

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
**Report No.:** RFBBUI-WTW-P21040655Z-2  
**FCC ID:** TX2-RTL8852BE  
**Product:** 11ax RTL8852BE Combo module  
**Brand:** REALTEK  
**Model No.:** RTL8852BE  
**Received Date:** 2024/2/6  
**Test Date:** 2024/3/21 ~ 2024/5/27  
**Issued Date:** 2024/5/31

**Applicant:** Realtek Semiconductor Corp.  
**Address:** No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan  
**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory  
**Lab Address:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan  
**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan  
**FCC Registration /** 723255 / TW2022  
**Designation Number:**

**Approved by:** \_\_\_\_\_, **Date:** 2024/5/31  
May Chen / Manager

This test report consists of 56 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.



Prepared by : Phoenix Huang / Specialist

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us-our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate</b> .....	<b>4</b>
<b>2 Summary of Test Results</b> .....	<b>5</b>
2.1 Measurement Uncertainty .....	5
2.2 Supplementary Information .....	5
<b>3 General Information</b> .....	<b>6</b>
3.1 General Description .....	6
3.2 Antenna Description of EUT .....	7
3.3 Channel List .....	8
3.4 Test Mode Applicability and Tested Channel Detail .....	9
3.5 Duty Cycle of Test Signal .....	10
3.6 Test Program Used and Operation Descriptions .....	11
3.7 Connection Diagram of EUT and Peripheral Devices .....	11
3.8 Configuration of Peripheral Devices and Cable Connections .....	12
<b>4 Test Instruments</b> .....	<b>13</b>
4.1 RF Output Power .....	13
4.2 AC Power Conducted Emissions .....	13
4.3 Unwanted Emissions below 1 GHz .....	14
4.4 Unwanted Emissions above 1 GHz .....	15
<b>5 Limits of Test Items</b> .....	<b>16</b>
5.1 RF Output Power .....	16
5.2 AC Power Conducted Emissions .....	16
5.3 Unwanted Emissions below 1 GHz .....	16
5.4 Unwanted Emissions above 1 GHz .....	17
<b>6 Test Arrangements</b> .....	<b>18</b>
6.1 RF Output Power .....	18
6.1.1 Test Setup .....	18
6.1.2 Test Procedure .....	18
6.2 AC Power Conducted Emissions .....	18
6.2.1 Test Setup .....	18
6.2.2 Test Procedure .....	18
6.3 Unwanted Emissions below 1 GHz .....	19
6.3.1 Test Setup .....	19
6.3.2 Test Procedure .....	20
6.4 Unwanted Emissions above 1 GHz .....	21
6.4.1 Test Setup .....	21
6.4.2 Test Procedure .....	21
<b>7 Test Results of Test Item</b> .....	<b>22</b>
7.1 RF Output Power .....	22
7.2 AC Power Conducted Emissions .....	23
7.3 Unwanted Emissions below 1 GHz .....	25
7.4 Unwanted Emissions above 1 GHz .....	31
<b>8 Pictures of Test Arrangements</b> .....	<b>55</b>
<b>9 Information of the Testing Laboratories</b> .....	<b>56</b>

## Release Control Record

Issue No.	Description	Date Issued
RFBBUI-WTW-P21040655Z-2	Original release.	2024/5/31

## 1 Certificate

**Product:** 11ax RTL8852BE Combo module

**Brand:** REALTEK

**Test Model:** RTL8852BE

**Sample Status:** Engineering sample

**Applicant:** Realtek Semiconductor Corp.

**Test Date:** 2024/3/21 ~ 2024/5/27

**Standard:** 47 CFR FCC Part 15, Subpart C (Section 15.247)

**Measurement** ANSI C63.10-2013

**procedure:** KDB 558074 D01 15.247 Meas Guidance v05r02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247 (a)(1)	RF Output Power	Pass	Meet the requirement of limit.
15.247(a)(1) (iii)	Number of Hopping Frequency Used	N/A	Refer to Note 1 below
15.247(a)(1) (iii)	Dwell Time on Each Channel	N/A	Refer to Note 1 below
15.247(a)(1)	Hopping Channel Separation	N/A	Refer to Note 1 below
15.247(a)(1)	20 dB Bandwidth	N/A	Refer to Note 1 below
15.247(d)	Conducted Out of Band Emissions	N/A	Refer to Note 1 below
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -12.72 dB at 0.15781 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.7 dB at 896.19 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -9.7 dB at 7323.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is i-pex(MHF) not a standard connector.

### Notes:

1. Only RF Output Power, AC Power Conducted Emissions and Unwanted Emissions test items were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Parameter	Specification	Uncertainty (±)
RF Output Power	-	1.1 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.1 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

### 2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

### 3 General Information

#### 3.1 General Description

Product	11ax RTL8852BE Combo module
Brand	REALTEK
Test Model	RTL8852BE
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	GFSK, $\pi/4$ -DQPSK, 8DPSK
Modulation Technology	FHSS
Transfer Rate	Up to 3 Mbps
Operating Frequency	2.402 GHz ~ 2.48 GHz
Number of Channel	79
Output Power	16.596 mW (12.2 dBm)

Note:

- This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RFBBUI-WTW-P21040655E-2 as the following:
  - ◆ Add PCIe+USB E-Key for dual antenna SKU.
  - ◆ Add component (R4) for identified voltage in the new interface.
  - ◆ Software change.
- According to above conditions, only RF Output Power, AC Power Conducted Emissions and Unwanted Emissions test items need to be performed and all data was tested to meet the requirements.
- There are Bluetooth and WLAN (2.4 GHz & 5 GHz) technology used for the EUT.
- Simultaneously transmission condition.

Condition	Technology	
1	WLAN (5 GHz)	Bluetooth

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

- The EUT has below HW SKU configuration, as below table:

Original		
SKU No.	Interface	Description
1	PCIe + USB (AE-Key)	Single antenna port
2	PCIe + USB (AE-Key)	Dual antenna port
3	PCIe + UART (E-Key)	Dual antenna port
Newly		
SKU No.	Interface	Description
4	PCIe + USB (E-Key)	Dual antenna port

- The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Ant. Set	RF Chain No.	Brand	Model	Ant. Net Gain (dBi)	Frequency Range (GHz)	Ant. Type	Connector Type	Cable Length (mm)
1	Chain 0	ARISTOTLE	RFA-27-JP326-MHF4300	3.5	2.4~2.4835	PIFA	i-pex(MHF)	300
				5	5.15~5.85			
				5	5.875~7.125			
	Chain 1	ARISTOTLE	RFA-27-JP326-MHF4300	3.5	2.4~2.4835	PIFA	i-pex(MHF)	300
				5	5.15~5.85			
				5	5.875~7.125			
2	Chain 0	ARISTOTLE	RFA-27-C38H1-MHF4300	3	2.4~2.4835	Dipole	i-pex(MHF)	300
				5	5.15~5.85			
				5	5.875~7.125			
	Chain 1	ARISTOTLE	RFA-27-C38H1-MHF4300	3	2.4~2.4835	Dipole	i-pex(MHF)	300
				5	5.15~5.85			
				5	5.875~7.125			
3	Chain 0	ARISTOTLE	RFA-27-JP378-4B-200	3.38	2.4~2.4835	Monopole	i-pex(MHF)	200
				4.81	5.15~5.85			
				4.86	5.875~7.125			
	Chain 1	ARISTOTLE	RFA-27-JP378-4B-200	3.38	2.4~2.4835	Monopole	i-pex(MHF)	200
				4.81	5.15~5.85			
				4.86	5.875~7.125			

Note: The Bluetooth technology will fix transmission on Chain 1.

\* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

### 3.3 Channel List

79 channels are provided for BT-EDR:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461		



### 3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture)
-----------	--

Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Power Profile	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	-	High	0, 39, 78	GFSK	DH5
				8DPSK	3DH5
AC Power Conducted Emissions	A	High	0	GFSK	DH5
Unwanted Emissions below 1 GHz	A, B, C	High	0	GFSK	DH5
Unwanted Emissions above 1 GHz	A, B, C	High	0, 39, 78	GFSK	DH5
EUT Configure Mode:	A	PIFA antenna with PCIe + USB E key interface + dual antenna port			
	B	Dipole antenna with PCIe + USB E key interface + dual antenna port			
	C	Monopole antenna with PCIe + USB E key interface + dual antenna port			

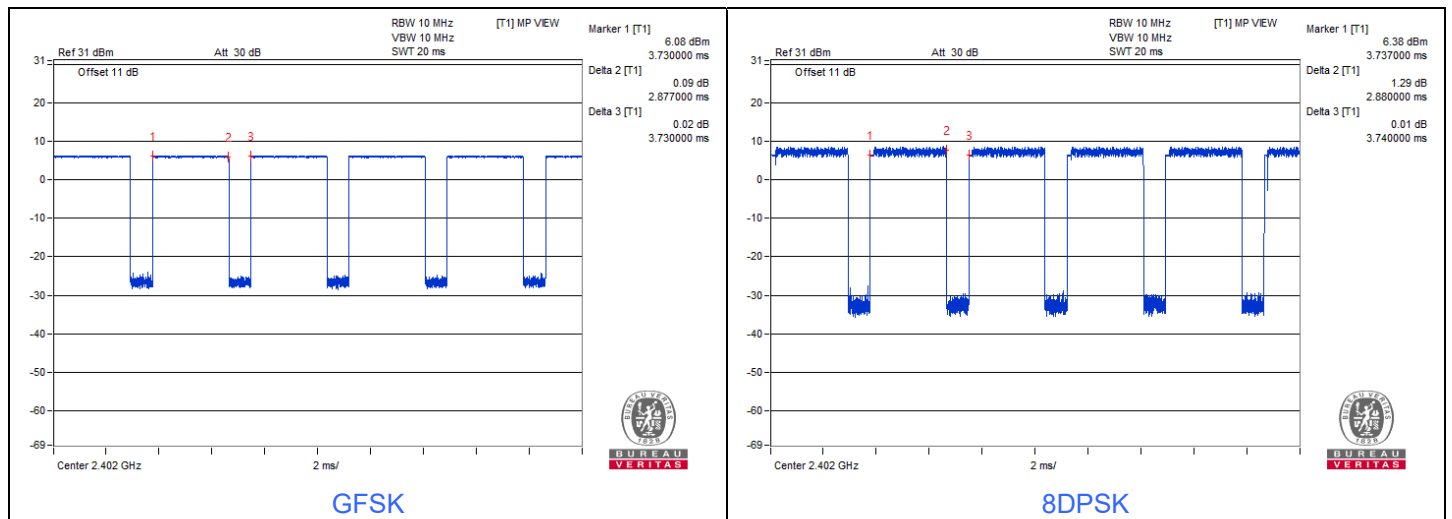
Note:

1. Bluetooth technology will fix transmission on Chain 1.
2. In the original report: For EUT antennas, the worst case was found when positioned on (X / Y / Z axis):
  - PIFA antenna: X-axis,
  - Dipole antenna: Y-axis used for typical placement,
  - Monopole antenna: Y-axis

### 3.5 Duty Cycle of Test Signal

**GFSK:** Duty cycle = 2.877 ms / 3.73 ms x 100% = 77.1%, duty factor = 10 \* log (1/Duty cycle) = 1.13 dB

**8DPSK:** Duty cycle = 2.88 ms / 3.74 ms x 100% = 77.0%, duty factor = 10 \* log (1/Duty cycle) = 1.13 dB

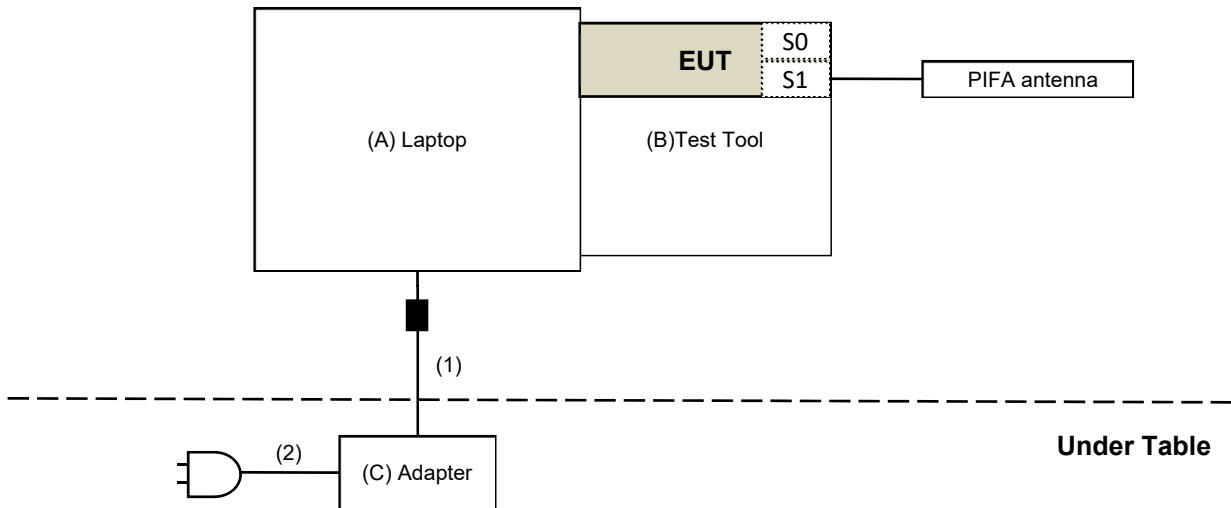


### 3.6 Test Program Used and Operation Descriptions

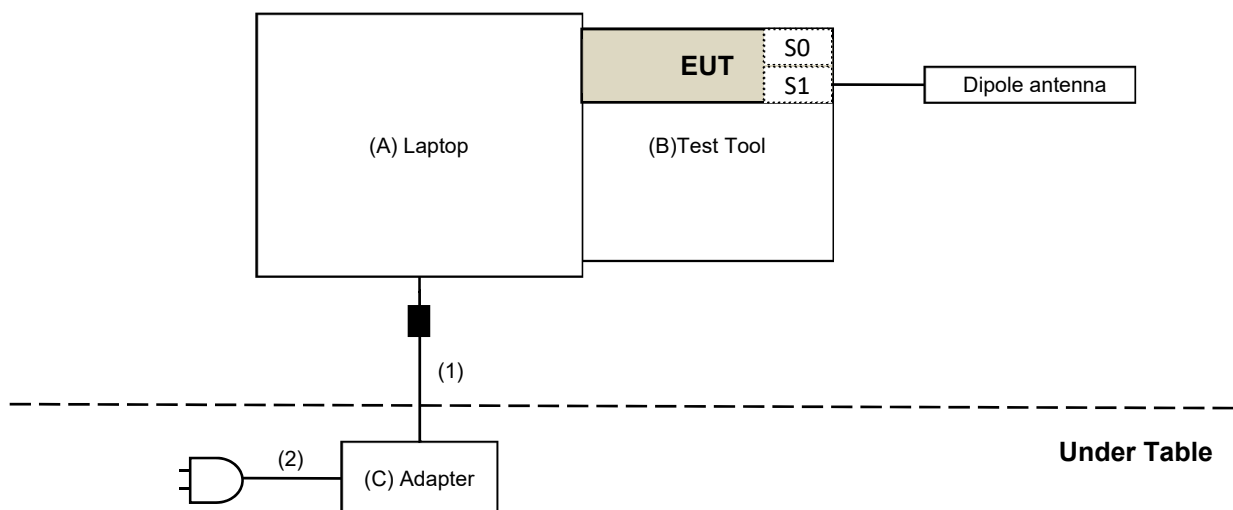
Controlling software (Bluetooth RF test tool (5.2.4.7)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices

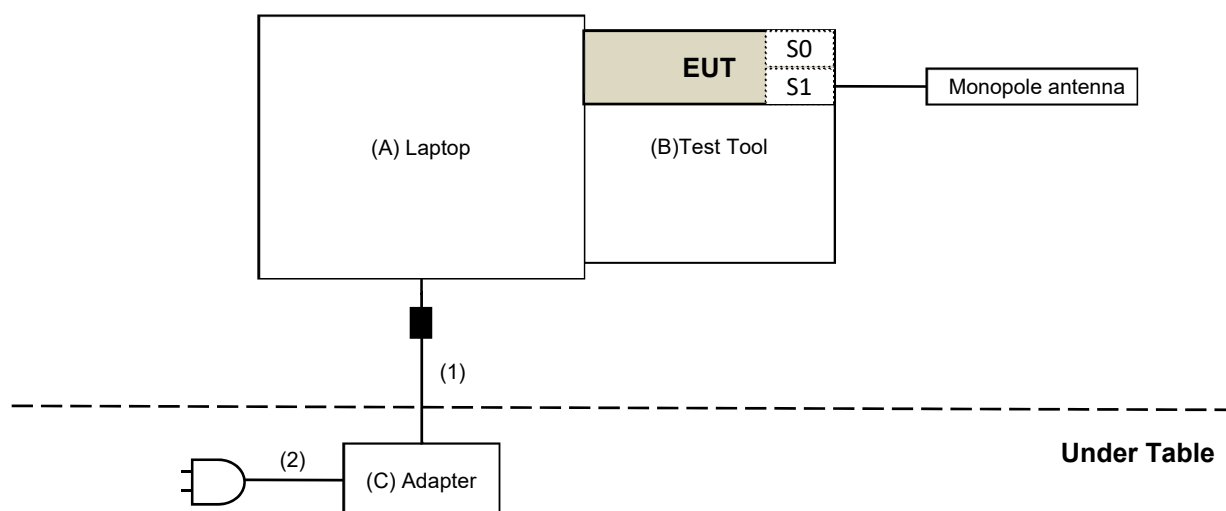
#### Mode A



#### Mode B



## Mode C



### 3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B	Test Tool	Realtek	N/A	N/A	N/A	Supplied by applicant
C	Adapter	DELL	LA65NS2-01	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	1	Provided by Lab
2	AC Cable	1	1	No	0	Provided by Lab

## 4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Pulse Power Sensor Anritsu	MA2411B	1726434	2023/6/19	2024/6/18
RF Power Meter Anritsu	ML2495A	1529002	2023/6/17	2024/6/16

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2024/5/24

### 4.2 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2023/10/20	2024/10/19
EMI Test Receiver R&S	ESCS 30	847124/029	2023/10/18	2024/10/17
Fixed Attenuator STI	STI02-2200-10	005	2024/2/19	2025/2/18
LISN R&S	ESH3-Z5	835239/001	2023/4/6	2024/4/5
		848773/004	2023/10/13	2024/10/12
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2024/2/19	2025/2/18
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2024/3/21 ~ 2024/3/22

### 4.3 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0842	2023/10/12	2024/10/11
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2023/4/6	2024/4/5
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2023/12/12	2024/12/11
Loop Antenna Electro-Metrics	EM-6879	264	2024/2/23	2025/2/22
Preamplifier EMCI	EMC330N	980538	2023/4/6	2024/4/5
	EMC001340	980142	2024/2/19	2025/2/18
PXA Signal Analyzer Keysight	N9030B	MY57141948	2023/5/19	2024/5/18
RF Coaxial Cable JYEBAO	5D-FB	LOOPCAB-001	2024/2/19	2025/2/18
		LOOPCAB-002	2024/2/19	2025/2/18
RF Coaxial Cable PEWC	8D	966-5-1	2023/4/6	2024/4/5
		966-5-2	2023/4/6	2024/4/5
		966-5-3	2023/4/6	2024/4/5
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2024/3/22 ~ 2024/3/25

#### 4.4 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2024/3/25	2025/3/24
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1819	2023/11/12	2024/11/11
	BBHA 9170	9170-739	2023/11/12	2024/11/11
Preamplifier EMCI	EMC12630SE	980509	2024/1/29	2025/1/28
	EMC184045SE	980387	2023/8/9	2024/8/8
PXA Signal Analyzer Keysight	N9030B	MY57141948	2024/5/20	2025/5/19
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2024/1/29	2025/1/28
	EMC102-KM-KM-4000	200214	2024/1/29	2025/1/28
	EMC104-SM-SM-1500	180503	2024/3/16	2025/3/15
	EMC104-SM-SM-2000	180501	2024/3/16	2025/3/15
	EMC104-SM-SM-6000	180506	2024/3/16	2025/3/15
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2024/5/24 ~ 2024/5/27

## 5 Limits of Test Items

### 5.1 RF Output Power

The Maximum Output Power Measurement is 125 mW (21 dBm).

### 5.2 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

### 5.3 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).



#### 5.4 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

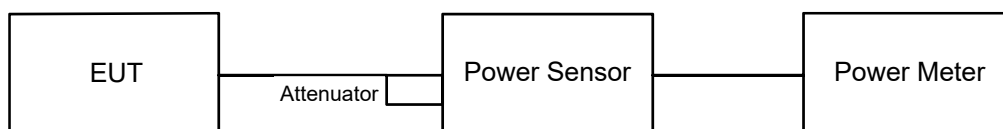
Notes:

3. The lower limit shall apply at the transition frequencies.
4. Emission level (dBuV/m) = 20 log Emission level (uV/m).
5. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

## 6 Test Arrangements

### 6.1 RF Output Power

#### 6.1.1 Test Setup



#### 6.1.2 Test Procedure

##### Peak Power:

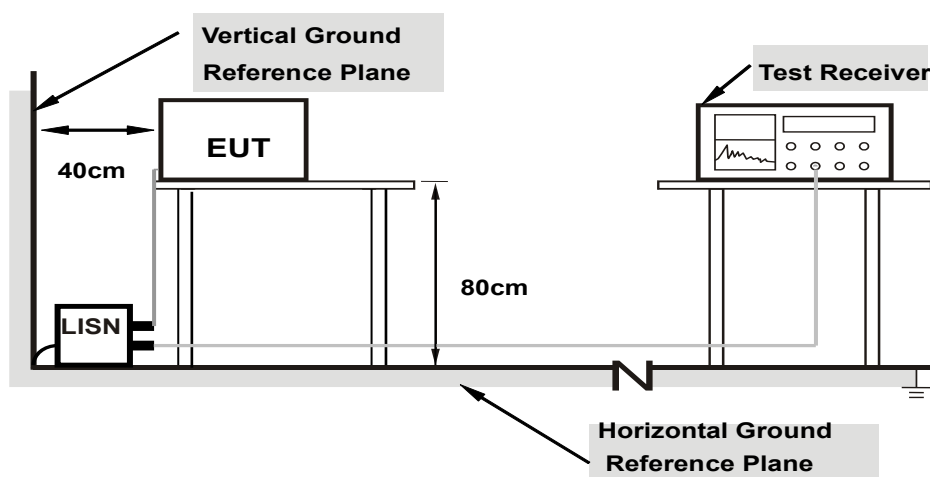
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

##### Average Power:

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

### 6.2 AC Power Conducted Emissions

#### 6.2.1 Test Setup



**Note: 1.Support units were connected to second LISN.**

For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 6.2.2 Test Procedure

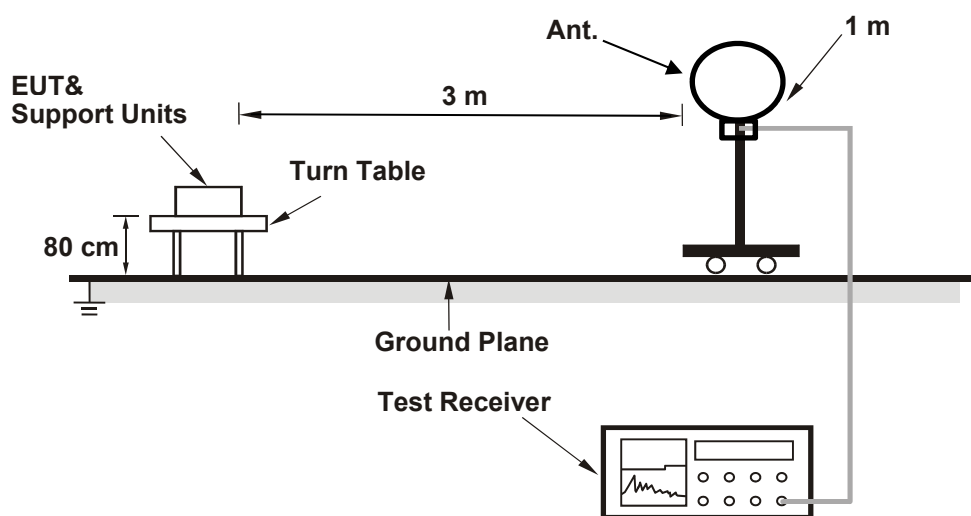
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

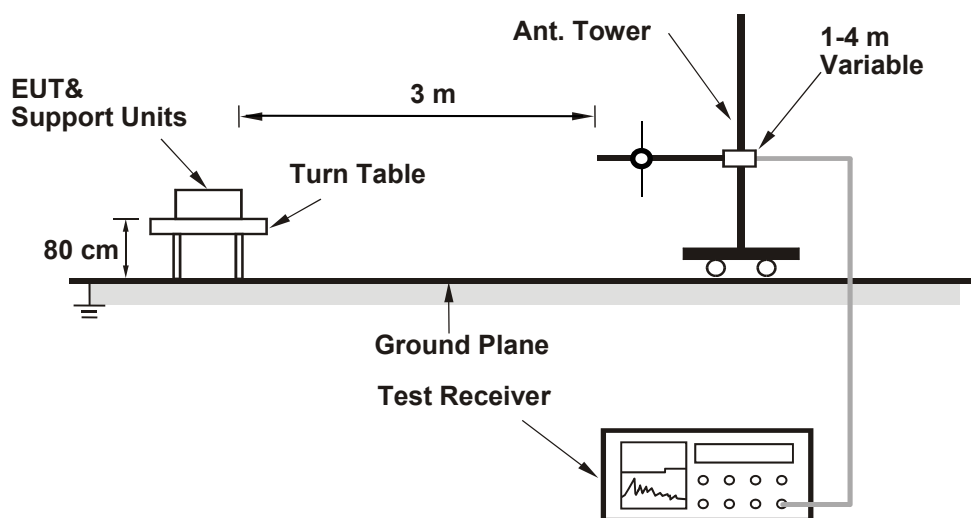
### 6.3 Unwanted Emissions below 1 GHz

#### 6.3.1 Test Setup

##### For Radiated emission below 30 MHz



##### For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 6.3.2 Test Procedure

#### For Radiated emission below 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

#### Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

#### For Radiated emission above 30 MHz

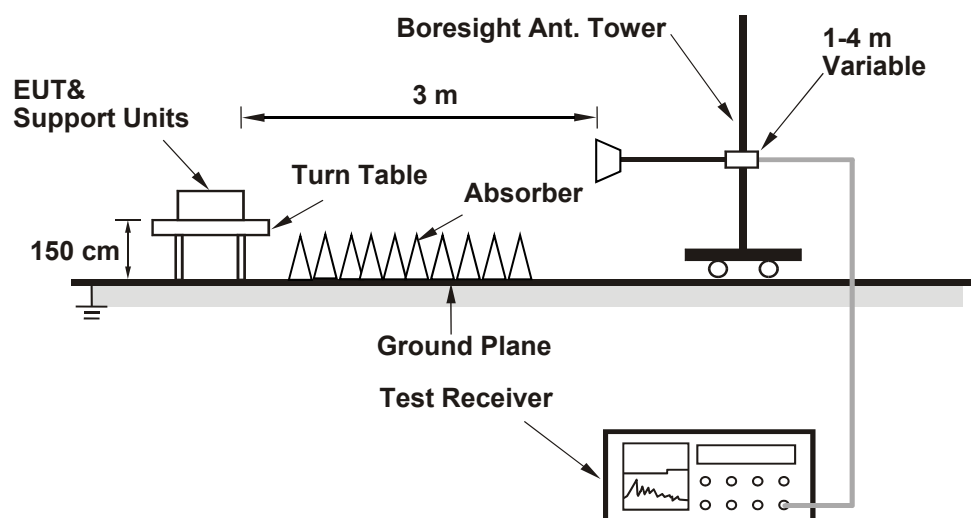
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

#### Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

## 6.4 Unwanted Emissions above 1 GHz

### 6.4.1 Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 6.4.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle  $< 98\%$ ) or 10 Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

## 7 Test Results of Test Item

### 7.1 RF Output Power

Input Power:	3.3 Vdc	Environmental Conditions:	26°C, 63% RH	Tested By:	Katina Lu
--------------	---------	---------------------------	--------------	------------	-----------

#### For Peak Power

##### GFSK

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	16.558	12.19	21	Pass
39	2441	16.406	12.15	21	Pass
78	2480	16.331	12.13	21	Pass

Note: The antenna gain is 3.5 dBi < 6 dBi, so the output power limit shall not be reduced.

##### 8DPSK

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	16.52	12.18	21	Pass
39	2441	16.596	12.20	21	Pass
78	2480	16.255	12.11	21	Pass

Note: The antenna gain is 3.5 dBi < 6 dBi, so the output power limit shall not be reduced.

#### For Average Power

##### GFSK

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	15.959	12.03
39	2441	15.922	12.02
78	2480	15.849	12.00

##### 8DPSK

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	8.492	9.29
39	2441	8.57	9.33
78	2480	8.318	9.20

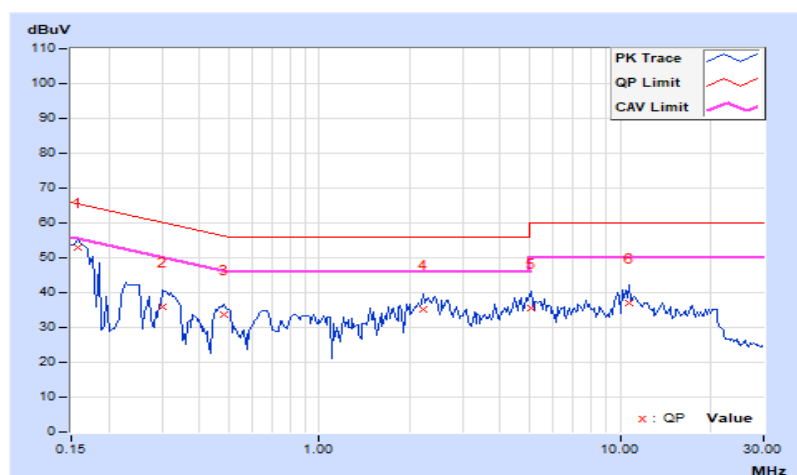
## 7.2 AC Power Conducted Emissions

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 71% RH
<b>Tested By</b>	Willy Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	9.93	42.93	29.79	52.86	39.72	65.58	55.58	-12.72	-15.86
2	0.30234	9.94	25.85	10.52	35.79	20.46	60.18	50.18	-24.39	-29.72
3	0.48203	9.95	23.72	15.31	33.67	25.26	56.30	46.30	-22.63	-21.04
4	2.22656	10.03	25.19	14.44	35.22	24.47	56.00	46.00	-20.78	-21.53
5	5.05859	10.18	25.38	15.90	35.56	26.08	60.00	50.00	-24.44	-23.92
6	10.71094	10.52	26.42	19.08	36.94	29.60	60.00	50.00	-23.06	-20.40

### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

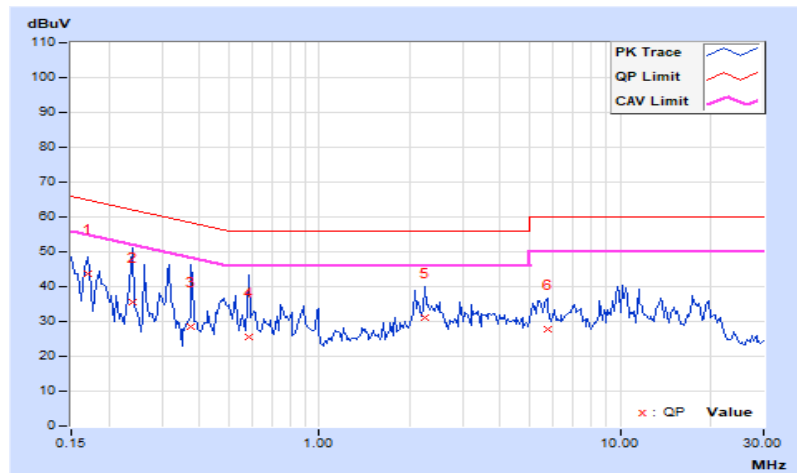


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	150 kHz ~ 30 MHz	<b>Detector Function &amp; Resolution Bandwidth</b>	Quasi-Peak (QP) / Average (AV), 9 kHz
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 71% RH
<b>Tested By</b>	Willy Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	9.99	33.57	11.72	43.56	21.71	64.98	54.98	-21.42	-33.27
2	0.23984	9.99	25.70	10.81	35.69	20.80	62.10	52.10	-26.41	-31.30
3	0.37656	10.00	18.38	12.70	28.38	22.70	58.35	48.35	-29.97	-25.65
4	0.58750	10.01	15.52	3.21	25.53	13.22	56.00	46.00	-30.47	-32.78
5	2.25000	10.08	21.18	13.57	31.26	23.65	56.00	46.00	-24.74	-22.35
6	5.72266	10.23	17.51	10.07	27.74	20.30	60.00	50.00	-32.26	-29.70

**Remarks:**

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value





### 7.3 Unwanted Emissions below 1 GHz

#### Mode A

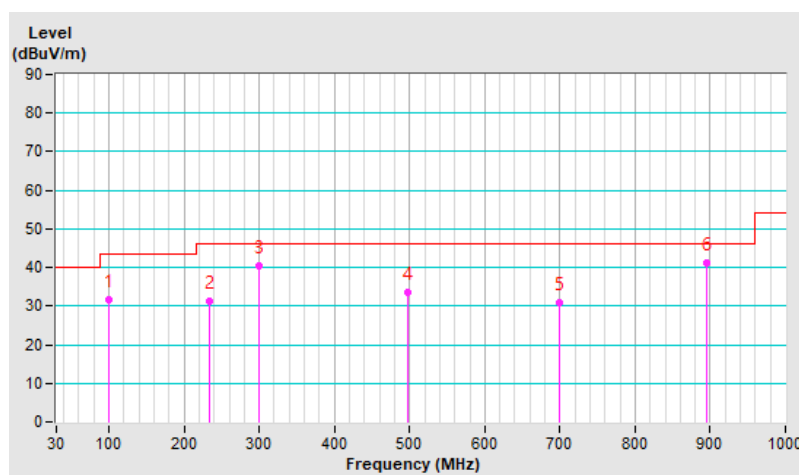
<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67% RH
<b>Tested By</b>	Willy Lin		

#### Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	99.77	31.6 QP	43.5	-11.9	2.00 H	272	53.8	-22.2
2	232.80	31.2 QP	46.0	-14.8	1.00 H	277	51.2	-20.0
3	299.32	40.4 QP	46.0	-5.6	1.00 H	110	57.5	-17.1
4	497.90	33.6 QP	46.0	-12.4	2.00 H	347	45.9	-12.3
5	698.43	30.9 QP	46.0	-15.1	2.00 H	171	39.2	-8.3
6	896.19	41.3 QP	46.0	-4.7	1.00 H	282	47.0	-5.7

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

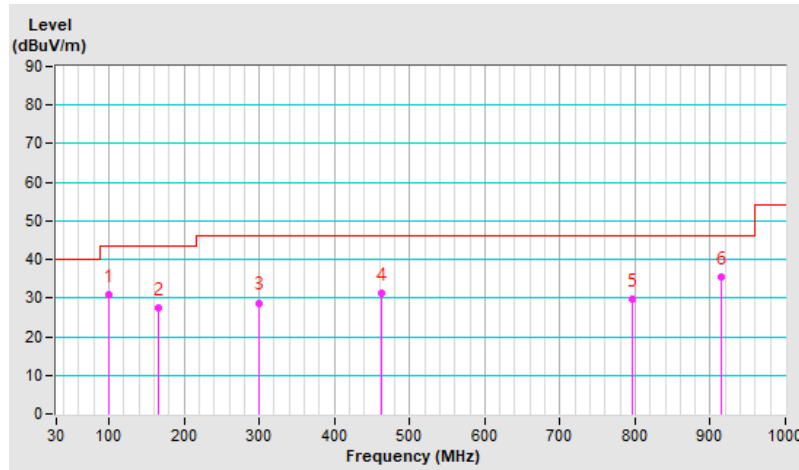


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	21°C, 67% RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	99.77	30.9 QP	43.5	-12.6	1.00 V	4	53.1	-22.2
2	166.26	27.4 QP	43.5	-16.1	1.00 V	43	45.1	-17.7
3	299.32	28.8 QP	46.0	-17.2	1.00 V	161	45.9	-17.1
4	462.62	31.1 QP	46.0	-14.9	1.00 V	161	44.0	-12.9
5	796.59	29.6 QP	46.0	-16.4	2.00 V	0	36.4	-6.8
6	914.18	35.5 QP	46.0	-10.5	1.00 V	170	41.0	-5.5

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



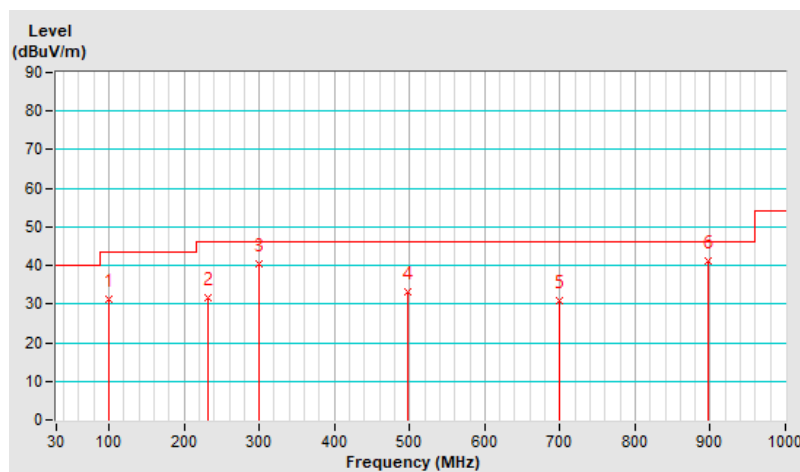
### Mode B

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20°C, 66% RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.90	31.2 QP	43.5	-12.3	1.00 H	279	53.6	-22.4
2	232.60	31.7 QP	46.0	-14.3	1.00 H	284	51.7	-20.0
3	299.70	40.5 QP	46.0	-5.5	2.00 H	360	57.6	-17.1
4	496.80	33.2 QP	46.0	-12.8	1.50 H	172	45.5	-12.3
5	698.40	31.0 QP	46.0	-15.0	1.00 H	274	39.3	-8.3
6	896.50	41.0 QP	46.0	-5.0	1.00 H	284	46.8	-5.8

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

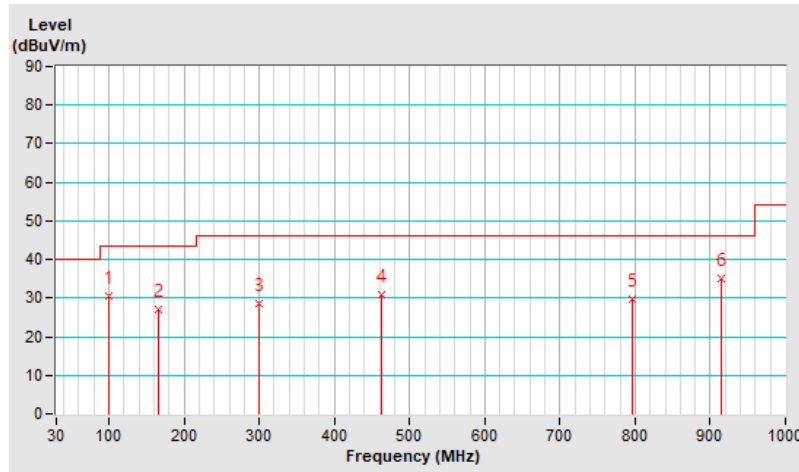


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20°C, 66% RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	99.20	30.6 QP	43.5	-12.9	2.00 V	8	52.9	-22.3
2	165.60	27.0 QP	43.5	-16.5	1.50 V	47	44.7	-17.7
3	299.70	28.7 QP	46.0	-17.3	3.00 V	168	45.8	-17.1
4	462.30	30.9 QP	46.0	-15.1	1.00 V	210	43.8	-12.9
5	796.40	29.7 QP	46.0	-16.3	2.00 V	38	36.5	-6.8
6	914.10	35.1 QP	46.0	-10.9	1.50 V	181	40.6	-5.5

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



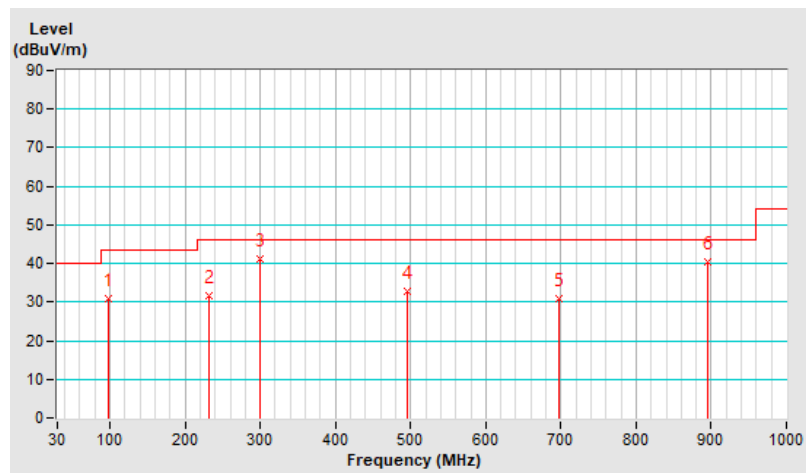
### Mode C

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20°C, 66% RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.40	31.0 QP	43.5	-12.5	1.00 H	278	53.5	-22.5
2	232.40	31.7 QP	46.0	-14.3	1.00 H	270	51.8	-20.1
3	300.10	41.1 QP	46.0	-4.9	2.00 H	358	58.1	-17.0
4	496.20	32.8 QP	46.0	-13.2	1.50 H	181	45.1	-12.3
5	698.10	30.8 QP	46.0	-15.2	1.00 H	258	39.1	-8.3
6	895.90	40.4 QP	46.0	-5.6	1.00 H	271	46.1	-5.7

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

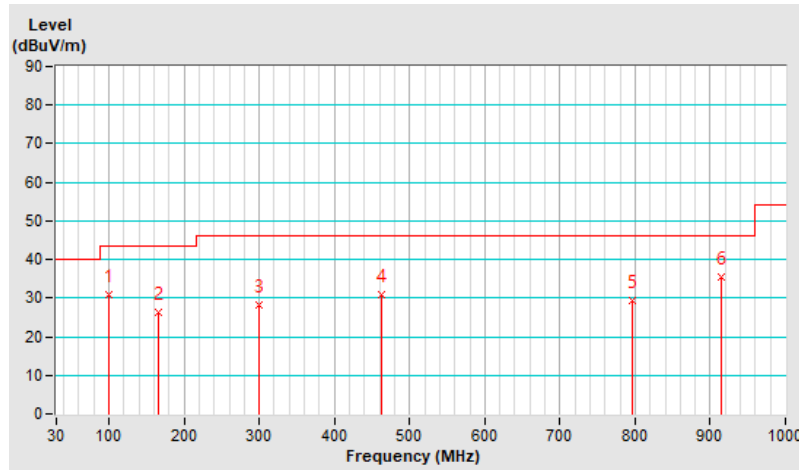


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	30 MHz ~ 1 GHz	<b>Detector Function &amp; Bandwidth</b>	QP: RB=120kHz, DET=Quasi-Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	20°C, 66% RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	99.20	30.7 QP	43.5	-12.8	2.00 V	22	53.0	-22.3
2	165.00	26.4 QP	43.5	-17.1	1.00 V	34	44.1	-17.7
3	299.60	28.1 QP	46.0	-17.9	1.50 V	159	45.2	-17.1
4	461.90	30.7 QP	46.0	-15.3	1.00 V	210	43.6	-12.9
5	796.70	29.2 QP	46.0	-16.8	1.03 V	27	36.0	-6.8
6	914.10	35.5 QP	46.0	-10.5	2.00 V	165	41.0	-5.5

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



## 7.4 Unwanted Emissions above 1 GHz

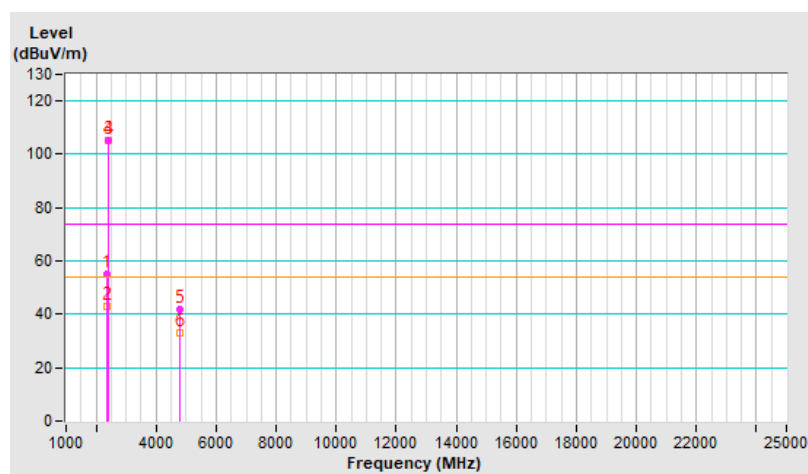
### Mode A

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2382.23	55.0 PK	74.0	-19.0	1.01 H	325	58.6	-3.6
2	2382.23	43.0 AV	54.0	-11.0	1.01 H	325	46.6	-3.6
3	*2402.00	105.4 PK			1.01 H	325	109.0	-3.6
4	*2402.00	105.1 AV			1.01 H	325	108.7	-3.6
5	4804.00	41.8 PK	74.0	-32.2	1.40 H	158	40.1	1.7
6	4804.00	33.0 AV	54.0	-21.0	1.40 H	158	31.3	1.7

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

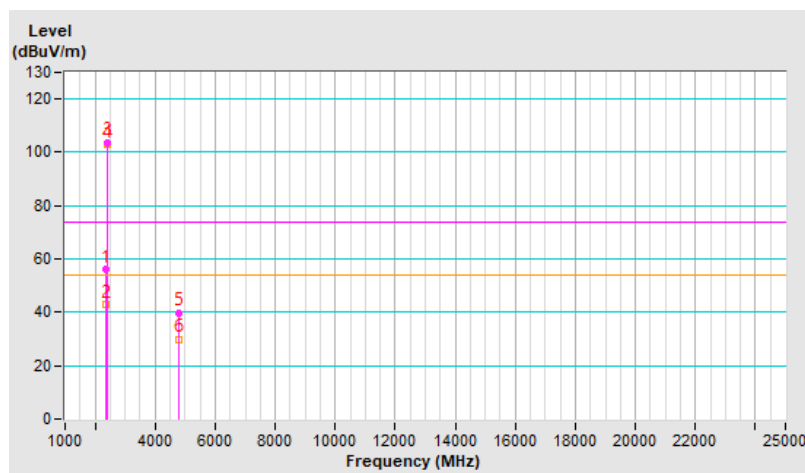


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2363.00	56.3 PK	74.0	-17.7	2.10 V	80	59.9	-3.6
2	2363.00	42.7 AV	54.0	-11.3	2.10 V	80	46.3	-3.6
3	*2402.00	103.8 PK			2.10 V	80	107.4	-3.6
4	*2402.00	103.0 AV			2.10 V	80	106.6	-3.6
5	4804.00	39.9 PK	74.0	-34.1	1.08 V	115	38.2	1.7
6	4804.00	30.0 AV	54.0	-24.0	1.08 V	115	28.3	1.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



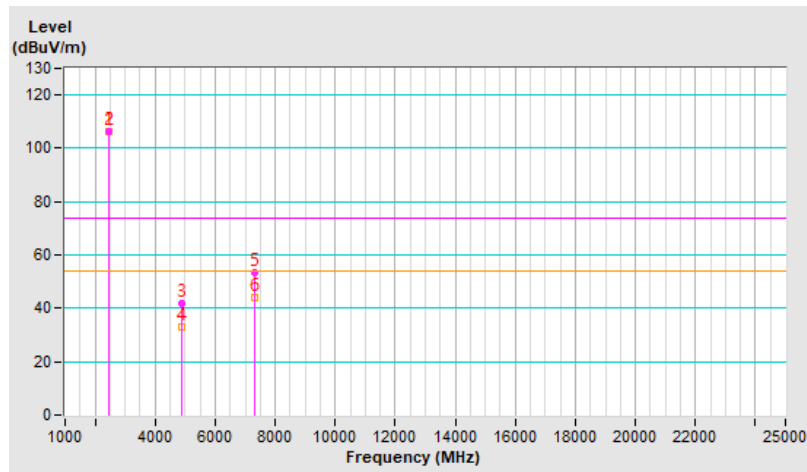


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	106.4 PK			1.04 H	318	109.8	-3.4
2	*2441.00	106.2 AV			1.04 H	318	109.6	-3.4
3	4882.00	41.6 PK	74.0	-32.4	1.44 H	153	40.1	1.5
4	4882.00	32.9 AV	54.0	-21.1	1.44 H	153	31.4	1.5
5	7323.00	53.2 PK	74.0	-20.8	1.50 H	13	45.6	7.6
<b>6</b>	<b>7323.00</b>	<b>44.3 AV</b>	<b>54.0</b>	<b>-9.7</b>	<b>1.50 H</b>	<b>13</b>	<b>36.7</b>	<b>7.6</b>

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

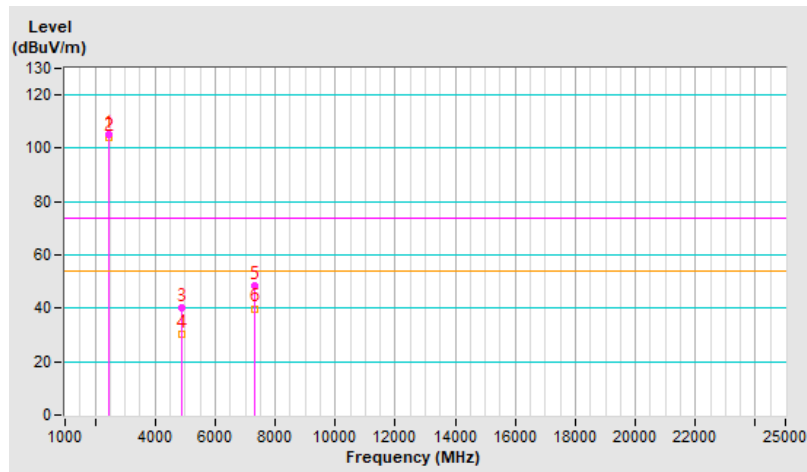


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	105.0 PK			2.09 V	73	108.4	-3.4
2	*2441.00	104.3 AV			2.09 V	73	107.7	-3.4
3	4882.00	40.1 PK	74.0	-33.9	1.04 V	111	38.6	1.5
4	4882.00	30.5 AV	54.0	-23.5	1.04 V	111	29.0	1.5
5	7323.00	48.4 PK	74.0	-25.6	3.91 V	317	40.8	7.6
6	7323.00	39.9 AV	54.0	-14.1	3.91 V	317	32.3	7.6

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

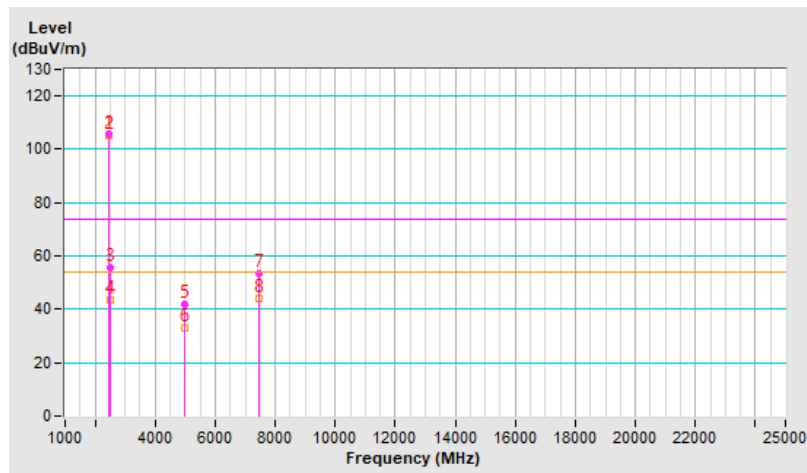


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	105.6 PK			1.04 H	318	109.0	-3.4
2	*2480.00	105.1 AV			1.04 H	318	108.5	-3.4
3	2488.90	55.5 PK	74.0	-18.5	1.04 H	318	58.9	-3.4
4	2488.90	43.3 AV	54.0	-10.7	1.04 H	318	46.7	-3.4
5	4960.00	41.7 PK	74.0	-32.3	1.50 H	159	40.0	1.7
6	4960.00	32.8 AV	54.0	-21.2	1.50 H	159	31.1	1.7
7	7440.00	53.3 PK	74.0	-20.7	1.46 H	5	45.6	7.7
8	7440.00	44.2 AV	54.0	-9.8	1.46 H	5	36.5	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



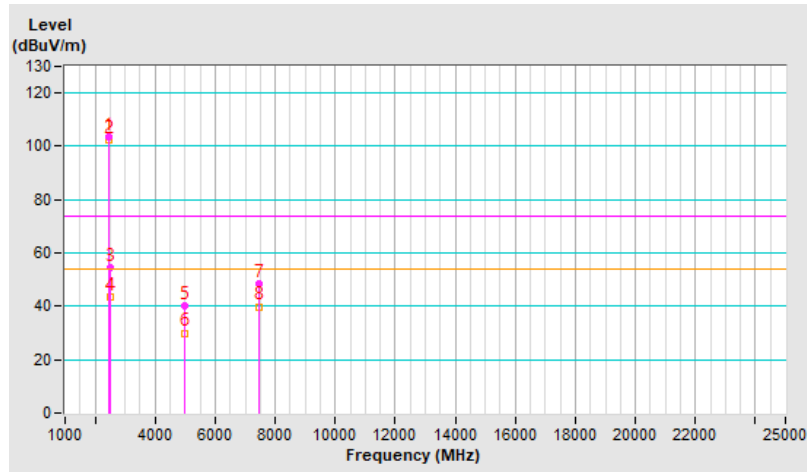


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	103.6 PK			2.11 V	68	107.0	-3.4
2	*2480.00	102.6 AV			2.11 V	68	106.0	-3.4
3	2483.50	54.5 PK	74.0	-19.5	2.11 V	68	57.9	-3.4
4	2483.50	43.3 AV	54.0	-10.7	2.11 V	68	46.7	-3.4
5	4960.00	40.0 PK	74.0	-34.0	1.10 V	103	38.3	1.7
6	4960.00	30.0 AV	54.0	-24.0	1.10 V	103	28.3	1.7
7	7440.00	48.5 PK	74.0	-25.5	3.87 V	326	40.8	7.7
8	7440.00	39.9 AV	54.0	-14.1	3.87 V	326	32.2	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



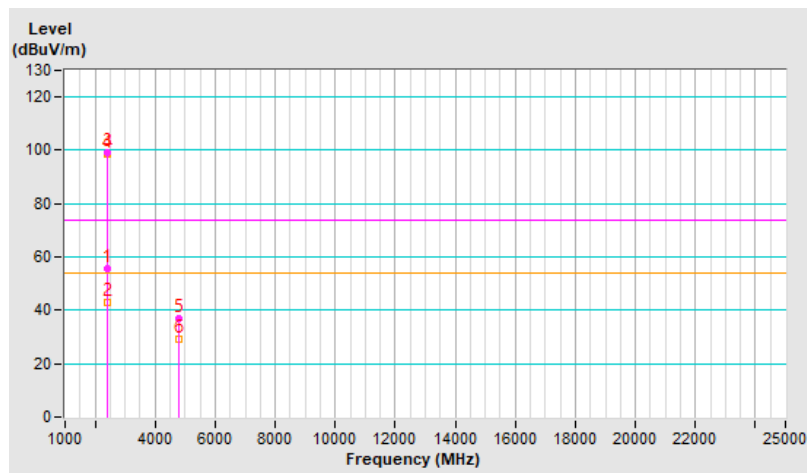
**Mode B**

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.6 PK	74.0	-18.4	1.30 H	113	59.2	-3.6
2	2390.00	43.0 AV	54.0	-11.0	1.30 H	113	46.6	-3.6
3	*2402.00	99.2 PK			1.30 H	113	102.8	-3.6
4	*2402.00	98.8 AV			1.30 H	113	102.4	-3.6
5	4804.00	37.0 PK	74.0	-37.0	1.59 H	165	35.3	1.7
6	4804.00	29.2 AV	54.0	-24.8	1.59 H	165	27.5	1.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

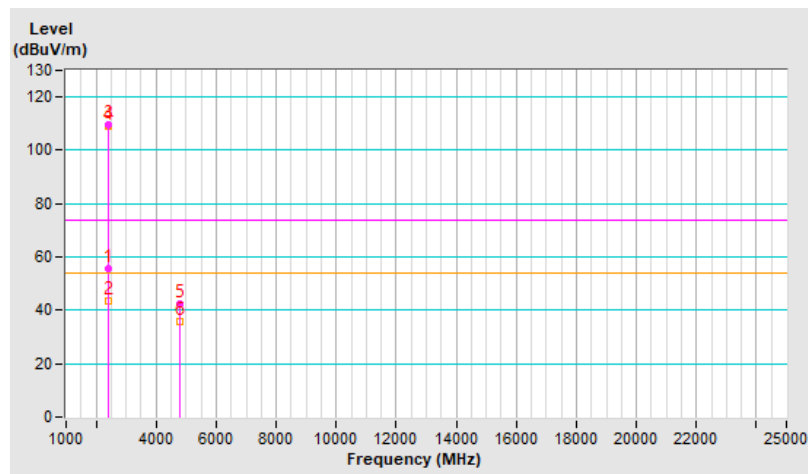


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.5 PK	74.0	-18.5	1.52 V	311	59.1	-3.6
2	2390.00	43.4 AV	54.0	-10.6	1.52 V	311	47.0	-3.6
3	*2402.00	109.6 PK			1.52 V	311	113.2	-3.6
4	*2402.00	109.2 AV			1.52 V	311	112.8	-3.6
5	4804.00	42.5 PK	74.0	-31.5	1.30 V	291	40.8	1.7
6	4804.00	36.0 AV	54.0	-18.0	1.30 V	291	34.3	1.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

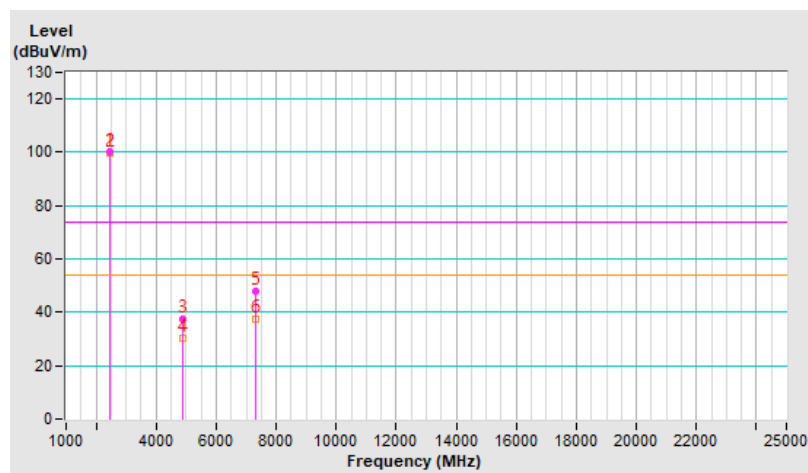


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	100.2 PK			1.42 H	175	103.6	-3.4
2	*2441.00	99.5 AV			1.42 H	175	102.9	-3.4
3	4882.00	37.3 PK	74.0	-36.7	1.50 H	129	35.8	1.5
4	4882.00	30.2 AV	54.0	-23.8	1.50 H	129	28.7	1.5
5	7323.00	47.7 PK	74.0	-26.3	1.76 H	194	40.1	7.6
6	7323.00	37.5 AV	54.0	-16.5	1.76 H	194	29.9	7.6

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

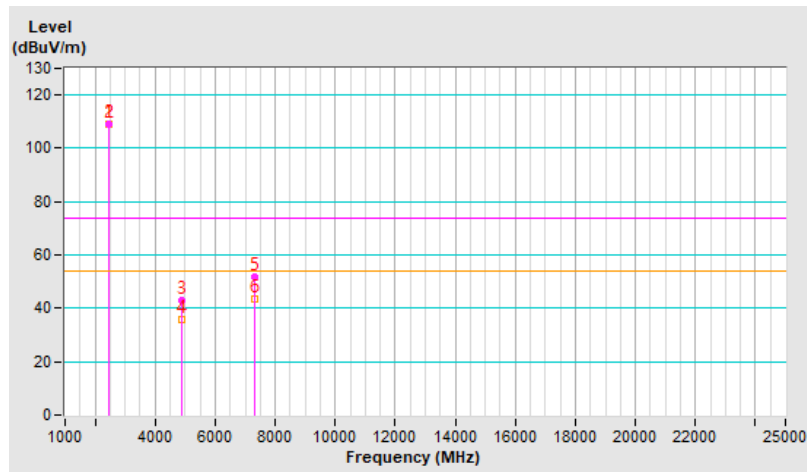


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	109.1 PK			1.47 V	317	112.5	-3.4
2	*2441.00	109.0 AV			1.47 V	317	112.4	-3.4
3	4882.00	43.0 PK	74.0	-31.0	1.25 V	303	41.5	1.5
4	4882.00	36.0 AV	54.0	-18.0	1.25 V	303	34.5	1.5
5	7323.00	51.6 PK	74.0	-22.4	1.60 V	265	44.0	7.6
6	7323.00	43.6 AV	54.0	-10.4	1.60 V	265	36.0	7.6

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



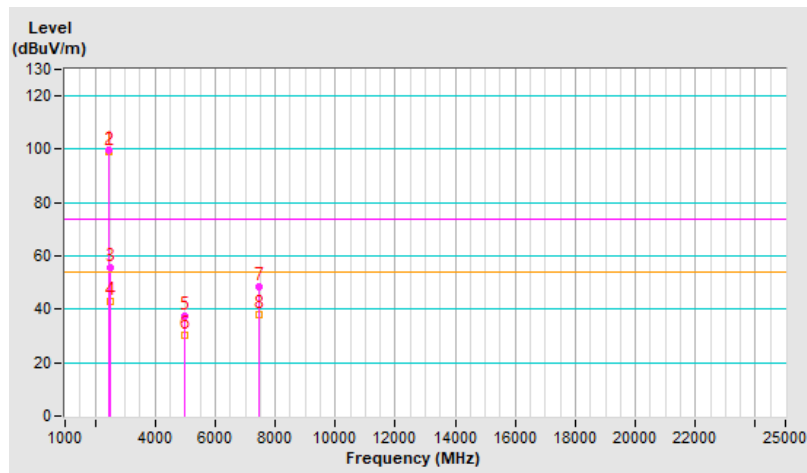


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	99.7 PK			1.34 H	98	103.1	-3.4
2	*2480.00	99.3 AV			1.34 H	98	102.7	-3.4
3	2484.55	55.5 PK	74.0	-18.5	1.34 H	98	58.9	-3.4
4	2484.55	42.9 AV	54.0	-11.1	1.34 H	98	46.3	-3.4
5	4960.00	37.5 PK	74.0	-36.5	1.52 H	132	35.8	1.7
6	4960.00	30.4 AV	54.0	-23.6	1.52 H	132	28.7	1.7
7	7440.00	48.3 PK	74.0	-25.7	1.75 H	193	40.6	7.7
8	7440.00	37.8 AV	54.0	-16.2	1.75 H	193	30.1	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

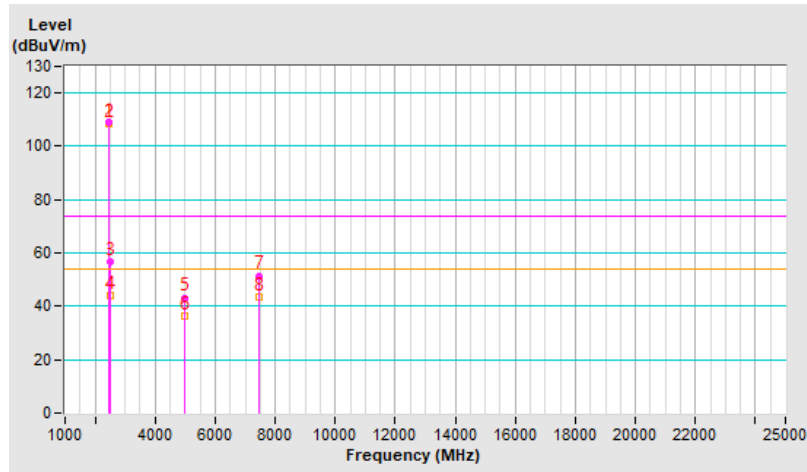


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Willy Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	108.9 PK			1.50 V	320	112.3	-3.4
2	*2480.00	108.7 AV			1.50 V	320	112.1	-3.4
3	2483.90	56.6 PK	74.0	-17.4	1.50 V	320	60.0	-3.4
4	2483.90	44.1 AV	54.0	-9.9	1.50 V	320	47.5	-3.4
5	4960.00	43.2 PK	74.0	-30.8	1.25 V	290	41.5	1.7
6	4960.00	36.5 AV	54.0	-17.5	1.25 V	290	34.8	1.7
7	7440.00	51.5 PK	74.0	-22.5	1.61 V	263	43.8	7.7
8	7440.00	43.7 AV	54.0	-10.3	1.61 V	263	36.0	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



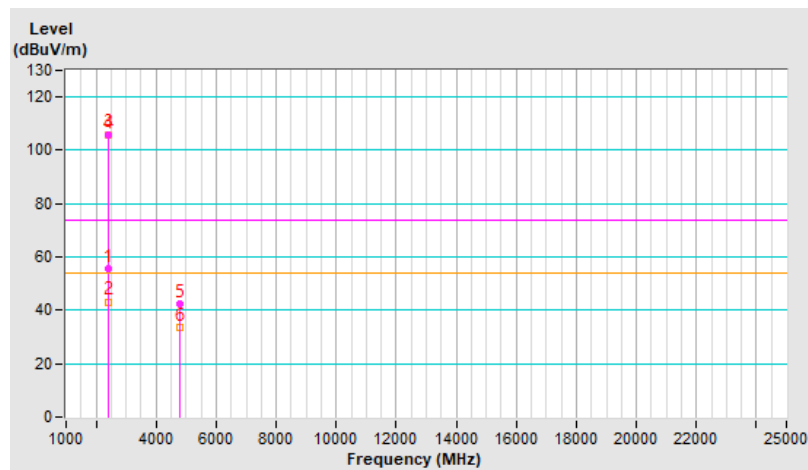
### Mode C

<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.4 PK	74.0	-18.6	2.06 H	276	59.0	-3.6
2	2390.00	43.2 AV	54.0	-10.8	2.06 H	276	46.8	-3.6
3	*2402.00	106.0 PK			2.06 H	276	109.6	-3.6
4	*2402.00	105.6 AV			2.06 H	276	109.2	-3.6
5	4804.00	42.2 PK	74.0	-31.8	2.48 H	138	40.5	1.7
6	4804.00	33.4 AV	54.0	-20.6	2.48 H	138	31.7	1.7

#### Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

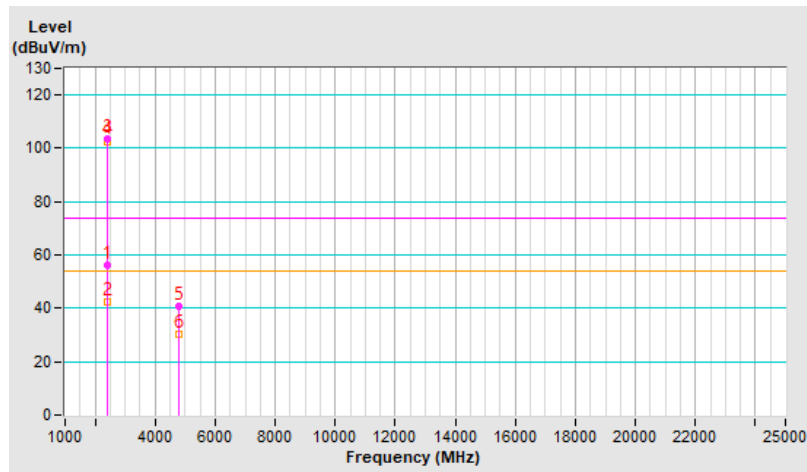


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 0 : 2402 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.1 PK	74.0	-17.9	3.13 V	197	59.7	-3.6
2	2390.00	42.3 AV	54.0	-11.7	3.13 V	197	45.9	-3.6
3	*2402.00	103.6 PK			3.13 V	197	107.2	-3.6
4	*2402.00	102.7 AV			3.13 V	197	106.3	-3.6
5	4804.00	40.6 PK	74.0	-33.4	1.96 V	236	38.9	1.7
6	4804.00	30.4 AV	54.0	-23.6	1.96 V	236	28.7	1.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

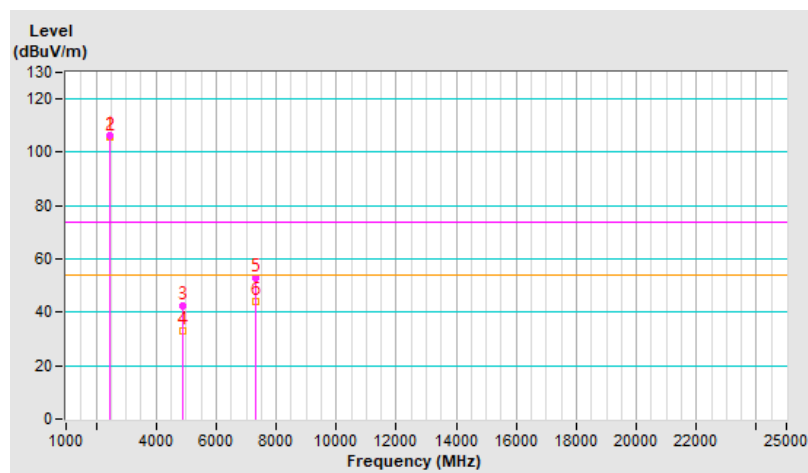


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	106.2 PK			2.03 H	280	109.6	-3.4
2	*2441.00	105.8 AV			2.03 H	280	109.2	-3.4
3	4882.00	42.2 PK	74.0	-31.8	2.55 H	124	40.7	1.5
4	4882.00	33.0 AV	54.0	-21.0	2.55 H	124	31.5	1.5
5	7323.00	52.7 PK	74.0	-21.3	2.92 H	130	45.1	7.6
6	7323.00	44.0 AV	54.0	-10.0	2.92 H	130	36.4	7.6

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

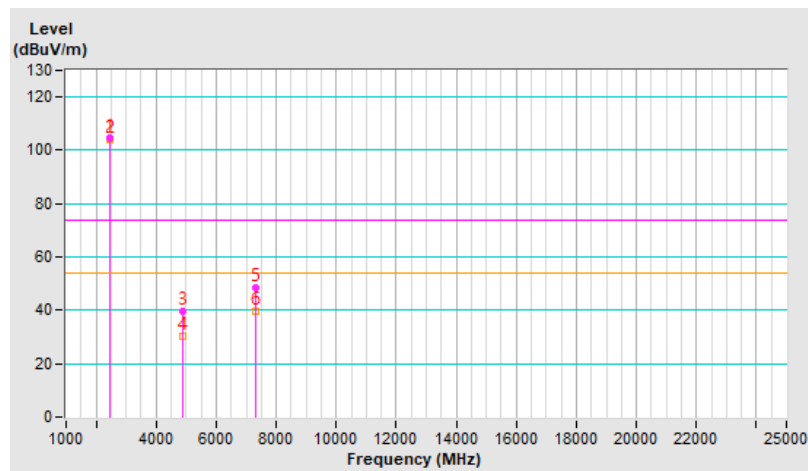


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 39 : 2441 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2441.00	104.8 PK			3.27 V	191	108.2	-3.4
2	*2441.00	104.3 AV			3.27 V	191	107.7	-3.4
3	4882.00	39.7 PK	74.0	-34.3	1.94 V	252	38.2	1.5
4	4882.00	30.1 AV	54.0	-23.9	1.94 V	252	28.6	1.5
5	7323.00	48.4 PK	74.0	-25.6	2.52 V	198	40.8	7.6
6	7323.00	39.8 AV	54.0	-14.2	2.52 V	198	32.2	7.6

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



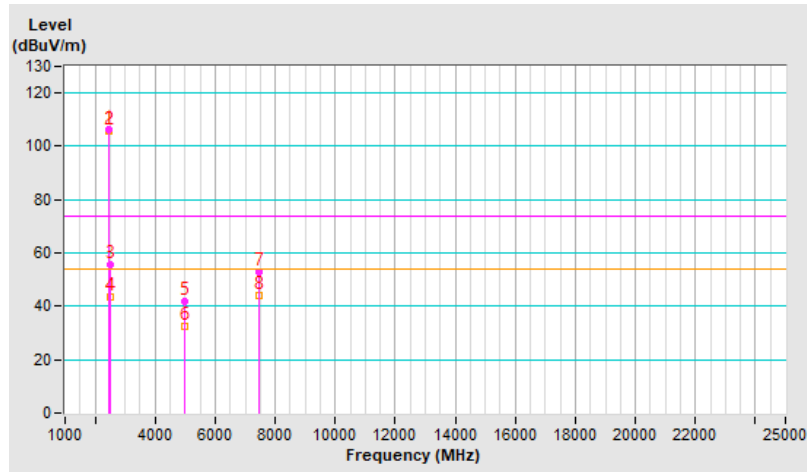


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	106.1 PK			2.03 H	262	109.5	-3.4
2	*2480.00	105.5 AV			2.03 H	262	108.9	-3.4
3	2483.50	55.4 PK	74.0	-18.6	2.03 H	262	58.8	-3.4
4	2483.50	43.3 AV	54.0	-10.7	2.03 H	262	46.7	-3.4
5	4960.00	41.9 PK	74.0	-32.1	2.60 H	138	40.2	1.7
6	4960.00	32.6 AV	54.0	-21.4	2.60 H	138	30.9	1.7
7	7440.00	52.7 PK	74.0	-21.3	2.91 H	122	45.0	7.7
8	7440.00	44.0 AV	54.0	-10.0	2.91 H	122	36.3	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.



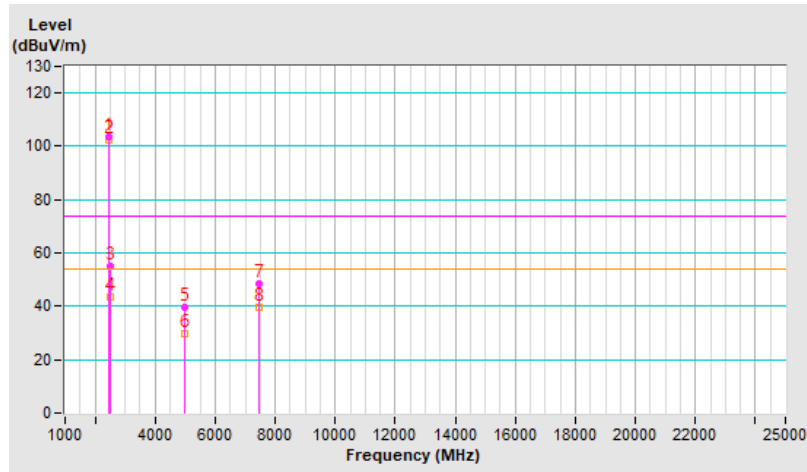


<b>RF Mode</b>	BT GFSK	<b>Channel</b>	CH 78 : 2480 MHz
<b>Frequency Range</b>	1 GHz ~ 25 GHz	<b>Detector Function &amp; Bandwidth</b>	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
<b>Input Power (System)</b>	120 Vac, 60 Hz	<b>Environmental Conditions</b>	24 °C, 66 % RH
<b>Tested By</b>	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	103.3 PK			3.17 V	205	106.7	-3.4
2	*2480.00	102.5 AV			3.17 V	205	105.9	-3.4
3	2483.50	55.1 PK	74.0	-18.9	3.17 V	205	58.5	-3.4
4	2483.50	43.6 AV	54.0	-10.4	3.17 V	205	47.0	-3.4
5	4960.00	39.5 PK	74.0	-34.5	1.91 V	268	37.8	1.7
6	4960.00	29.5 AV	54.0	-24.5	1.91 V	268	27.8	1.7
7	7440.00	48.5 PK	74.0	-25.5	2.50 V	200	40.8	7.7
8	7440.00	39.8 AV	54.0	-14.2	2.50 V	200	32.1	7.7

**Remarks:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " \* " : Fundamental frequency, the limit was restricted at the RF Output Power.

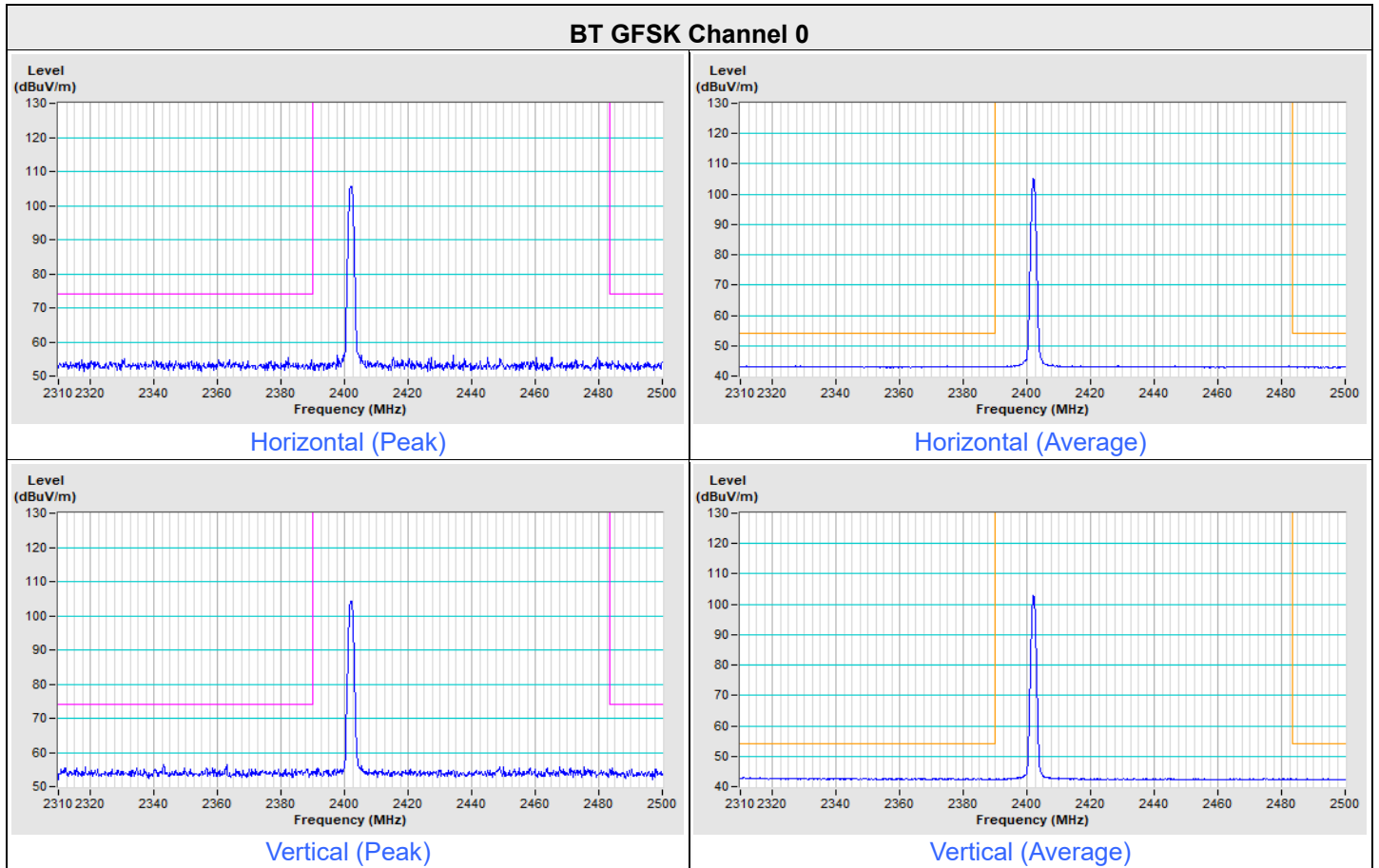




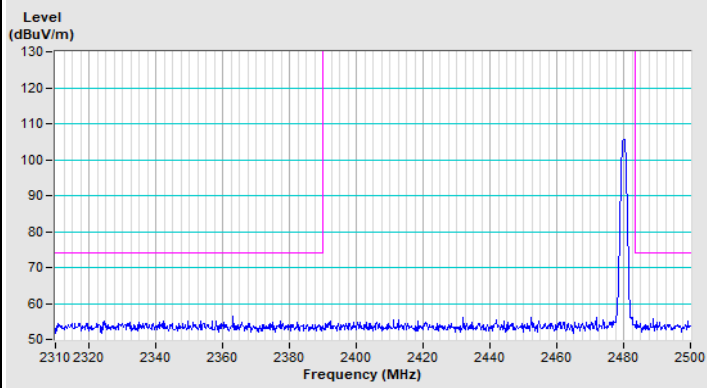
## Plot of Band Edge

### Mode A

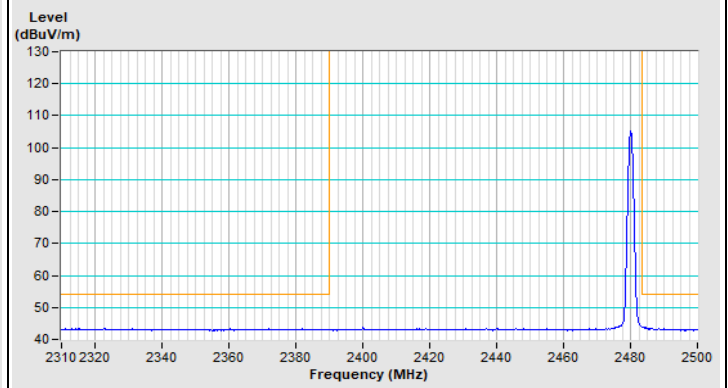
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=510 Hz, DET=Peak
-----------------	--------------------	-------------------------------	---



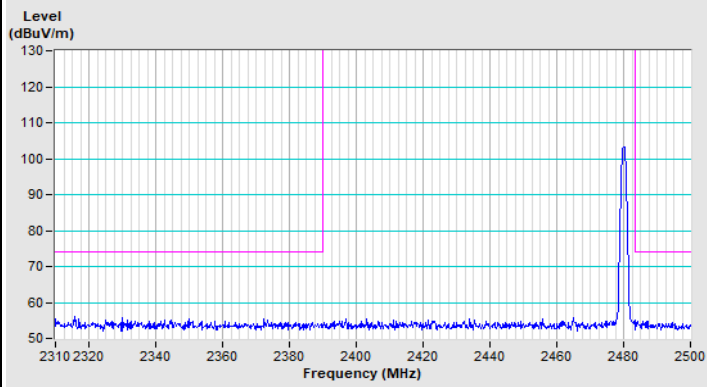
### BT GFSK Channel 78



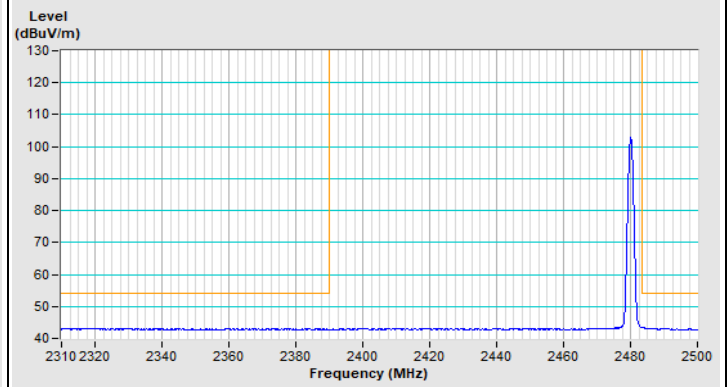
Horizontal (Peak)



Horizontal (Average)



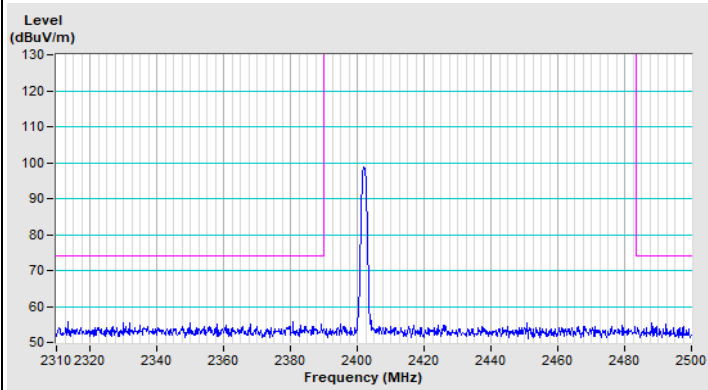
Vertical (Peak)



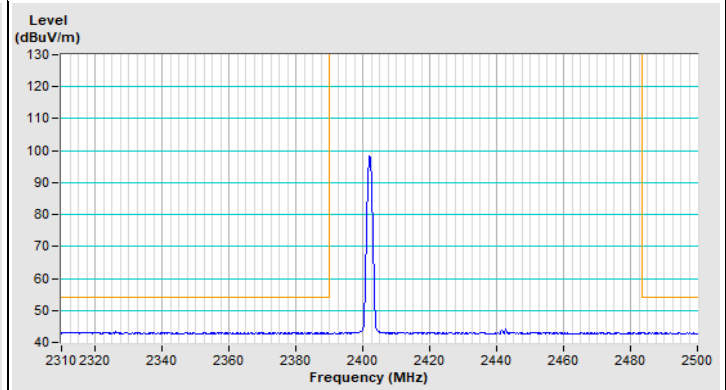
Vertical (Average)

Mode B

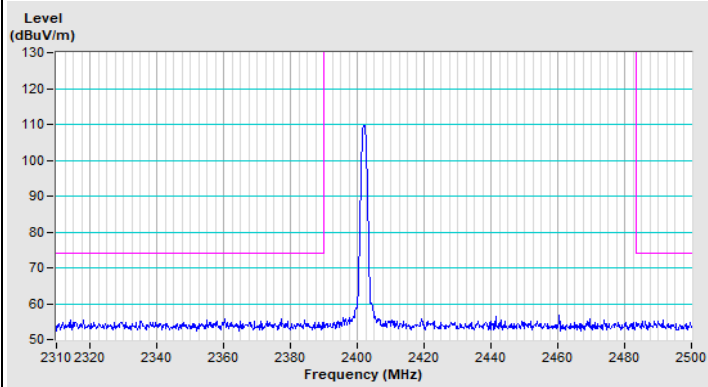
BT GFSK Channel 0



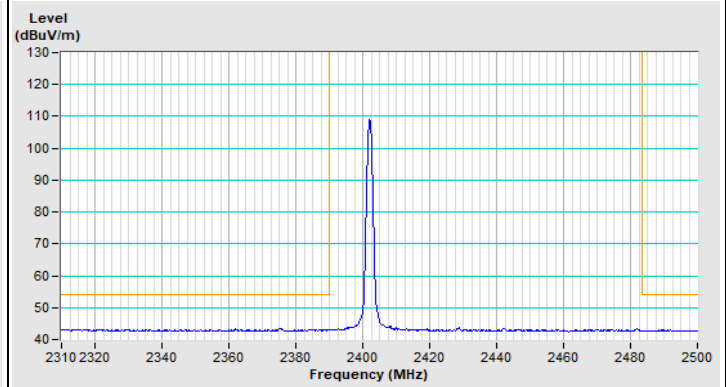
Horizontal (Peak)



Horizontal (Average)

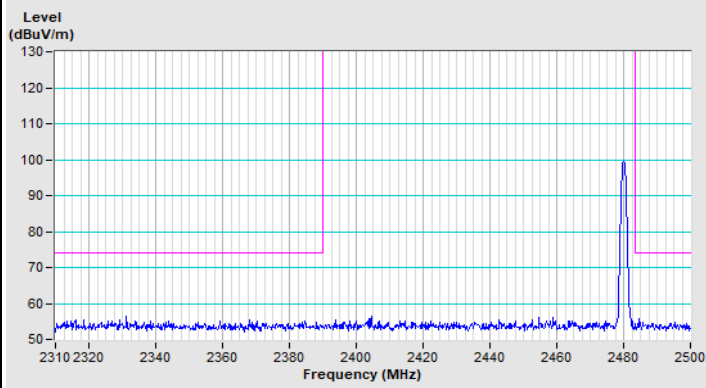


Vertical (Peak)

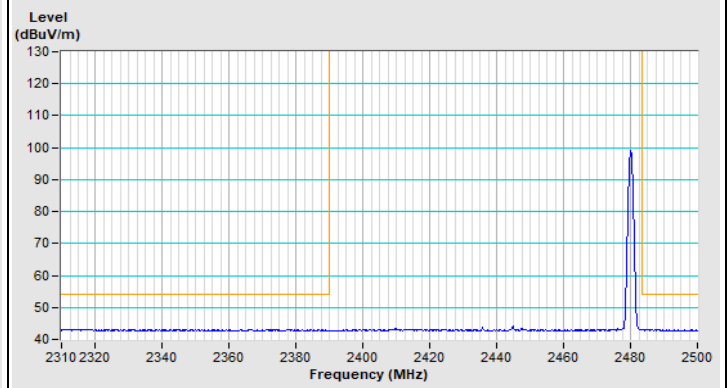


Vertical (Average)

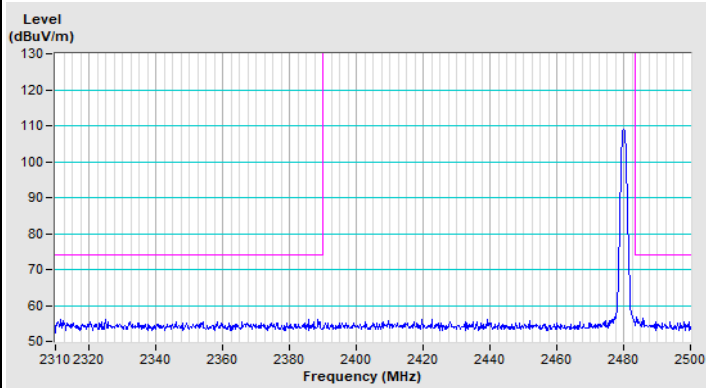
### BT GFSK Channel 78



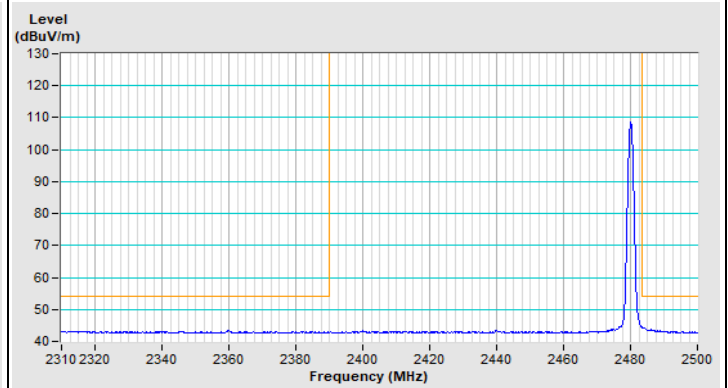
Horizontal (Peak)



Horizontal (Average)



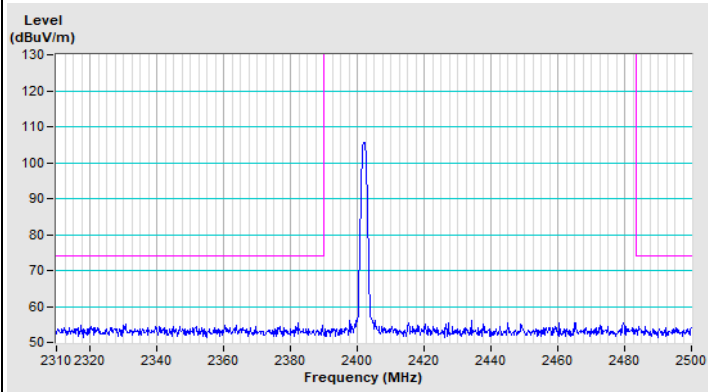
Vertical (Peak)



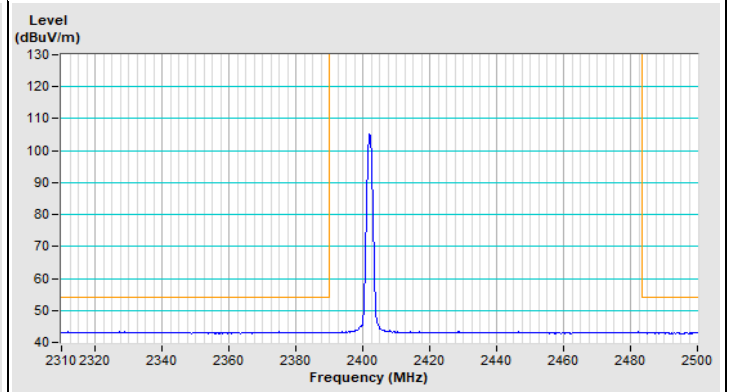
Vertical (Average)

Mode C

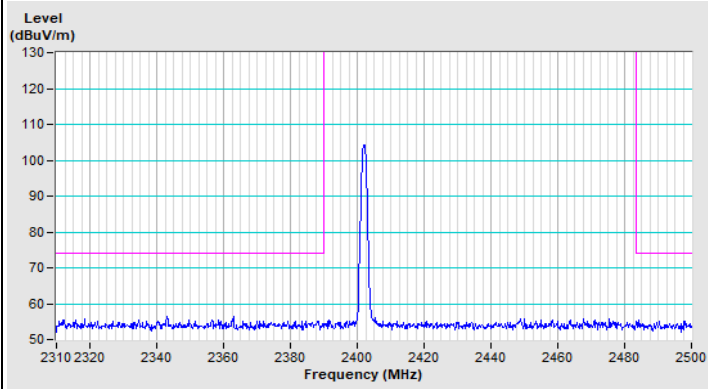
BT GFSK Channel 0



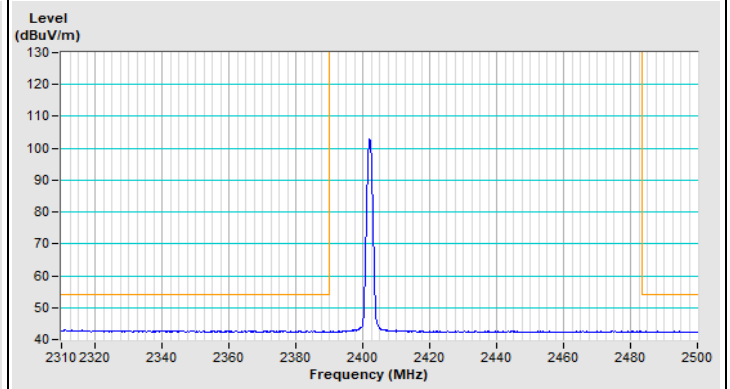
Horizontal (Peak)



Horizontal (Average)

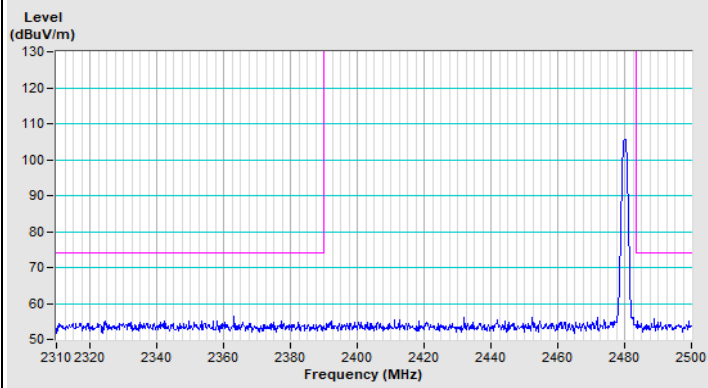


Vertical (Peak)

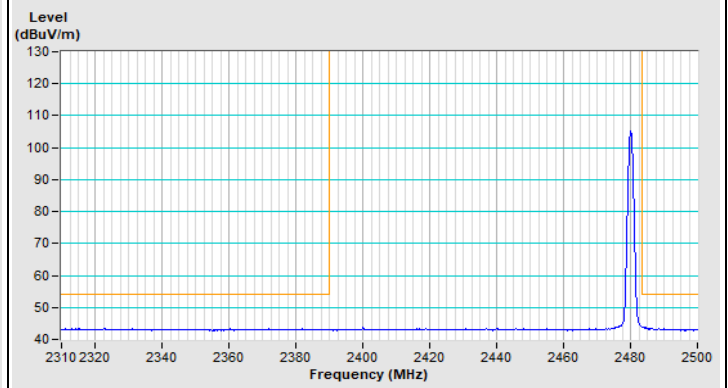


Vertical (Average)

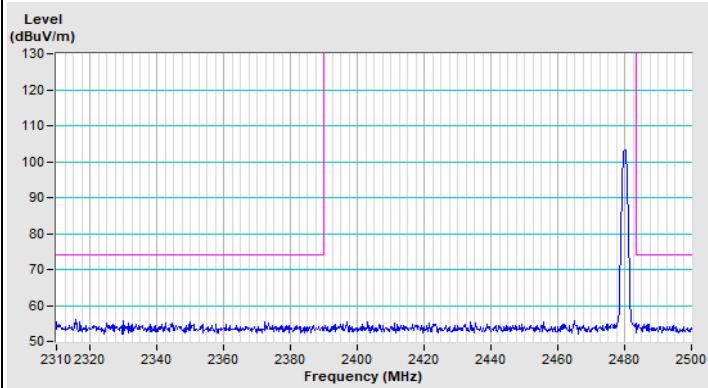
### BT GFSK Channel 78



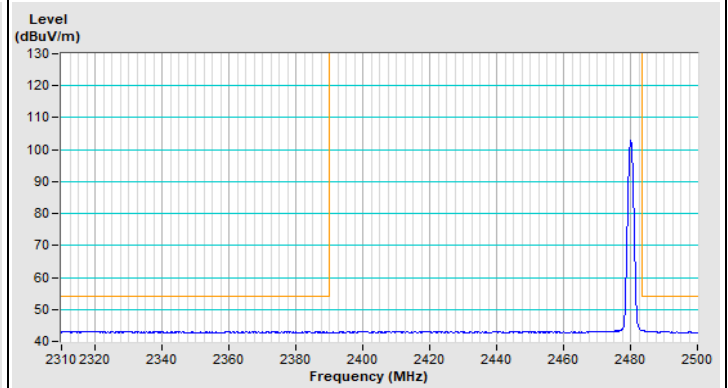
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

## 8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)



## 9 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

**Lin Kou EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety Lab**

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@bureauveritas.com](mailto:service.adt@bureauveritas.com)

**Web Site:** <http://ee.bureauveritas.com.tw>

The address and road map of all our labs can be found in our web site also.

--- END ---