

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Beijing Miiw Technology Co., Ltd.

MIIIW USB Receiver
Model No.: MWM24ND

FCC ID: 2AR3N-MWWR01

Prepared for : Beijing Miiw Technology Co., Ltd.
Address : RM101, Building A-1, Shunshijiaye Innovation Park,
Beijing, China

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Report Number : ATE20190228
Date of Test : February 14-February 25, 2019
Date of Report : February 28, 2019

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Test Report Certification

Applicant : Beijing Miiw Technology Co., Ltd.
Address : RM101, Building A-1, Shunshijiaye Innovation Park, Beijing, China
Product : MIIIW USB Receiver
Model No. : MWM24ND

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013**

The EUT was tested according to FCC 47CFR 15.249 for compliance to FCC 47CFR 15.249 requirements

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.249 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test : February 14-February 25, 2019
Date of Report : February 28, 2019

Prepared by : 
(Steven Yang, Engineer)

Approved & Authorized Signer : 
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	MIIIW USB Receiver
Model Number	:	MWM24ND
Frequency Range	:	2402-2480MHz
Number of Channels	:	40
Modulation mode	:	GFSK
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Power Supply	:	USB 5V
Applicant	:	Beijing Miiw Technology Co., Ltd.
Address	:	RM101, Building A-1, Shunshijiaye Innovation Park, Beijing, China

1.2. Frequency List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

1.3. Special Accessory and Auxiliary Equipment

Notebook PC:
(For Conducted Emission) Manufacturer: Lenovo
M/N: ThinkPad X240
S/N:n.a

Notebook PC:
(For Radiated Emission) Manufacturer: DELL
M/N: Vostro 5471
S/N: n.a

1.4. Description of Test Facility

EMC Lab : Recognition of accreditation by Federal Communications Commission (FCC)
The Designation Number is CN1189
The Registration Number is 708358

Listed by Innovation, Science and Economic Development Canada (ISED)
The Registration Number is 5077A-2

Accredited by China National Accreditation Service for Conformity Assessment (CNAS)
The Registration Number is CNAS L3193

Accredited by American Association for Laboratory Accreditation (A2LA)
The Certificate Number is 4297.01

Name of Firm : Shenzhen Accurate Technology Co., Ltd.
Site Location : 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.5. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty = 3.08dB, k=2
(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2
(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2
(Above 1GHz)

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Cal. Interval
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 05, 2019	One Year
EMI Test Receiver	Rohde&Schwarz	ESR	101817	Jan. 05, 2019	One Year
Spectrum Analyzer	Rohde&Schwarz	FSV-40	101495	Jan. 05, 2019	One Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 05, 2019	One Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 05, 2019	One Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 05, 2019	One Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 05, 2019	One Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 05, 2019	One Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 05, 2019	One Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 05, 2019	One Year
Conducted Emission Measurement Software: ES-K1 V1.71					
Radiated Emission Measurement Software: EZ EMC V1.1.4.2					

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

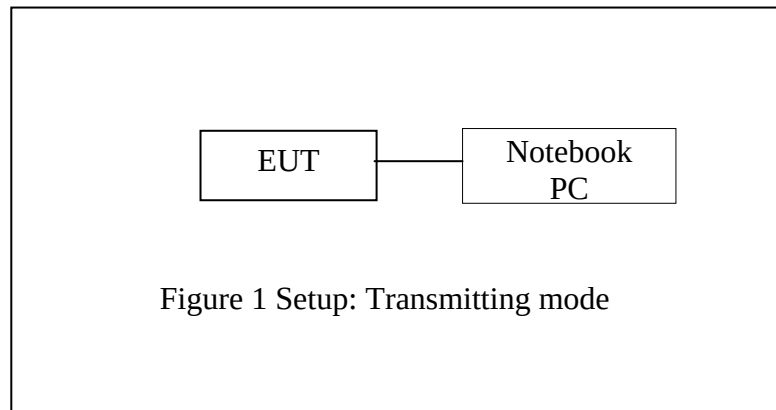
The mode is used: **Transmitting mode**

Low Channel: 2402MHz

Middle Channel: 2440MHz

High Channel: 2480MHz

3.2.Configuration and peripherals



4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.215(c)	20dB Bandwidth	Compliant
Section 15.249(d)	Band Edge Compliance Test	Compliant
Section 15.205(a), Section 15.209(a), Section 15.249, Section 15.35	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. 20DB BANDWIDTH TEST

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.215(c)

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.

5.3. Operating Condition of EUT

5.3.1. Setup the EUT and simulator as shown as Section 5.1.

5.3.2. Turn on the power of all equipment.

5.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2440, 2480MHz.

5.4. Test Procedure

5.4.1. Place the EUT on the table and set it in transmitting mode.

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

5.4.3. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz, Detector function=peak, Trace=max hold, Sweep=auto.

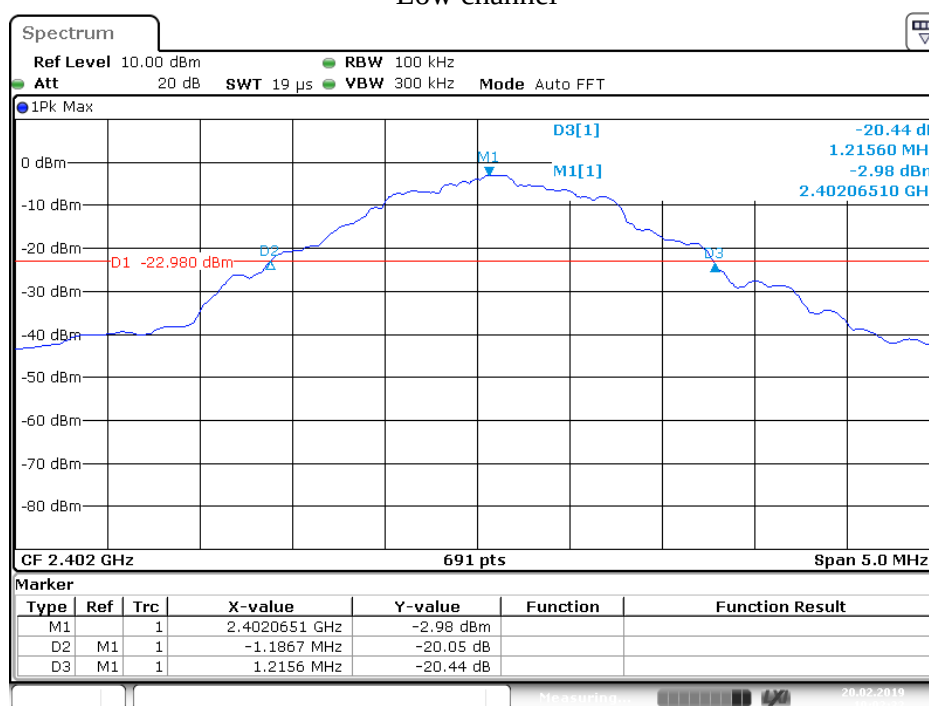
5.4.4. Set the measured low, middle and high frequency and test 20dB bandwidth with spectrum analyzer.

5.5. Test Results

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2402	2.402
Middle	2440	2.352
High	2480	2.525

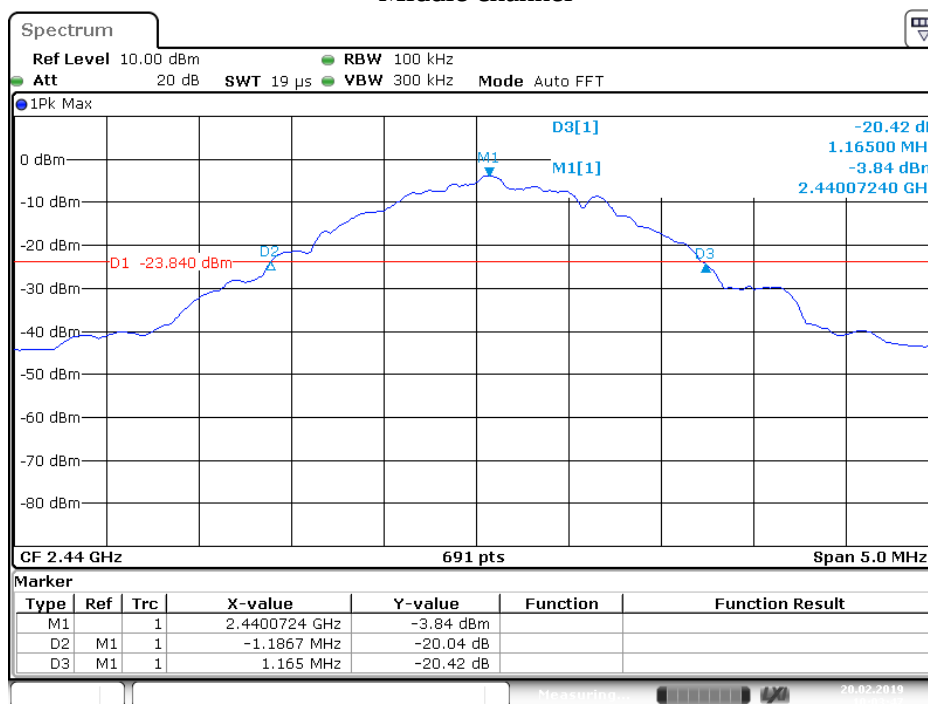
The spectrum analyzer plots are attached as below.

Low channel



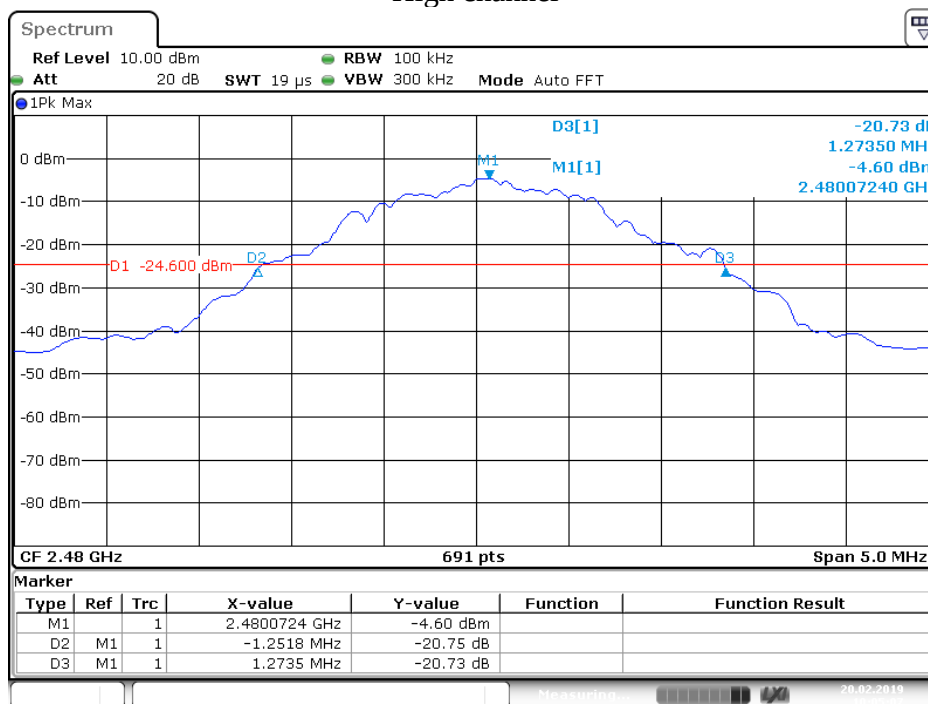
Date: 20.FEB.2019 10:02:32

Middle channel



Date: 20.FEB.2019 10:03:48

High channel

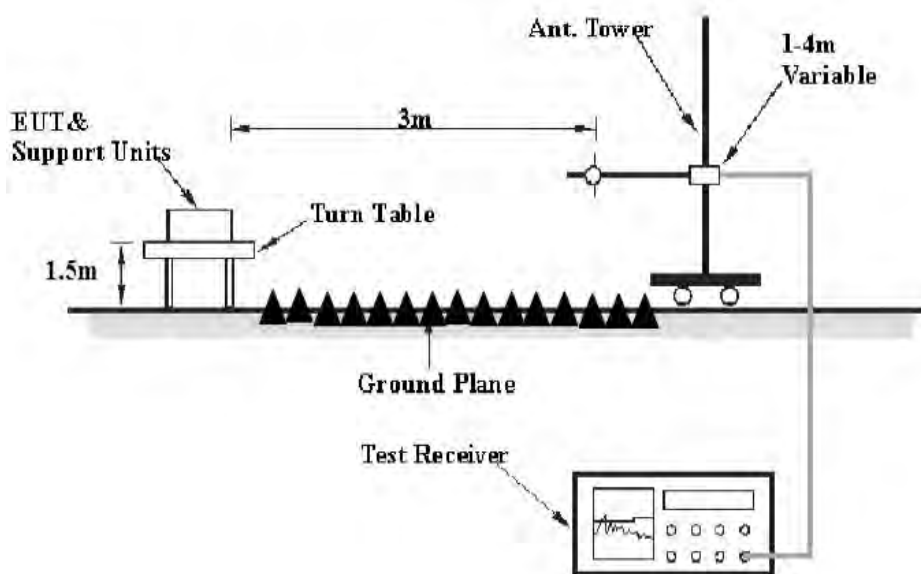


Date: 20.FEB.2019 10:05:08

6. BAND EDGE COMPLIANCE TEST

6.1. Block Diagram of Test Setup

(C) Radiated Emission Test Set-Up. Frequency above 1GHz



6.2. The Requirement For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

6.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402, 2480MHz.

6.5. Test Procedure

Radiate Band Edge:

6.5.1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

6.5.2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

6.5.3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

6.5.4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

6.5.5. The band edges was measured and recorded.

6.6. Test Results

Pass.

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.
4. The average measurement was not performed when peak measured data under the limit of average detection.

The spectrum analyzer plots are attached as below.

Job No.: LGW2019 #339

Standard: FCC (Band Edge)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2402MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

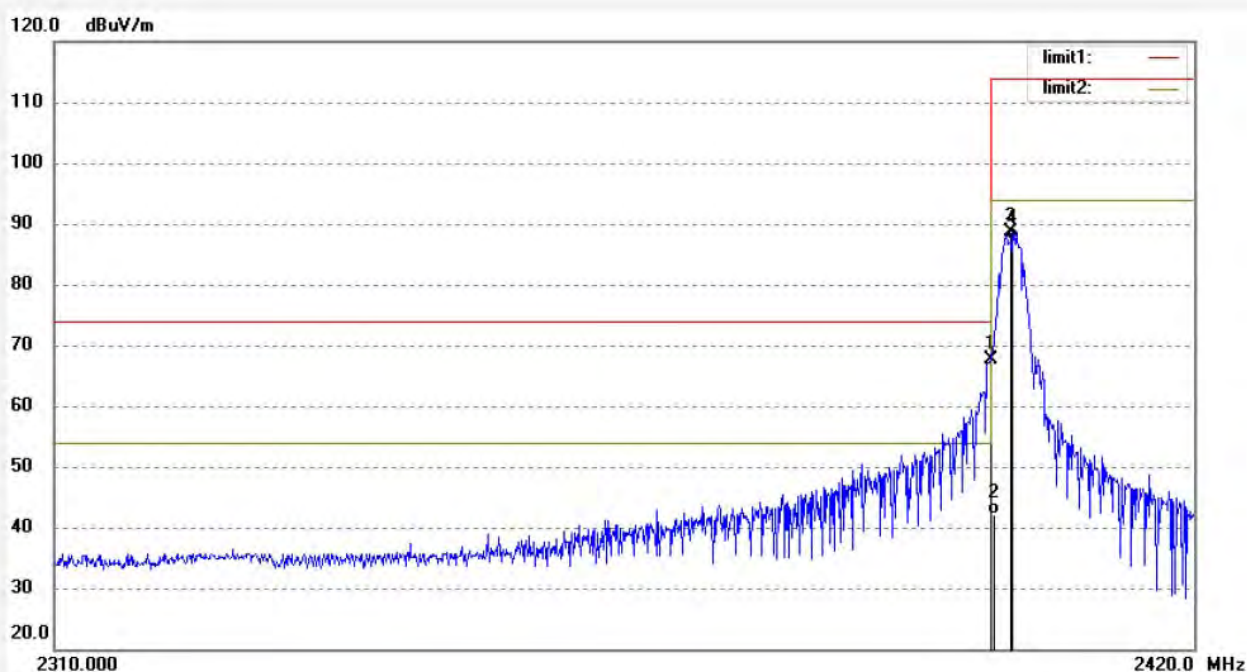
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	66.67	0.88	67.55	74.00	-6.45	peak			
2	2400.000	41.26	0.88	42.14	54.00	-11.86	AVG			
3	2402.000	87.74	0.89	88.63	114.00	-25.37	peak			
4	2402.000	86.44	0.89	87.33	94.00	-6.67	AVG			

Job No.: LGW2019 #338

Standard: FCC (Band Edge)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2402MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

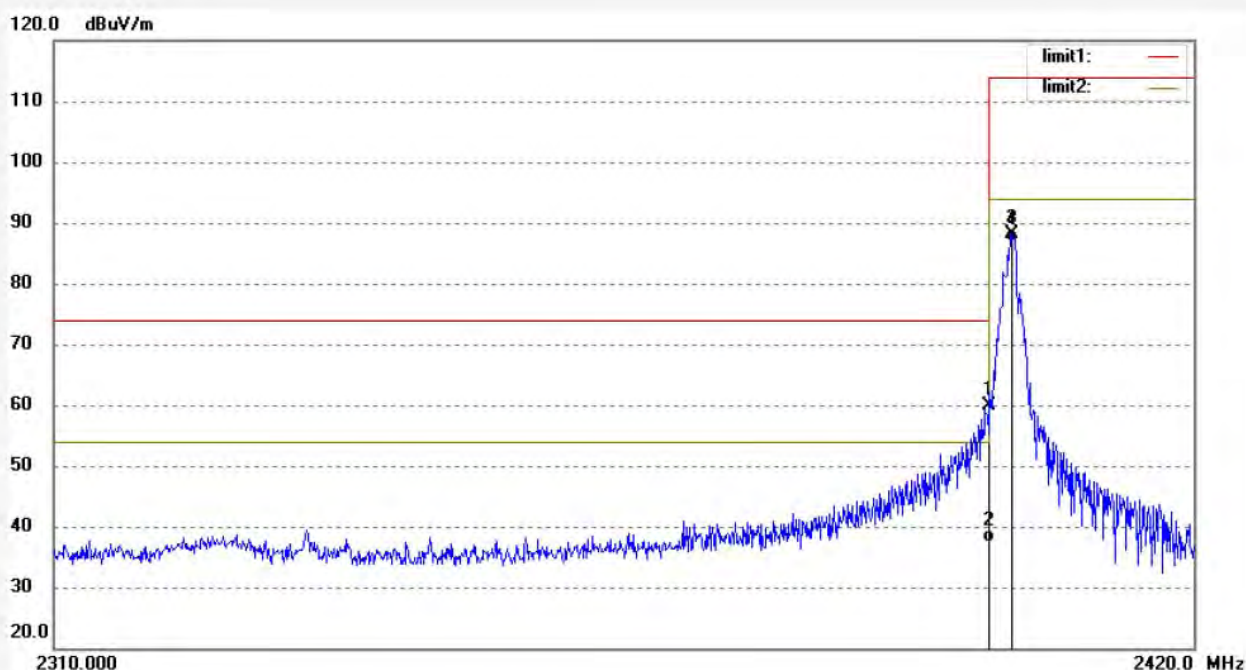
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	58.97	0.88	59.85	74.00	-14.15	peak			
2	2400.000	36.53	0.88	37.41	54.00	-16.59	AVG			
3	2402.000	87.23	0.89	88.12	114.00	-25.88	peak			
4	2402.000	85.93	0.89	86.82	94.00	-7.18	AVG			

Job No.: LGW2019 #344

Standard: FCC (Band Edge)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

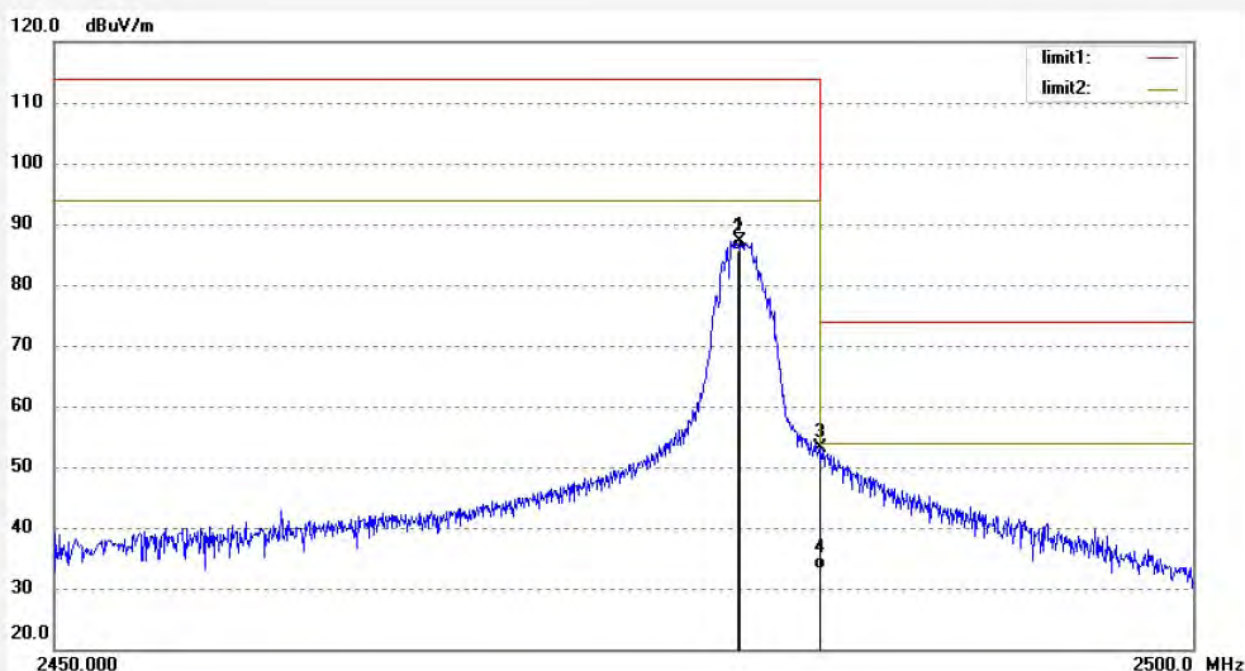
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	85.95	1.10	87.05	114.00	-26.95	peak			
2	2480.000	84.65	1.10	85.75	94.00	-8.25	AVG			
3	2483.500	52.03	1.10	53.13	74.00	-20.87	peak			
4	2483.500	32.04	1.10	33.14	54.00	-20.86	AVG			

Job No.: LGW2019 #345

Standard: FCC (Band Edge)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

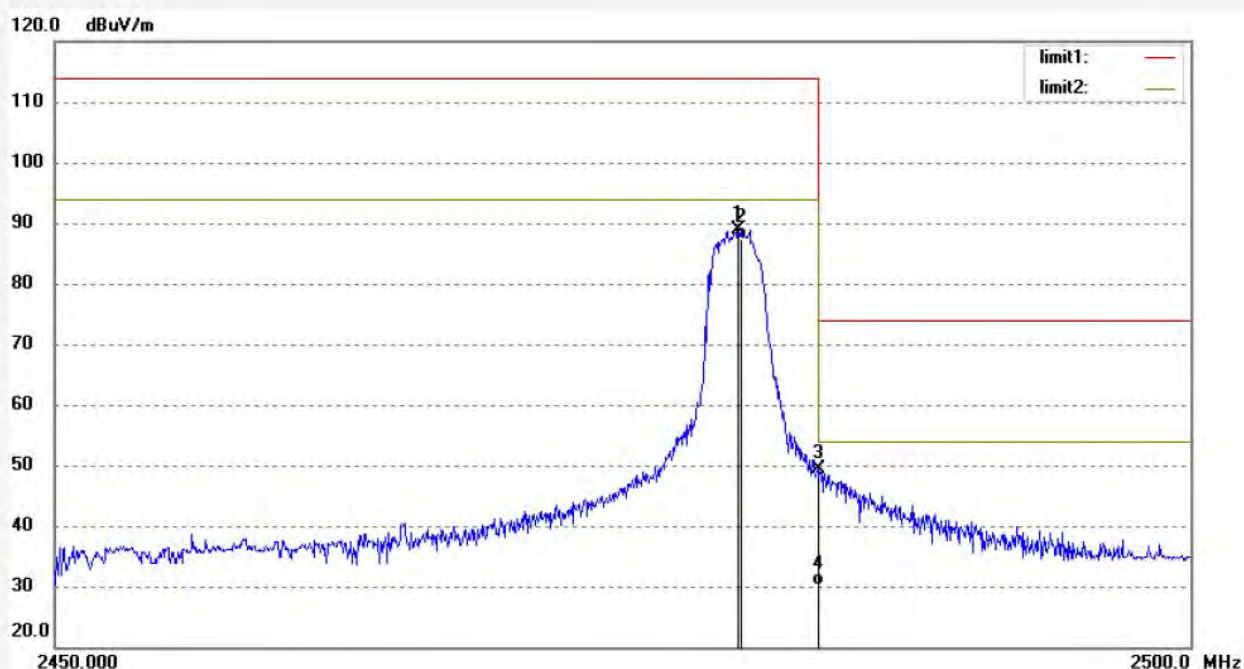
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:

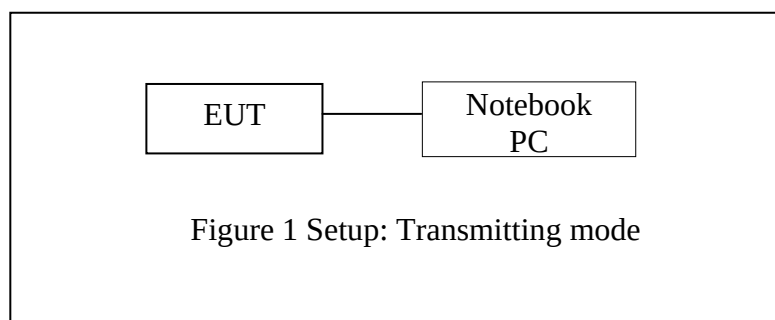


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	87.76	1.10	88.86	114.00	-25.14	peak			
2	2480.000	86.26	1.10	87.36	94.00	-6.64	AVG			
3	2483.500	48.20	1.10	49.30	74.00	-24.70	peak			
4	2483.500	29.14	1.10	30.24	54.00	-23.76	AVG			

7. RADIATED SPURIOUS EMISSION TEST

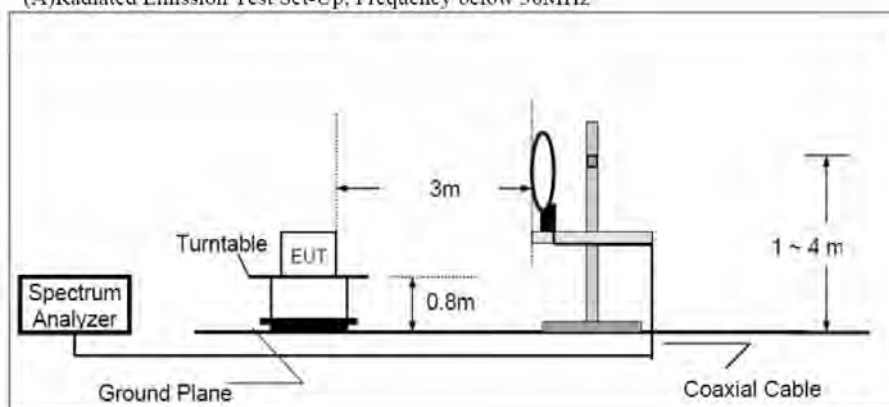
7.1. Block Diagram of Test Setup

7.1.1. Block diagram of connection between the EUT and peripherals

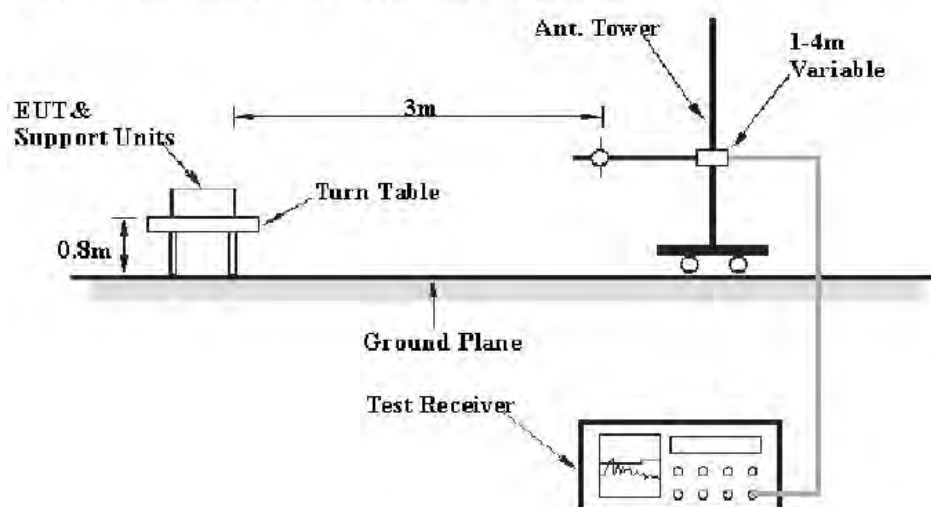


7.1.2. Semi-Anechoic Chamber Test Setup Diagram

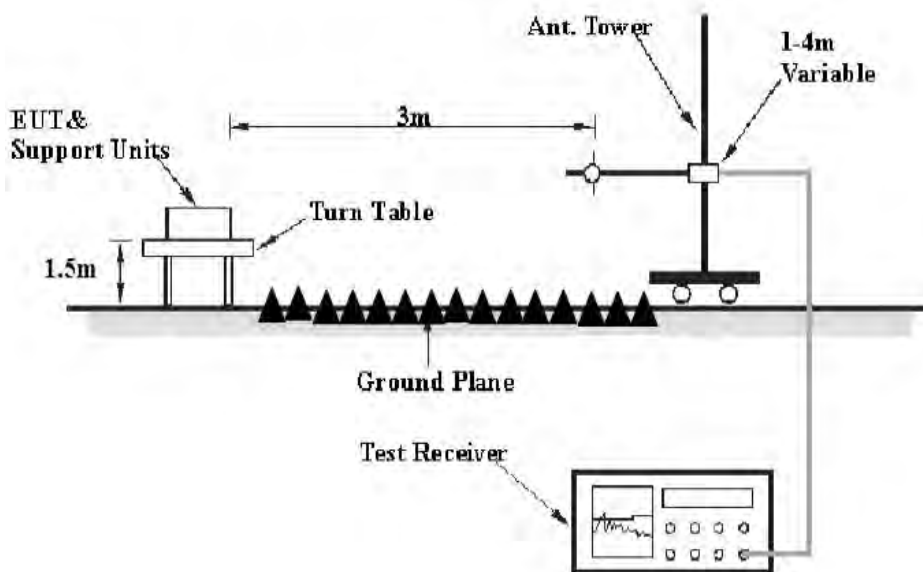
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



7.2.The Limit For Section 15.249

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph A8.4(4), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

7.3. Restricted bands of operation

7.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, 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	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

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

²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, 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.

7.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.5. Operating Condition of EUT

7.5.1. Setup the EUT and simulator as shown as Section 7.1.

7.5.2. Turn on the power of all equipment.

7.5.3. Let the EUT work in TX modes and measure it. The transmit frequency are 2402, 2440, 2480MHz.

7.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8m(Below 1GHz) and 1.5m(above 1GHz) high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 26.5GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

7.7. Data Sample

Frequency (MHz)	Reading (dB μ v)	Factor (dB/m)	Result (dB μ v/m)	Limit (dB μ v/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB μ v/m) = Reading(dB μ v) + Factor(dB/m)

Limit (dB μ v/m) = Limit stated in standard

Margin (dB) = Result(dB μ v/m) - Limit (dB μ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

7.8.Test Results

Pass.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The EUT is tested radiation emission in three axes. The worst emissions are reported in all channels.

The spectrum analyzer plots are attached as below.

9KHz to 30MHz Test data

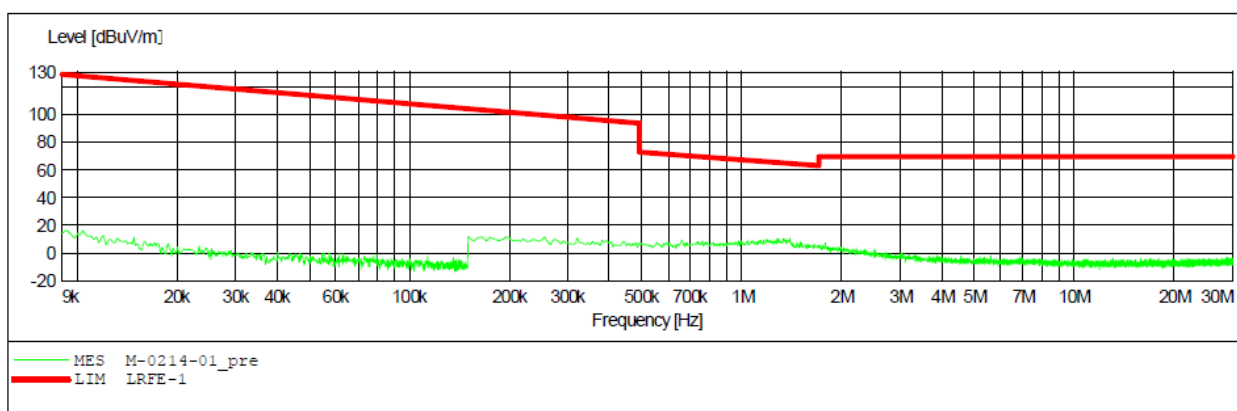
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2402MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



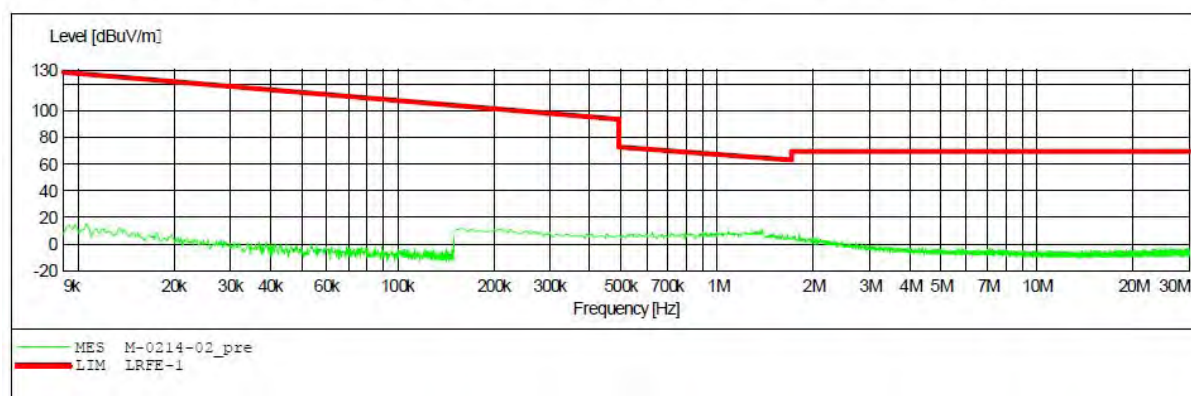
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2402MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



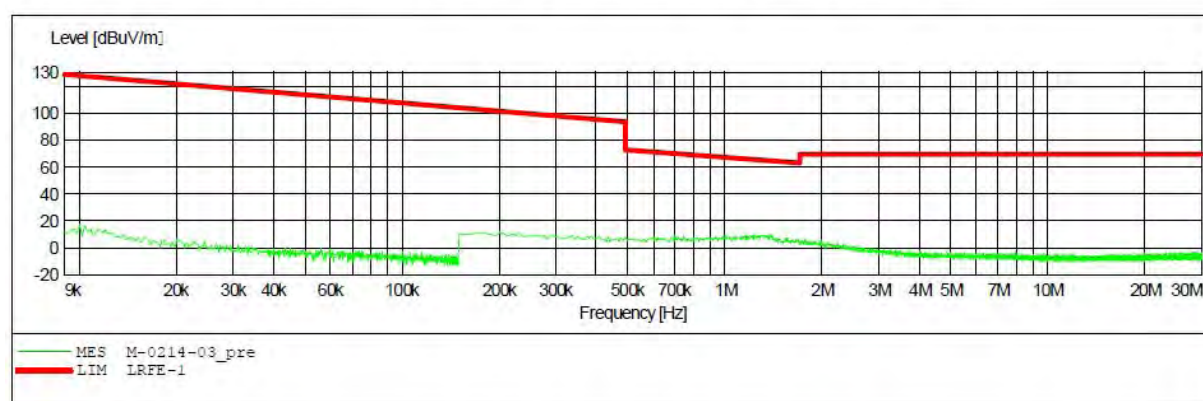
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: MIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIW
 Operating Condition: TX 2402MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



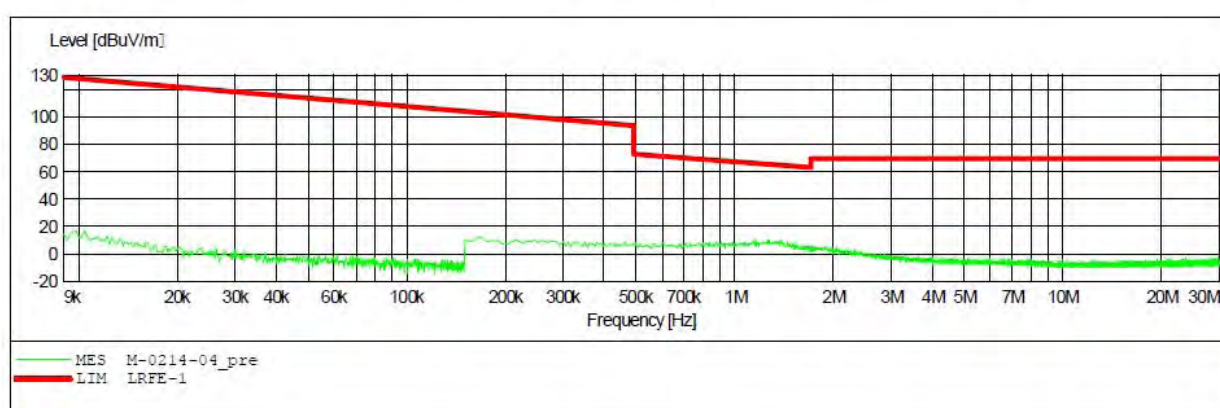
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2440MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



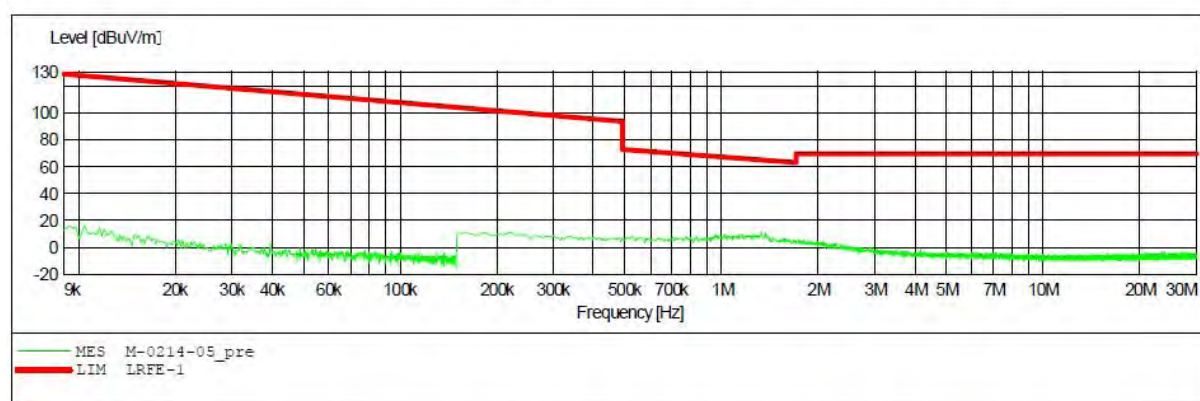
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2440MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



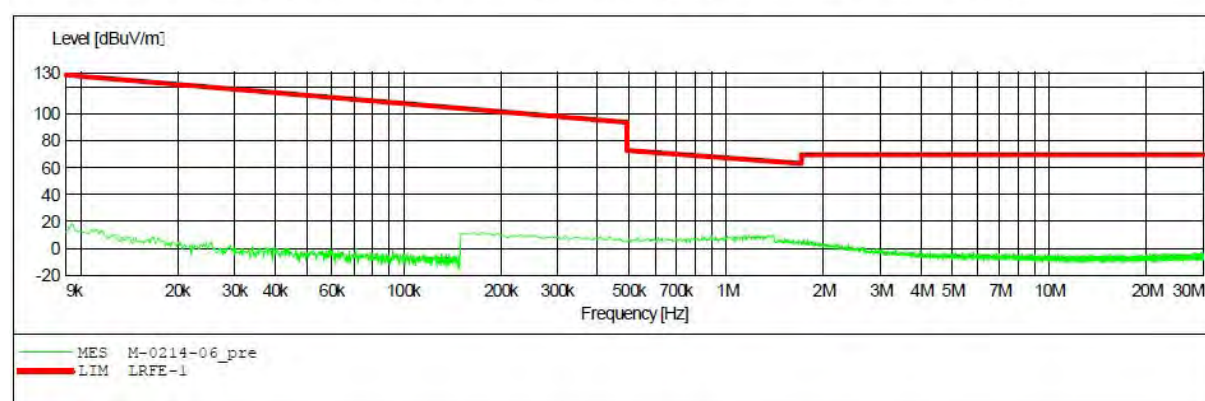
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2440MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



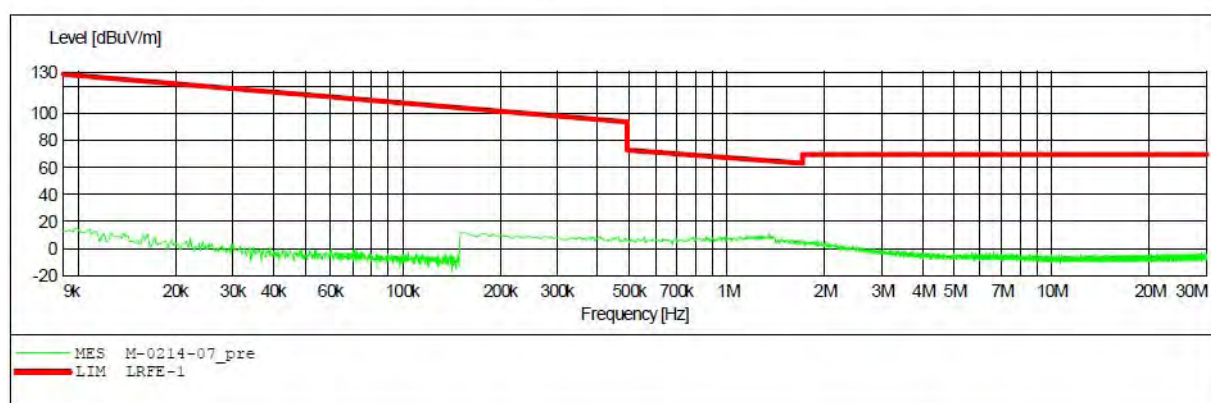
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: X
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



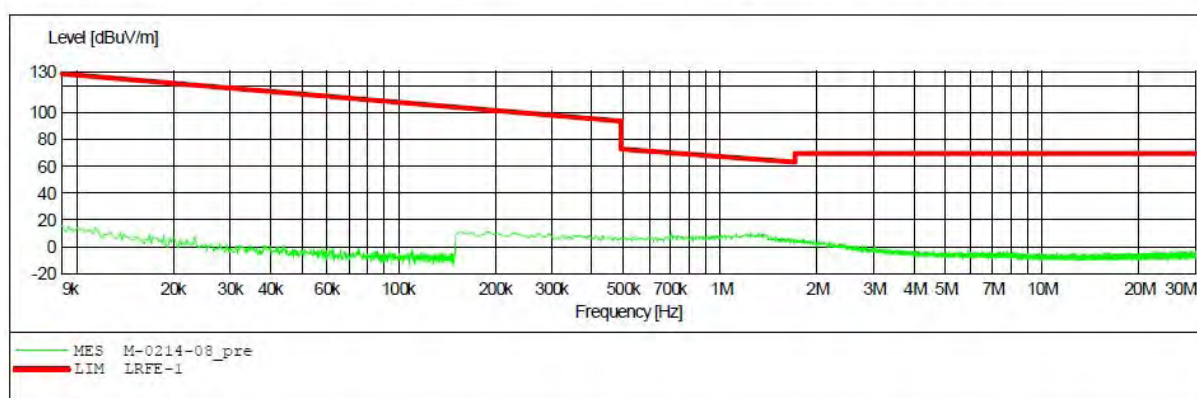
ACCURATE TECHNOLOGY CO.,LTD

FCC Part 15C 3M Radiated

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Y
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			SUB_STD_VTERM2 1.70		IF	Transducer
Start	Stop	Step	Detector	Meas. Time	Bandw.	
Frequency	Frequency	Width				
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M



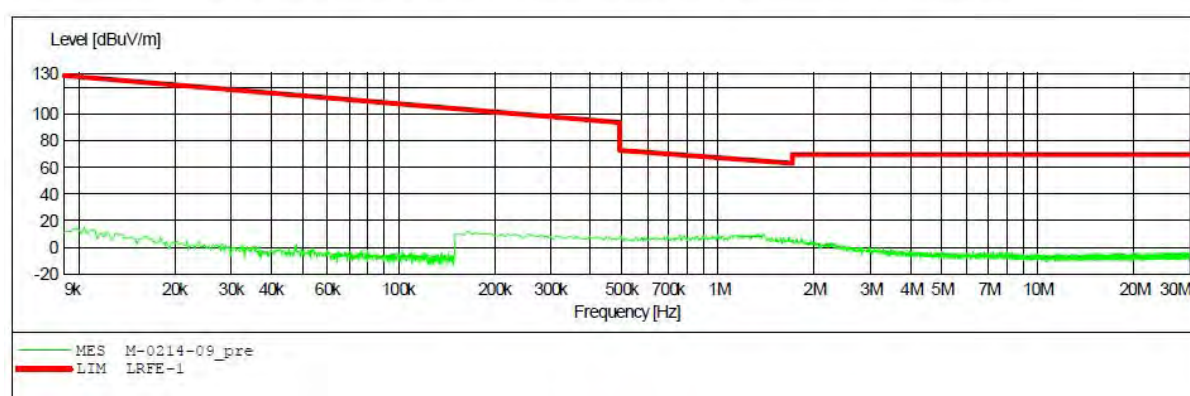
ACCURATE TECHNOLOGY CO., LTD

FCC Part 15C 3M Radiated

EUT: MIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIW
 Operating Condition: TX 2480MHz
 Test Site: 2# Chamber
 Operator: WADE
 Test Specification: DC 5V
 Comment: Z
 Start of Test: 2019-2-14 /

SCAN TABLE: "LFRE Fin"

Short Description:			_SUB_STD_VTERM2 1.70		IF	Transducer
Start	Stop	Step	Detector	Meas. Time	Bandw.	
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	1516M
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	1516M





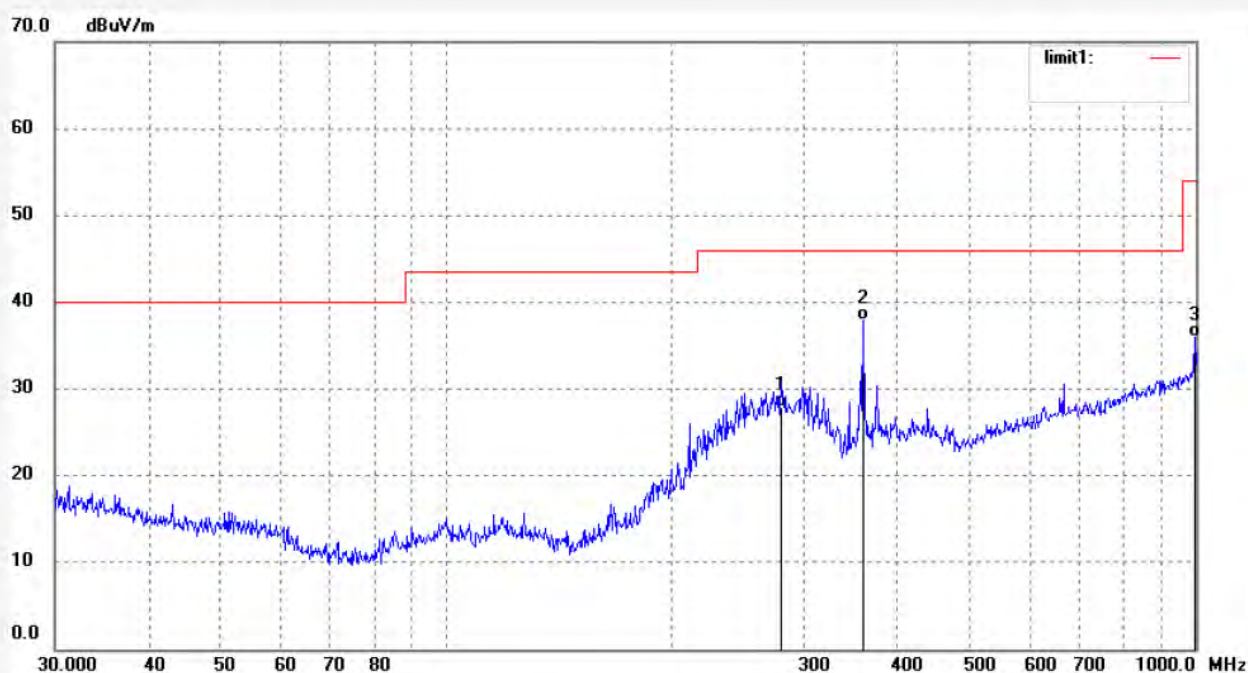
30MHz to 1GHz Test data
ACCURATE TECHNOLOGY CO., LTD.
 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
 Tel:+86-0755-26503290
 Fax:+86-0755-26503396

Job No.: LGW2019 #352
 Standard: FCC Part 15C 3M Radiated
 Test item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: MIIIW USB Receiver
 Mode: TX 2402MHz
 Model: MWM24ND
 Manufacturer: MIIIW

Polarization: Horizontal
 Power Source: DC 5V
 Date: 19/02/20/
 Time:
 Engineer Signature: WADE
 Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	279.0436	37.48	-9.62	27.86	46.00	-18.14	QP			
2	359.1859	45.22	-7.28	37.94	46.00	-8.06	QP			
3	996.4995	32.19	3.78	35.97	54.00	-18.03	QP			

Job No.: LGW2019 #353

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2402MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

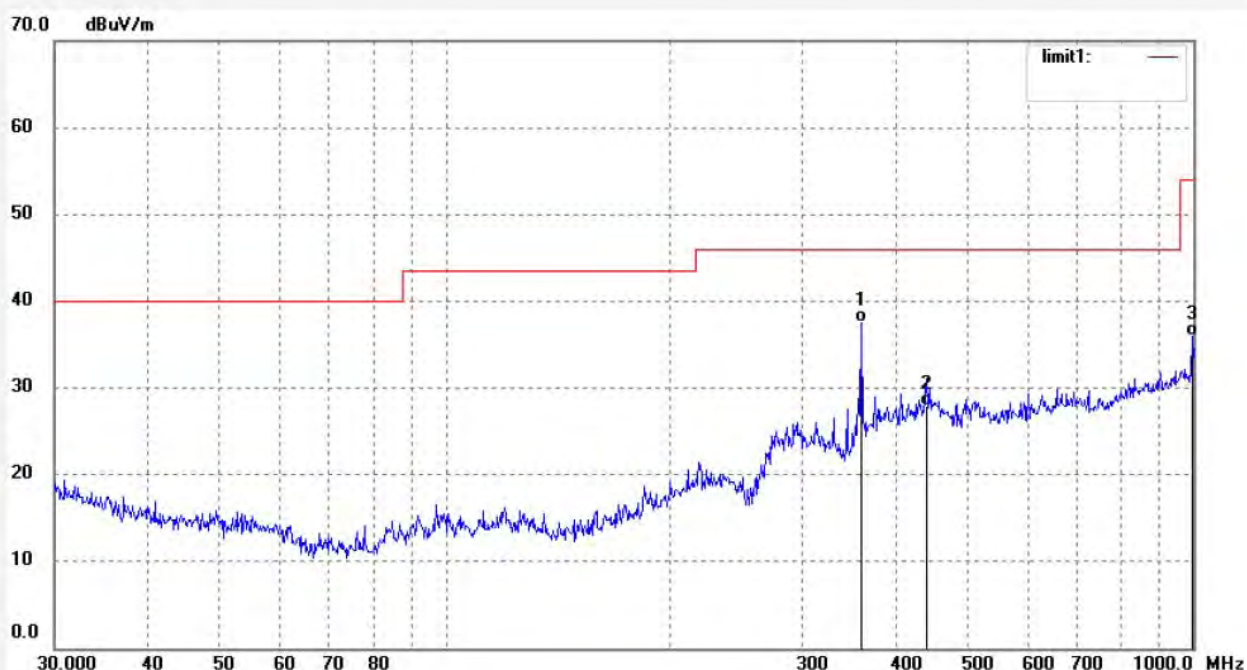
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	359.1859	44.76	-7.28	37.48	46.00	-8.52	QP			
2	440.1963	33.46	-5.48	27.98	46.00	-18.02	QP			
3	996.4995	32.13	3.78	35.91	54.00	-18.09	QP			

Job No.: LGW2019 #355

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

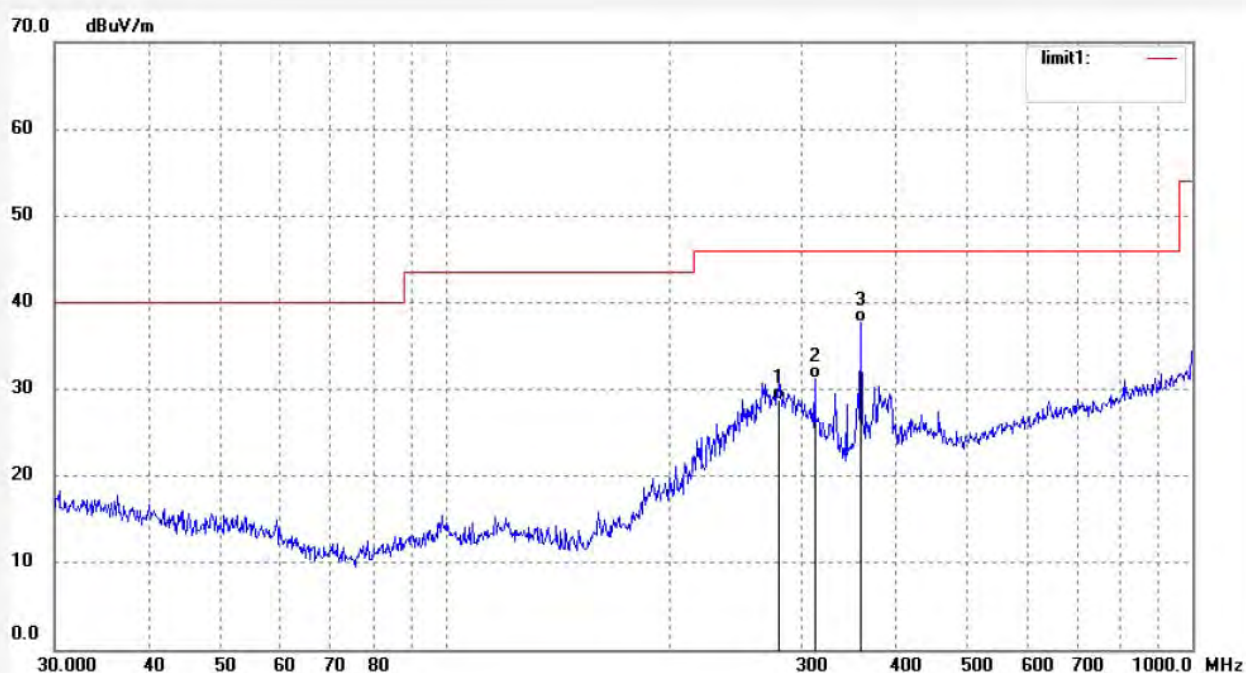
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	280.0237	38.43	-9.59	28.84	46.00	-17.16	QP			
2	312.1792	39.90	-8.66	31.24	46.00	-14.76	QP			
3	359.1859	44.98	-7.28	37.70	46.00	-8.30	QP			

Job No.: LGW2019 #354

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

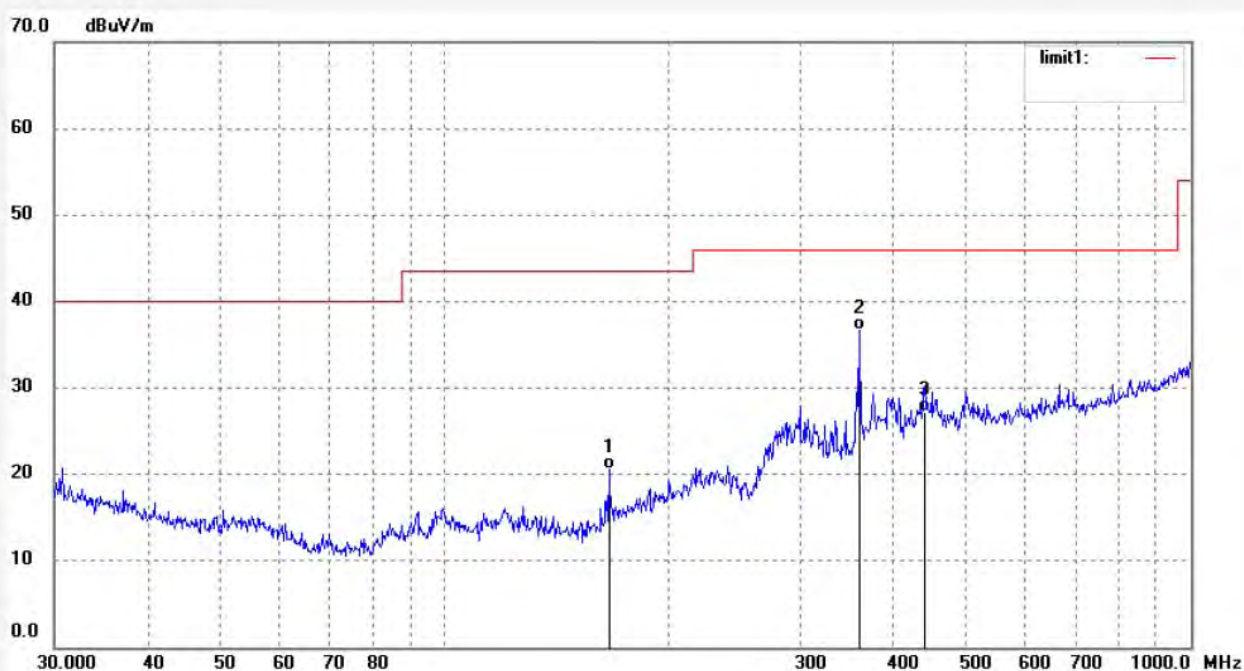
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	166.0680	34.77	-14.16	20.61	43.50	-22.89	QP			
2	359.1859	43.95	-7.28	36.67	46.00	-9.33	QP			
3	440.1963	32.64	-5.48	27.16	46.00	-18.84	QP			

Job No.: LGW2019 #356

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

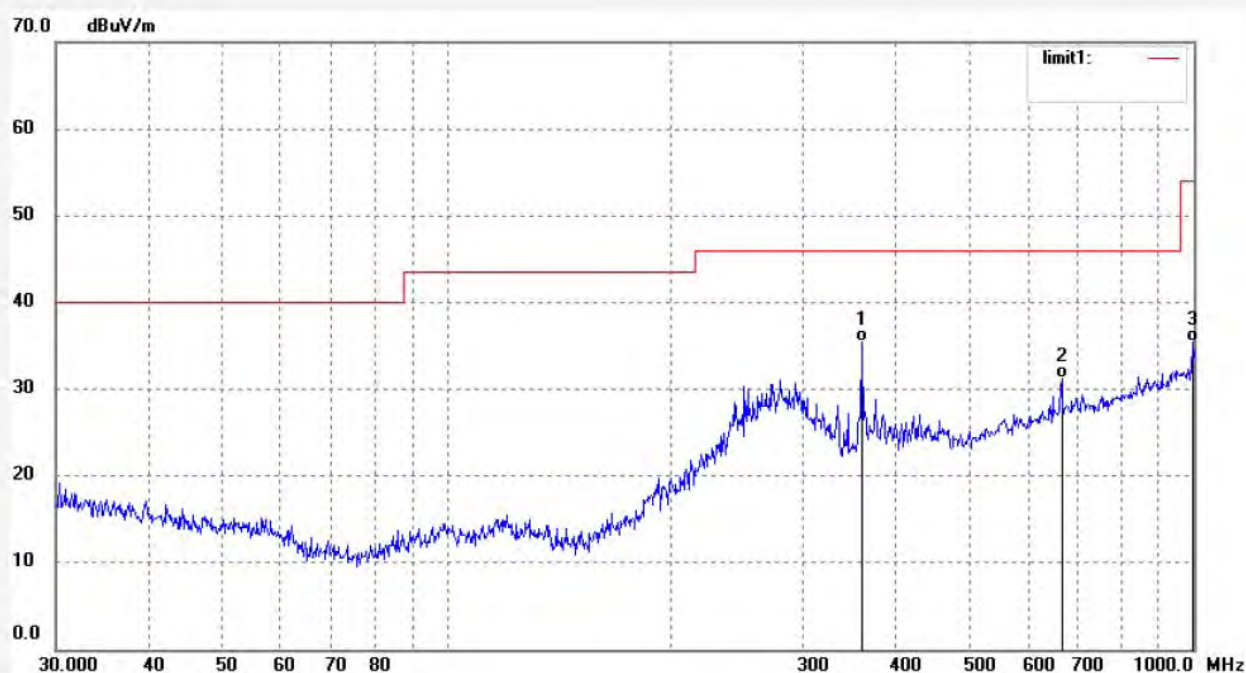
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	359.1859	42.73	-7.28	35.45	46.00	-10.55	QP			
2	665.8034	32.70	-1.53	31.17	46.00	-14.83	QP			
3	996.4995	31.63	3.78	35.41	54.00	-18.59	QP			

Job No.: LGW2019 #357

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

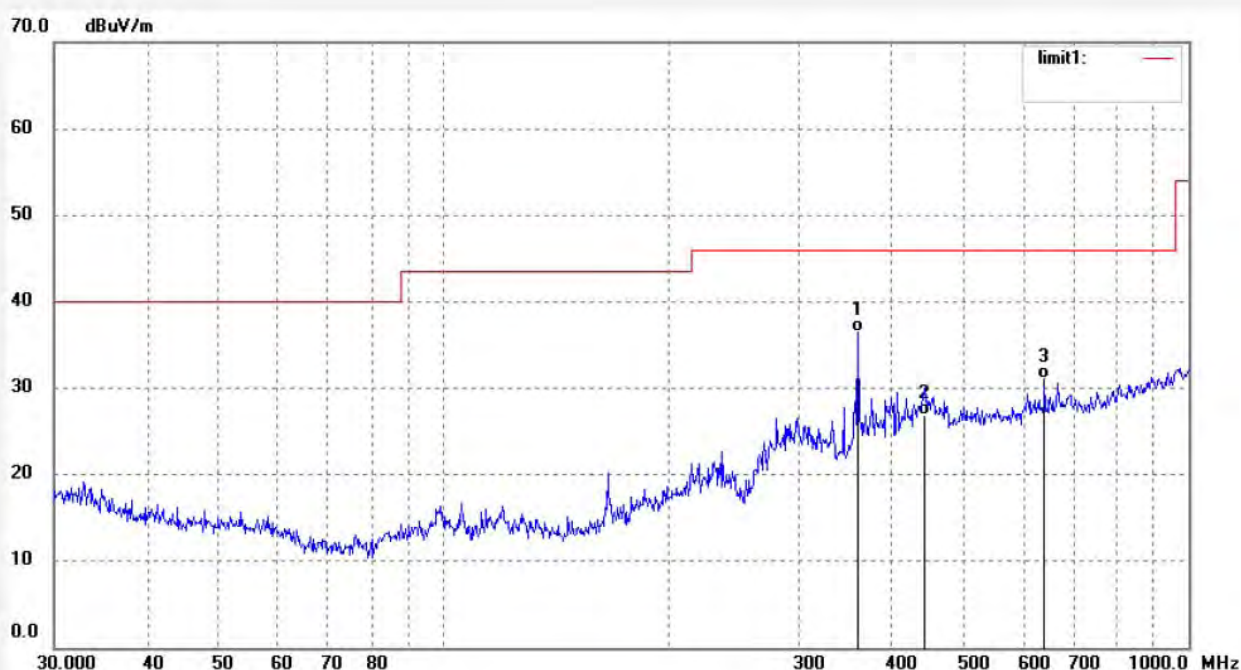
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	359.1859	43.82	-7.28	36.54	46.00	-9.46	QP			
2	441.7425	32.39	-5.46	26.93	46.00	-19.07	QP			
3	640.6109	32.92	-1.90	31.02	46.00	-14.98	QP			



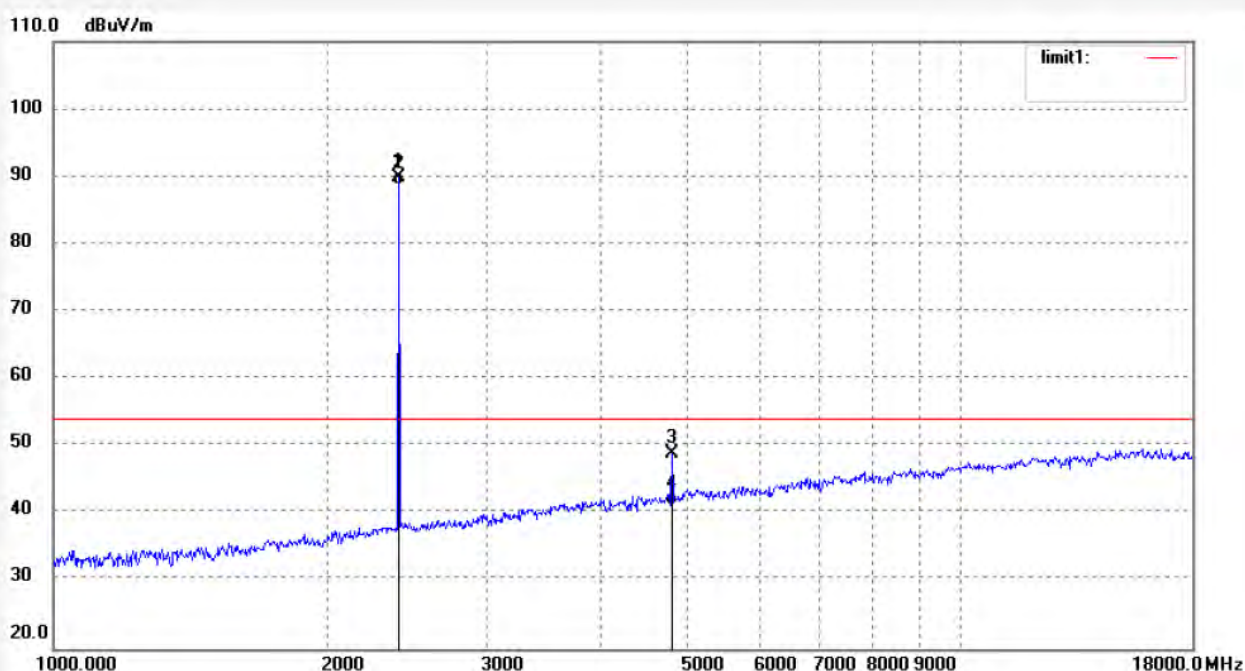
30MHz to 1GHz Test data
ACCURATE TECHNOLOGY CO., LTD.
 F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
 Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
 Tel:+86-0755-26503290
 Fax:+86-0755-26503396

Job No.: LGW2019 #336
 Standard: FCC Part 15C 3M Radiated
 Test item: Radiation Test
 Temp.(C)/Hum.(%) 23 C / 48 %
 EUT: MIIIW USB Receiver
 Mode: TX 2402MHz
 Model: MWM24ND
 Manufacturer: MIIIW

Polarization: Horizontal
 Power Source: DC 5V
 Date: 19/02/20/
 Time:
 Engineer Signature: WADE
 Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	89.08	0.89	89.97	114.00	-24.03	peak			
2	2402.000	87.78	0.89	88.67	94.00	-5.33	AVG			
3	4804.000	41.62	7.40	49.02	74.00	-24.98	peak			
4	4804.000	33.95	7.40	41.35	54.00	-12.65	AVG			



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2019 #337

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2402MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

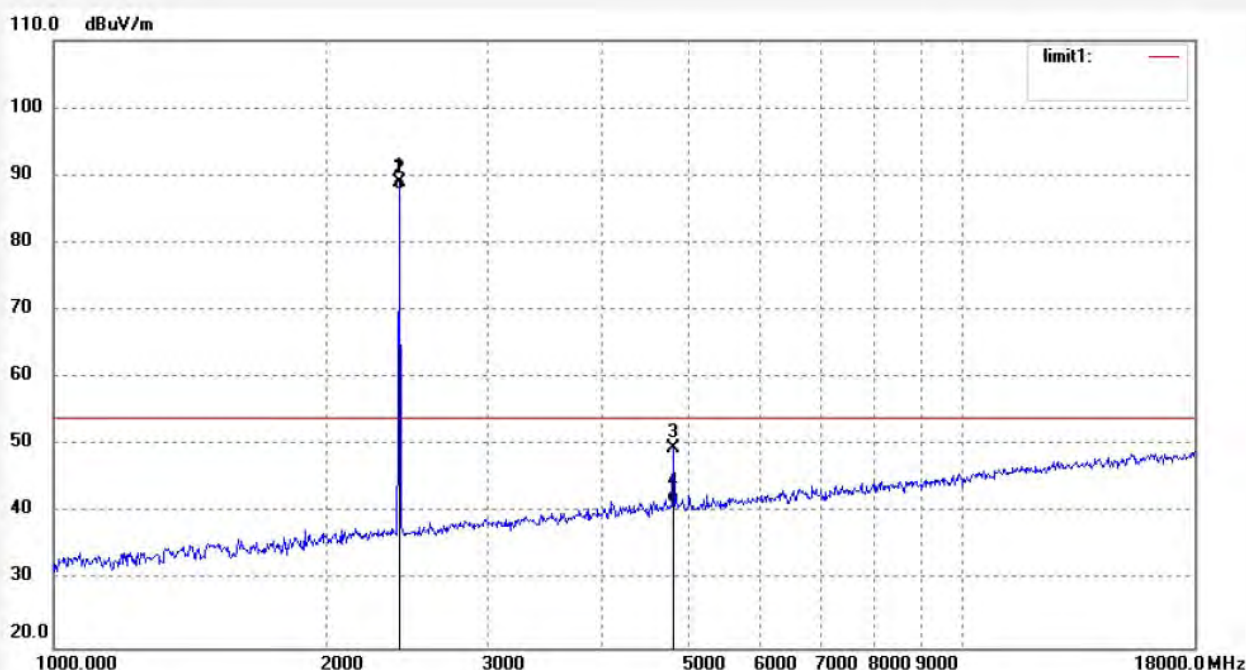
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	88.18	0.89	89.07	114.00	-24.93	peak			
2	2402.000	86.88	0.89	87.77	94.00	-6.23	AVG			
3	4804.000	42.10	7.40	49.50	74.00	-24.50	peak			
4	4804.000	34.17	7.40	41.57	54.00	-12.43	AVG			

Job No.: LGW2019 #340

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

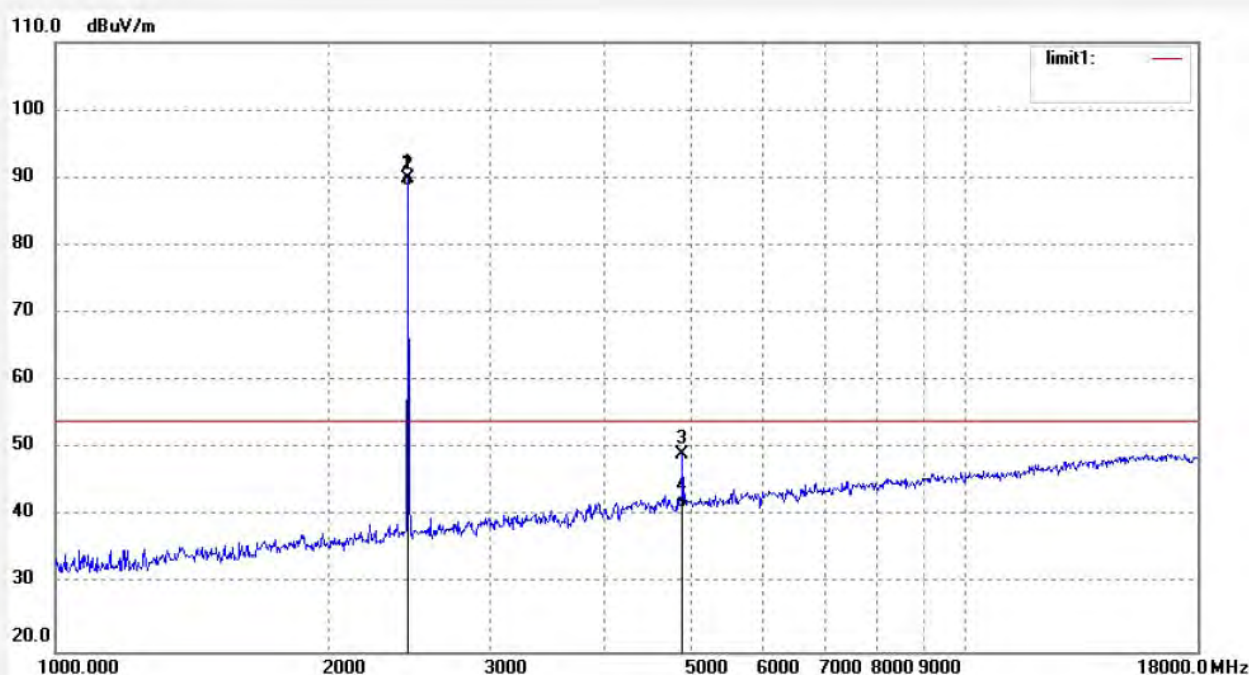
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	88.80	1.04	89.84	114.00	-24.16	peak			
2	2440.000	87.60	1.04	88.64	94.00	-5.36	AVG			
3	4880.000	40.96	8.10	49.06	74.00	-24.94	peak			
4	4880.000	33.22	8.10	41.32	54.00	-12.68	AVG			

Job No.: LGW2019 #341

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

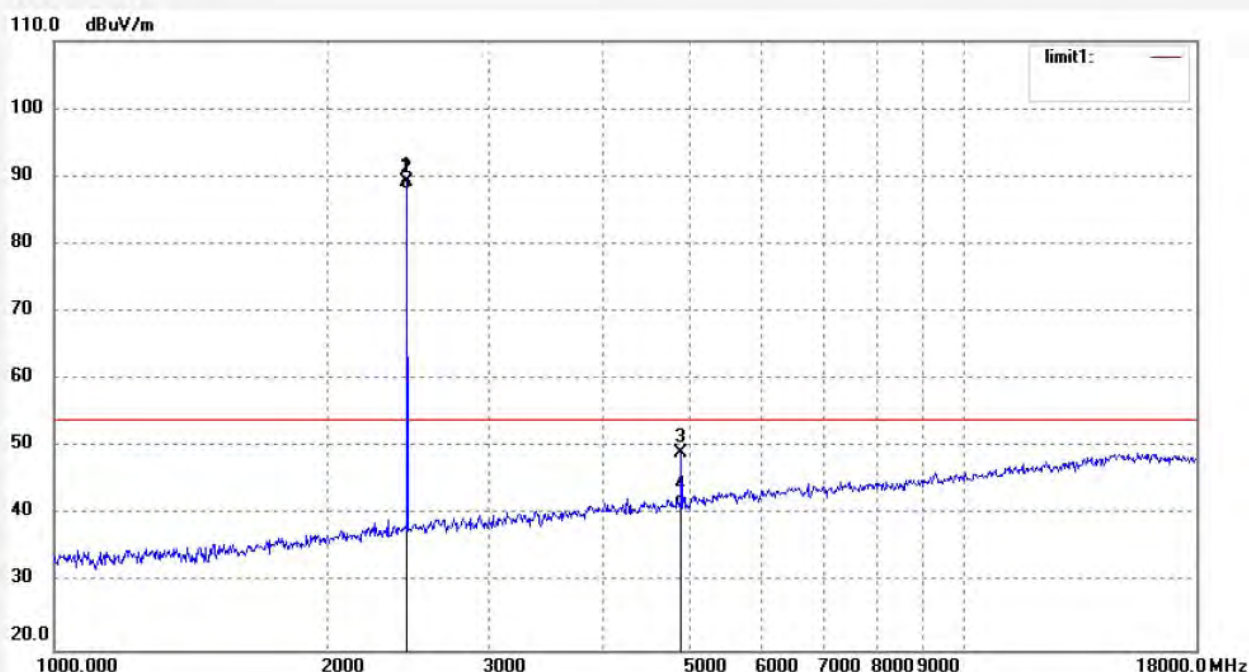
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	88.21	1.04	89.25	114.00	-24.75	peak			
2	2440.000	87.01	1.04	88.05	94.00	-5.95	AVG			
3	4880.000	41.04	8.10	49.14	74.00	-24.86	peak			
4	4880.000	33.25	8.10	41.35	54.00	-12.65	AVG			

Job No.: LGW2019 #343

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

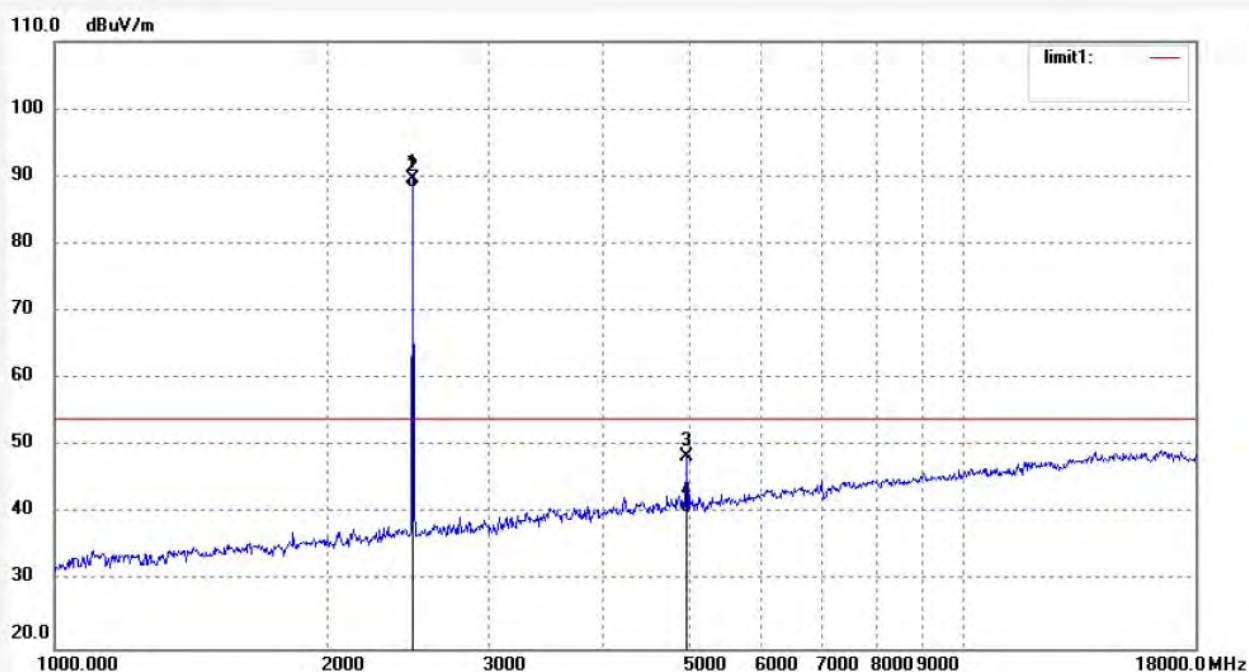
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	88.53	1.10	89.63	114.00	35.63	peak			
2	2480.000	87.23	1.10	88.33	94.00	34.33	AVG			
3	4960.000	39.95	8.60	48.55	74.00	-25.45	peak			
4	4960.000	31.64	8.60	40.24	54.00	-13.76	AVG			

Job No.: LGW2019 #342

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

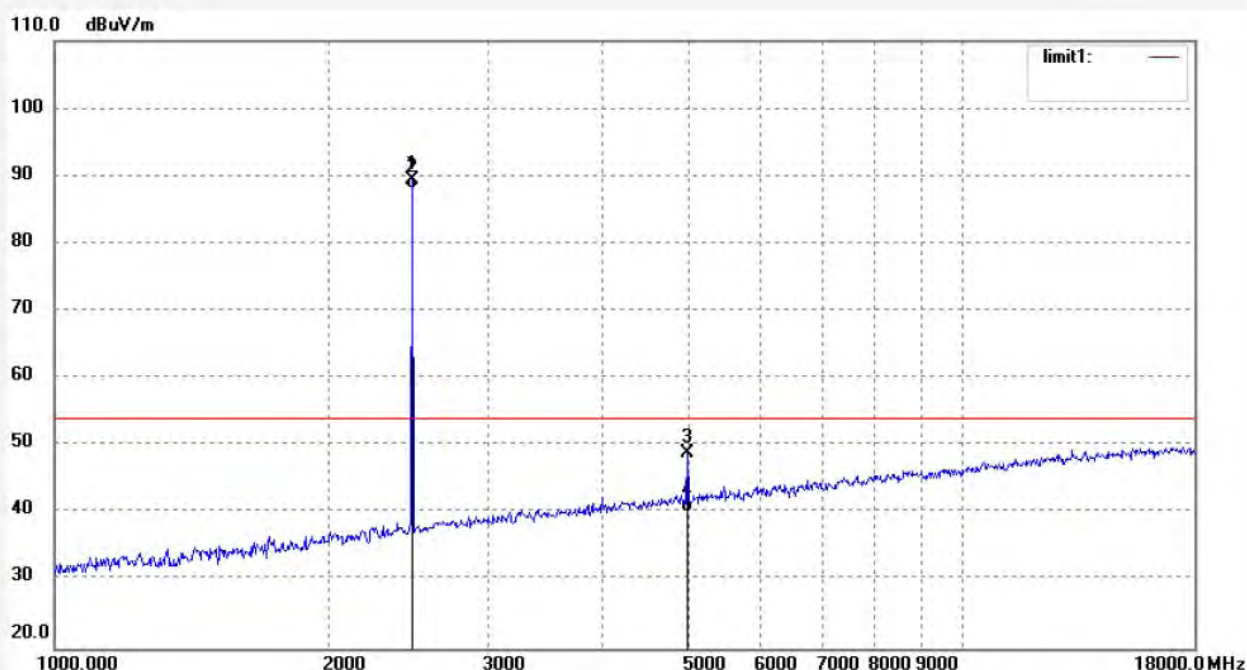
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	88.32	1.10	89.42	114.00	-24.58	peak			
2	2480.000	87.02	1.10	88.12	94.00	-5.88	AVG			
3	4960.000	40.24	8.60	48.84	74.00	-25.16	peak			
4	4960.000	31.61	8.60	40.21	54.00	-13.79	AVG			



18GHz to 26.5GHz Test data

ACCURATE TECHNOLOGY CO., LTD.

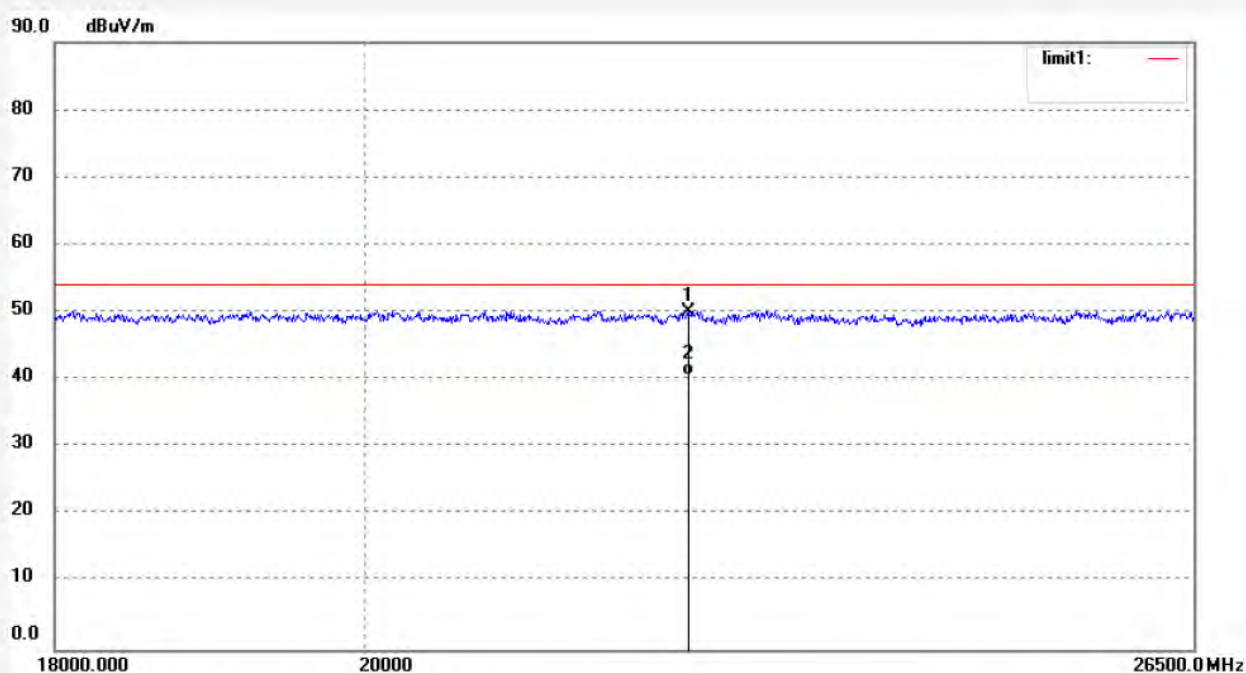
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: LGW2019 #347
Standard: FCC Part 15C 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: MIIIW USB Receiver
Mode: TX 2402MHz
Model: MWM24ND
Manufacturer: MIIIW

Polarization: Horizontal
Power Source: DC 5V
Date: 19/02/20/
Time:
Engineer Signature: WADE
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22318.536	10.48	39.67	50.15	74.00	-23.85	peak			
2	22318.536	0.90	39.67	40.57	54.00	-13.43	AVG			

Job No.: LGW2019 #346

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2402MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

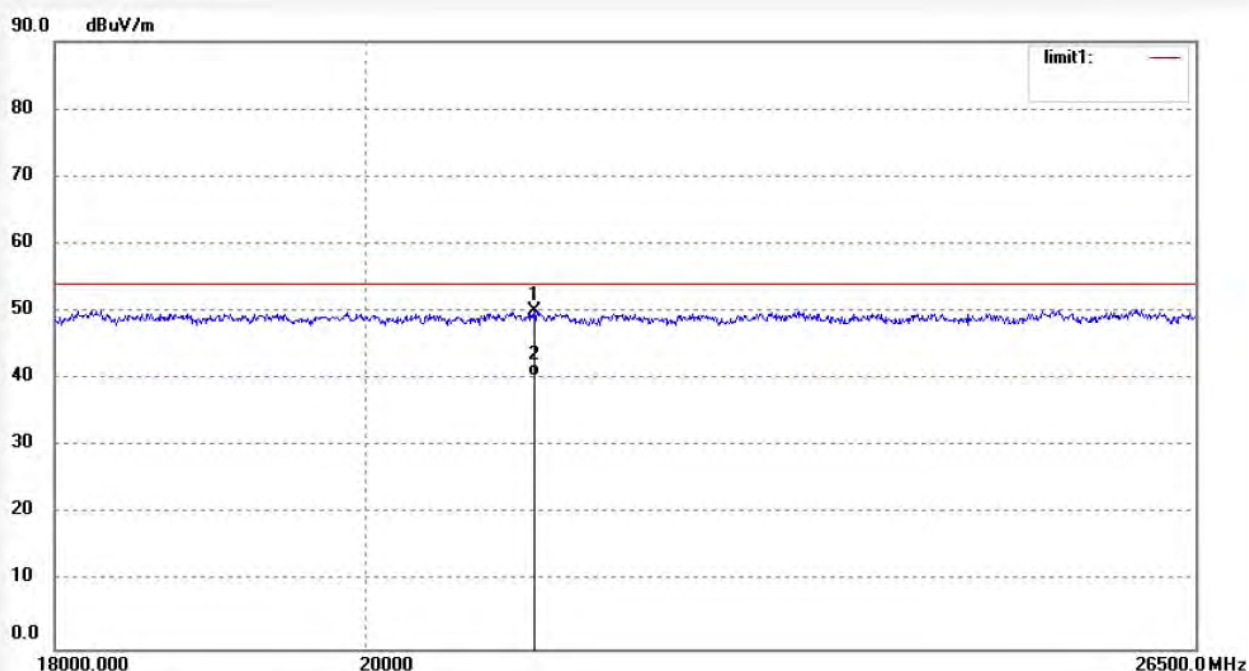
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21174.898	10.69	39.36	50.05	74.00	-23.95	peak			
2	21174.898	0.99	39.36	40.35	54.00	-13.65	AVG			

Job No.: LGW2019 #348

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

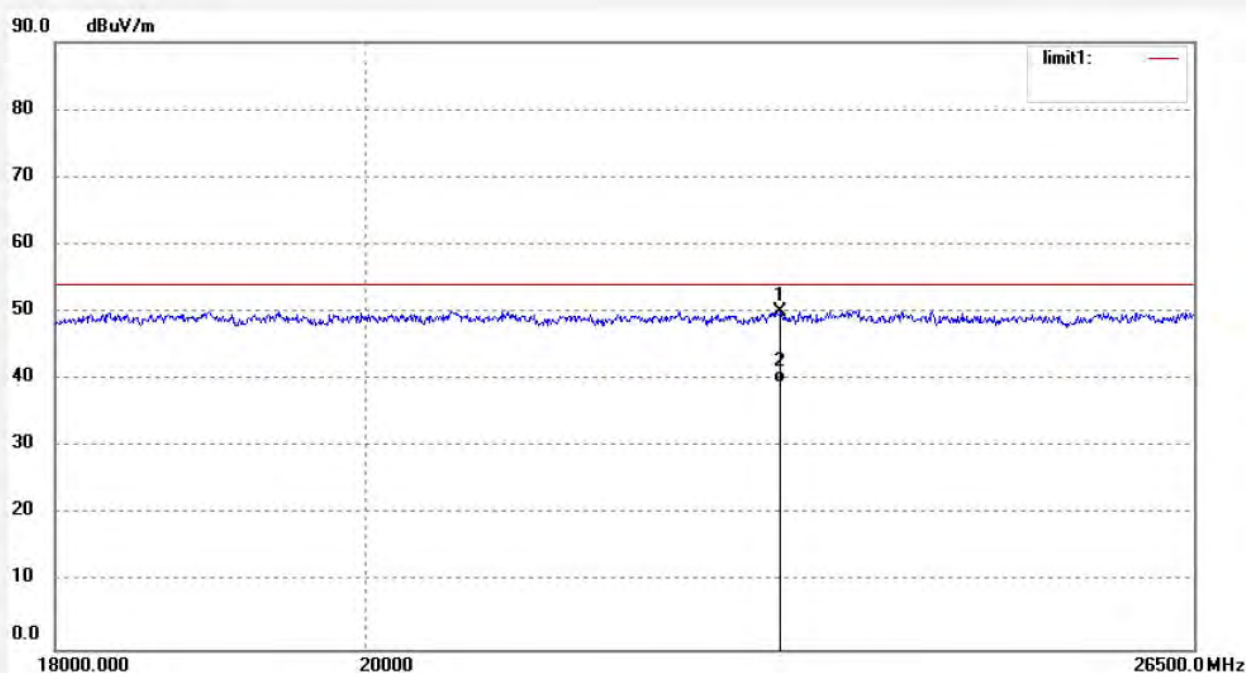
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	23028.812	10.39	39.60	49.99	74.00	-24.01	peak			
2	23028.812	-0.19	39.60	39.41	54.00	-14.59	AVG			

Job No.: LGW2019 #349

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2440MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

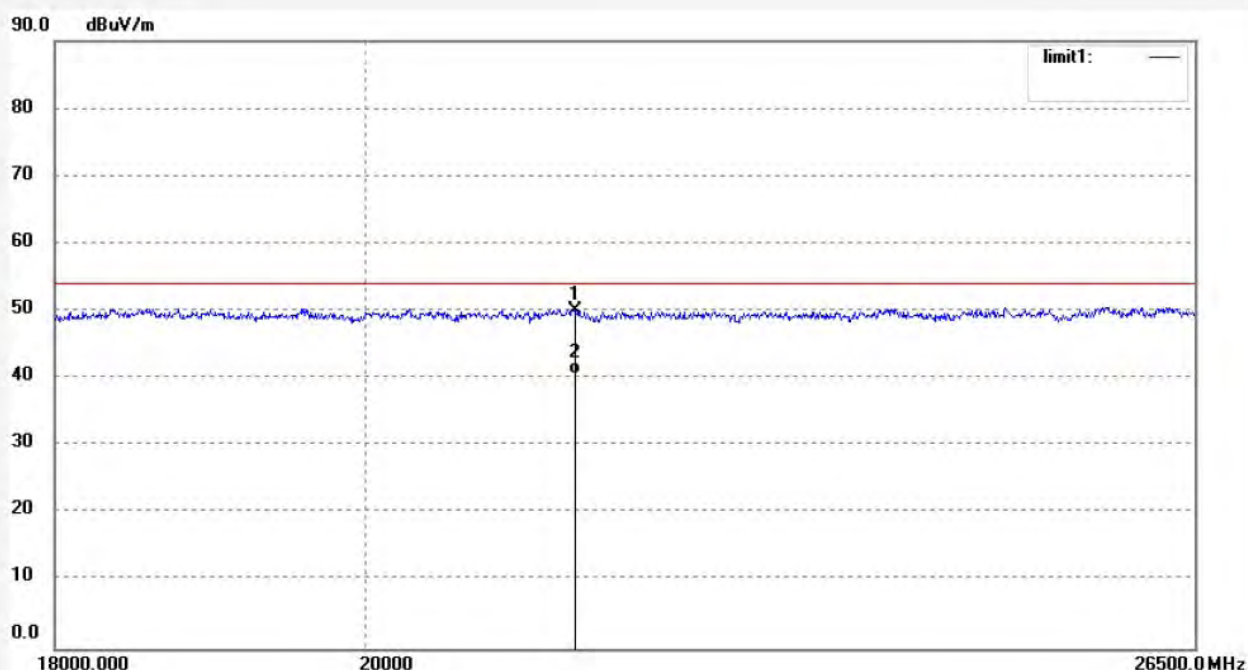
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Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21480.102	10.89	39.28	50.17	74.00	-23.83	peak			
2	21480.102	1.29	39.28	40.57	54.00	-13.43	AVG			

Job No.: LGW2019 #351

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Horizontal

Power Source: DC 5V

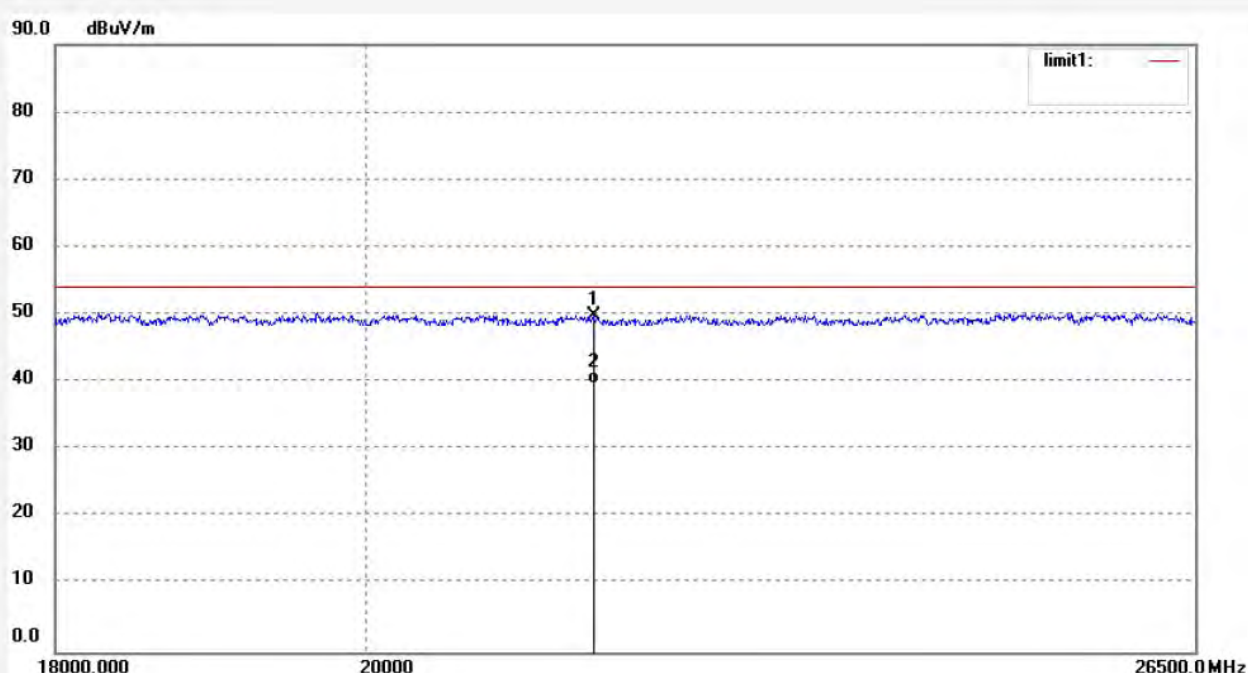
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	21605.083	11.16	38.70	49.86	74.00	-24.14	peak			
2	21605.083	0.91	38.70	39.61	54.00	-14.39	AVG			

Job No.: LGW2019 #350

Standard: FCC Part 15C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: MIIIW USB Receiver

Mode: TX 2480MHz

Model: MWM24ND

Manufacturer: MIIIW

Polarization: Vertical

Power Source: DC 5V

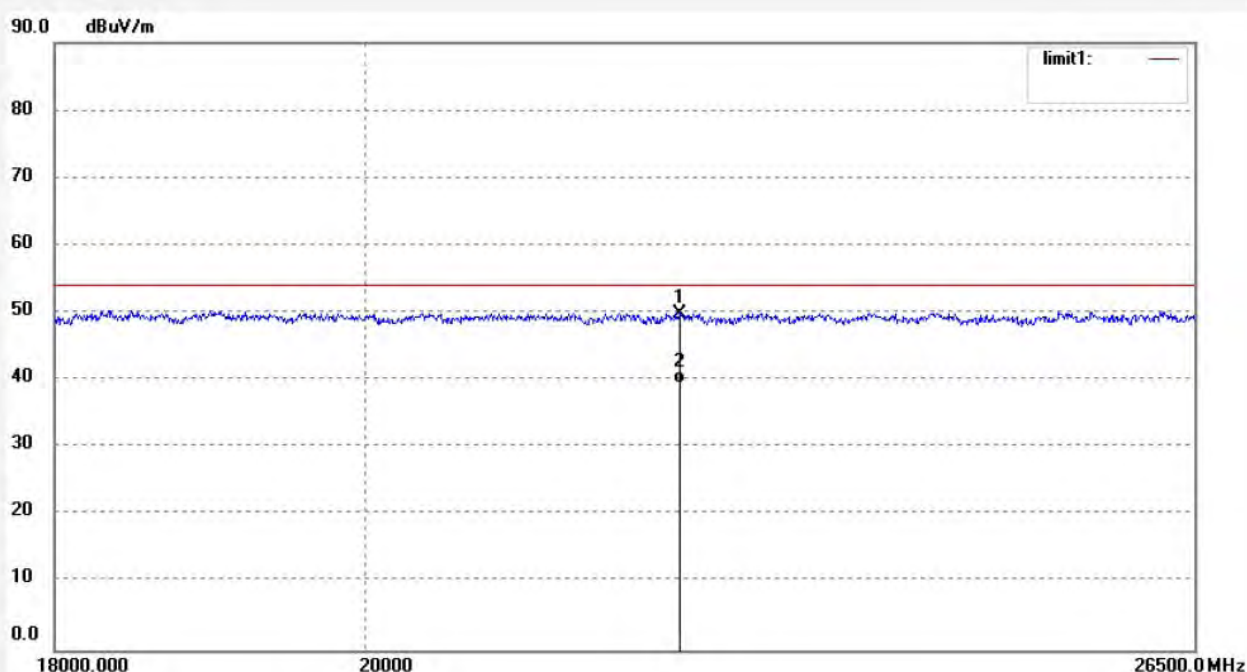
Date: 19/02/20/

Time:

Engineer Signature: WADE

Distance: 3m

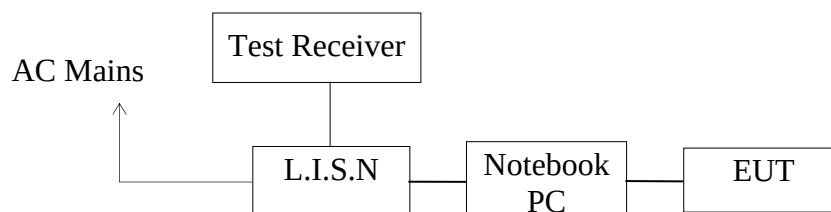
Note:



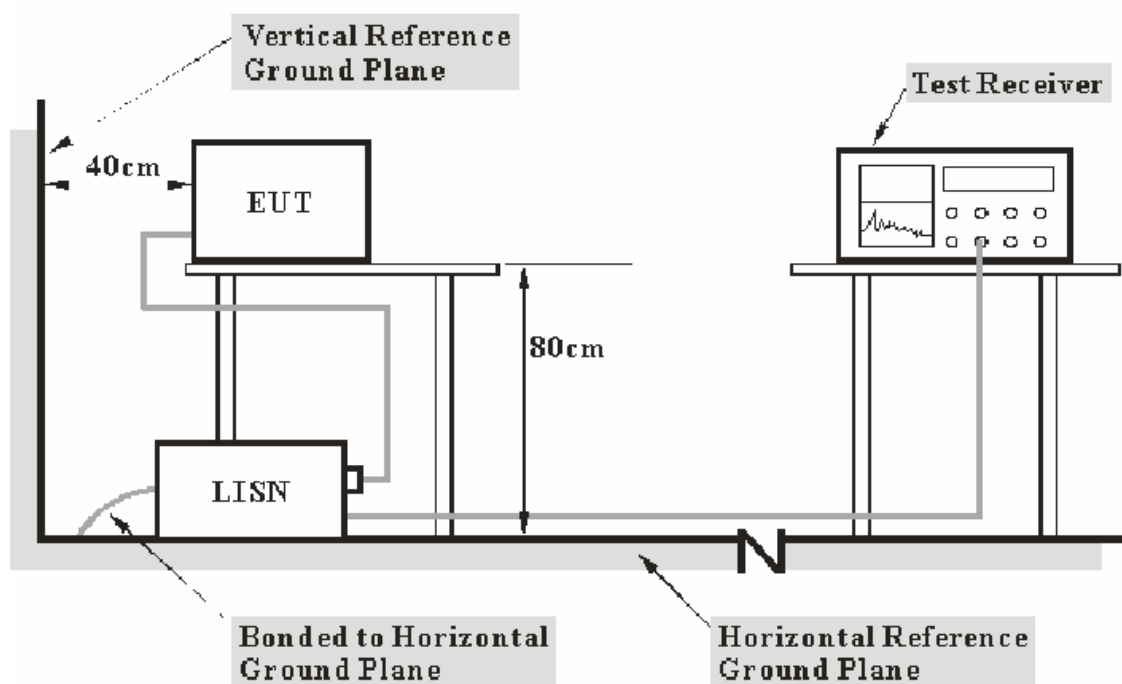
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	22249.585	10.52	39.30	49.82	74.00	-24.18	peak			
2	22249.585	0.24	39.30	39.54	54.00	-14.46	AVG			

8. POWER LINE CONDUCTED EMISSION TEST

8.1. Block Diagram of Test Setup



8.2. Test System Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

8.3. Test Limits

Frequency (MHz)	Limit dB(μ V)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies.		
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

8.4. Configuration of EUT on Measurement

The equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

8.5. Operating Condition of EUT

8.5.1. Setup the EUT and simulator as shown as Section 8.1.

8.5.2. Turn on the power of all equipment.

8.5.3. Let the EUT work in test mode and measure it.

8.6. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

8.7.Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dBμV)	Average Level (dBμV)	QuasiPeak Limit (dBμV)	Average Limit (dBμV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	10.5	51.1	34.2	56.0	46.0	4.9	11.8	Pass

Frequency(MHz) = Emission frequency in MHz

Transducer value(dB) = Insertion loss of LISN + Cable Loss

Level(dBμV) = Quasi-peak Reading/Average Reading + Transducer value

Limit (dBμV) = Limit stated in standard

Calculation Formula:

Margin = Limit (dBμV) - Level (dBμV)

8.8.Test Results

Pass.

The frequency range from 150kHz to 30MHz is checked.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

Emissions attenuated more than 20 dB below the permissible value are not reported.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

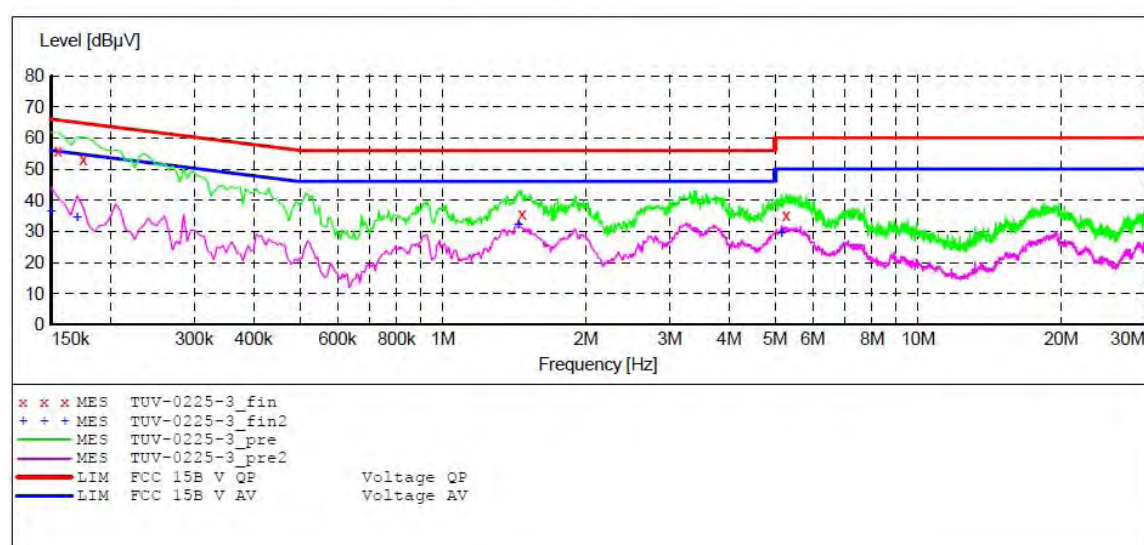
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: MIIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIIW
 Operating Condition: Communication
 Test Site: 1#Shielding Room
 Operator: WADE
 Test Specification: N 120V/60Hz
 Comment:
 Start of Test: 2/25/2019 /

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "TUV-0225-3_fin"

2/25/2019

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.155000	55.80	10.5	66	9.9	QP	N	GND
0.175000	53.20	10.5	65	11.5	QP	N	GND
1.465000	35.60	10.9	56	20.4	QP	N	GND
5.270000	35.10	11.2	60	24.9	QP	N	GND

MEASUREMENT RESULT: "TUV-0225-3_fin2"

2/25/2019

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.150000	36.40	10.5	56	19.6	AV	N	GND
0.170000	34.40	10.5	55	20.6	AV	N	GND
1.440000	32.20	10.9	46	13.8	AV	N	GND
5.160000	29.40	11.2	50	20.6	AV	N	GND

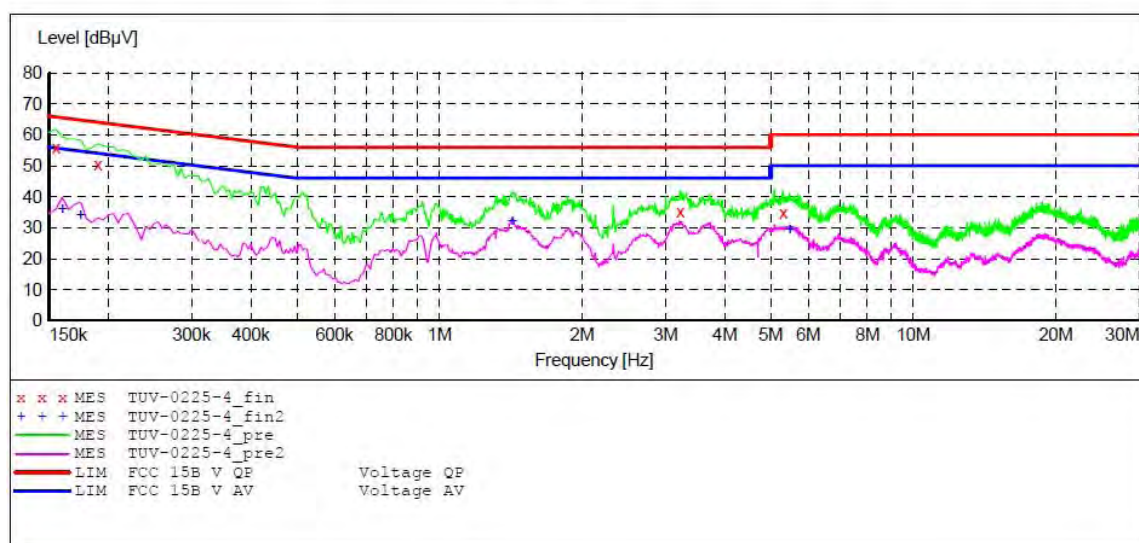
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 C

EUT: MIIW USB Receiver M/N:MWM24ND
 Manufacturer: MIIW
 Operating Condition: Communication
 Test Site: 1#Shielding Room
 Operator: WADE
 Test Specification: L 120V/60Hz
 Comment:
 Start of Test: 2/25/2019 /

SCAN TABLE: "V 9K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s 200 Hz NSLK8126 2008
 Average
 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "TUV-0225-4_fin"

2/25/2019

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.155000	55.90	10.5	66	9.8	QP	L1	GND
0.190000	50.40	10.5	64	13.6	QP	L1	GND
3.220000	35.30	11.1	56	20.7	QP	L1	GND
5.310000	34.80	11.2	60	25.2	QP	L1	GND

MEASUREMENT RESULT: "TUV-0225-4_fin2"

2/25/2019

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.160000	36.00	10.5	56	19.5	AV	L1	GND
0.175000	33.90	10.5	55	20.8	AV	L1	GND
1.425000	32.20	10.9	46	13.8	AV	L1	GND
5.480000	29.40	11.2	50	20.6	AV	L1	GND

9. ANTENNA REQUIREMENT

9.1.The Requirement

According to Section 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.

9.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

******* End of Test Report *******