

Project No: TM-2409000206P
Report No.: TMWK2409003201KR

FCC ID: 2AWUU60B04001
IC: 26271-60B04001

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Rev.: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

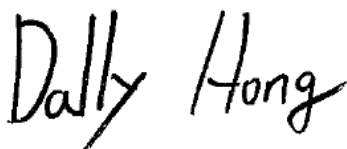
Test Standard	FCC Part 15.247 IC RSS-247 issue 3 and IC RSS-GEN issue 5
Product name	Mullion Video Intercom with Reader
Brand Name	Verkada
Model No.	TD33-HW
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc.(Wugu Laboratory)

Approved by:



Dally Hong
Sr. Engineer

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 11, 2024	Initial Issue	ALL	Peggy Tsai
01	November 22, 2024	See the following Note Rev. (01)	P.4	Peggy Tsai

Note:

Rev. (01)

1. Modify Date of Test in section 1.1.

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APPENDIX A - PHOTOGRAPHS OF EUT		

1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	FCC: Verkada Inc 405 E. 4th Ave. San Mateo California United States 94401 IC: Verkada, Inc. 405 E. 4th Ave. San Mateo CA 94401 United States Of America (Excluding The States Of Alaska)
Manufacturer	CHICONY ELECTRONICS (THAILAND) CO., LTD 82 MOO 4 T. THAKHAM A. BANGPAKONG, CHACHOENGSAO, THAILAND 24130
Equipment	Mullion Video Intercom with Reader
Model No.	TD33-HW
Model Discrepancy	N/A
Trade Name	Verkada
Received Date	September 12, 2024
Date of Test	September 23 ~ October 8, 2024
Power Supply	Power from Poe Adapter. ZYSXEL / PoE12-60W I/P: 100-240VAC, 2.0A, 50-60Hz O/P: 56.0VDC, 1.161A, 65.1W
PMN	TD33-HW Mullion Video Intercom Reader
EUT Serial #	YDAK-KEDE-TYDL
HW Version	60-B04001-A
FW Version	5.1.4

Remark:

- For more details, please refer to the User's manual of the EUT.
- Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
- The manufacturer stated that the PoE adapter will provide corresponding current according to the product.

1.2 EUT CHANNEL INFORMATION

Frequency Range	2402MHz-2480MHz
Modulation Type	GFSK for BLE 1 Mbps GFSK for BLE 2 Mbps
Number of channel	40 Channels

Remark:

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 and RSS-GEN Table 1 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☒ PIFA ☐ PCB ☐ Dipole ☐ Chip Antenna
Antenna Gain	Gain: 2.55 dBi
Antenna Trade / Model	SPEED / F-0Q-51-6007-001-00
Antenna Connector	I-PEX

Notes:

1. The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203 and RSS-GEN 6.8.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 2.21 dB
Channel Bandwidth	+/- 2.79 dB
RF output power (Power Meter + Power sensor)	+/- 0.24 dB
Power Spectral density	+/- 2.74 dB
Conducted Bandedge	+/- 2.74 dB
Conducted Spurious Emission	+/- 2.74 dB
Radiated Emission_9kHz-30MHz	+/- 3.492 dB
Radiated Emission_30MHz-200MHz	+/- 3.62 dB
Radiated Emission_200MHz-1GHz	+/- 3.899 dB
Radiated Emission_1GHz-6GHz	+/- 5.063 dB
Radiated Emission_6GHz-18GHz	+/- 5.122 dB
Radiated Emission_18GHz-26GHz	+/- 3.032 dB
Radiated Emission_26GHz-40GHz	+/- 3.271 dB

Remark:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.

CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	Ben Yang	-
Radiation	Ray Li 、 Tony Chao	-
RF Conducted	Jerry Chang	-

Remark: The lab has been recognized as the FCC accredited lab. under the KDB 974614 D01 and is listed in the FCC pubic Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

1.6 INSTRUMENT CALIBRATION

Conducted FCC/IC/NCC					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Power Sensor	Anritsu	MA2411B	1911387	2024-07-19	2025-07-18
Power Meter	Anritsu	ML2496A	2136002	2024-07-19	2025-07-18
EXA Signal Analyzer	Keysight	N9010B	MY55460167	2024-01-03	2025-01-02
DC Block	Marvelous Microwave Inc	MVE6411	MVE-001	2024-08-08	2025-08-07
Software	Radio Test Software Ver. 21				

966A Radiated					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Signal Analyzer	KEYSIGHT	N9010A	MY52220817	2024-03-15	2025-03-14
Thermo-Hygro Meter	WISEWIND	1206	D07	2023-12-08	2024-12-07
Active Loop Antenna	SCHWARZBEC K	FMZB 1513-60	1513-60-028	2023-12-13	2024-12-12
Bi-Log Antenna	Sunol Sciences	JB3	A030105	2024-07-12	2025-07-11
Preamplifier	EMEC	EM330	060609	2024-02-21	2025-02-20
Cable	Huber+Suhner	104PEA	20995+21000+182330	2024-08-07	2025-08-06
Horn Antenna	ETC	MCTD 1209	DRH13M02003	2023-12-28	2024-12-27
Preamplifier	HP	8449B	3008A00965	2023-12-22	2024-12-21
Cable	EMCI	EMC101G	221213+221011+221012	2023-10-17	2024-10-16
Attenuator	Mini-Circuits	BW-S9W5	BWS9W5-09-966A-01	2024-02-07	2025-02-06
High Pass Filters	Titan Microwave	T04H30001800070S01	22011402-4	2024-06-12	2025-06-13
Horn Antenna	SCHWARZBEC K	BBHA9170	1047	2023-12-13	2024-12-12
Pre-Amplifier	EMCI	EMC184045SE	980860	2023-12-12	2024-12-11
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Site Validation	CCS	966A	N/A	2024-08-03	2025-08-02
Software	e3 V9-210616c				

Remark:

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.



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AC Mains Conduction					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESCI	100064	2024-06-14	2025-06-13
LISN	TESEQ	LN2-16N	22012	2024-02-29	2025-02-27
Cable	Woken	SFL402	185A	2024-07-08	2025-07-07
Software	e3 V6-110812				

Remark:

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

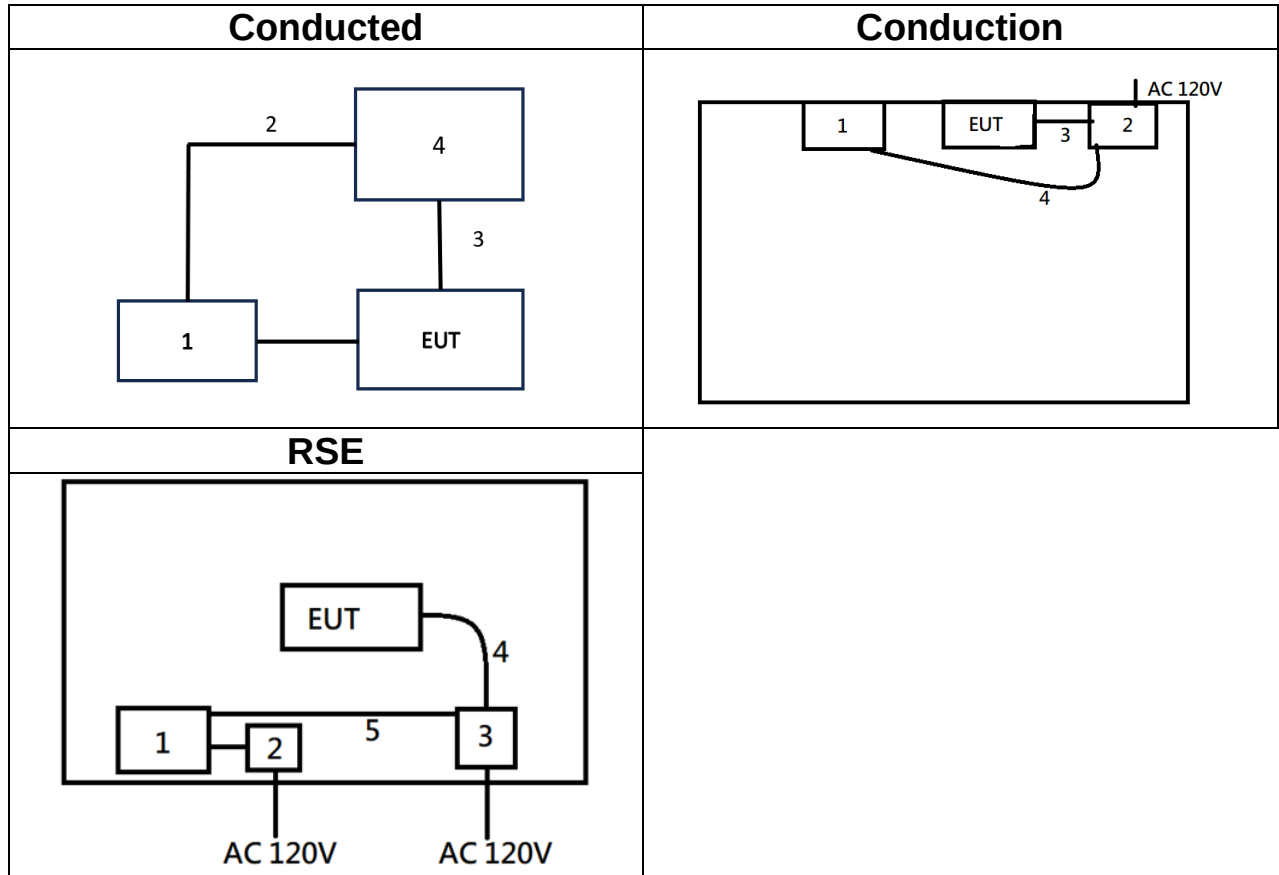
EUT Accessories Equipment						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
	N/A					

Support Equipment (Conducted)					
No.	Equipment	Brand	Model	Series No.	FCC ID
1	NB(B)	Lenovo	X260	N/A	N/A
2	Lan Cable	RASTO REC4	R-PCC004	N/A	N/A
3	Lan Cable	RASTO REC4	R-PCC004	N/A	N/A
4	POE Adapter	ZYXEL	PoE12-60W	N/A	N/A

Support Equipment (RSE)					
No.	Equipment	Brand	Model	Series No.	FCC ID
1	NB(D)	Lenovo	ThinkPad X260	N/A	N/A
2	Adapter	Lenovo	ADLX45DLC3A	N/A	N/A
3	PoE Injector	ZYXEL	PoE12-60W	S212L41486914	N/A
4	Ethernet Cable	N/A	N/A	N/A	N/A
5	Ethernet Cable	N/A	N/A	N/A	N/A

Support Equipment (Conduction)					
No.	Equipment	Brand	Model	Series No.	FCC ID
1	NB(D)	Lenovo	ThinkPad X260	N/A	N/A
2	PoE Injector	ZYXEL	PoE12-60W	S212L41486914	N/A
3	Ethernet Cable	RASTO REC4	R-PCC004	N/A	N/A
4	Ethernet Cable	RASTO REC4	R-PCC004	N/A	N/A

1.8 TEST SET UP DIAGRAM



1.9 TEST PROGRAM

The EUT connection corresponds to the surrounding fixture control board. This EUT uses "Tera term v4.73" software and setup command to set the frequency, modulation, and power to allow the sample to continuously transmit (including frequency hopping mode).

1.10 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247, KDB 558074, RSS-247 Issue 3 and RSS-GEN Issue 5.

2. TEST SUMMERY

IC Standard Section	FCC Standard Section	Report Section	Test Item	Result
RSS-Gen 6.8	15.203	1.3	Antenna Requirement	Pass
RSS-GEN 8.8	15.207(a)	4.1	AC Conducted Emission	Pass
RSS-247(5.2)(a)	15.247(a)(2)	4.2	6 dB Bandwidth	Pass
RSS-GEN 6.7	-	4.2	Occupied Bandwidth (99%)	Pass
RSS-247(5.4)(d)	15.247(b)(3)	4.3	Output Power Measurement	Pass
RSS-247(5.2)(b)	15.247(e)	4.4	Power Spectral Density	Pass
RSS-247(5.5)	15.247(d)	4.5	Conducted Band Edge	Pass
RSS-247(5.5)	15.247(d)	4.5	Conducted Spurious Emission	Pass
RSS-GEN 8.9, 8.10	15.247(d) 15.205, 15.209	4.6	Radiation Band Edge	Pass
RSS-GEN 8.9, 8.10	15.247(d) 15.205, 15.209	4.6	Radiation Spurious Emission	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	BLE Mode (1Mbps) BLE Mode (2Mbps)
Test Channel Frequencies	1.Lowest Channel : 2402MHz 2.Middle Channel : 2442MHz 3.Highest Channel : 2480MHz

Remark:

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.
2. Based on FCC Part 15.31(m), the laboratory conducts a comprehensive evaluation of CH low, CH middle, and CH high. Other additional channels only evaluate the radiated restricted bands of operation and powers.

3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conduction Emission	
Test Condition	AC Power line conduction emission for line and neutral
Power supply Mode	Mode 1: EUT Power by POE Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by PoE Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☐ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☒ Placed in fixed position at Z-Plane (H-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by PoE Adapter
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.
3. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(Z-Plane) were recorded in this report

3.3 EUT DUTY CYCLE

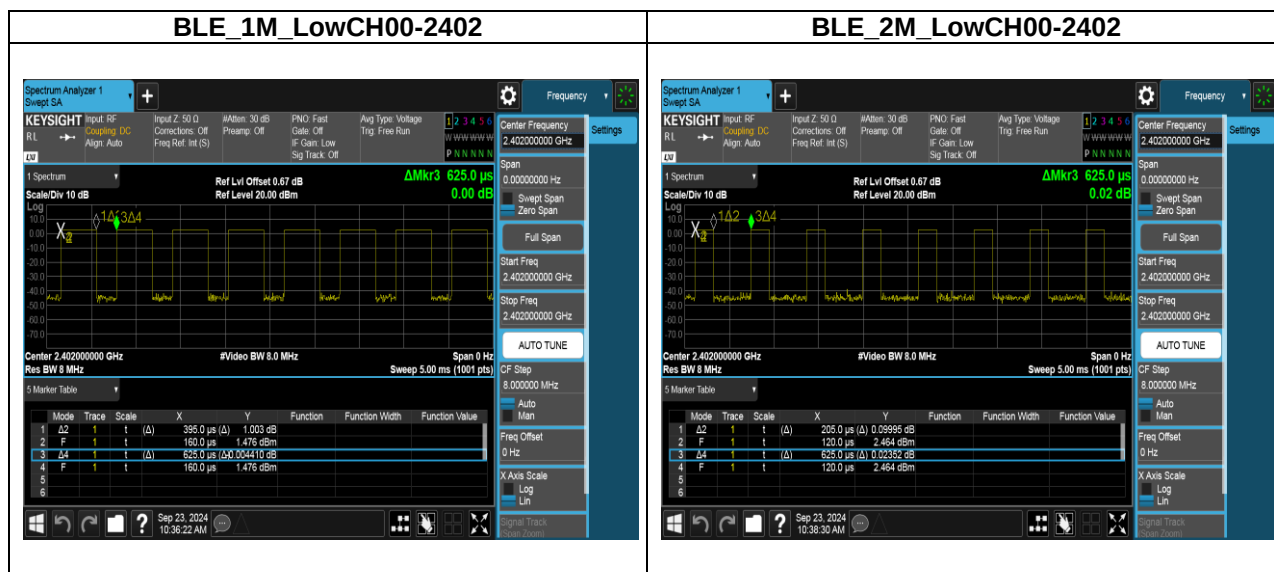
Temperature: 20.1 ~ 22.6°C

Test date: September 23 ~ October 8, 2024

Humidity: 52 ~ 65% RH

Tested by: Jerry Chang

	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) = 10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
BLE 1M	63.20	1.99	2.53	3.00
BLE 2M	32.80	4.84	4.88	5.00



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

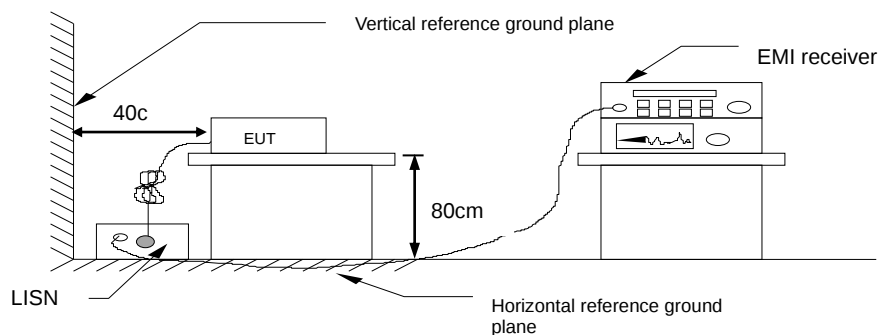
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup



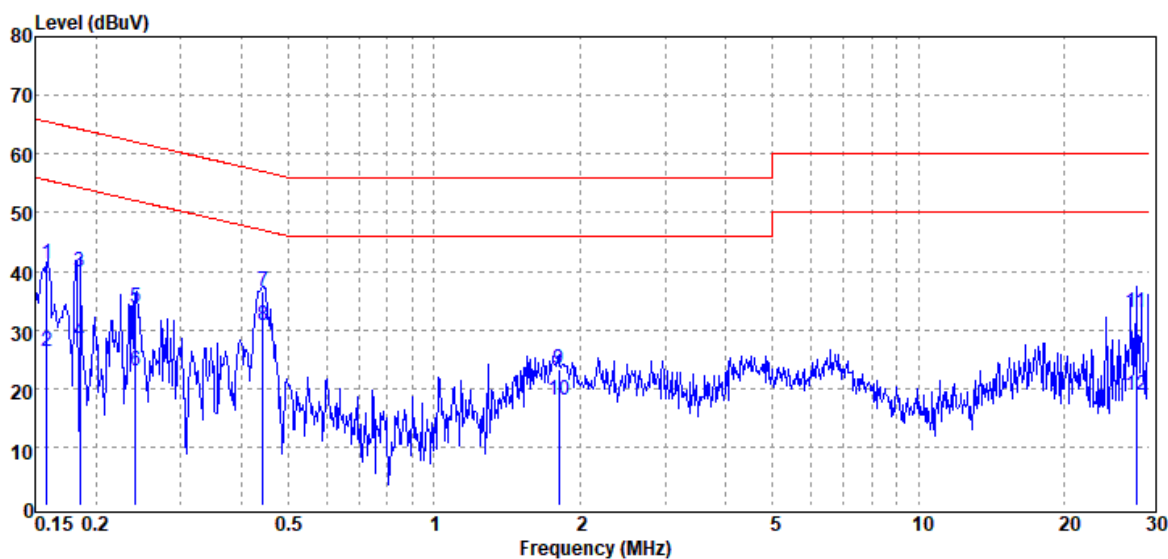
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4.1.4 Test Result

Project No : TM-2409000206P
Operation Mode : BLE
Test Chamber : Conduction
Probe : LINE
Note :

Test Date : 2024-10-04
Temp./Humi. : 23.4°C / 54%
Engineer : Ben Yang
Test Voltage : AC 120V/60Hz



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV	Limit dBμV	Margin dB
0.158	QP	40.95	0.18	41.13	65.55	-24.42
0.158	Average	25.99	0.18	26.17	55.55	-29.38
0.186	QP	39.66	0.32	39.98	64.24	-24.26
0.186	Average	27.60	0.32	27.92	54.24	-26.32
0.242	QP	33.37	0.39	33.76	62.02	-28.26
0.242	Average	22.45	0.39	22.84	52.02	-29.18
0.443	QP	36.17	0.38	36.55	57.00	-20.45
0.443	Average	30.41	0.38	30.79	47.00	-16.21
1.806	QP	22.95	0.18	23.13	56.00	-32.87
1.806	Average	17.72	0.18	17.90	46.00	-28.10
28.114	QP	32.40	0.60	33.00	60.00	-27.00
28.114	Average	18.13	0.60	18.73	50.00	-31.27

Note: 1. Actual FS= Spectrum Read Level + Factor

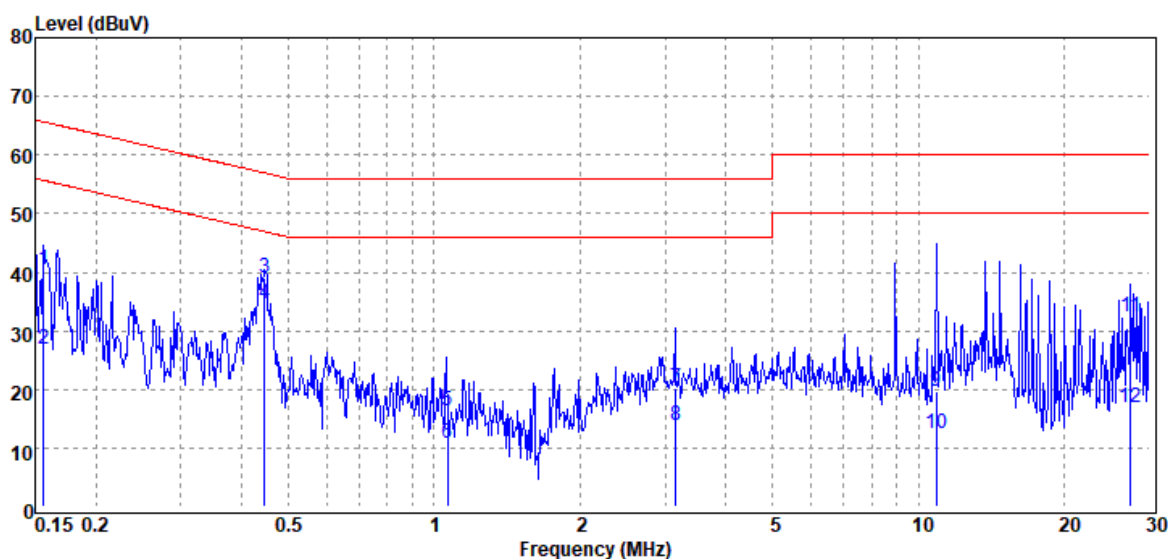
Note: 2. Margin= Actual FS - Limit

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Project No : TM-2409000206P
Operation Mode : BLE
Test Chamber : Conduction
Probe : NEUTRAL
Note :

Test Date : 2024-10-04
Temp./Humi. : 23.4°C / 54%
Engineer : Ben Yang
Test Voltage : AC 120V/60Hz



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV	Limit dBμV	Margin dB
0.156	QP	40.30	0.14	40.44	65.68	-25.24
0.156	Average	26.64	0.14	26.78	55.68	-28.90
0.447	QP	38.66	0.35	39.01	56.93	-17.92
0.447	Average	34.24	0.35	34.59	46.93	-12.34
1.064	QP	16.15	0.13	16.28	56.00	-39.72
1.064	Average	10.78	0.13	10.91	46.00	-35.09
3.149	QP	19.96	0.19	20.15	56.00	-35.85
3.149	Average	13.62	0.19	13.81	46.00	-32.19
10.890	QP	19.34	0.36	19.70	60.00	-40.30
10.890	Average	12.08	0.36	12.44	50.00	-37.56
27.411	QP	31.78	0.53	32.31	60.00	-27.69
27.411	Average	16.48	0.53	17.01	50.00	-32.99

Note: 1. Actual FS= Spectrum Read Level + Factor

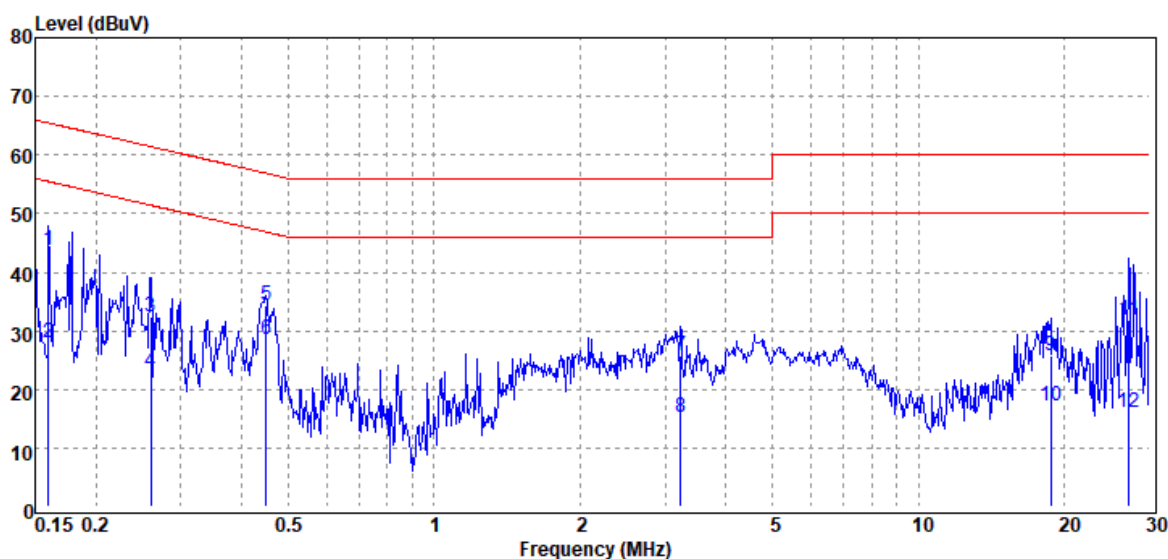
Note: 2. Margin= Actual FS - Limit

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Project No : TM-2409000206P
Operation Mode : BLE
Test Chamber : Conduction
Probe : LINE
Note :

Test Date : 2024-10-04
Temp./Humi. : 23.4°C / 54%
Engineer : Ben Yang
Test Voltage : AC 230V/60Hz



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV	Limit dBμV	Margin dB
0.160	QP	43.63	0.18	43.81	65.47	-21.66
0.160	Average	27.78	0.18	27.96	55.47	-27.51
0.260	QP	31.90	0.39	32.29	61.43	-29.14
0.260	Average	22.58	0.39	22.97	51.43	-28.46
0.450	QP	33.93	0.38	34.31	56.87	-22.56
0.450	Average	28.22	0.38	28.60	46.87	-18.27
3.230	QP	25.54	0.22	25.76	56.00	-30.24
3.230	Average	14.93	0.22	15.15	46.00	-30.85
18.737	QP	25.37	0.46	25.83	60.00	-34.17
18.737	Average	16.61	0.46	17.07	50.00	-32.93
27.163	QP	31.31	0.59	31.90	60.00	-28.10
27.163	Average	15.51	0.59	16.10	50.00	-33.90

Note: 1. Actual FS= Spectrum Read Level + Factor

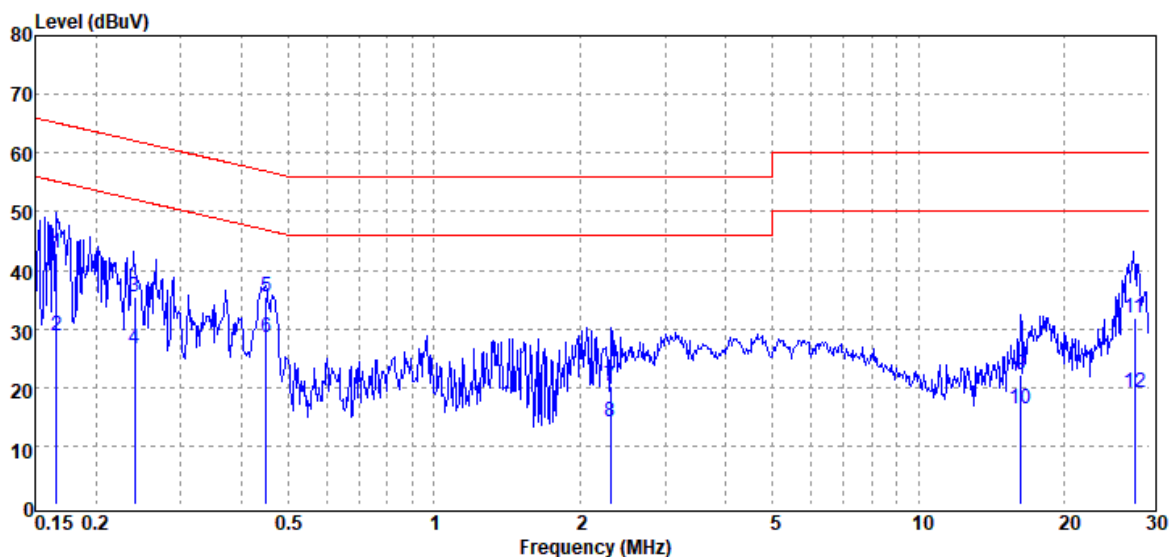
Note: 2. Margin= Actual FS - Limit

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Project No : TM-2409000206P
Operation Mode : BLE
Test Chamber : Conduction
Probe : NEUTRAL
Note :

Test Date : 2024-10-04
Temp./Humi. : 23.4°C / 54%
Engineer : Ben Yang
Test Voltage : AC 230V/60Hz



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV	Limit dBμV	Margin dB
0.166	QP	42.76	0.19	42.95	65.16	-22.21
0.166	Average	28.52	0.19	28.71	55.16	-26.45
0.241	QP	35.08	0.36	35.44	62.06	-26.62
0.241	Average	26.31	0.36	26.67	52.06	-25.39
0.450	QP	35.19	0.35	35.54	56.87	-21.33
0.450	Average	28.06	0.35	28.41	46.87	-18.46
2.311	QP	20.16	0.17	20.33	56.00	-35.67
2.311	Average	13.82	0.17	13.99	46.00	-32.01
16.305	QP	21.72	0.42	22.14	60.00	-37.86
16.305	Average	16.04	0.42	16.46	50.00	-33.54
27.984	QP	31.37	0.54	31.91	60.00	-28.09
27.984	Average	18.58	0.54	19.12	50.00	-30.88

Note: 1. Actual FS= Spectrum Read Level + Factor

Note: 2. Margin= Actual FS - Limit

4.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

According to §15.247(a)(2) and RSS-247 section 5.2(a),

6 dB Bandwidth :

Limit	Shall be at least 500kHz
-------	--------------------------

Occupied Bandwidth(99%) : For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 and ANSI C63.10: 2013 clause 6.9.2.

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 6 dB Bandwidth.
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup

Refer to section 1.8.

4.2.4 Test Result

Temperature: 20.1 ~ 22.6°C Test date: September 23 ~ October 8, 2024
Humidity: 52 ~ 65% RH Tested by: Jerry Chang

6dB BANDWIDTH

BLE 1M mode

Frequency (MHz)	6dB BW (MHz)	Required BW (MHz)	Result
2402	0.6848	≥ 0.5	PASS
2440	0.6937	≥ 0.5	PASS
2480	0.6843	≥ 0.5	PASS

BLE 2M mode

Frequency (MHz)	6dB BW (MHz)	Required BW (MHz)	Result
2402	1.030	≥ 0.5	PASS
2440	1.028	≥ 0.5	PASS
2480	1.018	≥ 0.5	PASS

BANDWIDTH 99%

BLE 1M mode

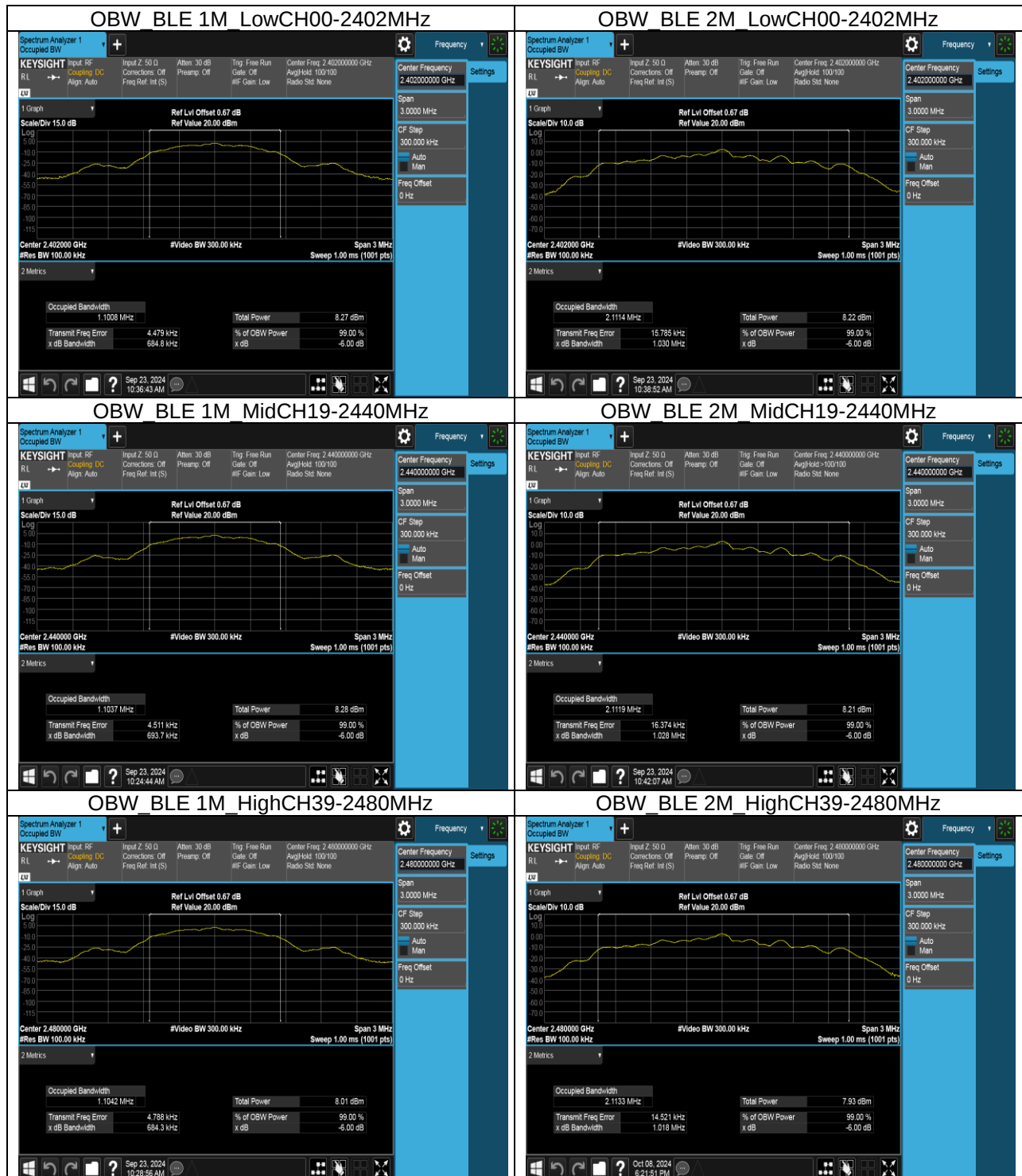
Frequency (MHz)	99%Bandwidth (MHz)
2402	1.0571
2440	1.0590
2480	1.0582

BLE 2M mode

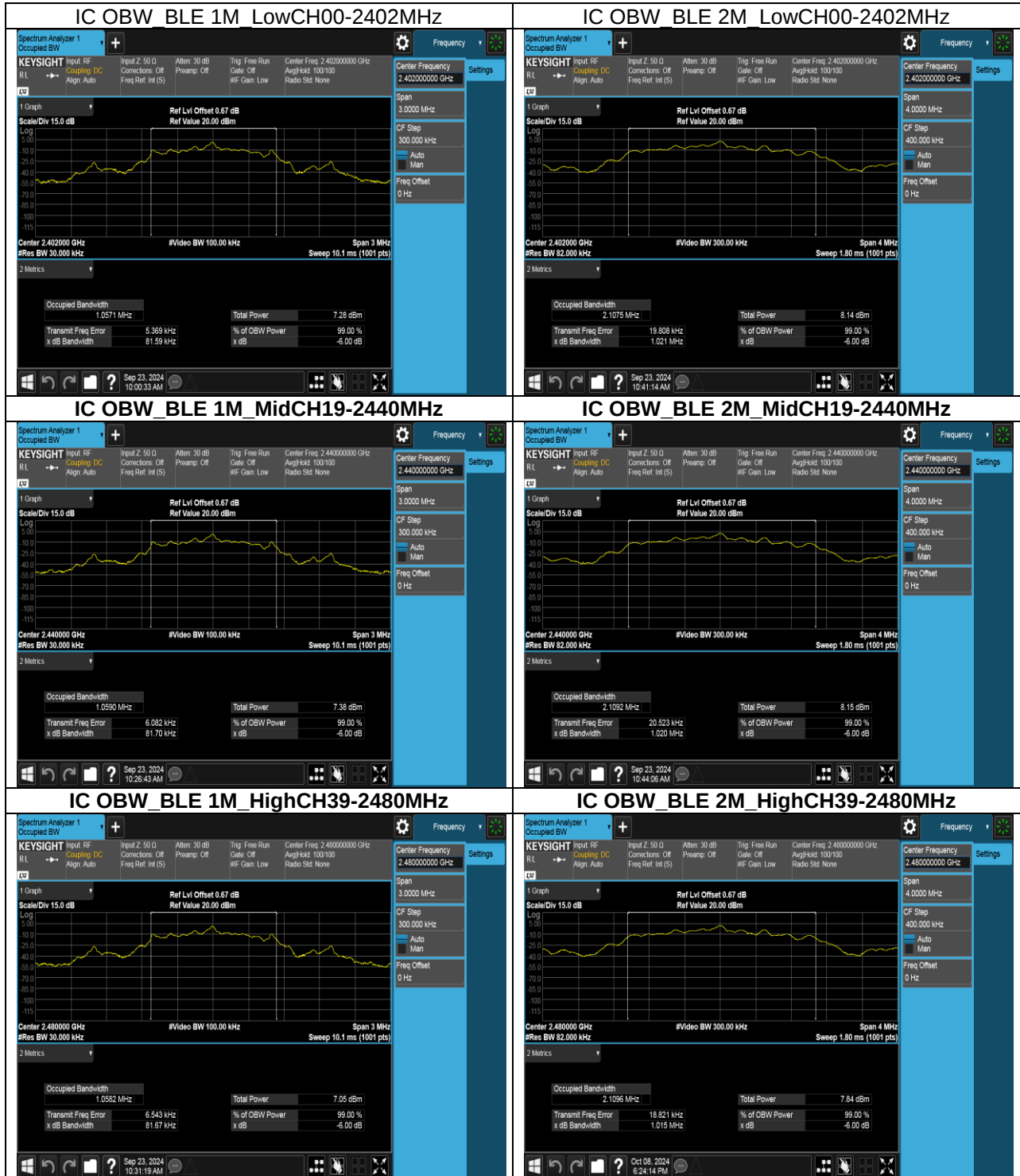
Frequency (MHz)	99%Bandwidth (MHz)
2402	2.1075
2440	2.1092
2480	2.1096

Test Data

6dB BANDWIDTH



BANDWIDTH 99%



4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b)(3) and RSS-247 section 5.4(d),

Peak output power :

FCC

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

IC

For DTSSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e), base on the use of antennas with directional gain not exceed 6 dBi If transmitting antennas of directional gain greater than 6dBi are used the peak output power the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Limit	☒ Antenna not exceed 6 dBi : 30dBm ☐ Antenna with DG greater than 6 dBi [Limit = 30 – (DG – 6)] ☐ Point-to-point operation
-------	---

Average output power : For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as KDB 558074 D01

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

4.3.3 Test Setup

Refer to section 1.8.

4.3.4 Test Result

Temperature: 20.1 ~ 22.6°C Test date: September 23 ~ October 8, 2024
Humidity: 52 ~ 65% RH Tested by: Jerry Chang

Peak & Average output power :

BLE 1M mode:

CH	Frequency (MHz)	Power Setting	Peak Output Power (dBm)	Required Limit (dBm)
0	2402	default	2.47	30
19	2440	default	2.40	30
39	2480	default	2.33	30
CH	Frequency (MHz)	Power Setting	Avg. Output Power (dBm)	Required Limit (dBm)
0	2402	default	2.41	30
19	2440	default	2.35	30
39	2480	default	2.26	30

***Note:**

1.Measured by power meter, cable loss 0.67 dB + Duty cycle factor has been offseted to the power meter for Avg. power and cable loss has been offseted for Peak power measurement.

BLE 2M mode:

CH	Frequency (MHz)	Power Setting	Peak Output Power (dBm)	Required Limit (dBm)
0	2402	default	2.49	30
19	2440	default	2.31	30
39	2480	default	2.21	30
CH	Frequency (MHz)	Power Setting	Avg. Output Power (dBm)	Required Limit (dBm)
0	2402	default	2.45	30
19	2440	default	2.28	30
39	2480	default	2.16	30

***Note:**

1. Measured by power meter, cable loss 0.67 dB + Duty cycle factor has been offsetted to the power meter for Avg. power and cable loss has been offsetted for Peak power measurement.

EIRP :

EIRP BLE 1M mode

CH	Frequency (MHz)	Power Setting	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit
0	2402	default	2.41	2.55	4.96	4W= 36 dBm
19	2440	default	2.35	2.55	4.90	4W= 36 dBm
39	2480	default	2.26	2.55	4.81	4W= 36 dBm

* **Note:** EIRP = Average Power + Gain

EIRP BLE 2M mode

CH	Frequency (MHz)	Power Setting	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit
0	2402	default	2.45	2.55	5.00	4W= 36 dBm
19	2440	default	2.28	2.55	4.83	4W= 36 dBm
39	2480	default	2.16	2.55	4.71	4W= 36 dBm

* **Note:** EIRP = Average Power + Gain

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.247(e) and RSS-247 section 5.2(b),

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

Limit	☒ Antenna not exceed 6 dBi : 8dBm ☐ Antenna with DG greater than 6 dBi [Limit = 8 – (DG – 6)] ☐ Point-to-point operation :
-------	---

4.4.2 Test Procedure

Test method Refer as KDB 558074 D01

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 10kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss was compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

4.4.3 Test Setup

Refer to section 1.8.

4.4.4 Test Result

Temperature: 20.1 ~ 22.6°C

Test date:

September 23 ~
October 8, 2024

Humidity: 52 ~ 65% RH

Tested by:

Jerry Chang

BLE 1M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	1.17	8	PASS
2440	1.25	8	PASS
2480	1.00	8	PASS

***Note:**

1.cable loss as 0.67dB that offsets in the spectrum

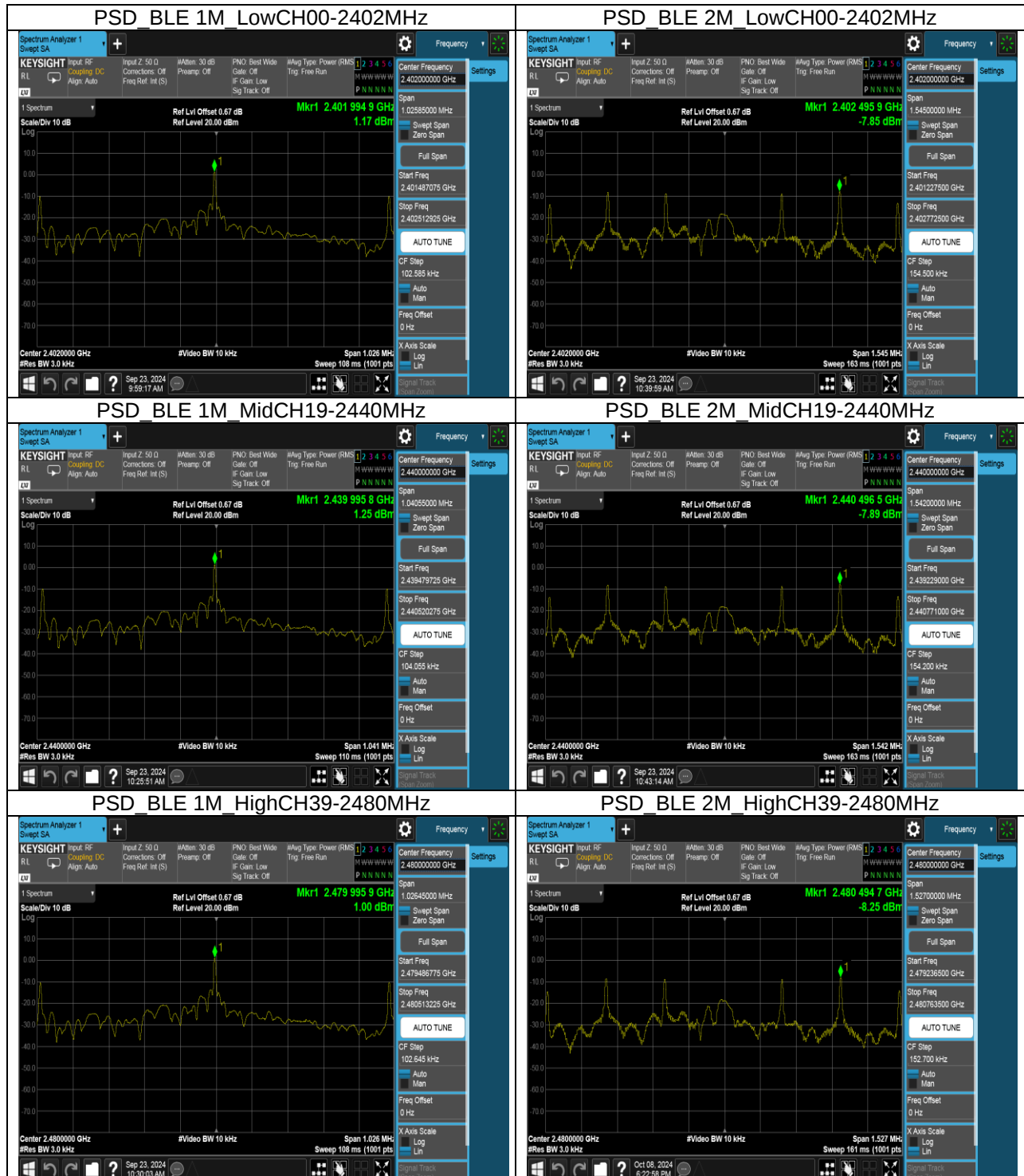
BLE 2M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-7.85	8	PASS
2440	-7.89	8	PASS
2480	-8.25	8	PASS

***Note:**

1.cable loss as 0.67dB that offsets in the spectrum

Test Data



4.5 CONDUCTED BAND EDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5,

FCC: In any 100 kHz bandwidth outside the authorized frequency band, Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

IC: 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. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

4.5.2 Test Procedure

Test method Refer as KDB 558074 D01

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

4.5.3 Test Setup

Refer to section 1.8.

4.5.4 Test Result

Temperature: 20.1 ~ 22.6°C

Humidity: 52 ~ 65% RH

Test date:

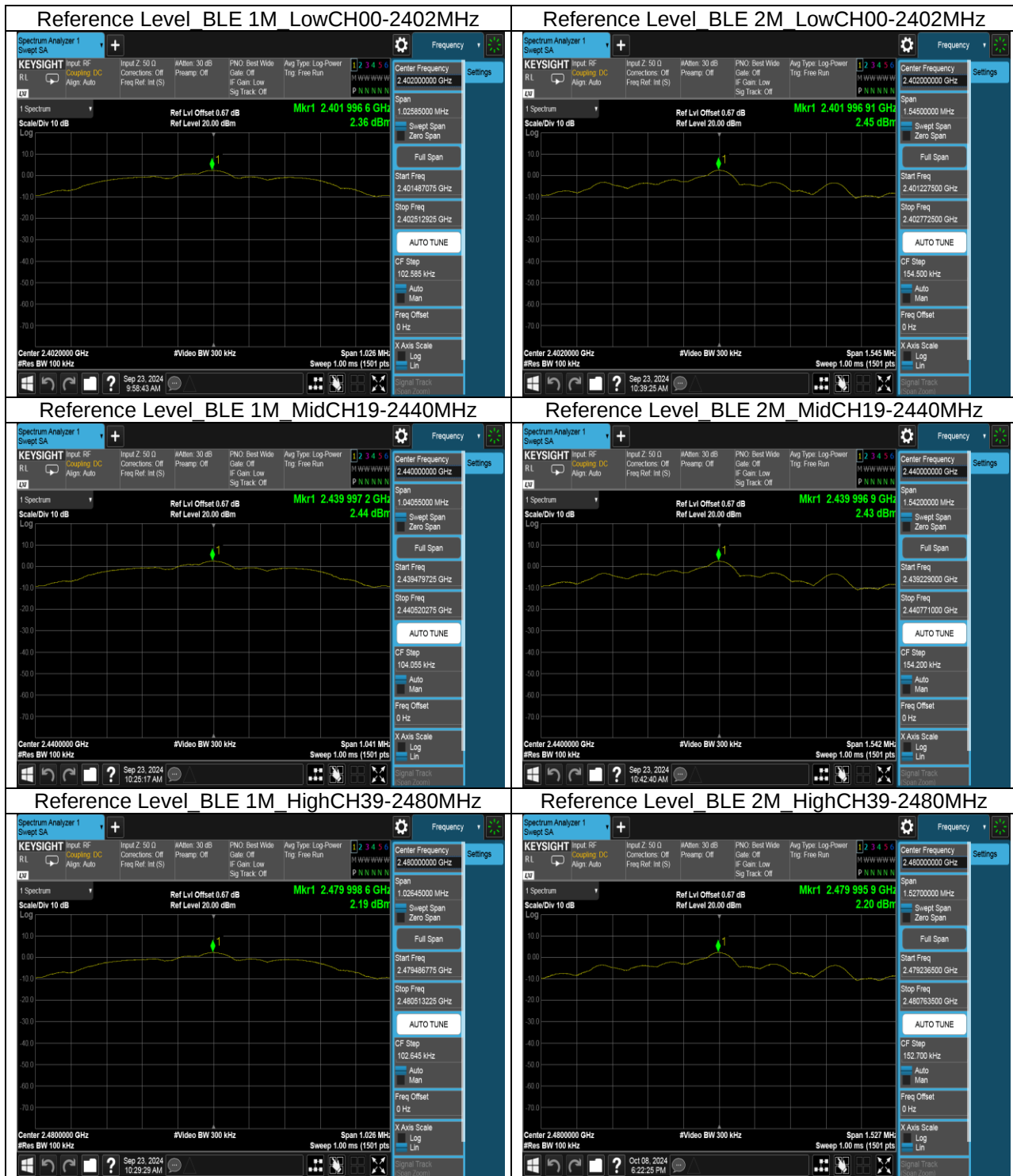
September 23 ~
October 8, 2024

Tested by:

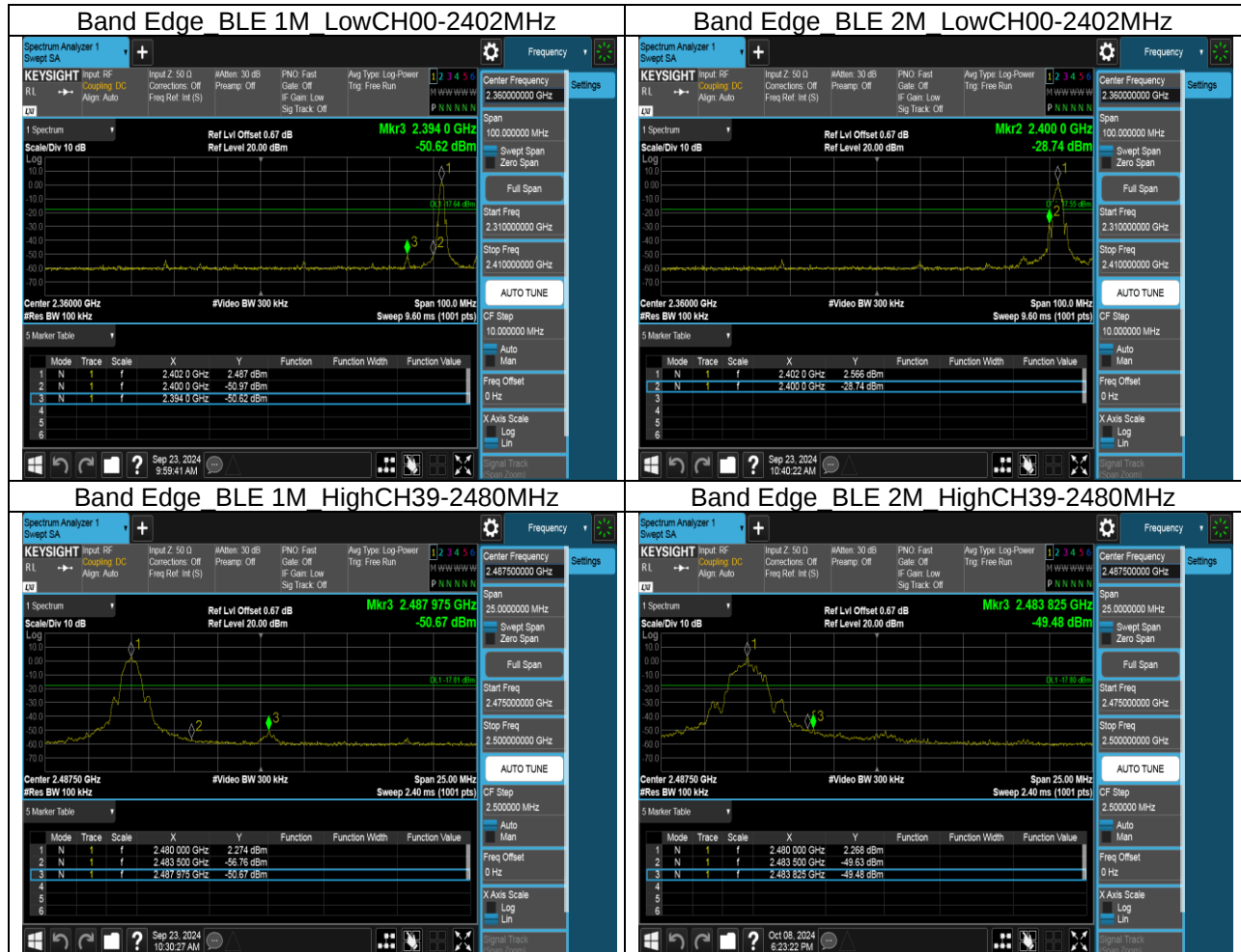
Jerry Chang

Test Data

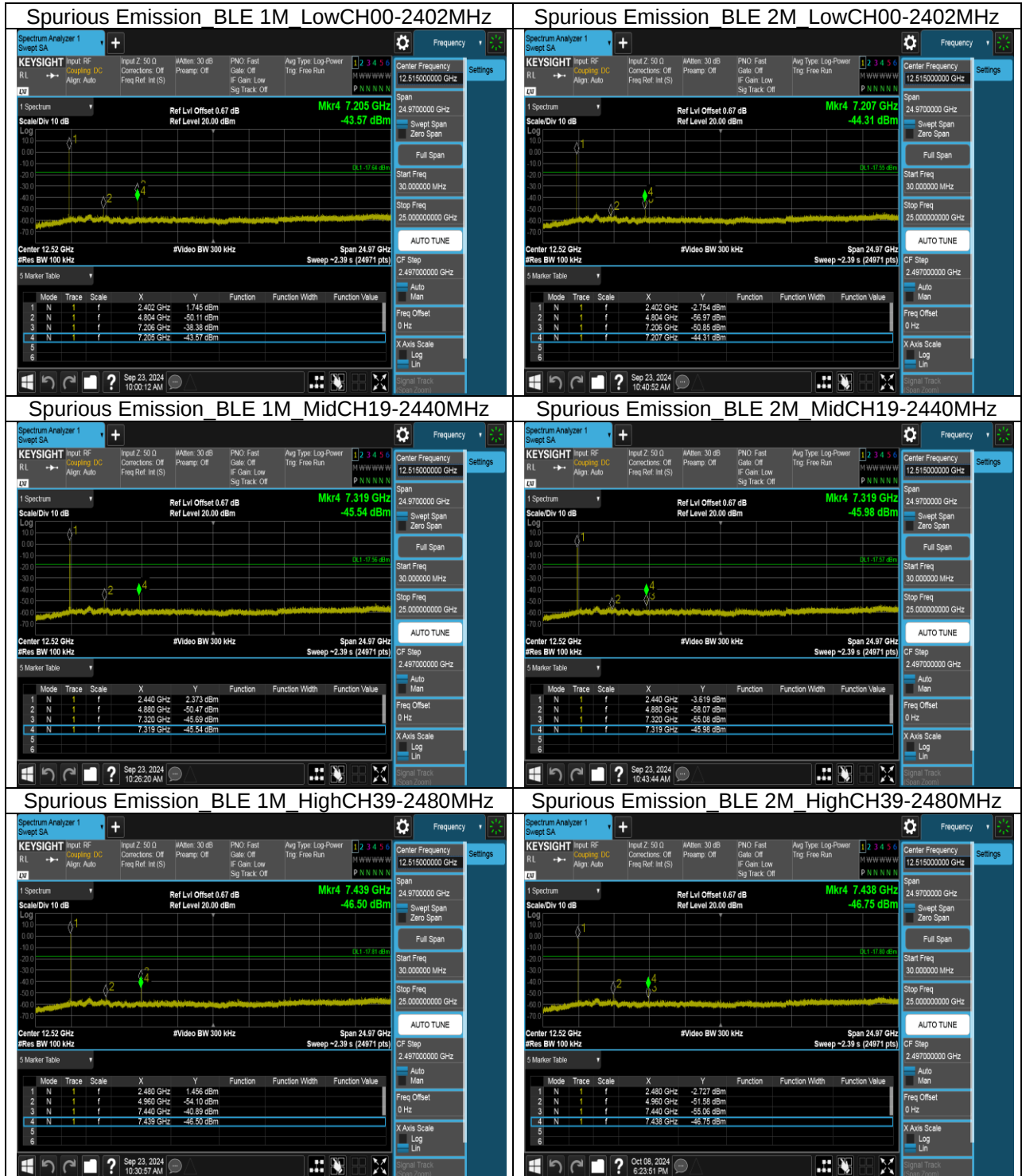
Reference Level



Band Edge



Spurious Emission



4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

IC according to RSS-247 section 5.5, RSS-Gen, Section 8.9 and 8.10

RSS-Gen Table 3 and Table 5 – General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz ^(Note)

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Note: Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with Section 6.6.

RSS-Gen Table 6: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)

Frequency	Magnetic field strength (H-Field) (μA/m)	Measurement Distance (m)
9-490 kHz ^{Note}	6.37/F (F in kHz)	300
490-1,705 kHz	63.7/F (F in kHz)	30
1.705-30 MHz	0.08	30

Note: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

4.6.2 Test Procedure

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9KHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz).

Radiated emission below 30MHz is measured in a 9m*6m*6m semi-ane choic chamber, the measurements correspond to those obtained at an open-field test site. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

5. The SA setting following :

- (1) Below 30MHz :

(1.1) 9KHz-490KHz : RBW=200Hz / VBW=1kHz / Sweep=AUTO

(1.2) 490KHz-30MHz : RBW=10kHz / VBW=30kHz / Sweep=AUTO

- (2) 30MHz to 1GHz : RBW = 100kHz, VBW $\geq 3 \times$ RBW, Sweep = Auto,

Detector = Peak, Trace = Max hold.

- (3) Above 1GHz :

(3.1) For Peak measurement : RBW = 1MHz, VBW $\geq 3 \times$ RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.

(3.2) For Average measurement : RBW = 1MHz, VBW

·If Duty Cycle $\geq 98\%$, VBW=10Hz.

·If Duty Cycle $< 98\%$, VBW=1/T.

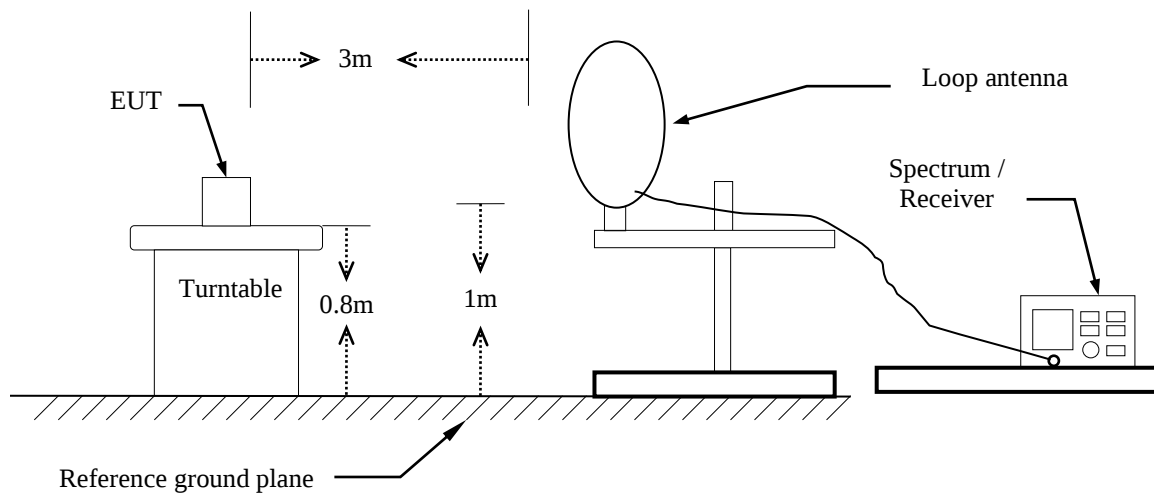
6. Data result :

Actual FS=Spectrum Reading Level + Factor

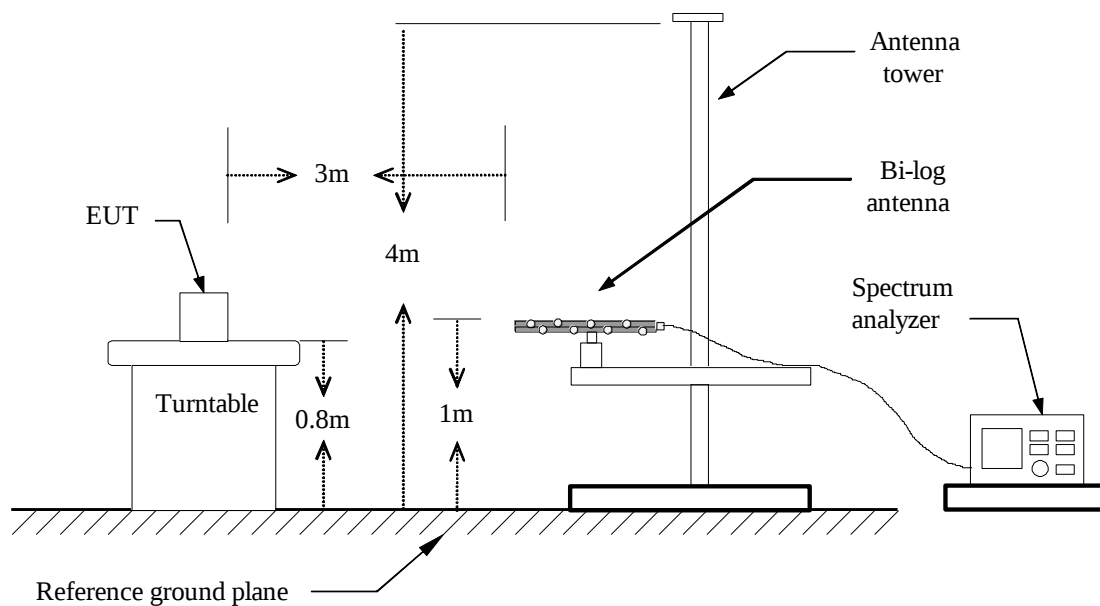
Margin=Actual FS- Limit

4.6.3 Test Setup

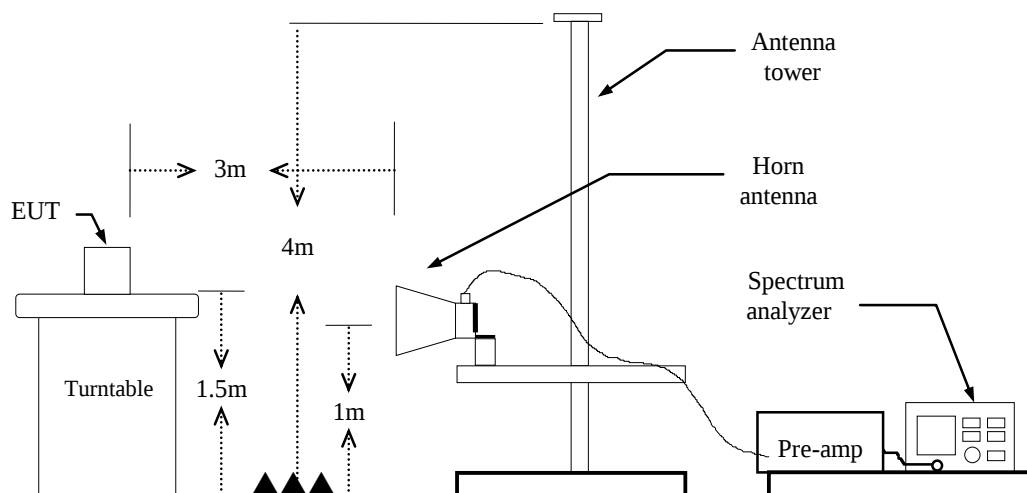
9kHz ~ 30MHz



30MHz ~ 1GHz



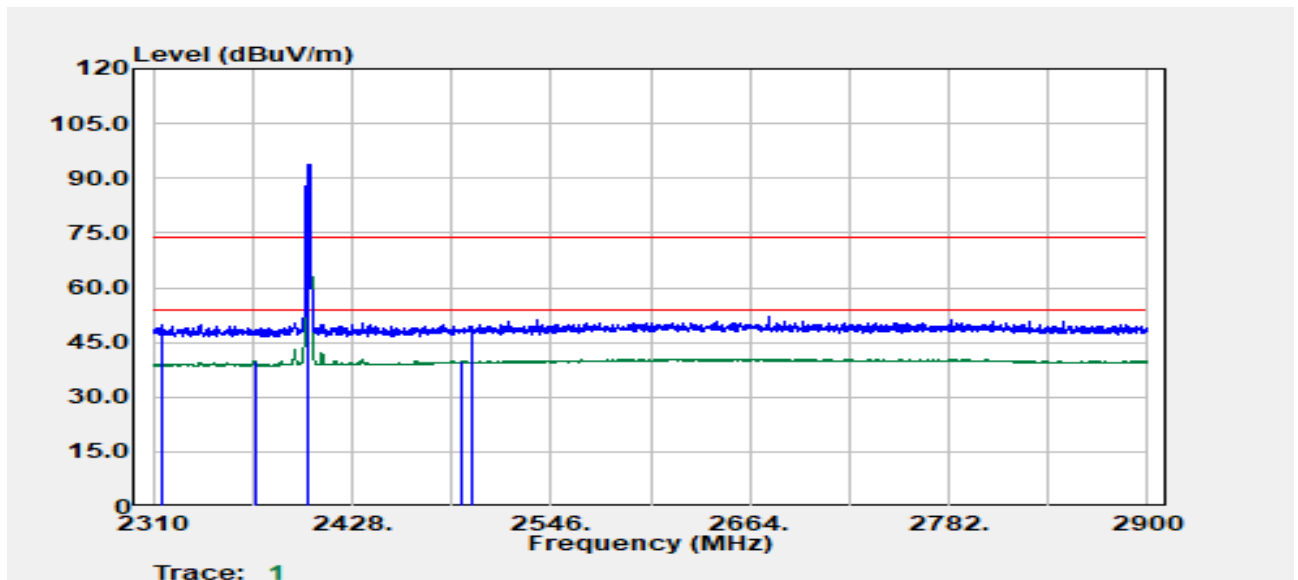
Above 1 GHz



4.6.4 Test Result

Band Edge Test Data

Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2402 MHz	Antenna Pol.	:VERTICAL
Operation Mode	:Bandedge	Engineer	:Tony Chao
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



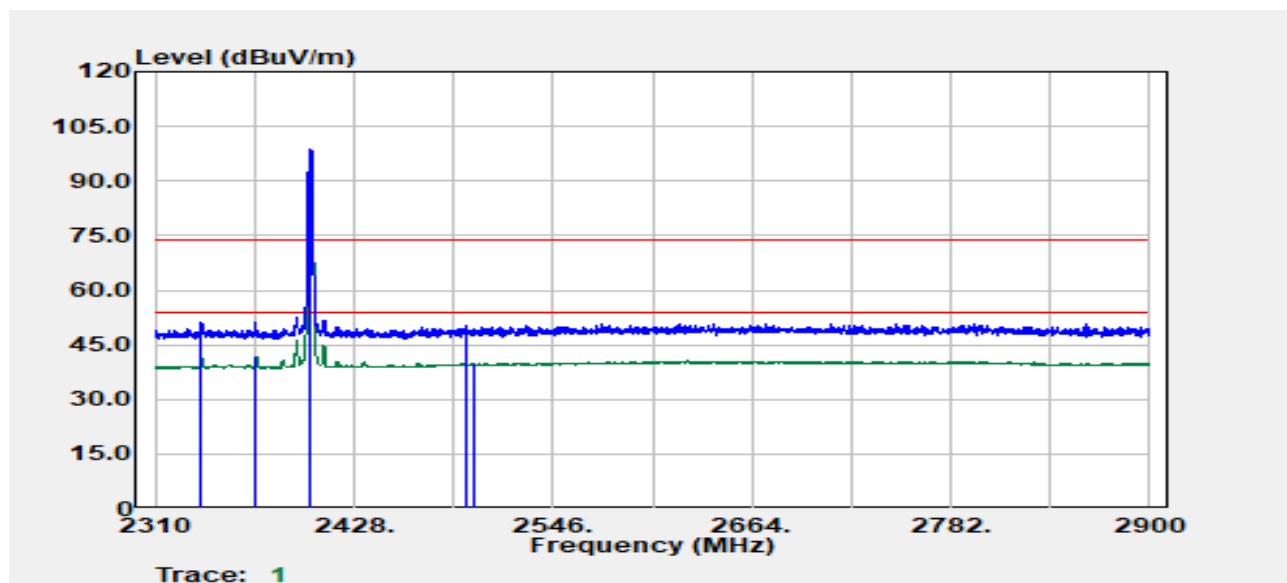
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBUV/m	Limit dBUV/m	Margin dB
2315.25	Peak	43.61	6.14	49.75	74.00	-24.25
2370.28	Average	33.61	6.16	39.77	54.00	-14.23
2402.00	Peak	87.60	6.29	93.89	-	-
2402.00	Average	87.26	6.29	93.55	-	-
2493.58	Average	32.90	6.82	39.72	54.00	-14.28
2498.58	Peak	42.61	6.83	49.45	74.00	-24.55

Project No: TM-2409000206P
Report No.: TMWK2409003201KR

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Rev.: 01

Project No :TM-2409000206P
Operation Band :BLE 1M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A



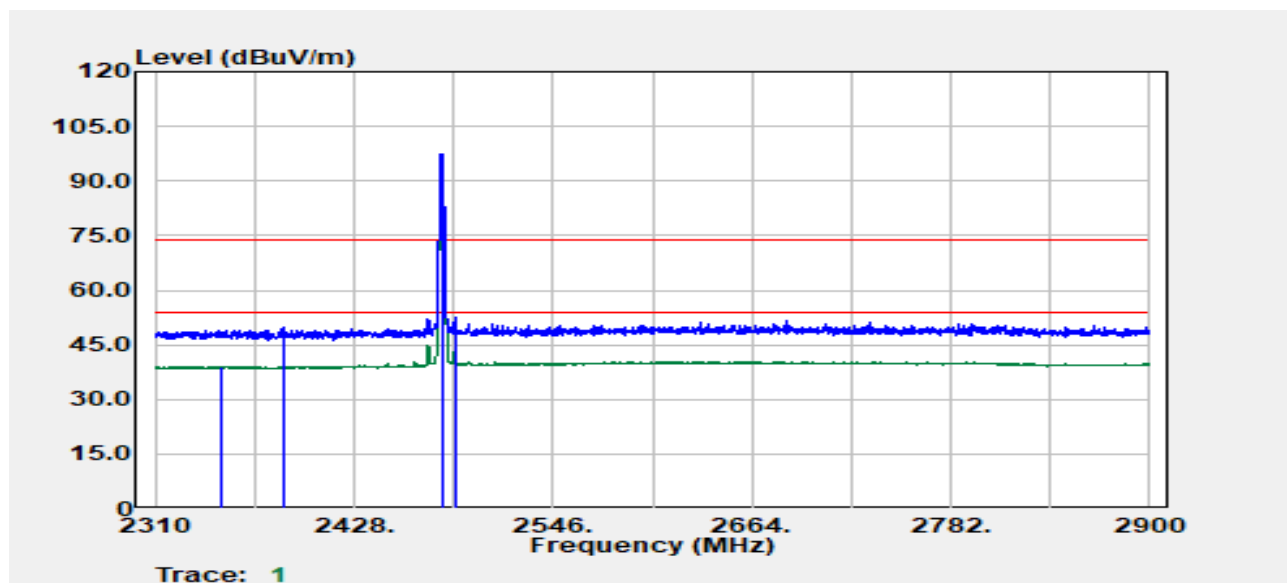
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2337.51	Peak	45.01	6.13	51.14	74.00	-22.86
2370.03	Average	35.55	6.16	41.71	54.00	-12.29
2402.00	Peak	92.40	6.29	98.70	-	-
2402.00	Average	92.06	6.29	98.36	-	-
2494.08	Peak	43.51	6.82	50.33	74.00	-23.67
2498.58	Average	32.94	6.83	39.77	54.00	-14.23

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Project No :TM-2409000206P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Ray Li
Test Chamber : 966A



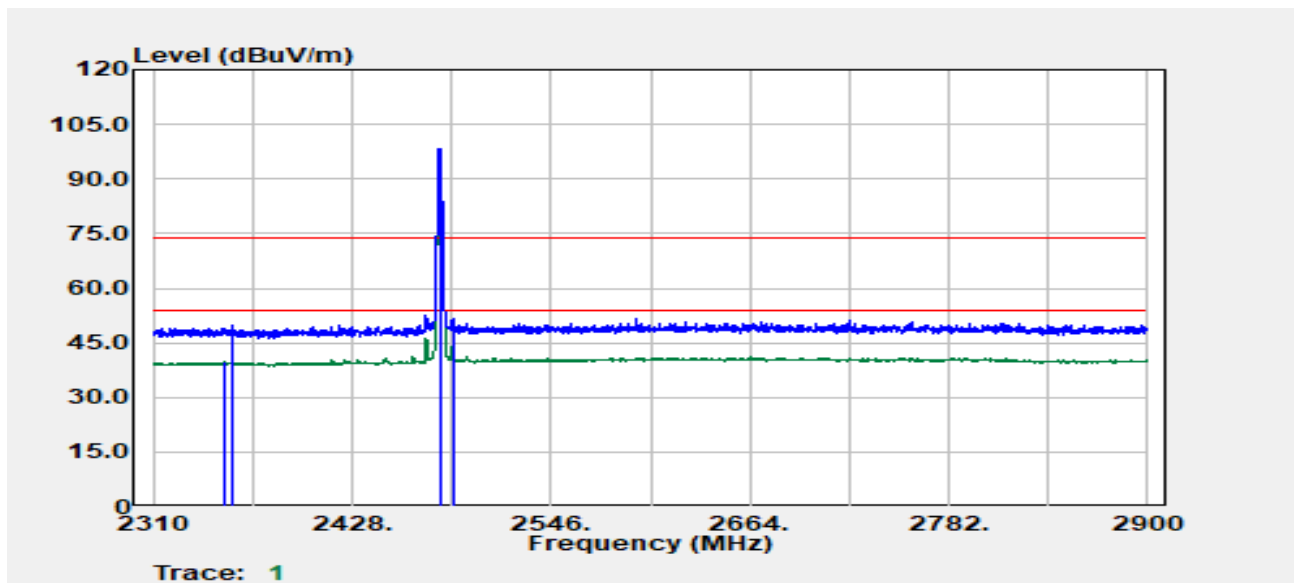
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2348.77	Average	32.95	6.22	39.17	54.00	-14.83
2385.78	Peak	43.72	6.19	49.91	74.00	-24.09
2480.00	Peak	90.71	6.67	97.38	--	--
2480.00	Average	90.35	6.67	97.02	--	--
2487.83	Average	37.53	6.77	44.31	54.00	-9.69
2488.08	Peak	45.57	6.78	52.34	74.00	-21.66

Project No: TM-2409000206P
Report No.: TMWK2409003201KR

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Project No :TM-2409000206P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Ray Li
Test Chamber : 966A



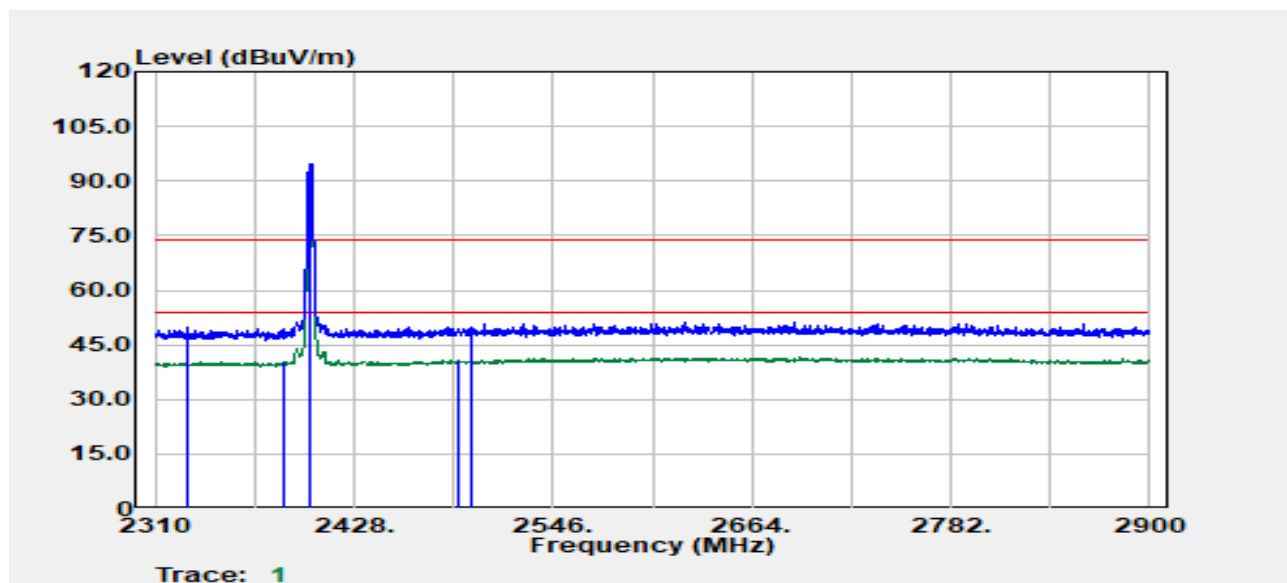
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2351.77	Average	33.62	6.24	39.87	54.00	-14.13
2357.27	Peak	43.42	6.25	49.67	74.00	-24.33
2480.00	Peak	91.49	6.67	98.15	--	--
2480.00	Average	91.33	6.67	97.99	--	--
2488.08	Peak	44.91	6.78	51.68	74.00	-22.32
2488.08	Average	38.53	6.78	45.31	54.00	-8.69

Project No: TM-2409000206P
Report No.: TMWK2409003201KR

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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Ray Li
Test Chamber : 966A



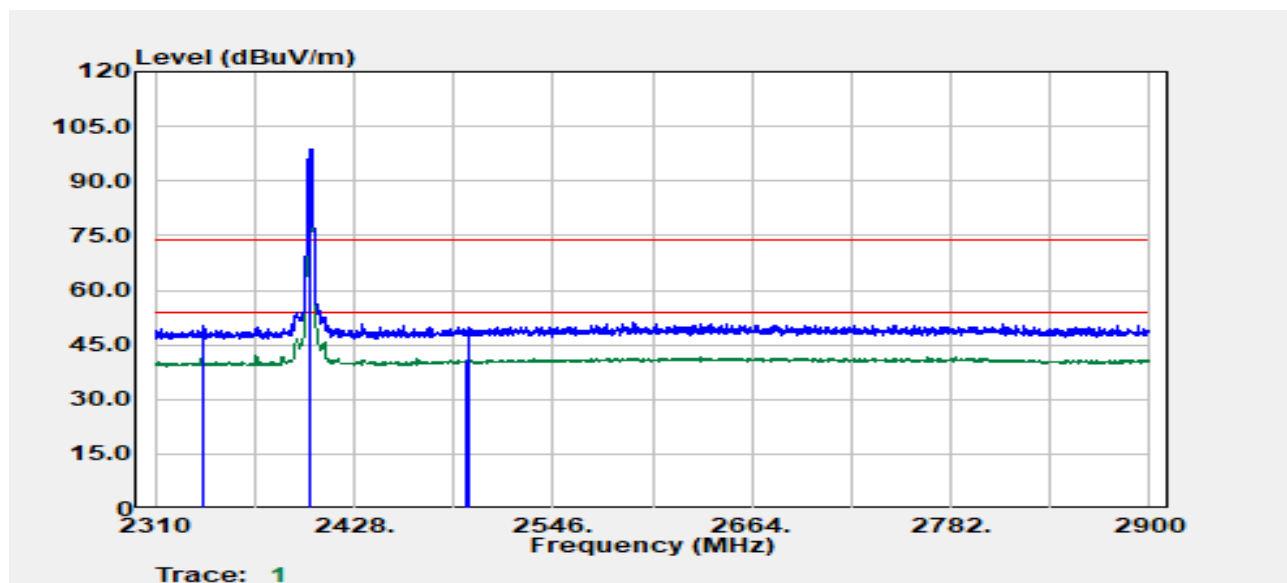
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2328.76	Peak	43.81	6.18	49.99	74.00	-24.01
2386.03	Average	34.13	6.20	40.33	54.00	-13.67
2402.00	Peak	88.49	6.29	94.78	-	-
2402.00	Average	86.95	6.29	93.24	-	-
2490.33	Average	33.78	6.80	40.59	54.00	-13.41
2498.08	Peak	42.94	6.83	49.77	74.00	-24.23

Project No: TM-2409000206P
Report No.: TMWK2409003201KR

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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Ray Li
Test Chamber : 966A



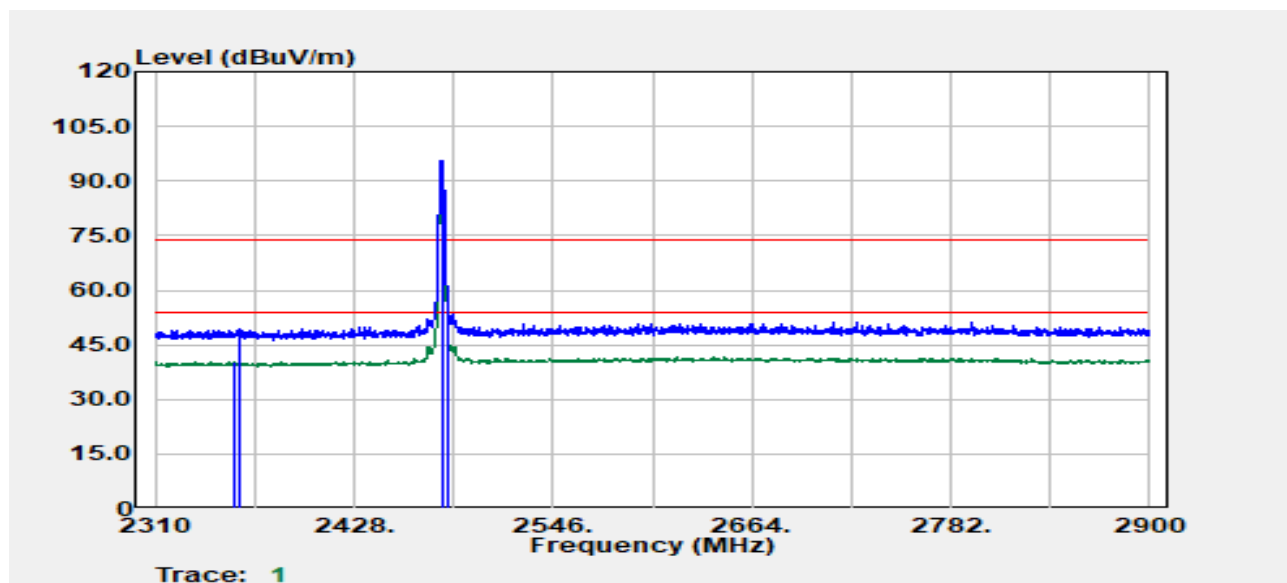
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2338.26	Average	36.46	6.12	42.58	54.00	-11.42
2338.51	Peak	44.32	6.12	50.45	74.00	-23.55
2402.00	Peak	92.33	6.29	98.63	-	-
2402.00	Average	90.82	6.29	97.11	-	-
2494.08	Average	33.80	6.82	40.62	54.00	-13.38
2495.83	Peak	42.93	6.82	49.76	74.00	-24.24

Project No: TM-2409000206P
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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :VERTICAL
Engineer :Ray Li
Test Chamber : 966A



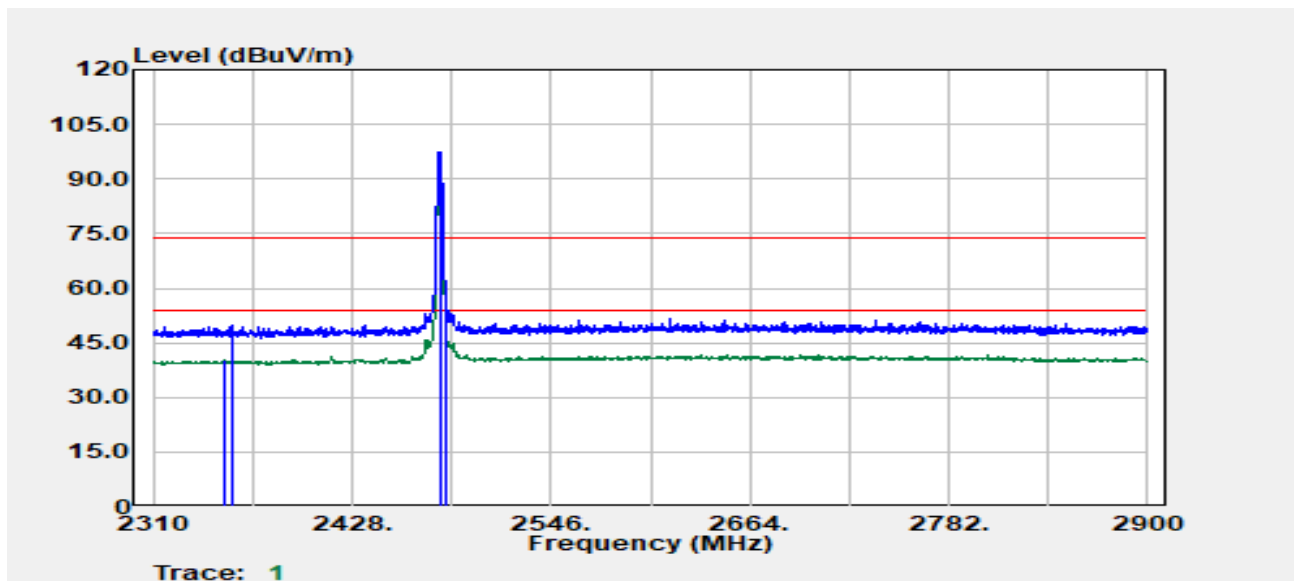
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2357.27	Average	33.96	6.25	40.20	54.00	-13.80
2360.02	Peak	42.92	6.25	49.17	74.00	-24.83
2480.00	Peak	89.01	6.67	95.67	--	--
2480.00	Average	87.39	6.67	94.06	--	--
2483.57	Peak	50.09	6.72	56.80	74.00	-17.20
2483.57	Average	41.39	6.72	48.11	54.00	-5.89

Project No: TM-2409000206P
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Rev.: 01

Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Ray Li
Test Chamber : 966A



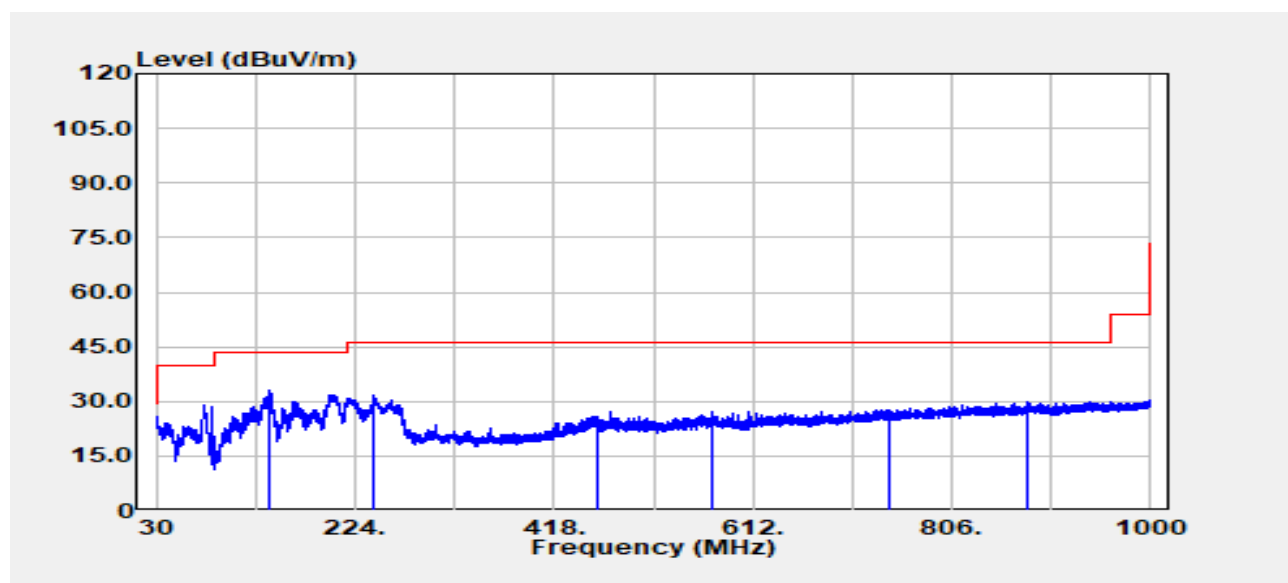
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
2352.27	Average	33.92	6.24	40.16	54.00	-13.84
2356.27	Peak	43.51	6.25	49.76	74.00	-24.24
2480.00	Peak	90.57	6.67	97.24	-	-
2480.00	Average	88.97	6.67	95.64	-	-
2483.57	Peak	49.51	6.72	56.23	74.00	-17.77
2483.57	Average	42.69	6.72	49.40	54.00	-4.60

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TX Test Data

Project No	:TM-2409000206P	Test Date	:2024-09-27
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2402 MHz	Antenna Pol.	:VERTICAL
Operation Mode	:TX	Engineer	:Tony Chao
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



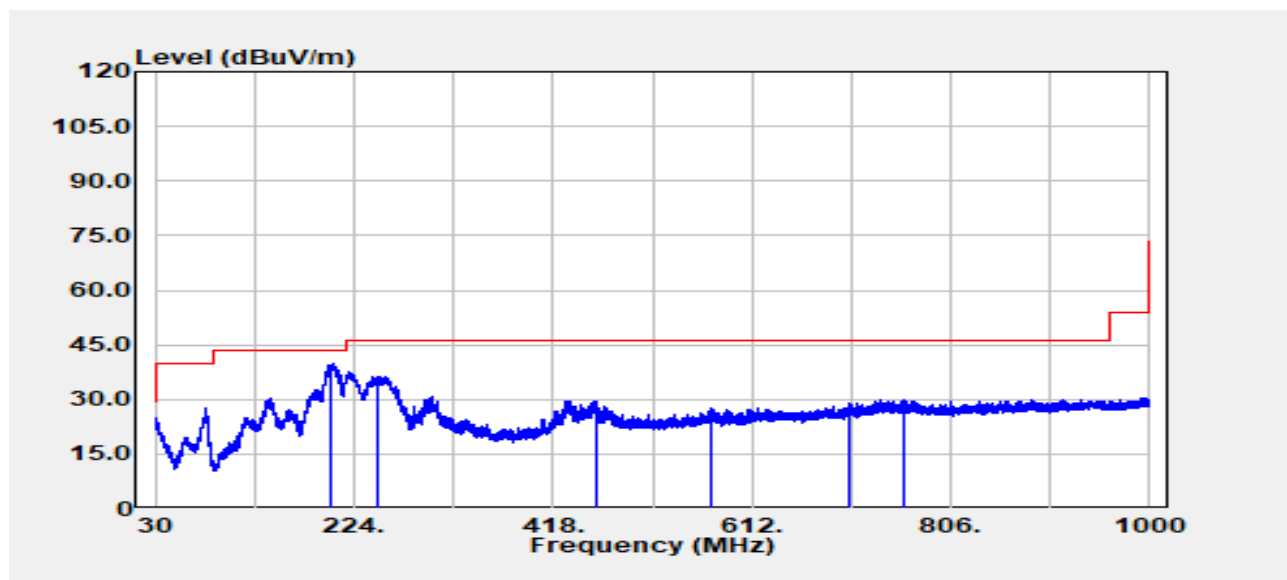
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
140.70	Peak	43.81	-10.66	33.14	43.50	-10.36
242.43	Peak	43.42	-11.38	32.04	46.00	-13.96
459.71	Peak	31.20	-5.20	26.00	46.00	-20.00
571.75	Peak	30.19	-3.18	27.01	46.00	-18.99
744.28	Peak	28.18	-0.40	27.78	46.00	-18.22
878.51	Peak	28.21	1.58	29.79	46.00	-16.21

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Project No :TM-2409000206P
Operation Band :BLE 1M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :default

Test Date :2024-09-27
Temp./Humi. :24.6/57
Antenna Pol. :HORIZONTAL
Engineer :Tony Chao
Test Chamber : 966A

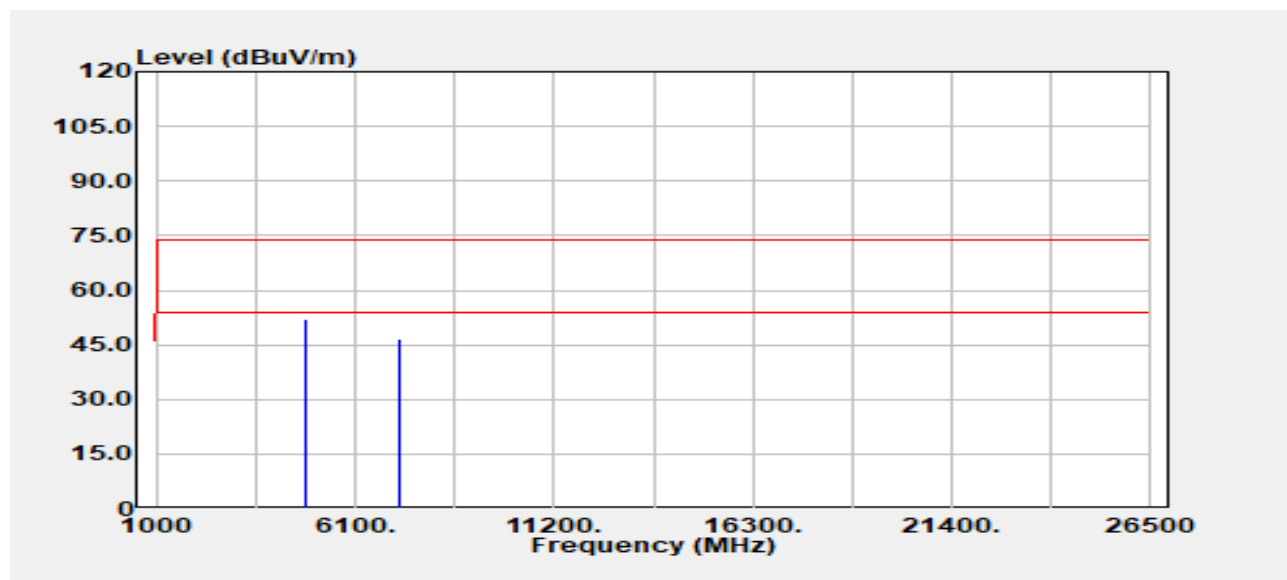


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
200.48	Peak	49.86	-10.45	39.41	43.50	-4.09
246.67	Peak	47.77	-11.36	36.41	46.00	-9.59
459.10	Peak	34.61	-5.21	29.40	46.00	-16.60
571.26	Peak	30.67	-3.18	27.50	46.00	-18.50
706.70	Peak	30.02	-0.90	29.12	46.00	-16.88
759.56	Peak	29.88	-0.17	29.71	46.00	-16.29

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2402 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		

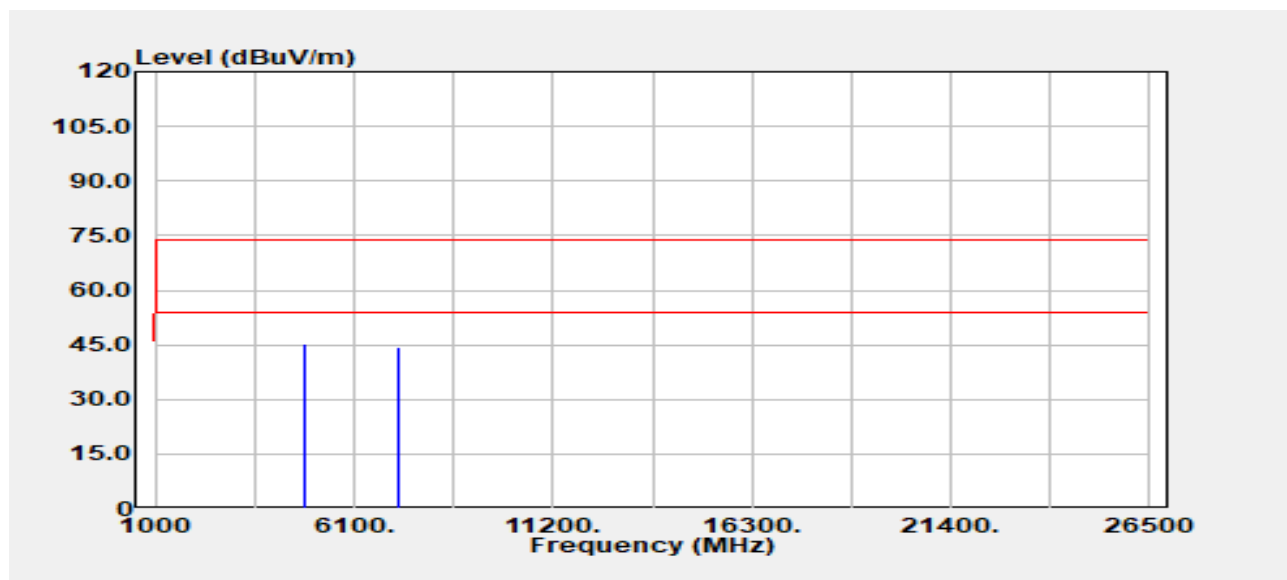


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4804.00	Peak	49.65	2.23	51.88	74.00	-22.12
4804.00	Average	47.34	2.23	49.56	54.00	-4.44
7206.00	Peak	37.70	9.01	46.72	74.00	-27.28
7206.00	Average	31.93	9.01	40.94	54.00	-13.06

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2402 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



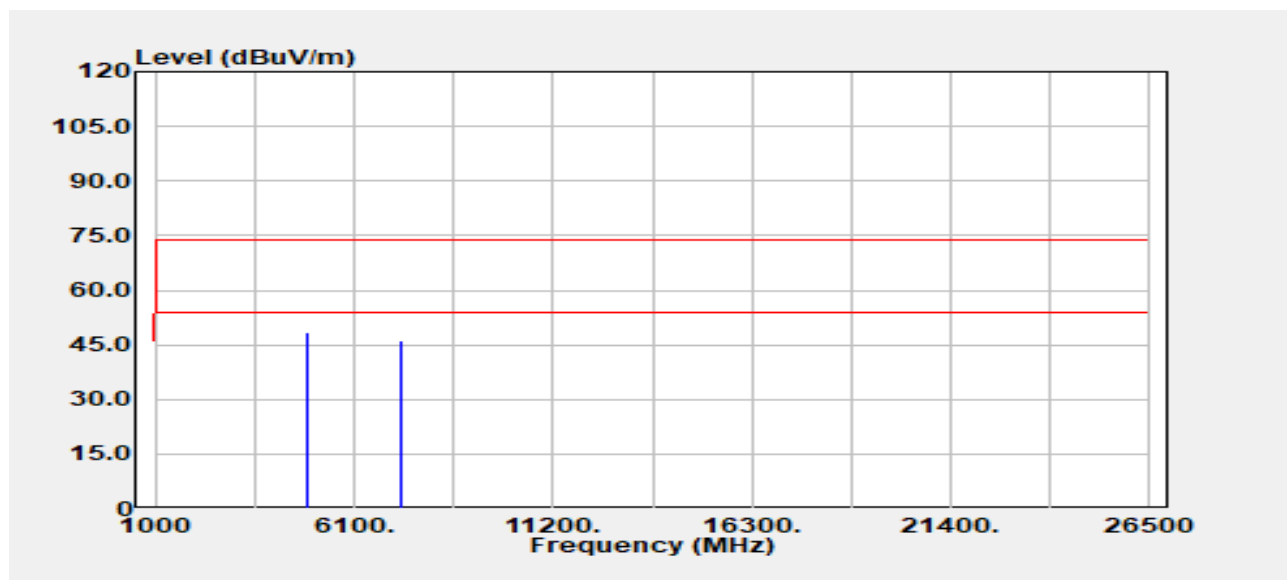
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4804.00	Peak	43.08	2.23	45.30	74.00	-28.70
4804.00	Average	39.88	2.23	42.10	54.00	-11.90
7206.00	Peak	35.48	9.01	44.49	74.00	-29.51
7206.00	Average	31.44	9.01	40.45	54.00	-13.55

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Report No.: TMWK2409003201KR

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Project No :TM-2409000206P
Operation Band :BLE 1M
Frequency :2440 MHz
Operation Mode :TX
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A

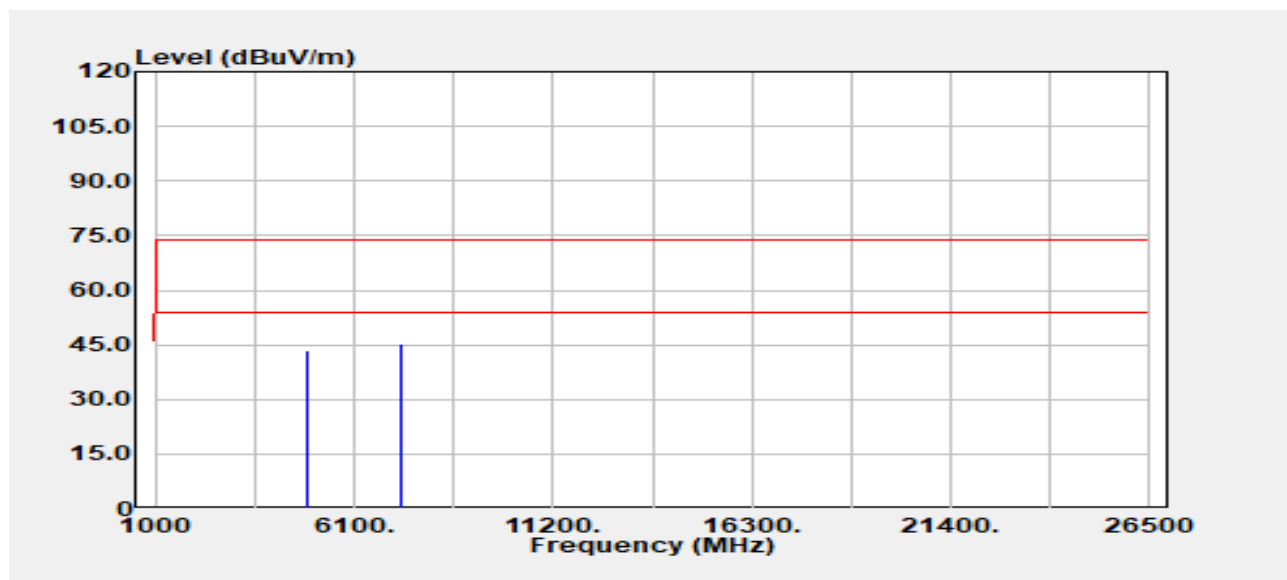


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4880.00	Peak	46.11	2.55	48.66	74.00	-25.34
4880.00	Average	44.55	2.55	47.09	54.00	-6.91
7320.00	Peak	37.28	8.96	46.24	74.00	-27.76
7320.00	Average	31.79	8.96	40.75	54.00	-13.25

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2440 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		

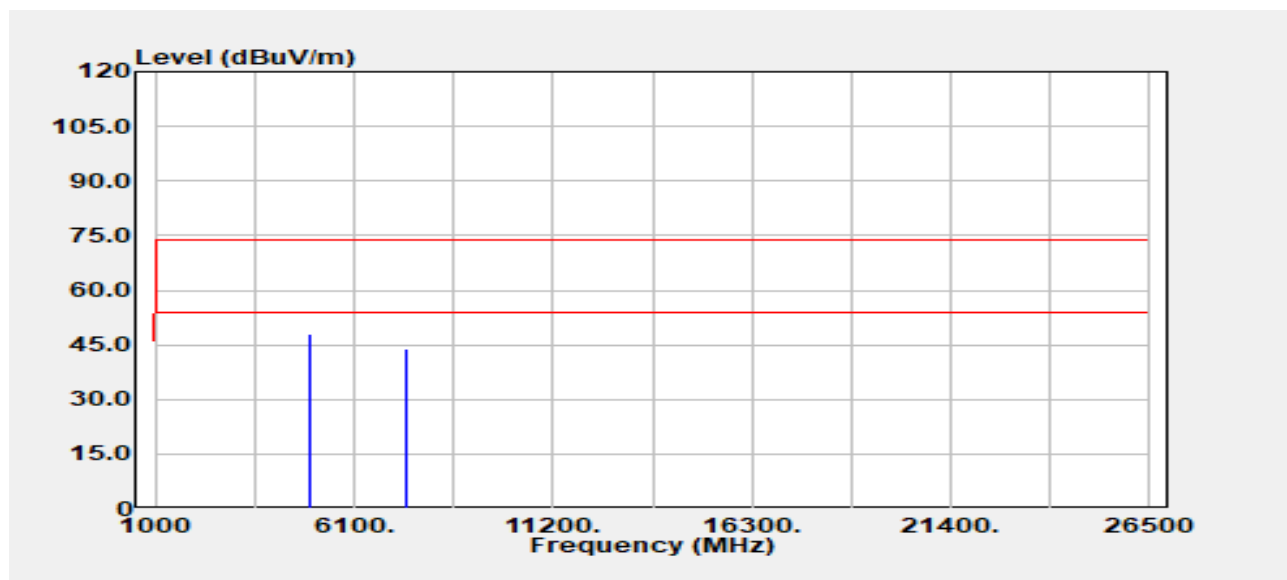


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4880.00	Peak	40.96	2.55	43.50	74.00	-30.50
4880.00	Average	37.59	2.55	40.13	54.00	-13.87
7320.00	Peak	36.31	8.96	45.27	74.00	-28.73
7320.00	Average	31.10	8.96	40.06	54.00	-13.94

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2480 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		

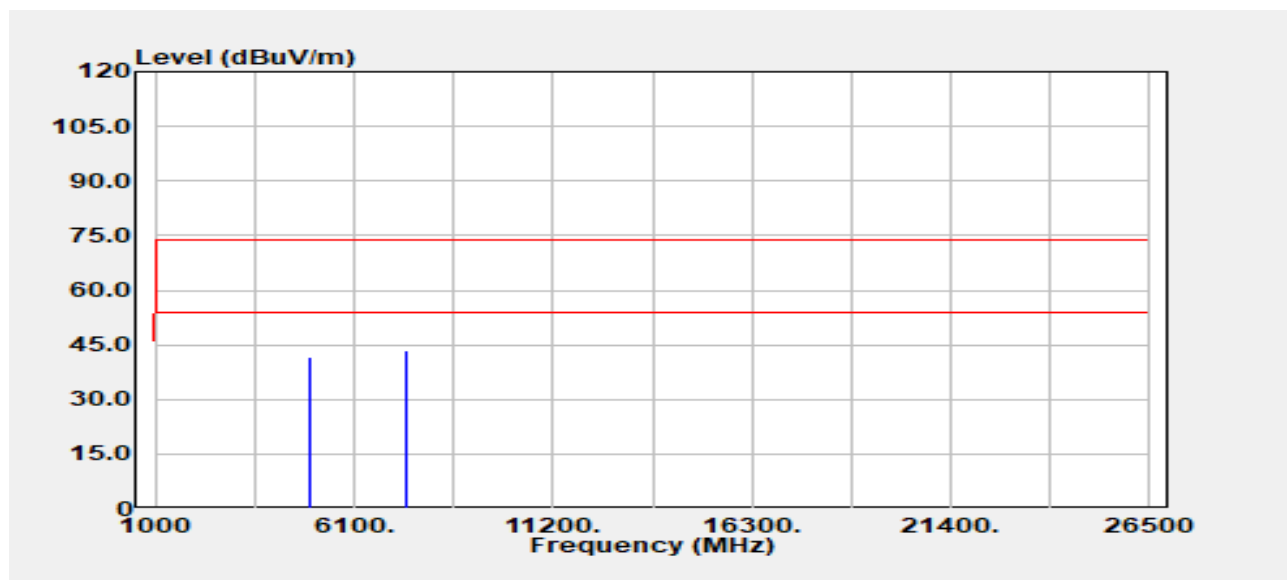


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4960.00	Peak	44.76	3.21	47.97	74.00	-26.03
4960.00	Average	41.31	3.21	44.53	54.00	-9.47
7440.00	Peak	34.95	8.92	43.87	74.00	-30.13
7440.00	Average	31.06	8.92	39.98	54.00	-14.02

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 1M	Temp./Humi.	:24.6/57
Frequency	:2480 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



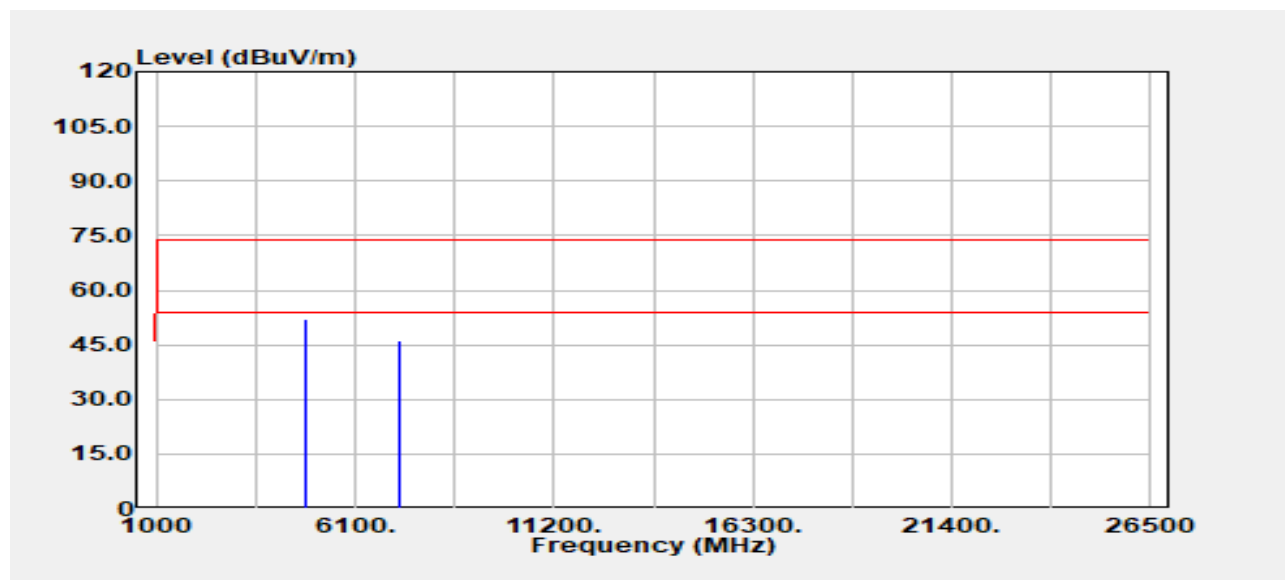
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4960.00	Peak	38.54	3.21	41.75	74.00	-32.25
4960.00	Average	35.62	3.21	38.83	54.00	-15.17
7440.00	Peak	34.53	8.92	43.45	74.00	-30.55
7440.00	Average	30.24	8.92	39.16	54.00	-14.84

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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A



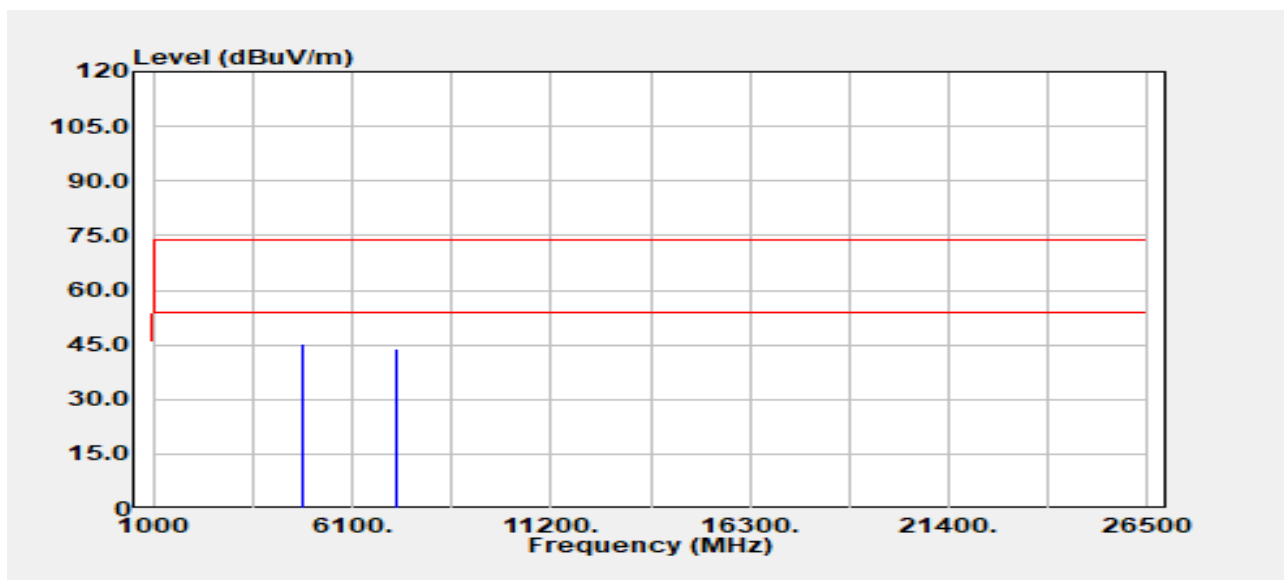
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4804.00	Peak	49.67	2.23	51.89	74.00	-22.11
4804.00	Average	44.67	2.23	46.90	54.00	-7.10
7206.00	Peak	37.20	9.01	46.21	74.00	-27.79
7206.00	Average	31.11	9.01	40.12	54.00	-13.88

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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :Horizontal
Engineer :Ray Li
Test Chamber : 966A

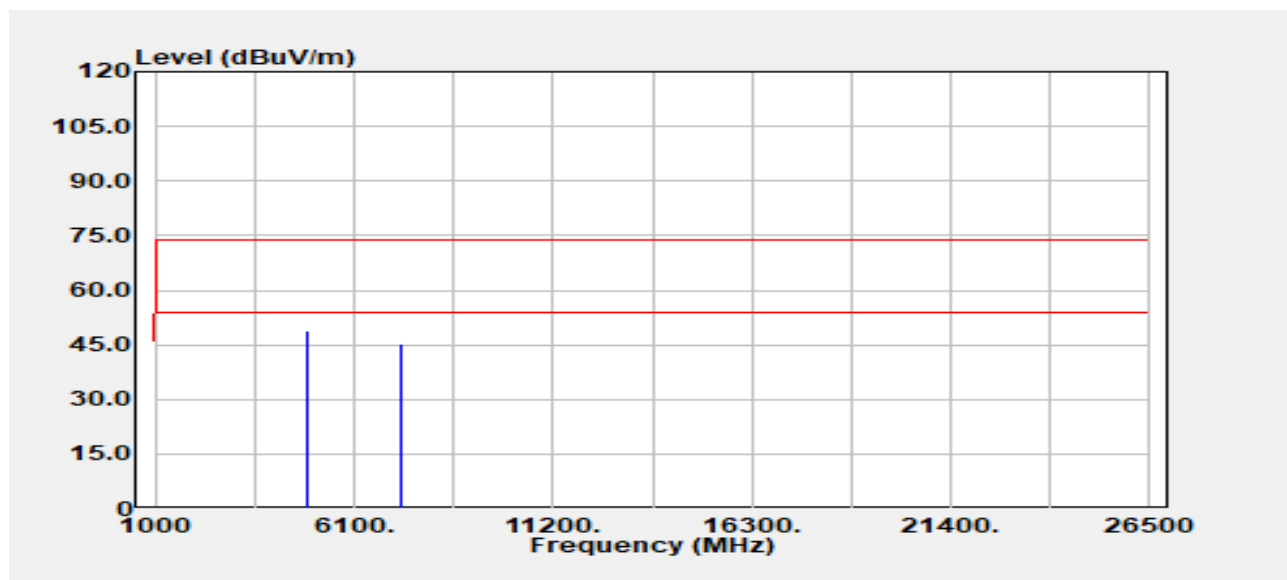


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4804.00	Peak	42.93	2.23	45.15	74.00	-28.85
4804.00	Average	37.93	2.23	40.15	54.00	-13.85
7206.00	Peak	34.84	9.01	43.85	74.00	-30.15
7206.00	Average	31.19	9.01	40.20	54.00	-13.80

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 2M	Temp./Humi.	:24.6/57
Frequency	:2440 MHz	Antenna Pol.	:Vertical
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		

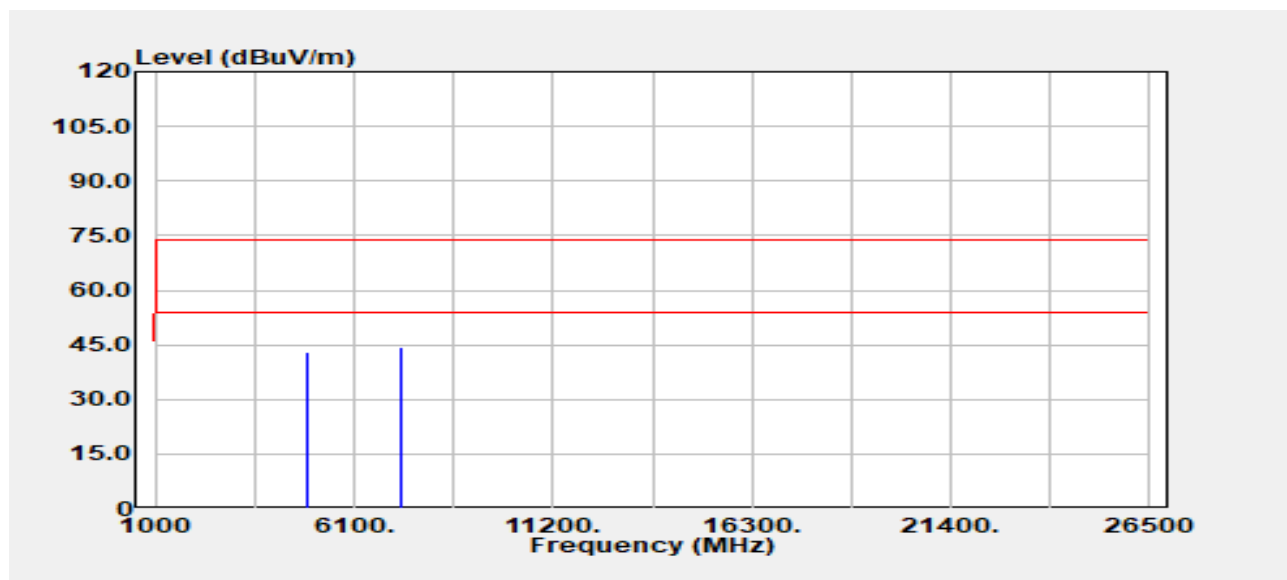


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4880.00	Peak	46.16	2.55	48.71	74.00	-25.29
4880.00	Average	42.55	2.55	45.09	54.00	-8.91
7320.00	Peak	36.33	8.96	45.28	74.00	-28.72
7320.00	Average	31.35	8.96	40.31	54.00	-13.69

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 2M	Temp./Humi.	:24.6/57
Frequency	:2440 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



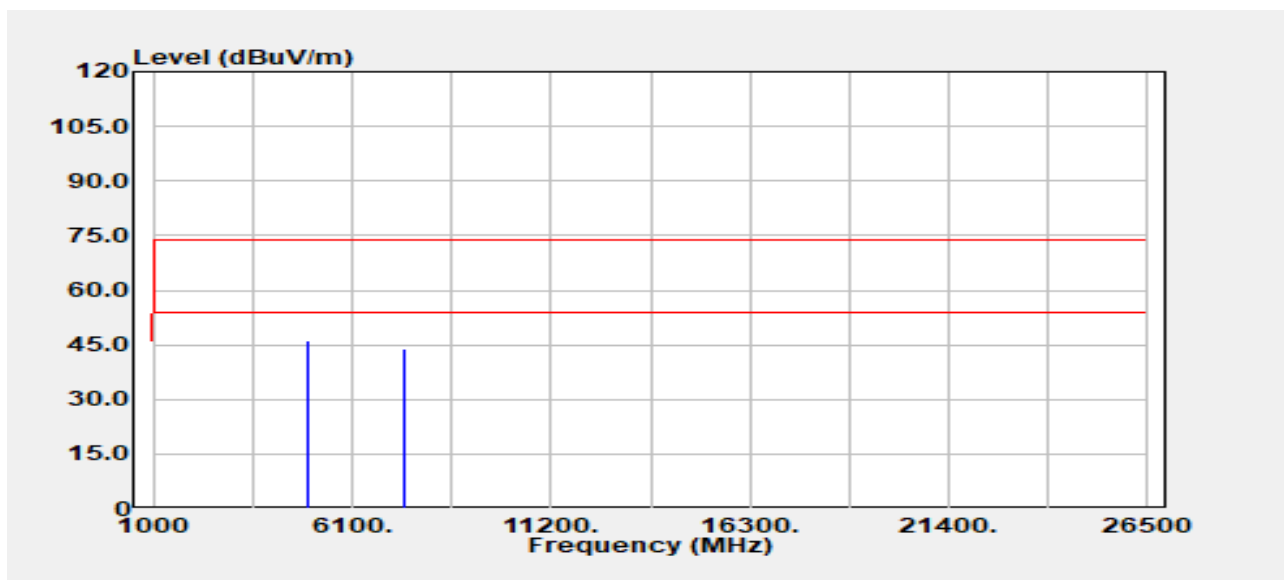
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit dB μ V/m	Margin dB
4880.00	Peak	40.64	2.55	43.19	74.00	-30.81
4880.00	Average	35.67	2.55	38.22	54.00	-15.78
7320.00	Peak	35.33	8.96	44.29	74.00	-29.71
7320.00	Average	30.38	8.96	39.33	54.00	-14.67

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Project No :TM-2409000206P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :default

Test Date :2024-09-26
Temp./Humi. :24.6/57
Antenna Pol. :Vertical
Engineer :Ray Li
Test Chamber : 966A

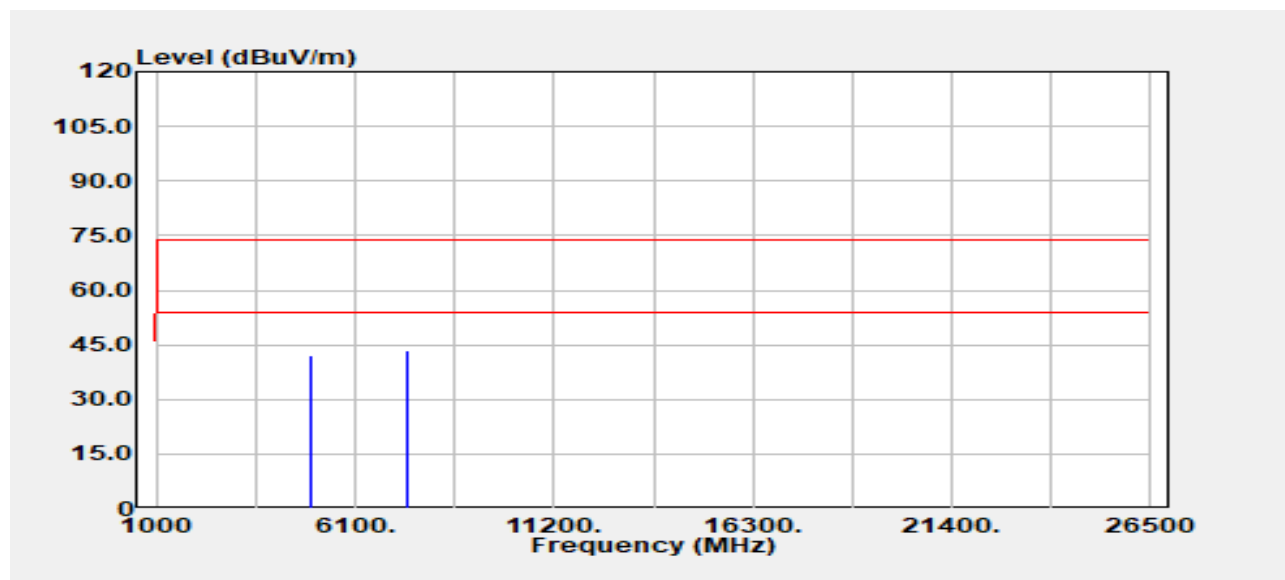


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4960.00	Peak	42.86	3.21	46.07	74.00	-27.93
4960.00	Average	38.74	3.21	41.96	54.00	-12.04
7440.00	Peak	34.80	8.92	43.72	74.00	-30.28
7440.00	Average	30.34	8.92	39.26	54.00	-14.74

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Project No	:TM-2409000206P	Test Date	:2024-09-26
Operation Band	:BLE 2M	Temp./Humi.	:24.6/57
Frequency	:2480 MHz	Antenna Pol.	:Horizontal
Operation Mode	:TX	Engineer	:Ray Li
EUT Pol	:H	Test Chamber	: 966A
Setting	:default		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
4960.00	Peak	38.94	3.21	42.15	74.00	-31.85
4960.00	Average	33.34	3.21	36.55	54.00	-17.45
7440.00	Peak	34.50	8.92	43.42	74.00	-30.58
7440.00	Average	29.86	8.92	38.78	54.00	-15.22

- End of Test Report -