

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFBHKO-WTW-P26060237-1

FCC ID: EMJ-BHS2705

Product: Wireless Headset

Brand: DELL

Model No.: HS2705

Received Date: 2026/6/11

Test Date: 2026/7/7 ~ 2026/7/17

Issued Date: 2026/8/19

Applicant: PRIMAX ELECTRONICS LTD.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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FCC Registration / 198487 / TW2021

Designation Number:

Approved by: Jeremy Lin, **Date:** 2026/8/19
Jeremy Lin / Project Engineer

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Prepared by : Annie Chang / Senior Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBHKO-WTW-P26060237-1	Original release.	2026/8/19

1 Certificate

Product: Wireless Headset

Brand: DELL

Test Model: HS2705

Sample Status: Engineering sample

Applicant: PRIMAX ELECTRONICS LTD.

Test Date: 2026/7/7 ~ 2026/7/17

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 -11.86 dB at 0.16956 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -9.7 dB at 47.31 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -9.1 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Parameter	Specification	Uncertainty (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	960 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	3.1 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	3.24 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.76 dB
	30 MHz ~ 1 GHz	5.74 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	4.65 dB
	6 GHz ~ 18 GHz	5.26 dB
	18 GHz ~ 40 GHz	4.9 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	DELL
Test Model	HS2705
Status of EUT	Engineering sample
Power Supply Rating	5Vdc from USB 3.82Vdc from battery
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 2 Mbps
Operating Frequency	2.402 GHz ~ 2.48 GHz
Number of Channel	40
Output Power	5.559 mW (7.45 dBm)

Note:

1. The EUT uses following accessories.

Item	Specification
USB-C Cable	Shielded without core, 1.5m
USB-C to 3.5mm Audio Cable	Non-shielded without core, 1.5m
USB A-C Dongle	-

2. 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
1.74	PIFA	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:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	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. 2. EUT has internal Battery(AEC)/EUT with internal Battery(Synergy). Pre-scan these modes and find the worst case as a representative test condition. 3. For Unwanted Emission above 1 GHz has Mode A / Mode B/ Mode D of power supply. Pre-scan these modes and find the worst case as a representative test condition 4. For Unwanted Emission below 1 GHz has Mode A / Mode B / Mode C / Mode D of power supply. Pre-scan these modes and find the worst case as a representative test condition
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: X-axis. 2. EUT's internal Battery Worst Condition: Battery(AEC). 3. For Unwanted Emission above 1 GHz Worst Condition: Mode A. 4. For Unwanted Emission below 1 GHz Worst Condition: Mode A / Mode C.

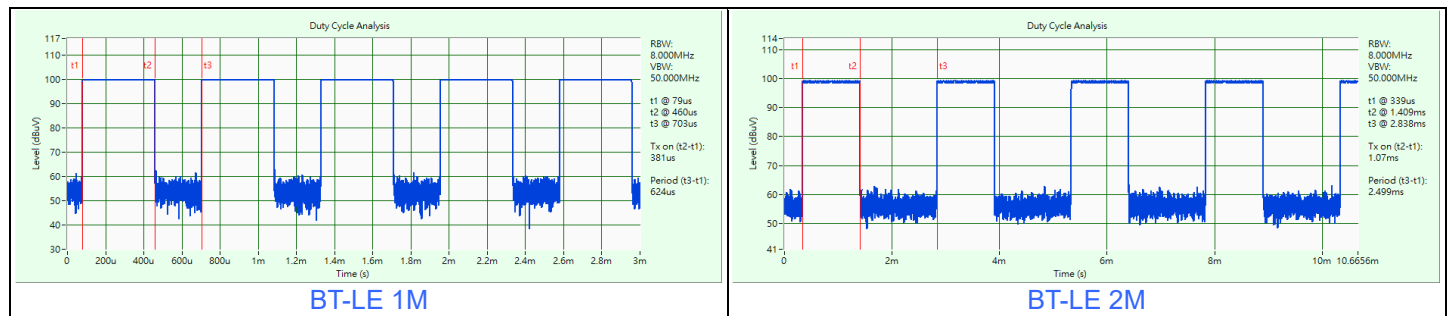
Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
Power Spectral Density	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
6 dB Bandwidth / Conducted Out of Band Emissions	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
AC Power Conducted Emissions	A	BT-LE 1M	0	GFSK	1Mb/s
	B	BT-LE 1M	0	GFSK	1Mb/s
	C	BT-LE 1M	-	-	-
Unwanted Emissions below 1 GHz	A	BT-LE 1M	0	GFSK	1Mb/s
	C	BT-LE 1M	-	-	-
Unwanted Emissions above 1 GHz	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
EUT Configure Mode:	A	EUT with USB C to C cable(Laptop)			
	B	EUT with USB C to C cable(Adapter)			
	C	EUT with USB C to Audio cable(Laptop)			
	D	EUT with internal Battery and without USB cable			
Note: EUT with USB C to Audio cable (Laptop) is the wired mode.					

3.5 Duty Cycle of Test Signal

BT-LE 1M: Duty cycle = $0.381 \text{ ms} / 0.624 \text{ ms} \times 100\% = 61.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.14 \text{ dB}$

BT-LE 2M: Duty cycle = $1.07 \text{ ms} / 2.499 \text{ ms} \times 100\% = 42.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 3.68 \text{ dB}$

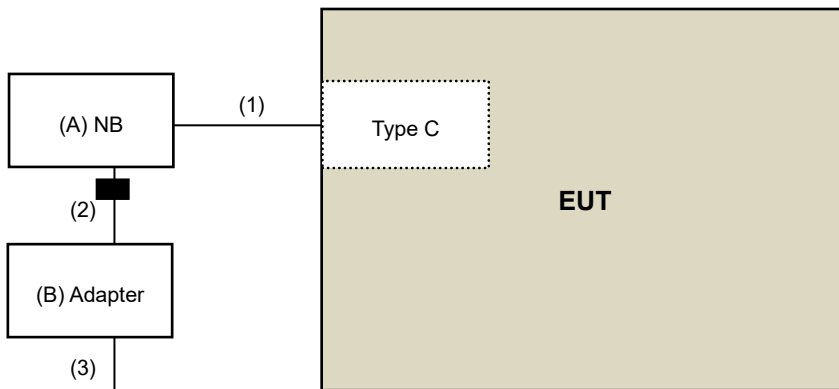


3.6 Test Program Used and Operation Descriptions

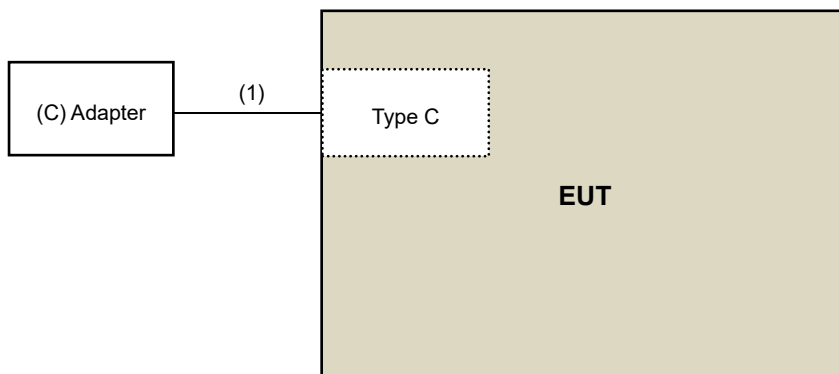
Controlling software (AB159x_Airoha_Tool_Kit(ATK)_v5.8.0.5_exe_v5.8.0.5) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

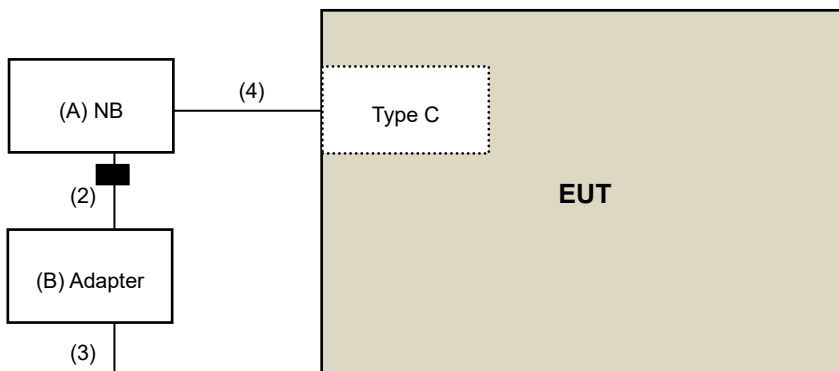
Mode A



Mode B



Mode C



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	NB	Dell	P90F	N/A	N/A	Provided by Lab
B	Adapter	Dell	LA65NS2-01	N/A	N/A	Provided by Lab
C	Adapter	Belkin	WCB007dq	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB-C Cable	1	1.5	Y	0	Supplied by applicant
2	DC Cable	1	1.9	N	1	Provided by Lab
3	AC Cable	1	0.8	N	0	Provided by Lab
4	USB-C to 3.5mm Audio Cable	1	1.5	N	0	Supplied by applicant

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2026/5/21	2027/5/20
Pulse Power Sensor Anritsu	MA2411B	0738404	2026/5/28	2027/5/27
RF Power Meter Anritsu	ML2495A	0842014	2026/5/27	2027/5/26
Wideband Power Sensor Keysight	N1923A	MY58020002	2026/1/26	2027/1/25

Notes:

1. The test was performed in LK - Oven (Linkou).
2. Tested Date: 2026/7/11

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-20	00800A1K01A-20-02	2026/5/21	2027/5/20
PXA Signal Analyzer Keysight	N9030A	MY54490260	2025/7/24	2026/7/23
Signal Analyzer R&S	FSV40	101544	2026/7/2	2027/7/1
Software	BVADT_RF_Test_Software V8.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in LK - Oven (Linkou).
2. Tested Date: 2026/7/11

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	E1-01-305	2026/2/12	2027/2/11
		E1-01-306	2026/4/14	2027/4/13
DC LISN R&S	ESH3-Z6	100219	2026/7/9	2027/7/8
		844950/018	2026/7/9	2027/7/8
Diode Pulse Limiter Schwarzbeck	VTSD 9561 F-N	01631	2026/4/30	2027/4/29
EMI Test Receiver R&S	EPL 1000	101064	2026/4/23	2027/4/22
		101065	2026/5/4	2027/5/3
	ESR3	102412	2025/12/23	2026/12/22
High Pass Filter EMCI	150HPF-ME	113009	2026/4/30	2027/4/29
		114005	2026/4/30	2027/4/29
		114006	2026/4/30	2027/4/29
High Voltage Probe Schwarzbeck	TK9420	00982	2025/12/3	2026/12/2
LISN R&S	ENV216	101195	2026/7/9	2027/7/8
		101196	2026/3/3	2027/3/2
		101197	2026/7/3	2027/7/2
LISN Schwarzbeck	NNLK 8121	8121-731	2026/6/5	2027/6/4
		8121-00759	2025/8/12	2026/8/11
		8121-808	2026/4/23	2027/4/22
	NNLK 8129	00624	2025/10/9	2026/10/8
		8129229	2025/10/14	2026/10/13
	NSLK 8128	8128-244	2025/11/11	2026/11/10
Passive Voltage Probe R&S	ESH2-Z3	100073	2026/6/3	2027/6/2
RF Coaxial Cable PEWC	5D-FB	Cable-CO5-01	2026/1/16	2027/1/15
Software BVADT	Cond_V7.4.1.0	N/A	N/A	N/A

Notes:

1. The test was performed in Linkou Conduction 5.
2. Tested Date: 2026/7/17

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2025/9/17	2026/9/16
Coupling / Decoupling Network Schwarzbeck	CDNE-M2	00097	2026/6/2	2027/6/1
	CDNE-M3	00091	2026/3/17	2027/3/16
MXE EMI Receiver Agilent	N9038A	MY50010158	2025/10/29	2026/10/28
Preamplifier Agilent	8447D	2944A11064	2026/2/13	2027/2/12
Radiating Loop Antenna TESEQ	RLA 6120-20	80002	2025/7/29	2026/7/28
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2026/6/22	2027/6/21
Signal Analyzer R&S	FSV40	101544	2026/7/2	2027/7/1
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 LK - 966 Chamber 6 (CH 6) (Linkou).
2. Tested Date: 2026/7/8

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	2026/5/20	2027/5/19
Horn Antenna EMCO	3115	00028257	2025/11/9	2026/11/8
Horn Antenna ETS-Lindgren	3117-PA	00215857	2025/11/9	2026/11/8
Horn Antenna Schwarzbeck	BBHA 9170	212	2025/10/28	2026/10/27
		BBHA9170190	2025/11/9	2026/11/8
MXE EMI Receiver Agilent	N9038A	MY50010158	2025/10/29	2026/10/28
Notch Filter Micro-Tronics	BRC50703-01	010	2026/5/20	2027/5/19
	BRM17690	005	2026/5/20	2027/5/19
Preamplifier EMCI	EMC0126545	980076	2026/2/13	2027/2/12
	EMC184045B	980175	2025/8/23	2026/8/22
		980235	2026/2/13	2027/2/12
Preamplifier HP	8449B	3008A01201	2026/2/13	2027/2/12
RF Coaxial Cable EMCI	EMC104	190801	2026/7/3	2027/7/2
		190804	2026/7/3	2027/7/2
RF Coaxial Cable EMEC	EM102-KMKM-100	02	2026/7/3	2027/7/2
RF Coaxial Cable HUBER+SUHNER	SF-104	Cable-CH6-01	2026/7/3	2027/7/2
Signal Analyzer R&S	FSV40	101042	2025/9/19	2026/9/18
		101544	2026/7/2	2027/7/1
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 LK - 966 Chamber 6 (CH 6) (Linkou).
2. Tested Date: 2026/7/7 ~ 2026/7/16

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

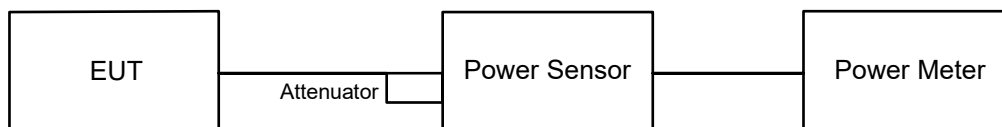
Notes:

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



Note: The correction factor has already been compensated by the instrument.

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.

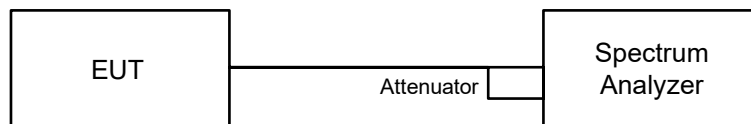
The power meter video bandwidth is greater than or equal to the DTS bandwidth and use a fast responding diode detector.

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



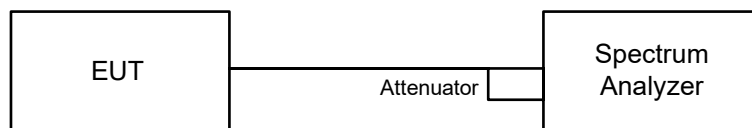
Note: The correction factor has already been compensated by the instrument.

6.2.2 Test Procedure

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

6.3 6 dB Bandwidth

6.3.1 Test Setup



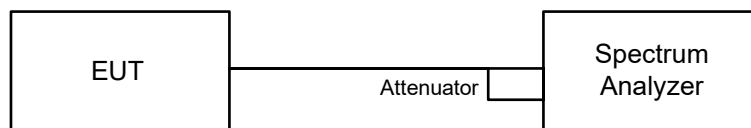
Note: The correction factor has already been compensated by the instrument.

6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



Note: The correction factor has already been compensated by the instrument.

6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

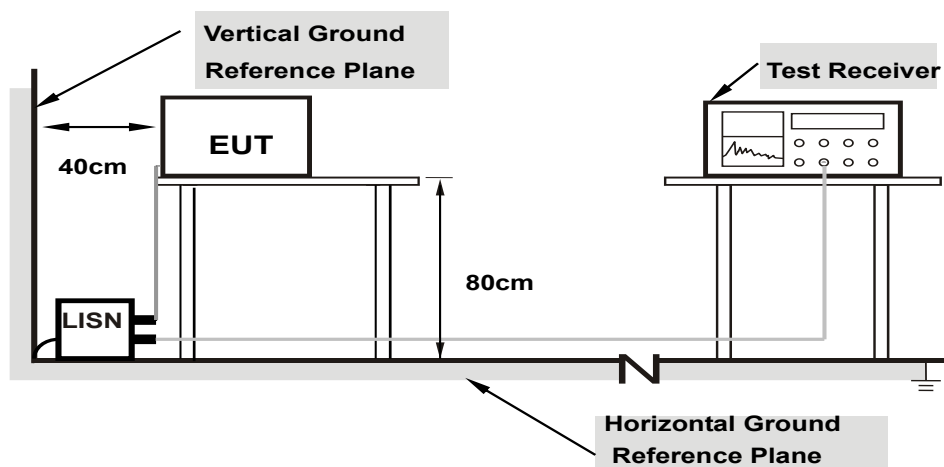
- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use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

MEASUREMENT PROCEDURE 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.
- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = No faster than coupled (auto) time.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

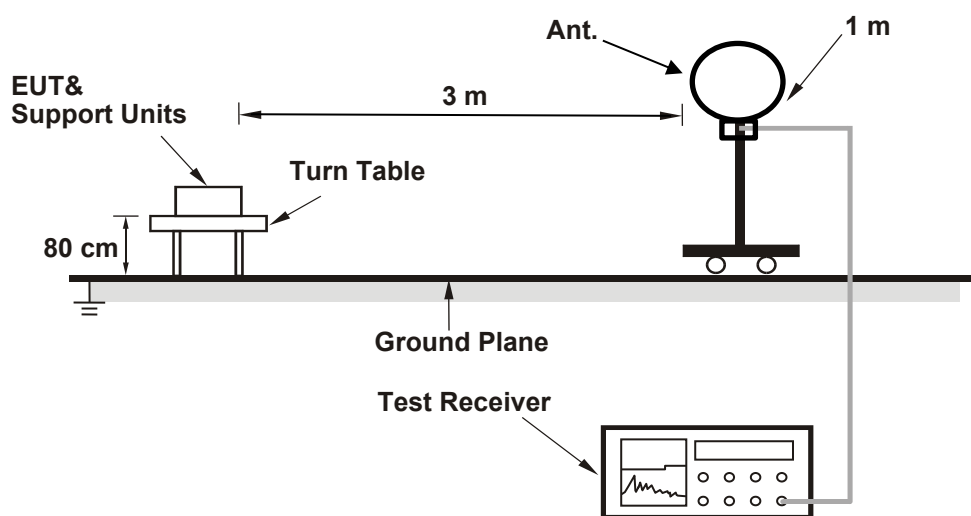
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

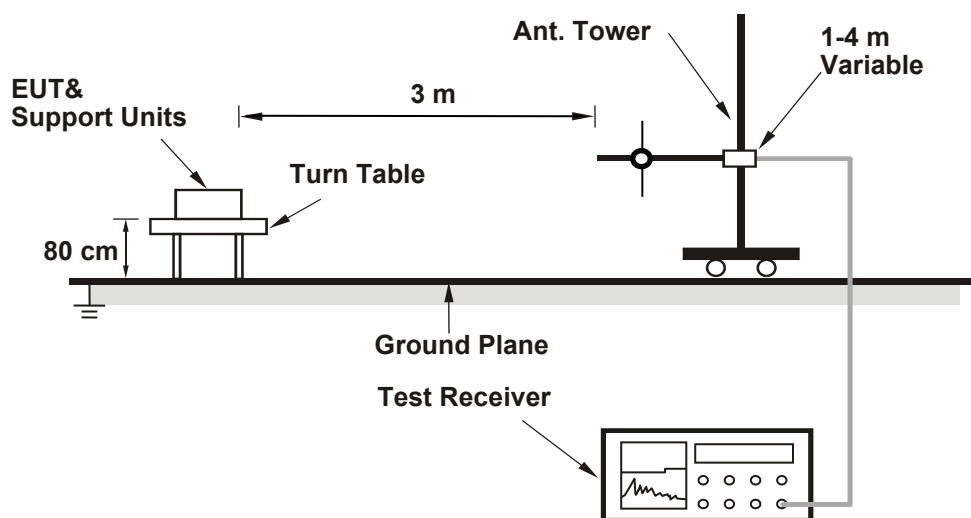
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

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

Notes:

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

For Radiated emission above 30 MHz

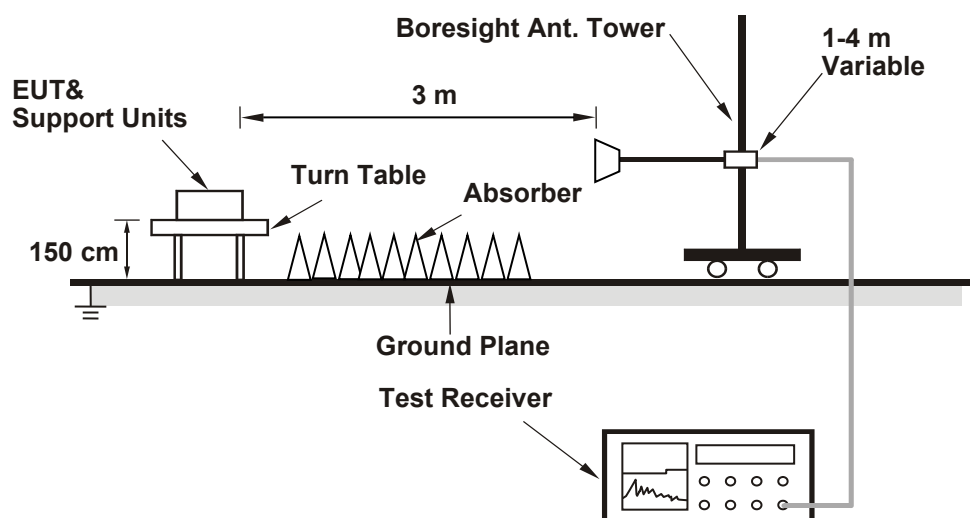
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz (however, peak detector measurements may be used to determine compliance with QP requirements).
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

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

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, 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:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Ian Chang
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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	5.559	7.45	30	Pass
19	2440	5.297	7.24	30	Pass
39	2480	5.346	7.28	30	Pass

Note: The antenna gain is 1.74 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
0	2402	5.508	7.41	30	Pass
19	2440	5.297	7.24	30	Pass
39	2480	5.309	7.25	30	Pass

Note: The antenna gain is 1.74 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	5.408	7.33
19	2440	5.164	7.13
39	2480	5.188	7.15

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	5.395	7.32
19	2440	5.152	7.12
39	2480	5.152	7.12

7.2 Power Spectral Density

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

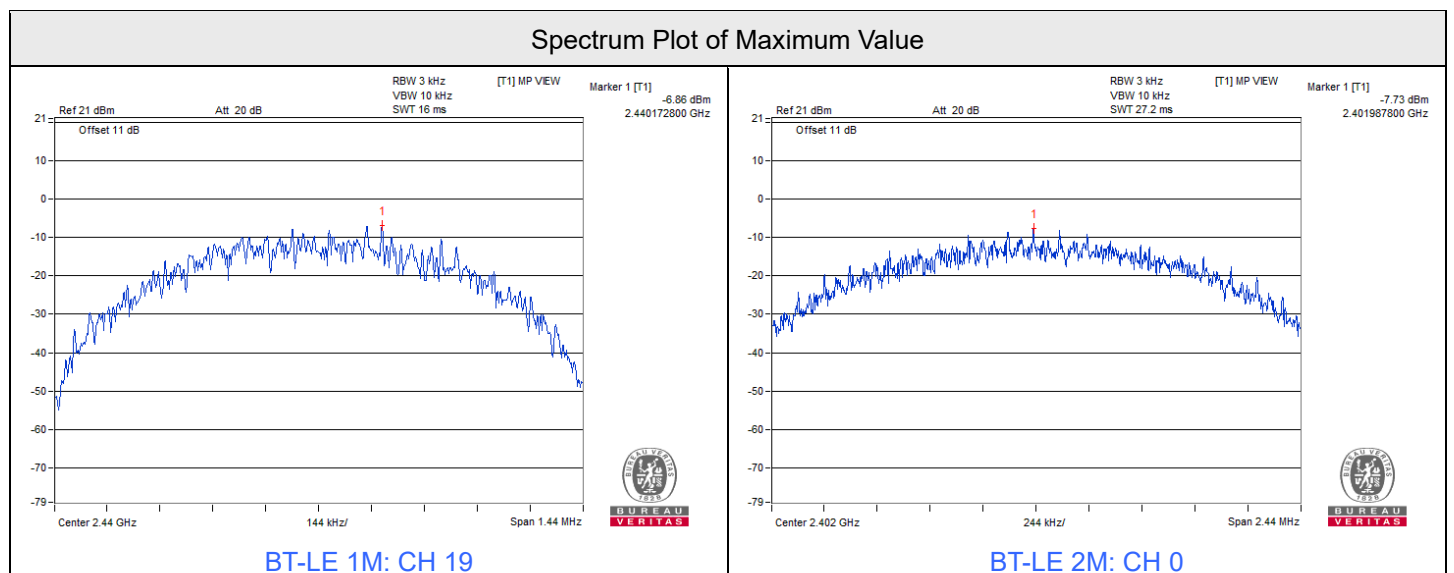
Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	-6.87	8	Pass
19	2440	-6.86	8	Pass
39	2480	-6.89	8	Pass

Note: The antenna gain is 1.74 dBi <= 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
0	2402	-7.73	8	Pass
19	2440	-7.74	8	Pass
39	2480	-7.76	8	Pass

Note: The antenna gain is 1.74 dBi <= 6 dBi, so the power density limit shall not be reduced.



7.3 6 dB Bandwidth

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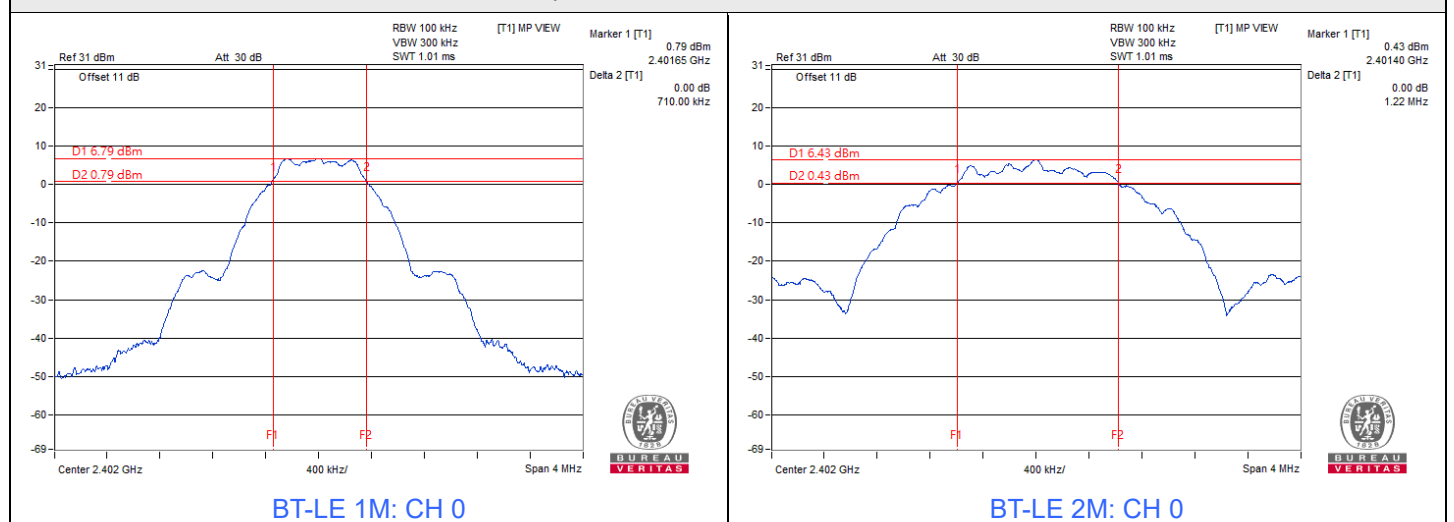
BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.71	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
0	2402	1.22	0.5	Pass
19	2440	1.23	0.5	Pass
39	2480	1.22	0.5	Pass

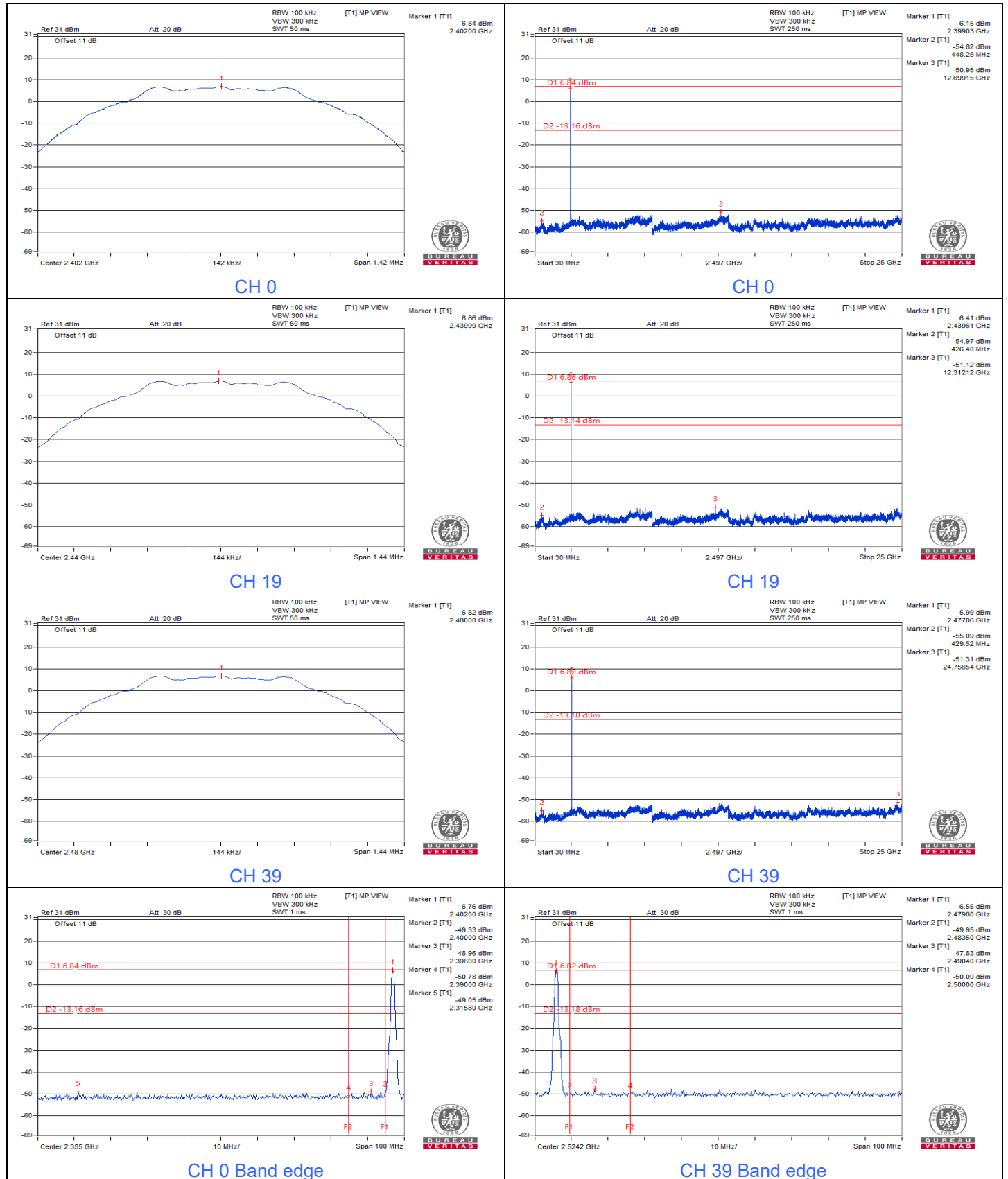
Spectrum Plot of Minimum Value



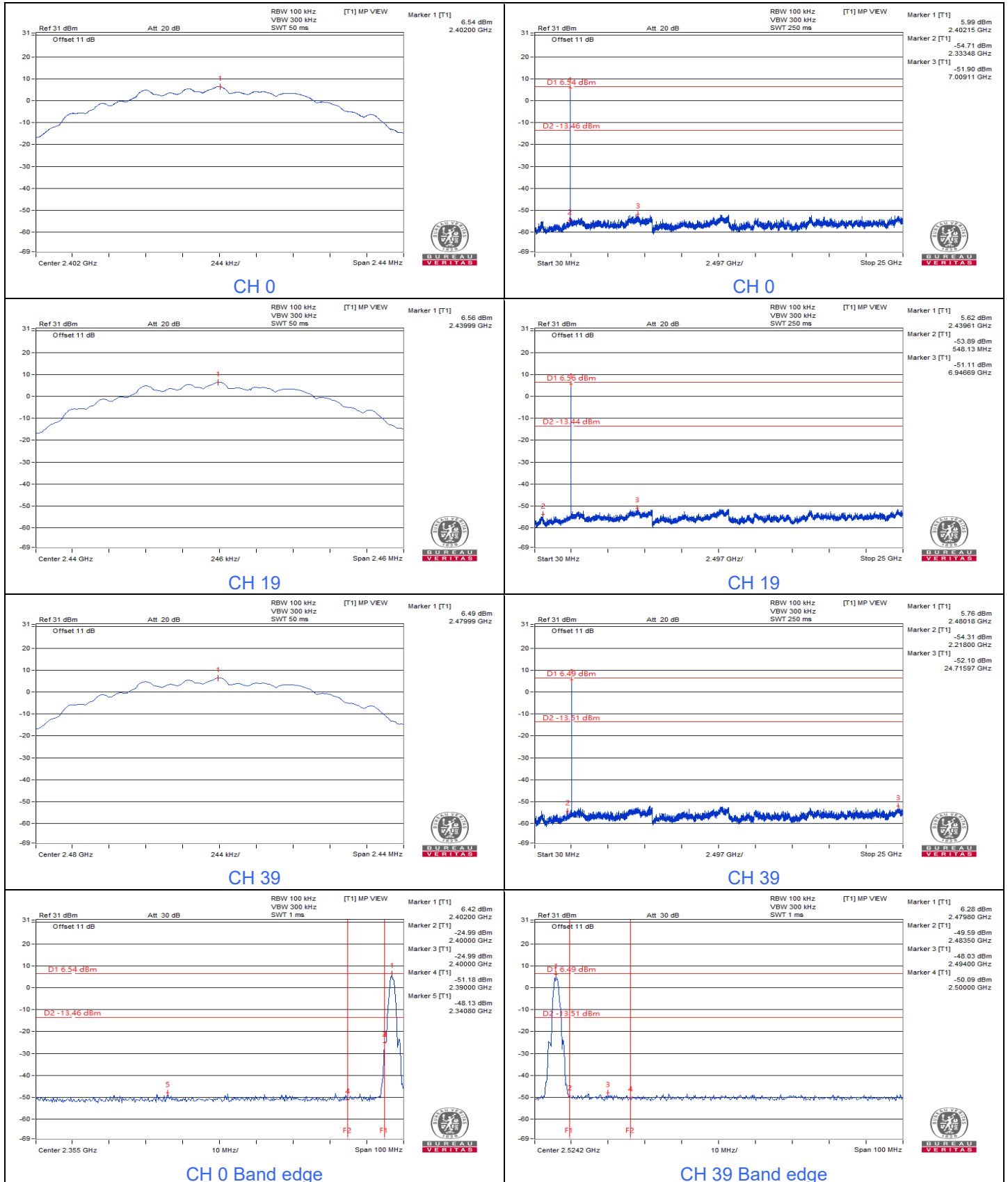
7.4 Conducted Out of Band Emissions

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



BT-LE 2M



7.5 AC Power Conducted Emissions

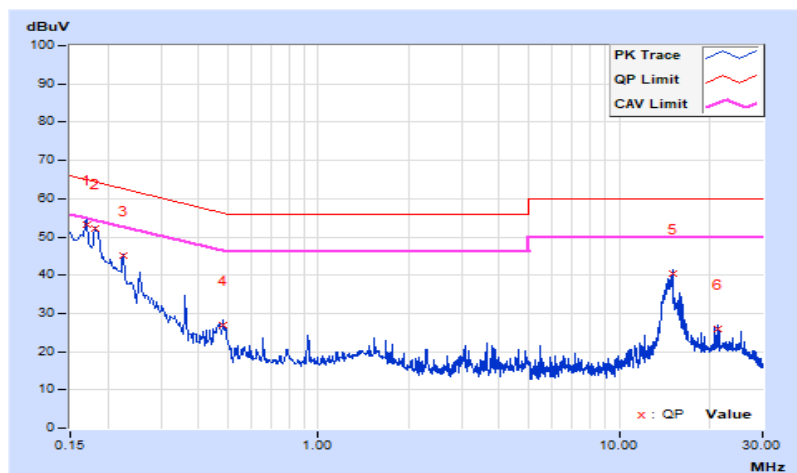
Mode A

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	10.20	42.92	20.09	53.12	30.29	64.98	54.98	-11.86	-24.69
2	0.18122	10.20	42.07	23.78	52.27	33.98	64.43	54.43	-12.16	-20.45
3	0.22431	10.18	35.03	16.80	45.21	26.98	62.66	52.66	-17.45	-25.68
4	0.48244	10.20	16.68	7.64	26.88	17.84	56.30	46.30	-29.42	-28.46
5	15.01216	10.73	29.61	23.75	40.34	34.48	60.00	50.00	-19.66	-15.52
6	21.41056	10.86	14.98	10.63	25.84	21.49	60.00	50.00	-34.16	-28.51

Remarks:

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

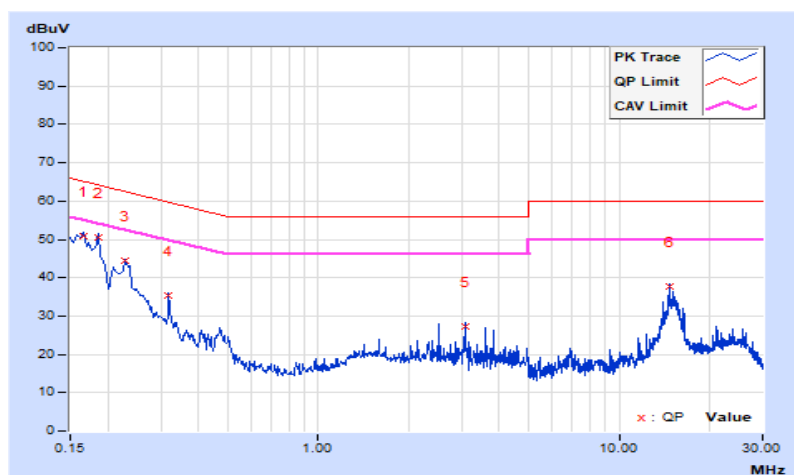


RF Mode	BT LE-1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.16564	10.31	40.67	19.60	50.98	29.91	65.18	55.18	-14.20	-25.27
2	0.18520	10.31	40.34	21.87	50.65	32.18	64.25	54.25	-13.60	-22.07
3	0.22822	10.30	34.13	14.71	44.43	25.01	62.51	52.51	-18.08	-27.50
4	0.31817	10.31	24.97	11.21	35.28	21.52	59.75	49.75	-24.47	-28.23
5	3.06953	10.45	16.92	5.39	27.37	15.84	56.00	46.00	-28.63	-30.16
6	14.67581	10.83	26.85	20.19	37.68	31.02	60.00	50.00	-22.32	-18.98

Remarks:

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



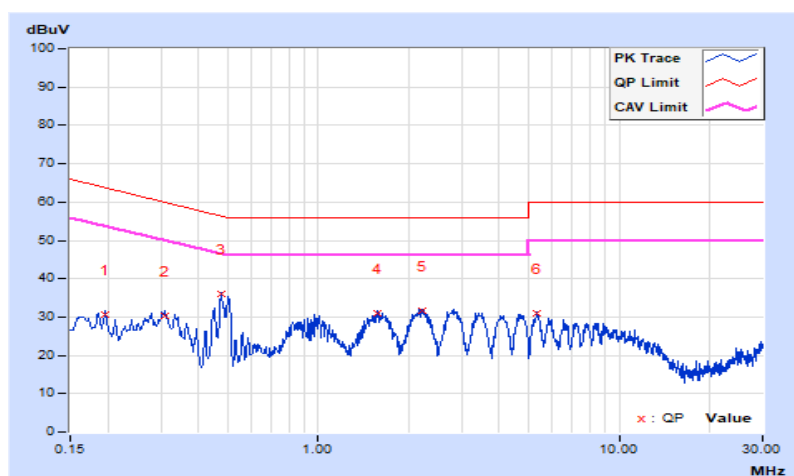
Mode B

RF Mode	BT LE-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	0.19693	10.18	20.56	10.58	30.74	20.76	63.74	53.74	-33.00	-32.98
2	0.31022	10.19	20.21	10.80	30.40	20.99	59.96	49.96	-29.56	-28.97
3	0.47461	10.20	25.69	14.98	35.89	25.18	56.43	46.43	-20.54	-21.25
4	1.56770	10.26	20.68	10.45	30.94	20.71	56.00	46.00	-25.06	-25.29
5	2.21693	10.31	21.32	11.77	31.63	22.08	56.00	46.00	-24.37	-23.92
6	5.34808	10.41	20.46	12.15	30.87	22.56	60.00	50.00	-29.13	-27.44

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

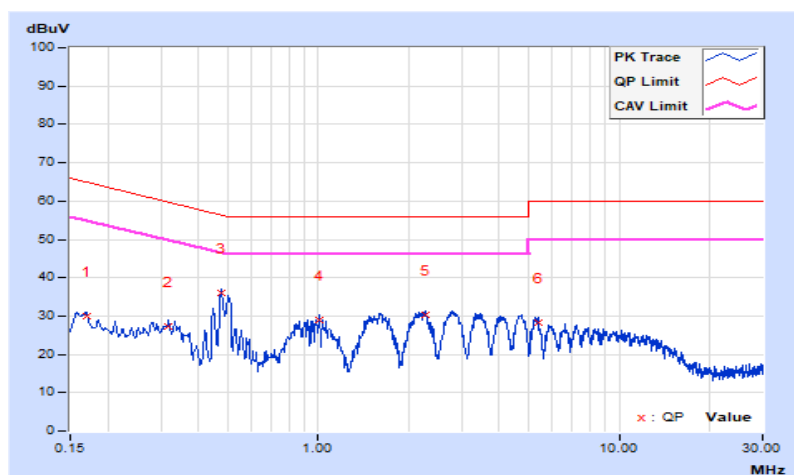


RF Mode	BT LE-1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.16956	10.31	19.50	9.56	29.81	19.87	64.98	54.98	-35.17	-35.11
2	0.31817	10.31	17.02	8.73	27.33	19.04	59.75	49.75	-32.42	-30.71
3	0.47539	10.32	25.83	16.38	36.15	26.70	56.42	46.42	-20.27	-19.72
4	1.00843	10.32	18.47	8.39	28.79	18.71	56.00	46.00	-27.21	-27.29
5	2.27168	10.41	20.04	11.13	30.45	21.54	56.00	46.00	-25.55	-24.46
6	5.37546	10.55	17.67	9.99	28.22	20.54	60.00	50.00	-31.78	-29.46

Remarks:

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



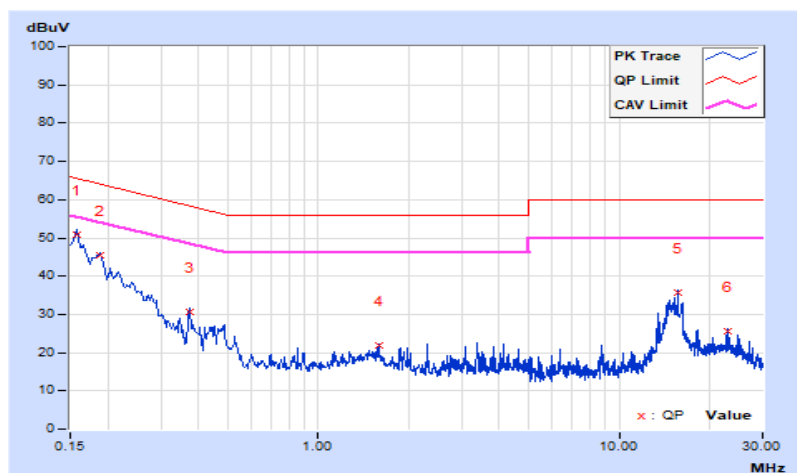
Mode C

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	0.15760	10.21	40.78	24.02	50.99	34.23	65.59	55.59	-14.60	-21.36
2	0.18754	10.19	35.26	16.88	45.45	27.07	64.14	54.14	-18.69	-27.07
3	0.37293	10.20	20.50	12.29	30.70	22.49	58.44	48.44	-27.74	-25.95
4	1.58726	10.26	11.78	8.24	22.04	18.50	56.00	46.00	-33.96	-27.50
5	15.75916	10.75	24.80	19.41	35.55	30.16	60.00	50.00	-24.45	-19.84
6	22.99842	10.87	14.84	9.77	25.71	20.64	60.00	50.00	-34.29	-29.36

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

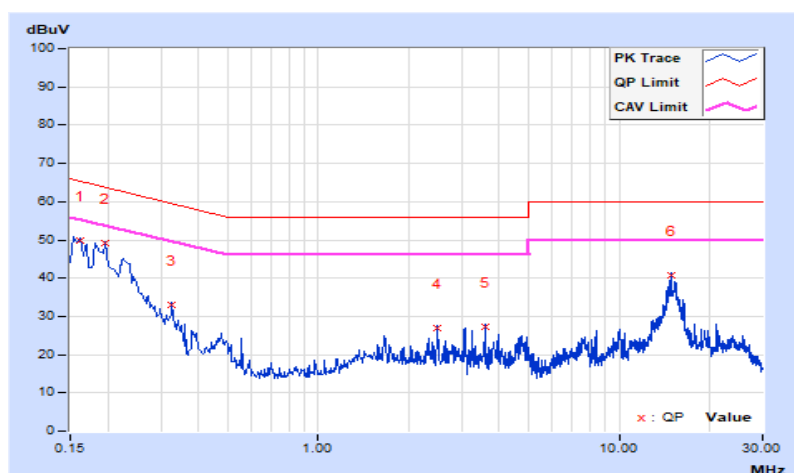


Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 75% RH
Tested By	Jed Wu		

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	0.16173	10.32	39.41	21.98	49.73	32.30	65.37	55.37	-15.64	-23.07
2	0.19665	10.30	38.93	18.78	49.23	29.08	63.75	53.75	-14.52	-24.67
3	0.32599	10.31	22.76	10.62	33.07	20.93	59.55	49.55	-26.48	-28.62
4	2.48679	10.42	16.67	10.14	27.09	20.56	56.00	46.00	-28.91	-25.44
5	3.60533	10.47	16.92	10.35	27.39	20.82	56.00	46.00	-28.61	-25.18
6	14.82834	10.84	30.00	23.49	40.84	34.33	60.00	50.00	-19.16	-15.67

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

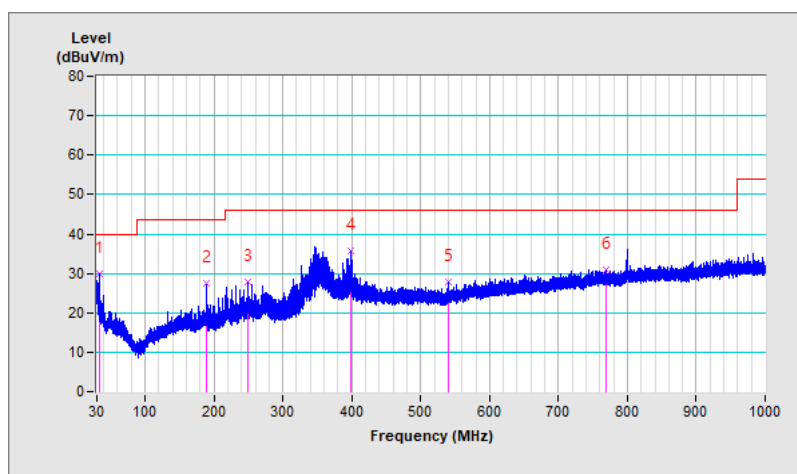
Mode A

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	23 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.54	29.9 QP	40.0	-10.1	1.41 H	87	40.1	-10.2
2	189.56	27.3 QP	43.5	-16.2	1.23 H	323	37.1	-9.8
3	249.03	27.7 QP	46.0	-18.3	2.06 H	98	35.2	-7.5
4	398.26	35.7 QP	46.0	-10.3	2.27 H	13	39.0	-3.3
5	540.71	27.7 QP	46.0	-18.3	1.62 H	82	27.9	-0.2
6	769.72	30.8 QP	46.0	-15.2	1.62 H	62	25.5	5.3

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.

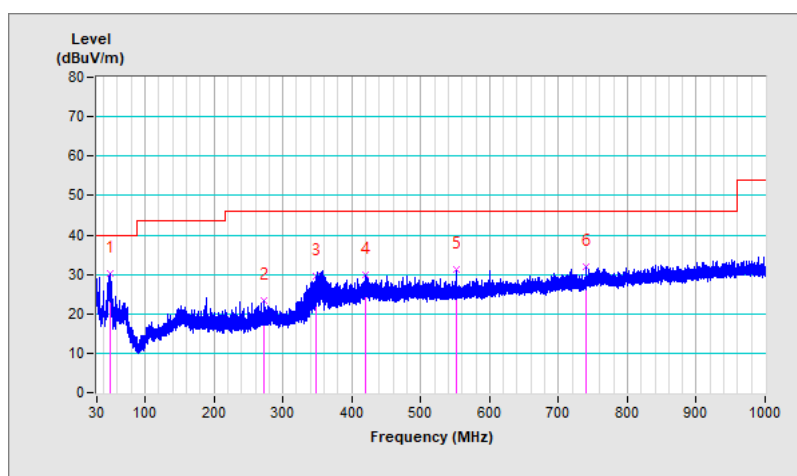


RF Mode	BT LE-1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	49.55	30.2 QP	40.0	-9.8	1.34 V	239	38.8	-8.6
2	273.08	23.3 QP	46.0	-22.7	1.20 V	54	29.4	-6.1
3	347.72	29.4 QP	46.0	-16.6	1.15 V	326	33.7	-4.3
4	419.99	29.8 QP	46.0	-16.2	1.90 V	161	32.3	-2.5
5	552.01	31.1 QP	46.0	-14.9	2.15 V	340	31.0	0.1
6	740.38	32.1 QP	46.0	-13.9	2.96 V	127	27.4	4.7

Remarks:

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



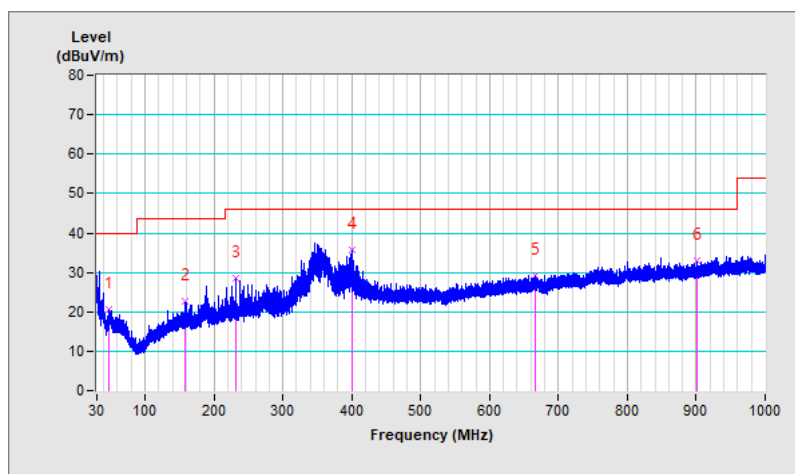
Mode C

Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	47.17	20.7 QP	40.0	-19.3	2.33 H	10	29.3	-8.6
2	158.96	22.5 QP	43.5	-21.0	2.81 H	115	30.0	-7.5
3	231.03	28.4 QP	46.0	-17.6	1.91 H	105	37.9	-9.5
4	399.86	35.7 QP	46.0	-10.3	1.05 H	23	38.9	-3.2
5	665.88	29.2 QP	46.0	-16.8	1.50 H	184	26.2	3.0
6	900.62	32.8 QP	46.0	-13.2	1.48 H	249	25.4	7.4

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 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.

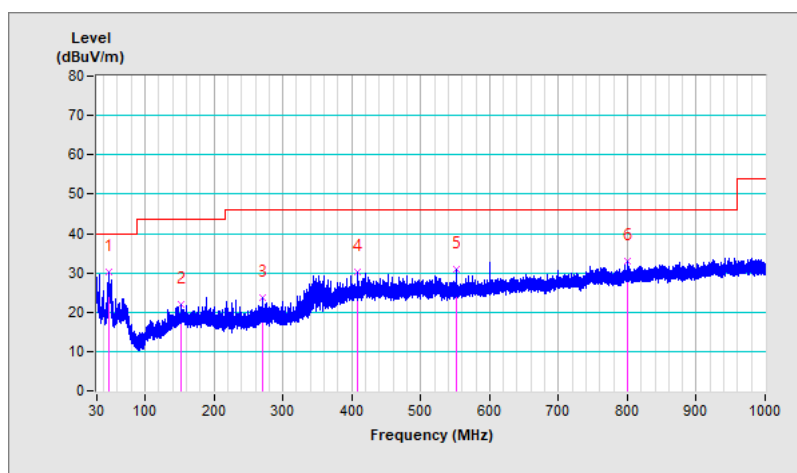


Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	47.31	30.3 QP	40.0	-9.7	1.69 V	190	38.9	-8.6
2	151.74	22.1 QP	43.5	-21.4	2.07 V	291	29.9	-7.8
3	270.85	23.6 QP	46.0	-22.4	1.98 V	52	29.8	-6.2
4	408.01	30.3 QP	46.0	-15.7	1.95 V	338	33.3	-3.0
5	552.10	30.8 QP	46.0	-15.2	2.31 V	183	30.7	0.1
6	799.94	32.9 QP	46.0	-13.1	1.84 V	342	27.2	5.7

Remarks:

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



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 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.2 PK	74.0	-20.8	3.24 H	108	53.5	-0.3
2	2390.00	40.5 AV	54.0	-13.5	3.24 H	108	40.8	-0.3
3	*2402.00	99.0 PK			3.24 H	108	99.3	-0.3
4	*2402.00	98.5 AV			3.24 H	108	98.8	-0.3
5	4804.00	47.8 PK	74.0	-26.2	1.57 H	185	40.4	7.4
6	4804.00	35.1 AV	54.0	-18.9	1.57 H	185	27.7	7.4
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	54.6 PK	74.0	-19.4	3.31 V	4	54.9	-0.3
2	2390.00	41.1 AV	54.0	-12.9	3.31 V	4	41.4	-0.3
3	*2402.00	101.8 PK			3.31 V	4	102.1	-0.3
4	*2402.00	101.3 AV			3.31 V	4	101.6	-0.3
5	4804.00	48.7 PK	74.0	-25.3	1.63 V	148	41.3	7.4
6	4804.00	35.5 AV	54.0	-18.5	1.63 V	148	28.1	7.4

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=3 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	99.5 PK			3.26 H	110	99.6	-0.1
2	*2440.00	98.5 AV			3.26 H	110	98.6	-0.1
3	4880.00	48.2 PK	74.0	-25.8	1.74 H	152	40.4	7.8
4	4880.00	35.2 AV	54.0	-18.8	1.74 H	152	27.4	7.8
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	*2440.00	102.3 PK			3.18 V	358	102.4	-0.1
2	*2440.00	101.6 AV			3.18 V	358	101.7	-0.1
3	4880.00	49.5 PK	74.0	-24.5	1.94 V	136	41.7	7.8
4	4880.00	36.2 AV	54.0	-17.8	1.94 V	136	28.4	7.8

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-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 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	98.9 PK			3.06 H	115	98.7	0.2
2	*2480.00	97.7 AV			3.06 H	115	97.5	0.2
3	2483.50	53.6 PK	74.0	-20.4	3.06 H	115	53.4	0.2
4	2483.50	40.3 AV	54.0	-13.7	3.06 H	115	40.1	0.2
5	4960.00	48.1 PK	74.0	-25.9	1.84 H	127	40.3	7.8
6	4960.00	35.3 AV	54.0	-18.7	1.84 H	127	27.5	7.8
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	102.0 PK			2.45 V	358	101.8	0.2
2	*2480.00	101.5 AV			2.45 V	358	101.3	0.2
3	2483.50	54.7 PK	74.0	-19.3	2.45 V	358	54.5	0.2
4	2483.50	41.6 AV	54.0	-12.4	2.45 V	358	41.4	0.2
5	4960.00	49.1 PK	74.0	-24.9	2.23 V	163	41.3	7.8
6	4960.00	36.4 AV	54.0	-17.6	2.23 V	163	28.6	7.8

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 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	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.1 PK	74.0	-20.9	3.01 H	117	53.4	-0.3
2	2390.00	40.3 AV	54.0	-13.7	3.01 H	117	40.6	-0.3
3	*2402.00	99.0 PK			3.01 H	117	99.3	-0.3
4	*2402.00	97.4 AV			3.01 H	117	97.7	-0.3
5	4804.00	48.0 PK	74.0	-26.0	2.14 H	187	40.6	7.4
6	4804.00	34.8 AV	54.0	-19.2	2.14 H	187	27.4	7.4
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	54.1 PK	74.0	-19.9	2.95 V	7	54.4	-0.3
2	2390.00	41.1 AV	54.0	-12.9	2.95 V	7	41.4	-0.3
3	*2402.00	102.1 PK			2.95 V	7	102.4	-0.3
4	*2402.00	100.3 AV			2.95 V	7	100.6	-0.3
5	4804.00	49.1 PK	74.0	-24.9	1.64 V	236	41.7	7.4
6	4804.00	36.1 AV	54.0	-17.9	1.64 V	236	28.7	7.4

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	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	99.6 PK			3.16 H	100	99.7	-0.1
2	*2440.00	98.2 AV			3.16 H	100	98.3	-0.1
3	4880.00	48.2 PK	74.0	-25.8	1.97 H	358	40.4	7.8
4	4880.00	35.1 AV	54.0	-18.9	1.97 H	358	27.3	7.8
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	*2440.00	102.8 PK			2.85 V	355	102.9	-0.1
2	*2440.00	101.0 AV			2.85 V	355	101.1	-0.1
3	4880.00	49.3 PK	74.0	-24.7	1.69 V	352	41.5	7.8
4	4880.00	36.4 AV	54.0	-17.6	1.69 V	352	28.6	7.8

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 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	24.8 °C, 73.3% RH
Tested By	Ian Chang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	98.9 PK			3.03 H	119	98.7	0.2
2	*2480.00	97.5 AV			3.03 H	119	97.3	0.2
3	2483.50	54.5 PK	74.0	-19.5	3.03 H	119	54.3	0.2
4	2483.50	43.6 AV	54.0	-10.4	3.03 H	119	43.4	0.2
5	4960.00	48.3 PK	74.0	-25.7	2.84 H	157	40.5	7.8
6	4960.00	35.0 AV	54.0	-19.0	2.84 H	157	27.2	7.8
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	101.7 PK			2.79 V	351	101.5	0.2
2	*2480.00	100.0 AV			2.79 V	351	99.8	0.2
3	2483.50	55.5 PK	74.0	-18.5	2.79 V	351	55.3	0.2
4	2483.50	44.9 AV	54.0	-9.1	2.79 V	351	44.7	0.2
5	4960.00	49.7 PK	74.0	-24.3	1.97 V	148	41.9	7.8
6	4960.00	36.5 AV	54.0	-17.5	1.97 V	148	28.7	7.8

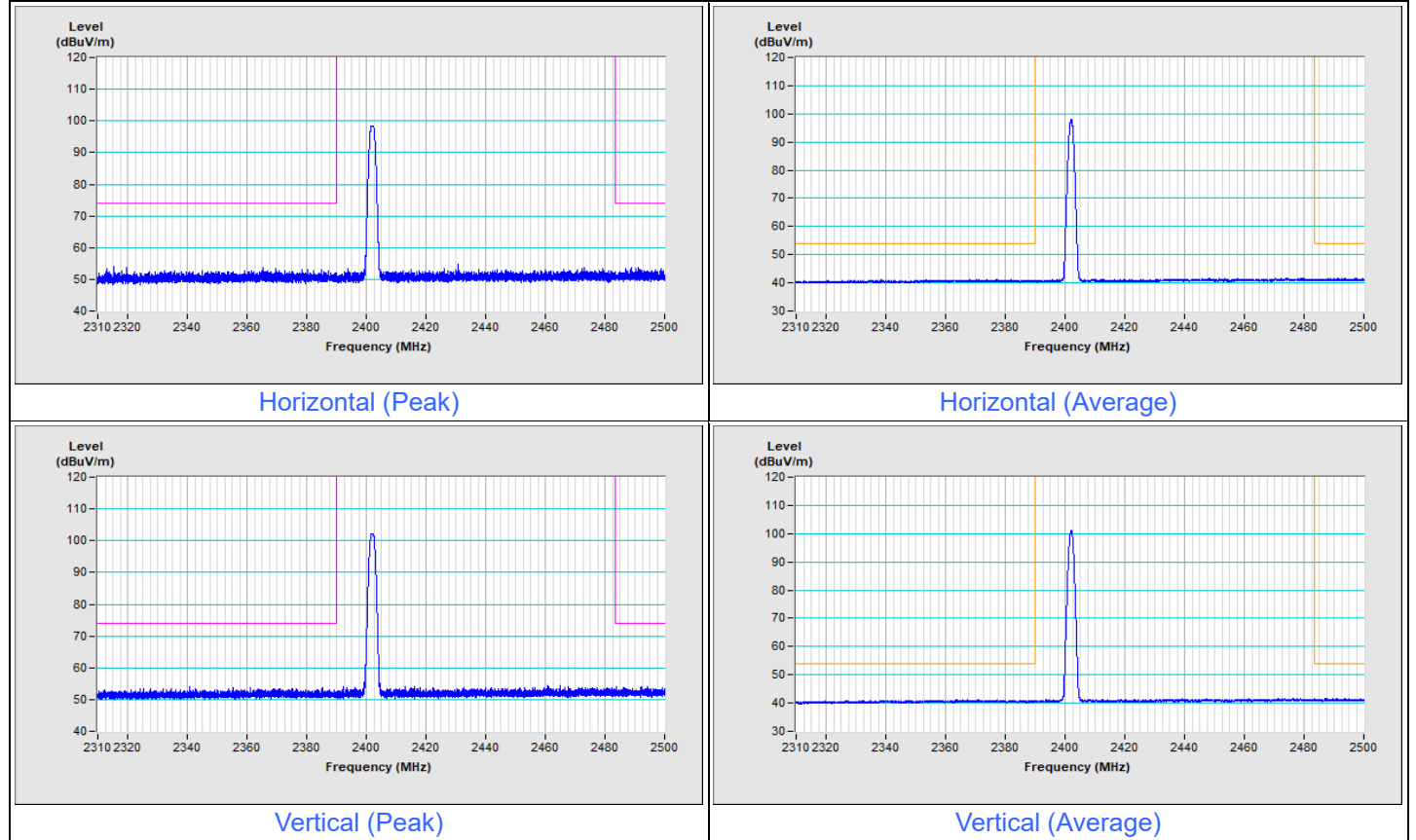
Remarks:

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.

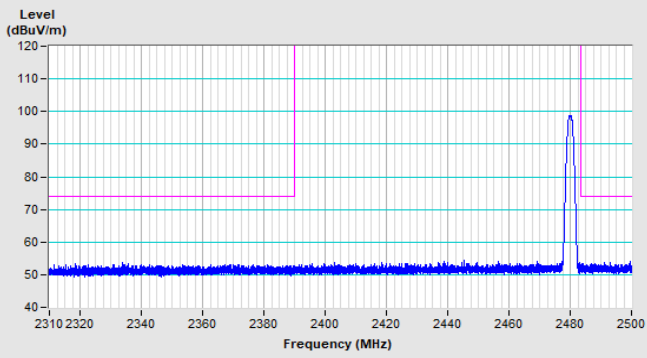
Plot of Band Edge

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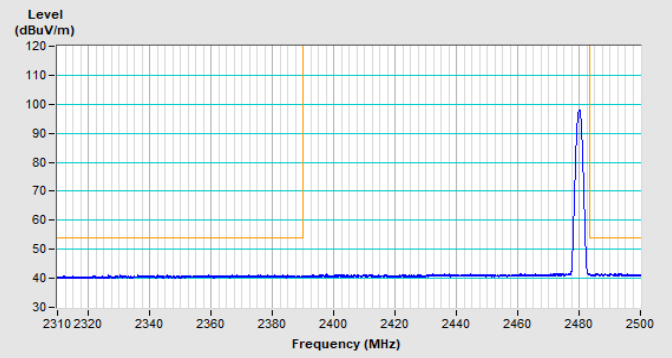
BT LE-1M Channel 0



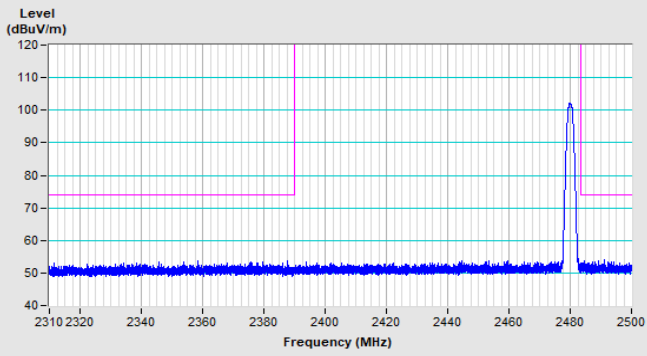
BT LE-1M Channel 39



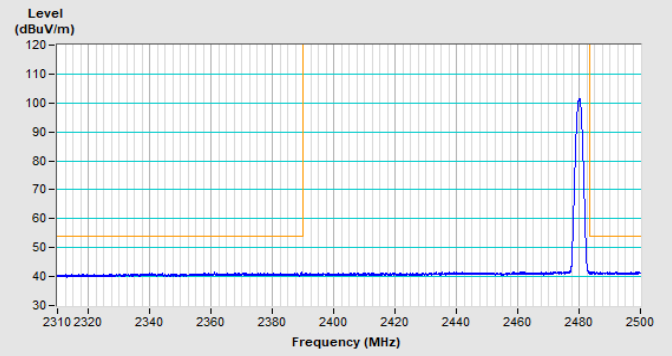
Horizontal (Peak)



Horizontal (Average)



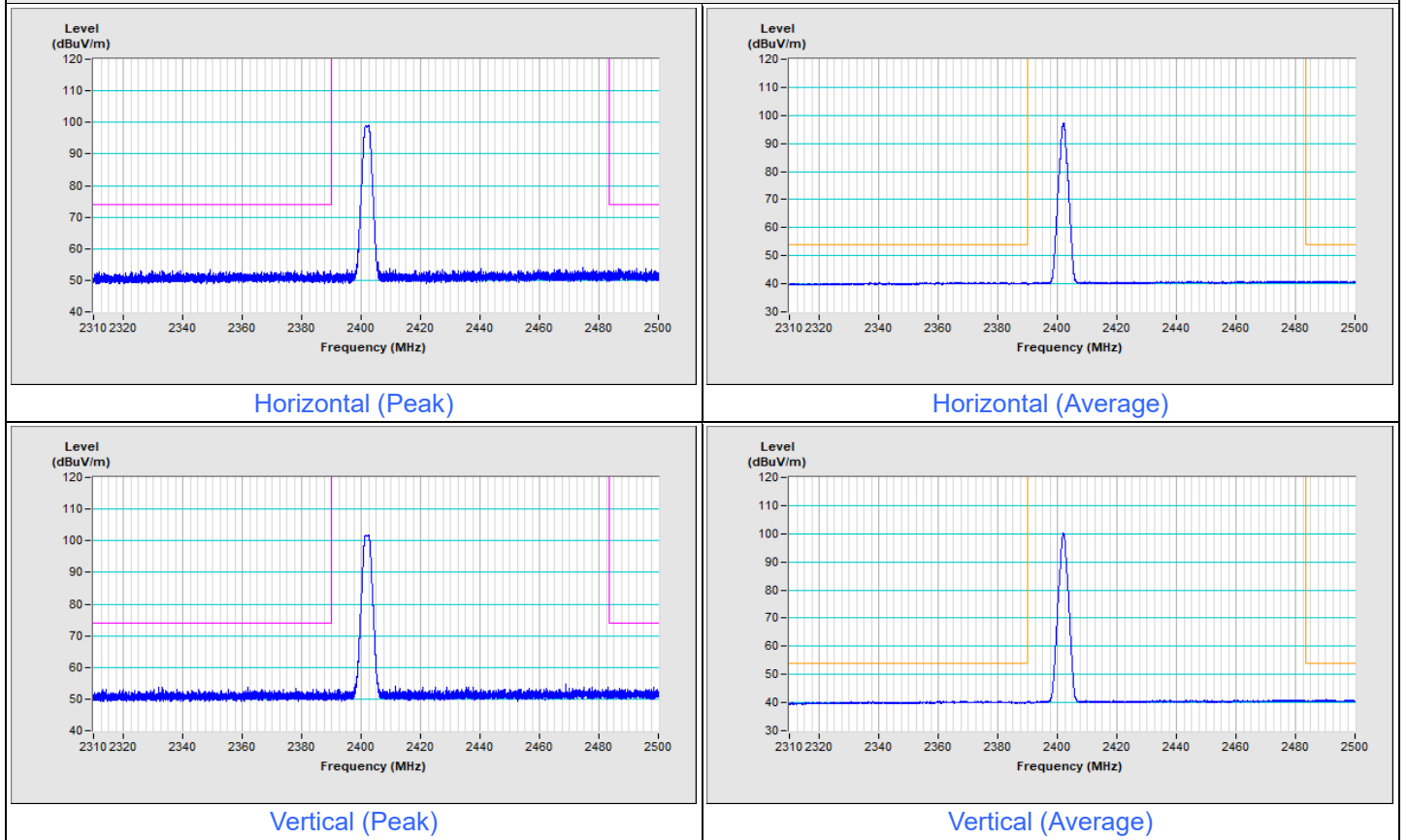
Vertical (Peak)



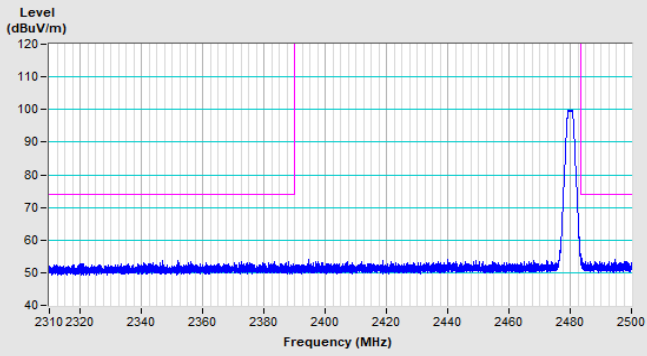
Vertical (Average)

Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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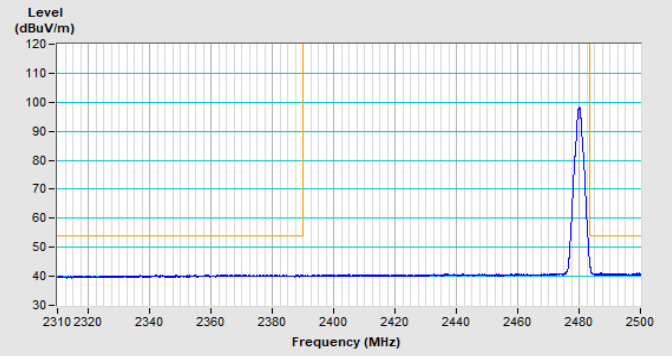
BT LE-2M Channel 0



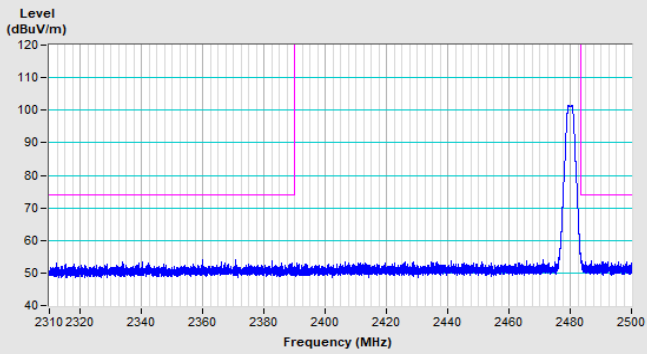
BT LE-2M Channel 39



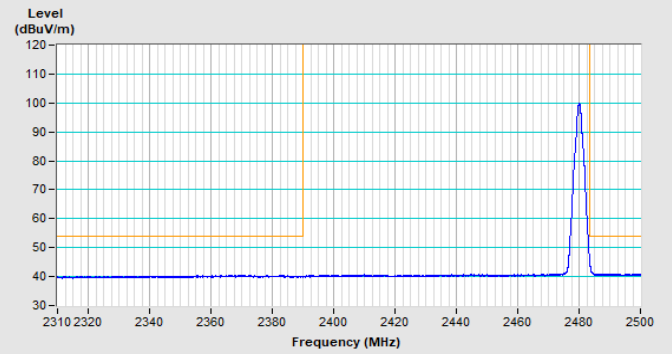
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

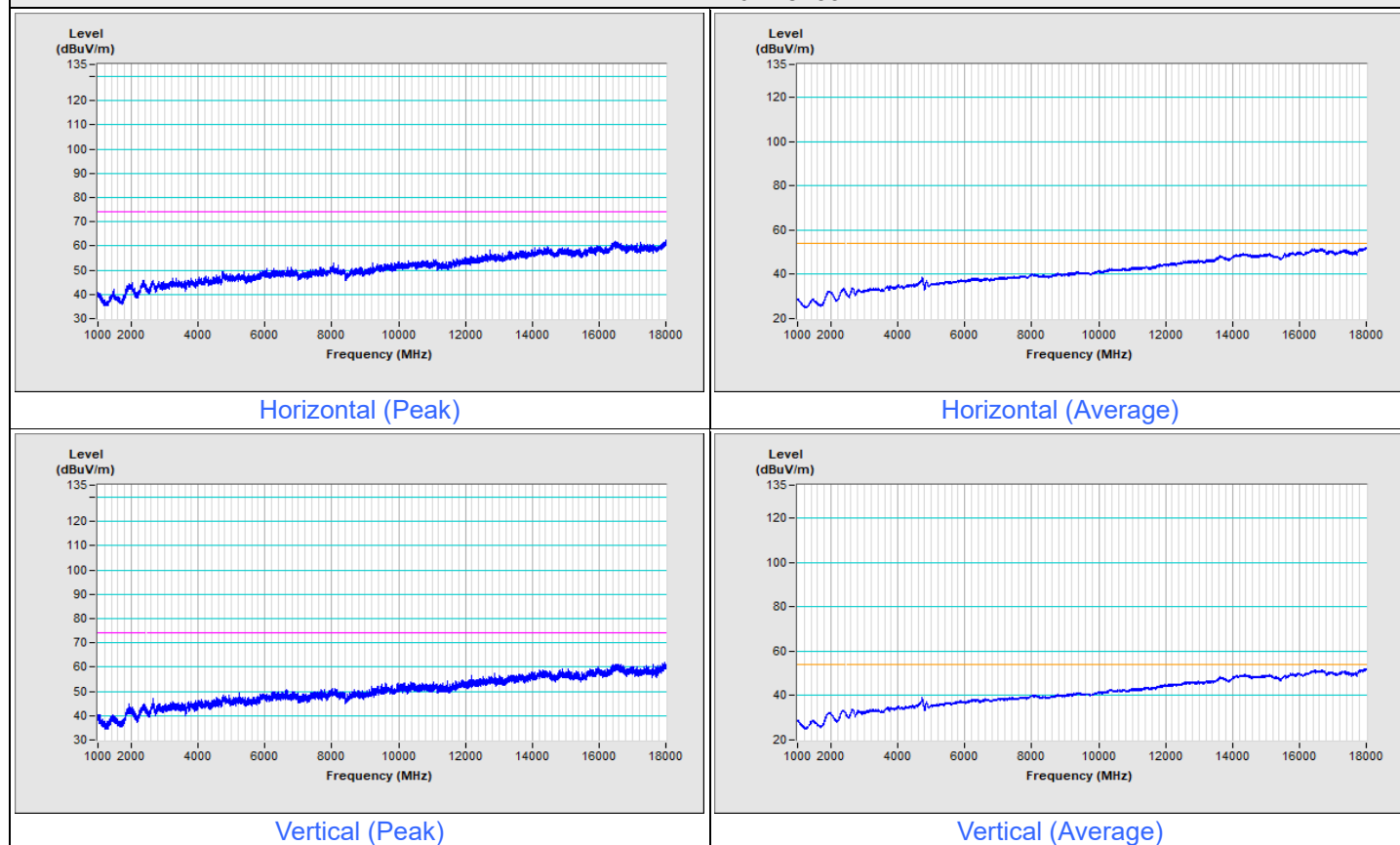


Vertical (Average)

Plot of Other Emission

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
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BT LE-2M Channel 39



Notes:

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

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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Email: service.adt@bureauveritas.com

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

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

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