

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBDKG-WTW-P25080074-1

FCC ID: JNZA00198

Product: Wireless Headset

Brand: Logitech G, logitech G, G

Model No.: A00198

Received Date: 2025/8/6

Test Date: 2025/8/18 ~ 2025/8/28

Issued Date: 2025/9/16

Applicant: Logitech Far East Ltd.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 281270 / TW0032

Designation Number: 788550 / TW0003

Approved by: Jeremy Lin , **Date:** 2025/9/16
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Prepared by : Lena Wang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBDKG-WTW-P25080074-1	Original Release	2025/9/16

1 Certificate

Product: Wireless Headset

Brand: Logitech G, logitech G, G

Test Model: A00198

Sample Status: Engineering sample

Applicant: Logitech Far East Ltd.

Test Date: 2025/8/18 ~ 2025/8/28

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 -19.02 dB at 2.32600 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -12.7 dB at 451.95 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -7.5 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	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.371 dB
Power Spectral Density	-	1.017 dB
6 dB Bandwidth	-	206.5 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.88 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.93 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 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 Headset
Brand	Logitech G, logitech G, G
Test Model	A00198
Status of EUT	Engineering sample
Power Supply Rating	3.8 V from battery 5 V from host equipment
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 2 Mbps
Operating Frequency	BT LE 1M: 2.402 GHz ~ 2.48 GHz BT LE 2M: 2.404 GHz ~ 2.478 GHz
Number of Channel	BT LE 1M: 40 BT LE 2M: 37
Output Power	BT LE 1M: 4.977 mW (6.97 dBm) BT LE 2M: 5.058 mW (7.04 dBm)

Note:

1. The EUT uses following accessories.

Item	Brand	Model	Specification
Battery 1	Highpower	521730	Power Rating : 3.8V,290mAh, 1.102Wh
Battery 2	SYNergy	AHB521630HPJT	Power Rating : 3.8V,290mAh, 1.11Wh
Battery 3	Exquisite Power	521730	Power Rating : 3.8V,290mAh, 1.102Wh
USB Cable 1	-	-	Signal Line : 0.6M / 1core
USB Cable 2	-	-	Signal Line : 0.6M / 1core
Dongle (optional)	Logitech G , logitech G, G	A00199	-

2. The EUT may have a lot of colors for marketing requirement.

3. The EUT of LIGHTSPEED and Bluetooth technology cannot transmit simultaneously. Additionally, BT-BR/EDR and BT-LE cannot transmit at the same time, utilizing time-shared coexistence technology.

4. 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	Antenna Type	Connector Type
1.04	2.4~2.4835GHz	Monopole	none(like solder)

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

3.3 Channel List

40 channels are provided for BT-LE 1M:

Channel	Frequency (MHz)						
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

37 channels are provided for BT-LE 2M:

Channel	Frequency (MHz)						
1	2404	11	2424	22	2446	32	2466
2	2406	13	2428	23	2448	33	2468
3	2408	14	2430	24	2450	34	2470
4	2410	15	2432	25	2452	35	2472
5	2412	16	2434	26	2454	36	2474
6	2414	17	2436	27	2456	37	2476
7	2416	18	2438	28	2458	38	2478
8	2418	19	2440	29	2460		
9	2420	20	2442	30	2462		
10	2422	21	2444	31	2464		

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	<p>1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition.</p> <p>2. The USB Cable has the following models:Cable NO.1/ Cable NO.2. Pre-scan these models of USB Cables and find the worst case as a representative test condition.</p> <p>3. The Battery has the following models: Battery NO.1 Highpower/ Battery NO.2 Synergy/ Battery NO.3 Exquisite Power. Pre-scan these models of batteries and find the worst case as a representative test condition.</p> <p>4. EUT has support multiple power sources: USB-C/ Battery. Pre-scan these sources and find the worst case as a representative test condition.</p> <p>5. 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).</p>
Worst Case:	<p>1. EUT the worst case was found when positioned on (X / Y / Z axis):Z axis</p> <p>2. The USB cable worst condition:Cable NO.1</p> <p>3. The battery worst condition: Battery NO.2</p> <p>4. Worst-Case Power Source Conditions for the Following Test Items: Unwanted Emission Test:USB-C AC Conducted Emission Test: USB-C</p>

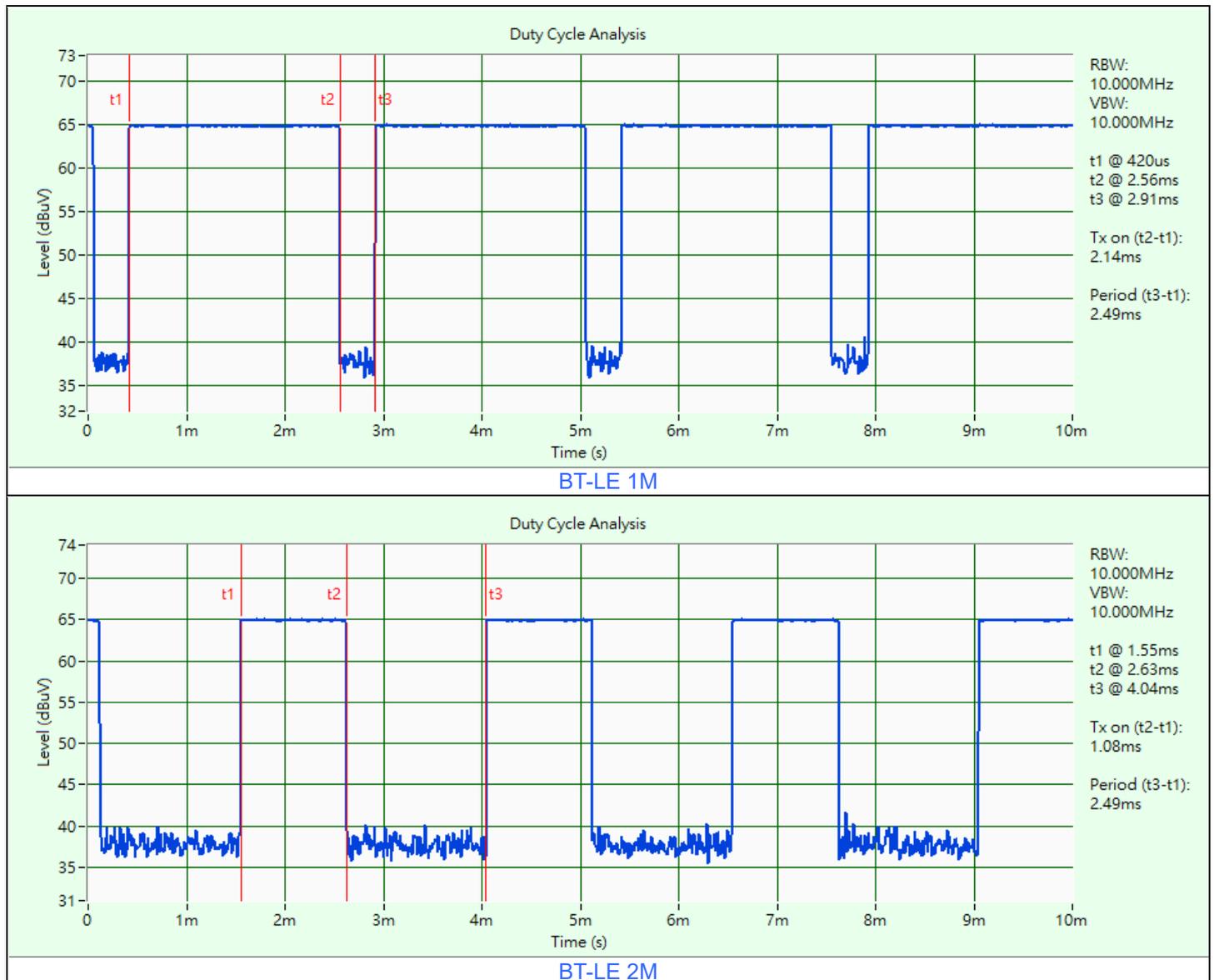
Following channel(s) was (were) selected for the final test as listed below:

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
Power Spectral Density	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
	BT-LE 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
AC Power Conducted Emissions	BT-LE 2M	38	GFSK	2Mb/s
Unwanted Emissions below 1 GHz	BT-LE 2M	38	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

3.5 Duty Cycle of Test Signal

BT-LE 1M: Duty cycle = 2.14 ms / 2.49 ms x 100% = 85.9%, duty factor = 10 * log (1/Duty cycle) = 0.66 dB

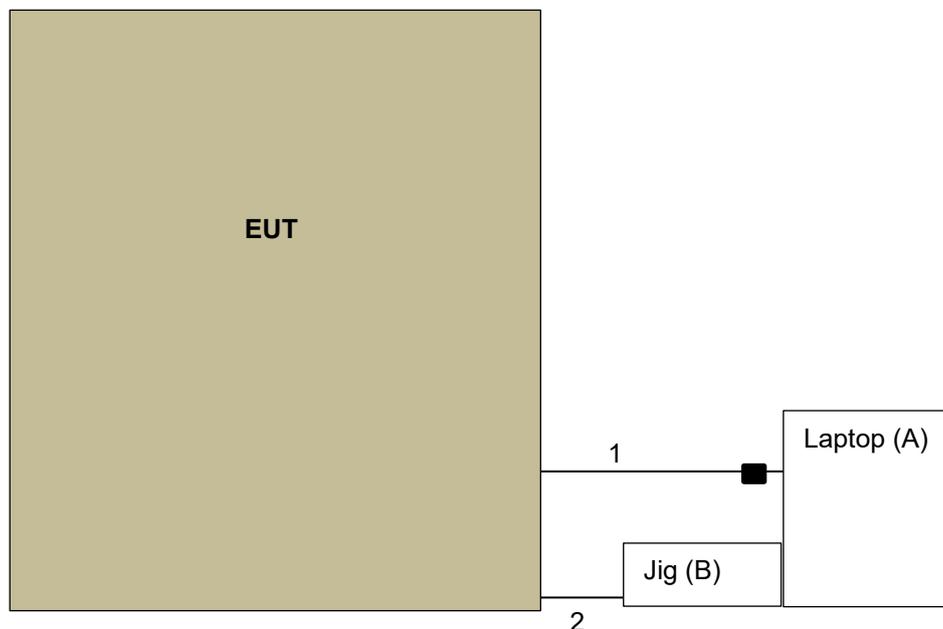
BT-LE 2M: Duty cycle = 1.08 ms / 2.49 ms x 100% = 43.4%, duty factor = 10 * log (1/Duty cycle) = 3.63 dB



3.6 Test Program Used and Operation Descriptions

Controlling software AB157xLab Test Tool-5.2.0.2 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



Under Table

Remote Site

3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Lenovo	20J4 MD A003TW	PF-11H9AK	N/A	Provided by Lab
B	Jig	N/A	N/A	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Cable	1	0.6	Y	1	Supplied by applicant
2	Console Cable	1	0.2	N	0	Supplied by applicant (for RF Setup)

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-10	00800A1K01A-10-01	2025/5/23	2026/5/22
USB Power Sensor Anritsu	MA24408A	12994	2024/12/4	2025/12/3

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/8/28

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
Signal & Spectrum Analyzer R&S	FSV3044	101504	2025/6/18	2026/6/17
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/8/28

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	E1-011279	04	2024/11/28	2025/11/27
	E1-011280	05	2024/11/28	2025/11/27
	E1-011311	09	2024/11/28	2025/11/27
DC LISN Schwarzbeck	NNBM 8126G	8126G-069	2024/11/5	2025/11/4
Diode Pulse Limiter Schwarzbeck	VTSD 9561 F-N	01445	2025/4/27	2026/4/26
EMI Test Receiver R&S	ESCI	100613	2024/11/25	2025/11/24
LISN R&S	ENV216	101826	2025/3/24	2026/3/23
	ESH3-Z5	100311	2024/9/5	2025/9/4
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2025/1/5	2026/1/4
Software BVADT	BVADT_Cond_ V7.4.1.0	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2024/8/28	2025/8/27

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2025/8/21

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFA-515BSN	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-1214	2024/10/15	2025/10/14
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Loop Antenna TESEQ	HLA 6121	64095	2024/10/17	2025/10/16
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier EMCI	EMC330N	980798	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMCCFD400-NM-NM- 500	201248	2025/1/14	2026/1/13
	EMCCFD400-NM-NM- 3000	201249	2025/1/14	2026/1/13
	EMCCFD400-NM-NM- 9000	201251(with PAD)	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208676	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 9.
2. Tested Date: 2025/8/21

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFA-515BSN	N/A	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Horn Antenna RFSPIN	DRH18-E	210104A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier Agilent	83017A	MY39501357	2025/6/11	2026/6/10
Preamplifier EMCI	EMC184045SE	980788	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210103	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201241	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201244	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208676	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 9.
2. Tested Date: 2025/8/18 ~ 2025/8/19

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

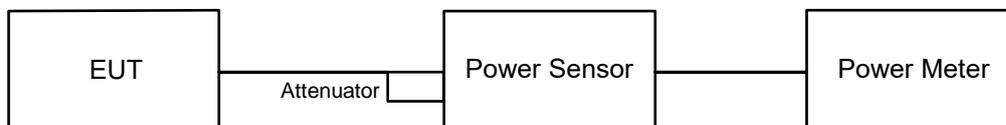
Notes:

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.

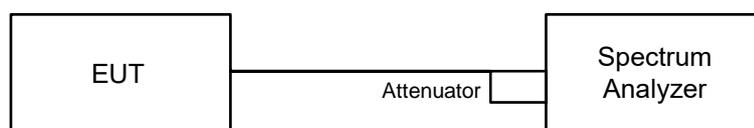
The power meter video bandwidth is greater than or equal to the DTS bandwidth and use a fast responding diode detector

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

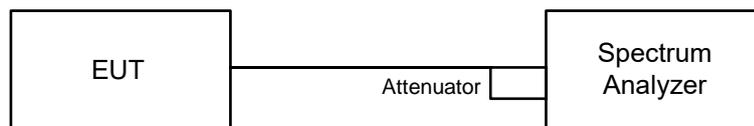


6.2.2 Test Procedure

- a. Set analyzer center frequency to DTS channel center frequency.
- b. Set the span to 1.5 times the DTS bandwidth.
- c. Set the RBW to: 3 kHz.
- d. Set the VBW $\geq 3 \times$ RBW.
- e. Detector = peak.
- f. Sweep time = auto couple.
- g. Trace mode = max hold.
- h. Allow trace to fully stabilize.
- i. Use the peak marker function to determine the maximum amplitude level within the RBW.

6.3 6 dB Bandwidth

6.3.1 Test Setup

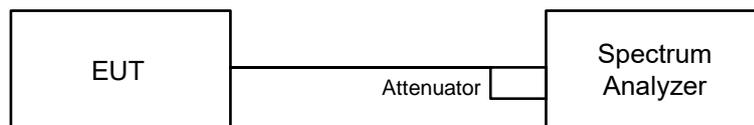


6.3.2 Test Procedure

- Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Trace mode = max-hold.
- Sweep = No faster than coupled (auto) time.
- Allow the trace to stabilize.
- 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 $\geq [3 \times \text{RBW}]$.
- 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 PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level

MEASUREMENT PROCEDURE OOB

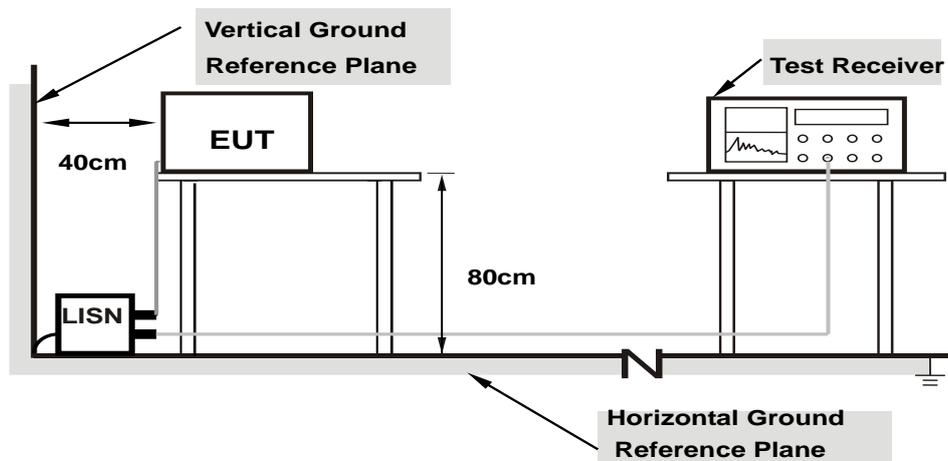
- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- Set the RBW = 100 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. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

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

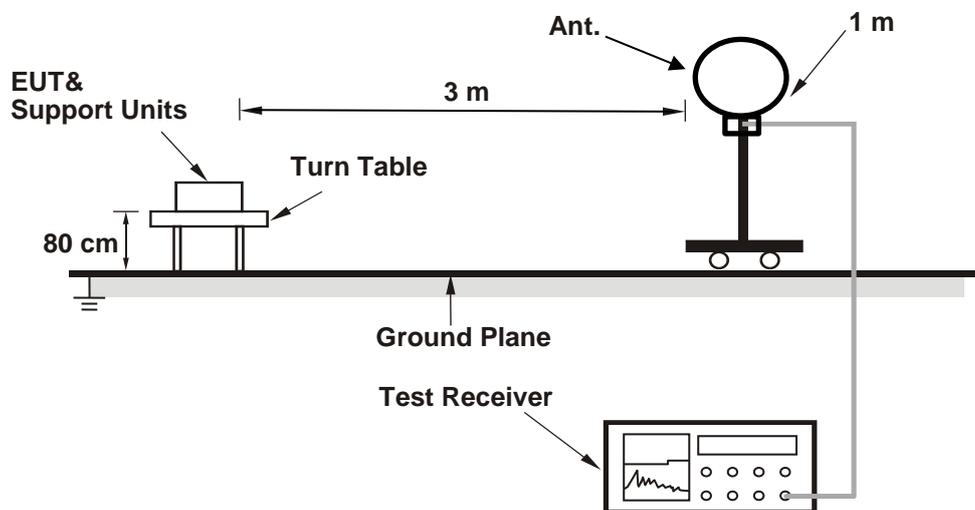
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The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

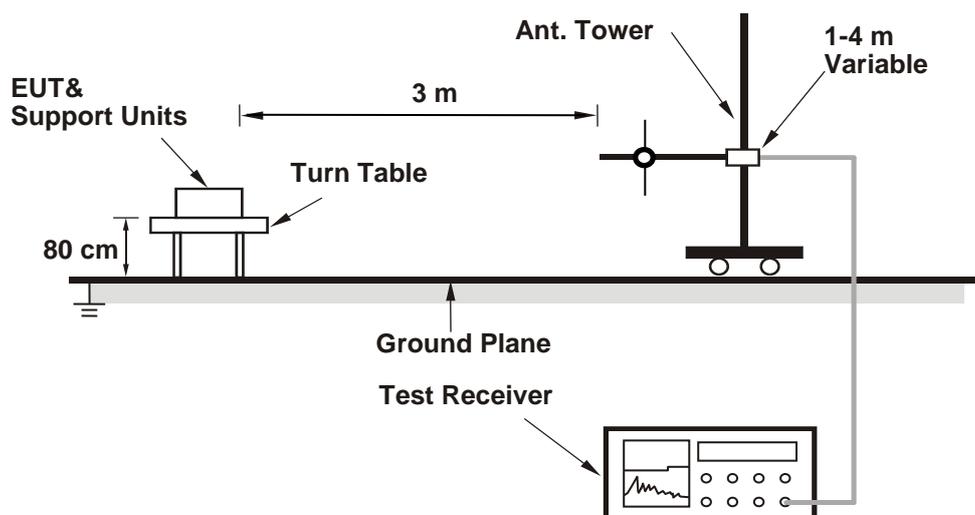
6.6 Unwanted Emissions below 1 GHz

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, 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

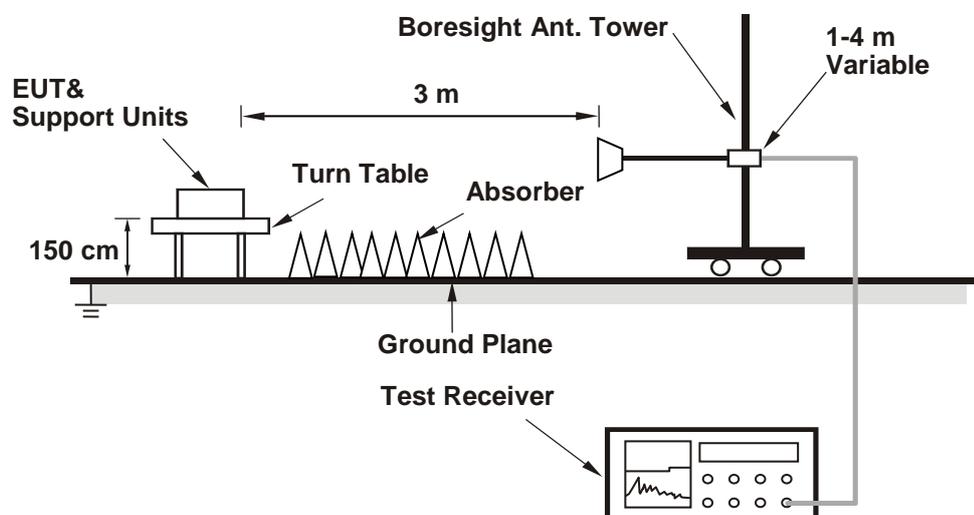
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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.
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, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	3.8 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
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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	4.819	6.83	30	Pass
19	2440	4.92	6.92	30	Pass
39	2480	4.977	6.97	30	Pass

Note: The antenna gain is 1.04 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	4.864	6.87	30	Pass
19	2440	4.932	6.93	30	Pass
38	2478	5.058	7.04	30	Pass

Note: The antenna gain is 1.04 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	4.529	6.56
19	2440	4.624	6.65
39	2480	4.667	6.69

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	4.55	6.58
19	2440	4.592	6.62
38	2478	4.742	6.76

7.2 Power Spectral Density

Input Power:	3.8 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
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BT-LE 1M

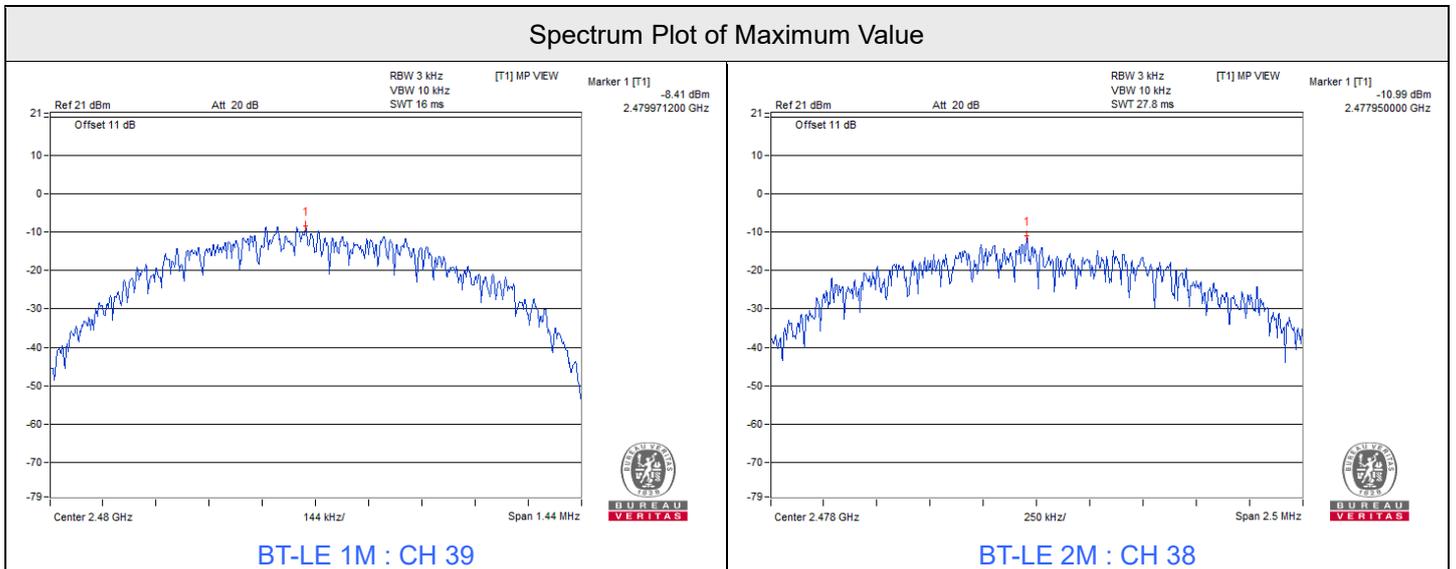
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	-8.75	8	Pass
19	2440	-8.46	8	Pass
39	2480	-8.41	8	Pass

Note: The antenna gain is 1.04 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	-11.08	8	Pass
19	2440	-11.02	8	Pass
38	2478	-10.99	8	Pass

Note: The antenna gain is 1.04 dBi \leq 6 dBi, so the power density limit shall not be reduced.



7.3 6 dB Bandwidth

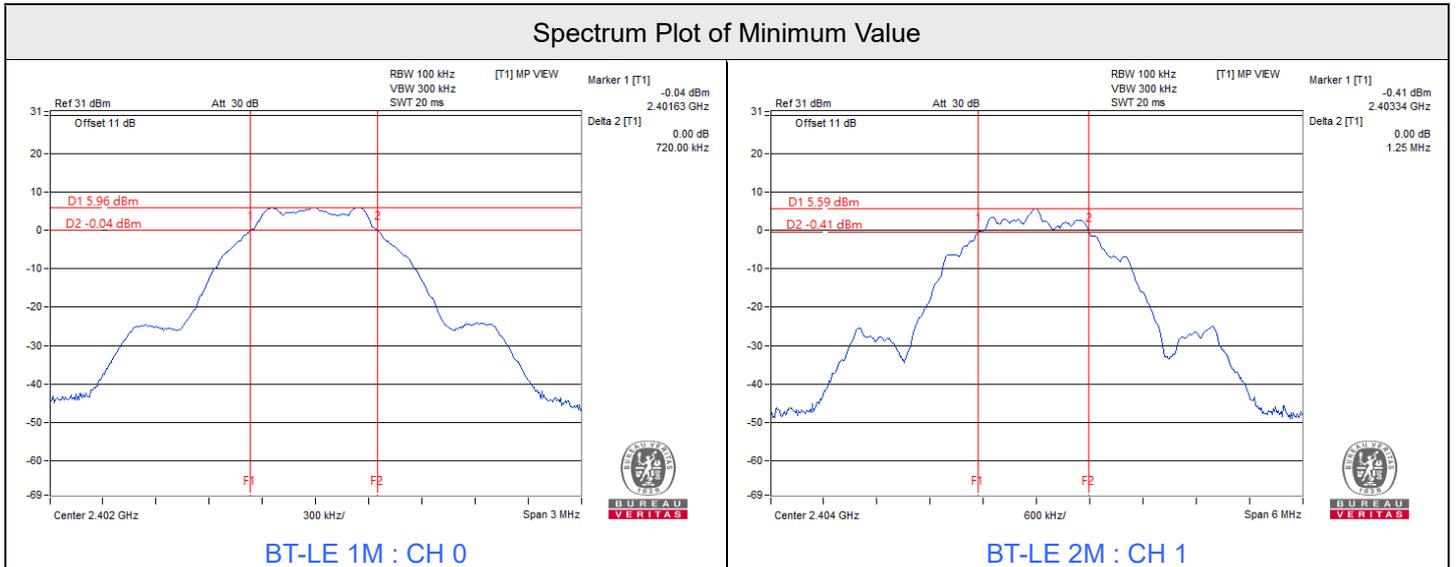
Input Power:	3.8 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
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BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.72	0.5	Pass
19	2440	0.72	0.5	Pass
39	2480	0.72	0.5	Pass

BT-LE 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.25	0.5	Pass
19	2440	1.26	0.5	Pass
38	2478	1.25	0.5	Pass

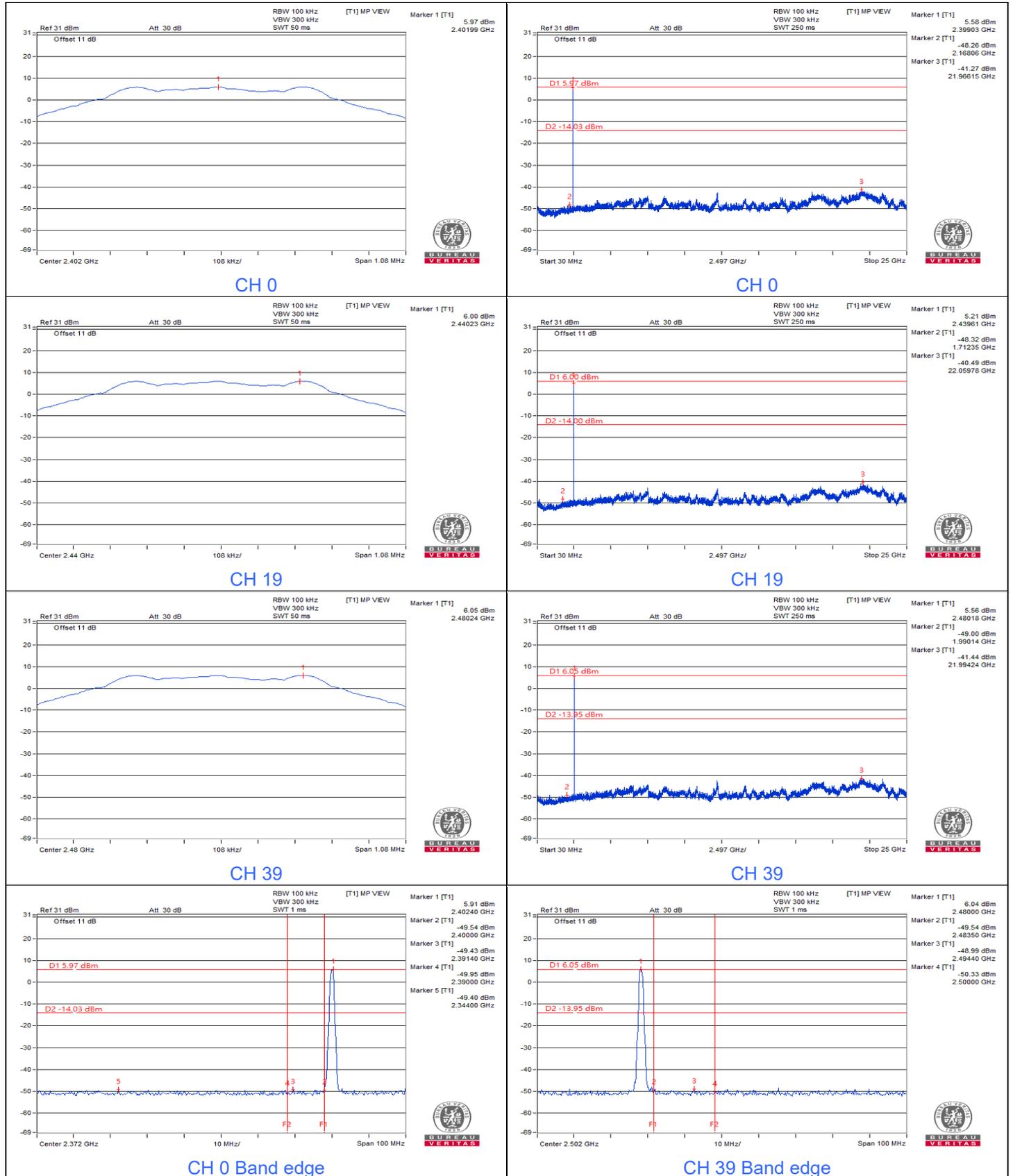




7.4 Conducted Out of Band Emissions

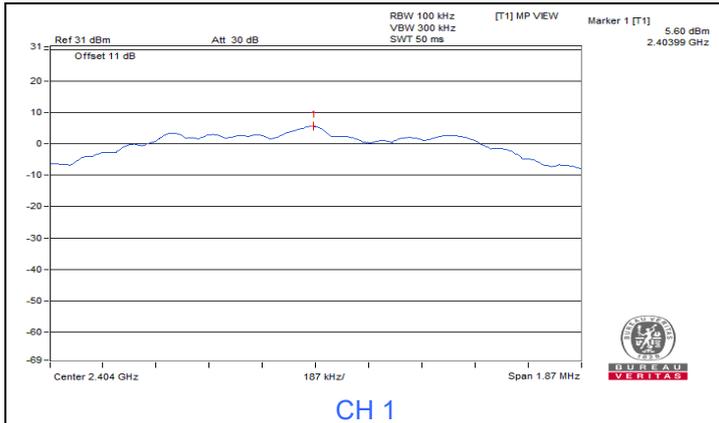
Input Power:	3.8 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
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BT-LE 1M

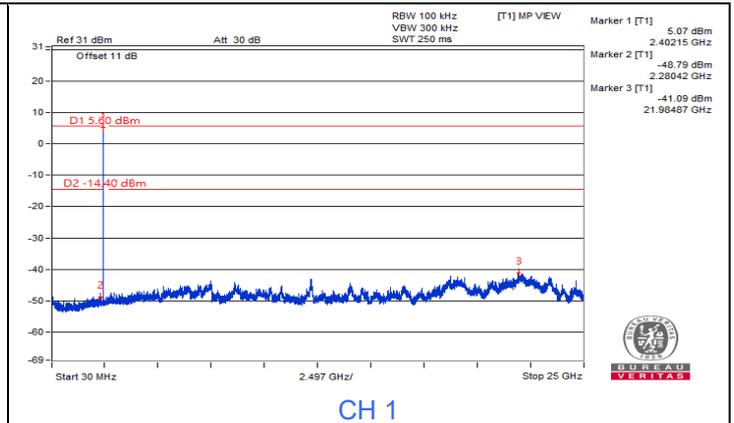




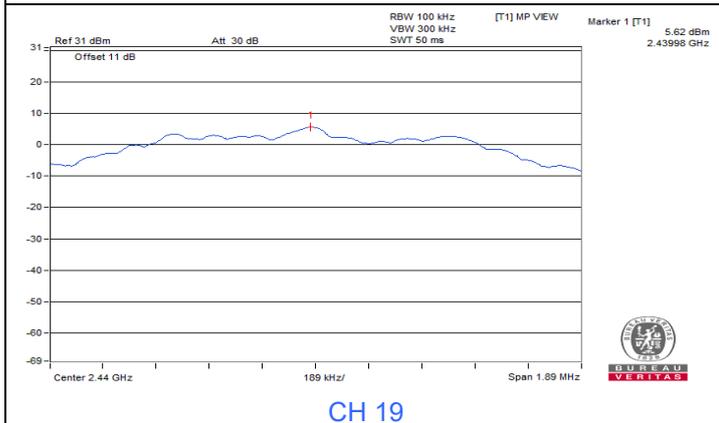
BT-LE 2M



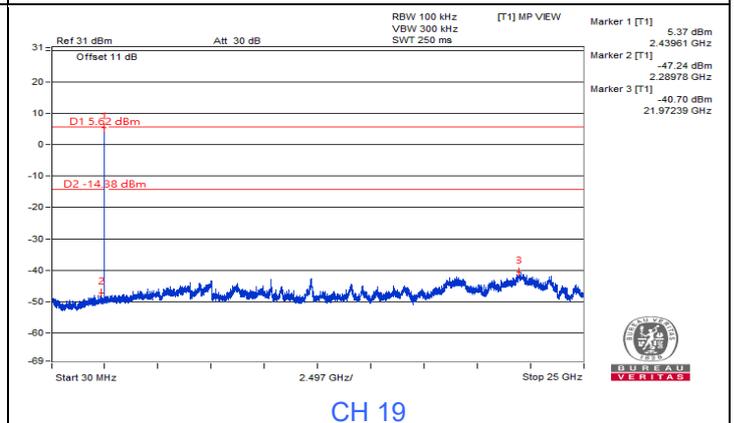
CH 1



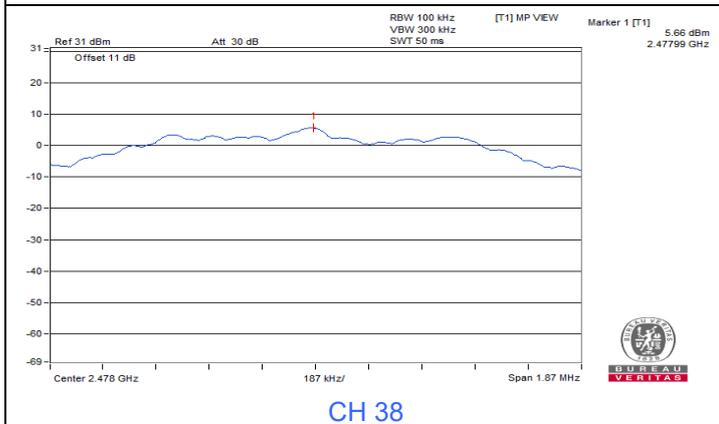
CH 1



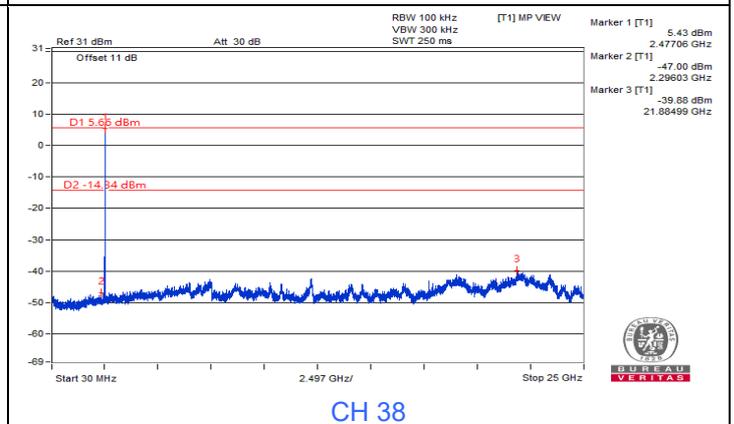
CH 19



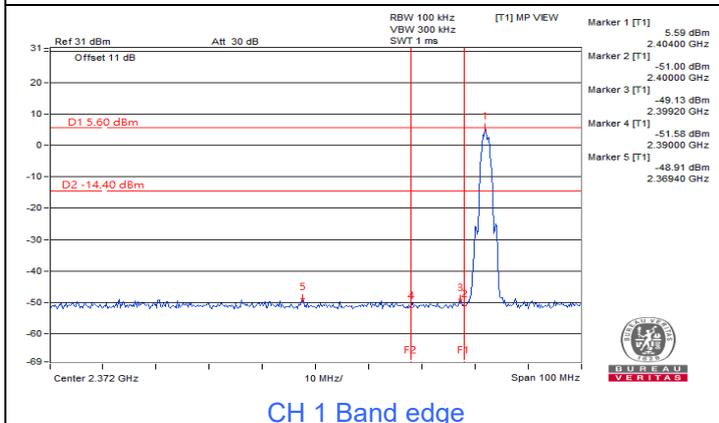
CH 19



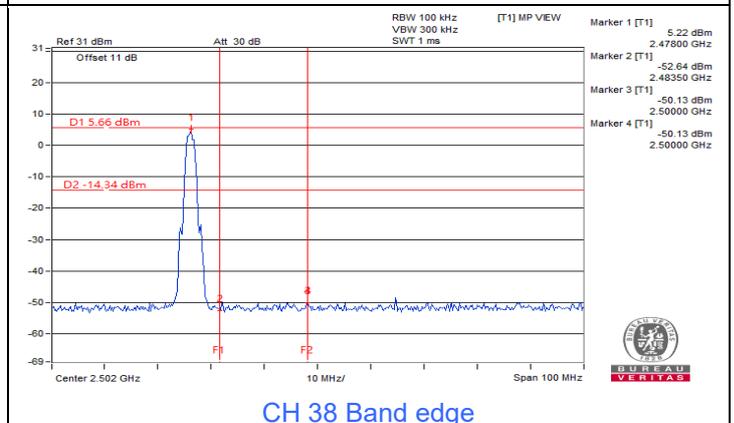
CH 38



CH 38



CH 1 Band edge



CH 38 Band edge

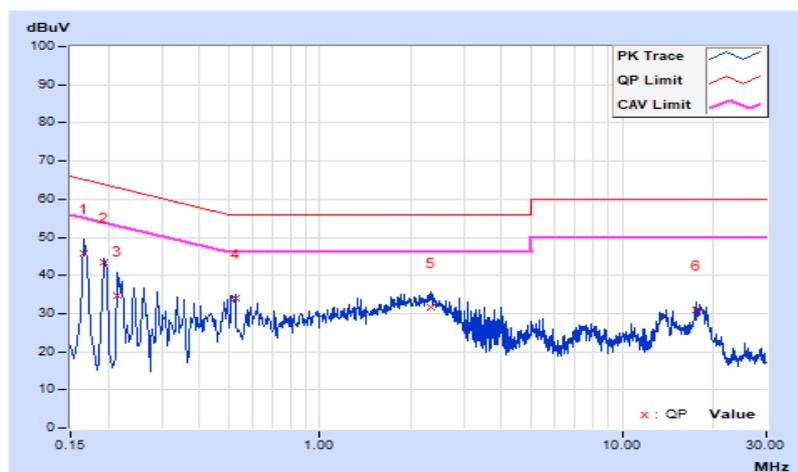
7.5 AC Power Conducted Emissions

RF Mode	BT-LE 2M	Channel	CH 38 : 2478 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	Greg Lin		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16600	9.69	36.22	19.97	45.91	29.66	65.16	55.16	-19.25	-25.50
2	0.19400	9.71	33.59	19.28	43.30	28.99	63.86	53.86	-20.56	-24.87
3	0.21400	9.71	25.12	17.46	34.83	27.17	63.05	53.05	-28.22	-25.88
4	0.52600	9.73	24.41	11.91	34.14	21.64	56.00	46.00	-21.86	-24.36
5	2.32600	9.80	22.00	17.18	31.80	26.98	56.00	46.00	-24.20	-19.02
6	17.51800	10.05	20.77	10.63	30.82	20.68	60.00	50.00	-29.18	-29.32

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

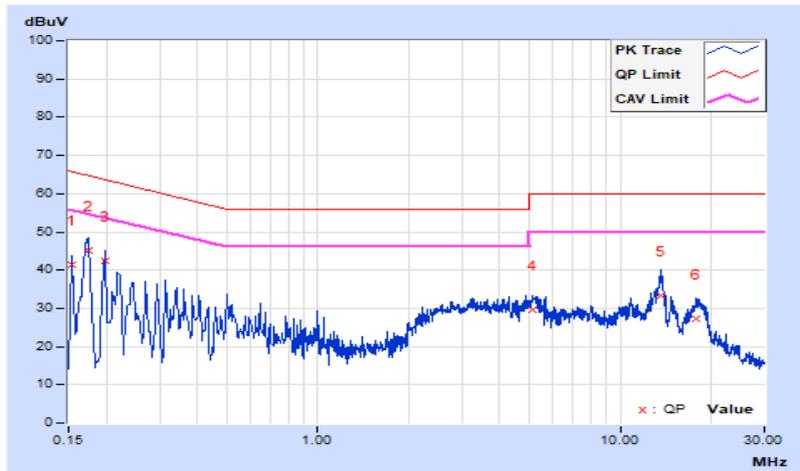


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Greg Lin		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.66	31.70	9.99	41.36	19.65	65.78	55.78	-24.42	-36.13
2	0.17384	9.66	35.42	19.17	45.08	28.83	64.77	54.77	-19.69	-25.94
3	0.19800	9.66	32.70	20.23	42.36	29.89	63.69	53.69	-21.33	-23.80
4	5.09800	9.89	19.64	11.50	29.53	21.39	60.00	50.00	-30.47	-28.61
5	13.64200	10.10	23.24	16.29	33.34	26.39	60.00	50.00	-26.66	-23.61
6	17.76200	10.22	17.00	11.93	27.22	22.15	60.00	50.00	-32.78	-27.85

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



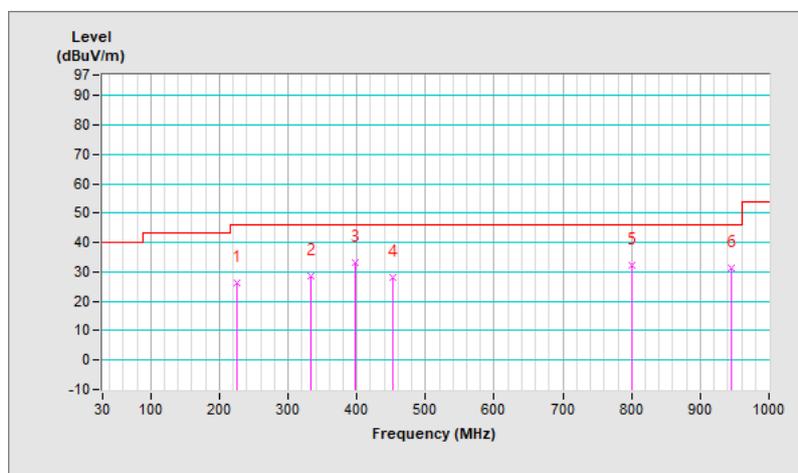
7.6 Unwanted Emissions below 1 GHz

RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	225.94	26.3 PK	46.0	-19.7	1.00 H	91	42.2	-15.9
2	333.61	28.4 QP	46.0	-17.6	1.25 H	193	39.6	-11.2
3	398.60	33.0 QP	46.0	-13.0	1.50 H	202	42.8	-9.8
4	451.95	28.2 QP	46.0	-17.8	1.25 H	326	36.3	-8.1
5	800.18	32.4 QP	46.0	-13.6	1.50 H	318	34.3	-1.9
6	945.68	31.2 QP	46.0	-14.8	1.00 H	9	31.0	0.2

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.

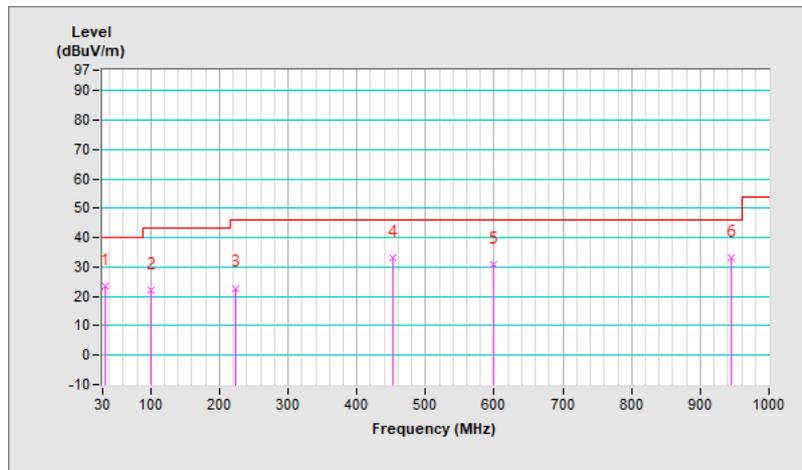


RF Mode	BT-LE 2M	Channel	CH 38 : 2478 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	PK: RB=120 kHz, DET=Peak QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.88	23.4 PK	40.0	-16.6	1.25 V	57	37.4	-14.0
2	99.84	22.3 QP	43.5	-21.2	1.00 V	342	39.6	-17.3
3	223.03	22.9 QP	46.0	-23.1	1.50 V	317	39.0	-16.1
4	451.95	33.3 QP	46.0	-12.7	1.00 V	167	41.4	-8.1
5	599.39	30.7 QP	46.0	-15.3	1.25 V	149	35.6	-4.9
6	944.71	33.2 QP	46.0	-12.8	1.00 V	13	33.0	0.2

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=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.5 PK	74.0	-15.5	1.24 H	96	25.9	32.6
2	2390.00	45.2 AV	54.0	-8.8	1.24 H	96	12.6	32.6
3	*2402.00	100.5 PK			1.24 H	96	67.9	32.6
4	*2402.00	99.4 AV			1.24 H	96	66.8	32.6
5	4804.00	49.6 PK	74.0	-24.4	2.13 H	117	45.2	4.4
6	4804.00	36.5 AV	54.0	-17.5	2.13 H	117	32.1	4.4
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	59.0 PK	74.0	-15.0	1.36 V	141	26.4	32.6
2	2390.00	45.5 AV	54.0	-8.5	1.36 V	141	12.9	32.6
3	*2402.00	101.7 PK			1.36 V	141	69.1	32.6
4	*2402.00	100.4 AV			1.36 V	141	67.8	32.6
5	4804.00	49.8 PK	74.0	-24.2	1.75 V	53	45.4	4.4
6	4804.00	36.8 AV	54.0	-17.2	1.75 V	53	32.4	4.4

Remarks:

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



RF Mode	BT-LE 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=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	102.5 PK			1.26 H	93	69.9	32.6
2	*2440.00	101.4 AV			1.26 H	93	68.8	32.6
3	4880.00	50.0 PK	74.0	-24.0	2.19 H	114	45.5	4.5
4	4880.00	36.8 AV	54.0	-17.2	2.19 H	114	32.3	4.5

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	103.7 PK			1.37 V	143	71.1	32.6
2	*2440.00	102.4 AV			1.37 V	143	69.8	32.6
3	4880.00	50.3 PK	74.0	-23.7	1.79 V	58	45.8	4.5
4	4880.00	37.2 AV	54.0	-16.8	1.79 V	58	32.7	4.5

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.

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=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	103.0 PK			1.22 H	90	70.2	32.8
2	*2480.00	101.9 AV			1.22 H	90	69.1	32.8
3	2483.50	59.5 PK	74.0	-14.5	1.22 H	90	26.7	32.8
4	2483.50	46.4 AV	54.0	-7.6	1.22 H	90	13.6	32.8
5	4960.00	50.5 PK	74.0	-23.5	2.15 H	124	45.7	4.8
6	4960.00	37.3 AV	54.0	-16.7	2.15 H	124	32.5	4.8

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	104.3 PK			1.40 V	136	71.5	32.8
2	*2480.00	103.1 AV			1.40 V	136	70.3	32.8
3	2483.50	60.0 PK	74.0	-14.0	1.40 V	136	27.2	32.8
4	2483.50	46.5 AV	54.0	-7.5	1.40 V	136	13.7	32.8
5	4960.00	51.0 PK	74.0	-23.0	1.82 V	61	46.2	4.8
6	4960.00	37.7 AV	54.0	-16.3	1.82 V	61	32.9	4.8

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.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.



RF Mode	BT-LE 2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.0 PK	74.0	-15.0	1.27 H	96	26.4	32.6
2	2390.00	45.2 AV	54.0	-8.8	1.27 H	96	12.6	32.6
3	*2404.00	101.1 PK			1.27 H	96	68.5	32.6
4	*2404.00	98.1 AV			1.27 H	96	65.5	32.6
5	4808.00	49.6 PK	74.0	-24.4	2.16 H	112	45.2	4.4
6	4808.00	36.6 AV	54.0	-17.4	2.16 H	112	32.2	4.4
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	59.4 PK	74.0	-14.6	1.08 V	134	26.8	32.6
2	2390.00	45.5 AV	54.0	-8.5	1.08 V	134	12.9	32.6
3	*2404.00	102.4 PK			1.08 V	134	69.8	32.6
4	*2404.00	99.5 AV			1.08 V	134	66.9	32.6
5	4808.00	49.9 PK	74.0	-24.1	1.82 V	59	45.5	4.4
6	4808.00	36.8 AV	54.0	-17.2	1.82 V	59	32.4	4.4

Remarks:

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



RF Mode	BT-LE 2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	101.6 PK			1.16 H	104	69.0	32.6
2	*2440.00	98.7 AV			1.16 H	104	66.1	32.6
3	4880.00	50.0 PK	74.0	-24.0	2.19 H	108	45.5	4.5
4	4880.00	36.8 AV	54.0	-17.2	2.19 H	108	32.3	4.5

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	102.9 PK			1.29 V	140	70.3	32.6
2	*2440.00	100.0 AV			1.29 V	140	67.4	32.6
3	4880.00	50.2 PK	74.0	-23.8	1.82 V	62	45.7	4.5
4	4880.00	37.2 AV	54.0	-16.8	1.82 V	62	32.7	4.5

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.



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=1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 68% RH
Tested By	Greg Lin		

Antenna Polarity & Test Distance : Horizontal at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2478.00	102.6 PK			1.19 H	96	69.8	32.8
2	*2478.00	99.8 AV			1.19 H	96	67.0	32.8
3	2483.50	60.2 PK	74.0	-13.8	1.19 H	96	27.4	32.8
4	2483.50	46.4 AV	54.0	-7.6	1.19 H	96	13.6	32.8
5	4956.00	50.3 PK	74.0	-23.7	2.12 H	118	45.5	4.8
6	4956.00	37.2 AV	54.0	-16.8	2.12 H	118	32.4	4.8

Antenna Polarity & Test Distance : Vertical at 3 m

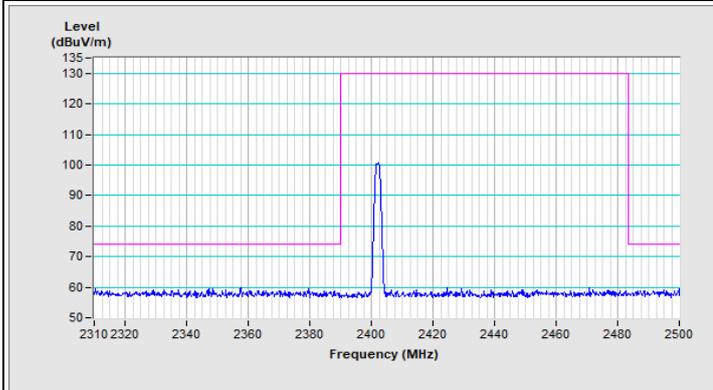
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1	*2478.00	104.0 PK			1.22 V	136	71.2	32.8
2	*2478.00	101.1 AV			1.22 V	136	68.3	32.8
3	2483.50	60.4 PK	74.0	-13.6	1.22 V	136	27.6	32.8
4	2483.50	46.5 AV	54.0	-7.5	1.22 V	136	13.7	32.8
5	4956.00	50.6 PK	74.0	-23.4	1.77 V	58	45.8	4.8
6	4956.00	37.6 AV	54.0	-16.4	1.77 V	58	32.8	4.8

Remarks:

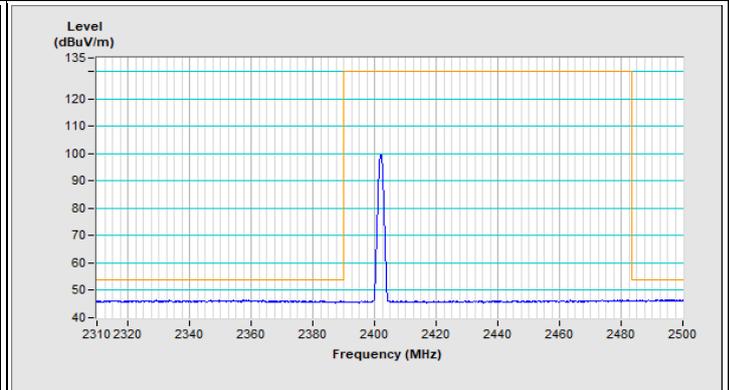
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

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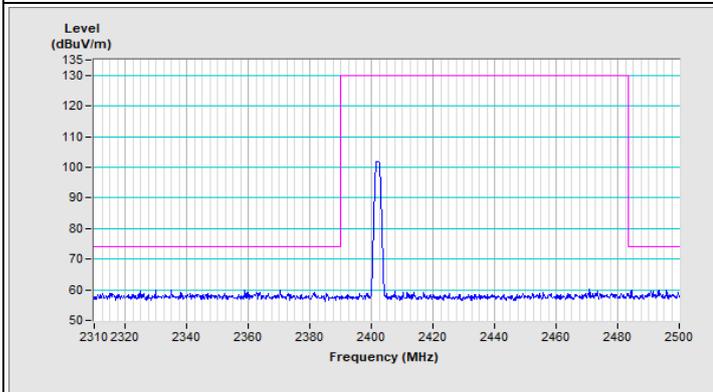
BT-LE 1M Channel 0



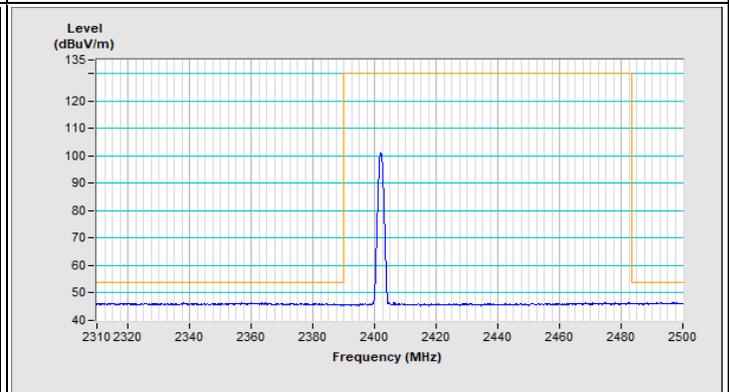
Horizontal (Peak)



Horizontal (Average)

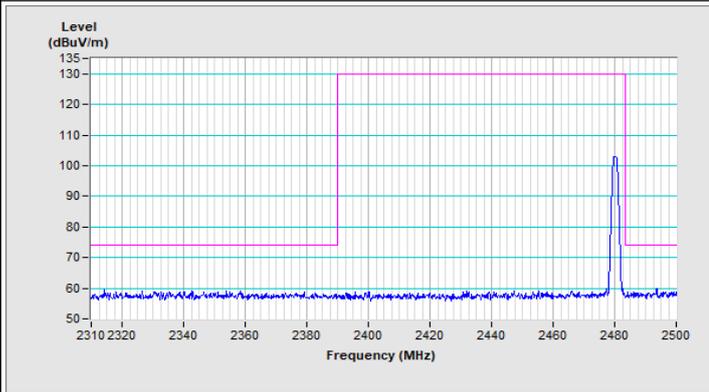


Vertical (Peak)

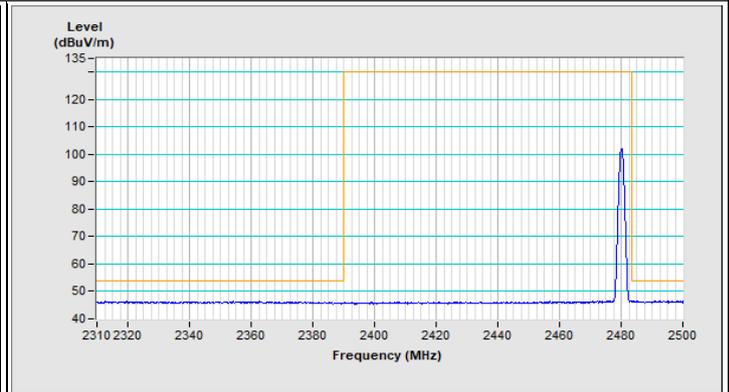


Vertical (Average)

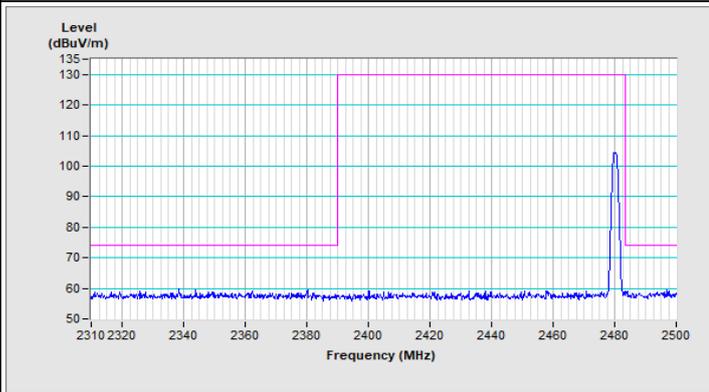
BT-LE 1M Channel 39



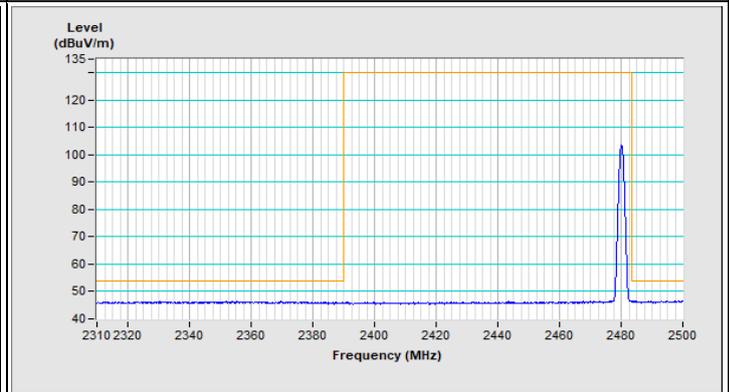
Horizontal (Peak)



Horizontal (Average)

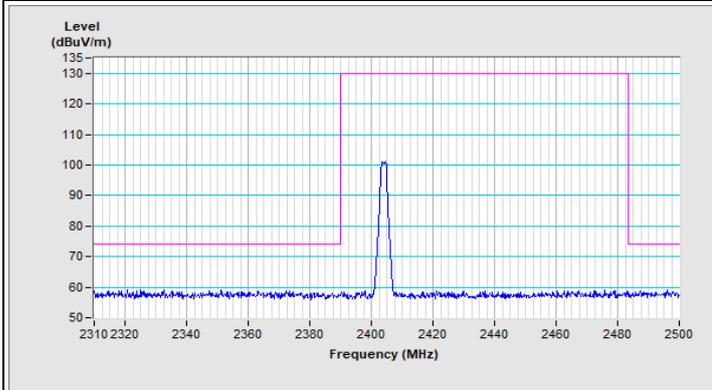


Vertical (Peak)

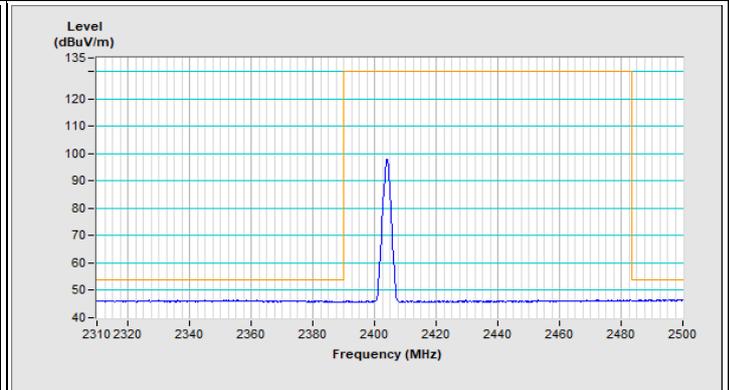


Vertical (Average)

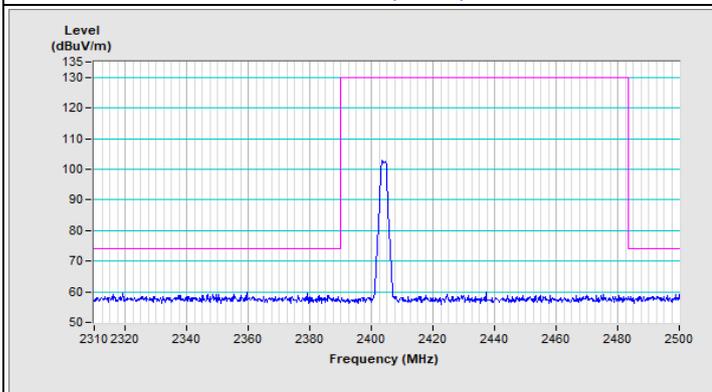
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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BT-LE 2M Channel 1

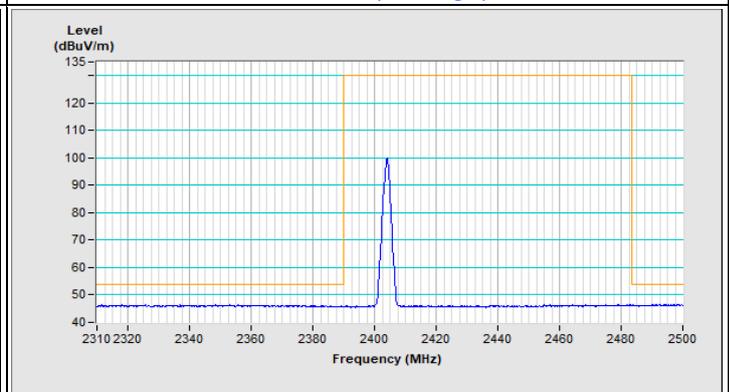
Horizontal (Peak)



Horizontal (Average)

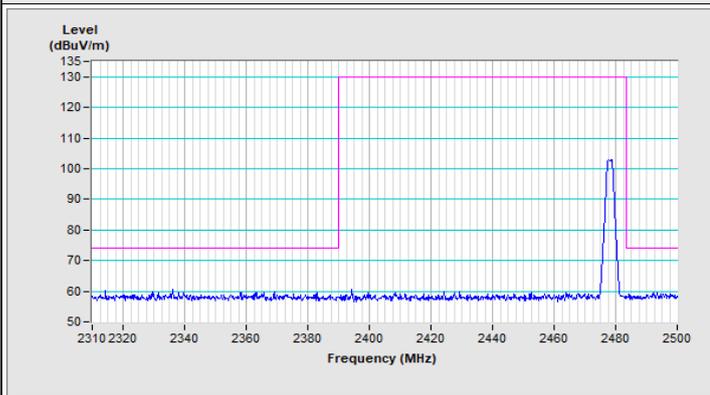


Vertical (Peak)

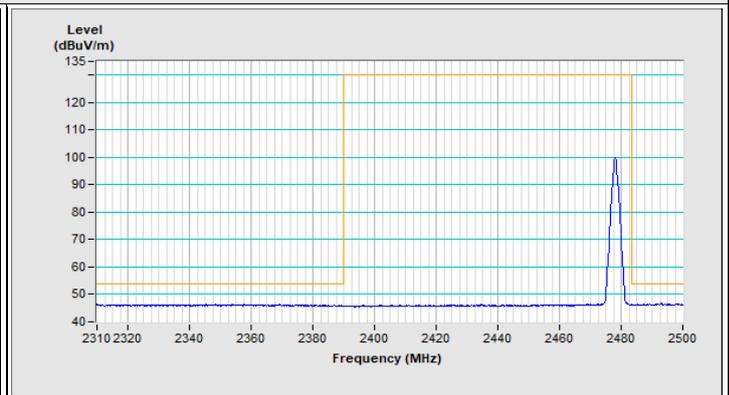


Vertical (Average)

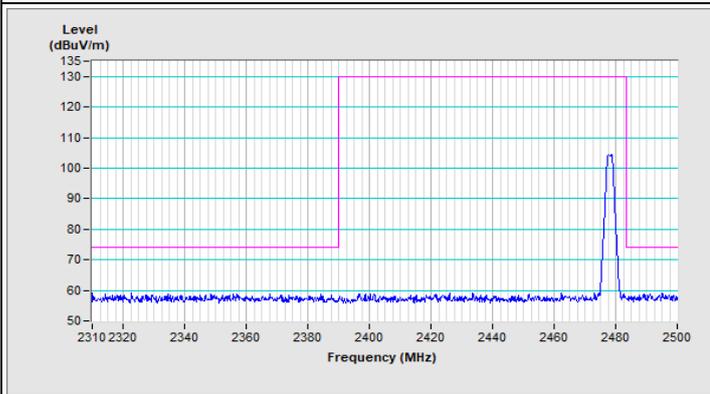
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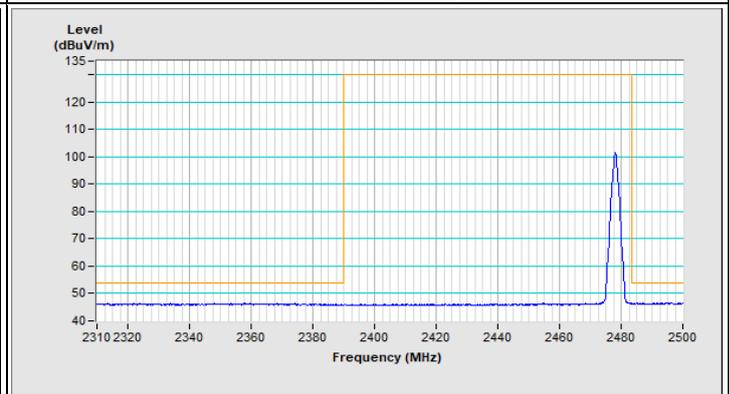
Horizontal (Peak)



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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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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