ZheJiang Fousine Science & Technology Co ., LTD

TEST REPORT

SCOPE OF WORK
FCC Testing– MML-WFB

REPORT NUMBER
200927027SZN-003

ISSUE DATE **[REVISED DATE]**
09 November 2020 [----------]

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TEST REPORT

Intertek Report No.: 200927027SZN-003

ZheJiang Fousine Science & Technology Co ., LTD

Application
For
Certification

FCC ID: 2AKP3-MML-WFB

Smart Wifi Bridge

Model: MML-WFB

Brand Name: Monster

2.4GHz Transmitter

Report No.: 200927027SZN-003

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-19]

Prepared and Checked by:

Winkey Wang
Senior Project Engineer

Approved by:

Kidd Yang
Technical Supervisor
Date: 09 November 2020

MEASUREMENT/TECHNICAL REPORT

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: DXX - Part 15 Low Power Communication Device Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

If yes, defer until: _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No X

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [10-1-19 Edition] provision.

Report prepared by:

Winkey Wang
Intertek Testing Services Shenzhen Ltd. Longhua Branch
101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing
Community GuanHu Subdistrict, LongHua District, Shenzhen,
People's Republic of China
Tel / Fax: 86-755-8601 0684/86-755-8601 6751

Table of Contents

1.0 Summary of Test Result

Applicant: ZheJiang Fousine Science & Technology Co ., LTD

Address: No 198 Changyuan Road Yuyao City Zhejiang Province China

Manufacturer: ZheJiang Fousine Science & Technology Co ., LTD

Address: No 198 Changyuan Road Yuyao City Zhejiang Province China

Model: MML-WFB

FCC ID: 2AKP3-MML-WFB

Test Specification	Reference	Results
Transmitter Radiated Emission Bandedge	15.249 &15.209 &15.205	Pass
Conducted Emission	15.207	Pass
20dB Bandwidth	15.215(c)	Pass

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

2.0 General Description

2.1 Product Description

The equipment under test (EUT) is a Smart Wifi Bridge operating in 2.4G Band. The EUT is powered by 5Vdc from adapter. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna
Modulation Type: GFSK
Antenna Gain: 0dBi

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of transceiver for the Smart Wifi Bridge which has WiFi function and 2.4GHz Transmitter Function. WiFi functions were reported in the certification report: 200927027SZN-002. Other digital functions were reported in the verification report: 200927027SZN-001.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst-case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Longhua Branch** and located at 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, ShenZhen, P.R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: CN1188).

3.0 System Test Configuration

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2013).

The EUT was powered by 5Vdc with adapter Input 120V/60Hz during the test, only the worst data was reported in this report.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Section 4.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on a turn table, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:
During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Test Software: espRFtool_2.3. exe

3.3 Special Accessories

N/A.

3.4 Equipment Modification

Any modifications installed previous to testing by ZheJiang Fousine Science & Technology Co ., LTD will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd Longhua Branch.

3.5 Measurement Uncertainty

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

3.6 Support Equipment List and Description

Description	Manufacturer	Model No.
adapter	MONSTER	Model: SAW12E-050-2400U Input: 100-240Vac 50/60Hz, 0.5A Output: 5Vdc, 2400Ma (provided by applicant)
USB Cable	MONSTER	Unshielded, 180cm

4.0 Emission Results

Data is included worst-case configuration (the configuration which resulted in the highest emission levels).

4.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

4.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

Where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

Assume a receiver reading of 62.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 62.0 dBµV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
AV = -10 dB
FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dBµV/m

Level in µV/m = Common Antilogarithm [(42 dBµV/m)/20] = 125.9 µV/m

4.1.2 Radiated Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

4.1.3 Radiated Emissions

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit. Simultaneous transmission was considered during the test.

Worst Case Radiated Emission
at
74.167333 MHz

Judgement: Passed by 7.3 dB

TEST PERSONNEL:

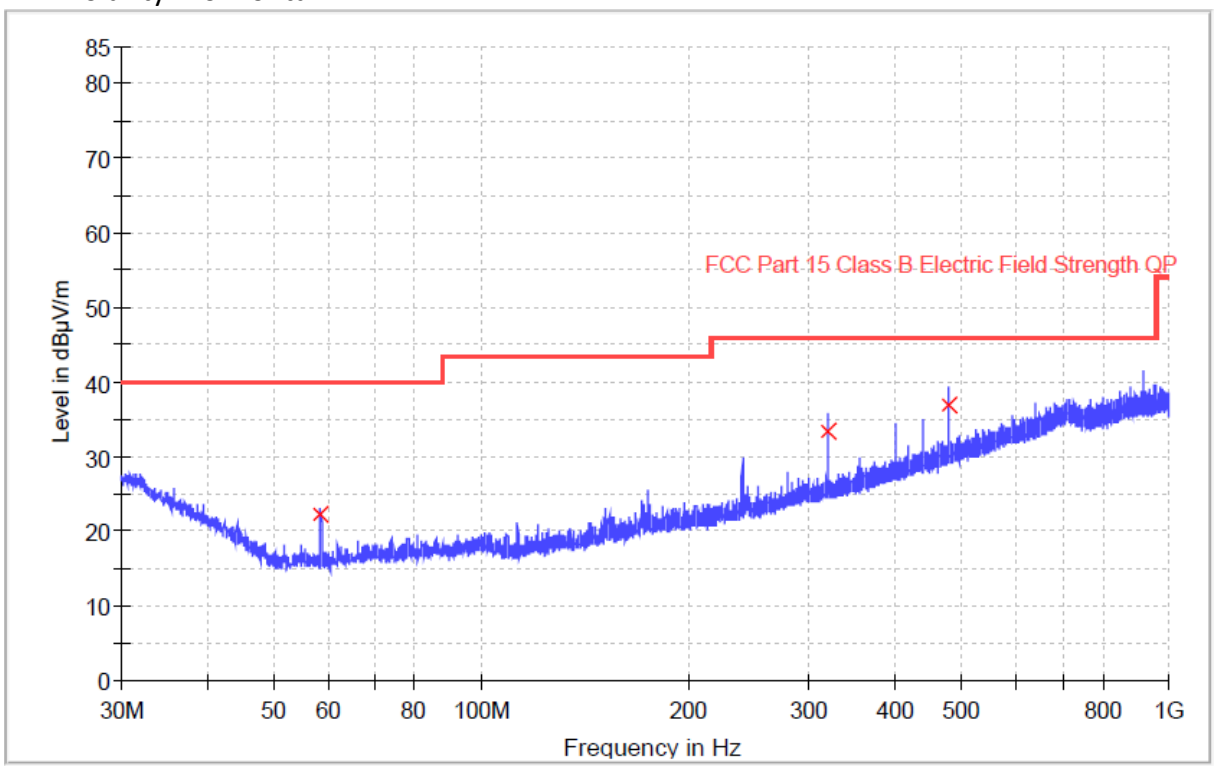
Sign on file

Winkey Wang, Senior Project Engineer
Typed/Printed Name

05 November 2020
Date

Applicant: ZheJiang Fousine Science & Technology Co ., LTD
Date of Test: 05 November 2020 Model: MML-WFB
Worst Case Operating Mode: Transmitting(2410MHz)

ANT Polarity: Horizontal

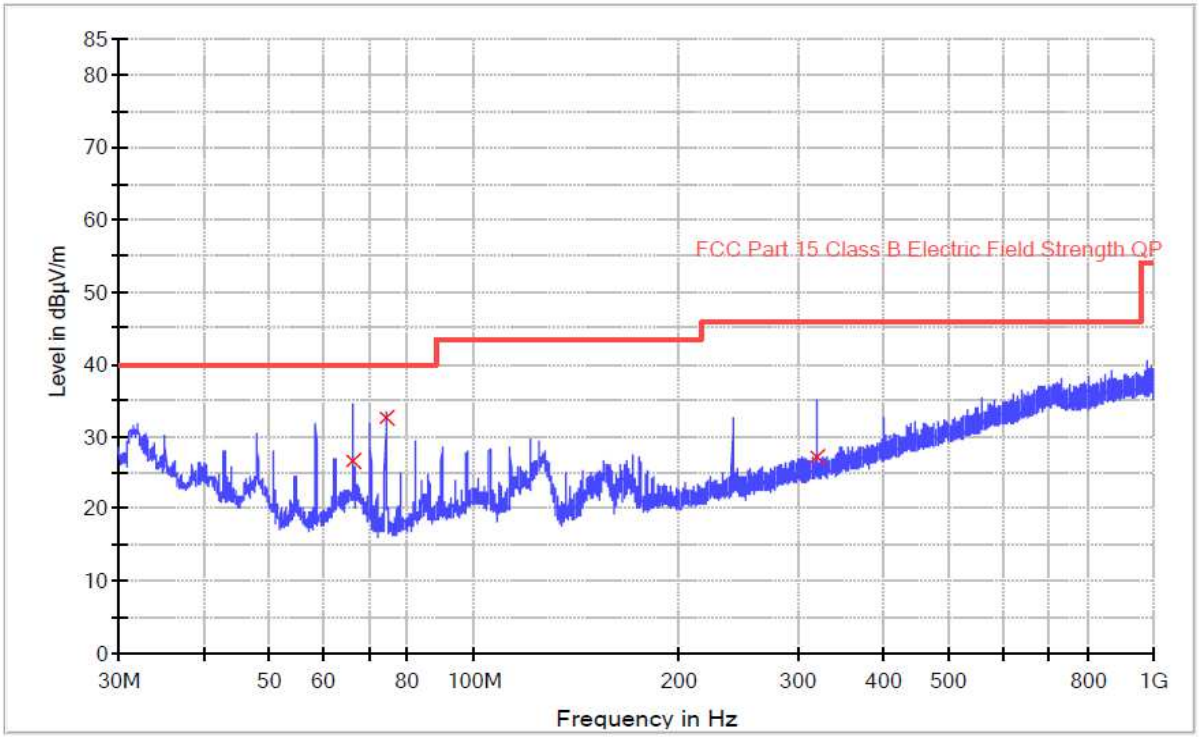


Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
58.518000	22.2	1000.0	120.000	0.0	H	8.1	17.8	40.0
319.965333	33.5	1000.0	120.000	0.0	H	17.2	12.5	46.0
479.983000	36.9	1000.0	120.000	0.0	H	21.3	9.1	46.0

Remark:
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dBµV/m)= Corr. (dB/m)+ Read Level (dBµV)
3. Margin (dB) = Limit Line(dBµV/m) – Level (dBµV/m)

Applicant: ZheJiang Fousine Science & Technology Co ., LTD
Date of Test: 05 November 2020 Model: MML-WFB
Worst Case Operating Mode: Transmitting(2410MHz)

ANT Polarity: Vertical



Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
66.310333	26.5	1000.0	120.000	0.0	V	8.6	13.5	40.0
74.167333	32.7	1000.0	120.000	0.0	V	9.0	7.3	40.0
319.965333	27.2	1000.0	120.000	0.0	V	17.2	18.8	46.0

Remark:
1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
2. QuasiPeak (dBµV/m)= Corr. (dB/m)+ Read Level (dBµV)
3. Margin (dB) = Limit Line(dBµV/m) – Level (dBµV/m)

4.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission
at
4820.000 MHz

For electronic filing, the worst case radiated emission configuration photograph is saved with filename: radiated photos. pdf.

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 3.1 dB

TEST PERSONNEL:

Sign on file

Winkey Wang, Senior Project Engineer
Typed/Printed Name

05 November 2020
Date

Applicant: ZheJiang Fousine Science & Technology Co ., LTD
Date of Test: 05 November 2020 Model: MML-WFB
Worst Case Operating Mode: Transmitting

Table 1

Radiated Emissions
(2410.000 MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2410.000	89.7	36.7	28.1	81.1	114.0	-32.9
Vertical	4820.000	61.9	36.7	35.5	60.7	74.0	-13.3
Vertical	7230.000	56.2	36.8	35.6	55.0	74.0	-19.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2410.000	89.7	36.7	28.1	9.8	71.3	94.0	-22.7
Vertical	4820.000	61.9	36.7	35.5	9.8	50.9	54.0	-3.1
Vertical	7230.000	56.2	36.8	35.6	9.8	45.2	54.0	-8.8

Notes:
1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

4.2 Conducted Emission Configuration Photograph

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: conducted photos.pdf.

4.2.1 Conducted Emission

Worst Case Conducted Configuration
at
0.174MHz

Judgement: Passed by 12.1dB margin

Simultaneous transmission was considered during the test, only the worst case data is recorded in this report.

TEST PERSONNEL:

Sign on file

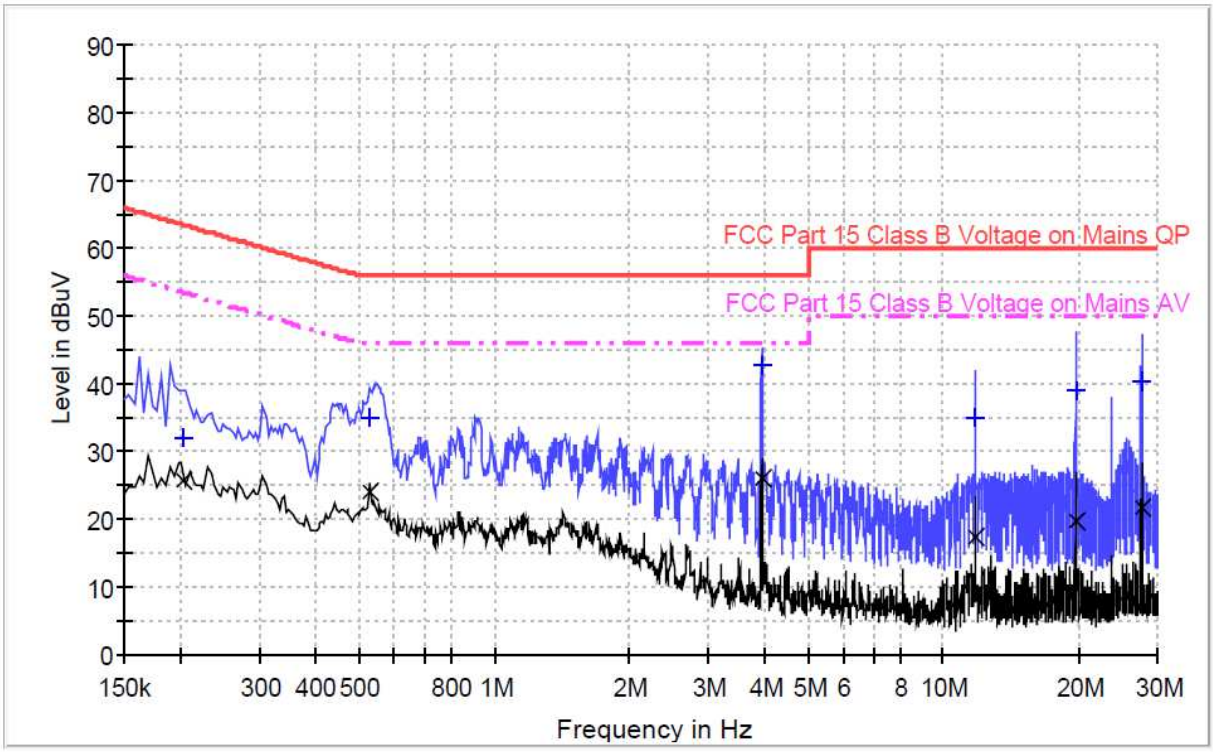
Winkey Wang, Senior Project Engineer
Typed/Printed Name

20 October 2020
Date

Applicant: ZheJiang Fousine Science & Technology Co ., LTD
Date of Test: 20 October 2020 Model: MML-WFB
Worst Case Operating Mode: Simultaneous transmission
Phase: Live

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.204000	32.0	9.000	L1	9.7	31.4	63.4
0.530000	35.0	9.000	L1	9.7	21.0	56.0
3.942000	42.8	9.000	L1	9.7	13.2	56.0
11.810000	35.0	9.000	L1	9.9	25.0	60.0
19.710000	38.9	9.000	L1	10.6	21.1	60.0
27.594000	40.5	9.000	L1	10.7	19.5	60.0

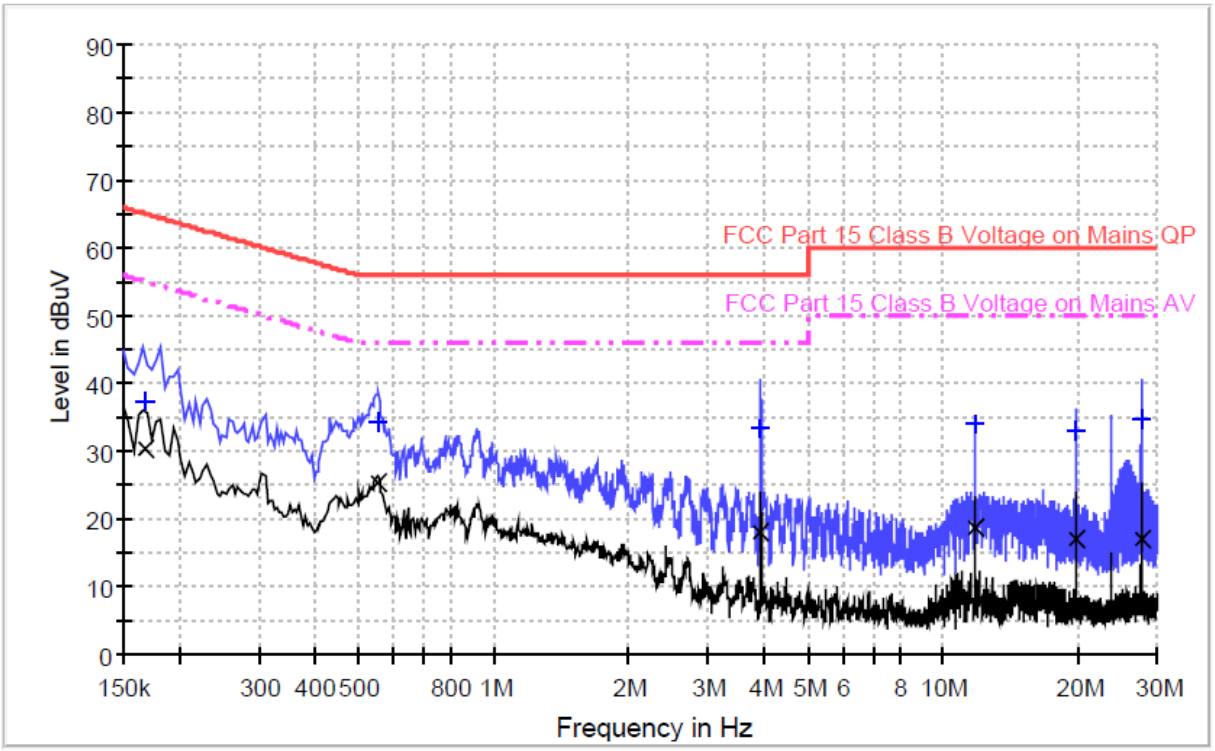
Limit and Margin AV

Frequency (MHz)	Average (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.204000	25.6	9.000	L1	9.7	27.8	53.4
0.530000	23.9	9.000	L1	9.7	22.1	46.0
3.942000	26.0	9.000	L1	9.7	20.0	46.0
11.810000	17.4	9.000	L1	9.9	32.6	50.0
19.710000	19.8	9.000	L1	10.6	30.2	50.0
27.594000	21.5	9.000	L1	10.7	28.5	50.0

Applicant: ZheJiang Fousine Science & Technology Co ., LTD
Date of Test: 20 October 2020 Model: MML-WFB
Worst Case Operating Mode: Simultaneous transmission
Phase: Neutral

Graphic / Data Table

Conducted Emissions
Pursuant to FCC 15.207: Emissions Requirement



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.168000	37.3	9.000	N	9.6	27.8	65.1
0.550000	34.3	9.000	N	9.5	21.7	56.0
3.938000	33.2	9.000	N	9.6	22.8	56.0
11.822000	34.1	9.000	N	9.9	25.9	60.0
19.722000	33.1	9.000	N	10.5	26.9	60.0
27.602000	34.7	9.000	N	10.8	25.3	60.0

Limit and Margin AV

Frequency (MHz)	Average (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.168000	30.5	9.000	N	9.6	24.6	55.1
0.550000	25.5	9.000	N	9.5	20.5	46.0
3.938000	18.1	9.000	N	9.6	27.9	46.0
11.822000	18.8	9.000	N	9.9	31.2	50.0
19.722000	17.0	9.000	N	10.5	33.0	50.0
27.602000	17.0	9.000	N	10.8	33.0	50.0

5.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

6.0 Product Labelling

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

7.0 Technical Specifications

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

9.0 Miscellaneous Information

This miscellaneous information includes details of the measured bandedge, 20dB Bandwidth, the test procedure and calculation of factor such as pulse desensitization.

9.1 Bandedge Plot

The test plots are attached as below. From the plot, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).

Peak Measurement

Restricted-band band-edge tests shall be performed as radiated measurements, i.e (Band-edge Plot).

(i) Lower channel 2410.000 MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2390.000	69.6	36.7	28.1	61.0	74.0	-13.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m	Margin (dB)
Vertical	2390.000	58.1	36.7	28.1	49.5	54.0	-4.5

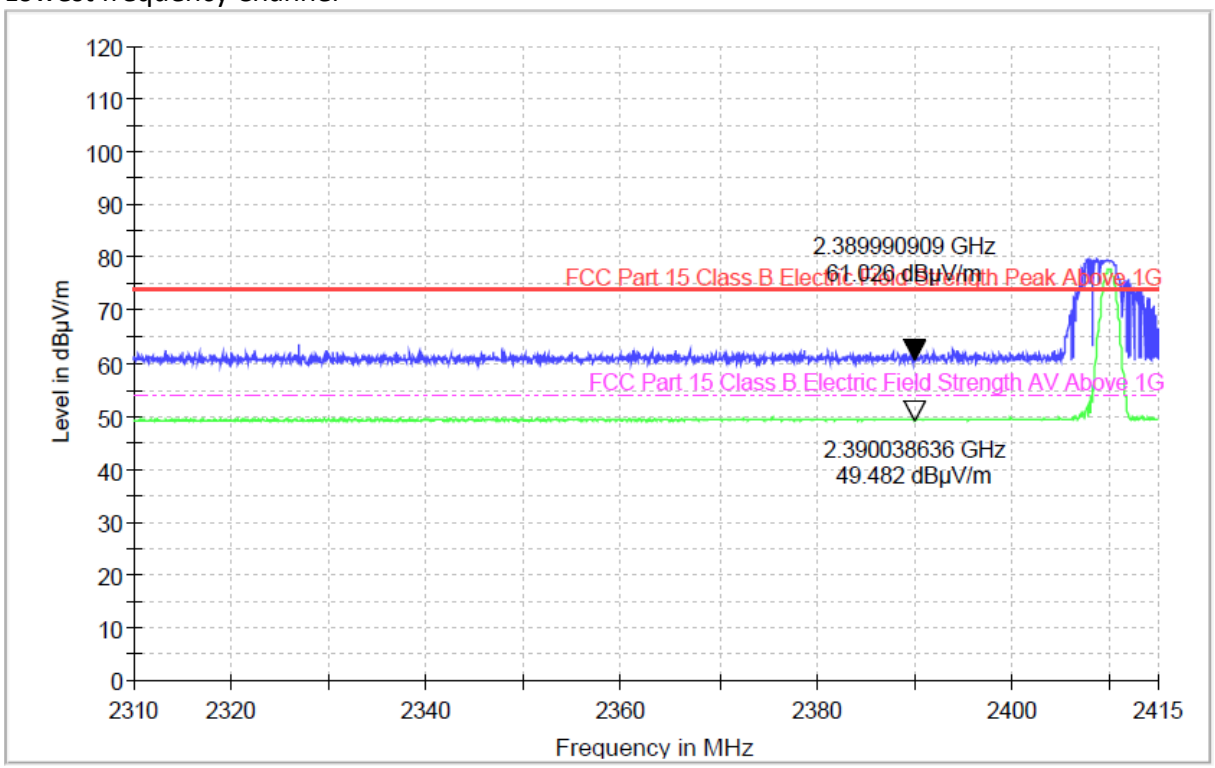
(ii) Upper channel 2410.000 MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2483.500	70.3	36.8	29.1	62.6	74.0	-11.4

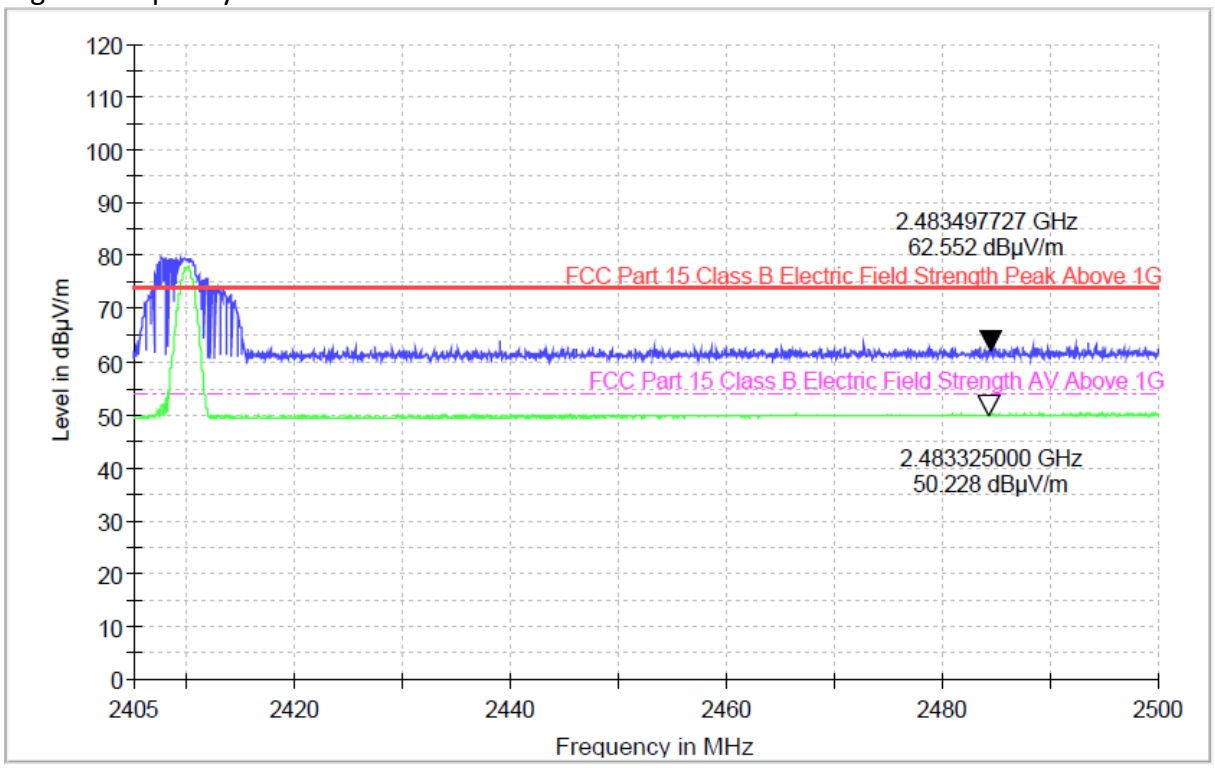
Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m	Margin (dB)
Vertical	2483.500	57.9	36.8	29.1	50.2	54.0	-3.8

The resultant field strength meets the general radiated emission limit in section 15.209, which does not exceed 74dBµv/m (Peak Limit) and 54dBµv/m (Average Limit).

Lowest frequency Channel

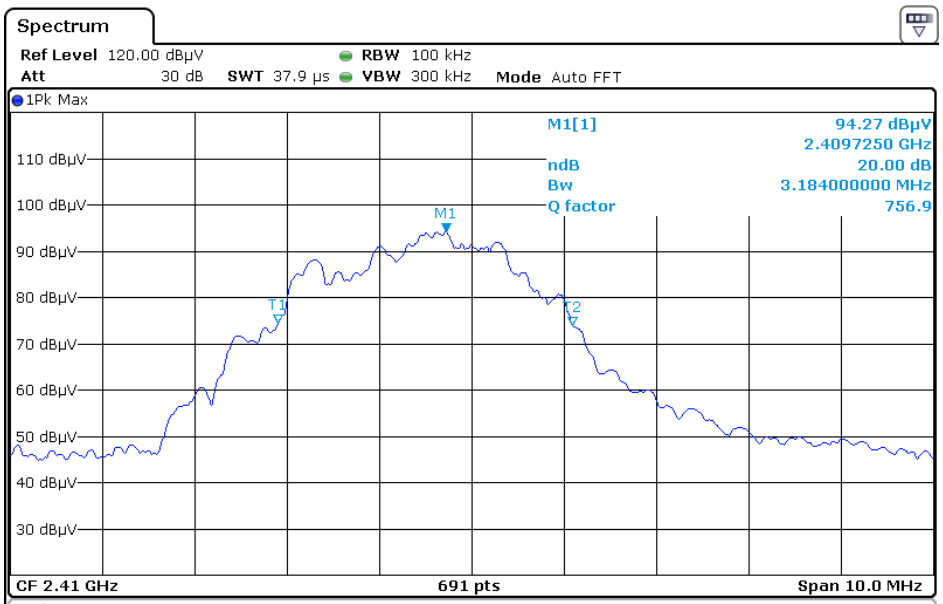


Highest frequency Channel



9.2 20dB Bandwidth

Pursuant to FCC part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered. The test plots are reported as below.



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.409725 GHz	94.27 dBµV	ndB down	3.184 MHz
T1		1	2.407902 GHz	74.35 dBµV	ndB	20.00 dB
T2		1	2.411085 GHz	74.05 dBµV	Q factor	756.9

9.3 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. The effective period (T_{eff}) is approximately 1.884ms for a digital "1" bit, as shown in the plots of Section 9.4. With a resolution bandwidth (3 dB) of 100 kHz, the pulse desensitivity factor was 0 dB

9.4 Calculation of Average Factor

Averaging factor in dB = 20 log (duty cycle)

The specification for output field strengths in accordance with the FCC rules specify measurements with an average detector. During testing, a spectrum analyzer incorporating a peak detector was used. Therefore, a reduction factor can be applied to the resultant peak signal level and compared to the limit for measurement instrumentation incorporating an average detector.

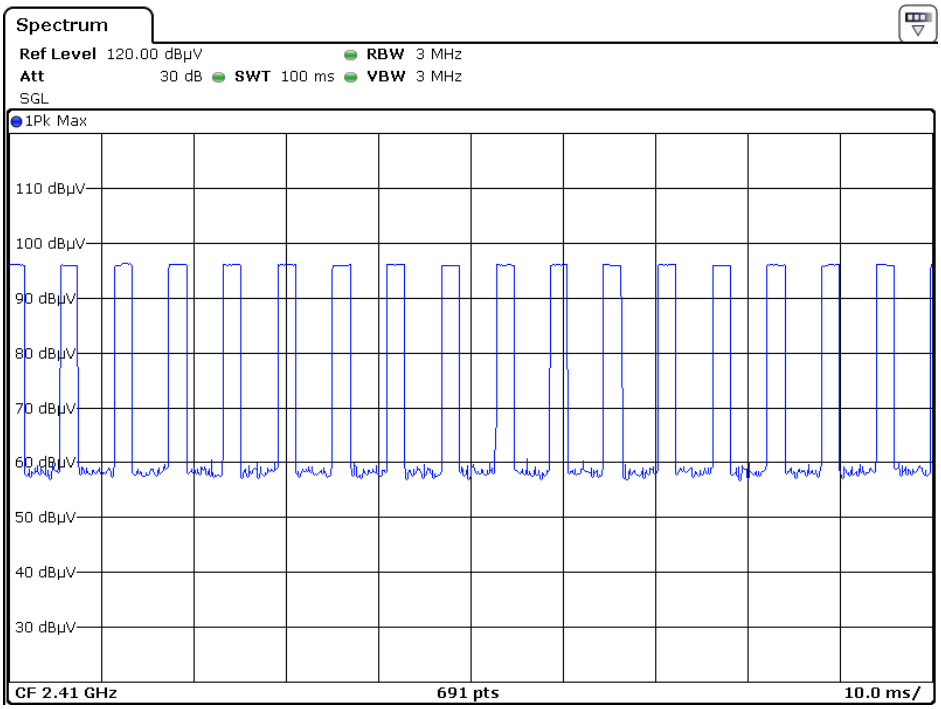
The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation. The duty cycle is measured by placing the spectrum analyzer in zero scan (receiver mode) and linear mode at maximum bandwidth (3 MHz at 3 dB down) and viewing the resulting time domain signal output from the analyzer on a Tektronix oscilloscope. The oscilloscope is used because of its superior time base and triggering facilities.

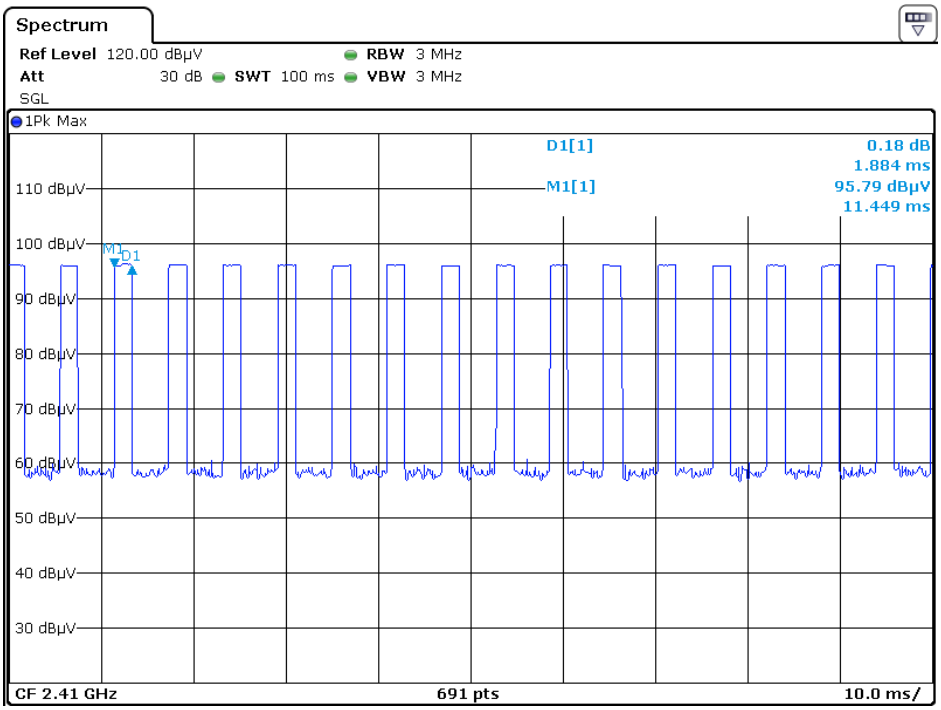
The duty cycle is simply the on-time divided by the period:

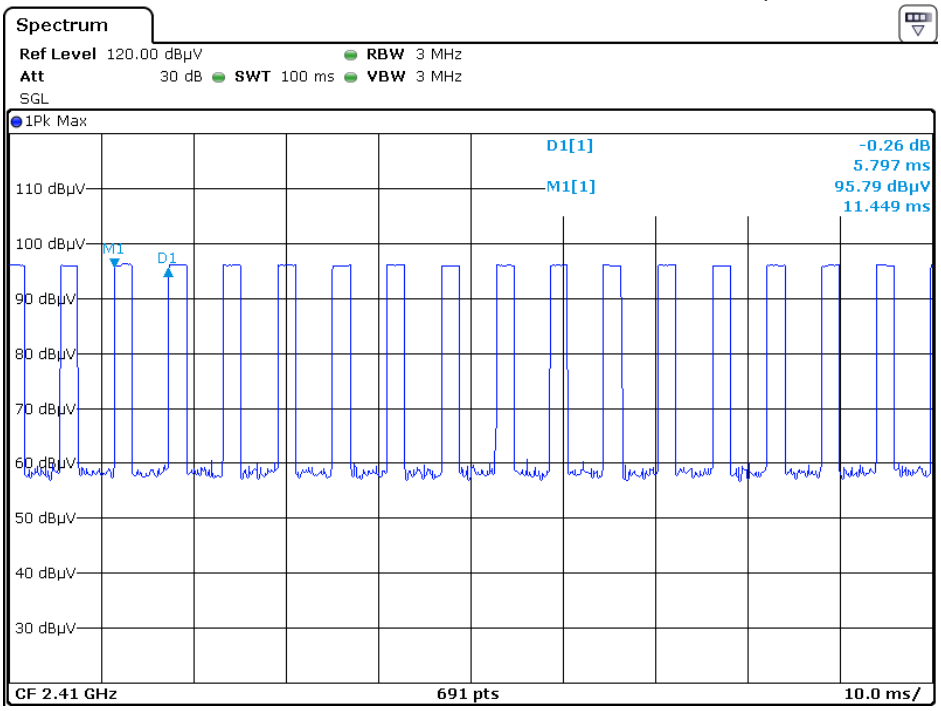
The duration of one cycle = 5.797ms
Effective period of the cycle = 1.884ms
DC =1.884ms / 5.797ms =0.3250 or 32.50%

Therefore, the averaging factor is found by $20 \log_{10}$ (0.3250) = -9.8dB

The test plots are attached as below.


Spectrum
Ref Level 120.00 dBµV
RBW 3 MHz
Att 30 dB SWT 100 ms VBW 3 MHz
SGL
1Pk Max
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
CF 2.41 GHz
691 pts
10.0 ms/


Spectrum
Ref Level 120.00 dBµV
RBW 3 MHz
Att 30 dB SWT 100 ms VBW 3 MHz
SGL
1Pk Max
D1[1] 0.18 dB
1.884 ms
M1[1] 95.79 dBµV
11.449 ms
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
M1
D1
CF 2.41 GHz
691 pts
10.0 ms/


Spectrum
Ref Level 120.00 dBµV
RBW 3 MHz
Att 30 dB SWT 100 ms VBW 3 MHz
SGL
1Pk Max
D1[1]
-0.26 dB
5.797 ms
M1[1]
95.79 dBµV
11.449 ms
110 dBµV
100 dBµV
90 dBµV
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
M1
D1
CF 2.41 GHz
691 pts
10.0 ms/

9.5 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services in the measurements of transmitters operating under Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.10 - 2013.

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter and approximately 0.8 meter up to 1GHz and 1.5 meter above 1GHz in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Section 9.4.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.

Detector function for conducted emissions is in QP & AV mode and IFBW setting is 9 kHz from the frequency band 150 kHz to 30MHz.

9.5 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements are made as described in ANSI C63.10 - 2013.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Section 9.3). Above 1000 MHz, a resolution bandwidth of 1 MHz is used, RBW 5MHz used for fundamental emission.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, but those measurements taken at a closer distance are so marked.

10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-13	BiConiLog Antenna	ETS	3142E	00217919	10-Jun-2019	10-Jun-2021
SZ185-01	EMI Receiver	R&S	ESCI	100547	24-Dec-2019	24-Dec-2020
SZ061-08	Horn Antenna	ETS	3115	00092346	07-Sep-2019	07-Sep-2021
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	24-May-2019	24-May-2021
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	27-May-2020	27-May-2021
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	27-May-2020	27-May-2021
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	27-May-2020	27-May-2021
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	15-Dec-2018	15-Dec-2021
SZ062-02	RF Cable	RADIALL	RG 213U	--	12-Jun-2020	12-Dec-2020
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	24-Aug -2020	24-Feb-2021
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	24-Aug -2020	24-Feb-2021
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	27-May-2020	27-May-2021
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	29-Oct-2019 27-Oct-2020	29-Oct-2020 27-Oct-2021
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	29-Oct-2019 27-Oct-2020	29-Oct-2020 27-Oct-2021
SZ187-02	Two-Line V-Network	R&S	ENV216	100072	27-May-2020	27-May-2021
SZ062-16	RF Cable	HUBER+SUHNER	CBL2-BN-1m	110127-2231000	29-Oct-2019 27-Oct-2020	29-Oct-2020 27-Oct-2021
SZ188-03	Shielding Room	ETS	RFD-100	4100	07-Jan-2020	07-Jan-2023

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