FCC Test Report

(Bluetooth Low Energy_DTS)

Report No.:	RFCDBM-WTW-P22030865-3
FCC ID:	QOQ-GM240P
Test Model:	MGM240P32A, MGM240P32N
Series Model:	BGM240P32A, BGM240P32N (refer to item 3.1 for more details)
Received Date:	Mar. 22, 2022
Test Date:	Apr. 19 ~ Jul. 08, 2022
Issued Date:	Aug. 15, 2022
Applicant:	Silicon Laboratories Finland Oy
Address:	Alberga Business Park - Bldg D/Floor 5, Bertel Jungin aukio 3, 02600 ESPOO, FINLAND
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFCDBM-WTW-P22030865-3	Original Release	Aug. 15, 2022

1 Certificate of Conformity

Product:	Bluetooth Low Energy and 802.15.4 wireless radio module
Brand:	Silicon Labs
Test Model:	MGM240P32A, MGM240P32N
Series Model:	BGM240P32A, BGM240P32N (refer to item 3.1 for more details)
Sample Status:	Engineering samples fully representing the production modules
Applicant:	Silicon Laboratories Finland Oy
Test Date:	Apr. 19 ~ Jul. 08, 2022
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

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.

Prepared by : Gina Liu , **Date:** Aug. 15, 2022

Gina Liu / Specialist

Approved by : Jeremy Lin , **Date:** Aug. 15, 2022

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -12.05 dB at 0.18903 MHz.
15.205 & 209	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.50 dB at 2483.50 MHz.
15.247(d)	Band Edge Measurement	Pass	Meet the requirement of limit.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Reference only
15.247(b)	Conducted Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	MGM240P32A: these modules use an integral antenna, therefore comply with the requirement of 15.203 (see section 1.4 for details) / MGM240P32N: this module comes with a RF pin only, no own RF connector, and no external antenna is sold with it.

Note:

1. For 2.4G band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
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	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.00 dB
	30 MHz ~ 200 MHz	2.91 dB
	200 MHz ~ 1000 MHz	2.92 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Bluetooth Low Energy and 802.15.4 wireless radio module
Brand	Silicon Labs
Test Model	MGM240P32A, MGM240P32N
Series Model	BGM240P32A, BGM240P32N
Model Difference	Refer to Note as below
Status of EUT	Engineering samples fully representing the production modules
Power Supply Rating	5.0 Vdc from host equipment 1.8 ~ 3.8 Vdc from DC power supply
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	1MBaud with 1Mbps transfer rate 1MBaud with Coded 125kbps transfer rate 1MBaud with Coded 500kbps 2MBaud with 2Mbps transfer rate
Operating Frequency	2402 ~ 2480 MHz
Number of Channel	1MBaud: 40 2MBaud: 37
Output Power	MGM240P32A: 1MBaud: 96.383 mW 1MBaud: 20.464 mW (125kbps) 2MBaud: 96.605 mW MGM240P32N: 1MBaud: 94.842 mW 1MBaud: 20.559 mW (125kbps) 2MBaud: 94.406 mW
Antenna Type	Refer to Note as below
Antenna Connector	MGM240P32A: N/A (have integral antenna) / MGM240P32N: N/A (has RF pin)
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. All models are listed as below. Model MGM240P32A and MGM240P32N are the representative for final test.

	Model	
Product Spec.	MGM240P32A	MGM240P32N
	(covers BGM240P32A)	(covers BGM240P32N)
	High-Power/	High-Power/
	Bluetooth Low Energy and 802.15.4	Bluetooth Low Energy and 802.15.4
	(802.15.4 being disabled for BGM240P32A)	(802.15.4 being disabled for BGM240P32N)

Max nominal RF TX power, as declared by manufacturer	20dBm	20dBm
Antenna type	integral antenna	RF pin
Hardware	MGM240P32A (and BGM240P32A) --> hardware variants with integral antenna and 20dBm max power, to be tested as DTS for 802.15.4 and FHSS for Bluetooth Low Energy MGM240P32N (and BGM240P32N) --> hardware variants with RF pin and 20dBm max power, to be tested as DTS for 802.15.4 and FHSS for Bluetooth Low Energy These three hardware variants should be RF tested separately, because PAs are configured differently and also antenna matching components are different between them, meaning for example that conducted RF measurements cannot be assumed to deliver the exact same results across the three samples. MGM modules are the ones under testing as they support both 802.15.4 and Bluetooth Low Energy, whereas the BGM modules are the series models because they are exactly the same except for the 802.15.4 being disabled.	

2. The antenna information is listed as below.

No.	Type	Connector	Gain (dBi)	Remark
1	Integral antenna	NA	1.82	For model: MGM240P32A, BGM240P32A
2	External reference dipole antenna**	RP-SMA	2.80	For model: MGM240P32N, BGM240P32N

* The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
** The dipole antenna is not sold with the EUT, but is used during testing as a reference antenna for radiated measurements of the parts with the RF pin.

3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or User's Manual.
4. The EUT has DTS and Hopping functions. The EUT has been pre-tested at 125 kbps, 500 kbps and 1 Mbps data rates under the Bluetooth LE 1 M Baud rate PHY specification. The worst case was found 125 kbps data rate, therefore chosen for the final test. (Final test mode refer section 3.2.1)
5. BT LE (DTS/FHSS) and 802.15.4 modes technology cannot transmit at same time.

6. Power setting is as below:

<1MBaud PHY with 125kbps>

Test Mode: MGM240P32A		Test Mode: MGM240P32N	
Channel	Power Setting	Channel	Power Setting
0	123	0	123
1	123	1	123
19	123	19	123
38	123	38	123
39	123	39	123

<1MBaud PHY with 1Mbps>

Test Mode: MGM240P32A		Test Mode: MGM240P32N	
Channel	Power Setting	Channel	Power Setting
0	197	0	197
1	197	1	197
19	197	19	197
38	197	38	197
39	174	39	174

<2MBaud PHY>

Test Mode: MGM240P32A		Test Mode: MGM240P32N	
Channel	Power Setting	Channel	Power Setting
1	197	1	197
19	197	19	197
38	197	38	197

3.2 Description of Test Modes

1MBaud

40 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (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**

Note: The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.

2MBaud

37 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
1	**2404**	11	2424	21	2444	31	2464
2	2406	-	-	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		
10	2422	20	2442	30	2462		

Note: The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore only the data of the test channels were recorded in this report.

3.2.1 Test Mode Applicability and Tested Channel Detail

<1MBaud PHY>

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	-	√	MGM240P32A / integral antenna
B	√	√	-	√	MGM240P32N / Dipole antenna

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane** for mode A and **Z-plane** for mode B.

Note: For power line conducted emission test items, the worst maximum power was selected. The worst case is 2MBaud PHY, so the final report chose this for testing.

Note: For radiated emission (below 1 GHz) test items, the worst maximum power was selected.

Note: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

☒ 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).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate
A, B	0 to 39	0, 1, 19, 38, 39	GFSK	1 Mbps
A, B	0 to 39	0, 1, 19, 38, 39	GFSK	125 kbps

Radiated Emission Test (Below 1 GHz):

☒ 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).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate
A, B	1 to 38	0	GFSK	1 Mbps
A	1 to 38	19	GFSK	125 kbps
B		1		

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ 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).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate
A, B	1 to 38	0, 1, 19, 38, 39	GFSK	1 Mbps
A, B	1 to 38	0, 1, 19, 38, 39	GFSK	125 kbps

<2MBaud PHY>

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	MGM240P32A / integral antenna
B	√	√	√	√	MGM240P32N / Dipole antenna

Where **RE≥1G:** Radiated Emission above 1 GHz **RE<1G:** Radiated Emission below 1 GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane** for mode A and **Z-plane** for mode B.
Note: For radiated emission (below 1 GHz) test items, the worst maximum power was selected.
Note: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B	1 to 38	1, 19, 38	GFSK	2

Radiated Emission Test (Below 1 GHz):

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B	1 to 38	1	GFSK	2

Power Line Conducted Emission Test:

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B	1 to 38	1	GFSK	2

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ 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).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B	1 to 38	1, 19, 38	GFSK	2

Test Condition:

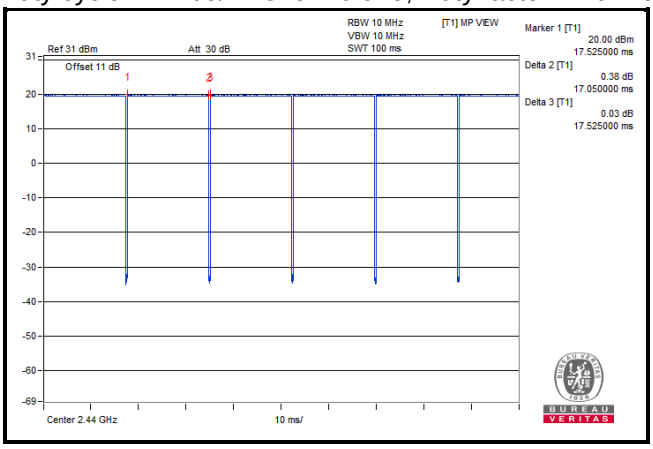
Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	23 deg. C, 68 % RH	120 Vac, 60 Hz (System)	Rex Wang, Adair Peng
RE<1G	23 deg. C, 68 % RH	120 Vac, 60 Hz (System)	Adair Peng
PLC	25 deg. C, 75% RH	120 Vac, 60 Hz (System)	Rex Wang
APCM	25 deg. C, 60% RH	120 Vac, 60 Hz (System)	Chun Wu / Alan Wu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor shall be considered.

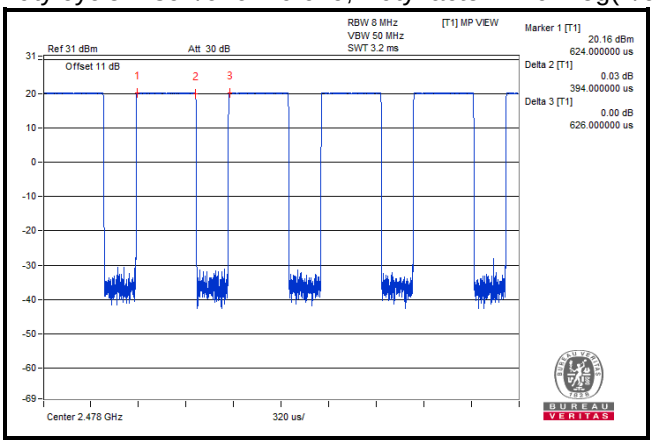
<1MBaud PHY with 125kbps>

Duty cycle = 17.05/17.525 = 0.973, Duty factor = 10 * log(1/0.973) = 0.12



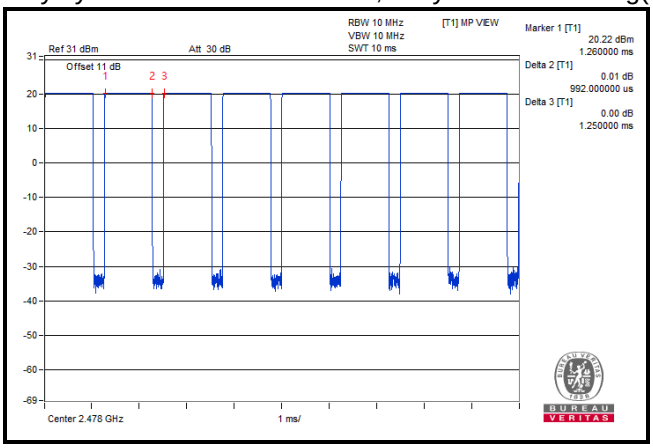
<1MBaud PHY with 1Mbps>

Duty cycle = 394/626 = 0.629, Duty factor = 10 * log(1/0.629) = 2.01



<2MBaud PHY>

Duty cycle = 0.992/1.25 = 0.794, Duty factor = 10 * log(1/0.794) = 1.00



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

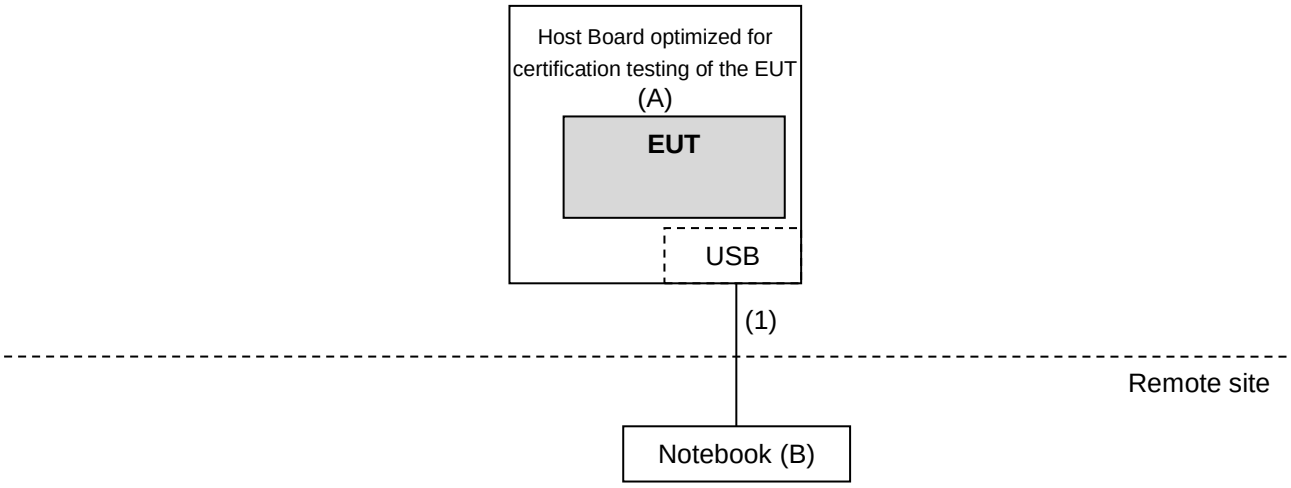
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Host Board optimized for certification testing of the EUT	Silicon Labs	NA	NA	NA	Provided by client
B.	Notebook	DELL	E5430	BPJVKV1	FCC DoC Approved	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item B acted as communication partners to transfer data.

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	1.5	Y	0	Provided by client

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards and references:

Test Standard:

FCC Part 15, Subpart C (15.247)
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions 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

Note:

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.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 27, 2022	Apr. 26, 2023
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 15, 2021	Sep. 14, 2022
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Oct. 28, 2021	Oct. 27, 2022
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Oct. 26, 2021	Oct. 25, 2022
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Jun. 05, 2021	Jun. 04, 2022
			May 14, 2022	May 13, 2023
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 16, 2022	Feb. 15, 2023
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM- SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Jan. 15, 2022	Jan. 14, 2023
RF signal cable Woken	8D-FB	Cable-CH9-01	Jun. 05, 2021	Jun. 04, 2022
			May 14, 2022	May 13, 2023
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 17, 2022	Jan. 16, 2023
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 18, 2022	Jan. 17, 2023
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100979	Mar. 25, 2022	Mar. 24, 2023

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.

4.1.3 Test Procedures

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 a 3 meter chamber room. 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) 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.
f. The test-receiver system was set to peak and average detected 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.

Note:

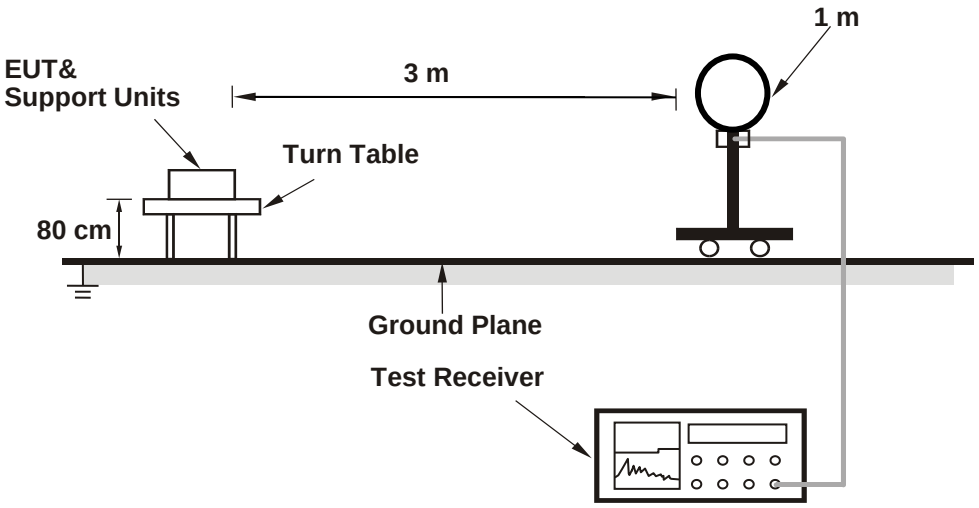
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz. (RBW = 1 MHz, VBW = 3 MHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

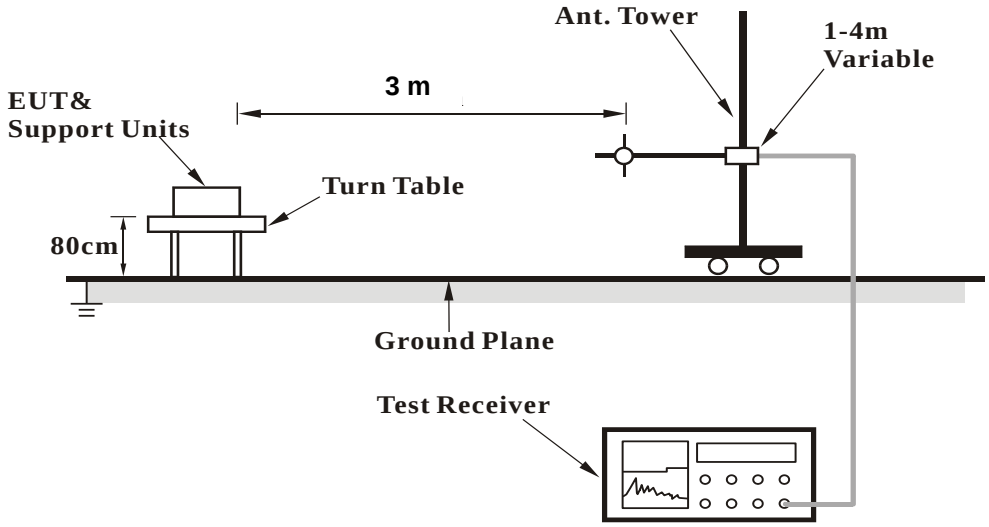
No deviation.

4.1.5 Test Set Up

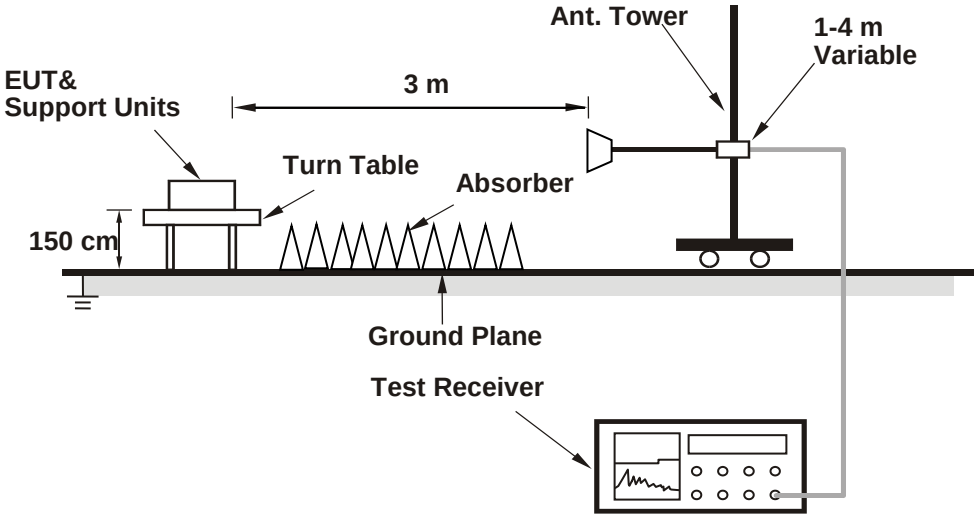
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1 GHz Data:

Mode A

RF Mode	TX BT-LE 1M	**Channel**	CH 0：2402 MHz
Frequency Range	1 GHz ~ 25 GHz	**Detector Function & Bandwidth**	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	22°C, 68% RH
Tested By	Rex Wang	**Test Date**	2022/7/8

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	61.25 PK	74.00	-12.75	2.09 H	170	62.70	-1.45
2	2390.00	51.43 AV	54.00	-2.57	2.09 H	170	52.88	-1.45
3	*2402.00	115.24 PK			2.09 H	170	82.40	32.84
4	*2402.00	113.94 AV			2.09 H	170	81.10	32.84
5	4804.00	48.19 PK	74.00	-25.81	1.90 H	1	42.50	5.69
6	4804.00	38.99 AV	54.00	-15.01	1.90 H	1	33.30	5.69
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	60.95 PK	74.00	-13.05	1.55 V	300	62.40	-1.45
2	2390.00	51.14 AV	54.00	-2.86	1.55 V	300	52.59	-1.45
3	*2402.00	113.44 PK			1.55 V	300	80.60	32.84
4	*2402.00	112.34 AV			1.55 V	300	79.50	32.84
5	4804.00	47.49 PK	74.00	-26.51	1.78 V	262	41.80	5.69
6	4804.00	38.39 AV	54.00	-15.61	1.78 V	262	32.70	5.69

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	TX BT-LE 1M	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.50 PK	74.00	-13.50	2.06 H	170	61.95	-1.45
2	2390.00	51.15 AV	54.00	-2.85	2.06 H	170	52.60	-1.45
3	*2404.00	115.56 PK			2.06 H	170	82.72	32.84
4	*2404.00	114.54 AV			2.06 H	170	81.70	32.84
5	4808.00	48.38 PK	74.00	-25.62	1.88 H	3	42.70	5.68
6	4808.00	38.88 AV	54.00	-15.12	1.88 H	3	33.20	5.68
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	60.35 PK	74.00	-13.65	2.41 V	303	61.80	-1.45
2	2390.00	50.75 AV	54.00	-3.25	2.41 V	303	52.20	-1.45
3	*2404.00	112.64 PK			2.41 V	303	79.80	32.84
4	*2404.00	111.54 AV			2.41 V	303	78.70	32.84
5	4808.00	47.18 PK	74.00	-26.82	1.65 V	259	41.50	5.68
6	4808.00	38.58 AV	54.00	-15.42	1.65 V	259	32.90	5.68

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	TX BT-LE 1M	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	114.41 PK			2.05 H	169	81.60	32.81
2	*2440.00	113.21 AV			2.05 H	169	80.40	32.81
3	4880.00	48.61 PK	74.00	-25.39	1.92 H	2	43.10	5.51
4	4880.00	38.81 AV	54.00	-15.19	1.92 H	2	33.30	5.51
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	113.11 PK			1.92 V	304	80.30	32.81
2	*2440.00	111.61 AV			1.92 V	304	78.80	32.81
3	4880.00	47.31 PK	74.00	-26.69	1.69 V	257	41.80	5.51
4	4880.00	37.71 AV	54.00	-16.29	1.69 V	257	32.20	5.51

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	TX BT-LE 1M	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	113.43 PK			2.17 H	167	80.60	32.83
2	*2478.00	112.37 AV			2.17 H	167	79.54	32.83
3	2483.50	60.94 PK	74.00	-13.06	2.17 H	167	62.50	-1.56
4	2483.50	52.14 AV	54.00	-1.86	2.17 H	167	53.70	-1.56
5	4956.00	48.91 PK	74.00	-25.09	1.90 H	2	43.30	5.61
6	4956.00	39.11 AV	54.00	-14.89	1.90 H	2	33.50	5.61
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	113.33 PK			1.89 V	307	80.50	32.83
2	*2478.00	111.53 AV			1.89 V	307	78.70	32.83
3	2483.50	61.74 PK	74.00	-12.26	1.89 V	307	63.30	-1.56
4	2483.50	51.54 AV	54.00	-2.46	1.89 V	307	53.10	-1.56
5	4956.00	48.21 PK	74.00	-25.79	1.66 V	254	42.60	5.61
6	4956.00	38.51 AV	54.00	-15.49	1.66 V	254	32.90	5.61

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	TX BT-LE 1M	Channel	CH 39：2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/4

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	111.87 PK			1.64 H	166	79.04	32.83
2	*2480.00	110.79 AV			1.64 H	166	77.96	32.83
3	2483.50	65.60 PK	74.00	-8.40	1.64 H	166	67.16	-1.56
4	2483.50	53.47 AV	54.00	-0.53	1.64 H	166	55.03	-1.56
5	4960.00	49.26 PK	74.00	-24.74	2.51 H	27	43.62	5.64
6	4960.00	38.34 AV	54.00	-15.66	2.51 H	27	32.70	5.64
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	110.08 PK			1.86 V	309	77.25	32.83
2	*2480.00	108.93 AV			1.86 V	309	76.10	32.83
3	2483.50	60.94 PK	74.00	-13.06	1.86 V	309	62.50	-1.56
4	2483.50	52.04 AV	54.00	-1.96	1.86 V	309	53.60	-1.56
5	4960.00	48.34 PK	74.00	-25.66	1.68 V	254	42.70	5.64
6	4960.00	37.44 AV	54.00	-16.56	1.68 V	254	31.80	5.64

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	TX BT-LE 1M with 125K	Channel	CH 0：2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	61.90 PK	74.00	-12.10	1.41 H	182	63.40	-1.50
2	2390.00	51.00 AV	54.00	-3.00	1.41 H	182	52.50	-1.50
3	*2402.00	108.10 PK			1.41 H	182	75.30	32.80
4	*2402.00	107.10 AV			1.41 H	182	74.30	32.80
5	4804.00	49.40 PK	74.00	-24.60	2.58 H	20	43.60	5.80
6	4804.00	38.20 AV	54.00	-15.80	2.58 H	20	32.40	5.80
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	61.00 PK	74.00	-13.00	1.00 V	324	62.50	-1.50
2	2390.00	50.80 AV	54.00	-3.20	1.00 V	324	52.30	-1.50
3	*2402.00	104.40 PK			1.00 V	324	71.60	32.80
4	*2402.00	103.20 AV			1.00 V	324	70.40	32.80
5	4804.00	49.20 PK	74.00	-24.80	1.66 V	250	43.40	5.80
6	4804.00	37.80 AV	54.00	-16.20	1.66 V	250	32.00	5.80

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	TX BT-LE 1M with 125K	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	62.10 PK	74.00	-11.90	1.40 H	183	63.60	-1.50
2	2390.00	51.10 AV	54.00	-2.90	1.40 H	183	52.60	-1.50
3	*2404.00	108.00 PK			1.40 H	183	75.20	32.80
4	*2404.00	106.80 AV			1.40 H	183	74.00	32.80
5	4808.00	49.20 PK	74.00	-24.80	2.50 H	26	43.40	5.80
6	4808.00	38.40 AV	54.00	-15.60	2.50 H	26	32.60	5.80
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	61.80 PK	74.00	-12.20	1.31 V	329	63.30	-1.50
2	2390.00	50.90 AV	54.00	-3.10	1.31 V	329	52.40	-1.50
3	*2404.00	104.20 PK			1.31 V	329	71.40	32.80
4	*2404.00	103.10 AV			1.31 V	329	70.30	32.80
5	4808.00	49.00 PK	74.00	-25.00	1.70 V	262	43.20	5.80
6	4808.00	38.20 AV	54.00	-15.80	1.70 V	262	32.40	5.80

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	TX BT-LE 1M with 125K	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	108.00 PK			1.42 H	185	75.20	32.80
2	*2440.00	106.60 AV			1.42 H	185	73.80	32.80
3	4880.00	48.80 PK	74.00	-25.20	2.56 H	26	43.30	5.50
4	4880.00	38.00 AV	54.00	-16.00	2.56 H	26	32.50	5.50
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	104.10 PK			1.26 V	324	71.30	32.80
2	*2440.00	103.00 AV			1.26 V	324	70.20	32.80
3	4880.00	47.30 PK	74.00	-26.70	1.71 V	258	41.80	5.50
4	4880.00	37.10 AV	54.00	-16.90	1.71 V	258	31.60	5.50

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	TX BT-LE 1M with 125K	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	106.80 PK			1.56 H	180	73.90	32.90
2	*2478.00	105.30 AV			1.56 H	180	72.40	32.90
3	2483.50	61.80 PK	74.00	-12.20	1.56 H	180	63.30	-1.50
4	2483.50	50.80 AV	54.00	-3.20	1.56 H	180	52.30	-1.50
5	4956.00	49.10 PK	74.00	-24.90	2.51 H	23	43.50	5.60
6	4956.00	38.00 AV	54.00	-16.00	2.51 H	23	32.40	5.60
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	104.00 PK			1.27 V	325	71.10	32.90
2	*2478.00	103.10 AV			1.27 V	325	70.20	32.90
3	2483.50	61.30 PK	74.00	-12.70	1.27 V	325	62.80	-1.50
4	2483.50	50.20 AV	54.00	-3.80	1.27 V	325	51.70	-1.50
5	4956.00	48.40 PK	74.00	-25.60	1.68 V	254	42.80	5.60
6	4956.00	37.90 AV	54.00	-16.10	1.68 V	254	32.30	5.60

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	TX BT-LE 1M with 125K	Channel	CH 39：2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	108.00 PK			2.47 H	192	75.10	32.90
2	*2480.00	106.80 AV			2.47 H	192	73.90	32.90
3	2483.50	61.90 PK	74.00	-12.10	2.47 H	192	63.40	-1.50
4	2483.50	50.90 AV	54.00	-3.10	2.47 H	192	52.40	-1.50
5	4960.00	49.50 PK	74.00	-24.50	2.41 H	25	43.80	5.70
6	4960.00	38.50 AV	54.00	-15.50	2.41 H	25	32.80	5.70
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	104.60 PK			1.27 V	325	71.70	32.90
2	*2480.00	103.30 AV			1.27 V	325	70.40	32.90
3	2483.50	61.80 PK	74.00	-12.20	1.27 V	325	63.30	-1.50
4	2483.50	50.00 AV	54.00	-4.00	1.27 V	325	51.50	-1.50
5	4960.00	49.40 PK	74.00	-24.60	1.75 V	255	43.70	5.70
6	4960.00	38.10 AV	54.00	-15.90	1.75 V	255	32.40	5.70

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	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	61.00 PK	74.00	-13.00	1.44 H	202	62.50	-1.50
2	2390.00	49.40 AV	54.00	-4.60	1.44 H	202	50.90	-1.50
3	*2404.00	114.90 PK			1.44 H	202	82.10	32.80
4	*2404.00	111.30 AV			1.44 H	202	78.50	32.80
5	4808.00	49.40 PK	74.00	-24.60	2.52 H	22	43.60	5.80
6	4808.00	38.50 AV	54.00	-15.50	2.52 H	22	32.70	5.80
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	60.60 PK	74.00	-13.40	1.32 V	327	62.10	-1.50
2	2390.00	49.30 AV	54.00	-4.70	1.32 V	327	50.80	-1.50
3	*2404.00	111.70 PK			1.32 V	327	78.90	32.80
4	*2404.00	108.10 AV			1.32 V	327	75.30	32.80
5	4808.00	47.60 PK	74.00	-26.40	1.68 V	247	41.80	5.80
6	4808.00	37.70 AV	54.00	-16.30	1.68 V	247	31.90	5.80

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	TX BT-LE 2M	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	115.10 PK			1.65 H	188	82.30	32.80
2	*2440.00	111.20 AV			1.65 H	188	78.40	32.80
3	4880.00	48.90 PK	74.00	-25.10	2.55 H	24	43.40	5.50
4	4880.00	38.00 AV	54.00	-16.00	2.55 H	24	32.50	5.50
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	112.20 PK			1.32 V	324	79.40	32.80
2	*2440.00	108.40 AV			1.32 V	324	75.60	32.80
3	4880.00	47.70 PK	74.00	-26.30	1.70 V	254	42.20	5.50
4	4880.00	37.30 AV	54.00	-16.70	1.70 V	254	31.80	5.50

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	TX BT-LE 2M	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	114.30 PK			1.40 H	202	81.40	32.90
2	*2478.00	110.60 AV			1.40 H	202	77.70	32.90
3	2483.50	61.90 PK	74.00	-12.10	1.40 H	202	63.40	-1.50
4	2483.50	52.00 AV	54.00	-2.00	1.40 H	202	53.50	-1.50
5	4956.00	49.20 PK	74.00	-24.80	2.55 H	27	43.60	5.60
6	4956.00	38.80 AV	54.00	-15.20	2.55 H	27	33.20	5.60
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	112.20 PK			1.30 V	325	79.30	32.90
2	*2478.00	108.50 AV			1.30 V	325	75.60	32.90
3	2483.50	61.30 PK	74.00	-12.70	1.30 V	325	62.80	-1.50
4	2483.50	51.80 AV	54.00	-2.20	1.30 V	325	53.30	-1.50
5	4956.00	48.90 PK	74.00	-25.10	1.74 V	282	43.30	5.60
6	4956.00	38.00 AV	54.00	-16.00	1.74 V	282	32.40	5.60

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.

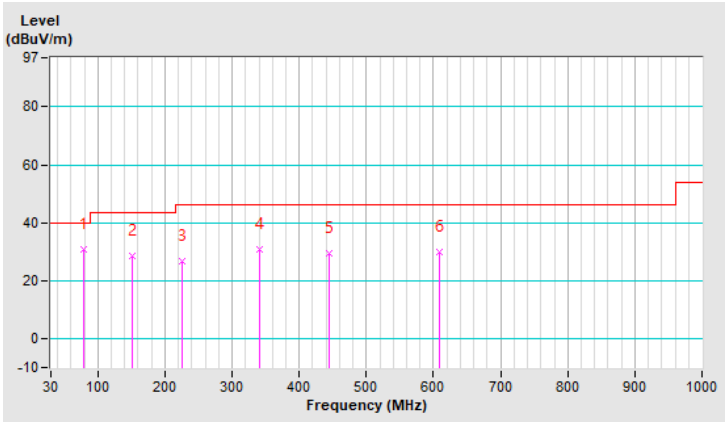
9 kHz ~ 1 GHz Worst-Case Data:

RF Mode	TX BT-LE 1M	**Channel**	CH 0：2402 MHz
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 68% RH
Tested By	Adair Peng	**Test Date**	2022/5/24

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	79.47	30.80 QP	40.00	-9.20	1.50 H	160	44.17	-13.37
2	152.22	28.36 QP	43.50	-15.14	1.50 H	66	37.17	-8.81
3	225.94	26.62 QP	46.00	-19.38	1.00 H	93	37.83	-11.21
4	340.40	30.76 QP	46.00	-15.24	1.00 H	260	36.84	-6.08
5	444.19	29.53 QP	46.00	-16.47	1.00 H	178	33.17	-3.64
6	609.09	29.68 QP	46.00	-16.32	2.00 H	254	29.85	-0.17

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

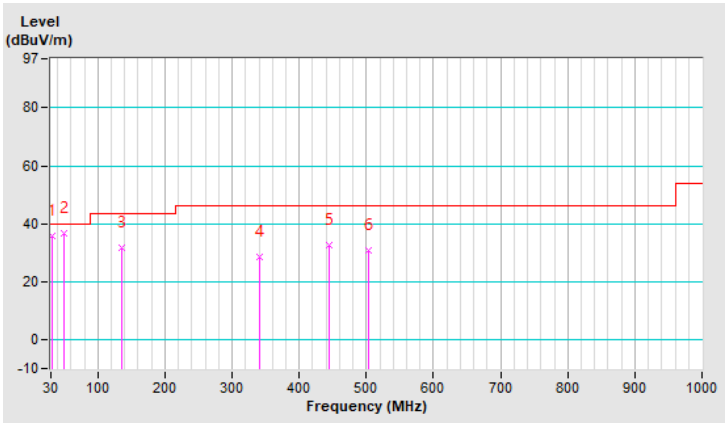


RF Mode	TX BT-LE 1M	Channel	CH 0：2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/24

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	31.94	35.85 QP	40.00	-4.15	1.49 V	14	46.48	-10.63
2	49.40	36.72 QP	40.00	-3.28	1.00 V	195	45.71	-8.99
3	135.73	31.59 QP	43.50	-11.91	1.49 V	14	41.22	-9.63
4	341.37	28.57 QP	46.00	-17.43	2.00 V	295	34.67	-6.10
5	444.19	32.58 QP	46.00	-13.42	1.49 V	231	36.22	-3.64
6	503.36	30.86 QP	46.00	-15.14	1.00 V	163	33.34	-2.48

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

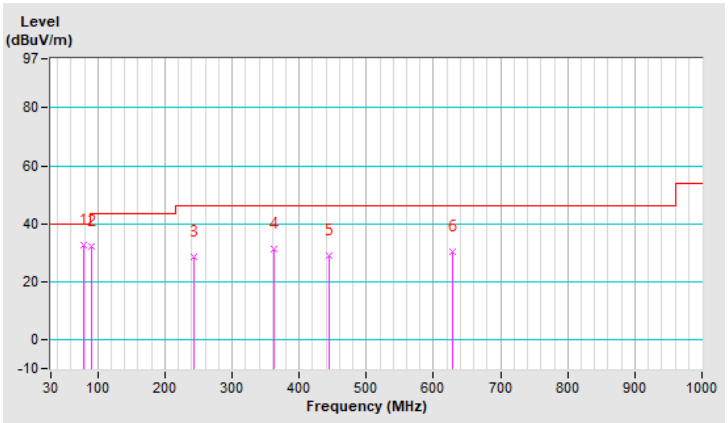


RF Mode	TX BT-LE 1M with 125K	Channel	CH 19：2440 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/24

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	78.50	32.43 QP	40.00	-7.57	1.50 H	180	45.59	-13.16
2	90.14	32.25 QP	43.50	-11.25	1.50 H	15	47.05	-14.80
3	243.40	28.41 QP	46.00	-17.59	1.00 H	112	37.68	-9.27
4	361.74	31.32 QP	46.00	-14.68	1.00 H	47	37.13	-5.81
5	444.19	28.86 QP	46.00	-17.14	1.00 H	178	32.50	-3.64
6	628.49	30.18 QP	46.00	-15.82	2.00 H	238	30.08	0.10

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

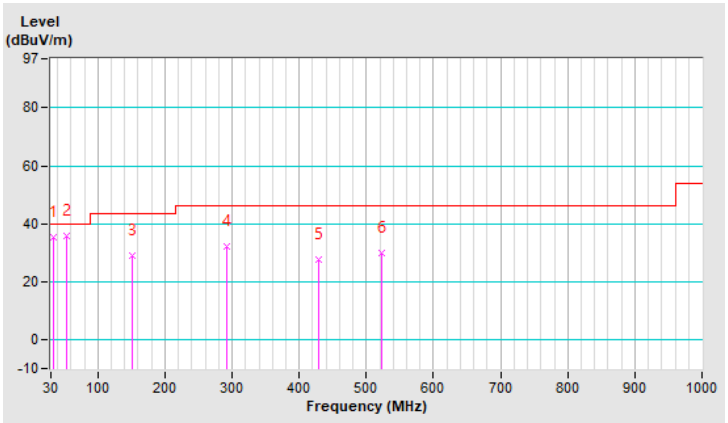


RF Mode	TX BT-LE 1M with 125K	Channel	CH 19：2440 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/24

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	33.88	35.19 QP	40.00	-4.81	1.50 V	80	45.71	-10.52
2	53.28	36.01 QP	40.00	-3.99	1.00 V	199	45.12	-9.11
3	152.22	29.19 QP	43.50	-14.31	2.00 V	40	38.00	-8.81
4	292.87	32.11 QP	46.00	-13.89	1.00 V	57	39.25	-7.14
5	428.67	27.42 QP	46.00	-18.58	1.50 V	174	31.40	-3.98
6	522.76	30.11 QP	46.00	-15.89	1.00 V	355	32.13	-2.02

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

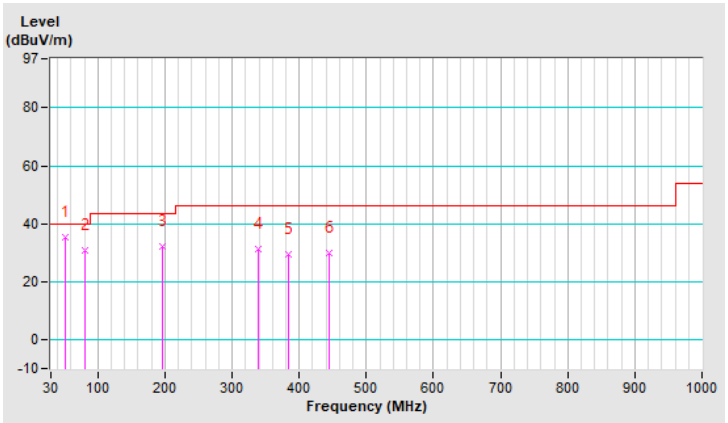


RF Mode	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/24

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	52.31	35.51 QP	40.00	-4.49	1.50 H	166	44.50	-8.99
2	81.41	30.58 QP	40.00	-9.42	1.00 H	19	44.47	-13.89
3	196.84	32.27 QP	43.50	-11.23	2.00 H	37	43.86	-11.59
4	338.46	31.31 QP	46.00	-14.69	2.00 H	265	37.37	-6.06
5	384.05	29.31 QP	46.00	-16.69	1.00 H	62	34.55	-5.24
6	445.16	30.02 QP	46.00	-15.98	1.00 H	192	33.66	-3.64

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

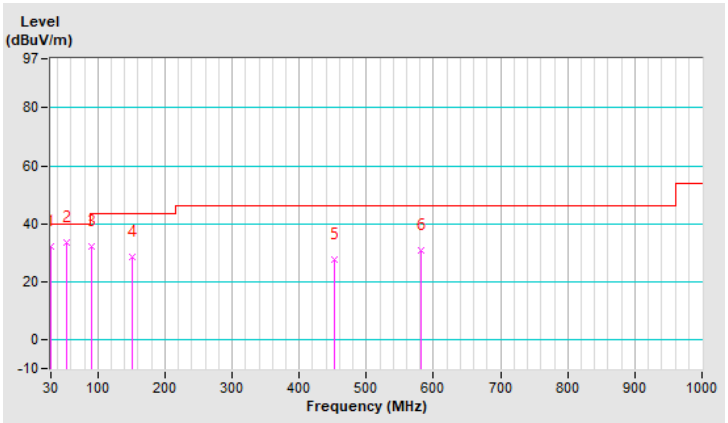


RF Mode	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/24

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	30.97	32.39 QP	40.00	-7.61	1.50 V	160	42.97	-10.58
2	54.25	33.75 QP	40.00	-6.25	1.00 V	246	42.97	-9.22
3	90.14	32.15 QP	43.50	-11.35	2.00 V	204	46.95	-14.80
4	152.22	28.46 QP	43.50	-15.04	1.00 V	187	37.27	-8.81
5	451.95	27.69 QP	46.00	-18.31	1.50 V	181	31.12	-3.43
6	581.93	30.67 QP	46.00	-15.33	1.00 V	212	31.41	-0.74

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



Mode B

RF Mode	TX BT-LE 1M	Channel	CH 0：2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.65 PK	74.00	-13.35	1.80 H	55	62.10	-1.45
2	2390.00	50.35 AV	54.00	-3.65	1.80 H	55	51.80	-1.45
3	*2402.00	114.14 PK			1.80 H	55	81.30	32.84
4	*2402.00	112.00 AV			1.80 H	55	79.16	32.84
5	4804.00	49.99 PK	74.00	-24.01	3.52 H	55	44.30	5.69
6	4804.00	41.54 AV	54.00	-12.46	3.52 H	55	35.85	5.69
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	60.55 PK	74.00	-13.45	3.73 V	1	62.00	-1.45
2	2390.00	50.15 AV	54.00	-3.85	3.73 V	1	51.60	-1.45
3	*2402.00	113.44 PK			3.73 V	1	80.60	32.84
4	*2402.00	111.64 AV			3.73 V	1	78.80	32.84
5	4804.00	49.59 PK	74.00	-24.41	2.40 V	108	43.90	5.69
6	4804.00	40.69 AV	54.00	-13.31	2.40 V	108	35.00	5.69

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	TX BT-LE 1M	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.85 PK	74.00	-13.15	1.44 H	56	62.30	-1.45
2	2390.00	50.55 AV	54.00	-3.45	1.44 H	56	52.00	-1.45
3	*2404.00	114.14 PK			1.44 H	56	81.30	32.84
4	*2404.00	112.14 AV			1.44 H	56	79.30	32.84
5	4808.00	50.18 PK	74.00	-23.82	3.47 H	62	44.50	5.68
6	4808.00	41.35 AV	54.00	-12.65	3.47 H	62	35.67	5.68
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	60.45 PK	74.00	-13.55	3.78 V	1	61.90	-1.45
2	2390.00	50.05 AV	54.00	-3.95	3.78 V	1	51.50	-1.45
3	*2404.00	113.14 PK			3.78 V	1	80.30	32.84
4	*2404.00	112.24 AV			3.78 V	1	79.40	32.84
5	4808.00	49.38 PK	74.00	-24.62	2.40 V	103	43.70	5.68
6	4808.00	40.28 AV	54.00	-13.72	2.40 V	103	34.60	5.68

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	TX BT-LE 1M	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	113.91 PK			1.19 H	56	81.10	32.81
2	*2440.00	111.81 AV			1.19 H	56	79.00	32.81
3	4880.00	50.11 PK	74.00	-23.89	3.54 H	62	44.60	5.51
4	4880.00	41.35 AV	54.00	-12.65	3.54 H	62	35.84	5.51
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	112.51 PK			3.55 V	1	79.70	32.81
2	*2440.00	110.71 AV			3.55 V	1	77.90	32.81
3	4880.00	48.91 PK	74.00	-25.09	2.46 V	105	43.40	5.51
4	4880.00	39.91 AV	54.00	-14.09	2.46 V	105	34.40	5.51

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	TX BT-LE 1M	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	114.93 PK			1.36 H	54	82.10	32.83
2	*2478.00	113.53 AV			1.36 H	54	80.70	32.83
3	2483.50	63.74 PK	74.00	-10.26	1.36 H	54	65.30	-1.56
4	2483.50	50.69 AV	54.00	-3.31	1.36 H	54	52.25	-1.56
5	4956.00	50.21 PK	74.00	-23.79	3.51 H	57	44.60	5.61
6	4956.00	41.11 AV	54.00	-12.89	3.51 H	57	35.50	5.61
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	112.83 PK			3.47 V	2	80.00	32.83
2	*2478.00	111.63 AV			3.47 V	2	78.80	32.83
3	2483.50	62.04 PK	74.00	-11.96	3.47 V	2	63.60	-1.56
4	2483.50	50.54 AV	54.00	-3.46	3.47 V	2	52.10	-1.56
5	4956.00	49.51 PK	74.00	-24.49	2.42 V	108	43.90	5.61
6	4956.00	40.31 AV	54.00	-13.69	2.42 V	108	34.70	5.61

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	TX BT-LE 1M	Channel	CH 39：2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/4

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	113.39 PK			2.00 H	63	80.56	32.83
2	*2480.00	111.23 AV			2.00 H	63	78.40	32.83
3	2483.50	70.79 PK	74.00	-3.21	2.00 H	63	72.35	-1.56
4	**2483.50**	**53.50 AV**	**54.00**	**-0.50**	**2.00 H**	**63**	**55.06**	**-1.56**
5	4960.00	48.08 PK	74.00	-25.92	3.05 H	111	42.44	5.64
6	4960.00	38.92 AV	54.00	-15.08	3.05 H	111	33.28	5.64
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	110.57 PK			3.55 V	10	77.74	32.83
2	*2480.00	108.50 AV			3.55 V	10	75.67	32.83
3	2483.50	66.93 PK	74.00	-7.07	3.55 V	10	68.49	-1.56
4	2483.50	50.55 AV	54.00	-3.45	3.55 V	10	52.11	-1.56
5	4960.00	47.19 PK	74.00	-26.81	2.42 V	106	41.55	5.64
6	4960.00	38.24 AV	54.00	-15.76	2.42 V	106	32.60	5.64

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	TX BT-LE 1M with 125K	Channel	CH 0：2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.85 PK	74.00	-13.15	1.71 H	54	62.30	-1.45
2	2390.00	50.95 AV	54.00	-3.05	1.71 H	54	52.40	-1.45
3	*2402.00	106.50 PK			1.71 H	54	73.66	32.84
4	*2402.00	104.64 AV			1.71 H	54	71.80	32.84
5	4804.00	48.29 PK	74.00	-25.71	3.44 H	59	42.60	5.69
6	4804.00	38.19 AV	54.00	-15.81	3.44 H	59	32.50	5.69
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	60.80 PK	74.00	-13.20	3.70 V	2	62.30	-1.50
2	2390.00	50.70 AV	54.00	-3.30	3.70 V	2	52.20	-1.50
3	*2402.00	106.10 PK			3.70 V	2	73.30	32.80
4	*2402.00	104.10 AV			3.70 V	2	71.30	32.80
5	4804.00	47.60 PK	74.00	-26.40	2.48 V	106	41.80	5.80
6	4804.00	37.20 AV	54.00	-16.80	2.48 V	106	31.40	5.80

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	TX BT-LE 1M with 125K	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.75 PK	74.00	-13.25	1.69 H	54	62.20	-1.45
2	2390.00	51.05 AV	54.00	-2.95	1.69 H	54	52.50	-1.45
3	*2404.00	106.88 PK			1.69 H	54	74.04	32.84
4	*2404.00	105.86 AV			1.69 H	54	73.02	32.84
5	4808.00	49.48 PK	74.00	-24.52	3.46 H	55	43.80	5.68
6	4808.00	38.28 AV	54.00	-15.72	3.46 H	55	32.60	5.68
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	60.35 PK	74.00	-13.65	3.67 V	1	61.80	-1.45
2	2390.00	50.35 AV	54.00	-3.65	3.67 V	1	51.80	-1.45
3	*2404.00	105.94 PK			3.67 V	1	73.10	32.84
4	*2404.00	104.64 AV			3.67 V	1	71.80	32.84
5	4808.00	47.88 PK	74.00	-26.12	2.38 V	107	42.20	5.68
6	4808.00	36.98 AV	54.00	-17.02	2.38 V	107	31.30	5.68

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	TX BT-LE 1M with 125K	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	107.31 PK			1.77 H	55	74.50	32.81
2	*2440.00	105.51 AV			1.77 H	55	72.70	32.81
3	4880.00	48.41 PK	74.00	-25.59	3.53 H	55	42.90	5.51
4	4880.00	38.81 AV	54.00	-15.19	3.53 H	55	33.30	5.51
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	104.66 PK			3.76 V	15	71.85	32.81
2	*2440.00	102.97 AV			3.76 V	15	70.16	32.81
3	4880.00	46.81 PK	74.00	-27.19	2.41 V	100	41.30	5.51
4	4880.00	36.31 AV	54.00	-17.69	2.41 V	100	30.80	5.51

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	TX BT-LE 1M with 125K	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	107.16 PK			1.68 H	55	74.33	32.83
2	*2478.00	105.76 AV			1.68 H	55	72.93	32.83
3	2483.50	60.04 PK	74.00	-13.96	1.68 H	55	61.60	-1.56
4	2483.50	49.78 AV	54.00	-4.22	1.68 H	55	51.34	-1.56
5	4956.00	48.21 PK	74.00	-25.79	3.51 H	55	42.60	5.61
6	4956.00	38.11 AV	54.00	-15.89	3.51 H	55	32.50	5.61
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	104.47 PK			3.80 V	16	71.64	32.83
2	*2478.00	102.87 AV			3.80 V	16	70.04	32.83
3	2483.50	59.94 PK	74.00	-14.06	3.80 V	16	61.50	-1.56
4	2483.50	49.64 AV	54.00	-4.36	3.80 V	16	51.20	-1.56
5	4956.00	46.81 PK	74.00	-27.19	2.45 V	103	41.20	5.61
6	4956.00	36.51 AV	54.00	-17.49	2.45 V	103	30.90	5.61

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	TX BT-LE 1M with 125K	Channel	CH 39：2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	107.83 PK			3.90 H	145	75.00	32.83
2	*2480.00	106.16 AV			3.90 H	145	73.33	32.83
3	2483.50	61.04 PK	74.00	-12.96	3.90 H	145	62.60	-1.56
4	2483.50	49.82 AV	54.00	-4.18	3.90 H	145	51.38	-1.56
5	4960.00	48.24 PK	74.00	-25.76	3.44 H	55	42.60	5.64
6	4960.00	38.75 AV	54.00	-15.25	3.44 H	55	33.11	5.64
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	105.58 PK			3.83 V	354	72.75	32.83
2	*2480.00	103.52 AV			3.83 V	354	70.69	32.83
3	2483.50	60.64 PK	74.00	-13.36	3.83 V	354	62.20	-1.56
4	2483.50	49.18 AV	54.00	-4.82	3.83 V	354	50.74	-1.56
5	4960.00	47.44 PK	74.00	-26.56	2.66 V	108	41.80	5.64
6	4960.00	37.24 AV	54.00	-16.76	2.66 V	108	31.60	5.64

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	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	60.25 PK	74.00	-13.75	1.82 H	55	61.70	-1.45
2	2390.00	51.05 AV	54.00	-2.95	1.82 H	55	52.50	-1.45
3	*2404.00	113.54 PK			1.82 H	55	80.70	32.84
4	*2404.00	110.44 AV			1.82 H	55	77.60	32.84
5	4808.00	49.88 PK	74.00	-24.12	3.48 H	52	44.20	5.68
6	4808.00	40.62 AV	54.00	-13.38	3.48 H	52	34.94	5.68
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	60.05 PK	74.00	-13.95	3.76 V	1	61.50	-1.45
2	2390.00	50.75 AV	54.00	-3.25	3.76 V	1	52.20	-1.45
3	*2404.00	112.94 PK			3.76 V	1	80.10	32.84
4	*2404.00	110.04 AV			3.76 V	1	77.20	32.84
5	4808.00	49.08 PK	74.00	-24.92	2.45 V	104	43.40	5.68
6	4808.00	39.18 AV	54.00	-14.82	2.45 V	104	33.50	5.68

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	TX BT-LE 2M	Channel	CH 19：2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/8

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	113.61 PK			1.84 H	57	80.80	32.81
2	*2440.00	110.61 AV			1.84 H	57	77.80	32.81
3	4880.00	50.01 PK	74.00	-23.99	3.52 H	53	44.50	5.51
4	4880.00	40.21 AV	54.00	-13.79	3.52 H	53	34.70	5.51
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	111.71 PK			3.77 V	4	78.90	32.81
2	*2440.00	110.11 AV			3.77 V	4	77.30	32.81
3	4880.00	48.81 PK	74.00	-25.19	2.48 V	106	43.30	5.51
4	4880.00	38.81 AV	54.00	-15.19	2.48 V	106	33.30	5.51

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	TX BT-LE 2M	Channel	CH 38：2478 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 68% RH
Tested By	Rex Wang	Test Date	2022/7/1

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	115.53 PK			1.24 H	269	82.70	32.83
2	*2478.00	112.48 AV			1.24 H	269	79.65	32.83
3	2483.50	68.34 PK	74.00	-5.66	1.24 H	269	69.90	-1.56
4	2483.50	52.08 AV	54.00	-1.92	1.24 H	269	53.64	-1.56
5	4956.00	49.91 PK	74.00	-24.09	3.55 H	67	44.30	5.61
6	4956.00	40.81 AV	54.00	-13.19	3.55 H	67	35.20	5.61
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	113.63 PK			3.88 V	354	80.80	32.83
2	*2478.00	111.58 AV			3.88 V	354	78.75	32.83
3	2483.50	65.64 PK	74.00	-8.36	3.88 V	354	67.20	-1.56
4	2483.50	50.04 AV	54.00	-3.96	3.88 V	354	51.60	-1.56
5	4956.00	49.41 PK	74.00	-24.59	2.52 V	106	43.80	5.61
6	4956.00	39.51 AV	54.00	-14.49	2.52 V	106	33.90	5.61

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.

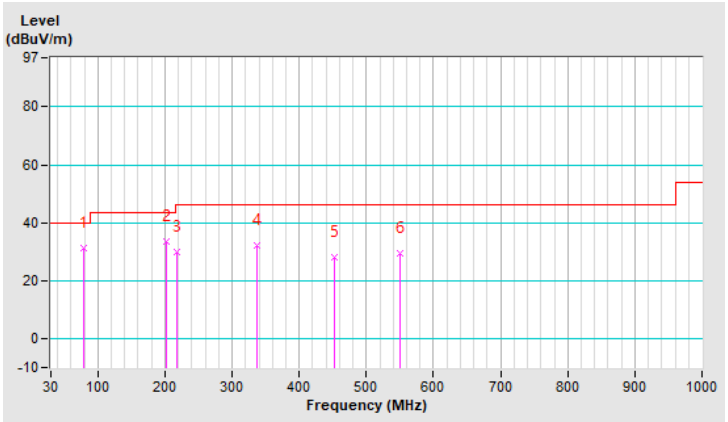
9 kHz ~ 1 GHz Worst-Case Data:

RF Mode	TX BT-LE 1M	Channel	CH 0：2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	79.47	31.32 QP	40.00	-8.68	1.00 H	186	44.69	-13.37
2	201.69	33.54 QP	43.50	-9.96	1.50 H	133	45.09	-11.55
3	218.18	29.76 QP	46.00	-16.24	1.50 H	34	40.87	-11.11
4	336.52	31.95 QP	46.00	-14.05	1.00 H	275	38.00	-6.05
5	451.95	27.87 QP	46.00	-18.13	1.00 H	5	31.30	-3.43
6	549.92	29.45 QP	46.00	-16.55	2.00 H	246	31.13	-1.68

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

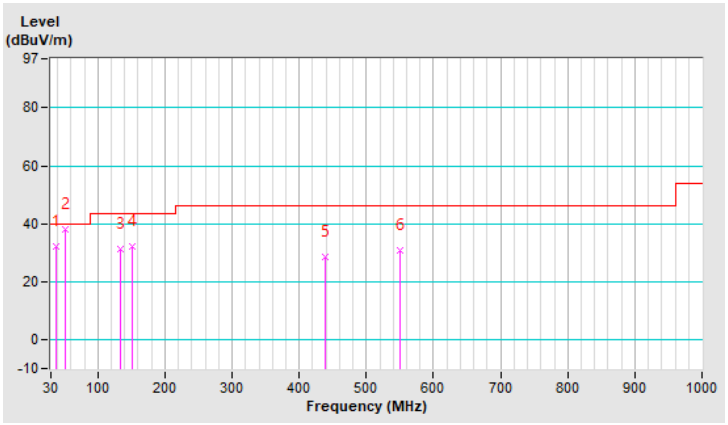


RF Mode	TX BT-LE 1M	Channel	CH 0：2402 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	38.73	31.94 QP	40.00	-8.06	1.50 V	16	41.84	-9.90
2	51.34	37.95 QP	40.00	-2.05	1.00 V	175	46.95	-9.00
3	133.79	31.38 QP	43.50	-12.12	1.50 V	18	41.18	-9.80
4	152.22	32.02 QP	43.50	-11.48	1.00 V	6	40.83	-8.81
5	439.34	28.57 QP	46.00	-17.43	1.00 V	78	32.25	-3.68
6	550.89	30.65 QP	46.00	-15.35	1.00 V	269	32.30	-1.65

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

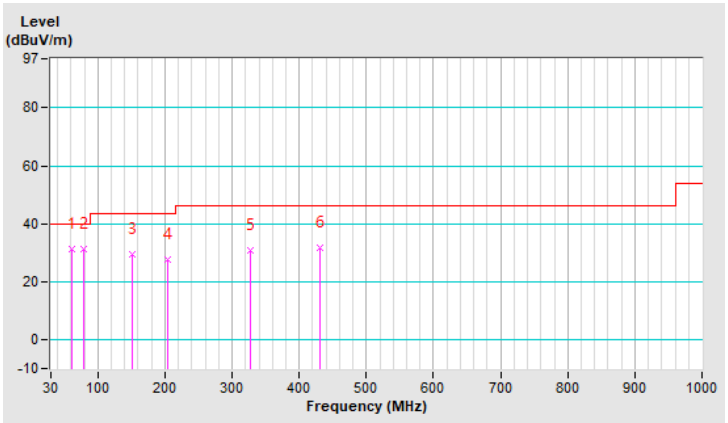


RF Mode	TX BT-LE 1M with 125K	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	62.01	31.25 QP	40.00	-8.75	1.50 H	110	41.08	-9.83
2	78.50	31.36 QP	40.00	-8.64	1.00 H	179	44.52	-13.16
3	152.22	29.42 QP	43.50	-14.08	1.00 H	6	38.23	-8.81
4	203.63	27.47 QP	43.50	-16.03	2.00 H	260	39.01	-11.54
5	327.79	30.75 QP	46.00	-15.25	1.50 H	60	36.87	-6.12
6	431.58	31.51 QP	46.00	-14.49	1.00 H	31	35.38	-3.87

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

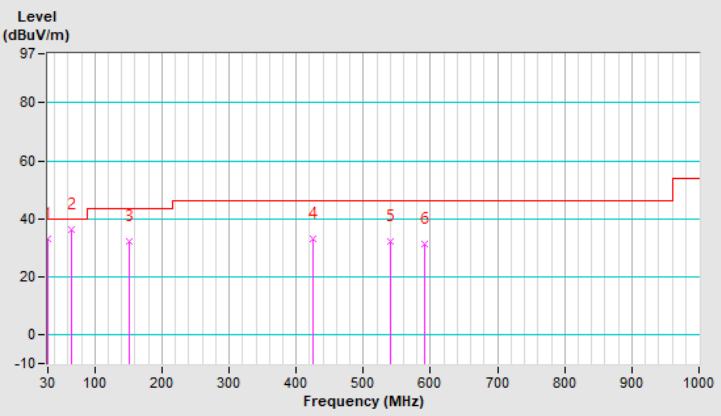


RF Mode	TX BT-LE 1M with 125K	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	30.00	32.90 QP	40.00	-7.10	1.50 V	211	43.07	-10.17
2	64.92	36.07 QP	40.00	-3.93	1.50 V	88	46.46	-10.39
3	152.22	32.29 QP	43.50	-11.21	1.00 V	34	41.10	-8.81
4	424.79	33.18 QP	46.00	-12.82	1.00 V	294	37.30	-4.12
5	540.22	32.09 QP	46.00	-13.91	2.00 V	267	33.89	-1.80
6	591.63	31.20 QP	46.00	-14.80	1.00 V	265	31.73	-0.53

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

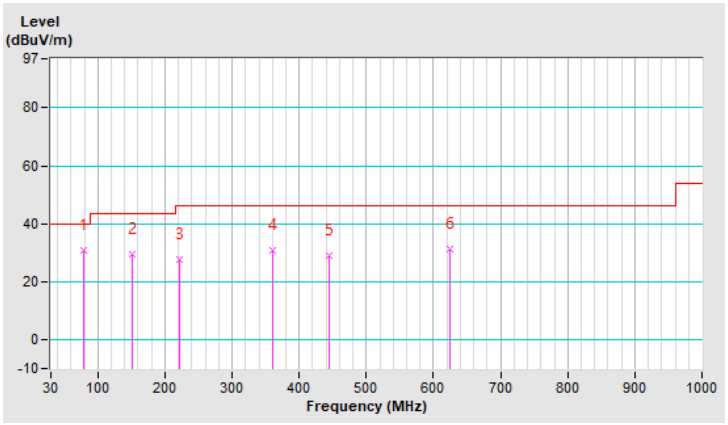


RF Mode	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	78.50	30.74 QP	40.00	-9.26	1.50 H	357	43.90	-13.16
2	152.22	29.35 QP	43.50	-14.15	1.50 H	34	38.16	-8.81
3	222.06	27.47 QP	46.00	-18.53	1.00 H	84	38.65	-11.18
4	359.80	31.03 QP	46.00	-14.97	1.00 H	268	36.88	-5.85
5	445.16	29.09 QP	46.00	-16.91	1.00 H	180	32.73	-3.64
6	624.61	31.26 QP	46.00	-14.74	2.00 H	72	31.21	0.05

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

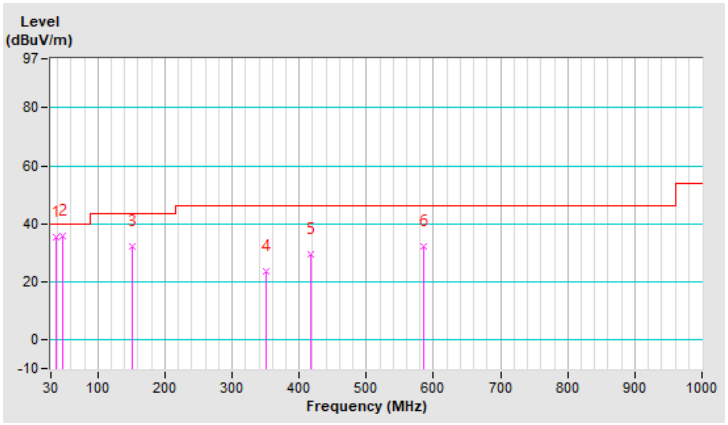


RF Mode	TX BT-LE 2M	Channel	CH 1：2404 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 68% RH
Tested By	Adair Peng	Test Date	2022/5/23

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	37.76	35.13 QP	40.00	-4.87	1.00 V	212	44.81	-9.68
2	48.43	35.68 QP	40.00	-4.32	1.00 V	147	44.66	-8.98
3	152.22	32.33 QP	43.50	-11.17	2.00 V	89	41.14	-8.81
4	350.10	23.40 QP	46.00	-22.60	1.00 V	165	29.49	-6.09
5	417.03	29.29 QP	46.00	-16.71	1.50 V	165	33.81	-4.52
6	585.81	32.21 QP	46.00	-13.79	1.50 V	284	32.88	-0.67

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 emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 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.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Jan. 22, 2022	Jan. 21, 2023
RF Coaxial Cable WORKEN	5D-FB	Cable-cond2-01	Sep. 4, 2021	Sep. 3, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Feb. 17, 2022	Feb. 16, 2023
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

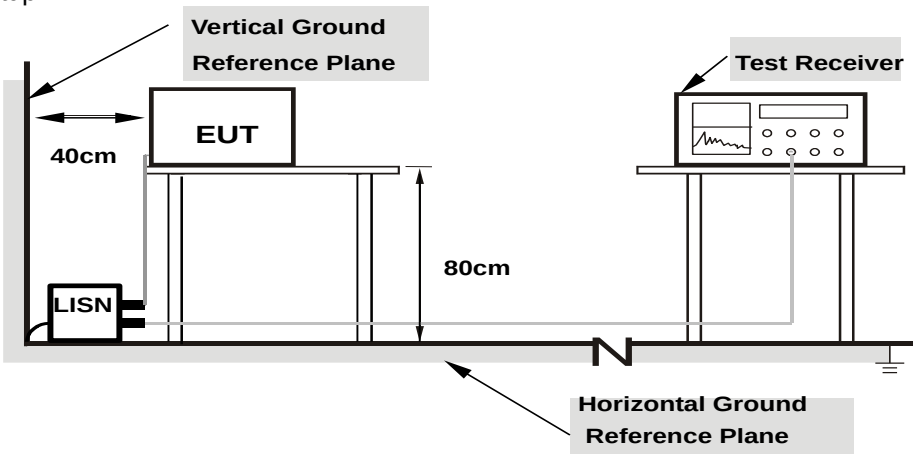
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. 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.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.2.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Set the EUT under transmission condition continuously at specific channel frequency.

4.2.7 Test Results

CONDUCTED WORST-CASE DATA

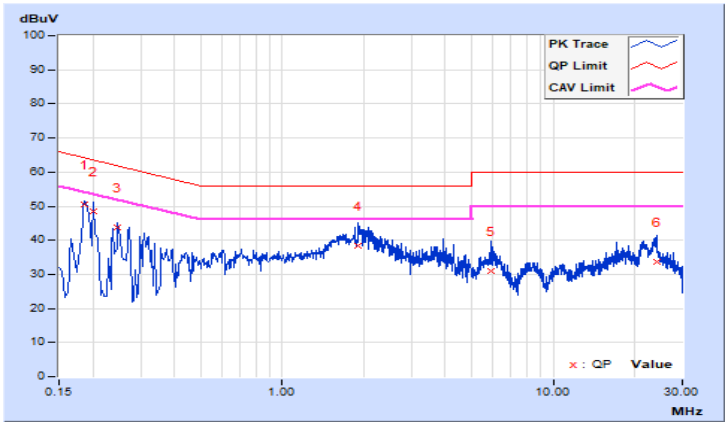
Mode A

Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested by	Rex Wang	**Test Date**	2022/5/25

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	0.18519	10.14	40.21	26.98	50.35	37.12	64.25	54.25	-13.90	-17.13
2	0.20083	10.14	38.31	22.40	48.45	32.54	63.58	53.58	-15.13	-21.04
3	0.24775	10.14	33.54	19.48	43.68	29.62	61.83	51.83	-18.15	-22.21
4	1.90559	10.22	28.28	16.95	38.50	27.17	56.00	46.00	-17.50	-18.83
5	5.92116	10.26	20.68	13.37	30.94	23.63	60.00	50.00	-29.06	-26.37
6	24.02446	10.26	23.39	14.24	33.65	24.50	60.00	50.00	-26.35	-25.50

Remarks:

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

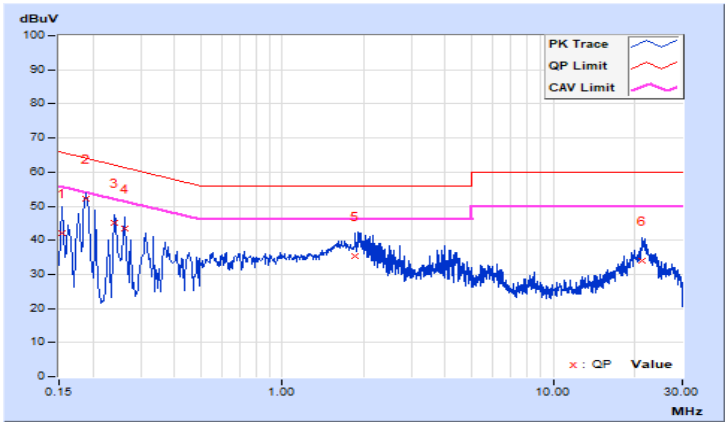


Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested by	Rex Wang	**Test Date**	2022/5/25

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	10.14	31.85	10.86	41.99	21.00	65.79	55.79	-23.80	-34.79
2	**0.18903**	**10.15**	**41.88**	**26.53**	**52.03**	**36.68**	**64.08**	**54.08**	**-12.05**	**-17.40**
3	0.23993	10.15	34.93	16.66	45.08	26.81	62.10	52.10	-17.02	-25.29
4	0.26339	10.16	33.34	18.29	43.50	28.45	61.32	51.32	-17.82	-22.87
5	1.85867	10.23	24.96	14.84	35.19	25.07	56.00	46.00	-20.81	-20.93
6	21.36566	10.50	23.53	13.35	34.03	23.85	60.00	50.00	-25.97	-26.15

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



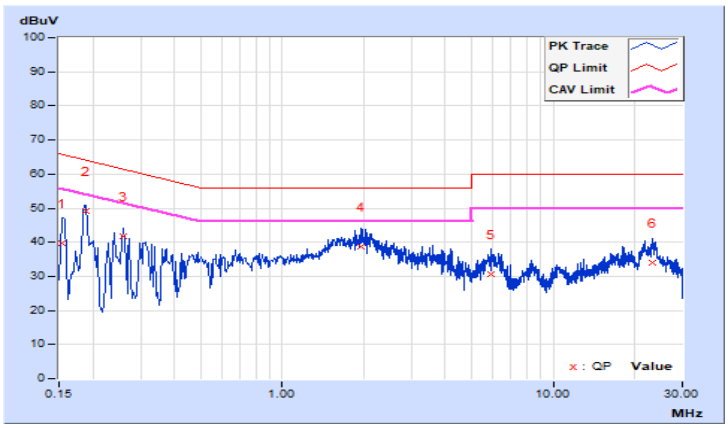
Mode B

Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested by	Rex Wang	**Test Date**	2022/5/25

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15391	10.13	29.52	9.82	39.65	19.95	65.79	55.79	-26.14	-35.84
2	0.18910	10.14	38.90	26.34	49.04	36.48	64.08	54.08	-15.04	-17.60
3	0.25948	10.15	31.58	17.61	41.73	27.76	61.45	51.45	-19.72	-23.69
4	1.96033	10.22	28.60	17.24	38.82	27.46	56.00	46.00	-17.18	-18.54
5	5.91334	10.26	20.51	13.19	30.77	23.45	60.00	50.00	-29.23	-26.55
6	23.26592	10.29	23.70	14.21	33.99	24.50	60.00	50.00	-26.01	-25.50

Remarks:

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

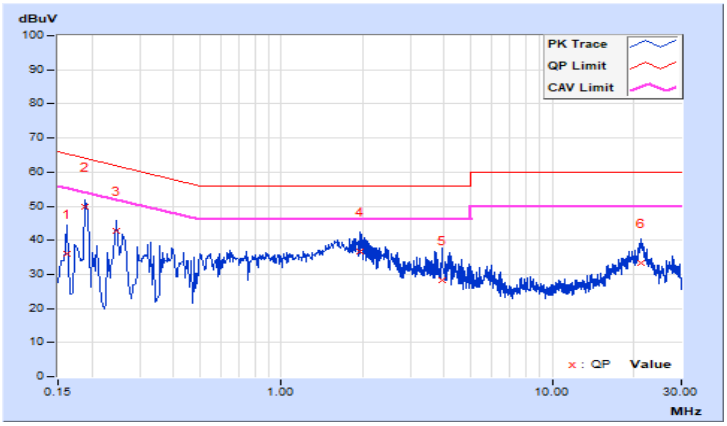


Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	25°C, 75% RH
Tested by	Rex Wang	**Test Date**	2022/5/25

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.16173	10.14	26.05	5.80	36.19	15.94	65.37	55.37	-29.18	-39.43
2	0.18903	10.15	39.68	24.04	49.83	34.19	64.08	54.08	-14.25	-19.89
3	0.24775	10.15	32.48	18.52	42.63	28.67	61.83	51.83	-19.20	-23.16
4	1.96424	10.23	26.36	14.69	36.59	24.92	56.00	46.00	-19.41	-21.08
5	3.91142	10.27	18.17	8.31	28.44	18.58	56.00	46.00	-27.56	-27.42
6	21.18971	10.51	22.66	12.61	33.17	23.12	60.00	50.00	-26.83	-26.88

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

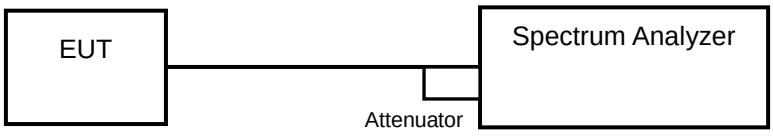


4.3 6 dB Bandwidth Measurement

4.3.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100 kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

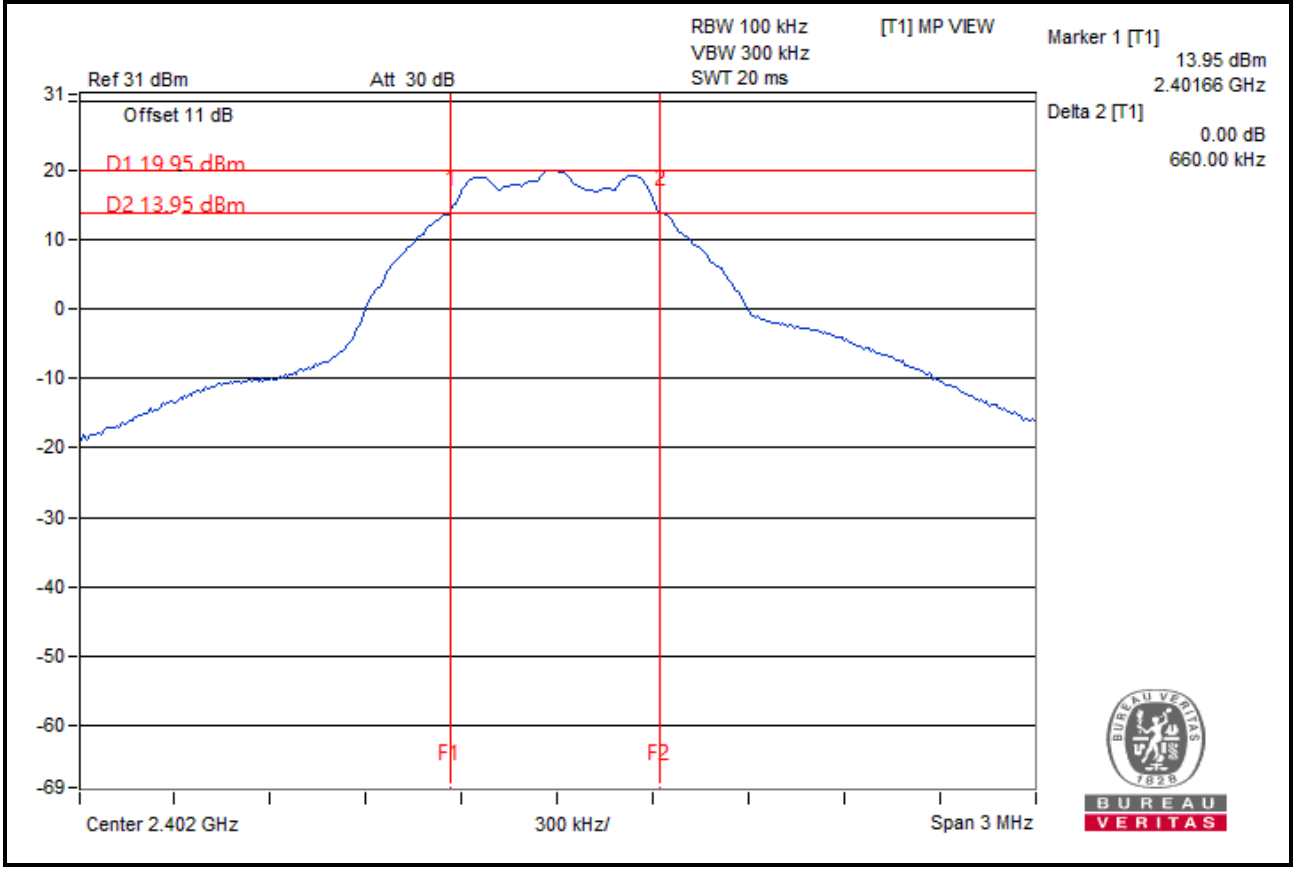
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

Mode A
<1MBaud PHY>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.66	0.5	Pass
1	2404	0.66	0.5	Pass
19	2440	0.66	0.5	Pass
38	2478	0.66	0.5	Pass
39	2480	0.66	0.5	Pass

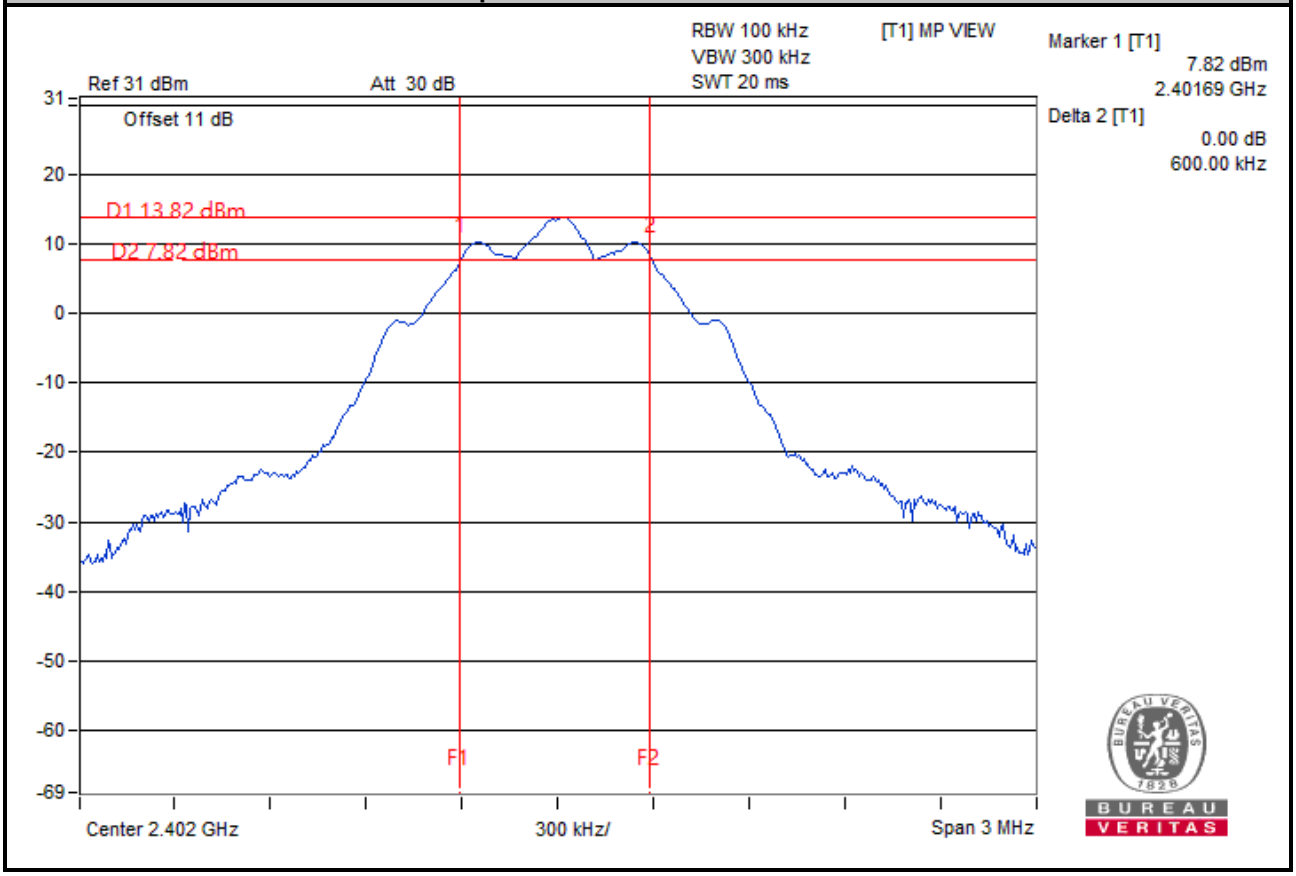
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.60	0.5	Pass
1	2404	0.60	0.5	Pass
19	2440	0.60	0.5	Pass
38	2478	0.60	0.5	Pass
39	2480	0.60	0.5	Pass

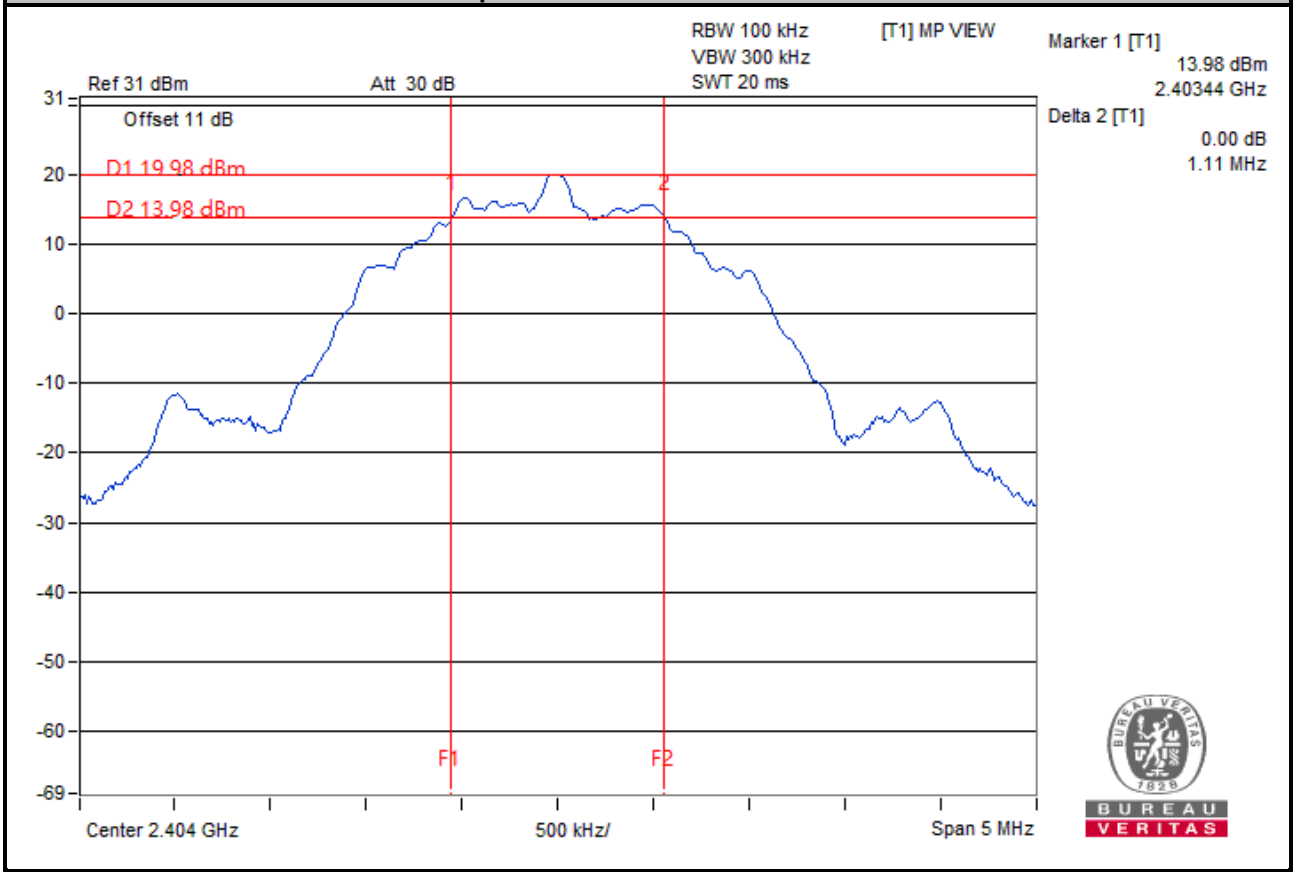
Spectrum Plot of Worst Value



<2MBaud PHY>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2404	1.11	0.5	Pass
19	2440	1.11	0.5	Pass
38	2478	1.11	0.5	Pass

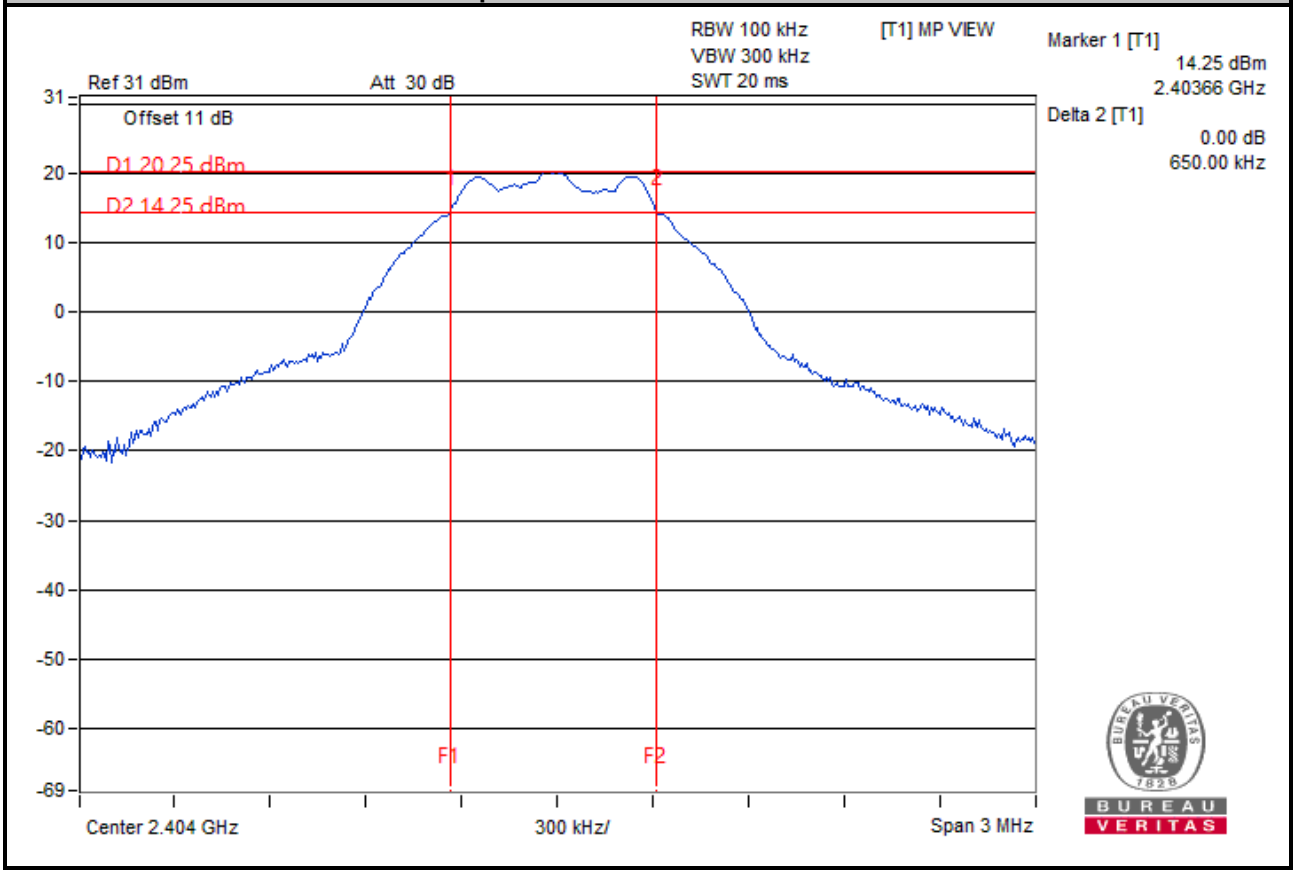
Spectrum Plot of Worst Value



Mode B
<1MBaud PHY>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.66	0.5	Pass
1	2404	0.65	0.5	Pass
19	2440	0.66	0.5	Pass
38	2478	0.66	0.5	Pass
39	2480	0.67	0.5	Pass

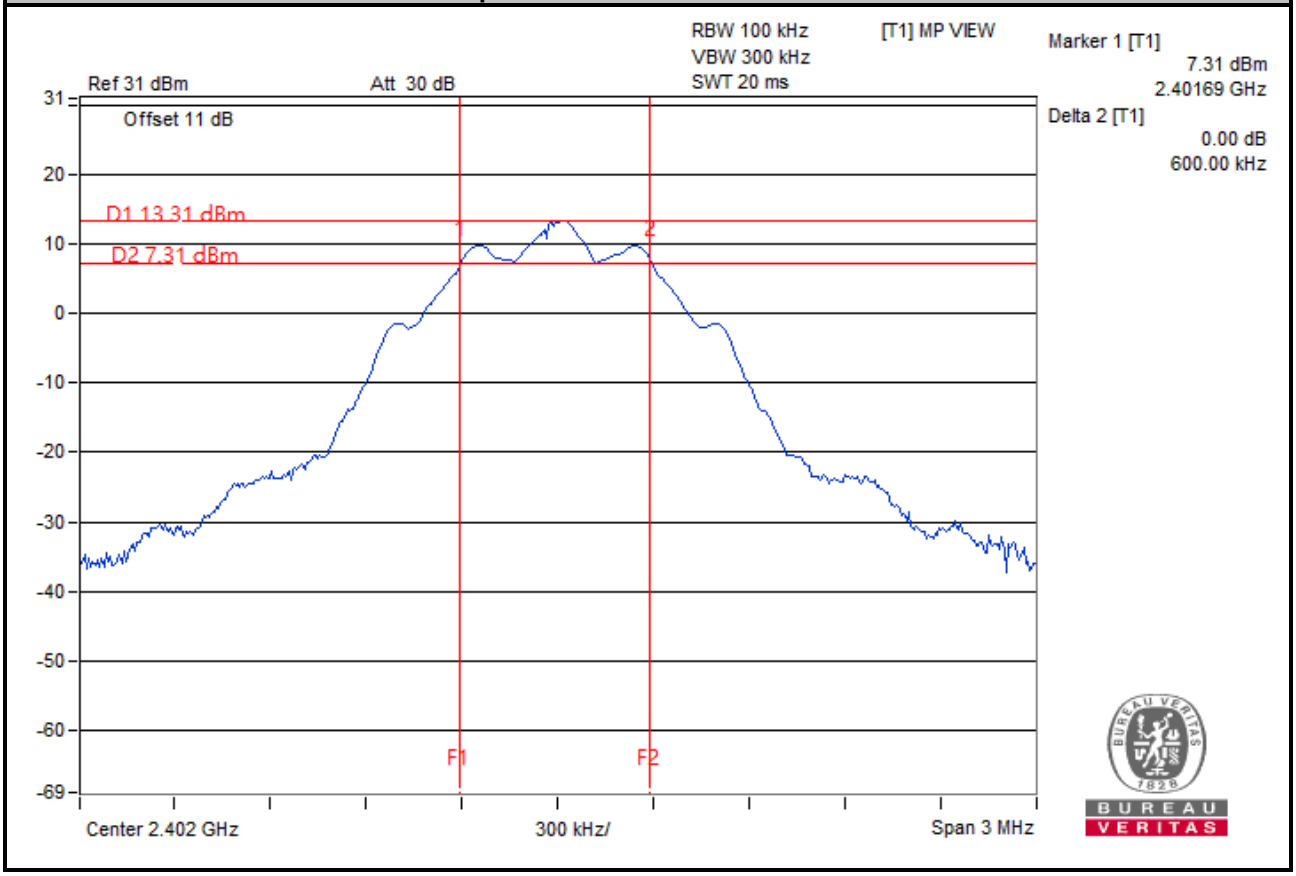
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.60	0.5	Pass
1	2404	0.60	0.5	Pass
19	2440	0.60	0.5	Pass
38	2478	0.60	0.5	Pass
39	2480	0.60	0.5	Pass

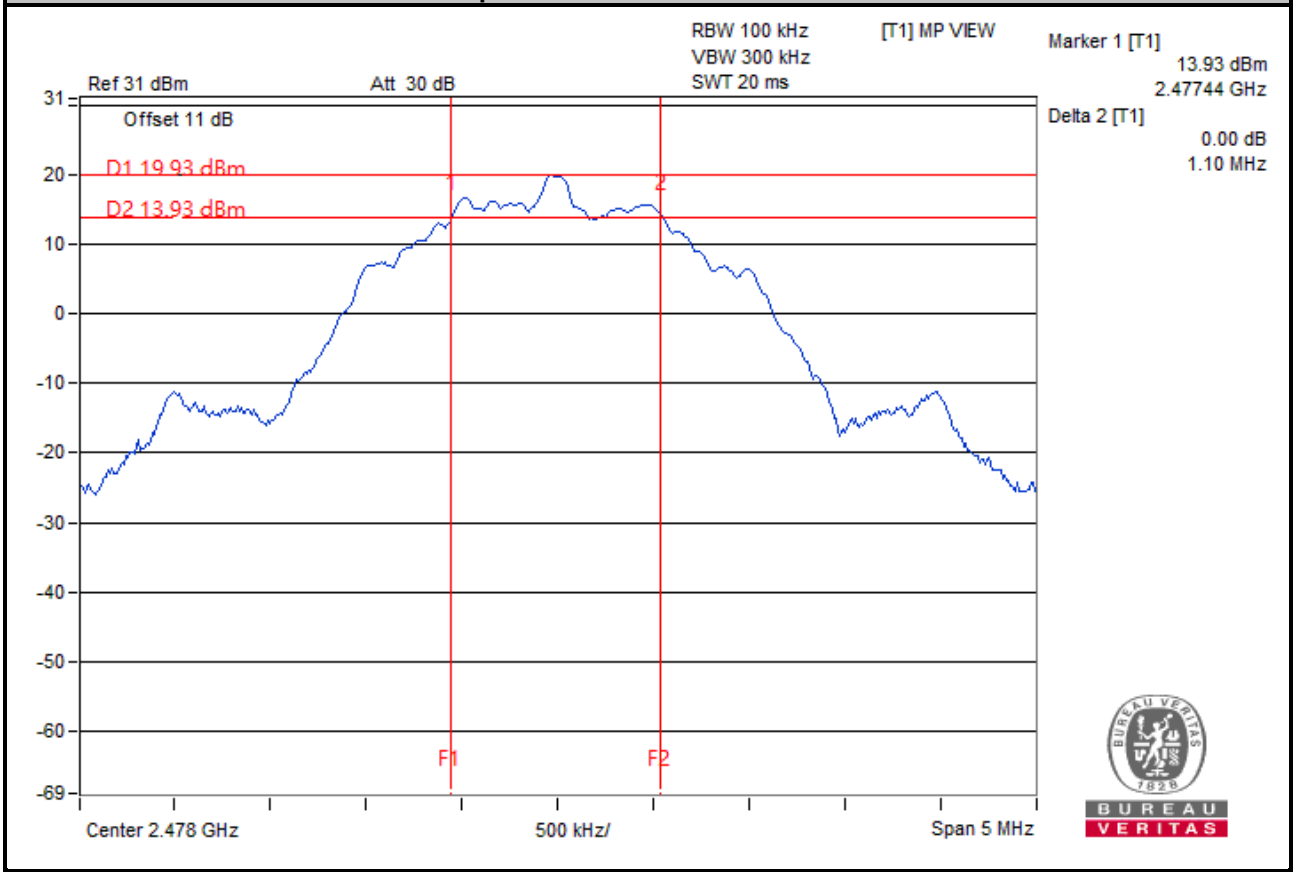
Spectrum Plot of Worst Value



<2MBaud PHY>

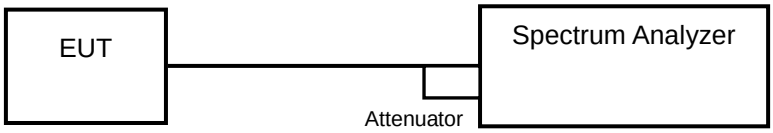
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2404	1.11	0.5	Pass
19	2440	1.11	0.5	Pass
38	2478	1.10	0.5	Pass

Spectrum Plot of Worst Value



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

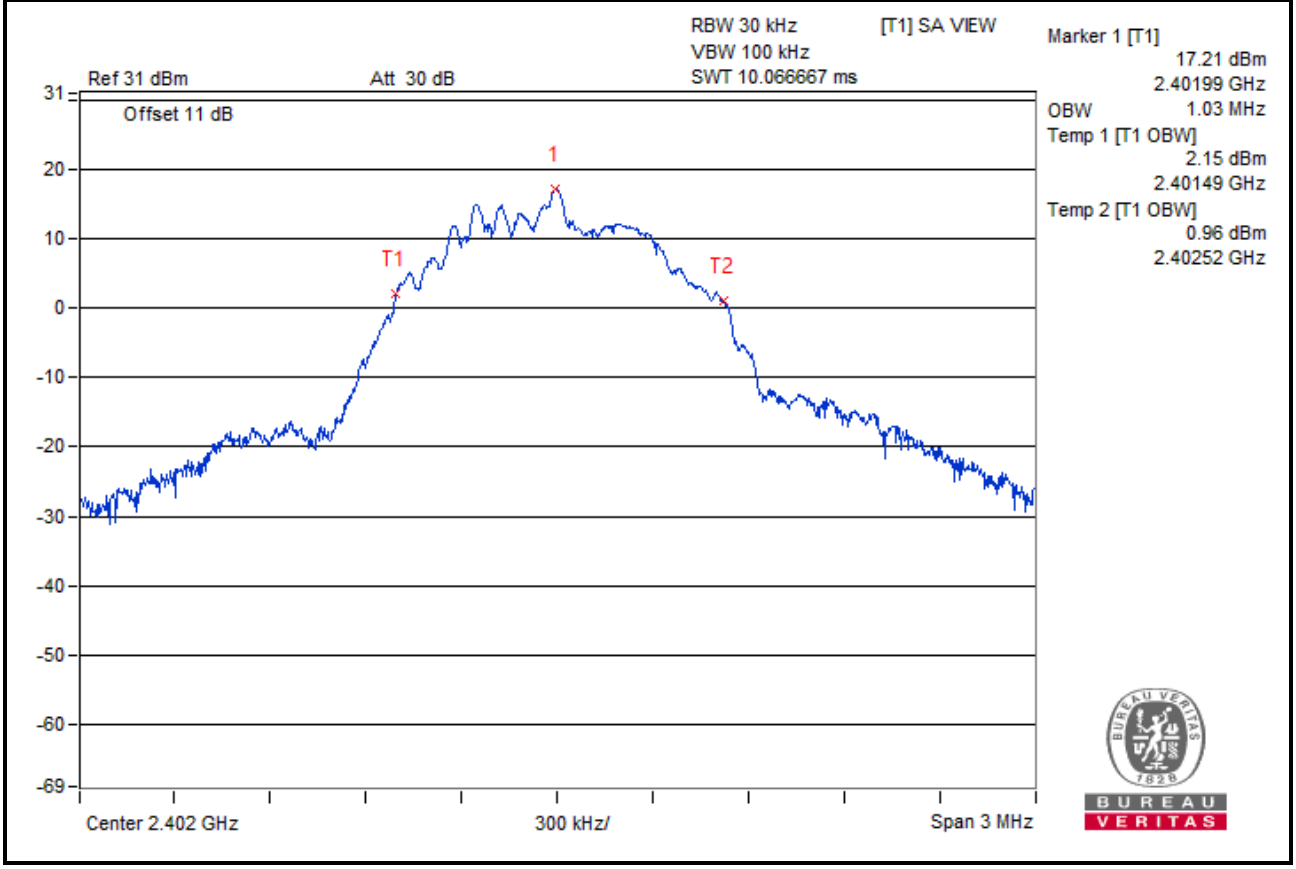
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.6 Test Results

Mode A
<1MBaud PHY>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	1.03	Pass
1	2404	1.03	Pass
19	2440	1.03	Pass
38	2478	1.02	Pass
39	2480	1.02	Pass

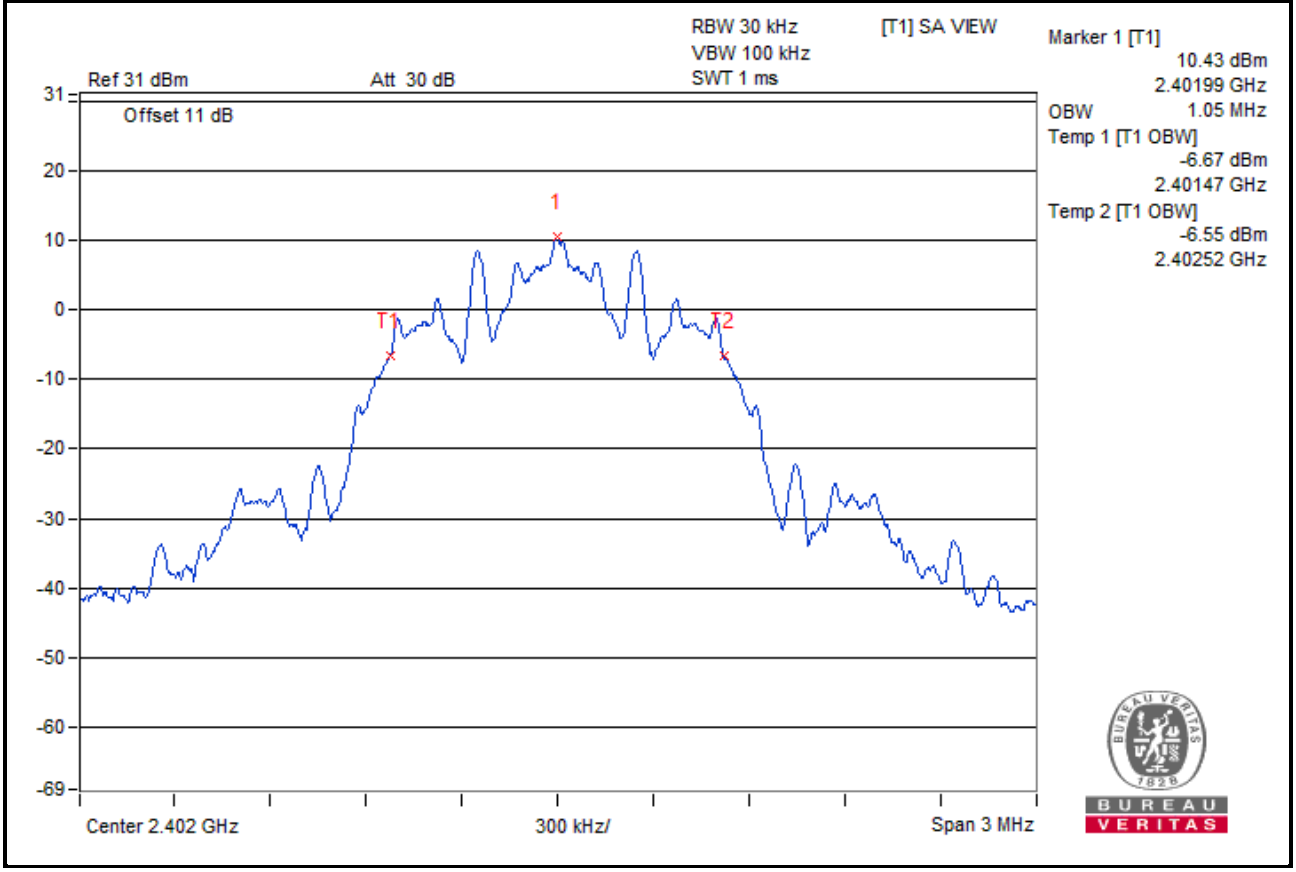
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	1.05	Pass
1	2404	1.05	Pass
19	2440	1.04	Pass
38	2478	1.05	Pass
39	2480	1.04	Pass

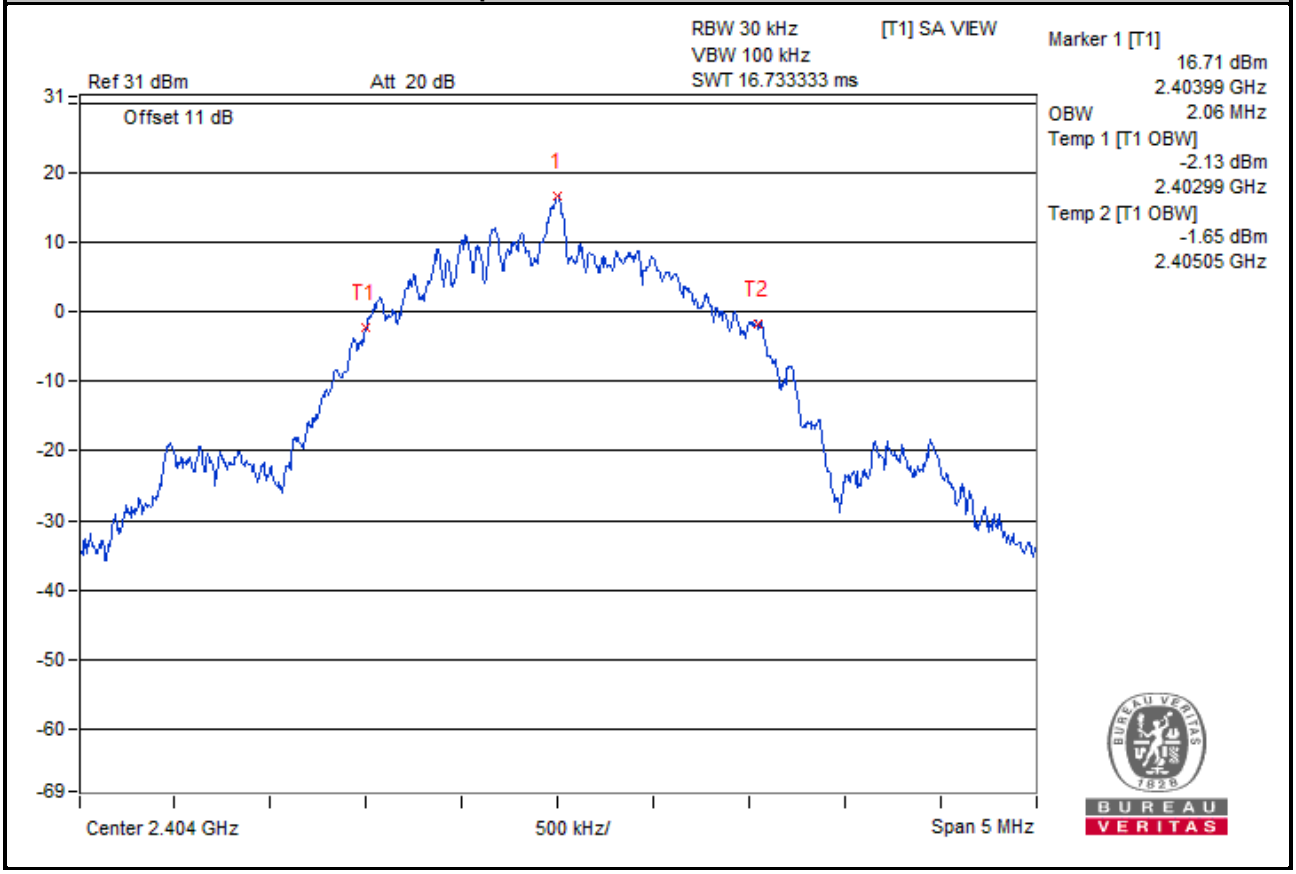
Spectrum Plot of Worst Value



<2MBaud PHY>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2404	2.06	Pass
19	2440	2.06	Pass
38	2478	2.06	Pass

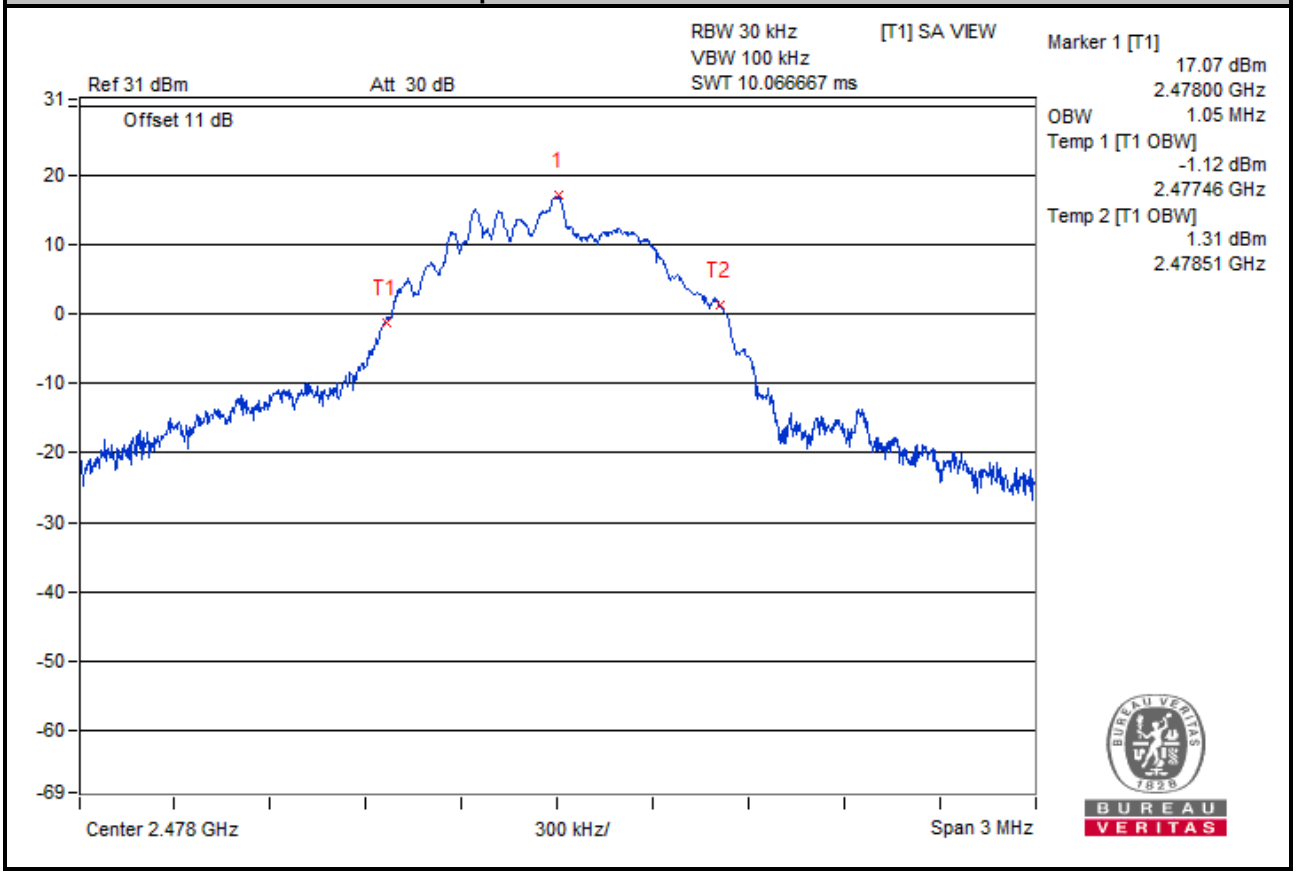
Spectrum Plot of Worst Value



Mode B
<1MBaud PHY>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	1.02	Pass
1	2404	1.03	Pass
19	2440	1.04	Pass
38	2478	1.05	Pass
39	2480	1.02	Pass

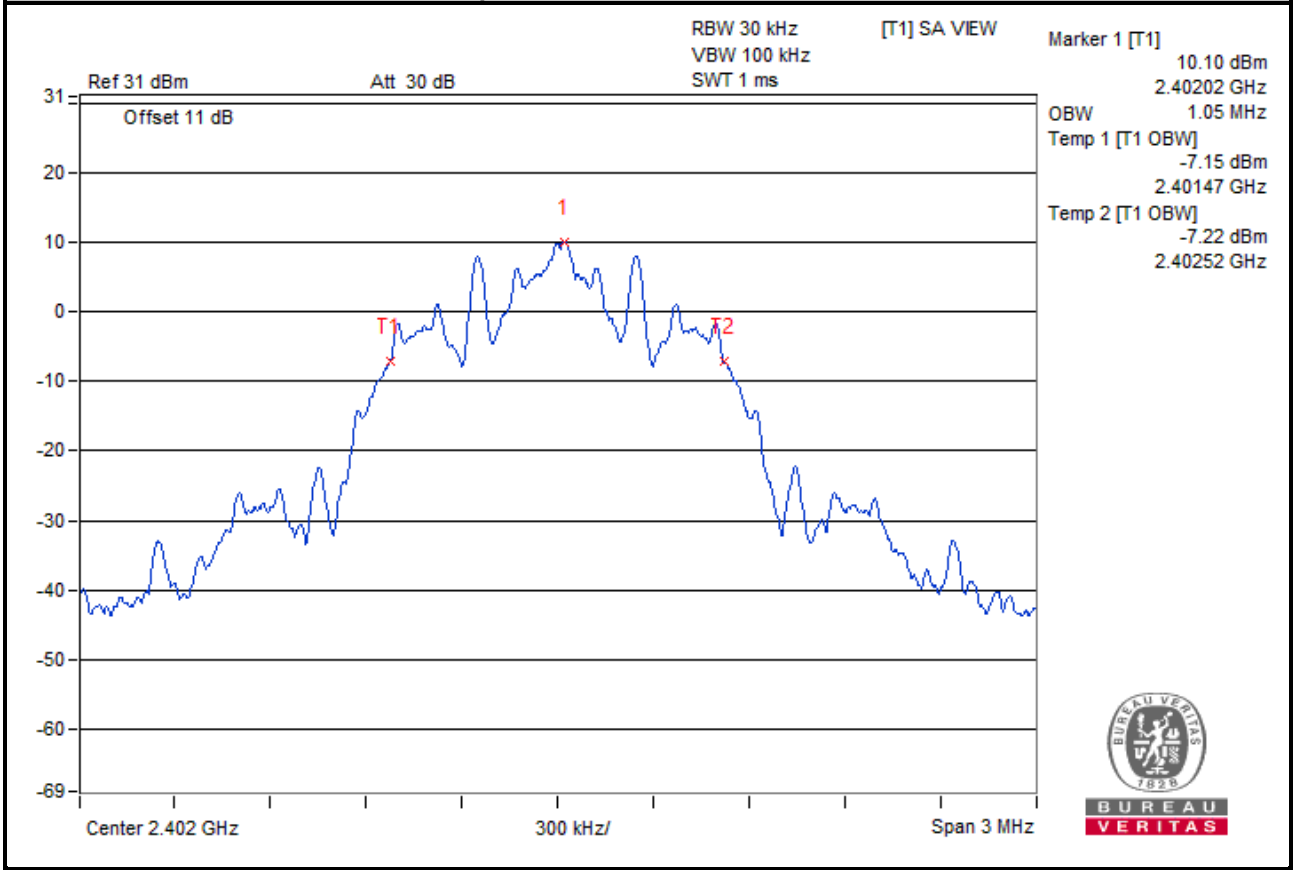
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	1.05	Pass
1	2404	1.05	Pass
19	2440	1.05	Pass
38	2478	1.05	Pass
39	2480	1.05	Pass

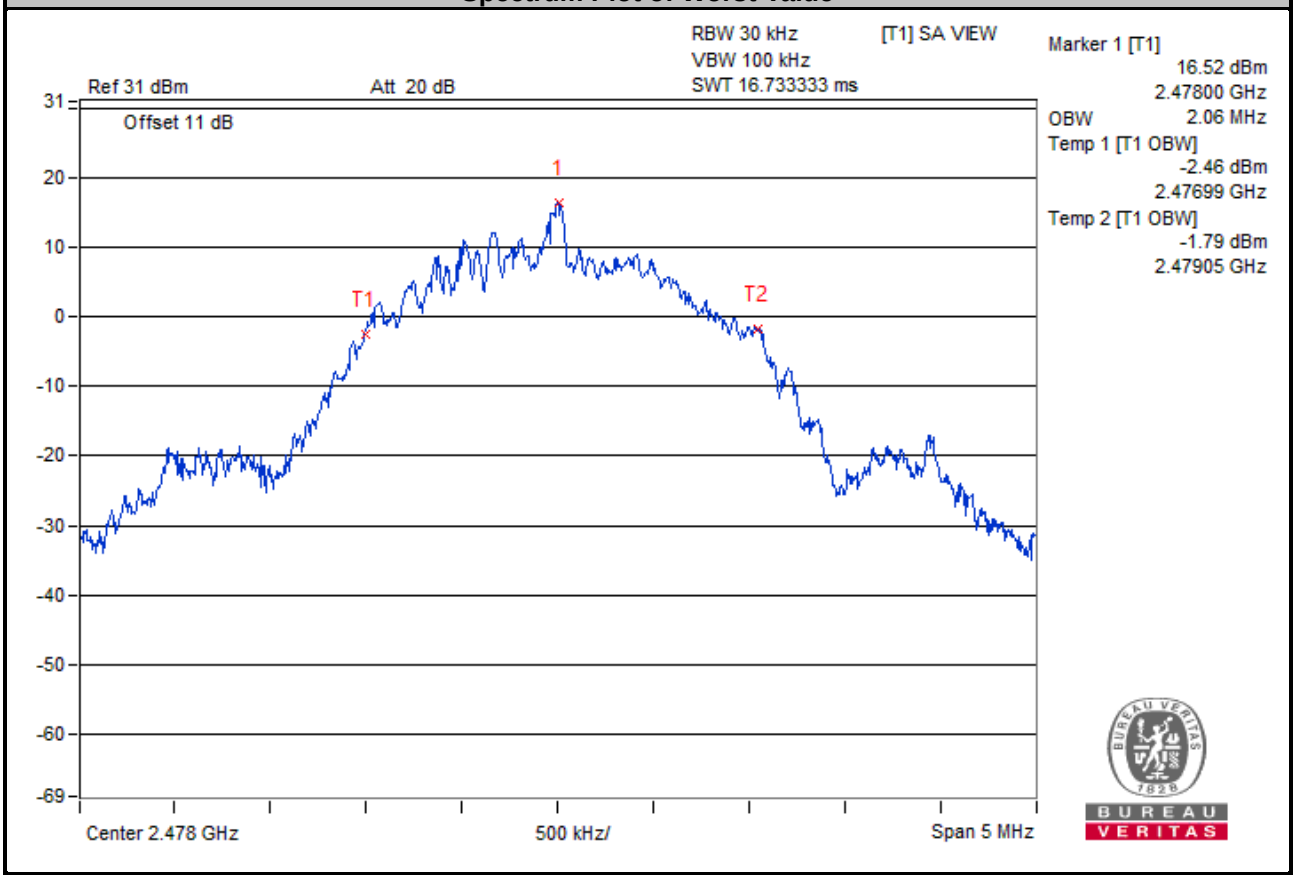
Spectrum Plot of Worst Value



<2MBaud PHY>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
1	2404	2.05	Pass
19	2440	2.06	Pass
38	2478	2.06	Pass

Spectrum Plot of Worst Value

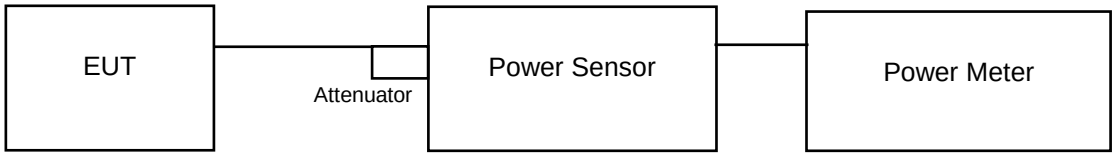


4.5 Conducted Output Power Measurement

4.5.1 Limits of Conducted Output Power Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.5.7 Test Results

Mode A

<1MBaud PHY>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	96.383	19.84	92.683	19.67	1000	Pass
1	2404	95.719	19.81	92.257	19.65	1000	Pass
19	2440	94.842	19.77	91.411	19.61	1000	Pass
38	2478	93.325	19.70	89.95	19.54	1000	Pass
39	2480	51.168	17.09	50.35	17.02	1000	Pass

<1MBaud PHY with 125kbps>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	20.417	13.10	19.861	12.98	1000	Pass
1	2404	20.23	13.06	19.815	12.97	1000	Pass
19	2440	20.464	13.11	19.861	12.98	1000	Pass
38	2478	20.417	13.10	19.815	12.97	1000	Pass
39	2480	20.23	13.06	19.77	12.96	1000	Pass

<2MBaud PHY>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
1	2404	96.605	19.85	93.111	19.69	1000	Pass
19	2440	95.719	19.81	92.045	19.64	1000	Pass
38	2478	95.499	19.80	91.833	19.63	1000	Pass

Mode B

<1MBaud PHY>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	94.842	19.77	91.622	19.62	1000	Pass
1	2404	94.406	19.75	91.411	19.61	1000	Pass
19	2440	93.325	19.70	90.365	19.56	1000	Pass
38	2478	92.897	19.68	89.95	19.54	1000	Pass
39	2480	50.699	17.05	49.774	16.97	1000	Pass

<1MBaud PHY with 125kbps>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	20.512	13.12	19.861	12.98	1000	Pass
1	2404	20.559	13.13	19.907	12.99	1000	Pass
19	2440	20.37	13.09	19.77	12.96	1000	Pass
38	2478	20.464	13.11	19.815	12.97	1000	Pass
39	2480	20.417	13.10	19.77	12.96	1000	Pass

<2MBaud PHY>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (mW)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
1	2404	94.406	19.75	91.411	19.61	1000	Pass
19	2440	93.756	19.72	90.573	19.57	1000	Pass
38	2478	93.325	19.70	89.95	19.54	1000	Pass

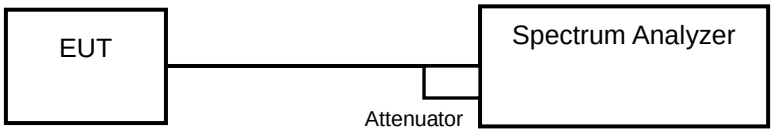
4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz band during any time interval of continuous transmission.

.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

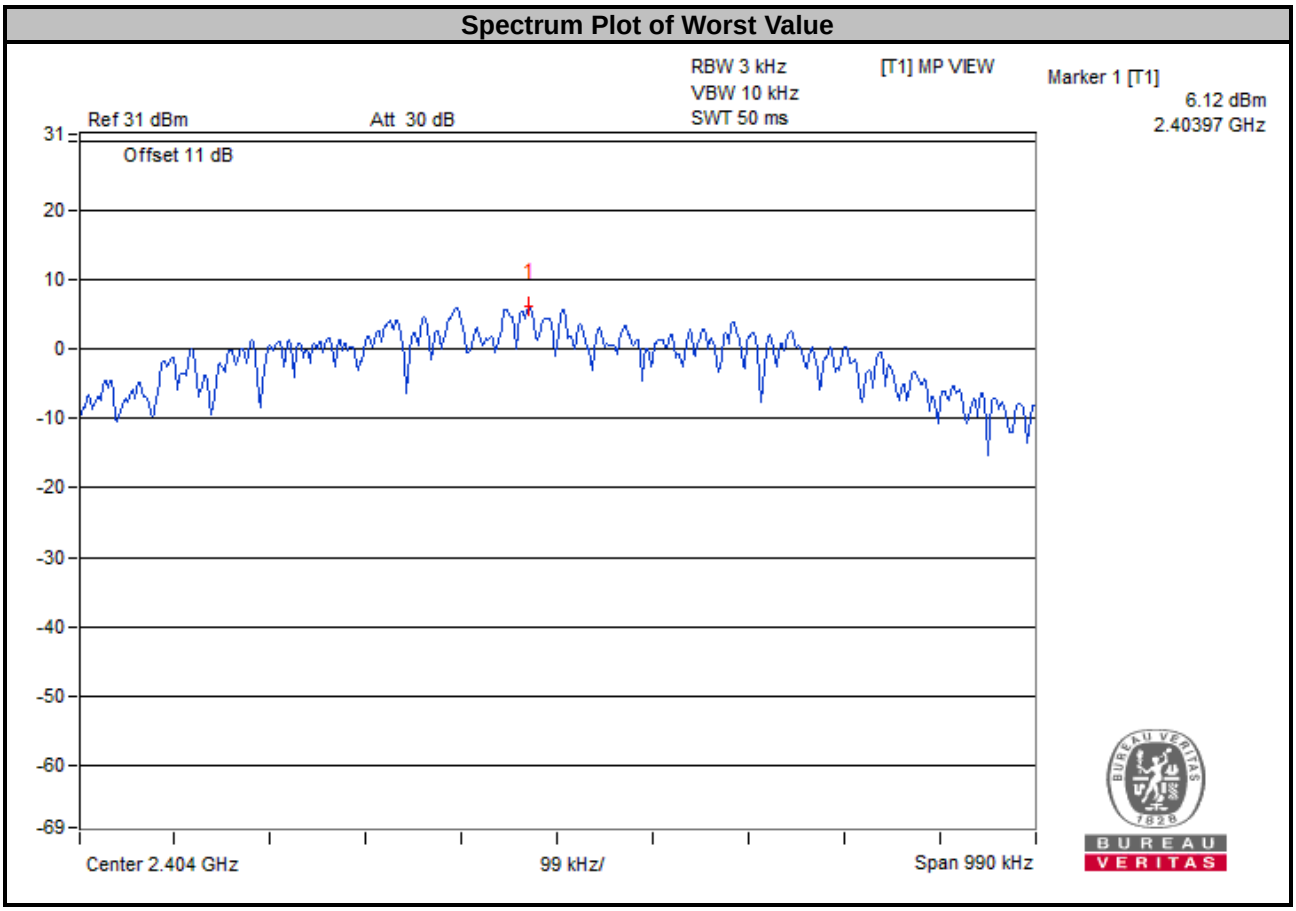
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.6.7 Test Results

Mode A
<1MBaud PHY>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	6.06	8	Pass
1	2404	6.12	8	Pass
19	2440	5.92	8	Pass
38	2478	5.86	8	Pass
39	2480	3.13	8	Pass

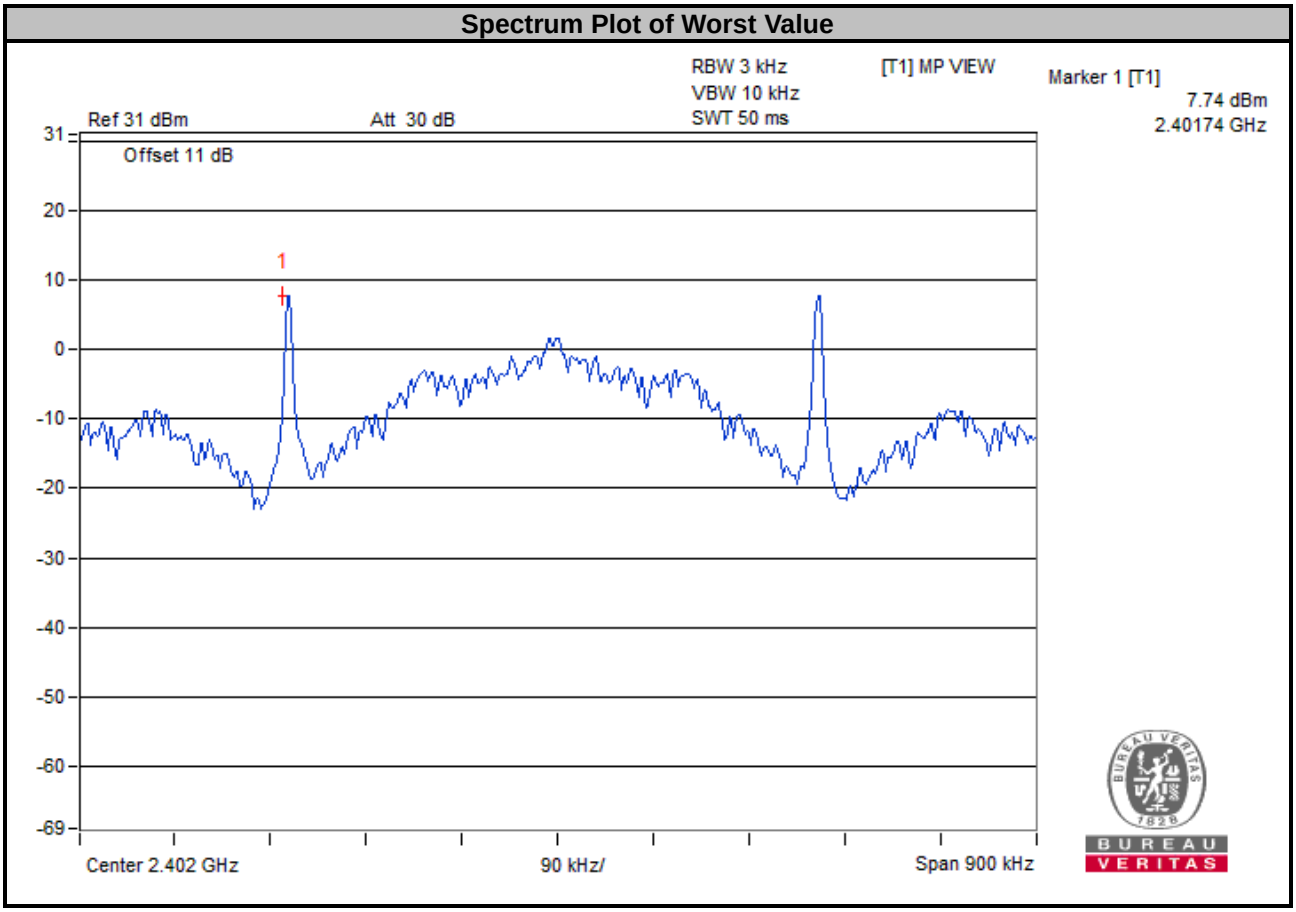
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	7.74	8	Pass
1	2404	7.20	8	Pass
19	2440	7.34	8	Pass
38	2478	7.11	8	Pass
39	2480	7.15	8	Pass

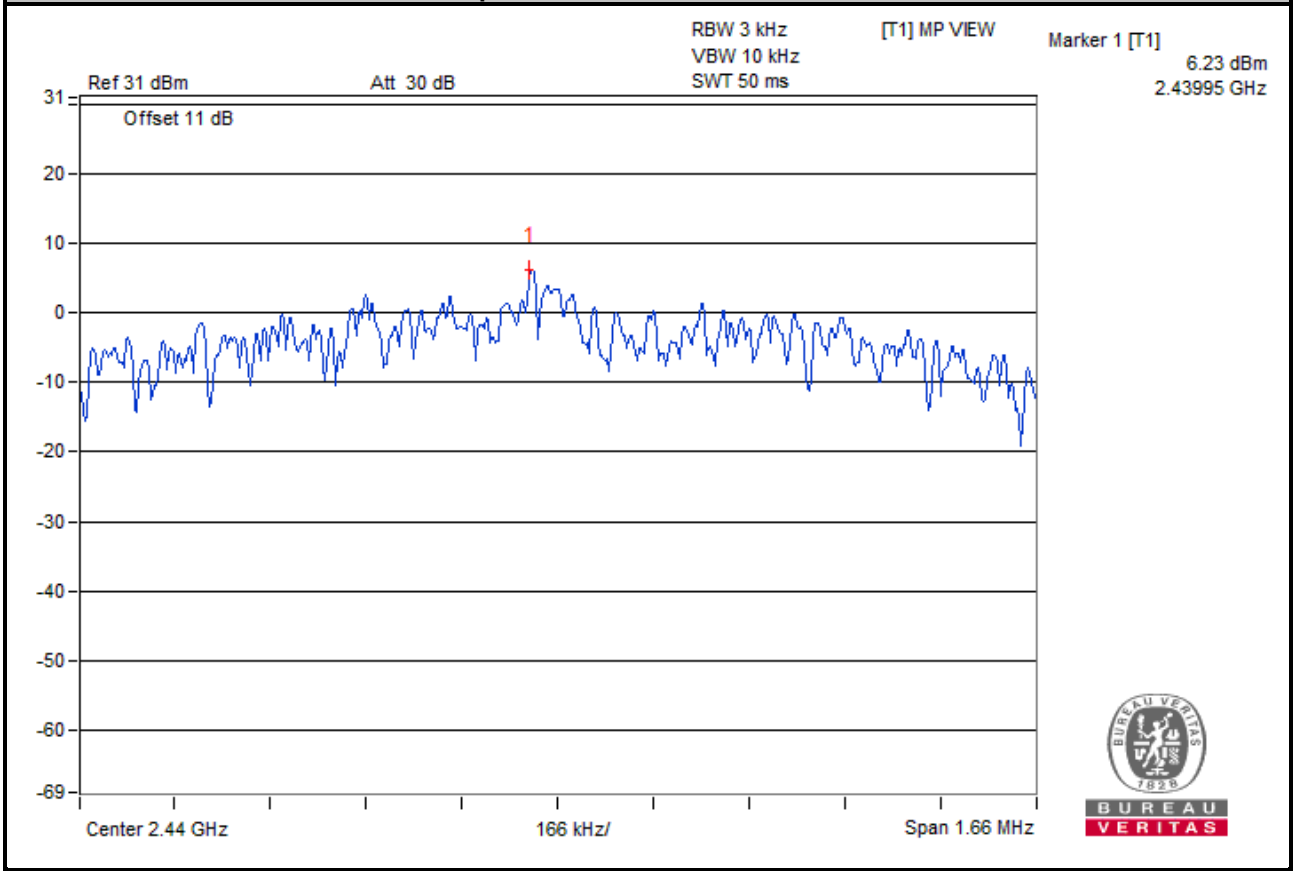
Spectrum Plot of Worst Value



<2MBaud PHY>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2404	6.22	8	Pass
19	2440	6.23	8	Pass
38	2478	6.06	8	Pass

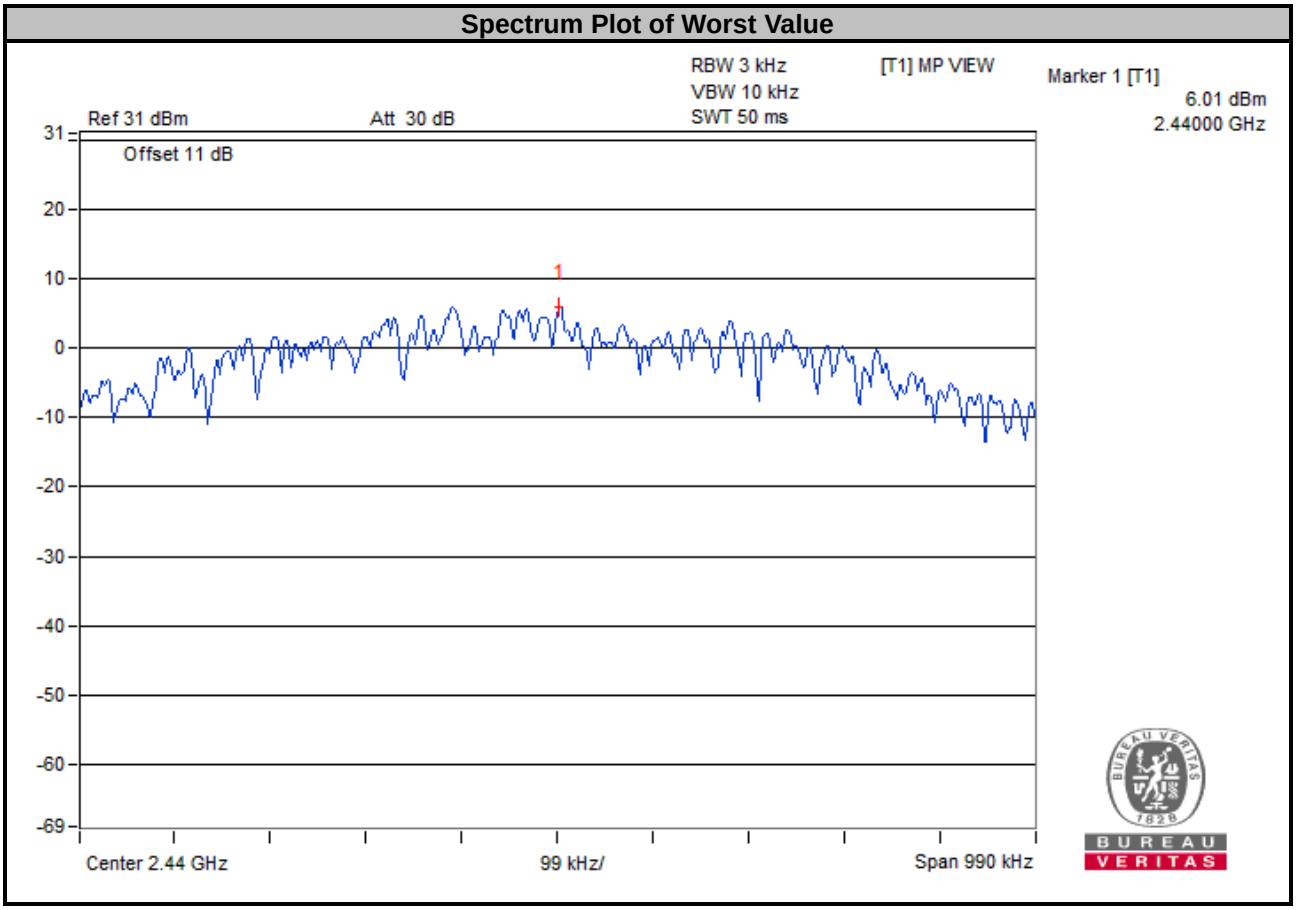
Spectrum Plot of Worst Value



Mode B
<1MBaud PHY>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	5.95	8	Pass
1	2404	5.69	8	Pass
19	2440	6.01	8	Pass
38	2478	5.92	8	Pass
39	2480	5.31	8	Pass

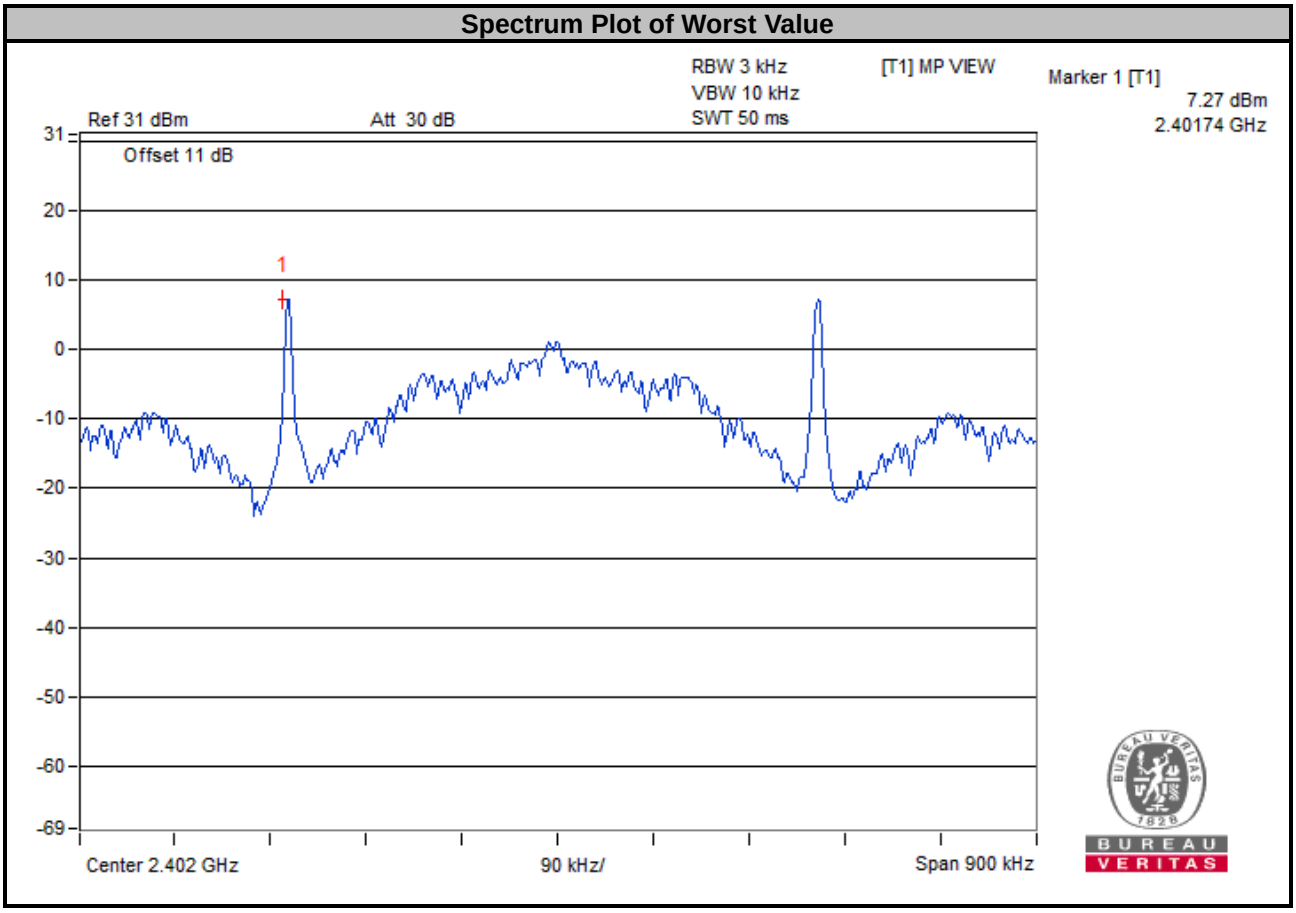
Spectrum Plot of Worst Value



<1MBaud PHY with 125kbps>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	7.27	8	Pass
1	2404	7.21	8	Pass
19	2440	7.13	8	Pass
38	2478	7.10	8	Pass
39	2480	7.07	8	Pass

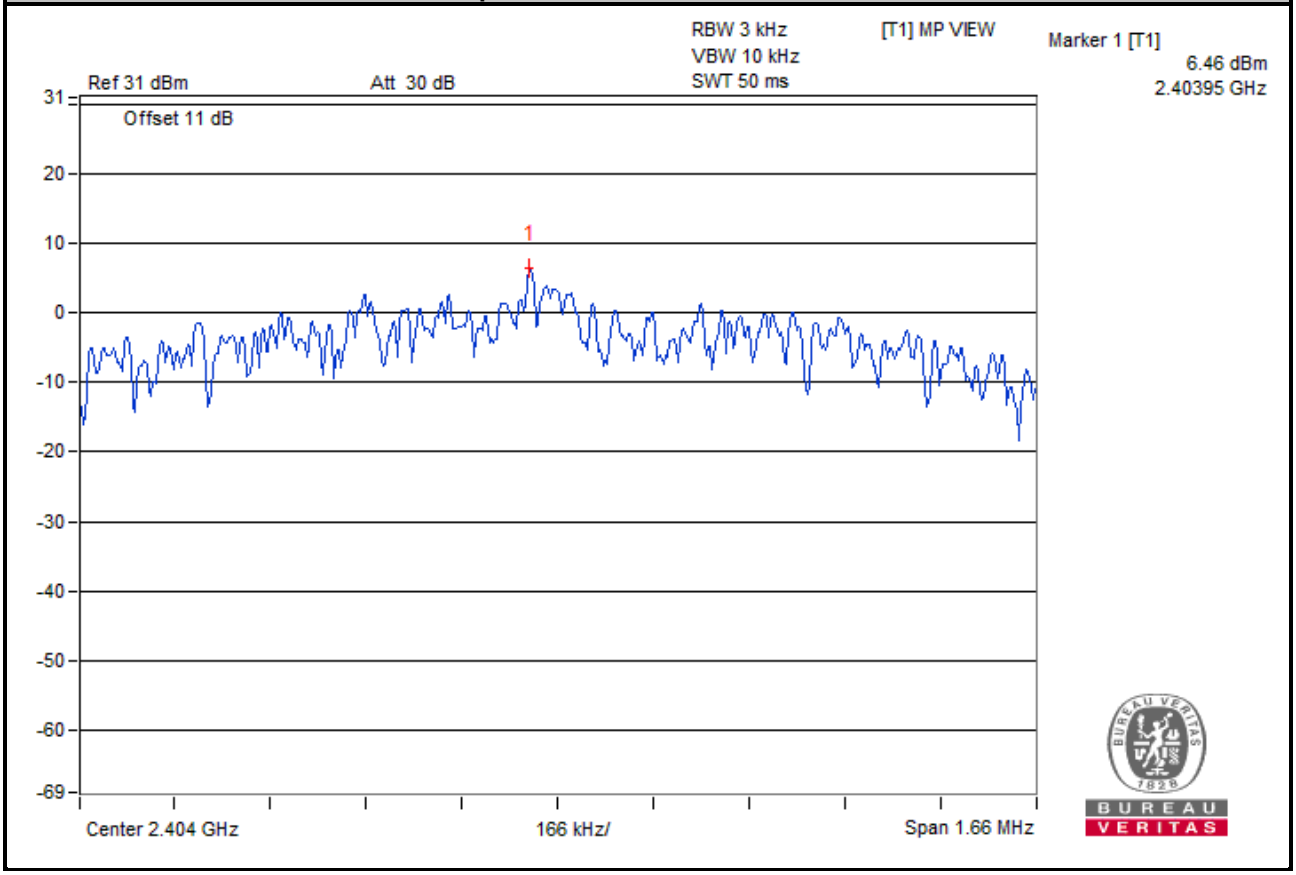
Spectrum Plot of Worst Value



<2MBaud PHY>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2404	6.46	8	Pass
19	2440	6.42	8	Pass
38	2478	6.40	8	Pass

Spectrum Plot of Worst Value

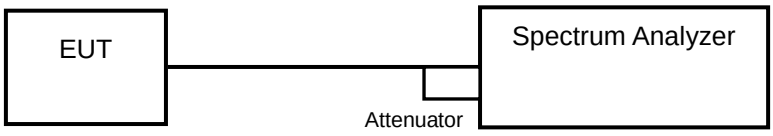


4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

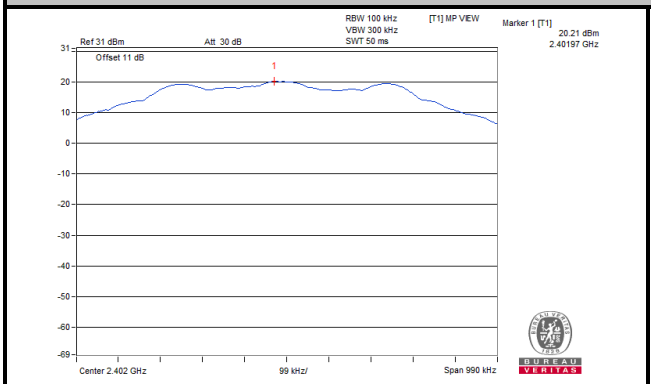
4.7.7 Test Results

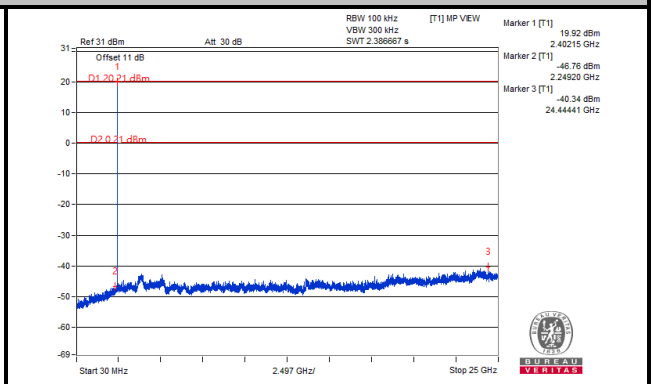
The spectrum plots are attached on the following images. D1 line indicates the highest level, D2 line indicates the 20 dB offset below D1. It shows compliance with the requirement.

Mode A

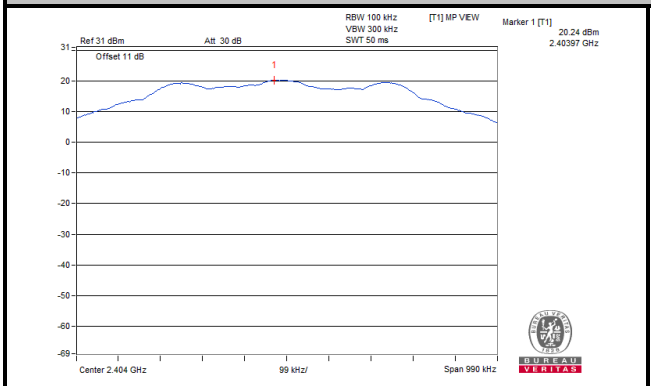
<1MBaud PHY>

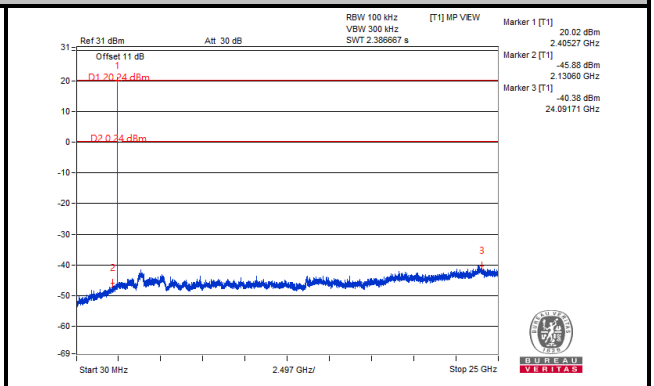
Ch 0



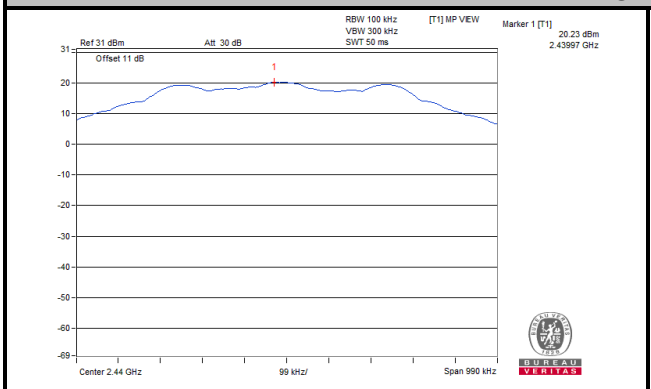


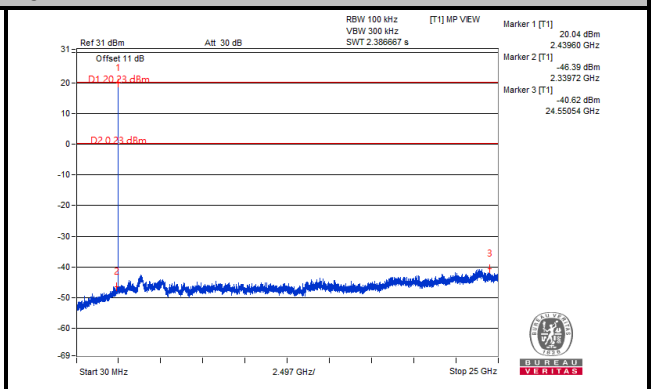
Ch 1



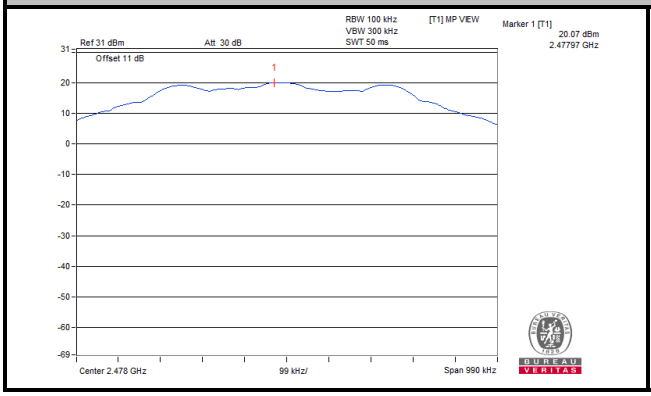


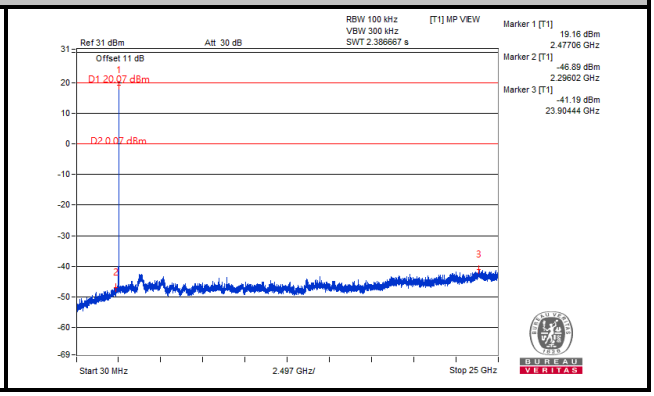
Ch 19



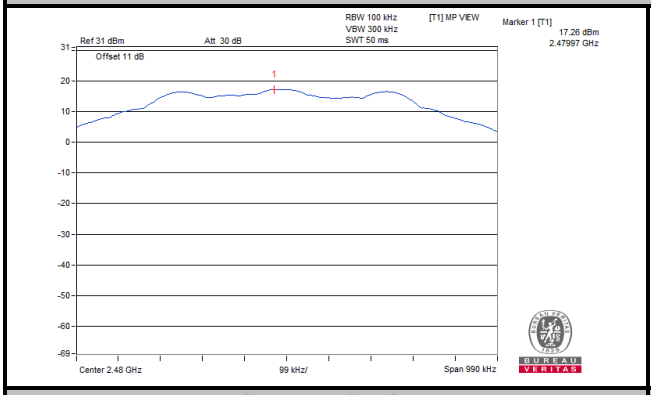


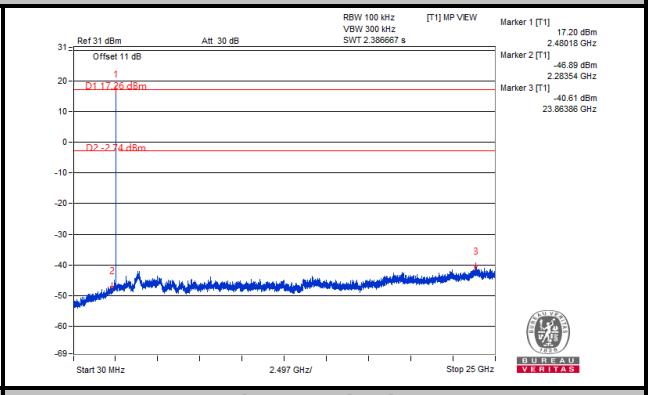
Ch 38





Ch 39





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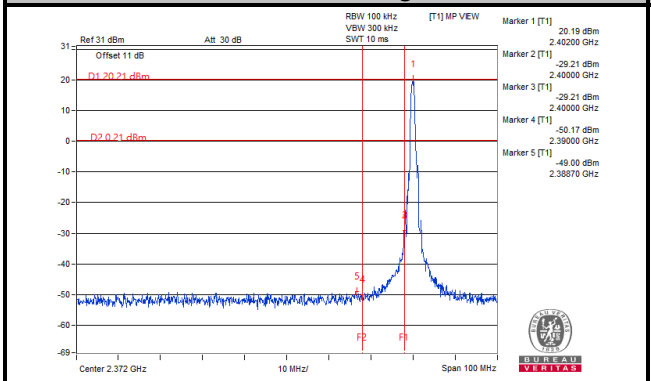

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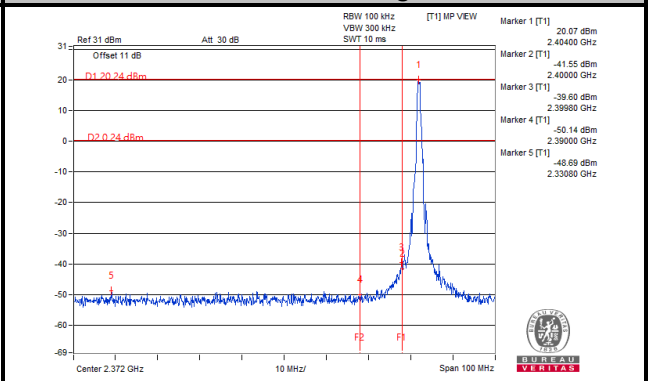

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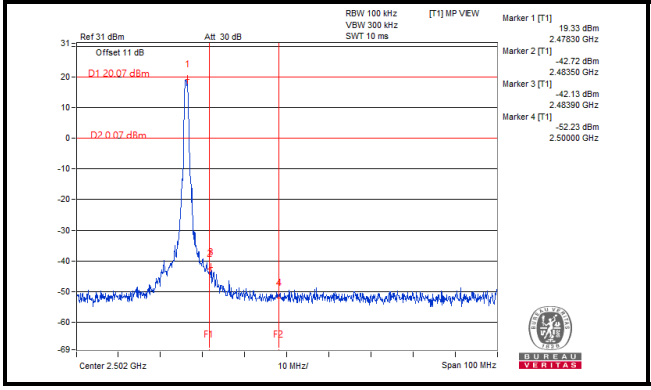

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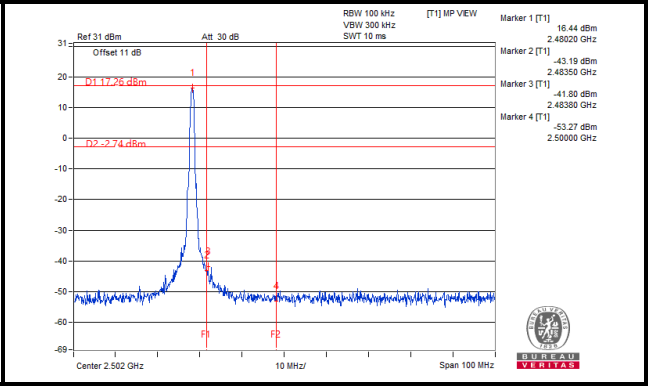

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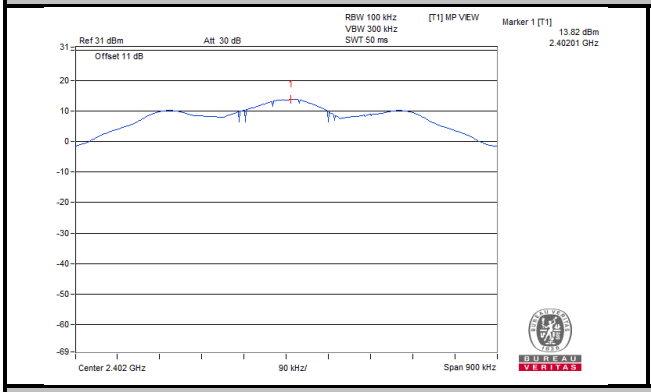

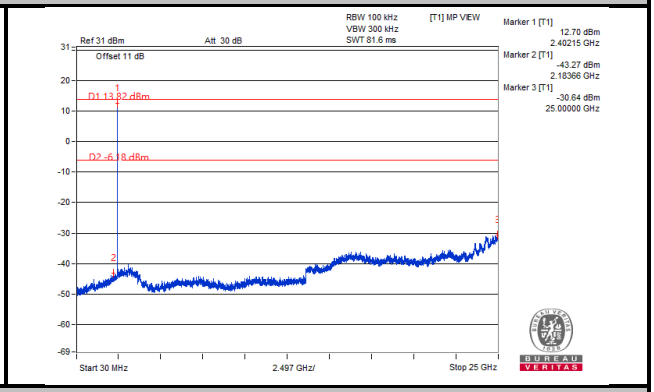

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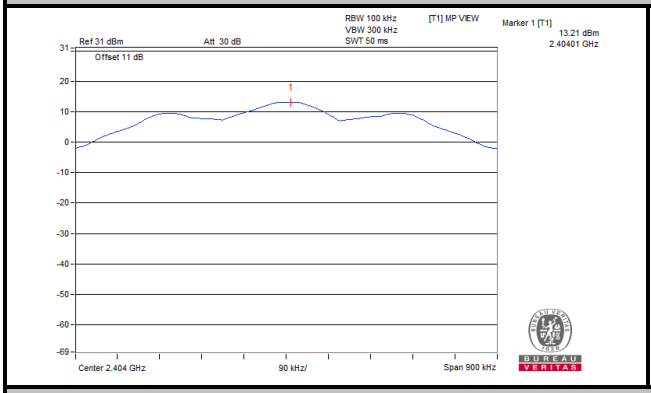

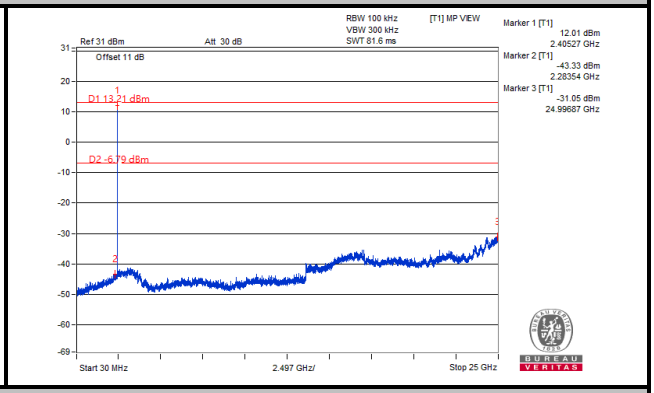

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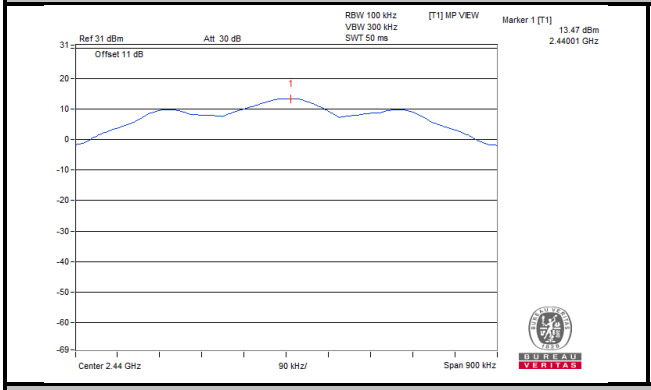

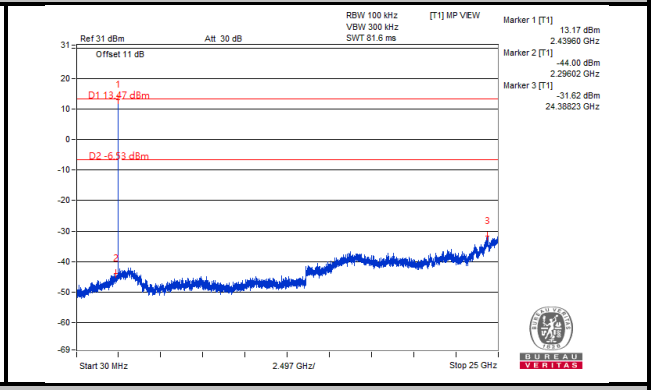

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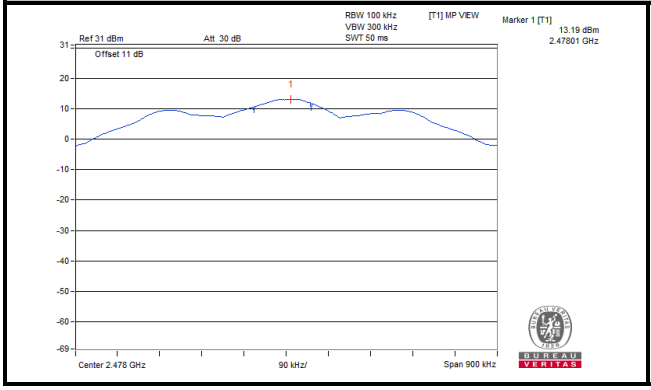

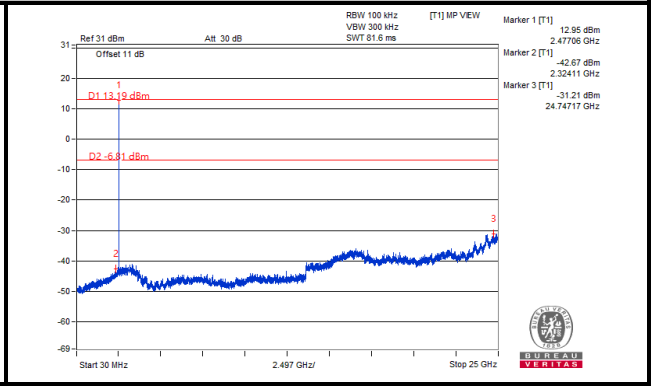

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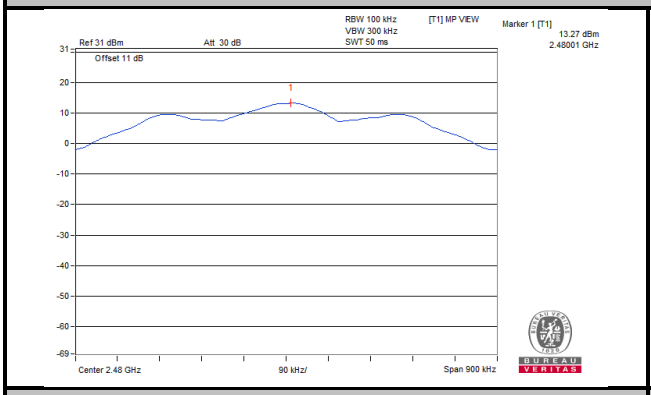

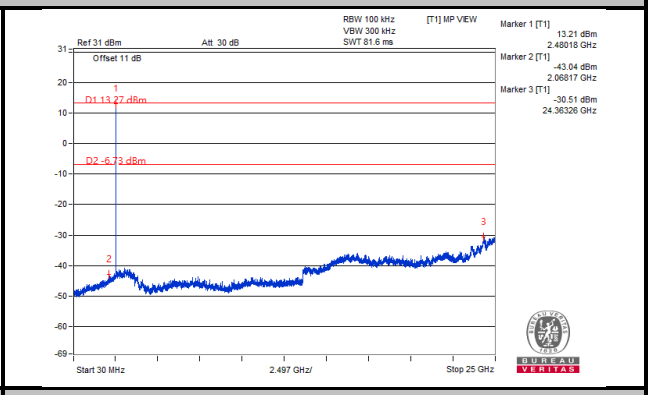

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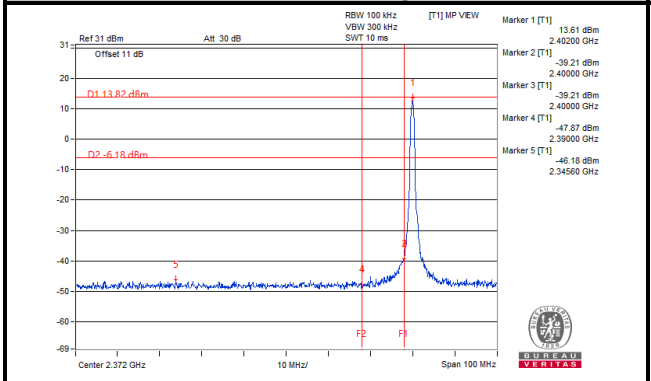

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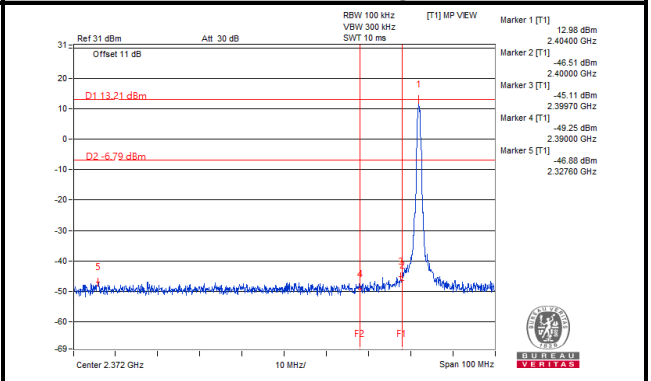

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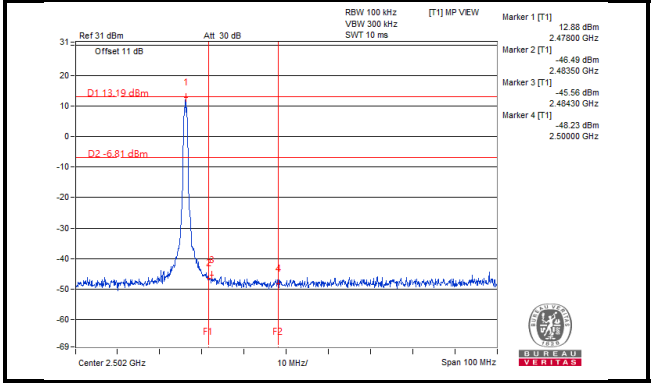

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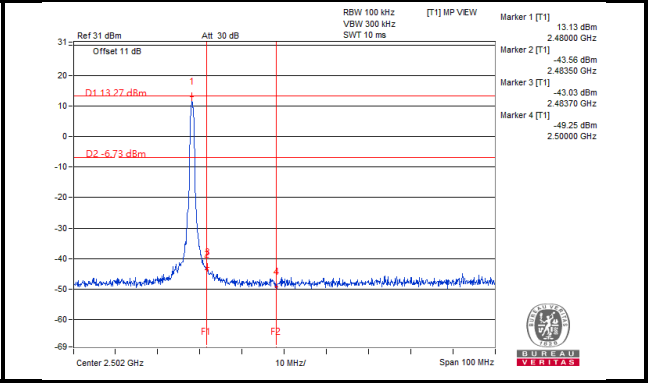

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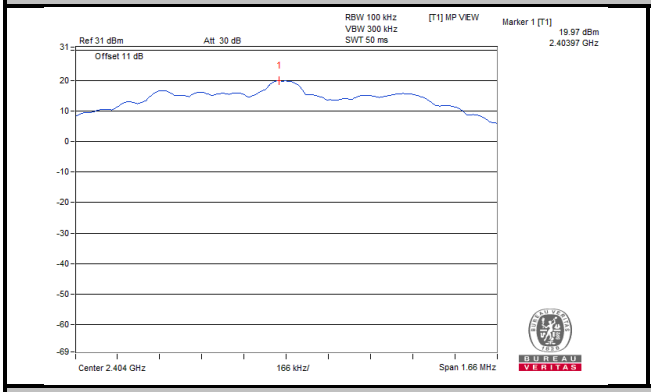

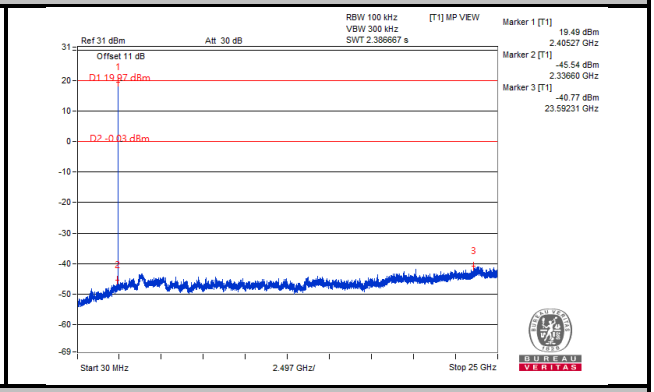

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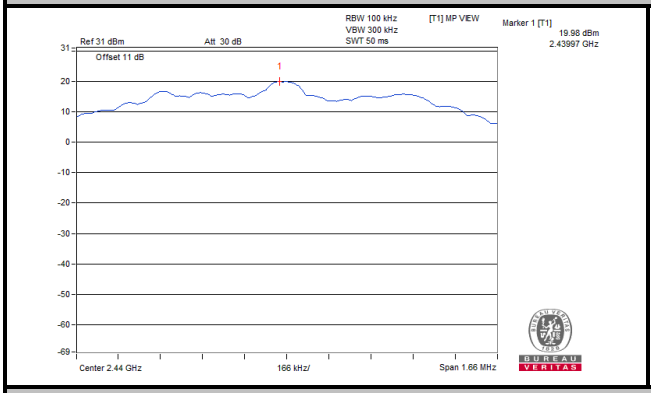

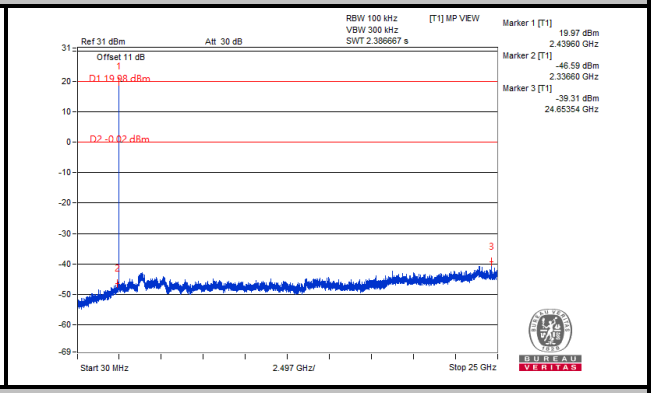

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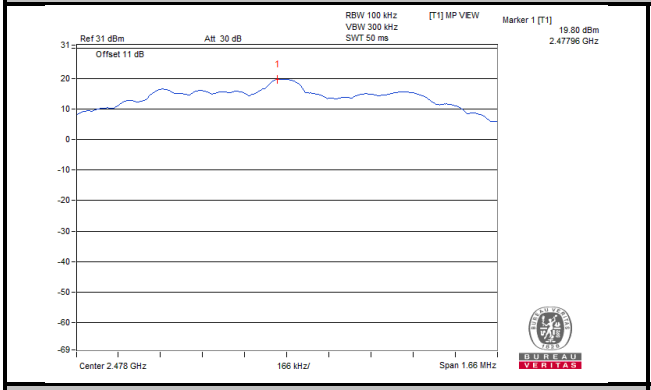

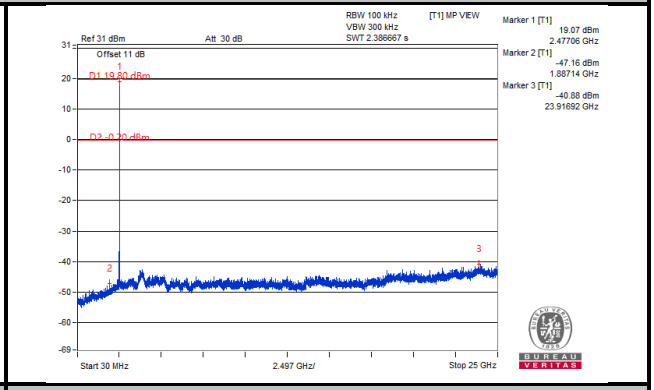

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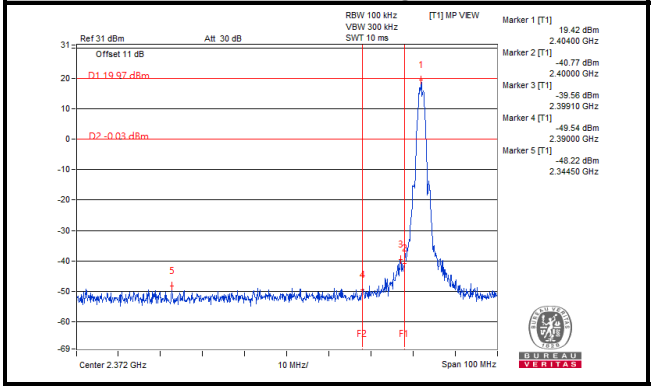

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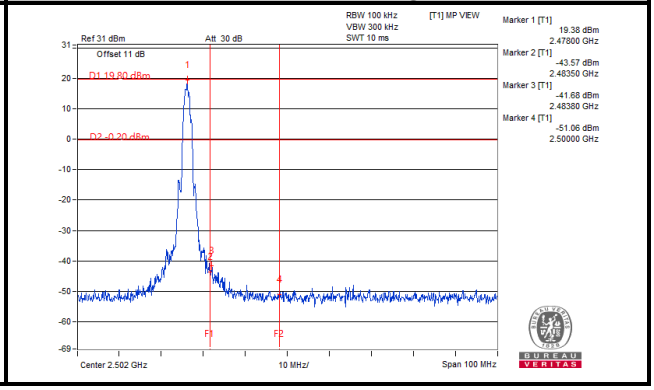

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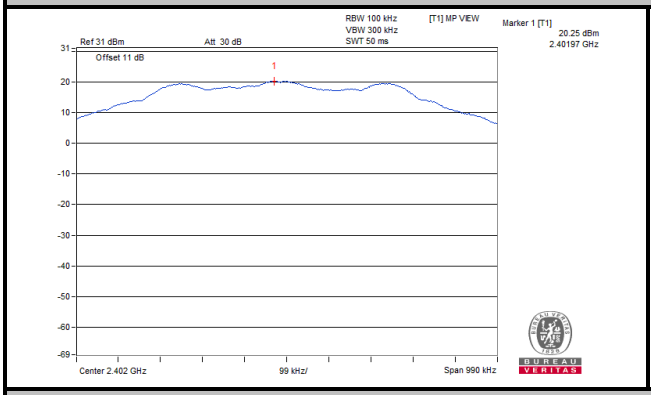

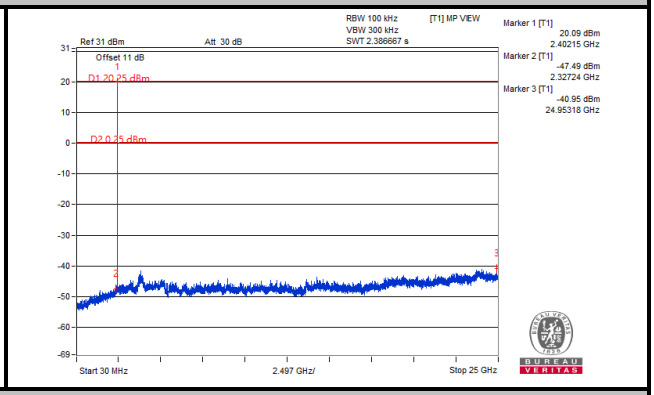

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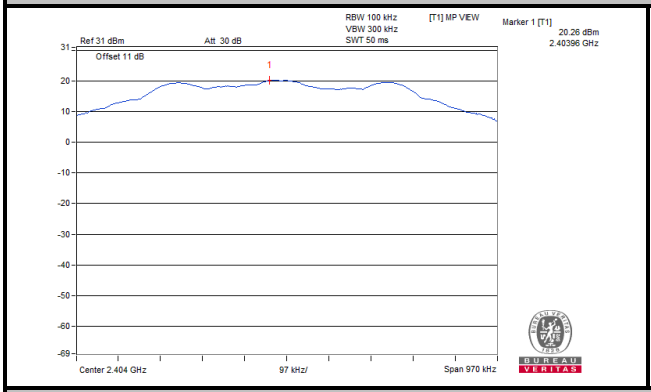

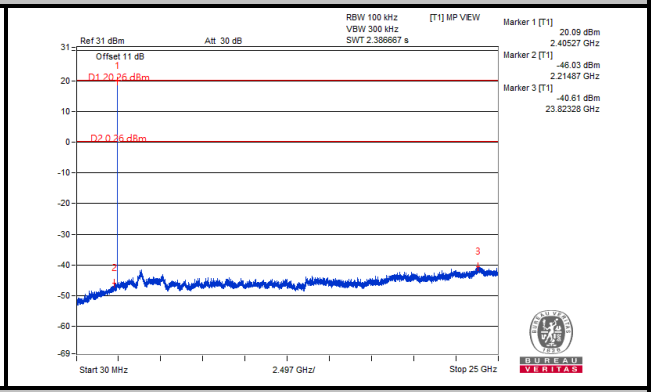

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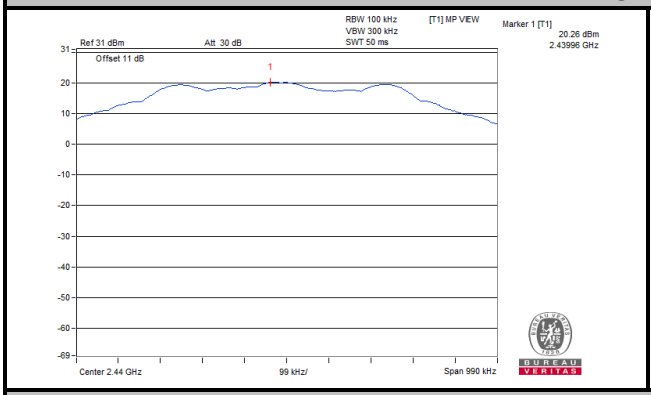

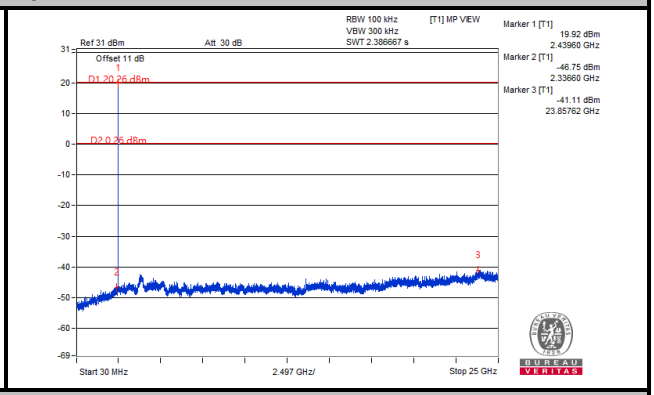

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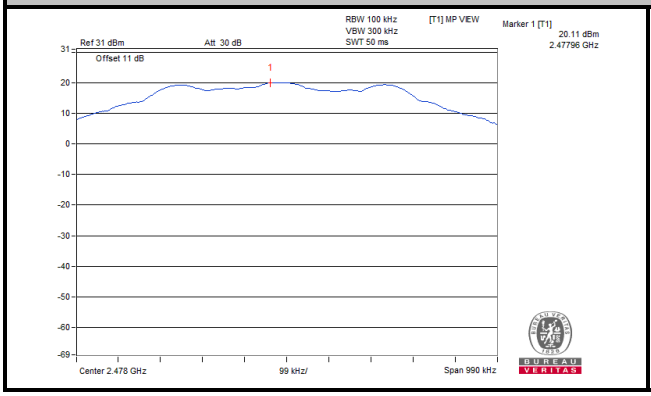

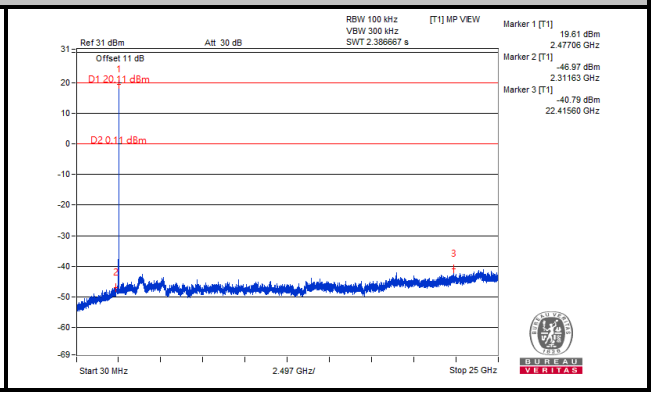

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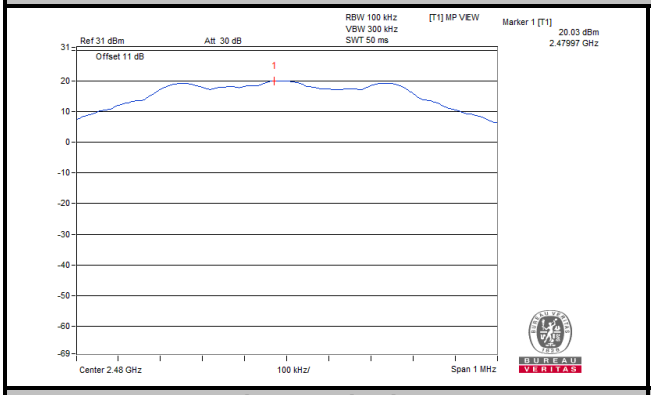

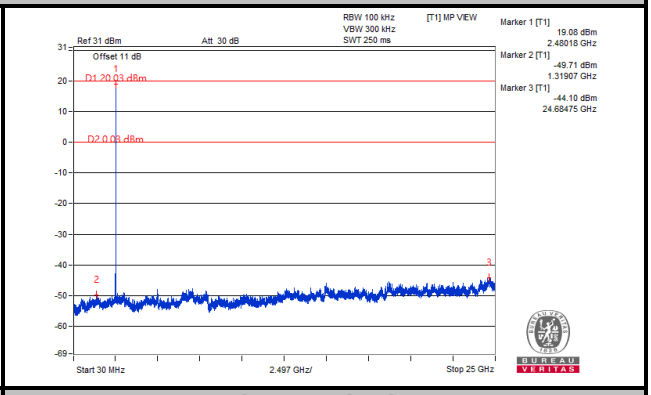

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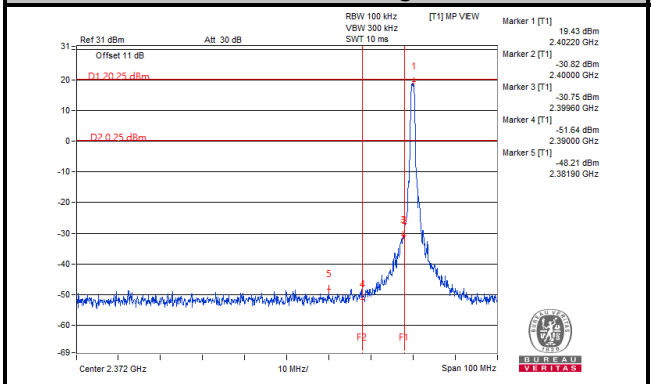

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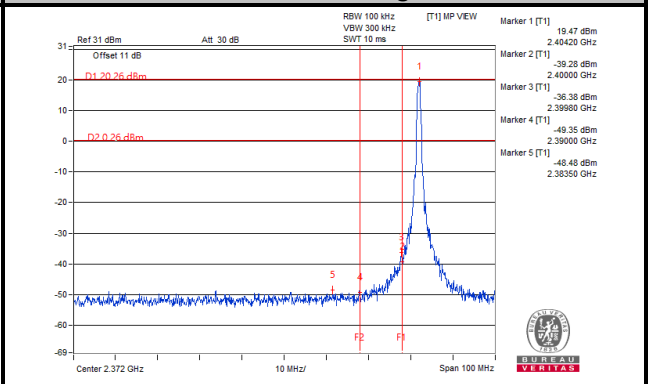

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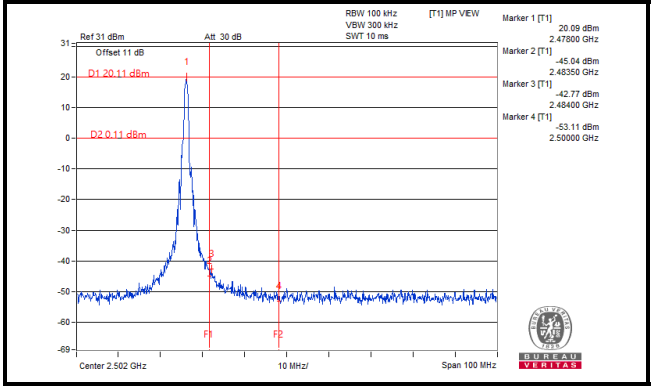

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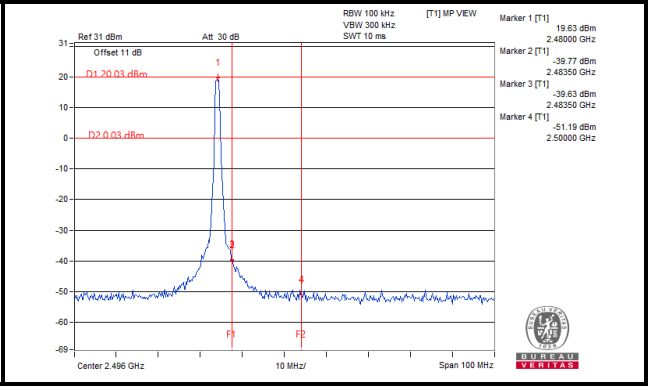

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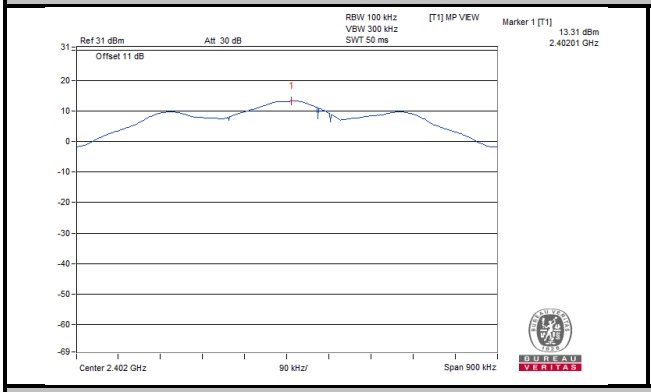

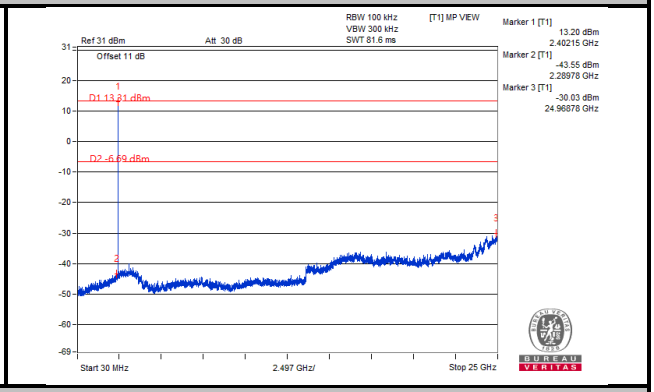

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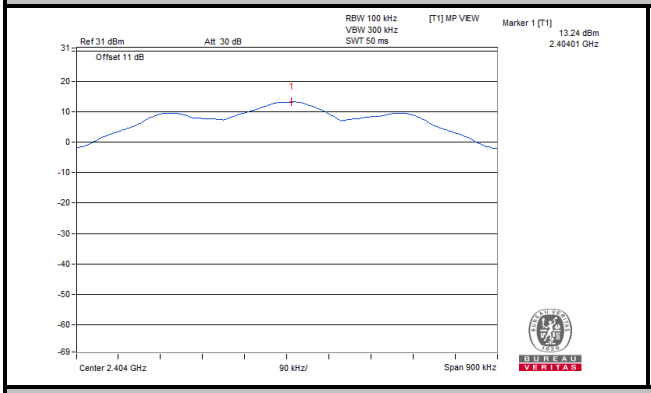

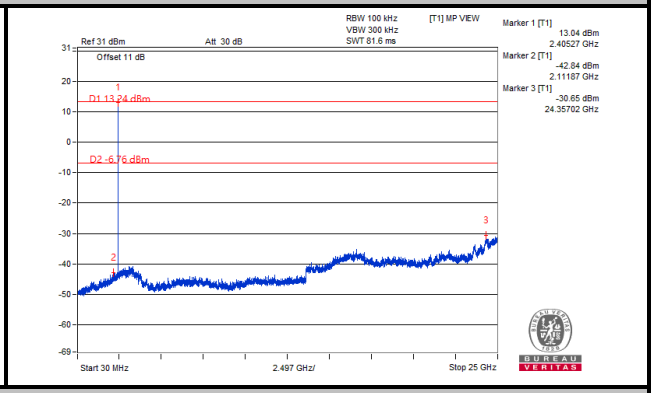

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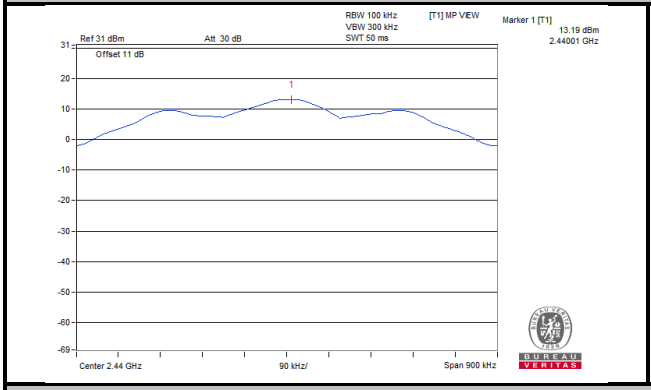

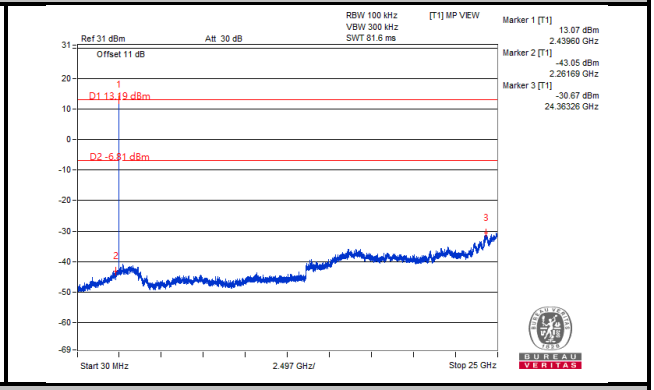

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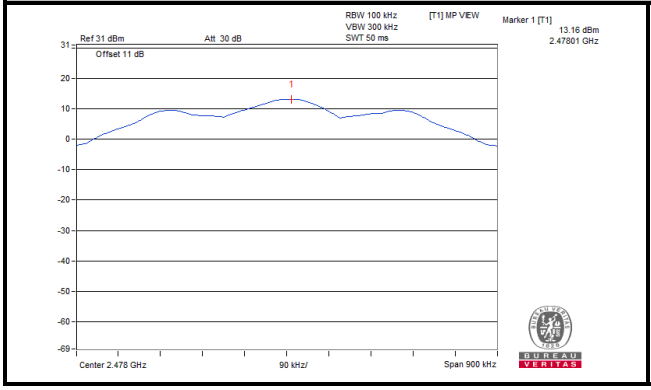

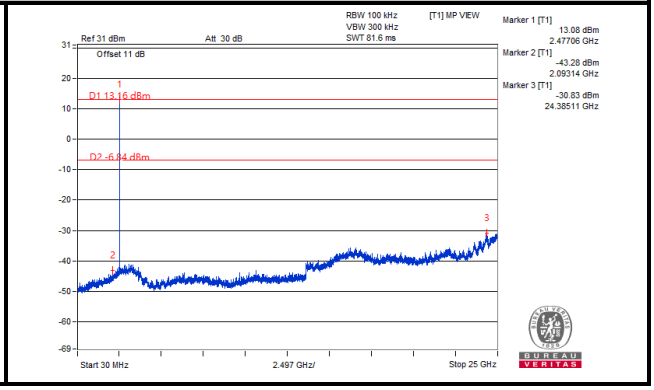

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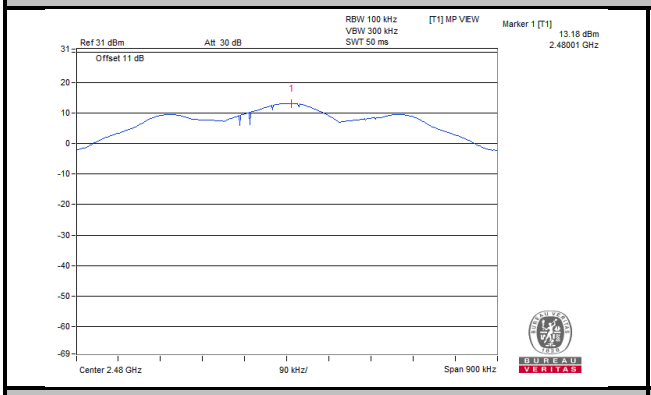

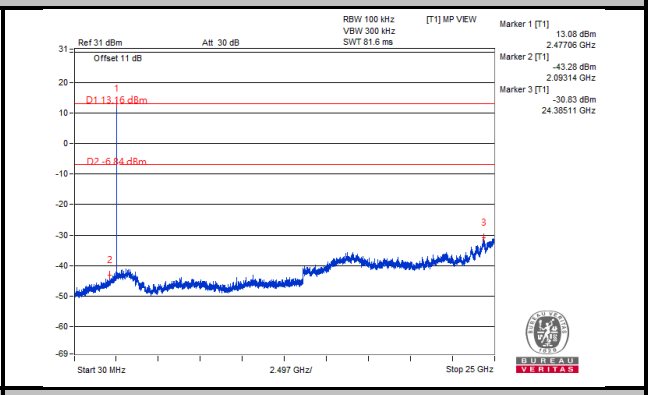

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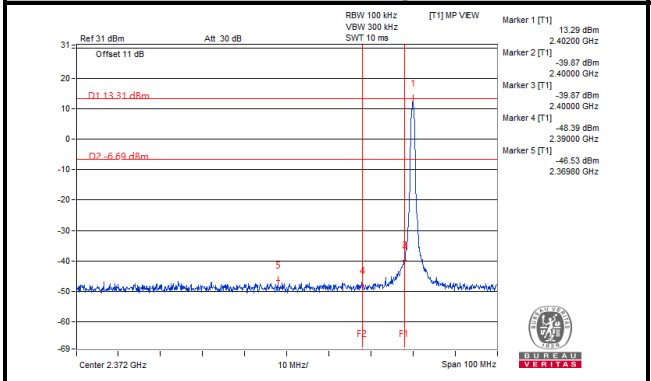

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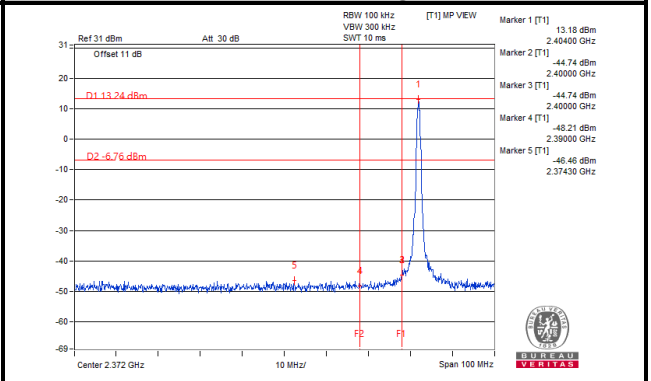

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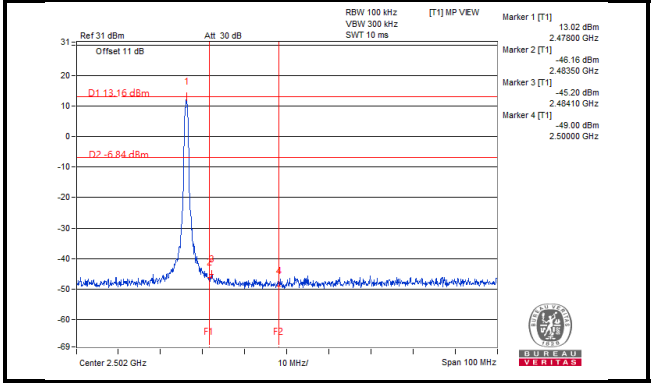

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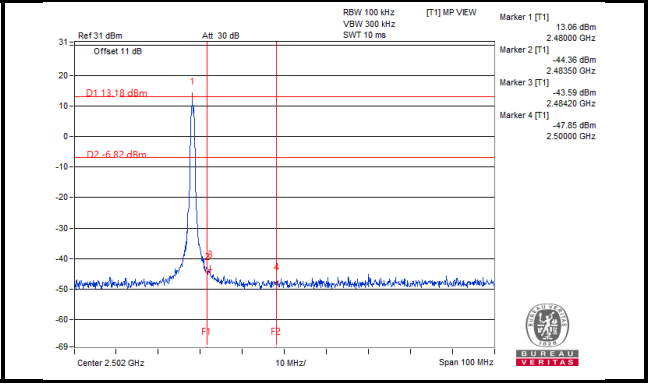

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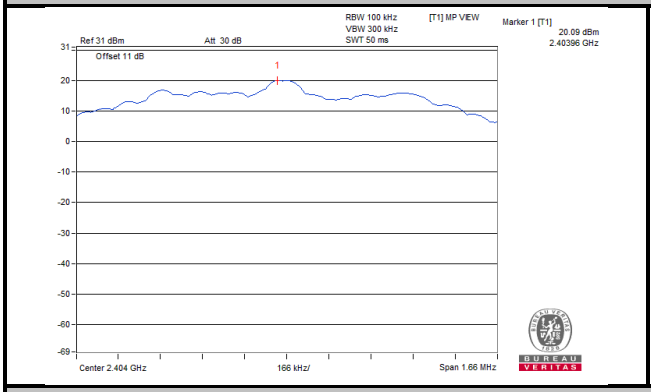
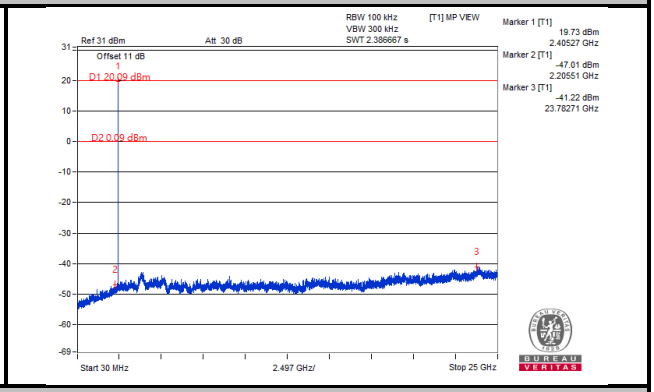
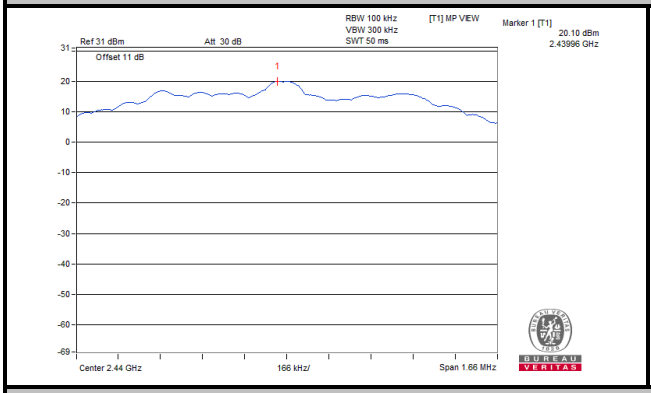
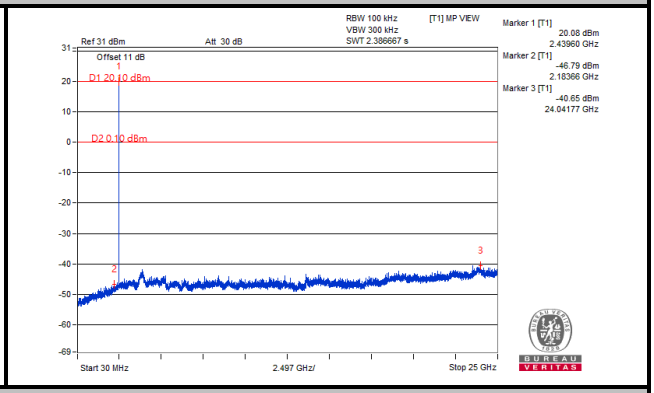


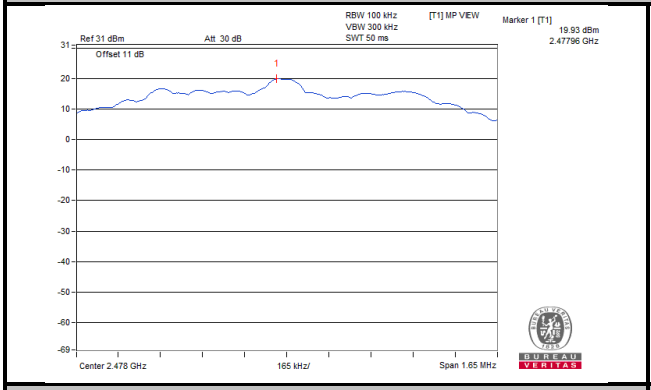


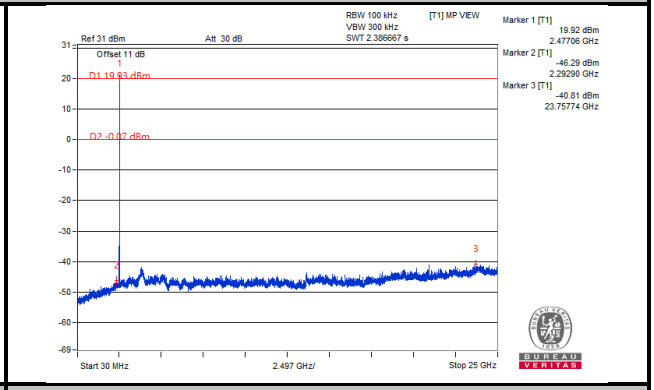
Ch 19



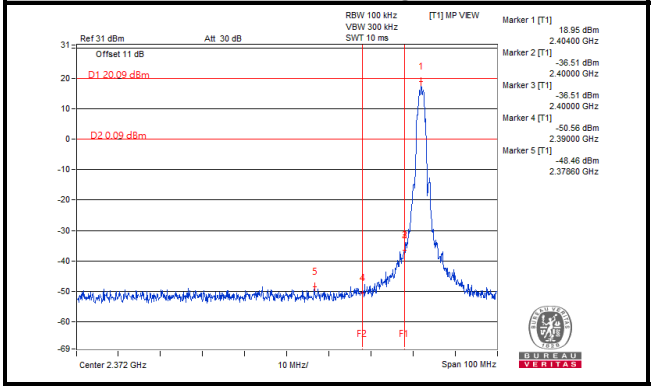


Ch 38

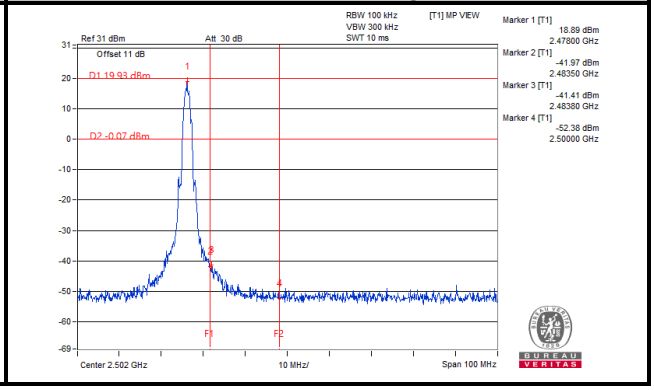




Ch 1 Band Edge



Ch 38 Band Edge

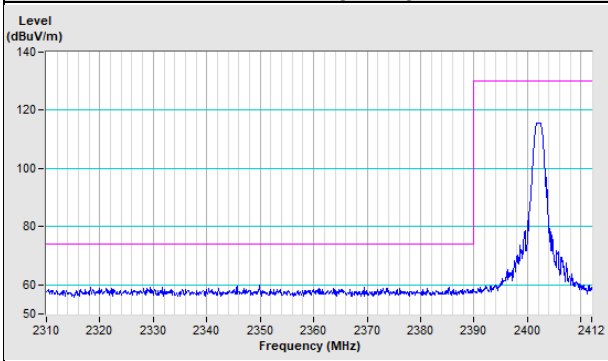


Annex A- Band Edge Measurement

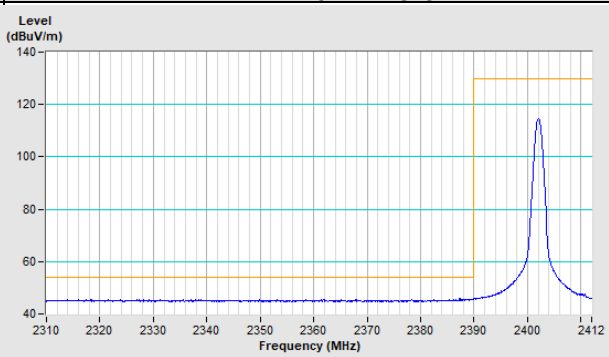
Mode A

BT-LE 1M Channel 0

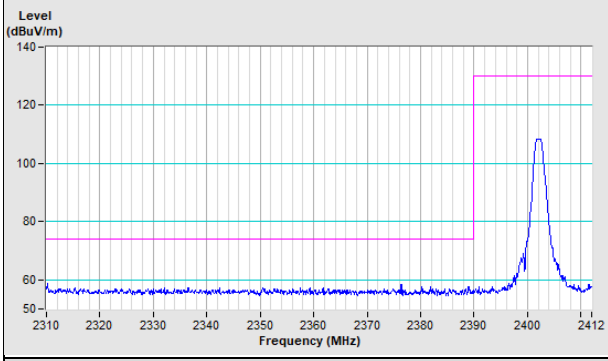
Horizontal (Peak)



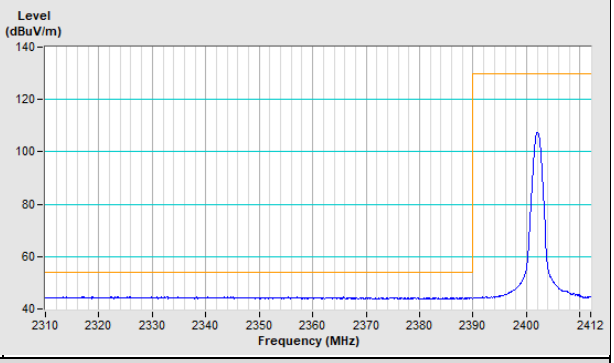
Horizontal (Average)



Vertical (Peak)

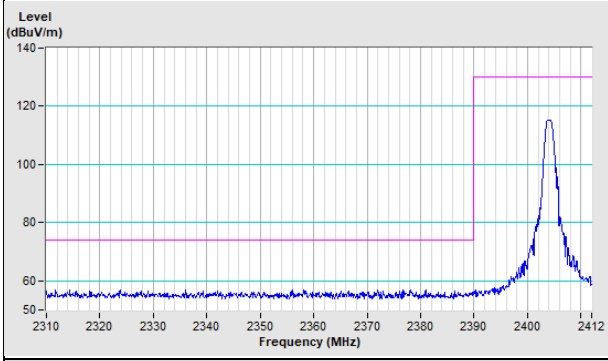


Vertical (Average)

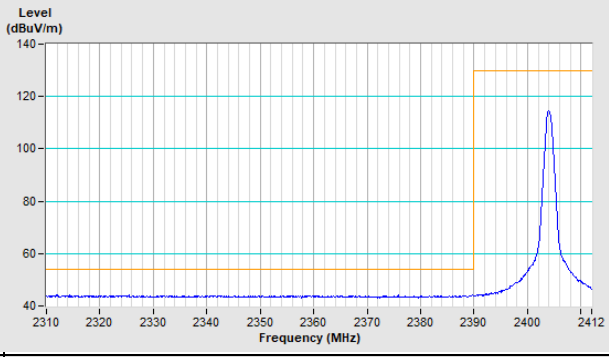


BT-LE 1M Channel 1

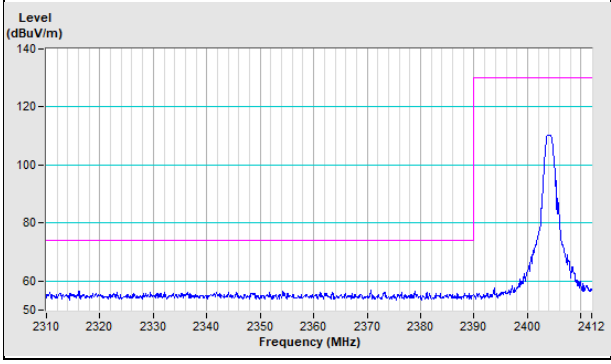
Horizontal (Peak)



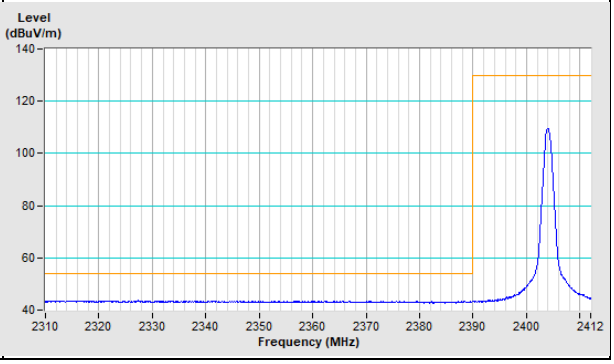
Horizontal (Average)

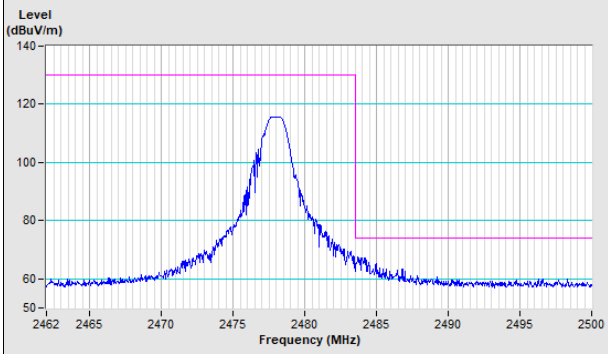
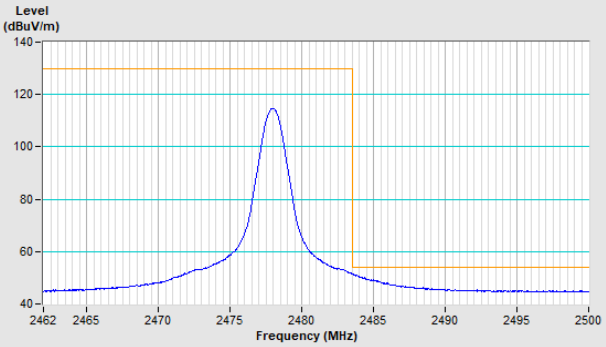
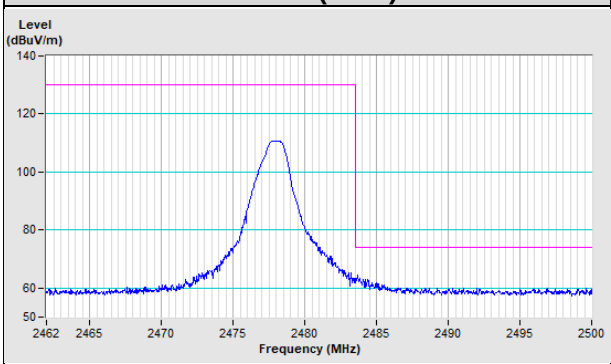
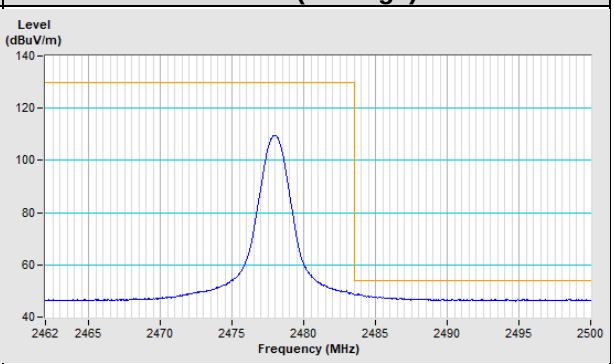
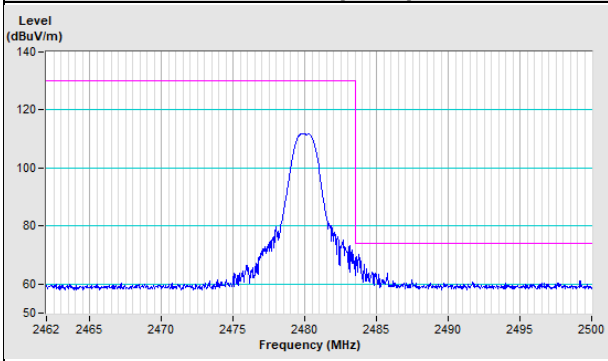
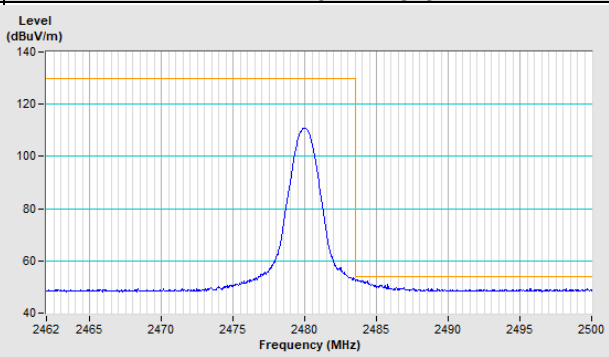
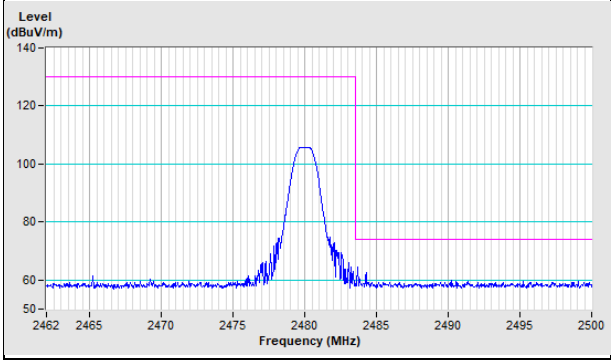
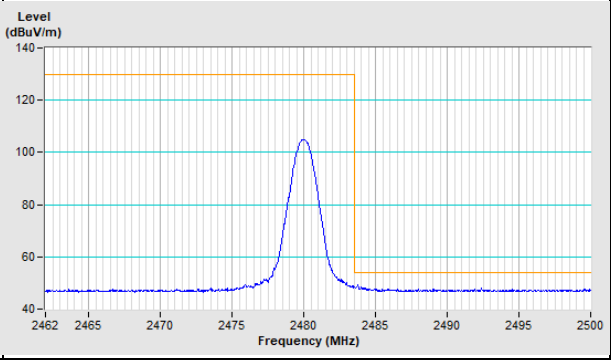


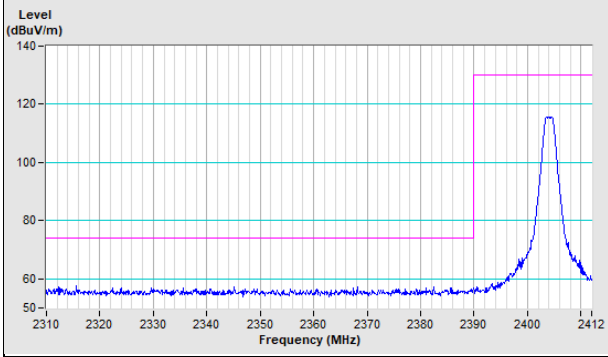
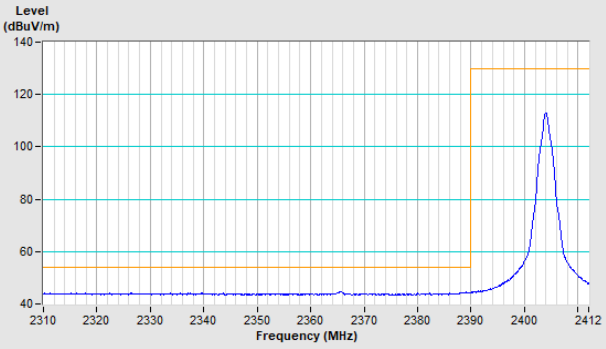
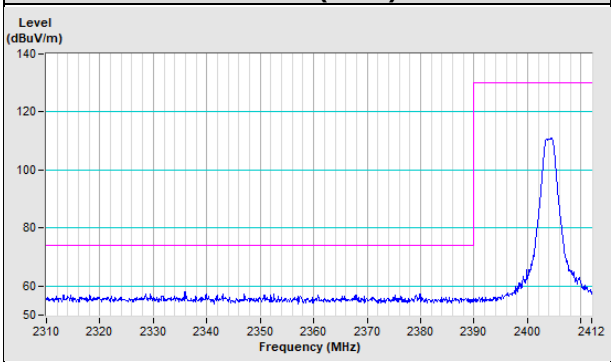
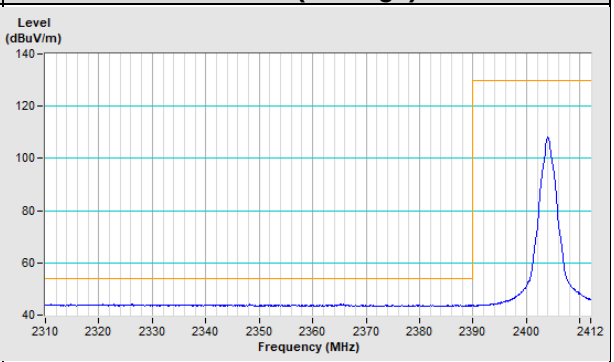
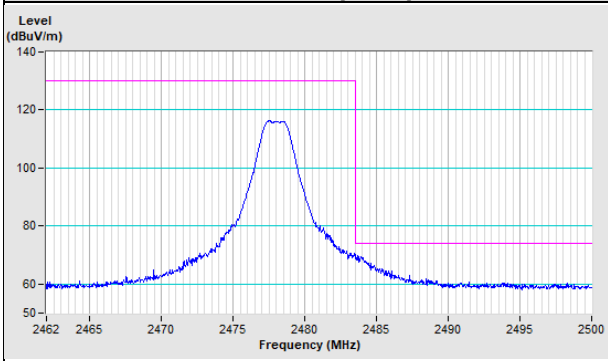
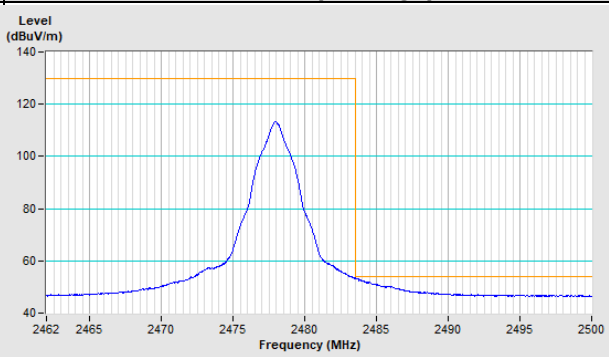
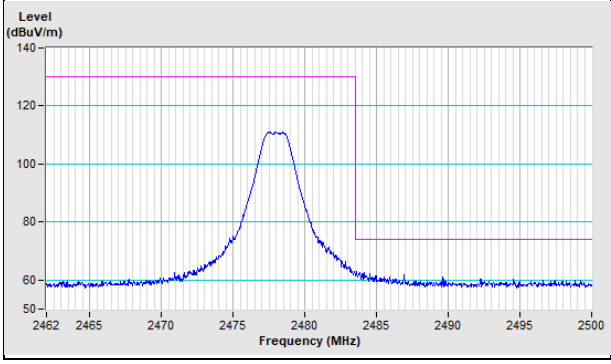
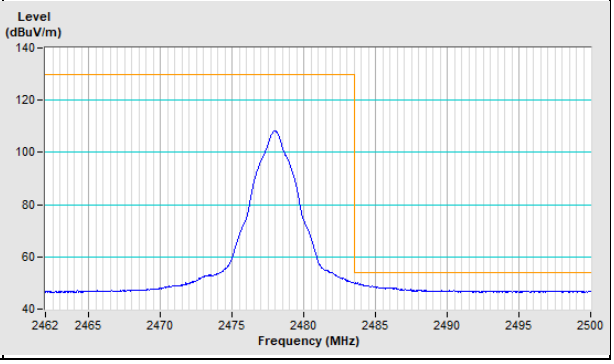
Vertical (Peak)

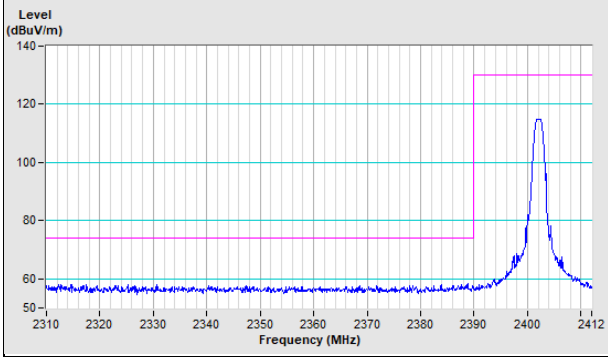
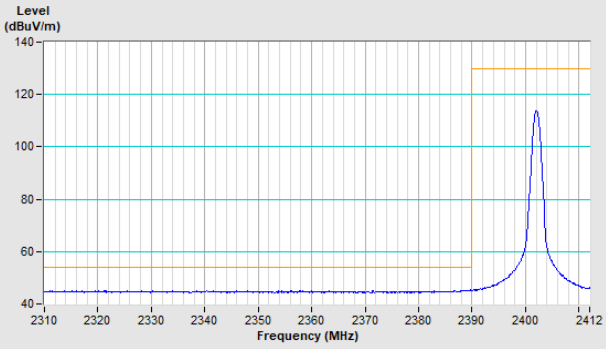
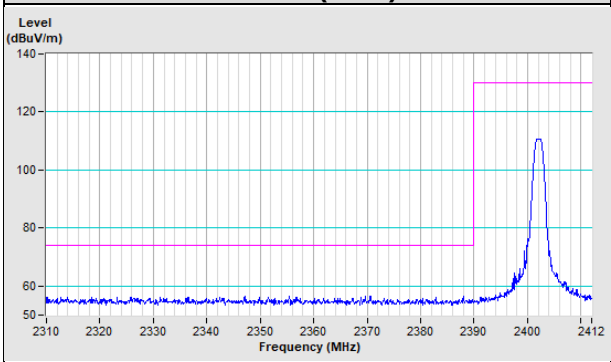
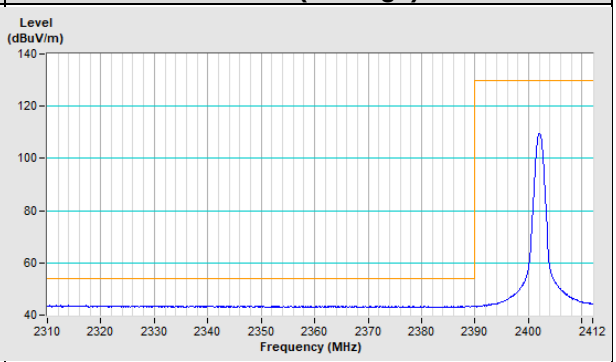
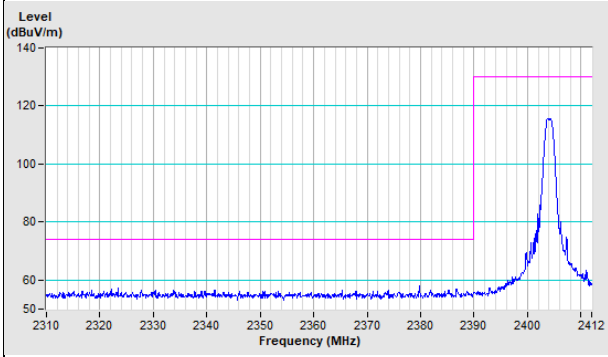
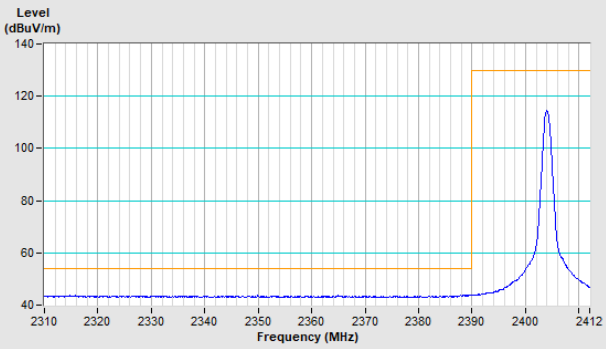
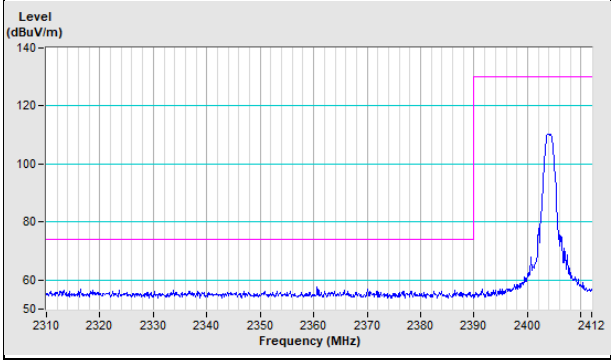
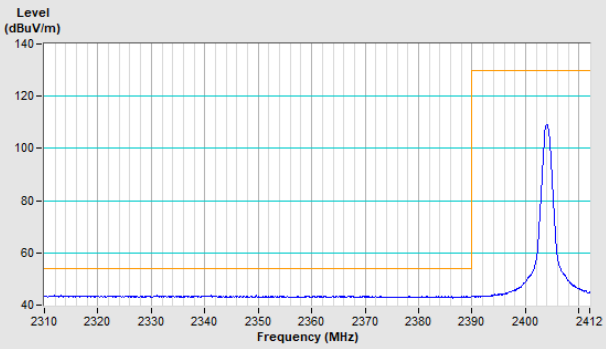


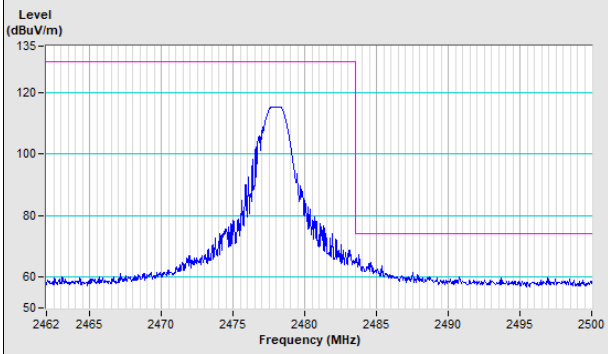
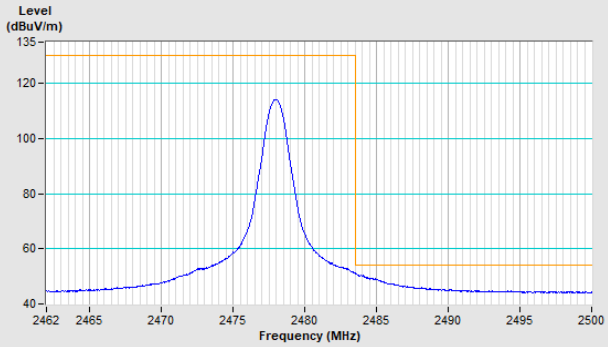
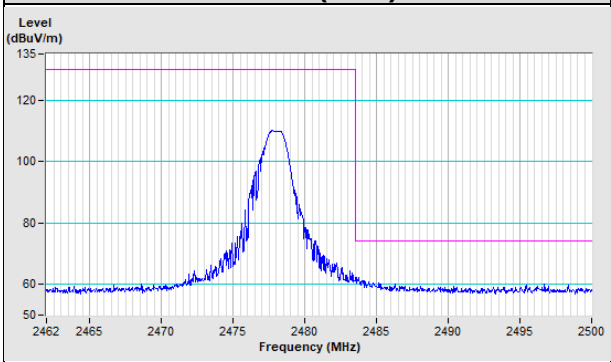
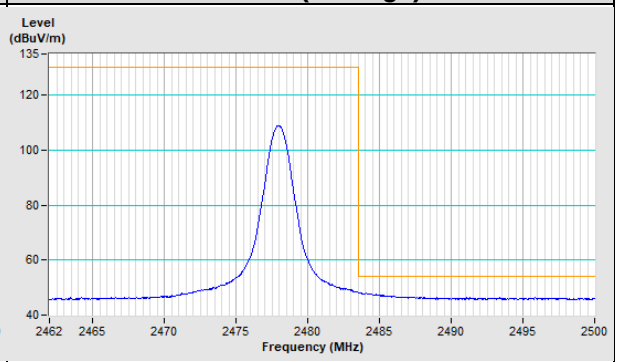
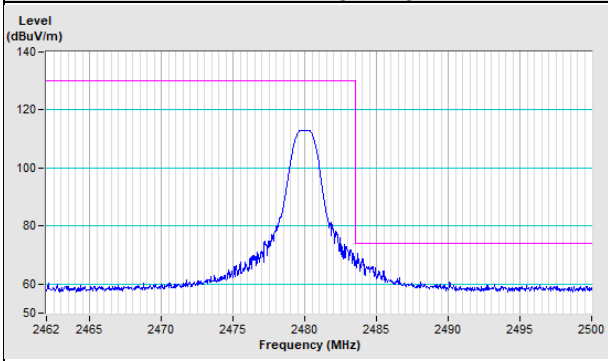
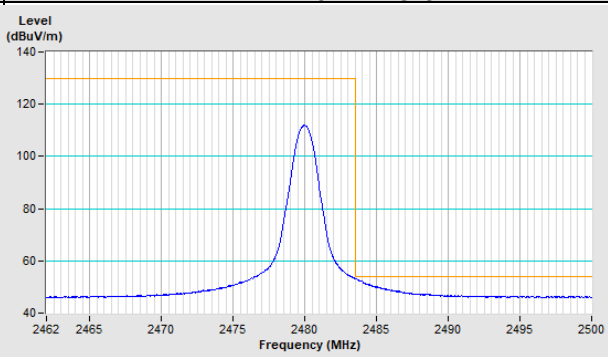
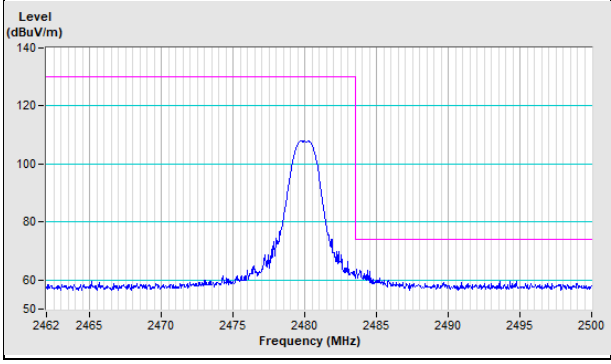
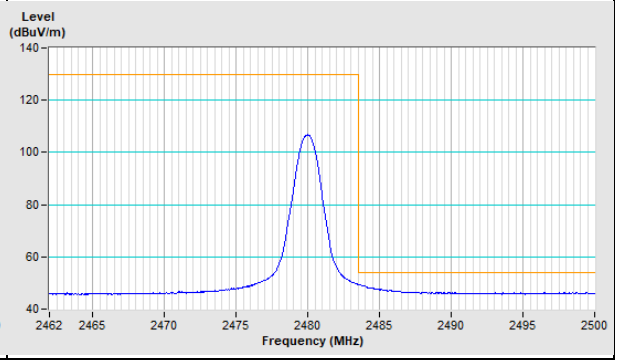
Vertical (Average)



BT-LE 1M Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
BT-LE 1M Channel 39	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

BT-LE 2M Channel 1	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
BT-LE 2M Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

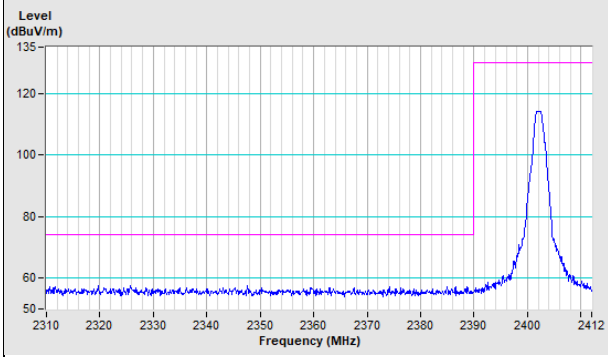
BT-LE 125KLE Channel 0	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
BT-LE 125KLE Channel 1	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

BT-LE 125KLE Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
BT-LE 125KLE Channel 39	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

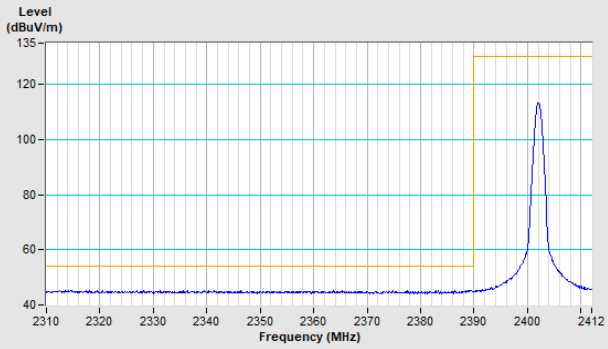
Mode B

BT-LE 1M Channel 0

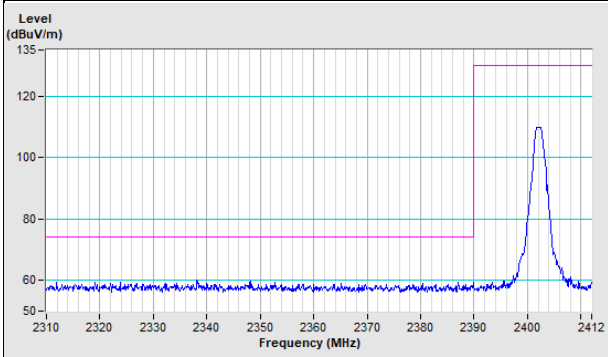
Horizontal (Peak)



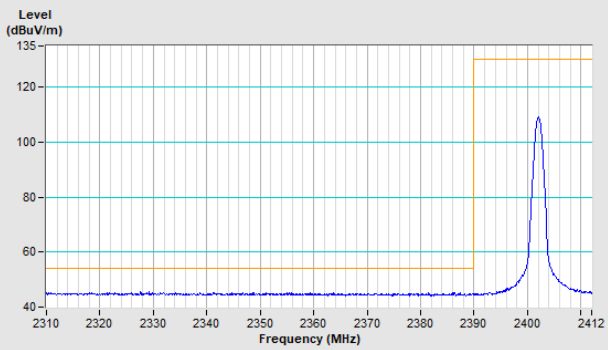
Horizontal (Average)



Vertical (Peak)

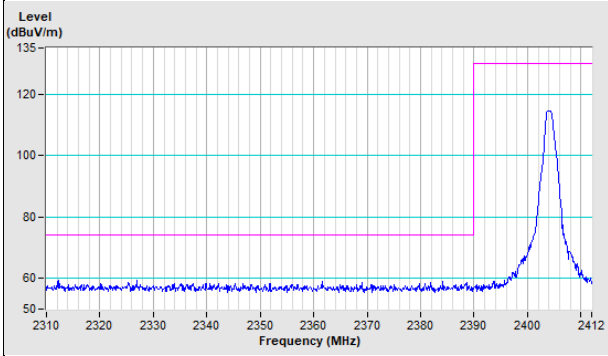


Vertical (Average)

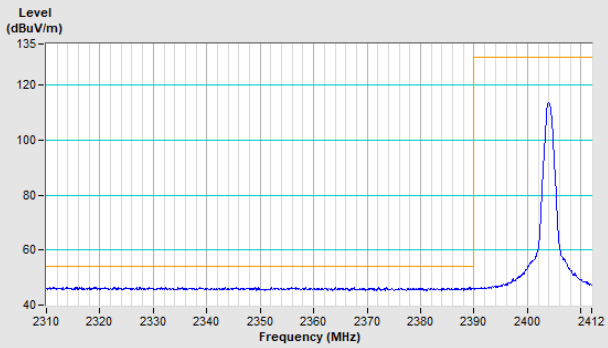


BT-LE 1M Channel 1

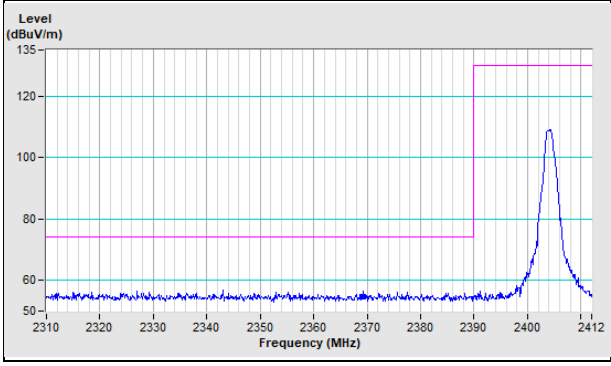
Horizontal (Peak)



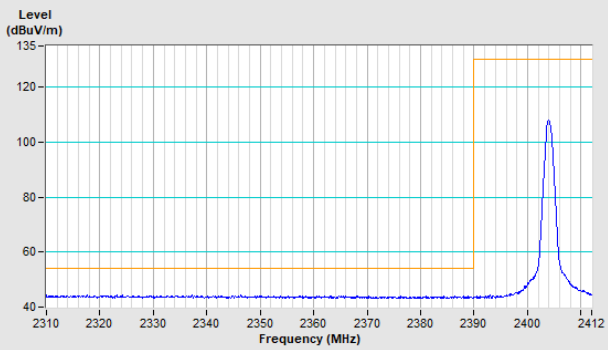
Horizontal (Average)



Vertical (Peak)

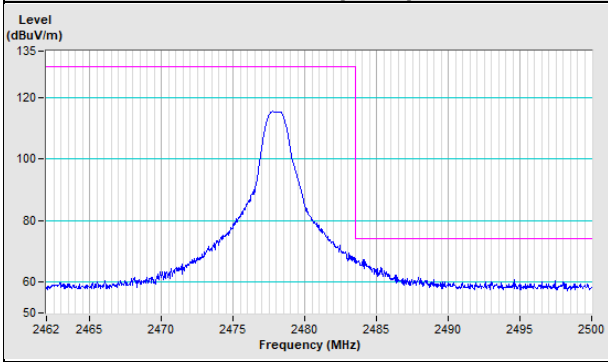


Vertical (Average)

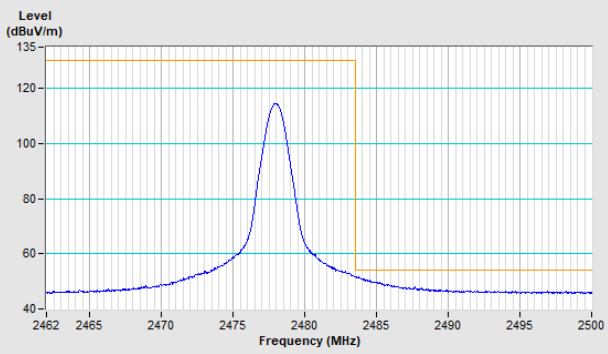


BT-LE 1M Channel 38

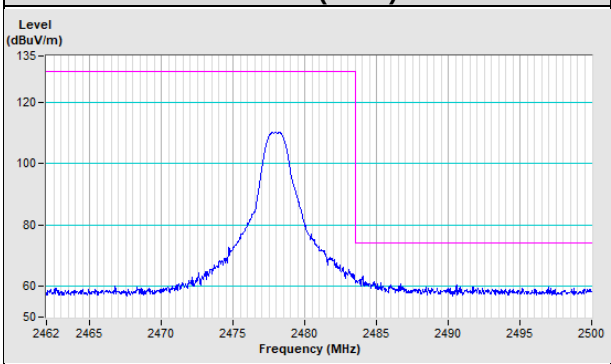
Horizontal (Peak)



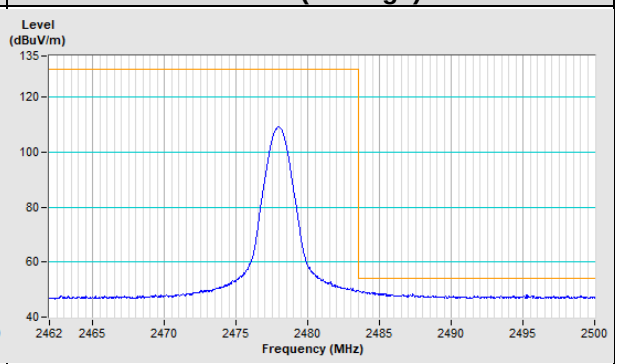
Horizontal (Average)



Vertical (Peak)

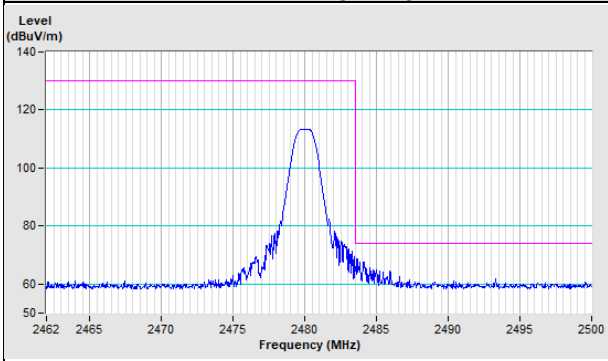


Vertical (Average)

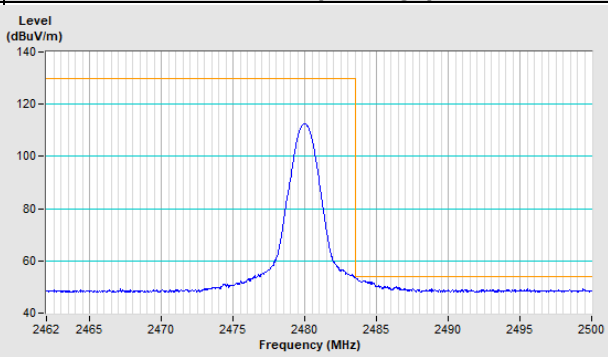


BT-LE 1M Channel 39

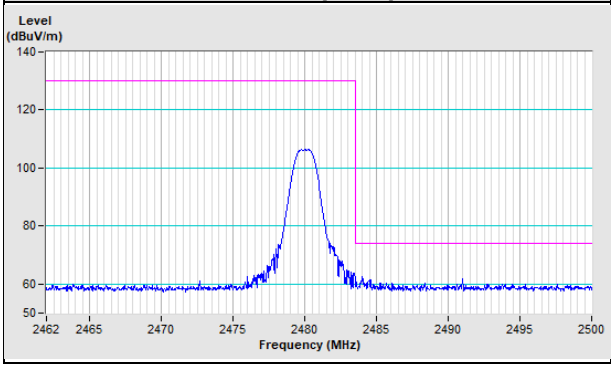
Horizontal (Peak)



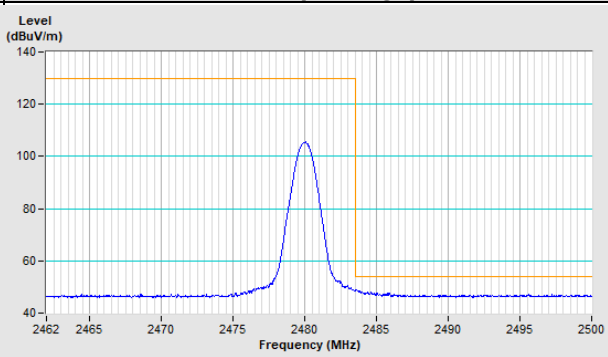
Horizontal (Average)



Vertical (Peak)

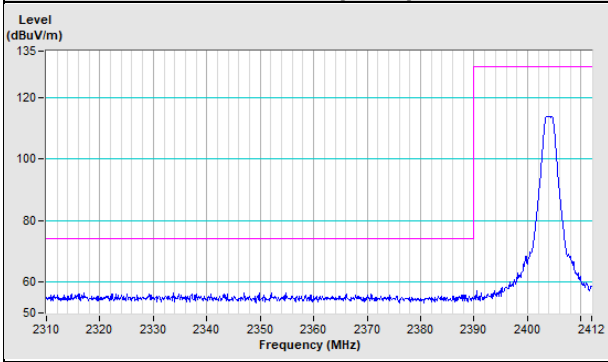


Vertical (Average)

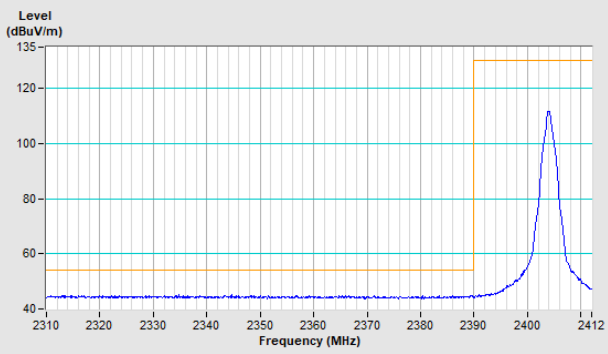


BT-LE 2M Channel 1

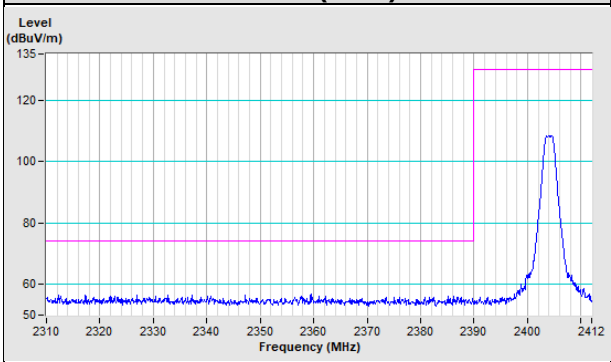
Horizontal (Peak)



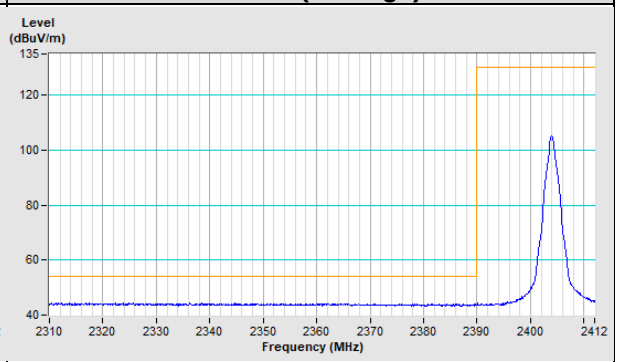
Horizontal (Average)



Vertical (Peak)

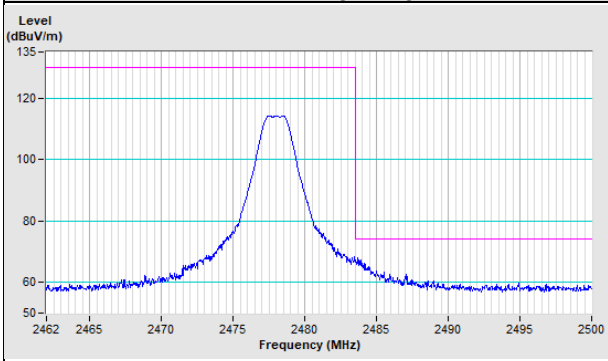


Vertical (Average)

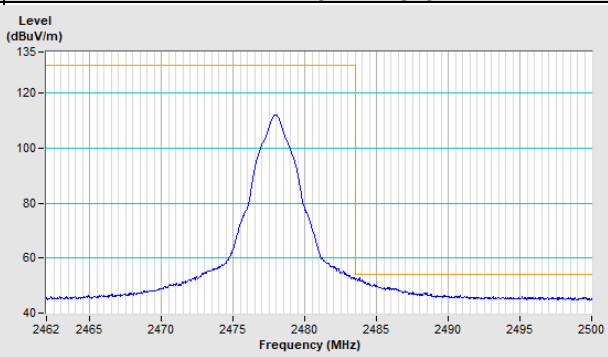


BT-LE 2M Channel 38

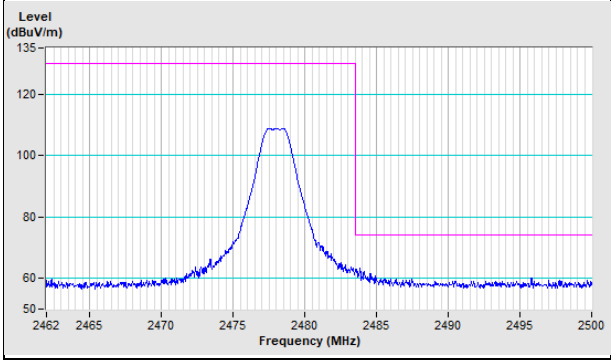
Horizontal (Peak)



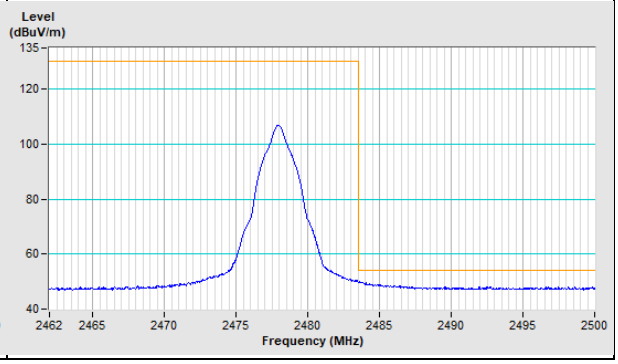
Horizontal (Average)



Vertical (Peak)

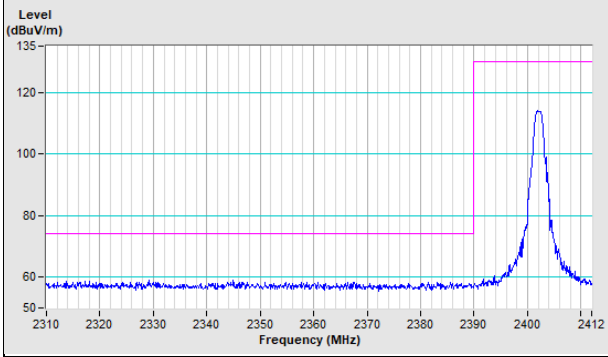


Vertical (Average)

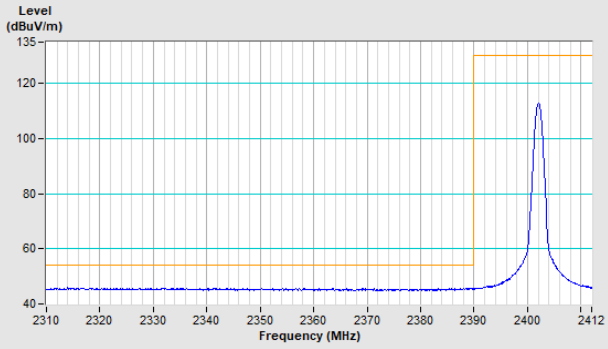


BT-LE 125KLE Channel 0

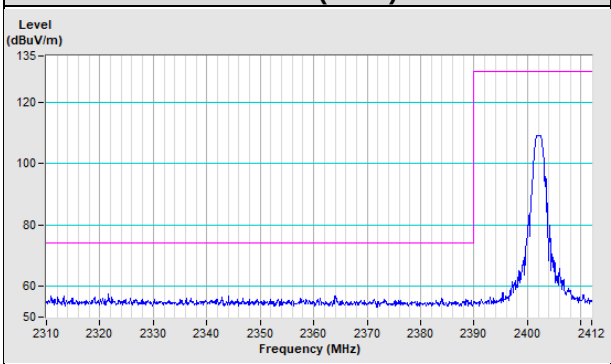
Horizontal (Peak)



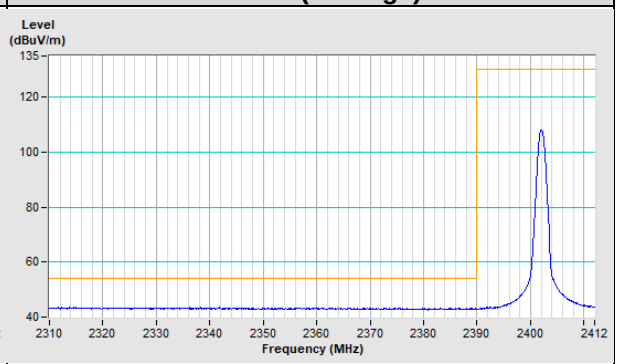
Horizontal (Average)



Vertical (Peak)

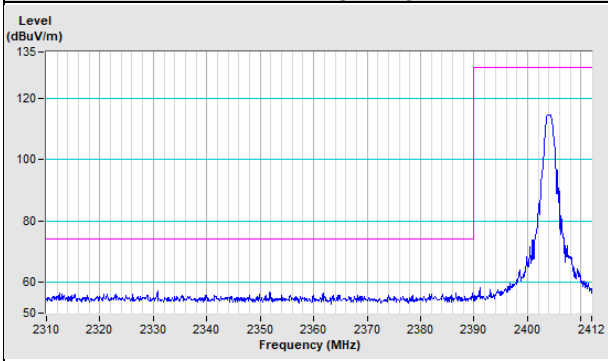


Vertical (Average)

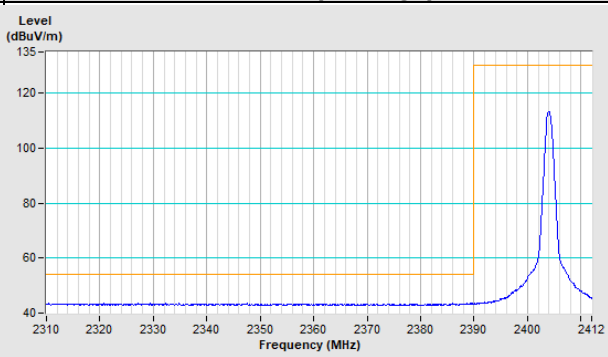


BT-LE 125KLE Channel 1

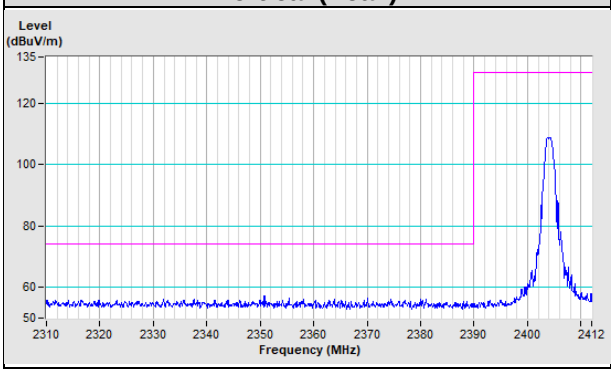
Horizontal (Peak)



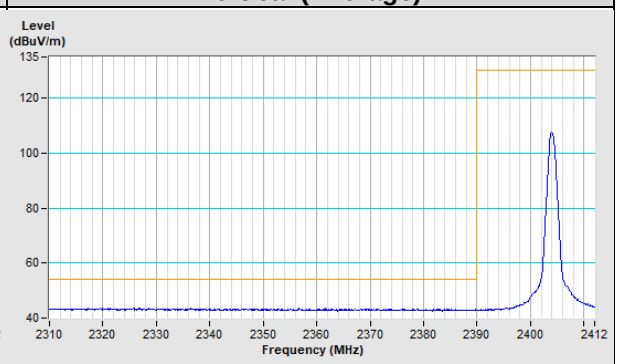
Horizontal (Average)

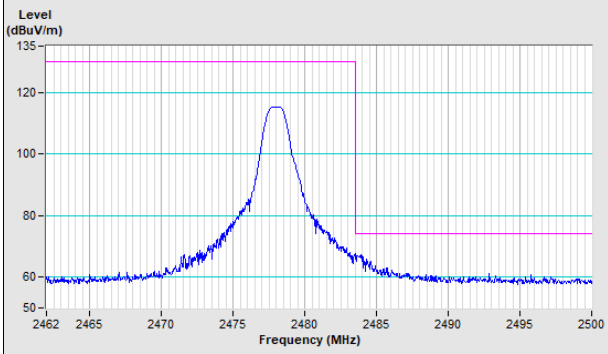
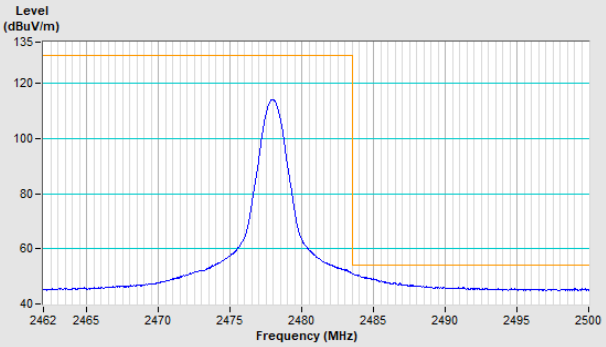
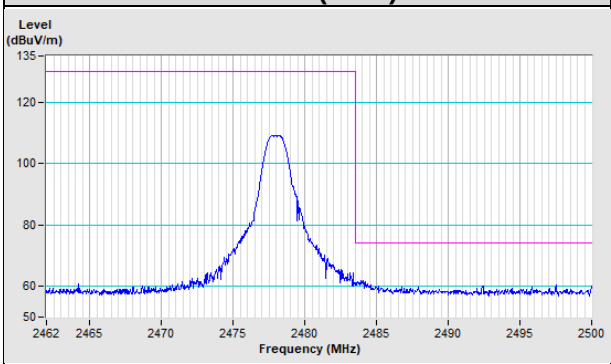
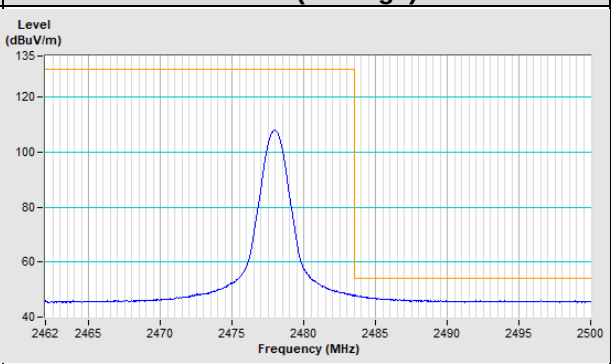
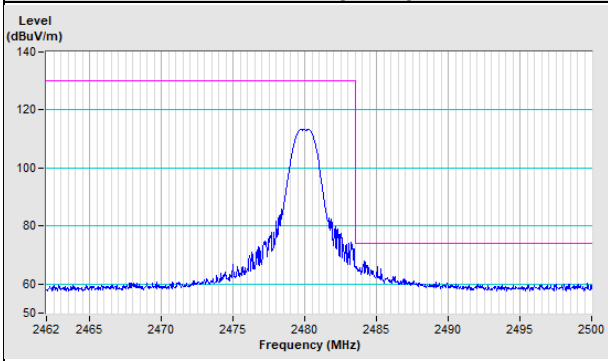
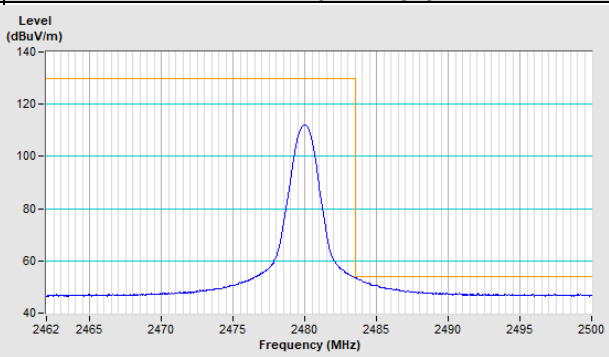
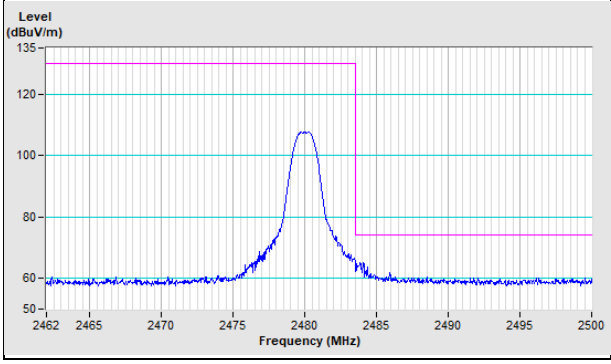
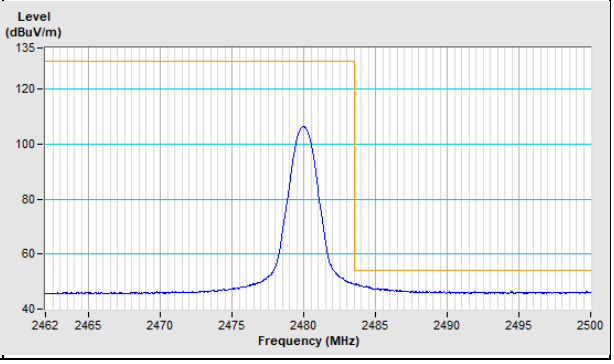


Vertical (Peak)



Vertical (Average)



BT-LE 125KLE Channel 38	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	
BT-LE 125KLE Channel 39	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – 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.

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Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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