FCC Radio Test Report

FCC ID: 2AXJ4KS220

This report concerns: Class II Permissive Change

Report No.	:	BTL-FCCP-2-2304G030
Equipment	:	Kasa Smart Wi-Fi Light Switch Dimmer
Model Name	:	KS220, KS225
Brand Name	:	tp-link
Applicant	:	TP-Link Corporation Limited
Address	:	Room 901, 9/F., New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer	:	TP-Link Corporation Limited
Address	:	Room 901, 9/F., New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Radio Function	:	WLAN 2.4 GHz
FCC Rule Part(s)	:	FCC CFR Title 47, Part 15, Subpart C (15.247)
Measurement Procedure(s)	:	ANSI C63.10-2013
Date of Receipt	:	2023/4/12
Date of Test	:	2023/5/17 ~ 2023/06/17
Issued Date	:	2023/7/17

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

Testing Laboratory 0659

BTL Inc.

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Declaration

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

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

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

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-2-2304G030	R00	Original Report.	2023/6/29	Invalid
BTL-FCCP-2-2304G030	R01	Revised report to address TCB's comments.	2023/7/17	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 (Below 1 GHz)	APPENDIX B	Pass	------
15.247(a)	Bandwidth	------	N/A	NOTE (1)
15.247(b)	Output Power	APPENDIX C	Pass	------
15.247(e)	Power Spectral Density	------	N/A	NOTE (1)
15.247(d)	Antenna conducted Spurious Emission	------	N/A	NOTE (1)
15.203	Antenna Requirement	------	N/A	NOTE (1)

NOTE:
(1) ”N/A” denotes test is not applicable in this Test Report.
(2) The report format version is TP.1.1.1.
(3) This a support report for FCC ID: 2AXJ4KS220. The device has been adjusted the position of the Wi-Fi board and replace the power board. Only critical items are tested and recorded in this report.

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

1.2 MEASUREMENT UNCERTAINTY

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

A. AC power line conducted emissions test:

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

B. Radiated emissions test :

Test Site	Measurement Frequency Range	U (dB)
CB21	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21

C. Conducted test :

Test Item	U (dB)
Output power	0.3669

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

1.3 TEST ENVIRONMENT CONDITIONS

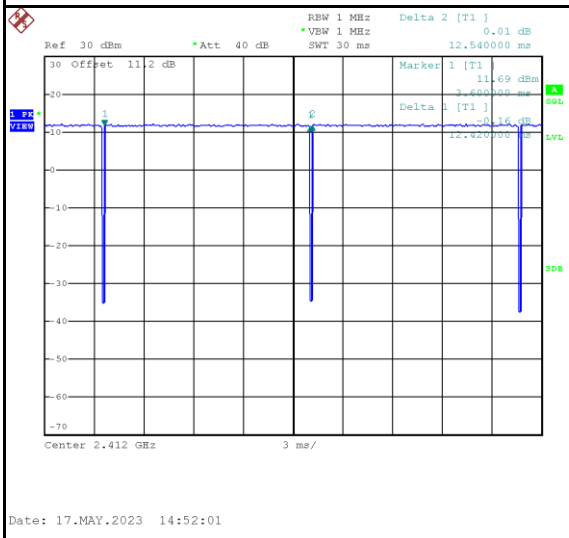
Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	21 °C, 62 %	AC 120V	Cora Lin
Radiated emissions below 1 GHz	25 °C, 60 %	AC 120V	Mark Wang
Output Power	24 °C, 41 %	AC 120V	Jay Tien

1.4 DUTY CYCLE

If duty cycle is ≥ 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	12.420	1	12.420	12.540	99.04%	0.04
IEEE 802.11g	2.040	1	2.040	2.220	91.89%	0.37
IEEE 802.11n (HT20)	1.920	1	1.920	2.060	93.20%	0.31

IEEE 802.11b



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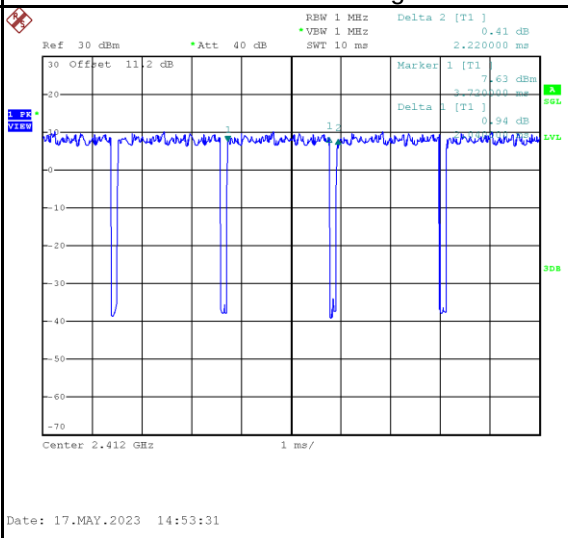
IEEE 802.11g



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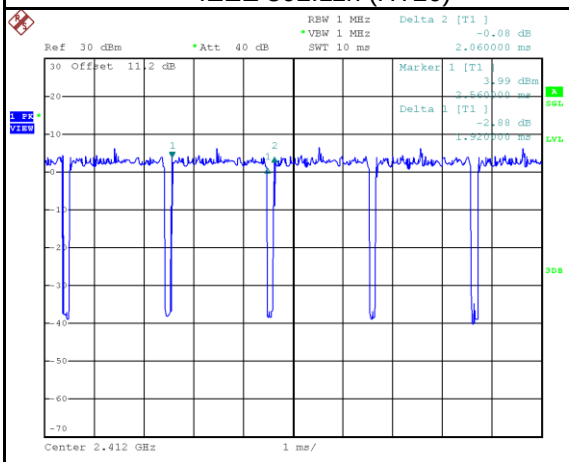
IEEE 802.11n (HT20)



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2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Kasa Smart Wi-Fi Light Switch Dimmer
Model Name	KS220, KS225
Brand Name	tp-link
Model Difference	Model KS225 is identical to model KS220 except the model designation.
Power Source	AC Mains
Power Rating	120V~ 60Hz 300W Incandescent/Halogen 150W LED
Products Covered	N/A
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
Test Software	RTLBTAPP V5.2.2.40
Average Output Power Max.	IEEE 802.11b: 22.32 dBm (0.1706 W) IEEE 802.11g: 21.07 dBm (0.1279 W) IEEE 802.11n: 20.39 dBm (0.1094 W)
Test Model	KS220
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:

Ant.	Brand	Model Name	Type	Connector	Gain (dBi)
1	tp-link	6035500079	PIFA	N/A	2.98

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

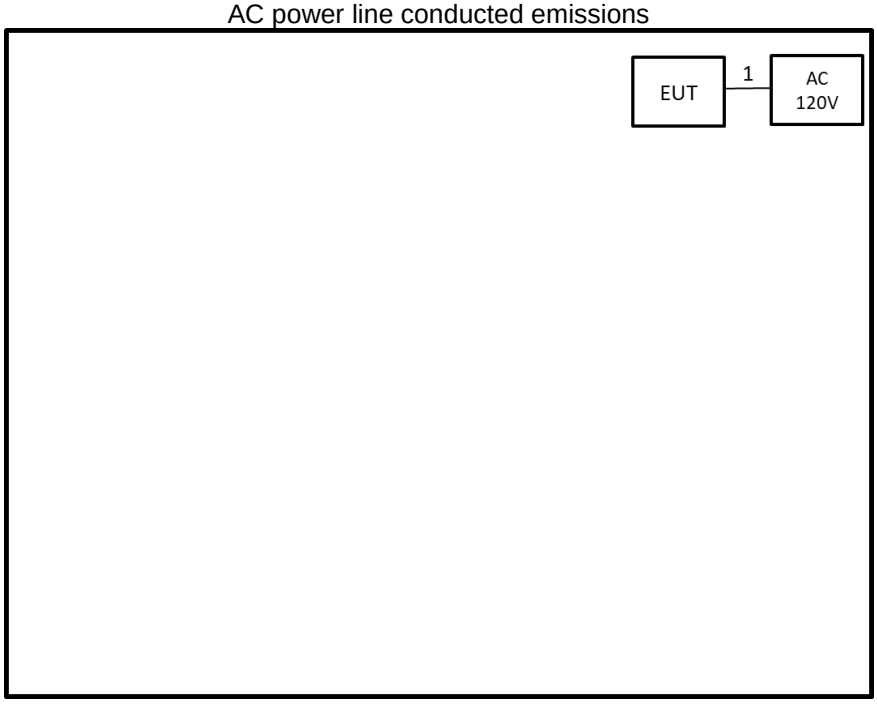
Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	------	------
Transmitter Radiated Emissions (below 1 GHz)	IEEE 802.11b	06	------
Output Power	IEEE 802.11b	01/06/11	------
	IEEE 802.11g		
	IEEE 802.11n (HT20)		

NOTE:
(1) All X, Y and Z axes are evaluated, but only the worst case (Y axis) is recorded.

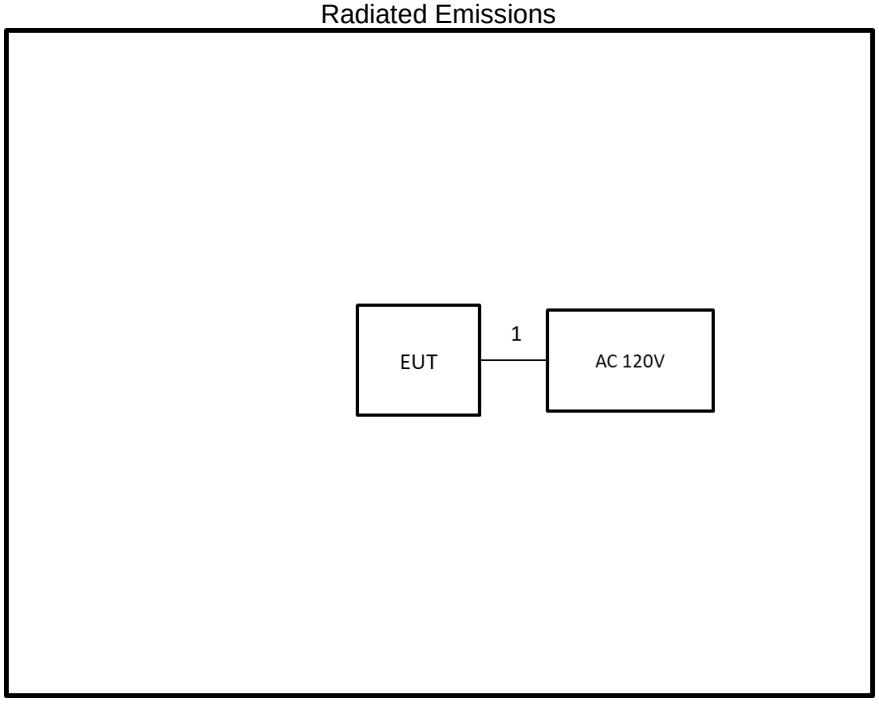
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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
-	-	-	-	-	-

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

3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

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

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

Reading Level		Correct Factor		Measurement Value
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
41.67	-	60	=	-18.33

The following table is the setting of the receiver.

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

3.2 TEST PROCEDURE

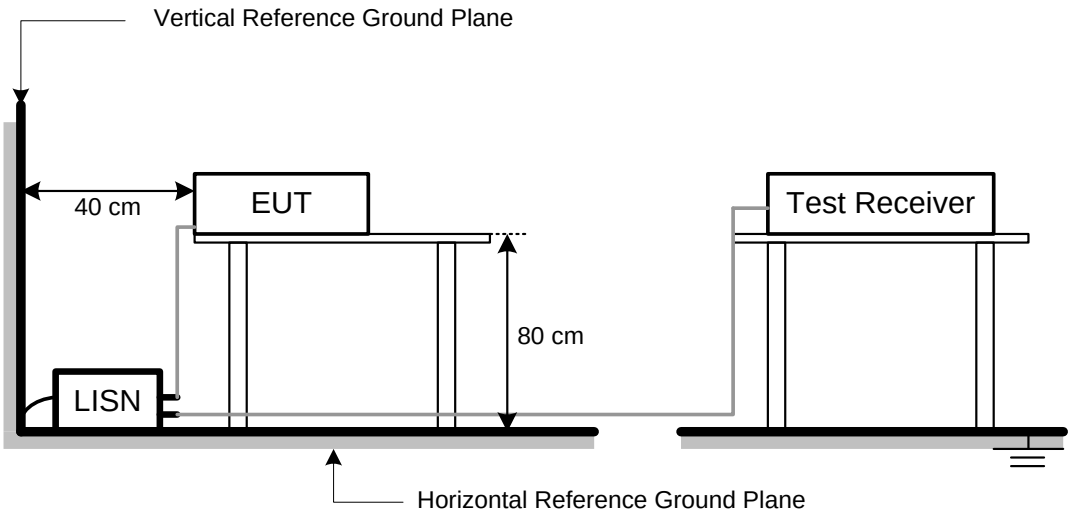
a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).
All other support equipment were powered from an additional LISN(s).
The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.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

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

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 TEST RESULT

Please refer to the APPENDIX A.

4 RADIATED EMISSIONS TEST

4.1 LIMIT

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

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

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

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		Correct Factor		Measurement Value
19.11	+	2.11	=	21.22

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

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

4.2 TEST PROCEDURE

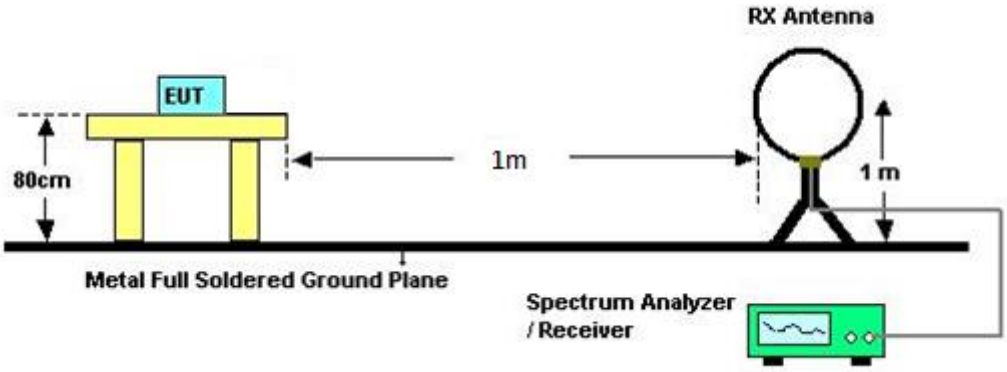
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The height of the equipment 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.
c. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
d. The 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.
e. 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)
f. For the actual test configuration, please refer to the related Item – EUT TEST PHOTO.

4.3 DEVIATION FROM TEST STANDARD

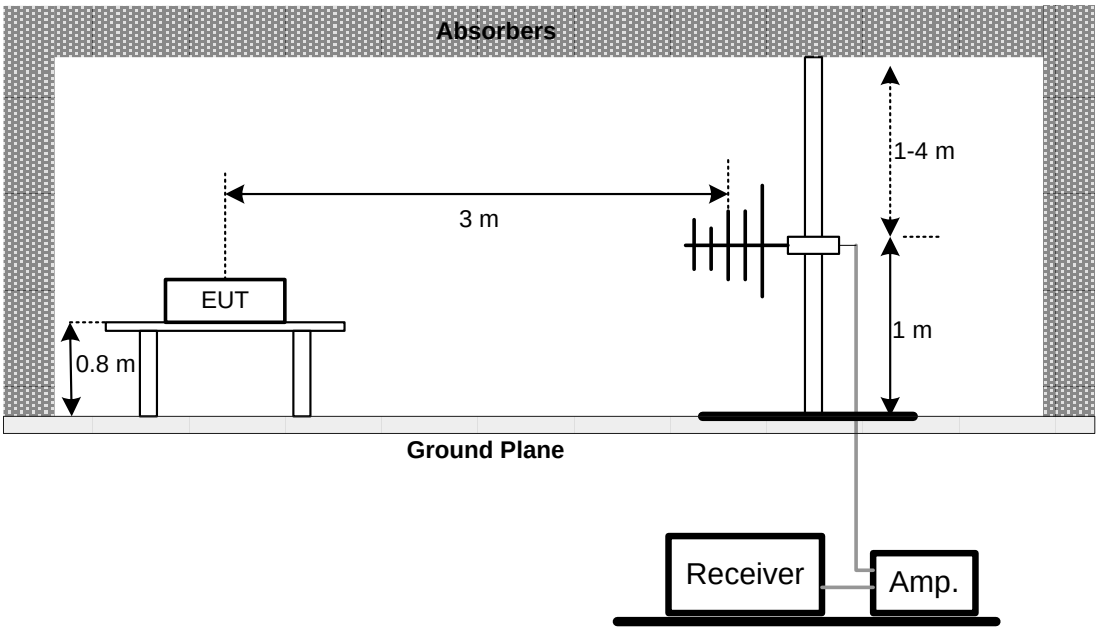
No deviation.

4.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT – BELOW 30 MHZ

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

4.7 TEST RESULT – 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

5 OUTPUT POWER TEST

5.1 LIMIT

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

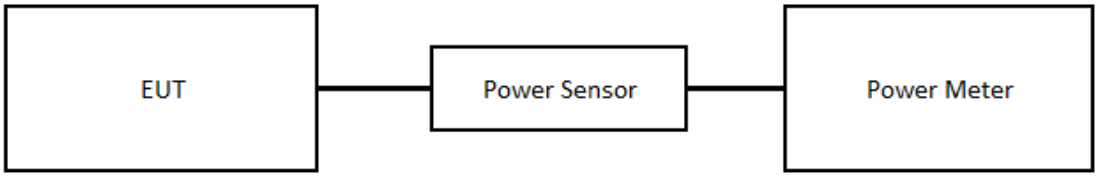
5.2 TEST PROCEDURE

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

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT

Please refer to the APPENDIX C.

6 LIST OF MEASURING EQUIPMENTS

AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	TWO-LINE V-NETWORK	R&S	ENV216	101521	2022/9/28	2023/9/27
2	Test Cable	EMCI	EMCRG58-BM-BM-9000	220331	2023/3/30	2024/3/29
3	EMI Test Receiver	R&S	ESR 7	101433	2022/11/16	2023/11/15
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	2022/9/19	2023/9/18
2	Test Cable	EMCI	EMC104-SM-SM-1000	220319	2023/3/14	2024/3/13
3	Test Cable	EMCI	EMC104-SM-SM-3000	220322	2023/3/14	2024/3/13
4	Test Cable	EMCI	EMC104-SM-SM-7000	220324	2023/3/14	2024/3/13
5	EXA Signal Analyzer	keysight	N9020B	MY57120120	2023/2/24	2024/2/23
6	Log-bicon Antenna	Schwarzbeck	VULB9168	1369	2023/5/9	2024/5/8
7	6dB Attenuator	EMCI	EMCI-N-6-06	AT-06001	2023/5/9	2024/5/8
8	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A

Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Power Meter	Anritsu	ML2495A	1128008	2023/5/12	2024/5/11
2	Power Sensor	Anritsu	MA2411B	1126001	2023/5/12	2024/5/11
3	Spectrum Analyzer	R&S	FSP 40	100129	2023/3/27	2024/3/26

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

7 EUT TEST PHOTO

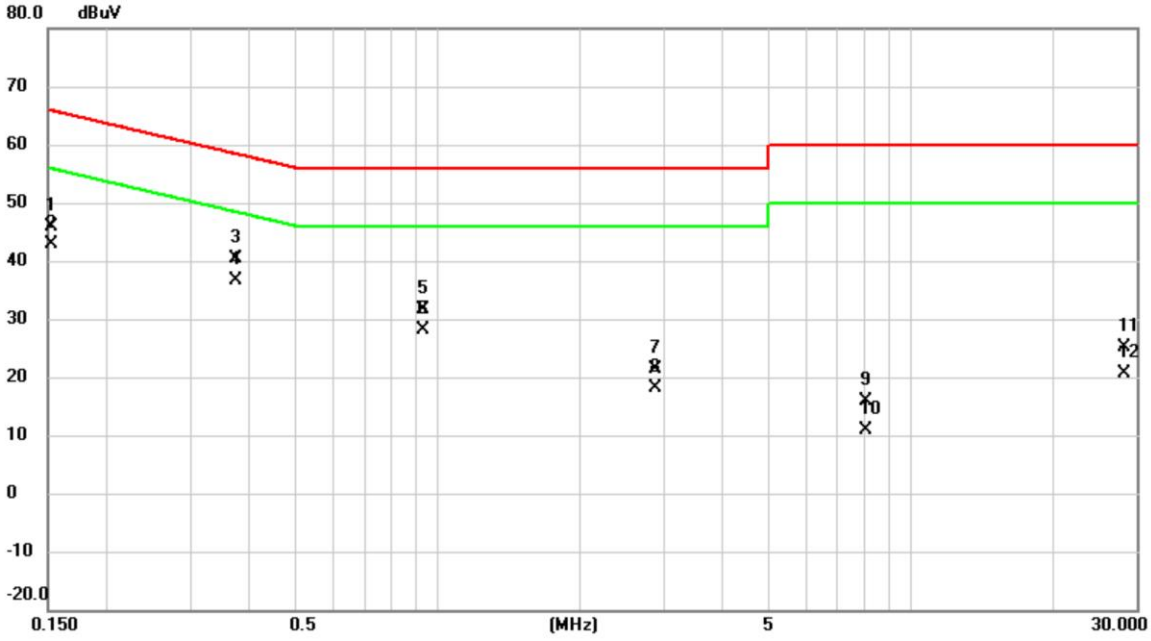
Please refer to document Appendix No.: TP-2304G030-FCCP-1 (APPENDIX-TEST PHOTOS).

8 EUT PHOTOS

Please refer to document Appendix No.: EP-2304G030-1 (APPENDIX-EUT PHOTOS).

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

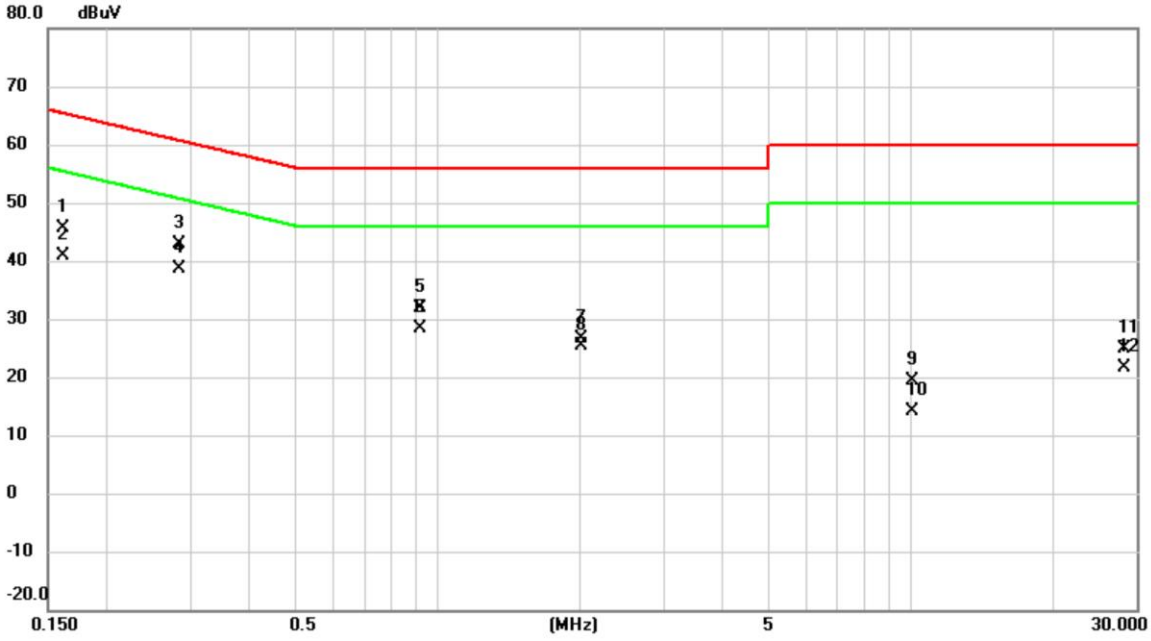
Test Mode	Normal	Tested Date	2023/05/24
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1522	36.13	9.66	45.79	65.88	-20.09	QP	
2		0.1522	33.31	9.66	42.97	55.88	-12.91	AVG	
3		0.3751	30.74	9.63	40.37	58.39	-18.02	QP	
4	*	0.3751	27.03	9.63	36.66	48.39	-11.73	AVG	
5		0.9285	21.97	9.63	31.60	56.00	-24.40	QP	
6		0.9285	18.49	9.63	28.12	46.00	-17.88	AVG	
7		2.8860	11.65	9.68	21.33	56.00	-34.67	QP	
8		2.8860	8.40	9.68	18.08	46.00	-27.92	AVG	
9		8.0318	6.19	9.76	15.95	60.00	-44.05	QP	
10		8.0318	1.09	9.76	10.85	50.00	-39.15	AVG	
11		28.2413	15.21	9.95	25.16	60.00	-34.84	QP	
12		28.2413	10.72	9.95	20.67	50.00	-29.33	AVG	

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

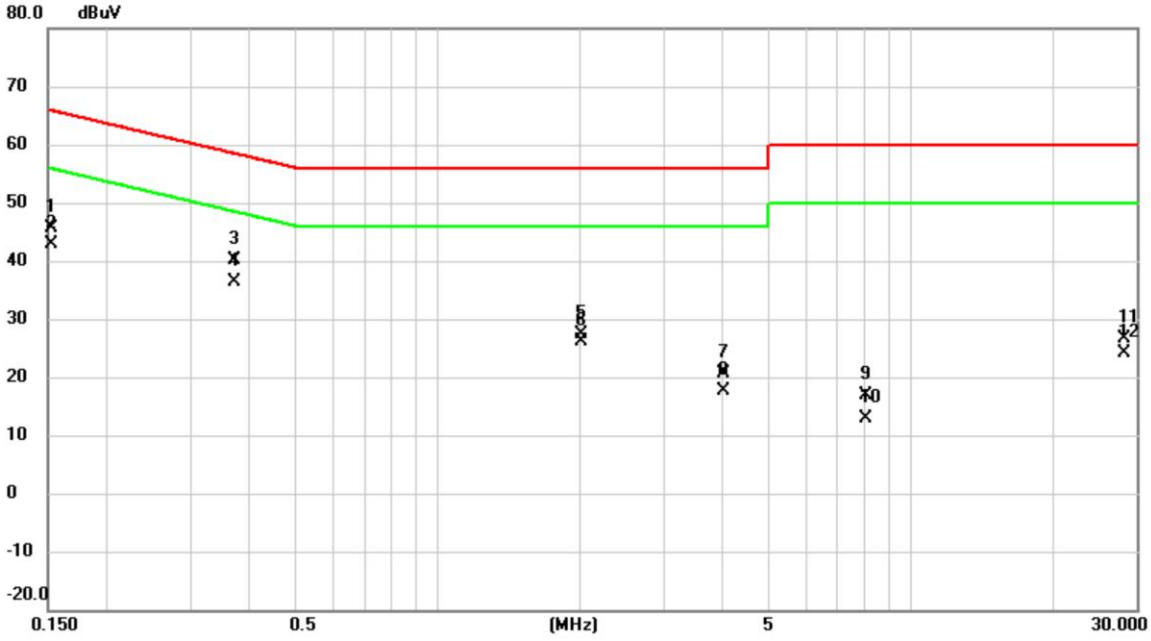
Test Mode	Normal	Tested Date	2023/05/24
Test Frequency	-	Phase	Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1613	35.87	9.67	45.54	65.40	-19.86	QP	
2		0.1613	31.16	9.67	40.83	55.40	-14.57	AVG	
3		0.2850	33.17	9.64	42.81	60.67	-17.86	QP	
4	*	0.2850	29.07	9.64	38.71	50.67	-11.96	AVG	
5		0.9195	22.36	9.64	32.00	56.00	-24.00	QP	
6		0.9195	18.82	9.64	28.46	46.00	-17.54	AVG	
7		2.0108	16.84	9.71	26.55	56.00	-29.45	QP	
8		2.0108	15.58	9.71	25.29	46.00	-20.71	AVG	
9		10.0523	9.42	9.84	19.26	60.00	-40.74	QP	
10		10.0523	4.32	9.84	14.16	50.00	-35.84	AVG	
11		28.2323	14.67	10.16	24.83	60.00	-35.17	QP	
12		28.2323	11.52	10.16	21.68	50.00	-28.32	AVG	

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

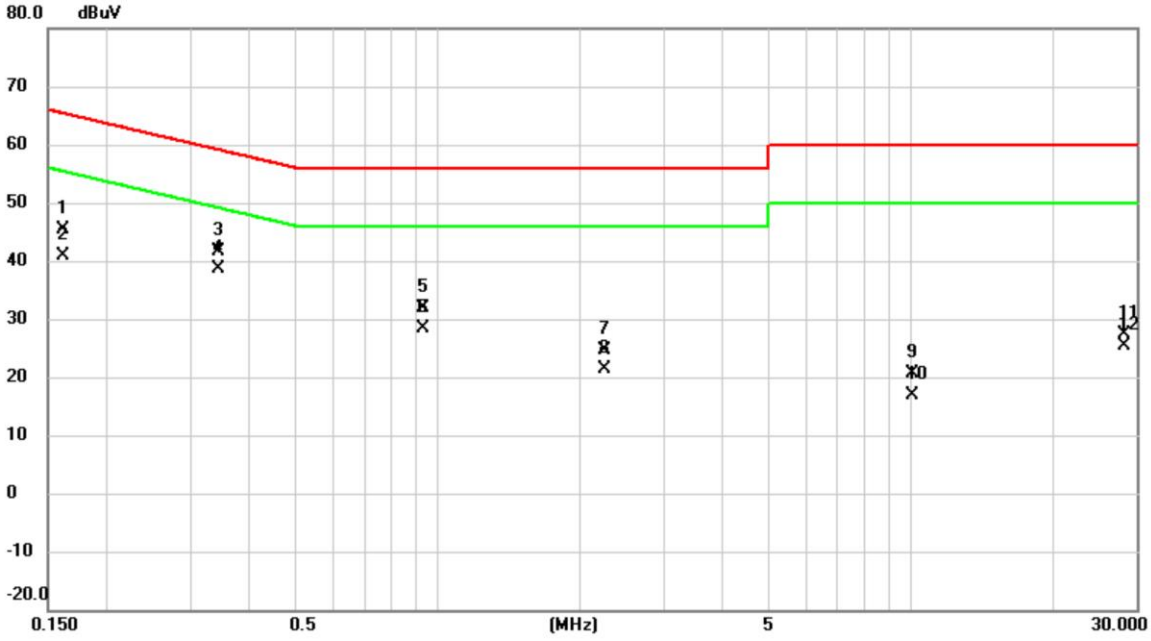
Test Mode	Idle	Tested Date	2023/05/24
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1522	36.07	9.66	45.73	65.88	-20.15	QP	
2		0.1522	33.21	9.66	42.87	55.88	-13.01	AVG	
3		0.3727	30.62	9.63	40.25	58.44	-18.19	QP	
4	*	0.3727	26.66	9.63	36.29	48.44	-12.15	AVG	
5		2.0085	17.67	9.70	27.37	56.00	-28.63	QP	
6		2.0085	16.44	9.70	26.14	46.00	-19.86	AVG	
7		4.0178	10.98	9.69	20.67	56.00	-35.33	QP	
8		4.0178	7.90	9.69	17.59	46.00	-28.41	AVG	
9		8.0295	7.23	9.76	16.99	60.00	-43.01	QP	
10		8.0295	3.08	9.76	12.84	50.00	-37.16	AVG	
11		28.2255	16.74	9.95	26.69	60.00	-33.31	QP	
12		28.2255	14.17	9.95	24.12	50.00	-25.88	AVG	

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

Test Mode	Idle	Tested Date	2023/05/24
Test Frequency	-	Phase	Neutral

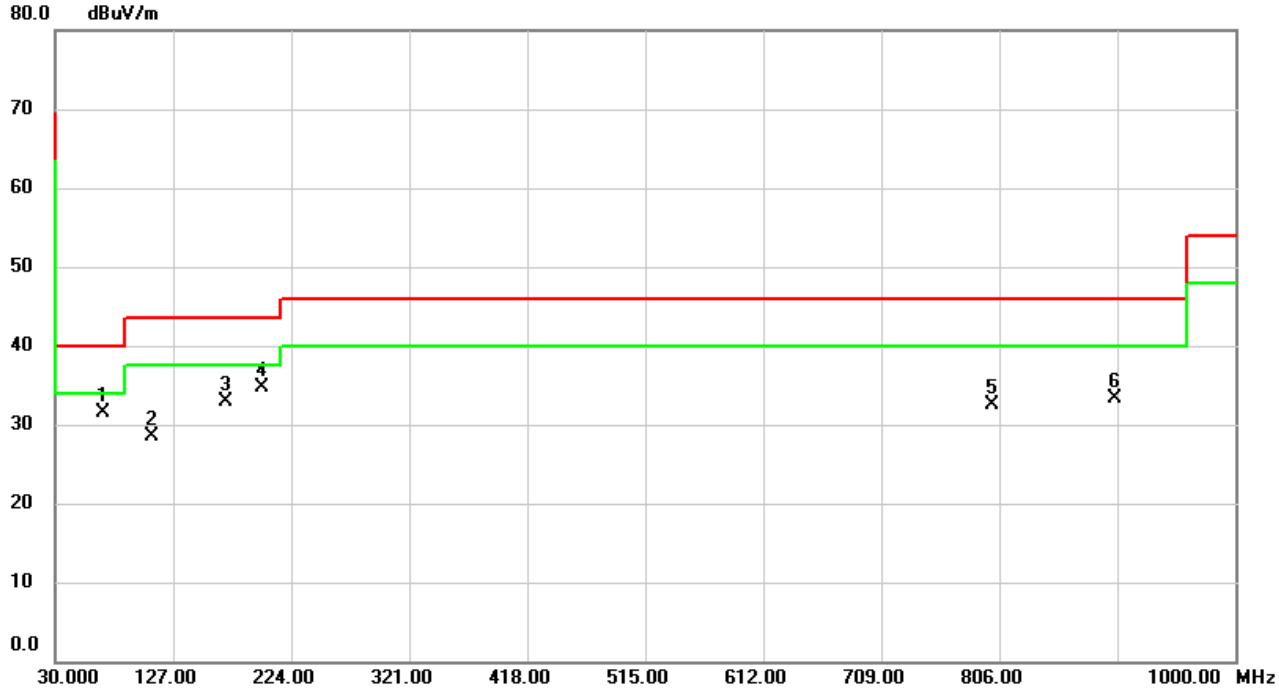


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1613	35.80	9.67	45.47	65.40	-19.93	QP	
2		0.1613	31.16	9.67	40.83	55.40	-14.57	AVG	
3		0.3435	32.09	9.64	41.73	59.12	-17.39	QP	
4	*	0.3435	29.09	9.64	38.73	49.12	-10.39	AVG	
5		0.9285	22.26	9.64	31.90	56.00	-24.10	QP	
6		0.9285	18.81	9.64	28.45	46.00	-17.55	AVG	
7		2.2538	14.86	9.70	24.56	56.00	-31.44	QP	
8		2.2538	11.73	9.70	21.43	46.00	-24.57	AVG	
9		10.0433	10.71	9.84	20.55	60.00	-39.45	QP	
10		10.0433	6.98	9.84	16.82	50.00	-33.18	AVG	
11		28.2233	17.34	10.16	27.50	60.00	-32.50	QP	
12		28.2233	15.34	10.16	25.50	50.00	-24.50	AVG	

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

APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

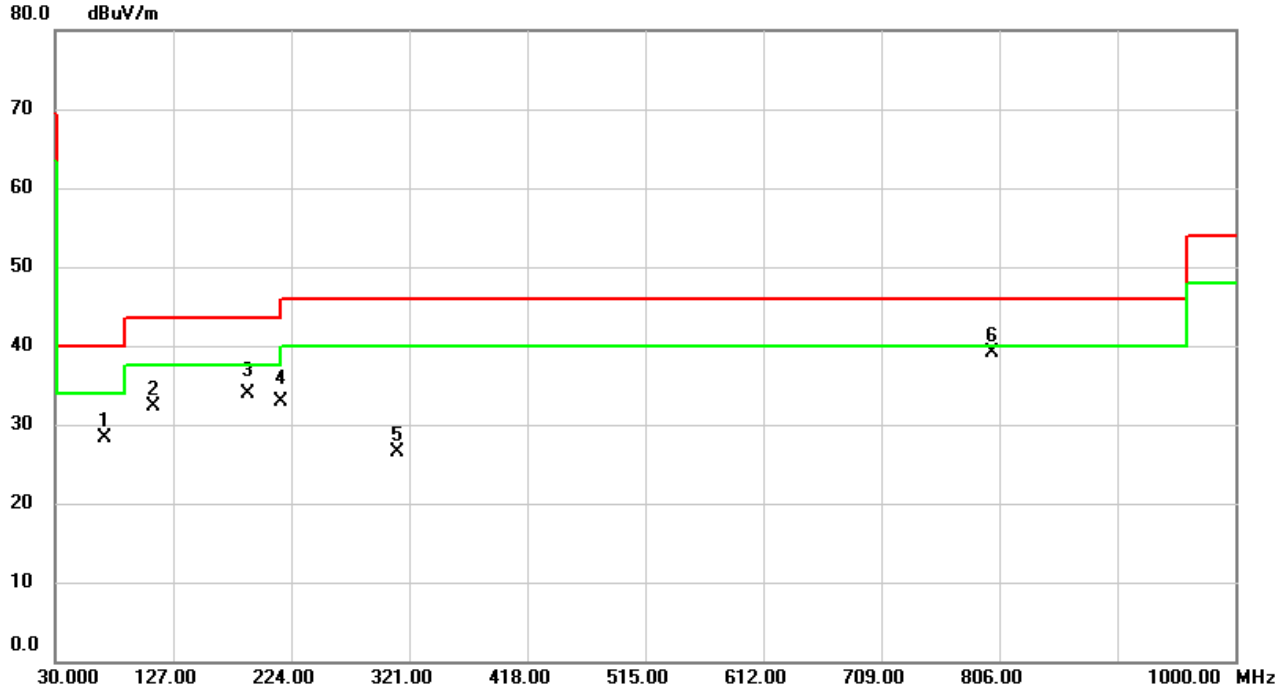
Test Mode	IEEE 802.11b	Test Date	2023/5/26
Test Frequency	2437MHz	Polarization	Vertical
Temp	25°C	Hum.	60%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	69.5760	45.45	-14.02	31.43	40.00	-8.57	peak	
2		109.7987	43.68	-15.20	28.48	43.50	-15.02	peak	
3		170.0033	45.24	-12.43	32.81	43.50	-10.69	peak	
4		199.9440	49.95	-15.33	34.62	43.50	-8.88	peak	
5		799.9860	33.51	-0.91	32.60	46.00	-13.40	peak	
6		901.2540	32.91	0.40	33.31	46.00	-12.69	peak	

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

Test Mode	IEEE 802.11b	Test Date	2023/5/26
Test Frequency	2437MHz	Polarization	Horizontal
Temp	25°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		70.4813	42.60	-14.23	28.37	40.00	-11.63	peak	
2		110.3160	47.40	-15.15	32.25	43.50	-11.25	peak	
3		188.0777	48.24	-14.36	33.88	43.50	-9.62	QP	
4		215.9490	48.20	-15.30	32.90	43.50	-10.60	QP	
5		311.1060	37.59	-11.08	26.51	46.00	-19.49	peak	
6	*	799.9860	39.99	-0.91	39.08	46.00	-6.92	peak	

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

APPENDIX C OUTPUT POWER

Test Mode	IEEE 802.11b	Tested Date	2023/06/17

Frequency	Average Output Power		Max. Limit		Result
(MHz)	(dBm)	(W)	(dBm)	(W)	
2412	19.98	0.0995	30.00	1.0000	Complies
2437	22.31	0.1702	30.00	1.0000	Complies
2462	22.32	0.1706	30.00	1.0000	Complies

Test Mode	IEEE 802.11g	Tested Date	2023/05/17

Frequency	Average Output Power		Max. Limit		Result
(MHz)	(dBm)	(W)	(dBm)	(W)	
2412	18.96	0.0787	30.00	1.0000	Complies
2437	21.07	0.1279	30.00	1.0000	Complies
2462	17.60	0.0575	30.00	1.0000	Complies

Test Mode	IEEE 802.11n (HT20)	Tested Date	2023/05/17

Frequency	Average Output Power		Max. Limit		Result
(MHz)	(dBm)	(W)	(dBm)	(W)	
2412	18.22	0.0664	30.00	1.0000	Complies
2437	20.39	0.1094	30.00	1.0000	Complies
2462	17.56	0.0570	30.00	1.0000	Complies

End of Test Report