



Spectrum Research & Testing Lab., Inc.

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

TEST REPORT

Reference No.: A23111702
Report No.: FCCA23111702-W0
FCC ID: 2AIMRRD10M
Page: 1 of 106
Date: Dec. 04, 2023

Product Name: Xiaomi WiFi Range Extender N300
Brand Name: Xiaomi
Model No.: RD10M
Series Model: ---
Applicant: Beijing Xiaomi Electronics Co., Ltd.
#802, 8th Floor, Building 5, No. 15 10th Kechuang Street,
Beijing Economic-Technological Development Area, Beijing,
China, 100176
Date of Receipt: Nov. 17, 2023
Finished date of Test: Dec. 01, 2023
Applicable Standards: 47 CFR Part 15, Subpart C, 15.247
ANSI C63.10: 2013

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

Tested By : Jimmy Tseng , Date: 12/4/2023
(Jimmy Tseng)

Approved By : Johnson Ho , Date: 12/4/2023
(Johnson Ho, Director)





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Revisions History

Report No.	Issue Date	Revisions
FCCA23111702-W0	Dec. 04, 2023	Initial issue



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1 DOCUMENT POLICY AND TEST STATEMENT

1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.
- FCC Registered Test Site Number : TW1016

1.2 TEST STATEMENT

- This random test report is for FCC's market spot check action by FCC ID: 2AIMRRD10M project, applied only to the specific samples tested under conditions.
- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- AC power source, 100-240VAC, 50/60Hz, was used during the test.

1.3 EUT MODIFICATION

- No modification in SRT Lab.

1.4 DECISION RULE

- To make sure the testing report(s) meet the requirement of ISO/IEC 17025:2017 standard and meet chapter 7.1 (Review of Requests, Tenders and Contracts), chapter 7.4 (Handling of Test or Calibration Items), chapter 7.8.2 (Reporting of Results – Common Requirement for Reports (Test, Calibration or Sampling)), This decision rule will be the base of adjustment (include the disclaimer scope) from SRT LAB.
- After communicate between SRT LAB. and clients /applicants and get the agreement, SRT LAB. will do the adjustment. According to this decision rule, SRT LAB. Manager(s) will do the Pass or Fail adjustment. (But one thing need to be concerned is, not every assessing rule suits all declaration of conformity assessing actions, it should be ruled depends on product's feature, test standard, technical regulation, test results, and also acceptance of risk of both sides.)
- This report according to the "description of applied standards and statements of conformity" on the report, as the decision rule.

1.5 REPORTING STATEMENTS OF CONFORMITY

Base on ISO/IEC 17025, the statements of conformity requirement of testing results.

- It does not need to provide the statements of conformity.
- It need to provide the statements of conformity and
 - Use CISPR 16-4, ISO/IEC Guide 98-3, IEC Guide 115, ETSI ETR 028 speciation and it does not need to provide additional uncertainty of the testing results or data on the report(s).
 - It need to provide additional uncertainty of the testing results or data on the report(s).



2 DESCRIPTION OF EUT AND TEST MODE

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Xiaomi WiFi Range Extender N300
MODEL NO.	RD10M
BRAND NAME	Xiaomi
POWER SUPPLY	Input: 100-240VAC, 50/60Hz, 0.35A
CABLE	N/A
FREQUENCY BAND	2.4000 GHz ~ 2.4835 GHz
CARRIER FREQUENCY	2.412 GHz ~ 2.462 GHz
NUMBER OF CHANNEL	802.11b/g/n - HT20 : 11CH / HT40 : 9CH
RATED RF OUTPUT POWER	IEEE 802.11b : 22.96 dBm IEEE 802.11g : 24.12 dBm IEEE 802.11n - HT20 : 26.17 dBm IEEE 802.11n - HT40 : 20.76 dBm
MODULATION TYPE	IEEE802.11b DSSS(BPSK/QPSK/CCK) IEEE802.11g OFDM(BPSK/16-QAM/64-QAM) IEEE802.11n SISO-OFDM(BPSK/QPSK/16-QAM/64-QAM)
BIT RATE OF TRANSMITTER	IEEE 802.11b : 1, 2, 5.5, 11 Mbps; IEEE 802.11g : 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n - HT20 : Max. 144.4 Mbps IEEE 802.11n - HT40 : Max. 300 Mbps
ANTENNA TYPE	Dipole Antenna
ANTENNA GAIN	Ant 1→4.03 dBi Ant 2→3.77 dBi

Brief description of the function/specification of the DUT

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

2.2 DESCRIPTION OF EUT INTERNAL DEVICE

DEVICE	BRAND / MARKER	MODEL #	FCC ID / DOC	REMARK
RF IC	MEDIATEK	MT7628KN	N/A	WiFi 2.4G
Antenna 1	AZROAD	Z01-20478-R01	N/A	Dipole Antenna, 4.03 dBi
Antenna 2	AZROAD	Z01-20479-R01	N/A	Dipole Antenna, 3.77 dBi

Note: The EUT supports CDD. Physically, the EUT provides two completed transmitters and receivers.



2.3 DESCRIPTION OF TEST MODE

The EUT in Wi-Fi 2.4G mode has 11 channels and the modulations are below:

IEEE 802.11b : DSSS(BPSK/QPSK/CCK)

IEEE 802.11g/n - HT20/HT40 : OFDM(16QAM/64QAM) ◦

The fixed frequency software is (enter relevant instructions according to the MD10 certification SOP fixed frequency file description)

After pre-test in chamber and evaluate:

1. Duplex was the worst modulation, so use of Duplex for the final test mode.
2. Choose lowest, middle and highest channels for final test.
3. Three axis (X, Y and Z axis) are evaluated in chamber, the X axis is the worst in test.

Test Mode		Channel	Frequency (MHz)
1	802.11b	CH01	2412
2		CH06	2437
3		CH11	2462
4	802.11g	CH01	2412
5		CH06	2437
6		CH11	2462
7	802.11n - HT20	CH01	2412
8		CH06	2437
9		CH11	2462
10	802.11n – HT40	CH03	2422
11		CH06	2437
12		CH09	2452
19	Standby	---	---
20	Link	---	---

NOTE:

1. Below 1 GHz were pre-tested in chamber and chosen the worst case for conducted and radiated emission test.
2. Above 1 GHz were tested individually.

2.4 EUT OPERATING CONDITION

1. Setup the EUT and all peripheral devices.
2. Turn on the power of all equipment and EUT.
3. Transfer board between PC and EUT. Into engineering & Standby mode.



2.5 DESCRIPTION OF SUPPORT UNIT

The EUT was configured by the requirement of ANSI C63.10:2013. All interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

NO	DEVICE	MANUFACTURER/BRAND	MODEL #	FCC ID/DOC	CABLE
1	PC	ASUS	H-S300TA	DoC	1.8m unshielded power cable.
2	LCD Monitor	DELL	U2410	DoC	1.8m unshielded power cable. 1.5m shielded data cable.
3	Mouse	ASUS	JM3	DoC	1.5m unshielded data cable.
4	Keyboard	ASUS	K49	DoC	1.5m unshielded data cable
5	USB 2.0 HDD	Terasys	F-12U	DoC	1.5m shielded data cable.
6	Printer	HP	C8995A	DoC	1.5m unshielded power cable. 1.5m shielded data cable.
7	LAN Cable	BIZLINK	2835	NA	1.8m shielded data cable.

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

2.6 CHANNEL AND FREQUENCY TABLE

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



3 DESCRIPTION OF APPLIED STANDARDS

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

47 CFR Part 15, Subpart C, 15.247

ANSI C63.10: 2013

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

3.1 DESCRIPTION OF APPLIED KDB

Related KDB used in the test:

FCC publication KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement on Digital Transmission Systems (DTS) Operating under Section 15.247 Apr. 02, 2019

3.2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

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4 CONDUCTED EMISSION TEST

4.1 LIMIT

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

NOTE:

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

4.2 TEST EQUIPMENT

The following test equipment was used for the test:

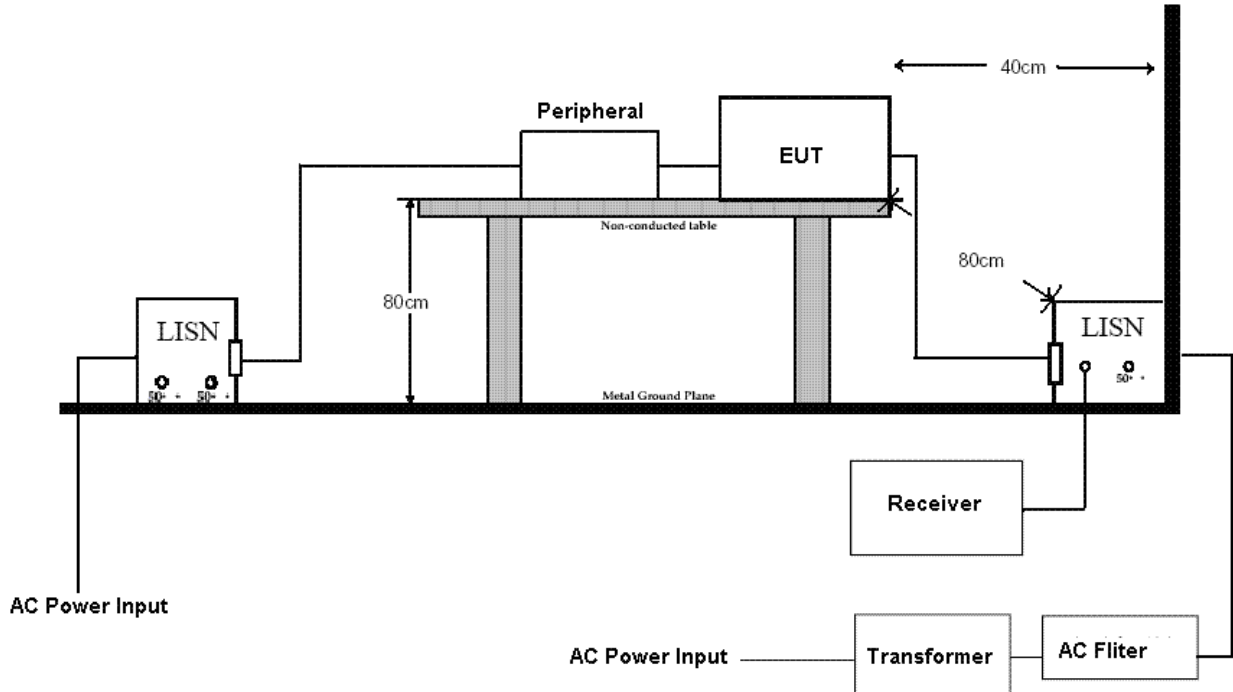
Equipment/Facilities	Specifications	Manufacturer	Model #/Serial #	Due Date of Cal. & Cal. Center	Final Test be Used
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	APR. 26, 2024 ETC	■
LISN	50 μ H, 50 ohm	SOLAR	9252-50-R-24-BNC/ 951315	FEB. 22, 2024 ETC	■
LISN	50 μ H, 50 ohm	SCHWARZBECK	NSLK 8127/ 8127-808	MAR. 08, 2024 ETC	■
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	11593A/ L1TEQU005	FEB. 14, 2024 ETC	■
50 Ω BNC TYPE TERMINATOR	50 ohm	N/A	B00-CD-357/ L1TEQU009	JUL. 14, 2024 ETC	■
COAXIAL CABLE	5 m	HUBER+SUHNER	RG214/U(5m) / L1TCAB013	JUL. 05, 2024 ETC	■
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 771	NCR	■
GROUND PLANE	2 m (H) x 3 m (W)	SRT	N/A	NCR	■
GROUND PLANE	2.5 m (H) x 3 m (W)	SRT	N/A	NCR	■
PULSE LIMITER	9 kHz ~ 30 MHz Insertion Loss= 10dB \pm 0.3dB	ROHDE & SCHWARZ	ESH3-Z2/ L1TTES010	FEB. 16, 2024 ETC	■
THERMO-HYGRO	15 – 40 °C,	TOP	20-A / 6644	MAR. 01, 2024 ETC	■
MEASUREMENT SOFTWARE	N/A	EZ-EMC	SRT-03A1	NCR	■

NOTE:

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



4.3 TEST SETUP



NOTE:

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

4.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.10:2013 and CISPR22:2003. The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm/50 μ H as specified. All readings were quasi-peak and average values with 10 kHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. Both lines of the power mains of EUT were measured and the cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.



4.5 TEST RESULT

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	Link
Receiver Detector:	Q.P. and AV.	Tested Date:	Aug. 10, 2023

Power Line Measured : Line

File :2023-11-CE Data :#282 Date: 2023/11/21 Temperature: 24 °C
 90.0 dBuV Time: 下午 03:42:25 Humidity: 70 %



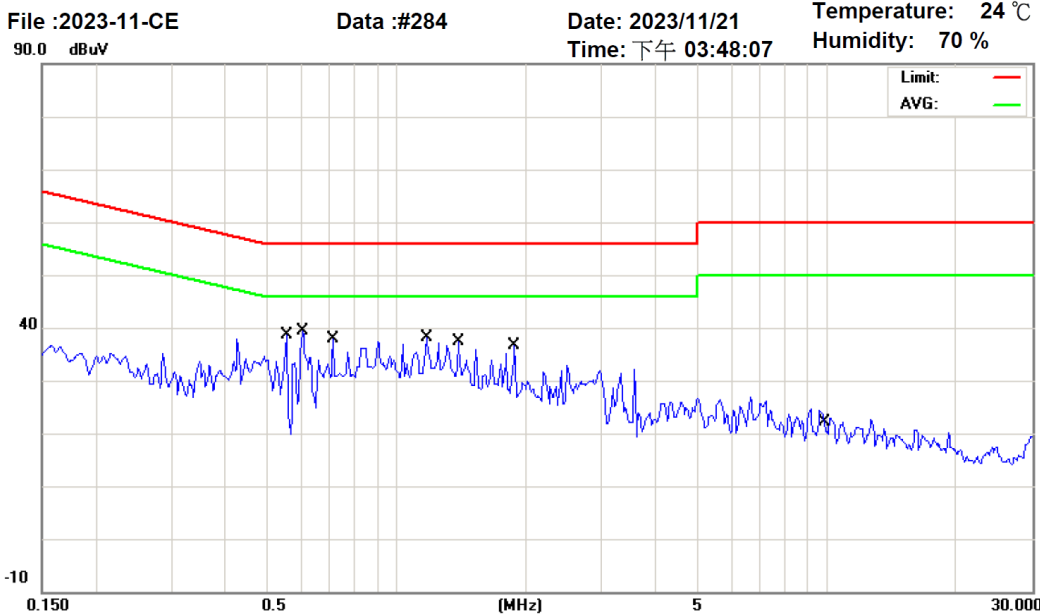
Mk.	No.	Frequency (MHz)	Reading (dBuV)	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Comment
	1	0.3336	27.06	-0.05	27.01	59.36	-32.35	QP	
	2	0.3336	18.85	-0.05	18.80	49.36	-30.56	AVG	
*	3	0.6188	29.28	-0.05	29.23	56.00	-26.77	QP	
	4	0.6188	9.54	-0.05	9.49	46.00	-36.51	AVG	
	5	0.8766	27.31	-0.03	27.28	56.00	-28.72	QP	
	6	0.8766	17.56	-0.03	17.53	46.00	-28.47	AVG	
	7	1.0836	27.28	-0.02	27.26	56.00	-28.74	QP	
	8	1.0836	17.94	-0.02	17.92	46.00	-28.08	AVG	
	9	1.2789	24.36	0.00	24.36	56.00	-31.64	QP	
	10	1.2789	12.90	0.00	12.90	46.00	-33.10	AVG	
	11	3.9141	19.38	0.08	19.46	56.00	-36.54	QP	
	12	3.9141	14.36	0.08	14.44	46.00	-31.56	AVG	
	13	10.0000	15.34	0.28	15.62	60.00	-44.38	QP	
	14	10.0000	7.61	0.28	7.89	50.00	-42.11	AVG	

- NOTE:**
1. Measurement uncertainty is 1.61 dB
 2. Emission level = Reading value + Correction factor
 3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
 4. Margin value = Emission level - Limit
 5. The emission of other frequencies was very low against the limit.
 6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



Temperature: 24 °C Humidity: 70 %RH
 Frequency Range: 0.15 – 30 MHz Tested Mode: Link
 Receiver Detector: Q.P. and AV. Tested Date: Aug. 10, 2023

Power Line Measured : Neutral



Mk.	No.	Frequency (MHz)	Reading (dBuV)	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Comment
	1	0.5563	28.28	-0.08	28.20	56.00	-27.80	QP	
	2	0.5563	19.44	-0.08	19.36	46.00	-26.64	AVG	
	3	0.6070	36.04	-0.08	35.96	56.00	-20.04	QP	
*	4	0.6070	29.79	-0.08	29.71	46.00	-16.29	AVG	
	5	0.7125	28.89	-0.07	28.82	56.00	-27.18	QP	
	6	0.7125	21.11	-0.07	21.04	46.00	-24.96	AVG	
	7	1.1734	26.79	-0.05	26.74	56.00	-29.26	QP	
	8	1.1734	9.14	-0.05	9.09	46.00	-36.91	AVG	
	9	1.3922	28.48	-0.03	28.45	56.00	-27.55	QP	
	10	1.3922	18.33	-0.03	18.30	46.00	-27.70	AVG	
	11	1.8805	19.72	-0.01	19.71	56.00	-36.29	QP	
	12	1.8805	5.19	-0.01	5.18	46.00	-40.82	AVG	
	13	10.0000	15.80	0.25	16.05	60.00	-43.95	QP	
	14	10.0000	6.45	0.25	6.70	50.00	-43.30	AVG	

- NOTE:**
1. Measurement uncertainty is 1.61 dB
 2. Emission level = Reading value + Correction factor
 3. Correction Factor = Cable loss + Insertion loss of LISN
 Difference of Pulse Limiter Factor between EMI Test Receiver corrected 10dB insertion loss.
 4. Margin value = Emission level - Limit
 5. The emission of other frequencies was very low against the limit.
 6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.



5 RADIATED EMISSION TEST

5.1 LIMIT

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

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

NOTE:

1. 30 dBuV (in 30m) = 70 dBuV (in 3m).
2. In the emission tables above , the tighter limit applies at the band edges.
3. Distance refers to the distance between measuring instrument, antenna, and the closest point of any part of the device or system.

FCC Part 15, Section 15.35(b) limit of radiated emission for frequency above 1000 MHz

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



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5.2 TEST EQUIPMENT

Below 1 GHz The following test equipment was used during the radiated emission test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER	FINAL TEST BE USED
EMI TEST RECEIVER	9 kHz ~ 2.75 GHz	ROHDE & SCHWARZ	ESCS30 / 100376	APR. 26, 2024 ETC	■
BICONICAL ANTENNA	30 MHz ~ 200 MHz	EMCO	3108/ 2380	MAY 01, 2024 ETC	■
LOG PERIODIC ANTENNA	200 MHz ~ 1 GHz	EMCO	3146/ 9002-2686	MAY 01, 2024 ETC	■
OPEN AREA TEST SITE	3 – 10 M MEASUREMENT	SRT	A02 / SRT002	MAR. 07, 2024 SRT	■
COAXIAL CABLE	9k~1 GHz	TIMES	LMR-400(30m) / L1TCAB014	JUL. 05, 2024 ETC	■
COAXIAL CABLE	9k~1.5 GHz	Suncity	J400-2M-2NHP(#1.5M)/EQM-0165	SEP. 22, 2024 ETC	■
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 869	NCR	■
CDN	0.15 MHz ~ 300 MHz	LUTHI	CDN L-801 M2/M3 / 2790	JUN. 10, 2024 ETC	□
PRE-AMPLIFIER	0.1 MHz ~ 1.3 GHz	HP	8447D / 2944A06746	APR. 19, 2024 ETC	■
THERMO-HYGRO	15 – 40°C, 0- 100% RH	TOP	20-A / 9326	MAR. 26, 2024 ETC	■

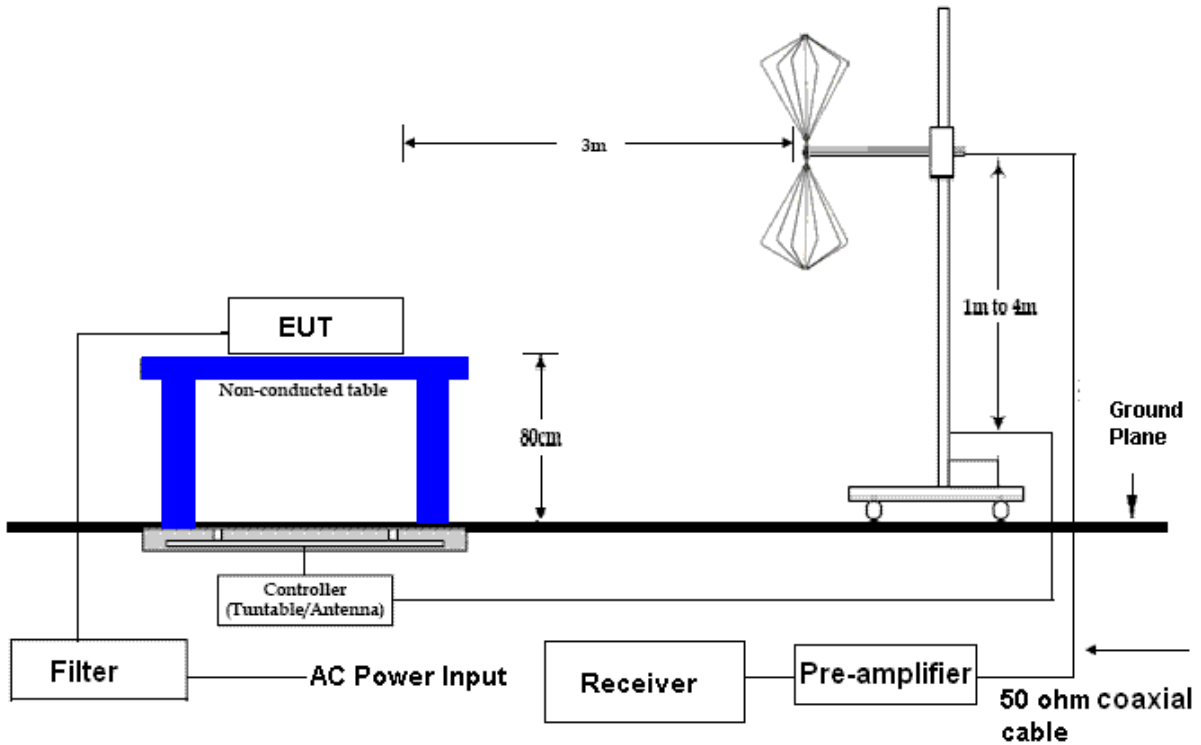
Above 1 GHz The following test equipment was used during the radiated emission test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER	FINAL TEST BE USED
EXA Spectrum Analyzer	10 Hz ~ 44 GHz	KEYSIGHT	N9010A / MY56480554	SEP. 11, 2024 ETC	■
PRE-AMPLIFIER	1 GHz ~ 26.5 GHz	AGILENT	8449B / 3008A01995	MAR. 06, 2024 ETC	■
HORN ANTENNA	1 GHz ~ 18 GHz	EMCO	3115 / 9602-4681	FEB. 23, 2024 ETC	■
HORN ANTENNA	18 ~ 40 GHZ	ETS-LINDGREN	3116 / 2567	MAY.13, 2024 ETC	■
ANECHOIC CHAMBER	3 M MEASUREMENT	SRT	A01 / SRT001	JUN. 22, 2024 SRT	■
RF CABLE	UP TO 18 GHz 6 m*2	EMCI	EMC107-SM-6000 / 230726	JUN. 14, 2024 ETC	■
RF CABLE	UP TO 18 GHz 1.5 m	JYEBAO	A30A30-L 142 / EQF-0035(001)	FEB. 16, 2024 ETC	■
K-TYPE CABLE	UP TO 40 GHz 3 m	HUBER+ SUHNER	SF102-46/2*11 SK252 /MY2611/2	APR. 24, 2024 ETC	■
K-TYPE CABLE	UP TO 40 GHz, 1 m	HUBER+ SUHNER	SF102/2*11SK252 / MY3331/2	FEB. 13, 2024 ETC	■
FILTER	2 LINE, 30 A	FIL.COIL	FC-943 / 869	NCR	■
THERMO-HYGRO	15 – 40 °C, 0- 100% RH	TOP	20-A / 6644	MAR. 01,2024 ETC	■
MEASUREMENT SOFTWARE	N/A	EZ-EMC	SRT-03A1	NCR	■

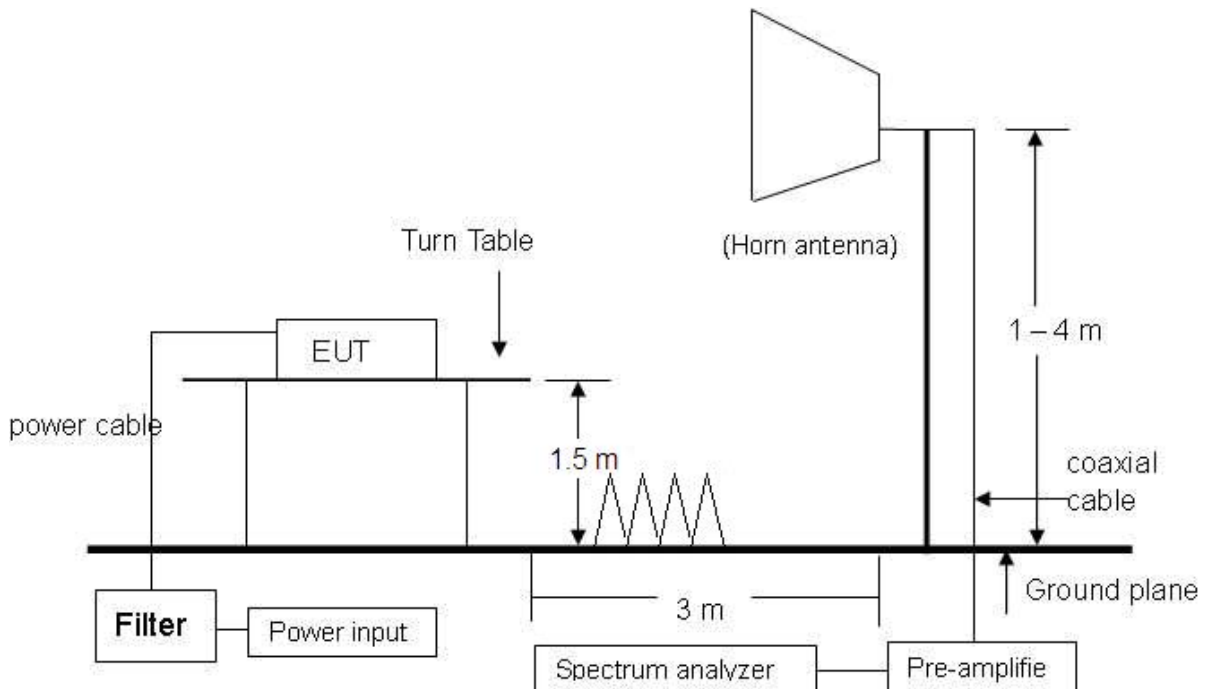


5.3 TEST SET-UP

30 MHz ~ 1 GHz



Above 1 GHz



NOTE: The EUT system was put on a wooden table with 1.5m heights above a ground plane. For the actual test configuration, please refer to the photos of testing.



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5.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.10:2013 and CISPR 22:2003. When the frequency spectrum measured started from 30 MHz to 1 GHz, then use antenna is a BICONICAL ANTENNA & LOG PERIODIC ANTENNA. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz to 1 GHz, all readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak or average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.



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5.5 TEST RESULT

Temperature:	21 °C	Humidity:	66 %RH
Frequency Range:	30 MHz ~ 1 GHz	Tested Mode:	Link
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 24, 2023

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-Amp (dB)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ (°)	EL (m)
56.76	2.11	10.80	28.21	31.56	16.26	40.0	-23.74	221	3.92
82.08	2.43	8.10	28.13	29.11	11.51	40.0	-28.49	50	3.84
87.90	2.50	8.00	28.11	28.99	11.38	40.0	-28.62	273	3.82
132.42	2.98	12.20	27.91	29.42	16.68	43.5	-26.82	117	3.68
165.40	3.21	12.40	27.75	29.72	17.58	43.5	-25.92	299	3.58
938.49	10.76	23.86	27.61	31.13	38.14	46.0	-7.86	286	1.19

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-Amp (dB)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ (°)	EL (m)
31.54	1.73	14.20	28.30	37.20	24.83	40.0	-15.17	221	1.01
48.13	2.06	11.90	28.24	36.75	22.47	40.0	-17.53	249	1.06
56.76	2.11	10.80	28.21	33.12	17.82	40.0	-22.18	189	1.08
79.07	2.38	8.30	28.14	33.01	15.55	40.0	-24.45	226	1.15
96.63	2.66	8.70	28.08	37.00	20.28	43.5	-23.22	101	1.21
306.05	4.81	15.58	27.33	42.58	35.64	46.0	-10.36	210	1.86

NOTE:

1. Measurement uncertainty is 4.06 dB.
2. “*”: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.

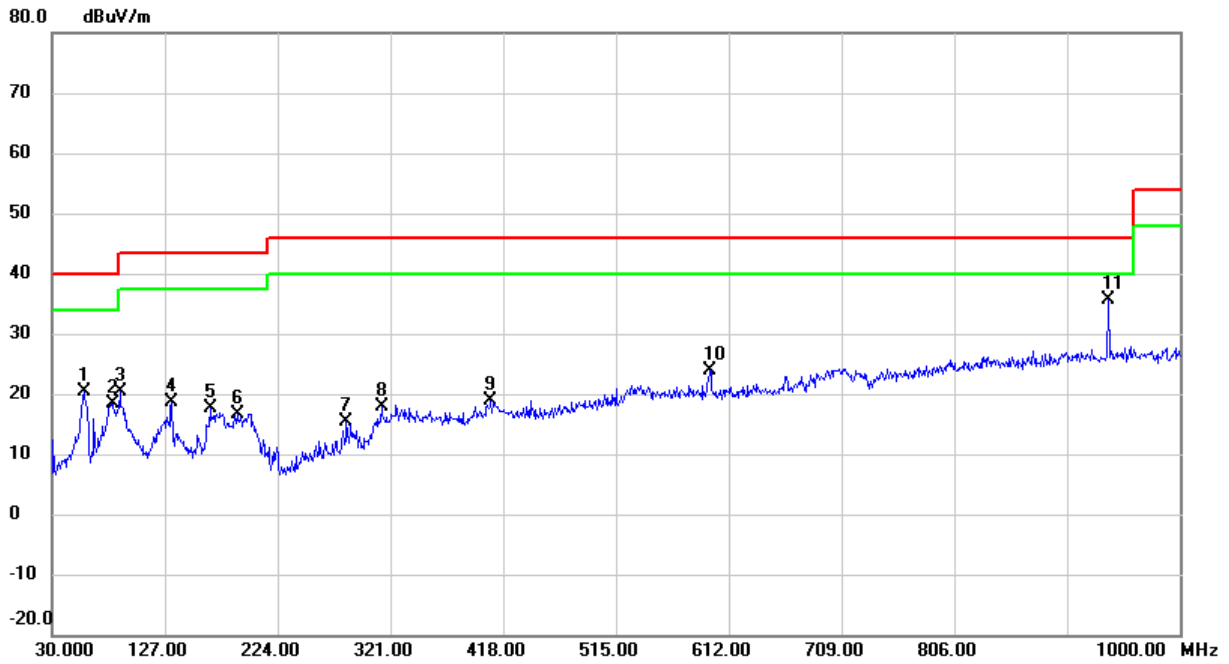


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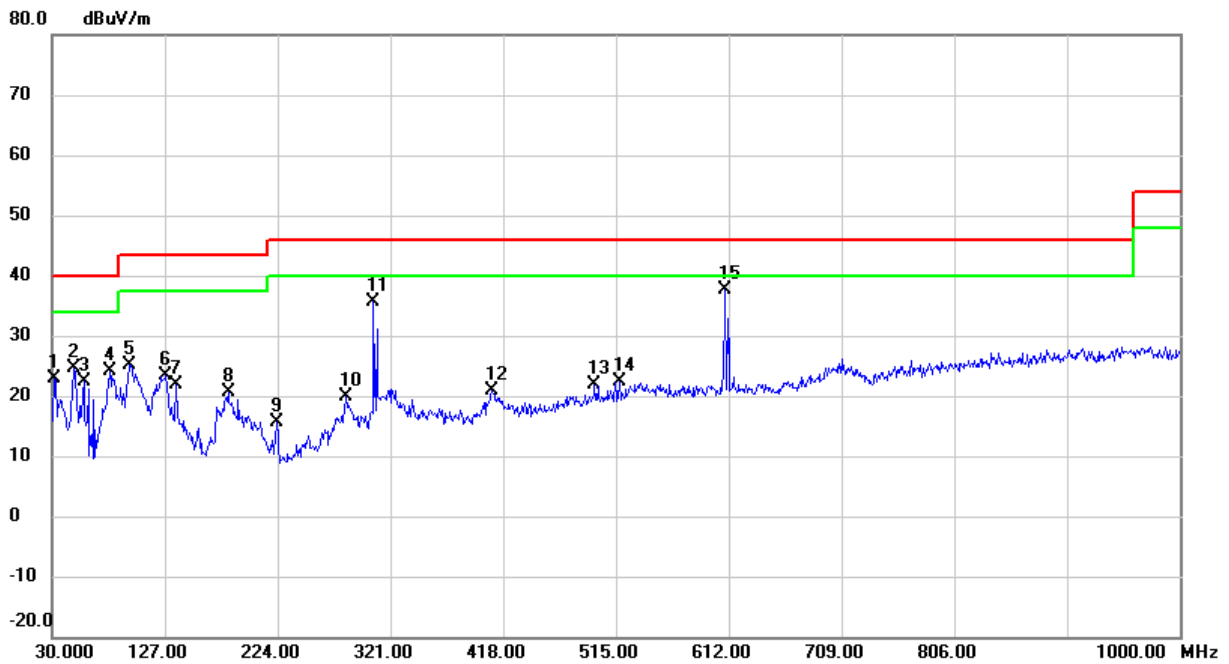
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Antenna Polarization : Horizontal



Antenna Polarization : Vertical





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TEST REPORT

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Temperature:	21 °C	Humidity:	66 %RH
Frequency Range:	30 MHz ~ 1 GHz	Tested Mode:	Standby
Detector Type:	Quasi-peak	IF Bandwidth:	120 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 24, 2023

Antenna Polarization : Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-Amp (dB)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ (°)	EL (m)
56.96	2.11	10.80	28.21	31.76	16.46	40.0	-23.54	109	3.92
80.24	2.39	8.10	28.13	28.58	10.94	40.0	-29.06	132	3.84
87.80	2.50	8.00	28.11	28.38	10.77	40.0	-29.23	195	3.82
132.42	2.98	12.20	27.91	30.47	17.73	43.5	-25.77	217	3.68
179.18	3.35	12.90	27.68	31.24	19.81	43.5	-23.69	267	3.54
702.98	8.36	21.40	28.40	29.32	30.69	46.0	-15.31	45	1.92

Antenna Polarization : Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-Amp (dB)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ (°)	EL (m)
49.10	2.07	11.70	28.24	36.90	22.44	40.0	-17.56	158	1.06
65.59	2.19	9.40	28.18	36.43	19.84	40.0	-20.17	346	1.11
85.09	2.47	7.90	28.12	41.81	24.07	40.0	-15.94	79	1.17
100.41	2.73	9.20	28.07	35.58	19.44	43.5	-24.06	298	1.22
123.69	2.93	11.70	27.96	34.43	21.10	43.5	-22.40	342	1.29
723.35	8.58	21.62	28.35	38.43	40.28	46.0	-5.72	156	3.15

NOTE:

1. Measurement uncertainty is 4.06 dB.
2. “*”: Measurement does not apply for this frequency.
3. Emission Level = Reading Value + Ant. Factor + Cable Loss – Pre-Amplifier.
4. The field strength of other emission frequencies were very low against the limit.



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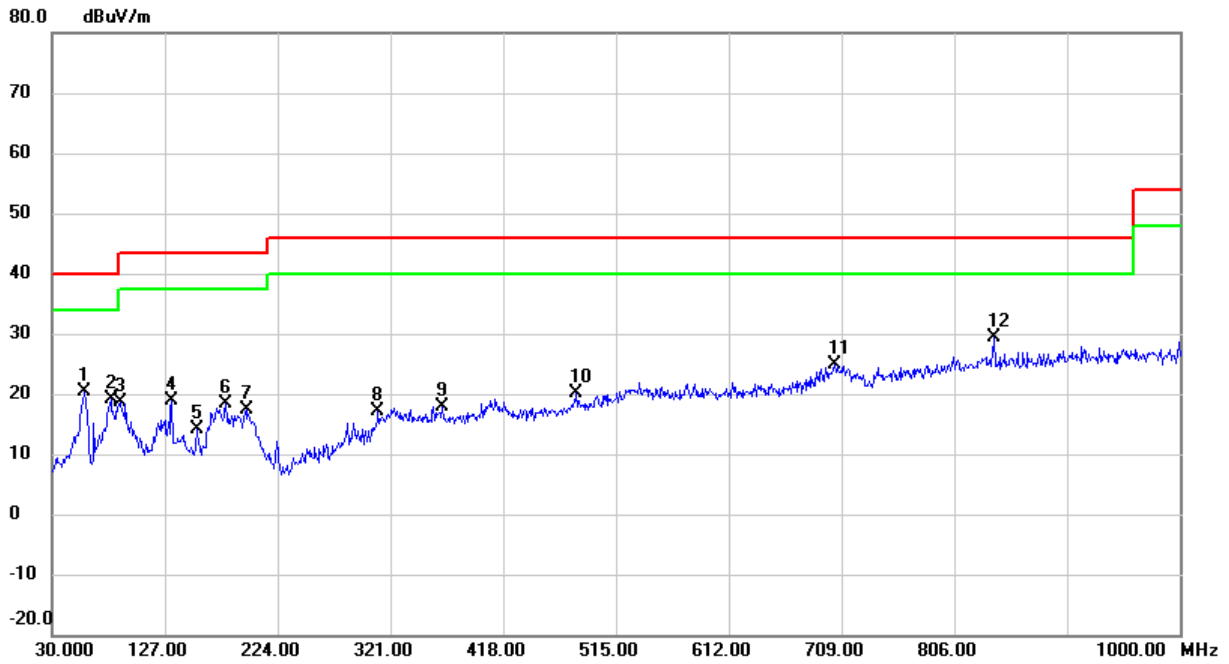
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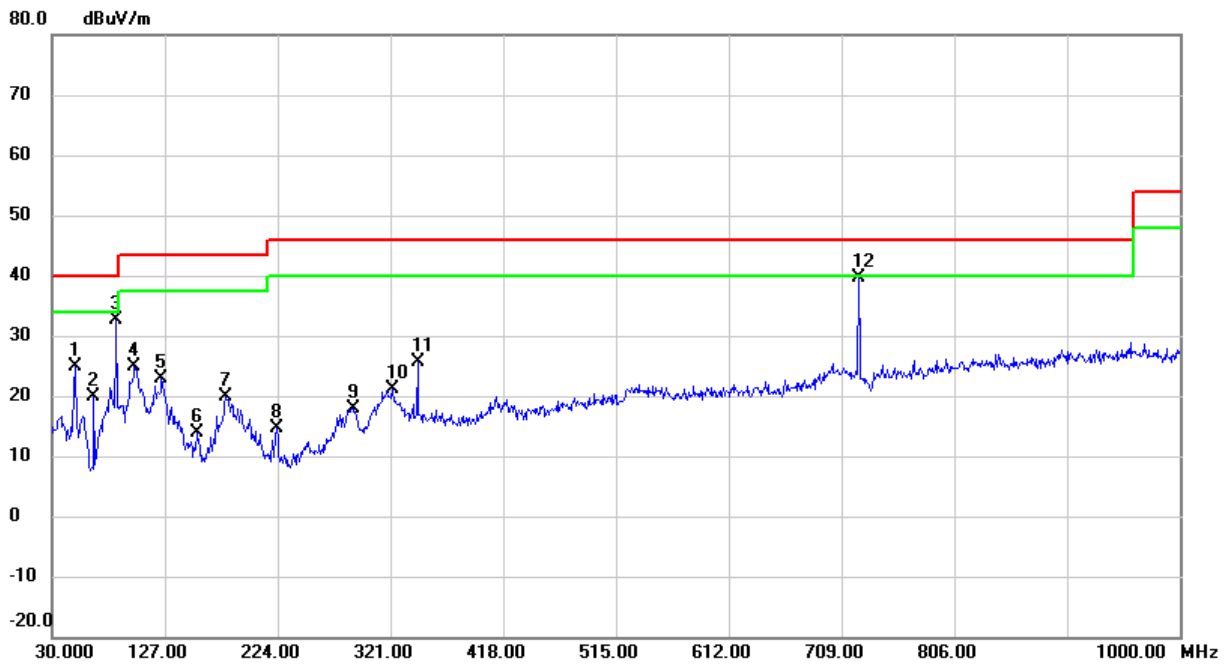
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Antenna Polarization : Horizontal



Antenna Polarization : Vertical





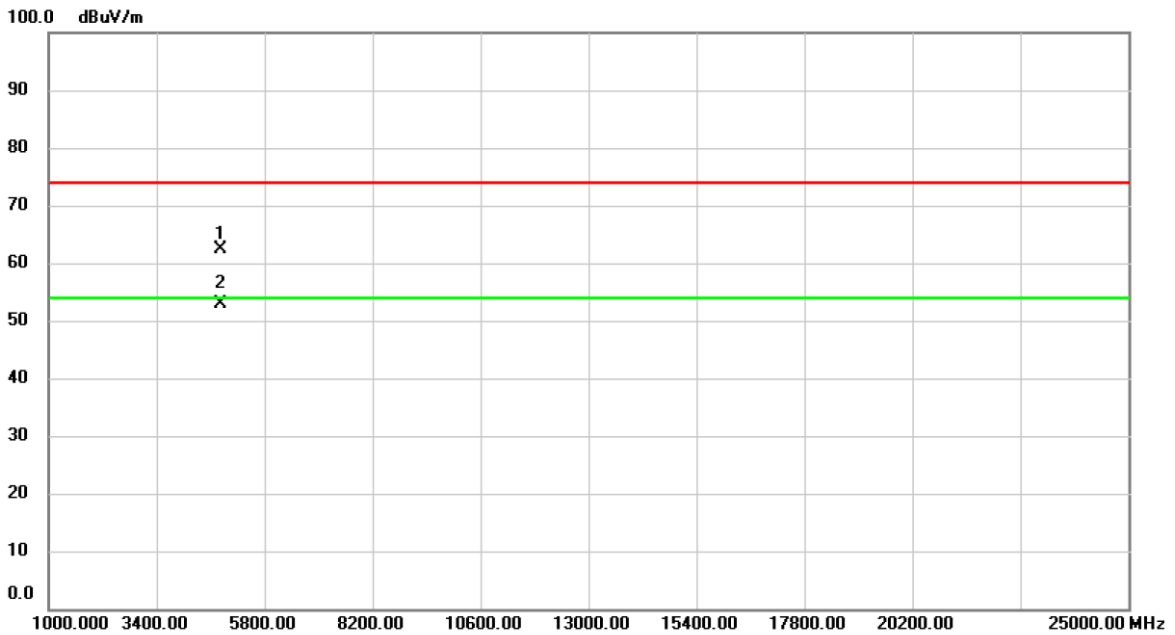
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4823.880	56.23	6.22	62.45	74.00	-11.55	peak	
2	*	4824.040	46.62	6.22	52.84	54.00	-1.16	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



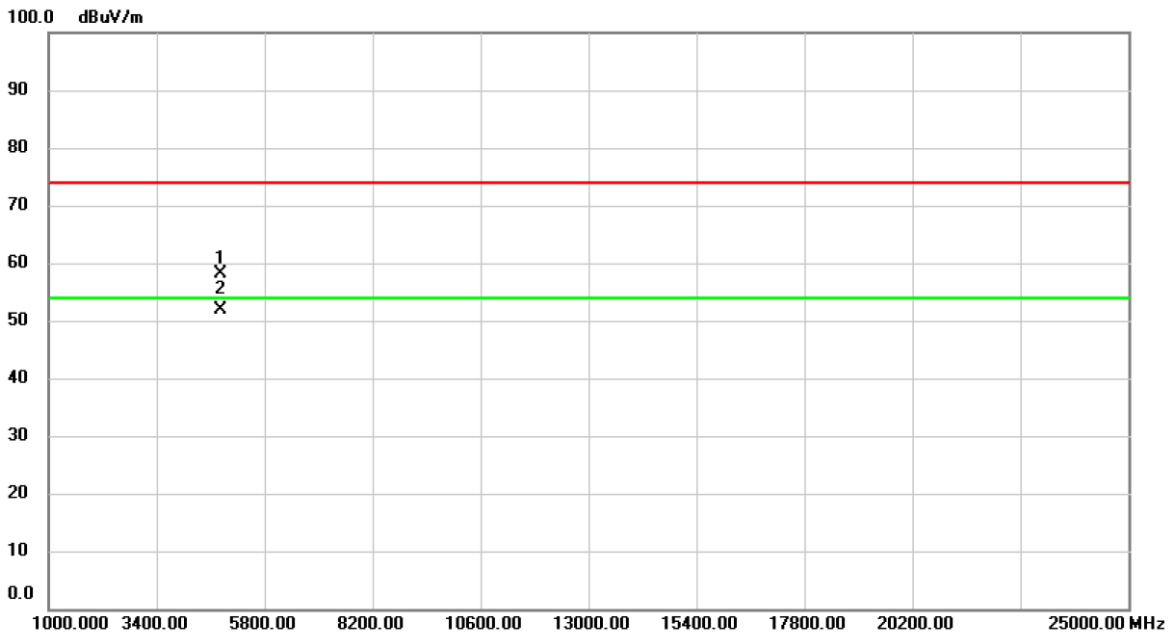
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	51.96	6.22	58.18	74.00	-15.82	peak	
2	*	4824.000	45.63	6.22	51.85	54.00	-2.15	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



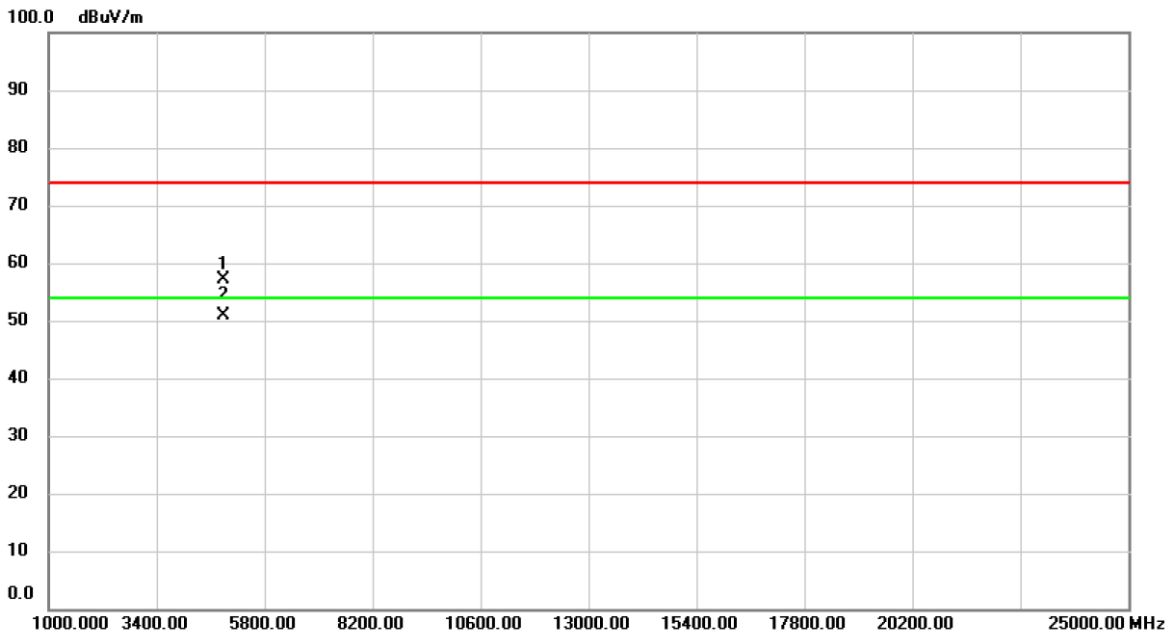
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.840	50.73	6.51	57.24	74.00	-16.76	peak	
2	*	4874.060	44.26	6.51	50.77	54.00	-3.23	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



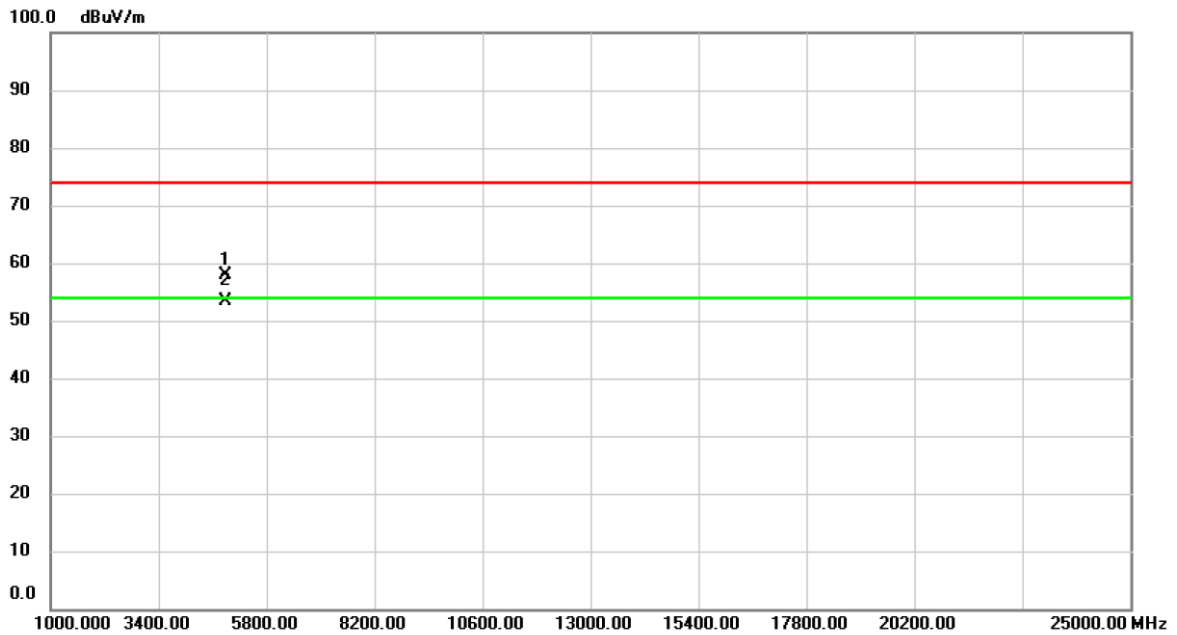
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4873.900	51.28	6.51	57.79	74.00	-16.21	peak	
2	*	4873.940	46.86	6.51	53.37	54.00	-0.63	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



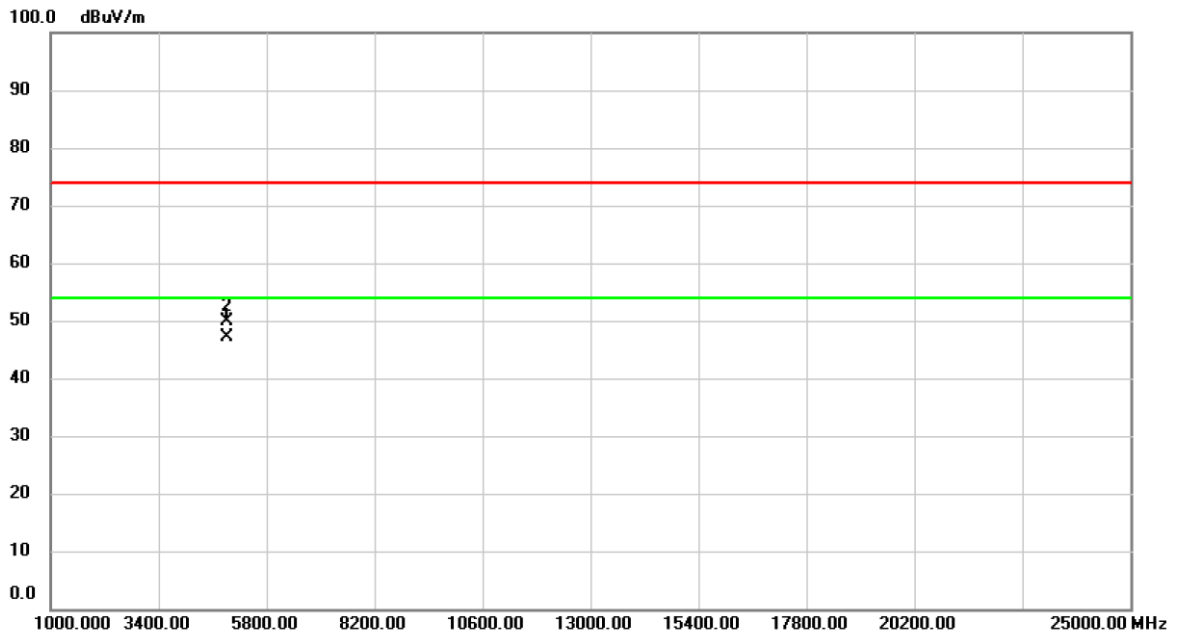
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4923.960	40.49	6.69	47.18	54.00	-6.82	AVG	
2		4924.080	43.08	6.69	49.77	74.00	-24.23	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



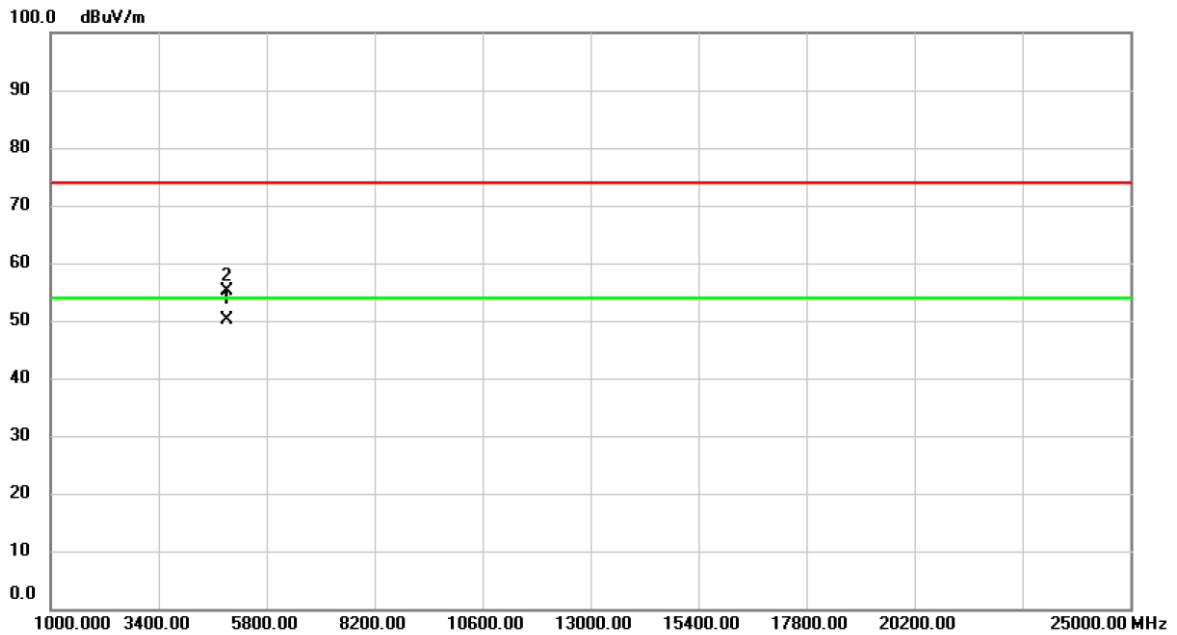
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11b CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4923.980	43.34	6.69	50.03	54.00	-3.97	AVG	
2		4924.220	48.37	6.69	55.06	74.00	-18.94	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



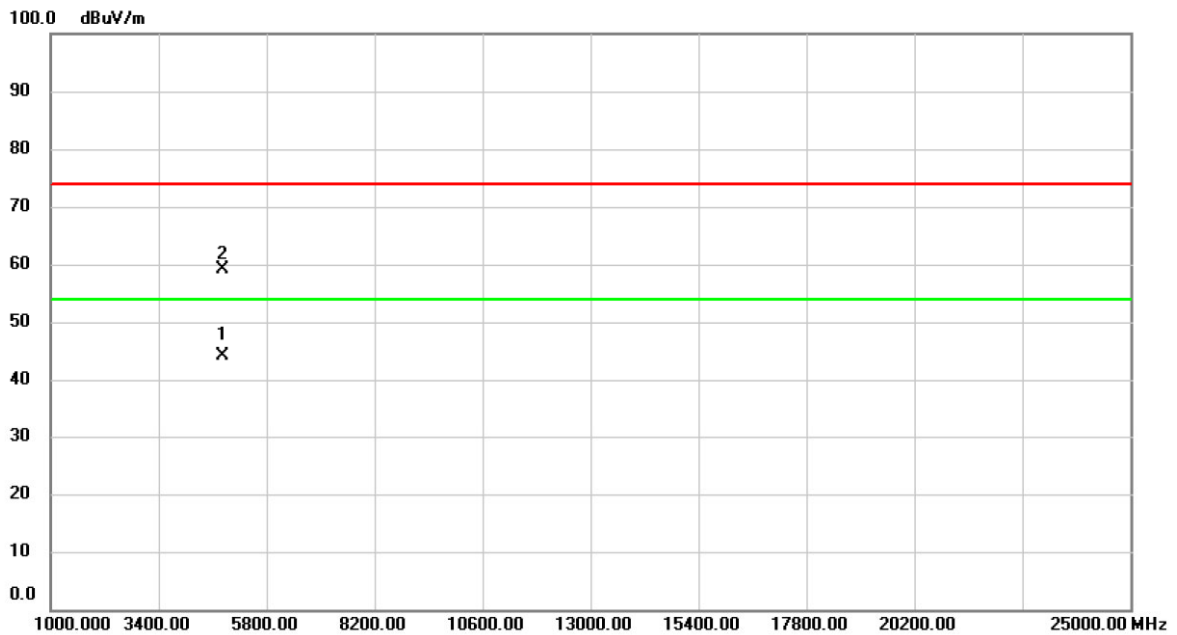
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4822.420	38.02	6.21	44.23	54.00	-9.77	AVG	
2		4823.100	52.87	6.22	59.09	74.00	-14.91	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



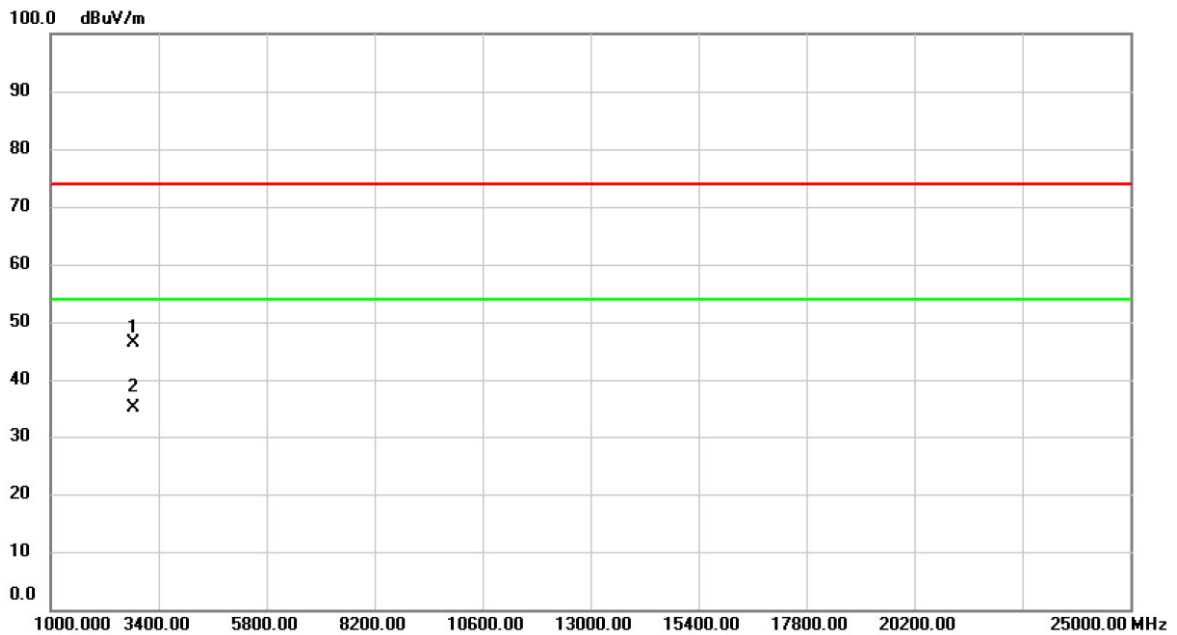
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2825.700	46.51	-0.15	46.36	74.00	-27.64	peak	
2	*	2829.960	35.17	-0.13	35.04	54.00	-18.96	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



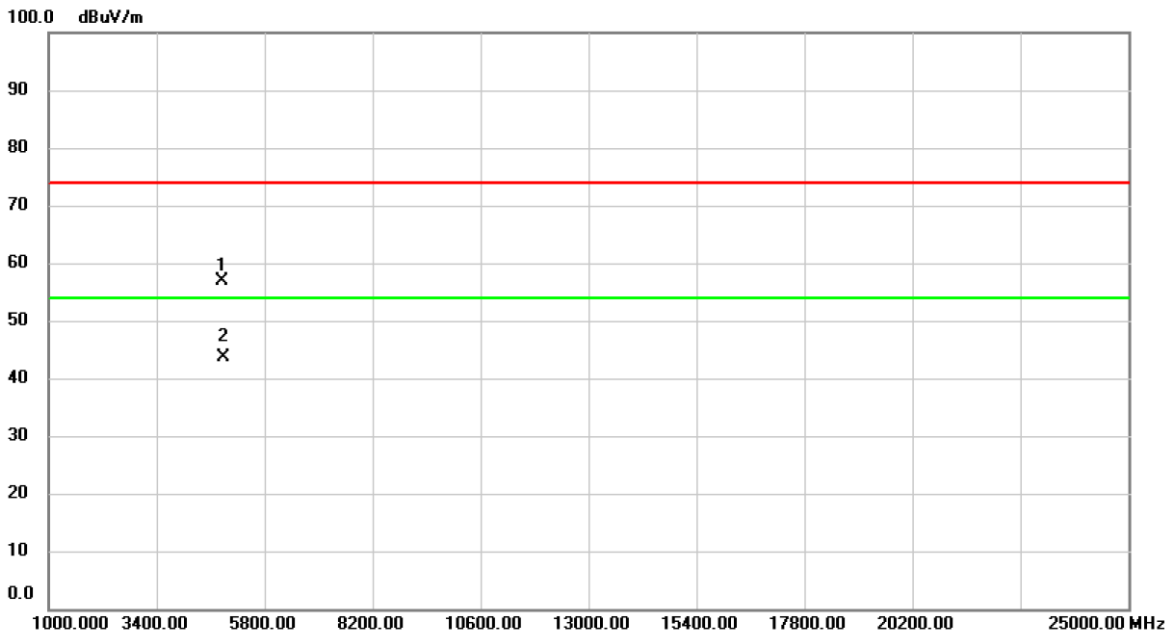
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4868.400	50.41	6.49	56.90	74.00	-17.10	peak	
2	*	4872.200	37.19	6.49	43.68	54.00	-10.32	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



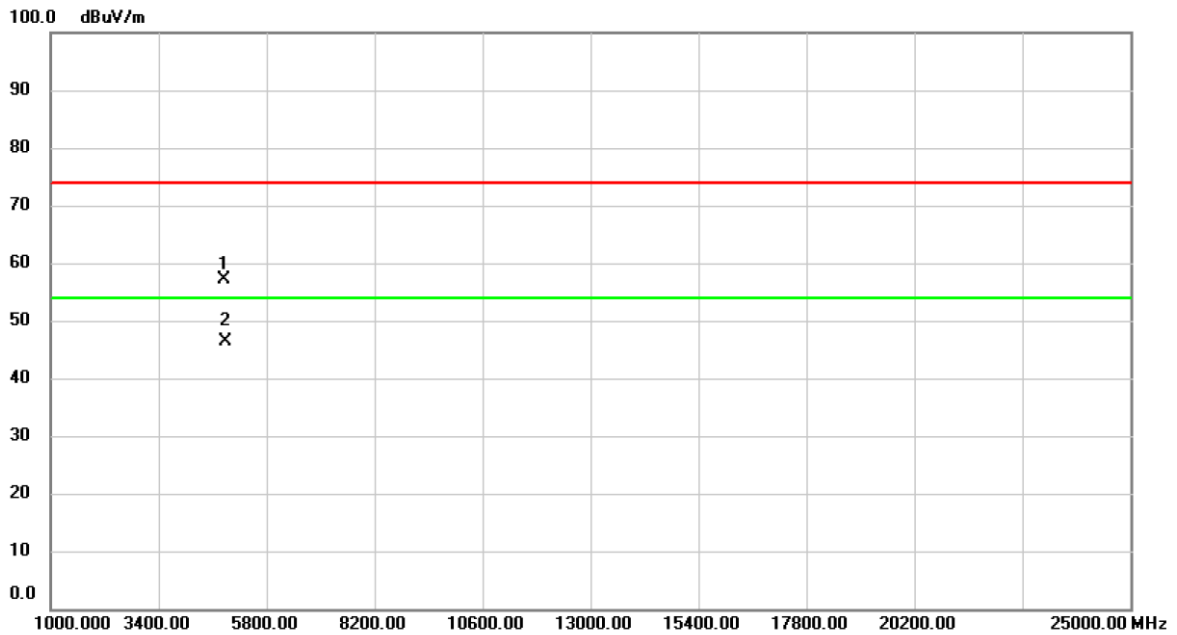
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4869.880	50.74	6.49	57.23	74.00	-16.77	peak	
2	*	4872.680	39.92	6.50	46.42	54.00	-7.58	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.: Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F): The field strength of fundamental frequency.



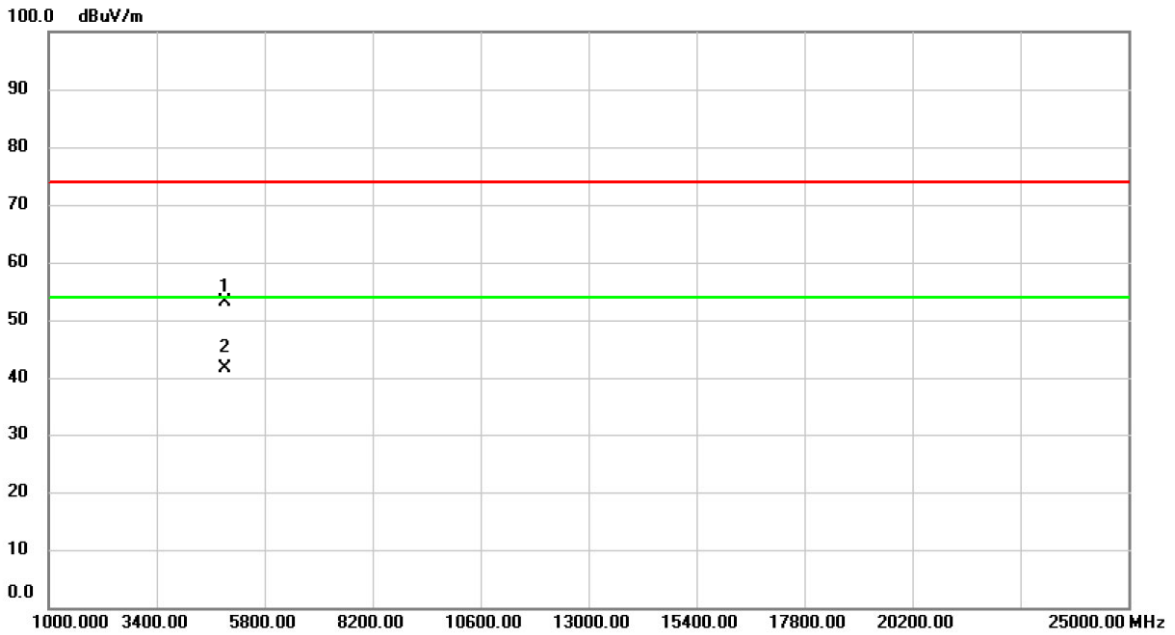
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 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 32 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.340	46.42	6.69	53.11	74.00	-20.89	peak	
2	*	4924.440	34.92	6.69	41.61	54.00	-12.39	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



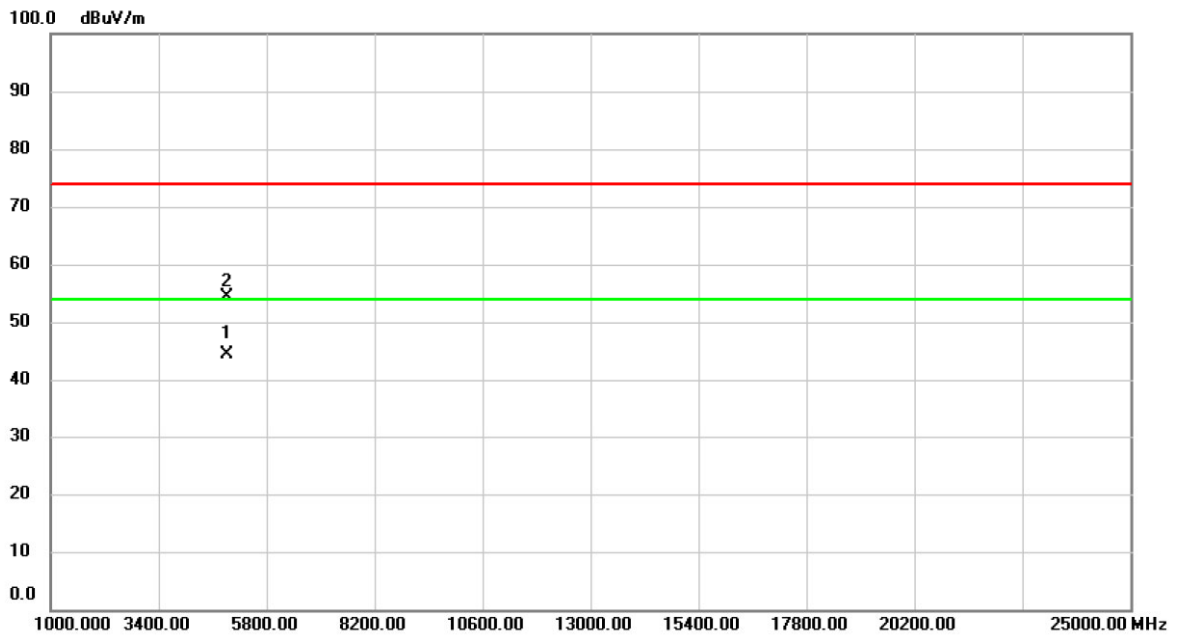
Spectrum Research & Testing Lab., Inc.
 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 33 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11g CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4924.600	37.76	6.69	44.45	54.00	-9.55	AVG	
2		4926.160	47.58	6.69	54.27	74.00	-19.73	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



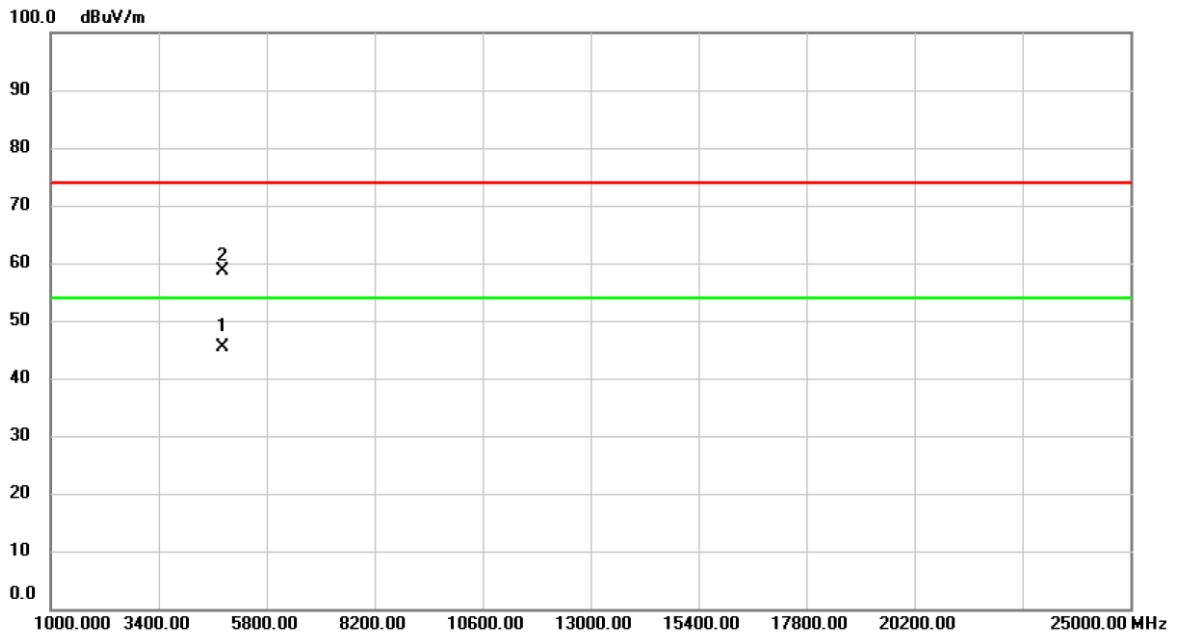
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TEST REPORT

Reference No.: A23111702
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 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4824.820	39.12	6.23	45.35	54.00	-8.65	AVG	
2		4825.380	52.30	6.23	58.53	74.00	-15.47	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



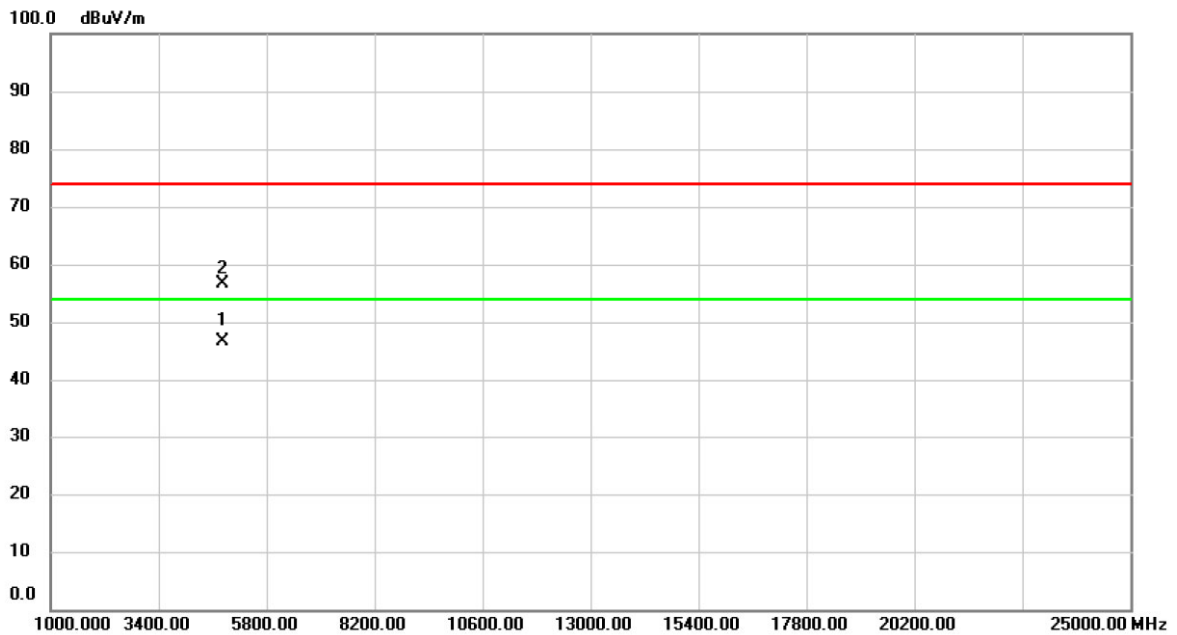
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TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH01
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4824.000	40.39	6.22	46.61	54.00	-7.39	AVG	
2		4824.660	50.43	6.23	56.66	74.00	-17.34	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



Spectrum Research & Testing Lab., Inc.

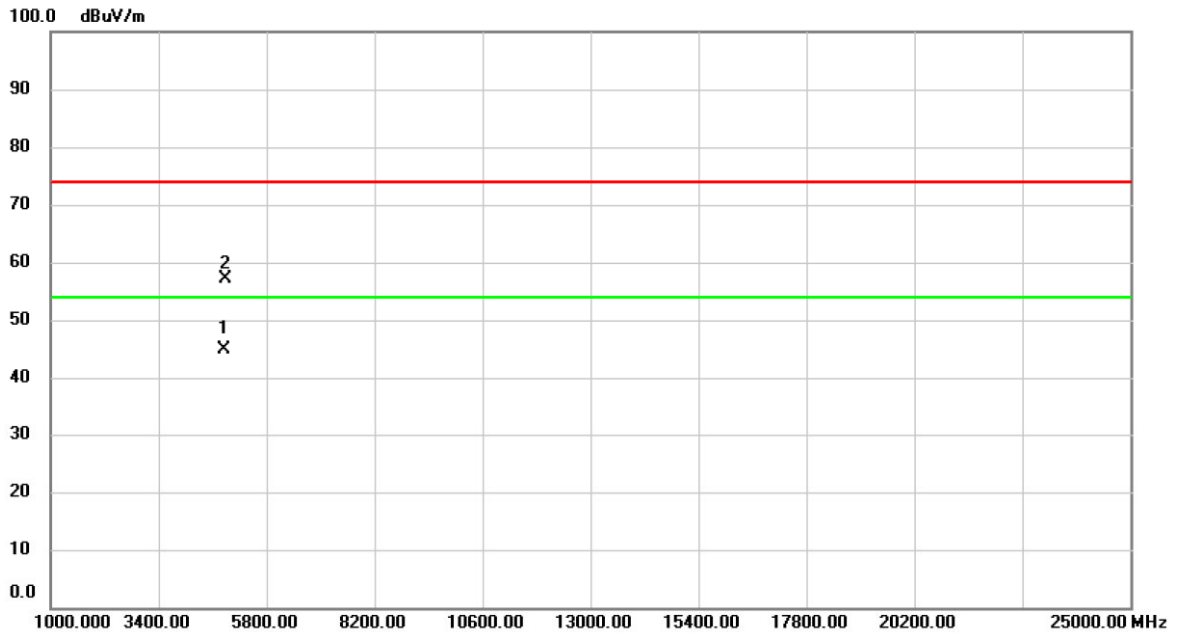
No.167,Ln. 780, Shan-Tong Rd.,Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A23111702
Report No.: FCCA23111702-W0
FCC ID: 2AIMRRD10M
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Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4870.060	38.31	6.49	44.80	54.00	-9.20	AVG	
2		4877.660	50.58	6.53	57.11	74.00	-16.89	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



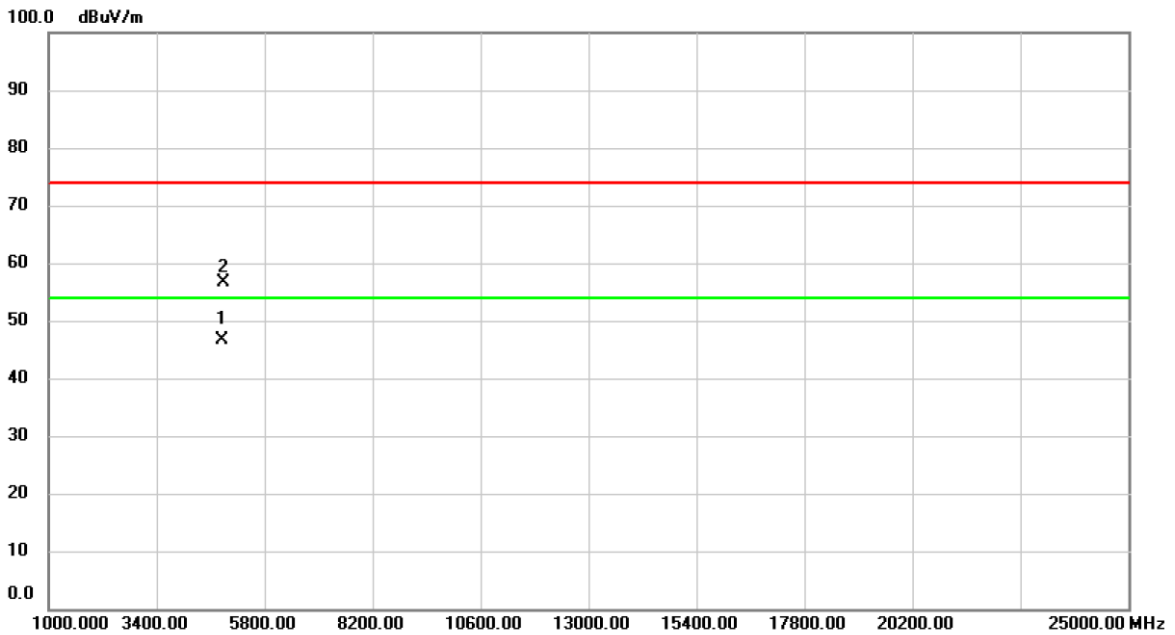
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TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4871.560	40.25	6.49	46.74	54.00	-7.26	AVG	
2		4879.000	50.04	6.53	56.57	74.00	-17.43	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



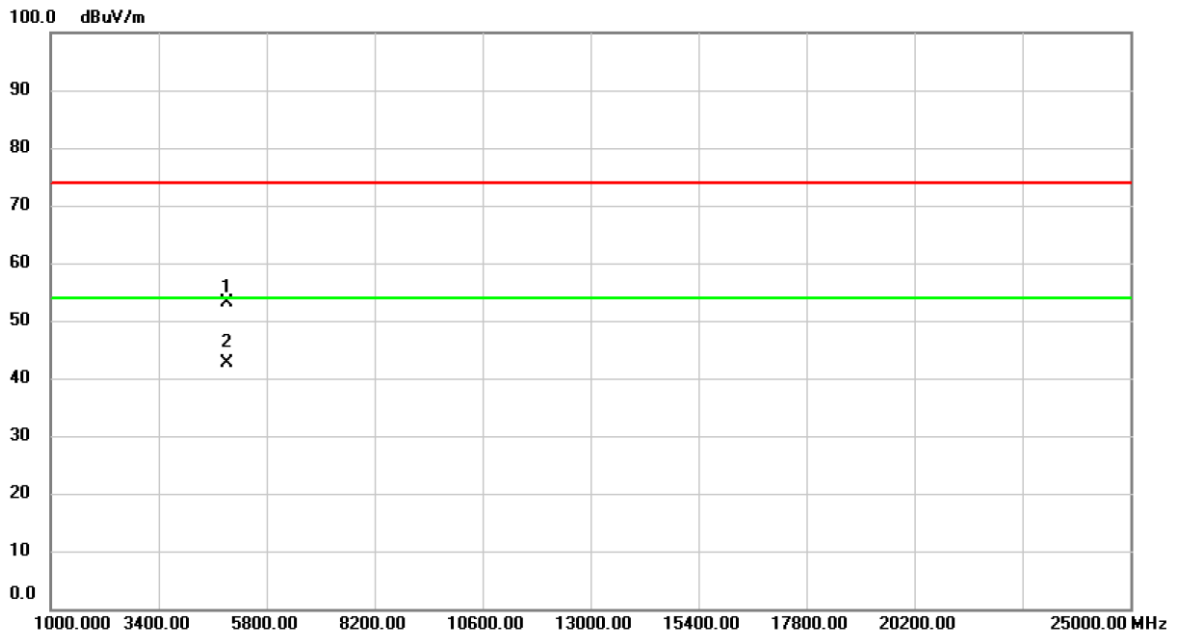
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 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4923.520	46.38	6.69	53.07	74.00	-20.93	peak	
2	*	4925.040	35.87	6.69	42.56	54.00	-11.44	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



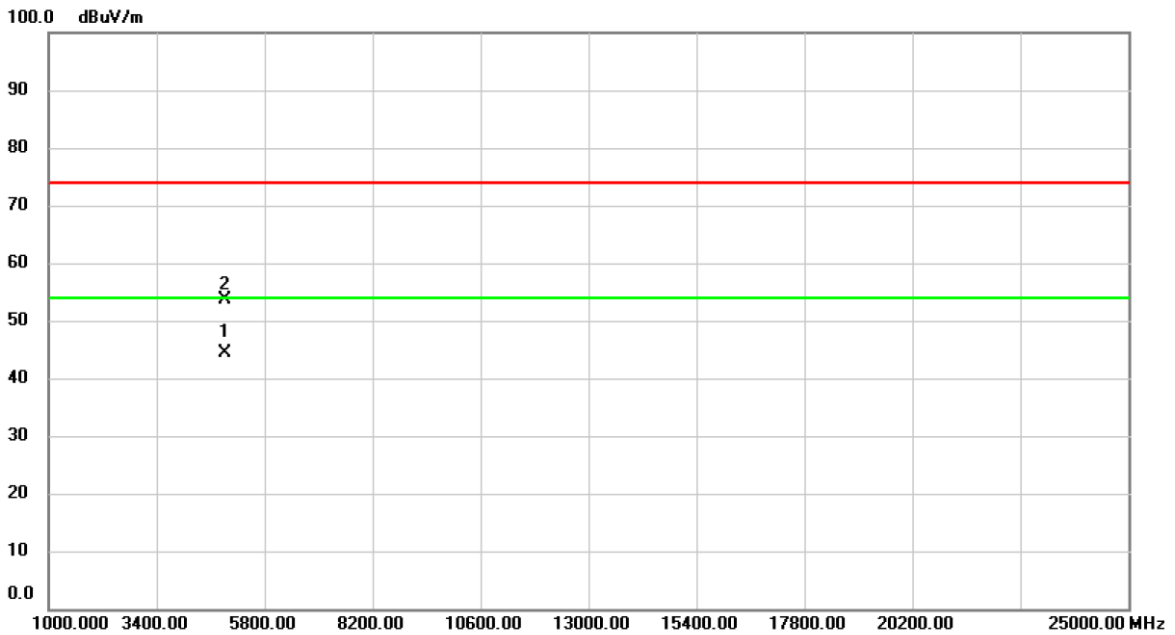
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 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

TEST REPORT

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 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT20 CH11
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4924.240	37.74	6.69	44.43	54.00	-9.57	AVG	
2		4924.360	47.00	6.69	53.69	74.00	-20.31	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



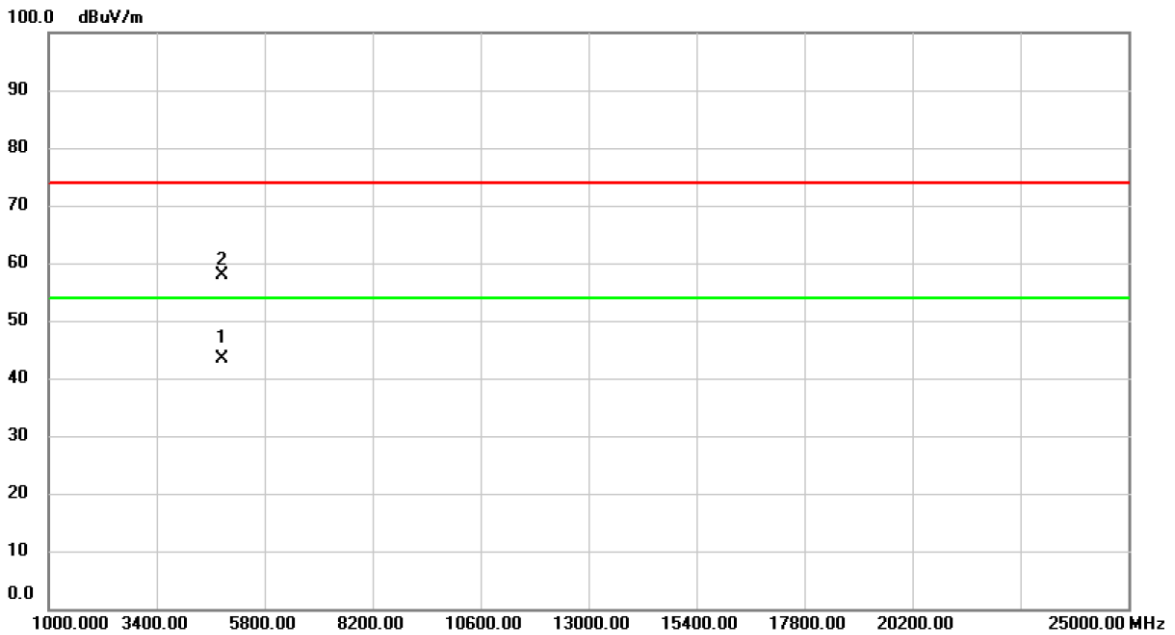
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 No.167, Ln. 780, Shan-Tong Rd., Ling 8, Shan-Tong Li, Chung-Li Dist., Taoyuan City 320, Taiwan (R.O.C.)

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Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH03
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4844.900	37.11	6.38	43.49	54.00	-10.51	AVG	
2		4845.660	51.42	6.38	57.80	74.00	-16.20	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



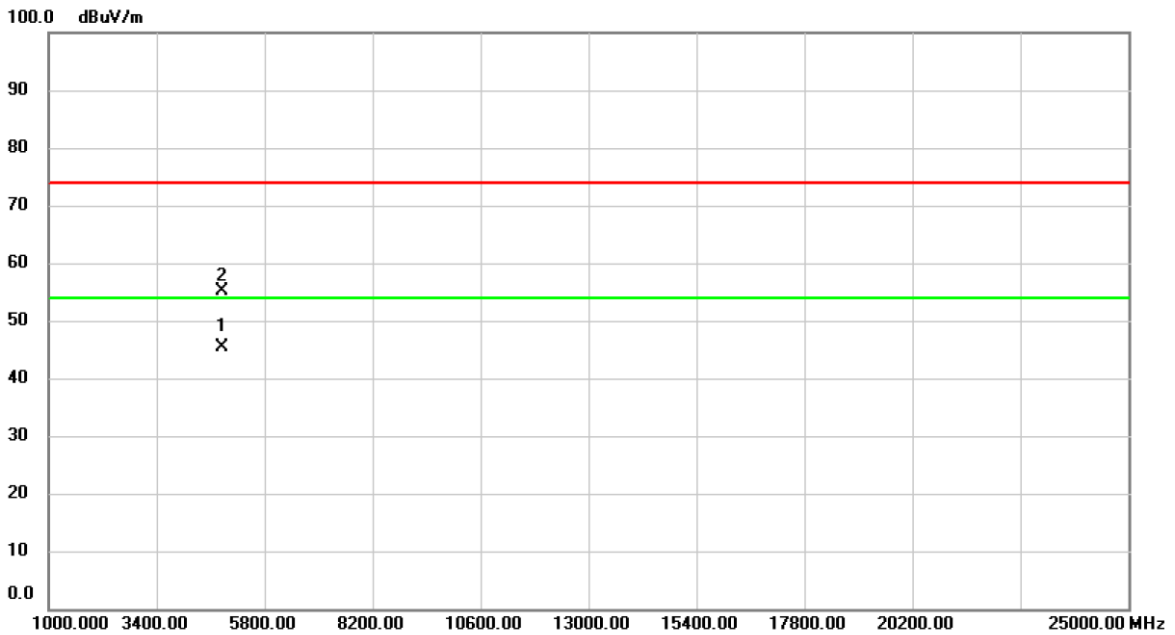
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH03
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4843.440	39.02	6.37	45.39	54.00	-8.61	AVG	
2		4844.360	48.74	6.38	55.12	74.00	-18.88	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



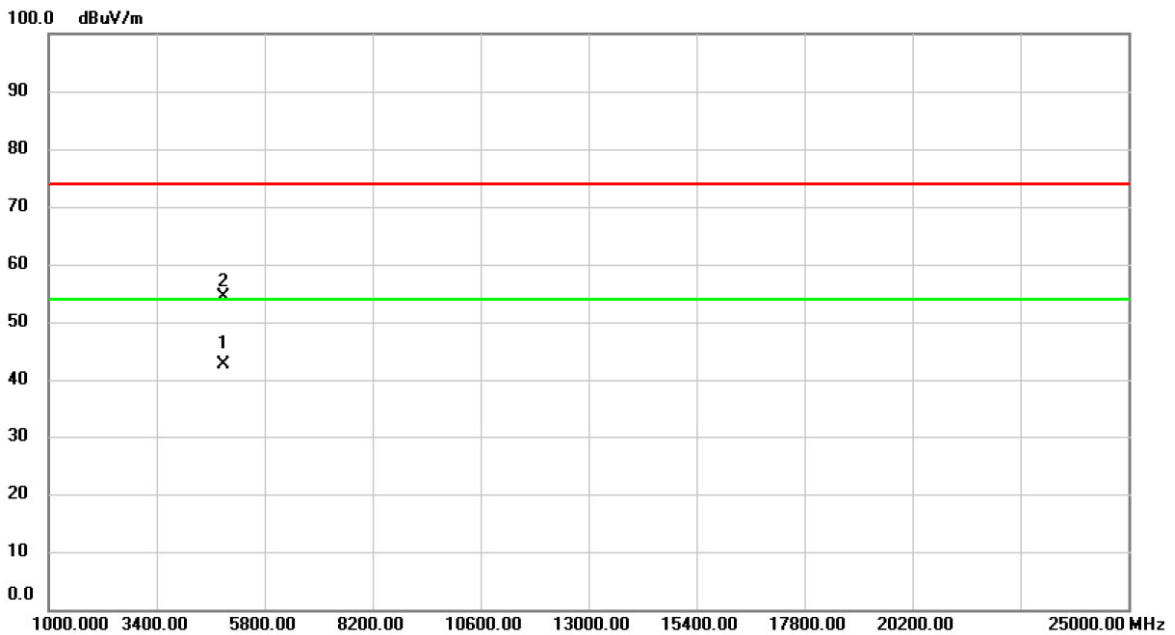
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4873.560	36.22	6.51	42.73	54.00	-11.27	AVG	
2		4879.140	47.86	6.53	54.39	74.00	-19.61	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



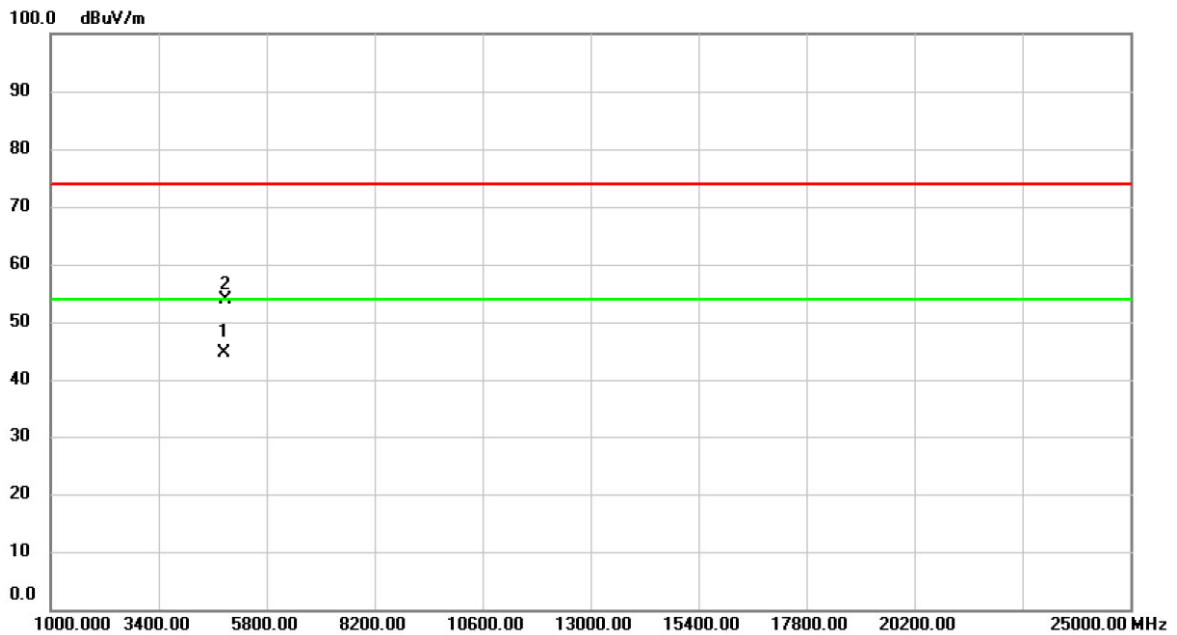
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH06
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4866.900	38.11	6.48	44.59	54.00	-9.41	AVG	
2		4873.700	47.28	6.51	53.79	74.00	-20.21	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



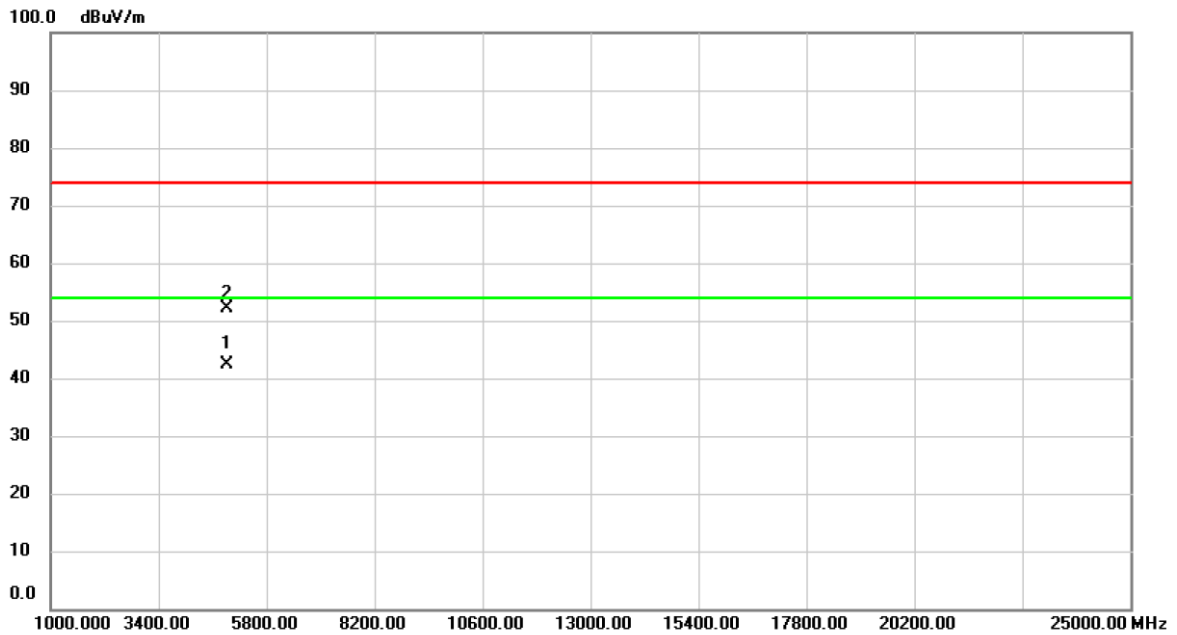
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH09
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	4904.000	35.85	6.63	42.48	54.00	-11.52	AVG	
2		4904.280	45.56	6.63	52.19	74.00	-21.81	peak	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



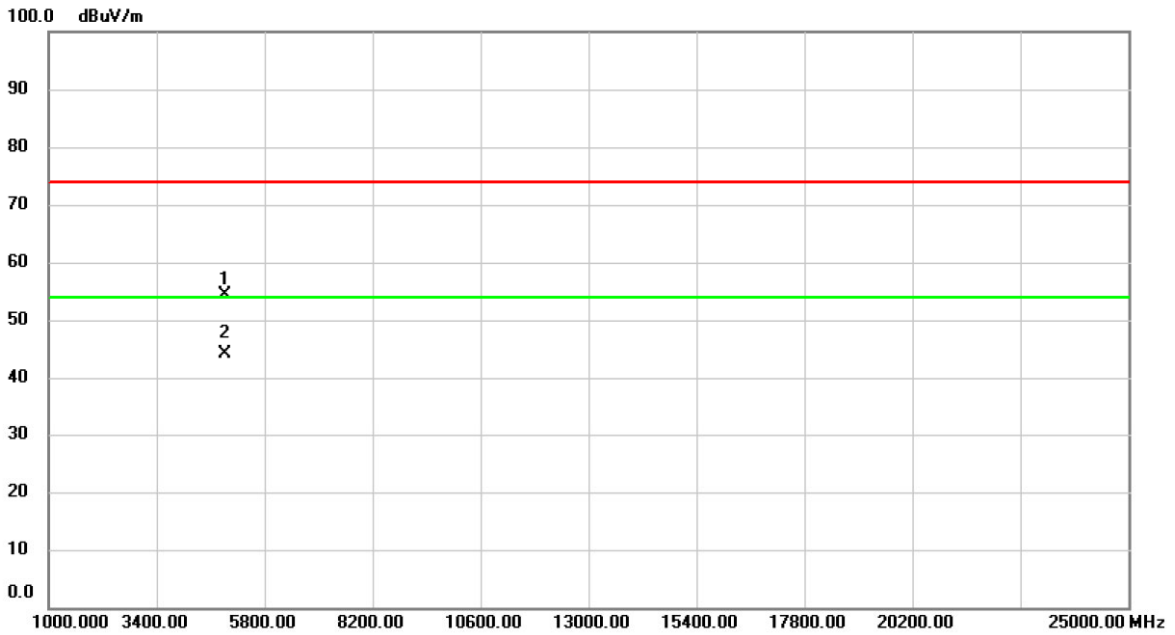
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Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	1 ~ 25 GHz	Tested Mode:	802.11n – HT40 CH09
Detector Type:	PK. And AV.	IF Bandwidth:	1 MHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 23, 2023

Antenna Polarization : Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4904.060	47.78	6.63	54.41	74.00	-19.59	peak	
2	*	4905.620	37.38	6.63	44.01	54.00	-9.99	AVG	

NOTE:

1. Measurement uncertainty is 4.03 dB.
2. Emission Level = Reading Value + Ant. Factor + Correct Factor (incl.:Cable Loss and Pre-Amplifier Gain)
3. The field strength of other emission frequencies were very low against the limit.
4. (F):The field strength of fundamental frequency.



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6 BANDWIDTH TEST

6.1 LIMIT

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

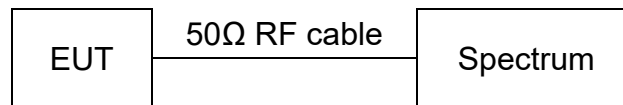
6.2 TEST EQUIPMENT

The following test equipment was used during the test :

Equipment/ Facilities	Specifications	Manufacturer	Model #/ Serial #	Due Date of Cal. & Cal. Center
R&S spectrum Analyzer	9KHz ~ 30GHz	R & S	100854 / E007	JUN. 25, 2024 ETC

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

6.3 TEST SET-UP



6.4 TEST PROCEDURE

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

6.5 EUT OPERATING CONDITION

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



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TEST REPORT

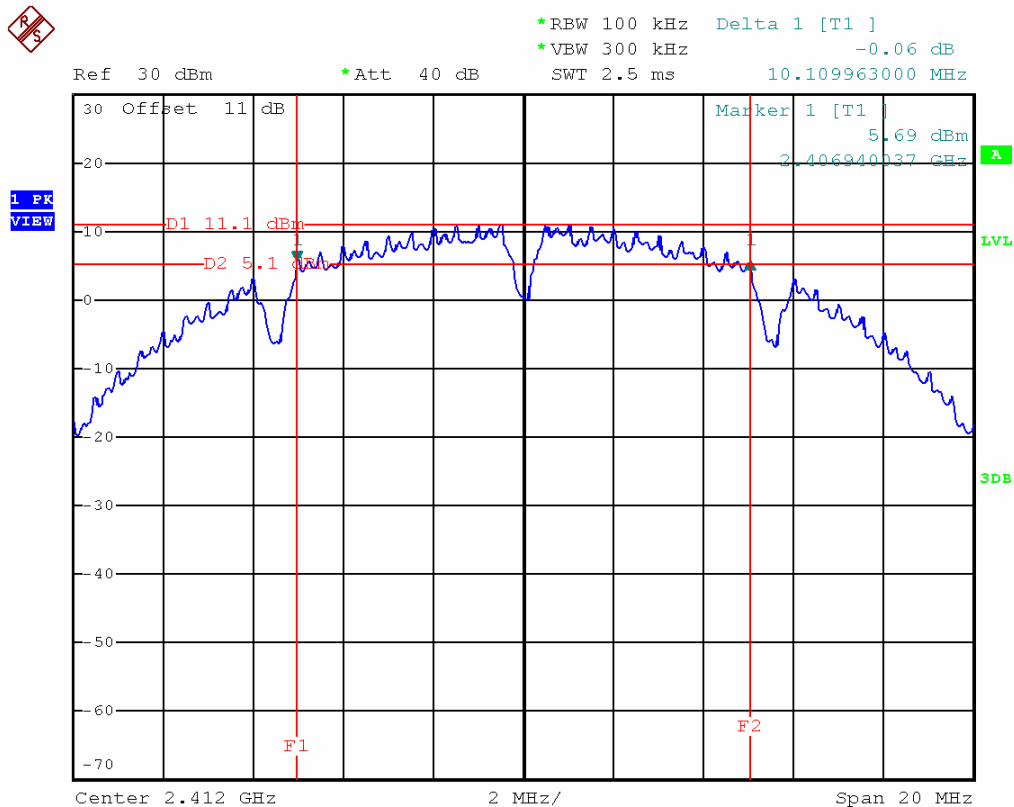
Reference No.: A23111702
 Report No.: FCCA23111702-W0
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 Date: Dec. 04, 2023

6.6 TEST RESULT

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11b
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

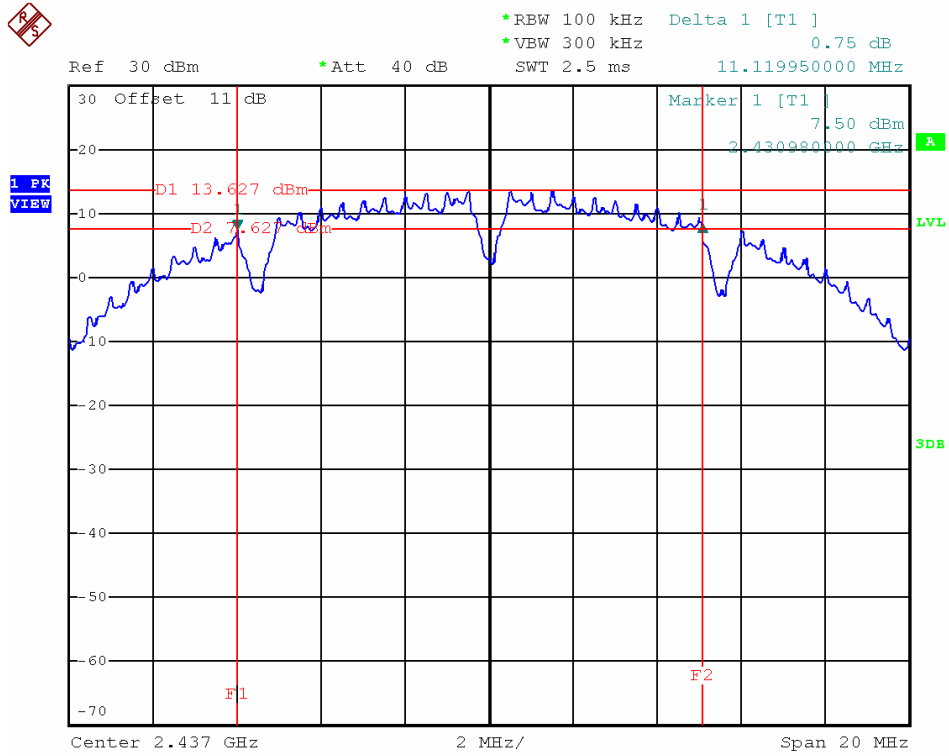
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	10.109	0.5
CH06	2437	11.119	0.5
CH11	2462	12.069	0.5

CH01

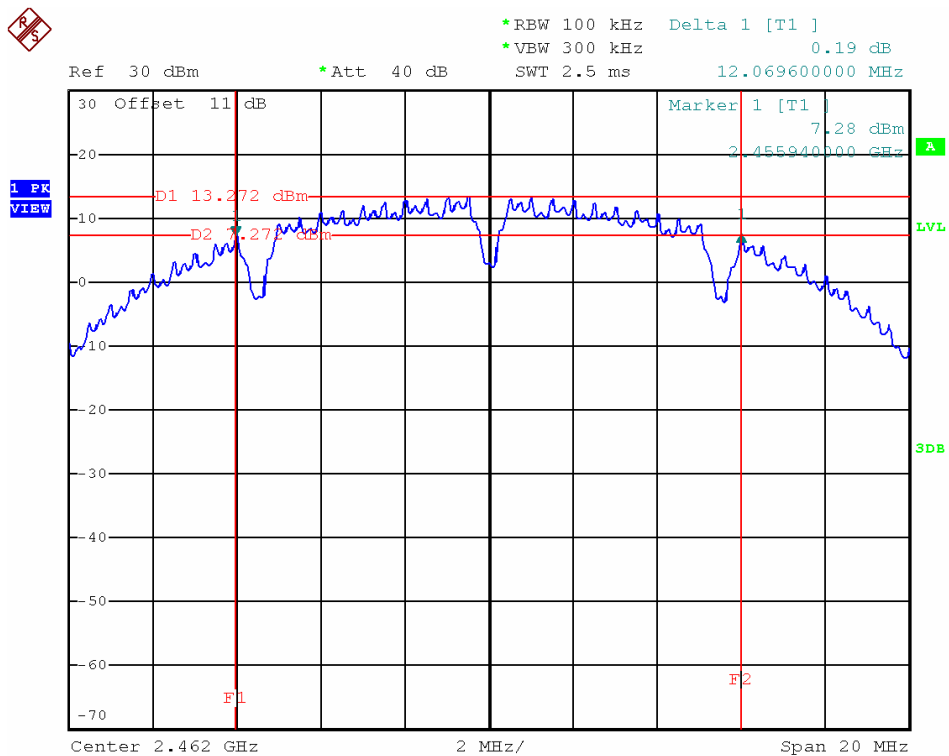




CH06



CH11





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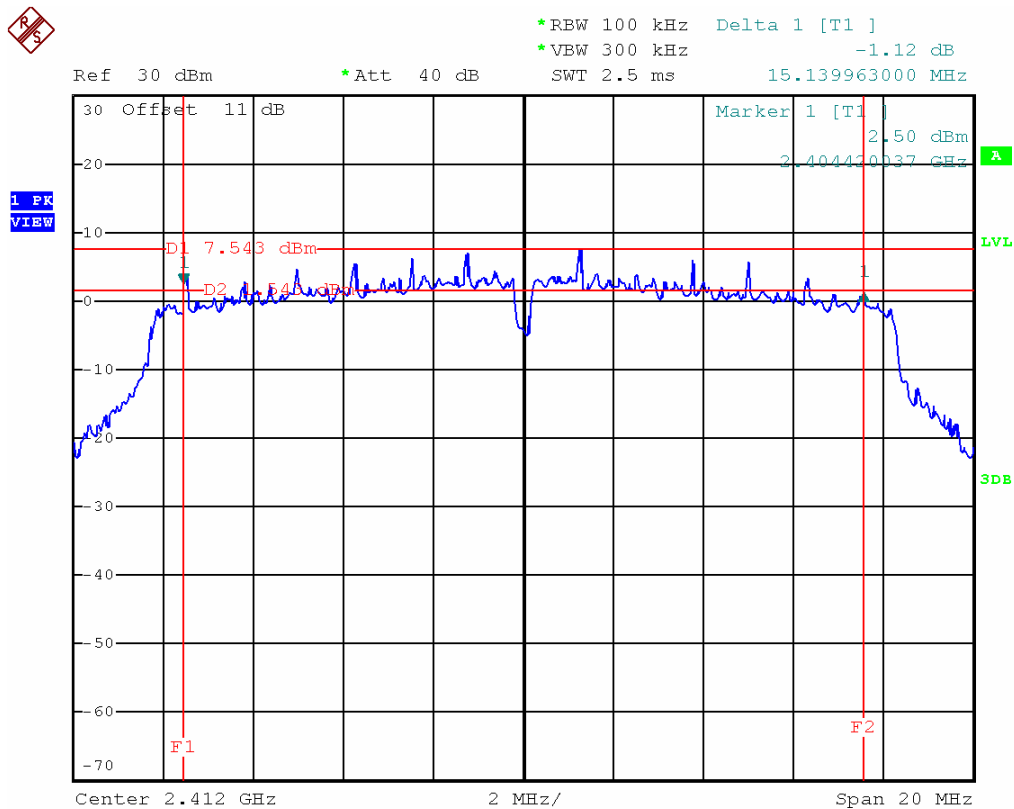
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 49 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11g
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

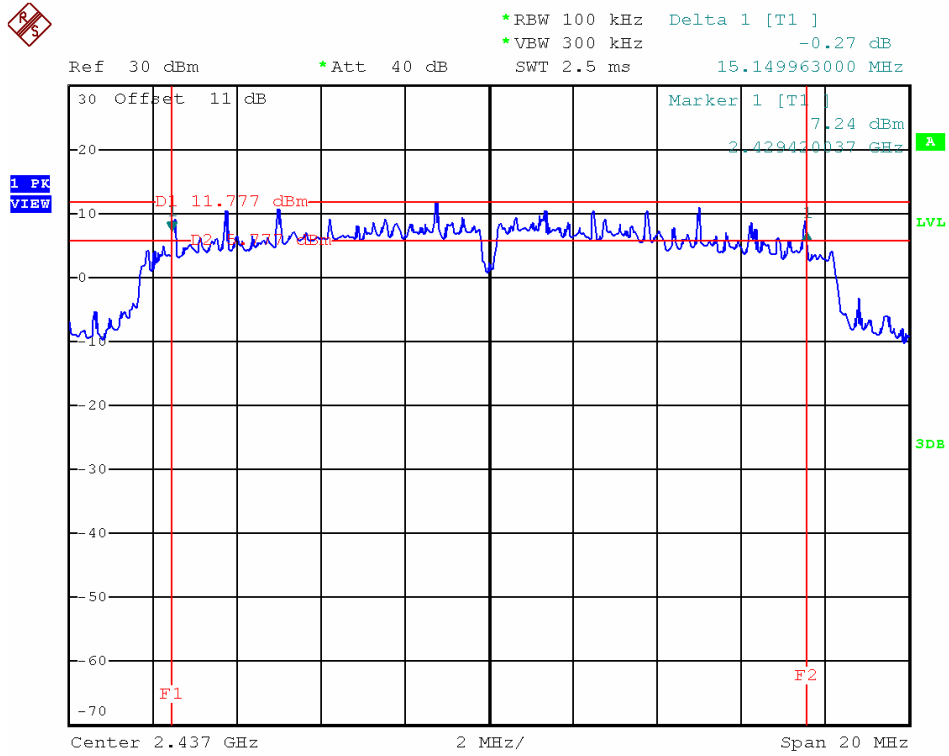
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	15.139	0.5
CH06	2437	15.149	0.5
CH11	2462	15.059	0.5

CH01

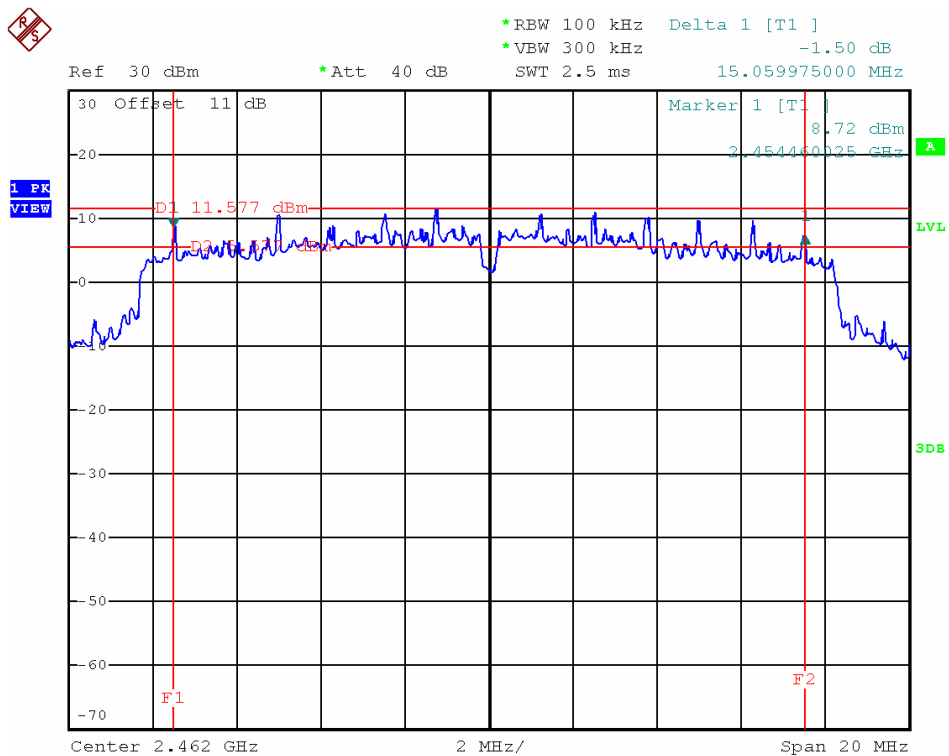




CH06



CH11





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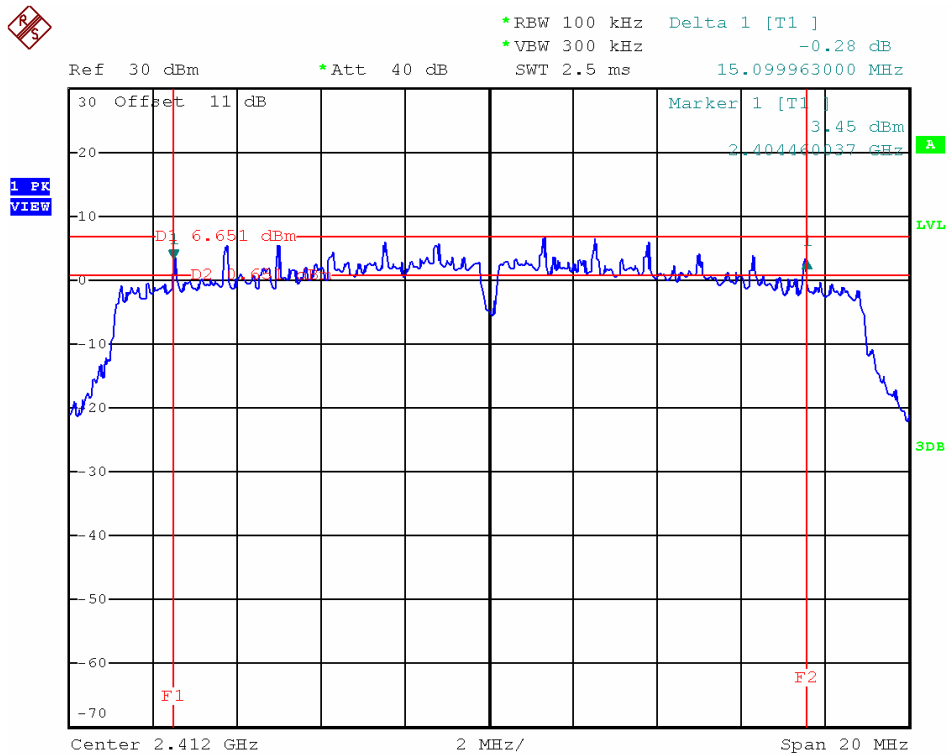
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 51 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11n – HT20
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	15.099	0.5
CH06	2437	15.119	0.5
CH11	2462	15.099	0.5

CH01



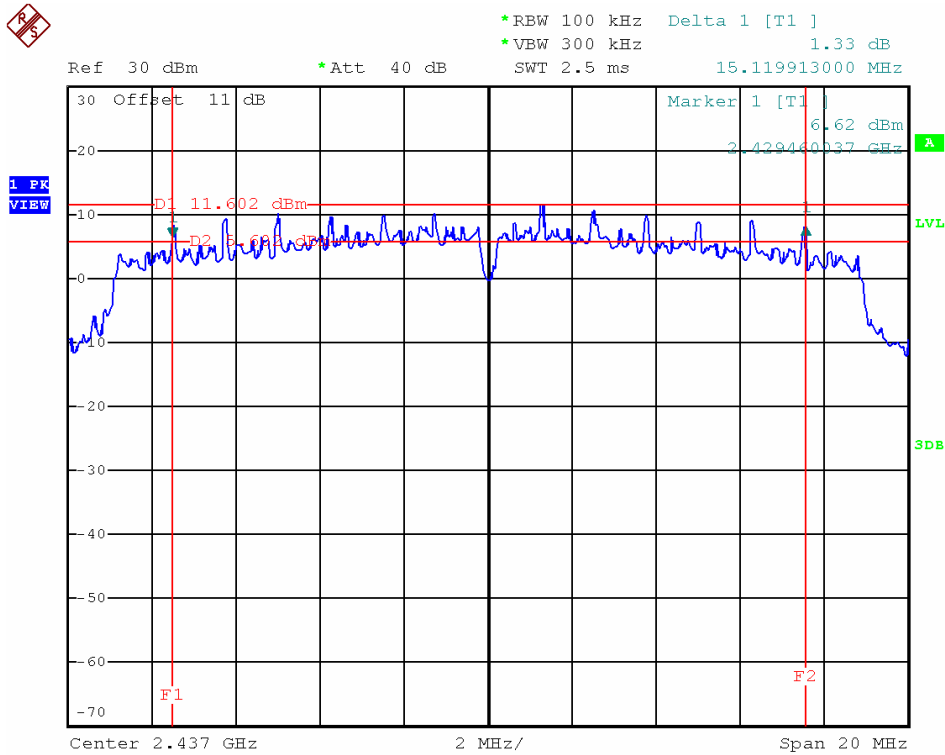


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TEST REPORT

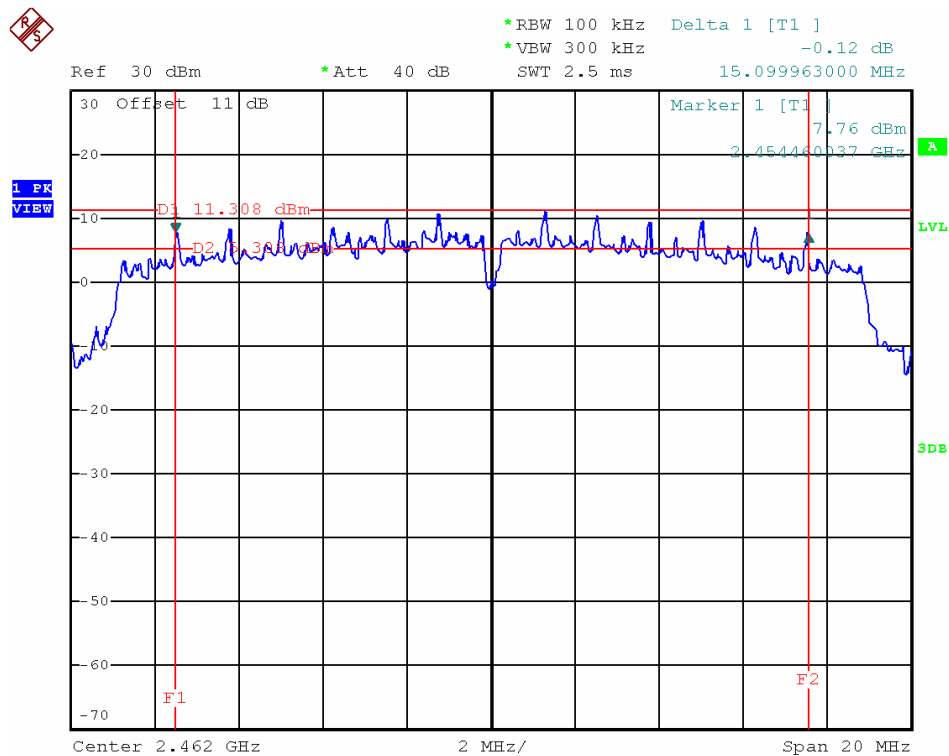
Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

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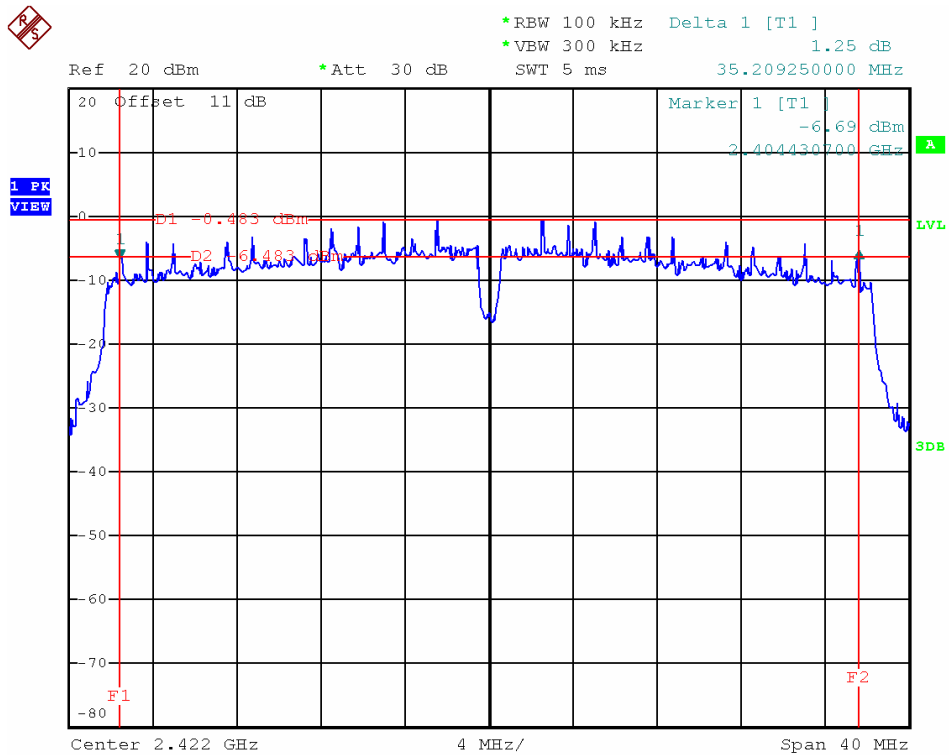
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 53 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11n – HT40
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

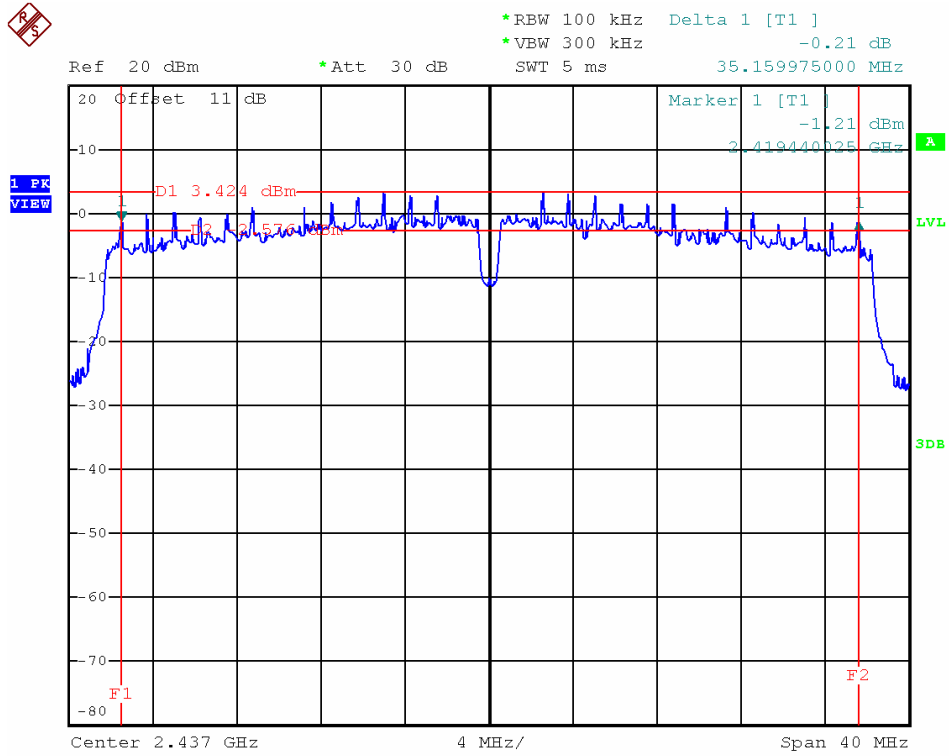
Channel Number	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
CH03	2422	35.209	0.5
CH06	2437	35.159	0.5
CH09	2452	35.159	0.5

CH01

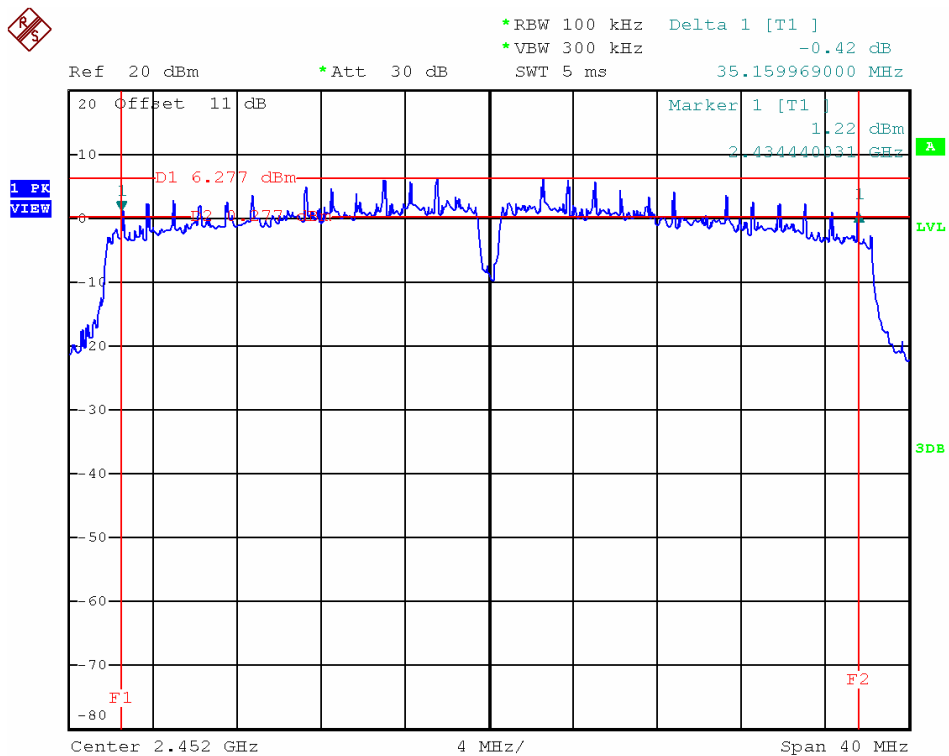




CH06



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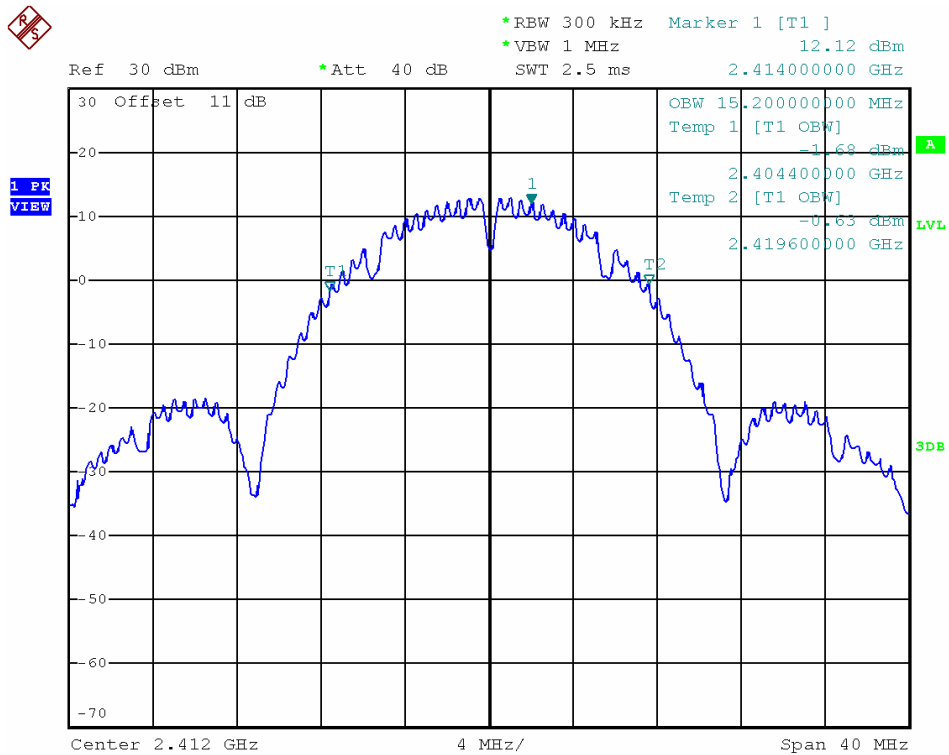
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11b
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

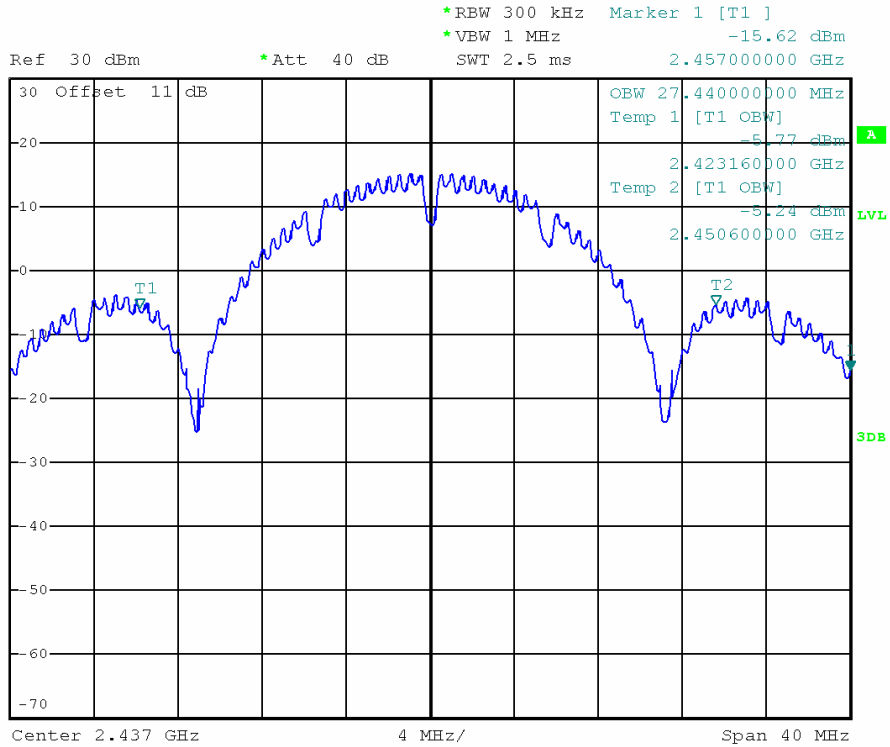
Channel Number	Channel Frequency (MHz)	99 % Occupied Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	15.20	0.5
CH06	2437	27.44	0.5
CH11	2462	25.84	0.5

CH01

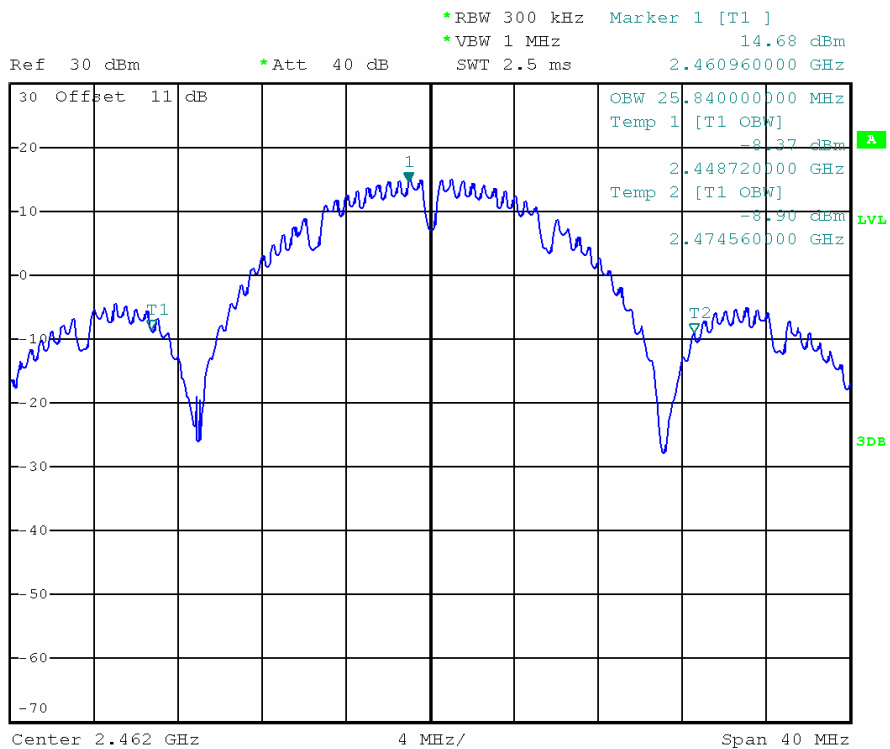




CH06



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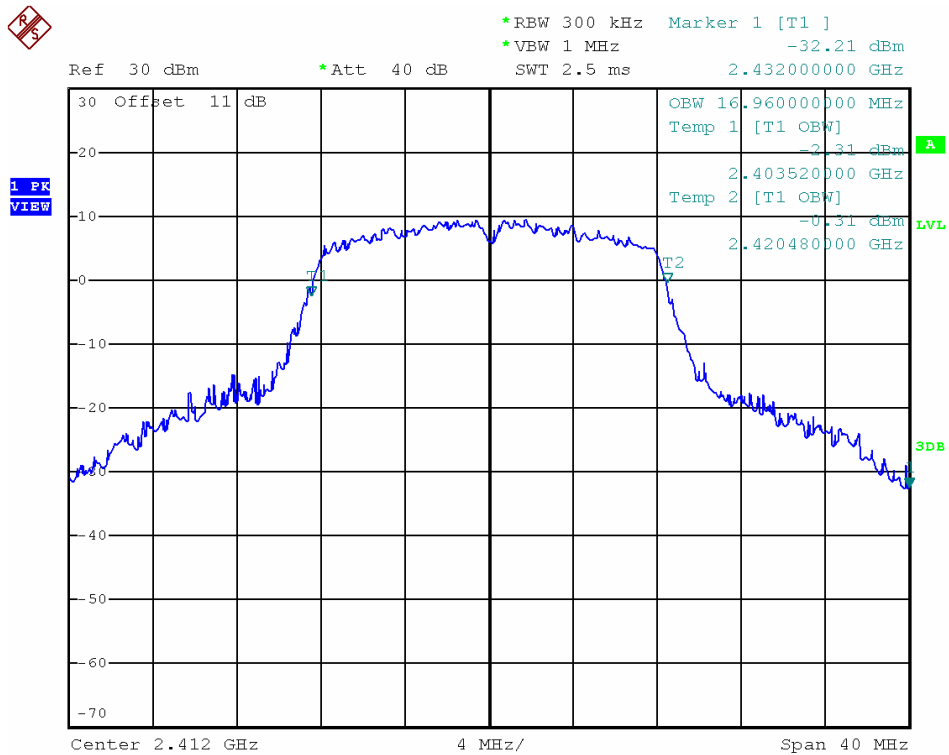
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 57 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11g
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

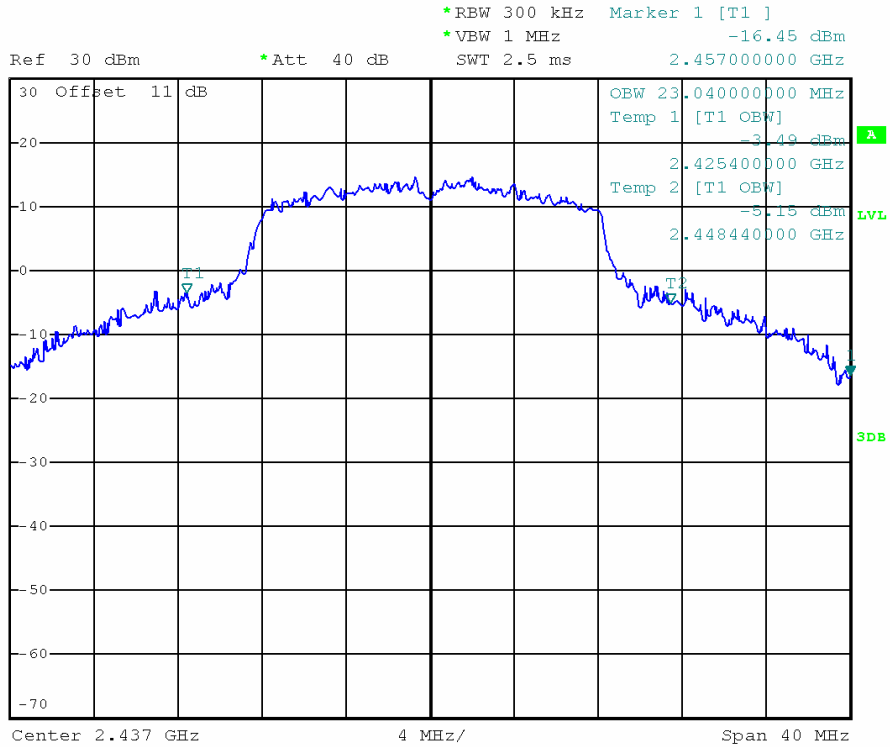
Channel Number	Channel Frequency (MHz)	99 % Occupied Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	16.96	0.5
CH06	2437	23.04	0.5
CH11	2462	21.92	0.5

CH01

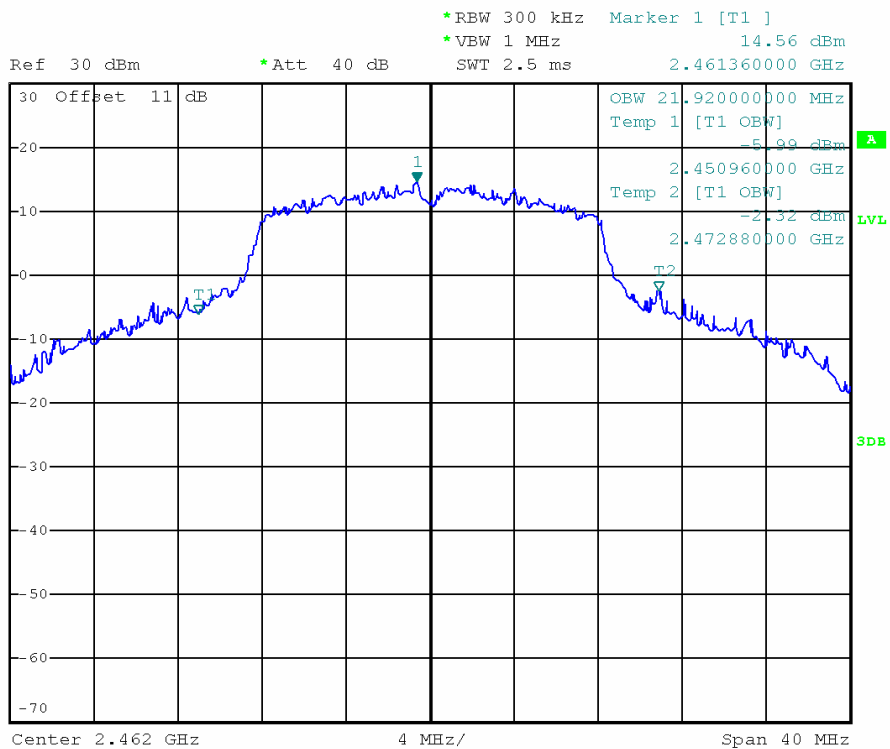




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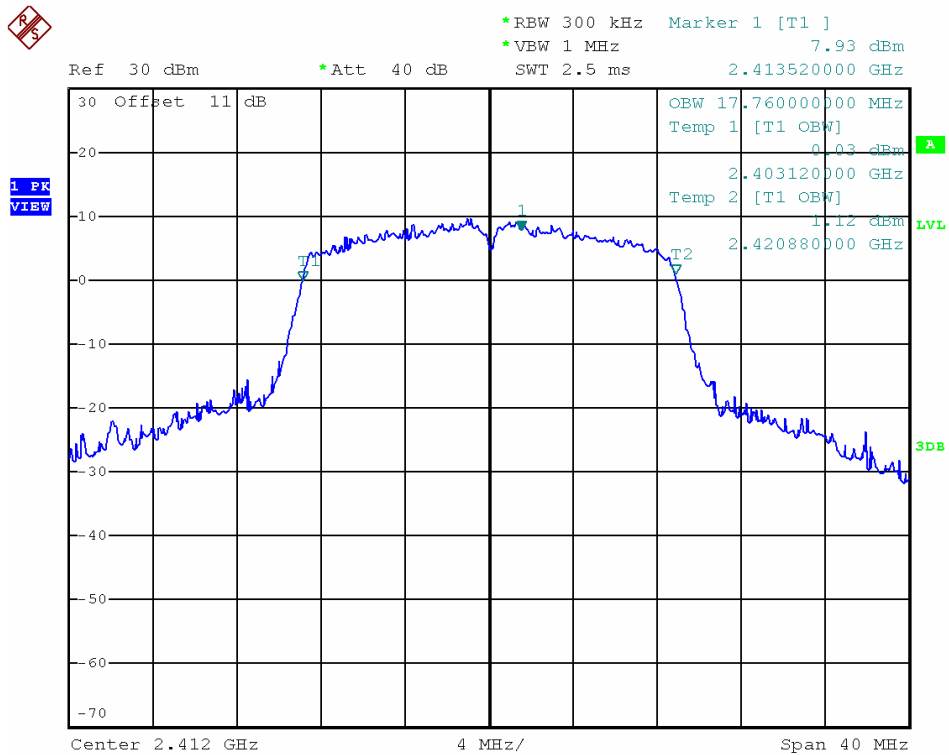
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 59 of 106
 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11n – HT20
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

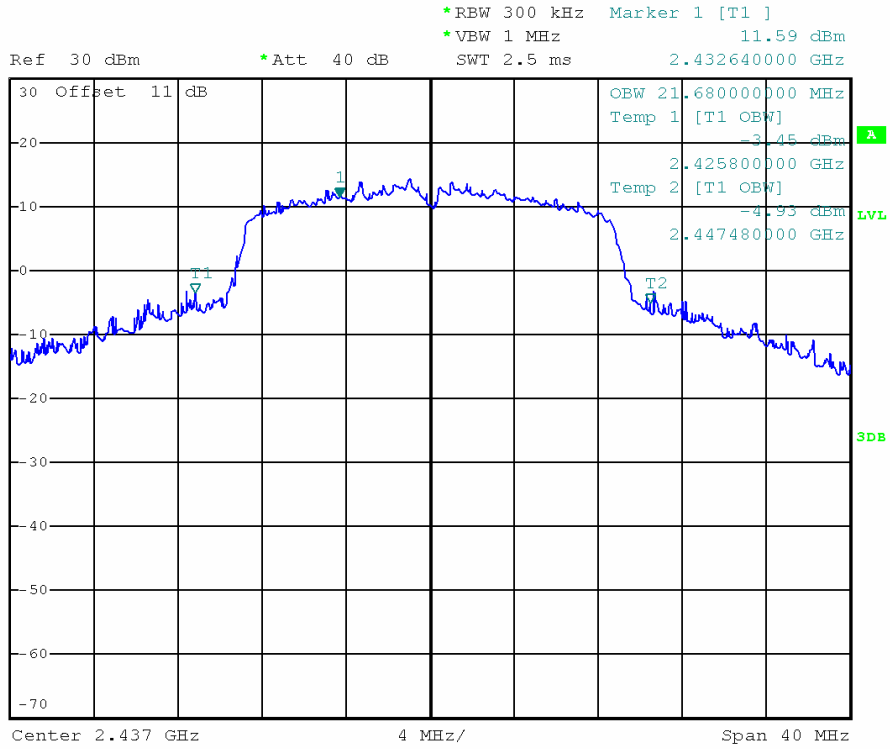
Channel Number	Channel Frequency (MHz)	99 % Occupied Bandwidth (MHz)	Minimum Limit (MHz)
CH01	2412	17.76	0.5
CH06	2437	21.68	0.5
CH11	2462	20.40	0.5

CH01

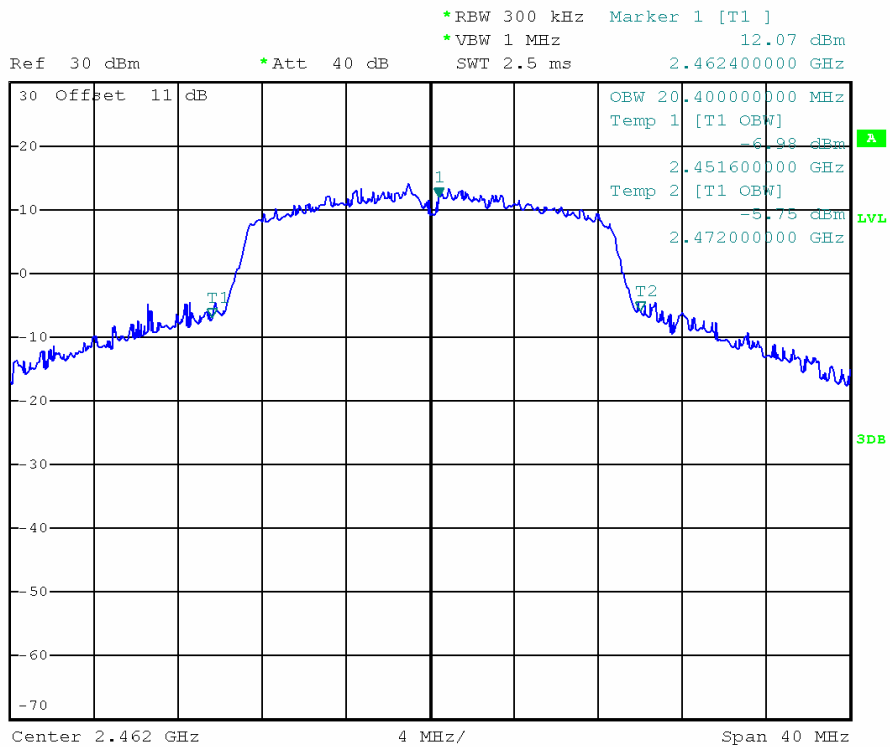




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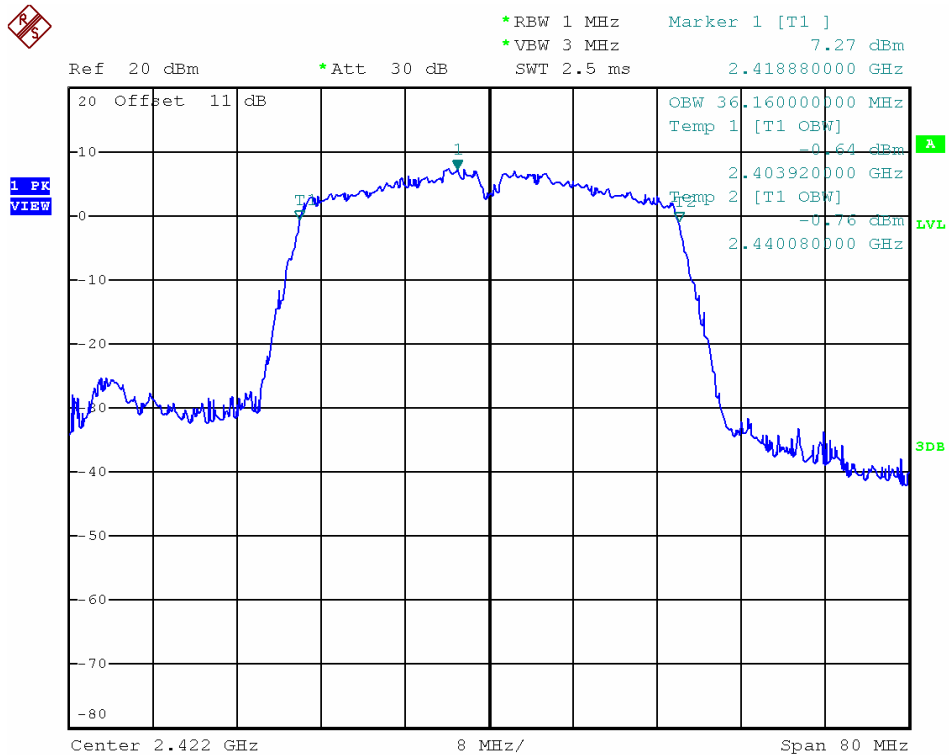
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
RBW:	100 kHz	Modulation:	802.11n – HT40
Detector:	Peak	VBW:	300 kHz
Tested By:	Jimmy Tseng	Tested Date:	Nov. 22, 2023

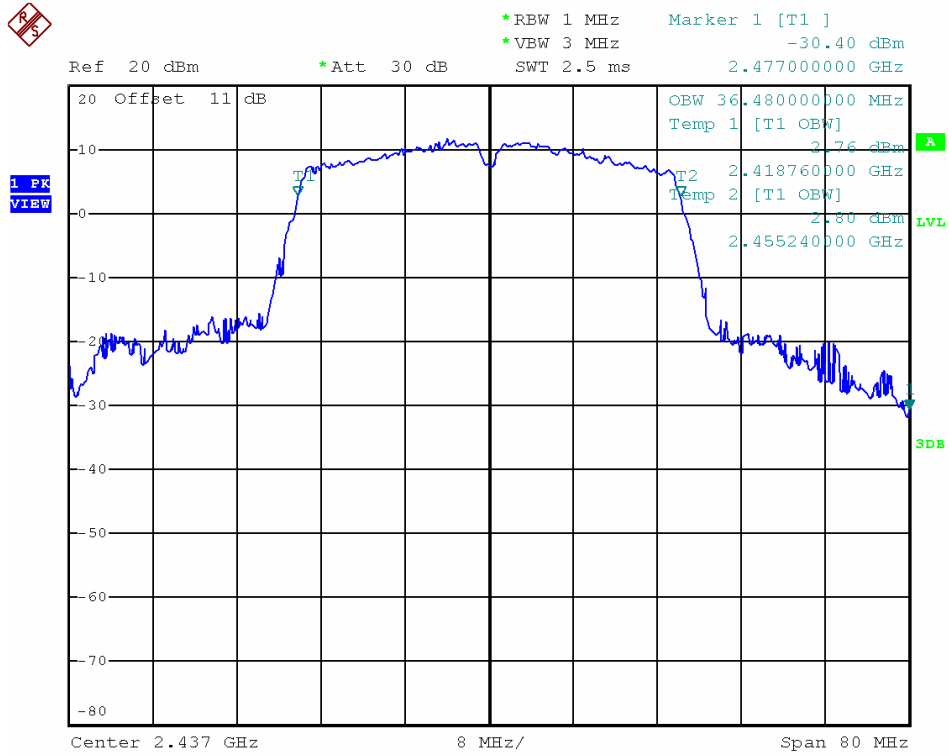
Channel Number	Channel Frequency (MHz)	99 % Occupied Bandwidth (MHz)	Minimum Limit (MHz)
CH03	2422	36.16	0.5
CH06	2437	36.48	0.5
CH09	2452	36.96	0.5

CH01

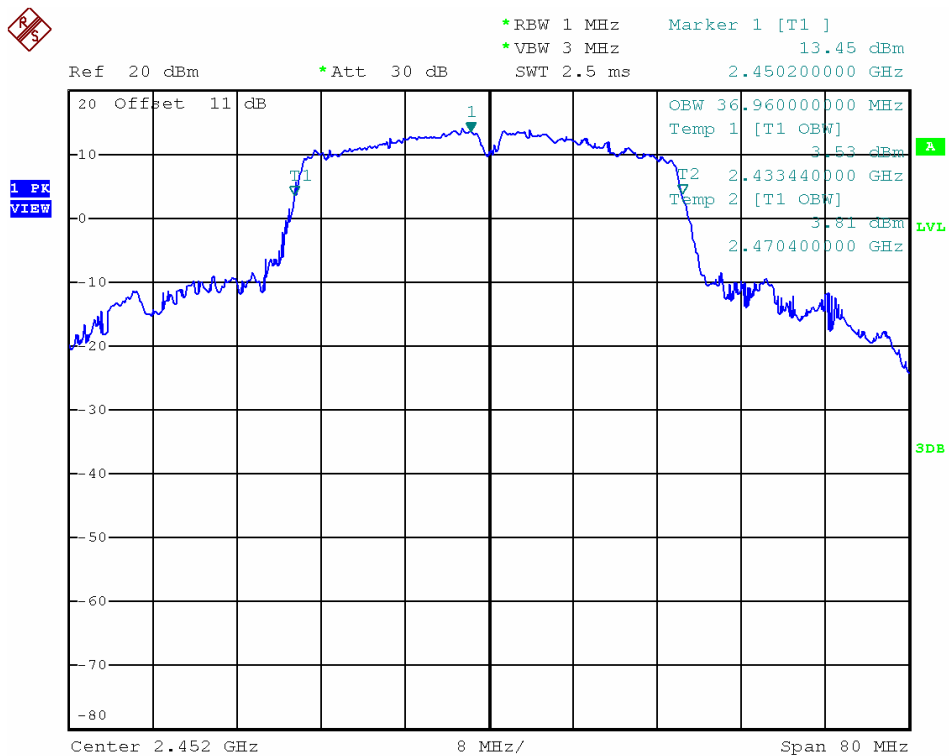




CH06



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TEST REPORT

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7 PEAK CONDUCTED OUTPUT POWER TEST

7.1 LIMIT

FCC Part15, Subpart C Section 15.247(b).

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

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

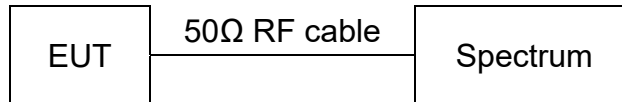
7.2 TEST EQUIPMENT

The following test equipment was used during the test :

Equipment/ Facilities	Specifications	Manufacturer	Model #/ Serial #	Due Date of Cal. & Cal. Center
R&S spectrum Analyzer	9KHz ~ 30GHz	R & S	100854 / E007	JUN. 25, 2024 ETC

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

7.3 TEST SET-UP



7.4 TEST PROCEDURE

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

7.5 EUT OPERATING CONDITION

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



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TEST REPORT

Reference No.: A23111702
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7.6 TEST RESULT

Temperature:	24 °C	Humidity:	70 %RH
Detector:	RMS	Test Mode:	All
RBW:	300 kHz	VBW:	1 MHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Mode	Frequency (MHz)	Total Power	Limit		Power setting
		Average	Average	Result	
		dBm	dBm		
802.11b	2412	21.36	30.00	PASS	44
	2437	22.96	30.00	PASS	46
	2462	22.65	30.00	PASS	47
802.11g	2412	18.25	30.00	PASS	36
	2437	23.85	30.00	PASS	47
	2462	17.32	30.00	PASS	34
802.11n20	2412	21.01	30.00	PASS	34
	2437	25.35	30.00	PASS	50
	2462	19.91	30.00	PASS	33
802.11n40	2422	16.91	30.00	PASS	28
	2437	19.57	30.00	PASS	32
	2452	16.90	30.00	PASS	27



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TEST REPORT

Reference No.: A23111702
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8 BAND EDGE TEST

8.1 LIMIT

FCC Part15, Subpart C Section 15.247(d).

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Operating Frequency Range (MHz)	Spurious Emission Frequency (MHz)	LIMIT	
		Peak power ration to emission (dBc)	Emission level (dBuV/m)
2400 - 2483.5	< 2400	> 20	N/A
	> 2483.5-2500	N/A	54



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 Report No.: FCCA23111702-W0
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8.2 TEST EQUIPMENT

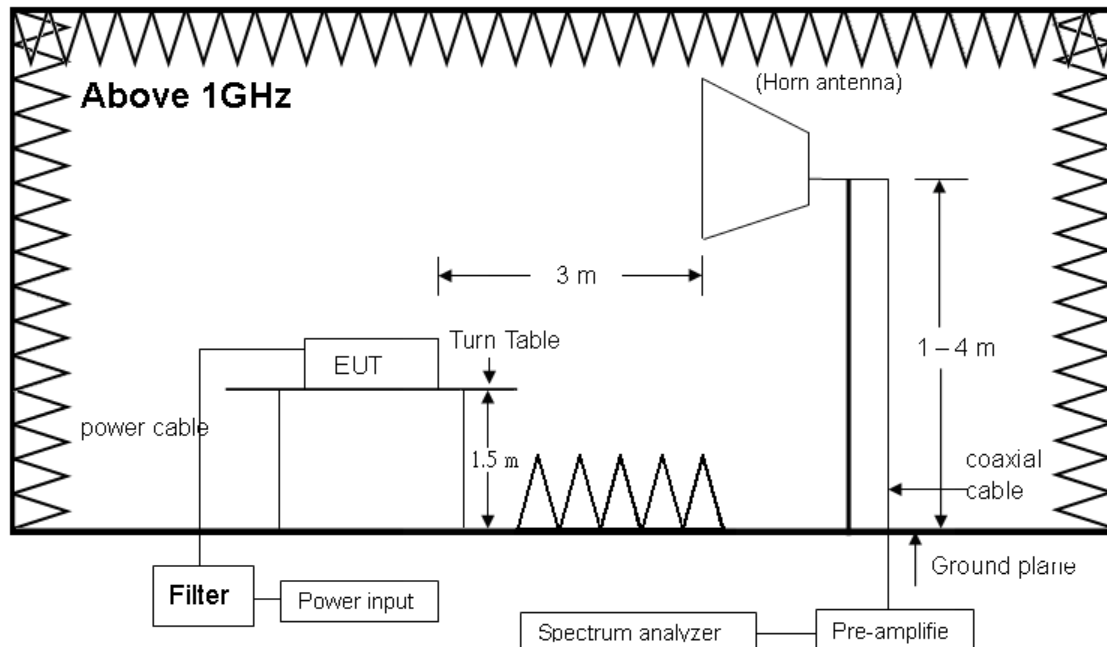
The following test equipment was used during the test:

Equipment/ Facilities	Specifications	Manufacturer	Model #/ Serial #	Due Date of Cal. & Cal. Center	Final Test be Used
R&S spectrum Analyzer	9KHz ~ 30GHz	R & S	100854 / E007	JUN. 25, 2024 ETC	■
EXA Signal Analyzer	10 Hz ~ 44 GHz	KEYSIGHT	N9010A / MY56480554	SEP. 11, 2024 ETC	■
EMI Test Receiver (Include Spectrum Analyzer)	9 KHz ~ 6 GHz	ROHDE & SCHWARZ	ESL 6 / 100176	SEP. 06, 2024 ETC	■
Spectrum Analyzer	9 kHz ~ 40GHz	ROHDE & SCHWARZ	FSP40 / 100093	FEB. 16, 2024 ETC	■
Pre-Amplifier	1 ~ 26.5 GHz	AGILENT	8449B / 3008A01995	FEB. 16, 2024 ETC	■
Horn Antenna	1 ~ 18 GHz	EMCO	3115 / 9602-4681	MAR. 09, 2024 ETC	■
Horn Antenna	18 ~ 40 GHz	ETS-LINDGREN	3116 / 00032255	MAY 13, 2024 ETC	■
Anechoic Chamber	3 M Measurement	SRT	A01 / SRT001	MAR. 24, 2024 SRT	■
RF Cable	Up to 18 GHz 1.5 m	JYEBAO	A30A30-L 142 / EQF-0035(001)	JAN. 24, 2024 ETC	■
RF Cable	Up to 26.5 GHz 3.5 m	EMCI	EMC104-SM-SM-3500 / 150601	SEP. 19, 2024 ETC	■
K-Type Cable	Up to 40 GHz 3 m	HUBER+SUHNER	SF102-46/2* 11SK252 / MY2611/2	APR. 06, 2024 ETC	■
K-Type Cable	Up to 40 GHz, 1 m	HUBER+SUHNER	SF102/2*11SK252 / MY3331/2	FEB. 15, 2024 ETC	■
Filter	2 Line, 30 A	FIL.COIL	FC-943 / 869	NCR	■

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



8.3 TEST SETUP



NOTE: The EUT system was put on a wooden table with 1.5m heights above a ground plane.
For the actual test configuration, please refer to the photos of testing.

8.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.10:2013 and CISPR 22:2003. When the frequency spectrum measured started from 30 MHz to 1 GHz, then use antenna is a BICONICAL ANTENNA & LOG PERIODIC ANTENNA. The measurements were made at an open area test site with 3 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz to 1 GHz, all readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak or average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency. First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.

8.5 EUT OPERATING CONDITION

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



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TEST REPORT

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8.6 TEST RESULT

Conducted Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11b
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

Maximum RF power within the frequency band			
upper edge band		lower edge band	
Frequency (MHz)	Power (dBm)	Frequency (MHz)	Power (dBm)
2412	15.09	2462	17.16

Frequency	Maximum RF power within any 100 kHz outside the frequency band	Test amplitude difference (dBc)	Limit in 4.10.1.5	Result
< 2.4 GHz	-37.37	22.28	20 dB	Pass
> 2.4835 GHz	-34.59	17.43	20 dB	Pass



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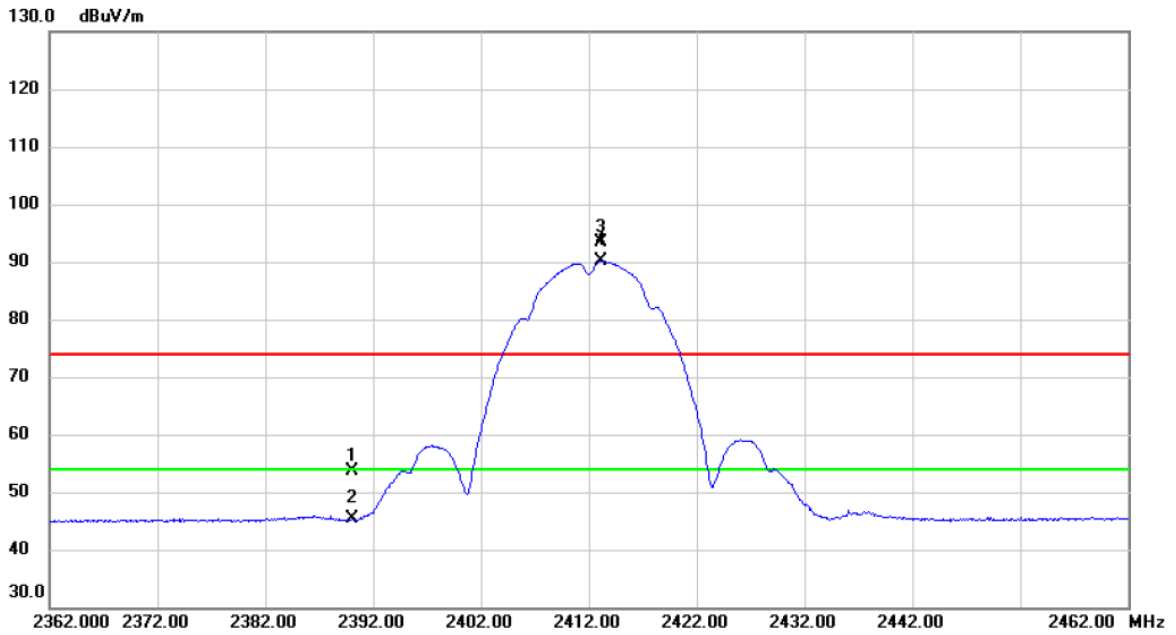
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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Radiated Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11b
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

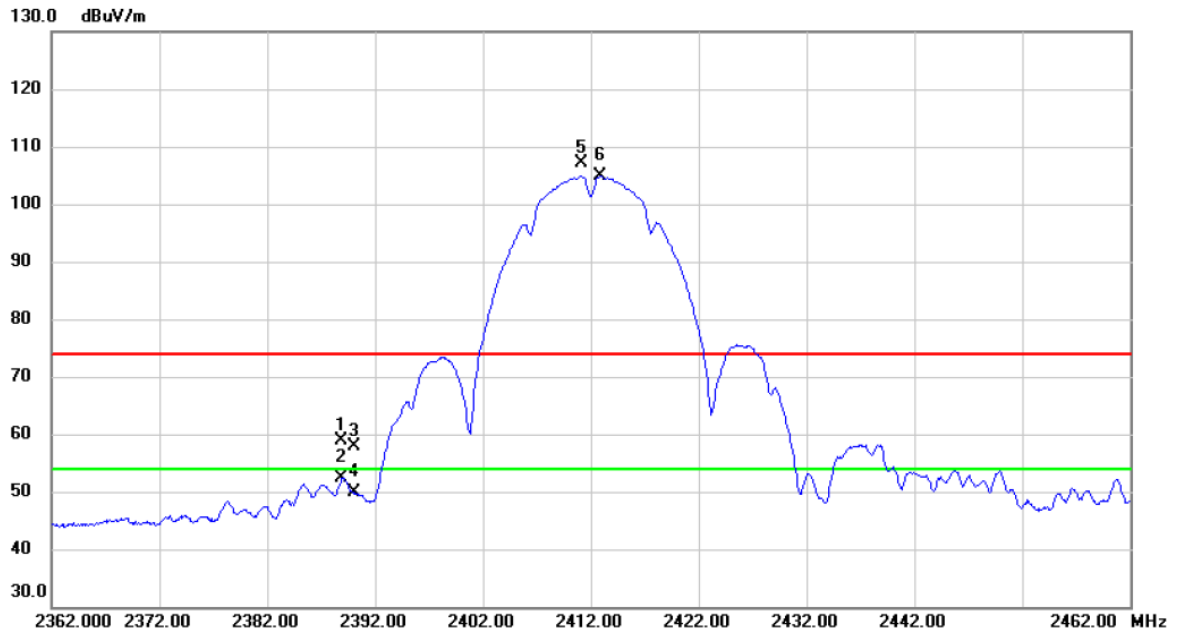
CH01_Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	43.23	10.28	53.51	74.00	-20.49	peak	
2		2390.000	35.07	10.28	45.35	54.00	-8.65	AVG	
3	X	2413.100	82.91	10.36	93.27	74.00	19.27	peak	
4	*	2413.100	79.81	10.36	90.17	54.00	36.17	AVG	



CH01_Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2388.900	48.49	10.28	58.77	74.00	-15.23	peak	
2		2388.900	42.14	10.28	52.42	54.00	-1.58	AVG	
3		2390.000	47.54	10.28	57.82	74.00	-16.18	peak	
4		2390.000	39.55	10.28	49.83	54.00	-4.17	AVG	
5	X	2411.200	96.73	10.35	107.08	74.00	33.08	peak	
6	*	2412.900	94.50	10.36	104.86	54.00	50.86	AVG	

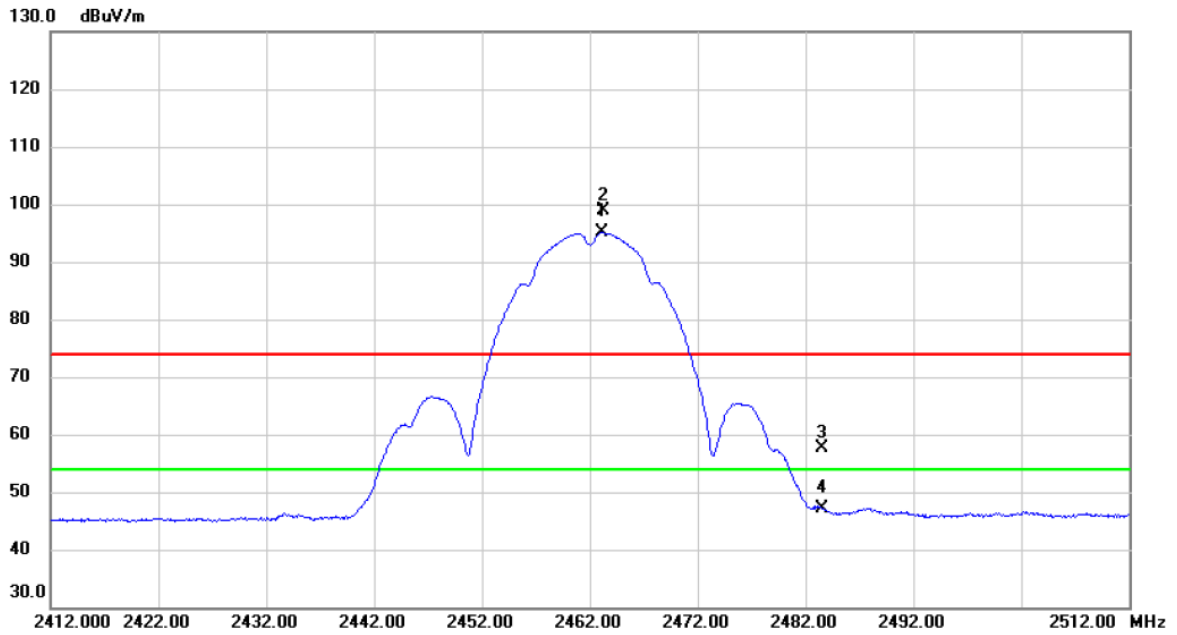


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Reference No.: A23111702
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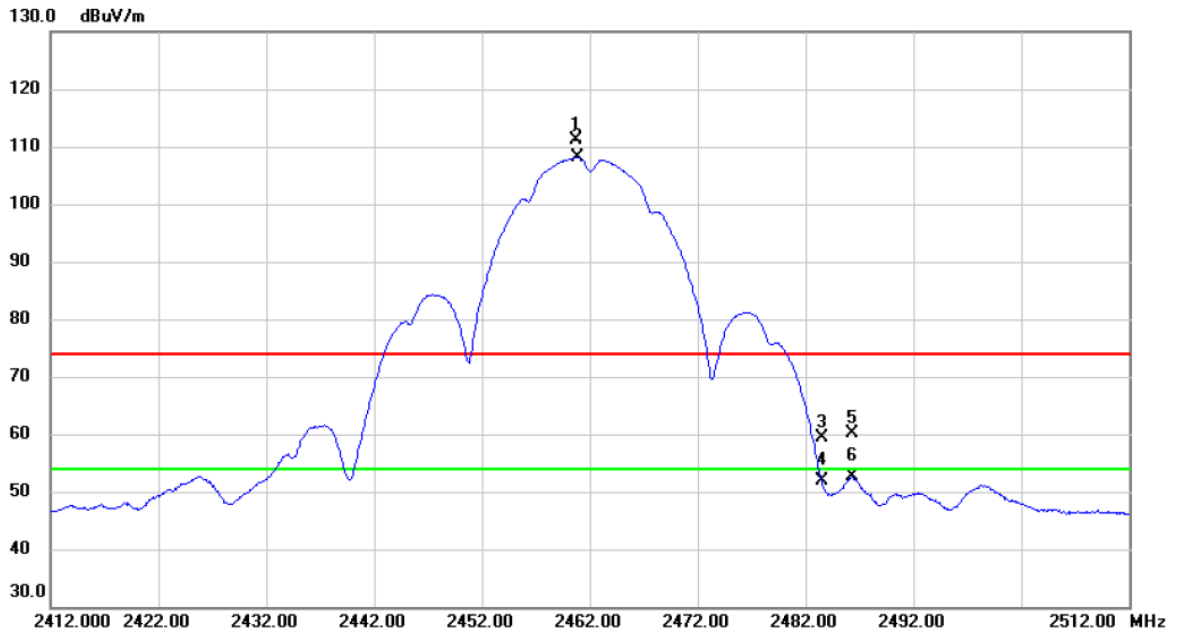
CH11_Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2463.100	84.44	10.62	95.06	54.00	41.06	AVG	
2	X	2463.300	88.25	10.62	98.87	74.00	24.87	peak	
3		2483.500	46.86	10.72	57.58	74.00	-16.42	peak	
4		2483.500	36.47	10.72	47.19	54.00	-6.81	AVG	



CH11_Vertical

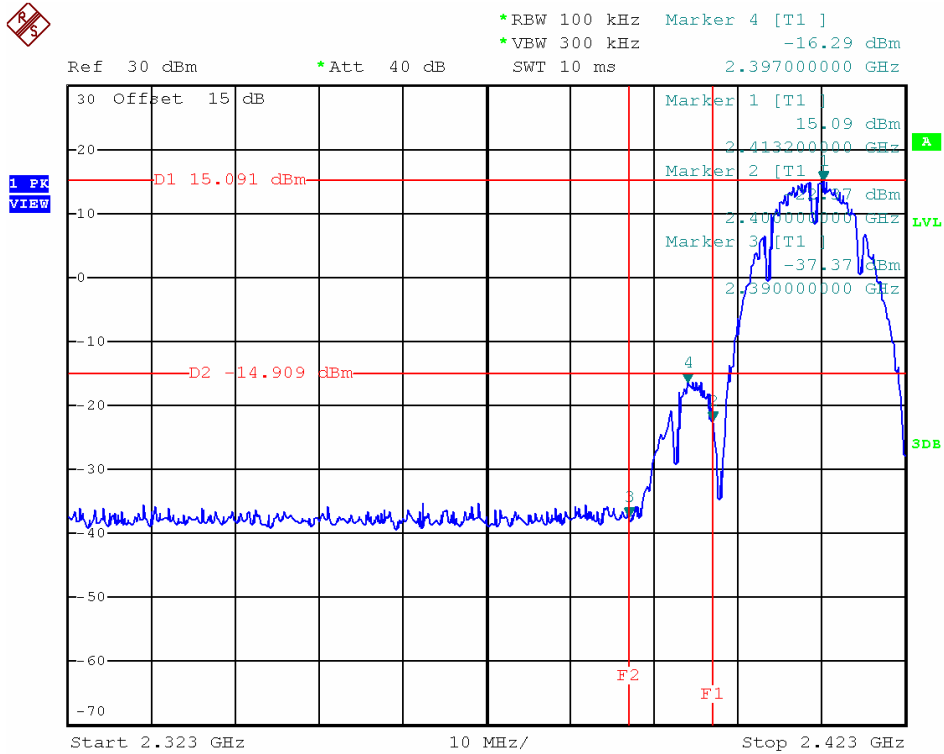


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2460.700	100.52	10.61	111.13	74.00	37.13	peak	
2	*	2460.800	97.43	10.61	108.04	54.00	54.04	AVG	
3		2483.500	48.72	10.72	59.44	74.00	-14.56	peak	
4		2483.500	41.15	10.72	51.87	54.00	-2.13	AVG	
5		2486.300	49.38	10.74	60.12	74.00	-13.88	peak	
6		2486.300	41.80	10.74	52.54	54.00	-1.46	AVG	

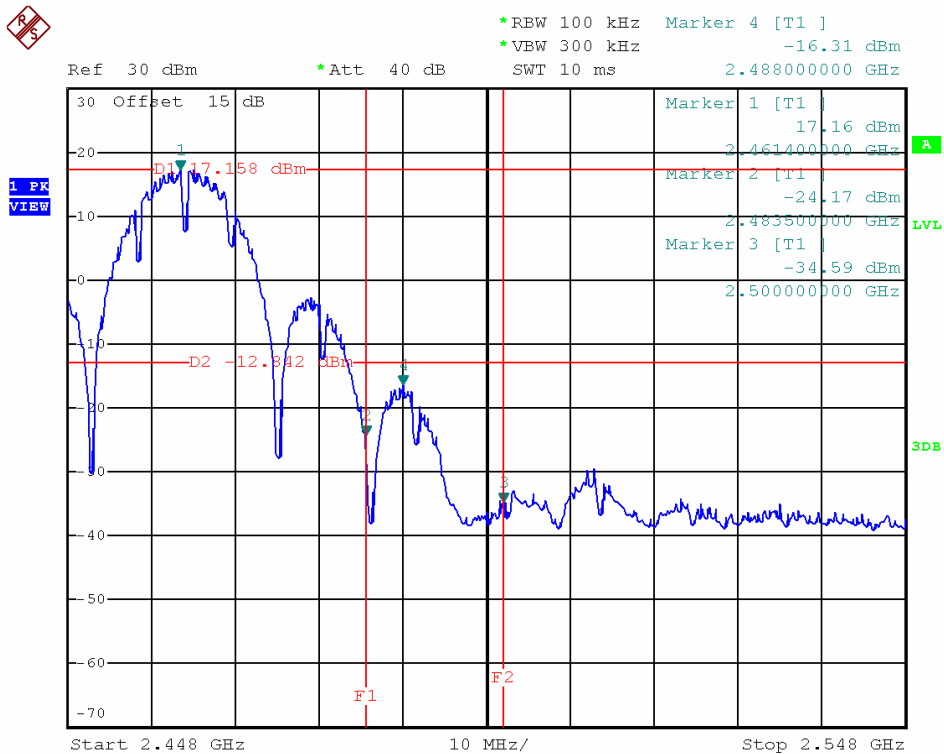
Note: Measurement uncertainty is 3.85 dB.



CH01 :



CH11 :





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TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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Conducted Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11g
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

Maximum RF power within the frequency band			
upper edge band		lower edge band	
Frequency (MHz)	Power (dBm)	Frequency (MHz)	Power (dBm)
2412	11.61	2462	14.55

Frequency	Maximum RF power within any 100 kHz outside the frequency band	Test amplitude difference (dBc)	Limit in 4.10.1.5	Result
< 2.4 GHz	-35.62	24.01	20 dB	Pass
> 2.4835 GHz	-35.96	21.41	20 dB	Pass



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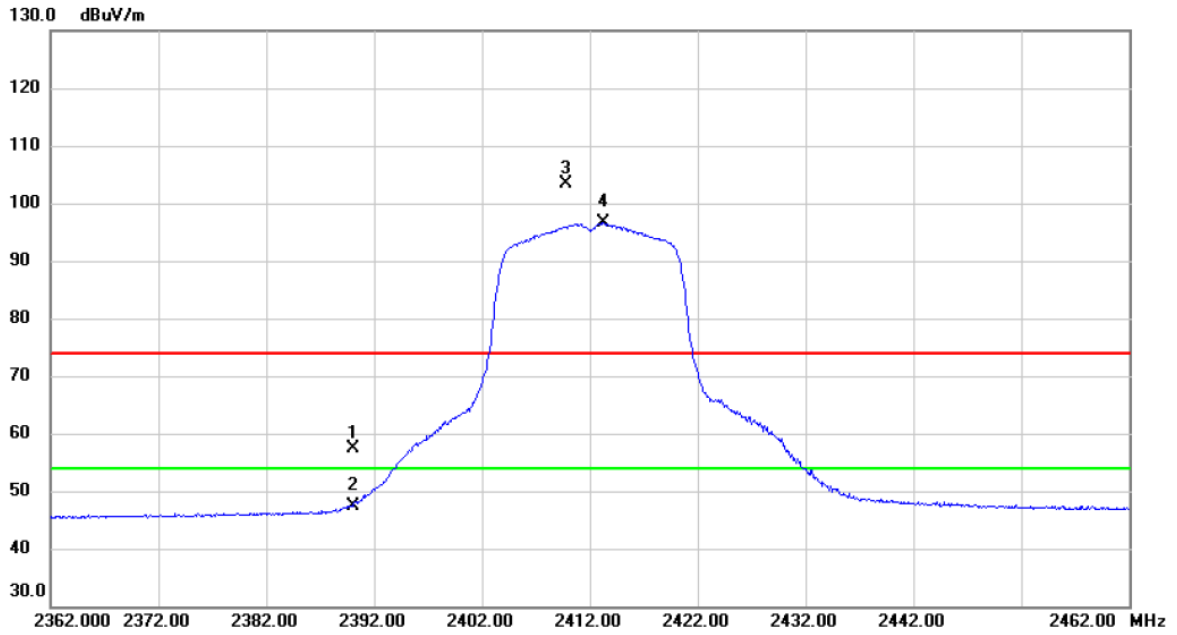
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 75 of 106
 Date: Dec. 04, 2023

Radiated Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11g
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

CH01_Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	47.13	10.28	57.41	74.00	-16.59	peak	
2		2390.000	37.22	10.28	47.50	54.00	-6.50	AVG	
3	X	2409.800	93.01	10.34	103.35	74.00	29.35	peak	
4	*	2413.300	86.15	10.36	96.51	54.00	42.51	AVG	

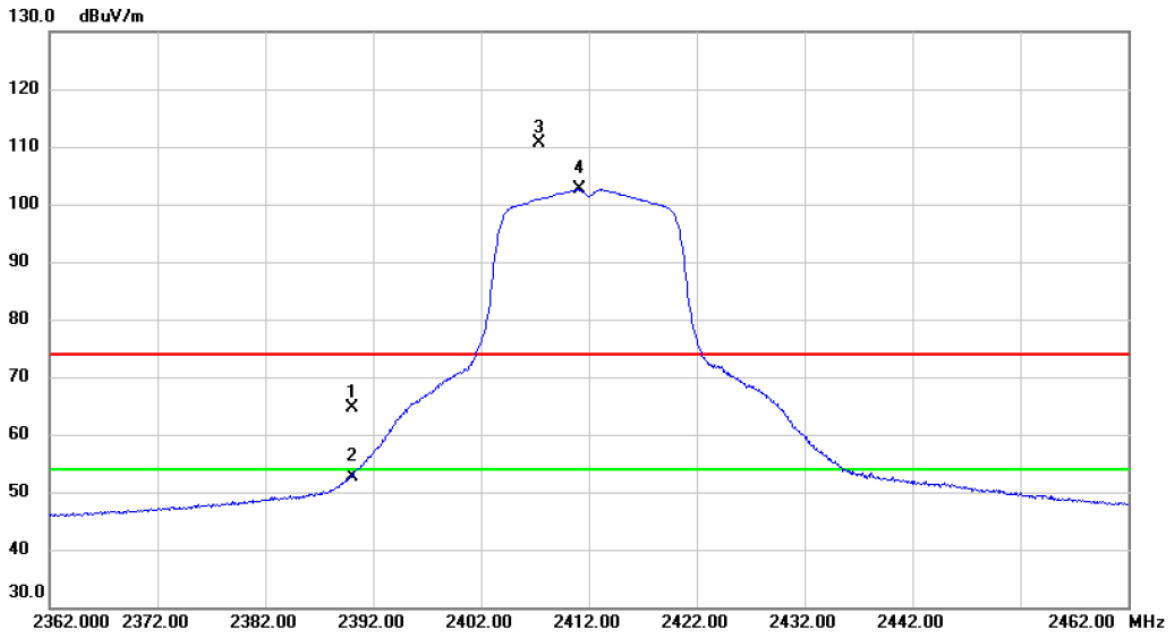


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TEST REPORT

Reference No.: A23111702
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CH01_Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	54.41	10.28	64.69	74.00	-9.31	peak	
2		2390.000	42.24	10.28	52.52	54.00	-1.48	AVG	
3	X	2407.400	100.37	10.32	110.69	74.00	36.69	peak	
4	*	2411.100	92.19	10.35	102.54	54.00	48.54	AVG	

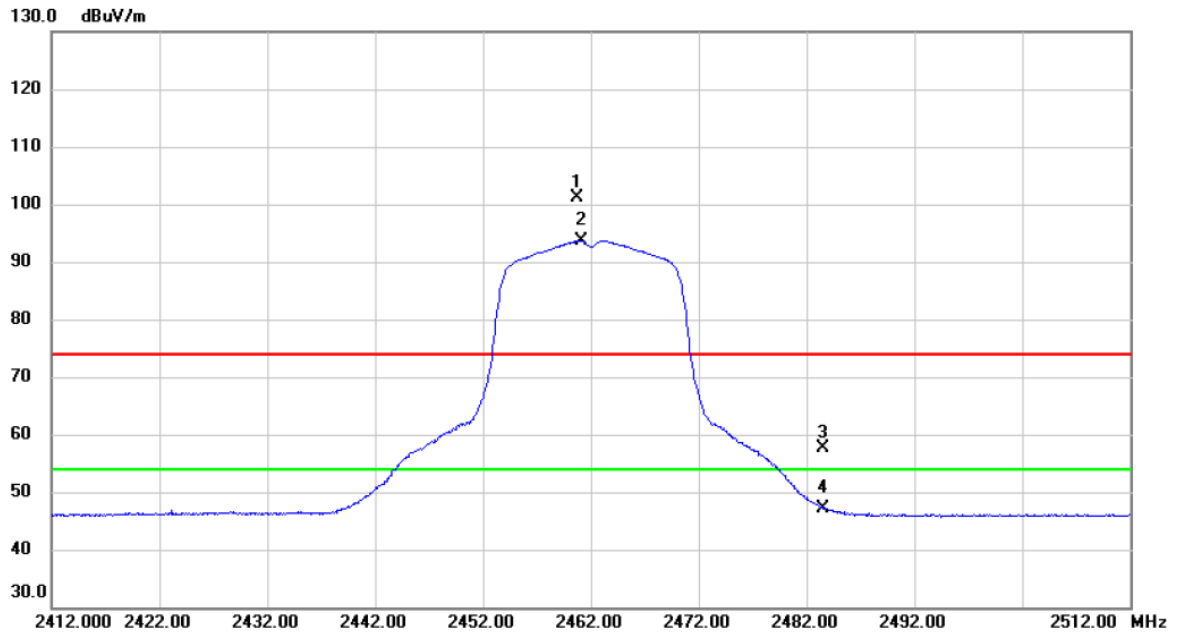


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TEST REPORT

Reference No.: A23111702
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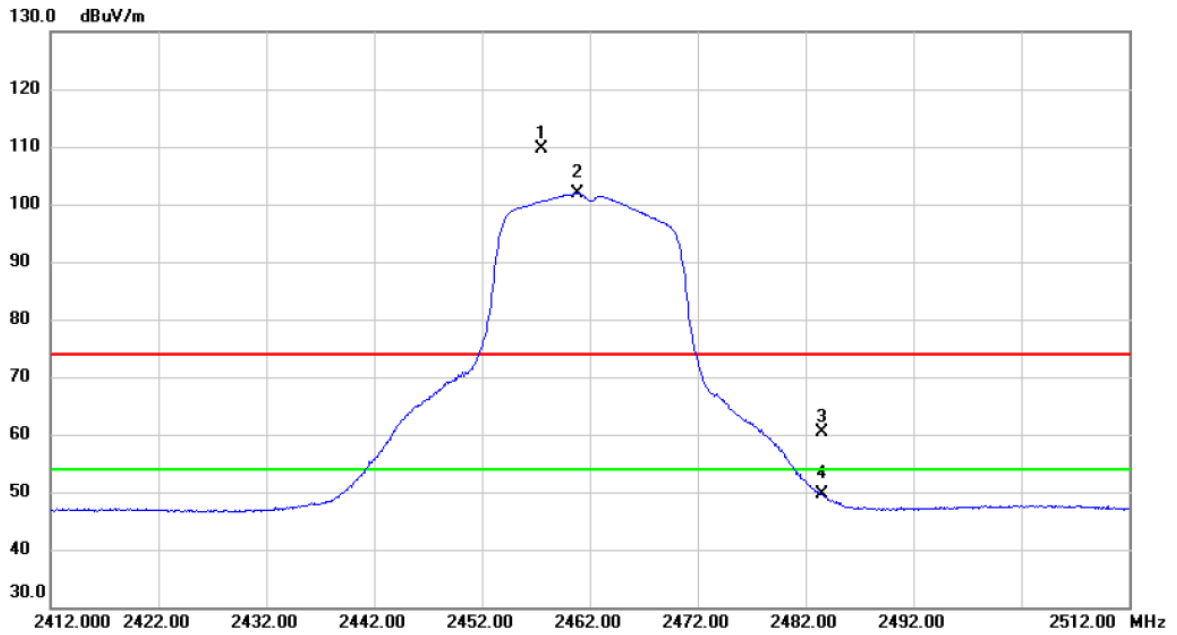
CH11_Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2460.700	90.59	10.61	101.20	74.00	27.20	peak	
2	*	2461.100	83.10	10.61	93.71	54.00	39.71	AVG	
3		2483.500	46.85	10.72	57.57	74.00	-16.43	peak	
4		2483.500	36.50	10.72	47.22	54.00	-6.78	AVG	



CH11_Vertical

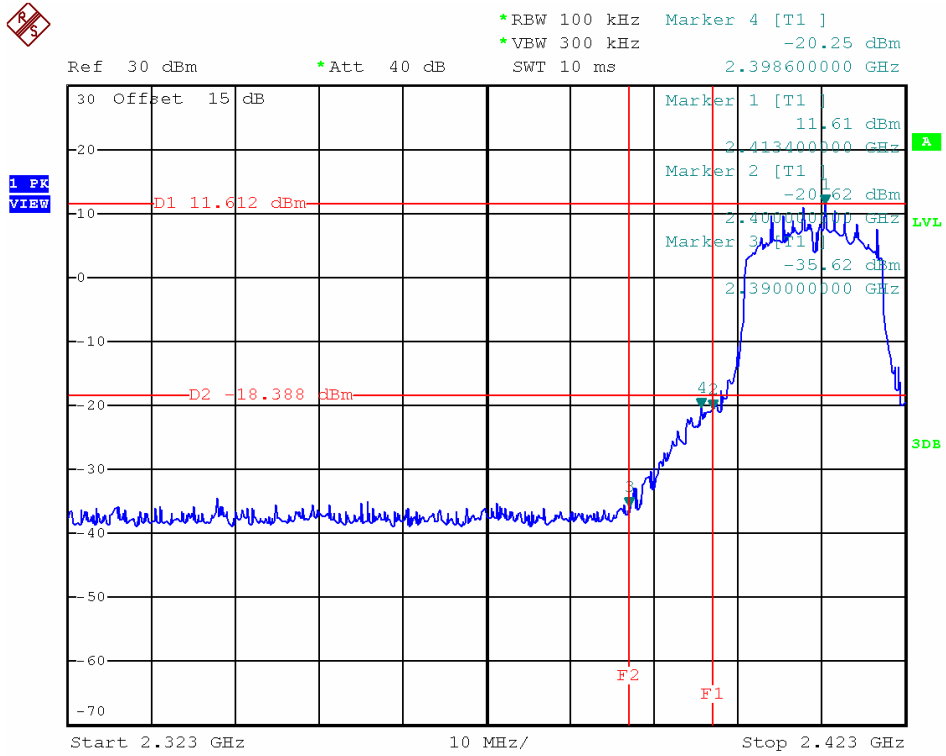


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2457.600	98.99	10.58	109.57	74.00	35.57	peak	
2	*	2460.900	91.24	10.61	101.85	54.00	47.85	AVG	
3		2483.500	49.60	10.72	60.32	74.00	-13.68	peak	
4		2483.500	38.96	10.72	49.68	54.00	-4.32	AVG	

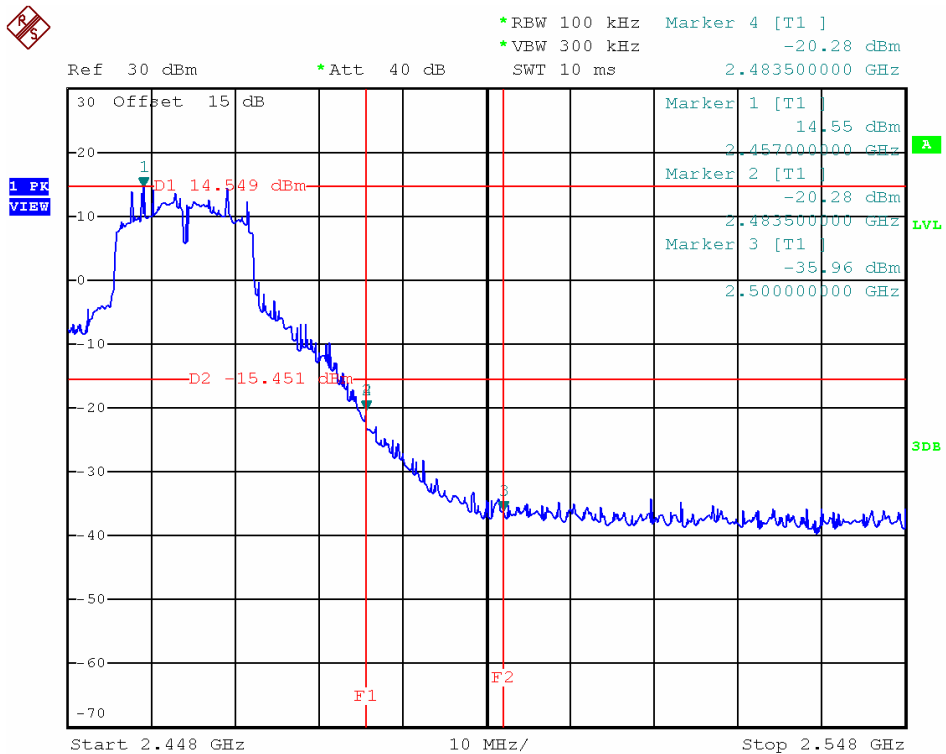
Note: Measurement uncertainty is 3.85 dB.



CH01 :



CH11 :





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TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
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Conducted Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11n - HT20
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

Maximum RF power within the frequency band			
upper edge band		lower edge band	
Frequency (MHz)	Power (dBm)	Frequency (MHz)	Power (dBm)
2412	10.86	2462	14.54

Frequency	Maximum RF power within any 100 kHz outside the frequency band	Test amplitude difference (dBc)	Limit in 4.10.1.5	Result
< 2.4 GHz	-31.43	20.57	20 dB	Pass
> 2.4835 GHz	-36.75	22.21	20 dB	Pass



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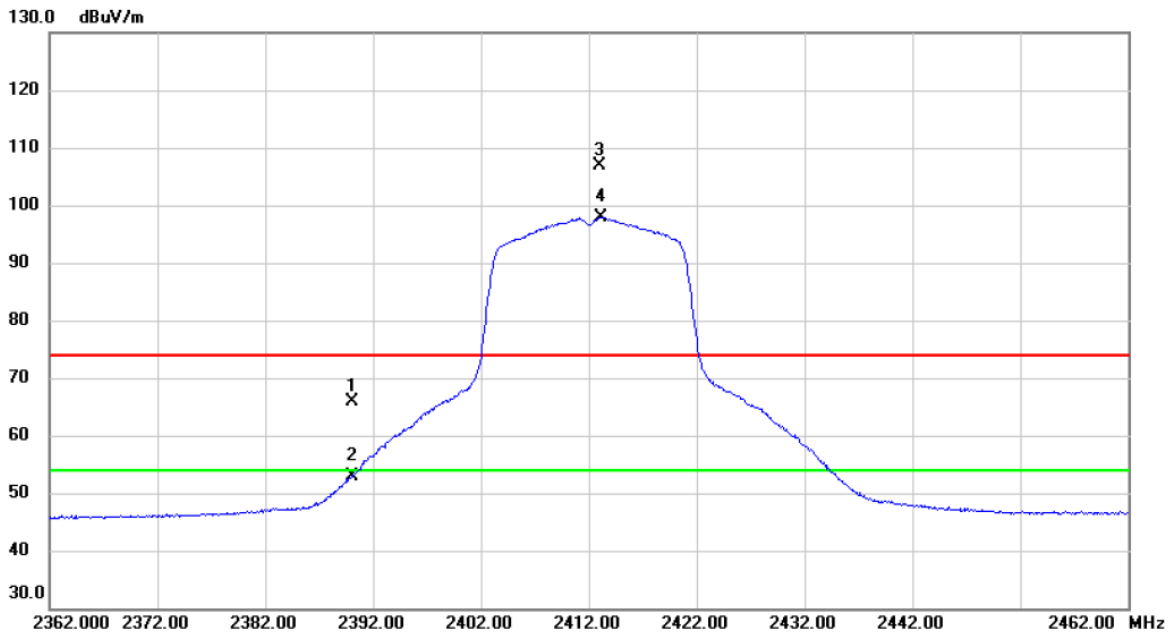
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
 Page: 81 of 106
 Date: Dec. 04, 2023

Radiated Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11n - HT20
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

CH01_Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	55.64	10.28	65.92	74.00	-8.08	peak	
2		2390.000	42.59	10.28	52.87	54.00	-1.13	AVG	
3	X	2413.000	96.54	10.36	106.90	74.00	32.90	peak	
4	*	2413.100	87.62	10.36	97.98	54.00	43.98	AVG	

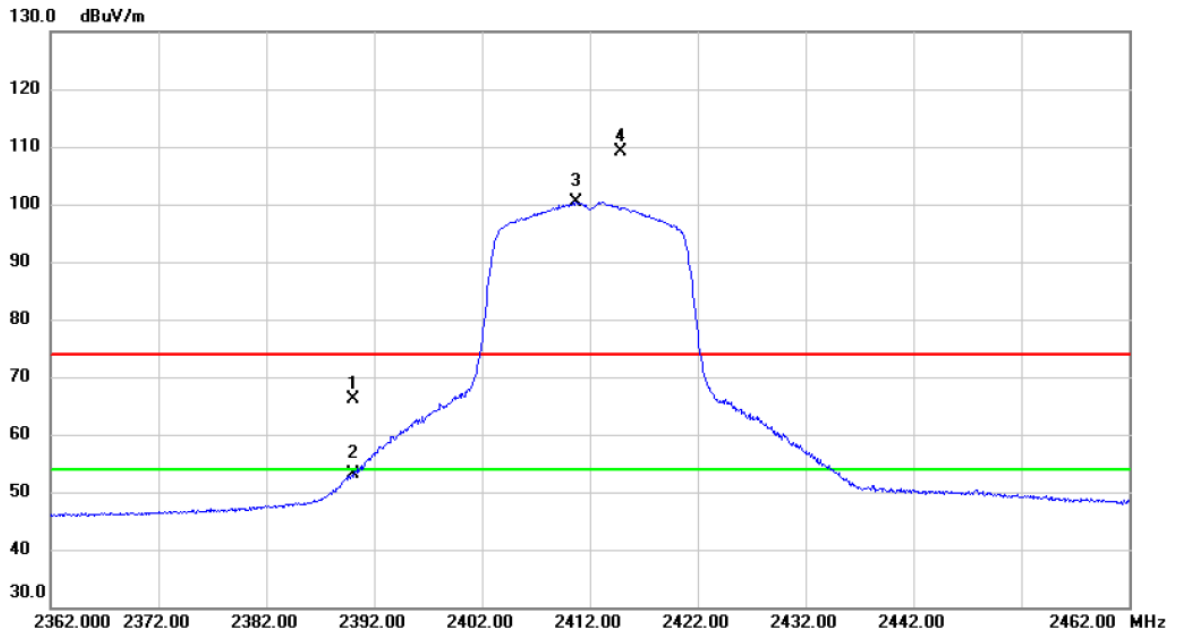


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TEST REPORT

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CH01_Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	55.87	10.28	66.15	74.00	-7.85	peak	
2		2390.000	42.87	10.28	53.15	54.00	-0.85	AVG	
3	*	2410.700	90.00	10.34	100.34	54.00	46.34	AVG	
4	X	2414.800	98.76	10.37	109.13	74.00	35.13	peak	

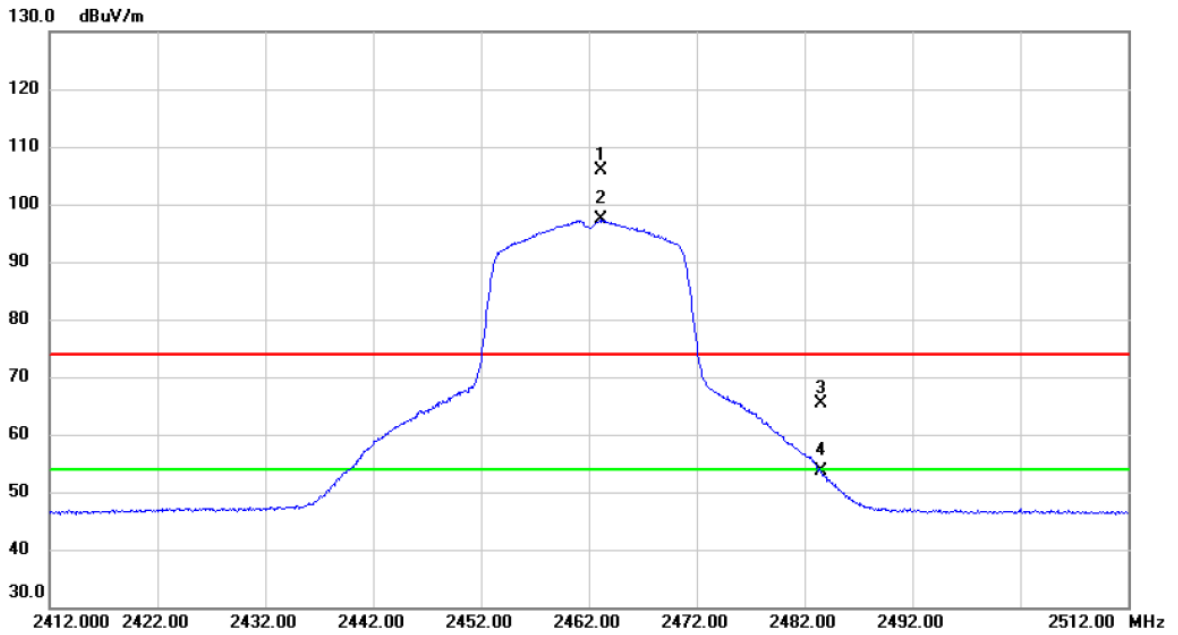


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TEST REPORT

Reference No.: A23111702
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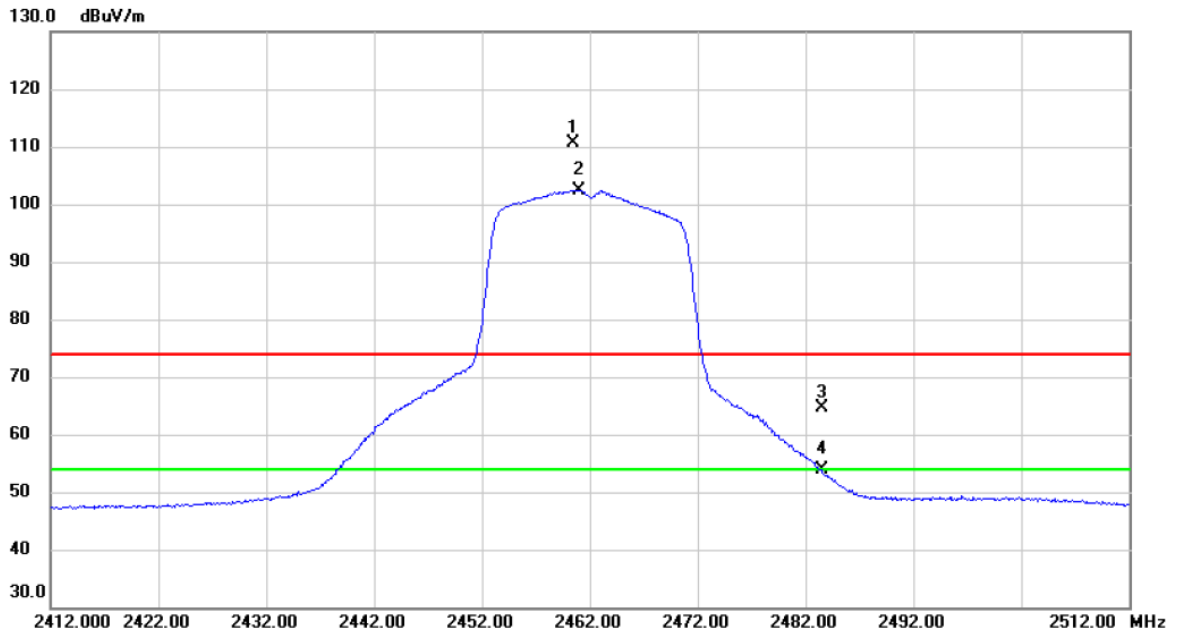
CH11_Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2463.100	95.29	10.62	105.91	74.00	31.91	peak	
2	*	2463.200	86.69	10.62	97.31	54.00	43.31	AVG	
3		2483.500	54.54	10.72	65.26	74.00	-8.74	peak	
4		2483.500	42.94	10.72	53.66	54.00	-0.34	AVG	



CH11_Vertical

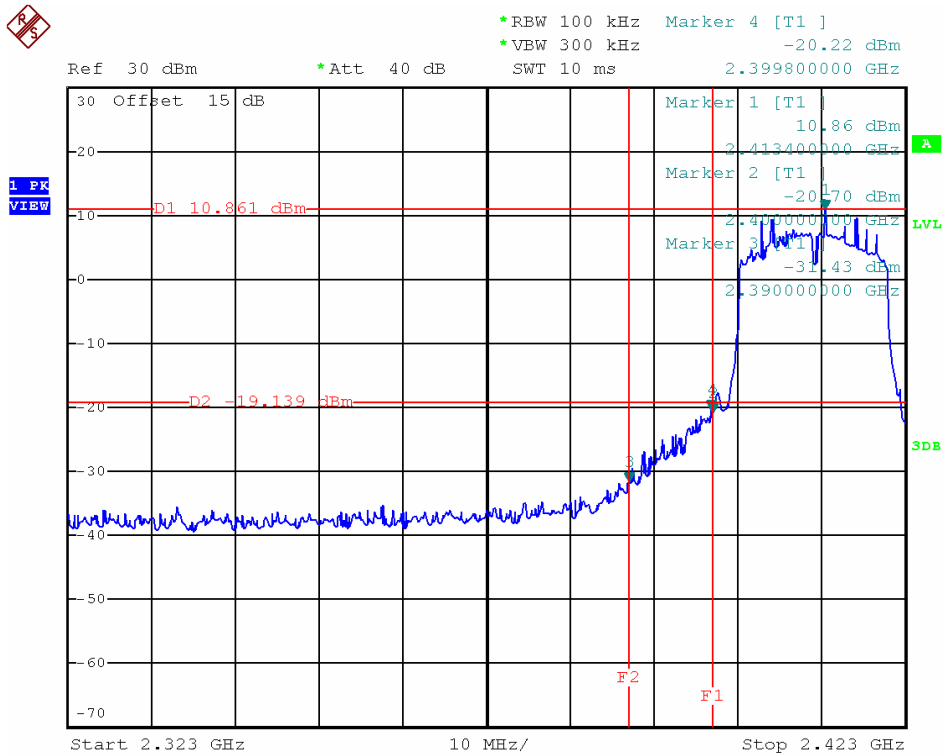


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2460.500	99.99	10.60	110.59	74.00	36.59	peak	
2	*	2461.000	91.88	10.61	102.49	54.00	48.49	AVG	
3		2483.500	53.86	10.72	64.58	74.00	-9.42	peak	
4		2483.500	43.07	10.72	53.79	54.00	-0.21	AVG	

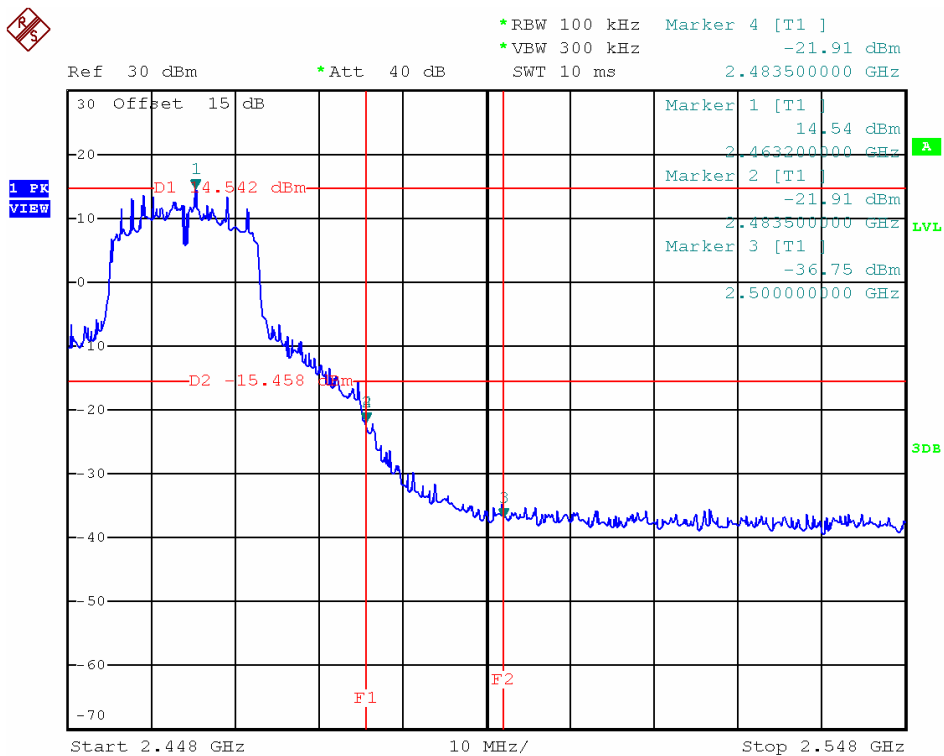
Note: Measurement uncertainty is 3.85 dB.



CH01 :



CH11 :





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TEST REPORT

Reference No.: A23111702
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Conducted Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11n - HT40
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

Maximum RF power within the frequency band			
upper edge band		lower edge band	
Frequency (MHz)	Power (dBm)	Frequency (MHz)	Power (dBm)
2412	2.80	2462	9.92

Frequency	Maximum RF power within any 100 kHz outside the frequency band	Test amplitude difference (dBc)	Limit in 4.10.1.5	Result
< 2.4 GHz	-38.46	35.66	20 dB	Pass
> 2.4835 GHz	-38.87	28.95	20 dB	Pass



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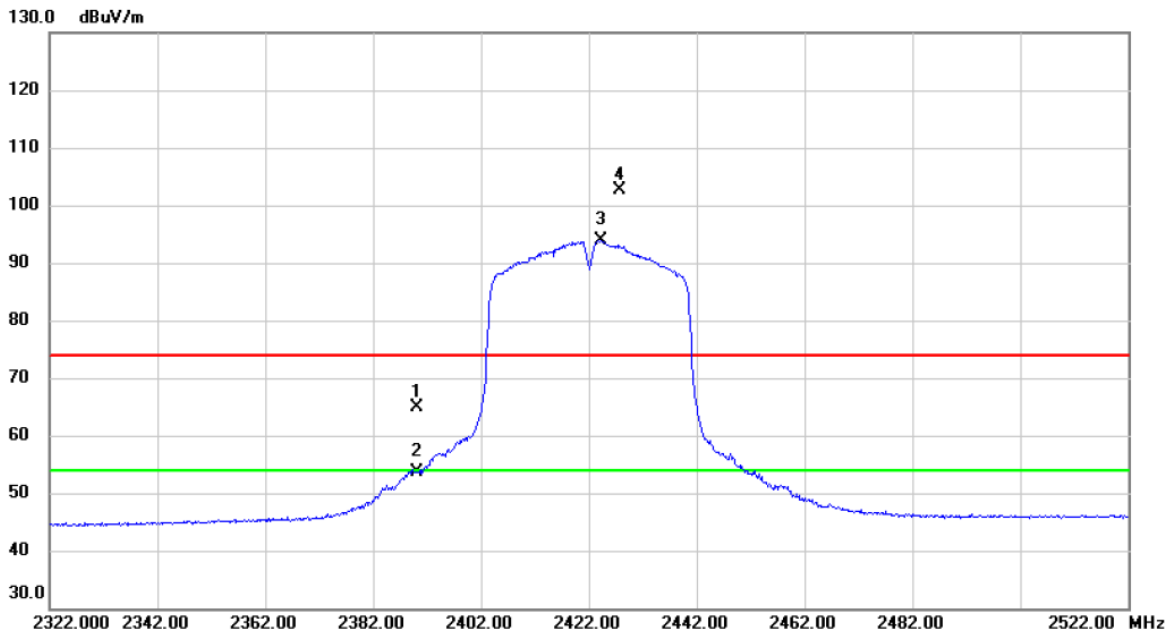
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Radiated Test

Temperature:	24 °C	Humidity:	70 %RH
Frequency Range:	2.3 ~ 2.6 GHz	Tested Mode:	802.11n - HT40
Detector Type:	PK. And AV.	IF Bandwidth:	100 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 23, 2023

CH03_Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		2390.000	54.55	10.28	64.83	74.00	-9.17	peak	
2		2390.000	43.30	10.28	53.58	54.00	-0.42	AVG	
3	*	2424.200	83.44	10.42	93.86	54.00	39.86	AVG	
4	X	2427.800	92.10	10.43	102.53	74.00	28.53	peak	

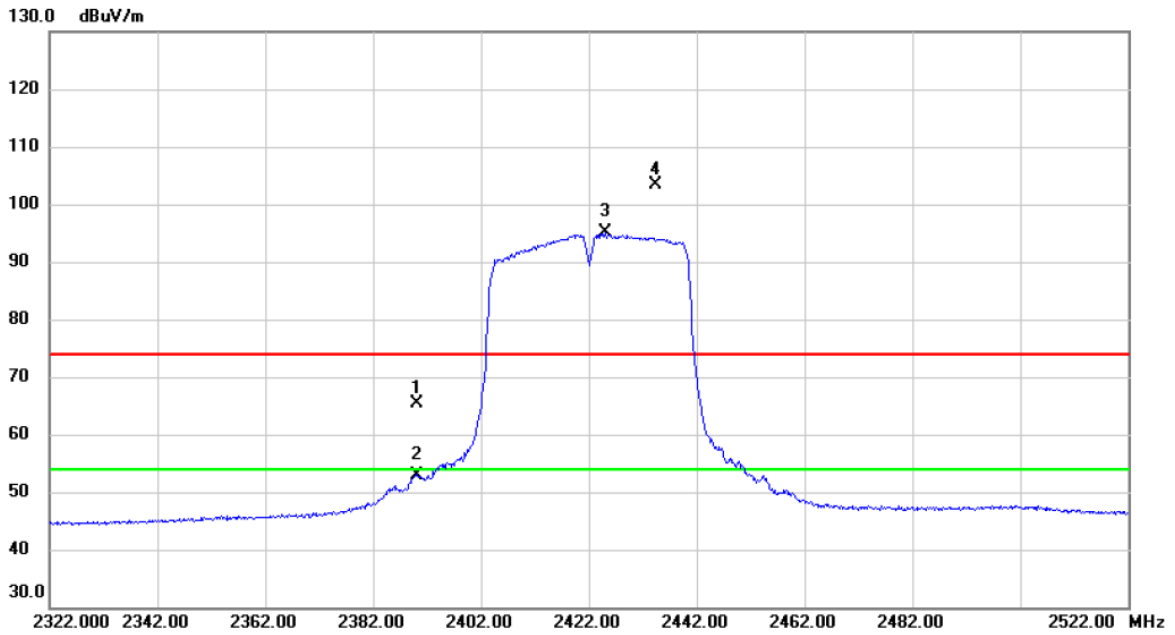


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TEST REPORT

Reference No.: A23111702
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CH03_Verical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2390.000	54.99	10.28	65.27	74.00	-8.73	peak	
2		2390.000	42.50	10.28	52.78	54.00	-1.22	AVG	
3	*	2425.000	84.59	10.42	95.01	54.00	41.01	AVG	
4	X	2434.400	92.97	10.47	103.44	74.00	29.44	peak	

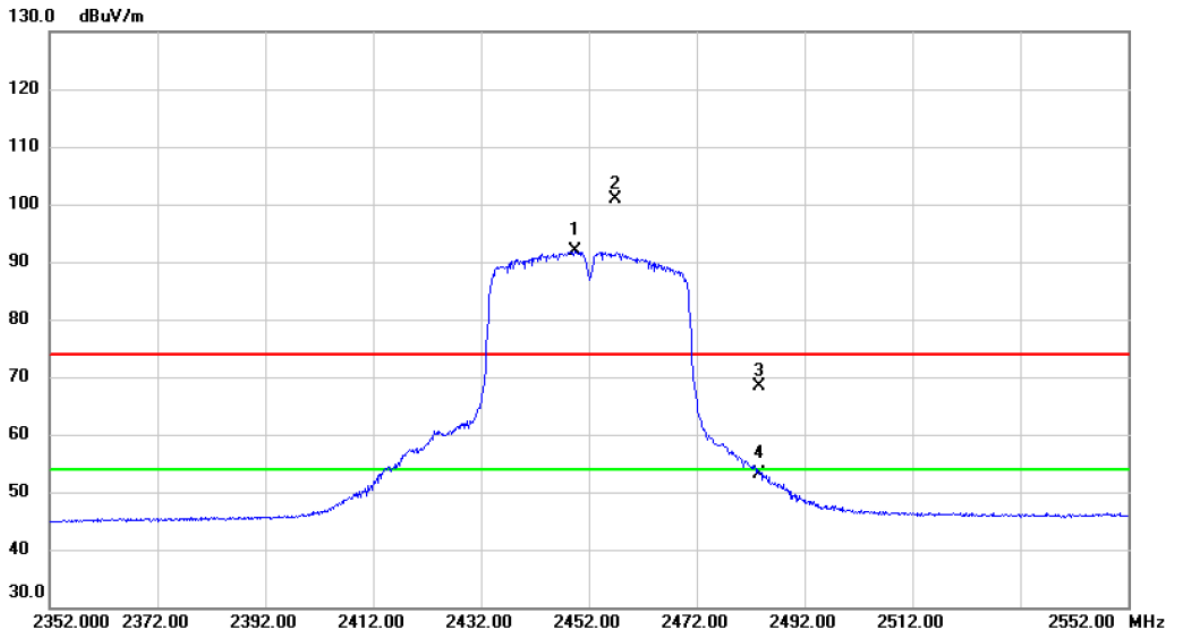


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TEST REPORT

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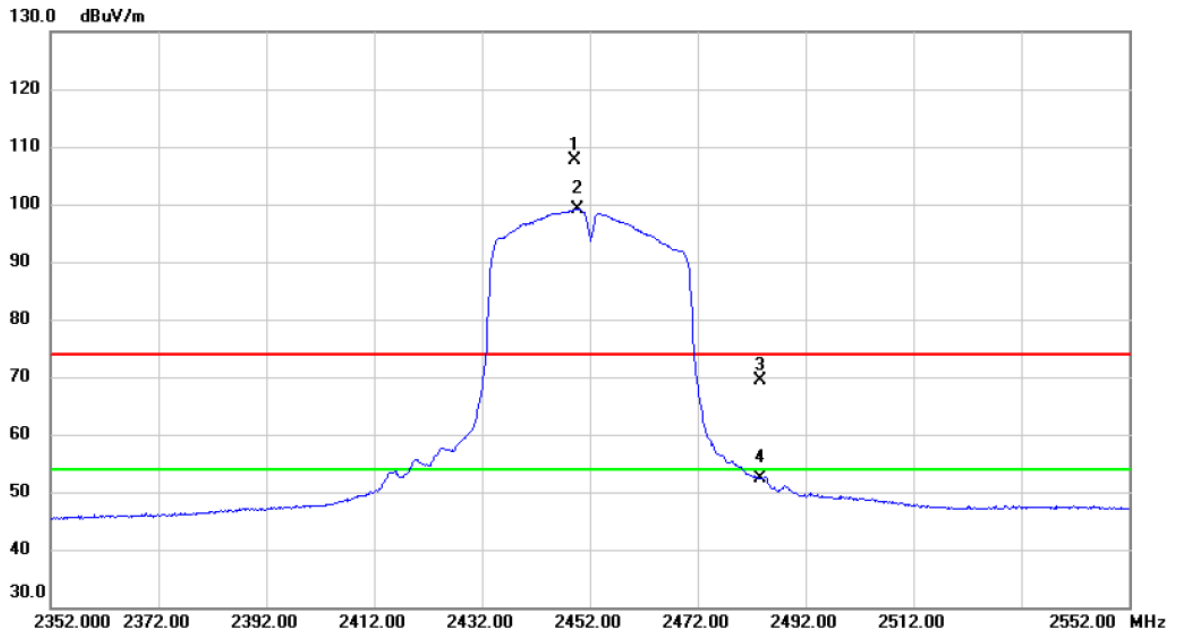
CH09_Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	2449.400	81.27	10.55	91.82	54.00	37.82	AVG	
2	X	2457.000	90.18	10.58	100.76	74.00	26.76	peak	
3		2483.500	57.65	10.72	68.37	74.00	-5.63	peak	
4		2483.500	42.30	10.72	53.02	54.00	-0.98	AVG	



CH09_Verical

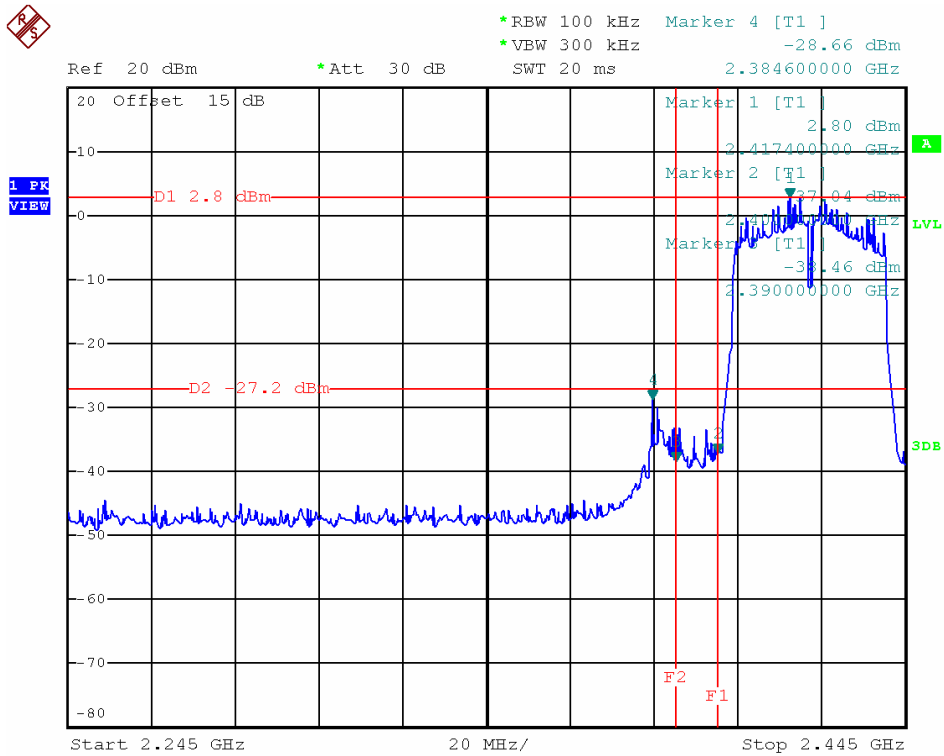


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	X	2449.200	97.03	10.55	107.58	74.00	33.58	peak	
2	*	2449.800	88.67	10.55	99.22	54.00	45.22	AVG	
3		2483.500	58.67	10.72	69.39	74.00	-4.61	peak	
4		2483.500	41.63	10.72	52.35	54.00	-1.65	AVG	

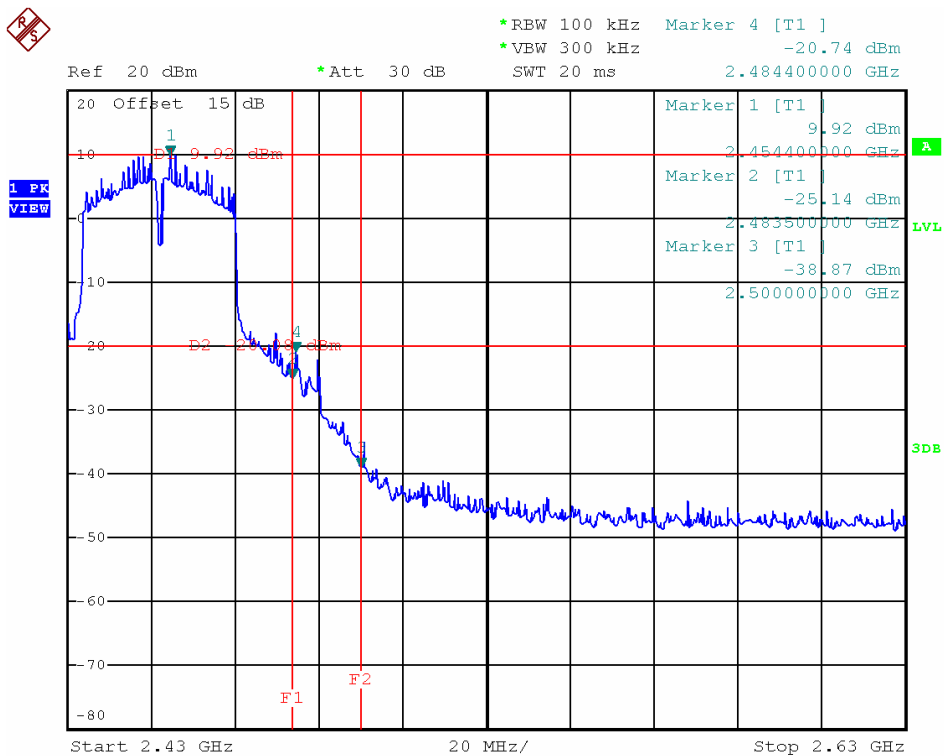
Note: Measurement uncertainty is 3.85 dB.



CH03



CH09





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TEST REPORT

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9 POWER SPECTRAL DENSITY TEST

9.1 LIMIT

FCC Part15, Subpart C Section 15.247(e).

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

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

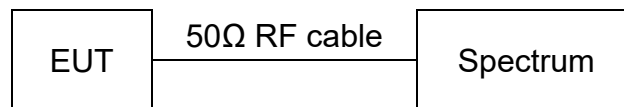
9.2 TEST EQUIPMENT

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

Equipment/ Facilities	Specifications	Manufacturer	Model #/ Serial #	Due Date of Cal. & Cal. Center
R&S spectrum Analyzer	9KHz ~ 30GHz	R & S	100854 / E007	JUN. 25, 2024 ETC

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

9.3 TEST SET-UP



9.4 TEST PROCEDURE

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

9.5 EUT OPERATING CONDITION

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



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TEST REPORT

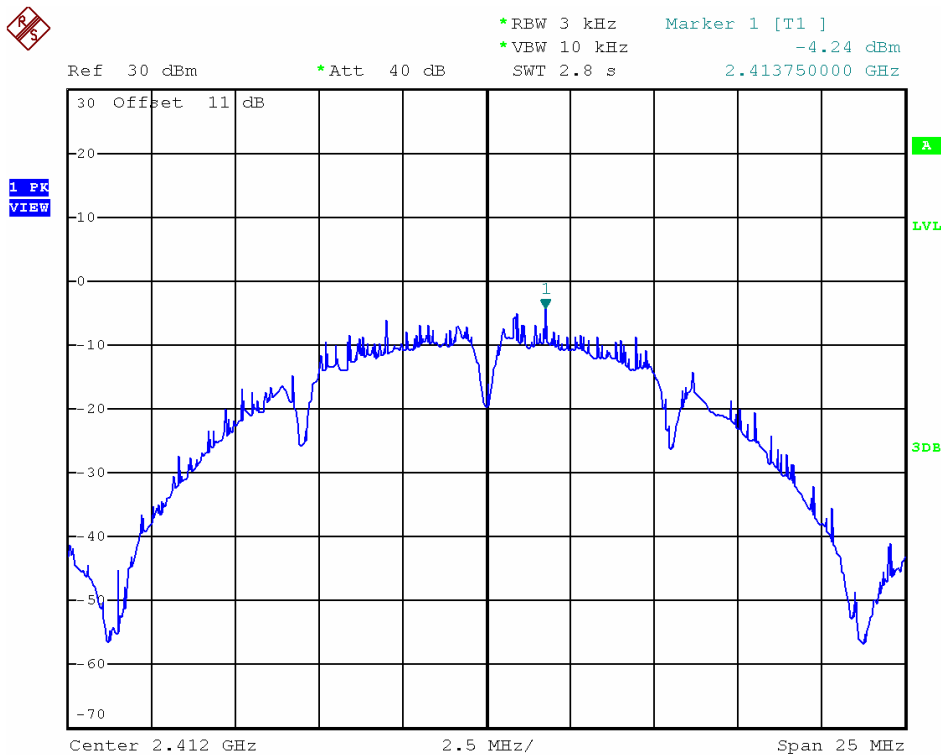
Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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9.6 TEST RESULT

Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11b
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

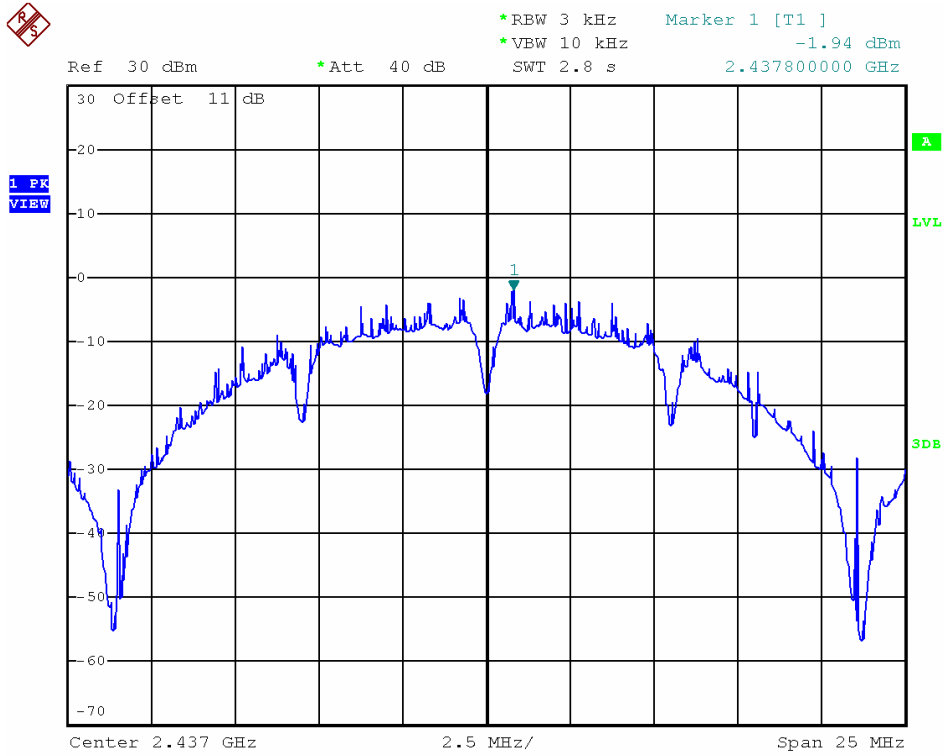
Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-4.24	8
CH06	2437	-1.94	8
CH11	2462	-2.81	8

CH01 :

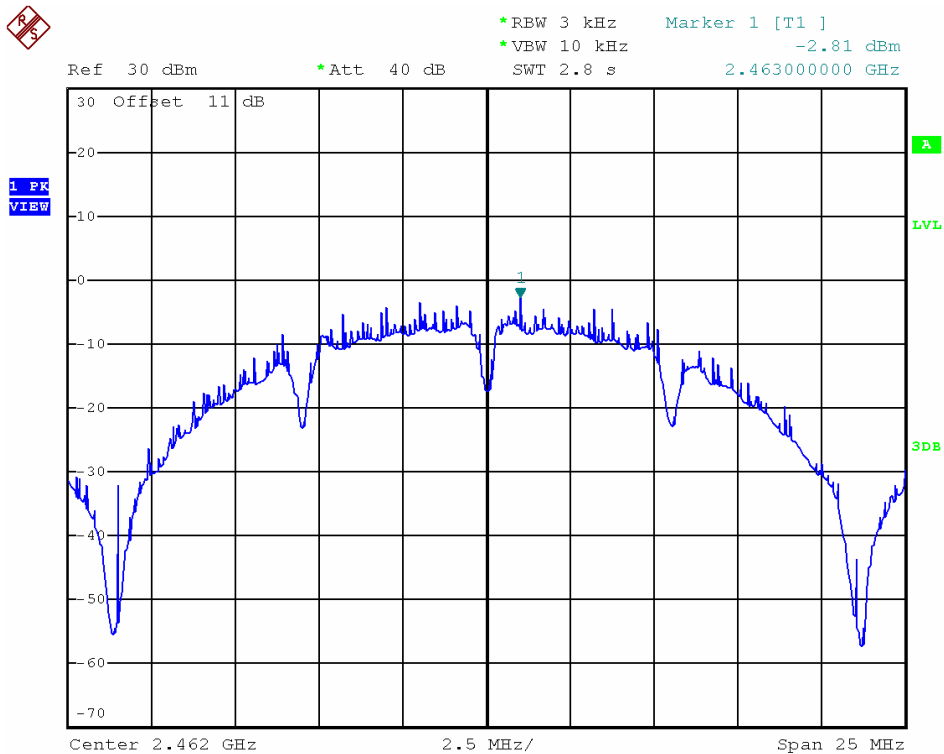




CH06 :



CH11 :





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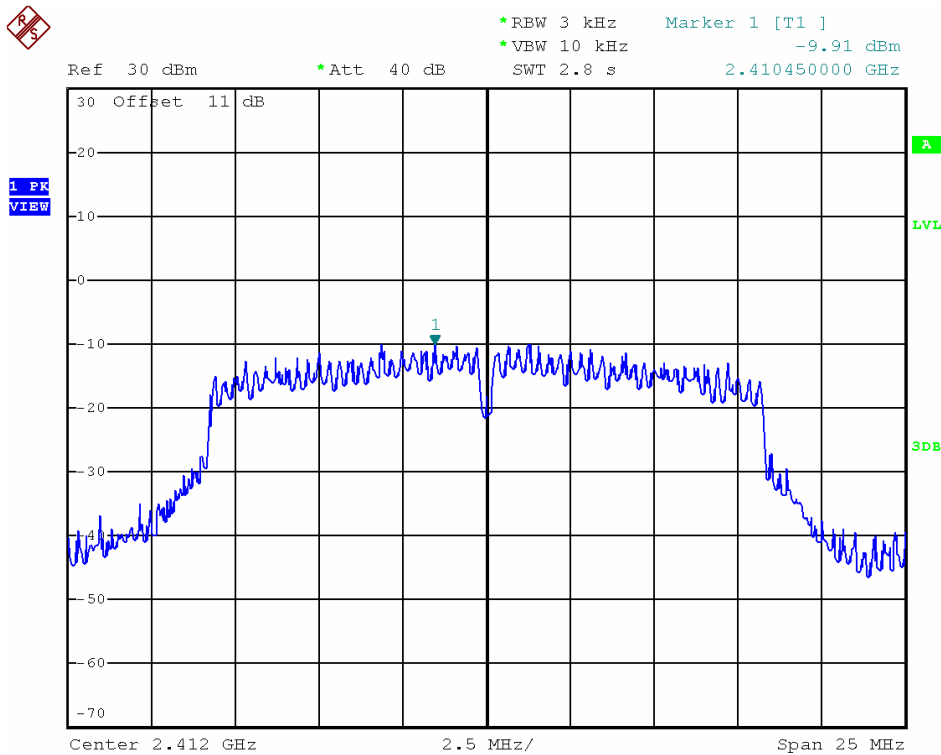
TEST REPORT

Reference No.: A23111702
 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11g
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-9.91	8
CH06	2437	-5.23	8
CH11	2462	-5.78	8

CH01 :



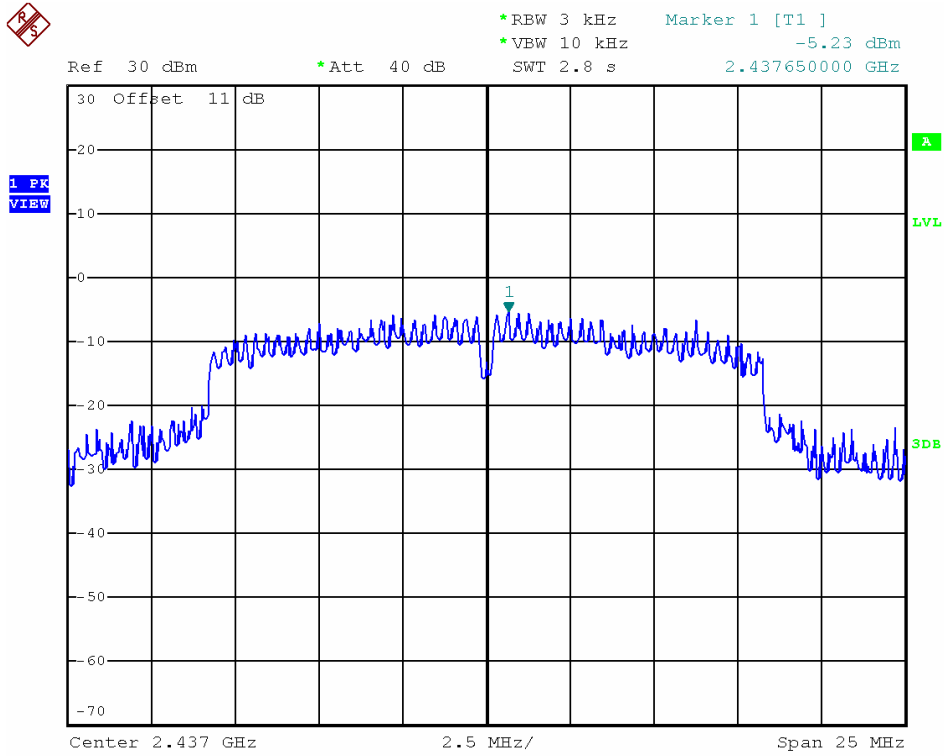


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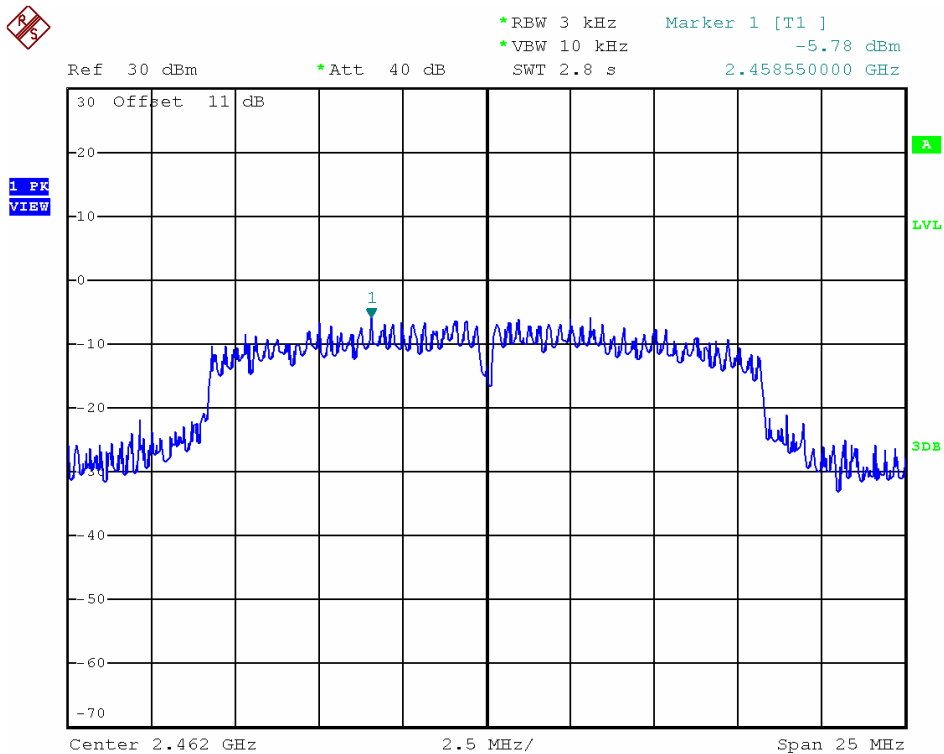
TEST REPORT

Reference No.: A23111702
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CH06 :



CH11 :





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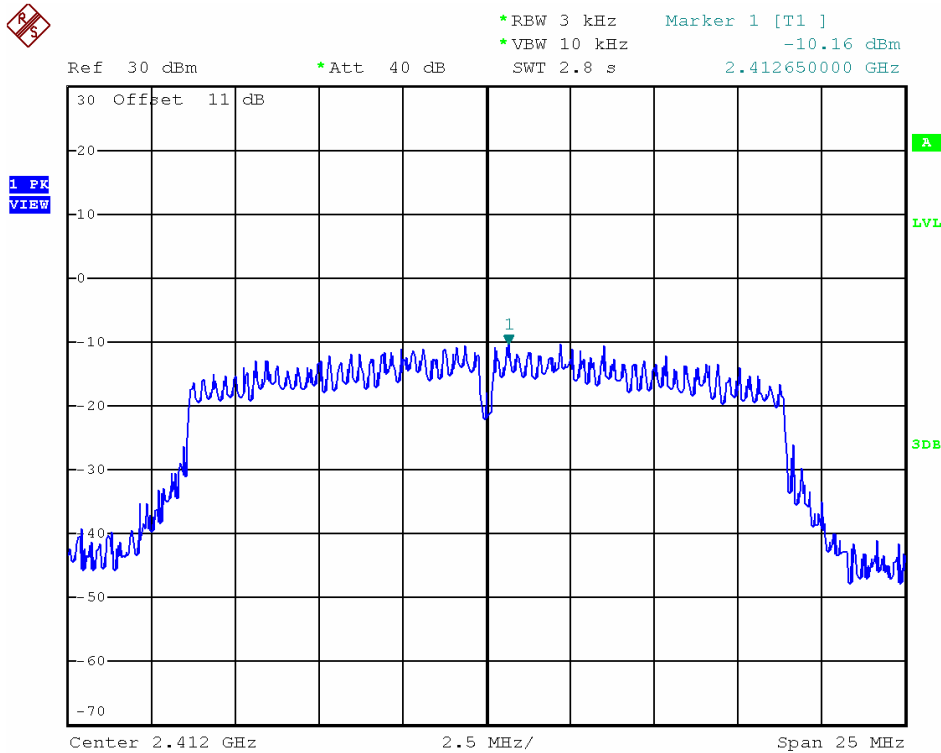
TEST REPORT

Reference No.: A23111702
Report No.: FCCA23111702-W0
FCC ID: 2AIMRRD10M
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Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11n - HT20_ANT1
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-10.14	8
CH06	2437	-6.41	8
CH11	2462	-5.61	8

CH01 :



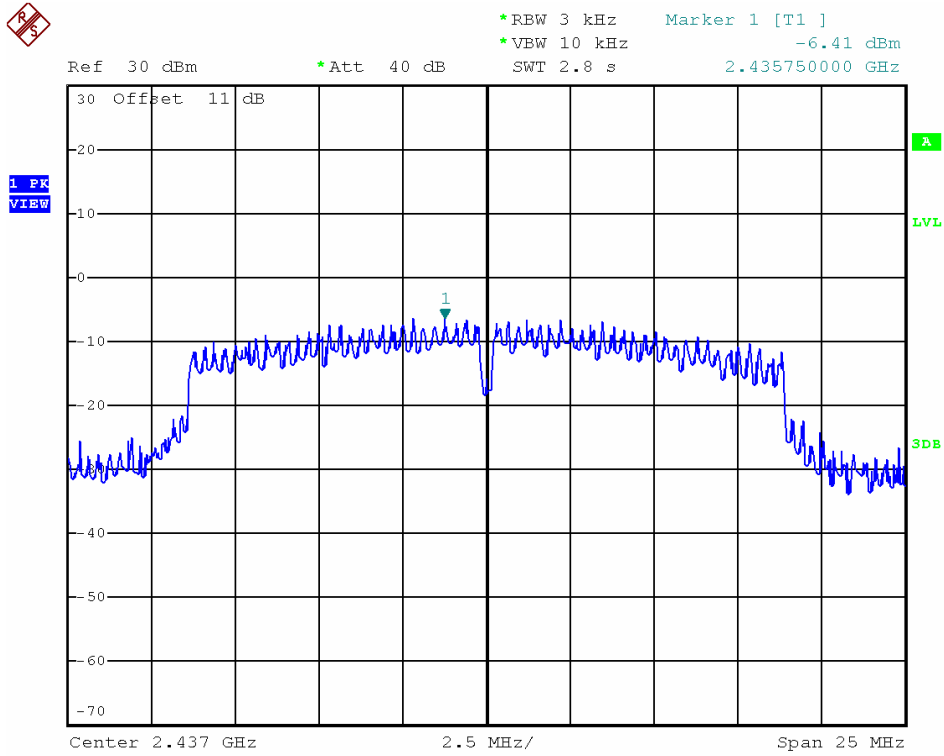


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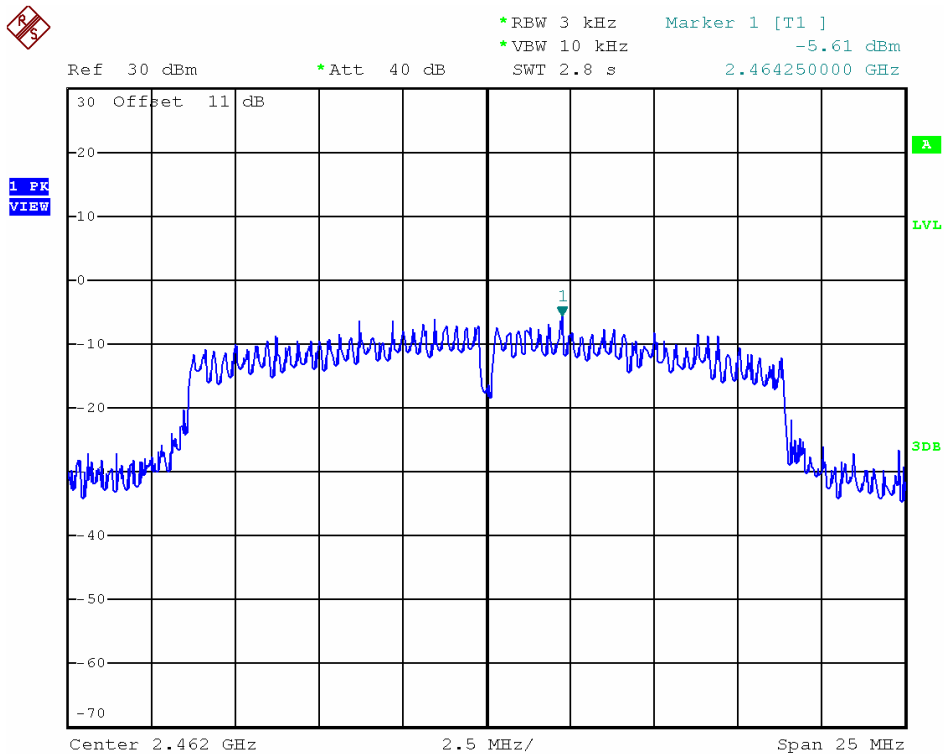
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CH06 :



CH11 :





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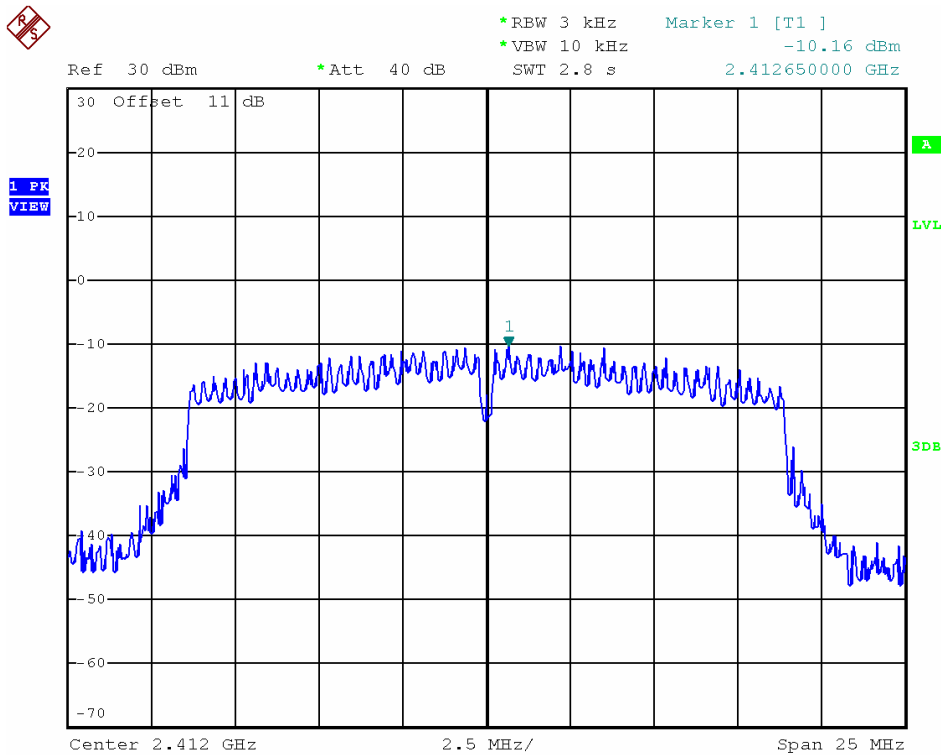
TEST REPORT

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Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11n - HT20_ANT2
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH01	2412	-10.16	8
CH06	2437	-6.41	8
CH11	2462	-5.61	8

CH01 :



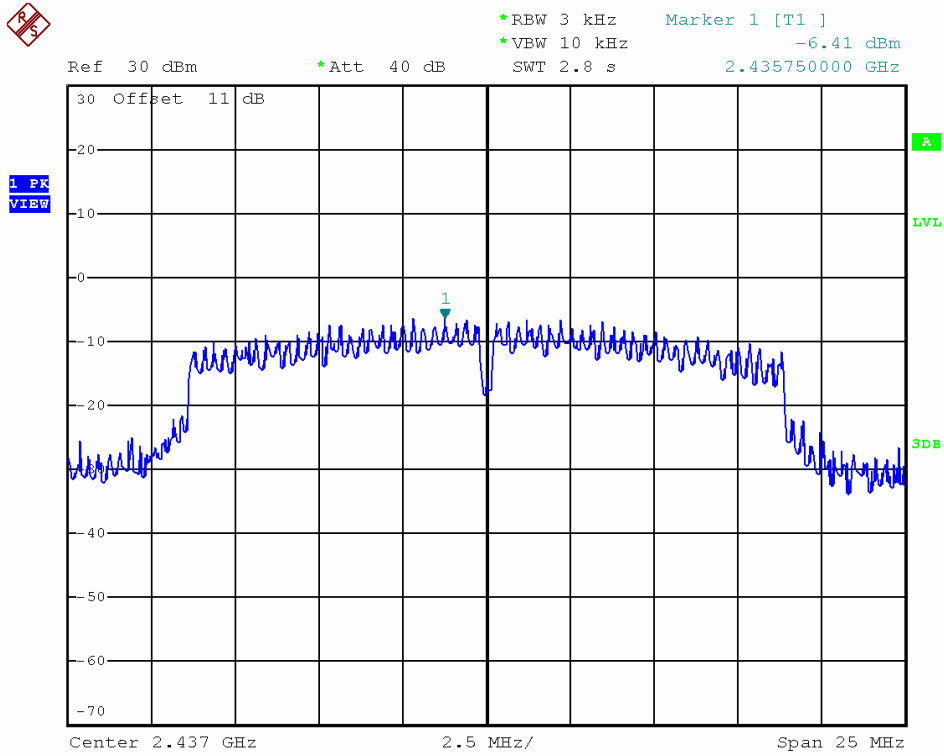


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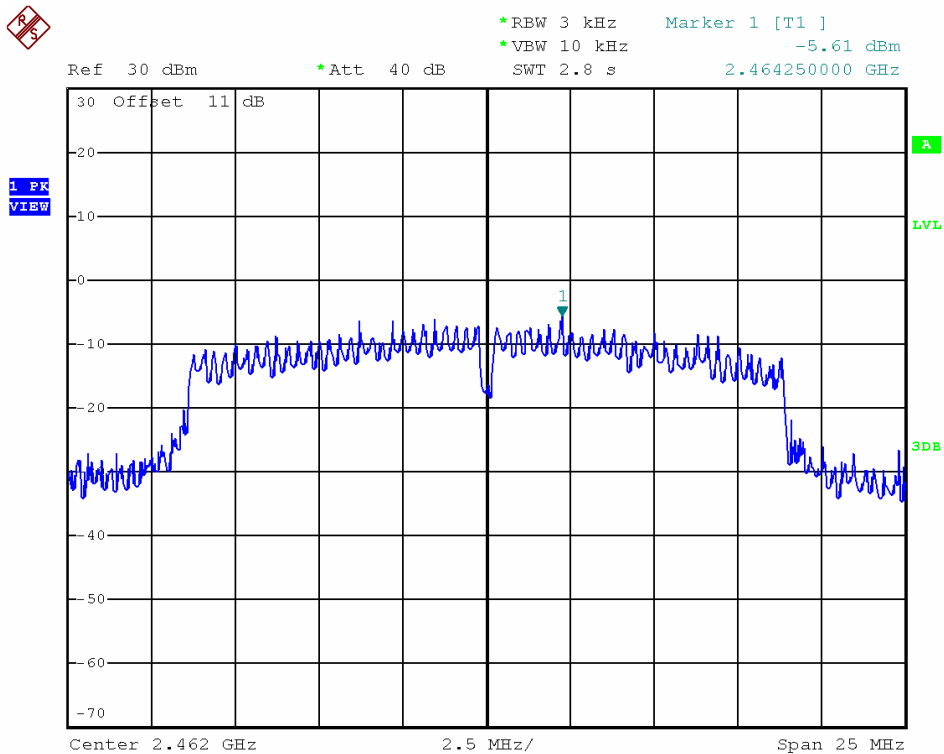
TEST REPORT

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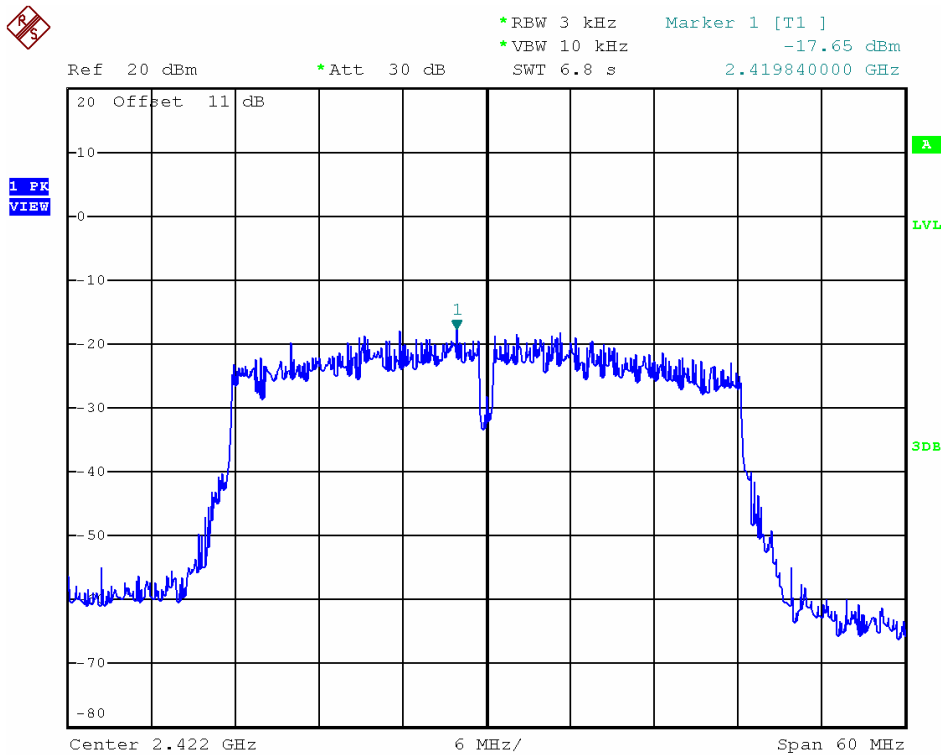
TEST REPORT

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 Report No.: FCCA23111702-W0
 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11n - HT40_ANT1
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH03	2422	-17.65	8
CH06	2437	-14.08	8
CH09	2452	-11.05	8

CH03 :



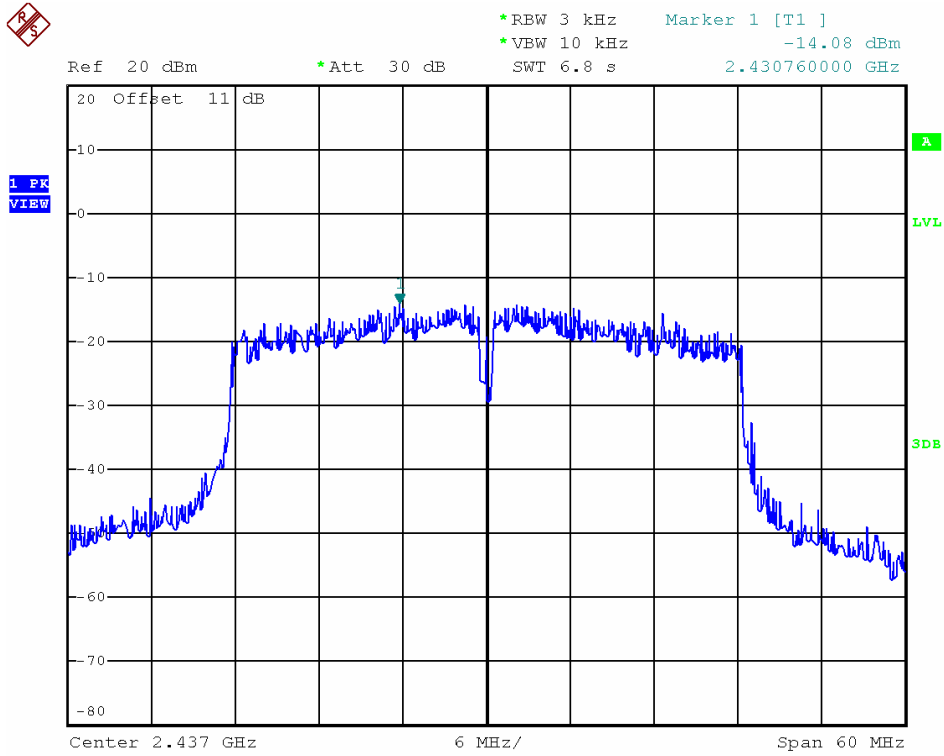


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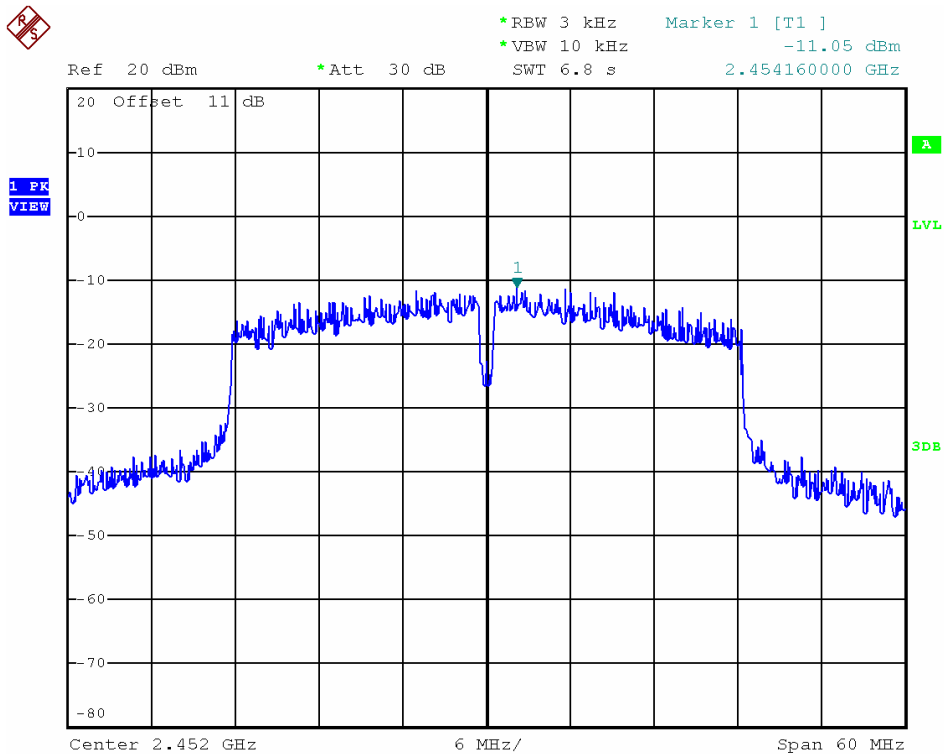
TEST REPORT

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CH06 :



CH09 :





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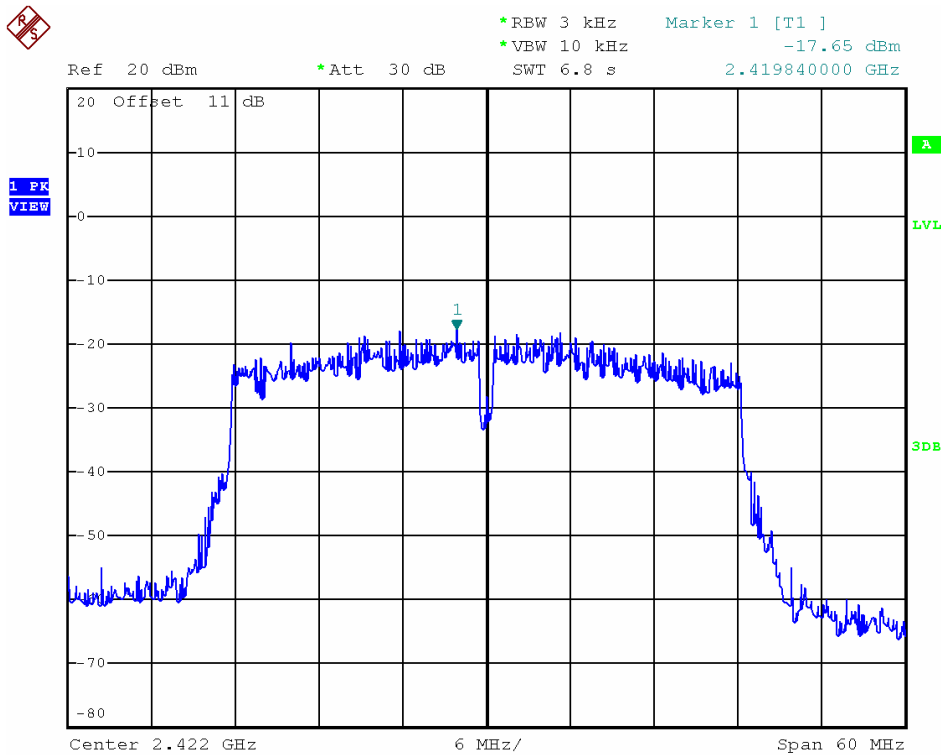
TEST REPORT

Reference No.: A23111702
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 FCC ID: 2AIMRRD10M
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 Date: Dec. 04, 2023

Temperature:	24 °C	Humidity:	70 %RH
Detector:	Peak	Test Mode:	802.11n - HT40_ANT2
RBW:	3 kHz	VBW:	10 kHz
Tested By:	Jimmy tseng	Tested Date:	Nov. 22, 2023

Channel Number	Channel Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)
CH03	2422	-17.65	8
CH06	2437	-14.08	8
CH09	2452	-11.05	8

CH03 :





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TEST REPORT

Reference No.: A23111702

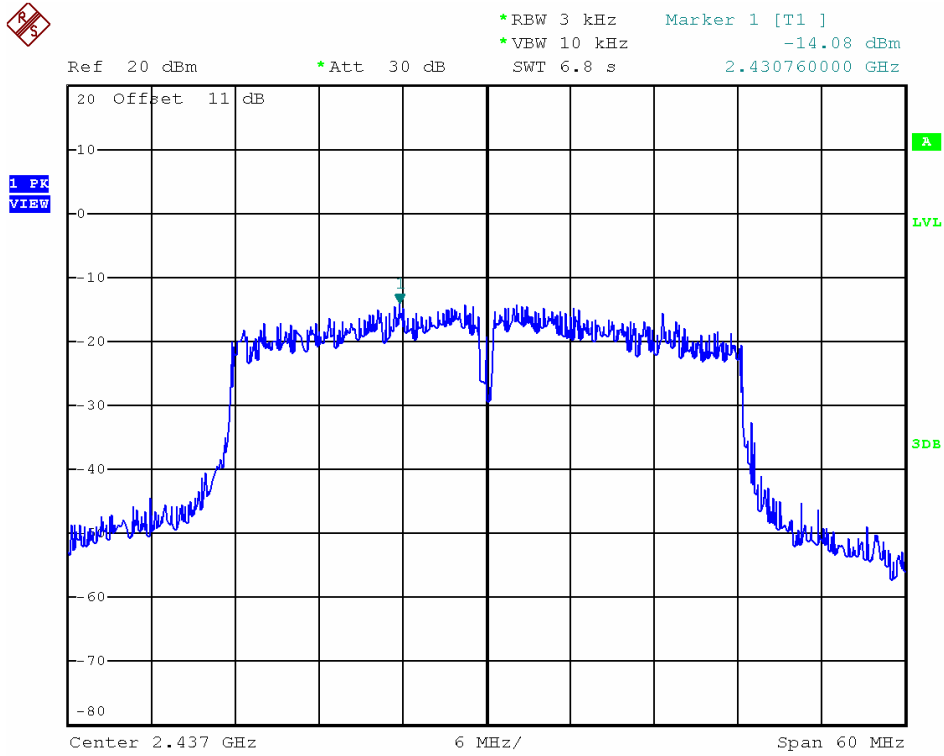
Report No.: FCCA23111702-W0

FCC ID: 2AIMRRD10M

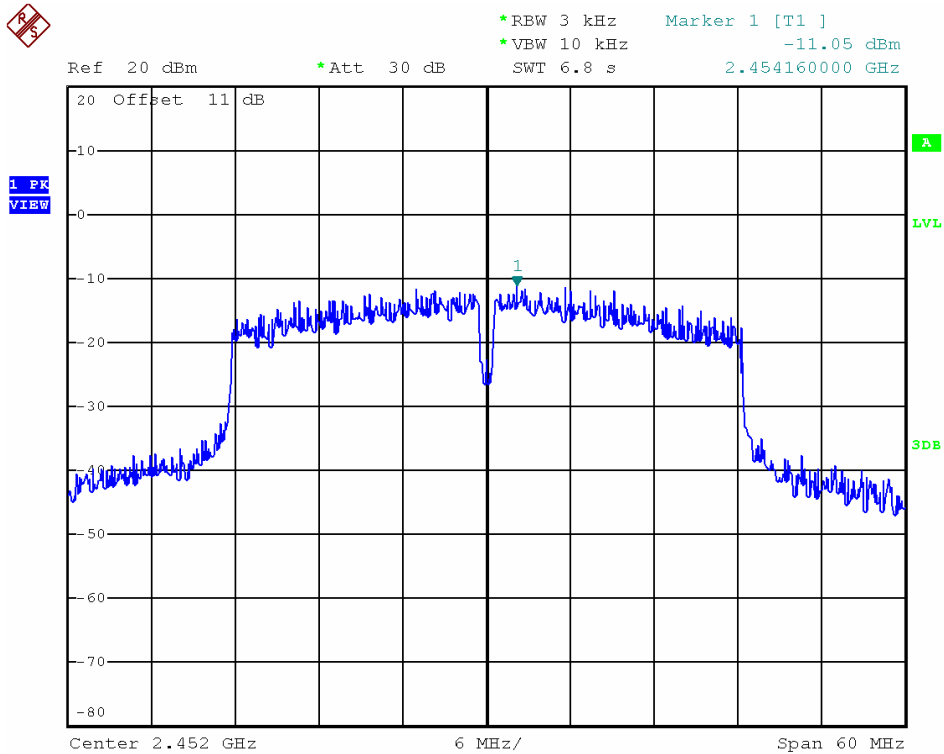
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Date: Dec. 04, 2023

CH06 :



CH09 :





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10 Antenna application

10.1 Antenna requirement

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

FCC Part 15C section 15.247 requirement:

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

10.2 Result

The EUT's antenna used a Dipole Antenna (ANT1: Brand:AZROAD, PN: Z01-20478-R01 Gain of 4.03 dBi and ANT2: Brand:AZROAD , PN: Z01-20479-R01 Gain of 3.77 dBi that meet the requirement.

11 Description of RF Exposure

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

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



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12 TERMS OF ABBREVIATION

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