

FCC Radio Test Report

FCC ID: 2AF82-TDD1000C

Report No. : BTL-FCCP-9-2503T049
Equipment : Scheduler Docking Station
Model Name : TDD-1000-C
Brand Name : Qbic
Applicant : Qbic Technology Co., Ltd.
Address : 26F.-12, NO.99, SEC. 1, XINTAI 5TH RD., XIZHI DIST., NEW TAIPEI CITY 22175, TAIWAN

Radio Function : Bluetooth Low Energy

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

Date of Receipt : 2025/4/2
Date of Test : 2025/4/23 ~ 2025/5/23
Issued Date : 2025/6/3

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

Prepared by : Brett Shen
 Brett Shen, Engineer

Approved by : Jerry Chang
 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	8
1.4 DUTY CYCLE	8
2 GENERAL INFORMATION	9
2.1 DESCRIPTION OF EUT	9
2.2 INTRODUCTION OF DATA REFERENCING	11
2.2.1 DESCRIPTION OF EUT	11
2.2.2 INTRODUCTION	11
2.2.3 MODEL DIFFERENCES	11
2.2.4 SPOT CHECK VERIFICATION RESULTS SUMMARY	11
2.2.5 REFERENCE DETAIL	11
2.3 TEST MODES	12
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	13
2.5 SUPPORT UNITS	14
3 AC POWER LINE CONDUCTED EMISSIONS TEST	15
3.1 LIMIT	15
3.2 TEST PROCEDURE	15
3.3 DEVIATION FROM TEST STANDARD	16
3.4 TEST SETUP	16
3.5 TEST RESULT	16
4 RADIATED EMISSIONS TEST	17
4.1 LIMIT	17
4.2 TEST PROCEDURE	18
4.3 DEVIATION FROM TEST STANDARD	18
4.4 TEST SETUP	18
4.5 EUT OPERATING CONDITIONS	19
4.6 TEST RESULT – 9 KHZ TO 30 MHZ	20
4.7 TEST RESULT – 30 MHZ TO 1 GHZ	20
4.8 TEST RESULT – ABOVE 1 GHZ	20
5 BANDWIDTH TEST	21
5.1 APPLIED PROCEDURES / LIMIT	21
5.2 TEST PROCEDURE	21
5.3 DEVIATION FROM STANDARD	21
5.4 TEST SETUP	21
5.5 EUT OPERATION CONDITIONS	21
5.6 TEST RESULTS	21
6 OUTPUT POWER TEST	22
6.1 APPLIED PROCEDURES / LIMIT	22
6.2 TEST PROCEDURE	22
6.3 DEVIATION FROM STANDARD	22
6.4 TEST SETUP	22
6.5 EUT OPERATION CONDITIONS	22
6.6 TEST RESULTS	22
7 POWER SPECTRAL DENSITY TEST	23

7.1	APPLIED PROCEDURES / LIMIT	23
7.2	TEST PROCEDURE	23
7.3	DEVIATION FROM STANDARD	23
7.4	TEST SETUP	23
7.5	EUT OPERATION CONDITIONS	23
7.6	TEST RESULTS	23
8	ANTENNA CONDUCTED SPURIOUS EMISSION	24
8.1	APPLIED PROCEDURES / LIMIT	24
8.2	TEST PROCEDURE	24
8.3	DEVIATION FROM STANDARD	24
8.4	TEST SETUP	24
8.5	EUT OPERATION CONDITIONS	24
8.6	TEST RESULTS	24
9	LIST OF MEASURING EQUIPMENTS	25
10	EUT TEST PHOTO	27
11	EUT PHOTOS	27
APPENDIX A	AC POWER LINE CONDUCTED EMISSIONS	28
APPENDIX B	RADIATED EMISSIONS - 9 KHZ TO 30 MHZ	33
APPENDIX C	RADIATED EMISSIONS - 30 MHZ TO 1 GHZ	38
APPENDIX D	RADIATED EMISSIONS - ABOVE 1 GHZ	41
APPENDIX E	BANDWIDTH	60
APPENDIX F	OUTPUT POWER	63
APPENDIX G	POWER SPECTRAL DENSITY TEST	65
APPENDIX H	ANTENNA CONDUCTED SPURIOUS EMISSION	68

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-9-2503T049	R00	Original Report.	2025/6/3	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)(2)	Bandwidth	APPENDIX E	Pass	-----
15.247(b)(3)	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	-----

Statement of Conformity

The statement of conformity is based on the binary decision rule according to IEC Guide 115 and ILAC G8 "simple acceptance" principle. Without considering measurement uncertainty, its specific risk is less than 50% PFA. (PFA: Probability of False Accept)

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. 66, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☒ CB15

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. 68-2, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan
(FCC DN: TW0659)

☐ CB12

☒ SR05

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 %**.

A. AC power line conducted emissions test:

Test Site	Measurement Frequency Range	U (dB)
SR05	150 kHz ~ 30 MHz	3.06

B. Radiated emissions test:

Test Site	Measurement Frequency Range	U (dB)
CB15 (1m)	9 kHz ~ 150 kHz	2.82
	150 kHz ~ 30 MHz	2.58

Test Site	Measurement Frequency Range (GHz)	U (dB)
CB15 (3m)	0.03~0.2	4.41
	0.02~1	4.61
	1 ~ 6	5.45
	6 ~ 18	5.04
	18 ~ 26	4.03
	26 ~ 40	4.33

C. Conducted test:

Test Item	U
Occupied Bandwidth	0.83 %
Output power	0.4008 dB
Conducted Spurious emissions	1.8274 dB
Conducted Band edges	1.8353 dB
Dwell time	0.8830 dB
Channel separation	0.8830 dB
Channel numbers	0.9198 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

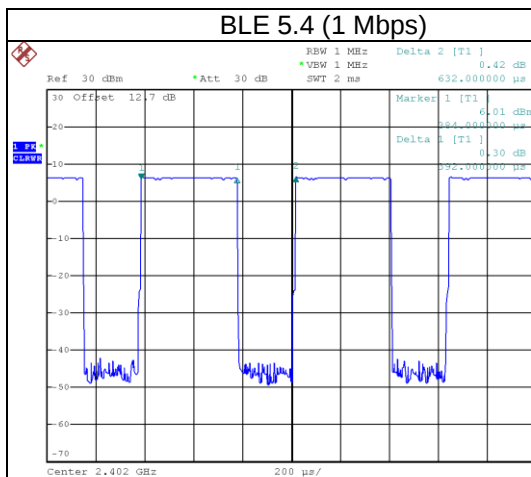
Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	23 °C, 55 %	AC 120V	Ken Lan
Radiated emissions below 1 GHz	Refer to data	AC 120V	Winston Fang
Radiated emissions above 1 GHz	Refer to data	AC 120V	Winston Fang
Bandwidth	24.6 °C, 53 %	AC 120V	Ken Lan
Output Power	23.2 °C, 41 %	AC 120V	Ken Lan
Power Spectral Density	24.6 °C, 53 %	AC 120V	Ken Lan
Antenna conducted Spurious Emission	24.6 °C, 53 %	AC 120V	Ken Lan

1.4 DUTY CYCLE

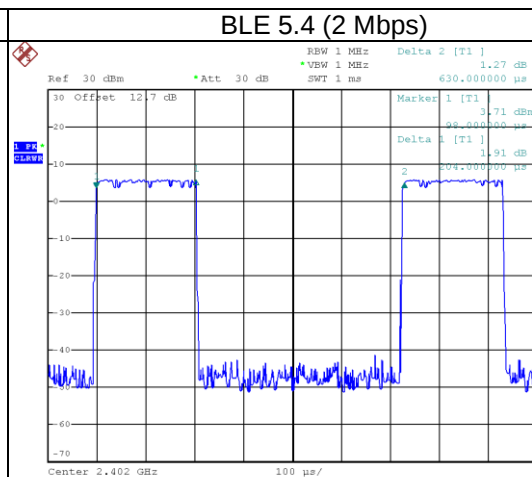
If duty cycle is $\geq 98\%$, duty factor is not required.

If duty cycle is $< 98\%$, duty factor shall be considered.

Remark	Delta 2			Delta 3	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)
BLE 5.4 (1 Mbps)	0.392	1	0.392	0.632	62.03%	2.07
BLE 5.4 (2 Mbps)	0.204	1	0.204	0.630	32.38%	4.90



Date: 25.APR.2025 15:52:46



Date: 25.APR.2025 15:53:54

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Scheduler Docking Station
Model Name	TDD-1000-C
Brand Name	Qbic
Model Difference	N/A
Power Source	DC Voltage supplied from AC/DC adapter.
Power Rating	EUT: DC 21V For Adapter: I/P: 100-240V~, 2.5A 50-60Hz O/P: 21.0V---8.58A 180.0W
Products Covered	1 * Adapter: HUIZHOU CITY YOUWEI CHUANGKE ELECTRONICS CO.,LTD / YW180A2-2100858 1 * Power cable 1* Type-C to Type-C cable
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Technology	GFSK
Transfer Rate	1 Mbps, 2 Mbps
Output Power Max.	1 Mbps: 6.65 dBm (0.0046 W) 2 Mbps: 6.68 dBm (0.0047 W)
Test Software Version	Command
Test Model	TDD-1000-C
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)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

(3) Table for Filed Antenna:

Antenna	Manufacture	Model name	Type	Connector	Frequency (MHz)	Gain (dBi)
1	JOYMAX	TBF-V03BMP3B-W015	FPC	I-PEX MHF1	2450	1.31

- (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 INTRODUCTION OF DATA REFERENCING

2.2.1 DESCRIPTION OF EUT

The Scheduler Docking Station is with IEEE 802.11a/b/g/n/ac, Bluetooth (BT), Bluetooth Low Energy (BLE), and Near-Field Communication (NFC)/Wireless Power Transfer (WPT) technologies.

2.2.2 INTRODUCTION

This application for certification is leveraging the data reuse procedures from KDB 484596 D01 based on reference FCC ID: 2AF82-TDD1000 to cover variant model FCC ID: 2AF82-TDD1000C. The major differences between the parent/reference model and the variant model are the NFC and WPT functions. The NFC and WPT functions are independent parts connecting to the device, and except these, all other circuitry and features are identical.

2.2.3 MODEL DIFFERENCES

The manufacturer hereby declares the following for models TDD-1000 and TDD-1000-C. These models are highly similar with the only difference being the supported NFC or WPT function

Model Name	FCC ID	Model Difference
TDD-1000	2AF82-TDD1000	Reference Model (supported NFC function)
TDD-1000-C	2AF82-TDD1000C	Variant model (supported WPT function)

Note:

Except NFC or WPT parts, they have the same PCB layout, design, common components, antennas, antenna locations and housing cases. And the Wi-Fi, BT and BLE transmitters are identical.

2.2.4 SPOT CHECK VERIFICATION RESULTS SUMMARY

Spot check verification has been done on model TDD-1000-C and complied with the data referencing criteria from KDB 484596 D01 v03, section 3.2.

The spot checks were performed on the worst-case orientations and configurations based on the parent model of reference report.

2.2.5 REFERENCE DETAIL

Reference application that contains the reused reference data.

Reference FCC ID	Variant model FCC ID	Reference Test Report / Data Referencing Section	Equipment Class
2AF82-TDD1000	2AF82-TDD1000C	BTL-FCCP-1-2503T049/ All sections, except 15.207	DSS
		BTL-FCCP-2-2503T049/ All sections, except 15.207	DTS
		BTL-FCCP-3-2503T049/ All sections, except 15.207	DTS
		BTL-FCCP-4-2503T049/ All sections, except 15.207	NII
		BTL-FCCP-5-2503T049/ All sections	NII

2.3 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	1 Mbps	19	-
Transmitter Radiated Emissions (above 1GHz)	1/2 Mbps	00/39	Bandedge
	1/2 Mbps	00/19/39	Harmonic
Transmitter Radiated Emissions (above 18GHz)	1 Mbps	19	-
Bandwidth	1/2 Mbps	00/19/39	-
Output Power	1/2 Mbps	00/19/39	-
Power Spectral Density	1/2 Mbps	00/19/39	-
Antenna conducted Spurious Emission	1/2 Mbps	00/19/39	-

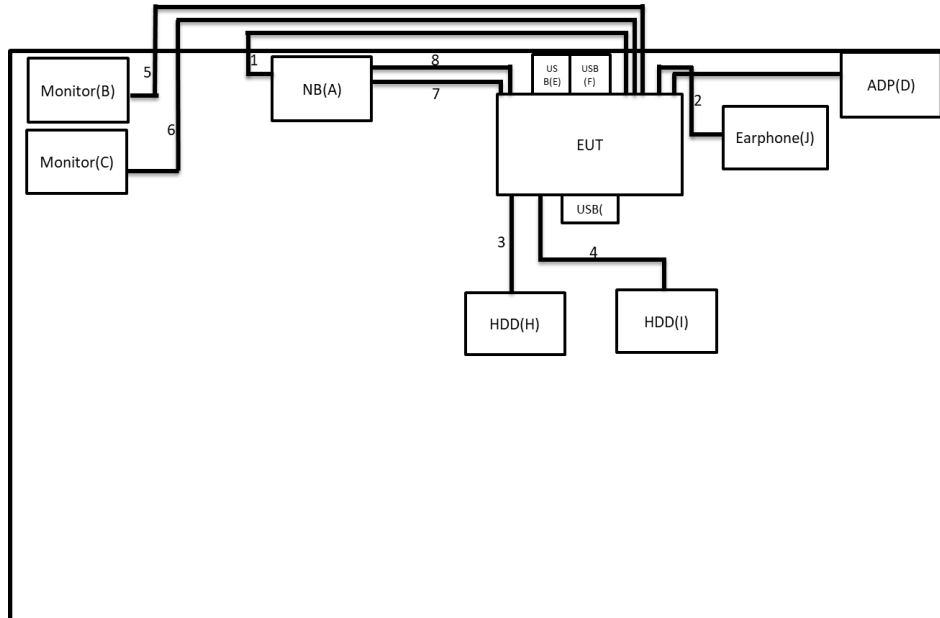
NOTE:

- (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.
- (3) The EUT supports both BLE 4.0 and 5.4, we will pick BLE 5.4 for testing.

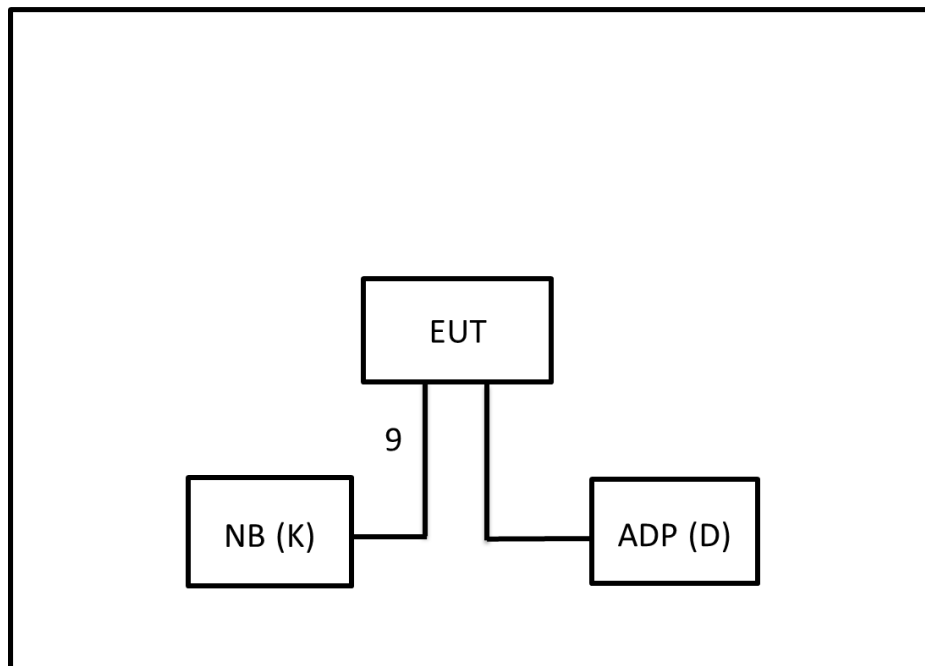
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.5.

AC power line conducted emissions



Radiated Emissions



2.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	NB	Dynabook	N/A	A	Furnished by test lab.
B	Monitor	Dell	N/A	B	Furnished by test lab.
C	Monitor	Dell	N/A	C	Furnished by test lab.
D	ADP	HUIZHOU CITY YOUWEI CHUANGKE ELECTRONICS CO.,LTD	YW180A2-2100858 2422 01533 A1	D	Supplied by test requester
E	USB	Kingston	N/A	E	Furnished by test lab.
F	USB	Kingston	N/A	F	Furnished by test lab.
G	USB	N/A	N/A	G	Furnished by test lab.
H	HDD	WD	N/A	H	Furnished by test lab.
I	HDD	WD	N/A	I	Furnished by test lab.
J	Earphone	soundcore	N/A	J	Furnished by test lab.
K	NB	Dynabook	Satellite pro C50-H	K	Furnished by test lab.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	1M	USB-C cable	Supplied by test requester
2	N/A	N/A	1M	USB-C cable	Supplied by test requester
3	N/A	N/A	1M	USB-C cable	Supplied by test requester
4	N/A	N/A	1M	USB-C cable	Supplied by test requester
5	N/A	N/A	1.8M	HDMI Cable	Furnished by test lab.
6	N/A	N/A	2M	DP Cable	Furnished by test lab.
7	N/A	N/A	50CM	USB-A cable	Furnished by test lab.
8	N/A	N/A	50CM	LAN Cable	Furnished by test lab.
9	N/A	N/A	1.9M	USB toMicro Cable	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 (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.

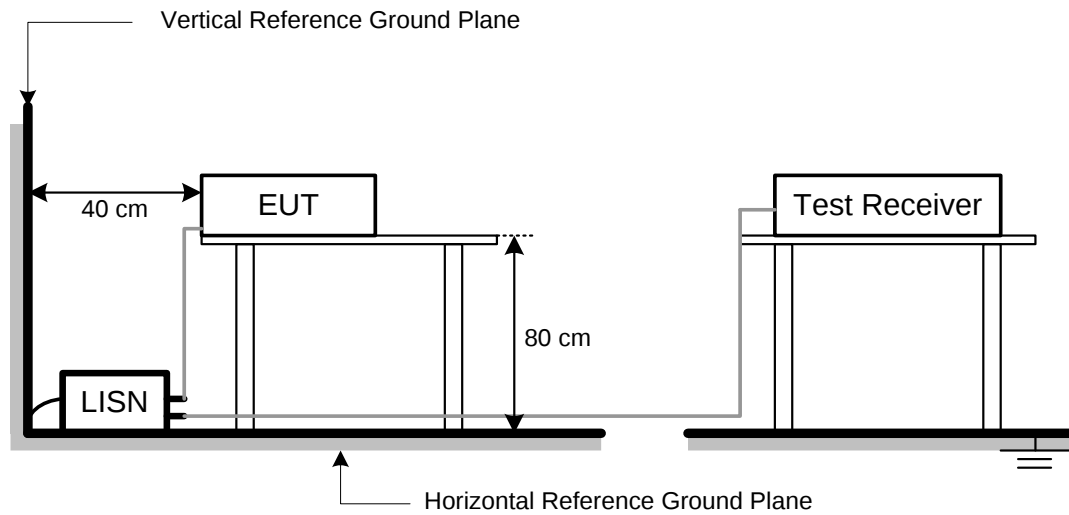
NOTE:

- (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/m)		Measurement Value (dBuV/m)
41.91	+	-8.36	=	33.55

Measurement Value (dBuV/m)		Limit Value (dBuV/m)		Margin Level (dB)
33.55	-	43.50	=	-9.95

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

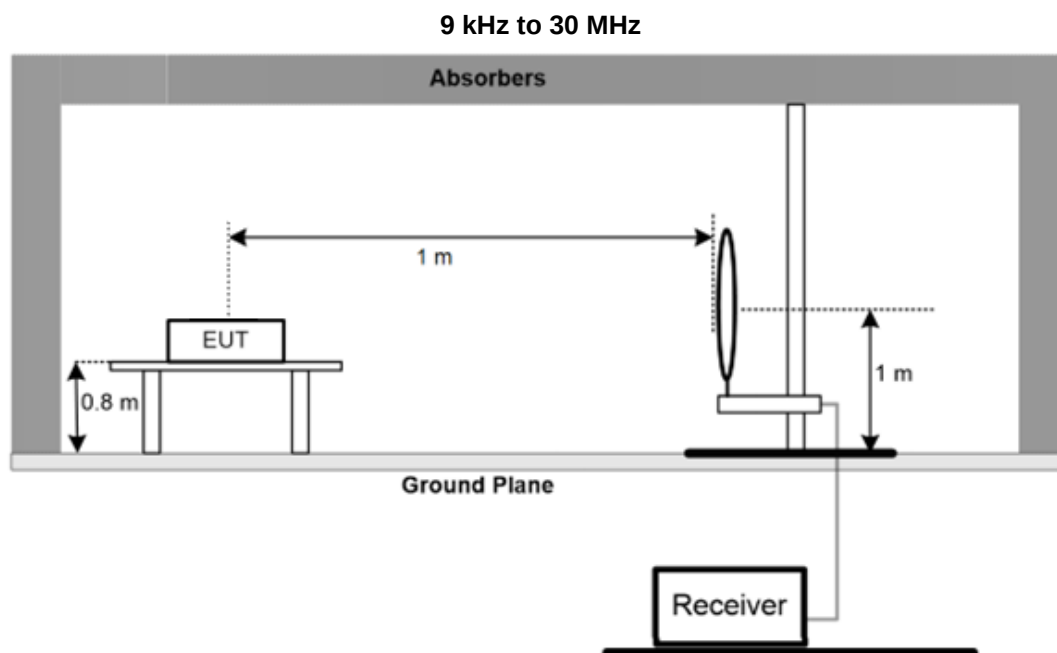
4.2 TEST PROCEDURE

- The measuring distance of 1 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 30MHz)
- 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.

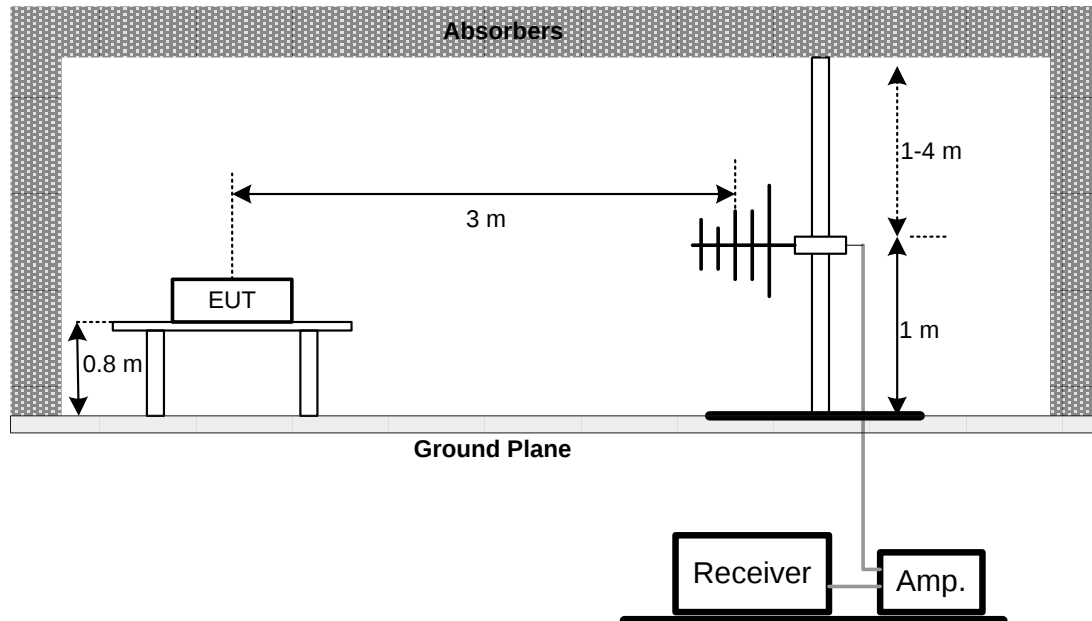
4.3 DEVIATION FROM TEST STANDARD

No deviation.

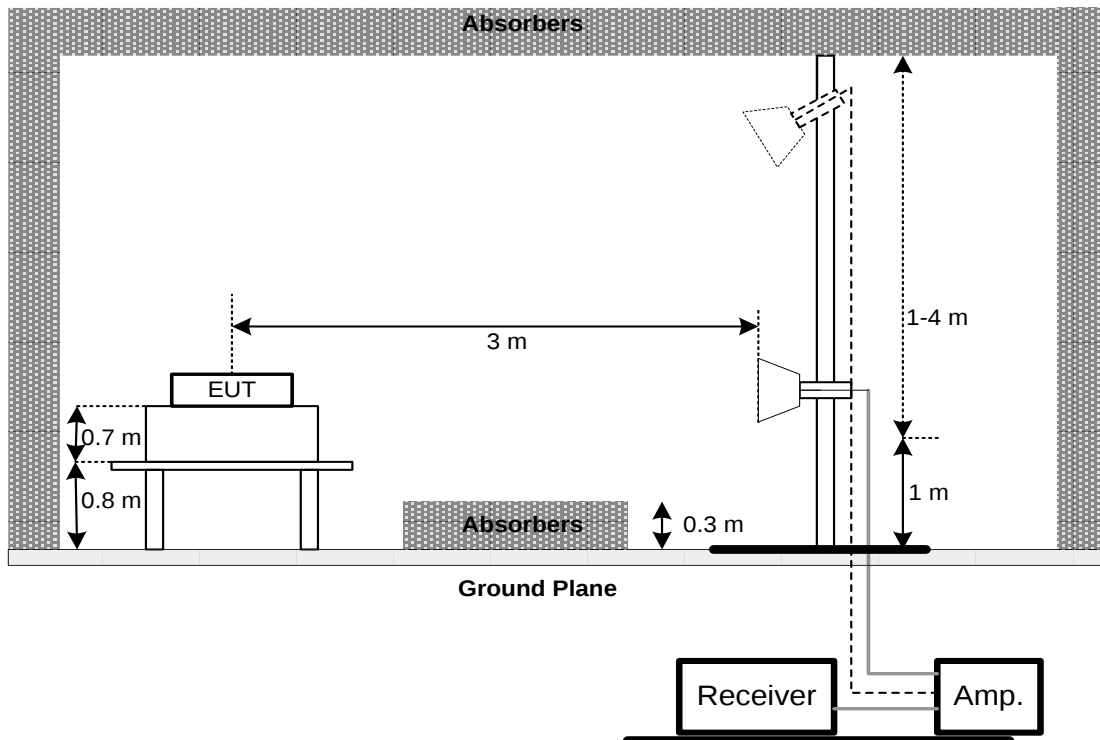
4.4 TEST SETUP



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT – 9 KHZ TO 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 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

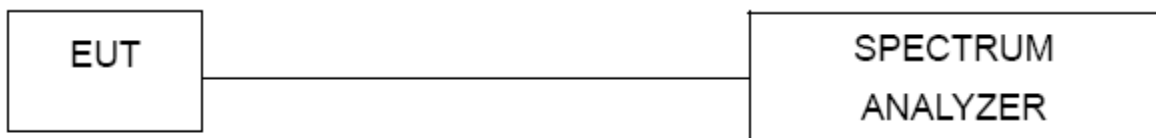
5.2 TEST PROCEDURE

- 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 STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6 OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Maximum Output Power	1 watt or 30dBm	2400-2483.5	PASS

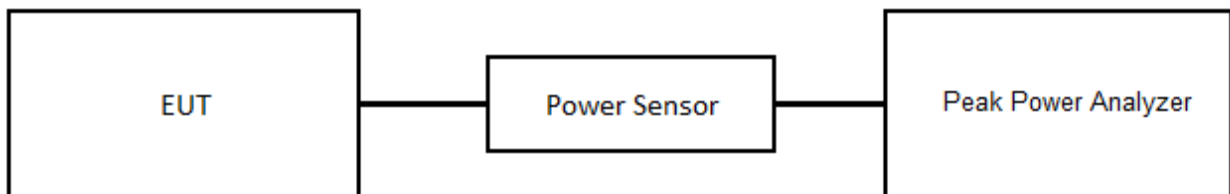
6.2 TEST PROCEDURE

- 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.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7 POWER SPECTRAL DENSITY TEST

7.1 APPLIED PROCEDURES / LIMIT

Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

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=3KHz, VBW=10 KHz, Sweep time = auto.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8 ANTENNA CONDUCTED SPURIOUS EMISSION

8.1 APPLIED PROCEDURES / 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

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW=300KHz, Sweep time = 10 ms.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULTS

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	101497	2024/5/20	2025/5/19
2	Test Cable	EMCI	EMC400-BM-BM-5000	170501	2024/7/31	2025/7/30
3	EMI Test Receiver	R&S	ESR3	102950	2025/4/14	2026/4/13
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	Amplifier	HP	8447D	2944A08558	2025/3/20	2026/3/19
2	Pre-Amplifier	EMCI	EMC012645B	980267	2025/3/25	2026/3/24
3	Pre-Amplifier	EMCI	EMC184045SE	980907	2024/9/4	2025/9/3
4	Preamplifier	EMCI	EMC001340	980579	2024/9/4	2025/9/3
5	Test Cable	EMCI	EMC104-SM-SM-1000	250312	2025/4/2	2026/4/1
6	Test Cable	EMCI	EMC104-SM-SM-1000	250313	2025/4/2	2026/4/1
7	Test Cable	EMCI	EMC104-SM-SM-7000	250314	2025/4/2	2026/4/1
8	Spectrum Analyzer	R&S	FSV3044	101524	2024/6/19	2025/6/18
9	Loop Ant	Electro-Metrics	EMCI-LPA600	291	2024/9/9	2025/9/8
10	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120 D	546	2024/6/19	2025/6/18
11	Horn Ant	Schwarzbeck	BBHA 9170D	1136	2025/5/15	2026/5/14
12	TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	9168-352	2024/8/14	2025/8/13
13	Test Cable	EMCI	EMC101G-KM-K M-3000	220329	2025/3/12	2026/3/11
14	Test Cable	EMCI	EMC102-KM-KM-1000	220327	2025/3/12	2026/3/11
15	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	2025/3/7	2026/3/6

Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Peak Power Analyzer	Keysight	8990B	MY51000517	2025/3/16	2026/3/15
2	Power Sensor	Keysight	N1923A	MY58310005	2025/3/18	2026/3/17

Power Spectral Density						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSP 40	101139	2025/3/7	2026/3/6

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	2025/3/7	2026/3/6

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

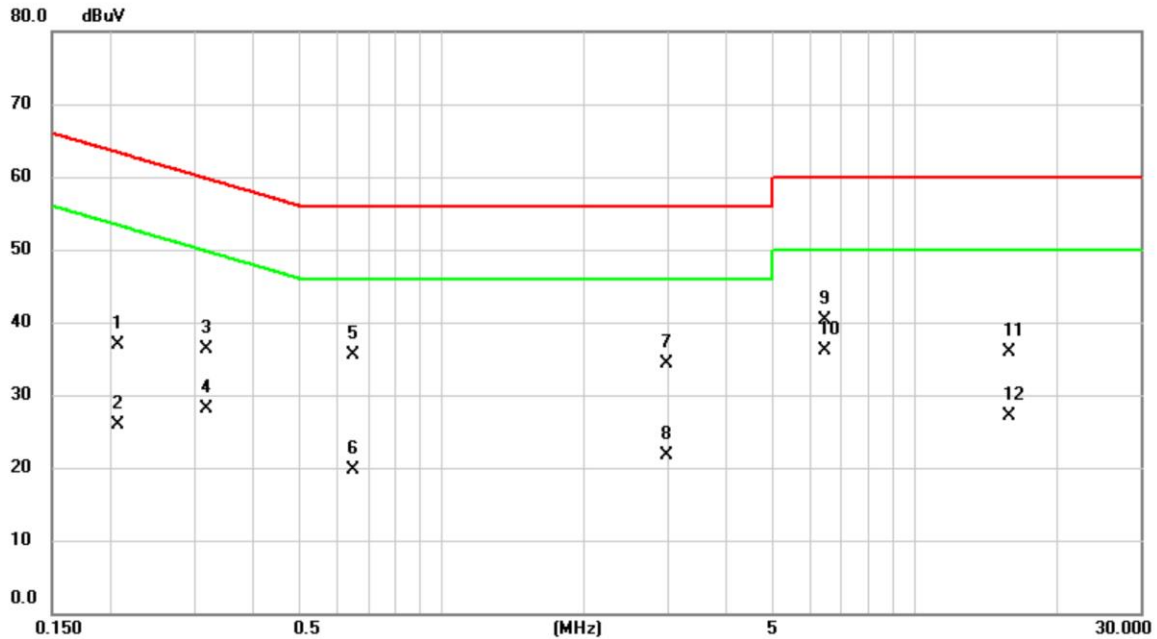
Please refer to document Appendix No.: TP-2503T049-FCCP-3 (APPENDIX-TEST PHOTOS).

11 EUT PHOTOS

Please refer to document Appendix No.: EP-2503T049-2 (APPENDIX-EUT PHOTOS).

APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

Test Mode	Normal	Tested Date	2025/5/8
Test Frequency	-	Phase	Line

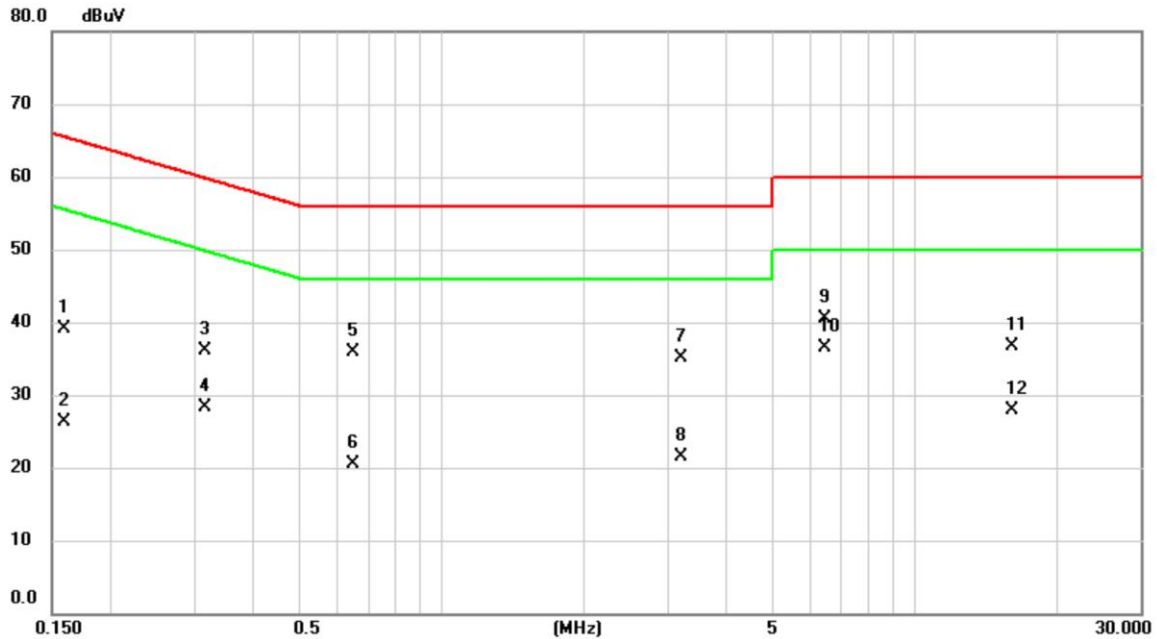


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.2063	27.26	9.59	36.85	63.35	-26.50	QP	
2		0.2063	16.34	9.59	25.93	53.35	-27.42	AVG	
3		0.3187	26.82	9.58	36.40	59.74	-23.34	QP	
4		0.3187	18.50	9.58	28.08	49.74	-21.66	AVG	
5		0.6495	25.89	9.59	35.48	56.00	-20.52	QP	
6		0.6495	10.17	9.59	19.76	46.00	-26.24	AVG	
7		2.9850	24.64	9.68	34.32	56.00	-21.68	QP	
8		2.9850	12.09	9.68	21.77	46.00	-24.23	AVG	
9		6.4658	30.52	9.80	40.32	60.00	-19.68	QP	
10	*	6.4658	26.34	9.80	36.14	50.00	-13.86	AVG	
11		15.8325	25.92	10.07	35.99	60.00	-24.01	QP	
12		15.8325	17.06	10.07	27.13	50.00	-22.87	AVG	

REMARKS:

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

Test Mode	Normal	Tested Date	2025/5/8
Test Frequency	-	Phase	Neutral

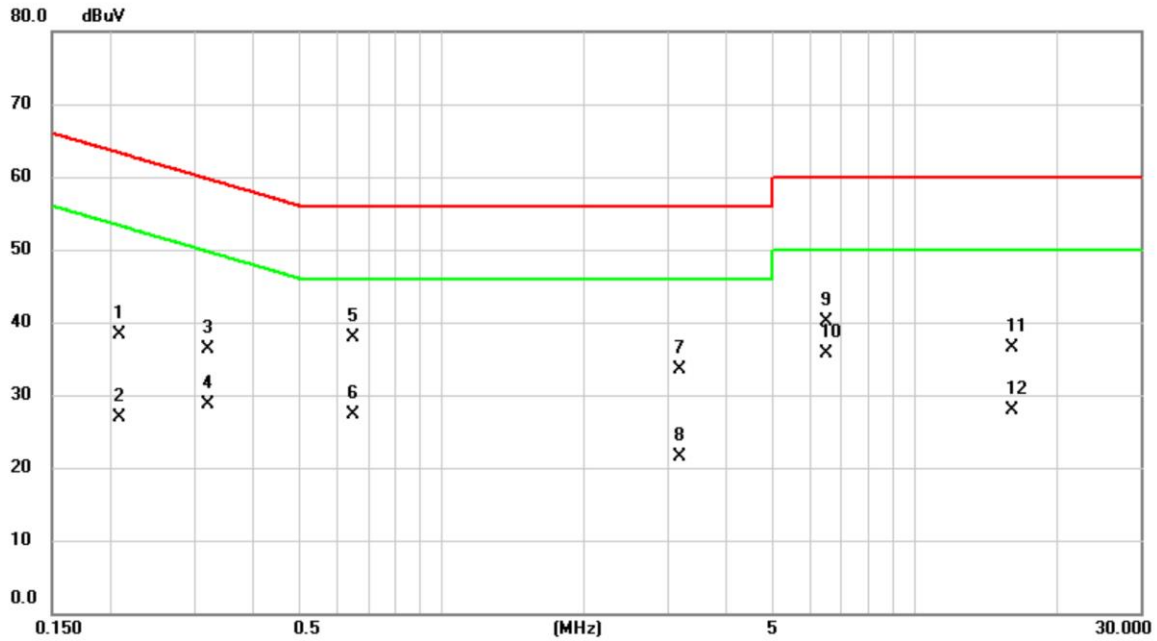


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1590	29.53	9.57	39.10	65.52	-26.42	QP	
2		0.1590	16.64	9.57	26.21	55.52	-29.31	AVG	
3		0.3165	26.56	9.58	36.14	59.80	-23.66	QP	
4		0.3165	18.78	9.58	28.36	49.80	-21.44	AVG	
5		0.6495	26.26	9.60	35.86	56.00	-20.14	QP	
6		0.6495	10.95	9.60	20.55	46.00	-25.45	AVG	
7		3.2010	25.42	9.71	35.13	56.00	-20.87	QP	
8		3.2010	11.75	9.71	21.46	46.00	-24.54	AVG	
9		6.4658	30.68	9.83	40.51	60.00	-19.49	QP	
10	*	6.4658	26.68	9.83	36.51	50.00	-13.49	AVG	
11		16.0328	26.44	10.21	36.65	60.00	-23.35	QP	
12		16.0328	17.65	10.21	27.86	50.00	-22.14	AVG	

REMARKS:

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

Test Mode	Idle	Tested Date	2025/5/8
Test Frequency	-	Phase	Line

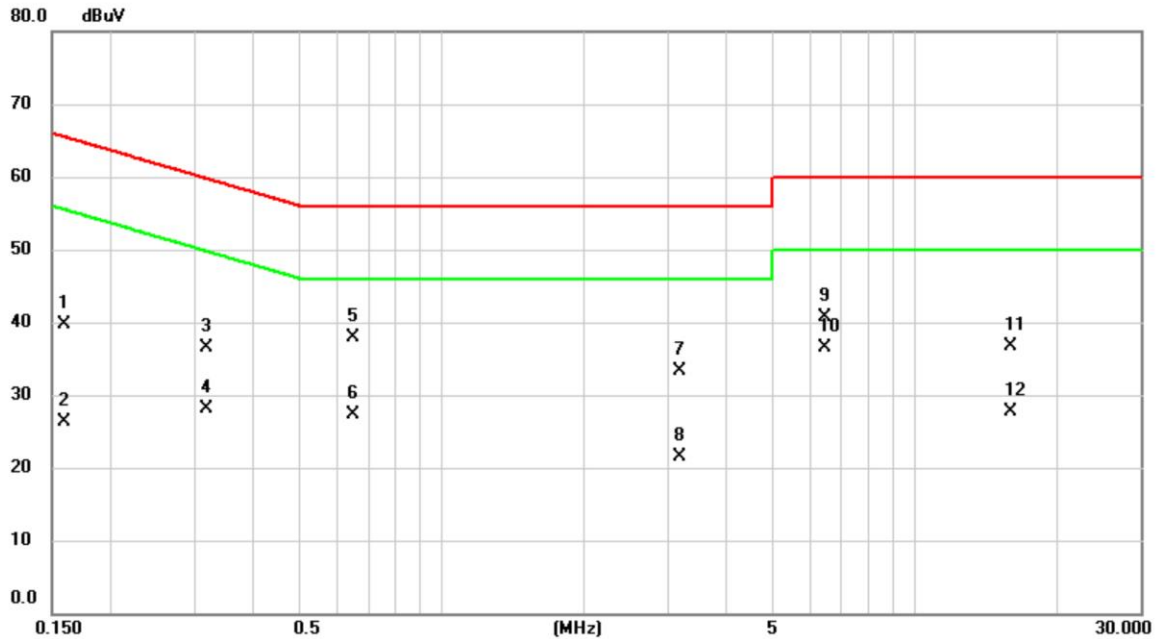


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.2085	28.68	9.59	38.27	63.26	-24.99	QP	
2		0.2085	17.23	9.59	26.82	53.26	-26.44	AVG	
3		0.3210	26.80	9.58	36.38	59.68	-23.30	QP	
4		0.3210	19.16	9.58	28.74	49.68	-20.94	AVG	
5		0.6495	28.36	9.59	37.95	56.00	-18.05	QP	
6		0.6495	17.72	9.59	27.31	46.00	-18.69	AVG	
7		3.1808	23.74	9.69	33.43	56.00	-22.57	QP	
8		3.1808	11.83	9.69	21.52	46.00	-24.48	AVG	
9		6.5108	30.26	9.80	40.06	60.00	-19.94	QP	
10	*	6.5108	25.97	9.80	35.77	50.00	-14.23	AVG	
11		16.0890	26.50	10.08	36.58	60.00	-23.42	QP	
12		16.0890	17.92	10.08	28.00	50.00	-22.00	AVG	

REMARKS:

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

Test Mode	Idle	Tested Date	2025/5/8
Test Frequency	-	Phase	Neutral



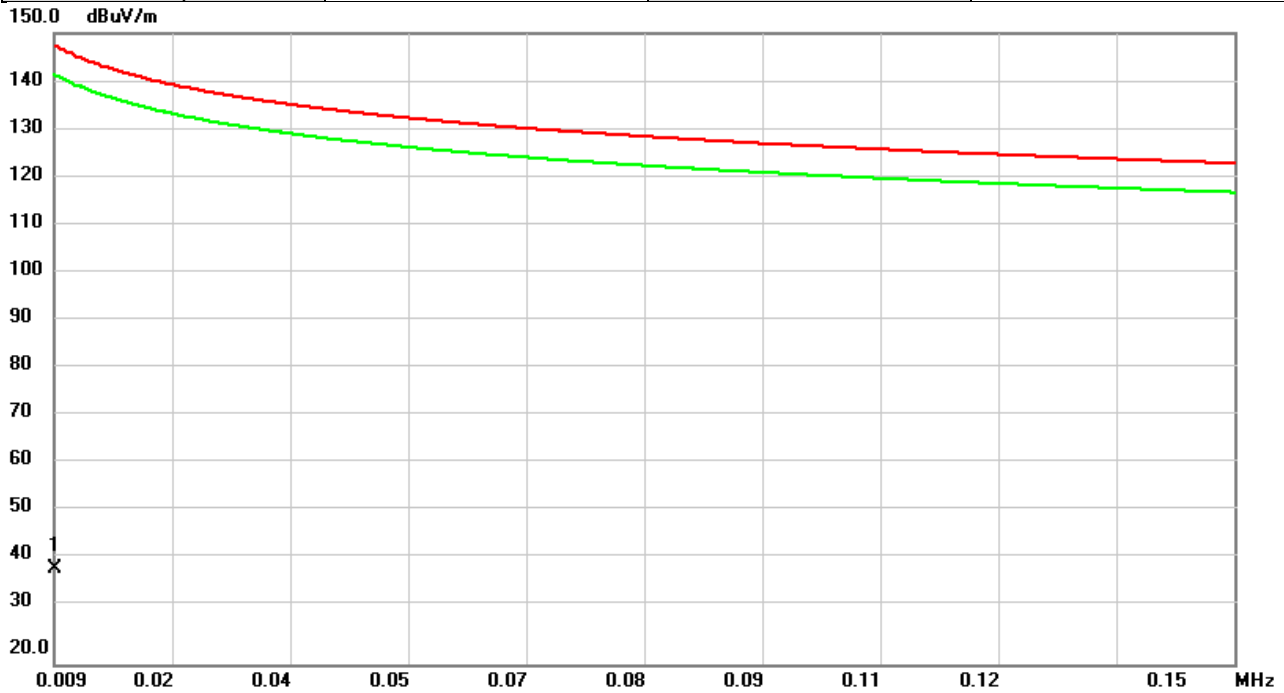
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1590	30.19	9.57	39.76	65.52	-25.76	QP	
2		0.1590	16.65	9.57	26.22	55.52	-29.30	AVG	
3		0.3187	26.92	9.58	36.50	59.74	-23.24	QP	
4		0.3187	18.59	9.58	28.17	49.74	-21.57	AVG	
5		0.6495	28.22	9.60	37.82	56.00	-18.18	QP	
6		0.6495	17.73	9.60	27.33	46.00	-18.67	AVG	
7		3.1920	23.50	9.71	33.21	56.00	-22.79	QP	
8		3.1920	11.78	9.71	21.49	46.00	-24.51	AVG	
9		6.4658	30.92	9.83	40.75	60.00	-19.25	QP	
10	*	6.4658	26.65	9.83	36.48	50.00	-13.52	AVG	
11		15.9563	26.45	10.20	36.65	60.00	-23.35	QP	
12		15.9563	17.60	10.20	27.80	50.00	-22.20	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	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

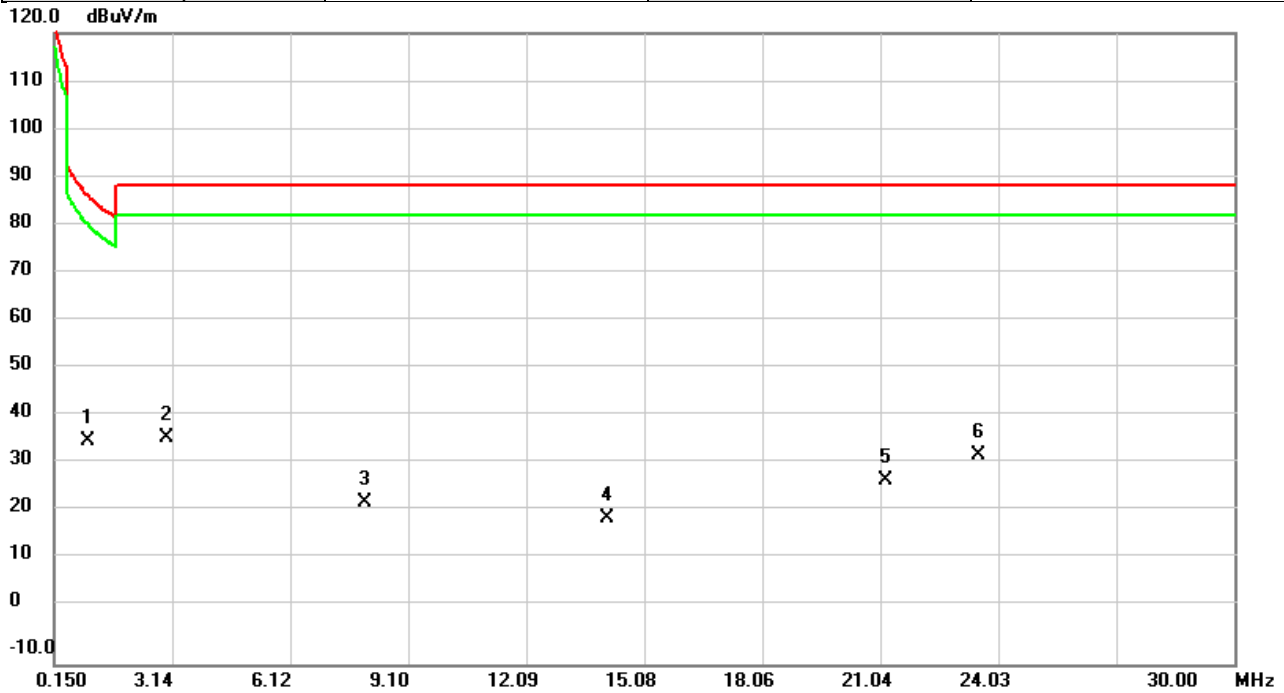


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0090	3.76	36.05	39.81	147.60	-107.79	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

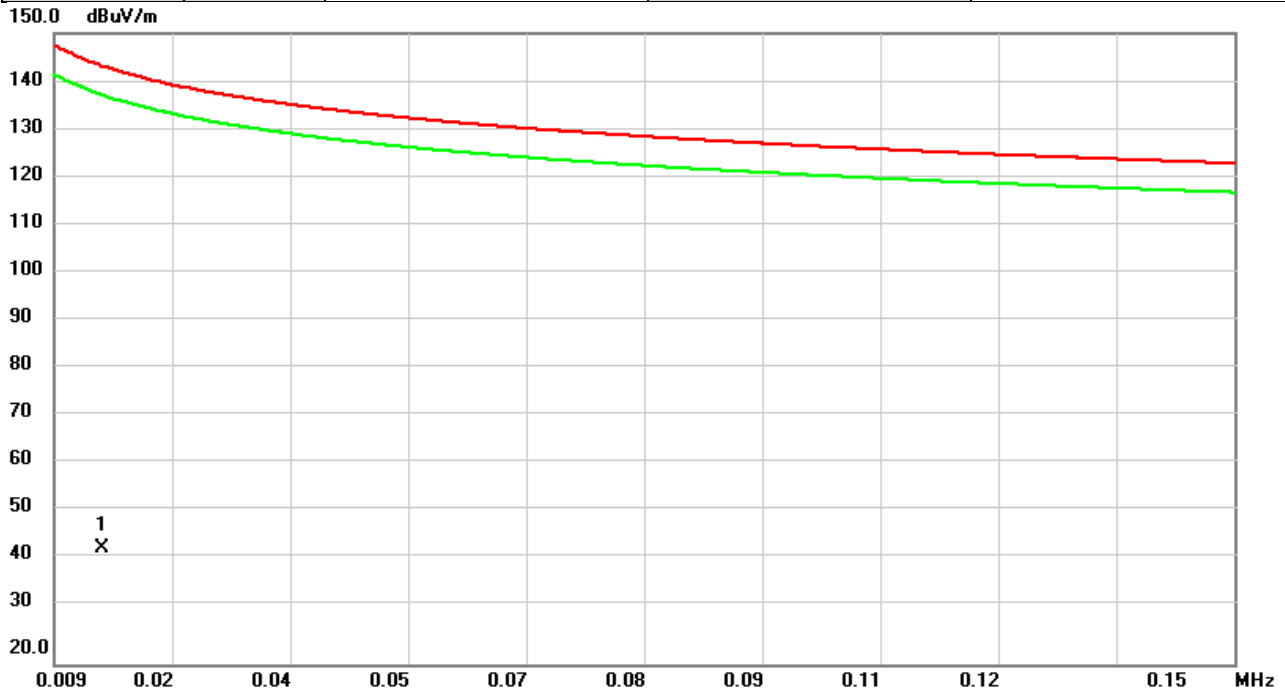


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.9997	35.74	0.23	35.97	86.68	-50.71	QP	
2		2.9996	40.45	-3.75	36.70	88.62	-51.92	QP	
3		8.0004	26.87	-3.54	23.33	88.62	-65.29	QP	
4		14.1287	23.30	-3.37	19.93	88.62	-68.69	QP	
5		21.1861	31.67	-3.69	27.98	88.62	-60.64	QP	
6		23.5315	36.18	-3.23	32.95	88.62	-55.67	QP	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

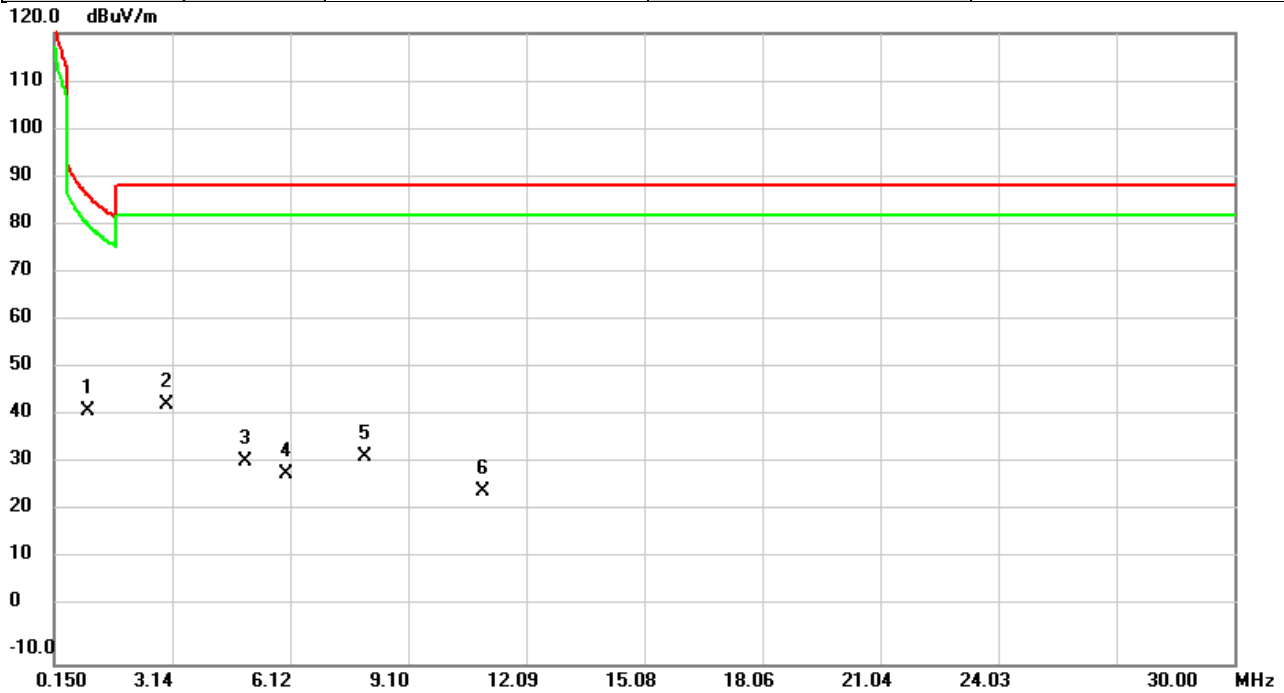


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0147	9.79	33.94	43.73	143.34	-99.61	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%



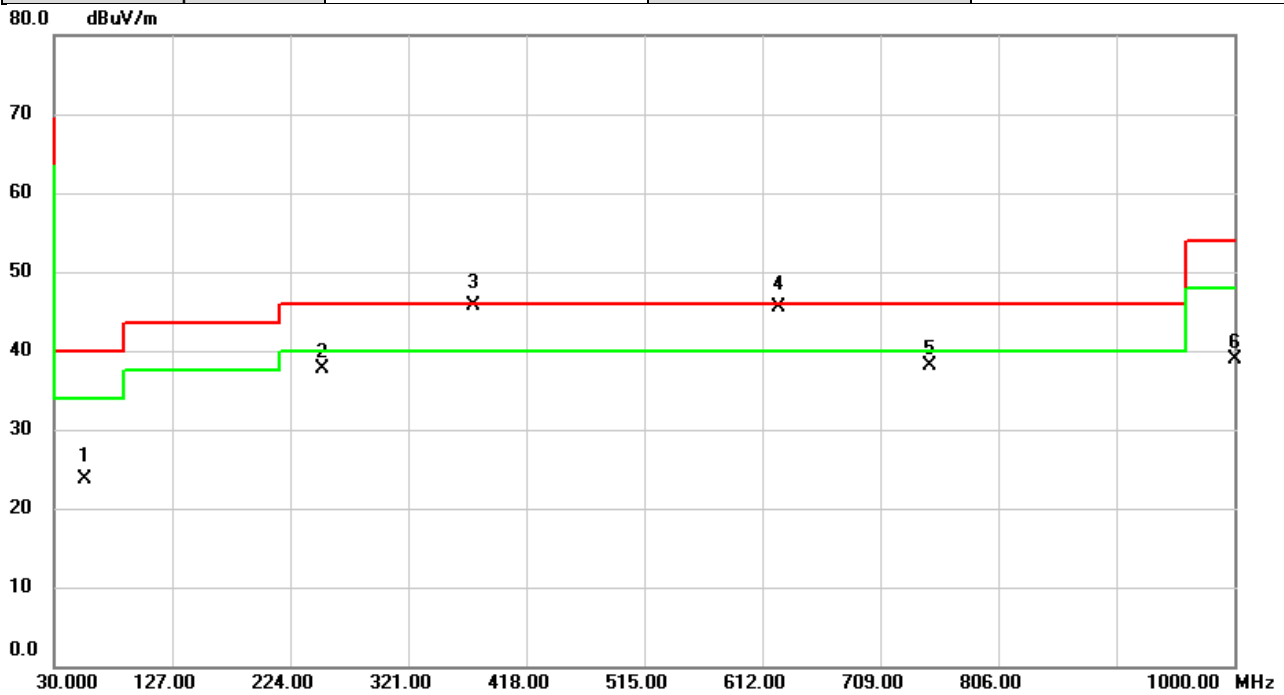
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	0.9997	41.78	0.23	42.01	86.68	-44.67	QP	
2		2.9997	47.08	-3.75	43.33	88.62	-45.29	QP	
3		4.9995	36.00	-4.38	31.62	88.62	-57.00	QP	
4		6.0006	33.37	-4.10	29.27	88.62	-59.35	QP	
5		8.0006	36.42	-3.54	32.88	88.62	-55.74	QP	
6		10.9995	28.55	-3.07	25.48	88.62	-63.14	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	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

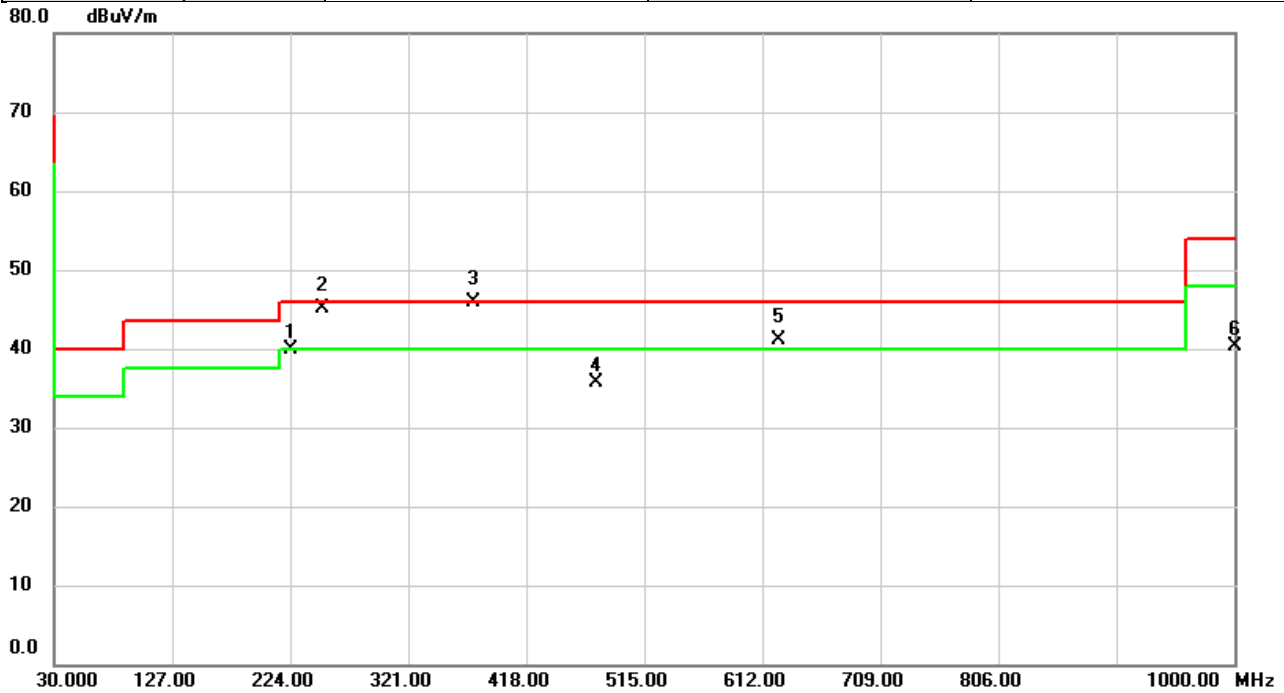


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		55.3817	32.29	-8.68	23.61	40.00	-16.39	QP	
2		249.9960	46.90	-9.11	37.79	46.00	-8.21	peak	
3	*	374.9967	51.83	-6.14	45.69	46.00	-0.31	QP	
4	!	624.9980	46.69	-1.25	45.44	46.00	-0.56	QP	
5		750.0310	36.86	1.25	38.11	46.00	-7.89	peak	
6		1000.000	34.58	4.29	38.87	54.00	-15.13	peak	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%



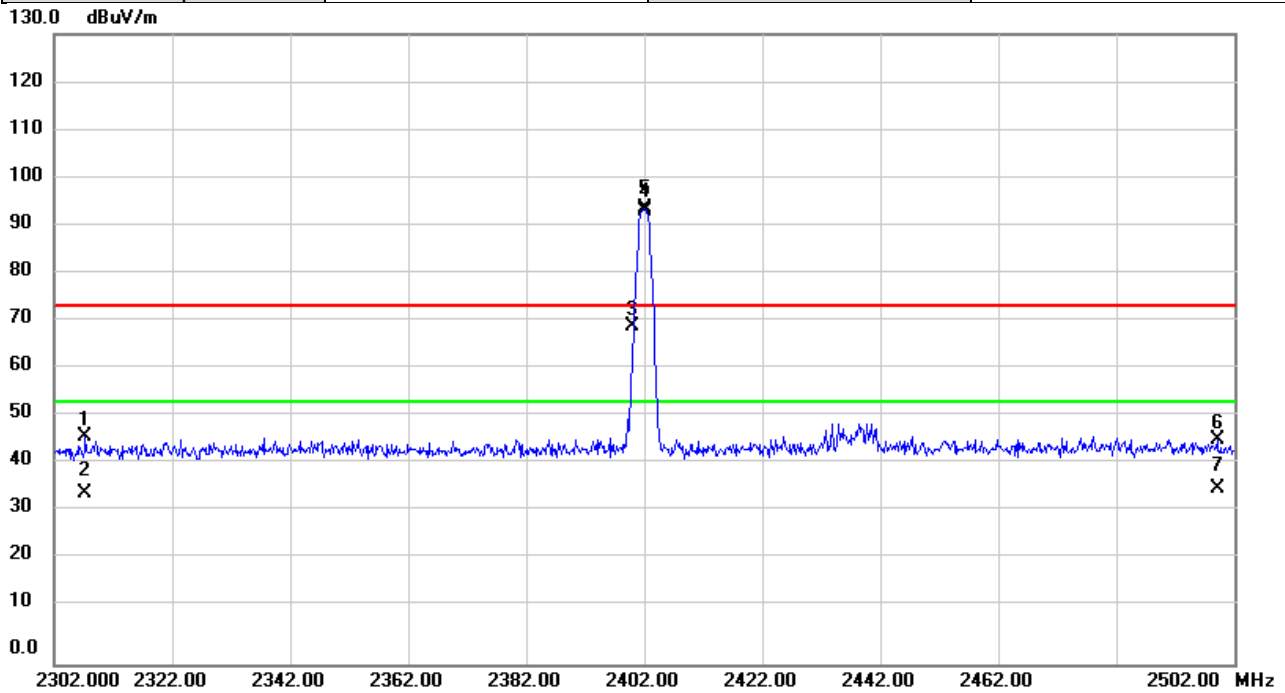
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		225.0023	51.08	-11.09	39.99	46.00	-6.01	peak	
2	!	249.9960	54.12	-9.11	45.01	46.00	-0.99	QP	
3	*	374.9967	52.01	-6.14	45.87	46.00	-0.13	QP	
4		475.0036	39.95	-4.17	35.78	46.00	-10.22	peak	
5	!	625.0303	42.37	-1.25	41.12	46.00	-4.88	QP	
6		1000.000	36.00	4.29	40.29	54.00	-13.71	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	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%



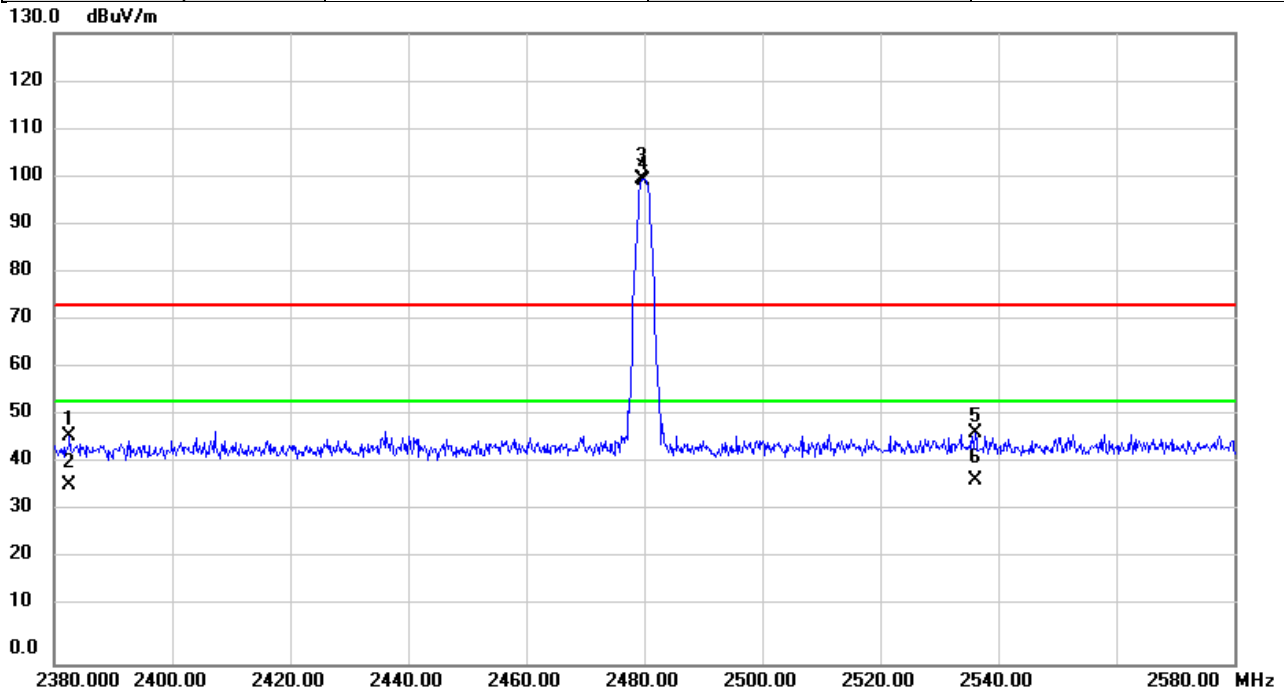
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2307.220	64.89	-17.81	47.08	74.00	-26.92	peak	
2		2307.220	53.08	-17.81	35.27	54.00	-18.73	AVG	
3		2400.000	87.08	-17.38	69.70	74.00	-4.30	peak	NoLimit
4	X	2402.000	111.44	-17.37	94.07	74.00	20.07	peak	NoLimit
5	*	2402.000	110.76	-17.37	93.39	54.00	39.39	AVG	NoLimit
6		2499.167	63.32	-16.92	46.40	74.00	-27.60	peak	
7		2499.167	53.08	-16.92	36.16	54.00	-17.84	AVG	

REMARKS:

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

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

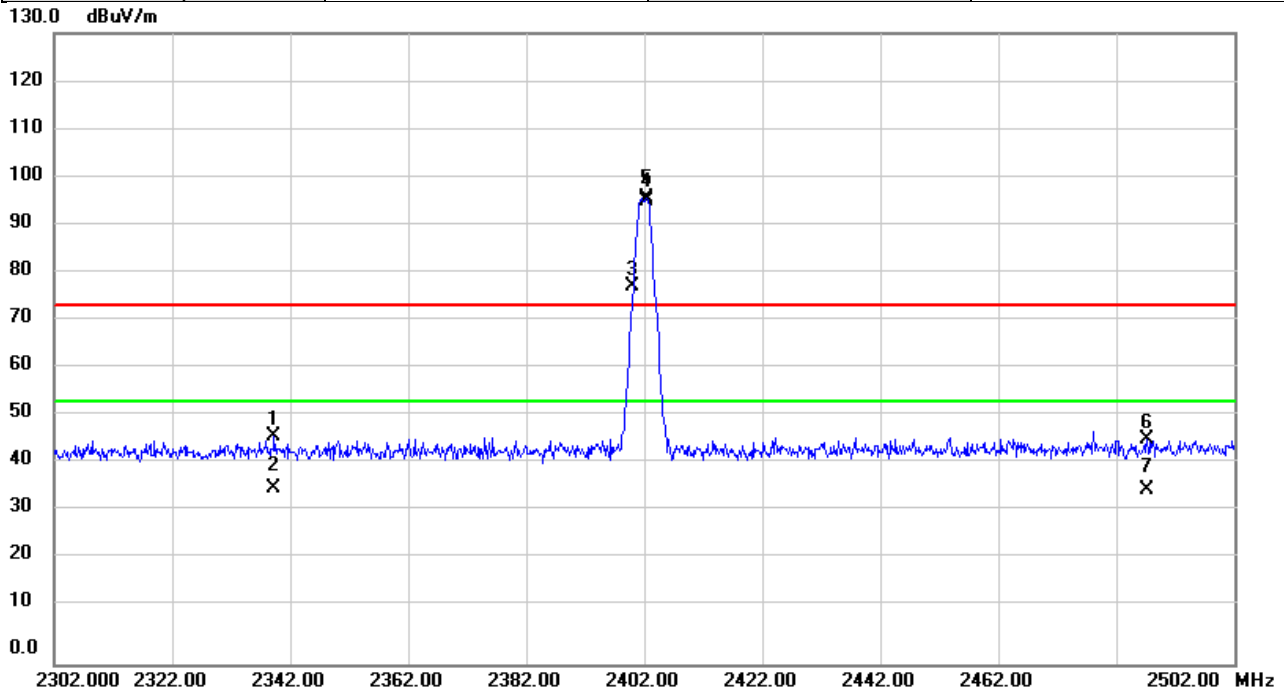


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.613	64.51	-17.47	47.04	74.00	-26.96	peak	
2		2382.613	54.33	-17.47	36.86	54.00	-17.14	AVG	
3	*	2479.733	117.08	-17.01	100.07	54.00	46.07	AVG	NoLimit
4	X	2479.753	116.65	-17.01	99.64	74.00	25.64	peak	NoLimit
5		2536.113	64.35	-16.76	47.59	74.00	-26.41	peak	
6		2536.113	54.67	-16.76	37.91	54.00	-16.09	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%



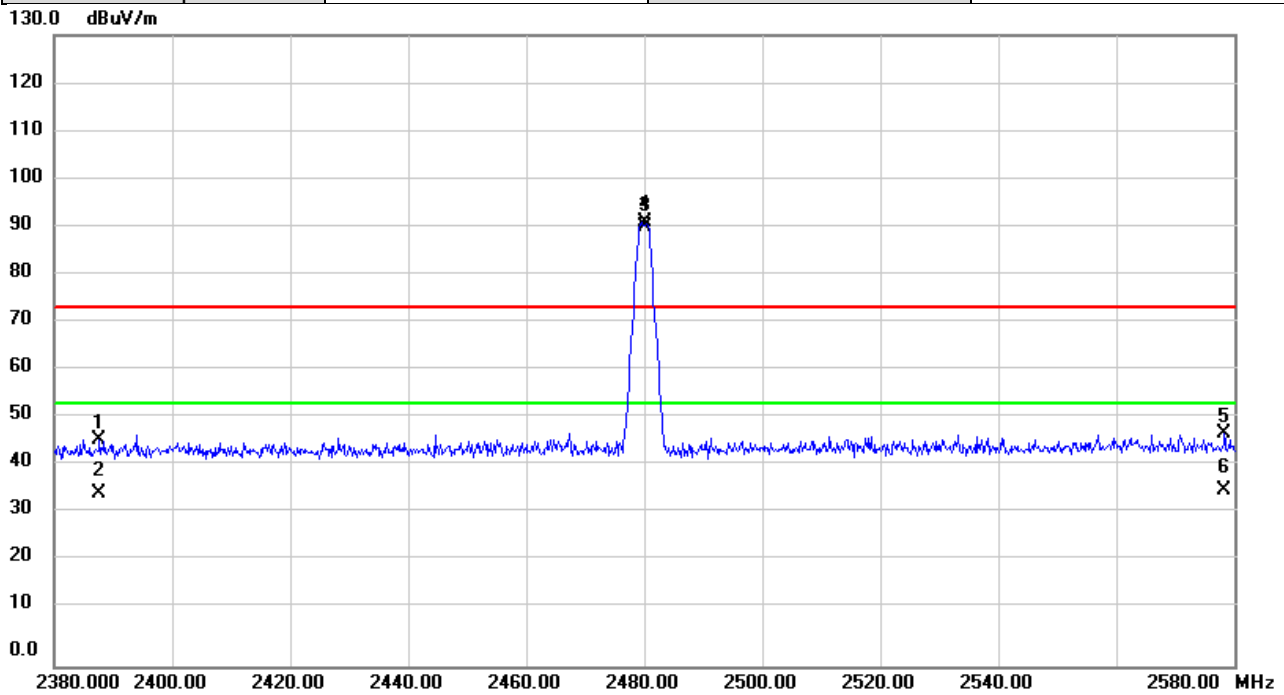
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2339.220	64.51	-17.66	46.85	74.00	-27.15	peak	
2		2339.220	53.75	-17.66	36.09	54.00	-17.91	AVG	
3	X	2400.000	95.06	-17.38	77.68	74.00	3.68	peak	NoLimit
4	X	2402.440	113.32	-17.37	95.95	74.00	21.95	peak	NoLimit
5	*	2402.440	112.67	-17.37	95.30	54.00	41.30	AVG	NoLimit
6		2487.300	63.18	-16.97	46.21	74.00	-27.79	peak	
7		2487.300	52.96	-16.97	35.99	54.00	-18.01	AVG	

REMARKS:

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

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

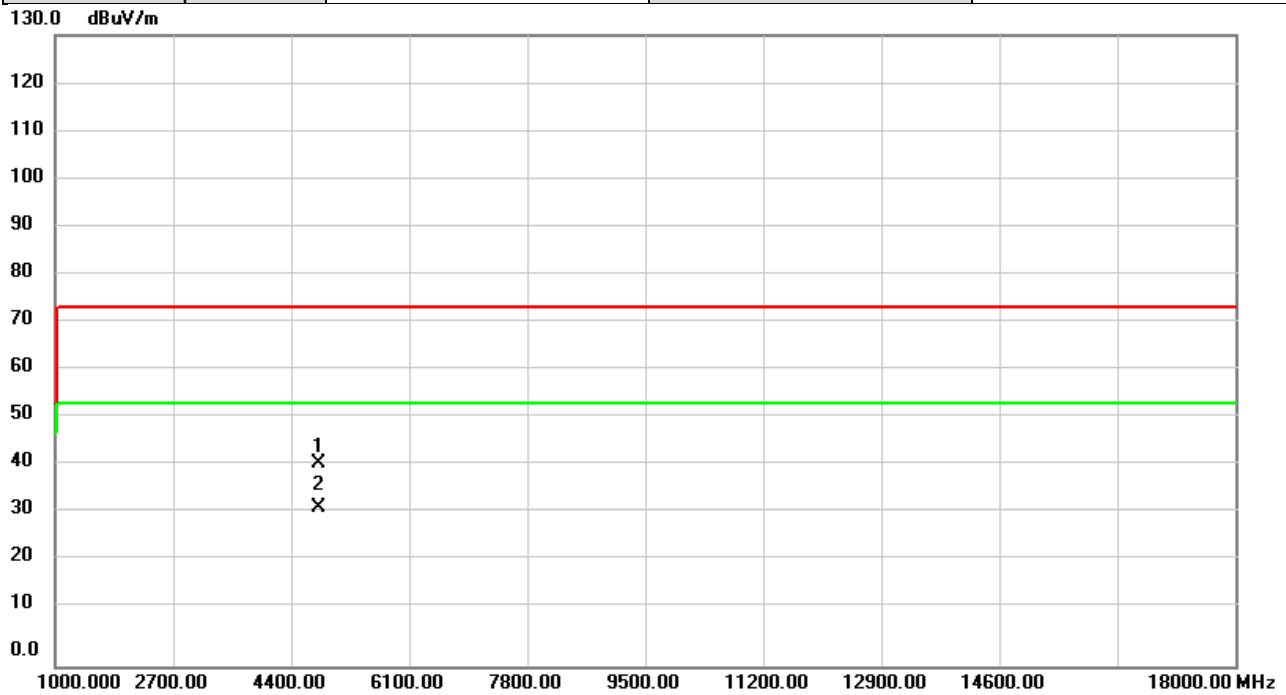


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2387.620	64.21	-17.43	46.78	74.00	-27.22	peak	
2		2387.620	53.03	-17.43	35.60	54.00	-18.40	AVG	
3	X	2480.000	108.50	-17.01	91.49	74.00	17.49	peak	NoLimit
4	*	2480.000	107.39	-17.01	90.38	54.00	36.38	AVG	NoLimit
5		2578.380	64.47	-16.58	47.89	74.00	-26.11	peak	
6		2578.380	52.81	-16.58	36.23	54.00	-17.77	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

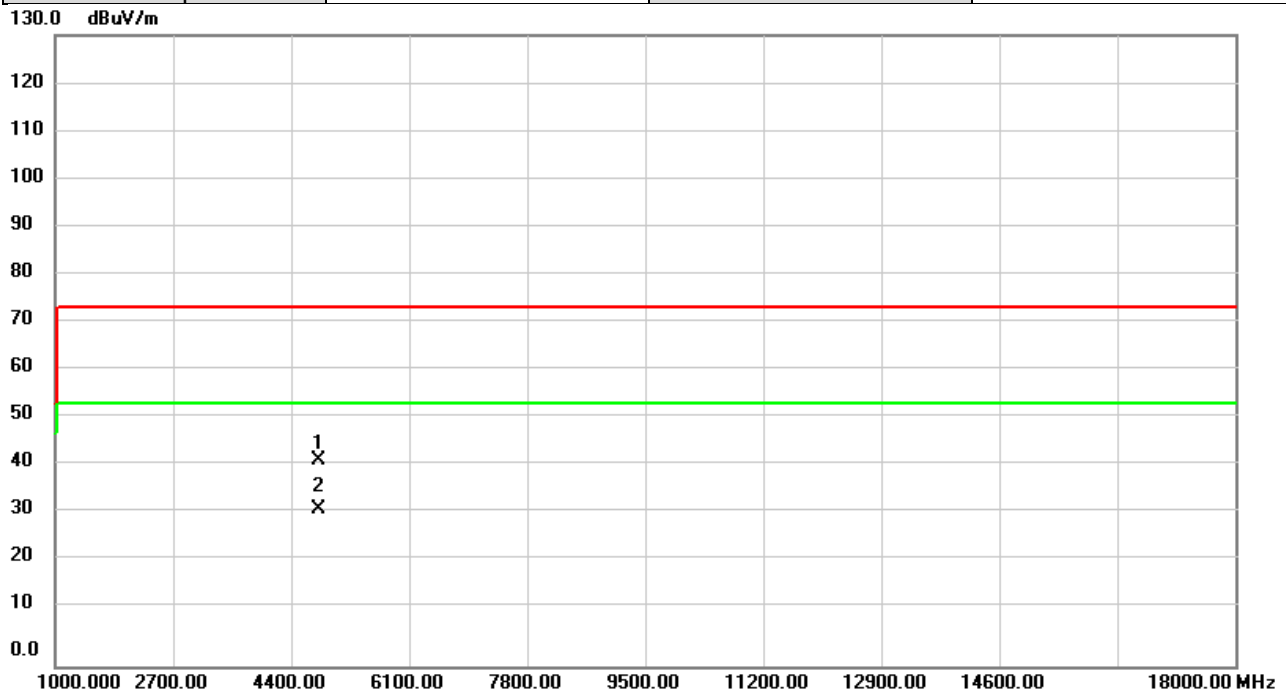


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	52.19	-10.46	41.73	74.00	-32.27	peak	
2	*	4804.000	43.20	-10.46	32.74	54.00	-21.26	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

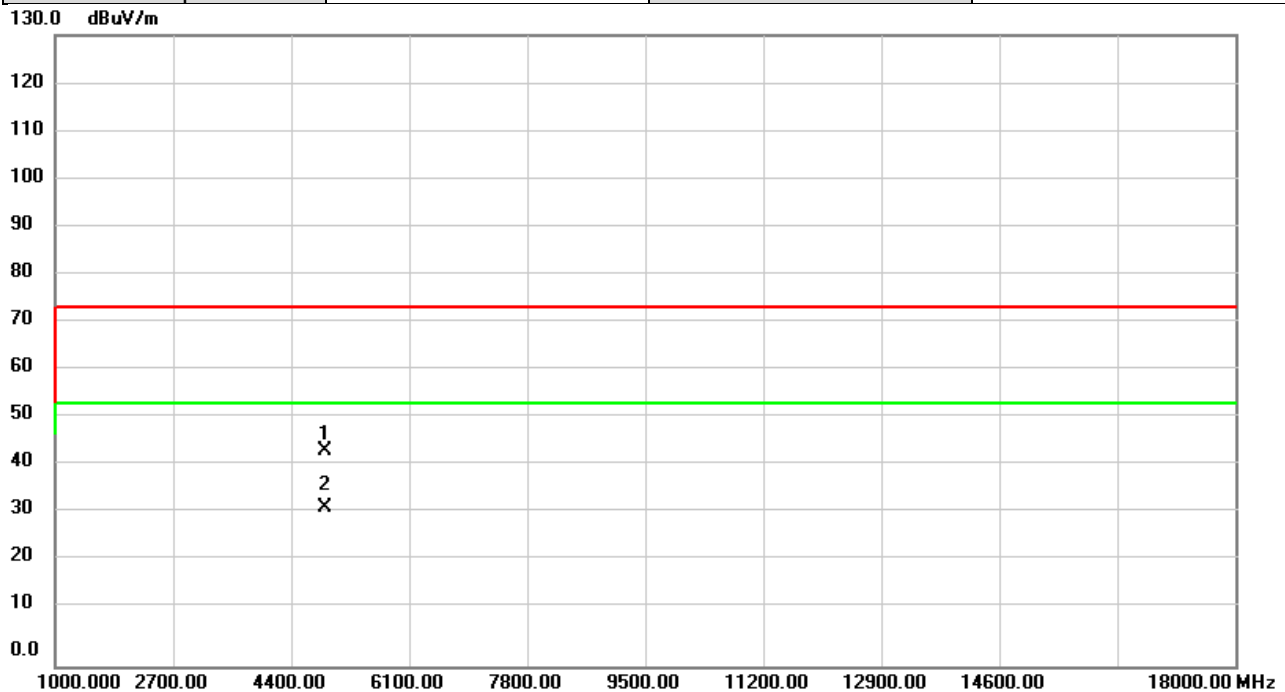


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	52.82	-10.46	42.36	74.00	-31.64	peak	
2	*	4804.000	42.90	-10.46	32.44	54.00	-21.56	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

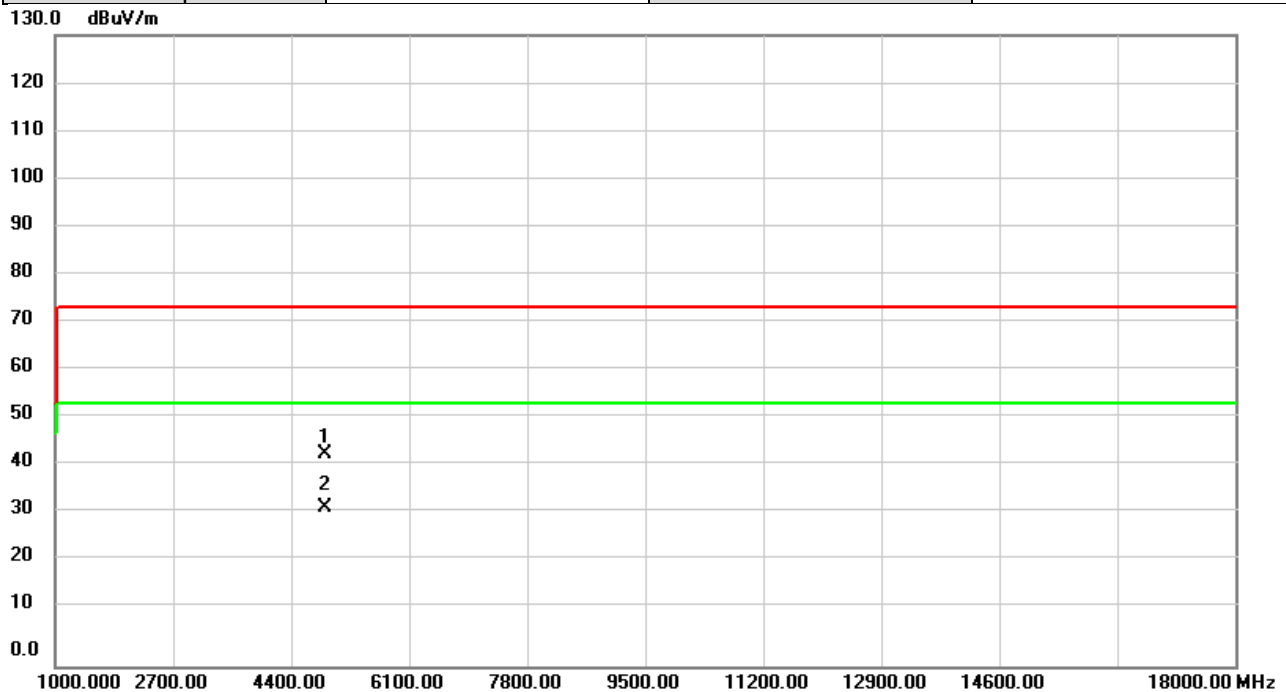


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	54.60	-10.29	44.31	74.00	-29.69	peak	
2	*	4882.000	43.05	-10.29	32.76	54.00	-21.24	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

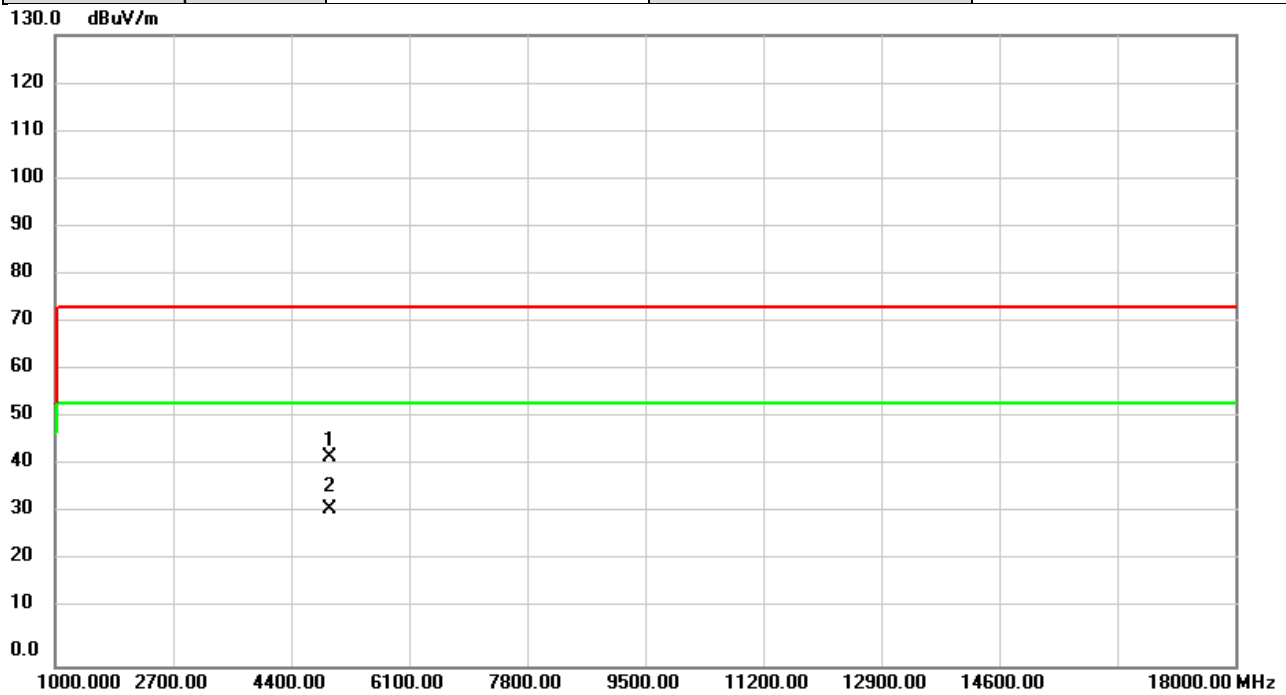


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4880.000	54.16	-10.29	43.87	74.00	-30.13	peak	
2	*	4880.000	42.94	-10.29	32.65	54.00	-21.35	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

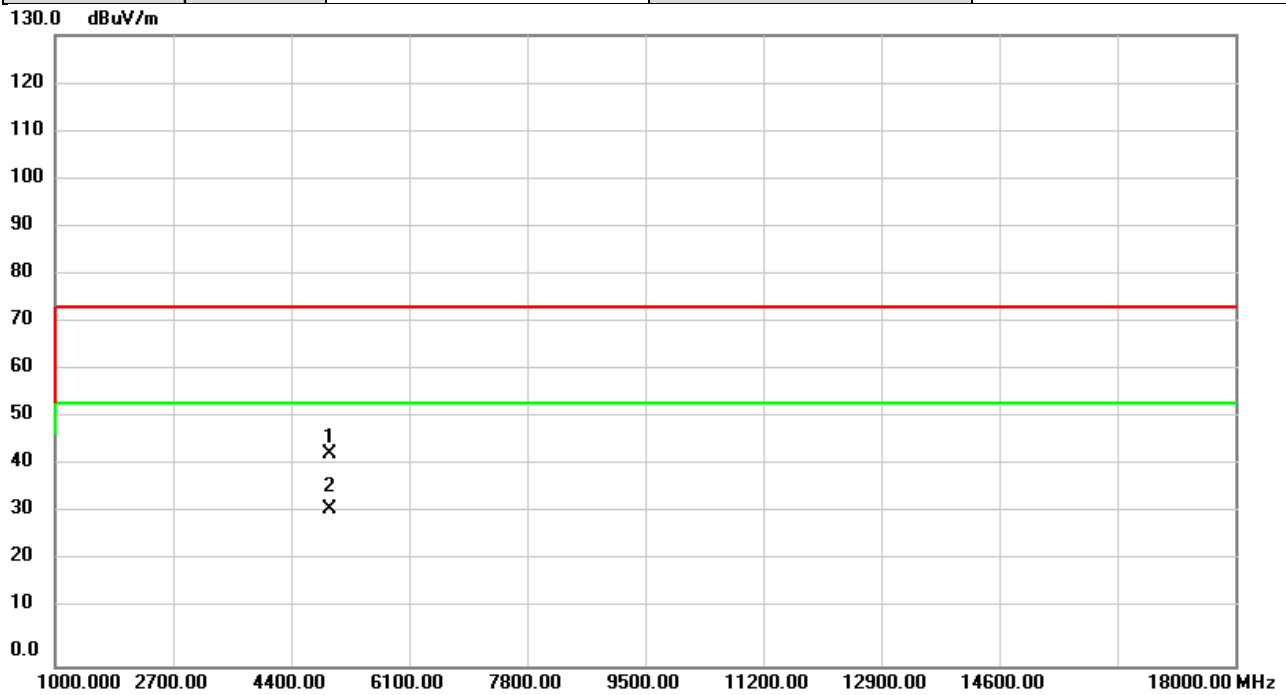


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	53.25	-10.12	43.13	74.00	-30.87	peak	
2	*	4960.000	42.46	-10.12	32.34	54.00	-21.66	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

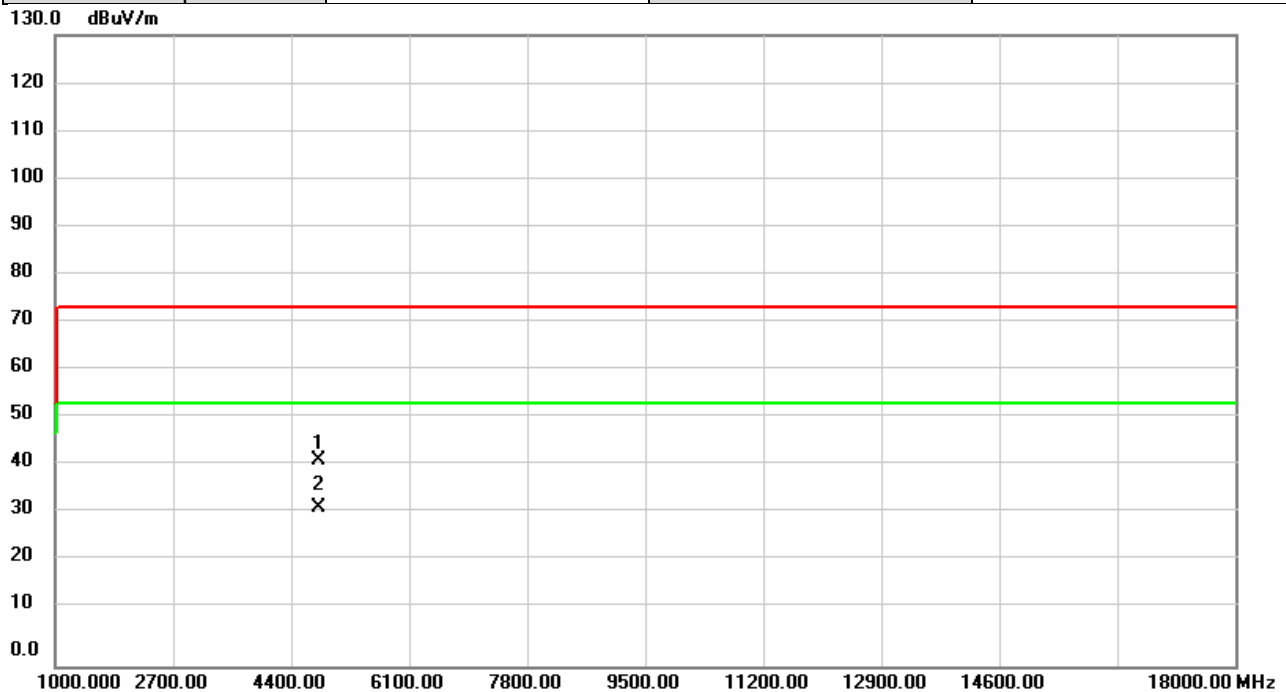


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	53.78	-10.12	43.66	74.00	-30.34	peak	
2	*	4960.000	42.40	-10.12	32.28	54.00	-21.72	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

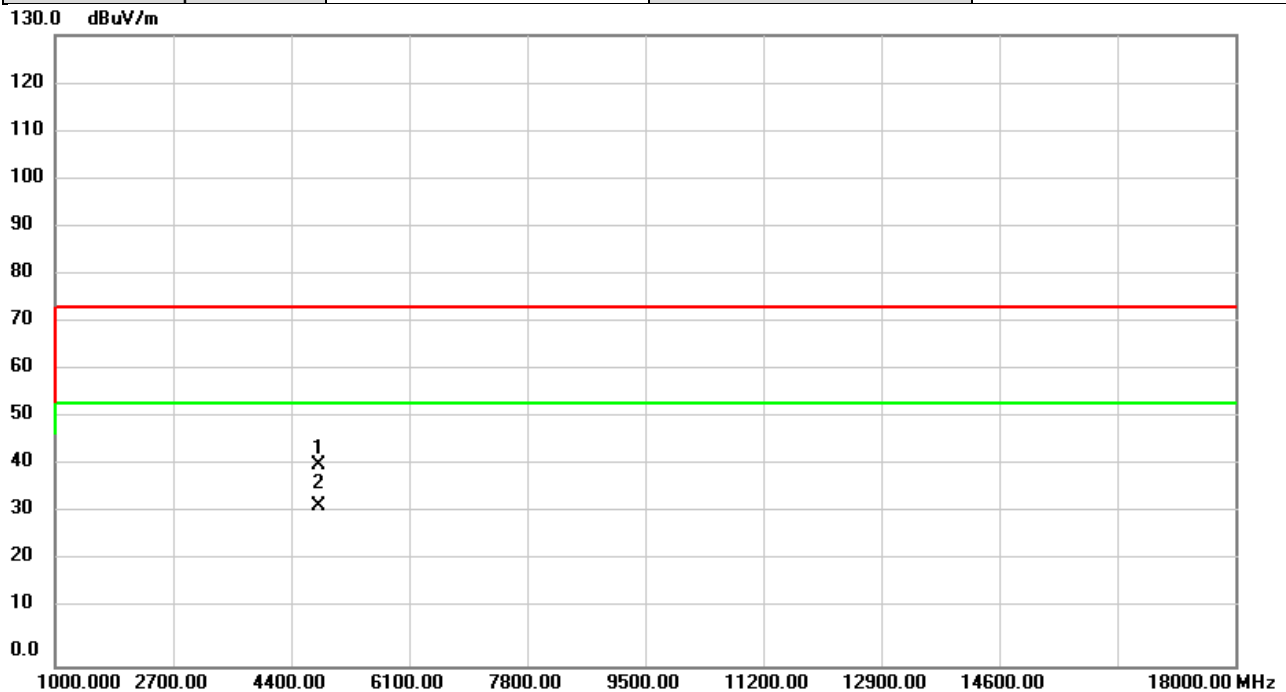


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	52.94	-10.46	42.48	74.00	-31.52	peak	
2	*	4804.000	43.26	-10.46	32.80	54.00	-21.20	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2402MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

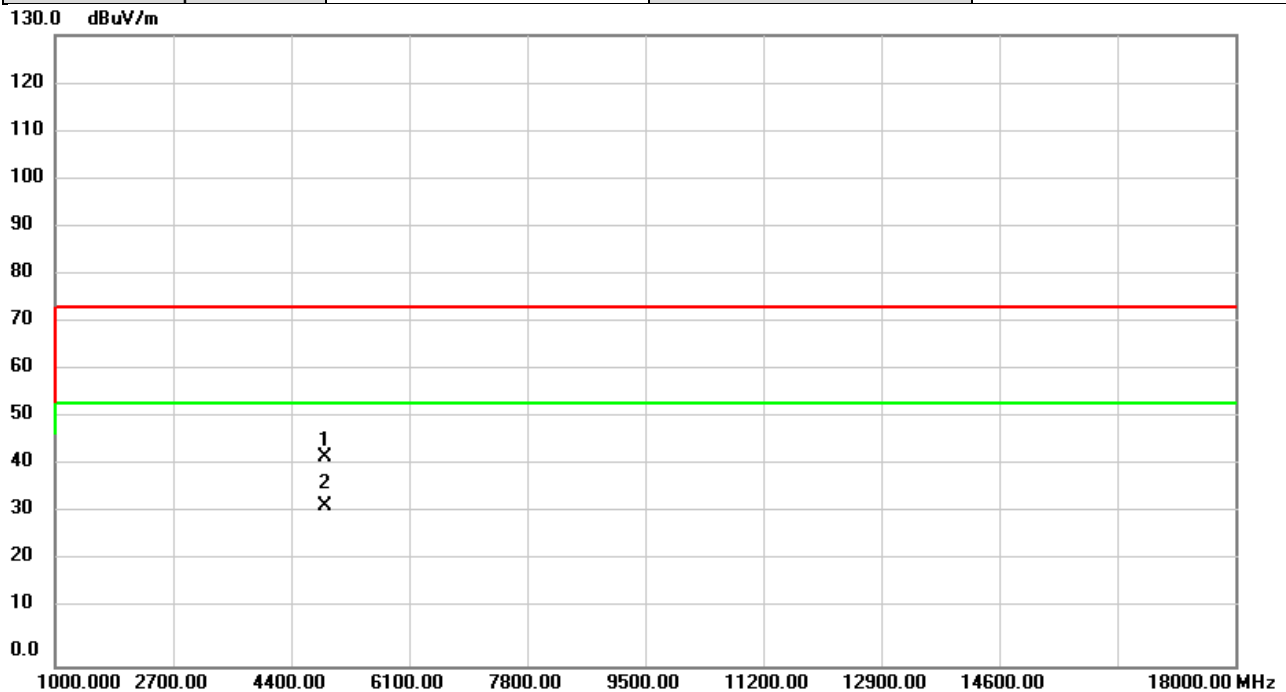


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	51.85	-10.46	41.39	74.00	-32.61	peak	
2	*	4804.000	43.43	-10.46	32.97	54.00	-21.03	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

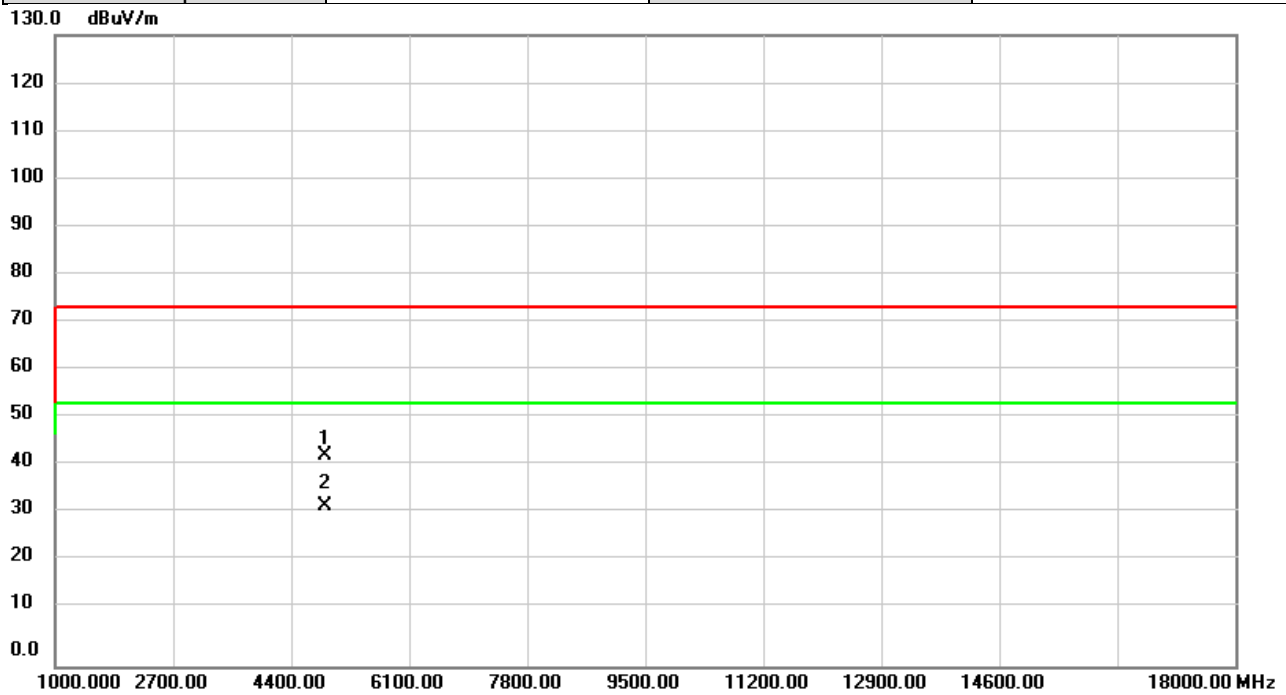


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	53.43	-10.29	43.14	74.00	-30.86	peak	
2	*	4882.000	43.24	-10.29	32.95	54.00	-21.05	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

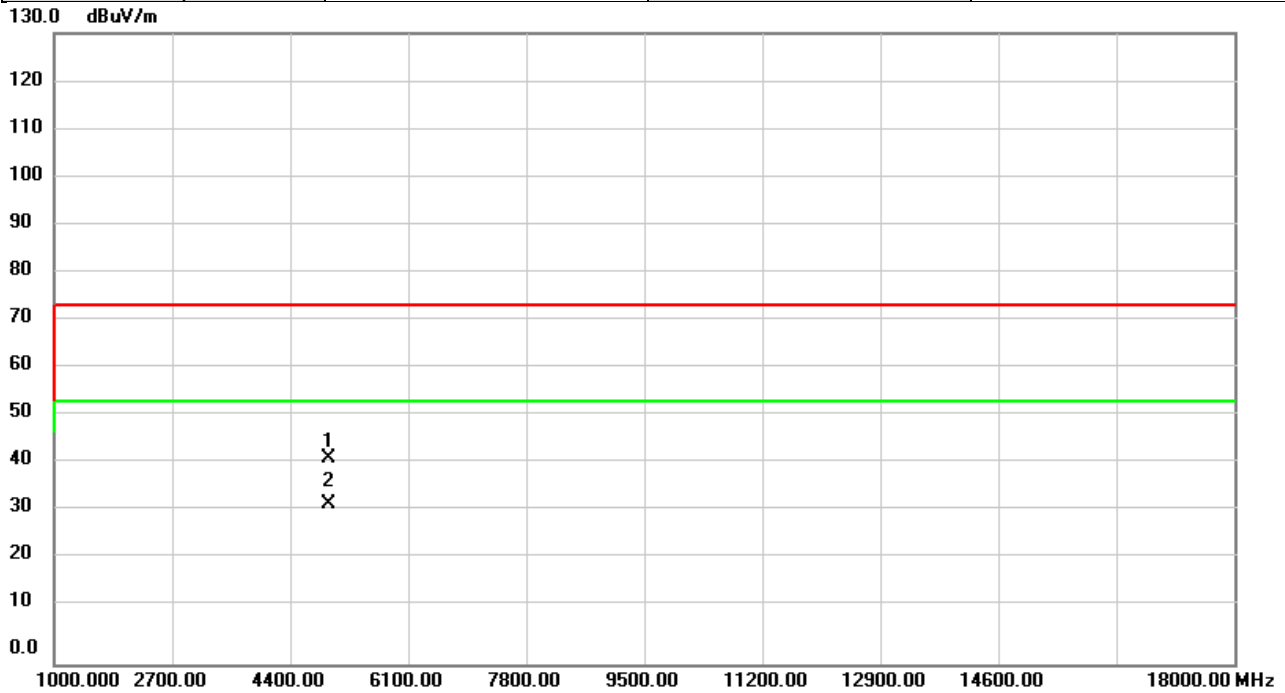


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	53.65	-10.29	43.36	74.00	-30.64	peak	
2	*	4882.000	43.36	-10.29	33.07	54.00	-20.93	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

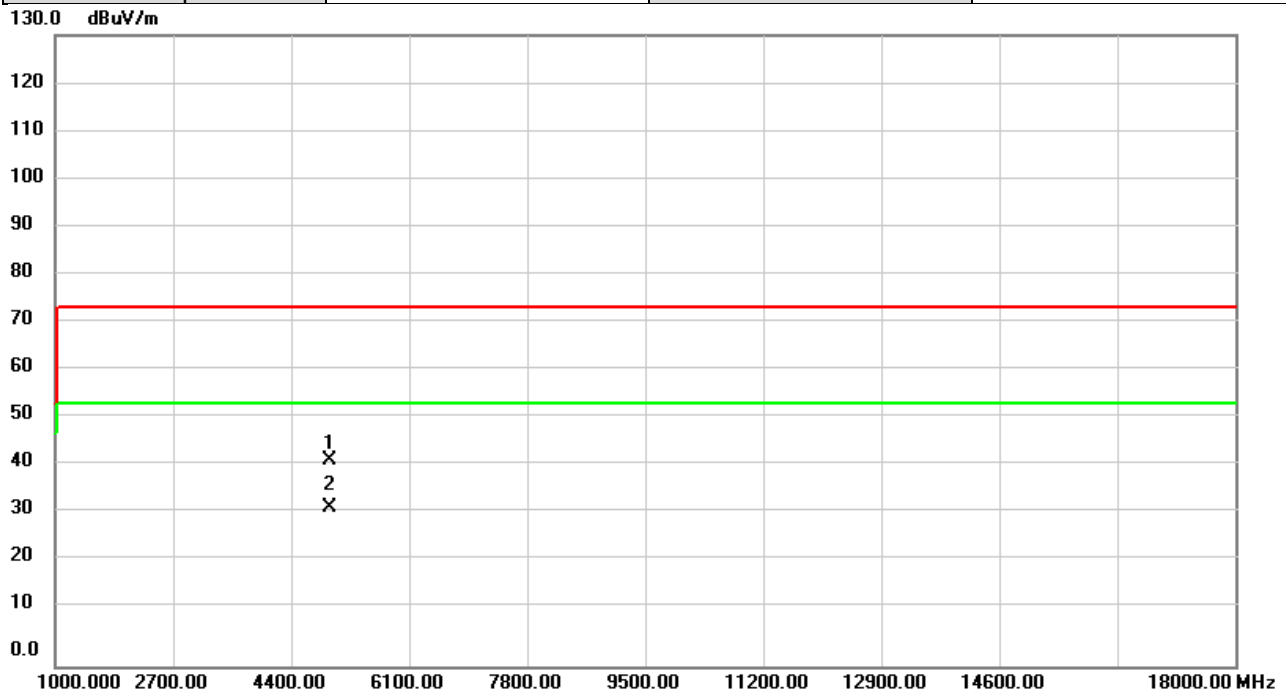


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	52.66	-10.12	42.54	74.00	-31.46	peak	
2	*	4960.000	43.09	-10.12	32.97	54.00	-21.03	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (2 Mbps)	Test Date	2025/5/23
Test Frequency	2480MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%

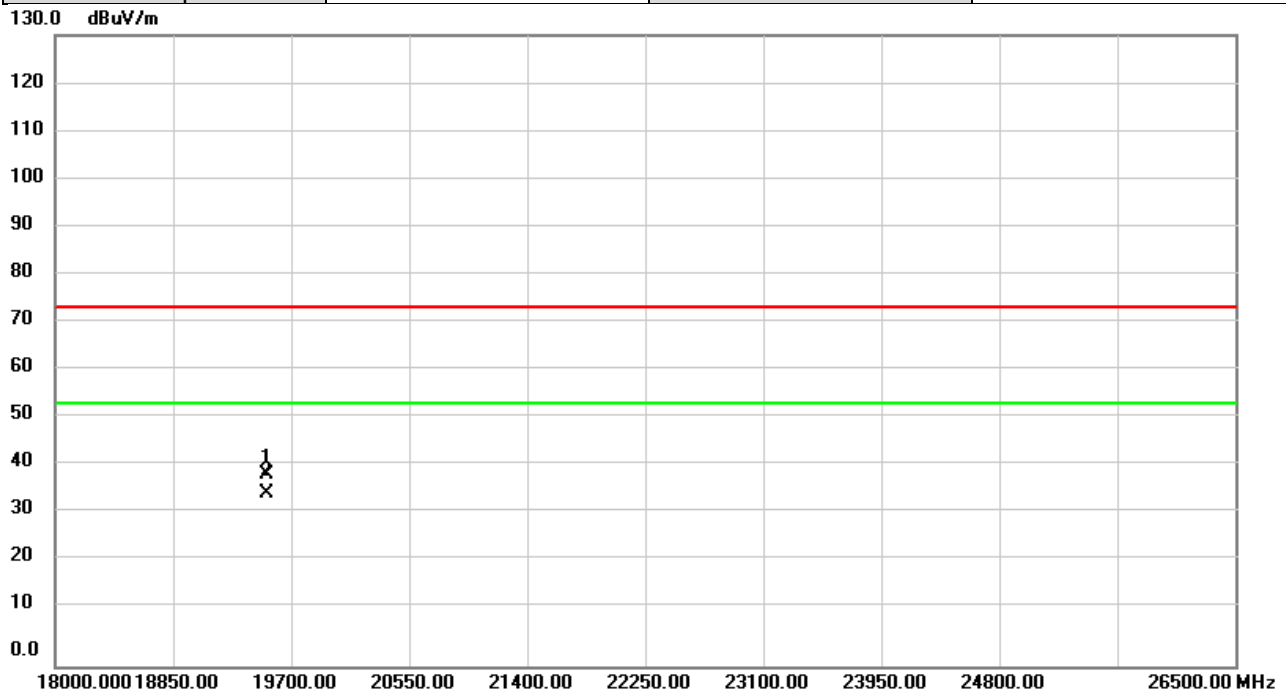


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	52.69	-10.12	42.57	74.00	-31.43	peak	
2	*	4960.000	42.76	-10.12	32.64	54.00	-21.36	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Vertical
Temp	27°C	Hum.	52%

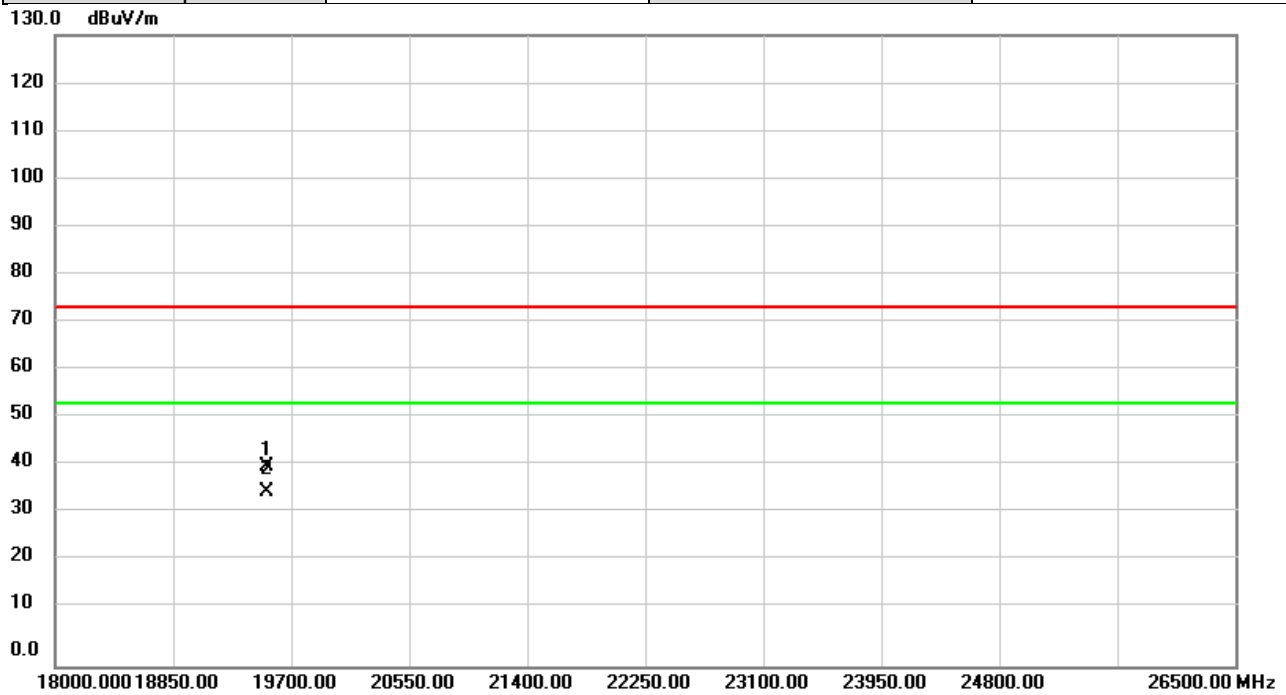


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		19520.00	45.28	-5.85	39.43	74.00	-34.57	peak	
2	*	19520.00	41.48	-5.85	35.63	54.00	-18.37	AVG	

REMARKS:

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

Test Mode	BLE 5.4 (1 Mbps)	Test Date	2025/5/23
Test Frequency	2440MHz	Polarization	Horizontal
Temp	27°C	Hum.	52%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		19520.00	46.82	-5.85	40.97	74.00	-33.03	peak	
2	*	19520.00	41.67	-5.85	35.82	54.00	-18.18	AVG	

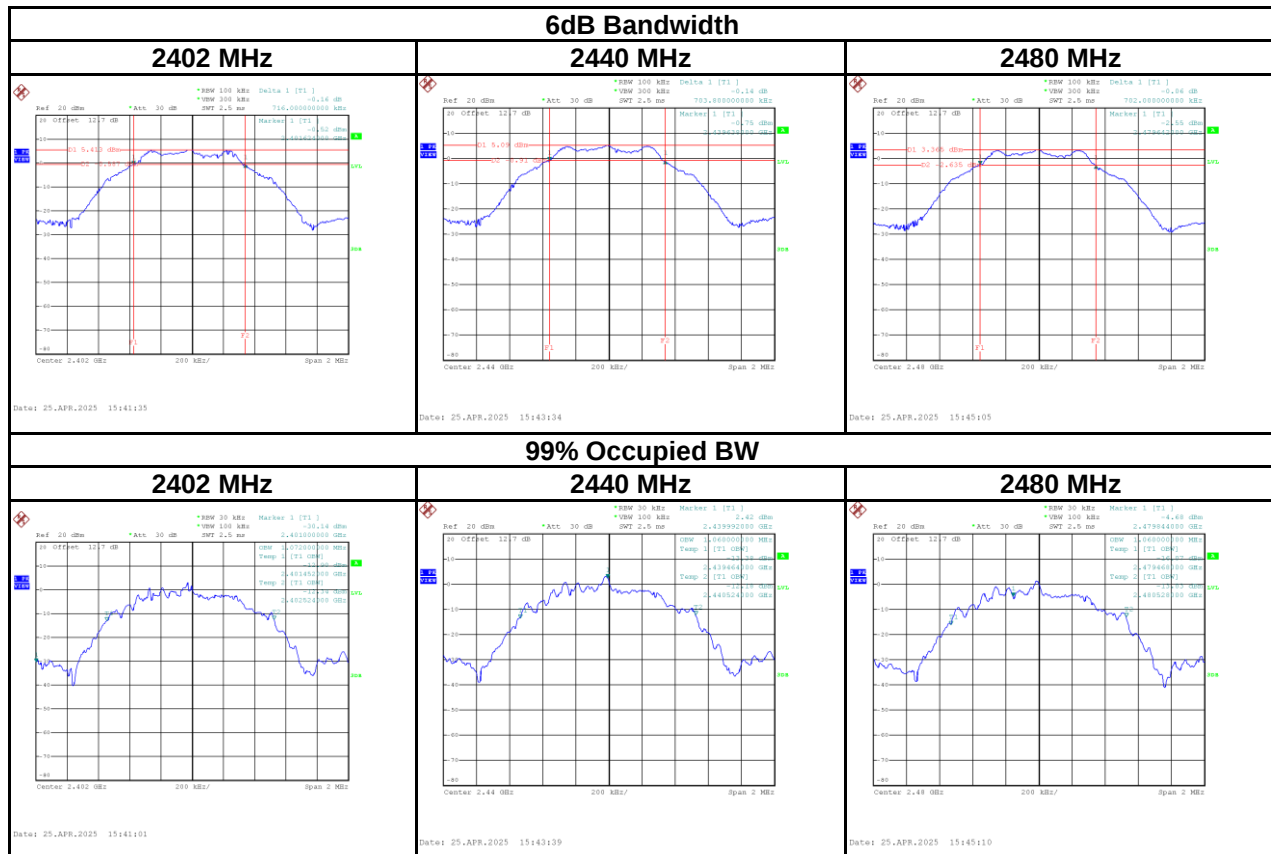
REMARKS:

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

APPENDIX E BANDWIDTH

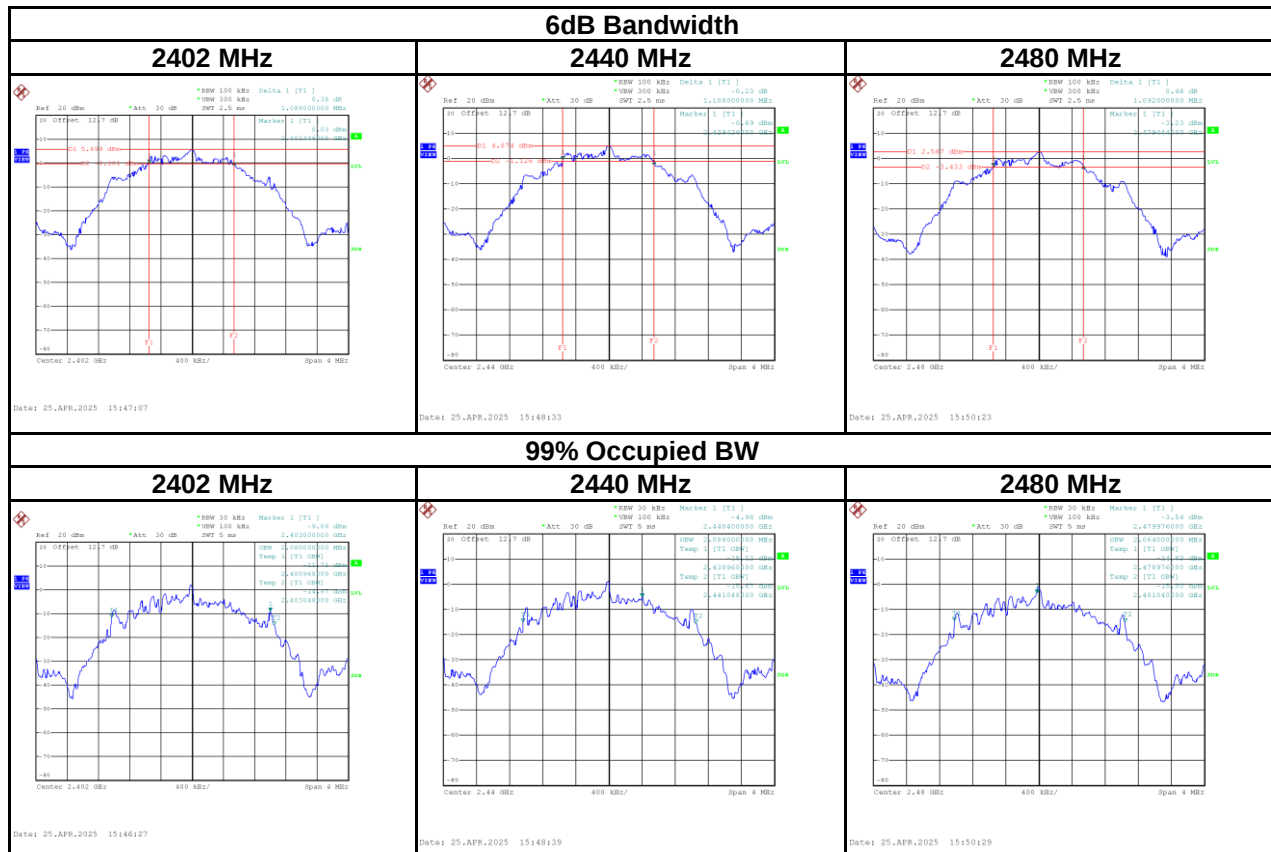
Test Mode:	1Mbps
------------	-------

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2402	0.72	1.07	500	Pass
2440	0.70	1.06	500	Pass
2480	0.70	1.06	500	Pass



Test Mode:	2Mbps
------------	-------

Frequency (MHz)	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Min. Limit (kHz)	Test Result
2402	1.09	2.08	500	Pass
2440	1.11	2.09	500	Pass
2480	1.09	2.06	500	Pass



APPENDIX F OUTPUT POWER

Test Mode :	1Mbps	Tested Date	2025/4/23
-------------	-------	-------------	-----------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	6.65	0.0046	30.00	1.0000	Pass
2440	6.11	0.0041	30.00	1.0000	Pass
2480	4.18	0.0026	30.00	1.0000	Pass

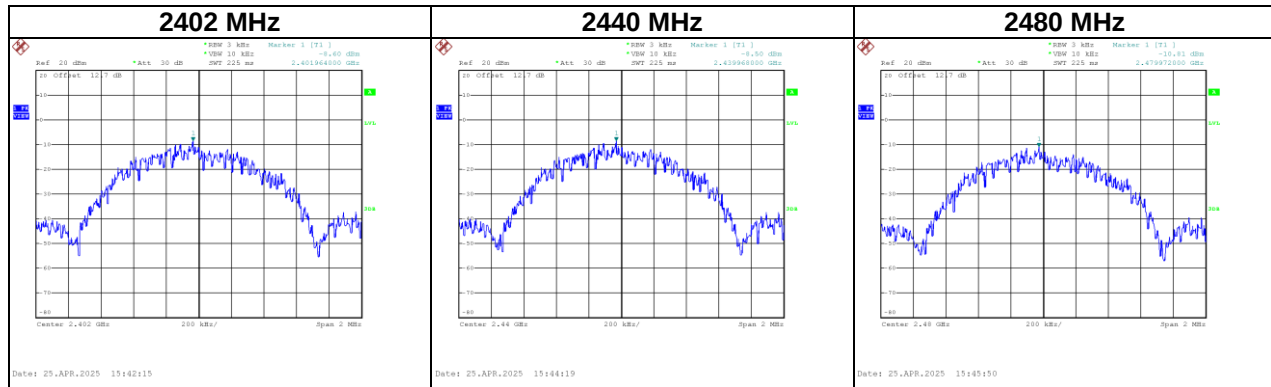
Test Mode :	2Mbps	Tested Date	2025/4/23
-------------	-------	-------------	-----------

Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	6.68	0.0047	30.00	1.0000	Pass
2440	6.15	0.0041	30.00	1.0000	Pass
2480	4.19	0.0026	30.00	1.0000	Pass

APPENDIX G POWER SPECTRAL DENSITY TEST

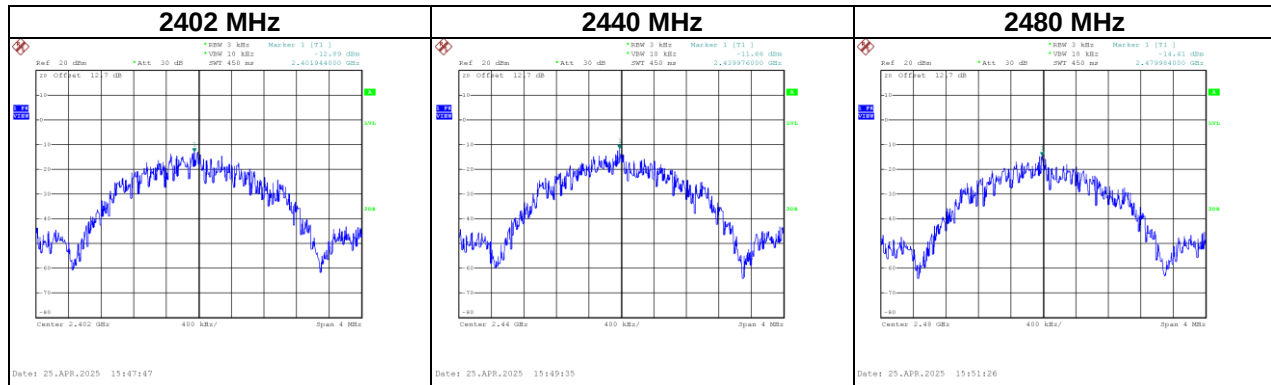
Test Mode :	1Mbps
-------------	-------

Frequency (MHz)	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Test Result
2402	-8.60	8	Pass
2440	-8.50	8	Pass
2480	-10.81	8	Pass



Test Mode :	2Mbps
-------------	-------

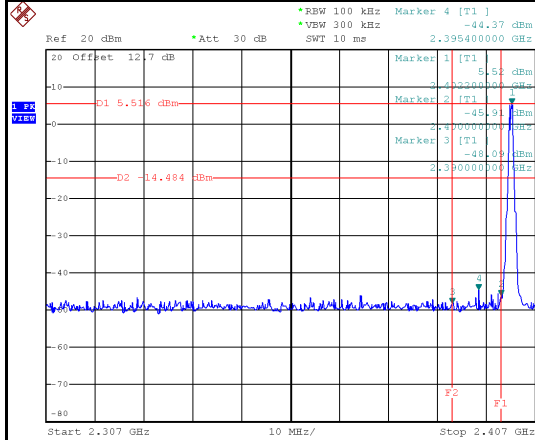
Frequency (MHz)	Power Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Test Result
2402	-12.89	8	Pass
2440	-11.66	8	Pass
2480	-14.41	8	Pass



APPENDIX H ANTENNA CONDUCTED SPURIOUS EMISSION

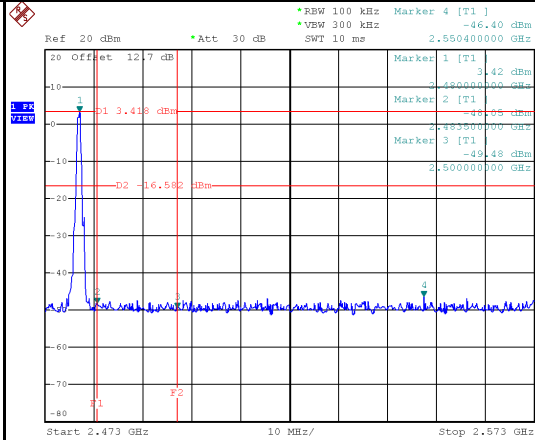
Test Mode : 1Mbps

Low Bandedge-2402 MHz



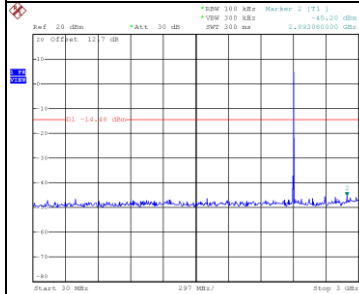
Date: 25.APR.2025 15:41:42

High Bandedge-2480 MHz

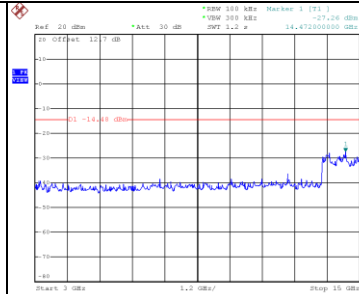


Date: 25.APR.2025 15:45:17

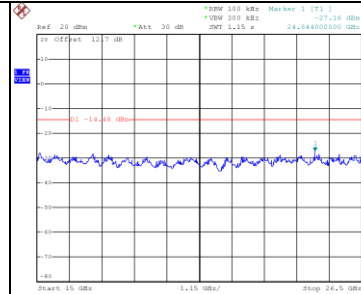
2402 MHz – 10th Harmonics



Date: 25.APR.2025 15:41:55

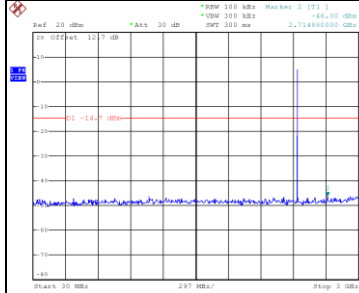


Date: 25.APR.2025 15:42:02

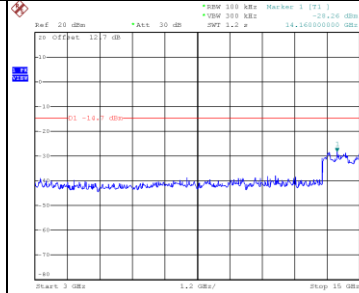


Date: 25.APR.2025 15:42:10

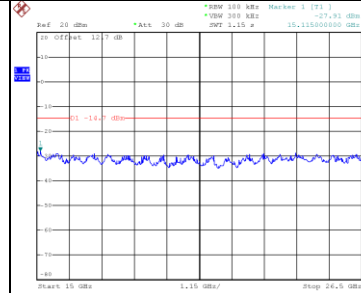
2440 MHz – 10th Harmonics



Date: 25.APR.2025 15:43:59

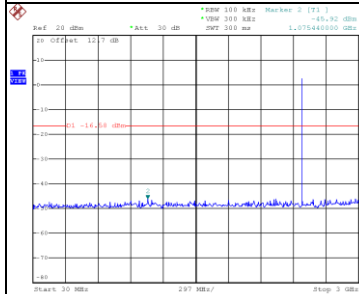


Date: 25.APR.2025 15:44:07

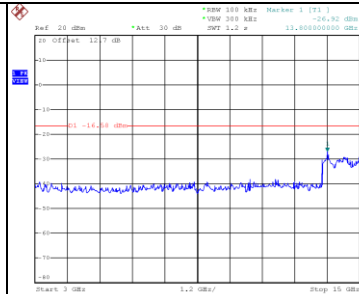


Date: 25.APR.2025 15:44:14

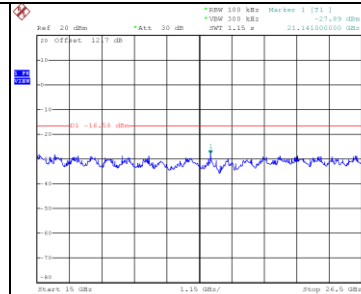
2480 MHz – 10th Harmonics



Date: 25.APR.2025 15:45:31



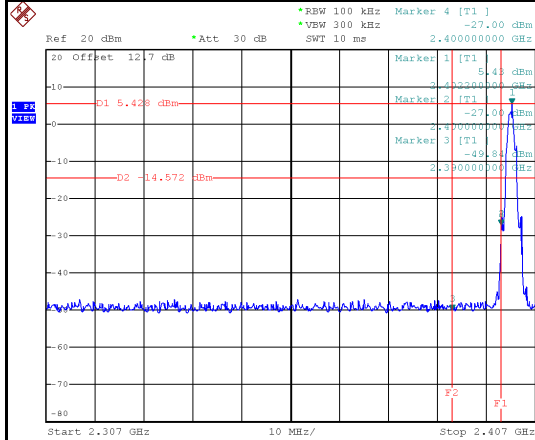
Date: 25.APR.2025 15:45:38



Date: 25.APR.2025 15:45:45

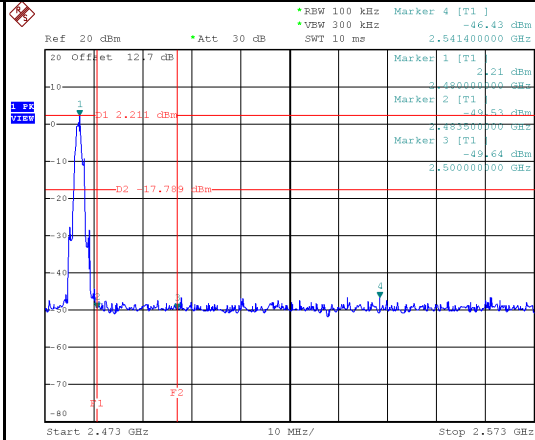
Test Mode : 2Mbps

Low Bandedge-2402 MHz



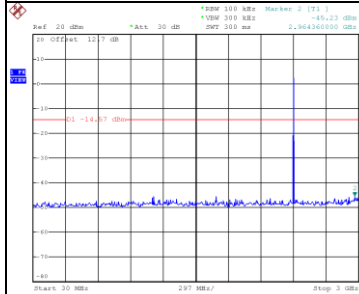
Date: 25.APR.2025 15:47:14

High Bandedge-2480 MHz

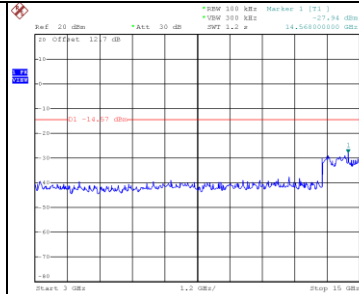


Date: 25.APR.2025 15:50:53

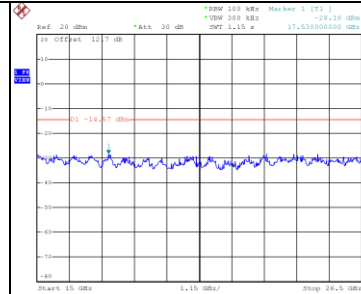
2402 MHz – 10th Harmonics



Date: 25.APR.2025 15:47:27

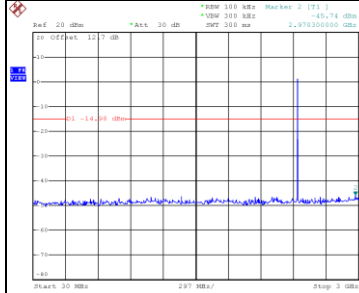


Date: 25.APR.2025 15:47:34

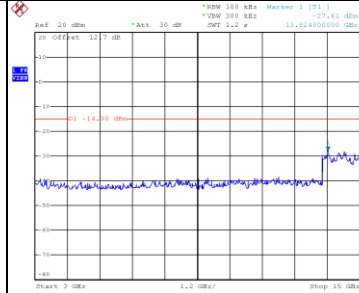


Date: 25.APR.2025 15:47:41

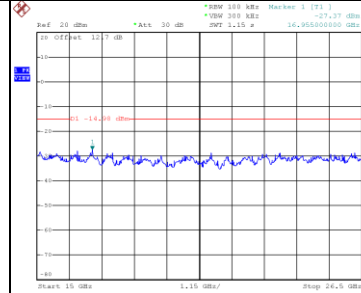
2440 MHz – 10th Harmonics



Date: 25.APR.2025 15:49:15

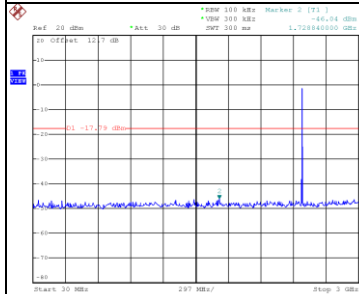


Date: 25.APR.2025 15:49:23

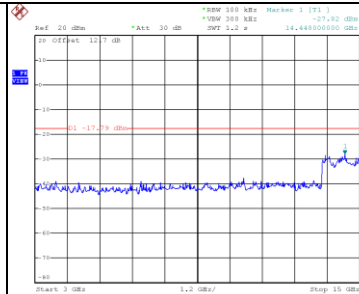


Date: 25.APR.2025 15:49:30

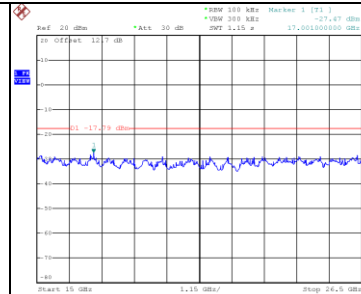
2480 MHz – 10th Harmonics



Date: 25.APR.2025 15:51:06



Date: 25.APR.2025 15:51:13



Date: 25.APR.2025 15:51:20

End of Test Report