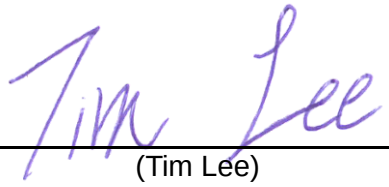
FCC Radio Test Report

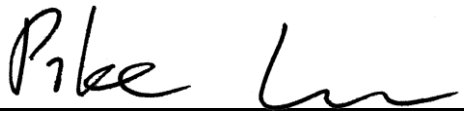
FCC ID: TE7EC440-G4U

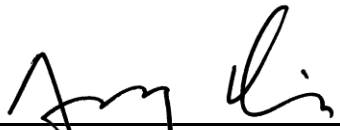
This report concerns: Original Grant

Project No.	:	1812C143
Equipment	:	AC2600 Wireless Dual Band Gigabit Router
Test Model	:	EC440-G4u
Series Model	:	N/A
Applicant	:	TP-Link Technologies Co., Ltd.
Address	:	TP-Link Technologies Co., Ltd.Building 24 (floors 1,3,4,5) and 28 (floors1-4),CentralScience and Technology Park,Nanshan Shenzhen,518057China

Date of Receipt	:	2018/12/24
Date of Test	:	2018/12/24 ~ 2019/4/18
Issued Date	:	2019/6/11
Tested by	:	BTL Inc.

Testing Engineer :  (Tim Lee)

Technical Manager :  (Pike Lee)

Authorized Signatory :  (Andy Chiu)

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Testing Laboratory
0659

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.

The report must not be used by the client to claim product certification, approval, or endorsement by NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

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.

CONTENTS

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	2019/5/31
R01	Revised report to address TCB's comments.	2019/6/11

1 CERTIFICATION

Equipment	:	AC2600 Wireless Dual Band Gigabit Router
Brand Name	:	tp-link
Test Model	:	EC440-G4u
Series Model	:	N/A
Applicant	:	TP-Link Technologies Co., Ltd.
Manufacturer	:	TP-Link Technologies Co., Ltd.
Address	:	Building 24 (floors 1,3,4,5) and 28 (floors1-4),CentralScience and Technology Park,Nanshan Shenzhen,518057China
Date of Test	:	2018/12/24 ~ 2019/4/18
Test Sample	:	Engineering Sample
Standard(s)	:	FCC Part15, Subpart C (15.247) FCC Part15, Subpart E (15.407) ANSI C63.10-2013

The above equipment has been tested and found in compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1812C143) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO/IEC 17025 quality assessment standard and technical standard(s).

Test results included in this report is only for the Transmit Simultaneously part.

2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Part15, Subpart C (15.247), FCC Part15, Subpart E (15.407)				
FCC Clause No	**Description**	**Test Result**	**Judgement**	**Remark**
15.205 15.209 15.247(d) 15.407(b)	Radiated Emissions	APPENDIX A	Pass	------

NOTE:
(1) ”N/A” denotes test is not applicable in this Test Report.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:
CB15: (VCCI RN: G-20031; FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

The reported uncertainty of measurement y ± U, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

A. Radiated emissions above 1 GHz test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U (dB)
CB15 (3m)	CISPR	1 GHz ~ 6 GHz	V	4.46
		1 GHz ~ 6 GHz	H	4.40
		6 GHz ~18 GHz	V	3.88
		6 GHz ~18 GHz	H	4.00

Test Site	Method	Measurement Frequency Range	U (dB)
CB15 (1m)	CISPR	18 GHz ~ 26.5 GHz	4.62
		26.5 GHz ~ 40 GHz	5.12

NOTE:
Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.
Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.
Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR}, as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz : 3.6 dB
Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz : 5.2 dB

3 GENERAL INFORMATION

3.1 DESCRIPTION OF EUT

Equipment	AC2600 Wireless Dual Band Gigabit Router
Brand Name	tp-link
Test Model	EC440-G4u
Series Model	N/A
Model Difference	N/A
Power Source	DC Voltage supplied from AC/DC adapter.
Power Rating	I/P: 100-240V~50/60Hz, 1.5A O/P: 12.0V⎓3300mA
For WLAN	
Operation Frequency	2412 MHz to 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM IEEE VHT: 1024-QAM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 600 Mbps IEEE VHT: up to 800 Mbps
Maximum Output Power	IEEE 802.11b: 29.01 dBm (0.7962 W) IEEE 802.11g: 29.59 dBm (0.9106 W) IEEE 802.11n (HT20): 29.70 dBm (0.9339 W) IEEE 802.11n (HT40): 26.34 dBm (0.4304 W) IEEE VHT (VHT20): 29.65 dBm (0.9230 W) IEEE VHT (VHT40): 26.28 dBm (0.4250 W)
For RLAN	
Operation Frequency	UNII-1: 5180 MHz to 5240 MHz UNII-3: 5745 MHz to 5825 MHz
Modulation Type	OFDM
Bit Rate of Transmitter	up to 1733 Mbps
Maximum Output Power for UNII-1 For CDD mode	IEEE 802.11a: 22.53 dBm (0.1791 W) IEEE 802.11n (HT20): 22.61 dBm (0.1826 W) IEEE 802.11n (HT40): 25.53 dBm (0.3574 W) IEEE 802.11ac (VHT20): 22.60 dBm (0.1818 W) IEEE 802.11ac (VHT40): 25.29 dBm (0.3378 W) IEEE 802.11ac (VHT80): 21.02 dBm (0.1265 W)
Maximum Output Power for UNII-1 For beamforming mode	IEEE 802.11ac (VHT20): 21.56 dBm (0.1432 W) IEEE 802.11ac (VHT40): 23.84 dBm (0.2423 W) IEEE 802.11ac (VHT80): 21.02 dBm (0.1265 W)
Maximum Output Power for UNII-3 For CDD mode	IEEE 802.11a: 29.37 dBm (0.8650 W) IEEE 802.11n (HT20): 29.25 dBm (0.8406 W) IEEE 802.11n (HT40): 29.20 dBm (0.8318 W) IEEE 802.11ac (VHT20): 29.17 dBm (0.8260 W) IEEE 802.11ac (VHT40): 29.15 dBm (0.8223W) IEEE 802.11ac (VHT80): 27.02 dBm (0.5031 W)
Maximum Output Power for UNII-3 For beamforming mode	IEEE 802.11ac (VHT20): 23.94 dBm (0.2478 W) IEEE 802.11ac (VHT40): 23.66 dBm (0.2321W) IEEE 802.11ac (VHT80): 23.45 dBm (0.2214 W)
Product Covered	1 * Adapter: SO48CU1200330

NOTE:
(1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
(2) Channel List:
For WLAN

CH01 - CH11 for IEEE 802.11b/g/n (HT20)/VHT (VHT20) CH03 - CH09 for IEEE 802.11n (HT40)/VHT (VHT40)					
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		

For RLAN

UNII-1					
IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

UNII-3					
IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

(3) Table for Filed Antenna:

For WLAN

Ant.	Brand	Model	Type	Connector	Gain (dBi)
1	TP-Link	3101502192	PCB	I-PEX	3.77
2	TP-Link	3101502193	PCB	I-PEX	5.00
3	TP-Link	3101502194	PCB	I-PEX	4.49
4	TP-Link	3101502195	PCB	I-PEX	5.65

NOTE:

(a) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (4T4R). 2.4 GHz and 5GHz can transmit simultaneously.

(b) The WLAN 2.4 GHz does not support beamforming function.

For RLAN

UNII-1:

Ant.	Brand	Model	Type	Connector	Gain (dBi)
1	TP-Link	3101502192	PCB	I-PEX	4.8
2	TP-Link	3101502193	PCB	I-PEX	5.09
3	TP-Link	3101502194	PCB	I-PEX	4.64
4	TP-Link	3101502195	PCB	I-PEX	4.83

UNII-3:

Ant.	Brand	Model	Type	Connector	Gain (dBi)
1	TP-Link	3101502192	PCB	I-PEX	5.4
2	TP-Link	3101502193	PCB	I-PEX	5.66
3	TP-Link	3101502194	PCB	I-PEX	4.67
4	TP-Link	3101502195	PCB	I-PEX	6.47

NOTE:

(a) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (4T4R). 2.4 GHz and 5GHz can transmit simultaneously.

(b) The EUT **UNII-1** (AC mode) **and UNII-3** (AC mode) are with beamforming function.

3.2 TEST MODES

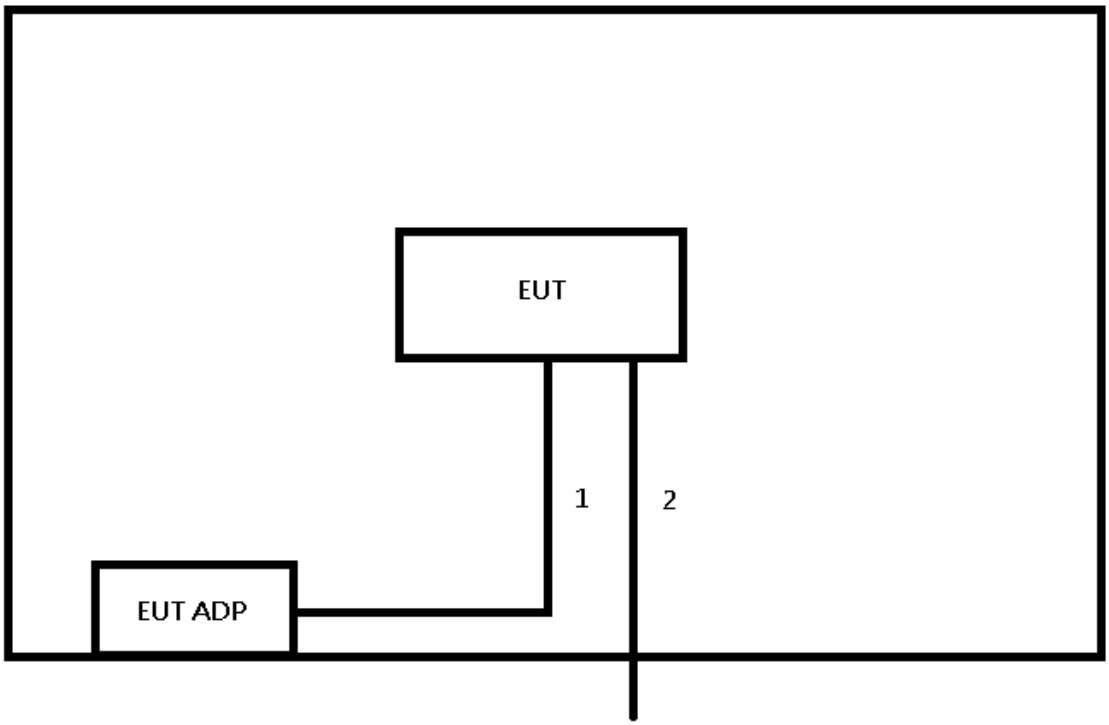
The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.
Following mode(s) as (were) found to be the worst case(s) and selected for the final test.

Radiated emissions test	
Test Mode	Description
1	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42
2	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

NOTE:
(1) For radiated emission tests, the highest output powers were set for final test.
(2) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98 %.

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 3.4.



3.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded	Ferrite Core	Length
1	Power cable	NO	NO	1.2m
2	LAN Cable	NO	NO	5m

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

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequency (MHz)	Radiated Emissions (dBuV/m)		Measurement Distance (meters)
	Peak	Average	
Above 1000	74	54	3

Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3
5250-5350	-27	68.3
5470-5725	-27	68.3
5725-5850	-27 (NOTE 2)	68.3
	10 (NOTE 2)	105.3
	15.6 (NOTE 2)	110.9
	27 (NOTE 2)	122.3

NOTE:
(1) The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength: $E = \frac{1000000\sqrt{30P}}{3}$ μV/m, where P is the eirp (Watts)
(2) According to FCC 16-24,All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(3) 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
Sample calculations: (Refer to page 19, test result No.3.)

Reading Level		Correct Factor		Measurement Value
31.65	+	31.18	=	62.83

Measurement Value		Limit Value		Margin Level
62.83	-	74	=	-11.17

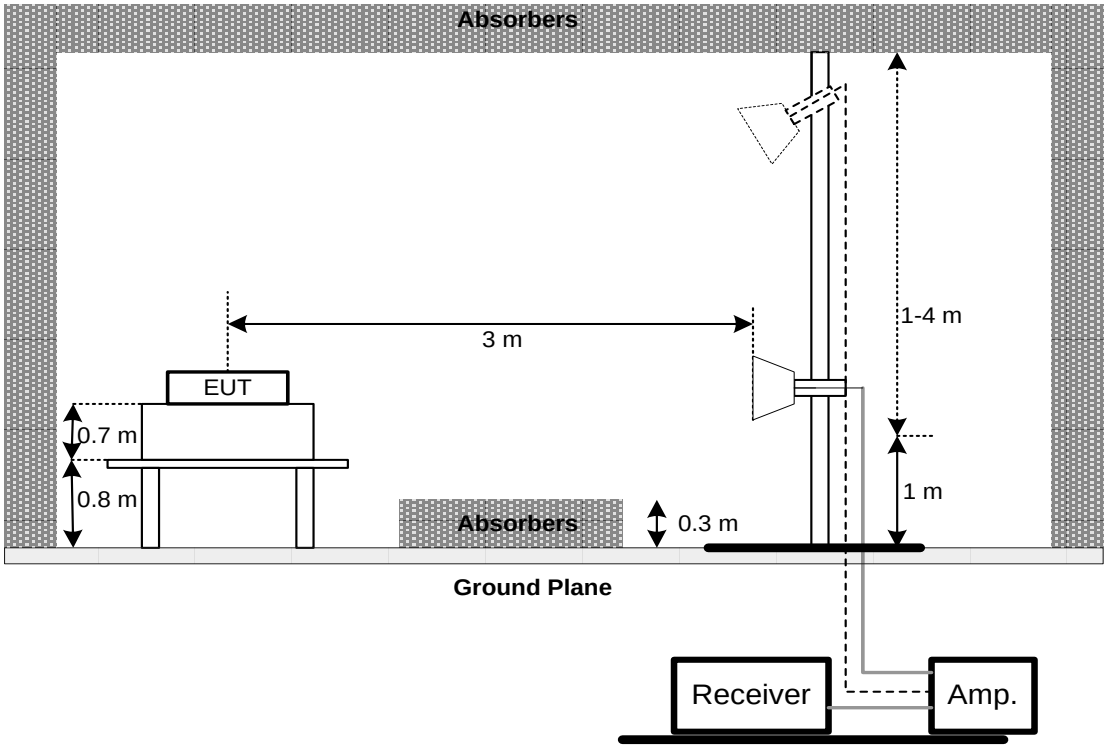
4.2 TEST PROCEDURE

a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 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.
b. The height of the equipment or of the substitution antenna shall be 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.
c. 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).
d. 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.
e. 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.
f. 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.
g. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT

Temperature: 23 °C Relative Humidity: 70 % Test Voltage: AC 120V/50Hz

Please refer to the APPENDIX A.

REMARK:
(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

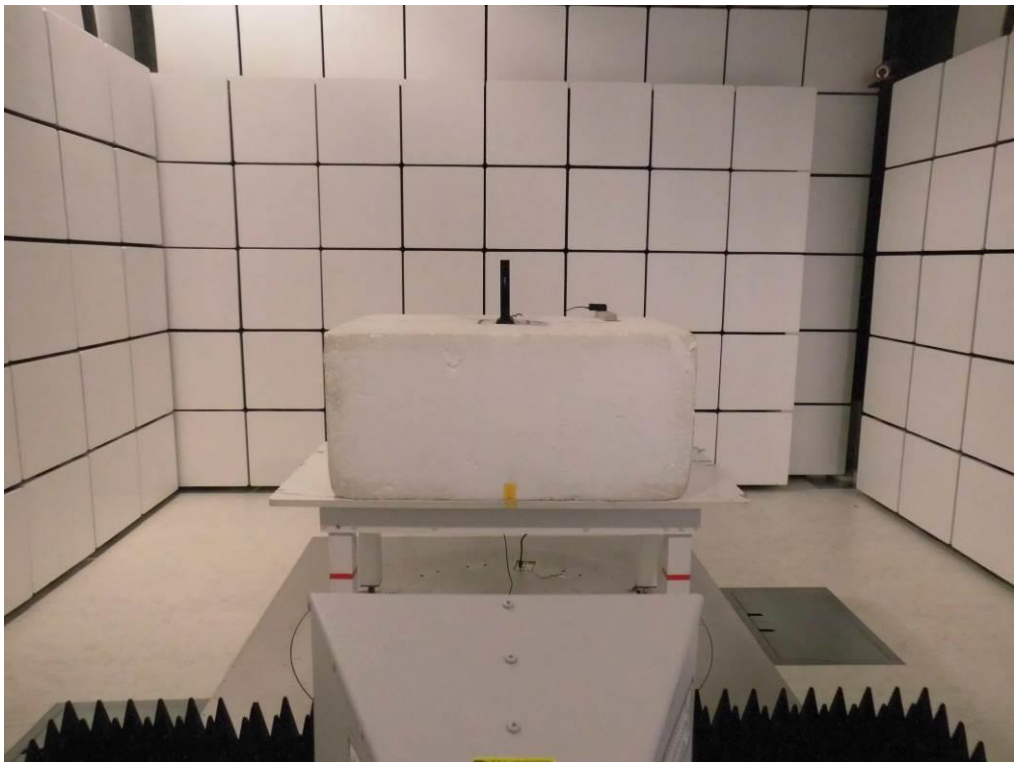
5 LIST OF MEASURING EQUIPMENTS

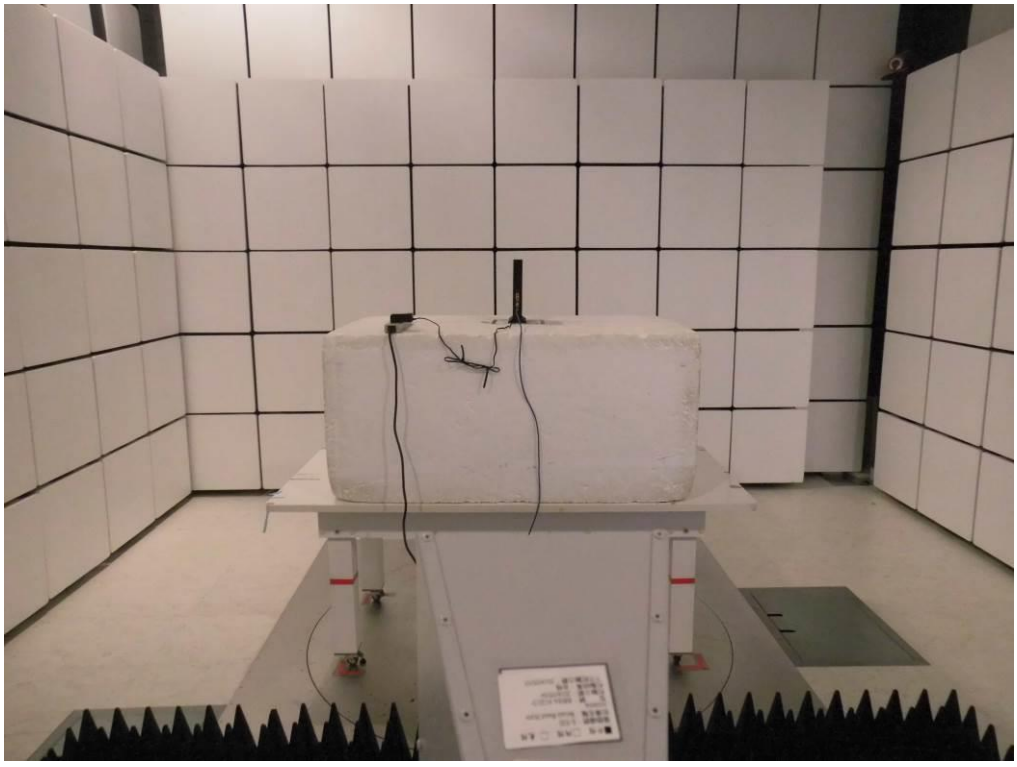
Radiated Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	2019/4/15 2020/4/3
2	Preamplifier	EMCI	EMC02325	980217	2019/4/15 2020/4/3
3	Preamplifier	EMCI	EMC2654045	980030	2019/4/15 2020/4/3
4	Test Cable	EMCI	EMC104-SM-SM-8000	8m	2019/4/15 2020/4/3
5	Test Cable	EMCI	EMC104-SM-SM-800	150207	2019/4/15 2020/4/3
6	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	2019/4/15 2020/4/3
7	MXE EMI Receiver	Agilent	N9038A	MY55420127	2019/3/26 2020/3/15
8	Signal Analyzer	Agilent	N9010A	MY52220990	2019/5/22
9	Loop Ant	EMCO	6502	42960	2019/5/3
10	Horm Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2019/5/2
11	Horm Ant	Schwarzbeck	BBHA 9170	187	2019/8/16
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	2019/3/22 2020/3/10
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	2019/3/22 2020/3/10

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

6 EUT TEST PHOTO

Radiated Emissions Test Photos

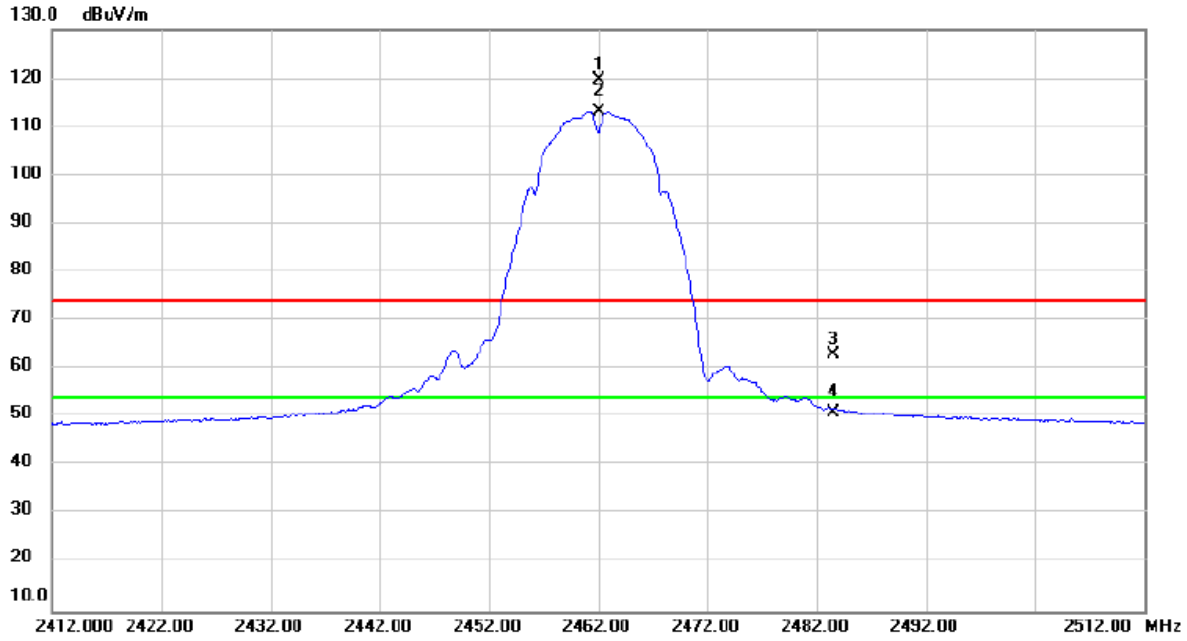




APPENDIX A RADIATED EMISSIONS

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Vertical

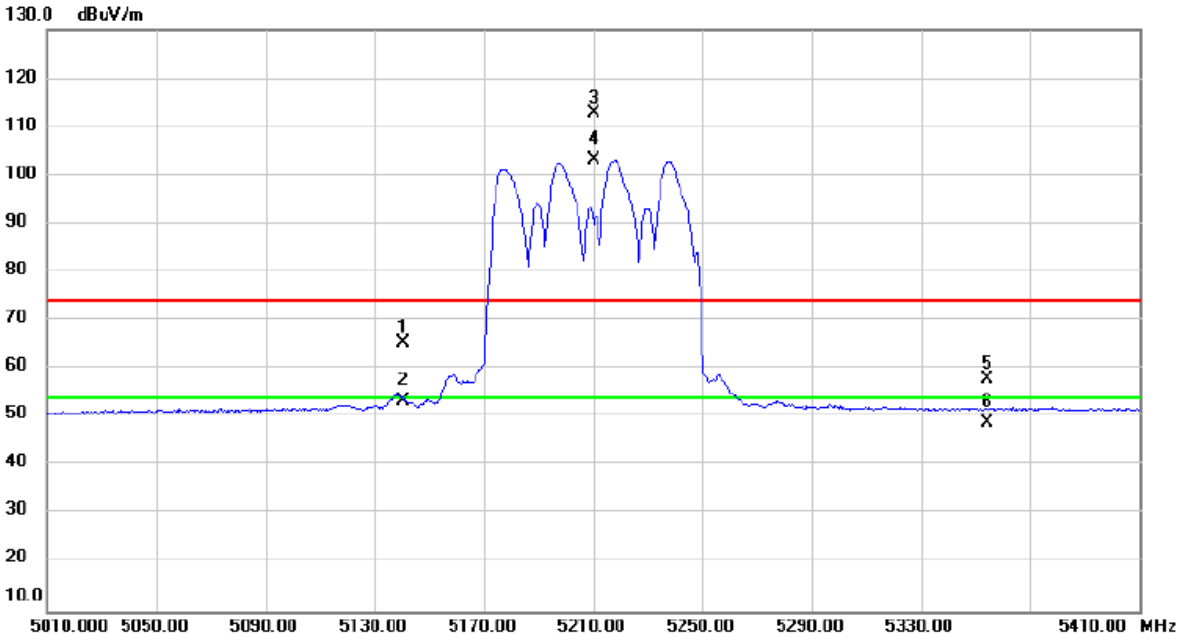


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	88.43	31.10	119.53	74.00	45.53	peak	No Limit
2	*	2462.000	81.93	31.10	113.03	54.00	59.03	AVG	No Limit
3		2483.500	31.65	31.18	62.83	74.00	-11.17	peak	
4		2483.500	19.86	31.18	51.04	54.00	-2.96	AVG	

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

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Vertical

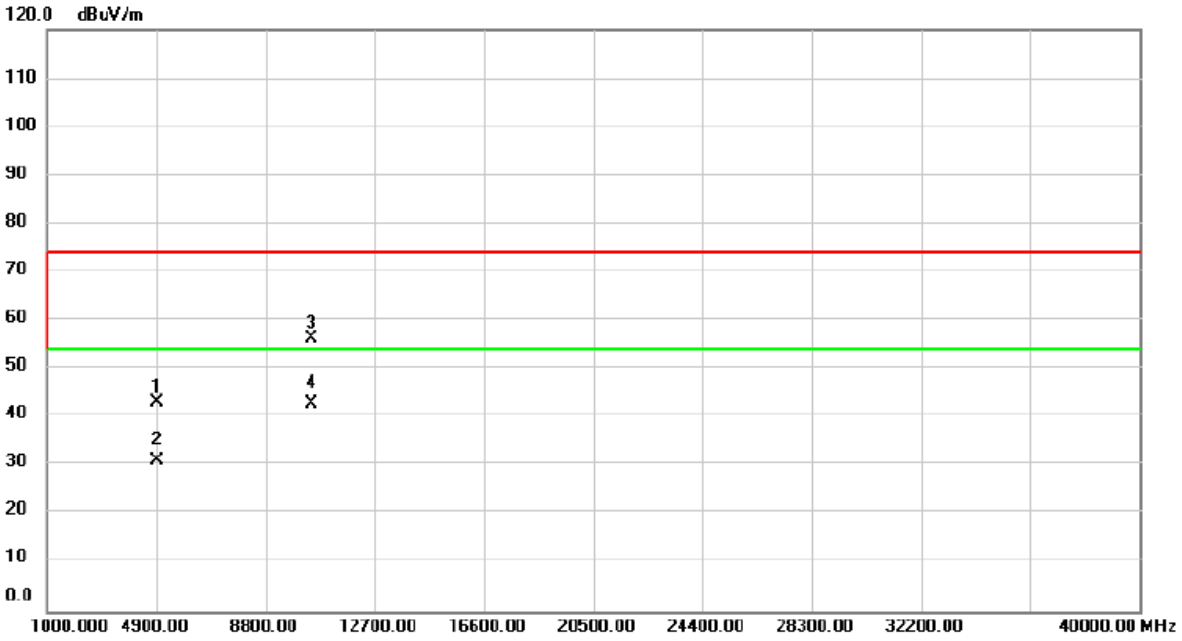


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5140.380	28.06	37.22	65.28	74.00	-8.72	peak	
2		5140.380	16.13	37.22	53.35	54.00	-0.65	AVG	
3	X	5210.000	75.29	37.32	112.61	74.00	38.61	peak	No Limit
4	*	5210.000	65.69	37.32	103.01	54.00	49.01	AVG	No Limit
5		5354.280	20.24	37.50	57.74	74.00	-16.26	peak	
6		5354.280	11.33	37.50	48.83	54.00	-5.17	AVG	

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

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Vertical

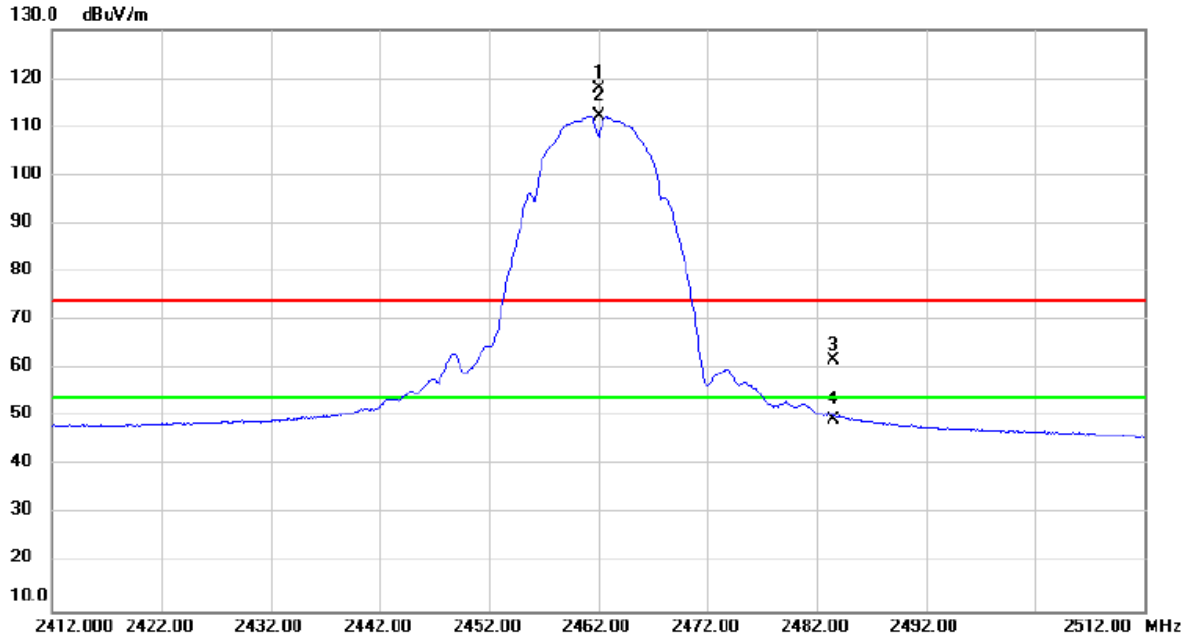


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	54.48	-11.47	43.01	74.00	-30.99	peak	
2		4924.000	42.45	-11.47	30.98	54.00	-23.02	AVG	
3		10420.00	54.58	1.72	56.30	74.00	-17.70	peak	
4	*	10420.00	41.03	1.72	42.75	54.00	-11.25	AVG	

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

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Horizontal

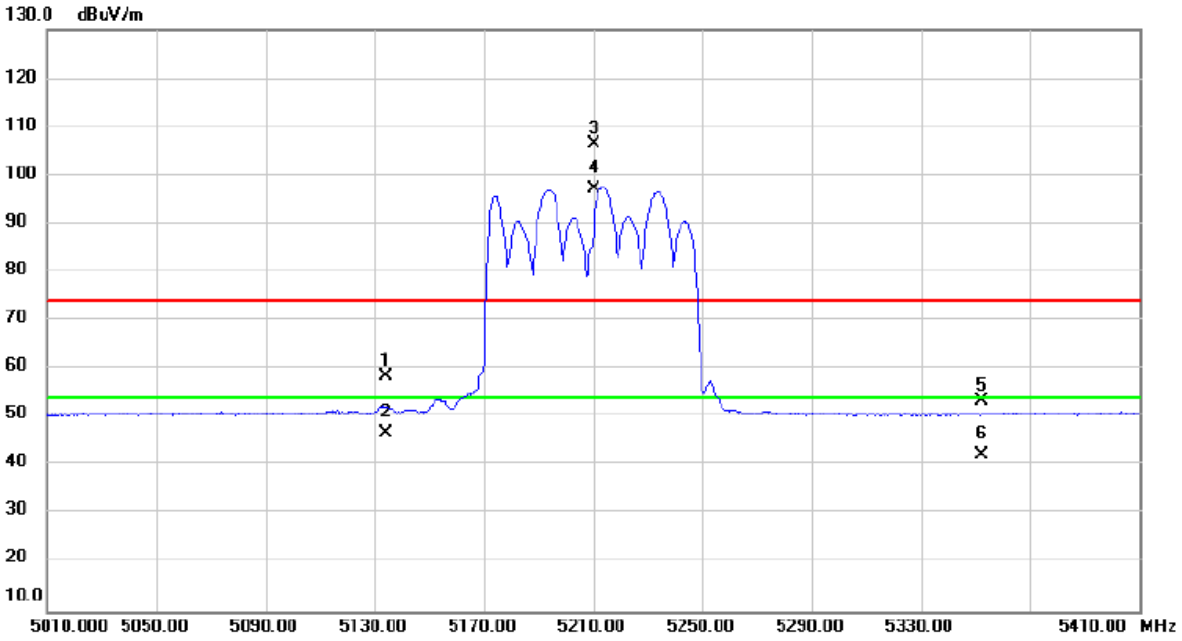


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	86.68	31.10	117.78	74.00	43.78	peak	No Limit
2	*	2462.000	81.16	31.10	112.26	54.00	58.26	AVG	No Limit
3		2483.599	30.64	31.18	61.82	74.00	-12.18	peak	
4		2483.599	18.14	31.18	49.32	54.00	-4.68	AVG	

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

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Horizontal

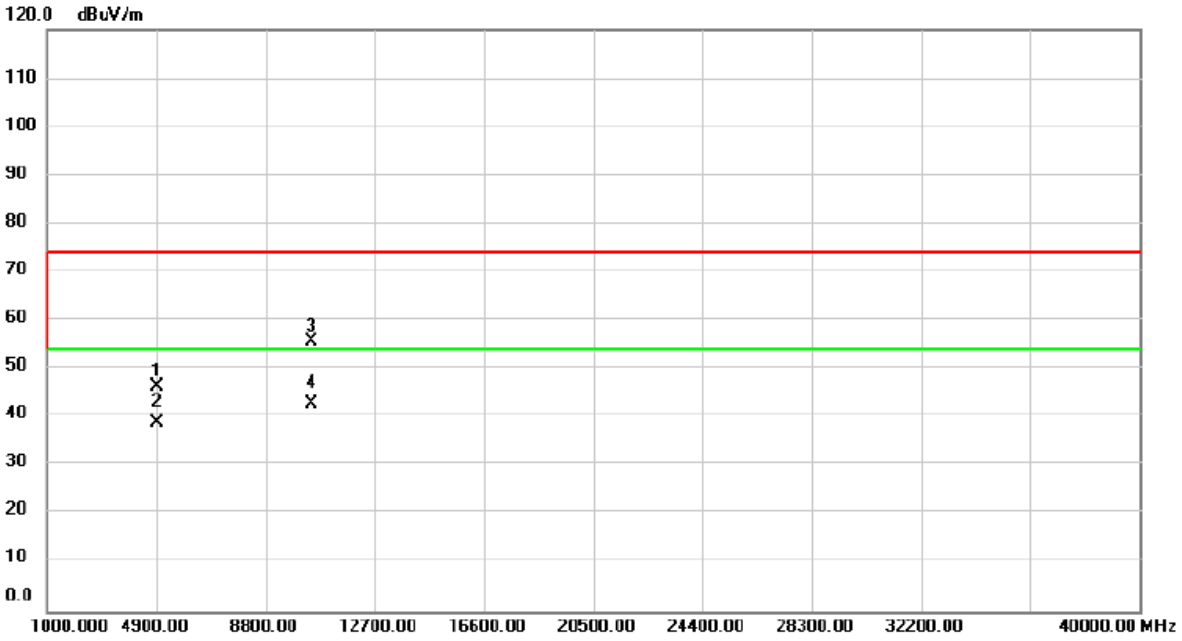


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5133.980	21.16	37.22	58.38	74.00	-15.62	peak	
2		5133.980	9.43	37.22	46.65	54.00	-7.35	AVG	
3	X	5210.000	69.06	37.32	106.38	74.00	32.38	peak	No Limit
4	*	5210.000	59.83	37.32	97.15	54.00	43.15	AVG	No Limit
5		5352.150	15.89	37.50	53.39	74.00	-20.61	peak	
6		5352.150	4.67	37.50	42.17	54.00	-11.83	AVG	

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

Test Mode	TX B MODE CHANNEL 11 + UNII-1_TX AC (VHT80) MODE CHANNEL 42

Horizontal

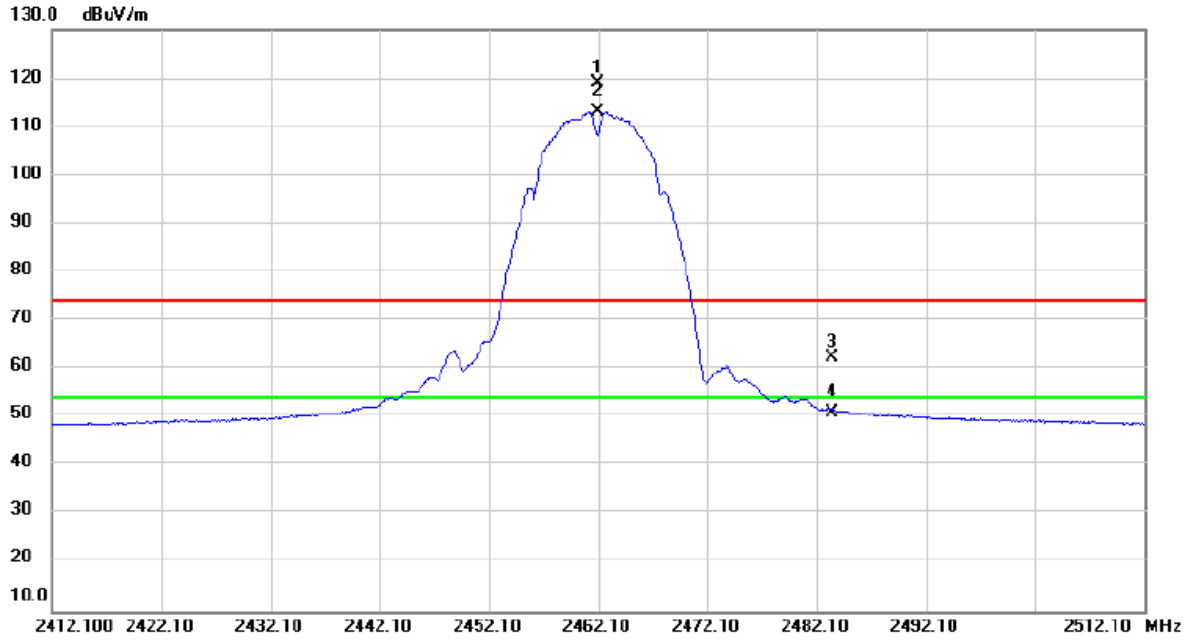


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	57.67	-11.47	46.20	74.00	-27.80	peak	
2		4924.000	50.19	-11.47	38.72	54.00	-15.28	AVG	
3		10420.00	53.80	1.72	55.52	74.00	-18.48	peak	
4	*	10420.00	40.93	1.72	42.65	54.00	-11.35	AVG	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Vertical

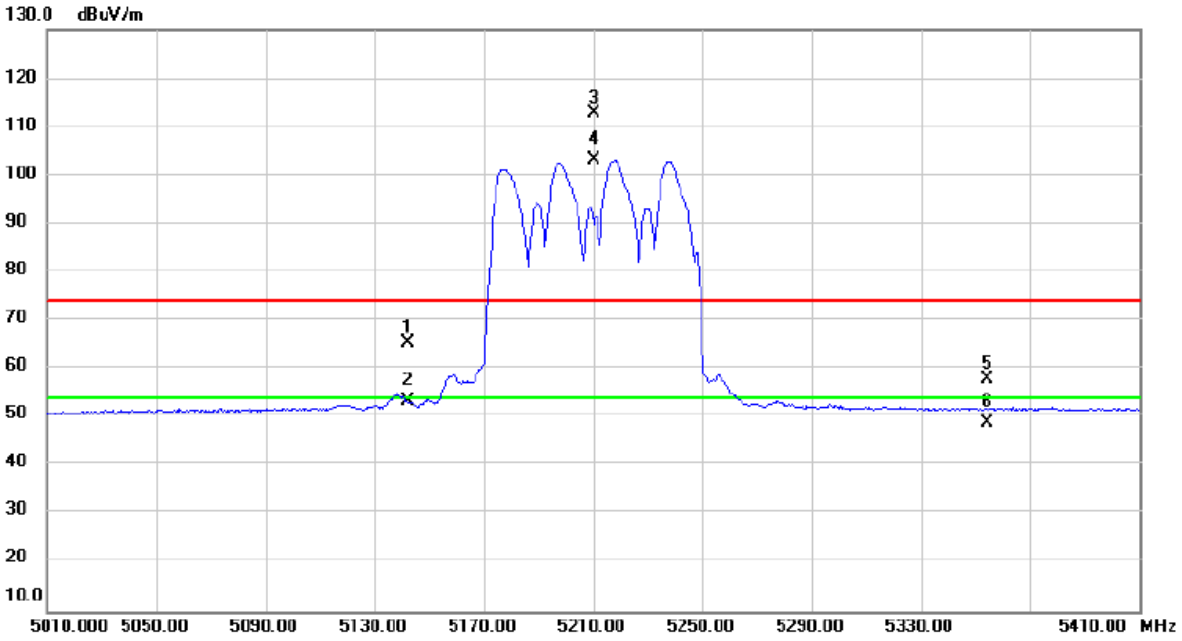


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	87.94	31.10	119.04	74.00	45.04	peak	No Limit
2	*	2462.000	81.85	31.10	112.95	54.00	58.95	AVG	No Limit
3		2483.533	31.25	31.18	62.43	74.00	-11.57	peak	
4		2483.533	19.90	31.18	51.08	54.00	-2.92	AVG	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Vertical

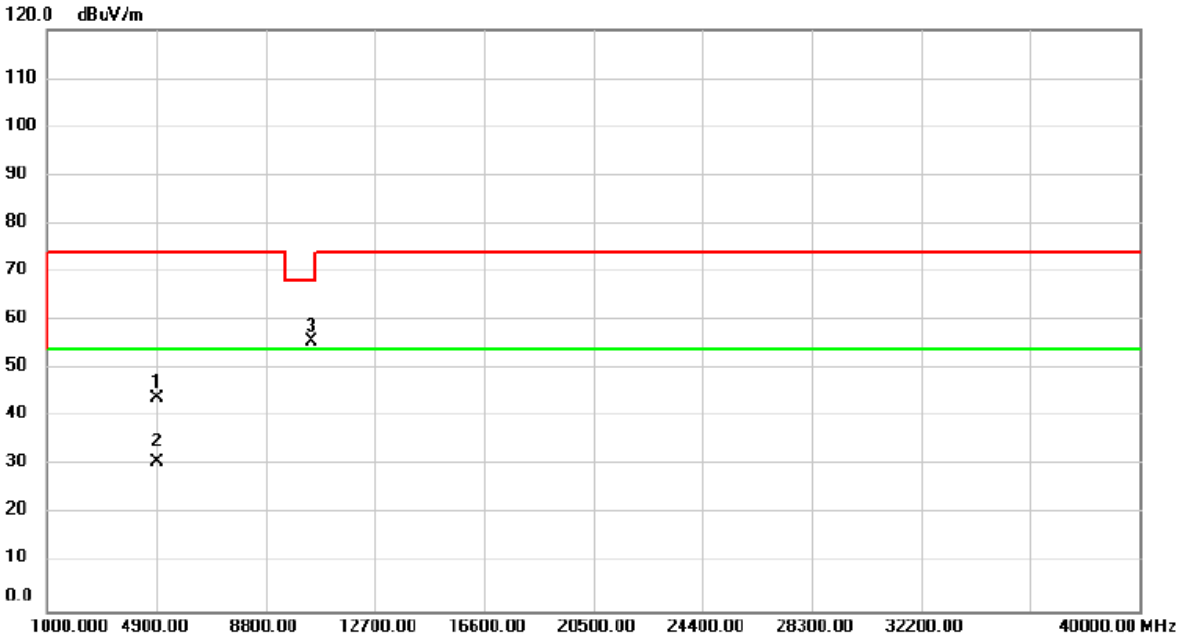


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5142.120	28.03	37.22	65.25	74.00	-8.75	peak	
2		5142.120	16.23	37.22	53.45	54.00	-0.55	AVG	
3	X	5210.000	75.33	37.32	112.65	74.00	38.65	peak	No Limit
4	*	5210.000	65.71	37.32	103.03	54.00	49.03	AVG	No Limit
5		5354.180	20.22	37.50	57.72	74.00	-16.28	peak	
6		5354.180	11.33	37.50	48.83	54.00	-5.17	AVG	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Vertical

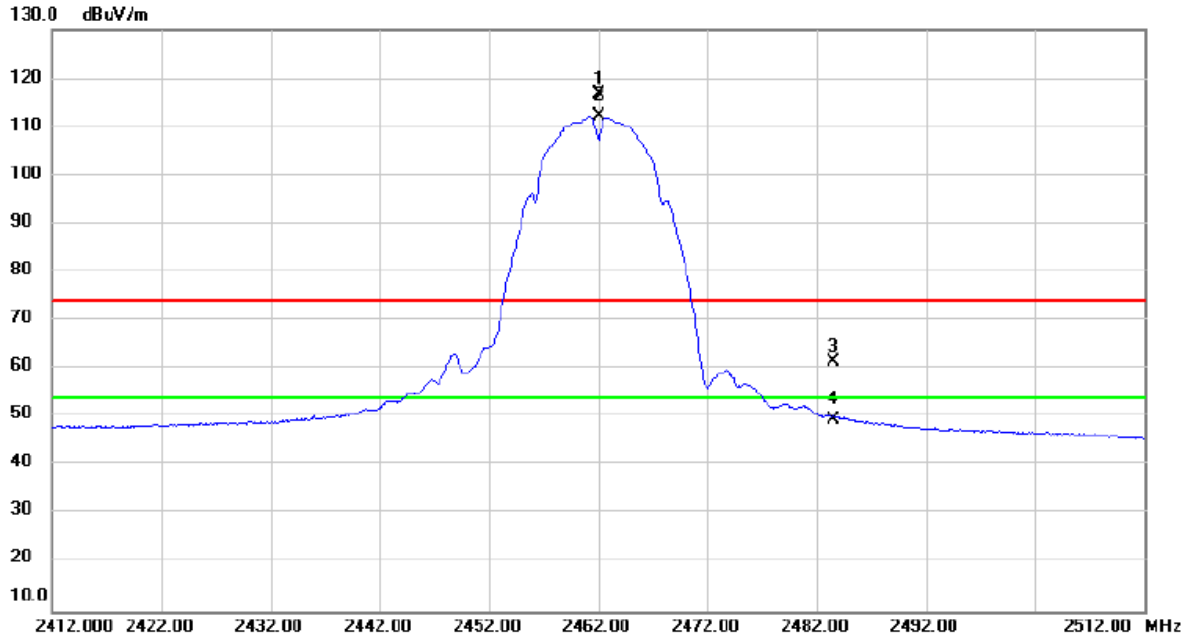


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	55.31	-11.47	43.84	74.00	-30.16	peak	
2		4924.000	42.30	-11.47	30.83	54.00	-23.17	AVG	
3	*	10420.00	53.97	1.72	55.69	68.20	-12.51	peak	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Horizontal

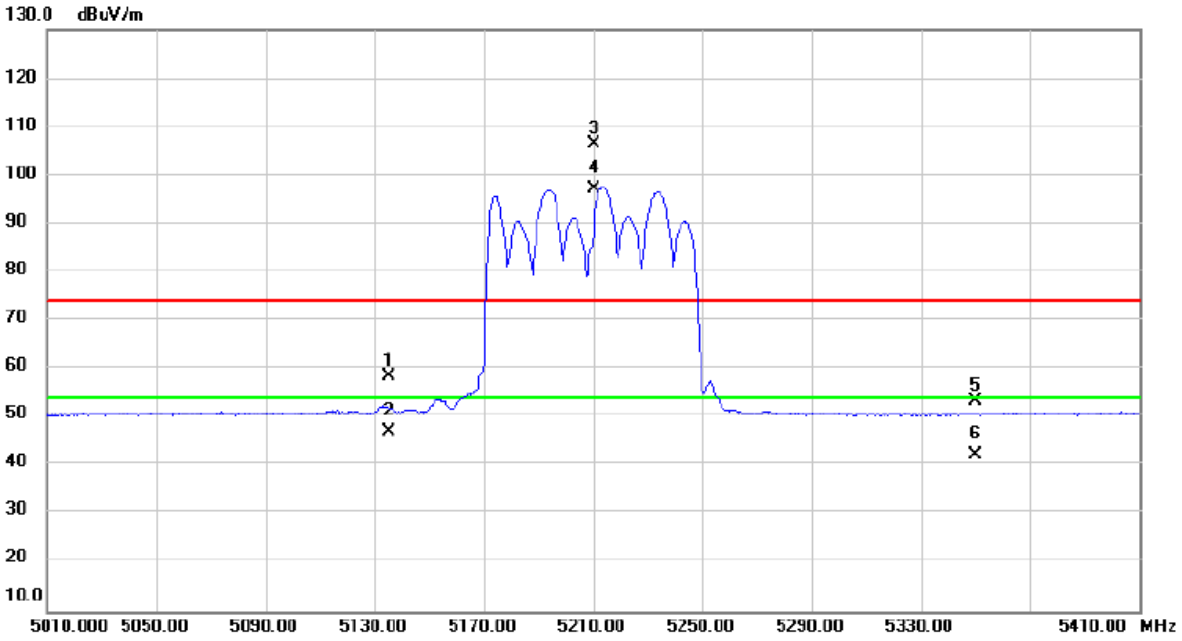


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2462.000	85.68	31.10	116.78	74.00	42.78	peak	No Limit
2	*	2462.000	81.02	31.10	112.12	54.00	58.12	AVG	No Limit
3		2483.500	30.41	31.18	61.59	74.00	-12.41	peak	
4		2483.500	18.19	31.18	49.37	54.00	-4.63	AVG	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Horizontal

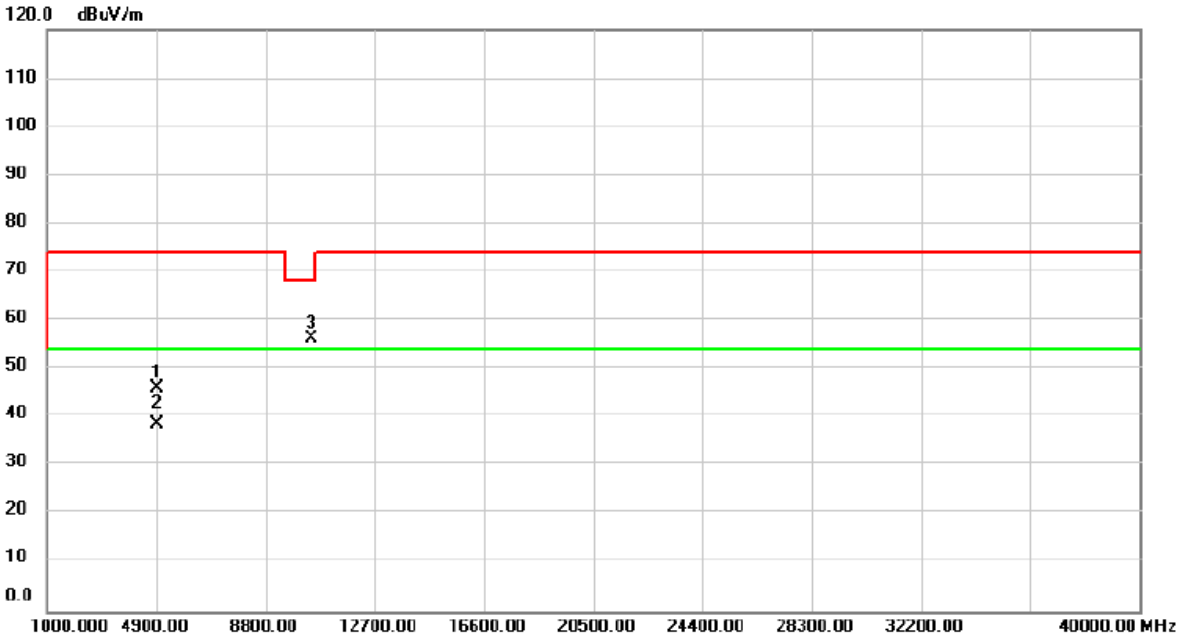


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5134.880	21.11	37.22	58.33	74.00	-15.67	peak	
2		5134.880	9.70	37.22	46.92	54.00	-7.08	AVG	
3	X	5210.000	69.03	37.32	106.35	74.00	32.35	peak	No Limit
4	*	5210.000	59.88	37.32	97.20	54.00	43.20	AVG	No Limit
5		5350.150	15.90	37.50	53.40	74.00	-20.60	peak	
6		5350.150	4.60	37.50	42.10	54.00	-11.90	AVG	

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

Test Mode	UNII-1_TX AC (VHT80) MODE CHANNEL 42 + TX B MODE CHANNEL 11

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	57.56	-11.47	46.09	74.00	-27.91	peak	
2		4924.000	50.06	-11.47	38.59	54.00	-15.41	AVG	
3	*	10420.00	54.40	1.72	56.12	68.20	-12.08	peak	

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

End of Test Report