

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBBUI-WTW-P23070201B-2

FCC ID: TX2-RTL8922AE

Product: 11be RTL8922AE Combo module

Brand: REALTEK

Model No.: RTL8922AE

Received Date: 2024/1/26

Test Date: 2024/2/22 ~ 2024/5/31

Issued Date: 2024/6/4

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

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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: 2024/6/4

May Chen / Manager

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Prepared by : Vito Lung / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBBUI-WTW-P23070201B-2	Original release.	2024/6/4

1 Certificate

Product: 11be RTL8922AE Combo module

Brand: REALTEK

Test Model: RTL8922AE

Sample Status: Engineering sample

Applicant: Realtek Semiconductor Corp.

Test Date: 2024/2/22 ~ 2024/5/31

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(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	N/A	Refer to Note 1 below
15.247(a)(2)	6 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 -7.66 dB at 0.15391 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -4.0 dB at 145.60 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -4.0 dB at 2390.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is IPEX, MHF4, MHF4L not a standard connector.

Note:

- 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 and evaluated of the summary as following:
 - No changes are made to the module itself; this C2PC is for adding new sets of antennas.
 - The worst-case (max) antenna gain is still the same as original approved antennas, and only the antenna type is different. Therefore, for test items performed using conducted method / conducted method + max antenna gain, the original test results remain valid.
 - Conducted Output power was verified to be same as original filing.
- 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:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
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	11be RTL8922AE Combo module
Brand	REALTEK
Test Model	RTL8922AE
Status of EUT	Engineering sample
Power Supply Rating	3.3 Vdc from host equipment
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	125 kbps / 500 kbps / 1 Mbps / 2 Mbps
Operating Frequency	2.402 GHz ~ 2.48 GHz
Number of Channel	40
Output Power	18.578 mW (12.69 dBm)

Note:

1. This report is prepared for FCC Class II permissive change. The difference compared with the Report No.: RFBBUI-WTW-P23070201-2 R1 design is as the following information:
 - ◆ Adding Dipole & Monopole antenna. (Refer to section 3.2)
2. According to above condition, therefore only the RF Output Power, AC Power Conducted Emission and Unwanted Emissions test items need to be performed. And all data were verified to meet the requirements.
3. There are Bluetooth and WLAN (2.4 GHz & 5 GHz & 6 GHz) technology used for the EUT.
4. Simultaneously transmission condition.

1Tx		
Condition	Technology	
	S0 (Chain 1)	S1 (Chain 0)
1	WLAN (5 GHz)_H	Bluetooth + WLAN (5 GHz)_L
2	WLAN (5 GHz)_L	Bluetooth + WLAN (5 GHz)_H
3	WLAN (5 GHz)_L	Bluetooth + WLAN (6 GHz)
4	WLAN (6 GHz)	Bluetooth + WLAN (5 GHz)_L
5	WLAN (6 GHz)	Bluetooth + WLAN (5 GHz)_H
6	WLAN (5 GHz)_H	Bluetooth + WLAN (6 GHz)
7	WLAN (2.4 GHz)	WLAN (5 GHz) Full
8	WLAN (2.4 GHz)	WLAN (6 GHz)
9	WLAN (5 GHz) Full	Bluetooth
10	WLAN (6 GHz)	Bluetooth
2TX		
1	WLAN (5 GHz)_L	WLAN (5 GHz)_L + Bluetooth
2	WLAN (5 GHz)_H	WLAN (5 GHz)_H + Bluetooth
3	WLAN (6 GHz)	WLAN (6 GHz) + Bluetooth

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

5. 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.

Original									
Ant. Set	RF Port No.	Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	1/2	Chain0/1	REALTEK	RTK-ANT-0022	3.4	2.4~2.4835	PIFA	IPEX, MHF4	300
					5	5.15~5.895			
					5	5.925~7.125			
2	1/2	Chain0/1	ARISTOTLE	RFA-57-JP805-4B-300	-1.87	5.15~5.895	PIFA	IPEX, MHF4	300
					-1.88	5.925~7.125			
Newly									
3	1/2	Chain0/1	HongBo	260-25096	3.11	2.4~2.4835	Monopole	MHF4L	300
					4.91	5.15~5.895			
					4.73	5.925~7.125			
4	1/2	Chain0/1	ARISTOTLE	RFA-27-C38H1-MHF4300	3	2.4~2.4835	Dipole	IPEX, MHF4	300
					5	5.15~5.895			
					5	5.925~7.125			

Note: The max. antenna gain was selected for the final test.

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

3.3 Channel List

40 channels are provided for BT-LE:

RF Channel	RF Center Frequency	Channel Index	Channels Type for BT 5.x	
			2Msym/s with Data Rate 2Mbps	1Msym/s with Data Rate 1Mbps / 500kbps / 125kbps
0	2402 MHz	37	*	●
1	2404 MHz	0	●	●
2	2406 MHz	1	●	●
3	2408 MHz	2	●	●
4	2410 MHz	3	●	●
5	2412 MHz	4	●	●
6	2414 MHz	5	●	●
7	2416 MHz	6	●	●
8	2418 MHz	7	●	●
9	2420 MHz	8	●	●
10	2422 MHz	9	●	●
11	2424 MHz	10	●	●
12	2426 MHz	38	*	●
13	2428 MHz	11	●	●
14	2430 MHz	12	●	●
15	2432 MHz	13	●	●
16	2434 MHz	14	●	●
17	2436 MHz	15	●	●
18	2438 MHz	16	●	●
19	2440 MHz	17	●	●
20	2442 MHz	18	●	●
21	2444 MHz	19	●	●
22	2446 MHz	20	●	●
23	2448 MHz	21	●	●
24	2450 MHz	22	●	●
25	2452 MHz	23	●	●
26	2454 MHz	24	●	●
27	2456 MHz	25	●	●
28	2458 MHz	26	●	●
29	2460 MHz	27	●	●
30	2462 MHz	28	●	●
31	2464 MHz	29	●	●
32	2466 MHz	30	●	●
33	2468 MHz	31	●	●
34	2470 MHz	32	●	●
35	2472 MHz	33	●	●
36	2474 MHz	34	●	●
37	2476 MHz	35	●	●
38	2478 MHz	36	●	●
39	2480 MHz	39	*	●

* The channels 2402 MHz, 2426 MHz and 2480 MHz are used for primary advertising only, and these advertisement packets are never being sent over the 2Msym/s.

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. The Monopole / Dipole antenna can be used in the following ways: X / Y / Z axis. Pre-scan in these ways and find the worst case as a representative test condition. 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.
Worst Case:	1. The monopole antenna the worst case was found when positioned on (X / Y / Z axis): X axis 2. The Dipole antenna the worst case was found when positioned on (X / Y / Z axis): Z axis

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

Test Item	EUT Configure Mode	Power Profile	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	-	High	LE-Coded S=2	0, 19, 39	GFSK	125kb/s
			LE-Coded S=8	0, 19, 39		500kb/s
			BT-LE 1M	0, 19, 39		1Mb/s
			BT-LE 2M	1, 19, 38		2Mb/s
AC Power Conducted Emissions	A, B	High	BT-LE 2M	1	GFSK	2Mb/s
Unwanted Emissions below 1 GHz	A, B	High	BT-LE 2M	1	GFSK	2Mb/s
Unwanted Emissions above 1 GHz	A, B	High	LE-Coded S=8	0, 19, 39	GFSK	500kb/s
			BT-LE 2M	1, 19, 38		2Mb/s
EUT Configure Mode:	A	Monopole Antenna				
	B	Dipole Antenna				

Note: Bluetooth technology will fix transmission on Chain 0.

In the original report:

For 1Msym/s modulation scheme the worst mode is: LE-Coded S=8

3.5 Duty Cycle of Test Signal

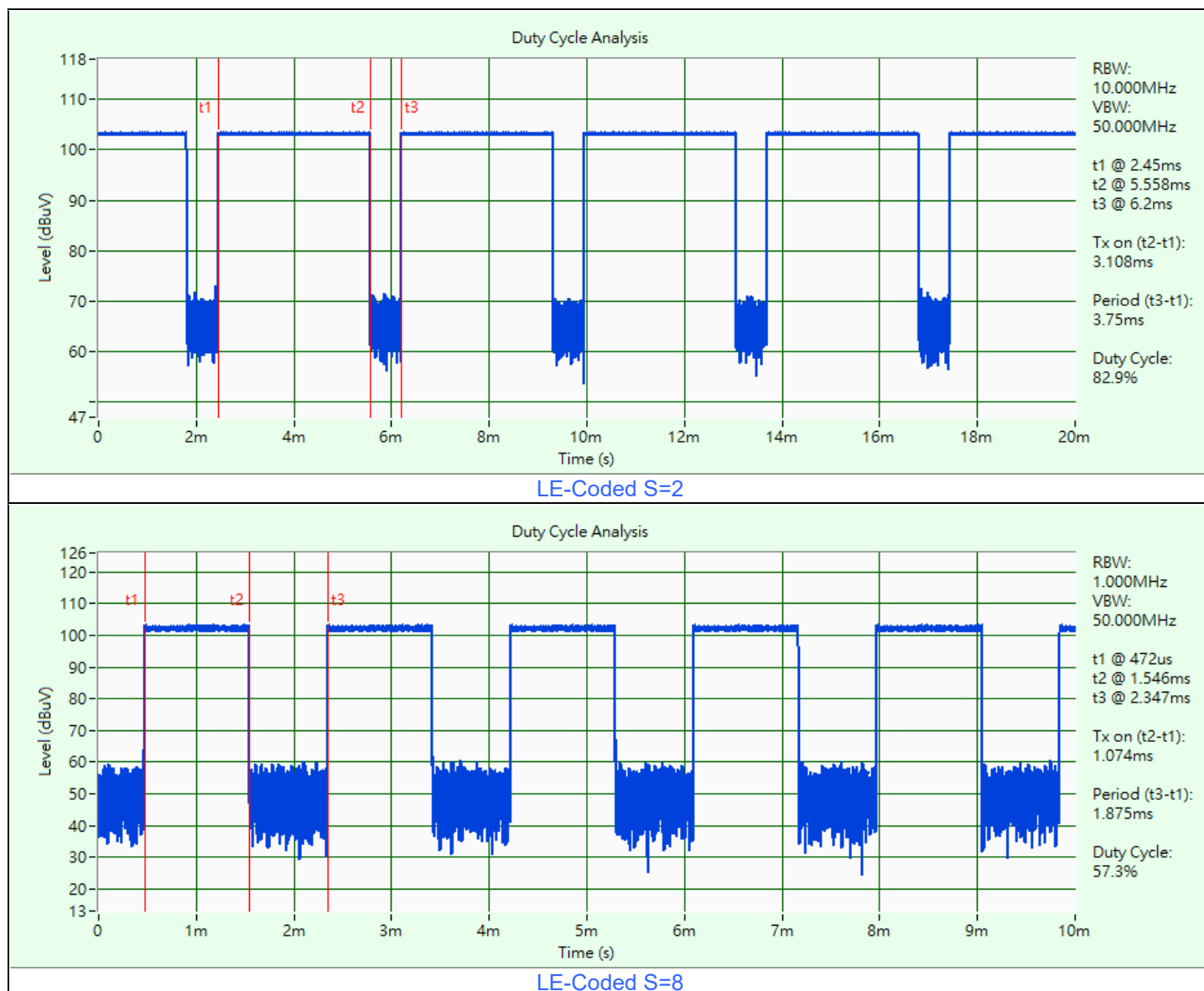
High Power

LE-Coded S=2: Duty cycle = 3.108 ms / 3.75 ms x 100% = 82.9%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 0.82$ dB

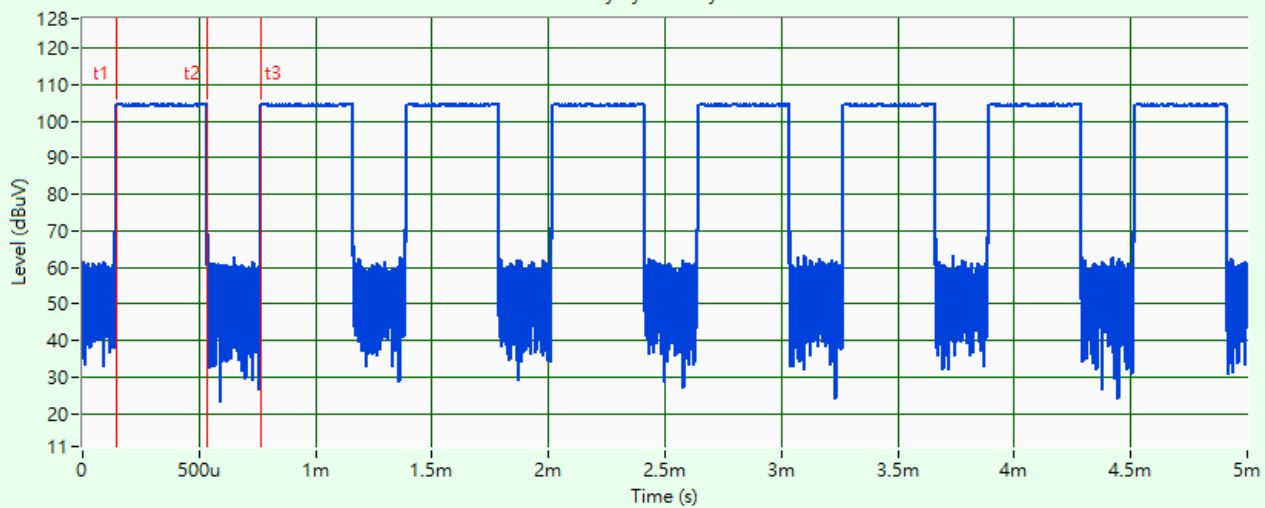
LE-Coded S=8: Duty cycle = 1.074 ms / 1.875 ms x 100% = 57.3%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 2.42$ dB

BT-LE 1M: Duty cycle = 0.395 ms / 0.625 ms x 100% = 63.2%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 1.99$ dB

BT-LE 2M: Duty cycle = 0.209 ms / 0.625 ms x 100% = 33.4%, duty factor = $10 \cdot \log(1/\text{Duty cycle}) = 4.76$ dB

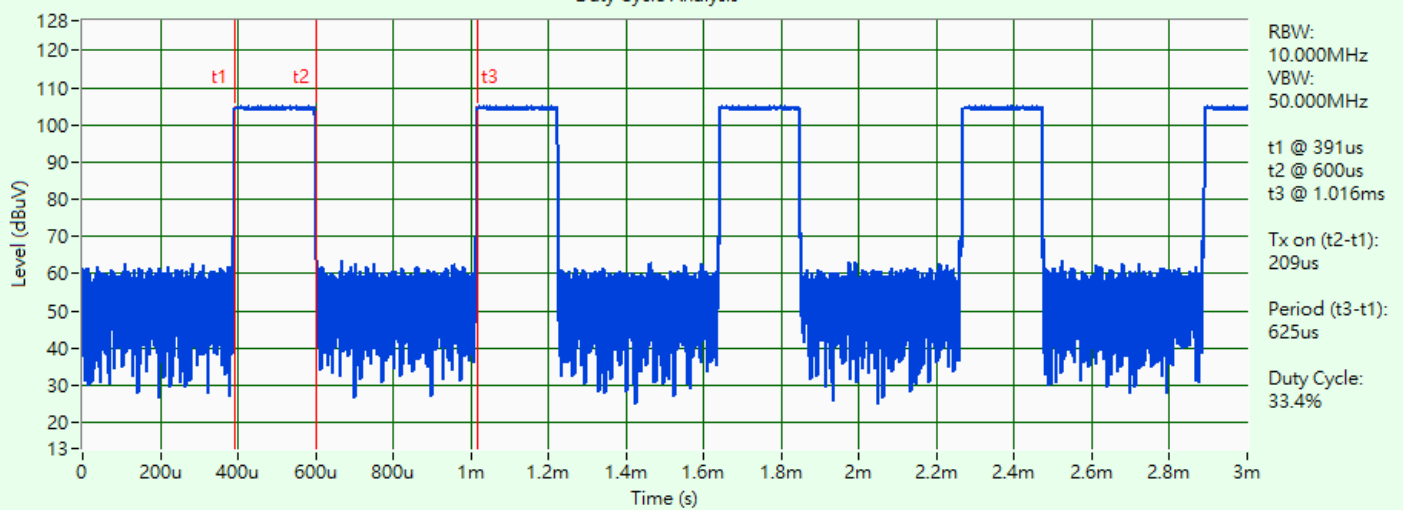


Duty Cycle Analysis



BT-LE 1M

Duty Cycle Analysis



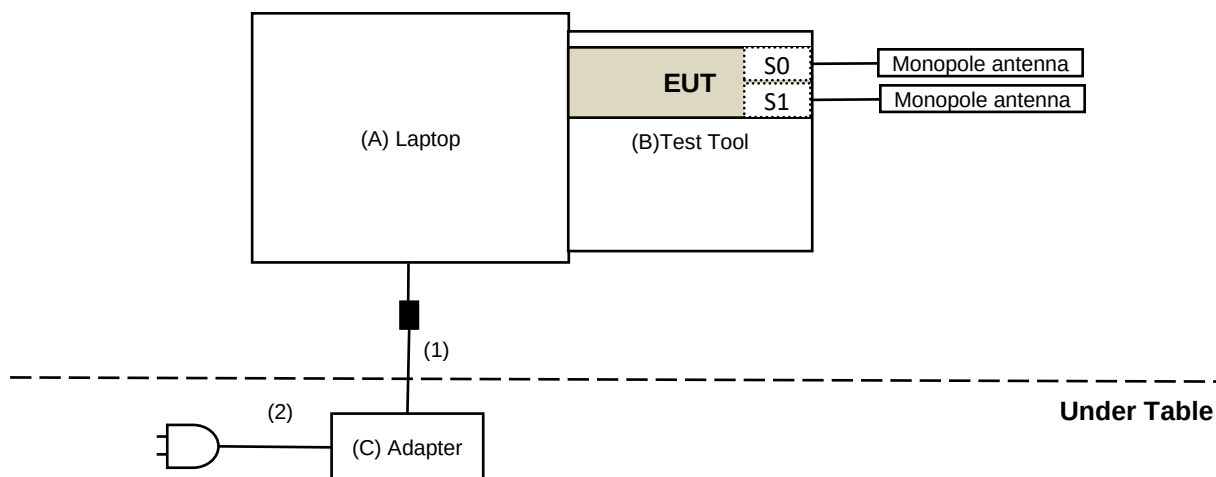
BT-LE 2M

3.6 Test Program Used and Operation Descriptions

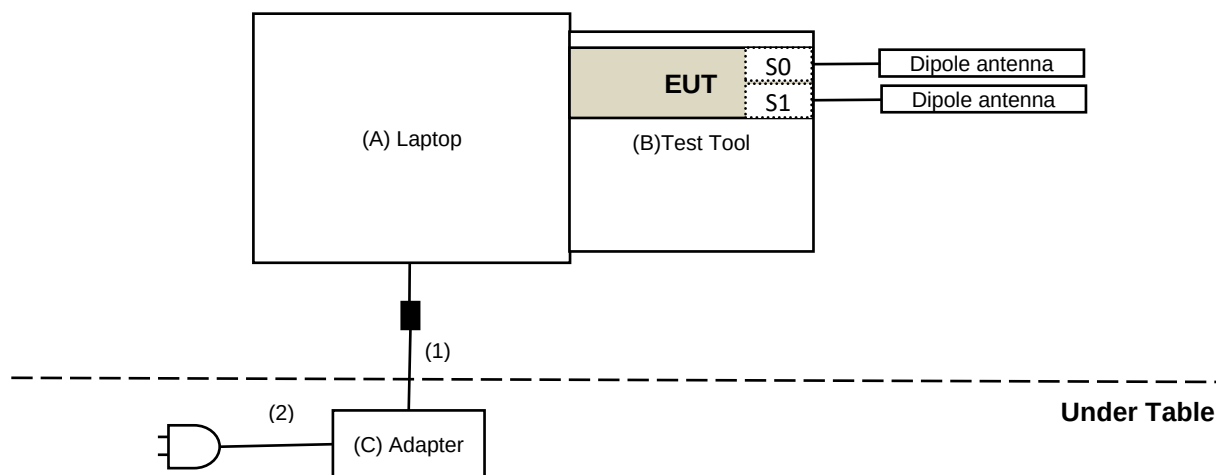
Controlling software (Bluetooth RF test tool (5.2.3.79)) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

Mode A



Mode B



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Dell	E5420	FHNS4S1	N/A	Provided by Lab
B	Test Tool	Realtek	N/A	N/A	N/A	Supplied by applicant
C	Adapter	Dell	LA65NS1-00	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: 2024/4/8

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: 2024/2/22 ~ 2024/2/23

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	2024/3/25	2025/3/24
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2024/3/30	2025/3/29
Loop Antenna Electro-Metrics	EM-6879	264	2024/2/23	2025/2/22
Preamplifier EMCI	EMC330N	980538	2024/3/30	2025/3/29
	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	2024/3/30	2025/3/29
		966-5-2	2024/3/30	2025/3/29
		966-5-3	2024/3/30	2025/3/29
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: 2024/4/1

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: 2024/5/29 ~ 2024/5/31

5 Limits of Test Items

5.1 RF Output Power

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30 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

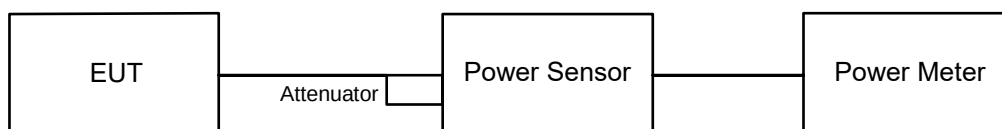
Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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:

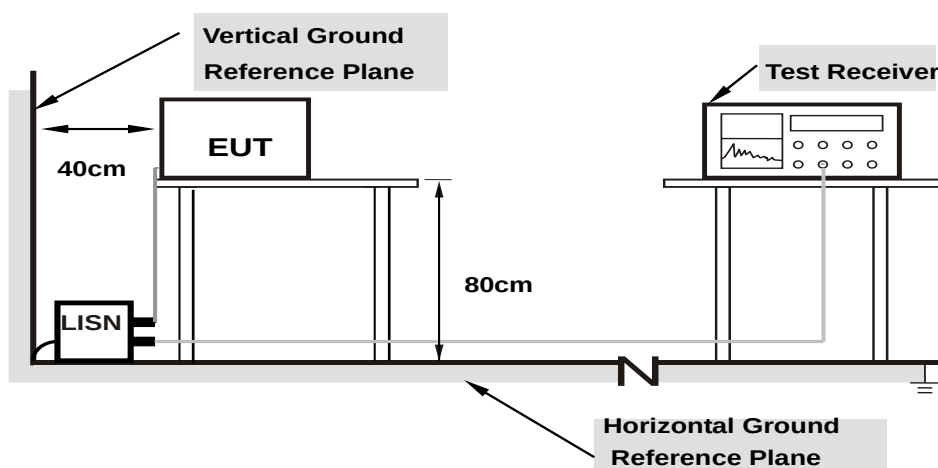
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

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

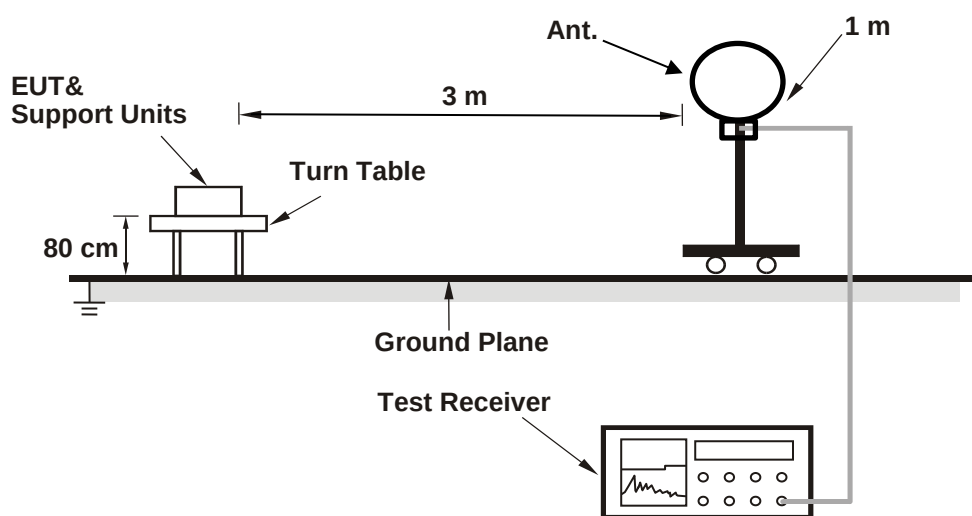
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The 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.

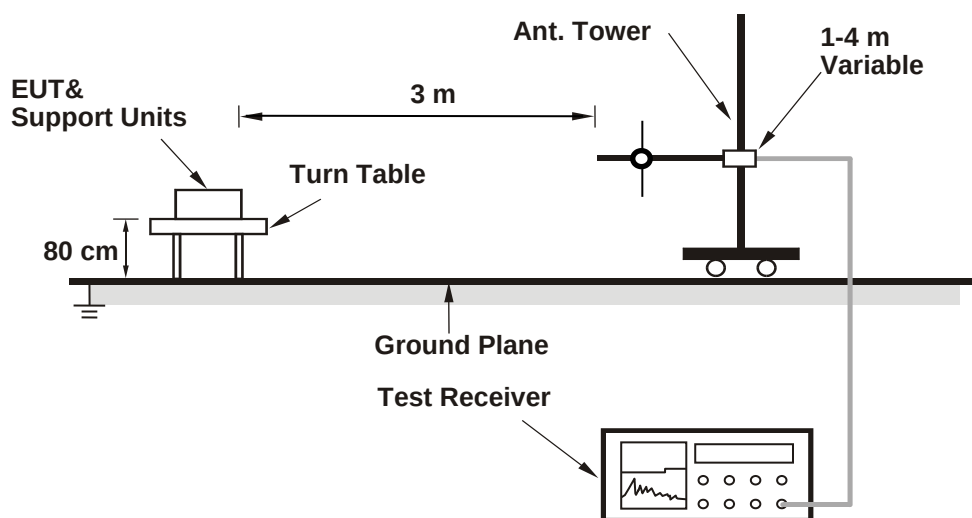
6.3 Unwanted Emissions below 1 GHz

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

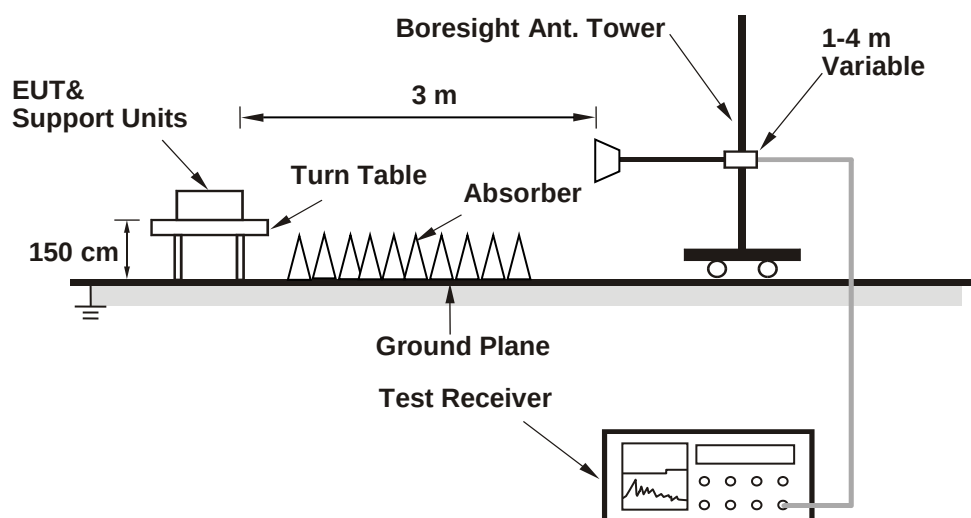
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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/spectrum analyzer 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 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:	22°C, 57% RH	Tested By:	John Peng
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High Power

For Peak Power

LE-Coded S=2

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	17.989	12.55	30	Pass
19	2440	17.701	12.48	30	Pass
39	2480	17.865	12.52	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

LE-Coded S=8

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	18.493	12.67	30	Pass
19	2440	18.03	12.56	30	Pass
39	2480	18.113	12.58	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	18.155	12.59	30	Pass
19	2440	18.03	12.56	30	Pass
39	2480	18.155	12.59	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2404	18.578	12.69	30	Pass
19	2440	18.197	12.60	30	Pass
38	2478	18.493	12.67	30	Pass

Note: The antenna gain is 3.4 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

LE-Coded S=2

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	17.701	12.48
19	2440	17.179	12.35
39	2480	17.539	12.44

LE-Coded S=8

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	17.947	12.54
19	2440	17.418	12.41
39	2480	17.579	12.45

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	17.824	12.51
19	2440	17.219	12.36
39	2480	17.701	12.48

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	17.947	12.54
19	2440	17.378	12.40
38	2478	17.458	12.42

7.2 AC Power Conducted Emissions

Mode A

RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Louis Yang		

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	0.16562	9.94	41.76	20.06	51.70	30.00	65.18	55.18	-13.48	-25.18
2	0.20078	9.94	39.97	23.31	49.91	33.25	63.58	53.58	-13.67	-20.33
3	0.39219	9.95	20.01	7.55	29.96	17.50	58.02	48.02	-28.06	-30.52
4	3.46484	10.14	25.54	17.45	35.68	27.59	56.00	46.00	-20.32	-18.41
5	15.41797	11.02	15.78	5.06	26.80	16.08	60.00	50.00	-33.20	-33.92
6	23.15234	11.45	21.64	16.27	33.09	27.72	60.00	50.00	-26.91	-22.28

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

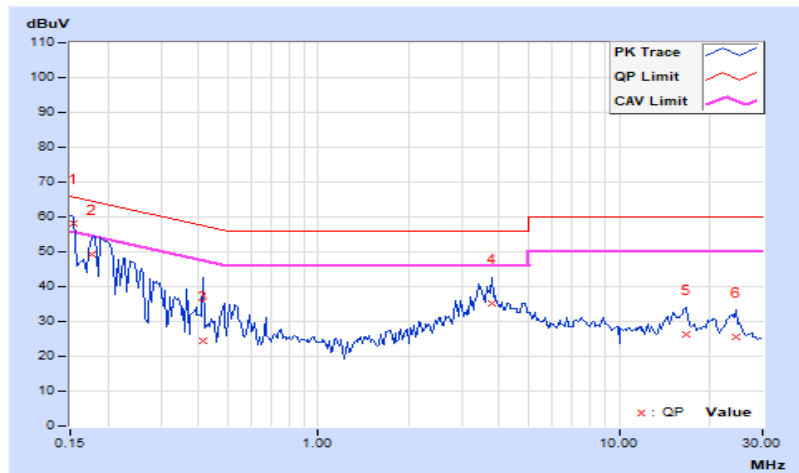


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Louis Yang		

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	0.15391	10.01	48.12	33.38	58.13	43.39	65.79	55.79	-7.66	-12.40
2	0.17734	10.01	39.41	16.60	49.42	26.61	64.61	54.61	-15.19	-28.00
3	0.41563	10.02	14.31	2.74	24.33	12.76	57.54	47.54	-33.21	-34.78
4	3.77344	10.19	24.87	16.98	35.06	27.17	56.00	46.00	-20.94	-18.83
5	16.63672	10.92	15.37	7.85	26.29	18.77	60.00	50.00	-33.71	-31.23
6	24.60156	11.15	14.59	9.34	25.74	20.49	60.00	50.00	-34.26	-29.51

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



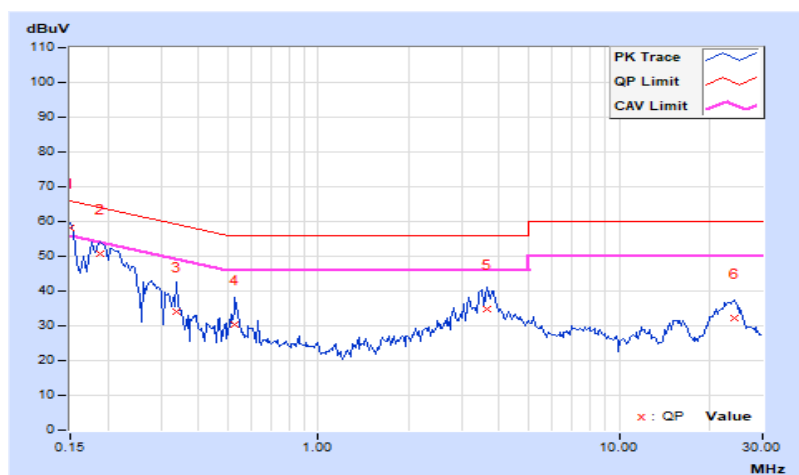
Mode B

RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Louis Yang		

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	0.15000	9.95	48.20	33.44	58.15	43.39	66.00	56.00	-7.85	-12.61
2	0.18906	9.94	40.98	20.75	50.92	30.69	64.08	54.08	-13.16	-23.39
3	0.33750	9.95	24.00	10.31	33.95	20.26	59.26	49.26	-25.31	-29.00
4	0.52891	9.96	20.37	9.78	30.33	19.74	56.00	46.00	-25.67	-26.26
5	3.64063	10.15	24.55	16.80	34.70	26.95	56.00	46.00	-21.30	-19.05
6	24.24219	11.48	20.69	15.37	32.17	26.85	60.00	50.00	-27.83	-23.15

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



RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22°C, 73% RH
Tested By	Louis Yang		

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	0.15000	10.02	47.62	32.15	57.64	42.17	66.00	56.00	-8.36	-13.83
2	0.22812	10.01	32.84	11.93	42.85	21.94	62.52	52.52	-19.67	-30.58
3	0.36094	10.02	18.40	0.72	28.42	10.74	58.71	48.71	-30.29	-37.97
4	0.49375	10.02	15.81	1.83	25.83	11.85	56.10	46.10	-30.27	-34.25
5	3.28516	10.16	23.12	15.74	33.28	25.90	56.00	46.00	-22.72	-20.10
6	15.99609	10.89	16.46	8.14	27.35	19.03	60.00	50.00	-32.65	-30.97

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

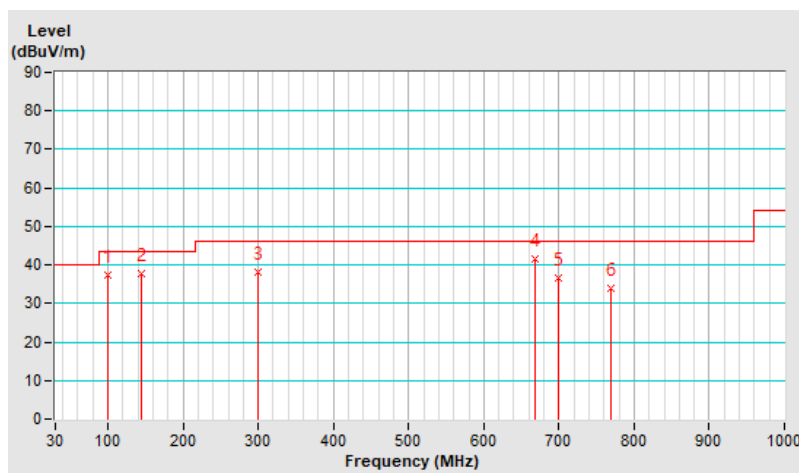
Mode A

RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Louis Yang		

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	100.50	37.3 QP	43.5	-6.2	1.45 H	224	54.3	-17.0
2	143.70	37.9 QP	43.5	-5.6	1.91 H	360	50.4	-12.5
3	299.50	38.1 QP	46.0	-7.9	2.02 H	253	50.0	-11.9
4	667.30	41.4 QP	46.0	-4.6	2.91 H	263	45.0	-3.6
5	699.80	36.5 QP	46.0	-9.5	1.08 H	102	39.4	-2.9
6	768.90	34.0 QP	46.0	-12.0	1.00 H	129	35.5	-1.5

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.

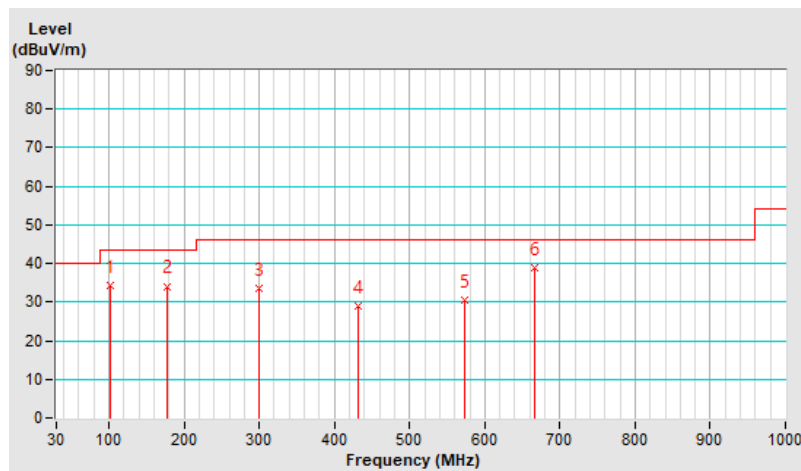


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Louis Yang		

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	101.00	34.4 QP	43.5	-9.1	2.96 V	134	51.3	-16.9
2	177.30	34.1 QP	43.5	-9.4	3.08 V	125	47.7	-13.6
3	300.00	33.7 QP	46.0	-12.3	1.56 V	275	45.6	-11.9
4	431.20	29.0 QP	46.0	-17.0	2.54 V	227	37.3	-8.3
5	573.50	30.5 QP	46.0	-15.5	3.06 V	352	35.9	-5.4
6	666.70	38.8 QP	46.0	-7.2	1.98 V	259	42.4	-3.6

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 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.



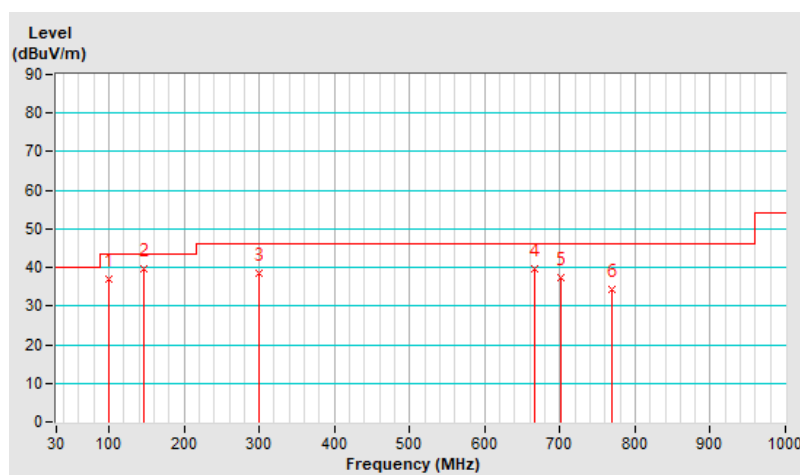
Mode B

RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Louis Yang		

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	99.50	37.1 QP	43.5	-6.4	1.48 H	263	54.3	-17.2
2	145.60	39.5 QP	43.5	-4.0	1.88 H	360	51.9	-12.4
3	300.10	38.5 QP	46.0	-7.5	1.98 H	235	50.2	-11.7
4	665.70	39.8 QP	46.0	-6.2	3.06 H	203	43.4	-3.6
5	701.20	37.2 QP	46.0	-8.8	1.00 H	133	40.1	-2.9
6	768.50	34.4 QP	46.0	-11.6	1.00 H	151	35.9	-1.5

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.

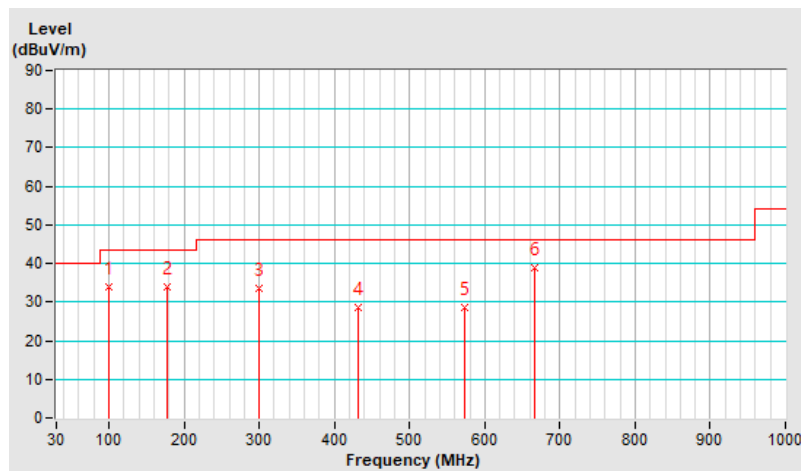


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Louis Yang		

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	100.50	34.0 QP	43.5	-9.5	2.83 V	143	51.0	-17.0
2	178.20	33.9 QP	43.5	-9.6	2.88 V	118	47.6	-13.7
3	300.20	33.6 QP	46.0	-12.4	1.55 V	286	45.3	-11.7
4	430.80	28.5 QP	46.0	-17.5	2.41 V	266	36.8	-8.3
5	572.30	28.7 QP	46.0	-17.3	3.00 V	360	34.1	-5.4
6	666.50	38.8 QP	46.0	-7.2	1.98 V	270	42.4	-3.6

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 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

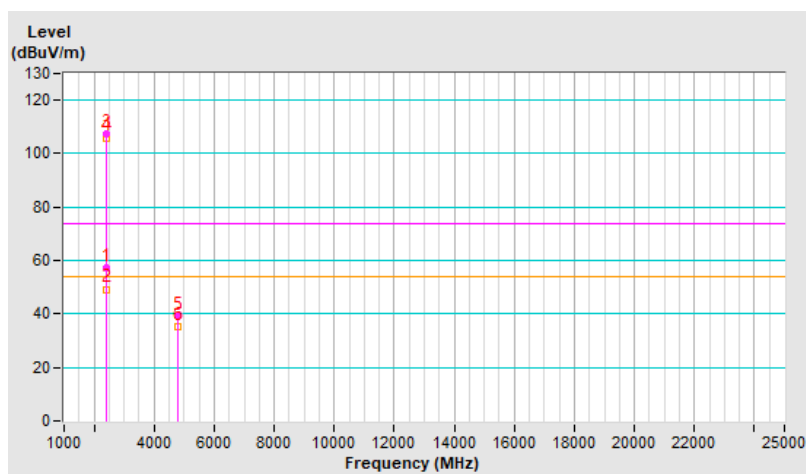
Mode A

RF Mode	LE-Coded S=8	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	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	57.2 PK	74.0	-16.8	2.03 H	115	60.8	-3.6
2	2390.00	49.3 AV	54.0	-4.7	2.03 H	115	52.9	-3.6
3	*2402.00	107.2 PK			2.03 H	115	110.8	-3.6
4	*2402.00	106.0 AV			2.03 H	115	109.6	-3.6
5	4804.00	39.1 PK	74.0	-34.9	1.03 H	158	37.4	1.7
6	4804.00	35.3 AV	54.0	-18.7	1.03 H	158	33.6	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.

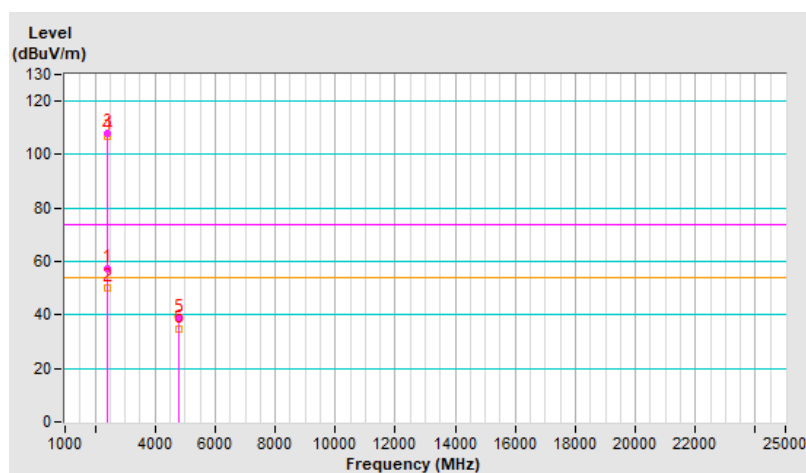


RF Mode	LE-Coded S=8	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	57.5 PK	74.0	-16.5	3.43 V	218	61.1	-3.6
2	2390.00	50.0 AV	54.0	-4.0	3.43 V	218	53.6	-3.6
3	*2402.00	107.9 PK			3.43 V	218	111.5	-3.6
4	*2402.00	106.8 AV			3.43 V	218	110.4	-3.6
5	4804.00	38.4 PK	74.0	-35.6	1.34 V	124	36.7	1.7
6	4804.00	34.9 AV	54.0	-19.1	1.34 V	124	33.2	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.

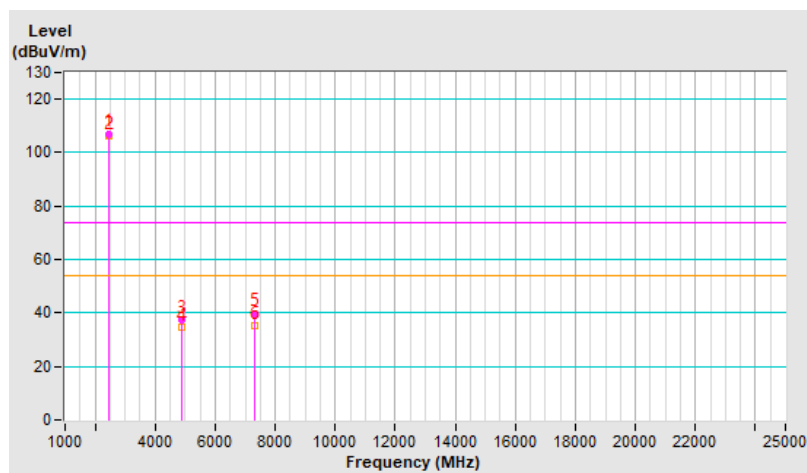


RF Mode	LE-Coded S=8	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	107.1 PK			2.04 H	105	110.5	-3.4
2	*2440.00	106.2 AV			2.04 H	105	109.6	-3.4
3	4880.00	37.6 PK	74.0	-36.4	1.00 H	163	36.1	1.5
4	4880.00	34.5 AV	54.0	-19.5	1.00 H	163	33.0	1.5
5	7320.00	39.9 PK	74.0	-34.1	1.09 H	180	32.3	7.6
6	7320.00	35.2 AV	54.0	-18.8	1.09 H	180	27.6	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.

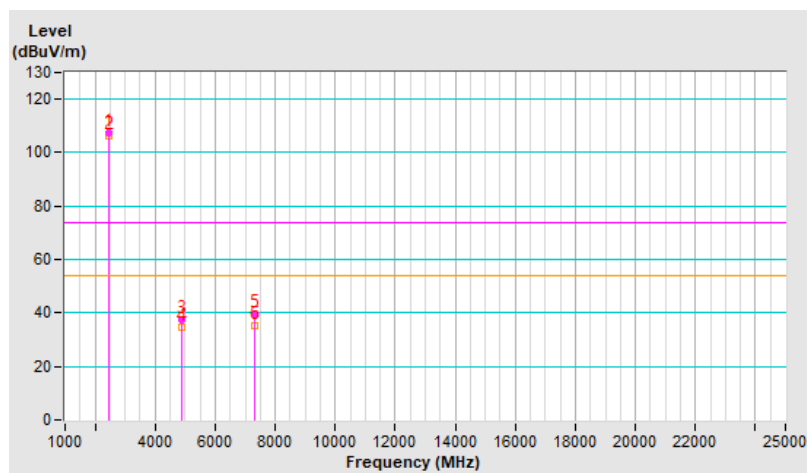


RF Mode	LE-Coded S=8	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	107.6 PK			3.38 V	219	111.0	-3.4
2	*2440.00	106.5 AV			3.38 V	219	109.9	-3.4
3	4880.00	37.6 PK	74.0	-36.4	1.37 V	113	36.1	1.5
4	4880.00	34.5 AV	54.0	-19.5	1.37 V	113	33.0	1.5
5	7320.00	39.5 PK	74.0	-34.5	1.12 V	180	31.9	7.6
6	7320.00	35.1 AV	54.0	-18.9	1.12 V	180	27.5	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.

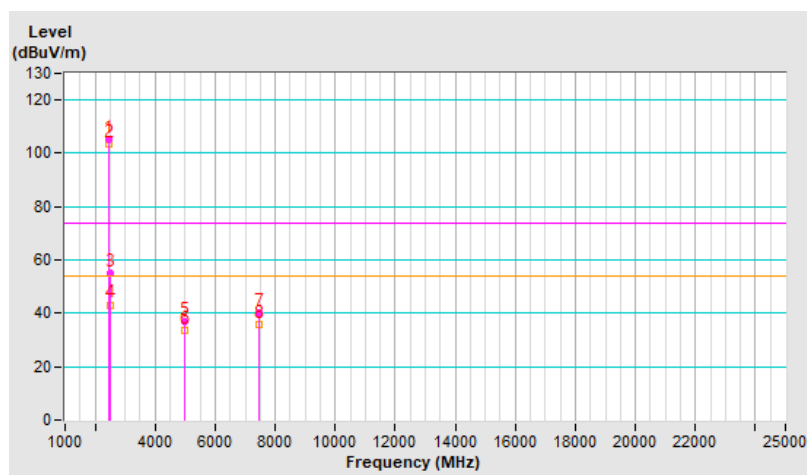


RF Mode	LE-Coded S=8	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	105.1 PK			2.16 H	115	108.5	-3.4
2	*2480.00	103.7 AV			2.16 H	115	107.1	-3.4
3	2483.50	55.1 PK	74.0	-18.9	2.16 H	115	58.5	-3.4
4	2483.50	43.2 AV	54.0	-10.8	2.16 H	115	46.6	-3.4
5	4960.00	36.8 PK	74.0	-37.2	1.00 H	151	35.1	1.7
6	4960.00	33.8 AV	54.0	-20.2	1.00 H	151	32.1	1.7
7	7440.00	40.3 PK	74.0	-33.7	1.07 H	168	32.6	7.7
8	7440.00	35.7 AV	54.0	-18.3	1.07 H	168	28.0	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.

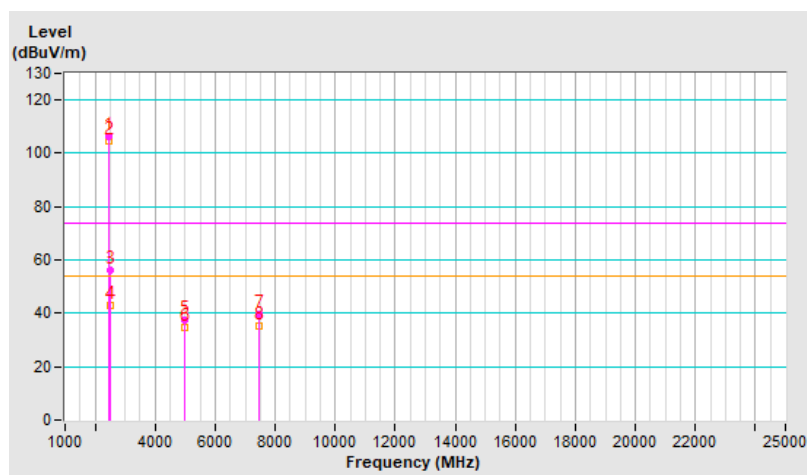


RF Mode	LE-Coded S=8	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	106.1 PK			2.77 V	218	109.5	-3.4
2	*2480.00	104.5 AV			2.77 V	218	107.9	-3.4
3	2483.50	56.2 PK	74.0	-17.8	2.77 V	218	59.6	-3.4
4	2483.50	43.1 AV	54.0	-10.9	2.77 V	218	46.5	-3.4
5	4960.00	37.6 PK	74.0	-36.4	1.33 V	98	35.9	1.7
6	4960.00	34.8 AV	54.0	-19.2	1.33 V	98	33.1	1.7
7	7440.00	39.5 PK	74.0	-34.5	1.14 V	187	31.8	7.7
8	7440.00	35.2 AV	54.0	-18.8	1.14 V	187	27.5	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.

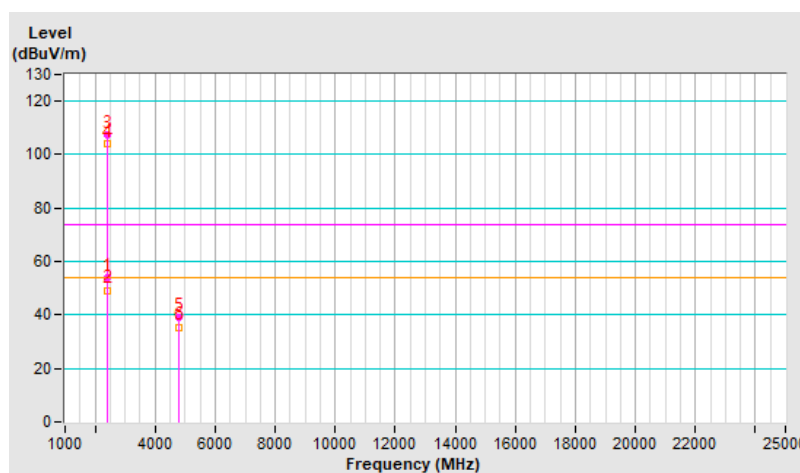


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	54.1 PK	74.0	-19.9	2.00 H	113	57.7	-3.6
2	2390.00	49.3 AV	54.0	-4.7	2.00 H	113	52.9	-3.6
3	*2404.00	107.5 PK			2.00 H	113	111.1	-3.6
4	*2404.00	104.3 AV			2.00 H	113	107.9	-3.6
5	4808.00	39.1 PK	74.0	-34.9	1.00 H	163	37.4	1.7
6	4808.00	35.5 AV	54.0	-18.5	1.00 H	163	33.8	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.

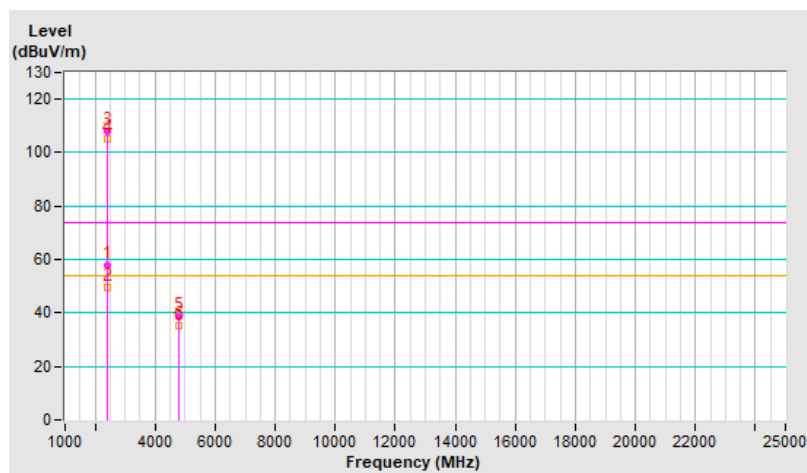


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	57.7 PK	74.0	-16.3	3.40 V	222	61.3	-3.6
2	2390.00	49.6 AV	54.0	-4.4	3.40 V	222	53.2	-3.6
3	*2404.00	108.1 PK			3.40 V	222	111.7	-3.6
4	*2404.00	105.3 AV			3.40 V	222	108.9	-3.6
5	4808.00	38.5 PK	74.0	-35.5	1.34 V	110	36.8	1.7
6	4808.00	35.0 AV	54.0	-19.0	1.34 V	110	33.3	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.

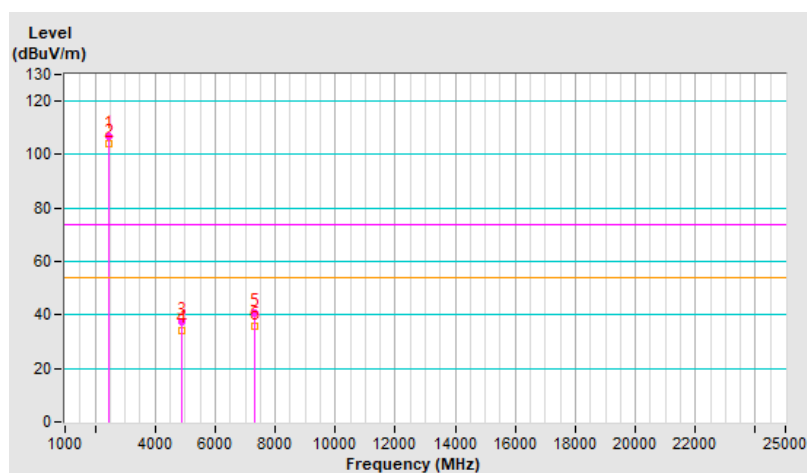


RF Mode	BT-LE 2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	107.1 PK			2.01 H	103	110.5	-3.4
2	*2440.00	104.2 AV			2.01 H	103	107.6	-3.4
3	4880.00	37.3 PK	74.0	-36.7	1.00 H	154	35.8	1.5
4	4880.00	34.4 AV	54.0	-19.6	1.00 H	154	32.9	1.5
5	7320.00	40.6 PK	74.0	-33.4	1.14 H	183	33.0	7.6
6	7320.00	35.7 AV	54.0	-18.3	1.14 H	183	28.1	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.

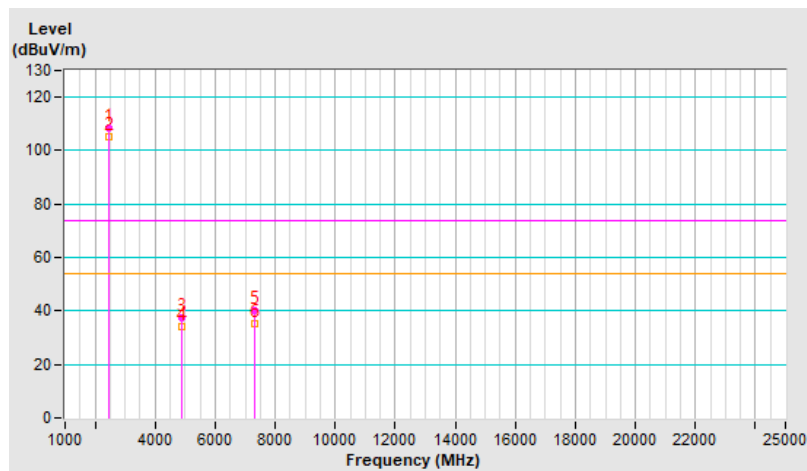


RF Mode	BT-LE 2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	108.5 PK			3.42 V	232	111.9	-3.4
2	*2440.00	105.2 AV			3.42 V	232	108.6	-3.4
3	4880.00	37.2 PK	74.0	-36.8	1.32 V	117	35.7	1.5
4	4880.00	34.1 AV	54.0	-19.9	1.32 V	117	32.6	1.5
5	7320.00	40.0 PK	74.0	-34.0	1.10 V	185	32.4	7.6
6	7320.00	35.4 AV	54.0	-18.6	1.10 V	185	27.8	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.

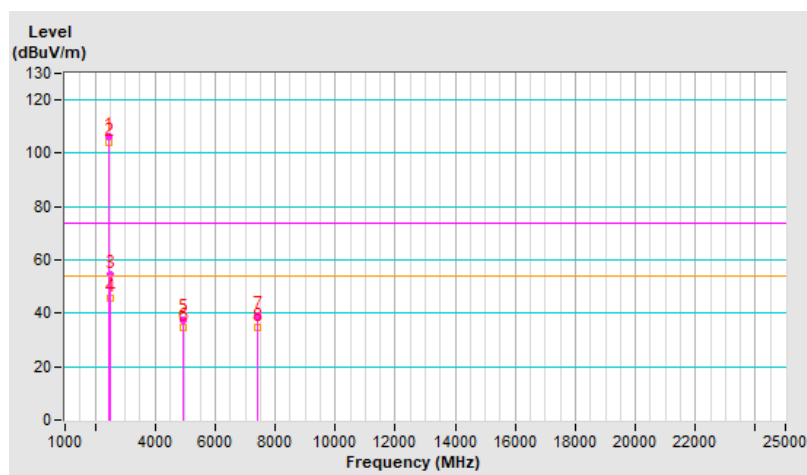


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2478.00	106.5 PK			1.65 H	115	109.9	-3.4
2	*2478.00	103.9 AV			1.65 H	115	107.3	-3.4
3	2483.50	54.3 PK	74.0	-19.7	1.65 H	115	57.7	-3.4
4	2483.50	45.6 AV	54.0	-8.4	1.65 H	115	49.0	-3.4
5	4956.00	37.7 PK	74.0	-36.3	1.00 H	151	36.0	1.7
6	4956.00	34.5 AV	54.0	-19.5	1.00 H	151	32.8	1.7
7	7434.00	39.3 PK	74.0	-34.7	1.07 H	182	31.6	7.7
8	7434.00	34.9 AV	54.0	-19.1	1.07 H	182	27.2	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.

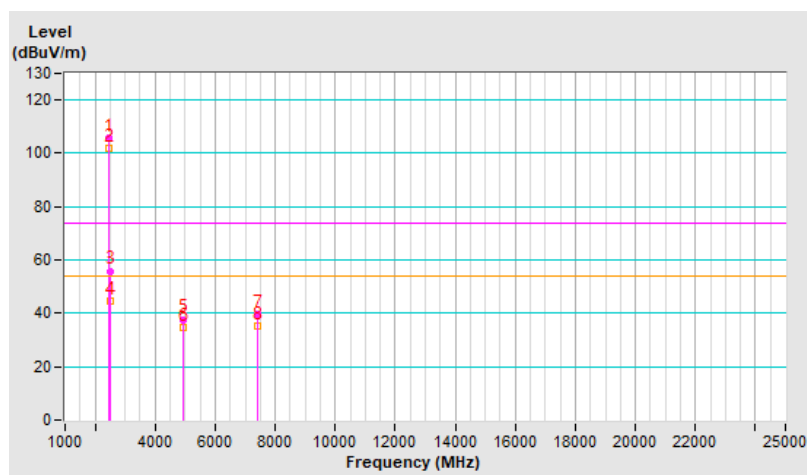


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	23 °C, 65 % RH
Tested By	Willy Lin		

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	*2478.00	105.6 PK			2.86 V	215	109.0	-3.4
2	*2478.00	102.0 AV			2.86 V	215	105.4	-3.4
3	2483.50	55.9 PK	74.0	-18.1	2.86 V	215	59.3	-3.4
4	2483.50	44.6 AV	54.0	-9.4	2.86 V	215	48.0	-3.4
5	4956.00	37.7 PK	74.0	-36.3	1.38 V	105	36.0	1.7
6	4956.00	34.6 AV	54.0	-19.4	1.38 V	105	32.9	1.7
7	7434.00	39.5 PK	74.0	-34.5	1.12 V	190	31.8	7.7
8	7434.00	35.3 AV	54.0	-18.7	1.12 V	190	27.6	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.



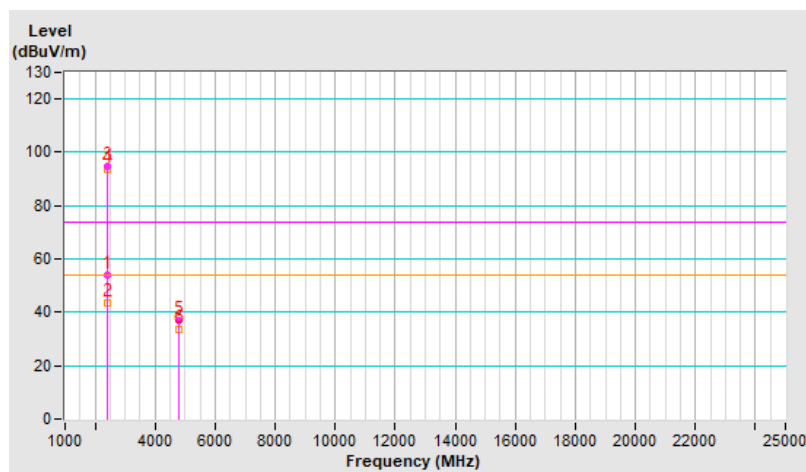
Mode B

RF Mode	LE-Coded S=8	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	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	54.2 PK	74.0	-19.8	1.08 H	195	57.8	-3.6
2	2390.00	43.6 AV	54.0	-10.4	1.08 H	195	47.2	-3.6
3	*2402.00	94.5 PK			1.08 H	195	98.1	-3.6
4	*2402.00	93.6 AV			1.08 H	195	97.2	-3.6
5	4804.00	36.8 PK	74.0	-37.2	1.00 H	156	35.1	1.7
6	4804.00	33.4 AV	54.0	-20.6	1.00 H	156	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.

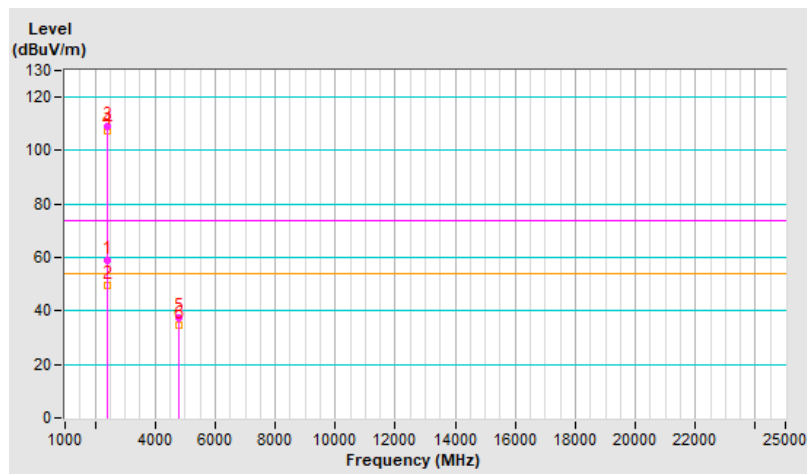


RF Mode	LE-Coded S=8	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	58.8 PK	74.0	-15.2	1.45 V	36	62.4	-3.6
2	2390.00	49.7 AV	54.0	-4.3	1.45 V	36	53.3	-3.6
3	*2402.00	108.8 PK			1.45 V	36	112.4	-3.6
4	*2402.00	107.6 AV			1.45 V	36	111.2	-3.6
5	4804.00	37.6 PK	74.0	-36.4	1.30 V	125	35.9	1.7
6	4804.00	34.9 AV	54.0	-19.1	1.30 V	125	33.2	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.

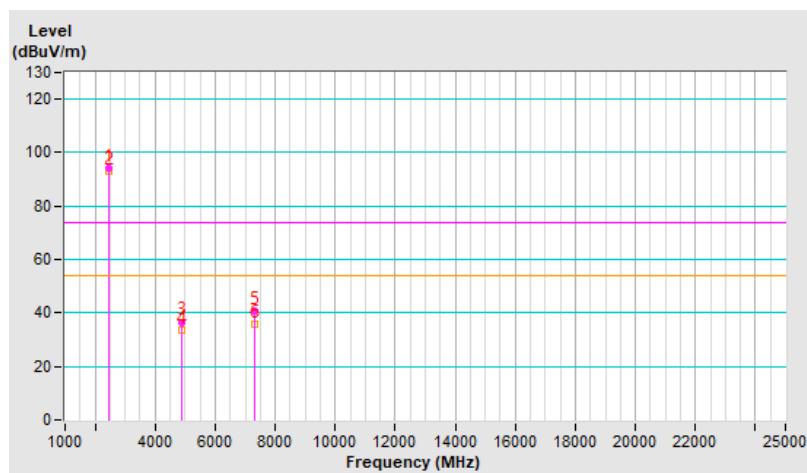


RF Mode	LE-Coded S=8	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	94.2 PK			1.05 H	211	97.6	-3.4
2	*2440.00	93.1 AV			1.05 H	211	96.5	-3.4
3	4880.00	36.6 PK	74.0	-37.4	1.00 H	155	35.1	1.5
4	4880.00	33.6 AV	54.0	-20.4	1.00 H	155	32.1	1.5
5	7320.00	40.7 PK	74.0	-33.3	1.24 H	179	33.1	7.6
6	7320.00	35.6 AV	54.0	-18.4	1.24 H	179	28.0	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.

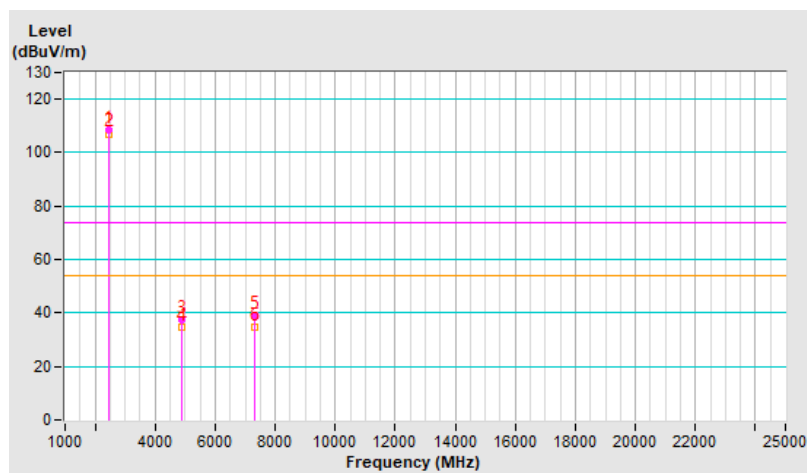


RF Mode	LE-Coded S=8	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	108.4 PK			1.46 V	41	111.8	-3.4
2	*2440.00	107.1 AV			1.46 V	41	110.5	-3.4
3	4880.00	37.2 PK	74.0	-36.8	1.36 V	110	35.7	1.5
4	4880.00	34.6 AV	54.0	-19.4	1.36 V	110	33.1	1.5
5	7320.00	39.3 PK	74.0	-34.7	1.06 V	179	31.7	7.6
6	7320.00	34.9 AV	54.0	-19.1	1.06 V	179	27.3	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.

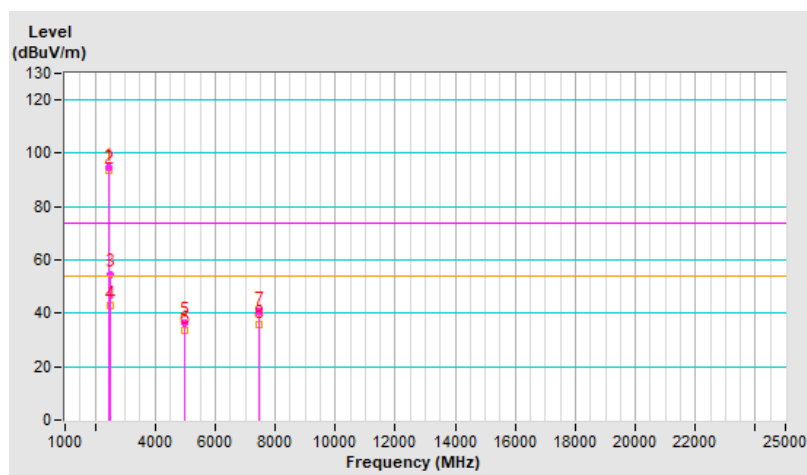


RF Mode	LE-Coded S=8	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	94.8 PK			1.05 H	199	98.2	-3.4
2	*2480.00	93.5 AV			1.05 H	199	96.9	-3.4
3	2483.50	54.8 PK	74.0	-19.2	1.05 H	199	58.2	-3.4
4	2483.50	42.8 AV	54.0	-11.2	1.05 H	199	46.2	-3.4
5	4960.00	36.6 PK	74.0	-37.4	1.00 H	129	34.9	1.7
6	4960.00	33.5 AV	54.0	-20.5	1.00 H	129	31.8	1.7
7	7440.00	40.7 PK	74.0	-33.3	1.27 H	192	33.0	7.7
8	7440.00	35.8 AV	54.0	-18.2	1.27 H	192	28.1	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.

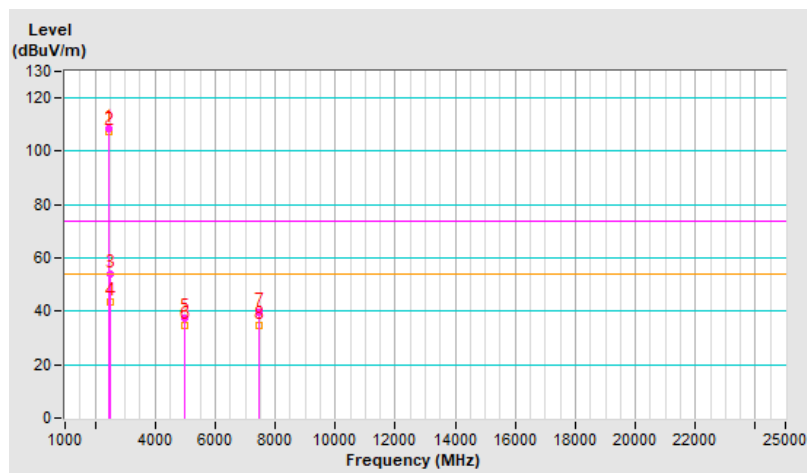


RF Mode	LE-Coded S=8	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	108.6 PK			1.47 V	37	112.0	-3.4
2	*2480.00	107.4 AV			1.47 V	37	110.8	-3.4
3	2483.50	54.2 PK	74.0	-19.8	1.47 V	37	57.6	-3.4
4	2483.50	43.5 AV	54.0	-10.5	1.47 V	37	46.9	-3.4
5	4960.00	37.6 PK	74.0	-36.4	1.40 V	126	35.9	1.7
6	4960.00	34.8 AV	54.0	-19.2	1.40 V	126	33.1	1.7
7	7440.00	39.5 PK	74.0	-34.5	1.06 V	186	31.8	7.7
8	7440.00	34.8 AV	54.0	-19.2	1.06 V	186	27.1	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.

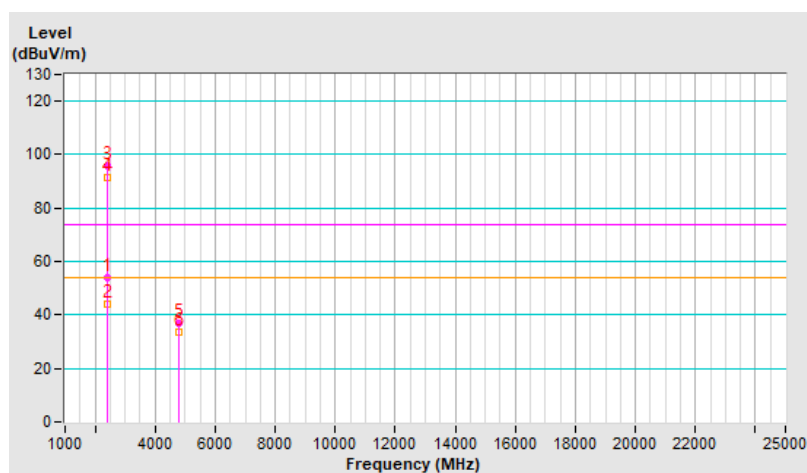


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	54.2 PK	74.0	-19.8	1.03 H	192	57.8	-3.6
2	2390.00	44.0 AV	54.0	-10.0	1.03 H	192	47.6	-3.6
3	*2404.00	95.9 PK			1.03 H	192	99.5	-3.6
4	*2404.00	91.2 AV			1.03 H	192	94.8	-3.6
5	4808.00	36.8 PK	74.0	-37.2	1.00 H	153	35.1	1.7
6	4808.00	33.8 AV	54.0	-20.2	1.00 H	153	32.1	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.

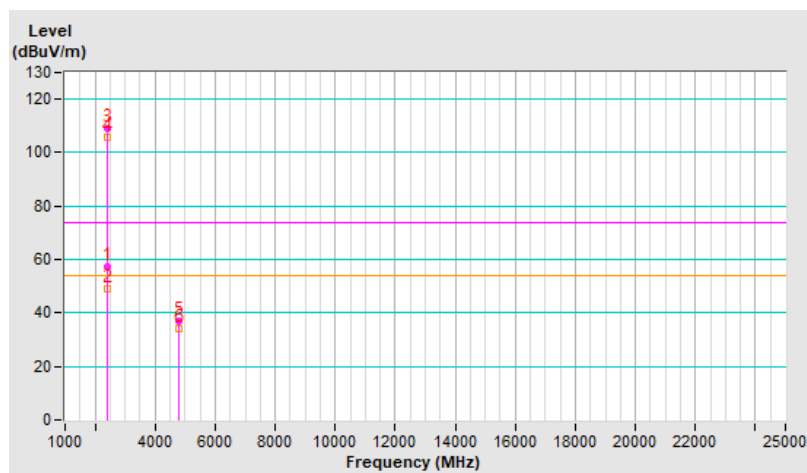


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	57.2 PK	74.0	-16.8	1.46 V	35	60.8	-3.6
2	2390.00	49.1 AV	54.0	-4.9	1.46 V	35	52.7	-3.6
3	*2404.00	108.8 PK			1.46 V	35	112.4	-3.6
4	*2404.00	105.7 AV			1.46 V	35	109.3	-3.6
5	4808.00	37.1 PK	74.0	-36.9	1.29 V	133	35.4	1.7
6	4808.00	34.3 AV	54.0	-19.7	1.29 V	133	32.6	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.

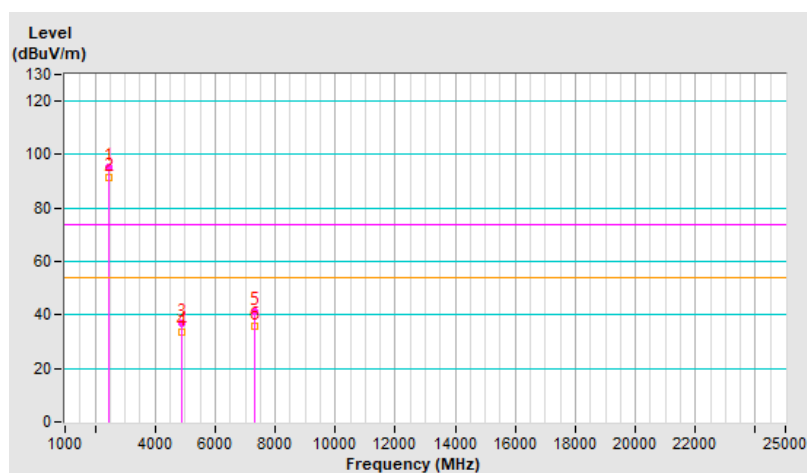


RF Mode	BT-LE 2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	95.1 PK			1.09 H	210	98.5	-3.4
2	*2440.00	91.3 AV			1.09 H	210	94.7	-3.4
3	4880.00	36.8 PK	74.0	-37.2	1.00 H	141	35.3	1.5
4	4880.00	33.7 AV	54.0	-20.3	1.00 H	141	32.2	1.5
5	7320.00	41.1 PK	74.0	-32.9	1.25 H	188	33.5	7.6
6	7320.00	36.0 AV	54.0	-18.0	1.25 H	188	28.4	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.

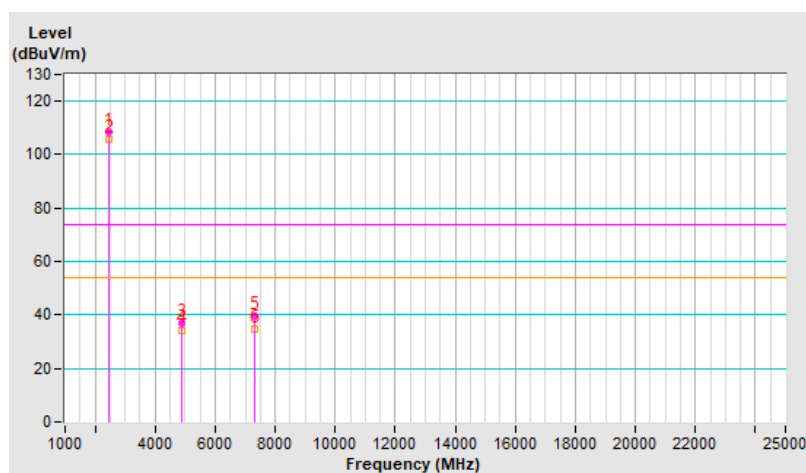


RF Mode	BT-LE 2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2440.00	108.3 PK			1.44 V	48	111.7	-3.4
2	*2440.00	105.5 AV			1.44 V	48	108.9	-3.4
3	4880.00	37.0 PK	74.0	-37.0	1.34 V	117	35.5	1.5
4	4880.00	34.4 AV	54.0	-19.6	1.34 V	117	32.9	1.5
5	7320.00	39.4 PK	74.0	-34.6	1.10 V	188	31.8	7.6
6	7320.00	34.9 AV	54.0	-19.1	1.10 V	188	27.3	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.

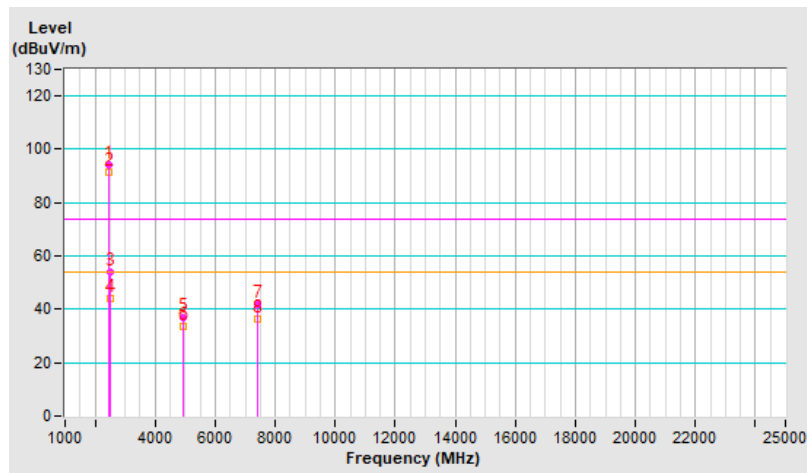


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2478.00	94.2 PK			1.04 H	193	97.6	-3.4
2	*2478.00	91.4 AV			1.04 H	193	94.8	-3.4
3	2483.50	54.0 PK	74.0	-20.0	1.04 H	193	57.4	-3.4
4	2483.50	43.8 AV	54.0	-10.2	1.04 H	193	47.2	-3.4
5	4956.00	36.7 PK	74.0	-37.3	1.00 H	149	35.0	1.7
6	4956.00	33.8 AV	54.0	-20.2	1.00 H	149	32.1	1.7
7	7434.00	41.6 PK	74.0	-32.4	1.27 H	203	33.9	7.7
8	7434.00	36.3 AV	54.0	-17.7	1.27 H	203	28.6	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.

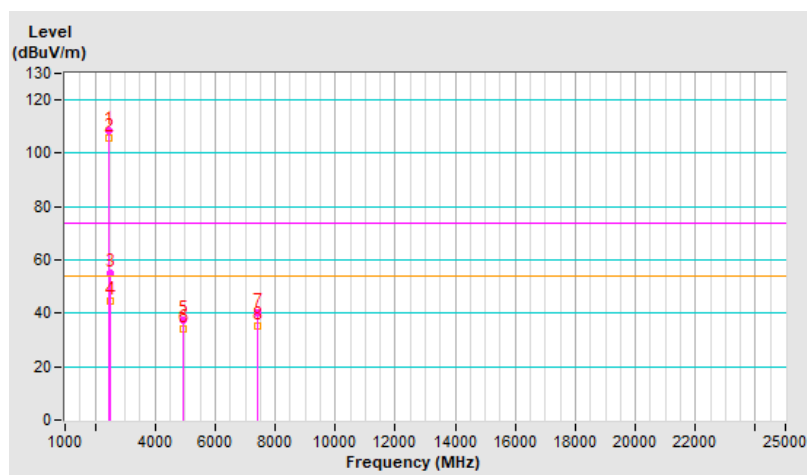


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=5.1 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	22 °C, 65 % RH
Tested By	Willy Lin		

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	*2478.00	108.6 PK			1.44 V	24	112.0	-3.4
2	*2478.00	105.6 AV			1.44 V	24	109.0	-3.4
3	2483.50	55.1 PK	74.0	-18.9	1.44 V	24	58.5	-3.4
4	2483.50	44.4 AV	54.0	-9.6	1.44 V	24	47.8	-3.4
5	4956.00	37.6 PK	74.0	-36.4	1.36 V	106	35.9	1.7
6	4956.00	34.3 AV	54.0	-19.7	1.36 V	106	32.6	1.7
7	7434.00	40.1 PK	74.0	-33.9	1.04 V	195	32.4	7.7
8	7434.00	35.4 AV	54.0	-18.6	1.04 V	195	27.7	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.

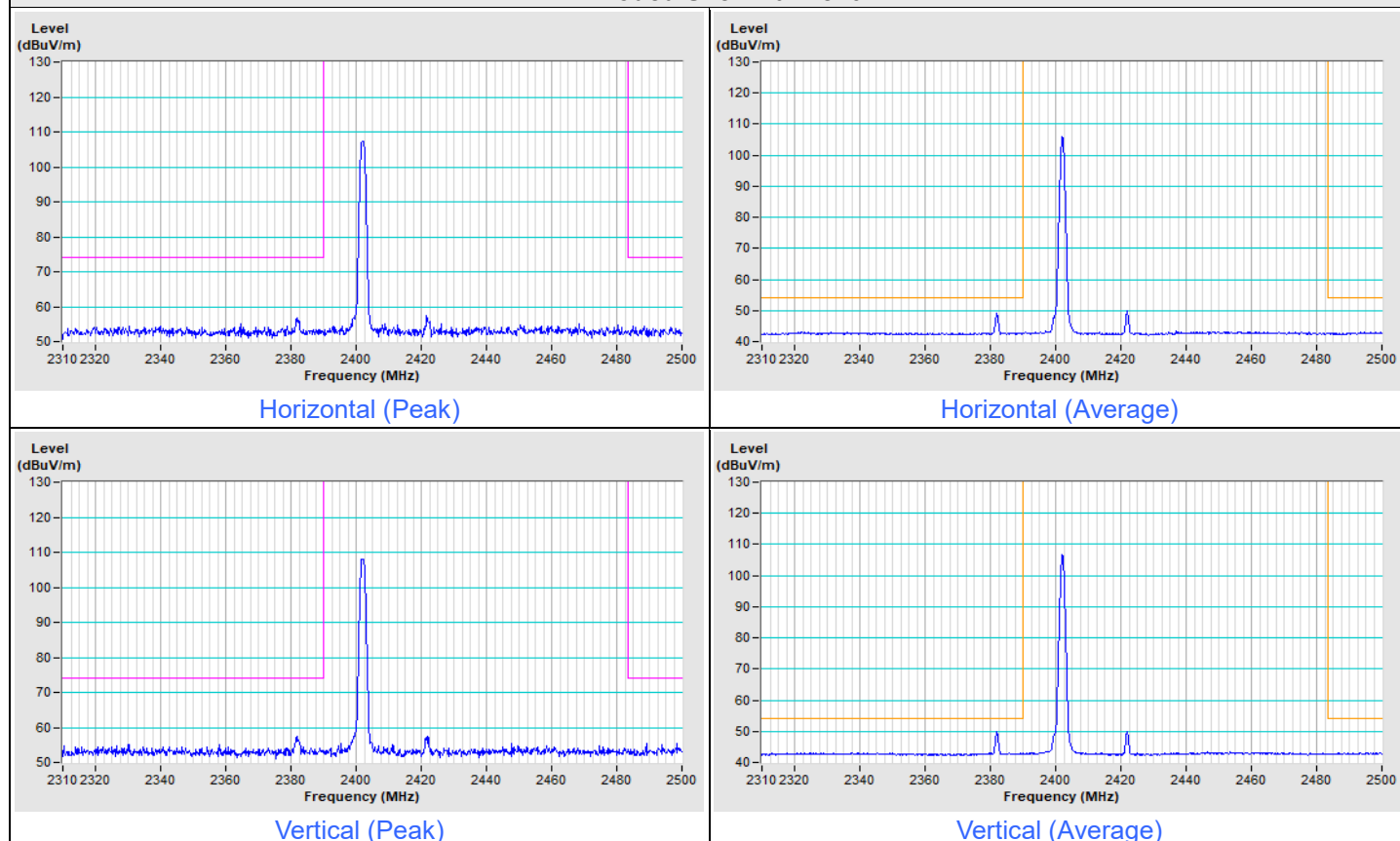


Plot of Band Edge

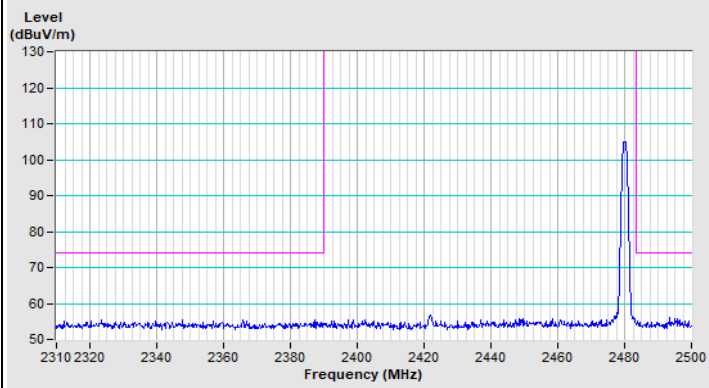
Mode A

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=1 kHz, DET=Peak
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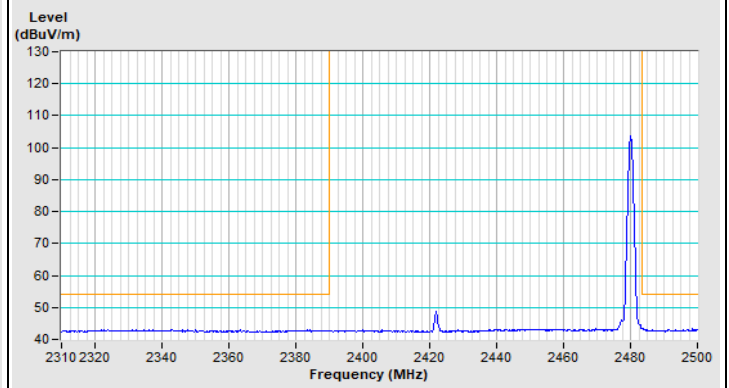
LE-Coded S=8 Channel 0



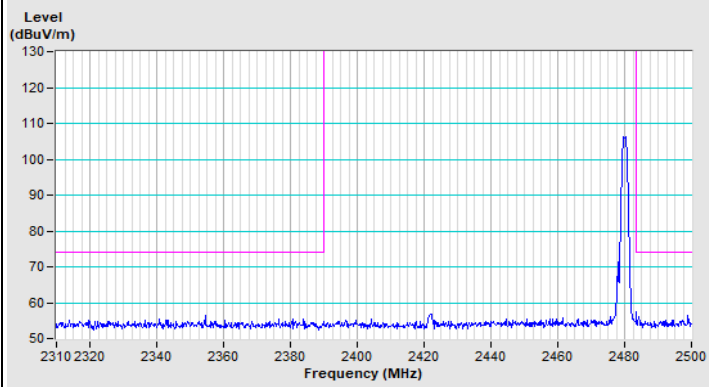
LE-Coded S=8 Channel 39



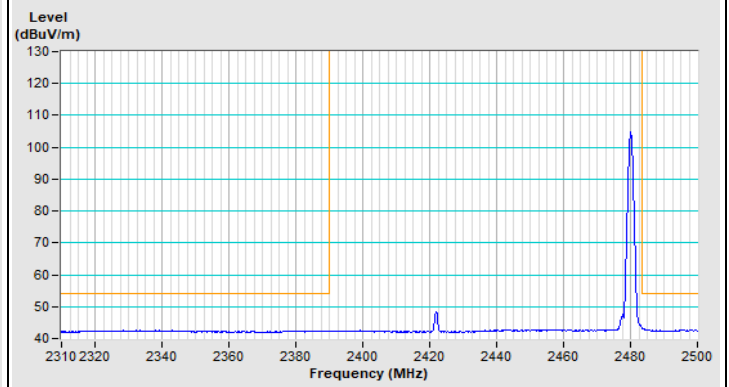
Horizontal (Peak)



Horizontal (Average)



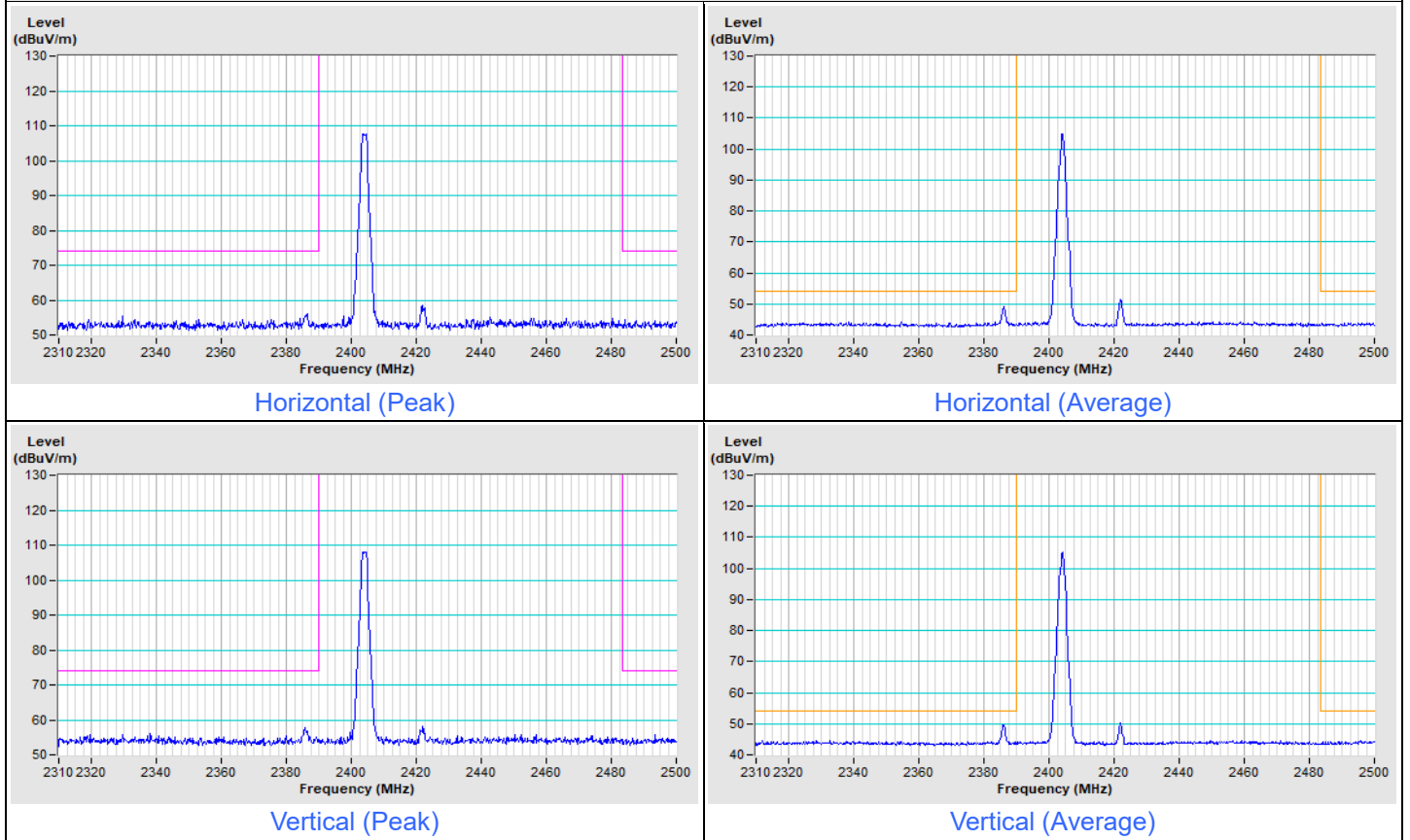
Vertical (Peak)



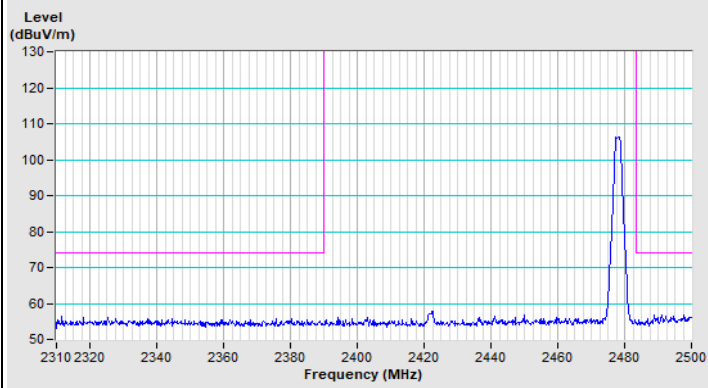
Vertical (Average)

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=5.1 kHz, DET=Peak
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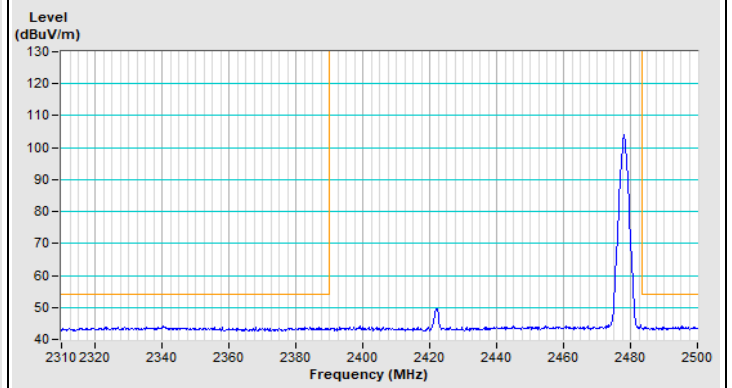
BT-LE 2M Channel 1



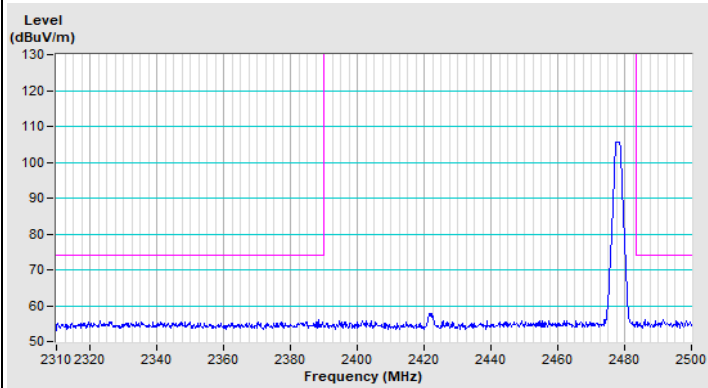
BT-LE 2M Channel 38



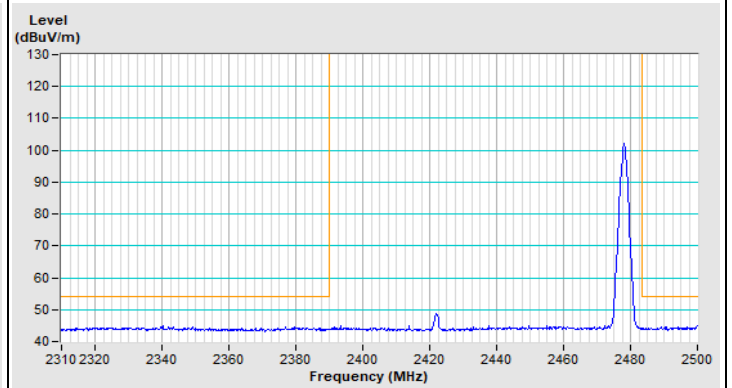
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

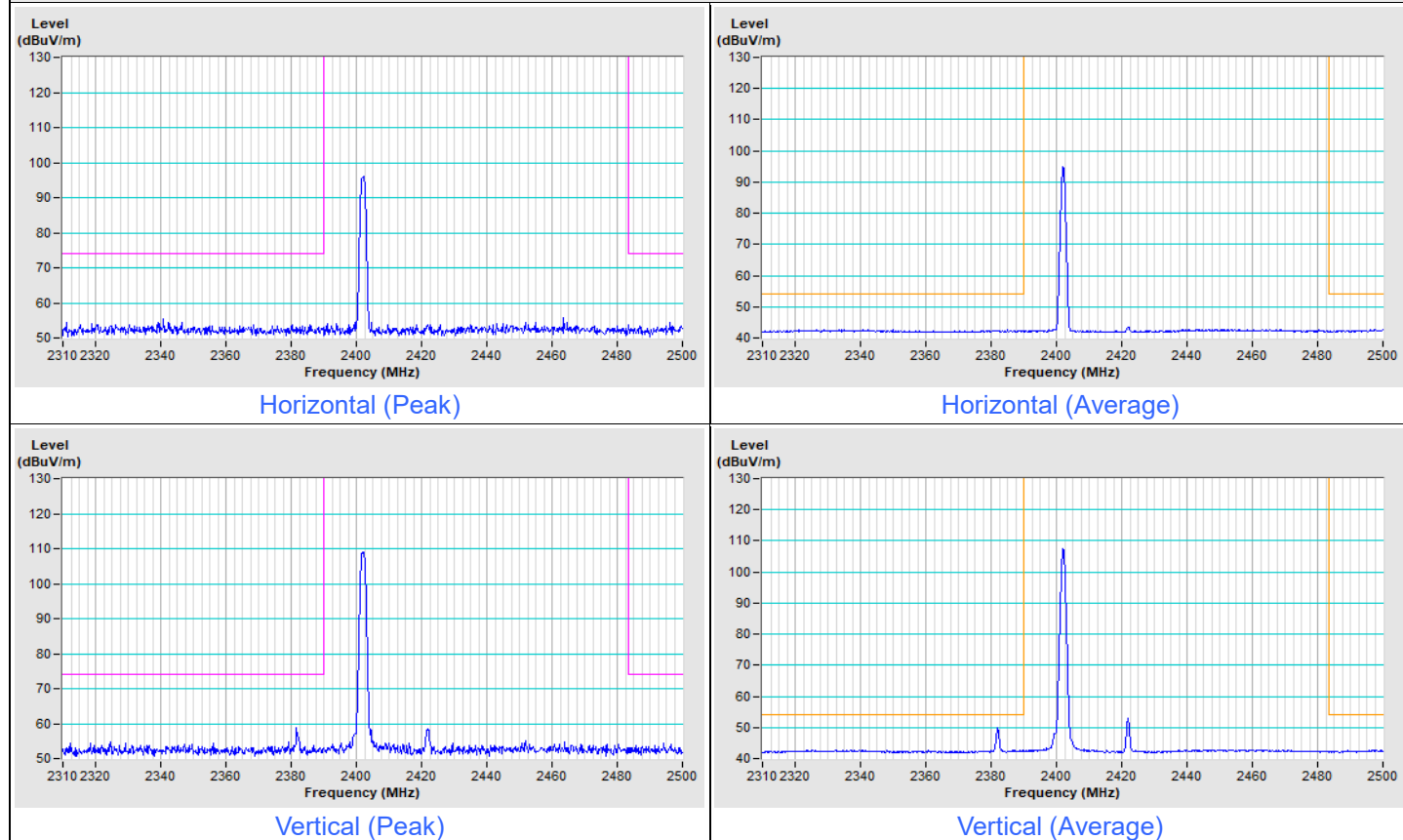


Vertical (Average)

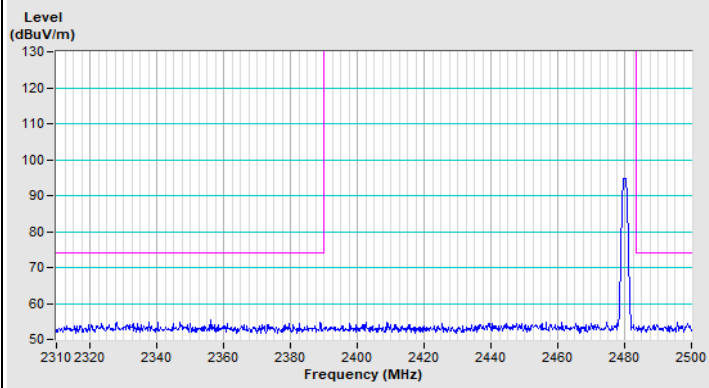
Mode B

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=1 kHz, DET=Peak
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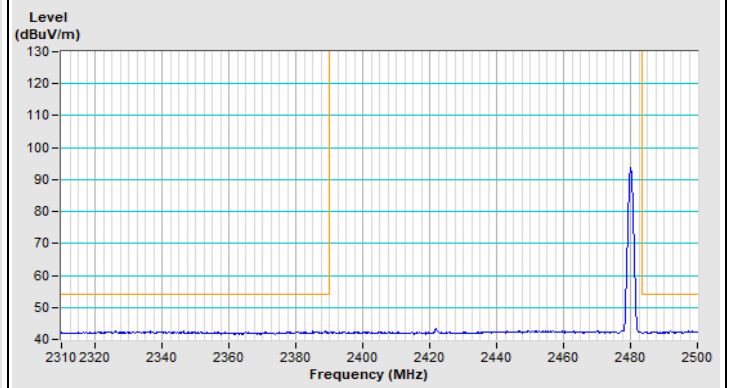
LE-Coded S=8 Channel 0



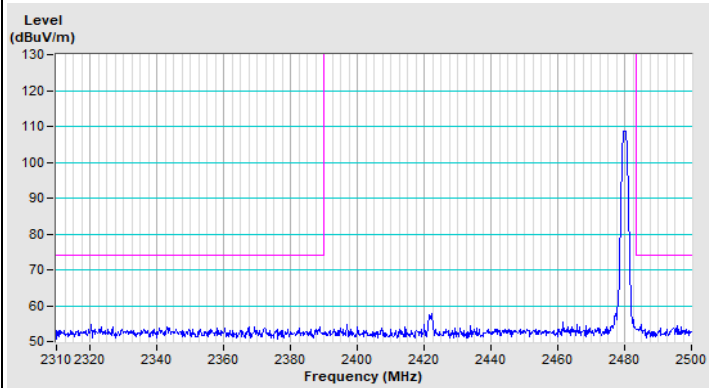
LE-Coded S=8 Channel 39



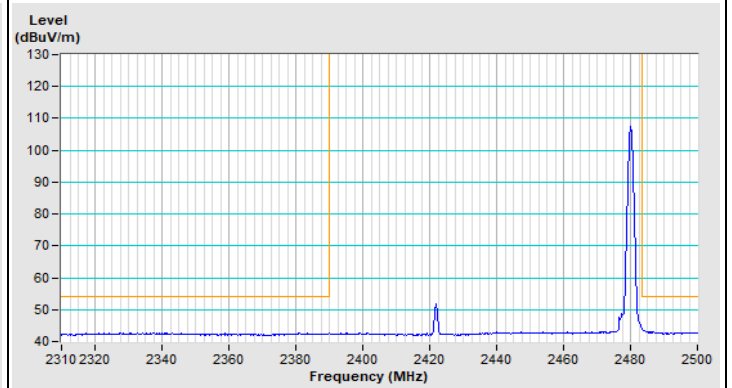
Horizontal (Peak)



Horizontal (Average)



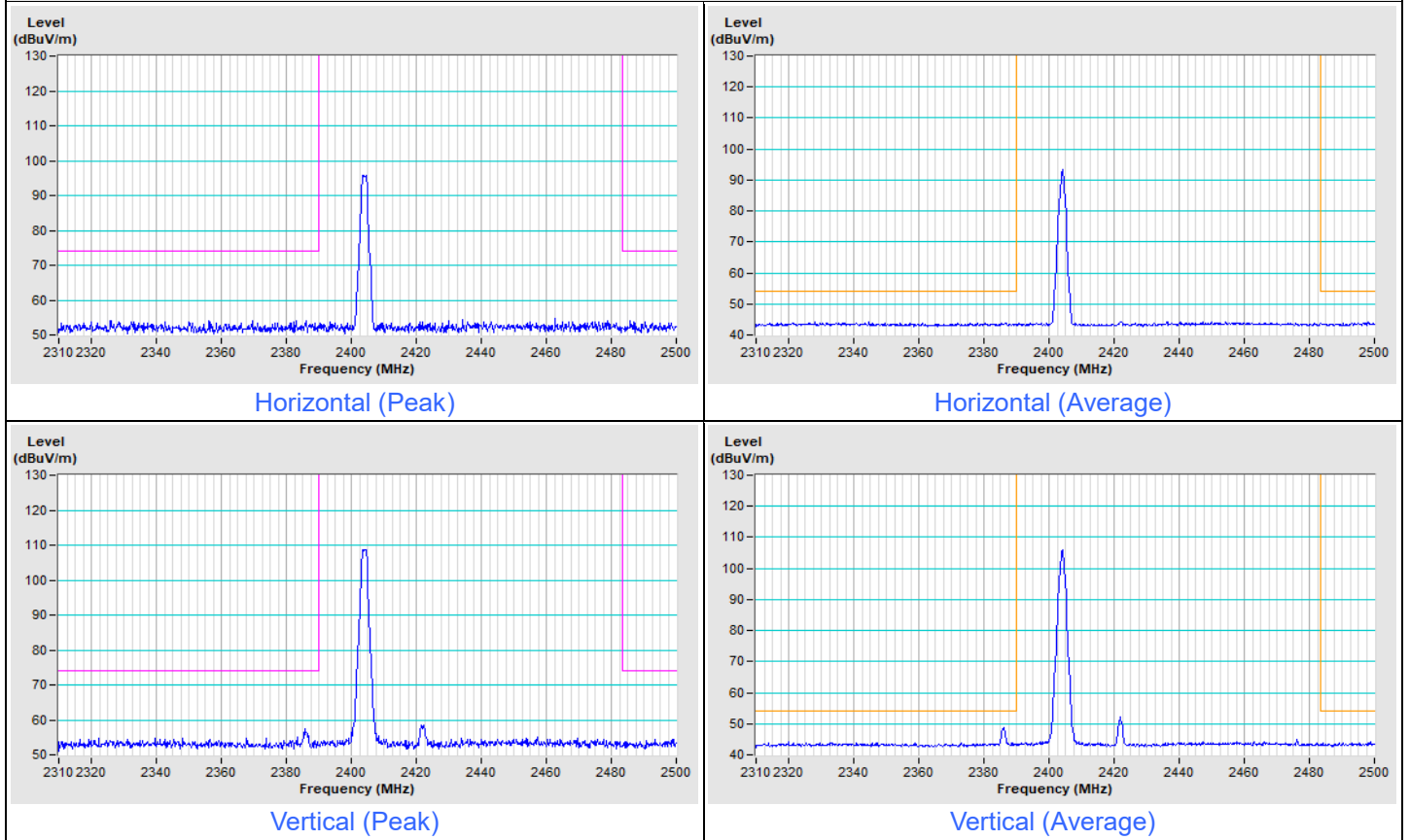
Vertical (Peak)



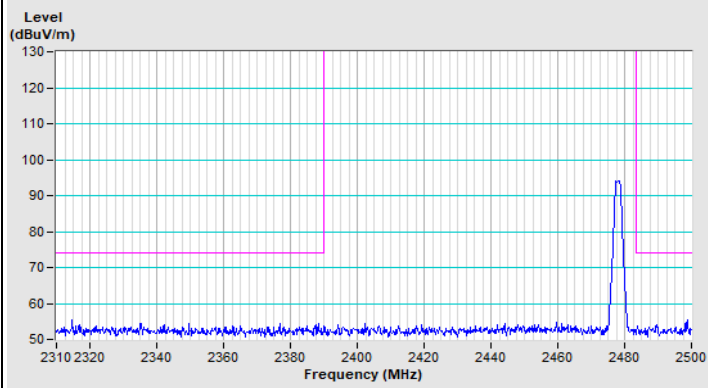
Vertical (Average)

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=5.1 kHz, DET=Peak
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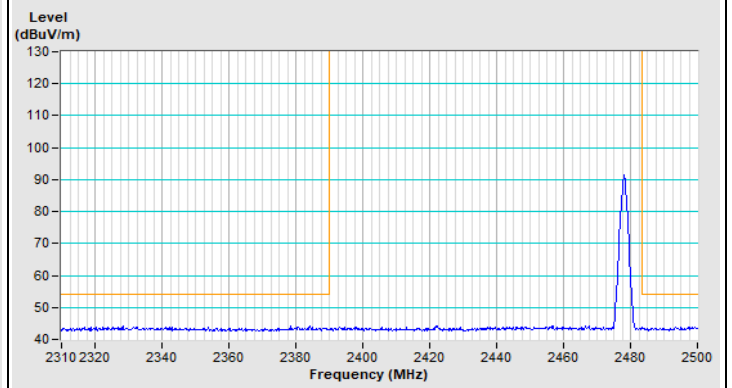
BT-LE 2M Channel 1



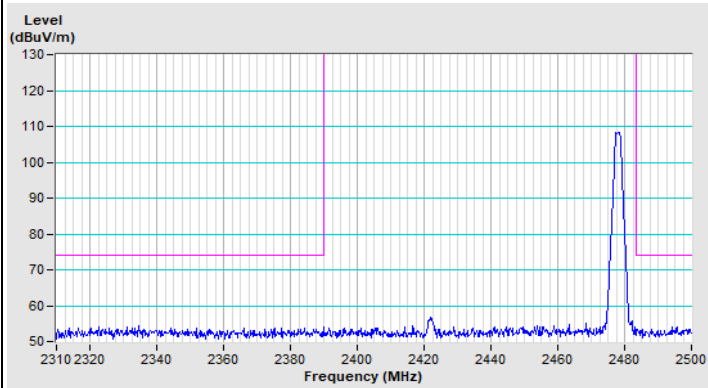
BT-LE 2M Channel 38



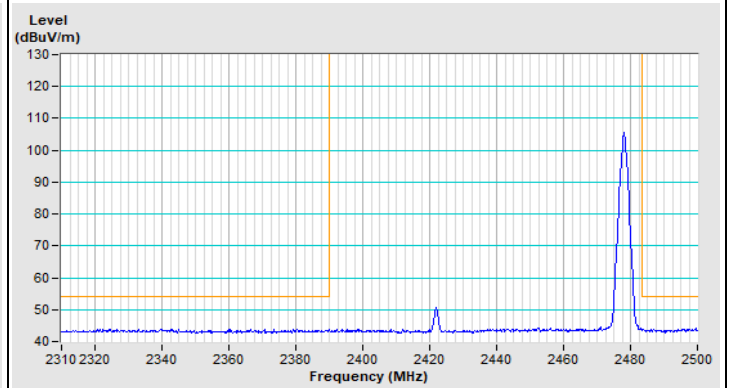
Horizontal (Peak)



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:

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Email: 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.

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