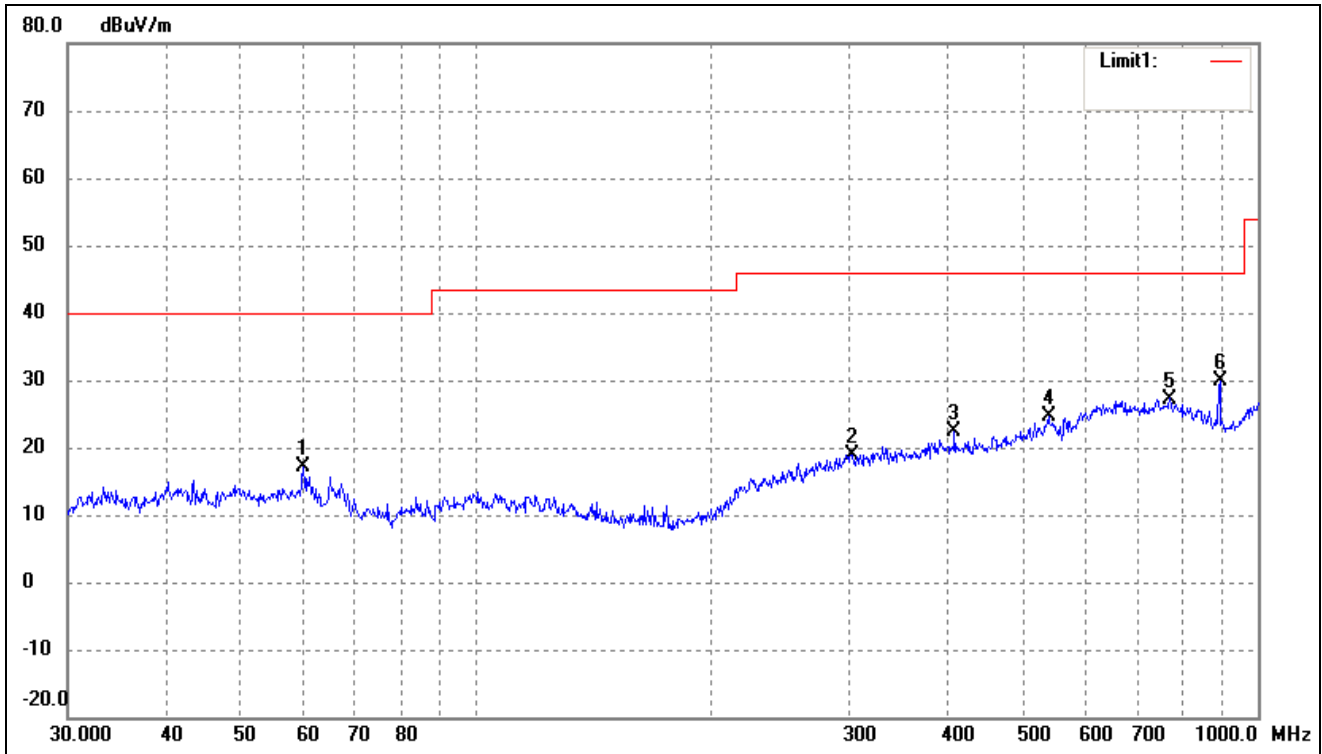
Comment: AC120V/60Hz; USB 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	60.0691	30.16	-16.52	13.64	40.00	-26.36	260	100	peak
2	240.8304	29.87	-12.51	17.36	46.00	-28.64	269	100	peak
3	359.1860	29.41	-8.95	20.46	46.00	-25.54	63	100	peak
4	463.9696	27.94	-6.72	21.22	46.00	-24.78	213	100	peak
5	627.2738	29.51	-1.45	28.06	46.00	-17.94	152	100	peak
6	896.9965	37.58	-2.86	34.72	46.00	-11.28	213	100	peak

Test Specification: Vertical

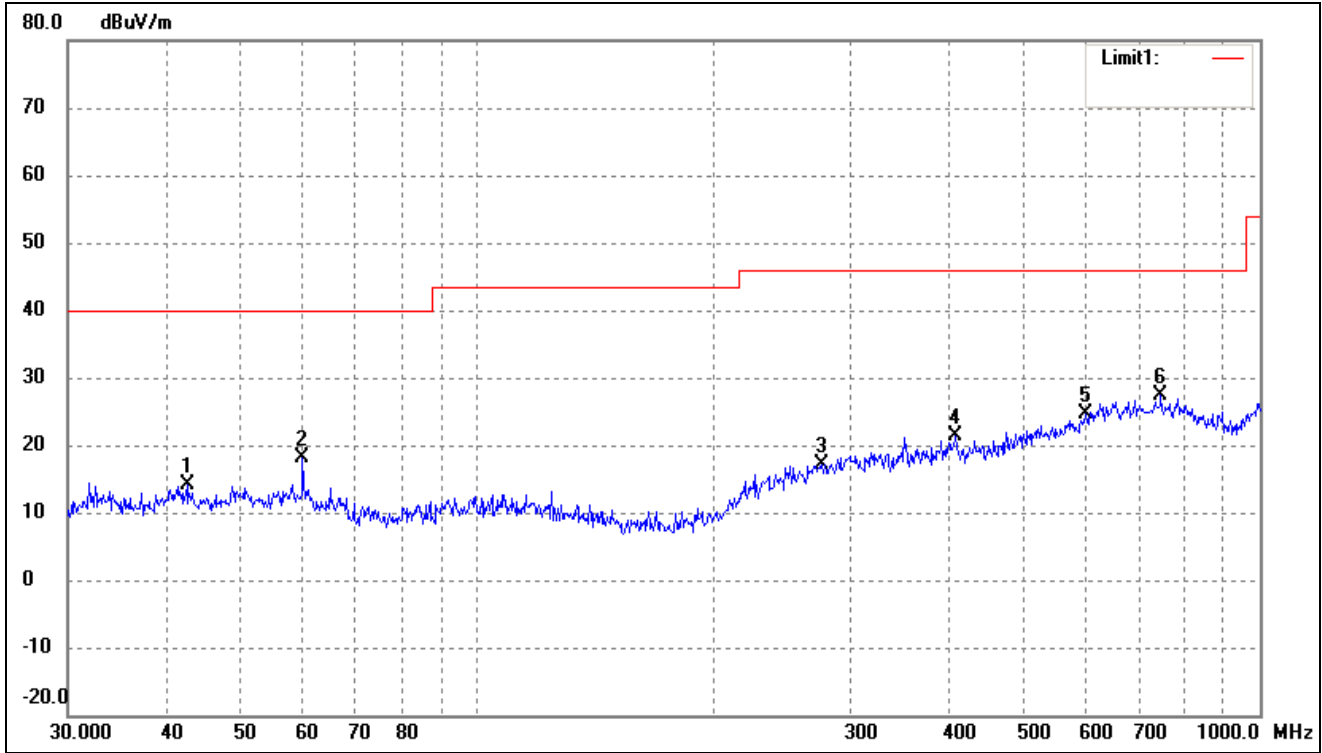


No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	60.0691	33.69	-16.52	17.17	40.00	-22.83	143	100	peak
2	302.4812	28.42	-9.56	18.86	46.00	-27.14	152	100	peak
3	408.9460	30.33	-8.04	22.29	46.00	-23.71	80	100	peak
4	539.4775	29.86	-5.22	24.64	46.00	-21.36	166	100	peak
5	771.4486	28.54	-1.29	27.25	46.00	-18.75	72	100	peak
6	893.8567	32.61	-2.71	29.90	46.00	-16.10	306	100	peak

Operating Condition: Transmitting High Channel (2474MHz)

Comment: AC120V/60Hz; USB 5V

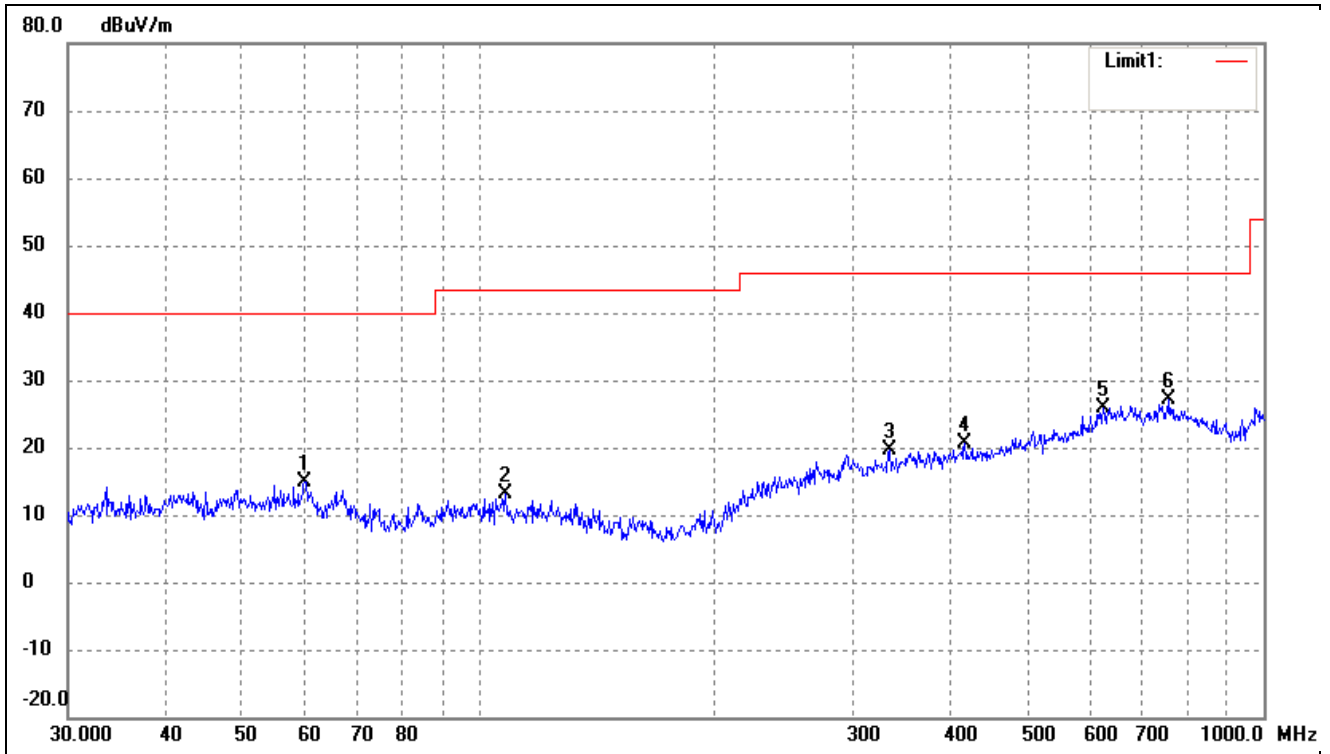
Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	42.6000	30.56	-16.50	14.06	40.00	-25.94	173	100	peak
2	59.8588	34.70	-16.51	18.19	40.00	-21.81	184	100	peak
3	275.1570	27.90	-10.70	17.20	46.00	-28.80	94	100	peak
4	408.9460	29.47	-8.04	21.43	46.00	-24.57	107	100	peak
5	599.3212	25.11	-0.40	24.71	46.00	-21.29	173	100	peak
6	747.4825	27.43	-0.13	27.30	46.00	-18.70	158	100	peak



Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	60.0691	31.52	-16.52	15.00	40.00	-25.00	89	100	peak
2	108.2667	29.81	-16.61	13.20	43.50	-30.30	192	100	peak
3	333.6867	29.27	-9.57	19.70	46.00	-26.30	80	100	peak
4	416.1791	28.98	-8.24	20.74	46.00	-25.26	113	100	peak
5	625.0780	27.38	-1.51	25.87	46.00	-20.13	74	100	peak
6	758.0408	27.75	-0.53	27.22	46.00	-18.78	200	100	peak

*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							
2408	96.65	-7.42	89.23	114	-24.77	H	PK
2408	91.65	-7.42	84.23	94	-9.77	H	AV
4816	59.03	-3.59	55.44	74	-18.56	H	PK
4816	39.34	-3.59	35.75	54	-18.25	H	AV
7224	58.12	-0.52	57.6	74	-16.4	H	PK
7224	41.88	-0.52	41.36	54	-12.64	H	AV
2408	98.87	-7.42	91.45	114	-22.55	V	PK
2408	94.01	-7.42	86.59	94	-7.41	V	AV
4816	58.54	-3.59	54.95	74	-19.05	V	PK
4816	41.65	-3.59	38.06	54	-15.94	V	AV
7224	60.87	-0.52	60.35	74	-13.65	V	PK
7224	39.62	-0.52	39.1	54	-14.9	V	AV
Middle Channel-2440MHz							
2440	98.65	-7.42	91.23	114	-22.77	H	PK
2440	92.35	-7.42	84.93	94	-9.07	H	AV
4880	59.92	-3.49	56.43	74	-17.57	H	PK
4880	41.71	-3.49	38.22	54	-15.78	H	AV
7320	59.22	-0.47	58.75	74	-15.25	H	PK
7320	39.71	-0.47	39.24	54	-14.76	H	AV
2440	98.61	-7.42	91.19	114	-22.81	V	PK
2440	94.36	-7.42	86.94	94	-7.06	V	AV
4880	60.37	-3.49	56.88	74	-17.12	V	PK
4880	39.79	-3.49	36.3	54	-17.7	V	AV
7320	61.12	-0.47	60.65	74	-13.35	V	PK
7320	41.98	-0.47	41.51	54	-12.49	V	AV

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2474MHz							
2474	97.51	-7.42	90.09	114	-23.91	H	PK
2474	93.21	-7.42	85.79	94	-8.21	H	AV
4948	61.92	-3.41	58.51	74	-15.49	H	PK
4948	38.41	-3.41	35	54	-19	H	AV
7422	58.06	-0.42	57.64	74	-16.36	H	PK
7422	41.38	-0.42	40.96	54	-13.04	H	AV
2474	91.06	-7.42	83.64	114	-30.36	V	PK
2474	87.99	-7.42	80.57	94	-13.43	V	AV
4948	59.79	-3.41	56.38	74	-17.62	V	PK
4948	41.76	-3.41	38.35	54	-15.65	V	AV
7422	61.04	-0.42	60.62	74	-13.38	V	PK
7422	40.96	-0.42	40.54	54	-13.46	V	AV

*Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5<sup>th</sup> 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 50 dB 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 Environmental Conditions

Temperature:	24 °C
Relative Humidity:	60 %
ATM Pressure:	1012 mbar

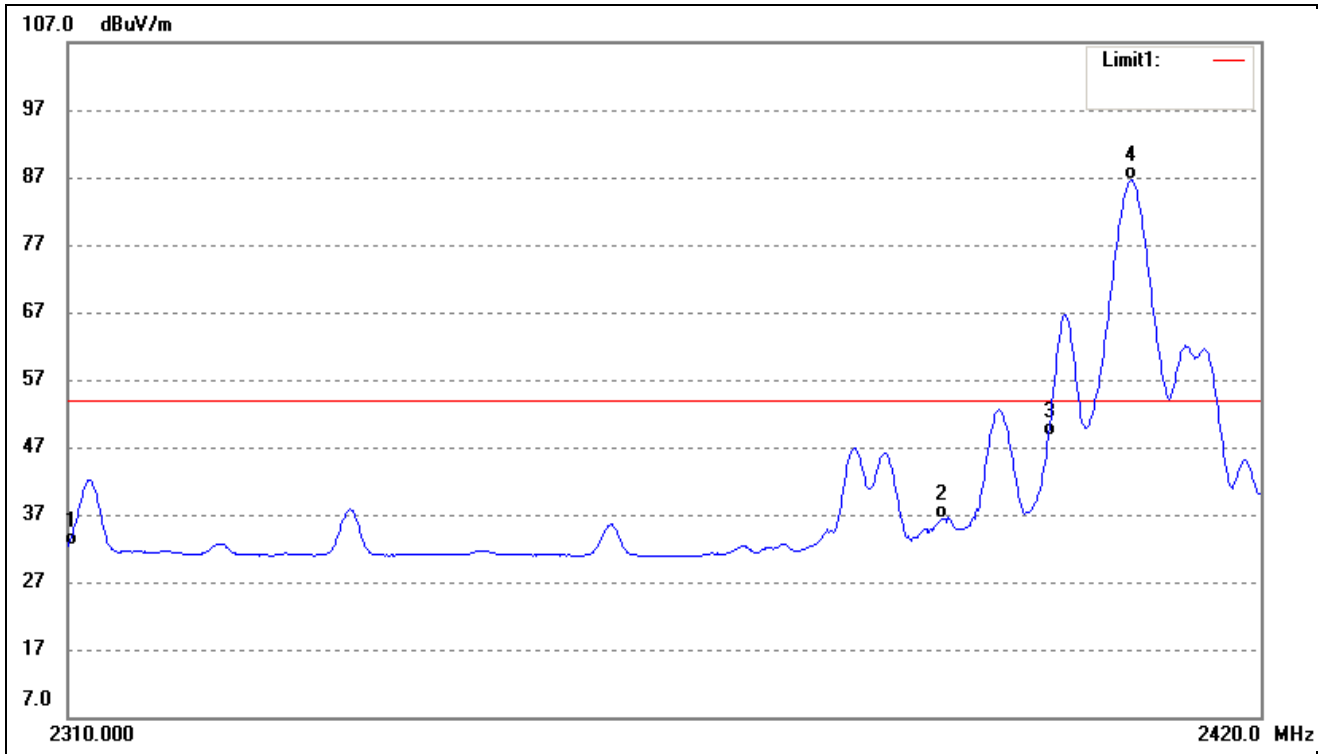
### 5.4 Summary of Test Results/Plots

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

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

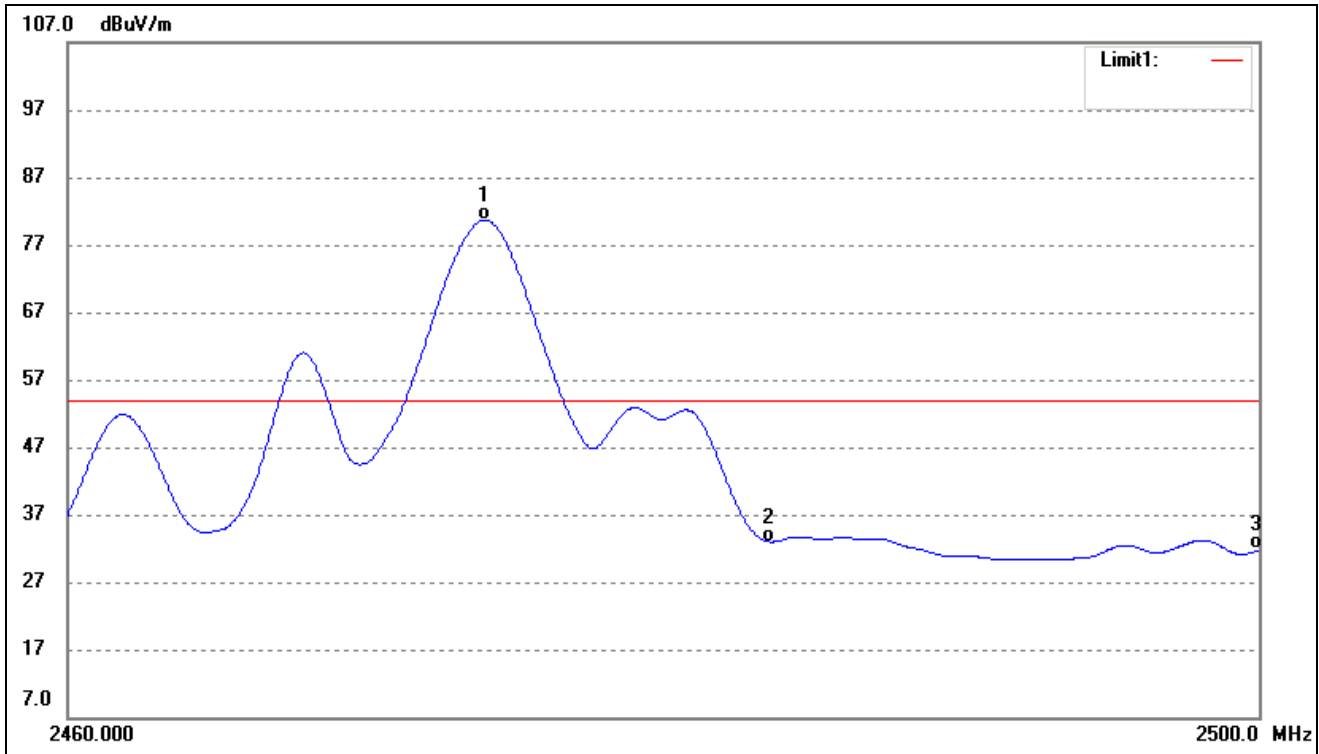
Please refer to the test plots as below.

Lowest Bandedge  
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	38.82	-6.38	32.44	54.00	-21.56	Ave Detector
	2310.000	52.03	-6.38	45.65	74.00	-28.35	Peak Detector
2	2390.000	43.54	-7.26	36.28	54.00	-17.72	Ave Detector
	2390.000	53.84	-7.26	46.58	74.00	-27.42	Peak Detector
3	2400.000	55.92	-7.37	48.55	54.00	-5.45	Ave Detector
	2408.320	65.92	-7.37	58.55	74.00	-15.45	Peak Detector

Highest Bandedge  
Vertical (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2473.927	87.99	-7.29	80.70	54.00	26.70	Ave Detector
	2473.328	91.06	-7.29	83.77	74.00	9.77	Peak Detector
2	2483.500	40.26	-7.28	32.98	54.00	-21.02	Ave Detector
	2483.500	51.26	-7.28	43.98	74.00	-30.02	Peak Detector
3	2500.000	39.02	-7.25	31.77	54.00	-22.23	Ave Detector
	2500.000	51.59	-7.25	44.34	74.00	-29.66	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 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. 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 Environmental Conditions

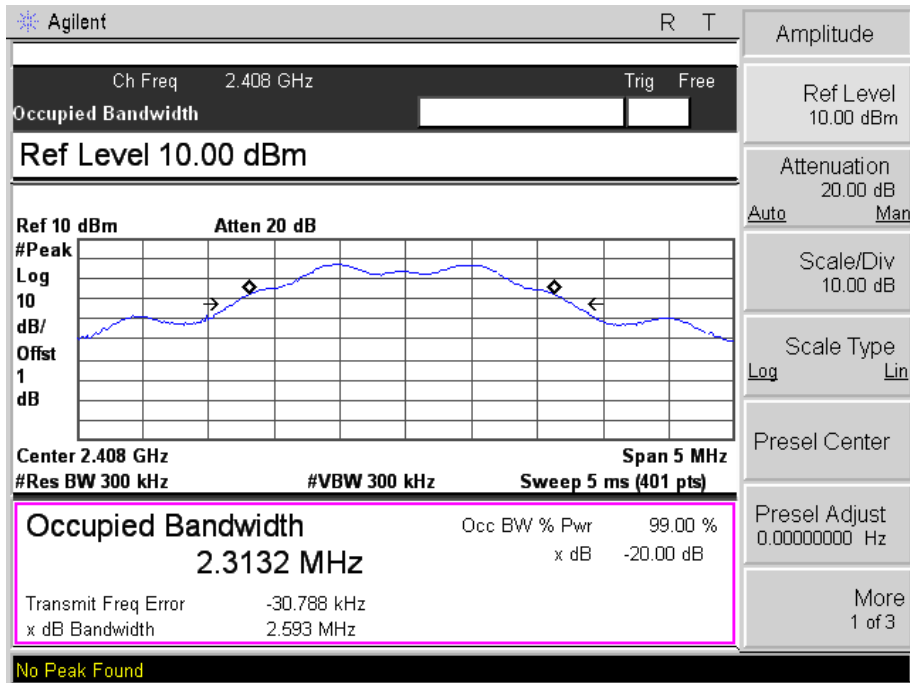
Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

### 6.4 Summary of Test Results/Plots

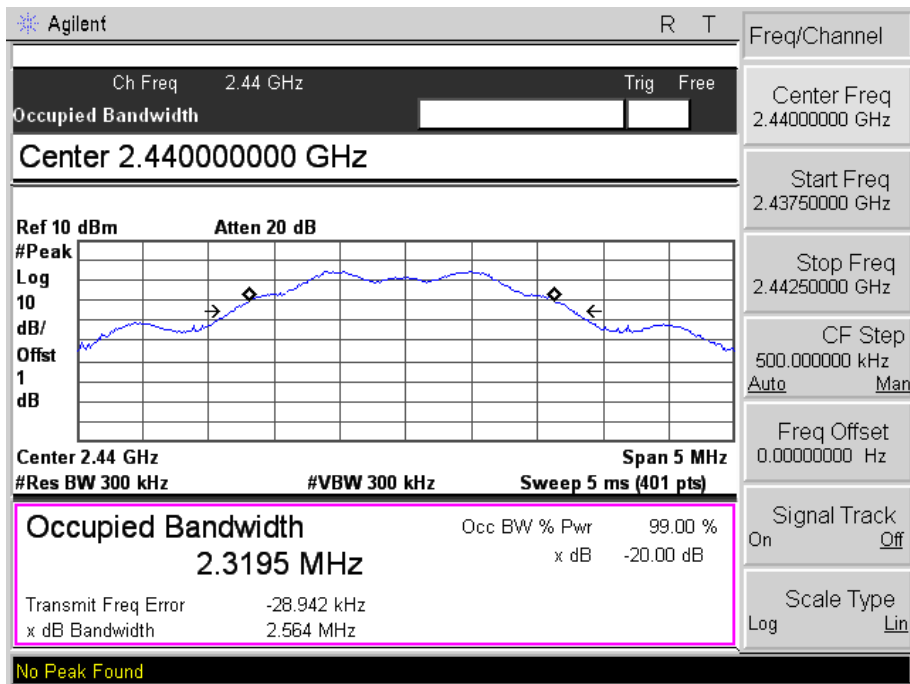
Channel	Frequency MHz	20dB Bandwidth kHz	99% Bandwidth kHz
Low Channel	2408	2593	2313.2
Middle Channel	2440	2564	2319.5
High Channel	2474	2603	2322.2

Please refer to the following test plots

Low Channel:

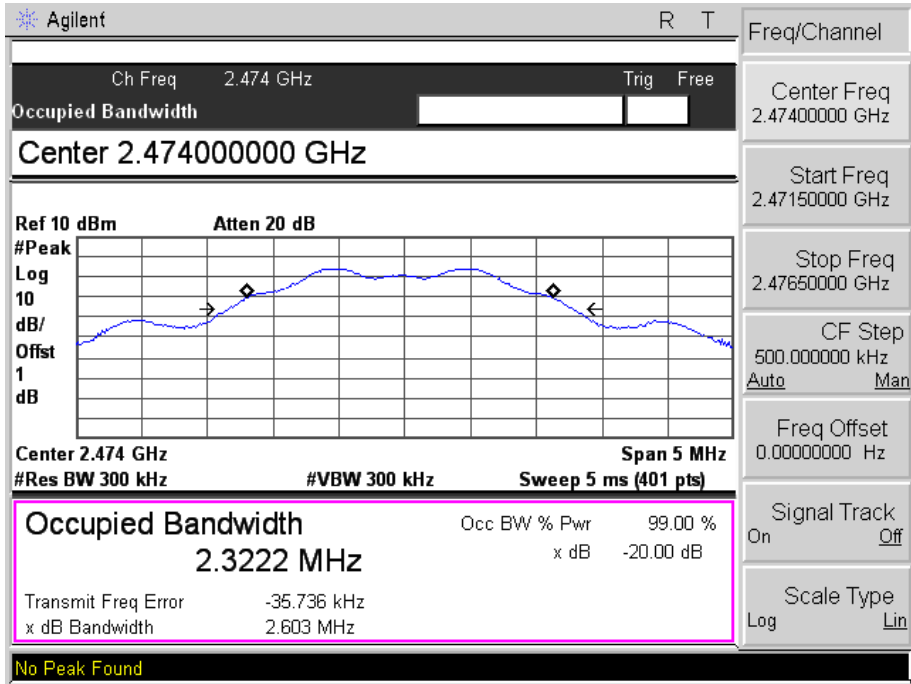


Middle Channel:





High Channel:



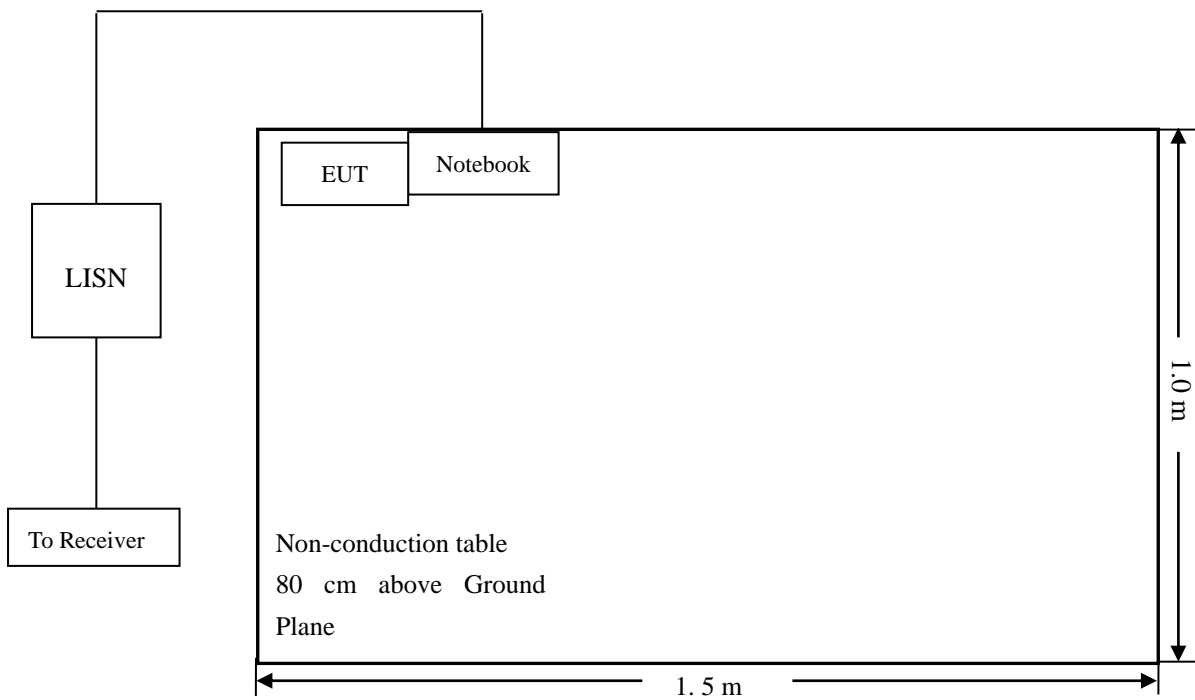
## 7. Conducted Emissions

### 7.1 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 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 40 cm long in the middle. The spacing between the peripherals was 10 cm.

### 7.2 Basic Test Setup Block Diagram



### 7.3 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

## 7.4 Test Receiver Setup

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

Start Frequency ..... 150 kHz  
Stop Frequency ..... 30 MHz  
Sweep Speed ..... Auto  
IF Bandwidth..... 10 kHz  
Quasi-Peak Adapter Bandwidth ..... 9 kHz  
Quasi-Peak Adapter Mode ..... Normal

## 7.5 Summary of Test Results/Plots

According to the data in section 7.6, the EUT complied with the FCC Part 15.207 Conducted margin for this device, with the *worst* margin reading of:

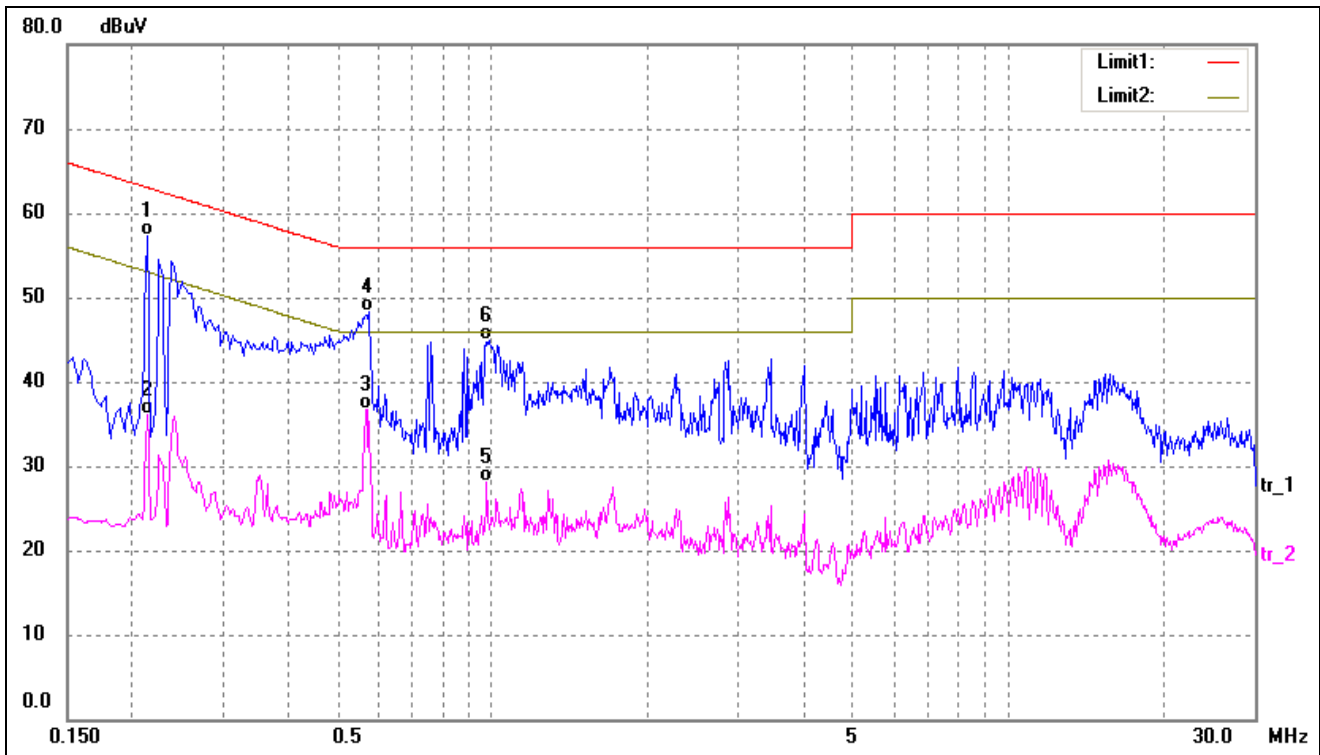
**-5.68 dB at 0.2140 MHz** in the **Neutral** mode, **QP** detector, **0.15-30MHz**

## 7.6 Conducted Emissions Test Data

**Plot of Conducted Emissions Test Data**

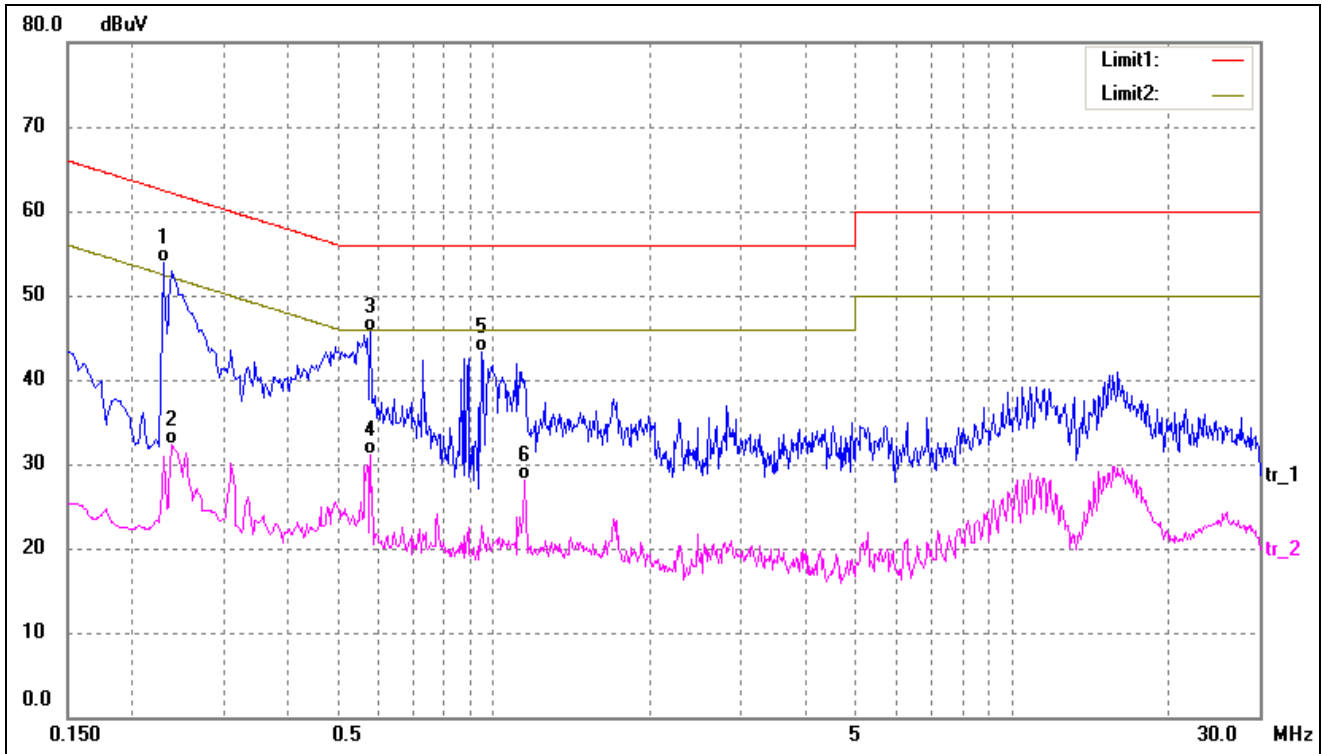
EUT: Receiver  
 Tested Model: R100  
 Operating Condition: Transmitting  
 Comment: AC120V/60Hz; USB 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.2140	47.56	9.80	57.36	63.04	-5.68	QP
2	0.2140	26.34	9.80	36.14	53.04	-16.90	AVG
3	0.5700	26.93	9.79	36.72	46.00	-9.28	AVG
4	0.5780	38.45	9.79	48.24	56.00	-7.76	QP
5	0.9740	18.44	9.76	28.20	46.00	-17.80	AVG
6	0.9860	35.05	9.76	44.81	56.00	-11.19	QP

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.2300	44.14	9.80	53.94	62.45	-8.51	QP
2	0.2380	22.51	9.80	32.31	52.16	-19.85	AVG
3	0.5780	35.90	9.79	45.69	56.00	-10.31	QP
4	0.5780	21.24	9.79	31.03	46.00	-14.97	AVG
5	0.9460	33.47	9.76	43.23	56.00	-12.77	QP
6	1.1420	18.30	9.76	28.06	46.00	-17.94	AVG

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