

0659



FCC Radio Test Report

FCC ID: 2ATYCHMX04

Report No. : BTL-FCCP-3-2101T111

Equipment : HIPCAM

Model Name : Outdoor Spotlight Camera Max

Brand Name : HIPCAM

Applicant : Hipcam Global LLC

Address : 112 Capitol Trail, Newark, Delaware, 19711 United States

Manufacturer : Goldtek Technology Co., Ltd.

Address : 16F., No.166, Jian 1st Rd., Zhonghe Dist., New Taipei City 235, Taiwan

(R.O.C.)

Radio Function : WLAN 2.4 GHz

FCC Rule Part(s) : FCC Part15, Subpart C (15.247)

Measurement Procedure(s)

: ANSI C63.10-2013

Date of Receipt : 2021/2/2

Date of Test : 2021/2/2 ~ 2021/3/17

Issued Date : 2021/4/16

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REVISON HISTORY

Report No.	Version	Description	Issued Date
BTL-FCCP-3-2101T111	R00	Original Report.	2021/4/9
BTL-FCCP-3-2101T111	R01	Revised report to address TCB's comments.	2021/4/16

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SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Part 15, Subpart C (15.247)								
Standard(s) Section	Description	Test Result	Judgement	Remark				
15.207	AC Power Line Conducted Emissions	APPENDIX A	Pass					
15.205 15.209 15.247(d)	Radiated Emissions	APPENDIX B APPENDIX C	Pass					
15.247(a)	Bandwidth	APPENDIX D	Pass					
15.247(b)	Output Power	APPENDIX E	Pass					
15.247(e)	Power Spectral Density	APPENDIX F	Pass					
15.247(d)	Antenna conducted Spurious Emission	APPENDIX G	Pass					
15.203	Antenna Requirement		Pass					

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.(2) The report format version is TP.1.1.1.

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1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan The test sites and facilities are covered under FCC RN: 674415 and DN: TW0659.

□ CB08 □ CB11 □ CB15 □ CB16

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expanded uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k} = \mathbf{2}$, providing a level of confidence of approximately 95 %. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 \mathbf{U}_{cispr} requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C05	CISPR	150 kHz ~ 30MHz	3.44

B. Radiated emissions test:

Test Site	Measurement Frequency Range	U,(dB)
	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
CB15	1 GHz ~ 6 GHz	5.21
CB15	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

C. Conducted test:

Test Item	U,(dB)
Bandwidth	1.13
Output power	1.06
Power Spectral Density	1.20
Conducted Spurious emissions	1.14
Conducted Band edges	1.13

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	21 °C, 70 %	AC 120V	Vincent Lee
Radiated emissions below 1 GHz	21 °C, 68 %	AC 120V	Jay Kao
Radiated emissions above 1 GHz	22 °C, 66 %	AC 120V	Jay Kao
Bandwidth	22 °C, 52 %	AC 120V	Nero Hsieh
Output Power	22 °C, 52 %	AC 120V	Nero Hsieh
Power Spectral Density	22 °C, 52 %	AC 120V	Nero Hsieh
Antenna conducted Spurious Emission	22 °C, 52 %	AC 120V	Nero Hsieh



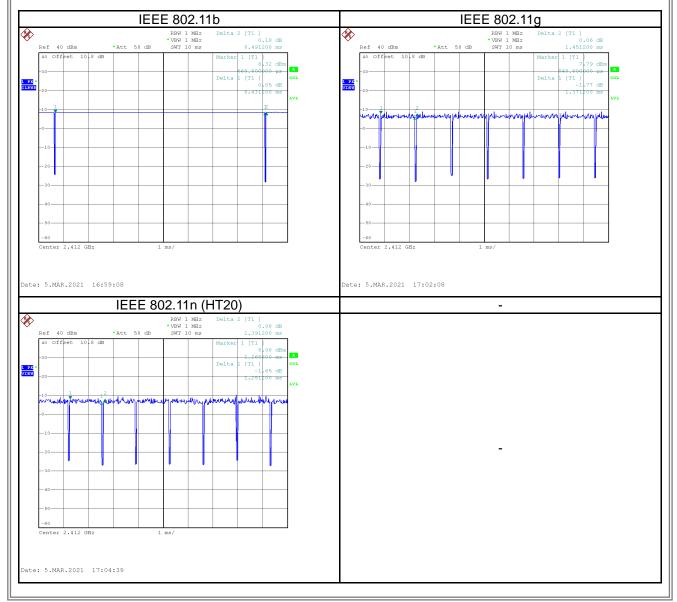
1.4 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

Test Software	Ampak RFTestTool V7.0				
Mode	2412 MHz	2437 MHz	2462 MHz	Data Rate	
IEEE 802.11b	DEF	DEF	DEF	1 Mbps	
IEEE 802.11g	DEF	DEF	DEF	6 Mbps	
IEEE 802.11n (HT20)	DEF	DEF	DEF	MCS 0	

1.5 DUTY CYCLE

If duty cycle is \geq 98 %, duty factor is not required. If duty cycle is < 98 %, duty factor shall be considered.

Remark	Delta 1			Delta 2	On Time/Period	10 log(1/Duty Cycle)
Mode	ON	Numbers	On Time (B)	Period (ON+OFF)	Duty Cycle	Duty Factor
Wiode	(ms)	(ON)	(ms)	(ms)	(%)	(dB)
IEEE 802.11b	8.431	1	8.43	8.491	99.29%	0.03
IEEE 802.11g	1.371	1	1.371	1.451	94.49%	0.25
IEEE 802.11n (HT20)	1.251	1	1.251	1.391	89.94%	0.46



2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	HIPCAM
Model Name	Outdoor Spotlight Camera Max
Brand Name	HIPCAM
Model Difference	N/A
Power Source	DC Voltage supplied from AC/DC adapter.
Power Rating	I/P: 100-240V~ 50/60Hz 0.6A Max O/P: 12.0Vdc 2.0A 24.0W
Products Covered	1 * Adapter: SIMSUKIAN / SK03T-1200200Z 1 * Base
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2412 MHz ~ 2462 MHz
	IEEE 802.11b: DSSS
Modulation Technology	IEEE 802.11g: OFDM
	IEEE 802.11n: OFDM
	IEEE 802.11b: 11/5.5/2/1 Mbps
Transfer Rate	IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps
	IEEE 802.11n: up to 72.2 Mbps
0 / 10 14	IEEE 802.11b: 17.95 dBm (0.0624 W)
Output Power Max.	IEEE 802.11g: 21.93 dBm (0.1560W)
To at Mandal	IEEE 802.11n (HT20): 22.28 dBm (0.1690 W)
Test Model	Outdoor Spotlight Camera Max
Sample Status	Engineering Sample
EUT Modification(s)	N/A

NOTE:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

(2) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

(3) Table for Filed Antenna:

Ant.	Manufacture	Product	Туре	Connector	Frequency Range (MHz)	Gain (dBi)
1	2	Wi-Fi Ant.	РСВ	N/A	2400-2500	3.86

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2.2 TEST MODES

Test Items	Test mode	Channel	Note	
AC power line conducted emissions	Normal/Idle	-	-	
Transmitter Radiated Emissions (below 1GHz)	TX Mode_IEEE 802.11n (HT20)	11	-	
	TX Mode_IEEE 802.11b			
	TX Mode_IEEE 802.11g	01/11	Bandedge	
Transmitter Radiated Emissions	TX Mode_IEEE 802.11n (HT20)			
(above 1GHz)	TX Mode_IEEE 802.11b		Harmonic	
	TX Mode_IEEE 802.11g	01/06/11		
	TX Mode_IEEE 802.11n (HT20)			
Bandwidth &	TX Mode_IEEE 802.11b			
Power Spectral Density &	TX Mode_IEEE 802.11g	01/06/11	-	
Antenna conducted Spurious Emission	TX Mode_IEEE 802.11n (HT20)			
	TX Mode_IEEE 802.11b			
Output Power	TX Mode_IEEE 802.11g	01/06/11	-	
	TX Mode_IEEE 802.11n (HT20)			

NOTE:

- (1) The Radiated emissions test was verified based on the worst conducted power and Bandwidth test results reported in the original report.
- (2) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.
- (3) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.
- (4) There were no emissions found below 30 MHz within 20 dB of the limit.

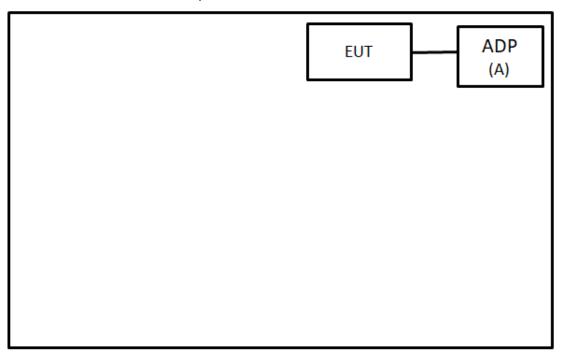
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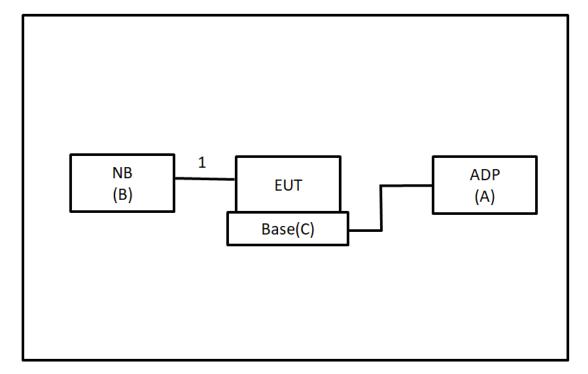
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.

AC power line conducted emissions



Radiated Emissions





2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
Α	Adapter	SIMSUKIAN	SK03T-1200200Z	N/A	Supplied by test requester.
В	NB	hp	TPN-I119	N/A	Furnished by test lab.
С	Base	HIPCAM	N/A	N/A	Supplied by test requester.

ı							
	Item	Shielded	Ferrite Core	Length	Cable Type	Remarks	
ı	1	N/A	N/A	1m	USB Cable	Furnished by test lab.	1

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3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency	Limit (dBµV)		
(MHz)	Quasi-peak	Average	
0.15 - 0.5	66 - 56 *	56 - 46 *	
0.50 - 5.0	56	46	
5.0 - 30.0	60	50	

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	ı	60	II	-18.33

The following table is the setting of the receiver.

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

3.2 TEST PROCEDURE

- a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
 - All other support equipment were powered from an additional LISN(s).
 - The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle to keep the cable above 40 cm.
- c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.
 - The end of the cable will be terminated, using the correct terminating impedance.
 - The overall length shall not exceed 1 m.
- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

NOTE:

- In the results, each reading is marked as Peak, QP or AVG per the detector used. BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

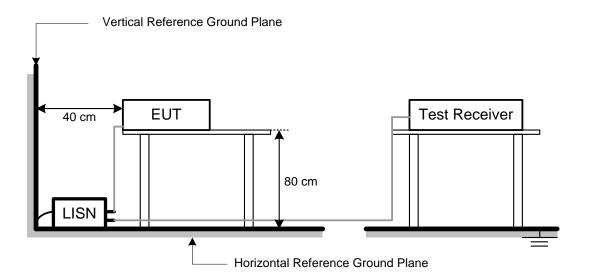
3.3 DEVIATION FROM TEST STANDARD

No deviation.

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3.4 TEST SETUP



3.5 TEST RESULT

Please refer to the APPENDIX A.



4 RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205, then the 15.209 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

		,
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Radiated (dBu	Measurement Distance	
(IVIHZ)	Peak	Average	(meters)
Above 1000	74	54	3

NOTE:

- (1) The limit for radiated test was performed according to FCC Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

Measurement Value		Limit Value		Margin Level
21.22	-	54	=	-32.78

Spectrum Parameter	Setting	
Attenuation	Auto	
Start Frequency	1000 MHz	
Stop Frequency	10th carrier harmonic	
RBW / VBW	1MHz / 3MHz for Peak,	
(Emission in restricted band)	1MHz / 1/T for Average	

Spectrum Parameter	Setting		
Attenuation	Auto		
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector		
Start ~ Stop Frequency	90KHz~110KHz for QP detector		
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector		
Start ~ Stop Frequency	490KHz~30MHz for QP detector		
Start ~ Stop Frequency	30MHz~1000MHz for QP detector		

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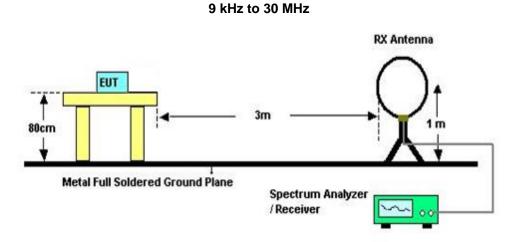
4.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

4.3 DEVIATION FROM TEST STANDARD

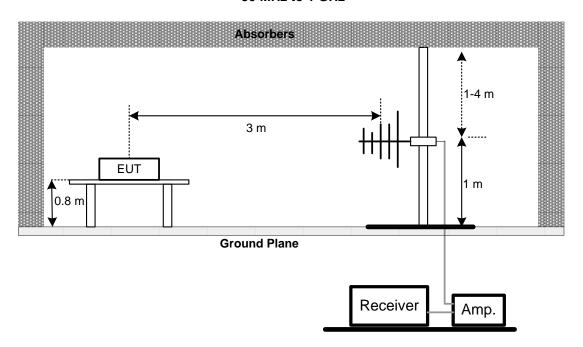
No deviation.

4.4 TEST SETUP

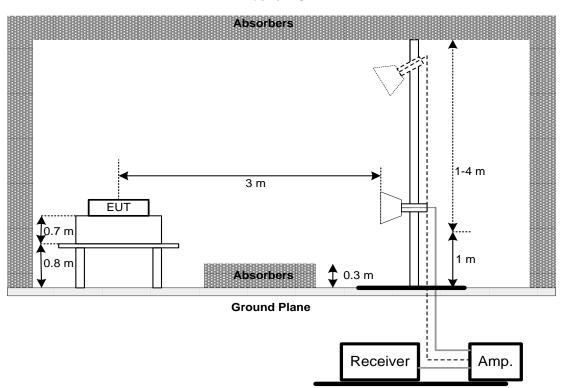




30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.



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4.6	TEST RESULT – 30 MHZ TO 1 GHZ
Plea	se refer to the APPENDIX B.
4.7	TEST RESULT – ABOVE 1 GHZ
Plea	se refer to the APPENDIX C.
 NO1	E:
	(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.

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5 BANDWIDTH TEST

5.1 LIMIT

FCC Part15, Subpart C (15.247)					
Section Test Item Limit					
15.247(a)	6 dB Bandwidth	500 kHz			

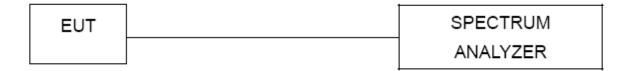
5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT

Please refer to the APPENDIX D.

6 OUTPUT POWER TEST

6.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section Test Item Limit				
15.247(b)	Maximum Output Power	1 Watt or 30dBm		

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum peak conducted output power was performed in accordance with method 9.1.2 of FCC KDB 558074 D01 DTS Meas Guidance.

6.3 DEVIATION FROM TEST STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULT

Please refer to the APPENDIX E.

7 POWER SPECTRAL DENSITY

7.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section	Limit			
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)		

7.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW = 3 kHz, VBW = 10 kHz, Sweep time = Auto.

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

7.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULT

Please refer to the APPENDIX F.

8 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST

8.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW = 100 kHz, VBW=300 kHz, Sweep time = Auto.
- c. Offset = antenna gain + cable loss.

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP

EUT SPECTRUM ANALYZER

8.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULT

Please refer to the APPENDIX G.

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9 LIST OF MEASURING EQUIPMENTS

	AC Power Line Conducted Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until		
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	2020/6/11	2021/6/10		
2	Test Cable	EMCI	EMC400-BM-BM- 5000	170501	2020/6/8	2021/6/7		
3	EMI Test Receiver	R&S	ESCI	100080	2020/6/15	2021/6/14		
4	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A		

	Radiated Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until		
1	Preamplifier	EMCI	EMC001340	980555	2020/4/10	2021/4/9		
2	Preamplifier	EMCI	EMC02325B	980217	2020/4/10	2021/4/9		
3	Preamplifier	EMCI	EMC012645B	980267	2020/4/10	2021/4/9		
4	Test Cable	EMCI	EMC-SM-SM-100 0	180809	2020/4/10	2021/4/9		
5	Test Cable	EMCI	EMC104-SM-SM- 3000	151205	2020/4/10	2021/4/9		
6	Test Cable	EMCI	EMC-SM-SM-700 0	180408	2020/4/10	2021/4/9		
7	MXE EMI Receiver	Agilent	N9038A	MY554200087	2020/6/10	2021/6/9		
8	Signal Analyzer	Agilent	N9010A	MY56480554	2020/8/25	2021/8/24		
9	Loop Ant	Electro-Metrics	EMCI-LPA600	274	2020/6/16	2021/6/15		
10	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2020/6/12	2021/6/11		
11	Horn Ant	Schwarzbeck	BBHA 9170	BBHA 9170340	2020/7/9	2021/7/8		
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	VULB 9168-352	2020/7/24	2021/7/23		
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2020/7/24	2021/7/23		
14	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A		

	Bandwidth							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until		
1	Spectrum Analyzer	R&S	FSP 40	100129	2020/6/15	2021/6/14		

	Output Power								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until			
1	Power Meter	Anritsu	ML2495A	1128008	2020/6/11	2021/6/10			
2	Power Sensor	Anritsu	MA2411B	1126001	2020/6/11	2021/6/10			

	Power Spectral Density								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until			
1	Spectrum Analyzer	R&S	FSP 40	100129	2020/6/15	2021/6/14			



	Antenna conducted Spurious Emission								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until			
1	Spectrum Analyzer	R&S	FSP 40	100129	2020/6/15	2021/6/14			

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.



10 EUT TEST PHOTO					
Please refer to document Appendix No.: TP-2101T111-FCCP-1 (APPENDIX-TEST PHOTOS).					
11 EUT PHOTOS					
Please refer to document Appendix No.: EP-2101T111-1 (APPENDIX-EUT PHOTOS).					

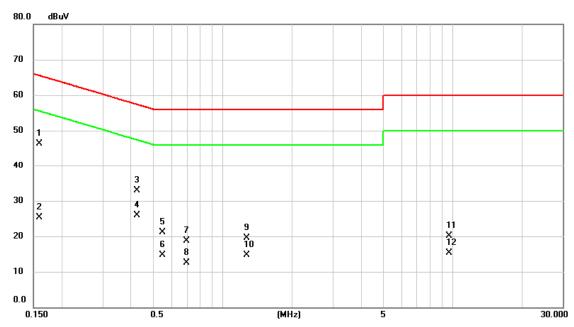
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APPENDIX A	AC POWER LINE CONDUCTED EMISSIONS

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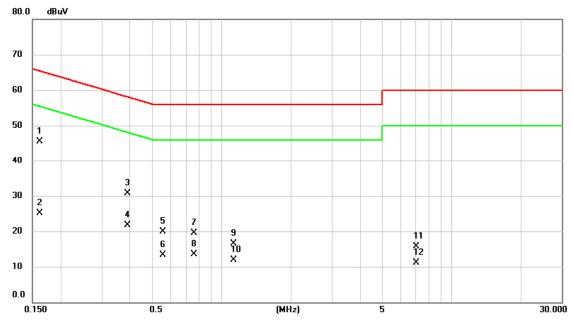
Ш				
	Test Mode	Normal	Tested Date	2021/3/12
	Test Frequency	-	Phase	Line



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1 *	0.1590	36.64	9.68	46.32	65.52	-19.20	QP	
2	0.1590	15.71	9.68	25.39	55.52	-30.13	AVG	
3	0.4267	23.24	9.68	32.92	57.32	-24.40	QP	
4	0.4267	16.18	9.68	25.86	47.32	-21.46	AVG	
5	0.5503	11.47	9.68	21.15	56.00	-34.85	QP	
6	0.5503	4.94	9.68	14.62	46.00	-31.38	AVG	
7	0.6967	8.94	9.68	18.62	56.00	-37.38	QP	
8	0.6967	2.81	9.68	12.49	46.00	-33.51	AVG	
9	1.2727	9.73	9.70	19.43	56.00	-36.57	QP	
10	1.2727	5.09	9.70	14.79	46.00	-31.21	AVG	
11	9.6315	10.18	9.92	20.10	60.00	-39.90	QP	
12	9.6315	5.34	9.92	15.26	50.00	-34.74	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

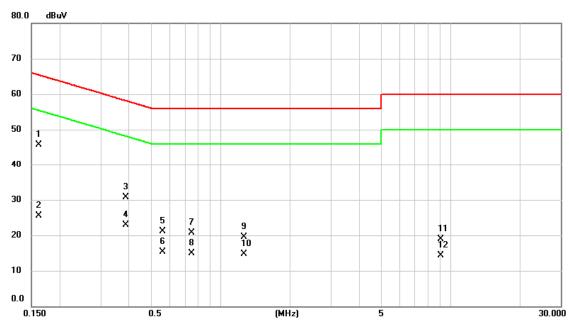
Test Mode	Normal	Tested Date	2021/3/12	
Test Frequency	-	Phase	Neutral	



No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1 *	0.1615	35.88	9.68	45.56	65.39	-19.83	QP	
2	0.1615	15.49	9.68	25.17	55.39	-30.22	AVG	
3	0.3907	21.03	9.68	30.71	58.05	-27.34	QP	
4	0.3907	11.98	9.68	21.66	48.05	-26.39	AVG	
5	0.5550	10.14	9.68	19.82	56.00	-36.18	QP	
6	0.5550	3.58	9.68	13.26	46.00	-32.74	AVG	
7	0.7575	9.72	9.69	19.41	56.00	-36.59	QP	
8	0.7575	3.83	9.69	13.52	46.00	-32.48	AVG	
9	1.1242	6.89	9.69	16.58	56.00	-39.42	QP	
10	1.1242	2.28	9.69	11.97	46.00	-34.03	AVG	
11	7.0238	5.90	9.87	15.77	60.00	-44.23	QP	
12	7.0238	1.32	9.87	11.19	50.00	-38.81	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

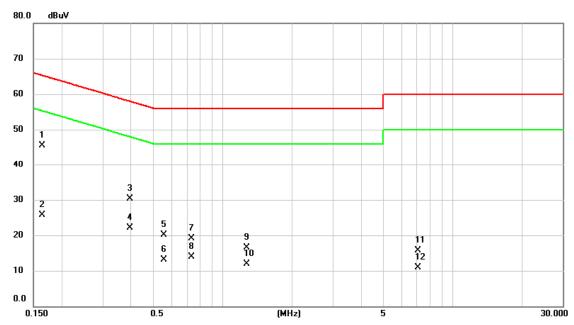
Test Mode	Idle	Tested Date	2021/3/12
Test Frequency	-	Phase	Line



No. I	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1	*	0.1615	36.07	9.68	45.75	65.39	-19.64	QP	
2		0.1615	15.82	9.68	25.50	55.39	-29.89	AVG	
3		0.3885	21.12	9.68	30.80	58.10	-27.30	QP	
4		0.3885	13.22	9.68	22.90	48.10	-25.20	AVG	
5		0.5617	11.46	9.68	21.14	56.00	-34.86	QP	
6		0.5617	5.69	9.68	15.37	46.00	-30.63	AVG	
7		0.7507	10.99	9.69	20.68	56.00	-35.32	QP	
8		0.7507	5.28	9.69	14.97	46.00	-31.03	AVG	
9		1.2615	9.77	9.70	19.47	56.00	-36.53	QP	
10		1.2615	5.01	9.70	14.71	46.00	-31.29	AVG	
11		9.0330	9.05	9.91	18.96	60.00	-41.04	QP	
12		9.0330	4.32	9.91	14.23	50.00	-35.77	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

Test Mode	Idle	Tested Date	2021/3/12
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBu∨	dB	dBu∨	dBu∨	dB	Detector	Comment
1	*	0.1635	35.84	9.68	45.52	65.28	-19.76	QΡ	
2		0.1635	15.96	9.68	25.64	55.28	-29.64	AVG	
3		0.3952	20.63	9.68	30.31	57.95	-27.64	QP	
4		0.3952	12.42	9.68	22.10	47.95	-25.85	AVG	
5		0.5550	10.33	9.68	20.01	56.00	-35.99	QP	
6		0.5550	3.45	9.68	13.13	46.00	-32.87	AVG	
7		0.7350	9.49	9.68	19.17	56.00	-36.83	QP	
8		0.7350	4.16	9.68	13.84	46.00	-32.16	AVG	
9		1.2705	6.84	9.70	16.54	56.00	-39.46	QP	
10		1.2705	2.22	9.70	11.92	46.00	-34.08	AVG	
11		7.0530	5.92	9.87	15.79	60.00	-44.21	QP	
12		7.0530	1.10	9.87	10.97	50.00	-39.03	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

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-	Test Mo	nde		IFFF802	2.11n (HT20	<u>))</u>		Tec	st Date		202	1/3/8	
	st Frequ			246	Polarization				Vertical				
	Temp			2				Hum.			8%		
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30.000	127.00			321.00	418.00	515.		12.00		9.00 806	.00	1000.00	MH
No.	Mk.	Freq		Reading Level	Correct Factor		easure- ment		₋imit	Over			
		MHz		dBuV	dB		BuV/m		BuV/m	dB	Detector	Comm	ent
1	*	62.268		41.55	-9.12		32.43		0.00	-7.57	QP		
2		168.06		37.49	-8.53		28.96		3.50	-14.54	peak		
3		244.82	27	36.29	-9.47		26.82	4	6.00	-19.18	peak		
4		499.99	73	34.15	-2.75	- (31.40	4	6.00	-14.60	peak		
5		599.97	20	37.58	-0.63		36.95	4	6.00	-9.05	QP		
6		900.02	53	31.37	4.15	- :	35.52	4	6.00	-10.48	peak		

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

Test Mode					IEEE80			0)	Test Date Polarization						21/3/8	
Test Frequency Temp				2462MHz 21°C				Polarization Hum.				Horizontal 68%				
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			MHz	7	dBuV		dB		BuV/m	_	dBuV/m		dB	Detecto	r Comn	nont
1			62.23		41.13		9.11		2.02		40.00		'.98	QP	i Coilli	iiCi Il
2			177.01		42.09		9.40		2.69		43.50		0.81	peak		
3			244.59		44.48		9.49		4.99		46.00		1.01	peak		
4		*	600.03		38.94		0.63		8.31		46.00		'.69	QP		
5			766.68		34.81		2.14		6.95		46.00		.05	peak		
6			966.66	3/13	36.52		5.30	1	1.82		54.00	-11	2.18	peak		

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.



APPENDIX C	RADIATED EMISSIONS - ABOVE 1 GHZ

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	Test Mo			802.11b		Test Date			1/3/5	
	Test Frequ	•		2MHz		Polarizatio	n	Horizontal		
	Temp)	2	2°C		Hum.		66	6%	
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2312	2.000 2332.0	00 2352.00	2372.00	2392.00	2412.00 24	32.00 24!	52.00 247	2.00	2512.00 MI	
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over			
			Level	Factor	ment					
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		2317.300	26.59	30.50	57.09	74.00	-16.91	peak		
2		2317.300 2412.000	14.44 77.80	30.50 30.88	44.94 108.68	54.00 74.00	-9.06 34.68	AVG peak	NoLimit	
2	V		77.00	JU.00	100.00	74.00		peak	NOLIIIII	
3	X *			30.88	105 52	54.00	51 52	Δ\/G	Nol imit	
		2412.000 2412.000 2501.647	74.64 26.85	30.88 31.24	105.52 58.09	54.00 74.00	51.52 -15.91	AVG peak	NoLimit	

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

		st Mo			802.11b		Test Date		2021/3/5		
Test Frequency					S2MHz		Polarization	า	Horizontal		
		Temp		2	2°C		Hum.		66	3%	
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2362	2.000	2382.00	2402.00	2422.00	2442.00	2462.00 24		252	2.00	2562.00 MF	
No.	ľ	Иk.	Freq.	Reading	Correct	Measure-	Limit	Over			
				Level	Factor	ment					
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
			2365.840	25.59	30.69	56.28	74.00	-17.72	peak		
1					20 60	37.23	54.00	-16.77	AVG		
2			2365.840	6.54	30.69					A1 1 1 1 12	
2		X	2462.000	78.80	31.08	109.88	74.00	35.88	peak	NoLimit	
2		X *								NoLimit NoLimit	

- Measurement Value = Reading Level + Correct Factor.
 Margin Level = Measurement Value Limit Value.

7	est Mod	de	IEEE	802.11g		Test Date		202	21/3/5	
Tes	t Freque	ency		2MHz		Polarizatio	n		zontal	
	Temp		2	2°C		Hum.		6	6%	
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2312.000	2332.00	2352.00	2372.00	2392.00	2412.00 24			2.00	2512.00 M	ИΗ
No.	Mk.	Freq.	Reading Level	Correct	Measure-	Limit	Over			
		MHz	dBuV	Factor dB	ment dBuV/m	dBuV/m	dB	Detector	Commen	nt.
1		2381.000	33.61	30.76	64.37	74.00	-9.63	peak	3011111011	<u> </u>
2		2381.000	18.34	30.76	49.10	54.00	-4.90	AVG		_
3	Χ	2412.000	78.50	30.88	109.38	74.00	35.38	peak	NoLimit	t
4	*	2412.000	69.47	30.88	100.35	54.00	46.35	AVG	NoLimit	t
5		2494.600	25.63	31.21	56.84	74.00	-17.16	peak		
6		2494.600	13.52	31.21	44.73	54.00	-9.27	AVG		_

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

	Test Mo	ode		802.11g		Test Date		202	1/3/5
Te	est Frequ	uency		S2MHz		Polarizatio	n		zontal
	Temp)	2	2°C		Hum.		66	6%
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No.	000 2382.0 Mk.		2422.00	2442.00	2462.00 24 Measure-	182.00 250 Limit	02.00 252 Over	2.00	2562.00 MH
INO.	IVIK.	Freq.	Reading Level	Correct Factor	ment	LITTIIL	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2371.900	25.95	30.71	56.66	74.00	-17.34	peak	20111110111
2		2371.900	5.02	30.71	35.73	54.00	-18.27	AVG	
3	Х	2462.000	79.41	31.08	110.49	74.00	36.49	peak	NoLimit
4	*	2462.000	70.26	31.08	101.34	54.00	47.34	AVG	NoLimit
5		2483.860	38.34	31.17	69.51	74.00	-4.49	peak	
			19.39	31.17	50.56	54.00	-3.44	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

-	Test Mod	de	IEEE802	2.11n (HT20	0)	Test Date		202	1/3/5
Tes	st Frequ	ency	24	12MHz	,	Polarizatio	n	Horiz	zontal
	Temp		4	22°C		Hum.		60	6%
130.0 dB	uV/m								
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	0 2332.00	0 2352.00	2372.00	2392.00	2412.00 24	432.00 24!	52.00 247	2.00	2512.00 MH
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		•	Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2388.387	36.84	30.78	67.62	74.00	-6.38	peak	
2		2388.387	19.29	30.78	50.07	54.00	-3.93	AVG	
3	Χ	2412.000		30.88	109.49	74.00	35.49	peak	NoLimit
4	*	2412.000		30.88	100.06	54.00	46.06	AVG	NoLimit
5 6		2489.573 2489.573		31.18	57.83	74.00	-16.17	peak AVG	
			13.66	31.18	44.84	54.00	-9.16		

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

	est Mod			.11n (HT20	_	Test Date			1/3/5
Tes	t Frequ	ency		S2MHz		Polarizatio	n		zontal
	Temp		2	2°C		Hum.		60	6%
30.0 dB	uV/m								
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2362.000	2382.00	2402.00	2422.00	2442.00	2462.00 24	182.00 250	02.00 252	2.00	2562.00 MH
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.207	25.31	30.78	56.09	74.00	-17.91	peak	
2		2387.207	5.27	30.78	36.05	54.00	-17.95	AVG	
3	Χ	2462.000	79.79	31.08	110.87	74.00	36.87	peak	NoLimit
4	*	2462.000	70.85	31.08	101.93	54.00	47.93	AVG	NoLimit
5		2485.293	37.30	31.17	68.47	74.00	-5.53	peak	
6		2485.293	19.50	31.17	50.67	54.00	-3.33	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value Limit Value.

•	Test Mo	de	IEE	E802.11b		Test Date)	202	1/3/5
Tes	st Frequ		24	112MHz		Polarizatio	n		rtical
	Temp)		22°C		Hum.		6	6%
130.0 dB	uV/m								
120									
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100									
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so									
50		1							
10		½ ×							
30		×							
20									
10.0	0 3550.0	0 6100.0	0 8650.00	11200.00	13750.00	16300.00 18	850.00 21 4	00.00	26500.00 MH:
No.	Mk.	Freq.	Reading		Measure		Over	00.00	26300.00 MH
INO.	IVIIV.	i ieq.	Level	Factor	ment	Liiiil	Ovei		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.00	0 52.23	-9.96	42.27	74.00	-31.73	peak	
2	*	4824.00	0 46.32	-9.96	36.36	54.00	-17.64	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mo			802.11b		Test Da			1/3/5
Tes	t Frequ			2MHz		Polariza			zontal
	Temp		2	2°C		Hum).	6	6%
130.0 dB	ıV/m								
120									
20									
10									
00									
,,,									
io									
o									
:0									
iO		ž.							
10		X							
10									
20									
10.0									
	3550.00		8650.00	11200.00	13750.00	16300.00	18850.00	21400.00	26500.00 MH
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure ment	e- Limit	t Ove	er	
		MHz	dBuV	dB	dBuV/m	dBuV/	m dB	Detector	Comment
1		4824.000	56.26	-9.96	46.30	74.00			20
2	*	4824.000	51.18	-9.96	41.22	54.00			

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

-	Test Mo	de			802.11b			Test D				1/3/5
Tes	st Frequ				7MHz			Polariza				rtical
	Temp	1		2	2°C			Hum	١.		6	6%
30.0 dB	uV/m											
20												
10												
00												
90												
30												
'o												
50			1 Ž									
io <u> </u>			X									
0												
io												
20												
0.0												
	0 3550.0	0 6100.0		50.00	11200.00	13750.00		300.00	18850.		00.00	26500.00 MH
No.	Mk.	Freq.		ading evel	Correct Factor	Measu men		Limit	t	Over		
		MHz	C	BuV	dB	dBuV.	m	dBuV/	m_	dB	Detector	Comment
1		7311.00	0 5	6.94	-2.43	54.5	1	74.00) .	-19.49	peak	
2	*	7311.00	0 5	1.04	-2.43	48.6	1	54.00)	-5.39	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

_	Test Mo	de		IEEE	802.11b				Test Da	ate		202	1/3/5
Tes	st Frequ	ency			37MHz			F	Polariza	ition			zontal
	Temp			2	2°C				Hum			6	6%
130.0 dB	uV/m												
20													
10													
100													
30													
30													
vo 🗀													
50			1										
io			1 2										
ا ا			×										
30													
20													
10.0													
1000.00	0 3550.00	0 6100.0	0 865	0.00	11200.0) 1:	3750.00	16	300.00	18850.	00 214	00.00	26500.00 MH
No.	Mk.	Freq.		ading	Corre		Measur	e-	Limit		Over		
				evel	Facto	or	ment						
		MHz		3uV	dB		dBuV/r	n	dBuV/ı		dB	Detector	Comment
1		7311.00		5.74	-2.43		53.31		74.00		-20.69	peak	
2	*	7311.00	0 48	3.79	-2.43	3	46.36		54.00)	-7.64	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	Test Mod	de		IEEE	302.11b				Test D	ate		202	21/3/5
Tes	st Freque	ency		246	2MHz			F	Polariza	ation		Ve	rtical
	Temp			2	2°C				Hum	۱.		6	6%
130.0 dB	uV/m												
120													
110													
100													
90													
80													
70													
60			1										
50			1, 2										
40			×										
30													
20													
10.0													
1000.00	0 3550.00	6100.00	8650	0.00	11200.00	1:	3750.00	163	300.00	1885	0.00 21	400.00	26500.00 MH:
No.	Mk.	Freq.		ding	Corre		Measur	e-	Limit	t	Over	•	
		B 41 1		vel	Facto	r	ment		ID 1/1	,	ID	5	<u> </u>
4		MHz		uV	dB		dBuV/n	n	dBuV/		dB	Detector	Comment
1	*	7386.000		.30	-2.09		53.21		74.00		-20.79	peak	
2	••	7386.000) 48	.91	-2.09	,	46.82		54.00	U	-7.18	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mod				302.11b			Test Da				1/3/5
Tes	t Freque	ency			2MHz			Polariza				zontal
	Temp			2	2°C			Hum	١.		60	6%
130.0 dBc	IV/m											
120												
20												
10												
00												
.												
90												
;o												
o 💳												
50			1									
io			2									
.0			×									
30												
20												
10.0												
1000.000	3550.00	6100.00	8650	.00	11200.00	13750.0	0 16	300.00	18850.0	0 2140	00.00	26500.00 MH
No.	Mk.	Freq.	Rea		Correct	Meas		Limit	t (Over		
			Lev		Factor	me		15.14	,	15	5	•
		MHz	dB		dB	dBu		dBuV/		dB	Detector	Comment
1	*	7386.050			-2.09	53.		74.00		20.38	peak	
2	*	7386.050	46.	84	-2.09	44.	./5	54.00) -	9.25	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

•	Test Mo	de		IE	EEE	802.1	1g				Test D	ate			202	21/3/5	
Tes	st Frequ					2MHz	<u> </u>			P	olariza					rtical	
	Temp)			2	2°C					Hum	າ.			6	6%	
30.0 dB	uV/m																7
20																	
10																	-
00																	
o																	-
o																	-
0																	1
0																	$\frac{1}{1}$
0		_															1
		1 X															
		2 X															
o																	
0.0																	
	0 3550.0			8650.0		11200			0.00		00.00		50.00	2140	0.00	26500.00) MI
No.	Mk.	Freq.		Read Lev			rect ctor		easure ment) -	Limi	t	Ove	er			
		MHz		dBu	١V		В	dl	3uV/n	1	dBuV	/m	dB	3	Detector	Comme	ent
1		4824.0	00	53.5	59	-9	.96	4	43.63		74.0	0	-30.3	37	peak		
2	*	4824.0	00	42.7	79	-9	.96	- (32.83		54.0	0	-21.	17	AVG		

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mod t Freque				802.11g 2MHz		Test Date Polarization			1/3/5 zontal
162	Temp	энсу			2°C		Hum.	11		2011(a) 6%
30.0 dB	.V/m						T I WITT			570
20										
10										
00										
o										
, L										
,										
)										
,										
_										
0		2 *								
0		^								
0										
0										
0.0										
	3550.00			8650.00	11200.00				00.00	26500.00 MH
No.	Mk.	Freq.		Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz		dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.00	00	54.60	-9.96	44.64	74.00	-29.36	peak	
2	*	4824.00		53.66	-9.96	43.70	54.00	-10.30	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

٦			IEEE	302.11g			-	Test Da	ate		202	21/3/5	
Tes				243	7MHz			Р	olariza	tion			rtical
	Temp			2	2°C				Hum	١.		6	6%
130.0 dB	uV/m												
120													
110													
100													
90													
во													
70													
60													
50			X										
40			2 X										
			•										
30													
20													
10.0													
1000.00	3550.00	6100.00	8650	.00	11200.00	1375	50.00	1630	00.00	18850	0.00 214	100.00	26500.00 MH
No.	Mk.	Freq.		ding	Correct	: Me	easure	-	Limit		Over		
			Le		Factor		ment						
		MHz	dB		dB		BuV/m		dBuV/		dB	Detector	Comment
1		7311.000			-2.43		51.93		74.00		-22.07	peak	
2	*	7311.000	43.	.47	-2.43	2	11.04		54.00)	-12.96	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	Test Mo			IEEE	802.11g			Test Da				1/3/5
Tes	st Frequ				7MHz			Polariza				zontal
	Temp)		2	2°C			Hum	١.		6	6%
130.0 dB	uV/m			1								
120												
110												
100												
30												
30												
70												
50			1									
50			X X									
ю			2 X									
30												
20												
10.0												
	0 3550.0			0.00	11200.00	13750.		300.00	18850.		00.00	26500.00 MH
No.	Mk.	Freq.		ading evel	Correct Factor		sure- ent	Limit	t	Over		
		MHz	dE	₿uV	dB	dBı	ıV/m	dBuV/	m_	dB	Detector	Comment
1		7311.000	54	.05	-2.43	51	.62	74.00)	-22.38	peak	
2	*	7311.000	$\overline{43}$	3.36	-2.43	40).93	54.00) _	-13.07	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	Test Mo			802.11g		Test Date			1/3/5
Te	st Frequ			32MHz		Polarizatio	n		rtical
	Temp		2	2°C		Hum.		6	6%
130.0 dB	luV/m								
120									
110									
100									
90									
80									
70									
60									
50			X 2						
10			2 X						
30									
20									
10.0									
1000.00	0 3550.0	0 6100.00	8650.00	11200.00	13750.00 1		B50.00 21 4	00.00	26500.00 MH
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7386.000	53.42	-2.09	51.33	74.00	-22.67	peak	
2	*	7386.000	43.18	-2.09	41.09	54.00	-12.91	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mod				802.11g		Test D			1/3/5
les	Freque	ency			2MHz		Polariza			zontal
20.0 40.	Temp			2	2°C		Hum		6	6%
30.0 dBu	IV/M									
20										
20										
10										
00										
0										
o										
o 💳										
,										
0										
o 💳			X X							
_			2 X							
0			_ X							
0										
0										
0.0										
1000.000	3550 OC	6100.0	n :	8650.00	11200.00	13750.00	16300.00	18850.00 2	1400.00	26500.00 MH
No.	Mk.	Freq.		Reading	Correct	Measure			. 100.00	20000.00 MI
				Level	Factor	ment		2.01		
		MHz		dBuV	dB	dBuV/m	dBuV/	m dB	Detector	Comment
1		7386.00	0	54.27	-2.09	52.18	74.00	-21.82	peak	
2	*	7386.00	0	43.36	-2.09	41.27	54.00	-12.73	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mo t Frequ			302.11 2412N	∩ (HT20 IH z	0)			Test Dat				1/3/5 rtical
163	Temp			22°C				- '	Hum.	011			6%
30.0 dB	ıV/m					-							
20													
10													
00													
0													
o 💳													
o													
io													
.0		1 X											
ıo		2 X											
0													
1000 000	3550.00	0 6100.0	0 8650.0	0 11	200.00	1375	n nn 1	1000	00.00 1	8850.00	214	00.00	26500.00 MH
No.	Mk.	Freq.	Readi		Correct		asure-		Limit	O\		00.00	20300.00 MI
	.,,,,,		Leve		actor		nent						
		MHz	dBu'	V	dB	dE	BuV/m	(dBuV/m	n d	В	Detector	Comment
1		4824.00			-9.96		2.00		74.00	-32		peak	
2	*	4824.00	0 41.7	0	-9.96	3	1.74		54.00	-22	.26	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	Test Mode Test Frequency			.11n (HT20	0)	Test Dat			1/3/5
Te				12MHz		Polarization	on		zontal
	Temp)	2	2°C		Hum.		6	6%
130.0 dl	3uV/m								
120									
110									
100									
10									
30									
30									
'o 🗀									
50									
ou									
50		_							
to		1 X							
		2 X							
30		^							
20									
10.0									
	00 3550.0			11200.00				100.00	26500.00 MH:
No.	Mk.	Freq.	Reading	Correct	Measure	- Limit	Over		
		MHz	Level dBuV	Factor dB	ment dBuV/m	dBuV/m	ı dB	Detector	Comment
1		4824.000		-9.96	41.91	74.00	-32.09	peak	Comment
			01.01	0.00	71.01	7 7.00	JZ.UJ	poan	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	est Mod			.11n (HT20	0)	Test Da			1/3/5
Tes	t Freque	ency		37MHz		Polariza			rtical
	Temp		2	2°C		Hum	•	6	6%
130.0 dB	W/m								
120									
20									
10									
00									
_									
90									
30									
'o 🗀									
50									
io			×						
10			2 X						
			.						
30									
20									
10.0									
1000.000	3550.00	6100.00	8650.00	11200.00	13750.00	16300.00	18850.00 2	1400.00	26500.00 MH
No.	Mk.	Freq.	Reading	Correct	Measure	- Limit	Over		
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m			Detector	Comment
1		7311.000	52.23	-2.43	49.80	74.00			
2	*	7311.000	43.13	-2.43	40.70	54.00	-13.30	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

7	est Mod	10	IEEE00	2.11n (HT20	2)	Test Da	to	202	1/3/5
	t Freque			2.1111 (1112) 37MHz	J)	Polarizat			zontal
100	Temp	ЗПОУ		22°C		Hum.			6%
130.0 dB	.V/m								<u> </u>
120									
110									
100									
90									
80									
70									
60									
50			X X						
40			2 X						
30									
20									
10.0									
	3550.00			11200.00	13750.00			1400.00	26500.00 MH:
No.	Mk.	Freq.	Readino Level	Correct Factor	Measure ment	- Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/n	n dB	Detector	Comment
1		7311.000		-2.43	50.20	74.00	-23.80		
2	*	7311.000		-2.43	40.84	54.00	-13.16		

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

Т	Test Mode IEEE802.11n Test Frequency 2462MH		11n (HT2	20)		-	Test Da	ate		202	1/3/5		
Tes	t Freque	ency				<i>'</i>		Р	olariza	ation		Ve	rtical
	Temp			22	2°C				Hum	١.		6	6%
130.0 dB	ıV/m												
120													
110													
100													
90													
30													
70													
60			_										
50			X X										
40			2 X										
30													
20													
10.0													
1000.000	3550.00	6100.00	8650.	00	11200.00	1375	0.00	1630	00.00	1885	0.00 214	00.00	26500.00 MH:
No.	Mk.	Freq.	Read		Correct		easure	-	Limit		Over		
		N 41 1	Lev		Factor		ment		JD 1//		JD	Datast	0
		MHz	dBu		dB		BuV/m		dBuV/		dB	Detector	Comment
1	*	7386.000			-2.09		50.96		74.00		-23.04	peak	
2	•	7386.000	43.	58	-2.09	2	11.49		54.00	J	-12.51	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

	Test Mod	do	IEEE	202 44	n /UT20	<u> </u>		т,	est Date	-	200	21/3/5
	st Frequ			2462N	n (HT20 IHz	J)			larizatio			zontal
100	Temp			22°0				10	Hum.	J11		6%
130.0 dB	uV/m								-			
120												
110												
100												
90												
80												
70												
60			_									
50			X X									
40			2 X									
30												
20												
10.0												
	0 3550.00				200.00	1375		16300			21400.00	26500.00 MHz
No.	Mk.	Freq.	Readi Leve		Correct Factor		easure- ment	-	Limit	Over		
		MHz	dBu		dB		BuV/m	d	BuV/m	dB	Detector	Comment
1		7386.000	52.6		-2.09	5	0.58		74.00	-23.4		
2	*	7386.000	43.2	6	-2.09	4	1.17		54.00	-12.8	3 AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.

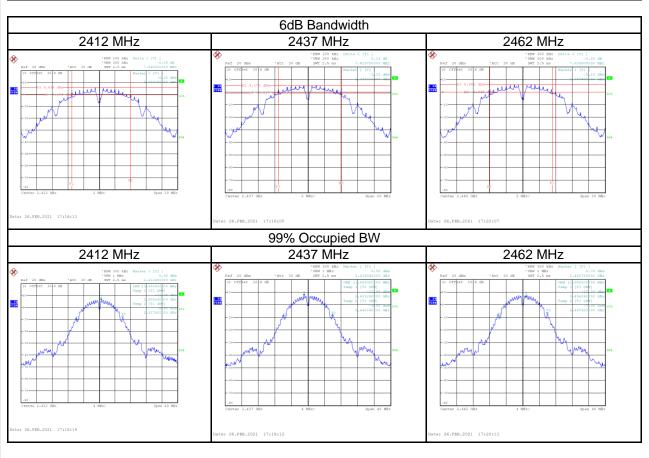
Report No.: BTL-FCCP-3-2101T111 APPENDIX D BANDWIDTH

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Test Mode IEEE 802.11b

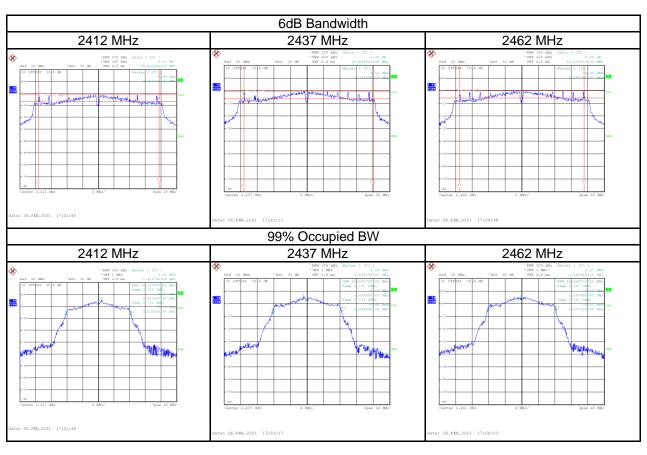
Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	7.54	11.68	≥ 500	Pass
2437	7.63	11.60	≥ 500	Pass
2462	7.64	11.68	≥ 500	Pass





Test Mode IEEE 802.11g

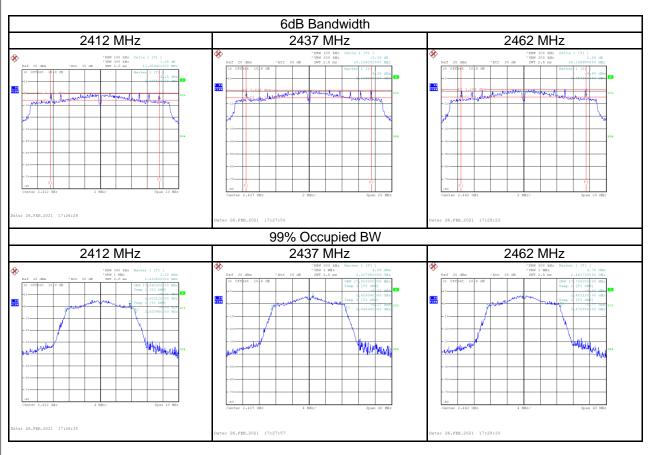
Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	15.43	16.80	≥ 500	Pass
2437	15.55	16.80	≥ 500	Pass
2462	15.12	16.64	≥ 500	Pass





Test Mode IEEE 802.11n (HT20)

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	13.96	17.84	≥ 500	Pass
2437	15.20	17.92	≥ 500	Pass
2462	15.20	17.76	≥ 500	Pass







APPENDIX E	OUTPUT POWER

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Test Mode IEEE 802.11b Tested Date 2021/2/24
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Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Limit (dBm)	Limit (W)	Result
2412	16.59	0.0456	30.00	1.0000	Complies
2437	17.43	0.0553	30.00	1.0000	Complies
2462	17.95	0.0624	30.00	1.0000	Complies

Test Mode	IEEE 802.11g	Tested Date	2021/2/24
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Frequency	Conducted Power	Conducted Power (W)	Limit	Limit	Result
(MHz)	(dBm)	Conducted Power (vv)	(dBm)	(W)	Result
2412	19.65	0.0923	30.00	1.0000	Complies
2437	21.21	0.1321	30.00	1.0000	Complies
2462	21.93	0.1560	30.00	1.0000	Complies

Test Mode IE	EEE 802.11n (HT20)	Tested Date	2021/2/24
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Frequency	Conducted Power	Conducted Power (W)	Limit	Limit	Result
(MHz)	(dBm)	(1.)	(dBm)	(W)	
2412	21.08	0.1282	30.00	1.0000	Complies
2437	21.66	0.1466	30.00	1.0000	Complies
2462	22.28	0.1690	30.00	1.0000	Complies





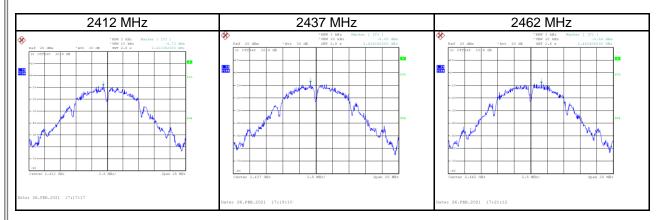
APPENDIX F	POWER SPECTRAL DENSITY	

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Test Mode IEEE 802.11b

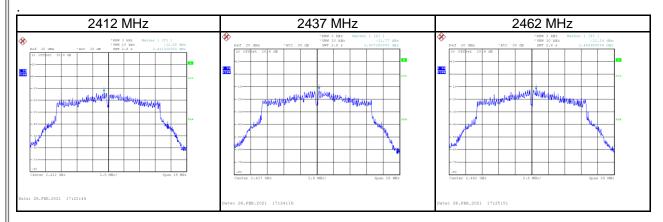
Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-8.73	8.00	Pass
2437	-8.00	8.00	Pass
2462	-8.54	8.00	Pass





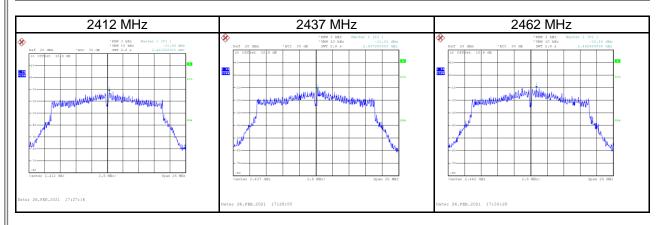
Test Mode IEEE 802.11g

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-12.60	8.00	Pass
2437	-11.77	8.00	Pass
2462	-12.14	8.00	Pass





Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-11.94	8.00	Pass
2437	-11.01	8.00	Pass
2462	-10.18	8.00	Pass





APPENDIX G	ANTENNA CONDUCTED SPURIOUS EMISSIONS

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