

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBBQZ-WTW-P26050063-6
FCC ID: PY325300650
Product: Orbi 11BE WiFi 7 Tri-band Router & Orbi 11BE WiFi 7 Tri-band Satellite
(refer to item 3.1 for more details)
Brand: NETGEAR
Model No.: RBE781
Series Model: RBE780 (refer to item 3.1 for more details)
Received Date: 2026/5/5
Test Date: 2026/7/9 ~ 2026/7/31
Issued Date: 2026/8/18

Applicant and Manufacturer: NETGEAR, INC.

Address: 3553 North First Street, San Jose, CA 95134, USA

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 244, Taiwan

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 333, Taiwan

FCC Registration / 788550 / TW0003

Designation Number:

Approved by:

Jeremy Lin

Jeremy Lin / Project Engineer

Date:

2026/8/18

This test report consists of 72 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.

Prepared by : Vera Huang / Specialist



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/>, and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description.....	7
3.2 Antenna Description of EUT	8
3.3 Channel List.....	9
3.4 Test Mode Applicability and Tested Channel Detail.....	10
3.5 Duty Cycle of Test Signal.....	11
3.6 Test Program Used and Operation Descriptions	12
3.7 Connection Diagram of EUT and Peripheral Devices	12
3.8 Configuration of Peripheral Devices and Cable Connections	12
4 Test Instruments	13
4.1 RF Output Power.....	13
4.2 Number of Hopping Frequency Used.....	13
4.3 Dwell Time on Each Channel	13
4.4 Hopping Channel Separation	13
4.5 20 dB Bandwidth	13
4.6 Conducted Out of Band Emissions	13
4.7 AC Power Conducted Emissions	14
4.8 Unwanted Emissions below 1 GHz	15
4.9 Unwanted Emissions above 1 GHz.....	16
5 Limits of Test Items.....	17
5.1 RF Output Power.....	17
5.2 Number of Hopping Frequency Used.....	17
5.3 Dwell Time on Each Channel	17
5.4 Hopping Channel Separation	17
5.5 20 dB Bandwidth	17
5.6 Conducted Out of Band Emissions	17
5.7 AC Power Conducted Emissions	17
5.8 Unwanted Emissions below 1 GHz	18
5.9 Unwanted Emissions above 1 GHz.....	18
6 Test Arrangements.....	19
6.1 RF Output Power.....	19
6.1.1 Test Setup	19
6.1.2 Test Procedure	19
6.2 Number of Hopping Frequency Used.....	20
6.2.1 Test Setup	20
6.2.2 Test Procedure	20
6.3 Dwell Time on Each Channel	21
6.3.1 Test Setup	21
6.3.2 Test Procedure	21
6.4 Hopping Channel Separation	22
6.4.1 Test Setup	22
6.4.2 Test Procedure	22
6.5 20 dB Bandwidth	23
6.5.1 Test Setup	23
6.5.2 Test Procedure	23
6.6 Conducted Out of Band Emissions	24
6.6.1 Test Setup	24
6.6.2 Test Procedure	24
6.7 AC Power Conducted Emissions	25

6.7.1	Test Setup	25
6.7.2	Test Procedure	25
6.8	Unwanted Emissions below 1 GHz	26
6.8.1	Test Setup	26
6.8.2	Test Procedure	27
6.9	Unwanted Emissions above 1 GHz	28
6.9.1	Test Setup	28
6.9.2	Test Procedure	28
7	Test Results of Test Item	29
7.1	RF Output Power	29
7.2	Number of Hopping Frequency Used	31
7.3	Dwell Time on Each Channel	33
7.4	Hopping Channel Separation	35
7.5	20 dB Bandwidth	37
7.6	Conducted Out of Band Emissions	39
7.7	AC Power Conducted Emissions	45
7.8	Unwanted Emissions below 1 GHz	49
7.9	Unwanted Emissions above 1 GHz	53
8	Pictures of Test Arrangements	71
9	Information of the Testing Laboratories	72

Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P26050063-6	Original Release	2026/8/18

1 Certificate

Product: Orbi 11BE WiFi 7 Tri-band Router & Orbi 11BE WiFi 7 Tri-band Satellite
(refer to item 3.1 for more details)

Brand: NETGEAR

Test Model: RBE781

Series Model: RBE780 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant and Manufacturer: NETGEAR, INC.

Test Date: 2026/7/9 ~ 2026/7/31

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

Measurement procedure: ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024
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 (a)(1)	RF Output Power	Pass	Meet the requirement of limit.
15.247(a)(1) (iii)	Number of Hopping Frequency Used	Pass	Meet the requirement of limit.
15.247(a)(1) (iii)	Dwell Time on Each Channel	Pass	Meet the requirement of limit.
15.247(a)(1)	Hopping Channel Separation	Pass	Meet the requirement of limit.
15.247(a)(1)	20 dB Bandwidth	-	Refer to Note 1
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 -17.78 dB at 0.24941 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -6.70 dB at 704.78 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -8.6 dB at 2390.00 MHz
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Notes:

1. If the Frequency Hopping System operating in 2400-2483.5 MHz band and the output power less than 125 mW. The hopping channel carrier frequencies separated by a minimum of 25 kHz or two-thirds of the 20 dB bandwidth of hopping channel whichever is greater.
2. 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	-	1.371 dB
Dwell Time on Each Channel	-	0.0218
Hopping Channel Separation	-	390 Hz
20 dB Bandwidth	-	206.5 Hz
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	3.23 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.64 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 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	Orbi 11BE WiFi 7 Tri-band Router & Orbi 11BE WiFi 7 Tri-band Satellite
Brand	NETGEAR
Test Model	RBE781
Series Model	RBE780
Model Difference	Refer to note
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from Adapter
Modulation Type	GFSK
Modulation Technology	FHSS
Transfer Rate	1 Mbps, 2 Mbps, 125kbps, 500kbps
Operating Frequency	1 Mbps, 125kbps, 500kbps: 2.402 GHz ~ 2.48 GHz 2 Mbps: 2.404 GHz ~ 2.478 GHz
Number of Channel	1 Mbps, 125kbps, 500kbps: 40 2 Mbps: 38
Output Power	118.304 mW (20.73 dBm)

Note:

1. All models are listed as below.

Product Description	Model	Difference
Orbi 11BE WiFi 7 Tri-band Router	RBE781	DFS mode: Master mode Four 2.5G Ethernet ports (1WAN+3LAN)
Orbi 11BE WiFi 7 Tri-band Satellite	RBE780	DFS mode: Mesh mode Two 2.5G Ethernet ports (2LAN)

2. The EUT uses following accessories.

AC Adapter 1	Brand	NETGEAR
	Model	ADS-40FPC-12 12030E
	Part Number	332-11771-01
	AC Input	100-240V 50/60Hz 1.0A
	DC Output	12.0V 2.5A 30.0W
	DC Output Cable	1.81M / 0 core
	Manufacturer	Vietnam Honor High Tech Company Limited
AC Adapter 2	Brand	NETGEAR
	Model	2AED030FC
	Part Number	332-11774-01
	AC Input	100-240V 50/60Hz 1.0A
	DC Output	12.0V 2.5A 30.0W
	DC Output Cable	1.83M / 0 core
	Manufacturer	CWT
RJ45 Cable	Brand	NETGEAR
	Model	-
	Part Number	-
	Signal Line	1.97m non-shielded and without core

3. There are WLAN (2.4 GHz, 5 GHz, 6 GHz), Bluetooth, and Threads technology used for the EUT.

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 Gain (dBi)	Frequency range	Antenna Type	Connector Type
1	0	Galtronics	02129140-08099-2	2.68	2.4~2.4835GHz	Monopole	ipex(MHF)
				2.49	5.15~5.25GHz		
				3.13	5.25~5.35GHz		
				4.25	5.47~5.725GHz		
				4.58	5.725~5.85GHz		
				4.58	5.850~5.895GHz		
2	1	Galtronics	02129140-08099-1	3.4	2.4~2.4835GHz	Monopole	ipex(MHF)
				3.77	5.15~5.25GHz		
				3.84	5.25~5.35GHz		
				3.72	5.47~5.725GHz		
				3.78	5.725~5.85GHz		
				4.12	5.850~5.895GHz		
3	0	Galtronics	02129475-08099-7	3.85	5.925~6.425GHz	Monopole	ipex(MHF)
				4.63	6.425~6.525GHz		
				4.63	6.525~6.875GHz		
				3.67	6.875~7.125GHz		
4	1	Galtronics	02129475-08099-4	5.84	5.925~6.425GHz	Monopole	ipex(MHF)
				5.84	6.425~6.525GHz		
				5.79	6.525~6.875GHz		
				4.05	6.875~7.125GHz		
5	2	Galtronics	02129475-08099-6	3.42	5.925~6.425GHz	Monopole	ipex(MHF)
				3.54	6.425~6.525GHz		
				4.45	6.525~6.875GHz		
				3.67	6.875~7.125GHz		
6	3	Galtronics	02129475-08099-8	4.4	5.925~6.425GHz	Monopole	ipex(MHF)
				4.87	6.425~6.525GHz		
				5.03	6.525~6.875GHz		
				6	6.875~7.125GHz		
7	0	Galtronics	02102073-08099-3	2.43	2.4~2.4835GHz	Alford Loop	ipex(MHF)

Frequency range (GHz)	Directional Gain (dBi)
2.4~2.4835	4.91
5.15 ~ 5.25	5.39
5.25 ~ 5.35	5.9
5.47 ~ 5.725	5.49
5.725 ~ 5.85	5.75
5.850 ~ 5.895	5.75

Frequency range (GHz)	Directional Gain (dBi)			
	Antenna 3 + 5	Antenna 3 + 6	Antenna 4 + 5	Antenna 4 + 6
5.925~6.425	4.7	5.76	4.84	5.12
6.425~6.525	4.95	5.8	4.77	5.98
6.525~6.875	5.41	5.8	4.48	5.98
6.875~7.125	4.51	5.1	3.93	5.68

* The detailed antenna information, please refer to RBE781, RBE780 Directional Gain Measurement data.

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 the following AC Adapter: AC Adapter 1 / AC Adapter 2. Pre-scan these AC Adapters and find the worst case as a representative test condition. 2. 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:	Adapter Worst Condition: AC Adapter 1

The EUT is designed to be positioned on the Y-axis only.

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

Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
RF Output Power	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	1, 19, 38	GFSK	2Mb/s
		BT-LE 125k	0, 19, 39	GFSK	125kb/s
Number of Hopping Frequency Used	A	BT-LE 1M	Hopping	GFSK	1Mb/s
		BT-LE 2M		GFSK	2Mb/s
		BT-LE 125k		GFSK	125kb/s
Dwell Time on Each Channel	A	BT-LE 1M	Hopping	GFSK	1Mb/s
		BT-LE 2M		GFSK	2Mb/s
		BT-LE 125k		GFSK	125kb/s
Hopping Channel Separation / 20 dB Bandwidth	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	1, 19, 38	GFSK	2Mb/s
		BT-LE 125k	0, 19, 39	GFSK	125kb/s
Conducted Out of Band Emissions	A	BT-LE 1M	Hopping 0, 39	GFSK	1Mb/s
		BT-LE 2M	Hopping 1, 38	GFSK	2Mb/s
		BT-LE 125k	Hopping 0, 39	GFSK	125kb/s
AC Power Conducted Emissions	A, B	BT-LE 2M	19	GFSK	2Mb/s
Unwanted Emissions below 1 GHz	A, B	BT-LE 2M	1	GFSK	2Mb/s
Unwanted Emissions above 1 GHz	A	BT-LE 1M	0, 19, 39	GFSK	1Mb/s
		BT-LE 2M	1, 19, 38	GFSK	2Mb/s
		BT-LE 125k	0, 19, 39	GFSK	125kb/s
EUT Configure Mode:	A	EUT model: RBE781			
	B	EUT model: RBE780			

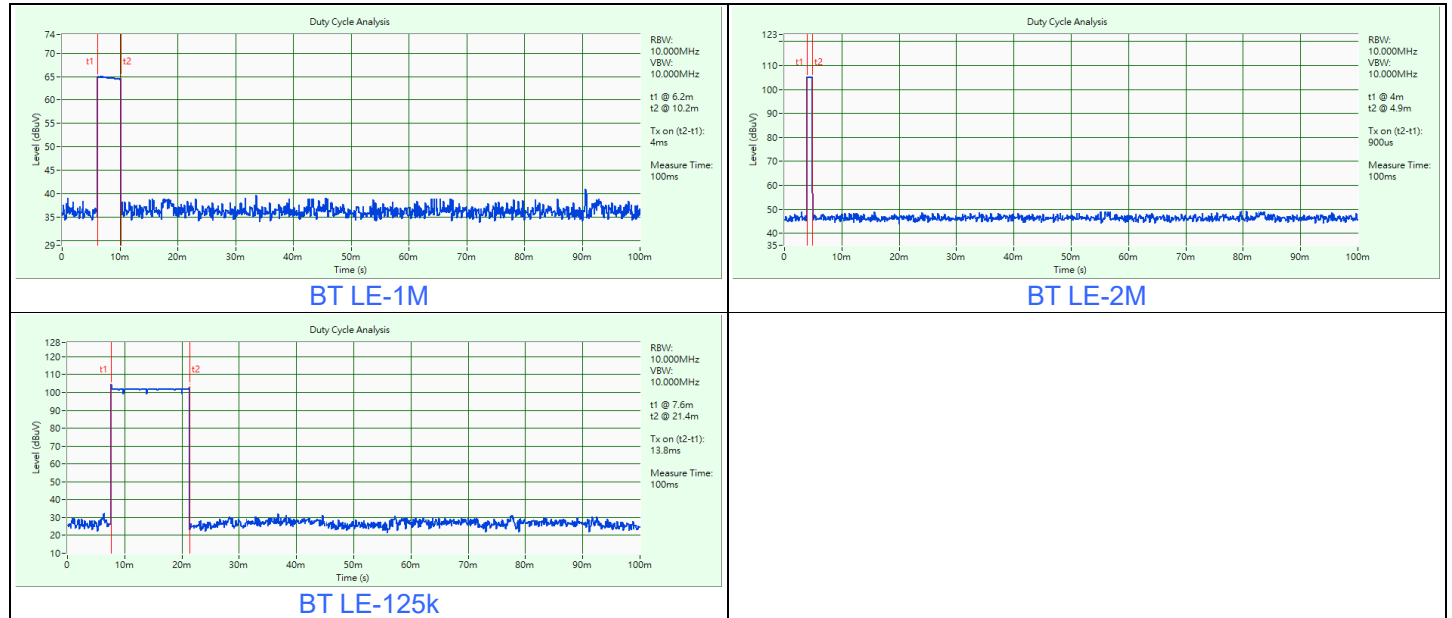
3.5 Duty Cycle of Test Signal

FHSS

BT LE-1M: Duty cycle = 4 ms / 100 ms x 100% = 4.0%

BT LE-2M: Duty cycle = 0.9 ms / 100 ms x 100% = 0.9%

BT LE-125k: Duty cycle = 13.8 ms / 100 ms x 100% = 13.8%

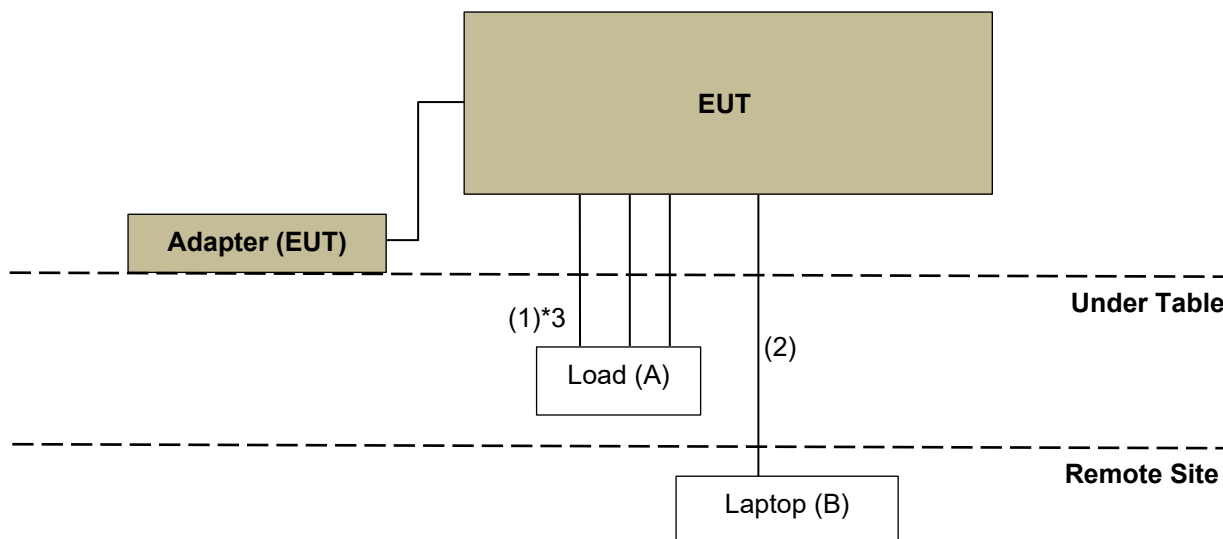


3.6 Test Program Used and Operation Descriptions

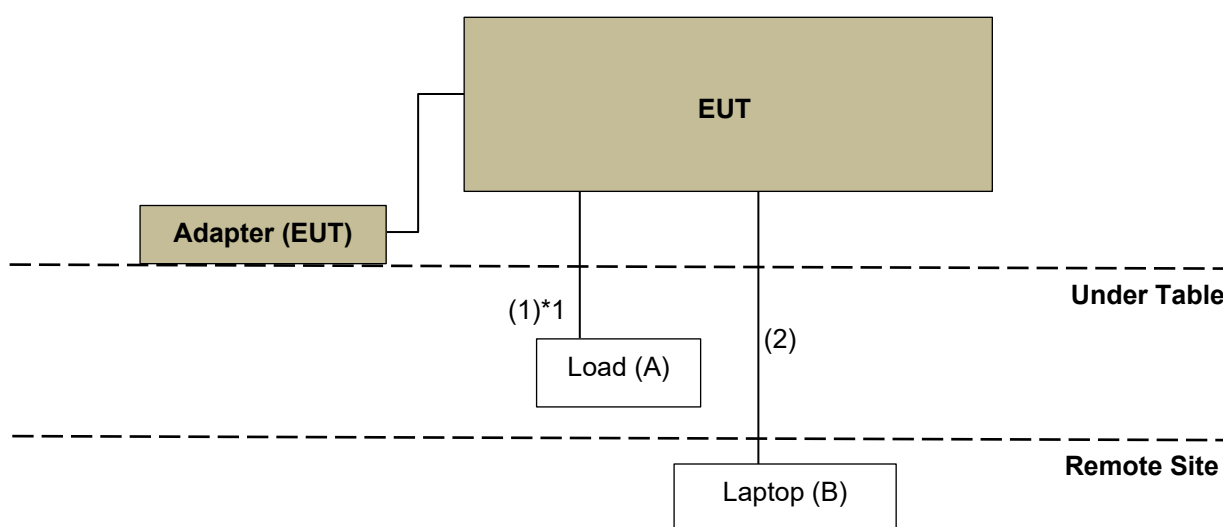
Controlling software QSPR Version 5.0-00202 has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.7 Connection Diagram of EUT and Peripheral Devices

Mode A



Mode B



3.8 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Load	N/A	N/A	N/A	N/A	Provided by Lab
B	Laptop	DELL	E5430	2RL3YW1	N/A	Provided by Lab (for RF Setup)

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	LAN Cable	3	1.5	No	0	Provided by Lab
2	RJ45 Cable	1	1.97	No	0	Accessory of EUT (for RF Setup)

4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
Peak Power Analyzer Keysight	8990B	MY51000485	2026/1/23	2027/1/22
USB Power Sensor Anritsu	MA24408A	12994	2025/12/5	2026/12/4
Wideband Power Sensor Keysight	N1923A	MY58020002	2026/1/26	2027/1/25
		MY58140009	2026/1/26	2027/1/25

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/7/31

4.2 Number of Hopping Frequency Used

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
Signal & Spectrum Analyzer R&S	FSV3044	101505	2026/6/15	2027/6/14
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/7/31

4.3 Dwell Time on Each Channel

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

4.4 Hopping Channel Separation

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

4.5 20 dB Bandwidth

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

4.6 Conducted Out of Band Emissions

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

4.7 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	E1-011279	04	2025/12/4	2026/12/3
	E1-011280	05	2025/12/4	2026/12/3
	E1-011311	09	2025/12/4	2026/12/3
DC LISN Schwarzbeck	NNBM 8126G	8126G-069	2025/11/3	2026/11/2
Diode Pulse Limiter Schwarzbeck	VTSD 9561 F-N	01445	2026/4/18	2027/4/17
EMI Test Receiver R&S	ESCI	100613	2025/11/27	2026/11/26
Extension Power Line EMCI	EMCI-EXP-EU-US	023	2026/3/6	2027/3/5
LISN R&S	ENV216	101826	2026/3/6	2027/3/5
	ESH3-Z5	100311	2025/8/28	2026/8/27
RF Coaxial Cable Woken	5D-FB	Cable-cond1-01	2026/1/3	2027/1/2
Software BVADT	BVADT_Conc_ V7.4.1.0	N/A	N/A	N/A
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2025/8/27	2026/8/26

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2026/7/9

4.8 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-155	2025/9/16	2026/9/15
EMI Test Receiver R&S	ESR3	102782	2025/12/8	2026/12/7
Loop Antenna TESEQ	HLA 6121	45745	2025/9/1	2026/8/31
Preamplifier Agilent	8447D	2944A10631	2026/4/18	2027/4/17
RF Coaxial Cable Woken	8D-FB	Cable-CH4-01	2026/6/26	2027/6/25
Signal & Spectrum Analyzer R&S	FSW43	101582	2026/5/2	2027/5/1
Software BV ADT	ADT_Radiated_ V7.7.1.1.1	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 3(Hwaya).
2. Tested Date: 2026/7/9

4.9 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower inn-co GmbH	MA 4000	010303	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
EMI Test Receiver R&S	ESR3	102782	2025/12/8	2026/12/7
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-408	2025/11/9	2026/11/8
	BBHA 9170	9170-480	2025/11/9	2026/11/8
		BBHA9170241	2025/10/28	2026/10/27
		BBHA9170243	2025/11/9	2026/11/8
Preamplifier EMCI	EMC 184045	980116	2025/9/21	2026/9/20
Preamplifier Keysight	83017A	MY53270295	2026/4/18	2027/4/17
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2026/6/26	2027/6/25
	EMC102-KM-KM-3000	150929	2026/6/26	2027/6/25
RF Coaxial Cable HUBER+SUHNER	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4)	2026/4/18	2027/4/17
	SUCOFLEX 104	Cable-CH4-03(250724)	2026/4/18	2027/4/17
Signal & Spectrum Analyzer R&S	FSW43	101582	2026/5/2	2027/5/1
Software BV ADT	ADT_Radiated_ V7.7.1.1.1	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 3(Hwaya).
2. Tested Date: 2026/7/22 ~ 2026/7/28

5 Limits of Test Items

5.1 RF Output Power

The Maximum Output Power Measurement is 125 mW (21 dBm).

5.2 Number of Hopping Frequency Used

At least 15 channels frequencies, and should be equally spaced.

5.3 Dwell Time on Each Channel

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

5.4 Hopping Channel Separation

At least 25 kHz or two-third of 20 dB hopping channel bandwidth (whichever is greater).

5.5 20 dB Bandwidth

Maximum bandwidth is not specified.

5.6 Conducted Out of Band Emissions

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

5.7 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.

5.8 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).

5.9 Unwanted Emissions above 1 GHz

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

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

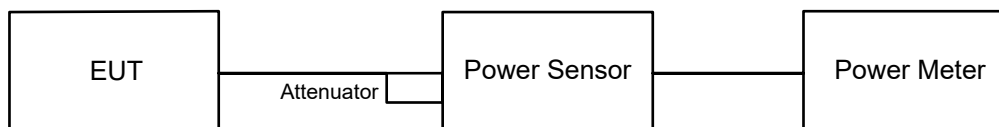
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



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

6.1.2 Test Procedure

Peak Power:

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

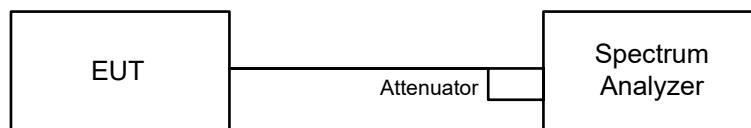
The power meter video bandwidth is greater than or equal to the DTS bandwidth and use a fast responding diode detector.

Average Power:

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

6.2 Number of Hopping Frequency Used

6.2.1 Test Setup



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

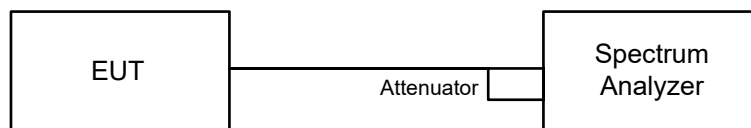
6.2.2 Test Procedure

- Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
- Span: The frequency band of operation. Depending on the number of channels the device supports, it could be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
- RBW: To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
- $VBW \geq 1/10^{\text{th}}$ the RBW.
- Sweep: No faster than coupled (auto) time.
- Detector function: Peak.
- Trace: Max-hold.
- Allow the trace to stabilize

Note: Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the number of channels need only be measured for one of those modulation schemes or data rates.

6.3 Dwell Time on Each Channel

6.3.1 Test Setup



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

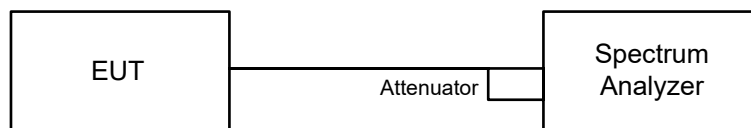
6.3.2 Test Procedure

- a. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT and connect its antenna terminal to measurement via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
- c. Span: Zero span, centered on a hopping channel.
- d. RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1/T$, where T is the expected transmission time per hop. And then, set VBW of spectrum analyzer to proper value.
- e. Sweep time: Set so that the start of the first transmission and end of the last transmission for the hop are clearly captured. Setting the sweep time to be slightly longer than the hopping period per channel (hopping period = $1/\text{hopping rate}$) should achieve this.
- f. Use a video trigger, where possible with a trigger delay, so that the start of the transmission is clearly observed. The trigger level might need adjustment to reduce the chance of triggering when the system hops on an adjacent channel.
- g. Detector function: Peak.
- h. Trace: Clear-write, single sweep.
- i. Place markers at the start of the first transmission on the channel and at the end of the last transmission. The dwell time per hop is the time between these two markers.

Note: Where the device shares the same hopping algorithms (dwell time, channel selection) across multiple data rates or modulation schemes then the time of occupancy need only be measured for one of those modulation schemes or data rates. If the dwell time value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in dwell time.

6.4 Hopping Channel Separation

6.4.1 Test Setup



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

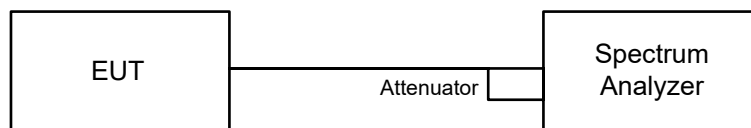
6.4.2 Test Procedure

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
- Span: Wide enough to capture the peaks of two adjacent channels.
- RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
- Video (or average) bandwidth (VBW) $\geq 1/10^{\text{th}}$ the RBW.
- Sweep: No faster than coupled (auto) time.
- Detector function: Peak.
- Trace: Max-hold.
- Allow the trace to stabilize.

Note: Where the device shares the same channel plan (carrier frequencies and number of channels) across multiple data rates or modulation schemes then the carrier separation need only be measured for one of those modulation schemes or data rates.

6.5 20 dB Bandwidth

6.5.1 Test Setup



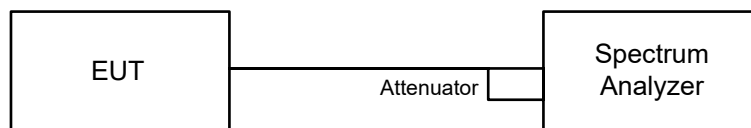
Note: The correction factor has already been compensated by the instrument.

6.5.2 Test Procedure

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
- c. The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, without going below the values in section 6.9.1 of ANSI C63.10a-2024 and video bandwidth (VBW) shall be at least three times RBW, unless otherwise specified by the applicable requirement.
- d. Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level.
- e. Steps a) through c) might require iteration to adjust within the specified tolerances.
- f. The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.
- g. Set detection mode to peak and trace mode to max-hold.
- h. Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- i. Determine the “-xx dB down amplitude” using $[(\text{reference value}) - xx]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument.

6.6 Conducted Out of Band Emissions

6.6.1 Test Setup



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

6.6.2 Test Procedure

MEASUREMENT PROCEDURE REF

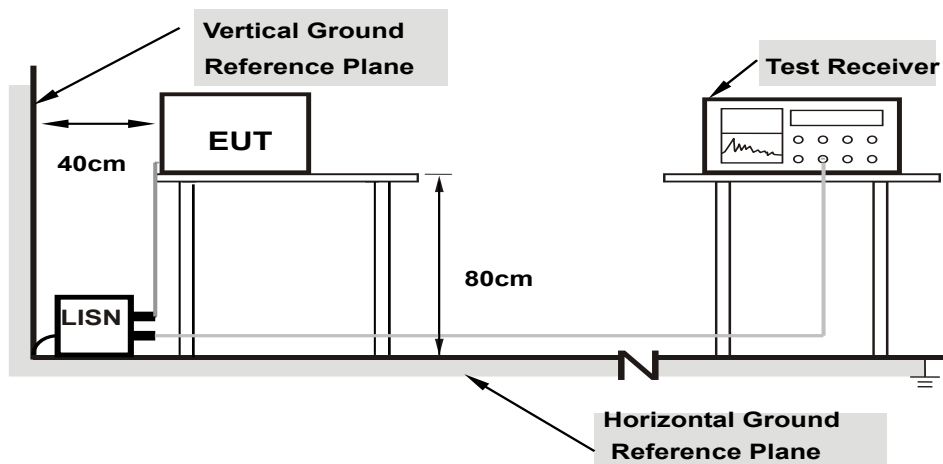
- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use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

MEASUREMENT PROCEDURE OOB

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = No faster than coupled (auto) time.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.7 AC Power Conducted Emissions

6.7.1 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).

6.7.2 Test Procedure

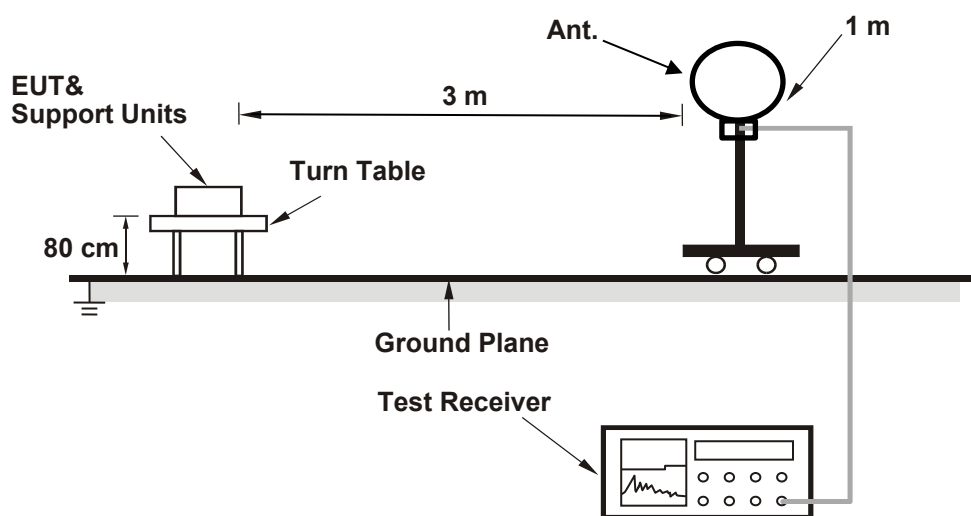
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The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

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

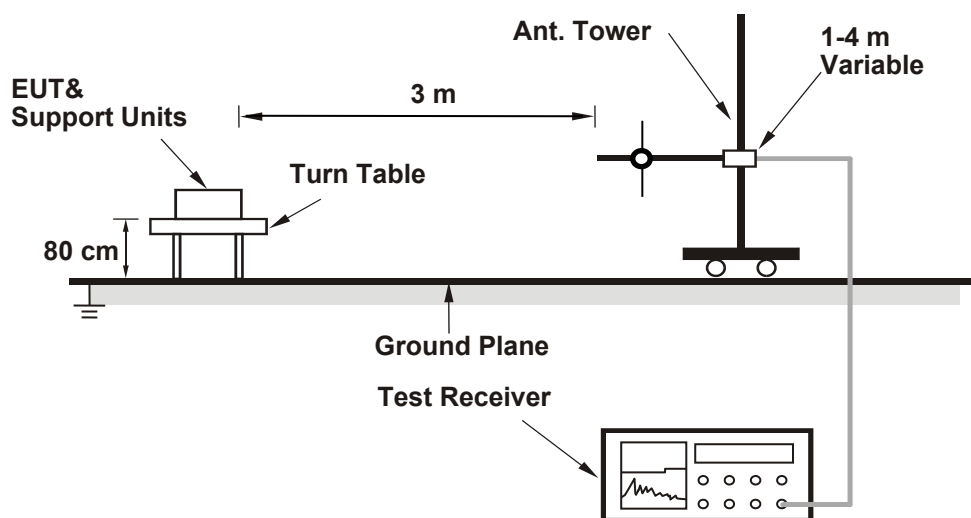
6.8 Unwanted Emissions below 1 GHz

6.8.1 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).

6.8.2 Test Procedure

For Radiated emission below 30 MHz

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

Notes:

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

For Radiated emission above 30 MHz

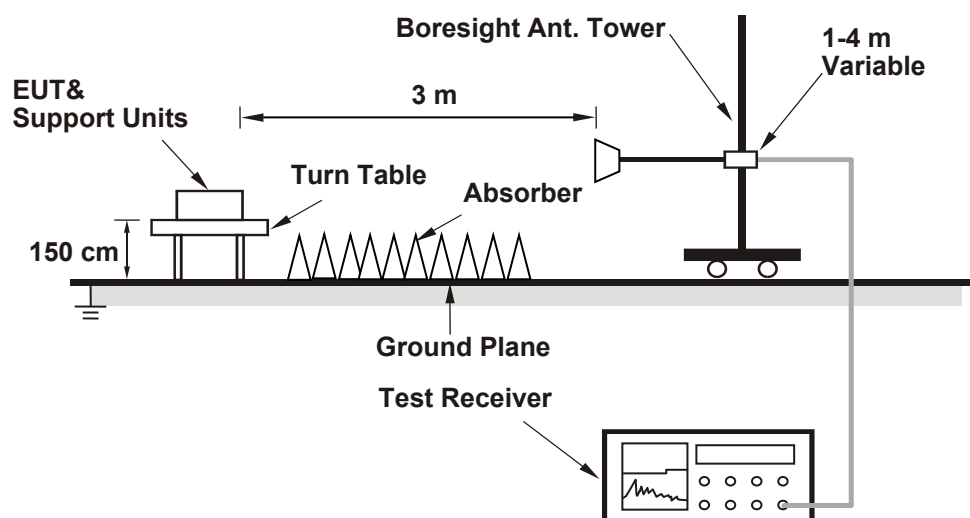
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

Notes:

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

6.9 Unwanted Emissions above 1 GHz

6.9.1 Test Setup



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

6.9.2 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 system 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.
- The maximum dwell time per 1 MHz is determined as follows:
Maximum dwell time per 1 MHz = dwell time per 100 ms per channel × (channel separation correction + overlapping channel correction) where:
 - Channel separation correction = $[1 / \text{channel separation (MHz)}]$ for channel separation < 1 MHz, and = 1 for channel separation ≥ 1 MHz, as determined using the procedures ANSI C63.10 of 7.8.2. If the average measurements are performed on the Nth harmonic, the channel separation value is N times the separation at the fundamental frequency.
 - Overlapping channel correction = 0 when the 20 dB channel bandwidth < channel separation and = 1 for when the 20 dB channel bandwidth > channel separation.
The average value may be determined as follows:
From the peak value of the emission: The measured peak value in dBuV/m is corrected by $20\log(\text{maximum dwell time in 100 ms} / 100)$.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

FHSS

For Peak Power

BT LE-1M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	102.094	20.09	21	Pass
19	2440	96.605	19.85	21	Pass
39	2480	26.73	14.27	21	Pass

Note: The antenna gain is 2.43 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

BT LE-2M

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
1	2404	118.304	20.73	21	Pass
19	2440	112.202	20.50	21	Pass
38	2478	39.994	16.02	21	Pass

Note: The antenna gain is 2.43 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

BT LE-125k

Chan.	Chan. Freq. (MHz)	Peak Power (mW)	Peak Power (dBm)	Power Limit (dBm)	Test Result
0	2402	95.28	19.79	21	Pass
19	2440	90.573	19.57	21	Pass
39	2480	24.831	13.95	21	Pass

Note: The antenna gain is 2.43 dBi $\leq$ 6 dBi, so the output power limit shall not be reduced.

For Average Power

BT LE-1M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	88.512	19.47
19	2440	83.56	19.22
39	2480	23.227	13.66

BT LE-2M

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	87.498	19.42
19	2440	82.604	19.17
38	2478	29.376	14.68

BT LE-125k

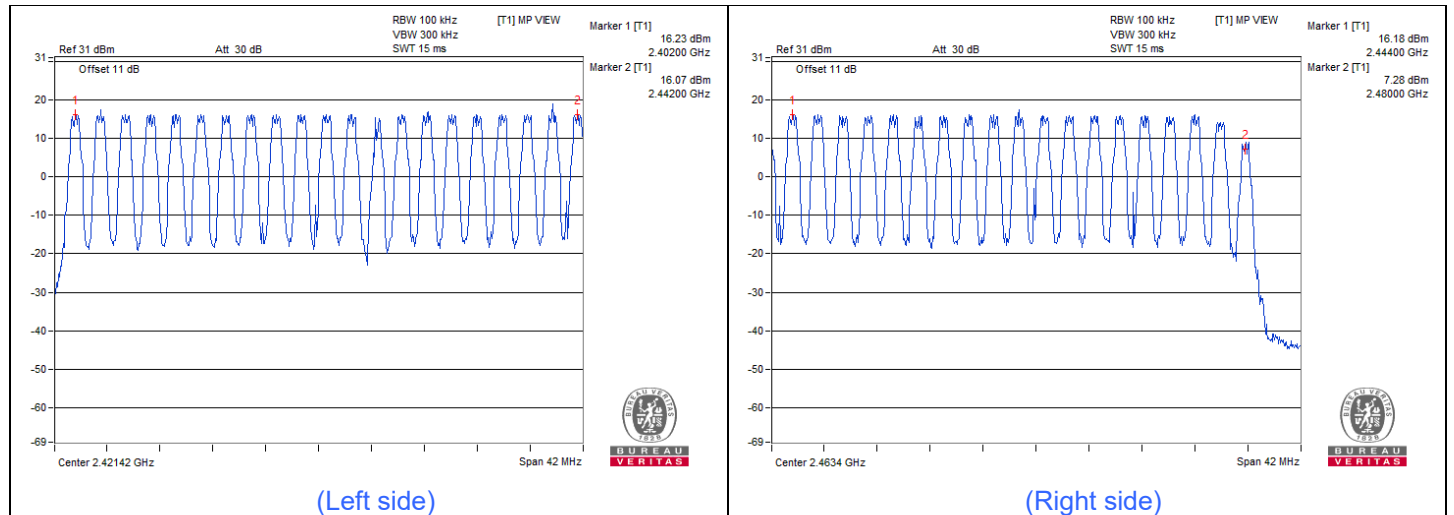
Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	86.696	19.38
19	2440	82.794	19.18
39	2480	22.751	13.57

7.2 Number of Hopping Frequency Used

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

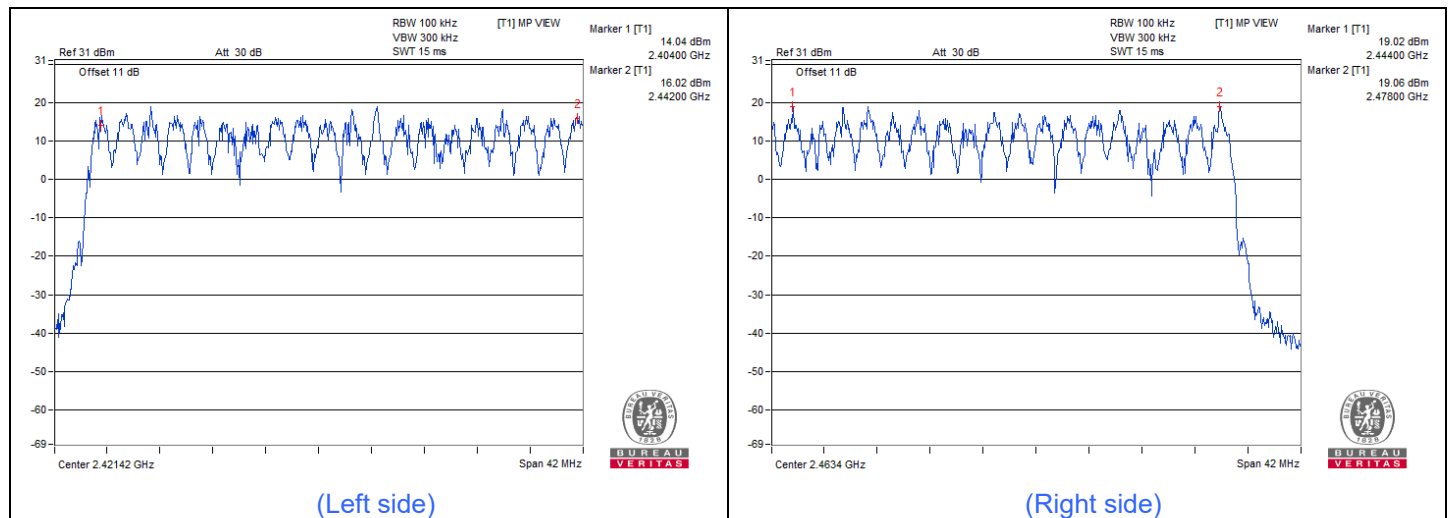
FHSS

BT LE-1M



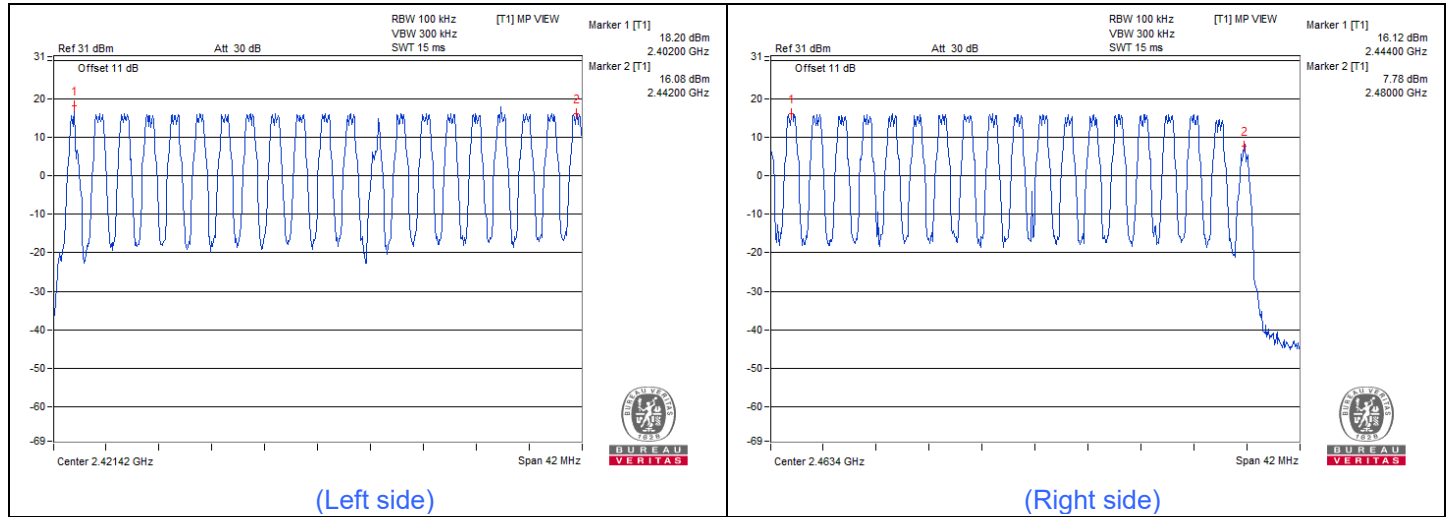
Note: There are 40 hopping frequencies in the hopping mode. On the plots, it shows that the hopping frequencies are equally spaced.

BT LE-2M



Note: There are 38 hopping frequencies in the hopping mode. On the plots, it shows that the hopping frequencies are equally spaced.

BT LE-125k



Note: There are 40 hopping frequencies in the hopping mode. On the plots, it shows that the hopping frequencies are equally spaced.

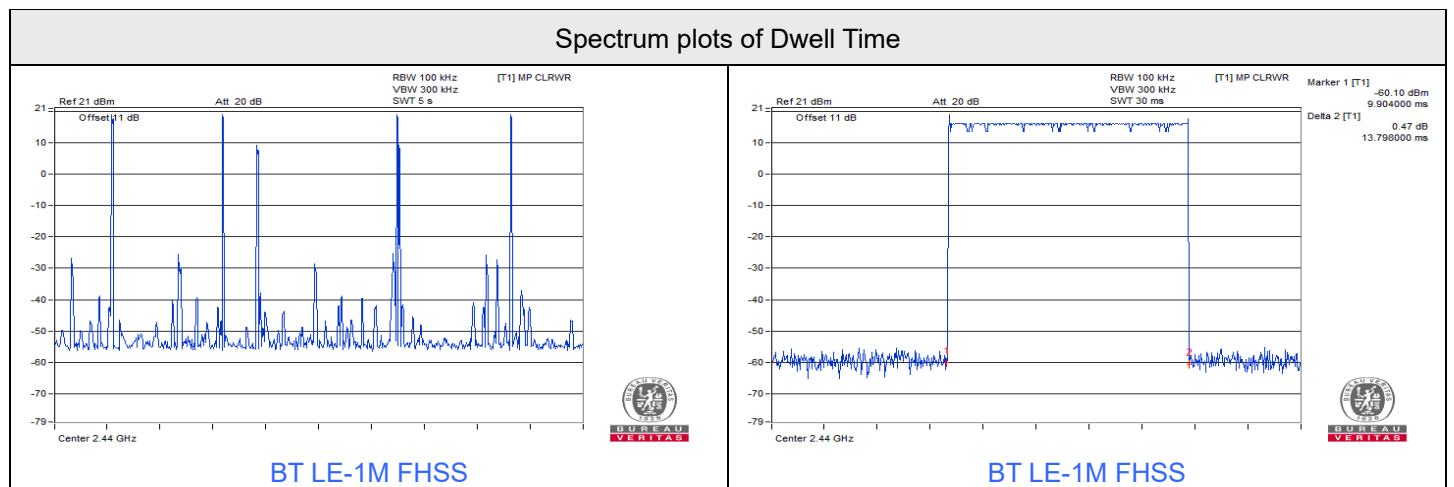
7.3 Dwell Time on Each Channel

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

FHSS

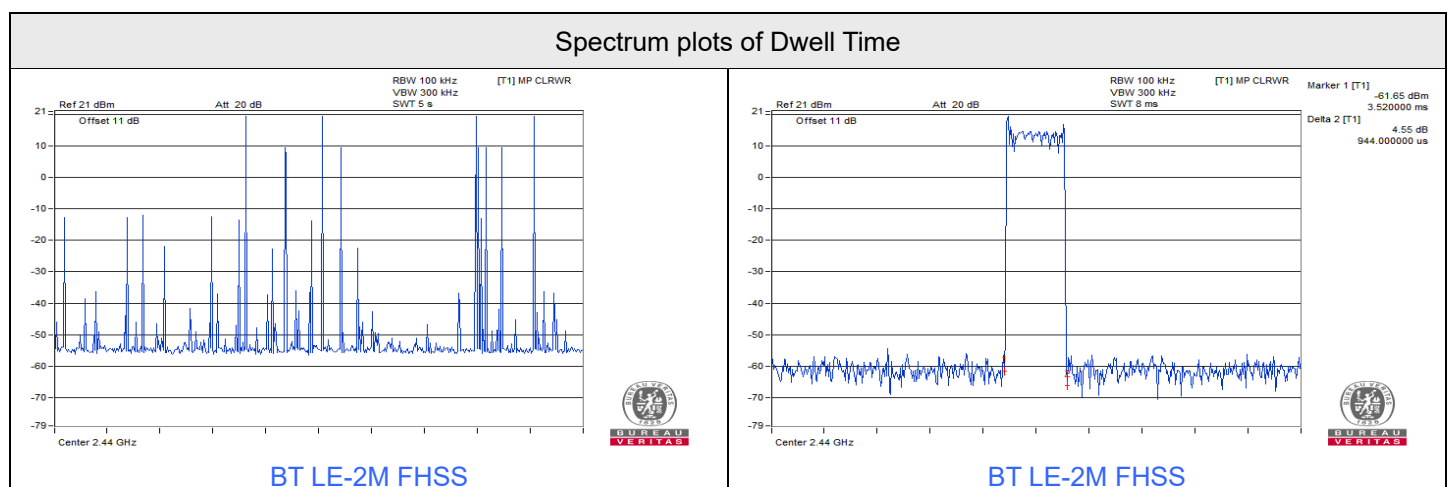
BT LE-1M

Mode	Number of transmission in 20 sec	Length of transmission time (msec)	Dwell Time (msec)	Limit (msec)	Test Result
FHSS	5 (times / 5 sec) * 4 = 20 times	13.798	275.96	400	Pass



BT LE-2M

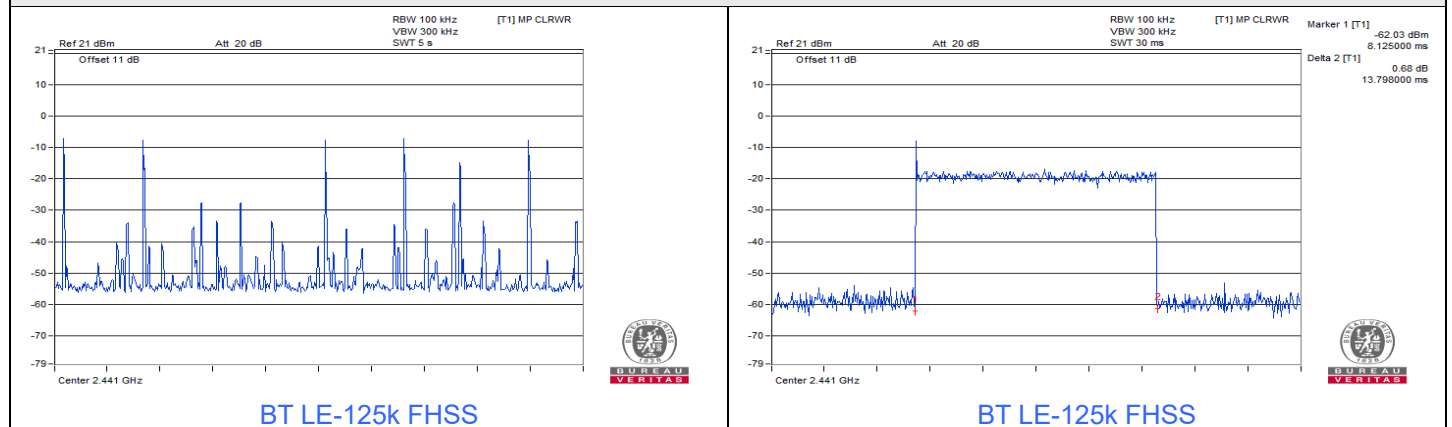
Mode	Number of transmission in 20 sec	Length of transmission time (msec)	Dwell Time (msec)	Limit (msec)	Test Result
FHSS	9 (times / 5 sec) * 4 = 36 times	0.944	33.984	400	Pass



BT LE-125k

Mode	Number of transmission in 20 sec	Length of transmission time (msec)	Dwell Time (msec)	Limit (msec)	Test Result
FHSS	7 (times / 5 sec) * 4 = 28 times	13.798	386.34	400	Pass

Spectrum plots of Dwell Time



7.4 Hopping Channel Separation

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

FHSS

BT LE-1M

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Minimum Limit (MHz)	Test Result
0	2402	2.00	0.75	Pass
19	2440	2.00	0.75	Pass
39	2480	2.00	0.76	Pass

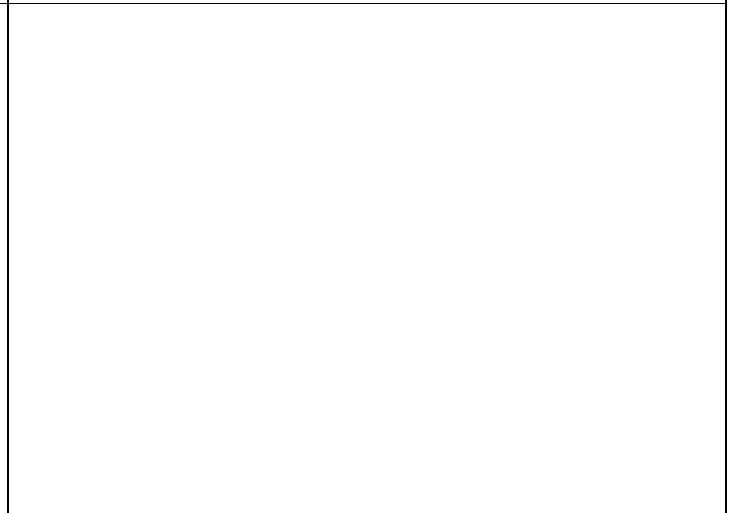
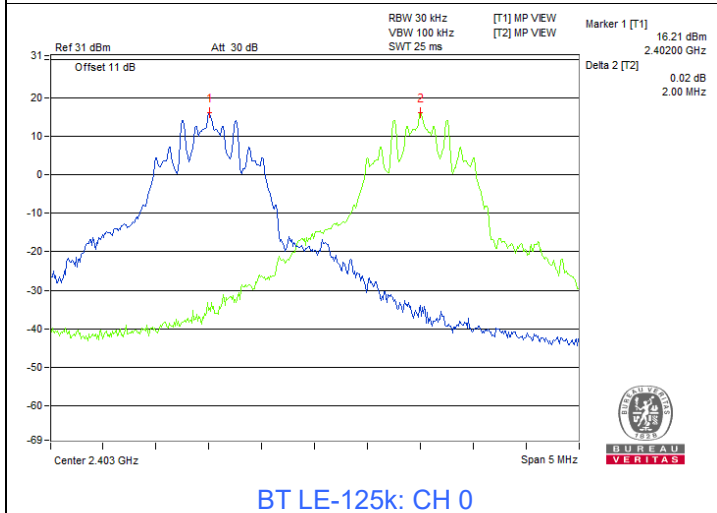
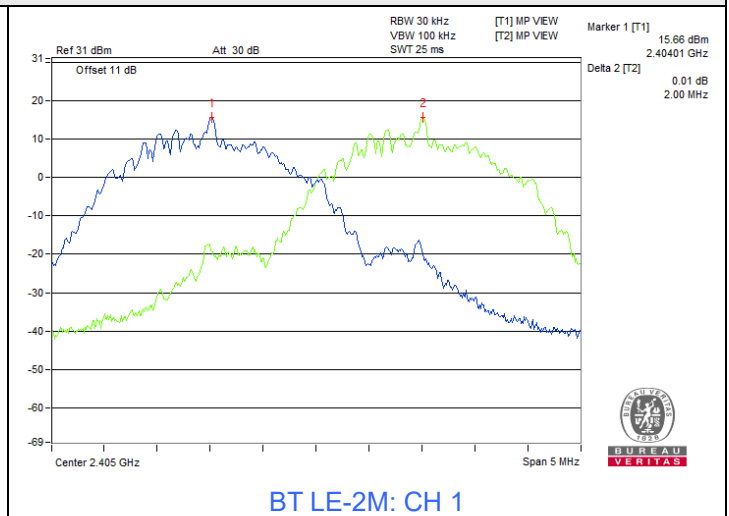
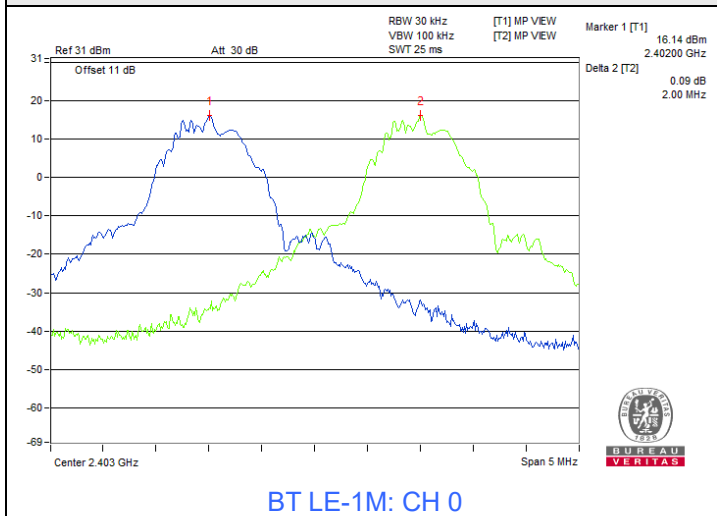
BT LE-2M

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Minimum Limit (MHz)	Test Result
1	2404	2.00	1.46	Pass
19	2440	2.00	1.45	Pass
38	2478	2.01	1.46	Pass

BT LE-125k

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Minimum Limit (MHz)	Test Result
0	2402	2.00	0.76	Pass
19	2440	2.01	0.74	Pass
39	2480	2.01	0.75	Pass

Spectrum Plot of Minimum Value



7.5 20 dB Bandwidth

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

FHSS

BT LE-1M

Channel	Frequency (MHz)	20dB Bandwidth (MHz)
0	2402	1.12
19	2440	1.12
39	2480	1.13

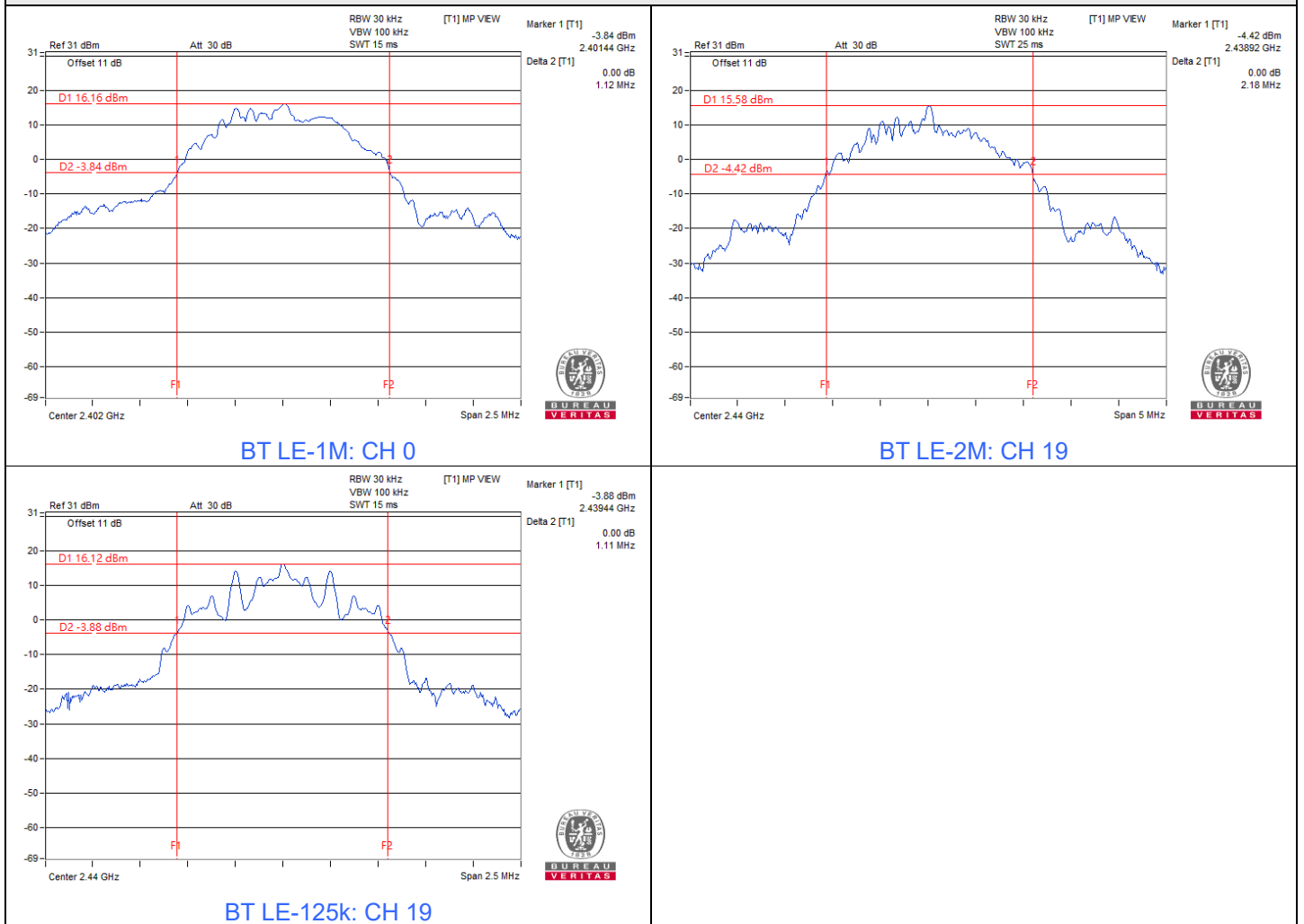
BT LE-2M

Channel	Frequency (MHz)	20dB Bandwidth (MHz)
1	2404	2.19
19	2440	2.18
38	2478	2.19

BT LE-125k

Channel	Frequency (MHz)	20dB Bandwidth (MHz)
0	2402	1.13
19	2440	1.11
39	2480	1.12

Spectrum Plot of Minimum Value



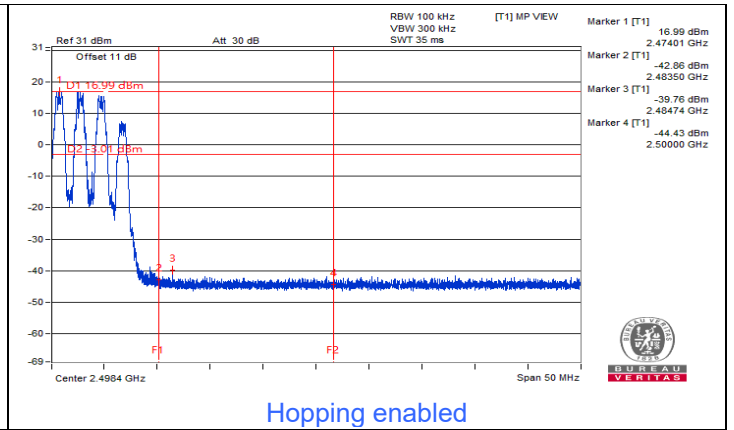
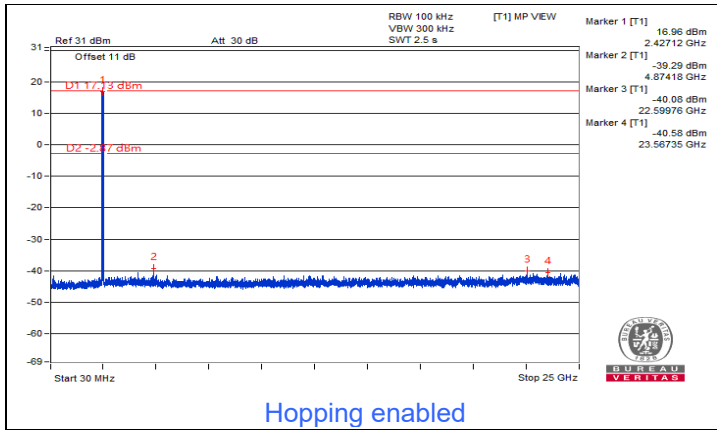
7.6 Conducted Out of Band Emissions

Environmental Conditions:	25°C, 60% RH	Tested By:	Wayne Lin / Match Tsui
---------------------------	--------------	------------	------------------------

FHSS

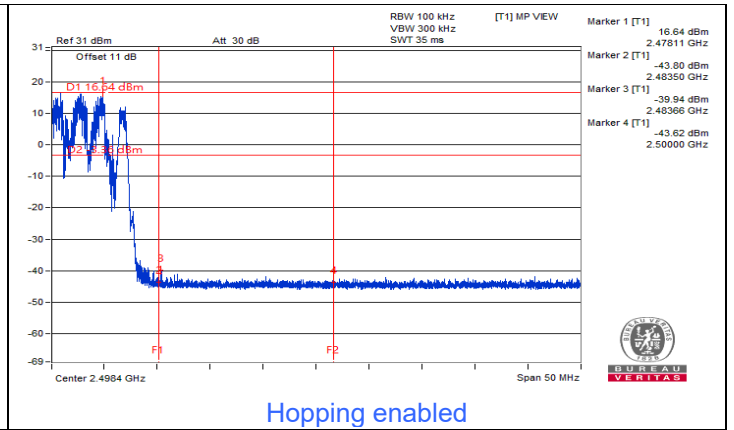
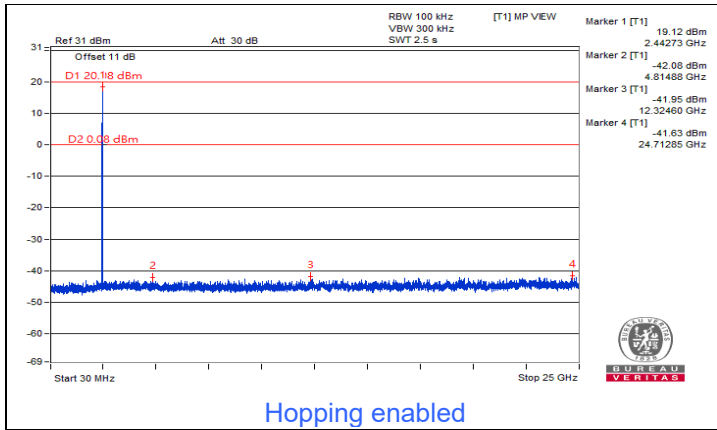
BT LE-1M





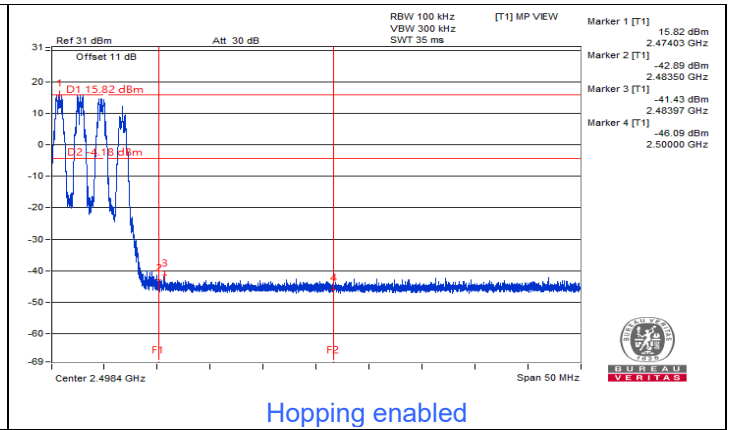
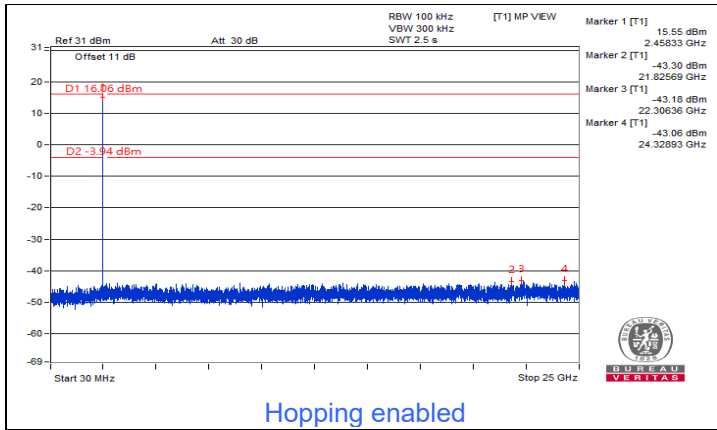
BT LE-2M





BT LE-125k





7.7 AC Power Conducted Emissions

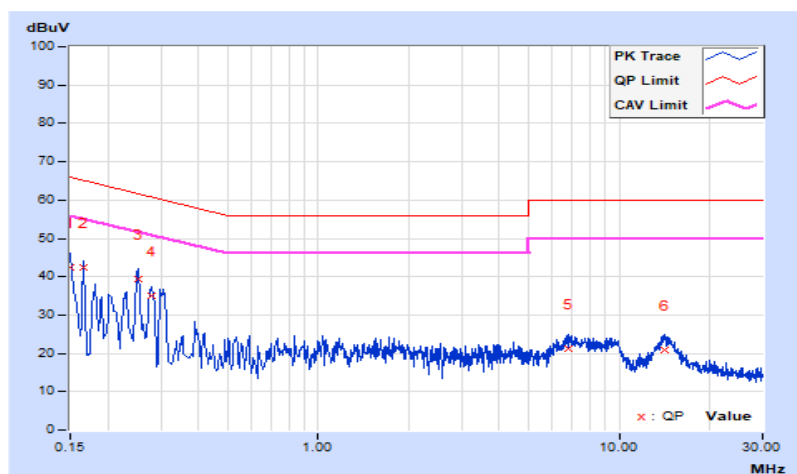
Mode A

RF Mode	BT LE-2M	Channel	CH 19 : 2440 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, 68% RH
Tested By	Luis Lee		

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	9.78	32.49	11.58	42.27	21.36	66.00	56.00	-23.73	-34.64
2	0.16600	9.77	32.77	18.07	42.54	27.84	65.16	55.16	-22.62	-27.32
3	0.25338	9.77	29.53	20.52	39.30	30.29	61.65	51.65	-22.35	-21.36
4	0.27800	9.77	25.32	20.04	35.09	29.81	60.88	50.88	-25.79	-21.07
5	6.82600	9.94	11.28	4.32	21.22	14.26	60.00	50.00	-38.78	-35.74
6	14.25400	10.03	10.71	5.41	20.74	15.44	60.00	50.00	-39.26	-34.56

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

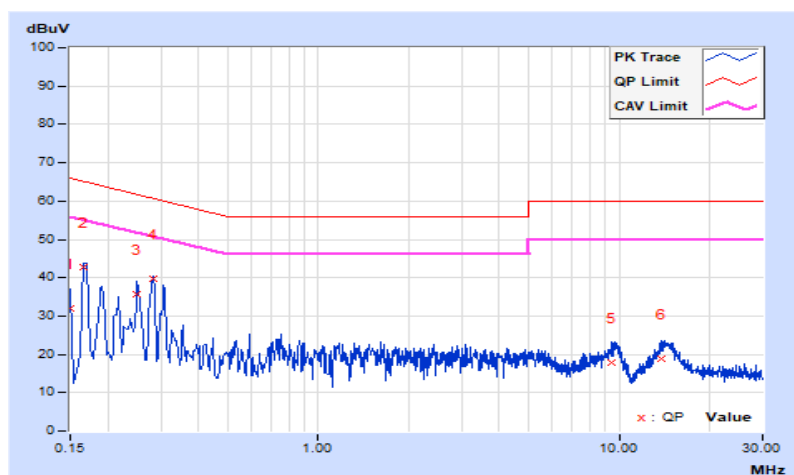


RF Mode	BT LE-2M	Channel	CH 19 : 2440 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Luis Lee		

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	9.79	22.09	11.30	31.88	21.09	66.00	56.00	-34.12	-34.91
2	0.16600	9.78	33.02	18.56	42.80	28.34	65.16	55.16	-22.36	-26.82
3	0.24941	9.77	25.92	24.23	35.69	34.00	61.78	51.78	-26.09	-17.78
4	0.28200	9.77	29.83	21.91	39.60	31.68	60.76	50.76	-21.16	-19.08
5	9.47400	10.00	7.87	1.62	17.87	11.62	60.00	50.00	-42.13	-38.38
6	13.88200	10.12	8.82	3.37	18.94	13.49	60.00	50.00	-41.06	-36.51

Remarks:

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



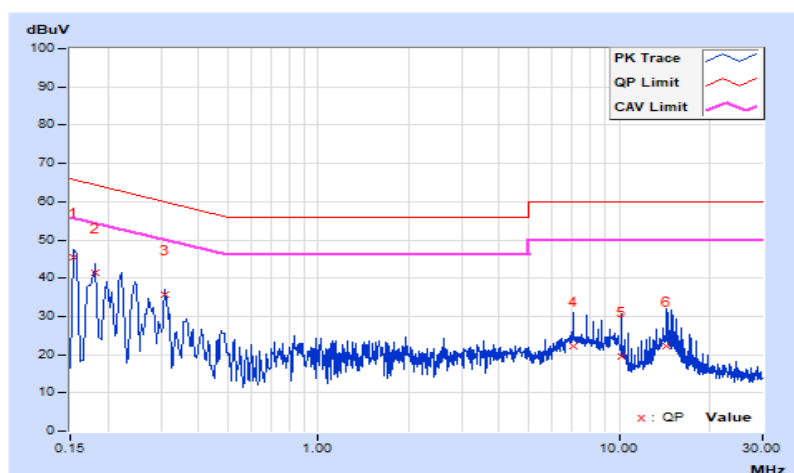
Mode B

RF Mode	BT LE-2M	Channel	CH 19 : 2440 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, 68% RH
Tested By	Luis Lee		

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	0.15400	9.78	35.60	23.01	45.38	32.79	65.78	55.78	-20.40	-22.99
2	0.18200	9.77	31.56	17.05	41.33	26.82	64.39	54.39	-23.06	-27.57
3	0.31000	9.77	25.81	14.06	35.58	23.83	59.97	49.97	-24.39	-26.14
4	7.06600	9.94	12.15	4.62	22.09	14.56	60.00	50.00	-37.91	-35.44
5	10.16200	9.97	9.70	2.97	19.67	12.94	60.00	50.00	-40.33	-37.06
6	14.35000	10.03	12.20	5.83	22.23	15.86	60.00	50.00	-37.77	-34.14

Remarks:

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

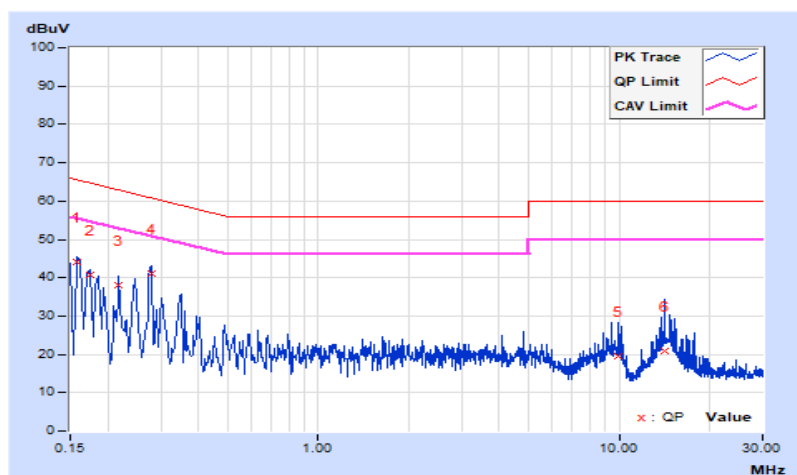


RF Mode	BT LE-2M	Channel	CH 19 : 2440 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Luis Lee		

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	0.15800	9.79	34.34	20.80	44.13	30.59	65.57	55.57	-21.44	-24.98
2	0.17384	9.78	31.07	11.82	40.85	21.60	64.77	54.77	-23.92	-33.17
3	0.21800	9.76	28.30	17.89	38.06	27.65	62.89	52.89	-24.83	-25.24
4	0.27786	9.77	31.16	22.37	40.93	32.14	60.88	50.88	-19.95	-18.74
5	9.97000	10.01	9.67	2.13	19.68	12.14	60.00	50.00	-40.32	-37.86
6	14.15800	10.13	10.58	4.59	20.71	14.72	60.00	50.00	-39.29	-35.28

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



7.8 Unwanted Emissions below 1 GHz

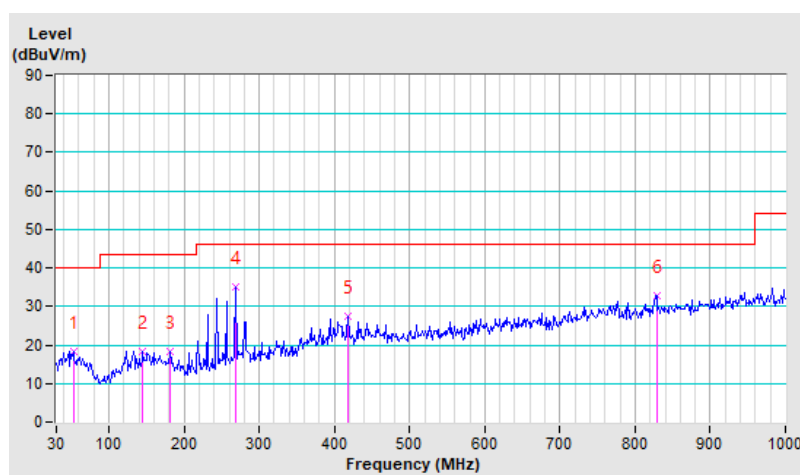
Mode A

RF Mode	BT LE-2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Edison Lee		

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	52.49	18.48 QP	40.00	-21.52	1.00 H	347	27.22	-8.74
2	145.28	18.24 QP	43.50	-25.26	1.50 H	64	26.98	-8.74
3	181.83	18.21 QP	43.50	-25.29	2.00 H	103	28.41	-10.20
4	268.99	35.02 QP	46.00	-10.98	1.00 H	299	43.32	-8.30
5	418.00	27.51 QP	46.00	-18.49	1.50 H	274	32.75	-5.24
6	828.49	32.78 QP	46.00	-13.22	1.00 H	152	28.83	3.95

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.

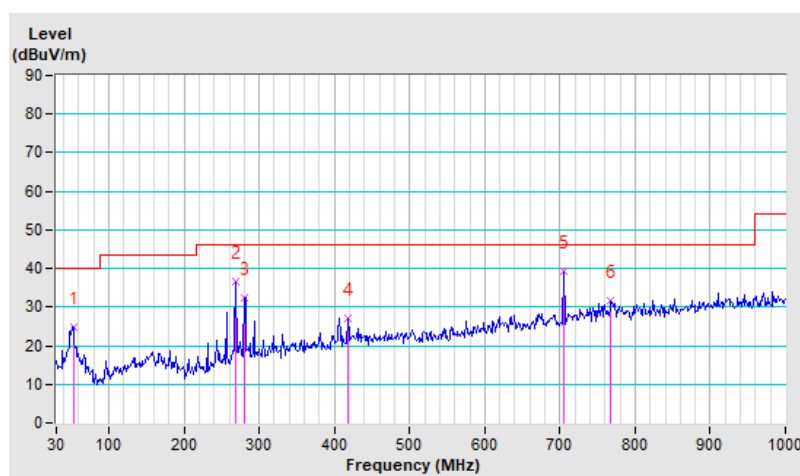


RF Mode	BT LE-2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Edison Lee		

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	52.49	24.78 QP	40.00	-15.22	2.00 V	278	33.52	-8.74
2	268.99	36.57 QP	46.00	-9.43	1.00 V	115	44.87	-8.30
3	280.23	32.50 QP	46.00	-13.50	1.50 V	305	40.35	-7.85
4	418.00	27.10 QP	46.00	-18.90	2.00 V	126	32.34	-5.24
5	704.78	39.30 QP	46.00	-6.70	1.50 V	145	38.27	1.03
6	768.04	31.50 QP	46.00	-14.50	1.00 V	3	28.66	2.84

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.



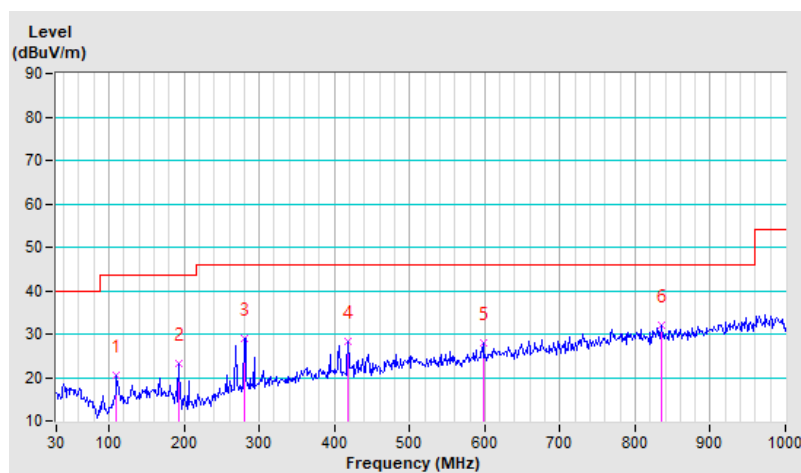
Mode B

RF Mode	BT LE-2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Edison Lee		

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	110.13	20.50 QP	43.50	-23.00	2.00 H	123	32.32	-11.82
2	193.07	23.29 QP	43.50	-20.21	1.50 H	231	34.64	-11.35
3	280.23	29.10 QP	46.00	-16.90	1.50 H	177	36.95	-7.85
4	418.00	28.18 QP	46.00	-17.82	2.00 H	279	33.42	-5.24
5	597.94	27.91 QP	46.00	-18.09	2.00 H	106	29.08	-1.17
6	835.52	32.17 QP	46.00	-13.83	1.50 H	329	28.14	4.03

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.

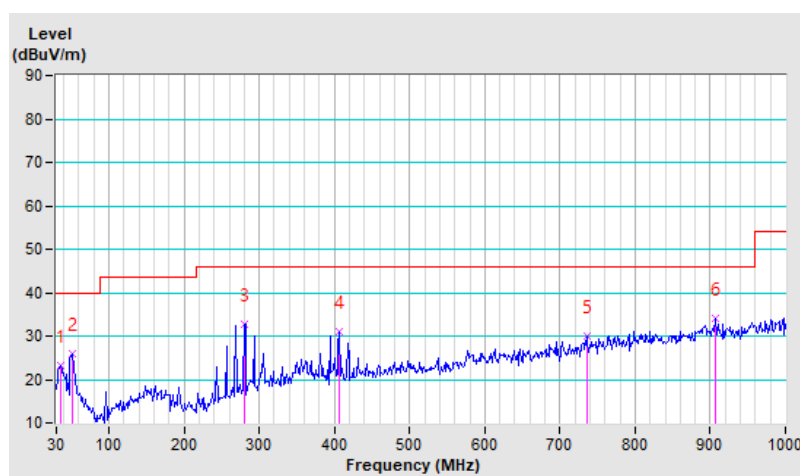


RF Mode	BT LE-2M	Channel	CH 1 : 2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120 kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23 °C, 68% RH
Tested By	Edison Lee		

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	35.62	23.08 QP	40.00	-16.92	1.50 V	40	33.09	-10.01
2	51.09	25.97 QP	40.00	-14.03	2.00 V	151	34.66	-8.69
3	280.23	32.82 QP	46.00	-13.18	1.00 V	328	40.67	-7.85
4	406.75	31.03 QP	46.00	-14.97	2.00 V	52	36.55	-5.52
5	735.71	30.02 QP	46.00	-15.98	2.00 V	137	27.97	2.05
6	907.22	33.97 QP	46.00	-12.03	2.00 V	109	28.48	5.49

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.



7.9 Unwanted Emissions above 1 GHz

RF Mode	BT LE-1M	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	57.9 PK	74.0	-16.1	1.68 H	150	24.5	33.4
2	2390.00	45.4 AV	54.0	-8.6	1.68 H	150	12.0	33.4
3	*2402.00	112.6 PK			1.68 H	150	79.2	33.4
4	*2402.00	84.6 AV			1.68 H	150	51.2	33.4
5	4804.00	51.3 PK	74.0	-22.7	1.63 H	64	40.5	10.8
6	4804.00	23.3 AV	54.0	-30.7	1.63 H	64	12.5	10.8
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	57.7 PK	74.0	-16.3	1.92 V	230	24.3	33.4
2	2390.00	44.6 AV	54.0	-9.4	1.92 V	230	11.2	33.4
3	*2402.00	108.8 PK			1.92 V	230	75.4	33.4
4	*2402.00	80.8 AV			1.92 V	230	47.4	33.4
5	4804.00	53.3 PK	74.0	-20.7	2.30 V	35	42.5	10.8
6	4804.00	25.3 AV	54.0	-28.7	2.30 V	35	14.5	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:
20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction))
= 20 log(4 ms * (1 + 0) / 100 ms) = -28 dB

RF Mode	BT LE-1M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	112.6 PK			1.83 H	69	79.0	33.6
2	*2440.00	84.6 AV			1.83 H	69	51.0	33.6
3	4880.00	49.4 PK	74.0	-24.6	1.66 H	69	38.6	10.8
4	4880.00	21.4 AV	54.0	-32.6	1.66 H	69	10.6	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	109.8 PK			1.95 V	247	76.2	33.6
2	*2440.00	81.8 AV			1.95 V	247	48.2	33.6
3	4880.00	50.8 PK	74.0	-23.2	2.44 V	31	40.0	10.8
4	4880.00	22.8 AV	54.0	-31.2	2.44 V	31	12.0	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$$

$$= 20 \log(4 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -28 \text{ dB}$$

RF Mode	BT LE-1M	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	104.9 PK			1.70 H	66	71.3	33.6
2	*2480.00	76.9 AV			1.70 H	66	43.3	33.6
3	2483.50	58.8 PK	74.0	-15.2	1.70 H	66	56.7	2.1
4	2483.50	30.8 AV	54.0	-23.2	1.70 H	66	28.7	2.1
5	4960.00	47.8 PK	74.0	-26.2	1.63 H	67	37.0	10.8
6	4960.00	19.8 AV	54.0	-34.2	1.63 H	67	9.0	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	102.1 PK			1.90 V	241	68.5	33.6
2	*2480.00	74.1 AV			1.90 V	241	40.5	33.6
3	2483.50	57.7 PK	74.0	-16.3	1.90 V	241	55.6	2.1
4	2483.50	29.7 AV	54.0	-24.3	1.90 V	241	27.6	2.1
5	4960.00	48.4 PK	74.0	-25.6	2.40 V	50	37.6	10.8
6	4960.00	20.4 AV	54.0	-33.6	2.40 V	50	9.6	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$$

$$= 20 \log(4 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -28 \text{ dB}$$

RF Mode	BT LE-2M	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.2 PK	74.0	-15.8	1.65 H	64	24.8	33.4
2	2390.00	44.9 AV	54.0	-9.1	1.65 H	64	11.5	33.4
3	*2404.00	112.0 PK			1.65 H	64	78.6	33.4
4	*2404.00	71.1 AV			1.65 H	64	37.7	33.4
5	4808.00	52.2 PK	74.0	-21.8	1.70 H	59	41.4	10.8
6	4808.00	11.3 AV	54.0	-42.7	1.70 H	59	0.5	10.8
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	57.8 PK	74.0	-16.2	1.95 V	238	24.4	33.4
2	2390.00	44.7 AV	54.0	-9.3	1.95 V	238	11.3	33.4
3	*2404.00	107.4 PK			1.95 V	238	74.0	33.4
4	*2404.00	66.5 AV			1.95 V	238	33.1	33.4
5	4808.00	52.0 PK	74.0	-22.0	2.36 V	34	41.2	10.8
6	4808.00	11.1 AV	54.0	-42.9	2.36 V	34	0.3	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$$

$$= 20 \log(0.9 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -40.9 \text{ dB}$$

RF Mode	BT LE-2M	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	111.6 PK			1.70 H	62	78.0	33.6
2	*2440.00	70.7 AV			1.70 H	62	37.1	33.6
3	4880.00	47.1 PK	74.0	-26.9	1.60 H	77	36.3	10.8
4	4880.00	6.2 AV	54.0	-47.8	1.60 H	77	-4.6	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	109.4 PK			1.92 V	233	75.8	33.6
2	*2440.00	68.5 AV			1.92 V	233	34.9	33.6
3	4880.00	48.8 PK	74.0	-25.2	2.36 V	36	38.0	10.8
4	4880.00	7.9 AV	54.0	-46.1	2.36 V	36	-2.9	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$$

$$= 20 \log(0.9 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -40.9 \text{ dB}$$

RF Mode	BT LE-2M	Channel	CH 38 : 2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2478.00	106.7 PK			1.72 H	53	73.1	33.6
2	*2478.00	65.8 AV			1.72 H	53	32.2	33.6
3	2483.50	64.0 PK	74.0	-10.0	1.72 H	53	61.9	2.1
4	2483.50	23.1 AV	54.0	-30.9	1.72 H	53	21.0	2.1
5	4956.00	45.8 PK	74.0	-28.2	1.66 H	58	35.0	10.8
6	4956.00	4.9 AV	54.0	-49.1	1.66 H	58	-5.9	10.8
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	*2478.00	104.2 PK			2.00 V	232	70.6	33.6
2	*2478.00	63.3 AV			2.00 V	232	29.7	33.6
3	2483.50	62.9 PK	74.0	-11.1	2.00 V	232	60.8	2.1
4	2483.50	22.0 AV	54.0	-32.0	2.00 V	232	19.9	2.1
5	4956.00	46.9 PK	74.0	-27.1	2.30 V	36	36.1	10.8
6	4956.00	6.0 AV	54.0	-48.0	2.30 V	36	-4.8	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:
 $20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$
 $= 20 \log(0.9 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -40.9 \text{ dB}$

RF Mode	BT LE-125K	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.8 PK	74.0	-15.2	2.02 H	66	25.4	33.4
2	2390.00	45.0 AV	54.0	-9.0	2.02 H	66	11.6	33.4
3	*2402.00	111.8 PK			2.02 H	65	78.4	33.4
4	*2402.00	94.6 AV			2.02 H	65	61.2	33.4
5	4804.00	51.8 PK	74.0	-22.2	1.77 H	21	41.0	10.8
6	4804.00	34.6 AV	54.0	-19.4	1.77 H	21	23.8	10.8
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	57.6 PK	74.0	-16.4	2.00 V	225	24.2	33.4
2	2390.00	44.4 AV	54.0	-9.6	2.00 V	225	11.0	33.4
3	*2402.00	108.6 PK			2.00 V	225	75.2	33.4
4	*2402.00	91.4 AV			2.00 V	225	58.0	33.4
5	4804.00	53.3 PK	74.0	-20.7	2.22 V	35	42.5	10.8
6	4804.00	36.1 AV	54.0	-17.9	2.22 V	35	25.3	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:
20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction))
= 20 log(13.8 ms * (1 + 0) / 100 ms) = -17.2 dB

RF Mode	BT LE-125K	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	111.7 PK			1.72 H	75	78.1	33.6
2	*2440.00	94.5 AV			1.72 H	75	60.9	33.6
3	4880.00	48.2 PK	74.0	-25.8	1.72 H	36	37.4	10.8
4	4880.00	31.0 AV	54.0	-23.0	1.72 H	36	20.2	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	109.9 PK			2.03 V	239	76.3	33.6
2	*2440.00	92.7 AV			2.03 V	239	59.1	33.6
3	4880.00	49.4 PK	74.0	-24.6	2.30 V	34	38.6	10.8
4	4880.00	32.2 AV	54.0	-21.8	2.30 V	34	21.4	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:
20 log(dwell time per 100 ms per channel × (channel separation correction + overlapping channel correction))
= 20 log(13.8 ms * (1 + 0) / 100 ms) = -17.2 dB

RF Mode	BT LE-125K	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
Input Power	120 Vac, 60 Hz	Environmental Conditions	25 °C, 61% RH
Tested By	Edison Lee		

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	104.9 PK			1.77 H	66	71.3	33.6
2	*2480.00	87.7 AV			1.77 H	66	54.1	33.6
3	2483.50	59.7 PK	74.0	-14.3	1.77 H	66	57.6	2.1
4	2483.50	42.5 AV	54.0	-11.5	1.77 H	66	40.4	2.1
5	4960.00	46.2 PK	74.0	-27.8	1.60 H	33	35.4	10.8
6	4960.00	29.0 AV	54.0	-25.0	1.60 H	33	18.2	10.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	102.6 PK			1.95 V	230	69.0	33.6
2	*2480.00	85.4 AV			1.95 V	230	51.8	33.6
3	2483.50	59.2 PK	74.0	-14.8	1.95 V	230	57.1	2.1
4	2483.50	42.0 AV	54.0	-12.0	1.95 V	230	39.9	2.1
5	4960.00	47.3 PK	74.0	-26.7	2.40 V	40	36.5	10.8
6	4960.00	30.1 AV	54.0	-23.9	2.40 V	40	19.3	10.8

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.
6. For fundamental and related emissions signals (e.g., harmonic frequencies), the average value of frequency is:
 Average = Peak value + 20 log(dwell time per 100 ms per channel * (channel separation correction + overlapping channel correction)) Where the duty cycle correction factor is calculated from following formula:

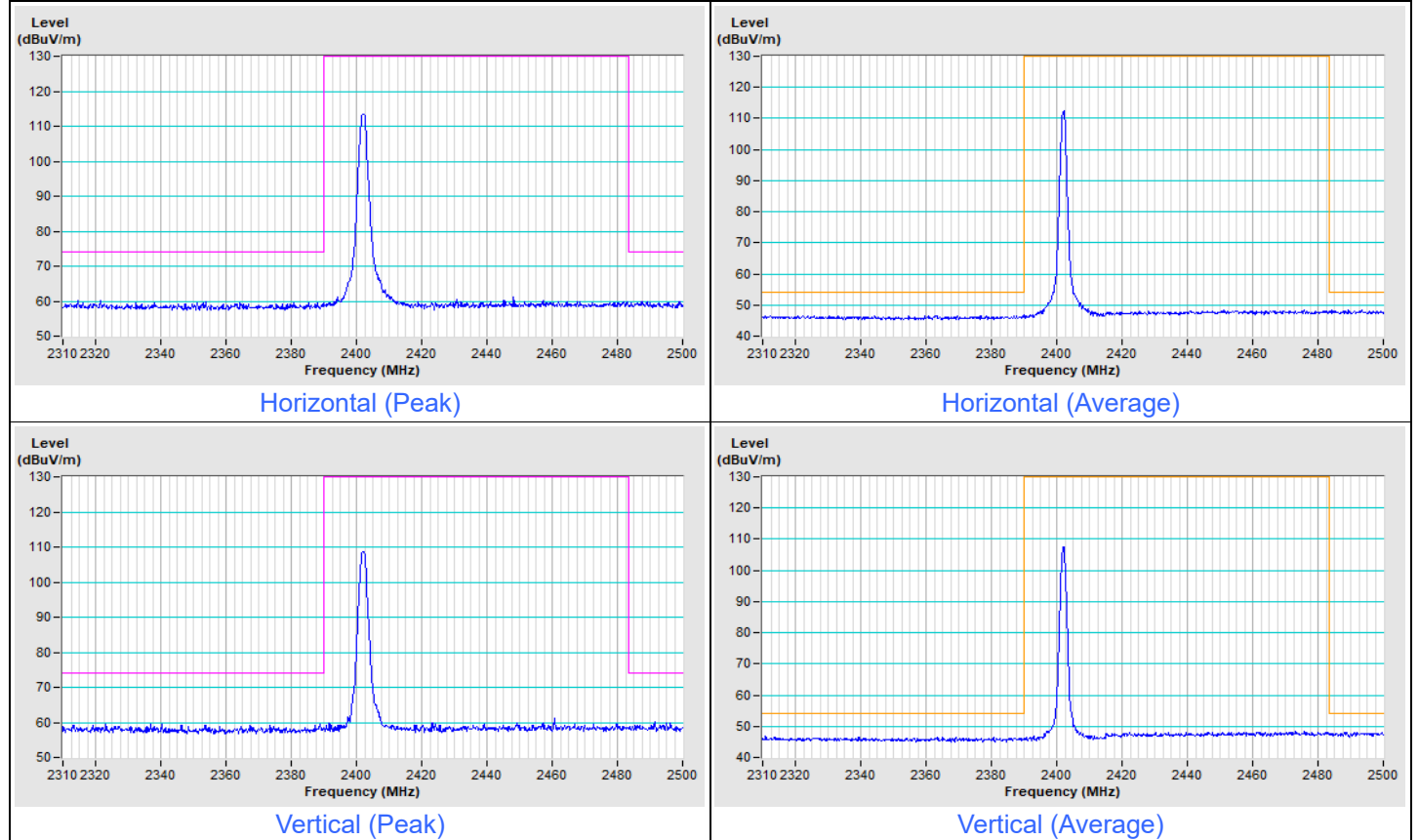
$$20 \log(\text{dwell time per 100 ms per channel} \times (\text{channel separation correction} + \text{overlapping channel correction}))$$

$$= 20 \log(13.8 \text{ ms} * (1 + 0) / 100 \text{ ms}) = -17.2 \text{ dB}$$

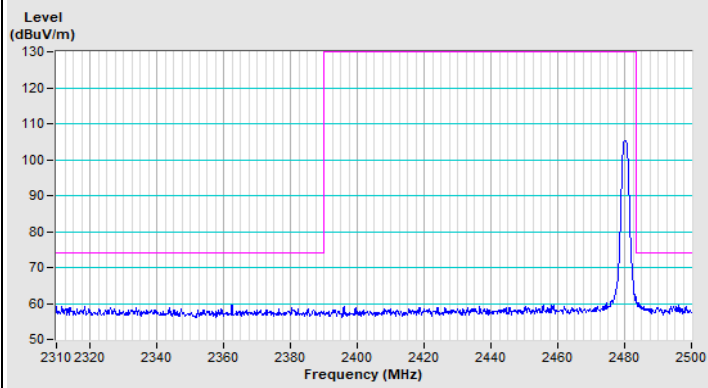
Plot of Band Edge

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

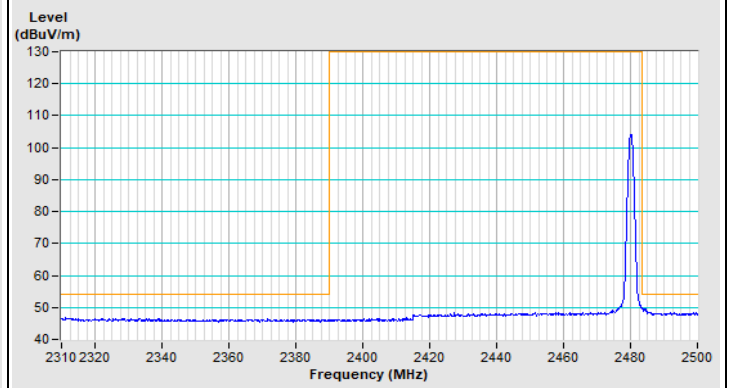
BT LE-1M Channel 0



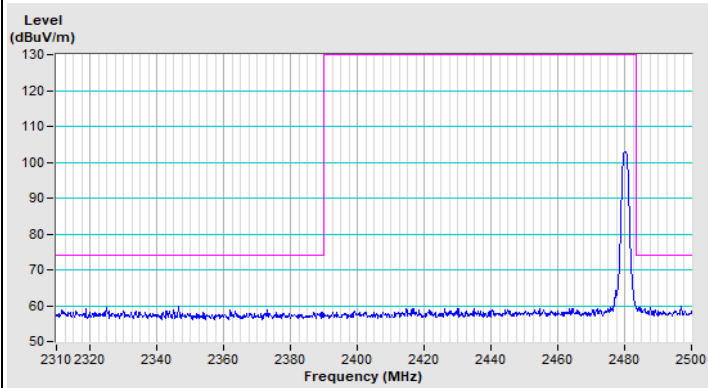
BT LE-1M Channel 39



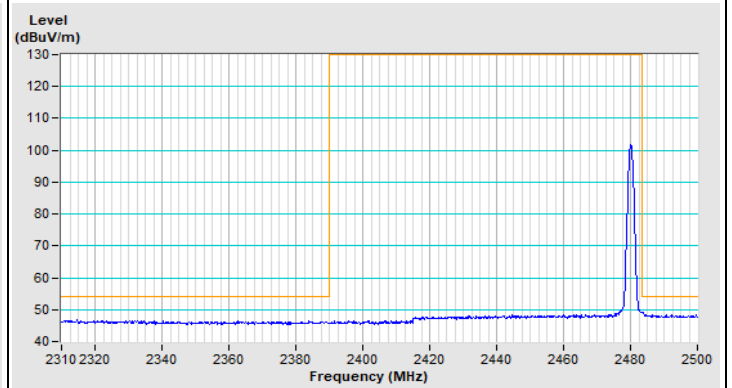
Horizontal (Peak)



Horizontal (Average)



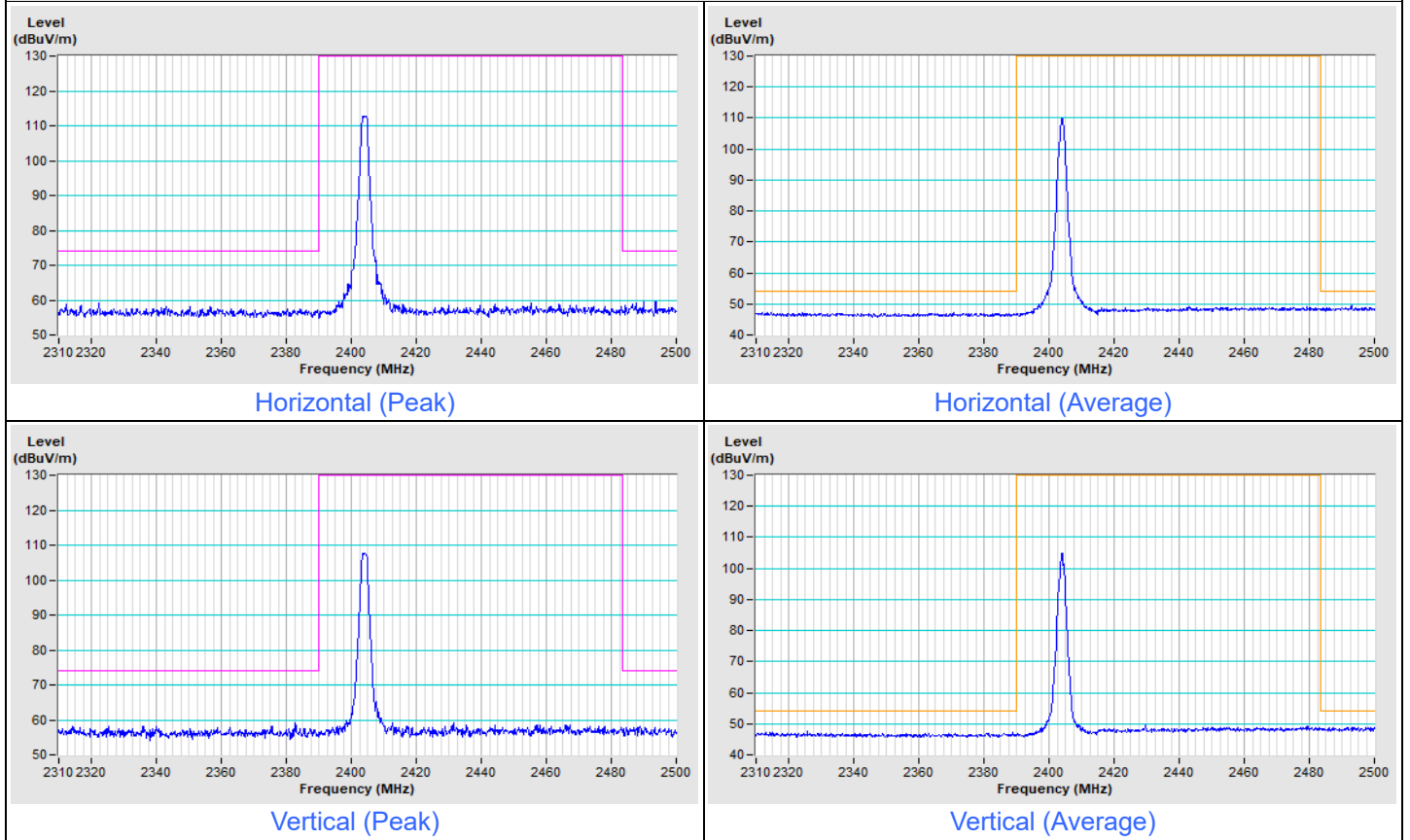
Vertical (Peak)



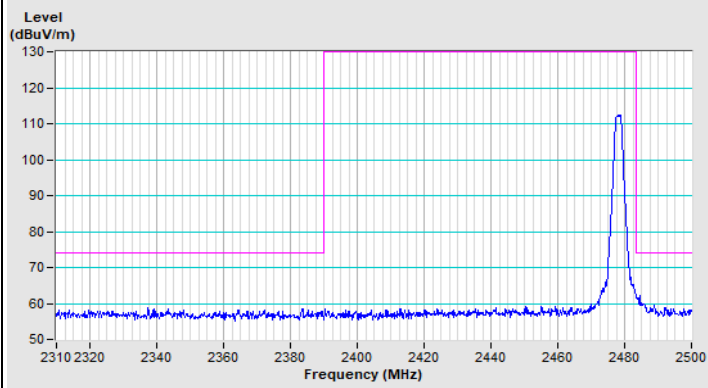
Vertical (Average)

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

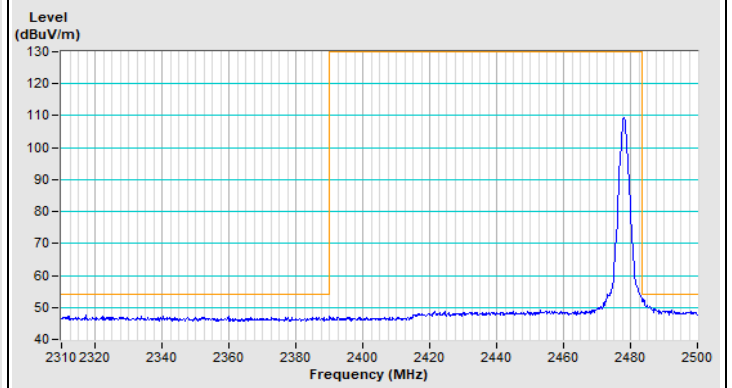
BT LE-2M Channel 1



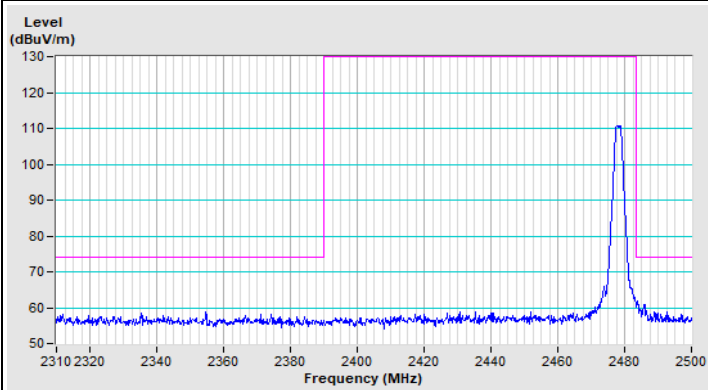
BT LE-2M Channel 38



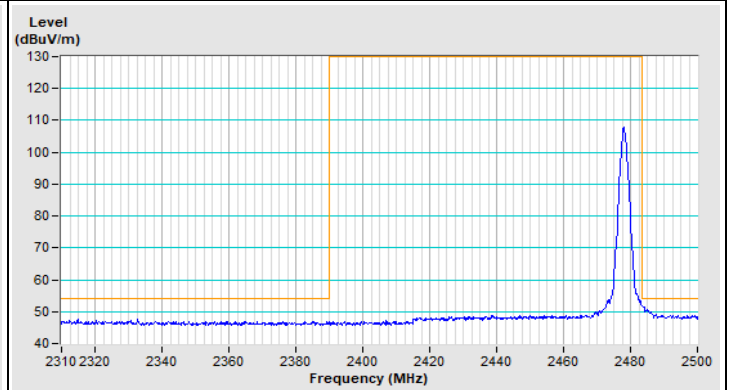
Horizontal (Peak)



Horizontal (Average)



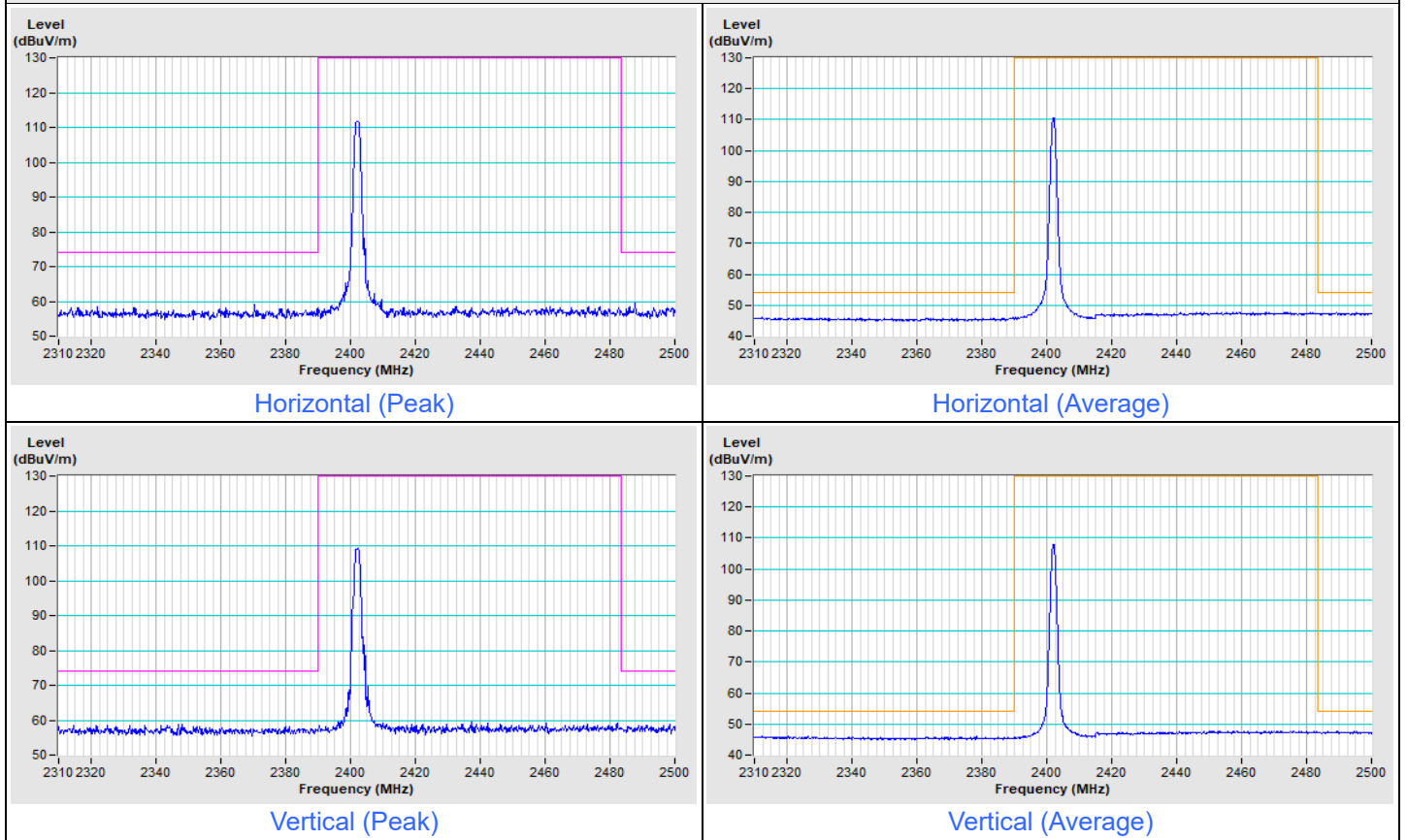
Vertical (Peak)



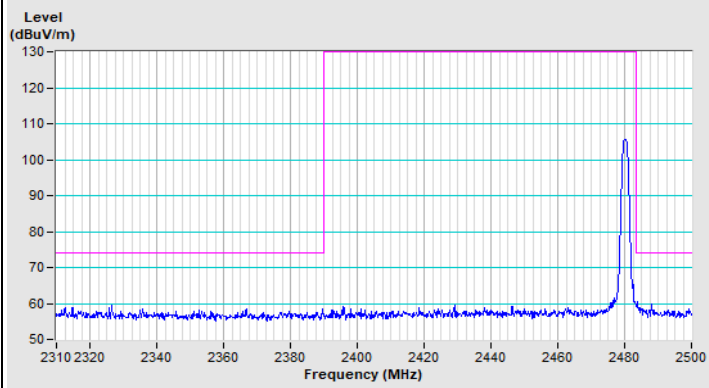
Vertical (Average)

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

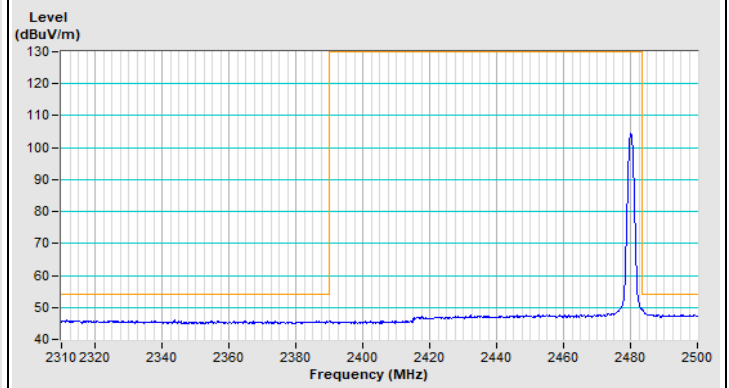
BT LE-125K Channel 0



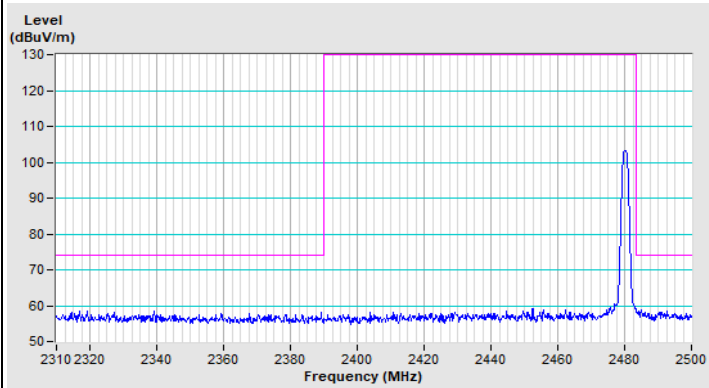
BT LE-125K Channel 39



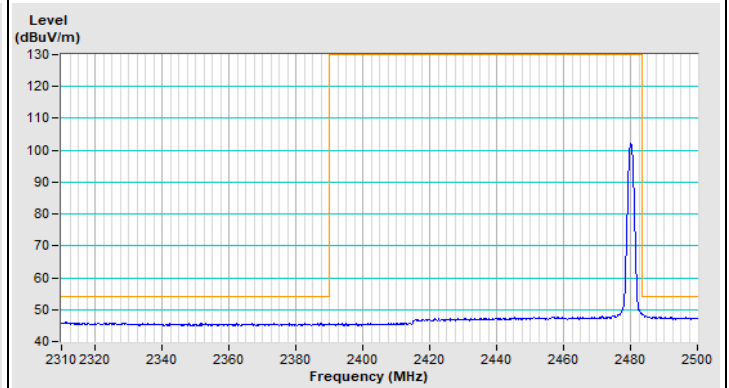
Horizontal (Peak)



Horizontal (Average)



Vertical (Peak)

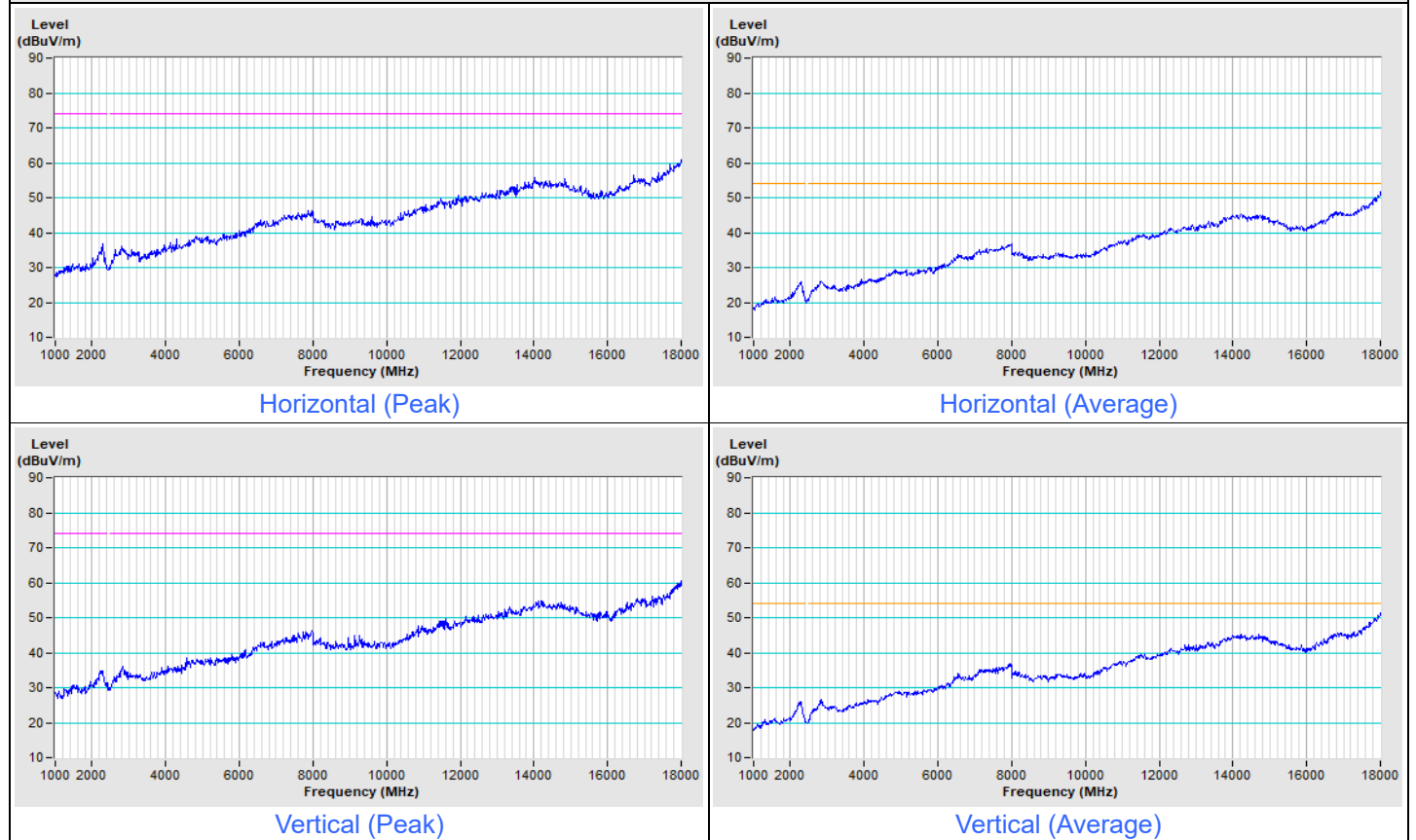


Vertical (Average)

Plot of Other Emission

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
-----------------	----------------	-------------------------------	---

BT LE-1M Channel 0

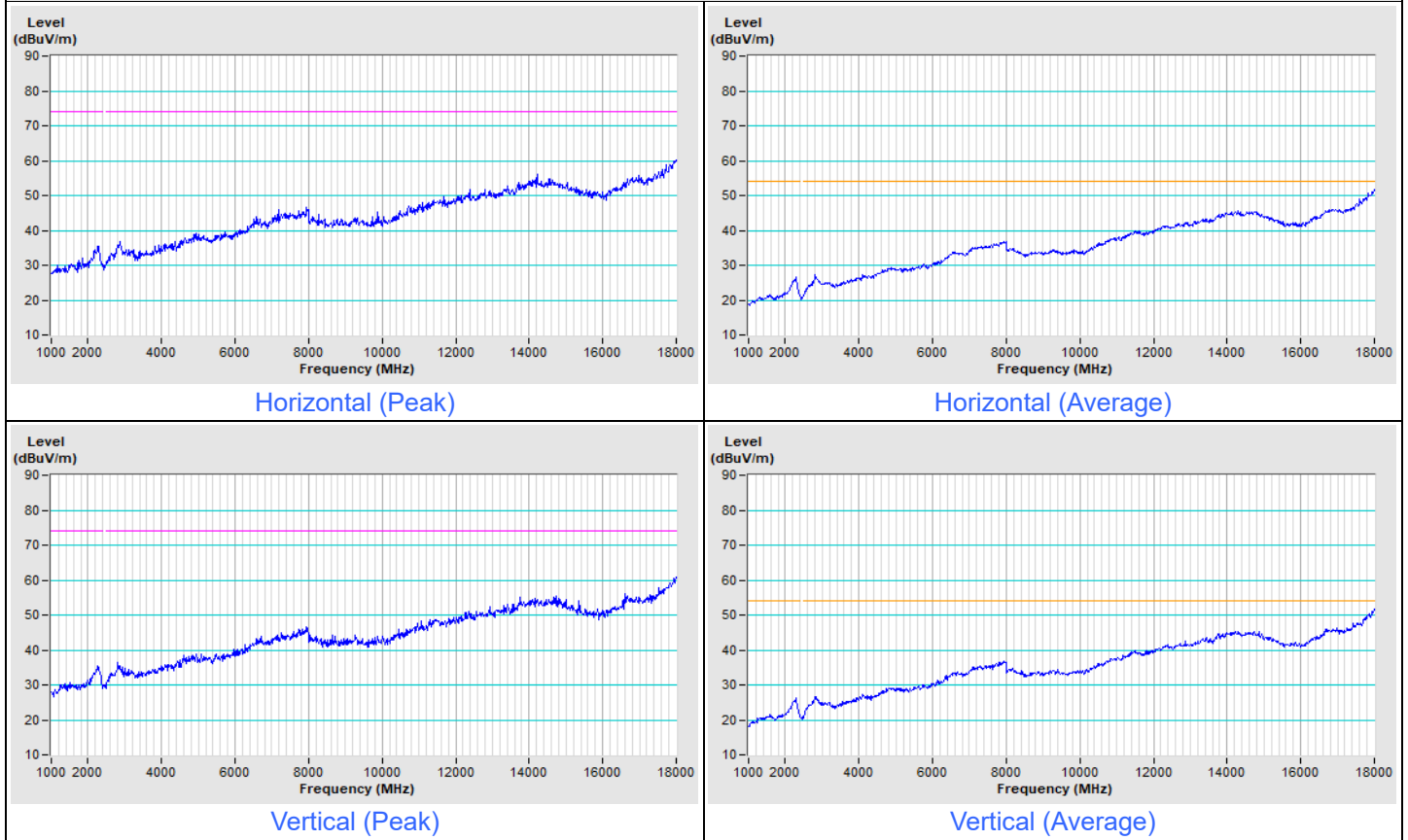


Notes:

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

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
-----------------	----------------	-------------------------------	---

BT LE-2M Channel 1

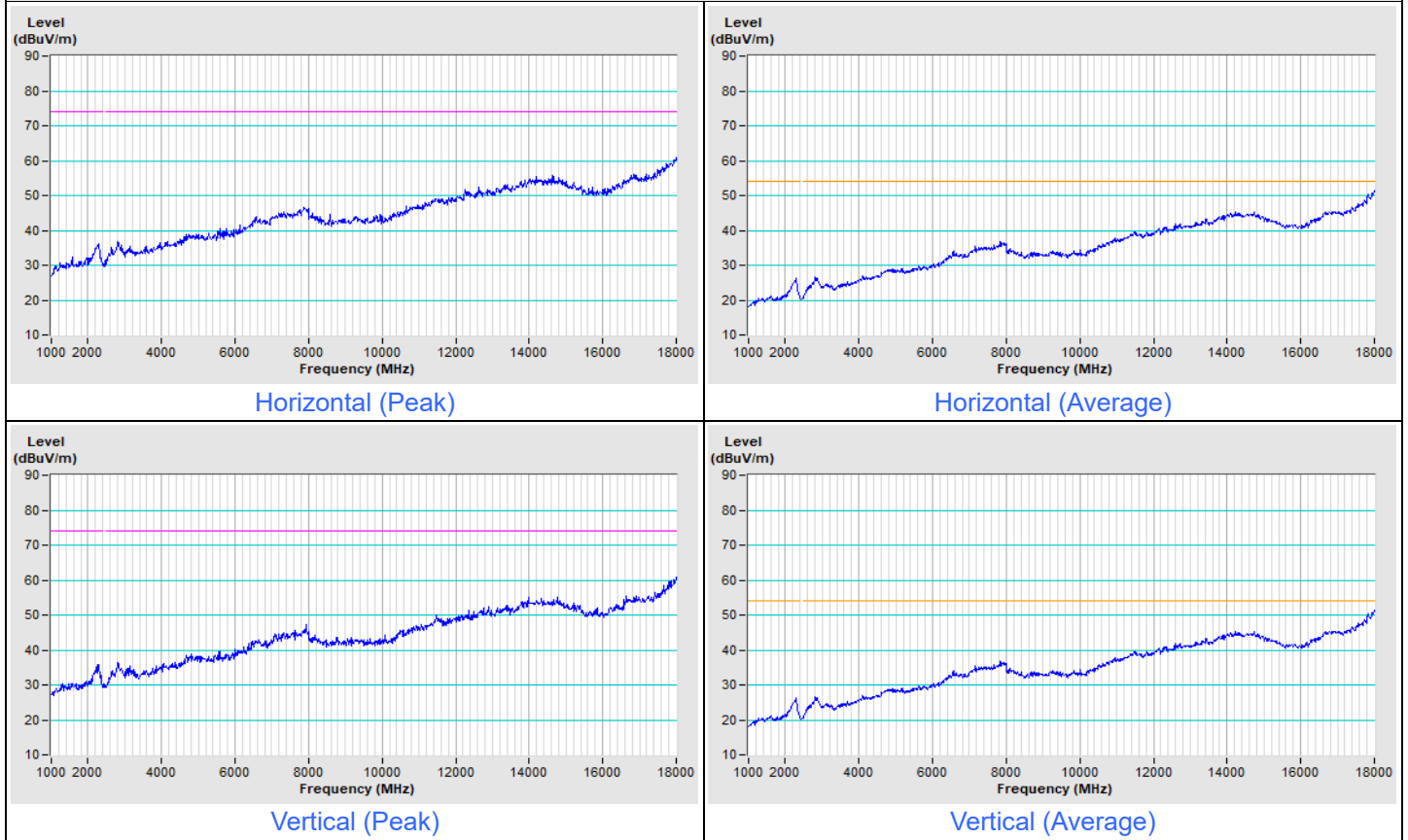


Notes:

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

Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
-----------------	----------------	-------------------------------	---

BT LE-125K Channel 0



Notes:

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

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab

Tel: 886-(0)2-26052180

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-(0)3-6668565 (SIP)

Tel: 886-(0)3-5120595 (WD)

Hwa Ya EMC/RF/Safety/SAR Lab & Wenming EMC/RF Lab

Tel: 886-(0)3-3183232

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.

--- END ---