

FCC Radio Test Report

FCC ID: LDKESPRD2922

Report No. : BTL-FCCP-3-2403T068
Equipment : UC Phone
Model Name : DP-9871
Brand Name :



Applicant : Cisco Systems Inc
Address : 125 West Tasman Drive San Jose, CA 95134-1706 United States

Radio Function : WLAN 2.4 GHz

FCC Rule Part(s) : FCC CFR Title 47, Part 15, Subpart C (15.247)
Measurement : ANSI C63.10-2013
Procedure(s)

Date of Receipt : 2024/3/12
Date of Test : 2024/3/21 ~ 2024/3/26
Issued Date : 2024/5/13

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

Prepared by : 
Eddie Lee, Engineer

Approved by : 
Jerry Chuang, Supervisor

**BTL Inc.**

No.18, Ln. 171, Sec. 2, Jiuzong Rd., Neihu Dist., Taipei City 114, Taiwan

Tel: +886-2-2657-3299 Fax: +886-2-2657-3331 Web: www.newbtl.com Service mail: btl_qa@newbtl.com

Declaration

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

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

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

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

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

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

Limitation

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

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

CONTENTS

REVISION HISTORY	5
1 SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
1.4 DUTY CYCLE	8
2 GENERAL INFORMATION	9
2.1 DESCRIPTION OF EUT	9
2.2 TEST MODES	10
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
2.4 SUPPORT UNITS	12
3 AC POWER LINE CONDUCTED EMISSIONS TEST	13
3.1 LIMIT	13
3.2 TEST PROCEDURE	13
3.3 DEVIATION FROM TEST STANDARD	13
3.4 TEST SETUP	14
3.5 TEST RESULT	14
4 RADIATED EMISSIONS TEST	15
4.1 LIMIT	15
4.2 TEST PROCEDURE	16
4.3 DEVIATION FROM TEST STANDARD	16
4.4 TEST SETUP	16
4.5 EUT OPERATING CONDITIONS	17
4.6 TEST RESULT – BELOW 30 MHZ	18
4.7 TEST RESULT – 30 MHZ TO 1 GHZ	18
4.8 TEST RESULT – ABOVE 1 GHZ	18
5 BANDWIDTH TEST	19
5.1 LIMIT	19
5.2 TEST PROCEDURE	19
5.3 DEVIATION FROM TEST STANDARD	19
5.4 TEST SETUP	19
5.5 EUT OPERATING CONDITIONS	19
5.6 TEST RESULT	19
6 OUTPUT POWER TEST	20
6.1 LIMIT	20
6.2 TEST PROCEDURE	20
6.3 DEVIATION FROM TEST STANDARD	20
6.4 TEST SETUP	20
6.5 EUT OPERATING CONDITIONS	20
6.6 TEST RESULT	20
7 POWER SPECTRAL DENSITY	21
7.1 LIMIT	21
7.2 TEST PROCEDURE	21
7.3 DEVIATION FROM TEST STANDARD	21
7.4 TEST SETUP	21
7.5 EUT OPERATING CONDITIONS	21
7.6 TEST RESULT	21

8	ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST	22
8.1	LIMIT	22
8.2	TEST PROCEDURE	22
8.3	DEVIATION FROM TEST STANDARD	22
8.4	TEST SETUP	22
8.5	EUT OPERATING CONDITIONS	22
8.6	TEST RESULT	22
9	LIST OF MEASURING EQUIPMENTS	23
10	EUT TEST PHOTO	25
11	EUT PHOTOS	25
APPENDIX A	AC POWER LINE CONDUCTED EMISSIONS	26
APPENDIX B	RADIATED EMISSIONS - 9 KHZ TO 30 MHZ	31
APPENDIX C	RADIATED EMISSIONS - 30 MHZ TO 1 GHZ	36
APPENDIX D	RADIATED EMISSIONS - ABOVE 1 GHZ	39
APPENDIX E	BANDWIDTH	66
APPENDIX F	OUTPUT POWER	70
APPENDIX G	POWER SPECTRAL DENSITY	72
APPENDIX H	ANTENNA CONDUCTED SPURIOUS EMISSIONS	76

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2403T068	R00	Original Report.	2024/4/25	Invalid
BTL-FCCP-3-2403T068	R01	Revised Typo.	2024/5/13	Valid

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

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

NOTE:

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

1.1 TEST FACILITY

The test locations stated below are under the TAF Accreditation Number 0659.

The test location(s) used to collect the test data in this report are:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☒ C05 ☐ CB08 ☐ CB11 ☐ SR10 ☒ SR11

No. 72, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☐ C06 ☒ CB21 ☐ CB22

1.2 MEASUREMENT UNCERTAINTY

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

A. AC power line conducted emissions test:

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

B. Radiated emissions test :

Test Site	Measurement Frequency Range	U (dB)
CB21	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21
	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

C. Conducted test :

Test Item	U (dB)
Occupied Bandwidth	0.5334
Output power	0.3669
Power Spectral Density	0.6591
Conducted Spurious emissions	0.5416
Conducted Band edges	0.5348

NOTE:

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

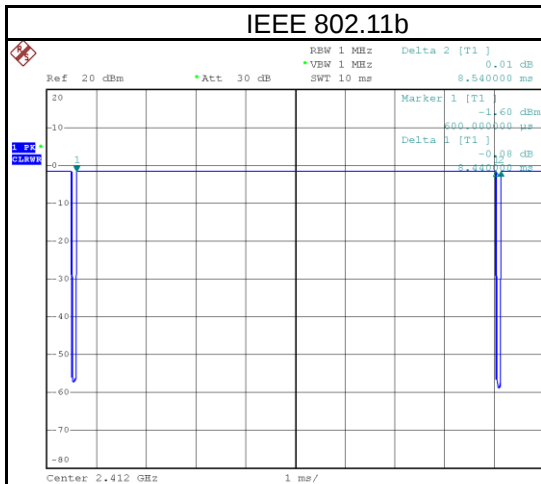
1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	21 °C, 42 %	AC 120V	Ken Lan
Radiated emissions below 1 GHz	Refer to data	AC 120V	Mark Wang Sean Huang
Radiated emissions above 1 GHz	Refer to data	AC 120V	Mark Wang Sean Huang
Bandwidth	24.6 °C, 47 %	AC 120V	Ken Lan
Output Power	25.8 °C, 54 %	AC 120V	Ken Lan
Power Spectral Density	24.6 °C, 47 %	AC 120V	Ken Lan
Antenna conducted Spurious Emission	24.6 °C, 47 %	AC 120V	Ken Lan

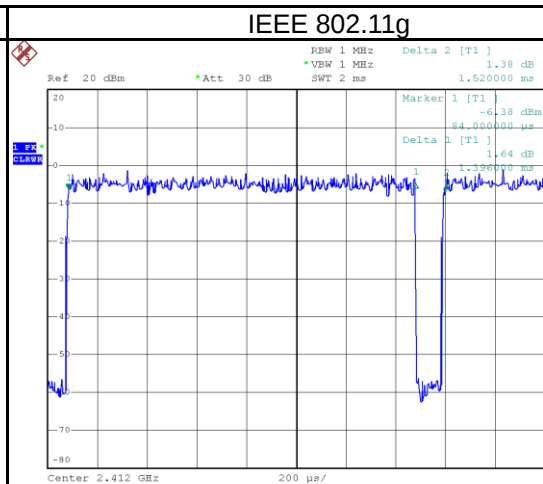
1.4 DUTY CYCLE

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

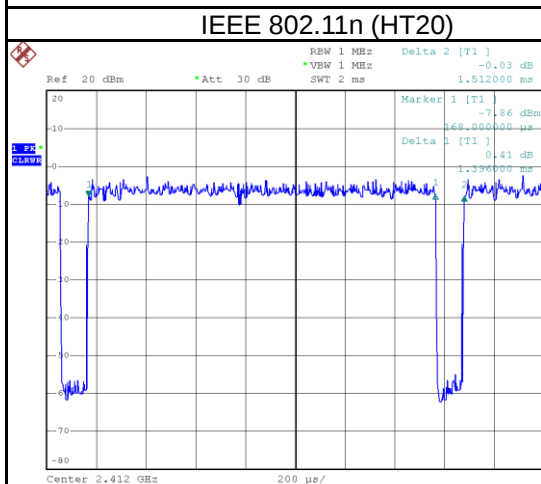
Remark	Delta 1			Delta 2	On Time/Period	10 log(1/Duty Cycle)
Mode	ON (ms)	Numbers (ON)	On Time (B) (ms)	Period (ON+OFF) (ms)	Duty Cycle (%)	Duty Factor (dB)
IEEE 802.11b	8.440	1	8.440	8.540	98.83%	0.05
IEEE 802.11g	1.396	1	1.396	1.520	91.84%	0.37
IEEE 802.11n (HT20)	1.396	1	1.396	1.512	92.33%	0.35



Date: 22.MAR.2024 19:49:58



Date: 22.MAR.2024 19:52:18



Date: 22.MAR.2024 19:54:18

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	UC Phone
Model Name	DP-9871
Brand Name	
Model Difference	N/A
Power Source	#1 DC voltage supplied from AC/DC Adapter. # 2 DC Voltage supplied from PoE Adapter.
Power Rating	#1 I/P: 100-240V~0.5A 50-60Hz O/P: 48.0V---0.42A #2 I/P: 48V---0.42A
Products Covered	1 * AC/DC Adapter: PHIHONG / PSAA20R-480L6C 1 * Handset 1 * Wall Mount Kit 1 * LAN Cable
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Technology	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Transfer Rate	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 72.2 Mbps
Output Power Max.	IEEE 802.11b: 16.97 dBm (0.0498 W) IEEE 802.11g: 13.97 dBm (0.0249 W) IEEE 802.11n (HT20): 11.91 dBm (0.0155 W)
Test Software Version	Tera Term Version 4.105
Test Model	DP-9871
Sample Status	Engineering Sample
EUT Modification(s)	N/A

NOTE:

(1) The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

(2) Channel List:

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

(3) Table for Filed Antenna:

Antenna	Brand	Model Name	Antenna Type	Connector	Frequency (MHz)	Gain (dBi)
1	Foxconn	NFSP-202310 16003	Dipole (On-Board)	N/A	2400 - 2483.5	3.22

(4) The above Antenna information are derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

2.2 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	TX Mode_ IEEE 802.11b	06	-
Transmitter Radiated Emissions (above 1GHz)	TX Mode_ IEEE 802.11b	01/11	Bandedge
	TX Mode_ IEEE 802.11g		
	TX Mode_ IEEE 802.11n (HT20)		
Transmitter Radiated Emissions (above 1GHz)	TX Mode_ IEEE 802.11b	01/06/11	Harmonic
	TX Mode_ IEEE 802.11g		
	TX Mode_ IEEE 802.11n (HT20)		
Transmitter Radiated Emissions (above 18GHz)	TX Mode_ IEEE 802.11b	06	-
Bandwidth & Output Power & Power Spectral Density & Antenna conducted Spurious Emission	TX Mode_ IEEE 802.11b	01/06/11	-
	TX Mode_ IEEE 802.11g		
	TX Mode_ IEEE 802.11n (HT20)		

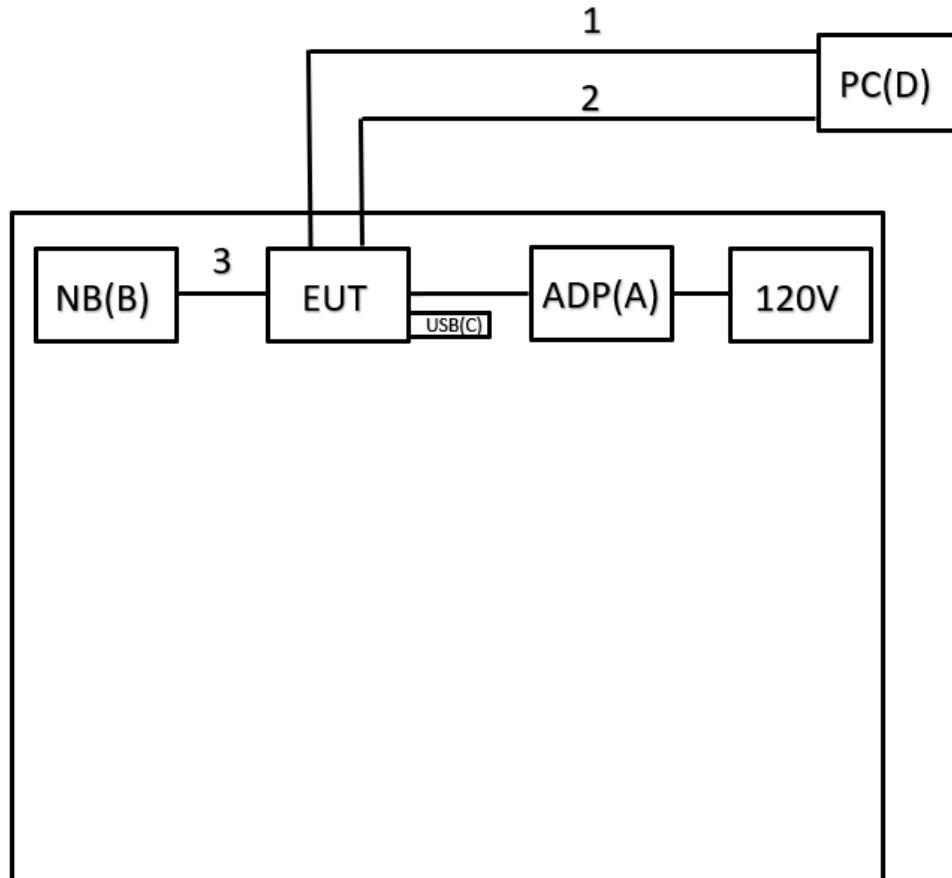
NOTE:

- (1) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.
- (2) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.

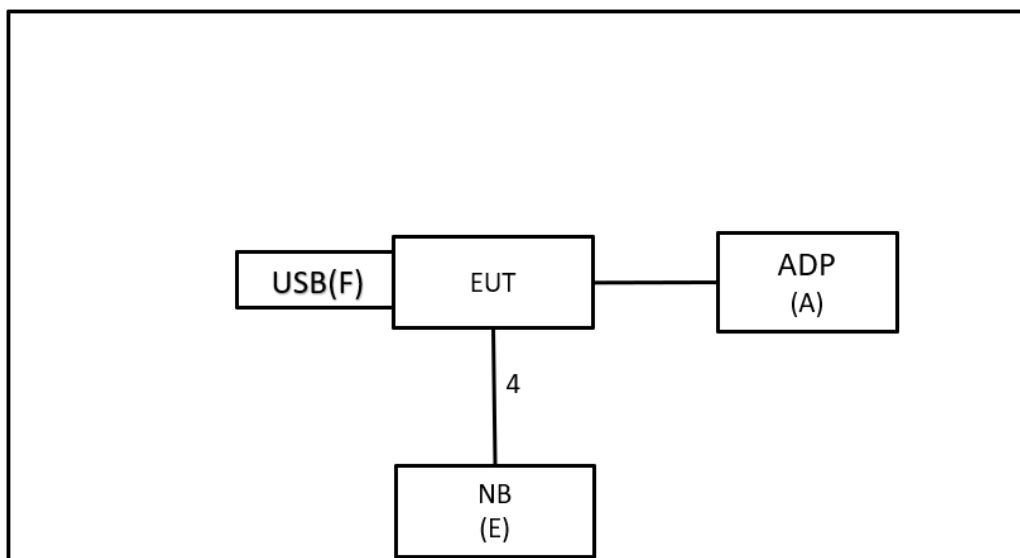
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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

AC power line conducted emissions



Radiated Emissions



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	SHITCHING POWER SUPPLY	PHIHONG	PSAA20R-480L6C	N/A	Supplied by test requester
B	NB	HP	TPN-125	N/A	Furnished by test lab.
C	USB	Kingston	DT50	N/A	Furnished by test lab.
D	PC	FUJITSU	PRIMERGY TXI 310 MI	N/A	Furnished by test lab.
E	NB	HP	TPN-I119	N/A	Furnished by test lab.
F	USB	ADATA	UV150	N/A	Furnished by test lab.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	No	No	5m	LAN Cable	Furnished by test lab.
2	No	No	5m	LAN Cable	Furnished by test lab.
3	No	No	0.6m	Cable	Furnished by test lab.
4	No	No	1.8m	LAN Cable	Supplied by test requester

3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

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

NOTE:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)
 Margin Level = Measurement Value – Limit Value
 Calculation example:

Reading Level (dBμV)		Correct Factor (dB)		Measurement Value (dBμV)
38.22	+	3.45	=	41.67

Measurement Value (dBμV)		Limit Value (dBμV)		Margin Level (dB)
41.67	-	60	=	-18.33

The following table is the setting of the receiver.

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

3.2 TEST PROCEDURE

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

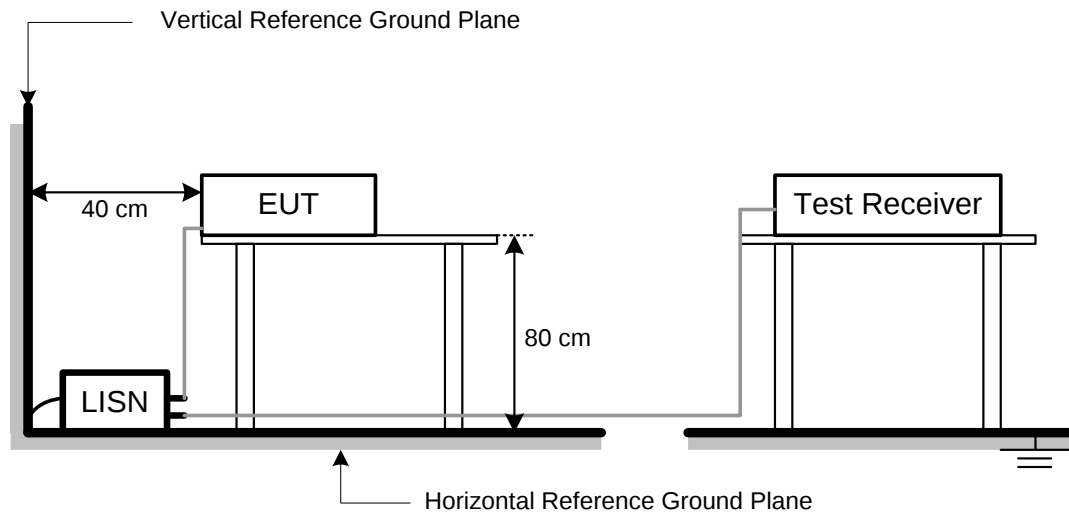
NOTE:

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

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 TEST RESULT

Please refer to the APPENDIX A.

4 RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

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

NOTE:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

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

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level (dBuV)		Correct Factor (dB)		Measurement Value (dBuV/m)
19.11	+	2.11	=	21.22

Measurement Value (dBuV/m)		Limit Value (dBuV/m)		Margin Level (dB)
21.22	-	54	=	-32.78

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

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

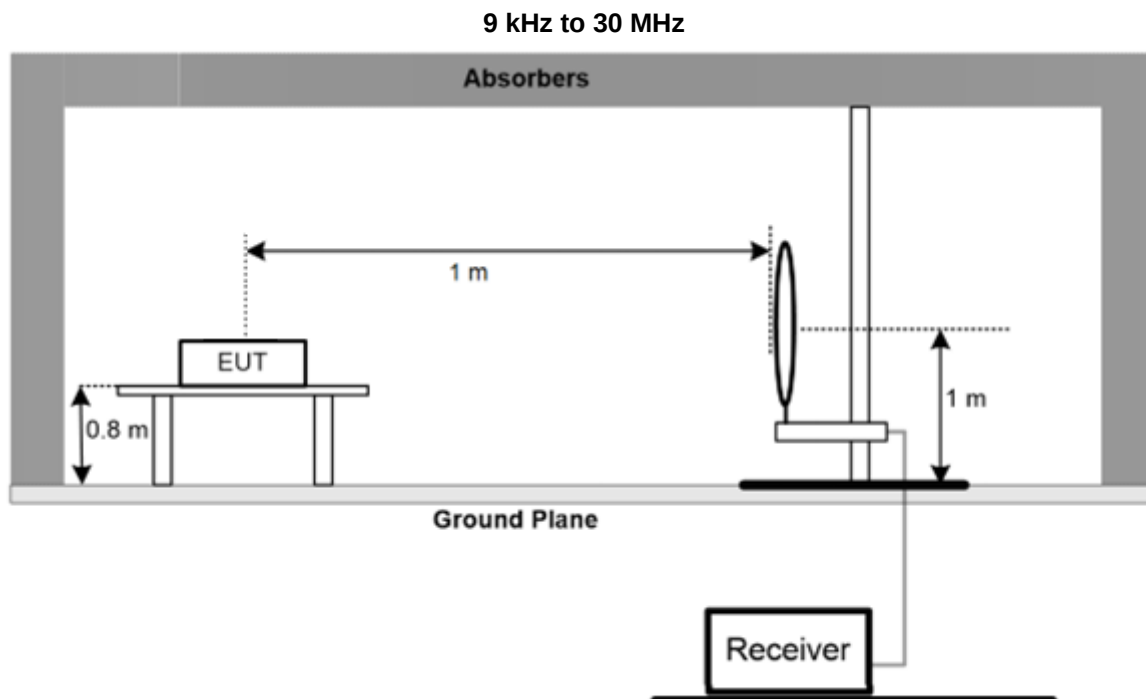
4.2 TEST PROCEDURE

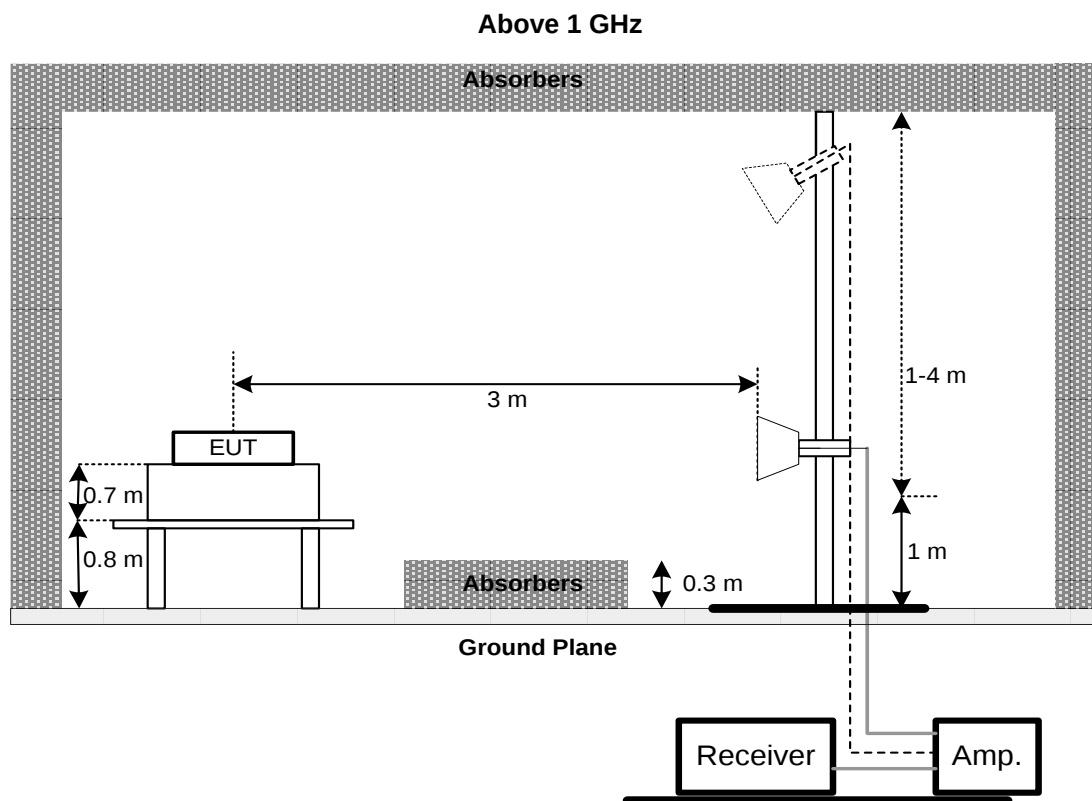
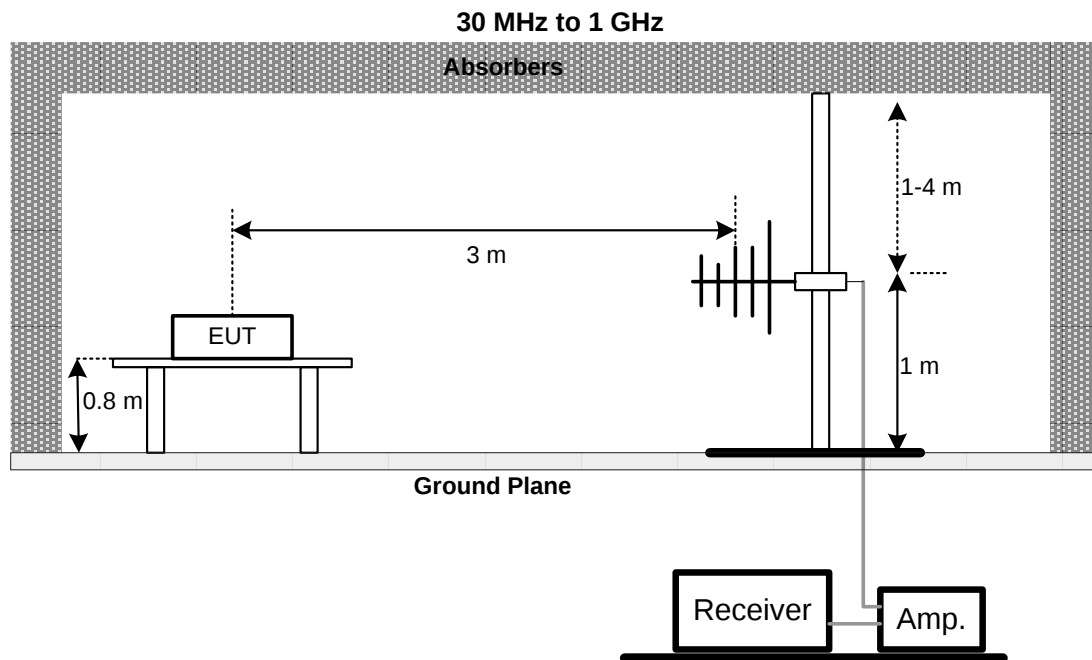
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- The measuring distance of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

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP





4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT – BELOW 30 MHZ

Please refer to the APPENDIX B.

4.7 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX C.

4.8 TEST RESULT – ABOVE 1 GHZ

Please refer to the APPENDIX D.

NOTE:

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

5 BANDWIDTH TEST

5.1 LIMIT

Section	Test Item	Limit
15.247(a)	6 dB Bandwidth	500 kHz

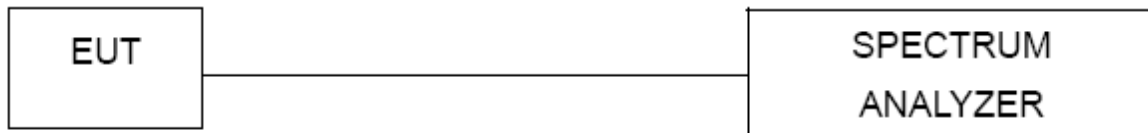
5.2 TEST PROCEDURE

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

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT

Please refer to the APPENDIX E.

6 OUTPUT POWER TEST

6.1 LIMIT

Section	Test Item	Limit
15.247(b)	Maximum Output Power	1 Watt or 30dBm

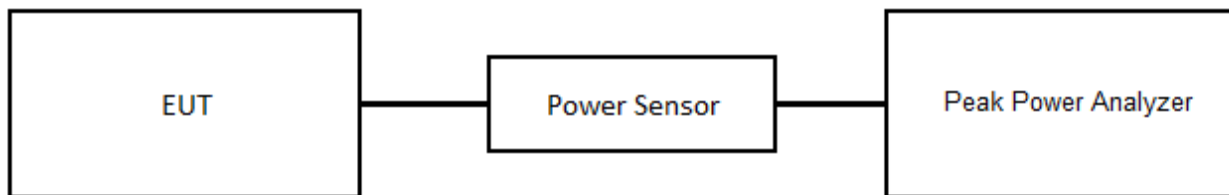
6.2 TEST PROCEDURE

- The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
- The maximum peak conducted output power was performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance.
- Subclause 11.9.1.1 of ANSI C63.10 is applied. The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

6.3 DEVIATION FROM TEST STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULT

Please refer to the APPENDIX F.

7 POWER SPECTRAL DENSITY

7.1 LIMIT

Section	Test Item	Limit
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

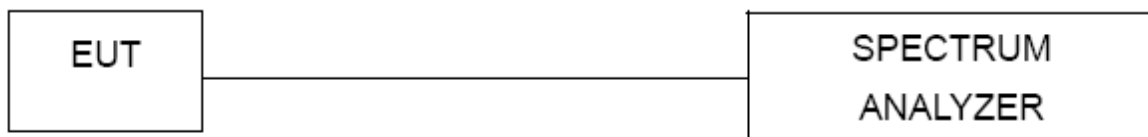
7.2 TEST PROCEDURE

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

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULT

Please refer to the APPENDIX G.

8 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST

8.1 LIMIT

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

8.2 TEST PROCEDURE

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

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULT

Please refer to the APPENDIX H.

9 LIST OF MEASURING EQUIPMENTS

AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	TWO-LINE V-NETWORK	R&S	ENV216	101521	2023/9/13	2024/9/12
2	Test Cable	EMCI	EMCCFD300-BM-BMR-5000	220331	2023/3/30	2024/3/29
3	EMI Test Receiver	R&S	ESR 7	101433	2023/11/10	2024/11/9
4	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

Radiated Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC330N	980850	2023/9/6	2024/9/5
2	Preamplifier	EMCI	EMC118A45SE	980819	2024/3/6	2025/3/6
3	Pre-Amplifier	EMCI	EMC184045SE	980907	2023/9/21	2024/9/20
4	Preamplifier	EMCI	EMC001340	980579	2023/9/6	2024/9/5
5	Test Cable	EMCI	EMC104-SM-1000	180809	2024/3/8	2025/3/7
6	Test Cable	EMCI	EMC104-SM-SM-3000	220322	2024/3/8	2025/3/7
7	Test Cable	EMCI	EMC104-SM-SM-7000	220324	2024/3/8	2025/3/7
8	EXA Signal Analyzer	keysight	N9020B	MY57120120	2024/2/23	2025/2/22
9	Loop Ant	Electro-Metrics	EMCI-LPA600	291	2023/9/12	2024/9/11
10	Horn Antenna	RFSPIN	DRH18-E	211202A18EN	2023/5/12	2024/5/11
11	Horn Ant	Schwarzbeck	BBHA 9170D	1136	2023/5/12	2024/5/11
12	Log-bicon Antenna	Schwarzbeck	VULB9168	1369	2023/5/9	2024/5/8
13	6dB Attenuator	EMCI	EMCI-N-6-06	AT-06001	2023/5/9	2024/5/8
14	Test Cable	EMCI	EMC101G-KM-KM-3000	220329	2024/3/13	2025/3/12
15	Test Cable	EMCI	EMC102-KM-KM-1000	220327	2024/3/13	2025/3/12
16	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

Bandwidth						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 40	101139	2024/3/8	2025/3/7

Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Peak Power Analyzer	Keysight	8990B	MY51000517	2024/3/12	2025/3/11
2	Power Sensor	Keysight	N1923A	MY58310005	2024/3/12	2025/3/11

Power Spectral Density						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 40	101139	2024/3/8	2025/3/7

Antenna conducted Spurious Emission						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 40	101139	2024/3/8	2025/3/7

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

10 EUT TEST PHOTO

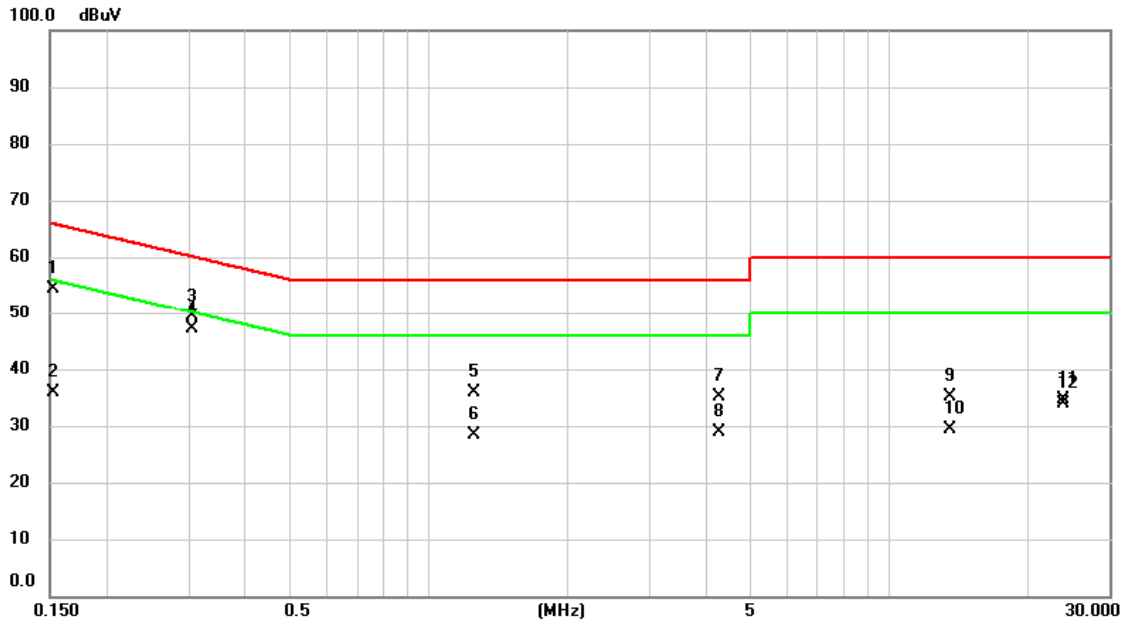
Please refer to document Appendix No.: TP-2403T068-FCCP-1 (APPENDIX-TEST PHOTOS).

11 EUT PHOTOS

Please refer to document Appendix No.: EP-2403T068-1 (APPENDIX-EUT PHOTOS).

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

Test Mode	Normal	Tested Date	2024/3/21
Test Frequency	-	Phase	Line



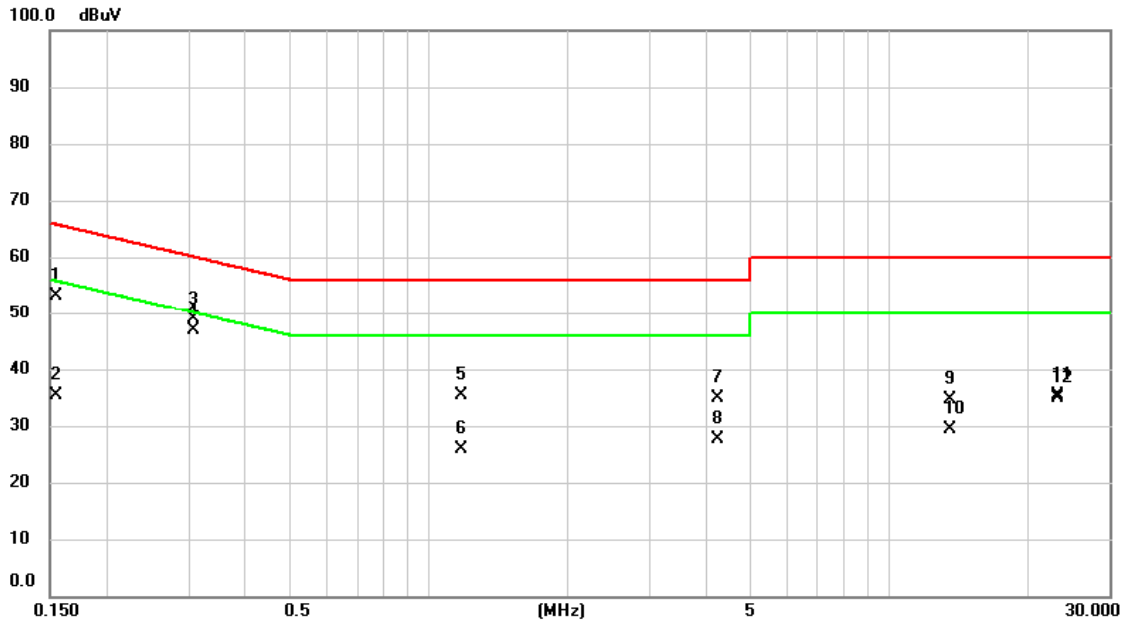
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1522	44.68	9.59	54.27	65.88	-11.61	QP	
2		0.1522	26.33	9.59	35.92	55.88	-19.96	AVG	
3		0.3052	39.80	9.57	49.37	60.10	-10.73	QP	
4	*	0.3052	37.62	9.57	47.19	50.10	-2.91	AVG	
5		1.2548	26.40	9.59	35.99	56.00	-20.01	QP	
6		1.2548	18.72	9.59	28.31	46.00	-17.69	AVG	
7		4.2404	25.60	9.63	35.23	56.00	-20.77	QP	
8		4.2404	19.25	9.63	28.88	46.00	-17.12	AVG	
9		13.5600	25.43	9.77	35.20	60.00	-24.80	QP	
10		13.5600	19.65	9.77	29.42	50.00	-20.58	AVG	
11		23.7728	24.79	9.85	34.64	60.00	-25.36	QP	
12		23.7728	23.99	9.85	33.84	50.00	-16.16	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	Normal	Tested Date	2024/3/21
Test Frequency	-	Phase	Neutral



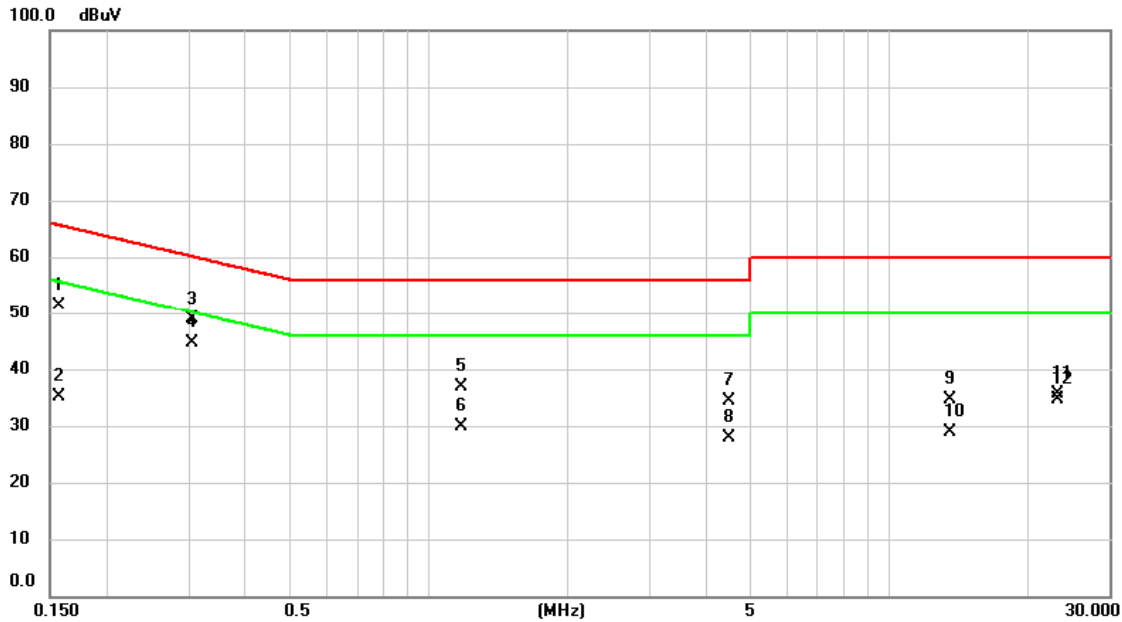
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1545	43.58	9.59	53.17	65.75	-12.58	QP	
2		0.1545	25.85	9.59	35.44	55.75	-20.31	AVG	
3		0.3075	39.35	9.57	48.92	60.04	-11.12	QP	
4	*	0.3075	37.34	9.57	46.91	50.04	-3.13	AVG	
5		1.1782	25.83	9.58	35.41	56.00	-20.59	QP	
6		1.1782	16.36	9.58	25.94	46.00	-20.06	AVG	
7		4.2360	25.19	9.63	34.82	56.00	-21.18	QP	
8		4.2360	18.11	9.63	27.74	46.00	-18.26	AVG	
9		13.5600	24.95	9.77	34.72	60.00	-25.28	QP	
10		13.5600	19.49	9.77	29.26	50.00	-20.74	AVG	
11		23.2598	25.58	9.85	35.43	60.00	-24.57	QP	
12		23.2598	25.00	9.85	34.85	50.00	-15.15	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	Idle	Tested Date	2024/3/21
Test Frequency	-	Phase	Line



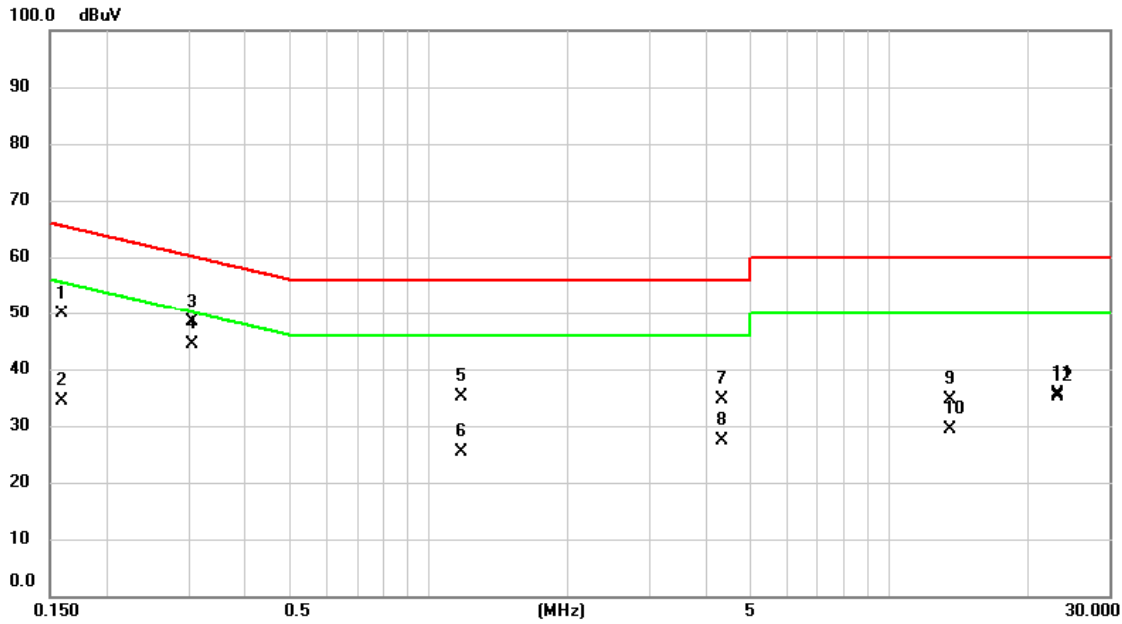
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1568	41.81	9.60	51.41	65.63	-14.22	QP	
2		0.1568	25.61	9.60	35.21	55.63	-20.42	AVG	
3		0.3052	39.32	9.58	48.90	60.10	-11.20	QP	
4	*	0.3052	34.95	9.58	44.53	50.10	-5.57	AVG	
5		1.1737	27.25	9.59	36.84	56.00	-19.16	QP	
6		1.1737	20.29	9.59	29.88	46.00	-16.12	AVG	
7		4.4565	24.72	9.64	34.36	56.00	-21.64	QP	
8		4.4565	18.35	9.64	27.99	46.00	-18.01	AVG	
9		13.5600	24.89	9.72	34.61	60.00	-25.39	QP	
10		13.5600	19.27	9.72	28.99	50.00	-21.01	AVG	
11		23.2575	25.82	9.70	35.52	60.00	-24.48	QP	
12		23.2575	24.93	9.70	34.63	50.00	-15.37	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	Idle	Tested Date	2024/3/21
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1590	40.22	9.59	49.81	65.52	-15.71	QP	
2		0.1590	24.71	9.59	34.30	55.52	-21.22	AVG	
3		0.3052	38.70	9.57	48.27	60.10	-11.83	QP	
4	*	0.3052	34.73	9.57	44.30	50.10	-5.80	AVG	
5		1.1782	25.43	9.58	35.01	56.00	-20.99	QP	
6		1.1782	15.69	9.58	25.27	46.00	-20.73	AVG	
7		4.3057	24.99	9.63	34.62	56.00	-21.38	QP	
8		4.3057	17.86	9.63	27.49	46.00	-18.51	AVG	
9		13.5600	24.92	9.77	34.69	60.00	-25.31	QP	
10		13.5600	19.63	9.77	29.40	50.00	-20.60	AVG	
11		23.2597	25.84	9.85	35.69	60.00	-24.31	QP	
12		23.2597	25.28	9.85	35.13	50.00	-14.87	AVG	

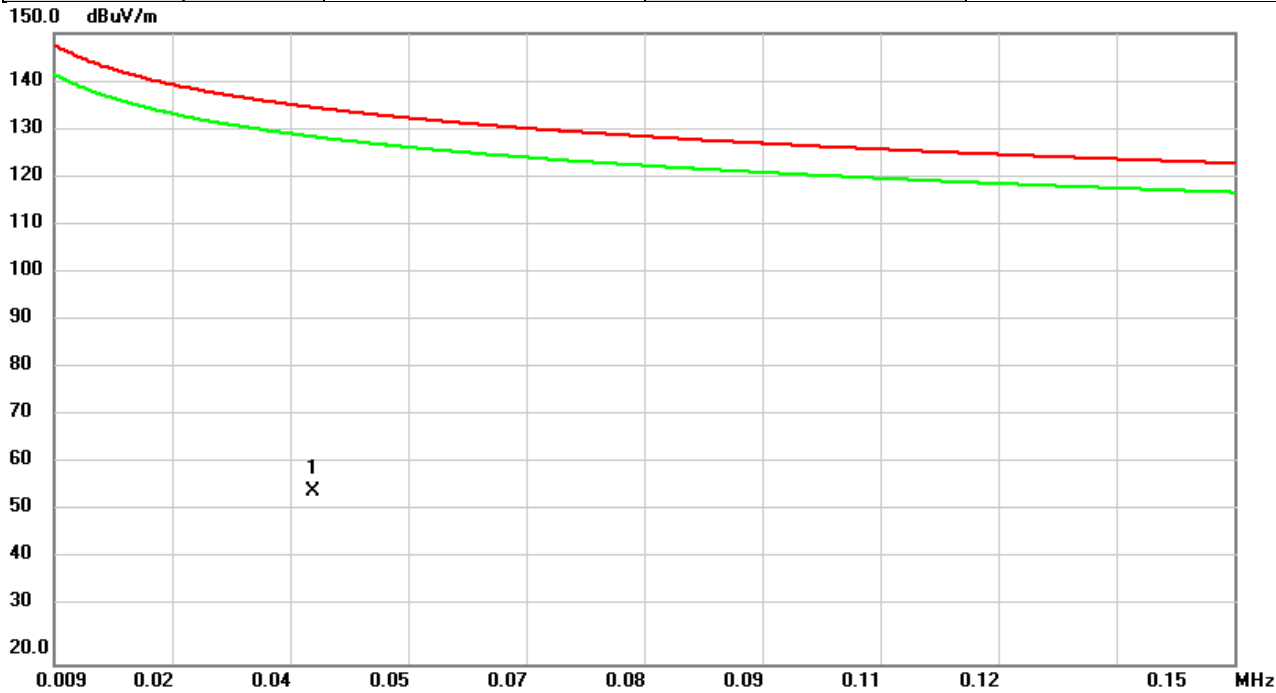
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B RADIATED EMISSIONS - 9 KHZ TO 30 MHZ

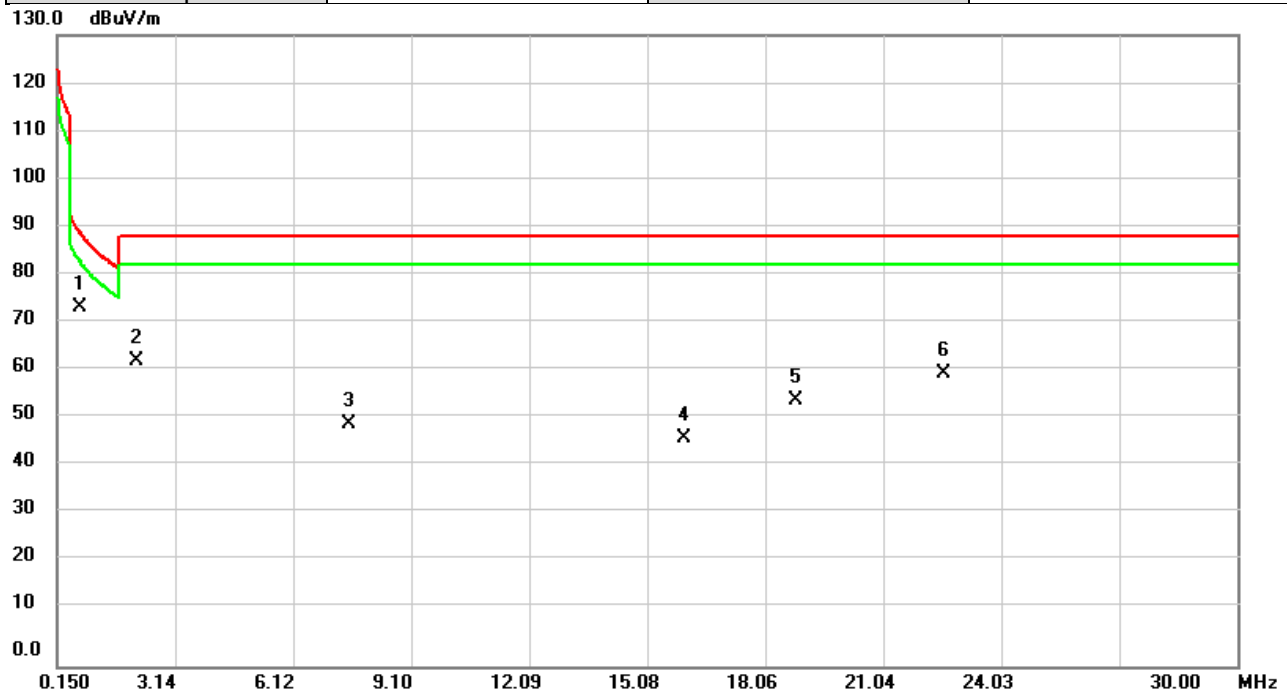
Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Vertical
Temp	24°C	Hum.	64%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0400	29.74	25.83	55.57	134.64	-79.07	QP	

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

Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Vertical
Temp	24°C	Hum.	64%

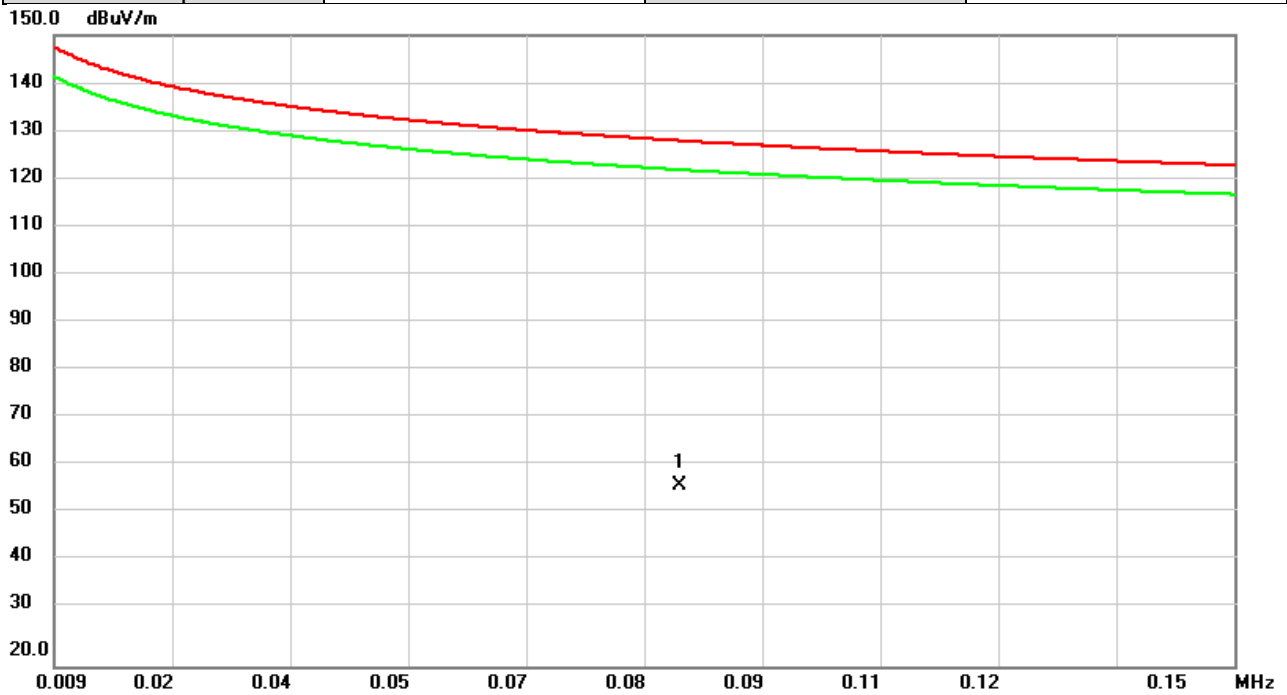


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.7460	70.74	3.11	73.85	89.23	-15.38	QP	
2		2.1580	65.04	-2.06	62.98	88.62	-25.64	QP	
3		7.5358	53.59	-3.78	49.81	88.62	-38.81	QP	
4		16.0043	50.60	-3.73	46.87	88.62	-41.75	QP	
5		18.8251	58.74	-3.99	54.75	88.62	-33.87	QP	
6		22.5912	63.02	-2.87	60.15	88.62	-28.47	QP	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Horizontal
Temp	24°C	Hum.	64%

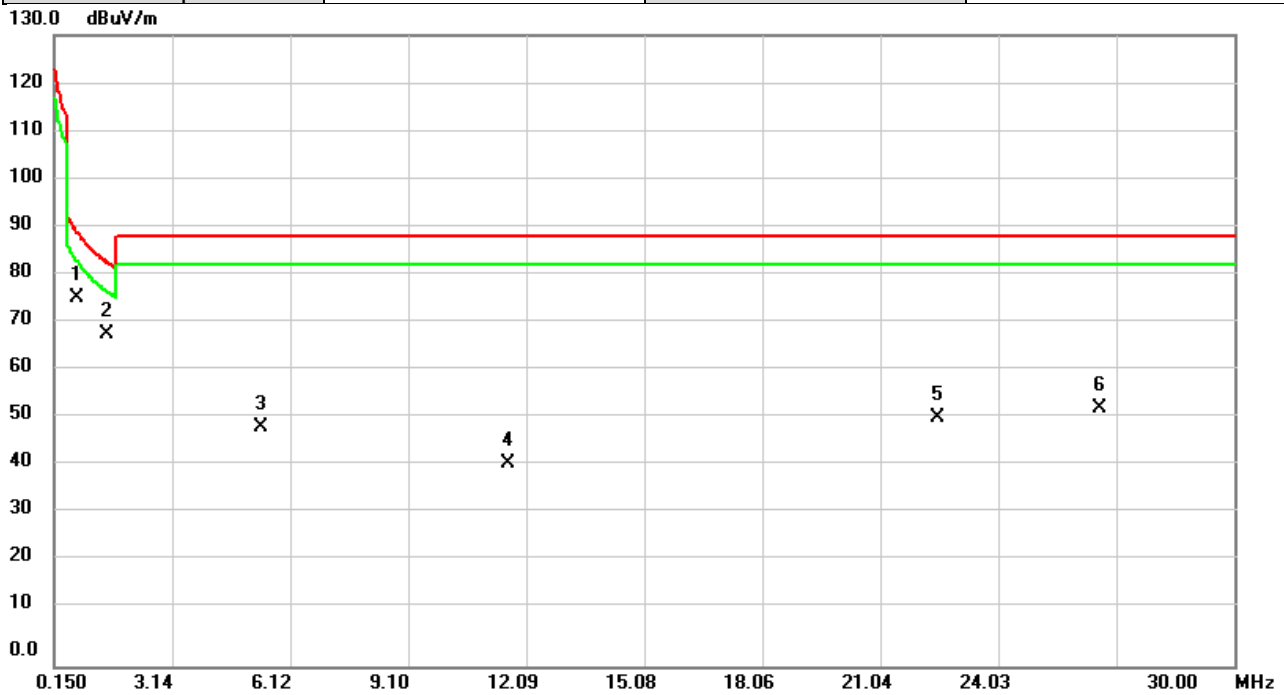


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0838	38.25	18.82	57.07	128.22	-71.15	QP	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Horizontal
Temp	24°C	Hum.	64%



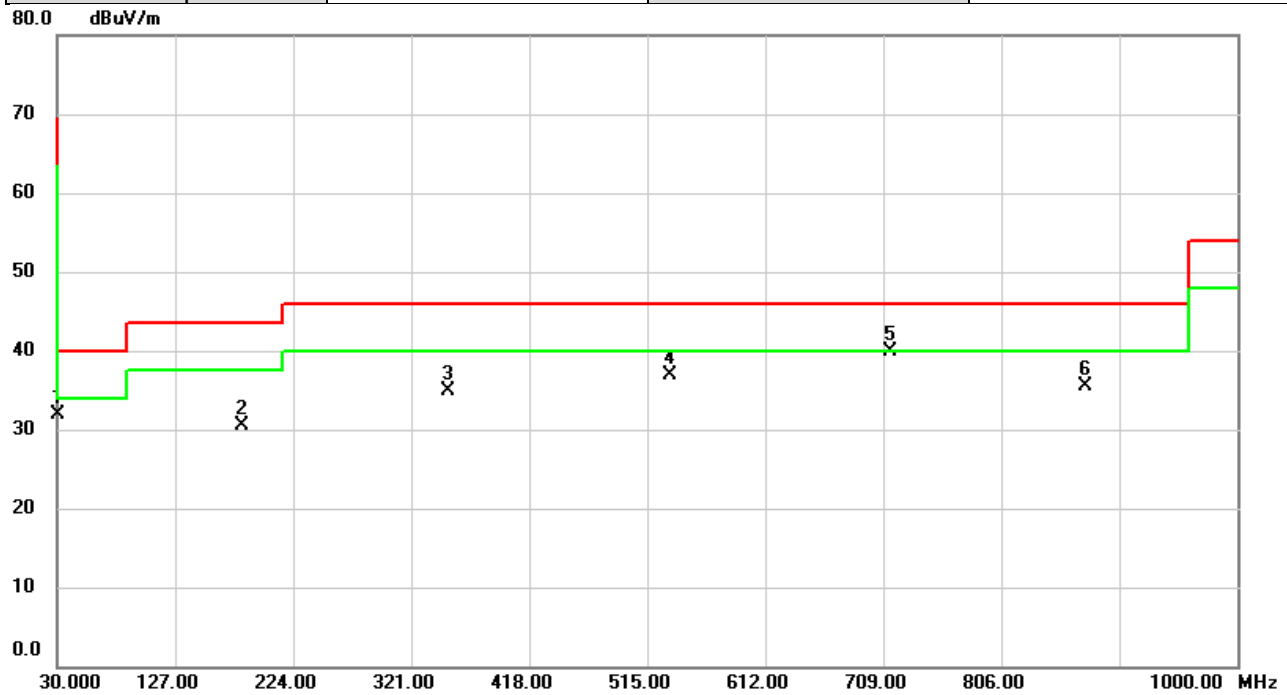
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.7460	72.89	3.11	76.00	89.23	-13.23	QP	
2		1.4912	68.83	-0.41	68.42	83.20	-14.78	QP	
3		5.3707	53.41	-4.32	49.09	88.62	-39.53	QP	
4		11.6332	44.94	-3.32	41.62	88.62	-47.00	QP	
5		22.4887	54.17	-2.92	51.25	88.62	-37.37	QP	
6		26.6090	54.02	-0.96	53.06	88.62	-35.56	QP	

REMARKS:

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

APPENDIX C RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Vertical
Temp	24°C	Hum.	64%

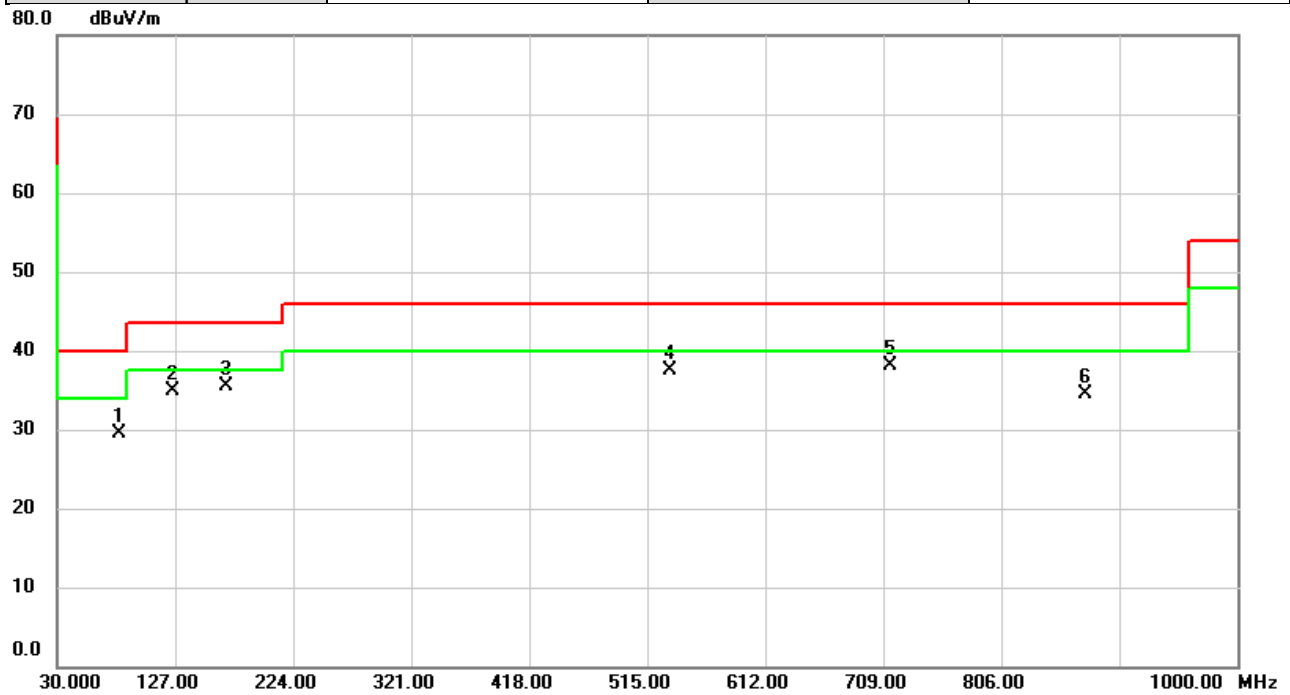


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		30.0000	45.10	-13.26	31.84	40.00	-8.16	peak	
2		181.3523	43.82	-13.40	30.42	43.50	-13.08	peak	
3		351.6520	45.04	-10.15	34.89	46.00	-11.11	peak	
4		533.2683	42.71	-5.86	36.85	46.00	-9.15	peak	
5	*	714.6583	42.19	-2.34	39.85	46.00	-6.15	peak	
6		875.0317	35.55	-0.02	35.53	46.00	-10.47	peak	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/26
Test Frequency	2437MHz	Polarization	Horizontal
Temp	24°C	Hum.	64%



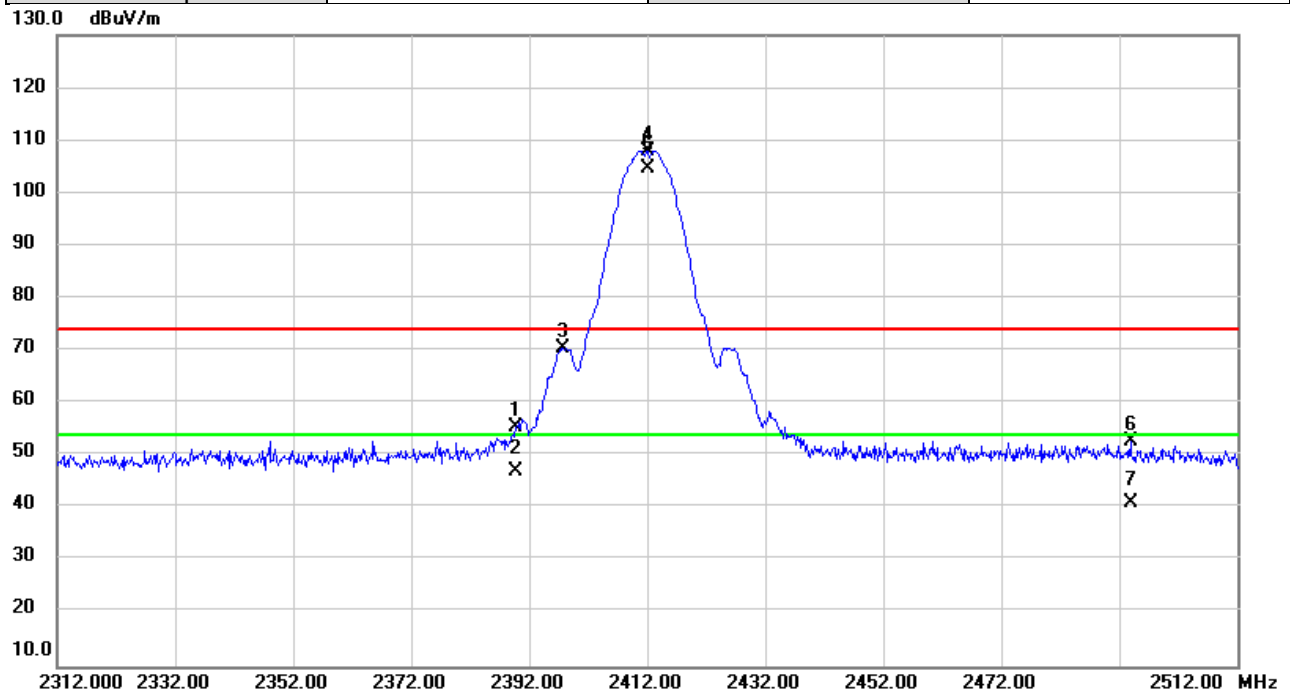
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		80.9897	46.02	-16.59	29.43	40.00	-10.57	peak	
2		124.9953	48.78	-13.87	34.91	43.50	-8.59	peak	
3	*	169.1627	47.83	-12.23	35.60	43.50	-7.90	peak	
4		533.1390	43.45	-5.86	37.59	46.00	-8.41	peak	
5		714.5613	40.41	-2.34	38.07	46.00	-7.93	peak	
6		874.9670	34.48	-0.02	34.46	46.00	-11.54	peak	

REMARKS:

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

APPENDIX D RADIATED EMISSIONS - ABOVE 1 GHZ

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%



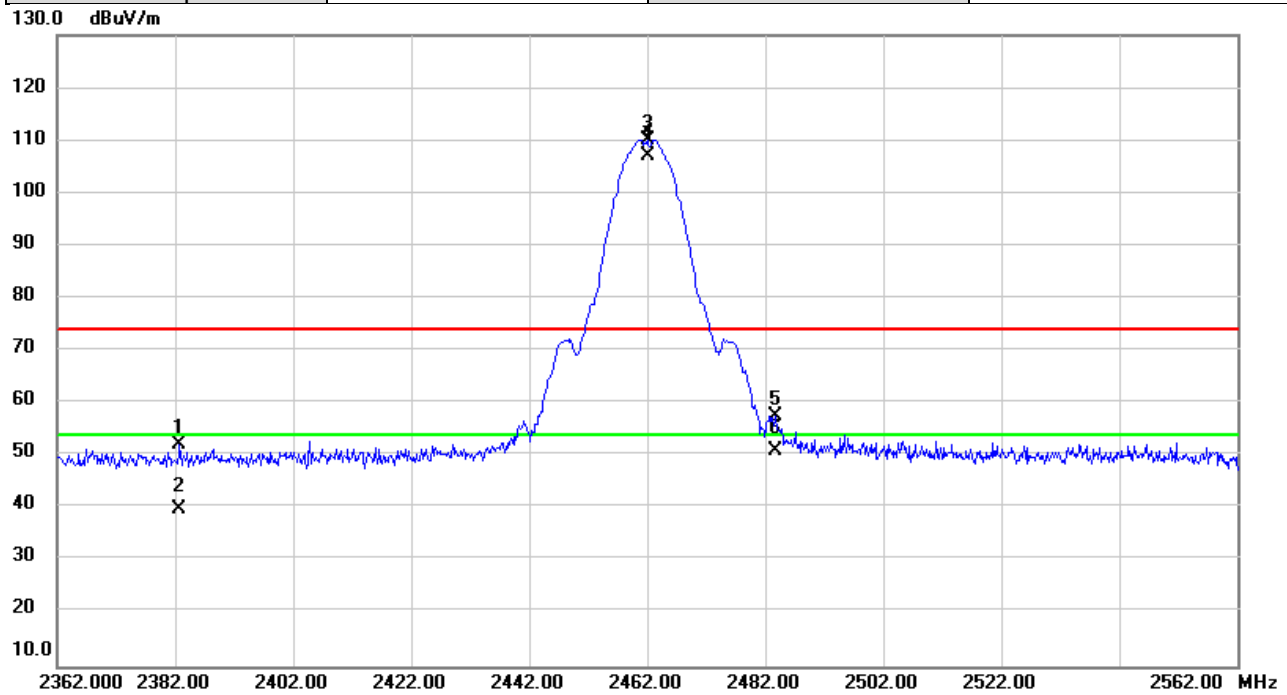
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.780	60.49	-5.14	55.35	74.00	-18.65	peak	
2		2389.780	52.16	-5.14	47.02	54.00	-6.98	AVG	
3		2397.753	75.62	-5.11	70.51	74.00	-3.49	peak	NoLimit
4	X	2412.000	113.10	-5.09	108.01	74.00	34.01	peak	NoLimit
5	*	2412.000	109.87	-5.09	104.78	54.00	50.78	AVG	NoLimit
6		2493.933	57.66	-4.97	52.69	74.00	-21.31	peak	
7		2493.933	46.16	-4.97	41.19	54.00	-12.81	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

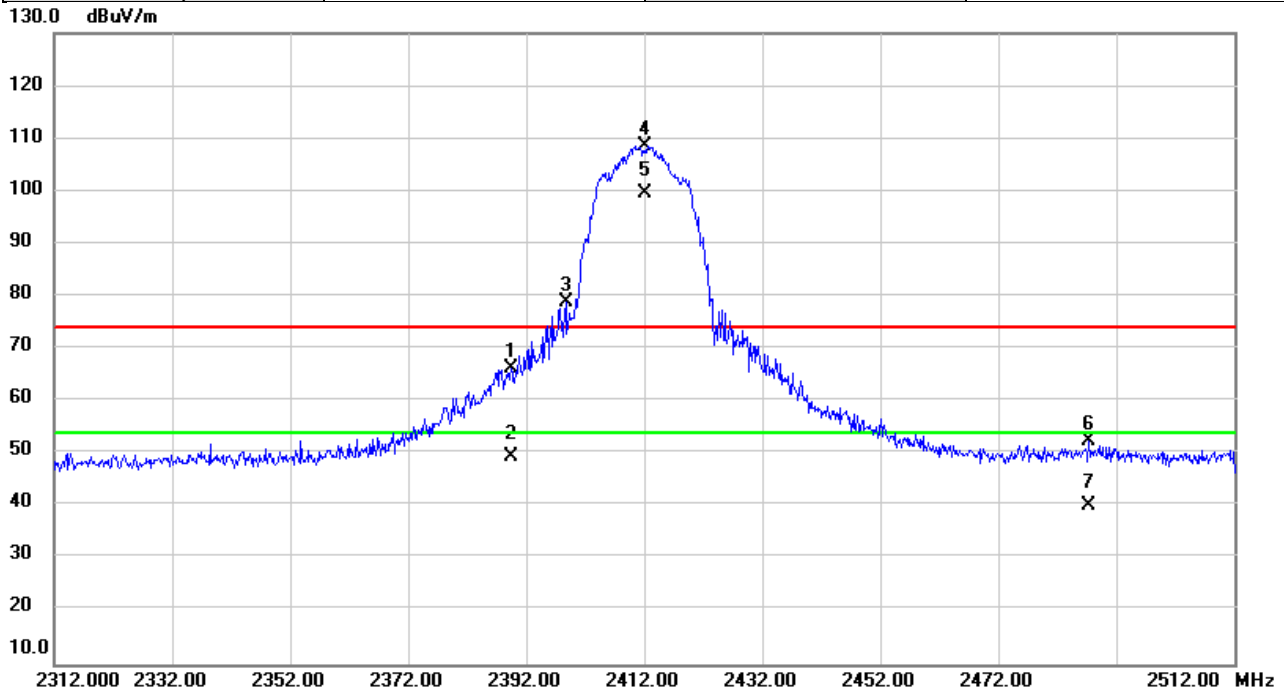


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.773	57.40	-5.14	52.26	74.00	-21.74	peak	
2		2382.773	44.91	-5.14	39.77	54.00	-14.23	AVG	
3	X	2462.000	115.18	-5.02	110.16	74.00	36.16	peak	NoLimit
4	*	2462.000	111.98	-5.02	106.96	54.00	52.96	AVG	NoLimit
5		2483.853	62.64	-4.98	57.66	74.00	-16.34	peak	
6		2483.853	56.00	-4.98	51.02	54.00	-2.98	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%



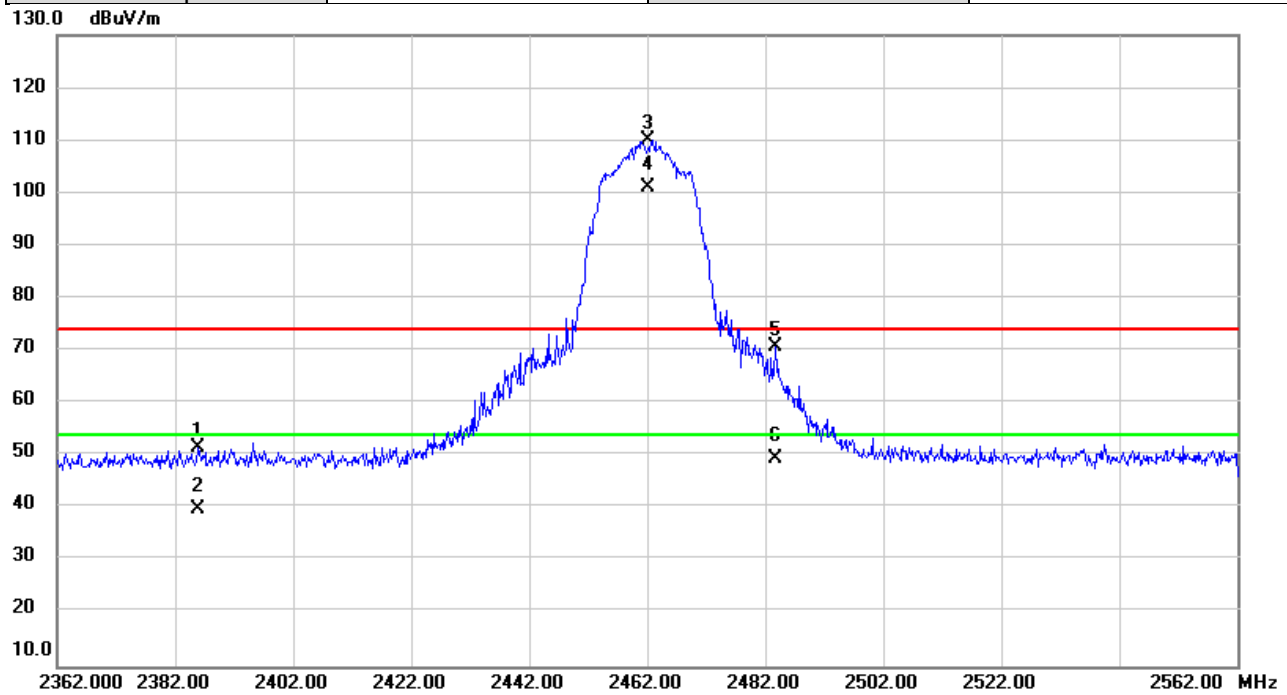
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2389.500	71.31	-5.14	66.17	74.00	-7.83	peak	
2		2389.500	54.67	-5.14	49.53	54.00	-4.47	AVG	
3	X	2398.707	83.95	-5.11	78.84	74.00	4.84	peak	NoLimit
4	X	2412.000	113.64	-5.09	108.55	74.00	34.55	peak	NoLimit
5	*	2412.000	104.59	-5.09	99.50	54.00	45.50	AVG	NoLimit
6		2487.360	57.51	-4.98	52.53	74.00	-21.47	peak	
7		2487.360	45.01	-4.98	40.03	54.00	-13.97	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

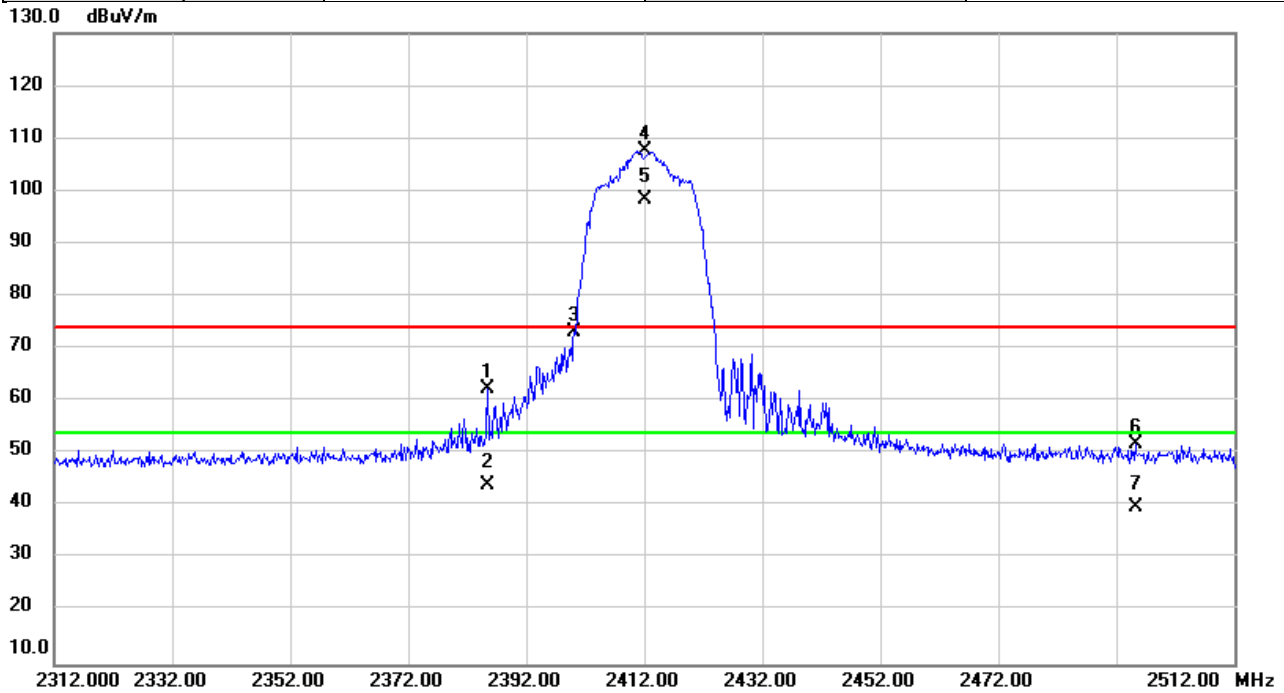


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2385.960	56.62	-5.13	51.49	74.00	-22.51	peak	
2		2385.960	44.90	-5.13	39.77	54.00	-14.23	AVG	
3	X	2462.000	114.94	-5.02	109.92	74.00	35.92	peak	NoLimit
4	*	2462.000	105.96	-5.02	100.94	54.00	46.94	AVG	NoLimit
5		2483.627	75.61	-4.98	70.63	74.00	-3.37	peak	
6		2483.627	54.51	-4.98	49.53	54.00	-4.47	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%



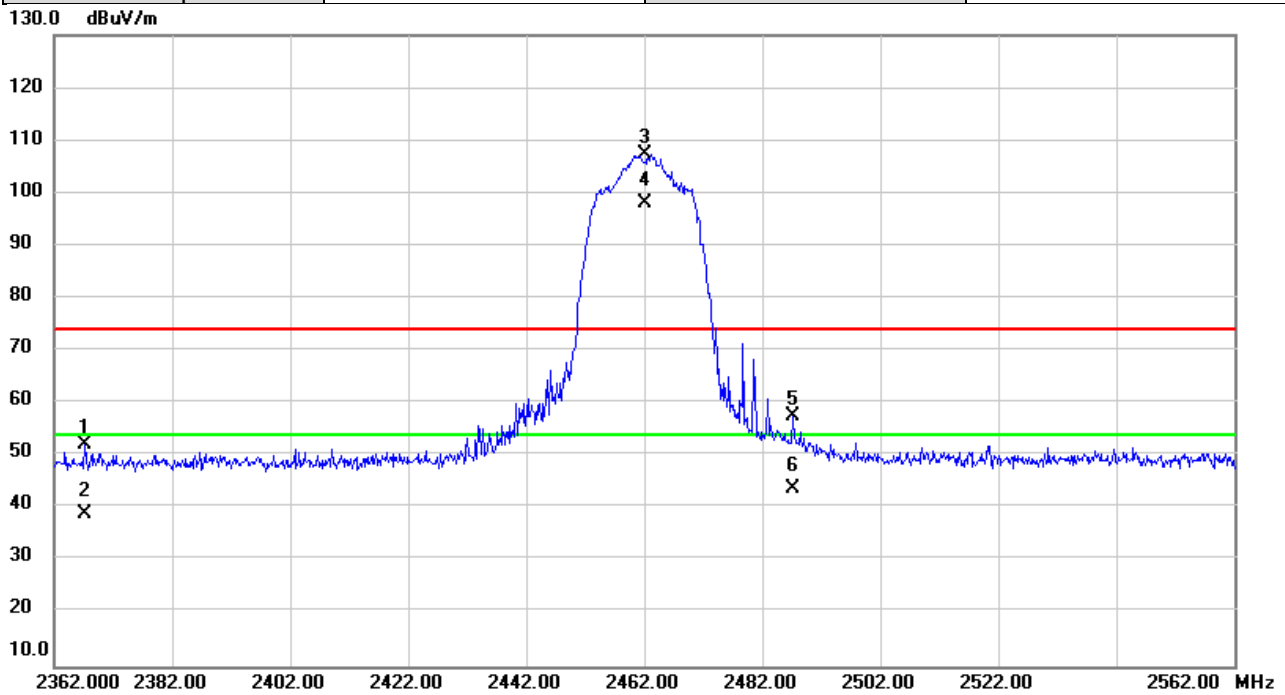
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2385.553	67.37	-5.13	62.24	74.00	-11.76	peak	
2		2385.553	49.30	-5.13	44.17	54.00	-9.83	AVG	
3		2400.000	78.14	-5.11	73.03	74.00	-0.97	peak	NoLimit
4	X	2412.000	112.62	-5.09	107.53	74.00	33.53	peak	NoLimit
5	*	2412.000	103.52	-5.09	98.43	54.00	44.43	AVG	NoLimit
6		2495.253	56.90	-4.97	51.93	74.00	-22.07	peak	
7		2495.253	44.90	-4.97	39.93	54.00	-14.07	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

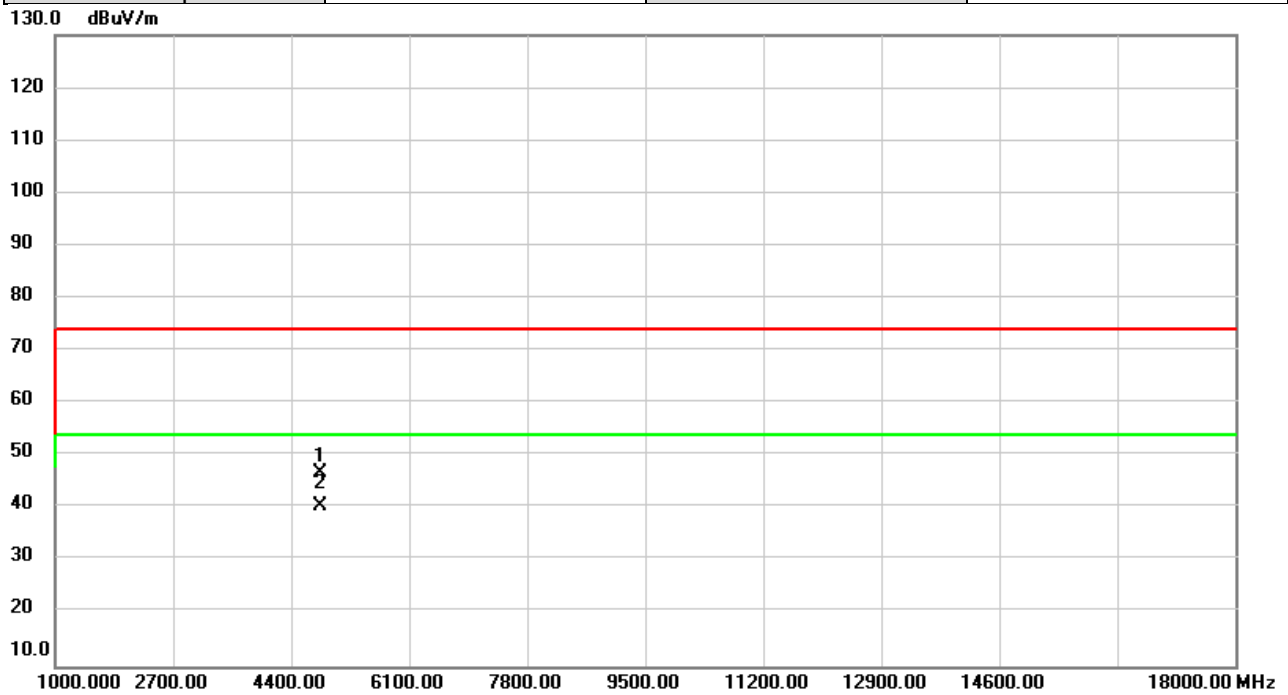


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2367.200	57.29	-5.16	52.13	74.00	-21.87	peak	
2		2367.200	44.18	-5.16	39.02	54.00	-14.98	AVG	
3	X	2462.000	112.29	-5.02	107.27	74.00	33.27	peak	NoLimit
4	*	2462.000	103.04	-5.02	98.02	54.00	44.02	AVG	NoLimit
5		2487.160	62.61	-4.98	57.63	74.00	-16.37	peak	
6		2487.160	48.71	-4.98	43.73	54.00	-10.27	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

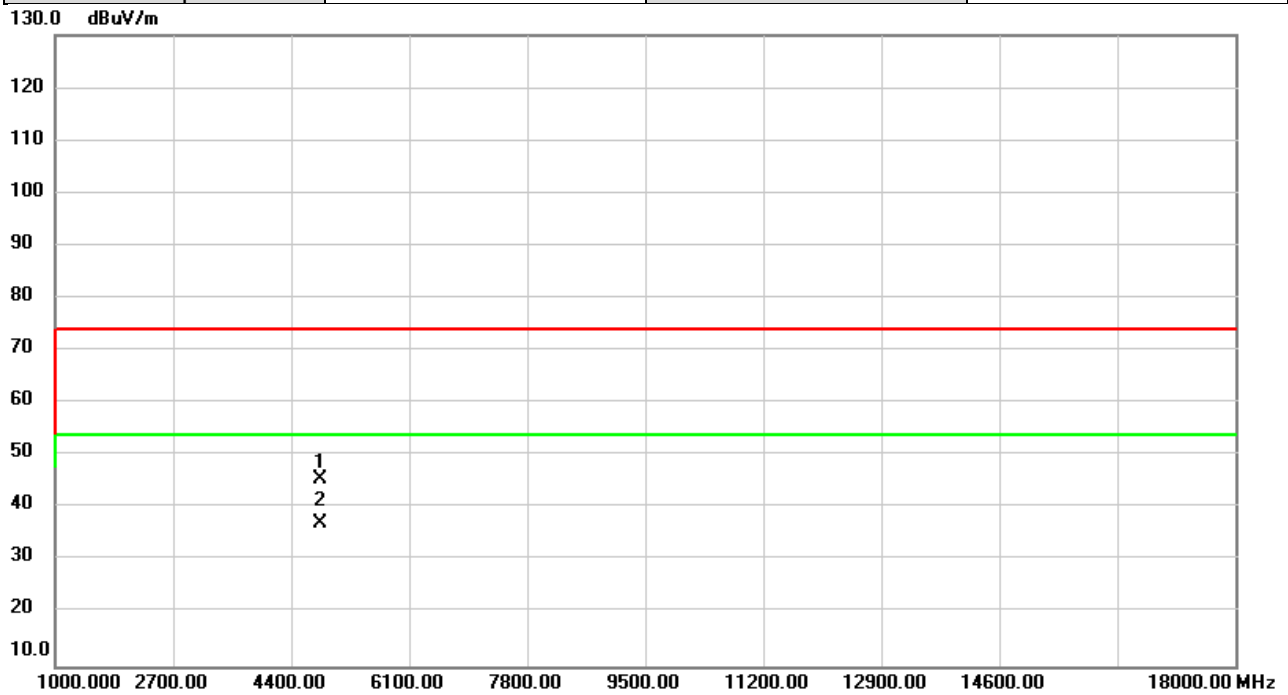


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	45.83	1.02	46.85	74.00	-27.15	peak	
2	*	4824.000	39.56	1.02	40.58	54.00	-13.42	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

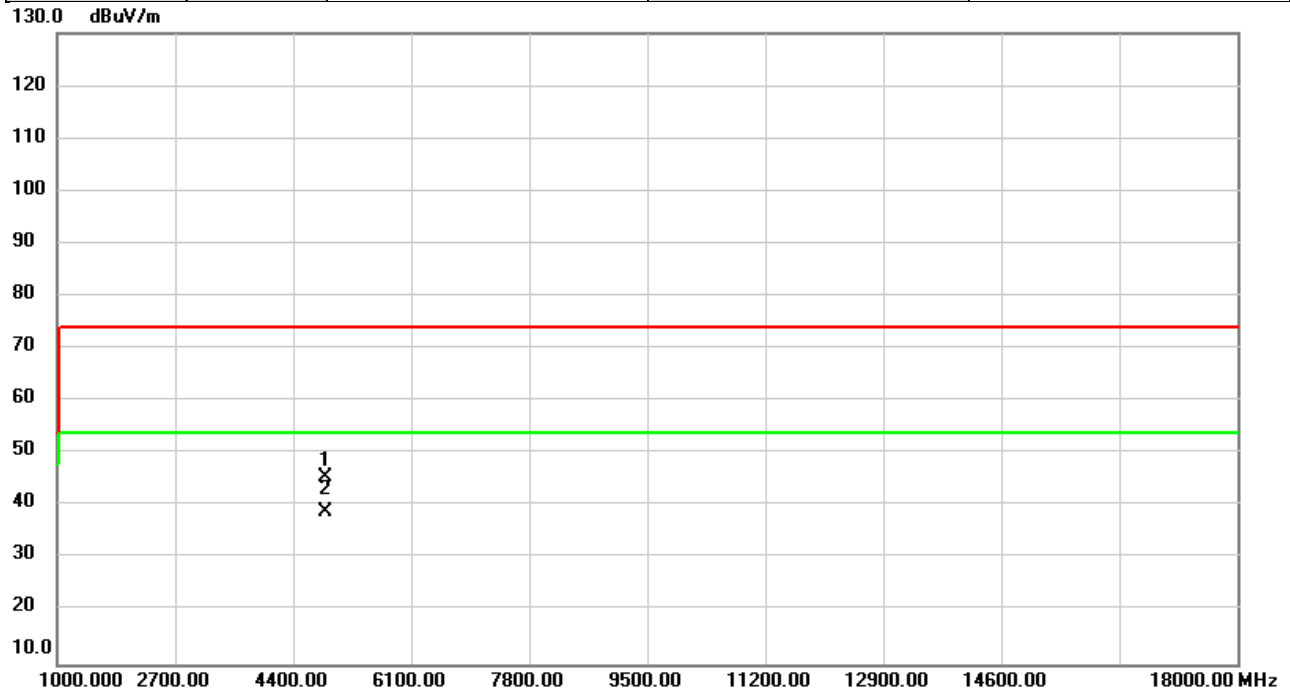


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	44.63	1.02	45.65	74.00	-28.35	peak	
2	*	4824.000	36.07	1.02	37.09	54.00	-16.91	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

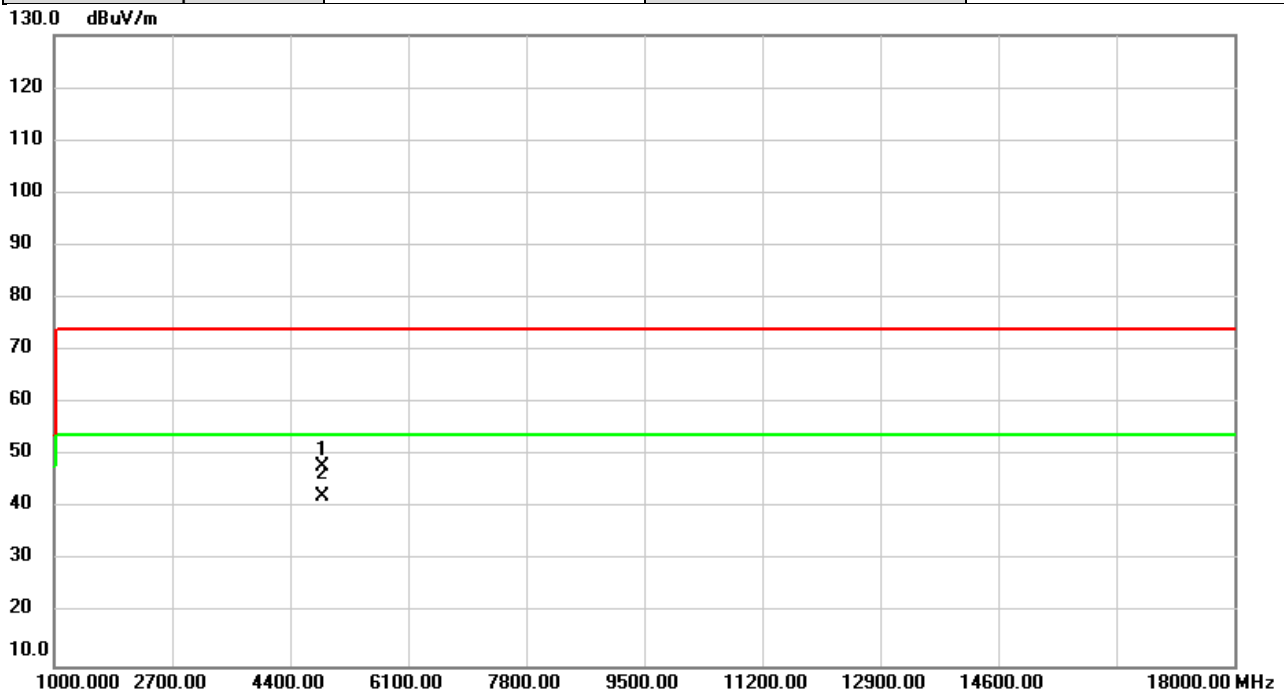


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	44.53	1.12	45.65	74.00	-28.35	peak	
2	*	4874.000	37.69	1.12	38.81	54.00	-15.19	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

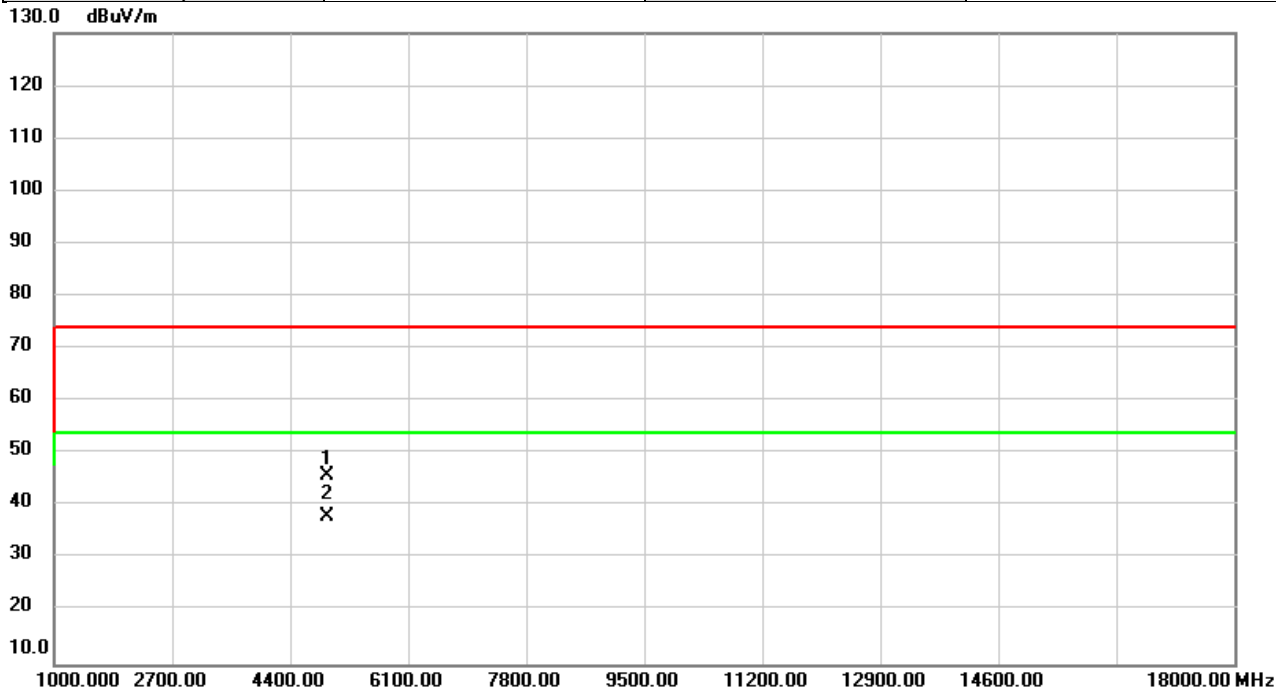


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	46.93	1.12	48.05	74.00	-25.95	peak	
2	*	4874.000	40.98	1.12	42.10	54.00	-11.90	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

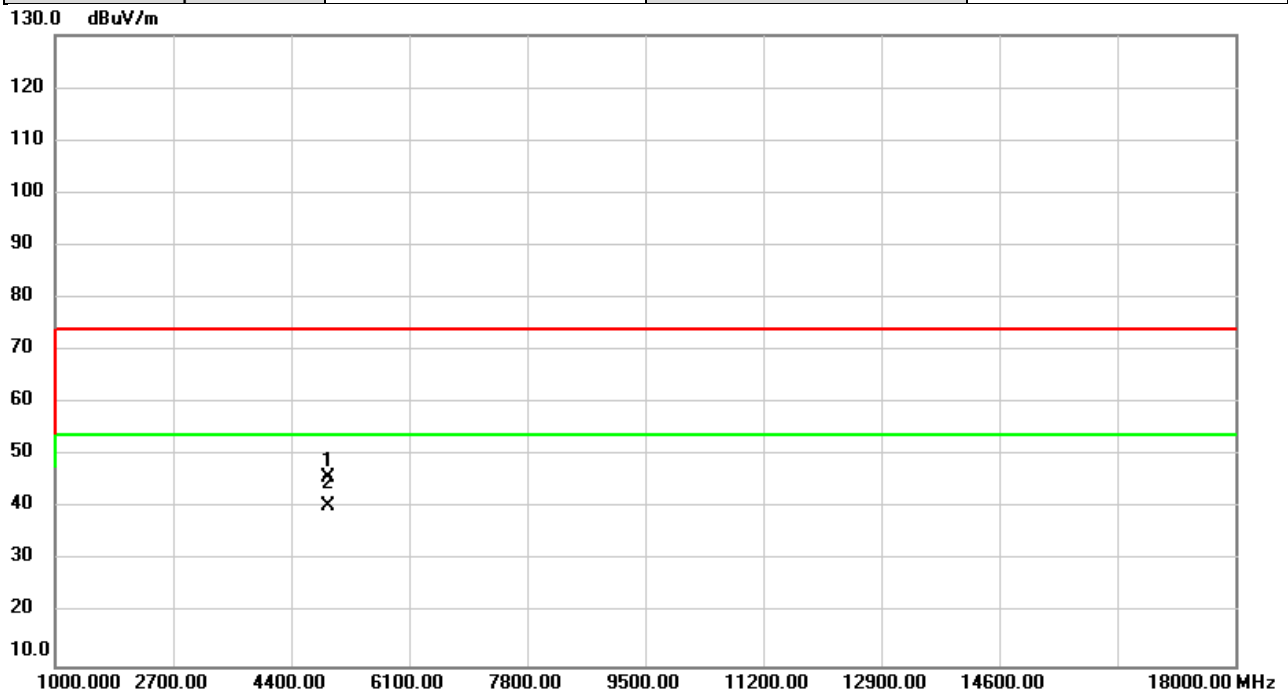


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	44.53	1.23	45.76	74.00	-28.24	peak	
2	*	4924.000	36.96	1.23	38.19	54.00	-15.81	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

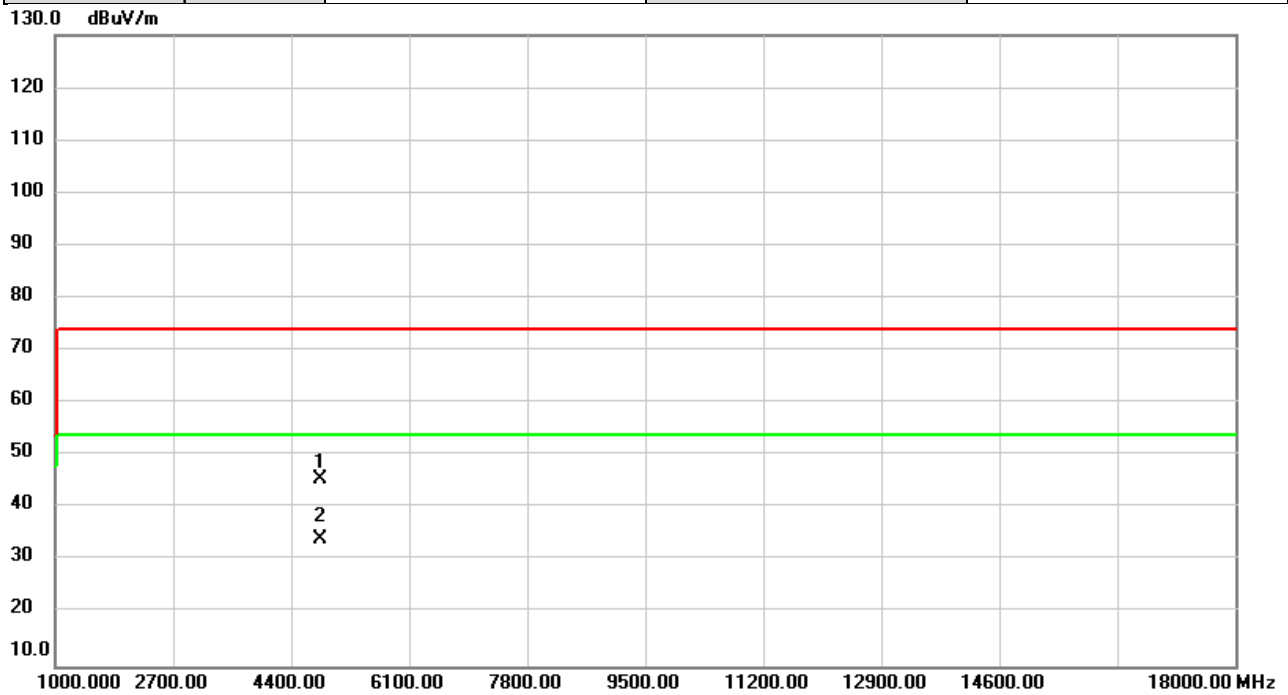


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4924.000	44.62	1.23	45.85	74.00	-28.15	peak	
2	*	4924.000	39.36	1.23	40.59	54.00	-13.41	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

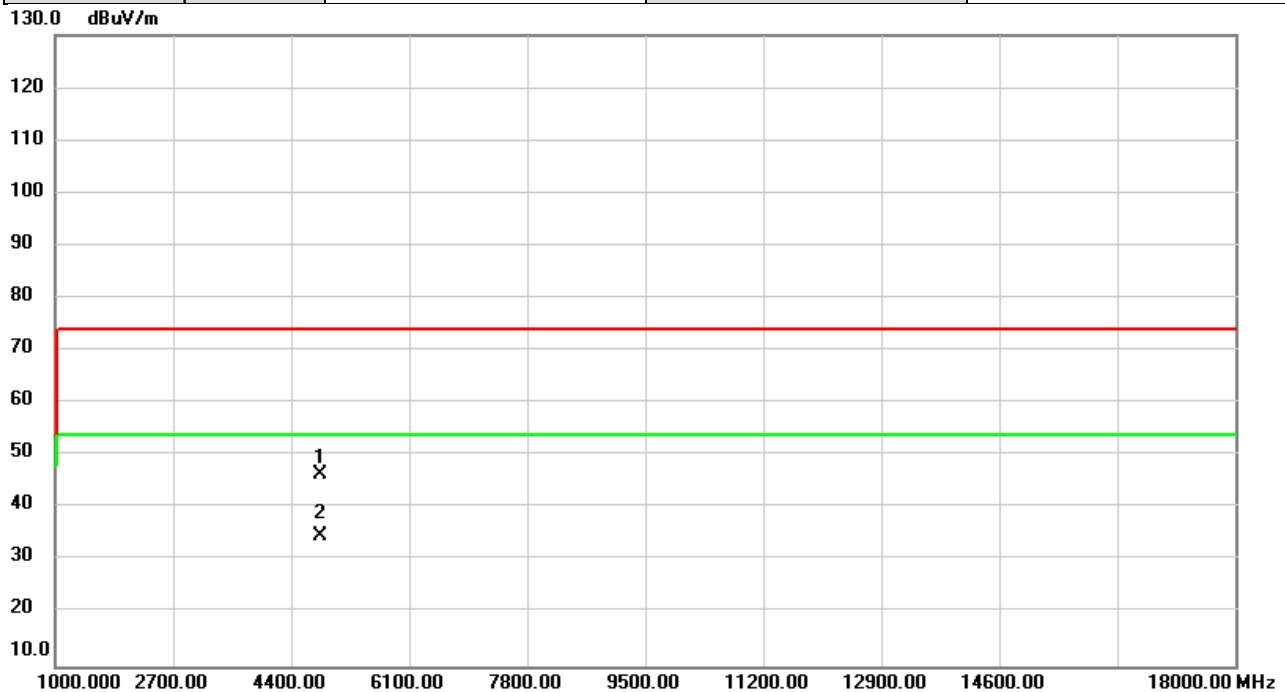


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	44.40	1.02	45.42	74.00	-28.58	peak	
2	*	4824.000	33.23	1.02	34.25	54.00	-19.75	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

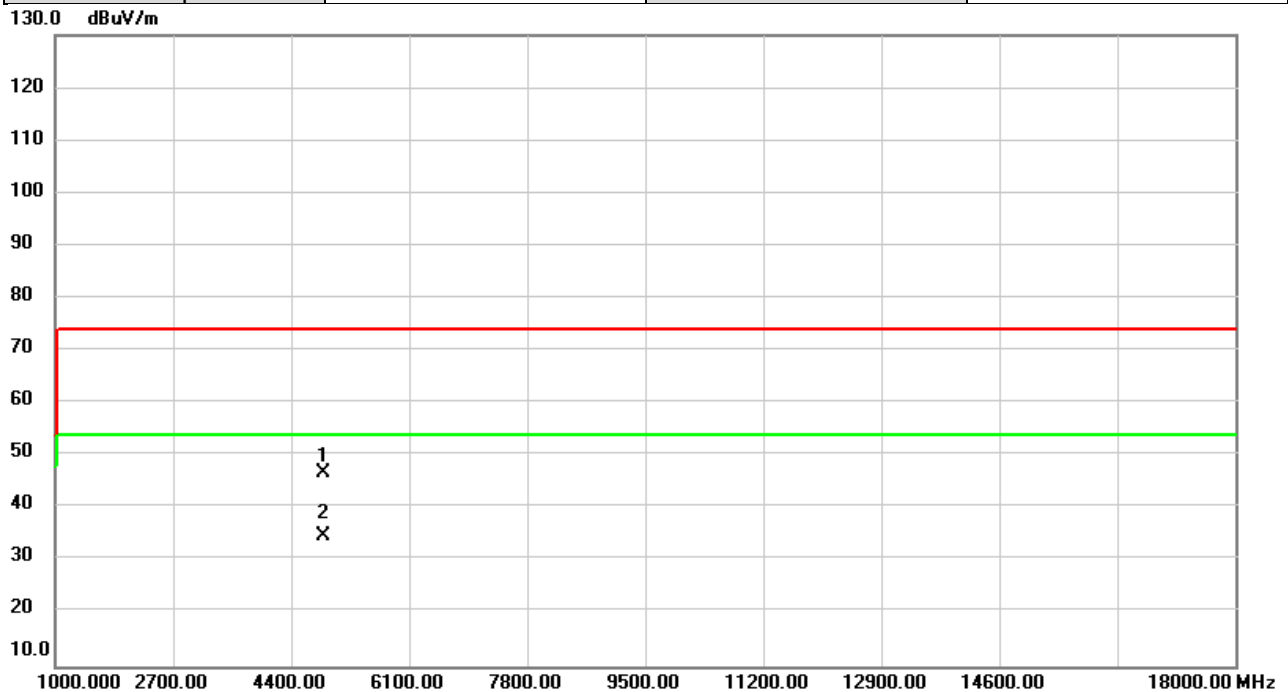


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	45.45	1.02	46.47	74.00	-27.53	peak	
2	*	4824.000	33.64	1.02	34.66	54.00	-19.34	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

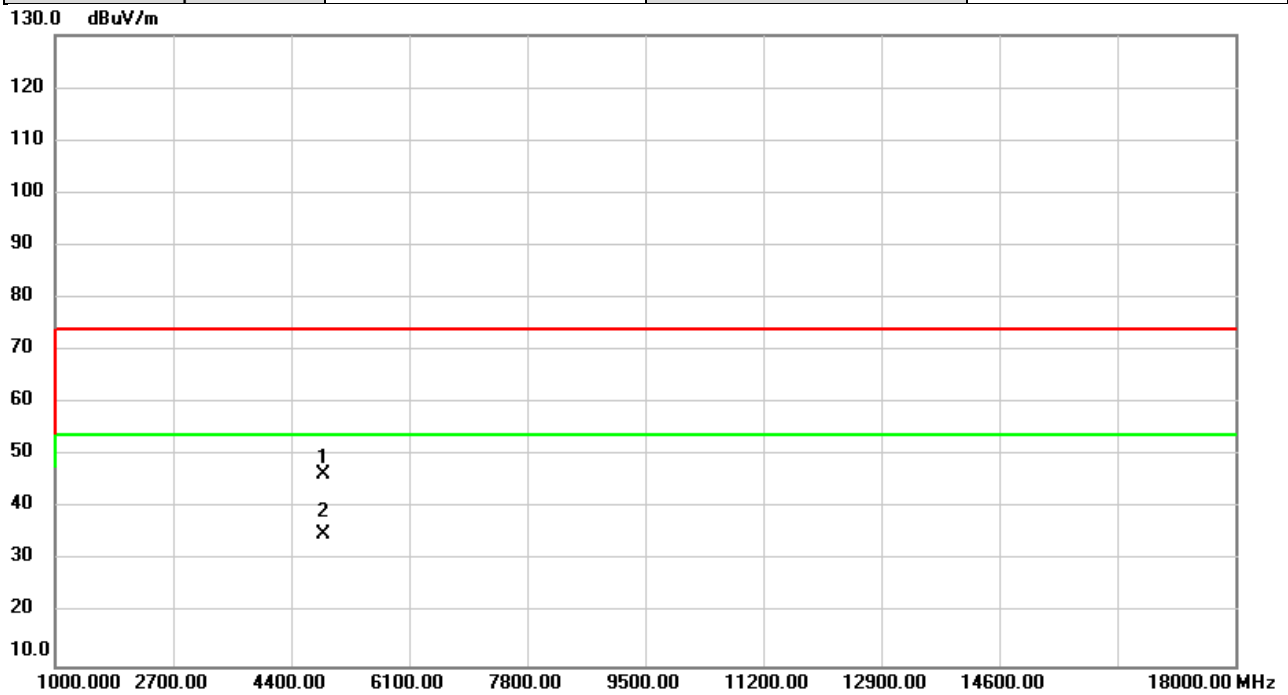


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4874.000	45.60	1.12	46.72	74.00	-27.28	peak	
2	*	4874.000	33.61	1.12	34.73	54.00	-19.27	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

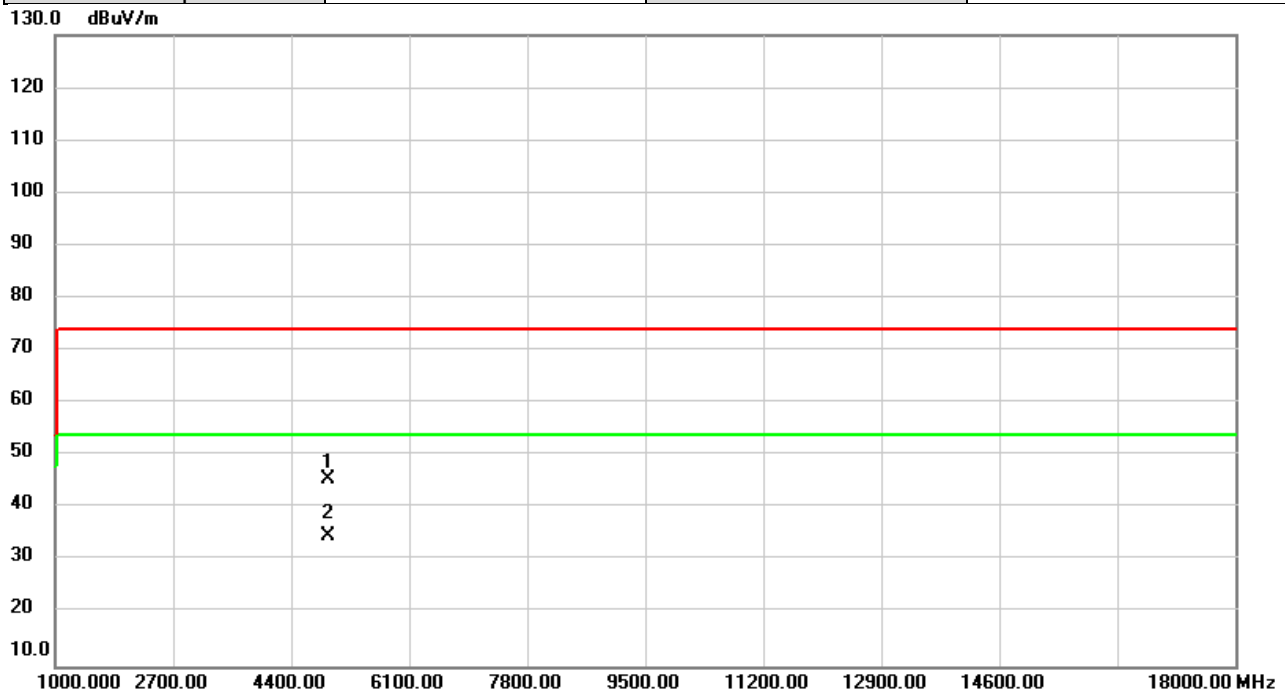


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	45.23	1.12	46.35	74.00	-27.65	peak	
2	*	4874.000	33.99	1.12	35.11	54.00	-18.89	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

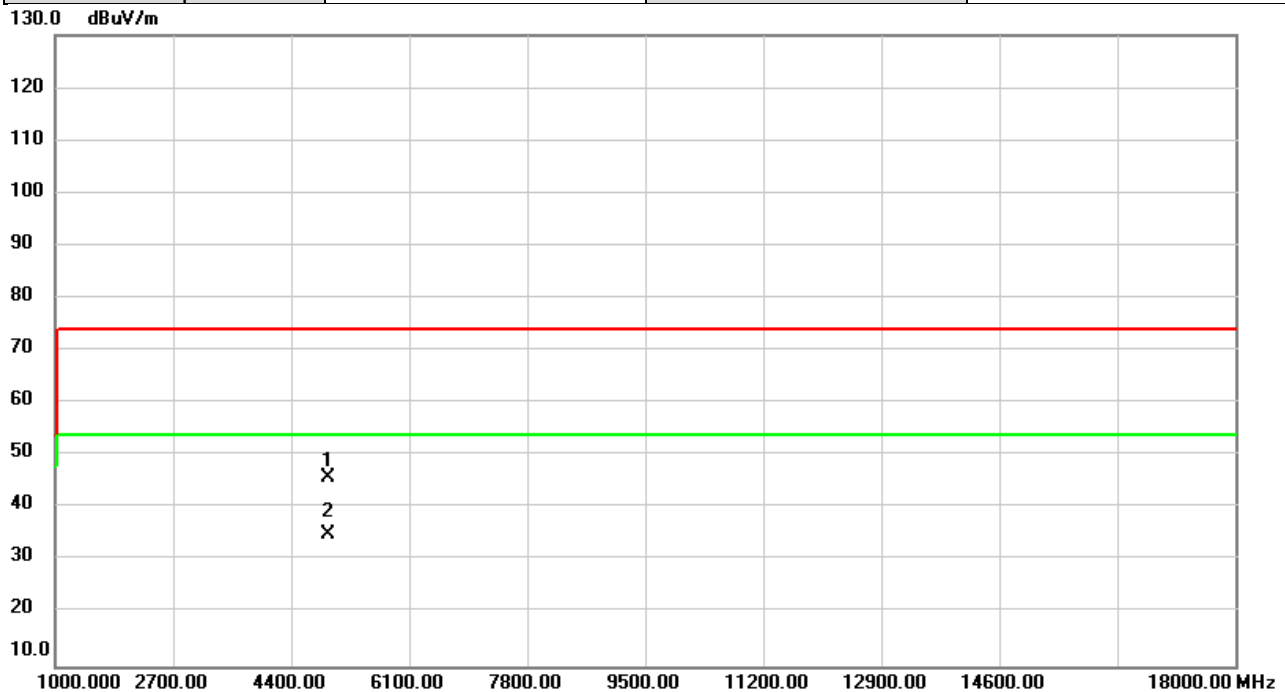


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	44.40	1.23	45.63	74.00	-28.37	peak	
2	*	4924.000	33.54	1.23	34.77	54.00	-19.23	AVG	

REMARKS:

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

Test Mode	IEEE 802.11g	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

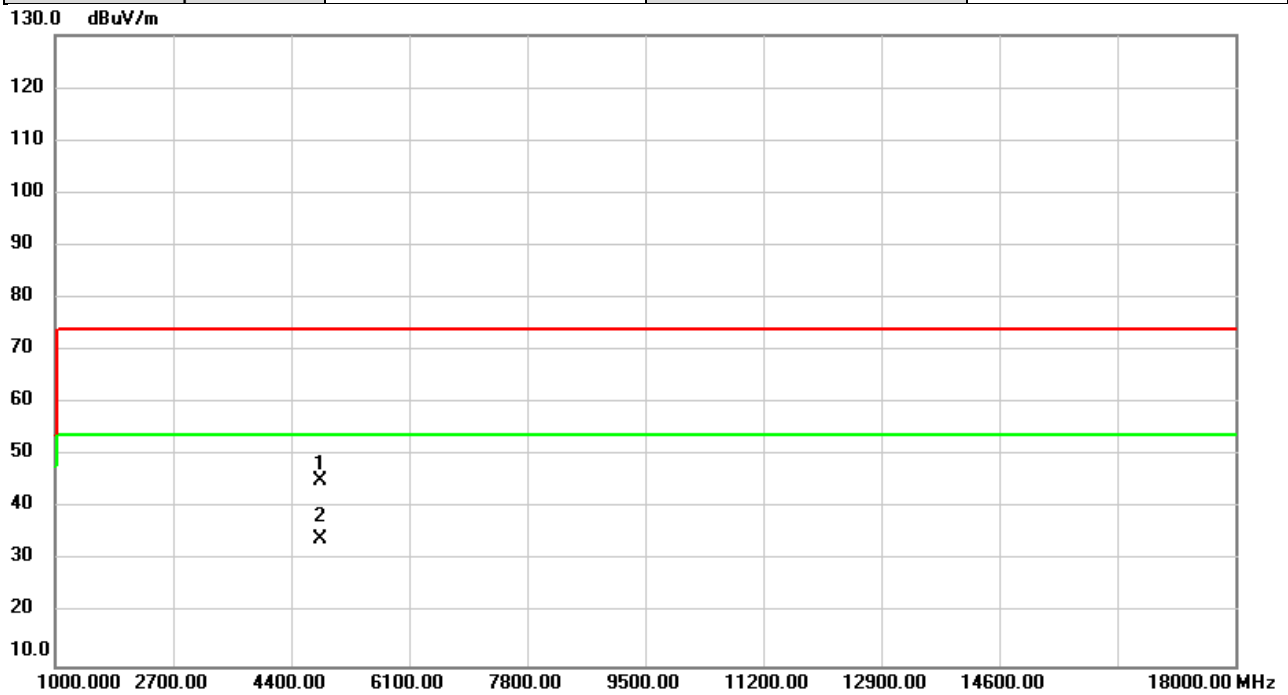


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	44.53	1.23	45.76	74.00	-28.24	peak	
2	*	4924.000	33.83	1.23	35.06	54.00	-18.94	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

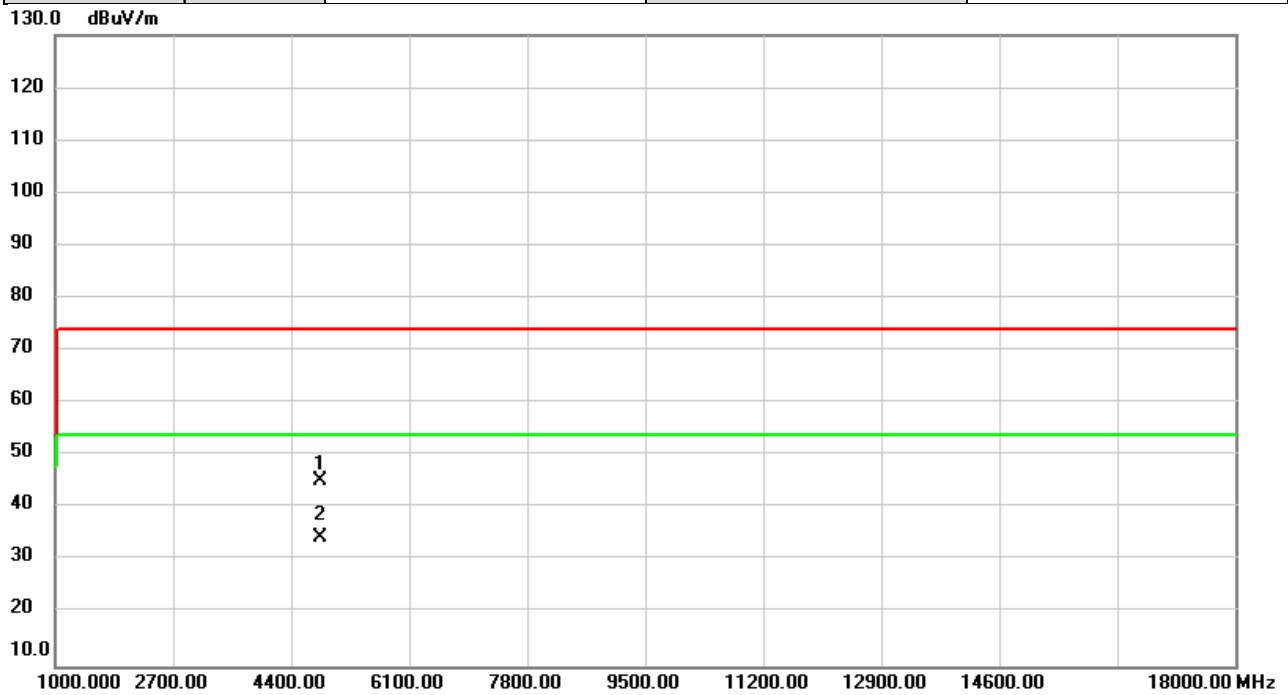


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4824.000	44.36	1.02	45.38	74.00	-28.62	peak	
2	*	4824.000	33.12	1.02	34.14	54.00	-19.86	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2412MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

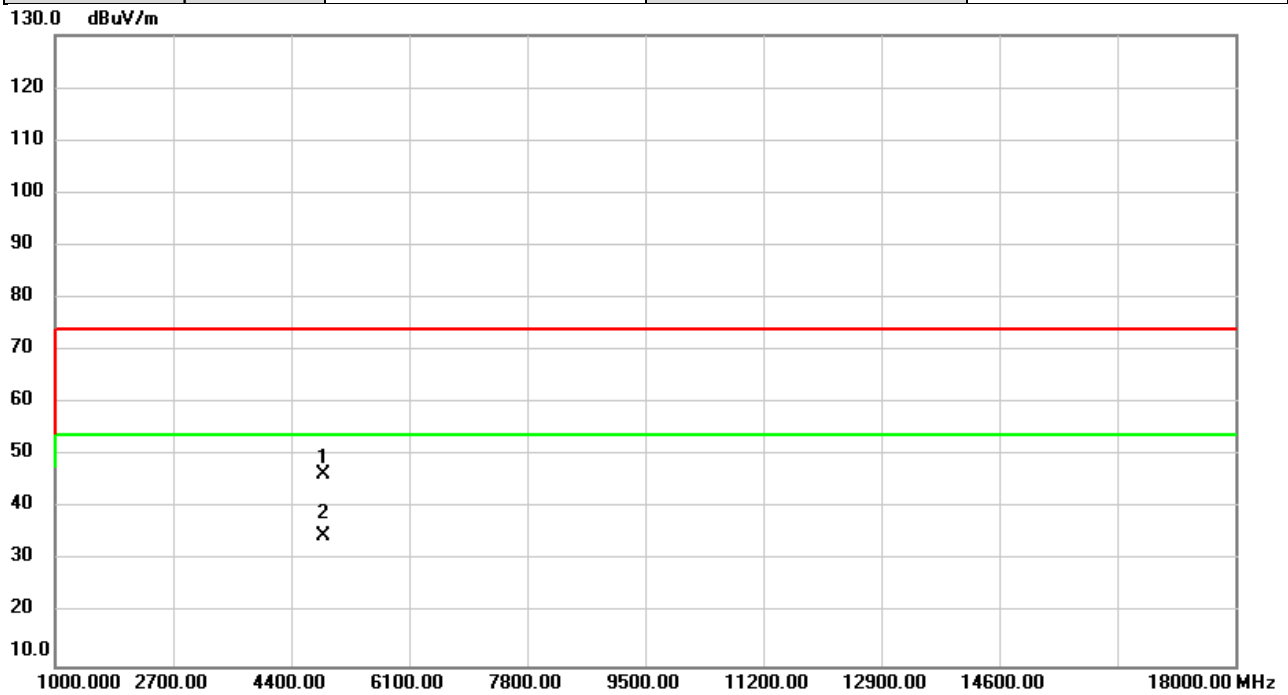


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4824.000	44.27	1.02	45.29	74.00	-28.71	peak	
2	*	4824.000	33.31	1.02	34.33	54.00	-19.67	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

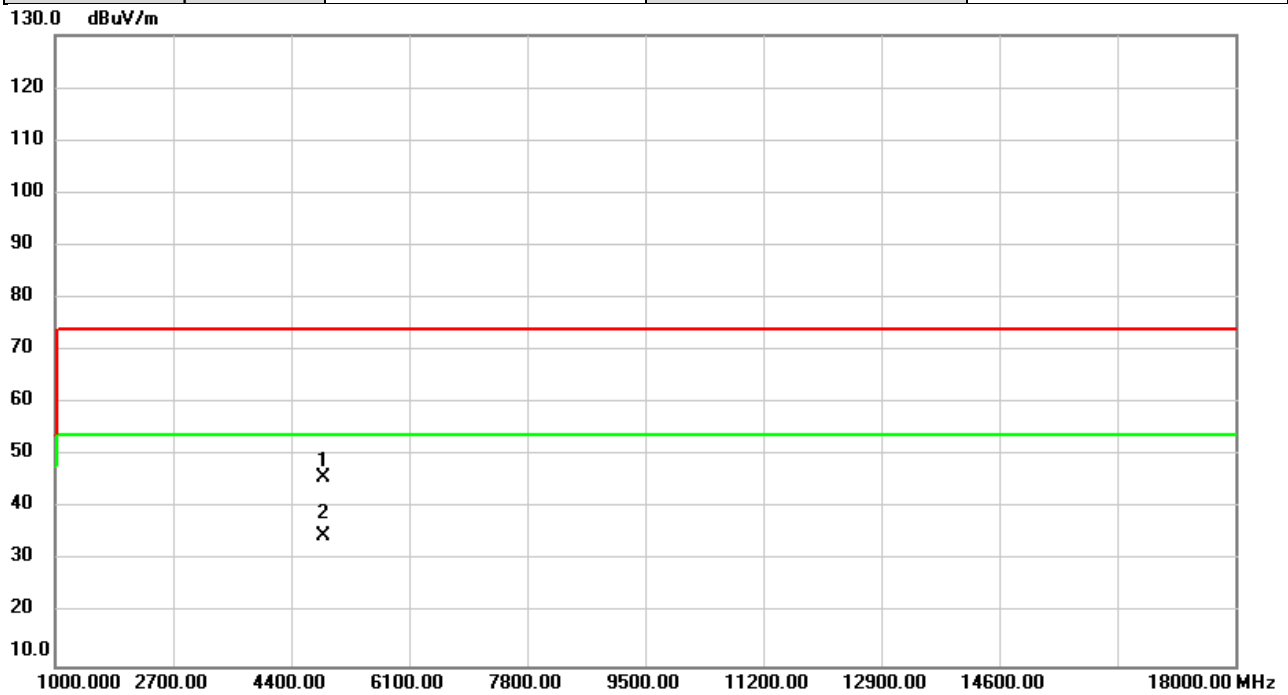


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	45.28	1.12	46.40	74.00	-27.60	peak	
2	*	4874.000	33.53	1.12	34.65	54.00	-19.35	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2437MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

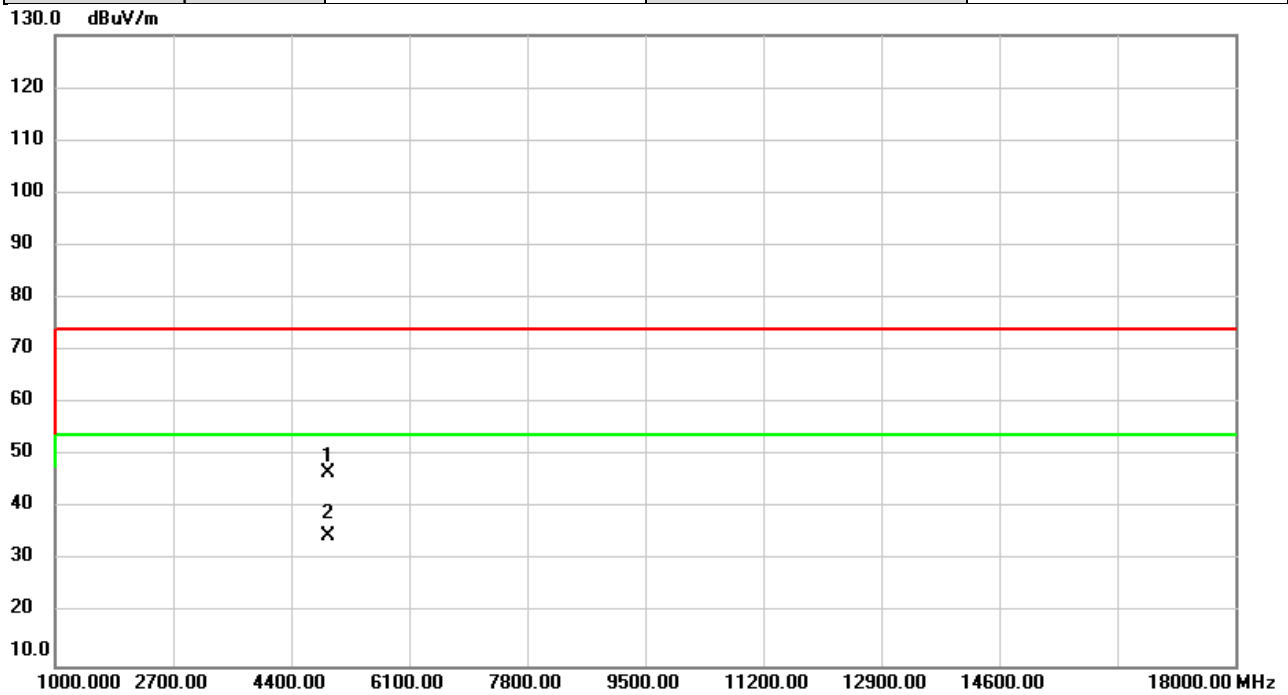


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4874.000	44.85	1.12	45.97	74.00	-28.03	peak	
2	*	4874.000	33.57	1.12	34.69	54.00	-19.31	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Vertical
Temp	26°C	Hum.	57%

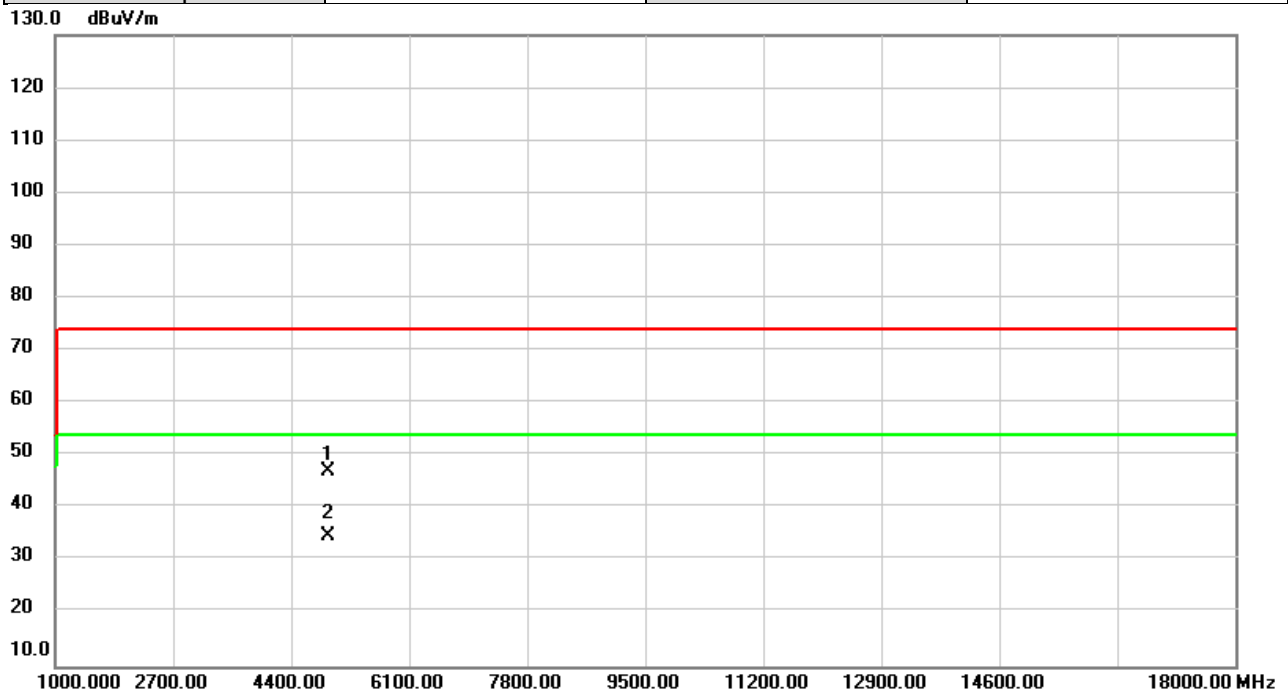


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	45.65	1.23	46.88	74.00	-27.12	peak	
2	*	4924.000	33.43	1.23	34.66	54.00	-19.34	AVG	

REMARKS:

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

Test Mode	IEEE 802.11n (HT20)	Test Date	2024/3/25
Test Frequency	2462MHz	Polarization	Horizontal
Temp	26°C	Hum.	57%

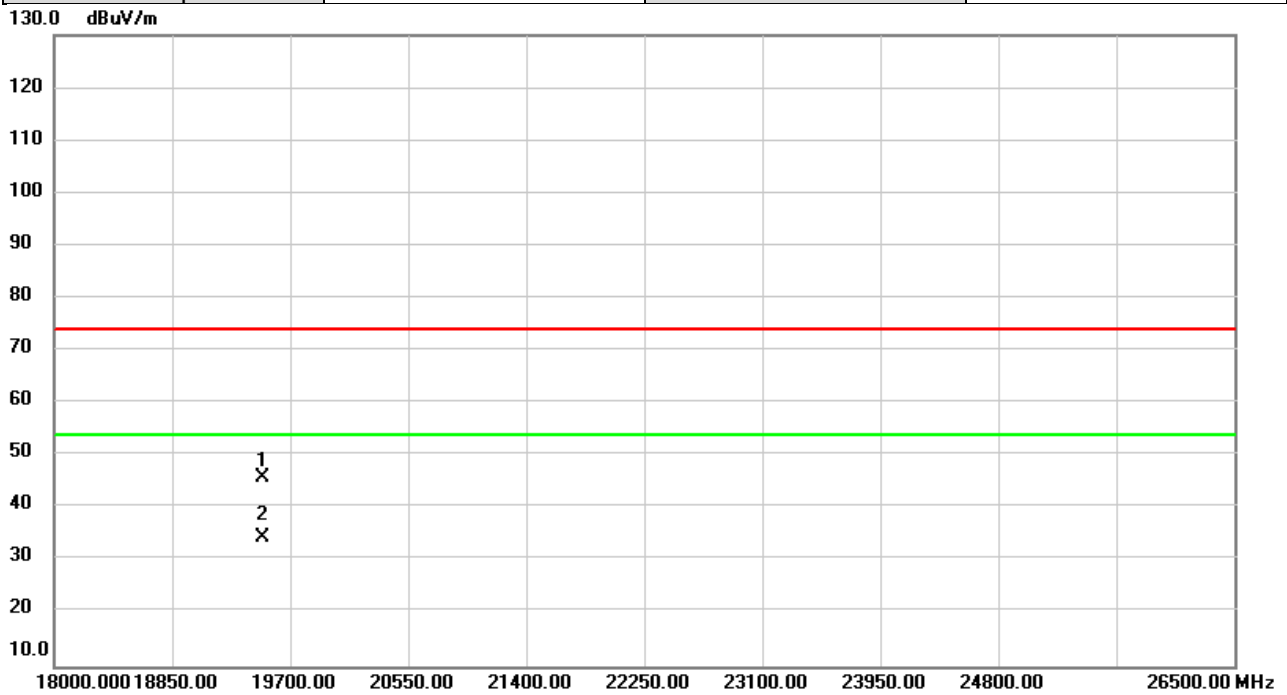


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4924.000	45.94	1.23	47.17	74.00	-26.83	peak	
2	*	4924.000	33.52	1.23	34.75	54.00	-19.25	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/4/2
Test Frequency	2437MHz	Polarization	Vertical
Temp	20°C	Hum.	60%

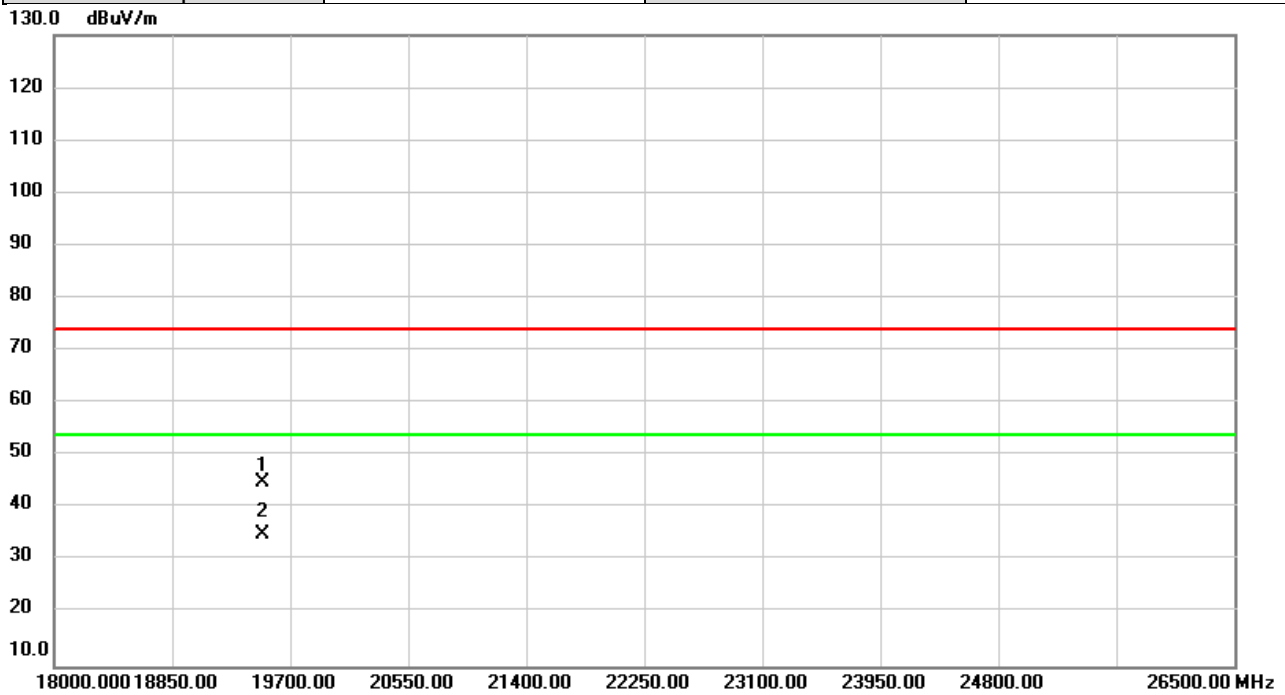


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		19496.00	52.78	-6.97	45.81	74.00	-28.19	peak	
2	*	19496.00	41.49	-6.97	34.52	54.00	-19.48	AVG	

REMARKS:

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

Test Mode	IEEE 802.11b	Test Date	2024/4/2
Test Frequency	2437MHz	Polarization	Horizontal
Temp	20°C	Hum.	60%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		19496.00	51.99	-6.97	45.02	74.00	-28.98	peak	
2	*	19496.00	41.92	-6.97	34.95	54.00	-19.05	AVG	

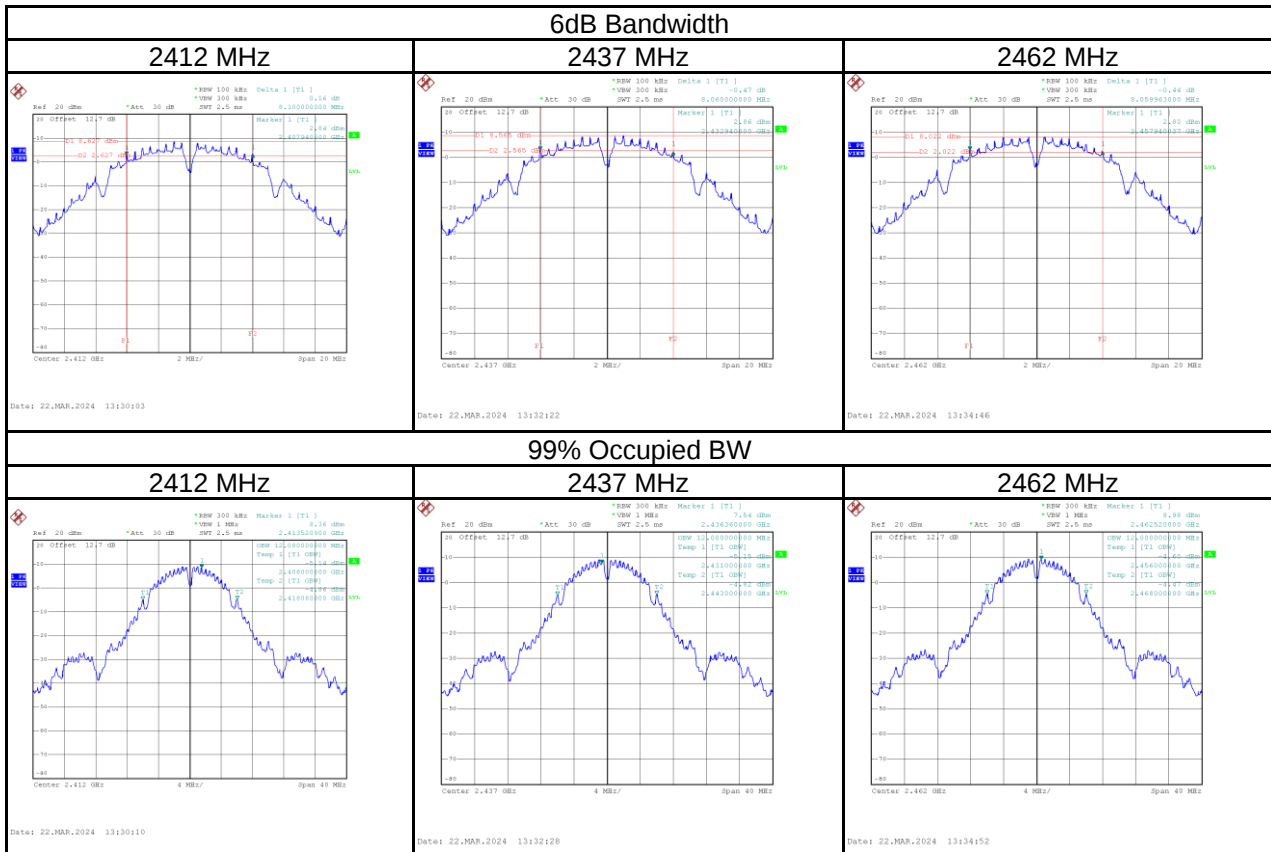
REMARKS:

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

APPENDIX E BANDWIDTH

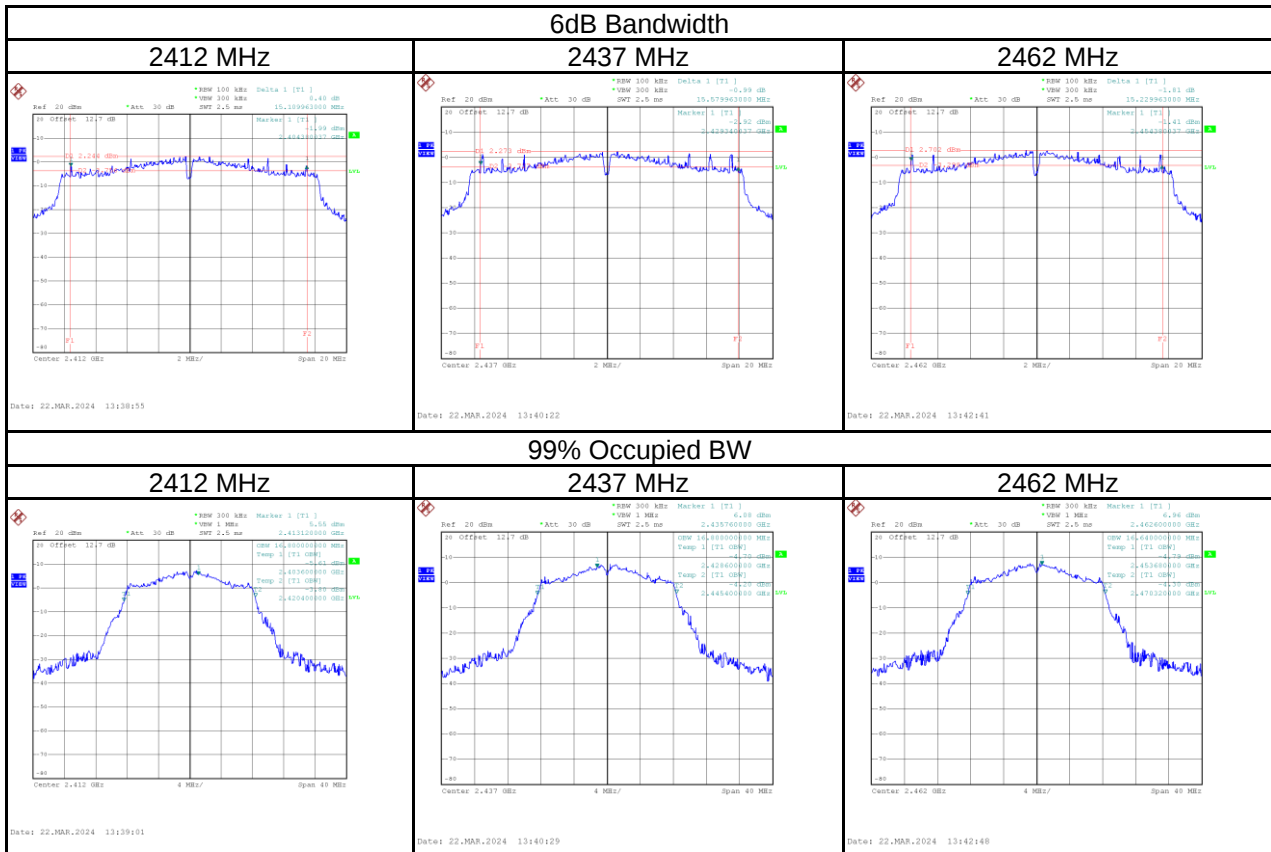
Test Mode	IEEE 802.11b
-----------	--------------

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	8.10	12.08	≥ 500	Pass
2437	8.06	12.00	≥ 500	Pass
2462	8.06	12.00	≥ 500	Pass



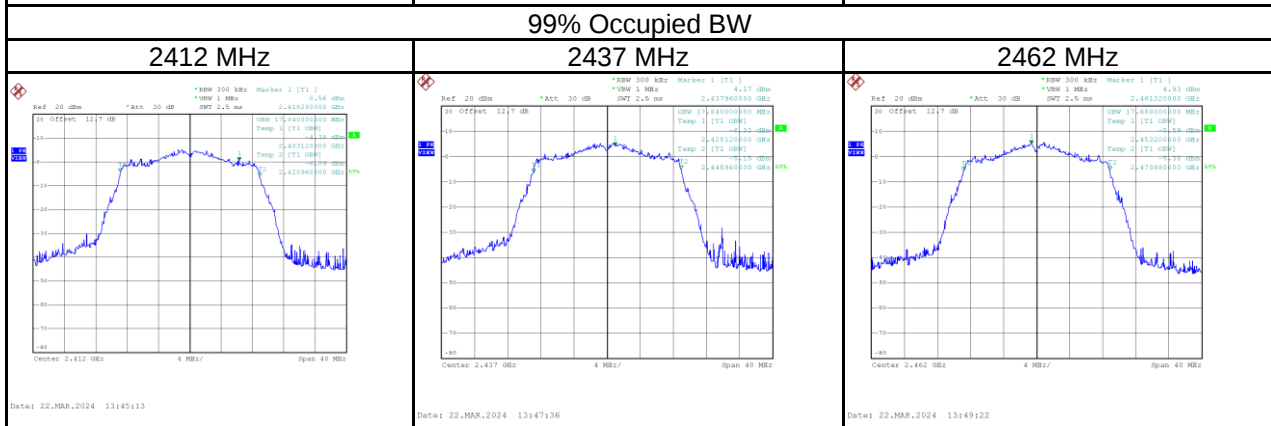
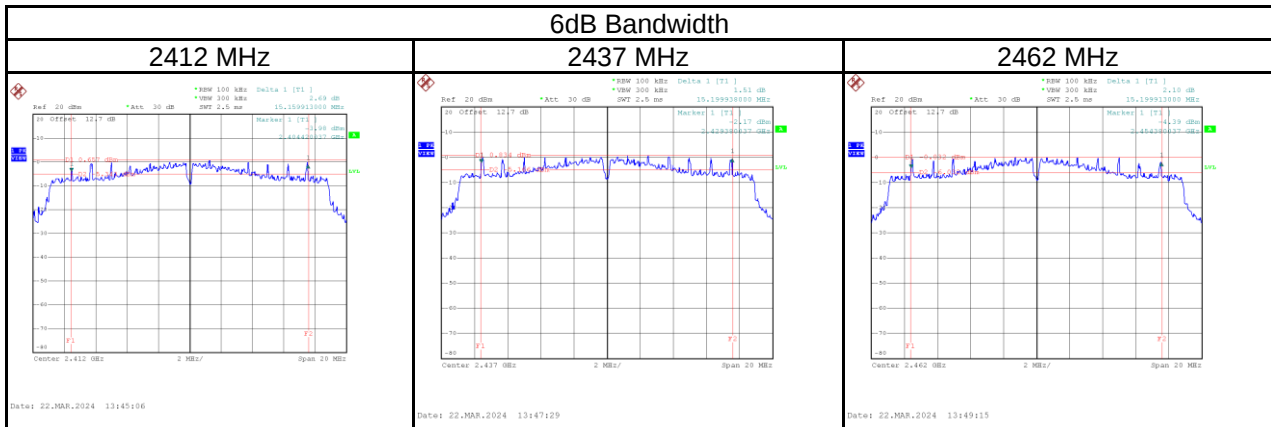
Test Mode	IEEE 802.11g
-----------	--------------

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	15.11	16.80	≥ 500	Pass
2437	15.58	16.80	≥ 500	Pass
2462	15.23	16.64	≥ 500	Pass



Test Mode	IEEE 802.11n (HT20)
-----------	---------------------

Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	15.16	17.84	≥ 500	Pass
2437	15.20	17.84	≥ 500	Pass
2462	15.20	17.68	≥ 500	Pass



APPENDIX F OUTPUT POWER

Test Mode	IEEE 802.11b	Tested Date	2024/3/21
-----------	--------------	-------------	-----------

Frequency (MHz)	Conducted Average Power (dBm)	Conducted Average Power (W)	Limit (dBm)	Limit (W)	Test Result
2412	16.74	0.0472	30.00	1.0000	Pass
2437	16.97	0.0498	30.00	1.0000	Pass
2462	16.51	0.0448	30.00	1.0000	Pass

Test Mode	IEEE 802.11g	Tested Date	2024/3/21
-----------	--------------	-------------	-----------

Frequency (MHz)	Conducted Average Power (dBm)	Conducted Average Power (W)	Limit (dBm)	Limit (W)	Test Result
2412	13.84	0.0242	30.00	1.0000	Pass
2437	13.87	0.0244	30.00	1.0000	Pass
2462	13.97	0.0249	30.00	1.0000	Pass

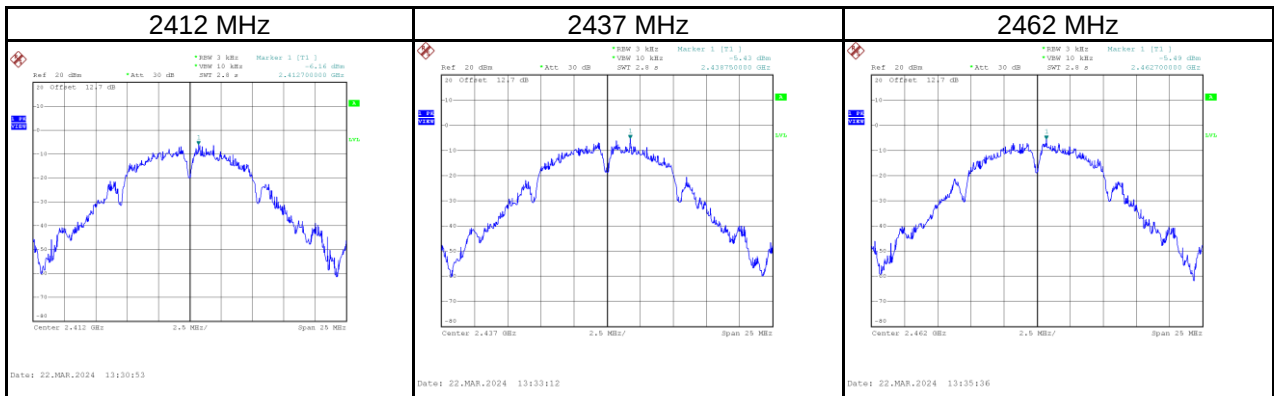
Test Mode	IEEE 802.11n (HT20)	Tested Date	2024/3/21
-----------	---------------------	-------------	-----------

Frequency (MHz)	Conducted Average Power (dBm)	Conducted Average Power (W)	Limit (dBm)	Limit (W)	Test Result
2412	11.78	0.0151	30.00	1.0000	Pass
2437	11.91	0.0155	30.00	1.0000	Pass
2462	11.83	0.0152	30.00	1.0000	Pass

APPENDIX G POWER SPECTRAL DENSITY

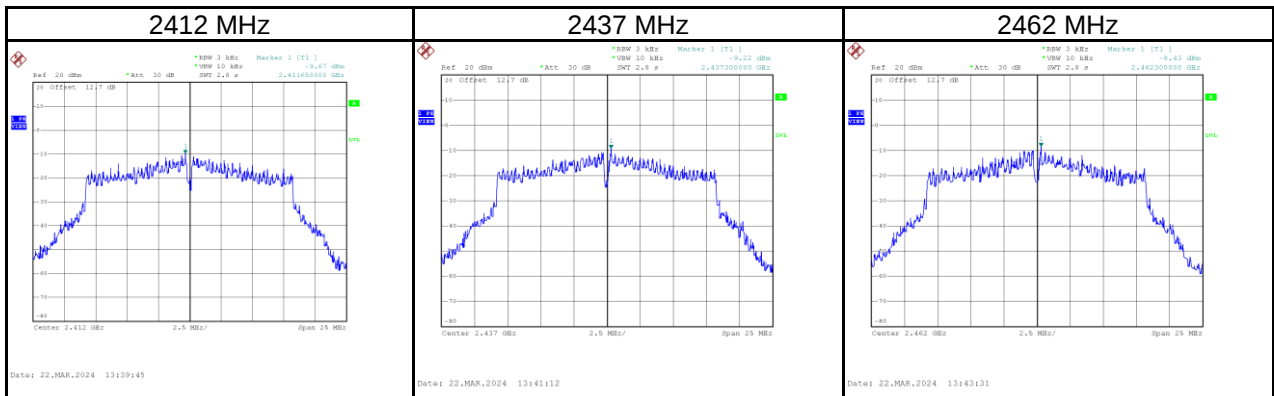
Test Mode	IEEE 802.11b
-----------	--------------

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-6.16	8.00	Pass
2437	-5.43	8.00	Pass
2462	-5.49	8.00	Pass



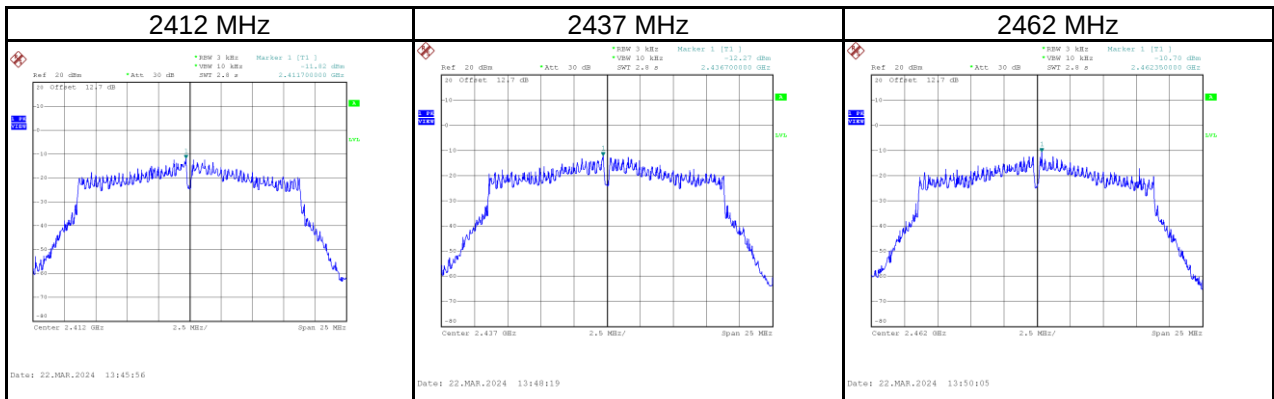
Test Mode	IEEE 802.11g
-----------	--------------

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-9.67	8.00	Pass
2437	-9.22	8.00	Pass
2462	-8.43	8.00	Pass



Test Mode	IEEE 802.11n (HT20)
-----------	---------------------

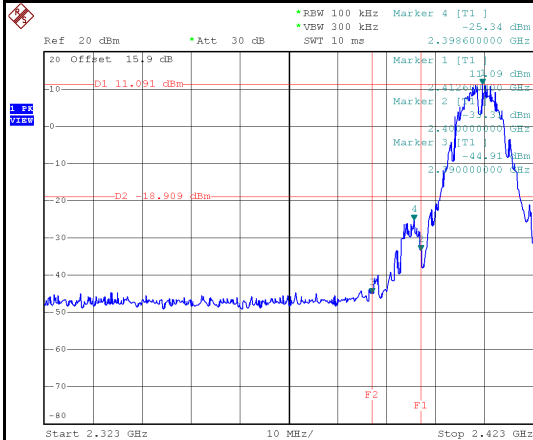
Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-11.82	8.00	Pass
2437	-12.27	8.00	Pass
2462	-10.70	8.00	Pass



APPENDIX H ANTENNA CONDUCTED SPURIOUS EMISSIONS

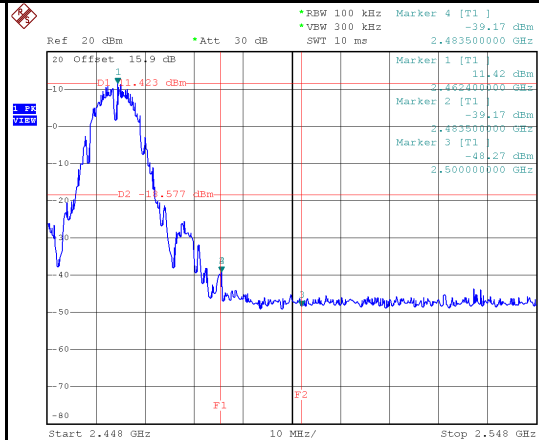
Test Mode IEEE 802.11b

Low Bandedge-2412 MHz



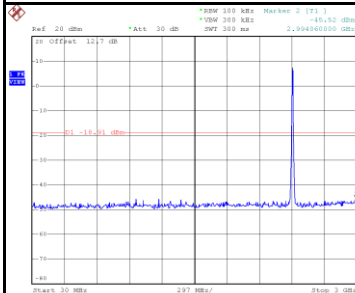
Date: 22.MAR.2024 13:30:17

High Bandedge-2462 MHz

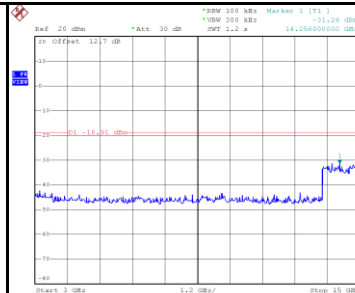


Date: 22.MAR.2024 13:35:00

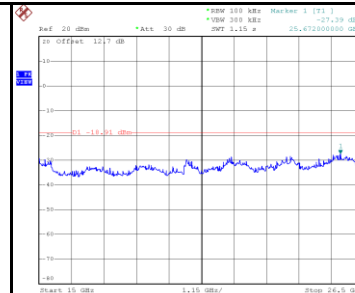
2412 MHz-10th Harmonics



Date: 22.MAR.2024 13:30:31

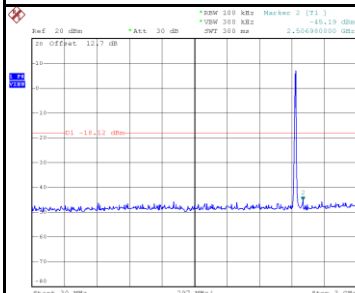


Date: 22.MAR.2024 13:30:38

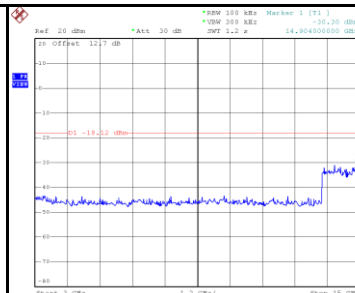


Date: 22.MAR.2024 13:30:45

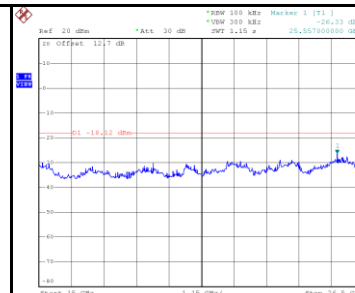
2437 MHz-10th Harmonics



Date: 22.MAR.2024 13:32:49

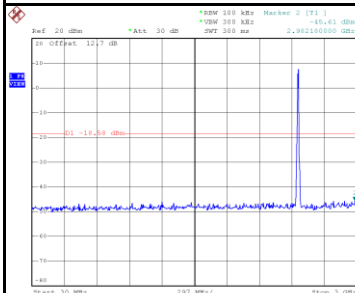


Date: 22.MAR.2024 13:32:56

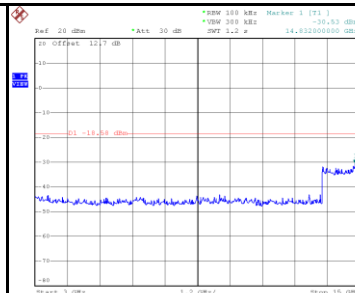


Date: 22.MAR.2024 13:33:03

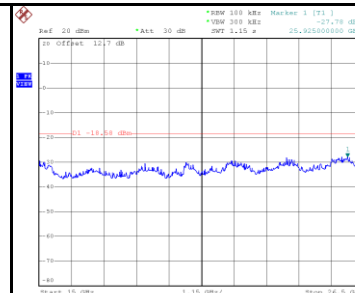
2462 MHz-10th Harmonics



Date: 22.MAR.2024 13:35:13



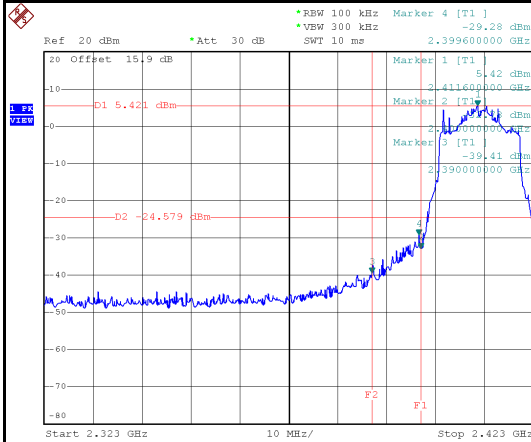
Date: 22.MAR.2024 13:35:20



Date: 22.MAR.2024 13:35:27

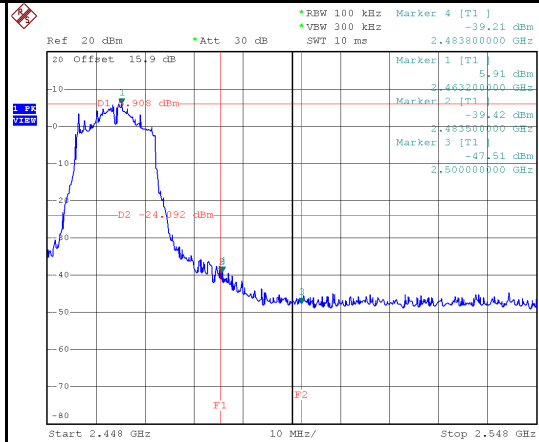
Test Mode IEEE 802.11g

Low Bandedge-2412 MHz



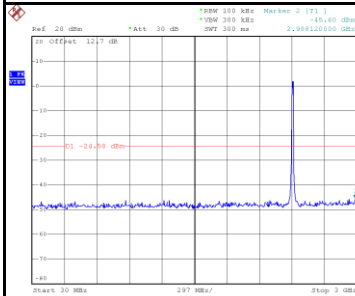
Date: 22.MAR.2024 13:39:09

High Bandedge-2462 MHz

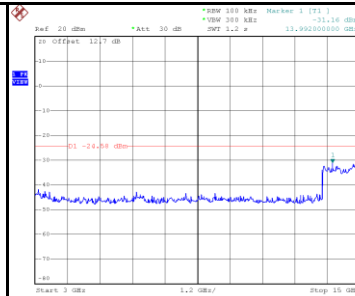


Date: 22.MAR.2024 13:42:55

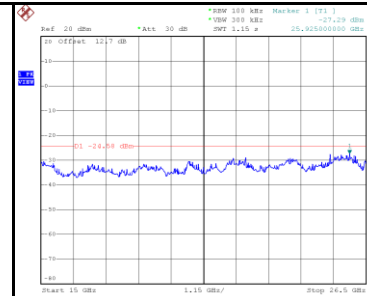
2412 MHz-10th Harmonics



Date: 22.MAR.2024 13:39:22

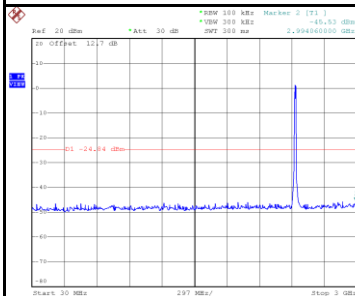


Date: 22.MAR.2024 13:39:29

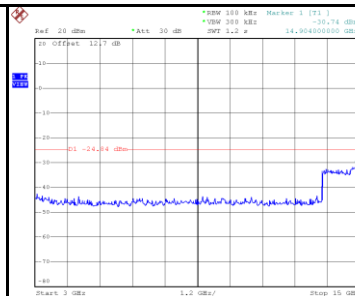


Date: 22.MAR.2024 13:39:36

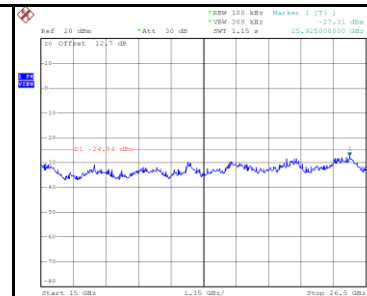
2437 MHz-10th Harmonics



Date: 22.MAR.2024 13:40:49

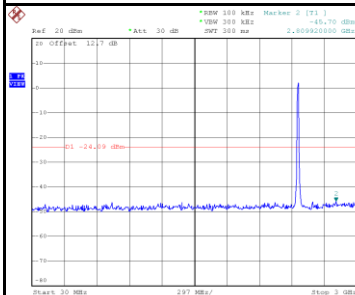


Date: 22.MAR.2024 13:40:56

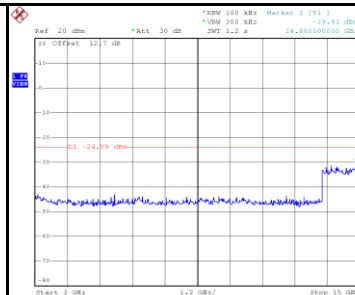


Date: 22.MAR.2024 13:41:03

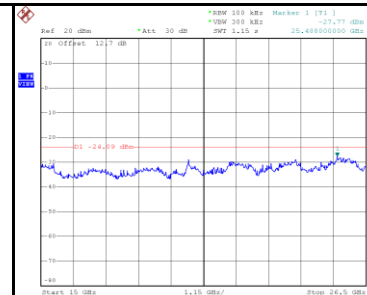
2462 MHz-10th Harmonics



Date: 22.MAR.2024 13:43:08

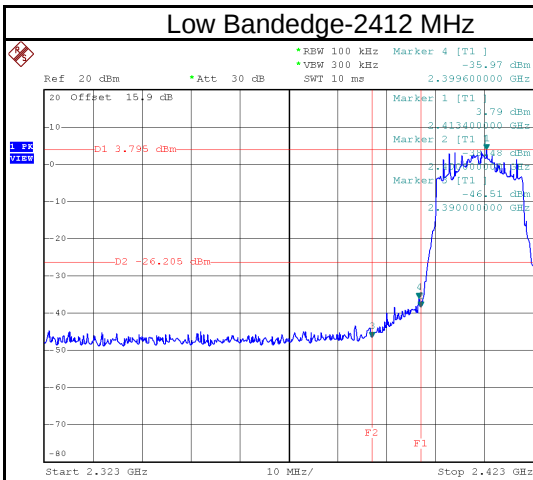


Date: 22.MAR.2024 13:43:15

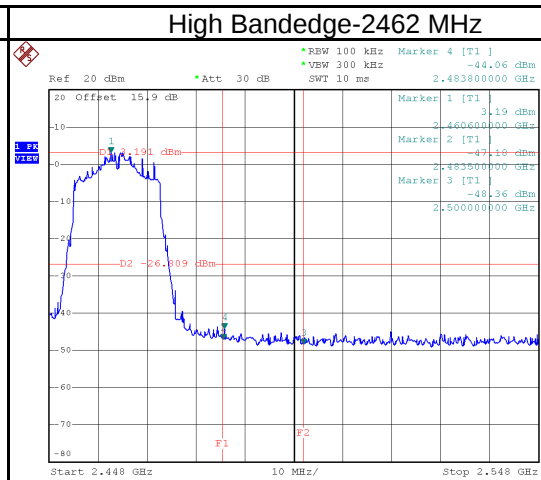


Date: 22.MAR.2024 13:43:22

Test Mode	IEEE 802.11n (HT20)
-----------	---------------------

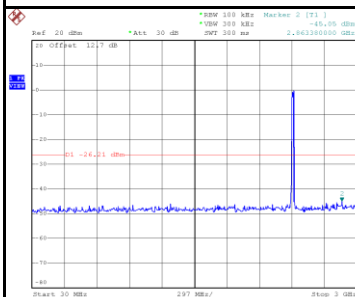


Date: 22.MAR.2024 13:50:54

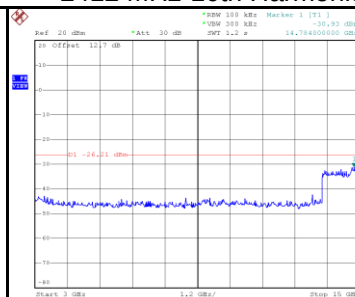


Date: 22.MAR.2024 13:49:29

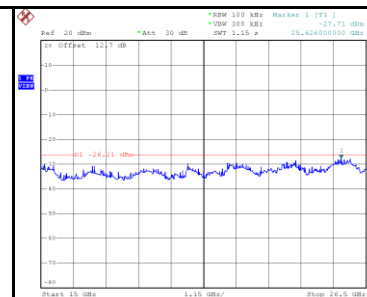
2412 MHz-10th Harmonics



Date: 22.MAR.2024 13:51:07

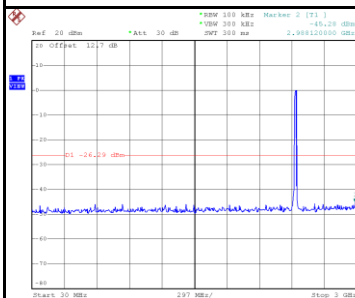


Date: 22.MAR.2024 13:51:14

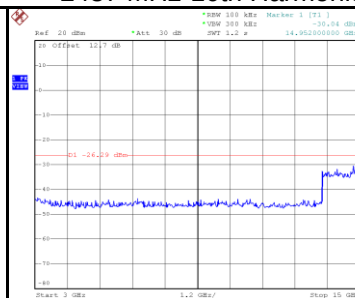


Date: 22.MAR.2024 13:51:21

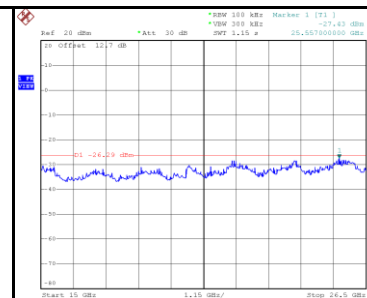
2437 MHz-10th Harmonics



Date: 22.MAR.2024 13:47:56

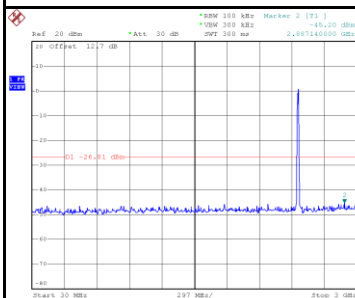


Date: 22.MAR.2024 13:48:03

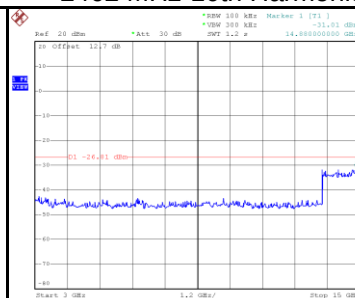


Date: 22.MAR.2024 13:48:10

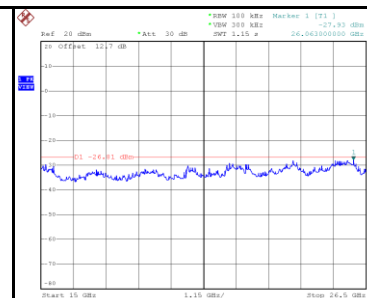
2462 MHz-10th Harmonics



Date: 22.MAR.2024 13:49:42



Date: 22.MAR.2024 13:49:49



Date: 22.MAR.2024 13:49:56

End of Test Report