

Project No.: TM-2309000356P
Report No.: TMWK2309003419KR

FCC ID: Z3K-EVOLVESLS10
IC: 9930A-EVOLVESLS10

Page: 1 / 62
Rev.: 01

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

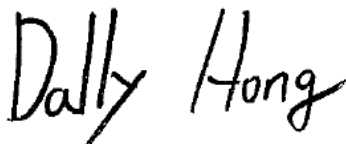
Test Standard	FCC Part 15.247 IC RSS-247 issue 3 and IC RSS-GEN issue 5
Product name	Evolve SLS 10 Monitor
Brand Name	JET OPTOELECTRONICS CO., LTD.
Model No.	620105
Test Result	Pass
Statements of Conformity	Determination of compliance is based on the results of the compliance measurement, not taking 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	February 16, 2024	Initial Issue	ALL	Peggy Tsai
01	February 27, 2024	See the following Note Rev. (01)	P.1, 9	Peggy Tsai

Rev. (01):

1. Modify IC Test Standard.
2. Modify Test Methodology and Applied Standards in section 1.8.

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	JET OPTOELECTRONICS CO.,LTD. (FCC) 7F-2, No. 300, Yangguang St., Neihu Dist., Taipei City 11491,Taiwan (IC) 3F., No. 300, Yangguang St., Neihu Dist., Taipei City 11491,Taiwan
Manufacturer	JET OPTOELECTRONICS CO.,LTD. (FCC) 7F-2, No. 300, Yangguang St., Neihu Dist., Taipei City 11491,Taiwan (IC) 3F., No. 300, Yangguang St., Neihu Dist., Taipei City 11491,Taiwan
Equipment	Evolve SLS 10 Monitor
Model Name	620105
Model Discrepancy	N/A
Trade Name	JET OPTOELECTRONICS CO., LTD.
Received Date	September 21, 2023
Date of Test	October 2 ~ 12, 2023
Power Supply	Powered from Car Battery (DC 12V)
HW Version	20230607 D01
SW Version	MAINLINE-115 MCU version V1.2.16
Serial number	H230811M5000020

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.

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
<input type="checkbox"/> 1 MHz or less	1	Middle
<input type="checkbox"/> 1 MHz to 10 MHz	2	1 near top and 1 near bottom
<input checked="" type="checkbox"/> More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	<input checked="" type="checkbox"/> PIFA <input type="checkbox"/> PCB <input type="checkbox"/> Dipole <input type="checkbox"/> Coils
Antenna Gain	Gain: 2.7 dBi
Antenna connector	N/A

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	± 2.213 dB
Channel Bandwidth	± 2.7 %
RF output power (Power Meter + Power sensor)	± 0.243 dB
Power Spectral density	± 2.739 dB
Conducted Bandedge	± 2.739 dB
Conducted Spurious Emission	± 2.742 dB
Radiated Emission_9kHz-30MHz	± 3.115 dB
Radiated Emission_30MHz-200MHz	± 4.071 dB
Radiated Emission_200MHz-1GHz	± 4.419 dB
Radiated Emission_1GHz-6GHz	± 5.023 dB
Radiated Emission_6GHz-18GHz	± 5.068 dB
Radiated Emission_18GHz-26GHz	± 3.349 dB
Radiated Emission_26GHz-40GHz	± 3.229 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

AC Powerline Conducted Emission and Conducted:

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

Radiated emission 9kHz to 40GHz:

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

☒ No. 12, Ln. 116, Wugong 3rd Rd., Wugu Dist., New Taipei City, Taiwan 24803

CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	-	Not applicable, because EUT doesn't connect to AC Main Source direct.
Radiation	Czerny Lin	-
RF Conducted	Allen Shen	-

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

1.6 INSTRUMENT CALIBRATION

Conducted_FCC/IC/NCC (All)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Power Sensor	Anritsu	MA2411B	1911386	2023-07-25	2024-07-24
Power Sensor	Anritsu	MA2411B	1911387	2023-07-25	2024-07-24
Power Meter	Anritsu	ML2496A	2136002	2022-11-24	2023-11-23
EXA Signal Analyzer	Keysight	N9010B	MY60242460	2023-02-02	2024-02-01
Software	Radio Test Software Ver. 21				

Radiated Emission Test Site: 966 D					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Antenna	SHWARZBECK	VULB 9168	1277	2023-01-13	2024-01-12
Pre-Amplifier	EMCI	EMC118A45SE	980820	2022-12-23	2023-12-22
Pre-Amplifier	EMCI	EMC330N	980853	2022-12-23	2023-12-22
Coaxial Cable	EMC	EMC101G-KM-KM-9000	220407+211228+230205	2023-03-21	2024-03-20
EXA Signal Analyzer	Agilent	N9010A	MY52220817	2023-03-09	2024-03-08
Coaxial Cable	EMC	EMCCFD400	211212+211222+211020	2023-03-21	2024-03-20
High Pass Filter	TITAN	T04H30001800070S01	211215-7-1	2023-02-02	2024-02-01
Thermo-Hygro Meter	EDSDS	EDS-A49	966D1	2023-05-11	2024-05-10
Pre-Amplifier	EMCI	EMC184045SE	980872	2023-01-03	2024-01-02
Horn Antenna	RF SPIN	DRH18-E	210301A18ES	2023-02-03	2024-02-02
Horn Antenna	SHWARZBECK	BBHA 9170	1134	2022-12-30	2023-12-29
Loop Antenna	SCHWARZBECK	FMZB 1513-60	1513-60-028	2022-12-27	2023-12-26
Software	e3 V9-210616c				

Remark:

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

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

Conducted_FCC/IC/NCC (All)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
NB(E)	Lenovo	T460	N/A	N/A	N/A

Radiated_Sup_Units					
N0	Kind	Brand	Model	Core	Length
1	NB(E)	Lenovo	IBM7663	N/A	N/A
2	Car Battery	YUASA	70B24R	N/A	N/A
3	C to USB Cable	N/A	N/A	N/A	0.3m
A	DC Cable	N/A	N/A	N/A	0.2m

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

Test Mode

The EUT is connected to the laptop, and the test software (adb.exe) is used to set according to the test requirements (Modulation, Frequency, Power Setting...), so that the RF signal is continuously transmitted to perform the test.

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 662911, KDB 558074, RSS-247 Issue 3 and RSS-GEN Issue 5.

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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	N/A
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	4.6	Radiation Band Edge	Pass
RSS-GEN 8.9, 8.10	15.247(d) 15.205	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.

.

3.2 THE WORST MODE OF MEASUREMENT

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT Power by Car Battery
Worst Mode	<input checked="" type="checkbox"/> Mode 1
Worst Position	<input type="checkbox"/> Placed in fixed position. <input type="checkbox"/> Placed in fixed position at X-Plane (E2-Plane) <input type="checkbox"/> Placed in fixed position at Y-Plane (E1-Plane) <input checked="" type="checkbox"/> 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 Car Battery
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

Remark:

1. The worst mode was record in this test report.
2. 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: 23.4 ~ 26.6°C

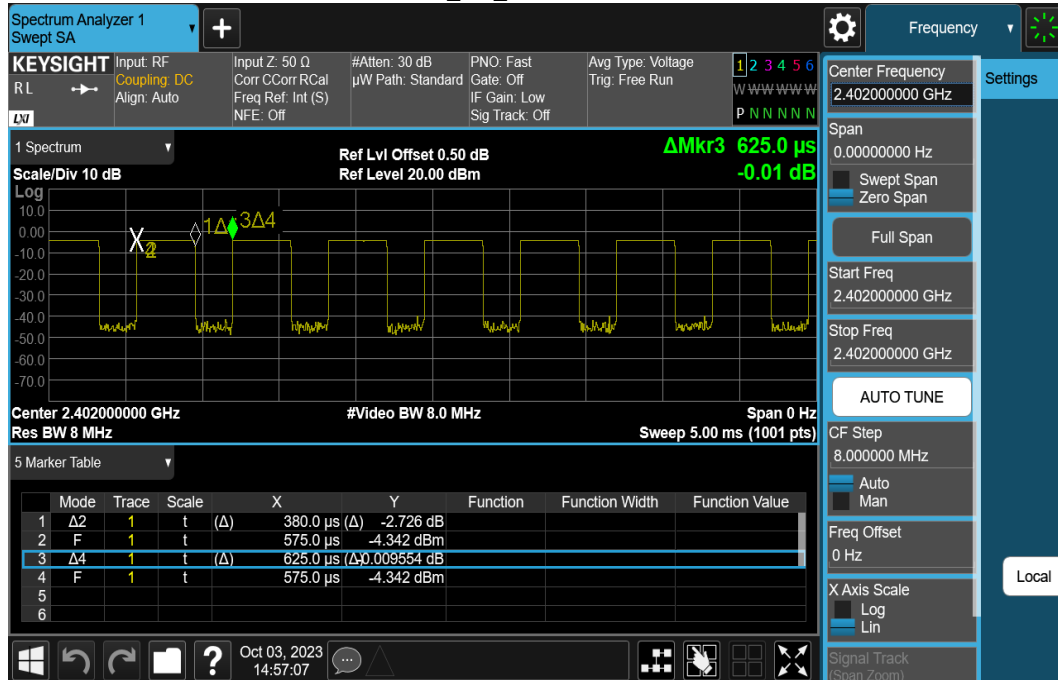
Test date: October 2 ~ 3, 2023

Humidity: 53 ~ 57% RH

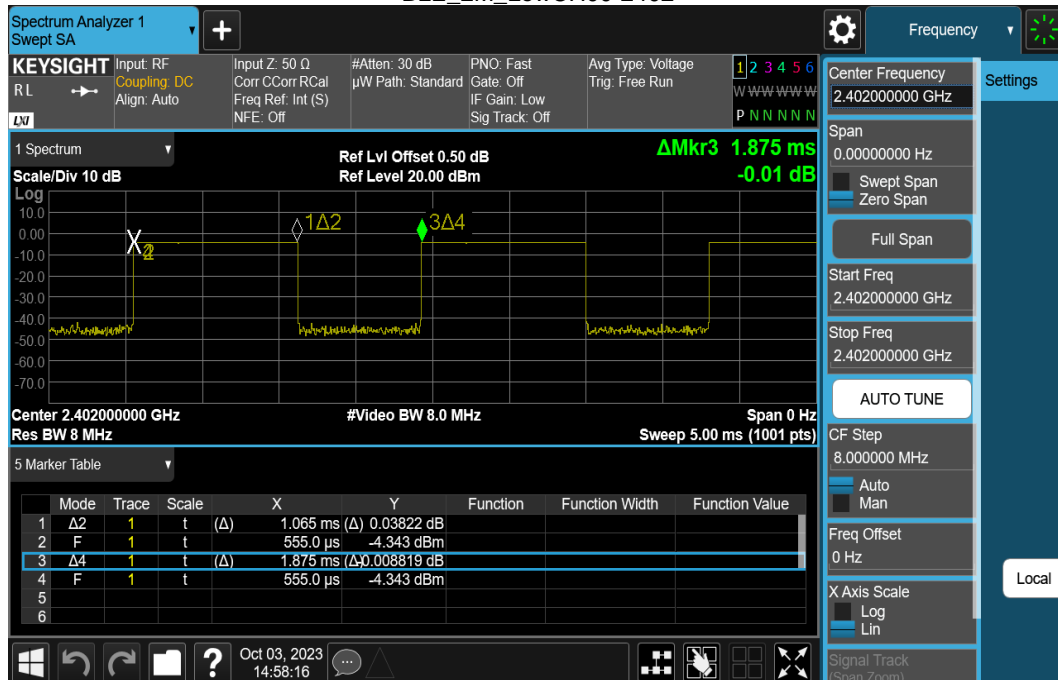
Tested by: Allen Shen

	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
BLE 1M	60.80	2.16	2.63	3.00
BLE 2M	56.80	2.46	0.94	1.00

BLE_1M_LowCH00-2402



BLE_2M_LowCH00-2402



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(dBμV)	
	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

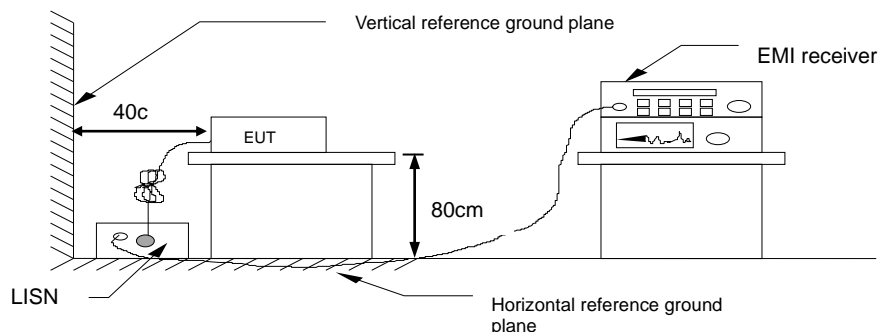
* Decreases with the logarithm of the frequency.

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



4.1.4 Test Result

Not applicable, because EUT not connect to AC Main Source direct.

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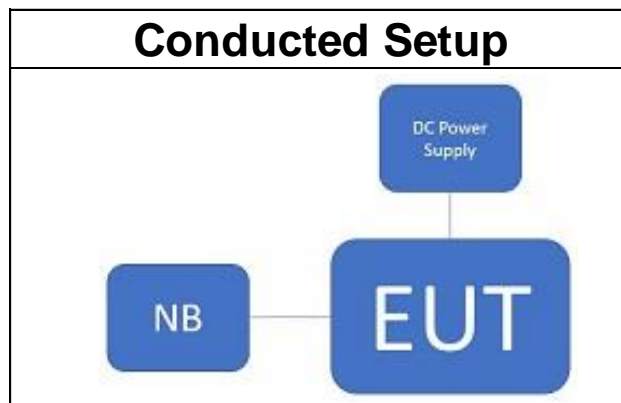
Occupied Bandwidth(99%) : For reporting purposes only.

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 and 99% Bandwidth.
4. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup



4.2.4 Test Result

Temperature: 23.4 ~ 26.6°C

Test date: October 2 ~ 3, 2023

Humidity: 53 ~ 57% RH

Tested by: Allen Shen

6dB BANDWIDTH

BLE 1M mode

Frequency (MHz)	6dB BW (MHz)	Required BW (MHz)	Result
2402	0.7110	≥ 0.5	PASS
2442	0.7116	≥ 0.5	PASS
2480	0.7113	≥ 0.5	PASS

BLE 2M mode

Frequency (MHz)	6dB BW (MHz)	Required BW (MHz)	Result
2402	1.237	≥ 0.5	PASS
2442	1.238	≥ 0.5	PASS
2480	1.236	≥ 0.5	PASS

BANDWIDTH 99%

BLE 1M mode

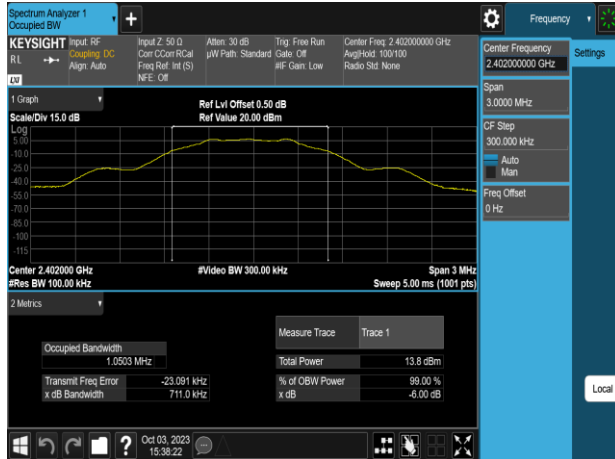
Frequency (MHz)	99%Bandwidth (MHz)	6dB Bandwidth (MHz)
2402	1.0294	0.6489
2442	1.0288	0.647
2480	1.0286	0.649

BLE 2M mode

Frequency (MHz)	99%Bandwidth (MHz)	6dB Bandwidth (MHz)
2402	2.0582	1.233
2442	2.0540	1.237
2480	2.0549	1.235

Test Data (6dB BANDWIDTH)

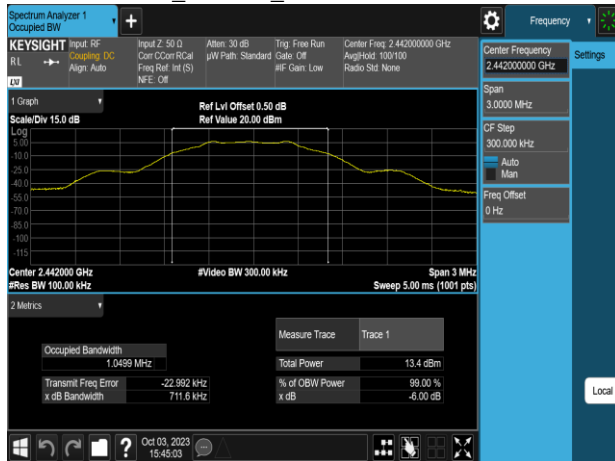
OBW_BLE 1M_LowCH00-2402MHz



OBW_BLE 2M_LowCH00-2402MHz



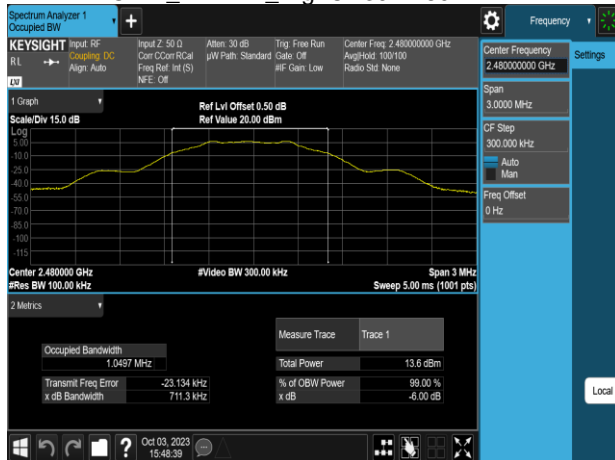
OBW_BLE 1M_MidCH20-2442MHz



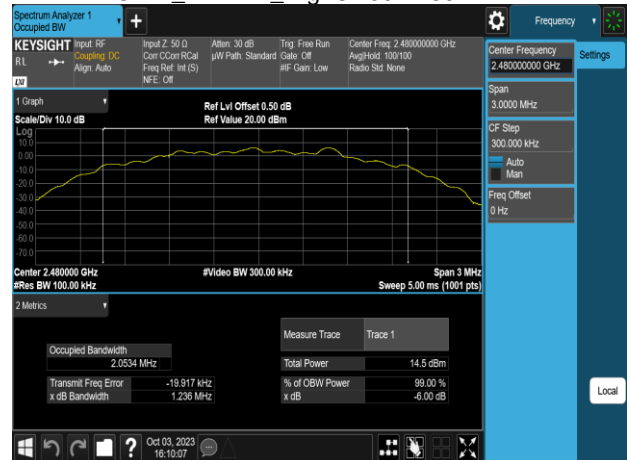
OBW_BLE 2M_MidCH20-2442MHz



OBW_BLE 1M_HighCH39-2480MHz

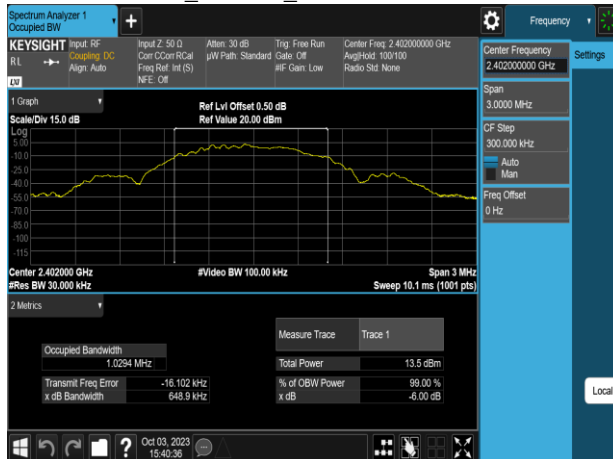


OBW_BLE 2M_HighCH39-2480MHz



Test Data (BANDWIDTH 99%)

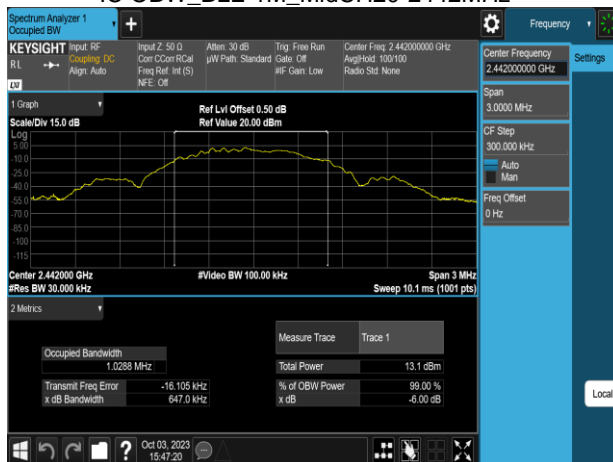
IC OBW_BLE 1M_LowCH00-2402MHz



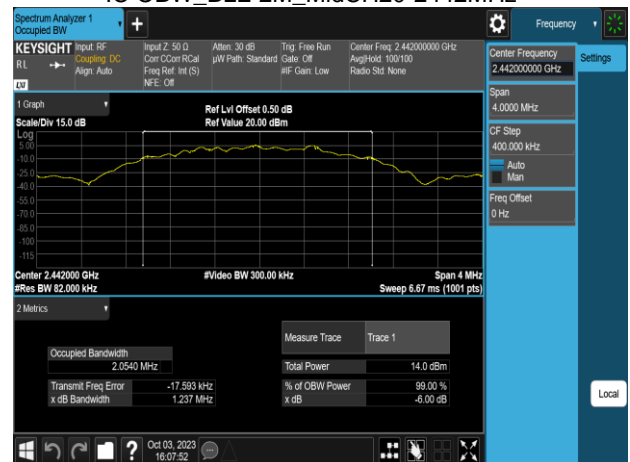
IC OBW_BLE 2M_LowCH00-2402MHz



IC OBW_BLE 1M_MidCH20-2442MHz



IC OBW_BLE 2M_MidCH20-2442MHz



IC OBW_BLE 1M_HighCH39-2480MHz



IC OBW_BLE 2M_HighCH39-2480MHz



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. As an alternative to a peak power measurement,

IC

For DTSs 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	<input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 30dBm <input type="checkbox"/> Antenna with DG greater than 6 dBi [Limit = 30 – (DG – 6)] <input type="checkbox"/> Point-to-point operation
-------	---

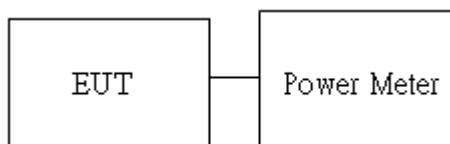
Average output power : For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

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



4.3.4 Test Result

Temperature: 23.4 ~ 26.6°C

Test date: October 2 ~ 3, 2023

Humidity: 53 ~ 57% RH

Tested by: Allen Shen

Peak & Average output power :

BLE 1M mode:

CH	Frequency (MHz)	Power set	Peak Output Power (dBm)	Required Limit (dBm)
Low	2402	7	7.79	30
Mid	2442	7	7.67	30
High	2480	7	7.46	30
CH	Frequency (MHz)	Power set	Avg. Output Power (dBm)	Required Limit (dBm)
Low	2402	7	7.72	30
Mid	2442	7	7.61	30
High	2480	7	7.40	30

***Note:**

1.Measured by power meter, cable loss 0.5 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 set	Peak Output Power (dBm)	Required Limit (dBm)
Low	2402	7	7.80	30
Mid	2442	7	7.69	30
High	2480	7	7.48	30
CH	Frequency (MHz)	Power set	Avg. Output Power (dBm)	Required Limit (dBm)
Low	2402	7	7.75	30
Mid	2442	7	7.67	30
High	2480	7	7.39	30

***Note:**

1.Measured by power meter, cable loss 0.5 dB + Duty cycle factor has been offseted to the power meter for Avg. power and cable loss has been offseted for Peak power measurement.

EIRP Power:

EIRP BLE 1M mode

CH	Frequency (MHz)	Power set	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit
Low	2402	7	7.72	2.70	10.42	4W= 36 dBm
Mid	2442	7	7.61	2.70	10.31	4W= 36 dBm
High	2480	7	7.40	2.70	10.10	4W= 36 dBm

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

EIRP BLE 2M mode

CH	Frequency (MHz)	Power set	Avg. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit
Low	2402	7	7.75	2.70	10.45	4W= 36 dBm
Mid	2442	7	7.67	2.70	10.37	4W= 36 dBm
High	2480	7	7.39	2.70	10.09	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.

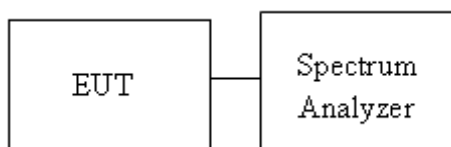
Limit	<input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 8dBm <input type="checkbox"/> Antenna with DG greater than 6 dBi [Limit = 8 – (DG – 6)] <input type="checkbox"/> Point-to-point operation :
-------	---

4.4.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

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 = 30kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss and Duty Factor were 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



4.4.4 Test Result

Temperature: 23.4 ~ 26.6°C

Test date: October 2 ~ 3, 2023

Humidity: 53 ~ 57% RH

Tested by: Allen Shen

BLE 1M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-8.18	8	PASS
2442	-8.68	8	PASS
2480	-8.38	8	PASS

***Note:**

1.cable loss as 0.5dB that offsets in the spectrum

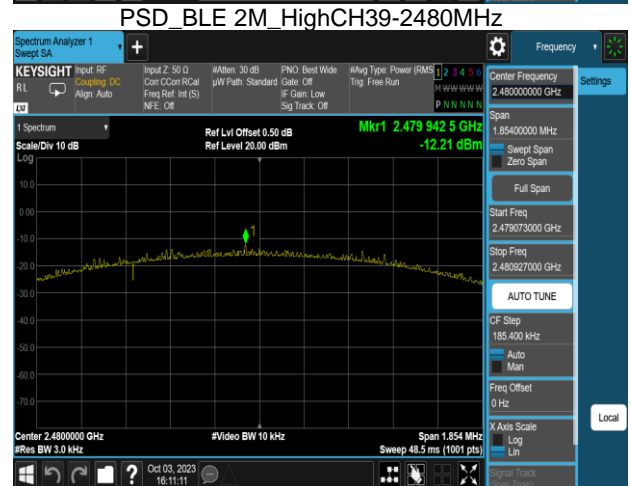
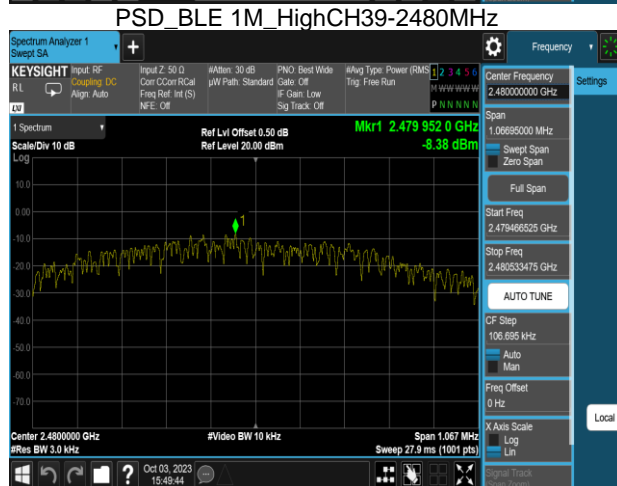
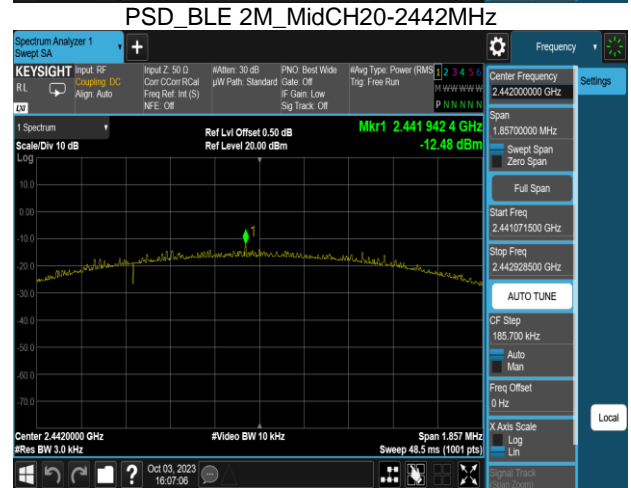
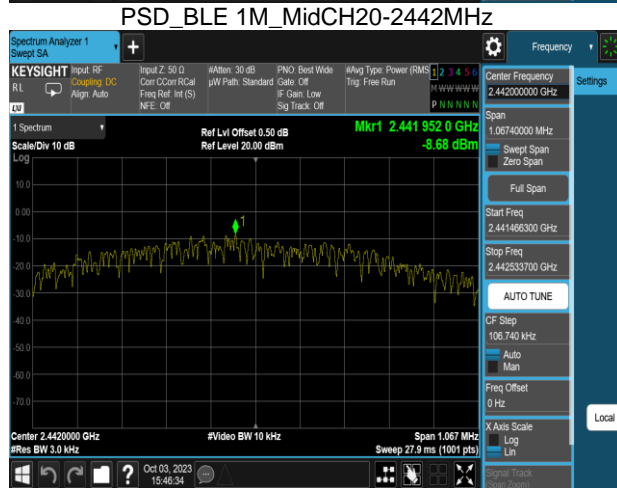
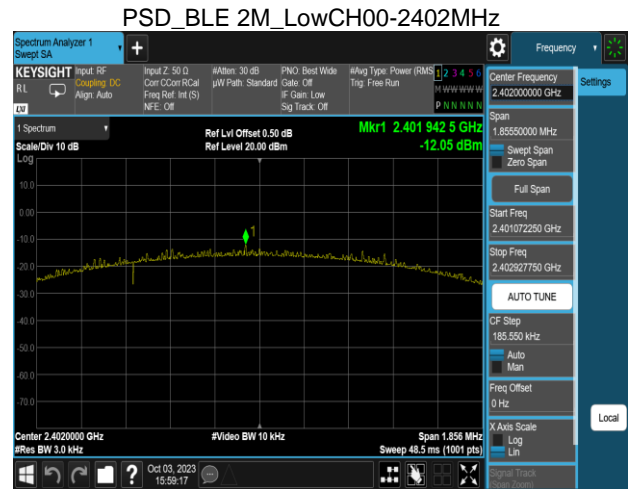
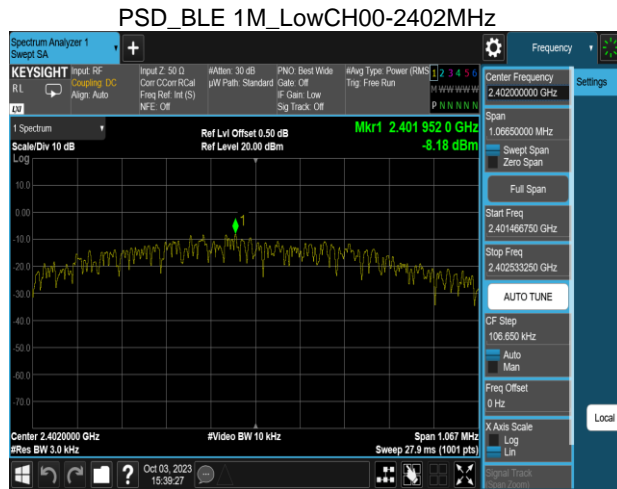
BLE 2M mode

Frequency (MHz)	RF Power Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2402	-12.05	8	PASS
2442	-12.48	8	PASS
2480	-12.21	8	PASS

***Note:**

1.cable loss as 0.5dB 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).

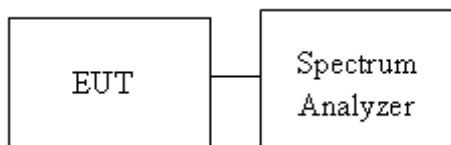
IC: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either 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 ANSI C63.10:2013.

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



4.5.4 Test Result

Temperature: 23.4 ~ 26.6°C

Test date: October 2 ~ 3, 2023

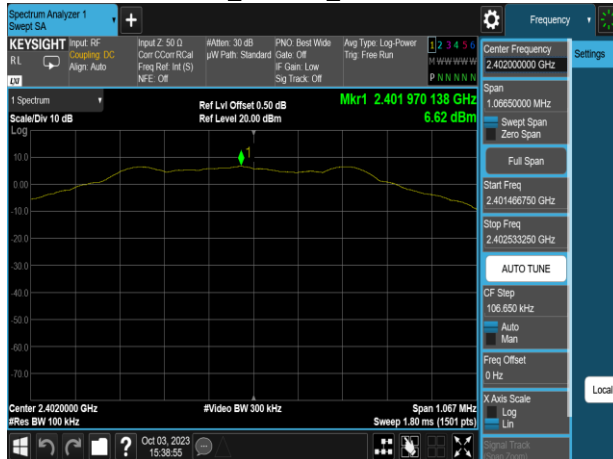
Humidity: 53 ~ 57% RH

Tested by: Allen Shen

Test Data

Reference Level

Reference Level_BLE 1M_LowCH00-2402MHz



Reference Level_BLE 2M_LowCH00-2402MHz



Reference Level_BLE 1M_MidCH20-2442MHz



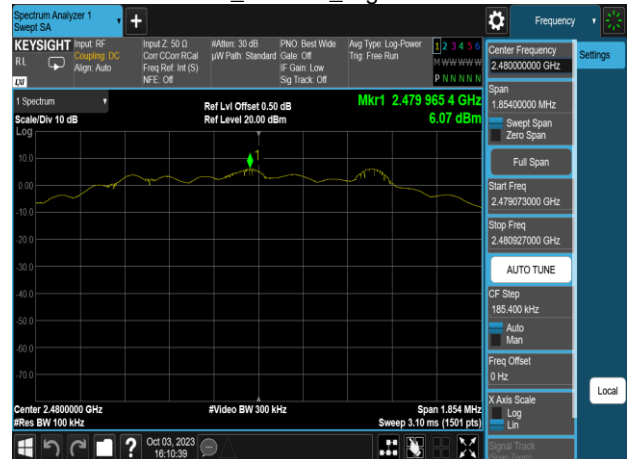
Reference Level_BLE 2M_MidCH20-2442MHz



Reference Level_BLE 1M_HighCH39-2480MHz

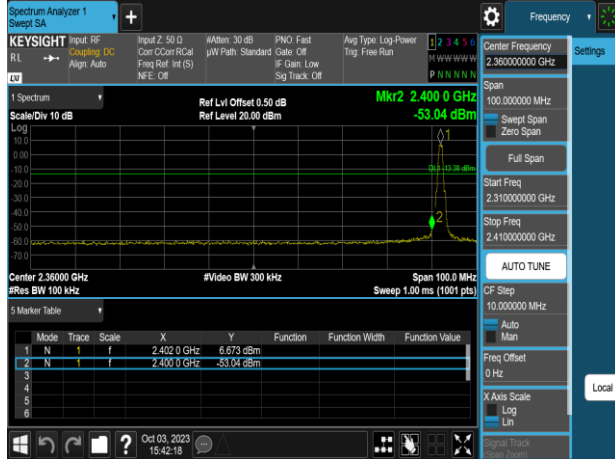


Reference Level_BLE 2M_HighCH39-2480MHz

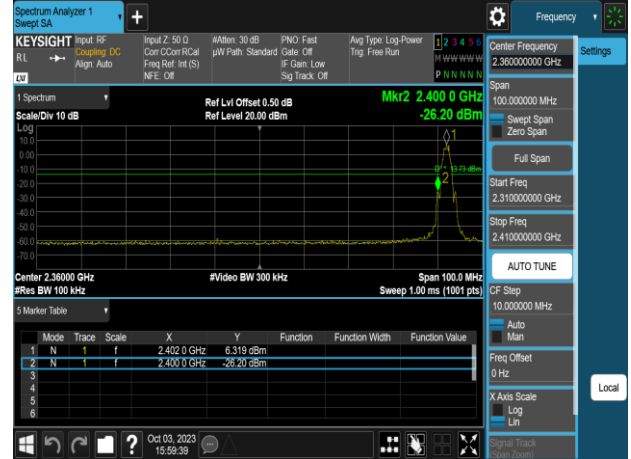


Band Edge

Band Edge_BLE 1M_LowCH00-2402MHz



Band Edge_BLE 2M_LowCH00-2402MHz



Band Edge_BLE 1M_HighCH39-2480MHz

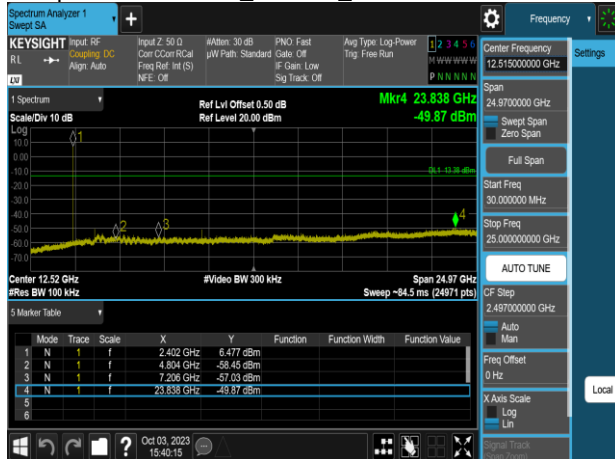


Band Edge_BLE 2M_HighCH39-2480MHz

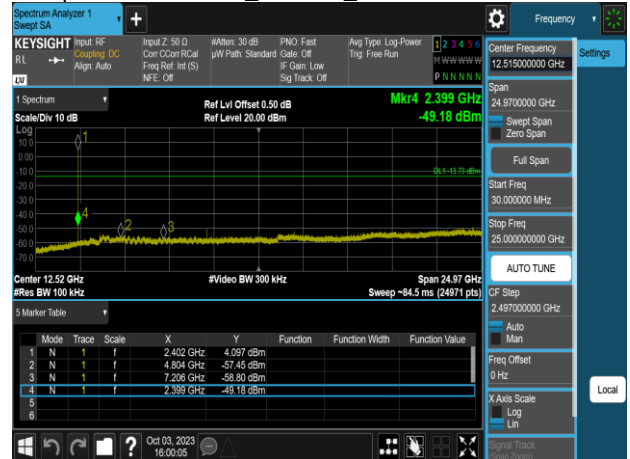


Spurious Emission

Spurious Emission_BLE 1M_LowCH00-2402MHz



Spurious Emission_BLE 2M_LowCH00-2402MHz



Spurious Emission_BLE 1M_MidCH20-2442MHz



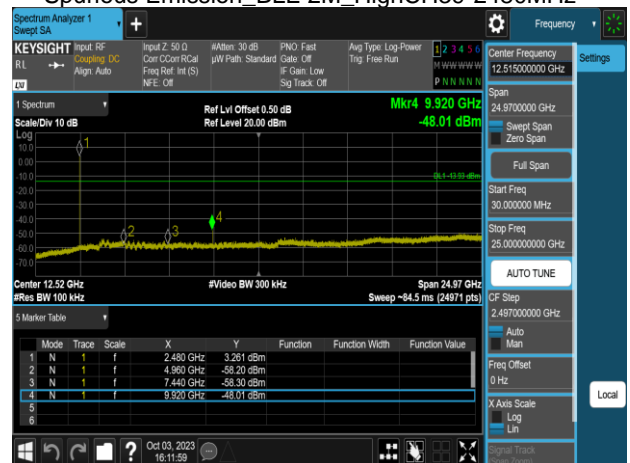
Spurious Emission_BLE 2M_MidCH20-2442MHz



Spurious Emission_BLE 1M_HighCH39-2480MHz



Spurious Emission_BLE 2M_HighCH39-2480MHz



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

Test method Refer as ANSI C63.10:2013.

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.

Remark:

1. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are 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.
2. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

3. The SA setting following :

- (1) Below 1G : RBW = 100kHz, VBW \geq 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
- (2) Above 1G :
 - (2.1) For Peak measurement : RBW = 1MHz, VBW \geq 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2.2) For Average measurement : RBW = 1MHz, VBW
 - *If Duty Cycle \geq 98%, VBW=10Hz.
 - *If Duty Cycle < 98%, VBW=1/T.

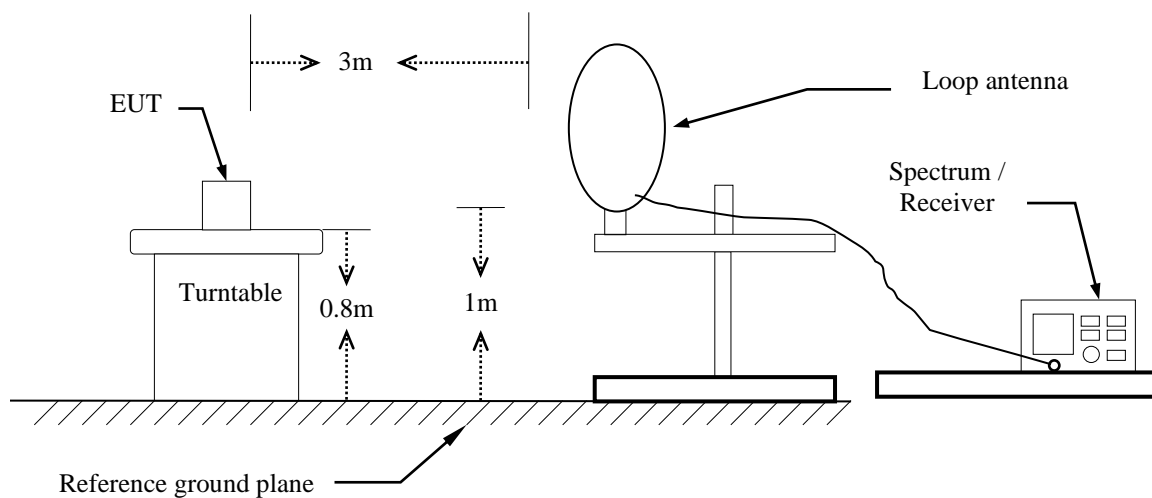
4. Data result

Actual FS=Spectrum Reading Level+Factor

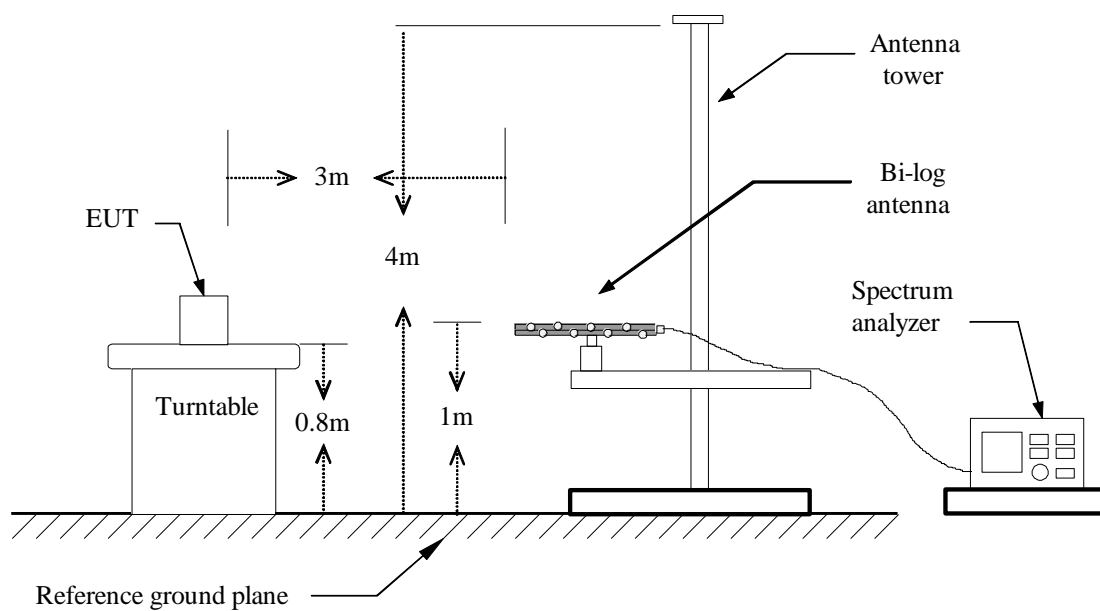
Margin=Actual FS- Limit

4.6.3 Test Setup

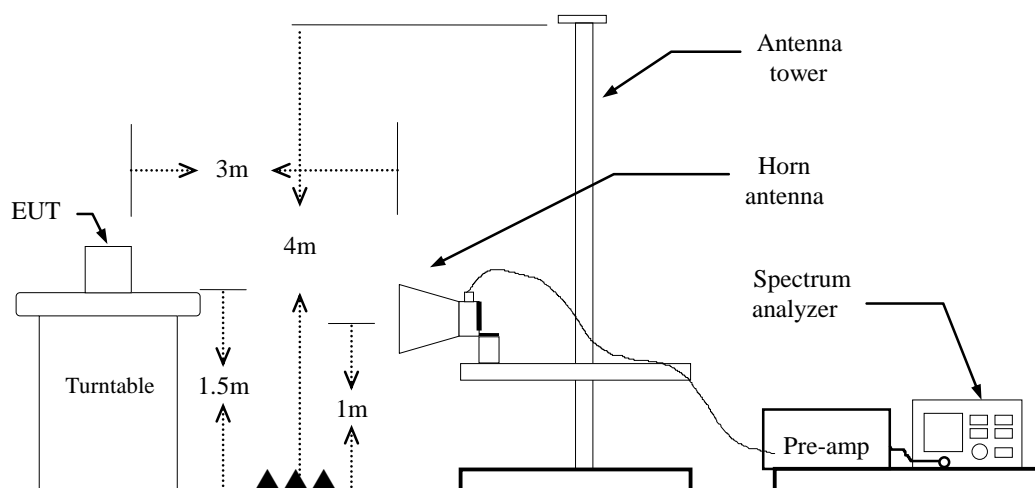
9kHz ~ 30MHz



30MHz ~ 1GHz



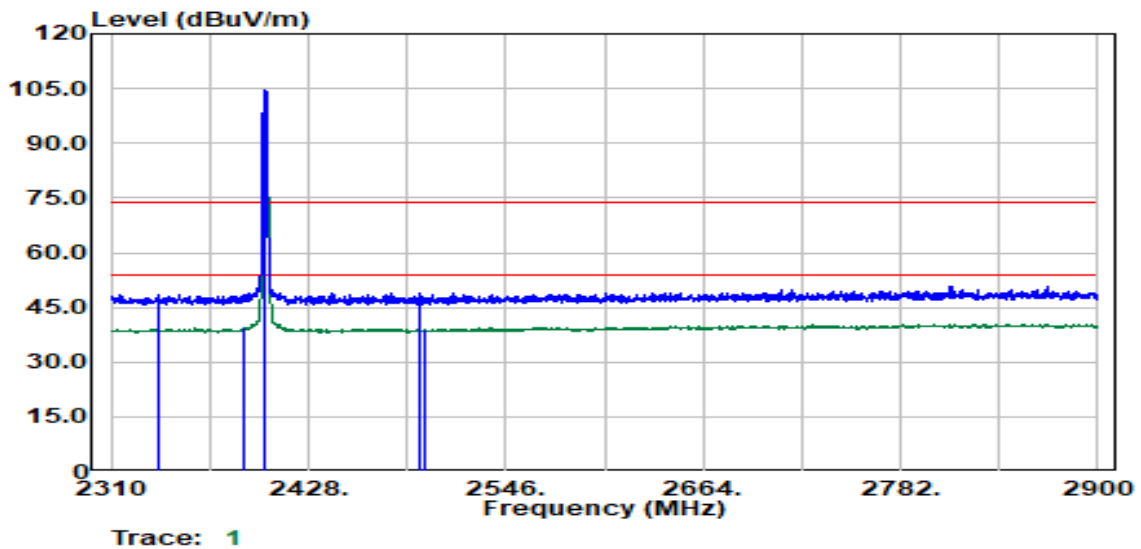
Above 1 GHz



4.6.4 Test Result

Band Edge Test Data

Project No.	:TM-2309000356P	Test Date	:2023-10-11
Operation Band	:BLE 1M	Temp./Humi.	:25.3/60
Frequency	:2402 MHz	Antenna Pol.	:VERTICAL
Operation Mode	:Bandedge	Engineer	:Czerny Lin
EUT Pol	:H	Test Chamber	: 966D
Setting	:7		



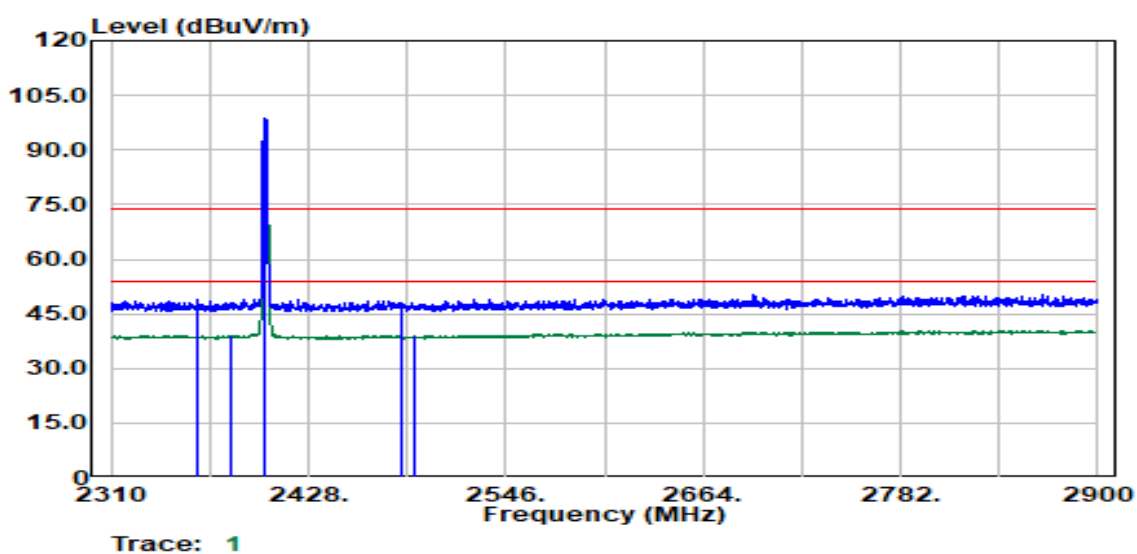
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
2337.76	Peak	43.91	4.75	48.66	74.00	-25.34
2389.78	Average	34.46	4.80	39.26	54.00	-14.74
2402.00	Peak	100.00	4.51	104.52	--	--
2402.00	Average	99.78	4.51	104.29	--	--
2494.83	Peak	44.38	4.60	48.98	74.00	-25.02
2497.58	Average	34.37	4.63	39.00	54.00	-15.00

Report No.: TMWK2309003419KR

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



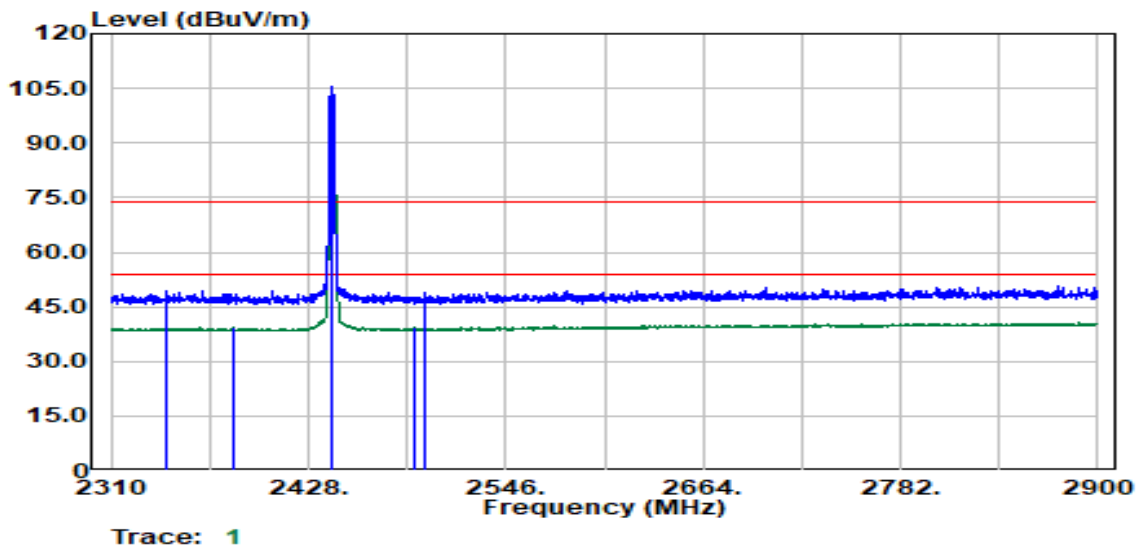
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
2361.27	Peak	44.14	4.77	48.92	74.00	-25.08
2382.28	Average	34.24	4.80	39.04	54.00	-14.96
2402.00	Peak	94.16	4.51	98.67	--	--
2402.00	Average	93.95	4.51	98.46	--	--
2484.07	Peak	43.56	4.61	48.17	74.00	-25.83
2491.58	Average	34.40	4.56	38.97	54.00	-15.03

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2442 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



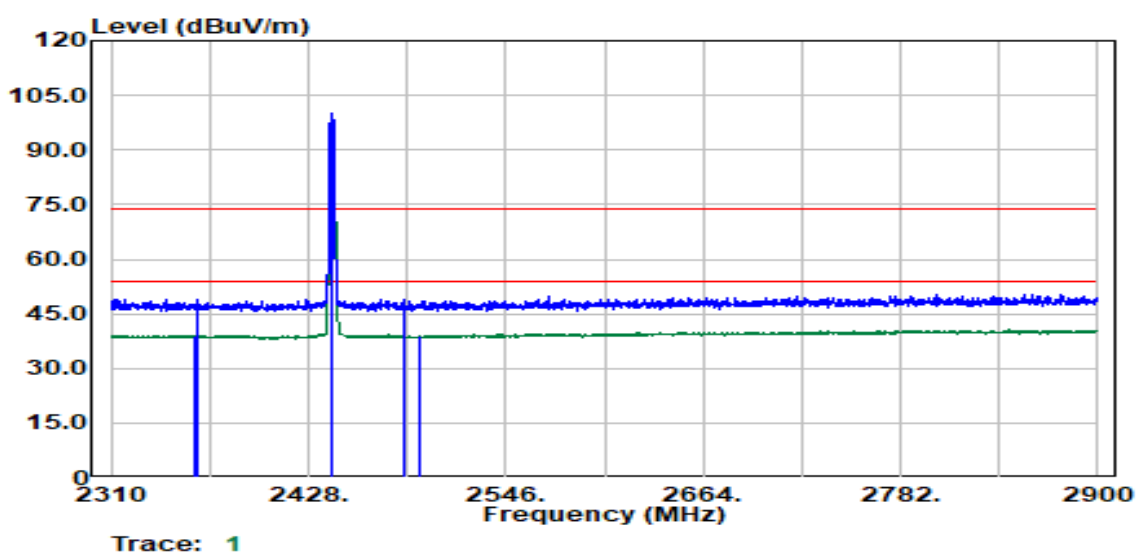
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBUV	Factor dB	Actual FS dBUV/m	Limit dBUV/m	Margin dB
2342.76	Peak	44.63	4.80	49.43	74.00	-24.57
2383.28	Average	34.42	4.80	39.22	54.00	-14.78
2442.00	Peak	100.78	4.54	105.32	74.00	31.32
2442.00	Average	100.56	4.54	105.10	54.00	51.10
2492.08	Average	34.61	4.57	39.18	54.00	-14.82
2498.33	Peak	44.16	4.63	48.79	74.00	-25.21

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2442 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



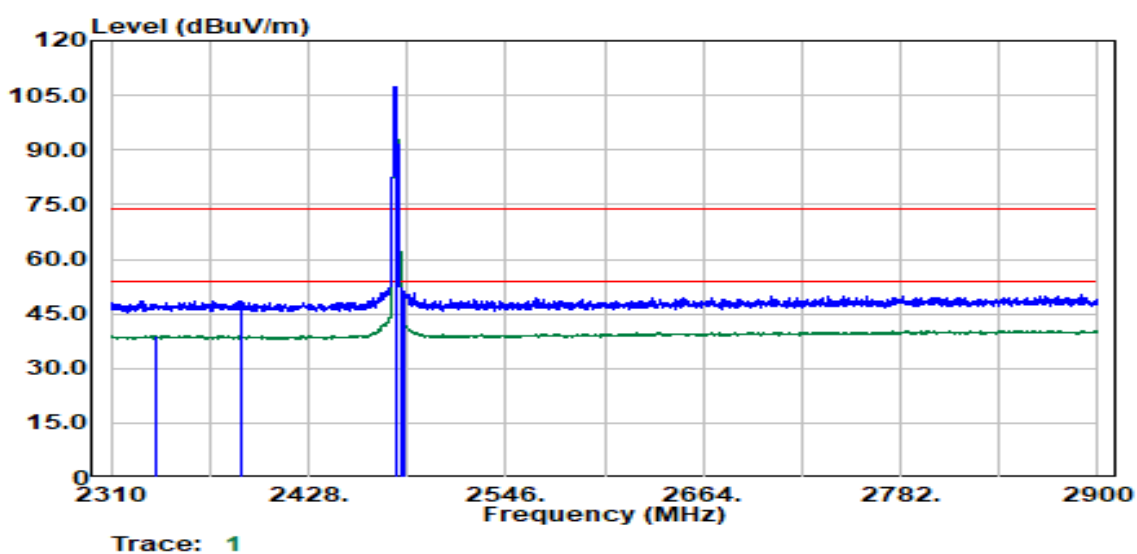
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBUV	Factor dB	Actual FS dBUV/m	Limit dBUV/m	Margin dB
2359.27	Average	34.29	4.79	39.08	54.00	-14.92
2361.52	Peak	44.26	4.77	49.04	74.00	-24.96
2442.00	Peak	95.50	4.54	100.03	--	--
2442.00	Average	95.21	4.54	99.75	--	--
2485.57	Peak	44.42	4.59	49.01	74.00	-24.99
2494.83	Average	34.33	4.60	38.92	54.00	-15.08

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



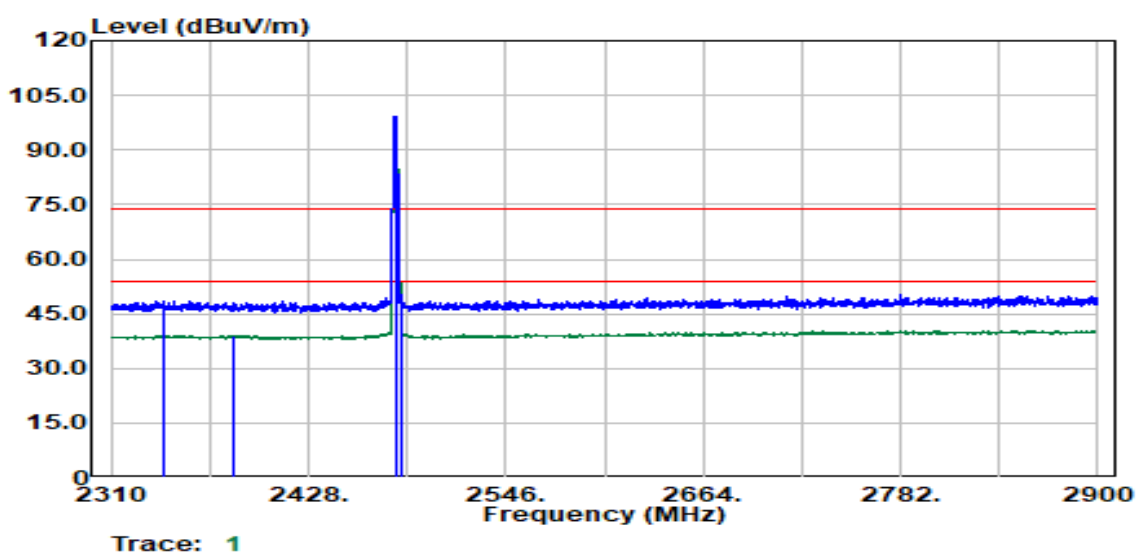
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
2337.01	Average	34.40	4.74	39.14	54.00	-14.86
2387.78	Peak	43.74	4.80	48.54	74.00	-25.46
2480.00	Peak	102.85	4.65	107.50	--	--
2480.00	Average	102.63	4.65	107.28	--	--
2483.57	Average	45.44	4.61	50.05	54.00	-3.95
2485.82	Peak	46.53	4.59	51.12	74.00	-22.88

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



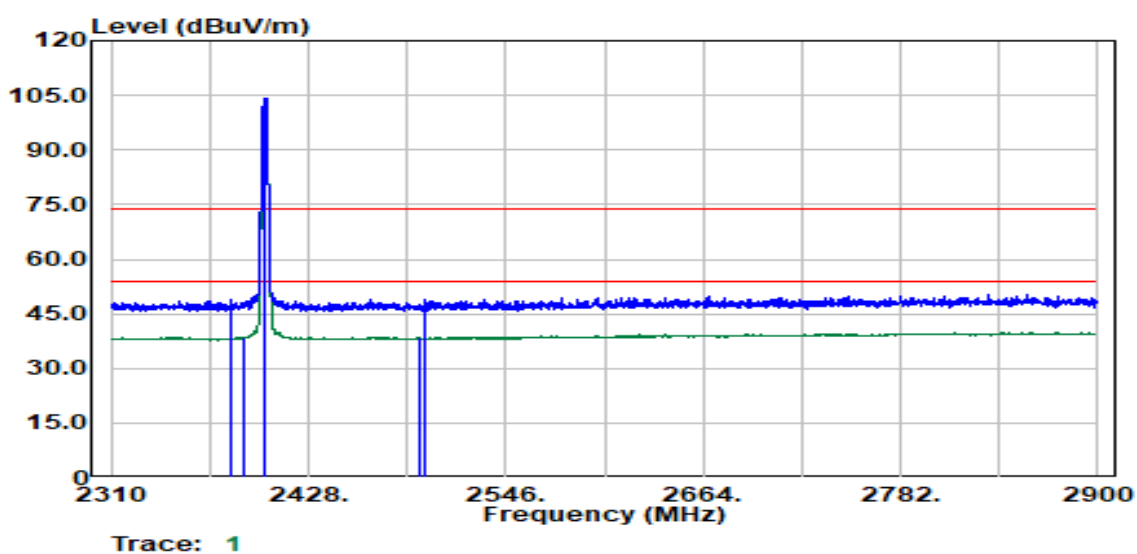
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
2340.76	Peak	43.75	4.78	48.53	74.00	-25.47
2382.53	Average	34.20	4.80	39.00	54.00	-15.00
2480.00	Peak	94.59	4.65	99.23	--	--
2480.00	Average	94.33	4.65	98.98	--	--
2483.57	Average	38.51	4.61	43.12	54.00	-10.88
2484.07	Peak	45.47	4.61	50.07	74.00	-23.93

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



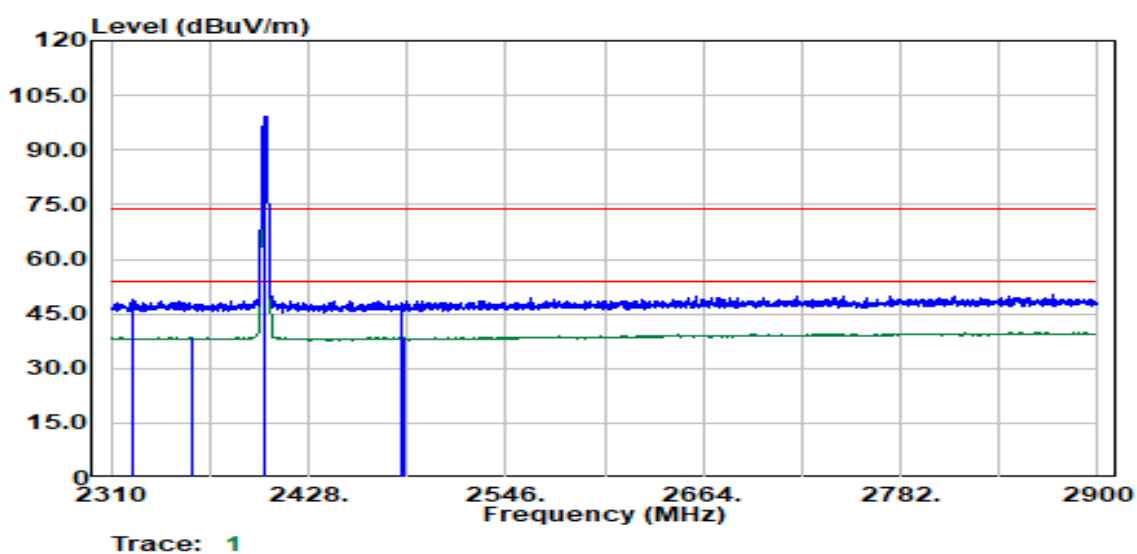
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2381.28	Peak	44.10	4.80	48.89	74.00	-25.11
2389.03	Average	33.78	4.80	38.58	54.00	-15.42
2402.00	Peak	99.81	4.51	104.32	--	--
2402.00	Average	98.58	4.51	103.09	--	--
2493.83	Average	33.69	4.59	38.28	54.00	-15.72
2497.58	Peak	44.12	4.63	48.75	74.00	-25.25

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



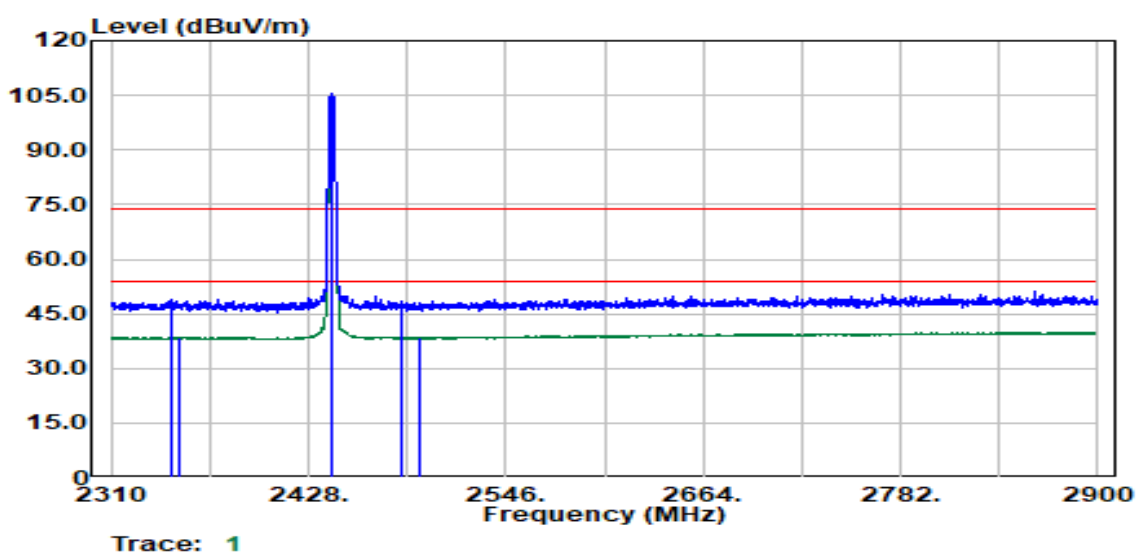
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2322.26	Peak	44.27	4.66	48.93	74.00	-25.07
2358.77	Average	33.72	4.80	38.51	54.00	-15.49
2402.00	Peak	94.53	4.51	99.04	--	--
2402.00	Average	93.33	4.51	97.84	--	--
2483.50	Peak	44.02	4.61	48.63	74.00	-25.37
2485.82	Average	33.68	4.59	38.27	54.00	-15.73

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2442 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



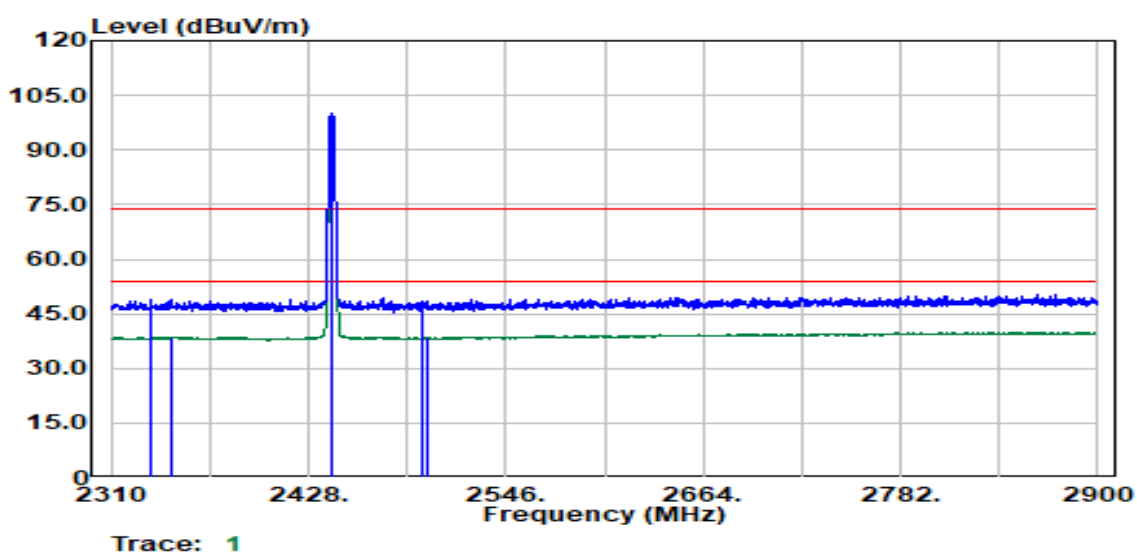
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2345.77	Peak	44.00	4.83	48.84	74.00	-25.16
2351.02	Average	33.71	4.87	38.58	54.00	-15.42
2442.00	Peak	100.88	4.54	105.42	--	--
2442.00	Average	99.72	4.54	104.25	--	--
2484.07	Peak	43.62	4.61	48.23	74.00	-25.77
2493.83	Average	33.95	4.59	38.53	54.00	-15.47

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2442 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



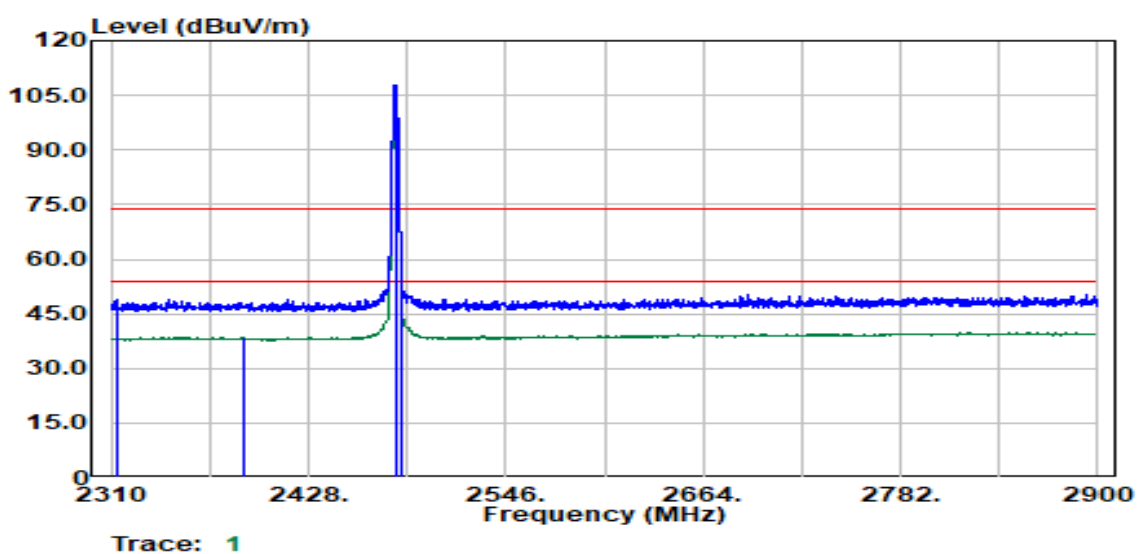
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2334.01	Peak	44.10	4.71	48.81	74.00	-25.19
2345.77	Average	33.71	4.83	38.55	54.00	-15.45
2442.00	Peak	95.45	4.54	99.98	--	--
2442.00	Average	94.23	4.54	98.76	--	--
2495.33	Peak	44.06	4.60	48.67	74.00	-25.33
2499.33	Average	33.78	4.64	38.42	54.00	-15.58

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



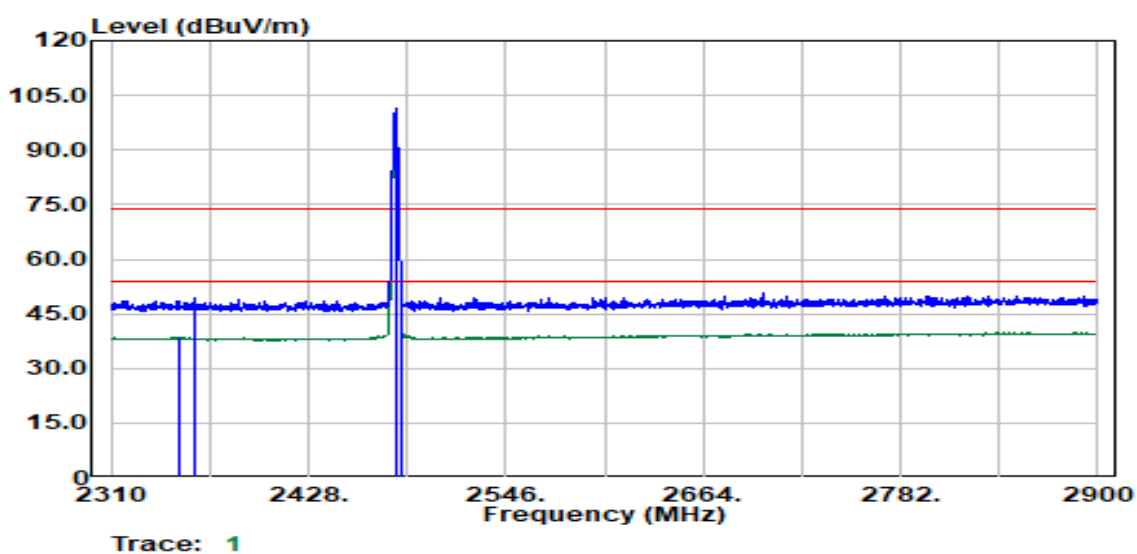
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBμV	Factor dB	Actual FS dBμV/m	Limit dBμV/m	Margin dB
2314.00	Peak	44.13	4.71	48.85	74.00	-25.15
2389.78	Average	33.66	4.80	38.46	54.00	-15.54
2480.00	Peak	103.32	4.65	107.96	--	--
2480.00	Average	102.11	4.65	106.76	--	--
2483.57	Peak	50.17	4.61	54.78	74.00	-19.22
2483.57	Average	44.14	4.61	48.75	54.00	-5.25

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :Bandedge
EUT Pol :H
Setting :7

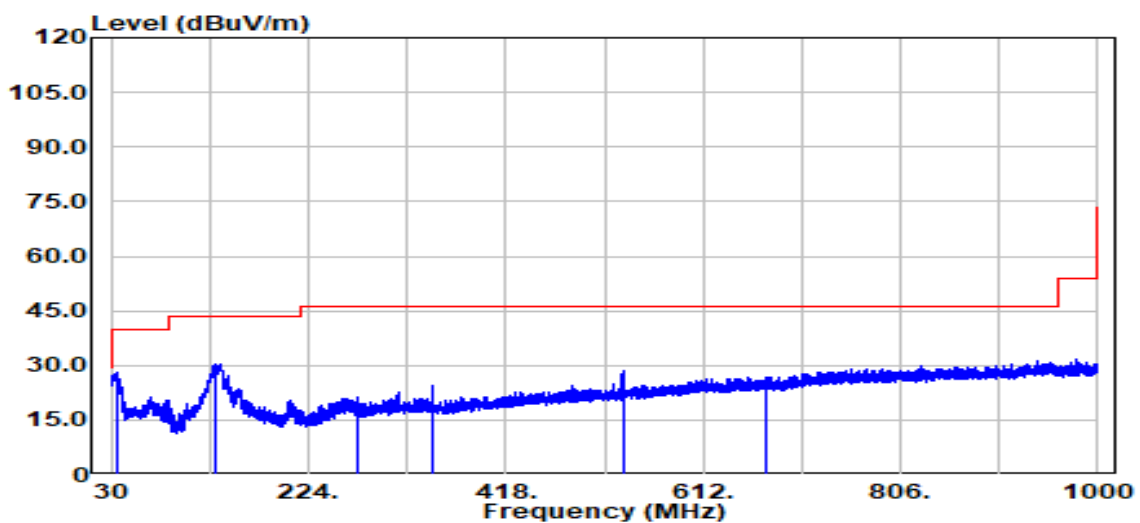
Test Date :2023-10-11
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBUV	Factor dB	Actual FS dBUV/m	Limit dBUV/m	Margin dB
2350.52	Average	33.62	4.88	38.50	54.00	-15.50
2359.27	Peak	44.42	4.79	49.21	74.00	-24.79
2480.00	Peak	97.26	4.65	101.90	--	--
2480.00	Average	96.00	4.65	100.64	--	--
2483.57	Peak	45.95	4.61	50.56	74.00	-23.44
2483.57	Average	42.56	4.61	47.17	54.00	-6.83

Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

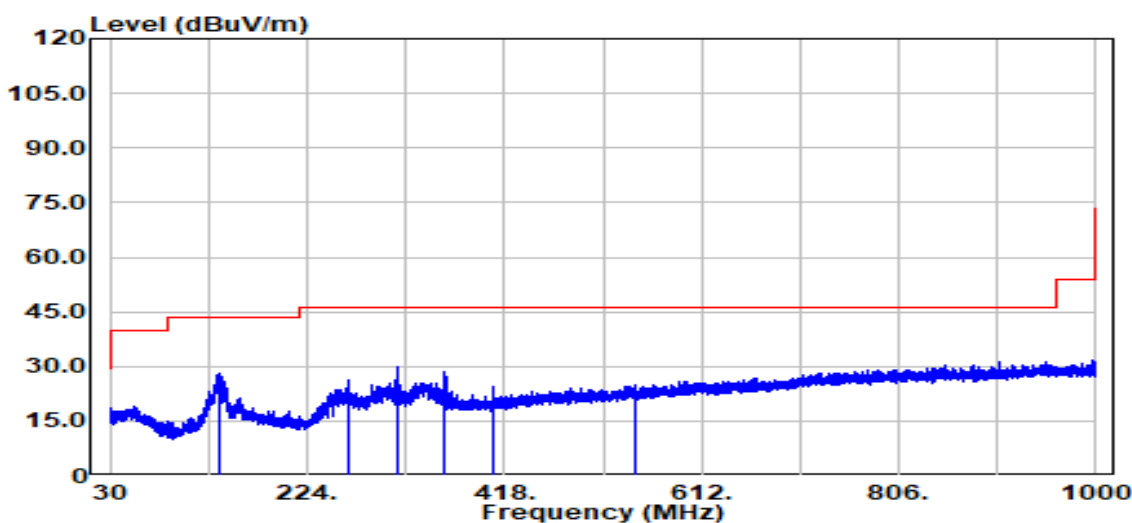
Test Date :2023-10-12
Temp./Humi. :25.9/57
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
35.53	Peak	42.12	-13.97	28.16	40.00	-11.84
132.04	Peak	44.78	-14.46	30.32	43.50	-13.18
273.28	Peak	34.20	-13.10	21.10	46.00	-24.90
345.64	Peak	35.51	-11.18	24.33	46.00	-21.67
533.43	Peak	35.50	-6.83	28.67	46.00	-17.33
673.50	Peak	30.72	-4.02	26.70	46.00	-19.30

Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.9/57
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



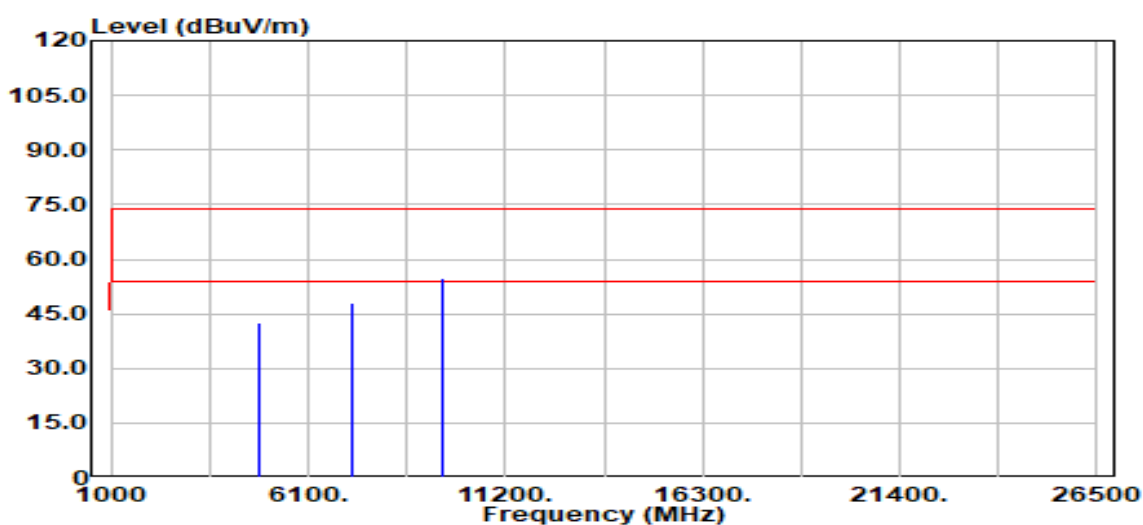
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
137.57	Peak	41.97	-13.83	28.13	43.50	-15.37
263.96	Peak	39.64	-13.53	26.11	46.00	-19.89
311.98	Peak	41.78	-11.92	29.86	46.00	-16.14
359.99	Peak	39.44	-11.10	28.34	46.00	-17.66
408.01	Peak	33.85	-9.59	24.27	46.00	-21.73
545.85	Peak	31.39	-6.68	24.71	46.00	-21.29

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



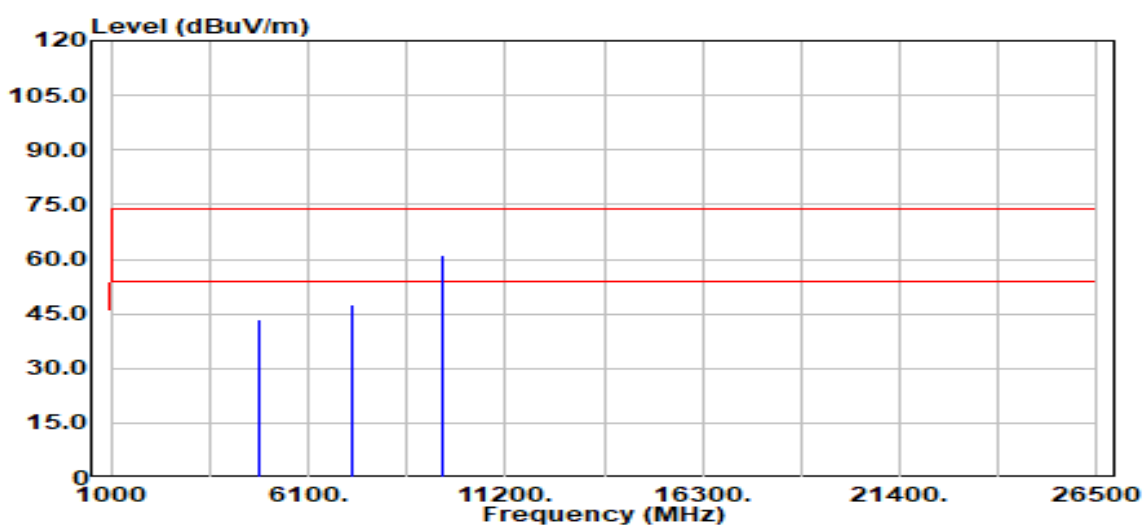
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4804.00	Peak	42.16	0.38	42.55	74.00	-31.45
4804.00	Average	35.45	0.38	35.83	54.00	-18.17
7206.00	Peak	42.75	5.33	48.08	74.00	-25.92
7206.00	Average	33.22	5.33	38.54	54.00	-15.46
9608.00	Peak	50.19	4.59	54.78	84.52	-29.74
9608.00	Average	46.81	4.59	51.39	84.29	-32.90

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



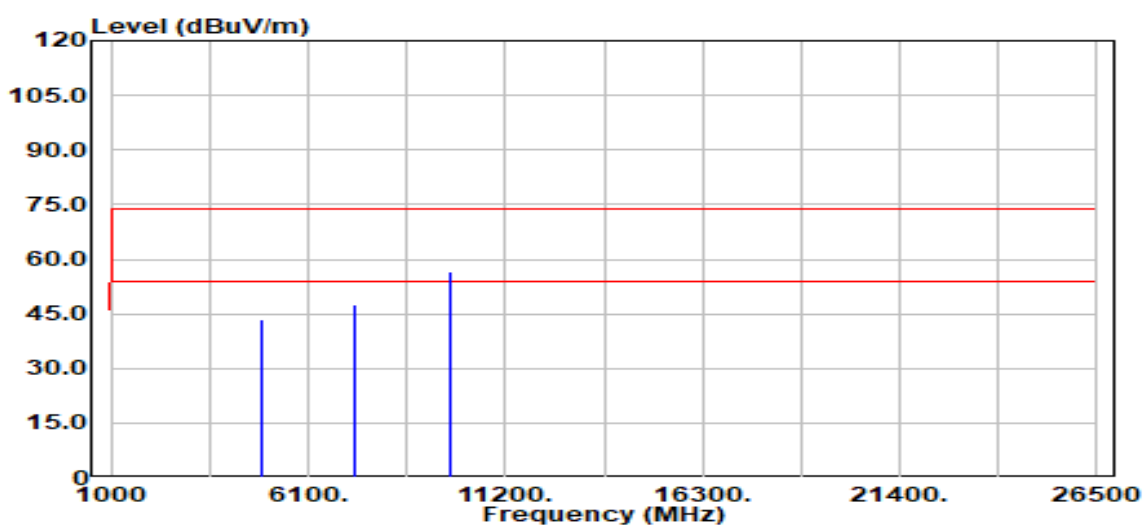
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4804.00	Peak	43.18	0.38	43.57	74.00	-30.43
4804.00	Average	34.05	0.38	34.43	54.00	-19.57
7206.00	Peak	42.08	5.33	47.41	74.00	-26.59
7206.00	Average	33.20	5.33	38.52	54.00	-15.48
9608.00	Peak	56.62	4.59	61.21	78.67	-17.46
9608.00	Average	53.82	4.59	58.41	78.46	-20.05

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2442 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



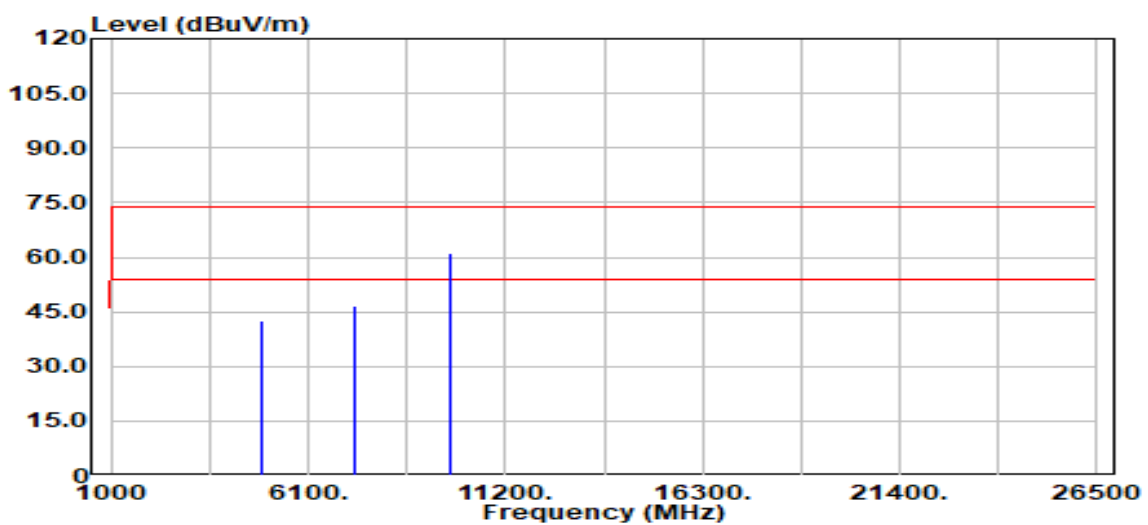
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4884.00	Peak	42.81	0.49	43.30	74.00	-30.70
4884.00	Average	34.15	0.49	34.64	54.00	-19.36
7326.00	Peak	42.12	5.48	47.60	74.00	-26.40
7326.00	Average	32.90	5.48	38.38	54.00	-15.62
9768.00	Peak	51.67	4.77	56.44	85.32	-28.88
9768.00	Average	48.44	4.77	53.20	85.10	-31.90

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2442 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



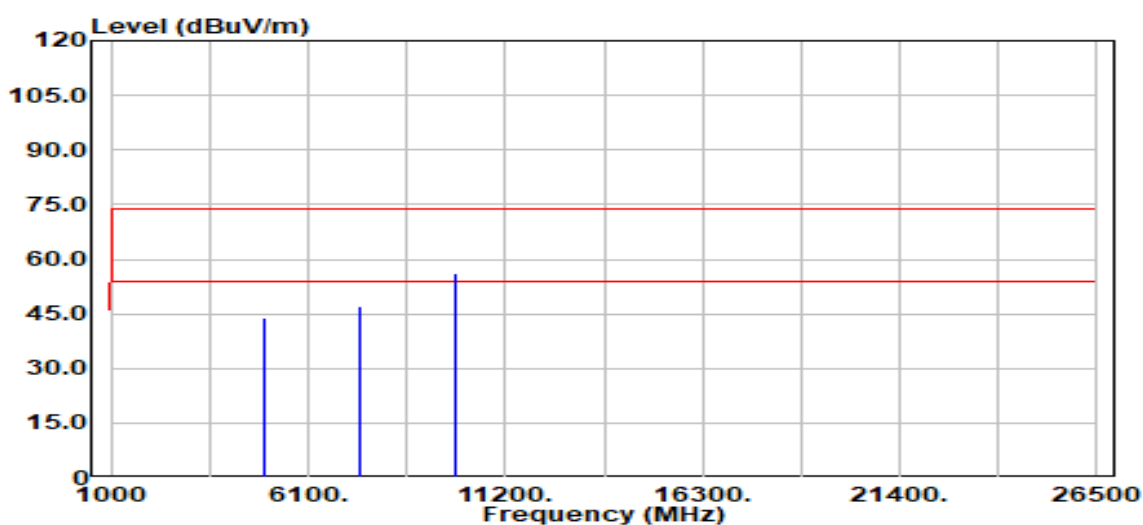
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4884.00	Peak	41.94	0.49	42.43	74.00	-31.57
4884.00	Average	34.44	0.49	34.93	54.00	-19.07
7326.00	Peak	40.95	5.48	46.43	74.00	-27.57
7326.00	Average	32.81	5.48	38.29	54.00	-15.71
9768.00	Peak	56.56	4.77	61.33	80.03	-18.70
9768.00	Average	53.77	4.77	58.54	79.75	-21.21

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



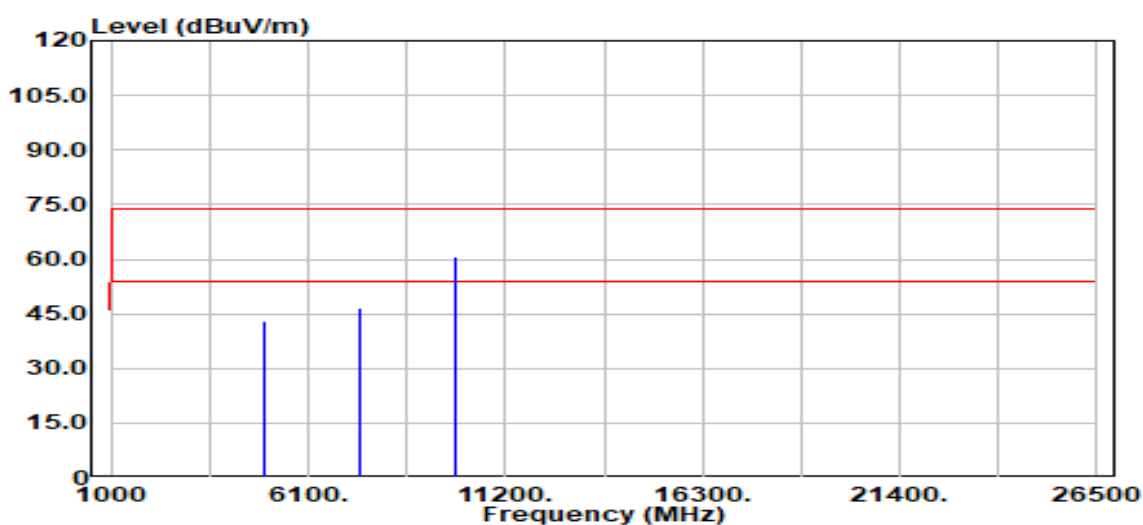
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4960.00	Peak	43.08	0.65	43.73	74.00	-30.27
4960.00	Average	34.12	0.65	34.76	54.00	-19.24
7440.00	Peak	41.36	5.56	46.93	74.00	-27.07
7440.00	Average	32.89	5.56	38.45	54.00	-15.55
9920.00	Peak	51.85	4.40	56.25	87.50	-31.25
9920.00	Average	48.69	4.40	53.09	87.28	-34.19

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Project No. :TM-2309000356P
Operation Band :BLE 1M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



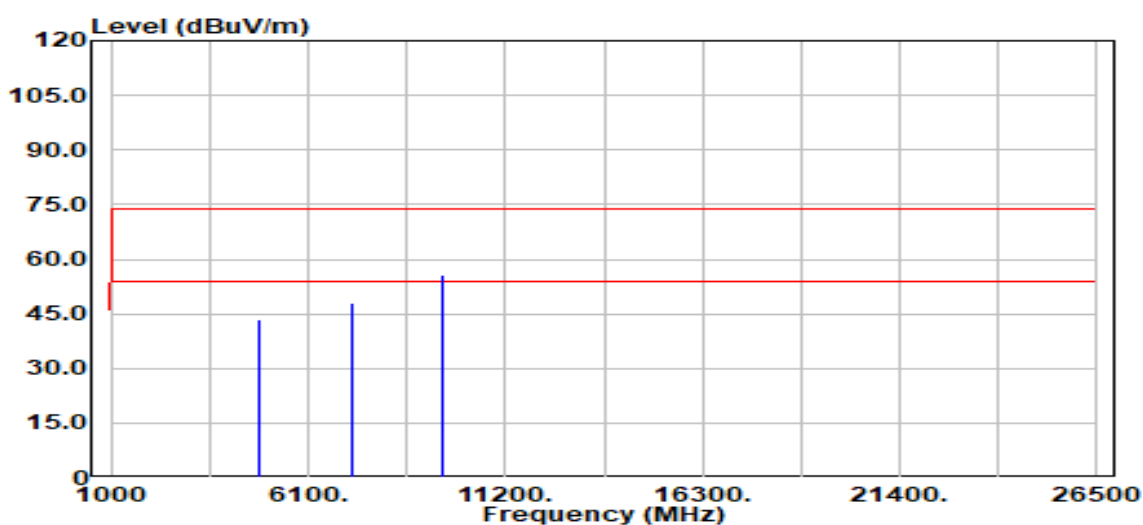
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4960.00	Peak	42.54	0.65	43.18	74.00	-30.82
4960.00	Average	34.48	0.65	35.13	54.00	-18.87
7440.00	Peak	40.89	5.56	46.45	74.00	-27.55
7440.00	Average	32.87	5.56	38.43	54.00	-15.57
9920.00	Peak	56.09	4.40	60.49	79.23	-18.74
9920.00	Average	53.30	4.40	57.70	78.98	-21.28

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



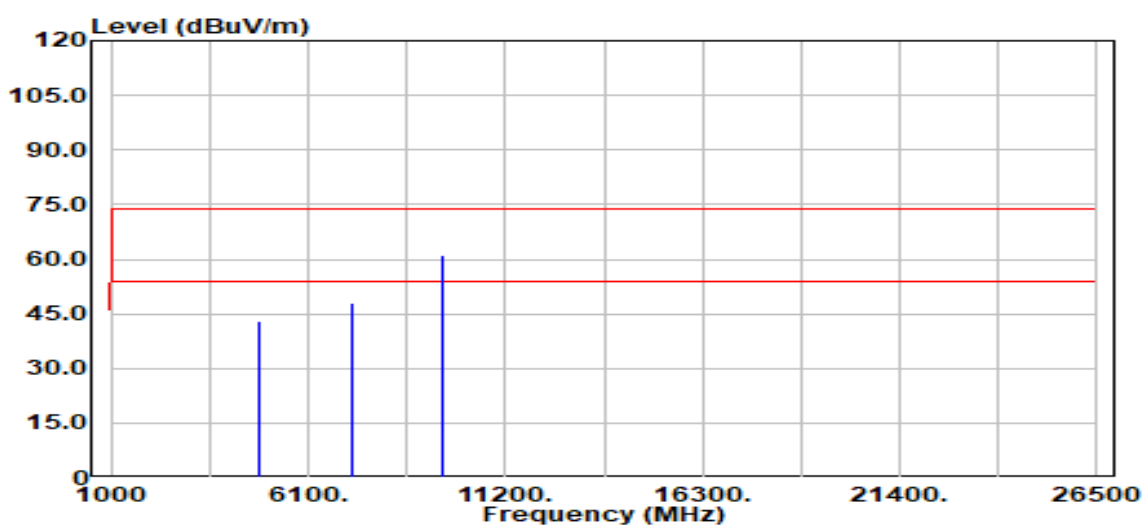
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4804.00	Peak	43.03	0.38	43.41	74.00	-30.59
4804.00	Average	34.83	0.38	35.22	54.00	-18.79
7206.00	Peak	42.49	5.33	47.82	74.00	-26.18
7206.00	Average	32.41	5.33	37.74	54.00	-16.26
9608.00	Peak	51.09	4.59	55.68	84.32	-28.64
9608.00	Average	47.43	4.59	52.02	83.09	-31.07

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2402 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



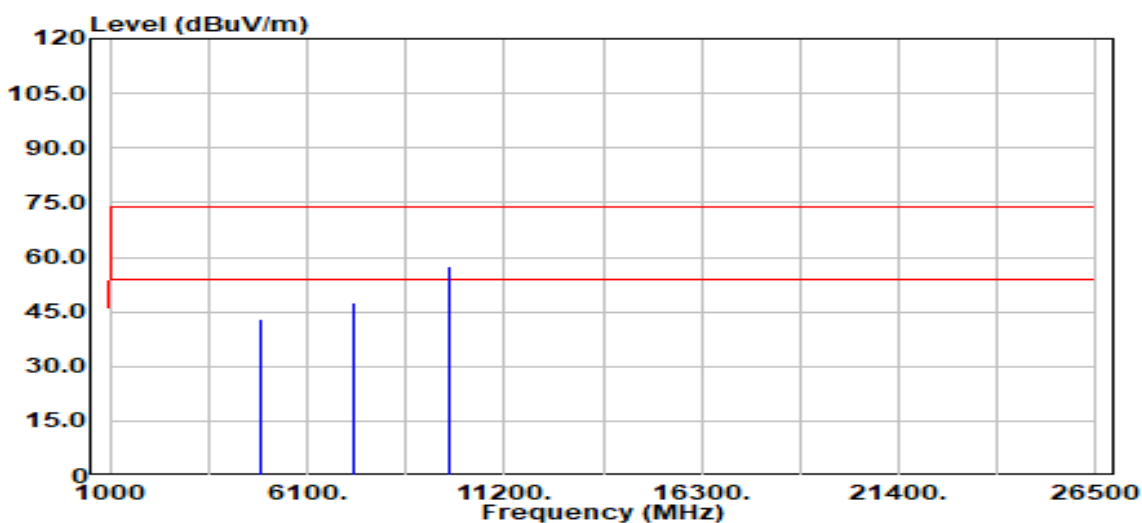
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4804.00	Peak	42.85	0.38	43.24	74.00	-30.76
4804.00	Average	35.52	0.38	35.90	54.00	-18.10
7206.00	Peak	42.65	5.33	47.98	74.00	-26.02
7206.00	Average	32.44	5.33	37.77	54.00	-16.23
9608.00	Peak	56.40	4.59	60.98	79.04	-18.06
9608.00	Average	53.42	4.59	58.00	77.84	-19.84

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2442 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



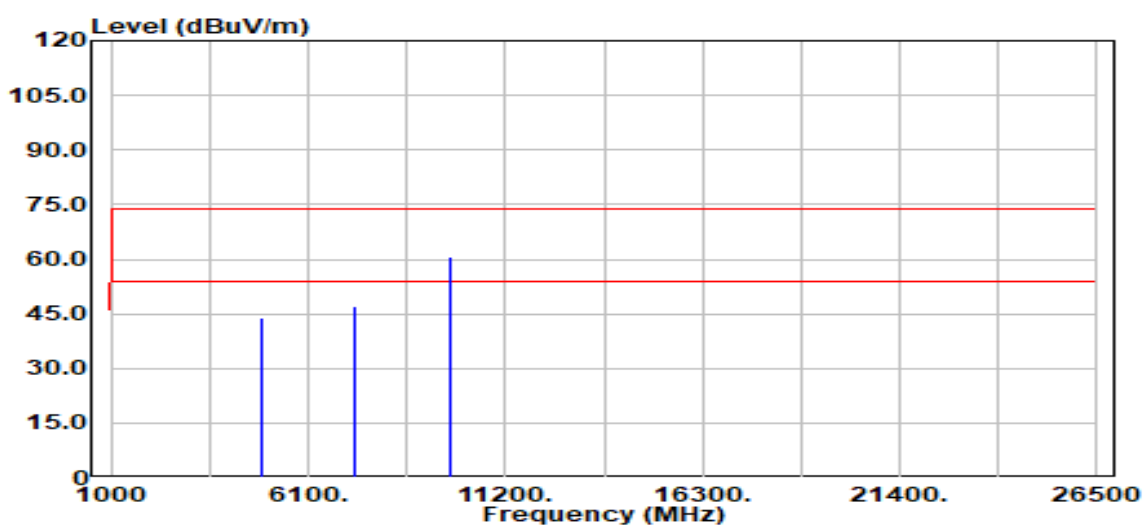
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4884.00	Peak	42.42	0.49	42.91	74.00	-31.09
4884.00	Average	33.49	0.49	33.98	54.00	-20.02
7326.00	Peak	42.09	5.48	47.57	74.00	-26.43
7326.00	Average	32.76	5.48	38.24	54.00	-15.76
9768.00	Peak	52.62	4.77	57.38	85.42	-28.04
9768.00	Average	48.97	4.77	53.74	84.25	-30.51

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2442 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

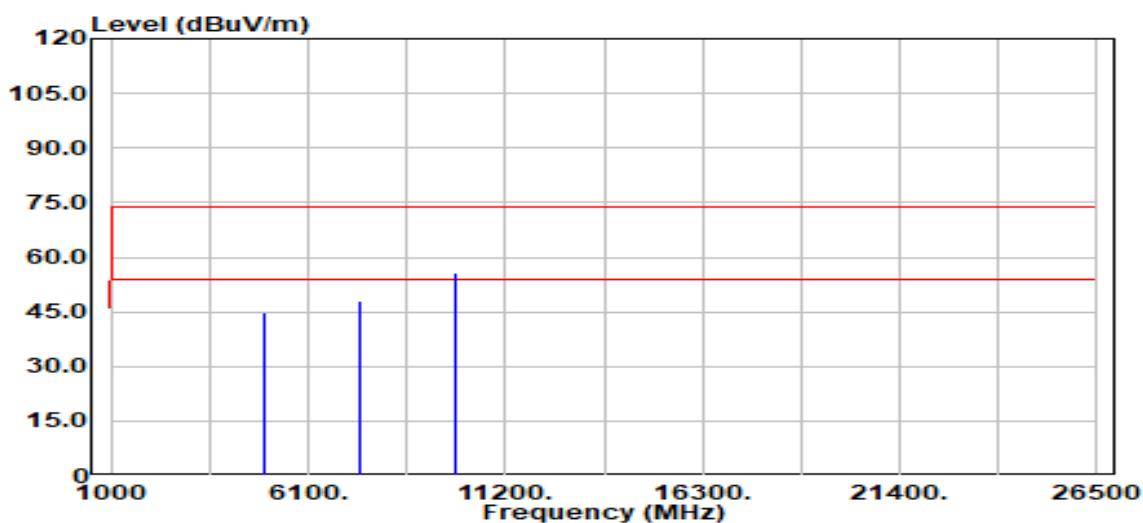
Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4884.00	Peak	43.64	0.49	44.13	74.00	-29.87
4884.00	Average	33.73	0.49	34.22	54.00	-19.78
7326.00	Peak	41.50	5.48	46.97	74.00	-27.03
7326.00	Average	32.58	5.48	38.06	54.00	-15.94
9768.00	Peak	55.93	4.77	60.70	79.98	-19.28
9768.00	Average	52.69	4.77	57.46	78.76	-21.30

Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :VERTICAL
Engineer :Czerny Lin
Test Chamber : 966D



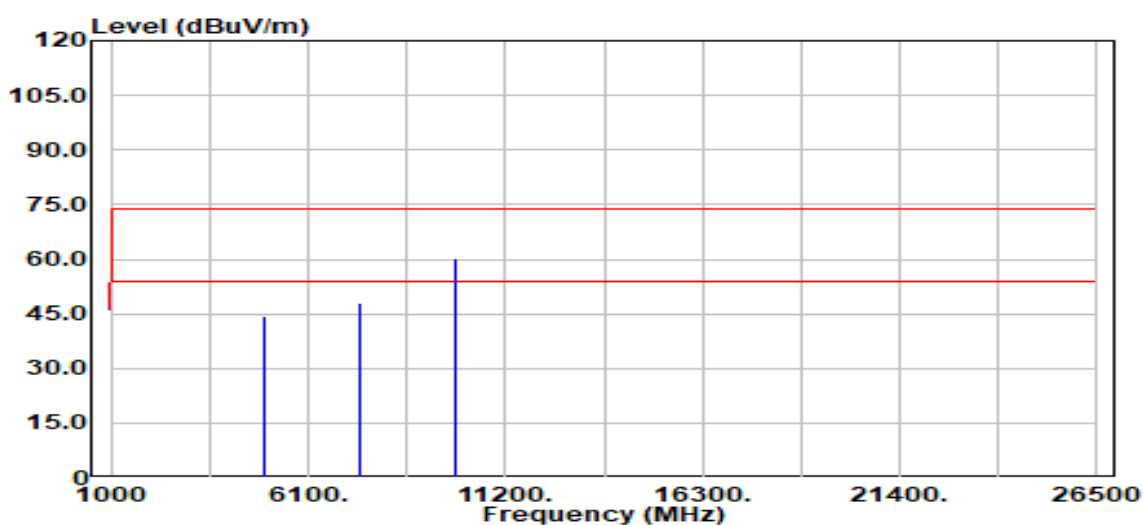
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4960.00	Peak	44.35	0.65	45.00	74.00	-29.00
4960.00	Average	32.79	0.65	33.44	54.00	-20.57
7440.00	Peak	42.40	5.56	47.96	74.00	-26.04
7440.00	Average	31.86	5.56	37.42	54.00	-16.58
9920.00	Peak	51.27	4.40	55.67	87.96	-32.29
9920.00	Average	48.31	4.40	52.71	86.76	-34.05

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Project No. :TM-2309000356P
Operation Band :BLE 2M
Frequency :2480 MHz
Operation Mode :TX
EUT Pol :H
Setting :7

Test Date :2023-10-12
Temp./Humi. :25.3/60
Antenna Pol. :HORIZONTAL
Engineer :Czerny Lin
Test Chamber : 966D



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Read Level dBuV	Factor dB	Actual FS dBuV/m	Limit dBuV/m	Margin dB
4960.00	Peak	43.95	0.65	44.59	74.00	-29.41
4960.00	Average	33.44	0.65	34.09	54.00	-19.91
7440.00	Peak	42.37	5.56	47.93	74.00	-26.07
7440.00	Average	32.30	5.56	37.86	54.00	-16.14
9920.00	Peak	55.78	4.40	60.18	81.90	-21.72
9920.00	Average	52.94	4.40	57.34	80.64	-23.31

- End of Test Report -