FCC Radio Test Report

FCC ID: 2BH7FH110

Report No.	:	BTL-FCCP-3-2502G006
Equipment	:	Smart IOT & IR Hub
Model Name	:	Tapo H110
Brand Name	:	tp-link, tapo
Applicant	:	TP-Link Systems Inc.
Address	:	10 Mauchly, Irvine, CA 92618
Manufacturer	:	TP-Link Systems Inc.
Address	:	10 Mauchly, Irvine, CA 92618
Radio Function	:	Sub-1G
FCC Rule Part(s)	:	FCC CFR Title 47, Part 15, Subpart C (15.247)
Measurement Procedure(s)	:	ANSI C63.10-2013
Date of Receipt	:	2025/2/25
Date of Test	:	2025/3/6 ~ 2025/3/11
Issued Date	:	2025/4/14

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

Prepared by : Poken Huang

Poken Huang, Engineer

Approved by : Peter Chen

Peter Chen, Manager

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** 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.

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2502G006	R00	Original Report.		Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	------
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C	PASS	------
15.247(a)(2)	Bandwidth	APPENDIX D	PASS	------
15.247(b)(3)	Maximum Output Power	APPENDIX E	PASS	------
15.247(d)	Conducted Spurious Emission	APPENDIX F	PASS	------
15.247(e)	Power Spectral Density	APPENDIX G	PASS	------
15.203	Antenna Requirement	------	PASS	**Note(2)**

Note:

(1) "N/A" denotes test is not applicable to this device.

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

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. 64, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (FCC DN: TW0659)
☒ C01 ☒ CB20
No. 68-2, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan (FCC DN: TW0659)
☒ SR06

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 Measurement:

Test Site	Method	Measurement Frequency Range	U (dB)
C01	CISPR	150 kHz ~ 30MHz	3.44

B. Radiated emissions Measurement:

Test Site	Measurement Frequency Range (GHz)	U (dB)
CB20 (3m)	0.03~0.2	4.01
	0.02~1	4.64
	1 ~ 6	5.91
	6 ~ 18	6.24
	18 ~ 26	3.93
	26 ~ 40	4.06

C. Other Measurement:

Test Item	U
Occupied Bandwidth	86 %
Output power	0.8412 dB
Power Spectral Density	0.8602 dB
Conducted Spurious emissions	1.8304 dB
Conducted Band edges	1.8338 dB

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	25°C, 45%	AC 120V/60Hz	Benny Cao
Radiated Emissions-30 MHz to 1000 MHz	25°C, 65%	AC 120V/60Hz	Benny Cao
Radiated Emissions-Above 1000 MHz	25°C, 65%	AC 120V/60Hz	Benny Cao
Bandwidth	25°C, 50%	AC 120V/60Hz	Cheng Tsai
Maximum Output Power	25°C, 60%	AC 120V/60Hz	Jeremy Li
Conducted Spurious Emission	25°C, 50%	AC 120V/60Hz	Cheng Tsai
Power Spectral Density	25°C, 50%	AC 120V/60Hz	Cheng Tsai

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Smart IOT & IR Hub
Brand Name	tp-link, tapo
Model Name	Tapo H110
Model Difference(s)	N/A
Software Version	1.X
Hardware Version	1.0
Power Source	Supplied from USB port.
Power Rating	5V⎓2A
Frequency Range	902MHz ~ 928MHz
Modulation Type	GFSK
Bit Rate of Transmitter	50Kbps
Maximum Output Power	16.18 dBm (0.0415 W)
Test Model	Tapo H110

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

Channel	Frequency (MHz)
00	920.9
01	921.7
02	922.3

3. Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	tp-link	Tapo H110(US)1.0-Ant2	IFA	N/A	-1.00

Note: 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 DESCRIPTION OF TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal	-	-
Transmitter Radiated Emissions (below 1GHz)	TX Mode	02	-
Transmitter Radiated Emissions (above 1GHz)	TX Mode	00/02	Bandedge
	TX Mode	00/01/02	Harmonic
Bandwidth & Output Power & Power Spectral Density & Conducted Spurious Emission	TX Mode	00/01/02	-

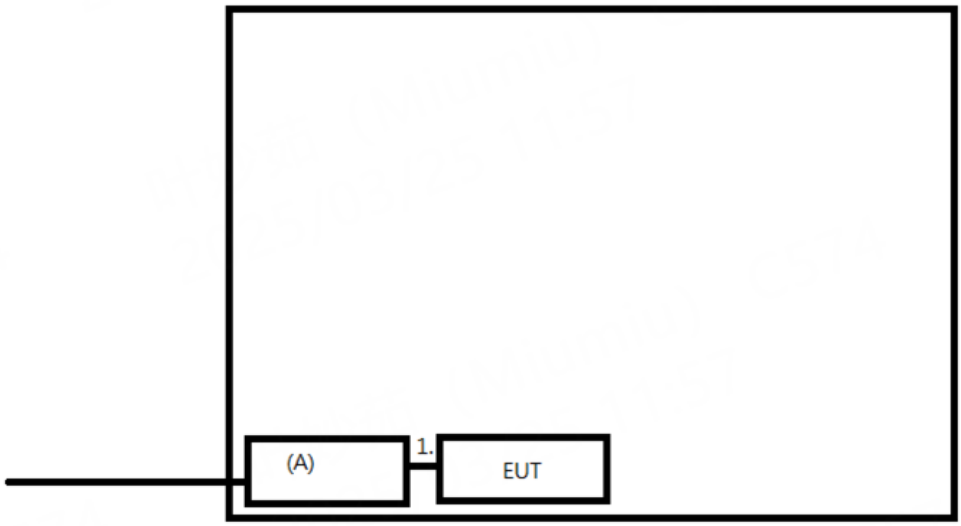
NOTE:
(1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
(2) For AC power line conducted emissions and radiated emission below 1 GHz test, the Channel 02 is found to be the worst case and recorded.
(3) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.

2.3 PARAMETERS OF TEST SOFTWARE

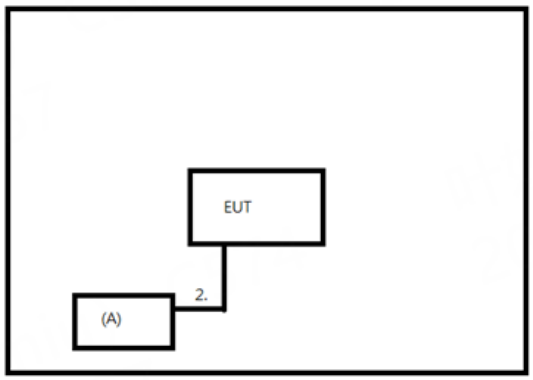
Test Software Version	IPOP V4.0		
Frequency (MHz)	920.9	921.7	922.3
-	DEF	DEF	DEF

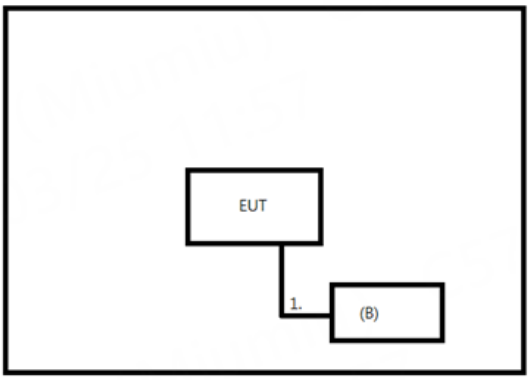
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

AC Power Line Conducted Emissions



Radiated Emissions





2.5 SUPPORT UNITS

AC Power Line Conducted Emissions

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	Adapter	DVE	DSA-10PF06-05 FUS	N/A	Supplied by test requester

Item	Cable Type	Shielded	Ferrite Core	Length	Remarks
1	Type-C	NO	NO	1.6m	Supplied by test requester

Radiated Emissions

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	Notebook	Dynabook	TECRA-A40-J	N/A	Furnished by test lab
B	Adapter	DVE	DSA-10PF06-05 FUS	N/A	Supplied by test requester

Item	Cable Type	Shielded	Ferrite Core	Length	Remarks
1	Type-C	NO	NO	1.6m	Supplied by test requester
2	Fixture	NO	NO	0.03m	Furnished by test lab

3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 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 (dBuV)		Correct Factor (dB)		Measurement Value (dBuV)
38.22	+	3.45	=	41.67

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

3.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling 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 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

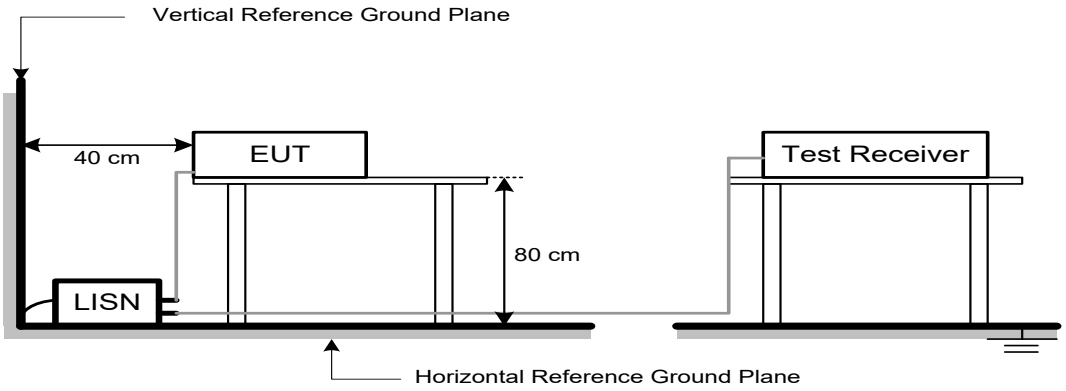
The following table is the setting of the receiver:

Receiver Parameters	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS

4.1 LIMIT

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

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

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/m)		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

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 1 GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

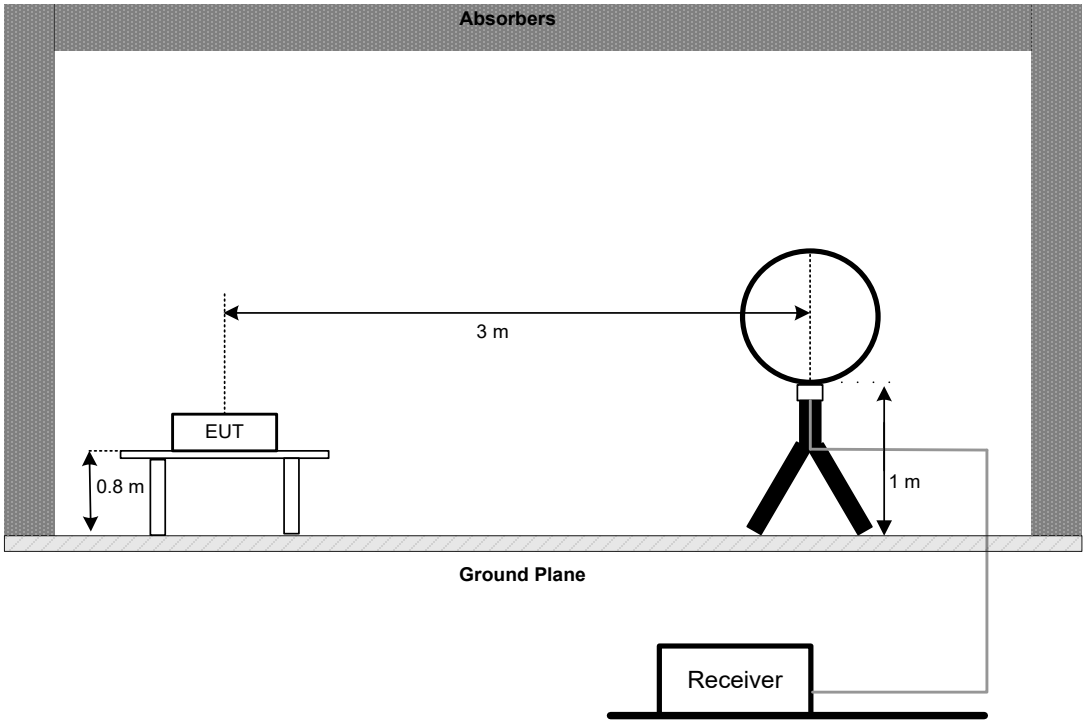
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

4.3 DEVIATION FROM TEST STANDARD

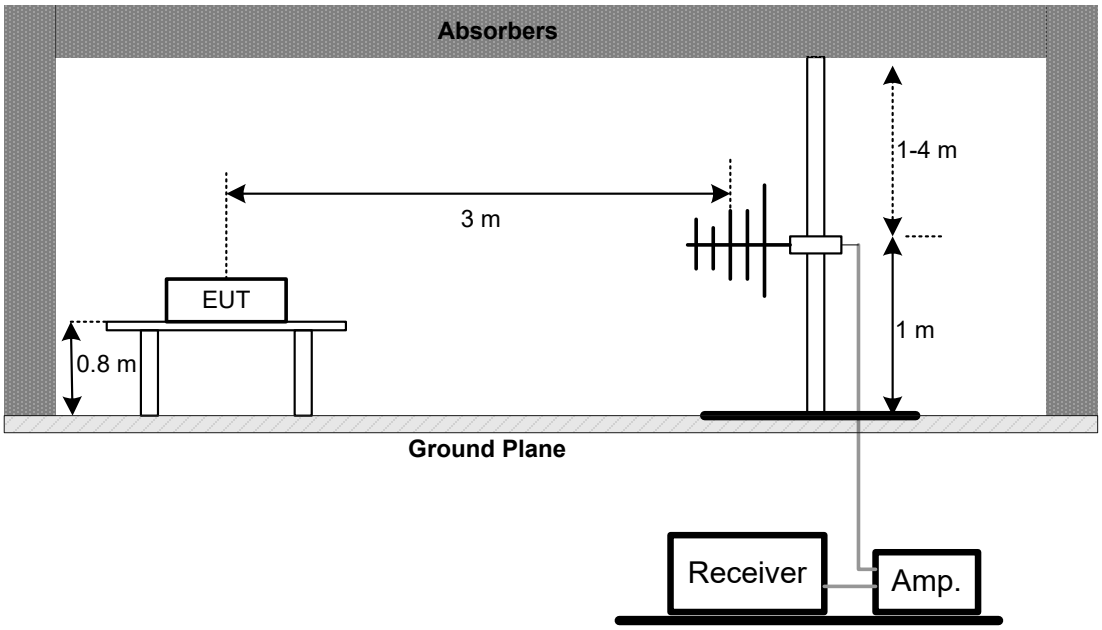
No deviation.

4.4 TEST SETUP

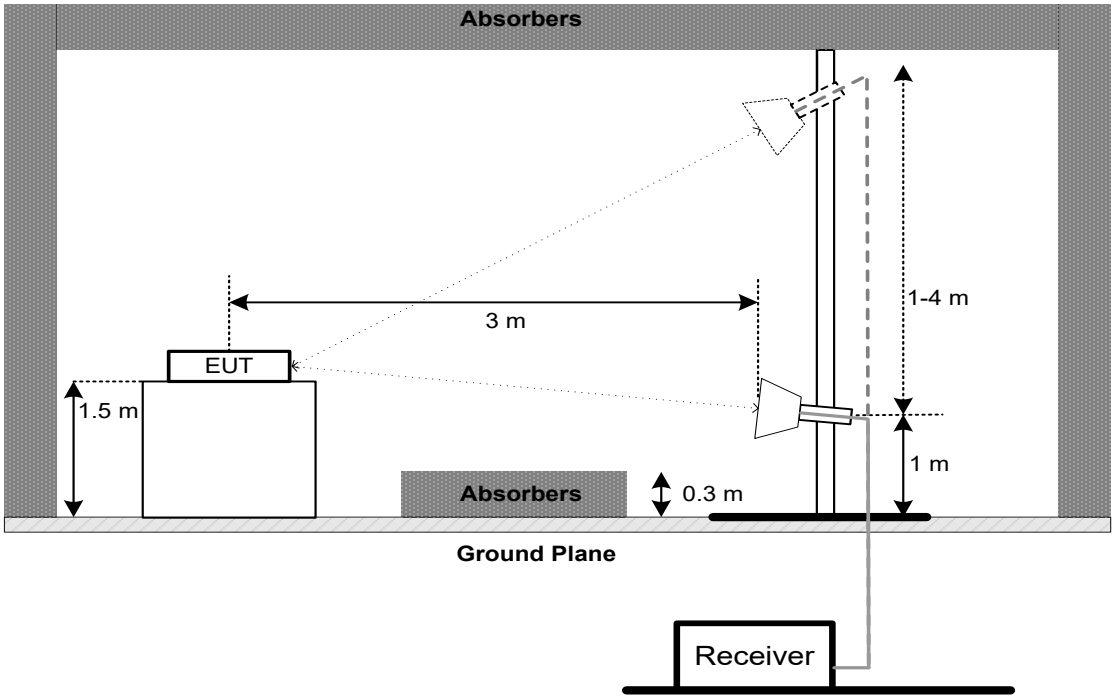
9 kHz to 30 MHz



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

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

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX B.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX C.

Remark:

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

5. BANDWIDTH

5.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

5.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

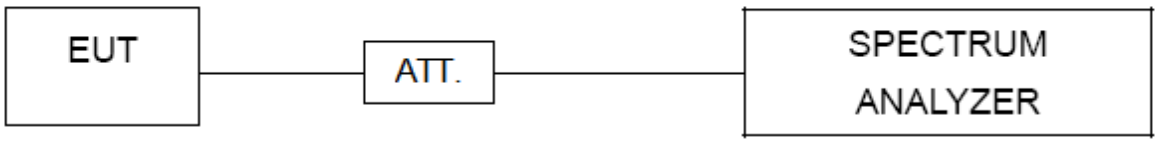
For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span Frequency	Between 1.5 times and 5.0 times the OBW
RBW	30 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX D.

6. MAXIMUM OUTPUT POWER

6.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 Watt or 30.00 dBm

6.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

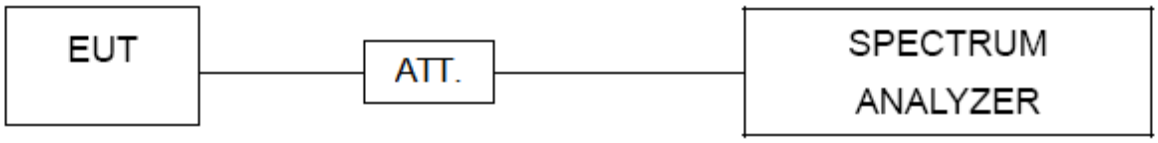
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	≥ 3×RBW
RBW	3 MHz
VBW	3 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7. CONDUCTED SPURIOUS EMISSIONS

7.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

7.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

For Reference Level:

Spectrum Parameters	Setting
Span Frequency	≥ 1.5 times the bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

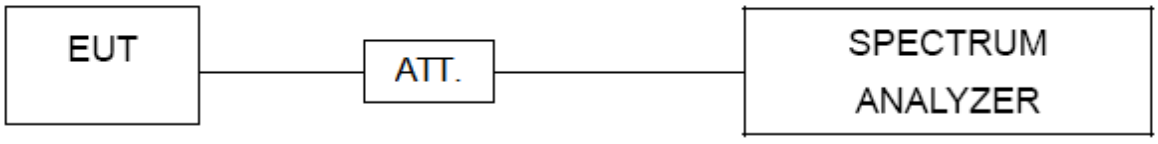
For Emission Level:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX F.

8. POWER SPECTRAL DENSITY

8.1 LIMIT

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

8.2 TEST PROCEDURE

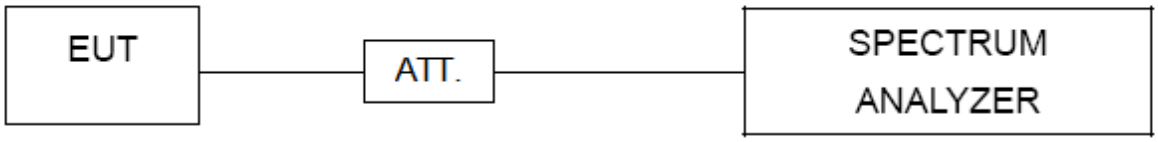
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	1.5 times the DTS bandwidth
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX G.

9. MEASUREMENT INSTRUMENTS LIST

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	101051	2024/6/26	2025/6/25
2	Test Cable	EMCI	EMCRG58-BM-BM-9000	210501	2024/12/10	2025/12/9
3	EMC Receiver	Keysight	N9038A	MY54130009	2024/6/27	2025/6/26
4	Measurement Software	Farad	EZ_EMC (Ver. NB-03A1-01)	N/A	N/A	N/A

Radiated Emissions - Below 1GHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01207	2024/12/4	2025/12/3
2	EMC Receiver	Keysight	N9038A	MY54130009	2024/6/27	2025/6/26
3	Pre-Amplifier	EMCI	EMC001330-20201222	980807	2024/12/9	2025/12/8
4	Test Cable	EMCI	EMC-8D-NM-NM-5000	150106	2024/12/9	2025/12/8
5	Test Cable	EMCI	EMC-CFD-400-NM-NM-8000	200348	2024/12/9	2025/12/8
6	Test Cable	EMCI	EMC-CFD-400-NM-NM-3300	200343	2024/12/9	2025/12/8
7	Measurement Software	Farad	EZ_EMC (Ver. NB-03A1-01)	N/A	N/A	N/A

Radiated Emissions - Above 1GHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Broad-Band Horn Antenna	RFSPIN	DRH18-E	210109A18E	2025/1/14	2026/1/13
2	Pre-Amplifier	EMCI	EMC118A45SE	981030	2024/12/10	2025/12/9
3	Test Cable	EMCI	EMC105-SM-SM-1000	210119	2024/12/10	2025/12/9
4	Test Cable	EMCI	EMC105-SM-SM-3000	210118	2024/12/10	2025/12/9
5	Test Cable	EMCI	EMC105-SM-SM-7000	210117	2024/12/10	2025/12/9
6	EXA Spectrum Analyzer	keysight	N9020B	MY59050137	2024/11/24	2025/11/25
7	Measurement Software	Farad	EZ_EMC (Ver. NB-03A1-01)	N/A	N/A	N/A

Bandwidth & Output Power & Conducted Spurious Emission & Power Spectral Density						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 30	100854	2024/6/27	2025/6/26
2	10dbAttenuator	INMET	AHC-10dB	1	2024/11/26	2025/11/25

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

10. EUT TEST PHOTO

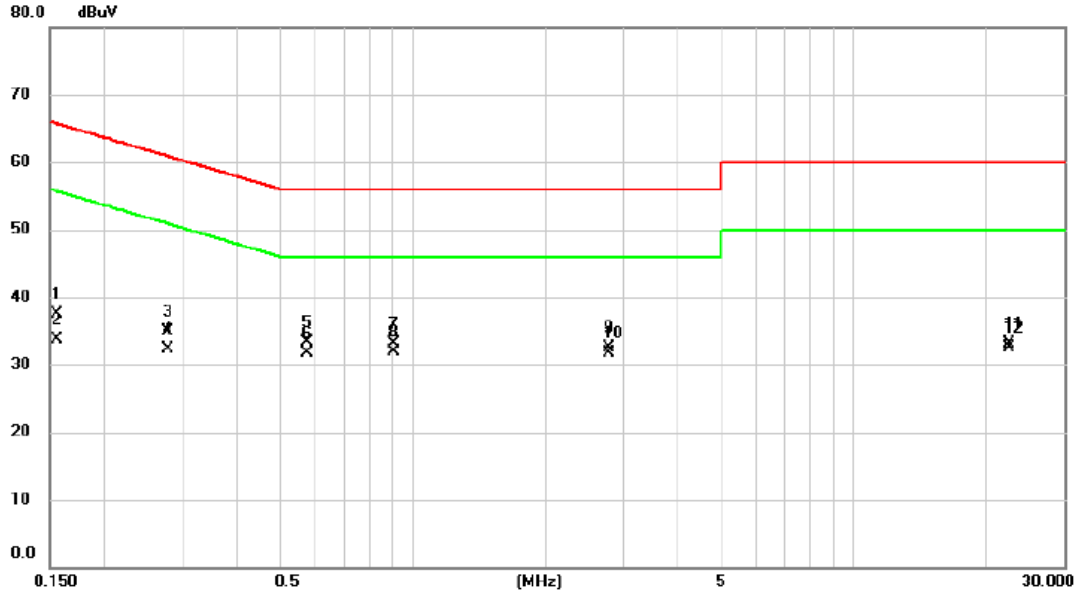
Please refer to document Appendix No.: TP-2502G006-1 (APPENDIX-TEST PHOTOS).

11. EUT PHOTOS

Please refer to document Appendix No.: EP-2502G006-1 (APPENDIX-EUT PHOTOS).

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

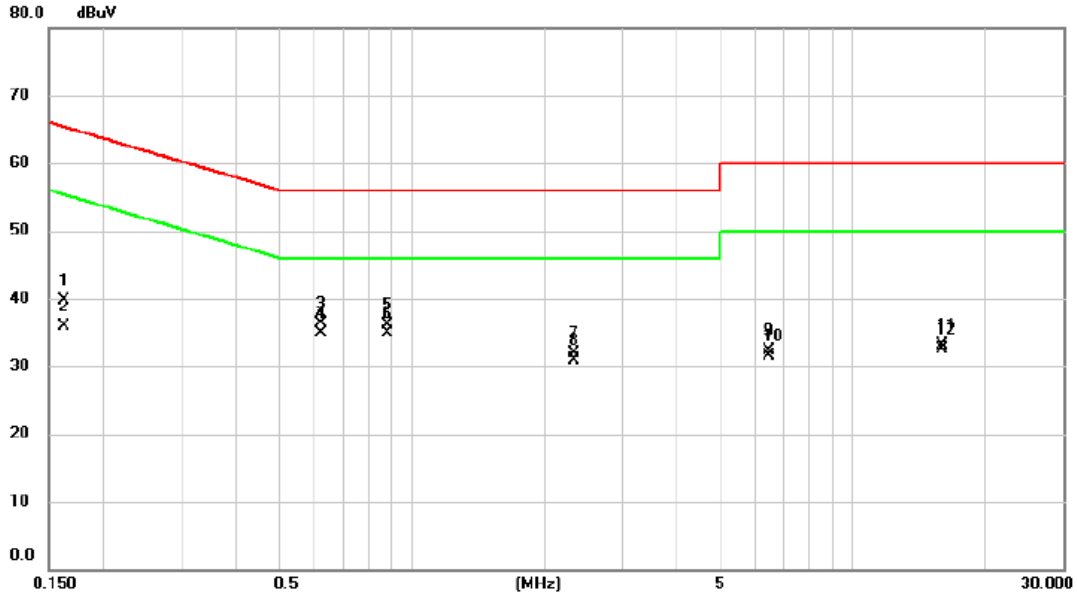
Test Mode	Normal	Tested Date	2025/3/11
Test Frequency	-	Phase	Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1555	27.84	9.65	37.49	65.70	-28.21	QP	
2		0.1555	24.01	9.65	33.66	55.70	-22.04	AVG	
3		0.2777	25.23	9.61	34.84	60.88	-26.04	QP	
4		0.2777	22.74	9.61	32.35	50.88	-18.53	AVG	
5		0.5763	23.66	9.62	33.28	56.00	-22.72	QP	
6		0.5763	22.18	9.62	31.80	46.00	-14.20	AVG	
7		0.9050	23.43	9.62	33.05	56.00	-22.95	QP	
8	*	0.9050	22.28	9.62	31.90	46.00	-14.10	AVG	
9		2.7815	22.74	9.75	32.49	56.00	-23.51	QP	
10		2.7815	22.00	9.75	31.75	46.00	-14.25	AVG	
11		22.5750	22.81	10.36	33.17	60.00	-26.83	QP	
12		22.5750	22.09	10.36	32.45	50.00	-17.55	AVG	

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

Test Mode	Normal	Tested Date	2025/3/11
Test Frequency	-	Phase	Neutral

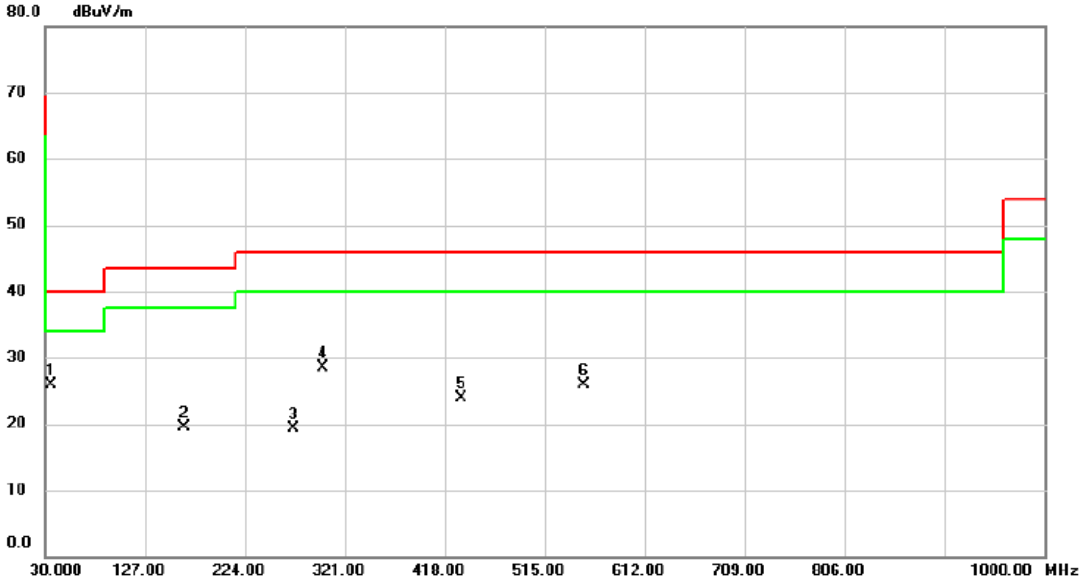


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1632	30.07	9.64	39.71	65.30	-25.59	QP	
2		0.1632	26.19	9.64	35.83	55.30	-19.47	AVG	
3		0.6214	26.64	9.62	36.26	56.00	-19.74	QP	
4	*	0.6214	25.30	9.62	34.92	46.00	-11.08	AVG	
5		0.8824	26.39	9.62	36.01	56.00	-19.99	QP	
6		0.8824	25.30	9.62	34.92	46.00	-11.08	AVG	
7		2.3360	22.13	9.73	31.86	56.00	-24.14	QP	
8		2.3360	21.27	9.73	31.00	46.00	-15.00	AVG	
9		6.4750	22.45	9.87	32.32	60.00	-27.68	QP	
10		6.4750	21.72	9.87	31.59	50.00	-18.41	AVG	
11		15.9250	22.90	10.20	33.10	60.00	-26.90	QP	
12		15.9250	22.24	10.20	32.44	50.00	-17.56	AVG	

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

APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

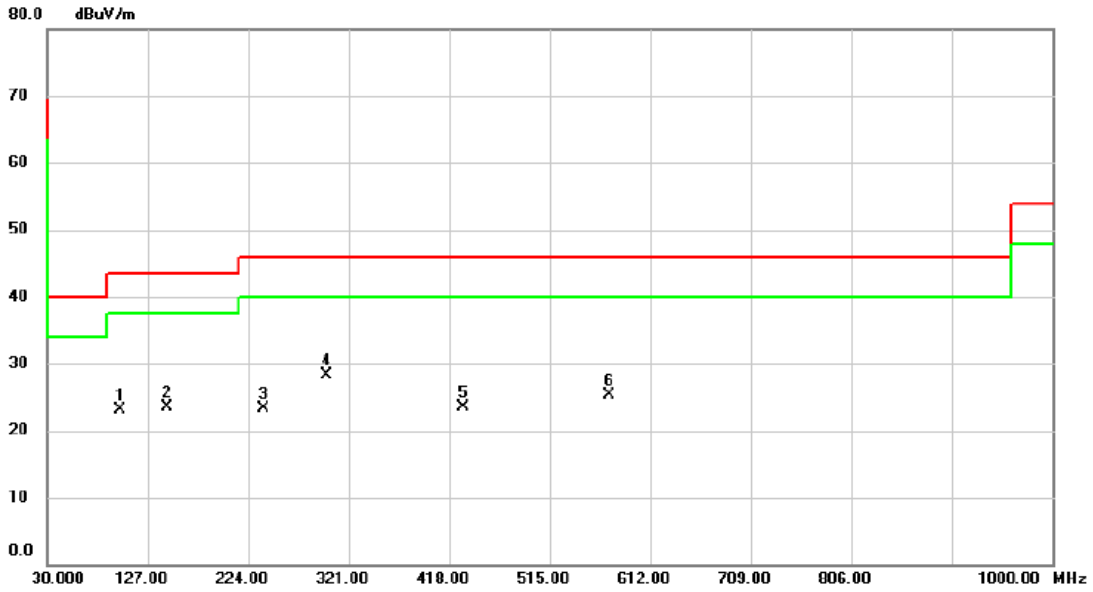
Test Mode	TX Mode	Test Date	2025/3/7
Test Frequency	922.3 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	35.8200	38.28	-12.40	25.88	40.00	-14.12	peak	
2		164.8300	30.94	-11.41	19.53	43.50	-23.97	peak	
3		271.5300	30.12	-10.84	19.28	46.00	-26.72	peak	
4		299.6600	38.57	-10.00	28.57	46.00	-17.43	peak	
5		433.5200	29.95	-6.09	23.86	46.00	-22.14	peak	
6		553.8000	29.70	-3.84	25.86	46.00	-20.14	peak	

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

Test Mode	TX Mode	Test Date	2025/3/7
Test Frequency	922.3 MHz	Polarization	Horizontal

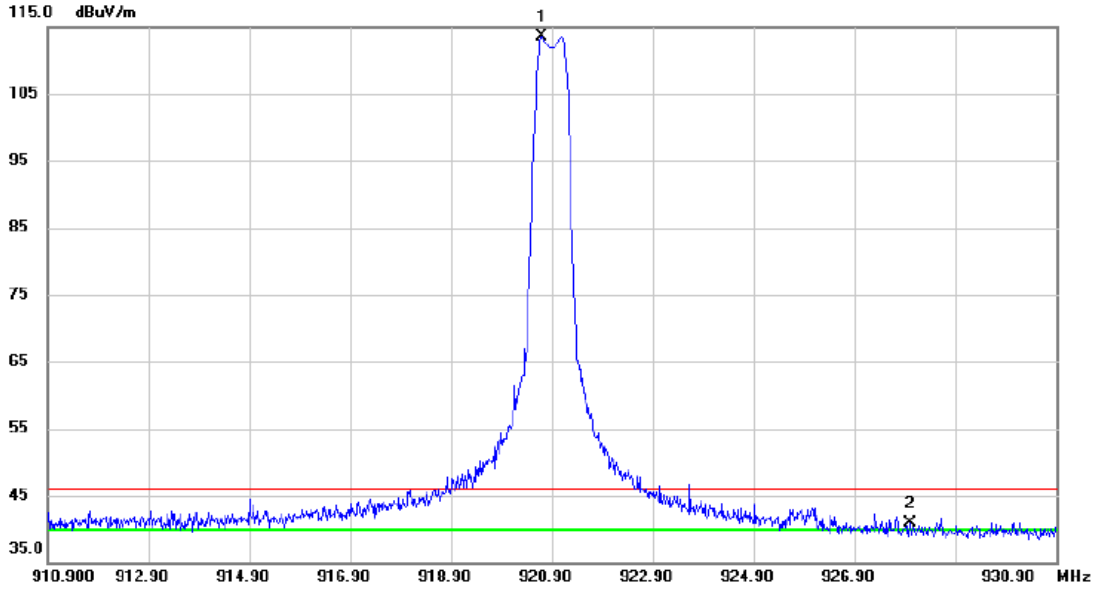


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		99.8400	39.24	-16.12	23.12	43.50	-20.38	peak	
2		145.4300	34.93	-11.40	23.53	43.50	-19.97	peak	
3		238.5500	35.62	-12.36	23.26	46.00	-22.74	peak	
4	*	299.6600	38.31	-10.00	28.31	46.00	-17.69	peak	
5		431.5800	29.61	-6.14	23.47	46.00	-22.53	peak	
6		572.2300	28.50	-3.24	25.26	46.00	-20.74	peak	

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

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

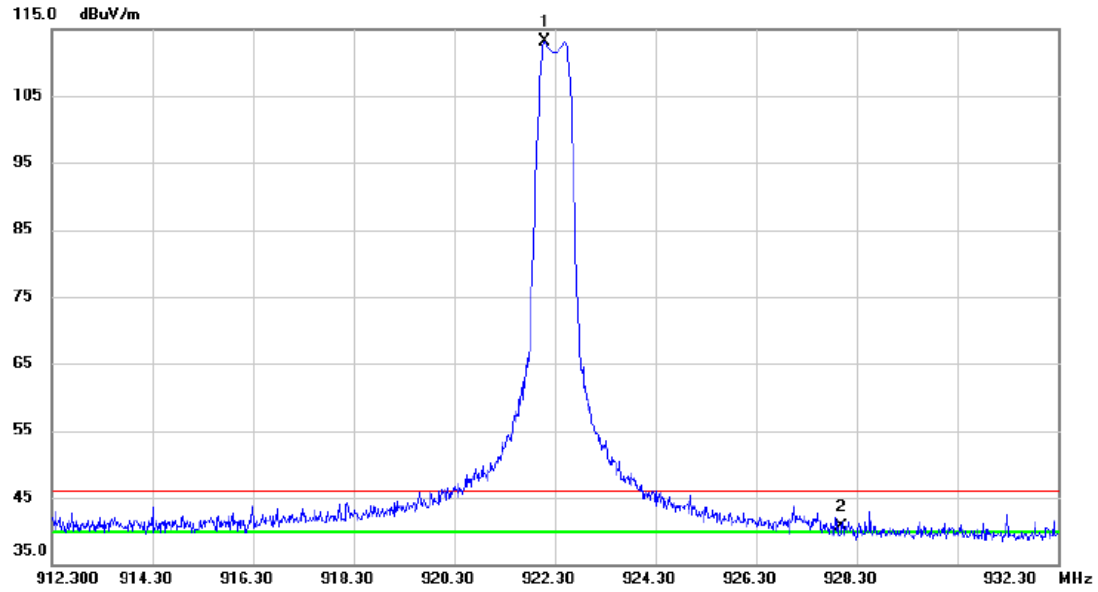
Test Mode	TX Mode	Test Date	2025/3/7
Test Frequency	920.9 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	920.7000	111.3	2.27	113.58	46.00	67.58	QP	No Limit
2	!	928.0000	38.62	2.34	40.96	46.00	-5.04	QP	

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

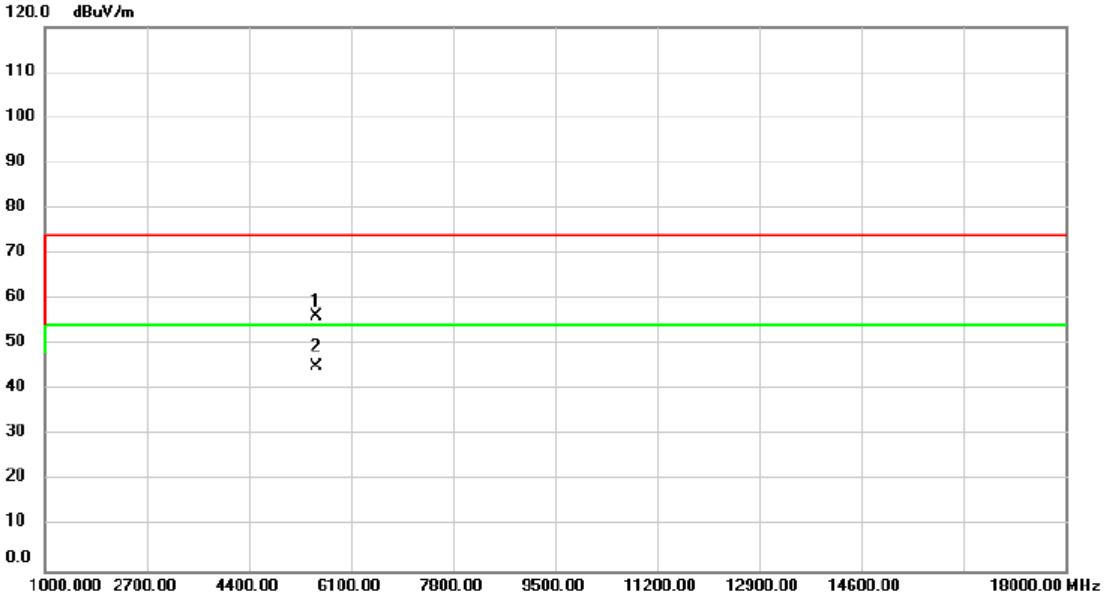
Test Mode	TX Mode	Test Date	2025/3/7
Test Frequency	922.3 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	922.1000	110.8	2.28	113.14	46.00	67.14	QP	No Limit
2	!	928.0000	38.45	2.34	40.79	46.00	-5.21	QP	

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

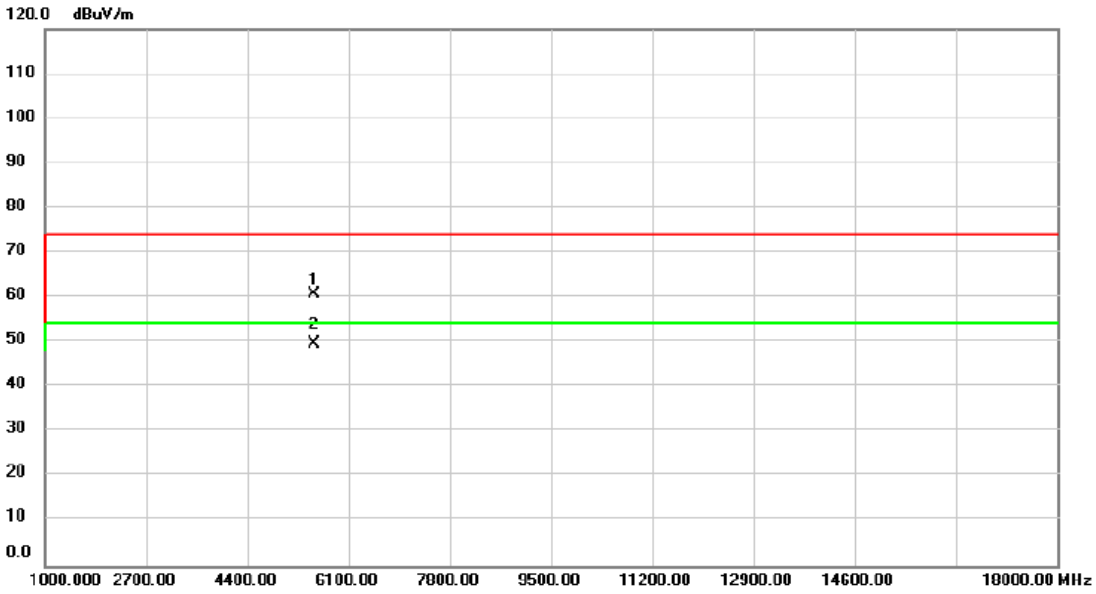
Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	920.9 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5525.400	53.44	2.69	56.13	74.00	-17.87	peak	
2	*	5525.400	42.61	2.69	45.30	54.00	-8.70	AVG	

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

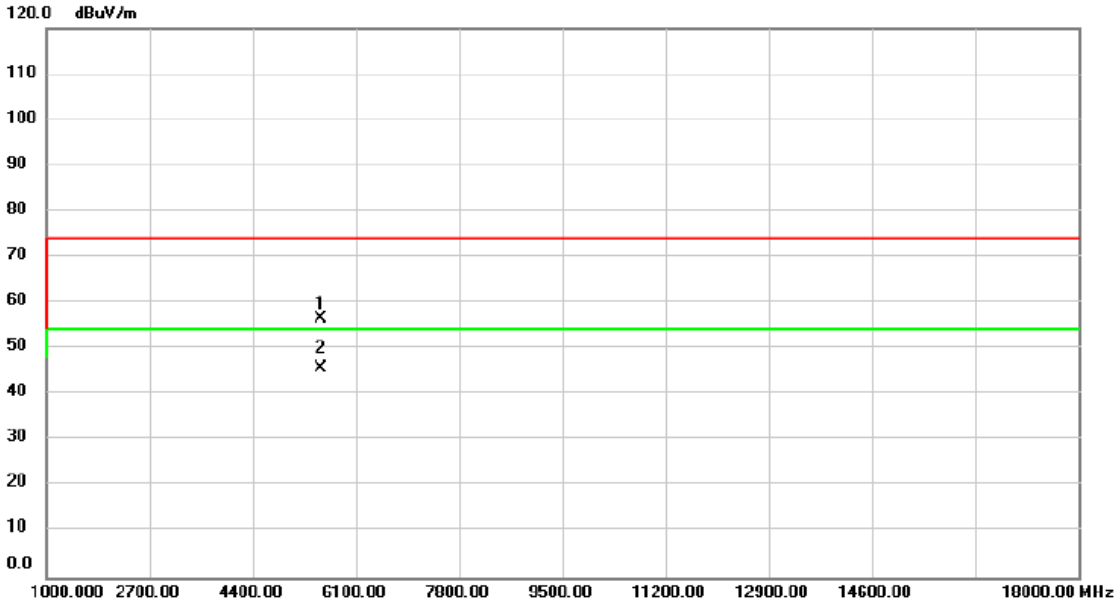
Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	920.9 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5525.400	58.04	2.69	60.73	74.00	-13.27	peak	
2	*	5525.400	47.11	2.69	49.80	54.00	-4.20	AVG	

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

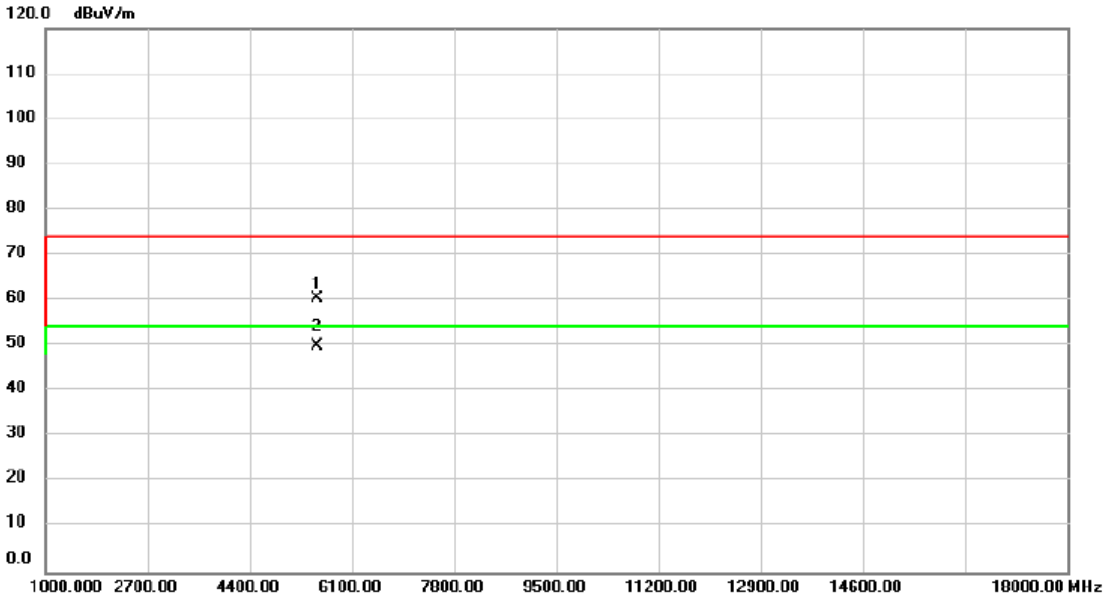
Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	921.7 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5530.200	53.86	2.69	56.55	74.00	-17.45	peak	
2	*	5530.200	43.15	2.69	45.84	54.00	-8.16	AVG	

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

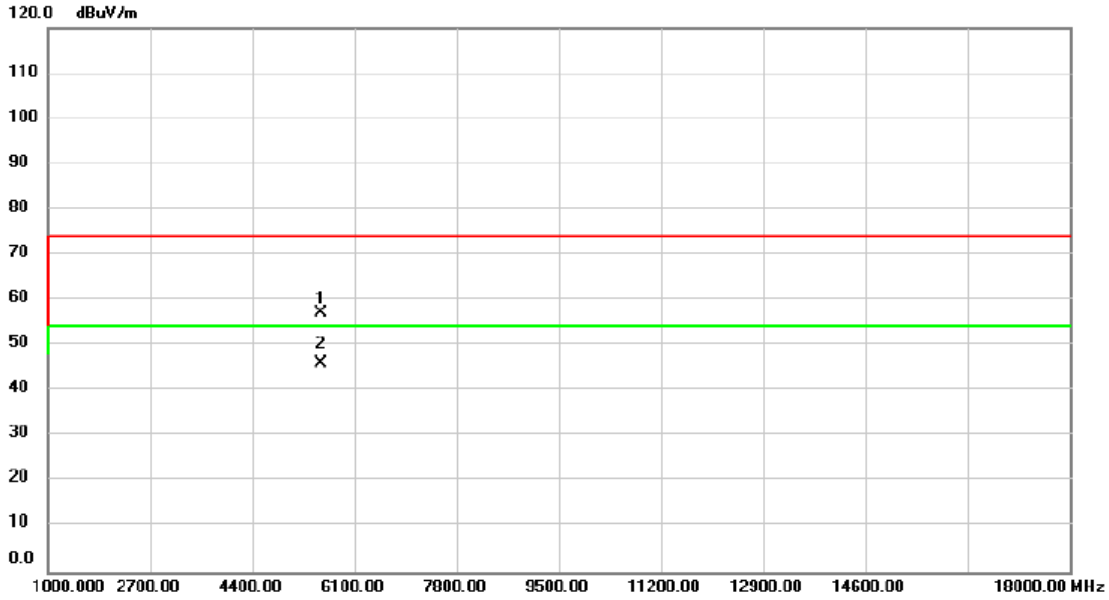
Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	921.7 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5530.200	57.62	2.69	60.31	74.00	-13.69	peak	
2	*	5530.200	47.15	2.69	49.84	54.00	-4.16	AVG	

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

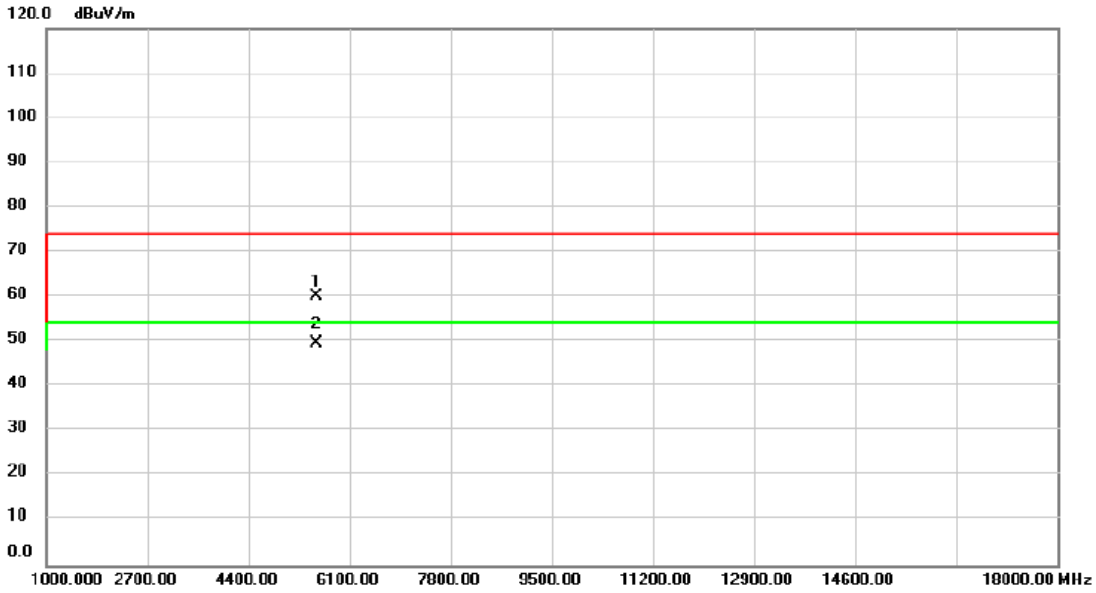
Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	922.3 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5533.800	54.35	2.70	57.05	74.00	-16.95	peak	
2	*	5533.800	43.43	2.70	46.13	54.00	-7.87	AVG	

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

Test Mode	TX Mode	Test Date	2025/3/11
Test Frequency	922.3 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5533.800	57.60	2.70	60.30	74.00	-13.70	peak	
2	*	5533.800	47.01	2.70	49.71	54.00	-4.29	AVG	

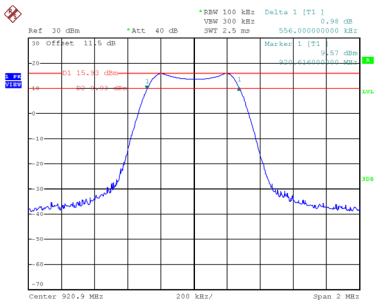
REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - BANDWIDTH

Test Mode	TX Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Test Result
00	920.9	0.556	0.520	0.5	Pass
01	921.7	0.560	0.612	0.5	Pass
02	922.3	0.560	0.520	0.5	Pass

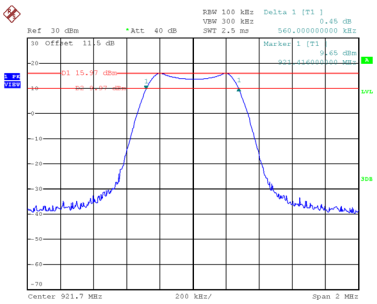
CH00



Date: 13.MAR.2025 15:15:53

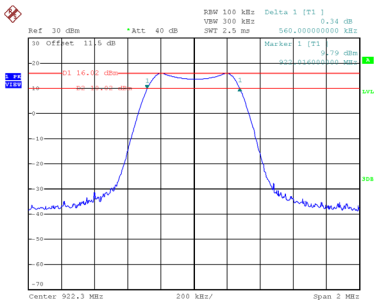
CH01

6 dB Bandwidth



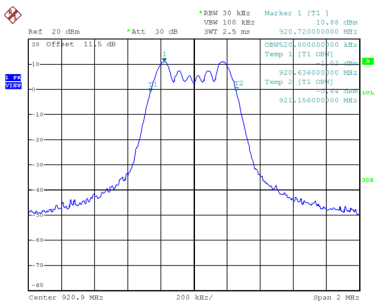
Date: 13.MAR.2025 17:11:11

CH02

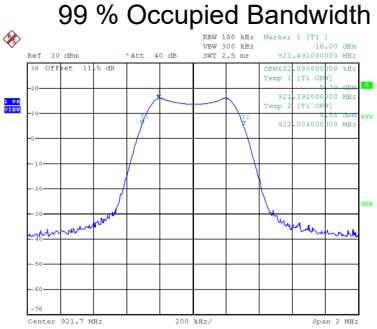


Date: 13.MAR.2025 18:04:03

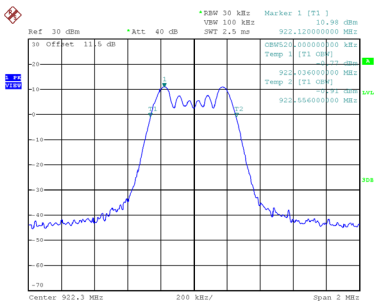
99 % Occupied Bandwidth



Date: 13.MAR.2025 15:08:38



Date: 13.MAR.2025 16:07:16



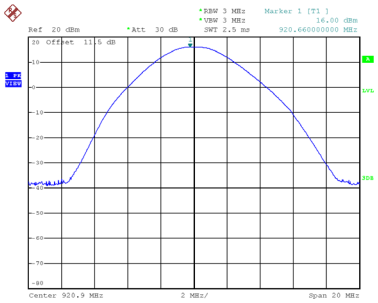
Date: 13.MAR.2025 17:44:20

APPENDIX E - MAXIMUM OUTPUT POWER

Test Mode	TX Mode	Test Date	2025/3/7

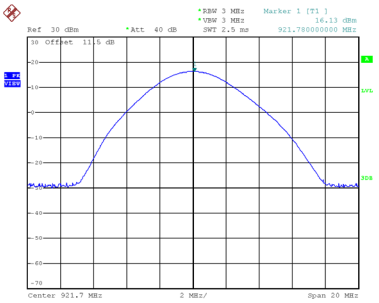
Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
920.9	16.00	0.0398	30.00	1.0000	Pass
921.7	16.13	0.0410	30.00	1.0000	Pass
922.3	16.18	0.0415	30.00	1.0000	Pass

CH00



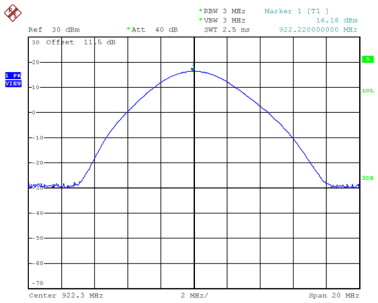
Date: 13.MAR.2025 15:10:32

CH01



Date: 13.MAR.2025 16:09:26

CH02



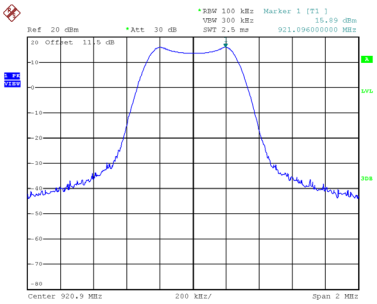
Date: 13.MAR.2025 17:45:38

APPENDIX F - CONDUCTED SPURIOUS EMISSIONS

Test Mode	TX Mode

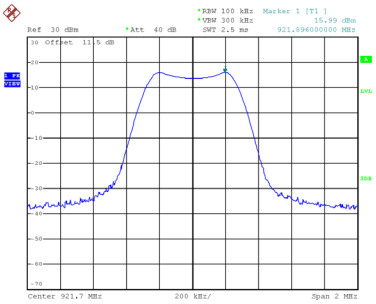
Reference Level

CH00



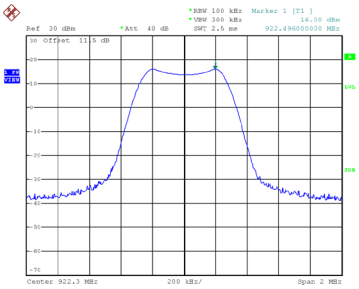
Date: 13.MAR.2025 15:13:10

CH01



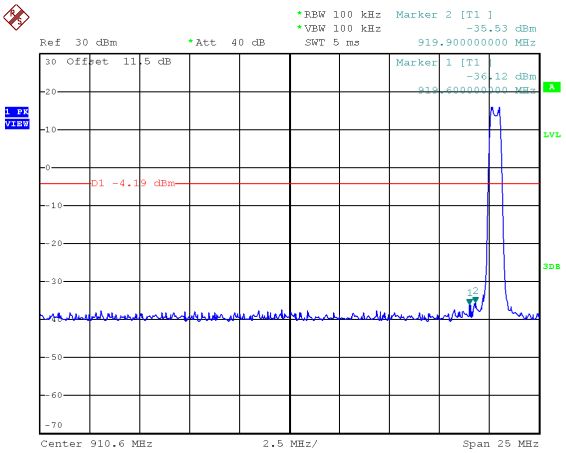
Date: 13.MAR.2025 16:13:33

CH02



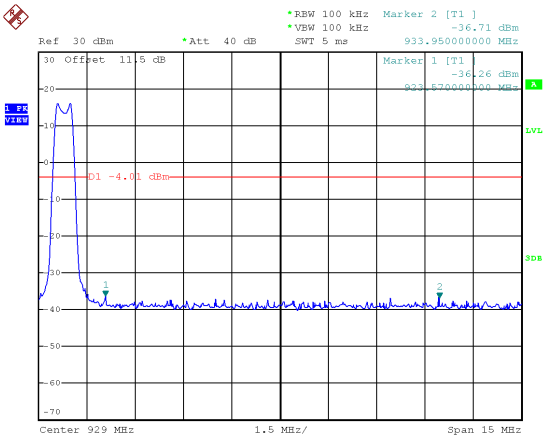
Date: 13.MAR.2025 17:49:22

Bandedge CH00 (Lower)



Date: 13.MAR.2025 16:05:02

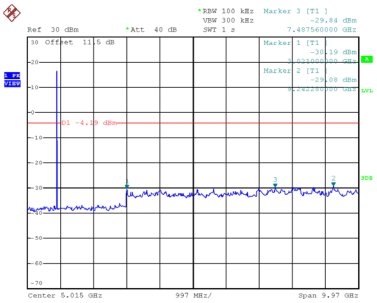
Bandedge CH02 (Upper)



Date: 13.MAR.2025 18:29:12

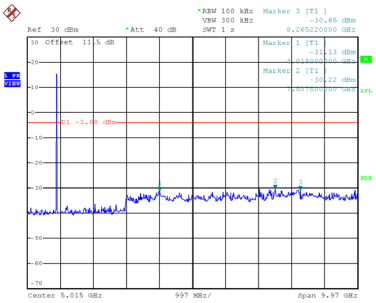
10th Harmonic of the fundamental frequency

CH00



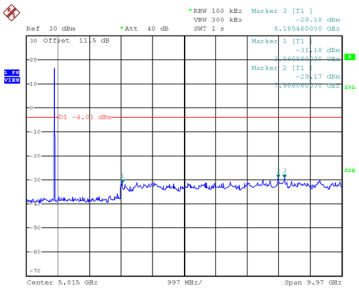
Date: 13.MAR.2025 16:01:40

CH01



Date: 13.MAR.2025 17:41:34

CH02



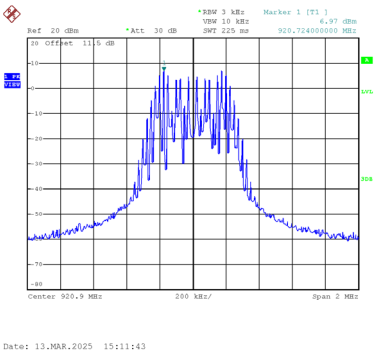
Date: 13.MAR.2025 18:31:53

APPENDIX H - POWER SPECTRAL DENSITY

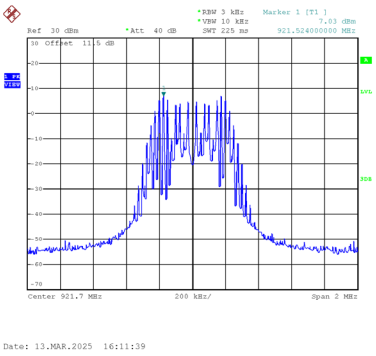
Test Mode	TX Mode

Channel	Frequency (MHz)	Power Spectral Density (dBm/3 kHz)	Max. Limit (dBm/3 kHz)	Test Result
00	920.9	6.97	8.00	Pass
01	921.7	7.03	8.00	Pass
02	922.3	7.11	8.00	Pass

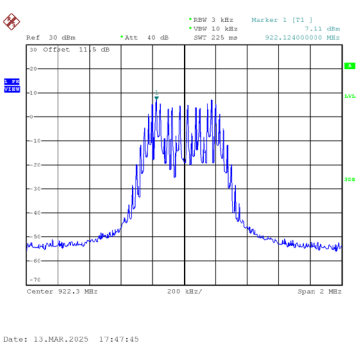
CH00



CH01



CH02



End of Test Report