

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBCMA-WTW-P25030861-3
FCC ID: RAXTMOG5AR
Product: 5G Gateway
Brand: T-Mobile
Model No.: TMO-G5AR
Received Date: 2025/3/24
Test Date: 2025/4/29 ~ 2025/5/19
Issued Date: 2025/5/29

Applicant: Arcadyan Technology Corporation
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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory
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FCC Registration / 723255 / TW2022
Designation Number:

Approved by: _____

May Chen / Manager

, Date: 2025/5/29

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Prepared by : Phoenix Huang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBCMA-WTW-P25030861-3	Original release.	2025/5/29

1 Certificate

Product: 5G Gateway

Brand: T-Mobile

Test Model: TMO-G5AR

Sample Status: Engineering sample

Applicant: Arcadyan Technology Corporation

Test Date: 2025/4/29 ~ 2025/5/19

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 -4.37 dB at 0.76328 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -10.5 dB at 921.43 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -0.3 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	Antenna connector is MHF1 not a standard connector.

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	-	1050.00 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.6 dB
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.1 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Product	5G Gateway
Brand	T-Mobile
Test Model	TMO-G5AR
Status of EUT	Engineering sample
Power Supply Rating	20 Vdc from power adapter
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	125 kbps / 500 kbps / 1 Mbps / 2 Mbps
Operating Frequency	2.402 GHz ~ 2.48 GHz
Number of Channel	40
Output Power	62.517 mW (17.96 dBm)

Note:

1. The EUT uses following accessories.

Item	Brand	Model	Specification
AC Adapter 1	MOSO	P30-V3000R200-060Q0-US	AC Input: 100~240 Vac, 1.7 A, 50/60 Hz DC Output: 5.0 Vdc, 3.0 A; 9.0 Vdc, 3.0 A; 12.0 Vdc, 3.0 A; 15.0 Vdc, 3.0 A; 20.0 V, 3.0 A DC Output Cable: 1.85 m, non-shielded cable, W/O ferrite core Plug: US
AC Adapter 2	MASS POWER	PD065E-D1C0AVU	AC Input: 100~240 Vac, 1.5 A, 50/60 Hz DC Output: 5.0 Vdc, 3.0 A, 9.0 Vdc, 3.0 A; 12.0 Vdc, 3.0 A; 15.0 Vdc, 3.0 A; 20.0 Vdc, 2.25 A DC Output Cable: 1.8 m, non-shielded cable, W/O ferrite core Plug: US

2. The EUT has below radios as following table:

Radio 1	Radio 2	Radio 3	Radio 4	Radio 5	Radio 6
WLAN (2.4GHz + 5GHz)	WLAN (6 GHz)	BT-LE / 802.15.4 (Zigbee/Open Thread/Matter)	BT-LE	GPS	WWAN

3. Simultaneously transmission combination.

Combination	Technology
1	WLAN (2.4 GHz) + WLAN (5 GHz) + WLAN (6 GHz) + 802.15.4 (Zigbee/Open Thread/Matter) + BT-LE + WWAN (LTE)
2	WLAN (2.4 GHz) + WLAN (5 GHz) + WLAN (6 GHz) + 802.15.4 (Zigbee/Open Thread/Matter) + BT-LE + WWAN (5G NR)

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna NO.	RF Chain NO.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
T	0	ARC	120800158600J	3.56	2.4~2.4835	Dipole	MHF1
B	0	ARC	120800158500J	5.32	2.4~2.4835	Dipole	MHF1

* 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. The AC Adapter has the following models: P30-V3000R200-060Q0-US / PD065E-D1C0AVU. Pre-scan these models of AC Adapters and find the worst case as a representative test condition. 2. BT LE-1M, LE-125k, LE-500k of these modes under the same 1 Msym/s modulation scheme, but the data rates are different; based on the same modulation scheme, pre-scan all of these modes and find the worst case as a representative test mode (except Output power and Power Density test item) 3. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. AC Adapter worst condition: P30-V3000R200-060Q0-US 2. For 1Msym/s modulation scheme the worst mode is: BT LE-1M

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, B	BT-LE 125k	0, 19, 39	GFSK	125kb/s
		BT-LE 500k	0, 19, 39	GFSK	500kb/s
		BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
Power Spectral Density	A, B	BT-LE 125k	0, 19, 39	GFSK	125kb/s
		BT-LE 500k	0, 19, 39	GFSK	500kb/s
		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, B	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
AC Power Conducted Emissions	A, B	BT-LE 2M	0	GFSK	2Mb/s
Unwanted Emissions below 1 GHz	A, B	BT-LE 2M	0	GFSK	2Mb/s
Unwanted Emissions above 1 GHz	A, B	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	0, 19, 39	GFSK	2Mb/s
EUT Configure Mode:	A	Radio 3 BLE for antenna NO.T			
	B	Radio 4 BLE for antenna NO.B			

3.5 Duty Cycle of Test Signal

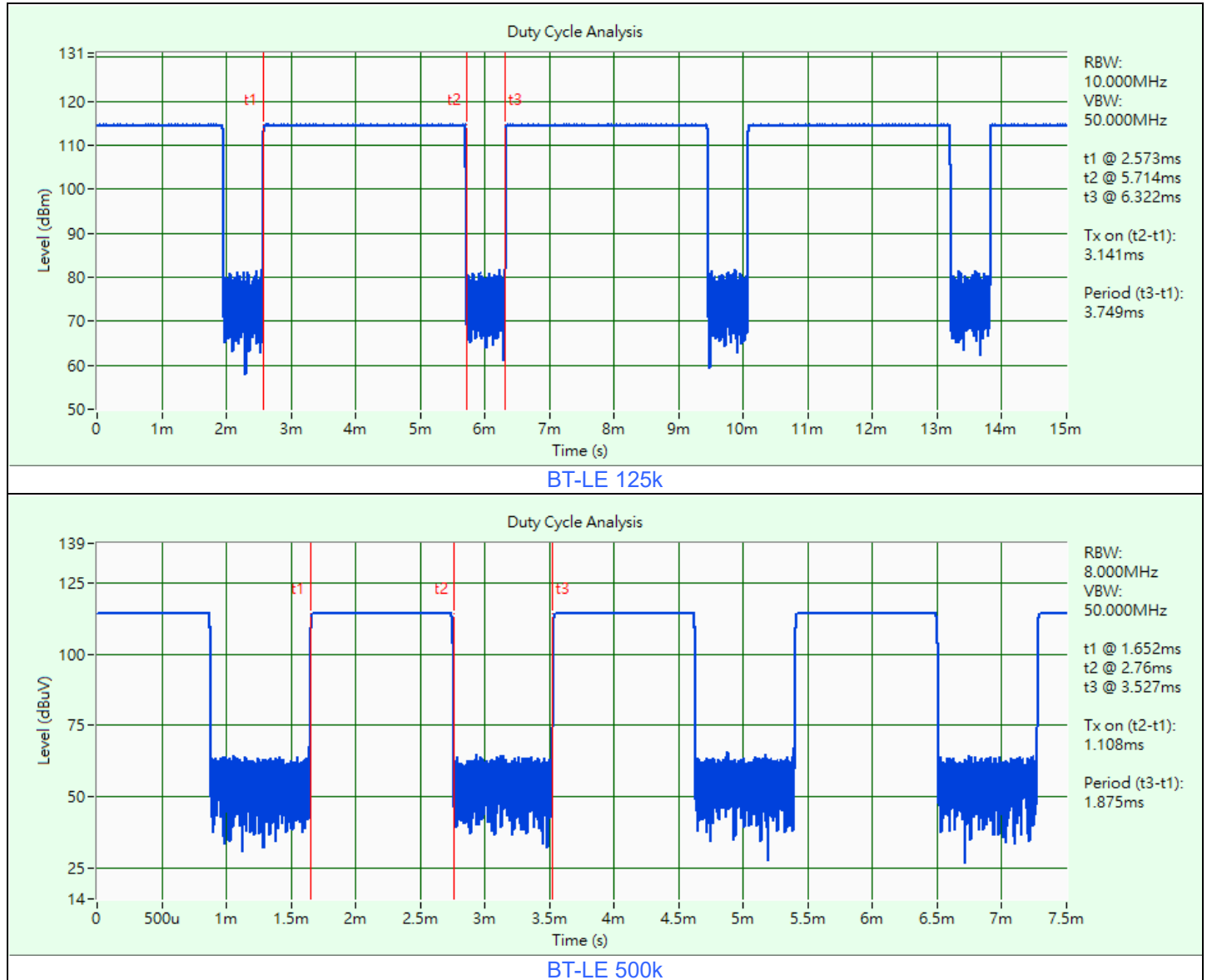
Mode A

BT-LE 125k: Duty cycle = $3.141 \text{ ms} / 3.749 \text{ ms} \times 100\% = 83.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.77 \text{ dB}$

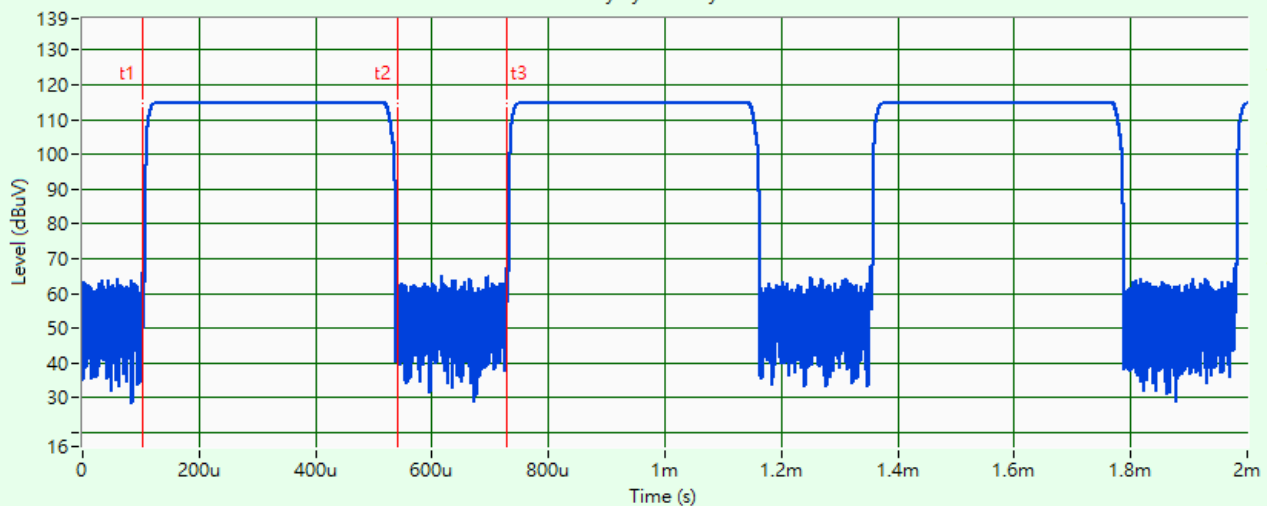
BT-LE 500k: Duty cycle = $1.108 \text{ ms} / 1.875 \text{ ms} \times 100\% = 59.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.28 \text{ dB}$

BT-LE 1M: Duty cycle = $0.438 \text{ ms} / 0.625 \text{ ms} \times 100\% = 70.1\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 1.54 \text{ dB}$

BT-LE 2M: Duty cycle = $0.251 \text{ ms} / 0.623 \text{ ms} \times 100\% = 40.3\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 3.95 \text{ dB}$

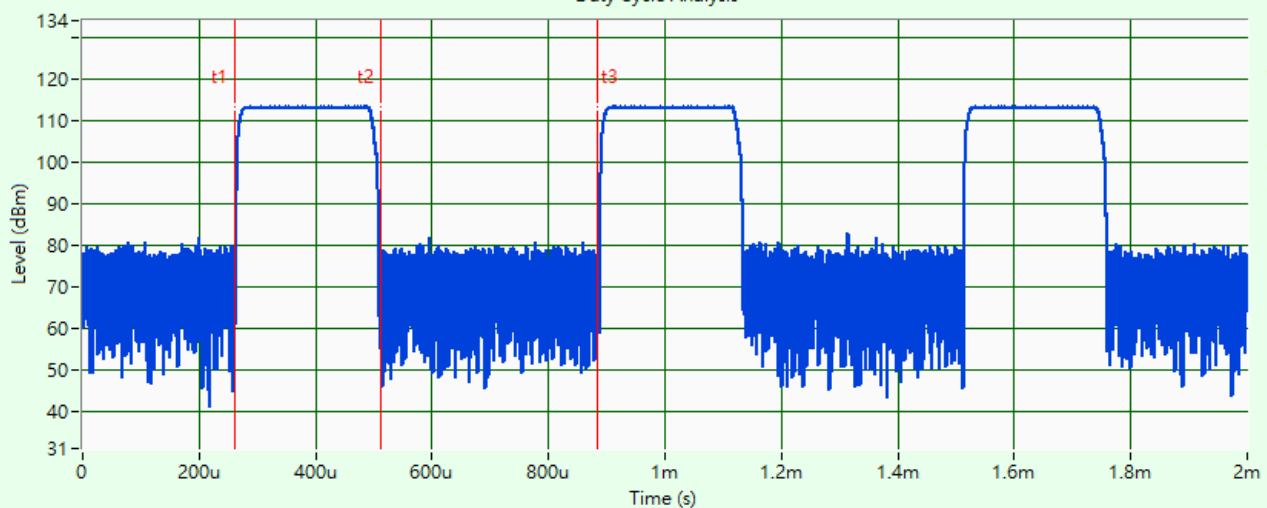


Duty Cycle Analysis



BT-LE 1M

Duty Cycle Analysis



BT-LE 2M

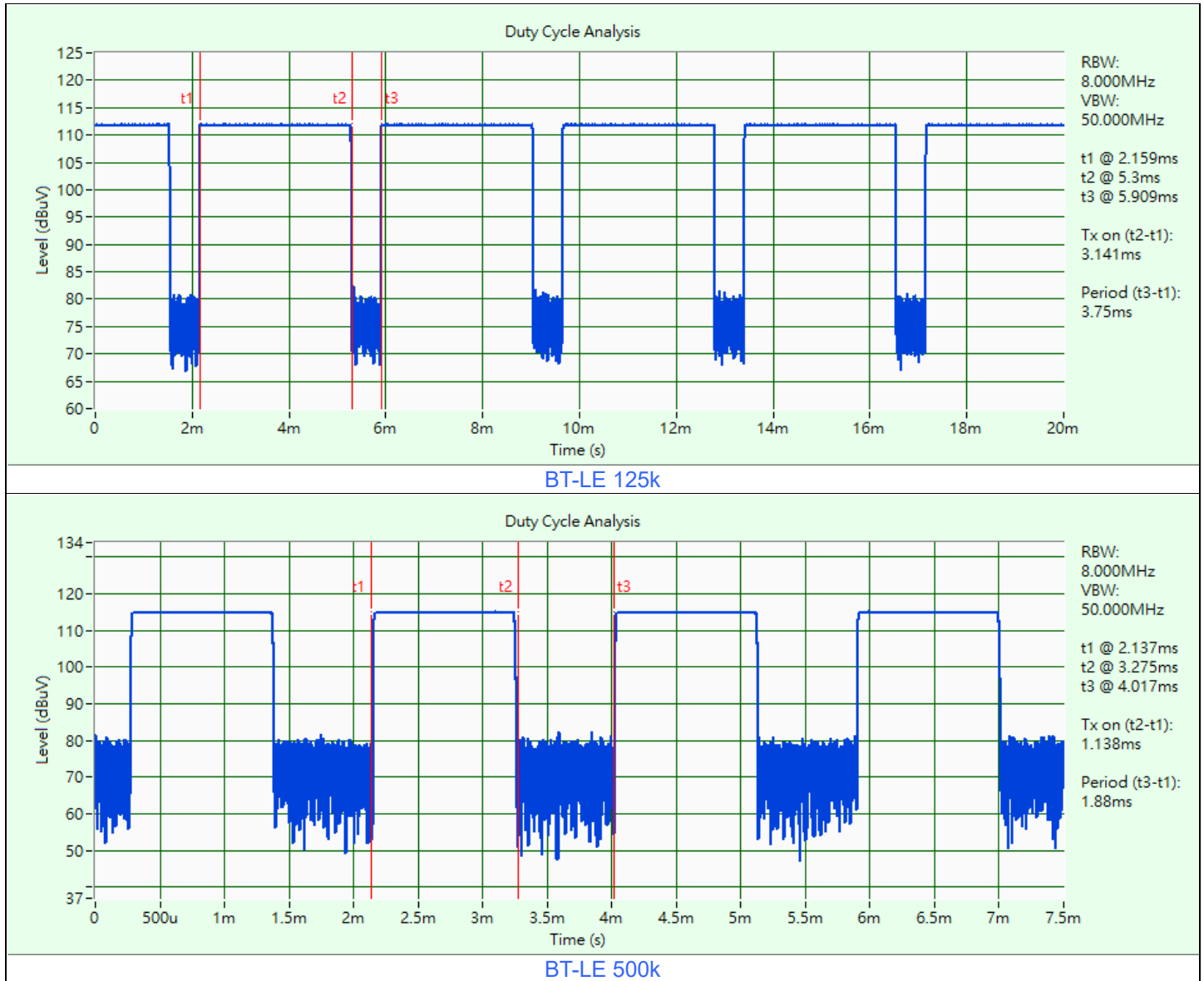
Mode B

BT-LE 125k: Duty cycle = $3.141 \text{ ms} / 3.75 \text{ ms} \times 100\% = 83.8\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 0.77 \text{ dB}$

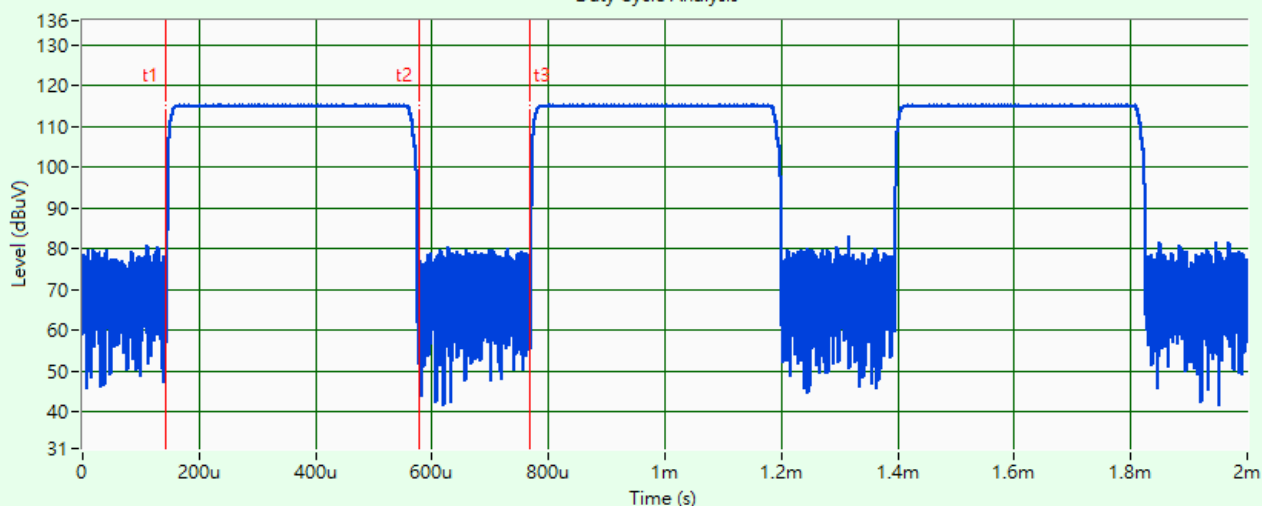
BT-LE 500k: Duty cycle = $1.138 \text{ ms} / 1.88 \text{ ms} \times 100\% = 60.5\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 2.18 \text{ dB}$

BT-LE 1M: Duty cycle = $0.436 \text{ ms} / 0.626 \text{ ms} \times 100\% = 69.6\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 1.57 \text{ dB}$

BT-LE 2M: Duty cycle = $0.25 \text{ ms} / 0.622 \text{ ms} \times 100\% = 40.2\%$, duty factor = $10 * \log (1/\text{Duty cycle}) = 3.96 \text{ dB}$

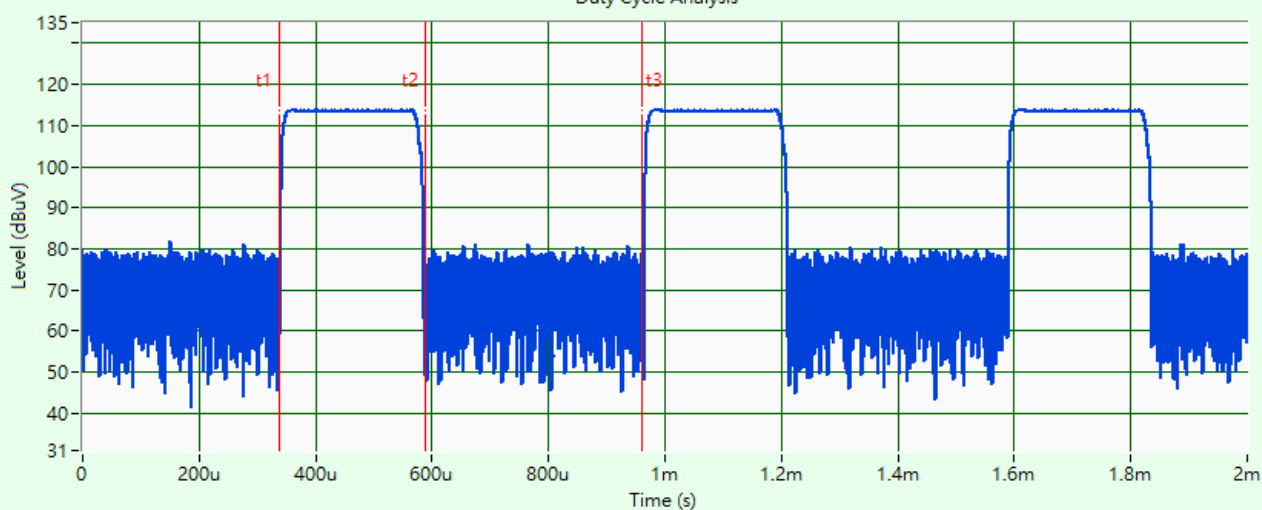


Duty Cycle Analysis



BT-LE 1M

Duty Cycle Analysis

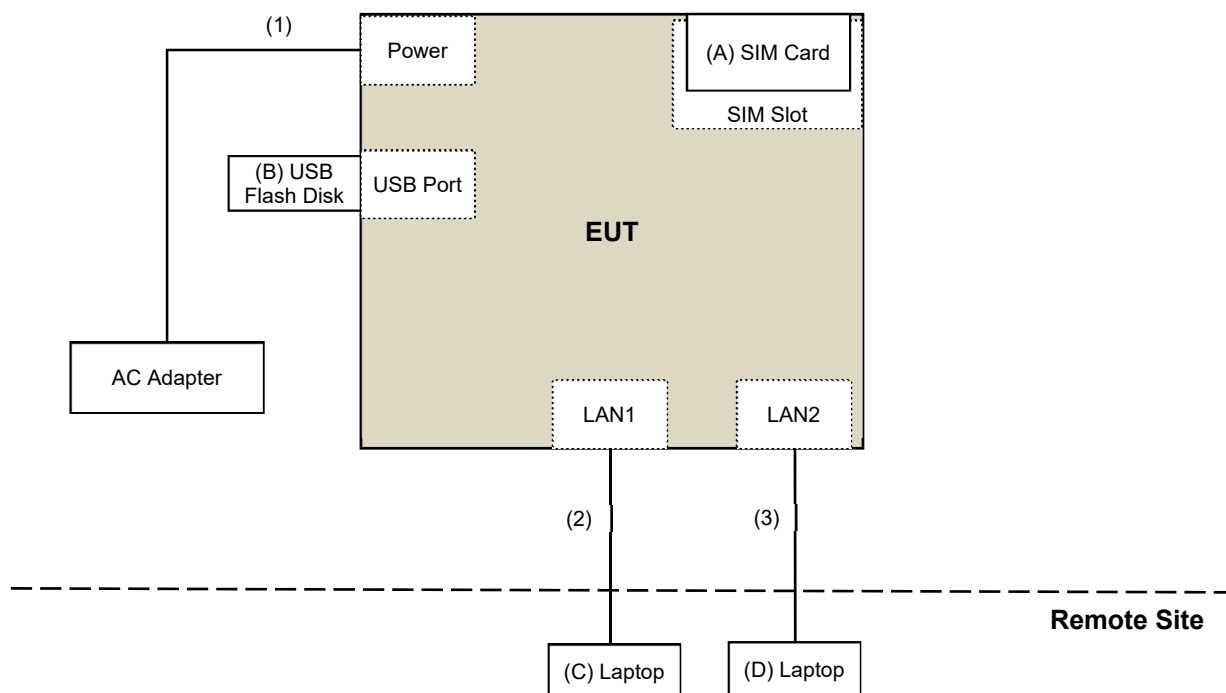


BT-LE 2M

3.6 Test Program Used and Operation Descriptions

Controlling software (HyperTerminal paste XC33BE4443T-F100-T0 BT,ZB,Thread bring up SOP (by SSH) command) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	SIM Card	KeysSight	E7515-10910	N/A	N/A	Provided by Lab
B	USB	SANDISK	Ultra Luxe	N/A	N/A	Provided by Lab
C	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	N/A	Provided by Lab
D	Laptop	DELL	E6420	H62T3R1	DoC	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.85	No	0	Supplied by applicant
2	RJ-45 Cable	1	10	No	0	Provided by Lab
3	RJ-45 Cable	1	10	No	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	1726434	2024/6/7	2025/6/6
RF Power Meter Anritsu	ML2495A	1529002	2024/6/7	2025/6/6

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2025/5/14 ~ 2025/5/19

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY55410176	2024/6/12	2025/6/11
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2025/5/14 ~ 2025/5/19

4.3 6 dB Bandwidth

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

4.4 Conducted Out of Band Emissions

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

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2024/11/1	2025/10/31
EMI Test Receiver R&S	ESCS 30	100375	2024/5/20	2025/5/19
Fixed Attenuator STI	STI02-2200-10	005	2025/2/17	2026/2/16
LISN R&S	ESH3-Z5	835239/001	2025/3/27	2026/3/26
		848773/004	2024/10/7	2025/10/6
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2025/2/17	2026/2/16
Software BVADT	BVADT_Conc_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2025/5/16

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0842	2024/10/8	2025/10/7
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2025/3/25	2026/3/24
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2025/3/29	2026/3/28
Loop Antenna TESEQ	HLA 6121	63620	2024/10/17	2025/10/16
Preamplifier EMCI	EMC330N	980538	2025/3/29	2026/3/28
	EMC001340	980142	2025/2/17	2026/2/16
PXA Signal Analyzer Keysight	N9030B	MY57141948	2024/5/20	2025/5/19
RF Coaxial Cable PEWC	8D	966-5-1	2025/3/29	2026/3/28
		966-5-2	2025/3/29	2026/3/28
		966-5-3	2025/3/29	2026/3/28
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2025/5/16

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2025/3/25	2026/3/24
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1819	2024/11/10	2025/11/9
	BBHA 9170	9170-739	2024/11/10	2025/11/9
Preamplifier EMCI	EMC12630SE	980509	2025/1/18	2026/1/17
	EMC184045SE	980387	2024/8/8	2025/8/7
PXA Signal Analyzer Keysight	N9030B	MY57141948	2024/5/20	2025/5/19
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2025/1/24	2026/1/23
	EMC102-KM-KM-4000	200214	2025/1/24	2026/1/23
	EMC104-SM-SM-1500	180503	2025/3/8	2026/3/7
	EMC104-SM-SM-2000	180501	2025/3/8	2026/3/7
	EMC104-SM-SM-6000	180506	2025/3/8	2026/3/7
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2025/4/29 ~ 2025/5/19

5 Limits of Test Items

5.1 RF Output Power

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

5.2 Power Spectral Density

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

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

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

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

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

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

Notes:

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

5.7 Unwanted Emissions above 1 GHz

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

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

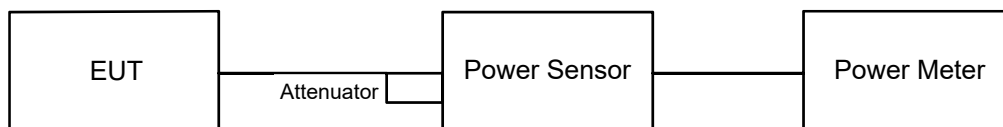
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



6.1.2 Test Procedure

Peak Power:

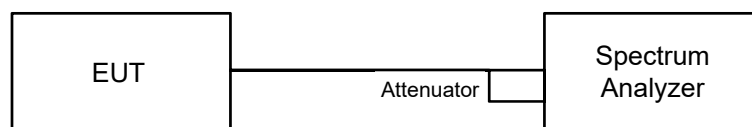
A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the power level.

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

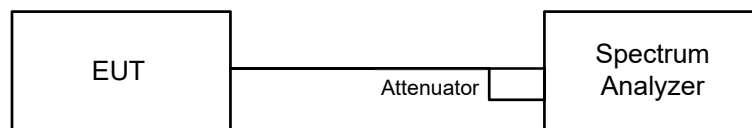


6.2.2 Test Procedure

- 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

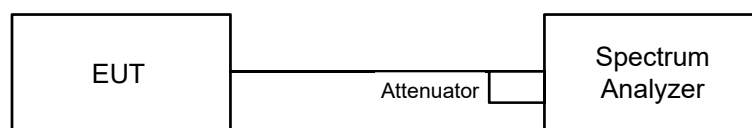


6.3.2 Test Procedure

- 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

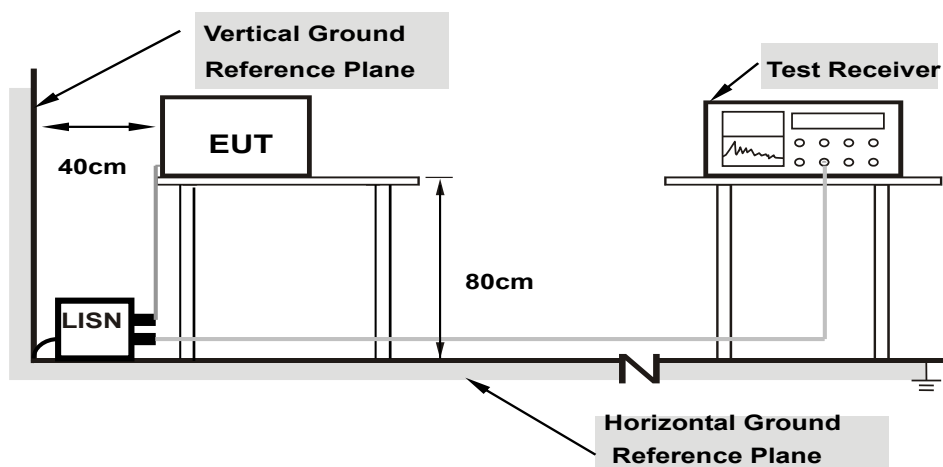
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

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

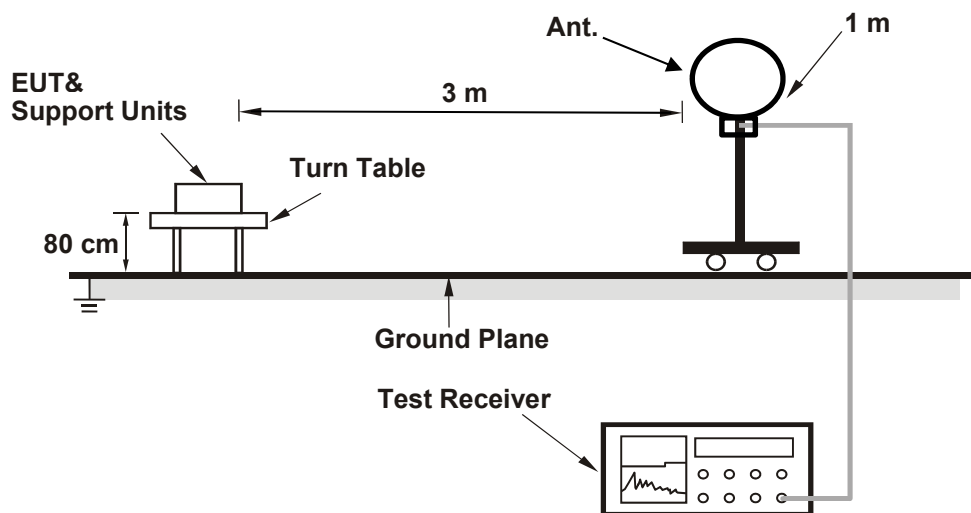
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The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

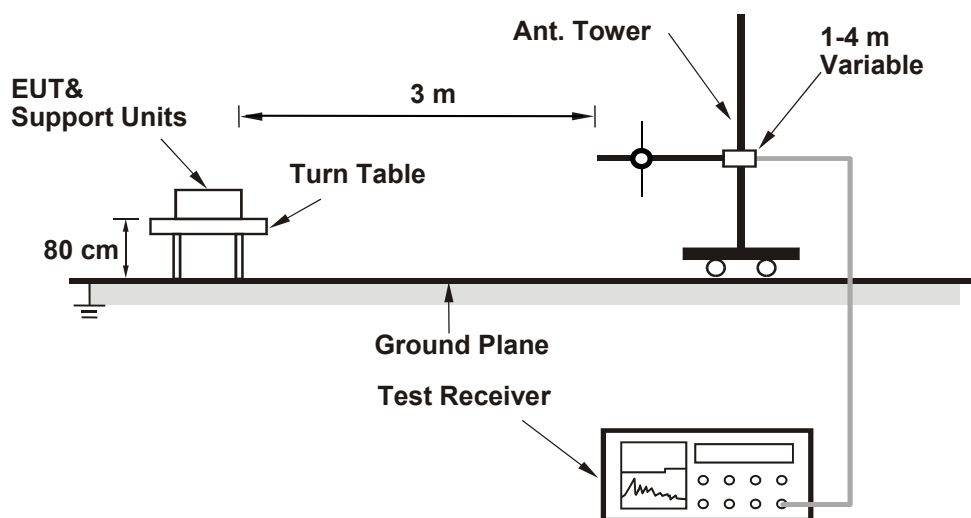
6.6 Unwanted Emissions below 1 GHz

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

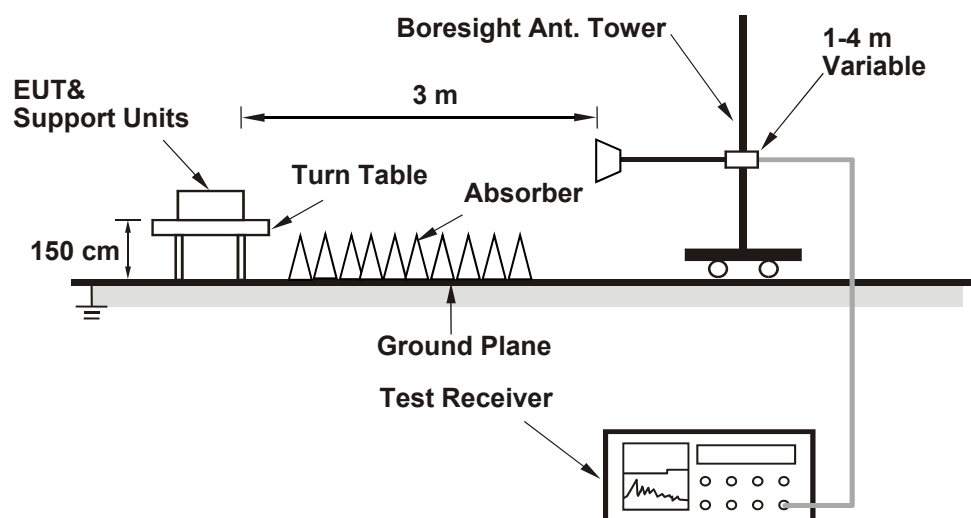
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the 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 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:	21°C, 67% RH	Tested By:	Dolly Chung
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Mode A

For Peak Power

BT-LE 125k

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	20.845	13.19	30	Pass
19	2440	26.242	14.19	30	Pass
39	2480	25.527	14.07	30	Pass

Note: The antenna gain is 3.56 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 500k

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	20.893	13.20	30	Pass
19	2440	26.303	14.20	30	Pass
39	2480	25.468	14.06	30	Pass

Note: The antenna gain is 3.56 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	55.081	17.41	30	Pass
19	2440	53.211	17.26	30	Pass
39	2480	34.435	15.37	30	Pass

Note: The antenna gain is 3.56 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	55.719	17.46	30	Pass
19	2440	50.699	17.05	30	Pass
39	2480	13.677	11.36	30	Pass

Note: The antenna gain is 3.56 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

BT-LE 125k

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	20.417	13.10
19	2440	25.177	14.01
39	2480	24.434	13.88

BT-LE 500k

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	20.512	13.12
19	2440	25.293	14.03
39	2480	24.547	13.90

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	54.702	17.38
19	2440	52.602	17.21
39	2480	34.041	15.32

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	55.081	17.41
19	2440	49.545	16.95
39	2480	13.335	11.25

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Dolly Chung
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Mode B

For Peak Power

BT-LE 125k

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	22.182	13.46	30	Pass
19	2440	23.605	13.73	30	Pass
39	2480	23.174	13.65	30	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 500k

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	24.434	13.88	30	Pass
19	2440	25.704	14.10	30	Pass
39	2480	26.607	14.25	30	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the output power limit shall not be reduced.

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	61.66	17.90	30	Pass
19	2440	59.156	17.72	30	Pass
39	2480	60.674	17.83	30	Pass

Note: The antenna gain is 5.32 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	62.517	17.96	30	Pass
19	2440	60.395	17.81	30	Pass
39	2480	25.586	14.08	30	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the output power limit shall not be reduced.

For Average Power

BT-LE 125k

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	20.559	13.13
19	2440	22.439	13.51
39	2480	21.627	13.35

BT-LE 500k

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	23.014	13.62
19	2440	24.322	13.86
39	2480	24.547	13.90

BT-LE 1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	61.094	17.86
19	2440	58.884	17.70
39	2480	60.395	17.81

BT-LE 2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	61.802	17.91
19	2440	59.841	17.77
39	2480	25.061	13.99

7.2 Power Spectral Density

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	21°C, 67% RH	Tested By:	Dolly Chung
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Mode A

BT-LE 125k

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	7.00	8	Pass
19	2440	7.85	8	Pass
39	2480	7.54	8	Pass

Note: The antenna gain is 3.56 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 500k

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	6.81	8	Pass
19	2440	7.68	8	Pass
39	2480	7.29	8	Pass

Note: The antenna gain is 3.56 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 1M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	1.81	8	Pass
19	2440	1.44	8	Pass
39	2480	-0.60	8	Pass

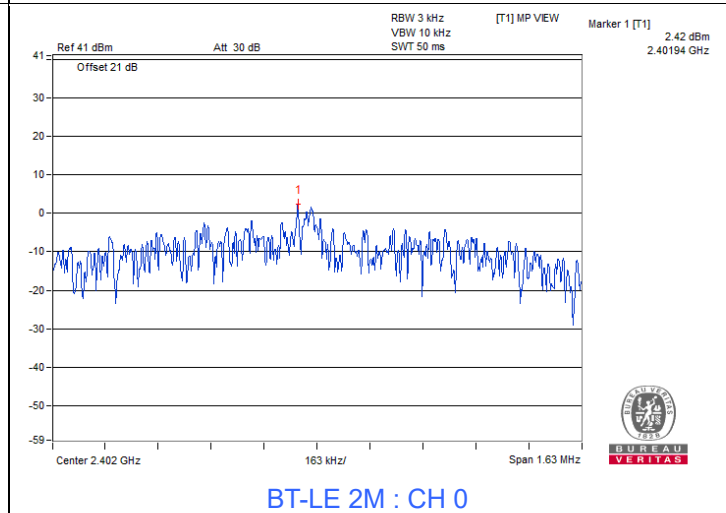
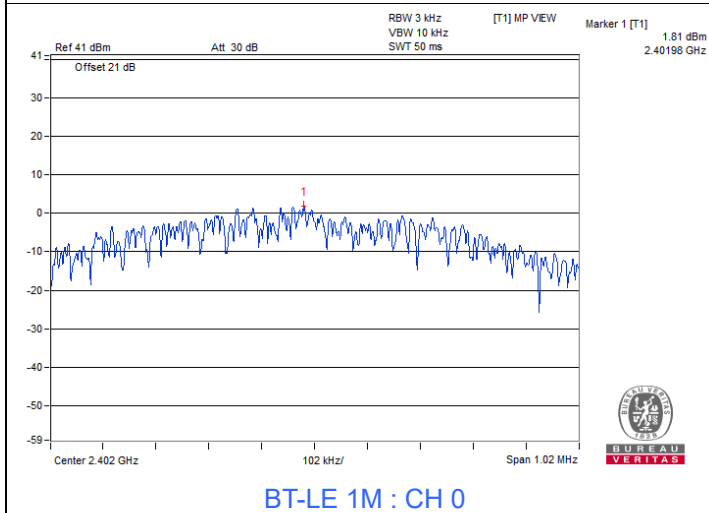
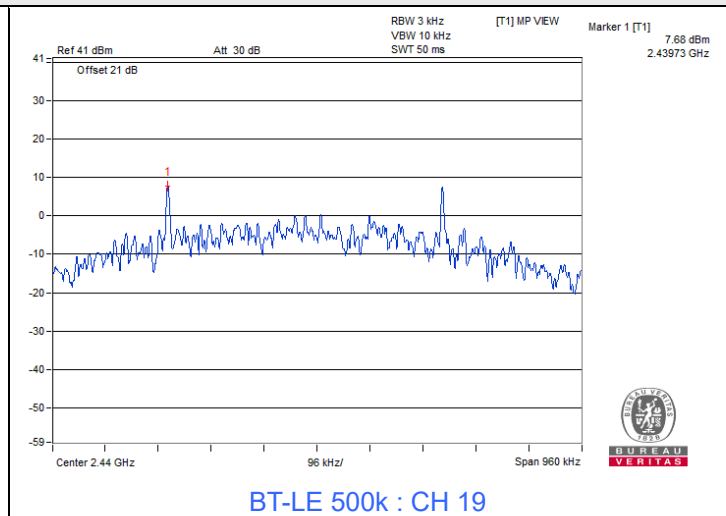
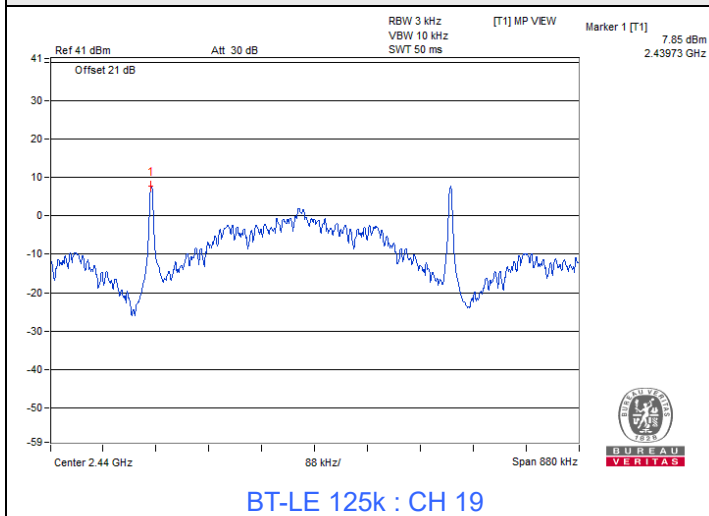
Note: The antenna gain is 3.56 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	2.42	8	Pass
19	2440	2.05	8	Pass
39	2480	-4.00	8	Pass

Note: The antenna gain is 3.56 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, 60% RH	Tested By:	Dolly Chung
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Mode B

BT-LE 125k

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	7.40	8	Pass
19	2440	7.69	8	Pass
39	2480	7.40	8	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 500k

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	7.73	8	Pass
19	2440	7.96	8	Pass
39	2480	7.87	8	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 1M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	2.29	8	Pass
19	2440	2.41	8	Pass
39	2480	2.17	8	Pass

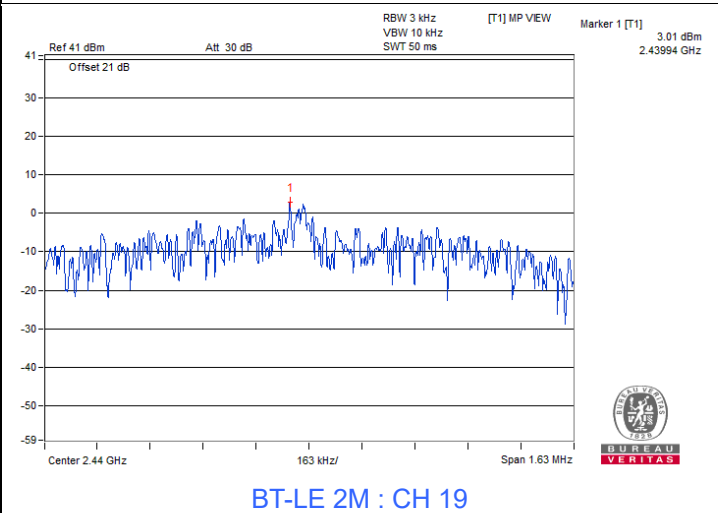
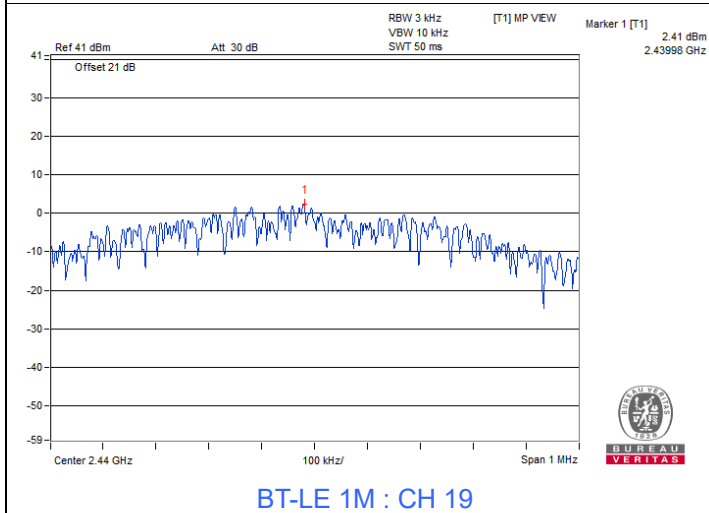
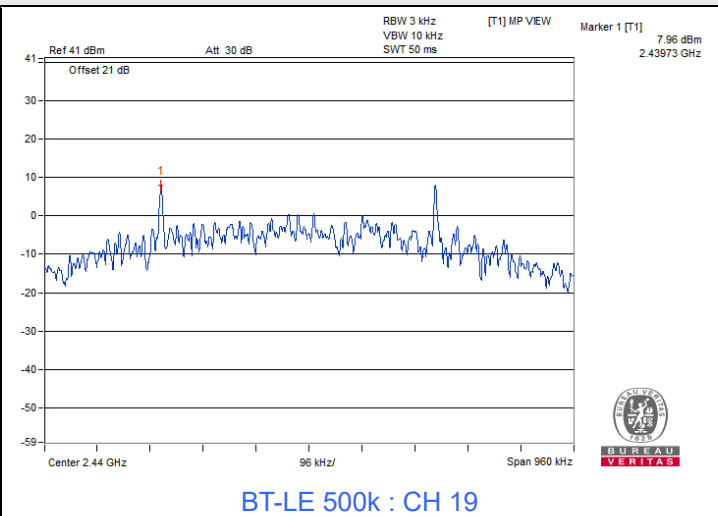
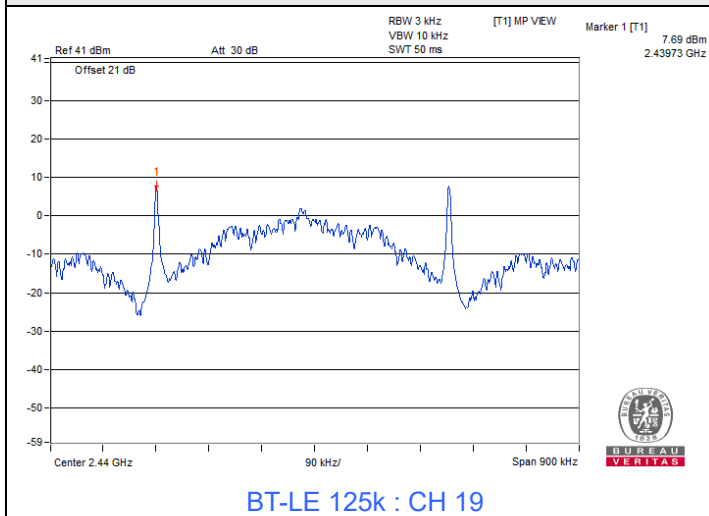
Note: The antenna gain is 5.32 dBi < 6 dBi, so the power density limit shall not be reduced.

BT-LE 2M

Chan.	Chan. Freq. (MHz)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	2.93	8	Pass
19	2440	3.01	8	Pass
39	2480	-0.82	8	Pass

Note: The antenna gain is 5.32 dBi < 6 dBi, so the power density limit shall not be reduced.

Spectrum Plot of Maximum Value



7.3 6 dB Bandwidth

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	21°C, 67% RH	Tested By:	Dolly Chung
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Mode A

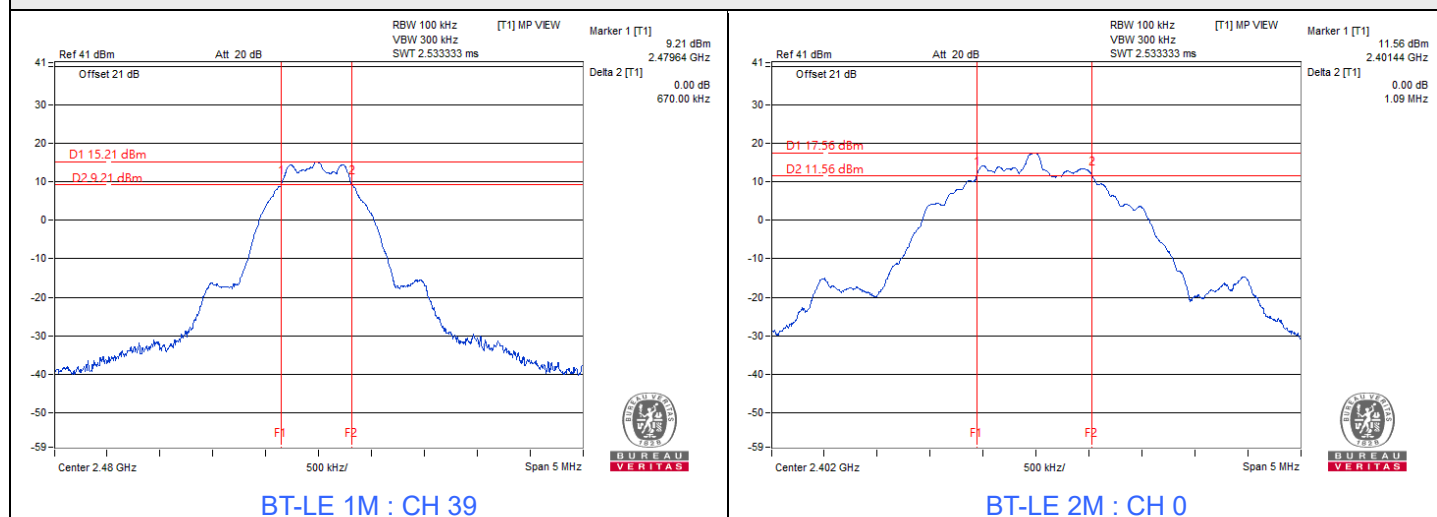
BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.68	0.5	Pass
19	2440	0.68	0.5	Pass
39	2480	0.67	0.5	Pass

BT-LE 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	1.09	0.5	Pass
19	2440	1.1	0.5	Pass
39	2480	1.09	0.5	Pass

Spectrum Plot of Minimum Value



Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Dolly Chung
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Mode B

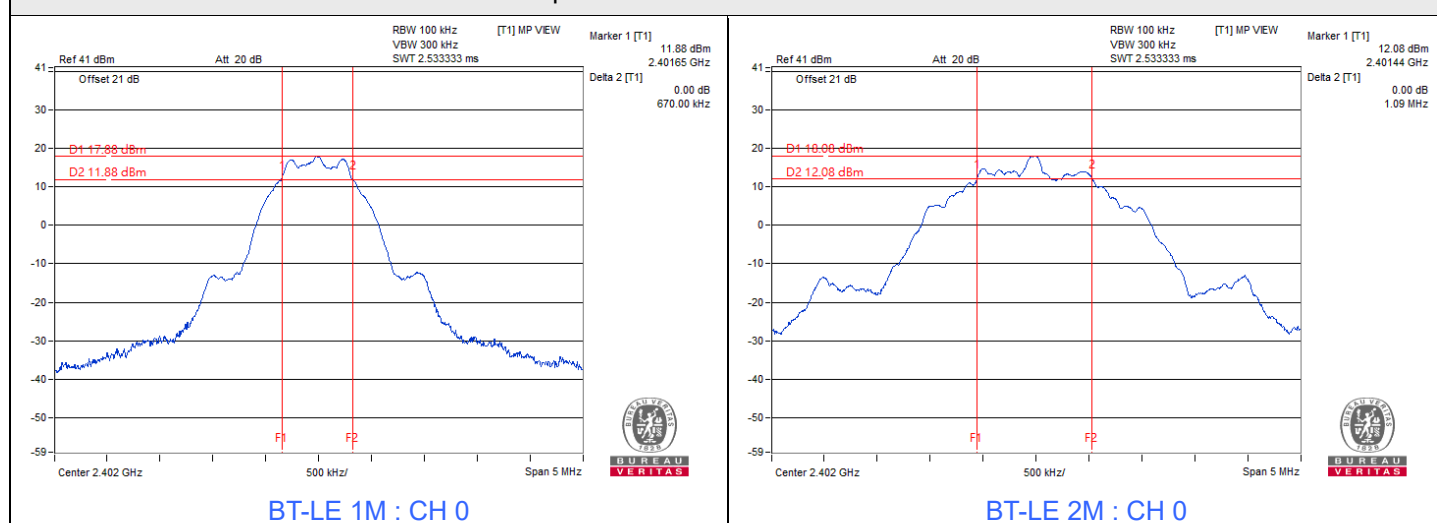
BT-LE 1M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.67	0.5	Pass
19	2440	0.67	0.5	Pass
39	2480	0.67	0.5	Pass

BT-LE 2M

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	1.09	0.5	Pass
19	2440	1.09	0.5	Pass
39	2480	1.09	0.5	Pass

Spectrum Plot of Minimum Value



7.4 Conducted Out of Band Emissions

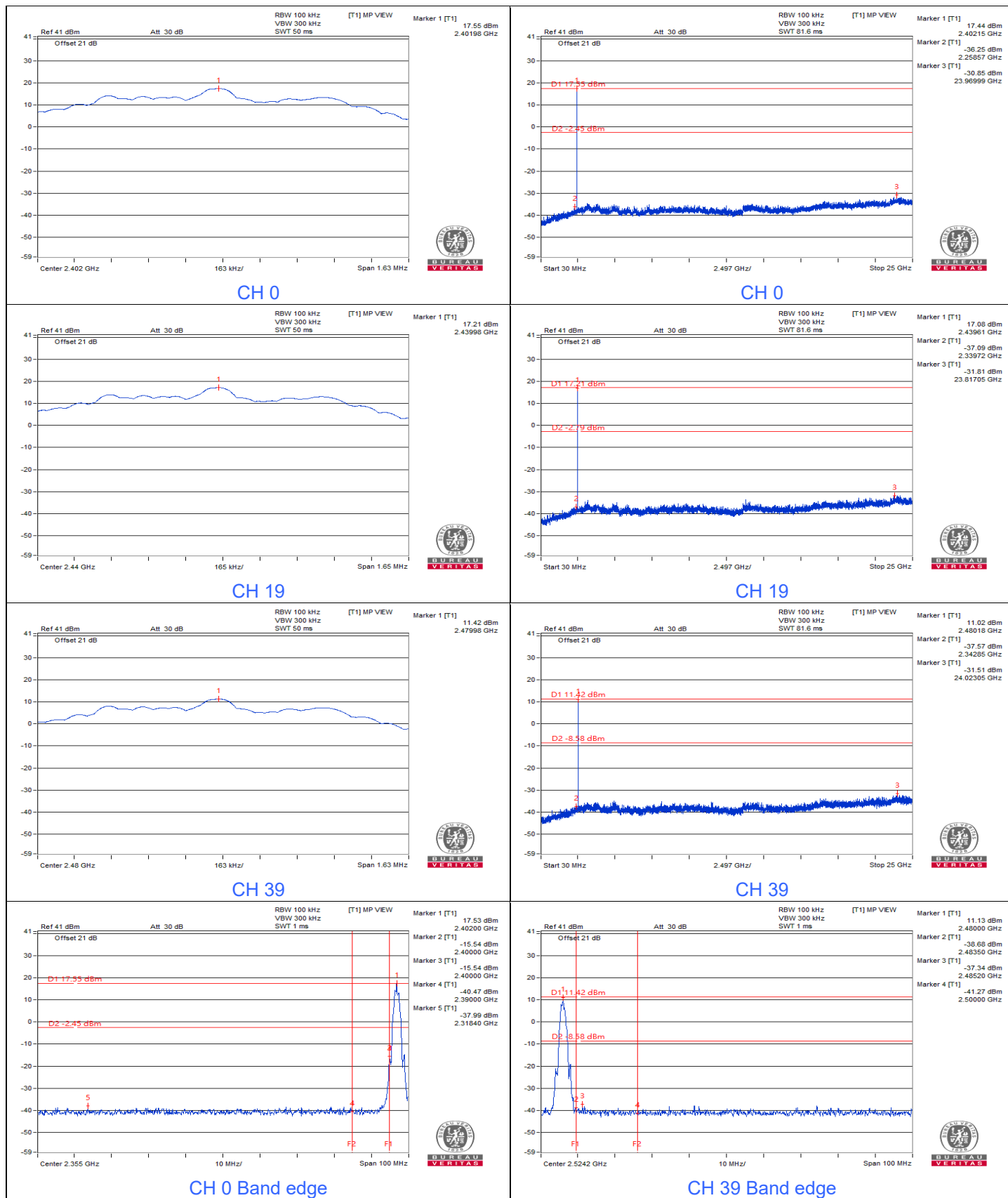
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	21°C, 67% RH	Tested By:	Dolly Chung
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Mode A

BT-LE 1M



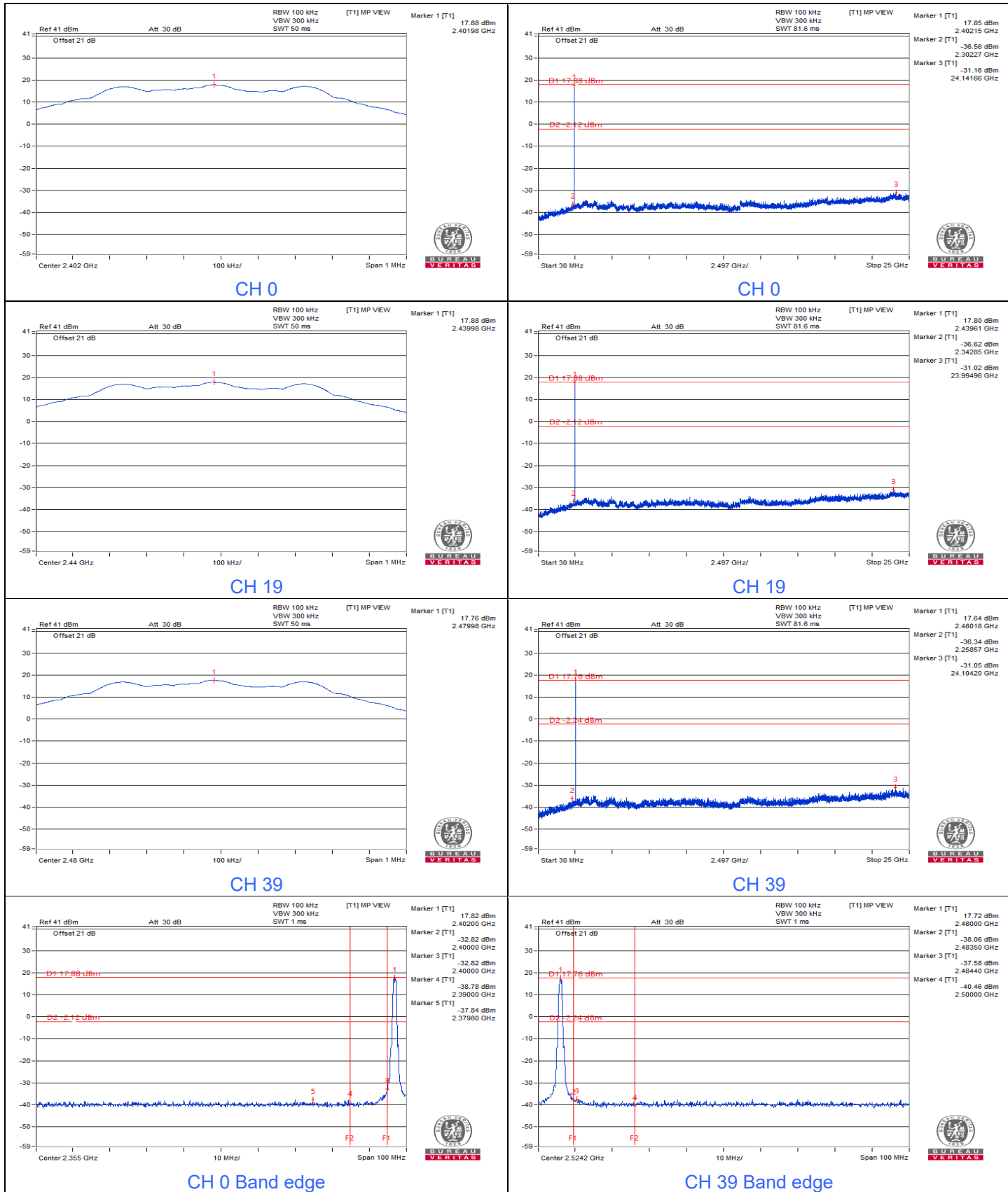
BT-LE 2M



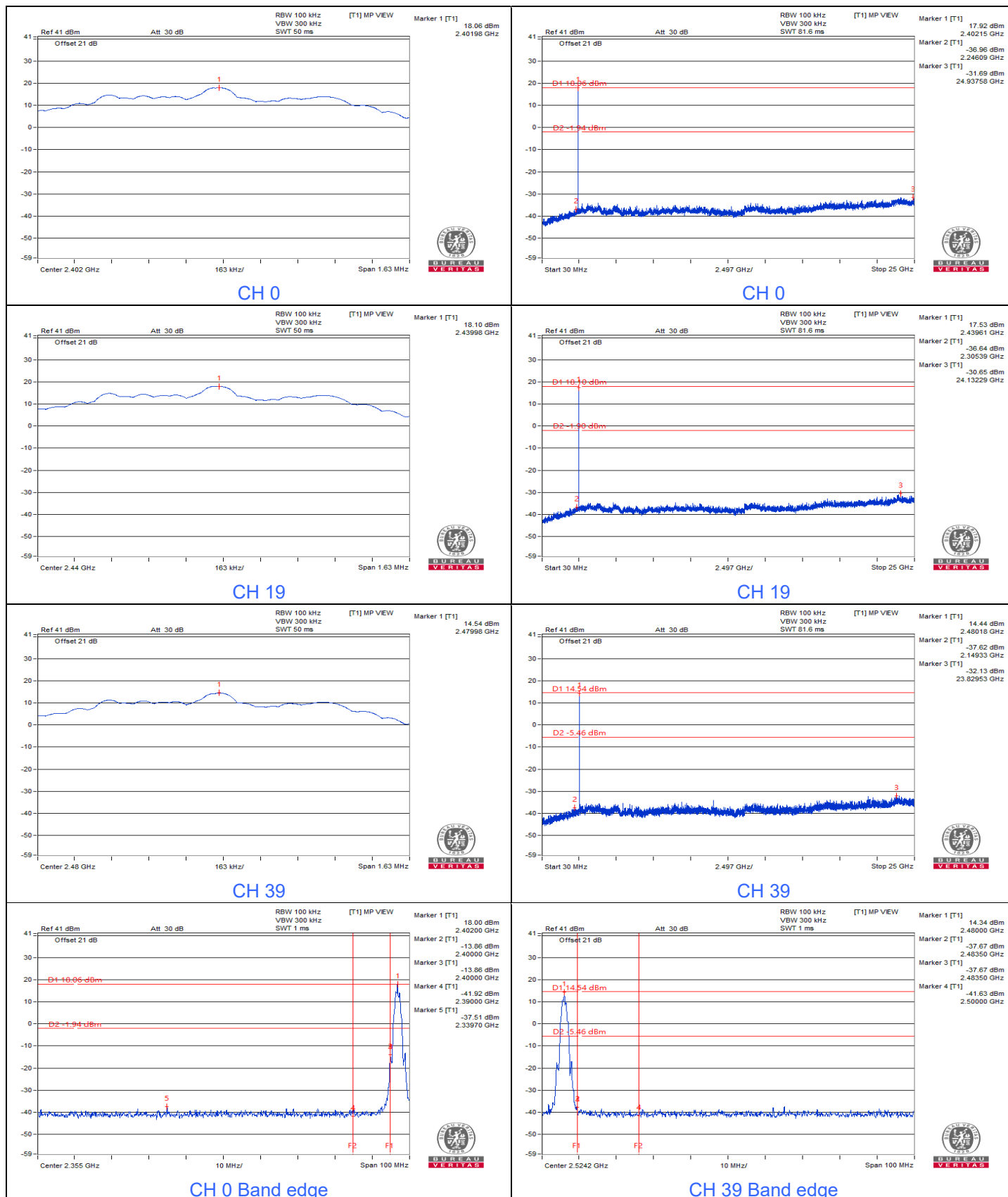
Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Dolly Chung
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Mode B

BT-LE 1M



BT-LE 2M



7.5 AC Power Conducted Emissions

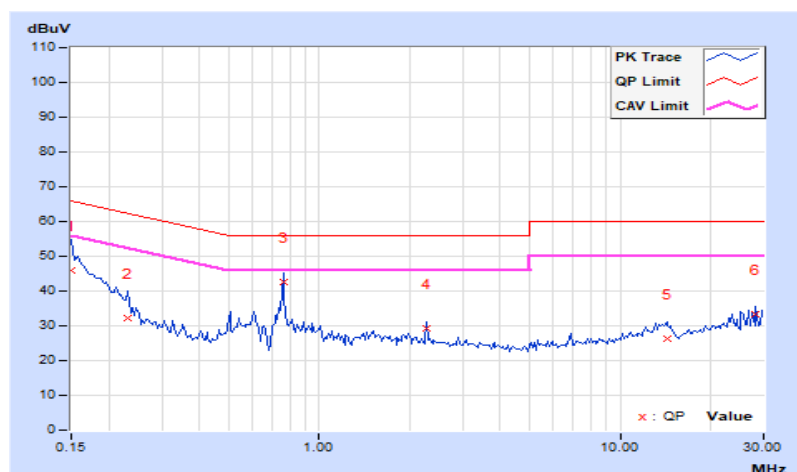
Mode A

RF Mode	BT-LE 2M	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	23 °C, 76 % RH
Tested By	Louis Yang		

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	10.00	36.10	20.05	46.10	30.05	66.00	56.00	-19.90	-25.95
2	0.23203	10.03	22.16	14.05	32.19	24.08	62.38	52.38	-30.19	-28.30
3	0.76328	10.07	32.50	31.56	42.57	41.63	56.00	46.00	-13.43	-4.37
4	2.28516	10.18	19.21	16.66	29.39	26.84	56.00	46.00	-26.61	-19.16
5	14.28125	10.89	15.51	10.90	26.40	21.79	60.00	50.00	-33.60	-28.21
6	28.19141	11.24	22.09	18.40	33.33	29.64	60.00	50.00	-26.67	-20.36

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

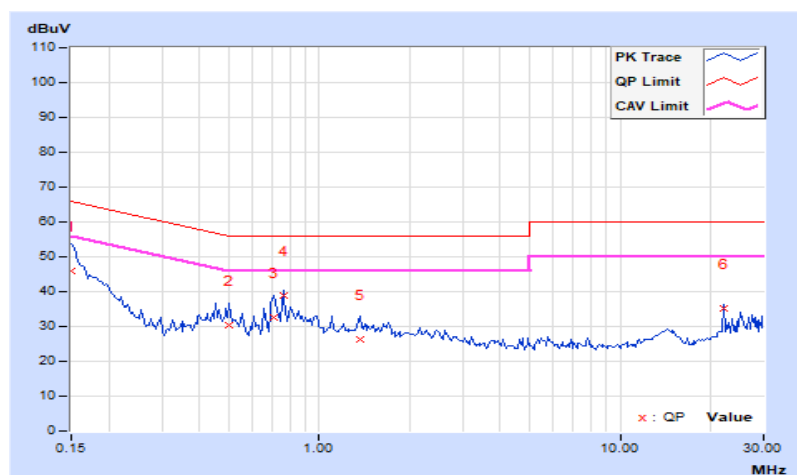


RF Mode	BT-LE 2M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 76 % RH
Tested By	Louis Yang		

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	10.02	35.96	20.84	45.98	30.86	66.00	56.00	-20.02	-25.14
2	0.50156	10.03	20.37	14.56	30.40	24.59	56.00	46.00	-25.60	-21.41
3	0.70469	10.05	22.65	5.92	32.70	15.97	56.00	46.00	-23.30	-30.03
4	0.76328	10.06	28.95	28.02	39.01	38.08	56.00	46.00	-16.99	-7.92
5	1.36328	10.10	16.33	8.23	26.43	18.33	56.00	46.00	-29.57	-27.67
6	22.09766	11.01	24.13	22.30	35.14	33.31	60.00	50.00	-24.86	-16.69

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



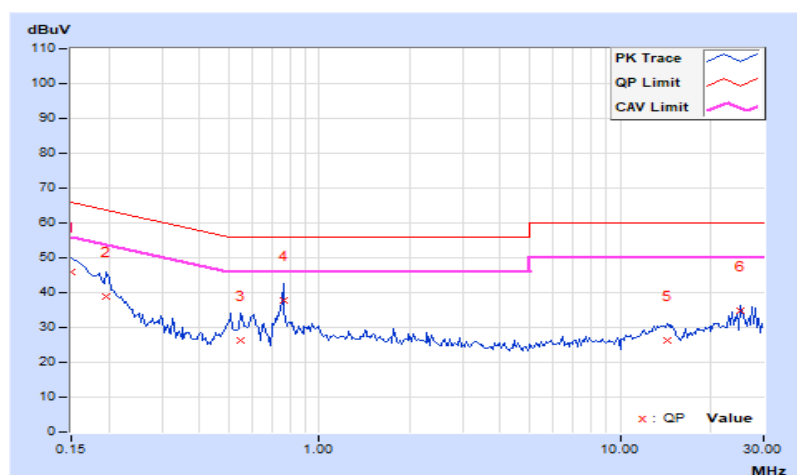
Mode B

RF Mode	BT-LE 2M	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	23 °C, 76 % RH
Tested By	Louis Yang		

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	10.00	35.84	20.05	45.84	30.05	66.00	56.00	-20.16	-25.95
2	0.19687	10.03	28.69	15.29	38.72	25.32	63.74	53.74	-25.02	-28.42
3	0.54844	10.05	16.18	7.09	26.23	17.14	56.00	46.00	-29.77	-28.86
4	0.76328	10.07	27.69	26.92	37.76	36.99	56.00	46.00	-18.24	-9.01
5	14.31250	10.89	15.33	10.59	26.22	21.48	60.00	50.00	-33.78	-28.52
6	25.14453	11.20	23.69	19.84	34.89	31.04	60.00	50.00	-25.11	-18.96

Remarks:

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

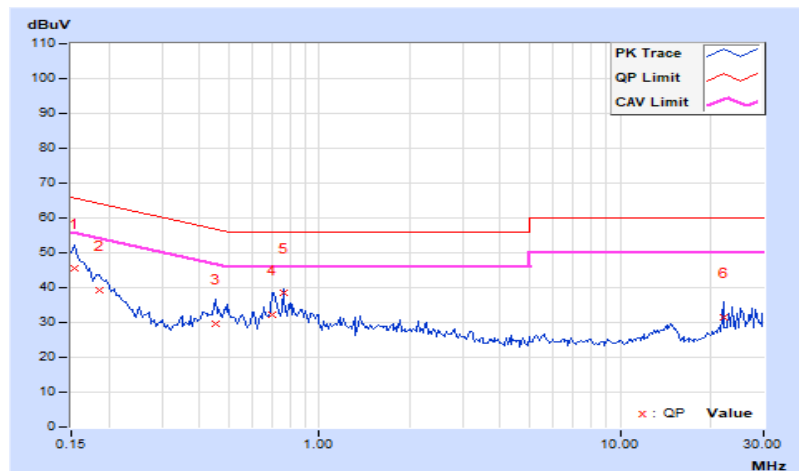


RF Mode	BT-LE 2M	Channel	CH 0 : 2402 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 76 % RH
Tested By	Louis Yang		

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	10.02	35.51	20.91	45.53	30.93	65.79	55.79	-20.26	-24.86
2	0.18516	10.03	29.10	17.16	39.13	27.19	64.25	54.25	-25.12	-27.06
3	0.45078	10.03	19.56	13.07	29.59	23.10	56.86	46.86	-27.27	-23.76
4	0.70078	10.05	22.18	6.75	32.23	16.80	56.00	46.00	-23.77	-29.20
5	0.76328	10.06	28.43	27.47	38.49	37.53	56.00	46.00	-17.51	-8.47
6	22.09766	11.01	20.40	16.71	31.41	27.72	60.00	50.00	-28.59	-22.28

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

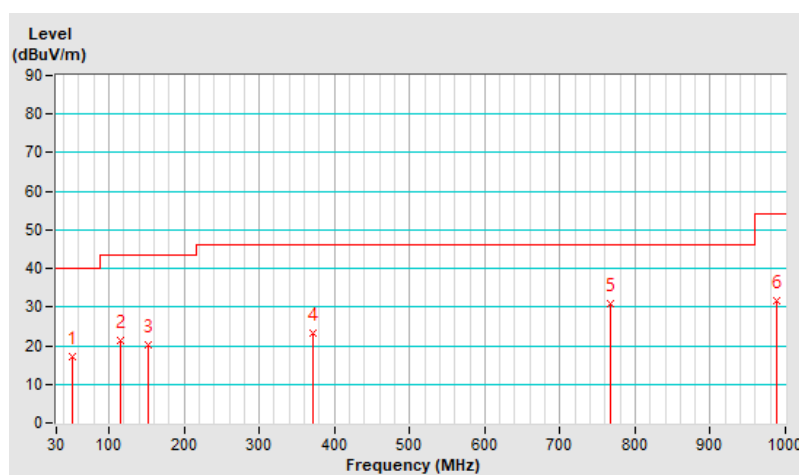
Mode A

RF Mode	BT-LE 2M	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	22 °C, 70 % RH
Tested By	Louis Yang		

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	51.64	17.3 QP	40.0	-22.7	3.94 H	309	29.9	-12.6
2	116.03	21.4 QP	43.5	-22.1	1.97 H	250	36.3	-14.9
3	151.44	20.2 QP	43.5	-23.3	1.00 H	264	32.5	-12.3
4	371.07	23.2 QP	46.0	-22.8	1.00 H	273	33.2	-10.0
5	767.69	30.9 QP	46.0	-15.1	3.88 H	0	32.4	-1.5
6	988.99	31.6 QP	54.0	-22.4	2.09 H	76	30.5	1.1

Remarks:

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

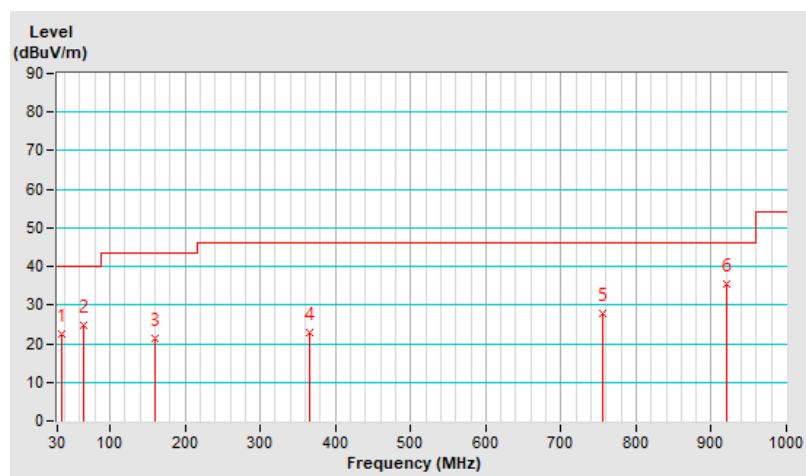


RF Mode	BT-LE 2M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 70 % RH
Tested By	Louis Yang		

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	35.22	22.5 QP	40.0	-17.5	1.50 V	360	35.7	-13.2
2	65.86	24.6 QP	40.0	-15.4	2.28 V	197	38.7	-14.1
3	160.71	21.2 QP	43.5	-22.3	1.03 V	0	33.5	-12.3
4	366.18	22.8 QP	46.0	-23.2	1.00 V	348	32.9	-10.1
5	756.10	27.9 QP	46.0	-18.1	1.64 V	348	29.7	-1.8
6	921.43	35.5 QP	46.0	-10.5	1.96 V	184	34.8	0.7

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.



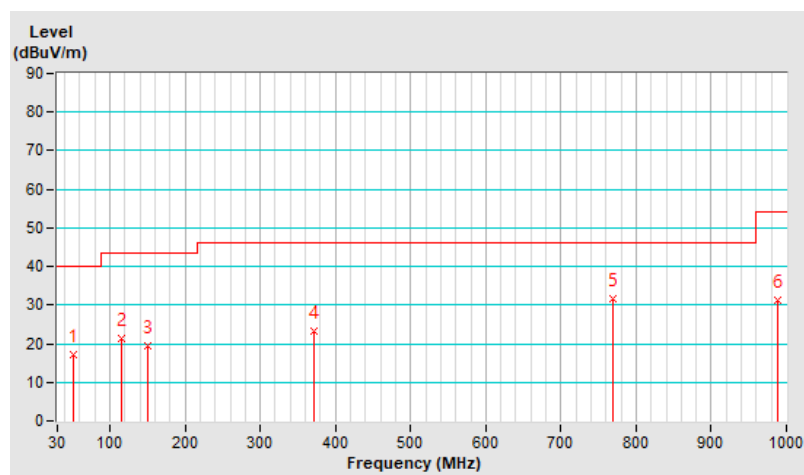
Mode B

RF Mode	BT-LE 2M	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	22 °C, 70 % RH
Tested By	Louis Yang		

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	51.37	17.3 QP	40.0	-22.7	3.91 H	285	29.8	-12.5
2	115.89	21.2 QP	43.5	-22.3	1.94 H	258	36.1	-14.9
3	151.15	19.5 QP	43.5	-24.0	1.00 H	282	31.8	-12.3
4	371.20	23.4 QP	46.0	-22.6	1.04 H	274	33.4	-10.0
5	768.72	31.6 QP	46.0	-14.4	3.88 H	11	33.1	-1.5
6	988.95	31.4 QP	54.0	-22.6	2.15 H	68	30.3	1.1

Remarks:

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

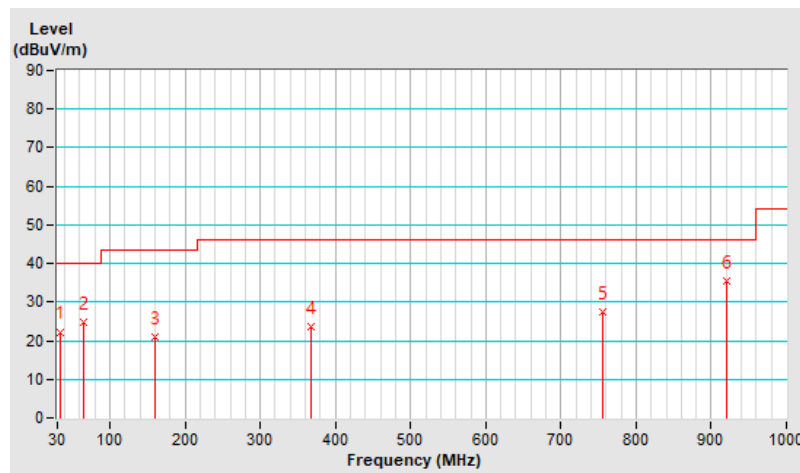


RF Mode	BT-LE 2M	Channel	CH 0 : 2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	22 °C, 70 % RH
Tested By	Louis Yang		

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	34.58	22.3 QP	40.0	-17.7	1.55 V	360	35.6	-13.3
2	65.70	24.7 QP	40.0	-15.3	2.26 V	191	38.8	-14.1
3	160.77	20.8 QP	43.5	-22.7	1.00 V	0	33.1	-12.3
4	366.88	23.5 QP	46.0	-22.5	1.00 V	330	33.6	-10.1
5	755.78	27.5 QP	46.0	-18.5	1.67 V	344	29.3	-1.8
6	921.23	35.3 QP	46.0	-10.7	2.00 V	171	34.6	0.7

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

Mode A

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 °C, 75 % RH
Tested By	Tank 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	53.4 PK	74.0	-20.6	1.37 H	186	56.5	-3.1
2	2390.00	41.1 AV	54.0	-12.9	1.37 H	186	44.2	-3.1
3	*2402.00	106.2 PK			1.37 H	186	109.4	-3.2
4	*2402.00	105.1 AV			1.37 H	186	108.3	-3.2
5	4804.00	39.5 PK	74.0	-34.5	1.61 H	142	37.3	2.2
6	4804.00	29.1 AV	54.0	-24.9	1.61 H	142	26.9	2.2
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	1.14 V	66	57.2	-3.1
2	2390.00	42.4 AV	54.0	-11.6	1.14 V	66	45.5	-3.1
3	*2402.00	115.1 PK			1.14 V	66	118.3	-3.2
4	*2402.00	114.2 AV			1.14 V	66	117.4	-3.2
5	4804.00	40.5 PK	74.0	-33.5	1.63 V	345	38.3	2.2
6	4804.00	29.2 AV	54.0	-24.8	1.63 V	345	27.0	2.2

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.
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 °C, 75 % RH
Tested By	Tank 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	105.6 PK			1.43 H	193	108.9	-3.3
2	*2440.00	104.7 AV			1.43 H	193	108.0	-3.3
3	4880.00	40.6 PK	74.0	-33.4	1.58 H	113	38.5	2.1
4	4880.00	29.5 AV	54.0	-24.5	1.58 H	113	27.4	2.1
5	7320.00	56.5 PK	74.0	-17.5	1.83 H	108	49.1	7.4
6	7320.00	45.1 AV	54.0	-8.9	1.83 H	108	37.7	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	*2440.00	115.3 PK			2.67 V	56	118.6	-3.3
2	*2440.00	114.4 AV			2.67 V	56	117.7	-3.3
3	4880.00	41.0 PK	74.0	-33.0	1.58 V	344	38.9	2.1
4	4880.00	29.4 AV	54.0	-24.6	1.58 V	344	27.3	2.1
5	7320.00	52.7 PK	74.0	-21.3	1.99 V	158	45.3	7.4
6	7320.00	42.5 AV	54.0	-11.5	1.99 V	158	35.1	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 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 °C, 75 % RH
Tested By	Tank 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	103.6 PK			1.41 H	202	106.7	-3.1
2	*2480.00	102.1 AV			1.41 H	202	105.2	-3.1
3	2483.50	63.8 PK	74.0	-10.2	1.41 H	202	66.9	-3.1
4	2483.50	52.8 AV	54.0	-1.2	1.41 H	202	55.9	-3.1
5	4960.00	41.1 PK	74.0	-32.9	1.61 H	88	38.7	2.4
6	4960.00	29.8 AV	54.0	-24.2	1.61 H	88	27.4	2.4
7	7440.00	56.7 PK	74.0	-17.3	1.84 H	102	49.0	7.7
8	7440.00	45.2 AV	54.0	-8.8	1.84 H	102	37.5	7.7
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	113.4 PK			2.29 V	62	116.5	-3.1
2	*2480.00	112.2 AV			2.29 V	62	115.3	-3.1
3	2483.50	64.4 PK	74.0	-9.6	2.29 V	62	67.5	-3.1
4	2483.50	53.3 AV	54.0	-0.7	2.29 V	62	56.4	-3.1
5	4960.00	41.4 PK	74.0	-32.6	1.56 V	352	39.0	2.4
6	4960.00	29.7 AV	54.0	-24.3	1.56 V	352	27.3	2.4
7	7440.00	52.9 PK	74.0	-21.1	2.03 V	149	45.2	7.7
8	7440.00	42.7 AV	54.0	-11.3	2.03 V	149	35.0	7.7

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.
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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.8 PK	74.0	-21.2	1.41 H	214	55.9	-3.1
2	2390.00	41.4 AV	54.0	-12.6	1.41 H	214	44.5	-3.1
3	*2402.00	104.8 PK			1.41 H	214	108.0	-3.2
4	*2402.00	103.6 AV			1.41 H	214	106.8	-3.2
5	4804.00	42.0 PK	74.0	-32.0	1.54 H	68	39.8	2.2
6	4804.00	30.5 AV	54.0	-23.5	1.54 H	68	28.3	2.2
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	53.7 PK	74.0	-20.3	2.42 V	55	56.8	-3.1
2	2390.00	42.9 AV	54.0	-11.1	2.42 V	55	46.0	-3.1
3	*2402.00	114.8 PK			2.42 V	55	118.0	-3.2
4	*2402.00	112.5 AV			2.42 V	55	115.7	-3.2
5	4804.00	41.0 PK	74.0	-33.0	1.52 V	360	38.8	2.2
6	4804.00	29.2 AV	54.0	-24.8	1.52 V	360	27.0	2.2

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.
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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank 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	103.1 PK			1.41 H	219	106.4	-3.3
2	*2440.00	101.8 AV			1.41 H	219	105.1	-3.3
3	4880.00	41.3 PK	74.0	-32.7	1.58 H	79	39.2	2.1
4	4880.00	30.0 AV	54.0	-24.0	1.58 H	79	27.9	2.1
5	7320.00	56.9 PK	74.0	-17.1	1.86 H	88	49.5	7.4
6	7320.00	45.6 AV	54.0	-8.4	1.86 H	88	38.2	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	*2440.00	112.5 PK			2.42 V	58	115.8	-3.3
2	*2440.00	110.1 AV			2.42 V	58	113.4	-3.3
3	4880.00	41.2 PK	74.0	-32.8	1.57 V	356	39.1	2.1
4	4880.00	29.2 AV	54.0	-24.8	1.57 V	356	27.1	2.1
5	7320.00	53.6 PK	74.0	-20.4	1.97 V	147	46.2	7.4
6	7320.00	43.2 AV	54.0	-10.8	1.97 V	147	35.8	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 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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank 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	100.2 PK			1.40 H	232	103.3	-3.1
2	*2480.00	98.4 AV			1.40 H	232	101.5	-3.1
3	2483.50	62.4 PK	74.0	-11.6	1.40 H	232	65.5	-3.1
4	2483.50	51.8 AV	54.0	-2.2	1.40 H	232	54.9	-3.1
5	4960.00	40.8 PK	74.0	-33.2	1.56 H	65	38.4	2.4
6	4960.00	29.6 AV	54.0	-24.4	1.56 H	65	27.2	2.4
7	7440.00	56.4 PK	74.0	-17.6	1.84 H	76	48.7	7.7
8	7440.00	45.3 AV	54.0	-8.7	1.84 H	76	37.6	7.7
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	109.7 PK			2.21 V	58	112.8	-3.1
2	*2480.00	107.1 AV			2.21 V	58	110.2	-3.1
3	2483.50	64.8 PK	74.0	-9.2	2.21 V	58	67.9	-3.1
4	2483.50	53.7 AV	54.0	-0.3	2.21 V	58	56.8	-3.1
5	4960.00	41.0 PK	74.0	-33.0	1.55 V	360	38.6	2.4
6	4960.00	29.3 AV	54.0	-24.7	1.55 V	360	26.9	2.4
7	7440.00	53.6 PK	74.0	-20.4	1.98 V	147	45.9	7.7
8	7440.00	43.0 AV	54.0	-11.0	1.98 V	147	35.3	7.7

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

Mode B

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 °C, 75 % RH
Tested By	Tank 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	48.5 PK	74.0	-25.5	1.35 H	200	51.6	-3.1
2	2390.00	41.8 AV	54.0	-12.2	1.35 H	200	44.9	-3.1
3	*2402.00	106.3 PK			1.35 H	200	109.5	-3.2
4	*2402.00	105.4 AV			1.35 H	200	108.6	-3.2
5	4804.00	43.5 PK	74.0	-30.5	1.91 H	202	41.3	2.2
6	4804.00	36.2 AV	54.0	-17.8	1.91 H	202	34.0	2.2
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	53.6 PK	74.0	-20.4	1.12 V	76	56.7	-3.1
2	2390.00	46.9 AV	54.0	-7.1	1.12 V	76	50.0	-3.1
3	*2402.00	115.4 PK			1.12 V	76	118.6	-3.2
4	*2402.00	114.2 AV			1.12 V	76	117.4	-3.2
5	4804.00	46.1 PK	74.0	-27.9	1.19 V	4	43.9	2.2
6	4804.00	38.8 AV	54.0	-15.2	1.19 V	4	36.6	2.2

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.
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 °C, 75 % RH
Tested By	Tank 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	105.4 PK			1.33 H	195	108.7	-3.3
2	*2440.00	104.8 AV			1.33 H	195	108.1	-3.3
3	4880.00	43.2 PK	74.0	-30.8	1.86 H	202	41.1	2.1
4	4880.00	36.1 AV	54.0	-17.9	1.86 H	202	34.0	2.1
5	7320.00	50.1 PK	74.0	-23.9	1.57 H	198	42.7	7.4
6	7320.00	41.4 AV	54.0	-12.6	1.57 H	198	34.0	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	*2440.00	114.8 PK			1.28 V	57	118.1	-3.3
2	*2440.00	113.3 AV			1.28 V	57	116.6	-3.3
3	4880.00	45.8 PK	74.0	-28.2	1.15 V	12	43.7	2.1
4	4880.00	38.5 AV	54.0	-15.5	1.15 V	12	36.4	2.1
5	7320.00	52.6 PK	74.0	-21.4	1.63 V	67	45.2	7.4
6	7320.00	44.4 AV	54.0	-9.6	1.63 V	67	37.0	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 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 °C, 75 % RH
Tested By	Tank 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	104.8 PK			1.74 H	223	107.9	-3.1
2	*2480.00	103.6 AV			1.74 H	223	106.7	-3.1
3	2483.50	57.9 PK	74.0	-16.1	1.74 H	223	61.0	-3.1
4	2483.50	46.3 AV	54.0	-7.7	1.74 H	223	49.4	-3.1
5	4960.00	43.3 PK	74.0	-30.7	1.82 H	216	40.9	2.4
6	4960.00	36.5 AV	54.0	-17.5	1.82 H	216	34.1	2.4
7	7440.00	50.5 PK	74.0	-23.5	1.61 H	213	42.8	7.7
8	7440.00	41.5 AV	54.0	-12.5	1.61 H	213	33.8	7.7
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	113.9 PK			1.48 V	59	117.0	-3.1
2	*2480.00	112.9 AV			1.48 V	59	116.0	-3.1
3	2483.50	64.6 PK	74.0	-9.4	1.48 V	59	67.7	-3.1
4	2483.50	53.5 AV	54.0	-0.5	1.48 V	59	56.6	-3.1
5	4960.00	45.9 PK	74.0	-28.1	1.20 V	22	43.5	2.4
6	4960.00	38.5 AV	54.0	-15.5	1.20 V	22	36.1	2.4
7	7440.00	52.5 PK	74.0	-21.5	1.64 V	66	44.8	7.7
8	7440.00	44.0 AV	54.0	-10.0	1.64 V	66	36.3	7.7

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.
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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank 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	48.7 PK	74.0	-25.3	1.76 H	233	51.8	-3.1
2	2390.00	37.4 AV	54.0	-16.6	1.76 H	233	40.5	-3.1
3	*2402.00	104.8 PK			1.76 H	233	108.0	-3.2
4	*2402.00	103.5 AV			1.76 H	233	106.7	-3.2
5	4804.00	43.4 PK	74.0	-30.6	1.81 H	231	41.2	2.2
6	4804.00	36.6 AV	54.0	-17.4	1.81 H	231	34.4	2.2
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	53.8 PK	74.0	-20.2	2.65 V	109	56.9	-3.1
2	2390.00	42.3 AV	54.0	-11.7	2.65 V	109	45.4	-3.1
3	*2402.00	115.7 PK			2.65 V	109	118.9	-3.2
4	*2402.00	112.5 AV			2.65 V	109	115.7	-3.2
5	4804.00	45.4 PK	74.0	-28.6	1.11 V	22	43.2	2.2
6	4804.00	37.8 AV	54.0	-16.2	1.11 V	22	35.6	2.2

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.
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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank 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	104.6 PK			1.72 H	247	107.9	-3.3
2	*2440.00	103.0 AV			1.72 H	247	106.3	-3.3
3	4880.00	43.2 PK	74.0	-30.8	1.85 H	215	41.1	2.1
4	4880.00	36.6 AV	54.0	-17.4	1.85 H	215	34.5	2.1
5	7320.00	50.0 PK	74.0	-24.0	1.66 H	227	42.6	7.4
6	7320.00	41.3 AV	54.0	-12.7	1.66 H	227	33.9	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	*2440.00	115.6 PK			1.38 V	53	118.9	-3.3
2	*2440.00	112.3 AV			1.38 V	53	115.6	-3.3
3	4880.00	45.4 PK	74.0	-28.6	1.15 V	13	43.3	2.1
4	4880.00	38.0 AV	54.0	-16.0	1.15 V	13	35.9	2.1
5	7320.00	52.0 PK	74.0	-22.0	1.65 V	69	44.6	7.4
6	7320.00	43.7 AV	54.0	-10.3	1.65 V	69	36.3	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 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=5.1 kHz, DET=Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	24 °C, 75 % RH
Tested By	Tank 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	100.2 PK			1.72 H	233	103.3	-3.1
2	*2480.00	98.9 AV			1.72 H	233	102.0	-3.1
3	2483.50	58.6 PK	74.0	-15.4	1.72 H	233	61.7	-3.1
4	2483.50	48.3 AV	54.0	-5.7	1.72 H	233	51.4	-3.1
5	4960.00	42.9 PK	74.0	-31.1	1.85 H	222	40.5	2.4
6	4960.00	36.5 AV	54.0	-17.5	1.85 H	222	34.1	2.4
7	7440.00	50.0 PK	74.0	-24.0	1.72 H	242	42.3	7.7
8	7440.00	41.3 AV	54.0	-12.7	1.72 H	242	33.6	7.7
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	111.1 PK			1.01 V	56	114.2	-3.1
2	*2480.00	108.2 AV			1.01 V	56	111.3	-3.1
3	2483.50	63.5 PK	74.0	-10.5	1.01 V	56	66.6	-3.1
4	2483.50	53.2 AV	54.0	-0.8	1.01 V	56	56.3	-3.1
5	4960.00	44.9 PK	74.0	-29.1	1.13 V	28	42.5	2.4
6	4960.00	37.5 AV	54.0	-16.5	1.13 V	28	35.1	2.4
7	7440.00	51.9 PK	74.0	-22.1	1.70 V	67	44.2	7.7
8	7440.00	43.8 AV	54.0	-10.2	1.70 V	67	36.1	7.7

Remarks:

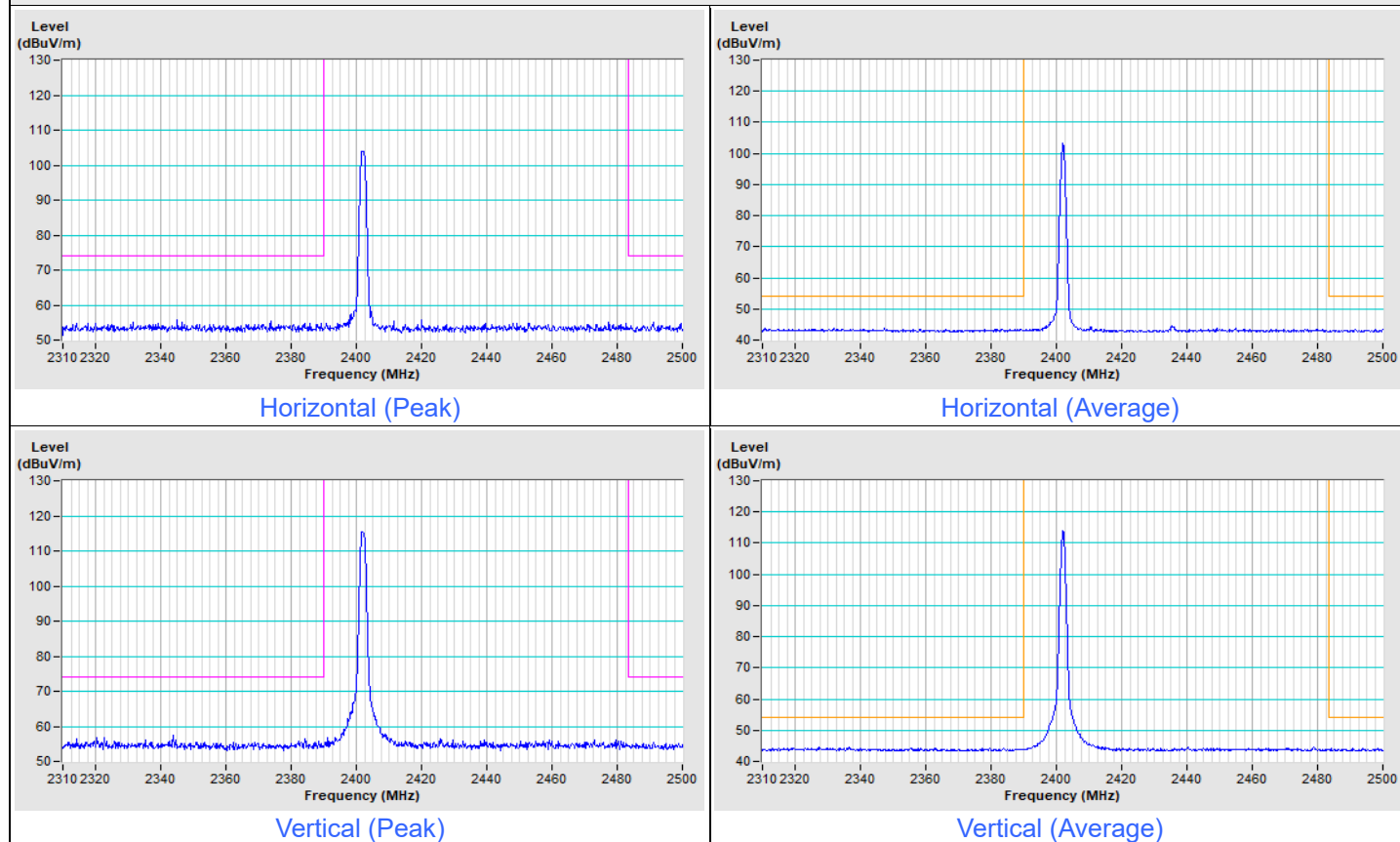
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency,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

Plot of Band Edge

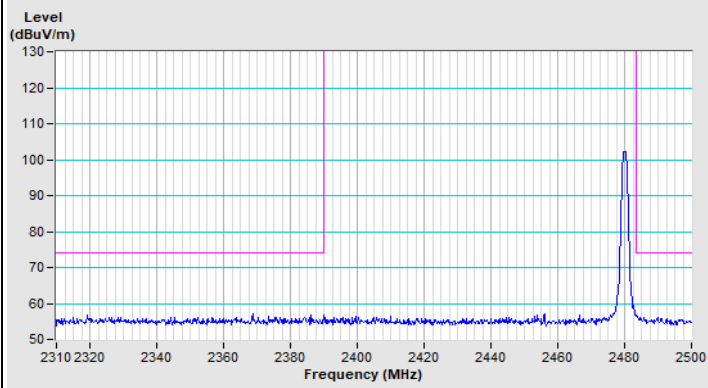
Mode A

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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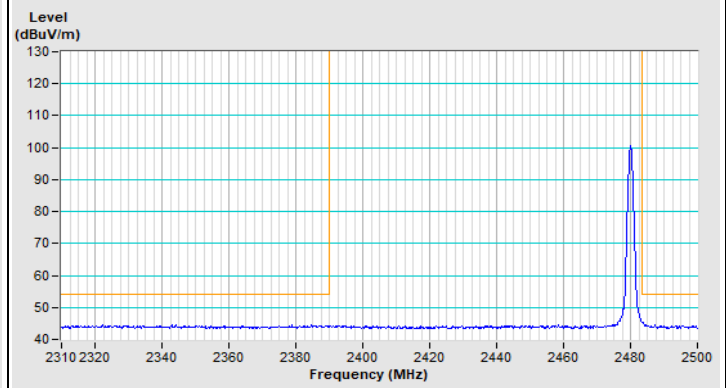
BT-LE 1M Channel 0



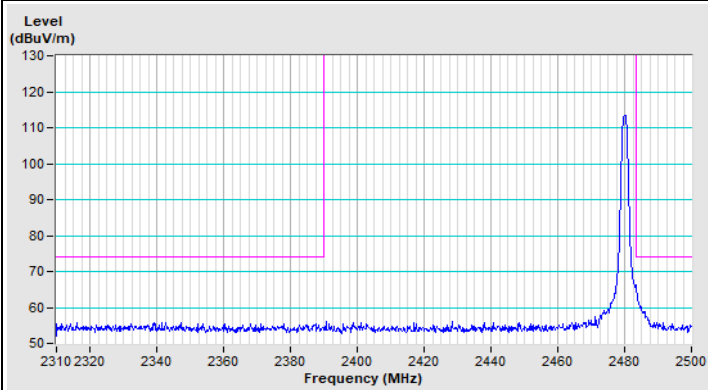
BT-LE 1M Channel 39



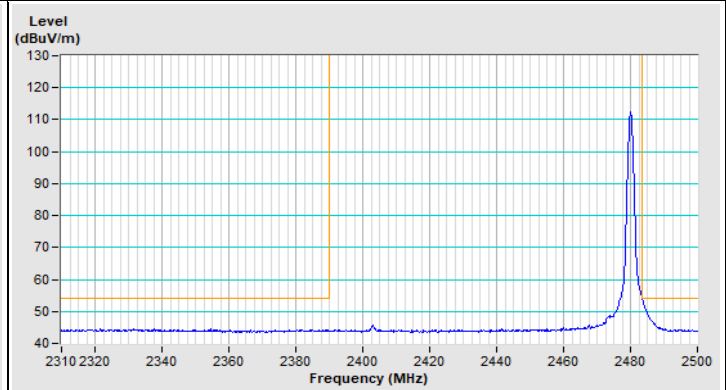
Horizontal (Peak)



Horizontal (Average)



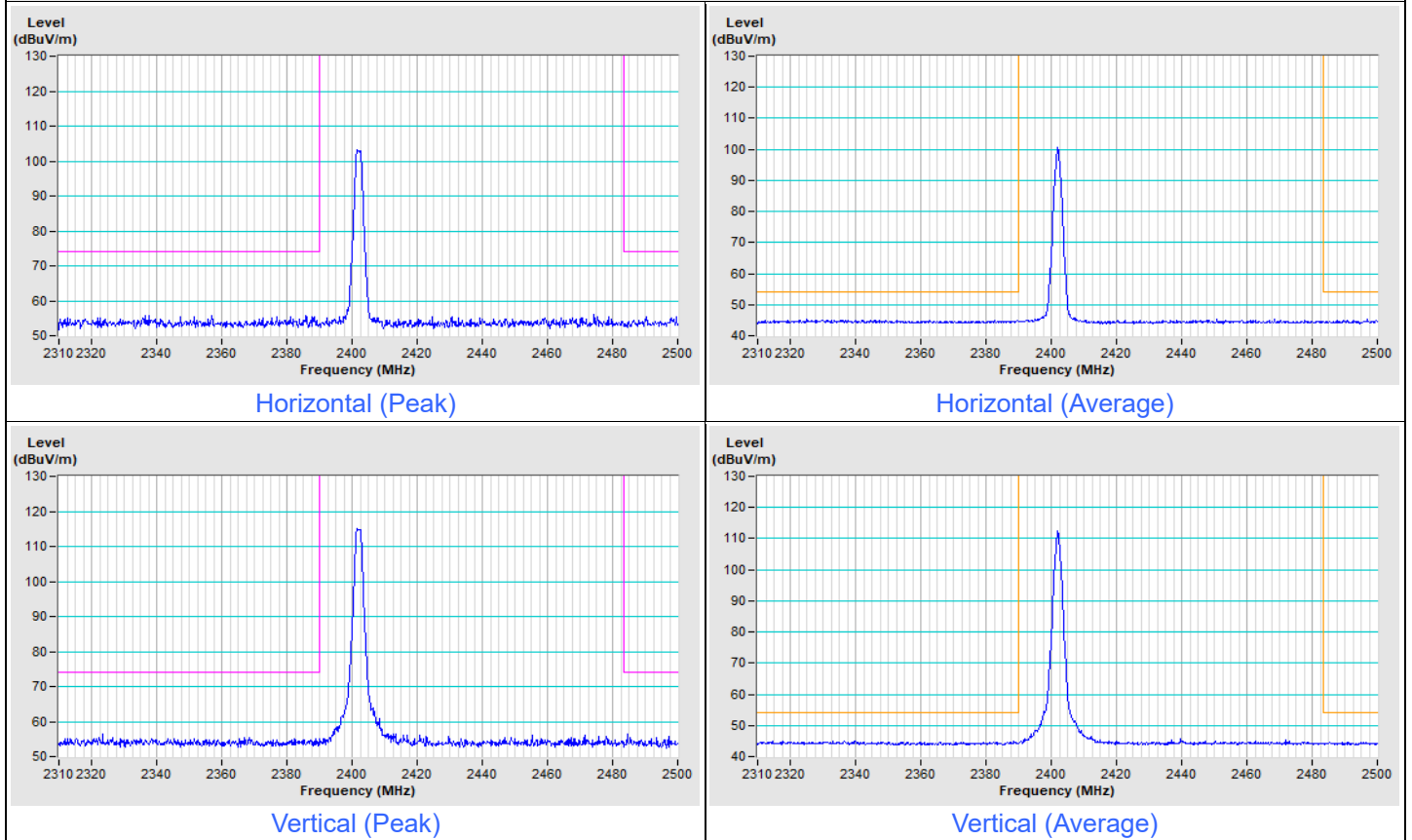
Vertical (Peak)



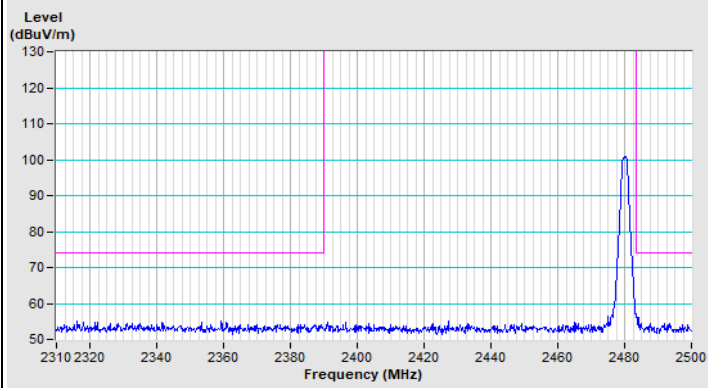
Vertical (Average)

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=5.1 kHz, DET=Peak
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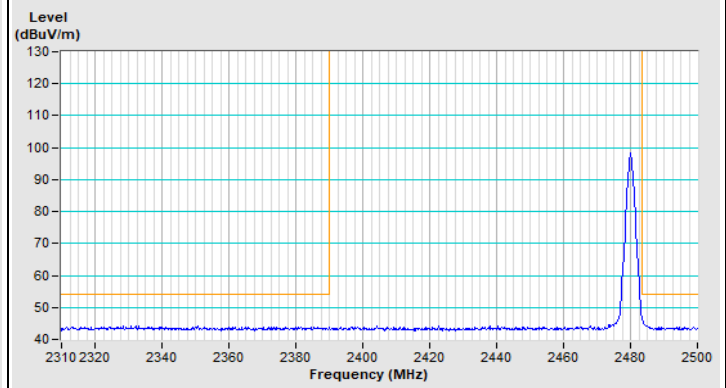
BT-LE 2M Channel 0



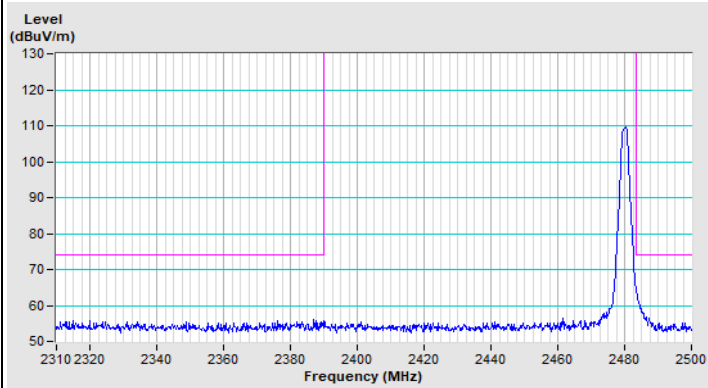
BT-LE 2M Channel 39



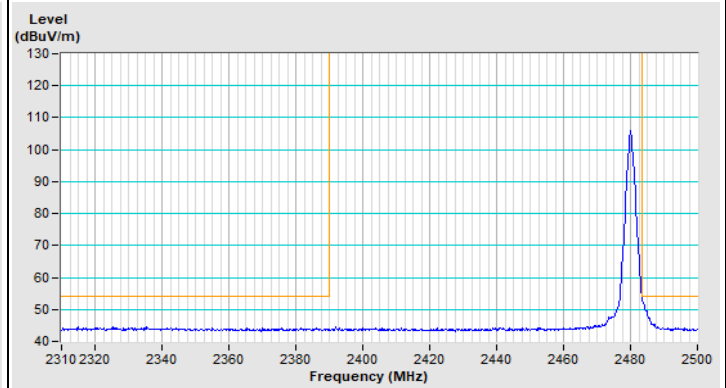
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

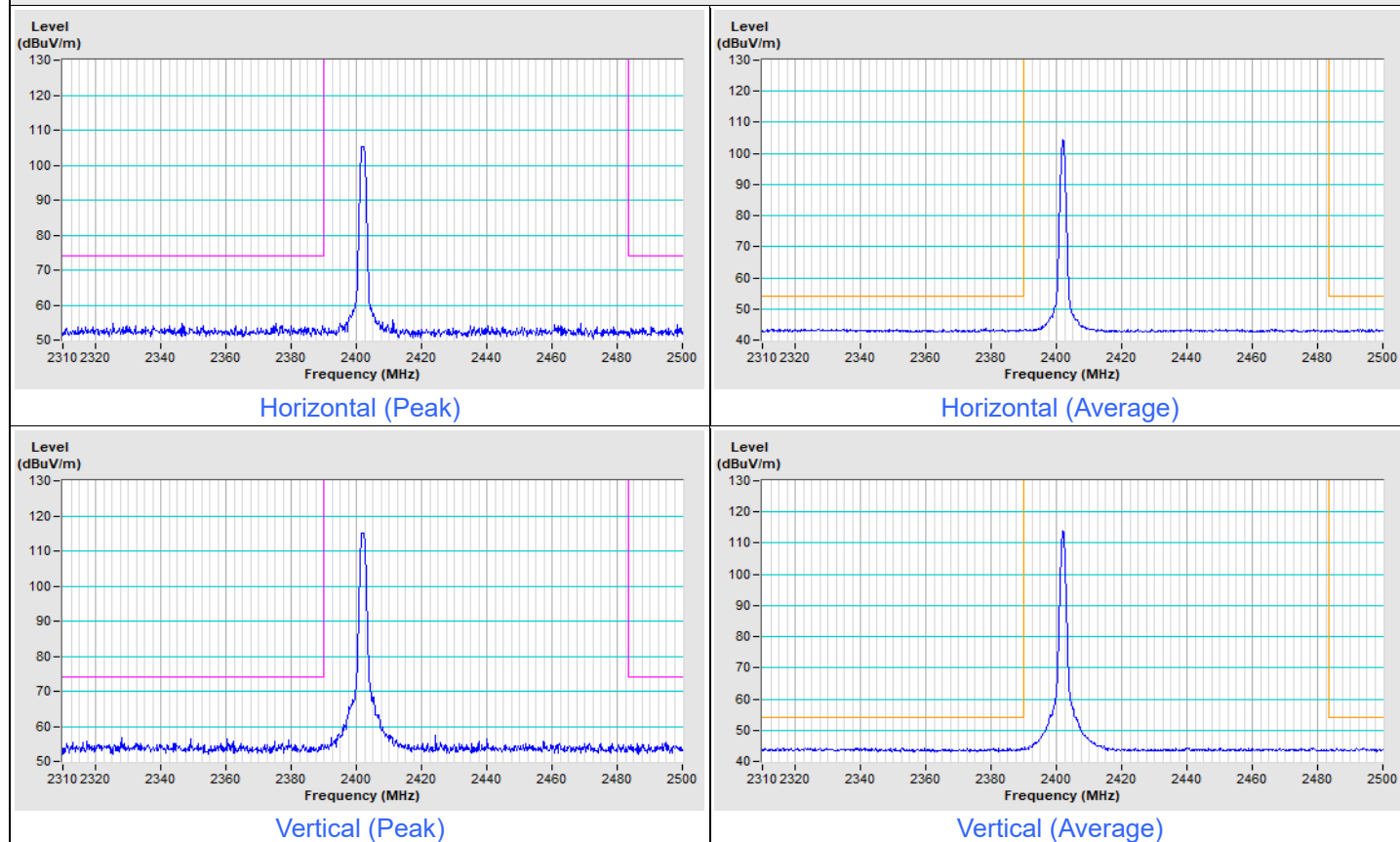


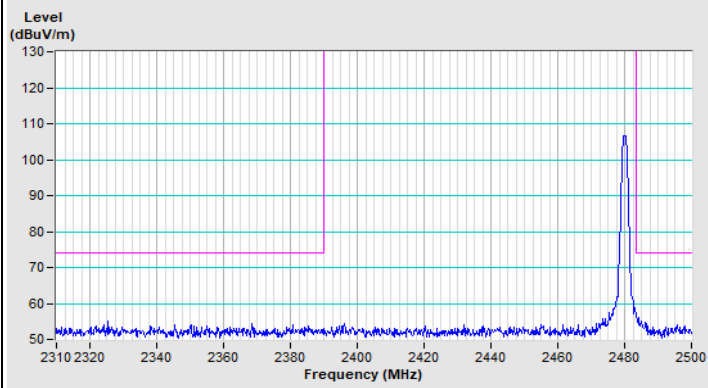
Vertical (Average)

Mode B

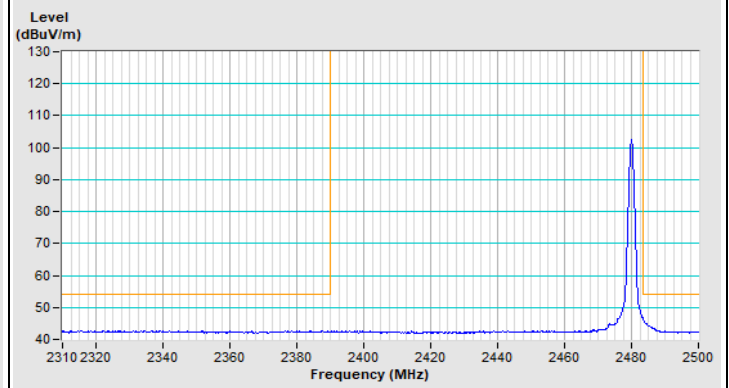
Frequency Range	2.31 GHz ~ 2.5 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
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BT-LE 1M Channel 0

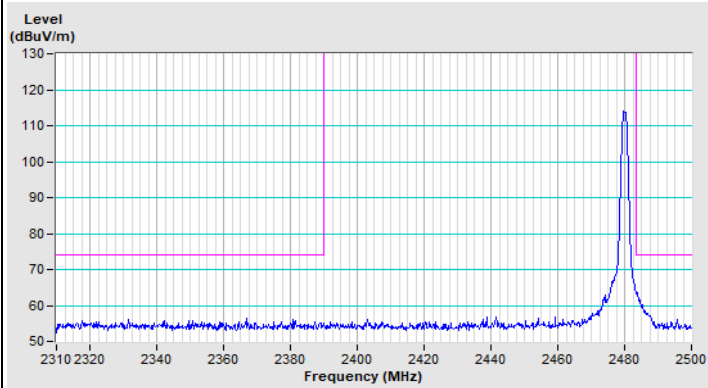


BT-LE 1M Channel 39

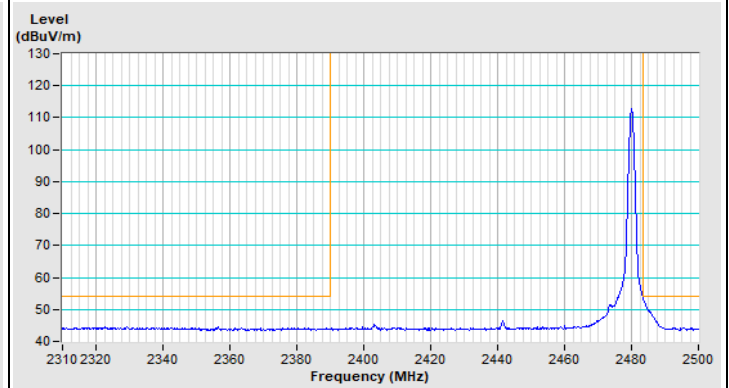
Horizontal (Peak)



Horizontal (Average)



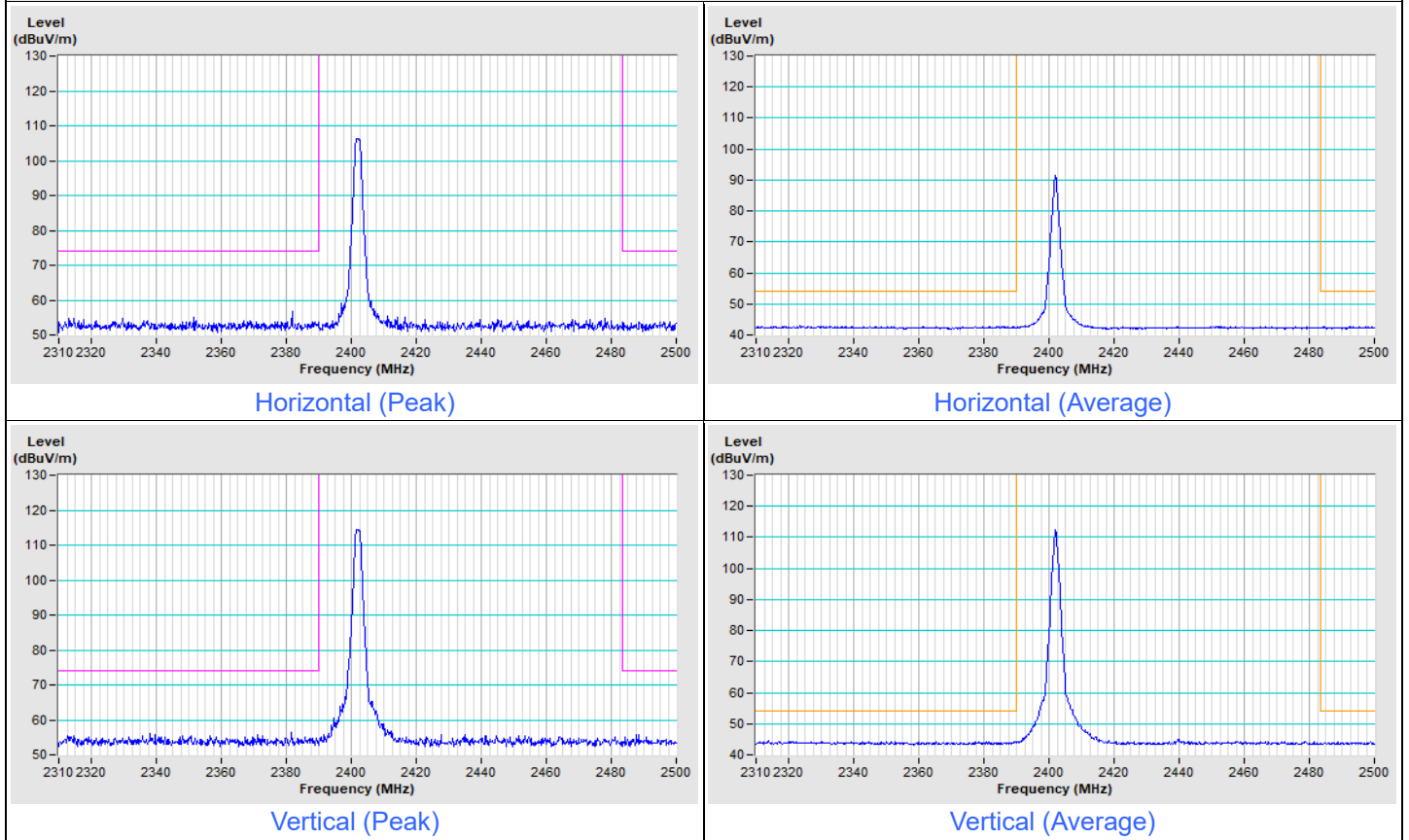
Vertical (Peak)



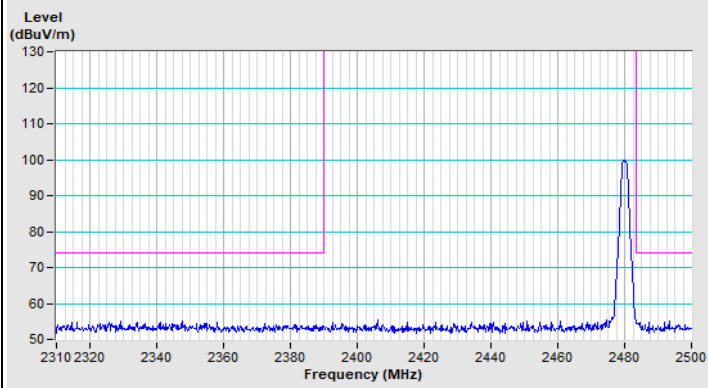
Vertical (Average)

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=5.1 kHz, DET=Peak
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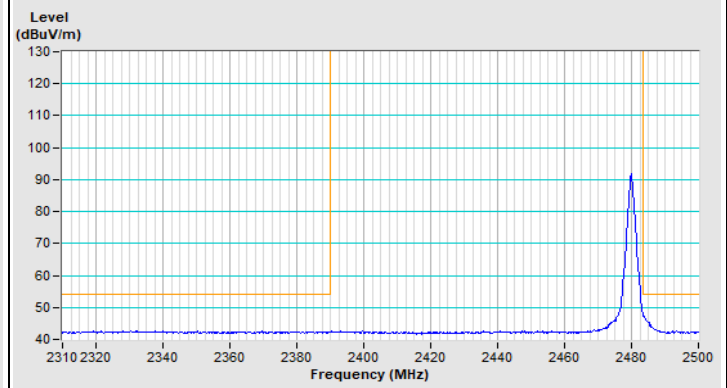
BT-LE 2M Channel 0



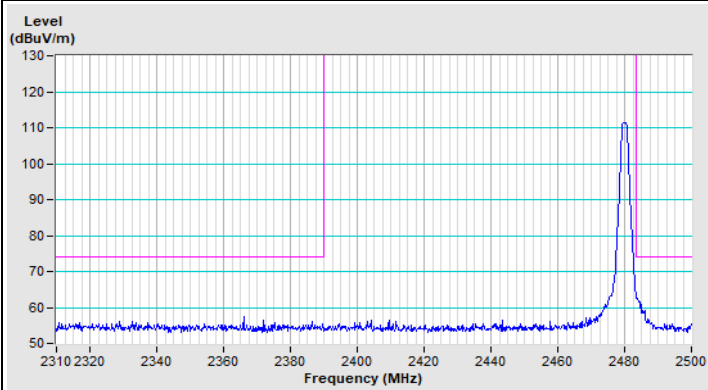
BT-LE 2M Channel 39



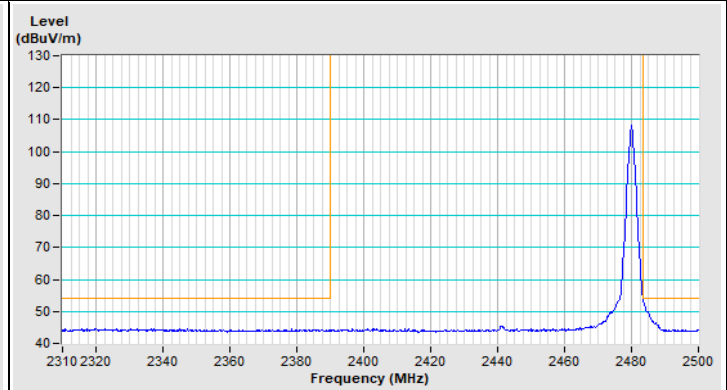
Horizontal (Peak)



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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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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