



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 1 of 484
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 E, 15.407
ANSI C63.4: 2003
FCC publication KDB 789033 D02 General UNII Test
Procedures New Rules v01 June 6, 2014

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

(Richard Lin)

Date:

12/22/2015

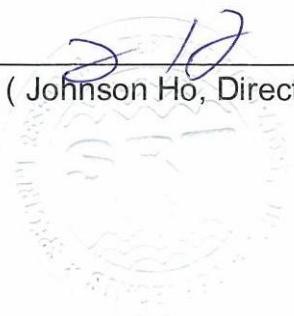
Approved By :

Johnson Ho

(Johnson Ho, Director)

Date:

12/22/2015



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Revisions History

Report No.	Issue Date	Revisions
FCCA15102101-01	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	5.15 GHz ~ 5.25 GHz, 5.725 ~ 5.85 GHz
CARRIER FREQUENCY	5.18 GHz ~ 5.24 GHz, 5.745 GHz ~ 5.825 GHz
NUMBER OF CHANNEL	5.1G band_802.11a/n - HT20/ac - HT20 : 4 ch 5.1G band_802.11n - HT40/ac - HT40 : 2 ch 5.1G band_802.11ac - HT80 : 1 ch 5.8G band_802.11a/n - HT20/ac - HT20 : 5 ch 5.8G band_802.11n - HT40/ac - HT40 : 2 ch 5.8G band_802.11ac - HT80 : 1 ch
RATED RF OUTPUT POWER	5.1G band (MLWG3) 802.11a : 2.68 dBm (1.85 mW) 802.11n - HT20 : 2.12 dBm (1.63 mW) 802.11ac - HT20 : 2.24 dBm (1.67 mW) 802.11n - HT40 : -1.05 dBm (0.79 mW) 802.11ac - HT40 : -0.95 dBm (0.80 mW) 802.11ac - HT80 : -5.35 dBm (0.29 mW) 5.1G band (MLWG3/64) 802.11a : 3.57 dBm (2.28 mW) 802.11n - HT20 : 3.01 dBm (2.00 mW) 802.11ac - HT20 : 3.17 dBm (2.07 mW) 802.11n - HT40 : -0.33 dBm (0.93 mW) 802.11ac - HT40 : -0.21 dBm (0.95 mW) 802.11ac - HT80 : -4.79 dBm (0.33 mW) 5.8G band (MLWG3) 802.11a : 3.66 dBm (2.32 mW) 802.11n - HT20 : 3.28 dBm (2.13 mW) 802.11ac - HT20 : 3.24 dBm (2.11 mW) 802.11n - HT40 : -0.29 dBm (0.94 mW)



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	802.11ac - HT40 : -0.16 dBm (0.96 mW) 802.11ac - HT80 : -5.12 dBm (0.31 mW) 5.8G band (MLWG3/64) 802.11a : 4.34 dBm (2.72 mW) 802.11n - HT20 : 3.98 dBm (2.50 mW) 802.11ac - HT20 : 4.13 dBm (2.59 mW) 802.11n - HT40 : 0.10 dBm (1.02 mW) 802.11ac - HT40 : 0.22 dBm (1.05 mW) 802.11ac - HT80 : -4.78 dBm (0.33 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) IEEE802.11a OFDM(BPSK/ QPSK/16-QAM/64-QAM) IEEE802.11ac SISO-OFDM(BPSK/QPSK/16-QAM/64-QAM/256-QAM)
MODE OF OPERATION	Duplex
BIT RATE OF TRANSMISSION	5.8G & 5.1G band 802.11a : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n - HT20 : MCS0 ~ MCS7 (Max. 72.2 Mbps) 802.11ac - HT20 : MCS0 ~ MCS8 (Max. 86.7 Mbps) 802.11n - HT40 : MCS0 ~ MCS9 (Max. 150 Mbps) 802.11ac - HT40 : MCS0 ~ MCS9 (Max. 200 Mbps) 802.11ac - HT80 : MCS0 ~ MCS9 (Max. 433.3 Mbps)
ANTENNA TYPE	Printed Antenna
ANTENNA GAIN	5.1G & 5.8G : 2.84 dBi (ANT#2)
OPERATING TEMPERATURE RANGE	-20 ~ 55°C

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

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Lithium-ion Battery	WTE	WRTE-328	N/A	DC 3.7V, 5400mAh
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2.3 DESCRIPTION OF TEST MODE

There are test modes for each test configuration as below:

#1_MLWG3 :

Mode			Channel	Frequency (MHz)
#1_1	5.1G	802.11a	CH36	5180
#1_2			CH40	5200
#1_3			CH48	5240
#1_4		802.11n - HT20	CH36	5180
#1_5			CH40	5200
#1_6			CH48	5240
#1_7		802.11ac - HT20	CH36	5180
#1_8			CH40	5200
#1_9			CH48	5240
#1_10		802.11n - HT40	CH38	5190
#1_11			CH46	5230
#1_12		802.11ac - HT40	CH38	5190
#1_13			CH46	5230
#1_14		802.11ac - HT80	CH42	5210
#1_15	5.8G	802.11a	CH36	5180
#1_16			CH40	5200
#1_17			CH48	5240
#1_18		802.11n - HT20	CH36	5180
#1_19			CH40	5200
#1_20			CH48	5240
#1_21		802.11ac - HT20	CH36	5180
#1_22			CH40	5200
#1_23			CH48	5240
#1_24		802.11n - HT40	CH38	5190
#1_25			CH46	5230
#1_26		802.11ac - HT40	CH38	5190
#1_27			CH46	5230
#1_28		802.11ac - HT80	CH42	5210

NOTE:



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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.

X axis:



Y axis:



Z axis:



#2_MLWG3/64 :

Mode			Channel	Frequency (MHz)
#2_1	5.1G	802.11a	CH36	5180
#2_2			CH40	5200
#2_3			CH48	5240
#2_4		802.11n - HT20	CH36	5180
#2_5			CH40	5200
#2_6			CH48	5240
#2_7		802.11ac - HT20	CH36	5180
#2_8			CH40	5200
#2_9			CH48	5240
#2_10		802.11n - HT40	CH38	5190
#2_11			CH46	5230
#2_12		802.11ac - HT40	CH38	5190
#2_13			CH46	5230
#2_14		802.11ac - HT80	CH42	5210
#2_15	5.8G	802.11a	CH36	5180
#2_16			CH40	5200
#2_17			CH48	5240
#2_18		802.11n - HT20	CH36	5180
#2_19			CH40	5200
#2_20			CH48	5240
#2_21		802.11ac - HT20	CH36	5180
#2_22			CH40	5200



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#2_23		802.11n - HT40	CH48	5240
#2_24			CH38	5190
#2_25			CH46	5230
#2_26		802.11ac - HT40	CH38	5190
#2_27			CH46	5230
#2_28		802.11ac - HT80	CH42	5210

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

5.1G_802.11a/n - HT20/ac - HT20			
Channel	Frequency	Channel	Frequency
CH36	5180 MHz	CH44	5220 MHz
CH40	5200 MHz	CH48	5240 MHz

5.1G_802.11n - HT40/ac - HT40			
Channel	Frequency	Channel	Frequency
CH38	5190 MHz	CH46	5230 MHz

5.1G_802.11ac - HT80			
Channel	Frequency	Channel	Frequency
CH42	5210 MHz	--	--

5.8G_802.11a/n - HT20/ac - HT20			
Channel	Frequency	Channel	Frequency
CH149	5745 MHz	CH161	5805 MHz
CH153	5765 MHz	CH165	5825 MHz
CH157	5785 MHz	--	--



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5.8G_802.11n - HT40/ac - HT40			
Channel	Frequency	Channel	Frequency
CH151	5755 MHz	CH159	5795 MHz

5.8G_802.11ac - HT80			
Channel	Frequency	Channel	Frequency
CH155	5775 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 E, 15.407

ANSI C63.4: 2003

FCC publication KDB 789033 D02 General UNII Test Procedures New Rules v01
June 6, 2014

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

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 15.407(a)(3)	Antenna requirement	PASS
15.207	AC Power Line Conducted Emission	PASS
15.407 (e)	6 dB Bandwidth	PASS
15.407(a)(1)(iv) 15.407(a)(3)	Maximum Peak Conducted Output Power	PASS
15.407(b)(1) 15.407(b)(4)	Band Edge Measurement:	PASS
15.209	Transmitter Radiated Emissions Limit: Table 15.209	PASS
15.407(a)(1)(iv) 15.407(a)(3)	Power Density:	PASS

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4. TECHNICAL CHARACTERISTICS TEST

4.1 CONDUCTED EMISSION TEST

4.1.1 LIMIT

Frequency (MHz)	Class A (dBμV)		Class B (dBμV)	
	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:

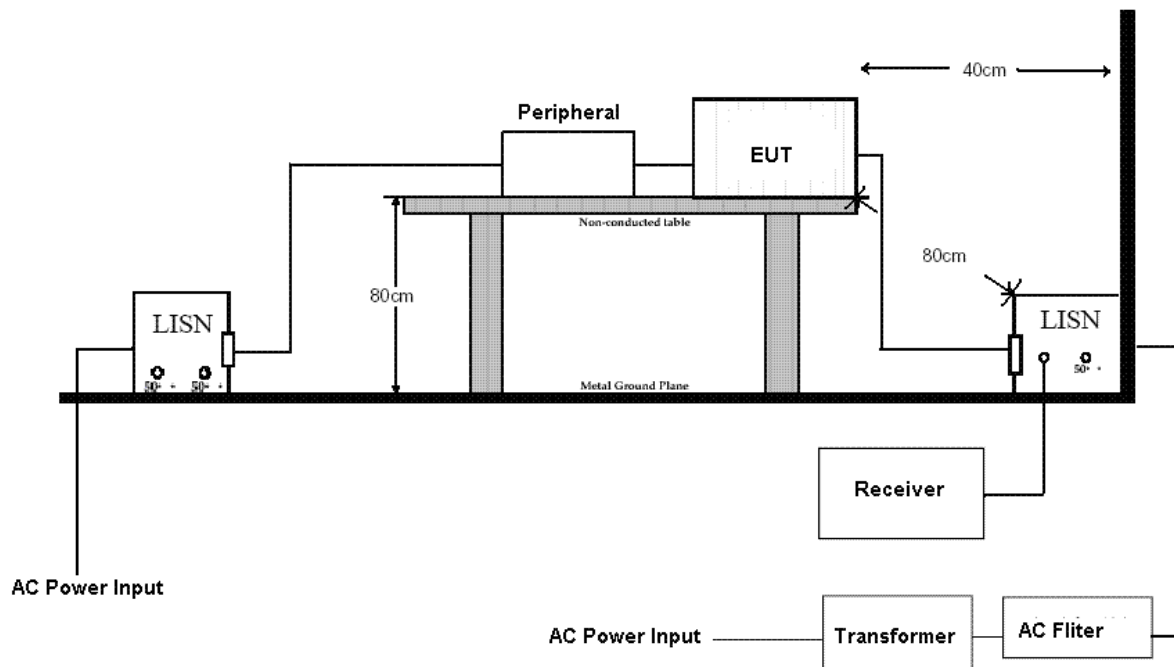
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	JAN. 11, 2016 ETC
EMI TEST RECEIVER	9 kHz ~ 30 MHz	ROHDE & SCHWARZ	ESHS30 / 826003/008	JAN. 16, 2016 ETC
LISN	50 μH, 50 ohm	FCC	FCC-LISN-50-25-2 / 01017	MAY. 27, 2016 ETC
LISN	50 μH, 50 ohm	SOLAR	9252-50-R-24-BNC/ 951315	NOV. 05, 2016 ETC
LISN	50 μH, 50 ohm	EMCO	3825/2/ 9204-1952	MAY 26, 2016 ETC
50Ω BNC TYPE TERMINATOR	50 ohm	N/A	11593A/ L1TEQU005	NOV. 22, 2016 ETC
50Ω 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 °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/50 μ H 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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11a_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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.
0.174	0.06	30.03	25.17	30.09	25.23	64.77	54.77	-34.68	-29.54
1.705	-0.08	23.78	18.12	23.70	18.04	56.00	46.00	-32.30	-27.96
4.992	0.01	24.42	18.67	24.43	18.68	56.00	46.00	-31.57	-27.32
12.623	0.21	26.04	17.00	26.25	17.21	60.00	50.00	-33.75	-32.79
14.815	0.27	25.49	19.34	25.76	19.61	60.00	50.00	-34.24	-30.39
25.240	0.53	39.05	23.40	39.58	23.93	60.00	50.00	-20.42	-26.07

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	38.63	30.94	38.68	30.99	64.21	54.21	-25.53	-23.22
0.189	0.05	41.01	33.15	41.06	33.20	64.08	54.08	-23.02	-20.88
0.697	-0.08	26.53	21.24	26.45	21.16	56.00	46.00	-29.55	-24.84
1.645	-0.07	23.38	17.73	23.31	17.66	56.00	46.00	-32.69	-28.34
1.705	-0.07	25.59	19.22	25.52	19.15	56.00	46.00	-30.48	-26.85
17.665	0.31	41.76	28.20	42.07	28.51	60.00	50.00	-17.93	-21.49

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.



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Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11a_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.40	32.46	40.46	32.52	64.08	54.08	-23.62	-21.56
0.192	0.06	38.83	31.20	38.89	31.26	63.95	53.95	-25.06	-22.69
0.505	-0.09	26.96	21.44	26.87	21.35	56.00	46.00	-29.13	-24.65
2.467	-0.06	21.66	16.28	21.60	16.22	56.00	46.00	-34.40	-29.78
14.815	0.27	25.49	19.16	25.76	19.43	60.00	50.00	-34.24	-30.57
17.665	0.34	41.53	27.63	41.87	27.97	60.00	50.00	-18.13	-22.03

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.
0.189	0.05	40.42	33.13	40.47	33.18	64.08	54.08	-23.61	-20.90
0.192	0.05	39.24	31.86	39.29	31.91	63.95	53.95	-24.66	-22.04
0.951	-0.09	29.90	23.38	29.81	23.29	56.00	46.00	-26.19	-22.71
1.200	-0.08	29.58	23.06	29.50	22.98	56.00	46.00	-26.50	-23.02
1.457	-0.07	27.55	21.44	27.48	21.37	56.00	46.00	-28.52	-24.63
25.240	0.53	41.75	25.79	42.28	26.32	60.00	50.00	-17.72	-23.68

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 18 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11a_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.46	32.61	40.52	32.67	64.08	54.08	-23.56	-21.41
0.192	0.06	39.05	31.35	39.11	31.41	63.95	53.95	-24.84	-22.54
0.505	-0.09	26.64	20.85	26.55	20.76	56.00	46.00	-29.45	-25.24
1.705	-0.08	23.70	17.93	23.62	17.85	56.00	46.00	-32.38	-28.15
4.804	0.00	23.77	18.91	23.77	18.91	56.00	46.00	-32.23	-27.09
17.665	0.34	41.84	27.79	42.18	28.13	60.00	50.00	-17.82	-21.87

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	40.48	33.23	40.53	33.28	64.08	54.08	-23.55	-20.80
0.192	0.05	39.26	31.93	39.31	31.98	63.95	53.95	-24.64	-21.97
0.759	-0.09	32.02	26.07	31.93	25.98	56.00	46.00	-24.07	-20.02
1.705	-0.07	29.20	23.81	29.13	23.74	56.00	46.00	-26.87	-22.26
1.764	-0.07	25.90	21.20	25.83	21.13	56.00	46.00	-30.17	-24.87
27.761	0.61	40.34	22.72	40.95	23.33	60.00	50.00	-19.05	-26.67

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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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.
0.210	-0.02	43.91	41.65	43.89	41.63	63.21	53.21	-19.32	-11.58
0.213	-0.02	44.18	41.36	44.16	41.34	63.09	53.09	-18.93	-11.75
0.874	-0.10	34.63	26.07	34.53	25.97	56.00	46.00	-21.47	-20.03
1.398	-0.09	38.00	28.08	37.91	27.99	56.00	46.00	-18.09	-18.01
1.418	-0.09	39.79	34.35	39.70	34.26	56.00	46.00	-16.30	-11.74
17.665	0.34	40.90	27.82	41.24	28.16	60.00	50.00	-18.76	-21.84

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	41.03	33.75	41.08	33.80	64.08	54.08	-23.00	-20.28
0.192	0.05	39.64	32.46	39.69	32.51	63.95	53.95	-24.26	-21.44
0.946	-0.09	27.28	21.24	27.19	21.15	56.00	46.00	-28.81	-24.85
1.962	-0.06	23.40	17.90	23.34	17.84	56.00	46.00	-32.66	-28.16
4.992	0.01	24.79	19.49	24.80	19.50	56.00	46.00	-31.20	-26.50
17.665	0.31	40.46	27.80	40.77	28.11	60.00	50.00	-19.23	-21.89

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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.27	32.59	40.33	32.65	64.08	54.08	-23.75	-21.43
0.192	0.06	39.42	32.53	39.48	32.59	63.95	53.95	-24.47	-21.36
0.879	-0.10	32.05	24.71	31.95	24.61	56.00	46.00	-24.05	-21.39
1.418	-0.09	36.34	31.32	36.25	31.23	56.00	46.00	-19.75	-14.77
1.447	-0.09	31.53	23.81	31.44	23.72	56.00	46.00	-24.56	-22.28
23.979	0.50	37.42	27.39	37.92	27.89	60.00	50.00	-22.08	-22.11

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.
0.186	0.05	38.18	30.53	38.23	30.58	64.21	54.21	-25.98	-23.63
0.189	0.05	40.31	32.55	40.36	32.60	64.08	54.08	-23.72	-21.48
0.884	-0.09	31.34	25.93	31.25	25.84	56.00	46.00	-24.75	-20.16
1.517	-0.07	27.84	22.49	27.77	22.42	56.00	46.00	-28.23	-23.58
1.764	-0.07	25.89	21.26	25.82	21.19	56.00	46.00	-30.18	-24.81
17.101	0.30	35.71	22.80	36.01	23.10	60.00	50.00	-23.99	-26.90

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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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.
0.192	0.06	39.97	33.13	40.03	33.19	63.95	53.95	-23.92	-20.76
0.210	-0.02	41.41	39.31	41.39	39.29	63.21	53.21	-21.82	-13.92
0.918	-0.11	33.72	23.47	33.61	23.36	56.00	46.00	-22.39	-22.64
1.398	-0.09	35.45	25.58	35.36	25.49	56.00	46.00	-20.64	-20.51
1.418	-0.09	37.33	32.44	37.24	32.35	56.00	46.00	-18.76	-13.65
17.675	0.34	41.19	30.73	41.53	31.07	60.00	50.00	-18.47	-18.93

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	38.81	31.04	38.86	31.09	64.21	54.21	-25.35	-23.12
0.189	0.05	40.94	33.11	40.99	33.16	64.08	54.08	-23.09	-20.92
0.884	-0.09	27.00	21.63	26.91	21.54	56.00	46.00	-29.09	-24.46
1.705	-0.07	24.63	19.31	24.56	19.24	56.00	46.00	-31.44	-26.76
2.715	-0.04	23.83	17.89	23.79	17.85	56.00	46.00	-32.21	-28.15
17.675	0.31	41.15	30.40	41.46	30.71	60.00	50.00	-18.54	-19.29

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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	39.05	32.26	39.11	32.32	64.08	54.08	-24.97	-21.76
0.213	-0.02	39.32	36.73	39.30	36.71	63.09	53.09	-23.79	-16.38
0.865	-0.10	30.91	22.61	30.81	22.51	56.00	46.00	-25.19	-23.49
1.418	-0.09	35.04	30.14	34.95	30.05	56.00	46.00	-21.05	-15.95
1.447	-0.09	30.34	22.58	30.25	22.49	56.00	46.00	-25.75	-23.51
17.675	0.34	41.03	30.31	41.37	30.65	60.00	50.00	-18.63	-19.35

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	40.97	33.27	41.02	33.32	64.08	54.08	-23.06	-20.76
0.192	0.05	39.54	31.99	39.59	32.04	63.95	53.95	-24.36	-21.91
0.884	-0.09	27.14	21.80	27.05	21.71	56.00	46.00	-28.95	-24.29
1.200	-0.08	25.02	19.41	24.94	19.33	56.00	46.00	-31.06	-26.67
6.127	0.04	26.25	19.88	26.29	19.92	60.00	50.00	-33.71	-30.08
17.675	0.31	41.55	30.76	41.86	31.07	60.00	50.00	-18.14	-18.93

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 23 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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.
0.210	-0.02	42.12	39.65	42.10	39.63	63.21	53.21	-21.11	-13.58
0.213	-0.02	41.90	39.08	41.88	39.06	63.09	53.09	-21.21	-14.03
0.884	-0.10	34.00	26.27	33.90	26.17	56.00	46.00	-22.10	-19.83
1.358	-0.09	33.29	24.73	33.20	24.64	56.00	46.00	-22.80	-21.36
1.418	-0.09	36.55	31.74	36.46	31.65	56.00	46.00	-19.54	-14.35
27.771	0.60	39.22	21.69	39.82	22.29	60.00	50.00	-20.18	-27.71

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	33.33	41.24	33.38	64.08	54.08	-22.84	-20.70
0.192	0.05	39.50	31.93	39.55	31.98	63.95	53.95	-24.40	-21.97
0.697	-0.08	26.75	21.27	26.67	21.19	56.00	46.00	-29.33	-24.81
3.982	-0.01	22.99	17.88	22.98	17.87	56.00	46.00	-33.02	-28.13
12.623	0.19	28.14	17.07	28.33	17.26	60.00	50.00	-31.67	-32.74
27.771	0.61	39.44	22.03	40.05	22.64	60.00	50.00	-19.95	-27.36

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 24 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.52	32.40	40.58	32.46	64.08	54.08	-23.50	-21.62
0.192	0.06	38.65	31.05	38.71	31.11	63.95	53.95	-25.24	-22.84
0.692	-0.10	24.51	17.72	24.41	17.62	56.00	46.00	-31.59	-28.38
1.705	-0.08	23.80	18.13	23.72	18.05	56.00	46.00	-32.28	-27.95
12.623	0.21	27.92	16.84	28.13	17.05	60.00	50.00	-31.87	-32.95
17.675	0.34	42.48	32.15	42.82	32.49	60.00	50.00	-17.18	-17.51

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	41.11	33.15	41.16	33.20	64.08	54.08	-22.92	-20.88
0.192	0.05	39.44	31.78	39.49	31.83	63.95	53.95	-24.46	-22.12
0.884	-0.09	27.12	21.61	27.03	21.52	56.00	46.00	-28.97	-24.48
1.705	-0.07	24.51	19.38	24.44	19.31	56.00	46.00	-31.56	-26.69
6.319	0.04	26.28	20.86	26.32	20.90	60.00	50.00	-33.68	-29.10
17.675	0.31	42.72	31.28	43.03	31.59	60.00	50.00	-16.97	-18.41

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:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH38
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.27	32.32	40.33	32.38	64.08	54.08	-23.75	-21.70
0.192	0.06	38.73	30.91	38.79	30.97	63.95	53.95	-25.16	-22.98
0.884	-0.10	25.58	20.17	25.48	20.07	56.00	46.00	-30.52	-25.93
2.715	-0.05	23.79	17.63	23.74	17.58	56.00	46.00	-32.26	-28.42
12.623	0.21	27.67	16.67	27.88	16.88	60.00	50.00	-32.12	-33.12
16.579	0.31	32.13	20.31	32.44	20.62	60.00	50.00	-27.56	-29.38

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	41.07	33.29	41.12	33.34	64.08	54.08	-22.96	-20.74
0.192	0.05	39.42	31.88	39.47	31.93	63.95	53.95	-24.48	-22.02
0.946	-0.09	27.16	21.40	27.07	21.31	56.00	46.00	-28.93	-24.69
1.200	-0.08	25.02	19.16	24.94	19.08	56.00	46.00	-31.06	-26.92
4.804	0.01	23.97	19.37	23.98	19.38	56.00	46.00	-32.02	-26.62
17.675	0.31	43.35	32.30	43.66	32.61	60.00	50.00	-16.34	-17.39

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 26 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH46
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.29	32.39	40.35	32.45	64.08	54.08	-23.73	-21.63
0.192	0.06	38.75	31.09	38.81	31.15	63.95	53.95	-25.14	-22.80
0.894	-0.10	25.84	19.68	25.74	19.58	56.00	46.00	-30.26	-26.42
1.368	-0.09	25.98	17.56	25.89	17.47	56.00	46.00	-30.11	-28.53
1.418	-0.09	27.75	22.78	27.66	22.69	56.00	46.00	-28.34	-23.31
17.675	0.34	43.03	31.79	43.37	32.13	60.00	50.00	-16.63	-17.87

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	41.05	33.15	41.10	33.20	64.08	54.08	-22.98	-20.88
0.192	0.05	39.52	31.78	39.57	31.83	63.95	53.95	-24.38	-22.12
0.946	-0.09	27.22	21.45	27.13	21.36	56.00	46.00	-28.87	-24.64
4.804	0.01	23.77	19.21	23.78	19.22	56.00	46.00	-32.22	-26.78
4.992	0.01	24.77	19.63	24.78	19.64	56.00	46.00	-31.22	-26.36
17.675	0.31	43.23	31.50	43.54	31.81	60.00	50.00	-16.46	-18.19

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 27 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH38
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.15	36.01	40.21	36.07	64.08	54.08	-23.87	-18.01
0.192	0.06	38.79	34.53	38.85	34.59	63.95	53.95	-25.10	-19.36
0.567	-0.09	24.95	19.70	24.86	19.61	56.00	46.00	-31.14	-26.39
3.982	-0.02	21.32	15.87	21.30	15.85	56.00	46.00	-34.70	-30.15
4.992	0.01	23.02	17.75	23.03	17.76	56.00	46.00	-32.97	-28.24
17.675	0.34	42.66	30.75	43.00	31.09	60.00	50.00	-17.00	-18.91

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	40.95	33.08	41.00	33.13	64.08	54.08	-23.08	-20.95
0.192	0.05	39.32	31.56	39.37	31.61	63.95	53.95	-24.58	-22.34
0.946	-0.09	27.42	21.55	27.33	21.46	56.00	46.00	-28.67	-24.54
1.705	-0.07	24.82	19.58	24.75	19.51	56.00	46.00	-31.25	-26.49
12.623	0.19	27.67	16.75	27.86	16.94	60.00	50.00	-32.14	-33.06
17.675	0.31	43.09	30.97	43.40	31.28	60.00	50.00	-16.60	-18.72

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH46
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	40.25	32.11	40.31	32.17	64.08	54.08	-23.77	-21.91
0.192	0.06	38.43	30.70	38.49	30.76	63.95	53.95	-25.46	-23.19
0.946	-0.11	26.03	18.78	25.92	18.67	56.00	46.00	-30.08	-27.33
1.705	-0.08	23.54	17.95	23.46	17.87	56.00	46.00	-32.54	-28.13
2.655	-0.06	21.87	16.46	21.81	16.40	56.00	46.00	-34.19	-29.60
17.675	0.34	43.21	31.16	43.55	31.50	60.00	50.00	-16.45	-18.50

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	31.46	38.84	31.51	64.21	54.21	-25.37	-22.70
0.189	0.05	40.99	33.46	41.04	33.51	64.08	54.08	-23.04	-20.57
0.884	-0.09	27.30	21.83	27.21	21.74	56.00	46.00	-28.79	-24.26
4.804	0.01	23.81	19.22	23.82	19.23	56.00	46.00	-32.18	-26.77
4.863	0.01	24.20	18.73	24.21	18.74	56.00	46.00	-31.79	-27.26
17.675	0.31	43.27	31.46	43.58	31.77	60.00	50.00	-16.42	-18.23

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	61 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT80_CH42
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 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	39.75	31.85	39.81	31.91	64.08	54.08	-24.27	-22.17
0.192	0.06	38.00	30.40	38.06	30.46	63.95	53.95	-25.89	-23.49
0.946	-0.11	26.51	19.44	26.40	19.33	56.00	46.00	-29.60	-26.67
1.418	-0.09	26.48	21.34	26.39	21.25	56.00	46.00	-29.61	-24.75
1.428	-0.09	23.84	16.97	23.75	16.88	56.00	46.00	-32.25	-29.12
17.675	0.34	42.95	31.53	43.29	31.87	60.00	50.00	-16.71	-18.13

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.
0.189	0.05	41.17	33.19	41.22	33.24	64.08	54.08	-22.86	-20.84
0.192	0.05	39.28	31.71	39.33	31.76	63.95	53.95	-24.62	-22.19
0.884	-0.09	26.92	21.67	26.83	21.58	56.00	46.00	-29.17	-24.42
1.517	-0.07	23.09	17.90	23.02	17.83	56.00	46.00	-32.98	-28.17
4.863	0.01	24.18	18.80	24.19	18.81	56.00	46.00	-31.81	-27.19
17.675	0.31	43.15	31.24	43.46	31.55	60.00	50.00	-16.54	-18.45

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11a_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.10	31.40	39.16	31.46	64.08	54.08	-24.92	-22.62
0.903	-0.11	28.64	20.42	28.53	20.31	56.00	46.00	-27.47	-25.69
1.418	-0.09	33.39	28.50	33.30	28.41	56.00	46.00	-22.70	-17.59
1.447	-0.09	28.69	21.17	28.60	21.08	56.00	46.00	-27.40	-24.92
14.947	0.27	32.73	29.38	33.00	29.65	60.00	50.00	-27.00	-20.35
17.942	0.35	39.42	37.21	39.77	37.56	60.00	50.00	-20.23	-12.44

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	38.55	30.80	38.60	30.85	64.21	54.21	-25.61	-23.36
0.189	0.05	40.34	32.48	40.39	32.53	64.08	54.08	-23.69	-21.55
2.774	-0.04	28.27	23.85	28.23	23.81	56.00	46.00	-27.77	-22.19
4.061	-0.01	28.96	25.76	28.95	25.75	56.00	46.00	-27.05	-20.25
14.947	0.25	32.84	29.38	33.09	29.63	60.00	50.00	-26.91	-20.37
17.942	0.32	40.32	38.28	40.64	38.60	60.00	50.00	-19.36	-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:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11a_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	37.67	30.36	37.73	30.42	64.21	54.21	-26.48	-23.79
0.189	0.06	39.08	31.52	39.14	31.58	64.08	54.08	-24.94	-22.50
1.191	-0.10	28.77	18.77	28.67	18.67	56.00	46.00	-27.33	-27.33
1.418	-0.09	33.25	28.51	33.16	28.42	56.00	46.00	-22.84	-17.58
1.467	-0.09	27.11	19.81	27.02	19.72	56.00	46.00	-28.98	-26.28
26.910	0.58	42.90	37.38	43.48	37.96	60.00	50.00	-16.52	-12.04

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	38.16	30.24	38.21	30.29	64.21	54.21	-26.00	-23.92
0.189	0.05	39.64	31.81	39.69	31.86	64.08	54.08	-24.39	-22.22
2.824	-0.04	29.17	25.72	29.13	25.68	56.00	46.00	-26.87	-20.32
3.220	-0.03	28.76	25.33	28.73	25.30	56.00	46.00	-27.27	-20.70
6.888	0.05	33.76	23.66	33.81	23.71	60.00	50.00	-26.19	-26.29
26.910	0.58	43.04	37.50	43.62	38.08	60.00	50.00	-16.38	-11.92

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11a_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.14	31.28	39.20	31.34	64.08	54.08	-24.88	-22.74
4.111	-0.02	32.90	30.29	32.88	30.27	56.00	46.00	-23.12	-15.73
4.556	-0.01	31.90	28.72	31.89	28.71	56.00	46.00	-24.11	-17.29
8.025	0.08	35.82	29.23	35.90	29.31	60.00	50.00	-24.10	-20.69
9.466	0.12	35.89	34.24	36.01	34.36	60.00	50.00	-23.99	-15.64
17.942	0.35	39.48	37.12	39.83	37.47	60.00	50.00	-20.17	-12.53

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	38.63	30.70	38.68	30.75	64.21	54.21	-25.53	-23.46
0.189	0.05	40.38	32.27	40.43	32.32	64.08	54.08	-23.65	-21.76
4.457	0.00	31.26	28.20	31.26	28.20	56.00	46.00	-24.74	-17.80
4.507	0.00	31.75	28.82	31.75	28.82	56.00	46.00	-24.25	-17.18
10.258	0.13	33.45	28.45	33.58	28.58	60.00	50.00	-26.42	-21.42
26.910	0.58	42.90	37.38	43.48	37.96	60.00	50.00	-16.52	-12.04

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.16	31.41	39.22	31.47	64.08	54.08	-24.86	-22.61
0.692	-0.10	28.83	22.69	28.73	22.59	56.00	46.00	-27.27	-23.41
4.061	-0.02	33.64	31.34	33.62	31.32	56.00	46.00	-22.38	-14.68
4.507	-0.01	33.76	30.79	33.75	30.78	56.00	46.00	-22.25	-15.22
6.736	0.05	35.62	26.89	35.67	26.94	60.00	50.00	-24.33	-23.06
17.942	0.35	39.10	36.83	39.45	37.18	60.00	50.00	-20.55	-12.82

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	40.13	32.10	40.18	32.15	64.08	54.08	-23.90	-21.93
2.824	-0.04	33.12	30.42	33.08	30.38	56.00	46.00	-22.92	-15.62
4.457	0.00	33.68	30.91	33.68	30.91	56.00	46.00	-22.32	-15.09
6.837	0.05	36.05	26.40	36.10	26.45	60.00	50.00	-23.90	-23.55
10.258	0.13	35.16	30.75	35.29	30.88	60.00	50.00	-24.71	-19.12
17.942	0.32	39.30	36.96	39.62	37.28	60.00	50.00	-20.38	-12.72

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.**
No.167, Ln. 780, Shan-Tong
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320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 34 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.12	31.54	39.18	31.60	64.08	54.08	-24.90	-22.48
4.457	-0.01	33.52	30.65	33.51	30.64	56.00	46.00	-22.49	-15.36
4.507	-0.01	34.83	31.43	34.82	31.42	56.00	46.00	-21.18	-14.58
6.492	0.04	39.29	32.93	39.33	32.97	60.00	50.00	-20.67	-17.03
6.736	0.05	37.02	28.37	37.07	28.42	60.00	50.00	-22.93	-21.58
17.942	0.35	39.26	36.88	39.61	37.23	60.00	50.00	-20.39	-12.77

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	39.99	32.08	40.04	32.13	64.08	54.08	-24.04	-21.95
4.061	-0.01	35.09	32.56	35.08	32.55	56.00	46.00	-20.92	-13.45
4.507	0.00	34.10	31.39	34.10	31.39	56.00	46.00	-21.90	-14.61
8.025	0.08	35.54	29.58	35.62	29.66	60.00	50.00	-24.38	-20.34
10.308	0.13	36.55	30.70	36.68	30.83	60.00	50.00	-23.32	-19.17
17.942	0.32	39.38	36.90	39.70	37.22	60.00	50.00	-20.30	-12.78

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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 35 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.69	32.01	39.75	32.07	64.08	54.08	-24.33	-22.01
0.937	-0.11	31.12	24.77	31.01	24.66	56.00	46.00	-24.99	-21.34
2.824	-0.05	33.72	30.23	33.67	30.18	56.00	46.00	-22.33	-15.82
4.507	-0.01	35.27	31.84	35.26	31.83	56.00	46.00	-20.74	-14.17
5.254	0.01	36.17	32.95	36.18	32.96	60.00	50.00	-23.82	-17.04
17.942	0.35	39.64	37.20	39.99	37.55	60.00	50.00	-20.01	-12.45

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	40.09	32.28	40.14	32.33	64.08	54.08	-23.94	-21.75
2.873	-0.04	31.52	27.14	31.48	27.10	56.00	46.00	-24.52	-18.90
4.061	-0.01	35.01	32.46	35.00	32.45	56.00	46.00	-21.00	-13.55
6.492	0.04	39.41	33.70	39.45	33.74	60.00	50.00	-20.55	-16.26
8.177	0.08	37.11	33.06	37.19	33.14	60.00	50.00	-22.81	-16.86
17.942	0.32	39.34	36.94	39.66	37.26	60.00	50.00	-20.34	-12.74

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	38.81	31.61	38.87	31.67	64.08	54.08	-25.21	-22.41
2.824	-0.05	33.98	30.74	33.93	30.69	56.00	46.00	-22.07	-15.31
4.061	-0.02	35.50	32.73	35.48	32.71	56.00	46.00	-20.52	-13.29
8.025	0.08	35.54	29.68	35.62	29.76	60.00	50.00	-24.38	-20.24
10.258	0.14	35.63	31.06	35.77	31.20	60.00	50.00	-24.23	-18.80
17.942	0.35	39.38	37.03	39.73	37.38	60.00	50.00	-20.27	-12.62

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.
0.297	-0.02	34.68	33.00	34.66	32.98	60.33	50.33	-25.67	-17.35
4.061	-0.01	38.15	35.35	38.14	35.34	56.00	46.00	-17.86	-10.66
4.556	0.00	34.46	31.48	34.46	31.48	56.00	46.00	-21.54	-14.52
6.786	0.05	39.31	32.68	39.36	32.73	60.00	50.00	-20.64	-17.27
7.629	0.07	36.62	26.45	36.69	26.52	60.00	50.00	-23.31	-23.48
16.835	0.30	33.95	24.03	34.25	24.33	60.00	50.00	-25.75	-25.67

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	30.27	38.22	30.33	64.21	54.21	-25.99	-23.88
0.189	0.06	39.71	31.87	39.77	31.93	64.08	54.08	-24.31	-22.15
0.548	-0.09	30.28	26.10	30.19	26.01	56.00	46.00	-25.81	-19.99
1.368	-0.09	28.73	19.78	28.64	19.69	56.00	46.00	-27.36	-26.31
1.418	-0.09	30.56	25.02	30.47	24.93	56.00	46.00	-25.53	-21.07
17.706	0.34	38.56	28.23	38.90	28.57	60.00	50.00	-21.10	-21.43

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	39.08	31.42	39.13	31.47	64.21	54.21	-25.08	-22.74
0.189	0.05	40.46	32.75	40.51	32.80	64.08	54.08	-23.57	-21.28
3.665	-0.02	27.69	24.04	27.67	24.02	56.00	46.00	-28.33	-21.98
4.061	-0.01	30.49	27.49	30.48	27.48	56.00	46.00	-25.52	-18.52
8.228	0.08	29.85	27.44	29.93	27.52	60.00	50.00	-30.07	-22.48
16.896	0.30	36.26	29.16	36.56	29.46	60.00	50.00	-23.44	-20.54

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	37.11	31.73	37.17	31.79	64.21	54.21	-27.04	-22.42
0.189	0.06	38.61	33.40	38.67	33.46	64.08	54.08	-25.41	-20.62
0.884	-0.10	29.37	21.74	29.27	21.64	56.00	46.00	-26.73	-24.36
1.418	-0.09	31.62	26.48	31.53	26.39	56.00	46.00	-24.47	-19.61
4.853	0.00	27.34	22.69	27.34	22.69	56.00	46.00	-28.66	-23.31
17.696	0.34	42.21	30.26	42.55	30.60	60.00	50.00	-17.45	-19.40

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	31.26	38.90	31.31	64.21	54.21	-25.31	-22.90
0.189	0.05	40.50	32.66	40.55	32.71	64.08	54.08	-23.53	-21.37
0.692	-0.08	27.13	21.58	27.05	21.50	56.00	46.00	-28.95	-24.50
4.061	-0.01	28.19	25.66	28.18	25.65	56.00	46.00	-27.82	-20.35
8.177	0.08	31.07	26.94	31.15	27.02	60.00	50.00	-28.85	-22.98
17.696	0.31	40.87	29.82	41.18	30.13	60.00	50.00	-18.82	-19.87

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH151
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	32.00	39.83	32.06	64.08	54.08	-24.25	-22.02
0.192	0.06	36.93	29.63	36.99	29.69	63.95	53.95	-26.96	-24.26
4.061	-0.02	29.84	27.00	29.82	26.98	56.00	46.00	-26.18	-19.02
6.736	0.05	32.63	23.70	32.68	23.75	60.00	50.00	-27.32	-26.25
6.888	0.05	34.00	23.52	34.05	23.57	60.00	50.00	-25.95	-26.43
17.081	0.33	35.61	27.86	35.94	28.19	60.00	50.00	-24.06	-21.81

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	39.14	31.69	39.19	31.74	64.21	54.21	-25.02	-22.47
0.189	0.05	40.64	32.96	40.69	33.01	64.08	54.08	-23.39	-21.07
4.457	0.00	30.00	26.70	30.00	26.70	56.00	46.00	-26.00	-19.30
4.853	0.01	29.72	25.00	29.73	25.01	56.00	46.00	-26.27	-20.99
8.177	0.08	32.48	28.21	32.56	28.29	60.00	50.00	-27.44	-21.71
17.706	0.32	41.20	28.72	41.52	29.04	60.00	50.00	-18.48	-20.96

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.



TEST REPORT

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH159
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	40.27	32.35	40.33	32.41	64.08	54.08	-23.75	-21.67
0.192	0.06	39.40	31.65	39.46	31.71	63.95	53.95	-24.49	-22.24
0.697	-0.10	26.32	18.45	26.22	18.35	56.00	46.00	-29.78	-27.65
2.725	-0.05	22.92	17.22	22.87	17.17	56.00	46.00	-33.13	-28.83
12.613	0.21	27.86	16.32	28.07	16.53	60.00	50.00	-31.93	-33.47
17.655	0.34	42.74	27.39	43.08	27.73	60.00	50.00	-16.92	-22.27

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	40.70	32.96	40.75	33.01	64.08	54.08	-23.33	-21.07
0.192	0.05	39.60	32.05	39.65	32.10	63.95	53.95	-24.30	-21.85
0.951	-0.09	26.56	20.61	26.47	20.52	56.00	46.00	-29.53	-25.48
1.457	-0.07	23.92	18.01	23.85	17.94	56.00	46.00	-32.15	-28.06
12.613	0.19	28.51	15.47	28.70	15.66	60.00	50.00	-31.30	-34.34
17.655	0.31	39.83	25.89	40.14	26.20	60.00	50.00	-19.86	-23.80

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH151
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	39.99	32.16	40.05	32.22	64.08	54.08	-24.03	-21.86
0.192	0.06	38.55	31.06	38.61	31.12	63.95	53.95	-25.34	-22.83
0.505	-0.09	27.22	21.56	27.13	21.47	56.00	46.00	-28.87	-24.53
1.705	-0.08	23.86	18.33	23.78	18.25	56.00	46.00	-32.22	-27.75
2.655	-0.06	22.59	17.01	22.53	16.95	56.00	46.00	-33.47	-29.05
17.665	0.34	42.02	29.11	42.36	29.45	60.00	50.00	-17.64	-20.55

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.
0.189	0.05	40.76	32.93	40.81	32.98	64.08	54.08	-23.27	-21.10
0.192	0.05	39.46	31.86	39.51	31.91	63.95	53.95	-24.44	-22.04
0.697	-0.08	27.13	21.47	27.05	21.39	56.00	46.00	-28.95	-24.61
4.932	0.01	24.33	18.87	24.34	18.88	56.00	46.00	-31.66	-27.12
4.992	0.01	24.50	18.66	24.51	18.67	56.00	46.00	-31.49	-27.33
17.665	0.31	42.66	29.39	42.97	29.70	60.00	50.00	-17.03	-20.30

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 42 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH159
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	40.86	32.19	40.92	32.25	64.08	54.08	-23.16	-21.83
0.192	0.06	38.63	31.09	38.69	31.15	63.95	53.95	-25.26	-22.80
0.759	-0.10	27.29	20.19	27.19	20.09	56.00	46.00	-28.81	-25.91
1.517	-0.09	22.95	17.37	22.86	17.28	56.00	46.00	-33.14	-28.72
1.705	-0.08	23.88	18.35	23.80	18.27	56.00	46.00	-32.20	-27.73
17.665	0.34	42.97	28.45	43.31	28.79	60.00	50.00	-16.69	-21.21

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.
0.189	0.05	40.82	32.79	40.87	32.84	64.08	54.08	-23.21	-21.24
0.192	0.05	39.20	31.57	39.25	31.62	63.95	53.95	-24.70	-22.33
0.946	-0.09	27.10	21.16	27.01	21.07	56.00	46.00	-28.99	-24.93
1.388	-0.07	22.87	16.93	22.80	16.86	56.00	46.00	-33.20	-29.14
4.992	0.01	24.62	19.24	24.63	19.25	56.00	46.00	-31.37	-26.75
17.665	0.31	41.31	28.10	41.62	28.41	60.00	50.00	-18.38	-21.59

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.
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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT80_CH155
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 25, 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	40.32	32.24	40.38	32.30	64.08	54.08	-23.70	-21.78
0.836	-0.10	23.13	18.12	23.03	18.02	56.00	46.00	-32.97	-27.98
4.992	0.01	24.46	18.90	24.47	18.91	56.00	46.00	-31.53	-27.09
6.127	0.04	25.50	18.90	25.54	18.94	60.00	50.00	-34.46	-31.06
14.592	0.26	25.48	19.25	25.74	19.51	60.00	50.00	-34.26	-30.49
17.665	0.34	40.31	27.54	40.65	27.88	60.00	50.00	-19.35	-22.12

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	40.68	32.78	40.73	32.83	64.08	54.08	-23.35	-21.25
0.192	0.05	39.24	31.58	39.29	31.63	63.95	53.95	-24.66	-22.32
0.692	-0.08	25.51	19.83	25.43	19.75	56.00	46.00	-30.57	-26.25
1.200	-0.08	24.84	18.88	24.76	18.80	56.00	46.00	-31.24	-27.20
4.992	0.01	24.67	19.22	24.68	19.23	56.00	46.00	-31.32	-26.77
17.665	0.31	39.93	26.94	40.24	27.25	60.00	50.00	-19.76	-22.75

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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320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.58	31.60	39.64	31.66	64.08	54.08	-24.44	-22.42
4.418	-0.01	30.99	27.24	30.98	27.23	56.00	46.00	-25.02	-18.77
4.873	0.00	32.17	28.51	32.17	28.51	56.00	46.00	-23.83	-17.49
14.927	0.27	33.25	24.56	33.52	24.83	60.00	50.00	-26.48	-25.17
15.008	0.28	33.86	24.03	34.14	24.31	60.00	50.00	-25.86	-25.69
16.681	0.32	36.80	27.06	37.12	27.38	60.00	50.00	-22.88	-22.62

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	40.62	32.49	40.67	32.54	64.08	54.08	-23.41	-21.54
0.192	0.05	38.10	30.36	38.15	30.41	63.95	53.95	-25.80	-23.54
4.546	0.00	31.76	27.91	31.76	27.91	56.00	46.00	-24.24	-18.09
4.873	0.01	32.59	28.91	32.60	28.92	56.00	46.00	-23.40	-17.08
5.000	0.02	31.79	28.00	31.81	28.02	56.00	46.00	-24.19	-17.98
5.457	0.02	32.12	27.46	32.14	27.48	60.00	50.00	-27.86	-22.52

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	40.07	32.02	40.13	32.08	64.08	54.08	-23.95	-22.00
0.192	0.06	37.67	29.91	37.73	29.97	63.95	53.95	-26.22	-23.98
4.744	0.00	31.36	27.64	31.36	27.64	56.00	46.00	-24.64	-18.36
4.873	0.00	32.53	28.89	32.53	28.89	56.00	46.00	-23.47	-17.11
5.457	0.02	31.72	27.29	31.74	27.31	60.00	50.00	-28.26	-22.69
19.551	0.39	32.87	26.07	33.26	26.46	60.00	50.00	-26.74	-23.54

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.
0.189	0.05	40.58	32.53	40.63	32.58	64.08	54.08	-23.45	-21.50
0.192	0.05	38.08	30.39	38.13	30.44	63.95	53.95	-25.82	-23.51
4.744	0.01	31.63	28.19	31.64	28.20	56.00	46.00	-24.36	-17.80
4.873	0.01	32.71	29.18	32.72	29.19	56.00	46.00	-23.28	-16.81
5.000	0.02	31.67	27.77	31.69	27.79	56.00	46.00	-24.31	-18.21
19.090	0.35	32.72	25.41	33.07	25.76	60.00	50.00	-26.93	-24.24

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	38.04	29.79	38.10	29.85	64.21	54.21	-26.11	-24.36
0.189	0.06	39.79	31.65	39.85	31.71	64.08	54.08	-24.23	-22.37
4.744	0.00	31.16	27.57	31.16	27.57	56.00	46.00	-24.84	-18.43
4.873	0.00	32.37	28.71	32.37	28.71	56.00	46.00	-23.63	-17.29
5.000	0.01	31.04	27.35	31.05	27.36	56.00	46.00	-24.95	-18.64
19.367	0.38	34.88	27.52	35.26	27.90	60.00	50.00	-24.74	-22.10

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.
0.186	0.05	38.69	30.59	38.74	30.64	64.21	54.21	-25.47	-23.57
0.189	0.05	40.46	32.40	40.51	32.45	64.08	54.08	-23.57	-21.63
4.744	0.01	31.59	27.98	31.60	27.99	56.00	46.00	-24.40	-18.01
4.942	0.01	30.48	24.93	30.49	24.94	56.00	46.00	-25.51	-21.06
5.000	0.02	31.44	27.67	31.46	27.69	56.00	46.00	-24.54	-18.31
18.311	0.33	33.40	26.02	33.73	26.35	60.00	50.00	-26.27	-23.65

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	40.03	31.87	40.09	31.93	64.08	54.08	-23.99	-22.15
0.192	0.06	37.53	29.67	37.59	29.73	63.95	53.95	-26.36	-24.22
4.546	-0.01	31.31	27.29	31.30	27.28	56.00	46.00	-24.70	-18.72
4.873	0.00	32.41	28.86	32.41	28.86	56.00	46.00	-23.59	-17.14
5.000	0.01	31.10	27.21	31.11	27.22	56.00	46.00	-24.89	-18.78
19.131	0.38	34.73	27.23	35.11	27.61	60.00	50.00	-24.89	-22.39

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	40.58	32.60	40.63	32.65	64.08	54.08	-23.45	-21.43
4.873	0.01	32.75	29.15	32.76	29.16	56.00	46.00	-23.24	-16.84
4.932	0.01	28.93	24.36	28.94	24.37	56.00	46.00	-27.06	-21.63
5.000	0.02	31.67	27.77	31.69	27.79	56.00	46.00	-24.31	-18.21
5.721	0.03	31.09	20.82	31.12	20.85	60.00	50.00	-28.88	-29.15
18.598	0.34	33.51	26.27	33.85	26.61	60.00	50.00	-26.15	-23.39

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.89	31.64	39.95	31.70	64.08	54.08	-24.13	-22.38
0.937	-0.11	30.31	25.23	30.20	25.12	56.00	46.00	-25.80	-20.88
1.418	-0.09	40.11	36.66	40.02	36.57	56.00	46.00	-15.98	-9.43
5.335	0.02	35.23	28.45	35.25	28.47	60.00	50.00	-24.75	-21.53
5.650	0.02	36.36	29.67	36.38	29.69	60.00	50.00	-23.62	-20.31
15.707	0.29	36.52	25.25	36.81	25.54	60.00	50.00	-23.19	-24.46

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	40.31	32.16	40.36	32.21	64.08	54.08	-23.72	-21.87
0.774	-0.09	32.34	26.72	32.25	26.63	56.00	46.00	-23.75	-19.37
1.418	-0.07	37.84	34.33	37.77	34.26	56.00	46.00	-18.23	-11.74
5.335	0.02	35.91	28.82	35.93	28.84	60.00	50.00	-24.07	-21.16
5.802	0.03	36.05	28.97	36.08	29.00	60.00	50.00	-23.92	-21.00
15.707	0.27	36.50	26.37	36.77	26.64	60.00	50.00	-23.23	-23.36

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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.
0.774	-0.10	32.40	26.18	32.30	26.08	56.00	46.00	-23.70	-19.92
1.418	-0.09	38.93	35.55	38.84	35.46	56.00	46.00	-17.16	-10.54
4.942	0.01	33.69	28.66	33.70	28.67	56.00	46.00	-22.30	-17.33
5.579	0.02	35.32	28.01	35.34	28.03	60.00	50.00	-24.66	-21.97
5.680	0.02	36.22	28.92	36.24	28.94	60.00	50.00	-23.76	-21.06
17.809	0.35	40.51	30.19	40.86	30.54	60.00	50.00	-19.14	-19.46

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	32.00	40.32	32.05	64.08	54.08	-23.76	-22.03
0.774	-0.09	31.84	26.50	31.75	26.41	56.00	46.00	-24.25	-19.59
1.418	-0.07	38.02	34.63	37.95	34.56	56.00	46.00	-18.05	-11.44
4.229	0.00	31.85	25.81	31.85	25.81	56.00	46.00	-24.15	-20.19
5.487	0.02	34.56	27.65	34.58	27.67	60.00	50.00	-25.42	-22.33
5.771	0.03	36.01	28.17	36.04	28.20	60.00	50.00	-23.96	-21.80

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH36
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	38.73	30.54	38.79	30.60	64.21	54.21	-25.42	-23.61
0.189	0.06	39.77	31.56	39.83	31.62	64.08	54.08	-24.25	-22.46
1.418	-0.09	40.07	36.83	39.98	36.74	56.00	46.00	-16.02	-9.26
4.992	0.01	30.12	23.46	30.13	23.47	56.00	46.00	-25.87	-22.53
5.365	0.02	34.27	27.22	34.29	27.24	60.00	50.00	-25.71	-22.76
5.650	0.02	35.45	28.07	35.47	28.09	60.00	50.00	-24.53	-21.91

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	38.97	30.69	39.02	30.74	64.21	54.21	-25.19	-23.47
0.189	0.05	40.40	32.07	40.45	32.12	64.08	54.08	-23.63	-21.96
0.774	-0.09	31.90	26.06	31.81	25.97	56.00	46.00	-24.19	-20.03
1.418	-0.07	38.06	34.73	37.99	34.66	56.00	46.00	-18.01	-11.34
4.259	0.00	30.59	24.15	30.59	24.15	56.00	46.00	-25.41	-21.85
5.579	0.03	35.05	27.73	35.08	27.76	60.00	50.00	-24.92	-22.24

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH40
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	38.53	30.84	38.59	30.90	64.21	54.21	-25.62	-23.31
0.189	0.06	39.83	31.74	39.89	31.80	64.08	54.08	-24.19	-22.28
0.937	-0.11	32.29	27.06	32.18	26.95	56.00	46.00	-23.82	-19.05
1.418	-0.09	40.19	37.14	40.10	37.05	56.00	46.00	-15.90	-8.95
5.589	0.02	36.01	28.60	36.03	28.62	60.00	50.00	-23.97	-21.38
5.863	0.03	35.60	28.25	35.63	28.28	60.00	50.00	-24.37	-21.72

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	40.34	32.11	40.39	32.16	64.08	54.08	-23.69	-21.92
0.774	-0.09	31.58	26.18	31.49	26.09	56.00	46.00	-24.51	-19.91
1.418	-0.07	37.61	34.45	37.54	34.38	56.00	46.00	-18.46	-11.62
4.249	0.00	31.04	24.19	31.04	24.19	56.00	46.00	-24.96	-21.81
5.599	0.03	37.34	30.40	37.37	30.43	60.00	50.00	-22.63	-19.57
5.741	0.03	37.82	30.45	37.85	30.48	60.00	50.00	-22.15	-19.52

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH48
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.91	31.79	39.97	31.85	64.08	54.08	-24.11	-22.23
1.418	-0.09	40.42	37.45	40.33	37.36	56.00	46.00	-15.67	-8.64
4.942	0.01	33.15	28.01	33.16	28.02	56.00	46.00	-22.84	-17.98
5.477	0.02	35.77	28.36	35.79	28.38	60.00	50.00	-24.21	-21.62
5.548	0.02	35.86	28.52	35.88	28.54	60.00	50.00	-24.12	-21.46
17.809	0.35	39.66	33.81	40.01	34.16	60.00	50.00	-19.99	-15.84

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	39.79	31.55	39.84	31.60	64.08	54.08	-24.24	-22.48
0.774	-0.09	32.64	26.37	32.55	26.28	56.00	46.00	-23.45	-19.72
1.418	-0.07	38.20	35.17	38.13	35.10	56.00	46.00	-17.87	-10.90
5.802	0.03	36.54	29.32	36.57	29.35	60.00	50.00	-23.43	-20.65
7.629	0.07	35.15	27.10	35.22	27.17	60.00	50.00	-24.78	-22.83
15.707	0.27	35.82	30.20	36.09	30.47	60.00	50.00	-23.91	-19.53

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH38
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.87	31.61	39.93	31.67	64.08	54.08	-24.15	-22.41
0.774	-0.10	32.72	26.50	32.62	26.40	56.00	46.00	-23.38	-19.60
4.833	0.00	34.69	30.25	34.69	30.25	56.00	46.00	-21.31	-15.75
4.962	0.01	35.90	30.63	35.91	30.64	56.00	46.00	-20.09	-15.36
5.619	0.02	42.57	37.67	42.59	37.69	60.00	50.00	-17.41	-12.31
5.680	0.02	39.97	33.71	39.99	33.73	60.00	50.00	-20.01	-16.27

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	39.97	32.23	40.02	32.28	64.08	54.08	-24.06	-21.80
0.774	-0.09	33.69	27.63	33.60	27.54	56.00	46.00	-22.40	-18.46
1.418	-0.07	38.57	34.85	38.50	34.78	56.00	46.00	-17.50	-11.22
4.903	0.01	36.53	32.24	36.54	32.25	56.00	46.00	-19.46	-13.75
5.629	0.03	40.67	35.07	40.70	35.10	60.00	50.00	-19.30	-14.90
5.883	0.03	39.90	33.64	39.93	33.67	60.00	50.00	-20.07	-16.33

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 54 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH46
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.85	31.60	39.91	31.66	64.08	54.08	-24.17	-22.42
0.774	-0.10	30.95	26.17	30.85	26.07	56.00	46.00	-25.15	-19.93
1.418	-0.09	39.40	35.94	39.31	35.85	56.00	46.00	-16.69	-10.15
4.972	0.01	37.27	32.83	37.28	32.84	56.00	46.00	-18.72	-13.16
5.629	0.02	42.27	37.49	42.29	37.51	60.00	50.00	-17.71	-12.49
5.822	0.03	40.26	34.09	40.29	34.12	60.00	50.00	-19.71	-15.88

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	32.21	40.26	32.26	64.08	54.08	-23.82	-21.82
0.774	-0.09	33.13	27.01	33.04	26.92	56.00	46.00	-22.96	-19.08
1.418	-0.07	37.98	34.22	37.91	34.15	56.00	46.00	-18.09	-11.85
4.972	0.01	36.46	30.99	36.47	31.00	56.00	46.00	-19.53	-15.00
5.568	0.03	41.65	36.84	41.68	36.87	60.00	50.00	-18.32	-13.13
5.690	0.03	39.69	32.82	39.72	32.85	60.00	50.00	-20.28	-17.15

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH38
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.60	31.41	39.66	31.47	64.08	54.08	-24.42	-22.61
1.418	-0.09	38.16	36.00	38.07	35.91	56.00	46.00	-17.93	-10.09
4.982	0.01	37.15	32.01	37.16	32.02	56.00	46.00	-18.84	-13.98
5.305	0.02	40.45	35.82	40.47	35.84	60.00	50.00	-19.53	-14.16
5.700	0.03	41.45	36.53	41.48	36.56	60.00	50.00	-18.52	-13.44
15.707	0.29	35.78	20.93	36.07	21.22	60.00	50.00	-23.93	-28.78

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	38.87	30.63	38.92	30.68	64.21	54.21	-25.29	-23.53
0.189	0.05	40.38	32.29	40.43	32.34	64.08	54.08	-23.65	-21.74
1.418	-0.07	38.10	34.27	38.03	34.20	56.00	46.00	-17.97	-11.80
4.982	0.01	37.94	33.61	37.95	33.62	56.00	46.00	-18.05	-12.38
5.568	0.03	41.34	36.45	41.37	36.48	60.00	50.00	-18.63	-13.52
5.700	0.03	42.02	36.57	42.05	36.60	60.00	50.00	-17.95	-13.40

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 56 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH46
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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.
0.774	-0.10	31.56	26.05	31.46	25.95	56.00	46.00	-24.54	-20.05
1.418	-0.09	39.06	36.00	38.97	35.91	56.00	46.00	-17.03	-10.09
4.912	0.01	35.47	30.55	35.48	30.56	56.00	46.00	-20.52	-15.44
5.173	0.01	38.00	32.93	38.01	32.94	60.00	50.00	-21.99	-17.06
5.568	0.02	40.02	35.54	40.04	35.56	60.00	50.00	-19.96	-14.44
15.338	0.28	35.27	30.20	35.55	30.48	60.00	50.00	-24.45	-19.52

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	40.42	32.44	40.47	32.49	64.08	54.08	-23.61	-21.59
0.774	-0.09	31.76	26.78	31.67	26.69	56.00	46.00	-24.33	-19.31
1.418	-0.07	37.63	34.00	37.56	33.93	56.00	46.00	-18.44	-12.07
4.982	0.01	37.61	33.43	37.62	33.44	56.00	46.00	-18.38	-12.56
5.376	0.02	39.35	34.53	39.37	34.55	60.00	50.00	-20.63	-15.45
5.700	0.03	40.38	34.88	40.41	34.91	60.00	50.00	-19.59	-15.09

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT80_CH42
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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.
0.774	-0.10	31.76	26.05	31.66	25.95	56.00	46.00	-24.34	-20.05
1.418	-0.09	39.38	36.03	39.29	35.94	56.00	46.00	-16.71	-10.06
4.912	0.01	35.53	31.61	35.54	31.62	56.00	46.00	-20.46	-14.38
5.173	0.01	38.40	34.19	38.41	34.20	60.00	50.00	-21.59	-15.80
5.700	0.03	37.75	30.23	37.78	30.26	60.00	50.00	-22.22	-19.74
15.707	0.29	35.97	27.93	36.26	28.22	60.00	50.00	-23.74	-21.78

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	40.03	32.23	40.08	32.28	64.08	54.08	-24.00	-21.80
0.774	-0.09	33.21	28.07	33.12	27.98	56.00	46.00	-22.88	-18.02
1.418	-0.07	38.65	35.27	38.58	35.20	56.00	46.00	-17.42	-10.80
4.972	0.01	36.59	32.49	36.60	32.50	56.00	46.00	-19.40	-13.50
5.233	0.02	38.72	33.85	38.74	33.87	60.00	50.00	-21.26	-16.13
5.629	0.03	39.11	32.55	39.14	32.58	60.00	50.00	-20.86	-17.42

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 58 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	37.61	29.45	37.67	29.51	64.21	54.21	-26.54	-24.70
0.189	0.06	39.56	31.25	39.62	31.31	64.08	54.08	-24.46	-22.77
0.946	-0.11	29.19	23.14	29.08	23.03	56.00	46.00	-26.92	-22.97
4.863	0.00	32.98	28.93	32.98	28.93	56.00	46.00	-23.02	-17.07
4.992	0.01	32.37	28.55	32.38	28.56	56.00	46.00	-23.62	-17.44
16.497	0.31	34.25	24.50	34.56	24.81	60.00	50.00	-25.44	-25.19

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.
0.189	0.05	40.34	32.80	40.39	32.85	64.08	54.08	-23.69	-21.23
0.192	0.05	37.96	30.65	38.01	30.70	63.95	53.95	-25.94	-23.25
0.946	-0.09	29.43	23.58	29.34	23.49	56.00	46.00	-26.66	-22.51
4.734	0.01	32.53	28.07	32.54	28.08	56.00	46.00	-23.46	-17.92
4.932	0.01	32.97	29.02	32.98	29.03	56.00	46.00	-23.02	-16.97
17.347	0.31	30.98	23.74	31.29	24.05	60.00	50.00	-28.71	-25.95

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	36.89	29.39	36.95	29.45	64.21	54.21	-27.26	-24.76
0.189	0.06	38.22	31.25	38.28	31.31	64.08	54.08	-25.80	-22.77
4.734	0.00	30.16	25.77	30.16	25.77	56.00	46.00	-25.84	-20.23
4.794	0.00	27.38	20.32	27.38	20.32	56.00	46.00	-28.62	-25.68
5.000	0.01	31.28	26.44	31.29	26.45	56.00	46.00	-24.71	-19.55
13.130	0.22	31.32	25.05	31.54	25.27	60.00	50.00	-28.46	-24.73

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	37.86	30.26	37.91	30.31	64.21	54.21	-26.30	-23.90
0.189	0.05	40.09	32.03	40.14	32.08	64.08	54.08	-23.94	-22.00
0.946	-0.09	28.68	22.96	28.59	22.87	56.00	46.00	-27.41	-23.13
4.804	0.01	32.39	28.27	32.40	28.28	56.00	46.00	-23.60	-17.72
4.932	0.01	32.52	28.72	32.53	28.73	56.00	46.00	-23.47	-17.27
5.000	0.02	32.13	28.56	32.15	28.58	56.00	46.00	-23.85	-17.42

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.87	31.74	39.93	31.80	64.08	54.08	-24.15	-22.28
0.192	0.06	37.49	29.55	37.55	29.61	63.95	53.95	-26.40	-24.34
4.675	0.00	31.85	28.20	31.85	28.20	56.00	46.00	-24.15	-17.80
4.932	0.01	31.47	27.55	31.48	27.56	56.00	46.00	-24.52	-18.44
14.988	0.27	32.27	23.18	32.54	23.45	60.00	50.00	-27.46	-26.55
16.455	0.31	35.36	25.65	35.67	25.96	60.00	50.00	-24.33	-24.04

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	30.56	38.62	30.61	64.21	54.21	-25.59	-23.60
0.189	0.05	40.44	32.31	40.49	32.36	64.08	54.08	-23.59	-21.72
4.675	0.01	32.17	28.52	32.18	28.53	56.00	46.00	-23.82	-17.47
4.873	0.01	31.65	27.57	31.66	27.58	56.00	46.00	-24.34	-18.42
5.589	0.03	33.58	20.92	33.61	20.95	60.00	50.00	-26.39	-29.05
16.865	0.30	36.22	26.23	36.52	26.53	60.00	50.00	-23.48	-23.47

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT20_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	29.81	38.14	29.87	64.21	54.21	-26.07	-24.34
0.189	0.06	39.79	31.70	39.85	31.76	64.08	54.08	-24.23	-22.32
4.675	0.00	31.77	28.14	31.77	28.14	56.00	46.00	-24.23	-17.86
4.932	0.01	30.94	27.23	30.95	27.24	56.00	46.00	-25.05	-18.76
14.876	0.27	32.55	23.62	32.82	23.89	60.00	50.00	-27.18	-26.11
16.138	0.30	36.20	25.72	36.50	26.02	60.00	50.00	-23.50	-23.98

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.
0.189	0.05	40.54	32.47	40.59	32.52	64.08	54.08	-23.49	-21.56
0.946	-0.09	27.14	21.80	27.05	21.71	56.00	46.00	-28.95	-24.29
4.546	0.00	31.96	27.93	31.96	27.93	56.00	46.00	-24.04	-18.07
4.873	0.01	31.54	27.86	31.55	27.87	56.00	46.00	-24.45	-18.13
5.000	0.02	32.37	28.81	32.39	28.83	56.00	46.00	-23.61	-17.17
16.087	0.28	34.26	24.47	34.54	24.75	60.00	50.00	-25.46	-25.25

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT20_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.99	31.99	40.05	32.05	64.08	54.08	-24.03	-22.03
0.192	0.06	37.57	29.70	37.63	29.76	63.95	53.95	-26.32	-24.19
4.546	-0.01	31.45	27.51	31.44	27.50	56.00	46.00	-24.56	-18.50
4.804	0.00	31.02	27.23	31.02	27.23	56.00	46.00	-24.98	-18.77
5.000	0.01	32.05	28.25	32.06	28.26	56.00	46.00	-23.94	-17.74
19.807	0.40	31.16	24.40	31.56	24.80	60.00	50.00	-28.44	-25.20

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	32.60	40.51	32.65	64.08	54.08	-23.57	-21.43
0.192	0.05	37.94	30.32	37.99	30.37	63.95	53.95	-25.96	-23.58
4.546	0.00	31.82	28.01	31.82	28.01	56.00	46.00	-24.18	-17.99
4.873	0.01	32.15	28.23	32.16	28.24	56.00	46.00	-23.84	-17.76
5.000	0.02	32.07	28.50	32.09	28.52	56.00	46.00	-23.91	-17.48
19.602	0.36	31.82	25.16	32.18	25.52	60.00	50.00	-27.82	-24.48

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 63 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT20_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	37.96	30.09	38.02	30.15	64.21	54.21	-26.19	-24.06
0.189	0.06	39.89	31.75	39.95	31.81	64.08	54.08	-24.13	-22.27
4.546	-0.01	31.51	27.56	31.50	27.55	56.00	46.00	-24.50	-18.45
4.932	0.01	30.52	26.43	30.53	26.44	56.00	46.00	-25.47	-19.56
5.000	0.01	31.87	28.21	31.88	28.22	56.00	46.00	-24.12	-17.78
19.787	0.39	31.04	24.24	31.43	24.63	60.00	50.00	-28.57	-25.37

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	38.59	30.75	38.64	30.80	64.21	54.21	-25.57	-23.41
0.189	0.05	40.56	32.53	40.61	32.58	64.08	54.08	-23.47	-21.50
4.873	0.01	31.99	28.09	32.00	28.10	56.00	46.00	-24.00	-17.90
4.922	0.01	28.14	20.74	28.15	20.75	56.00	46.00	-27.85	-25.25
5.000	0.02	32.07	28.46	32.09	28.48	56.00	46.00	-23.91	-17.52
19.930	0.37	32.35	25.59	32.72	25.96	60.00	50.00	-27.28	-24.04

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 64 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH149
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.81	31.90	39.87	31.96	64.08	54.08	-24.21	-22.12
0.192	0.06	37.53	29.67	37.59	29.73	63.95	53.95	-26.36	-24.22
4.546	-0.01	31.62	27.76	31.61	27.75	56.00	46.00	-24.39	-18.25
4.804	0.00	31.46	27.61	31.46	27.61	56.00	46.00	-24.54	-18.39
5.000	0.01	31.81	28.14	31.82	28.15	56.00	46.00	-24.18	-17.85
20.104	0.40	30.64	24.21	31.04	24.61	60.00	50.00	-28.96	-25.39

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	38.67	30.84	38.72	30.89	64.21	54.21	-25.49	-23.32
0.189	0.05	40.48	32.60	40.53	32.65	64.08	54.08	-23.55	-21.43
0.946	-0.09	27.24	21.77	27.15	21.68	56.00	46.00	-28.85	-24.32
4.675	0.01	31.71	28.12	31.72	28.13	56.00	46.00	-24.28	-17.87
4.873	0.01	32.01	28.38	32.02	28.39	56.00	46.00	-23.98	-17.61
5.000	0.02	32.19	28.41	32.21	28.43	56.00	46.00	-23.79	-17.57

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH157
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	38.00	30.03	38.06	30.09	64.21	54.21	-26.15	-24.12
0.189	0.06	39.85	31.86	39.91	31.92	64.08	54.08	-24.17	-22.16
4.675	0.00	31.34	27.76	31.34	27.76	56.00	46.00	-24.66	-18.24
4.794	0.00	27.87	20.53	27.87	20.53	56.00	46.00	-28.13	-25.47
5.000	0.01	31.73	27.94	31.74	27.95	56.00	46.00	-24.26	-18.05
18.956	0.37	31.18	24.39	31.55	24.76	60.00	50.00	-28.45	-25.24

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	38.63	31.00	38.68	31.05	64.21	54.21	-25.53	-23.16
0.189	0.05	40.52	32.79	40.57	32.84	64.08	54.08	-23.51	-21.24
4.546	0.00	32.10	28.01	32.10	28.01	56.00	46.00	-23.90	-17.99
4.873	0.01	32.25	28.49	32.26	28.50	56.00	46.00	-23.74	-17.50
5.000	0.02	32.11	28.47	32.13	28.49	56.00	46.00	-23.87	-17.51
5.457	0.02	32.64	27.75	32.66	27.77	60.00	50.00	-27.34	-22.23

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH165
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.87	31.49	39.93	31.55	64.08	54.08	-24.15	-22.53
0.192	0.06	37.11	29.28	37.17	29.34	63.95	53.95	-26.78	-24.61
4.734	0.00	28.64	21.79	28.64	21.79	56.00	46.00	-27.36	-24.21
4.744	0.00	31.44	26.70	31.44	26.70	56.00	46.00	-24.56	-19.30
5.000	0.01	32.37	28.92	32.38	28.93	56.00	46.00	-23.62	-17.07
16.732	0.32	34.93	24.72	35.25	25.04	60.00	50.00	-24.75	-24.96

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	40.48	32.26	40.53	32.31	64.08	54.08	-23.55	-21.77
4.744	0.01	32.33	28.48	32.34	28.49	56.00	46.00	-23.66	-17.51
4.873	0.01	32.83	29.09	32.84	29.10	56.00	46.00	-23.16	-16.90
5.000	0.02	31.73	27.69	31.75	27.71	56.00	46.00	-24.25	-18.29
14.906	0.25	31.47	23.84	31.72	24.09	60.00	50.00	-28.28	-25.91
15.738	0.27	33.38	23.08	33.65	23.35	60.00	50.00	-26.35	-26.65

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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Chung-Li City, Taoyuan County
320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT40_CH151
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	31.58	39.79	31.64	64.08	54.08	-24.29	-22.44
0.192	0.06	37.33	29.53	37.39	29.59	63.95	53.95	-26.56	-24.36
4.873	0.00	32.25	28.58	32.25	28.58	56.00	46.00	-23.75	-17.42
4.883	0.00	27.51	18.16	27.51	18.16	56.00	46.00	-28.49	-27.84
5.000	0.01	30.94	27.06	30.95	27.07	56.00	46.00	-25.05	-18.93
15.994	0.30	32.82	22.71	33.12	23.01	60.00	50.00	-26.88	-26.99

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	40.34	32.32	40.39	32.37	64.08	54.08	-23.69	-21.71
0.946	-0.09	27.68	22.07	27.59	21.98	56.00	46.00	-28.41	-24.02
4.418	0.00	31.53	27.82	31.53	27.82	56.00	46.00	-24.47	-18.18
4.873	0.01	32.85	29.27	32.86	29.28	56.00	46.00	-23.14	-16.72
5.000	0.02	31.61	28.00	31.63	28.02	56.00	46.00	-24.37	-17.98
16.455	0.29	33.76	24.02	34.05	24.31	60.00	50.00	-25.95	-25.69

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 &
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No.167, Ln. 780, Shan-Tong
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320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
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Temperature:	22 °C	Humidity:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT40_CH159
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	29.71	38.14	29.77	64.21	54.21	-26.07	-24.44
0.189	0.06	39.95	31.52	40.01	31.58	64.08	54.08	-24.07	-22.50
4.675	0.00	30.73	27.19	30.73	27.19	56.00	46.00	-25.27	-18.81
4.873	0.00	32.41	28.75	32.41	28.75	56.00	46.00	-23.59	-17.25
5.000	0.01	31.26	27.61	31.27	27.62	56.00	46.00	-24.73	-18.38
16.784	0.32	31.49	21.23	31.81	21.55	60.00	50.00	-28.19	-28.45

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	40.44	32.35	40.49	32.40	64.08	54.08	-23.59	-21.68
0.192	0.05	38.08	30.10	38.13	30.15	63.95	53.95	-25.82	-23.80
0.946	-0.09	27.00	21.59	26.91	21.50	56.00	46.00	-29.09	-24.50
4.863	0.01	27.91	20.36	27.92	20.37	56.00	46.00	-28.08	-25.63
4.873	0.01	32.53	28.78	32.54	28.79	56.00	46.00	-23.46	-17.21
5.000	0.02	31.77	27.92	31.79	27.94	56.00	46.00	-24.21	-18.06

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT40_CH151
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	40.09	31.71	40.15	31.77	64.08	54.08	-23.93	-22.31
0.192	0.06	37.53	29.57	37.59	29.63	63.95	53.95	-26.36	-24.32
4.873	0.00	32.83	28.83	32.83	28.83	56.00	46.00	-23.17	-17.17
4.952	0.01	28.14	18.42	28.15	18.43	56.00	46.00	-27.85	-27.57
5.000	0.01	31.57	27.95	31.58	27.96	56.00	46.00	-24.42	-18.04
16.128	0.30	31.01	20.71	31.31	21.01	60.00	50.00	-28.69	-28.99

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	40.54	32.37	40.59	32.42	64.08	54.08	-23.49	-21.66
0.946	-0.09	27.06	21.65	26.97	21.56	56.00	46.00	-29.03	-24.44
4.546	0.00	31.64	27.71	31.64	27.71	56.00	46.00	-24.36	-18.29
4.873	0.01	32.69	29.03	32.70	29.04	56.00	46.00	-23.30	-16.96
5.203	0.02	29.83	21.60	29.85	21.62	60.00	50.00	-30.15	-28.38
16.271	0.28	30.68	20.15	30.96	20.43	60.00	50.00	-29.04	-29.57

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT40_CH159
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	39.91	31.77	39.97	31.83	64.08	54.08	-24.11	-22.25
0.192	0.06	37.47	29.51	37.53	29.57	63.95	53.95	-26.42	-24.38
4.546	-0.01	31.58	27.62	31.57	27.61	56.00	46.00	-24.43	-18.39
4.873	0.00	32.47	28.64	32.47	28.64	56.00	46.00	-23.53	-17.36
5.000	0.01	31.42	27.82	31.43	27.83	56.00	46.00	-24.57	-18.17
16.117	0.30	32.56	22.14	32.86	22.44	60.00	50.00	-27.14	-27.56

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	40.56	32.28	40.61	32.33	64.08	54.08	-23.47	-21.75
0.946	-0.09	26.98	21.60	26.89	21.51	56.00	46.00	-29.11	-24.49
4.675	0.01	31.12	27.04	31.13	27.05	56.00	46.00	-24.87	-18.95
4.873	0.01	32.75	29.01	32.76	29.02	56.00	46.00	-23.24	-16.98
5.000	0.02	31.69	27.78	31.71	27.80	56.00	46.00	-24.29	-18.20
16.363	0.28	33.20	22.72	33.48	23.00	60.00	50.00	-26.52	-27.00

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:	57 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT80_CH155
Receiver Detector:	Q.P. and AV.	Modulation Type:	OFDM
Tested By:	Richard Lin	Tested Date:	Nov. 02, 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	40.01	31.91	40.07	31.97	64.08	54.08	-24.01	-22.11
0.192	0.06	37.67	29.76	37.73	29.82	63.95	53.95	-26.22	-24.13
4.744	0.00	31.48	28.05	31.48	28.05	56.00	46.00	-24.52	-17.95
4.804	0.00	30.30	26.61	30.30	26.61	56.00	46.00	-25.70	-19.39
14.967	0.27	33.98	24.69	34.25	24.96	60.00	50.00	-25.75	-25.04
16.579	0.31	37.36	27.59	37.67	27.90	60.00	50.00	-22.33	-22.10

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.
0.186	0.05	38.63	30.66	38.68	30.71	64.21	54.21	-25.53	-23.50
0.189	0.05	40.34	32.43	40.39	32.48	64.08	54.08	-23.69	-21.60
0.946	-0.09	27.34	21.88	27.25	21.79	56.00	46.00	-28.75	-24.21
4.873	0.01	32.77	29.03	32.78	29.04	56.00	46.00	-23.22	-16.96
4.942	0.01	30.44	24.38	30.45	24.39	56.00	46.00	-25.55	-21.61
16.138	0.28	35.87	25.20	36.15	25.48	60.00	50.00	-23.85	-24.52

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.



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:

1. 30 dBuV (in 30m) = 70 dBuV (in 3m).
2. In the emission tables above , the tighter limit applies at the band edges.
3. 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

 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.: FCCA15102101-01 FCC ID : ZME-MLWG3 Page: 73 of 484 Date: Dec. 22, 2015
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4.2.2 TEST EQUIPMENT

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

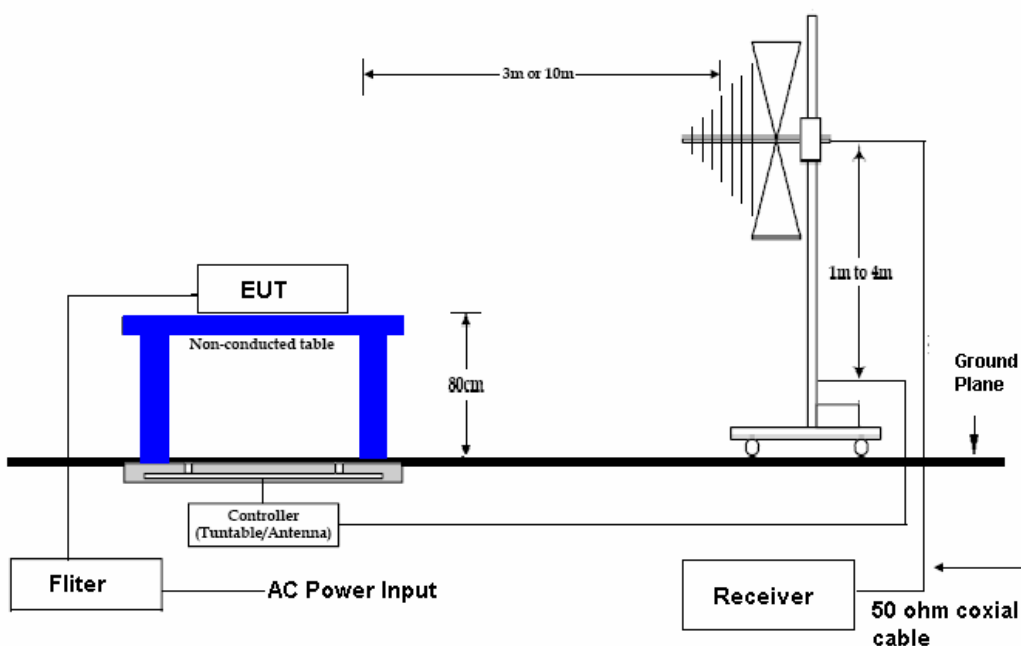
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	JAN. 11, 2016 ETC
EMI TEST RECEIVER	20 MHz ~ 1000 MHz	ROHDE & SCHWARZ	ESVS30 / 841977/003	NOV. 18, 2016 ETC
SPECTRUM ANALYZER	9 kHz ~ 7GHz	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*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
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.

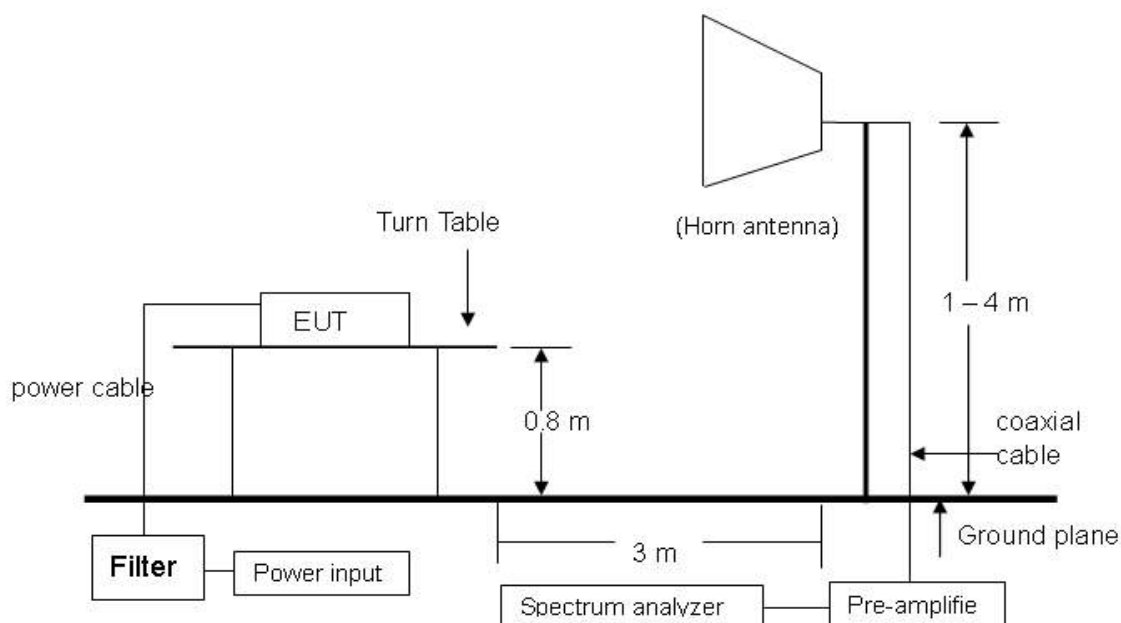


4.2.3 TEST SET-UP

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.



TEST REPORT

4.2.5 TEST RESULT

Temperature:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
58.42	1.51	11.94	12.92	26.37	40	-13.63	112	3.48
222.08	2.59	12.68	15.21	30.48	46	-15.52	336	3.03
290.48	3.05	13.00	17.41	33.46	46	-12.54	257	2.77
324.69	3.27	14.08	14.80	32.14	46	-13.86	139	2.68
490.13	4.30	17.50	8.83	30.63	46	-15.37	202	2.52
515.65	4.43	18.11	11.55	34.09	46	-11.91	196	2.47

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)
58.28	1.51	11.94	17.48	30.93	40	-9.07	145	1.10
84.11	1.68	8.26	25.56	35.50	40	-4.50	220	1.16
296.05	3.08	13.30	13.05	29.43	46	-16.57	325	1.81
317.50	3.22	13.91	14.51	31.64	46	-14.36	71	1.90
338.22	3.37	14.41	13.66	31.44	46	-14.56	195	1.94
516.40	4.44	18.14	9.56	32.14	46	-13.86	246	2.55

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
57.62	1.51	12.26	13.66	27.43	40	-12.57	70	3.47
140.48	2.08	12.40	17.71	32.19	44	-11.31	272	3.15
198.28	2.44	11.48	16.73	30.65	44	-12.85	300	2.98
299.88	3.10	13.45	14.12	30.67	46	-15.34	177	2.66
316.22	3.21	13.88	17.28	34.38	46	-11.62	88	2.60
515.63	4.43	18.11	10.41	32.95	46	-13.05	215	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)
58.80	1.51	11.94	16.25	29.70	40	-10.30	314	1.07
310.55	3.17	13.74	14.91	31.82	46	-14.18	162	1.85
330.76	3.31	14.22	15.75	33.28	46	-12.72	210	1.94
497.70	4.34	17.57	8.31	30.22	46	-15.79	42	2.46
516.19	4.44	18.14	12.06	34.64	46	-11.36	256	2.52
798.23	5.81	21.79	3.21	30.81	46	-15.19	335	3.35

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
57.63	1.51	12.26	13.76	27.53	40	-12.47	87	3.50
140.49	2.08	12.40	16.28	30.76	44	-12.74	272	3.17
197.30	2.43	11.37	16.98	30.78	44	-12.72	159	3.09
224.79	2.61	12.66	17.56	32.83	46	-13.17	339	3.01
326.89	3.28	14.12	17.14	34.55	46	-11.45	233	2.75
516.71	4.44	18.14	12.66	35.24	46	-10.76	146	2.48

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)
58.29	1.51	11.94	14.96	28.41	40	-11.59	43	1.10
82.13	1.66	8.08	23.52	33.26	40	-6.74	307	1.15
84.10	1.68	8.26	24.14	34.08	40	-5.92	286	1.20
294.59	3.07	13.20	14.91	31.18	46	-14.82	323	1.81
305.65	3.14	13.62	16.04	32.80	46	-13.21	171	1.89
498.47	4.34	17.58	11.19	33.11	46	-12.89	99	2.42

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
185.64	2.35	10.45	21.87	34.67	44	-8.83	293	3.46
198.66	2.44	11.48	21.70	35.62	44	-7.88	89	3.38
308.93	3.16	13.69	16.23	33.08	46	-12.92	141	3.15
348.54	3.44	14.65	13.98	32.07	46	-13.93	103	3.00
517.78	4.45	18.18	12.26	34.88	46	-11.12	232	2.47
629.46	4.99	19.91	9.44	34.34	46	-11.66	345	2.11

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)
64.89	1.54	10.14	15.00	26.68	40	-13.32	245	1.12
193.93	2.40	10.93	13.96	27.29	44	-16.21	84	1.54
277.69	2.96	12.90	15.19	31.05	46	-14.95	112	1.78
294.23	3.07	13.20	17.95	34.22	46	-11.78	206	1.79
308.33	3.16	13.69	17.98	34.83	46	-11.17	340	1.89
514.15	4.43	18.08	14.83	37.33	46	-8.67	63	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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
184.77	2.34	10.42	20.50	33.26	44	-10.24	221	3.47
197.39	2.43	11.37	20.13	33.93	44	-9.57	125	3.40
294.64	3.07	13.20	17.48	33.75	46	-12.25	90	3.13
333.11	3.33	14.29	15.46	33.08	46	-12.92	178	3.08
498.20	4.34	17.58	18.78	40.70	46	-5.30	321	2.54
640.46	5.04	20.06	5.74	30.84	46	-15.16	153	2.12

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)
65.72	1.54	9.85	14.13	25.52	40	-14.48	119	1.14
190.48	2.38	10.60	16.20	29.18	44	-14.32	282	1.52
289.67	3.04	12.99	17.11	33.14	46	-12.86	47	1.82
307.31	3.15	13.67	17.52	34.34	46	-11.66	160	1.87
515.45	4.43	18.11	12.72	35.26	46	-10.74	206	2.53
797.35	5.81	21.79	3.70	31.29	46	-14.71	275	3.39

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
70.33	1.56	8.40	17.58	27.54	40	-12.46	158	3.46
151.88	2.15	12.47	17.83	32.45	44	-11.05	39	3.31
187.25	2.36	10.51	18.14	31.01	44	-12.49	246	3.20
199.26	2.44	11.59	20.61	34.64	44	-8.86	189	3.15
293.38	3.07	13.15	18.19	34.41	46	-11.60	328	2.79
517.64	4.45	18.18	11.32	33.94	46	-12.06	115	2.48

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)
64.46	1.54	10.14	14.12	25.80	40	-14.20	139	1.12
190.05	2.38	10.60	15.93	28.91	44	-14.59	245	1.54
293.49	3.07	13.15	17.39	33.61	46	-12.40	314	1.85
308.60	3.16	13.69	17.09	33.94	46	-12.06	301	1.90
515.06	4.43	18.11	11.21	33.75	46	-12.25	37	2.47
794.48	5.79	21.78	4.15	31.72	46	-14.28	214	3.38

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
183.22	2.34	10.39	22.55	35.28	44	-8.22	185	3.48
191.89	2.39	10.71	21.51	34.61	44	-8.89	286	3.37
293.68	3.07	13.15	16.11	32.33	46	-13.68	336	3.15
344.29	3.41	14.56	15.75	33.71	46	-12.29	26	3.01
480.86	4.25	17.40	10.49	32.14	46	-13.86	140	2.60
515.23	4.43	18.11	12.23	34.77	46	-11.23	88	2.47

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)
64.43	1.54	10.14	15.07	26.75	40	-13.25	169	1.13
184.36	2.34	10.42	16.00	28.76	44	-14.74	262	1.45
290.38	3.05	13.00	17.87	33.92	46	-12.08	138	1.80
315.44	3.21	13.86	16.78	33.85	46	-12.16	37	1.89
369.69	3.59	15.31	18.45	37.34	46	-8.66	142	2.04
515.81	4.43	18.11	16.52	39.06	46	-6.94	246	2.52

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
151.36	2.15	12.47	16.69	31.31	44	-12.19	231	3.45
184.37	2.34	10.42	22.63	35.39	44	-8.11	54	3.30
198.38	2.44	11.48	18.75	32.67	44	-10.83	122	3.21
217.22	2.56	12.49	21.79	36.84	46	-9.16	310	3.18
286.68	3.02	12.96	18.09	34.07	46	-11.93	293	3.03
518.13	4.45	18.21	12.76	35.42	46	-10.58	142	2.44

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)
65.64	1.54	9.85	14.34	25.73	40	-14.27	265	1.12
282.92	2.99	12.92	15.55	31.46	46	-14.54	164	1.76
295.80	3.08	13.25	14.92	31.25	46	-14.76	206	1.84
315.71	3.21	13.86	17.07	34.14	46	-11.87	105	1.89
514.05	4.43	18.08	9.86	32.36	46	-13.64	297	2.51
796.46	5.80	21.78	3.24	30.83	46	-15.17	310	3.36

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
120.19	1.95	11.60	14.48	28.03	44	-15.47	31	3.48
190.06	2.38	10.60	23.03	36.01	44	-7.49	227	3.10
200.95	2.45	11.70	19.05	33.20	44	-10.30	302	3.04
275.64	2.95	12.90	15.28	31.13	46	-14.87	65	2.89
515.43	4.43	18.11	12.52	35.06	46	-10.94	125	2.51
707.67	5.36	20.31	4.07	29.74	46	-16.26	260	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)
65.07	1.54	9.85	14.08	25.47	40	-14.53	220	1.14
191.75	2.39	10.71	12.88	25.98	44	-17.52	317	1.55
291.58	3.06	13.05	15.99	32.10	46	-13.91	170	1.83
307.95	3.15	13.67	17.59	34.41	46	-11.59	27	1.89
326.47	3.28	14.12	14.98	32.39	46	-13.61	291	1.94
516.37	4.44	18.14	9.08	31.66	46	-14.34	80	2.52

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH38
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
142.28	2.09	12.42	15.14	29.65	44	-13.85	225	3.47
183.79	2.34	10.39	23.12	35.85	44	-7.65	144	3.30
192.55	2.39	10.82	20.47	33.68	44	-9.82	312	3.15
286.72	3.02	12.96	16.91	32.89	46	-13.11	80	3.03
336.30	3.35	14.36	13.78	31.50	46	-14.50	223	2.96
515.68	4.43	18.11	14.62	37.16	46	-8.84	174	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)
66.82	1.54	9.56	14.09	25.19	40	-14.81	291	1.18
289.33	3.04	12.99	16.30	32.33	46	-13.67	245	1.83
310.40	3.17	13.74	16.62	33.53	46	-12.47	335	1.89
497.69	4.34	17.57	10.57	32.48	46	-13.53	118	2.44
514.58	4.43	18.08	15.42	37.92	46	-8.08	199	2.53
797.77	5.81	21.79	4.00	31.59	46	-14.41	259	3.36

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH46
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
151.57	2.15	12.47	17.69	32.31	44	-11.19	304	3.46
184.09	2.34	10.42	19.83	32.59	44	-10.91	32	3.31
199.90	2.44	11.59	19.59	33.62	44	-9.88	170	3.25
306.73	3.14	13.64	16.97	33.76	46	-12.24	125	3.05
345.61	3.42	14.58	13.08	31.08	46	-14.93	209	2.98
512.75	4.42	18.01	9.89	32.32	46	-13.68	227	2.53

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)
64.88	1.54	10.14	13.99	25.67	40	-14.33	290	1.14
193.42	2.40	10.93	14.07	27.40	44	-16.10	115	1.52
287.11	3.03	12.97	17.13	33.13	46	-12.87	318	1.82
315.38	3.21	13.86	17.73	34.80	46	-11.21	136	1.89
364.57	3.55	15.15	10.66	29.36	46	-16.64	71	2.06
796.73	5.80	21.78	3.85	31.44	46	-14.56	238	3.39

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH38
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
142.23	2.09	12.42	16.79	31.30	44	-12.20	305	3.46
185.67	2.35	10.45	21.38	34.18	44	-9.32	166	3.30
194.92	2.41	11.04	21.91	35.36	44	-8.14	278	3.18
349.69	3.44	14.68	16.39	34.51	46	-11.49	218	3.05
483.73	4.27	17.43	11.93	33.63	46	-12.38	115	2.62
516.24	4.44	18.14	15.51	38.09	46	-7.91	96	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)
66.81	1.54	9.56	15.54	26.64	40	-13.36	55	1.13
150.37	2.14	12.50	13.64	28.28	44	-15.22	132	1.36
197.06	2.43	11.37	12.52	26.32	44	-17.18	277	1.53
290.75	3.05	13.00	16.74	32.79	46	-13.21	326	1.84
311.16	3.18	13.76	16.27	33.21	46	-12.79	187	1.88
519.60	4.46	18.25	8.60	31.30	46	-14.70	141	2.55

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH46
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
151.89	2.15	12.47	16.11	30.73	44	-12.77	141	3.48
185.78	2.35	10.45	21.46	34.26	44	-9.24	320	3.35
199.82	2.44	11.59	20.06	34.09	44	-9.41	78	3.26
280.14	2.98	12.90	18.76	34.64	46	-11.36	117	3.02
338.39	3.37	14.41	17.71	35.49	46	-10.51	338	2.99
516.46	4.44	18.14	12.50	35.08	46	-10.92	33	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)
64.10	1.54	10.14	15.51	27.19	40	-12.81	164	1.12
193.08	2.40	10.93	15.01	28.34	44	-15.16	344	1.54
306.27	3.14	13.64	17.82	34.61	46	-11.39	253	1.86
316.45	3.21	13.88	15.49	32.59	46	-13.41	78	1.90
513.21	4.42	18.04	12.75	35.21	46	-10.79	140	2.47
794.91	5.79	21.78	3.79	31.36	46	-14.64	110	3.39

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:	20 °C	Humidity:	70 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT80_CH42
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 03, 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)
184.39	2.34	10.42	19.31	32.07	44	-11.43	117	3.45
197.55	2.43	11.37	19.89	33.69	44	-9.81	209	3.41
280.72	2.98	12.90	16.79	32.67	46	-13.33	182	3.21
300.10	3.10	13.50	17.12	33.72	46	-12.28	336	3.14
348.74	3.44	14.65	16.80	34.89	46	-11.11	92	3.00
477.88	4.24	17.37	11.33	32.94	46	-13.07	127	2.68

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)
64.18	1.54	10.14	15.74	27.42	40	-12.58	47	1.14
293.75	3.07	13.15	17.96	34.18	46	-11.83	270	1.85
315.39	3.21	13.86	17.41	34.48	46	-11.53	161	1.89
495.29	4.33	17.55	11.49	33.37	46	-12.64	190	2.47
512.65	4.42	18.01	13.07	35.50	46	-10.50	328	2.52
797.49	5.81	21.79	5.87	33.46	46	-12.54	131	3.31

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 90 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH149
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
149.98	2.13	12.49	15.07	29.69	44	-13.81	126	3.47
185.76	2.35	10.45	20.59	33.39	44	-10.11	314	3.35
197.55	2.43	11.37	1.94	15.74	44	-27.76	25	3.21
312.03	3.18	13.79	19.05	36.02	46	-9.98	247	3.05
320.92	3.24	13.98	17.73	34.95	46	-11.05	306	2.98
516.44	4.44	18.14	12.15	34.73	46	-11.27	116	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)
57.09	1.51	12.26	10.70	24.47	40	-15.53	107	1.09
64.73	1.54	10.14	14.06	25.74	40	-14.26	205	1.12
79.24	1.63	7.95	15.54	25.12	40	-14.88	154	1.14
198.08	2.44	11.48	14.60	28.52	44	-14.98	274	1.53
333.15	3.33	14.29	15.92	33.54	46	-12.46	84	1.90
490.27	4.30	17.50	12.77	34.57	46	-11.43	181	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.



TEST REPORT

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH157
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
93.57	1.75	9.10	18.76	29.61	44	-13.89	104	3.48
155.31	2.18	12.35	15.09	29.62	44	-13.89	141	3.20
190.48	2.38	10.60	19.71	32.69	44	-10.81	286	3.12
196.99	2.42	11.26	21.23	34.91	44	-8.59	153	3.07
311.82	3.18	13.76	17.52	34.46	46	-11.54	172	2.76
514.50	4.43	18.08	14.18	36.68	46	-9.32	87	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)
56.12	1.51	12.58	10.59	24.68	40	-15.32	180	1.09
64.94	1.54	10.14	13.18	24.86	40	-15.14	274	1.13
79.08	1.63	7.95	16.35	25.93	40	-14.07	308	1.18
333.55	3.33	14.29	17.32	34.94	46	-11.06	146	1.90
494.47	4.32	17.54	8.27	30.13	46	-15.87	213	2.46
516.75	4.44	18.14	16.36	38.94	46	-7.06	81	2.52

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH165
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
93.18	1.75	9.10	19.76	30.61	44	-12.89	41	3.47
191.97	2.39	10.71	23.06	36.16	44	-7.34	322	3.25
198.44	2.44	11.48	23.17	37.09	44	-6.41	139	3.20
310.08	3.17	13.74	16.97	33.88	46	-12.12	257	3.10
325.73	3.28	14.10	14.56	31.94	46	-14.07	210	3.02
516.52	4.44	18.14	15.37	37.95	46	-8.05	89	2.53

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)
64.09	1.54	10.14	14.42	26.10	40	-13.90	39	1.14
79.23	1.63	7.95	16.33	25.91	40	-14.09	300	1.17
323.78	3.26	14.05	14.90	32.21	46	-13.79	214	1.92
335.41	3.35	14.34	17.19	34.88	46	-11.13	255	1.97
432.01	4.00	16.81	11.58	32.39	46	-13.61	174	2.25
514.68	4.43	18.08	11.05	33.55	46	-12.45	91	2.56

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH149
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
89.24	1.72	8.71	20.94	31.37	44	-12.13	261	3.47
192.55	2.39	10.82	21.47	34.68	44	-8.82	141	3.12
231.06	2.66	12.58	18.12	33.36	46	-12.64	337	2.98
310.12	3.17	13.74	18.99	35.90	46	-10.10	230	2.76
319.89	3.23	13.96	16.33	33.52	46	-12.48	66	2.70
514.36	4.43	18.08	13.73	36.23	46	-9.77	276	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)
58.02	1.51	11.94	12.05	25.50	40	-14.50	91	1.12
64.93	1.54	10.14	13.94	25.62	40	-14.38	266	1.16
78.57	1.62	8.00	14.69	24.31	40	-15.69	155	1.18
335.11	3.35	14.34	17.22	34.91	46	-11.10	60	1.90
496.34	4.33	17.56	9.56	31.45	46	-14.55	320	2.46
516.80	4.44	18.14	15.66	38.24	46	-7.76	212	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.



TEST REPORT

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH157
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
93.39	1.75	9.10	19.77	30.62	44	-12.88	195	3.47
149.84	2.13	12.49	16.94	31.56	44	-11.94	289	3.20
197.57	2.43	11.37	22.11	35.91	44	-7.59	39	3.05
312.94	3.18	13.79	18.33	35.30	46	-10.70	223	2.79
497.32	4.34	17.57	14.87	36.78	46	-9.22	177	2.54
516.70	4.44	18.14	12.97	35.55	46	-10.45	69	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)
58.17	1.51	11.94	12.09	25.54	40	-14.46	45	1.08
64.02	1.54	10.14	14.83	26.51	40	-13.49	97	1.12
84.63	1.68	8.26	15.62	25.56	40	-14.44	152	1.18
321.47	3.25	14.00	17.37	34.62	46	-11.38	312	1.87
338.25	3.37	14.41	16.66	34.44	46	-11.56	223	1.94
516.98	4.44	18.14	7.82	30.40	46	-15.60	297	2.55

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 95 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH165
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
70.79	1.56	8.40	17.45	27.41	40	-12.59	28	3.45
89.04	1.72	8.71	19.83	30.26	44	-13.24	155	3.38
190.91	2.38	10.60	19.68	32.66	44	-10.84	294	3.12
198.33	2.44	11.48	21.46	35.38	44	-8.12	108	3.07
310.28	3.17	13.74	16.35	33.26	46	-12.74	313	2.76
516.52	4.44	18.14	19.23	41.81	46	-4.19	283	2.53

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)
56.58	1.51	12.58	11.15	25.24	40	-14.76	336	1.09
83.99	1.67	8.17	14.36	24.20	40	-15.80	208	1.18
190.06	2.38	10.60	14.40	27.38	44	-16.12	147	1.52
318.85	3.23	13.93	15.11	32.27	46	-13.73	232	1.87
335.11	3.35	14.34	15.99	33.68	46	-12.33	65	1.96
520.42	4.46	18.28	9.97	32.71	46	-13.29	297	2.43

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH149
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
151.28	2.15	12.47	17.32	31.94	44	-11.56	132	3.47
186.94	2.36	10.48	19.41	32.25	44	-11.25	340	3.30
197.57	2.43	11.37	20.27	34.07	44	-9.43	184	3.22
208.01	2.51	11.94	18.92	33.37	44	-10.13	28	3.18
308.93	3.16	13.69	16.67	33.52	46	-12.48	163	2.97
516.42	4.44	18.14	14.53	37.11	46	-8.89	294	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)
64.40	1.54	10.14	14.90	26.58	40	-13.42	244	1.14
80.52	1.64	7.90	15.40	24.94	40	-15.06	301	1.17
297.95	3.09	13.35	16.65	33.09	46	-12.92	283	1.85
333.02	3.33	14.29	15.99	33.61	46	-12.39	111	1.90
496.67	4.33	17.56	14.82	36.71	46	-9.29	176	2.46
516.81	4.44	18.14	15.85	38.43	46	-7.57	260	2.51

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH157
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
87.91	1.70	8.53	17.44	27.67	40	-12.33	222	3.47
142.27	2.09	12.42	18.79	33.30	44	-10.20	147	3.40
188.96	2.37	10.54	19.64	32.55	44	-10.95	91	3.12
315.43	3.21	13.86	17.05	34.12	46	-11.89	167	2.75
351.08	3.46	14.73	15.03	33.22	46	-12.78	183	2.68
513.57	4.42	18.04	10.45	32.91	46	-13.09	247	2.49

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)
64.54	1.54	10.14	16.43	28.11	40	-11.89	271	1.12
84.91	1.68	8.26	22.36	32.30	40	-7.70	313	1.15
184.06	2.34	10.42	18.10	30.86	44	-12.64	244	1.48
312.20	3.18	13.79	17.85	34.82	46	-11.18	137	1.89
324.86	3.27	14.08	18.60	35.94	46	-10.06	84	1.94
499.37	4.35	17.59	13.48	35.42	46	-10.59	104	2.41

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH165
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
86.62	1.69	8.44	19.67	29.80	40	-10.20	113	3.47
142.97	2.09	12.42	18.65	33.16	44	-10.34	172	3.32
184.08	2.34	10.42	23.38	36.14	44	-7.36	267	3.20
198.11	2.44	11.48	21.16	35.08	44	-8.42	206	3.15
315.50	3.21	13.86	14.44	31.51	46	-14.50	341	2.89
353.76	3.47	14.80	14.32	32.59	46	-13.41	196	2.74

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)
57.85	1.51	12.26	14.17	27.94	40	-12.06	50	1.05
79.19	1.63	7.95	24.77	34.35	40	-5.65	288	1.16
87.23	1.70	8.53	18.50	28.73	40	-11.27	99	1.19
179.14	2.32	10.38	18.40	31.10	44	-12.41	174	1.45
308.69	3.16	13.69	18.57	35.42	46	-10.58	255	1.82
324.38	3.27	14.08	18.38	35.72	46	-10.28	126	1.93

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH151
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
84.42	1.68	8.26	21.11	31.05	40	-8.95	262	3.45
142.87	2.09	12.42	18.43	32.94	44	-10.56	89	3.27
174.19	2.29	10.78	19.93	33.00	44	-10.50	186	3.18
190.02	2.38	10.60	22.33	35.31	44	-8.19	121	3.10
313.56	3.19	13.81	16.22	33.22	46	-12.78	249	2.84
513.33	4.42	18.04	12.17	34.63	46	-11.37	106	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)
57.49	1.51	12.26	14.55	28.32	40	-11.68	135	1.06
84.16	1.68	8.26	23.84	33.78	40	-6.22	306	1.18
297.34	3.09	13.35	15.95	32.39	46	-13.62	254	1.80
311.90	3.18	13.76	18.54	35.48	46	-10.52	271	1.89
326.52	3.28	14.12	18.49	35.90	46	-10.10	194	1.94
521.77	4.47	18.31	10.08	32.86	46	-13.14	99	2.55

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH159
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
84.85	1.68	8.26	21.85	31.79	40	-8.21	180	3.45
142.03	2.09	12.42	18.20	32.71	44	-10.79	134	3.28
183.21	2.34	10.39	21.17	33.90	44	-9.60	44	3.20
192.44	2.39	10.82	20.76	33.97	44	-9.53	310	3.12
222.67	2.59	12.68	17.24	32.51	46	-13.49	181	3.05
517.15	4.45	18.18	13.81	36.43	46	-9.57	257	2.47

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)
64.31	1.54	10.14	18.25	29.93	40	-10.07	210	1.13
80.07	1.64	7.90	23.74	33.28	40	-6.72	56	1.16
87.94	1.70	8.53	18.17	28.40	40	-11.60	156	1.20
320.80	3.24	13.98	18.47	35.69	46	-10.31	325	1.91
328.12	3.30	14.17	17.34	34.81	46	-11.19	125	1.95
520.03	4.46	18.28	12.56	35.30	46	-10.70	341	2.47

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40 _CH151
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
93.36	1.75	9.10	19.49	30.34	44	-13.16	228	3.50
142.09	2.09	12.42	18.63	33.14	44	-10.36	177	3.32
148.55	2.13	12.48	16.30	30.91	44	-12.59	57	3.28
184.90	2.34	10.42	21.00	33.76	44	-9.74	280	3.21
192.23	2.39	10.82	19.83	33.04	44	-10.46	333	3.17
514.81	4.43	18.08	12.32	34.82	46	-11.18	273	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)
79.36	1.63	7.95	22.60	32.18	40	-7.82	193	1.16
84.17	1.68	8.26	23.66	33.60	40	-6.40	149	1.19
184.08	2.34	10.42	17.36	30.12	44	-13.38	81	1.46
310.92	3.17	13.74	16.55	33.46	46	-12.54	124	1.88
321.66	3.25	14.00	18.59	35.84	46	-10.16	345	1.92
519.40	4.46	18.25	8.70	31.40	46	-14.60	250	2.55

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40 _CH159
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
57.91	1.51	12.26	12.90	26.67	40	-13.33	159	3.48
87.64	1.70	8.53	18.62	28.85	40	-11.15	342	3.20
142.05	2.09	12.42	19.81	34.32	44	-9.18	223	3.17
185.88	2.35	10.45	21.11	33.91	44	-9.59	36	3.11
315.42	3.21	13.86	15.67	32.74	46	-13.27	194	2.79
353.90	3.47	14.80	12.82	31.09	46	-14.91	123	2.66

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)
64.51	1.54	10.14	17.00	28.68	40	-11.32	79	1.13
79.88	1.63	7.95	22.57	32.15	40	-7.85	217	1.16
84.30	1.68	8.26	22.92	32.86	40	-7.14	324	1.19
140.79	2.08	12.40	20.28	34.76	44	-8.74	207	1.35
310.64	3.17	13.74	17.64	34.55	46	-11.45	152	1.86
322.72	3.25	14.03	16.28	33.56	46	-12.44	89	1.90

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:	22 °C	Humidity:	62 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT80_CH155
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 26, 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)
57.60	1.51	12.26	12.49	26.26	40	-13.74	255	3.48
86.93	1.69	8.44	19.91	30.04	40	-9.96	314	3.37
142.25	2.09	12.42	19.24	33.75	44	-9.75	213	3.20
184.71	2.34	10.42	23.17	35.93	44	-7.57	162	3.11
192.42	2.39	10.82	17.49	30.70	44	-12.80	39	3.08
320.88	3.24	13.98	14.15	31.37	46	-14.63	322	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)
57.22	1.51	12.26	15.02	28.79	40	-11.21	314	1.09
73.83	1.58	8.25	21.74	31.57	40	-8.43	245	1.15
84.12	1.68	8.26	23.61	33.55	40	-6.45	285	1.20
306.96	3.14	13.64	16.24	33.03	46	-12.97	157	1.85
327.57	3.29	14.15	17.48	34.92	46	-11.08	124	1.91
515.84	4.43	18.11	12.57	35.11	46	-10.89	227	2.54

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
80.82	1.64	7.90	17.97	27.51	40	-12.49	252	3.45
184.34	2.34	10.42	23.77	36.53	44	-6.97	178	3.27
198.11	2.44	11.48	22.07	35.99	44	-7.51	311	3.21
324.90	3.27	14.08	15.76	33.10	46	-12.90	104	3.18
339.49	3.37	14.44	15.07	32.88	46	-13.12	334	3.06
516.85	4.44	18.14	6.73	29.31	46	-16.69	146	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)
65.64	1.54	9.85	18.17	29.56	40	-10.44	50	1.09
80.62	1.64	7.90	20.59	30.13	40	-9.87	236	1.53
198.50	2.44	11.48	16.66	30.58	44	-12.92	90	1.62
306.12	3.14	13.64	16.33	33.12	46	-12.88	332	1.84
338.56	3.37	14.41	16.84	34.62	46	-11.38	102	1.96
515.28	4.43	18.11	15.07	37.61	46	-8.39	135	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.



TEST REPORT

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
65.92	1.54	9.85	14.33	25.72	40	-14.28	147	3.42
78.72	1.62	8.00	18.56	28.18	40	-11.82	41	3.30
179.18	2.32	10.38	24.31	37.01	44	-6.50	95	3.25
200.78	2.45	11.70	21.75	35.90	44	-7.60	261	3.16
331.96	3.32	14.24	15.27	32.83	46	-13.17	333	3.05
516.69	4.44	18.14	12.03	34.61	46	-11.39	120	2.49

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)
33.19	1.29	23.47	3.51	28.27	40	-11.73	217	1.01
64.07	1.54	10.14	18.75	30.43	40	-9.57	187	1.11
80.74	1.64	7.90	19.57	29.11	40	-10.89	311	1.16
200.81	2.45	11.70	16.94	31.09	44	-12.41	240	1.53
306.69	3.14	13.64	18.14	34.93	46	-11.07	63	1.86
517.16	4.45	18.18	6.63	29.25	46	-16.75	110	2.51

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
64.03	1.54	10.14	16.25	27.93	40	-12.07	105	3.47
182.63	2.33	10.36	24.64	37.33	44	-6.17	242	3.05
198.59	2.44	11.48	22.79	36.71	44	-6.79	166	2.98
214.47	2.54	12.28	17.24	32.06	44	-11.44	337	2.94
329.27	3.30	14.20	15.64	33.14	46	-12.86	206	2.86
516.30	4.44	18.14	11.31	33.89	46	-12.11	37	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)
33.22	1.29	23.47	3.62	28.38	40	-11.62	291	1.03
66.37	1.54	9.56	20.07	31.17	40	-8.83	201	1.12
86.78	1.69	8.44	19.65	29.78	40	-10.22	317	1.19
199.11	2.44	11.59	18.98	33.01	44	-10.49	30	1.53
307.89	3.15	13.67	16.92	33.74	46	-12.26	120	1.84
514.32	4.43	18.08	14.43	36.93	46	-9.07	167	2.51

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
173.79	2.29	10.86	19.49	32.64	44	-10.87	26	3.49
185.71	2.35	10.45	24.38	37.18	44	-6.32	335	3.38
200.07	2.45	11.70	21.75	35.90	44	-7.60	191	3.26
215.76	2.55	12.35	17.55	32.45	44	-11.05	77	2.20
325.77	3.28	14.10	16.24	33.62	46	-12.39	38	3.11
514.25	4.43	18.08	11.83	34.33	46	-11.67	266	2.53

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)
33.11	1.29	23.47	3.77	28.53	40	-11.47	252	1.02
64.55	1.54	10.14	17.66	29.34	40	-10.66	156	1.14
81.30	1.65	7.99	19.04	28.68	40	-11.32	53	1.15
307.45	3.15	13.67	17.40	34.22	46	-11.78	337	1.89
339.06	3.37	14.44	15.15	32.96	46	-13.04	170	1.93
514.47	4.43	18.08	13.63	36.13	46	-9.87	288	2.55

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
64.09	1.54	10.14	15.69	27.37	40	-12.63	69	3.48
79.74	1.63	7.95	18.80	28.38	40	-11.62	314	3.42
180.23	2.32	10.30	23.63	36.25	44	-7.25	248	3.15
199.65	2.44	11.59	24.10	38.13	44	-5.37	113	3.09
208.04	2.51	11.94	18.70	33.15	44	-10.35	267	3.03
514.11	4.43	18.08	14.10	36.60	46	-9.40	55	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)
64.36	1.54	10.14	19.43	31.11	40	-8.89	241	1.12
79.88	1.63	7.95	18.64	28.22	40	-11.78	67	1.16
198.18	2.44	11.48	16.65	30.57	44	-12.93	122	1.53
294.66	3.07	13.20	16.60	32.87	46	-13.13	207	1.86
307.48	3.15	13.67	17.21	34.03	46	-11.97	311	1.89
336.86	3.35	14.36	16.24	33.96	46	-12.04	182	1.97

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
64.88	1.54	10.14	16.06	27.74	40	-12.26	119	3.47
77.36	1.62	8.05	16.40	26.07	40	-13.93	324	3.45
181.68	2.33	10.33	24.98	37.64	44	-5.86	272	3.18
200.74	2.45	11.70	25.74	39.89	44	-3.61	71	3.06
318.67	3.23	13.93	15.19	32.35	46	-13.65	232	2.78
331.16	3.32	14.24	16.16	33.72	46	-12.28	151	2.71

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)
68.94	1.55	8.98	23.56	34.09	40	-5.91	313	1.14
80.11	1.64	7.90	19.26	28.80	40	-11.20	29	1.16
199.07	2.44	11.59	17.31	31.34	44	-12.16	184	1.53
292.68	3.06	13.10	15.33	31.49	46	-14.51	122	1.82
306.80	3.14	13.64	17.97	34.76	46	-11.24	327	1.89
334.40	3.34	14.32	15.14	32.79	46	-13.21	252	1.96

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
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FCC ID : ZME-MLWG3
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Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH36
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
64.94	1.54	10.14	15.89	27.57	40	-12.43	116	3.47
79.37	1.63	7.95	19.21	28.79	40	-11.21	163	3.42
178.57	2.31	10.46	21.88	34.65	44	-8.85	305	3.13
191.68	2.39	10.71	24.26	37.36	44	-6.14	80	3.10
198.16	2.44	11.48	23.06	36.98	44	-6.52	264	3.06
517.58	4.45	18.18	12.43	35.05	46	-10.95	26	2.50

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)
64.24	1.54	10.14	19.39	31.07	40	-8.93	60	1.12
80.11	1.64	7.90	19.82	29.36	40	-10.64	143	1.16
197.67	2.43	11.37	17.31	31.11	44	-12.39	275	1.53
301.10	3.11	13.52	18.02	34.65	46	-11.35	338	1.87
327.23	3.29	14.15	15.67	33.11	46	-12.89	107	1.95
515.22	4.43	18.11	13.84	36.38	46	-9.62	312	2.51

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH40
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
62.91	1.53	10.72	15.31	27.56	40	-12.44	334	3.50
175.81	2.30	10.70	20.67	33.67	44	-9.84	275	3.32
180.86	2.32	10.30	23.33	35.95	44	-7.55	70	3.27
198.97	2.44	11.48	22.63	36.55	44	-6.95	153	3.24
208.05	2.51	11.94	19.95	34.40	44	-9.10	245	3.05
335.25	3.35	14.34	16.28	33.97	46	-12.04	120	2.78

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)
52.97	1.50	13.86	19.28	34.64	40	-5.36	269	1.09
65.28	1.54	9.85	20.15	31.54	40	-8.46	315	1.12
80.77	1.64	7.90	20.06	29.60	40	-10.40	137	1.17
306.65	3.14	13.64	16.66	33.45	46	-12.55	112	1.88
340.36	3.38	14.46	14.87	32.71	46	-13.29	245	1.94
516.90	4.44	18.14	16.89	39.47	46	-6.53	70	2.55

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH48
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
64.75	1.54	10.14	16.38	28.06	40	-11.94	48	3.47
78.65	1.62	8.00	17.83	27.45	40	-12.55	208	3.42
179.61	2.32	10.38	24.67	37.37	44	-6.14	305	3.15
199.14	2.44	11.59	22.83	36.86	44	-6.64	139	3.08
515.63	4.43	18.11	15.31	37.85	46	-8.15	219	2.51
659.95	5.13	20.18	11.11	36.42	46	-9.58	37	2.06

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)
64.26	1.54	10.14	19.35	31.03	40	-8.97	65	1.12
81.53	1.65	7.99	18.73	28.37	40	-11.63	188	1.17
198.96	2.44	11.48	14.94	28.86	44	-14.64	212	1.54
306.55	3.14	13.64	18.01	34.80	46	-11.20	300	1.86
335.41	3.35	14.34	15.72	33.41	46	-12.60	253	1.93
517.66	4.45	18.18	9.93	32.55	46	-13.45	55	2.55

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH38
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
65.96	1.54	9.85	14.83	26.22	40	-13.78	111	3.48
78.17	1.62	8.00	19.57	29.19	40	-10.81	289	3.24
180.71	2.32	10.30	21.97	34.59	44	-8.91	56	3.15
198.30	2.44	11.48	22.65	36.57	44	-6.93	318	3.09
208.11	2.51	11.94	17.55	32.00	44	-11.50	137	3.06
516.13	4.44	18.14	13.01	35.59	46	-10.41	282	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)
65.49	1.54	9.85	18.26	29.65	40	-10.35	93	1.12
79.22	1.63	7.95	18.79	28.37	40	-11.63	251	1.14
200.26	2.45	11.70	16.85	31.00	44	-12.50	209	1.56
301.27	3.11	13.52	18.27	34.90	46	-11.10	118	1.87
337.61	3.36	14.39	14.65	32.40	46	-13.60	324	1.94
797.39	5.81	21.79	5.94	33.53	46	-12.47	197	3.35

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:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH46
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
79.59	1.63	7.95	17.96	27.54	40	-12.46	332	3.46
181.84	2.33	10.33	23.42	36.08	44	-7.42	147	3.15
199.28	2.44	11.59	24.35	38.38	44	-5.12	207	3.09
212.17	2.53	12.14	18.46	33.13	44	-10.37	284	3.03
330.11	3.31	14.22	15.74	33.27	46	-12.73	70	3.01
516.44	4.44	18.14	11.04	33.62	46	-12.38	245	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)
64.66	1.54	10.14	19.51	31.19	40	-8.81	307	1.13
80.55	1.64	7.90	20.04	29.58	40	-10.42	65	1.17
199.75	2.44	11.59	17.75	31.78	44	-11.72	329	1.54
301.11	3.11	13.52	16.47	33.10	46	-12.90	246	1.85
312.39	3.18	13.79	15.62	32.59	46	-13.41	25	1.89
514.83	4.43	18.08	17.00	39.50	46	-6.50	219	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.



TEST REPORT

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH38
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
79.51	1.63	7.95	17.82	27.40	40	-12.60	96	3.44
165.66	2.24	11.65	17.99	31.88	44	-11.62	300	3.18
187.11	2.36	10.51	24.79	37.66	44	-5.84	149	3.11
200.44	2.45	11.70	22.89	37.04	44	-6.46	42	3.03
330.24	3.31	14.22	17.27	34.80	46	-11.20	170	3.01
516.42	4.44	18.14	12.85	35.43	46	-10.57	314	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)
61.81	1.52	11.01	18.89	31.42	40	-8.58	29	1.12
80.63	1.64	7.90	18.01	27.55	40	-12.45	179	1.15
120.53	1.95	11.60	16.69	30.24	44	-13.26	281	1.29
197.32	2.43	11.37	18.16	31.96	44	-11.54	328	1.53
308.67	3.16	13.69	18.26	35.11	46	-10.89	115	1.87
343.28	3.40	14.53	14.24	32.17	46	-13.83	200	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH46
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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	14.54	27.68	40	-12.32	335	3.48
80.05	1.64	7.90	17.22	26.76	40	-13.24	75	3.32
188.75	2.37	10.54	24.75	37.66	44	-5.84	284	3.02
197.87	2.43	11.37	23.10	36.90	44	-6.60	157	2.98
329.86	3.30	14.20	15.80	33.30	46	-12.70	93	2.86
518.23	4.45	18.21	9.90	32.56	46	-13.44	176	2.47

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)
65.41	1.54	9.85	20.40	31.79	40	-8.21	140	1.12
80.34	1.64	7.90	19.14	28.68	40	-11.32	250	1.14
199.04	2.44	11.59	17.64	31.67	44	-11.83	332	1.53
308.59	3.16	13.69	19.56	36.41	46	-9.59	102	1.85
337.63	3.36	14.39	16.11	33.86	46	-12.14	79	1.96
513.18	4.42	18.04	13.93	36.39	46	-9.61	219	2.41

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	65 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT80_CH42
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Richard Lin	Tested Date:	Dec. 02, 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)
60.74	1.52	11.30	15.88	28.70	40	-11.30	262	3.48
177.30	2.31	10.54	22.82	35.67	44	-7.84	101	3.15
200.16	2.45	11.70	22.99	37.14	44	-6.36	327	3.08
214.72	2.54	12.28	19.45	34.27	44	-9.23	36	3.01
330.45	3.31	14.22	18.42	35.95	46	-10.05	225	2.76
517.83	4.45	18.18	16.21	38.83	46	-7.17	88	2.47

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)
64.65	1.54	10.14	19.39	31.07	40	-8.93	175	1.12
81.64	1.65	7.99	19.74	29.38	40	-10.62	81	1.15
198.80	2.44	11.48	17.13	31.05	44	-12.45	292	1.53
308.34	3.16	13.69	17.63	34.48	46	-11.52	131	1.84
346.54	3.42	14.60	14.33	32.36	46	-13.64	342	1.99
514.72	4.43	18.08	13.75	36.25	46	-9.75	141	2.51

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_5.8G 802.11a_CH149
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)
79.40	1.63	7.95	19.54	29.12	40	-10.88	225	3.63
179.81	2.32	10.38	24.40	37.10	44	-6.41	62	3.51
187.34	2.36	10.51	25.23	38.10	44	-5.40	144	3.39
197.27	2.43	11.37	23.91	37.71	44	-5.79	73	3.24
327.06	3.29	14.15	16.88	34.32	46	-11.68	240	3.09
517.93	4.45	18.18	9.93	32.55	46	-13.45	61	2.48

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)
58.42	1.51	11.94	16.42	29.87	40	-10.13	82	1.07
78.79	1.62	8.00	19.02	28.64	40	-11.36	297	1.16
198.03	2.44	11.48	16.83	30.75	44	-12.75	54	1.53
314.22	3.20	13.84	16.54	33.57	46	-12.43	102	1.87
336.81	3.35	14.36	16.01	33.73	46	-12.27	350	1.99
514.98	4.43	18.08	18.51	41.01	46	-4.99	178	2.41

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_5.8G 802.11a_CH157
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)
78.34	1.62	8.00	18.69	28.31	40	-11.69	115	3.65
179.51	2.32	10.38	23.30	36.00	44	-7.51	72	3.51
197.39	2.43	11.37	23.92	37.72	44	-5.78	93	3.42
206.17	2.49	11.88	18.83	33.20	44	-10.30	237	3.27
318.92	3.23	13.93	17.59	34.75	46	-11.25	145	3.10
330.64	3.31	14.22	16.60	34.13	46	-11.87	344	2.95

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)
56.98	1.51	12.58	15.69	29.78	40	-10.22	201	1.09
79.13	1.63	7.95	19.47	29.05	40	-10.95	38	1.14
198.52	2.44	11.48	17.02	30.94	44	-12.56	98	1.53
294.66	3.07	13.20	15.62	31.89	46	-14.11	144	1.86
325.48	3.28	14.10	16.14	33.52	46	-12.49	267	1.94
792.57	5.78	21.77	4.78	32.33	46	-13.67	180	3.15

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_5.8G 802.11a_CH165
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)
78.71	1.62	8.00	19.42	29.04	40	-10.96	330	3.55
153.94	2.16	12.41	16.70	31.27	44	-12.23	179	3.41
175.03	2.30	10.70	25.03	38.03	44	-5.48	54	3.29
190.55	2.38	10.60	25.95	38.93	44	-4.57	65	3.17
198.87	2.44	11.48	23.79	37.71	44	-5.79	242	3.02
210.14	2.52	12.00	18.57	33.09	44	-10.41	140	2.81

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)
32.08	1.26	24.08	4.64	29.98	40	-10.02	188	1.05
56.55	1.51	12.58	14.46	28.55	40	-11.45	90	1.18
82.82	1.66	8.08	19.13	28.87	40	-11.13	35	1.34
198.30	2.44	11.48	17.21	31.13	44	-12.37	346	1.54
339.15	3.37	14.44	15.79	33.60	46	-12.40	89	1.98
513.27	4.42	18.04	13.22	35.68	46	-10.32	162	2.40

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_5.8G 802.11n - HT20_CH149
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)
56.53	1.51	12.58	12.30	26.39	40	-13.61	119	3.62
77.01	1.62	8.05	18.25	27.92	40	-12.08	46	3.55
183.96	2.34	10.39	24.53	37.26	44	-6.24	245	3.39
198.45	2.44	11.48	24.01	37.93	44	-5.57	34	3.21
315.28	3.21	13.86	16.25	33.32	46	-12.69	278	3.15
327.73	3.29	14.15	16.04	33.48	46	-12.52	137	2.97

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)
32.76	1.26	24.08	3.75	29.09	40	-10.91	67	1.04
56.93	1.51	12.58	15.64	29.73	40	-10.27	331	1.09
84.57	1.68	8.26	18.47	28.41	40	-11.59	259	1.19
198.02	2.44	11.48	18.08	32.00	44	-11.50	41	1.53
339.85	3.37	14.44	15.87	33.68	46	-12.32	129	1.97
463.31	4.17	17.23	15.31	36.71	46	-9.29	314	2.30

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_5.8G 802.11n - HT20_CH157
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)
76.94	1.61	8.10	19.15	28.86	40	-11.14	175	3.61
176.19	2.30	10.62	21.69	34.61	44	-8.89	303	3.52
197.35	2.43	11.37	24.35	38.15	44	-5.35	74	3.47
208.50	2.51	11.94	19.27	33.72	44	-9.78	140	3.38
317.27	3.22	13.91	16.51	33.64	46	-12.36	249	3.10
332.69	3.32	14.27	16.50	34.09	46	-11.91	159	2.98

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)
32.14	1.26	24.08	3.84	29.18	40	-10.82	67	1.02
56.52	1.51	12.58	15.69	29.78	40	-10.22	338	1.13
79.94	1.63	7.95	19.41	28.99	40	-11.01	57	1.27
316.38	3.21	13.88	16.52	33.62	46	-12.38	146	1.68
338.06	3.37	14.41	16.35	34.13	46	-11.87	284	1.92
517.87	4.45	18.18	11.09	33.71	46	-12.29	301	2.50

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_5.8G 802.11n - HT20_CH165
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)
78.68	1.62	8.00	19.61	29.23	40	-10.77	128	3.65
178.95	2.31	10.46	26.17	38.94	44	-4.56	46	3.52
198.13	2.44	11.48	24.69	38.61	44	-4.89	54	3.39
315.42	3.21	13.86	16.56	33.63	46	-12.38	244	3.12
329.88	3.30	14.20	17.99	35.49	46	-10.51	150	3.03
514.31	4.43	18.08	15.06	37.56	46	-8.44	197	2.62

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)
32.29	1.26	24.08	3.91	29.25	40	-10.75	318	1.04
56.08	1.51	12.58	14.32	28.41	40	-11.59	90	1.18
79.33	1.63	7.95	20.90	30.48	40	-9.52	178	1.29
197.24	2.43	11.37	17.33	31.13	44	-12.37	294	1.51
328.10	3.30	14.17	16.70	34.17	46	-11.83	257	1.89
514.43	4.43	18.08	10.48	32.98	46	-13.02	160	2.48

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_5.8G 802.11ac - HT20_CH149
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)
78.51	1.62	8.00	19.10	28.72	40	-11.28	197	3.60
176.94	2.30	10.62	23.79	36.71	44	-6.79	340	3.49
187.22	2.36	10.51	24.92	37.79	44	-5.71	154	3.38
198.48	2.44	11.48	23.36	37.28	44	-6.22	72	3.31
332.15	3.32	14.27	16.52	34.11	46	-11.89	151	3.02
515.06	4.43	18.11	18.96	41.50	46	-4.50	278	2.60

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)
60.58	1.52	11.30	16.84	29.66	40	-10.34	93	1.10
79.21	1.63	7.95	19.47	29.05	40	-10.95	57	1.23
197.04	2.43	11.37	16.98	30.78	44	-12.72	229	1.52
289.93	3.04	12.99	16.82	32.85	46	-13.15	65	1.75
301.55	3.11	13.52	16.26	32.89	46	-13.11	108	1.89
338.86	3.37	14.41	16.86	34.64	46	-11.36	267	2.01

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_5.8G 802.11ac - HT20_CH157
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)
56.75	1.51	12.58	13.13	27.22	40	-12.78	179	3.63
78.94	1.62	8.00	19.50	29.12	40	-10.88	320	3.58
184.03	2.34	10.42	24.51	37.27	44	-6.23	105	3.37
197.15	2.43	11.37	24.53	38.33	44	-5.17	74	3.21
320.29	3.24	13.98	16.19	33.41	46	-12.59	148	3.00
513.88	4.42	18.04	12.20	34.66	46	-11.34	61	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)
32.94	1.26	24.08	5.51	30.85	40	-9.15	318	1.10
57.38	1.51	12.26	15.73	29.50	40	-10.50	91	1.23
79.12	1.63	7.95	20.04	29.62	40	-10.38	224	1.39
197.08	2.43	11.37	17.37	31.17	44	-12.33	142	1.51
339.51	3.37	14.44	15.90	33.71	46	-12.29	349	1.97
516.77	4.44	18.14	11.96	34.54	46	-11.46	160	2.42

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_5.8G 802.11ac - HT20_CH165
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)
57.56	1.51	12.26	13.02	26.79	40	-13.21	135	3.64
73.93	1.58	8.25	18.13	27.96	40	-12.04	82	3.58
164.17	2.23	11.76	17.72	31.71	44	-11.79	239	3.39
181.25	2.33	10.33	24.05	36.71	44	-6.79	61	3.01
192.81	2.39	10.82	24.99	38.20	44	-5.30	74	2.97
330.05	3.31	14.22	16.22	33.75	46	-12.25	155	2.66

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)
60.22	1.52	11.30	16.75	29.57	40	-10.43	333	1.08
79.78	1.63	7.95	19.64	29.22	40	-10.78	230	1.16
197.95	2.43	11.37	17.36	31.16	44	-12.34	127	1.53
296.39	3.08	13.30	16.73	33.11	46	-12.89	56	1.84
327.68	3.29	14.15	16.01	33.45	46	-12.55	129	1.99
513.40	4.42	18.04	10.53	32.99	46	-13.01	63	2.47

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:	24 °C	Humidity:	61 %RH
Frequency Range:	30 M – 1 GHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT40_CH151
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)
58.29	1.51	11.94	15.21	28.66	40	-11.34	201	3.62
78.03	1.62	8.00	18.33	27.95	40	-12.05	329	3.54
173.55	2.29	10.86	20.29	33.44	44	-10.07	48	3.39
182.94	2.33	10.36	25.92	38.61	44	-4.89	154	3.12
197.15	2.43	11.37	24.49	38.29	44	-5.21	177	3.04
211.68	2.53	12.07	17.45	32.05	44	-11.45	89	2.95

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)
32.49	1.26	24.08	3.79	29.13	40	-10.87	127	1.02
56.78	1.51	12.58	15.67	29.76	40	-10.24	335	1.13
79.22	1.63	7.95	20.09	29.67	40	-10.33	68	1.22
198.35	2.44	11.48	17.62	31.54	44	-11.96	149	1.54
294.53	3.07	13.20	17.15	33.42	46	-12.58	97	1.81
334.19	3.34	14.32	16.05	33.70	46	-12.30	152	1.97

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_5.8G 802.11n - HT40_CH159
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)
59.79	1.52	11.62	12.90	26.04	40	-13.96	218	3.66
74.04	1.59	8.20	17.98	27.77	40	-12.23	326	3.57
177.95	2.31	10.54	24.52	37.37	44	-6.14	92	3.37
197.06	2.43	11.37	25.81	39.61	44	-3.89	345	3.22
321.32	3.25	14.00	16.35	33.60	46	-12.40	142	2.98
515.88	4.43	18.11	12.12	34.66	46	-11.34	74	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)
31.96	1.24	24.69	4.75	30.68	40	-9.32	118	1.03
59.12	1.52	11.62	16.51	29.65	40	-10.35	62	1.14
79.49	1.63	7.95	20.50	30.08	40	-9.92	238	1.28
305.14	3.14	13.62	17.97	34.73	46	-11.28	140	1.78
335.99	3.35	14.34	16.58	34.27	46	-11.74	195	1.94
515.28	4.43	18.11	14.86	37.40	46	-8.60	167	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
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_5.8G 802.11ac - HT40_CH151
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)
78.23	1.62	8.00	20.36	29.98	40	-10.02	58	3.55
175.95	2.30	10.70	23.06	36.06	44	-7.45	143	3.39
190.38	2.38	10.60	24.21	37.19	44	-6.31	344	3.31
198.06	2.44	11.48	25.36	39.28	44	-4.22	275	3.17
210.17	2.52	12.00	18.09	32.61	44	-10.89	80	3.02
327.44	3.29	14.15	16.62	34.06	46	-11.94	140	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)
32.26	1.26	24.08	4.75	30.09	40	-9.91	217	1.03
58.51	1.51	11.94	16.04	29.49	40	-10.51	62	1.12
79.89	1.63	7.95	20.09	29.67	40	-10.33	98	1.28
197.46	2.43	11.37	17.62	31.42	44	-12.08	245	1.51
306.32	3.14	13.64	17.86	34.65	46	-11.35	38	1.82
334.95	3.34	14.32	16.19	33.84	46	-12.16	155	1.99

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_5.8G 802.11ac - HT40_CH159
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	19.03	28.65	40	-11.35	108	3.65
164.24	2.23	11.76	16.39	30.38	44	-13.12	63	3.52
182.10	2.33	10.36	25.47	38.16	44	-5.34	271	3.34
198.83	2.44	11.48	25.18	39.10	44	-4.40	85	3.19
319.97	3.23	13.96	15.64	32.83	46	-13.17	167	3.02
332.58	3.32	14.27	16.45	34.04	46	-11.96	50	2.87

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)
31.94	1.24	24.69	4.68	30.61	40	-9.39	328	1.03
60.47	1.52	11.30	16.47	29.29	40	-10.71	73	1.12
79.12	1.63	7.95	20.20	29.78	40	-10.22	118	1.37
198.08	2.44	11.48	17.83	31.75	44	-11.75	57	1.54
306.92	3.14	13.64	17.84	34.63	46	-11.37	124	1.89
513.55	4.42	18.04	14.65	37.11	46	-8.89	102	2.33

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_5.8G 802.11ac – HT80_CH155
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)
58.67	1.51	11.94	13.54	26.99	40	-13.01	204	3.62
77.91	1.62	8.05	18.55	28.22	40	-11.78	156	3.51
185.20	2.35	10.45	25.53	38.33	44	-5.17	84	3.39
198.48	2.44	11.48	24.89	38.81	44	-4.69	144	3.12
319.37	3.23	13.96	16.68	33.87	46	-12.13	249	3.02
333.06	3.33	14.29	16.42	34.04	46	-11.96	50	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)
31.86	1.24	24.69	4.54	30.47	40	-9.53	119	1.04
58.12	1.51	11.94	17.14	30.59	40	-9.41	323	1.15
82.07	1.66	8.08	19.70	29.44	40	-10.56	78	1.22
307.94	3.15	13.67	17.81	34.63	46	-11.37	169	1.79
328.71	3.30	14.17	17.21	34.68	46	-11.32	250	1.91
513.99	4.42	18.04	17.85	40.31	46	-5.69	192	2.51

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2610.85	-30.84	28.62	45.60	36.14	43.38	33.92	74	54	-30.62	-20.08	328	2.04
3236.94	-30.29	30.52	45.62	36.39	45.86	36.63	74	54	-28.14	-17.37	212	1.85
3841.27	-29.28	31.82	44.50	35.22	47.04	37.76	74	54	-26.96	-16.24	149	1.83
4290.24	-28.68	32.20	43.97	34.79	47.49	38.31	74	54	-26.51	-15.69	36	1.50
4585.69	-28.37	32.40	43.71	33.79	47.74	37.82	74	54	-26.26	-16.18	125	1.43
5474.86	-26.68	33.78	41.88	31.36	48.98	38.46	74	54	-25.02	-15.54	191	1.17

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.		
2250.64	-31.19	27.90	45.71	35.07	42.42	31.78	74	54	-31.58	-22.22	340	1.39
3030.60	-30.57	30.15	46.04	35.87	45.62	35.45	74	54	-28.38	-18.55	118	1.60
3909.11	-29.14	31.98	44.66	33.95	47.50	36.79	74	54	-26.50	-17.21	88	1.88
4549.03	-28.41	32.32	43.55	32.67	47.45	36.57	74	54	-26.55	-17.43	217	2.07
5091.68	-27.66	33.47	43.39	33.06	49.21	38.88	74	54	-24.79	-15.12	186	2.22
5541.50	-26.67	33.80	41.51	30.23	48.64	37.36	74	54	-25.36	-16.64	266	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11a_CH36
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5180.00 (F)	-27.43	33.54	78.22	67.73	84.33	73.84	114	94	-29.67	-20.16	53	1.42
10360.00	-24.41	38.14	36.43	27.24	50.16	40.97	74	54	-23.84	-13.03	265	1.54
15540.00	-20.17	37.88	30.13	20.31	47.84	38.02	74	54	-26.16	-15.98	199	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.		
5180.00 (F)	-27.43	33.54	79.03	69.64	85.14	75.75	114	94	-28.86	-18.25	244	1.47
10360.00	-24.41	38.14	39.57	27.13	53.30	40.86	74	54	-20.70	-13.14	43	1.53
15540.00	-20.17	37.88	31.47	20.28	49.18	37.99	74	54	-24.82	-16.01	119	1.61

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2614.78	-30.83	28.63	45.42	33.94	43.22	31.74	74	54	-30.78	-22.26	183	2.05
3010.81	-30.60	30.12	45.89	35.32	45.41	34.84	74	54	-28.59	-19.16	299	1.91
3876.83	-29.21	31.90	44.45	34.07	47.14	36.76	74	54	-26.86	-17.24	210	1.63
4409.53	-28.56	32.20	44.06	33.48	47.70	37.12	74	54	-26.30	-16.88	123	1.49
4940.42	-27.96	33.26	42.63	32.34	47.93	37.64	74	54	-26.07	-16.36	52	1.35
5565.76	-26.70	33.80	41.36	30.22	48.46	37.32	74	54	-25.54	-16.68	199	1.12

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.		
2440.04	-30.97	28.13	45.38	34.04	42.54	31.20	74	54	-31.46	-22.80	42	1.41
2624.39	-30.83	28.67	44.79	34.05	42.63	31.89	74	54	-31.37	-22.11	261	1.50
3441.75	-30.01	30.89	45.05	35.24	45.93	36.12	74	54	-28.07	-17.88	342	1.74
3800.13	-29.35	31.72	43.91	33.18	46.28	35.55	74	54	-27.72	-18.45	154	1.85
4870.07	-28.04	33.09	43.55	32.82	48.60	37.87	74	54	-25.40	-16.13	211	2.13
5531.44	-26.65	33.80	40.83	30.19	47.98	37.34	74	54	-26.02	-16.66	79	2.37

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11a_CH40
(Fundamental and
Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5200.00 (F)	-27.38	33.56	78.11	68.30	84.29	74.48	114	94	-29.71	-19.52	250	1.50
10400.00	-24.39	38.16	36.37	26.97	50.14	40.74	74	54	-23.86	-13.26	177	1.52
15600.00	-20.18	37.86	32.44	20.95	50.12	38.63	74	54	-23.88	-15.37	182	1.42

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.		
5200.00 (F)	-27.38	33.56	78.81	67.22	84.99	73.40	114	94	-29.01	-20.60	42	1.47
10400.00	-24.39	38.16	37.58	26.81	51.35	40.58	74	54	-22.65	-13.42	241	1.55
15600.00	-20.18	37.86	30.22	20.67	47.90	38.35	74	54	-26.10	-15.65	327	1.44

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11a_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2725.87	-30.77	29.06	45.20	36.15	43.49	34.44	74	54	-30.51	-19.56	110	1.99
3165.78	-30.39	30.40	45.12	34.90	45.13	34.91	74	54	-28.87	-19.09	185	1.84
3545.61	-29.84	31.11	44.27	34.84	45.53	36.10	74	54	-28.47	-17.90	200	1.75
4269.20	-28.70	32.20	43.07	33.23	46.57	36.73	74	54	-27.43	-17.27	333	1.51
5066.75	-27.72	33.45	42.41	31.09	48.14	36.82	74	54	-25.86	-17.18	106	1.26
5775.30	-26.99	33.80	40.88	29.65	47.69	36.46	74	54	-26.31	-17.54	54	1.05

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.		
3015.63	-30.59	30.13	44.54	33.97	44.08	33.51	74	54	-29.92	-20.49	68	1.62
3355.46	-30.13	30.74	44.93	35.75	45.54	36.36	74	54	-28.46	-17.64	320	1.73
3914.90	-29.14	31.99	44.11	34.95	46.97	37.81	74	54	-27.03	-16.19	267	1.88
4251.21	-28.72	32.20	43.85	34.80	47.33	38.28	74	54	-26.67	-15.72	141	1.99
4984.89	-27.91	33.36	41.57	30.10	47.02	35.55	74	54	-26.98	-18.45	233	2.22
5554.88	-26.68	33.80	41.03	30.46	48.15	37.58	74	54	-25.85	-16.42	176	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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11a_CH48
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5240.00 (F)	-27.28	33.59	76.87	67.54	83.19	73.86	114	94	-30.81	-20.14	300	1.53
10480.00	-24.35	38.19	35.33	26.79	49.17	40.63	74	54	-24.83	-13.37	242	1.48
15720.00	-20.19	37.81	31.12	20.03	48.74	37.65	74	54	-25.26	-16.35	132	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.		
5240.00 (F)	-27.28	33.59	75.28	63.45	81.60	69.77	114	94	-32.40	-24.23	63	1.48
10480.00	-24.35	38.19	37.41	26.51	51.25	40.35	74	54	-22.75	-13.65	197	1.51
15720.00	-20.19	37.81	30.50	20.19	48.12	37.81	74	54	-25.88	-16.19	247	1.42

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2529.61	-30.88	28.31	44.55	33.14	41.98	30.57	74	54	-32.02	-23.43	286	2.05
3115.17	-30.45	30.31	45.19	33.77	45.04	33.62	74	54	-28.96	-20.38	150	1.88
3715.09	-29.52	31.52	43.87	31.94	45.87	33.94	74	54	-28.13	-20.06	49	1.67
4236.45	-28.73	32.20	43.73	32.95	47.20	36.42	74	54	-26.80	-17.58	78	1.54
4419.95	-28.55	32.20	43.58	33.19	47.23	36.84	74	54	-26.77	-17.16	184	1.43
5724.91	-26.92	33.80	41.38	31.02	48.26	37.90	74	54	-25.74	-16.10	317	1.09

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.		
3084.12	-30.50	30.25	44.71	34.02	44.47	33.78	74	54	-29.53	-20.22	86	1.61
3305.54	-30.20	30.65	44.07	34.05	44.52	34.50	74	54	-29.48	-19.50	177	1.68
3804.35	-29.35	31.73	43.85	33.49	46.23	35.87	74	54	-27.77	-18.13	194	1.85
4705.38	-28.23	32.69	42.64	32.70	47.10	37.16	74	54	-26.90	-16.84	334	2.12
5365.42	-26.96	33.69	41.47	31.11	48.21	37.85	74	54	-25.79	-16.15	122	2.30
5769.67	-26.98	33.80	41.11	30.21	47.93	37.03	74	54	-26.07	-16.97	215	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11n - HT20_CH36
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5180.00 (F)	-27.43	33.54	77.28	67.11	83.39	73.22	114	94	-30.61	-20.78	211	1.42
10360.00	-24.41	38.14	38.17	26.71	51.90	40.44	74	54	-22.10	-13.56	158	1.39
15540.00	-20.17	37.88	31.83	20.34	49.54	38.05	74	54	-24.46	-15.95	199	1.45

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.		
5180.00 (F)	-27.43	33.54	77.38	65.41	83.49	71.52	114	94	-30.51	-22.48	342	1.46
10360.00	-24.41	38.14	38.73	27.09	52.46	40.82	74	54	-21.54	-13.18	117	1.41
15540.00	-20.17	37.88	30.88	20.28	48.59	37.99	74	54	-25.41	-16.01	80	1.37

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2819.26	-30.71	29.41	45.23	35.43	43.93	34.13	74	54	-30.07	-19.87	91	1.96
3155.23	-30.40	30.38	44.82	34.17	44.80	34.15	74	54	-29.20	-19.85	311	1.84
3780.10	-29.39	31.67	44.03	33.82	46.31	36.10	74	54	-27.69	-17.90	118	1.65
4081.33	-28.89	32.20	43.26	32.74	46.57	36.05	74	54	-27.43	-17.95	37	1.57
4559.81	-28.40	32.34	42.85	31.68	46.79	35.62	74	54	-27.21	-18.38	264	1.41
5776.19	-26.99	33.80	41.17	31.42	47.98	38.23	74	54	-26.02	-15.77	120	1.09

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.		
2609.65	-30.84	28.61	44.66	34.78	42.44	32.56	74	54	-31.56	-21.44	118	1.46
2855.35	-30.69	29.55	45.15	35.76	44.00	34.61	74	54	-30.00	-19.39	289	1.55
3161.33	-30.39	30.39	45.44	33.69	45.44	33.69	74	54	-28.56	-20.31	322	1.63
4195.76	-28.77	32.20	43.05	33.49	46.48	36.92	74	54	-27.52	-17.08	68	1.97
4609.61	-28.34	32.46	43.54	32.24	47.66	36.36	74	54	-26.34	-17.64	214	2.06
5605.64	-26.75	33.80	41.39	32.18	48.44	39.23	74	54	-25.56	-14.77	293	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.



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 141 of 484
Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11n - HT20_CH40
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5200.00 (F)	-27.38	33.56	76.09	65.92	82.27	72.10	114	94	-31.73	-21.90	310	1.50
10400.00	-24.39	38.16	36.95	26.80	50.72	40.57	74	54	-23.28	-13.43	132	1.54
15600.00	-20.18	37.86	30.50	20.35	48.18	38.03	74	54	-25.82	-15.97	171	1.42

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.		
5200.00 (F)	-27.38	33.56	76.48	66.55	82.66	72.73	114	94	-31.34	-21.27	337	1.53
10400.00	-24.39	38.16	37.95	26.56	51.72	40.33	74	54	-22.28	-13.67	202	1.59
15600.00	-20.18	37.86	29.37	20.11	47.05	37.79	74	54	-26.95	-16.21	233	1.41

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2739.79	-30.76	29.11	45.02	33.94	43.37	32.29	74	54	-30.63	-21.71	139	1.96
3144.17	-30.41	30.36	44.74	34.26	44.69	34.21	74	54	-29.31	-19.79	238	1.85
3615.95	-29.71	31.28	45.17	35.00	46.74	36.57	74	54	-27.26	-17.43	309	1.71
4471.32	-28.50	32.20	43.12	32.09	46.82	35.79	74	54	-27.18	-18.21	145	1.44
4956.21	-27.94	33.29	41.94	30.29	47.29	35.64	74	54	-26.71	-18.36	35	1.30
5550.23	-26.68	33.80	40.51	31.27	47.63	38.39	74	54	-26.37	-15.61	102	1.15

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.		
2760.85	-30.75	29.19	44.27	33.95	42.71	32.39	74	54	-31.29	-21.61	307	1.52
3451.84	-30.00	30.91	44.20	34.00	45.12	34.92	74	54	-28.88	-19.08	217	1.76
3905.49	-29.15	31.97	43.87	32.12	46.69	34.94	74	54	-27.31	-19.06	173	1.88
4059.43	-28.91	32.20	43.89	33.48	47.18	36.77	74	54	-26.82	-17.23	43	1.93
4596.62	-28.36	32.43	42.55	30.65	46.62	34.72	74	54	-27.38	-19.28	256	2.06
5730.32	-26.93	33.80	41.05	31.10	47.92	37.97	74	54	-26.08	-16.03	227	2.43

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 143 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT20_CH48 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
5240.00 (F)	-27.28	33.59	76.19	66.09	82.51	72.41	114	94	-31.49	-21.59	97	1.46
10480.00	-24.35	38.19	37.69	26.10	51.53	39.94	74	54	-22.47	-14.06	219	1.49
15720.00	-20.19	37.81	31.00	19.84	48.62	37.46	74	54	-25.38	-16.54	148	1.38

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.		
5240.00 (F)	-27.28	33.59	73.85	62.09	80.17	68.41	114	94	-33.83	-25.59	341	1.51
10480.00	-24.35	38.19	36.56	26.12	50.40	39.96	74	54	-23.60	-14.04	131	1.47
15720.00	-20.19	37.81	30.44	19.72	48.06	37.34	74	54	-25.94	-16.66	140	1.44

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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 144 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2129.72	-31.33	27.75	46.32	35.44	42.74	31.86	74	54	-31.26	-22.14	38	2.14
2450.55	-30.96	28.14	45.09	33.41	42.27	30.59	74	54	-31.73	-23.41	281	2.07
3039.41	-30.56	30.17	45.65	35.70	45.26	35.31	74	54	-28.74	-18.69	140	1.88
3645.77	-29.65	31.35	43.85	33.01	45.55	34.71	74	54	-28.45	-19.29	311	1.70
4641.83	-28.31	32.54	43.14	32.40	47.37	36.63	74	54	-26.63	-17.37	227	1.39
5744.06	-26.95	33.80	40.48	29.73	47.33	36.58	74	54	-26.67	-17.42	108	1.07

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.		
2169.07	-31.28	27.80	45.47	35.94	41.99	32.46	74	54	-32.01	-21.54	325	1.36
2904.55	-30.67	29.74	44.77	35.01	43.84	34.08	74	54	-30.16	-19.92	206	1.55
3185.85	-30.36	30.43	44.75	35.15	44.82	35.22	74	54	-29.18	-18.78	123	1.64
3974.57	-29.02	32.14	43.32	33.54	46.44	36.66	74	54	-27.56	-17.34	280	1.88
4641.19	-28.31	32.54	42.85	32.84	47.08	37.07	74	54	-26.92	-16.93	164	2.10
5405.84	-26.85	33.72	41.03	29.42	47.90	36.29	74	54	-26.10	-17.71	291	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11ac - HT20_CH36
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5180.00 (F)	-27.43	33.54	75.46	65.81	81.57	71.92	114	94	-32.43	-22.08	340	1.49
10360.00	-24.41	38.14	37.31	26.44	51.04	40.17	74	54	-22.96	-13.83	93	1.53
15540.00	-20.17	37.88	31.86	20.17	49.57	37.88	74	54	-24.43	-16.12	48	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.		
5180.00 (F)	-27.43	33.54	76.88	66.38	82.99	72.49	114	94	-31.01	-21.51	225	1.50
10360.00	-24.41	38.14	36.36	26.62	50.09	40.35	74	54	-23.91	-13.65	123	1.57
15540.00	-20.17	37.88	31.56	19.95	49.27	37.66	74	54	-24.73	-16.34	160	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.



TEST REPORT

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2129.51	-31.33	27.75	45.80	33.82	42.22	30.24	74	54	-31.78	-23.76	328	2.14
2765.86	-30.75	29.21	46.48	34.62	44.94	33.08	74	54	-29.06	-20.92	125	1.98
2859.13	-30.69	29.56	45.83	34.60	44.70	33.47	74	54	-29.30	-20.53	48	1.93
3105.92	-30.47	30.29	45.35	34.73	45.17	34.55	74	54	-28.83	-19.45	283	1.86
4196.46	-28.77	32.20	42.81	32.34	46.24	35.77	74	54	-27.76	-18.23	203	1.55
5510.45	-26.62	33.80	40.30	29.90	47.48	37.08	74	54	-26.52	-16.92	96	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.		
2125.06	-31.34	27.75	40.50	30.26	36.92	26.68	74	54	-37.09	-27.33	312	1.35
2935.86	-30.65	29.85	44.07	33.68	43.28	32.89	74	54	-30.72	-21.11	293	1.57
3461.26	-29.98	30.93	44.13	34.22	45.08	35.17	74	54	-28.92	-18.83	191	1.76
4136.84	-28.83	32.20	43.03	33.78	46.40	37.15	74	54	-27.60	-16.85	215	1.91
4649.29	-28.30	32.56	41.93	31.22	46.19	35.48	74	54	-27.81	-18.52	164	2.08
5485.58	-26.65	33.79	40.32	28.74	47.46	35.88	74	54	-26.54	-18.12	101	2.33

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH40 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
5200.00 (F)	-27.38	33.56	75.63	63.94	81.81	70.12	114	94	-32.19	-23.88	345	1.45
10400.00	-24.39	38.16	36.41	26.45	50.18	40.22	74	54	-23.82	-13.78	51	1.49
15600.00	-20.18	37.86	30.13	20.00	47.81	37.68	74	54	-26.19	-16.32	228	1.46

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.		
5200.00 (F)	-27.38	33.56	77.76	68.06	83.94	74.24	114	94	-30.06	-19.76	46	1.42
10400.00	-24.39	38.16	35.68	26.26	49.45	40.03	74	54	-24.55	-13.97	292	1.45
15600.00	-20.18	37.86	30.79	20.18	48.47	37.86	74	54	-25.53	-16.14	268	1.40

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.



TEST REPORT

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT20_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2089.72	-31.38	27.71	45.68	35.59	42.01	31.92	74	54	-31.99	-22.08	183	2.18
3051.46	-30.54	30.19	45.26	35.86	44.91	35.51	74	54	-29.09	-18.49	341	1.86
3781.86	-29.39	31.67	43.54	32.98	45.82	35.26	74	54	-28.18	-18.74	61	1.65
4099.30	-28.87	32.20	42.92	31.87	46.25	35.20	74	54	-27.75	-18.80	161	1.54
4800.55	-28.12	32.92	41.88	30.64	46.68	35.44	74	54	-27.32	-18.56	134	1.33
5785.61	-27.00	33.80	40.75	31.50	47.55	38.30	74	54	-26.45	-15.70	228	1.09

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.		
2765.42	-30.75	29.21	45.09	35.84	43.55	34.30	74	54	-30.45	-19.70	48	1.52
3340.61	-30.15	30.71	43.55	32.20	44.11	32.76	74	54	-29.89	-21.24	297	1.71
3956.94	-29.05	32.09	43.70	32.17	46.74	35.21	74	54	-27.26	-18.79	180	1.86
4081.11	-28.89	32.20	43.52	34.44	46.83	37.75	74	54	-27.17	-16.25	218	1.95
4615.72	-28.34	32.48	42.35	32.95	46.49	37.09	74	54	-27.51	-16.91	127	2.07
5764.36	-26.97	33.80	40.32	28.56	47.15	35.39	74	54	-26.85	-18.61	302	2.41

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11ac - HT20_CH48
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5240.00 (F)	-27.28	33.59	75.85	65.95	82.17	72.27	114	94	-31.83	-21.73	194	1.42
10480.00	-24.35	38.19	35.54	26.04	49.38	39.88	74	54	-24.62	-14.12	309	1.45
15720.00	-20.19	37.81	29.48	19.70	47.10	37.32	74	54	-26.90	-16.68	49	1.37

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.		
5240.00 (F)	-27.28	33.59	75.44	65.91	81.76	72.23	114	94	-32.24	-21.77	325	1.43
10480.00	-24.35	38.19	34.99	25.54	48.83	39.38	74	54	-25.17	-14.62	161	1.39
15720.00	-20.19	37.81	30.38	19.75	48.00	37.37	74	54	-26.00	-16.63	140	1.36

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH38
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2125.74	-31.34	27.75	44.04	32.69	40.46	29.11	74	54	-33.55	-24.90	248	2.14
2904.35	-30.67	29.74	44.30	34.24	43.37	33.31	74	54	-30.63	-20.69	86	1.95
3784.38	-29.38	31.68	43.93	33.69	46.23	35.99	74	54	-27.77	-18.01	130	1.65
3975.07	-29.02	32.14	43.37	33.52	46.49	36.64	74	54	-27.51	-17.36	70	1.60
4401.50	-28.57	32.20	42.97	31.58	46.60	35.21	74	54	-27.40	-18.79	140	1.47
5735.49	-26.93	33.80	40.64	29.04	47.51	35.91	74	54	-26.49	-18.09	325	1.06

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.		
2119.33	-31.34	27.74	46.02	35.21	42.42	31.61	74	54	-31.58	-22.39	316	1.35
2995.72	-30.61	30.08	44.03	33.06	43.50	32.53	74	54	-30.50	-21.47	176	1.61
3721.17	-29.51	31.53	43.52	31.89	45.54	33.91	74	54	-28.46	-20.09	59	1.83
4091.45	-28.88	32.20	42.73	33.04	46.05	36.36	74	54	-27.95	-17.64	125	1.94
4479.28	-28.49	32.20	42.08	30.50	45.79	34.21	74	54	-28.21	-19.79	231	2.06
5730.70	-26.93	33.80	41.42	31.89	48.29	38.76	74	54	-25.71	-15.24	280	2.41

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 151 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH38 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
5190.00 (F)	-27.40	33.55	73.14	62.41	79.29	68.56	114	94	-34.71	-25.44	65	1.46
10380.00	-24.40	38.15	36.85	26.29	50.60	40.04	74	54	-23.40	-13.96	313	1.51
15570.00	-20.18	37.87	30.81	20.20	48.51	37.90	74	54	-25.49	-16.10	159	1.54

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.		
5190.00 (F)	-27.40	33.55	73.56	61.80	79.71	67.95	114	94	-34.29	-26.05	91	1.52
10380.00	-24.40	38.15	36.85	26.30	50.60	40.05	74	54	-23.40	-13.95	221	1.43
15570.00	-20.18	37.87	30.35	20.18	48.05	37.88	74	54	-25.95	-16.12	200	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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH46
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2764.05	-30.75	29.20	45.86	34.90	44.32	33.36	74	54	-29.68	-20.64	249	1.96
3174.69	-30.37	30.41	44.44	33.46	44.48	33.50	74	54	-29.52	-20.50	179	1.84
3450.55	-30.00	30.91	44.49	32.83	45.40	33.74	74	54	-28.60	-20.26	305	1.73
3669.86	-29.61	31.41	44.36	34.28	46.16	36.08	74	54	-27.84	-17.92	119	1.68
4661.21	-28.28	32.59	42.23	31.44	46.53	35.74	74	54	-27.47	-18.26	86	1.41
5756.52	-26.96	33.80	40.30	30.07	47.14	36.91	74	54	-26.86	-17.09	141	1.06

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.		
2120.81	-31.34	27.74	45.77	35.16	42.17	31.56	74	54	-31.83	-22.44	51	1.32
2360.70	-31.06	28.03	45.08	35.46	42.05	32.43	74	54	-31.95	-21.57	159	1.40
2394.11	-31.02	28.07	44.74	34.22	41.79	31.27	74	54	-32.21	-22.73	256	1.44
3726.30	-29.50	31.54	43.84	33.62	45.89	35.67	74	54	-28.11	-18.33	323	1.83
4680.31	-28.26	32.63	42.90	32.39	47.27	36.76	74	54	-26.73	-17.24	218	2.11
5834.26	-27.07	33.80	41.07	31.59	47.80	38.32	74	54	-26.20	-15.68	190	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 153 of 484
Date: Dec. 22, 2015

Temperature:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11n - HT40_CH46 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
5230.00 (F)	-27.30	33.58	72.55	61.15	78.83	67.43	114	94	-35.17	-26.57	152	1.42
10460.00	-24.36	38.18	36.85	25.70	50.67	39.52	74	54	-23.33	-14.48	62	1.59
15690.00	-20.19	37.82	30.74	19.86	48.38	37.50	74	54	-25.62	-16.50	169	1.38

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.		
5230.00 (F)	-27.30	33.58	72.18	61.05	78.46	67.33	114	94	-35.54	-26.67	321	1.47
10460.00	-24.36	38.18	36.14	26.07	49.96	39.89	74	54	-24.04	-14.11	345	1.54
15690.00	-20.19	37.82	30.54	19.89	48.18	37.53	74	54	-25.82	-16.47	81	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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH38
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2115.05	-31.35	27.74	46.23	35.15	42.62	31.54	74	54	-31.38	-22.46	322	2.15
3034.94	-30.56	30.16	43.94	32.56	43.54	32.16	74	54	-30.46	-21.84	83	1.88
3664.31	-29.62	31.39	44.34	35.03	46.12	36.81	74	54	-27.88	-17.19	255	1.69
4115.62	-28.86	32.20	43.35	31.75	46.70	35.10	74	54	-27.31	-18.91	121	1.58
4625.67	-28.33	32.50	42.05	32.29	46.23	36.47	74	54	-27.78	-17.54	165	1.40
5571.51	-26.71	33.80	40.13	30.81	47.22	37.90	74	54	-26.78	-16.10	297	1.15

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.		
2799.17	-30.73	29.34	44.25	34.15	42.86	32.76	74	54	-31.14	-21.24	336	1.56
3276.81	-30.23	30.60	43.31	31.54	43.67	31.90	74	54	-30.33	-22.10	132	1.67
3455.04	-29.99	30.92	44.09	34.03	45.02	34.96	74	54	-28.98	-19.04	87	1.76
3911.16	-29.14	31.99	43.46	33.05	46.31	35.90	74	54	-27.69	-18.10	217	1.85
5610.54	-26.76	33.80	39.91	30.38	46.95	37.42	74	54	-27.05	-16.58	273	2.39
5780.10	-27.00	33.80	40.02	28.52	46.82	35.32	74	54	-27.18	-18.68	227	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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH38 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
5190.00 (F)	-27.40	33.55	73.76	62.34	79.91	68.49	114	94	-34.09	-25.51	312	1.46
10380.00	-24.40	38.15	37.59	26.37	51.34	40.12	74	54	-22.66	-13.88	199	1.58
15570.00	-20.18	37.87	31.38	19.97	49.08	37.67	74	54	-24.92	-16.33	194	1.40

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.		
5190.00 (F)	-27.40	33.55	75.42	66.29	81.57	72.44	114	94	-32.43	-21.56	67	1.56
10380.00	-24.40	38.15	37.59	26.35	51.34	40.10	74	54	-22.66	-13.90	175	1.63
15570.00	-20.18	37.87	30.39	20.09	48.09	37.79	74	54	-25.91	-16.21	313	1.42

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT40_CH46
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
2130.39	-31.33	27.76	46.40	35.22	42.83	31.65	74	54	-31.17	-22.35	112	2.14
3074.96	-30.51	30.23	43.96	31.99	43.68	31.71	74	54	-30.32	-22.29	262	1.89
3435.73	-30.02	30.88	42.87	32.43	43.73	33.29	74	54	-30.27	-20.71	63	1.76
4401.53	-28.57	32.20	42.65	32.42	46.28	36.05	74	54	-27.72	-17.95	326	1.45
4629.90	-28.32	32.51	42.99	33.85	47.18	38.04	74	54	-26.82	-15.96	144	1.40
5736.82	-26.94	33.80	41.18	31.76	48.04	38.62	74	54	-25.96	-15.38	203	1.09

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.		
2124.06	-31.34	27.75	45.48	36.17	41.89	32.58	74	54	-32.11	-21.42	197	1.36
2940.64	-30.64	29.87	44.51	33.97	43.74	33.20	74	54	-30.26	-20.80	213	1.57
3790.85	-29.37	31.70	43.65	33.60	45.97	35.92	74	54	-28.03	-18.08	62	1.83
4074.05	-28.90	32.20	42.67	32.75	45.97	36.05	74	54	-28.03	-17.95	116	1.91
4641.73	-28.31	32.54	42.75	32.93	46.98	37.16	74	54	-27.02	-16.84	330	2.07
5685.89	-26.87	33.80	40.05	30.03	46.98	36.96	74	54	-27.02	-17.04	273	2.43

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 157 of 484
Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.1G
802.11ac - HT40_CH46
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5230.00 (F)	-27.30	33.58	72.82	63.35	79.10	69.63	114	94	-34.90	-24.37	250	1.45
10460.00	-24.36	38.18	36.26	25.94	50.08	39.76	74	54	-23.92	-14.24	128	1.54
15690.00	-20.19	37.82	29.27	19.77	46.91	37.41	74	54	-27.09	-16.59	314	1.38

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.		
5230.00 (F)	-27.30	33.58	73.23	63.65	79.51	69.93	114	94	-34.49	-24.07	132	1.47
10460.00	-24.36	38.18	36.67	25.84	50.49	39.66	74	54	-23.51	-14.34	91	1.61
15690.00	-20.19	37.82	29.67	19.76	47.31	37.40	74	54	-26.69	-16.60	171	1.41

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:	22 °C	Humidity:	69 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.1G 802.11ac - HT80_CH42
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 04, 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.		
3199.89	-30.34	30.46	43.75	32.37	43.87	32.49	74	54	-30.13	-21.51	243	1.82
3976.45	-29.02	32.14	43.08	33.11	46.21	36.24	74	54	-27.79	-17.76	332	1.64
4105.62	-28.87	32.20	43.40	33.59	46.74	36.93	74	54	-27.27	-17.08	153	1.55
4475.71	-28.50	32.20	42.78	32.76	46.49	36.47	74	54	-27.52	-17.54	88	1.47
4804.90	-28.12	32.93	41.95	30.93	46.76	35.74	74	54	-27.24	-18.26	218	1.33
5770.23	-26.98	33.80	40.55	29.54	47.37	36.36	74	54	-26.63	-17.64	100	1.06

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.		
2135.08	-31.32	27.76	46.01	36.15	42.45	32.59	74	54	-31.55	-21.41	160	1.35
3180.18	-30.37	30.42	43.55	32.81	43.61	32.87	74	54	-30.39	-21.13	202	1.67
3671.61	-29.60	31.41	43.82	32.79	45.63	34.60	74	54	-28.37	-19.40	42	1.82
4099.28	-28.87	32.20	42.76	31.82	46.09	35.15	74	54	-27.91	-18.85	331	1.91
4975.05	-27.92	33.34	42.31	31.04	47.73	36.46	74	54	-26.27	-17.54	188	2.18
5784.46	-27.00	33.80	40.42	28.65	47.22	35.45	74	54	-26.78	-18.55	251	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.



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

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 159 of 484
Date: Dec. 22, 2015

Temperature: 22 °C Humidity: 69 %RH
MLWG3_5.1G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11ac - HT80_CH42
(Fundamental and
Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 04, 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.		
5210.00 (F)	-27.35	33.57	70.08	60.94	76.30	67.16	114	94	-37.70	-26.84	326	1.45
10420.00	-24.38	38.17	36.71	25.80	50.50	39.59	74	54	-23.50	-14.41	166	1.64
15630.00	-20.18	37.85	30.86	20.16	48.53	37.83	74	54	-25.47	-16.17	220	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.		
5210.00 (F)	-27.35	33.57	72.26	60.93	78.48	67.15	114	94	-35.52	-26.85	106	1.58
10420.00	-24.38	38.17	36.03	25.88	49.82	39.67	74	54	-24.18	-14.33	127	1.50
15630.00	-20.18	37.85	30.85	19.91	48.52	37.58	74	54	-25.48	-16.42	288	1.42

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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH149
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
3102.54	-30.47	30.28	44.89	32.31	44.70	32.12	74	54	-29.30	-21.88	90	1.88
3158.36	-30.40	30.38	45.95	33.59	45.94	33.58	74	54	-28.06	-20.42	274	1.82
3524.79	-29.88	31.06	44.91	34.34	46.08	35.51	74	54	-27.92	-18.49	187	1.73
4093.14	-28.88	32.20	43.05	32.23	46.37	35.55	74	54	-27.63	-18.45	326	1.56
5130.05	-27.56	33.50	42.33	32.51	48.28	38.46	74	54	-25.72	-15.54	70	1.24
5459.22	-26.71	33.77	41.17	30.93	48.22	37.98	74	54	-25.78	-16.02	148	1.15

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.		
2771.51	-30.74	29.23	45.12	35.93	43.61	34.42	74	54	-30.39	-19.58	190	1.50
3238.29	-30.29	30.53	45.30	35.08	45.54	35.32	74	54	-28.46	-18.68	247	1.62
3619.88	-29.70	31.29	44.31	33.78	45.89	35.36	74	54	-28.11	-18.64	339	1.77
4065.02	-28.91	32.20	43.48	31.61	46.78	34.91	74	54	-27.23	-19.10	36	1.95
4572.14	-28.39	32.37	42.12	32.57	46.11	36.56	74	54	-27.89	-17.44	305	2.08
5297.37	-27.13	33.64	41.43	29.58	47.94	36.09	74	54	-26.06	-17.91	158	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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 161 of 484
Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.8G
802.11a_CH149
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5745.00 (F)	-26.95	33.80	68.06	57.21	74.91	64.06	114	94	-39.09	-29.94	218	1.45
11490.00	-23.51	39.19	36.38	26.06	52.07	41.74	74	54	-21.93	-12.26	324	1.66
17235.00	-18.82	43.54	31.15	20.54	55.88	45.27	74	54	-18.12	-8.73	121	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.		
5745.00 (F)	-26.95	33.80	65.42	54.01	72.27	60.86	114	94	-41.73	-33.14	216	1.59
11490.00	-23.51	39.19	36.74	25.75	52.42	41.43	74	54	-21.58	-12.57	120	1.41
17235.00	-18.82	43.54	29.56	20.42	54.29	45.15	74	54	-19.71	-8.85	80	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:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH157
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
1931.08	-31.58	27.28	46.54	35.80	42.24	31.50	74	54	-31.76	-22.50	59	2.20
3103.33	-30.47	30.29	44.37	33.75	44.19	33.57	74	54	-29.81	-20.43	185	1.85
3550.92	-29.83	31.12	44.12	32.14	45.41	33.43	74	54	-28.59	-20.57	206	1.71
3942.17	-29.08	32.06	43.46	33.51	46.44	36.49	74	54	-27.56	-17.51	314	1.60
5087.24	-27.67	33.47	41.37	29.42	47.17	35.22	74	54	-26.83	-18.78	145	1.28
5368.67	-26.95	33.69	40.95	30.72	47.70	37.47	74	54	-26.30	-16.53	85	1.16

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.		
2782.40	-30.74	29.27	45.35	34.65	43.89	33.19	74	54	-30.11	-20.81	218	1.54
3184.88	-30.36	30.43	44.30	33.44	44.37	33.51	74	54	-29.63	-20.49	334	1.65
3907.32	-29.15	31.98	43.41	31.71	46.24	34.54	74	54	-27.76	-19.46	189	1.88
4401.79	-28.57	32.20	43.11	31.43	46.74	35.06	74	54	-27.26	-18.94	70	2.03
4673.16	-28.27	32.62	42.23	32.79	46.58	37.14	74	54	-27.42	-16.86	106	2.11
5219.56	-27.33	33.58	41.77	30.10	48.02	36.35	74	54	-25.98	-17.65	288	2.24

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.8G
802.11a_CH157
(Fundamental and
Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5785.00 (F)	-27.00	33.80	67.97	56.35	74.77	63.15	114	94	-39.23	-30.85	336	1.55
11570.00	-23.45	39.20	34.33	24.77	50.07	40.52	74	54	-23.93	-13.48	54	1.37
17355.00	-18.65	44.39	28.94	18.77	54.68	44.50	74	54	-19.32	-9.50	185	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.		
5785.00 (F)	-27.00	33.80	65.66	54.19	72.46	60.99	114	94	-41.54	-33.01	114	1.56
11570.00	-23.45	39.20	34.48	24.86	50.23	40.61	74	54	-23.77	-13.39	292	1.63
17355.00	-18.65	44.39	29.88	18.78	55.62	44.51	74	54	-18.38	-9.49	86	1.50

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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11a_CH165
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
1928.08	-31.59	27.27	48.80	38.74	44.48	34.42	74	54	-29.52	-19.58	339	2.20
2147.53	-31.31	27.78	48.55	37.73	45.02	34.20	74	54	-28.98	-19.80	244	2.13
3529.65	-29.87	31.07	44.66	33.69	45.86	34.89	74	54	-28.14	-19.11	102	1.72
4077.22	-28.89	32.20	43.46	33.14	46.77	36.45	74	54	-27.23	-17.55	198	1.59
4391.83	-28.58	32.20	43.58	33.28	47.20	36.90	74	54	-26.80	-17.10	68	1.44
5214.70	-27.34	33.57	42.17	30.33	48.40	36.56	74	54	-25.60	-17.44	281	1.20

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.		
3077.67	-30.51	30.24	44.11	34.69	43.84	34.42	74	54	-30.16	-19.58	236	1.63
3661.14	-29.62	31.39	43.94	31.15	45.71	32.92	74	54	-28.29	-21.08	313	1.81
3972.25	-29.02	32.13	42.81	30.16	45.92	33.27	74	54	-28.08	-20.73	82	1.90
4279.93	-28.69	32.20	42.88	32.74	46.39	36.25	74	54	-27.61	-17.75	59	1.97
5041.86	-27.79	33.43	41.50	31.88	47.15	37.53	74	54	-26.85	-16.47	121	2.20
5208.99	-27.36	33.57	42.07	31.39	48.28	37.60	74	54	-25.72	-16.40	209	2.24

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3_5.8G
802.11a_CH165
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5825.00 (F)	-27.06	33.80	68.51	57.62	75.25	64.36	114	94	-38.75	-29.64	33	1.52
11650.00	-23.40	39.20	35.68	24.25	51.48	40.05	74	54	-22.52	-13.95	189	1.59
17475.00	-18.48	45.23	28.40	18.45	55.14	45.19	74	54	-18.86	-8.81	242	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.		
5825.00 (F)	-27.06	33.80	65.61	53.60	72.35	60.34	114	94	-41.65	-33.66	85	1.45
11650.00	-23.40	39.20	34.30	24.07	50.10	39.87	74	54	-23.90	-14.13	263	1.67
17475.00	-18.48	45.23	29.93	18.51	56.67	45.25	74	54	-17.33	-8.75	209	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH149
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2731.12	-30.77	29.08	44.64	34.23	42.95	32.54	74	54	-31.05	-21.46	93	1.97
3043.77	-30.55	30.18	44.08	34.50	43.71	34.13	74	54	-30.29	-19.87	297	1.88
3668.06	-29.61	31.40	44.16	33.40	45.96	35.20	74	54	-28.04	-18.80	316	1.68
3949.45	-29.07	32.08	43.14	31.54	46.15	34.55	74	54	-27.85	-19.45	212	1.61
4647.93	-28.30	32.55	42.36	31.09	46.61	35.34	74	54	-27.39	-18.66	56	1.43
5088.17	-27.66	33.47	42.05	30.95	47.86	36.76	74	54	-26.14	-17.24	207	1.25

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.		
2492.83	-30.91	28.19	45.27	34.16	42.55	31.44	74	54	-31.45	-22.56	317	1.44
3208.90	-30.33	30.47	43.80	32.10	43.95	32.25	74	54	-30.05	-21.75	27	1.62
3604.65	-29.73	31.25	43.35	31.79	44.87	33.31	74	54	-29.13	-20.69	145	1.79
3843.17	-29.27	31.82	43.95	33.88	46.50	36.43	74	54	-27.50	-17.57	80	1.84
4629.30	-28.32	32.51	42.46	32.13	46.65	36.32	74	54	-27.35	-17.68	180	2.05
5214.88	-27.34	33.57	41.30	30.49	47.53	36.72	74	54	-26.47	-17.28	105	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
MLWG3_5.8G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11n - HT20_CH149 (Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5745.00 (F)	-26.95	33.80	68.18	56.12	75.03	62.97	114	94	-38.97	-31.03	77	1.52
11490.00	-23.51	39.19	34.30	25.16	49.98	40.84	74	54	-24.02	-13.16	267	1.35
17235.00	-18.82	43.54	30.64	20.54	55.37	45.27	74	54	-18.63	-8.73	169	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.		
5745.00 (F)	-26.95	33.80	63.96	52.07	70.81	58.92	114	94	-43.19	-35.08	290	1.57
11490.00	-23.51	39.19	37.71	25.29	53.39	40.97	74	54	-20.61	-13.03	41	1.66
17235.00	-18.82	43.54	32.06	20.56	56.79	45.29	74	54	-17.21	-8.71	343	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:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH157
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
1924.30	-31.60	27.25	46.27	36.38	41.92	32.03	74	54	-32.08	-21.97	40	2.24
3108.85	-30.46	30.29	44.18	33.60	44.01	33.43	74	54	-29.99	-20.57	238	1.88
3677.12	-29.59	31.42	43.88	32.14	45.71	33.97	74	54	-28.29	-20.03	138	1.68
3879.98	-29.20	31.91	43.34	31.10	46.05	33.81	74	54	-27.95	-20.19	313	1.63
4456.22	-28.51	32.20	43.38	32.12	47.07	35.81	74	54	-26.93	-18.19	126	1.45
5341.05	-27.02	33.67	41.09	31.84	47.75	38.50	74	54	-26.25	-15.50	78	1.21

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.		
2987.41	-30.62	30.05	44.46	34.30	43.89	33.73	74	54	-30.11	-20.27	194	1.57
3471.75	-29.97	30.95	43.74	33.95	44.72	34.93	74	54	-29.28	-19.07	56	1.73
3552.02	-29.83	31.12	43.80	31.24	45.09	32.53	74	54	-28.91	-21.47	325	1.78
4318.84	-28.65	32.20	42.50	30.69	46.05	34.24	74	54	-27.95	-19.76	276	2.01
5201.90	-27.38	33.56	41.84	30.62	48.03	36.81	74	54	-25.97	-17.19	133	2.24
5342.35	-27.01	33.67	41.48	30.46	48.14	37.12	74	54	-25.86	-16.88	169	2.33

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH157 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5785.00 (F)	-27.00	33.80	68.36	57.25	75.16	64.05	114	94	-38.84	-29.95	248	1.58
11570.00	-23.45	39.20	36.49	24.41	52.24	40.16	74	54	-21.76	-13.84	183	1.46
17355.00	-18.65	44.39	28.48	18.80	54.21	44.53	74	54	-19.79	-9.47	48	1.52

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.		
5785.00 (F)	-27.00	33.80	66.21	56.91	73.01	63.71	114	94	-40.99	-30.29	321	1.66
11570.00	-23.45	39.20	35.13	24.36	50.88	40.11	74	54	-23.12	-13.89	60	1.60
17355.00	-18.65	44.39	30.10	18.85	55.83	44.58	74	54	-18.17	-9.42	241	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:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT20_CH165
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
3144.84	-30.41	30.36	44.07	34.13	44.02	34.08	74	54	-29.98	-19.92	150	1.85
3528.52	-29.88	31.07	43.67	32.08	44.86	33.27	74	54	-29.14	-20.73	108	1.76
3772.39	-29.41	31.65	43.83	31.29	46.08	33.54	74	54	-27.92	-20.46	332	1.65
4063.17	-28.91	32.20	42.60	30.53	45.89	33.82	74	54	-28.11	-20.18	53	1.57
4617.95	-28.33	32.48	43.51	32.41	47.66	36.56	74	54	-26.34	-17.44	192	1.40
5211.60	-27.35	33.57	41.10	30.61	47.32	36.83	74	54	-26.68	-17.17	209	1.23

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.		
2314.24	-31.12	27.98	45.31	33.39	42.17	30.25	74	54	-31.83	-23.75	321	1.32
3092.73	-30.48	30.27	44.32	33.28	44.10	33.06	74	54	-29.90	-20.94	91	1.64
3623.85	-29.69	31.30	43.38	32.44	44.98	34.04	74	54	-29.02	-19.96	259	1.78
4408.03	-28.56	32.20	42.87	30.89	46.51	34.53	74	54	-27.49	-19.47	101	2.03
5103.61	-27.63	33.48	41.14	30.22	47.00	36.08	74	54	-27.00	-17.92	174	2.24
5288.05	-27.15	33.63	40.73	30.30	47.21	36.78	74	54	-26.79	-17.22	338	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
MLWG3_5.8G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11n - HT20_CH165 (Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5825.00 (F)	-27.06	33.80	66.63	56.47	73.37	63.21	114	94	-40.63	-30.79	235	1.53
11650.00	-23.40	39.20	35.27	24.21	51.07	40.01	74	54	-22.93	-13.99	48	1.58
17475.00	-18.48	45.23	30.77	18.52	57.51	45.26	74	54	-16.49	-8.74	102	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.		
5825.00 (F)	-27.06	33.80	64.70	52.68	71.44	59.42	114	94	-42.56	-34.58	263	1.42
11650.00	-23.40	39.20	33.71	23.80	49.51	39.60	74	54	-24.49	-14.40	94	1.66
17475.00	-18.48	45.23	29.14	18.45	55.88	45.19	74	54	-18.12	-8.81	189	1.61

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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH149
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
3031.97	-30.57	30.16	45.10	33.82	44.69	33.41	74	54	-29.31	-20.59	304	1.85
3668.80	-29.61	31.40	44.24	32.73	46.04	34.53	74	54	-27.96	-19.47	173	1.72
3839.07	-29.28	31.81	44.52	34.44	47.05	36.97	74	54	-26.95	-17.03	32	1.64
4242.53	-28.73	32.20	43.37	33.41	46.84	36.88	74	54	-27.16	-17.12	320	1.51
4817.69	-28.10	32.96	42.01	31.68	46.87	36.54	74	54	-27.13	-17.46	149	1.36
5293.02	-27.14	33.63	41.72	30.93	48.21	37.42	74	54	-25.79	-16.58	257	1.20

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.		
2887.69	-30.68	29.67	44.32	33.81	43.32	32.81	74	54	-30.68	-21.19	39	1.55
3061.33	-30.53	30.21	44.59	34.50	44.27	34.18	74	54	-29.73	-19.82	332	1.64
3647.77	-29.65	31.35	43.14	33.19	44.85	34.90	74	54	-29.15	-19.10	224	1.78
3948.92	-29.07	32.08	43.06	31.71	46.07	34.72	74	54	-27.93	-19.28	172	1.89
4459.25	-28.51	32.20	42.58	30.56	46.27	34.25	74	54	-27.73	-19.75	274	2.03
4946.13	-27.95	33.27	41.22	31.72	46.54	37.04	74	54	-27.46	-16.96	110	2.15

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH149 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5745.00 (F)	-26.95	33.80	67.60	57.77	74.45	64.62	114	94	-39.55	-29.38	292	1.45
11490.00	-23.51	39.19	36.84	25.18	52.52	40.86	74	54	-21.48	-13.14	203	1.51
17235.00	-18.82	43.54	32.31	20.64	57.04	45.37	74	54	-16.96	-8.63	335	1.40

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.		
5745.00 (F)	-26.95	33.80	64.25	53.76	71.10	60.61	114	94	-42.90	-33.39	184	1.47
11490.00	-23.51	39.19	35.80	24.93	51.48	40.61	74	54	-22.52	-13.39	224	1.64
17235.00	-18.82	43.54	30.06	20.47	54.79	45.20	74	54	-19.21	-8.80	87	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH157
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2268.84	-31.17	27.92	44.88	33.82	41.63	30.57	74	54	-32.37	-23.43	110	2.15
2669.55	-30.80	28.84	44.31	33.13	42.35	31.17	74	54	-31.65	-22.83	172	2.02
3717.67	-29.51	31.52	43.82	33.25	45.83	35.26	74	54	-28.17	-18.74	56	1.67
4231.21	-28.74	32.20	43.13	31.07	46.59	34.53	74	54	-27.41	-19.47	121	1.54
4648.39	-28.30	32.56	42.23	30.15	46.49	34.41	74	54	-27.51	-19.59	300	1.40
5072.50	-27.71	33.46	41.55	31.61	47.30	37.36	74	54	-26.70	-16.64	87	1.29

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.		
2882.55	-30.68	29.65	44.30	32.31	43.27	31.28	74	54	-30.73	-22.72	136	1.53
3061.31	-30.53	30.21	44.76	33.55	44.44	33.23	74	54	-29.56	-20.77	221	1.65
3657.85	-29.63	31.38	43.44	31.34	45.19	33.09	74	54	-28.81	-20.91	38	1.81
4399.67	-28.57	32.20	43.48	31.38	47.11	35.01	74	54	-26.89	-18.99	206	2.04
5008.92	-27.87	33.41	42.19	30.28	47.73	35.82	74	54	-26.27	-18.18	158	2.22
5281.40	-27.17	33.62	42.07	31.48	48.52	37.93	74	54	-25.48	-16.07	323	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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
MLWG3_5.8G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11ac - HT20_CH157 (Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5785.00 (F)	-27.00	33.80	67.65	56.76	74.45	63.56	114	94	-39.55	-30.44	198	1.54
11570.00	-23.45	39.20	34.30	24.44	50.05	40.19	74	54	-23.95	-13.81	96	1.40
17355.00	-18.65	44.39	30.62	18.23	56.35	43.96	74	54	-17.65	-10.04	150	1.46

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.		
5785.00 (F)	-27.00	33.80	65.46	53.35	72.26	60.15	114	94	-41.74	-33.85	78	1.60
11570.00	-23.45	39.20	34.58	24.43	50.33	40.18	74	54	-23.67	-13.82	329	1.65
17355.00	-18.65	44.39	29.71	18.58	55.44	44.31	74	54	-18.56	-9.69	294	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH165
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
3176.34	-30.37	30.42	43.15	33.65	43.20	33.69	74	54	-30.80	-20.31	43	1.83
3768.07	-29.42	31.64	42.83	30.84	45.06	33.07	74	54	-28.94	-20.93	230	1.66
4229.19	-28.74	32.20	42.92	33.06	46.38	36.52	74	54	-27.62	-17.48	75	1.52
4341.25	-28.63	32.20	43.17	33.32	46.74	36.89	74	54	-27.26	-17.11	303	1.49
4637.51	-28.31	32.53	42.20	31.35	46.42	35.57	74	54	-27.58	-18.43	161	1.40
5208.78	-27.36	33.57	41.36	31.20	47.57	37.41	74	54	-26.43	-16.59	126	1.25

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.		
2492.72	-30.91	28.19	44.58	33.25	41.86	30.53	74	54	-32.14	-23.47	125	1.44
3497.15	-29.93	30.99	43.50	32.92	44.56	33.98	74	54	-29.44	-20.02	328	1.72
3883.33	-29.19	31.92	43.19	33.03	45.91	35.76	74	54	-28.09	-18.24	242	1.84
4241.90	-28.73	32.20	42.80	31.34	46.27	34.81	74	54	-27.73	-19.19	103	1.98
4588.48	-28.37	32.41	42.30	30.73	46.34	34.77	74	54	-27.66	-19.23	54	2.09
5214.29	-27.34	33.57	41.08	31.09	47.31	37.32	74	54	-26.69	-16.68	215	2.24

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 177 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT20_CH165 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5825.00 (F)	-27.06	33.80	66.14	56.50	72.88	63.24	114	94	-41.12	-30.76	46	1.47
11650.00	-23.40	39.20	33.87	23.89	49.67	39.69	74	54	-24.33	-14.31	181	1.68
17475.00	-18.48	45.23	29.53	18.48	56.27	45.22	74	54	-17.73	-8.78	318	1.62

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.		
5825.00 (F)	-27.06	33.80	65.53	53.50	72.27	60.24	114	94	-41.73	-33.76	294	1.56
11650.00	-23.40	39.20	35.87	24.12	51.67	39.92	74	54	-22.33	-14.08	141	1.41
17475.00	-18.48	45.23	28.94	18.62	55.68	45.36	74	54	-18.32	-8.64	82	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH151
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2731.56	-30.77	29.08	44.35	34.16	42.66	32.47	74	54	-31.34	-21.53	26	1.99
3297.11	-30.21	30.63	43.82	33.37	44.25	33.80	74	54	-29.75	-20.20	321	1.80
3859.94	-29.24	31.86	42.73	33.14	45.35	35.76	74	54	-28.65	-18.24	216	1.65
4182.25	-28.79	32.20	43.15	33.77	46.56	37.18	74	54	-27.44	-16.82	118	1.54
5024.70	-27.83	33.42	41.74	31.89	47.33	37.48	74	54	-26.67	-16.52	240	1.25
5284.48	-27.16	33.63	41.86	30.45	48.32	36.92	74	54	-25.68	-17.08	76	1.20

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.		
3038.61	-30.56	30.17	44.89	33.01	44.50	32.62	74	54	-29.50	-21.38	302	1.63
3536.96	-29.86	31.09	44.09	32.56	45.32	33.79	74	54	-28.68	-20.21	94	1.77
3771.40	-29.41	31.65	43.44	32.86	45.68	35.10	74	54	-28.32	-18.90	259	1.85
3962.83	-29.04	32.11	42.73	31.22	45.80	34.29	74	54	-28.20	-19.71	172	1.90
4324.55	-28.65	32.20	43.36	32.30	46.91	35.85	74	54	-27.09	-18.15	227	2.02
5209.72	-27.35	33.57	41.06	31.37	47.27	37.58	74	54	-26.73	-16.42	215	2.25

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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH151 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5755.00 (F)	-26.96	33.80	65.12	54.49	71.96	61.33	114	94	-42.04	-32.67	173	1.40
11510.00	-23.49	39.20	37.19	25.14	52.90	40.85	74	54	-21.10	-13.15	54	1.48
17265.00	-18.77	43.76	30.27	20.05	55.25	45.03	74	54	-18.75	-8.97	123	1.37

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.		
5755.00 (F)	-26.96	33.80	62.84	50.52	69.68	57.36	114	94	-44.32	-36.64	320	1.51
11510.00	-23.49	39.20	35.63	25.27	51.34	40.98	74	54	-22.66	-13.02	46	1.62
17265.00	-18.77	43.76	30.95	20.22	55.93	45.20	74	54	-18.07	-8.80	214	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11n - HT40_CH159
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
3032.70	-30.57	30.16	44.08	34.16	43.67	33.75	74	54	-30.33	-20.25	135	1.90
3241.96	-30.28	30.53	44.30	32.55	44.55	32.80	74	54	-29.45	-21.20	169	1.82
3713.47	-29.52	31.51	43.71	31.84	45.70	33.83	74	54	-28.30	-20.17	52	1.66
4424.19	-28.55	32.20	42.83	31.14	46.48	34.79	74	54	-27.52	-19.21	304	1.45
5058.08	-27.74	33.45	41.40	31.71	47.10	37.41	74	54	-26.90	-16.59	104	1.24
5243.23	-27.27	33.59	41.32	30.15	47.65	36.48	74	54	-26.35	-17.52	240	1.21

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.		
3049.45	-30.54	30.19	44.51	34.31	44.15	33.96	74	54	-29.85	-20.04	75	1.60
3228.82	-30.30	30.51	44.60	34.66	44.81	34.87	74	54	-29.19	-19.13	291	1.65
3866.70	-29.23	31.88	43.28	34.22	45.93	36.87	74	54	-28.07	-17.13	167	1.88
4071.88	-28.90	32.20	43.71	32.39	47.01	35.69	74	54	-26.99	-18.31	314	1.93
4382.53	-28.59	32.20	43.32	32.81	46.93	36.43	74	54	-27.07	-17.57	144	2.04
5104.27	-27.62	33.48	41.30	30.32	47.16	36.18	74	54	-26.84	-17.82	274	2.25

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 181 of 484
Date: Dec. 22, 2015

Temperature: 20 °C Humidity: 60 %RH
MLWG3_5.8G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11n - HT40_CH159 (Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Nov. 30, 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.		
5795.00 (F)	-27.02	33.80	65.20	53.88	71.98	60.66	114	94	-42.02	-33.34	117	1.60
11590.00	-23.44	39.20	36.47	24.33	52.23	40.09	74	54	-21.77	-13.91	251	1.67
17385.00	-18.61	44.59	29.49	18.69	55.48	44.68	74	54	-18.52	-9.32	184	1.52

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.		
5795.00 (F)	-27.02	33.80	62.97	51.88	69.75	58.66	114	94	-44.25	-35.34	47	1.54
11590.00	-23.44	39.20	34.47	24.06	50.23	39.82	74	54	-23.77	-14.18	130	1.59
17385.00	-18.61	44.59	29.49	18.30	55.48	44.29	74	54	-18.52	-9.71	167	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.



TEST REPORT

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH151
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2782.92	-30.74	29.27	45.16	35.24	43.70	33.77	74	54	-30.30	-20.23	218	1.95
2997.78	-30.61	30.09	44.24	32.42	43.72	31.90	74	54	-30.28	-22.10	64	1.91
3721.25	-29.51	31.53	43.15	31.18	45.17	33.21	74	54	-28.83	-20.79	102	1.67
4064.10	-28.91	32.20	43.10	32.10	46.39	35.40	74	54	-27.61	-18.60	267	1.56
4632.84	-28.32	32.52	43.16	33.55	47.36	37.75	74	54	-26.64	-16.25	325	1.40
5369.73	-26.95	33.70	40.32	30.06	47.07	36.81	74	54	-26.93	-17.19	115	1.21

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.		
3011.77	-30.60	30.12	44.11	34.60	43.63	34.12	74	54	-30.37	-19.88	221	1.57
3264.15	-30.25	30.58	43.69	33.76	44.01	34.09	74	54	-29.99	-19.91	287	1.65
3772.30	-29.41	31.65	43.48	32.87	45.73	35.11	74	54	-28.27	-18.89	302	1.84
4253.96	-28.72	32.20	42.50	31.23	45.98	34.72	74	54	-28.02	-19.28	146	1.96
4648.84	-28.30	32.56	42.65	32.88	46.91	37.14	74	54	-27.09	-16.86	57	2.08
5209.52	-27.35	33.57	42.15	32.36	48.36	38.57	74	54	-25.64	-15.43	189	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 183 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH151 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5755.00 (F)	-26.96	33.80	65.23	54.08	72.07	60.92	114	94	-41.93	-33.08	242	1.48
11510.00	-23.49	39.20	36.67	25.03	52.38	40.74	74	54	-21.62	-13.26	107	1.60
17265.00	-18.77	43.76	30.19	20.04	55.17	45.02	74	54	-18.83	-8.98	297	1.52

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.		
5755.00 (F)	-26.96	33.80	61.98	51.57	68.82	58.41	114	94	-45.18	-35.59	83	1.45
11510.00	-23.49	39.20	34.49	24.97	50.20	40.68	74	54	-23.80	-13.32	258	1.66
17265.00	-18.77	43.76	32.63	20.08	57.61	45.06	74	54	-16.39	-8.94	142	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:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH159
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2663.60	-30.81	28.82	44.43	34.13	42.44	32.15	74	54	-31.56	-21.85	196	2.01
3124.84	-30.44	30.32	44.37	33.17	44.25	33.05	74	54	-29.75	-20.95	250	1.84
3774.52	-29.40	31.66	43.58	34.05	45.83	36.31	74	54	-28.17	-17.69	307	1.65
4291.93	-28.68	32.20	42.82	33.27	46.34	36.79	74	54	-27.66	-17.21	155	1.50
4887.17	-28.02	33.13	42.07	31.99	47.18	37.09	74	54	-26.82	-16.91	49	1.34
5092.58	-27.65	33.47	41.52	31.24	47.34	37.06	74	54	-26.66	-16.94	315	1.26

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.		
2122.70	-31.34	27.75	45.43	34.42	41.84	30.83	74	54	-32.16	-23.17	112	1.33
3089.04	-30.49	30.26	44.53	33.93	44.30	33.70	74	54	-29.70	-20.30	215	1.65
3624.88	-29.69	31.30	44.76	35.53	46.37	37.14	74	54	-27.63	-16.86	67	1.78
4073.62	-28.90	32.20	43.29	33.67	46.59	36.97	74	54	-27.41	-17.03	173	1.94
4348.95	-28.62	32.20	43.23	31.26	46.81	34.84	74	54	-27.19	-19.16	261	2.03
5201.24	-27.38	33.56	40.86	31.35	47.05	37.54	74	54	-26.95	-16.46	327	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 185 of 484
Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT40_CH159 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5795.00 (F)	-27.02	33.80	64.82	54.47	71.60	61.25	114	94	-42.40	-32.75	297	1.57
11590.00	-23.44	39.20	36.88	24.74	52.64	40.50	74	54	-21.36	-13.50	147	1.40
17385.00	-18.61	44.59	29.48	18.63	55.47	44.62	74	54	-18.53	-9.38	50	1.45

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.		
5795.00 (F)	-27.02	33.80	64.27	53.41	71.05	60.19	114	94	-42.95	-33.81	119	1.56
11590.00	-23.44	39.20	35.07	24.46	50.83	40.22	74	54	-23.17	-13.78	183	1.63
17385.00	-18.61	44.59	28.82	18.72	54.81	44.71	74	54	-19.19	-9.29	242	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:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT80_CH155
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
2351.71	-31.07	28.02	45.80	35.16	42.75	32.11	74	54	-31.25	-21.89	321	2.10
3023.40	-30.58	30.14	44.79	34.91	44.35	34.48	74	54	-29.65	-19.52	125	1.88
3408.57	-30.06	30.83	44.35	34.79	45.13	35.57	74	54	-28.87	-18.43	173	1.76
3796.93	-29.36	31.71	43.77	33.88	46.12	36.23	74	54	-27.88	-17.77	245	1.65
4028.88	-28.94	32.20	43.14	31.33	46.40	34.59	74	54	-27.60	-19.41	302	1.60
5204.21	-27.37	33.56	41.47	30.82	47.67	37.02	74	54	-26.33	-16.98	149	1.26

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.		
2417.15	-31.00	28.10	44.52	33.98	41.62	31.09	74	54	-32.38	-22.91	211	1.41
3088.73	-30.49	30.26	44.70	35.27	44.47	35.04	74	54	-29.53	-18.96	331	1.66
3724.26	-29.50	31.54	43.61	31.84	45.65	33.88	74	54	-28.35	-20.12	90	1.83
4233.07	-28.74	32.20	42.52	33.15	45.98	36.62	74	54	-28.02	-17.38	142	1.94
4629.94	-28.32	32.51	42.39	32.45	46.58	36.64	74	54	-27.42	-17.36	255	2.12
5026.55	-27.82	33.42	42.05	30.87	47.65	36.47	74	54	-26.35	-17.53	156	2.25

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	20 °C	Humidity:	60 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3_5.8G 802.11ac - HT80_CH155 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Nov. 30, 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.		
5775.00 (F)	-26.99	33.80	61.27	50.82	68.08	57.63	114	94	-45.92	-36.37	208	1.57
11550.00	-23.47	39.20	36.48	24.13	52.21	39.86	74	54	-21.79	-14.14	266	1.40
17325.00	-18.69	44.18	29.57	18.94	55.05	44.42	74	54	-18.95	-9.58	54	1.38

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.		
5775.00 (F)	-26.99	33.80	61.55	51.96	68.36	58.77	114	94	-45.64	-35.23	108	1.66
11550.00	-23.47	39.20	34.73	24.19	50.46	39.92	74	54	-23.54	-14.08	72	1.57
17325.00	-18.69	44.18	29.69	18.88	55.17	44.36	74	54	-18.83	-9.64	181	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.



TEST REPORT

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2635.56	-30.82	28.71	44.38	33.67	42.27	31.56	74	54	-31.73	-22.44	263	2.03
3439.76	-30.01	30.89	43.16	33.93	44.04	34.81	74	54	-29.96	-19.19	306	1.78
3601.81	-29.74	31.24	43.12	34.08	44.63	35.59	74	54	-29.37	-18.41	47	1.71
3910.26	-29.14	31.98	43.04	31.25	45.88	34.09	74	54	-28.12	-19.91	115	1.66
4426.03	-28.54	32.20	42.18	31.69	45.84	35.35	74	54	-28.16	-18.65	269	1.48
5544.43	-26.67	33.80	40.32	28.92	47.45	36.05	74	54	-26.55	-17.95	284	1.13

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.		
2844.39	-30.70	29.51	44.45	33.08	43.26	31.89	74	54	-30.74	-22.11	312	1.54
3401.51	-30.06	30.82	43.67	31.77	44.43	32.53	74	54	-29.57	-21.47	164	1.70
3670.62	-29.60	31.41	43.14	33.91	44.94	35.71	74	54	-29.06	-18.29	269	1.81
4015.26	-28.96	32.20	43.54	33.93	46.79	37.18	74	54	-27.22	-16.83	88	1.92
4716.46	-28.22	32.72	42.15	30.99	46.65	35.49	74	54	-27.35	-18.51	327	2.13
5755.11	-26.96	33.80	40.95	29.57	47.79	36.41	74	54	-26.21	-17.59	26	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11a_CH36
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5180.00 (F)	-27.43	33.54	76.73	65.49	82.84	71.60	114	94	-31.16	-22.40	270	1.48
10360.00	-24.41	38.14	36.31	26.46	50.04	40.19	74	54	-23.96	-13.81	153	1.66
15540.00	-20.17	37.88	29.43	20.01	47.14	37.72	74	54	-26.86	-16.28	319	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.		
5180.00 (F)	-27.43	33.54	77.63	67.49	83.74	73.60	114	94	-30.26	-20.40	278	1.56
10360.00	-24.41	38.14	35.31	26.33	49.04	40.06	74	54	-24.96	-13.94	218	1.44
15540.00	-20.17	37.88	31.43	20.15	49.14	37.86	74	54	-24.86	-16.14	177	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2935.24	-30.65	29.85	46.23	36.11	45.44	35.32	74	54	-28.56	-18.68	31	1.94
3095.35	-30.48	30.27	46.10	35.57	45.89	35.36	74	54	-28.11	-18.64	199	1.85
3864.63	-29.23	31.87	44.87	34.98	47.51	37.62	74	54	-26.49	-16.38	265	1.63
4130.88	-28.84	32.20	44.31	35.04	47.67	38.40	74	54	-26.33	-15.60	327	1.52
4655.58	-28.29	32.57	43.75	33.61	48.03	37.89	74	54	-25.97	-16.11	150	1.41
5734.21	-26.93	33.80	41.96	30.94	48.83	37.81	74	54	-25.17	-16.19	236	1.09

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.		
2644.69	-30.82	28.75	45.68	35.98	43.61	33.91	74	54	-30.39	-20.09	321	1.47
3239.46	-30.28	30.53	45.56	36.26	45.81	36.51	74	54	-28.19	-17.49	156	1.68
3726.39	-29.50	31.54	46.01	35.23	48.06	37.28	74	54	-25.94	-16.72	36	1.80
4315.18	-28.66	32.20	43.79	32.29	47.34	35.84	74	54	-26.67	-18.17	254	1.96
4805.32	-28.12	32.93	42.92	32.56	47.74	37.38	74	54	-26.26	-16.62	226	2.15
5600.77	-26.75	33.80	41.73	30.14	48.78	37.19	74	54	-25.22	-16.81	180	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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11a_CH40
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5200.00 (F)	-27.38	33.56	77.65	68.45	83.83	74.63	114	94	-30.17	-19.37	55	1.54
10400.00	-24.39	38.16	37.75	27.19	51.52	40.96	74	54	-22.48	-13.04	138	1.38
15600.00	-20.18	37.86	30.14	20.50	47.82	38.18	74	54	-26.18	-15.82	342	1.45

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.		
5200.00 (F)	-27.38	33.56	79.29	69.08	85.47	75.26	114	94	-28.53	-18.74	109	1.60
10400.00	-24.39	38.16	38.40	27.32	52.17	41.09	74	54	-21.83	-12.91	179	1.63
15600.00	-20.18	37.86	29.64	20.36	47.32	38.04	74	54	-26.68	-15.96	337	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11a_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2975.83	-30.62	30.01	46.36	36.83	45.74	36.21	74	54	-28.26	-17.79	92	1.92
3029.84	-30.57	30.15	46.26	36.56	45.84	36.14	74	54	-28.16	-17.86	295	1.87
3161.87	-30.39	30.39	45.57	35.26	45.57	35.26	74	54	-28.43	-18.74	128	1.82
3710.91	-29.53	31.50	45.03	34.37	47.01	36.35	74	54	-26.99	-17.65	301	1.66
4649.55	-28.30	32.56	42.73	32.78	46.99	37.04	74	54	-27.01	-16.96	204	1.40
5784.88	-27.00	33.80	41.80	30.12	48.60	36.92	74	54	-25.40	-17.08	49	1.03

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.		
2860.36	-30.69	29.57	46.39	35.38	45.27	34.26	74	54	-28.73	-19.74	260	1.57
3025.39	-30.58	30.15	46.08	34.59	45.65	34.16	74	54	-28.35	-19.84	72	1.62
3604.63	-29.73	31.25	44.92	34.23	46.44	35.75	74	54	-27.56	-18.25	192	1.79
4224.70	-28.75	32.20	43.75	33.71	47.20	37.16	74	54	-26.80	-16.84	112	1.96
4715.56	-28.22	32.72	42.81	31.60	47.31	36.10	74	54	-26.69	-17.90	313	2.12
5551.44	-26.68	33.80	40.84	31.10	47.96	38.22	74	54	-26.04	-15.78	281	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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 193 of 484
Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11a_CH48
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5240.00 (F)	-27.28	33.59	76.09	64.63	82.41	70.95	114	94	-31.59	-23.05	113	1.57
10480.00	-24.35	38.19	39.04	27.07	52.88	40.91	74	54	-21.12	-13.09	242	1.66
15720.00	-20.19	37.81	30.56	19.91	48.18	37.53	74	54	-25.82	-16.47	32	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.		
5240.00 (F)	-27.28	33.59	77.23	67.97	83.55	74.29	114	94	-30.45	-19.71	284	1.58
10480.00	-24.35	38.19	35.28	26.95	49.12	40.79	74	54	-24.88	-13.21	171	1.41
15720.00	-20.19	37.81	30.69	20.04	48.31	37.66	74	54	-25.69	-16.34	214	1.63

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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2769.66	-30.74	29.22	45.51	34.01	43.99	32.49	74	54	-30.01	-21.51	221	1.98
3551.25	-29.83	31.12	44.89	33.31	46.18	34.60	74	54	-27.82	-19.40	40	1.74
3915.92	-29.13	32.00	44.43	32.79	47.29	35.65	74	54	-26.71	-18.35	243	1.65
4230.03	-28.74	32.20	44.15	33.05	47.61	36.51	74	54	-26.39	-17.49	174	1.52
4769.46	-28.16	32.85	43.18	31.94	47.87	36.63	74	54	-26.13	-17.37	343	1.38
5720.72	-26.91	33.80	41.42	32.22	48.31	39.11	74	54	-25.69	-14.89	137	1.07

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.		
2425.71	-30.99	28.11	46.04	34.74	43.16	31.86	74	54	-30.84	-22.14	100	1.45
3111.26	-30.46	30.30	45.16	34.28	45.00	34.12	74	54	-29.00	-19.88	293	1.61
3540.43	-29.85	31.10	45.79	34.75	47.03	35.99	74	54	-26.97	-18.01	242	1.75
4229.61	-28.74	32.20	43.60	31.87	47.06	35.33	74	54	-26.94	-18.67	66	1.90
4594.15	-28.36	32.43	42.69	32.16	46.75	36.22	74	54	-27.25	-17.78	319	2.07
5541.46	-26.67	33.80	40.90	31.43	48.03	38.56	74	54	-25.97	-15.44	40	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.



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 195 of 484
Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH36 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
5180.00 (F)	-27.43	33.54	75.92	64.26	82.03	70.37	114	94	-31.97	-23.63	325	1.57
10360.00	-24.41	38.14	37.28	26.52	51.01	40.25	74	54	-22.99	-13.75	116	1.38
15540.00	-20.17	37.88	30.86	20.33	48.57	38.04	74	54	-25.43	-15.96	260	1.46

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.		
5180.00 (F)	-27.43	33.54	78.18	67.20	84.29	73.31	114	94	-29.71	-20.69	147	1.57
10360.00	-24.41	38.14	36.62	26.73	50.35	40.46	74	54	-23.65	-13.54	303	1.61
15540.00	-20.17	37.88	32.82	20.42	50.53	38.13	74	54	-23.47	-15.87	288	1.43

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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2670.60	-30.80	28.85	45.56	36.25	43.60	34.29	74	54	-30.40	-19.71	311	2.02
3044.96	-30.55	30.18	45.30	36.25	44.93	35.88	74	54	-29.07	-18.12	189	1.88
3560.41	-29.81	31.14	45.13	34.72	46.46	36.05	74	54	-27.54	-17.95	256	1.74
3890.58	-29.18	31.94	44.17	32.88	46.92	35.63	74	54	-27.08	-18.37	77	1.65
4581.75	-28.38	32.39	42.74	32.15	46.76	36.17	74	54	-27.24	-17.83	103	1.41
5650.28	-26.82	33.80	41.08	30.75	48.06	37.73	74	54	-25.94	-16.27	220	1.12

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.		
2781.29	-30.74	29.27	45.76	34.61	44.29	33.14	74	54	-29.71	-20.86	39	1.54
3001.95	-30.61	30.10	45.56	36.18	45.05	35.67	74	54	-28.95	-18.33	167	1.65
3545.20	-29.84	31.11	44.65	32.84	45.91	34.10	74	54	-28.09	-19.90	287	1.78
3755.12	-29.44	31.61	44.31	32.94	46.48	35.11	74	54	-27.52	-18.89	331	1.84
4629.18	-28.32	32.51	43.04	32.00	47.23	36.19	74	54	-26.77	-17.81	179	2.10
5770.61	-26.98	33.80	41.49	31.20	48.31	38.02	74	54	-25.69	-15.98	208	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.



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320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 197 of 484
Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11n - HT20_CH40
(Fundamental and
Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5200.00 (F)	-27.38	33.56	77.36	67.46	83.54	73.64	114	94	-30.46	-20.36	249	1.51
10400.00	-24.39	38.16	37.63	26.90	51.40	40.67	74	54	-22.60	-13.33	106	1.54
15600.00	-20.18	37.86	32.14	20.34	49.82	38.02	74	54	-24.18	-15.98	317	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.		
5200.00 (F)	-27.38	33.56	76.61	64.23	82.79	70.41	114	94	-31.21	-23.59	97	1.62
10400.00	-24.39	38.16	36.38	26.78	50.15	40.55	74	54	-23.85	-13.45	337	1.68
15600.00	-20.18	37.86	30.52	20.26	48.20	37.94	74	54	-25.80	-16.06	294	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2744.03	-30.76	29.13	45.13	33.30	43.50	31.67	74	54	-30.50	-22.33	242	1.99
3065.53	-30.52	30.22	44.94	35.59	44.64	35.29	74	54	-29.36	-18.71	339	1.86
3676.17	-29.59	31.42	45.36	33.62	47.19	35.45	74	54	-26.81	-18.55	291	1.72
4115.55	-28.86	32.20	43.50	32.09	46.85	35.44	74	54	-27.16	-18.57	46	1.54
4724.90	-28.21	32.74	42.76	31.51	47.29	36.04	74	54	-26.71	-17.96	124	1.37
5536.82	-26.66	33.80	41.30	29.95	48.44	37.09	74	54	-25.56	-16.91	227	1.15

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.		
2765.43	-30.75	29.21	45.46	34.06	43.92	32.52	74	54	-30.08	-21.48	239	1.52
2994.85	-30.61	30.08	44.84	33.50	44.30	32.96	74	54	-29.70	-21.04	87	1.61
3650.87	-29.64	31.36	44.23	33.89	45.95	35.61	74	54	-28.05	-18.39	205	1.83
3911.36	-29.14	31.99	44.56	33.94	47.41	36.79	74	54	-26.59	-17.21	46	1.88
4645.88	-28.30	32.55	43.06	31.22	47.31	35.47	74	54	-26.69	-18.53	308	2.10
5749.53	-26.95	33.80	41.16	30.76	48.01	37.61	74	54	-25.99	-16.39	155	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 199 of 484
Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT20_CH48 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
5240.00 (F)	-27.28	33.59	74.74	62.95	81.06	69.27	114	94	-32.94	-24.73	63	1.50
10480.00	-24.35	38.19	35.27	26.60	49.11	40.44	74	54	-24.89	-13.56	310	1.58
15720.00	-20.19	37.81	30.91	20.10	48.53	37.72	74	54	-25.47	-16.28	203	1.52

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.		
5240.00 (F)	-27.28	33.59	74.34	63.41	80.66	69.73	114	94	-33.34	-24.27	145	1.42
10480.00	-24.35	38.19	37.36	26.57	51.20	40.41	74	54	-22.80	-13.59	275	1.64
15720.00	-20.19	37.81	32.51	20.11	50.13	37.73	74	54	-23.87	-16.27	57	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH36
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2754.94	-30.75	29.17	44.55	34.94	42.96	33.35	74	54	-31.04	-20.65	242	1.96
3240.16	-30.28	30.53	44.73	34.03	44.98	34.28	74	54	-29.02	-19.72	210	1.84
4409.37	-28.56	32.20	43.26	31.86	46.90	35.50	74	54	-27.10	-18.50	300	1.47
4620.04	-28.33	32.49	43.22	31.82	47.38	35.98	74	54	-26.62	-18.02	44	1.40
5545.61	-26.67	33.80	40.85	30.74	47.98	37.87	74	54	-26.02	-16.13	266	1.15
5826.21	-27.06	33.80	41.44	32.14	48.18	38.88	74	54	-25.82	-15.12	93	1.03

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.		
2610.49	-30.84	28.62	45.27	34.80	43.05	32.58	74	54	-30.95	-21.42	314	1.46
3000.37	-30.61	30.10	45.75	34.19	45.24	33.68	74	54	-28.76	-20.32	88	1.61
3654.54	-29.63	31.37	44.52	32.61	46.26	34.35	74	54	-27.74	-19.65	162	1.82
4085.96	-28.89	32.20	43.88	32.62	47.20	35.94	74	54	-26.80	-18.07	99	1.95
4666.11	-28.28	32.60	42.78	33.47	47.10	37.79	74	54	-26.90	-16.21	339	2.11
5814.59	-27.04	33.80	41.29	32.09	48.05	38.85	74	54	-25.95	-15.15	223	2.42

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 201 of 484
Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT20_CH36
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5180.00 (F)	-27.43	33.54	76.22	65.82	82.33	71.93	114	94	-31.67	-22.07	103	1.47
10360.00	-24.41	38.14	36.57	26.65	50.30	40.38	74	54	-23.70	-13.62	200	1.58
15540.00	-20.17	37.88	29.09	20.10	46.80	37.81	74	54	-27.20	-16.19	26	1.42

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.		
5180.00 (F)	-27.43	33.54	77.17	65.37	83.28	71.48	114	94	-30.72	-22.52	164	1.53
10360.00	-24.41	38.14	37.11	26.61	50.84	40.34	74	54	-23.16	-13.66	303	1.59
15540.00	-20.17	37.88	30.49	20.37	48.20	38.08	74	54	-25.80	-15.92	238	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH40
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2819.57	-30.71	29.41	45.44	35.23	44.14	33.93	74	54	-29.86	-20.07	226	1.96
2940.83	-30.64	29.87	44.91	33.63	44.14	32.86	74	54	-29.86	-21.14	31	1.91
3460.36	-29.98	30.93	44.67	34.55	45.61	35.49	74	54	-28.39	-18.51	48	1.75
4589.07	-28.37	32.41	42.83	32.36	46.88	36.41	74	54	-27.12	-17.59	115	1.43
4985.82	-27.91	33.36	42.38	31.57	47.84	37.03	74	54	-26.16	-16.97	309	1.28
5696.69	-26.88	33.80	41.08	30.06	48.00	36.98	74	54	-26.00	-17.02	216	1.07

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.		
2590.60	-30.85	28.54	45.64	34.04	43.33	31.73	74	54	-30.67	-22.27	299	1.46
3074.97	-30.51	30.23	45.15	35.51	44.87	35.23	74	54	-29.13	-18.77	343	1.63
3541.17	-29.85	31.10	45.04	35.18	46.29	36.43	74	54	-27.71	-17.57	66	1.77
3666.18	-29.61	31.40	44.51	33.17	46.30	34.96	74	54	-27.70	-19.04	112	1.82
4649.79	-28.30	32.56	42.52	31.55	46.78	35.81	74	54	-27.22	-18.19	239	2.08
5900.49	-27.16	33.80	41.48	32.24	48.12	38.88	74	54	-25.88	-15.12	71	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 203 of 484
Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT20_CH40
(Fundamental and
Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5200.00 (F)	-27.38	33.56	76.04	64.34	82.22	70.52	114	94	-31.78	-23.48	44	1.45
10400.00	-24.39	38.16	38.92	26.58	52.69	40.35	74	54	-21.31	-13.65	168	1.48
15600.00	-20.18	37.86	31.17	20.22	48.85	37.90	74	54	-25.15	-16.10	311	1.40

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.		
5200.00 (F)	-27.38	33.56	77.29	67.30	83.47	73.48	114	94	-30.53	-20.52	313	1.51
10400.00	-24.39	38.16	36.71	26.72	50.48	40.49	74	54	-23.52	-13.51	234	1.57
15600.00	-20.18	37.86	30.66	20.53	48.34	38.21	74	54	-25.66	-15.79	57	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT20_CH48
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2905.92	-30.67	29.74	44.90	34.46	43.97	33.53	74	54	-30.03	-20.47	342	1.91
3230.54	-30.30	30.51	44.91	32.96	45.13	33.18	74	54	-28.87	-20.82	295	1.85
3539.43	-29.86	31.09	44.46	33.43	45.70	34.67	74	54	-28.30	-19.33	306	1.73
3970.28	-29.03	32.13	43.16	32.92	46.26	36.02	74	54	-27.74	-17.98	99	1.60
4801.32	-28.12	32.92	42.14	30.64	46.94	35.44	74	54	-27.06	-18.56	192	1.34
5725.60	-26.92	33.80	40.71	29.60	47.59	36.48	74	54	-26.41	-17.52	281	1.09

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.		
2661.56	-30.81	28.81	45.72	34.32	43.73	32.33	74	54	-30.27	-21.67	153	1.52
3039.04	-30.56	30.17	45.21	33.83	44.82	33.44	74	54	-29.18	-20.56	136	1.64
3610.50	-29.72	31.26	44.44	34.29	45.99	35.84	74	54	-28.01	-18.16	43	1.79
4215.31	-28.76	32.20	42.95	33.03	46.40	36.48	74	54	-27.61	-17.53	265	1.95
4751.25	-28.18	32.80	42.86	31.20	47.48	35.82	74	54	-26.52	-18.18	343	2.14
5725.91	-26.92	33.80	41.56	29.91	48.44	36.79	74	54	-25.56	-17.21	206	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.



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 205 of 484
Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT20_CH48
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5240.00 (F)	-27.28	33.59	74.56	64.62	80.88	70.94	114	94	-33.12	-23.06	220	1.60
10480.00	-24.35	38.19	35.76	26.44	49.60	40.28	74	54	-24.40	-13.72	106	1.58
15720.00	-20.19	37.81	32.32	20.05	49.94	37.67	74	54	-24.06	-16.33	82	1.52

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.		
5240.00 (F)	-27.28	33.59	75.27	65.85	81.59	72.17	114	94	-32.41	-21.83	167	1.42
10480.00	-24.35	38.19	36.45	26.56	50.29	40.40	74	54	-23.71	-13.60	283	1.66
15720.00	-20.19	37.81	31.75	20.01	49.37	37.63	74	54	-24.63	-16.37	215	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.



TEST REPORT

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH38
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2849.28	-30.70	29.53	44.84	34.49	43.67	33.32	74	54	-30.33	-20.68	140	1.96
3450.40	-30.00	30.91	44.81	35.14	45.72	36.05	74	54	-28.28	-17.95	294	1.75
3614.84	-29.71	31.27	43.94	34.58	45.50	36.14	74	54	-28.50	-17.86	163	1.71
4326.96	-28.64	32.20	43.21	32.68	46.77	36.24	74	54	-27.23	-17.76	208	1.52
4890.57	-28.02	33.14	42.52	30.58	47.64	35.70	74	54	-26.36	-18.30	58	1.32
5575.61	-26.71	33.80	41.19	32.00	48.28	39.09	74	54	-25.72	-14.91	326	1.11

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.		
3115.71	-30.45	30.31	44.89	33.14	44.74	32.99	74	54	-29.26	-21.01	286	1.64
3884.45	-29.19	31.92	43.57	34.00	46.30	36.73	74	54	-27.70	-17.27	33	1.86
4176.17	-28.79	32.20	43.86	34.49	47.27	37.90	74	54	-26.73	-16.10	210	1.95
4620.86	-28.33	32.49	42.81	33.37	46.97	37.53	74	54	-27.03	-16.47	145	2.10
5345.75	-27.01	33.68	42.34	32.79	49.01	39.46	74	54	-24.99	-14.54	56	2.31
5625.91	-26.78	33.80	41.30	30.76	48.32	37.78	74	54	-25.68	-16.22	315	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH38 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
5190.00 (F)	-27.40	33.55	73.44	62.36	79.59	68.51	114	94	-34.41	-25.49	45	1.47
10380.00	-24.40	38.15	36.93	26.91	50.68	40.66	74	54	-23.32	-13.34	272	1.50
15570.00	-20.18	37.87	32.42	20.35	50.12	38.05	74	54	-23.88	-15.95	174	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.		
5190.00 (F)	-27.40	33.55	75.63	65.64	81.78	71.79	114	94	-32.22	-22.21	288	1.54
10380.00	-24.40	38.15	38.19	26.64	51.94	40.39	74	54	-22.06	-13.61	86	1.42
15570.00	-20.18	37.87	30.60	20.33	48.30	38.03	74	54	-25.70	-15.97	213	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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH46
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2630.82	-30.82	28.69	45.12	35.39	42.99	33.26	74	54	-31.01	-20.74	335	2.02
3084.37	-30.50	30.25	44.83	33.25	44.59	33.01	74	54	-29.41	-20.99	144	1.88
3629.78	-29.68	31.31	44.73	34.43	46.36	36.06	74	54	-27.64	-17.94	41	1.70
4405.48	-28.57	32.20	43.31	33.68	46.95	37.32	74	54	-27.06	-16.69	132	1.47
4630.39	-28.32	32.51	42.63	33.02	46.82	37.21	74	54	-27.18	-16.79	211	1.40
5726.49	-26.92	33.80	40.80	29.22	47.68	36.10	74	54	-26.32	-17.90	234	1.09

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.		
2126.92	-31.33	27.75	46.07	34.18	42.49	30.60	74	54	-31.51	-23.40	281	1.35
3125.61	-30.44	30.33	45.02	34.21	44.91	34.10	74	54	-29.10	-19.91	120	1.66
3430.70	-30.03	30.87	44.27	32.57	45.12	33.42	74	54	-28.88	-20.58	336	1.71
4295.66	-28.67	32.20	42.96	32.27	46.49	35.80	74	54	-27.51	-18.20	215	2.00
4725.96	-28.21	32.74	42.73	32.59	47.26	37.12	74	54	-26.74	-16.88	134	2.13
5779.51	-27.00	33.80	40.77	31.07	47.57	37.87	74	54	-26.43	-16.13	69	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11n - HT40_CH46 (Fundamental and Harmonics)
Detector:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
5230.00 (F)	-27.30	33.58	72.13	61.89	78.41	68.17	114	94	-35.59	-25.83	33	1.44
10460.00	-24.36	38.18	37.44	26.54	51.26	40.36	74	54	-22.74	-13.64	323	1.57
15690.00	-20.19	37.82	30.73	20.05	48.37	37.69	74	54	-25.63	-16.31	229	1.40

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.		
5230.00 (F)	-27.30	33.58	73.72	61.79	80.00	68.07	114	94	-34.00	-25.93	321	1.48
10460.00	-24.36	38.18	36.77	26.30	50.59	40.12	74	54	-23.41	-13.88	197	1.53
15690.00	-20.19	37.82	31.31	20.09	48.95	37.73	74	54	-25.05	-16.27	58	1.50

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:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH38
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2130.38	-31.33	27.76	46.67	35.19	43.10	31.62	74	54	-30.90	-22.38	38	2.15
3239.63	-30.28	30.53	44.26	33.29	44.51	33.54	74	54	-29.49	-20.46	303	1.84
3865.04	-29.23	31.88	43.81	32.07	46.46	34.72	74	54	-27.54	-19.28	204	1.63
4085.59	-28.89	32.20	43.67	32.10	46.99	35.42	74	54	-27.02	-18.59	287	1.56
4671.33	-28.27	32.61	42.85	33.08	47.19	37.42	74	54	-26.81	-16.58	275	1.41
5810.13	-27.04	33.80	41.05	29.91	47.81	36.67	74	54	-26.19	-17.33	149	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.		
2721.41	-30.77	29.04	44.54	33.09	42.81	31.36	74	54	-31.19	-22.64	66	1.53
3286.82	-30.22	30.61	44.05	34.47	44.44	34.86	74	54	-29.56	-19.14	311	1.67
3930.30	-29.10	32.03	43.86	32.92	46.79	35.85	74	54	-27.21	-18.15	232	1.89
4454.61	-28.52	32.20	43.35	34.02	47.03	37.70	74	54	-26.97	-16.30	270	2.03
4930.77	-27.97	33.23	42.12	31.42	47.38	36.68	74	54	-26.62	-17.32	127	2.19
5635.92	-26.80	33.80	41.37	32.17	48.37	39.17	74	54	-25.63	-14.83	250	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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT40_CH38
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5190.00 (F)	-27.40	33.55	72.67	62.24	78.82	68.39	114	94	-35.18	-25.61	73	1.48
10380.00	-24.40	38.15	37.10	26.63	50.85	40.38	74	54	-23.15	-13.62	295	1.54
15570.00	-20.18	37.87	31.59	20.28	49.29	37.98	74	54	-24.71	-16.02	214	1.43

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.		
5190.00 (F)	-27.40	33.55	75.41	63.18	81.56	69.33	114	94	-32.44	-24.67	226	1.57
10380.00	-24.40	38.15	38.37	26.73	52.12	40.48	74	54	-21.88	-13.52	53	1.62
15570.00	-20.18	37.87	31.36	20.31	49.06	38.01	74	54	-24.94	-15.99	188	1.40

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.



TEST REPORT

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT40_CH46
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
1589.94	-32.10	25.71	50.67	39.71	44.27	33.31	74	54	-29.73	-20.69	345	2.31
2811.12	-30.72	29.38	46.49	35.28	45.15	33.94	74	54	-28.85	-20.06	176	1.95
3096.65	-30.48	30.27	45.12	33.21	44.91	33.00	74	54	-29.09	-21.00	99	1.88
4115.14	-28.86	32.20	43.38	32.81	46.73	36.16	74	54	-27.28	-17.85	106	1.56
4425.27	-28.55	32.20	43.36	32.33	47.02	35.99	74	54	-26.99	-18.02	243	1.45
5769.69	-26.98	33.80	41.59	30.16	48.41	36.98	74	54	-25.59	-17.02	145	1.08

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.		
2660.79	-30.81	28.81	44.86	33.97	42.86	31.97	74	54	-31.14	-22.03	327	1.51
3385.88	-30.09	30.79	43.99	34.98	44.70	35.69	74	54	-29.30	-18.31	76	1.73
3769.16	-29.41	31.65	44.35	32.64	46.58	34.87	74	54	-27.42	-19.13	195	1.84
4151.97	-28.82	32.20	43.25	33.57	46.63	36.95	74	54	-27.37	-17.05	101	1.92
4630.40	-28.32	32.51	42.91	32.85	47.10	37.04	74	54	-26.90	-16.96	287	2.10
5650.11	-26.82	33.80	40.97	31.16	47.95	38.14	74	54	-26.05	-15.86	207	2.41

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT40_CH46
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5230.00 (F)	-27.30	33.58	72.62	61.67	78.90	67.95	114	94	-35.10	-26.05	286	1.46
10460.00	-24.36	38.18	36.06	26.13	49.88	39.95	74	54	-24.12	-14.05	298	1.52
15690.00	-20.19	37.82	29.48	19.94	47.12	37.58	74	54	-26.88	-16.42	306	1.41

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.		
5230.00 (F)	-27.30	33.58	74.07	63.09	80.35	69.37	114	94	-33.65	-24.63	333	1.49
10460.00	-24.36	38.18	38.39	26.42	52.21	40.24	74	54	-21.79	-13.76	151	1.60
15690.00	-20.19	37.82	31.72	20.00	49.36	37.64	74	54	-24.64	-16.36	73	1.43

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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Chung-Li City, Taoyuan County
320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	24 °C	Humidity:	67 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.1G 802.11ac - HT80_CH42
Detector Type:	PK. and AV.	IF Bandwidth:	1 MHz
VBW:	3 MHz	Tested Date:	Dec. 03, 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.		
2709.74	-30.78	28.99	45.32	33.52	43.54	31.74	74	54	-30.46	-22.26	213	2.00
3390.40	-30.08	30.80	43.84	33.16	44.56	33.88	74	54	-29.44	-20.12	89	1.77
3651.63	-29.64	31.36	44.86	33.01	46.58	34.73	74	54	-27.42	-19.27	321	1.68
4294.06	-28.68	32.20	43.56	32.39	47.08	35.91	74	54	-26.92	-18.09	235	1.52
4645.32	-28.30	32.55	42.39	31.60	46.64	35.85	74	54	-27.36	-18.15	155	1.43
5821.57	-27.05	33.80	41.09	29.48	47.84	36.23	74	54	-26.16	-17.77	277	1.06

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.		
2490.32	-30.91	28.19	45.44	34.07	42.72	31.35	74	54	-31.28	-22.65	52	1.41
2870.78	-30.69	29.61	44.68	34.50	43.60	33.42	74	54	-30.40	-20.58	294	1.57
3159.89	-30.39	30.39	45.07	35.69	45.06	35.68	74	54	-28.94	-18.32	184	1.66
3904.87	-29.15	31.97	43.04	32.92	45.86	35.74	74	54	-28.14	-18.26	313	1.88
4386.52	-28.58	32.20	42.90	32.84	46.52	36.46	74	54	-27.48	-17.54	264	2.01
5785.92	-27.00	33.80	40.89	29.77	47.69	36.57	74	54	-26.31	-17.43	211	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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 24 °C Humidity: 67 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.1G
802.11ac - HT80_CH42
(Fundamental and Harmonics)
Detector: PK. and AV. IF Bandwidth: 1 MHz
VBW: 3 MHz Tested Date: Dec. 03, 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.		
5210.00 (F)	-27.35	33.57	69.92	60.85	76.14	67.07	114	94	-37.86	-26.93	273	1.46
10420.00	-24.38	38.17	36.09	26.51	49.88	40.30	74	54	-24.12	-13.70	88	1.63
15630.00	-20.18	37.85	31.65	20.22	49.32	37.89	74	54	-24.68	-16.11	249	1.58

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.		
5210.00 (F)	-27.35	33.57	70.60	59.86	76.82	66.08	114	94	-37.18	-27.92	119	1.59
10420.00	-24.38	38.17	37.68	26.43	51.47	40.22	74	54	-22.53	-13.78	232	1.48
15630.00	-20.18	37.85	29.06	20.15	46.73	37.82	74	54	-27.27	-16.18	41	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_5.8G 802.11a_CH149
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2571.90	-30.86	28.47	44.04	33.52	41.65	31.13	74	54	-32.35	-22.87	217	2.06
3228.07	-30.30	30.51	42.98	32.47	43.19	32.68	74	54	-30.81	-21.32	310	1.85
3487.88	-29.95	30.98	42.93	32.49	43.96	33.52	74	54	-30.04	-20.48	106	1.72
3609.02	-29.72	31.26	42.37	31.80	43.91	33.34	74	54	-30.09	-20.66	47	1.66
4592.37	-28.36	32.42	41.42	30.95	45.48	35.01	74	54	-28.52	-18.99	92	1.42
5158.66	-27.49	33.53	40.58	30.06	46.62	36.10	74	54	-27.38	-17.90	100	1.23

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.		
1641.39	-32.03	25.95	46.46	35.87	40.38	29.79	74	54	-33.62	-24.21	240	1.17
2488.82	-30.91	28.19	43.55	33.01	40.82	30.28	74	54	-33.18	-23.72	339	1.42
3097.15	-30.48	30.27	42.83	32.39	42.63	32.19	74	54	-31.37	-21.81	52	1.69
3492.53	-29.94	30.99	42.56	32.08	43.60	33.12	74	54	-30.40	-20.88	172	1.73
4463.64	-28.51	32.20	41.82	31.32	45.51	35.01	74	54	-28.49	-18.99	198	2.03
5158.90	-27.49	33.53	40.10	29.66	46.14	35.70	74	54	-27.86	-18.30	202	2.26

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH149 (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.		
5745.00 (F)	-26.95	33.80	68.08	57.34	74.93	64.19	114	94	-39.07	-29.81	123	1.51
11490.00	-23.51	39.19	34.51	24.06	50.19	39.74	74	54	-23.81	-14.26	195	1.49
17235.00	-18.82	43.54	29.87	19.31	54.60	44.04	74	54	-19.40	-9.96	48	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.		
5745.00 (F)	-26.95	33.80	67.24	56.62	74.09	63.47	114	94	-39.91	-30.53	230	1.56
11490.00	-23.51	39.19	33.48	23.92	49.16	39.60	74	54	-24.84	-14.40	315	1.62
17235.00	-18.82	43.54	29.71	19.24	54.44	43.97	74	54	-19.56	-10.03	41	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.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH157
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2134.17	-31.32	27.76	44.00	33.51	40.44	29.95	74	54	-33.56	-24.05	196	2.19
3159.25	-30.39	30.39	43.04	32.57	43.03	32.56	74	54	-30.97	-21.44	211	1.86
3442.09	-30.01	30.90	42.43	31.92	43.32	32.81	74	54	-30.68	-21.19	104	1.77
4093.84	-28.88	32.20	42.02	31.54	45.34	34.86	74	54	-28.66	-19.14	52	1.52
5141.30	-27.53	33.51	40.21	29.78	46.19	35.76	74	54	-27.81	-18.24	138	1.29
5527.96	-26.65	33.80	39.26	28.77	46.41	35.92	74	54	-27.59	-18.08	77	1.13

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.		
2486.40	-30.92	28.18	44.69	34.12	41.96	31.39	74	54	-32.04	-22.61	120	1.44
3188.29	-30.35	30.44	42.47	31.96	42.55	32.04	74	54	-31.45	-21.96	255	1.68
3552.18	-29.83	31.12	42.37	31.88	43.66	33.17	74	54	-30.34	-20.83	67	1.73
4309.03	-28.66	32.20	41.61	31.12	45.15	34.66	74	54	-28.85	-19.34	342	1.96
5169.95	-27.46	33.54	40.13	29.69	46.21	35.77	74	54	-27.79	-18.23	280	2.21
5628.59	-26.79	33.80	39.36	28.83	46.37	35.84	74	54	-27.63	-18.16	156	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
MLWG3/64_5.8G
Frequency Range: 1 GHz – 25 GHz Tested Mode: 802.11a_CH157
(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.		
5785.00 (F)	-27.00	33.80	66.83	56.29	73.63	63.09	114	94	-40.37	-30.91	297	1.54
11570.00	-23.45	39.20	33.76	23.20	49.51	38.95	74	54	-24.49	-15.05	105	1.66
17355.00	-18.65	44.39	28.15	17.67	53.88	43.40	74	54	-20.12	-10.60	68	1.51

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.		
5785.00 (F)	-27.00	33.80	67.71	56.14	74.51	62.94	114	94	-39.49	-31.06	98	1.53
11570.00	-23.45	39.20	33.48	23.08	49.23	38.83	74	54	-24.77	-15.17	133	1.49
17355.00	-18.65	44.39	28.19	17.62	53.92	43.35	74	54	-20.08	-10.65	315	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.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH165
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3087.42	-30.49	30.26	43.42	32.91	43.18	32.67	74	54	-30.82	-21.33	215	1.92
3491.96	-29.94	30.98	42.95	32.46	43.99	33.50	74	54	-30.01	-20.50	113	1.78
3783.15	-29.39	31.68	41.74	31.25	44.03	33.54	74	54	-29.97	-20.46	94	1.62
4244.33	-28.73	32.20	41.48	30.93	44.95	34.40	74	54	-29.05	-19.60	342	1.57
4639.82	-28.31	32.53	41.00	30.58	45.22	34.80	74	54	-28.78	-19.20	52	1.42
5287.03	-27.16	33.63	39.57	29.01	46.04	35.48	74	54	-27.96	-18.52	307	1.20

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.		
1639.40	-32.03	25.94	47.51	37.04	41.42	30.95	74	54	-32.58	-23.05	42	1.18
2164.81	-31.29	27.80	49.76	39.27	46.27	35.78	74	54	-27.73	-18.22	78	1.37
3257.59	-30.26	30.56	42.74	32.29	43.04	32.59	74	54	-30.96	-21.41	210	1.69
4281.63	-28.69	32.20	41.72	31.14	45.23	34.65	74	54	-28.77	-19.35	195	1.95
5114.24	-27.60	33.49	40.18	29.65	46.07	35.54	74	54	-27.93	-18.46	280	2.22
5298.12	-27.13	33.64	39.94	29.43	46.45	35.94	74	54	-27.55	-18.06	223	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.



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 221 of 484
Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11a_CH165 (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.		
5825.00 (F)	-27.06	33.80	67.57	57.03	74.31	63.77	114	94	-39.69	-30.23	192	1.49
11650.00	-23.40	39.20	33.18	22.67	48.98	38.47	74	54	-25.02	-15.53	103	1.53
17475.00	-18.48	45.23	27.89	17.34	54.63	44.08	74	54	-19.37	-9.92	245	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.		
5825.00 (F)	-27.06	33.80	68.70	58.14	75.44	64.88	114	94	-38.56	-29.12	267	1.52
11650.00	-23.40	39.20	32.83	22.31	48.63	38.11	74	54	-25.37	-15.89	155	1.63
17475.00	-18.48	45.23	27.76	17.21	54.50	43.95	74	54	-19.50	-10.05	219	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_5.8G 802.11n - HT20_CH149
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2941.34	-30.64	29.88	43.36	32.86	42.59	32.09	74	54	-31.41	-21.91	219	1.94
3478.01	-29.96	30.96	42.63	32.14	43.63	33.14	74	54	-30.37	-20.86	40	1.78
3952.77	-29.06	32.08	41.02	30.57	44.04	33.59	74	54	-29.96	-20.41	105	1.60
4379.48	-28.59	32.20	41.70	31.29	45.31	34.90	74	54	-28.69	-19.10	78	1.45
4588.25	-28.37	32.41	41.41	30.95	45.45	34.99	74	54	-28.55	-19.01	138	1.33
5052.90	-27.76	33.44	39.89	29.35	45.57	35.03	74	54	-28.43	-18.97	179	1.21

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.		
1559.31	-32.15	25.57	47.28	36.78	40.70	30.20	74	54	-33.30	-23.80	62	1.19
3068.76	-30.52	30.22	43.51	33.02	43.21	32.72	74	54	-30.79	-21.28	225	1.67
3277.90	-30.23	30.60	43.11	32.64	43.48	33.01	74	54	-30.52	-20.99	311	1.88
4232.73	-28.74	32.20	41.38	30.89	44.84	34.35	74	54	-29.16	-19.65	197	1.99
4914.28	-27.99	33.19	40.35	29.81	45.55	35.01	74	54	-28.45	-18.99	51	2.15
5143.14	-27.52	33.51	39.99	29.48	45.98	35.47	74	54	-28.02	-18.53	289	2.21

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 223 of 484
Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.8G
802.11n - HT20_CH149
(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.		
5745.00 (F)	-26.95	33.80	66.75	56.22	73.60	63.07	114	94	-40.40	-30.93	225	1.44
11490.00	-23.51	39.19	35.98	23.50	51.66	39.18	74	54	-22.34	-14.82	173	1.49
17235.00	-18.82	43.54	29.74	19.26	54.47	43.99	74	54	-19.53	-10.01	62	1.56

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.		
5745.00 (F)	-26.95	33.80	65.58	55.01	72.43	61.86	114	94	-41.57	-32.14	117	1.55
11490.00	-23.51	39.19	33.94	23.43	49.62	39.11	74	54	-24.38	-14.89	258	1.63
17235.00	-18.82	43.54	29.84	19.31	54.57	44.04	74	54	-19.43	-9.96	301	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_5.8G 802.11n - HT20_CH157
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3058.57	-30.53	30.20	42.96	32.41	42.63	32.08	74	54	-31.37	-21.92	210	1.93
3409.29	-30.05	30.84	42.59	32.03	43.37	32.81	74	54	-30.63	-21.19	128	1.79
3536.40	-29.86	31.09	43.06	32.57	44.29	33.80	74	54	-29.71	-20.20	57	1.70
3921.73	-29.12	32.01	41.42	30.96	44.31	33.85	74	54	-29.69	-20.15	109	1.62
5134.19	-27.55	33.51	40.24	29.77	46.20	35.73	74	54	-27.80	-18.27	114	1.27
5292.05	-27.14	33.63	40.13	29.64	46.62	36.13	74	54	-27.38	-17.87	32	1.11

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.		
2671.02	-30.80	28.85	43.72	33.25	41.77	31.30	74	54	-32.23	-22.70	324	1.52
3014.77	-30.59	30.13	42.89	32.30	42.42	31.83	74	54	-31.58	-22.17	92	1.67
3472.89	-29.97	30.95	43.10	32.69	44.08	33.67	74	54	-29.92	-20.33	157	1.83
4103.32	-28.87	32.20	41.34	30.81	44.67	34.14	74	54	-29.33	-19.86	193	1.99
4392.50	-28.58	32.20	41.45	30.98	45.07	34.60	74	54	-28.93	-19.40	248	2.14
5139.82	-27.53	33.51	39.67	29.17	45.65	35.15	74	54	-28.35	-18.85	288	2.25

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT20_CH157 (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.		
5785.00 (F)	-27.00	33.80	67.56	57.03	74.36	63.83	114	94	-39.64	-30.17	192	1.48
11570.00	-23.45	39.20	33.54	23.02	49.29	38.77	74	54	-24.71	-15.23	101	1.57
17355.00	-18.65	44.39	27.94	17.40	53.67	43.13	74	54	-20.33	-10.87	138	1.51

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.		
5785.00 (F)	-27.00	33.80	67.49	56.91	74.29	63.71	114	94	-39.71	-30.29	92	1.55
11570.00	-23.45	39.20	33.29	22.77	49.04	38.52	74	54	-24.96	-15.48	176	1.59
17355.00	-18.65	44.39	28.11	17.66	53.84	43.39	74	54	-20.16	-10.61	244	1.50

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_5.8G 802.11n - HT20_CH165
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2933.61	-30.65	29.85	43.04	32.51	42.24	31.71	74	54	-31.76	-22.29	264	1.99
3028.92	-30.57	30.15	42.90	32.46	42.48	32.04	74	54	-31.52	-21.96	302	1.83
3497.08	-29.93	30.99	42.72	32.29	43.78	33.35	74	54	-30.22	-20.65	108	1.75
4131.37	-28.84	32.20	41.06	30.57	44.42	33.93	74	54	-29.58	-20.07	70	1.55
4639.27	-28.31	32.53	41.67	31.17	45.89	35.39	74	54	-28.11	-18.61	192	1.42
5197.83	-27.39	33.56	39.64	29.20	45.81	35.37	74	54	-28.19	-18.63	225	1.21

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.		
2491.21	-30.91	28.19	43.27	32.84	40.55	30.12	74	54	-33.45	-23.88	89	1.48
3133.64	-30.43	30.34	43.26	32.76	43.17	32.67	74	54	-30.83	-21.33	346	1.69
3449.57	-30.00	30.91	42.95	32.44	43.86	33.35	74	54	-30.14	-20.65	158	1.72
4086.08	-28.88	32.20	41.38	30.89	44.70	34.21	74	54	-29.30	-19.79	61	1.95
4482.02	-28.49	32.20	41.34	30.85	45.05	34.56	74	54	-28.95	-19.44	198	2.03
5134.69	-27.55	33.51	40.49	30.11	46.45	36.07	74	54	-27.55	-17.93	284	2.26

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 227 of 484
Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.8G
802.11n - HT20_CH165
(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.		
5825.00 (F)	-27.06	33.80	66.74	56.29	73.48	63.03	114	94	-40.52	-30.97	112	1.62
11650.00	-23.40	39.20	32.89	22.37	48.69	38.17	74	54	-25.31	-15.83	58	1.55
17475.00	-18.48	45.23	27.75	17.23	54.49	43.97	74	54	-19.51	-10.03	270	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.		
5825.00 (F)	-27.06	33.80	68.03	57.51	74.77	64.25	114	94	-39.23	-29.75	199	1.48
11650.00	-23.40	39.20	33.04	22.53	48.84	38.33	74	54	-25.16	-15.67	98	1.60
17475.00	-18.48	45.23	27.65	17.10	54.39	43.84	74	54	-19.61	-10.16	105	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.



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Testing Lab., Inc.**
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 228 of 484
Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH149
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3028.65	-30.57	30.15	42.96	32.48	42.54	32.06	74	54	-31.46	-21.94	317	2.03
3331.03	-30.16	30.70	42.51	32.03	43.05	32.57	74	54	-30.95	-21.43	49	1.87
3492.89	-29.94	30.99	42.38	31.87	43.42	32.91	74	54	-30.58	-21.09	115	1.72
4429.15	-28.54	32.20	41.43	30.96	45.09	34.62	74	54	-28.91	-19.38	67	1.49
5143.53	-27.52	33.51	40.48	29.99	46.47	35.98	74	54	-27.53	-18.02	192	1.25
5207.09	-27.36	33.57	40.47	30.01	46.68	36.22	74	54	-27.32	-17.78	128	1.17

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.		
1588.70	-32.11	25.70	47.26	36.71	40.86	30.31	74	54	-33.14	-23.69	344	1.19
2931.43	-30.65	29.84	42.92	32.49	42.11	31.68	74	54	-31.89	-22.32	30	1.52
3373.18	-30.10	30.77	42.66	32.11	43.33	32.78	74	54	-30.67	-21.22	226	1.73
4388.29	-28.58	32.20	41.88	31.35	45.50	34.97	74	54	-28.50	-19.03	183	2.04
4552.50	-28.41	32.32	41.71	31.24	45.63	35.16	74	54	-28.37	-18.84	46	2.11
5129.55	-27.56	33.50	40.47	29.89	46.41	35.83	74	54	-27.59	-18.17	255	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH149 (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.		
5745.00 (F)	-26.95	33.80	66.41	55.93	73.26	62.78	114	94	-40.74	-31.22	225	1.51
11490.00	-23.51	39.19	33.90	23.48	49.58	39.16	74	54	-24.42	-14.84	312	1.59
17235.00	-18.82	43.54	29.85	19.37	54.58	44.10	74	54	-19.42	-9.90	74	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.		
5745.00 (F)	-26.95	33.80	66.28	65.73	73.13	72.58	114	94	-40.87	-21.42	196	1.49
11490.00	-23.51	39.19	34.17	23.67	49.85	39.35	74	54	-24.15	-14.65	278	1.60
17235.00	-18.82	43.54	29.74	19.21	54.47	43.94	74	54	-19.53	-10.06	43	1.63

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_5.8G 802.11ac - HT20_CH157
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3086.61	-30.49	30.25	43.10	32.67	42.86	32.43	74	54	-31.14	-21.57	219	1.96
3491.24	-29.94	30.98	42.24	31.79	43.28	32.83	74	54	-30.72	-21.17	142	1.78
4072.07	-28.90	32.20	41.12	30.60	44.42	33.90	74	54	-29.58	-20.10	71	1.56
4277.95	-28.69	32.20	41.13	30.63	44.64	34.14	74	54	-29.36	-19.86	98	1.44
4623.37	-28.33	32.50	40.94	30.42	45.11	34.59	74	54	-28.89	-19.41	295	1.28
5382.81	-26.91	33.71	40.33	29.83	47.12	36.62	74	54	-26.88	-17.38	93	1.17

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.		
2124.03	-31.34	27.75	44.74	34.29	41.15	30.70	74	54	-32.85	-23.30	156	1.35
3008.98	-30.60	30.11	44.17	33.65	43.69	33.17	74	54	-30.31	-20.83	42	1.62
3772.34	-29.41	31.65	42.19	31.69	44.44	33.94	74	54	-29.56	-20.06	206	1.89
4083.17	-28.89	32.20	41.67	31.14	44.98	34.45	74	54	-29.02	-19.55	307	2.01
4609.58	-28.34	32.46	40.92	30.45	45.04	34.57	74	54	-28.96	-19.43	186	2.13
5129.90	-27.56	33.50	39.51	29.02	45.45	34.96	74	54	-28.55	-19.04	281	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.



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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
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH157 (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.		
5785.00 (F)	-27.00	33.80	66.18	55.69	72.98	62.49	114	94	-41.02	-31.51	152	1.44
11570.00	-23.45	39.20	33.40	22.96	49.15	38.71	74	54	-24.85	-15.29	211	1.53
17355.00	-18.65	44.39	27.93	17.42	53.66	43.15	74	54	-20.34	-10.85	123	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.		
5785.00 (F)	-27.00	33.80	67.02	56.54	73.82	63.34	114	94	-40.18	-30.66	315	1.55
11570.00	-23.45	39.20	33.78	23.24	49.53	38.99	74	54	-24.47	-15.01	294	1.61
17355.00	-18.65	44.39	27.96	17.48	53.69	43.21	74	54	-20.31	-10.79	135	1.52

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_5.8G 802.11ac - HT20_CH165
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2123.89	-31.34	27.75	44.41	33.97	40.82	30.38	74	54	-33.18	-23.62	327	2.19
2948.03	-30.64	29.90	43.27	32.71	42.53	31.97	74	54	-31.47	-22.03	201	1.95
3661.74	-29.62	31.39	41.78	31.25	43.55	33.02	74	54	-30.45	-20.98	175	1.73
4182.25	-28.79	32.20	42.16	31.69	45.57	35.10	74	54	-28.43	-18.90	81	1.54
4624.17	-28.33	32.50	40.87	30.34	45.04	34.51	74	54	-28.96	-19.49	64	1.40
5202.52	-27.37	33.56	40.21	29.76	46.40	35.95	74	54	-27.60	-18.05	225	1.25

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.		
2997.70	-30.61	30.09	43.54	33.04	43.02	32.52	74	54	-30.98	-21.48	79	1.61
3168.48	-30.38	30.40	43.37	32.82	43.39	32.84	74	54	-30.61	-21.16	113	1.70
3546.22	-29.84	31.11	41.95	31.47	43.22	32.74	74	54	-30.78	-21.26	307	1.88
4087.11	-28.88	32.20	41.78	31.30	45.10	34.62	74	54	-28.90	-19.38	259	1.92
4451.69	-28.52	32.20	41.69	31.19	45.37	34.87	74	54	-28.63	-19.13	47	2.03
5032.03	-27.81	33.43	40.71	30.25	46.33	35.87	74	54	-27.67	-18.13	290	2.22

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT20_CH165 (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.		
5825.00 (F)	-27.06	33.80	66.19	55.63	72.93	62.37	114	94	-41.07	-31.63	67	1.66
11650.00	-23.40	39.20	33.35	22.82	49.15	38.62	74	54	-24.85	-15.38	193	1.52
17475.00	-18.48	45.23	27.81	17.35	54.55	44.09	74	54	-19.45	-9.91	101	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.		
5825.00 (F)	-27.06	33.80	67.54	57.02	74.28	63.76	114	94	-39.72	-30.24	95	1.58
11650.00	-23.40	39.20	33.30	22.73	49.10	38.53	74	54	-24.90	-15.47	50	1.43
17475.00	-18.48	45.23	27.79	17.23	54.53	43.97	74	54	-19.47	-10.03	218	1.63

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_5.8G 802.11n - HT40_CH151
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2801.86	-30.73	29.34	42.93	32.44	41.55	31.06	74	54	-32.45	-22.94	216	2.03
3042.37	-30.55	30.18	43.36	32.81	42.98	32.43	74	54	-31.02	-21.57	103	1.87
4058.96	-28.91	32.20	41.55	31.02	44.84	34.31	74	54	-29.16	-19.69	308	1.59
4492.15	-28.48	32.20	41.01	30.57	44.73	34.29	74	54	-29.27	-19.71	77	1.43
4887.08	-28.02	33.13	40.50	30.11	45.61	35.22	74	54	-28.39	-18.78	256	1.33
5104.34	-27.62	33.48	40.53	30.09	46.39	35.95	74	54	-27.61	-18.05	142	1.21

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.		
3108.56	-30.46	30.29	43.34	32.84	43.17	32.67	74	54	-30.83	-21.33	82	1.64
3772.70	-29.41	31.65	42.11	31.69	44.36	33.94	74	54	-29.64	-20.06	205	1.85
4197.31	-28.77	32.20	42.05	31.55	45.48	34.98	74	54	-28.52	-19.02	291	1.99
4388.02	-28.58	32.20	42.27	31.77	45.89	35.39	74	54	-28.11	-18.61	193	2.03
4899.97	-28.01	33.16	40.90	30.38	46.05	35.53	74	54	-27.95	-18.47	42	2.18
5396.67	-26.88	33.72	39.29	28.73	46.13	35.57	74	54	-27.87	-18.43	208	2.33

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.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.8G
802.11n - HT40_CH151
(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.		
5755.00 (F)	-26.96	33.80	64.08	53.52	70.92	60.36	114	94	-43.08	-33.64	112	1.55
11510.00	-23.49	39.20	34.41	23.95	50.12	39.66	74	54	-23.88	-14.34	58	1.49
17265.00	-18.77	43.76	29.25	18.77	54.23	43.75	74	54	-19.77	-10.25	176	1.42

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.		
5755.00 (F)	-26.96	33.80	62.84	52.39	69.68	59.23	114	94	-44.32	-34.77	211	1.52
11510.00	-23.49	39.20	34.40	23.98	50.11	39.69	74	54	-23.89	-14.31	149	1.63
17265.00	-18.77	43.76	29.46	18.97	54.44	43.95	74	54	-19.56	-10.05	69	1.44

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:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT40_CH159
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2159.68	-31.30	27.79	44.04	33.57	40.54	30.07	74	54	-33.46	-23.93	193	2.16
3077.50	-30.51	30.24	42.98	32.41	42.71	32.14	74	54	-31.29	-21.86	210	1.88
3952.39	-29.06	32.08	41.20	30.74	44.22	33.76	74	54	-29.78	-20.24	105	1.63
4383.46	-28.59	32.20	41.59	31.09	45.20	34.70	74	54	-28.80	-19.30	78	1.47
4588.12	-28.37	32.41	40.83	30.32	44.87	34.36	74	54	-29.13	-19.64	135	1.35
5114.07	-27.60	33.49	40.40	29.96	46.29	35.85	74	54	-27.71	-18.15	61	1.21

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.		
2491.91	-30.91	28.19	44.17	33.67	41.45	30.95	74	54	-32.55	-23.05	170	1.46
3032.08	-30.57	30.16	43.65	33.15	43.24	32.74	74	54	-30.76	-21.26	132	1.67
3764.37	-29.42	31.63	41.77	31.26	43.98	33.47	74	54	-30.02	-20.53	304	1.89
4143.15	-28.83	32.20	42.14	31.69	45.51	35.06	74	54	-28.49	-18.94	351	2.01
4628.66	-28.32	32.51	40.61	30.13	44.80	34.32	74	54	-29.20	-19.68	192	2.11
5244.83	-27.27	33.60	39.84	29.38	46.17	35.71	74	54	-27.83	-18.29	228	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11n - HT40_CH159 (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.		
5795.00 (F)	-27.02	33.80	63.95	53.47	70.73	60.25	114	94	-43.27	-33.75	199	1.44
11590.00	-23.44	39.20	33.39	22.80	49.15	38.56	74	54	-24.85	-15.44	35	1.49
17385.00	-18.61	44.59	27.91	17.40	53.90	43.39	74	54	-20.10	-10.61	118	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.		
5795.00 (F)	-27.02	33.80	63.61	53.18	70.39	59.96	114	94	-43.61	-34.04	236	1.57
11590.00	-23.44	39.20	33.18	22.66	48.94	38.42	74	54	-25.06	-15.58	105	1.51
17385.00	-18.61	44.59	27.67	17.29	53.66	43.28	74	54	-20.34	-10.72	78	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.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT40_CH151
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2577.39	-30.86	28.49	42.55	32.01	40.19	29.65	74	54	-33.81	-24.35	311	2.09
2976.84	-30.62	30.01	43.48	32.91	42.86	32.29	74	54	-31.14	-21.71	215	1.93
3491.21	-29.94	30.98	42.16	31.67	43.20	32.71	74	54	-30.80	-21.29	107	1.76
3873.05	-29.21	31.90	41.56	31.04	44.24	33.72	74	54	-29.76	-20.28	83	1.60
4569.75	-28.39	32.37	41.00	30.55	44.98	34.53	74	54	-29.02	-19.47	194	1.42
5418.92	-26.82	33.73	39.52	29.07	46.43	35.98	74	54	-27.57	-18.02	65	1.18

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.		
2576.71	-30.86	28.49	43.22	32.78	40.85	30.41	74	54	-33.15	-23.59	244	1.49
2759.44	-30.75	29.18	43.46	32.96	41.89	31.39	74	54	-32.11	-22.61	38	1.55
3261.18	-30.26	30.57	43.41	32.90	43.72	33.21	74	54	-30.28	-20.79	210	1.69
3873.30	-29.21	31.90	41.98	31.45	44.66	34.13	74	54	-29.34	-19.87	345	1.92
4632.59	-28.32	32.52	41.39	30.86	45.59	35.06	74	54	-28.41	-18.94	192	2.08
5188.82	-27.41	33.55	39.46	28.88	45.60	35.02	74	54	-28.40	-18.98	88	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.



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.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 239 of 484
Date: Dec. 22, 2015

Temperature: 23 °C Humidity: 65 %RH
Frequency Range: 1 GHz – 25 GHz Tested Mode: MLWG3/64_5.8G
802.11ac - HT40_CH151
(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.		
5755.00 (F)	-26.96	33.80	64.33	53.87	71.17	60.71	114	94	-42.83	-33.29	335	1.58
11510.00	-23.49	39.20	34.25	23.78	49.96	39.49	74	54	-24.04	-14.51	172	1.51
17265.00	-18.77	43.76	29.54	19.01	54.52	43.99	74	54	-19.48	-10.01	103	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.		
5755.00 (F)	-26.96	33.80	62.78	52.29	69.62	59.13	114	94	-44.38	-34.87	98	1.49
11510.00	-23.49	39.20	34.18	23.62	49.89	39.33	74	54	-24.11	-14.67	146	1.63
17265.00	-18.77	43.76	29.21	18.76	54.19	43.74	74	54	-19.81	-10.26	317	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.



TEST REPORT

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT40_CH159
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
3088.02	-30.49	30.26	42.89	32.35	42.66	32.12	74	54	-31.34	-21.88	213	1.99
3496.56	-29.94	30.99	42.78	32.29	43.84	33.35	74	54	-30.16	-20.65	158	1.75
3841.70	-29.28	31.82	42.45	31.96	44.99	34.50	74	54	-29.01	-19.50	103	1.61
4233.87	-28.74	32.20	42.02	31.54	45.48	35.00	74	54	-28.52	-19.00	300	1.52
4492.14	-28.48	32.20	42.12	31.67	45.84	35.39	74	54	-28.16	-18.61	88	1.38
5169.23	-27.46	33.54	40.94	30.38	47.02	36.46	74	54	-26.98	-17.54	192	1.21

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.		
2871.52	-30.68	29.61	43.25	32.70	42.17	31.62	74	54	-31.83	-22.38	317	1.50
3139.03	-30.42	30.35	43.27	32.78	43.20	32.71	74	54	-30.80	-21.29	42	1.68
3768.89	-29.42	31.64	41.65	31.16	43.88	33.39	74	54	-30.12	-20.61	200	1.92
4073.11	-28.90	32.20	41.35	30.80	44.65	34.10	74	54	-29.35	-19.90	205	2.01
4612.09	-28.34	32.47	41.18	30.69	45.31	34.82	74	54	-28.69	-19.18	197	2.29
4897.40	-28.01	33.15	39.92	29.45	45.06	34.59	74	54	-28.94	-19.41	338	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.



Spectrum Research & Testing Lab., Inc.
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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 241 of 484
Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT40_CH159 (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.		
5795.00 (F)	-27.02	33.80	64.07	53.54	70.85	60.32	114	94	-43.15	-33.68	210	1.46
11590.00	-23.44	39.20	33.28	22.77	49.04	38.53	74	54	-24.96	-15.47	193	1.70
17385.00	-18.61	44.59	27.91	17.39	53.90	43.38	74	54	-20.10	-10.62	40	1.58

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.		
5795.00 (F)	-27.02	33.80	64.32	53.87	71.10	60.65	114	94	-42.90	-33.35	172	1.62
11590.00	-23.44	39.20	33.30	22.83	49.06	38.59	74	54	-24.94	-15.41	98	1.60
17385.00	-18.61	44.59	27.85	17.37	53.84	43.36	74	54	-20.16	-10.64	117	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.



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TEST REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
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Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT80_CH155
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 (dBμV)		Emission Level (dBμV/m)		Limit (dBμV/m)		Margin (dB)		AZ (°)	EL (m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2139.69	-31.32	27.77	44.04	33.56	40.49	30.01	74	54	-33.51	-23.99	324	2.19
2857.61	-30.69	29.56	42.90	32.41	41.76	31.27	74	54	-32.24	-22.73	108	1.93
3031.33	-30.57	30.16	43.45	32.96	43.04	32.55	74	54	-30.96	-21.45	210	1.80
3706.57	-29.53	31.49	42.39	31.84	44.35	33.80	74	54	-29.65	-20.20	145	1.65
4293.18	-28.68	32.20	41.53	31.01	45.05	34.53	74	54	-28.95	-19.47	98	1.50
5078.24	-27.69	33.46	40.44	29.89	46.21	35.66	74	54	-27.79	-18.34	200	1.27

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.		
2494.21	-30.91	28.19	43.39	32.82	40.68	30.11	74	54	-33.32	-23.89	118	1.44
2896.05	-30.67	29.70	43.19	32.67	42.22	31.70	74	54	-31.78	-22.30	325	1.59
3482.64	-29.95	30.97	42.59	32.07	43.60	33.08	74	54	-30.40	-20.92	78	1.75
4107.93	-28.86	32.20	41.64	31.12	44.98	34.46	74	54	-29.02	-19.54	269	1.92
4596.50	-28.36	32.43	41.46	30.92	45.53	34.99	74	54	-28.47	-19.01	48	2.07
5152.39	-27.50	33.52	40.18	29.66	46.20	35.68	74	54	-27.80	-18.32	188	2.26

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 REPORT

Reference No.: A15102101
Report No.: FCCA15102101-01
FCC ID : ZME-MLWG3
Page: 243 of 484
Date: Dec. 22, 2015

Temperature:	23 °C	Humidity:	65 %RH
Frequency Range:	1 GHz – 25 GHz	Tested Mode:	MLWG3/64_5.8G 802.11ac - HT80_CH155 (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.		
5775.00 (F)	-26.99	33.80	62.25	51.78	69.06	58.59	114	94	-44.94	-35.41	241	1.49
11550.00	-23.47	39.20	33.51	23.04	49.24	38.77	74	54	-24.76	-15.23	70	1.62
17325.00	-18.69	44.18	28.24	17.73	53.72	43.21	74	54	-20.28	-10.79	195	1.60

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.		
5775.00 (F)	-26.99	33.80	62.18	51.69	68.99	58.50	114	94	-45.01	-35.50	238	1.58
11550.00	-23.47	39.20	33.50	23.00	49.23	38.73	74	54	-24.77	-15.27	201	1.51
17325.00	-18.69	44.18	28.31	17.76	53.79	43.24	74	54	-20.21	-10.76	311	1.44

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.

 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.: FCCA15102101-01 FCC ID : ZME-MLWG3 Page: 244 of 484 Date: Dec. 22, 2015
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4.3 BANDWIDTH TEST

4.3.1 LIMIT

FCC Part15, Subpart E Section 15.407 (e). Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

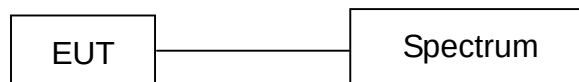
4.3.2 TEST EQUIPMENT

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 or 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.



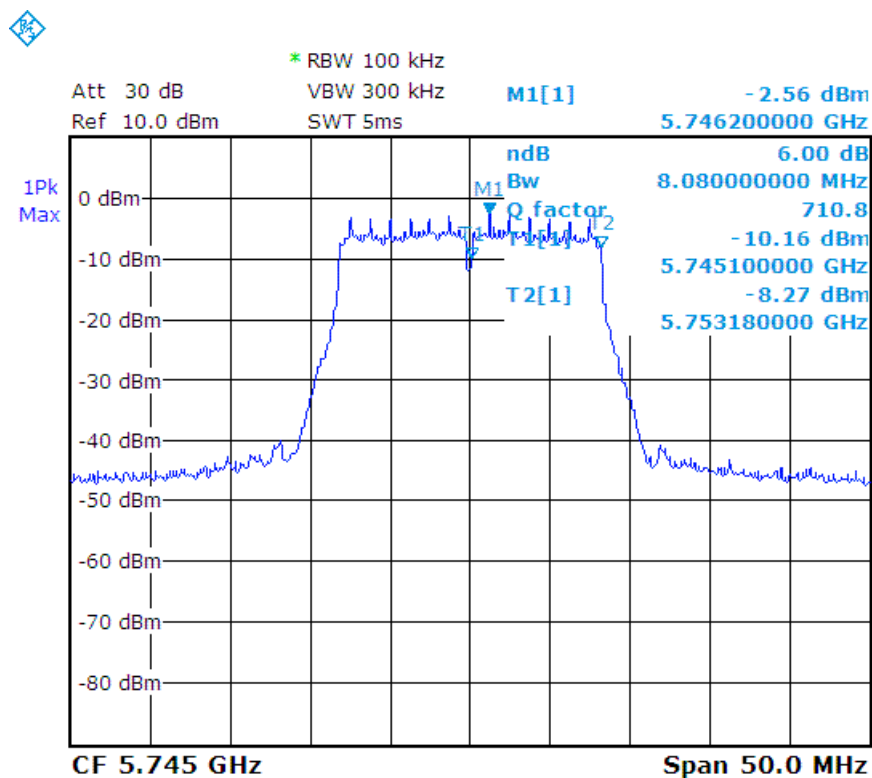
TEST REPORT

4.3.6 TEST RESULT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_5.8G_802.11a
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

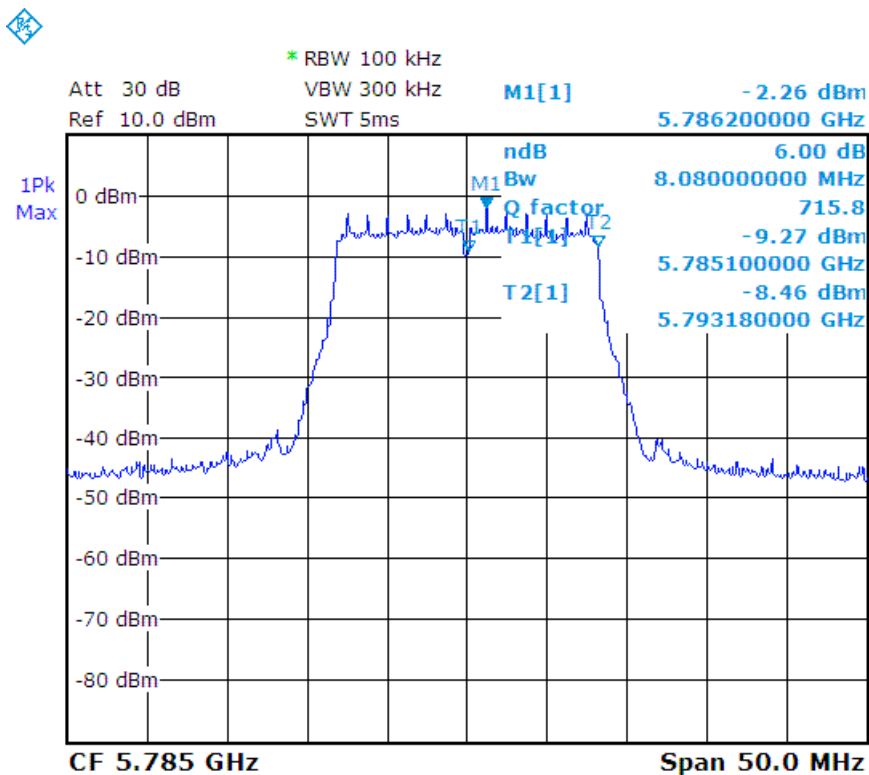
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH149	5745	8.08	0.5
CH157	5785	8.08	0.5
CH165	5825	7.88	0.5

a_CH149 :

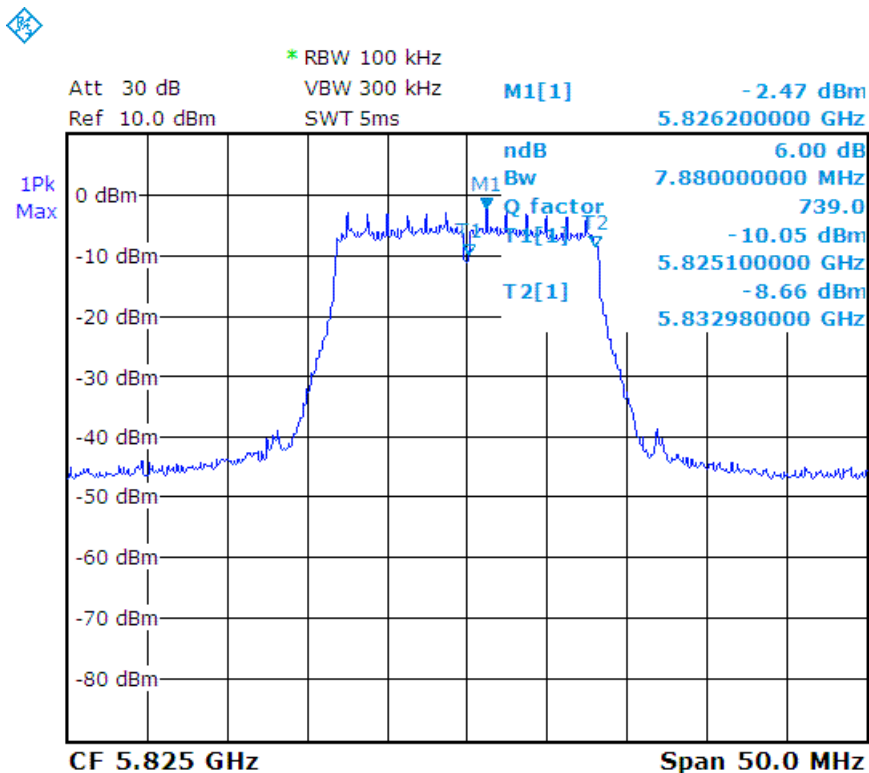




a_CH157 :



a_CH165 :



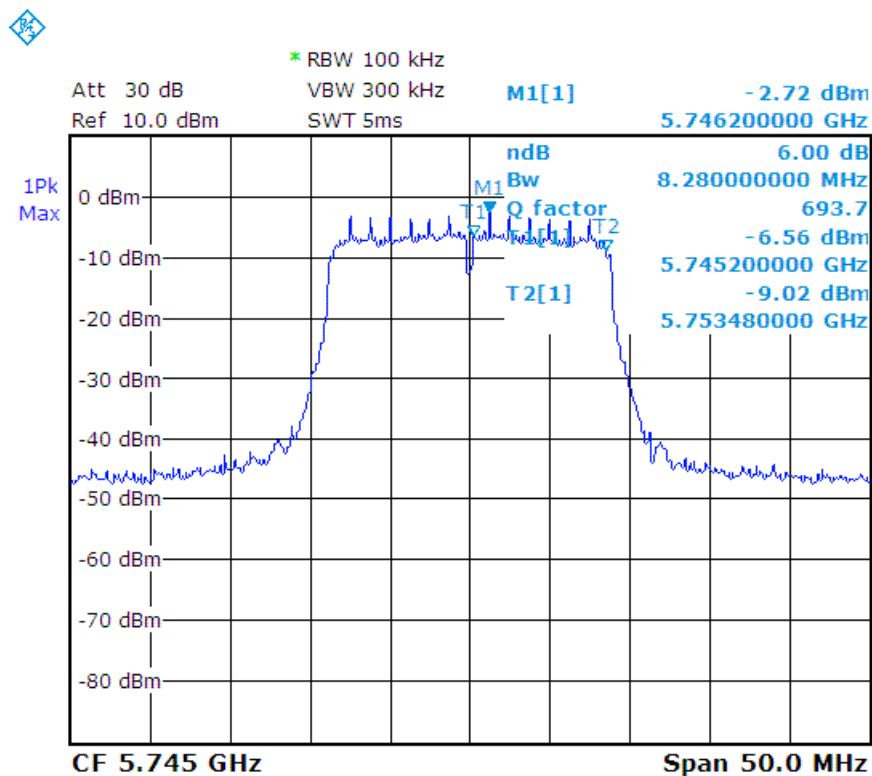


TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_5.8G_802.11n - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

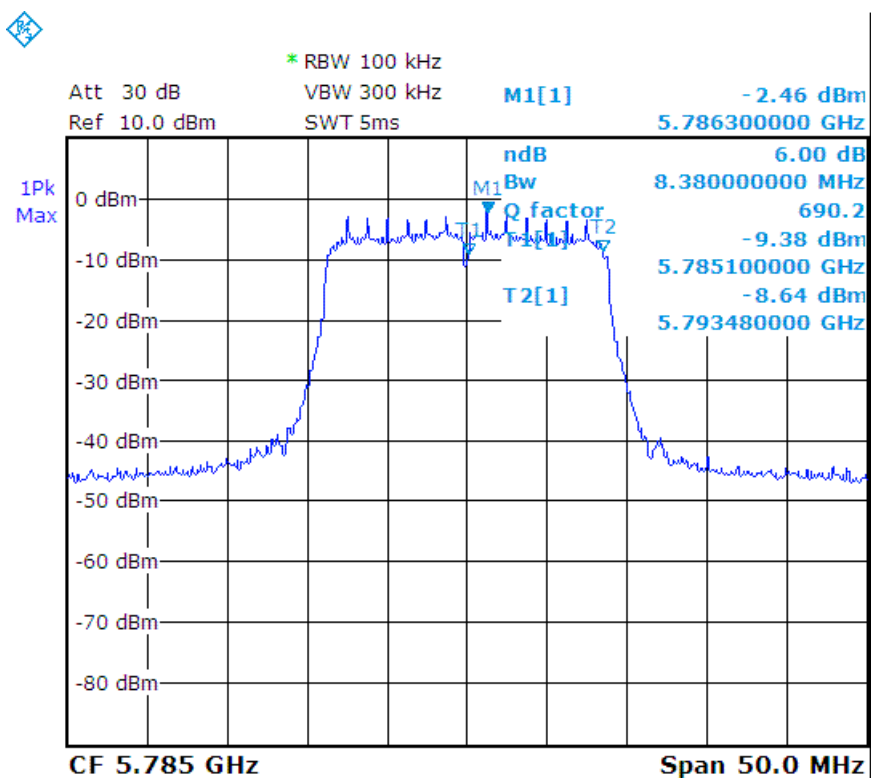
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH149	5745	8.28	0.5
CH157	5785	8.38	0.5
CH165	5825	8.18	0.5

n - HT20_CH149 :

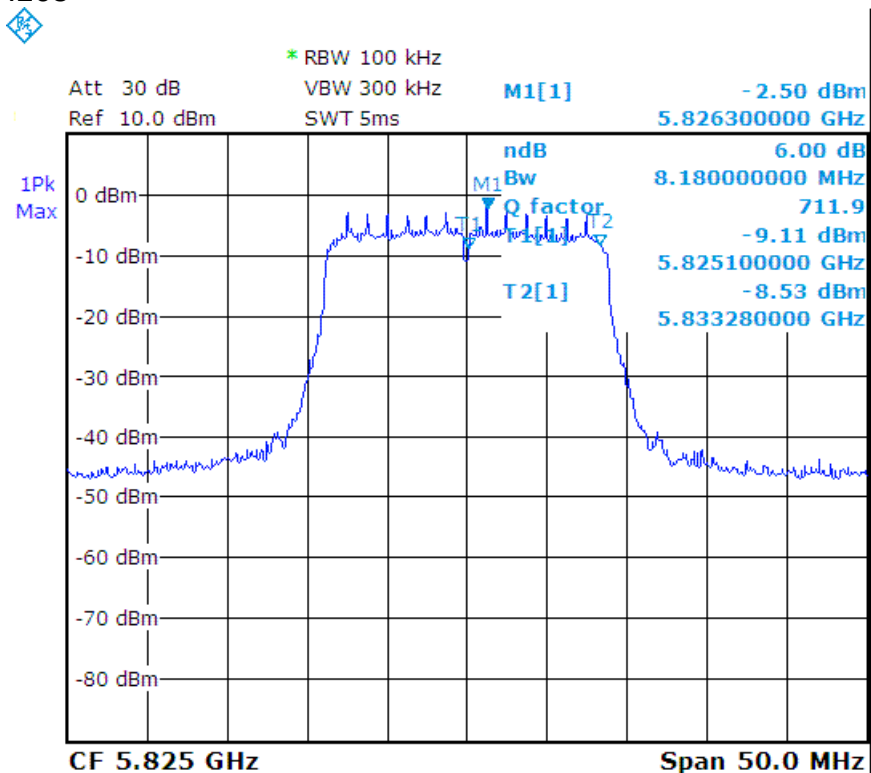




n - HT20_CH157 :



n - HT20_CH165 :



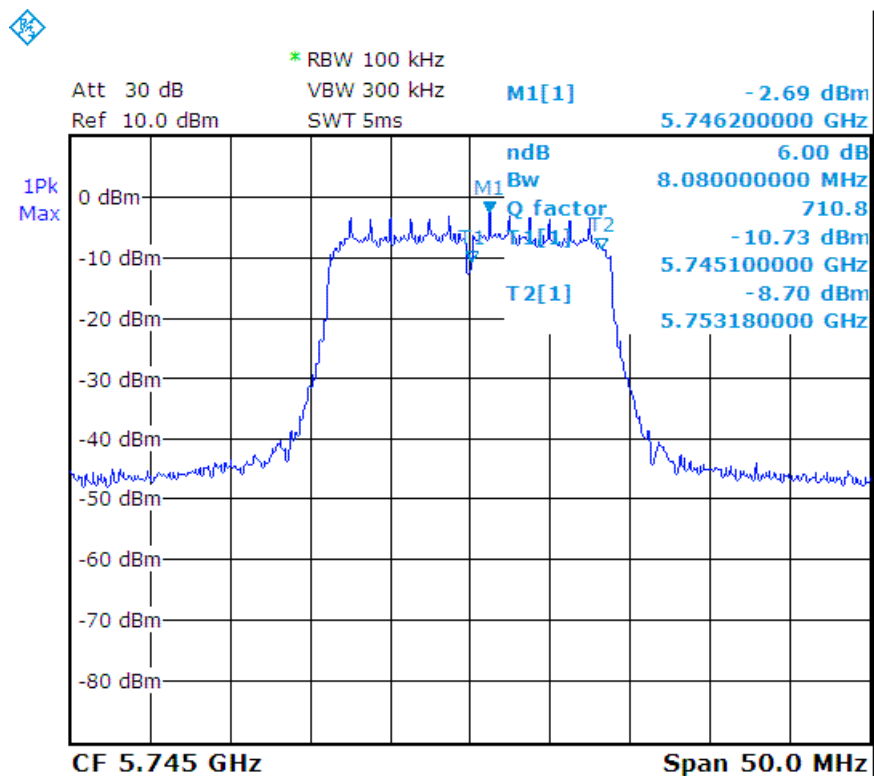


TEST REPORT

Temperature:	21 °C	Humidity:	59 %RH
Detector:	Peak	Test Mode:	MLWG3_5.8G_802.11ac - HT20
RBW:	100 kHz	VBW:	300 kHz
Tested By:	Richard Lin	Tested Date:	Nov. 23, 2015

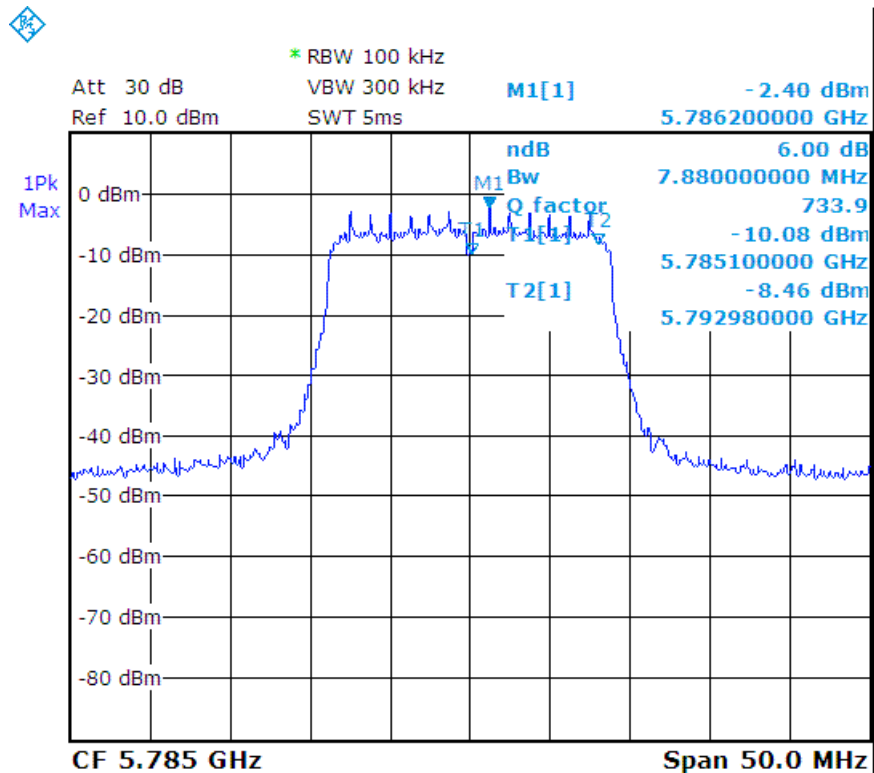
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH149	5745	8.08	0.5
CH157	5785	7.88	0.5
CH165	5825	8.38	0.5

ac - HT20_CH149 :





ac - HT20_CH157 :



ac - HT20_CH165 :

