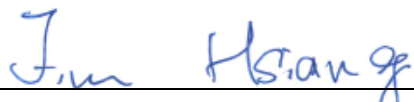


TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBDKG-WTW-P25080092
FCC ID: JNZMR0127
Product: Wireless Mouse
Brand: Logitech, logi, logitech
Model No.: MR0127
Received Date: 2025/8/5
Test Date: 2025/8/12 ~ 2025/8/19
Issued Date: 2025/9/10
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
Lin Kou Laboratories
Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
FCC Registration / 198487 / TW2021
Designation Number:

Approved by:


Jim Hsiang / Associate Technical Manager

, Date:

2025/9/10

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Prepared by : Annie Chang / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBDKG-WTW-P25080092	Original release.	2025/9/10

1 Certificate

Product: Wireless Mouse

Brand: Logitech, logi, logitech

Test Model: MR0127

Sample Status: Engineering sample

Applicant: Logitech Far East Ltd.

Test Date: 2025/8/12 ~ 2025/8/19

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 -10.70 dB at 0.54808 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -7.3 dB at 37.70 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -13.2 dB at 2390.00 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:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	960 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.7 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.55 dB
	30 MHz ~ 1 GHz	5.77 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	4.71 dB
	6 GHz ~ 18 GHz	5.3 dB
	18 GHz ~ 40 GHz	4.98 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	MR0127
Status of EUT	Engineering sample
Power Supply Rating	3.7Vdc from battery or 5Vdc 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: 2.564 mW (4.09 dBm) BT-LE 2M: 2.559 mW (4.08 dBm) logi bolt 1M: 2.535 mW (4.04 dBm) logi bolt 2M: 2.483 mW (3.95 dBm)

Note:

1. BT-LE technique supports 1Mbps and 2Mbps 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 : 3.7V, 500 mAh
Battery 2	Synergy	AHB572535PJT-04	Power Rating : 3.7V, 500 mAh
Battery 3	Exquisite Power	652535	Power Rating : 3.7V, 500 mAh
USB cable	-	-	Shielded 1m

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

The antenna information is listed as below.

Gain(dBi)	Antenna Type	Connector Type
2.05	inverted-F	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 and 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. EUT has support multiple power sources: USB-C/ Battery. Pre-scan these sources and find the worst case as a representative test condition. 2. The Battery has the following models: Battery1 Highpower/ Battery2 Synergy/ Battery3 Exquisite Power. Pre-scan these models of batteries and find the worst case as a representative test condition. 3. 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. Test item the worst condition of power sources: USB-C. Unwanted emission test item: EUT with USB cable(NB). AC conducted emission test item: EUT with USB cable(NB). 2. The battery worst condition: Battery1 Highpower.

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 1M	0	GFSK	1Mb/s
	logi bolt 1M	0	GFSK	1Mb/s
Unwanted Emissions below 1 GHz	BT-LE 1M	0	GFSK	1Mb/s
	logi bolt 1M	0	GFSK	1Mb/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

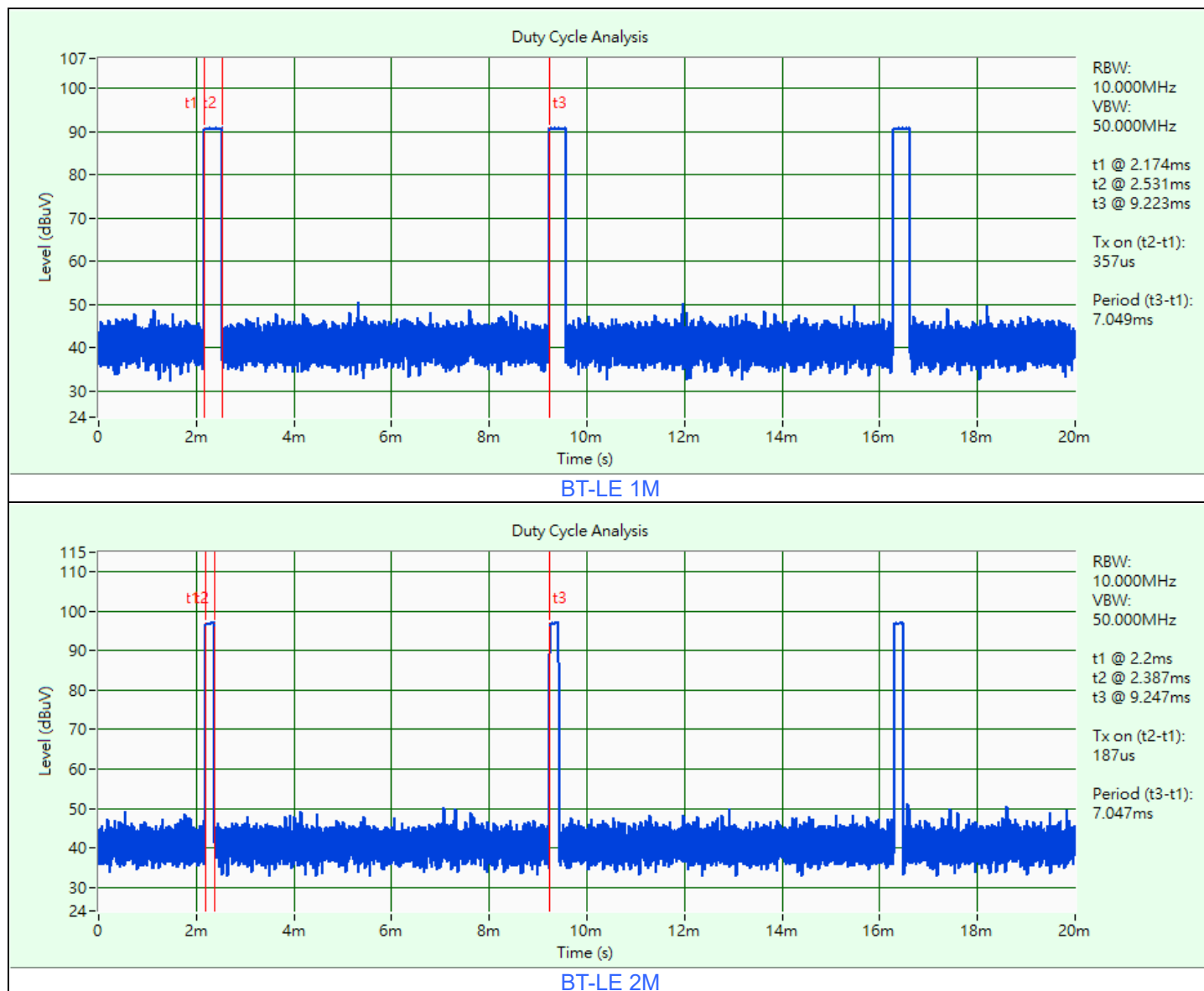
3.5 Duty Cycle of Test Signal

BT-LE 1M: Duty cycle = $0.357 \text{ ms} / 7.049 \text{ ms} \times 100\% = 5.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 12.95 \text{ dB}$

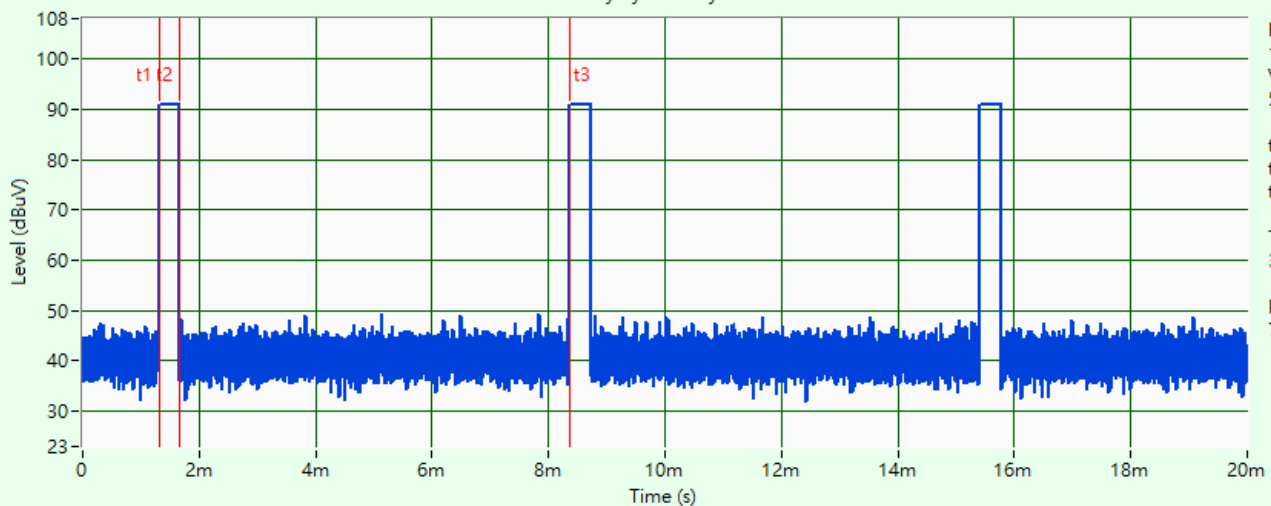
BT-LE 2M: Duty cycle = $0.187 \text{ ms} / 7.047 \text{ ms} \times 100\% = 2.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 15.76 \text{ dB}$

Logi Bolt 1M: Duty cycle = $0.357 \text{ ms} / 7.053 \text{ ms} \times 100\% = 5.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 12.96 \text{ dB}$

Logi Bolt 2M: Duty cycle = $0.187 \text{ ms} / 7.047 \text{ ms} \times 100\% = 2.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 15.76 \text{ dB}$

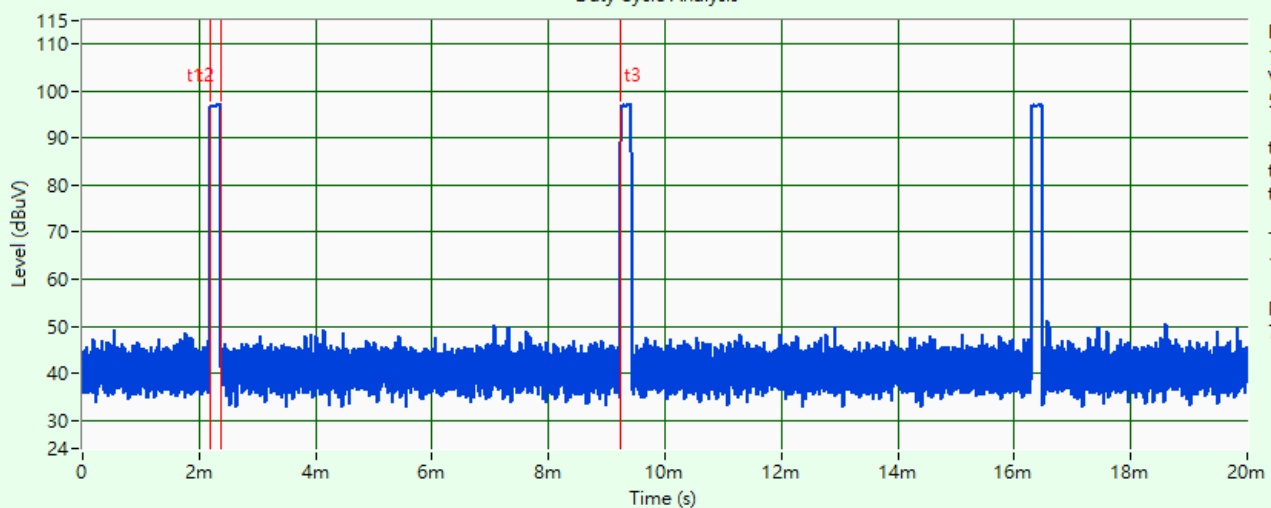


Duty Cycle Analysis



Logi Bolt 1M

Duty Cycle Analysis



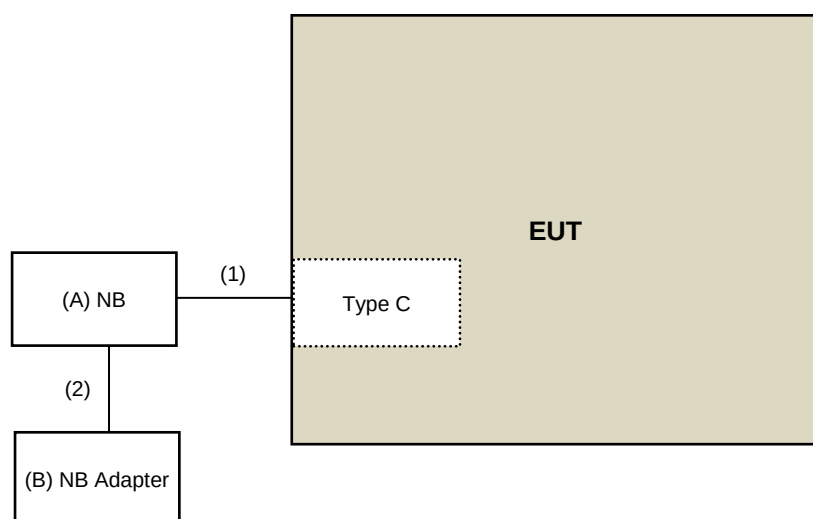
Logi Bolt 2M

3.6 Test Program Used and Operation Descriptions

RF sample has been activated through the dongle [plug to laptop and press NumLock key into specific mode] to set the EUT under transmission condition continuously at the specific test frequency.

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

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	NB	Lenovo	IdeaPad 5 15ITL05	N/A	N/A	Provided by Lab
B	NB Adapter	Lenovo	ADLX65CLGU2A	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Cable	1	1	Y	0	Supplied by applicant
2	DC Cable	1	1.8	N	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
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2025/5/23	2026/5/22
Pulse Power Sensor Anritsu	MA2411B	0738404	2025/5/20	2026/5/19
RF Power Meter Anritsu	ML2495A	0842014	2025/5/20	2026/5/19
Wideband Power Sensor Keysight	N1923A	MY58020002	2025/1/21	2026/1/20

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2025/8/13

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2025/5/23	2026/5/22
PXA Signal Analyzer Keysight	N9030A	MY54490260	2025/7/24	2026/7/23
Signal Analyzer R&S	FSV40	101042	2024/9/12	2025/9/11
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2025/8/13

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 LYNICS	0900510	E1-011284	2024/9/16	2025/9/15
		E1-011285	2024/9/25	2025/9/24
DC LISN R&S	ESH3-Z6	100219	2025/7/10	2026/7/9
		844950/018	2025/7/10	2026/7/9
Diode Pulse Limiter Schwarzbeck	VTSD 9561 F-N	01422	2025/5/2	2026/5/1
EMI Test Receiver R&S	ESR3	102413	2025/1/22	2026/1/21
		102414	2024/12/11	2025/12/10
Fixed Attenuator EMEC	EM-ATT30002602NN	N/A	2025/3/21	2026/3/20
High Voltage Probe Schwarzbeck	TK9420	00982	2024/12/6	2025/12/5
Highpass filter EMCI	150HPF-ME	114005	2025/5/2	2026/5/1
		114006	2025/5/2	2026/5/1
	150HPF-MF	113009	2025/5/2	2026/5/1
LISN R&S	ENV216	101195	2025/7/18	2026/7/17
		101196	2025/5/19	2026/5/18
		101197	2025/7/4	2026/7/3
	ESH3-Z5	100220	2024/11/21	2025/11/20
LISN Schwarzbeck	NNLK 8121	8121-731	2025/6/10	2026/6/9
		8121-00759	2024/8/20	2025/8/19
		8121-808	2025/4/23	2026/4/22
	NNLK 8129	00624	2024/10/9	2025/10/8
		8129229	2024/10/14	2025/10/13
RF Coaxial Cable PEWC	5D-FB	Cable-CO3-01	2024/9/12	2025/9/11
Software BVADT	Cond_V7.4.1.0	N/A	N/A	N/A

Notes:

1. The test was performed in Linkou Conduction 3.
2. Tested Date: 2025/8/13 ~ 2025/8/19

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2024/10/9	2025/10/8
Coupling / Decoupling Network Schwarzbeck	CDNE-M2	00097	2025/5/28	2026/5/27
	CDNE-M3	00091	2025/3/20	2026/3/19
Loop Antenna TESEQ	HLA 6121	64095	2024/10/17	2025/10/16
MXE EMI Receiver Agilent	N9038A	MY50010158	2024/10/11	2025/10/10
Preamplifier Agilent	8447D	2944A11064	2025/2/14	2026/2/13
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2025/6/24	2026/6/23
Signal Analyzer R&S	FSV40	101544	2025/7/1	2026/6/30
Software BVADT	Radiated_V8.7.08	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2025/8/13

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight antenna tower fixture BV	BAF-02	6	N/A	N/A
High Pass Filter Wainwright	WHK 3.1/18G-10SS	SN 8	2025/5/22	2026/5/21
Horn Antenna EMCO	3115	00028257	2024/11/10	2025/11/9
Horn Antenna ETS-Lindgren	3117-PA	00215857	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	212	2024/10/18	2025/10/17
		BBHA9170190	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY50010158	2024/10/11	2025/10/10
Notch Filter Micro-Tronics	BRC50703-01	010	2025/5/22	2026/5/21
	BRM17690	005	2025/5/22	2026/5/21
Preamplifier EMCI	EMC0126545	980076	2025/2/14	2026/2/13
	EMC184045B	980175	2024/8/25	2025/8/24
		980235	2025/2/14	2026/2/13
Preamplifier HP	8449B	3008A01201	2025/2/14	2026/2/13
RF Coaxial Cable EMCI	EMC104	190801	2025/7/4	2026/7/3
		190804	2025/7/4	2026/7/3
RF Coaxial Cable EMEC	EM102-KMKM-100	02	2025/7/4	2026/7/3
RF Coaxial Cable HUBER+SUHNER	SF-104	Cable-CH6-01	2025/7/4	2026/7/3
Signal Analyzer R&S	FSV40	101042	2024/9/12	2025/9/11
		101544	2025/7/1	2026/6/30
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2025/8/12

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

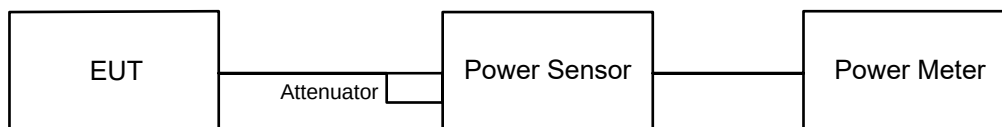
Notes:

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:

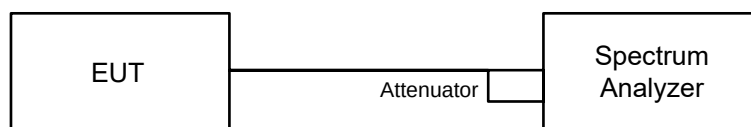
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

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

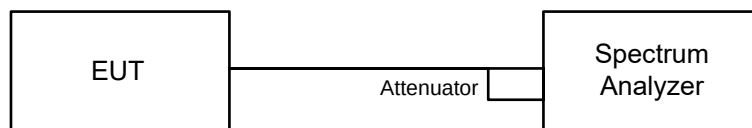


6.2.2 Test Procedure

- Set analyzer center frequency to DTS channel center frequency.
- Set the span >1.5 times the DTS bandwidth.
- Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq 3 \times \text{RBW}$.
- 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

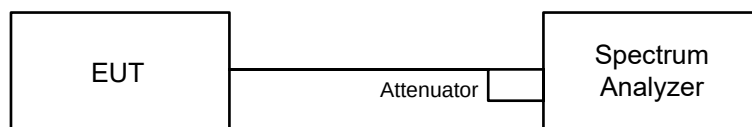


6.3.2 Test Procedure

- Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = No faster than coupled (auto) time.
- 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

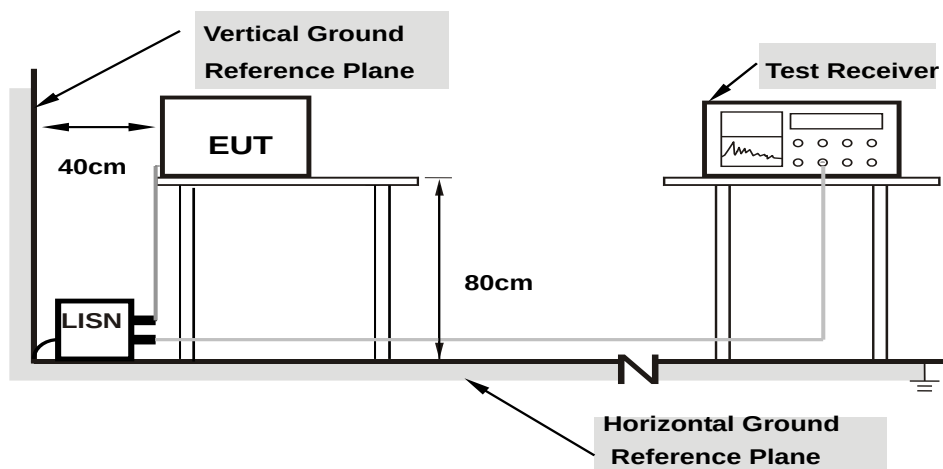
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set 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 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

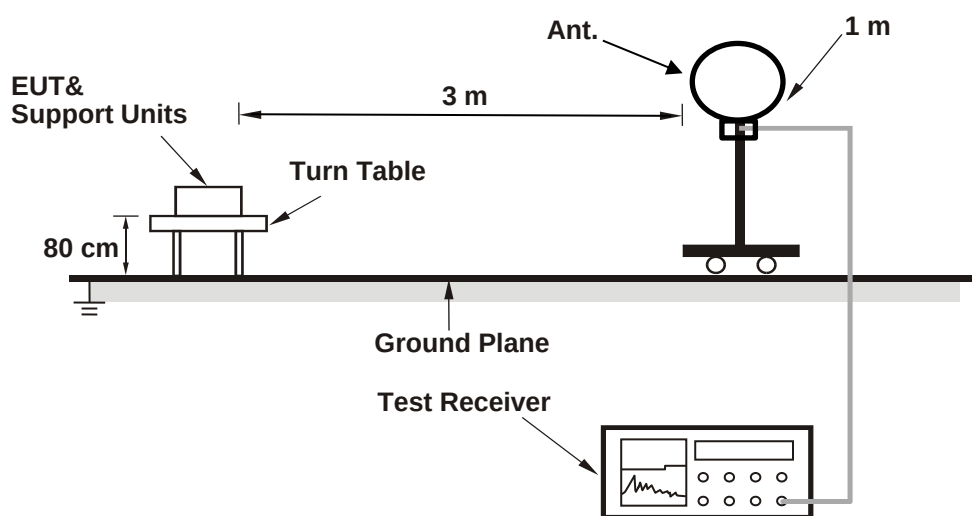
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

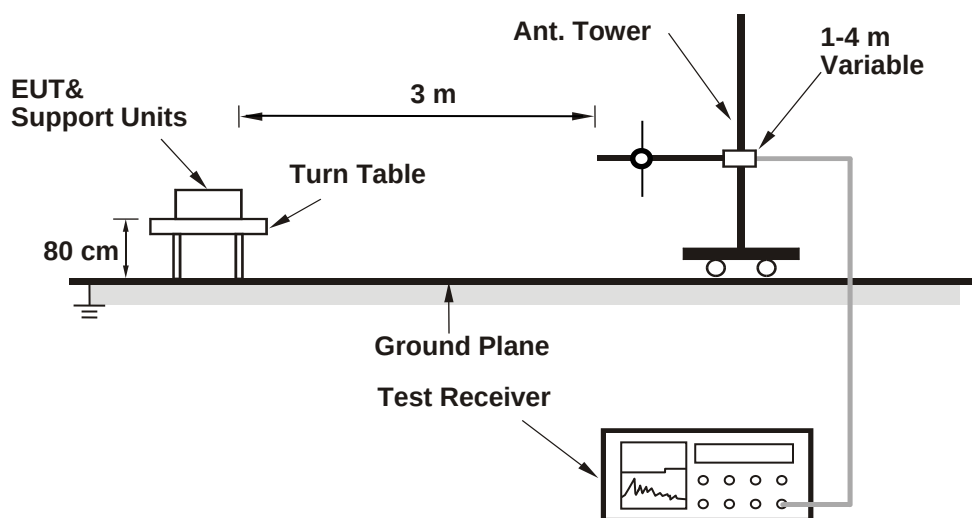
6.6 Unwanted Emissions below 1 GHz

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

- 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.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- 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.
- 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:

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

For Radiated emission above 30 MHz

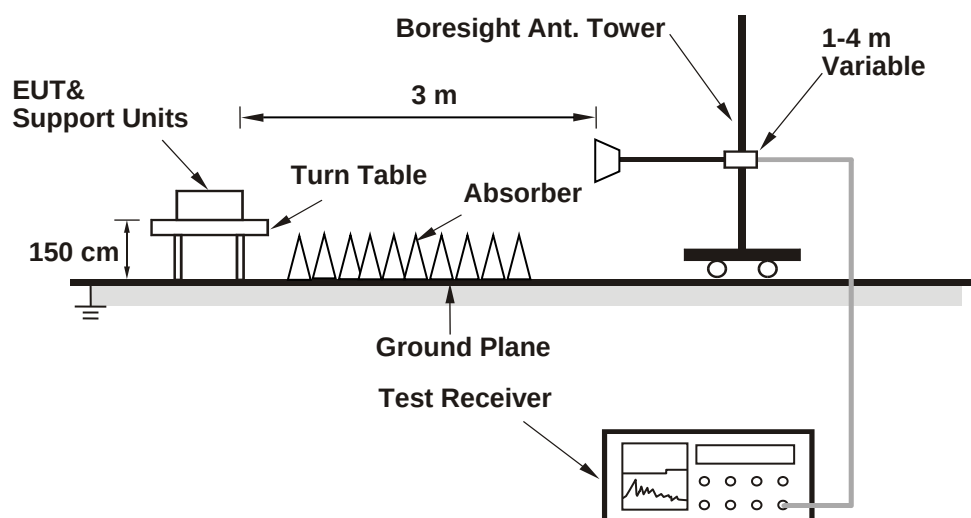
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top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

Notes:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan
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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	2.564	4.09	30	Pass
19	2440	2.455	3.90	30	Pass
39	2480	2.301	3.62	30	Pass

Note: The antenna gain is 2.05 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	2.559	4.08	30	Pass
19	2440	2.432	3.86	30	Pass
38	2478	2.301	3.62	30	Pass

Note: The antenna gain is 2.05 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	2.535	4.04	30	Pass
19	2440	2.399	3.80	30	Pass
39	2480	2.275	3.57	30	Pass

Note: The antenna gain is 2.05 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	2.483	3.95	30	Pass
19	2440	2.404	3.81	30	Pass
38	2478	2.307	3.63	30	Pass

Note: The antenna gain is 2.05 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	2.518	4.01
19	2440	2.393	3.79
39	2480	2.249	3.52

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	2.506	3.99
19	2440	2.393	3.79
38	2478	2.259	3.54

Logi Bolt 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	2.432	3.86
19	2440	2.36	3.73
39	2480	2.208	3.44

Logi Bolt 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	2.443	3.88
19	2440	2.344	3.70
38	2478	2.234	3.49

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan
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BT-LE 1M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	-0.60	8	Pass
19	2440	-0.83	8	Pass
39	2480	-0.93	8	Pass

Note: The antenna gain is 2.05 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	-5.22	8	Pass
19	2440	-4.77	8	Pass
38	2478	-5.07	8	Pass

Note: The antenna gain is 2.05 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	-0.55	8	Pass
19	2440	-0.60	8	Pass
39	2480	-1.13	8	Pass

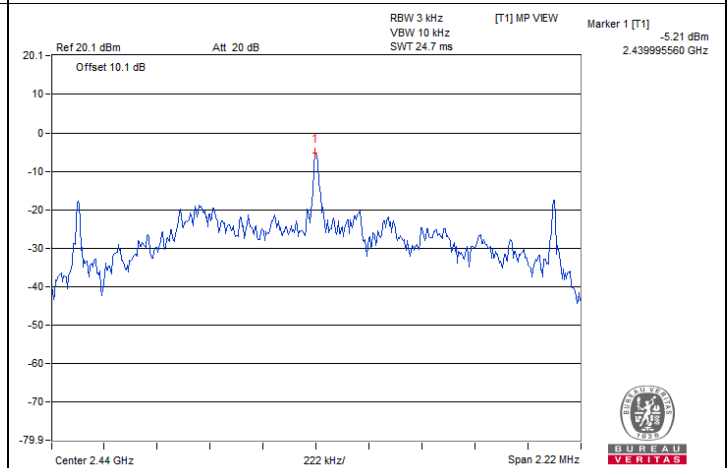
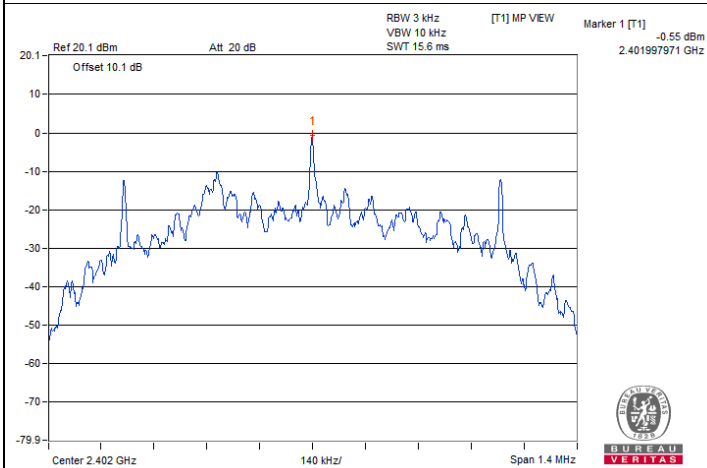
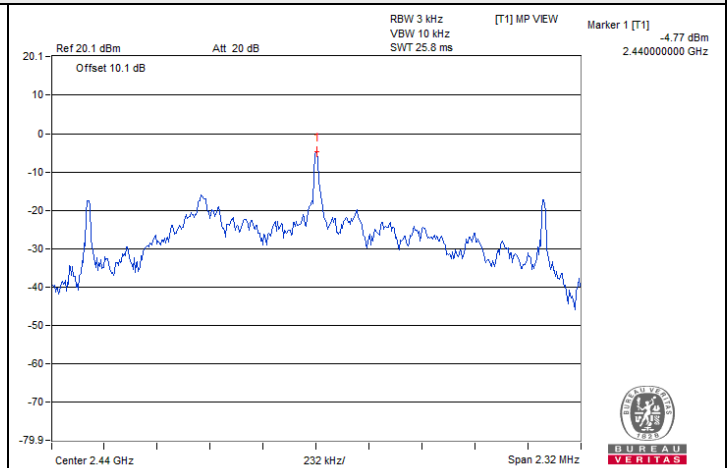
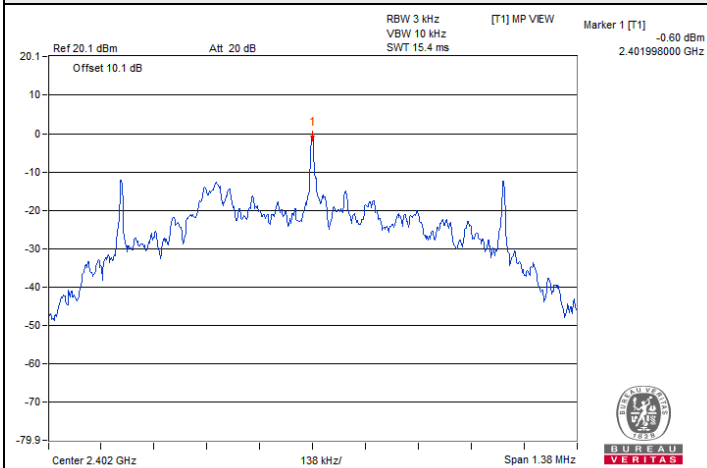
Note: The antenna gain is 2.05 dBi $\leq$ 6 dBi, so the power density limit shall not be reduced.

Logi Bolt 2M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2404	-5.51	8	Pass
19	2440	-5.21	8	Pass
38	2478	-6.35	8	Pass

Note: The antenna gain is 2.05 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan
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BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.69	0.5	Pass
19	2440	0.7	0.5	Pass
39	2480	0.69	0.5	Pass

BT-LE 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.12	0.5	Pass
19	2440	1.16	0.5	Pass
38	2478	1.12	0.5	Pass

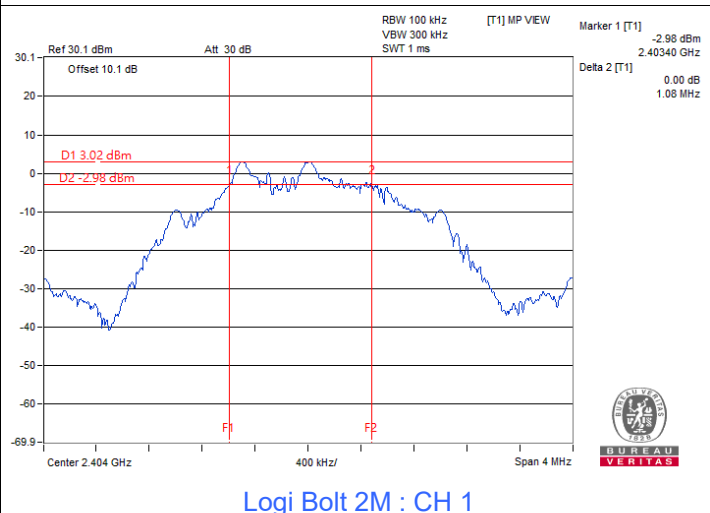
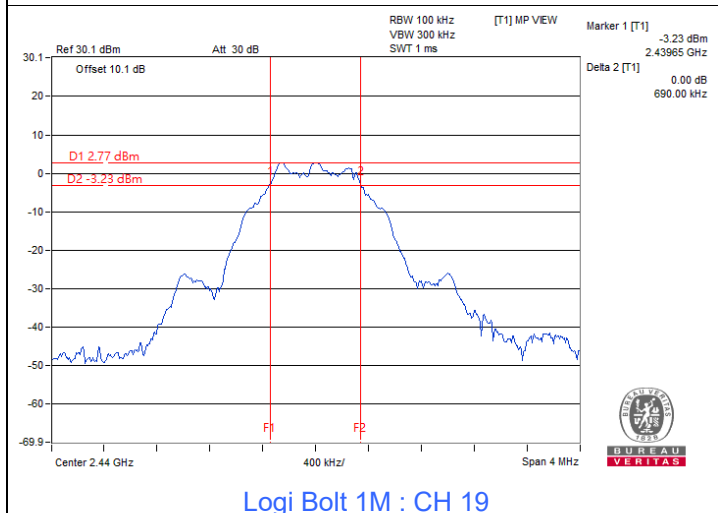
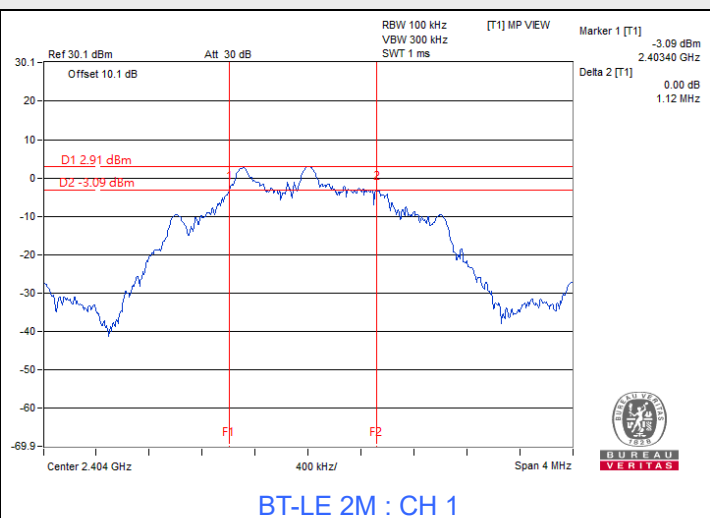
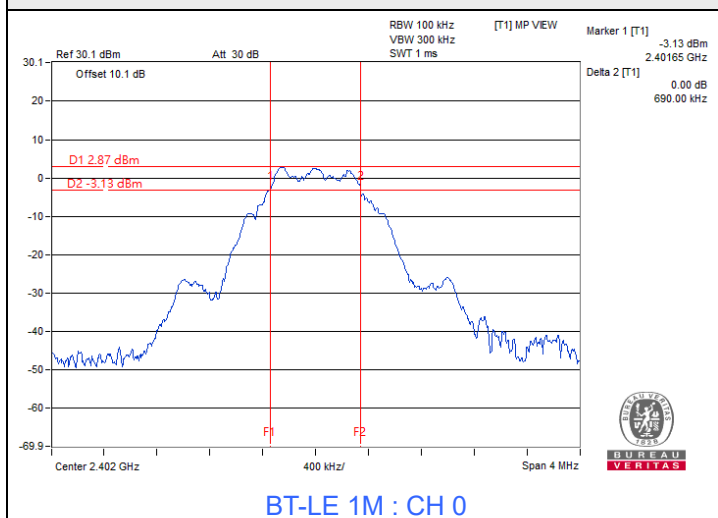
Logi Bolt 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.7	0.5	Pass
19	2440	0.69	0.5	Pass
39	2480	0.69	0.5	Pass

Logi Bolt 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.08	0.5	Pass
19	2440	1.11	0.5	Pass
38	2478	1.15	0.5	Pass

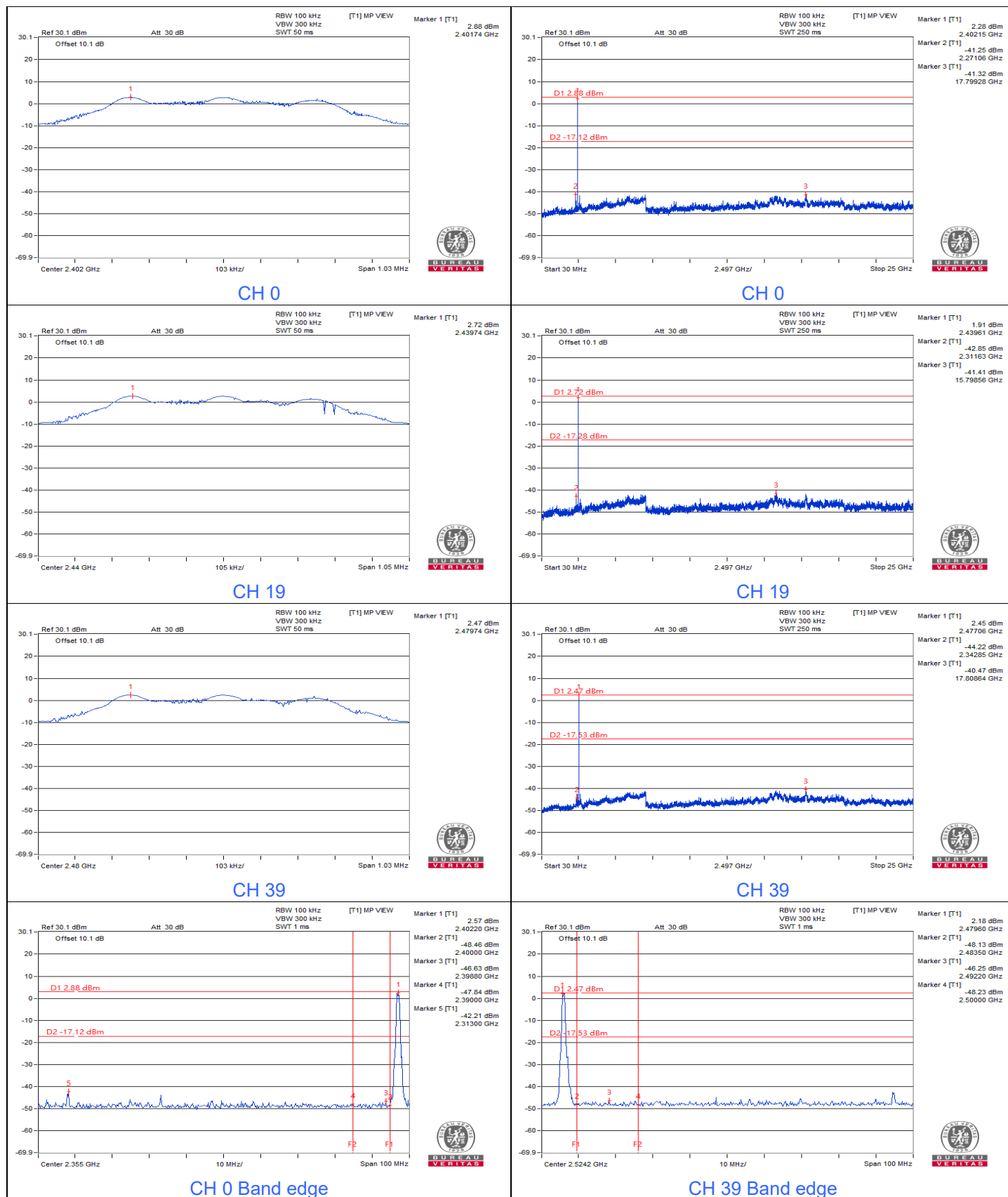
Spectrum Plot of Minimum Value



7.4 Conducted Out of Band Emissions

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Waydi Tuan
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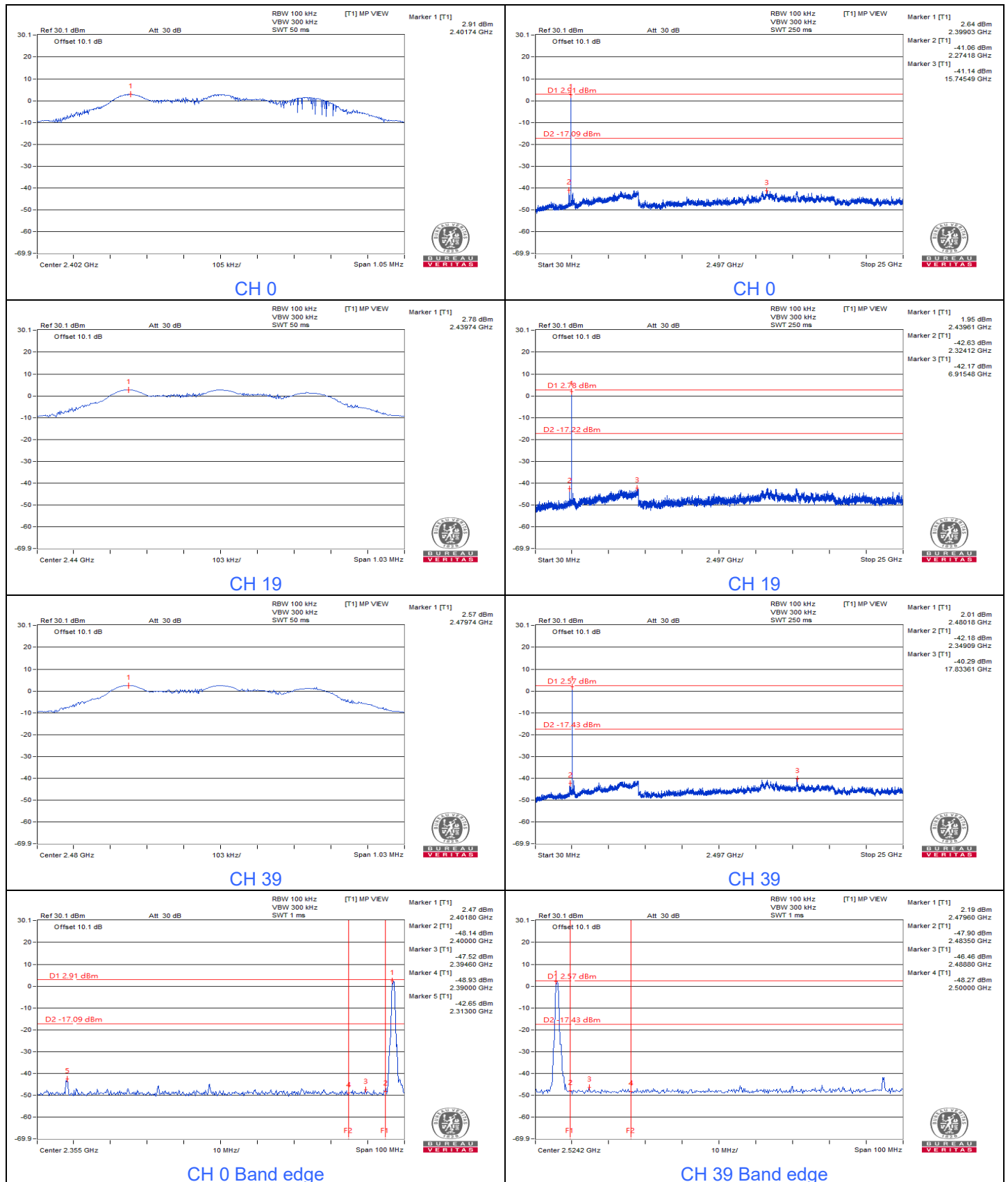
BT-LE 1M



BT-LE 2M



Logi Bolt 1M



Logi Bolt 2M



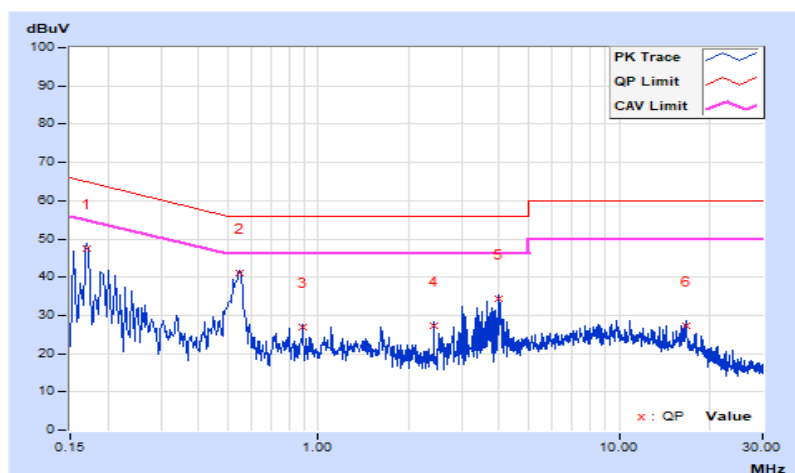
7.5 AC Power Conducted Emissions

RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.16956	8.79	38.71	20.55	47.50	29.34	64.98	54.98	-17.48	-25.64
2	0.54808	8.71	32.38	26.59	41.09	35.30	56.00	46.00	-14.91	-10.70
3	0.88529	8.71	18.19	10.64	26.90	19.35	56.00	46.00	-29.10	-26.65
4	2.42626	8.99	18.21	12.25	27.20	21.24	56.00	46.00	-28.80	-24.76
5	3.99852	9.85	24.39	13.28	34.24	23.13	56.00	46.00	-21.76	-22.87
6	16.64702	9.17	18.00	11.48	27.17	20.65	60.00	50.00	-32.83	-29.35

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

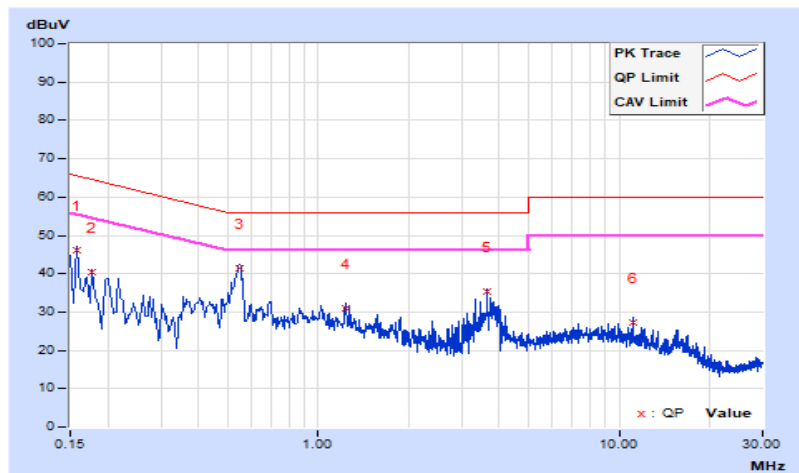


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.15782	8.80	37.22	21.99	46.02	30.79	65.58	55.58	-19.56	-24.79
2	0.17738	8.79	31.73	18.27	40.52	27.06	64.61	54.61	-24.09	-27.55
3	0.54520	8.72	32.66	26.01	41.38	34.73	56.00	46.00	-14.62	-11.27
4	1.23338	8.71	22.24	15.03	30.95	23.74	56.00	46.00	-25.05	-22.26
5	3.64652	8.82	26.57	16.66	35.39	25.48	56.00	46.00	-20.61	-20.52
6	11.11281	9.08	18.11	12.78	27.19	21.86	60.00	50.00	-32.81	-28.14

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

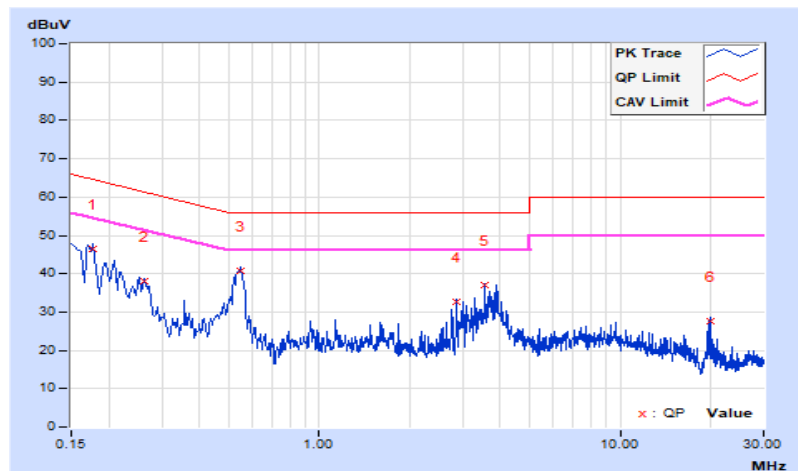


RF Mode	logi bolt 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.17698	8.78	37.85	20.34	46.63	29.12	64.63	54.63	-18.00	-25.51
2	0.26342	8.75	29.21	16.23	37.96	24.98	61.32	51.32	-23.36	-26.34
3	0.54664	8.71	31.94	25.55	40.65	34.26	56.00	46.00	-15.35	-11.74
4	2.86616	9.23	23.36	14.13	32.59	23.36	56.00	46.00	-23.41	-22.64
5	3.55058	9.61	27.39	16.44	37.00	26.05	56.00	46.00	-19.00	-19.95
6	19.86571	9.23	18.47	10.97	27.70	20.20	60.00	50.00	-32.30	-29.80

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

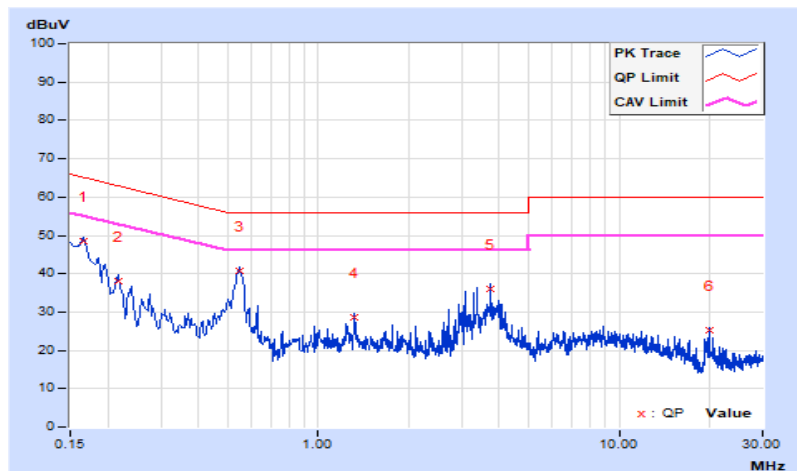


RF Mode	logi bolt 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.16564	8.80	39.59	19.78	48.39	28.58	65.18	55.18	-16.79	-26.60
2	0.21622	8.77	29.22	14.40	37.99	23.17	62.96	52.96	-24.97	-29.79
3	0.54664	8.72	31.91	25.60	40.63	34.32	56.00	46.00	-15.37	-11.68
4	1.32496	8.71	19.77	13.48	28.48	22.19	56.00	46.00	-27.52	-23.81
5	3.74613	8.83	27.06	16.26	35.89	25.09	56.00	46.00	-20.11	-20.91
6	19.90873	9.23	16.00	9.75	25.23	18.98	60.00	50.00	-34.77	-31.02

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



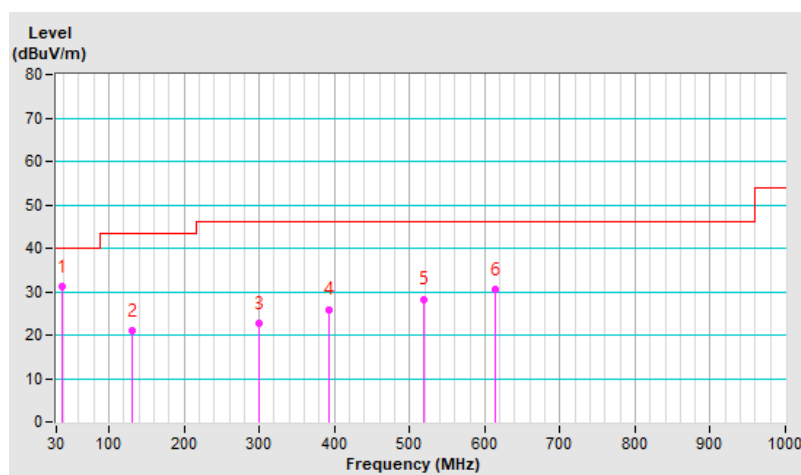
7.6 Unwanted Emissions below 1 GHz

RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	37.30	31.1 QP	40.0	-8.9	1.36 H	108	40.9	-9.8
2	131.70	20.9 QP	43.5	-22.6	1.20 H	58	30.2	-9.3
3	300.50	22.6 QP	46.0	-23.4	1.14 H	239	28.3	-5.7
4	392.80	25.8 QP	46.0	-20.2	1.98 H	171	29.5	-3.7
5	519.20	28.1 QP	46.0	-17.9	1.75 H	226	29.2	-1.1
6	613.00	30.4 QP	46.0	-15.6	1.58 H	360	28.9	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.

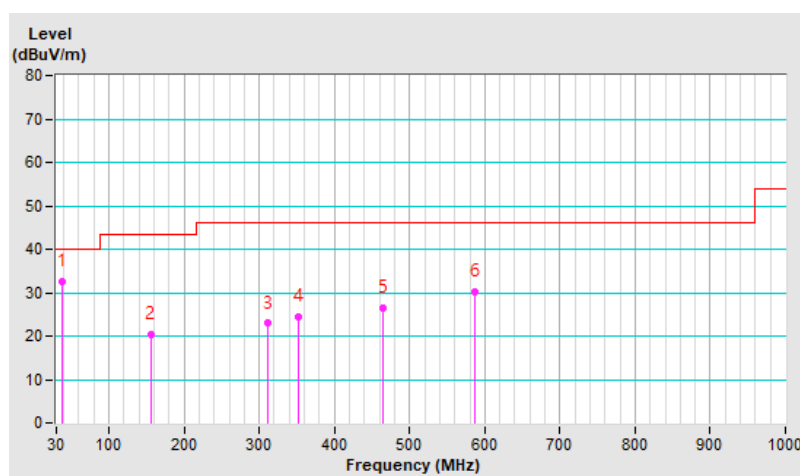


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	37.70	32.7 QP	40.0	-7.3	1.45 V	134	42.5	-9.8
2	155.10	20.5 QP	43.5	-23.0	1.27 V	293	28.4	-7.9
3	311.90	22.9 QP	46.0	-23.1	1.89 V	74	28.2	-5.3
4	351.60	24.4 QP	46.0	-21.6	1.65 V	271	29.1	-4.7
5	465.30	26.6 QP	46.0	-19.4	1.23 V	45	28.5	-1.9
6	587.60	30.2 QP	46.0	-15.8	1.59 V	186	29.4	0.8

Remarks:

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

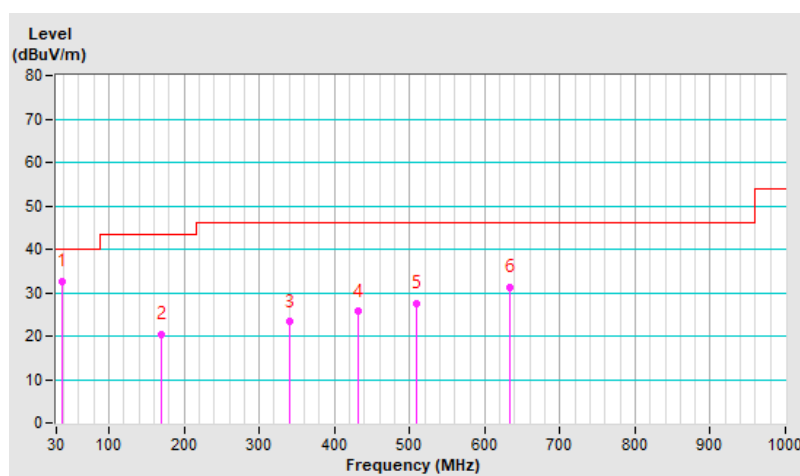


RF Mode	logi bolt 1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	37.80	32.6 QP	40.0	-7.4	1.18 H	360	42.3	-9.7
2	170.10	20.4 QP	43.5	-23.1	1.98 H	212	28.5	-8.1
3	339.60	23.3 QP	46.0	-22.7	1.35 H	360	28.0	-4.7
4	432.40	25.6 QP	46.0	-20.4	1.85 H	262	28.2	-2.6
5	508.50	27.6 QP	46.0	-18.4	1.47 H	224	28.8	-1.2
6	633.90	31.2 QP	46.0	-14.8	1.77 H	0	29.2	2.0

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.

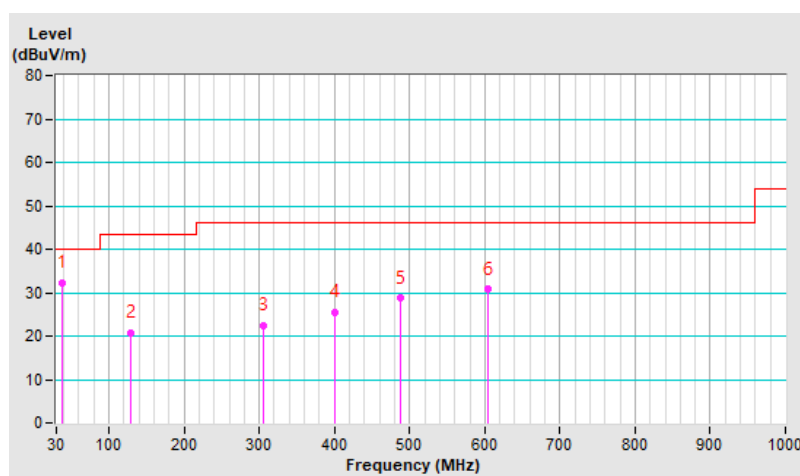


RF Mode	logi bolt 1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	37.10	32.3 QP	40.0	-7.7	1.15 V	253	42.2	-9.9
2	128.90	20.6 QP	43.5	-22.9	1.48 V	79	30.2	-9.6
3	305.20	22.3 QP	46.0	-23.7	1.68 V	313	27.8	-5.5
4	400.20	25.5 QP	46.0	-20.5	1.79 V	62	29.1	-3.6
5	487.90	28.7 QP	46.0	-17.3	1.35 V	89	30.2	-1.5
6	604.70	30.7 QP	46.0	-15.3	1.26 V	360	29.5	1.2

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Dalen Dai		

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	52.6 PK	74.0	-21.4	1.54 H	340	53.3	-0.7
2	2390.00	40.8 AV	54.0	-13.2	1.54 H	340	41.5	-0.7
3	*2402.00	99.1 PK			1.54 H	340	99.7	-0.6
4	*2402.00	73.2 AV			1.54 H	340	73.8	-0.6
5	4804.00	48.7 PK	74.0	-25.3	1.00 H	341	41.6	7.1
6	4804.00	22.8 AV	54.0	-31.2	1.00 H	341	15.7	7.1
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	52.3 PK	74.0	-21.7	3.69 V	131	53.0	-0.7
2	2390.00	40.4 AV	54.0	-13.6	3.69 V	131	41.1	-0.7
3	*2402.00	91.6 PK			3.69 V	131	92.2	-0.6
4	*2402.00	65.7 AV			3.69 V	131	66.3	-0.6
5	4804.00	46.9 PK	74.0	-27.1	1.00 V	83	39.8	7.1
6	4804.00	21.0 AV	54.0	-33.0	1.00 V	83	13.9	7.1

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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.049 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Dalen Dai		

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	99.8 PK			1.05 H	333	100.3	-0.5
2	*2440.00	73.9 AV			1.05 H	333	74.4	-0.5
3	4880.00	49.1 PK	74.0	-24.9	1.19 H	327	41.6	7.5
4	4880.00	23.2 AV	54.0	-30.8	1.19 H	327	15.7	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	91.9 PK			3.73 V	128	92.4	-0.5
2	*2440.00	66.0 AV			3.73 V	128	66.5	-0.5
3	4880.00	47.2 PK	74.0	-26.8	1.03 V	86	39.7	7.5
4	4880.00	21.3 AV	54.0	-32.7	1.03 V	86	13.8	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.049 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Dalen Dai		

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	98.3 PK			1.68 H	328	98.4	-0.1
2	*2480.00	72.4 AV			1.68 H	328	72.5	-0.1
3	2483.50	56.5 PK	74.0	-17.5	1.68 H	328	56.6	-0.1
4	2483.50	30.6 AV	54.0	-23.4	1.68 H	328	30.7	-0.1
5	4960.00	48.5 PK	74.0	-25.5	1.07 H	7	41.0	7.5
6	4960.00	22.6 AV	54.0	-31.4	1.07 H	7	15.1	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	91.1 PK			3.78 V	123	91.2	-0.1
2	*2480.00	65.2 AV			3.78 V	123	65.3	-0.1
3	2483.50	54.7 PK	74.0	-19.3	3.78 V	123	54.8	-0.1
4	2483.50	28.8 AV	54.0	-25.2	3.78 V	123	28.9	-0.1
5	4960.00	46.8 PK	74.0	-27.2	1.24 V	59	39.3	7.5
6	4960.00	20.9 AV	54.0	-33.1	1.24 V	59	13.4	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.049 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Dalen Dai		

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	52.8 PK	74.0	-21.2	1.54 H	336	53.5	-0.7
2	2390.00	40.7 AV	54.0	-13.3	1.54 H	336	41.4	-0.7
3	*2404.00	99.4 PK			1.54 H	336	100.0	-0.6
4	*2404.00	67.9 AV			1.54 H	336	68.5	-0.6
5	4808.00	48.5 PK	74.0	-25.5	1.07 H	335	41.4	7.1
6	4808.00	17.0 AV	54.0	-37.0	1.07 H	335	9.9	7.1
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	52.1 PK	74.0	-21.9	3.70 V	129	52.8	-0.7
2	2390.00	40.3 AV	54.0	-13.7	3.70 V	129	41.0	-0.7
3	*2404.00	91.3 PK			3.70 V	129	91.9	-0.6
4	*2404.00	59.8 AV			3.70 V	129	60.4	-0.6
5	4808.00	47.3 PK	74.0	-26.7	1.02 V	88	40.2	7.1
6	4808.00	15.8 AV	54.0	-38.2	1.02 V	88	8.7	7.1

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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	99.9 PK			1.05 H	334	100.4	-0.5
2	*2440.00	68.4 AV			1.05 H	334	68.9	-0.5
3	4880.00	49.7 PK	74.0	-24.3	1.49 H	347	42.2	7.5
4	4880.00	18.2 AV	54.0	-35.8	1.49 H	347	10.7	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	92.4 PK			3.20 V	125	92.9	-0.5
2	*2440.00	60.9 AV			3.20 V	125	61.4	-0.5
3	4880.00	47.9 PK	74.0	-26.1	1.49 V	89	40.4	7.5
4	4880.00	16.4 AV	54.0	-37.6	1.49 V	89	8.9	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	99.0 PK			2.62 H	326	99.2	-0.2
2	*2478.00	67.5 AV			2.62 H	326	67.7	-0.2
3	2483.50	54.9 PK	74.0	-19.1	2.62 H	326	55.0	-0.1
4	2483.50	23.4 AV	54.0	-30.6	2.62 H	326	23.5	-0.1
5	4956.00	49.3 PK	74.0	-24.7	2.01 H	5	41.8	7.5
6	4956.00	17.8 AV	54.0	-36.2	2.01 H	5	10.3	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	91.8 PK			2.84 V	121	92.0	-0.2
2	*2478.00	60.3 AV			2.84 V	121	60.5	-0.2
3	2483.50	53.7 PK	74.0	-20.3	2.84 V	121	53.8	-0.1
4	2483.50	22.2 AV	54.0	-31.8	2.84 V	121	22.3	-0.1
5	4956.00	47.6 PK	74.0	-26.4	2.18 V	57	40.1	7.5
6	4956.00	16.1 AV	54.0	-37.9	2.18 V	57	8.6	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	52.0 PK	74.0	-22.0	1.54 H	346	52.7	-0.7
2	2390.00	40.2 AV	54.0	-13.8	1.54 H	346	40.9	-0.7
3	*2402.00	98.5 PK			1.54 H	346	99.1	-0.6
4	*2402.00	72.6 AV			1.54 H	346	73.2	-0.6
5	4804.00	48.1 PK	74.0	-25.9	1.02 H	335	41.0	7.1
6	4804.00	22.2 AV	54.0	-31.8	1.02 H	335	15.1	7.1
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	51.7 PK	74.0	-22.3	3.66 V	137	52.4	-0.7
2	2390.00	39.8 AV	54.0	-14.2	3.66 V	137	40.5	-0.7
3	*2402.00	91.0 PK			3.66 V	137	91.6	-0.6
4	*2402.00	65.1 AV			3.66 V	137	65.7	-0.6
5	4804.00	46.3 PK	74.0	-27.7	1.01 V	77	39.2	7.1
6	4804.00	20.4 AV	54.0	-33.6	1.01 V	77	13.3	7.1

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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.053 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	99.1 PK			1.06 H	324	99.6	-0.5
2	*2440.00	73.2 AV			1.06 H	324	73.7	-0.5
3	4880.00	48.5 PK	74.0	-25.5	1.18 H	336	41.0	7.5
4	4880.00	22.6 AV	54.0	-31.4	1.18 H	336	15.1	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	91.2 PK			3.71 V	119	91.7	-0.5
2	*2440.00	65.3 AV			3.71 V	119	65.8	-0.5
3	4880.00	46.5 PK	74.0	-27.5	1.05 V	95	39.0	7.5
4	4880.00	20.6 AV	54.0	-33.4	1.05 V	95	13.1	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.053 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	97.7 PK			1.65 H	319	97.8	-0.1
2	*2480.00	71.8 AV			1.65 H	319	71.9	-0.1
3	2483.50	53.9 PK	74.0	-20.1	1.65 H	319	54.0	-0.1
4	2483.50	28.0 AV	54.0	-26.0	1.65 H	319	28.1	-0.1
5	4960.00	47.9 PK	74.0	-26.1	1.04 H	16	40.4	7.5
6	4960.00	22.0 AV	54.0	-32.0	1.04 H	16	14.5	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	*2480.00	90.5 PK			3.75 V	114	90.6	-0.1
2	*2480.00	64.6 AV			3.75 V	114	64.7	-0.1
3	2483.50	54.1 PK	74.0	-19.9	3.75 V	114	54.2	-0.1
4	2483.50	28.2 AV	54.0	-25.8	3.75 V	114	28.3	-0.1
5	4960.00	46.2 PK	74.0	-27.8	1.21 V	50	38.7	7.5
6	4960.00	20.3 AV	54.0	-33.7	1.21 V	50	12.8	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.357 \text{ ms} / 7.053 \text{ ms}) = -25.9 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	52.3 PK	74.0	-21.7	1.54 H	317	53.0	-0.7
2	2390.00	40.2 AV	54.0	-13.8	1.54 H	317	40.9	-0.7
3	*2404.00	98.9 PK			1.54 H	317	99.5	-0.6
4	*2404.00	67.4 AV			1.54 H	317	68.0	-0.6
5	4808.00	48.0 PK	74.0	-26.0	1.05 H	354	40.9	7.1
6	4808.00	16.5 AV	54.0	-37.5	1.05 H	354	9.4	7.1
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	51.6 PK	74.0	-22.4	3.69 V	148	52.3	-0.7
2	2390.00	39.8 AV	54.0	-14.2	3.69 V	148	40.5	-0.7
3	*2404.00	90.8 PK			3.69 V	148	91.4	-0.6
4	*2404.00	59.3 AV			3.69 V	148	59.9	-0.6
5	4808.00	46.8 PK	74.0	-27.2	1.04 V	69	39.7	7.1
6	4808.00	15.3 AV	54.0	-38.7	1.04 V	69	8.2	7.1

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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	99.3 PK			1.04 H	323	99.8	-0.5
2	*2440.00	67.8 AV			1.04 H	323	68.3	-0.5
3	4880.00	49.1 PK	74.0	-24.9	1.50 H	336	41.6	7.5
4	4880.00	17.6 AV	54.0	-36.4	1.50 H	336	10.1	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	91.8 PK			3.18 V	114	92.3	-0.5
2	*2440.00	60.3 AV			3.18 V	114	60.8	-0.5
3	4880.00	47.3 PK	74.0	-26.7	1.48 V	78	39.8	7.5
4	4880.00	15.8 AV	54.0	-38.2	1.48 V	78	8.3	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:

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

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	120 Vac, 60 Hz	Environmental Conditions	25.5 °C, 74.3% RH
Tested By	Jed Wu		

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	98.4 PK			2.60 H	323	98.6	-0.2
2	*2478.00	66.9 AV			2.60 H	323	67.1	-0.2
3	2483.50	54.3 PK	74.0	-19.7	2.60 H	323	54.4	-0.1
4	2483.50	22.8 AV	54.0	-31.2	2.60 H	323	22.9	-0.1
5	4956.00	48.7 PK	74.0	-25.3	2.03 H	8	41.2	7.5
6	4956.00	17.2 AV	54.0	-36.8	2.03 H	8	9.7	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	91.2 PK			2.82 V	124	91.4	-0.2
2	*2478.00	59.7 AV			2.82 V	124	59.9	-0.2
3	2483.50	53.1 PK	74.0	-20.9	2.82 V	124	53.2	-0.1
4	2483.50	21.6 AV	54.0	-32.4	2.82 V	124	21.7	-0.1
5	4956.00	47.0 PK	74.0	-27.0	2.20 V	60	39.5	7.5
6	4956.00	15.5 AV	54.0	-38.5	2.20 V	60	8.0	7.5

Remarks:

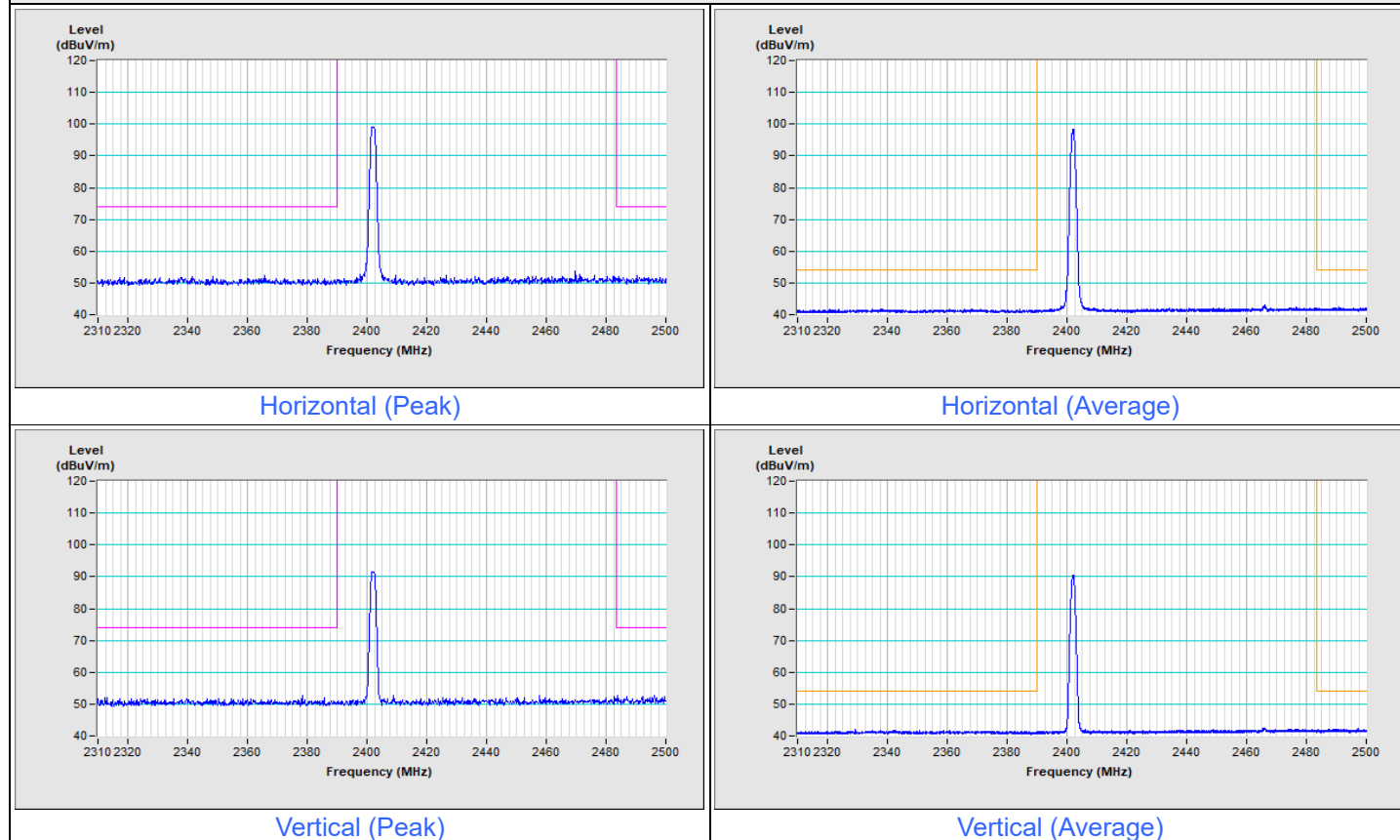
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

$$20 \log(\text{Duty cycle}) = 20 \log(0.187 \text{ ms} / 7.047 \text{ ms}) = -31.5 \text{ dB}$$

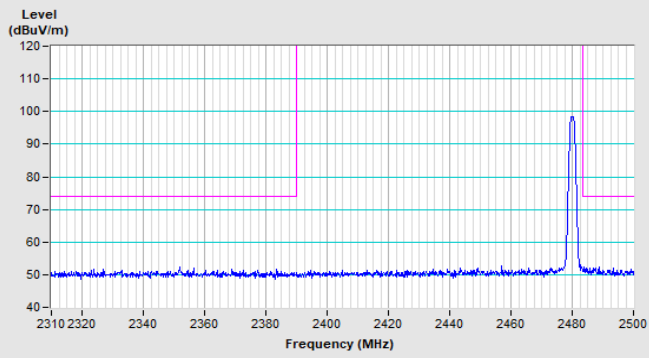
Plot of Band Edge

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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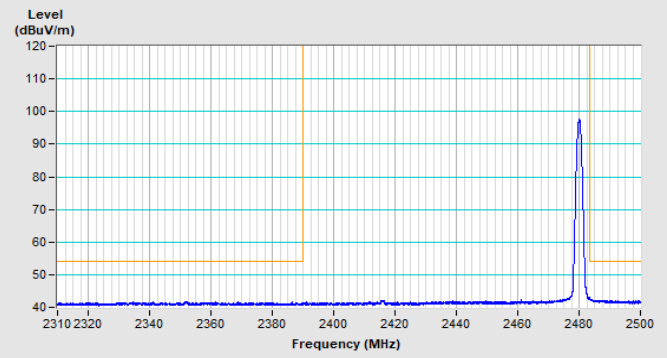
BT-LE 1M Channel 0



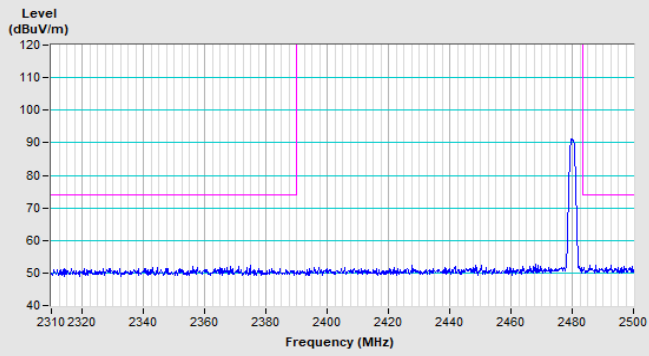
BT-LE 1M Channel 39



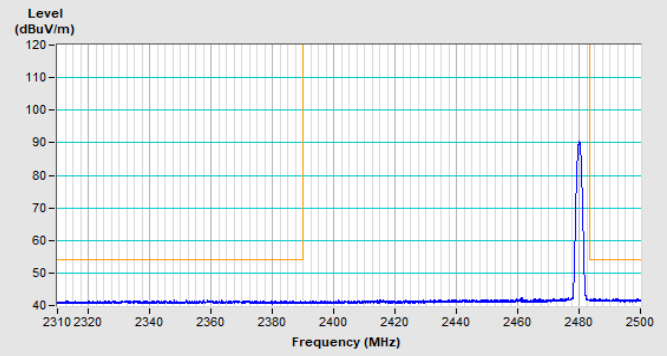
Horizontal (Peak)



Horizontal (Average)



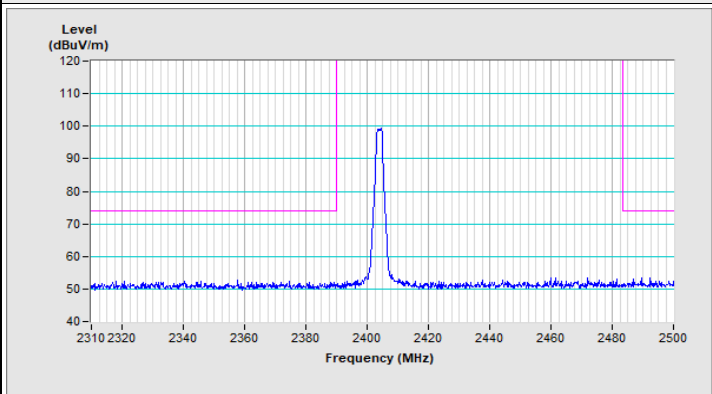
Vertical (Peak)



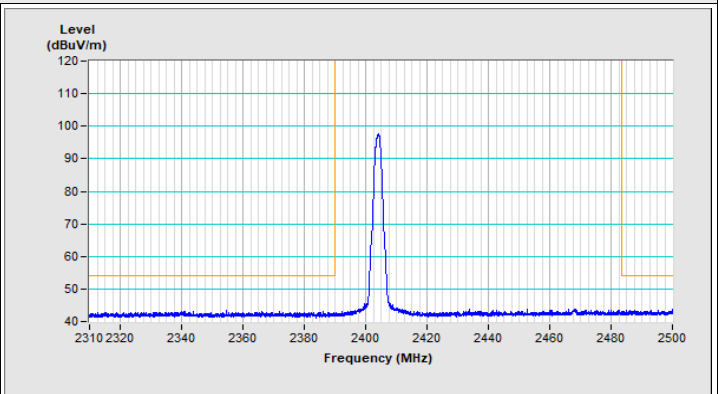
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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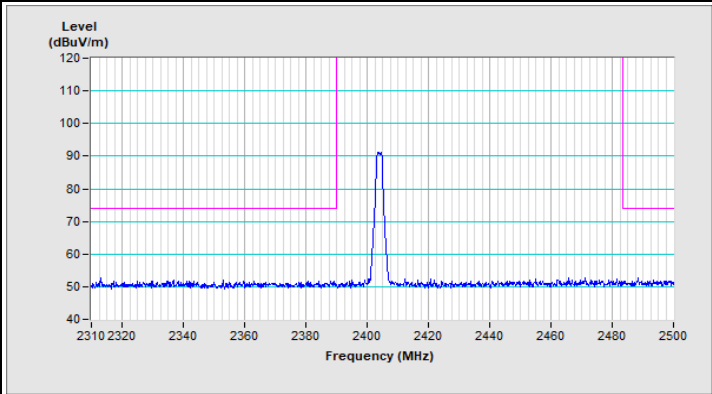
BT-LE 2M Channel 1



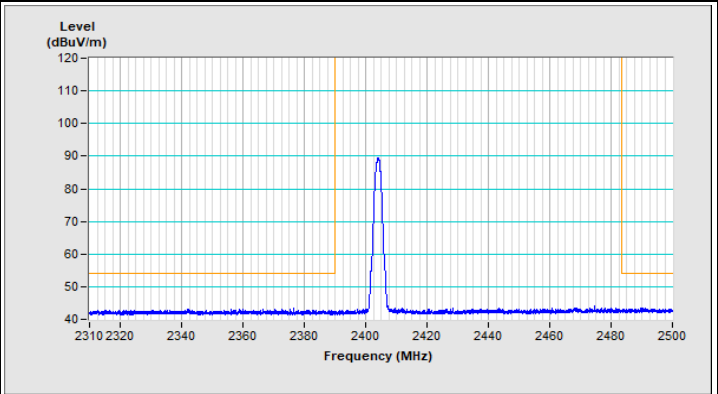
Horizontal (Peak)



Horizontal (Average)

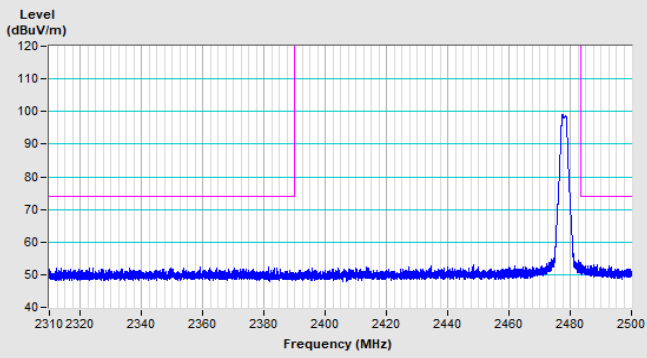


Vertical (Peak)

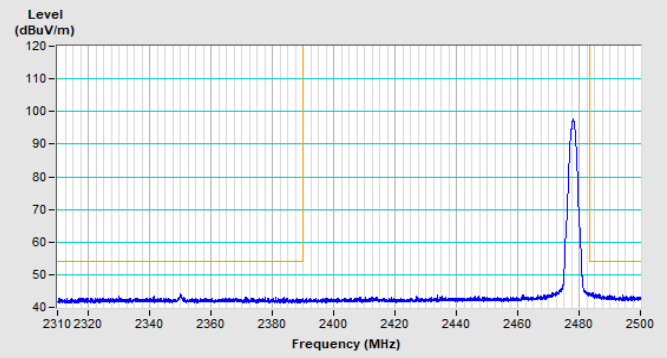


Vertical (Average)

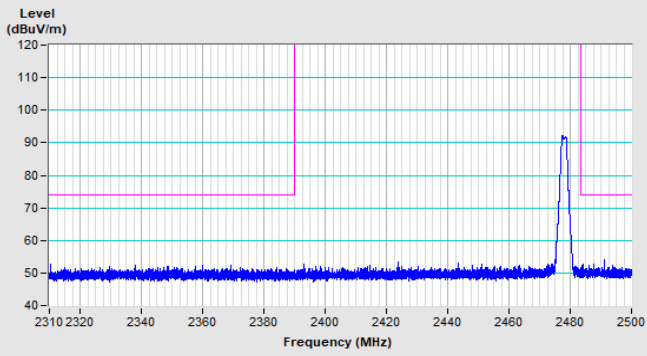
BT-LE 2M Channel 38



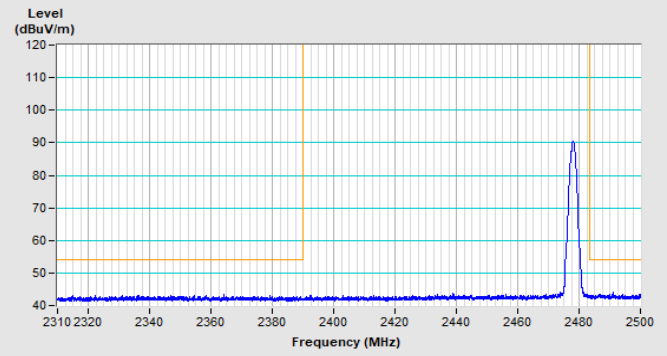
Horizontal (Peak)



Horizontal (Average)



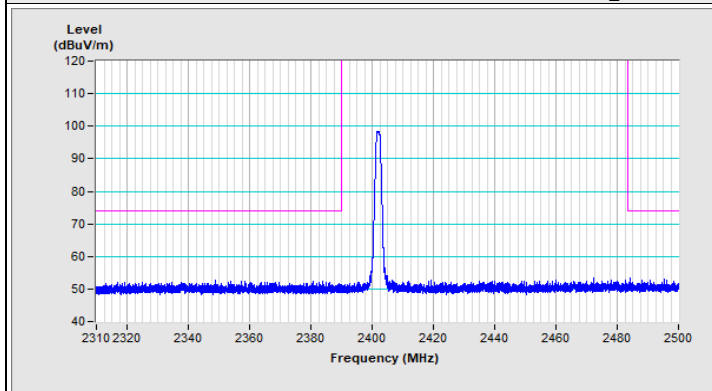
Vertical (Peak)



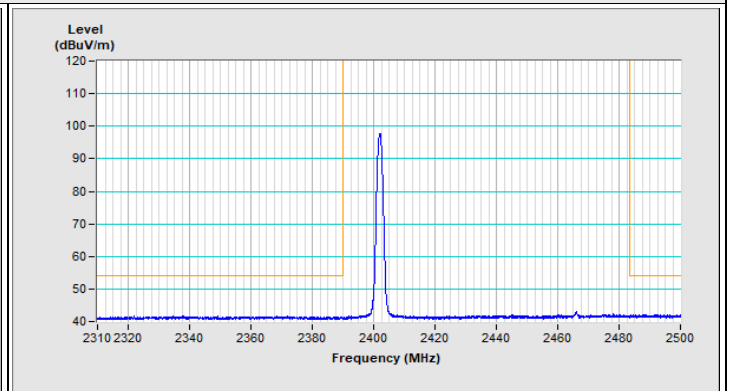
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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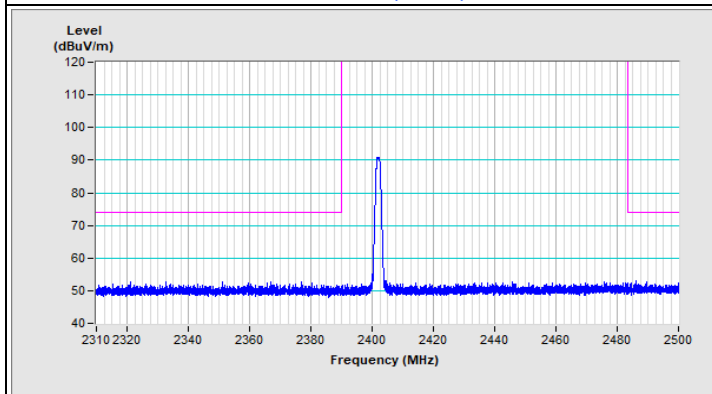
logi bolt 1M Channel 0



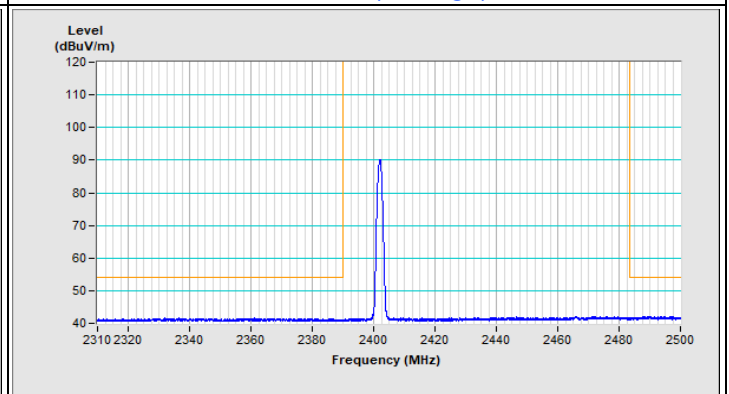
Horizontal (Peak)



Horizontal (Average)

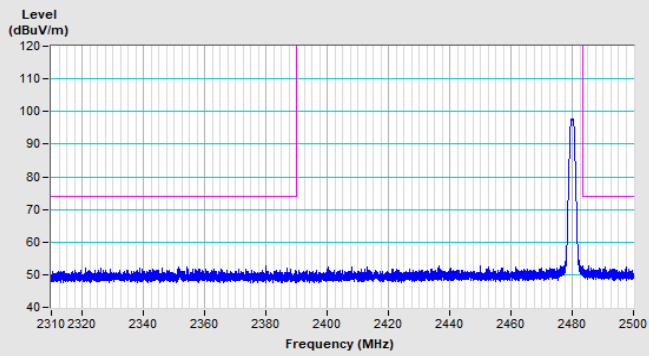


Vertical (Peak)

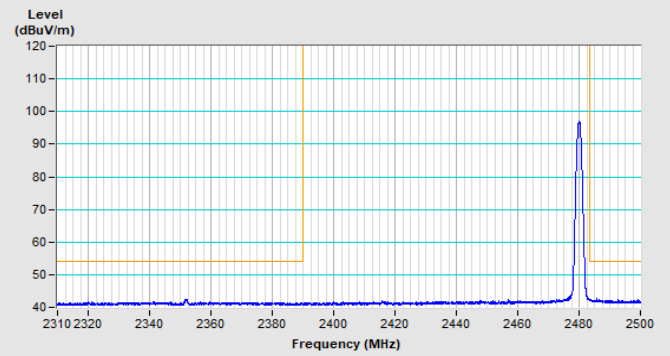


Vertical (Average)

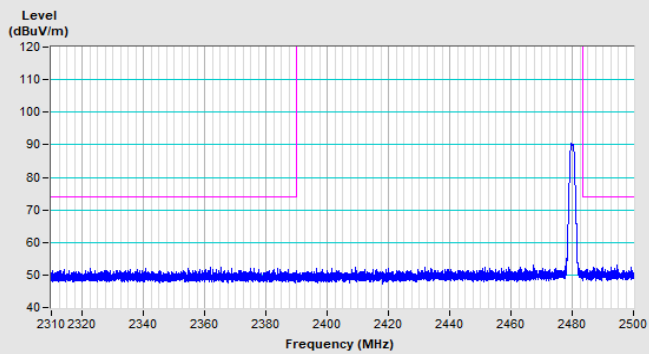
logi bolt 1M Channel 39



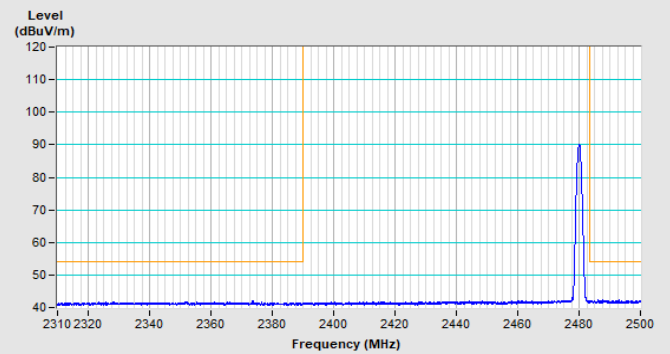
Horizontal (Peak)



Horizontal (Average)



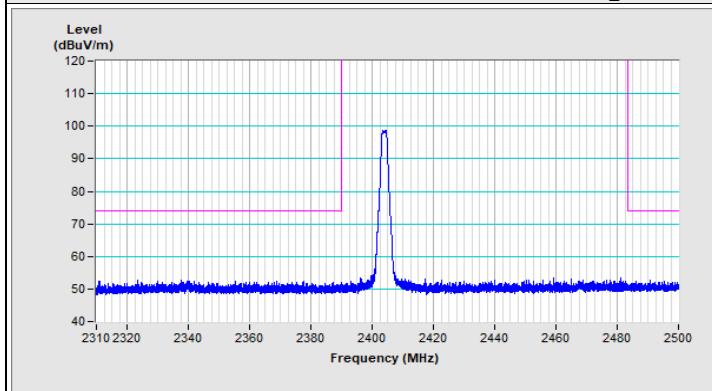
Vertical (Peak)



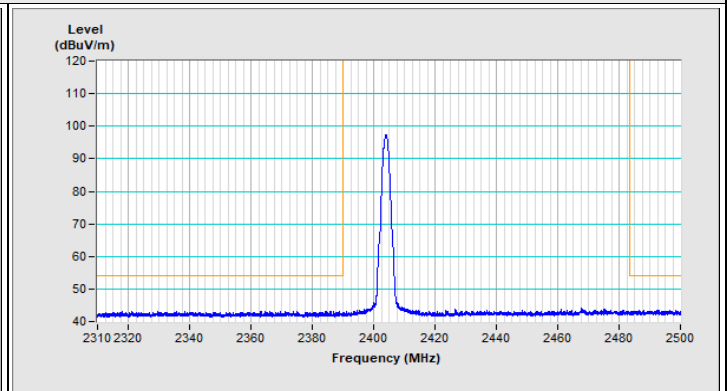
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak
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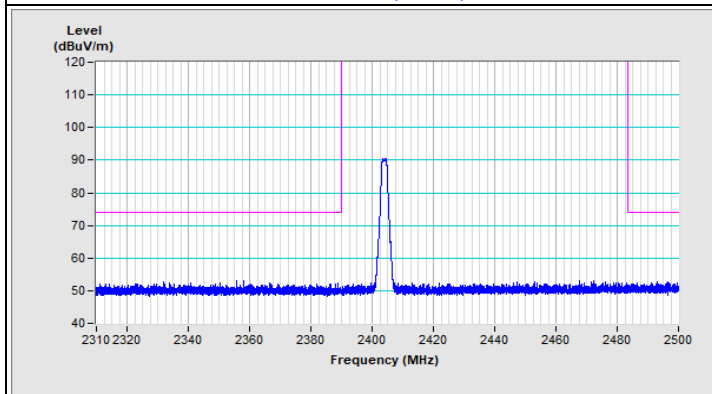
logi bolt 2M Channel 1



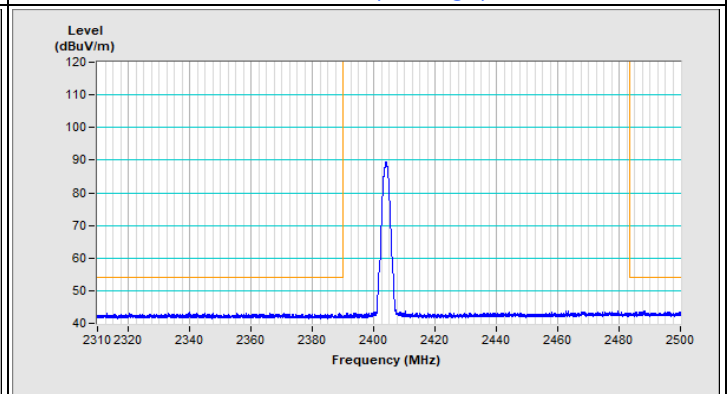
Horizontal (Peak)



Horizontal (Average)

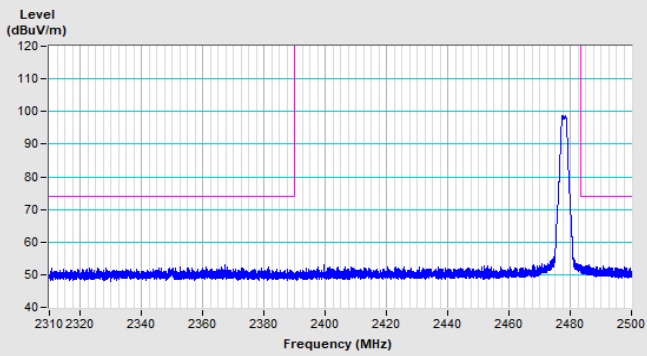


Vertical (Peak)

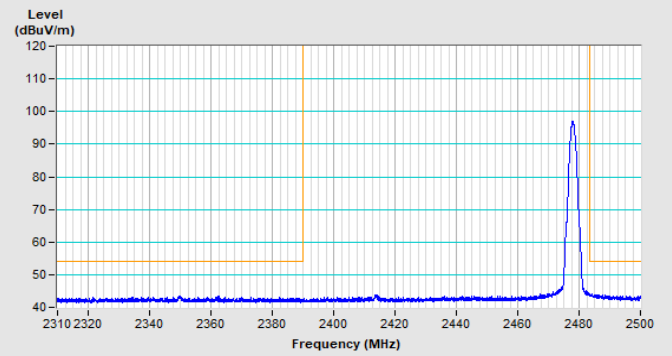


Vertical (Average)

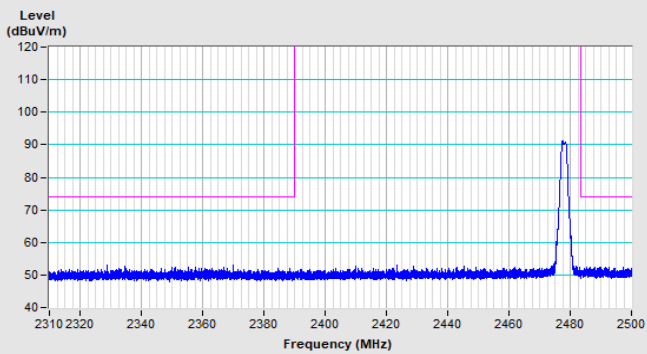
logi bolt 2M Channel 38



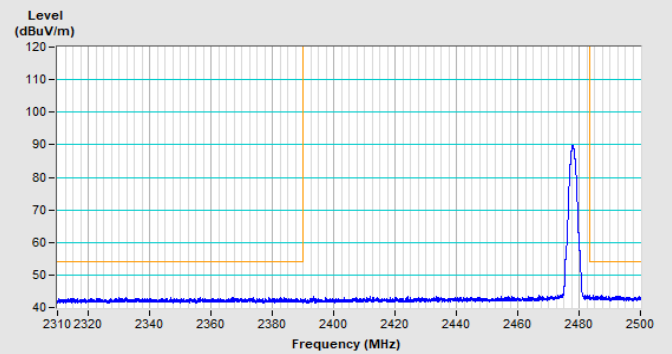
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

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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Fax: 886-3-6668323

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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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