

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBDKG-WTW-P26060057
FCC ID: JNZMR0136
Product: Wireless Mouse
Brand: Logitech, logi, logitech
Model No.: MR0136
Received Date: 2026/6/3
Test Date: 2026/6/8 ~ 2026/6/18
Issued Date: 2026/7/3
Applicant: Logitech Far East Ltd.
Address: #2 Creation Rd. 4, Science-Based Ind. Park Hsinchu Taiwan, R.O.C.
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: _____

May Chen / Manager

, Date: _____

2026/7/3

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Prepared by : Phoenix Huang / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBDKG-WTW-P26060057	Original release.	2026/7/3

1 Certificate

Product: Wireless Mouse

Brand: Logitech, logi, logitech

Test Model: MR0136

Sample Status: Engineering sample

Applicant: Logitech Far East Ltd.

Test Date: 2026/6/8 ~ 2026/6/18

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

Measurement ANSI C63.10-2020

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	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -15.06 dB at 0.58750 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.8 dB at 43.34 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -11.3 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note: 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
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	1050.00 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.6 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	Wireless Mouse
Brand	Logitech, logi, logitech
Test Model	MR0136
Status of EUT	Engineering sample
Power Supply Rating	3.7 Vdc from battery 5 Vdc from USB interface
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 2 Mbps (*Note 1)
Operating Frequency	2.402 GHz ~ 2.48 GHz (*Note 1)
Number of Channel	40 (*Note 1)
Output Power	BT-LE 1M: 2.529 mW (4.03 dBm) BT-LE 2M: 2.541 mW (4.05 dBm) Logi Bolt 1M: 2.518 mW (4.01 dBm) Logi Bolt 2M: 2.523 mW (4.02 dBm)

Note:

1. BT-LE technique supports 1 Mbps and 2 Mbps data rates, both have been evaluated in this test report. Refer to “**section 3.3 Channel List**” for more detail specification.
2. The EUT may have a lot of colors for marketing requirement.
3. This device has BT-LE and Logi Bolt functions. Logi Bolt is the same technology as BT-LE then enhancement secure protocol.
4. The EUT uses following accessories.

Item	Brand	Model	Specification
Battery 1	Highpower	652535	Power Rating: 3.7 Vdc, 500 mAh
Battery 2	Exquisite Power	652535	Power Rating: 3.7 Vdc, 500 mAh
Battery 3	Synergy	AHB572535PJT-04	Power Rating: 3.7 Vdc, 500 mAh
USB A to C Cable	-	-	Signal Line: 1 m
USB C to C Cable	-	-	Signal Line: 1 m

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.

Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
0.15	2.4~2.4835	Printed Monopole Antenna	none

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

3.3 Channel List

40 channels are provided for BT-LE & Logi Bolt:

RF Channel	RF Center Frequency	Channel Index	Channels Type for BT 5.x		Channels Type for BT 4.x
			Maximum Data Rate 2Mbps	Maximum Data Rate 1Mbps	Maximum Data Rate 1Mbps
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		●	●

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. The EUT supports multiple power configurations including USB Type-C power via a laptop or an AC adapter and battery operation. Pre-scans were performed under each configuration to determine the worst-case condition for final testing. 2. The USB Cable has the following models: USB Cable NO.1(USB A to C Cable)/ USB Cable NO.2(USB C to C Cable). Pre-scan these models of USB Cables and find the worst case as a representative test condition. 3. The Battery has the following models: Battery NO.1 (Brand: Highpower)/ Battery NO.2 (Brand: Exquisite Power)/ Battery NO.3 (Brand: Synergy). Pre-scan these battery models and find the worst case as a representative test condition. 4. 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).
Worst Case:	1. The worst-case power configuration for the test item was as follows: ➤ Unwanted Emissions: USB Type-C power via an AC adapter; ➤ AC Power Conducted Emissions: USB Type-C power via an AC adapter 2. USB Cable worst condition: USB Cable NO.1(USB A to C Cable) 3. Battery worst condition: Battery NO.3 Synergy

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

Test Item	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
	BT-LE 2M	1, 19, 38	GFSK	2Mb/s
	Logi Bolt 1M	0, 19, 39	GFSK	1Mb/s
	Logi Bolt 2M	1, 19, 38	GFSK	2Mb/s
Power Spectral Density	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
	BT-LE 2M	1, 19, 38	GFSK	2Mb/s
	Logi Bolt 1M	0, 19, 39	GFSK	1Mb/s
	Logi Bolt 2M	1, 19, 38	GFSK	2Mb/s
6 dB Bandwidth / Conducted Out of Band Emissions	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
	BT-LE 2M	1, 19, 38	GFSK	2Mb/s
	Logi Bolt 1M	0, 19, 39	GFSK	1Mb/s
	Logi Bolt 2M	1, 19, 38	GFSK	2Mb/s
AC Power Conducted Emissions	BT-LE 2M	1	GFSK	2Mb/s
Unwanted Emissions below 1 GHz	BT-LE 2M	1	GFSK	2Mb/s
Unwanted Emissions above 1 GHz	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
	BT-LE 2M	1, 19, 38	GFSK	2Mb/s
	Logi Bolt 1M	0, 19, 39	GFSK	1Mb/s
	Logi Bolt 2M	1, 19, 38	GFSK	2Mb/s

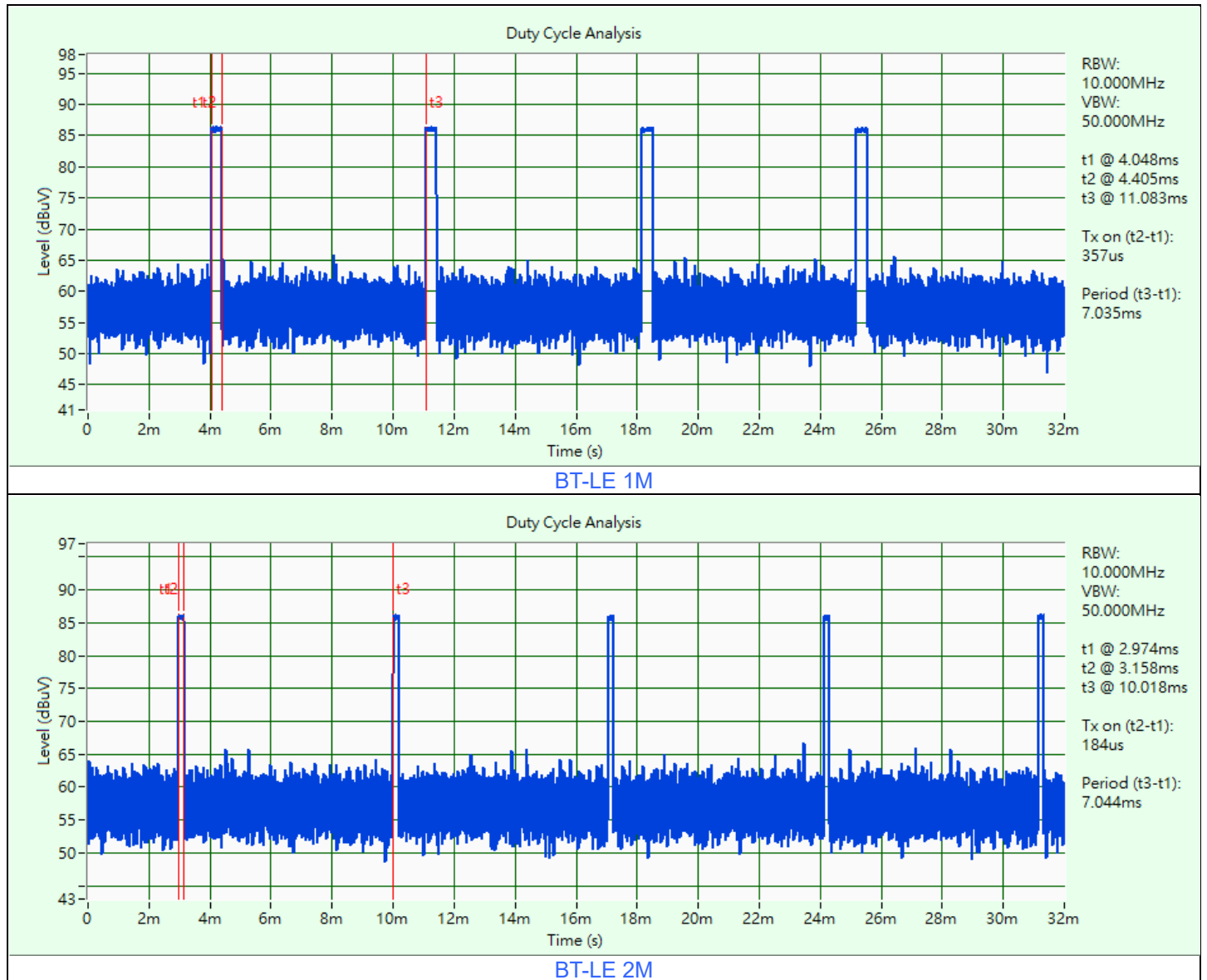
3.5 Duty Cycle of Test Signal

BT-LE 1M: Duty cycle = $0.357 \text{ ms} / 7.035 \text{ ms} \times 100\% = 5.1\%$

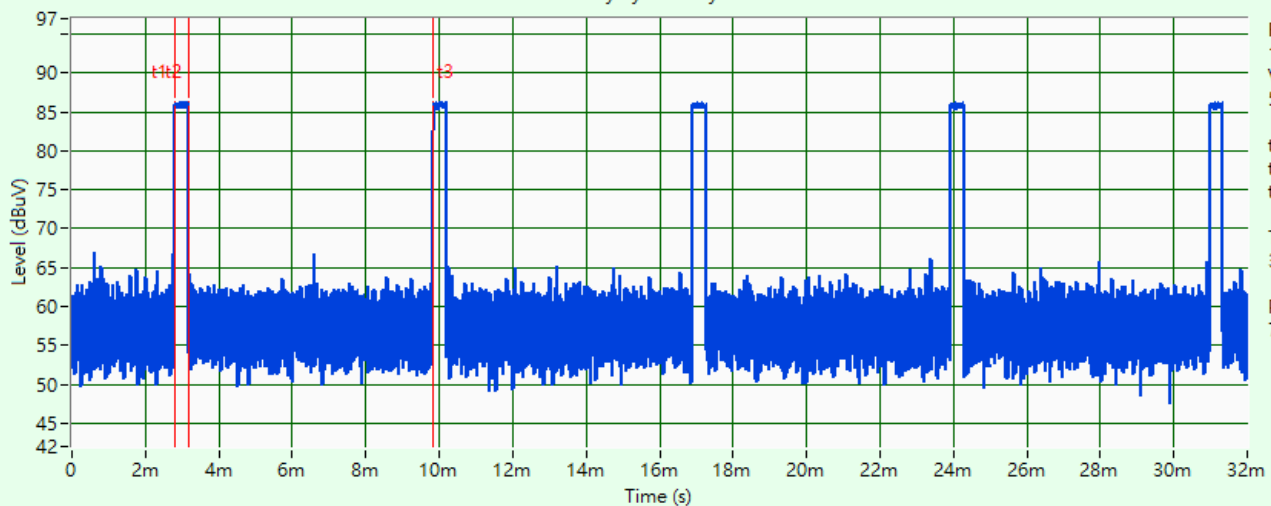
BT-LE 2M: Duty cycle = $0.184 \text{ ms} / 7.044 \text{ ms} \times 100\% = 2.6\%$

Logi Bolt 1M: Duty cycle = $0.357 \text{ ms} / 7.031 \text{ ms} \times 100\% = 5.1\%$

Logi Bolt 2M: Duty cycle = $0.185 \text{ ms} / 7.075 \text{ ms} \times 100\% = 2.6\%$

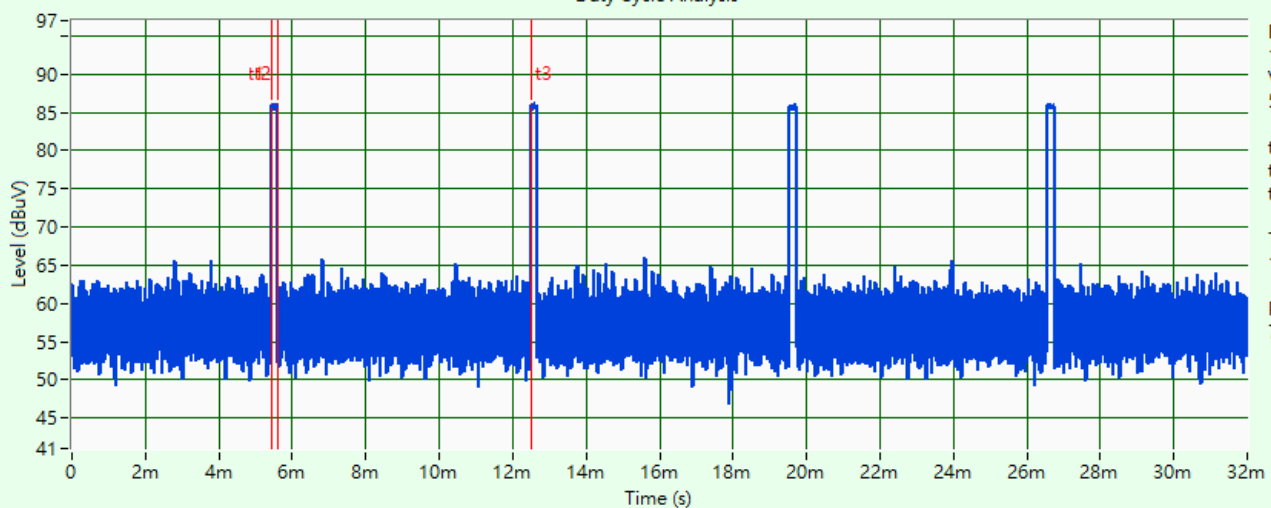


Duty Cycle Analysis



Logi Bolt 1M

Duty Cycle Analysis



Logi Bolt 2M

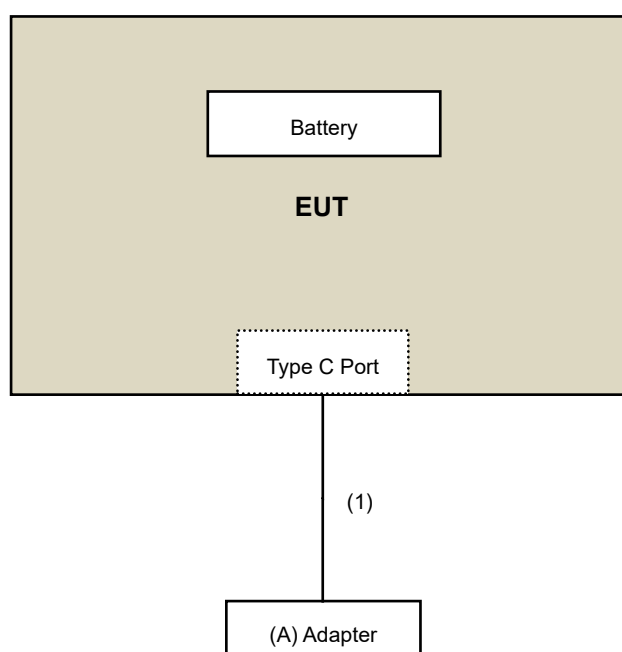
3.6 Test Program Used and Operation Descriptions

Controlling software (RF Sample with Receiver [Number Lock]) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

Test Item	Operation Description
RF Output Power / Power Spectral Density / 6 dB Bandwidth / Conducted Out of Band Emissions / Unwanted Emissions above 1 GHz	BLE1M TX Modulated 2402MHz BLE1M TX Modulated 2440MHz BLE1M TX Modulated 2480MHz BLE2M TX Modulated 2404MHz BLE2M TX Modulated 2440MHz BLE2M TX Modulated 2478MHz
AC Power Conducted Emissions / Unwanted Emissions below 1 GHz	BLE2M TX Modulated 2404MHz

Note: The operational description for Logi Bolt follows the same procedure as described for BLE.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	ASUS	EXA1205UA	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB A to C Cable	1	1	Yes	0	Supplied by applicant

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
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2026/5/21	2027/5/20
Pulse Power Sensor Anritsu	MA2411B	1726433	2026/5/8	2027/5/7
RF Power Meter Anritsu	ML2496A	1920012	2026/5/8	2027/5/7

Notes:

1. The test was performed in HC - Oven room 2(Hsinchu).
2. Tested Date: 2026/6/8

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
PXA Signal Analyzer Keysight	N9030A	MY55330160	2026/1/20	2027/1/19
Software	ADT_RF Test Software v8.5.6.4	N/A	N/A	N/A

Notes:

1. The test was performed in HC - Oven room 2(Hsinchu).
2. Tested Date: 2026/6/8

4.3 6 dB Bandwidth

Refer to section 4.2 to get the tested date and information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get the tested date and information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2025/10/29	2026/10/28
EMI Test Receiver R&S	ESCS 30	100375	2026/5/20	2027/5/19
Fixed Attenuator STI	STI02-2200-10	005	2026/2/9	2027/2/8
LISN R&S	ESH3-Z5	835239/001	2026/3/30	2027/3/29
		848773/004	2025/10/3	2026/10/2
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2026/2/9	2027/2/8
Software BVADT	BVADT_Cond_V7.4.1.0	N/A	N/A	N/A

Notes:

1. The test was performed in HC - Conduction 1(Hsinchu).
2. Tested Date: 2026/6/16

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0842	2025/9/16	2026/9/15
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2026/3/15	2027/3/14
Loop Antenna TESEQ	HLA 6121	63620	2025/10/20	2026/10/19
MXE EMI Receiver Keysight	N9038A	MY59050100	2025/6/25	2026/6/24
Preamplifier EMCI	EMC330N	980538	2026/3/15	2027/3/14
PXA Signal Analyzer Keysight	N9030B	MY57141948	2026/5/25	2027/5/24
RF Coaxial Cable PEWC	8D	966-5-1	2026/3/15	2027/3/14
		966-5-2	2026/3/15	2027/3/14
		966-5-3	2026/3/15	2027/3/14
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in HC - 966 Chamber No. 5(Hsinchu).
2. Tested Date: 2026/6/11

4.7 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
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1819	2025/11/9	2026/11/8
	BBHA 9170	9170-739	2025/11/9	2026/11/8
MXE EMI Receiver Keysight	N9038A	MY59050100	2025/6/25	2026/6/24
Preamplifier EMCI	EMC12630SE	980509	2026/1/17	2027/1/16
	EMC184045SE	980387	2025/8/7	2026/8/6
PXA Signal Analyzer Keysight	N9030B	MY57141948	2026/5/25	2027/5/24
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2026/1/15	2027/1/14
	EMC102-KM-KM-4000	200214	2026/1/15	2027/1/14
	EMC104-SM-SM-1500	180503	2026/3/7	2027/3/6
	EMC104-SM-SM-2000	180501	2026/3/7	2027/3/6
	EMC104-SM-SM-6000	180506	2026/3/7	2027/3/6
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in HC - 966 Chamber No. 5(Hsinchu).
2. Tested Date: 2026/6/9 ~ 2026/6/18

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 Power Spectral Density

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz.

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 20 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

5.5 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.

5.6 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).

5.7 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

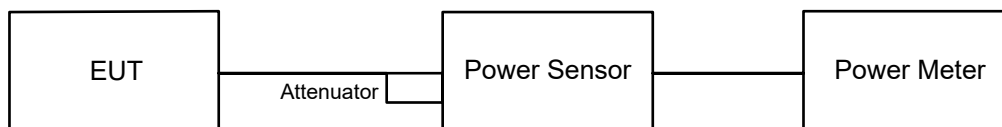
Notes:

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.

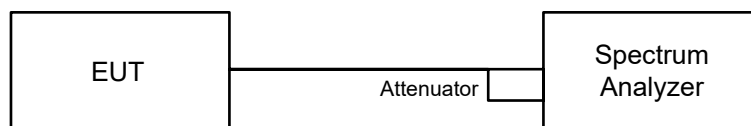
The power meter video bandwidth is greater than or equal to the DTS bandwidth and use a fast responding diode detector.

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 Power Spectral Density

6.2.1 Test Setup

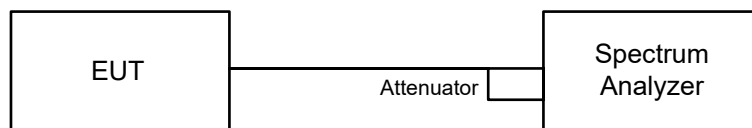


6.2.2 Test Procedure

- Set analyzer center frequency to DTS channel center frequency.
- Set the span > 1.5 times the DTS bandwidth.
- Set the RBW to: 3 kHz.
- Set the VBW $\geq 3 \times$ RBW.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

6.3 6 dB Bandwidth

6.3.1 Test Setup

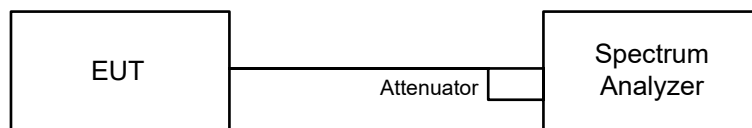


6.3.2 Test Procedure

- a. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b. Set the VBW $\geq [3 \times \text{RBW}]$.
- c. Detector = peak.
- d. Trace mode = max-hold.
- e. Sweep = No faster than coupled (auto) time.
- f. Allow the trace to stabilize.
- g. Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

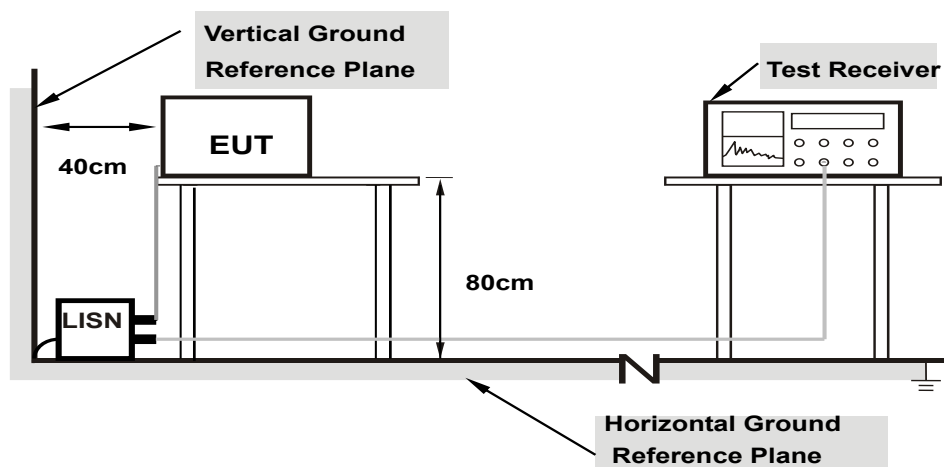
- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum PSD level.

MEASUREMENT PROCEDURE OOBE

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = No faster than coupled (auto) time.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 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).

6.5.2 Test Procedure

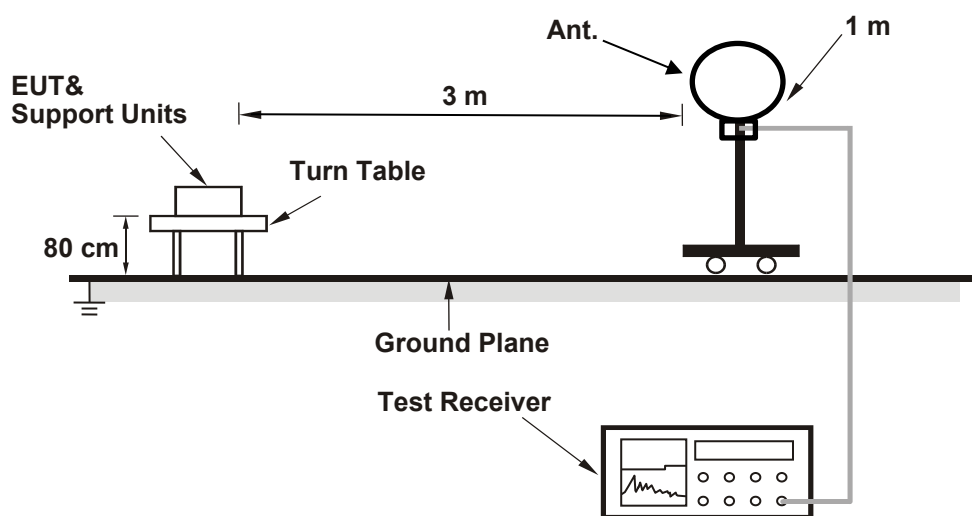
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The 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.

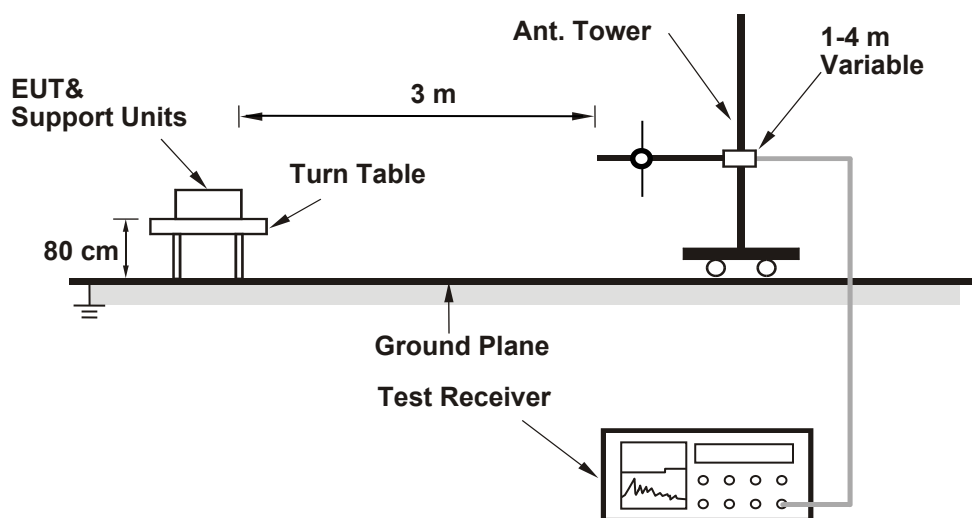
6.6 Unwanted Emissions below 1 GHz

6.6.1 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).

6.6.2 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 (however, peak detector measurements may be used to determine compliance with QP requirements), 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

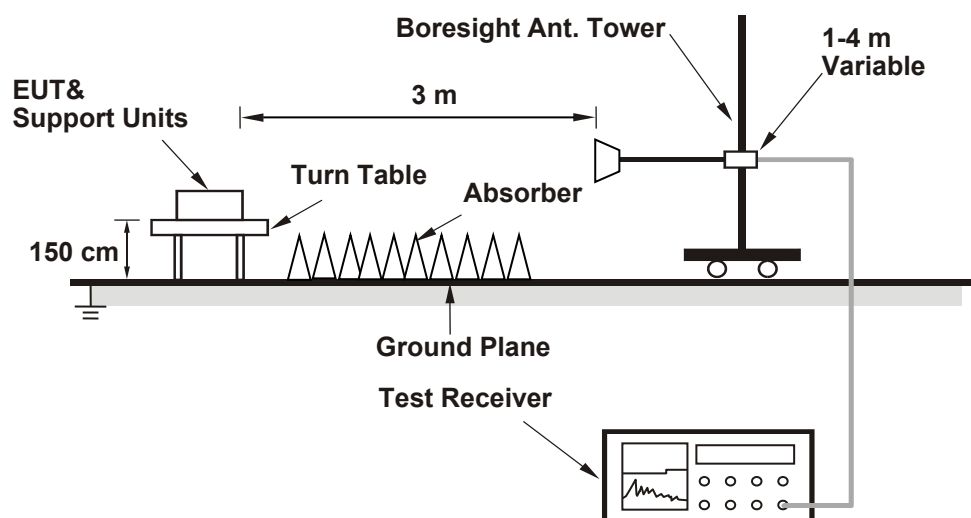
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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(QP) detect function, Average(AV) detect function, Peak(PK) detect function and specified bandwidth with maximum hold mode when the test frequencies less than or equal to 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 (however, peak detector measurements may be used to determine compliance with QP requirements).
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 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 fundamental and harmonic signal measurement, according to KDB 558074 D01 15.247 Meas Guidance v05r02 section 8.1(c)(3). The spectrum analyzer settings meet the requirements of 11.12.2.4 in ANSI C63.10 for making a Peak measurement, the average value = Peak value + duty cycle correction factor. The duty cycle measurement refers to FCC 47 CFR Part 15C section 15.35 (c). For duty cycle correction factor values, see the Test Signal Duty Cycle section in this report.
- 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:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Bella Yeh
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For Peak Power

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	2.529	4.03	30	Pass
19	2440	2.518	4.01	30	Pass
39	2480	2.489	3.96	30	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 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	2.541	4.05	30	Pass
19	2440	2.518	4.01	30	Pass
38	2478	2.483	3.95	30	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

Logi Bolt 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	2.518	4.01	30	Pass
19	2440	2.512	4.00	30	Pass
39	2480	2.477	3.94	30	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

Logi Bolt 2M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2404	2.523	4.02	30	Pass
19	2440	2.512	4.00	30	Pass
38	2478	2.466	3.92	30	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

For Average Power

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	2.489	3.96
19	2440	2.477	3.94
39	2480	2.449	3.89

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	2.495	3.97
19	2440	2.477	3.94
38	2478	2.443	3.88

Logi Bolt 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	2.483	3.95
19	2440	2.466	3.92
39	2480	2.443	3.88

Logi Bolt 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	2.489	3.96
19	2440	2.466	3.92
38	2478	2.432	3.86

7.2 Power Spectral Density

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Bella Yeh
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BT-LE 1M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	0.77	8	Pass
19	2440	0.99	8	Pass
39	2480	0.86	8	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the power density limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2404	-3.01	8	Pass
19	2440	-3.49	8	Pass
38	2478	-3.65	8	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the power density limit shall not be reduced.

Logi Bolt 1M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	0.77	8	Pass
19	2440	0.95	8	Pass
39	2480	0.91	8	Pass

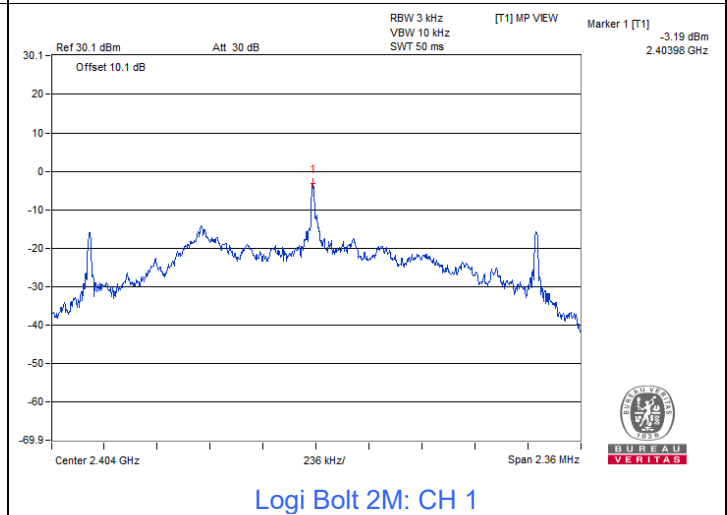
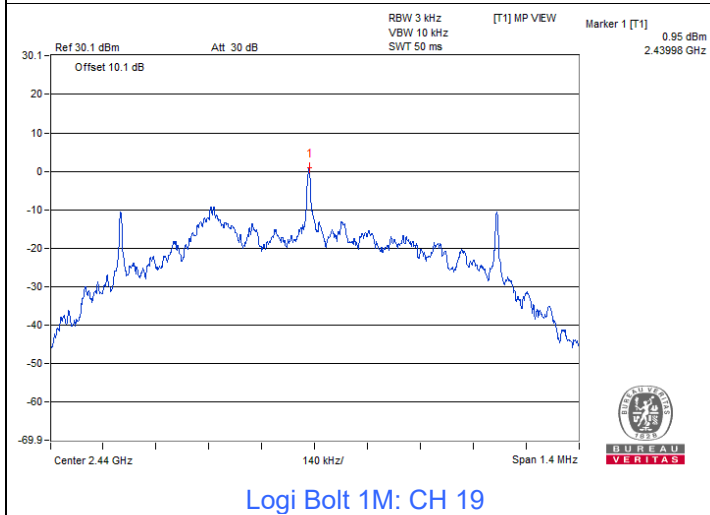
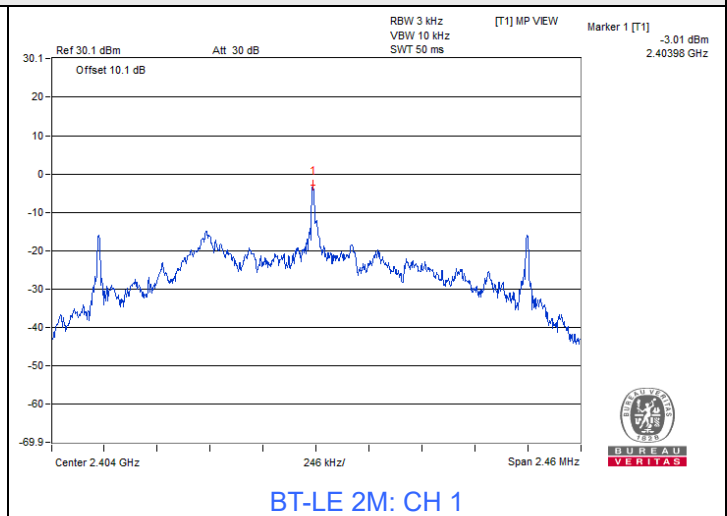
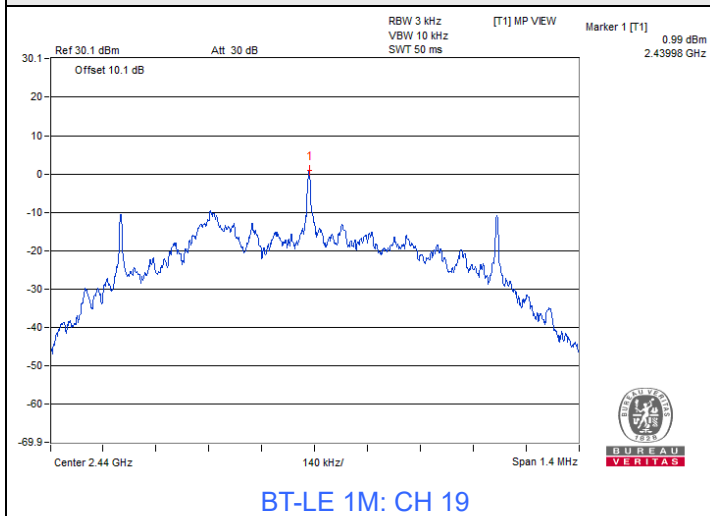
Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the power density limit shall not be reduced.

Logi Bolt 2M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2404	-3.19	8	Pass
19	2440	-3.20	8	Pass
38	2478	-3.25	8	Pass

Note: The antenna gain is 0.15 dBi $\leq$ 6 dBi, so the power density limit shall not be reduced.

Spectrum Plot of Maximum Value



7.3 6 dB Bandwidth

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Bella Yeh
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BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.7	0.5	Pass
19	2440	0.7	0.5	Pass
39	2480	0.7	0.5	Pass

BT-LE 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.23	0.5	Pass
19	2440	1.18	0.5	Pass
38	2478	1.17	0.5	Pass

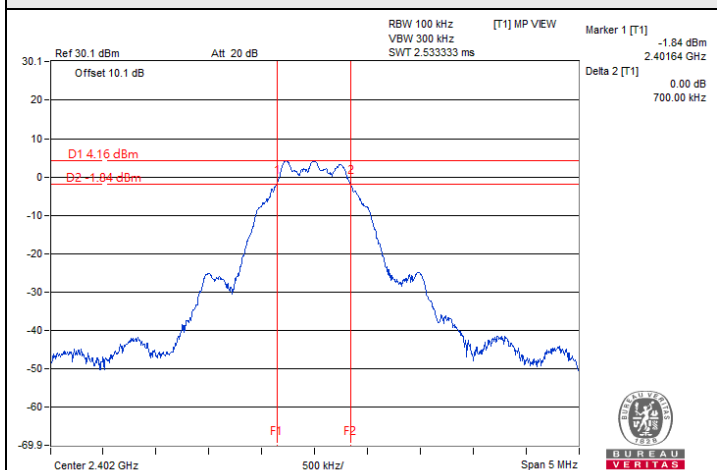
Logi Bolt 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.7	0.5	Pass
19	2440	0.7	0.5	Pass
39	2480	0.7	0.5	Pass

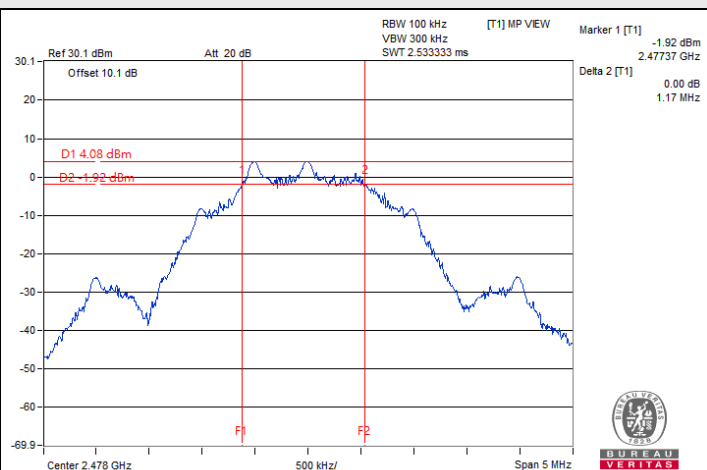
Logi Bolt 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.18	0.5	Pass
19	2440	1.22	0.5	Pass
38	2478	1.22	0.5	Pass

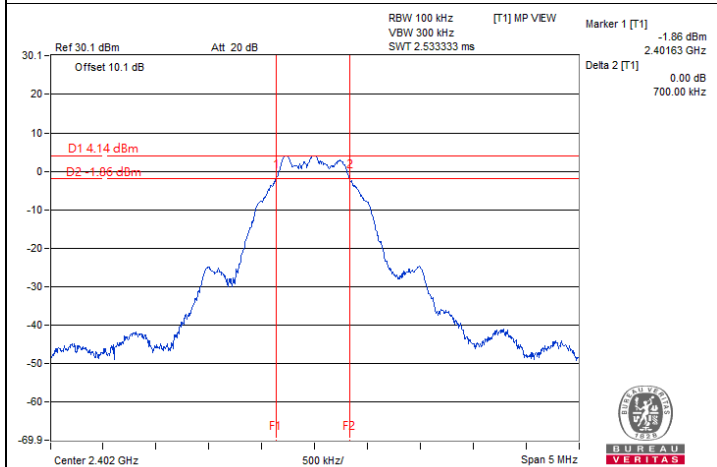
Spectrum Plot of Minimum Value



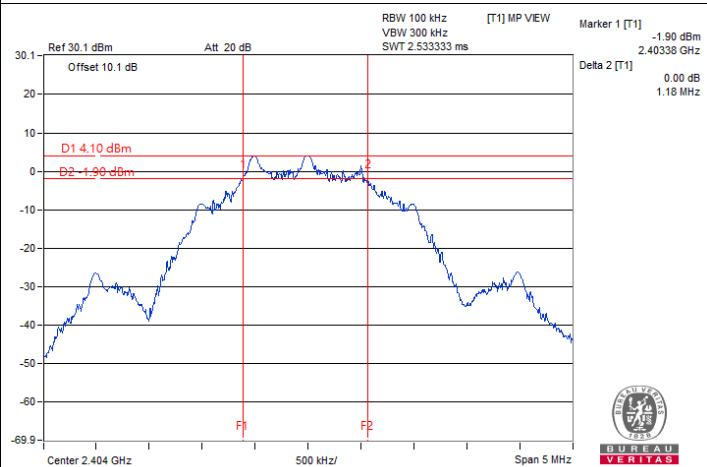
BT-LE 1M: CH 0



BT-LE 2M: CH 38



Logi Bolt 1M: CH 0

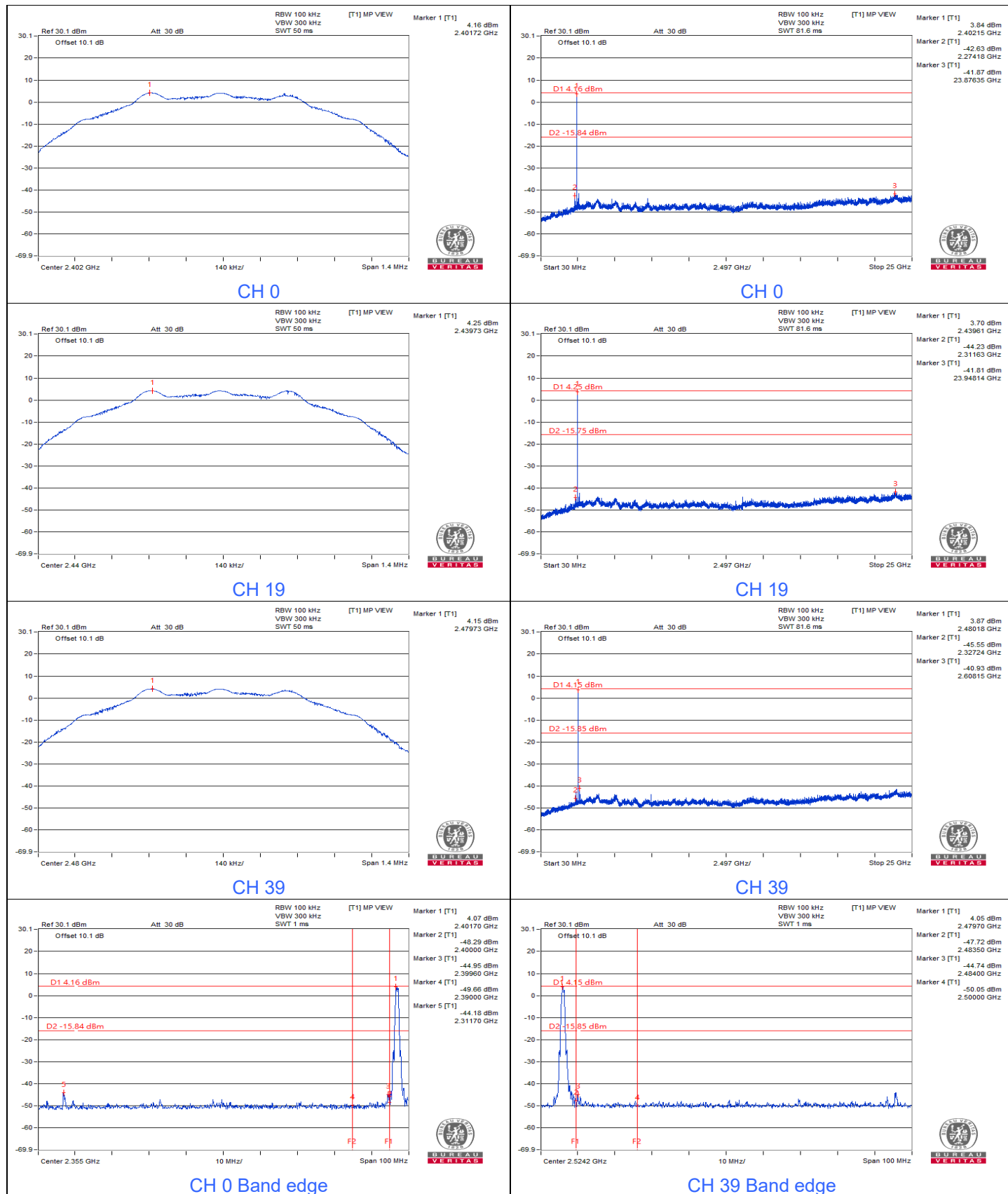


Logi Bolt 2M: CH 1

7.4 Conducted Out of Band Emissions

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Bella Yeh
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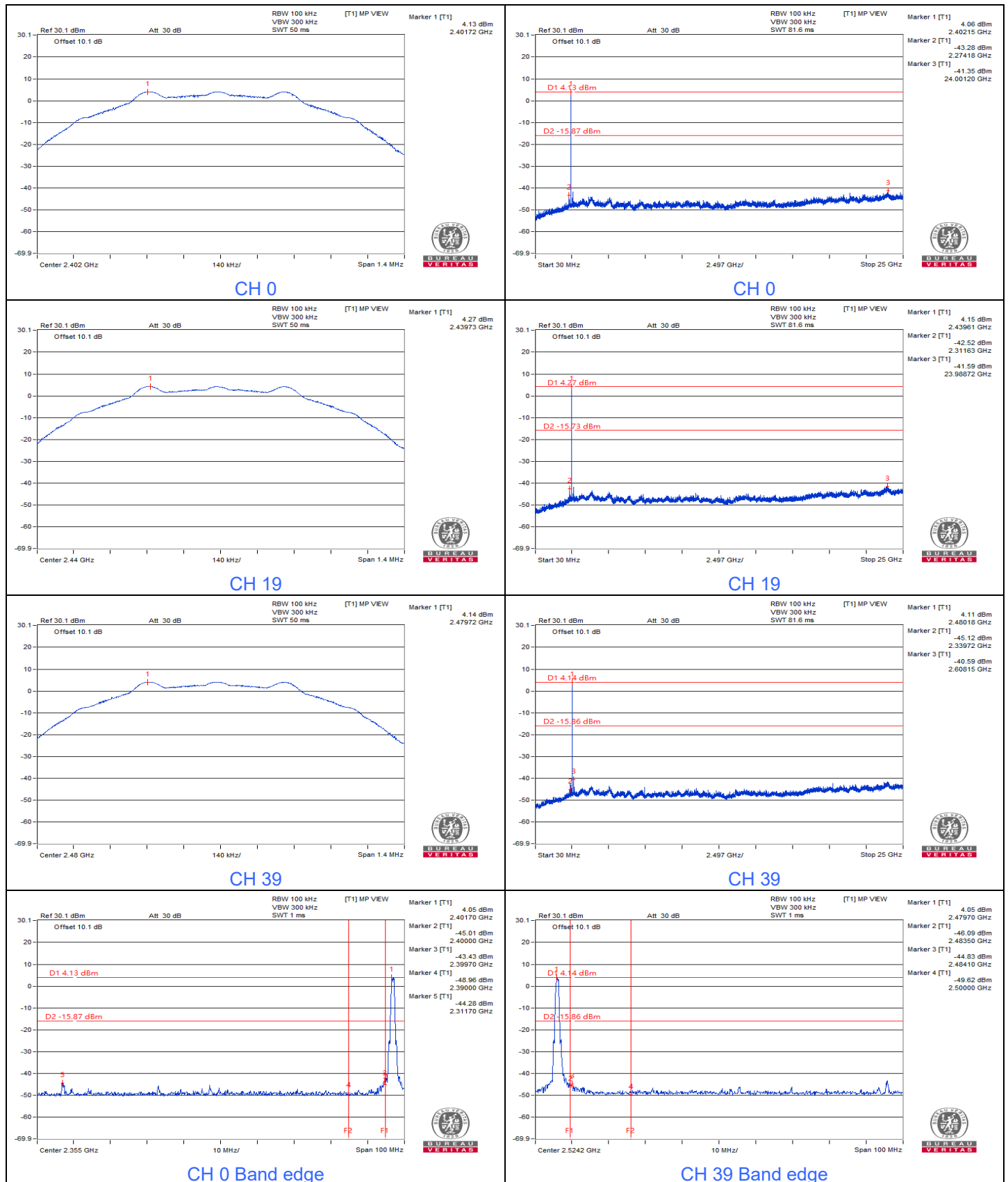
BT-LE 1M



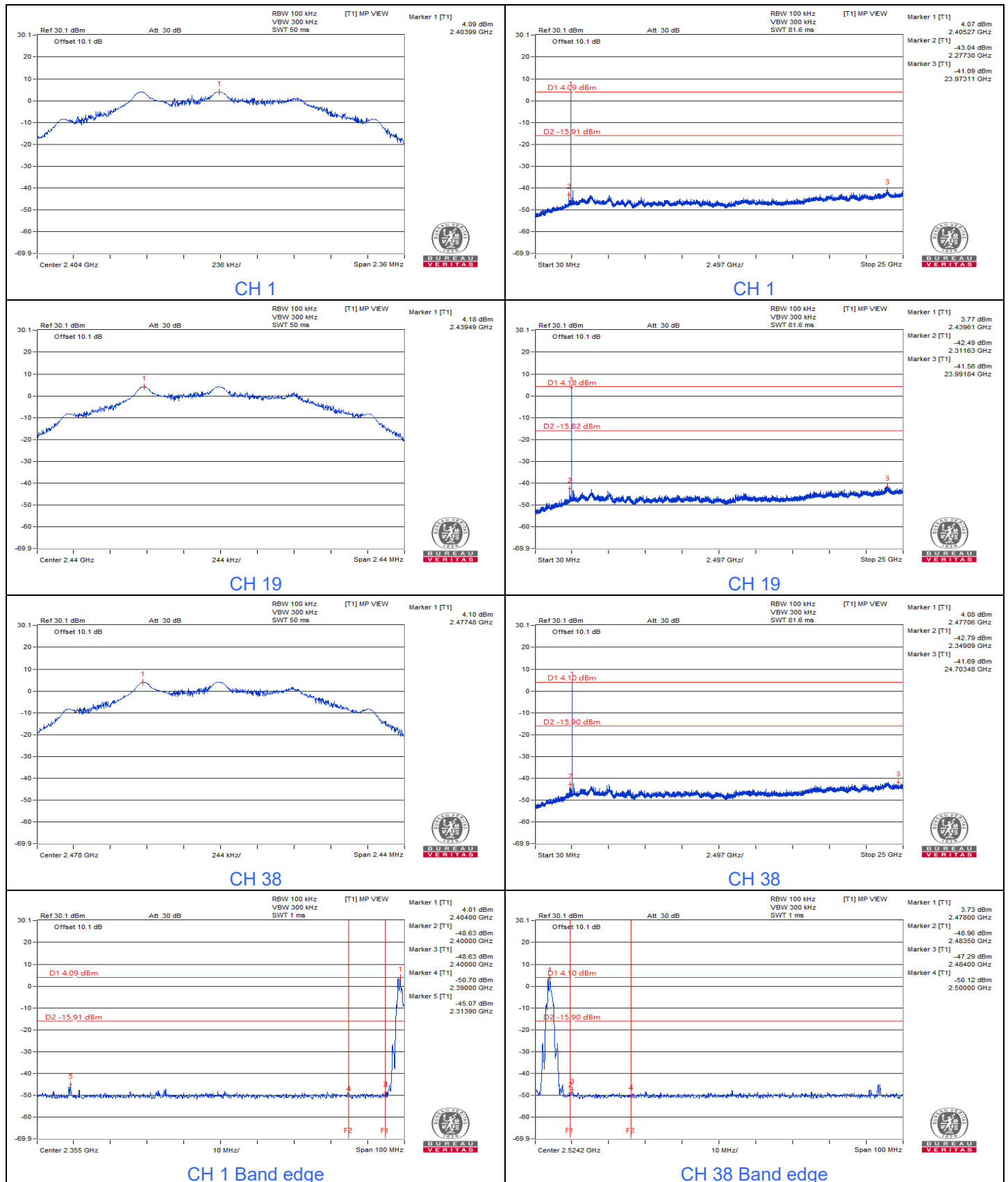
BT-LE 2M



Logi Bolt 1M



Logi Bolt 2M



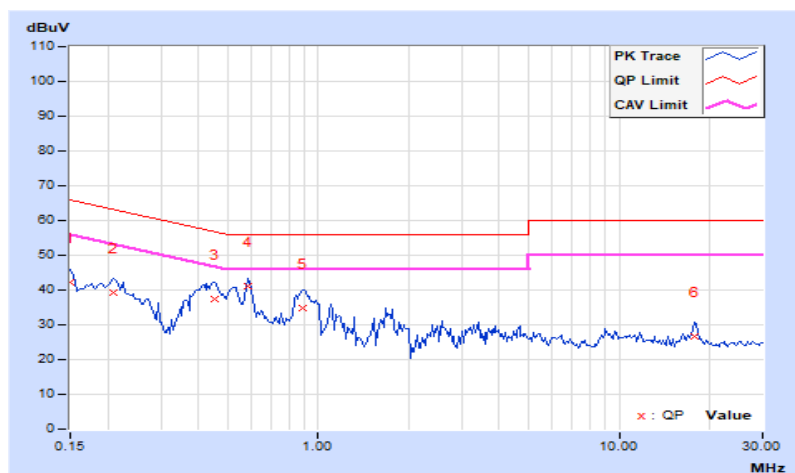
7.5 AC Power Conducted Emissions

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	25 °C, 75% RH
Tested By	Felix Chang		

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	9.98	32.25	25.02	42.23	35.00	66.00	56.00	-23.77	-21.00
2	0.20859	10.00	29.15	20.77	39.15	30.77	63.26	53.26	-24.11	-22.49
3	0.45078	10.10	27.40	16.45	37.50	26.55	56.86	46.86	-19.36	-20.31
4	0.58750	10.13	30.81	19.13	40.94	29.26	56.00	46.00	-15.06	-16.74
5	0.88828	10.20	24.62	13.30	34.82	23.50	56.00	46.00	-21.18	-22.50
6	17.76172	11.41	15.41	9.76	26.82	21.17	60.00	50.00	-33.18	-28.83

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

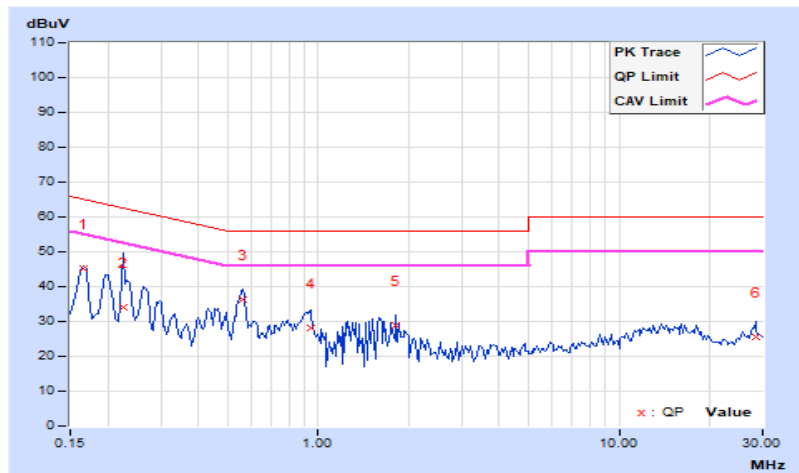


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25 °C, 45% RH
Tested By	Felix Chang		

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	0.16562	10.00	35.32	22.46	45.32	32.46	65.18	55.18	-19.86	-22.72
2	0.22422	9.99	23.98	10.23	33.97	20.22	62.66	52.66	-28.69	-32.44
3	0.56406	9.97	26.51	19.27	36.48	29.24	56.00	46.00	-19.52	-16.76
4	0.94297	10.00	18.06	7.52	28.06	17.52	56.00	46.00	-27.94	-28.48
5	1.82031	10.08	18.80	7.63	28.88	17.71	56.00	46.00	-27.12	-28.29
6	28.44531	11.21	14.31	6.17	25.52	17.38	60.00	50.00	-34.48	-32.62

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



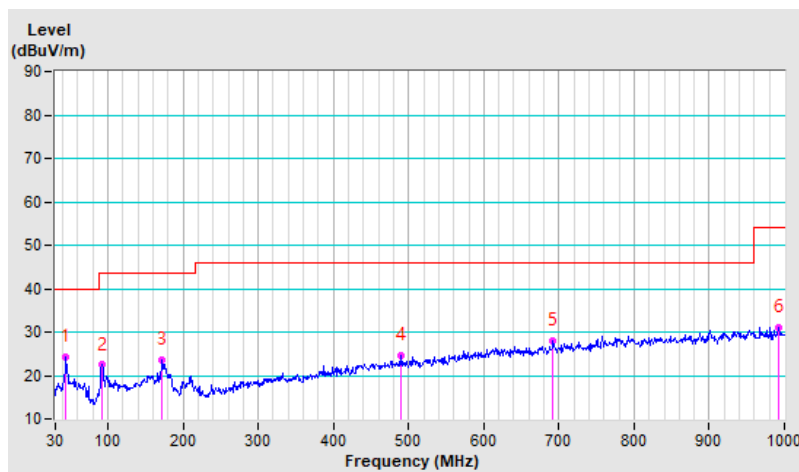
7.6 Unwanted Emissions below 1 GHz

RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25 °C, 66.3% RH
Tested By	Felix Chang		

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	43.48	24.2 PK	40.0	-15.8	2.00 H	180	37.0	-12.8
2	92.01	22.4 PK	43.5	-21.1	3.00 H	137	40.7	-18.3
3	172.40	23.5 PK	43.5	-20.0	1.50 H	257	36.8	-13.3
4	489.97	24.5 PK	46.0	-21.5	3.00 H	64	32.2	-7.7
5	692.36	27.9 PK	46.0	-18.1	1.50 H	3	31.7	-3.8
6	991.97	31.1 PK	54.0	-22.9	4.00 H	1	31.0	0.1

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.

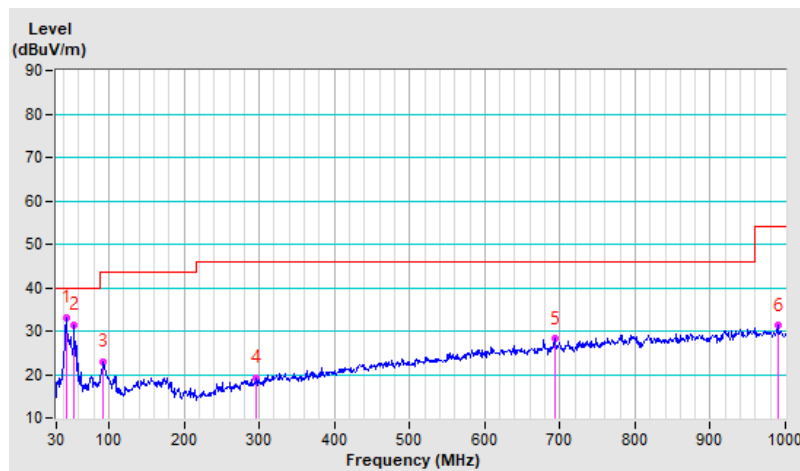


RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	25 °C, 66.3% RH
Tested By	Felix Chang		

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	43.34	33.2 PK	40.0	-6.8	1.00 V	214	46.0	-12.8
2	54.10	31.4 PK	40.0	-8.6	1.50 V	360	44.2	-12.8
3	92.44	22.8 PK	43.5	-20.7	1.50 V	360	41.1	-18.3
4	296.24	19.1 PK	46.0	-26.9	2.00 V	1	31.2	-12.1
5	693.29	28.2 PK	46.0	-17.8	4.00 V	211	32.0	-3.8
6	990.23	31.2 PK	54.0	-22.8	4.00 V	1	31.1	0.1

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.



7.7 Unwanted Emissions above 1 GHz

RF Mode	BT-LE 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	55.1 PK	74.0	-18.9	2.74 H	96	58.6	-3.5
2	2390.00	42.5 AV	54.0	-11.5	2.74 H	96	46.0	-3.5
3	*2402.00	97.5 PK			2.74 H	96	100.9	-3.4
4	*2402.00	71.6 AV			2.74 H	96	75.0	-3.4
5	4804.00	42.6 PK	74.0	-31.4	1.16 H	71	41.5	1.1
6	4804.00	16.7 AV	54.0	-37.3	1.16 H	71	15.6	1.1
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	53.1 PK	74.0	-20.9	1.63 V	60	56.6	-3.5
2	2390.00	42.6 AV	54.0	-11.4	1.63 V	60	46.1	-3.5
3	*2402.00	90.4 PK			1.63 V	60	93.8	-3.4
4	*2402.00	64.5 AV			1.63 V	60	67.9	-3.4
5	4804.00	42.2 PK	74.0	-31.8	1.00 V	197	41.1	1.1
6	4804.00	16.3 AV	54.0	-37.7	1.00 V	197	15.2	1.1

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.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.035 \text{ ms}) = -25.9 \text{ dB}$$

RF Mode	BT-LE 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	97.4 PK			1.17 H	291	100.9	-3.5
2	*2440.00	71.5 AV			1.17 H	291	75.0	-3.5
3	4880.00	44.7 PK	74.0	-29.3	1.40 H	210	43.7	1.0
4	4880.00	18.8 AV	54.0	-35.2	1.40 H	210	17.8	1.0
5	7320.00	51.2 PK	74.0	-22.8	1.00 H	358	43.7	7.5
6	7320.00	25.3 AV	54.0	-28.7	1.00 H	358	17.8	7.5
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	89.7 PK			1.16 V	232	93.2	-3.5
2	*2440.00	63.8 AV			1.16 V	232	67.3	-3.5
3	4880.00	44.6 PK	74.0	-29.4	2.32 V	219	43.6	1.0
4	4880.00	18.7 AV	54.0	-35.3	2.32 V	219	17.7	1.0
5	7320.00	51.0 PK	74.0	-23.0	1.36 V	196	43.5	7.5
6	7320.00	25.1 AV	54.0	-28.9	1.36 V	196	17.6	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.035 \text{ ms}) = -25.9 \text{ dB}$$

RF Mode	BT-LE 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	96.7 PK			1.00 H	263	100.2	-3.5
2	*2480.00	70.8 AV			1.00 H	263	74.3	-3.5
3	2483.50	54.8 PK	74.0	-19.2	1.00 H	263	58.3	-3.5
4	2483.50	41.7 AV	54.0	-12.3	1.00 H	263	45.2	-3.5
5	4960.00	43.8 PK	74.0	-30.2	1.68 H	178	42.6	1.2
6	4960.00	17.9 AV	54.0	-36.1	1.68 H	178	16.7	1.2
7	7440.00	49.6 PK	74.0	-24.4	1.02 H	347	42.1	7.5
8	7440.00	23.7 AV	54.0	-30.3	1.02 H	347	16.2	7.5
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	89.8 PK			1.76 V	159	93.3	-3.5
2	*2480.00	63.9 AV			1.76 V	159	67.4	-3.5
3	2483.50	56.0 PK	74.0	-18.0	1.76 V	159	59.5	-3.5
4	2483.50	42.7 AV	54.0	-11.3	1.76 V	159	46.2	-3.5
5	4960.00	42.8 PK	74.0	-31.2	1.00 V	236	41.6	1.2
6	4960.00	16.9 AV	54.0	-37.1	1.00 V	236	15.7	1.2
7	7440.00	49.3 PK	74.0	-24.7	2.34 V	312	41.8	7.5
8	7440.00	23.4 AV	54.0	-30.6	2.34 V	312	15.9	7.5

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.
5. " * " : Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.035 \text{ ms}) = -25.9 \text{ dB}$$

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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	1.44 H	286	59.1	-3.5
2	2390.00	42.2 AV	54.0	-11.8	1.44 H	286	45.7	-3.5
3	*2404.00	96.7 PK			1.44 H	286	100.1	-3.4
4	*2404.00	65.0 AV			1.44 H	286	68.4	-3.4
5	4808.00	43.2 PK	74.0	-30.8	1.06 H	267	42.1	1.1
6	4808.00	11.5 AV	54.0	-42.5	1.06 H	267	10.4	1.1
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	56.9 PK	74.0	-17.1	1.00 V	132	60.4	-3.5
2	2390.00	42.6 AV	54.0	-11.4	1.00 V	132	46.1	-3.5
3	*2404.00	91.8 PK			1.00 V	132	95.2	-3.4
4	*2404.00	60.1 AV			1.00 V	132	63.5	-3.4
5	4808.00	42.5 PK	74.0	-31.5	1.00 V	87	41.4	1.1
6	4808.00	10.8 AV	54.0	-43.2	1.00 V	87	9.7	1.1

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.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.184 \text{ ms} / 7.044 \text{ ms}) = -31.7 \text{ dB}$$

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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	96.5 PK			1.01 H	269	100.0	-3.5
2	*2440.00	64.8 AV			1.01 H	269	68.3	-3.5
3	4880.00	43.7 PK	74.0	-30.3	1.35 H	288	42.7	1.0
4	4880.00	12.0 AV	54.0	-42.0	1.35 H	288	11.0	1.0
5	7320.00	51.3 PK	74.0	-22.7	1.10 H	349	43.8	7.5
6	7320.00	19.6 AV	54.0	-34.4	1.10 H	349	12.1	7.5
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	90.7 PK			1.14 V	233	94.2	-3.5
2	*2440.00	59.0 AV			1.14 V	233	62.5	-3.5
3	4880.00	41.3 PK	74.0	-32.7	1.35 V	277	40.3	1.0
4	4880.00	9.6 AV	54.0	-44.4	1.35 V	277	8.6	1.0
5	7320.00	50.1 PK	74.0	-23.9	1.30 V	202	42.6	7.5
6	7320.00	18.4 AV	54.0	-35.6	1.30 V	202	10.9	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.184 \text{ ms} / 7.044 \text{ ms}) = -31.7 \text{ dB}$$

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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	95.8 PK			1.00 H	253	99.3	-3.5
2	*2478.00	64.1 AV			1.00 H	253	67.6	-3.5
3	2483.50	56.2 PK	74.0	-17.8	1.00 H	253	59.7	-3.5
4	2483.50	41.9 AV	54.0	-12.1	1.00 H	253	45.4	-3.5
5	4956.00	42.7 PK	74.0	-31.3	1.32 H	185	41.5	1.2
6	4956.00	11.0 AV	54.0	-43.0	1.32 H	185	9.8	1.2
7	7434.00	49.7 PK	74.0	-24.3	1.01 H	7	42.2	7.5
8	7434.00	18.0 AV	54.0	-36.0	1.01 H	7	10.5	7.5
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	87.6 PK			1.26 V	58	91.1	-3.5
2	*2478.00	55.9 AV			1.26 V	58	59.4	-3.5
3	2483.50	56.4 PK	74.0	-17.6	1.26 V	58	59.9	-3.5
4	2483.50	42.2 AV	54.0	-11.8	1.26 V	58	45.7	-3.5
5	4956.00	41.1 PK	74.0	-32.9	1.00 V	20	39.9	1.2
6	4956.00	9.4 AV	54.0	-44.6	1.00 V	20	8.2	1.2
7	7434.00	47.3 PK	74.0	-26.7	1.31 V	256	39.8	7.5
8	7434.00	15.6 AV	54.0	-38.4	1.31 V	256	8.1	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.184 \text{ ms} / 7.044 \text{ ms}) = -31.7 \text{ dB}$$

RF Mode	Logi Bolt 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	55.7 PK	74.0	-18.3	1.48 H	289	59.2	-3.5
2	2390.00	42.2 AV	54.0	-11.8	1.48 H	289	45.7	-3.5
3	*2402.00	96.3 PK			1.48 H	289	99.7	-3.4
4	*2402.00	70.4 AV			1.48 H	289	73.8	-3.4
5	4804.00	41.7 PK	74.0	-32.3	1.15 H	84	40.6	1.1
6	4804.00	15.8 AV	54.0	-38.2	1.15 H	84	14.7	1.1
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	52.7 PK	74.0	-21.3	1.12 V	44	56.2	-3.5
2	2390.00	42.2 AV	54.0	-11.8	1.12 V	44	45.7	-3.5
3	*2402.00	89.7 PK			1.12 V	44	93.1	-3.4
4	*2402.00	63.8 AV			1.12 V	44	67.2	-3.4
5	4804.00	47.3 PK	74.0	-26.7	1.23 V	157	46.2	1.1
6	4804.00	21.4 AV	54.0	-32.6	1.23 V	157	20.3	1.1

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.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.031 \text{ ms}) = -25.9 \text{ dB}$$

RF Mode	Logi Bolt 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	96.2 PK			1.38 H	289	99.7	-3.5
2	*2440.00	70.3 AV			1.38 H	289	73.8	-3.5
3	4880.00	44.5 PK	74.0	-29.5	1.40 H	208	43.5	1.0
4	4880.00	18.6 AV	54.0	-35.4	1.40 H	208	17.6	1.0
5	7320.00	50.8 PK	74.0	-23.2	1.32 H	145	43.3	7.5
6	7320.00	24.9 AV	54.0	-29.1	1.32 H	145	17.4	7.5
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	89.4 PK			1.35 V	114	92.9	-3.5
2	*2440.00	63.5 AV			1.35 V	114	67.0	-3.5
3	4880.00	44.3 PK	74.0	-29.7	1.27 V	232	43.3	1.0
4	4880.00	18.4 AV	54.0	-35.6	1.27 V	232	17.4	1.0
5	7320.00	50.7 PK	74.0	-23.3	3.33 V	25	43.2	7.5
6	7320.00	24.8 AV	54.0	-29.2	3.33 V	25	17.3	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.031 \text{ ms}) = -25.9 \text{ dB}$$

RF Mode	Logi Bolt 1M	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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	96.6 PK			1.18 H	263	100.1	-3.5
2	*2480.00	70.7 AV			1.18 H	263	74.2	-3.5
3	2483.50	54.6 PK	74.0	-19.4	1.18 H	263	58.1	-3.5
4	2483.50	41.5 AV	54.0	-12.5	1.18 H	263	45.0	-3.5
5	4960.00	43.0 PK	74.0	-31.0	1.57 H	140	41.8	1.2
6	4960.00	17.1 AV	54.0	-36.9	1.57 H	140	15.9	1.2
7	7440.00	49.5 PK	74.0	-24.5	1.02 H	347	42.0	7.5
8	7440.00	23.6 AV	54.0	-30.4	1.02 H	347	16.1	7.5
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	89.3 PK			1.78 V	160	92.8	-3.5
2	*2480.00	63.4 AV			1.78 V	160	66.9	-3.5
3	2483.50	55.3 PK	74.0	-18.7	1.18 V	160	58.8	-3.5
4	2483.50	42.3 AV	54.0	-11.7	1.18 V	160	45.8	-3.5
5	4960.00	42.3 PK	74.0	-31.7	1.71 V	236	41.1	1.2
6	4960.00	16.4 AV	54.0	-37.6	1.71 V	236	15.2	1.2
7	7440.00	49.1 PK	74.0	-24.9	1.71 V	236	41.6	7.5
8	7440.00	23.2 AV	54.0	-30.8	1.71 V	236	15.7	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.031 \text{ ms}) = -25.9 \text{ dB}$$

RF Mode	Logi Bolt 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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	54.7 PK	74.0	-19.3	1.01 H	255	58.2	-3.5
2	2390.00	41.2 AV	54.0	-12.8	1.01 H	255	44.7	-3.5
3	*2404.00	96.2 PK			1.01 H	255	99.6	-3.4
4	*2404.00	64.5 AV			1.01 H	255	67.9	-3.4
5	4808.00	42.7 PK	74.0	-31.3	1.41 H	209	41.6	1.1
6	4808.00	11.0 AV	54.0	-43.0	1.41 H	209	9.9	1.1
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	54.8 PK	74.0	-19.2	1.10 V	144	58.3	-3.5
2	2390.00	42.0 AV	54.0	-12.0	1.10 V	144	45.5	-3.5
3	*2404.00	91.6 PK			1.10 V	144	95.0	-3.4
4	*2404.00	59.9 AV			1.10 V	144	63.3	-3.4
5	4808.00	42.4 PK	74.0	-31.6	1.36 V	254	41.3	1.1
6	4808.00	10.7 AV	54.0	-43.3	1.36 V	254	9.6	1.1

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.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.185 \text{ ms} / 7.075 \text{ ms}) = -31.7 \text{ dB}$$

RF Mode	Logi Bolt 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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	96.1 PK			1.02 H	260	99.6	-3.5
2	*2440.00	64.4 AV			1.02 H	260	67.9	-3.5
3	4880.00	43.5 PK	74.0	-30.5	1.35 H	254	42.5	1.0
4	4880.00	11.8 AV	54.0	-42.2	1.35 H	254	10.8	1.0
5	7320.00	51.1 PK	74.0	-22.9	1.00 H	231	43.6	7.5
6	7320.00	19.4 AV	54.0	-34.6	1.00 H	231	11.9	7.5
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	90.5 PK			1.14 V	144	94.0	-3.5
2	*2440.00	58.8 AV			1.14 V	144	62.3	-3.5
3	4880.00	40.1 PK	74.0	-33.9	2.55 V	198	39.1	1.0
4	4880.00	8.4 AV	54.0	-45.6	2.55 V	198	7.4	1.0
5	7320.00	49.9 PK	74.0	-24.1	1.00 V	347	42.4	7.5
6	7320.00	18.2 AV	54.0	-35.8	1.00 V	347	10.7	7.5

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.185 \text{ ms} / 7.075 \text{ ms}) = -31.7 \text{ dB}$$

RF Mode	Logi Bolt 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=3 MHz, DET=RMS
Input Power (System)	120 Vac, 60 Hz	Environmental Conditions	17 °C, 75% RH
Tested By	Felix Chang		

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	95.8 PK			1.14 H	274	99.3	-3.5
2	*2478.00	64.1 AV			1.14 H	274	67.6	-3.5
3	2483.50	55.5 PK	74.0	-18.5	1.14 H	274	59.0	-3.5
4	2483.50	41.3 AV	54.0	-12.7	1.14 H	274	44.8	-3.5
5	4956.00	42.7 PK	74.0	-31.3	1.34 H	234	41.5	1.2
6	4956.00	11.0 AV	54.0	-43.0	1.34 H	234	9.8	1.2
7	7434.00	49.6 PK	74.0	-24.4	1.05 H	315	42.1	7.5
8	7434.00	17.9 AV	54.0	-36.1	1.05 H	315	10.4	7.5
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	87.5 PK			1.20 V	69	91.0	-3.5
2	*2478.00	55.8 AV			1.20 V	69	59.3	-3.5
3	2483.50	54.5 PK	74.0	-19.5	1.20 V	69	58.0	-3.5
4	2483.50	42.1 AV	54.0	-11.9	1.20 V	69	45.6	-3.5
5	4956.00	40.5 PK	74.0	-33.5	1.12 V	301	39.3	1.2
6	4956.00	8.8 AV	54.0	-45.2	1.12 V	301	7.6	1.2
7	7434.00	47.1 PK	74.0	-26.9	3.04 V	18	39.6	7.5
8	7434.00	15.4 AV	54.0	-38.6	3.04 V	18	7.9	7.5

Remarks:

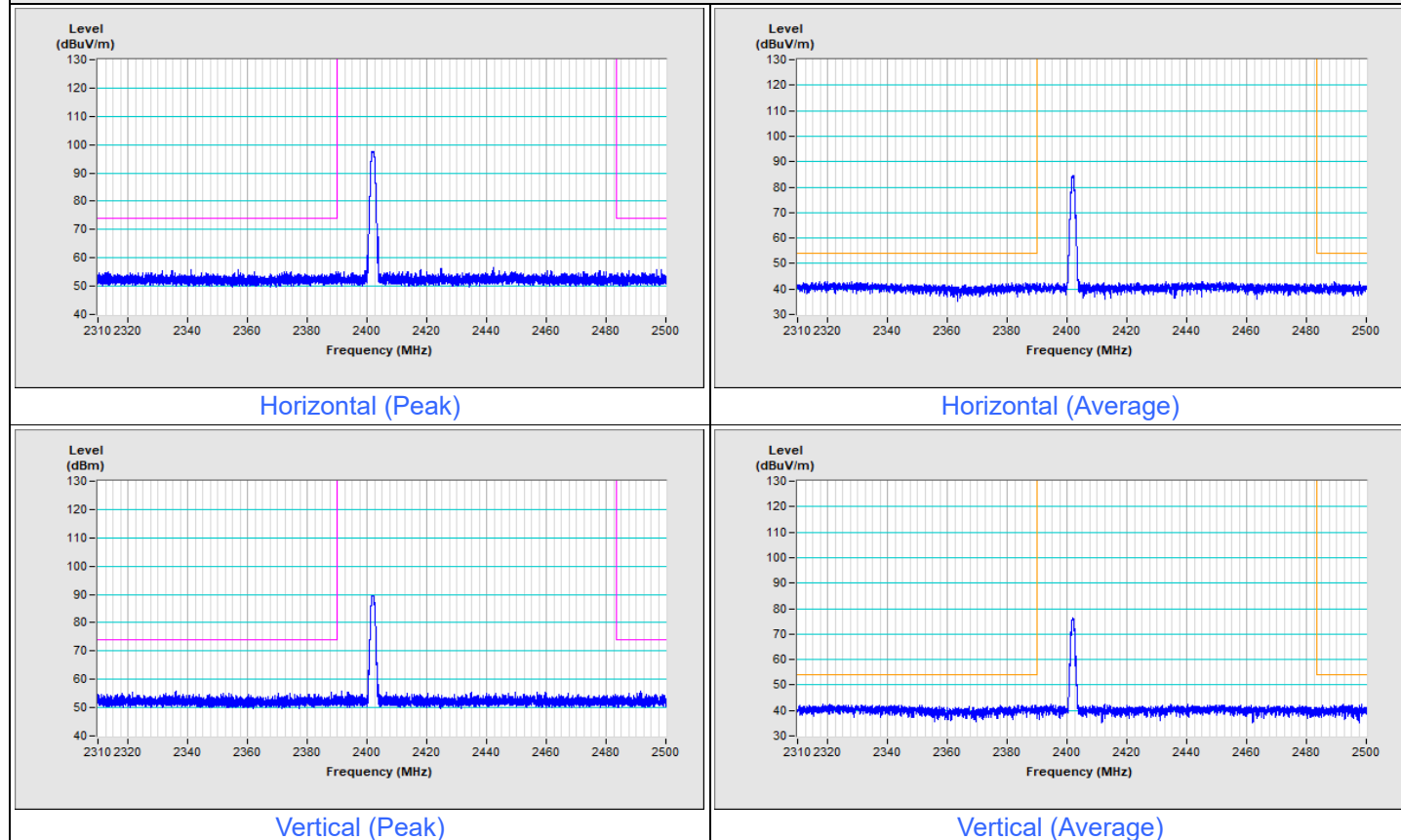
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.185 \text{ ms} / 7.075 \text{ ms}) = -31.7 \text{ dB}$$

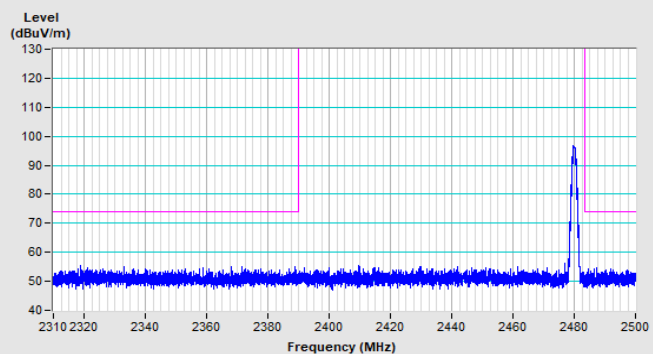
Plot of Band Edge

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=3 MHz, DET=RMS
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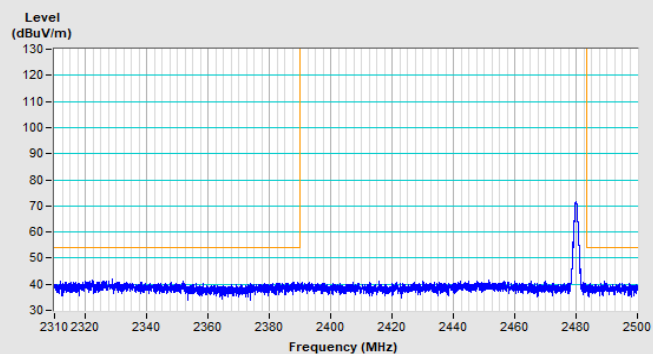
BT-LE 1M Channel 0



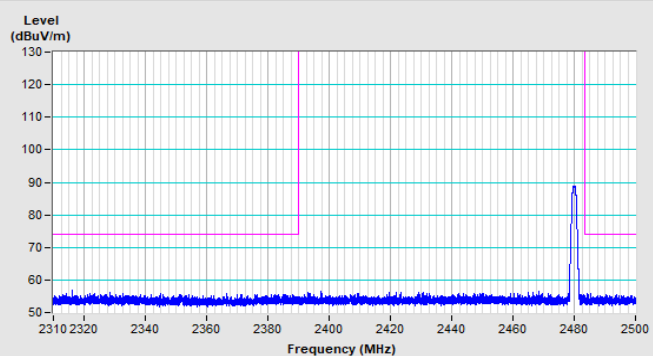
BT-LE 1M Channel 39



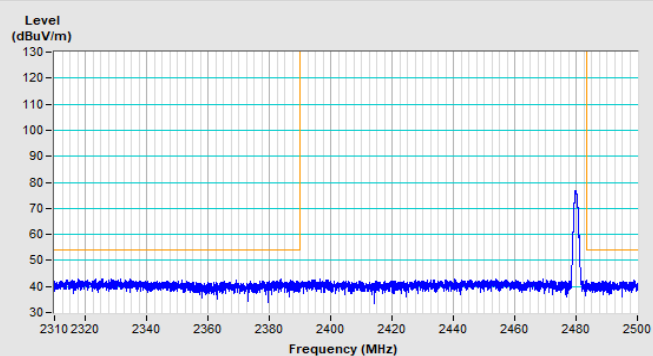
Horizontal (Peak)



Horizontal (Average)



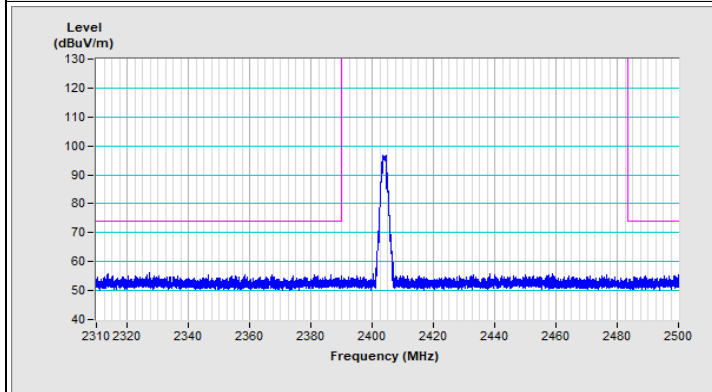
Vertical (Peak)



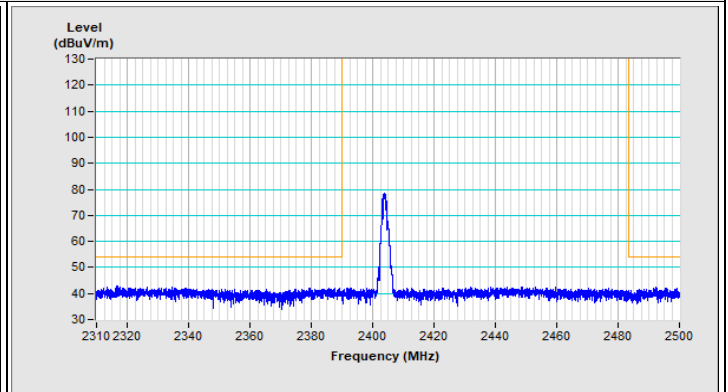
Vertical (Average)

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=3 MHz, DET=RMS
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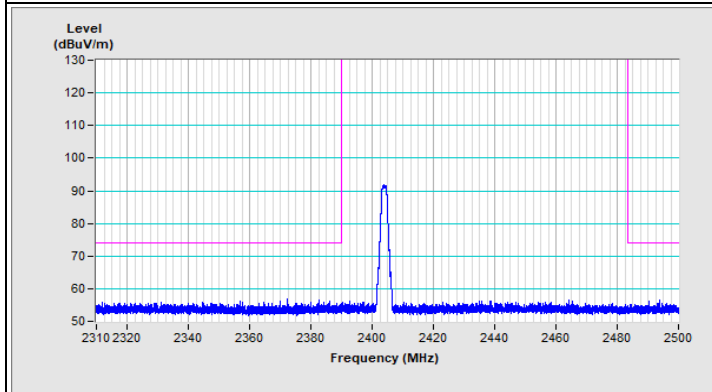
BT-LE 2M Channel 1



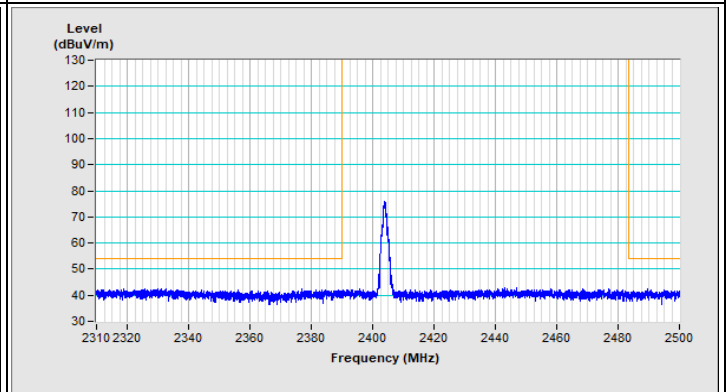
Horizontal (Peak)



Horizontal (Average)

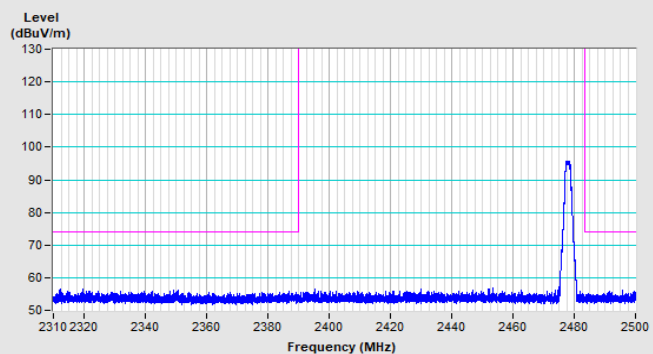


Vertical (Peak)

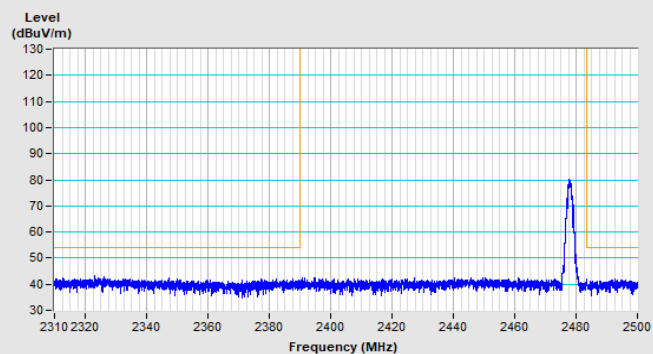


Vertical (Average)

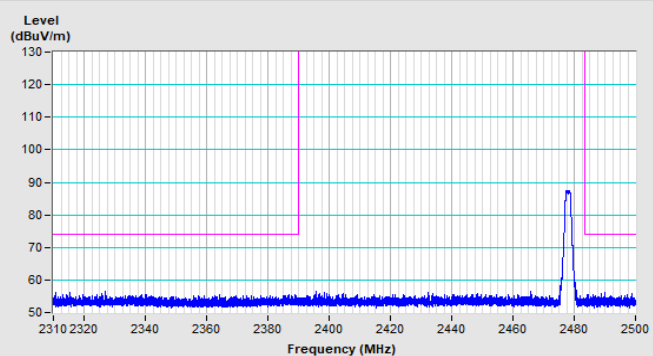
BT-LE 2M Channel 38



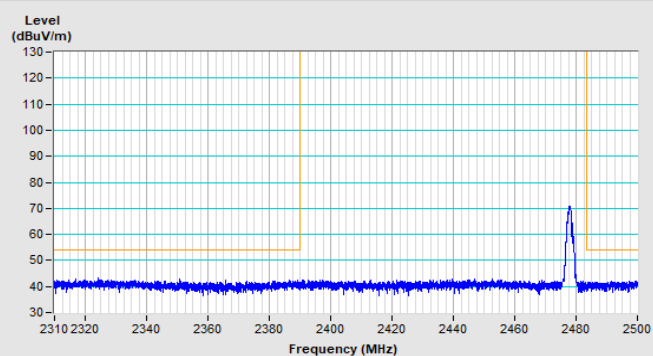
Horizontal (Peak)



Horizontal (Average)



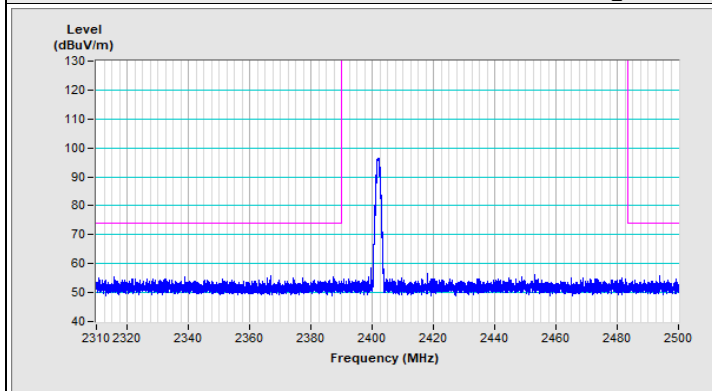
Vertical (Peak)



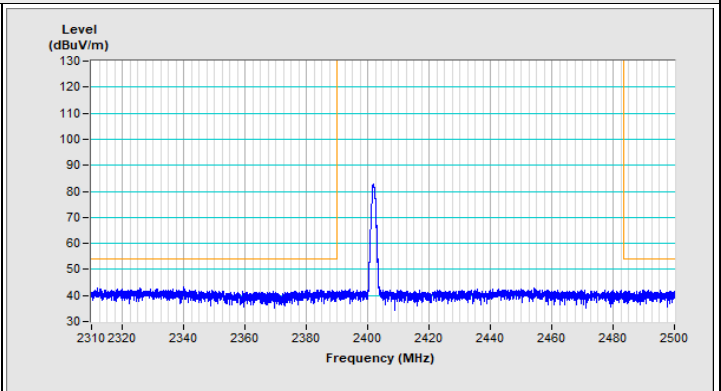
Vertical (Average)

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=3 MHz, DET=RMS
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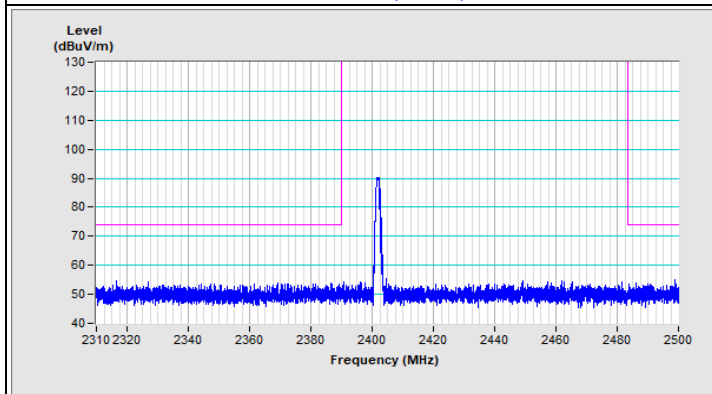
Logi Bolt 1M Channel 0



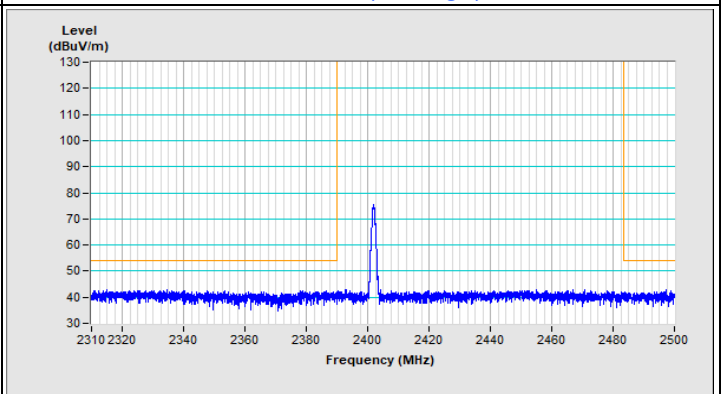
Horizontal (Peak)



Horizontal (Average)

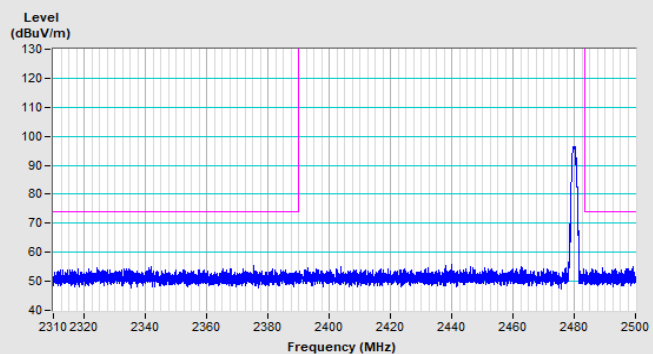


Vertical (Peak)

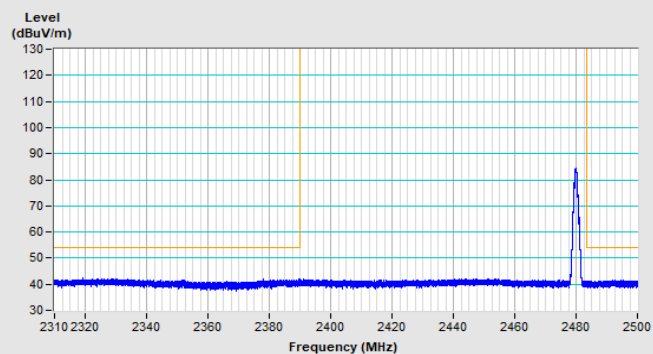


Vertical (Average)

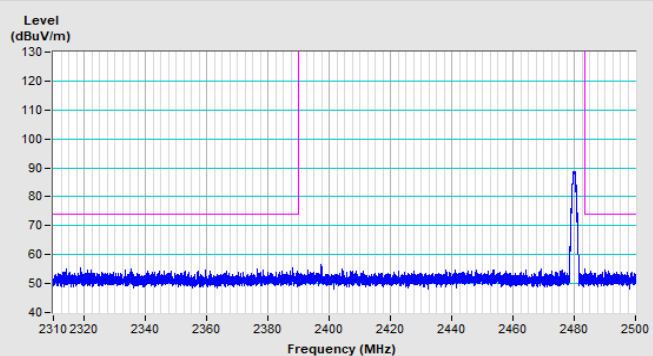
Logi Bolt 1M Channel 39



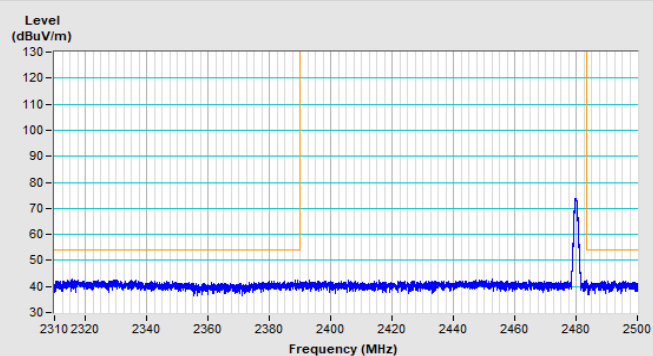
Horizontal (Peak)



Horizontal (Average)



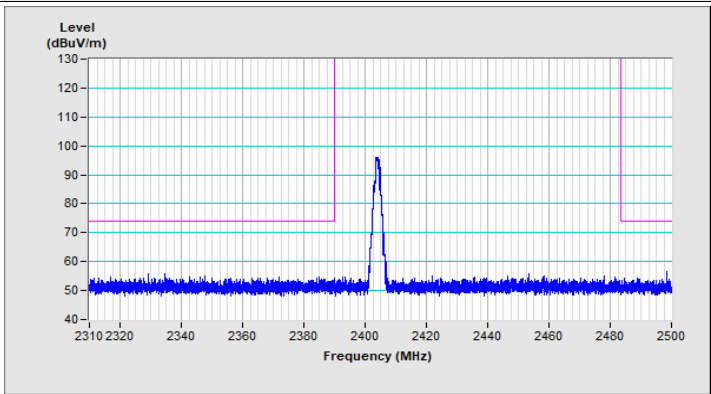
Vertical (Peak)



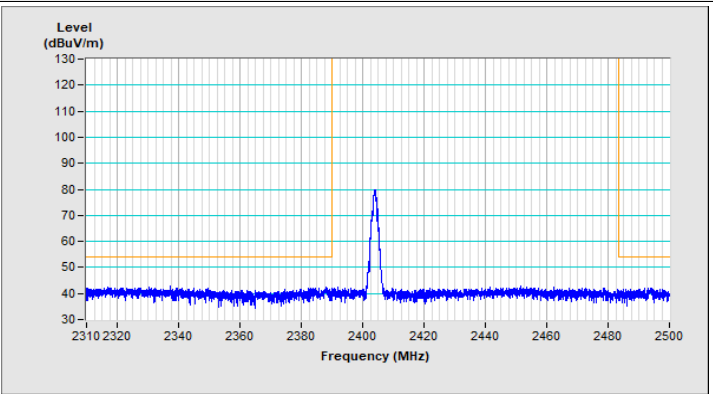
Vertical (Average)

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=3 MHz, DET=RMS
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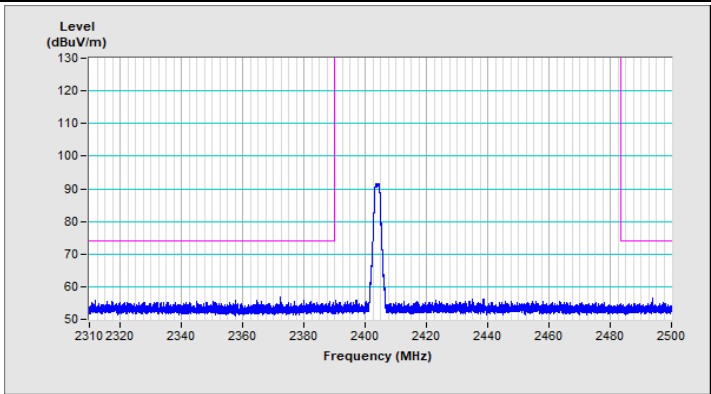
Logi Bolt 2M Channel 1



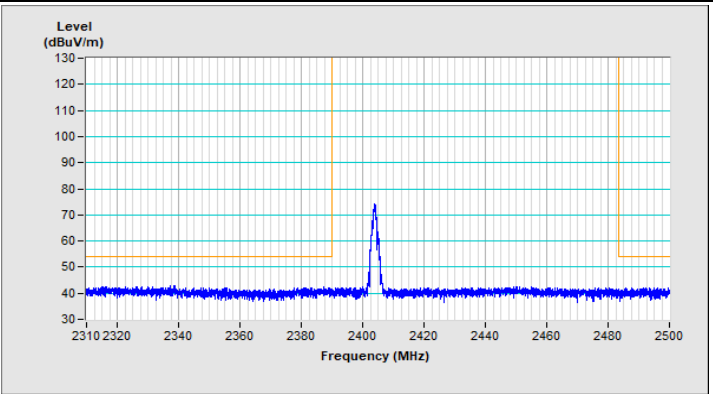
Horizontal (Peak)



Horizontal (Average)

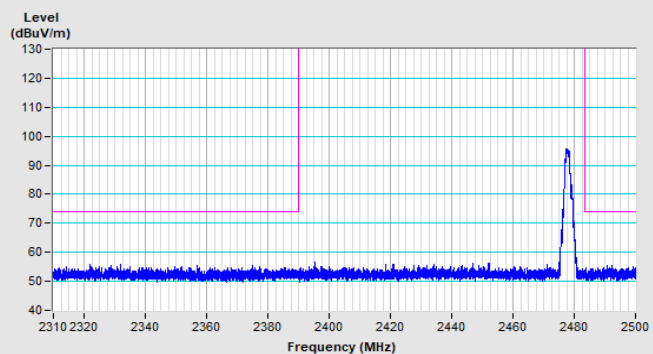


Vertical (Peak)

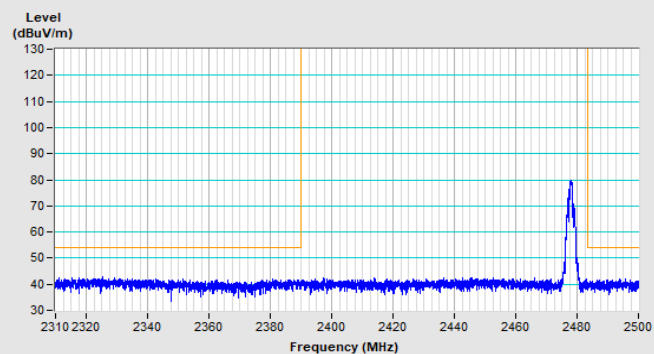


Vertical (Average)

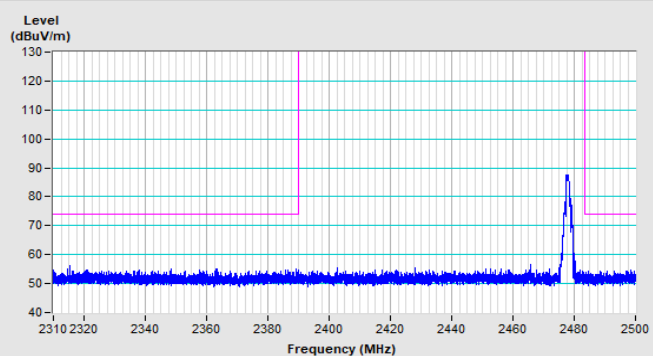
Logi Bolt 2M Channel 38



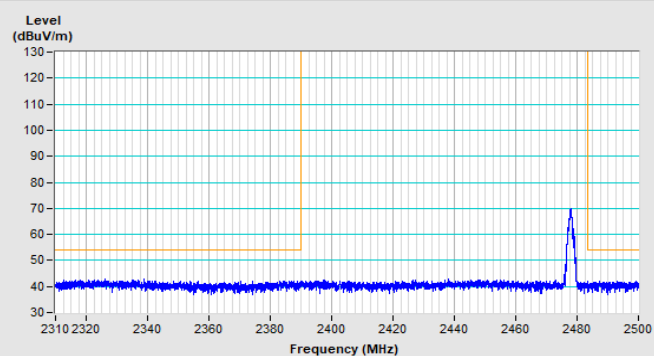
Horizontal (Peak)



Horizontal (Average)



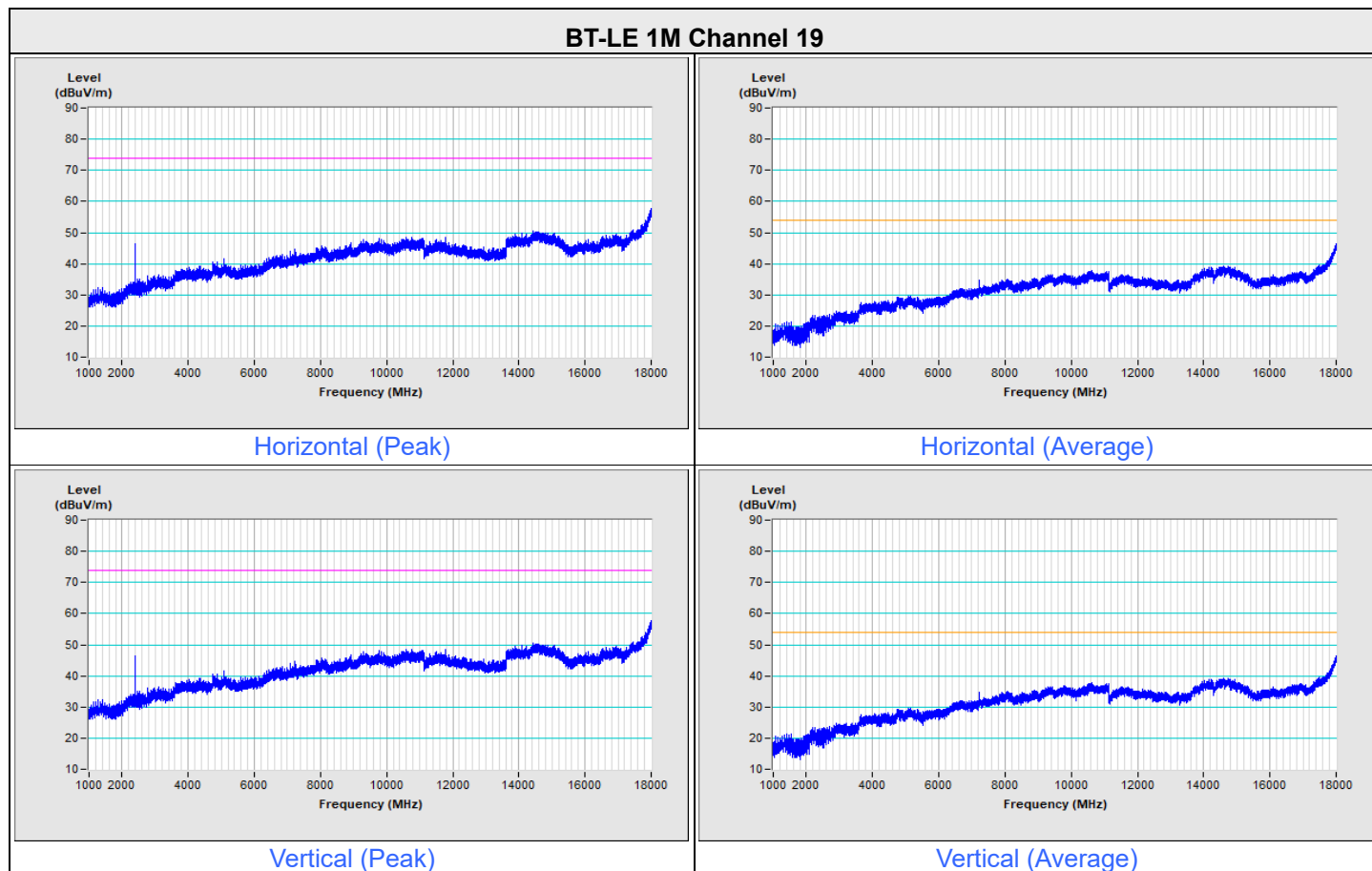
Vertical (Peak)



Vertical (Average)

Plot of Other Emission

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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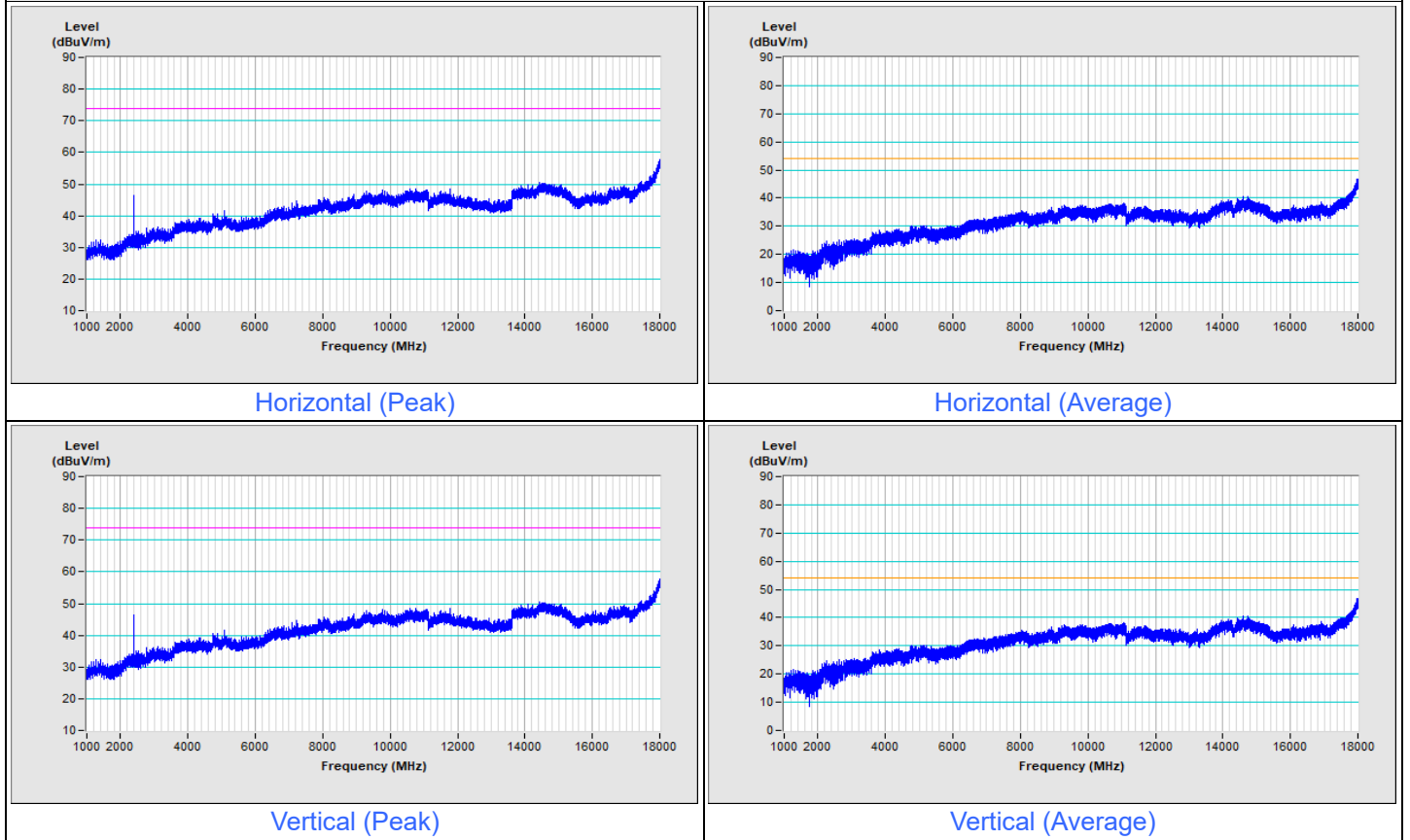


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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BT-LE 2M Channel 19

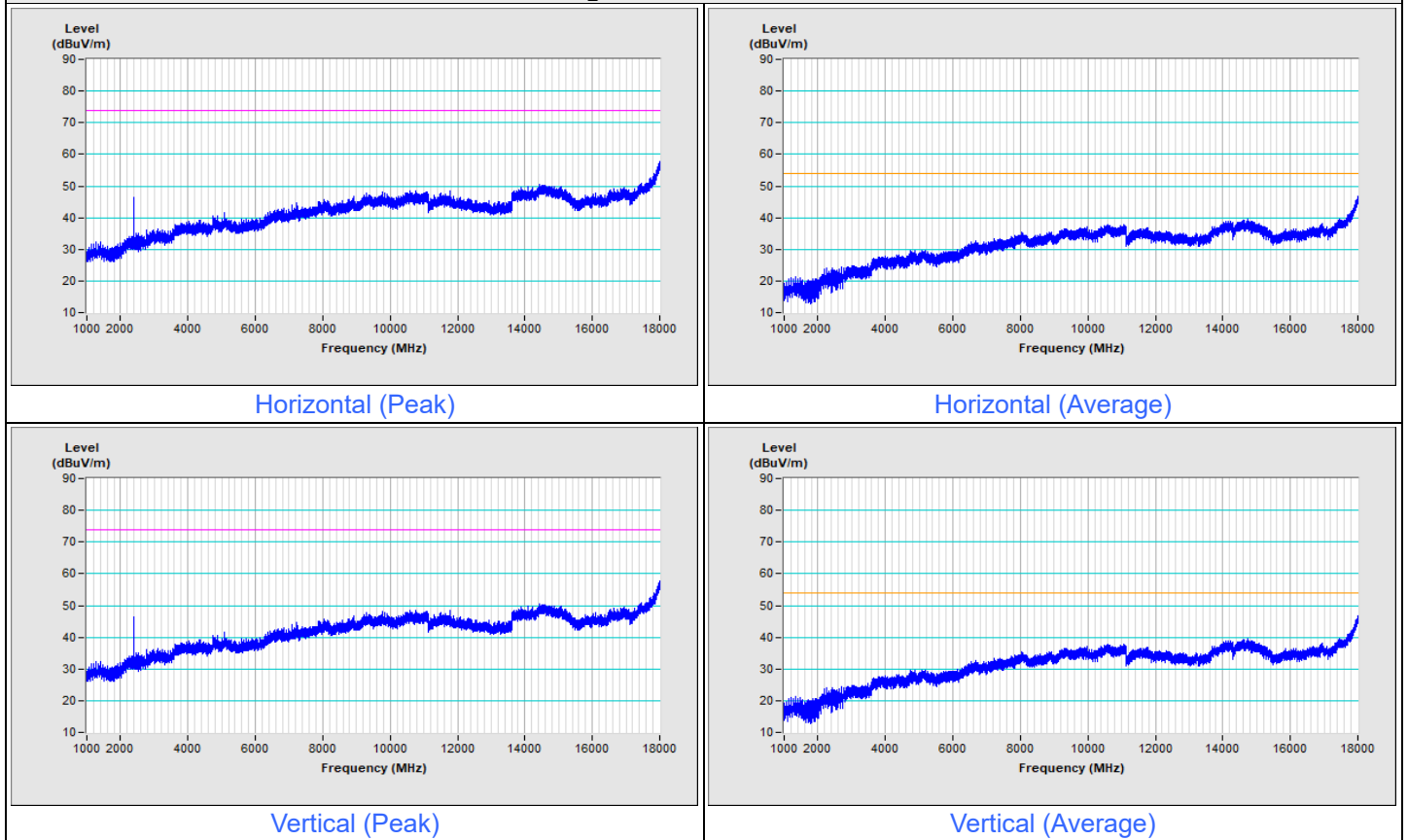


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Logi Bolt 1M Channel 19

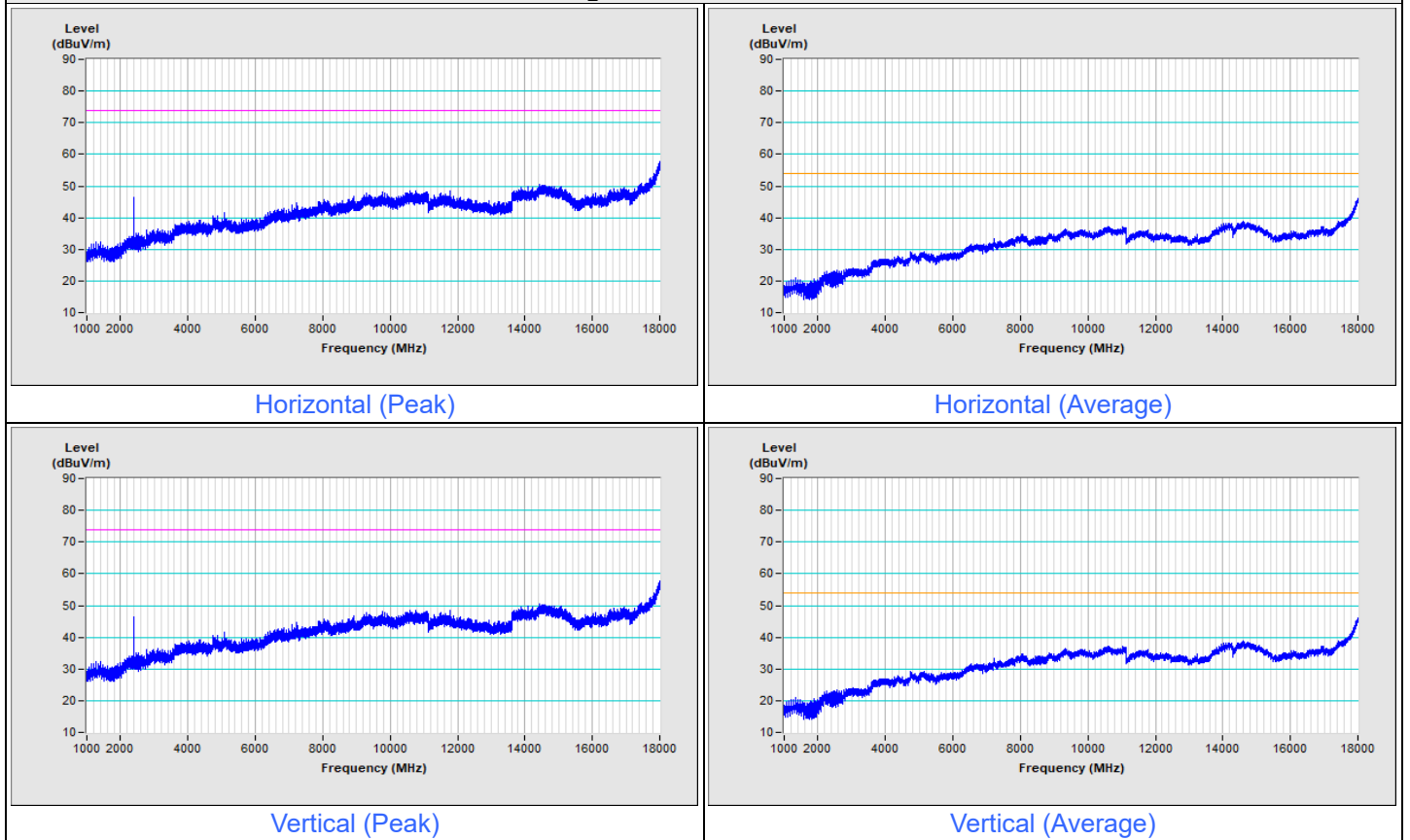


Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Logi Bolt 2M Channel 19



Notes:

1. For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.
2. The frequency range 18 GHz ~ 25 GHz: After investigation, no any emissions were found to exist, therefore they are not recorded in this report.

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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