



Spectrum Research & Testing Lab., Inc.

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
Page: 1 of 216
Date: Dec. 22, 2015

Product Name: MobileLite WIRELESS G3
Model No.: MLWG3, MLWG3/64
Applicant: Kingston Digital, Inc.
17600 Newhope Street Fountain Valley, CA 92708, U.S.A
Date of Receipt: Oct. 21, 2015
Finished date of Test: Dec. 22, 2015
Applicable Standards: 47 CFR Part 15, Subpart C, 15.247
ANSI C63.4: 2003
FCC publication KDB 558074 D01 v03r03 Measurement on Digital Transmission Systems (DTS) Operating under Section 15.247 June 9, 2015

We, **Spectrum Research & Testing Laboratory Inc.**, hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

Tested By : Richard Lin , Date: 12/22/2015
(Richard Lin)

Approved By : [Signature] , Date: 12/22/2015
(Johnson Ho, Director)





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Revisions History

Report No.	Issue Date	Revisions
FCCA15102101	Dec. 22, 2015	Initial issue



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1. DOCUMENT POLICY AND TEST STATEMENT

1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.

1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- DC power source, DC 3.6V, 3.7V of charge battery or DC 5.0V from PC USB Port, was used during the test.

1.3 EUT MODIFICATION

- No modification in SRT Lab.



2. DESCRIPTION OF EUT AND TEST MODE

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	MobileLite WIRELESS G3
MODEL NO.	MLWG3, MLWG3/64
POWER SUPPLY	DC power source, DC 3.6V, 3.7V of charge battery or DC 5.0V from PC USB Port
CABLE	0.5m unshielded
FREQUENCY BAND	2.4 GHz ~ 2.4835 GHz
CARRIER FREQUENCY	2.412 GHz ~ 2.462 GHz
NUMBER OF CHANNEL	2.4 G band_802.11b/g/n - HT20 : 11 ch 2.4 G band_802.11n - HT40 : 7 ch
RATED RF OUTPUT POWER	2.4G band (MLWG3) 802.11b : 8.51 dBm (7.10 mW) 802.11g : 4.73 dBm (2.97 mW) 802.11n - HT20 : 4.41 dBm (2.76 mW) 802.11n - HT40 : 0.89 dBm (1.23 mW) 2.4G band (MLWG3/64) 802.11b : 9.46 dBm (8.83 mW) 802.11g : 5.80 dBm (3.80 mW) 802.11n - HT20 : 5.16 dBm (3.28 mW) 802.11n - HT40 : 0.63 dBm (1.16 mW)
MODULATION TYPE	IEEE802.11b DSSS(BPSK/QPSK/CCK) IEEE802.11g OFDM(BPSK/16-QAM/64-QAM) IEEE802.11n SISO-OFDM(BPSK/QPSK/16-QAM/64-QAM)
MODE OF OPERATION	Duplex
BIT RATE OF TRANSMISSION	2.4G band 802.11b : 1, 2, 5.5, 11 Mbps 802.11g : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n - HT20 : MCS0 ~ MCS7 (Max. 72.2 Mbps) 802.11n - HT40 : MCS0 ~ MCS9 (Max. 150 Mbps)
ANTENNA TYPE	Printed Antenna
ANTENNA GAIN	2.4G : 3.07 dBi (ANT#1)
OPERATING TEMPERATURE	-20 ~ 55°C



RANGE

NOTE:

For more detailed information, please refer to the EUT's specification or user's manual provided by manufacturer.

2.2 DESCRIPTION OF EUT INTERNAL DEVICE

DEVICE	BRAND / MAKER	MODEL #	FCC ID / DOC	REMARK
Micro USB Cable (white)	N/A	N/A	N/A	0.5m unshielded power cable
Micro USB Cable (black)	N/A	N/A	N/A	0.5m unshielded power cable
Lithium-ion Battery	WTE	WRTE-275A	N/A	DC 3.6V, 6700mAh
Lithium-ion Battery	WTE	WRTE-328	N/A	DC 3.7V, 5400mAh

2.3 DESCRIPTION OF TEST MODE

There are test modes for each test configuration as below:

#1_MLWG3 :

	Mode	Channel	Frequency (MHz)
#1_01	802.11b	CH01	2412
#1_02		CH06	2437
#1_03		CH11	2462
#1_04	802.11g	CH01	2412
#1_05		CH06	2437
#1_06		CH11	2462
#1_07	802.11n - HT20	CH01	2412
#1_08		CH06	2437
#1_09		CH11	2462
#1_10	802.11n - HT40	CH03	2422
#1_11		CH06	2437
#1_12		CH09	2452

NOTE:

- Below 1 GHz were pre-tested in chamber and chosen the worst case for conducted and radiated emission test.
- Above 1 GHz were tested individually.
- The axis X,Y and Z we evaluate in chamber, the X axis is worst case.

X axis:

Y axis:

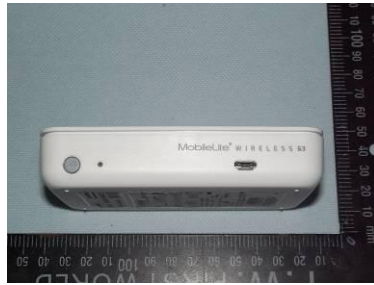
Z axis:



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#2_MLWG3/64 :

Mode		Channel	Frequency (MHz)
#2_01	802.11b	CH01	2412
#2_02		CH06	2437
#2_03		CH11	2462
#2_04	802.11g	CH01	2412
#2_05		CH06	2437
#2_06		CH11	2462
#2_07	802.11n - HT20	CH01	2412
#2_08		CH06	2437
#2_09		CH11	2462
#2_10	802.11n - HT40	CH03	2422
#2_11		CH06	2437
#2_12		CH09	2452

NOTE:

1. Below 1 GHz were pre-tested in chamber and chosen the worst case for conducted and radiated emission test.
2. Above 1 GHz were tested individually.
3. The axis X,Y and Z we evaluate in chamber, the X axis is worst case.

MLWG3/64 :

X axis:



Y axis:



Z axis:





2.4 EUT OPERATING CONDITION

1. Setup the EUT and all peripheral devices .
2. Turn on the power of all equipment and EUT.
3. Based on customer provided continuous program & Program instructions.
4. Set the EUT under continuous transmission mode.

2.5 DESCRIPTION OF SUPPORT UNIT

The EUT was configured by the requirement of ANSI C63.4:2003. All interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

NO	DEVICE	BRAND	MODEL #	FCC ID/DOC	CABLE
1	PC	ACER	Aspire SA85	D33142	1.5m unshielded power cable.
2	LCD Monitor	DELL	U2412Mb	R43002	1.8m unshielded power cable. 1.5m shielded data cable.
3	Keyboard	WinTEK	WM530	T3A024	1.8m unshielded data cable.
4	Mouse	WinTEK	WSS30	T3A024	1.5m unshielded data cable.
5	Printer	HP	C8991A	R33001	1.5m unshielded power cable. 1.5m shielded data cable.
6	USB 2.0 HDD	TERASYS	F12-U	4912A002	1.5m unshielded power cable.
7	USB Storage	Kingston	N/A	N/A	8G
8	SD Card	SanDisk	N/A	N/A	4G

NOTE: For the actual test configuration, please refer to the photos of testing.

2.6 CHANNEL AND FREQUENCY TABLE

2.4G_802.11a/b/n - HT20			
Channel	Frequency	Channel	Frequency
CH01	2412 MHz	CH07	2442 MHz
CH02	2417 MHz	CH08	2447 MHz
CH03	2422 MHz	CH09	2452 MHz
CH04	2427 MHz	CH10	2457 MHz
CH05	2432 MHz	CH11	2462 MHz
CH06	2437 MHz	--	--

2.4G_802.11n - HT40			
Channel	Frequency	Channel	Frequency
CH03	2422 MHz	CH07	2442 MHz
CH04	2427 MHz	CH08	2447 MHz
CH05	2432 MHz	CH09	2452 MHz
CH06	2437 MHz	--	--



2.7 DESCRIPTION OF MODEL DIFFERENCE

Project	Model	MLWG3	MLWG3/64
RF Module		○	○
Lay out		○	○
Antenna		○	○
I/O Port		○	○
Software		○	○
Battery		× DC 3.7V, 5400mAh	× DC 3.6V, 6700mAh
Memory		N/A	64GB
Main Board		○	○
Packing		○	○
Micro USB Cable		× white	× black
Color		× white	× black

NOTE : ○ is same , × is different

3. DESCRIPTION OF APPLIED STANDARDS

The EUT is a wireless product. According to the specifications provided by the applicant, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C, 15.247

ANSI C63.4: 2003

FCC publication KDB 558074 D01 v03r03 Measurement on Digital Transmission Systems (DTS) Operating under Section 15.247 June 9, 2015

All tests have been performed and recorded as the above standards.

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3.1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION	TEST TYPE AND LIMIT RESULTS	RESULTS
15.203 15.247(c)(1)(i)	Antenna requirement	PASS
15.207	AC Power Line Conducted Emission	PASS
15.247(a)(2)	6 dB Bandwidth	PASS
15.247(b)	Maximum Peak Conducted Output Power	PASS
15.247(d)	Band Edge Measurement:	PASS
15.247(d)	Transmitter Radiated Emissions Limit: Table 15.209	PASS
15.247(e)	Power Density: Limit: 8dBm/3kHz	PASS



4. TECHNICAL CHARACTERISTICS TEST

4.1 CONDUCTED EMISSION TEST

4.1.1 LIMIT

Frequency (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST EQUIPMENT

The following test equipment was used for the test:

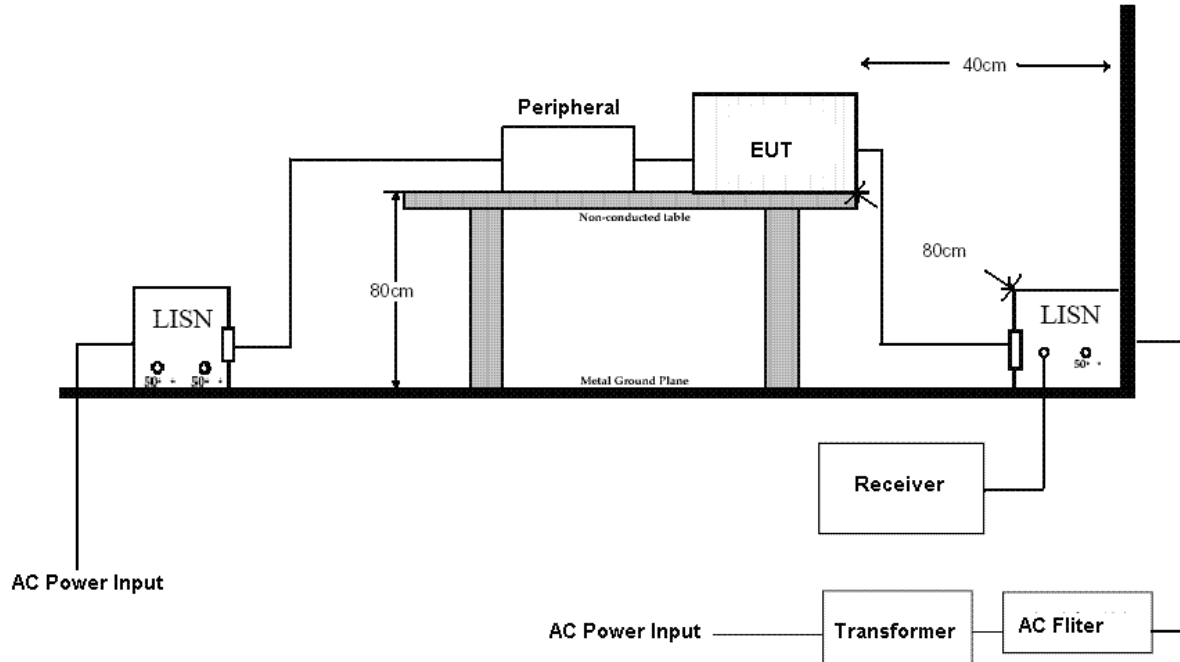
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	JAN. 11, 2016 ETC
EMI TEST RECEIVER	9 kHz ~ 30 MHz	ROHDE & SCHWARZ	ESHS30 / 826003/008	JAN. 16, 2016 ETC
LISN	50 μ H, 50 ohm	FCC	FCC-LISN-50-25-2 / 01017	MAY. 27, 2016 ETC
LISN	50 μ H, 50 ohm	SOLAR	9252-50-R-24-BNC/ 951315	NOV. 05, 2016 ETC
LISN	50 μ H, 50 ohm	EMCO	3825/2/ 9204-1952	MAY 26, 2016 ETC
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	11593A/ L1TEQU005	NOV. 22, 2016 ETC
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	B00-CD-357/ L1TEQU009	MAY. 28, 2016 ETC
COAXIAL CABLE	5 m	HUBER+SUHNER	RG214/U / #5M(L1TCAB013)	MAY. 10, 2016 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 771	NCR
GROUND PLANE	2 m (H) x 3 m (W)	SRT	N/A	NCR
GROUND PLANE	2.5 m (H) x 3 m (W)	SRT	N/A	NCR
THERMO-HYGR O	15 - 40 $^{\circ}$ C, 0- 100% RH	TOP	20-A / 6644	SEP. 23, 2016 ETC

NOTE:

The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



4.1.3 TEST SETUP



NOTE :

1. The EUT was put on a wooden table with 0.8m heights above ground plane, and 0.4m away from reference ground plane (> 2mx2m).
2. For the actual test configuration, please refer to the photos of testing.

4.1.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR22:2003. The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm/50µH as specified. All readings were quasi-peak and average values with 10 kHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. Both lines of the power mains of EUT were measured and the cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.



4.1.5 TEST RESULT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11b_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	36.26	30.14	36.32	30.20	64.21	54.21	-27.89	-24.01
0.189	0.06	39.68	31.69	39.74	31.75	64.08	54.08	-24.34	-22.33
0.879	-0.10	23.47	18.59	23.37	18.49	56.00	46.00	-32.63	-27.51
1.764	-0.08	22.56	16.82	22.48	16.74	56.00	46.00	-33.52	-29.26
14.947	0.27	32.41	28.95	32.68	29.22	60.00	50.00	-27.32	-20.78
17.942	0.35	39.50	38.27	39.85	38.62	60.00	50.00	-20.15	-11.38

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dB μ V)		Emission Level (dB μ V)		Limit (dB μ V)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.14	30.88	38.19	30.93	64.21	54.21	-26.02	-23.28
0.189	0.05	39.62	32.15	39.67	32.20	64.08	54.08	-24.41	-21.88
0.946	-0.09	31.40	25.99	31.31	25.90	56.00	46.00	-24.69	-20.10
1.705	-0.07	28.00	22.72	27.93	22.65	56.00	46.00	-28.07	-23.35
14.947	0.25	35.93	32.24	36.18	32.49	60.00	50.00	-23.82	-17.51
26.910	0.58	40.24	38.82	40.82	39.40	60.00	50.00	-19.18	-10.60

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11b_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	37.53	29.53	37.59	29.59	64.21	54.21	-26.62	-24.62
0.189	0.06	39.22	31.30	39.28	31.36	64.08	54.08	-24.80	-22.72
0.884	-0.10	25.30	19.33	25.20	19.23	56.00	46.00	-30.80	-26.77
1.378	-0.09	24.92	16.21	24.83	16.12	56.00	46.00	-31.17	-29.88
14.612	0.26	28.00	18.50	28.26	18.76	60.00	50.00	-31.74	-31.24
17.942	0.35	39.71	38.50	40.06	38.85	60.00	50.00	-19.94	-11.15

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.57	30.82	38.62	30.87	64.21	54.21	-25.59	-23.34
0.189	0.05	40.19	32.21	40.24	32.26	64.08	54.08	-23.84	-21.82
0.946	-0.09	26.94	21.80	26.85	21.71	56.00	46.00	-29.15	-24.29
14.825	0.25	29.69	19.57	29.94	19.82	60.00	50.00	-30.06	-30.18
14.977	0.25	30.24	19.33	30.49	19.58	60.00	50.00	-29.51	-30.42
17.942	0.32	39.44	38.19	39.76	38.51	60.00	50.00	-20.24	-11.49

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11b_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	37.35	29.51	37.41	29.57	64.21	54.21	-26.80	-24.64
0.189	0.06	39.20	31.23	39.26	31.29	64.08	54.08	-24.82	-22.79
0.946	-0.11	26.82	19.77	26.71	19.66	56.00	46.00	-29.29	-26.34
1.418	-0.09	27.29	22.20	27.20	22.11	56.00	46.00	-28.80	-23.89
14.947	0.27	33.20	28.28	33.47	28.55	60.00	50.00	-26.53	-21.45
17.942	0.35	39.16	37.91	39.51	38.26	60.00	50.00	-20.49	-11.74

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.47	30.87	38.52	30.92	64.21	54.21	-25.69	-23.29
0.189	0.05	40.15	32.45	40.20	32.50	64.08	54.08	-23.88	-21.58
0.946	-0.09	27.34	22.00	27.25	21.91	56.00	46.00	-28.75	-24.09
14.805	0.25	29.60	19.47	29.85	19.72	60.00	50.00	-30.15	-30.28
14.906	0.25	30.19	18.79	30.44	19.04	60.00	50.00	-29.56	-30.96
17.942	0.32	39.42	38.19	39.74	38.51	60.00	50.00	-20.26	-11.49

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11g_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	37.63	29.57	37.69	29.63	64.21	54.21	-26.52	-24.58
0.189	0.06	39.26	31.37	39.32	31.43	64.08	54.08	-24.76	-22.65
0.946	-0.11	27.10	19.94	26.99	19.83	56.00	46.00	-29.01	-26.17
1.418	-0.09	28.04	22.77	27.95	22.68	56.00	46.00	-28.05	-23.32
14.947	0.27	33.40	28.22	33.67	28.49	60.00	50.00	-26.33	-21.51
17.942	0.35	39.28	38.10	39.63	38.45	60.00	50.00	-20.37	-11.55

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.61	31.40	38.66	31.45	64.21	54.21	-25.55	-22.76
0.189	0.05	40.21	32.98	40.26	33.03	64.08	54.08	-23.82	-21.05
0.946	-0.09	27.30	22.14	27.21	22.05	56.00	46.00	-28.79	-23.95
4.982	0.01	23.94	19.11	23.95	19.12	56.00	46.00	-32.05	-26.88
14.947	0.25	31.54	28.09	31.79	28.34	60.00	50.00	-28.21	-21.66
17.942	0.32	39.26	38.05	39.58	38.37	60.00	50.00	-20.42	-11.63

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11g_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	37.19	31.20	37.25	31.26	64.21	54.21	-26.96	-22.95
0.189	0.06	38.87	33.02	38.93	33.08	64.08	54.08	-25.15	-21.00
0.994	-0.11	25.74	19.68	25.63	19.57	56.00	46.00	-30.37	-26.43
1.418	-0.09	27.82	22.65	27.73	22.56	56.00	46.00	-28.27	-23.44
14.947	0.27	31.24	27.81	31.51	28.08	60.00	50.00	-28.49	-21.92
17.942	0.35	38.91	37.72	39.26	38.07	60.00	50.00	-20.74	-11.93

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.53	32.32	38.58	32.37	64.21	54.21	-25.63	-21.84
0.189	0.05	40.27	33.88	40.32	33.93	64.08	54.08	-23.76	-20.15
0.692	-0.08	26.65	21.33	26.57	21.25	56.00	46.00	-29.43	-24.75
2.962	-0.04	23.79	17.65	23.75	17.61	56.00	46.00	-32.25	-28.39
14.947	0.25	31.59	28.12	31.84	28.37	60.00	50.00	-28.16	-21.63
17.942	0.32	39.18	37.97	39.50	38.29	60.00	50.00	-20.50	-11.71

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11g_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.28	33.11	38.34	33.17	64.21	54.21	-25.87	-21.04
0.189	0.06	39.83	34.85	39.89	34.91	64.08	54.08	-24.19	-19.17
0.946	-0.11	28.96	22.00	28.85	21.89	56.00	46.00	-27.15	-24.11
1.418	-0.09	29.91	24.80	29.82	24.71	56.00	46.00	-26.18	-21.29
14.947	0.27	31.85	28.27	32.12	28.54	60.00	50.00	-27.88	-21.46
17.942	0.35	38.87	37.62	39.22	37.97	60.00	50.00	-20.78	-12.03

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.79	30.92	38.84	30.97	64.21	54.21	-25.37	-23.24
0.189	0.05	40.36	32.35	40.41	32.40	64.08	54.08	-23.67	-21.68
0.884	-0.09	25.89	20.59	25.80	20.50	56.00	46.00	-30.20	-25.50
2.962	-0.04	23.28	17.40	23.24	17.36	56.00	46.00	-32.76	-28.64
14.947	0.25	31.52	28.07	31.77	28.32	60.00	50.00	-28.23	-21.68
17.942	0.32	39.38	38.19	39.70	38.51	60.00	50.00	-20.30	-11.49

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	41.86	36.19	41.92	36.25	64.21	54.21	-22.29	-17.96
0.189	0.06	43.71	37.92	43.77	37.98	64.08	54.08	-20.31	-16.10
0.946	-0.11	29.49	23.03	29.38	22.92	56.00	46.00	-26.62	-23.08
1.418	-0.09	29.71	24.53	29.62	24.44	56.00	46.00	-26.38	-21.56
14.947	0.27	32.23	28.89	32.50	29.16	60.00	50.00	-27.50	-20.84
17.942	0.35	38.69	37.44	39.04	37.79	60.00	50.00	-20.96	-12.21

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.47	30.87	38.52	30.92	64.21	54.21	-25.69	-23.29
0.189	0.05	40.15	32.33	40.20	32.38	64.08	54.08	-23.88	-21.70
0.884	-0.09	25.89	20.55	25.80	20.46	56.00	46.00	-30.20	-25.54
4.794	0.01	23.18	18.41	23.19	18.42	56.00	46.00	-32.81	-27.58
14.947	0.25	31.54	28.00	31.79	28.25	60.00	50.00	-28.21	-21.75
17.942	0.32	39.38	38.13	39.70	38.45	60.00	50.00	-20.30	-11.55

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.12	30.14	38.18	30.20	64.21	54.21	-26.03	-24.01
0.189	0.06	39.66	31.73	39.72	31.79	64.08	54.08	-24.36	-22.29
0.884	-0.10	24.40	19.01	24.30	18.91	56.00	46.00	-31.70	-27.09
4.982	0.01	23.52	18.65	23.53	18.66	56.00	46.00	-32.47	-27.34
14.947	0.27	31.48	28.08	31.75	28.35	60.00	50.00	-28.25	-21.65
17.942	0.35	39.67	38.50	40.02	38.85	60.00	50.00	-19.98	-11.15

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.40	30.92	38.45	30.97	64.21	54.21	-25.76	-23.24
0.189	0.05	40.09	32.34	40.14	32.39	64.08	54.08	-23.94	-21.69
0.692	-0.08	26.38	21.15	26.30	21.07	56.00	46.00	-29.70	-24.93
2.962	-0.04	23.49	17.42	23.45	17.38	56.00	46.00	-32.55	-28.62
14.947	0.25	31.48	27.99	31.73	28.24	60.00	50.00	-28.27	-21.76
17.942	0.32	39.48	38.28	39.80	38.60	60.00	50.00	-20.20	-11.40

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.16	30.25	38.22	30.31	64.21	54.21	-25.99	-23.90
0.189	0.06	39.81	31.85	39.87	31.91	64.08	54.08	-24.21	-22.17
0.567	-0.09	26.01	21.10	25.92	21.01	56.00	46.00	-30.08	-24.99
4.982	0.01	23.52	18.51	23.53	18.52	56.00	46.00	-32.47	-27.48
14.947	0.27	31.57	28.09	31.84	28.36	60.00	50.00	-28.16	-21.64
17.942	0.35	39.67	38.46	40.02	38.81	60.00	50.00	-19.98	-11.19

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.10	31.64	38.15	31.69	64.21	54.21	-26.06	-22.52
0.189	0.05	39.66	33.51	39.71	33.56	64.08	54.08	-24.37	-20.52
0.946	-0.09	28.84	23.08	28.75	22.99	56.00	46.00	-27.25	-23.01
1.705	-0.07	24.92	19.47	24.85	19.40	56.00	46.00	-31.15	-26.60
14.947	0.25	31.87	28.49	32.12	28.74	60.00	50.00	-27.88	-21.26
17.942	0.32	39.10	37.87	39.42	38.19	60.00	50.00	-20.58	-11.81

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH03
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.77	32.17	39.83	32.23	64.08	54.08	-24.25	-21.85
0.210	-0.02	39.10	36.73	39.08	36.71	63.21	53.21	-24.13	-16.50
0.927	-0.11	30.22	20.98	30.11	20.87	56.00	46.00	-25.89	-25.13
1.408	-0.09	32.06	23.21	31.97	23.12	56.00	46.00	-24.03	-22.88
1.418	-0.09	34.38	29.45	34.29	29.36	56.00	46.00	-21.71	-16.64
17.942	0.35	39.77	38.59	40.12	38.94	60.00	50.00	-19.88	-11.06

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.65	31.00	38.70	31.05	64.21	54.21	-25.51	-23.16
0.189	0.05	40.34	32.41	40.39	32.46	64.08	54.08	-23.69	-21.62
0.692	-0.08	26.50	21.15	26.42	21.07	56.00	46.00	-29.58	-24.93
1.764	-0.07	23.13	17.68	23.06	17.61	56.00	46.00	-32.94	-28.39
14.947	0.25	31.36	27.98	31.61	28.23	60.00	50.00	-28.39	-21.77
17.942	0.32	39.89	38.72	40.21	39.04	60.00	50.00	-19.79	-10.96

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.08	29.84	38.14	29.90	64.21	54.21	-26.07	-24.31
0.189	0.06	39.60	31.63	39.66	31.69	64.08	54.08	-24.42	-22.39
0.946	-0.11	26.52	19.69	26.41	19.58	56.00	46.00	-29.59	-26.42
1.418	-0.09	25.47	20.16	25.38	20.07	56.00	46.00	-30.62	-25.93
14.947	0.27	31.48	27.99	31.75	28.26	60.00	50.00	-28.25	-21.74
17.942	0.35	40.03	38.81	40.38	39.16	60.00	50.00	-19.62	-10.84

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.81	31.25	38.86	31.30	64.21	54.21	-25.35	-22.91
0.189	0.05	40.46	32.67	40.51	32.72	64.08	54.08	-23.57	-21.36
0.946	-0.09	26.94	21.91	26.85	21.82	56.00	46.00	-29.15	-24.18
4.794	0.01	22.98	17.98	22.99	17.99	56.00	46.00	-33.01	-28.01
14.947	0.25	31.36	27.97	31.61	28.22	60.00	50.00	-28.39	-21.78
17.942	0.32	39.99	38.71	40.31	39.03	60.00	50.00	-19.69	-10.97

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH09
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.210	-0.02	42.40	39.80	42.38	39.78	63.21	53.21	-20.83	-13.43
0.213	-0.02	40.94	37.96	40.92	37.94	63.09	53.09	-22.17	-15.15
1.162	-0.10	33.51	20.09	33.41	19.99	56.00	46.00	-22.59	-26.01
1.388	-0.09	35.39	25.30	35.30	25.21	56.00	46.00	-20.70	-20.79
1.418	-0.09	37.01	31.84	36.92	31.75	56.00	46.00	-19.08	-14.25
17.942	0.35	39.99	38.81	40.34	39.16	60.00	50.00	-19.66	-10.84

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.71	31.17	38.76	31.22	64.21	54.21	-25.45	-22.99
0.189	0.05	40.44	32.67	40.49	32.72	64.08	54.08	-23.59	-21.36
0.692	-0.08	26.42	20.95	26.34	20.87	56.00	46.00	-29.66	-25.13
1.200	-0.08	23.56	17.91	23.48	17.83	56.00	46.00	-32.52	-28.17
4.912	0.01	22.42	16.18	22.43	16.19	56.00	46.00	-33.57	-29.81
17.942	0.32	40.09	38.90	40.41	39.22	60.00	50.00	-19.59	-10.78

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.68	31.39	39.74	31.45	64.08	54.08	-24.34	-22.63
4.615	0.00	32.60	27.77	32.60	27.77	56.00	46.00	-23.40	-18.23
4.853	0.00	30.65	26.02	30.65	26.02	56.00	46.00	-25.35	-19.98
13.140	0.22	46.18	41.64	46.40	41.86	60.00	50.00	-13.60	-8.14
13.729	0.24	47.18	42.54	47.42	42.78	60.00	50.00	-12.58	-7.22
15.502	0.29	42.19	36.95	42.48	37.24	60.00	50.00	-17.52	-12.76

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.36	31.95	40.41	32.00	64.08	54.08	-23.67	-22.08
3.665	-0.02	31.05	25.76	31.03	25.74	56.00	46.00	-24.97	-20.26
4.615	0.01	32.74	27.95	32.75	27.96	56.00	46.00	-23.25	-18.04
13.729	0.22	47.16	42.49	47.38	42.71	60.00	50.00	-12.62	-7.29
14.318	0.24	46.15	41.08	46.39	41.32	60.00	50.00	-13.61	-8.68
15.379	0.26	42.33	36.60	42.59	36.86	60.00	50.00	-17.41	-13.14

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.46	31.20	39.52	31.26	64.08	54.08	-24.56	-22.82
3.546	-0.03	29.75	24.45	29.72	24.42	56.00	46.00	-26.28	-21.58
4.615	0.00	32.44	27.66	32.44	27.66	56.00	46.00	-23.56	-18.34
13.140	0.22	46.34	41.70	46.56	41.92	60.00	50.00	-13.44	-8.08
13.729	0.24	47.20	42.57	47.44	42.81	60.00	50.00	-12.56	-7.19
15.379	0.28	42.33	36.61	42.61	36.89	60.00	50.00	-17.39	-13.11

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.21	33.27	40.26	33.32	64.08	54.08	-23.82	-20.76
4.615	0.01	32.70	28.11	32.71	28.12	56.00	46.00	-23.29	-17.88
4.734	0.01	32.01	28.59	32.02	28.60	56.00	46.00	-23.98	-17.40
13.140	0.20	46.10	41.51	46.30	41.71	60.00	50.00	-13.70	-8.29
13.729	0.22	47.06	42.43	47.28	42.65	60.00	50.00	-12.72	-7.35
15.389	0.26	43.62	38.66	43.88	38.92	60.00	50.00	-16.12	-11.08

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	CCK
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.62	31.32	39.68	31.38	64.08	54.08	-24.40	-22.70
3.665	-0.03	31.03	25.75	31.00	25.72	56.00	46.00	-25.00	-20.28
4.615	0.00	32.36	27.71	32.36	27.71	56.00	46.00	-23.64	-18.29
13.729	0.24	46.96	42.31	47.20	42.55	60.00	50.00	-12.80	-7.45
14.318	0.25	45.97	40.96	46.22	41.21	60.00	50.00	-13.78	-8.79
15.389	0.28	43.52	38.56	43.80	38.84	60.00	50.00	-16.20	-11.16

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.25	32.02	40.30	32.07	64.08	54.08	-23.78	-22.01
4.615	0.01	32.40	27.84	32.41	27.85	56.00	46.00	-23.59	-18.15
4.734	0.01	31.89	28.37	31.90	28.38	56.00	46.00	-24.10	-17.62
13.140	0.20	45.92	41.29	46.12	41.49	60.00	50.00	-13.88	-8.51
13.729	0.22	46.92	42.28	47.14	42.50	60.00	50.00	-12.86	-7.50
15.379	0.26	42.21	36.50	42.47	36.76	60.00	50.00	-17.53	-13.24

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.73	31.40	39.79	31.46	64.08	54.08	-24.29	-22.62
4.259	-0.01	30.61	26.96	30.60	26.95	56.00	46.00	-25.40	-19.05
4.734	0.00	31.95	28.32	31.95	28.32	56.00	46.00	-24.05	-17.68
13.140	0.22	46.42	41.70	46.64	41.92	60.00	50.00	-13.36	-8.08
13.729	0.24	47.26	42.54	47.50	42.78	60.00	50.00	-12.50	-7.22
15.389	0.28	43.56	38.63	43.84	38.91	60.00	50.00	-16.16	-11.09

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.27	31.90	40.32	31.95	64.08	54.08	-23.76	-22.13
3.675	-0.02	30.66	25.17	30.64	25.15	56.00	46.00	-25.36	-20.85
4.853	0.01	30.96	26.20	30.97	26.21	56.00	46.00	-25.03	-19.79
13.729	0.22	47.28	42.56	47.50	42.78	60.00	50.00	-12.50	-7.22
14.318	0.24	46.23	41.14	46.47	41.38	60.00	50.00	-13.53	-8.62
15.379	0.26	42.35	36.31	42.61	36.57	60.00	50.00	-17.39	-13.43

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.77	31.43	39.83	31.49	64.08	54.08	-24.25	-22.59
3.675	-0.03	30.80	25.25	30.77	25.22	56.00	46.00	-25.23	-20.78
4.734	0.00	33.32	28.72	33.32	28.72	56.00	46.00	-22.68	-17.28
13.140	0.22	46.81	42.15	47.03	42.37	60.00	50.00	-12.97	-7.63
13.729	0.24	47.60	42.91	47.84	43.15	60.00	50.00	-12.16	-6.85
15.379	0.28	42.65	36.88	42.93	37.16	60.00	50.00	-17.07	-12.84

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.46	32.09	40.51	32.14	64.08	54.08	-23.57	-21.94
4.259	0.00	30.81	27.15	30.81	27.15	56.00	46.00	-25.19	-18.85
4.734	0.01	33.02	28.69	33.03	28.70	56.00	46.00	-22.97	-17.30
13.252	0.21	45.76	40.68	45.97	40.89	60.00	50.00	-14.03	-9.11
13.729	0.22	47.26	42.58	47.48	42.80	60.00	50.00	-12.52	-7.20
15.389	0.26	43.62	38.70	43.88	38.96	60.00	50.00	-16.12	-11.04

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.06	39.46	31.16	39.52	31.22	64.08	54.08	-24.56	-22.86
4.615	0.00	32.08	27.44	32.08	27.44	56.00	46.00	-23.92	-18.56
4.734	0.00	31.69	28.07	31.69	28.07	56.00	46.00	-24.31	-17.93
13.140	0.22	46.14	41.48	46.36	41.70	60.00	50.00	-13.64	-8.30
13.729	0.24	47.02	42.40	47.26	42.64	60.00	50.00	-12.74	-7.36
15.389	0.28	43.58	38.62	43.86	38.90	60.00	50.00	-16.14	-11.10

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	40.38	32.01	40.43	32.06	64.08	54.08	-23.65	-22.02
4.259	0.00	30.79	27.04	30.79	27.04	56.00	46.00	-25.21	-18.96
4.615	0.01	32.26	27.82	32.27	27.83	56.00	46.00	-23.73	-18.17
13.729	0.22	47.46	42.83	47.68	43.05	60.00	50.00	-12.32	-6.95
14.318	0.24	46.39	41.31	46.63	41.55	60.00	50.00	-13.37	-8.45
15.389	0.26	43.72	38.72	43.98	38.98	60.00	50.00	-16.02	-11.02

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH01
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.153	0.06	45.02	33.69	45.08	33.75	65.84	55.84	-20.76	-22.09
0.156	0.06	49.44	33.28	49.50	33.34	65.68	55.68	-16.18	-22.34
0.822	-0.10	38.71	28.98	38.61	28.88	56.00	46.00	-17.39	-17.12
13.252	0.22	45.48	40.16	45.70	40.38	60.00	50.00	-14.30	-9.62
13.729	0.24	46.82	41.98	47.06	42.22	60.00	50.00	-12.94	-7.78
15.389	0.28	42.57	37.72	42.85	38.00	60.00	50.00	-17.15	-12.00

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.189	0.05	41.19	32.32	41.24	32.37	64.08	54.08	-22.84	-21.71
0.822	-0.09	35.85	25.89	35.76	25.80	56.00	46.00	-20.24	-20.20
4.853	0.01	31.32	27.14	31.33	27.15	56.00	46.00	-24.67	-18.85
13.140	0.20	44.29	39.64	44.49	39.84	60.00	50.00	-15.51	-10.16
13.719	0.22	42.25	36.36	42.47	36.58	60.00	50.00	-17.53	-13.42
15.389	0.26	42.23	37.32	42.49	37.58	60.00	50.00	-17.51	-12.42

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.450	-0.09	33.16	24.83	33.07	24.74	56.88	46.88	-23.81	-22.14
0.501	-0.09	31.97	24.35	31.88	24.26	56.00	46.00	-24.12	-21.74
3.546	-0.03	29.87	25.07	29.84	25.04	56.00	46.00	-26.16	-20.96
13.252	0.22	45.60	40.50	45.82	40.72	60.00	50.00	-14.18	-9.28
13.729	0.24	47.00	42.28	47.24	42.52	60.00	50.00	-12.76	-7.48
15.379	0.28	41.38	35.74	41.66	36.02	60.00	50.00	-18.34	-13.98

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.822	-0.09	33.97	26.44	33.88	26.35	56.00	46.00	-22.12	-19.65
4.615	0.01	31.45	26.39	31.46	26.40	56.00	46.00	-24.54	-19.60
4.853	0.01	31.75	27.49	31.76	27.50	56.00	46.00	-24.24	-18.50
13.729	0.22	45.87	41.22	46.09	41.44	60.00	50.00	-13.91	-8.56
14.318	0.24	44.64	39.49	44.88	39.73	60.00	50.00	-15.12	-10.27
15.389	0.26	42.09	37.19	42.35	37.45	60.00	50.00	-17.65	-12.55

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH11
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.79	31.01	38.85	31.07	64.21	54.21	-25.36	-23.14
0.189	0.06	40.01	32.18	40.07	32.24	64.08	54.08	-24.01	-21.84
0.942	-0.11	24.77	18.73	24.66	18.62	56.00	46.00	-31.34	-27.38
14.379	0.25	40.06	34.33	40.31	34.58	60.00	50.00	-19.69	-15.42
14.927	0.27	40.76	34.66	41.03	34.93	60.00	50.00	-18.97	-15.07
16.045	0.30	41.17	34.80	41.47	35.10	60.00	50.00	-18.53	-14.90

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	39.03	31.39	39.08	31.44	64.21	54.21	-25.13	-22.77
0.189	0.05	40.11	32.47	40.16	32.52	64.08	54.08	-23.92	-21.56
0.754	-0.09	26.73	22.54	26.64	22.45	56.00	46.00	-29.36	-23.55
14.236	0.23	40.27	34.82	40.50	35.05	60.00	50.00	-19.50	-14.95
14.379	0.24	40.22	34.53	40.46	34.77	60.00	50.00	-19.54	-15.23
16.466	0.29	39.65	32.70	39.94	32.99	60.00	50.00	-20.06	-17.01

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH03
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.81	30.92	38.87	30.98	64.21	54.21	-25.34	-23.23
0.189	0.06	39.85	32.17	39.91	32.23	64.08	54.08	-24.17	-21.85
0.505	-0.09	25.44	20.80	25.35	20.71	56.00	46.00	-30.65	-25.29
14.236	0.25	40.05	34.78	40.30	35.03	60.00	50.00	-19.70	-14.97
14.927	0.27	40.76	34.73	41.03	35.00	60.00	50.00	-18.97	-15.00
15.492	0.29	42.07	36.17	42.36	36.46	60.00	50.00	-17.64	-13.54

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.85	31.58	38.90	31.63	64.21	54.21	-25.31	-22.58
0.189	0.05	40.05	32.78	40.10	32.83	64.08	54.08	-23.98	-21.25
0.942	-0.09	26.39	21.24	26.30	21.15	56.00	46.00	-29.70	-24.85
14.379	0.24	40.20	34.51	40.44	34.75	60.00	50.00	-19.56	-15.25
14.896	0.25	40.92	27.77	41.17	28.02	60.00	50.00	-18.83	-21.98
16.045	0.28	41.37	34.90	41.65	35.18	60.00	50.00	-18.35	-14.82

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH06
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	37.75	30.76	37.81	30.82	64.21	54.21	-26.40	-23.39
0.189	0.06	38.81	31.90	38.87	31.96	64.08	54.08	-25.21	-22.12
3.952	-0.02	26.91	23.63	26.89	23.61	56.00	46.00	-29.11	-22.39
14.155	0.25	31.69	28.36	31.94	28.61	60.00	50.00	-28.06	-21.39
14.216	0.25	32.36	28.85	32.61	29.10	60.00	50.00	-27.39	-20.90
17.696	0.34	39.59	35.53	39.93	35.87	60.00	50.00	-20.07	-14.13

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.95	30.85	39.00	30.90	64.21	54.21	-25.21	-23.31
0.189	0.05	39.99	32.11	40.04	32.16	64.08	54.08	-24.04	-21.92
4.408	0.00	28.12	24.08	28.12	24.08	56.00	46.00	-27.88	-21.92
5.233	0.02	32.23	29.76	32.25	29.78	60.00	50.00	-27.75	-20.22
14.703	0.25	32.43	28.58	32.68	28.83	60.00	50.00	-27.32	-21.17
17.696	0.31	39.78	35.78	40.09	36.09	60.00	50.00	-19.91	-13.91

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



TEST REPORT

Temperature:	22 °C	Humidity:	56 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH09
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Oct. 26, 2015

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.06	38.83	30.89	38.89	30.95	64.21	54.21	-25.32	-23.26
0.189	0.06	39.93	31.95	39.99	32.01	64.08	54.08	-24.09	-22.07
3.952	-0.02	27.92	24.49	27.90	24.47	56.00	46.00	-28.10	-21.53
5.233	0.01	31.99	29.62	32.00	29.63	60.00	50.00	-28.00	-20.37
14.216	0.25	33.03	29.33	33.28	29.58	60.00	50.00	-26.72	-20.42
16.230	0.31	40.60	36.63	40.91	36.94	60.00	50.00	-19.09	-13.06

Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.186	0.05	38.95	31.67	39.00	31.72	64.21	54.21	-25.21	-22.49
0.189	0.05	40.07	32.69	40.12	32.74	64.08	54.08	-23.96	-21.34
4.408	0.00	27.63	23.96	27.63	23.96	56.00	46.00	-28.37	-22.04
14.216	0.23	33.39	29.73	33.62	29.96	60.00	50.00	-26.38	-20.04
14.338	0.24	32.26	28.59	32.50	28.83	60.00	50.00	-27.50	-21.17
16.230	0.28	40.72	36.79	41.00	37.07	60.00	50.00	-19.00	-12.93

NOTE :

1. Measurement uncertainty is 2.91 dB
2. Emission level = Reading value + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
4. Margin value = Emission level - Limit
5. The emission of other frequencies was very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

**Spectrum Research & Testing Lab., Inc.**

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Report No.: FCCA15102101
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Date: Dec. 22, 2015**4.2 RADIATED EMISSION TEST****4.2.1 LIMIT**

FCC Part15, Subpart C Section 15.209 limit of radiated emission for frequency below1000MHz. The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FREQUENCY (MHz)	FIELD STRENGTH (microvolts/meter)	DISTANCE (m)	FIELD STRENGTH (dB μ V/m)
0.009 - 0.490	2400/F(kHz)	300	67.6-20log(kHz)
0.490 - 1.705	24000/F(kHz)	30	87.6-20log(kHz)
1.705 - 30	30	30	30
30 - 88	100	3	40.0
88 - 216	150	3	43.5
216 - 960	200	3	46.0
Above 960	500	3	54.0

NOTE:

- 30 dBuV (in 30m) = 70 dBuV (in 3m).
- In the emission tables above , the tighter limit applies at the band edges.
- Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.

FCC Part 15, Section15.35(b) limit of radiated emission for frequency above 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0



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4.2.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

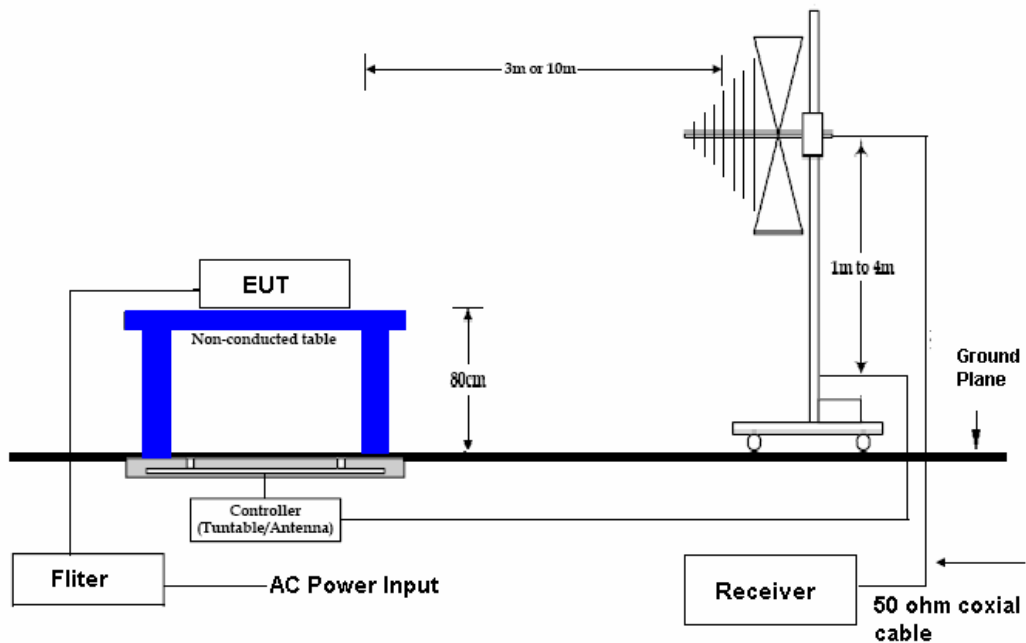
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	JAN. 11, 2016 ETC
EMI TEST RECEIVER	20 MHz ~ 1000 MHz	ROHDE & SCHWARZ	ESVS30 / 841977/003	NOV. 18, 2016 ETC
SPECTRUM ANALYZER	9 kHz ~ 7GHz	ROHDE & SCHWARZ	FSP7 / 100289	JUN. 12, 2016 ETC
SPECTRUM ANALYZER	9 kHz ~ 40GHz	ROHDE & SCHWARZ	FSP40 / 100093	JAN. 24, 2016 ETC
BI-LOG ANTENNA	30 MHz ~ 2 GHz	SCHAFFNER	CBL6141A / 4181	JUN. 15, 2016 ETC
BICONICAL ANTENNA	30 MHz ~ 200 MHz	EMCO	3110/ 11966C	FEB. 15, 2017 ETC
LOG PERIODIC ANTENNA	200 MHz ~ 1 GHz	EMCO	3146/ 9002-2686	JAN. 11, 2017 ETC
HORN ANTENNA	1 GHz ~ 18 GHz	EMCO	3115/ 9602-4681	JAN. 17, 2016 ETC
HORN ANTENNA	18 ~ 40 GHz	ETS-LINDGREN	3116 /00032255	JAN. 06, 2016
PRE-AMPLIFIER	1 GHz ~ 26.5 GHz	AGILENT	8449B/ 3008A01995	JAN. 23, 2016 ETC
OPEN AREA TEST SITE	3 – 10 M MEASUREMENT	SRT	A02 / SRT002	MAR. 06, 2016 SRT
ANECHOIC CHAMBER	3 M MEASUREMENT	SRT	A01 / SRT001	NOV. 20, 2016 SRT
COAXIAL CABLE	30 M	TIMES	LMR-400 / #30M(L1TCAB014)	MAY. 17, 2016 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 869	NCR
K-TYPE CABLE	UP TO 40 GHz 3 m	HUBER+SUHNER	SF102-46/2*11SK252 /MY2611/2	MAR. 03, 2016 ETC
K-TYPE CABLE	UP TO 40 GHz, 1 m	HUBER+SUHNER	SF102/2*11SK252 /MY3331/2	OCT. 05, 2016 ETC
CDN	0.15 MHz ~ 300 MHz	LUTHI	CDN L-801 M2/M3 / 2790	MAY. 17, 2016 ETC

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

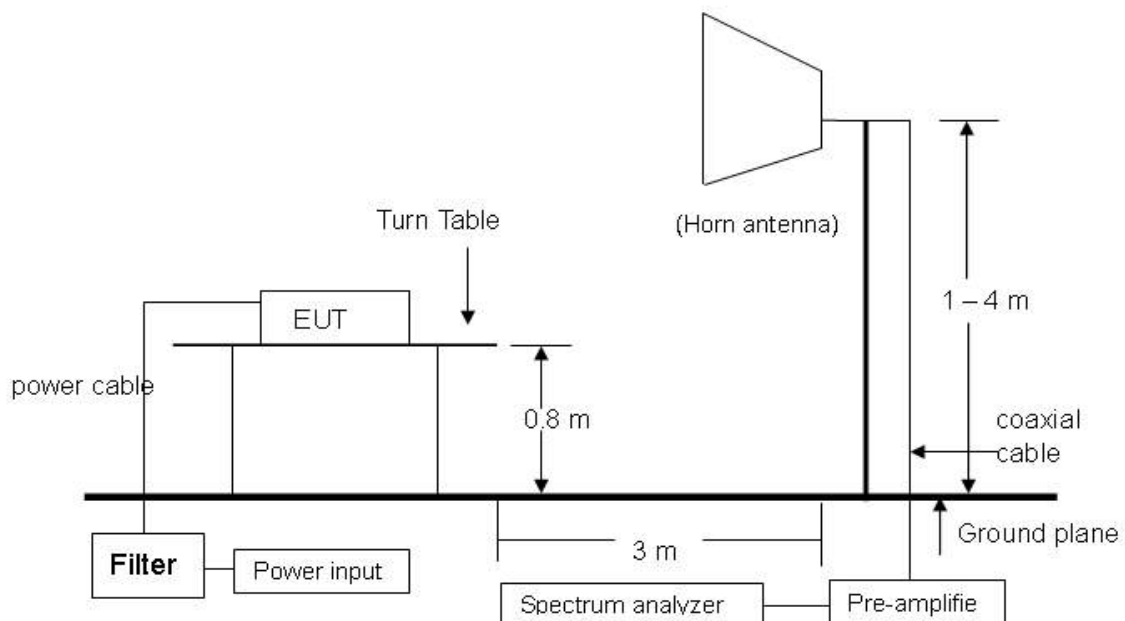


4.2.3 TEST SET-UP

30 MHz ~ 1 GHz



Above 1 GHz



NOTE: The EUT system was put on a wooden table with 0.8m heights above a ground plane. For the actual test configuration, please refer to the photos of testing.



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4.2.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR 22:2003. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz to 1 GHz, all readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak or average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.



4.2.5 TEST RESULT

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
70.42	1.56	8.40	23.45	33.41	40	-6.59	308	3.49
85.99	1.69	8.35	19.94	29.98	40	-10.03	123	3.45
150.18	2.14	12.50	15.62	30.26	44	-13.24	299	3.21
514.56	4.43	18.08	14.55	37.05	46	-8.95	171	2.52
647.27	5.08	20.16	5.61	30.84	46	-15.16	28	2.07
758.03	5.64	21.63	3.79	31.06	46	-14.94	110	1.73

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
66.74	1.54	9.56	15.26	26.36	40	-13.64	133	1.14
74.88	1.59	8.20	16.62	26.41	40	-13.59	264	1.18
399.25	3.80	16.27	5.58	25.65	46	-20.35	78	2.19
514.07	4.43	18.08	16.15	38.65	46	-7.35	218	2.53
742.48	5.56	21.36	5.69	32.61	46	-13.39	56	3.22
935.19	6.46	24.71	3.93	35.10	46	-10.90	175	3.47

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
75.85	1.60	8.15	25.38	35.13	40	-4.87	173	3.49
155.60	2.18	12.35	15.82	30.35	44	-13.16	292	3.21
380.26	3.67	15.66	12.18	31.51	46	-14.49	80	2.93
400.14	3.81	16.30	11.70	31.81	46	-14.19	317	2.85
515.83	4.43	18.11	15.16	37.70	46	-8.30	275	2.51
648.05	5.08	20.17	4.73	29.98	46	-16.02	46	2.07

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.52	1.51	11.94	11.14	24.59	40	-15.41	55	1.08
65.17	1.54	9.85	14.08	25.47	40	-14.53	216	1.13
83.94	1.67	8.17	20.53	30.37	40	-9.63	305	1.20
497.48	4.34	17.57	8.48	30.39	46	-15.62	342	2.44
518.58	4.45	18.21	12.54	35.20	46	-10.80	169	2.57
936.85	6.47	24.74	3.78	34.98	46	-11.02	29	3.46

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
58.05	1.51	11.94	12.08	25.53	40	-14.47	313	3.40
74.25	1.59	8.20	20.38	30.17	40	-9.83	102	3.28
151.42	2.15	12.47	15.55	30.17	44	-13.33	197	3.21
315.78	3.21	13.86	11.44	28.51	46	-17.50	159	3.15
515.44	4.43	18.11	14.66	37.20	46	-8.80	278	2.54
648.60	5.08	20.17	4.23	29.48	46	-16.52	75	2.10

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
58.60	1.51	11.94	12.15	25.60	40	-14.40	248	1.08
65.68	1.54	9.85	13.70	25.09	40	-14.91	194	1.12
81.83	1.65	7.99	14.76	24.40	40	-15.60	288	1.14
350.21	3.45	14.70	12.16	30.31	46	-15.69	331	1.95
450.29	4.10	17.10	10.35	31.55	46	-14.45	55	2.37
759.94	5.64	21.64	3.73	31.01	46	-14.99	173	3.29

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.81	1.51	11.94	11.78	25.23	40	-14.77	96	3.47
76.06	1.61	8.10	19.94	29.65	40	-10.35	144	3.30
151.41	2.15	12.47	15.43	30.05	44	-13.45	38	3.22
316.57	3.21	13.88	11.86	28.96	46	-17.04	293	3.05
495.20	4.33	17.55	7.91	29.79	46	-16.22	321	2.59
522.18	4.47	18.35	9.74	32.56	46	-13.44	246	2.46

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
59.84	1.52	11.62	11.88	25.02	40	-14.98	168	1.10
66.12	1.54	9.56	15.24	26.34	40	-13.66	264	1.13
341.86	3.39	14.48	5.15	23.02	46	-22.98	73	1.95
370.69	3.59	15.34	5.20	24.13	46	-21.87	215	2.06
517.39	4.45	18.18	14.30	36.92	46	-9.08	117	2.54
743.54	5.56	21.39	3.53	30.48	46	-15.52	307	3.28

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
Page: 46 of 216
Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.77	1.51	11.94	11.13	24.58	40	-15.42	87	3.47
75.25	1.60	8.15	23.86	33.61	40	-6.39	314	3.25
151.16	2.15	12.47	15.49	30.11	44	-13.39	129	3.18
327.15	3.29	14.15	10.91	28.35	46	-17.65	172	3.08
515.76	4.43	18.11	12.72	35.26	46	-10.74	278	2.51
696.86	5.30	20.11	4.06	29.47	46	-16.53	295	1.93

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.95	1.51	11.94	12.77	26.22	40	-13.78	145	1.08
70.87	1.56	8.40	18.49	28.45	40	-11.55	342	1.12
79.35	1.63	7.95	23.67	33.25	40	-6.75	260	1.17
250.05	2.79	12.70	9.34	24.83	46	-21.17	107	1.69
514.56	4.43	18.08	12.74	35.24	46	-10.76	45	2.48
759.88	5.64	21.64	3.31	30.59	46	-15.41	194	3.27

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 47 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
75.33	1.60	8.15	20.83	30.58	40	-9.42	242	3.45
85.73	1.69	8.35	23.92	33.96	40	-6.05	108	3.41
151.66	2.15	12.47	17.73	32.35	44	-11.15	54	3.20
380.27	3.67	15.66	10.67	30.00	46	-16.00	323	2.93
493.09	4.32	17.53	8.70	30.55	46	-15.46	173	2.58
515.17	4.43	18.11	18.44	40.98	46	-5.02	145	2.51

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
55.58	1.51	12.90	12.41	26.82	40	-13.19	218	1.07
73.17	1.58	8.25	18.44	28.27	40	-11.73	182	1.12
81.54	1.65	7.99	24.49	34.13	40	-5.87	307	1.17
333.26	3.33	14.29	5.61	23.23	46	-22.77	113	1.96
350.41	3.45	14.70	5.95	24.10	46	-21.90	261	2.00
522.16	4.47	18.35	13.10	35.92	46	-10.08	320	2.59

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
Page: 48 of 216
Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
59.90	1.52	11.62	12.05	25.19	40	-14.81	342	3.49
74.12	1.59	8.20	20.66	30.45	40	-9.55	174	3.42
151.39	2.15	12.47	16.75	31.37	44	-12.13	252	3.21
380.46	3.67	15.66	10.35	29.68	46	-16.32	140	2.95
400.91	3.81	16.30	9.37	29.48	46	-16.52	167	2.84
516.28	4.44	18.14	6.88	29.46	46	-16.54	58	2.57

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
65.66	1.54	9.85	14.48	25.87	40	-14.13	162	1.12
76.38	1.61	8.10	17.28	26.99	40	-13.01	116	1.16
341.27	3.39	14.48	6.54	24.41	46	-21.59	336	1.95
380.90	3.67	15.66	12.87	32.20	46	-13.80	70	2.08
400.72	3.81	16.30	13.13	33.24	46	-12.76	238	2.17
520.30	4.46	18.28	11.55	34.29	46	-11.71	197	2.53

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.58	1.51	11.94	12.35	25.80	40	-14.20	291	3.48
68.47	1.55	8.98	18.60	29.13	40	-10.87	312	3.40
76.66	1.61	8.10	23.17	32.88	40	-7.12	199	3.27
151.70	2.15	12.47	15.32	29.94	44	-13.56	190	3.10
350.50	3.45	14.70	10.14	28.29	46	-17.71	32	3.01
515.43	4.43	18.11	15.11	37.65	46	-8.35	168	2.52

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
65.18	1.54	9.85	13.76	25.15	40	-14.85	162	1.13
81.19	1.65	7.99	20.27	29.91	40	-10.09	287	1.17
384.91	3.69	15.79	11.49	30.97	46	-15.03	32	2.11
400.93	3.81	16.30	14.43	34.54	46	-11.46	81	2.16
450.32	4.10	17.10	6.19	27.39	46	-18.61	321	2.30
743.68	5.56	21.39	3.20	30.15	46	-15.85	249	3.20

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
74.31	1.59	8.20	17.76	27.55	40	-12.45	263	3.48
151.86	2.15	12.47	16.19	30.81	44	-12.69	42	3.20
300.48	3.10	13.50	11.60	28.20	46	-17.80	80	2.97
522.61	4.47	18.35	8.45	31.27	46	-14.73	298	2.46
648.72	5.08	20.17	5.72	30.97	46	-15.03	328	2.08
743.10	5.56	21.39	3.17	30.12	46	-15.88	115	1.76

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
55.19	1.51	12.90	12.86	27.27	40	-12.74	62	1.09
79.25	1.63	7.95	15.91	25.49	40	-14.51	37	1.13
370.63	3.59	15.34	9.87	28.80	46	-17.20	139	2.06
400.75	3.81	16.30	18.84	38.95	46	-7.05	316	2.18
425.67	3.96	16.70	10.81	31.47	46	-14.54	216	2.25
516.18	4.44	18.14	14.06	36.64	46	-9.36	299	2.49

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH03
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
57.70	1.51	12.26	11.53	25.30	40	-14.70	254	3.46
72.82	1.58	8.30	21.09	30.97	40	-9.03	131	3.25
150.94	2.14	12.50	16.29	30.93	44	-12.57	196	3.20
349.73	3.44	14.68	13.27	31.39	46	-14.61	103	3.02
399.05	3.80	16.27	12.93	33.00	46	-13.00	55	2.87
515.67	4.43	18.11	18.19	40.73	46	-5.27	342	2.52

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
55.39	1.51	12.90	10.89	25.30	40	-14.71	184	1.09
64.04	1.54	10.14	15.29	26.97	40	-13.03	76	1.10
77.28	1.62	8.05	16.74	26.41	40	-13.59	43	1.18
513.99	4.42	18.04	12.86	35.32	46	-10.68	318	2.51
520.51	4.46	18.28	7.78	30.52	46	-15.48	297	2.55
758.63	5.64	21.63	3.20	30.47	46	-15.53	245	3.24

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
Page: 52 of 216
Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.30	1.51	12.58	12.48	26.57	40	-13.43	65	3.45
72.86	1.58	8.30	20.16	30.04	40	-9.96	237	3.20
100.12	1.80	9.80	15.51	27.11	44	-16.39	130	3.18
150.07	2.14	12.50	16.30	30.94	44	-12.56	313	3.07
491.95	4.31	17.51	11.32	33.14	46	-12.87	281	2.55
514.09	4.43	18.08	15.82	38.32	46	-7.68	181	2.51

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
54.37	1.50	13.22	10.53	25.25	40	-14.75	72	1.09
77.01	1.62	8.05	18.60	28.27	40	-11.73	103	1.16
379.55	3.66	15.63	7.43	26.72	46	-19.28	320	2.07
490.92	4.30	17.50	8.13	29.93	46	-16.07	253	2.44
516.83	4.44	18.14	11.44	34.02	46	-11.98	198	2.52
742.02	5.56	21.36	3.55	30.47	46	-15.53	146	3.25

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 53 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH09
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 24, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
57.05	1.51	12.26	10.36	24.13	40	-15.87	317	3.48
70.63	1.56	8.40	17.20	27.16	40	-12.84	144	3.36
100.18	1.80	9.80	16.45	28.05	44	-15.45	263	3.29
150.97	2.14	12.50	15.07	29.71	44	-13.79	53	3.21
488.70	4.29	17.48	10.27	32.04	46	-13.96	109	2.55
515.23	4.43	18.11	15.76	38.30	46	-7.70	258	2.52

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
57.40	1.51	12.26	13.18	26.95	40	-13.05	71	1.09
74.93	1.59	8.20	16.13	25.92	40	-14.08	190	1.13
407.17	3.85	16.41	7.45	27.71	46	-18.29	256	2.15
517.28	4.45	18.18	17.22	39.84	46	-6.16	122	2.56
742.94	5.56	21.36	3.10	30.02	46	-15.98	57	3.21
791.70	5.78	21.76	3.42	30.96	46	-15.04	225	3.34

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
77.24	1.62	8.05	18.08	27.75	40	-12.25	129	3.55
180.76	2.32	10.30	20.34	32.96	44	-10.54	41	3.41
197.35	2.43	11.37	22.49	36.29	44	-7.21	240	3.27
326.02	3.28	14.12	14.62	32.03	46	-13.97	167	3.04
349.97	3.44	14.68	13.48	31.60	46	-14.40	58	2.88
516.41	4.44	18.14	10.00	32.58	46	-13.42	302	2.46

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
49.52	1.49	14.97	8.96	25.42	40	-14.59	118	1.05
59.84	1.52	11.62	15.40	28.54	40	-11.46	272	1.13
82.02	1.66	8.08	20.09	29.83	40	-10.17	180	1.35
312.71	3.18	13.79	16.54	33.51	46	-12.49	255	1.86
332.45	3.32	14.27	17.68	35.27	46	-10.73	41	1.92
352.08	3.46	14.76	15.63	33.86	46	-12.14	321	2.04

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



Spectrum Research & Testing Lab., Inc.
 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 55 of 216
 Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
78.15	1.62	8.00	17.97	27.59	40	-12.41	229	3.61
148.80	2.13	12.48	16.64	31.25	44	-12.25	330	3.52
180.35	2.32	10.30	23.75	36.37	44	-7.13	241	3.38
197.99	2.43	11.37	24.01	37.81	44	-5.69	105	3.12
208.04	2.51	11.94	20.06	34.51	44	-8.99	91	2.97
515.63	4.43	18.11	14.12	36.66	46	-9.34	167	2.54

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
59.96	1.52	11.62	15.95	29.09	40	-10.91	357	1.08
83.13	1.67	8.17	18.76	28.60	40	-11.40	47	1.18
197.02	2.43	11.37	16.72	30.52	44	-12.98	128	1.53
306.77	3.14	13.64	16.46	33.25	46	-12.75	59	1.84
337.92	3.36	14.39	17.70	35.45	46	-10.55	193	1.97
352.51	3.46	14.76	15.14	33.37	46	-12.63	224	2.04

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 56 of 216
 Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
59.90	1.52	11.62	12.90	26.04	40	-13.96	219	3.62
78.43	1.62	8.00	19.13	28.75	40	-11.25	305	3.44
180.52	2.32	10.30	25.04	37.66	44	-5.84	74	3.35
197.46	2.43	11.37	24.01	37.81	44	-5.69	184	3.21
222.85	2.59	12.68	16.56	31.83	46	-14.17	330	3.06
256.07	2.83	12.82	16.14	31.79	46	-14.21	246	2.88

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.99	1.51	11.94	15.66	29.11	40	-10.89	132	1.10
83.08	1.67	8.17	19.74	29.58	40	-10.42	78	1.25
192.72	2.39	10.82	18.09	31.30	44	-12.20	44	1.53
198.85	2.44	11.48	17.31	31.23	44	-12.27	162	1.76
310.30	3.17	13.74	16.53	33.44	46	-12.56	78	1.92
331.26	3.32	14.24	16.65	34.21	46	-11.79	250	2.13

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
Page: 57 of 216
Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
57.44	1.51	12.26	12.65	26.42	40	-13.58	300	3.62
78.78	1.62	8.00	20.84	30.46	40	-9.54	152	3.51
149.90	2.13	12.49	16.28	30.90	44	-12.60	137	3.38
164.21	2.23	11.76	20.09	34.08	44	-9.42	67	3.10
184.37	2.34	10.42	24.07	36.83	44	-6.67	244	2.97
198.54	2.44	11.48	24.47	38.39	44	-5.11	308	2.75

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.84	1.51	11.94	14.74	28.19	40	-11.81	90	1.08
78.96	1.62	8.00	18.55	28.17	40	-11.83	267	1.19
198.51	2.44	11.48	17.45	31.37	44	-12.13	42	1.53
329.84	3.30	14.20	17.20	34.70	46	-11.30	350	1.92
341.62	3.39	14.48	16.56	34.43	46	-11.57	155	2.04
447.30	4.08	17.05	15.90	37.03	46	-8.97	70	2.28

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 58 of 216
 Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
78.50	1.62	8.00	19.62	29.24	40	-10.76	225	3.65
148.81	2.13	12.48	15.27	29.88	44	-13.62	337	3.41
176.34	2.30	10.62	26.00	38.92	44	-4.58	61	3.28
198.69	2.44	11.48	25.43	39.35	44	-4.15	245	3.01
320.54	3.24	13.98	15.38	32.60	46	-13.40	148	2.95
514.88	4.43	18.08	13.89	36.39	46	-9.61	75	2.52

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
58.49	1.51	11.94	15.12	28.57	40	-11.43	91	1.08
79.92	1.63	7.95	19.17	28.75	40	-11.25	137	1.17
198.14	2.44	11.48	16.34	30.26	44	-13.24	286	1.54
317.60	3.22	13.91	16.92	34.05	46	-11.95	140	1.87
339.38	3.37	14.44	16.16	33.97	46	-12.03	350	1.99
796.54	5.80	21.78	4.62	32.21	46	-13.79	281	3.02

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

**Spectrum Research & Testing Lab., Inc.**

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TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
78.70	1.62	8.00	19.41	29.03	40	-10.97	105	3.62
164.61	2.23	11.76	16.68	30.67	44	-12.83	72	3.50
175.84	2.30	10.70	24.30	37.30	44	-6.21	341	3.37
185.97	2.35	10.45	25.14	37.94	44	-5.56	94	3.29
198.23	2.44	11.48	23.30	37.22	44	-6.28	244	3.02
322.16	3.25	14.03	14.76	32.04	46	-13.96	197	2.94

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.35	1.51	12.58	15.09	29.18	40	-10.82	332	1.08
82.18	1.66	8.08	19.30	29.04	40	-10.96	67	1.19
197.96	2.43	11.37	17.25	31.05	44	-12.45	289	1.50
329.05	3.30	14.20	16.96	34.46	46	-11.54	140	1.78
343.44	3.40	14.53	16.70	34.63	46	-11.37	269	1.96
423.82	3.94	16.67	14.01	34.62	46	-11.38	155	2.22

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH01
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.58	1.51	12.58	12.71	26.80	40	-13.20	115	3.60
77.94	1.62	8.05	20.49	30.16	40	-9.84	62	3.54
151.10	2.15	12.47	14.27	28.89	44	-14.61	80	3.39
181.57	2.33	10.33	25.86	38.52	44	-4.98	147	3.15
197.22	2.43	11.37	24.75	38.55	44	-4.95	249	3.02
314.46	3.20	13.84	14.41	31.44	46	-14.56	125	2.88

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.63	1.51	12.58	15.29	29.38	40	-10.62	331	1.08
82.07	1.66	8.08	19.53	29.27	40	-10.73	236	1.19
197.75	2.43	11.37	17.06	30.86	44	-12.64	49	1.46
331.33	3.32	14.24	16.87	34.43	46	-11.57	272	1.85
347.08	3.43	14.63	15.33	33.39	46	-12.61	350	1.99
514.69	4.43	18.08	10.92	33.42	46	-12.58	160	2.46

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
59.53	1.52	11.62	13.75	26.89	40	-13.11	216	3.61
77.19	1.62	8.05	19.39	29.06	40	-10.94	329	3.57
177.04	2.31	10.54	23.94	36.79	44	-6.72	344	3.41
198.83	2.44	11.48	23.57	37.49	44	-6.01	157	3.28
222.67	2.59	12.68	15.56	30.83	46	-15.17	88	3.02
690.95	5.27	20.12	10.13	35.52	46	-10.48	190	1.88

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.60	1.51	12.58	15.49	29.58	40	-10.42	132	1.13
79.58	1.63	7.95	18.74	28.32	40	-11.68	307	1.27
150.14	2.14	12.50	20.90	35.54	44	-7.96	66	1.39
198.98	2.44	11.48	17.88	31.80	44	-11.70	129	1.52
330.91	3.31	14.22	18.66	36.19	46	-9.81	155	1.90
341.37	3.39	14.48	16.16	34.03	46	-11.97	272	2.13

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH11
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.60	1.51	12.58	11.61	25.70	40	-14.30	318	3.57
77.87	1.62	8.05	21.20	30.87	40	-9.13	125	3.39
184.35	2.34	10.42	24.45	37.21	44	-6.29	43	3.31
198.19	2.44	11.48	23.82	37.74	44	-5.76	227	3.16
211.72	2.53	12.07	16.94	31.54	44	-11.96	109	3.08
316.88	3.21	13.88	14.72	31.82	46	-14.18	64	2.89

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
56.50	1.51	12.58	15.78	29.87	40	-10.13	287	1.09
83.78	1.67	8.17	20.26	30.10	40	-9.90	114	1.18
197.19	2.43	11.37	16.78	30.58	44	-12.92	53	1.54
319.29	3.23	13.96	15.76	32.95	46	-13.05	149	1.86
334.47	3.34	14.32	16.58	34.23	46	-11.77	256	1.97
796.07	5.80	21.78	3.90	31.49	46	-14.51	80	3.02

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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TEST REPORTReference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH03
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
57.40	1.51	12.26	12.86	26.63	40	-13.37	212	3.62
77.13	1.62	8.05	19.19	28.86	40	-11.14	77	3.50
185.78	2.35	10.45	24.31	37.11	44	-6.39	245	3.39
197.34	2.43	11.37	23.58	37.38	44	-6.12	140	3.21
212.95	2.53	12.14	16.85	31.52	44	-11.98	68	3.02
338.60	3.37	14.41	13.71	31.49	46	-14.51	249	2.88

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
57.94	1.51	12.26	15.97	29.74	40	-10.26	332	1.07
82.01	1.66	8.08	20.45	30.19	40	-9.81	57	1.15
188.34	2.37	10.54	17.92	30.83	44	-12.67	193	1.47
198.90	2.44	11.48	17.64	31.56	44	-11.94	284	1.50
319.22	3.23	13.96	16.22	33.41	46	-12.59	125	1.83
331.71	3.32	14.24	17.37	34.93	46	-11.07	61	1.98

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "**": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



TEST REPORT

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH06
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
60.34	1.52	11.30	13.20	26.02	40	-13.98	220	3.61
77.01	1.62	8.05	18.17	27.84	40	-12.16	86	3.48
149.97	2.13	12.49	15.13	29.75	44	-13.75	130	3.37
185.25	2.35	10.45	24.91	37.71	44	-5.79	243	3.20
197.28	2.43	11.37	24.59	38.39	44	-5.11	340	3.09
331.41	3.32	14.24	14.47	32.03	46	-13.97	148	2.89

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
60.84	1.52	11.30	16.66	29.48	40	-10.52	233	1.11
82.92	1.66	8.08	18.78	28.52	40	-11.48	137	1.24
312.35	3.18	13.79	16.63	33.60	46	-12.40	258	1.80
336.02	3.35	14.36	17.75	35.47	46	-10.53	61	1.93
348.94	3.44	14.65	15.64	33.73	46	-12.27	350	2.05
366.17	3.57	15.21	16.25	35.03	46	-10.97	156	2.17

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

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TEST REPORTReference No.: A15102101
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FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH09
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Oct. 30, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
77.02	1.62	8.05	18.55	28.22	40	-11.78	346	3.65
183.73	2.34	10.39	25.07	37.80	44	-5.70	104	3.51
190.96	2.38	10.60	25.10	38.08	44	-5.42	75	3.38
222.52	2.59	12.68	18.27	33.54	46	-12.46	249	3.19
312.87	3.18	13.79	15.44	32.41	46	-13.59	140	3.10
515.30	4.43	18.11	14.95	37.49	46	-8.51	311	2.67

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBµV)	Emission Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	AZ(°)	EL(m)
56.26	1.51	12.58	15.08	29.17	40	-10.83	71	1.13
82.14	1.66	8.08	19.46	29.20	40	-10.80	98	1.25
190.99	2.38	10.60	17.76	30.74	44	-12.76	292	1.49
198.53	2.44	11.48	17.61	31.53	44	-11.97	193	1.57
328.65	3.30	14.17	16.89	34.36	46	-11.64	57	1.94
513.50	4.42	18.04	12.87	35.33	46	-10.67	162	2.45

NOTE :

1. Measurement uncertainty is 4.20 dB.
2. "": Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



Spectrum Research & Testing Lab., Inc.
 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 66 of 216
 Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2000.26	-31.48	27.60	44.37	33.48	40.49	29.60	74	54	-33.51	-24.40	283	2.22
3110.93	-30.46	30.30	44.36	34.20	44.20	34.04	74	54	-29.80	-19.96	317	1.85
3789.06	-29.38	31.69	43.24	33.27	45.56	35.59	74	54	-28.44	-18.41	41	1.63
4145.24	-28.82	32.20	43.15	33.39	46.53	36.77	74	54	-27.47	-17.23	217	1.54
4555.48	-28.41	32.33	43.48	32.16	47.41	36.09	74	54	-26.59	-17.91	129	1.42
5139.14	-27.53	33.51	41.22	31.25	47.20	37.23	74	54	-26.80	-16.77	160	1.21

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1655.86	-32.00	26.01	45.69	34.66	39.70	28.67	74	54	-34.30	-25.33	181	1.20
2009.96	-31.47	27.61	49.14	40.67	45.28	36.81	74	54	-28.72	-17.19	292	1.33
3000.34	-30.61	30.10	44.75	35.80	44.24	35.29	74	54	-29.76	-18.71	53	1.62
4114.83	-28.86	32.20	43.77	32.42	47.11	35.76	74	54	-26.89	-18.24	203	1.95
4420.10	-28.55	32.20	43.66	32.33	47.31	35.98	74	54	-26.69	-18.02	188	2.07
5565.33	-26.70	33.80	41.37	31.60	48.47	38.70	74	54	-25.53	-15.30	76	2.39

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	95.62	85.81	92.71	82.90	114	94	-21.29	-11.10	22	1.56
4824.00	-28.09	32.98	43.85	32.92	48.73	37.80	74	54	-25.27	-16.20	312	1.38
7236.00	-25.91	35.77	38.73	27.40	48.59	37.26	74	54	-25.41	-16.74	98	1.43
9648.00	-24.83	37.86	36.42	27.05	49.45	40.08	74	54	-24.55	-13.92	148	1.62
12060.00	-22.98	39.14	34.63	24.62	50.79	40.78	74	54	-23.21	-13.22	236	1.69
14472.00	-20.00	42.27	31.34	20.80	53.61	43.07	74	54	-20.39	-10.93	190	1.53

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	95.29	84.46	92.38	81.55	114	94	-21.62	-12.45	156	1.60
4824.00	-28.09	32.98	44.46	33.31	49.34	38.19	74	54	-24.66	-15.81	301	1.42
7236.00	-25.91	35.77	37.37	27.08	47.23	36.94	74	54	-26.77	-17.06	254	1.49
9648.00	-24.83	37.86	36.05	26.95	49.08	39.98	74	54	-24.92	-14.02	92	1.38
12060.00	-22.98	39.14	36.82	24.50	52.98	40.66	74	54	-21.02	-13.34	343	1.54
14472.00	-20.00	42.27	30.58	20.63	52.85	42.90	74	54	-21.15	-11.10	120	1.66

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 68 of 216
 Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1854.42	-31.70	26.93	45.65	35.75	40.88	30.98	74	54	-33.12	-23.02	225	2.21
2135.78	-31.32	27.76	45.69	35.42	42.13	31.86	74	54	-31.87	-22.14	97	2.14
3034.59	-30.56	30.16	44.17	33.53	43.77	33.13	74	54	-30.23	-20.87	337	1.88
4084.28	-28.89	32.20	42.35	31.84	45.66	35.15	74	54	-28.34	-18.85	64	1.56
4420.44	-28.55	32.20	42.27	33.85	45.92	37.50	74	54	-28.08	-16.50	308	1.43
5305.39	-27.11	33.64	41.25	31.51	47.78	38.04	74	54	-26.22	-15.96	206	1.20

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1910.53	-31.62	27.19	45.06	36.36	40.63	31.93	74	54	-33.37	-22.07	150	1.26
2139.09	-31.32	27.77	45.43	36.92	41.88	33.37	74	54	-32.12	-20.63	320	1.35
3105.49	-30.47	30.29	44.10	34.49	43.92	34.31	74	54	-30.08	-19.69	100	1.64
3674.58	-29.60	31.42	43.35	33.85	45.17	35.67	74	54	-28.83	-18.33	217	1.82
4290.90	-28.68	32.20	42.79	31.47	46.31	34.99	74	54	-27.69	-19.01	57	1.97
5519.06	-26.64	33.80	40.18	31.81	47.34	38.97	74	54	-26.66	-15.03	182	2.34

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 69 of 216
 Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 64 %RH
 Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_2.4G
 802.11b_CH06
 (Fundamental and Harmonics)
 Detector: PK. and AV. IF Bandwidth: 1 MHz
 VBW: 3 MHz Tested Date: Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	94.40	85.66	91.55	82.81	114	94	-22.45	-11.19	188	1.56
4874.00	-28.04	33.10	40.81	29.04	45.87	34.10	74	54	-28.13	-19.90	327	1.51
7311.00	-25.85	35.95	38.45	27.51	48.55	37.61	74	54	-25.45	-16.39	233	1.52
9748.00	-24.76	37.90	39.80	27.02	52.94	40.16	74	54	-21.06	-13.84	67	1.48
12185.00	-22.61	39.02	33.10	23.89	49.51	40.30	74	54	-24.49	-13.70	129	1.63
14622.00	-20.02	41.81	31.08	19.21	52.87	41.00	74	54	-21.13	-13.00	303	1.59

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	94.52	82.51	91.67	79.66	114	94	-22.33	-14.34	186	1.53
4874.00	-28.04	33.10	43.33	31.19	48.39	36.25	74	54	-25.61	-17.75	205	1.48
7311.00	-25.85	35.95	37.48	27.67	47.58	37.77	74	54	-26.42	-16.23	293	1.62
9748.00	-24.76	37.90	38.71	27.15	51.85	40.29	74	54	-22.15	-13.71	335	1.66
12185.00	-22.61	39.02	34.70	23.94	51.11	40.35	74	54	-22.89	-13.65	105	1.67
14622.00	-20.02	41.81	29.31	19.25	51.10	41.04	74	54	-22.90	-12.96	151	1.45

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11b_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1810.45	-31.77	26.73	44.92	34.23	39.88	29.19	74	54	-34.12	-24.81	292	2.29
2134.33	-31.32	27.76	45.88	36.50	42.32	32.94	74	54	-31.68	-21.06	86	2.14
3094.43	-30.48	30.27	44.70	32.29	44.49	32.08	74	54	-29.51	-21.92	104	1.83
3920.09	-29.12	32.01	43.25	32.57	46.13	35.45	74	54	-27.87	-18.55	167	1.62
4590.40	-28.37	32.42	42.13	32.43	46.18	36.48	74	54	-27.82	-17.52	303	1.41
5539.27	-26.66	33.80	40.06	30.40	47.20	37.54	74	54	-26.80	-16.46	139	1.15

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1809.48	-31.77	26.72	46.17	35.32	41.12	30.27	74	54	-32.88	-23.73	25	1.26
2125.06	-31.34	27.75	46.62	35.75	43.04	32.17	74	54	-30.97	-21.84	304	1.37
2725.73	-30.77	29.06	47.80	37.22	46.09	35.51	74	54	-27.91	-18.49	167	1.53
3045.36	-30.55	30.18	44.30	35.50	43.93	35.13	74	54	-30.07	-18.87	56	1.62
3440.94	-30.01	30.89	44.06	35.53	44.94	36.41	74	54	-29.06	-17.59	253	1.74
4074.35	-28.90	32.20	43.11	32.74	46.41	36.04	74	54	-27.59	-17.96	142	1.95

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 64 %RH
 MLWG3_2.4G
 Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11b_CH11
 (Fundamental and Harmonics)
 Detector: PK. and AV. IF Bandwidth: 1 MHz
 VBW: 3 MHz Tested Date: Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	94.17	83.85	91.38	81.06	114	94	-22.62	-12.94	73	1.62
4924.00	-27.98	33.22	42.47	31.68	47.71	36.92	74	54	-26.29	-17.08	176	1.67
7386.00	-25.79	36.13	39.21	27.55	49.55	37.89	74	54	-24.45	-16.11	315	1.55
9848.00	-24.69	37.94	38.61	27.03	51.86	40.28	74	54	-22.14	-13.72	285	1.59
12310.00	-22.24	38.89	33.39	23.19	50.04	39.84	74	54	-23.96	-14.16	46	1.60
14772.00	-20.06	41.21	31.14	19.45	52.30	40.61	74	54	-21.70	-13.39	105	1.48

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	94.36	84.05	91.57	81.26	114	94	-22.43	-12.74	302	1.45
4924.00	-27.98	33.22	43.27	31.29	48.51	36.53	74	54	-25.49	-17.47	81	1.57
7386.00	-25.79	36.13	38.33	27.32	48.67	37.66	74	54	-25.33	-16.34	245	1.55
9848.00	-24.69	37.94	36.45	26.90	49.70	40.15	74	54	-24.30	-13.85	122	1.38
12310.00	-22.24	38.89	35.32	23.26	51.97	39.91	74	54	-22.03	-14.09	46	1.43
14772.00	-20.06	41.21	30.88	19.73	52.04	40.89	74	54	-21.96	-13.11	158	1.46

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.

**Spectrum Research & Testing Lab., Inc.**

No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORTReference No.: A15102101
Report No.:FCCA15102101
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2134.93	-31.32	27.76	46.16	36.11	42.60	32.55	74	54	-31.40	-21.45	201	2.15
3015.84	-30.59	30.13	44.26	35.81	43.80	35.35	74	54	-30.20	-18.65	46	1.87
3454.66	-29.99	30.92	43.39	34.17	44.31	35.09	74	54	-29.69	-18.91	140	1.75
4274.22	-28.70	32.20	43.29	32.70	46.79	36.20	74	54	-27.21	-17.80	312	1.54
5145.33	-27.52	33.52	41.90	30.33	47.90	36.33	74	54	-26.10	-17.67	245	1.25
5780.10	-27.00	33.80	41.11	31.15	47.91	37.95	74	54	-26.09	-16.05	125	1.06

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1624.92	-32.05	25.87	46.68	35.30	40.50	29.12	74	54	-33.50	-24.88	161	1.18
3054.83	-30.54	30.20	44.09	33.95	43.75	33.61	74	54	-30.25	-20.39	343	1.63
3445.41	-30.00	30.90	43.42	33.72	44.32	34.62	74	54	-29.68	-19.38	190	1.74
4075.80	-28.90	32.20	42.36	32.51	45.67	35.82	74	54	-28.34	-18.19	69	1.95
4375.47	-28.60	32.20	42.73	31.67	46.34	35.28	74	54	-27.67	-18.73	281	2.02
5460.23	-26.71	33.77	40.20	30.82	47.26	37.88	74	54	-26.74	-16.12	221	2.36

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	96.85	85.54	93.94	82.63	114	94	-20.06	-11.37	74	1.55
4824.00	-28.09	32.98	41.81	31.73	46.69	36.61	74	54	-27.31	-17.39	156	1.36
7236.00	-25.91	35.77	35.75	26.91	45.61	36.77	74	54	-28.39	-17.23	217	1.46
9648.00	-24.83	37.86	36.80	26.79	49.83	39.82	74	54	-24.17	-14.18	253	1.60
12060.00	-22.98	39.14	35.77	23.62	51.93	39.78	74	54	-22.07	-14.22	173	1.72
14472.00	-20.00	42.27	31.46	20.82	53.73	43.09	74	54	-20.27	-10.91	310	1.53

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	96.71	84.33	93.80	81.42	114	94	-20.20	-12.58	109	1.56
4824.00	-28.09	32.98	42.31	31.92	47.19	36.80	74	54	-26.81	-17.20	225	1.47
7236.00	-25.91	35.77	37.60	27.18	47.46	37.04	74	54	-26.54	-16.96	61	1.48
9648.00	-24.83	37.86	36.83	26.89	49.86	39.92	74	54	-24.14	-14.08	195	1.36
12060.00	-22.98	39.14	32.87	23.47	49.03	39.63	74	54	-24.97	-14.37	102	1.55
14472.00	-20.00	42.27	32.17	20.82	54.44	43.09	74	54	-19.56	-10.91	321	1.64

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2139.40	-31.32	27.77	45.06	35.43	41.51	31.88	74	54	-32.49	-22.12	83	2.18
3025.69	-30.58	30.15	44.42	35.19	43.99	34.76	74	54	-30.01	-19.24	235	1.88
3460.15	-29.98	30.93	44.10	35.40	45.04	36.34	74	54	-28.96	-17.66	339	1.77
4009.37	-28.96	32.20	42.49	31.05	45.73	34.29	74	54	-28.27	-19.71	258	1.61
4390.81	-28.58	32.20	42.89	32.84	46.51	36.46	74	54	-27.49	-17.54	216	1.49
5395.48	-26.88	33.72	39.67	29.45	46.51	36.29	74	54	-27.49	-17.71	148	1.15

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1860.64	-31.69	26.96	45.26	34.81	40.52	30.07	74	54	-33.48	-23.93	278	1.23
3169.77	-30.38	30.40	44.17	33.57	44.19	33.59	74	54	-29.81	-20.41	163	1.64
3405.07	-30.06	30.83	43.32	33.62	44.09	34.39	74	54	-29.91	-19.61	53	1.73
3800.83	-29.35	31.72	42.95	32.41	45.32	34.78	74	54	-28.68	-19.22	307	1.85
4275.51	-28.70	32.20	42.55	33.29	46.06	36.80	74	54	-27.95	-17.21	90	1.96
5385.78	-26.90	33.71	40.29	31.28	47.09	38.08	74	54	-26.91	-15.92	121	2.30

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH06 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	95.31	83.91	92.46	81.06	114	94	-21.54	-12.94	53	1.48
4874.00	-28.04	33.10	39.65	28.75	44.71	33.81	74	54	-29.29	-20.19	326	1.62
7311.00	-25.85	35.95	38.21	27.52	48.31	37.62	74	54	-25.69	-16.38	201	1.60
9748.00	-24.76	37.90	36.14	26.88	49.28	40.02	74	54	-24.72	-13.98	47	1.57
12185.00	-22.61	39.02	35.48	23.86	51.89	40.27	74	54	-22.11	-13.73	175	1.59
14622.00	-20.02	41.81	30.72	19.25	52.51	41.04	74	54	-21.49	-12.96	260	1.33

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	96.28	85.86	93.43	83.01	114	94	-20.57	-10.99	104	1.74
4874.00	-28.04	33.10	40.08	30.81	45.14	35.87	74	54	-28.86	-18.13	328	1.70
7311.00	-25.85	35.95	39.68	27.48	49.78	37.58	74	54	-24.22	-16.42	73	1.68
9748.00	-24.76	37.90	39.56	27.02	52.70	40.16	74	54	-21.30	-13.84	223	1.54
12185.00	-22.61	39.02	33.17	23.78	49.58	40.19	74	54	-24.42	-13.81	185	1.59
14622.00	-20.02	41.81	29.25	19.21	51.04	41.00	74	54	-22.96	-13.00	245	1.39

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2125.94	-31.34	27.75	45.61	34.10	42.03	30.52	74	54	-31.98	-23.49	260	2.17
3030.83	-30.57	30.15	43.57	33.65	43.15	33.23	74	54	-30.85	-20.77	326	1.88
3504.54	-29.92	31.01	43.38	33.38	44.47	34.47	74	54	-29.53	-19.53	105	1.73
3945.75	-29.08	32.07	43.70	32.26	46.69	35.25	74	54	-27.31	-18.75	65	1.60
4765.92	-28.16	32.84	42.03	33.15	46.70	37.82	74	54	-27.30	-16.18	153	1.36
5464.84	-26.70	33.77	40.74	30.08	47.81	37.15	74	54	-26.19	-16.85	310	1.15

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2124.50	-31.34	27.75	44.92	34.44	41.33	30.85	74	54	-32.67	-23.15	192	1.33
3055.55	-30.54	30.20	43.57	32.21	43.23	31.87	74	54	-30.77	-22.13	134	1.65
3765.80	-29.42	31.64	42.84	33.49	45.05	35.70	74	54	-28.95	-18.30	26	1.84
4410.95	-28.56	32.20	42.60	33.73	46.24	37.37	74	54	-27.76	-16.63	243	2.07
5459.41	-26.71	33.77	40.61	30.40	47.66	37.45	74	54	-26.34	-16.55	321	2.39
5775.82	-26.99	33.80	40.58	29.59	47.39	36.40	74	54	-26.61	-17.60	184	2.46

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11g_CH11 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	95.54	84.73	92.75	81.94	114	94	-21.25	-12.06	221	1.47
4924.00	-27.98	33.22	41.29	30.10	46.53	35.34	74	54	-27.47	-18.66	39	1.62
7386.00	-25.79	36.13	38.30	27.55	48.64	37.89	74	54	-25.36	-16.11	326	1.55
9848.00	-24.69	37.94	39.19	27.03	52.44	40.28	74	54	-21.56	-13.72	58	1.60
12310.00	-22.24	38.89	35.05	23.14	51.70	39.79	74	54	-22.30	-14.21	232	1.57
14772.00	-20.06	41.21	29.37	19.68	50.53	40.84	74	54	-23.47	-13.16	149	1.49

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	95.63	83.49	92.84	80.70	114	94	-21.16	-13.30	204	1.45
4924.00	-27.98	33.22	40.13	28.18	45.37	33.42	74	54	-28.63	-20.58	319	1.51
7386.00	-25.79	36.13	38.86	27.70	49.20	38.04	74	54	-24.80	-15.96	74	1.64
9848.00	-24.69	37.94	37.50	26.87	50.75	40.12	74	54	-23.25	-13.88	126	1.67
12310.00	-22.24	38.89	33.38	23.23	50.03	39.88	74	54	-23.97	-14.12	188	1.53
14772.00	-20.06	41.21	31.42	19.46	52.58	40.62	74	54	-21.42	-13.38	261	1.58

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1664.20	-31.99	26.05	45.82	35.85	39.88	29.91	74	54	-34.12	-24.09	317	2.32
2930.90	-30.65	29.83	44.55	35.36	43.73	34.54	74	54	-30.27	-19.46	270	1.91
3479.11	-29.96	30.96	43.82	34.90	44.82	35.90	74	54	-29.18	-18.10	133	1.75
4074.63	-28.90	32.20	42.40	31.25	45.70	34.55	74	54	-28.30	-19.45	102	1.56
4435.60	-28.54	32.20	43.15	33.21	46.82	36.88	74	54	-27.18	-17.12	73	1.48
5595.31	-26.74	33.80	40.06	30.29	47.12	37.35	74	54	-26.88	-16.65	218	1.13

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1100.66	-33.66	25.22	51.31	42.68	42.87	34.24	74	54	-31.13	-19.76	211	1.05
2134.64	-31.32	27.76	45.73	36.79	42.17	33.23	74	54	-31.83	-20.77	309	1.33
3130.10	-30.43	30.33	43.95	33.64	43.85	33.54	74	54	-30.15	-20.46	119	1.62
3844.83	-29.27	31.83	42.67	32.49	45.23	35.05	74	54	-28.77	-18.95	81	1.84
4230.44	-28.74	32.20	42.77	31.66	46.23	35.12	74	54	-27.77	-18.88	151	1.98
5510.36	-26.62	33.80	40.42	30.54	47.60	37.72	74	54	-26.40	-16.28	241	2.31

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	96.47	85.36	93.56	82.45	114	94	-20.44	-11.55	35	1.57
4824.00	-28.09	32.98	41.34	31.31	46.22	36.19	74	54	-27.78	-17.81	312	1.56
7236.00	-25.91	35.77	38.13	26.72	47.99	36.58	74	54	-26.01	-17.42	293	1.43
9648.00	-24.83	37.86	36.54	26.73	49.57	39.76	74	54	-24.43	-14.24	55	1.49
12060.00	-22.98	39.14	34.79	23.47	50.95	39.63	74	54	-23.05	-14.37	161	1.60
14472.00	-20.00	42.27	32.57	20.82	54.84	43.09	74	54	-19.16	-10.91	268	1.64

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	96.84	86.90	93.93	83.99	114	94	-20.07	-10.01	318	1.58
4824.00	-28.09	32.98	40.81	29.07	45.69	33.95	74	54	-28.31	-20.05	162	1.45
7236.00	-25.91	35.77	38.88	26.84	48.74	36.70	74	54	-25.26	-17.30	219	1.51
9648.00	-24.83	37.86	37.74	26.64	50.77	39.67	74	54	-23.23	-14.33	53	1.75
12060.00	-22.98	39.14	34.59	23.47	50.75	39.63	74	54	-23.25	-14.37	261	1.66
14472.00	-20.00	42.27	30.30	20.81	52.57	43.08	74	54	-21.43	-10.92	339	1.53

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2125.34	-31.34	27.75	45.49	35.10	41.91	31.52	74	54	-32.10	-22.49	336	2.18
3029.26	-30.57	30.15	44.86	33.75	44.44	33.33	74	54	-29.56	-20.67	163	1.87
3490.19	-29.94	30.98	45.90	34.95	46.94	35.99	74	54	-27.06	-18.01	186	1.73
4075.55	-28.90	32.20	43.16	34.65	46.47	37.96	74	54	-27.54	-16.05	70	1.57
4600.74	-28.35	32.44	42.34	33.22	46.43	37.31	74	54	-27.57	-16.69	287	1.43
5354.08	-26.98	33.68	40.41	29.06	47.11	35.76	74	54	-26.89	-18.24	121	1.16

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2130.57	-31.33	27.76	45.76	35.52	42.19	31.95	74	54	-31.81	-22.05	306	1.35
2919.75	-30.66	29.79	44.18	33.37	43.32	32.51	74	54	-30.68	-21.49	243	1.59
3279.52	-30.23	30.60	43.87	33.76	44.24	34.13	74	54	-29.76	-19.87	110	1.66
3900.55	-29.16	31.96	43.56	34.87	46.36	37.67	74	54	-27.64	-16.33	153	1.87
4505.56	-28.46	32.21	42.66	33.93	46.41	37.68	74	54	-27.59	-16.32	291	2.03
5395.13	-26.88	33.72	40.80	30.50	47.64	37.34	74	54	-26.36	-16.66	183	2.31

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH06 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	95.13	82.77	92.28	79.92	114	94	-21.72	-14.08	295	1.48
4874.00	-28.04	33.10	40.49	29.14	45.55	34.20	74	54	-28.45	-19.80	93	1.61
7311.00	-25.85	35.95	39.16	27.43	49.26	37.53	74	54	-24.74	-16.47	177	1.65
9748.00	-24.76	37.90	36.61	26.84	49.75	39.98	74	54	-24.25	-14.02	281	1.56
12185.00	-22.61	39.02	36.77	23.58	53.18	39.99	74	54	-20.82	-14.01	228	1.55
14622.00	-20.02	41.81	31.12	19.29	52.91	41.08	74	54	-21.09	-12.92	329	1.47

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	96.88	85.17	94.03	82.32	114	94	-19.97	-11.68	164	1.51
4874.00	-28.04	33.10	39.71	28.92	44.77	33.98	74	54	-29.23	-20.02	235	1.49
7311.00	-25.85	35.95	37.21	27.55	47.31	37.65	74	54	-26.69	-16.35	63	1.70
9748.00	-24.76	37.90	36.61	26.69	49.75	39.83	74	54	-24.25	-14.17	338	1.68
12185.00	-22.61	39.02	35.84	24.05	52.25	40.46	74	54	-21.75	-13.54	116	1.62
14622.00	-20.02	41.81	30.49	19.05	52.28	40.84	74	54	-21.72	-13.16	289	1.59

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2080.71	-31.39	27.70	45.67	35.62	41.98	31.93	74	54	-32.02	-22.07	89	2.20
3024.21	-30.58	30.14	45.33	36.26	44.90	35.83	74	54	-29.10	-18.17	217	1.88
3900.14	-29.16	31.96	42.86	33.57	45.66	36.37	74	54	-28.34	-17.63	35	1.64
4085.08	-28.89	32.20	43.40	32.13	46.72	35.45	74	54	-27.29	-18.55	242	1.54
4270.63	-28.70	32.20	42.62	31.91	46.12	35.41	74	54	-27.88	-18.59	107	1.50
5389.45	-26.89	33.71	40.84	30.88	47.66	37.70	74	54	-26.34	-16.30	315	1.17

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2855.76	-30.69	29.55	44.87	32.24	43.72	31.09	74	54	-30.28	-22.91	239	1.52
3360.49	-30.12	30.75	43.51	33.06	44.14	33.69	74	54	-29.86	-20.31	178	1.70
4065.57	-28.91	32.20	42.23	32.75	45.53	36.05	74	54	-28.48	-17.96	93	1.94
4320.71	-28.65	32.20	42.56	31.55	46.11	35.10	74	54	-27.89	-18.90	303	2.01
5134.89	-27.55	33.51	41.90	30.93	47.86	36.89	74	54	-26.14	-17.11	204	2.22
5734.13	-26.93	33.80	40.05	31.45	46.92	38.32	74	54	-27.08	-15.68	266	2.40

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 83 of 216
 Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 64 %RH
 MLWG3_2.4G
 Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11n - HT20_CH11
 (Fundamental and Harmonics)
 Detector: PK. and AV. IF Bandwidth: 1 MHz
 VBW: 3 MHz Tested Date: Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	94.88	84.49	92.09	81.70	114	94	-21.91	-12.30	190	1.44
4924.00	-27.98	33.22	39.84	28.59	45.08	33.83	74	54	-28.92	-20.17	277	1.52
7386.00	-25.79	36.13	39.27	27.32	49.61	37.66	74	54	-24.39	-16.34	324	1.71
9848.00	-24.69	37.94	38.23	26.89	51.48	40.14	74	54	-22.52	-13.86	128	1.66
12310.00	-22.24	38.89	33.70	23.44	50.35	40.09	74	54	-23.65	-13.91	77	1.48
14772.00	-20.06	41.21	30.69	19.30	51.85	40.46	74	54	-22.15	-13.54	295	1.55

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	95.76	84.60	92.97	81.81	114	94	-21.03	-12.19	325	1.53
4924.00	-27.98	33.22	41.91	30.19	47.15	35.43	74	54	-26.85	-18.57	53	1.66
7386.00	-25.79	36.13	37.37	27.29	47.71	37.63	74	54	-26.29	-16.37	146	1.62
9848.00	-24.69	37.94	36.06	26.98	49.31	40.23	74	54	-24.69	-13.77	303	1.53
12310.00	-22.24	38.89	34.77	23.28	51.42	39.93	74	54	-22.58	-14.07	120	1.54
14772.00	-20.06	41.21	31.80	19.40	52.96	40.56	74	54	-21.04	-13.44	264	1.60

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 84 of 216
 Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH03
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1445.12	-32.43	25.29	47.69	38.06	40.54	30.91	74	54	-33.46	-23.09	175	2.35
3054.35	-30.54	30.20	45.35	36.70	45.01	36.36	74	54	-28.99	-17.64	322	1.89
3780.26	-29.39	31.67	44.23	34.64	46.51	36.92	74	54	-27.49	-17.08	191	1.64
4304.40	-28.67	32.20	44.32	34.50	47.85	38.03	74	54	-26.15	-15.97	82	1.50
4580.80	-28.38	32.39	43.38	32.92	47.39	36.93	74	54	-26.61	-17.07	168	1.42
5434.89	-26.78	33.75	41.47	31.26	48.44	38.23	74	54	-25.56	-15.77	177	1.13

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2220.08	-31.22	27.86	46.90	36.24	43.54	32.88	74	54	-30.46	-21.12	39	1.38
3219.87	-30.31	30.49	44.94	32.72	45.12	32.90	74	54	-28.88	-21.10	180	1.68
3774.91	-29.40	31.66	43.19	32.48	45.44	34.73	74	54	-28.56	-19.27	333	1.84
4110.19	-28.86	32.20	44.06	34.06	47.40	37.40	74	54	-26.60	-16.60	118	1.92
5224.12	-27.32	33.58	42.44	33.46	48.70	39.72	74	54	-25.30	-14.28	257	2.25
5725.64	-26.92	33.80	41.48	30.75	48.36	37.63	74	54	-25.64	-16.37	160	2.47

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH03 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2422.00 (F)	-30.99	28.11	93.85	82.58	90.97	79.70	114	94	-23.03	-14.30	302	1.57
4844.00	-28.07	33.03	40.33	30.09	45.28	35.04	74	54	-28.72	-18.96	255	1.44
7266.00	-25.89	35.84	38.88	28.72	48.83	38.67	74	54	-25.17	-15.33	108	1.58
9688.00	-24.80	37.88	38.66	27.90	51.73	40.97	74	54	-22.27	-13.03	222	1.50
12110.00	-22.83	39.09	37.72	25.08	53.98	41.34	74	54	-20.02	-12.66	57	1.41
14532.00	-20.00	42.17	32.36	20.17	54.53	42.34	74	54	-19.47	-11.66	187	1.67

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2422.00 (F)	-30.99	28.11	92.39	80.20	89.51	77.32	114	94	-24.49	-16.68	123	1.60
4844.00	-28.07	33.03	40.84	28.90	45.79	33.85	74	54	-28.21	-20.15	57	1.53
7266.00	-25.89	35.84	38.29	28.26	48.24	38.21	74	54	-25.76	-15.79	292	1.61
9688.00	-24.80	37.88	37.36	27.52	50.43	40.59	74	54	-23.57	-13.41	152	1.75
12110.00	-22.83	39.09	35.92	24.95	52.18	41.21	74	54	-21.82	-12.79	230	1.57
14532.00	-20.00	42.17	31.33	20.31	53.50	42.48	74	54	-20.50	-11.52	345	1.54

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2084.13	-31.38	27.70	46.30	35.77	42.62	32.09	74	54	-31.38	-21.91	339	2.16
3095.67	-30.48	30.27	44.83	34.60	44.62	34.39	74	54	-29.38	-19.61	106	1.85
3765.09	-29.42	31.64	44.19	34.69	46.40	36.90	74	54	-27.60	-17.10	184	1.66
4110.56	-28.86	32.20	43.95	34.85	47.29	38.19	74	54	-26.71	-15.81	60	1.55
5290.46	-27.15	33.63	42.04	31.50	48.52	37.98	74	54	-25.48	-16.02	212	1.24
5764.27	-26.97	33.80	41.62	31.71	48.45	38.54	74	54	-25.55	-15.46	192	1.03

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1705.64	-31.93	26.24	47.28	35.21	41.59	29.52	74	54	-32.41	-24.48	337	1.22
2860.23	-30.69	29.57	45.02	33.26	43.90	32.14	74	54	-30.10	-21.86	291	1.57
3670.20	-29.60	31.41	44.46	34.24	46.26	36.04	74	54	-27.74	-17.96	121	1.82
4394.51	-28.58	32.20	43.25	33.85	46.87	37.47	74	54	-27.13	-16.53	308	2.03
4664.45	-28.28	32.59	43.39	32.76	47.70	37.07	74	54	-26.30	-16.93	218	2.11
5580.10	-26.72	33.80	41.91	31.56	48.99	38.64	74	54	-25.01	-15.36	84	2.35

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH06 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	92.32	80.29	89.47	77.44	114	94	-24.53	-16.56	42	1.52
4874.00	-28.04	33.10	41.44	29.37	46.50	34.43	74	54	-27.50	-19.57	240	1.28
7311.00	-25.85	35.95	39.68	28.22	49.78	38.32	74	54	-24.22	-15.68	104	1.47
9748.00	-24.76	37.90	38.90	27.73	52.04	40.87	74	54	-21.96	-13.13	57	1.36
12185.00	-22.61	39.02	35.44	24.69	51.85	41.10	74	54	-22.15	-12.90	326	1.74
14622.00	-20.02	41.81	31.95	19.55	53.74	41.34	74	54	-20.26	-12.66	194	1.57

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	88.05	77.63	85.20	74.78	114	94	-28.80	-19.22	319	1.42
4874.00	-28.04	33.10	40.18	30.44	45.24	35.50	74	54	-28.76	-18.50	147	1.52
7311.00	-25.85	35.95	38.76	28.30	48.86	38.40	74	54	-25.14	-15.60	69	1.64
9748.00	-24.76	37.90	38.71	27.62	51.85	40.76	74	54	-22.15	-13.24	211	1.65
12185.00	-22.61	39.02	35.37	24.87	51.78	41.28	74	54	-22.22	-12.72	118	1.57
14622.00	-20.02	41.81	29.94	19.53	51.73	41.32	74	54	-22.27	-12.68	298	1.59

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH09
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1999.29	-31.48	27.60	45.54	35.49	41.65	31.60	74	54	-32.35	-22.40	253	2.21
2945.79	-30.64	29.89	44.67	33.38	43.92	32.63	74	54	-30.08	-21.37	81	1.93
3139.33	-30.42	30.35	44.81	32.12	44.74	32.05	74	54	-29.26	-21.95	316	1.85
3921.63	-29.12	32.01	43.39	34.68	46.28	37.57	74	54	-27.72	-16.43	138	1.64
4375.94	-28.60	32.20	43.36	34.51	46.97	38.12	74	54	-27.04	-15.89	233	1.47
5485.82	-26.65	33.79	41.32	30.62	48.46	37.76	74	54	-25.54	-16.24	34	1.13

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2000.92	-31.48	27.60	45.04	35.34	41.16	31.46	74	54	-32.84	-22.54	335	1.32
3084.55	-30.50	30.25	44.34	34.25	44.10	34.01	74	54	-29.90	-19.99	42	1.64
3605.22	-29.73	31.25	44.69	33.77	46.21	35.29	74	54	-27.79	-18.71	202	1.79
3914.87	-29.14	31.99	43.63	32.45	46.49	35.31	74	54	-27.51	-18.69	276	1.85
4825.05	-28.09	32.98	43.21	34.35	48.10	39.24	74	54	-25.90	-14.76	113	2.16
5854.43	-27.10	33.80	41.67	29.42	48.37	36.12	74	54	-25.63	-17.88	141	2.44

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40_CH09 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 25, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2452.00 (F)	-30.96	28.14	91.85	80.24	89.04	77.43	114	94	-24.96	-16.57	142	1.44
4904.00	-28.00	33.17	41.12	30.31	46.29	35.48	74	54	-27.71	-18.52	87	1.58
7356.00	-25.82	36.05	40.82	28.31	51.06	38.55	74	54	-22.94	-15.45	290	1.51
9808.00	-24.72	37.92	38.81	27.59	52.01	40.79	74	54	-21.99	-13.21	340	1.57
12260.00	-22.39	38.94	36.17	24.46	52.72	41.01	74	54	-21.28	-12.99	116	1.46
14712.00	-20.04	41.45	31.73	19.15	53.14	40.56	74	54	-20.86	-13.44	227	1.73

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2452.00 (F)	-30.96	28.14	88.92	76.32	86.11	73.51	114	94	-27.89	-20.49	306	1.68
4904.00	-28.00	33.17	41.89	30.42	47.06	35.59	74	54	-26.94	-18.41	50	1.60
7356.00	-25.82	36.05	40.08	28.19	50.32	38.43	74	54	-23.68	-15.57	176	1.57
9808.00	-24.72	37.92	37.60	27.59	50.80	40.79	74	54	-23.20	-13.21	245	1.51
12260.00	-22.39	38.94	34.54	24.46	51.09	41.01	74	54	-22.91	-12.99	107	1.48
14712.00	-20.04	41.45	31.73	19.54	53.14	40.95	74	54	-20.86	-13.05	197	1.70

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1847.88	-31.71	26.90	44.81	34.35	39.99	29.53	74	54	-34.01	-24.47	225	2.26
2184.95	-31.27	27.82	44.79	34.27	41.34	30.82	74	54	-32.66	-23.18	71	2.13
2839.87	-30.70	29.49	44.40	33.95	43.18	32.73	74	54	-30.82	-21.27	60	1.97
3646.01	-29.65	31.35	42.95	32.41	44.65	34.11	74	54	-29.35	-19.89	308	1.75
4318.13	-28.65	32.20	41.76	31.36	45.31	34.91	74	54	-28.69	-19.09	195	1.52
5772.49	-26.99	33.80	40.65	30.18	47.46	36.99	74	54	-26.54	-17.01	48	1.08

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1569.92	-32.14	25.62	48.59	38.03	42.07	31.51	74	54	-31.93	-22.49	124	1.19
2117.23	-31.34	27.74	44.93	34.48	41.33	30.88	74	54	-32.67	-23.12	93	1.35
3102.47	-30.47	30.28	44.51	34.03	44.32	33.84	74	54	-29.68	-20.16	315	1.68
3548.85	-29.84	31.12	43.38	32.86	44.66	34.14	74	54	-29.34	-19.86	102	1.92
4088.90	-28.88	32.20	42.53	31.98	45.85	35.30	74	54	-28.15	-18.70	225	2.03
5161.72	-27.48	33.53	41.18	30.65	47.23	36.70	74	54	-26.77	-17.30	89	2.27

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	96.38	83.69	93.47	80.78	114	94	-20.53	-13.22	144	1.55
4824.00	-28.09	32.98	44.21	33.78	49.09	38.66	74	54	-24.91	-15.34	351	1.69
7236.00	-25.91	35.77	36.85	26.35	46.71	36.21	74	54	-27.29	-17.79	92	1.61
9648.00	-24.83	37.86	36.61	26.17	49.64	39.20	74	54	-24.36	-14.80	118	1.57
12060.00	-22.98	39.14	33.99	23.50	50.15	39.66	74	54	-23.85	-14.34	257	1.43
14472.00	-20.00	42.27	30.42	19.90	52.69	42.17	74	54	-21.31	-11.83	294	1.49

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	93.07	80.19	90.16	77.28	114	94	-23.84	-16.72	135	1.52
4824.00	-28.09	32.98	40.78	30.22	45.66	35.10	74	54	-28.34	-18.90	64	1.56
7236.00	-25.91	35.77	36.94	26.42	46.80	36.28	74	54	-27.20	-17.72	39	1.63
9648.00	-24.83	37.86	36.41	25.99	49.44	39.02	74	54	-24.56	-14.98	177	1.66
12060.00	-22.98	39.14	34.26	23.83	50.42	39.99	74	54	-23.58	-14.01	255	1.53
14472.00	-20.00	42.27	30.48	19.98	52.75	42.25	74	54	-21.25	-11.75	83	1.49

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1776.89	-31.82	26.57	44.73	34.27	39.48	29.02	74	54	-34.52	-24.98	325	2.29
3024.40	-30.58	30.14	43.72	33.15	43.29	32.72	74	54	-30.71	-21.28	211	1.93
3332.21	-30.16	30.70	43.50	33.01	44.04	33.55	74	54	-29.96	-20.45	204	1.81
3651.57	-29.64	31.36	42.94	32.48	44.66	34.20	74	54	-29.34	-19.80	108	1.70
4279.63	-28.69	32.20	42.24	31.79	45.75	35.30	74	54	-28.25	-18.70	112	1.53
5133.82	-27.55	33.51	40.46	30.03	46.42	35.99	74	54	-27.58	-18.01	310	1.28

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1558.64	-32.15	25.57	46.92	36.45	40.33	29.86	74	54	-33.67	-24.14	42	1.14
1642.93	-32.02	25.95	46.89	36.39	40.82	30.32	74	54	-33.18	-23.68	145	1.18
3274.50	-30.24	30.59	43.36	32.84	43.72	33.20	74	54	-30.28	-20.80	346	1.67
4061.77	-28.91	32.20	41.79	31.29	45.08	34.58	74	54	-28.92	-19.42	202	1.95
4639.02	-28.31	32.53	41.90	31.44	46.12	35.66	74	54	-27.88	-18.34	197	2.07
5008.31	-27.87	33.41	41.81	31.35	47.35	36.89	74	54	-26.65	-17.11	290	2.23

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 93 of 216
 Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
 Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_2.4G
 802.11b_CH06
 (Fundamental and Harmonics)
 Detector: PK. and AV. IF Bandwidth: 1 MHz
 VBW: 3 MHz Tested Date: Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	95.03	81.94	92.18	79.09	114	94	-21.82	-14.91	199	1.52
4874.00	-28.04	33.10	41.43	30.96	46.49	36.02	74	54	-27.51	-17.98	304	1.59
7311.00	-25.85	35.95	37.14	26.69	47.24	36.79	74	54	-26.76	-17.21	152	1.43
9748.00	-24.76	37.90	36.50	26.01	49.64	39.15	74	54	-24.36	-14.85	117	1.48
12185.00	-22.61	39.02	33.79	23.26	50.20	39.67	74	54	-23.80	-14.33	65	1.52
14622.00	-20.02	41.81	28.75	18.42	50.54	40.21	74	54	-23.46	-13.79	188	1.57

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	92.18	79.36	89.33	76.51	114	94	-24.67	-17.49	44	1.63
4874.00	-28.04	33.10	39.40	28.93	44.46	33.99	74	54	-29.54	-20.01	252	1.64
7311.00	-25.85	35.95	37.30	26.85	47.40	36.95	74	54	-26.60	-17.05	217	1.55
9748.00	-24.76	37.90	36.74	26.22	49.88	39.36	74	54	-24.12	-14.64	95	1.48
12185.00	-22.61	39.02	33.62	23.19	50.03	39.60	74	54	-23.97	-14.40	315	1.67
14622.00	-20.02	41.81	28.85	18.26	50.64	40.05	74	54	-23.36	-13.95	89	1.53

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1927.25	-31.59	27.26	44.37	33.89	40.04	29.56	74	54	-33.96	-24.44	335	2.25
3054.80	-30.54	30.20	43.92	33.45	43.58	33.11	74	54	-30.42	-20.89	210	1.89
3638.96	-29.67	31.33	42.65	32.11	44.32	33.78	74	54	-29.68	-20.22	107	1.72
4351.55	-28.62	32.20	41.91	31.47	45.49	35.05	74	54	-28.51	-18.95	92	1.45
5077.42	-27.69	33.46	41.28	30.76	47.05	36.53	74	54	-26.95	-17.47	115	1.29
5459.71	-26.71	33.77	39.65	29.18	46.70	36.23	74	54	-27.30	-17.77	75	1.12

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1672.62	-31.98	26.09	46.96	36.48	41.07	30.59	74	54	-32.93	-23.41	142	1.24
2644.04	-30.82	28.75	43.76	33.22	41.69	31.15	74	54	-32.31	-22.85	219	1.51
3091.59	-30.49	30.26	43.33	32.84	43.11	32.62	74	54	-30.89	-21.38	63	1.69
3578.32	-29.78	31.19	42.92	32.49	44.33	33.90	74	54	-29.67	-20.10	158	1.83
4176.88	-28.79	32.20	41.96	31.42	45.37	34.83	74	54	-28.63	-19.17	202	1.97
5301.51	-27.12	33.64	40.08	29.55	46.60	36.07	74	54	-27.40	-17.93	287	2.27

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b_CH11 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	93.91	80.20	91.12	77.41	114	94	-22.88	-16.59	125	1.62
4924.00	-27.98	33.22	41.72	31.24	46.96	36.48	74	54	-27.04	-17.52	327	1.60
7386.00	-25.79	36.13	37.12	26.67	47.46	37.01	74	54	-26.54	-16.99	188	1.64
9848.00	-24.69	37.94	36.65	26.12	49.90	39.37	74	54	-24.10	-14.63	60	1.51
12310.00	-22.24	38.89	32.97	22.50	49.62	39.15	74	54	-24.38	-14.85	237	1.59
14772.00	-20.06	41.21	29.04	18.53	50.20	39.69	74	54	-23.80	-14.31	213	1.66

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	92.03	79.08	89.24	76.29	114	94	-24.76	-17.71	196	1.50
4924.00	-27.98	33.22	40.87	30.32	46.11	35.56	74	54	-27.89	-18.44	57	1.47
7386.00	-25.79	36.13	37.36	26.84	47.70	37.18	74	54	-26.30	-16.82	312	1.45
9848.00	-24.69	37.94	36.81	26.30	50.06	39.55	74	54	-23.94	-14.45	339	1.62
12310.00	-22.24	38.89	33.19	22.65	49.84	39.30	74	54	-24.16	-14.70	227	1.59
14772.00	-20.06	41.21	28.95	18.48	50.11	39.64	74	54	-23.89	-14.36	49	1.45

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1851.22	-31.71	26.91	44.45	33.96	39.66	29.17	74	54	-34.34	-24.83	219	2.25
2913.36	-30.66	29.77	43.83	33.32	42.94	32.43	74	54	-31.06	-21.57	45	1.92
4018.57	-28.95	32.20	41.35	30.87	44.60	34.12	74	54	-29.40	-19.88	103	1.55
4254.01	-28.72	32.20	42.15	31.62	45.63	35.10	74	54	-28.37	-18.90	300	1.37
5143.29	-27.52	33.51	40.60	30.10	46.59	36.09	74	54	-27.41	-17.91	137	1.20
5369.48	-26.95	33.70	40.57	30.02	47.32	36.77	74	54	-26.68	-17.23	63	1.04

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1577.70	-32.12	25.65	48.09	37.51	41.62	31.04	74	54	-32.38	-22.96	244	1.18
3044.29	-30.55	30.18	44.67	34.13	44.30	33.76	74	54	-29.70	-20.24	84	1.62
3259.75	-30.26	30.57	42.82	32.30	43.13	32.61	74	54	-30.87	-21.39	107	1.74
4173.10	-28.80	32.20	41.91	31.42	45.31	34.82	74	54	-28.69	-19.18	208	1.91
4432.89	-28.54	32.20	41.98	31.52	45.64	35.18	74	54	-28.36	-18.82	192	2.02
5532.61	-26.65	33.80	40.87	30.39	48.02	37.54	74	54	-25.98	-16.46	280	2.38

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	95.73	82.28	92.82	79.37	114	94	-21.18	-14.63	155	1.59
4824.00	-28.09	32.98	42.60	32.04	47.48	36.92	74	54	-26.52	-17.08	192	1.45
7236.00	-25.91	35.77	36.51	26.07	46.37	35.93	74	54	-27.63	-18.07	202	1.53
9648.00	-24.83	37.86	36.32	25.85	49.35	38.88	74	54	-24.65	-15.12	75	1.67
12060.00	-22.98	39.14	33.78	23.29	49.94	39.45	74	54	-24.06	-14.55	93	1.57
14472.00	-20.00	42.27	30.24	19.72	52.51	41.99	74	54	-21.49	-12.01	126	1.50

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	94.25	81.30	91.34	78.39	114	94	-22.66	-15.61	314	1.43
4824.00	-28.09	32.98	39.56	29.02	44.44	33.90	74	54	-29.56	-20.10	288	1.63
7236.00	-25.91	35.77	36.69	26.13	46.55	35.99	74	54	-27.45	-18.01	335	1.59
9648.00	-24.83	37.86	36.21	25.80	49.24	38.83	74	54	-24.76	-15.17	146	1.58
12060.00	-22.98	39.14	33.65	23.19	49.81	39.35	74	54	-24.19	-14.65	82	1.62
14472.00	-20.00	42.27	30.20	19.79	52.47	42.06	74	54	-21.53	-11.94	227	1.49

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1644.79	-32.02	25.96	44.76	34.25	38.70	28.19	74	54	-35.30	-25.81	320	2.32
3031.32	-30.57	30.16	43.45	32.98	43.04	32.57	74	54	-30.96	-21.43	217	1.88
3873.55	-29.21	31.90	41.39	30.82	44.07	33.50	74	54	-29.93	-20.50	104	1.62
4339.48	-28.63	32.20	41.33	30.87	44.90	34.44	74	54	-29.10	-19.56	92	1.51
5214.27	-27.34	33.57	40.25	29.76	46.48	35.99	74	54	-27.52	-18.01	75	1.27
5658.98	-26.83	33.80	39.49	28.91	46.46	35.88	74	54	-27.54	-18.12	173	1.12

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1576.15	-32.12	25.65	47.59	37.01	41.12	30.54	74	54	-32.88	-23.46	246	1.19
3039.36	-30.56	30.17	43.48	32.97	43.09	32.58	74	54	-30.91	-21.42	91	1.62
3467.94	-29.97	30.94	42.40	31.86	43.37	32.83	74	54	-30.63	-21.17	102	1.77
4228.56	-28.74	32.20	41.51	31.02	44.97	34.48	74	54	-29.03	-19.52	193	1.93
5271.88	-27.20	33.62	40.18	29.67	46.60	36.09	74	54	-27.40	-17.91	328	2.21
5796.32	-27.02	33.80	39.73	29.26	46.51	36.04	74	54	-27.49	-17.96	288	2.45

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
 MLWG3/64_2.4G
 Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11g_CH06
 (Fundamental and Harmonics)
 Detector: PK. and AV. IF Bandwidth: 1 MHz
 VBW: 3 MHz Tested Date: Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	95.93	81.74	93.08	78.89	114	94	-20.92	-15.11	196	1.47
4874.00	-28.04	33.10	39.59	29.07	44.65	34.13	74	54	-29.35	-19.87	251	1.52
7311.00	-25.85	35.95	37.02	26.54	47.12	36.64	74	54	-26.88	-17.36	123	1.55
9748.00	-24.76	37.90	36.41	25.97	49.55	39.11	74	54	-24.45	-14.89	311	1.51
12185.00	-22.61	39.02	33.27	22.74	49.68	39.15	74	54	-24.32	-14.85	46	1.49
14622.00	-20.02	41.81	28.72	18.27	50.51	40.06	74	54	-23.49	-13.94	87	1.63

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	92.37	78.39	89.52	75.54	114	94	-24.48	-18.46	294	1.68
4874.00	-28.04	33.10	39.73	29.24	44.79	34.30	74	54	-29.21	-19.70	60	1.61
7311.00	-25.85	35.95	36.89	26.38	46.99	36.48	74	54	-27.01	-17.52	135	1.52
9748.00	-24.76	37.90	36.57	26.07	49.71	39.21	74	54	-24.29	-14.79	338	1.56
12185.00	-22.61	39.02	33.35	22.88	49.76	39.29	74	54	-24.24	-14.71	82	1.44
14622.00	-20.02	41.81	28.91	18.37	50.70	40.16	74	54	-23.30	-13.84	167	1.62

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2123.34	-31.34	27.75	45.45	34.97	41.86	31.38	74	54	-32.14	-22.62	166	2.19
3038.19	-30.56	30.17	44.01	33.52	43.62	33.13	74	54	-30.38	-20.87	207	1.88
3675.25	-29.59	31.42	43.11	32.67	44.94	34.50	74	54	-29.06	-19.50	108	1.70
3999.88	-28.97	32.20	42.25	31.79	45.48	35.02	74	54	-28.52	-18.98	43	1.62
5247.07	-27.26	33.60	40.27	29.71	46.61	36.05	74	54	-27.39	-17.95	256	1.24
5776.48	-26.99	33.80	40.18	29.65	46.99	36.46	74	54	-27.01	-17.54	79	1.07

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1598.40	-32.09	25.75	46.94	36.44	40.60	30.10	74	54	-33.40	-23.90	41	1.19
3057.17	-30.53	30.20	43.38	32.88	43.05	32.55	74	54	-30.95	-21.45	318	1.53
3549.32	-29.84	31.12	42.94	32.46	44.22	33.74	74	54	-29.78	-20.26	102	1.77
3866.51	-29.23	31.88	43.04	32.50	45.69	35.15	74	54	-28.31	-18.85	234	1.89
4352.79	-28.62	32.20	41.83	31.37	45.41	34.95	74	54	-28.59	-19.05	78	2.02
5074.25	-27.70	33.46	41.10	30.64	46.86	36.40	74	54	-27.14	-17.60	299	2.23

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g_CH11 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	95.82	82.33	93.03	79.54	114	94	-20.97	-14.46	172	1.52
4924.00	-27.98	33.22	41.36	30.84	46.60	36.08	74	54	-27.40	-17.92	225	1.55
7386.00	-25.79	36.13	37.62	27.10	47.96	37.44	74	54	-26.04	-16.56	103	1.48
9848.00	-24.69	37.94	37.07	26.53	50.32	39.78	74	54	-23.68	-14.22	196	1.49
12310.00	-22.24	38.89	33.40	22.96	50.05	39.61	74	54	-23.95	-14.39	315	1.59
14772.00	-20.06	41.21	29.17	18.64	50.33	39.80	74	54	-23.67	-14.20	346	1.53

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	93.35	80.17	90.56	77.38	114	94	-23.44	-16.62	221	1.66
4924.00	-27.98	33.22	40.15	29.66	45.39	34.90	74	54	-28.61	-19.10	126	1.61
7386.00	-25.79	36.13	37.78	27.21	48.12	37.55	74	54	-25.88	-16.45	59	1.50
9848.00	-24.69	37.94	36.89	26.45	50.14	39.70	74	54	-23.86	-14.30	83	1.63
12310.00	-22.24	38.89	33.34	22.93	49.99	39.58	74	54	-24.01	-14.42	329	1.39
14772.00	-20.06	41.21	28.81	18.49	49.97	39.65	74	54	-24.03	-14.35	101	1.51

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH01
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1876.13	-31.67	27.03	45.23	34.76	40.59	30.12	74	54	-33.41	-23.88	329	2.25
2884.86	-30.68	29.66	43.80	33.32	42.78	32.30	74	54	-31.22	-21.70	201	1.94
3482.40	-29.95	30.97	43.75	33.27	44.76	34.28	74	54	-29.24	-19.72	172	1.71
3891.57	-29.18	31.94	42.23	31.74	44.99	34.50	74	54	-29.01	-19.50	124	1.65
4308.12	-28.66	32.20	42.50	31.95	46.04	35.49	74	54	-27.96	-18.51	97	1.53
5302.39	-27.12	33.64	40.03	29.51	46.55	36.03	74	54	-27.45	-17.97	301	1.20

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1608.49	-32.08	25.80	47.50	37.03	41.22	30.75	74	54	-32.78	-23.25	42	1.11
1721.15	-31.90	26.32	48.71	38.28	43.12	32.69	74	54	-30.88	-21.31	185	1.27
3117.03	-30.45	30.31	43.77	33.19	43.63	33.05	74	54	-30.37	-20.95	224	1.65
3552.62	-29.83	31.12	43.40	32.92	44.69	34.21	74	54	-29.31	-19.79	165	1.79
3924.88	-29.12	32.02	42.52	32.04	45.42	34.94	74	54	-28.58	-19.06	207	1.88
4196.27	-28.77	32.20	42.08	31.53	45.51	34.96	74	54	-28.49	-19.04	342	2.04

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH01 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	97.04	83.69	94.13	80.78	114	94	-19.87	-13.22	192	1.55
4824.00	-28.09	32.98	42.59	32.01	47.47	36.89	74	54	-26.53	-17.11	315	1.48
7236.00	-25.91	35.77	36.75	26.23	46.61	36.09	74	54	-27.39	-17.91	127	1.63
9648.00	-24.83	37.86	36.51	26.03	49.54	39.06	74	54	-24.46	-14.94	258	1.42
12060.00	-22.98	39.14	33.46	22.96	49.62	39.12	74	54	-24.38	-14.88	163	1.51
14472.00	-20.00	42.27	29.99	19.56	52.26	41.83	74	54	-21.74	-12.17	75	1.59

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2412.00 (F)	-31.00	28.09	95.18	81.52	92.27	78.61	114	94	-21.73	-15.39	52	1.62
4824.00	-28.09	32.98	40.06	29.56	44.94	34.44	74	54	-29.06	-19.56	211	1.60
7236.00	-25.91	35.77	36.64	26.11	46.50	35.97	74	54	-27.50	-18.03	340	1.53
9648.00	-24.83	37.86	36.37	25.82	49.40	38.85	74	54	-24.60	-15.15	189	1.50
12060.00	-22.98	39.14	33.41	22.97	49.57	39.13	74	54	-24.43	-14.87	261	1.44
14472.00	-20.00	42.27	30.35	19.80	52.62	42.07	74	54	-21.38	-11.93	103	1.67

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2118.75	-31.34	27.74	44.08	33.57	40.48	29.97	74	54	-33.52	-24.03	220	2.18
2907.19	-30.66	29.75	43.58	33.02	42.66	32.10	74	54	-31.34	-21.90	274	1.95
3431.44	-30.02	30.88	43.05	32.59	43.90	33.44	74	54	-30.10	-20.56	305	1.74
3964.86	-29.04	32.11	41.98	31.41	45.05	34.48	74	54	-28.95	-19.52	119	1.60
4402.03	-28.57	32.20	41.74	31.38	45.37	35.01	74	54	-28.63	-18.99	67	1.43
5563.96	-26.70	33.80	39.63	29.15	46.73	36.25	74	54	-27.27	-17.75	47	1.12

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1609.78	-32.07	25.80	47.67	37.10	41.40	30.83	74	54	-32.60	-23.17	142	1.19
3017.32	-30.59	30.13	43.80	33.37	43.34	32.91	74	54	-30.66	-21.09	210	1.67
3712.90	-29.52	31.51	42.64	32.16	44.63	34.15	74	54	-29.37	-19.85	85	1.92
4396.65	-28.57	32.20	41.68	31.20	45.31	34.83	74	54	-28.69	-19.17	196	2.04
5341.49	-27.02	33.67	40.36	29.86	47.02	36.52	74	54	-26.98	-17.48	283	2.33
5624.25	-26.78	33.80	39.74	29.27	46.76	36.29	74	54	-27.24	-17.71	93	2.49

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH06 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	94.94	81.24	92.09	78.39	114	94	-21.91	-15.61	160	1.57
4874.00	-28.04	33.10	40.41	29.83	45.47	34.89	74	54	-28.53	-19.11	198	1.59
7311.00	-25.85	35.95	37.03	26.54	47.13	36.64	74	54	-26.87	-17.36	55	1.51
9748.00	-24.76	37.90	36.67	26.14	49.81	39.28	74	54	-24.19	-14.72	278	1.44
12185.00	-22.61	39.02	33.50	23.00	49.91	39.41	74	54	-24.09	-14.59	224	1.48
14622.00	-20.02	41.81	28.69	18.14	50.48	39.93	74	54	-23.52	-14.07	98	1.49

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	92.27	79.46	89.42	76.61	114	94	-24.58	-17.39	311	1.63
4874.00	-28.04	33.10	38.55	28.03	43.61	33.09	74	54	-30.39	-20.91	173	1.60
7311.00	-25.85	35.95	37.12	26.61	47.22	36.71	74	54	-26.78	-17.29	205	1.55
9748.00	-24.76	37.90	36.68	26.13	49.82	39.27	74	54	-24.18	-14.73	326	1.57
12185.00	-22.61	39.02	33.58	23.12	49.99	39.53	74	54	-24.01	-14.47	42	1.61
14622.00	-20.02	41.81	28.74	18.26	50.53	40.05	74	54	-23.47	-13.95	132	1.58

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH11
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1869.30	-31.68	27.00	44.38	33.81	39.70	29.13	74	54	-34.30	-24.87	61	2.25
2131.53	-31.33	27.76	44.30	33.86	40.73	30.29	74	54	-33.27	-23.71	227	2.11
3008.11	-30.60	30.11	44.38	33.89	43.90	33.41	74	54	-30.10	-20.59	83	1.93
3776.39	-29.40	31.66	42.49	31.97	44.75	34.23	74	54	-29.25	-19.77	105	1.68
4385.97	-28.59	32.20	41.04	30.55	44.66	34.17	74	54	-29.34	-19.84	298	1.49
5283.62	-27.17	33.63	40.36	29.91	46.82	36.37	74	54	-27.18	-17.63	322	1.22

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1587.55	-32.11	25.70	47.05	36.54	40.64	30.13	74	54	-33.36	-23.87	43	1.12
1859.67	-31.69	26.95	47.45	36.99	42.71	32.25	74	54	-31.29	-21.75	137	1.27
3019.03	-30.58	30.13	43.51	33.01	43.06	32.56	74	54	-30.94	-21.44	284	1.63
3722.38	-29.50	31.53	42.85	32.36	44.88	34.39	74	54	-29.12	-19.61	202	1.89
4223.92	-28.75	32.20	41.58	31.06	45.03	34.51	74	54	-28.97	-19.49	173	1.99
5507.60	-26.62	33.80	39.22	28.74	46.40	35.92	74	54	-27.60	-18.08	34	2.34

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20_CH11 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	94.83	81.15	92.04	78.36	114	94	-21.96	-15.64	230	1.53
4924.00	-27.98	33.22	39.11	28.63	44.35	33.87	74	54	-29.65	-20.13	192	1.50
7386.00	-25.79	36.13	37.30	26.82	47.64	37.16	74	54	-26.36	-16.84	274	1.44
9848.00	-24.69	37.94	36.52	26.07	49.77	39.32	74	54	-24.23	-14.68	66	1.63
12310.00	-22.24	38.89	33.27	22.75	49.92	39.40	74	54	-24.08	-14.60	128	1.61
14772.00	-20.06	41.21	28.89	18.35	50.05	39.51	74	54	-23.95	-14.49	317	1.49

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2462.00 (F)	-30.94	28.15	91.57	78.72	88.78	75.93	114	94	-25.22	-18.07	339	1.57
4924.00	-27.98	33.22	39.32	28.81	44.56	34.05	74	54	-29.44	-19.95	46	1.59
7386.00	-25.79	36.13	37.22	26.71	47.56	37.05	74	54	-26.44	-16.95	148	1.66
9848.00	-24.69	37.94	36.51	26.03	49.76	39.28	74	54	-24.24	-14.72	90	1.60
12310.00	-22.24	38.89	32.73	22.12	49.38	38.77	74	54	-24.62	-15.23	203	1.48
14772.00	-20.06	41.21	28.94	18.43	50.10	39.59	74	54	-23.90	-14.41	178	1.48

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH03
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1997.51	-31.48	27.59	43.07	32.51	39.17	28.61	74	54	-34.83	-25.39	224	2.21
2116.07	-31.35	27.74	44.66	34.17	41.05	30.56	74	54	-32.95	-23.44	323	2.15
3452.39	-30.00	30.91	42.91	32.45	43.83	33.37	74	54	-30.17	-20.63	105	1.76
4078.63	-28.89	32.20	41.35	30.88	44.66	34.19	74	54	-29.34	-19.81	61	1.53
4651.94	-28.29	32.56	41.74	31.29	46.01	35.56	74	54	-27.99	-18.44	97	1.41
5298.23	-27.13	33.64	39.69	29.19	46.20	35.70	74	54	-27.80	-18.30	132	1.27

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1589.78	-32.10	25.71	46.88	36.34	40.48	29.94	74	54	-33.52	-24.06	167	1.19
1672.15	-31.98	26.09	47.41	36.95	41.52	31.06	74	54	-32.48	-22.94	81	1.25
2796.47	-30.73	29.32	43.15	32.63	41.75	31.23	74	54	-32.25	-22.77	315	1.57
3882.33	-29.20	31.92	41.42	30.91	44.14	33.63	74	54	-29.86	-20.37	100	1.80
4249.96	-28.72	32.20	41.55	31.07	45.03	34.55	74	54	-28.97	-19.45	197	1.96
5093.06	-27.65	33.47	40.37	29.86	46.19	35.68	74	54	-27.81	-18.32	294	2.29

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH03 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2422.00 (F)	-30.99	28.11	92.85	79.26	89.97	76.38	114	94	-24.03	-17.62	152	1.53
4844.00	-28.07	33.03	38.62	28.14	43.57	33.09	74	54	-30.43	-20.91	198	1.59
7266.00	-25.89	35.84	36.89	26.34	46.84	36.29	74	54	-27.16	-17.71	213	1.44
9688.00	-24.80	37.88	36.30	25.89	49.37	38.96	74	54	-24.63	-15.04	278	1.47
12110.00	-22.83	39.09	33.18	22.77	49.44	39.03	74	54	-24.56	-14.97	67	1.51
14532.00	-20.00	42.17	29.34	18.85	51.51	41.02	74	54	-22.49	-12.98	99	1.50

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2422.00 (F)	-30.99	28.11	89.57	76.71	86.69	73.83	114	94	-27.31	-20.17	325	1.63
4844.00	-28.07	33.03	39.09	28.53	44.04	33.48	74	54	-29.96	-20.52	301	1.67
7266.00	-25.89	35.84	36.87	26.31	46.82	36.26	74	54	-27.18	-17.74	142	1.66
9688.00	-24.80	37.88	36.60	26.13	49.67	39.20	74	54	-24.33	-14.80	173	1.55
12110.00	-22.83	39.09	32.93	22.55	49.19	38.81	74	54	-24.81	-15.19	92	1.58
14532.00	-20.00	42.17	29.33	18.80	51.50	40.97	74	54	-22.50	-13.03	349	1.47

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH06
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2132.70	-31.33	27.76	44.52	34.01	40.95	30.44	74	54	-33.05	-23.56	126	2.18
3043.92	-30.55	30.18	43.43	32.97	43.06	32.60	74	54	-30.94	-21.40	273	1.89
3479.54	-29.96	30.96	43.18	32.68	44.18	33.68	74	54	-29.82	-20.32	108	1.77
4237.88	-28.73	32.20	41.52	31.04	44.99	34.51	74	54	-29.01	-19.49	79	1.52
4648.27	-28.30	32.56	40.97	30.48	45.23	34.74	74	54	-28.77	-19.26	198	1.40
5421.16	-26.81	33.74	39.38	28.87	46.30	35.79	74	54	-27.70	-18.21	245	1.18

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1593.82	-32.10	25.73	47.97	37.49	41.60	31.12	74	54	-32.40	-22.88	72	1.03
3008.96	-30.60	30.11	43.56	33.02	43.08	32.54	74	54	-30.92	-21.46	119	1.58
3459.15	-29.99	30.93	43.52	33.06	44.46	34.00	74	54	-29.54	-20.00	307	1.73
4112.40	-28.86	32.20	40.88	30.39	44.22	33.73	74	54	-29.78	-20.27	196	1.98
4764.24	-28.16	32.83	41.00	30.55	45.67	35.22	74	54	-28.33	-18.78	297	2.13
5643.88	-26.81	33.80	39.56	29.13	46.55	36.12	74	54	-27.45	-17.88	280	2.30

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH06 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	91.63	78.25	88.78	75.40	114	94	-25.22	-18.60	177	1.56
4874.00	-28.04	33.10	38.79	28.28	43.85	33.34	74	54	-30.15	-20.66	69	1.51
7311.00	-25.85	35.95	36.95	26.41	47.05	36.51	74	54	-26.95	-17.49	194	1.45
9748.00	-24.76	37.90	36.32	25.84	49.46	38.98	74	54	-24.54	-15.02	220	1.61
12185.00	-22.61	39.02	32.87	22.50	49.28	38.91	74	54	-24.72	-15.09	258	1.63
14622.00	-20.02	41.81	28.64	18.15	50.43	39.94	74	54	-23.57	-14.06	317	1.59

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2437.00 (F)	-30.97	28.12	89.14	76.03	86.29	73.18	114	94	-27.71	-20.82	302	1.51
4874.00	-28.04	33.10	40.08	29.58	45.14	34.64	74	54	-28.86	-19.36	114	1.50
7311.00	-25.85	35.95	36.99	26.50	47.09	36.60	74	54	-26.91	-17.40	263	1.49
9748.00	-24.76	37.90	36.21	25.89	49.35	39.03	74	54	-24.65	-14.97	274	1.66
12185.00	-22.61	39.02	32.85	22.46	49.26	38.87	74	54	-24.74	-15.13	83	1.67
14622.00	-20.02	41.81	28.57	18.03	50.36	39.82	74	54	-23.64	-14.18	96	1.58

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH09
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1746.10	-31.87	26.43	46.19	35.67	40.76	30.24	74	54	-33.24	-23.76	159	2.29
2074.29	-31.39	27.69	44.34	33.89	40.63	30.18	74	54	-33.37	-23.82	327	2.10
2722.58	-30.77	29.04	44.90	34.31	43.17	32.58	74	54	-30.83	-21.42	87	1.96
3713.13	-29.52	31.51	41.72	31.28	43.71	33.27	74	54	-30.29	-20.73	102	1.68
4511.90	-28.46	32.23	41.32	30.86	45.09	34.63	74	54	-28.91	-19.37	65	1.44
5397.68	-26.87	33.72	39.70	29.22	46.54	36.06	74	54	-27.46	-17.94	74	1.17

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
1638.57	-32.03	25.93	46.90	36.40	40.80	30.30	74	54	-33.20	-23.70	240	1.08
2274.94	-31.16	27.93	43.28	32.75	40.05	29.52	74	54	-33.95	-24.48	331	1.39
3031.01	-30.57	30.16	43.97	33.49	43.56	33.08	74	54	-30.44	-20.92	163	1.62
3492.88	-29.94	30.99	42.83	32.26	43.87	33.30	74	54	-30.13	-20.70	199	1.77
4108.15	-28.86	32.20	41.27	30.70	44.61	34.04	74	54	-29.39	-19.96	255	1.90
5209.74	-27.35	33.57	40.64	30.17	46.85	36.38	74	54	-27.15	-17.62	78	2.23

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40_CH09 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 02, 2015

Antenna Polarization : Horizontal

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2452.00 (F)	-30.96	28.14	92.05	78.61	89.24	75.80	114	94	-24.76	-18.20	150	1.55
4904.00	-28.00	33.17	38.85	28.37	44.02	33.54	74	54	-29.98	-20.46	119	1.60
7356.00	-25.82	36.05	36.81	26.37	47.05	36.61	74	54	-26.95	-17.39	326	1.57
9808.00	-24.72	37.92	36.27	25.74	49.47	38.94	74	54	-24.53	-15.06	308	1.61
12260.00	-22.39	38.94	33.01	22.56	49.56	39.11	74	54	-24.44	-14.89	246	1.58
14712.00	-20.04	41.45	28.44	17.97	49.85	39.38	74	54	-24.15	-14.62	290	1.43

Antenna Polarization : Vertical

Frequency (MHz)	Correct Factor (dB)	Ant. Factor (dB/m)	Reading Data (dB μ V)		Emission Level (dB μ V/m)		Limit (dB μ V/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2452.00 (F)	-30.96	28.14	88.72	75.29	85.91	72.48	114	94	-28.09	-21.52	188	1.49
4904.00	-28.00	33.17	38.60	28.04	43.77	33.21	74	54	-30.23	-20.79	257	1.51
7356.00	-25.82	36.05	36.67	26.13	46.91	36.37	74	54	-27.09	-17.63	40	1.57
9808.00	-24.72	37.92	36.13	25.69	49.33	38.89	74	54	-24.67	-15.11	88	1.62
12260.00	-22.39	38.94	33.08	22.52	49.63	39.07	74	54	-24.37	-14.93	135	1.60
14712.00	-20.04	41.45	28.26	17.74	49.67	39.15	74	54	-24.33	-14.85	327	1.55

NOTE:

1. Measurement uncertainty is 3.85 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



4.3 BANDWIDTH TEST

4.3.1 LIMIT

FCC Part15, Subpart C Section 15.247 (a)(2). The minimum 6dB bandwidth shall be at least 500 kHz.

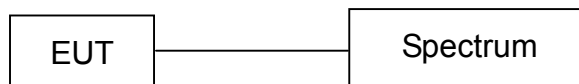
4.3.2 TEST EQUIPMENT

The following test equipment was used during the test :

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL /100176	MAY 24, 2016 ETC

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

4.3.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

4.3.4 TEST PROCEDURE

The EUT was operated in continuous transmission mode on any specific channel. Printed out the test result from the spectrum by hard copy function.

4.3.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.



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TEST REPORT

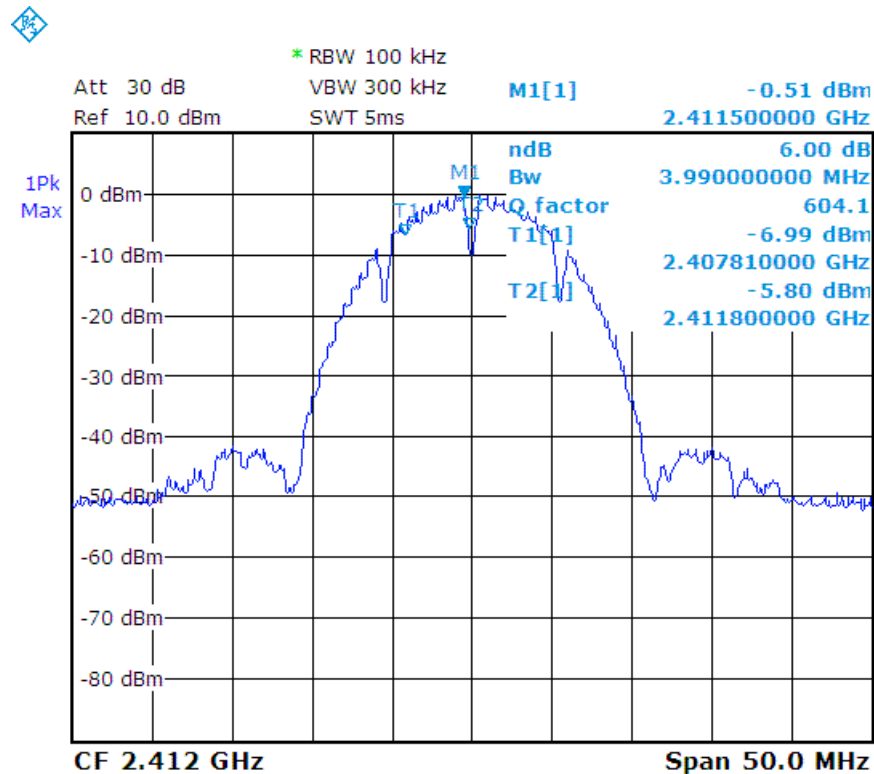
Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 115 of 216
 Date: Dec. 22, 2015

4.3.6 TEST RESULT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11b
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

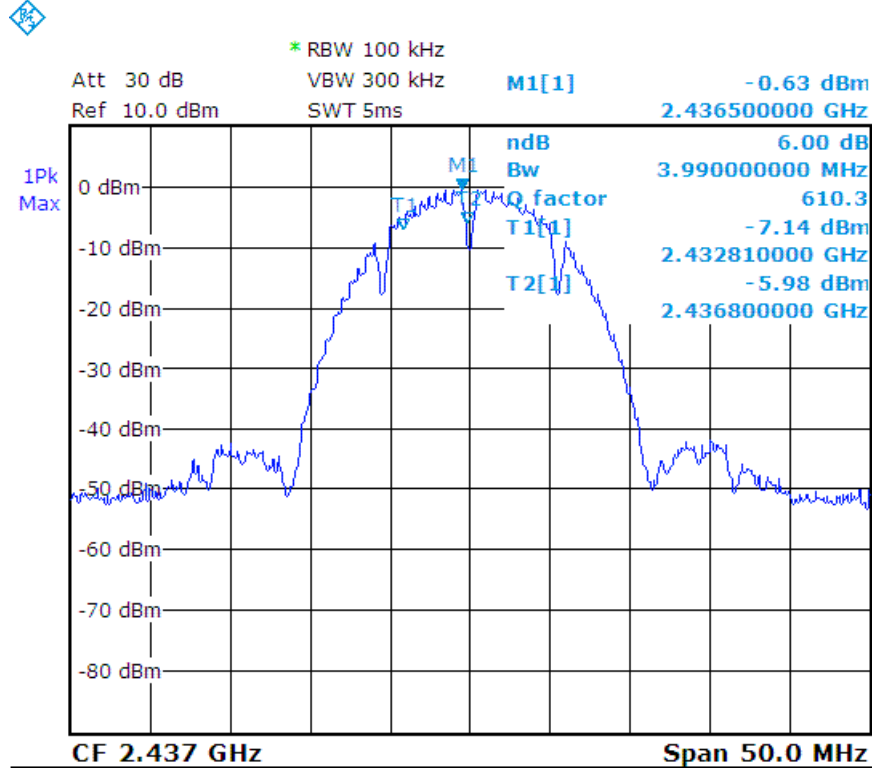
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	3.99	0.5
CH06	2437	3.99	0.5
CH11	2462	3.99	0.5

b_CH01 :

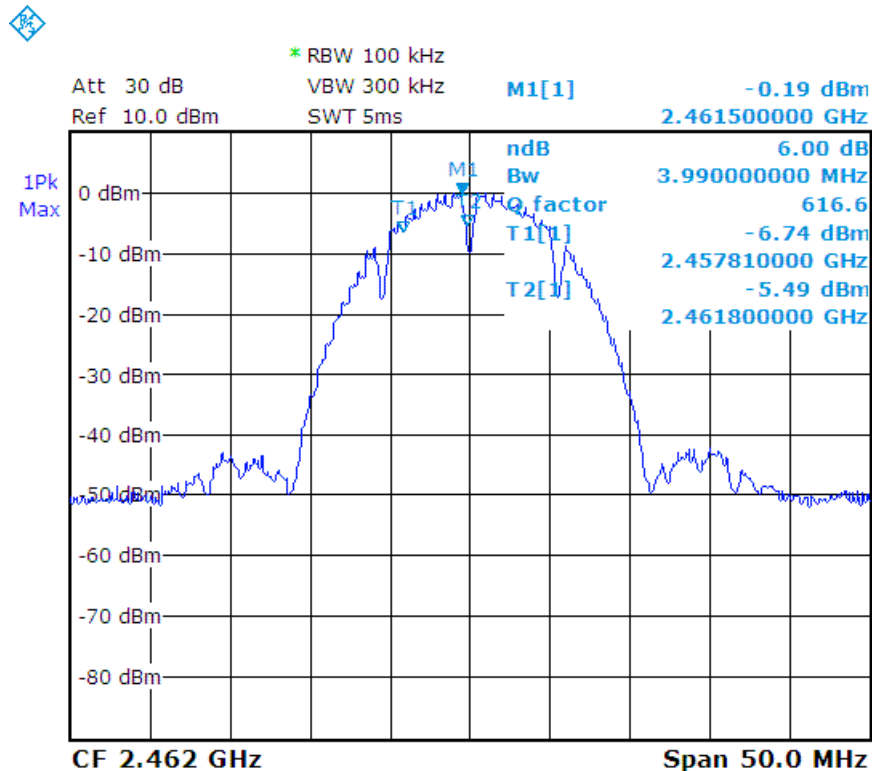




b_CH06 :



b_CH11 :





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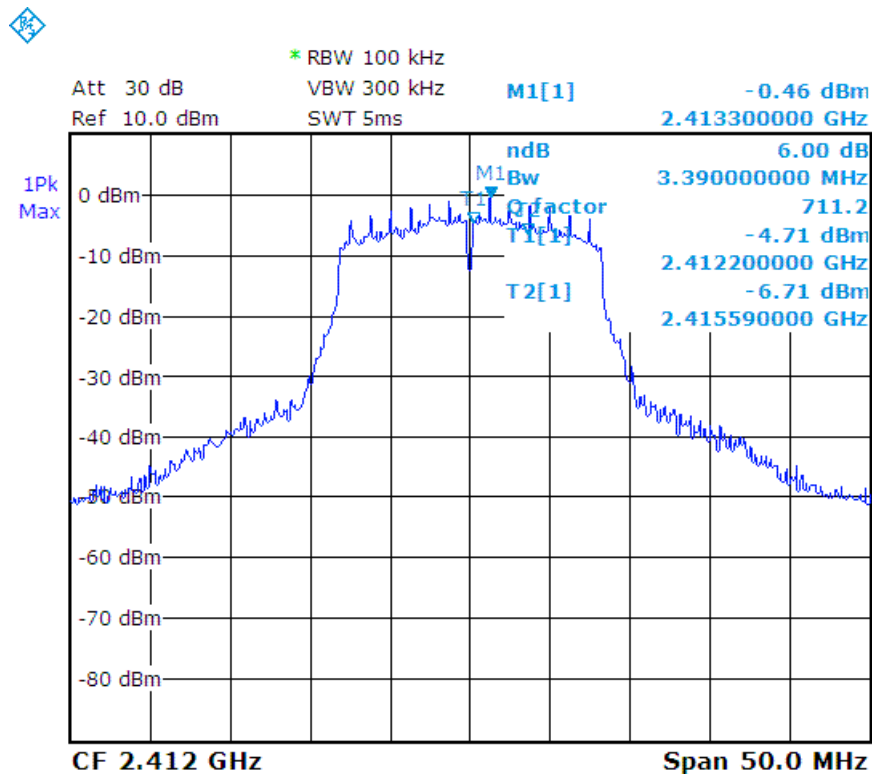
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 117 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11g
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

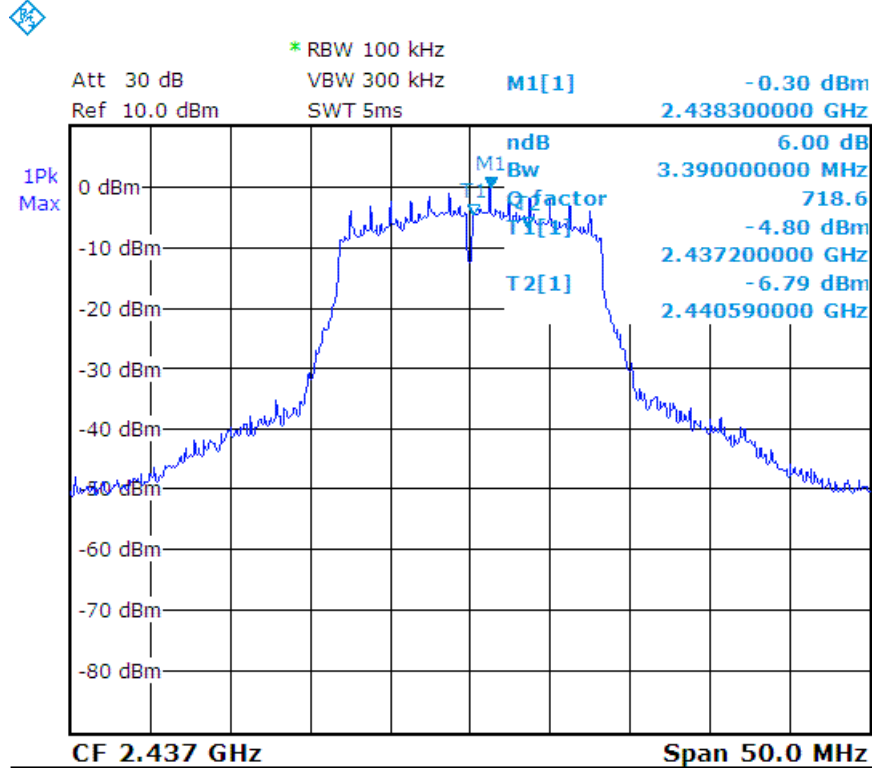
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	3.39	0.5
CH06	2437	3.39	0.5
CH11	2462	3.39	0.5

g_CH01 :

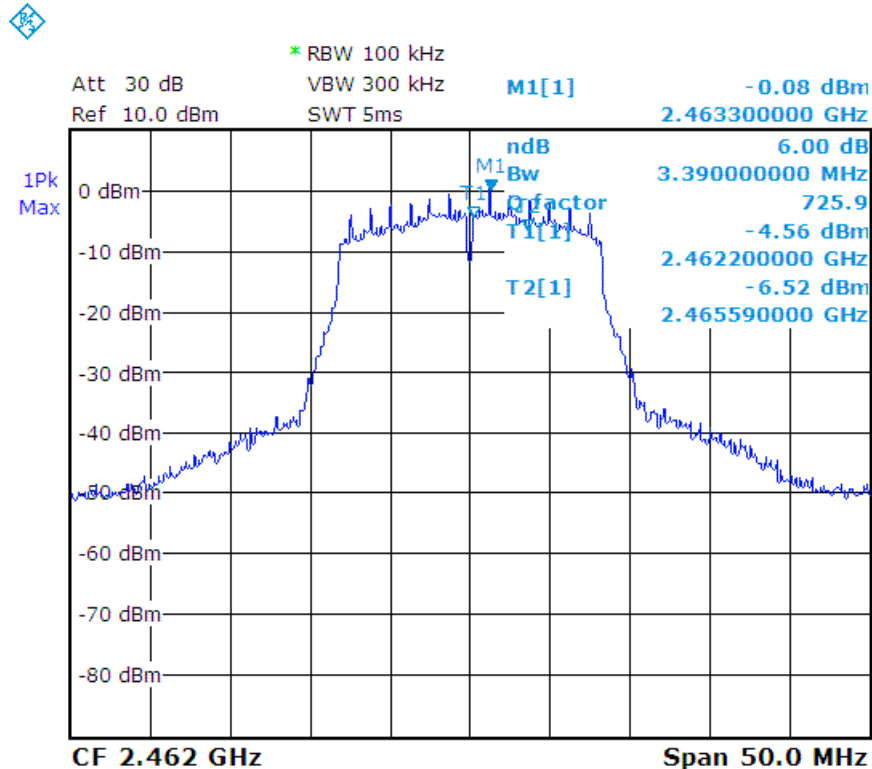




g_CH06 :



g_CH11 :





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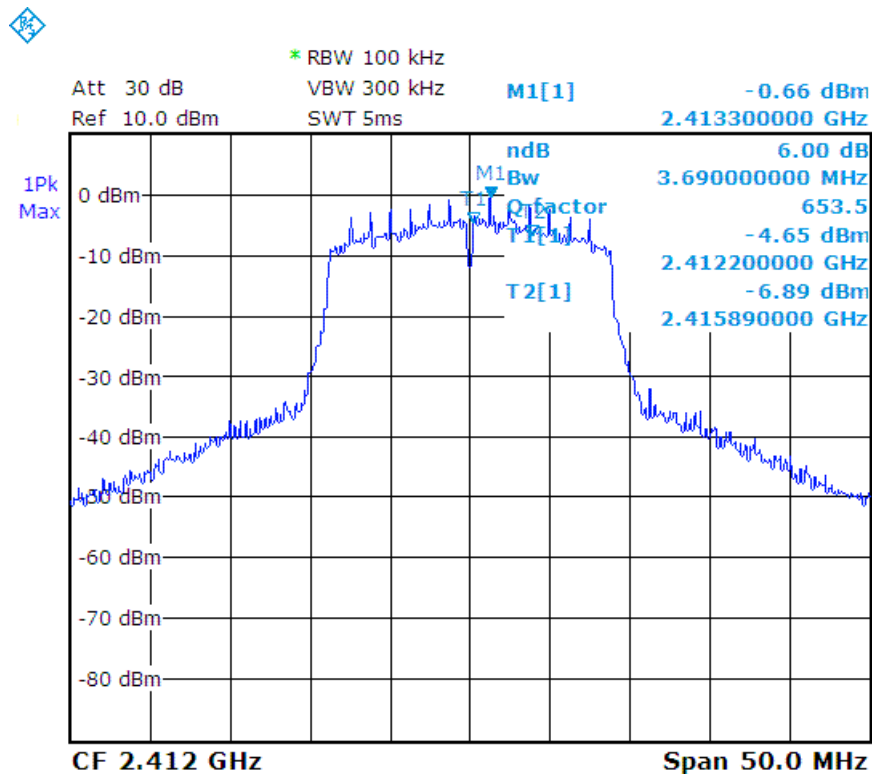
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 119 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11n - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

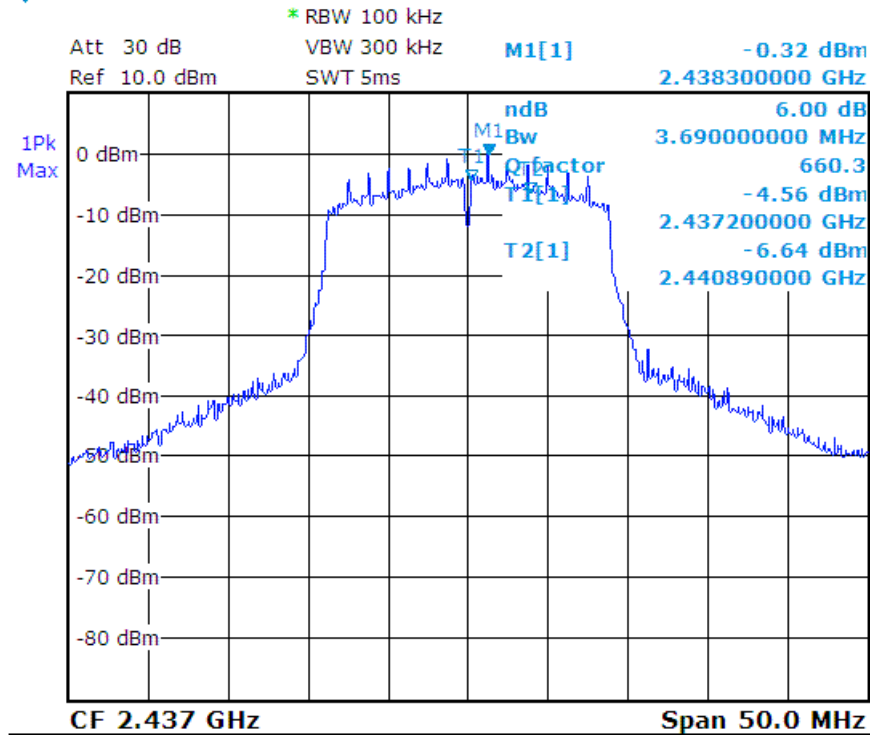
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	3.69	0.5
CH06	2437	3.69	0.5
CH11	2462	1.5	0.5

n - HT20_CH01 :

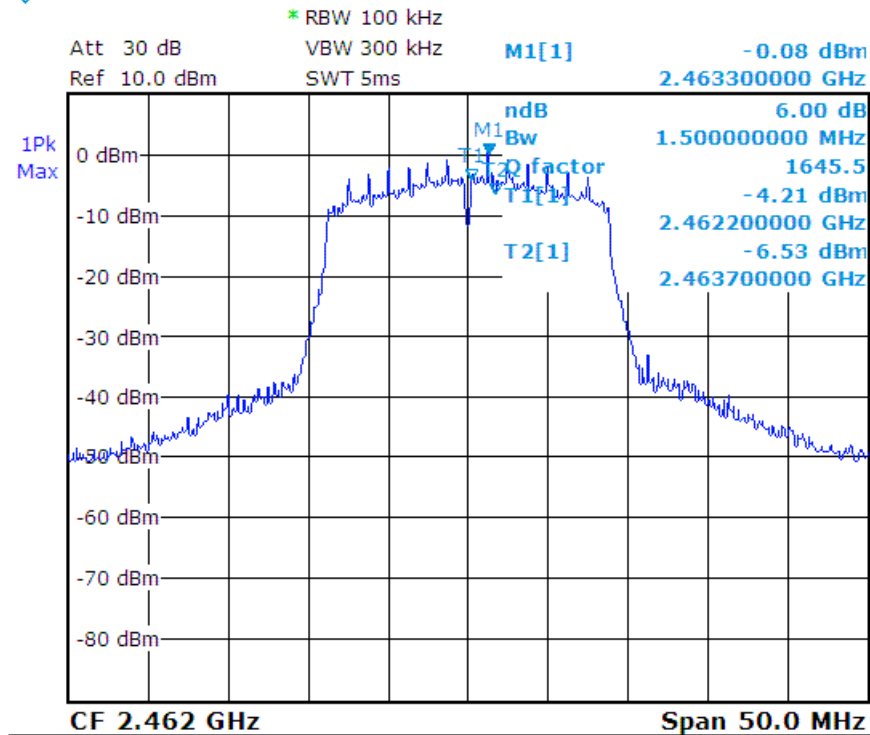




n - HT20_CH06 :



n - HT20_CH11 :





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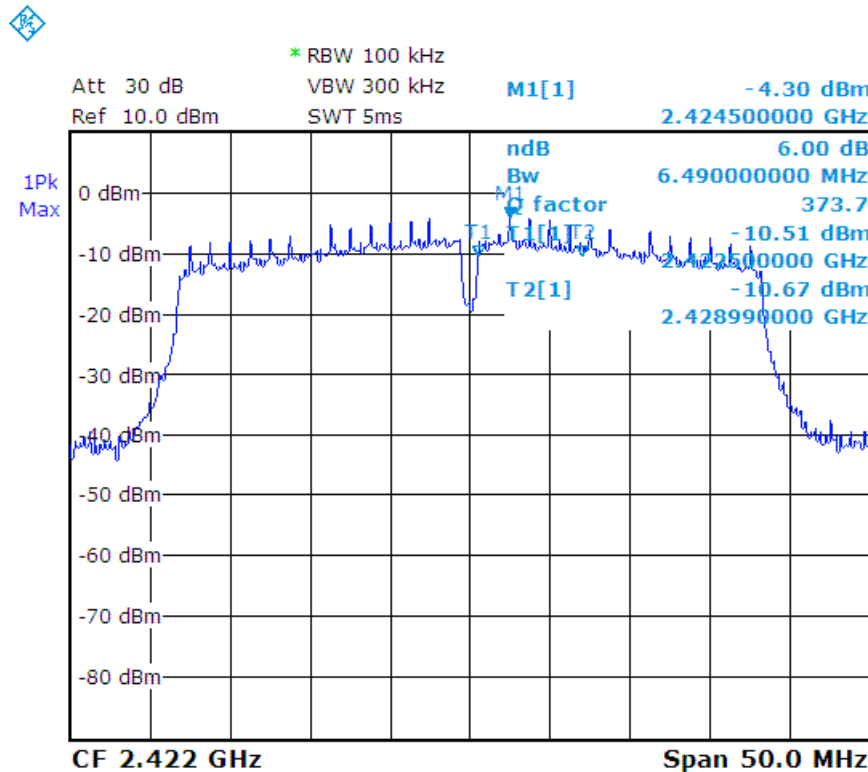
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 121 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11n - HT40
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

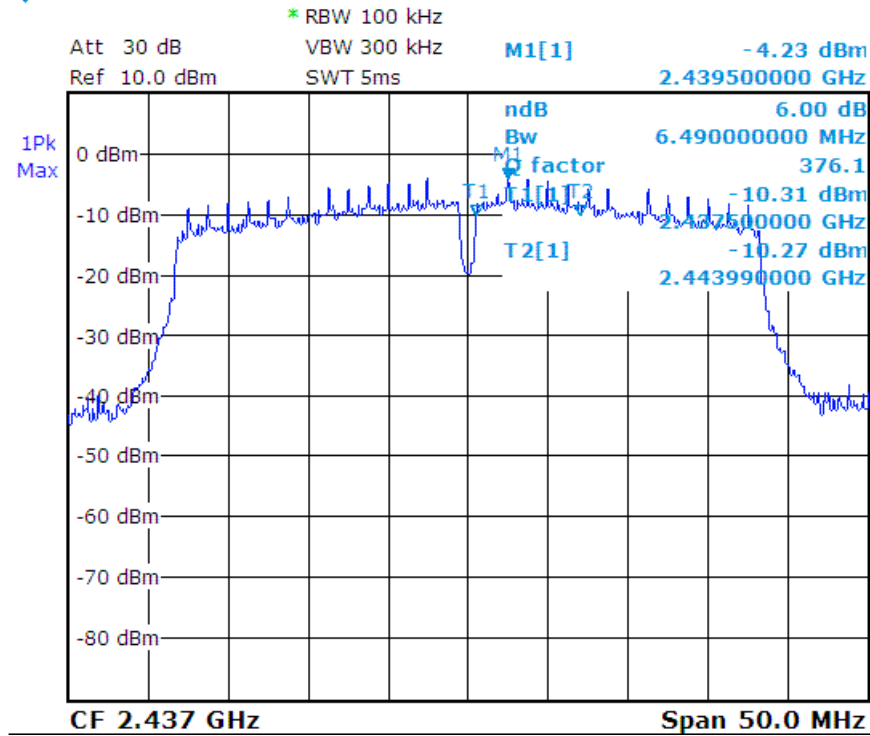
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH03	2422	6.49	0.5
CH06	2437	6.49	0.5
CH09	2452	6.49	0.5

n - HT40_CH03 :

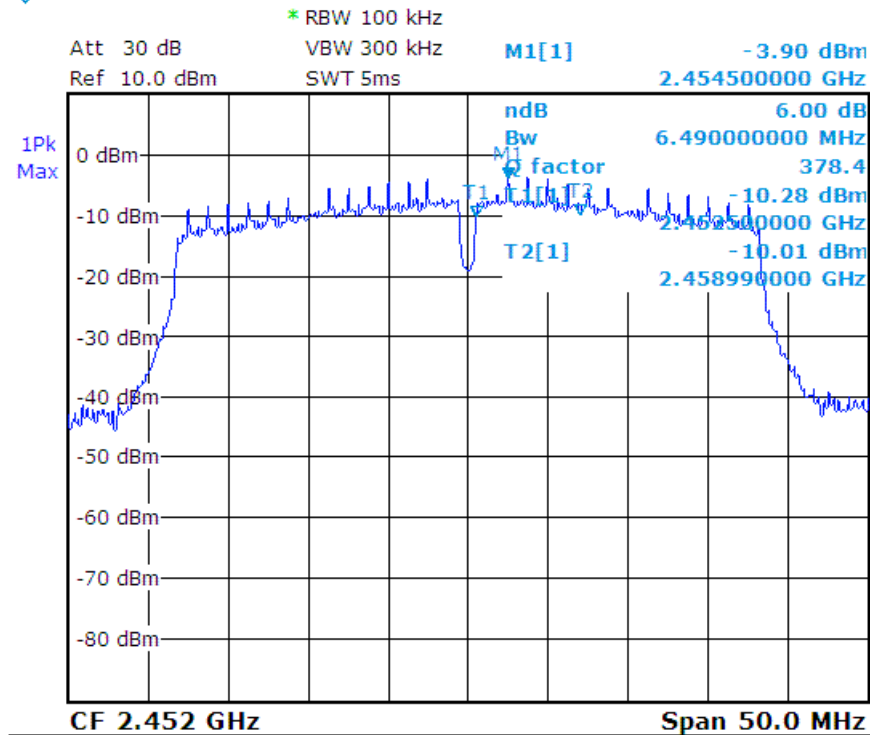




n - HT40_CH06 :



n - HT40_CH09 :





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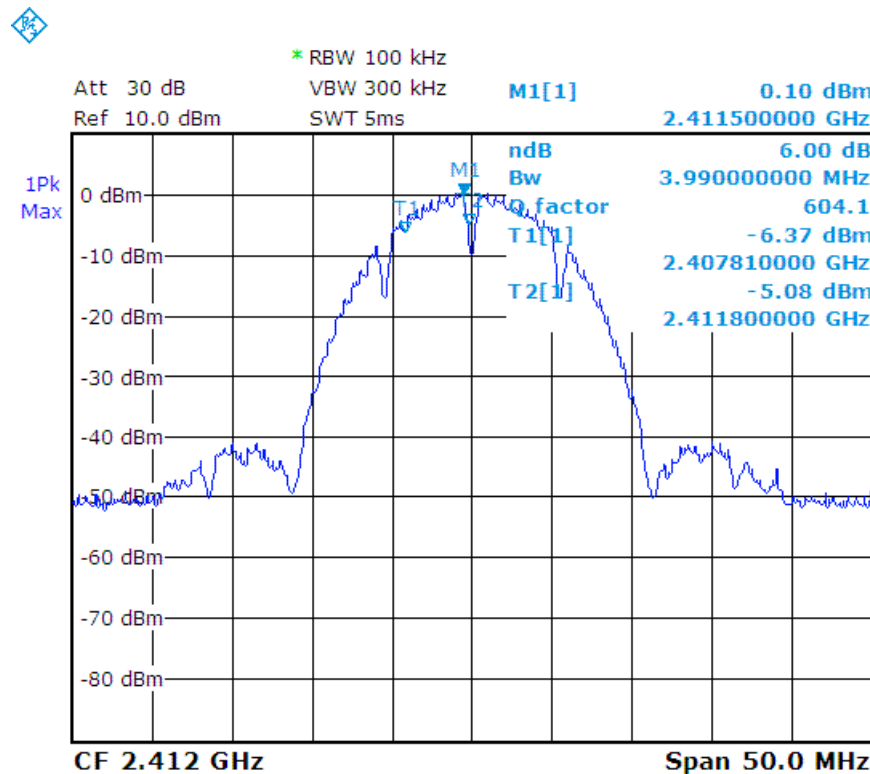
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 123 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11b
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

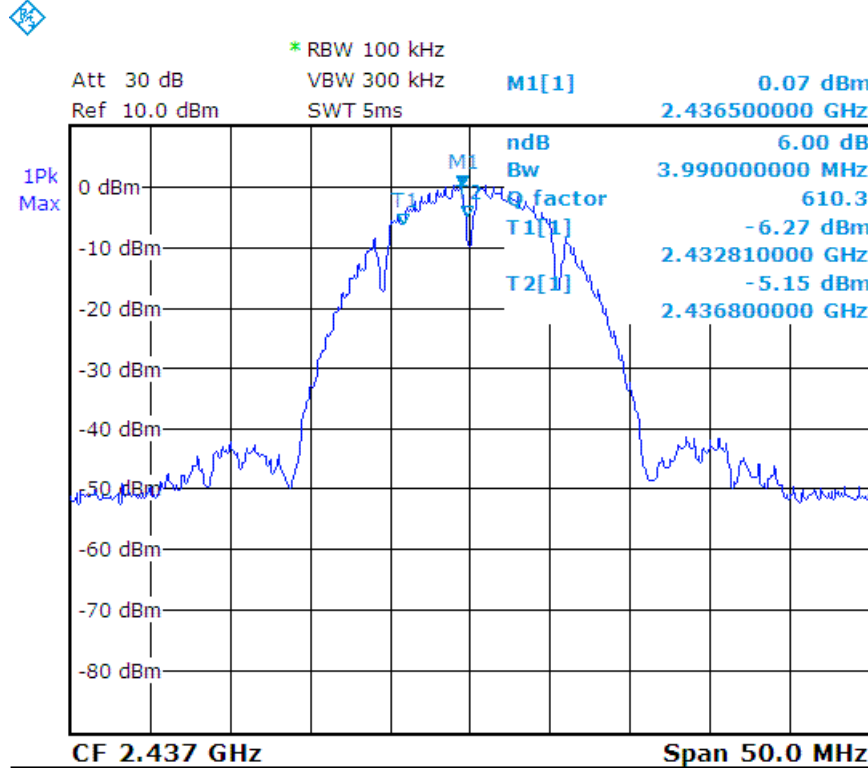
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	3.99	0.5
CH06	2437	3.99	0.5
CH11	2462	3.99	0.5

b_CH01 :

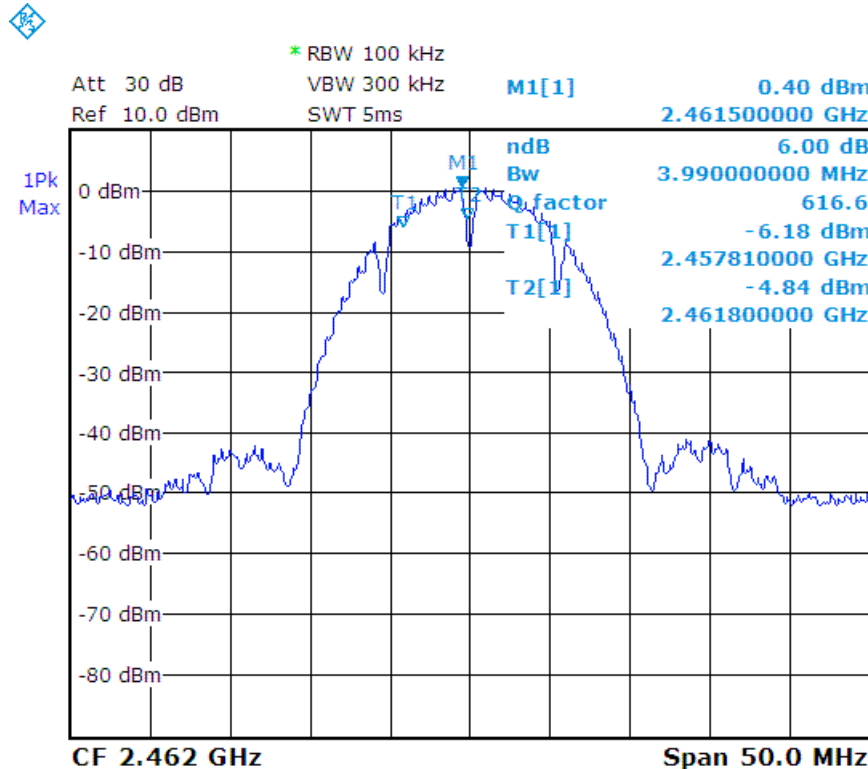




b_CH06 :



b_CH11 :





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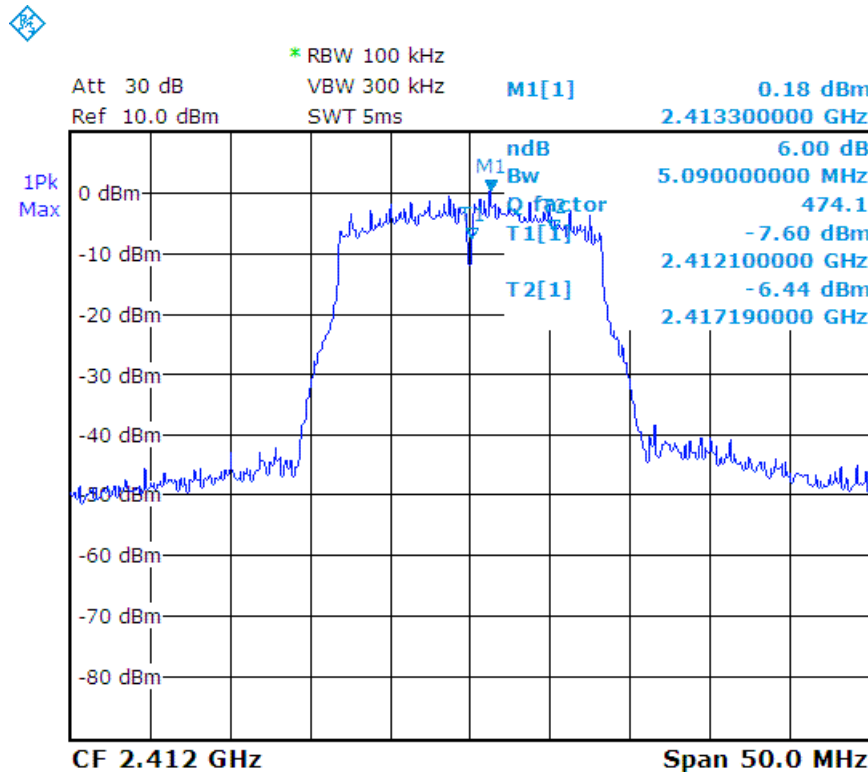
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 125 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11g
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

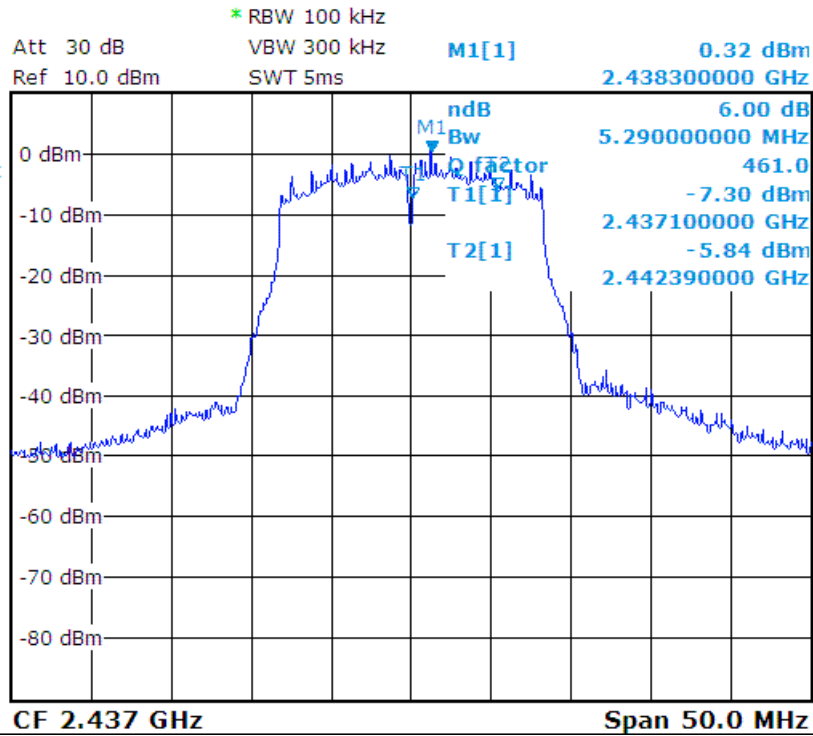
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	5.09	0.5
CH06	2437	5.29	0.5
CH11	2462	4.99	0.5

g_CH01 :

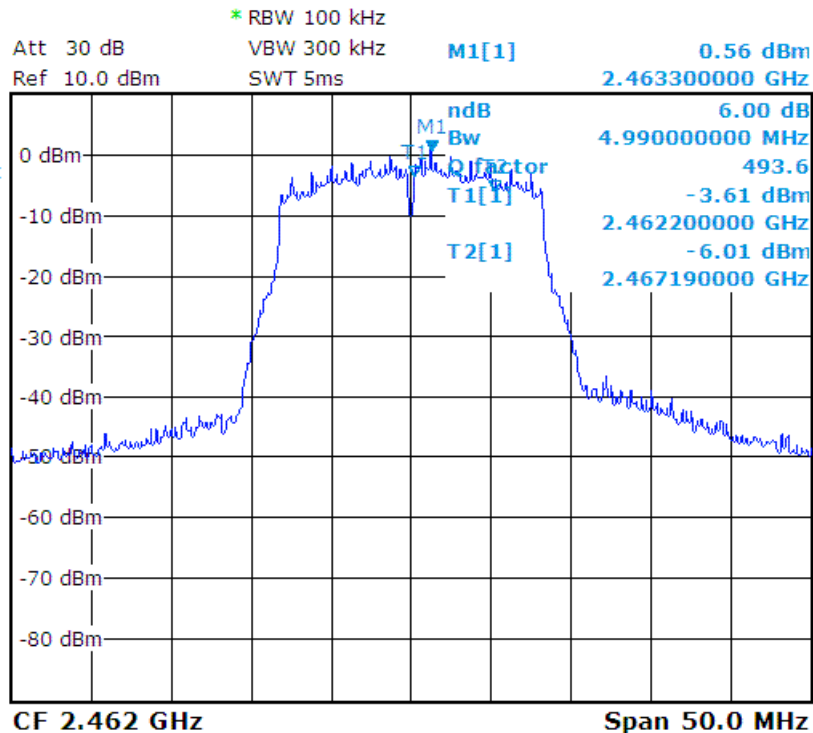




g_CH06 :



g_CH11 :





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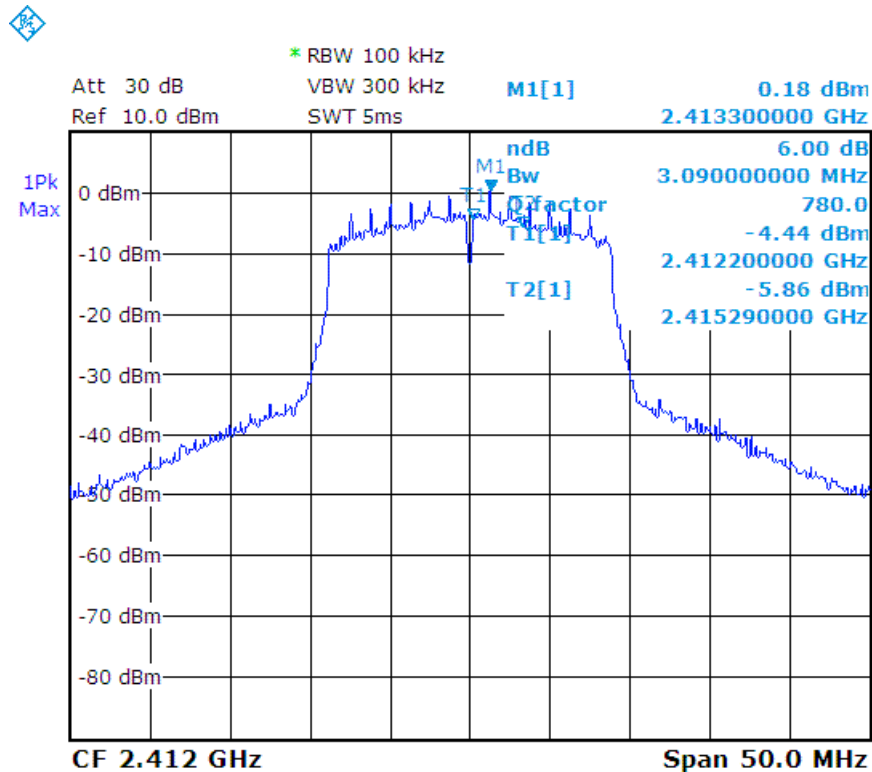
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 127 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11n - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

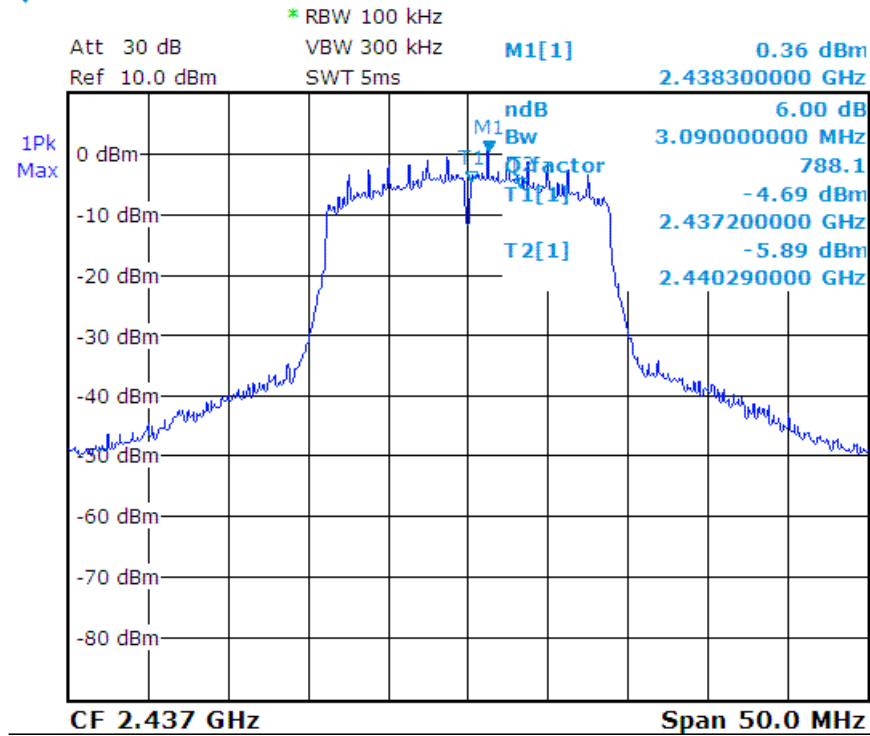
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	3.09	0.5
CH06	2437	3.09	0.5
CH11	2462	3.39	0.5

n - HT20_CH01 :

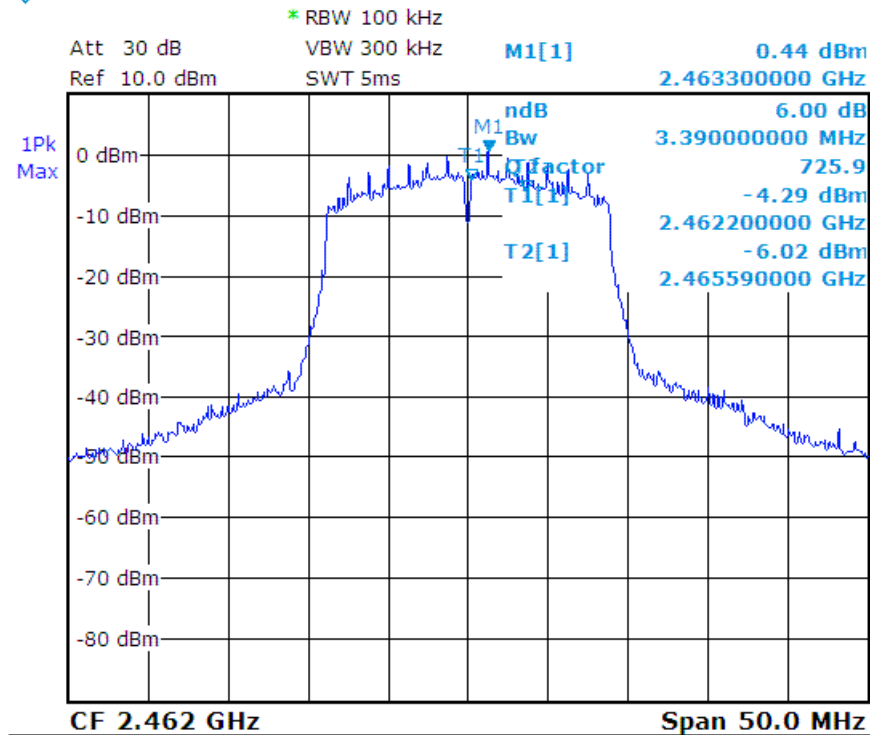




n - HT20_CH06 :



n - HT20_CH11 :





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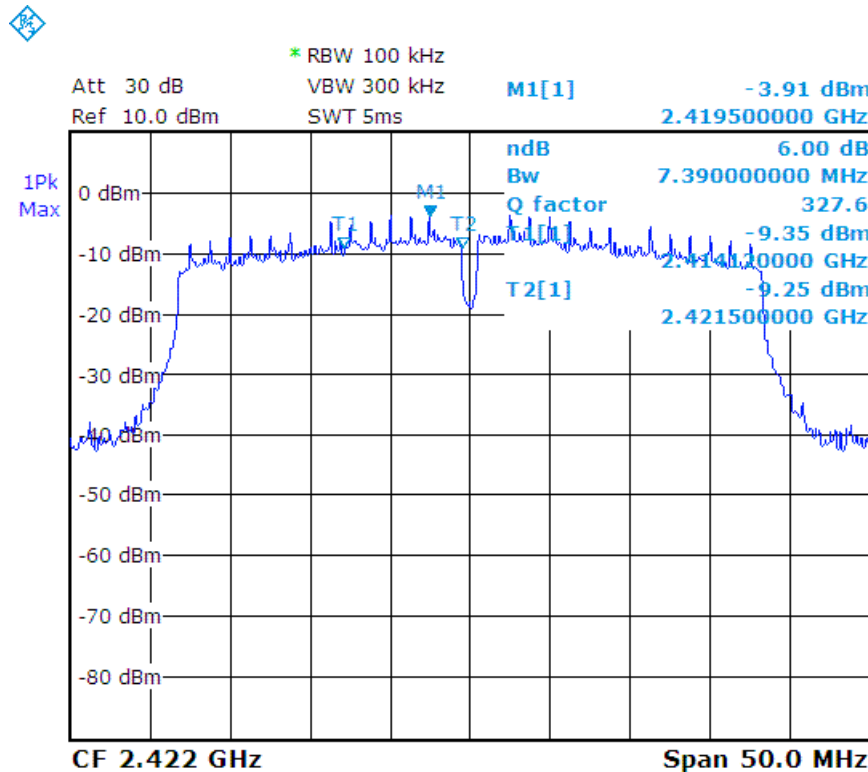
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 129 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11n - HT40
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

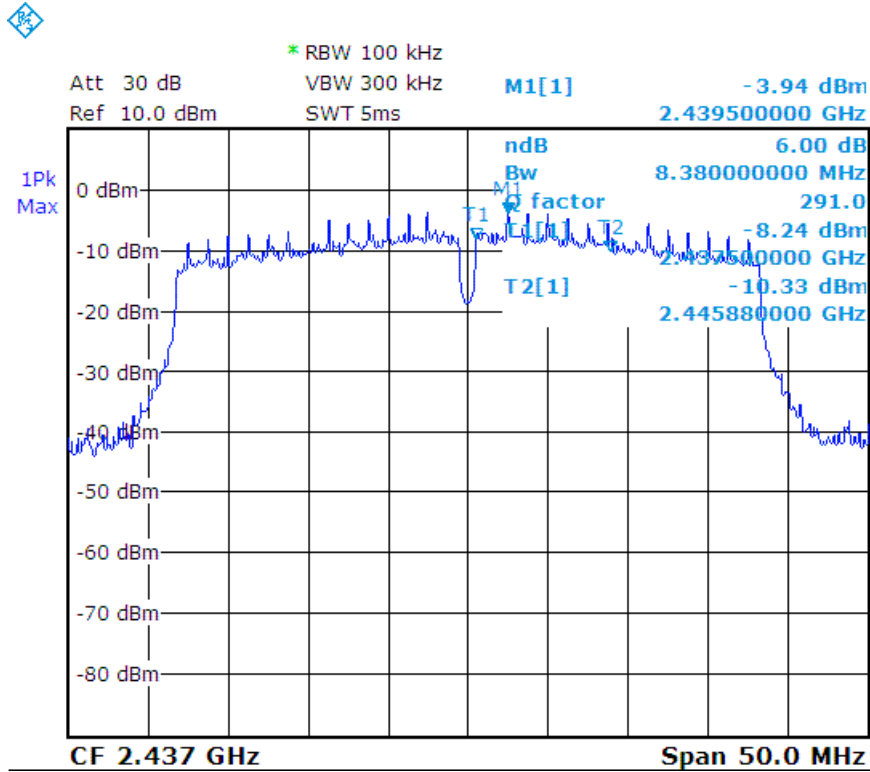
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH03	2422	7.39	0.5
CH06	2437	8.39	0.5
CH09	2452	8.68	0.5

n - HT40_CH03 :

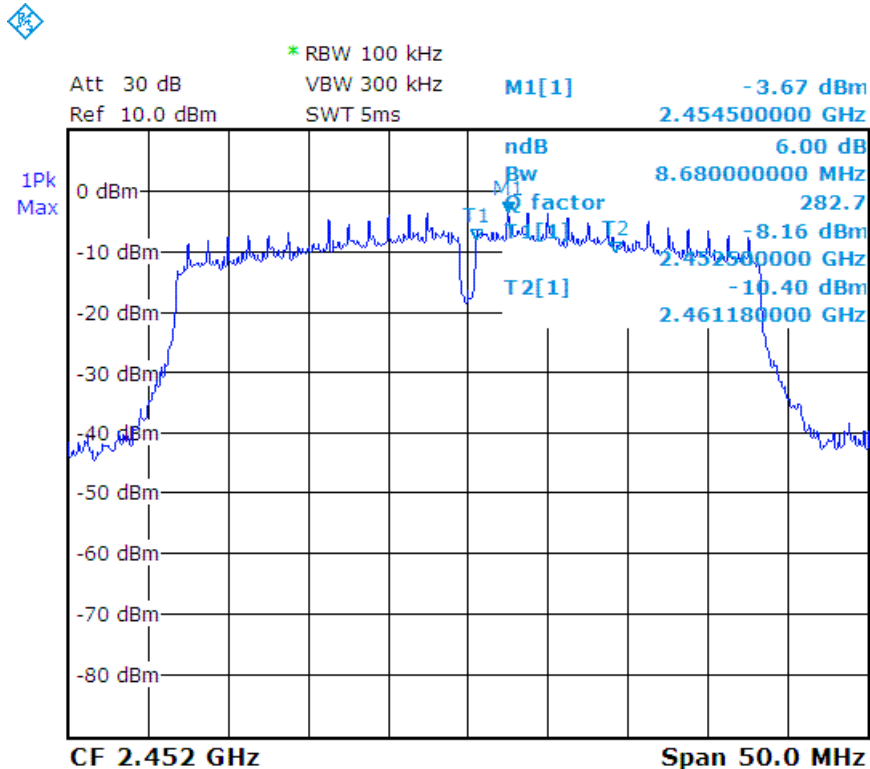




n - HT40_CH06 :



n - HT40_CH09 :





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TEST REPORT

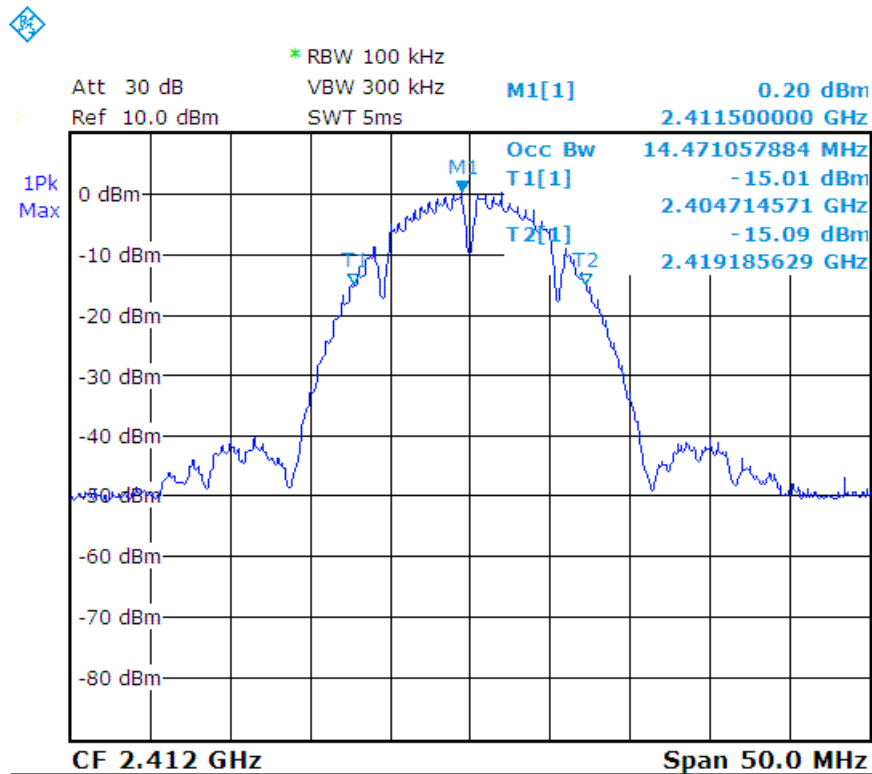
Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 131 of 216
 Date: Dec. 22, 2015

99% Bandwidth :

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11b
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

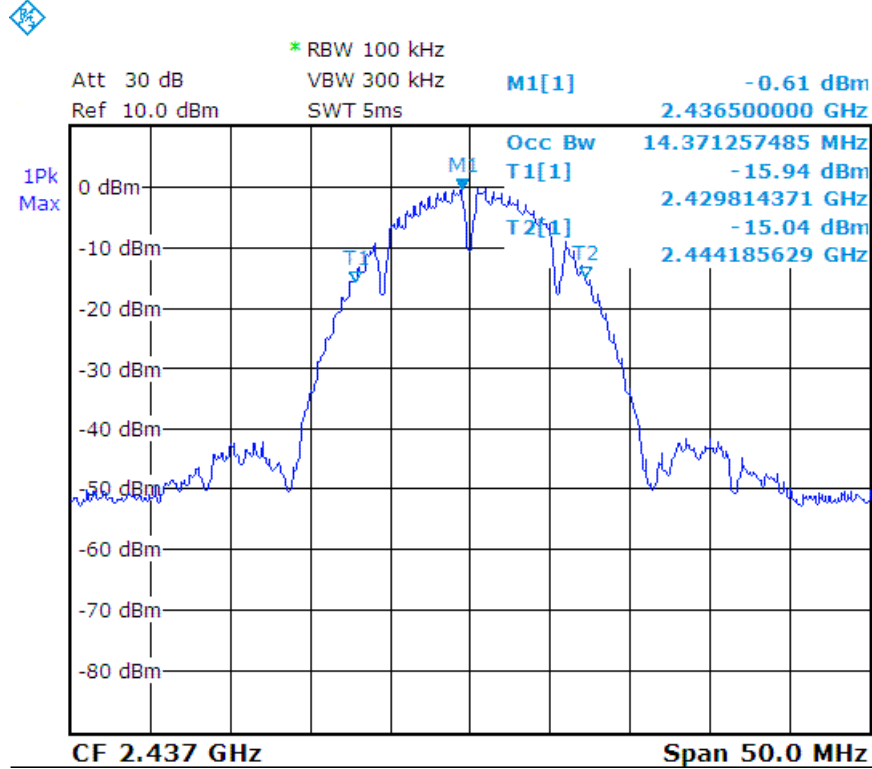
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	14.47
CH06	2437	14.37
CH11	2462	14.27

b_CH01 :

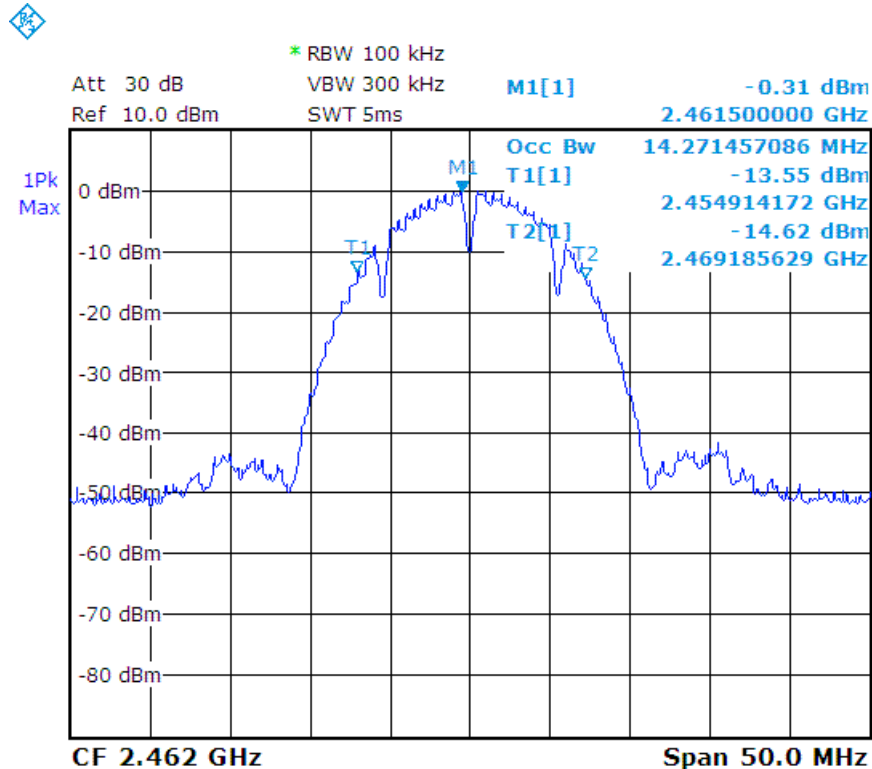




b_CH06 :



b_CH11 :





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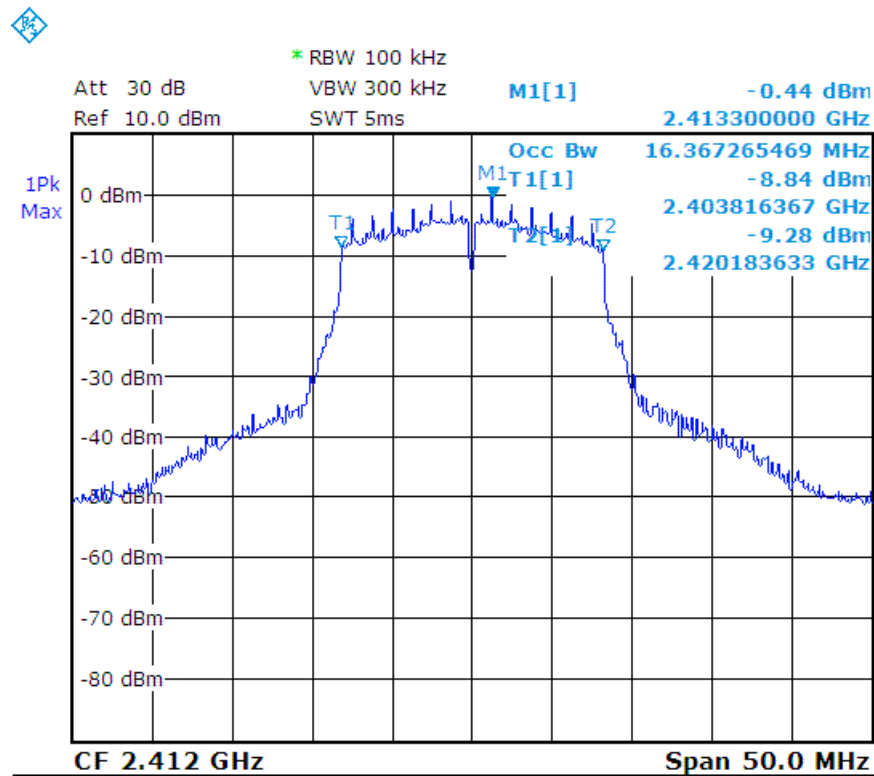
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 133 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11g
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

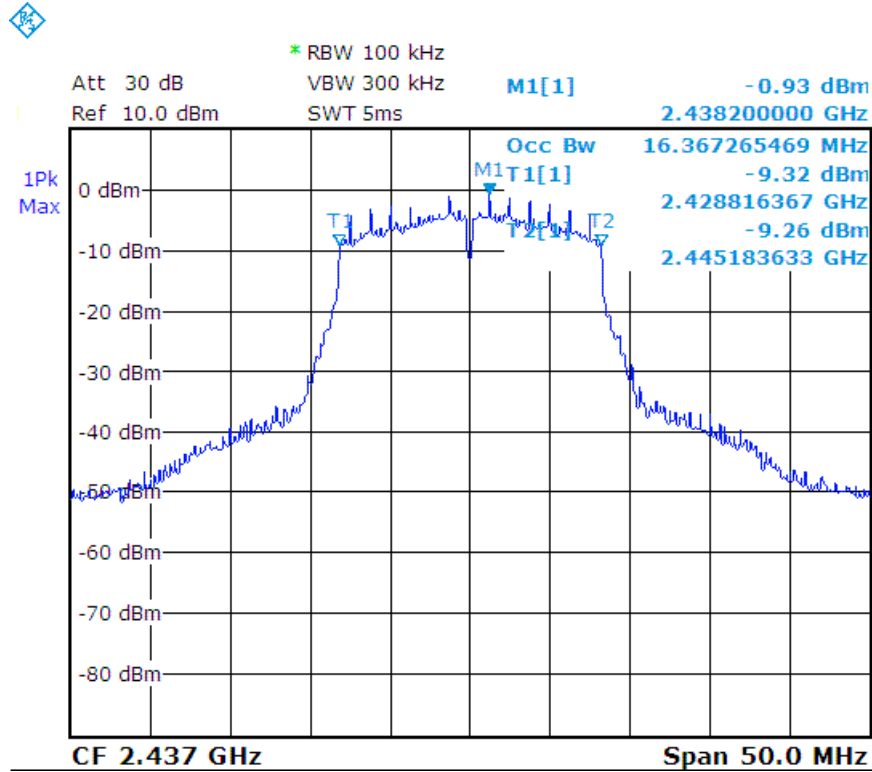
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	16.37
CH06	2437	16.37
CH11	2462	16.37

g_CH01 :

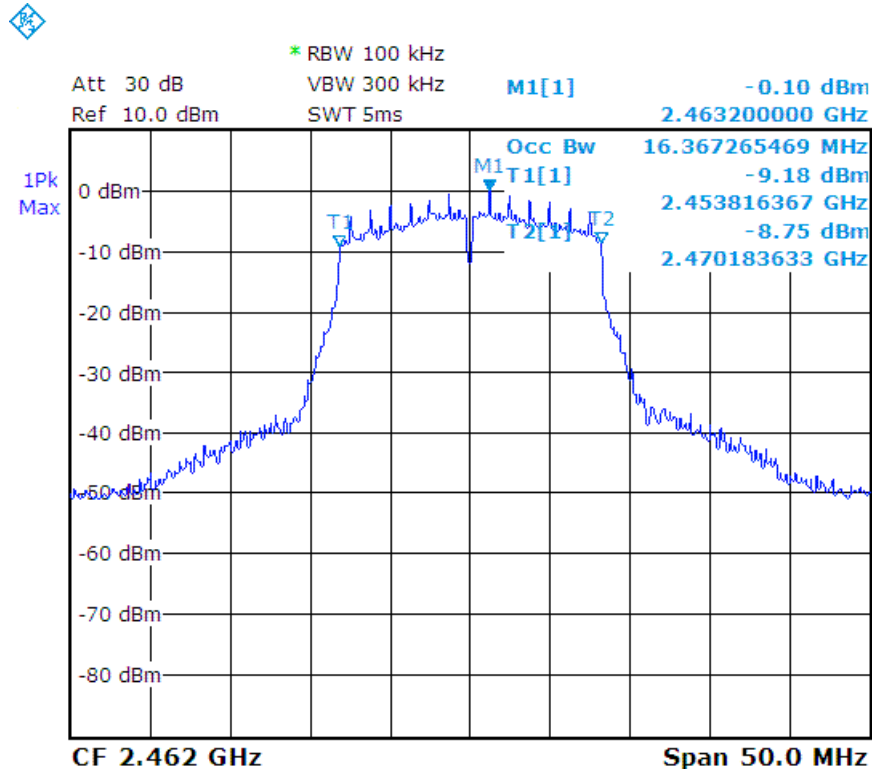




g_CH06 :



g_CH11 :





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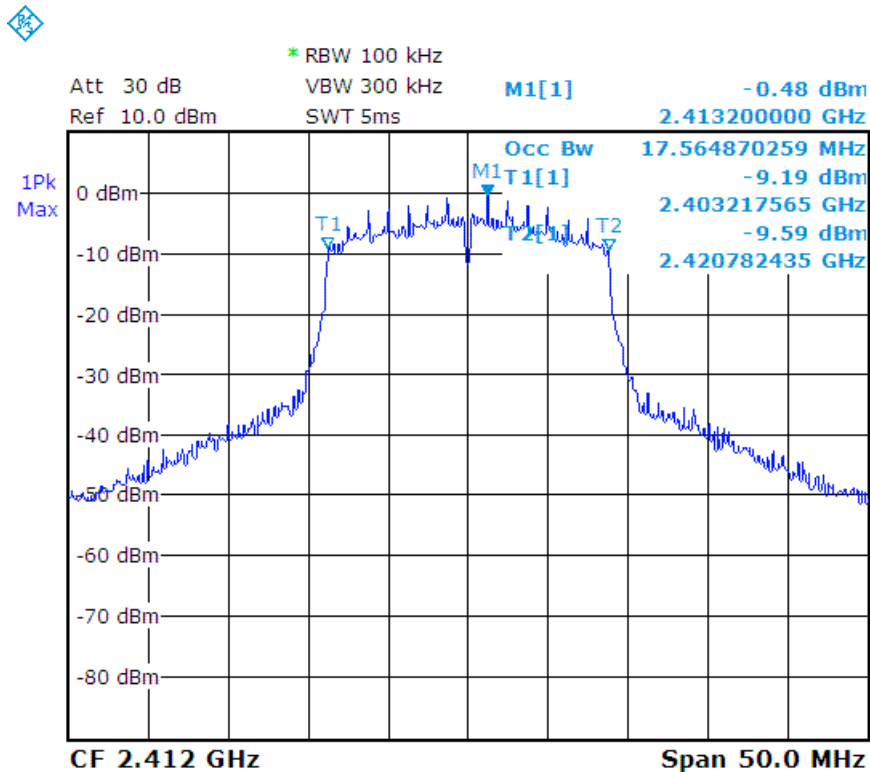
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 135 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11n - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

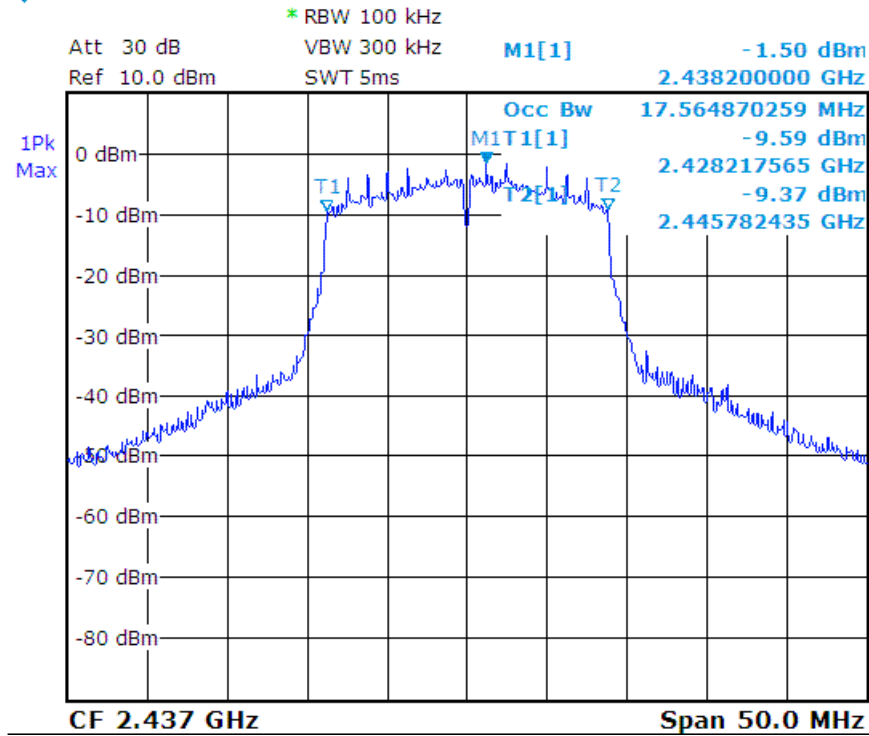
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	17.56
CH06	2437	17.56
CH11	2462	17.56

n - HT20_CH01 :

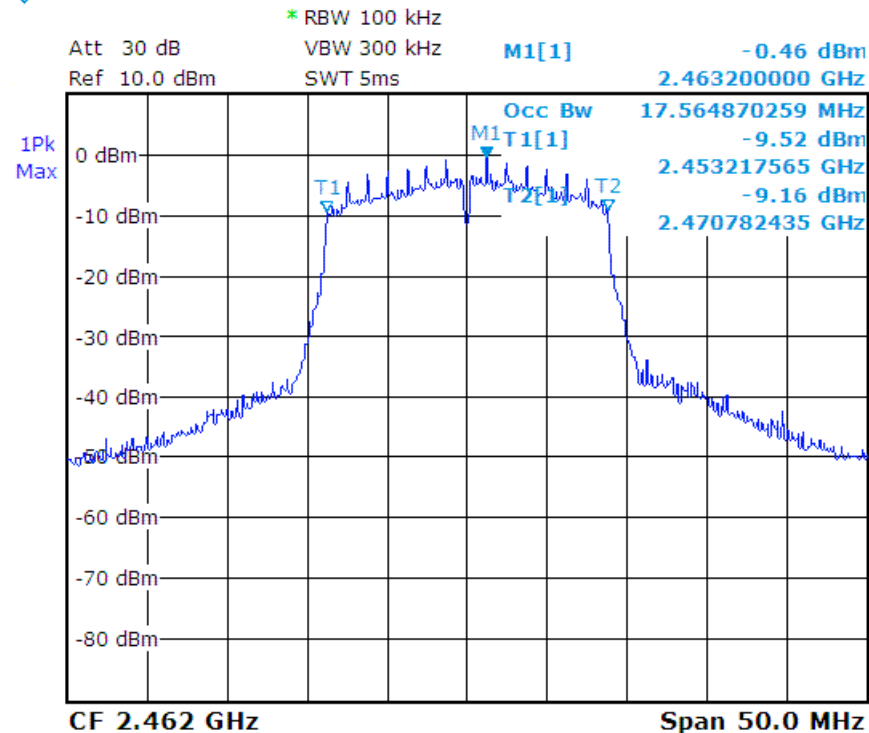




n - HT20_CH06 :



n - HT20_CH11 :





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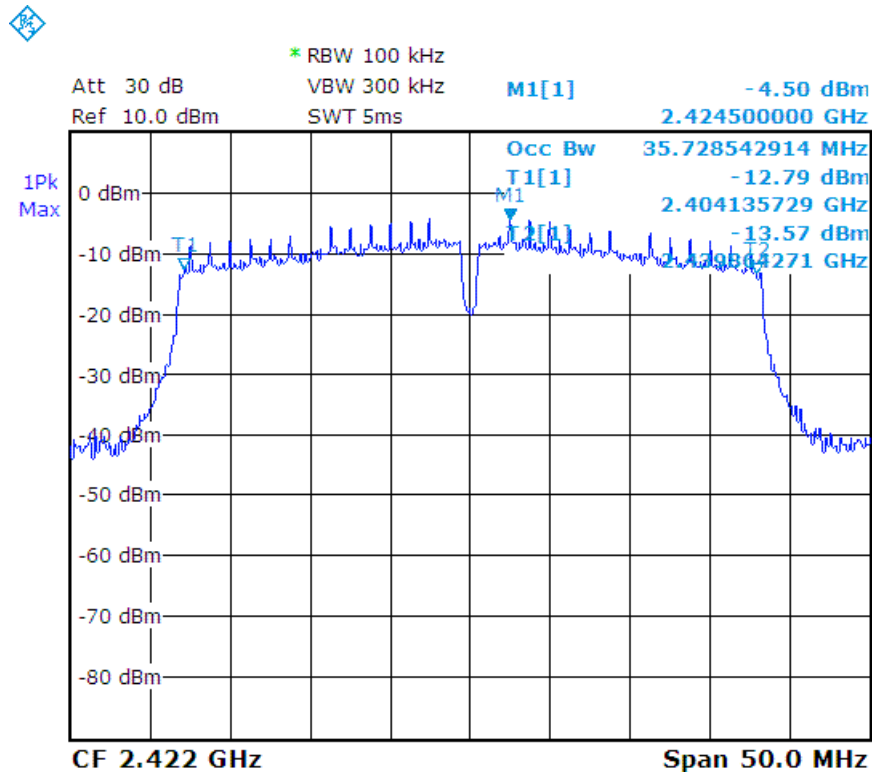
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 137 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_2.4G_802.11n - HT40
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

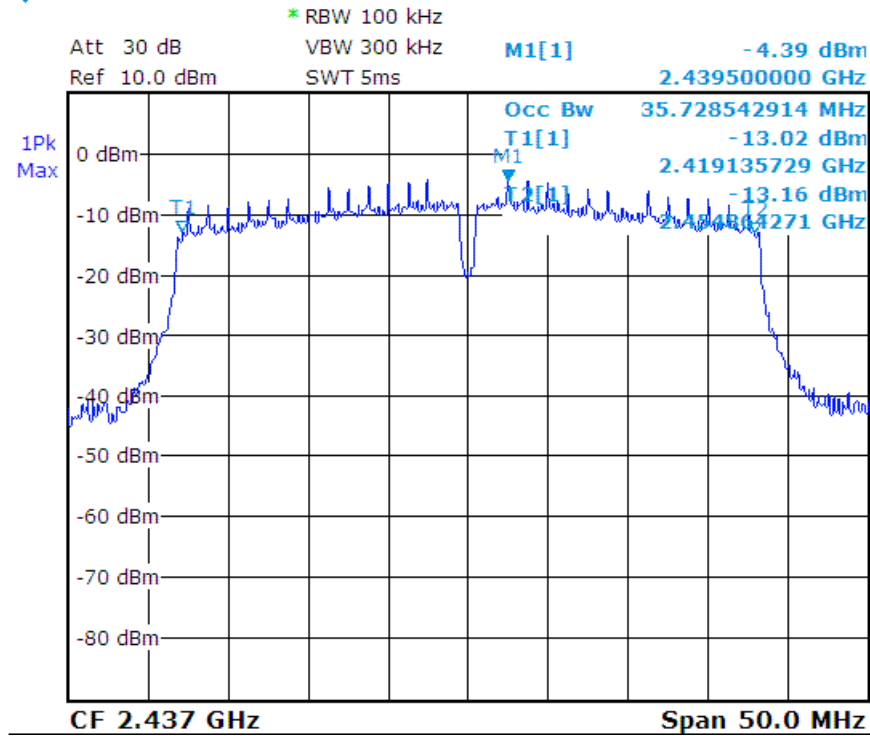
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH03	2422	35.73
CH06	2437	35.73
CH09	2452	35.73

n - HT40_CH03 :

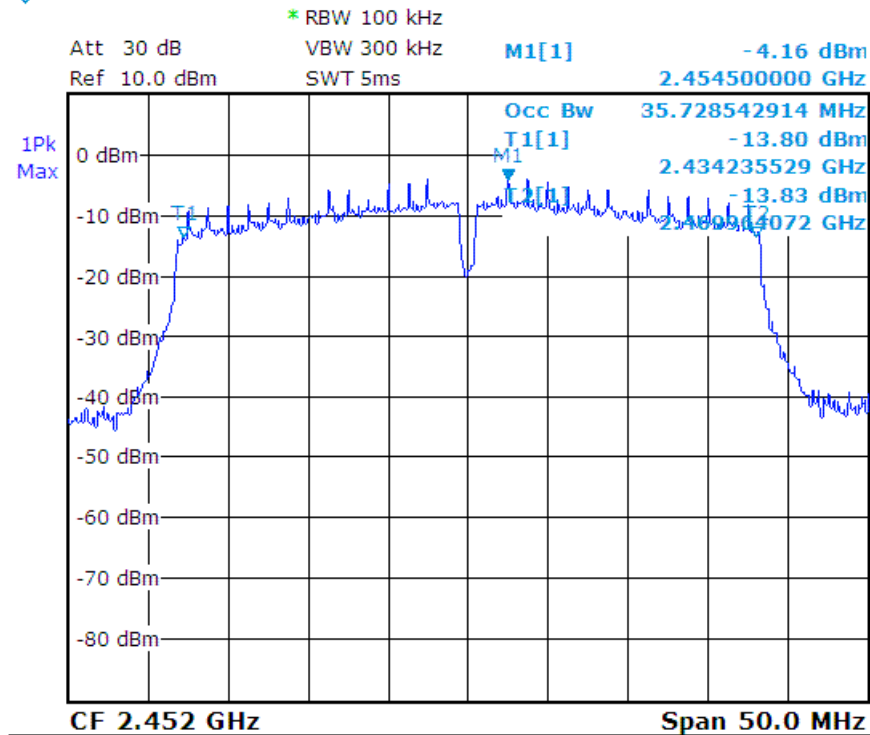




n - HT40_CH06 :



n - HT40_CH09 :





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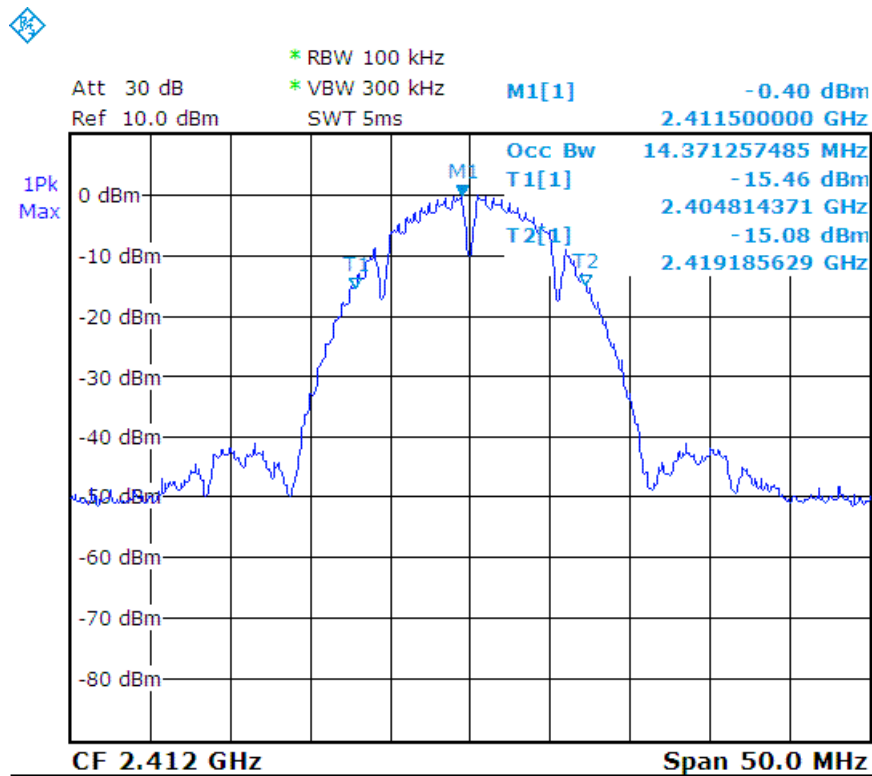
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 139 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11b
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

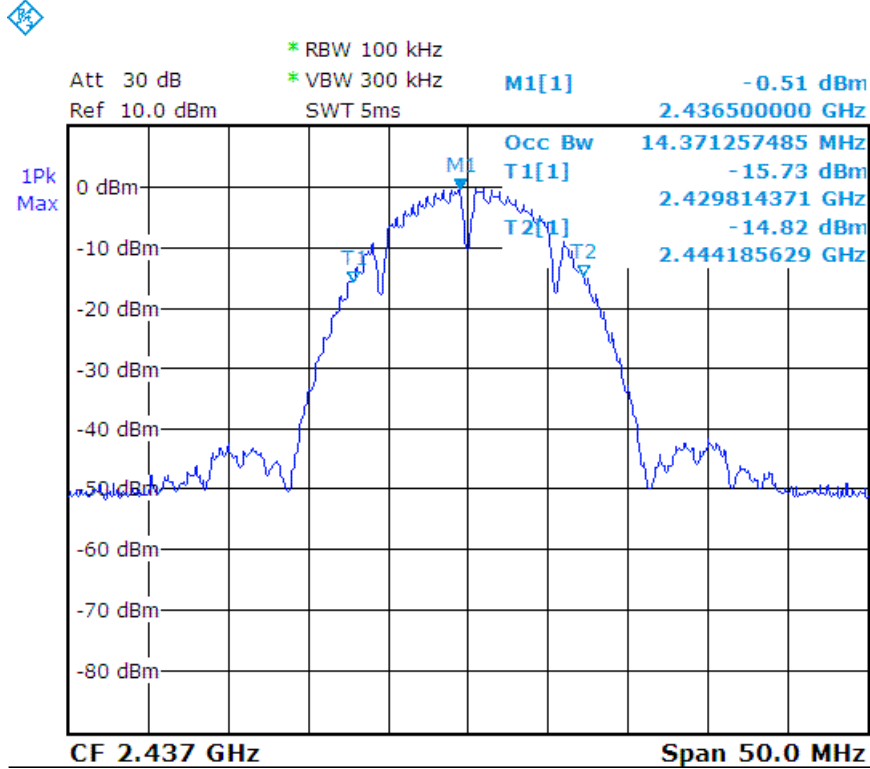
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	14.37
CH06	2437	14.37
CH11	2462	14.27

b_CH01 :

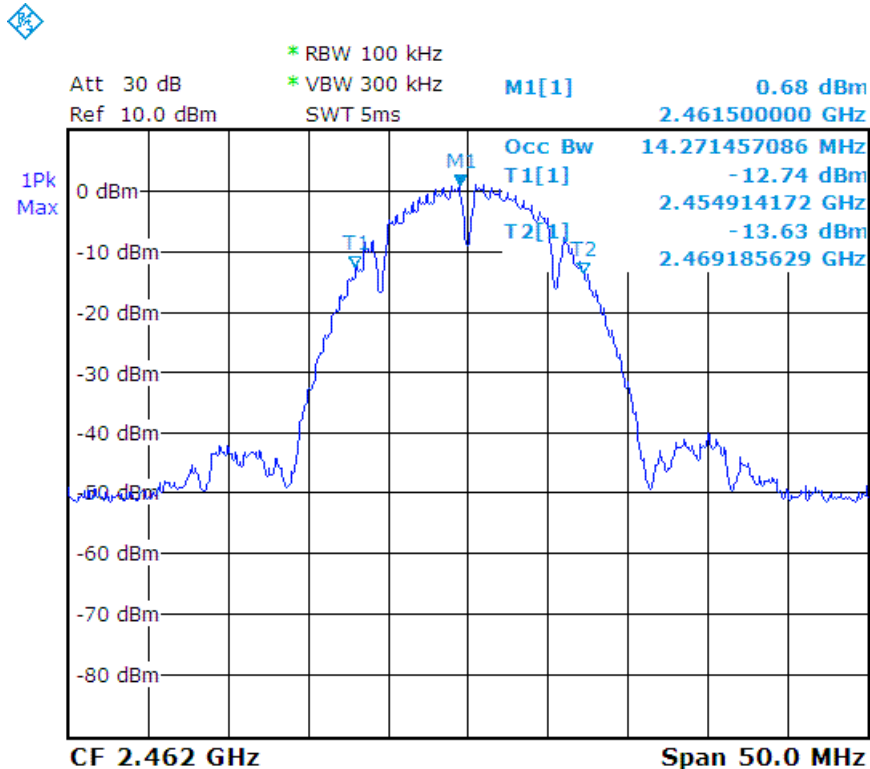




b_CH06 :



b_CH11 :





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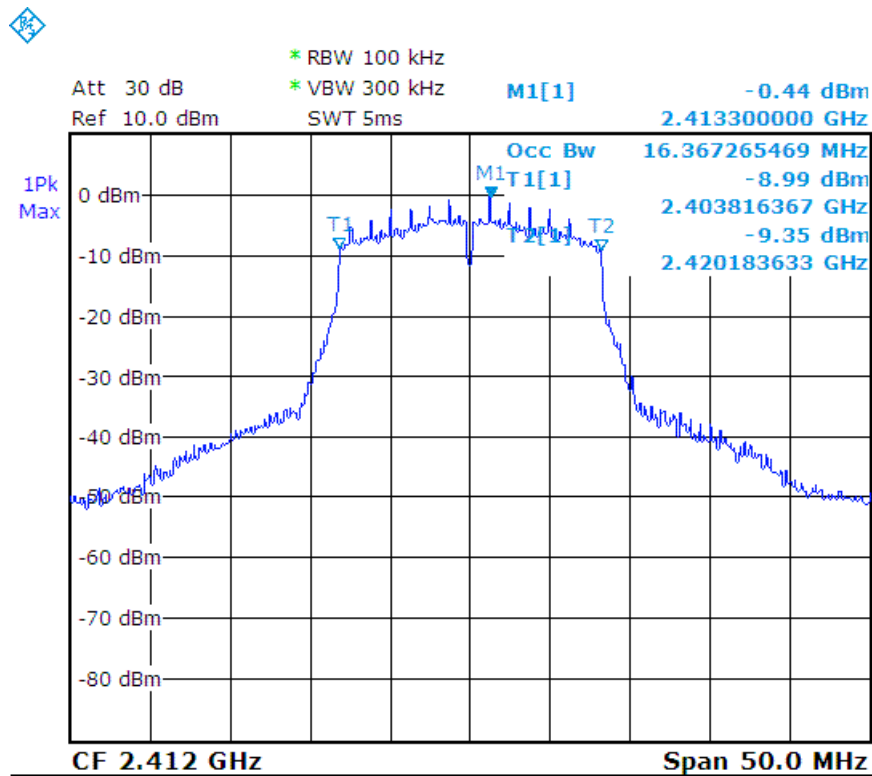
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 141 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11g
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

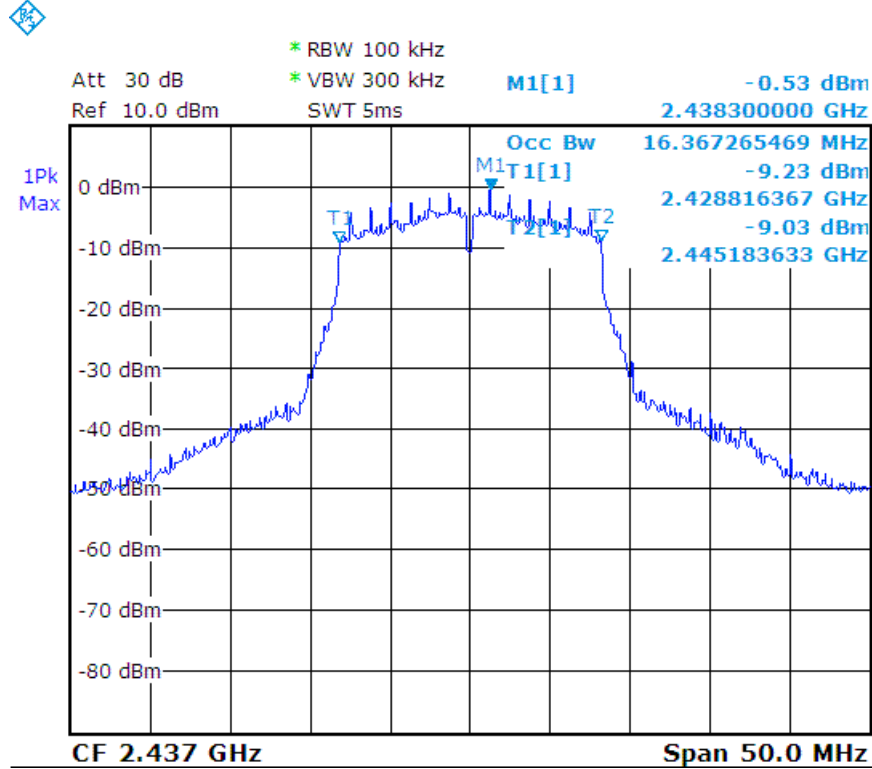
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	16.37
CH06	2437	16.37
CH11	2462	16.37

g_CH01 :

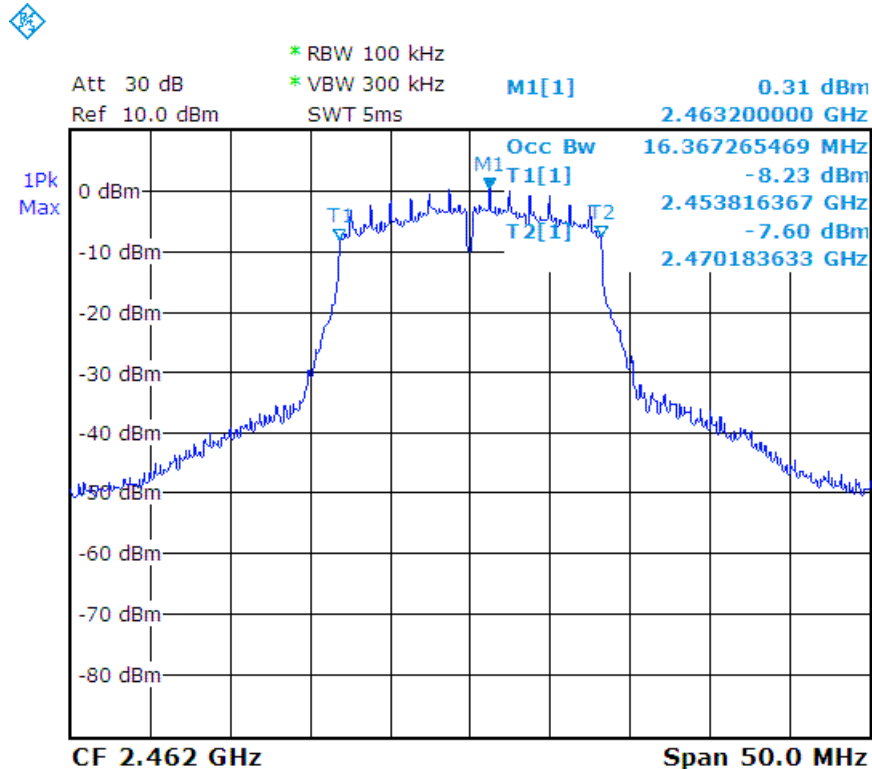




g_CH06 :



g_CH11 :





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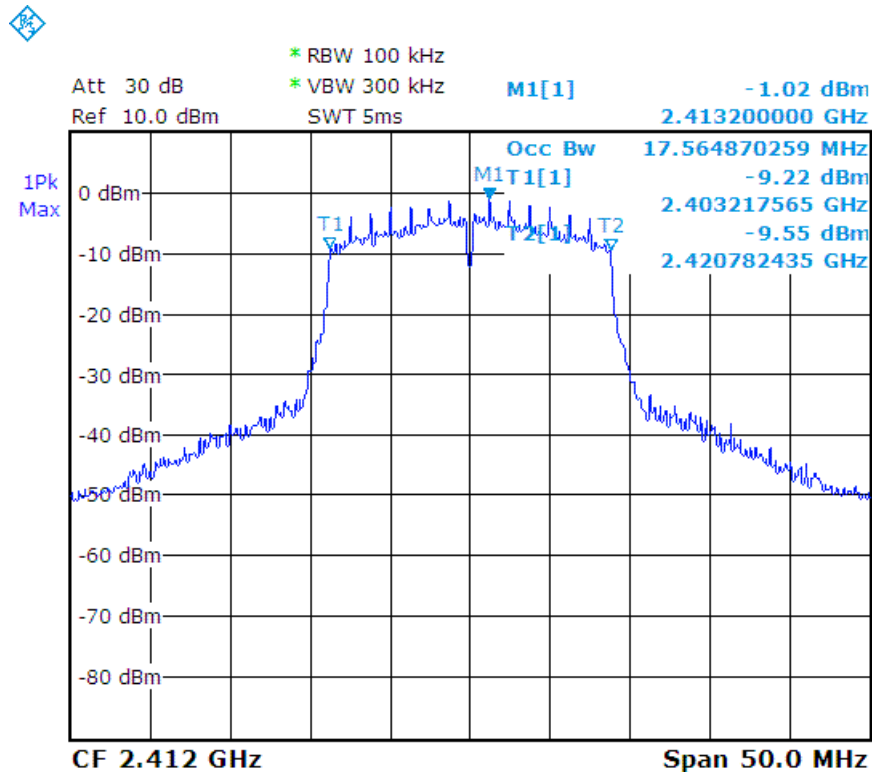
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 143 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11n - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

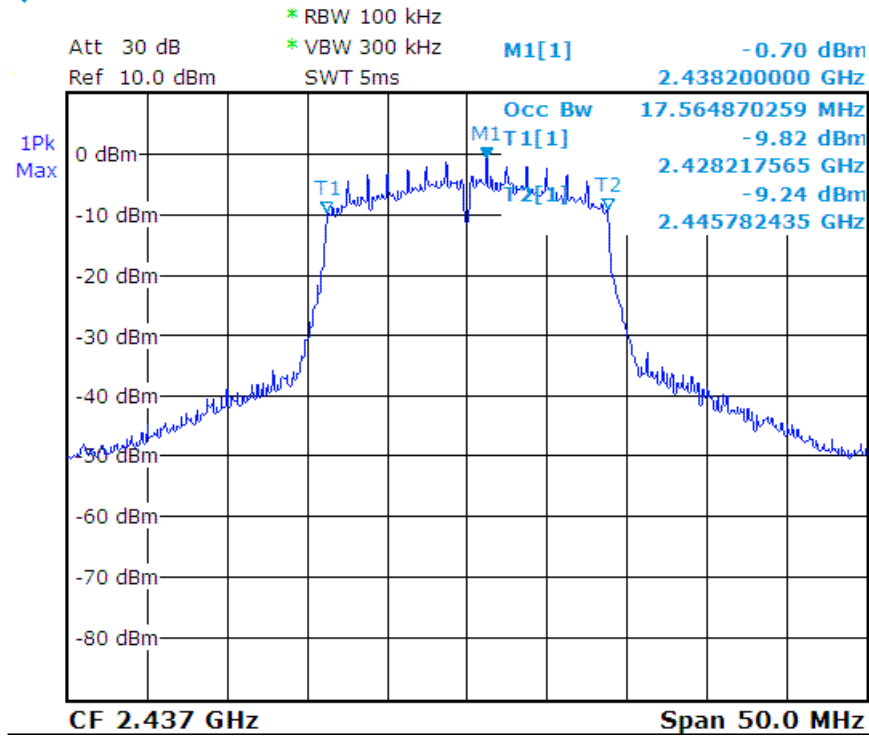
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH01	2412	17.56
CH06	2437	17.56
CH11	2462	17.56

n - HT20_CH01 :

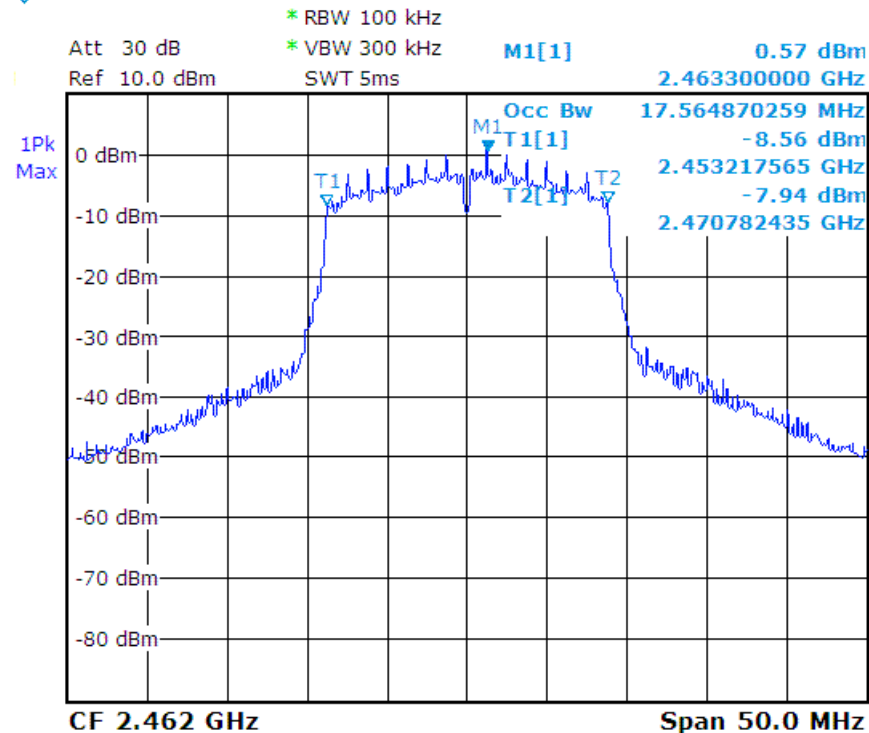




n - HT20_CH06 :



n - HT20_CH11 :





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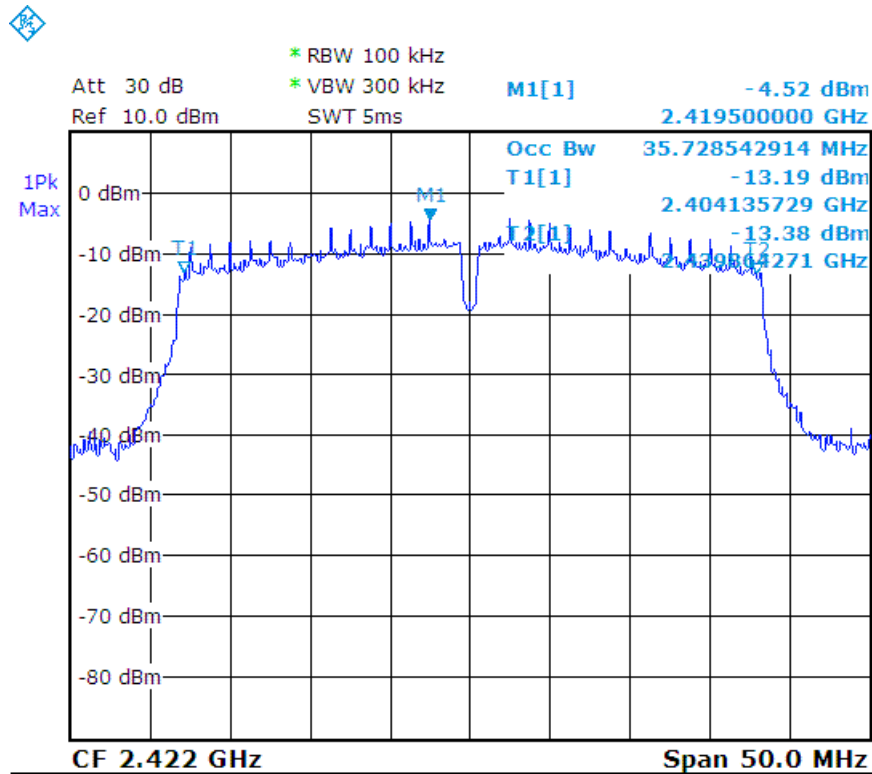
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 145 of 216
 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	Peak	Test Mode:	MLWG3/64_2.4G_802.11n - HT40
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

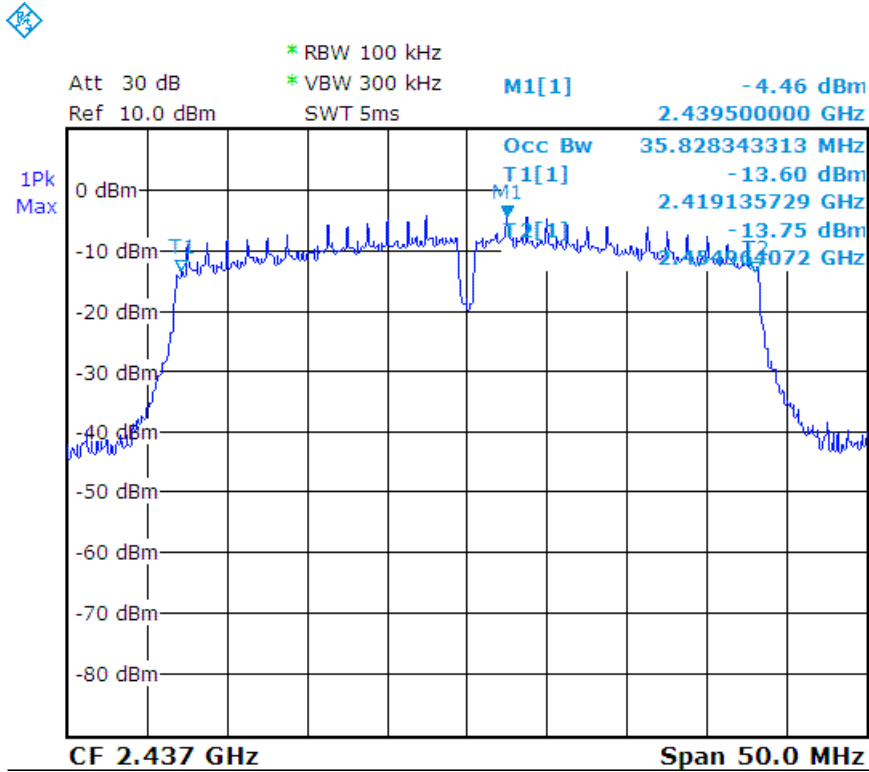
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)
CH03	2422	35.73
CH06	2437	35.83
CH09	2452	35.73

n - HT40_CH03 :

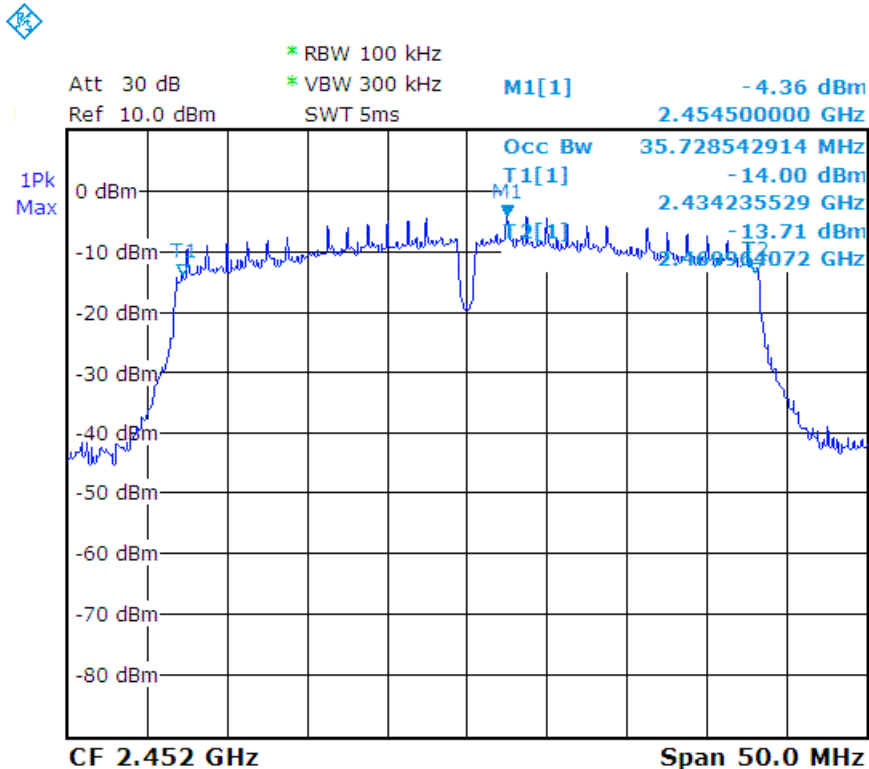




n - HT40_CH06 :



n - HT40_CH09 :





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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

4.4 PEAK CONDUCTED OUTPUT POWER TEST

4.4.1 LIMIT

FCC Part15, Subpart C Section 15.247(b).

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

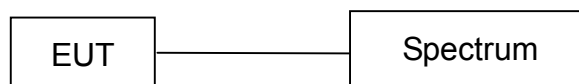
4.4.2 TEST EQUIPMENT

The following test equipment was used during the test :

Equipment/ Facilities	Specifications	Manufacturer	Model#/ Serial#	Due Date of Cal. & Cal. Center
EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL /100176	MAY 24, 2016 ETC

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

4.4.4 TEST PROCEDURE

The EUT was operating in continuous transmission mode or could control its channel. Printed out the test result from the spectrum by hard copy function.



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TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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4.4.5 EUT OPERATING CONDITION

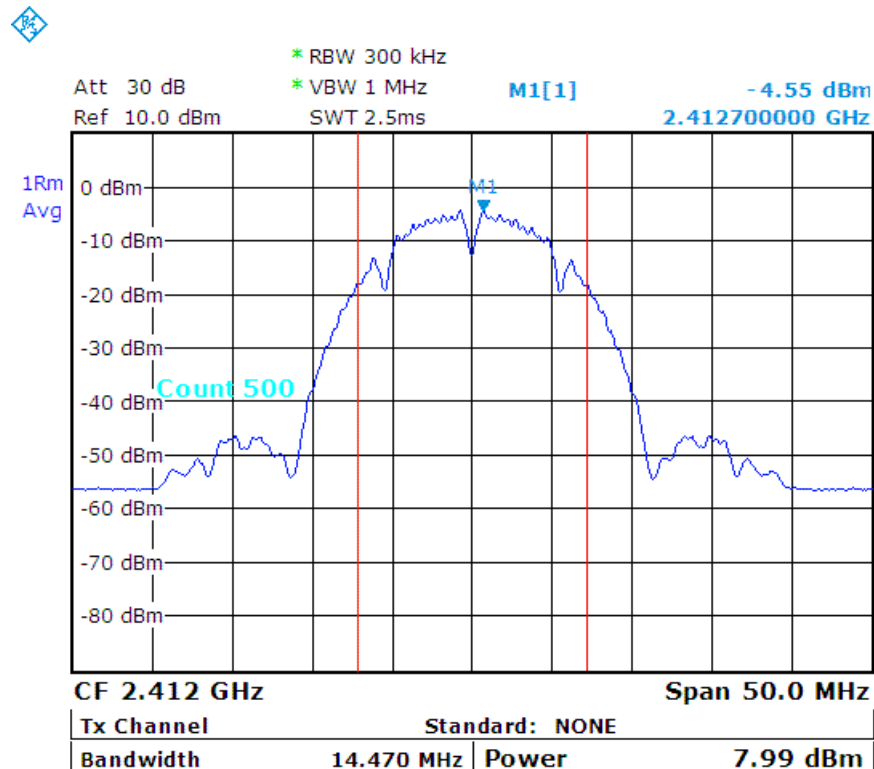
1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.

4.4.6 TEST RESULT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11b
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

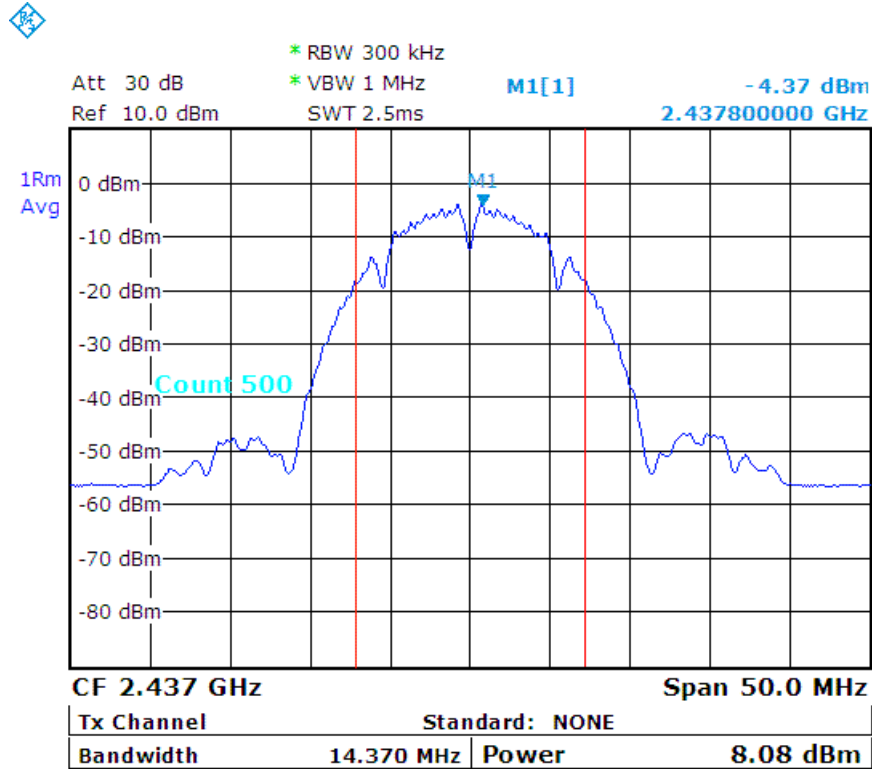
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	14.47	7.99	6.30	30
CH06	2437	14.37	8.08	6.43	30
CH11	2462	14.27	8.51	7.10	30

b_CH01 :

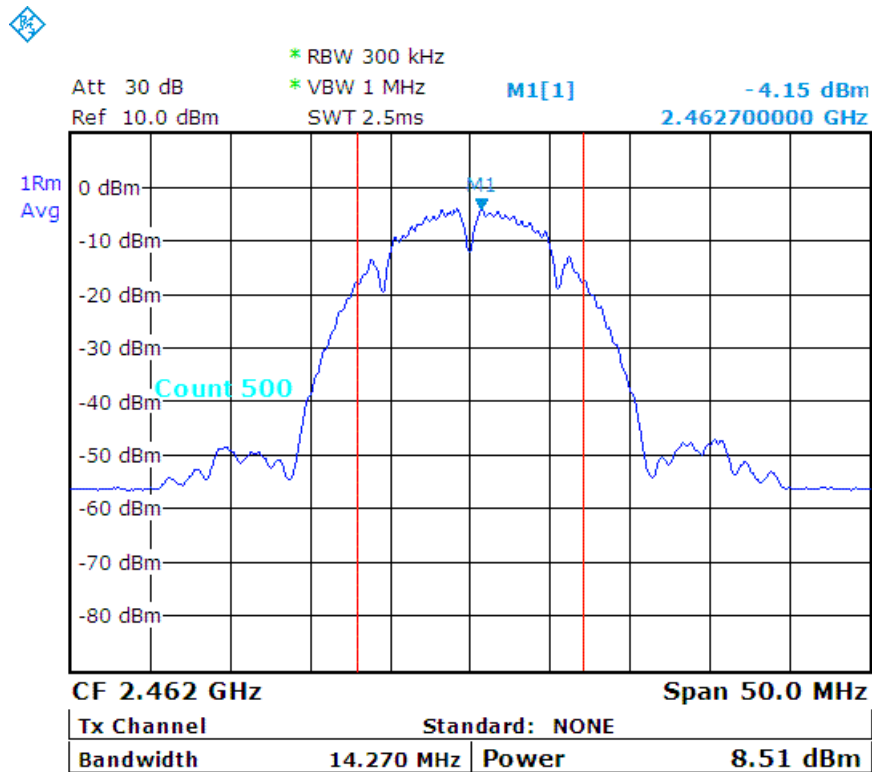




b_CH06 :



b_CH11 :





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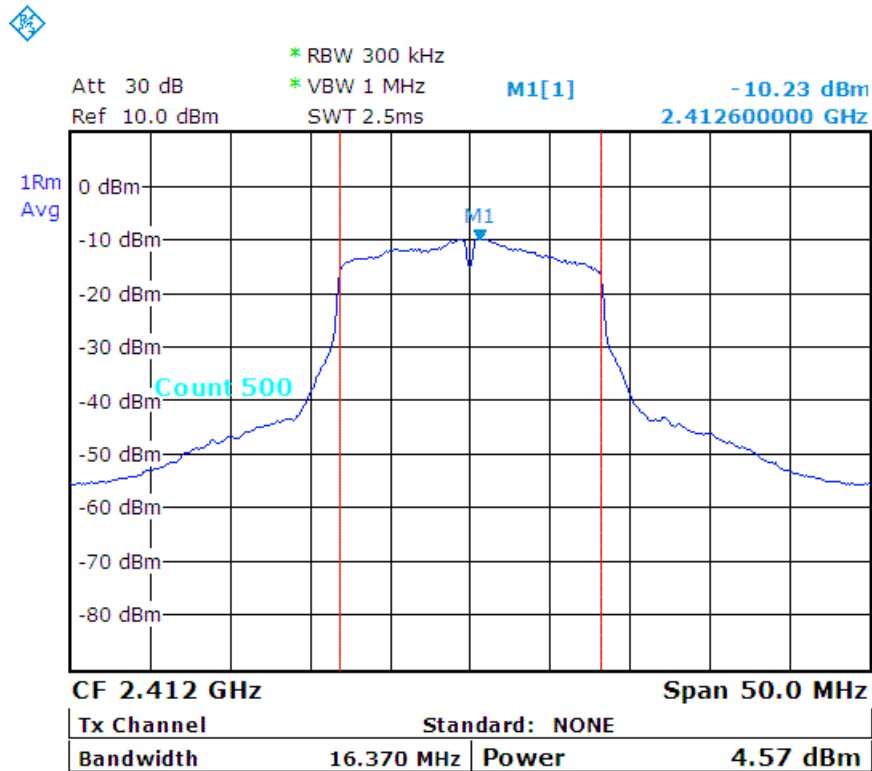
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
 Page: 150 of 216
 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11g
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

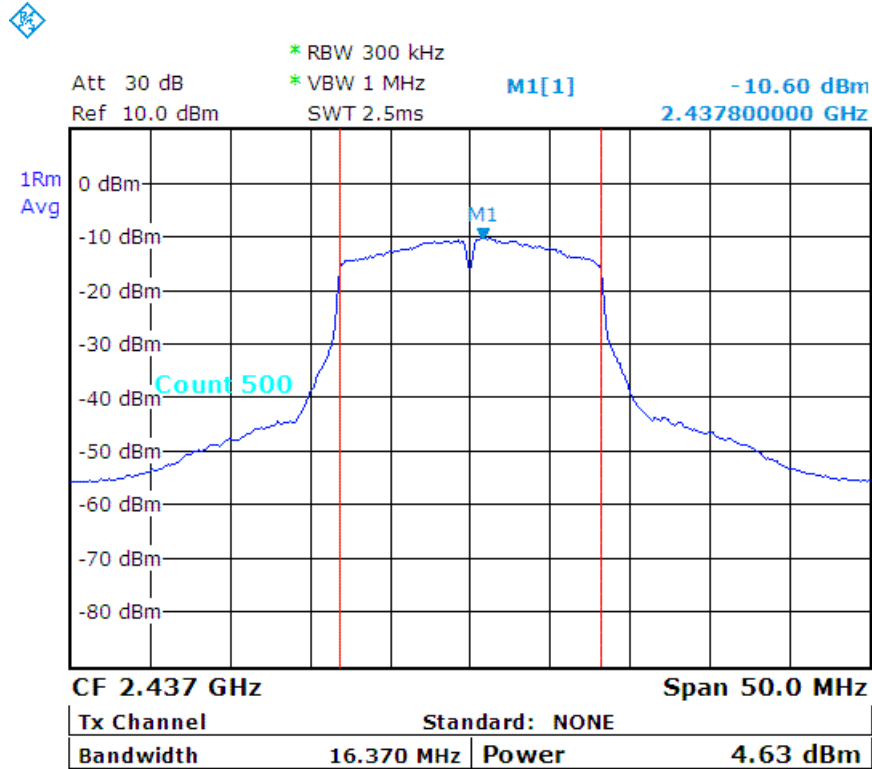
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	16.37	4.57	2.86	30
CH06	2437	16.37	4.63	2.90	30
CH11	2462	16.37	4.73	2.97	30

g_CH01 :

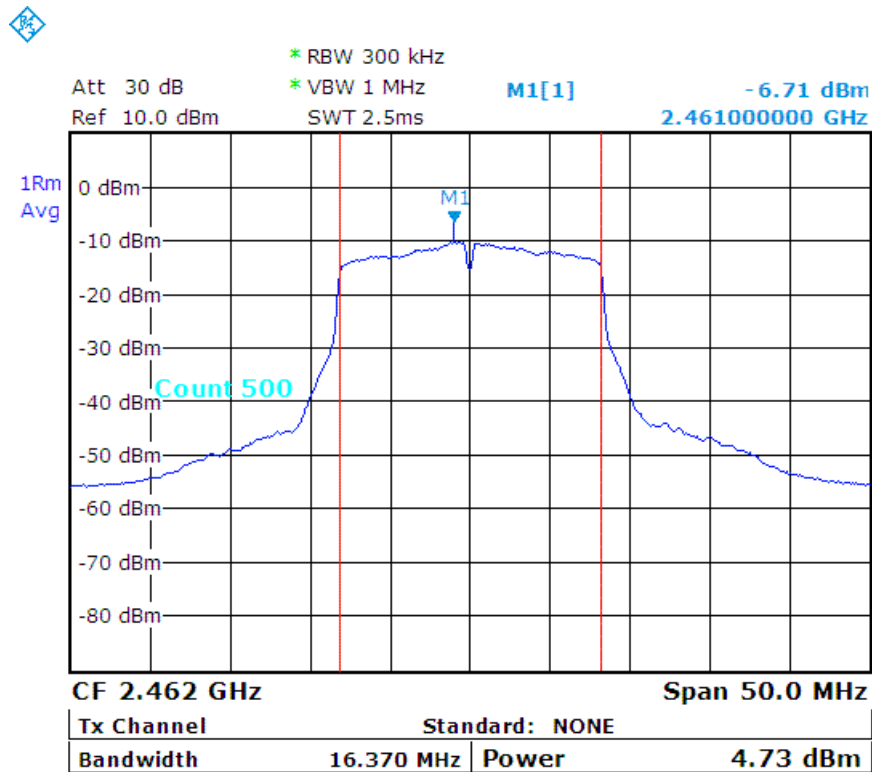




g_CH06 :



g_CH11 :





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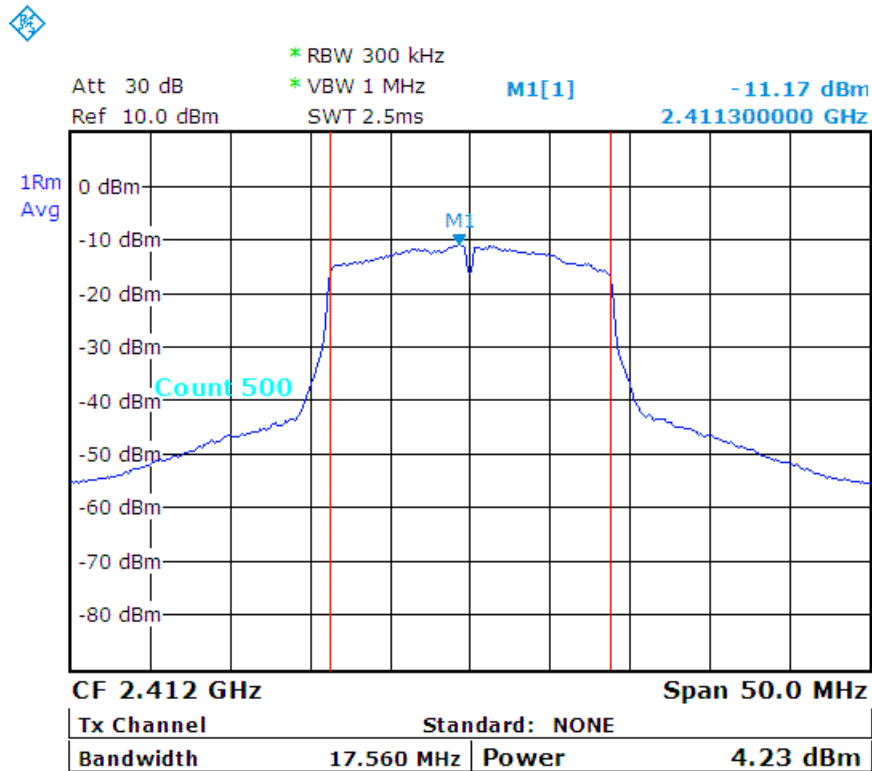
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11n - HT20
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

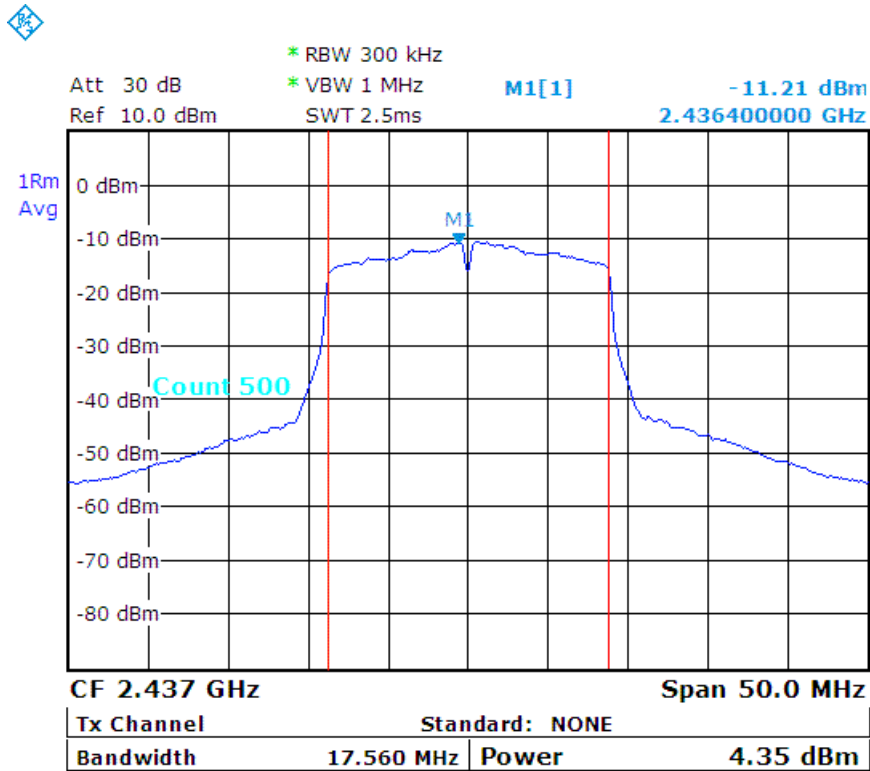
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	17.56	4.23	2.65	30
CH06	2437	17.56	4.35	2.72	30
CH11	2462	17.56	4.41	2.76	30

n - HT20_CH01 :

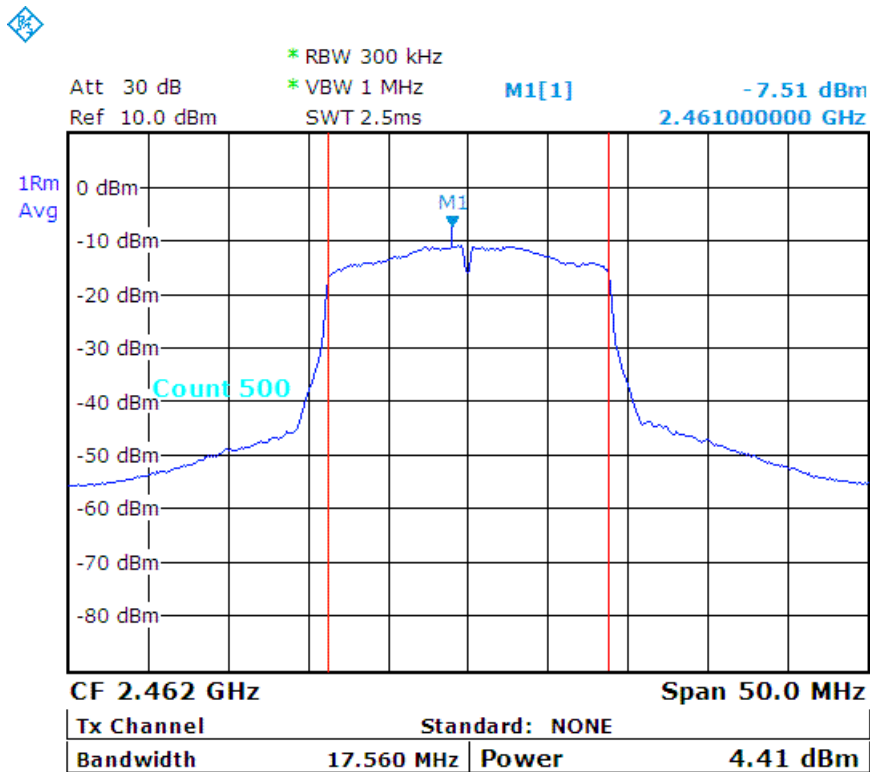




n - HT20_CH06 :



n - HT20_CH11 :





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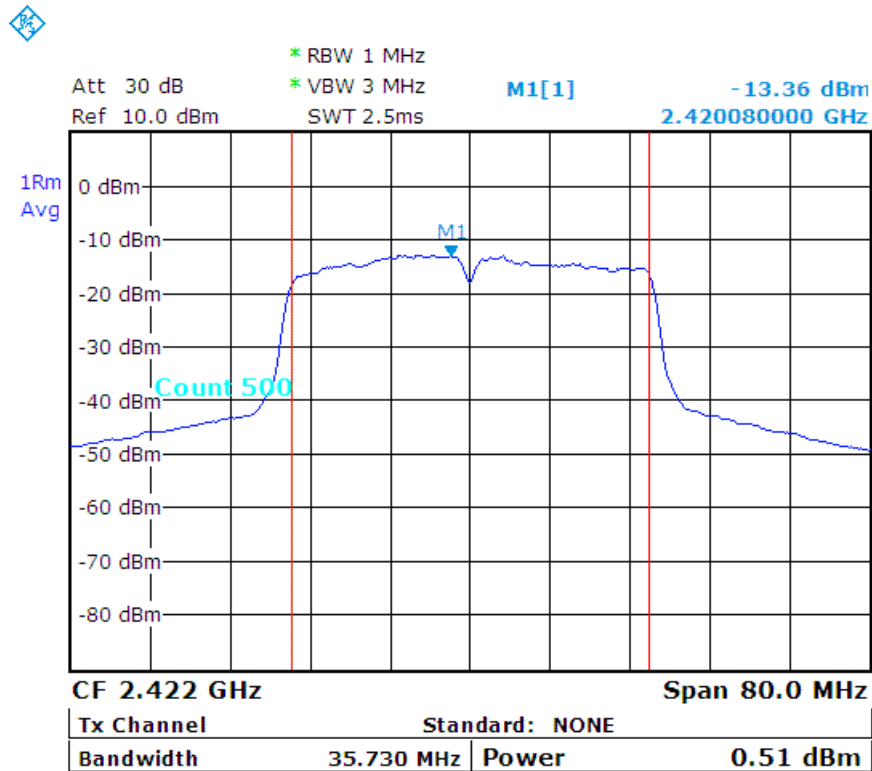
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11n - HT40
RBW:	1 MHz	VBW:	3 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

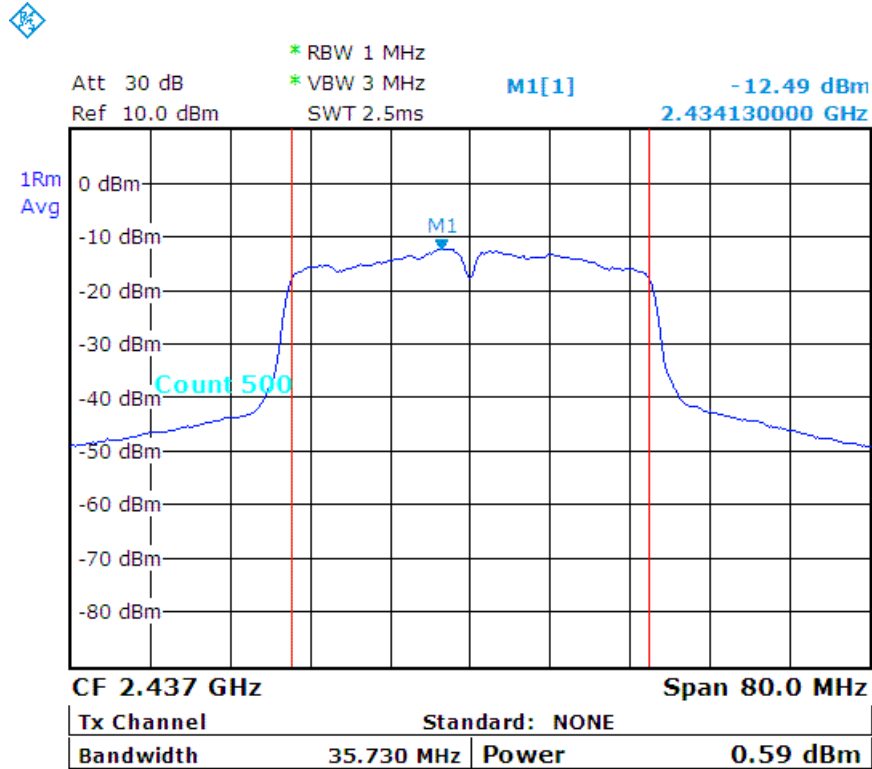
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH03	2422	35.73	0.51	1.12	30
CH06	2437	35.73	0.59	1.15	30
CH09	2452	35.73	0.89	1.23	30

n - HT40_CH03 :

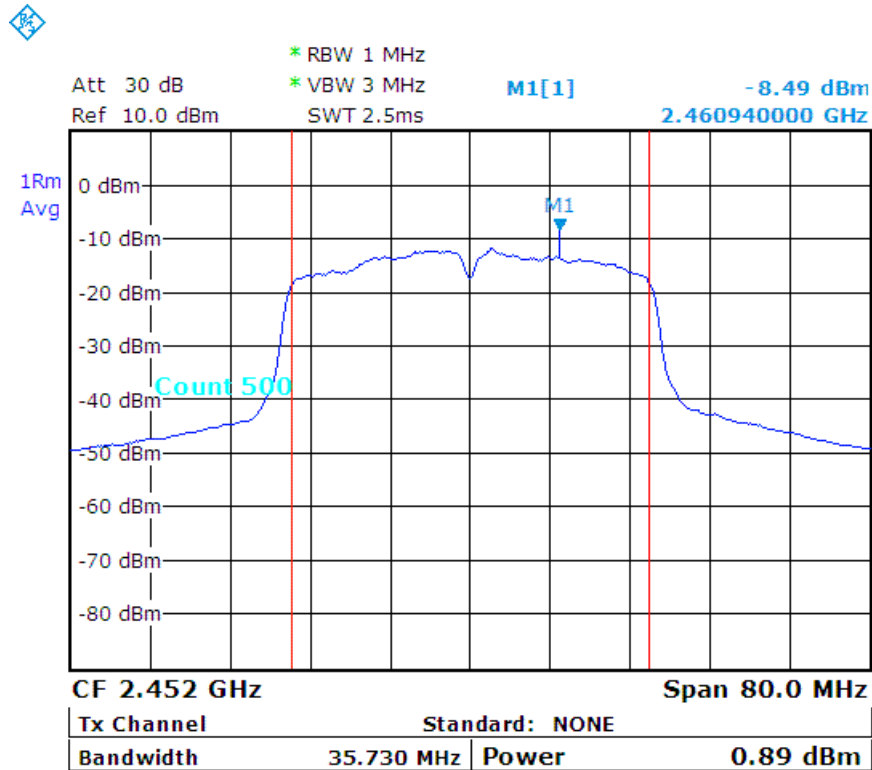




n - HT40_CH06 :



n - HT40_CH09 :





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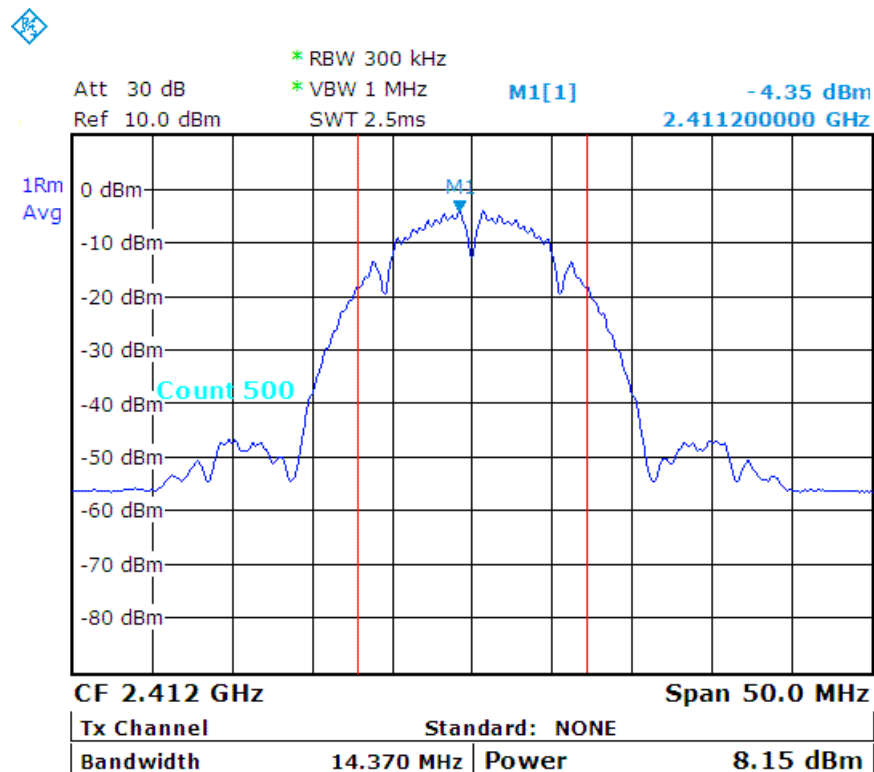
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11b
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

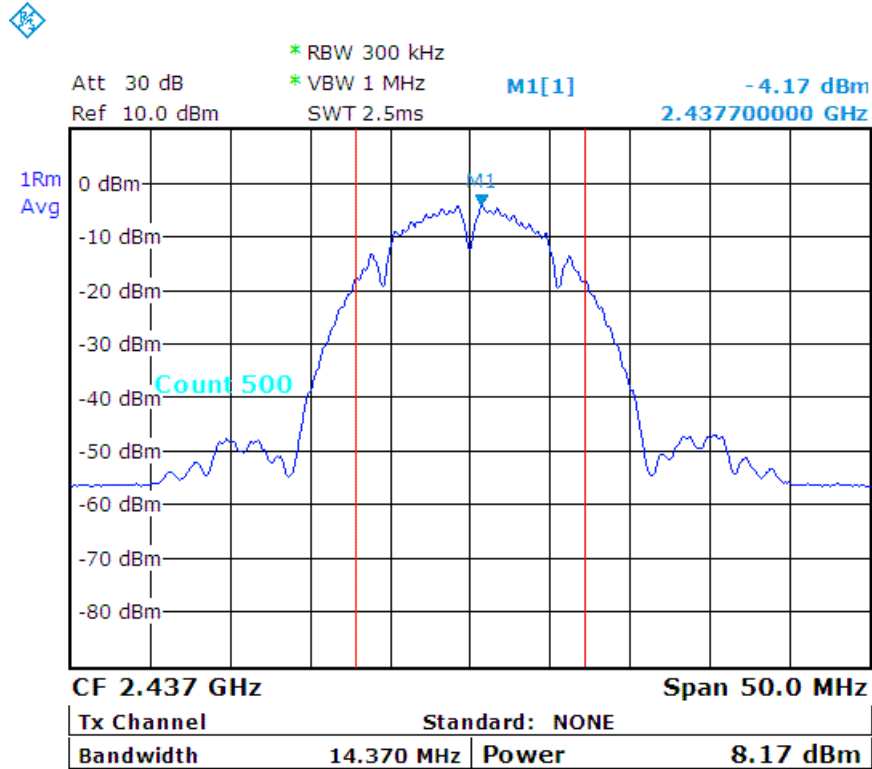
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	14.37	8.15	6.53	30
CH06	2437	14.37	8.17	6.56	30
CH11	2462	14.27	9.46	8.83	30

b_CH01 :

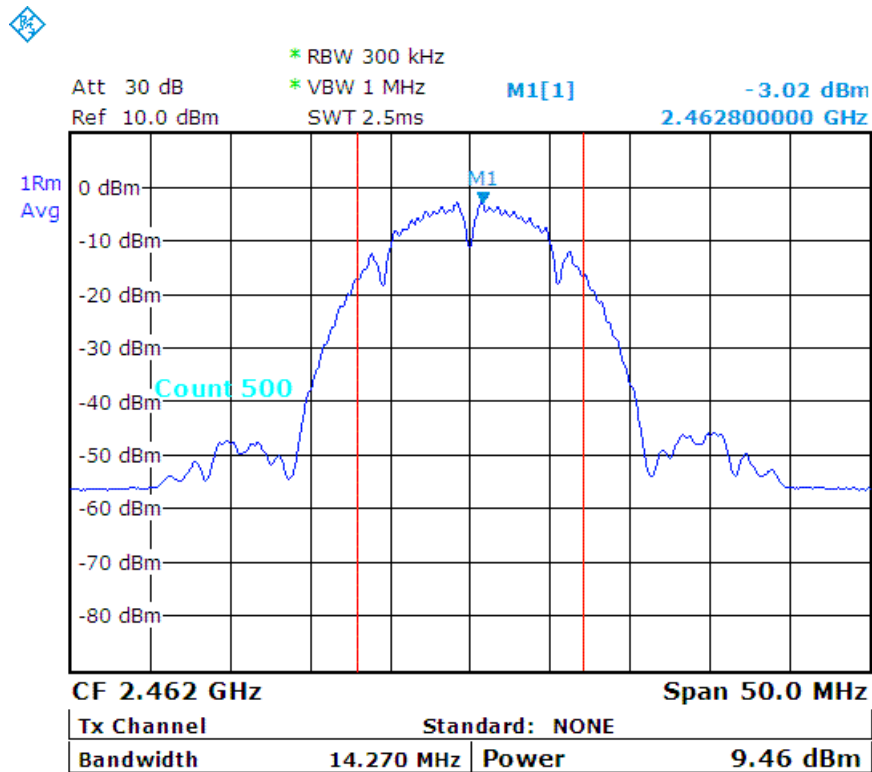




b_CH06 :



b_CH11 :





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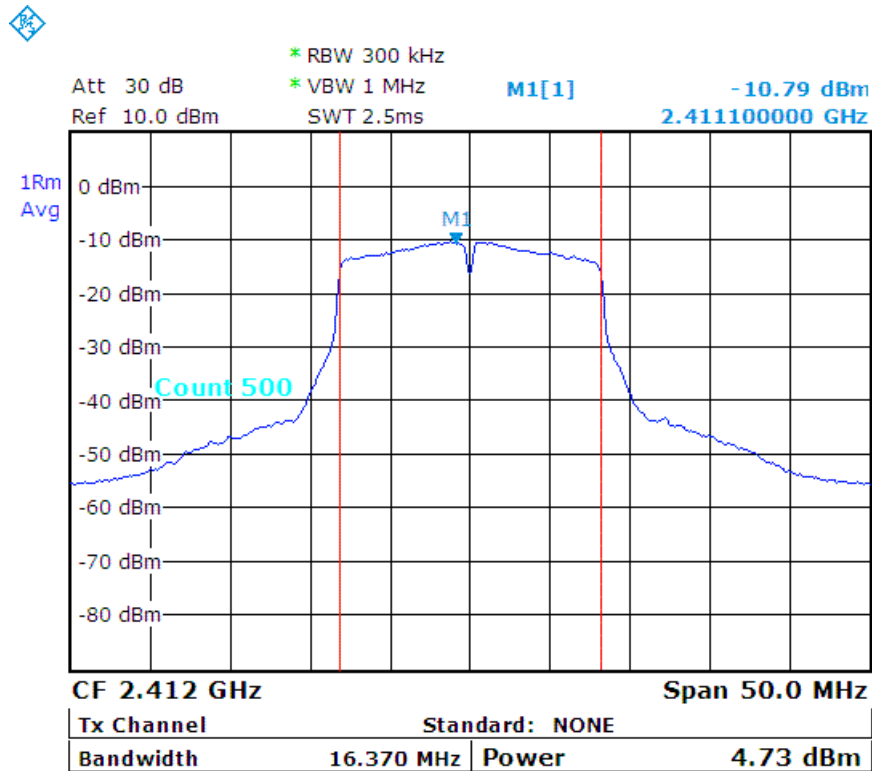
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11g
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

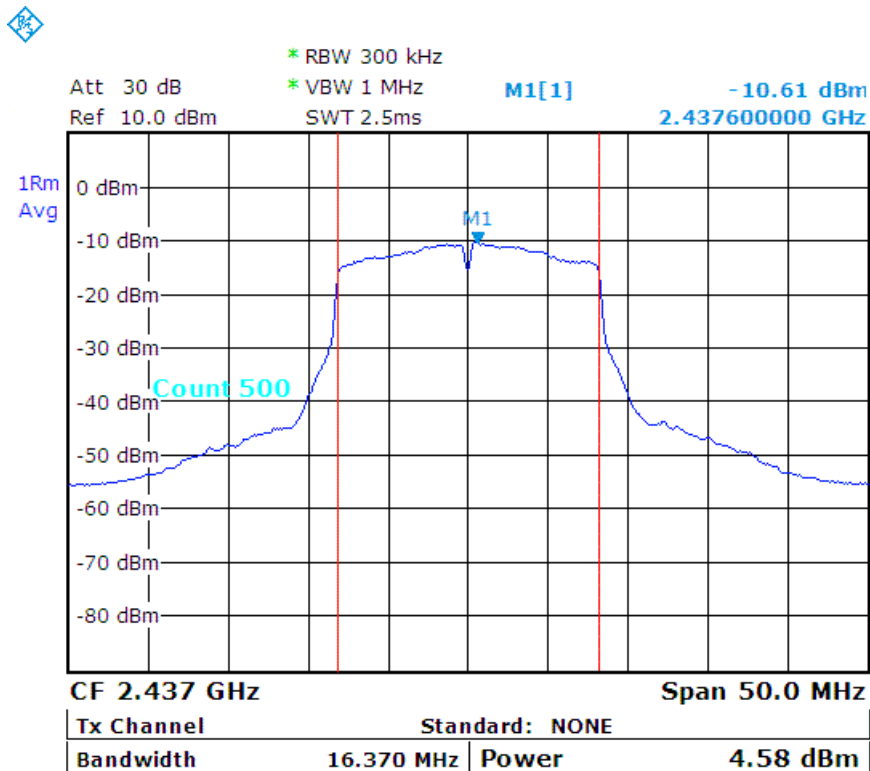
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	16.37	4.73	2.97	30
CH06	2437	16.37	4.58	2.87	30
CH11	2462	16.37	5.80	3.80	30

g_CH01 :

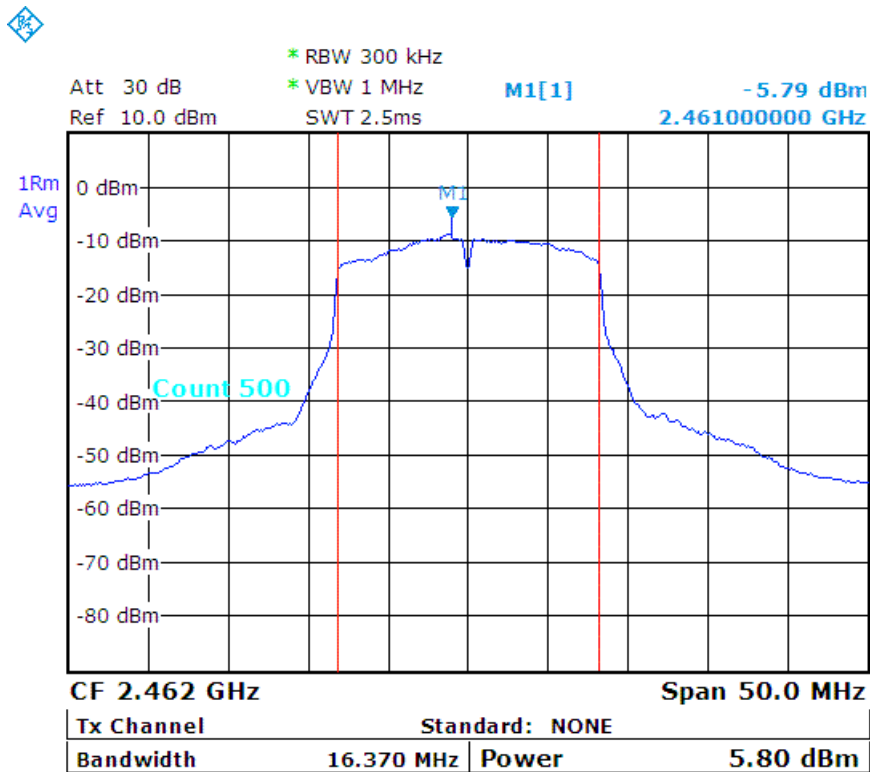




g_CH06 :



g_CH11 :





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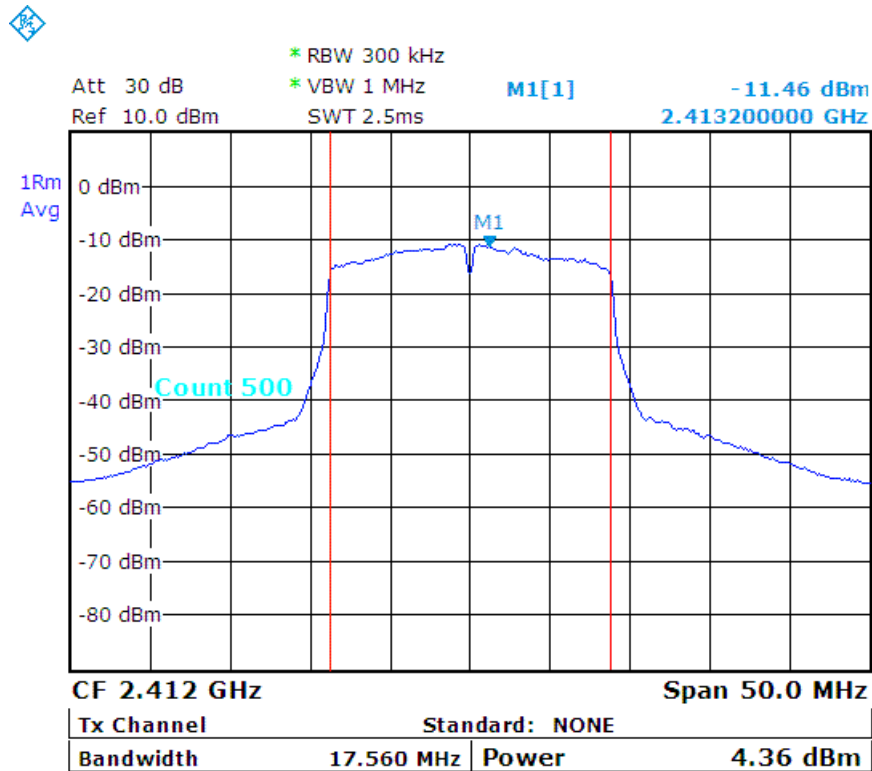
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11n - HT20
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

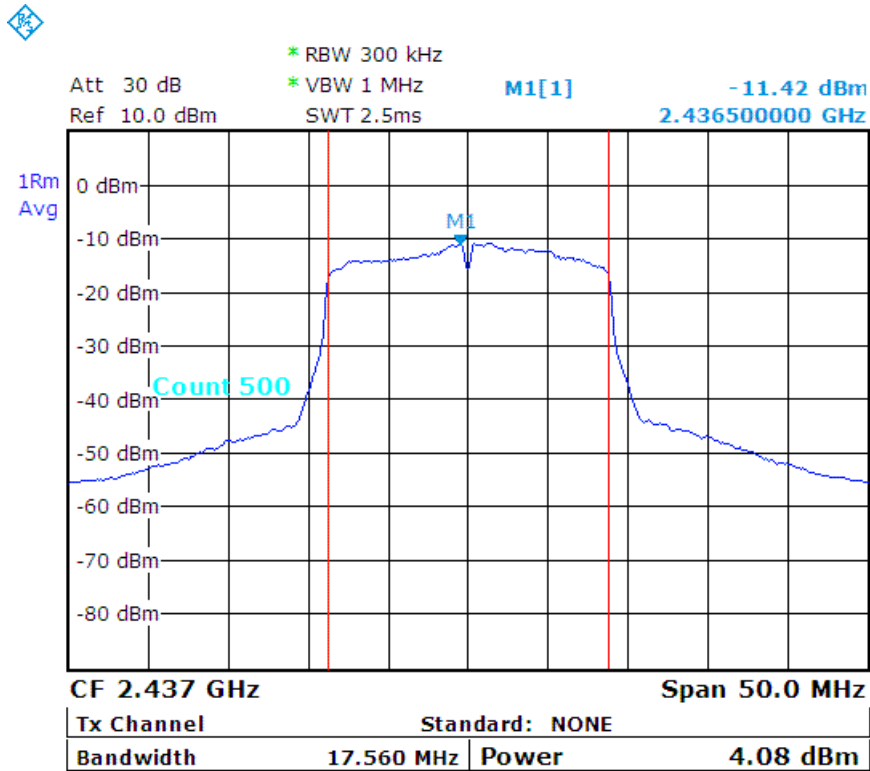
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH01	2412	17.56	4.36	2.73	30
CH06	2437	17.56	4.08	2.56	30
CH11	2462	17.56	5.16	3.28	30

n - HT20_CH01 :

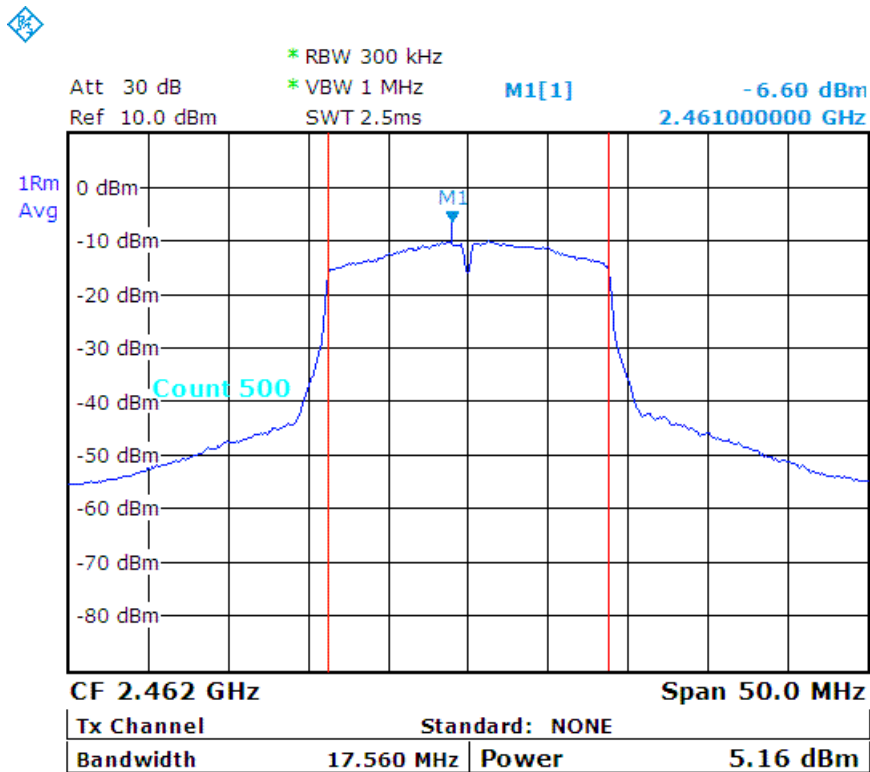




n - HT20_CH06 :



n - HT20_CH11 :





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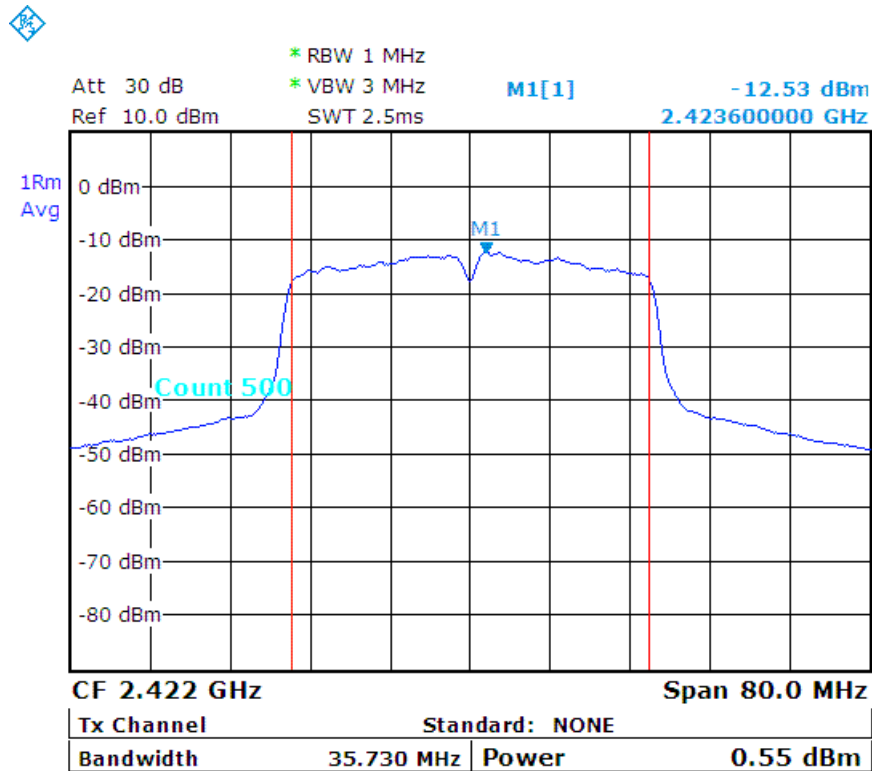
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11n - HT40
RBW:	1 MHz	VBW:	3 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

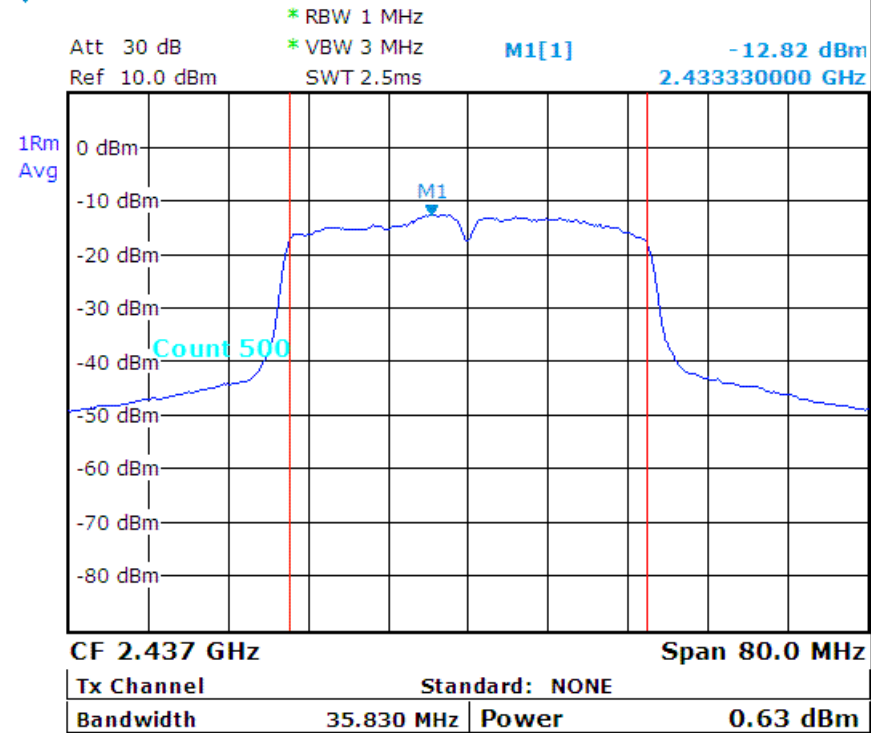
Channel Number	Channel Frequency (MHz)	99% Bandwidth (MHz)	Peak Conducted Output Power		Limit (dBm)
			(dBm)	(mW)	
CH03	2422	35.73	0.55	1.13	30
CH06	2437	35.83	0.63	1.16	30
CH09	2452	35.73	0.55	1.13	30

n - HT40_CH03 :

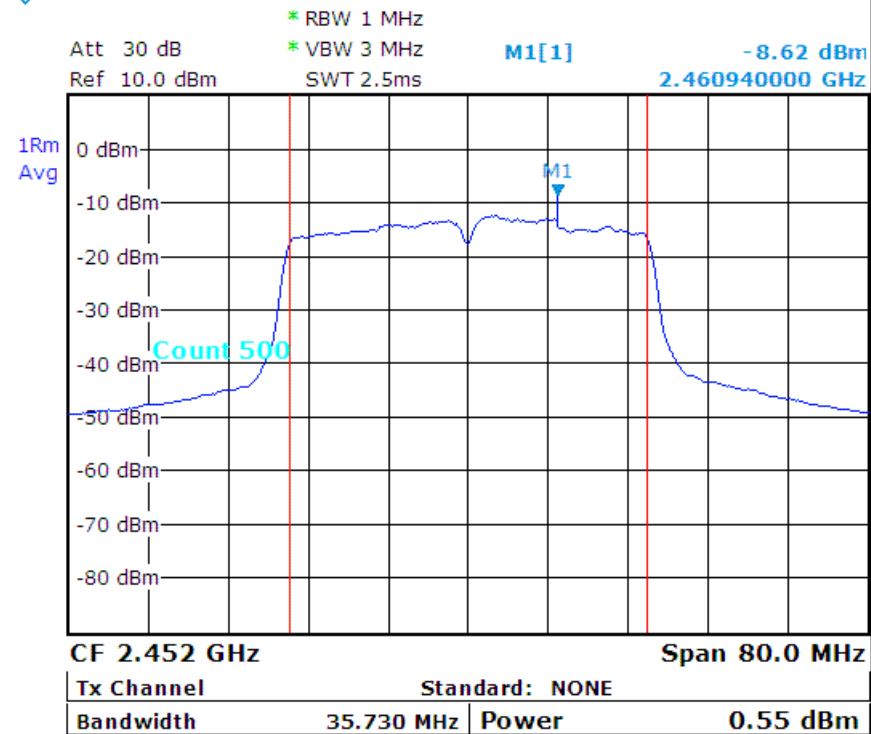




n - HT40_CH06 :



n - HT40_CH09 :





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TEST REPORT

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4.5 BAND EDGE TEST

4.5.1 LIMIT

FCC Part15, Subpart C Section 15.247(d).

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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. 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) (see Section 15.205(c)).

OPERATING FREQUENCY RANGE (MHz)	SPURIOUS EMISSION FREQUENCY (MHz)	LIMIT	
		Peak power ration to emission(dBc)	Emission level(dBuV/m)
2400 - 2483.5	< 2400	> 20	N/A
	> 2483.5-2500	N/A	54

NOTE:

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TEST REPORT

Reference No.: A15102101
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FCC ID : ZME-MLWG3
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4.5.2 TEST EQUIPMENT

The following test equipment was used during the test:

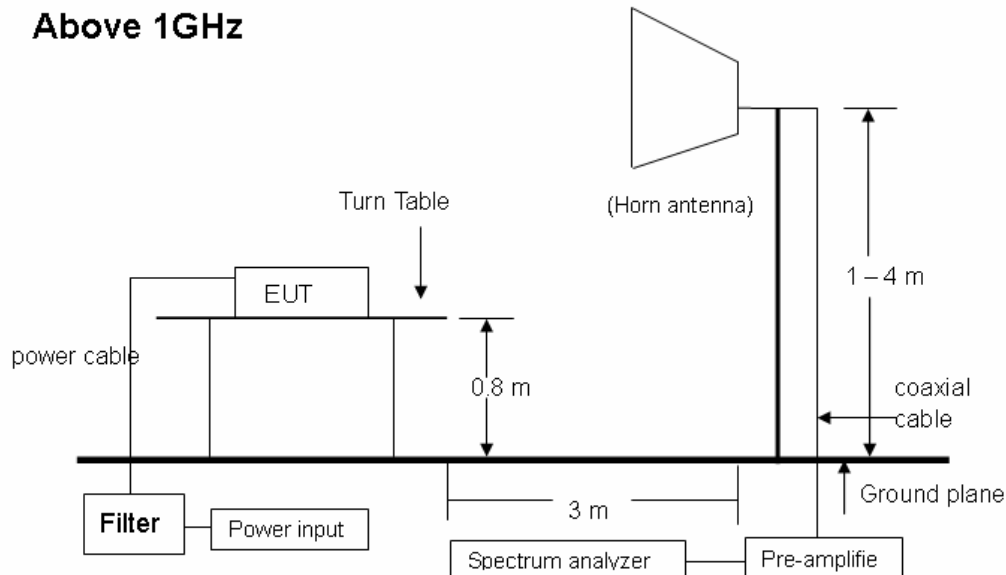
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL /100176	MAY 24, 2016 ETC
SPECTRUM ANALYZER	9 kHz ~ 40 GHz	ROHDE & SCHWARZ	FSP40 / 100093	JAN. 24, 2016 ETC
HORN ANTENNA	1 GHz ~ 18 GHz	EMCO	3115/ 9602-4681	JAN. 17, 2016 ETC
PRE-AMPLIFIER	1 GHz ~ 26.5 GHz	AGILENT	8449B/ 3008A01995	JAN. 23, 2016 ETC
OPEN AREA TEST SITE	3 – 10 M MEASUREMENT	SRT	A02 / SRT002	MAR. 06, 2016 SRT
ANECHOIC CHAMBER	3 M MEASUREMENT	SRT	A01 / SRT001	NOV. 20, 2016 SRT
K-TYPE CABLE	UP TO 40 GHz 3 m	HUBER+SUHNER	SF102-46/2*11SK 252 /MY2611/2	MAR. 03, 2016 ETC
K-TYPE CABLE	UP TO 40 GHz, 1 m	HUBER+SUHNER	SF102/2*11SK252 /MY3331/2	OCT. 05, 2016 ETC
FILTER	2 LINE, 30 A	FIL.COIL	FC-943/ 869	NCR

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.



4.5.3 TEST SETUP

Above 1GHz



NOTE: The EUT system was put on a wooden table with 0.8m heights above a ground plane. For the actual test configuration, please refer to the photos of testing.

4.5.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz. All readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak and average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

4.5.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.



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4.5.6 TEST RESULT

Below 2400MHz (b_CH01)

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.30 GHz – 2.43 GHz	Tested Mode:	MLWG3_2.4G 802.11b
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2396.10	-31.02	28.08	H	47.44	35.45	44.49	32.50	74.00	54.00	-29.51	-21.50
2396.20	-31.02	28.08	V	47.20	36.63	44.25	33.68	74.00	54.00	-29.75	-20.32
2400.00	-31.02	28.08	H	43.37	32.67	40.43	29.73	74.00	54.00	-33.57	-24.27
2400.00	-31.02	28.08	V	42.90	32.88	39.96	29.94	74.00	54.00	-34.04	-24.06

Above 2483.5MHz (b_CH11)

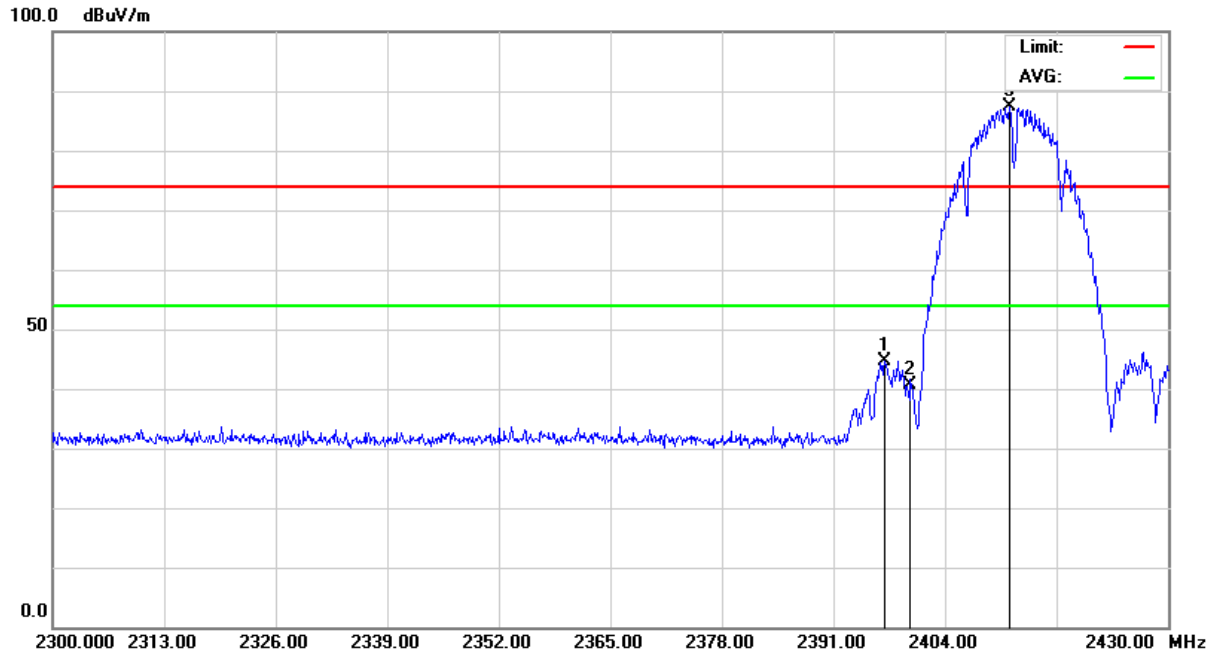
Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.445 GHz – 2.60 GHz	Tested Mode:	MLWG3_2.4G 802.11b
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	33.89	23.36	31.15	20.62	74.00	54.00	-42.85	-33.38
2483.50	-30.92	28.18	V	34.13	24.73	31.39	21.99	74.00	54.00	-42.61	-32.01
2530.80	-30.88	28.31	H	36.53	24.21	33.96	21.64	74.00	54.00	-40.04	-32.36
2494.81	-30.91	28.19	V	36.69	25.69	33.98	22.98	74.00	54.00	-40.02	-31.02

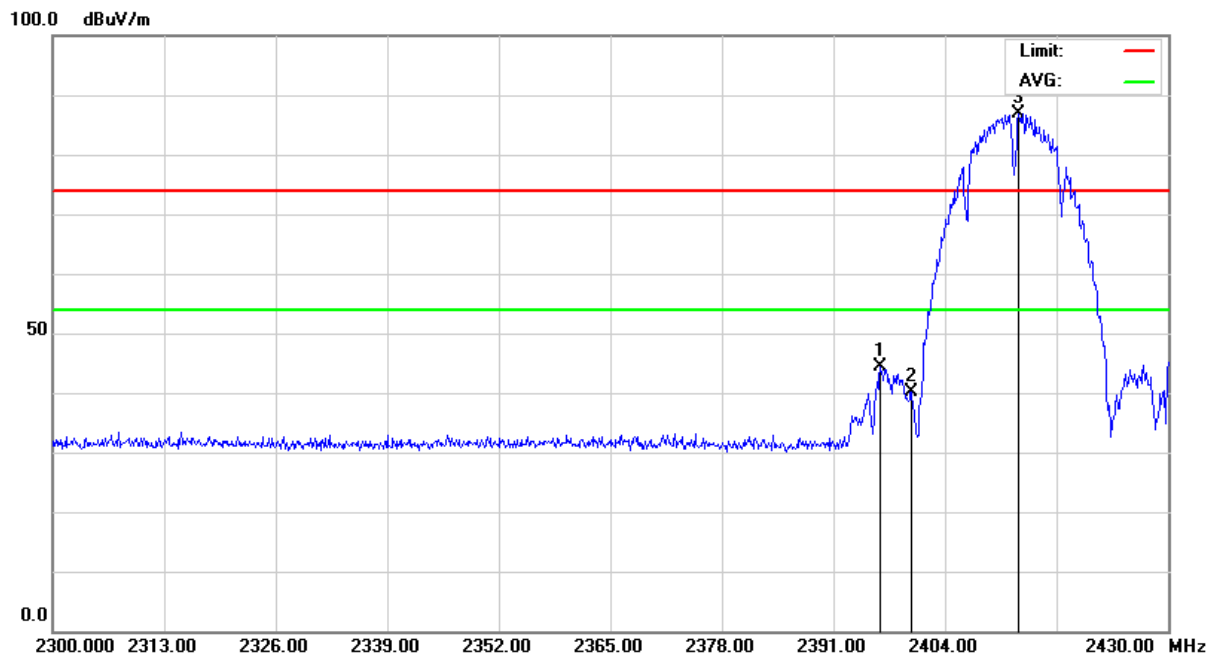


Below 2400MHz (b_CH01)

Antenna Polarization : Horizontal



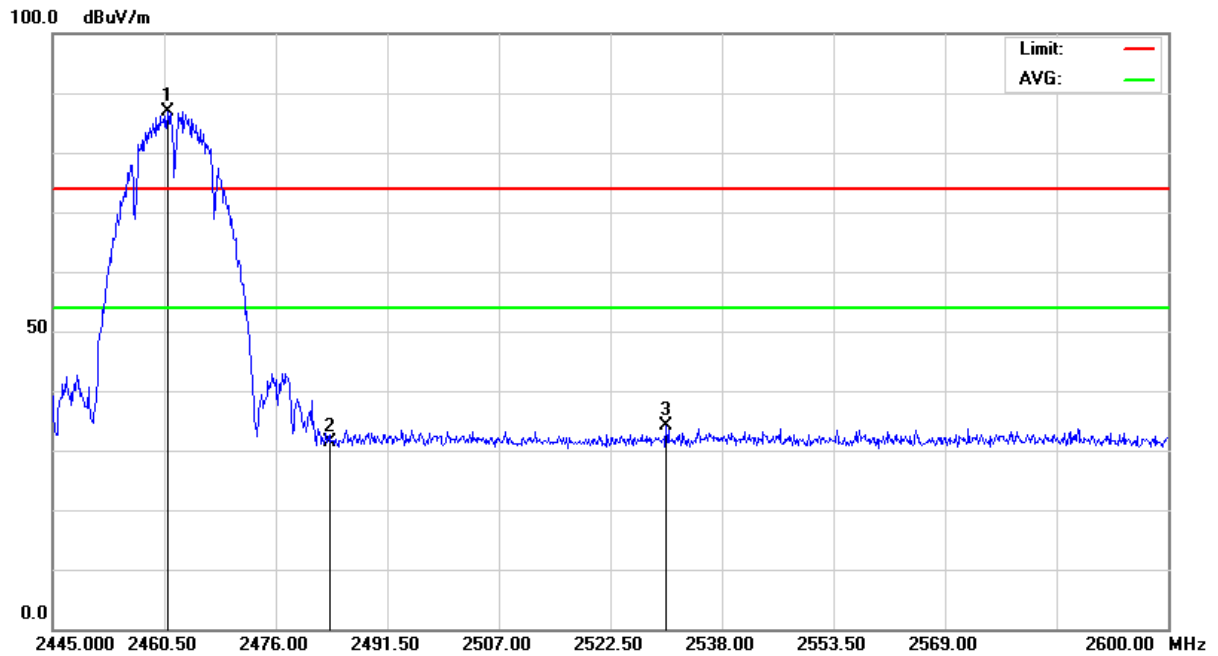
Antenna Polarization : Vertical



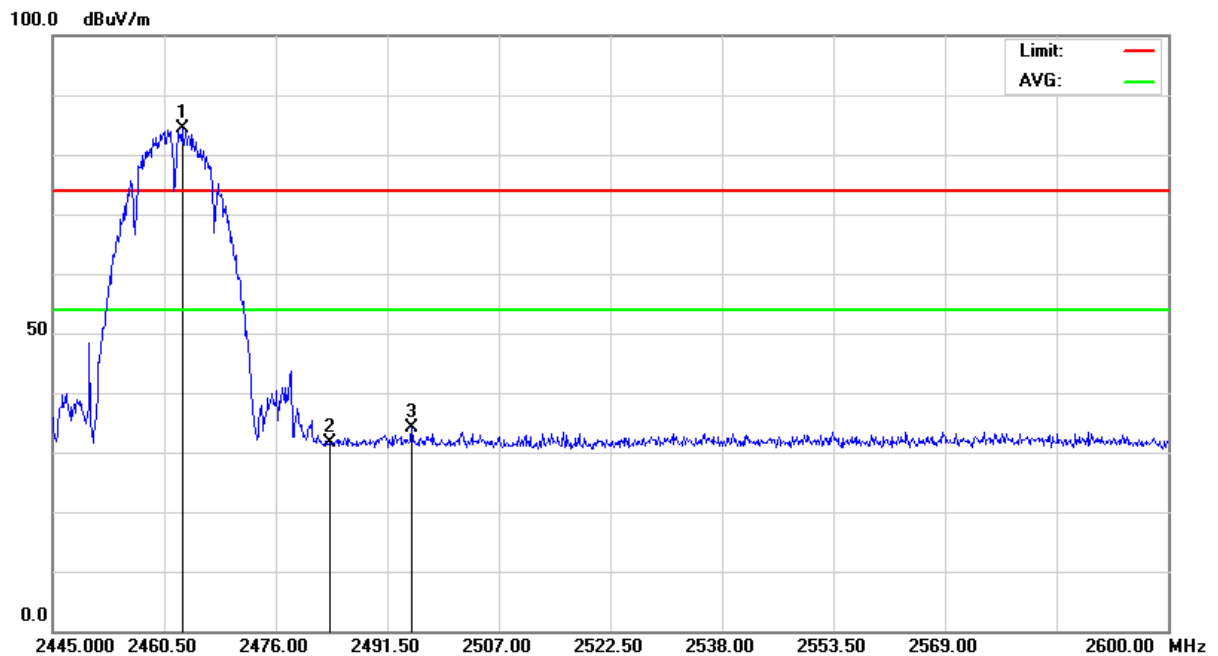


Above 2483.5MHz (b_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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Below 2400MHz (g_CH01)

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.30 GHz – 2.43 GHz	Tested Mode:	MLWG3_2.4G 802.11g
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2398.59	-31.02	28.08	H	52.51	41.41	49.57	38.47	74.00	54.00	-24.43	-15.53
2397.37	-31.02	28.08	V	52.28	40.16	49.34	37.22	74.00	54.00	-24.66	-16.78
2400.00	-31.02	28.08	H	51.95	41.90	49.01	38.96	74.00	54.00	-24.99	-15.04
2400.00	-31.02	28.08	V	53.09	42.17	50.15	39.23	74.00	54.00	-23.85	-14.77

Above 2483.5MHz (g_CH11)

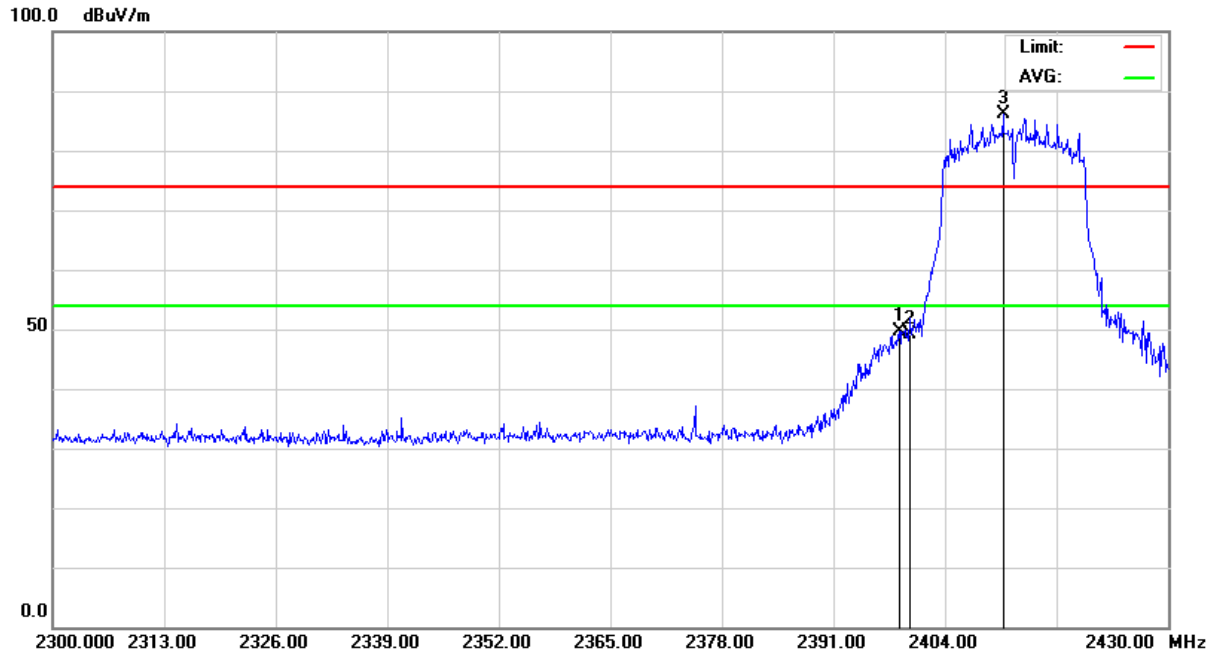
Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.445 GHz – 2.60 GHz	Tested Mode:	MLWG3_2.4G 802.11g
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	37.93	27.30	35.19	24.56	74.00	54.00	-38.81	-29.44
2483.50	-30.92	28.18	V	36.16	25.50	33.42	22.76	74.00	54.00	-40.58	-31.24
2498.31	-30.90	28.20	H	37.65	25.58	34.95	22.88	74.00	54.00	-39.05	-31.12
2487.11	-30.92	28.18	V	37.61	27.83	34.88	25.10	74.00	54.00	-39.12	-28.90

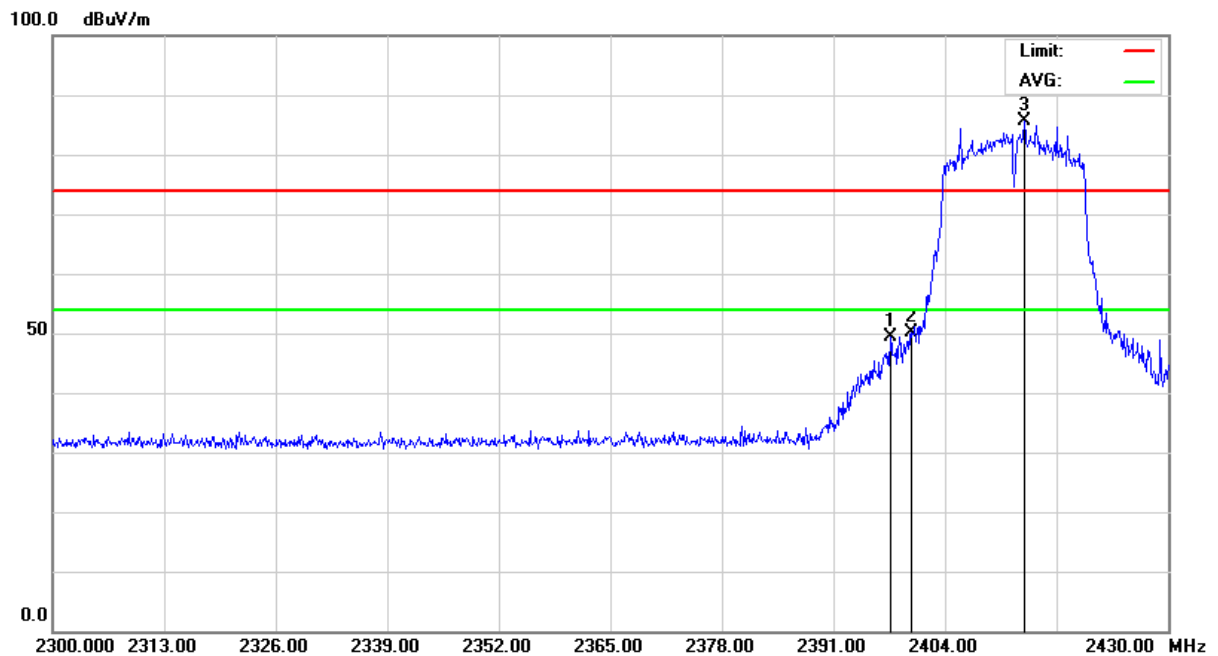


Below 2400MHz (g_CH01)

Antenna Polarization : Horizontal



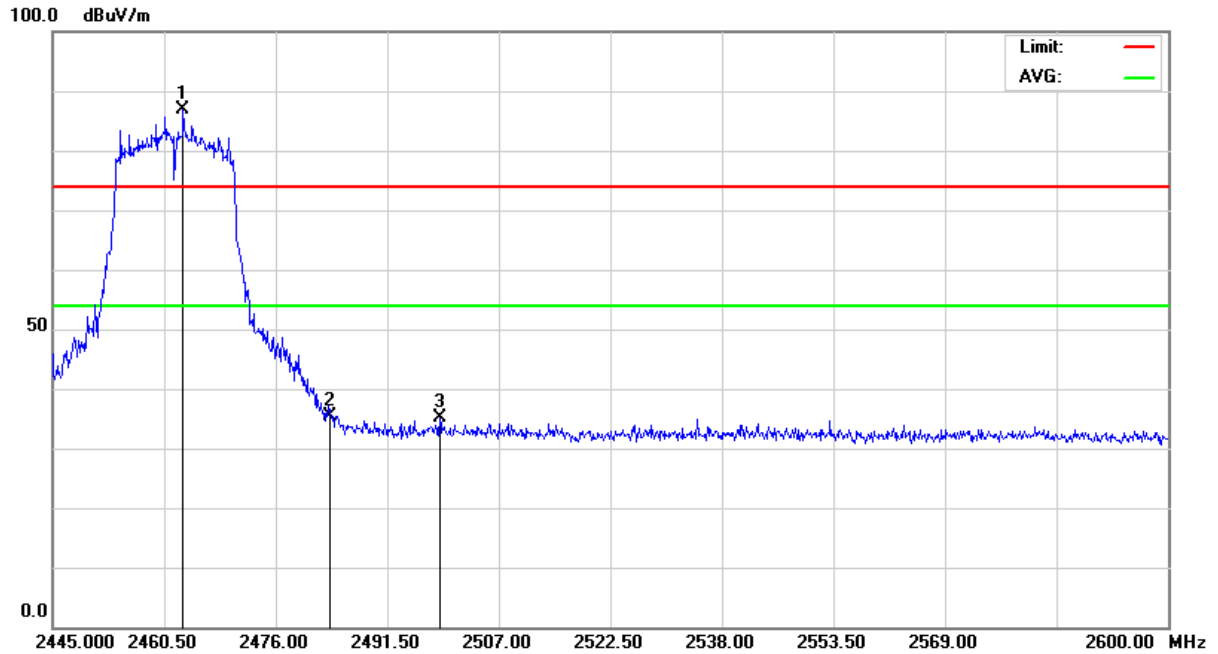
Antenna Polarization : Vertical



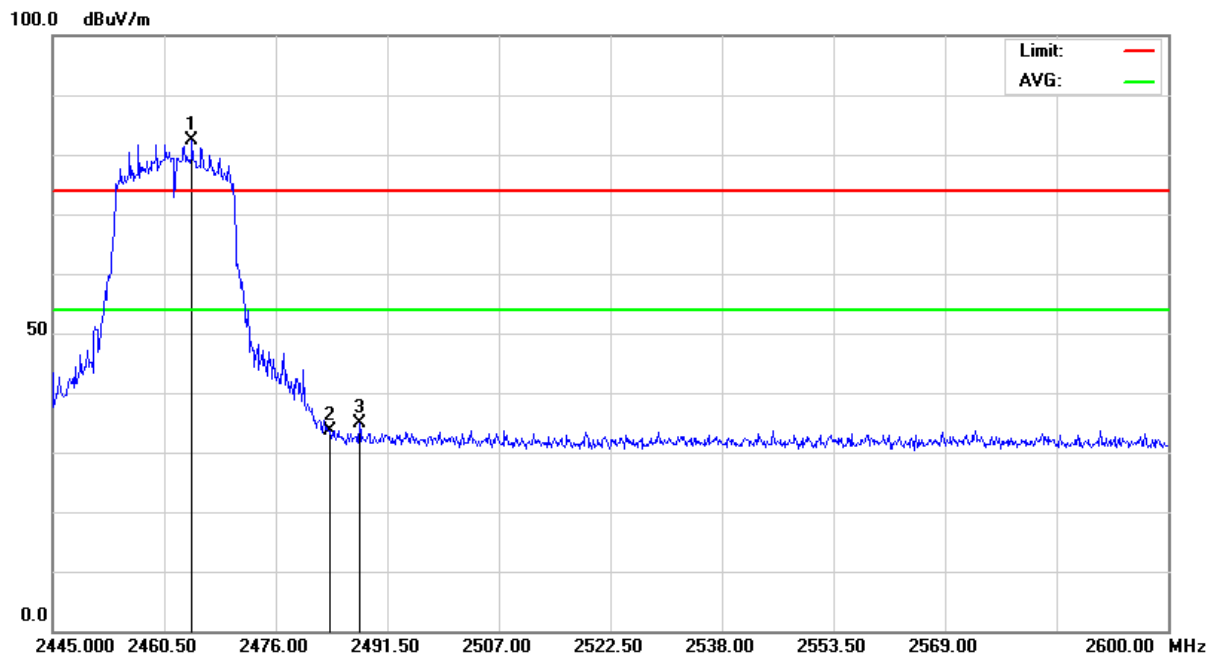


Above 2483.5MHz (g_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



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Below 2400MHz (n - HT20_CH01)

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.30 GHz – 2.43 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2398.71	-31.02	28.08	H	52.81	42.45	49.87	39.51	74.00	54.00	-24.13	-14.49
2398.81	-31.02	28.08	V	52.44	42.49	49.50	39.55	74.00	54.00	-24.50	-14.45
2400.00	-31.02	28.08	H	51.91	40.40	48.97	37.46	74.00	54.00	-25.03	-16.54
2400.00	-31.02	28.08	V	52.12	40.57	49.18	37.63	74.00	54.00	-24.82	-16.37

Above 2483.5MHz (n - HT20_CH11)

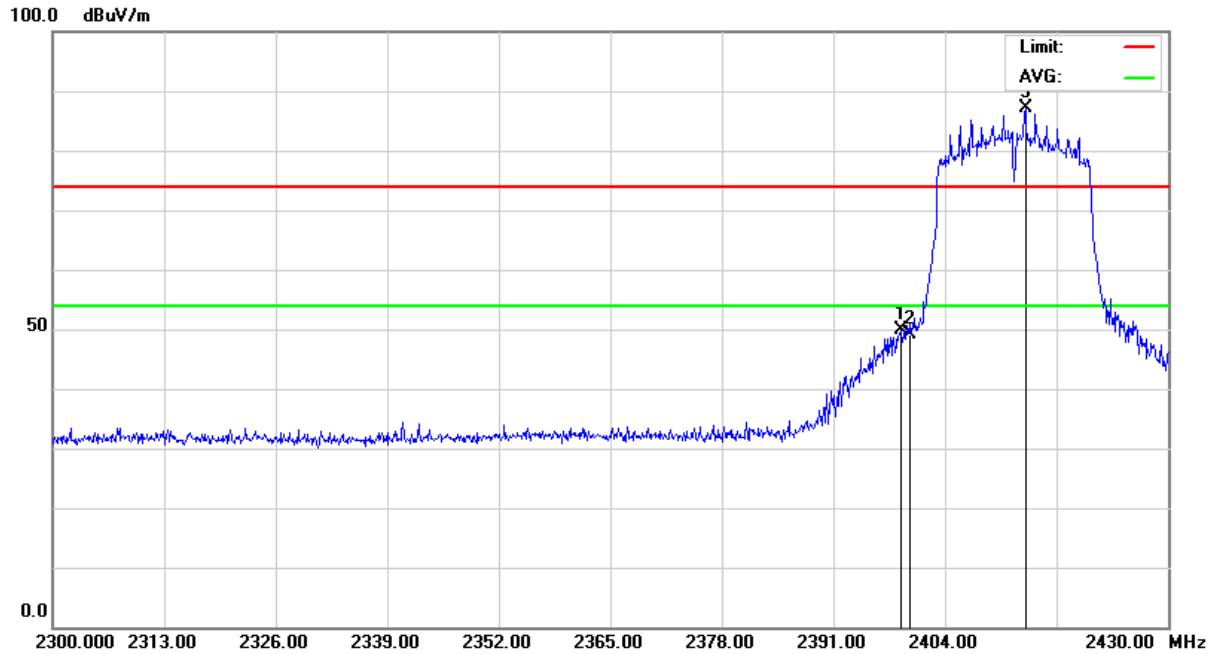
Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.445 GHz – 2.60 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT20
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	40.69	29.75	37.95	27.01	74.00	54.00	-36.05	-26.99
2483.50	-30.92	28.18	V	37.65	26.12	34.91	23.38	74.00	54.00	-39.09	-30.62
2486.21	-30.92	28.18	H	39.26	29.11	36.53	26.38	74.00	54.00	-37.47	-27.62
2500.06	-30.90	28.20	V	37.54	25.31	34.84	22.61	74.00	54.00	-39.16	-31.39

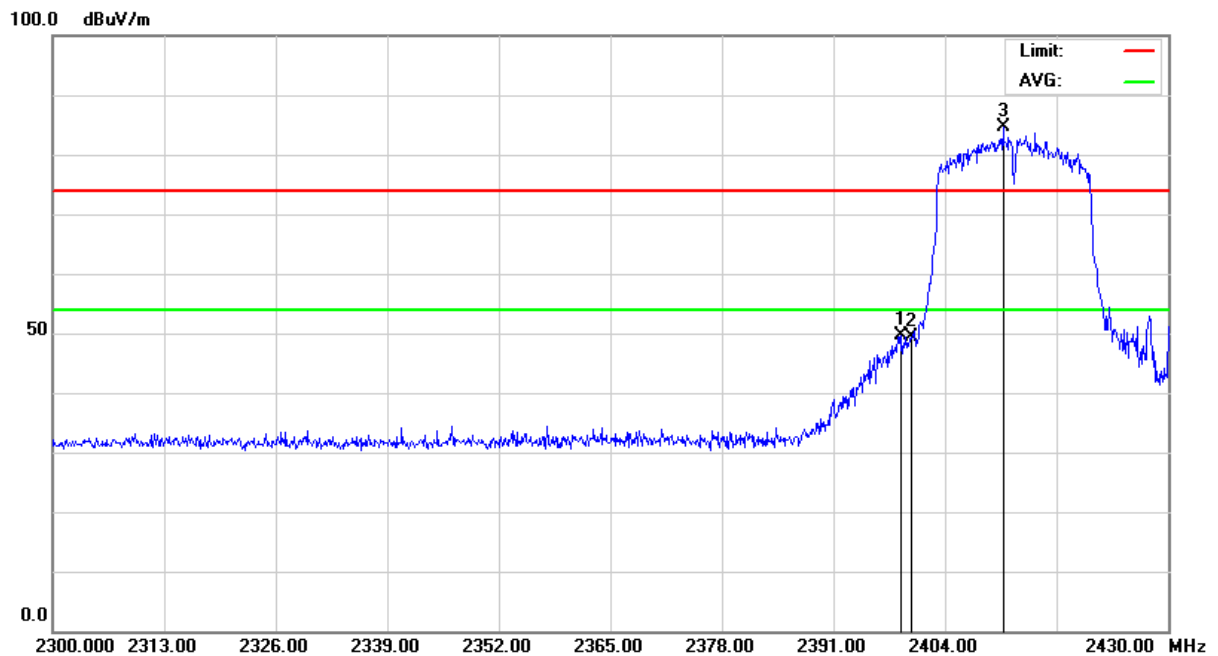


Below 2400MHz (n - HT20_CH01)

Antenna Polarization : Horizontal



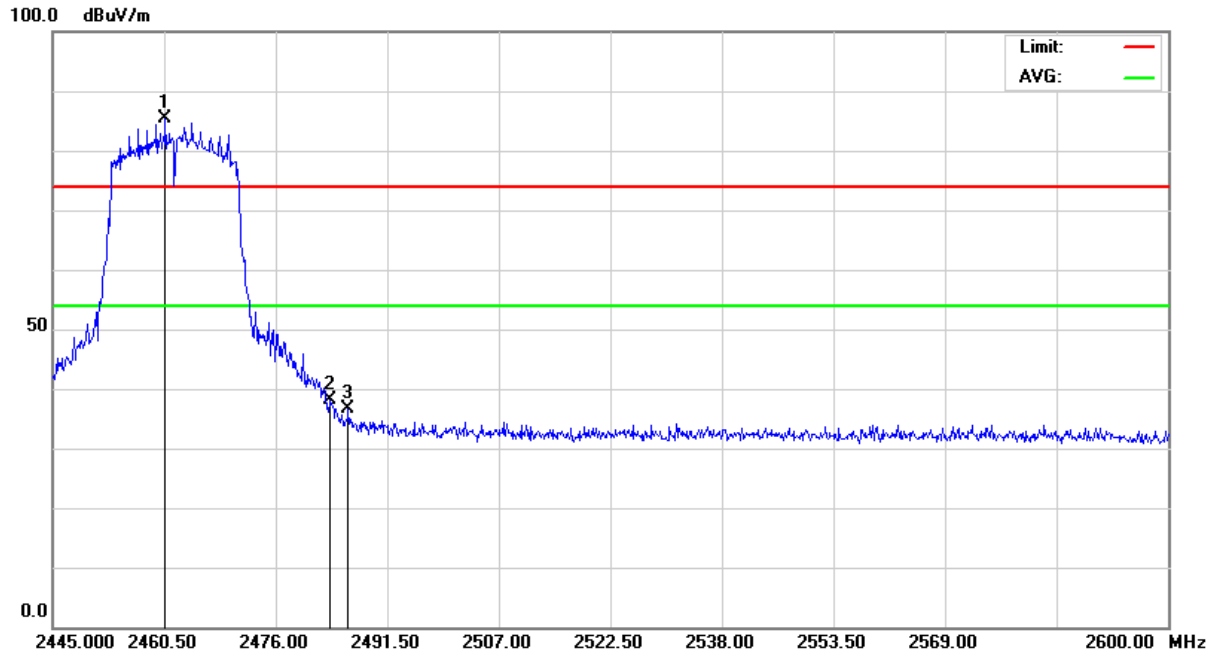
Antenna Polarization : Vertical



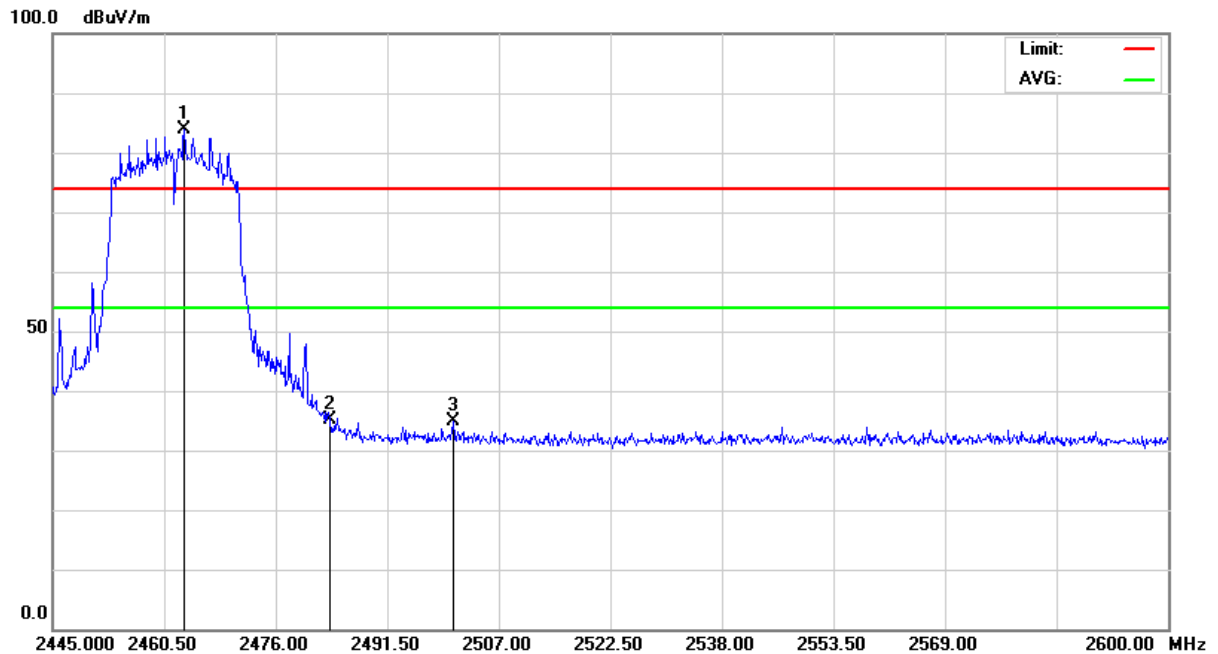


Above 2483.5MHz (n - HT20_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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Below 2400MHz (n - HT40_CH03)

Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.30 GHz – 2.45 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2395.21	-31.02	28.07	H	50.06	40.61	47.11	37.66	74.00	54.00	-26.89	-16.34
2398.50	-31.02	28.08	V	49.55	38.73	46.61	35.79	74.00	54.00	-27.39	-18.21
2400.00	-31.02	28.08	H	46.87	34.30	43.93	31.36	74.00	54.00	-30.07	-22.64
2400.00	-31.02	28.08	V	46.91	36.33	43.97	33.39	74.00	54.00	-30.03	-20.61

Above 2483.5MHz (n - HT40_CH09)

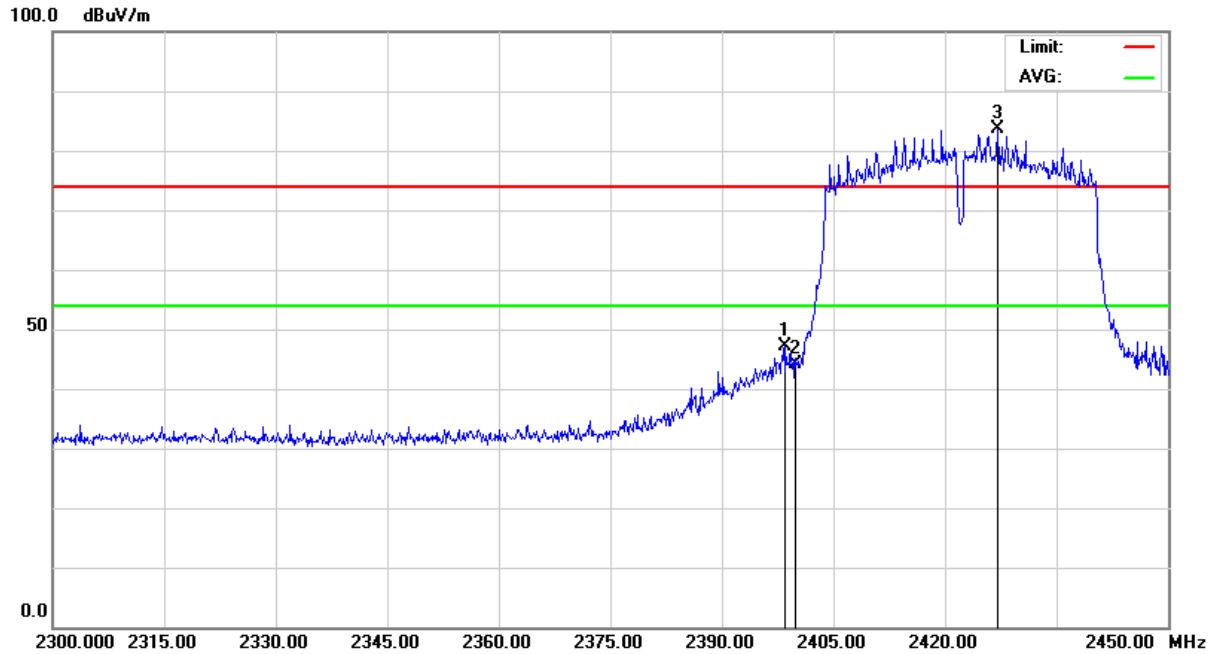
Temperature:	20 °C	Humidity:	64 %RH
Frequency Range:	2.425 GHz – 2.60 GHz	Tested Mode:	MLWG3_2.4G 802.11n - HT40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 25, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	42.80	30.52	40.06	27.78	74.00	54.00	-33.94	-26.22
2483.50	-30.92	28.18	V	39.30	28.31	36.56	25.57	74.00	54.00	-37.44	-28.43
2485.27	-30.92	28.18	H	42.79	31.28	40.05	28.54	74.00	54.00	-33.95	-25.46
2484.81	-30.92	28.18	V	42.20	30.65	39.46	27.91	74.00	54.00	-34.54	-26.09

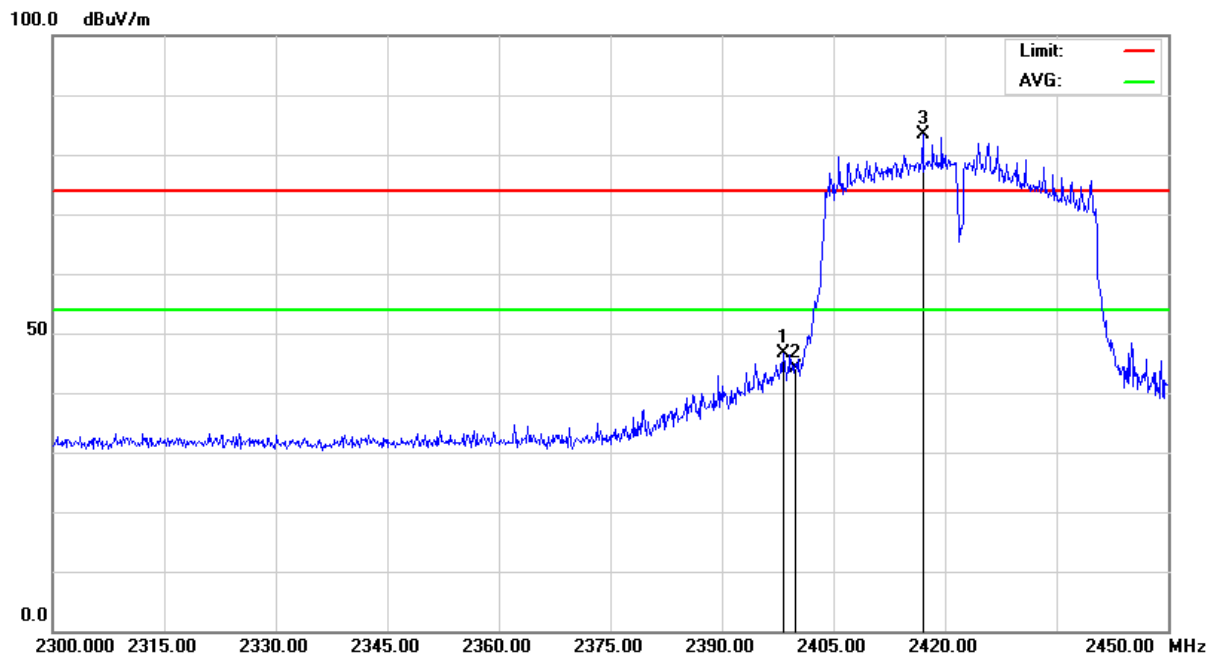


Below 2400MHz (n - HT40_CH03)

Antenna Polarization : Horizontal



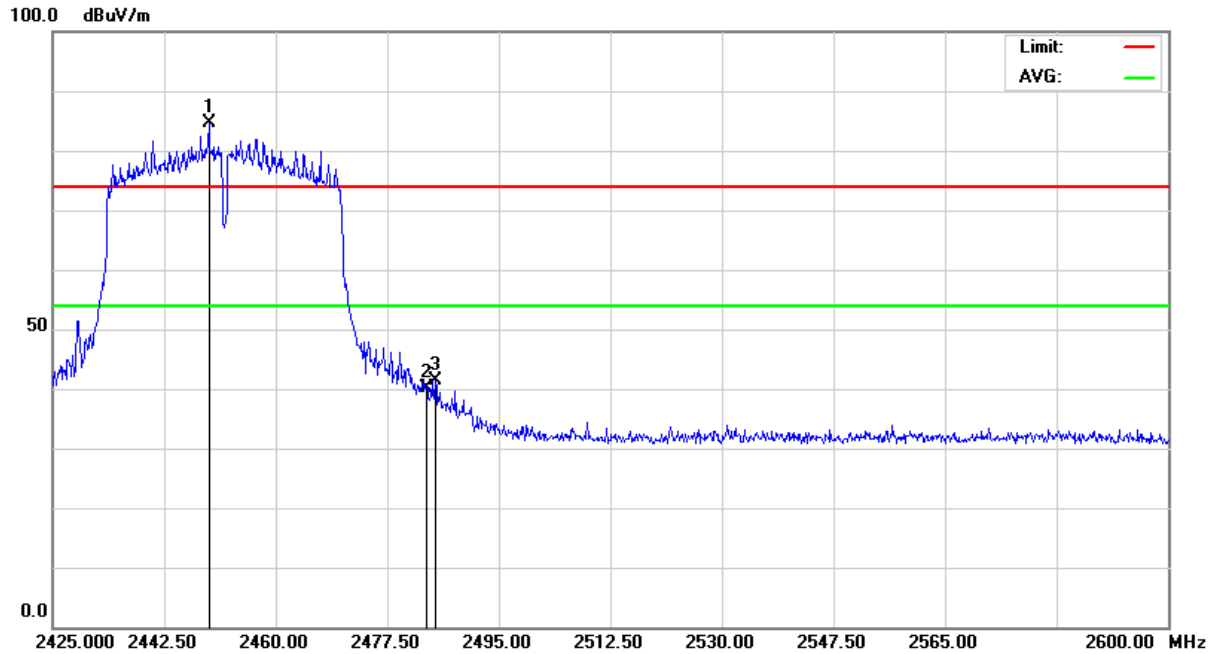
Antenna Polarization : Vertical



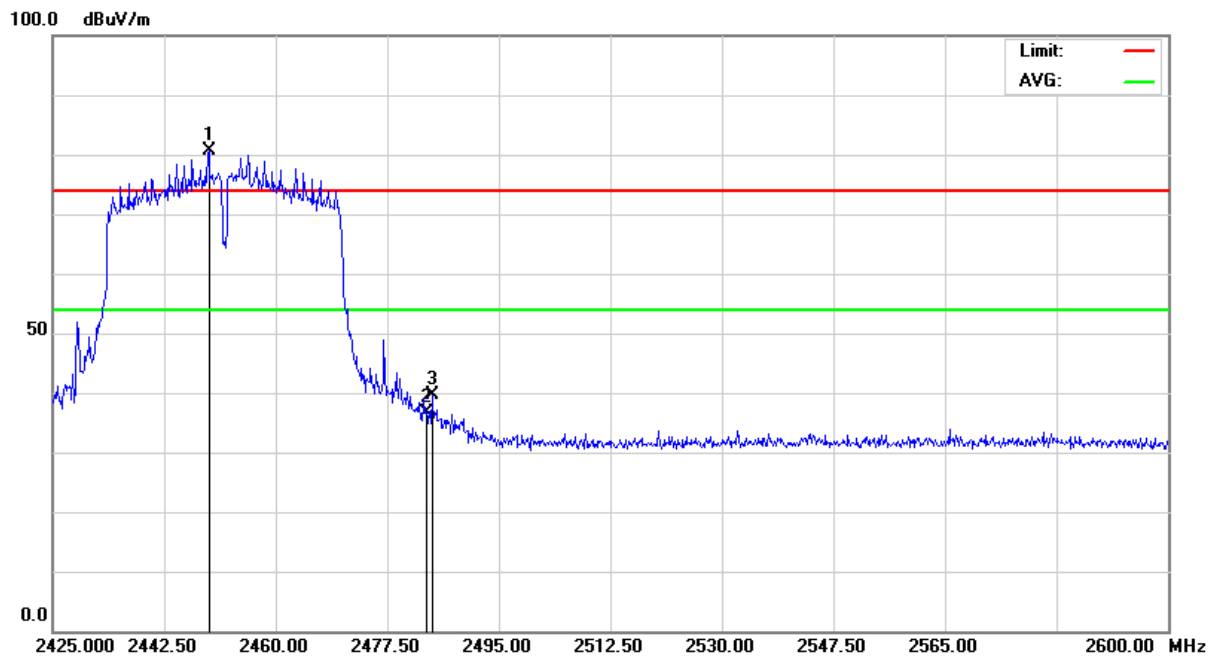


Above 2483.5MHz (n - HT40_CH09)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical



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Below 2400MHz (b_CH01)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.30 GHz – 2.425 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2397.16	-31.02	28.08	H	48.62	38.15	45.68	35.21	74.00	54.00	-28.32	-18.79
2397.21	-31.02	28.08	V	44.59	34.01	41.65	31.07	74.00	54.00	-32.35	-22.93
2400.00	-31.02	28.08	H	43.23	32.79	40.29	29.85	74.00	54.00	-33.71	-24.15
2400.00	-31.02	28.08	V	39.84	29.38	36.90	26.44	74.00	54.00	-37.10	-27.56

Above 2483.5MHz (b_CH11)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.45 GHz – 2.60 GHz	Tested Mode:	MLWG3/64_2.4G 802.11b
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	32.54	22.04	29.80	19.30	74.00	54.00	-44.20	-34.70
2483.50	-30.92	28.18	V	32.22	21.79	29.48	19.05	74.00	54.00	-44.52	-34.95
2492.32	-30.91	28.19	H	34.65	24.18	31.93	21.46	74.00	54.00	-42.07	-32.54
2495.72	-30.91	28.19	V	34.88	24.36	32.17	21.65	74.00	54.00	-41.83	-32.35



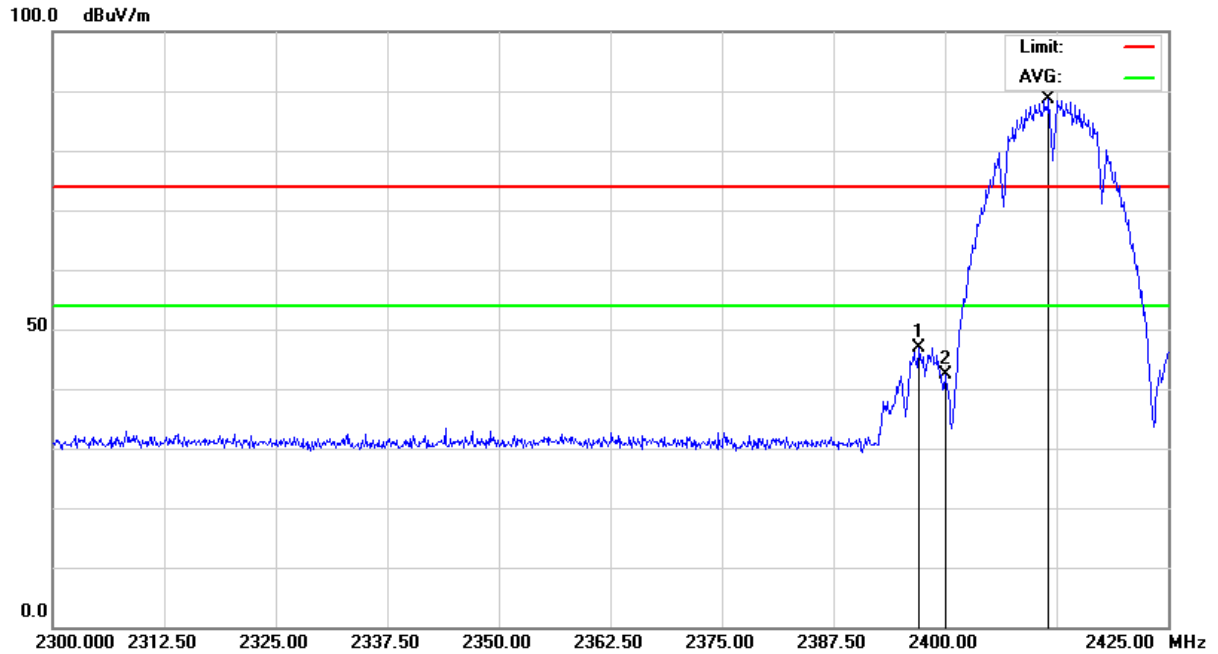
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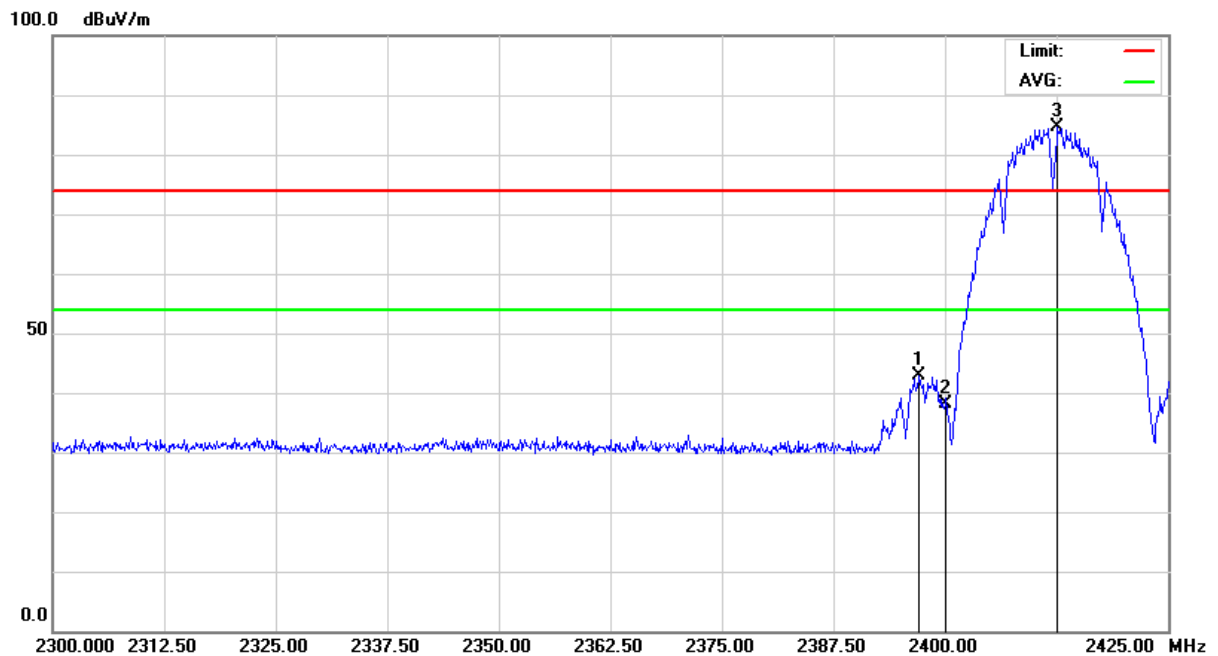
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Below 2400MHz (b_CH01)

Antenna Polarization : Horizontal



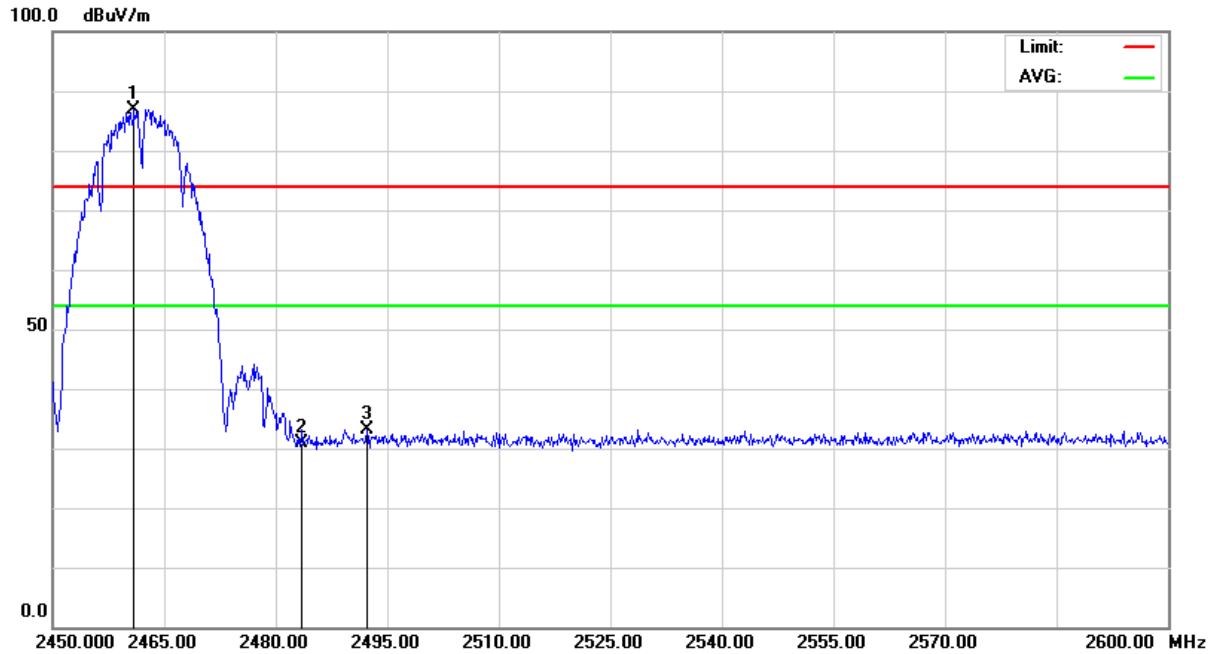
Antenna Polarization : Vertical



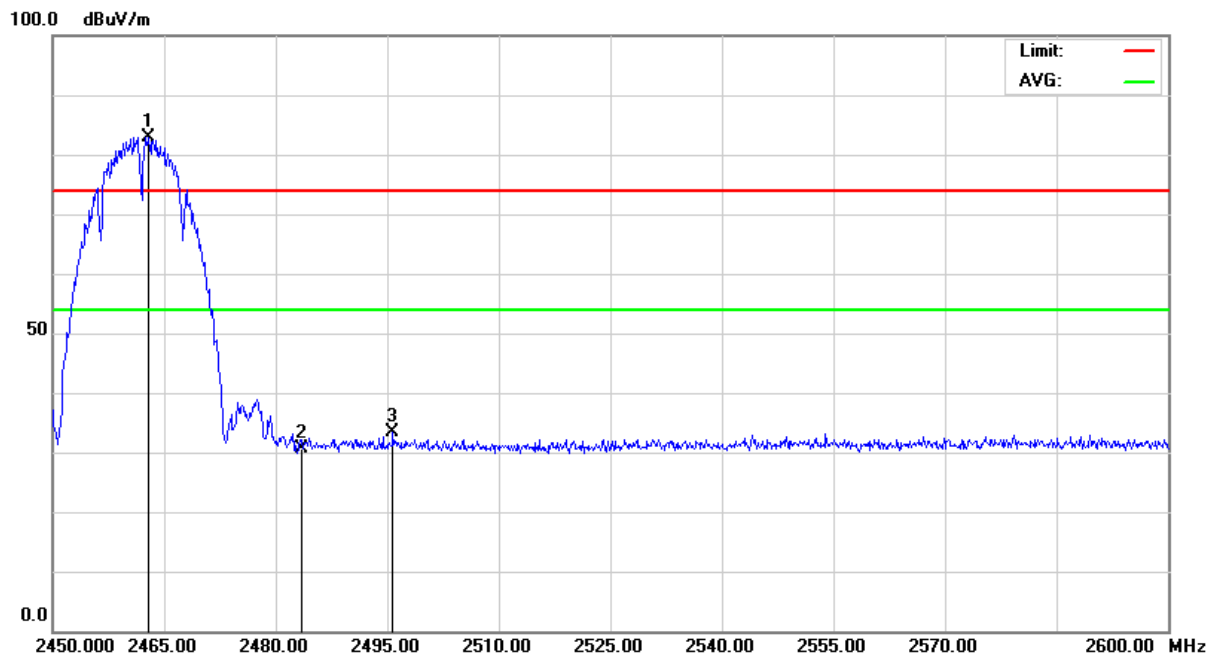


Above 2483.5MHz (b_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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Below 2400MHz (g_CH01)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.30 GHz – 2.43 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2399.34	-31.02	28.08	H	50.76	40.18	47.82	37.24	74.00	54.00	-26.18	-16.76
2399.17	-31.02	28.08	V	42.38	31.84	39.44	28.90	74.00	54.00	-34.56	-25.10
2400.00	-31.02	28.08	H	49.79	39.25	46.85	36.31	74.00	54.00	-27.15	-17.69
2400.00	-31.02	28.08	V	41.54	31.07	38.60	28.13	74.00	54.00	-35.40	-25.87

Above 2483.5MHz (g_CH11)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.45 GHz – 2.60 GHz	Tested Mode:	MLWG3/64_2.4G 802.11g
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	39.31	28.87	36.57	26.13	74.00	54.00	-37.43	-27.87
2483.50	-30.92	28.18	V	34.33	23.89	31.59	21.15	74.00	54.00	-42.41	-32.85
2486.92	-30.92	28.18	H	41.74	31.30	39.01	28.57	74.00	54.00	-34.99	-25.43
2486.19	-30.92	28.18	V	36.78	26.27	34.05	23.54	74.00	54.00	-39.95	-30.46



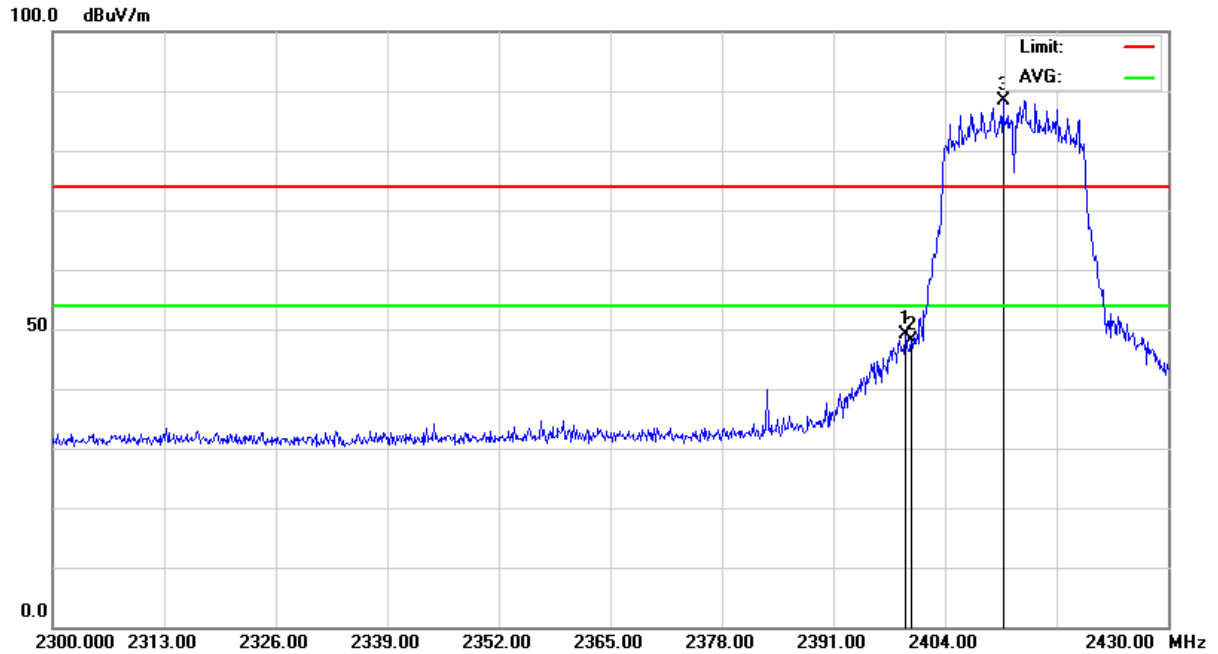
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TEST REPORT

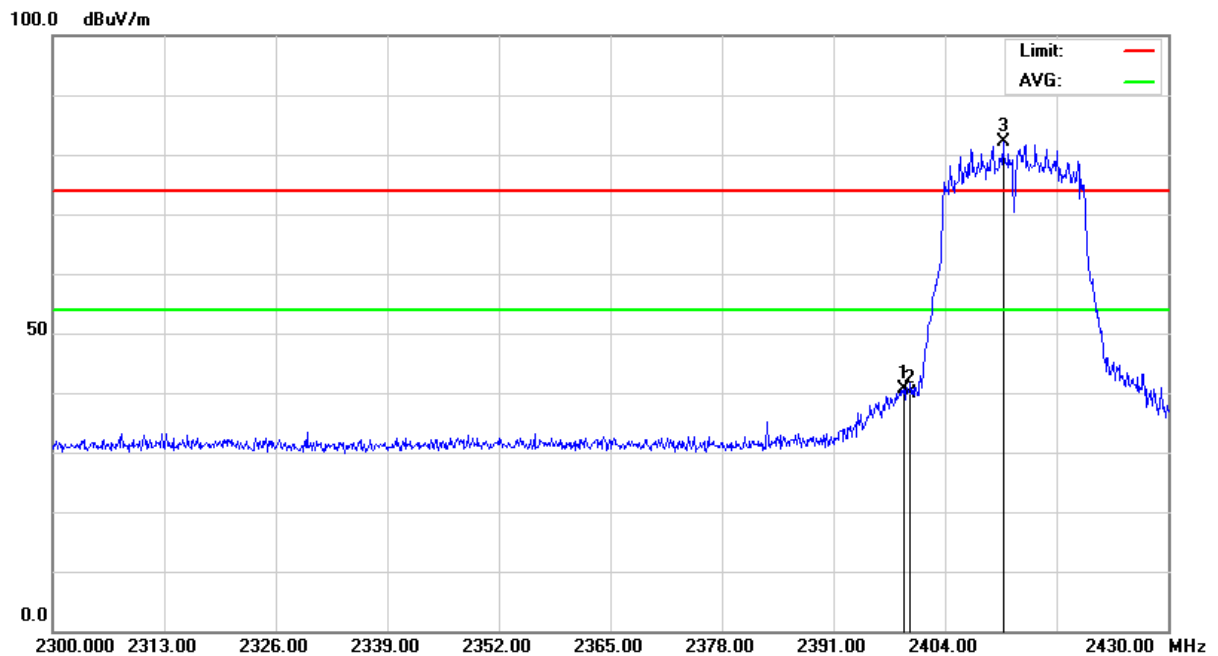
Reference No.: A15102101
Report No.: FCCA15102101
FCC ID : ZME-MLWG3
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Below 2400MHz (g_CH01)

Antenna Polarization : Horizontal



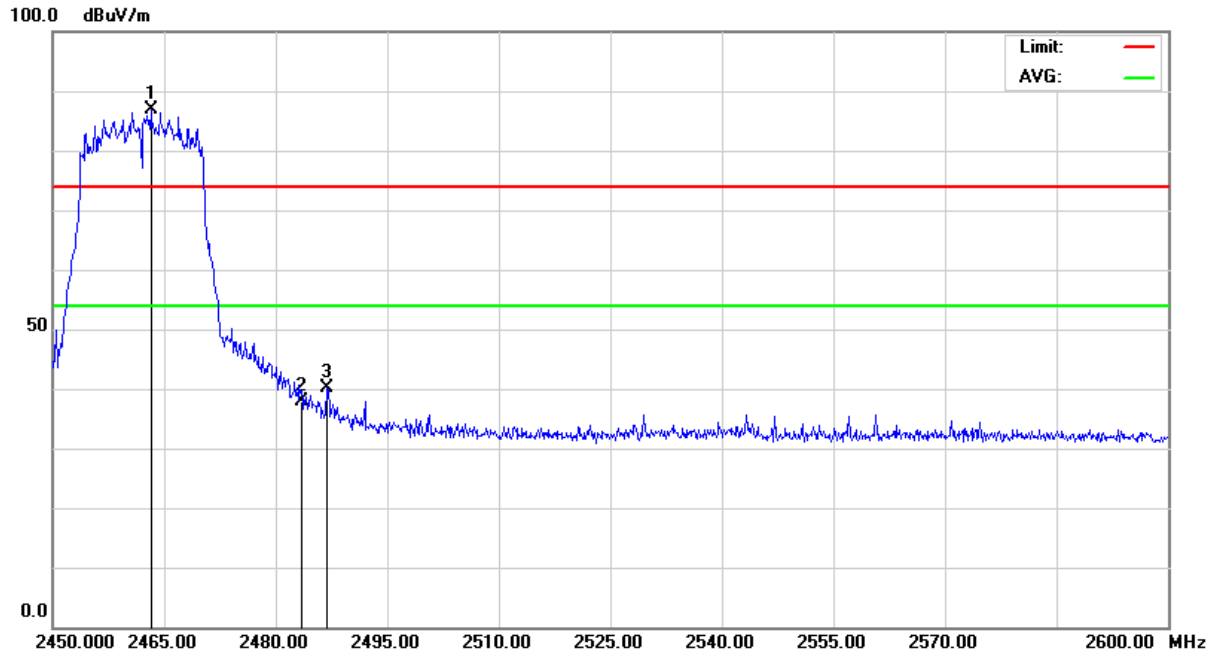
Antenna Polarization : Vertical



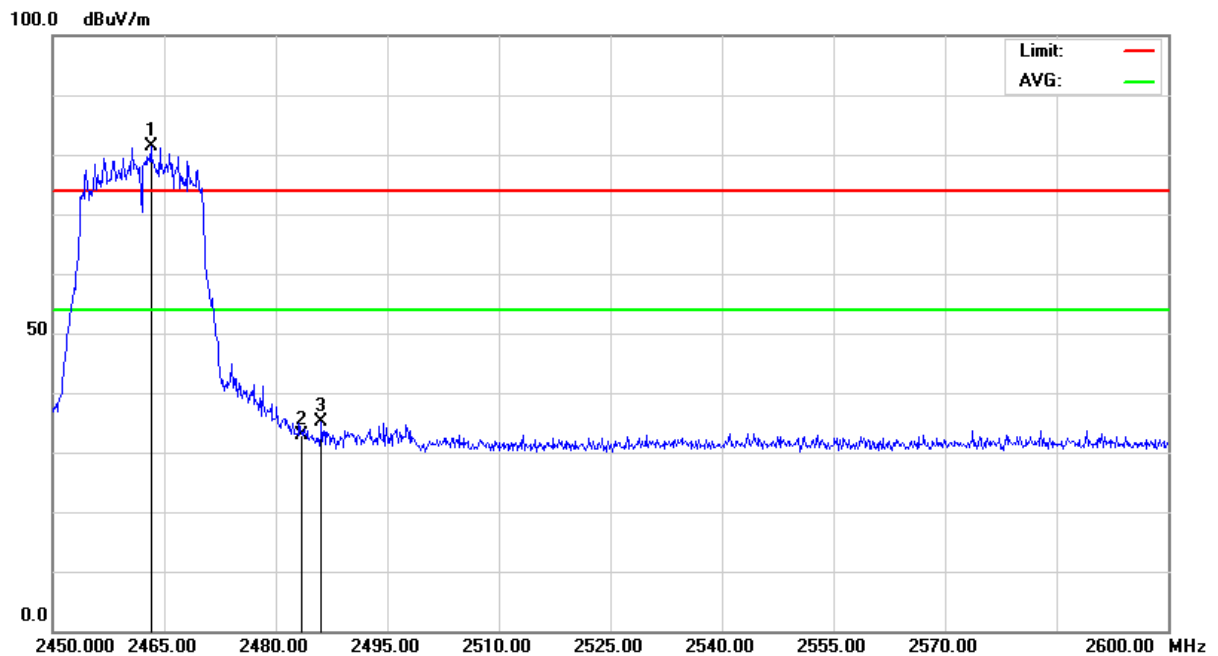


Above 2483.5MHz (g_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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TEST REPORT

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Below 2400MHz (n - HT20_CH01)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.30 GHz – 2.43 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2398.94	-31.02	28.08	H	43.16	32.67	40.22	29.73	74.00	54.00	-33.78	-24.27
2398.16	-31.02	28.08	V	40.73	30.19	37.79	27.25	74.00	54.00	-36.21	-26.75
2400.00	-31.02	28.08	H	42.18	31.65	39.24	28.71	74.00	54.00	-34.76	-25.29
2400.00	-31.02	28.08	V	37.07	26.57	34.13	23.63	74.00	54.00	-39.87	-30.37

Above 2483.5MHz (n - HT20_CH11)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.45 GHz – 2.60 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT20
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	39.73	29.25	36.99	26.51	74.00	54.00	-37.01	-27.49
2483.50	-30.92	28.18	V	35.40	24.97	32.66	22.23	74.00	54.00	-41.34	-31.77
2490.66	-30.91	28.19	H	40.06	29.54	37.34	26.82	74.00	54.00	-36.66	-27.18
2490.83	-30.91	28.19	V	37.40	26.90	34.68	24.18	74.00	54.00	-39.32	-29.82



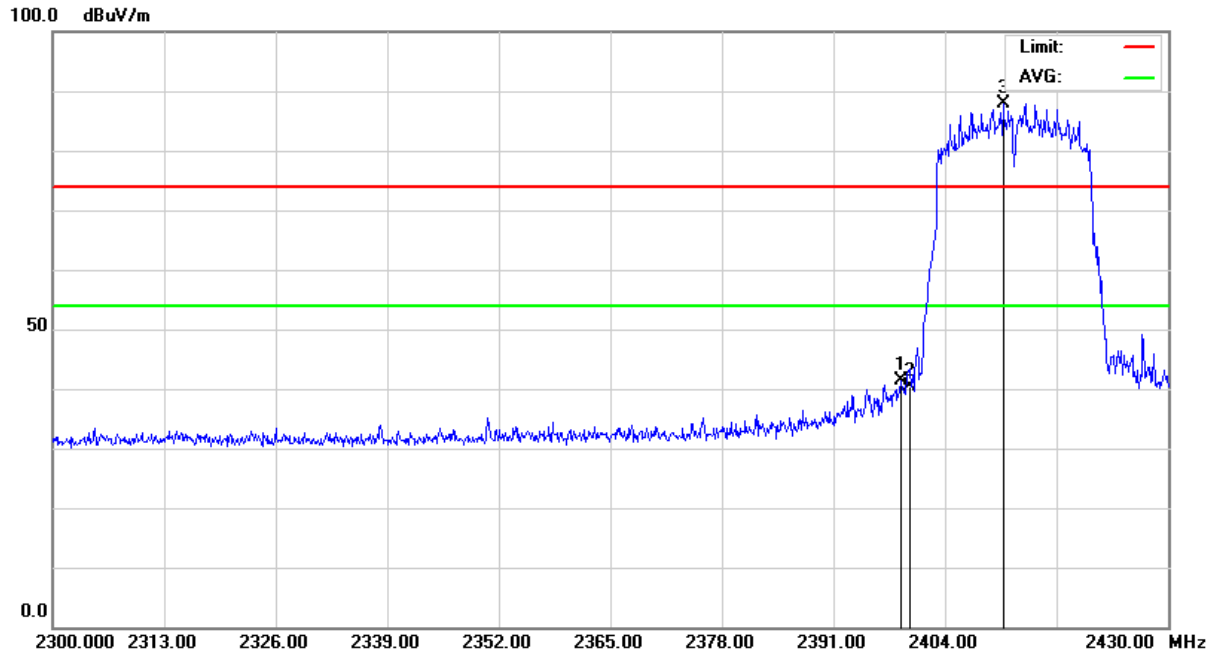
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No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

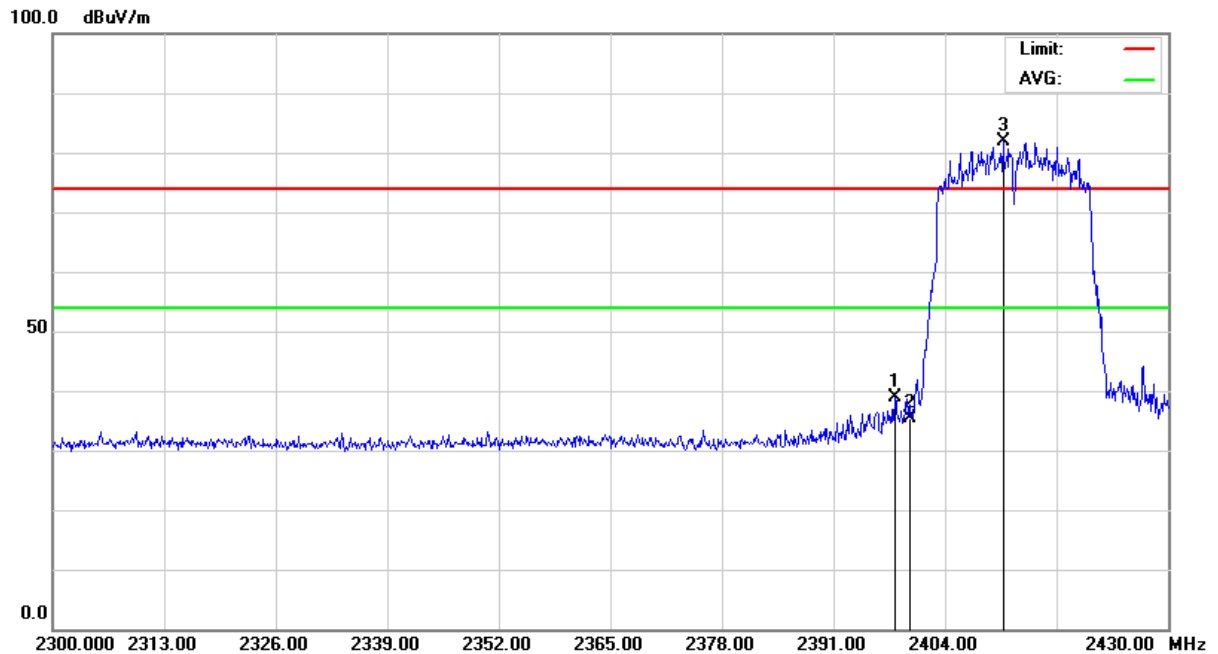
Reference No.: A15102101
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Below 2400MHz (n - HT20_CH01)

Antenna Polarization : Horizontal



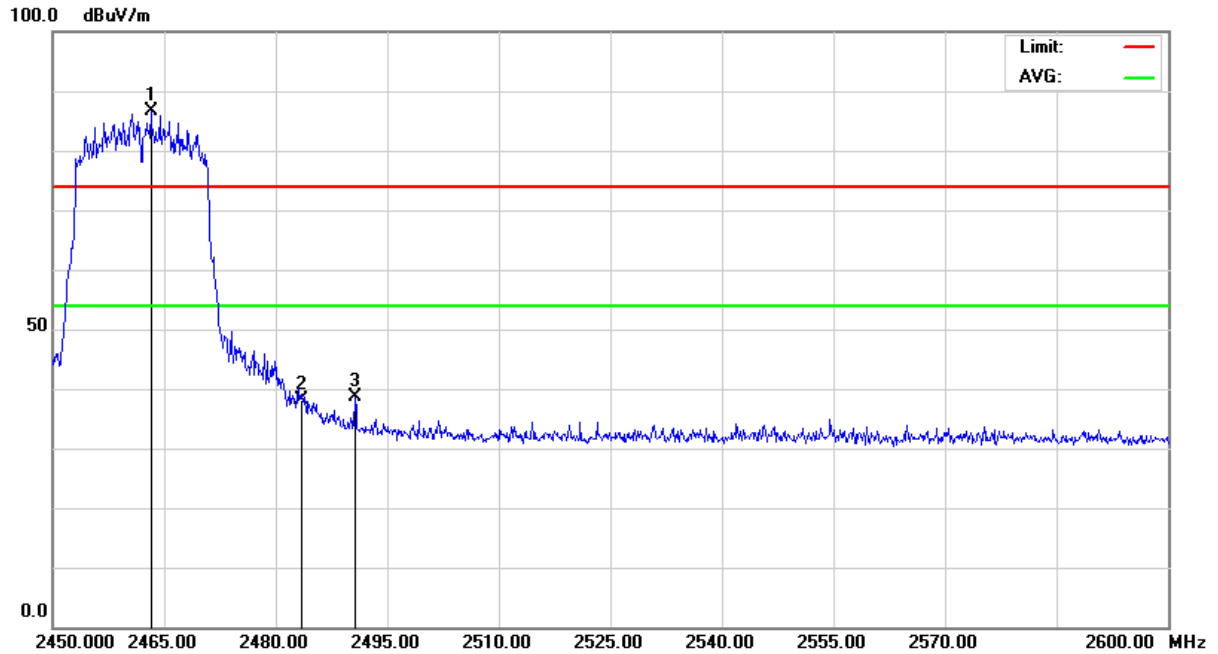
Antenna Polarization : Vertical



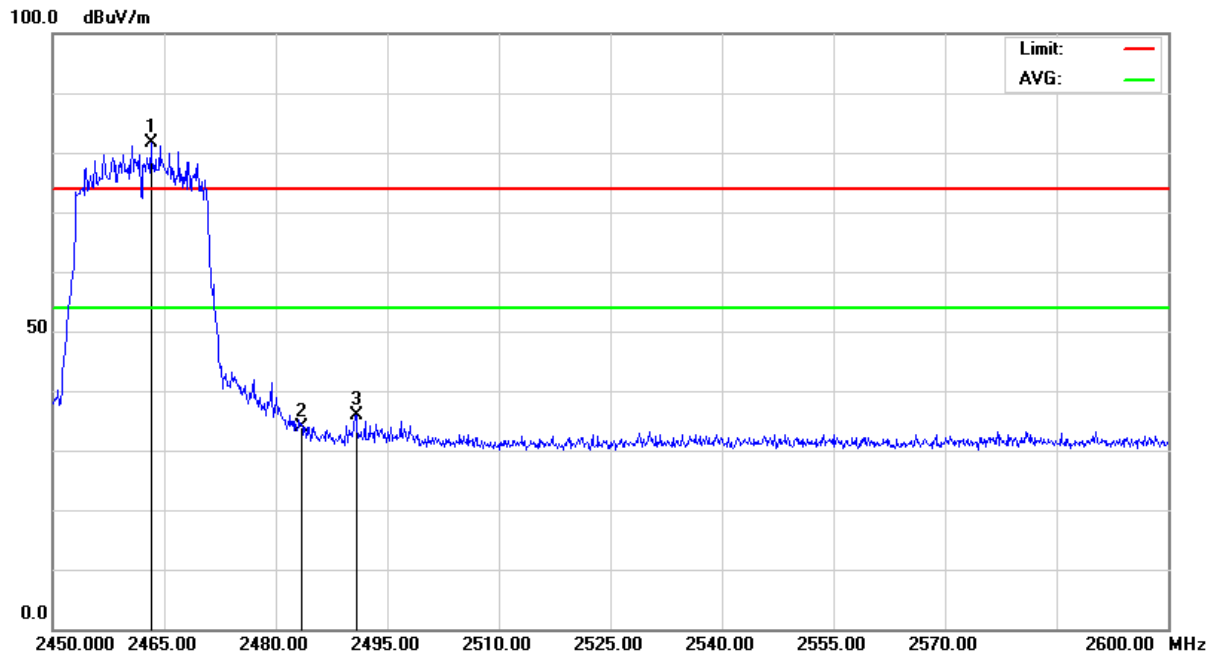


Above 2483.5MHz (n - HT20_CH11)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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Below 2400MHz (n - HT40_CH03)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.30 GHz – 2.445 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2399.48	-31.02	28.08	H	47.77	37.18	44.83	34.24	74.00	54.00	-29.17	-19.76
2399.45	-31.02	28.08	V	43.29	32.75	40.35	29.81	74.00	54.00	-33.65	-24.19
2400.00	-31.02	28.08	H	41.31	30.83	38.37	27.89	74.00	54.00	-35.63	-26.11
2400.00	-31.02	28.08	V	36.92	26.49	33.98	23.55	74.00	54.00	-40.02	-30.45

Above 2483.5MHz (n - HT40_CH09)

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	2.43 GHz – 2.60 GHz	Tested Mode:	MLWG3/64_2.4G 802.11n - HT40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
Tested By:	Richard Lin	Tested Date:	Nov. 02, 2015

Frequency (MHz)	Correct Factor (dB)	Ant. Fac. (dB/m)	Ant. Pol. (H/V)	Reading (dBuV)		Emission (dBuV/m)		Limit Line (dBuV/m)		Over Limit (dB)	
				PK	AV	PK	AV	PK	AV	PK	AV
2483.50	-30.92	28.18	H	42.95	32.42	40.21	29.68	74.00	54.00	-33.79	-24.32
2483.50	-30.92	28.18	V	39.13	28.64	36.39	25.90	74.00	54.00	-37.61	-28.10
2484.51	-30.92	28.18	H	47.40	36.96	44.66	34.22	74.00	54.00	-29.34	-19.78
2484.54	-30.92	28.18	V	43.59	33.01	40.85	30.27	74.00	54.00	-33.15	-23.73



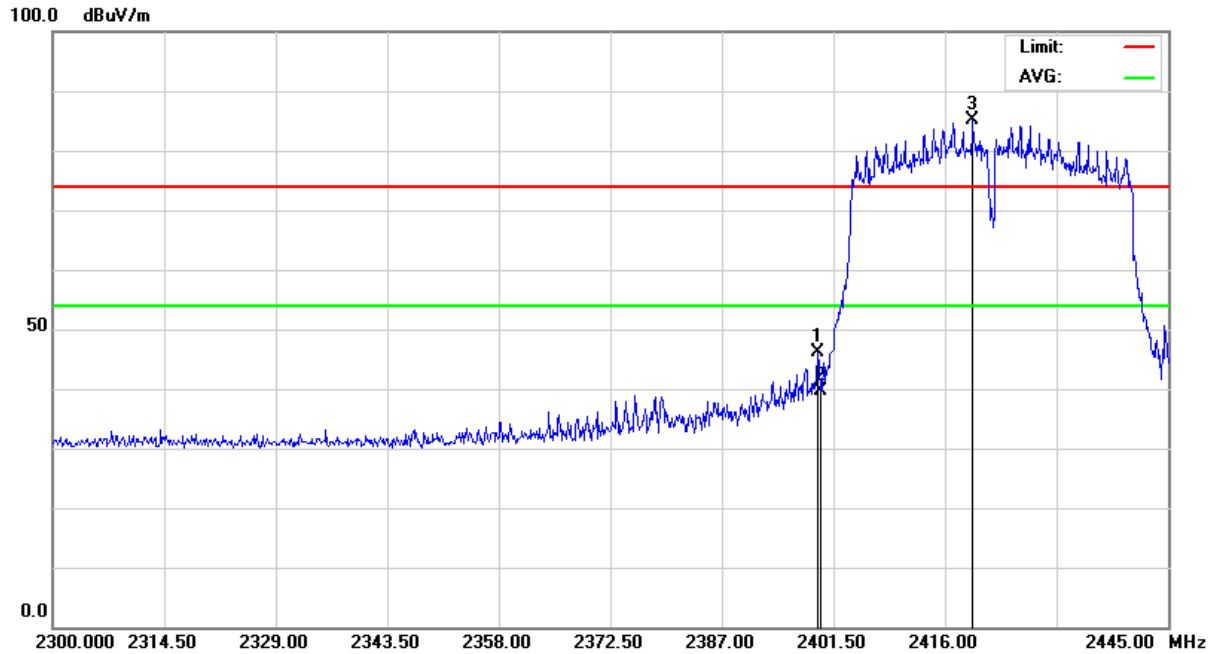
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No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

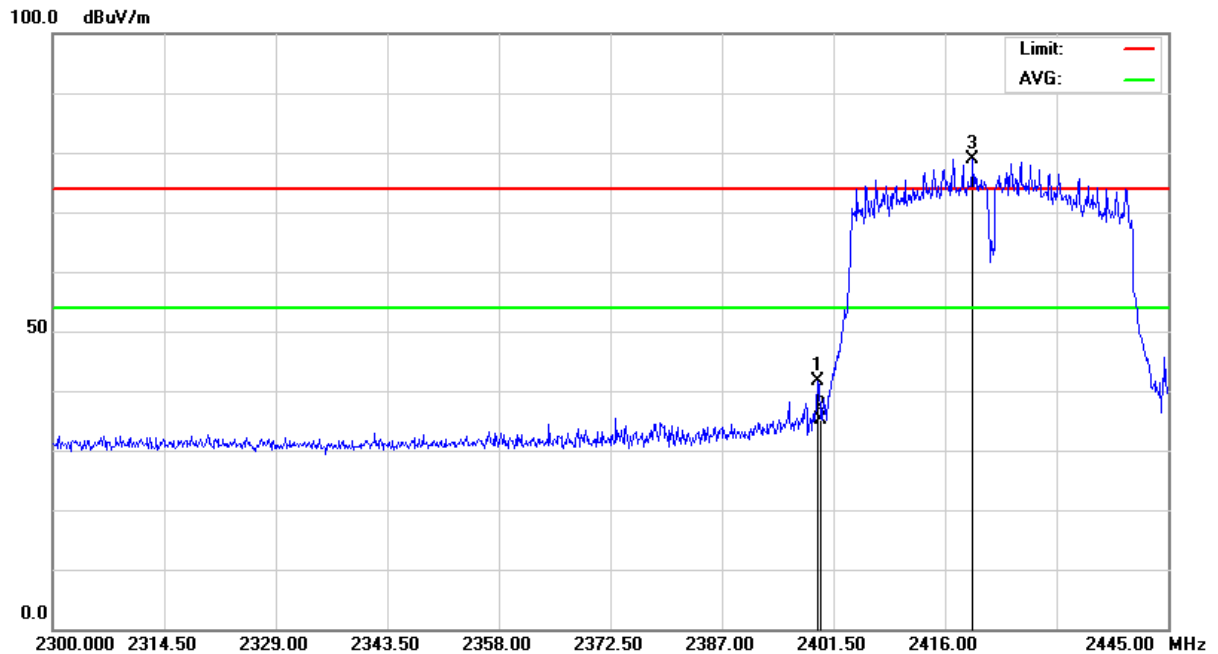
Reference No.: A15102101
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Below 2400MHz (n - HT40_CH03)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





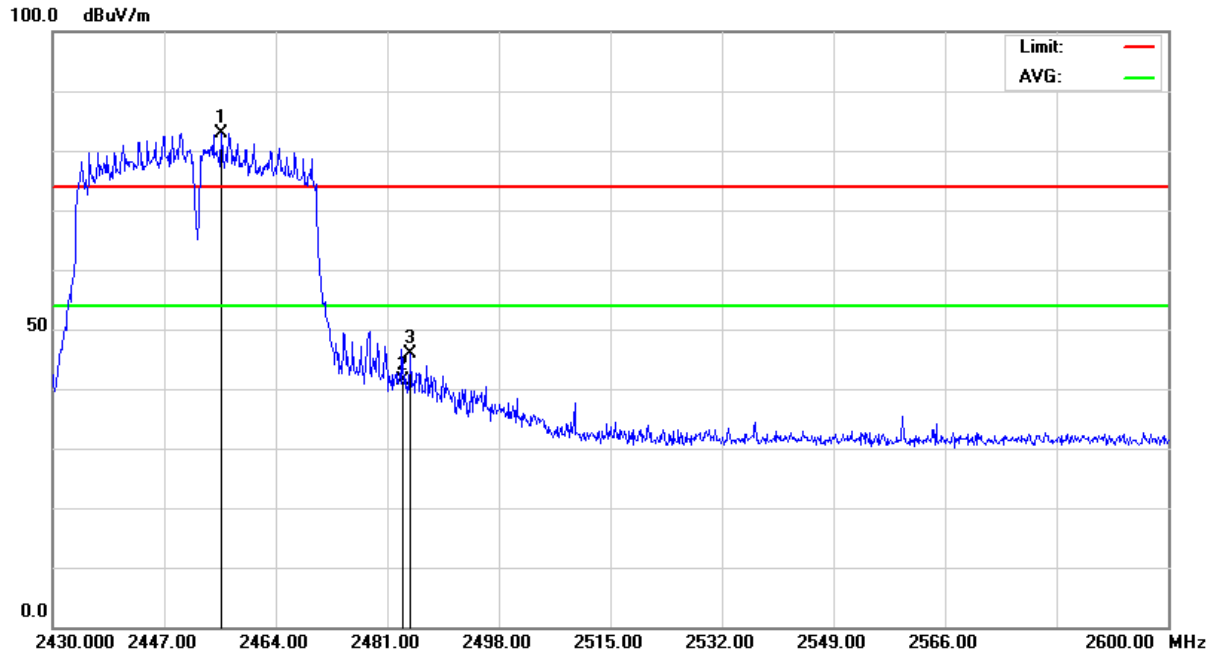
Spectrum Research & Testing Lab., Inc.
No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li City, Taoyuan County 320, Taiwan (R.O.C.)

TEST REPORT

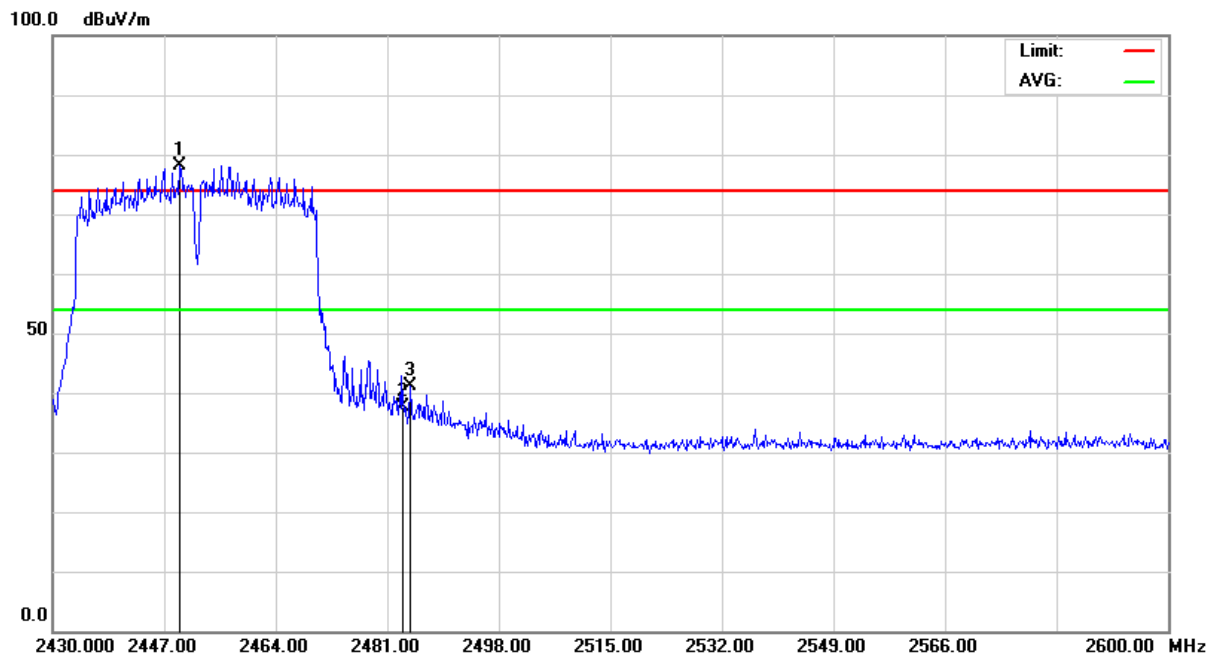
Reference No.: A15102101
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FCC ID : ZME-MLWG3
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Above 2483.5MHz (n - HT40_CH09)

Antenna Polarization : Horizontal



Antenna Polarization : Vertical





4.6 POWER SPECTRAL DENSITY TEST

4.6.1 LIMIT

FCC Part15, Subpart C Section 15.247(e).

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

FREQUENCY RANGE	Limit
2.40 - 2.4835 GHz	8 dBm / 3 kHz

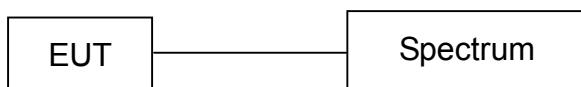
4.6.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test:

EQUIPMENT/FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER (INCLUDE SPECTRUM ANALYZER)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL /100176	MAY 24, 2016 ETC

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

4.6.4 TEST PROCEDURE

The EUT was operating in transmitter mode and could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

4.6.5 EUT OPERATING CONDITION

1. Set the EUT under continuous transmission condition.
2. The EUT was set to the highest available power level.



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TEST REPORT

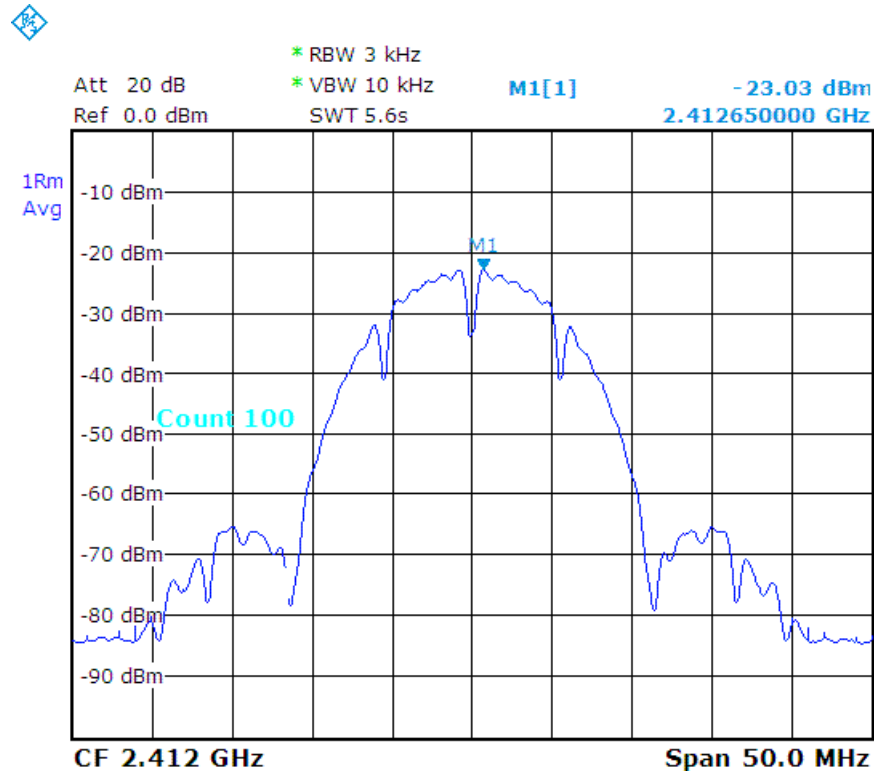
Reference No.: A15102101
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4.6.6 TEST RESULT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11b
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

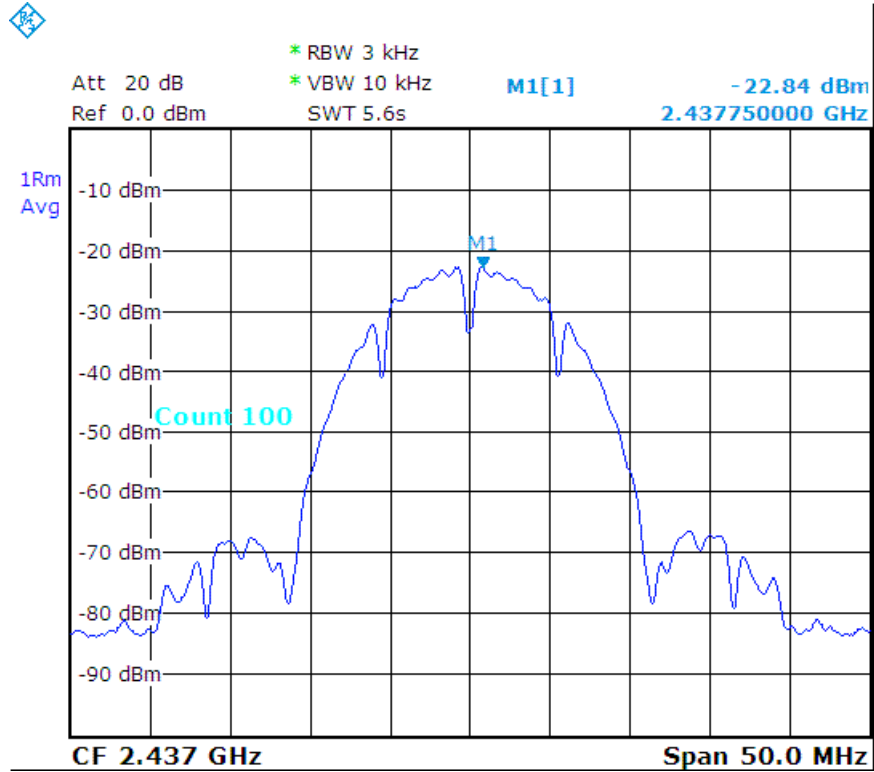
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-23.03	8
CH06	2437	-22.84	8
CH11	2462	-22.87	8

b_CH01 :

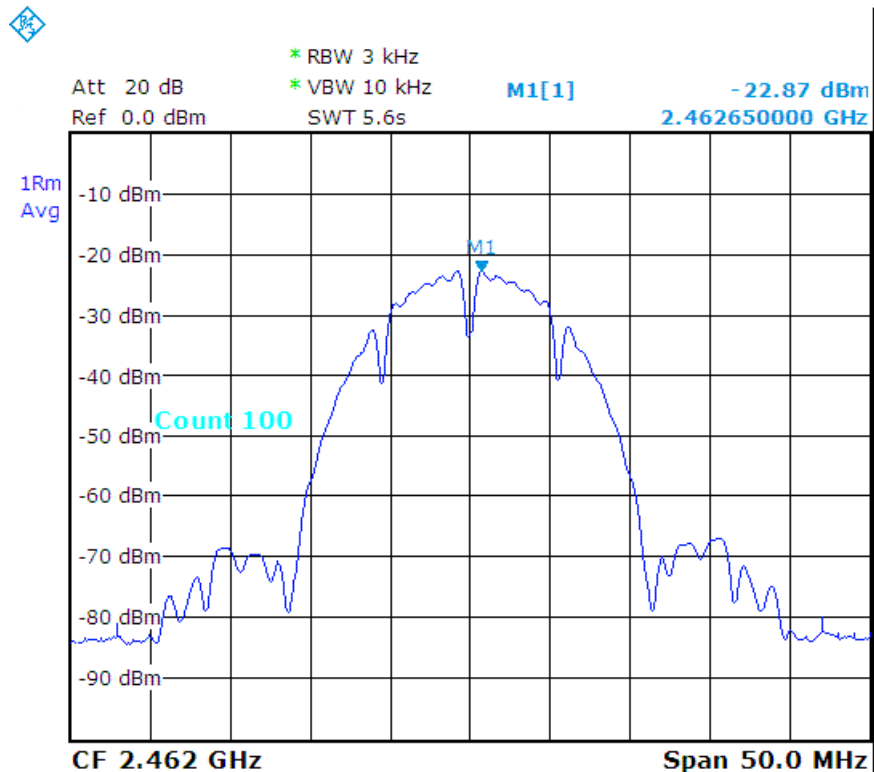




b_CH06 :



b_CH11 :





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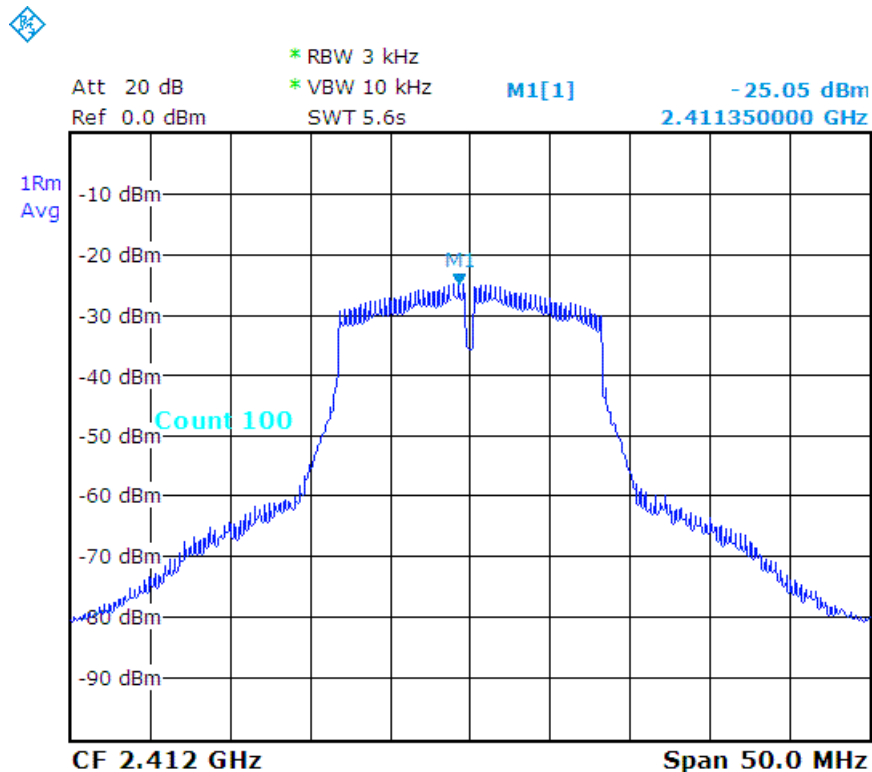
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11g
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

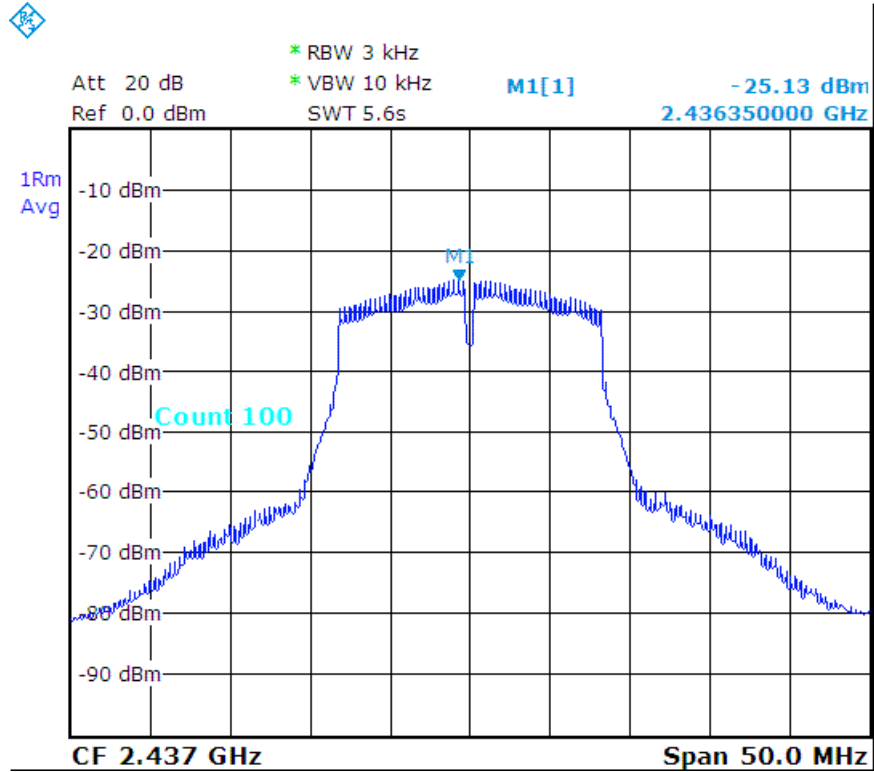
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-25.05	8
CH06	2437	-25.13	8
CH11	2462	-24.84	8

g_CH01 :

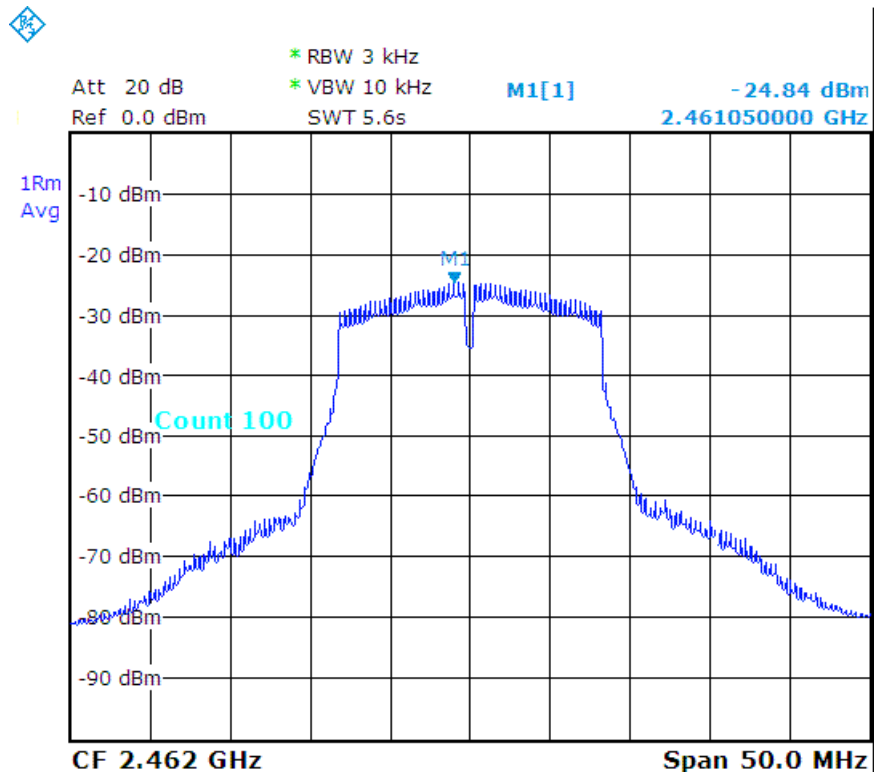




g_CH06 :



g_CH11 :





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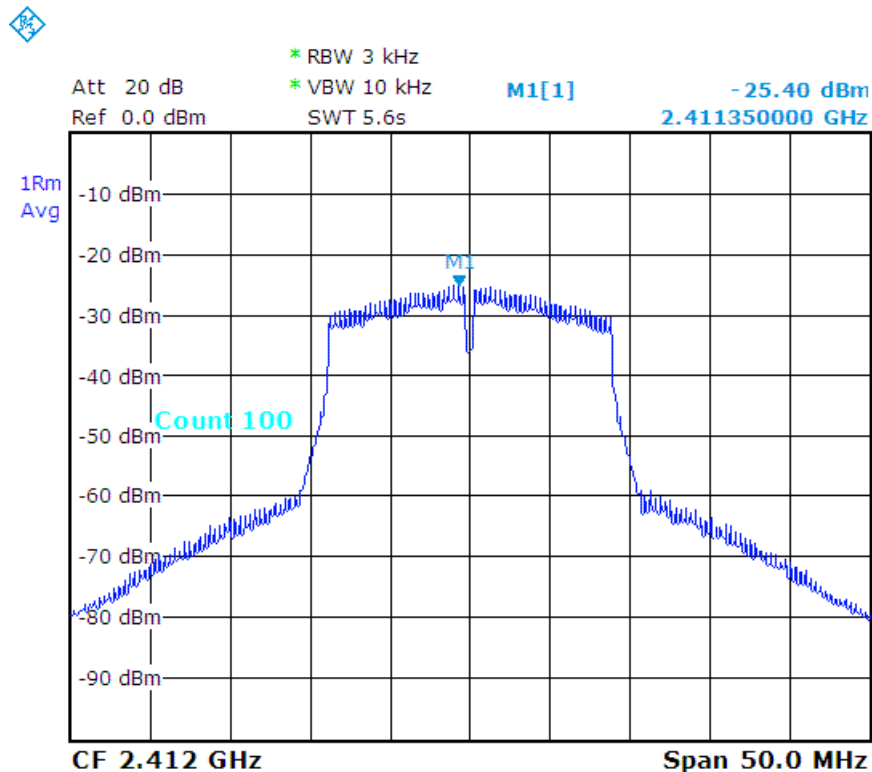
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11n - HT20
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

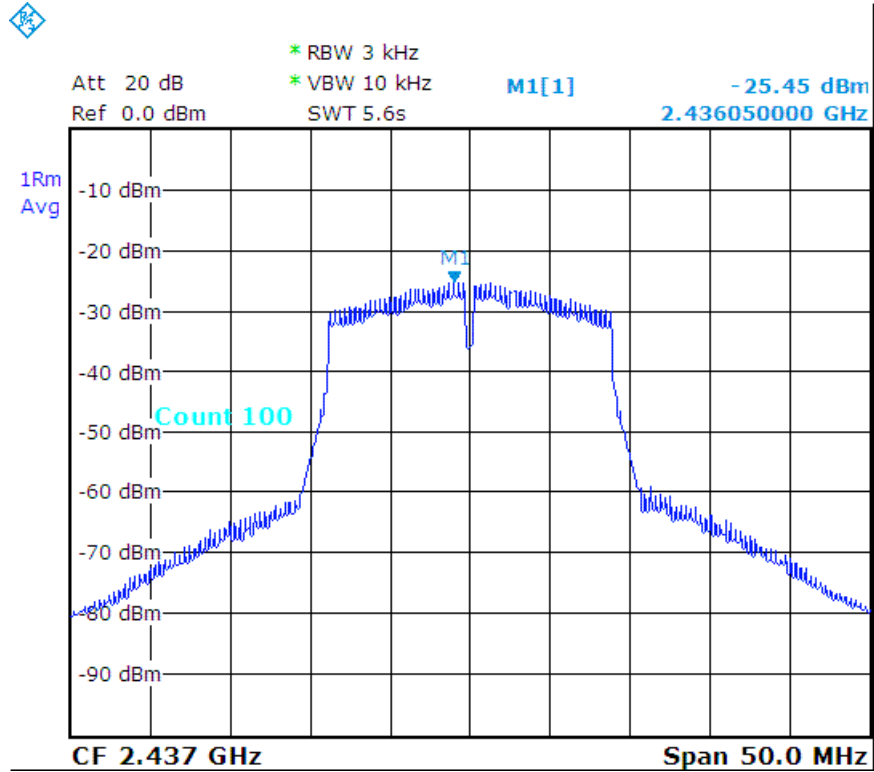
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-25.40	8
CH06	2437	-25.45	8
CH11	2462	-25.15	8

n - HT20_CH01 :

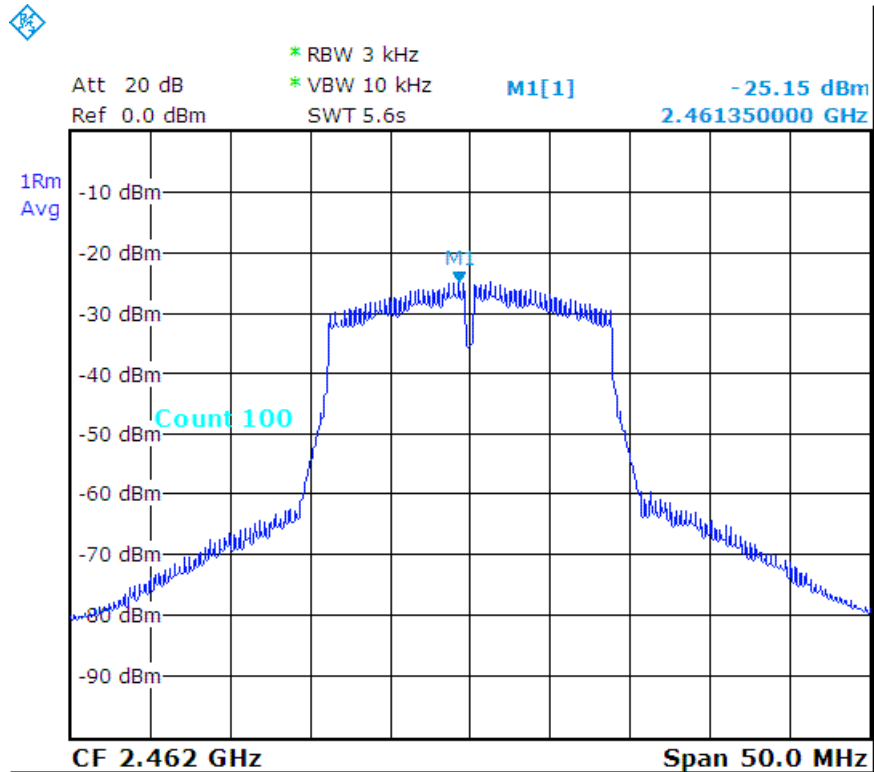




n - HT20_CH06 :



n - HT20_CH11 :





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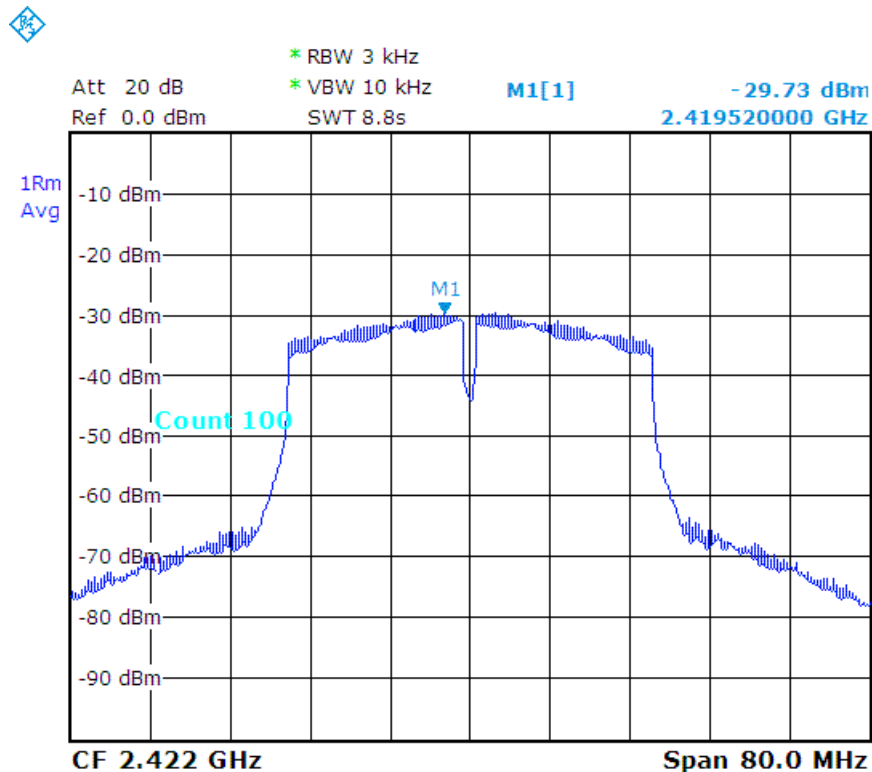
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	21 °C	Humidity:	59 %RH
Detector:	RMS	Test Mode:	MLWG3_2.4G_802.11n - HT40
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

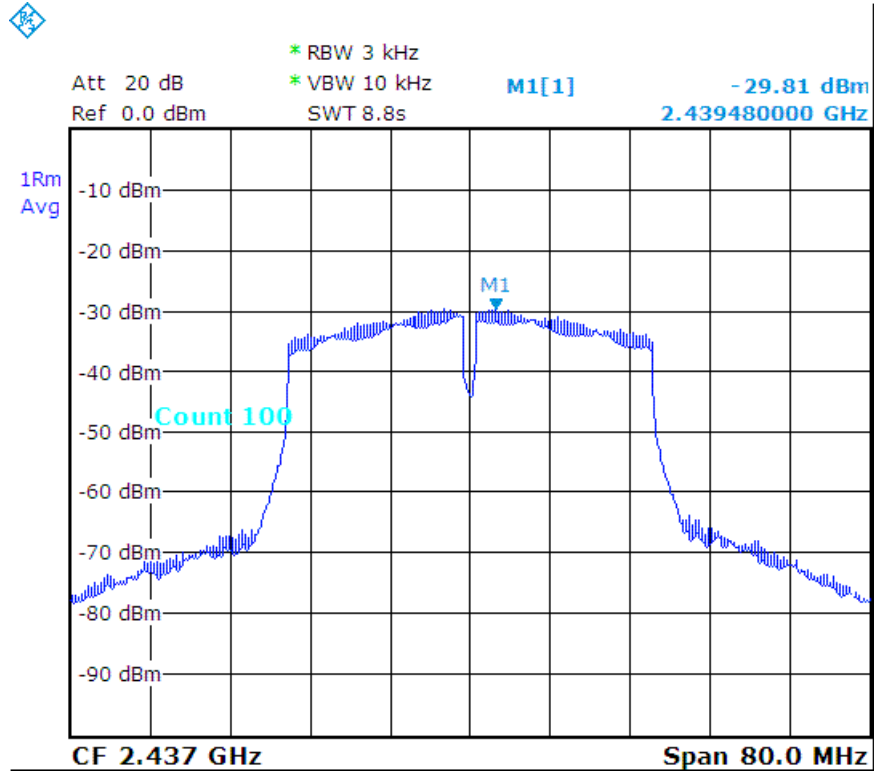
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH03	2422	-29.73	8
CH06	2437	-29.81	8
CH09	2452	-29.72	8

n - HT40_CH03 :

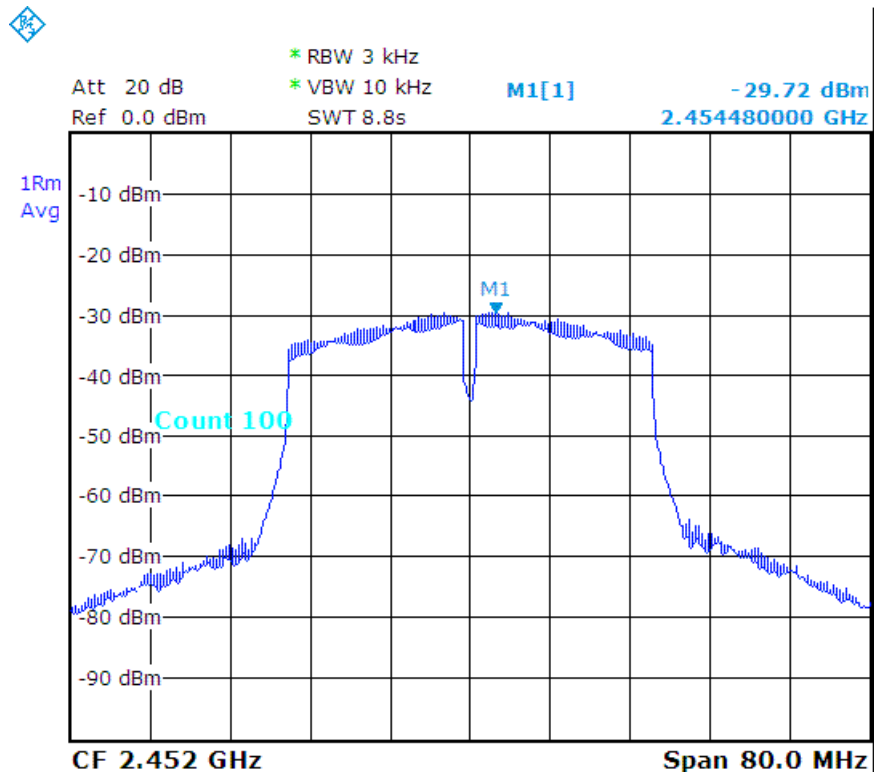




n - HT40_CH06 :



n - HT40_CH09 :





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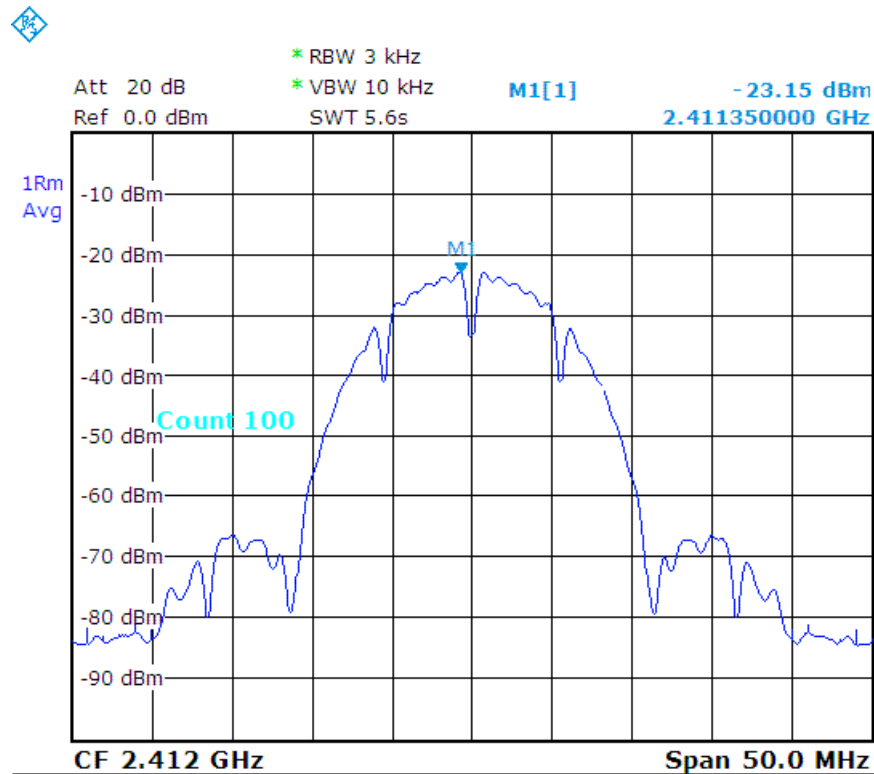
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
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Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11b
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

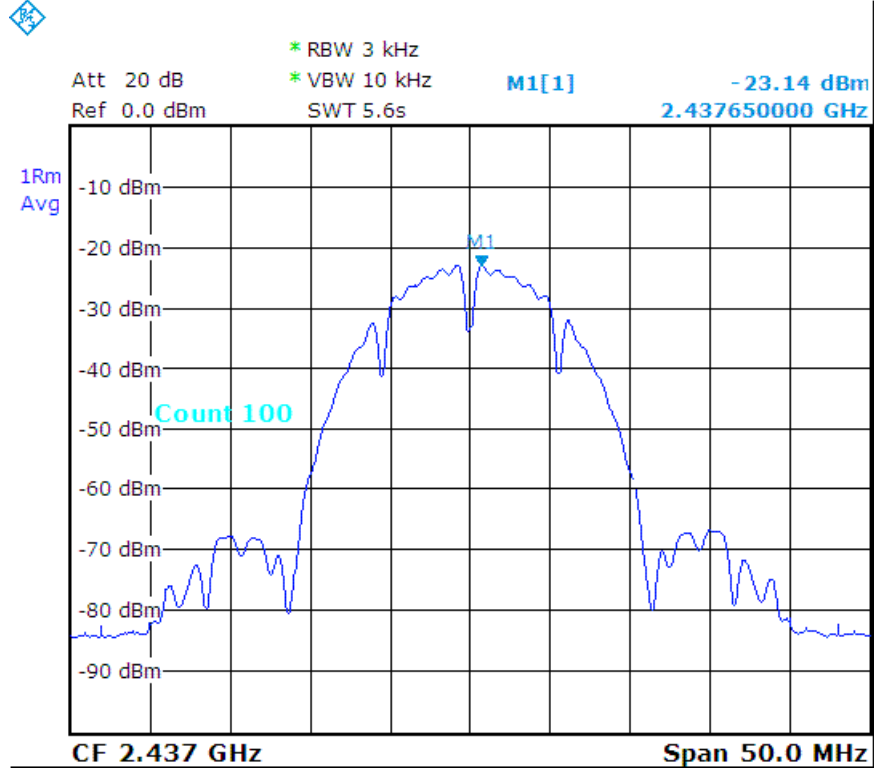
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-23.15	8
CH06	2437	-23.14	8
CH11	2462	-21.94	8

b_CH01 :

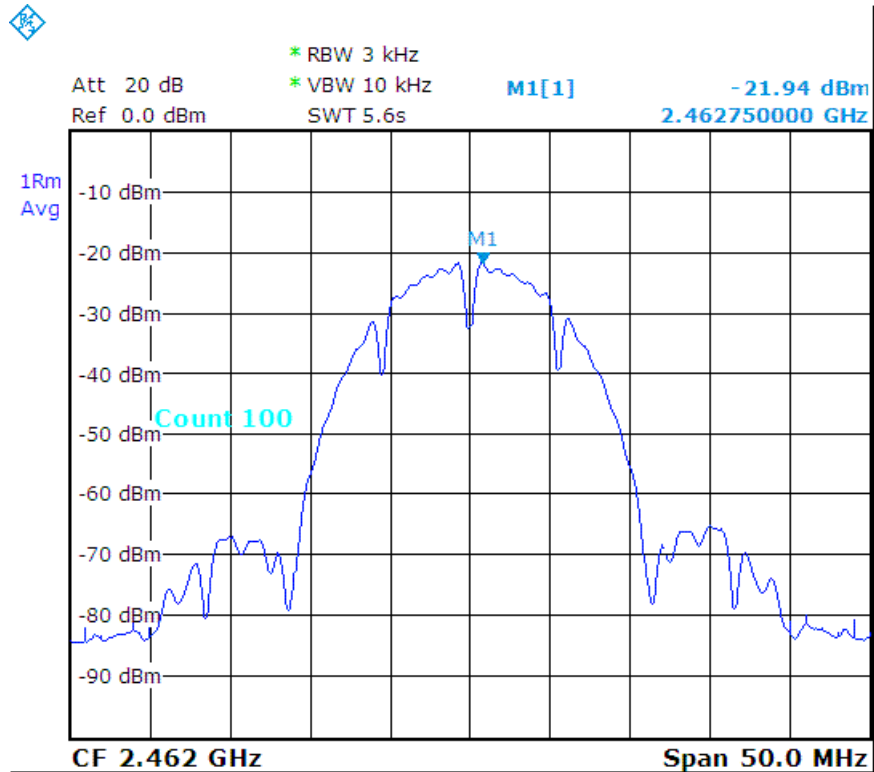




b_CH06 :



b_CH11 :





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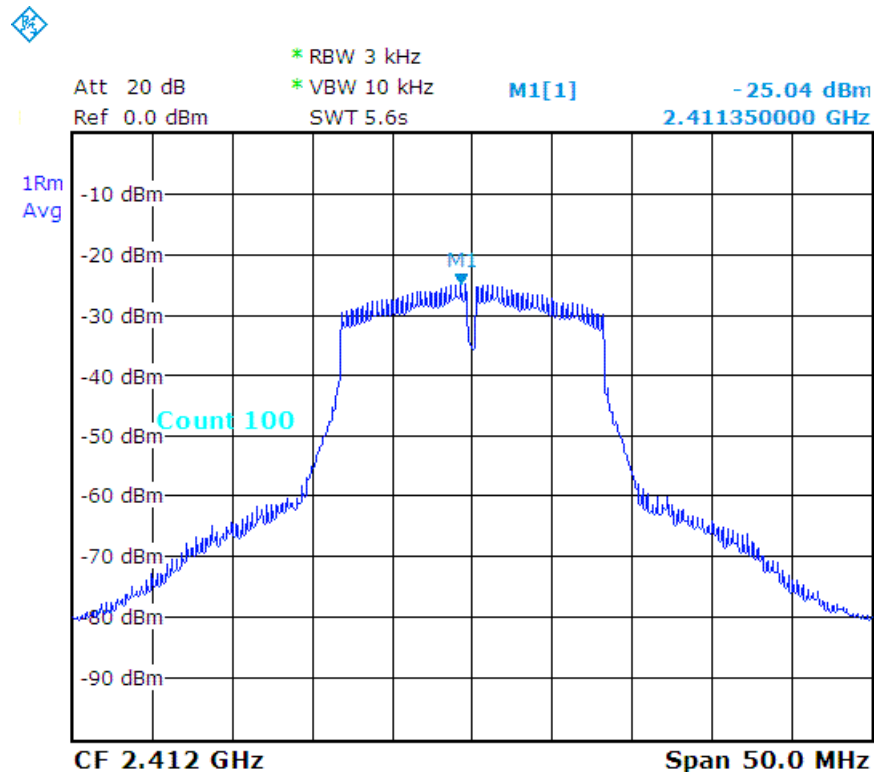
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11g
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

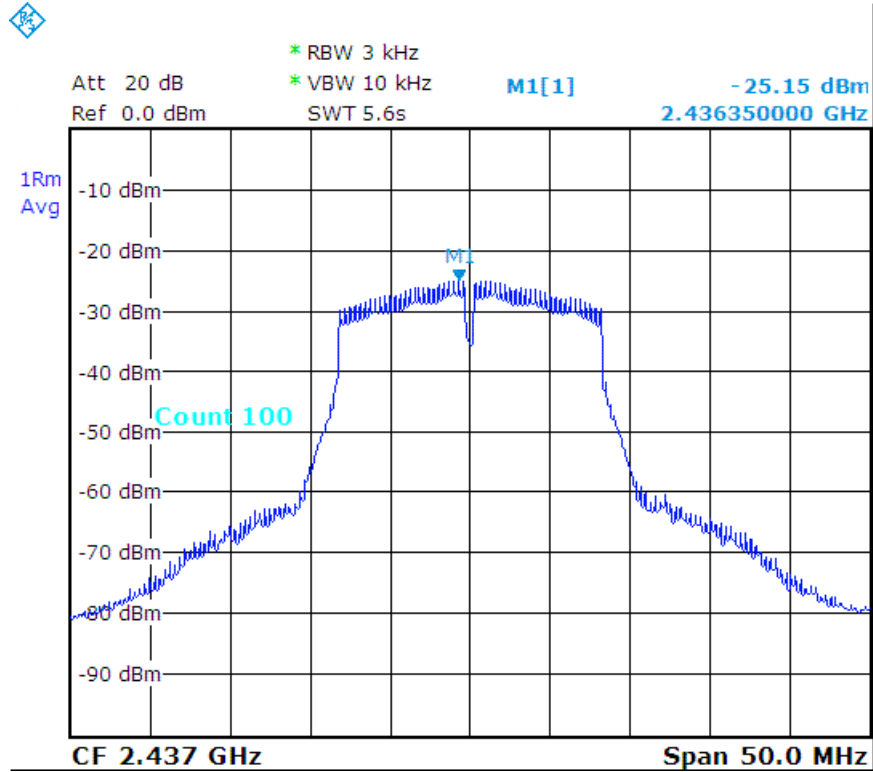
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-25.04	8
CH06	2437	-25.15	8
CH11	2462	-23.90	8

g_CH01 :

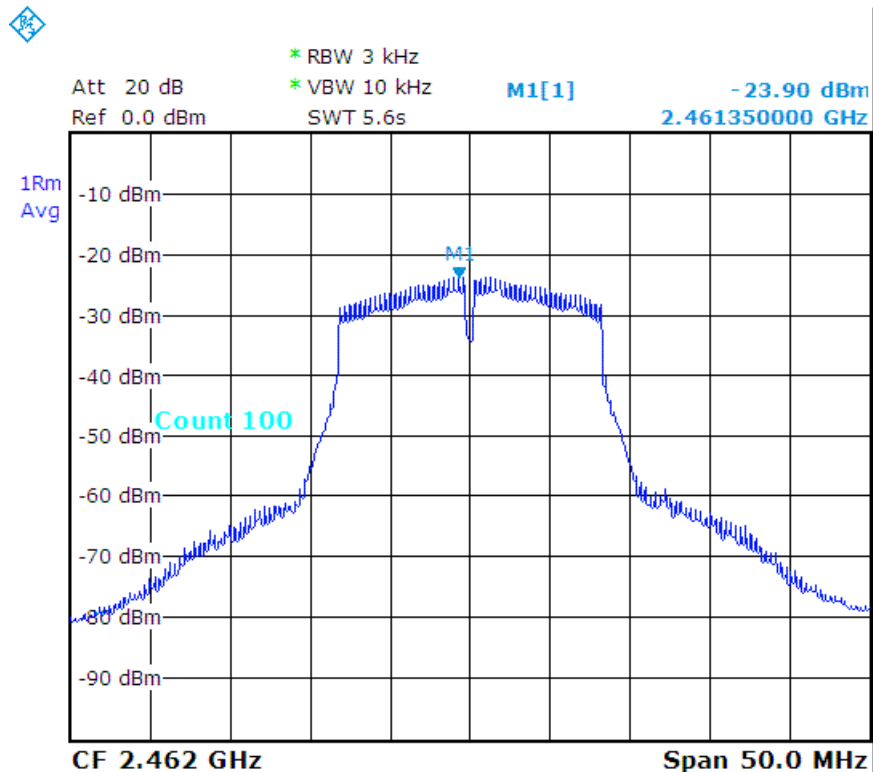




g_CH06 :



g_CH11 :





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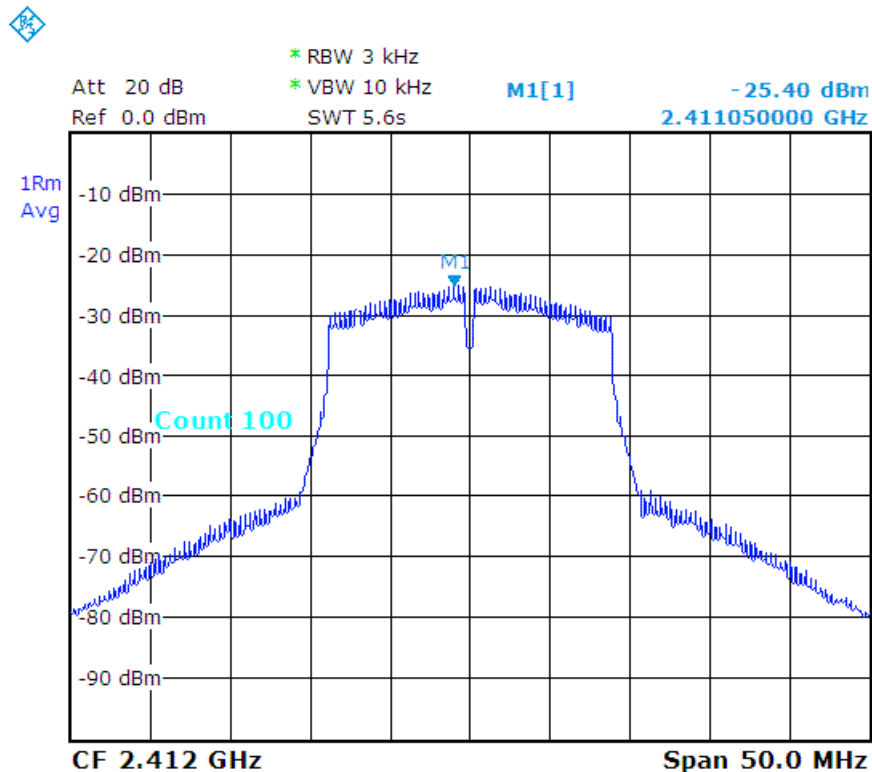
TEST REPORT

Reference No.: A15102101
 Report No.: FCCA15102101
 FCC ID : ZME-MLWG3
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 Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11n - HT20
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

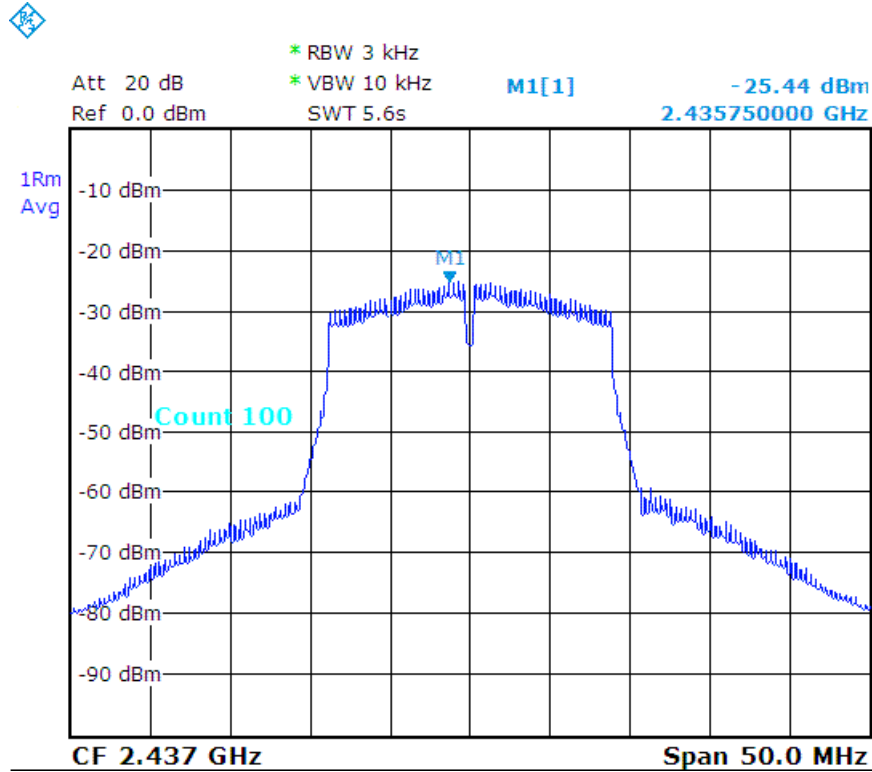
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-25.40	8
CH06	2437	-25.44	8
CH11	2462	-24.24	8

n - HT20_CH01 :

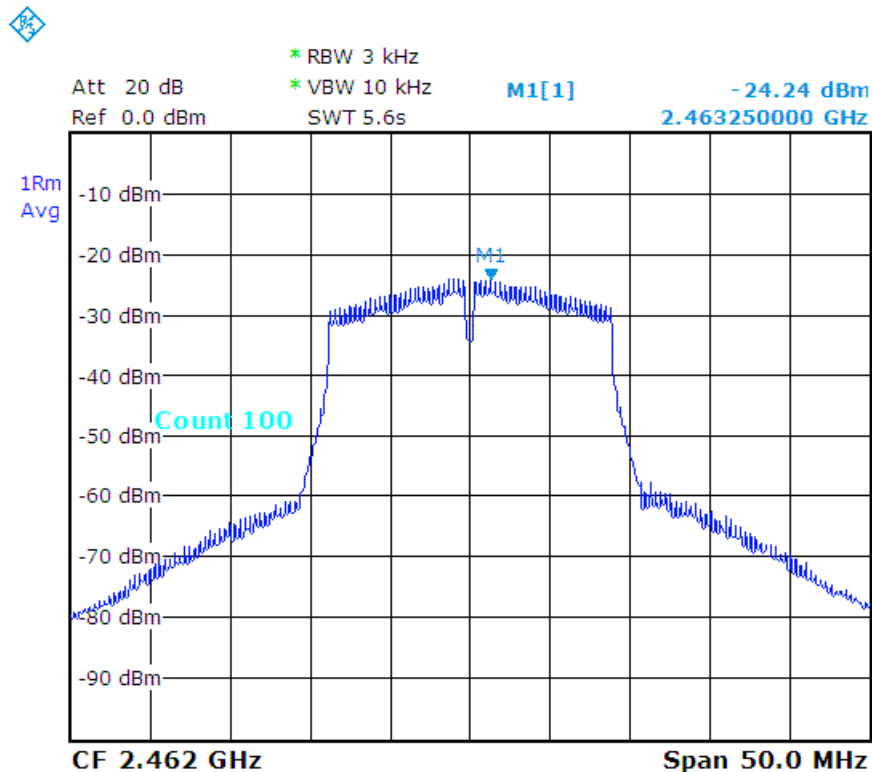




n - HT20_CH06 :



n - HT20_CH11 :





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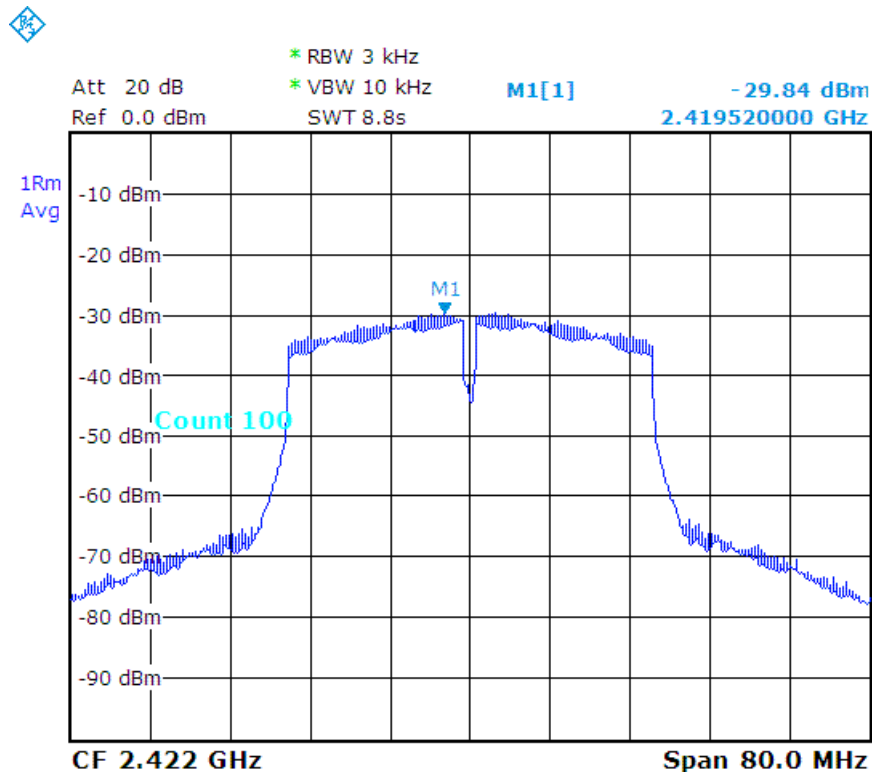
TEST REPORT

Reference No.: A15102101
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Temperature:	22 °C	Humidity:	58 %RH
Detector:	RMS	Test Mode:	MLWG3/64_2.4G_802.11n - HT40
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 13, 2015

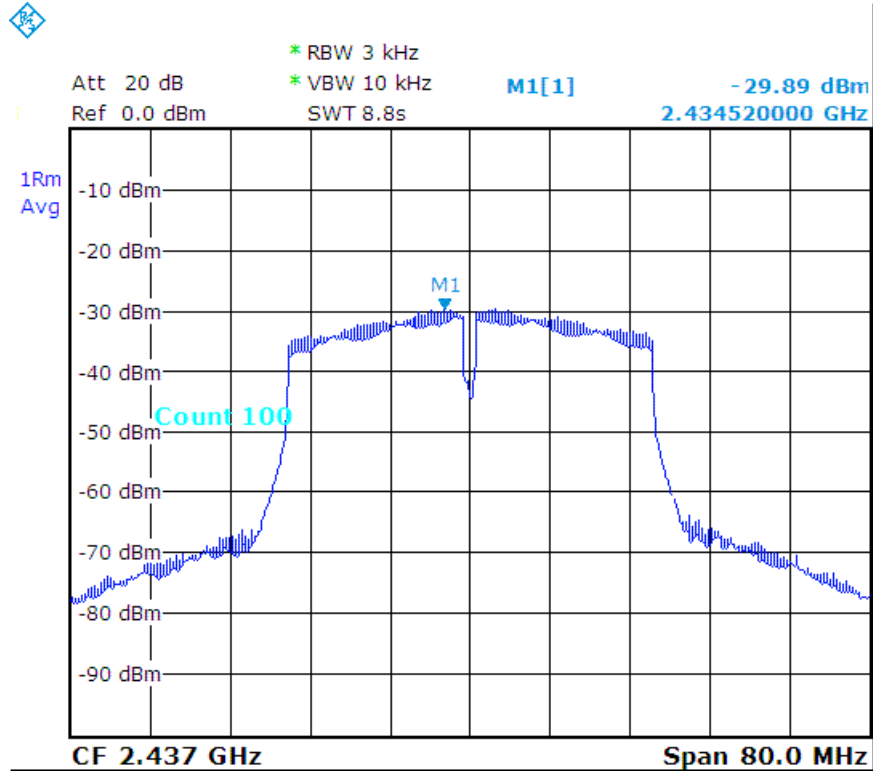
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH03	2422	-29.84	8
CH06	2437	-29.89	8
CH09	2452	-29.87	8

n - HT40_CH03 :

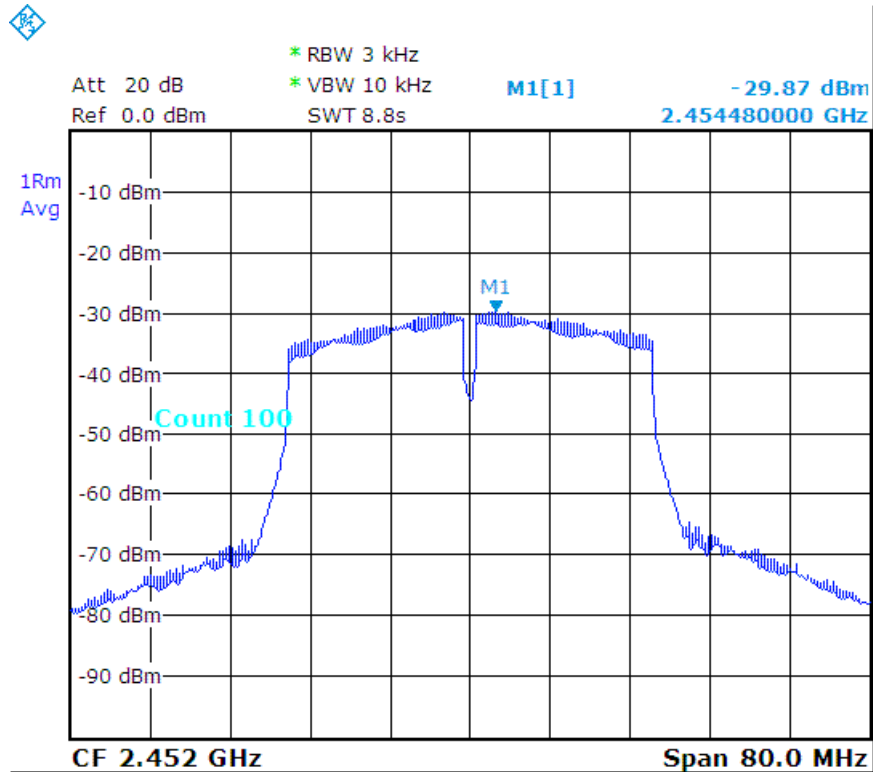




n - HT40_CH06 :



n - HT40_CH09 :





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5. Antenna application

5.1 Antenna requirement

The EUT's antenna is met the requirement of FCC Part 15C section 15.203 and 15.204.

FCC Part 15C section 15.247 requirement:

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

5.2 Result

The EUT's antenna used a Printed Antenna. Gain of 2.4G antenna types is 3.07 dBi, that meet the requirement.



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6. Description of RF Exposure

SAR compliance has been evaluated in the product(s), and can be used in host product(s) with substantially similar physical dimensions, construction, and electrical and RF characteristics. End-users must be provided with specific information required to satisfy RF exposure compliance for all final host devices. Compliance of this device in all final host configurations is the responsibility of the Grantee.

- The separation distance -20 cm must be clearly stated in the operating and/or installation manual that is supplied to the User.
- This application is being made on behalf of the “Grantee”.



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7. PHOTOS OF TESTING

MLWG3 - Conducted test



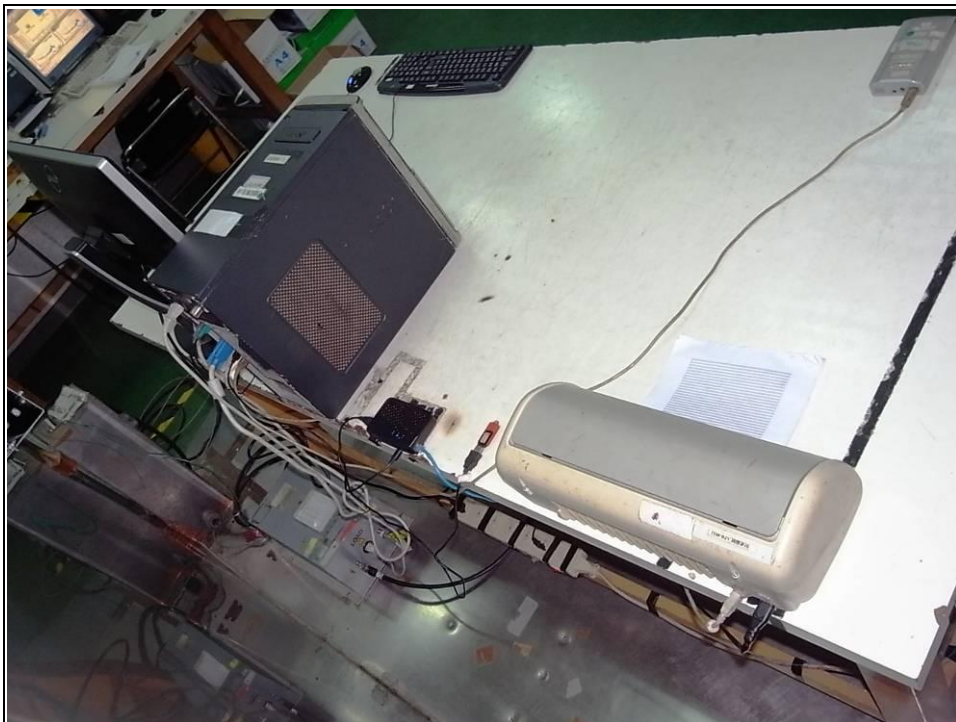


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MLWG3/64 - Conducted test





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MLWG3 - Radiated test (below 1G , Tx, Standby)





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MLWG3/64 - Radiated test (below 1G , Tx, Standby)





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MLWG3 - Radiated test (above 1G , Tx, Standby)





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8. TERMS OF ABBREVIATION

AV.	Average detection
AZ(°)	Turn table azimuth
Correct.	Correction
EL(m)	Antenna height (meter)
EUT	Equipment Under Test
Horiz.	Horizontal direction
LISN	Line Impedance Stabilization Network
NSA	Normalized Site Attenuation
Q.P.	Quasi-peak detection
SRT Lab	Spectrum Research & Testing Laboratory, Inc.
Vert.	Vertical direction