

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBAYG-WTW-P24020046-1
FCC ID: A94318
Product: Wireless Headphones
Brand: BOSE
Model No.: 318R,318L
Received Date: 2024/3/21
Test Date: 2024/3/28 ~ 2024/4/2
Issued Date: 2024/5/31
Applicant: Bose Corporation
Address: 100 The Mountain Road Framingham Massachusetts 01701-9168 United States
Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories
Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
FCC Registration / 198487 / TW2021
Designation Number:

Approved by: _____

Jeremy Lin

Jeremy Lin / Project Engineer

, Date: _____

2024/5/31

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Prepared by : Jessica Cheng / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBAYG-WTW-P24020046-1	Original release.	2024/5/31

1 Certificate

Product: Wireless Headphones

Brand: BOSE

Test Model: 318R,318L

Sample Status: Engineering sample

Applicant: Bose Corporation

Test Date: 2024/3/28 ~ 2024/4/2

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

Measurement ANSI C63.10-2013

procedure: KDB 558074 D01 15.247 Meas Guidance v05r02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	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 -11.74 dB at 0.54302 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -14.7 dB at 42.67 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -8.9 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:

Measurement	Specification	Expanded Uncertainty (k=2) (±)
RF Output Power	-	1.1 dB
Power Spectral Density	-	1.3 dB
6 dB Bandwidth	-	960 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.7 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.88 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	2.85 dB
	30 MHz ~ 1 GHz	2.85 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 6 GHz	3.06 dB
	6 GHz ~ 18 GHz	3.06 dB
	18 GHz ~ 40 GHz	3.29 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 Headphones
Brand	BOSE
Test Model	318R,318L
Status of EUT	Engineering sample
Power Supply Rating	3.85Vdc from Battery or 5Vdc from Charging case
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	5.702 mW (7.56 dBm)

Note:

1. The EUT uses following accessories.

Charging case		
Brand	Model	
BOSE	442318	
USB Type-C to USB-A cable		
Specification		
Signal Line : shielded without core,0.3m		
Battery		
Brand	Model	Specification
VDL	1254PF4F	Rating : 3.85Vdc 70mAh
Battery		
Brand	Model	Specification
Mic-power	M1254A6	Rating : 3.85Vdc 70mAh

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

1. The antenna information is listed as below.

Antenna No.	Gain (dBi)	Antenna Type	Connector Type
318L	-0.29	PIFA	NA
318R	-1.65	PIFA	NA

* 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 has Battery(1254PF4F)/ Battery(M1254A6). Pre-scan these modes and find the worst case as a representative test condition. 2. EUT can be used in the following ways: XYZ 3-axis. Pre-scan in these ways and find the worst case as a representative test condition. 3. For Unwanted Emission below/above 1G has A~E mode. Pre-scan these modes and find the worst case as a representative test condition. Pre-Scan Mode: Mode A(Left/Right Earphone): EUT with Charing Case(Powered from Notebook and USB Cable) Mode B(Left/Right Earphone): EUT with Charing Case(Powered from Adapter and USB Cable) Mode C(Left/Right Earphone): EUT with Charing Case(Powered from Charging Pad via Qi function) Mode D(Left/Right Earphone): EUT with Charing Case(Powered from internal Battery) Mode E(Left/Right Earphone): EUT with internal Battery
Worst Case:	1. Battery worse condition : Battery(1254PF4F). 2. X/ Y/ Z Worst Condition: X Axis for Unwanted Emission above 1GHz and Unwanted Emission below 1GHz. 3. For Unwanted Emission below/above 1G: Mode A(Left/Right Earphone) is the worst test configuration.

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

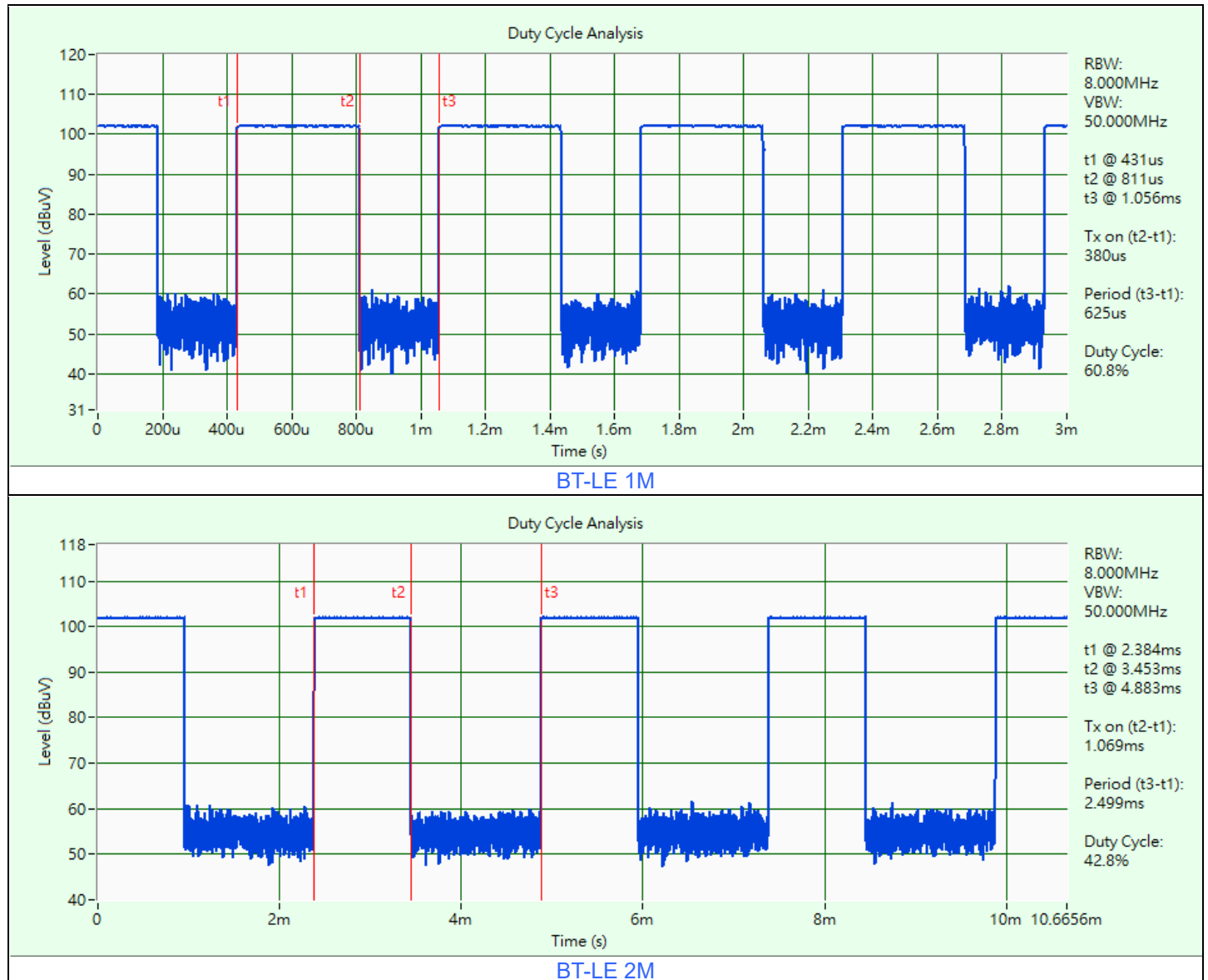
Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A(Left/Right Earphone)	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
Power Spectral Density	A(Left/Right Earphone)	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
6 dB Bandwidth / Conducted Out of Band Emissions	A(Left/Right Earphone)	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
AC Power Conducted Emissions	A(Left Earphone)	BT-LE 1M	39	GFSK	1Mb/s
	B(Left Earphone)	BT-LE 1M	39	GFSK	1Mb/s
	C(Left Earphone)	BT-LE 1M	39	GFSK	1Mb/s
	A(Right Earphone)	BT-LE 1M	0	GFSK	1Mb/s
	B(Right Earphone)	BT-LE 1M	0	GFSK	1Mb/s
	C(Right Earphone)	BT-LE 1M	0	GFSK	1Mb/s
Unwanted Emissions below 1 GHz	A(Left Earphone)	BT-LE 1M	39	GFSK	1Mb/s
	A(Right Earphone)	BT-LE 1M	0	GFSK	1Mb/s
Unwanted Emissions above 1 GHz	A(Left Earphone)	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
	A(Right Earphone)	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
EUT Configure Mode:	A(Left/Right Earphone)	EUT with Charing Case(Powered from Notebook and USB Cable)			
	B(Left/Right Earphone)	EUT with Charing Case(Powered from Adapter and USB Cable)			
	C(Left/Right Earphone)	EUT with Charing Case(Powered from Charging Pad via Qi function)			

3.5 Duty Cycle of Test Signal

A(Left Earphone)

BT-LE 1M: Duty cycle = $0.38 \text{ ms} / 0.625 \text{ ms} \times 100\% = 60.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.16 \text{ dB}$

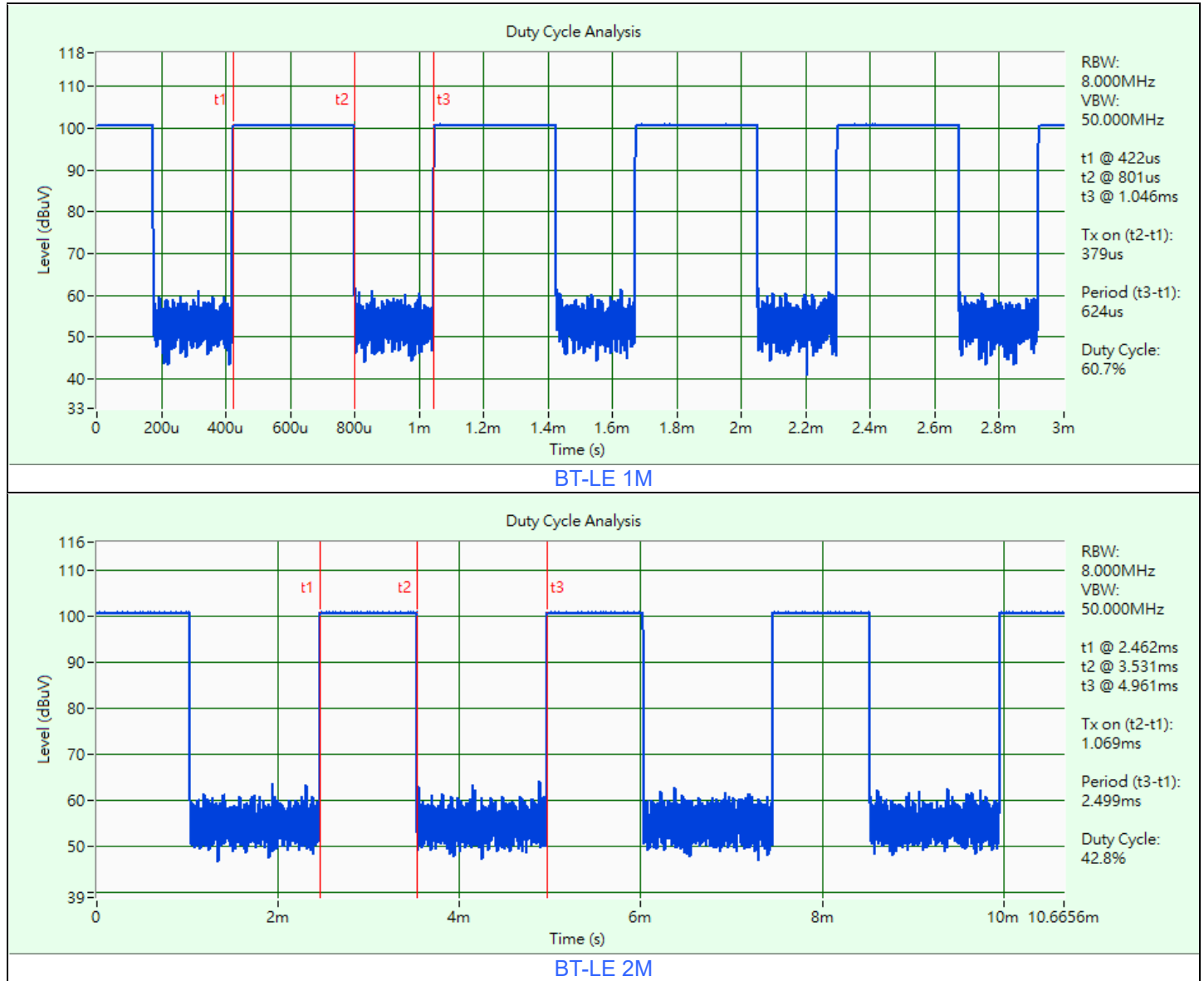
BT-LE 2M: Duty cycle = $1.069 \text{ ms} / 2.499 \text{ ms} \times 100\% = 42.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 3.69 \text{ dB}$



A(Right Earphone)

BT-LE 1M: Duty cycle = $0.379 \text{ ms} / 0.624 \text{ ms} \times 100\% = 60.7\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.17 \text{ dB}$

BT-LE 2M: Duty cycle = $1.069 \text{ ms} / 2.499 \text{ ms} \times 100\% = 42.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 3.69 \text{ dB}$

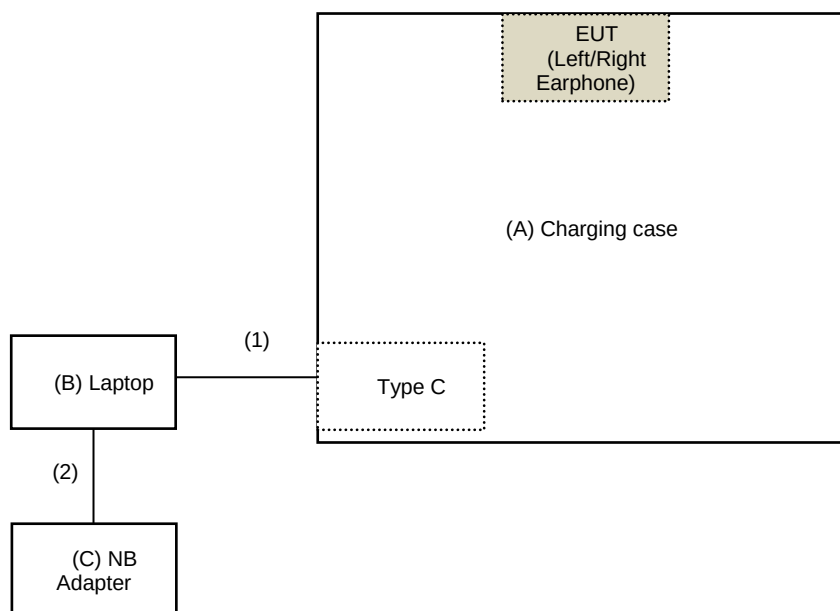


3.6 Test Program Used and Operation Descriptions

Controlling software (AB158x_Airoha_Tool_Kit(ATK)_v3.4.4) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

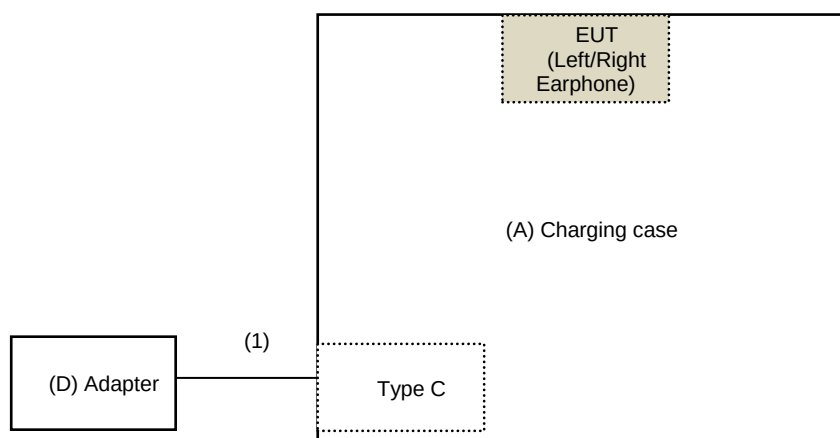
3.7 Connection Diagram of EUT and Peripheral Devices

A(Left/Right Earphone)



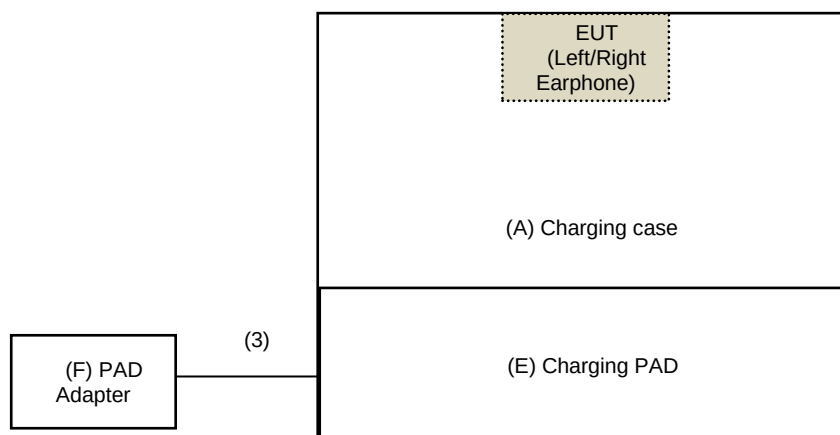
Remote Site

B(Left/Right Earphone)



Remote Site

C(Left/Right Earphone)



Remote Site

3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Charging Case	BOSE	442318	N/A	A94442318	Supplied by applicant
B	Laptop	Lenovo	81A4	YD02TWDP	N/A	Provided by Lab
C	NB Adapter	Lenovo	ADLX65CLGU2A	N/A	N/A	Provided by Lab
D	Adapter	BOSE	F5V-1.6C-1U-US	N/A	N/A	Supplied by applicant
E	Charging PAD	belkin	F7U027	N/A	N/A	Provided by Lab
F	PAD Adapter	belkin	ADS-26FSG-12 150223EPCU	N/A	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Type-C Cable	1	0.3	Y	0	Supplied by applicant
2	NB Adapter DC cable	1	1.9	N	0	Provided by Lab
3	PAD Adapter DC cable	1	1.5	N	0	Provided by Lab

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Pulse Power Sensor Anritsu	MA2411B	0738404	2023/5/5	2024/5/4
RF Power Meter Anritsu	ML2495A	0842014	2023/5/5	2024/5/4
USB Wideband Power Sensor Keysight	U2021XA	U2021XA_001	2023/6/6	2024/6/5

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2024/4/2

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY54490260	2023/7/13	2024/7/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
Software	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in LK - Oven
2. Tested Date: 2024/4/2

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get 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	2024/2/6	2025/2/5
		E1-011285	2023/9/21	2024/9/20
		E1-011286	2023/9/21	2024/9/20
EMI Test Receiver R&S	ESCS 30	100276	2023/4/20	2024/4/19
	ESR3	102412	2023/12/25	2024/12/24
Fixed Attenuator STI	STI02-2200-10	NO.4	2023/9/1	2024/8/31
High Voltage Probe Schwarzbeck	TK9420	00982	2023/12/11	2024/12/10
LISN R&S	ENV216	101197	2023/7/12	2024/7/11
LISN Schwarzbeck	NNLK 8121	8121-731	2023/6/9	2024/6/8
		8121-808	2023/5/2	2024/5/1
	NNLK 8129	8129229	2023/6/27	2024/6/26
	NSLK 8128	8128-244	2023/11/10	2024/11/9
RF Coaxial Cable PEWC	5D-FB	Cable-CO5-01	2024/1/18	2025/1/17
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: 2024/4/2

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	137	2023/10/13	2024/10/12
Coupling / Decoupling Network Schwarzbeck	CDNE-M2	00097	2023/5/25	2024/5/24
	CDNE-M3	00091	2023/5/25	2024/5/24
Loop Antenna EMCI	LPA600	270	2023/9/4	2024/9/3
MXE EMI Receiver Agilent	N9038A	MY51210129	2024/3/22	2025/3/21
		MY51210137	2023/6/5	2024/6/4
Preamplifier Agilent	8447D	2944A11064	2024/2/15	2025/2/14
Preamplifier EMCI	EMC001340	980269	2023/6/27	2024/6/26
RF Coaxial Cable Pacific	8D-FB	Cable-CH6-02	2023/6/27	2024/6/26
Signal Analyzer R&S	FSV40	101544	2023/5/9	2024/5/8
Software BVADT	Radiated_V8.7.08	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2024/3/28

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	2023/5/25	2024/5/24
Horn Antenna EMCO	3115	00028257	2023/11/12	2024/11/11
Horn Antenna ETS-Lindgren	3117-PA	00215857	2023/11/12	2024/11/11
Horn Antenna Schwarzbeck	BBHA 9170	212	2023/10/16	2024/10/15
		BBHA9170241	2023/10/16	2024/10/15
MXE EMI Receiver Agilent	N9038A	MY51210129	2024/3/22	2025/3/21
		MY51210137	2023/6/5	2024/6/4
Notch Filter Micro-Tronics	BRC50703-01	010	2023/5/25	2024/5/24
	BRM17690	005	2023/5/25	2024/5/24
Preamplifier EMCI	EMC0126545	980076	2024/2/15	2025/2/14
	EMC184045B	980175	2023/9/2	2024/9/1
		980235	2024/2/15	2025/2/14
Preamplifier HP	8449B	3008A01201	2024/2/15	2025/2/14
RF Coaxial Cable EMCI	EMC102-KM-KM-1000	200310	2024/3/11	2025/3/10
	EMC104	190801	2023/9/13	2024/9/12
		190804	2023/9/13	2024/9/12
RF Coaxial Cable HUBER+SUHNER	SF-104	Cable-CH6-01	2023/9/13	2024/9/12
Signal Analyzer R&S	FSV40	101042	2023/9/5	2024/9/4
		101544	2023/5/9	2024/5/8
Software BVADT	Radiated_V7.7.1.1.1	N/A	N/A	N/A
Tower ADT	AT100	0306	N/A	N/A
Turn Table ADT	TT100	0306	N/A	N/A

Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2024/3/28 ~ 2024/4/2

5 Limits of Test Items

5.1 RF Output Power

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.6 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

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

5.7 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

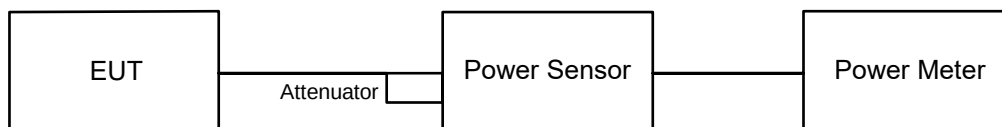
Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



6.1.2 Test Procedure

Peak Power:

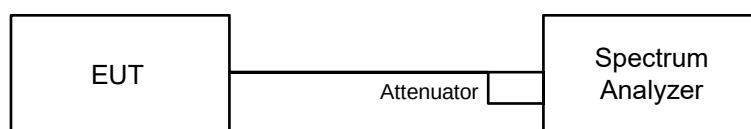
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

Average Power:

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

6.2 Power Spectral Density

6.2.1 Test Setup

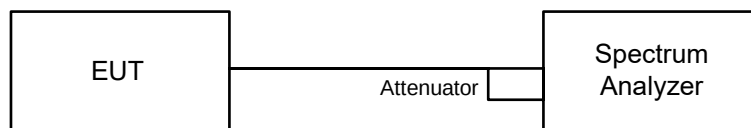


6.2.2 Test Procedure

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

6.3 6 dB Bandwidth

6.3.1 Test Setup

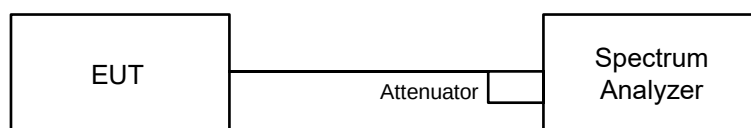


6.3.2 Test Procedure

- Set resolution bandwidth (RBW) = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

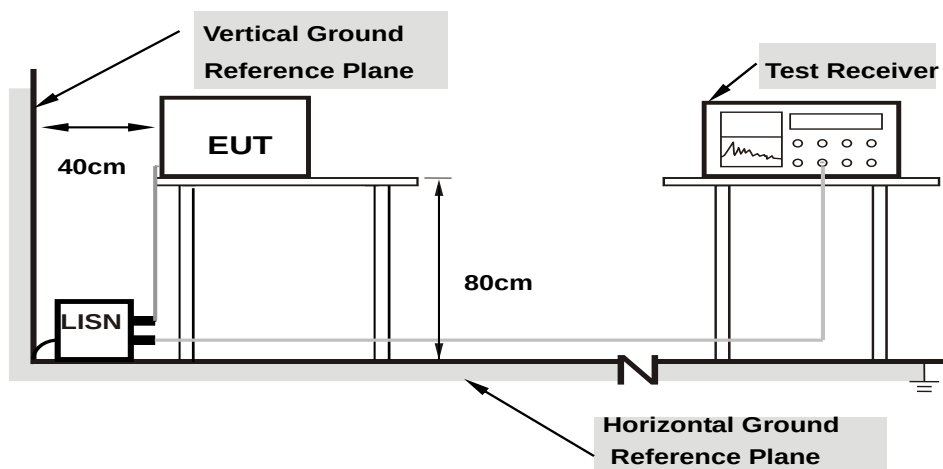
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



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

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

6.5.2 Test Procedure

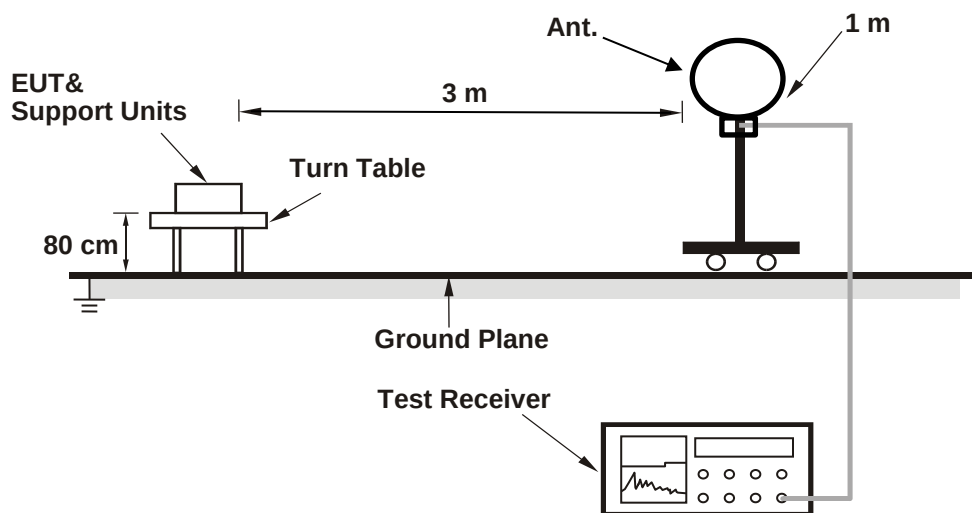
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

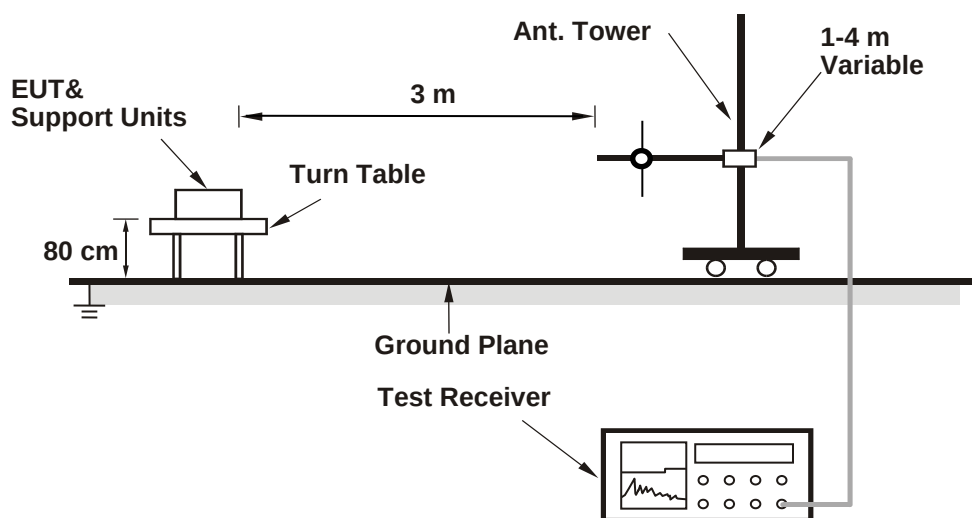
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

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

Notes:

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

For Radiated emission above 30 MHz

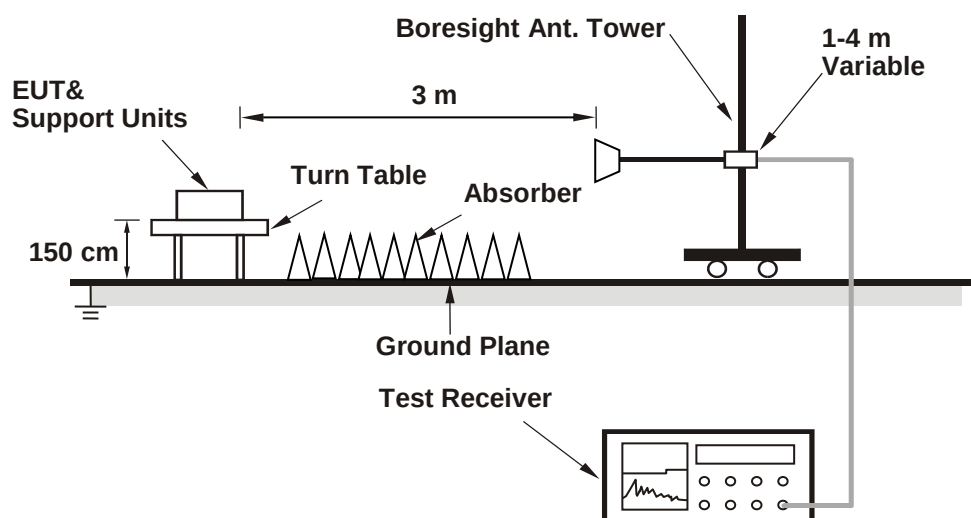
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 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 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:	Dalen Dai
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A(Left Earphone)

For Peak Power

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	5.572	7.46	30	Pass
19	2440	5.623	7.50	30	Pass
39	2480	5.702	7.56	30	Pass

Note: The antenna gain is -0.29 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	5.546	7.44	30	Pass
19	2440	5.598	7.48	30	Pass
39	2480	5.662	7.53	30	Pass

Note: The antenna gain is -0.29 dBi < 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	5.47	7.38
39	2480	5.534	7.43

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	5.383	7.31
19	2440	5.445	7.36
39	2480	5.495	7.40

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Right Earphone)

For Peak Power

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	5.623	7.50	30	Pass
19	2440	5.559	7.45	30	Pass
39	2480	5.272	7.22	30	Pass

Note: The antenna gain is -1.65 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	5.61	7.49	30	Pass
19	2440	5.559	7.45	30	Pass
39	2480	5.272	7.22	30	Pass

Note: The antenna gain is -1.65 dBi < 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	5.47	7.38
19	2440	5.42	7.34
39	2480	5.14	7.11

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	5.445	7.36
19	2440	5.395	7.32
39	2480	5.117	7.09

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Left Earphone)

BT-LE 1M

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	0	2402	-8.41	8	Pass
	19	2440	-8.29	8	Pass
	39	2480	-8.25	8	Pass

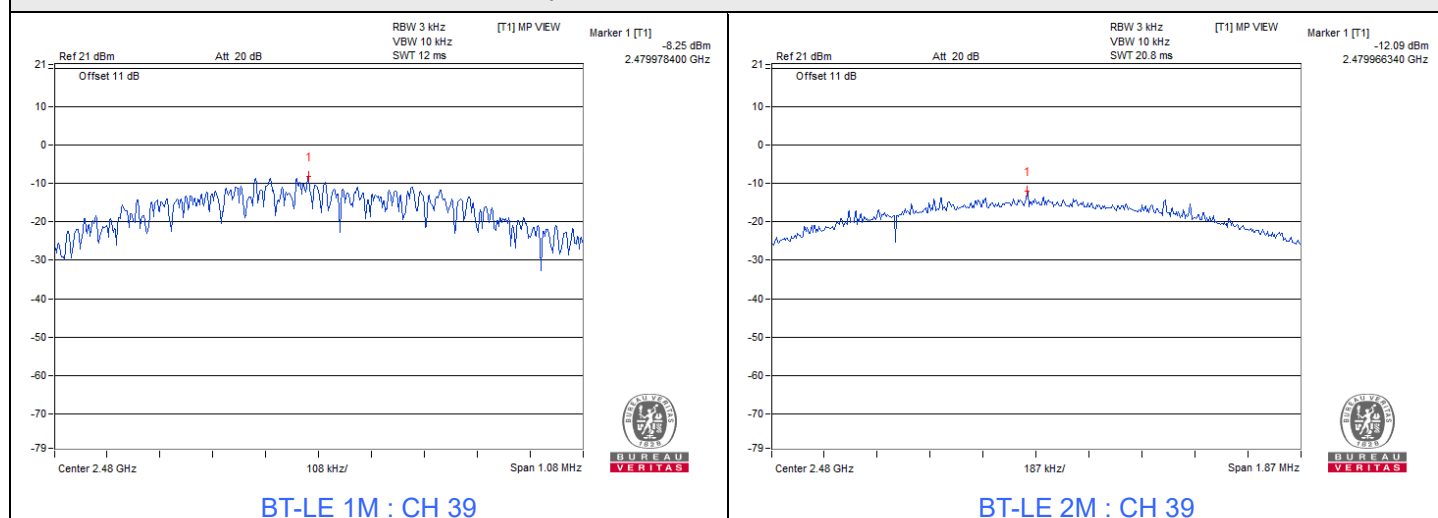
Note: The antenna gain is -0.29 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 2M

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	0	2402	-12.3	8	Pass
	19	2440	-12.17	8	Pass
	39	2480	-12.09	8	Pass

Note: The antenna gain is -0.29 dBi < 6 dBi, so the power density limit shall not be reduced.

Spectrum Plot of Maximum Value



Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Right Earphone)

BT-LE 1M

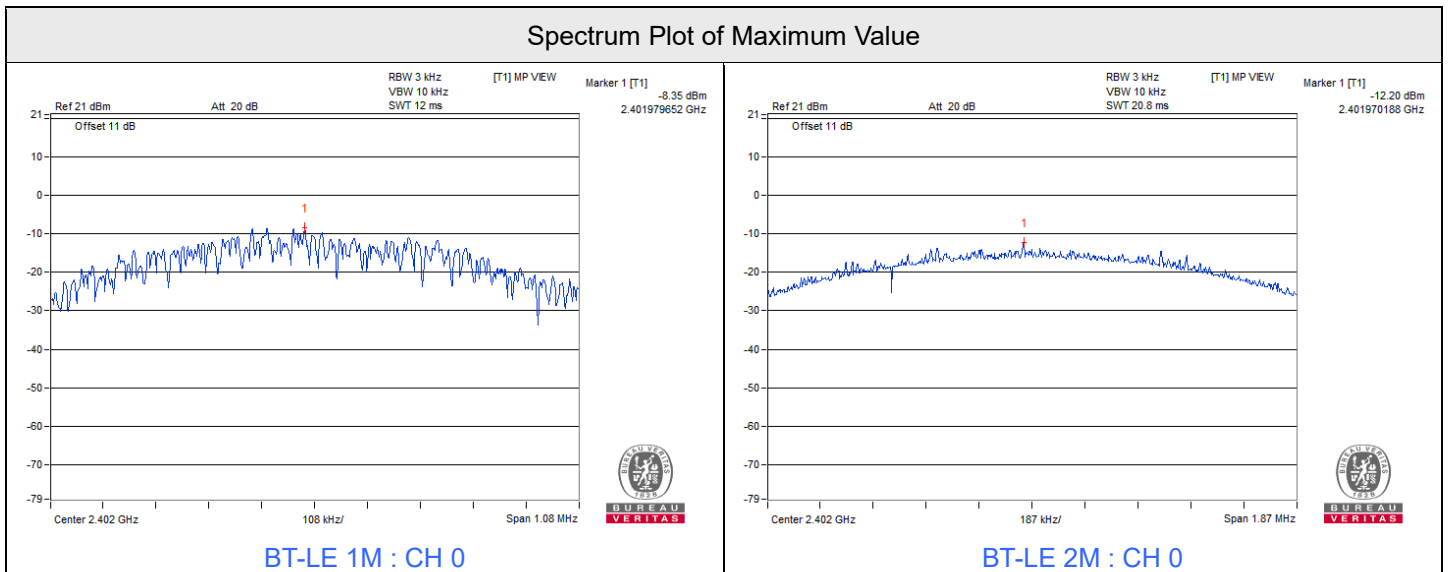
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	0	2402	-8.35	8	Pass
	19	2440	-8.37	8	Pass
	39	2480	-8.56	8	Pass

Note: The antenna gain is -1.65 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 2M

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
Chain 0	0	2402	-12.2	8	Pass
	19	2440	-12.33	8	Pass
	39	2480	-12.41	8	Pass

Note: The antenna gain is -1.65 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:	Dalen Dai
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A(Left Earphone)

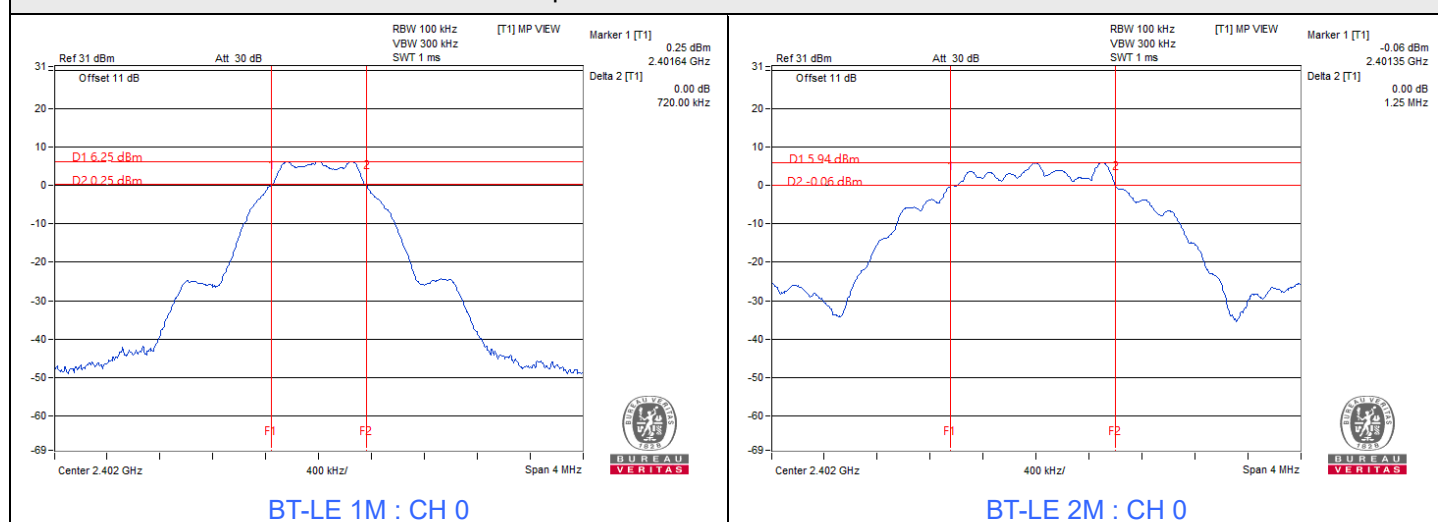
BT-LE 1M

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
0	2402	1.25	0.5	Pass
19	2440	1.25	0.5	Pass
39	2480	1.25	0.5	Pass

Spectrum Plot of Minimum Value



Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Right Earphone)

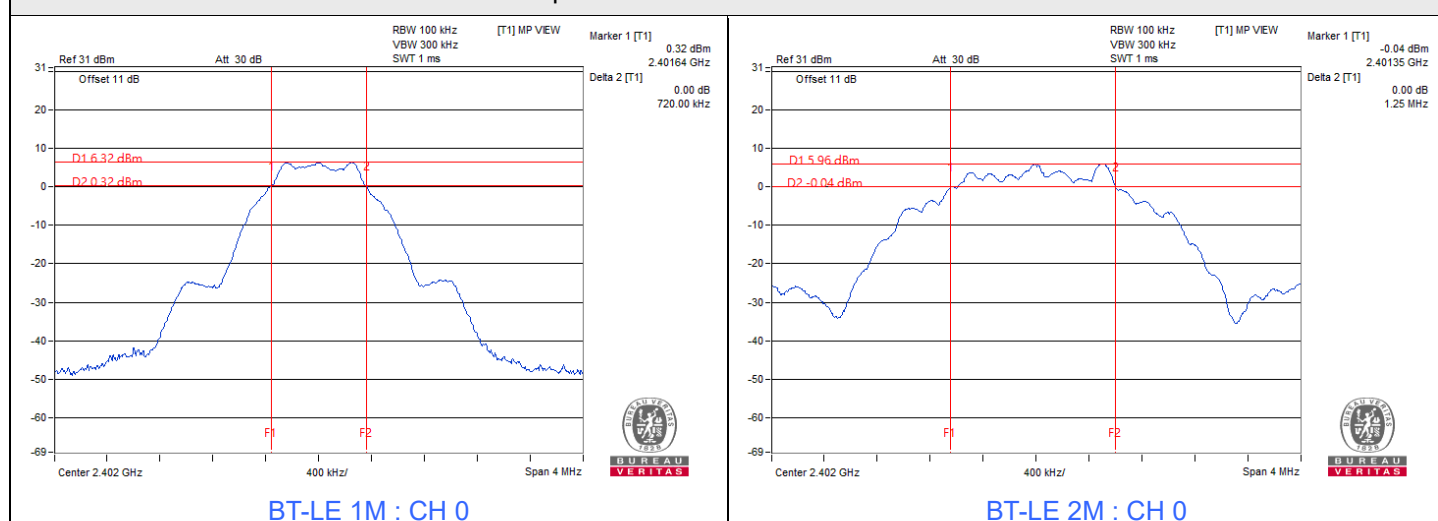
BT-LE 1M

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
0	2402	1.25	0.5	Pass
19	2440	1.25	0.5	Pass
39	2480	1.25	0.5	Pass

Spectrum Plot of Minimum Value

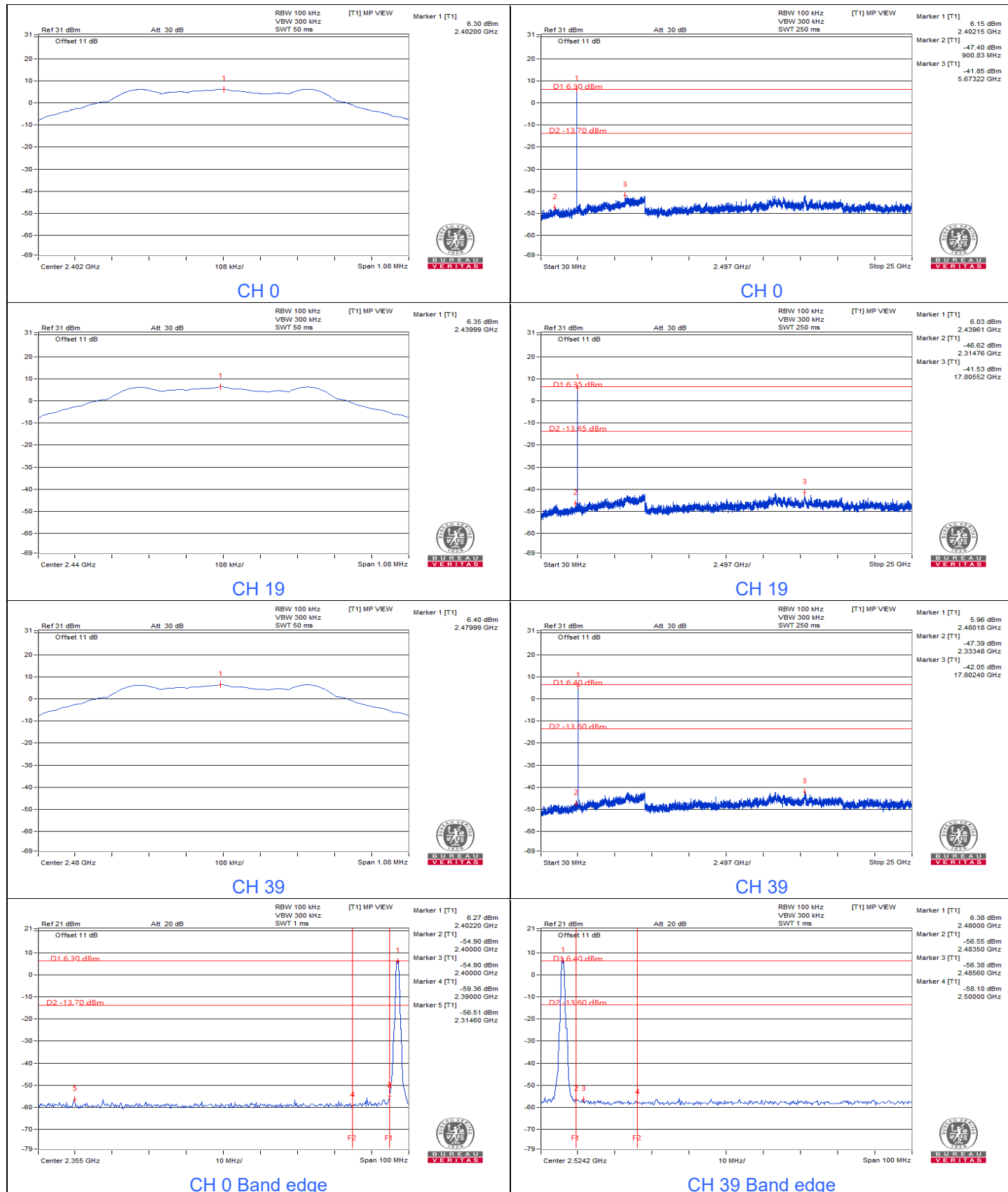


7.4 Conducted Out of Band Emissions

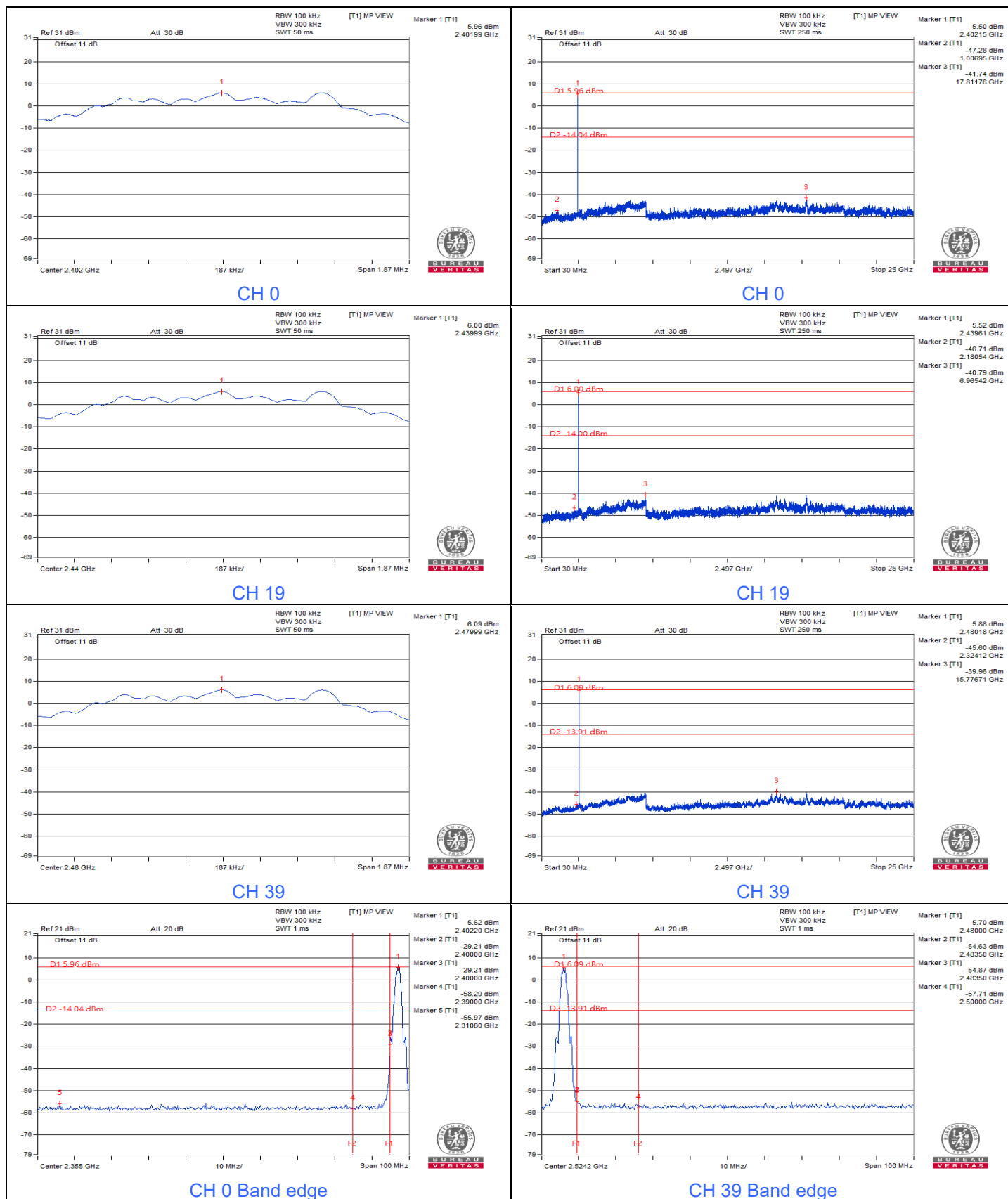
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Left Earphone)

BT-LE 1M



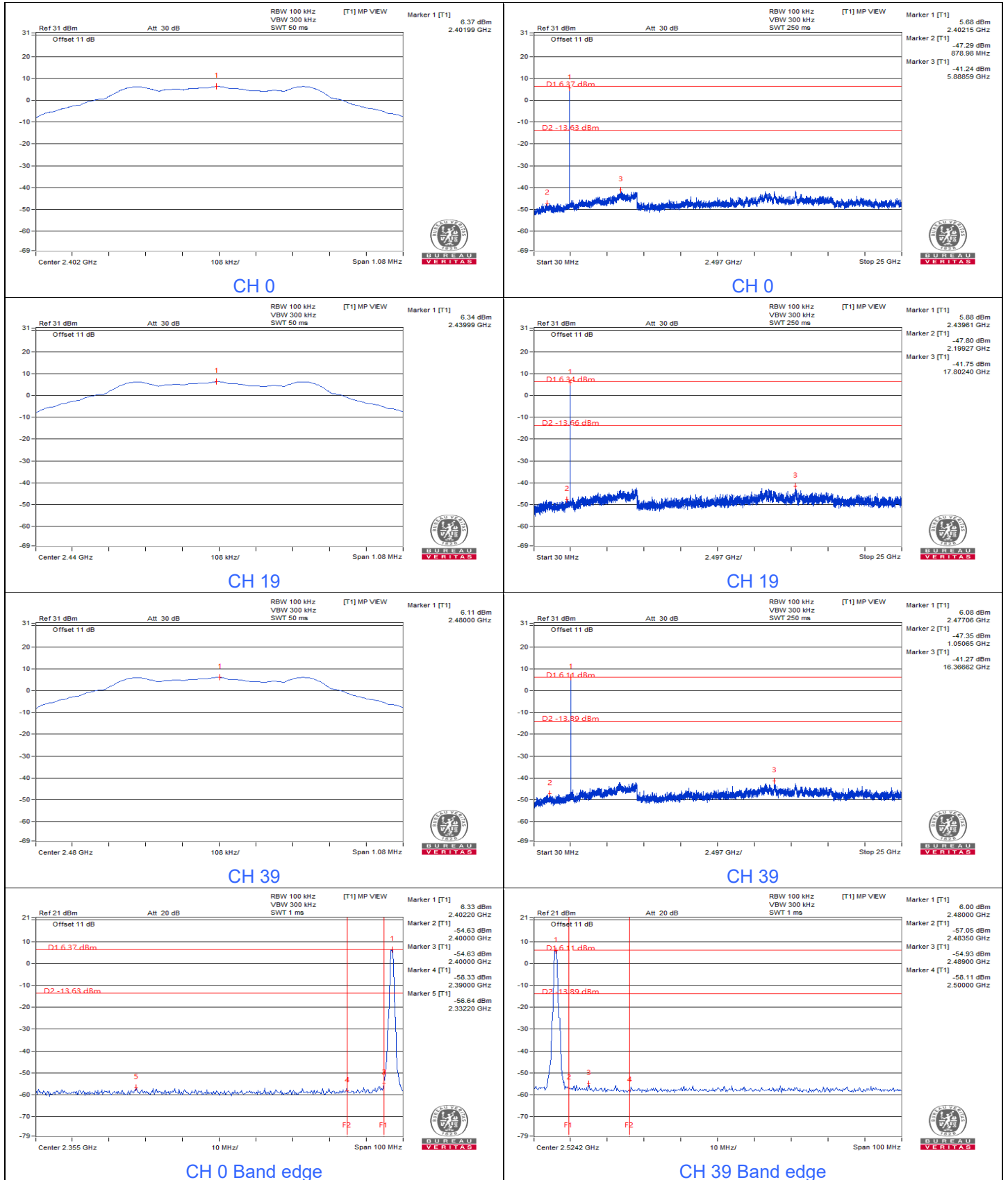
BT-LE 2M



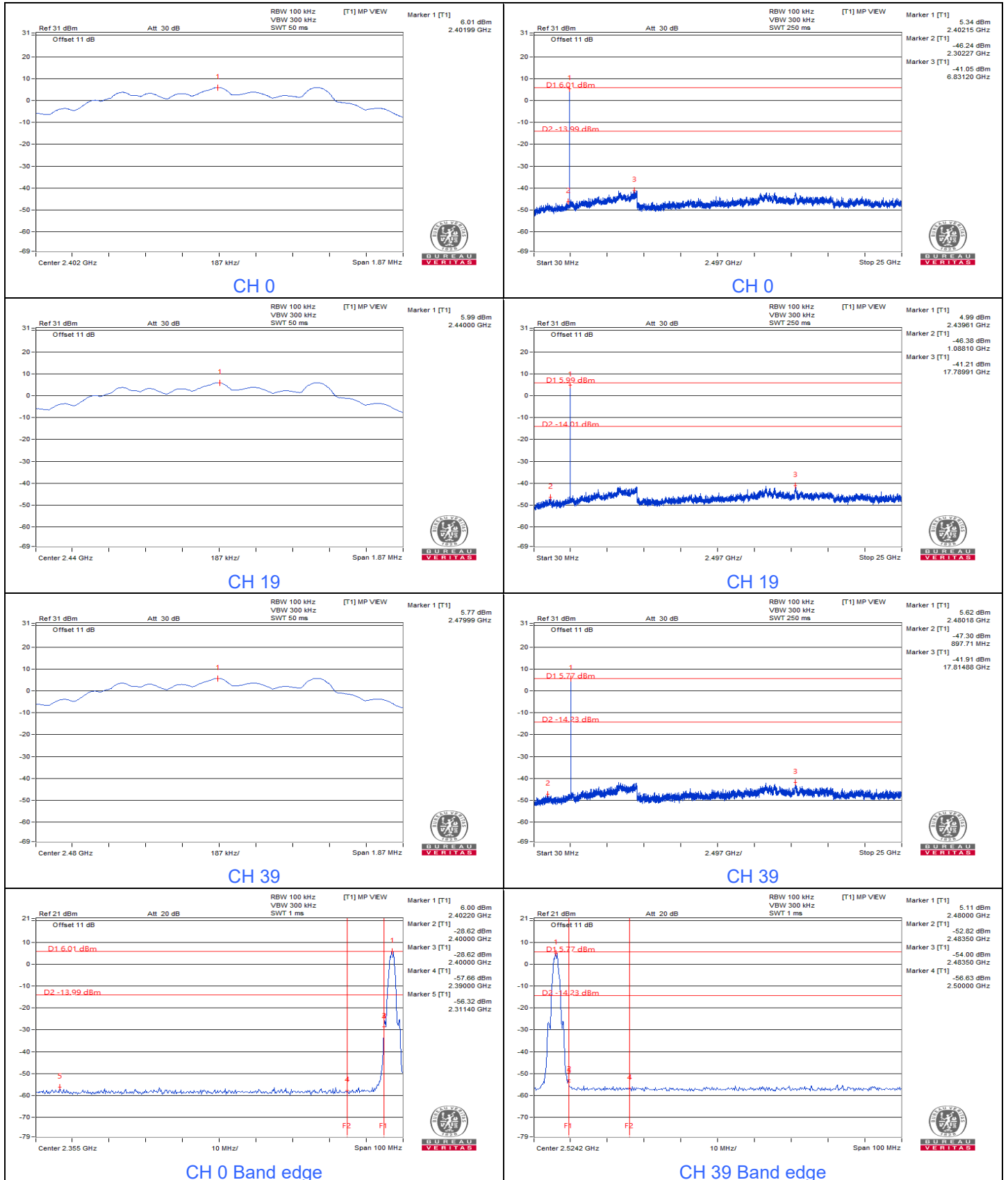
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 76% RH	Tested By:	Dalen Dai
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A(Right Earphone)

BT-LE 1M



BT-LE 2M



7.5 AC Power Conducted Emissions

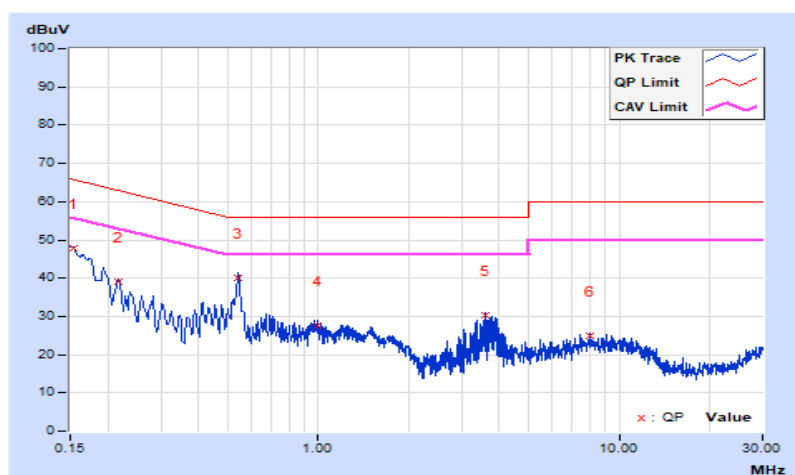
A(Left Earphone)

RF Mode	BT-LE 1M	Channel	CH 39 : 2480 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	0.15391	9.98	37.69	21.61	47.67	31.59	65.79	55.79	-18.12	-24.20
2	0.21622	10.05	28.89	16.80	38.94	26.85	62.96	52.96	-24.02	-26.11
3	0.54302	10.12	29.96	23.13	40.08	33.25	56.00	46.00	-15.92	-12.75
4	0.99279	10.07	17.46	10.73	27.53	20.80	56.00	46.00	-28.47	-25.20
5	3.60742	10.31	19.93	8.74	30.24	19.05	56.00	46.00	-25.76	-26.95
6	7.98018	10.81	14.25	7.83	25.06	18.64	60.00	50.00	-34.94	-31.36

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

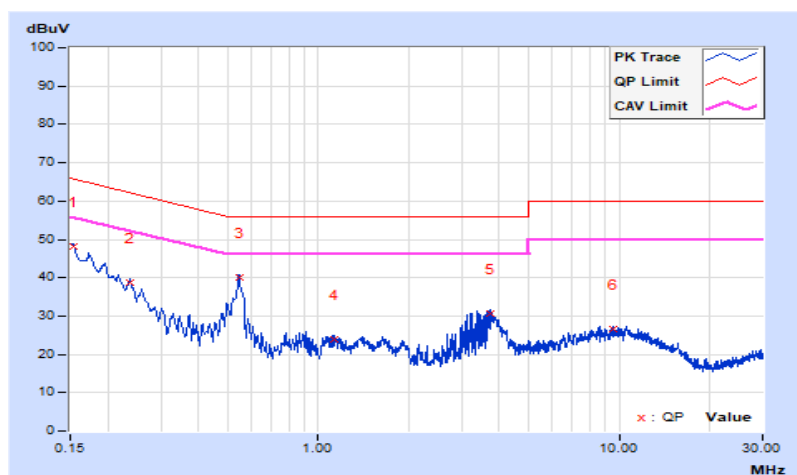


RF Mode	BT-LE 1M	Channel	CH 39 : 2480 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15391	10.26	37.88	17.03	48.14	27.29	65.79	55.79	-17.65	-28.50
2	0.23604	10.27	28.32	12.69	38.59	22.96	62.23	52.23	-23.64	-29.27
3	0.54520	10.31	29.90	23.51	40.21	33.82	56.00	46.00	-15.79	-12.18
4	1.12576	10.34	13.55	7.49	23.89	17.83	56.00	46.00	-32.11	-28.17
5	3.74039	10.57	19.99	8.52	30.56	19.09	56.00	46.00	-25.44	-26.91
6	9.60325	11.17	15.50	8.52	26.67	19.69	60.00	50.00	-33.33	-30.31

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



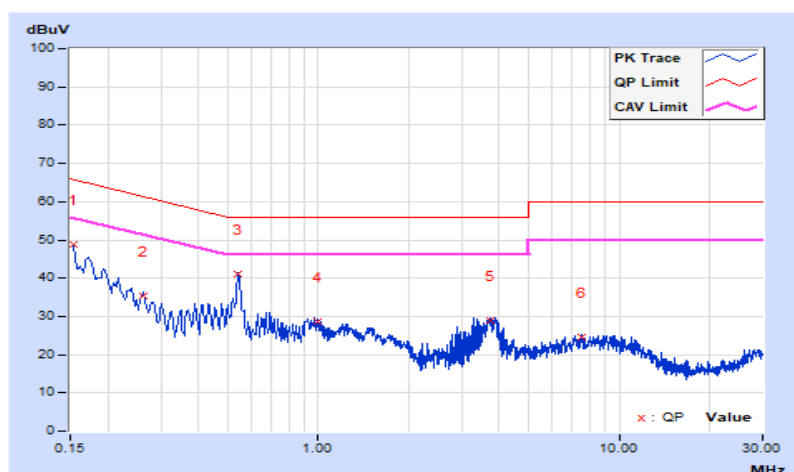
A(Right Earphone)

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	0.15391	9.98	38.84	22.70	48.82	32.68	65.79	55.79	-16.97	-23.11
2	0.26342	10.07	25.15	17.90	35.22	27.97	61.32	51.32	-26.10	-23.35
3	0.54302	10.12	30.95	24.14	41.07	34.26	56.00	46.00	-14.93	-11.74
4	0.99279	10.07	18.40	11.63	28.47	21.70	56.00	46.00	-27.53	-24.30
5	3.75162	10.33	18.79	8.50	29.12	18.83	56.00	46.00	-26.88	-27.17
6	7.47566	10.75	13.74	7.88	24.49	18.63	60.00	50.00	-35.51	-31.37

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

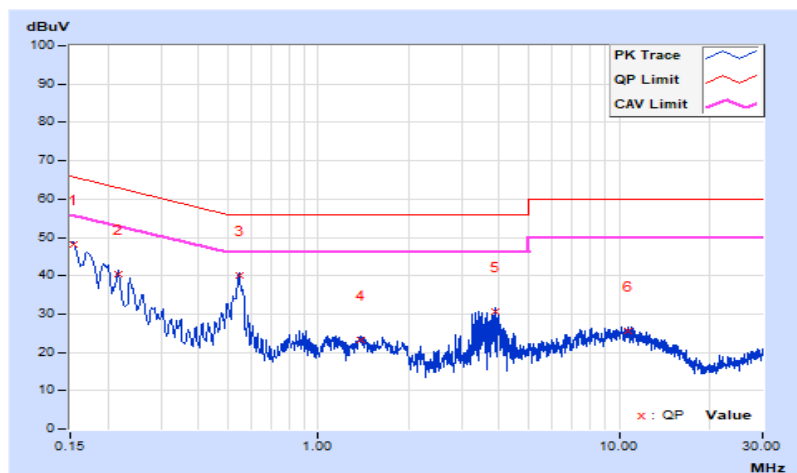


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15391	10.26	37.90	16.92	48.16	27.18	65.79	55.79	-17.63	-28.61
2	0.21649	10.26	30.10	13.87	40.36	24.13	62.95	52.95	-22.59	-28.82
3	0.54664	10.31	29.66	23.00	39.97	33.31	56.00	46.00	-16.03	-12.69
4	1.38389	10.36	12.83	6.29	23.19	16.65	56.00	46.00	-32.81	-29.35
5	3.86164	10.58	20.03	9.16	30.61	19.74	56.00	46.00	-25.39	-26.26
6	10.67095	11.28	14.42	7.88	25.70	19.16	60.00	50.00	-34.30	-30.84

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



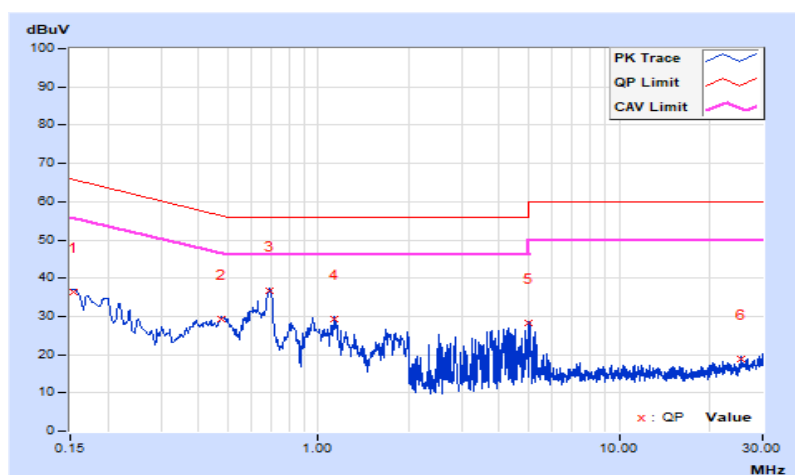
B(Left Earphone)

RF Mode	BT-LE 1M	Channel	CH 39 : 2480 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	0.15391	9.98	26.35	10.29	36.33	20.27	65.79	55.79	-29.46	-35.52
2	0.47852	10.12	19.24	6.23	29.36	16.35	56.36	46.36	-27.00	-30.01
3	0.69111	10.10	26.74	8.05	36.84	18.15	56.00	46.00	-19.16	-27.85
4	1.13358	10.08	19.22	4.36	29.30	14.44	56.00	46.00	-26.70	-31.56
5	4.98409	10.46	17.90	5.73	28.36	16.19	56.00	46.00	-27.64	-29.81
6	25.52102	12.91	6.09	4.70	19.00	17.61	60.00	50.00	-41.00	-32.39

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

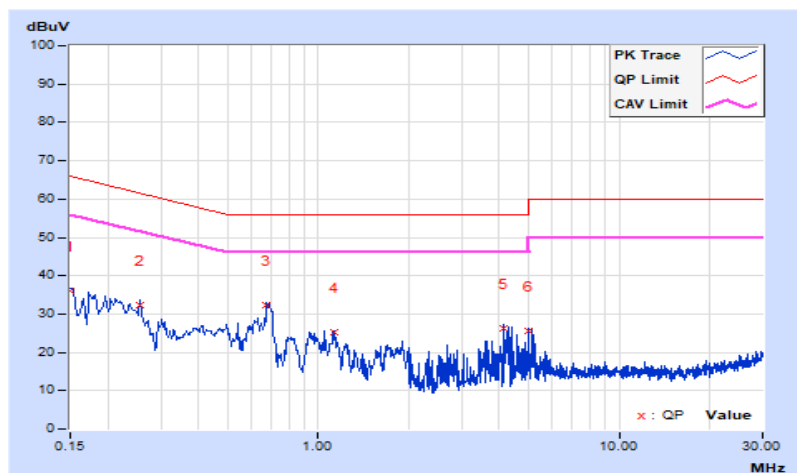


RF Mode	BT-LE 1M	Channel	CH 39 : 2480 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15000	10.26	25.76	9.25	36.02	19.51	66.00	56.00	-29.98	-36.49
2	0.25560	10.27	21.96	13.15	32.23	23.42	61.57	51.57	-29.34	-28.15
3	0.67600	10.31	22.16	7.60	32.47	17.91	56.00	46.00	-23.53	-28.09
4	1.13718	10.34	15.05	3.73	25.39	14.07	56.00	46.00	-30.61	-31.93
5	4.15105	10.61	15.75	6.81	26.36	17.42	56.00	46.00	-29.64	-28.58
6	5.03129	10.70	14.97	5.17	25.67	15.87	60.00	50.00	-34.33	-34.13

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



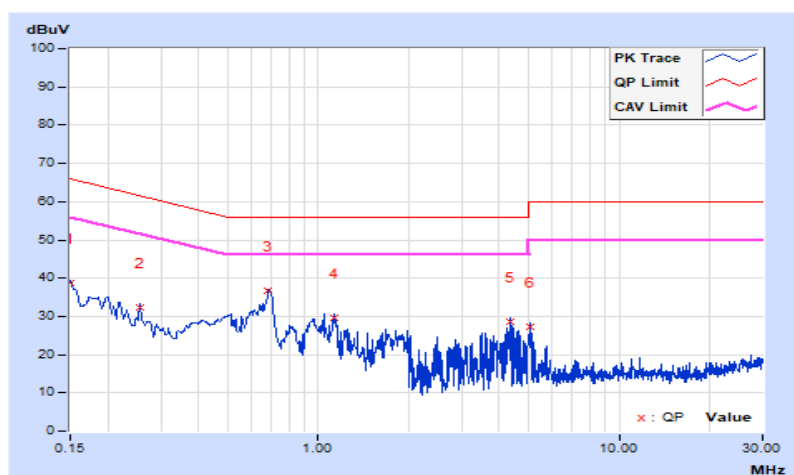
B(Right Earphone)

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	0.15000	9.97	28.88	11.81	38.85	21.78	66.00	56.00	-27.15	-34.22
2	0.25560	10.07	22.29	13.67	32.36	23.74	61.57	51.57	-29.21	-27.83
3	0.68382	10.10	26.52	7.12	36.62	17.22	56.00	46.00	-19.38	-28.78
4	1.13749	10.08	19.66	4.62	29.74	14.70	56.00	46.00	-26.26	-31.30
5	4.37007	10.39	18.30	3.49	28.69	13.88	56.00	46.00	-27.31	-32.12
6	5.07040	10.47	16.88	4.75	27.35	15.22	60.00	50.00	-32.65	-34.78

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

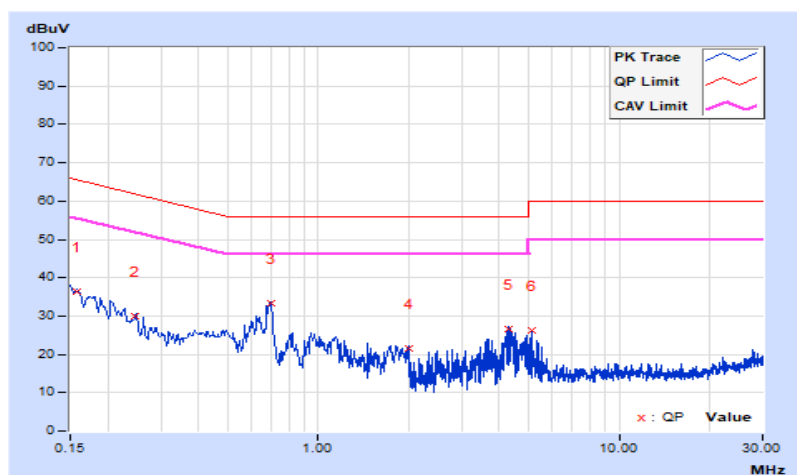


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15719	10.26	26.05	8.73	36.31	18.99	65.61	55.61	-29.30	-36.62
2	0.24777	10.27	19.66	11.41	29.93	21.68	61.83	51.83	-31.90	-30.15
3	0.69476	10.31	22.91	8.65	33.22	18.96	56.00	46.00	-22.78	-27.04
4	1.99400	10.42	11.13	3.47	21.55	13.89	56.00	46.00	-34.45	-32.11
5	4.30358	10.62	16.12	3.60	26.74	14.22	56.00	46.00	-29.26	-31.78
6	5.11342	10.71	15.52	3.82	26.23	14.53	60.00	50.00	-33.77	-35.47

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



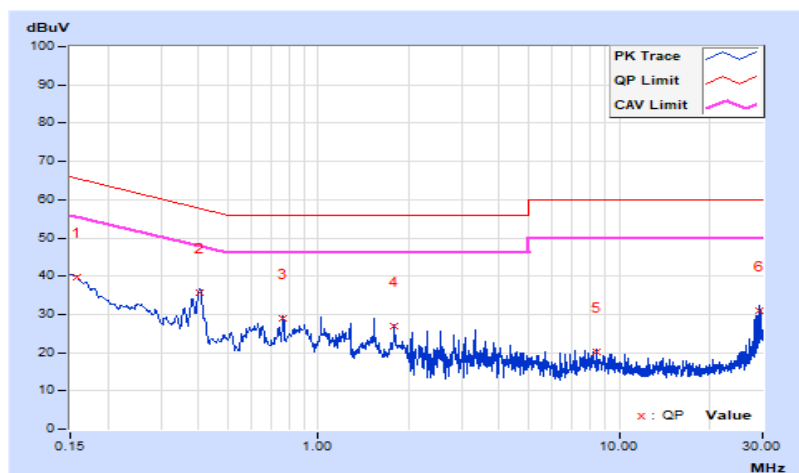
C(Left Earphone)

RF Mode	BT-LE 1M	Channel	CH 39 : 2480 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	0.15719	9.98	29.69	11.90	39.67	21.88	65.61	55.61	-25.94	-33.73
2	0.40421	10.13	25.68	20.67	35.81	30.80	57.77	47.77	-21.96	-16.97
3	0.76591	10.09	18.80	14.68	28.89	24.77	56.00	46.00	-27.11	-21.23
4	1.78919	10.14	16.85	12.81	26.99	22.95	56.00	46.00	-29.01	-23.05
5	8.43386	10.86	9.29	4.80	20.15	15.66	60.00	50.00	-39.85	-34.34
6	29.25993	13.33	17.49	16.58	30.82	29.91	60.00	50.00	-29.18	-20.09

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

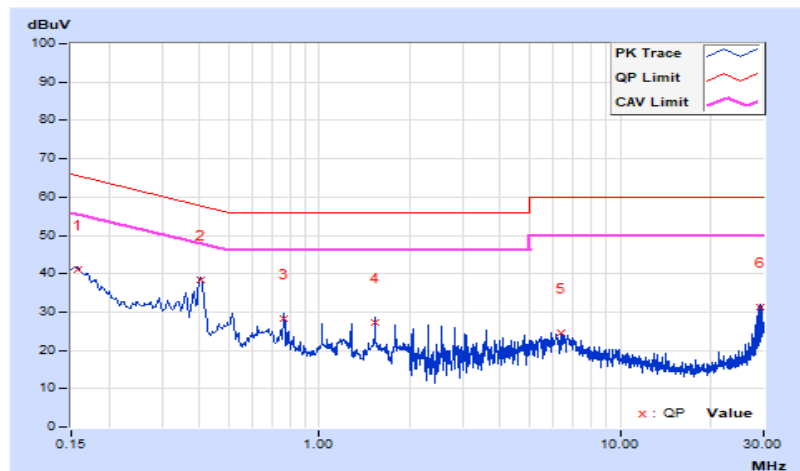


RF Mode	BT-LE 1M	Channel	CH 39 : 2480 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	10.26	30.65	16.06	40.91	26.32	65.58	55.58	-24.67	-29.26
2	0.40268	10.30	28.11	23.07	38.41	33.37	57.80	47.80	-19.39	-14.43
3	0.76591	10.32	17.82	14.16	28.14	24.48	56.00	46.00	-27.86	-21.52
4	1.53250	10.38	17.04	14.73	27.42	25.11	56.00	46.00	-28.58	-20.89
5	6.34538	10.83	13.61	7.26	24.44	18.09	60.00	50.00	-35.56	-31.91
6	29.25993	13.54	17.70	15.76	31.24	29.30	60.00	50.00	-28.76	-20.70

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



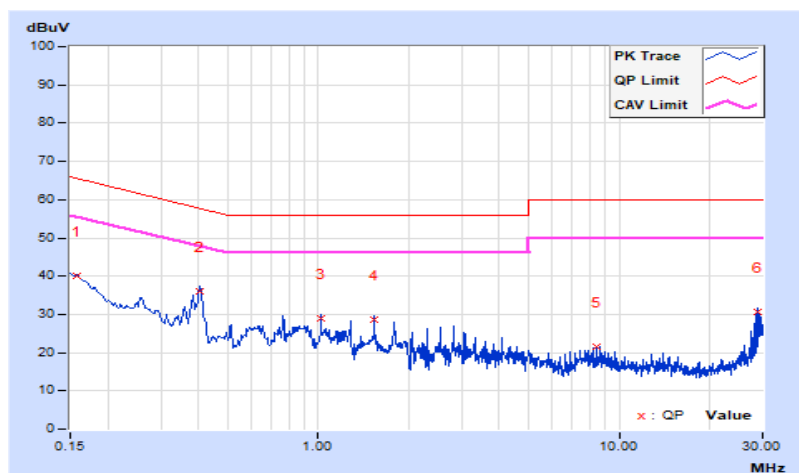
C(Right Earphone)

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	0.15760	9.98	29.93	11.12	39.91	21.10	65.59	55.59	-25.68	-34.49
2	0.40421	10.13	26.03	21.32	36.16	31.45	57.77	47.77	-21.61	-16.32
3	1.02407	10.07	18.73	15.51	28.80	25.58	56.00	46.00	-27.20	-20.42
4	1.53250	10.12	18.35	15.13	28.47	25.25	56.00	46.00	-27.53	-20.75
5	8.43386	10.86	10.63	9.02	21.49	19.88	60.00	50.00	-38.51	-30.12
6	29.00572	13.30	17.33	15.67	30.63	28.97	60.00	50.00	-29.37	-21.03

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

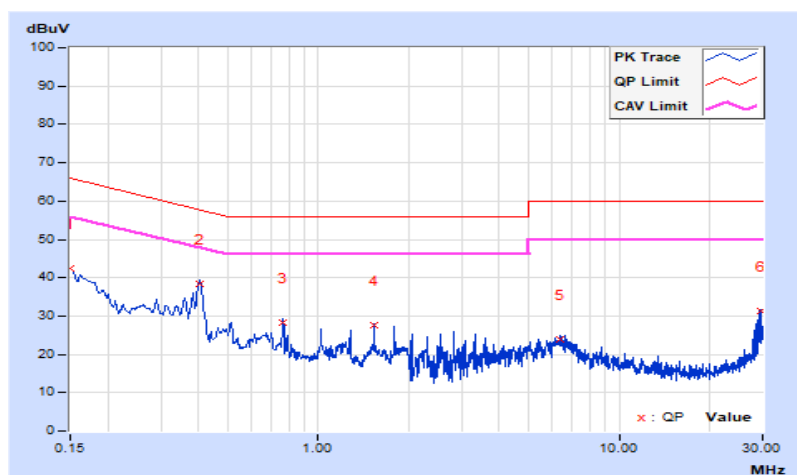


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Jed Wu		

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	0.15000	10.26	32.11	17.19	42.37	27.45	66.00	56.00	-23.63	-28.55
2	0.40421	10.30	28.16	23.06	38.46	33.36	57.77	47.77	-19.31	-14.41
3	0.76591	10.32	17.94	14.21	28.26	24.53	56.00	46.00	-27.74	-21.47
4	1.53250	10.38	17.12	13.77	27.50	24.15	56.00	46.00	-28.50	-21.85
5	6.38817	10.84	12.95	8.12	23.79	18.96	60.00	50.00	-36.21	-31.04
6	29.51806	13.58	17.62	14.39	31.20	27.97	60.00	50.00	-28.80	-22.03

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

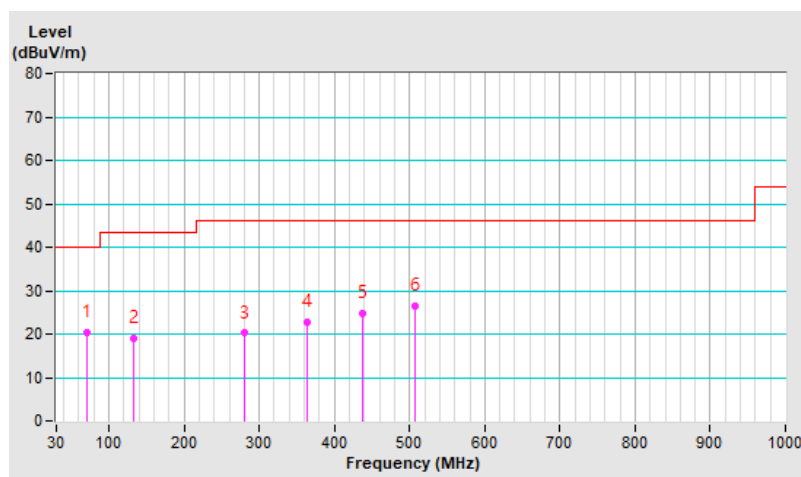
A(Left Earphone)

RF Mode	BT-LE 1M	Channel	CH 39 : 2480 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	William Su		

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	71.61	20.4 QP	40.0	-19.6	1.27 H	307	31.7	-11.3
2	133.21	19.1 QP	43.5	-24.4	1.39 H	262	28.6	-9.5
3	280.36	20.2 QP	46.0	-25.8	1.46 H	130	27.1	-6.9
4	363.53	22.7 QP	46.0	-23.3	1.15 H	142	27.7	-5.0
5	437.06	24.7 QP	46.0	-21.3	1.83 H	348	27.8	-3.1
6	507.05	26.4 QP	46.0	-19.6	1.00 H	15	28.2	-1.8

Remarks:

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

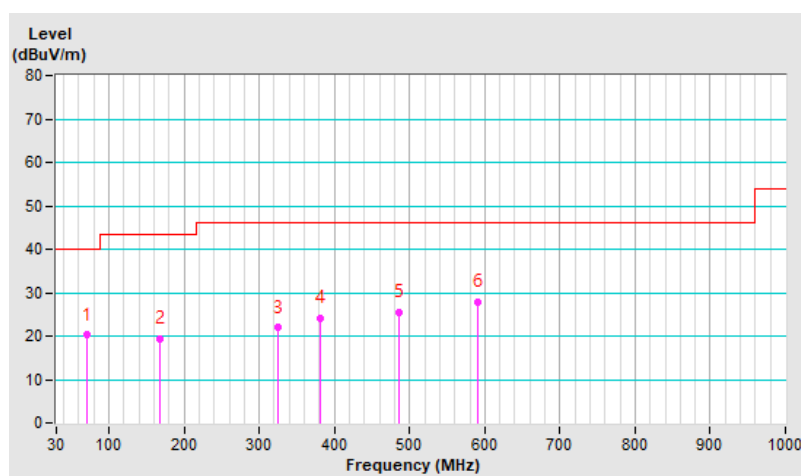


RF Mode	BT-LE 1M	Channel	CH 39 : 2480 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	William Su		

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	71.56	20.2 QP	40.0	-19.8	1.42 V	198	31.5	-11.3
2	168.61	19.3 QP	43.5	-24.2	1.58 V	174	27.9	-8.6
3	324.59	21.9 QP	46.0	-24.1	1.73 V	264	27.5	-5.6
4	381.77	24.1 QP	46.0	-21.9	1.64 V	338	28.7	-4.6
5	486.58	25.4 QP	46.0	-20.6	1.85 V	281	27.6	-2.2
6	591.48	27.9 QP	46.0	-18.1	1.00 V	283	27.7	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.



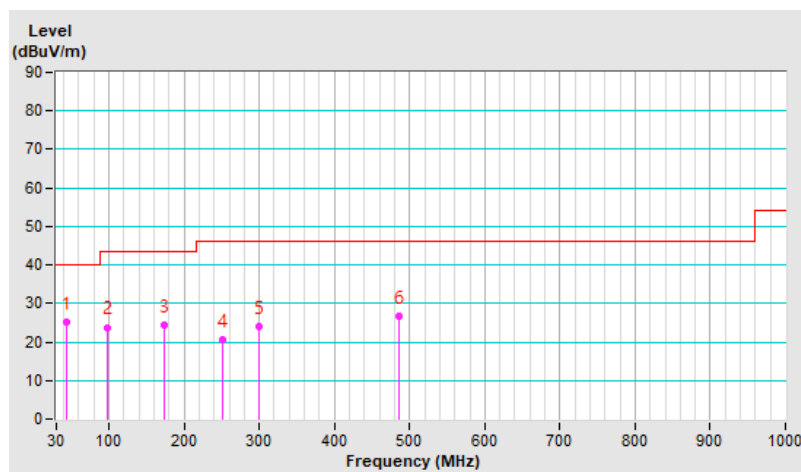
A(Right Earphone)

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

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	42.67	25.3 QP	40.0	-14.7	2.28 H	340	34.3	-9.0
2	97.00	23.8 QP	43.5	-19.7	2.12 H	269	37.5	-13.7
3	174.50	24.5 QP	43.5	-19.0	1.81 H	0	33.0	-8.5
4	250.20	20.7 QP	46.0	-25.3	1.89 H	230	28.6	-7.9
5	300.05	24.1 QP	46.0	-21.9	1.31 H	142	30.0	-5.9
6	485.94	26.7 QP	46.0	-19.3	1.02 H	223	28.5	-1.8

Remarks:

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

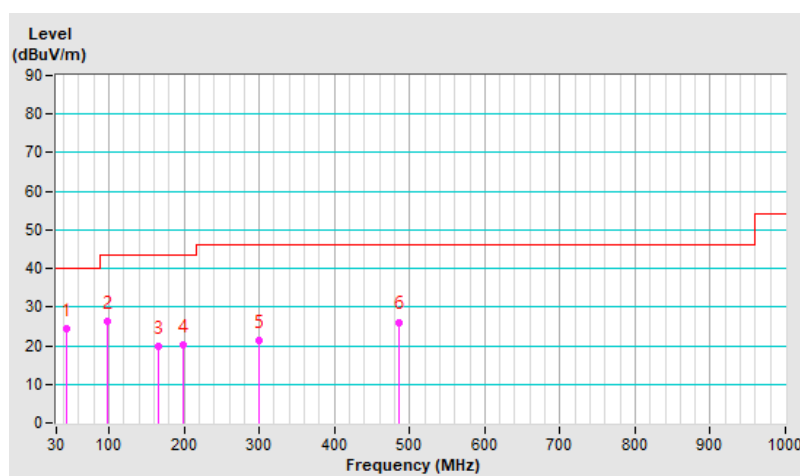


RF Mode	BT-LE 1M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	William Su		

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	44.30	24.3 QP	40.0	-15.7	1.42 V	332	33.2	-8.9
2	96.98	26.4 QP	43.5	-17.1	1.89 V	157	40.1	-13.7
3	166.38	19.9 QP	43.5	-23.6	2.26 V	257	27.8	-7.9
4	199.56	20.3 QP	43.5	-23.2	1.01 V	264	30.8	-10.5
5	300.00	21.3 QP	46.0	-24.7	1.92 V	219	27.2	-5.9
6	486.86	26.1 QP	46.0	-19.9	1.53 V	338	27.9	-1.8

Remarks:

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



7.7 Unwanted Emissions above 1 GHz

A(Left Earphone)

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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.5 PK	74.0	-20.5	3.43 H	225	54.0	-0.5
2	2390.00	40.8 AV	54.0	-13.2	3.43 H	225	41.3	-0.5
3	*2402.00	100.7 PK			3.43 H	225	101.2	-0.5
4	*2402.00	100.1 AV			3.43 H	225	100.6	-0.5
5	4804.00	47.9 PK	74.0	-26.1	1.16 H	309	40.1	7.8
6	4804.00	34.3 AV	54.0	-19.7	1.16 H	309	26.5	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	2390.00	53.9 PK	74.0	-20.1	3.21 V	274	54.4	-0.5
2	2390.00	41.2 AV	54.0	-12.8	3.21 V	274	41.7	-0.5
3	*2402.00	101.5 PK			3.21 V	274	102.0	-0.5
4	*2402.00	100.9 AV			3.21 V	274	101.4	-0.5
5	4804.00	48.5 PK	74.0	-25.5	1.59 V	291	40.7	7.8
6	4804.00	34.9 AV	54.0	-19.1	1.59 V	291	27.1	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 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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	102.2 PK			3.41 H	226	102.5	-0.3
2	*2440.00	101.4 AV			3.41 H	226	101.7	-0.3
3	4880.00	49.3 PK	74.0	-24.7	1.14 H	310	41.4	7.9
4	4880.00	35.5 AV	54.0	-18.5	1.14 H	310	27.6	7.9
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	103.0 PK			3.19 V	275	103.3	-0.3
2	*2440.00	102.2 AV			3.19 V	275	102.5	-0.3
3	4880.00	49.9 PK	74.0	-24.1	1.57 V	290	42.0	7.9
4	4880.00	36.3 AV	54.0	-17.7	1.57 V	290	28.4	7.9

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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	103.0 PK			2.80 H	220	103.2	-0.2
2	*2480.00	102.4 AV			2.80 H	220	102.6	-0.2
3	2483.50	54.2 PK	74.0	-19.8	2.80 H	220	54.4	-0.2
4	2483.50	41.4 AV	54.0	-12.6	2.80 H	220	41.6	-0.2
5	4960.00	50.1 PK	74.0	-23.9	1.79 H	304	42.1	8.0
6	4960.00	36.5 AV	54.0	-17.5	1.79 H	304	28.5	8.0
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	103.8 PK			3.84 V	269	104.0	-0.2
2	*2480.00	103.2 AV			3.84 V	269	103.4	-0.2
3	2483.50	54.6 PK	74.0	-19.4	3.84 V	269	54.8	-0.2
4	2483.50	41.8 AV	54.0	-12.2	3.84 V	269	42.0	-0.2
5	4960.00	50.7 PK	74.0	-23.3	2.22 V	286	42.7	8.0
6	4960.00	37.1 AV	54.0	-16.9	2.22 V	286	29.1	8.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	54.0 PK	74.0	-20.0	3.44 H	227	54.5	-0.5
2	2390.00	40.1 AV	54.0	-13.9	3.44 H	227	40.6	-0.5
3	*2402.00	100.6 PK			3.44 H	227	101.1	-0.5
4	*2402.00	99.0 AV			3.44 H	227	99.5	-0.5
5	4804.00	47.8 PK	74.0	-26.2	1.16 H	311	40.0	7.8
6	4804.00	33.2 AV	54.0	-20.8	1.16 H	311	25.4	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	2390.00	54.5 PK	74.0	-19.5	3.21 V	276	55.0	-0.5
2	2390.00	40.5 AV	54.0	-13.5	3.21 V	276	41.0	-0.5
3	*2402.00	101.5 PK			3.21 V	276	102.0	-0.5
4	*2402.00	99.8 AV			3.21 V	276	100.3	-0.5
5	4804.00	48.4 PK	74.0	-25.6	1.60 V	293	40.6	7.8
6	4804.00	33.8 AV	54.0	-20.2	1.60 V	293	26.0	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 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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	102.5 PK			3.72 H	223	102.8	-0.3
2	*2440.00	100.8 AV			3.72 H	223	101.1	-0.3
3	4880.00	49.6 PK	74.0	-24.4	1.45 H	307	41.7	7.9
4	4880.00	36.0 AV	54.0	-18.0	1.45 H	307	28.1	7.9
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	103.3 PK			3.50 V	272	103.6	-0.3
2	*2440.00	101.6 AV			3.50 V	272	101.9	-0.3
3	4880.00	50.2 PK	74.0	-23.8	1.88 V	289	42.3	7.9
4	4880.00	36.6 AV	54.0	-17.4	1.88 V	289	28.7	7.9

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	25°C, 75% RH
Tested By	Jed Wu		

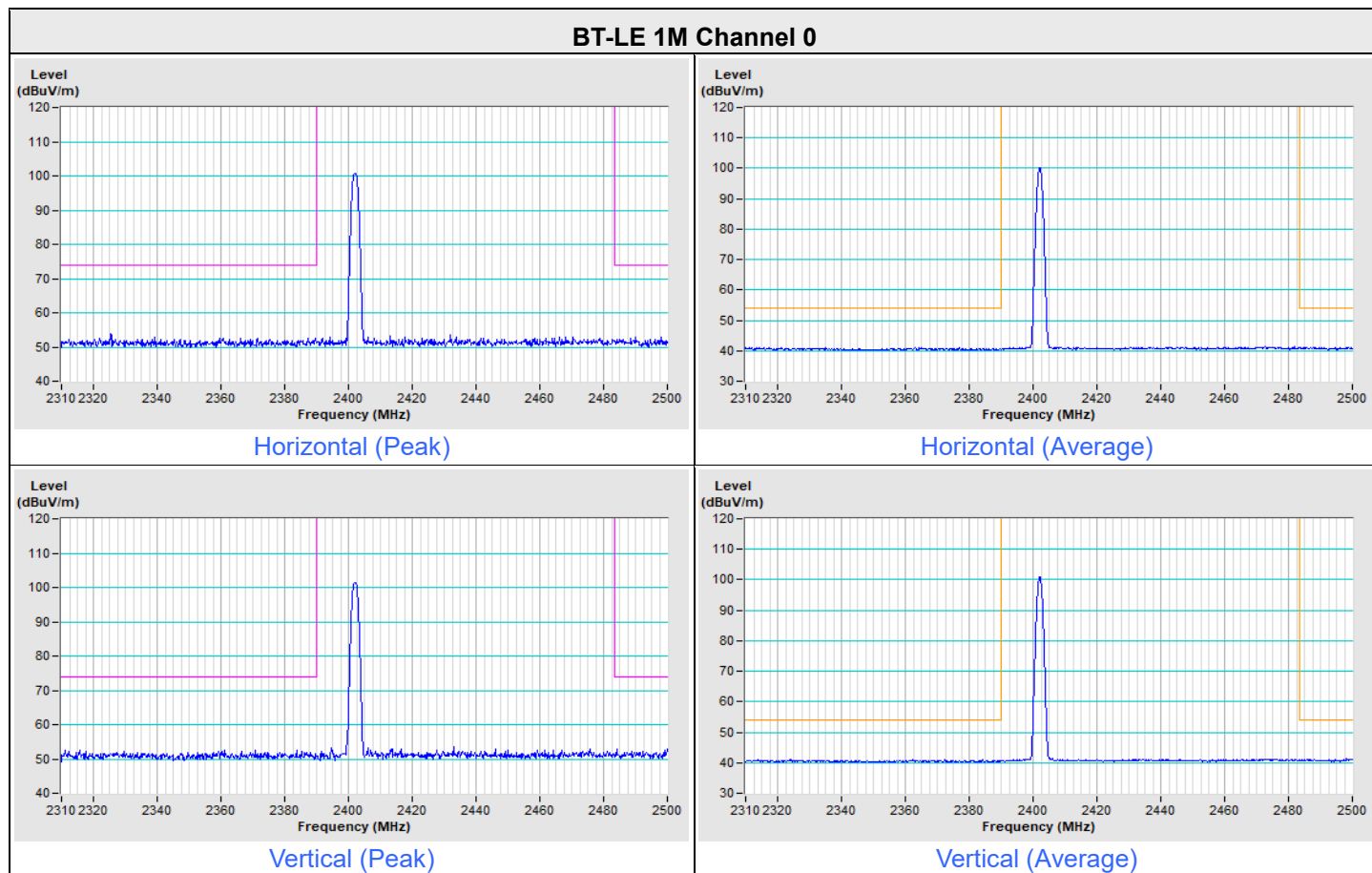
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	102.8 PK			2.79 H	221	103.0	-0.2
2	*2480.00	101.1 AV			2.79 H	221	101.3	-0.2
3	2483.50	56.2 PK	74.0	-17.8	2.79 H	221	56.4	-0.2
4	2483.50	44.9 AV	54.0	-9.1	2.79 H	221	45.1	-0.2
5	4960.00	49.9 PK	74.0	-24.1	1.80 H	304	41.9	8.0
6	4960.00	36.3 AV	54.0	-17.7	1.80 H	304	28.3	8.0
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	103.6 PK			3.85 V	270	103.8	-0.2
2	*2480.00	102.0 AV			3.85 V	270	102.2	-0.2
3	2483.50	56.4 PK	74.0	-17.6	3.85 V	270	56.6	-0.2
4	2483.50	45.1 AV	54.0	-8.9	3.85 V	270	45.3	-0.2
5	4960.00	50.5 PK	74.0	-23.5	2.23 V	287	42.5	8.0
6	4960.00	36.9 AV	54.0	-17.1	2.23 V	287	28.9	8.0

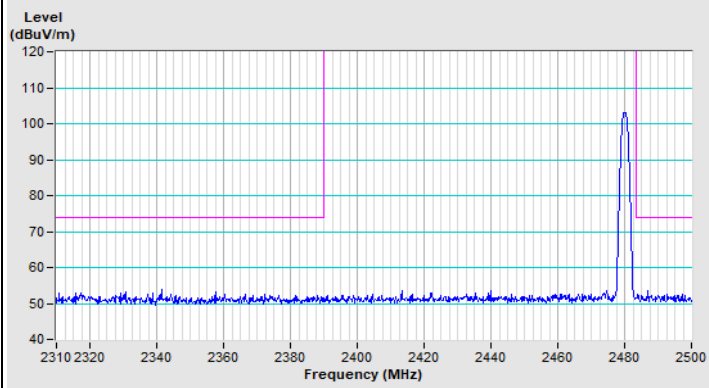
Remarks:

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

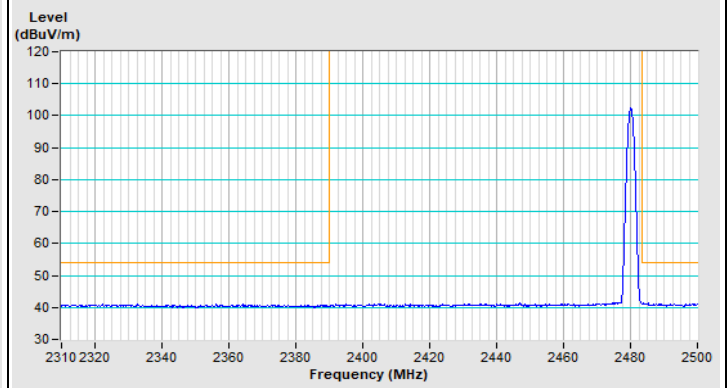
A(Left Earphone)_Plot of Band Edge

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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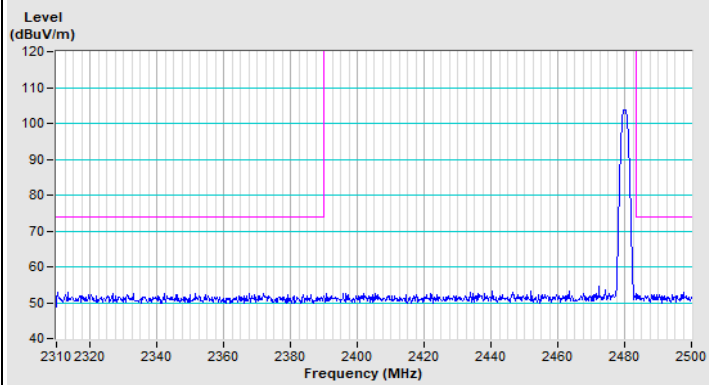


BT-LE 1M Channel 39

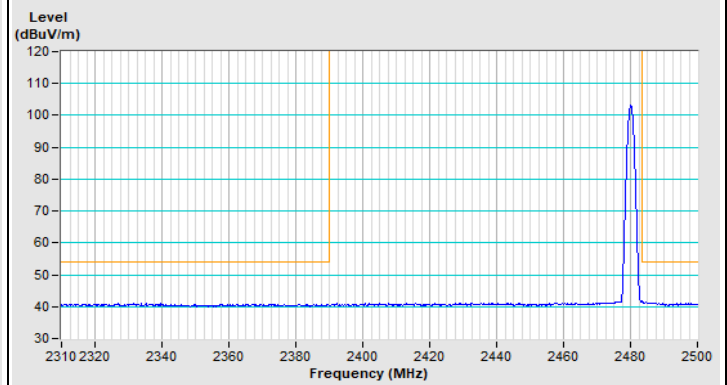
Horizontal (Peak)



Horizontal (Average)



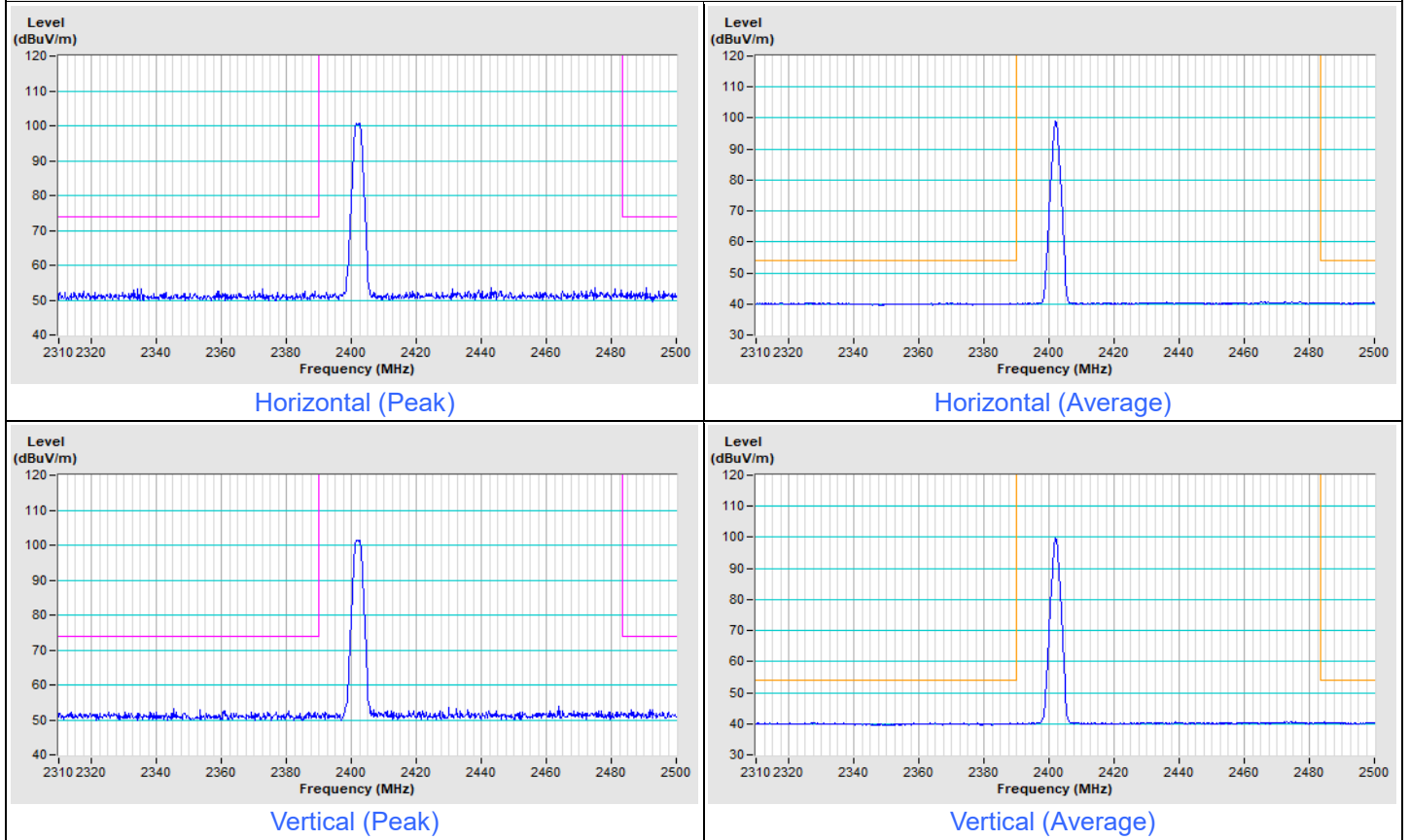
Vertical (Peak)

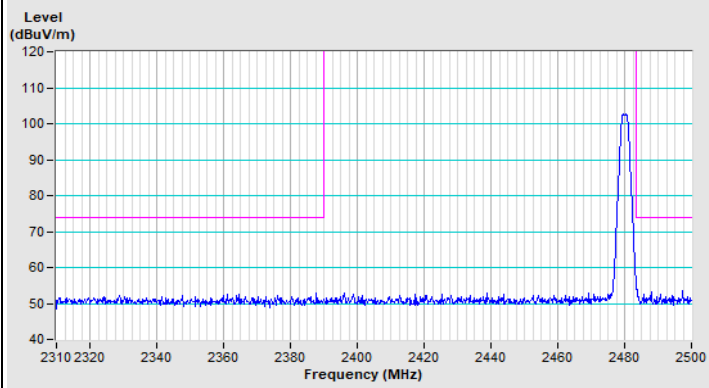


Vertical (Average)

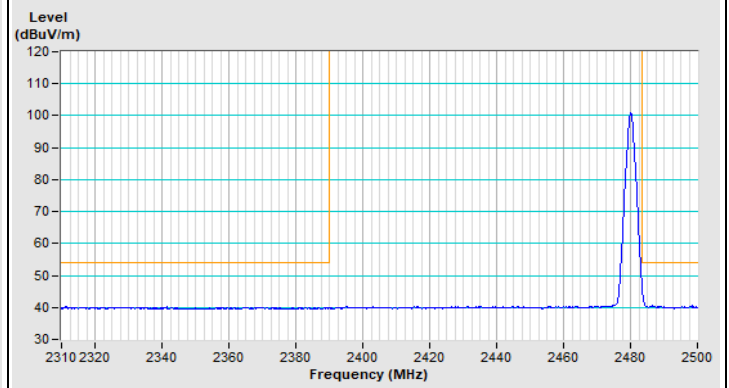
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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BT-LE 2M Channel 0

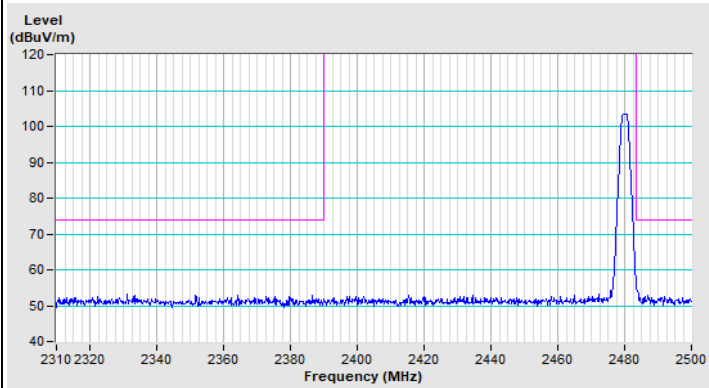


BT-LE 2M Channel 39

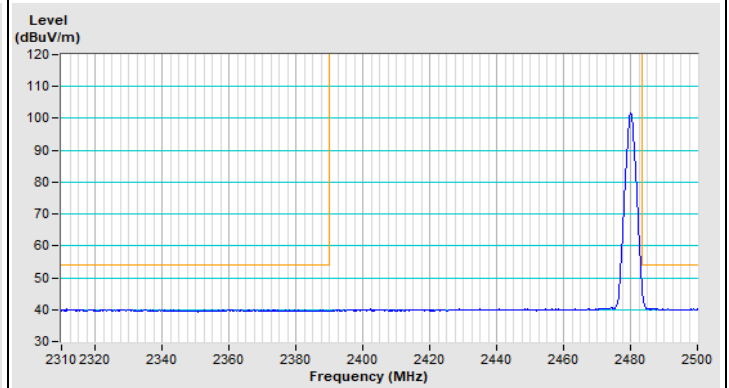
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

A(Right Earphone)

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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.1 PK	74.0	-20.9	3.34 H	154	53.6	-0.5
2	2390.00	40.6 AV	54.0	-13.4	3.34 H	154	41.1	-0.5
3	*2402.00	97.1 PK			3.34 H	154	97.6	-0.5
4	*2402.00	96.5 AV			3.34 H	154	97.0	-0.5
5	4804.00	48.0 PK	74.0	-26.0	3.06 H	137	40.2	7.8
6	4804.00	37.6 AV	54.0	-16.4	3.06 H	137	29.8	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	2390.00	54.0 PK	74.0	-20.0	3.21 V	110	54.5	-0.5
2	2390.00	41.5 AV	54.0	-12.5	3.21 V	110	42.0	-0.5
3	*2402.00	100.3 PK			3.21 V	110	100.8	-0.5
4	*2402.00	99.7 AV			3.21 V	110	100.2	-0.5
5	4804.00	47.1 PK	74.0	-26.9	3.36 V	186	39.3	7.8
6	4804.00	36.7 AV	54.0	-17.3	3.36 V	186	28.9	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 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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	97.6 PK			3.28 H	156	97.9	-0.3
2	*2440.00	97.0 AV			3.28 H	156	97.3	-0.3
3	4880.00	48.4 PK	74.0	-25.6	3.00 H	139	40.5	7.9
4	4880.00	38.0 AV	54.0	-16.0	3.00 H	139	30.1	7.9
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	100.8 PK			3.15 V	112	101.1	-0.3
2	*2440.00	100.2 AV			3.15 V	112	100.5	-0.3
3	4880.00	47.5 PK	74.0	-26.5	3.30 V	188	39.6	7.9
4	4880.00	37.1 AV	54.0	-16.9	3.30 V	188	29.2	7.9

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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	98.0 PK			3.16 H	156	98.2	-0.2
2	*2480.00	97.3 AV			3.16 H	156	97.5	-0.2
3	2483.50	53.5 PK	74.0	-20.5	3.16 H	156	53.7	-0.2
4	2483.50	41.3 AV	54.0	-12.7	3.16 H	156	41.5	-0.2
5	4960.00	48.8 PK	74.0	-25.2	2.88 H	139	40.8	8.0
6	4960.00	38.4 AV	54.0	-15.6	2.88 H	139	30.4	8.0
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	101.2 PK			3.03 V	112	101.4	-0.2
2	*2480.00	100.6 AV			3.03 V	112	100.8	-0.2
3	2483.50	53.7 PK	74.0	-20.3	3.03 V	112	53.9	-0.2
4	2483.50	41.5 AV	54.0	-12.5	3.03 V	112	41.7	-0.2
5	4960.00	47.9 PK	74.0	-26.1	3.18 V	184	39.9	8.0
6	4960.00	37.5 AV	54.0	-16.5	3.18 V	184	29.5	8.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.8 PK	74.0	-20.2	3.33 H	155	54.3	-0.5
2	2390.00	40.1 AV	54.0	-13.9	3.33 H	155	40.6	-0.5
3	*2402.00	97.0 PK			3.33 H	155	97.5	-0.5
4	*2402.00	95.3 AV			3.33 H	155	95.8	-0.5
5	4804.00	47.9 PK	74.0	-26.1	3.05 H	138	40.1	7.8
6	4804.00	36.4 AV	54.0	-17.6	3.05 H	138	28.6	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	2390.00	54.4 PK	74.0	-19.6	3.21 V	111	54.9	-0.5
2	2390.00	40.7 AV	54.0	-13.3	3.21 V	111	41.2	-0.5
3	*2402.00	100.2 PK			3.21 V	111	100.7	-0.5
4	*2402.00	98.5 AV			3.21 V	111	99.0	-0.5
5	4804.00	47.0 PK	74.0	-27.0	3.35 V	185	39.2	7.8
6	4804.00	35.5 AV	54.0	-18.5	3.35 V	185	27.7	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.

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	25°C, 75% RH
Tested By	Jed Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	97.6 PK			3.25 H	156	97.9	-0.3
2	*2440.00	95.9 AV			3.25 H	156	96.2	-0.3
3	4880.00	48.4 PK	74.0	-25.6	2.97 H	137	40.5	7.9
4	4880.00	36.9 AV	54.0	-17.1	2.97 H	137	29.0	7.9
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	100.8 PK			3.13 V	112	101.1	-0.3
2	*2440.00	99.1 AV			3.13 V	112	99.4	-0.3
3	4880.00	47.5 PK	74.0	-26.5	3.27 V	184	39.6	7.9
4	4880.00	36.0 AV	54.0	-18.0	3.27 V	184	28.1	7.9

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	25°C, 75% RH
Tested By	Jed Wu		

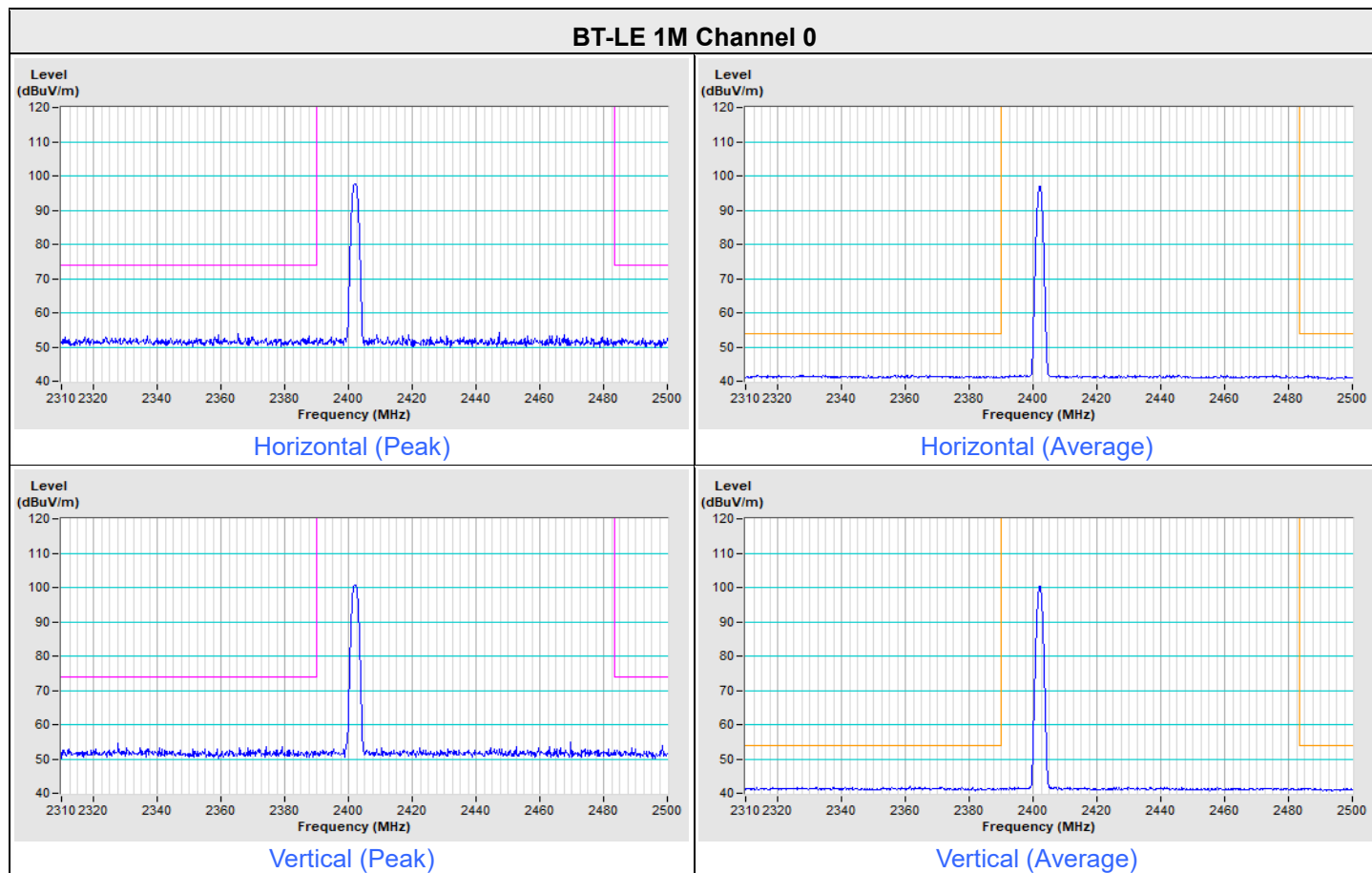
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	98.2 PK			3.15 H	157	98.4	-0.2
2	*2480.00	96.5 AV			3.15 H	157	96.7	-0.2
3	2483.50	54.6 PK	74.0	-19.4	3.15 H	157	54.8	-0.2
4	2483.50	42.5 AV	54.0	-11.5	3.15 H	157	42.7	-0.2
5	4960.00	48.9 PK	74.0	-25.1	2.87 H	140	40.9	8.0
6	4960.00	37.4 AV	54.0	-16.6	2.87 H	140	29.4	8.0
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	101.3 PK			3.03 V	113	101.5	-0.2
2	*2480.00	99.6 AV			3.03 V	113	99.8	-0.2
3	2483.50	55.6 PK	74.0	-18.4	3.03 V	113	55.8	-0.2
4	2483.50	44.0 AV	54.0	-10.0	3.03 V	113	44.2	-0.2
5	4960.00	48.0 PK	74.0	-26.0	3.17 V	187	40.0	8.0
6	4960.00	36.5 AV	54.0	-17.5	3.17 V	187	28.5	8.0

Remarks:

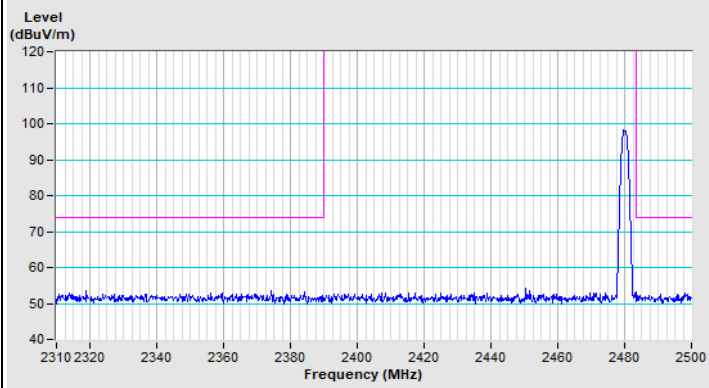
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

A(Right Earphone)_Plot of Band Edge

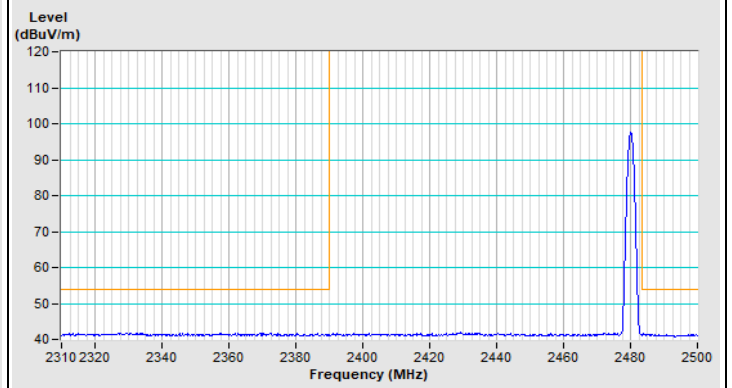
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
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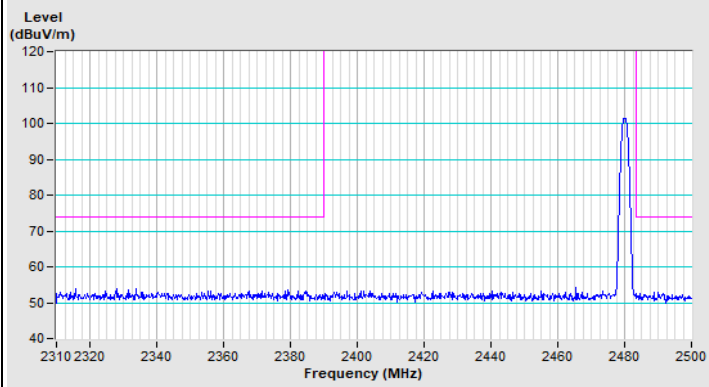
BT-LE 1M Channel 39



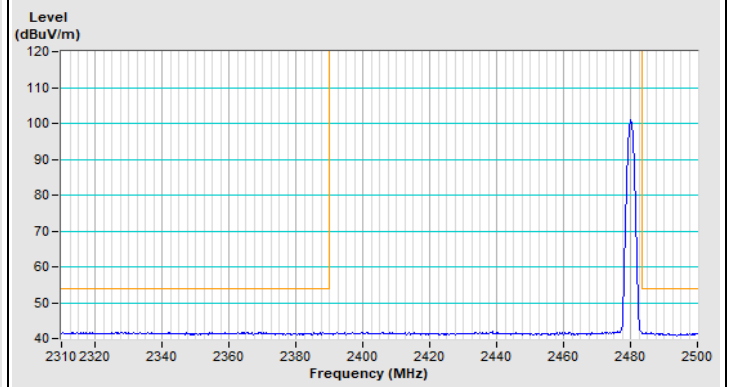
Horizontal (Peak)



Horizontal (Average)



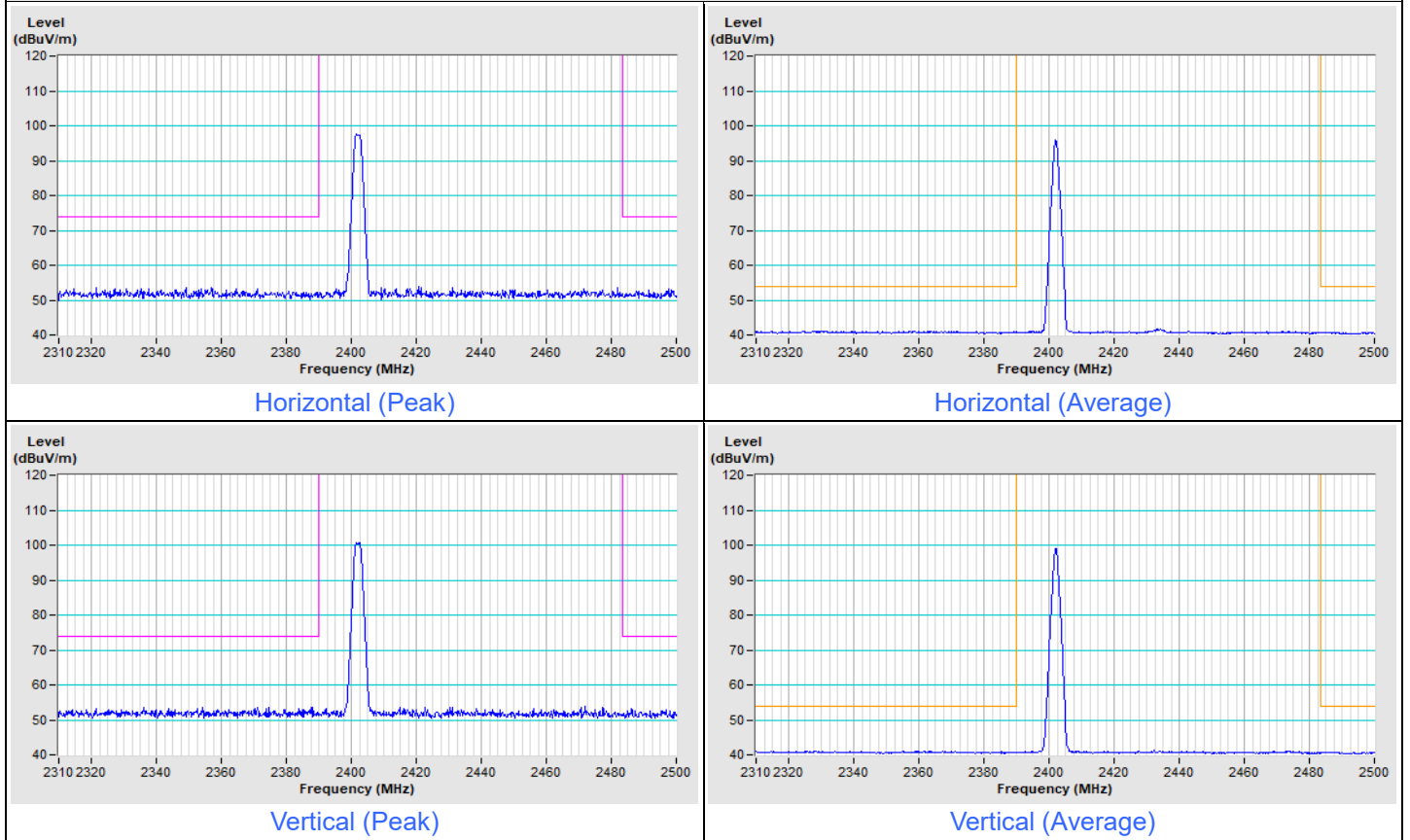
Vertical (Peak)

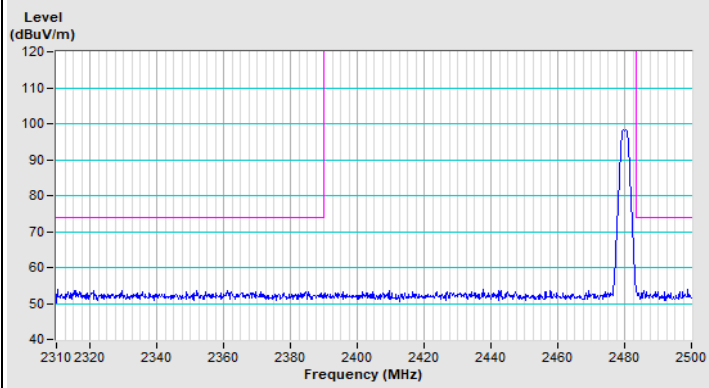


Vertical (Average)

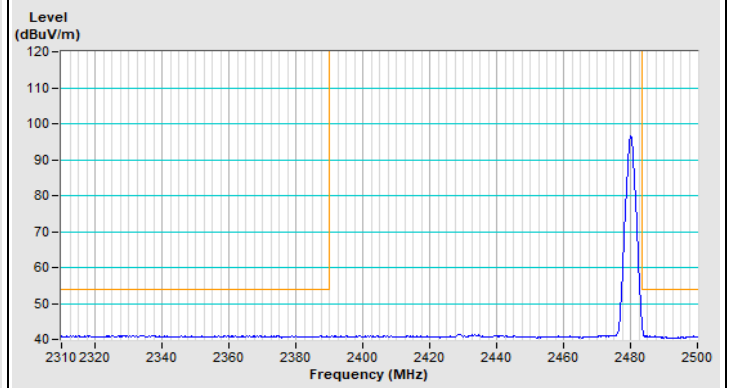
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=1 kHz, DET=Peak
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BT-LE 2M Channel 0

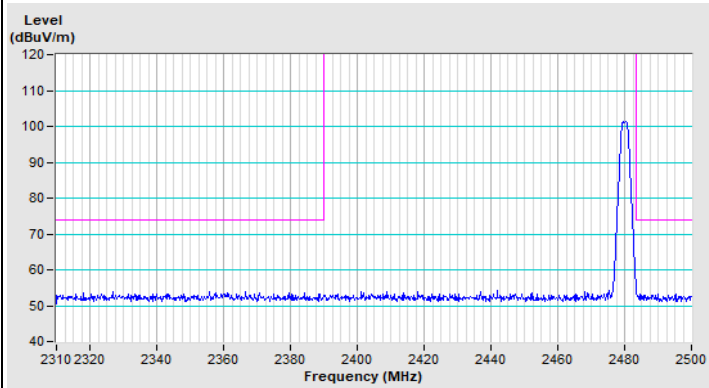


BT-LE 2M Channel 39

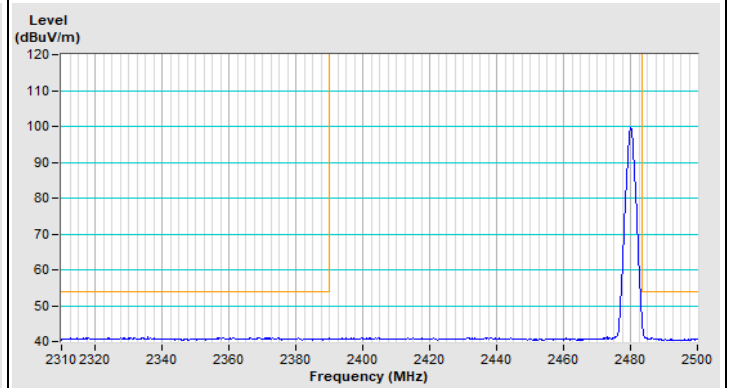
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)



Vertical (Average)

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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