FCC Radio Test Report

FCC ID: 2AMHM-P2-6E-WIFI

Report No.	:	BTL-FCCP-6-2105T078
Equipment	:	Communication Module
Model Name	:	LBEE5HY1MW
Brand Name	:	BOSCH
Applicant	:	Robert Bosch Engineering and Business Solutions Private Limited
Address	:	No.123, Industrial Layout, Hosur Road, Koramangala, Bangalore - 560 095
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	:	2021/5/19
Date of Test	:	2021/5/19 ~ 2021/9/24
Issued Date	:	2021/10/13

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.

CONTENTS

REVISON HISTORY

Report No.	Version	Description	Issued Date
BTL-FCCP-6-2105T078	R00	Original Report.	2021/10/6
BTL-FCCP-6-2105T078	R01	Revised Typo.	2021/10/13

1 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(b)	Output Power	APPENDIX D	Pass	------

NOTE:
(1) ”N/A” denotes test is not applicable in this Test Report.
(2) The report format version is TP.1.1.1.
(3) This test report is issued for the RF module (FCCID: VPYLBEE5HY1MW) to be incorporated to the host device (Model number: AD00 A2 0044 6YE, Product name: Phantom EDGE).
Since the RF module has been certificated, after evaluation, above test items were criticized and reconfirmed in this report.
(4) After spot check, this revision does not change original radio parameters.

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.

☒ C05 ☐ CB08 ☐ CB11 ☒ CB15 ☐ CB16
☒ SR05

1.2 MEASUREMENT UNCERTAINTY

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 %**. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 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)
CB15	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21
	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)
Output Power	0.3669

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	23 °C, 59 %	AC 120V	William Wei
Radiated emissions below 1 GHz	Refer to data	AC 120V	Jay Kao
Radiated emissions above 1 GHz	Refer to data	AC 120V	Hunter Chiang
Output Power	25.4 °C, 52 %	AC 120V	Tim Lian

1.4 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

Test Software	Tera Term V.4.101			
Mode	2412 MHz	2437 MHz	2462 MHz	Data Rate
IEEE 802.11b	18	18	18	1 Mbps
IEEE 802.11g	12	15	11	6 Mbps
IEEE 802.11n (HT20)	12	14	12	MCS 0

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Communication Module
Model Name	LBEE5HY1MW
Brand Name	BOSCH
Model Difference	N/A
Power Supply Rating	DC 3.3V from host equipment
Host device information	
Equipment	Phantom EDGE
Model Name	AD00 A2 0044 6YE
Brand Name	BOSCH
Power Source	AC Mains.
Power Rating	I/P: 90 – 280 V AC , <10W , 50/60Hz
Products Covered	N/A
WIFI+BT Module	LBEE5HY1MW
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2412 MHz ~ 2462 MHz
Maximum Output Power	IEEE 802.11b: 20.24 dBm (0.1057 W) IEEE 802.11g: 23.46 dBm (0.2218 W) IEEE 802.11n (HT20): 23.37 dBm (0.2173 W)
Test Model	AD00 A2 0044 6YE
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:

Antenna	Manufacture	Model No.	Type	Connector	Gain (dBi)	Note
1	圣丹纳 SAINTENNA	SAA31139A	Dipole	SMA-J	2.35	

2.2 TEST MODES

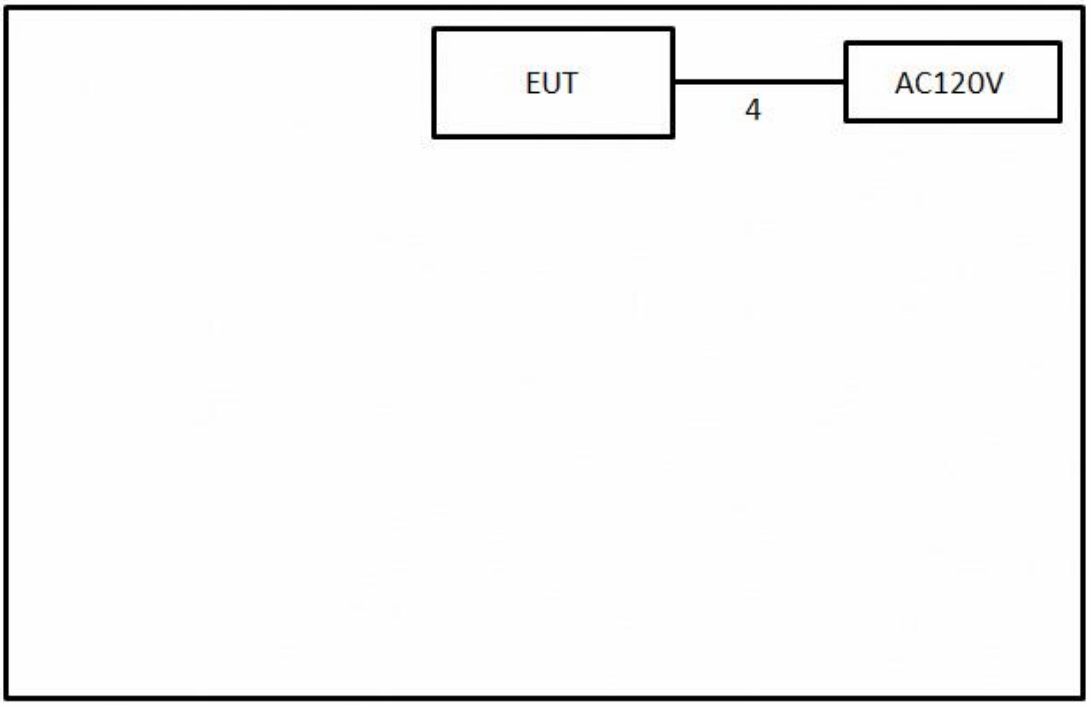
Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	IEEE 802.11g	11	-
Transmitter Radiated Emissions (above 1GHz)	IEEE 802.11b	01/11	Bandedge
	IEEE 802.11g		
	IEEE 802.11n (HT20)		
Transmitter Radiated Emissions (above 1GHz)	IEEE 802.11b	01/06/11	Harmonic
	IEEE 802.11g		
	IEEE 802.11n (HT20)		
Output Power	IEEE 802.11b	01/06/11	-
	IEEE 802.11g		
	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.

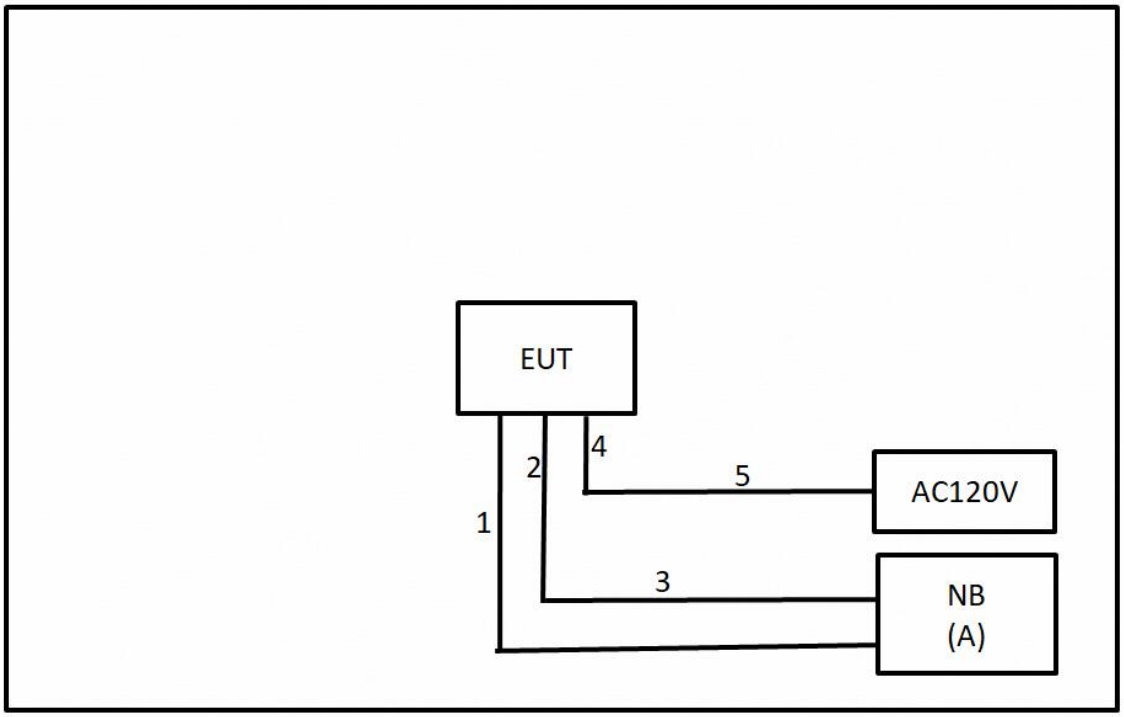
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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

AC Power Line Conducted Emissions Test



Radiated Emissions Test



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	NB	HP	TPN-I119	N/A	Furnished by test lab.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	3m	RJ45 Cable	Supplied by test requester
2	N/A	N/A	1.5m	RS232 to RS232	Supplied by test requester
3	N/A	N/A	1.1m	RS232 to USB	Supplied by test requester
4	N/A	N/A	1m	Power Cord	Supplied by test requester
5	N/A	N/A	1.7m	Power Cord	Furnished by test lab.

3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency (MHz)	Limit (dBμV)	
	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	-	60	=	-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

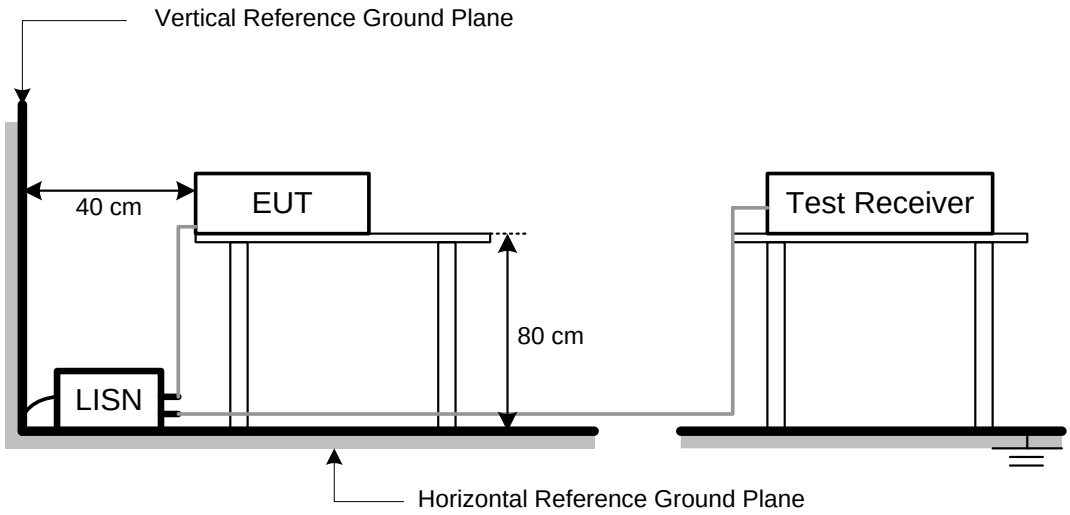
a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
All other support equipment were powered from an additional LISN(s).
The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.
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:
(1) 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.

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 Emissions (dBuV/m)		Measurement Distance (meters)
	Peak	Average	
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 (Emission in restricted band)	1MHz / 3MHz for Peak, 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

4.2 TEST PROCEDURE

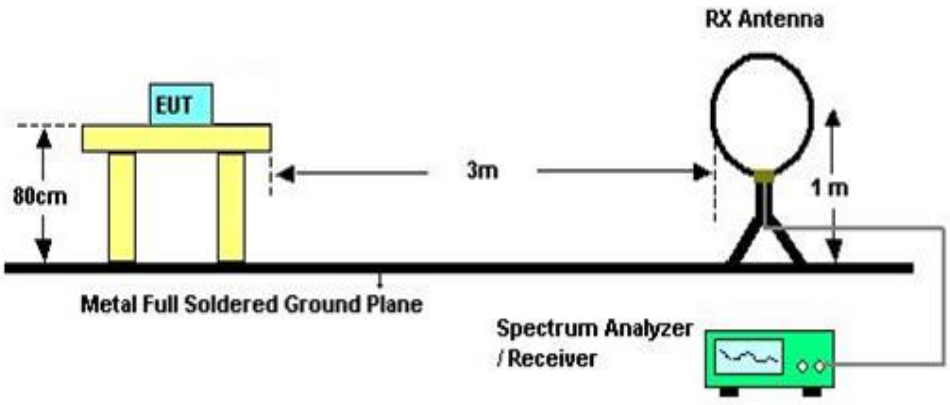
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance 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)
i. For the actual test configuration, please refer to the related Item – EUT TEST PHOTO.

4.3 DEVIATION FROM TEST STANDARD

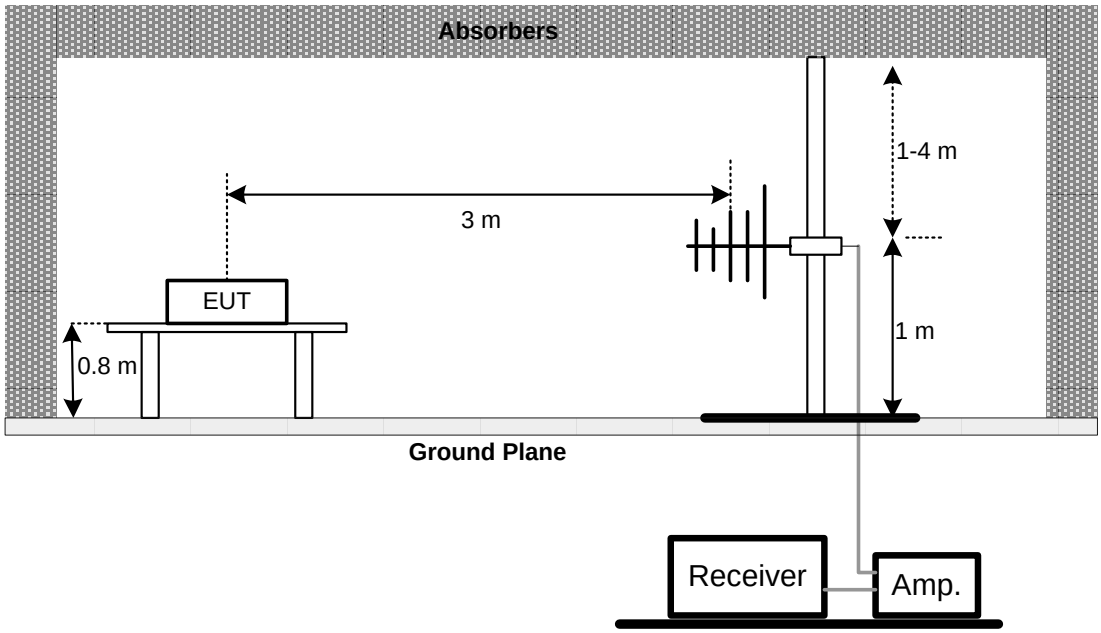
No deviation.

4.4 TEST SETUP

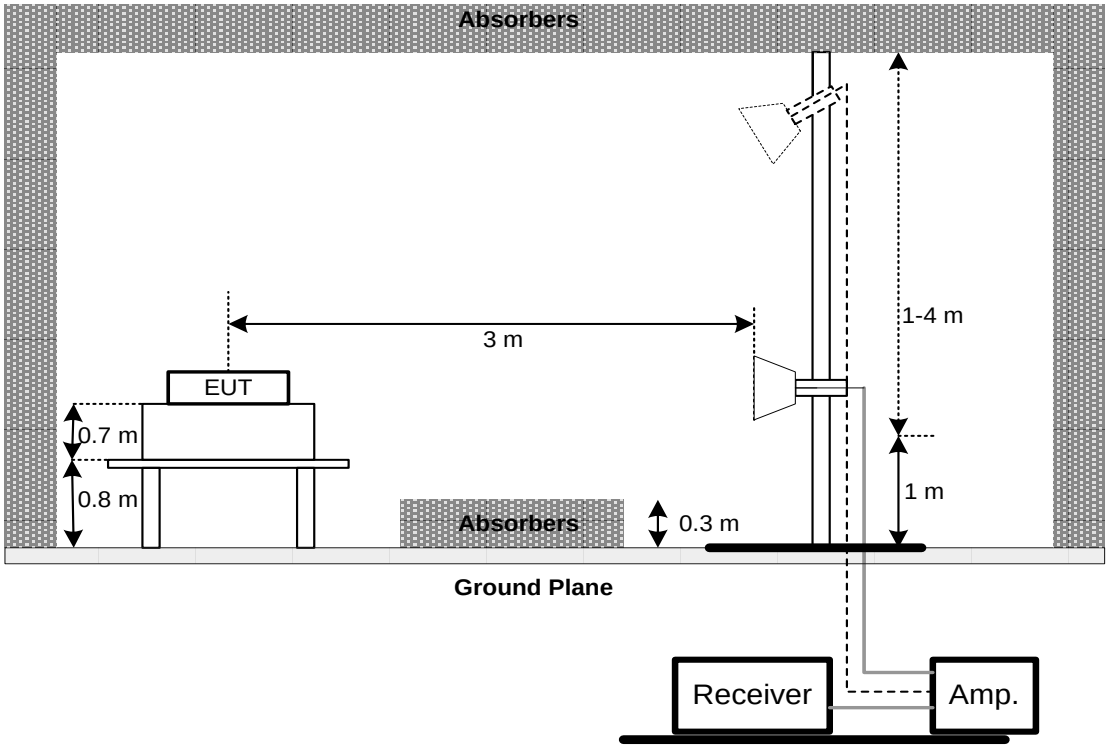
9 kHz to 30 MHz



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

NOTE:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.6 TEST RESULT – BELOW 30 MHZ

There were no emissions found below 30 MHz within 20 dB of the limit.

4.7 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

4.8 TEST RESULT – ABOVE 1 GHZ

Please refer to the APPENDIX C.

NOTE:

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

5 OUTPUT POWER TEST

5.1 LIMIT

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

5.2 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 FCC KDB 558074 D01 15.247 Meas Guidance.
c. Subclause 11.9.1.1 of ANSI C63.10 is applied. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

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 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	101339	2021/3/10	2022/3/9
2	Test Cable	EMCI	EMCRG58-BM-BM-9000	210501	2021/5/3	2022/5/2
3	EMI Test Receiver	R&S	ESR 7	101433	2020/12/11	2021/12/10
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	EMC02325B	980217	2021/4/8	2022/4/7
2	Preamplifier	EMCI	EMC012645B	980267	2021/4/8	2022/4/7
3	Preamplifier	EMCI	EMC001340	980555	2021/4/8	2022/4/7
4	Test Cable	EMCI	EMC-SM-SM-1000	180809	2021/4/8	2022/4/7
5	Test Cable	EMCI	EMC104-SM-SM-3000	151205	2021/4/8	2022/4/7
6	Test Cable	EMCI	EMC-SM-SM-7000	180408	2021/4/8	2022/4/7
7	MXE EMI Receiver	Agilent	N9038A	MY554200087	2021/5/27	2022/5/26
8	Signal Analyzer	Agilent	N9010A	MY52220990	2021/8/18	2022/8/17
9	Loop Ant	Electro-Metrics	EMCI-LPA600	274	2021/6/1	2022/5/31
10	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2021/6/2	2022/6/1
11	Horn Ant	Schwarzbeck	BBHA 9170	BBHA 9170340	2021/7/9	2022/7/8
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	VULB 9168-352	2021/8/11	2022/8/10
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2021/8/11	2022/8/10
14	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Power Meter	Anritsu	ML2495A	1128008	2021/5/26	2022/5/25
2	Power Sensor	Anritsu	MA2411B	1126001	2021/5/26	2022/5/25

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

7 EUT TEST PHOTO

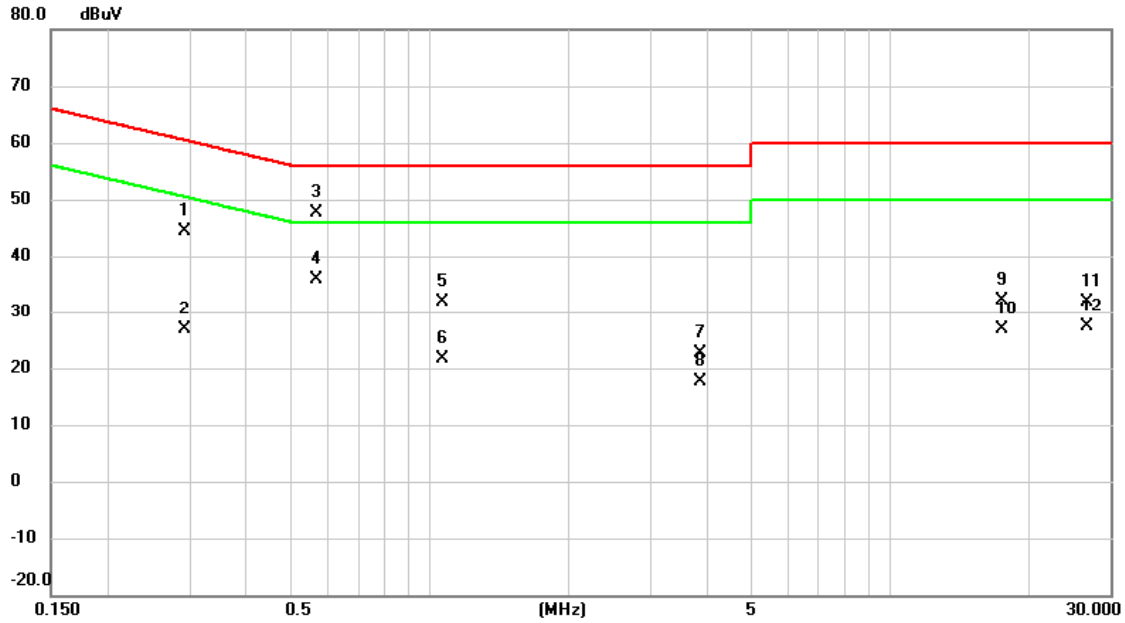
Please refer to document Appendix No.: TP-2105T078-FCCP-2 (APPENDIX-TEST PHOTOS).

8 EUT PHOTOS

Please refer to document Appendix No.: EP-2105T078-1 (APPENDIX-EUT PHOTOS).

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

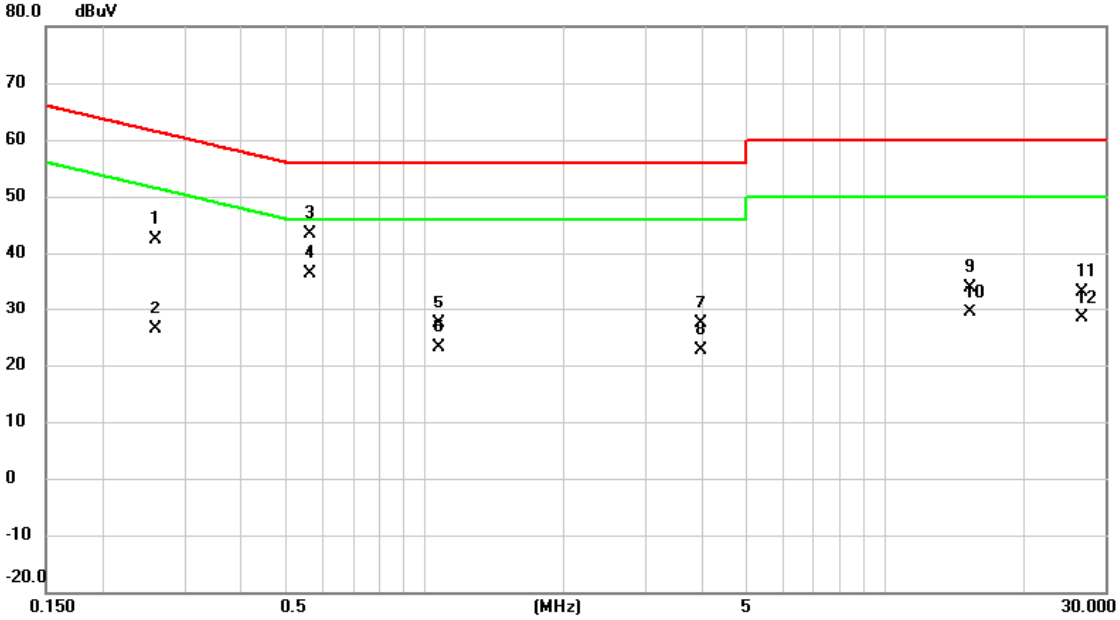
Test Mode	Normal	Tested Date	2021/6/9
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2917	34.66	9.73	44.39	60.48	-16.09	QP	
2		0.2917	17.13	9.73	26.86	50.48	-23.62	AVG	
3	*	0.5685	37.97	9.73	47.70	56.00	-8.30	QP	
4		0.5685	26.04	9.73	35.77	46.00	-10.23	AVG	
5		1.0680	22.20	9.74	31.94	56.00	-24.06	QP	
6		1.0680	11.87	9.74	21.61	46.00	-24.39	AVG	
7		3.8423	12.68	9.88	22.56	56.00	-33.44	QP	
8		3.8423	7.82	9.88	17.70	46.00	-28.30	AVG	
9		17.4300	21.87	10.20	32.07	60.00	-27.93	QP	
10		17.4300	16.80	10.20	27.00	50.00	-23.00	AVG	
11		26.6618	21.60	10.24	31.84	60.00	-28.16	QP	
12		26.6618	17.23	10.24	27.47	50.00	-22.53	AVG	

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

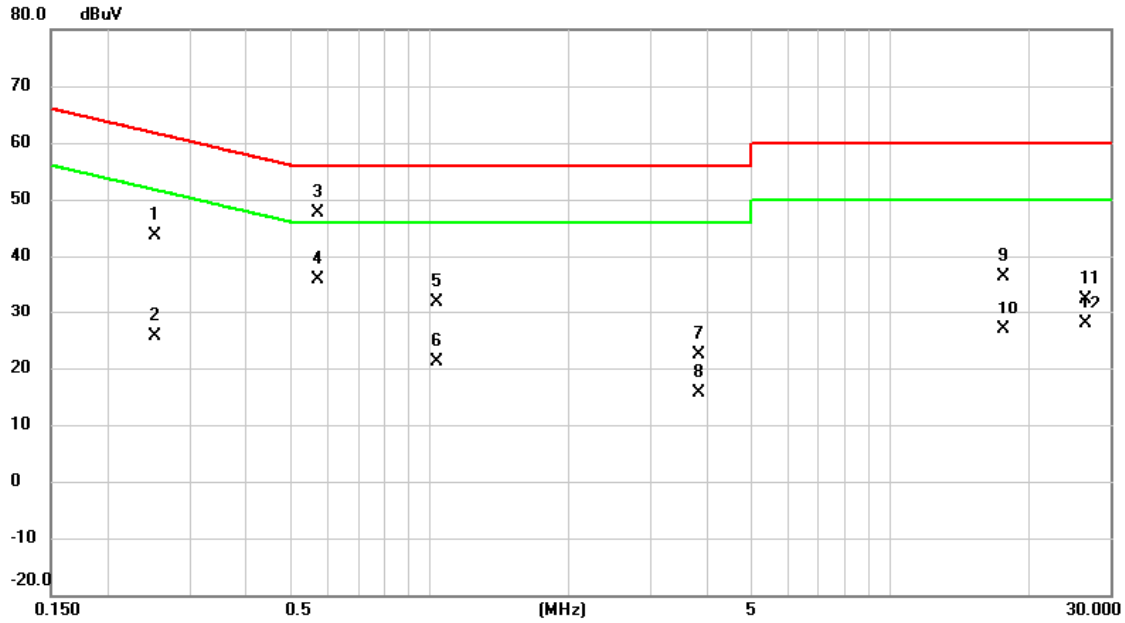
Test Mode	Normal	Tested Date	2021/6/9
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2602	32.77	9.73	42.50	61.43	-18.93	QP	
2		0.2602	16.76	9.73	26.49	51.43	-24.94	AVG	
3		0.5640	33.60	9.74	43.34	56.00	-12.66	QP	
4	*	0.5640	26.58	9.74	36.32	46.00	-9.68	AVG	
5		1.0702	17.72	9.75	27.47	56.00	-28.53	QP	
6		1.0702	13.33	9.75	23.08	46.00	-22.92	AVG	
7		3.9638	17.50	9.90	27.40	56.00	-28.60	QP	
8		3.9638	12.63	9.90	22.53	46.00	-23.47	AVG	
9		15.2453	23.51	10.26	33.77	60.00	-26.23	QP	
10		15.2453	19.20	10.26	29.46	50.00	-20.54	AVG	
11		26.6798	22.79	10.43	33.22	60.00	-26.78	QP	
12		26.6798	17.91	10.43	28.34	50.00	-21.66	AVG	

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

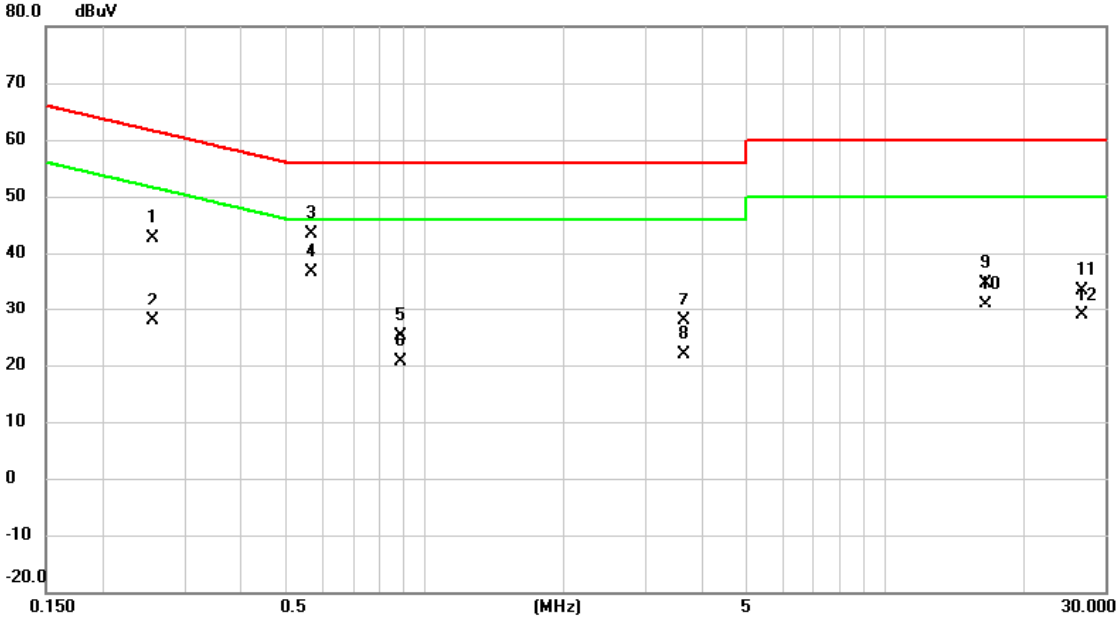
Test Mode	Idle	Tested Date	2021/6/9
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2513	33.88	9.73	43.61	61.71	-18.10	QP	
2		0.2513	15.91	9.73	25.64	51.71	-26.07	AVG	
3	*	0.5730	37.92	9.73	47.65	56.00	-8.35	QP	
4		0.5730	26.16	9.73	35.89	46.00	-10.11	AVG	
5		1.0342	22.11	9.74	31.85	56.00	-24.15	QP	
6		1.0342	11.45	9.74	21.19	46.00	-24.81	AVG	
7		3.8153	12.38	9.88	22.26	56.00	-33.74	QP	
8		3.8153	5.84	9.88	15.72	46.00	-30.28	AVG	
9		17.5605	26.21	10.21	36.42	60.00	-23.58	QP	
10		17.5605	16.67	10.21	26.88	50.00	-23.12	AVG	
11		26.4368	22.07	10.24	32.31	60.00	-27.69	QP	
12		26.4368	17.72	10.24	27.96	50.00	-22.04	AVG	

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

Test Mode	Idle	Tested Date	2021/6/9
Test Frequency	-	Phase	Neutral

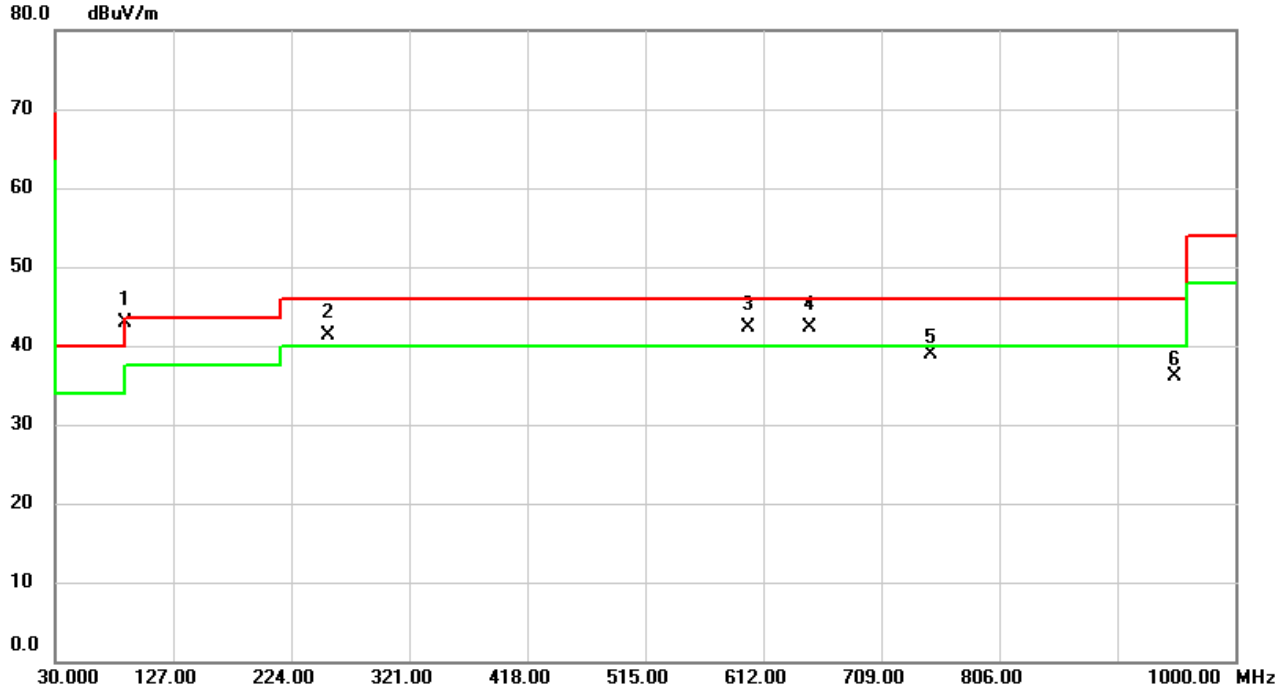


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2558	32.95	9.73	42.68	61.57	-18.89	QP	
2		0.2558	18.12	9.73	27.85	51.57	-23.72	AVG	
3		0.5685	33.66	9.74	43.40	56.00	-12.60	QP	
4	*	0.5685	26.80	9.74	36.54	46.00	-9.46	AVG	
5		0.8835	15.38	9.75	25.13	56.00	-30.87	QP	
6		0.8835	11.00	9.75	20.75	46.00	-25.25	AVG	
7		3.6375	17.98	9.87	27.85	56.00	-28.15	QP	
8		3.6375	12.12	9.87	21.99	46.00	-24.01	AVG	
9		16.4738	24.40	10.29	34.69	60.00	-25.31	QP	
10		16.4738	20.52	10.29	30.81	50.00	-19.19	AVG	
11		26.6123	23.01	10.43	33.44	60.00	-26.56	QP	
12		26.6123	18.42	10.43	28.85	50.00	-21.15	AVG	

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

APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

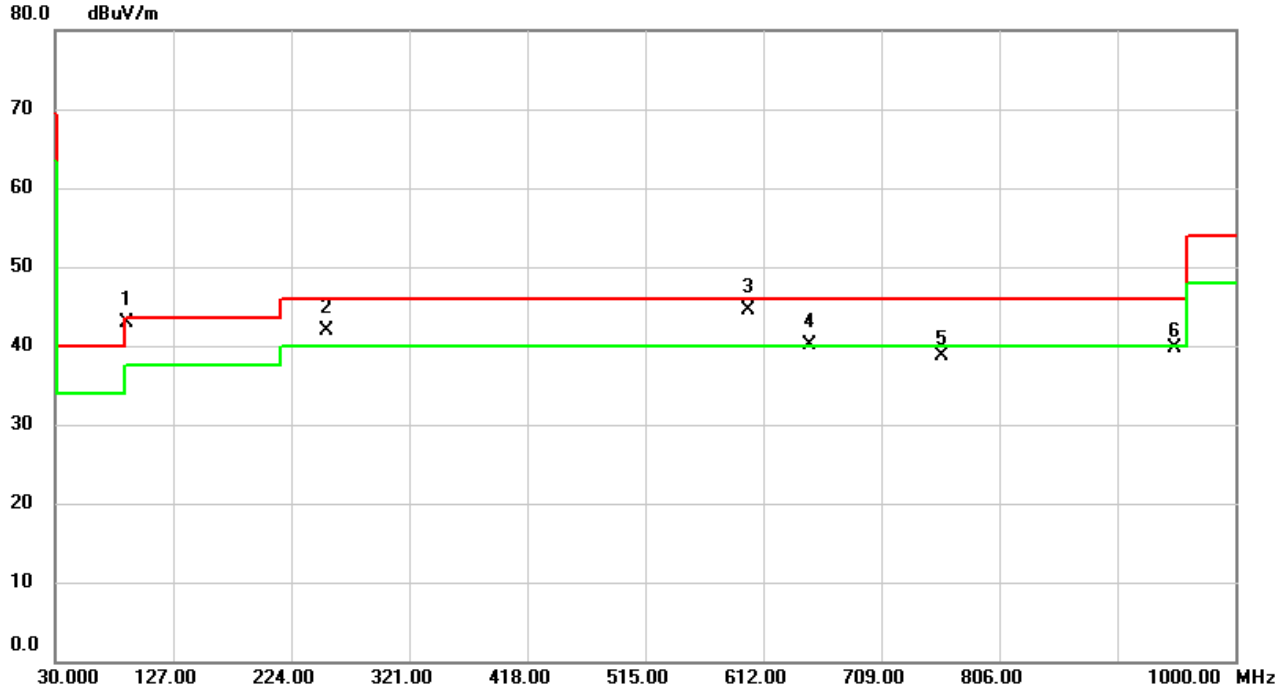
Test Mode	IEEE 802.11g	Test Date	2021/7/5
Test Frequency	2462MHz	Polarization	Vertical
Temp	23°C	Hum.	57%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	88.0383	57.38	-14.41	42.97	43.50	-0.53	QP	
2	!	254.5226	50.45	-9.10	41.35	46.00	-4.65	QP	
3	!	600.0043	42.82	-0.46	42.36	46.00	-3.64	QP	
4	!	649.9916	42.17	0.10	42.27	46.00	-3.73	QP	
5		749.9986	36.96	1.86	38.82	46.00	-7.18	peak	
6		949.9803	31.21	4.98	36.19	46.00	-9.81	peak	

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

Test Mode	IEEE 802.11g	Test Date	2021/7/5
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	57%

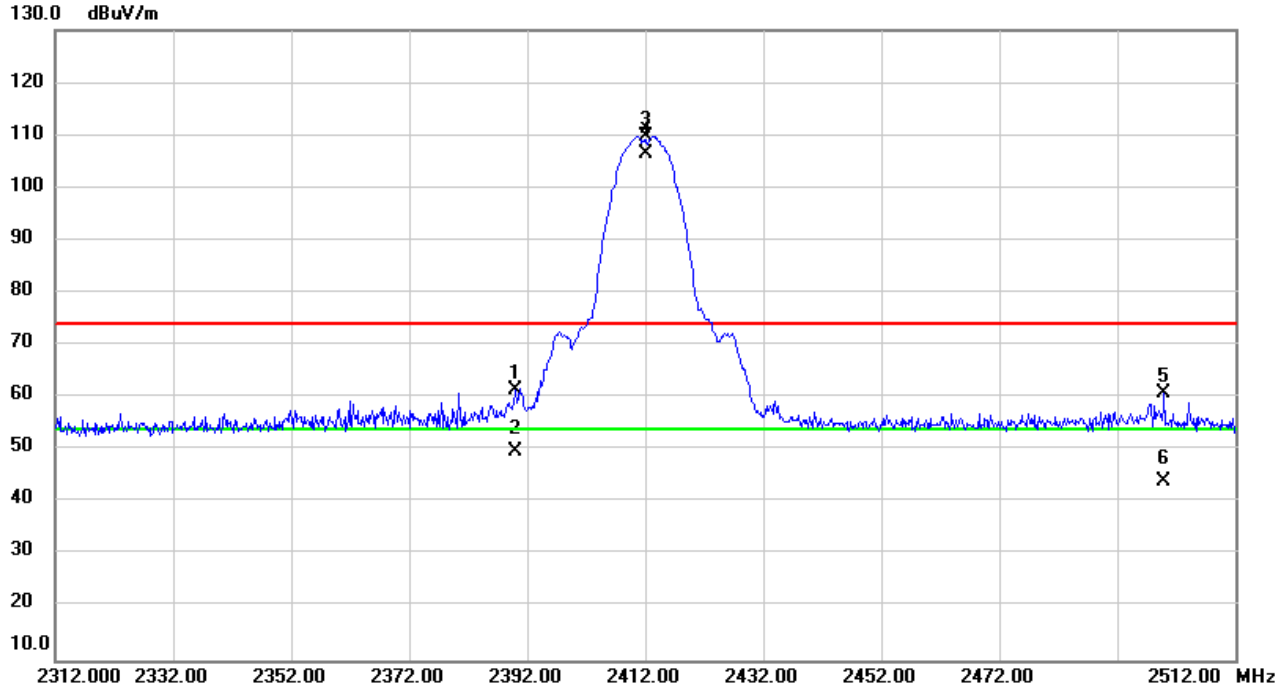


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	88.9436	57.59	-14.60	42.99	43.50	-0.51	QP	
2	!	253.0676	51.02	-9.14	41.88	46.00	-4.12	QP	
3	!	600.0043	44.94	-0.46	44.48	46.00	-1.52	QP	
4	!	649.9916	40.10	0.10	40.20	46.00	-5.80	QP	
5		758.7610	36.79	1.96	38.75	46.00	-7.25	peak	
6		949.9803	34.71	4.98	39.69	46.00	-6.31	peak	

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

APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ

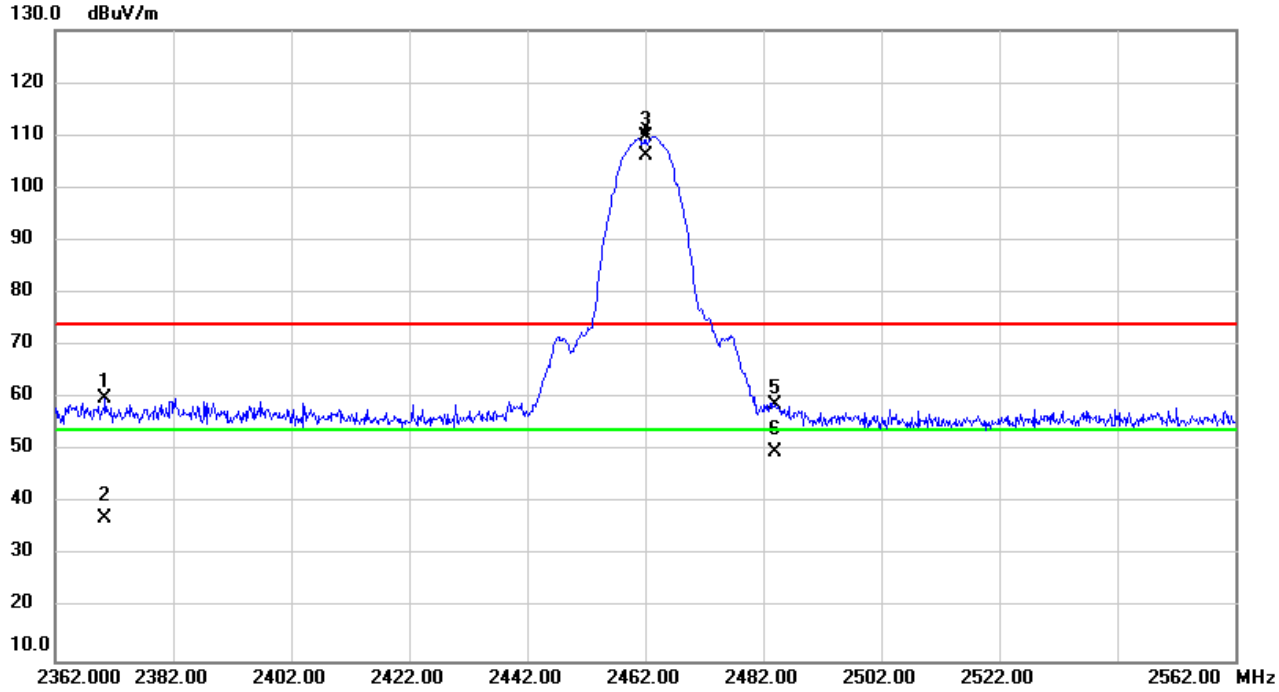
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.993	30.94	30.55	61.49	74.00	-12.51	peak	
2		2389.993	19.15	30.55	49.70	54.00	-4.30	AVG	
3	X	2412.000	79.19	30.59	109.78	74.00	35.78	peak	NoLimit
4	*	2412.000	75.74	30.59	106.33	54.00	52.33	AVG	NoLimit
5		2499.820	30.07	30.77	60.84	74.00	-13.16	peak	
6		2499.820	13.42	30.77	44.19	54.00	-9.81	AVG	

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

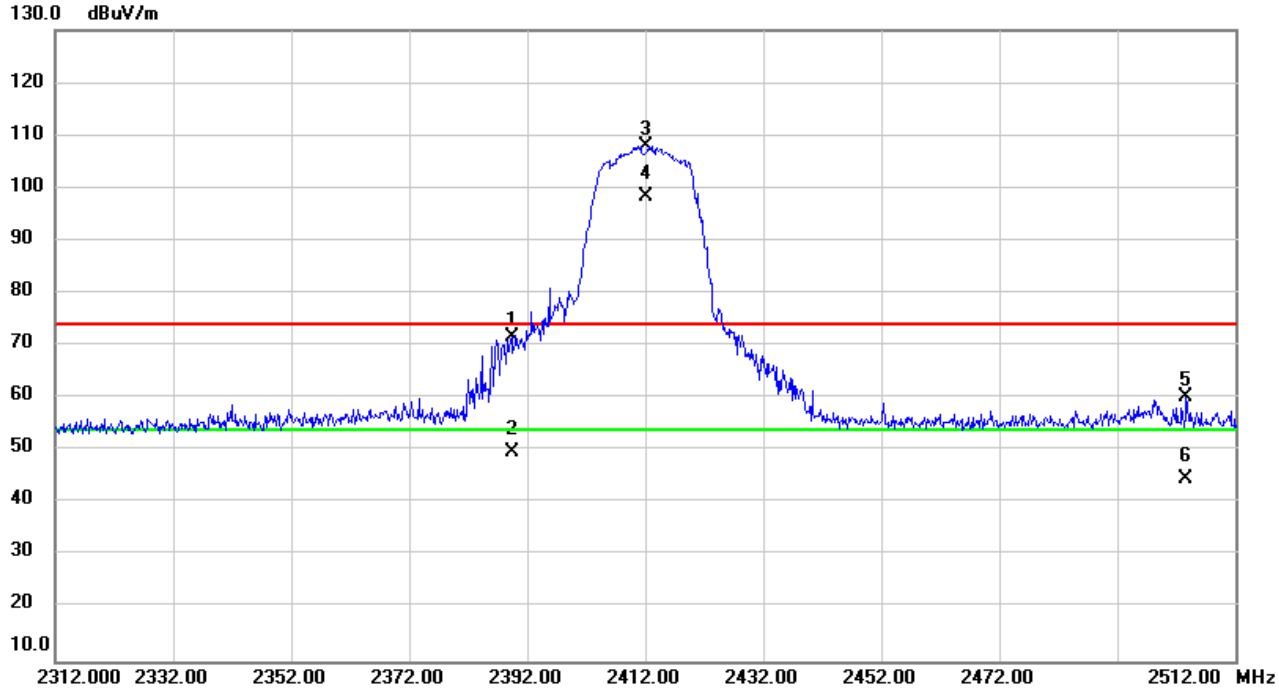
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2370.520	29.54	30.50	60.04	74.00	-13.96	peak	
2		2370.520	6.52	30.50	37.02	54.00	-16.98	AVG	
3	X	2462.000	79.07	30.69	109.76	74.00	35.76	peak	NoLimit
4	*	2462.000	75.44	30.69	106.13	54.00	52.13	AVG	NoLimit
5		2483.900	28.08	30.74	58.82	74.00	-15.18	peak	
6		2483.900	18.97	30.74	49.71	54.00	-4.29	AVG	

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

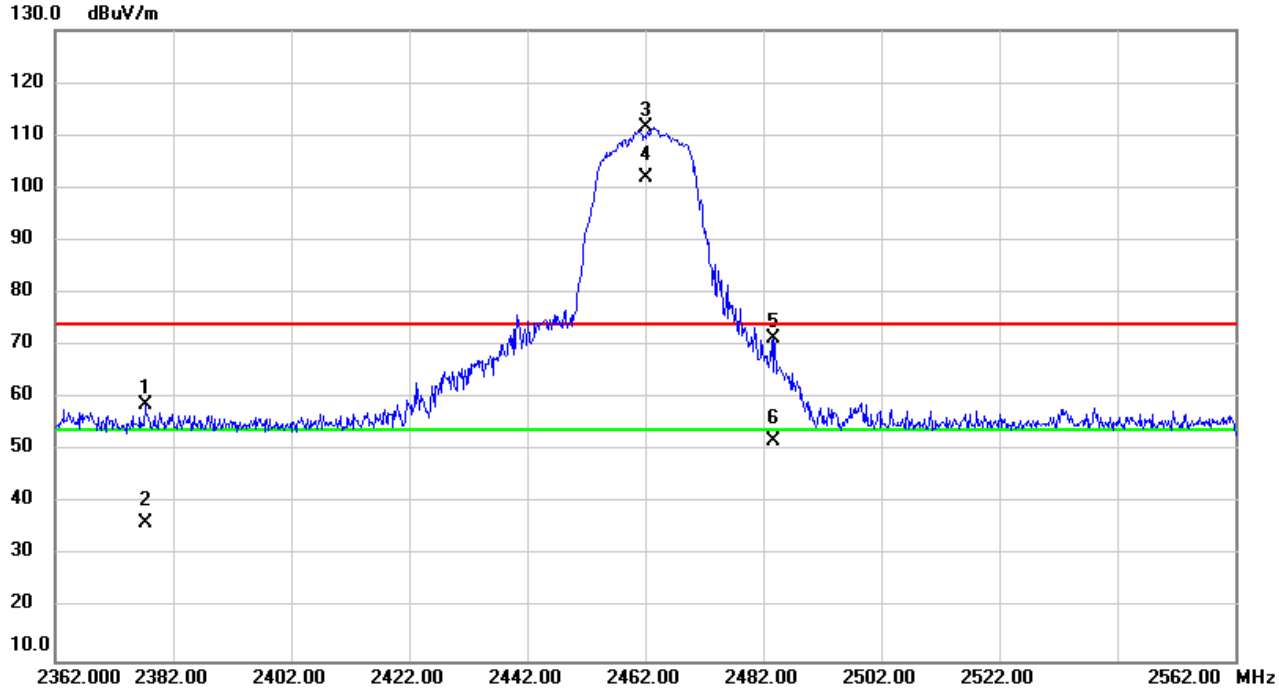
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.373	41.08	30.55	71.63	74.00	-2.37	peak	
2		2389.373	19.18	30.55	49.73	54.00	-4.27	AVG	
3	X	2412.000	77.38	30.59	107.97	74.00	33.97	peak	NoLimit
4	*	2412.000	67.79	30.59	98.38	54.00	44.38	AVG	NoLimit
5		2503.633	29.42	30.78	60.20	74.00	-13.80	peak	
6		2503.633	13.79	30.78	44.57	54.00	-9.43	AVG	

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

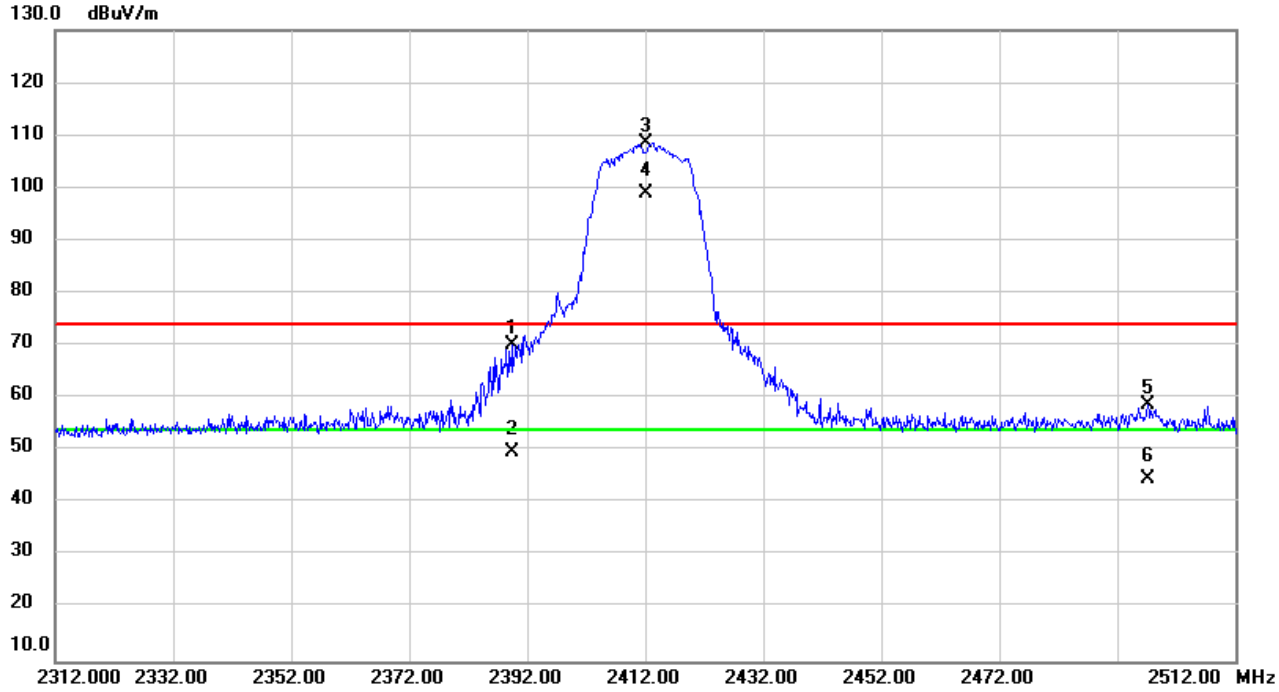
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2377.380	28.27	30.52	58.79	74.00	-15.21	peak	
2		2377.380	5.73	30.52	36.25	54.00	-17.75	AVG	
3	X	2462.000	80.74	30.69	111.43	74.00	37.43	peak	NoLimit
4	*	2462.000	71.28	30.69	101.97	54.00	47.97	AVG	NoLimit
5		2483.853	40.56	30.74	71.30	74.00	-2.70	peak	
6		2483.853	21.03	30.74	51.77	54.00	-2.23	AVG	

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

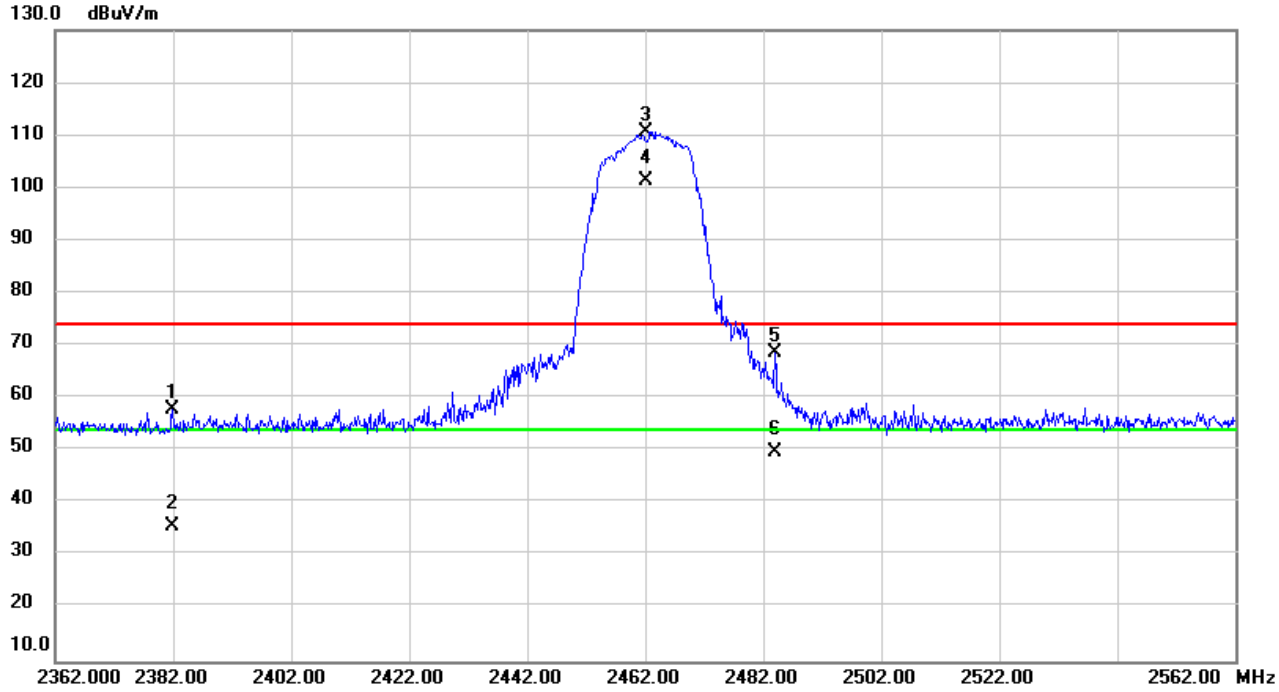
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.467	39.56	30.55	70.11	74.00	-3.89	peak	
2		2389.467	19.14	30.55	49.69	54.00	-4.31	AVG	
3	X	2412.000	77.91	30.59	108.50	74.00	34.50	peak	NoLimit
4	*	2412.000	68.30	30.59	98.89	54.00	44.89	AVG	NoLimit
5		2497.113	27.96	30.77	58.73	74.00	-15.27	peak	
6		2497.113	13.79	30.77	44.56	54.00	-9.44	AVG	

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

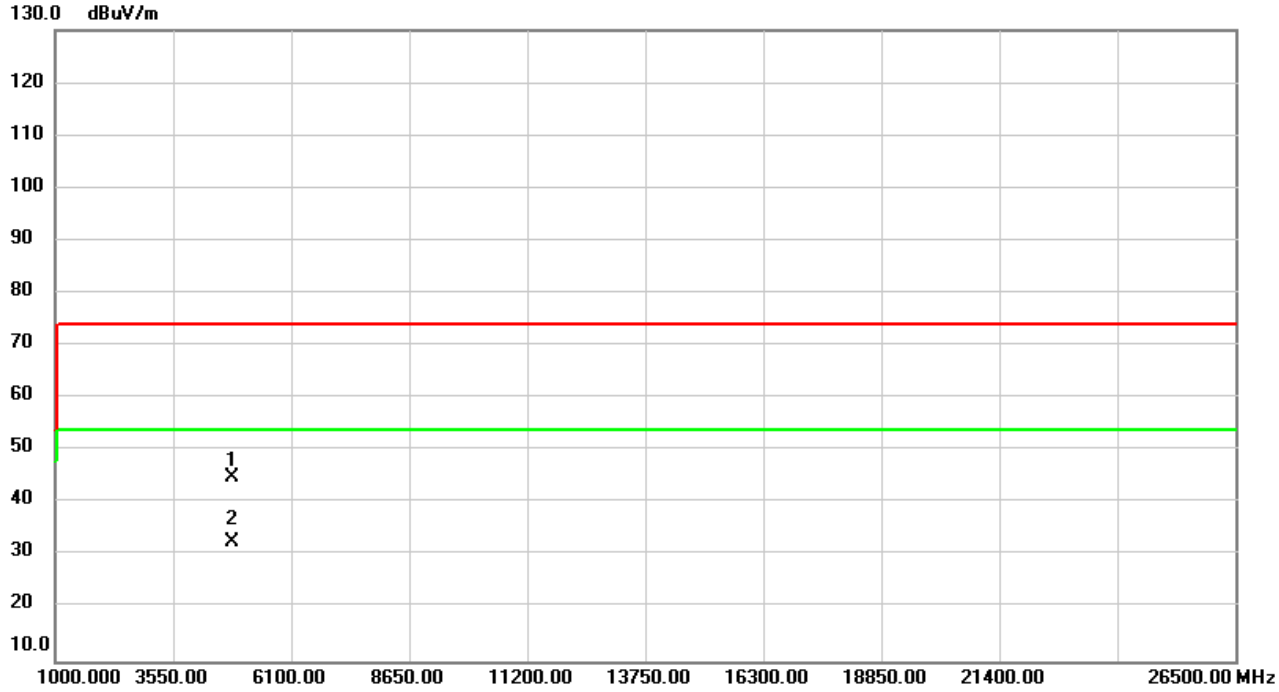
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2381.960	27.36	30.52	57.88	74.00	-16.12	peak	
2		2381.960	5.21	30.52	35.73	54.00	-18.27	AVG	
3	X	2462.000	80.09	30.69	110.78	74.00	36.78	peak	NoLimit
4	*	2462.000	70.65	30.69	101.34	54.00	47.34	AVG	NoLimit
5		2483.947	37.80	30.74	68.54	74.00	-5.46	peak	
6		2483.947	18.97	30.74	49.71	54.00	-4.29	AVG	

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

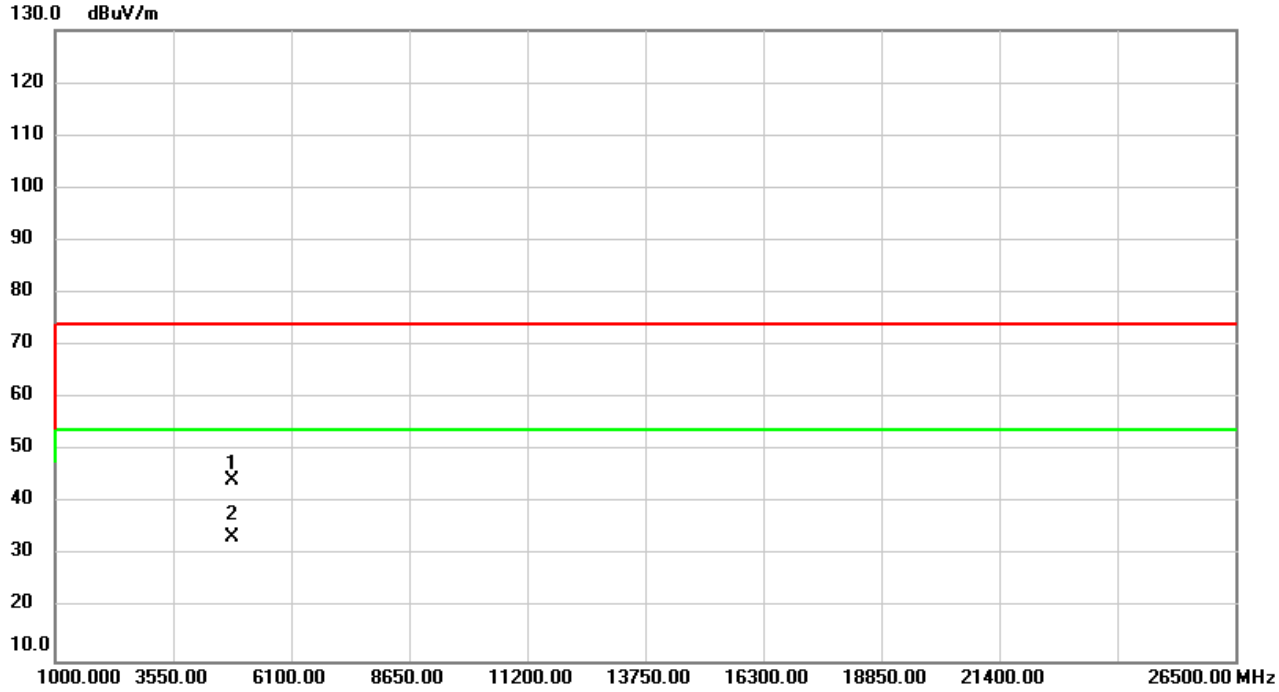
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	53.75	-8.83	44.92	74.00	-29.08	peak	
2	*	4824.000	41.55	-8.83	32.72	54.00	-21.28	AVG	

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

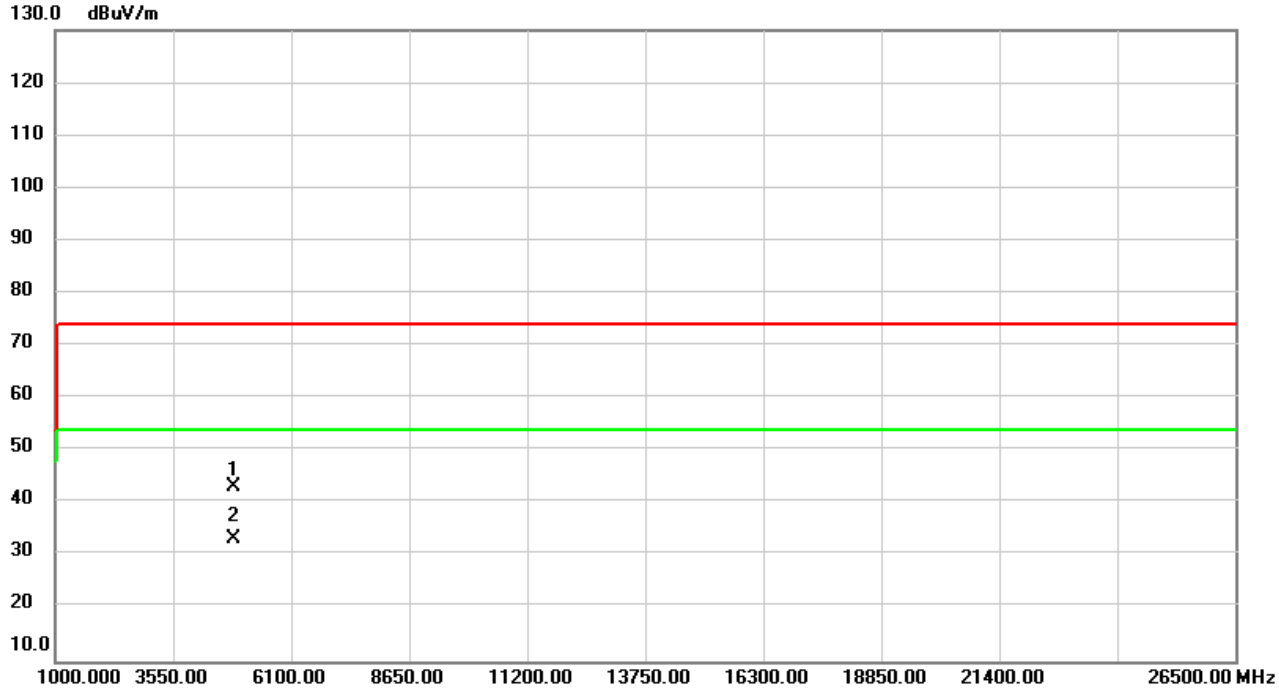
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	53.12	-8.83	44.29	74.00	-29.71	peak	
2	*	4824.000	42.31	-8.83	33.48	54.00	-20.52	AVG	

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

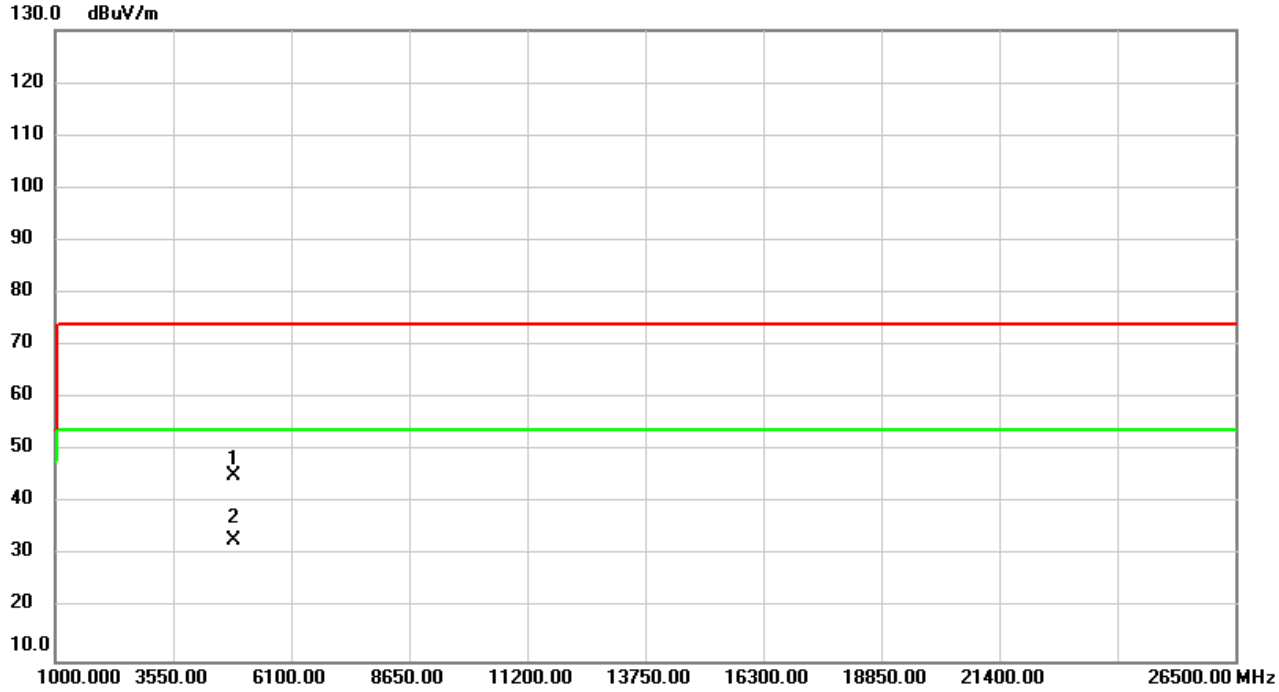
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	51.76	-8.75	43.01	74.00	-30.99	peak	
2	*	4874.000	42.12	-8.75	33.37	54.00	-20.63	AVG	

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

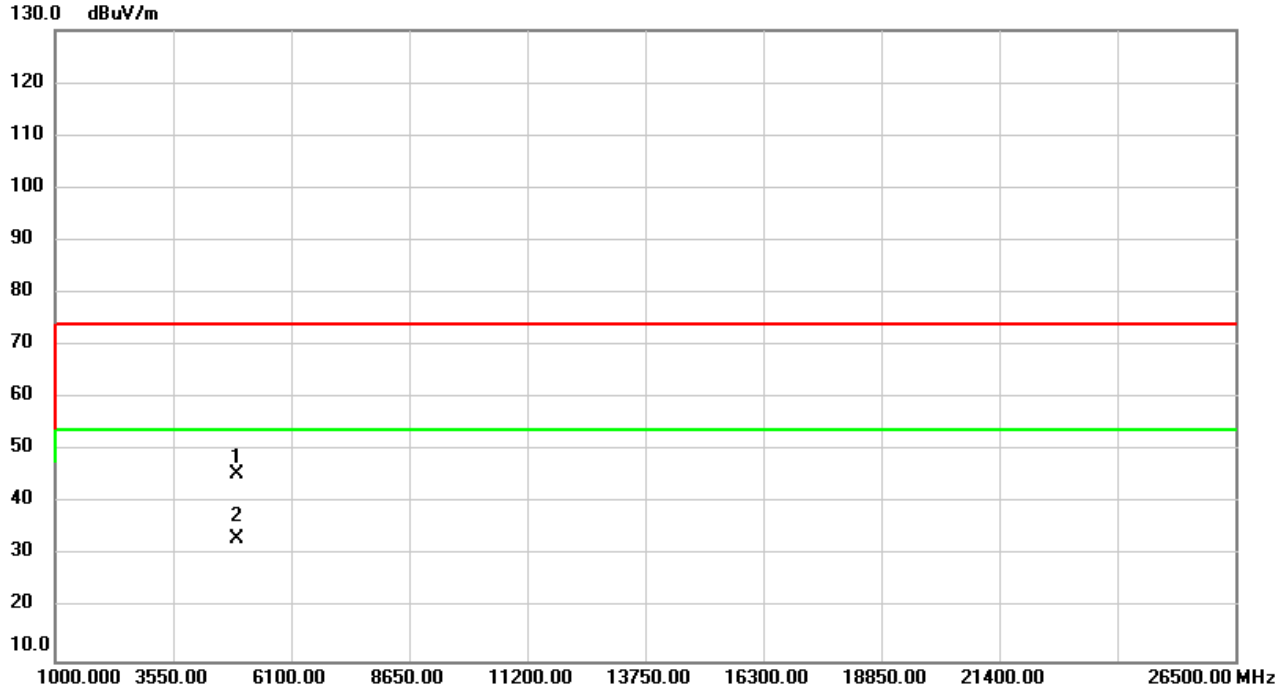
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	54.09	-8.75	45.34	74.00	-28.66	peak	
2	*	4874.000	41.69	-8.75	32.94	54.00	-21.06	AVG	

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

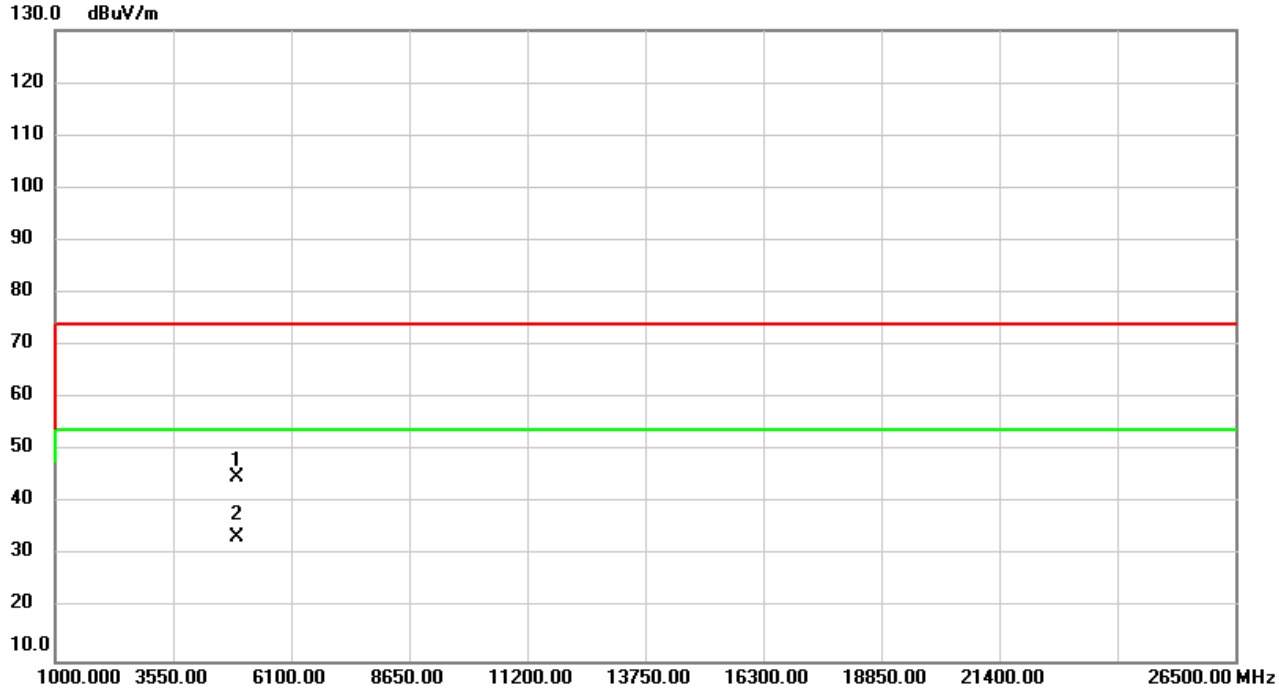
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	54.31	-8.66	45.65	74.00	-28.35	peak	
2	*	4924.000	41.76	-8.66	33.10	54.00	-20.90	AVG	

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

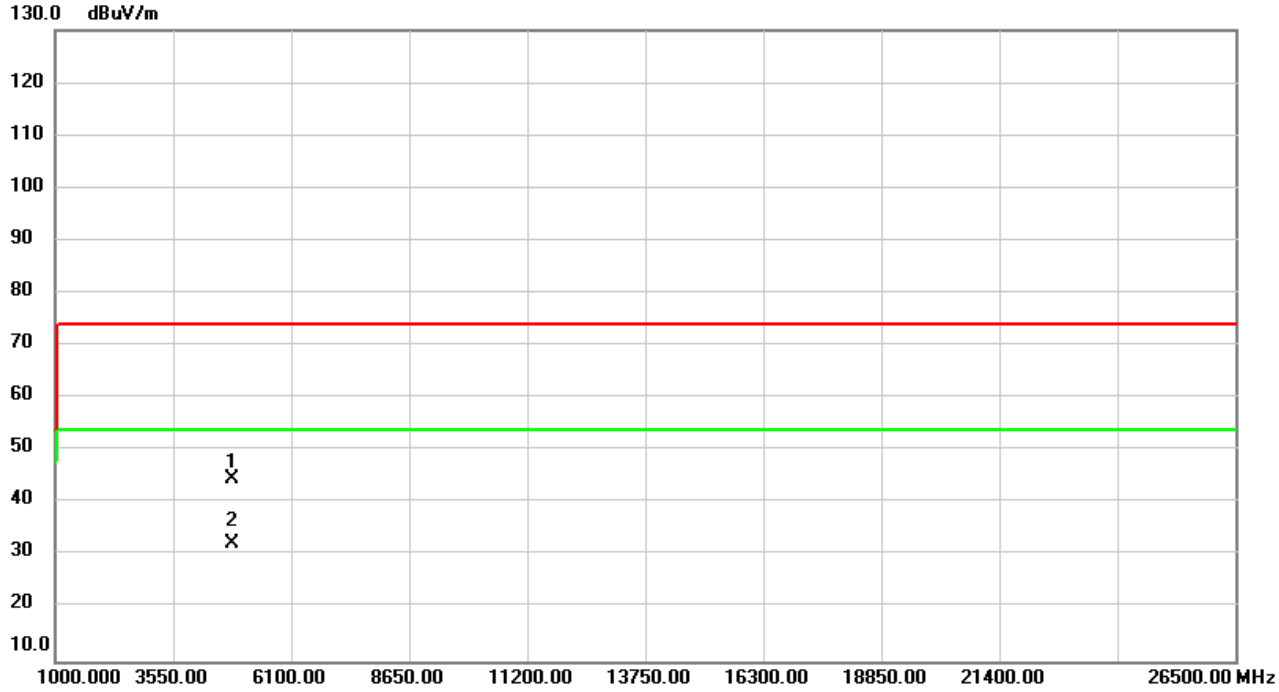
Test Mode	IEEE 802.11b	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	53.61	-8.66	44.95	74.00	-29.05	peak	
2	*	4924.000	42.31	-8.66	33.65	54.00	-20.35	AVG	

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

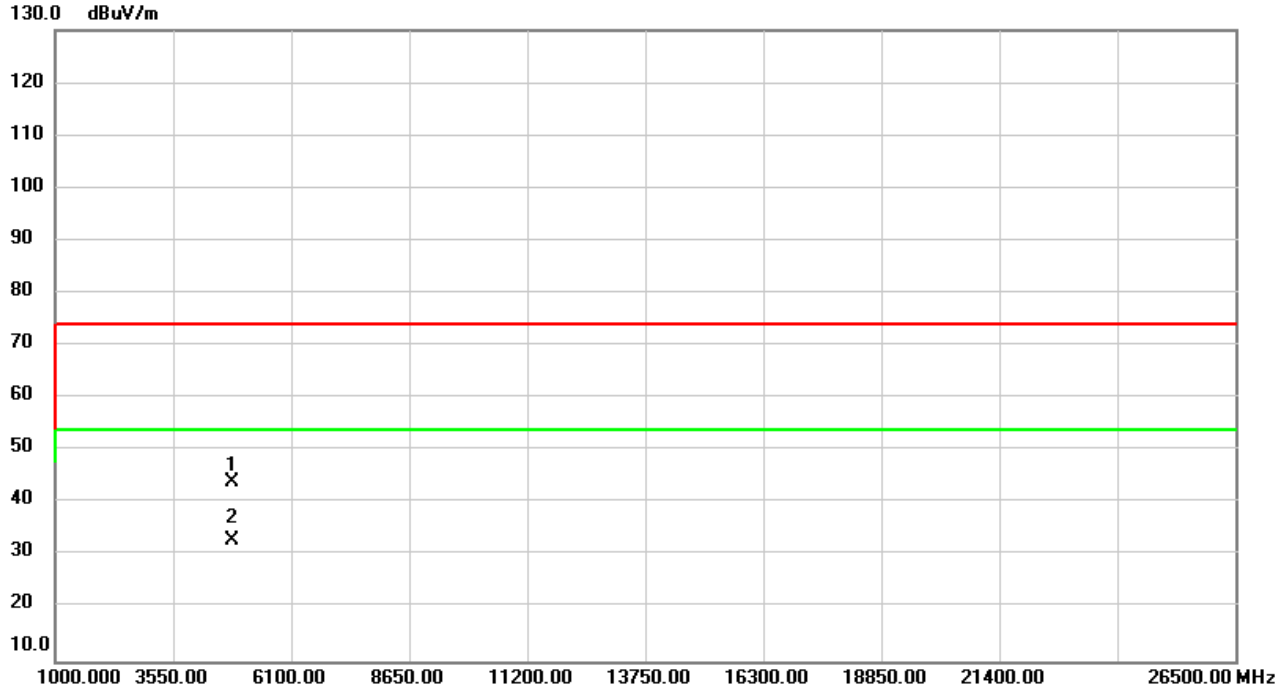
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	53.37	-8.83	44.54	74.00	-29.46	peak	
2	*	4824.000	41.28	-8.83	32.45	54.00	-21.55	AVG	

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

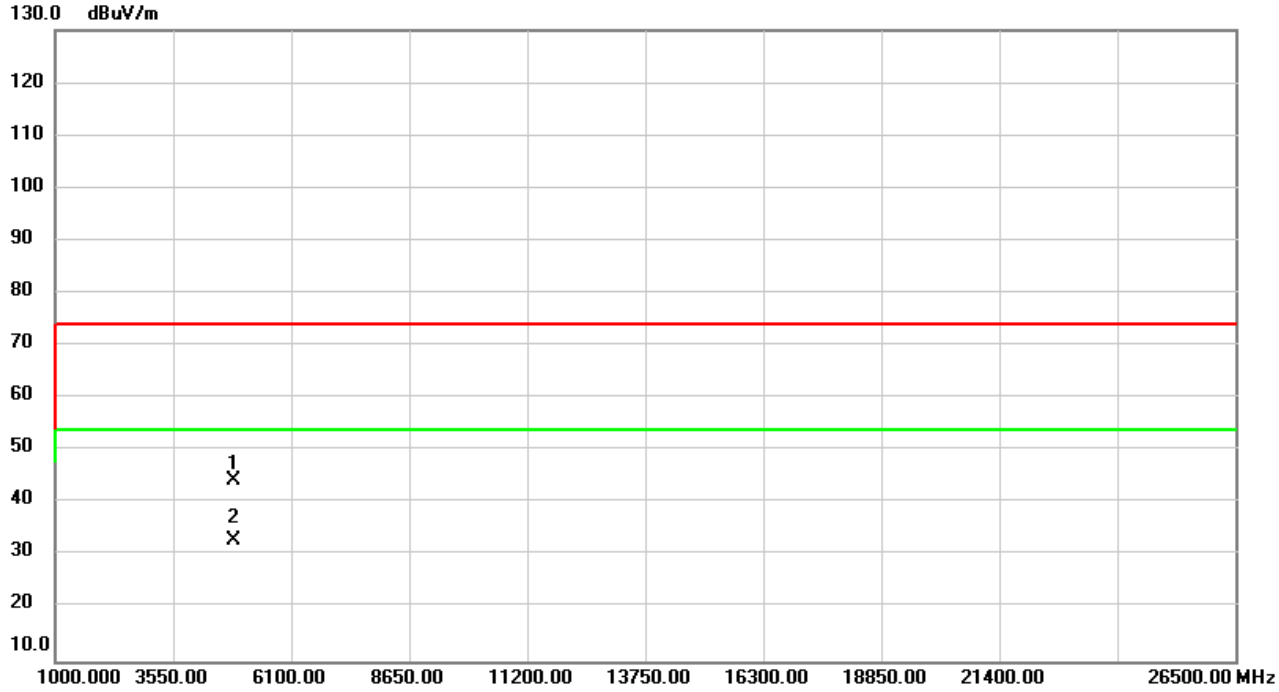
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	52.82	-8.83	43.99	74.00	-30.01	peak	
2	*	4824.000	41.88	-8.83	33.05	54.00	-20.95	AVG	

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

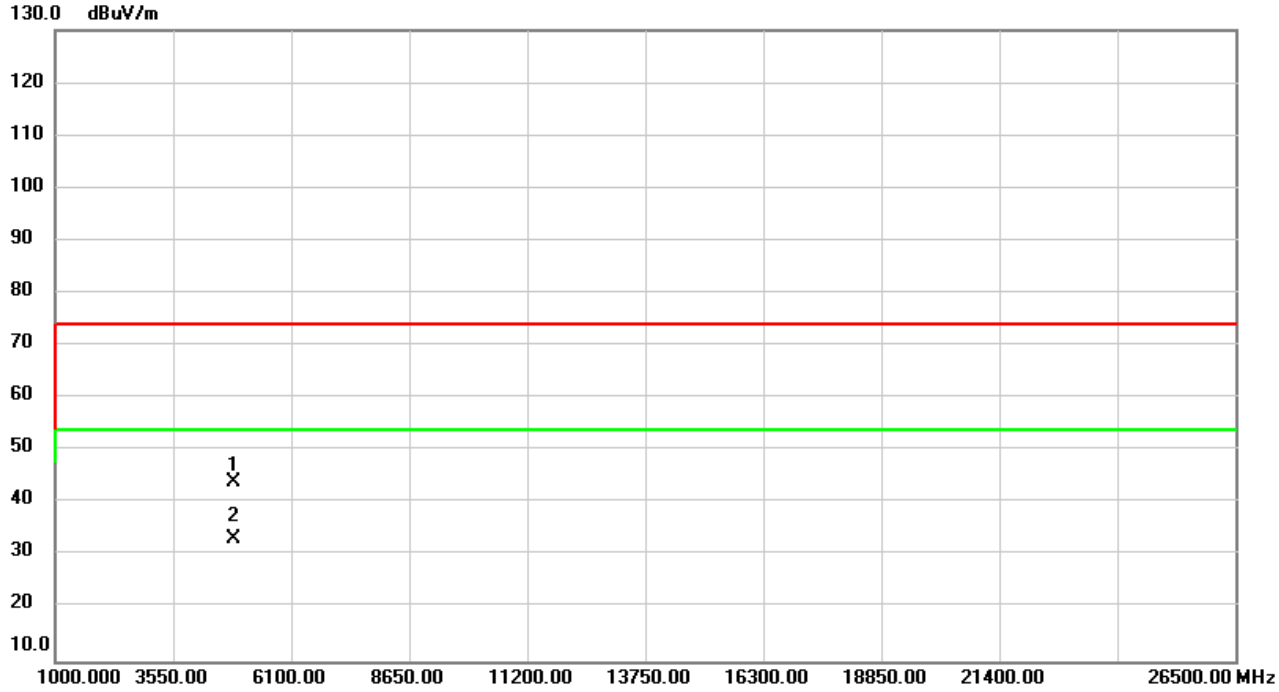
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	53.22	-8.75	44.47	74.00	-29.53	peak	
2	*	4874.000	41.76	-8.75	33.01	54.00	-20.99	AVG	

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

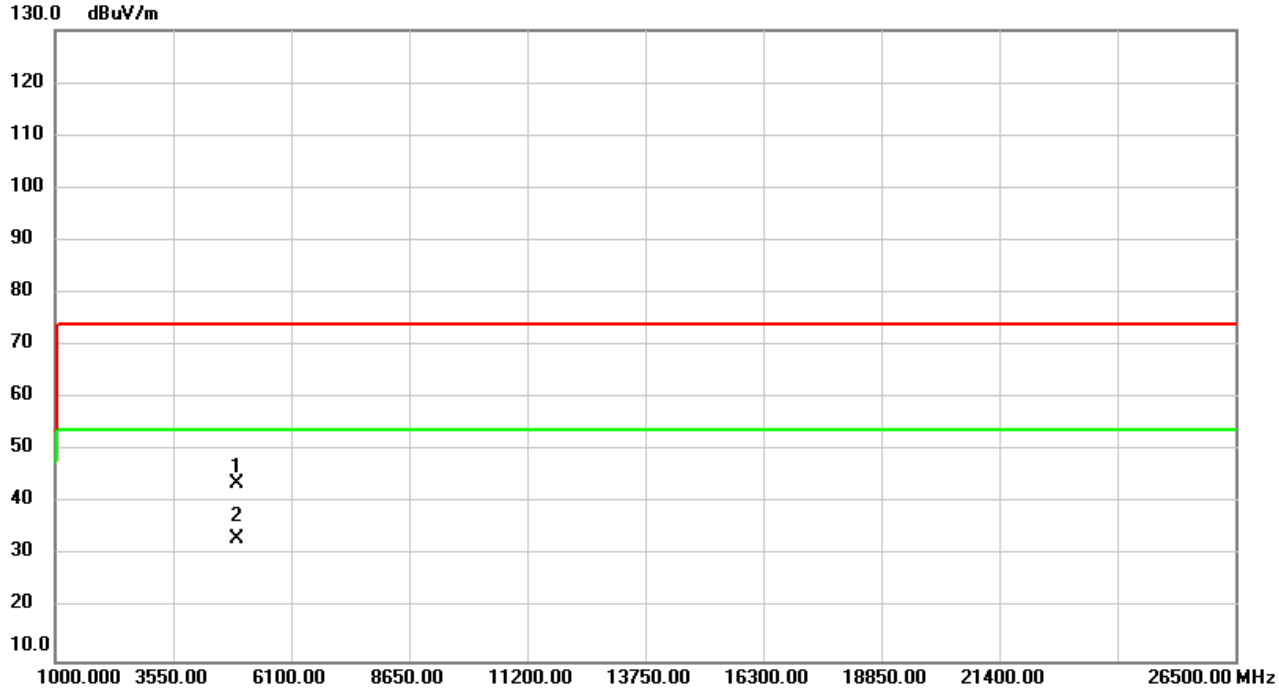
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	52.86	-8.75	44.11	74.00	-29.89	peak	
2	*	4874.000	42.10	-8.75	33.35	54.00	-20.65	AVG	

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

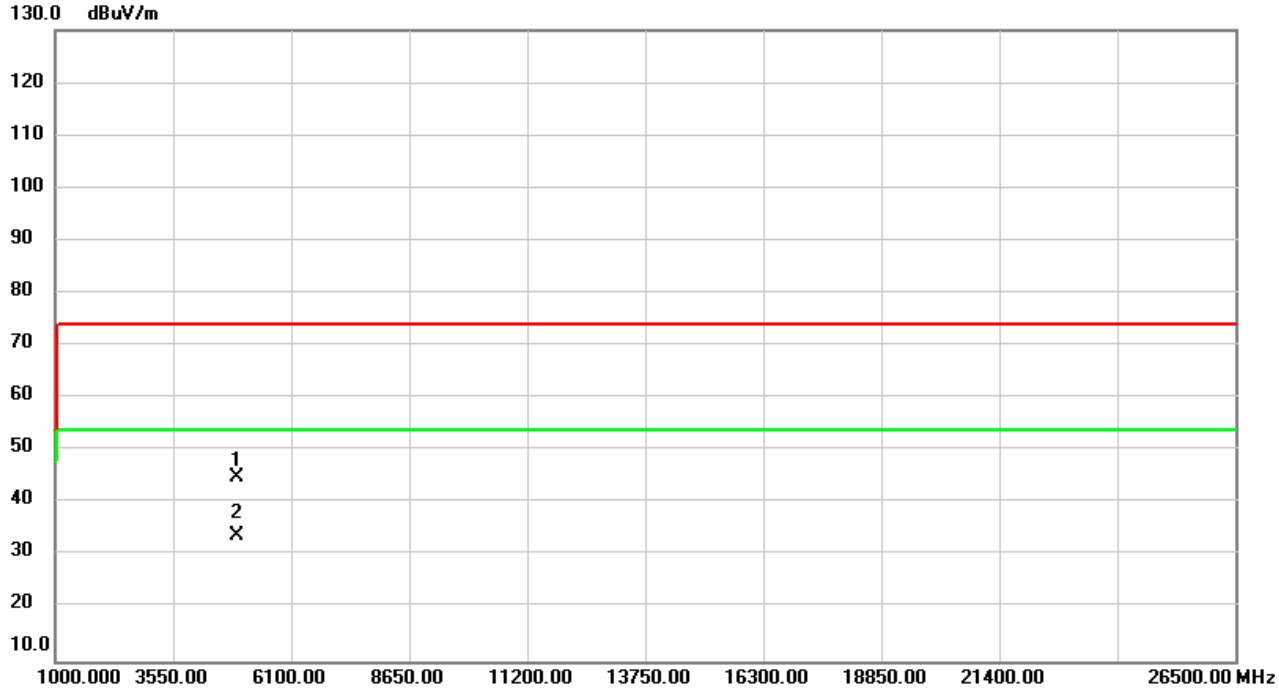
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	52.44	-8.66	43.78	74.00	-30.22	peak	
2	*	4924.000	42.05	-8.66	33.39	54.00	-20.61	AVG	

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

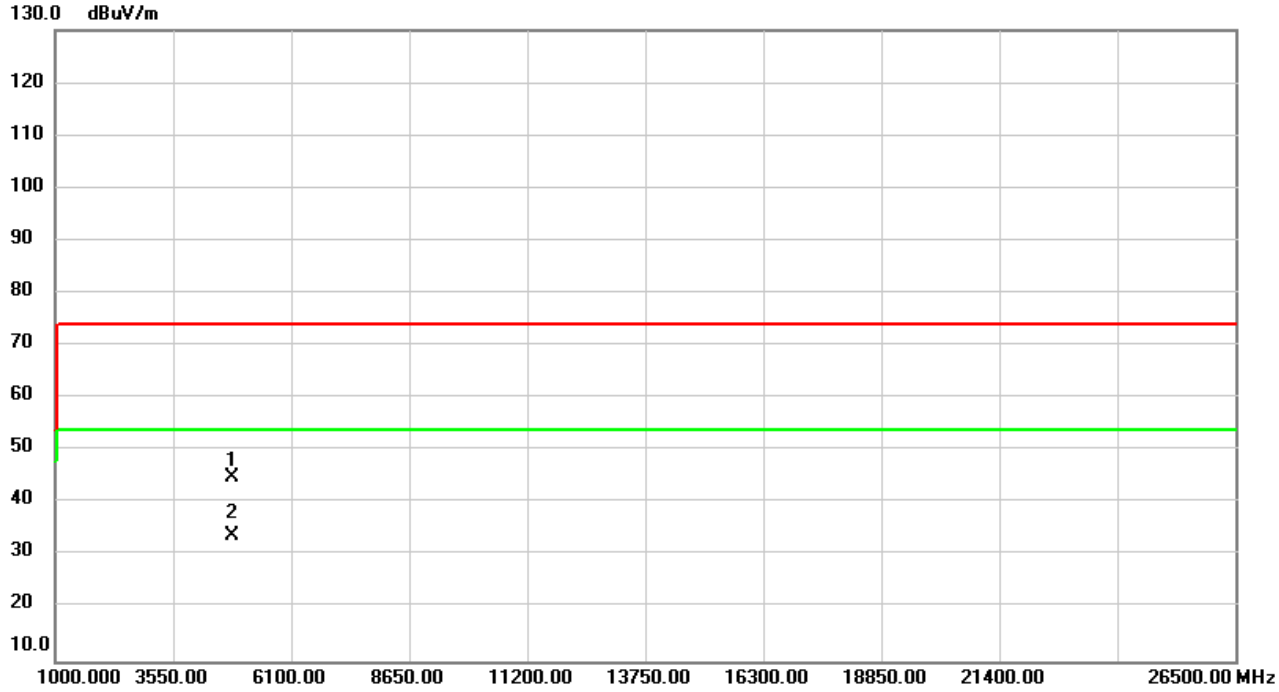
Test Mode	IEEE 802.11g	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	53.53	-8.66	44.87	74.00	-29.13	peak	
2	*	4924.000	42.37	-8.66	33.71	54.00	-20.29	AVG	

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

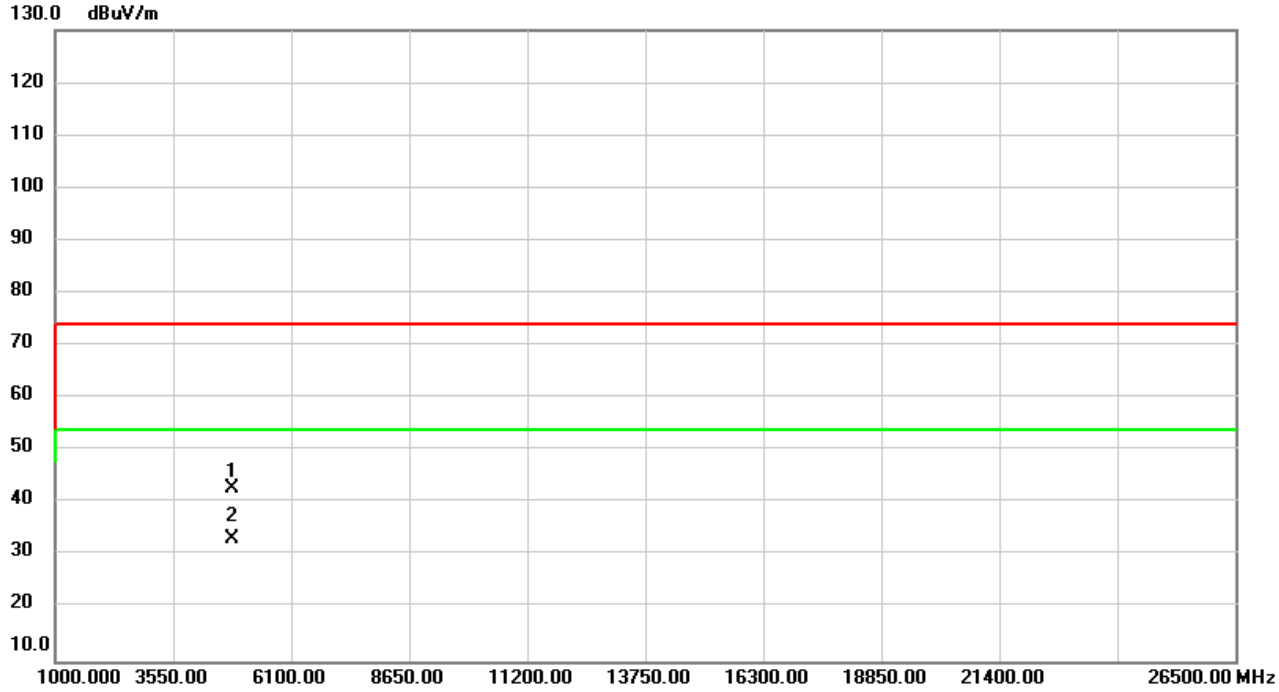
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	53.83	-8.83	45.00	74.00	-29.00	peak	
2	*	4824.000	42.55	-8.83	33.72	54.00	-20.28	AVG	

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

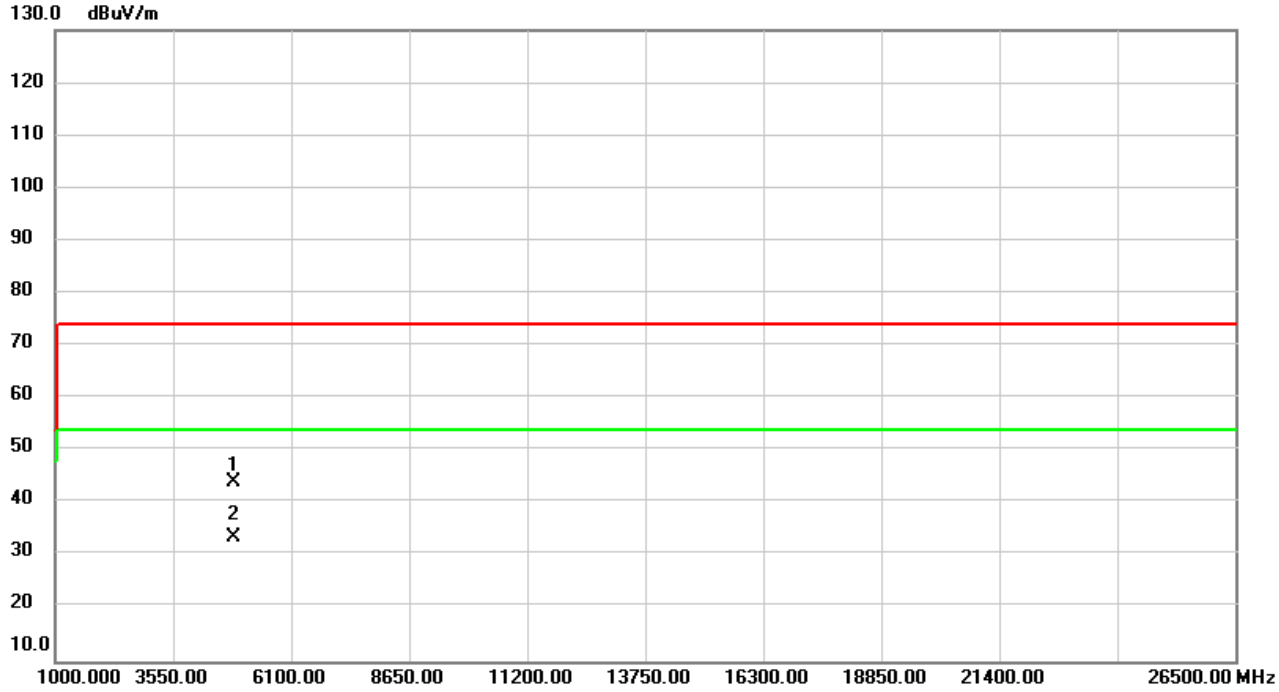
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2412MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	51.77	-8.83	42.94	74.00	-31.06	peak	
2	*	4824.000	42.15	-8.83	33.32	54.00	-20.68	AVG	

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

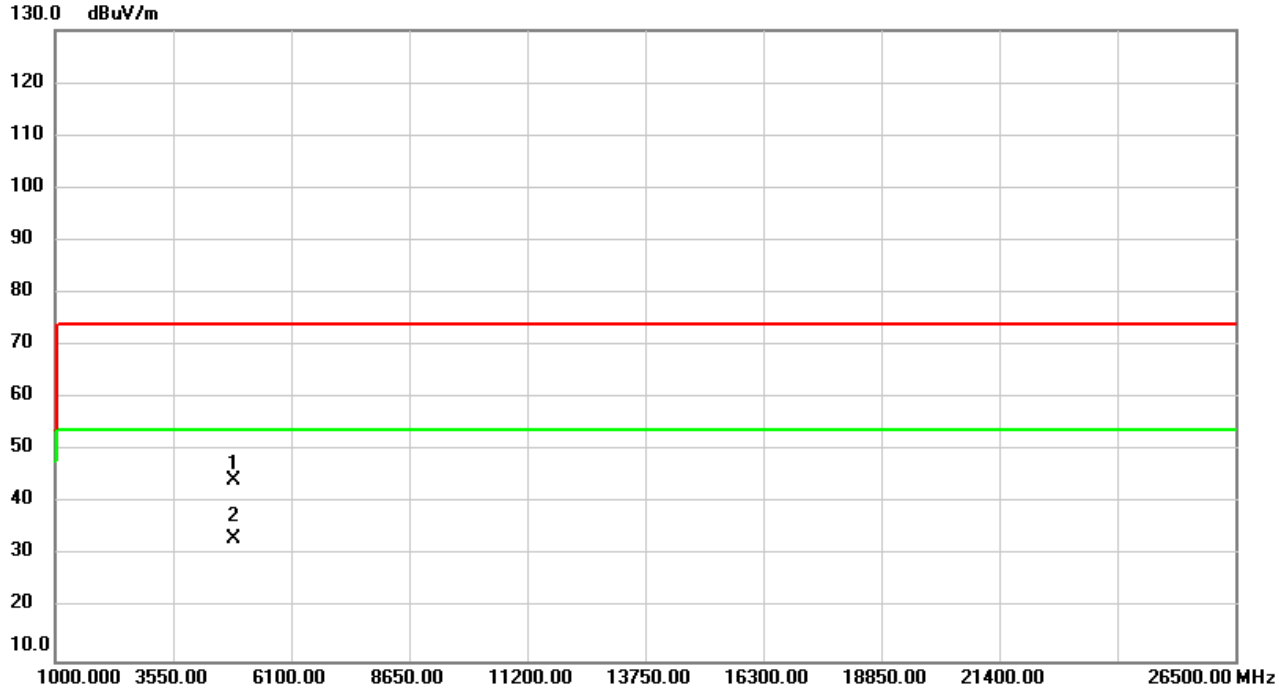
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	52.78	-8.75	44.03	74.00	-29.97	peak	
2	*	4874.000	42.19	-8.75	33.44	54.00	-20.56	AVG	

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

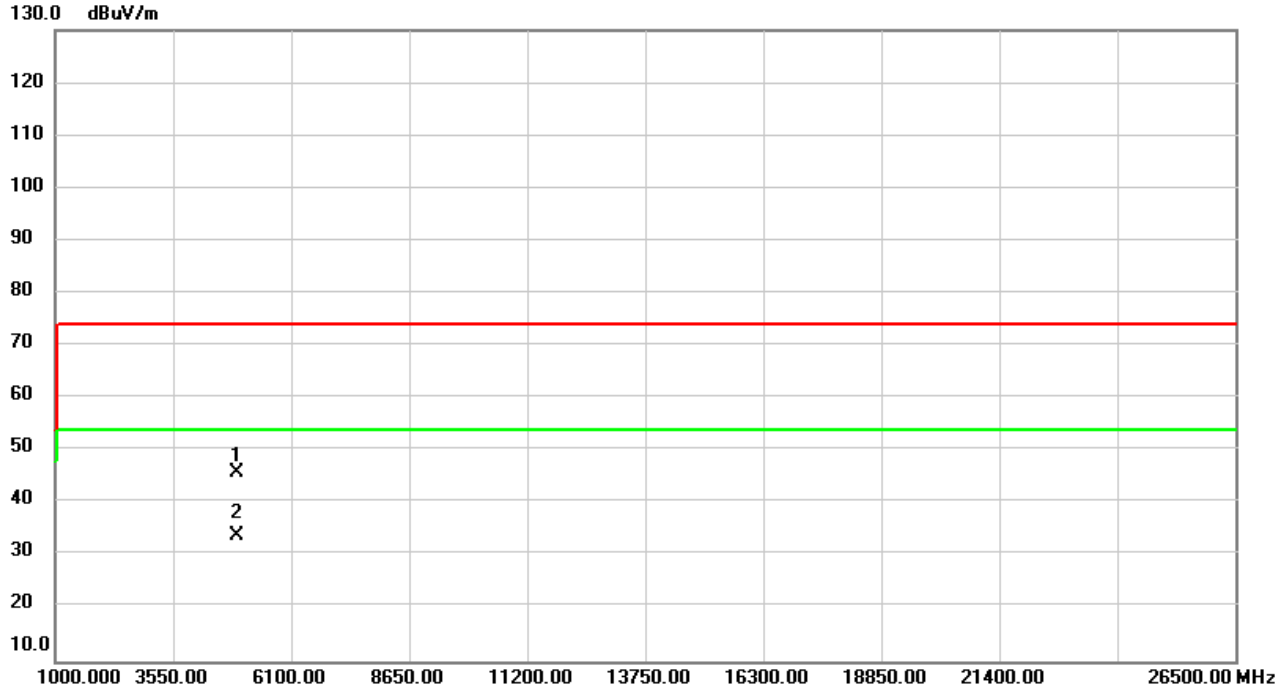
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2437MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	53.08	-8.75	44.33	74.00	-29.67	peak	
2	*	4874.000	41.99	-8.75	33.24	54.00	-20.76	AVG	

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

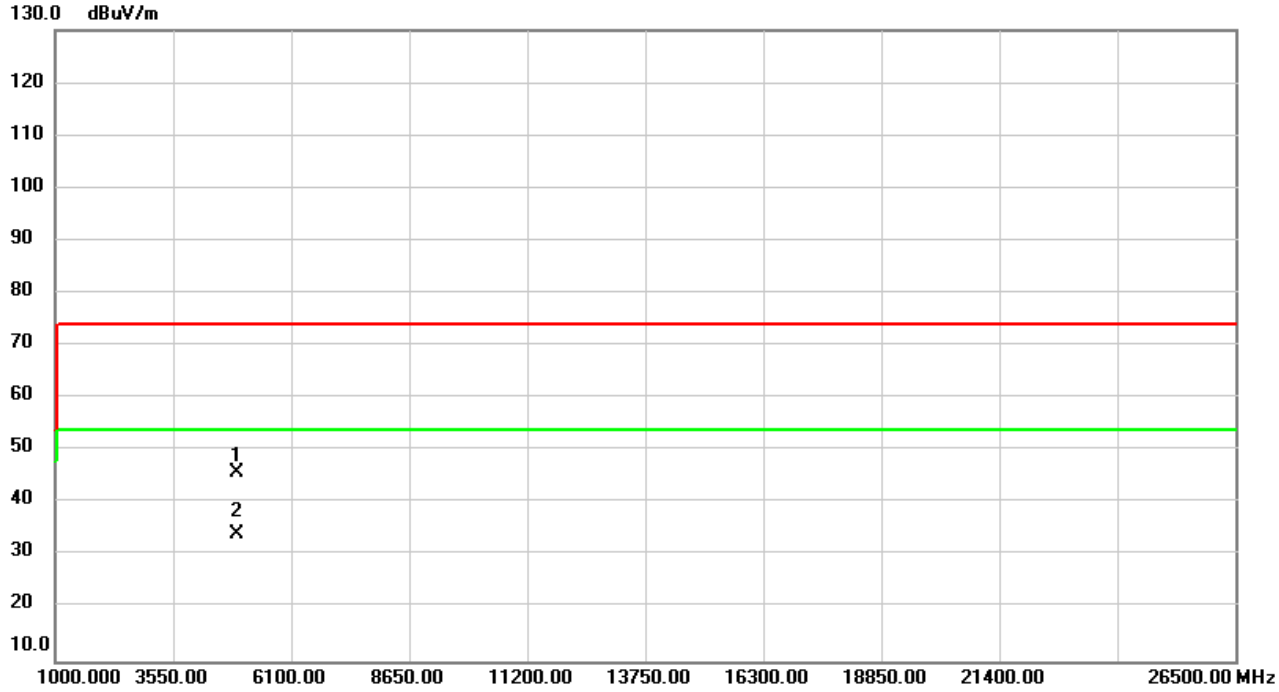
Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Vertical
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	54.36	-8.66	45.70	74.00	-28.30	peak	
2	*	4924.000	42.53	-8.66	33.87	54.00	-20.13	AVG	

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

Test Mode	IEEE 802.11n(HT20)	Test Date	2021/6/2
Test Frequency	2462MHz	Polarization	Horizontal
Temp	23°C	Hum.	56%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	54.57	-8.66	45.91	74.00	-28.09	peak	
2	*	4924.000	42.71	-8.66	34.05	54.00	-19.95	AVG	

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

APPENDIX D OUTPUT POWER

Test Mode	IEEE 802.11b	Tested Date	2021/8/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Limit (dBm)	Limit (W)	Result
2412	20.24	0.1057	30.00	1.0000	Complies
2437	19.85	0.0966	30.00	1.0000	Complies
2462	20.22	0.1052	30.00	1.0000	Complies

Test Mode	IEEE 802.11g	Tested Date	2021/8/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Limit (dBm)	Limit (W)	Result
2412	21.86	0.1535	30.00	1.0000	Complies
2437	23.46	0.2218	30.00	1.0000	Complies
2462	21.74	0.1493	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)	Tested Date	2021/8/11

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Limit (dBm)	Limit (W)	Result
2412	21.37	0.1371	30.00	1.0000	Complies
2437	23.37	0.2173	30.00	1.0000	Complies
2462	21.96	0.1570	30.00	1.0000	Complies

End of Test Report