

## RF MEASUREMENT REPORT

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**FCC ID** : BKMAE-STI6290  
**APPLICANT** : SEIKO EPSON CORPORATION  
**Product** : WLAN / BT Module  
**Model No.** : STI6290-D101  
**Brand Name** : EPSON  
**FCC Classification** : Digital Transmission System (DTS)  
**FCC Rule Part(s)** : Part15 Subpart C (Section 15.247)  
**Result** : Complies  
**Received Date** : January 30, 2023  
**Test Date** : February 2, 2023 ~ March 6, 2023

**Tested By** : Owen Tsai  
( Owen Tsai )  
**Reviewed By** : Paddy Chen  
( Paddy Chen )  
**Approved By** : Chenz Ker  
( Chenz Ker )



The test results only relate to the tested sample.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

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### Revision History

Report No.	Version	Description	Issue Date	Note
2301TW0110-U2	1.0	Original Report	2023-03-23	Valid

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## General Information

<b>Applicant</b>	SEIKO EPSON CORPORATION
<b>Applicant Address</b>	3-3-5, Owa, Suwa-shi, Nagano-ken 392-8502 Japan
<b>Manufacturer</b>	SEIKO EPSON CORPORATION
<b>Manufacturer Address</b>	3-3-5, Owa, Suwa-shi, Nagano-ken 392-8502 Japan
<b>Test Site</b>	MRT Technology (Taiwan) Co., Ltd
<b>Test Site Address</b>	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
<b>MRT FCC Registration No.</b>	291082
<b>FCC Rule Part(s)</b>	Part 15.247
<b>Test Device Serial No.</b>	41DAC012992 (BLE-1M/S2/S8) 41DAC012996 (BLE-2M)

## Test Facility / Accreditations

1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.

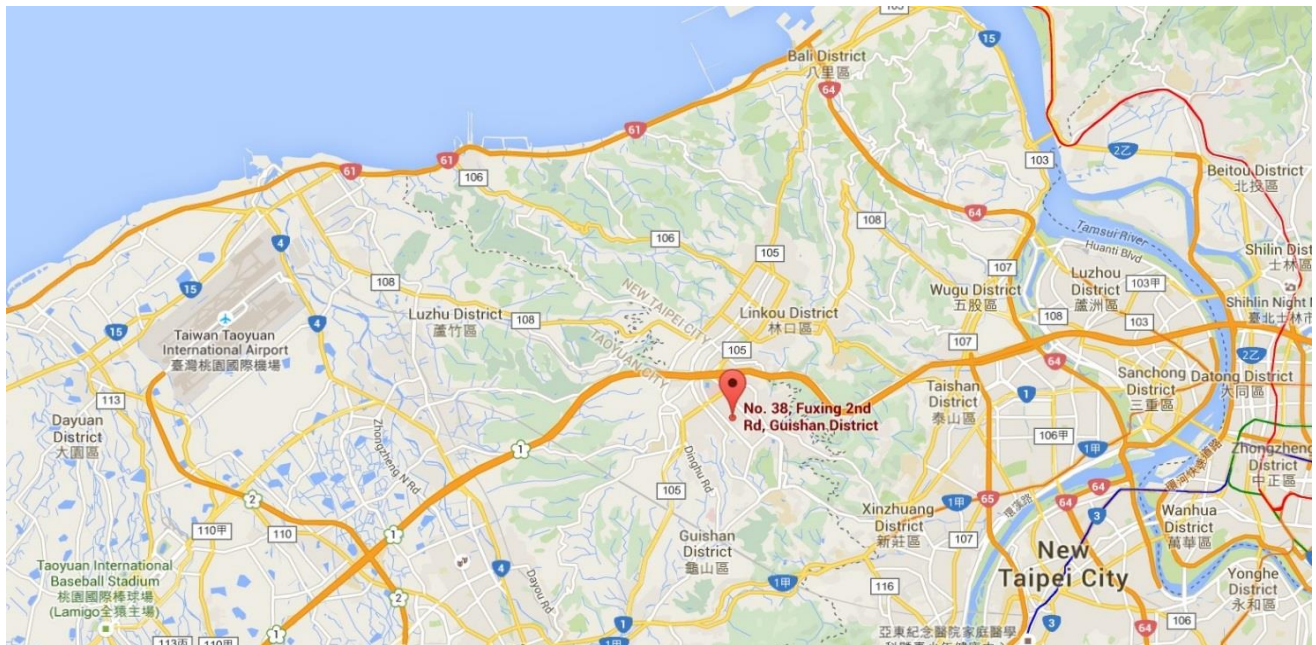
# 1. INTRODUCTION

## 1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

## 1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



## 2. PRODUCT INFORMATION

### 2.1. Equipment Description

Product Name	WLAN / BT Module
Model No.	STI6290-D101
Brand Name	EPSON
Supports Radios Spec.	WLAN: 802.11a/b/g/n/ac WPAN: Bluetooth V5.0 (Dual Mode)
Working Voltage	DC 5V

### 2.2. Product Specification Subjective to this Standard

Operating Frequency	2402~2480MHz
Type of modulation	GFSK
Data Rate	1Mbps / 2Mbps / S2 / S8
Antenna Type	PIFA
Antenna Gain	2.74dBi

### 2.3. Operation Frequency / Channel List

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz
03	2408 MHz	04	2410 MHz	05	2412 MHz
06	2414 MHz	07	2416 MHz	08	2418 MHz
09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz
15	2432 MHz	16	2434 MHz	17	2436 MHz
18	2438 MHz	19	2440 MHz	20	2442 MHz
21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz
27	2456 MHz	28	2458 MHz	29	2460 MHz
30	2462 MHz	31	2464 MHz	32	2466 MHz
33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz
39	2480 MHz	N/A	N/A	N/A	N/A

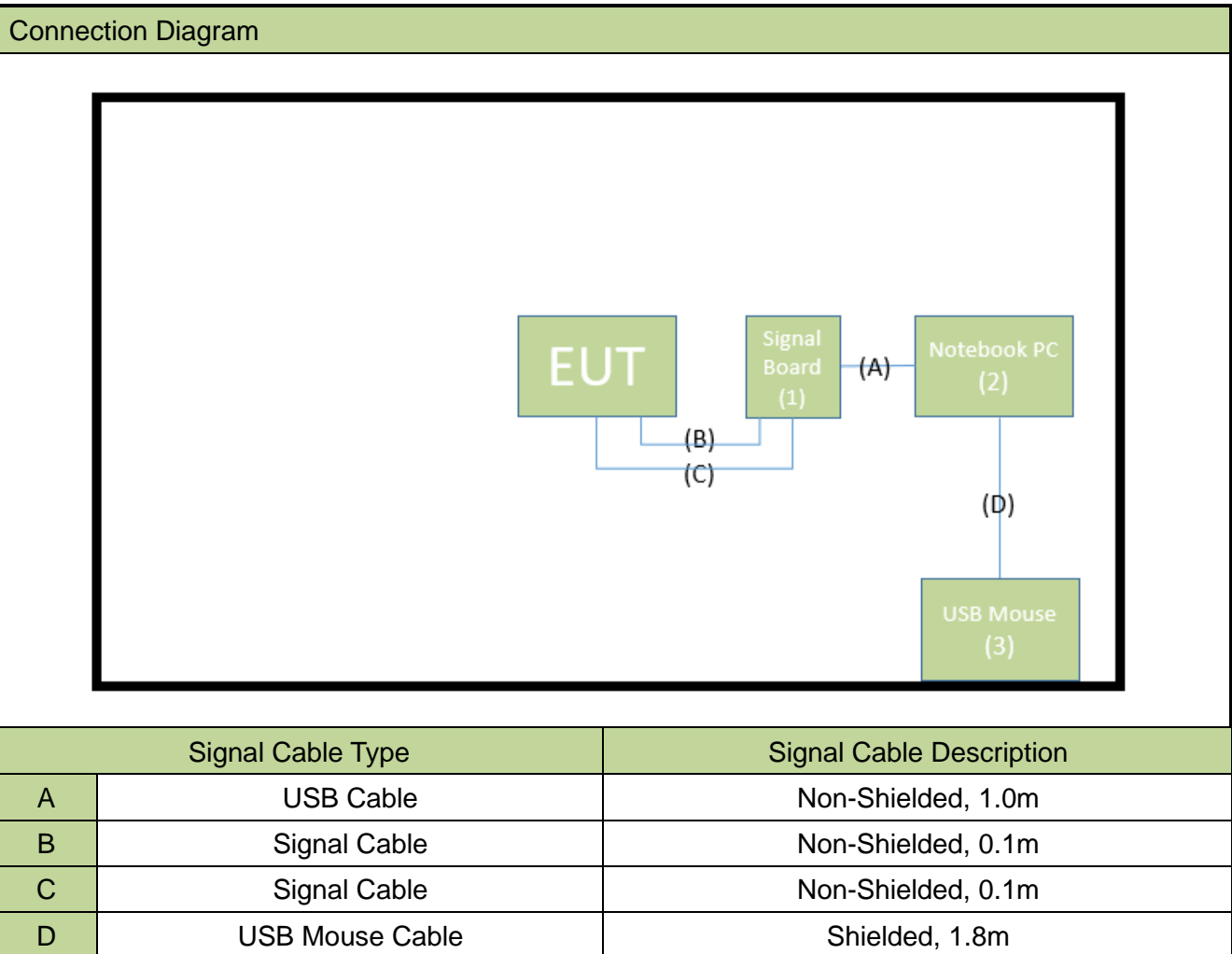
### 2.4. Test Mode

Mode 1: Transmit - LE (1Mbps)  
 Mode 2: Transmit - LE (2Mbps)  
 Mode 3: Transmit - LE (Coded S=2)  
 Mode 4: Transmit - LE (Coded S=8)



## 2.5. Test Configuration

This device was tested per the guidance of ANSI C63.10-2013. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.



## 2.6. Test System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

No.	Product	Manufacturer	Model No.	S/N	Cable Description
1	Signal Board	Askey	STI6290-D101(RoHS)-EVB	N/A	N/A
2	Notebook PC	Lenovo	20Y7-006KTW	N/A	Non-shielded, 0.8m
3	USB Mouse	Logitech	M90	N/A	N/A

## 2.7. Test Software

The test utility software used during testing was “RTLBTAPP version: 5.2.3.44”.

## 2.8. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.247
- KDB 558074 D01v05r02
- ANSI C63.10-2013

## 2.9. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

## 2.10. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

### **3. DESCRIPTION of TEST**

#### **3.1. Evaluation Procedure**

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and were used in the measurement of the device.

#### **3.2. AC Line Conducted Emissions**

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment which determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

### 3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, which produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

## 4. ANTENNA REQUIREMENTS

### **Excerpt from §15.203 of the FCC Rules/Regulations:**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device uses the unique **I-PEX** connector.

### **Conclusion:**

The EUT unit complies with the requirement of §15.203.

## 5. TEST EQUIPMENT CALIBRATION DATE

### Conducted Emissions – SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2023/4/20
Cable	Rosnol	N1C50-RG400-B 1C50-500CM	MRTTWE00013	1 year	2023/6/19
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/3/9

### Radiated Emissions – AC2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2023/12/21
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/3/9
Signal Analyzer	R&S	FSVA3044	MRTTWA00092	1 year	2023/6/23
Active Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2023/5/24
Broadband Hornantenna	RFSPIN	DRH18-E	MRTTWA00087	1 year	2023/5/10
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2023/3/29
Broadband Preampfier	EMC Instruments corporation	EMC118A45SE	MRTTWA00088	1 year	2023/5/9
Broadband Preampfier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2023/3/30
Cable	HUBERSUHNER	SF106	MRTTWE00034	1 year	2023/6/27

### Conducted Test Equipment – SR5

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2023/10/5
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2023/7/19
USB Wideband Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2023/3/16

### Test Software

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	V3	EMI Test Software

## 6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

<b>Conducted Emission- Power Line</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 0.15MHz~30MHz: $\pm 2.53\text{dB}$
<b>Radiated Spurious Emission</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): 9kHz~30MHz: $\pm 3.92\text{dB}$ 30MHz~1GHz: $\pm 4.25\text{dB}$ 1GHz~18GHz: $\pm 4.40\text{dB}$ 18GHz~40GHz: $\pm 4.45\text{dB}$
<b>Frequency Error</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 78.4\text{Hz}$
<b>Conducted Power</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 0.84\text{dB}$
<b>Conducted Spurious Emission</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 2.65\text{ dB}$
<b>Occupied Bandwidth</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 3.3\%$
<b>Temp. / Humidity</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 0.82^\circ\text{C}/ \pm 3\%$
<b>DC Voltage</b>
Measuring Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ): $\pm 0.3\%$

## 7. TEST RESULT

### 7.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Density		Pass
15.247(d)	Out-of-Band Spurious Emission		Pass
15.205 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

#### Notes:

- 1) Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
- 2) For radiated emission test, every axis (X, Y, Z) was also verified when applicable. The test results shown in the following sections represent the worst-case emissions.
- 3) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 4) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.



## 7.2. 6dB Bandwidth Measurement

### 7.2.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

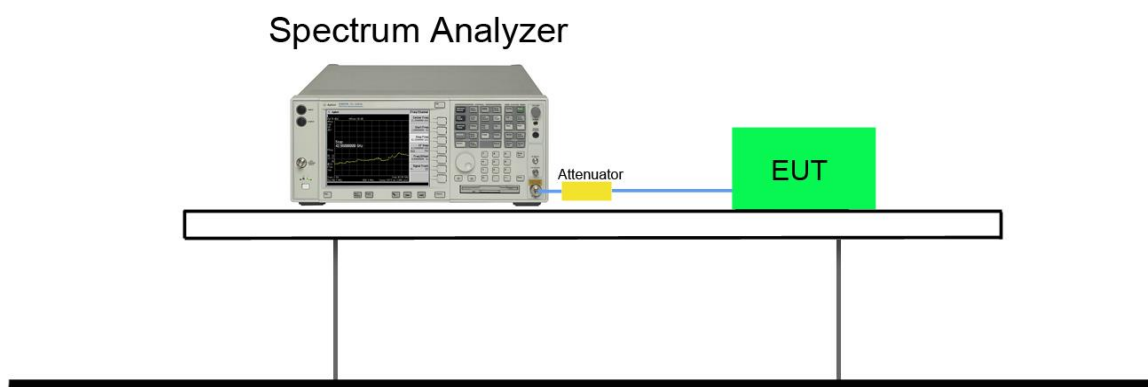
### 7.2.2. Test Procedure used

ANSI C63.10 - 2013 - Section 11.8

### 7.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to  $X = 6$ . The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3.  $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace was allowed to stabilize

### 7.2.4. Test Setup

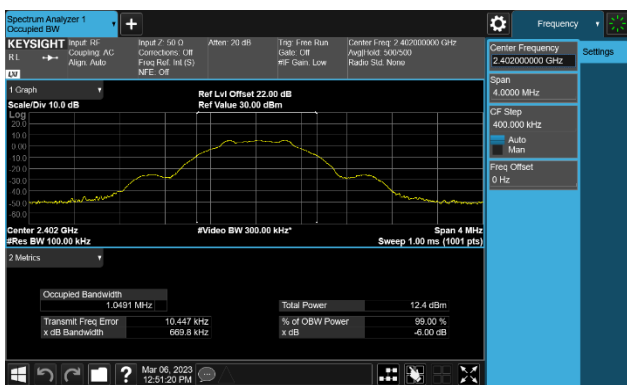


### 7.2.5. Test Result

Product	WLAN / BT Module	Test Engineer	Peter
Test Site	SR2	Test Date	2023/3/6

Test Mode	Channel No.	Frequency (MHz)	6dB Bandwidth (KHz)	Limit (KHz)	Result
LE 1Mbps	00	2402	669.8	≥ 500	Pass
	19	2440	670.4	≥ 500	Pass
	39	2480	664.0	≥ 500	Pass
LE-2Mbps	00	2402	1096.0	≥ 500	Pass
	19	2440	1172.0	≥ 500	Pass
	39	2480	1274.0	≥ 500	Pass
LE Coded S=2	00	2402	667.2	≥ 500	Pass
	19	2440	664.7	≥ 500	Pass
	39	2480	649.1	≥ 500	Pass
LE Coded S=8	00	2402	632.0	≥ 500	Pass
	19	2440	662.1	≥ 500	Pass
	39	2480	657.9	≥ 500	Pass

### CH00 (2402MHz) LE(1Mbps)



### CH19 (2440MHz) LE(1Mbps)



### CH39 (2480MHz) LE(1Mbps)



### CH00 (2402MHz) LE(2Mbps)



### CH19 (2440MHz) LE(2Mbps)



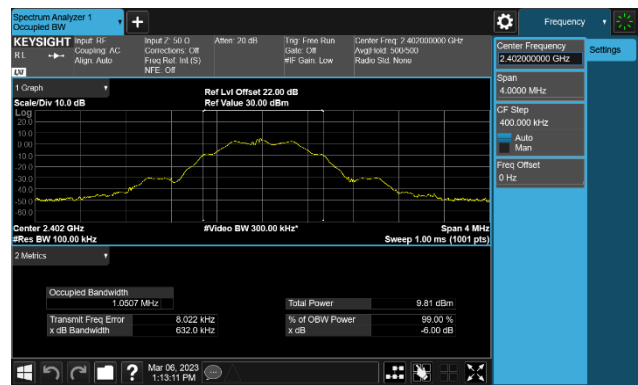
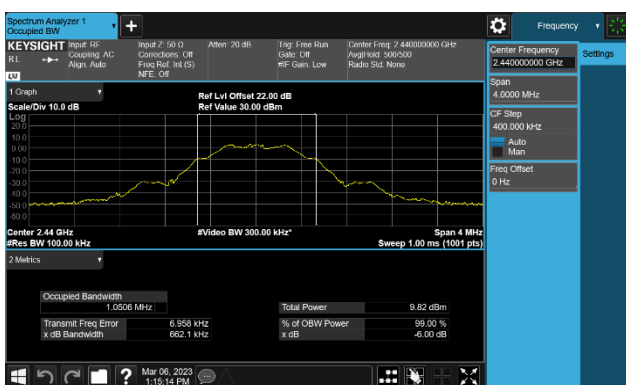
### CH39 (2480MHz) LE(2Mbps)



**CH00 (2402MHz) LE(Coded S=2)**

**CH19 (2440MHz) LE(Coded S=2)**

**CH39 (2480MHz) LE(Coded S=2)**

**CH00 (2402MHz) LE(Coded S=8)**

**CH19 (2440MHz) LE(Coded S=8)**

**CH39 (2480MHz) LE(Coded S=8)**


## 7.3. Output Power Measurement

### 7.3.1. Test Limit

The maximum out power shall be less 1 Watt (30dBm).

### 7.3.2. Test Procedure Used

ANSI C63.10 - 2013 - Section 11.9.1.3

ANSI C63.10 - 2013 - Section 11.9.2.3.2

### 7.3.3. Test Setting

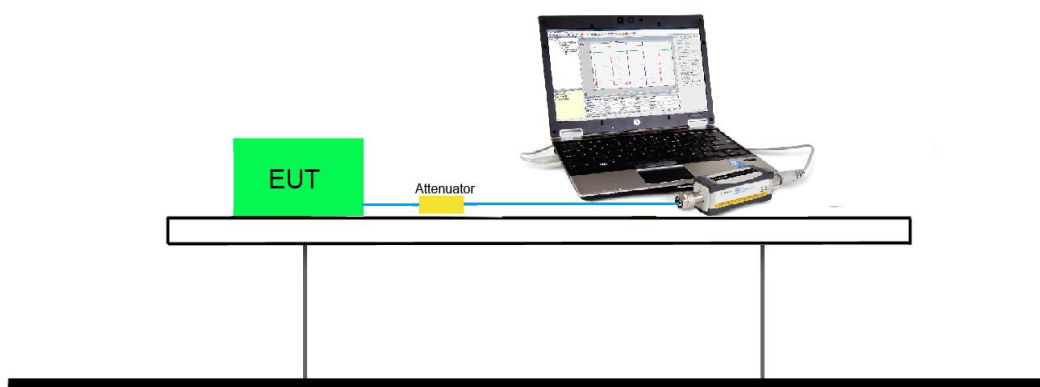
#### Peak Power Measurement

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

#### Average Power Measurement

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

### 7.3.4. Test Setup



### 7.3.5. Test Result

Product	WLAN / BT Module	Test Engineer	Peter
Test Site	SR2	Test Date	2023/3/6

Test Mode	Channel No.	Frequency (MHz)	Average Power (dBm)	Peak Power (dBm)	Power Limit (dBm)
LE 1Mbps	00	2402	5.98	7.00	≤ 30
	19	2440	5.87	6.91	≤ 30
	39	2480	6.06	7.04	≤ 30
LE 2Mbps	00	2402	6.57	7.94	≤ 30
	19	2440	6.46	7.88	≤ 30
	39	2480	6.42	7.77	≤ 30
LE Coded S=2	00	2402	5.97	7.03	≤ 30
	19	2440	5.88	6.97	≤ 30
	39	2480	6.09	7.15	≤ 30
LE Coded S=8	00	2402	5.87	6.88	≤ 30
	19	2440	5.78	6.84	≤ 30
	39	2480	6.02	7.04	≤ 30

Note 1: Output power = Reading value on power meter + cable loss.

Note 2: Antenna Gain: 2.74dBi.

## 7.4. Power Spectral Density Measurement

### 7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

### 7.4.2. Test Procedure Used

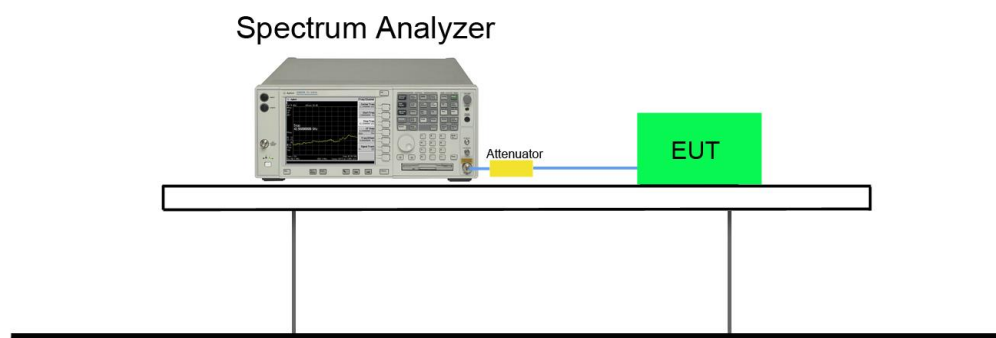
ANSI C63.10 - 2013 Section 11.10.2

### 7.4.3. Test Setting

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: 3 kHz.
4. Set the VBW  $\geq 3 \times$  RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.

### 7.4.4. Test Setup



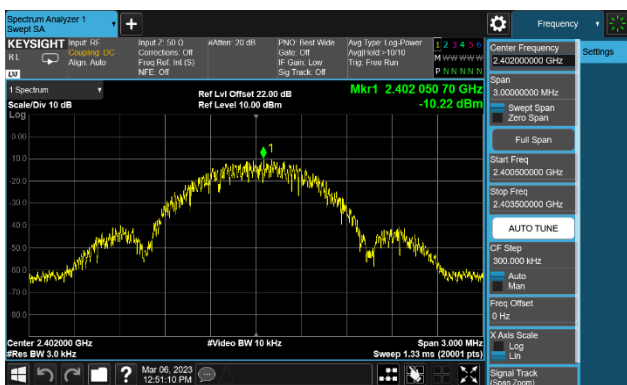
### 7.4.5. Test Result

Product	WLAN / BT Module	Test Engineer	Peter
Test Site	SR2	Test Date	2023/3/6

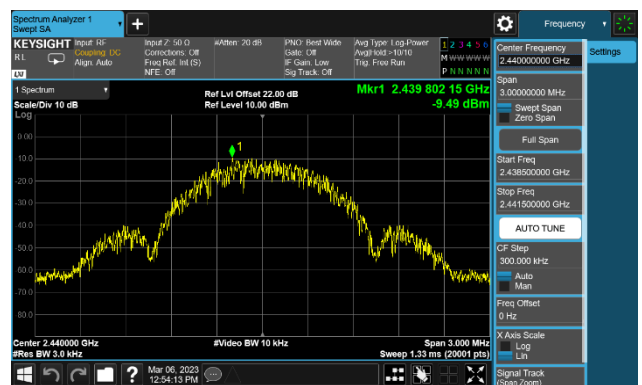
Test Mode	Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
LE 1Mbps	00	2402	-10.22	≤ 8	Pass
	19	2440	-9.49	≤ 8	Pass
	39	2480	-8.80	≤ 8	Pass
LE 2Mbps	00	2402	-12.00	≤ 8	Pass
	19	2440	-12.00	≤ 8	Pass
	39	2480	-12.63	≤ 8	Pass
LE Coded S=2	00	2402	-0.37	≤ 8	Pass
	19	2440	-0.38	≤ 8	Pass
	39	2480	-0.28	≤ 8	Pass
LE Coded S=8	00	2402	0.24	≤ 8	Pass
	19	2440	0.19	≤ 8	Pass
	39	2480	0.34	≤ 8	Pass



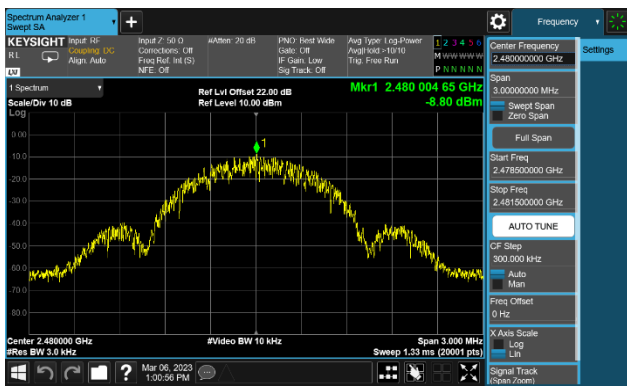
### CH00 (2402MHz) LE(1Mbps)



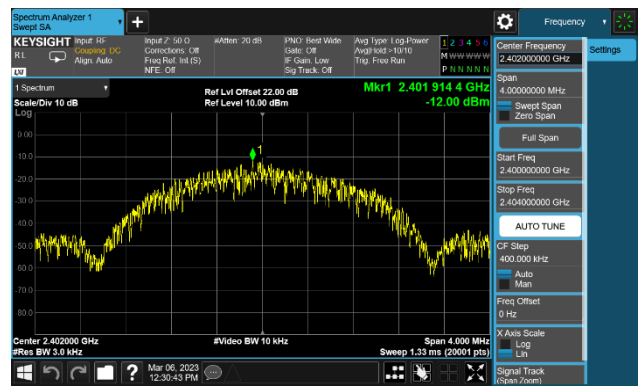
### CH19 (2440MHz) LE(1Mbps)



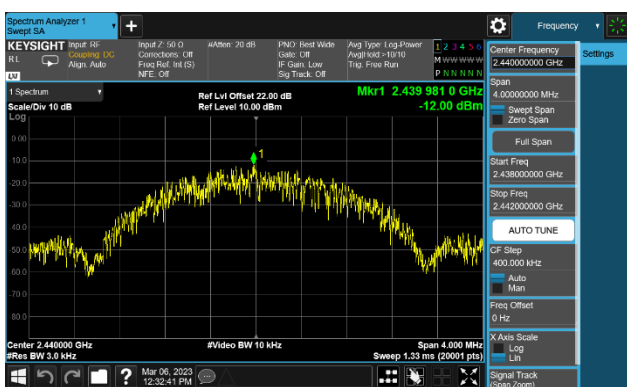
### CH39 (2480MHz) LE(1Mbps)



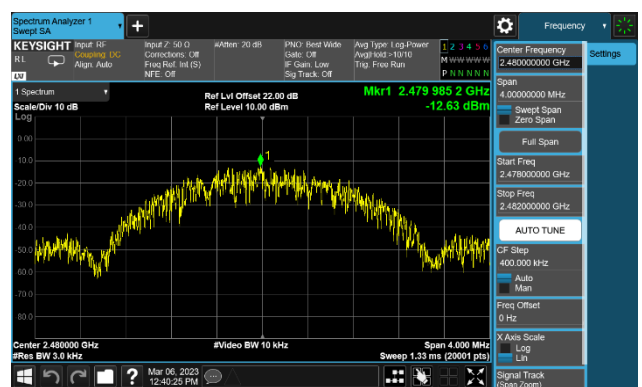
### CH00 (2402MHz) LE(2Mbps)



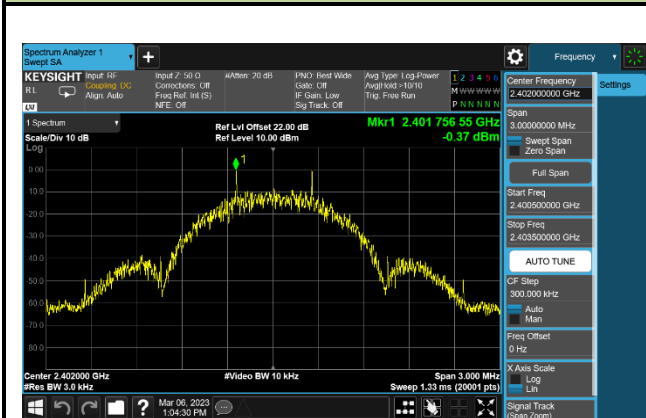
### CH19 (2440MHz) LE(2Mbps)



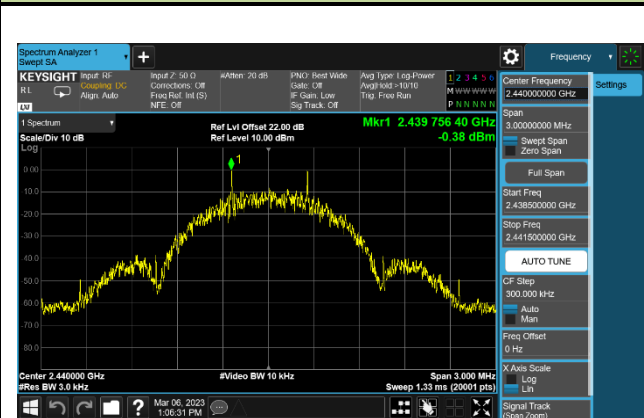
### CH39 (2480MHz) LE(2Mbps)



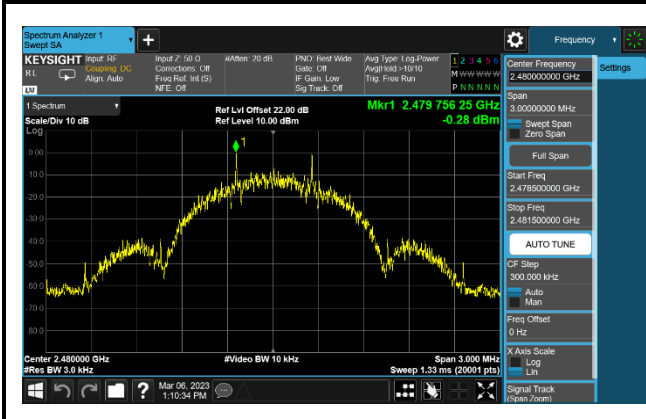
### CH00 (2402MHz) LE(Coded S=2)



### CH19 (2440MHz) LE(Coded S=2)



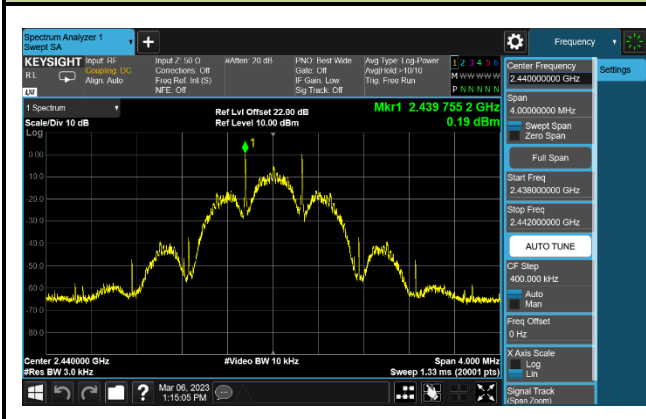
### CH39 (2480MHz) LE(Coded S=2)



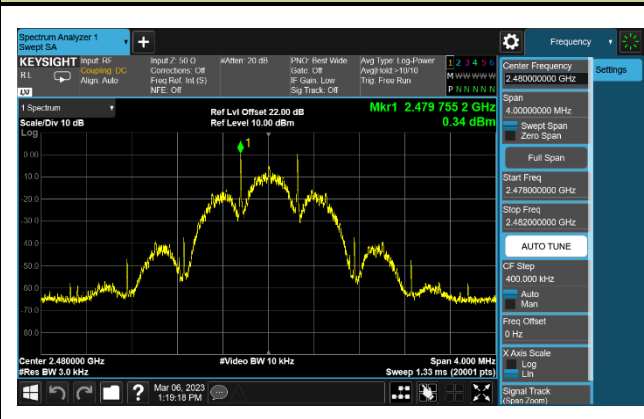
### CH00 (2402MHz) LE(Coded S=8)



### CH19 (2440MHz) LE(Coded S=8)



### CH39 (2480MHz) LE(Coded S=8)



## 7.5. Out-of-Band Spurious Emissions Measurement

### 7.5.1. Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on RF conducted measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

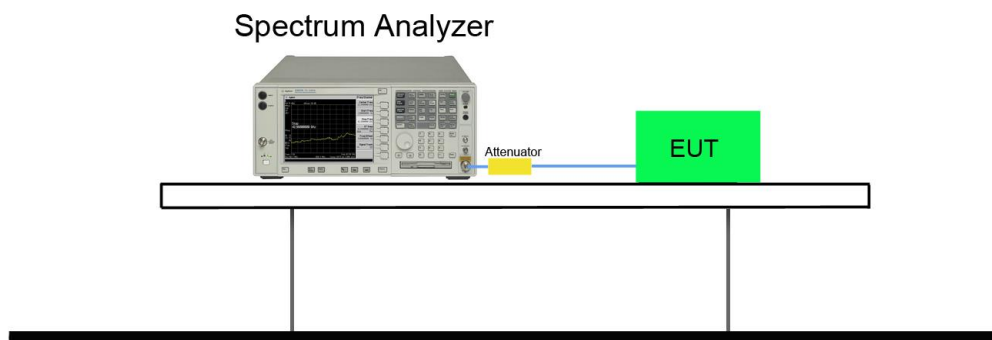
### 7.5.2. Test Procedure Used

ANSI C63.10 - Section 11.11 & 11.12

### 7.5.3. Test Setting

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to  $\geq 1.5$  times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW  $\geq 3 \times$  RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

### 7.5.4. Test Setup

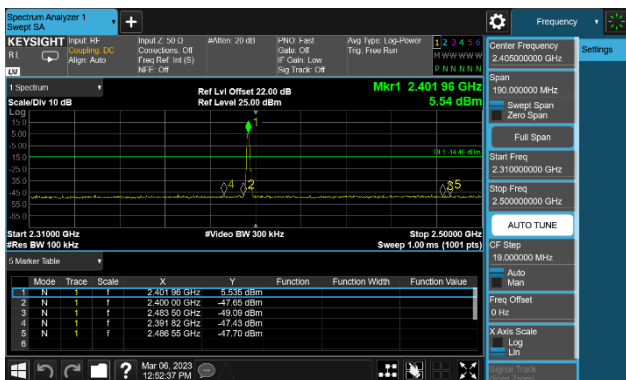


**7.5.5. Test Result**

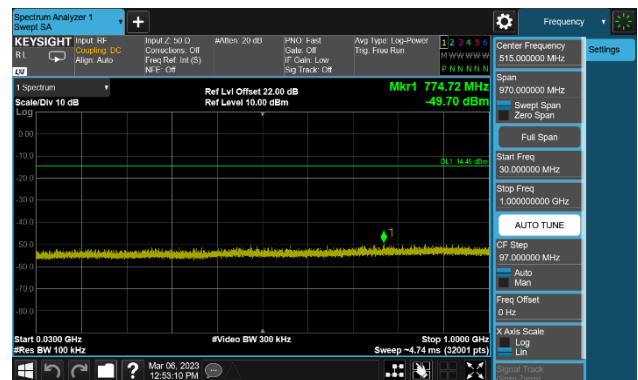
Product	WLAN / BT Module	Test Engineer	Peter
Test Site	SR2	Test Date	2023/3/6

Test Mode	Channel No.	Frequency (MHz)	Limit	Result
LE 1Mbps	00	2402	$\geq 20\text{dBc}$	Pass
	19	2440	$\geq 20\text{dBc}$	Pass
	39	2480	$\geq 20\text{dBc}$	Pass
LE 2Mbps	00	2402	$\geq 20\text{dBc}$	Pass
	19	2440	$\geq 20\text{dBc}$	Pass
	39	2480	$\geq 20\text{dBc}$	Pass
LE Coded S=2	00	2402	$\geq 20\text{dBc}$	Pass
	19	2440	$\geq 20\text{dBc}$	Pass
	39	2480	$\geq 20\text{dBc}$	Pass
LE Coded S=8	00	2402	$\geq 20\text{dBc}$	Pass
	19	2440	$\geq 20\text{dBc}$	Pass
	39	2480	$\geq 20\text{dBc}$	Pass

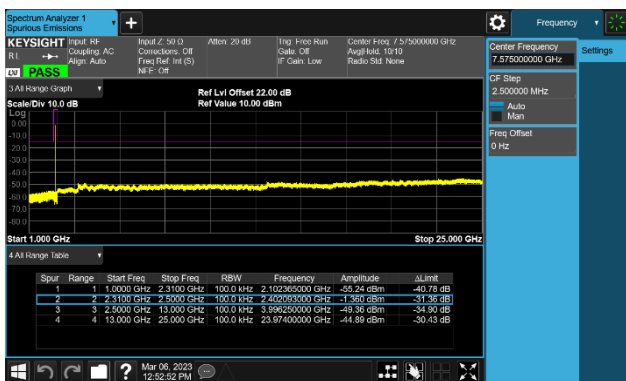
### CH00 (2402MHz) LE(1Mbps)



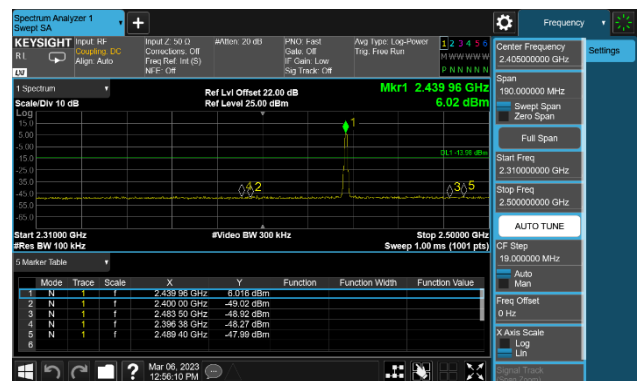
### CH00 (2402MHz) LE(1Mbps)



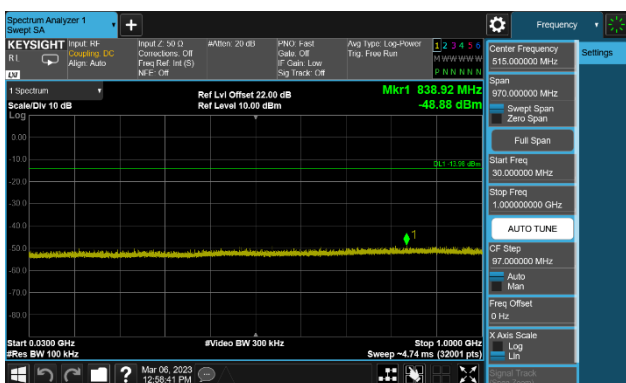
### CH00 (2402MHz) LE(1Mbps)



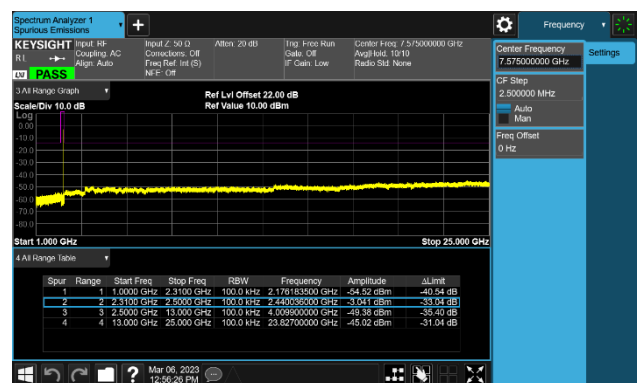
### CH19 (2440MHz) LE(1Mbps)



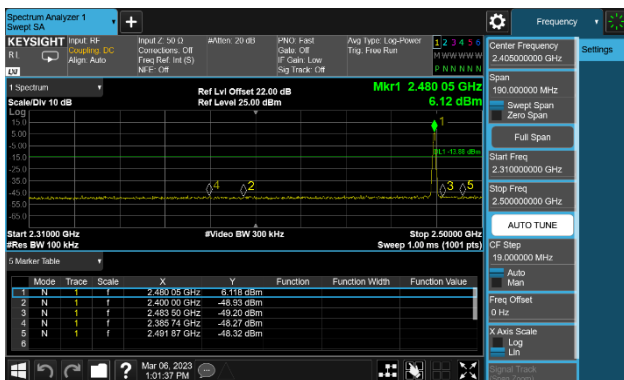
### CH19 (2440MHz) LE(1Mbps)



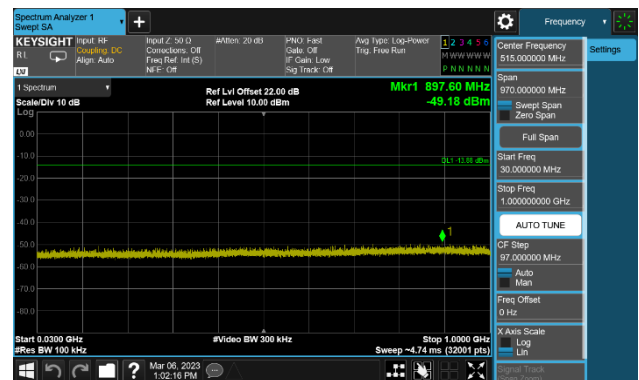
### CH19 (2440MHz) LE(1Mbps)



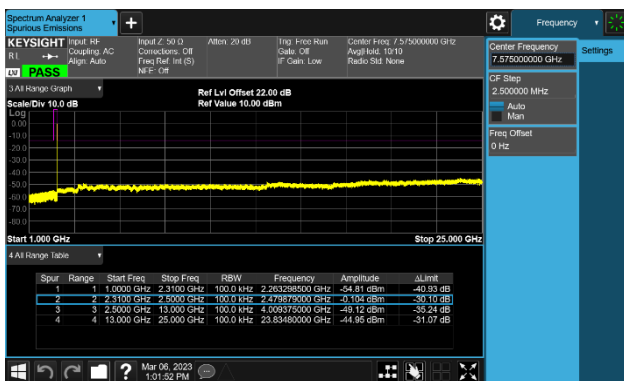
### CH39 (2480MHz) LE(1Mbps)



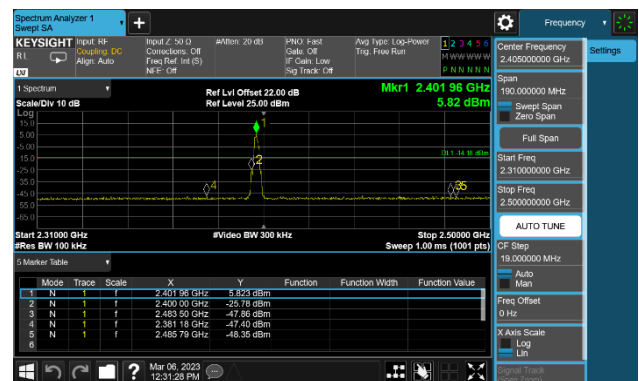
### CH39 (2480MHz) LE(1Mbps)



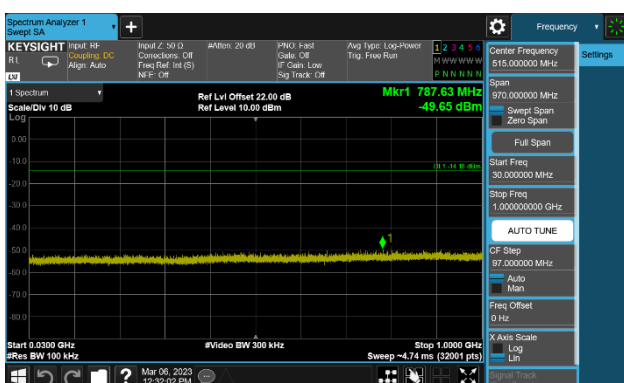
### CH39 (2480MHz) LE(1Mbps)



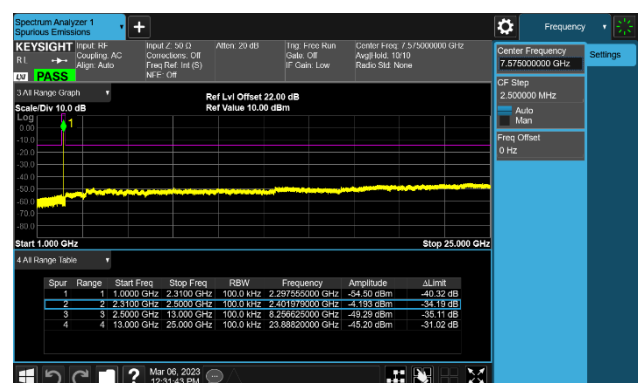
### CH00 (2402MHz) LE(2Mbps)



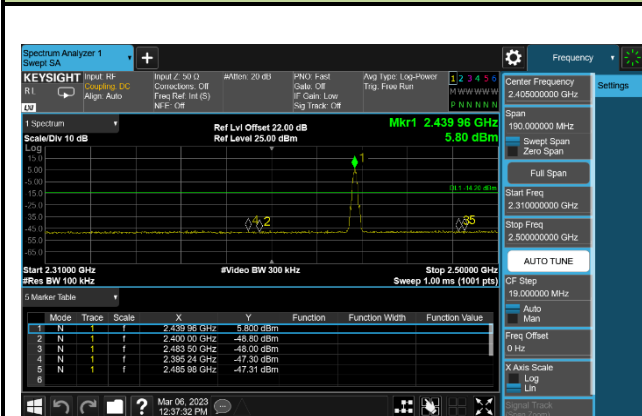
### CH00 (2402MHz) LE(2Mbps)



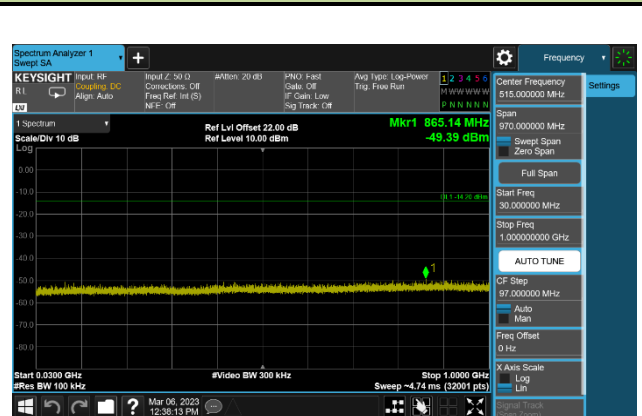
### CH00 (2402MHz) LE(2Mbps)



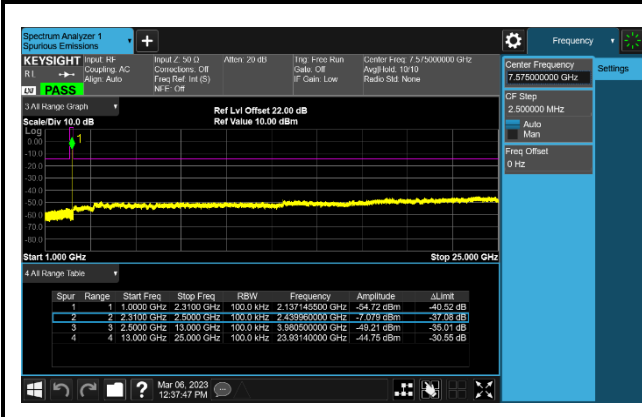
### CH19 (2440MHz) LE(2Mbps)



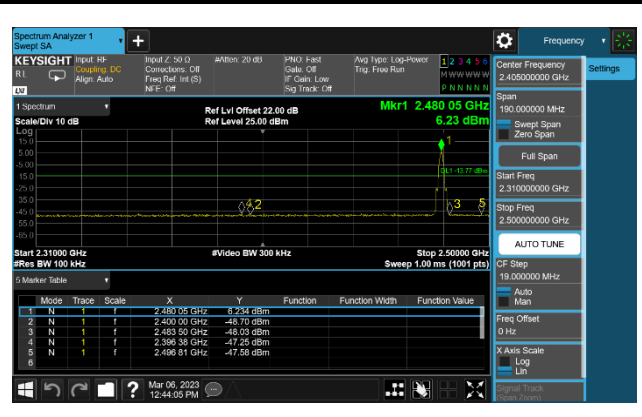
### CH19 (2440MHz) LE(2Mbps)



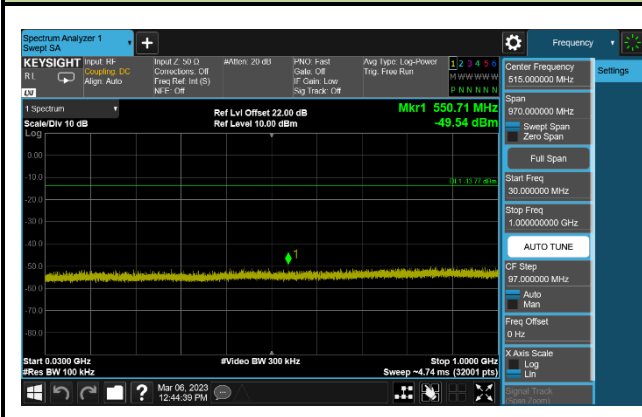
### CH19 (2440MHz) LE(2Mbps)



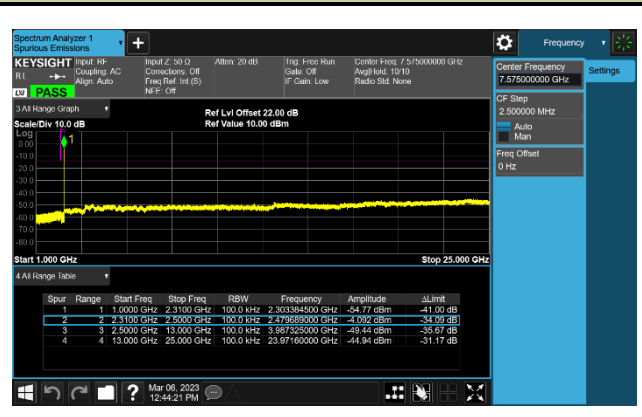
### CH39 (2480MHz) LE(2Mbps)



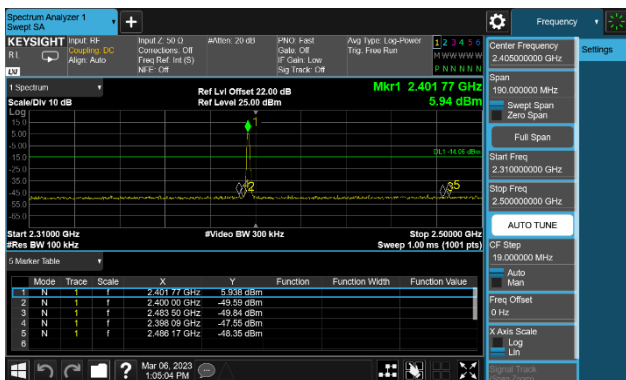
### CH39 (2480MHz) LE(2Mbps)



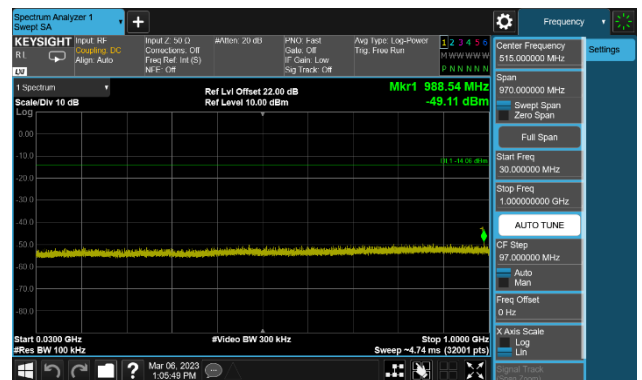
### CH39 (2480MHz) LE(2Mbps)



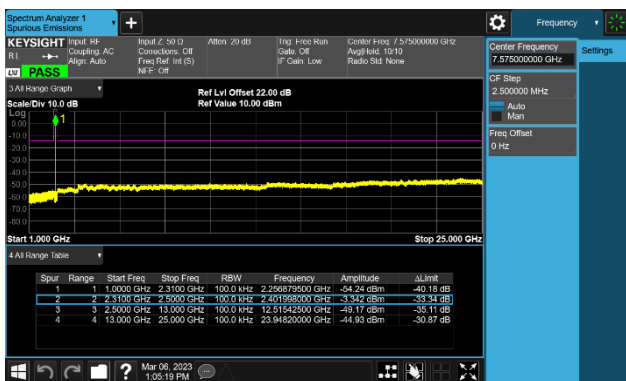
### CH00 (2402MHz) LE(Coded S=2)



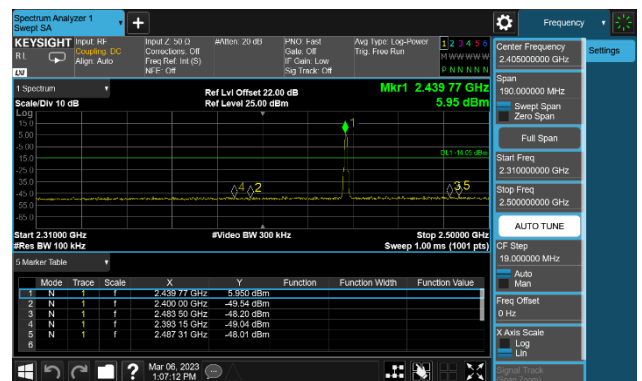
### CH00 (2402MHz) LE(Coded S=2)



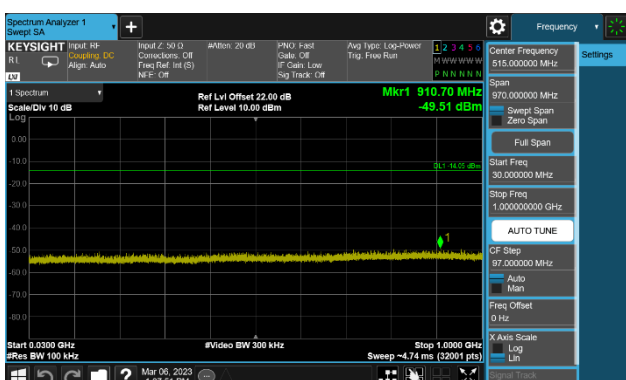
### CH00 (2402MHz) LE(Coded S=2)



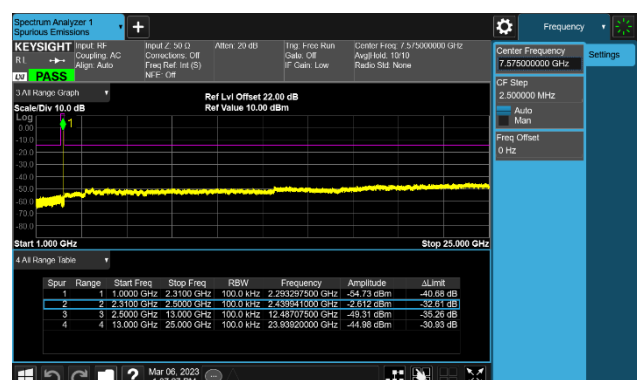
### CH19 (2440MHz) LE(Coded S=2)



### CH19 (2440MHz) LE(Coded S=2)

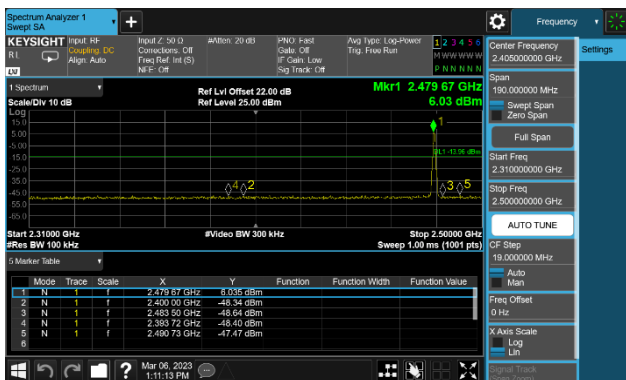


### CH19 (2440MHz) LE(Coded S=2)

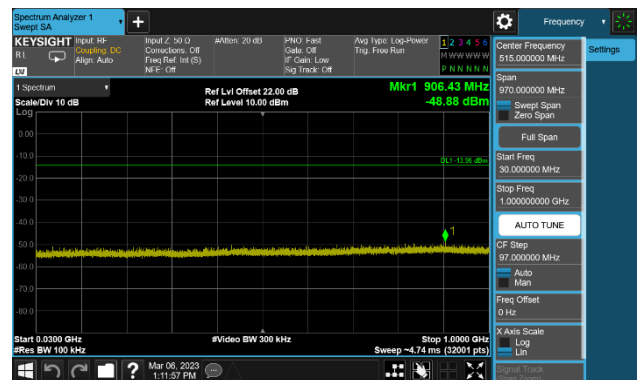




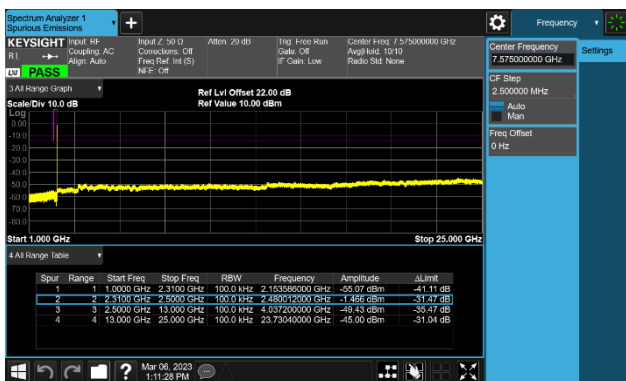
### CH39 (2480MHz) LE(Coded S=2)



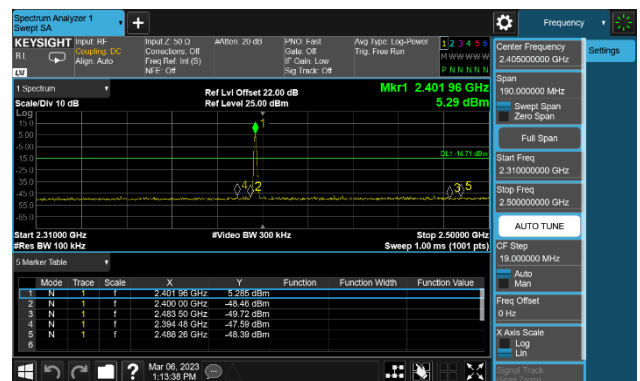
### CH39 (2480MHz) LE(Coded S=2)



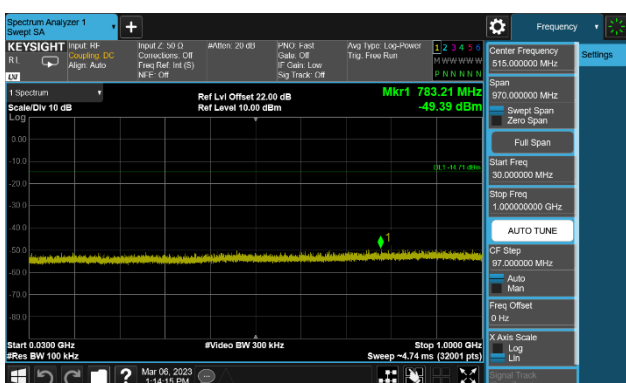
### CH39 (2480MHz) LE(Coded S=2)



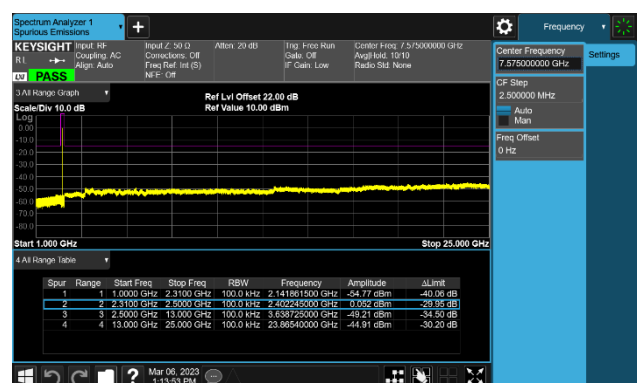
### CH00 (2402MHz) LE(Coded S=8)



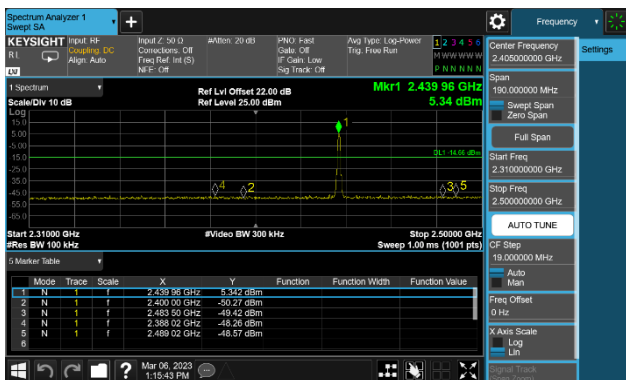
### CH00 (2402MHz) LE(Coded S=8)



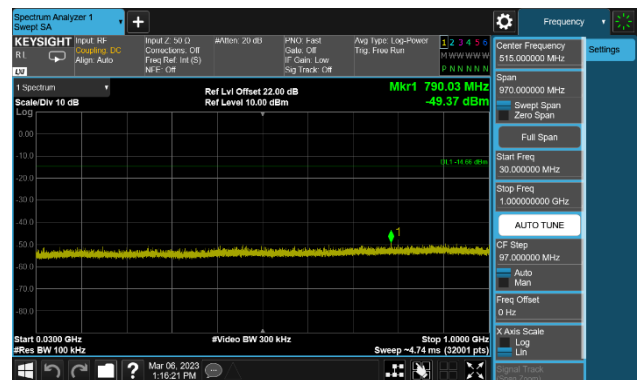
### CH00 (2402MHz) LE(Coded S=8)



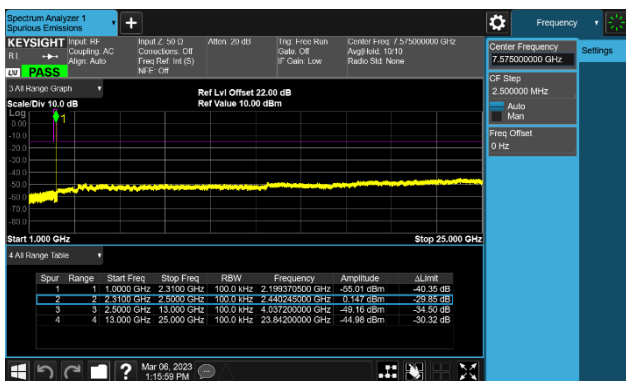
### CH19 (2440MHz) LE(Coded S=8)



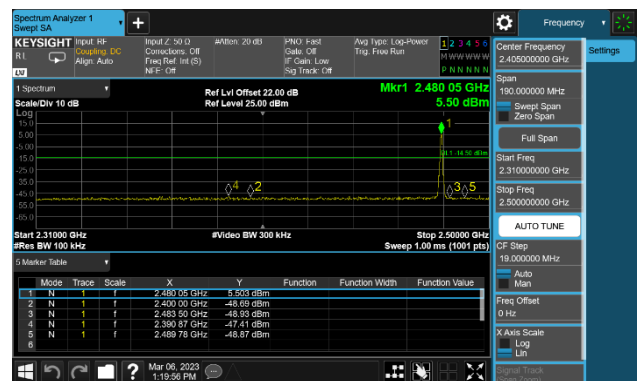
### CH19 (2440MHz) LE(Coded S=8)



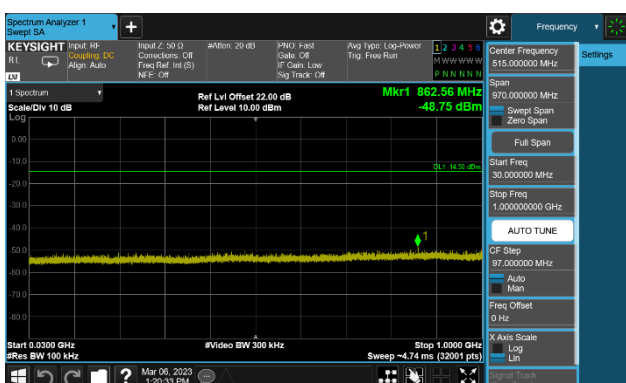
### CH19 (2440MHz) LE(Coded S=8)



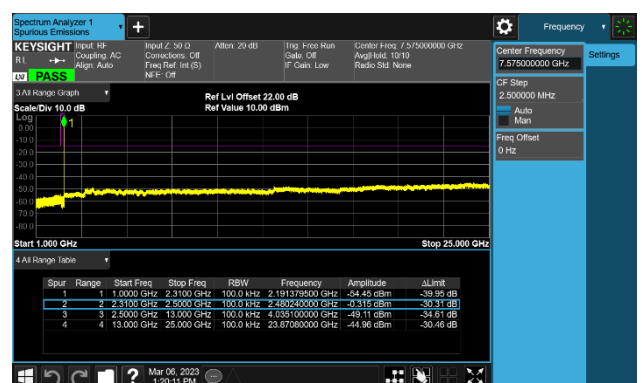
### CH39 (2480MHz) LE(Coded S=8)



### CH39 (2480MHz) LE(Coded S=8)



### CH39 (2480MHz) LE(Coded S=8)



## 7.6. Radiated Spurious Emission Measurement

### 7.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

### 7.6.2. Test Procedure Used

ANSI C63.10 - 2013 Section 11.11 & 11.12.

ANSI C63.10 - 2013 Section 6.3 (General Requirements)

ANSI C63.10 - 2013 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 - 2013 Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10 - 2013 Section 6.6 (Standard test method above 1GHz)

### 7.6.3. Test Setting

**Table 1 - RBW as a function of frequency**

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

#### **Quasi-Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

#### **Peak Field Strength Measurements**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

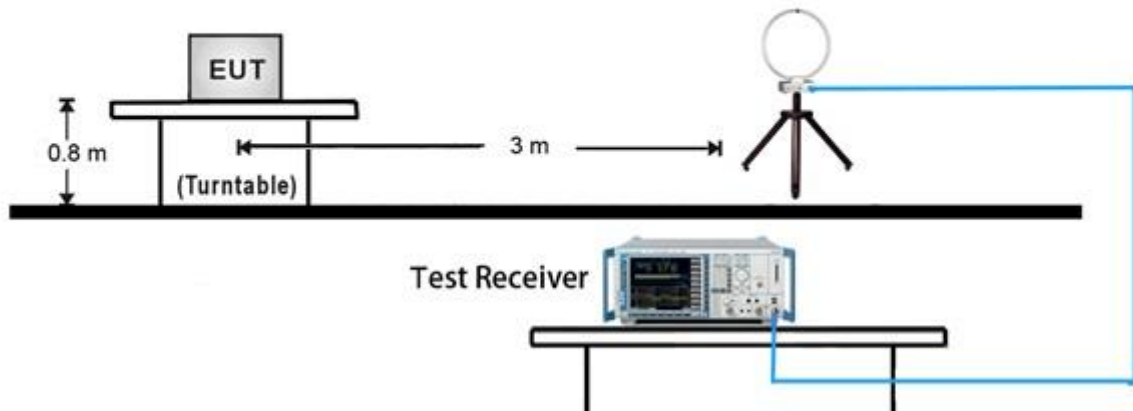
#### **Average Field Strength Measurements**

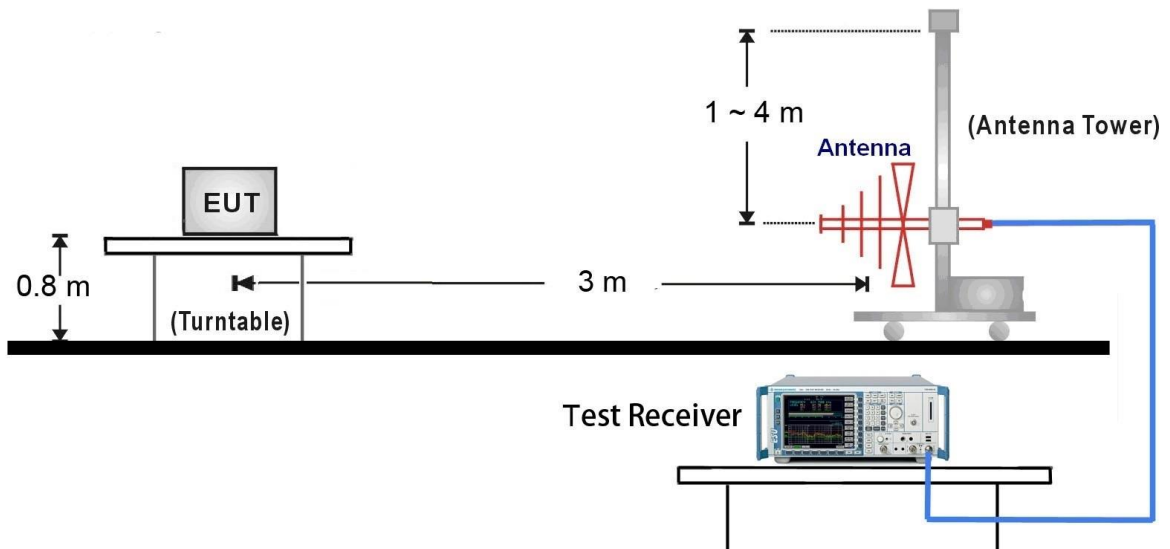
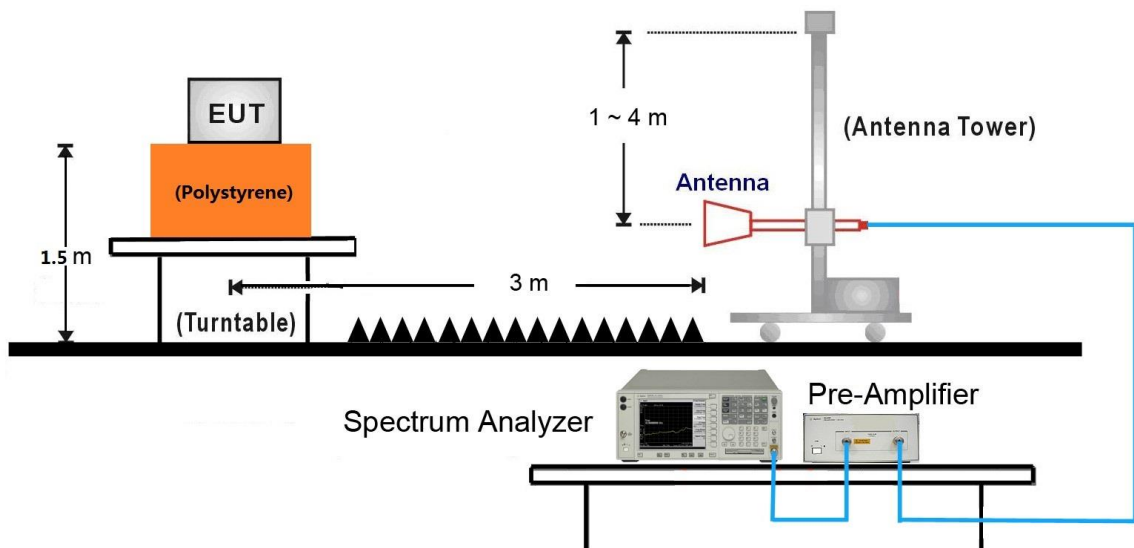
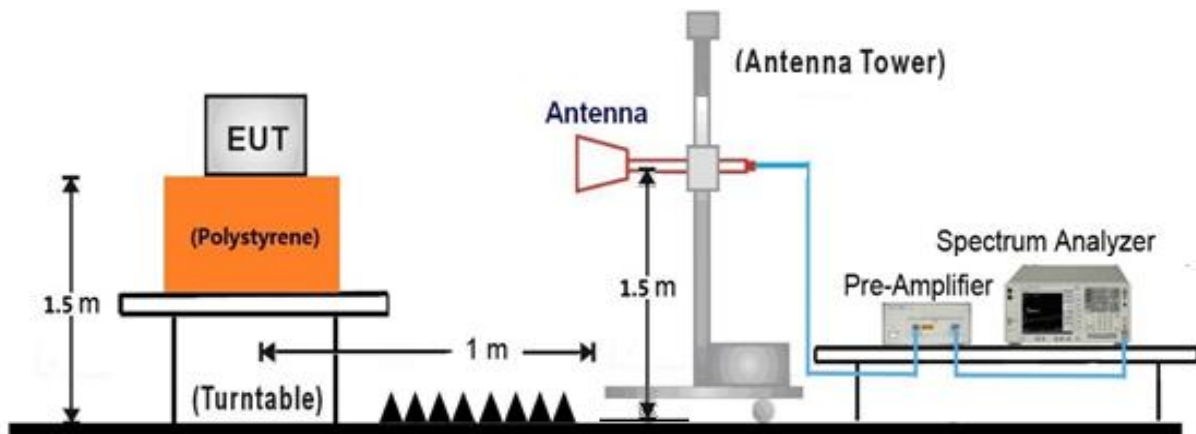
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW  $\geq 1/T$

4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

#### 7.6.4. Test Setup

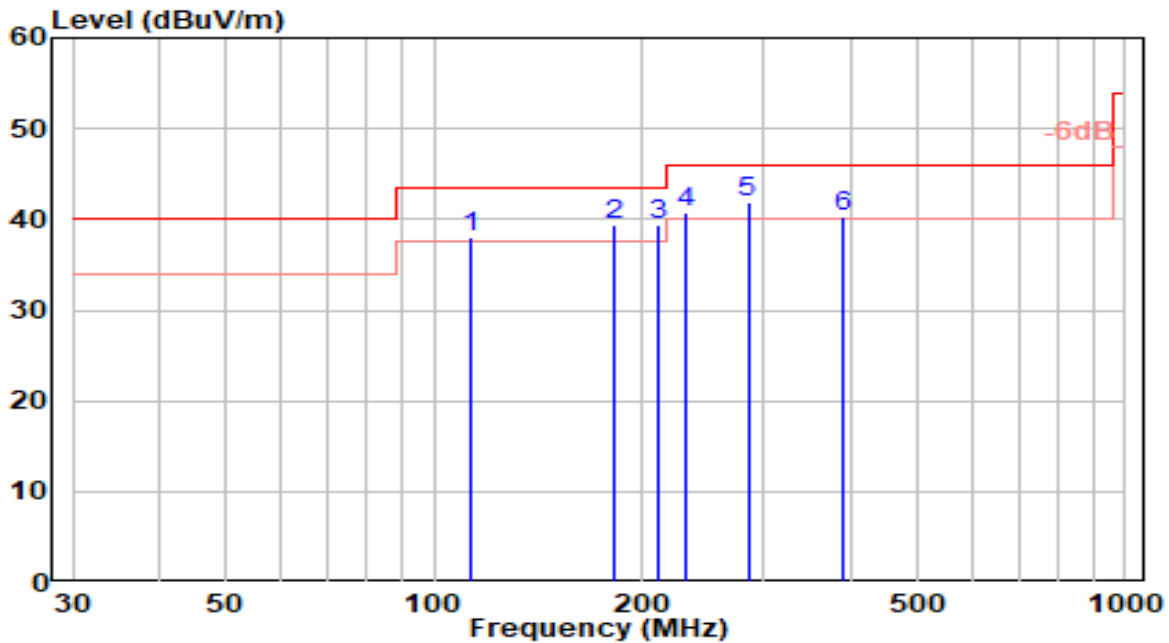
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:1GHz ~ 18GHz Test Setup:18GHz ~ 40GHz Test Setup:

### 7.6.5. Test Result

EUT	WLAN / BT Module	Date of Test	2023-02-02
Factor	VULB 9162	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz

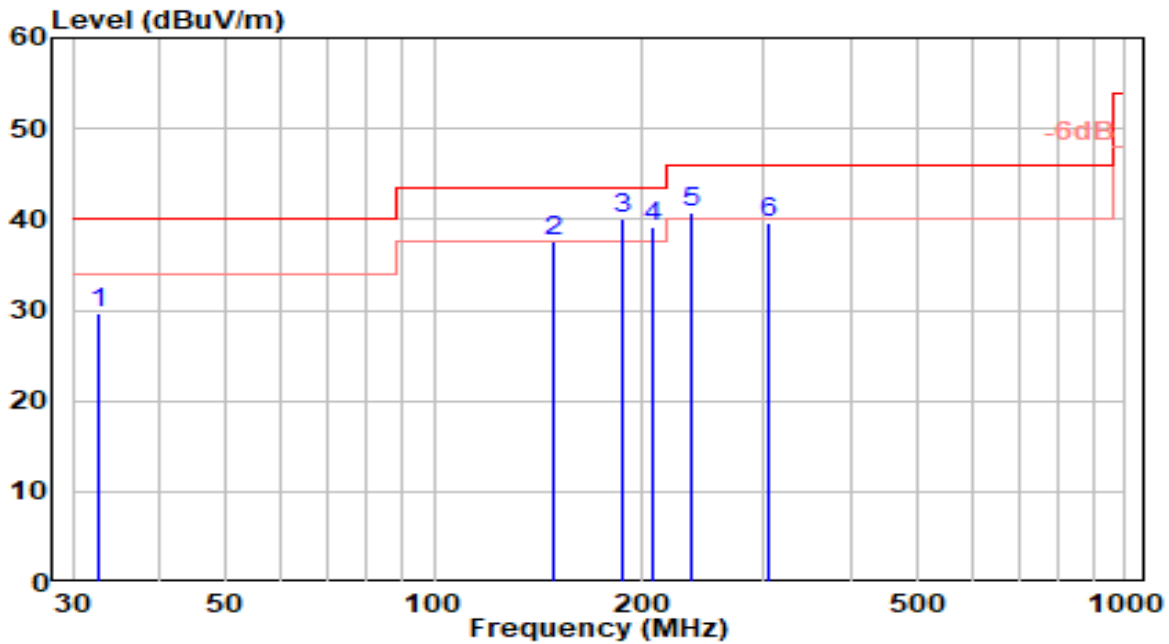


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	113.170	20.51	17.61	38.12	-5.38	43.50	100	92	QP
2	182.210	22.86	16.57	39.43	-4.07	43.50	150	14	QP
3	211.520	21.51	17.80	39.31	-4.19	43.50	100	186	QP
4	230.770	21.69	18.98	40.67	-5.33	46.00	200	314	QP
5	* 284.500	21.79	20.18	41.97	-4.03	46.00	100	329	QP
6	391.440	17.39	22.95	40.34	-5.66	46.00	100	122	QP

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-02
Factor	VULB 9162	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz



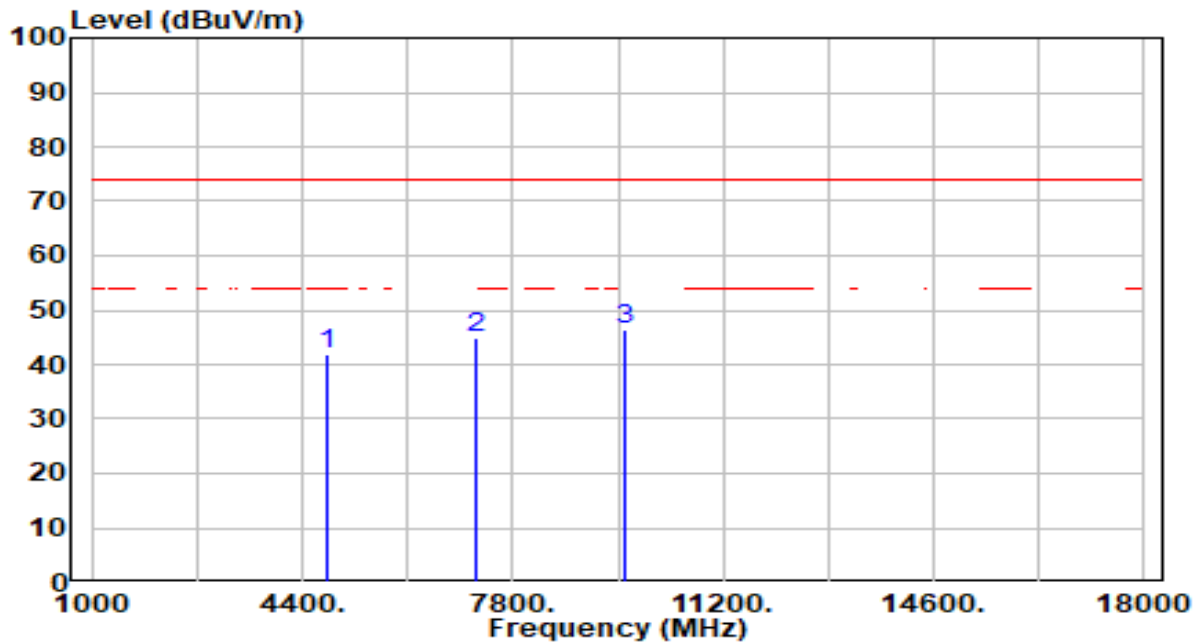
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	32.660	12.62	17.05	29.67	-10.33	40.00	150	14	QP
2	149.230	22.73	14.93	37.66	-5.84	43.50	100	40	QP
3	* 187.270	22.83	17.23	40.06	-3.44	43.50	200	46	QP
4	206.520	21.47	17.80	39.28	-4.22	43.50	150	45	QP
5	235.030	21.54	19.20	40.73	-5.27	46.00	150	241	QP
6	306.080	18.95	20.70	39.65	-6.35	46.00	100	27	QP

Note:

- " \*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 0	Test Voltage	AC 120V/60Hz

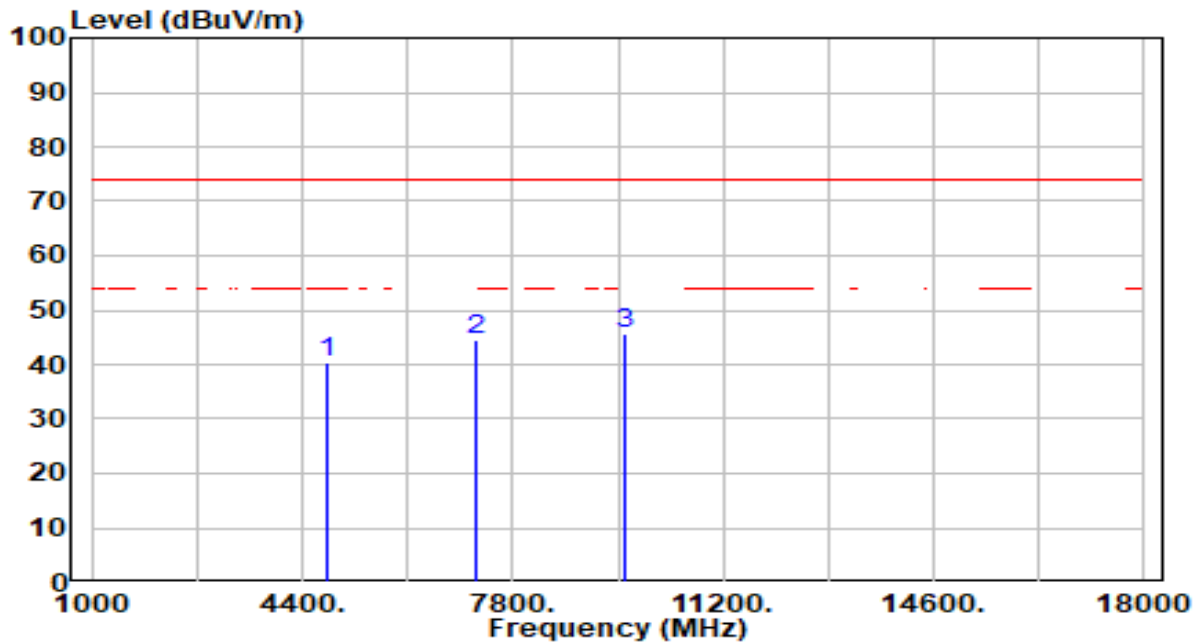


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	43.00	-1.27	41.73	-32.27	74.00	100	50	Peak
2	7206.000	40.67	4.17	44.84	-29.16	74.00	200	41	Peak
3	* 9608.000	43.03	3.27	46.30	-27.70	74.00	100	310	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 0	Test Voltage	AC 120V/60Hz

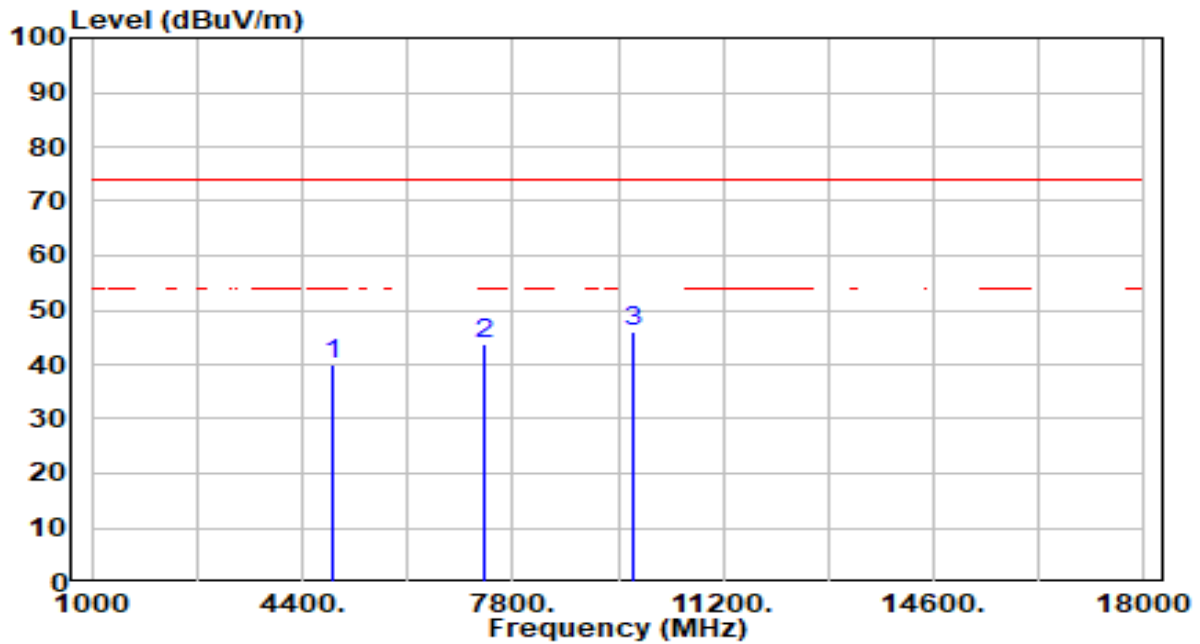


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	41.74	-1.27	40.47	-33.53	74.00	104	360	Peak
2	7206.000	40.43	4.17	44.60	-29.40	74.00	200	324	Peak
3	* 9608.000	42.39	3.27	45.66	-28.34	74.00	100	104	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz

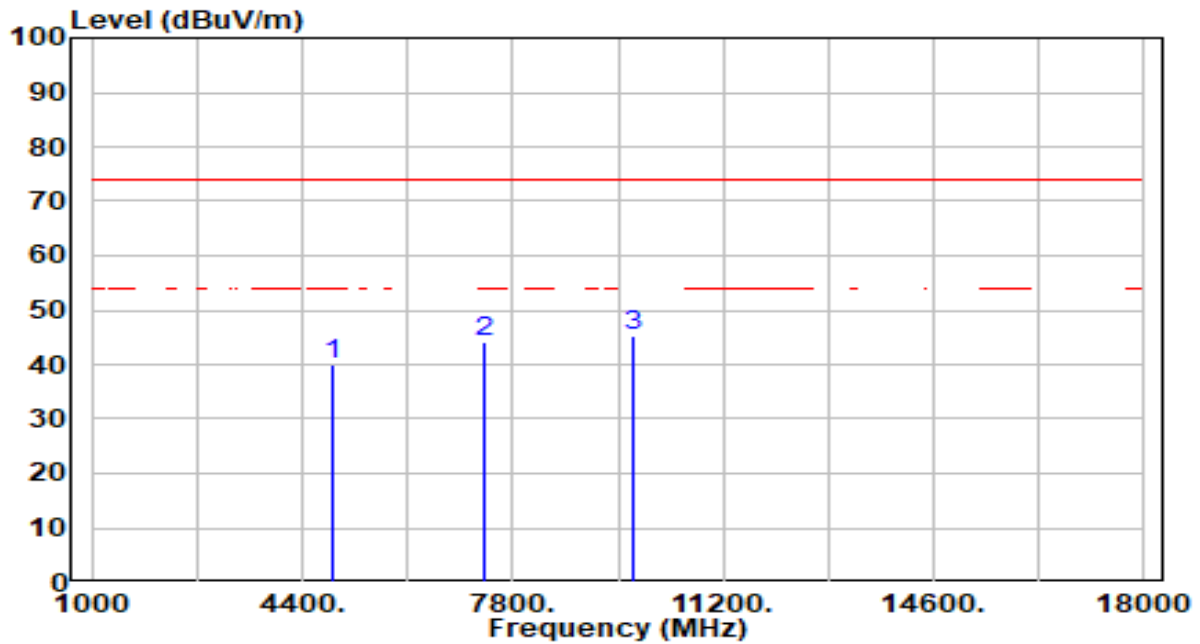


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.30	-1.11	40.18	-33.82	74.00	100	192	Peak
2	7320.000	39.82	4.13	43.95	-30.05	74.00	100	360	Peak
3	* 9760.000	42.82	3.33	46.15	-27.85	74.00	100	280	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz

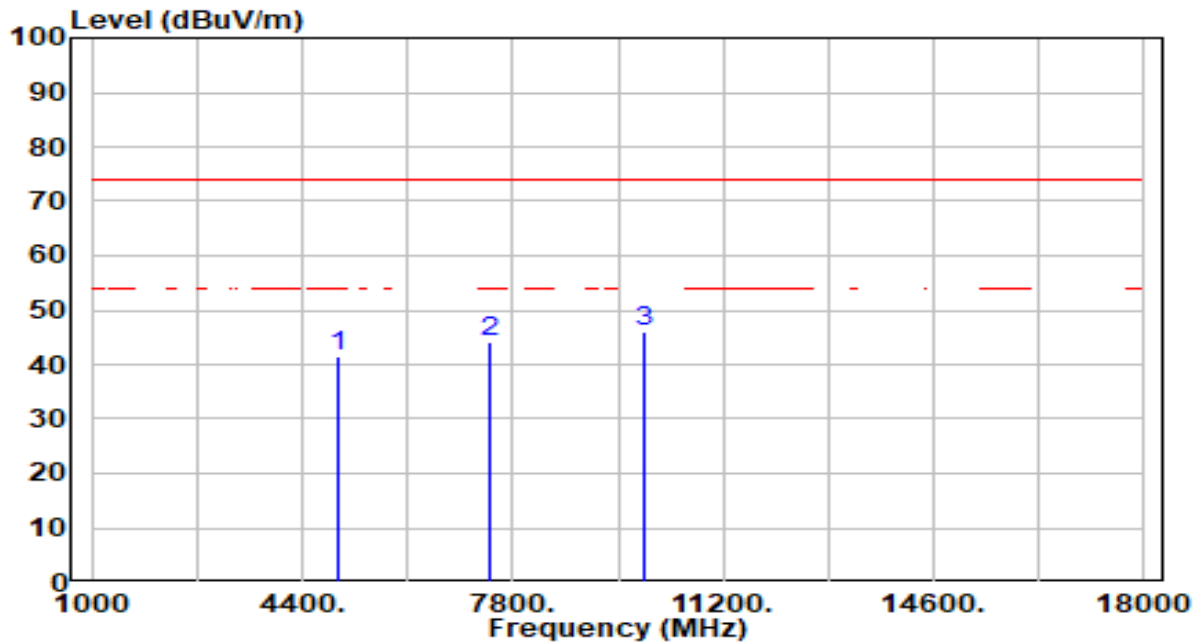


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.03	-1.11	39.91	-34.09	74.00	100	360	Peak
2	7320.000	39.90	4.13	44.04	-29.96	74.00	100	175	Peak
3	* 9760.000	42.14	3.33	45.47	-28.53	74.00	100	360	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 39	Test Voltage	AC 120V/60Hz

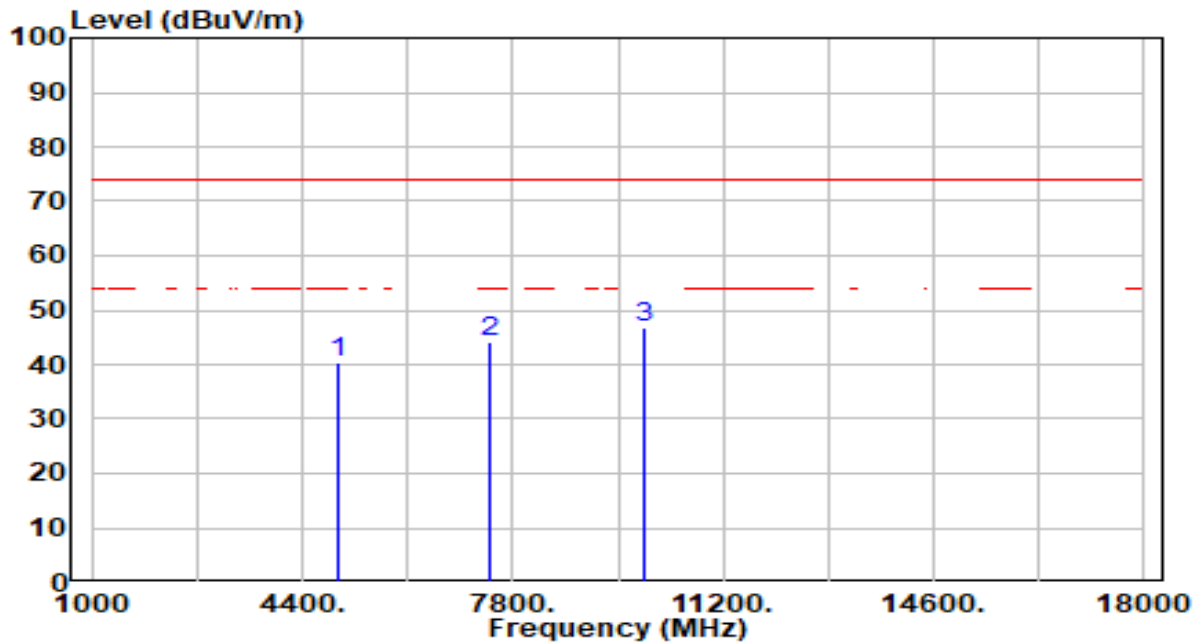


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	42.60	-0.95	41.64	-32.36	74.00	100	38	Peak
2	7440.000	40.11	4.08	44.19	-29.81	74.00	100	68	Peak
3	* 9920.000	42.48	3.45	45.93	-28.07	74.00	100	303	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 39	Test Voltage	AC 120V/60Hz

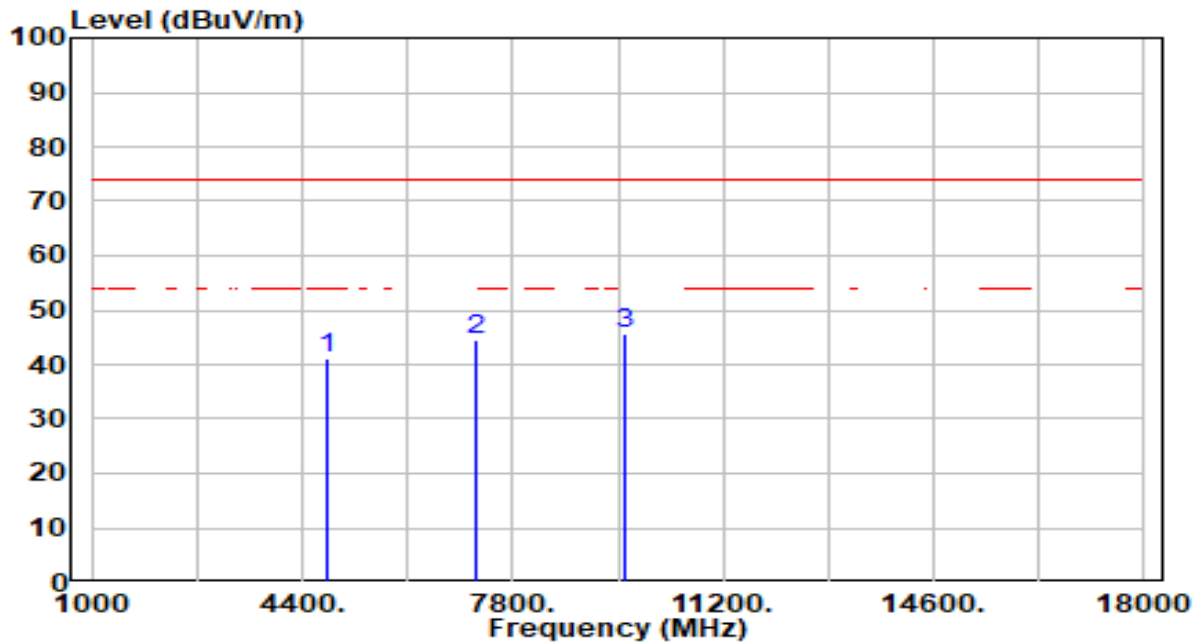


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	41.29	-0.95	40.34	-33.66	74.00	100	207	Peak
2	7440.000	40.04	4.08	44.12	-29.88	74.00	100	144	Peak
3	* 9920.000	43.43	3.45	46.88	-27.12	74.00	100	11	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 0	Test Voltage	AC 120V/60Hz

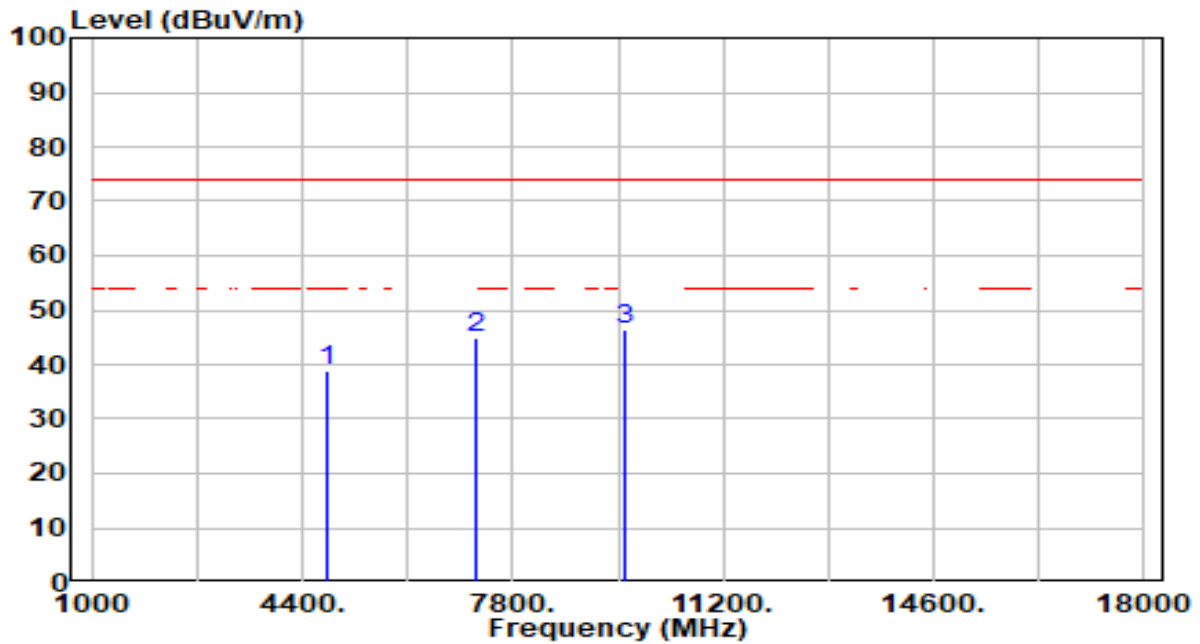


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	42.21	-1.27	40.94	-33.06	74.00	200	40	Peak
2	7206.000	40.48	4.17	44.65	-29.35	74.00	269	0	Peak
3	* 9608.000	42.55	3.27	45.82	-28.18	74.00	300	100	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 0	Test Voltage	AC 120V/60Hz



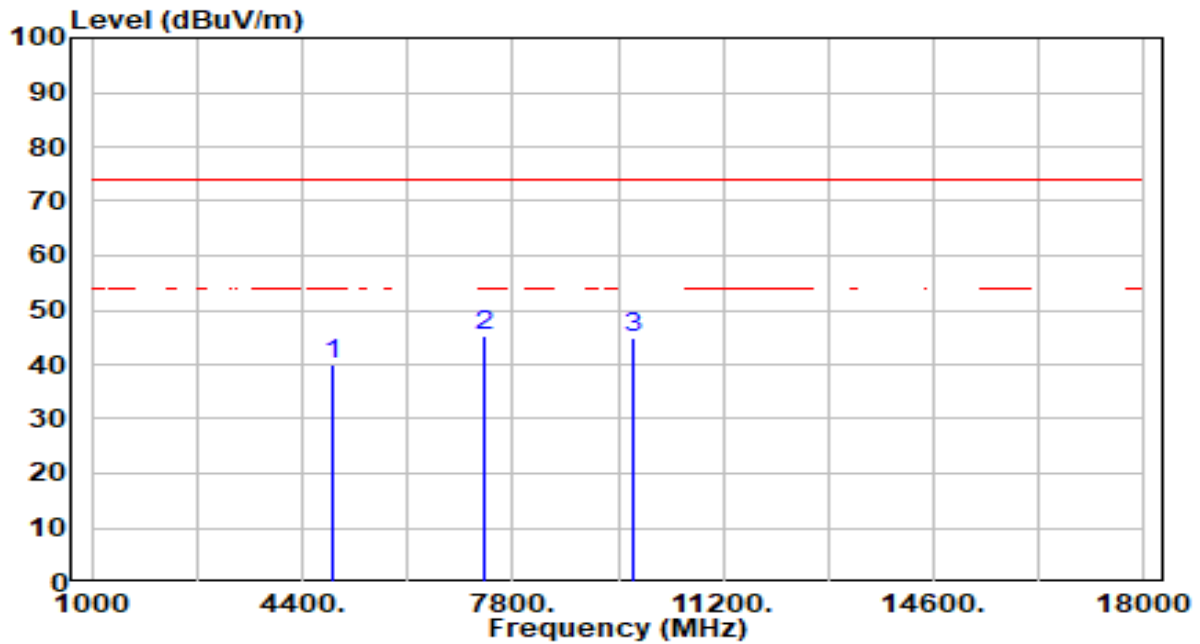
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	40.22	-1.27	38.95	-35.05	74.00	300	1	Peak
2	7206.000	40.61	4.17	44.78	-29.22	74.00	200	32	Peak
3	* 9608.000	42.98	3.27	46.25	-27.75	74.00	100	36	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 19	Test Voltage	AC 120V/60Hz

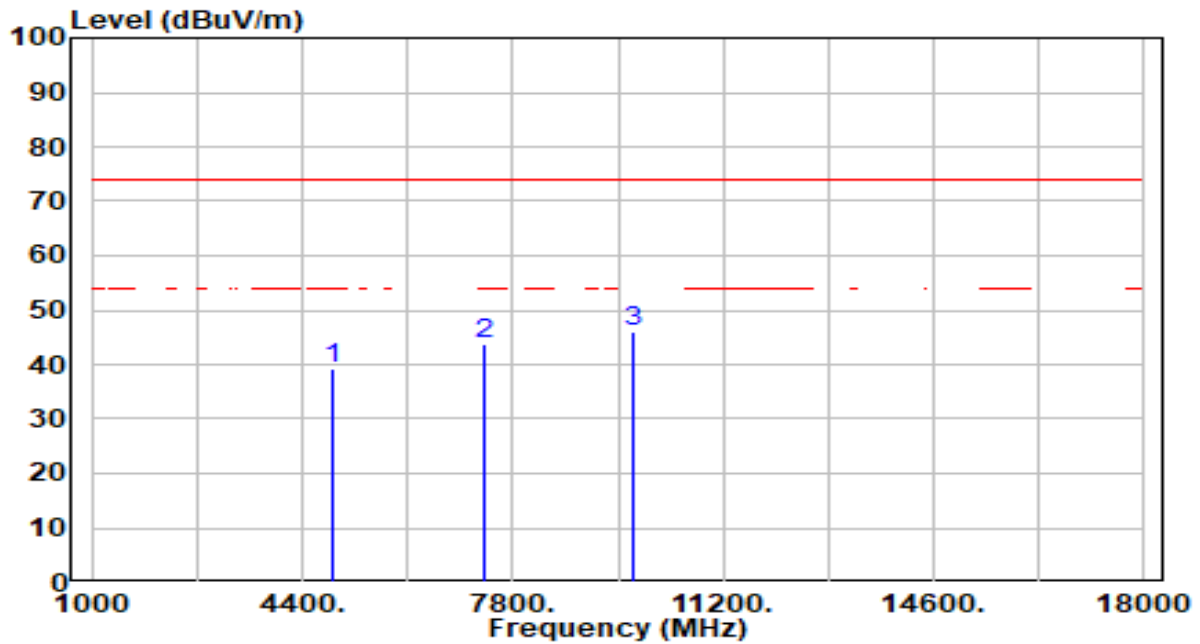


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.04	-1.11	39.93	-34.07	74.00	200	157	Peak
2	* 7320.000	41.00	4.13	45.14	-28.86	74.00	200	314	Peak
3	9760.000	41.54	3.33	44.87	-29.13	74.00	200	335	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 19	Test Voltage	AC 120V/60Hz

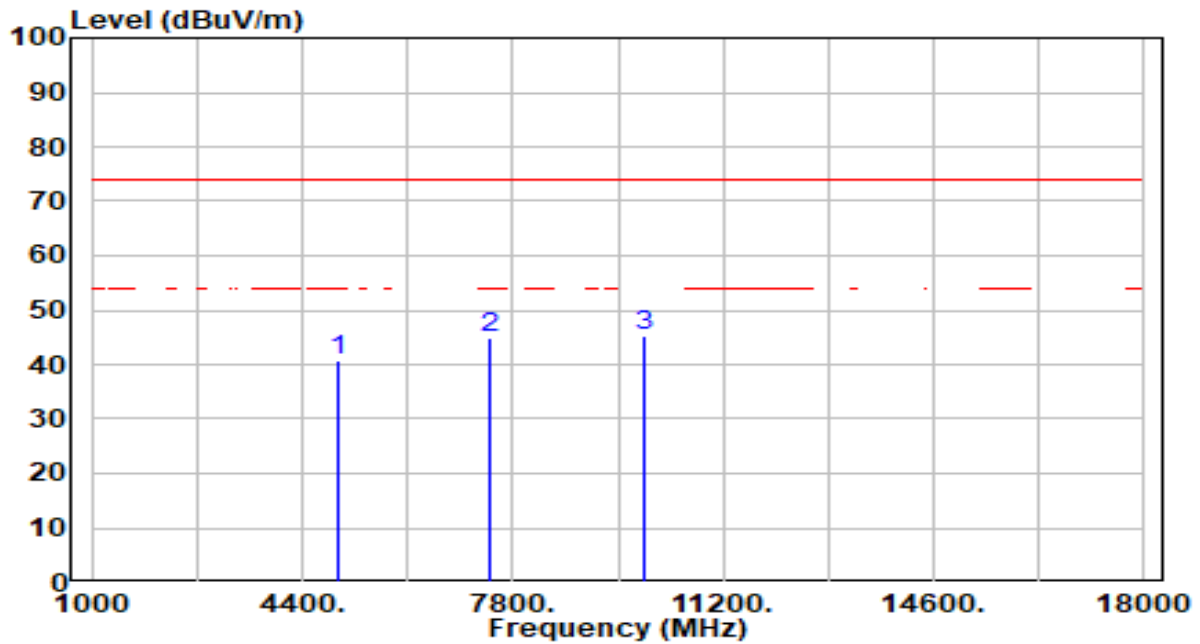


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	40.45	-1.11	39.33	-34.67	74.00	100	361	Peak
2	7320.000	39.61	4.13	43.75	-30.25	74.00	100	322	Peak
3	* 9760.000	42.83	3.33	46.16	-27.84	74.00	100	277	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 39	Test Voltage	AC 120V/60Hz

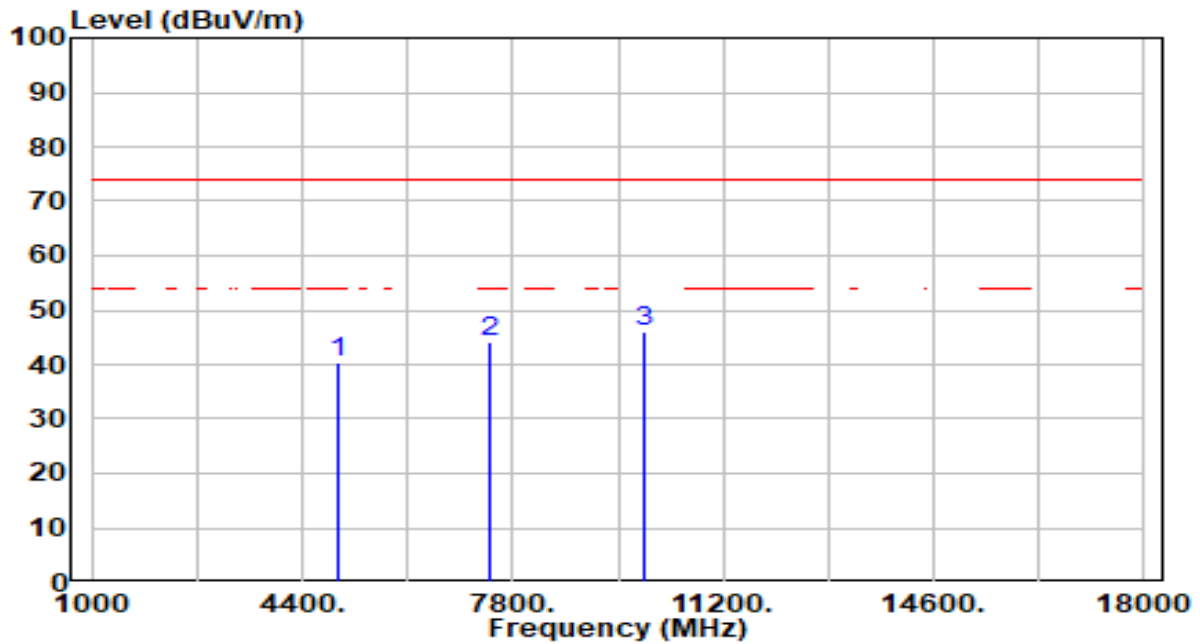


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	41.68	-0.95	40.73	-33.27	74.00	200	271	Peak
2	7440.000	40.84	4.08	44.92	-29.08	74.00	200	141	Peak
3	* 9920.000	41.82	3.45	45.27	-28.73	74.00	200	168	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 39	Test Voltage	AC 120V/60Hz

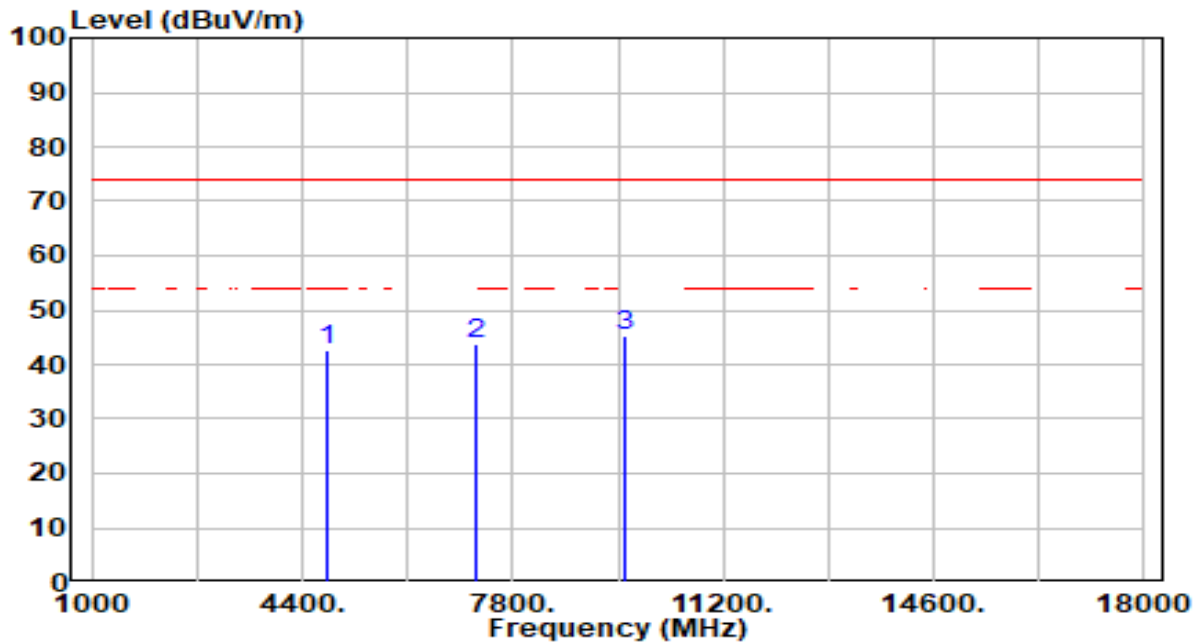


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	41.44	-0.95	40.49	-33.51	74.00	100	180	Peak
2	7440.000	39.92	4.08	43.99	-30.01	74.00	100	64	Peak
3	* 9920.000	42.67	3.45	46.12	-27.88	74.00	100	0	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 0	Test Voltage	AC 120V/60Hz

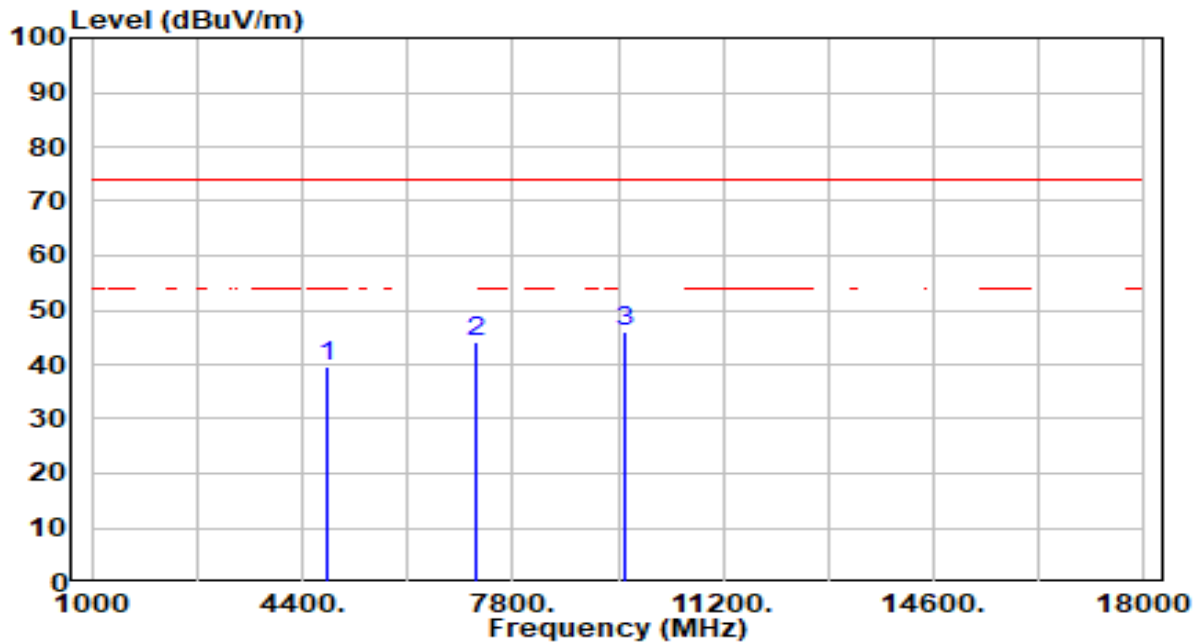


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	43.98	-1.27	42.71	-31.29	74.00	100	47	Peak
2	7206.000	39.78	4.17	43.95	-30.05	74.00	100	170	Peak
3	* 9608.000	41.90	3.27	45.18	-28.82	74.00	100	174	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 0	Test Voltage	AC 120V/60Hz

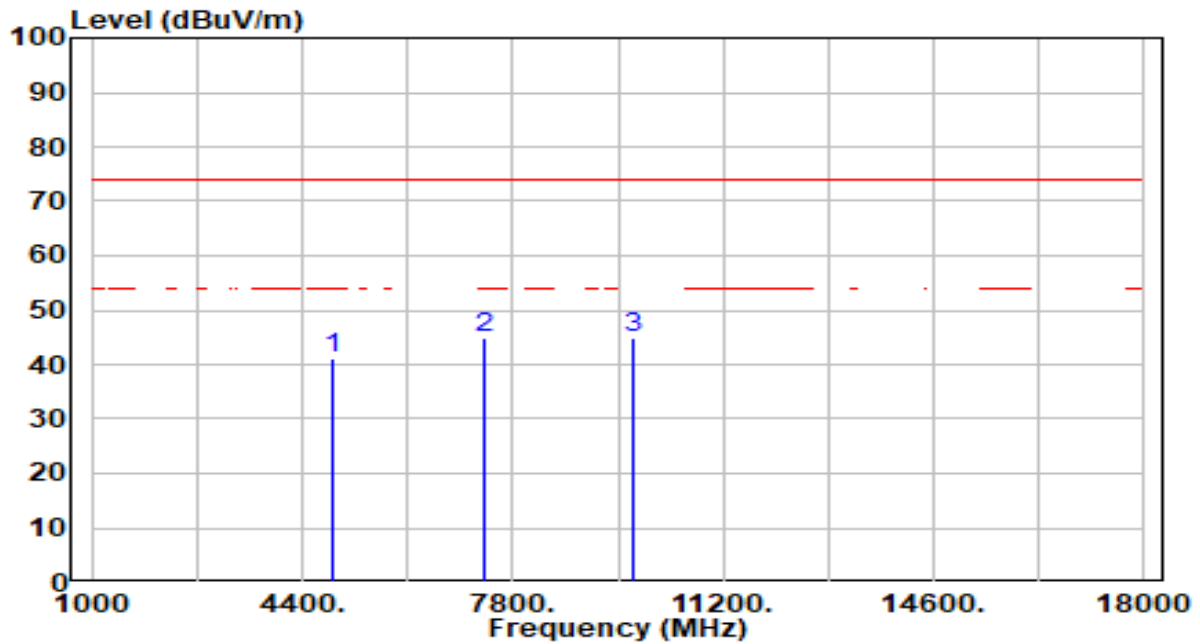


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	40.74	-1.27	39.47	-34.53	74.00	100	128	Peak
2	7206.000	40.17	4.17	44.34	-29.66	74.00	100	74	Peak
3	* 9608.000	42.68	3.27	45.96	-28.04	74.00	100	4	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 19	Test Voltage	AC 120V/60Hz

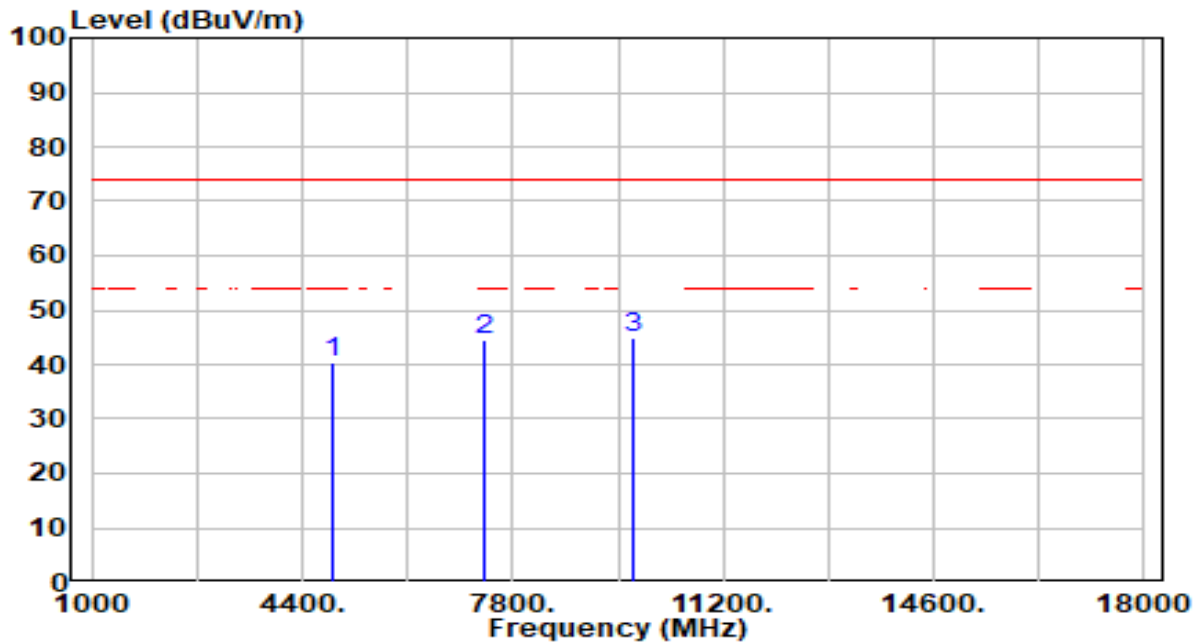


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	42.17	-1.11	41.05	-32.95	74.00	100	134	Peak
2	7320.000	40.71	4.13	44.85	-29.15	74.00	100	360	Peak
3	* 9760.000	41.69	3.33	45.02	-28.98	74.00	100	329	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 19	Test Voltage	AC 120V/60Hz



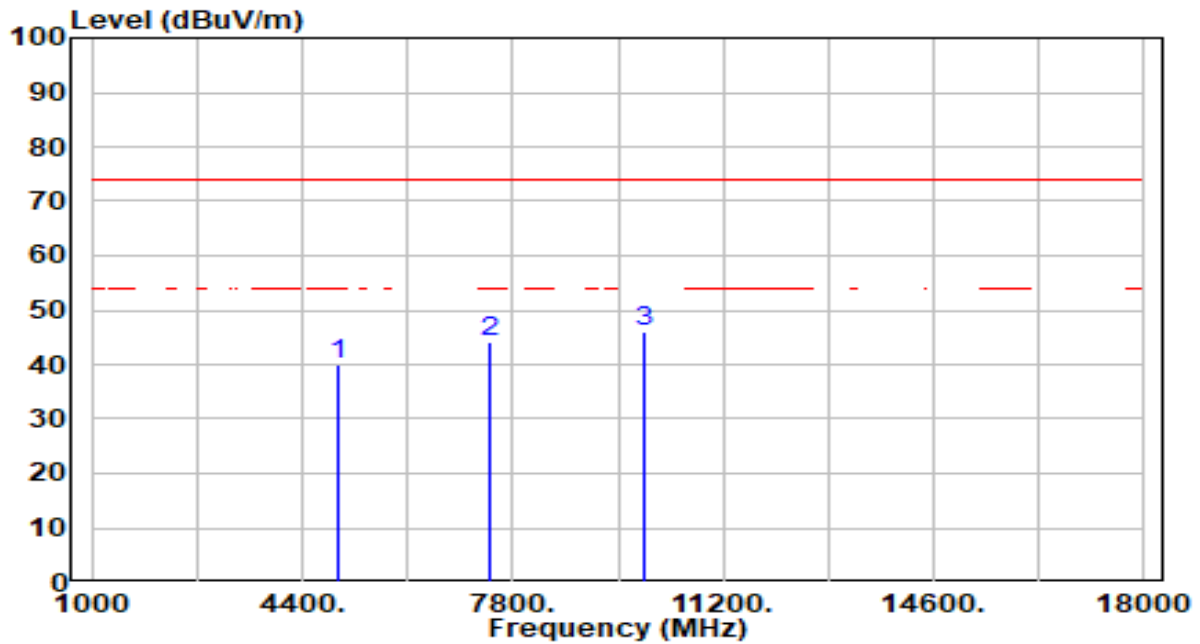
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.40	-1.11	40.29	-33.71	74.00	100	8	Peak
2	7320.000	40.58	4.13	44.72	-29.28	74.00	100	360	Peak
3	* 9760.000	41.73	3.33	45.06	-28.94	74.00	100	198	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 39	Test Voltage	AC 120V/60Hz

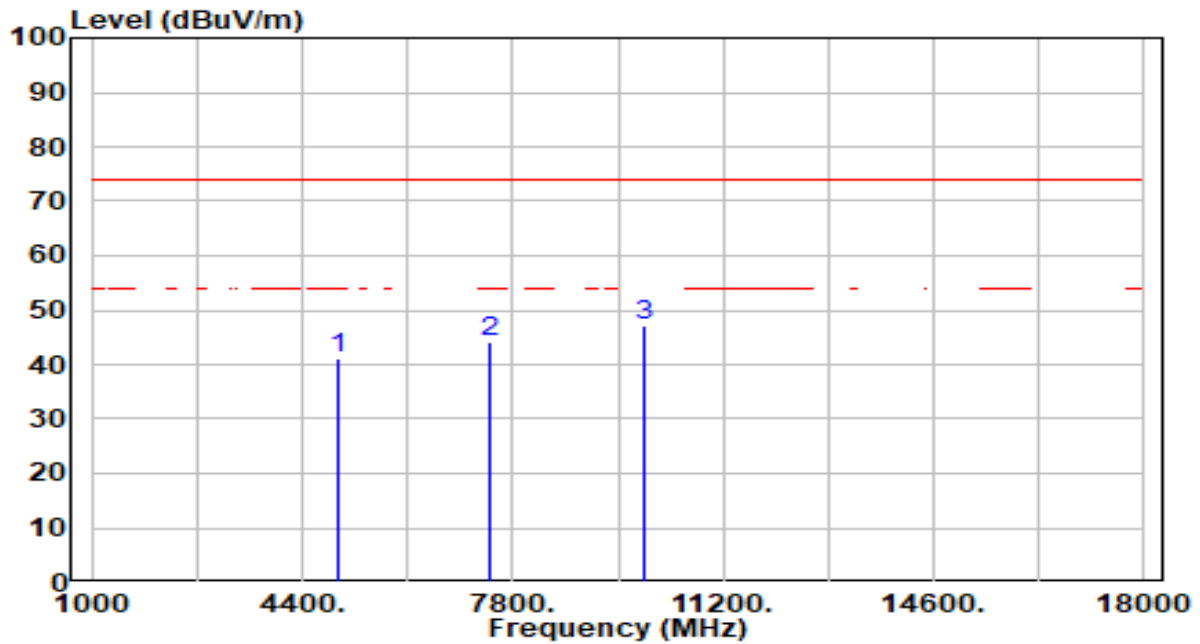


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	40.91	-0.95	39.96	-34.04	74.00	100	90	Peak
2	7440.000	40.00	4.08	44.08	-29.92	74.00	100	55	Peak
3	* 9920.000	42.72	3.45	46.17	-27.83	74.00	100	43	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 39	Test Voltage	AC 120V/60Hz

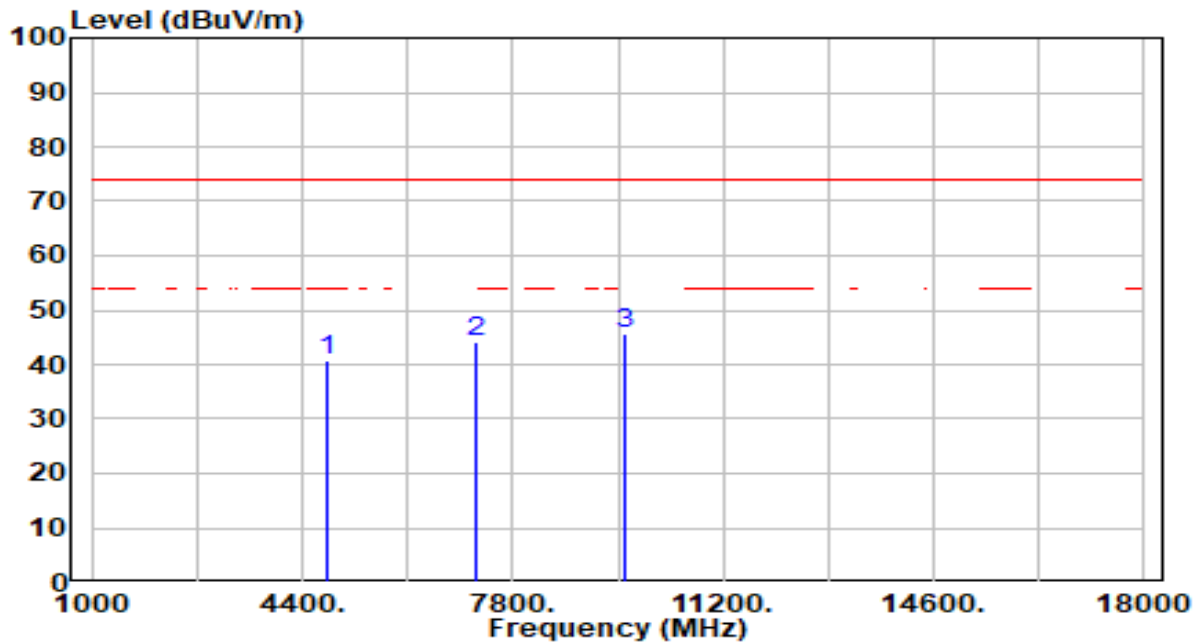


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	41.94	-0.95	40.99	-33.01	74.00	100	197	Peak
2	7440.000	39.91	4.08	43.99	-30.01	74.00	100	157	Peak
3	* 9920.000	43.79	3.45	47.24	-26.76	74.00	100	281	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 0	Test Voltage	AC 120V/60Hz

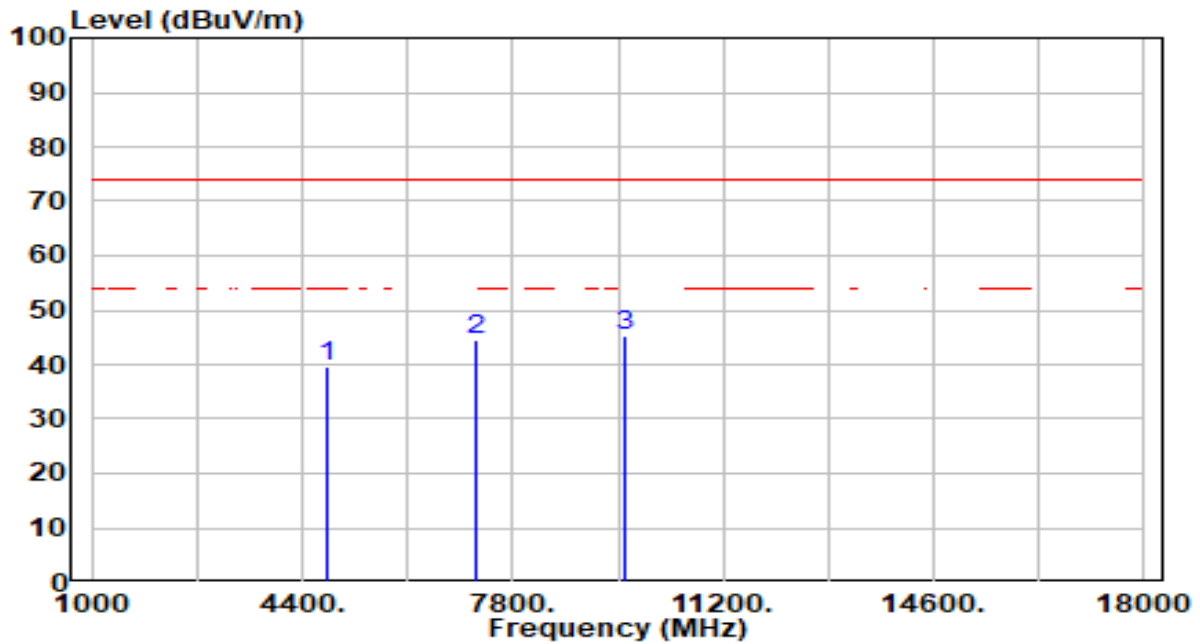


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	41.96	-1.27	40.69	-33.31	74.00	100	37	Peak
2	7206.000	39.93	4.17	44.10	-29.90	74.00	100	258	Peak
3	* 9608.000	42.48	3.27	45.75	-28.25	74.00	100	310	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 0	Test Voltage	AC 120V/60Hz

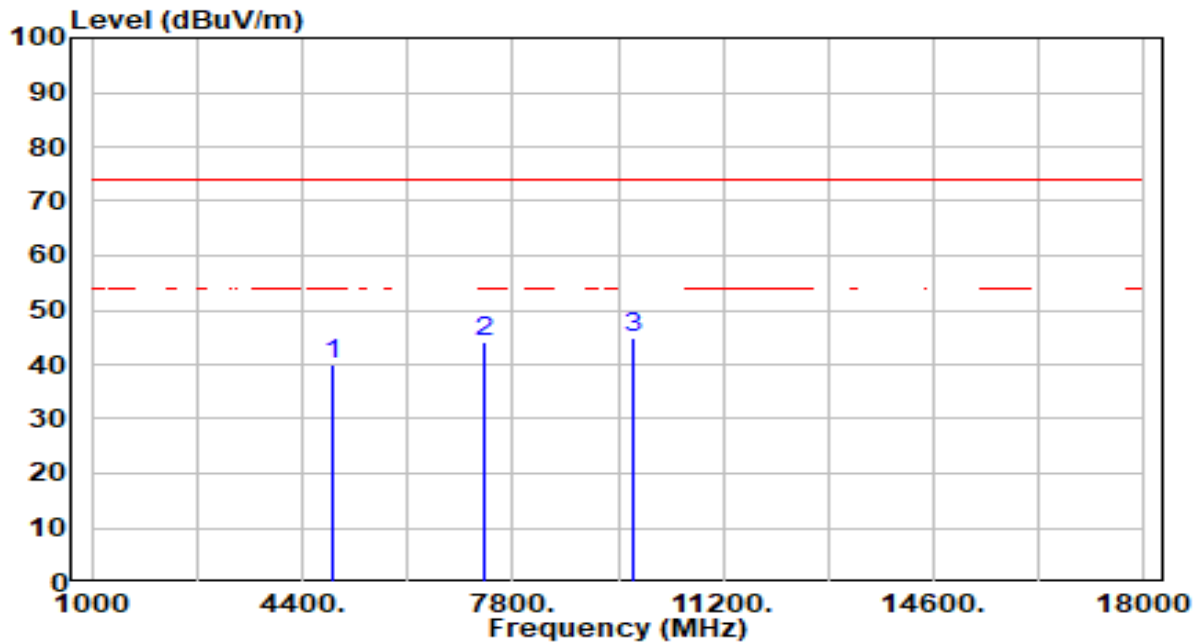


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4804.000	41.07	-1.27	39.80	-34.20	74.00	100	249	Peak
2	7206.000	40.45	4.17	44.62	-29.38	74.00	100	273	Peak
3	* 9608.000	42.09	3.27	45.36	-28.64	74.00	100	162	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 19	Test Voltage	AC 120V/60Hz

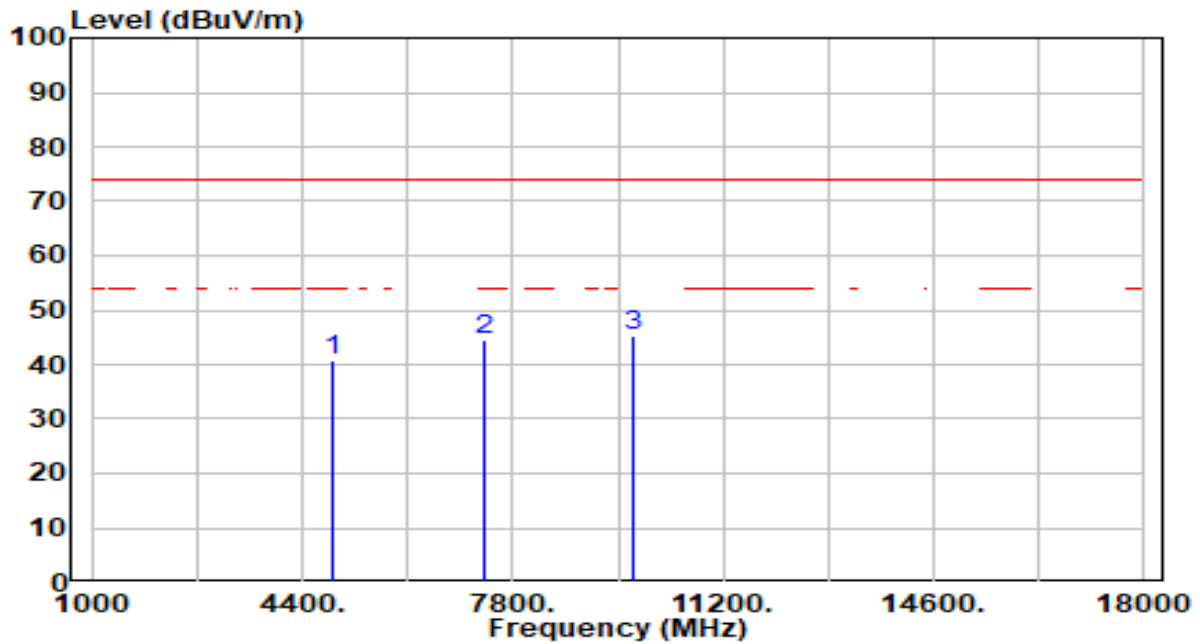


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.20	-1.11	40.08	-33.92	74.00	100	166	Peak
2	7320.000	40.07	4.13	44.20	-29.80	74.00	100	45	Peak
3	* 9760.000	41.71	3.33	45.04	-28.96	74.00	100	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 19	Test Voltage	AC 120V/60Hz

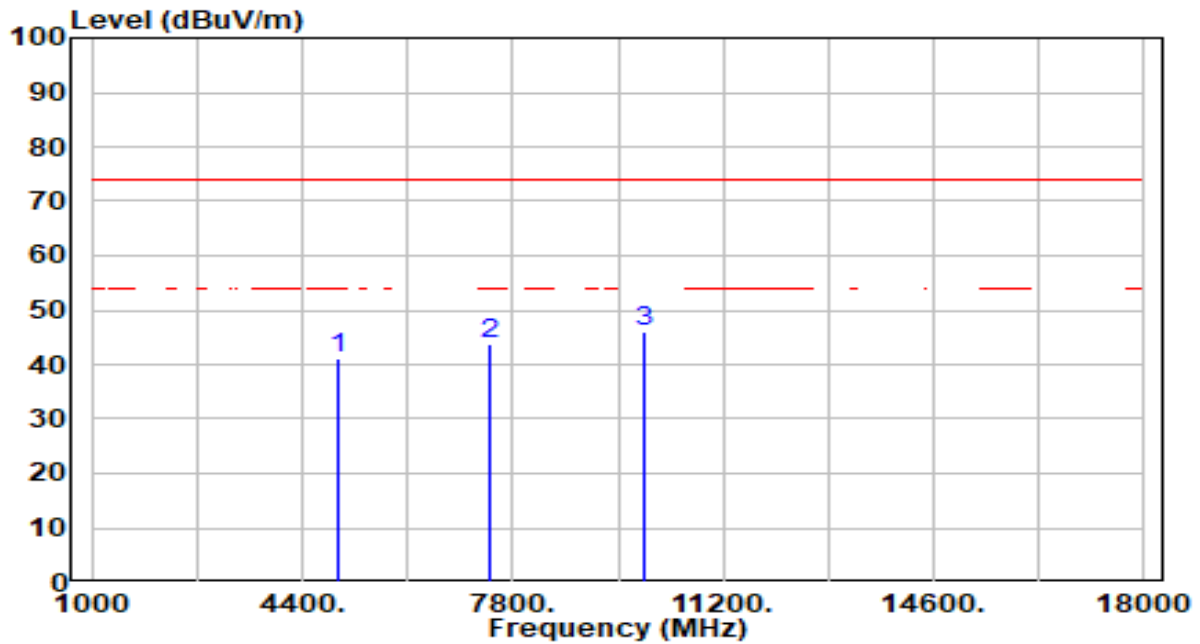


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4880.000	41.99	-1.11	40.88	-33.12	74.00	100	272	Peak
2	7320.000	40.40	4.13	44.54	-29.46	74.00	100	347	Peak
3	* 9760.000	42.07	3.33	45.40	-28.60	74.00	100	323	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 39	Test Voltage	AC 120V/60Hz

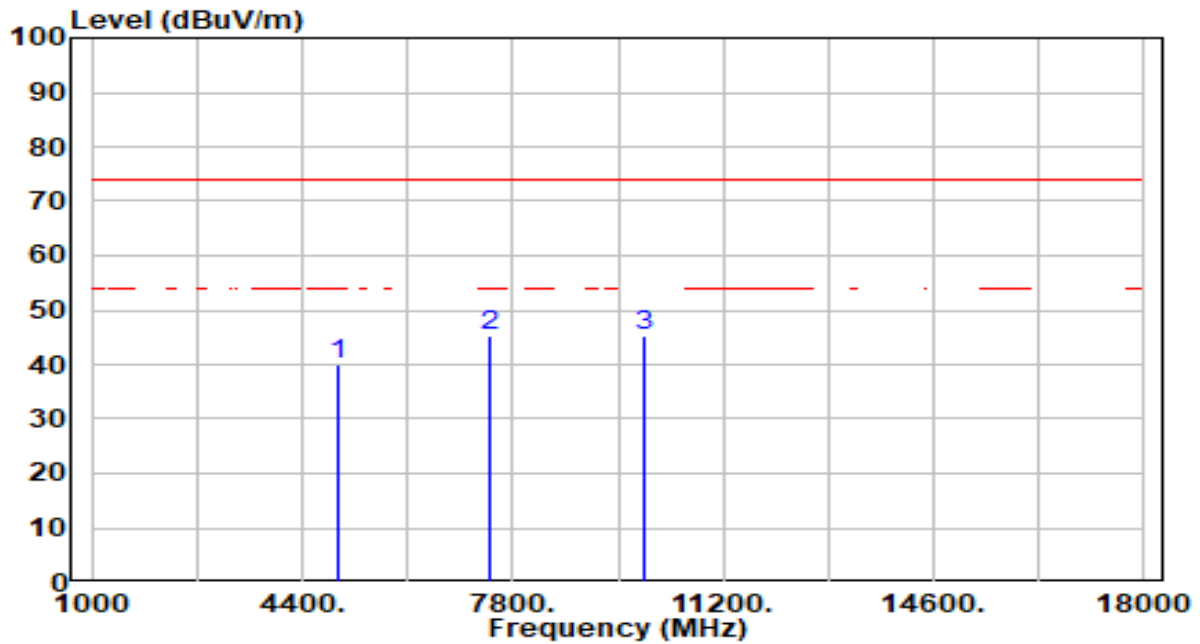


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	42.05	-0.95	41.10	-32.90	74.00	100	345	Peak
2	7440.000	39.57	4.08	43.65	-30.35	74.00	100	234	Peak
3	* 9920.000	42.67	3.45	46.12	-27.88	74.00	100	146	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 39	Test Voltage	AC 120V/60Hz



No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4960.000	40.91	-0.95	39.96	-34.04	74.00	100	51	Peak
2	* 7440.000	41.24	4.08	45.31	-28.69	74.00	100	304	Peak
3	9920.000	41.74	3.45	45.19	-28.81	74.00	100	21	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



## 7.7. Radiated Restricted Band Edge Measurement

### 7.7.1. Test Limit

#### For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 – 30	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

### 7.7.2. Test Procedure Used

ANSI C63.10-2013 - Section 11.13

ANSI C63.10 - 2013 Section 6.3 (General Requirements)

ANSI C63.10 - 2013 Section 6.6 (Standard test method above 1GHz)

### 7.7.3. Test Setting

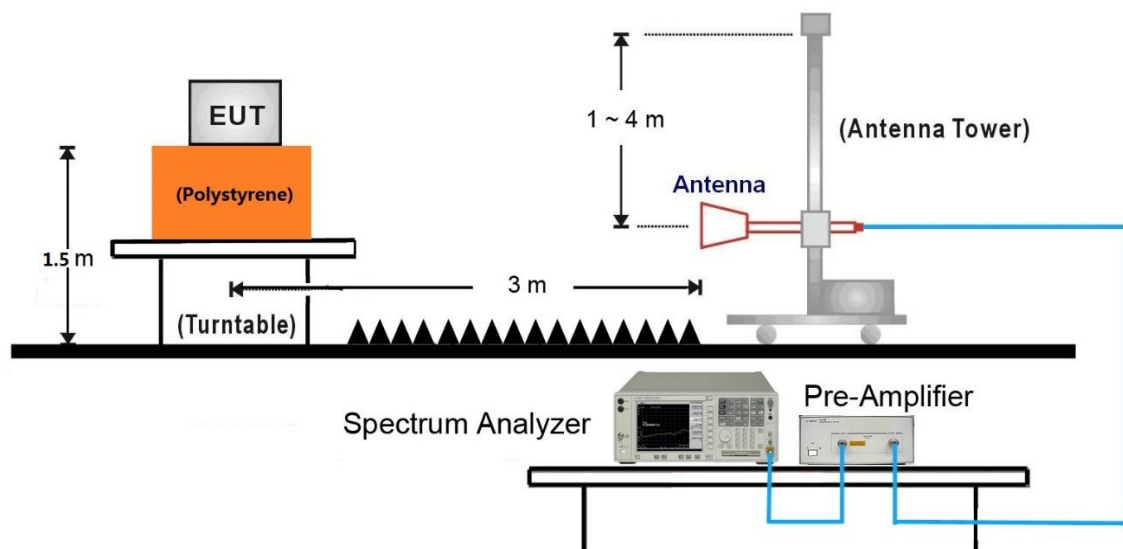
#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### Average Field Strength Measurements

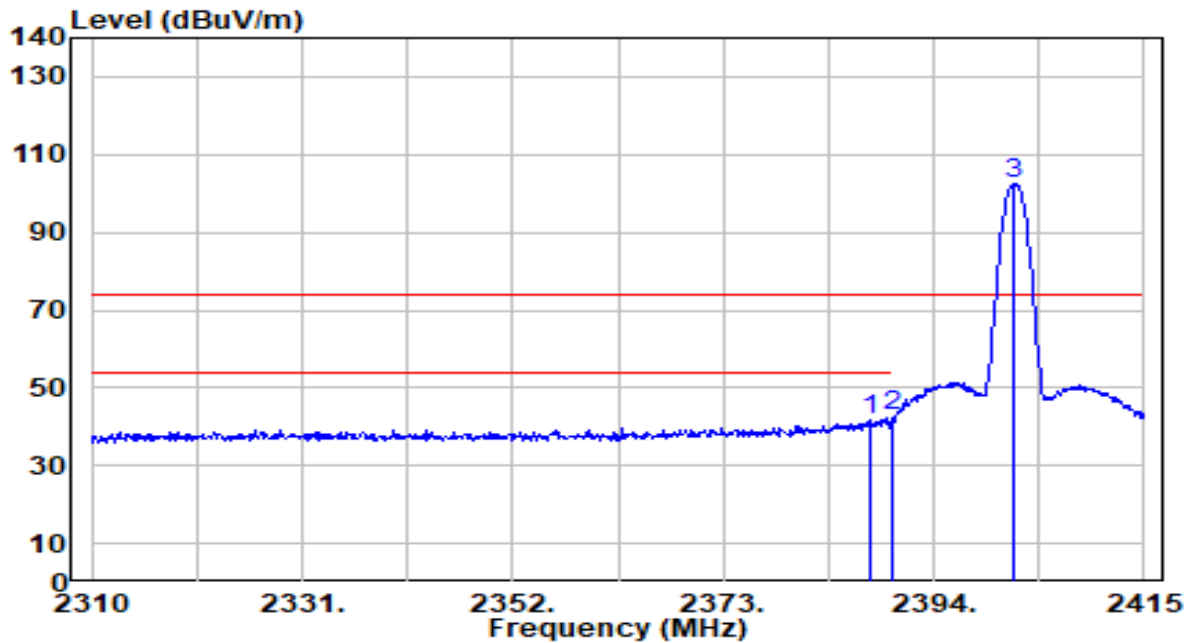
9. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
10. RBW = 1MHz
11. VBW  $\geq 1/T$
12. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
13. Detector = Peak
14. Sweep time = auto
15. Trace mode = max hold
16. Allow max hold to run for at least 50 times (1/duty cycle) traces

#### 7.7.4. Test Setup



### 7.7.5. Test Result

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 0	Test Voltage	AC 120V/60Hz

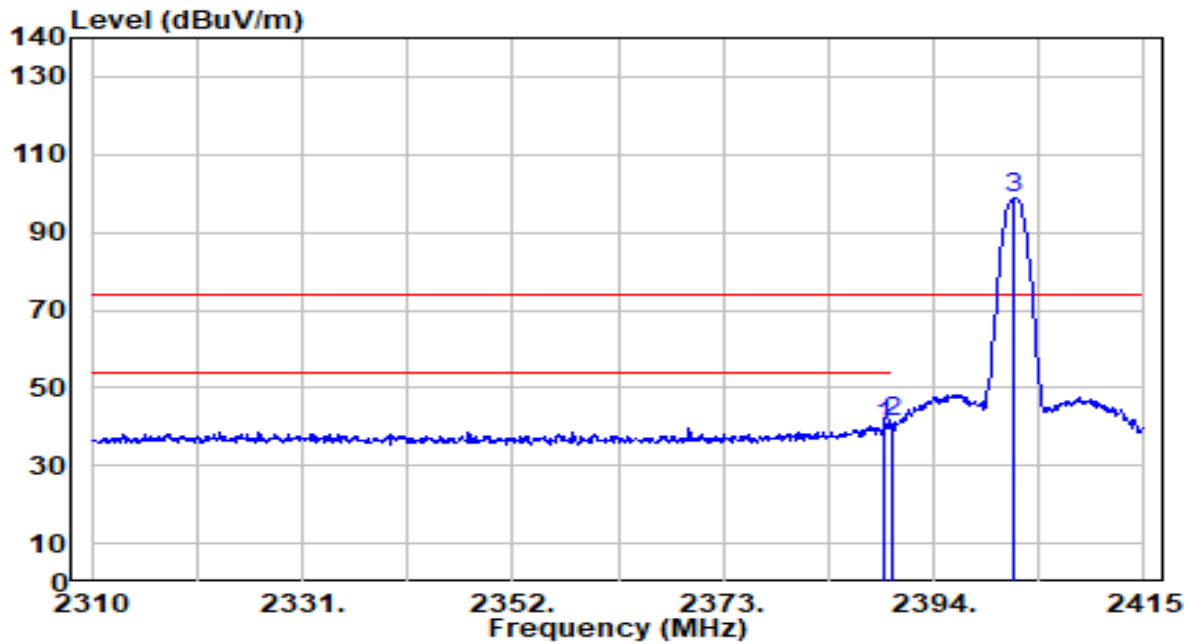


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2387.805	47.37	-5.62	41.76	-32.24	74.00	144	23	Peak
2	* 2390.000	48.15	-5.62	42.53	-31.47	74.00	144	23	Peak
3	2402.085	107.97	-5.61	102.36	N/A	N/A	144	23	Peak

Note:

- "\*" means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 0	Test Voltage	AC 120V/60Hz

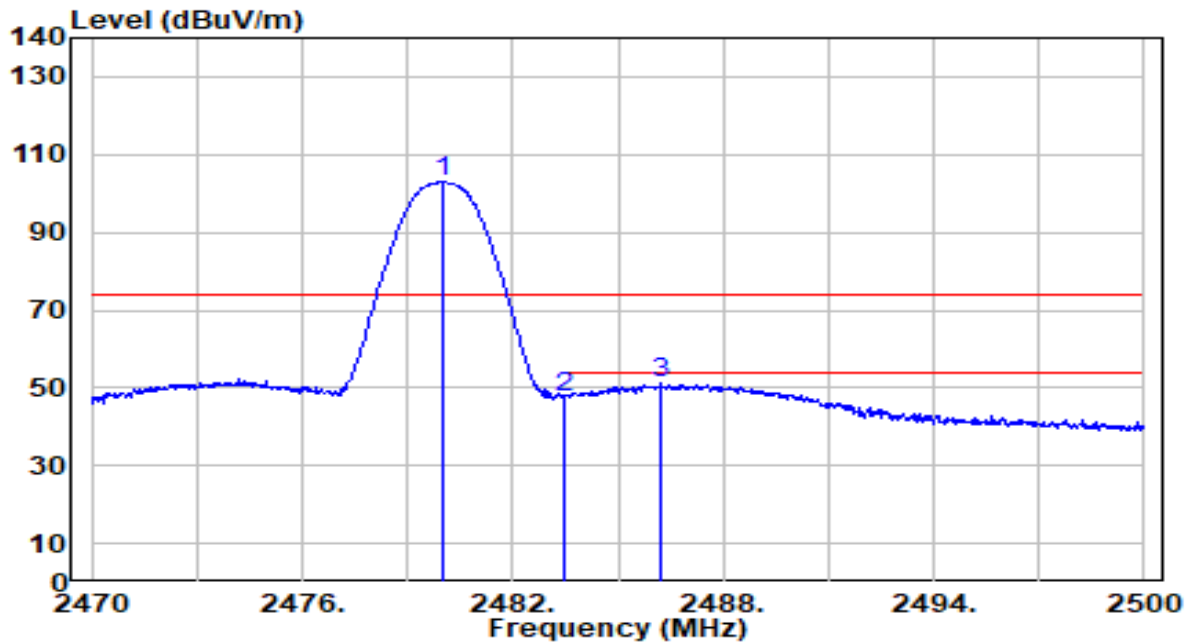


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2388.960	45.88	-5.62	40.27	-33.73	74.00	212	268	Peak
2	* 2390.000	46.75	-5.62	41.14	-32.86	74.00	212	268	Peak
3	2402.085	104.65	-5.61	99.04	N/A	N/A	212	268	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 39	Test Voltage	AC 120V/60Hz

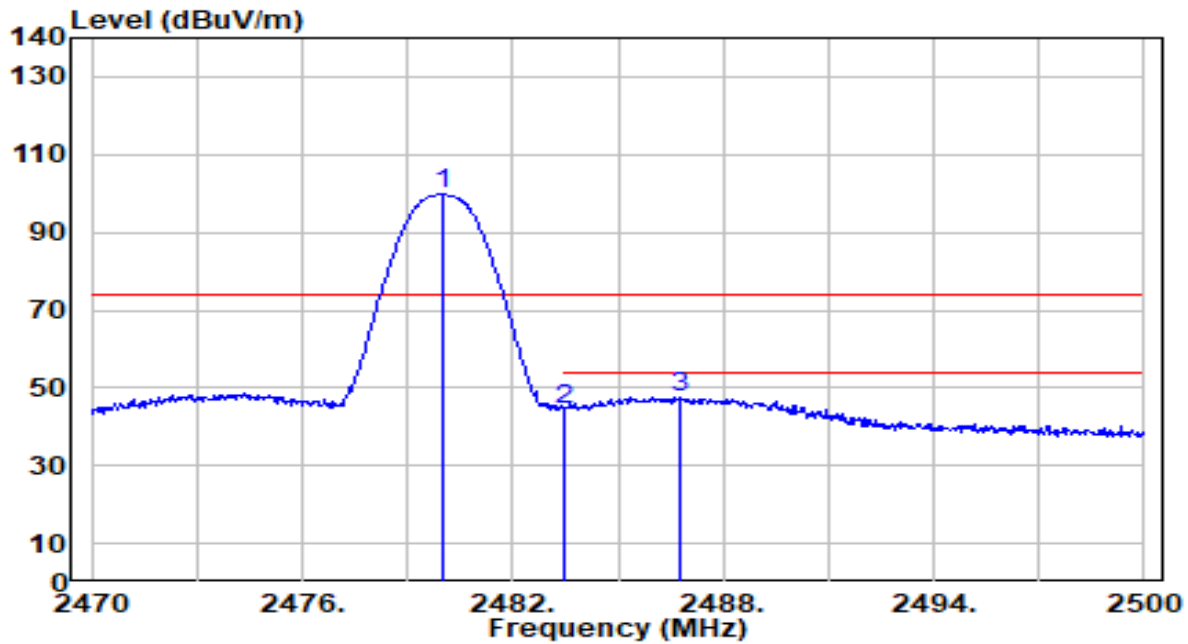


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2479.990	108.37	-5.43	102.94	N/A	N/A	200	20	Peak
2	2483.500	52.92	-5.42	47.50	-26.50	74.00	200	20	Peak
3	* 2486.230	56.49	-5.41	51.08	-22.92	74.00	200	20	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_1Mbps_CH 39	Test Voltage	AC 120V/60Hz

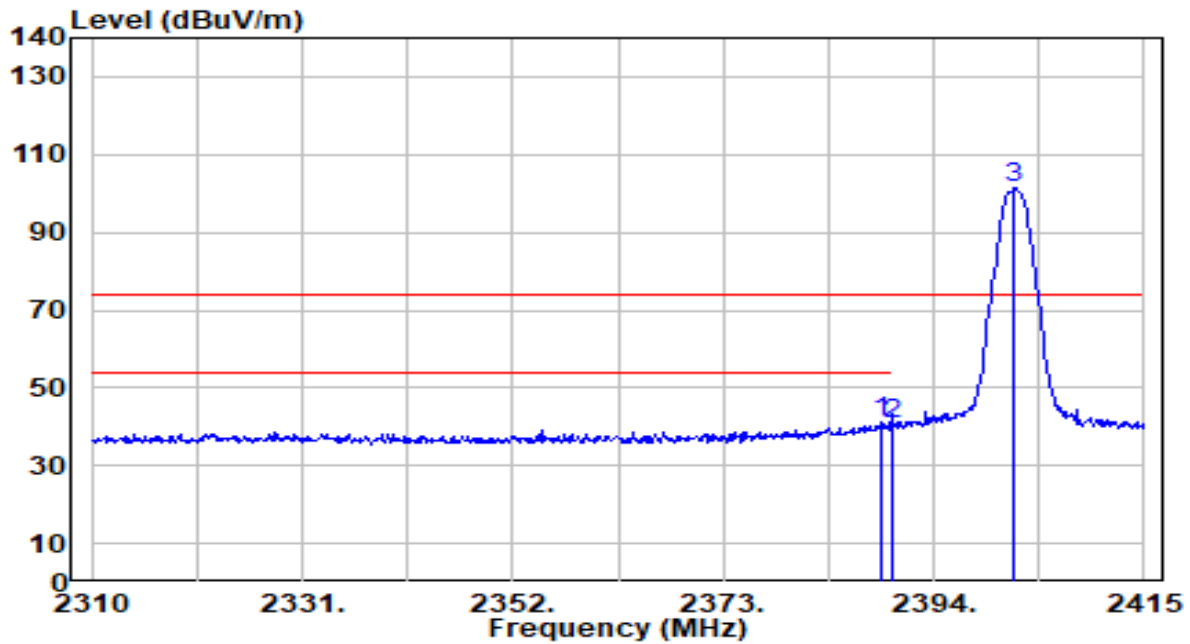


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2480.020	105.25	-5.43	99.82	N/A	N/A	231	268	Peak
2	2483.500	49.79	-5.42	44.37	-29.63	74.00	231	268	Peak
3	* 2486.770	53.07	-5.41	47.65	-26.35	74.00	231	268	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 0	Test Voltage	AC 120V/60Hz



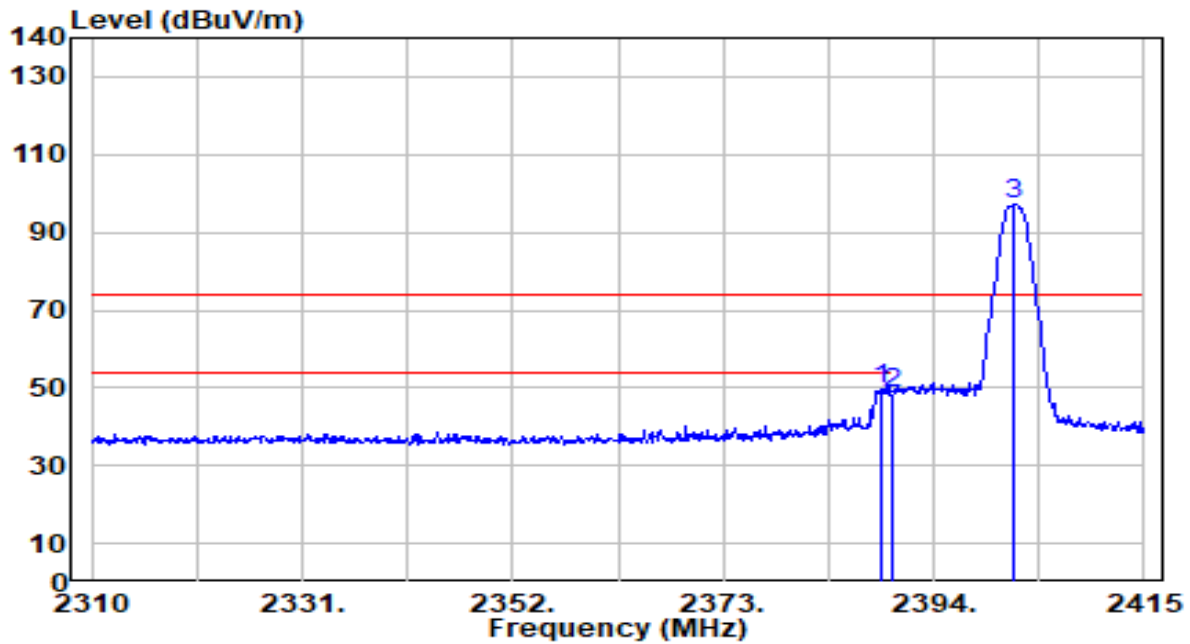
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)	
1	*	2388.855	46.75	-5.62	41.13	-32.87	74.00	100	218	Peak
2		2390.000	46.05	-5.62	40.44	-33.56	74.00	100	218	Peak
3		2402.085	106.89	-5.61	101.29	N/A	N/A	100	218	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 0	Test Voltage	AC 120V/60Hz

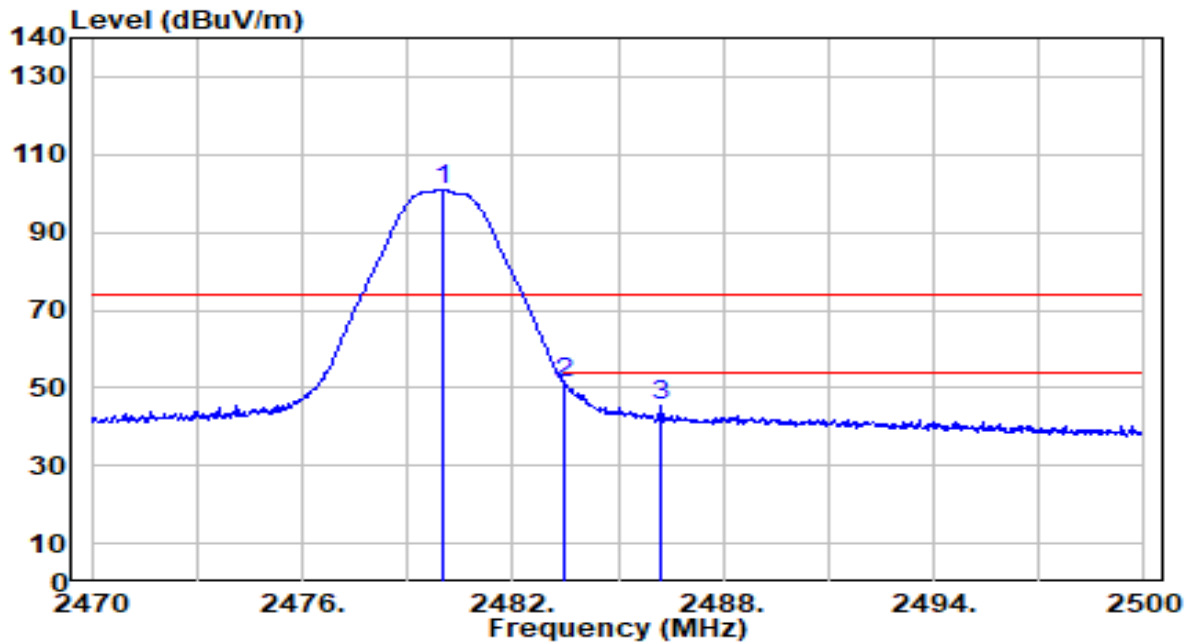


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 2388.855	55.36	-5.62	49.74	-24.26	74.00	187	161	Peak
2	2390.000	54.39	-5.62	48.77	-25.23	74.00	187	161	Peak
3	2402.085	103.01	-5.61	97.40	N/A	N/A	187	161	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 39	Test Voltage	AC 120V/60Hz

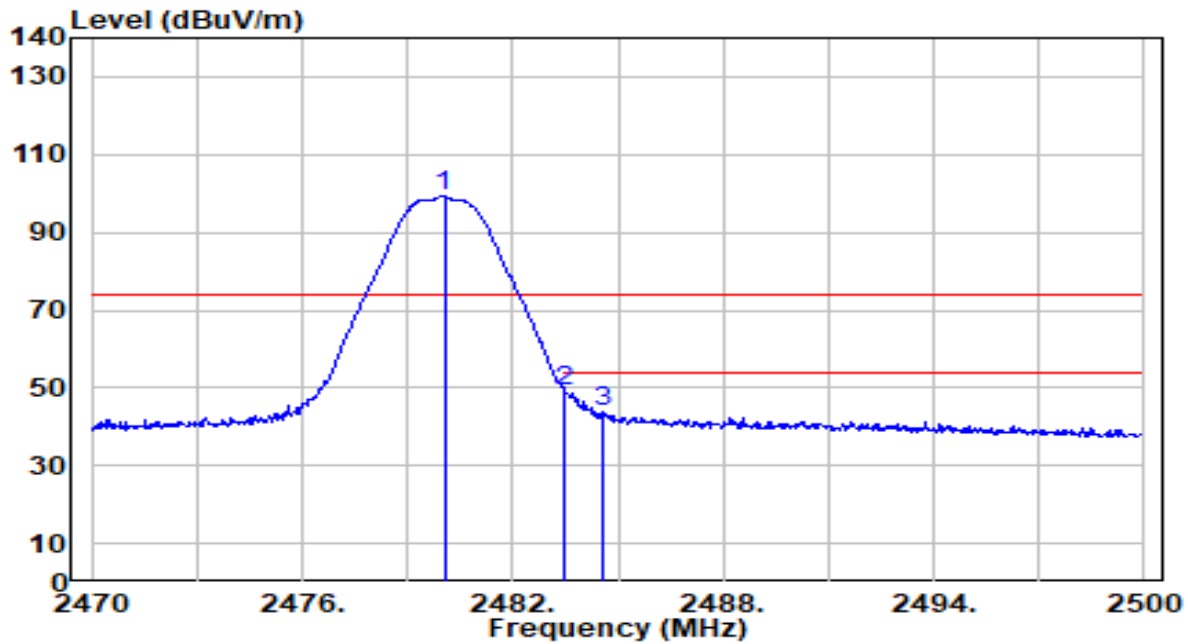


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2480.020	106.47	-5.43	101.04	N/A	N/A	118	32	Peak
2	* 2483.500	56.81	-5.42	51.40	-22.60	74.00	118	32	Peak
3	2486.230	50.75	-5.41	45.34	-28.66	74.00	118	32	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-03-06
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_2Mbps_CH 39	Test Voltage	AC 120V/60Hz

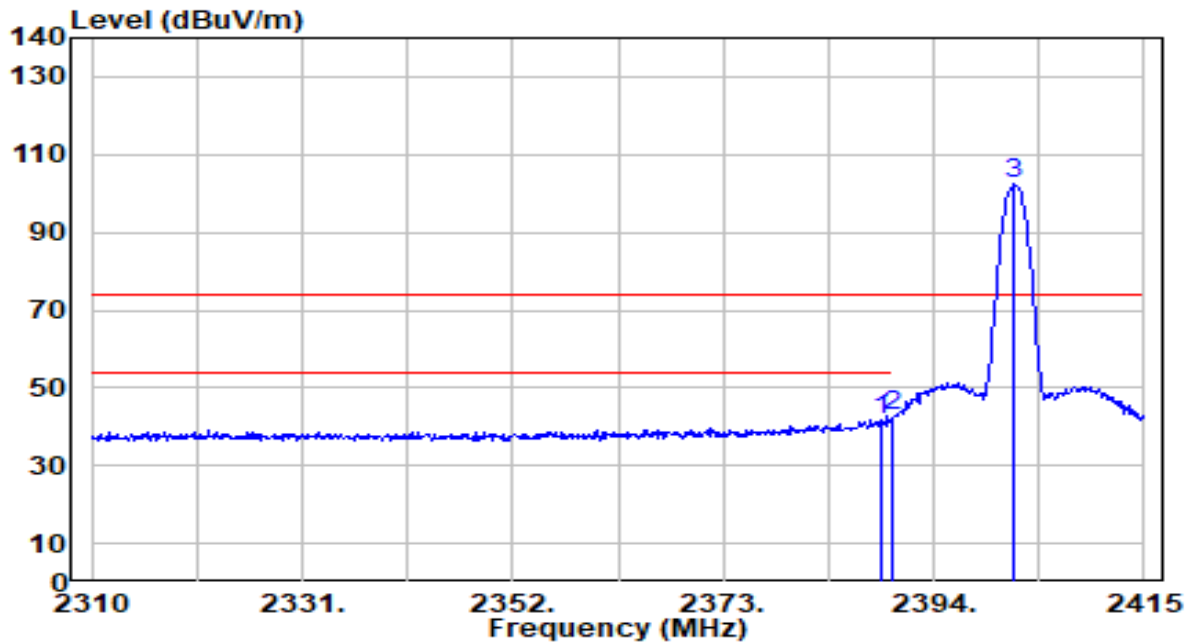


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2480.050	104.64	-5.43	99.21	N/A	N/A	128	134	Peak
2	* 2483.500	54.44	-5.42	49.02	-24.98	74.00	128	134	Peak
3	2484.550	49.28	-5.42	43.87	-30.13	74.00	128	134	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 0	Test Voltage	AC 120V/60Hz

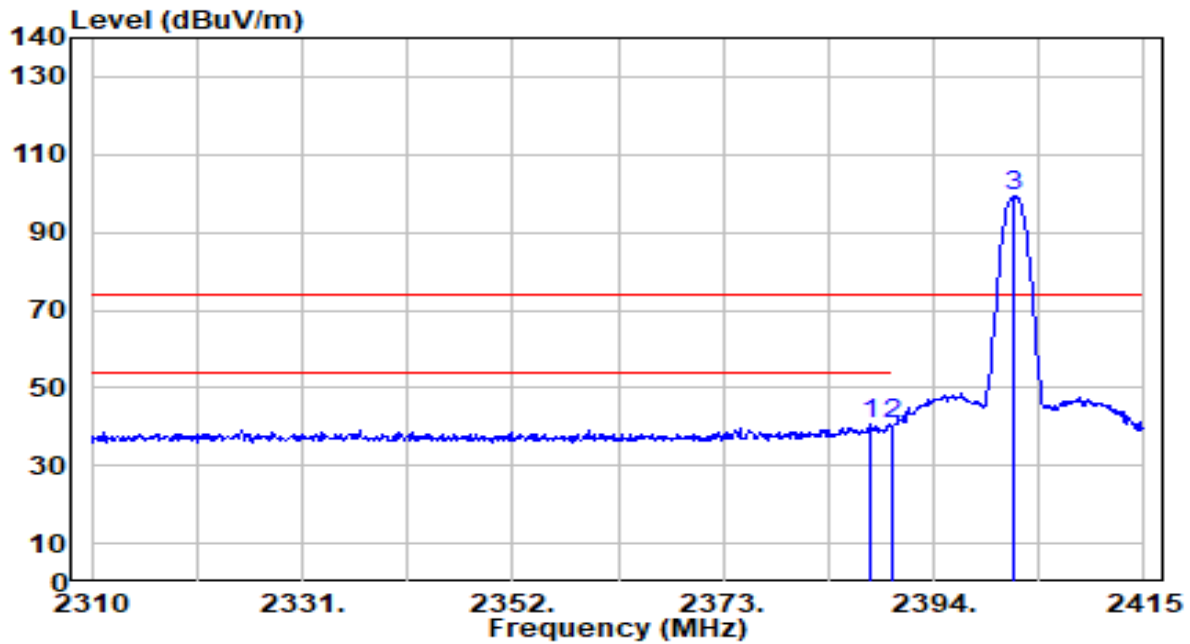


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2388.750	47.47	-5.62	41.85	-32.15	74.00	141	25	Peak
2	* 2390.000	48.45	-5.62	42.83	-31.17	74.00	141	25	Peak
3	2402.085	107.85	-5.61	102.25	N/A	N/A	141	25	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 0	Test Voltage	AC 120V/60Hz

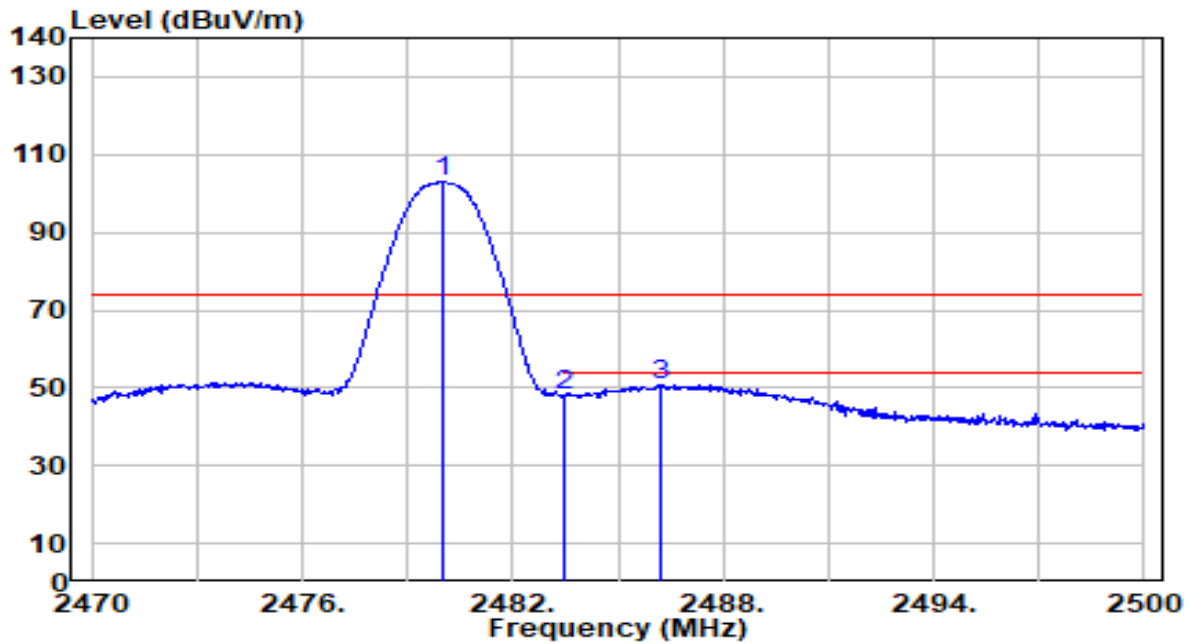


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2387.805	46.11	-5.62	40.49	-33.51	74.00	214	267	Peak
2	* 2390.000	46.53	-5.62	40.92	-33.08	74.00	214	267	Peak
3	2402.085	104.91	-5.61	99.31	N/A	N/A	214	267	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 39	Test Voltage	AC 120V/60Hz

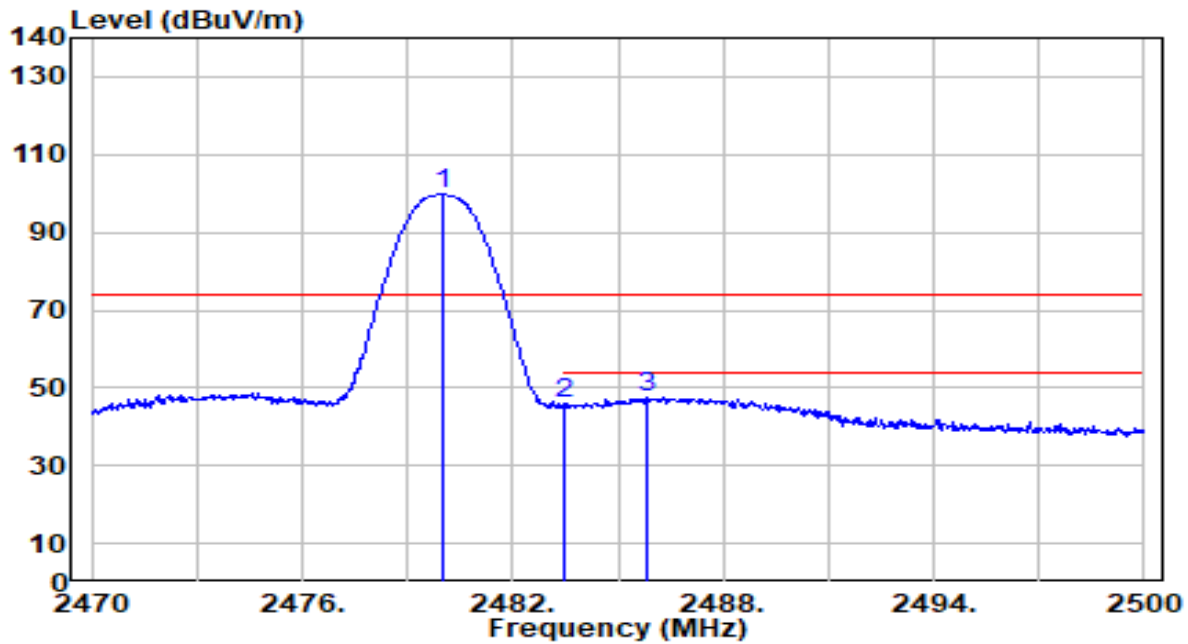


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2479.990	108.39	-5.43	102.96	N/A	N/A	200	21	Peak
2	2483.500	53.42	-5.42	48.00	-26.00	74.00	200	21	Peak
3	* 2486.200	56.11	-5.41	50.70	-23.30	74.00	200	21	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=2_CH 39	Test Voltage	AC 120V/60Hz

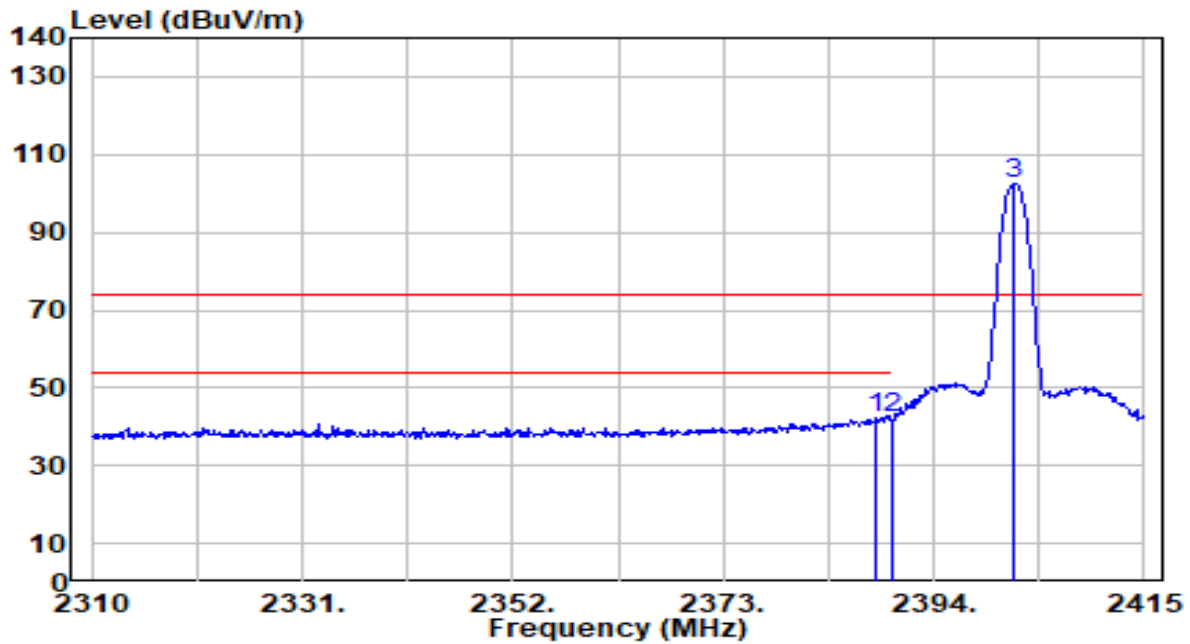


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2479.990	105.26	-5.43	99.83	N/A	N/A	235	269	Peak
2	2483.500	51.19	-5.42	45.77	-28.23	74.00	235	269	Peak
3	* 2485.810	53.01	-5.41	47.60	-26.40	74.00	235	269	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 0	Test Voltage	AC 120V/60Hz



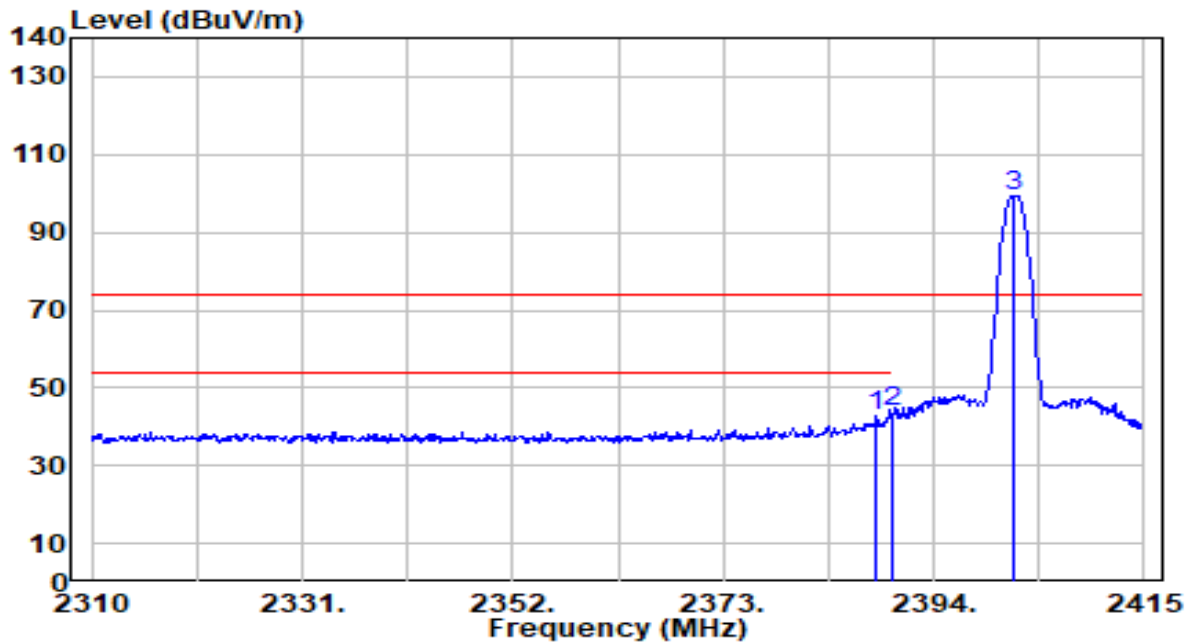
No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 2388.330	48.03	-5.62	42.42	-31.58	74.00	143	24	Peak
2	2390.000	47.73	-5.62	42.12	-31.88	74.00	143	24	Peak
3	2402.085	108.25	-5.61	102.64	N/A	N/A	143	24	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 0	Test Voltage	AC 120V/60Hz

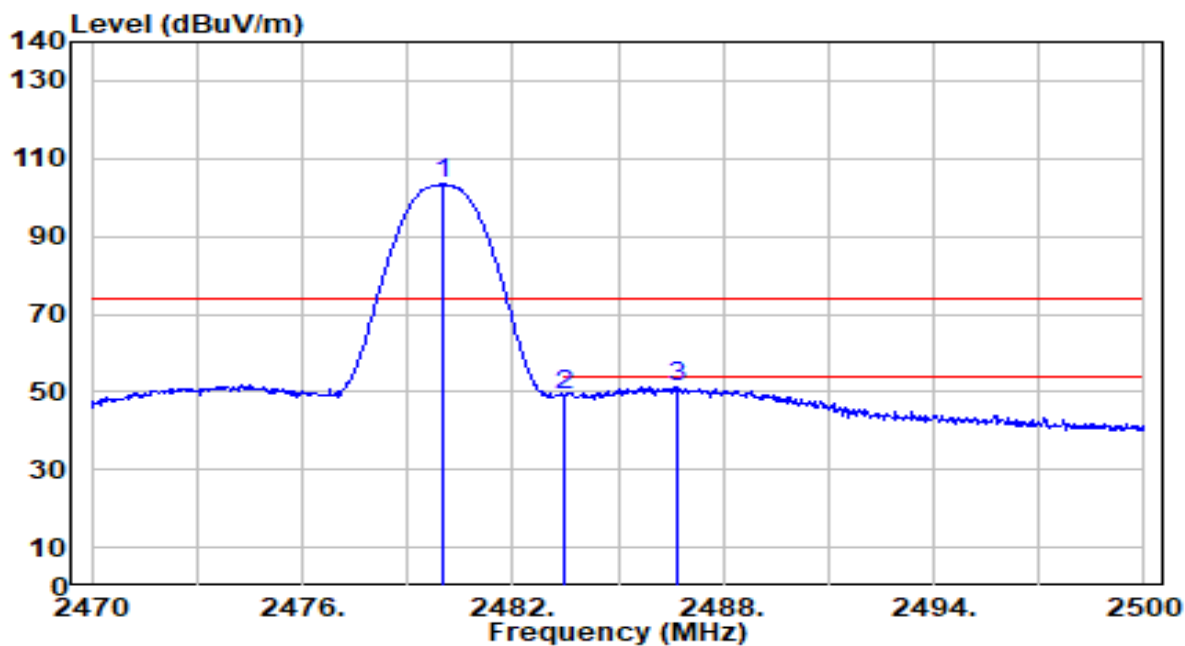


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2388.330	48.22	-5.62	42.60	-31.40	74.00	211	265	Peak
2	* 2390.000	49.65	-5.62	44.04	-29.96	74.00	211	265	Peak
3	2402.085	105.18	-5.61	99.58	N/A	N/A	211	265	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Horizontal	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 39	Test Voltage	AC 120V/60Hz

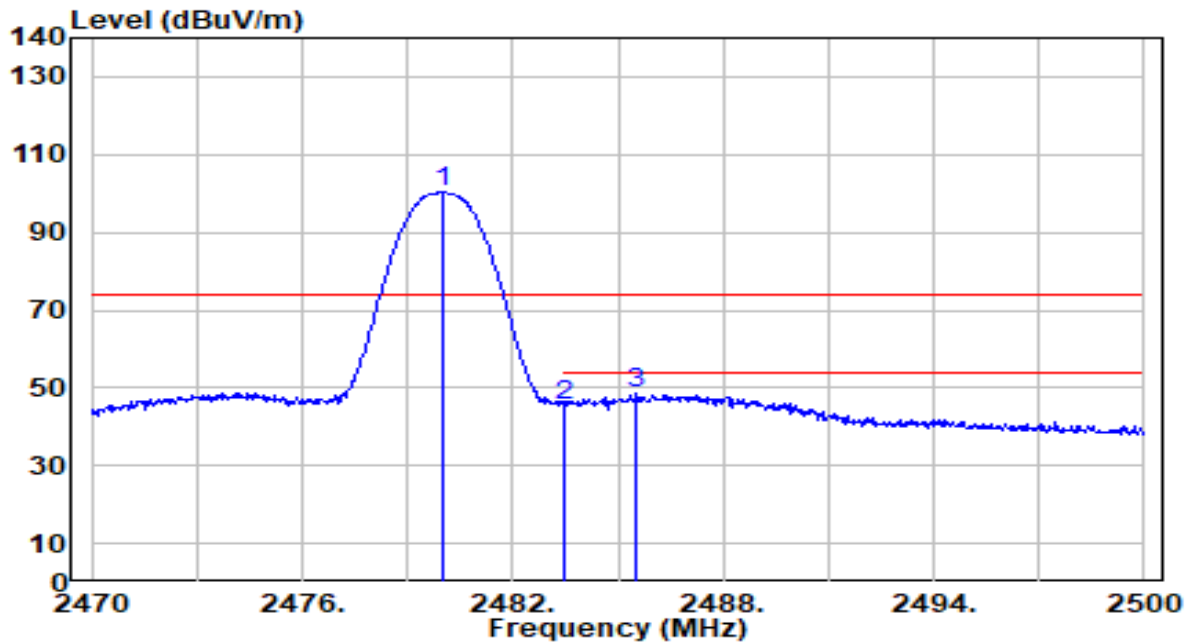


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2479.990	108.79	-5.43	103.37	N/A	N/A	180	21	Peak
2	2483.500	54.48	-5.42	49.06	-24.94	74.00	180	21	Peak
3	* 2486.680	56.61	-5.41	51.20	-22.80	74.00	180	21	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	WLAN / BT Module	Date of Test	2023-02-24
Factor	DRH18-E	Temp. / Humidity	24°C /62%
Polarity	Vertical	Site / Test Engineer	AC2 / Xuan
Test Mode	BLE_TX_Coded S=8_CH 39	Test Voltage	AC 120V/60Hz



No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2480.020	105.75	-5.43	100.32	N/A	N/A	229	269	Peak
2	2483.500	50.96	-5.42	45.54	-28.46	74.00	229	269	Peak
3	* 2485.540	53.93	-5.41	48.51	-25.49	74.00	229	269	Peak

Note:

1. " \*" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 7.8. AC Conducted Emissions Measurement

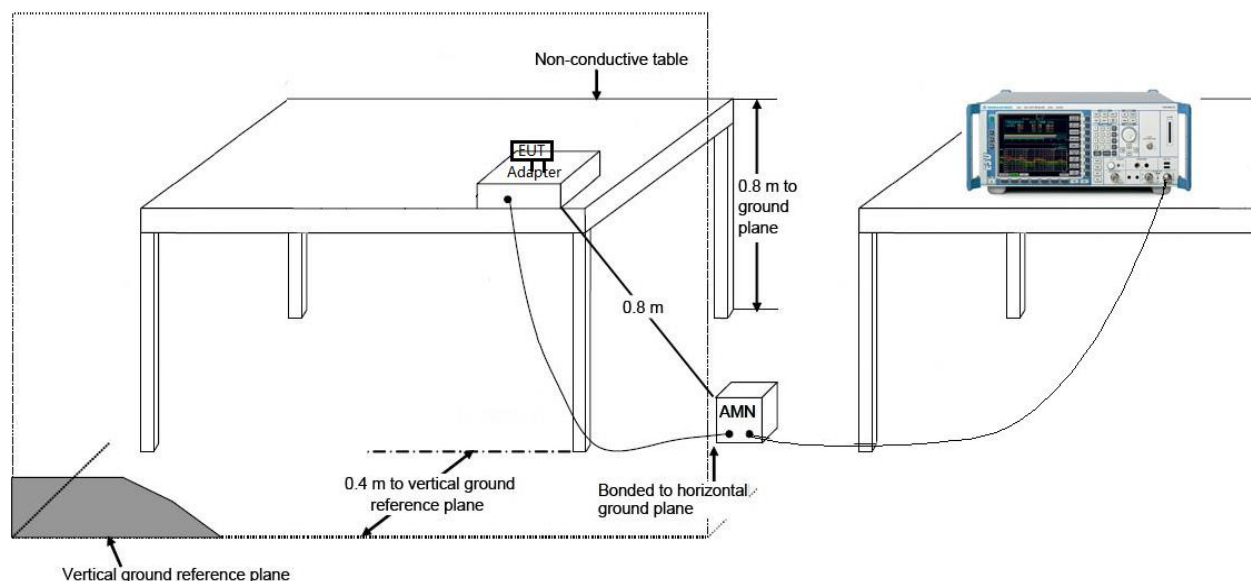
### 7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 / RSS-Gen Limits		
Frequency (MHz)	QP (dB $\mu$ V)	Average (dB $\mu$ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

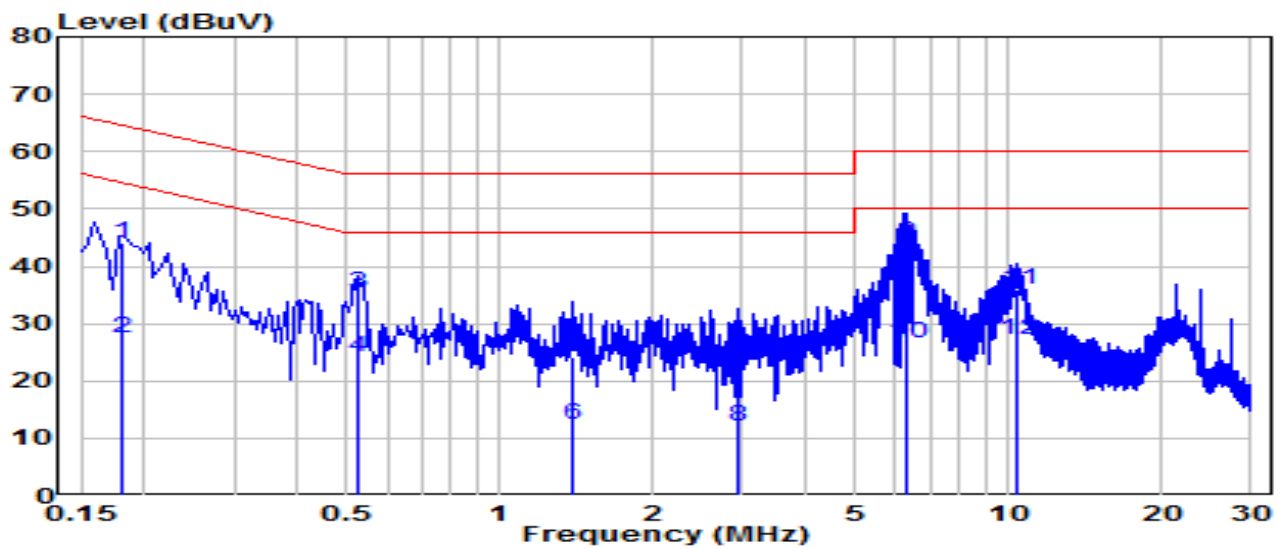
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

### 7.8.2. Test Setup



### 7.8.3. Test Result

EUT	WLAN / BT Module	Date of Test	2023-02-13
Factor	CE_ENV216-L1 (Filter ON)	Temp. / Humidity	24.5°C / 64%
Polarity	Line1	Site / Test Engineer	SR2 / Tim
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz

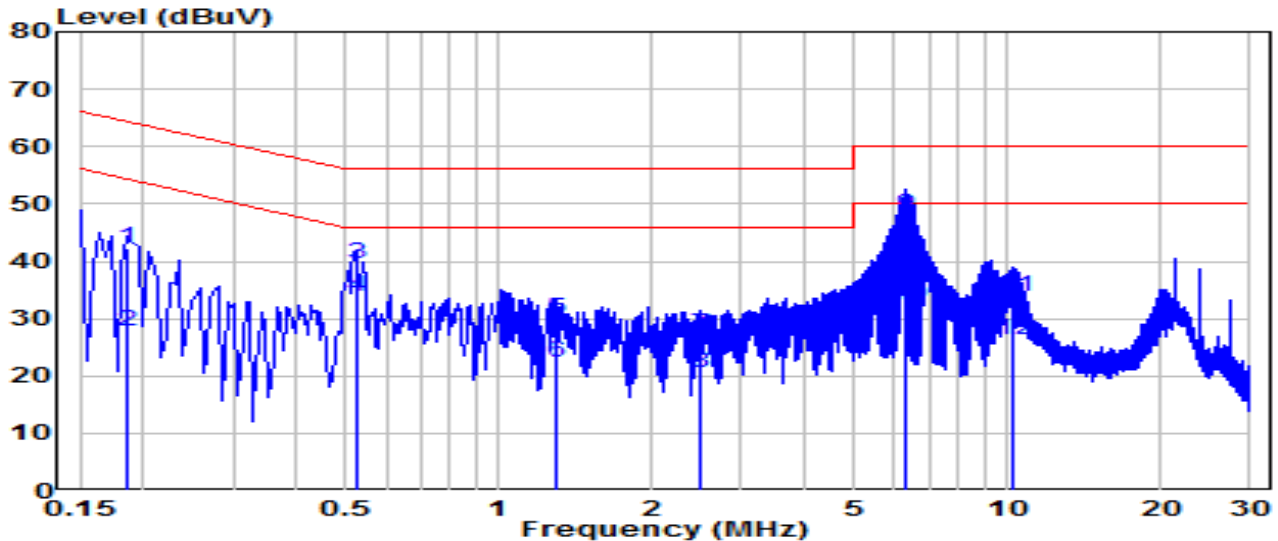


No	Frequency (MHz)	Reading (dBUV)	C.F (dB)	Measurement (dBUV)	Margin (dB)	Limit (dBUV)	Remark (QP/PK/AV)
1	0.181	34.34	9.62	43.96	-20.46	64.42	QP
2	0.181	17.88	9.62	27.50	-26.92	54.42	Average
3	0.528	25.70	9.64	35.35	-20.65	56.00	QP
4	0.528	14.49	9.64	24.13	-21.87	46.00	Average
5	1.387	14.35	9.68	24.03	-31.97	56.00	QP
6	1.387	2.71	9.68	12.39	-33.61	46.00	Average
7	2.953	13.37	9.71	23.08	-32.92	56.00	QP
8	2.953	2.35	9.71	12.06	-33.94	46.00	Average
9	* 6.319	34.25	9.78	44.03	-15.97	60.00	QP
10	* 6.319	16.70	9.78	26.48	-23.52	50.00	Average
11	10.418	25.92	9.86	35.78	-24.22	60.00	QP
12	10.418	17.42	9.86	27.29	-22.71	50.00	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBUV) = Reading(dBUV) + C.F (Correction Factor).

EUT	WLAN / BT Module	Date of Test	2023-02-13
Factor	CE_ENV216-N (Filter ON)	Temp. / Humidity	24.5°C /64%
Polarity	Neutral	Site / Test Engineer	SR2 / Tim
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 120V/60Hz

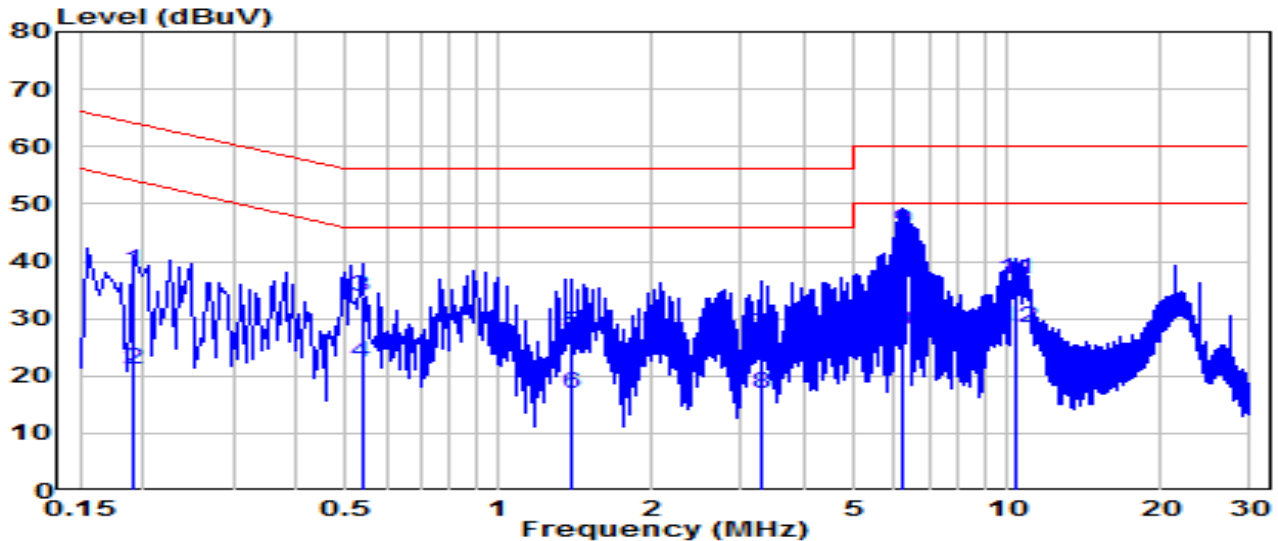


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1	0.186	32.51	9.62	42.13	-22.08	64.21	QP
2	0.186	18.02	9.62	27.64	-26.57	54.21	Average
3	0.523	30.01	9.64	39.65	-16.35	56.00	QP
4	0.523	24.21	9.64	33.85	-12.15	46.00	Average
5	1.288	20.10	9.68	29.77	-26.23	56.00	QP
6	1.288	12.60	9.68	22.28	-23.72	46.00	Average
7	2.503	17.51	9.70	27.21	-28.79	56.00	QP
8	2.503	10.89	9.70	20.59	-25.41	46.00	Average
9	* 6.296	38.21	9.78	47.99	-12.01	60.00	QP
10	* 6.296	22.42	9.78	32.20	-17.80	50.00	Average
11	10.301	23.79	9.87	33.66	-26.34	60.00	QP
12	10.301	16.43	9.87	26.30	-23.70	50.00	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

EUT	WLAN / BT Module	Date of Test	2023-02-13
Factor	CE_ENV216-L1 (Filter ON)	Temp. / Humidity	24.5°C /64%
Polarity	Line1	Site / Test Engineer	SR2 / Tim
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 240V/60Hz

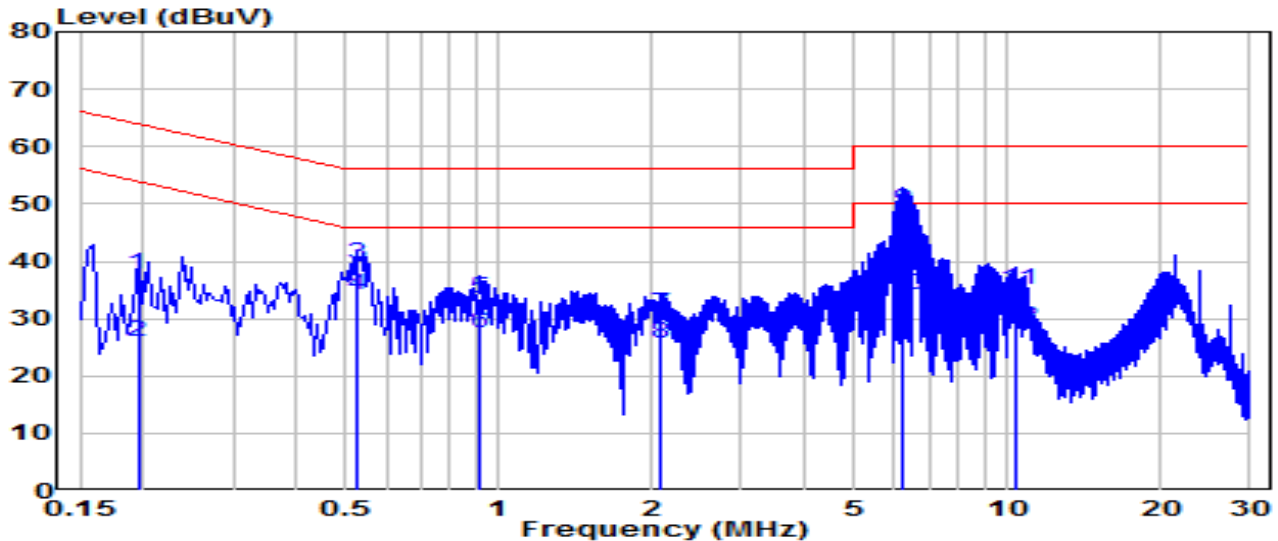


No	Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1	0.190	28.70	9.62	38.32	-25.69	64.01	QP
2	0.190	11.51	9.62	21.13	-32.89	54.01	Average
3	0.537	24.21	9.64	33.86	-22.14	56.00	QP
4	0.537	12.65	9.64	22.30	-23.70	46.00	Average
5	1.392	17.67	9.68	27.35	-28.65	56.00	QP
6	1.392	7.35	9.68	17.03	-28.97	46.00	Average
7	3.282	17.51	9.72	27.22	-28.78	56.00	QP
8	3.282	7.34	9.72	17.06	-28.94	46.00	Average
9	*	6.220	9.77	45.34	-14.66	60.00	QP
10	*	6.220	9.77	27.70	-22.30	50.00	Average
11	10.391	26.90	9.86	36.76	-23.24	60.00	QP
12	10.391	18.50	9.86	28.36	-21.64	50.00	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

EUT	WLAN / BT Module	Date of Test	2023-02-13
Factor	CE_ENV216-N (Filter ON)	Temp. / Humidity	24.5°C /64%
Polarity	Neutral	Site / Test Engineer	SR2 / Tim
Test Mode	BLE_TX_1Mbps_CH 19	Test Voltage	AC 240V/60Hz



No	Frequency (MHz)	Reading (dBUV)	C.F (dB)	Measurement (dBUV)	Margin (dB)	Limit (dBUV)	Remark (QP/PK/AV)
1	0.195	28.16	9.62	37.78	-26.04	63.82	QP
2	0.195	16.25	9.62	25.87	-27.95	53.82	Average
3	0.528	30.01	9.64	39.65	-16.35	56.00	QP
4	0.528	24.39	9.64	34.03	-11.97	46.00	Average
5	0.910	23.83	9.66	33.49	-22.51	56.00	QP
6	0.910	17.86	9.66	27.52	-18.48	46.00	Average
7	2.071	21.11	9.69	30.80	-25.20	56.00	QP
8	2.071	15.84	9.69	25.53	-20.47	46.00	Average
9	* 6.247	39.19	9.78	48.96	-11.04	60.00	QP
10	* 6.247	24.42	9.78	34.20	-15.80	50.00	Average
11	10.436	25.28	9.88	35.15	-24.85	60.00	QP
12	10.436	18.62	9.88	28.49	-21.51	50.00	Average

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBUV) = Reading(dBUV) + C.F (Correction Factor).



## 8. CONCLUSION

The data collected relate only the item(s) tested and show that the device is in compliance with Part 15C of the FCC Rules.

## **Appendix A : Test Photograph**

Refer to “2301TW0110-UT” file.

## **Appendix B : External Photograph**

Refer to “2301TW0110-UE” file.

## **Appendix C : Internal Photograph**

Refer to “2301TW0110-UI” file.

————— The End —————