

Prüfbericht-Nr.: <i>Test report no.:</i>	CN204SNI(LP0002-BLE) 001	Auftrags-Nr.: <i>Order no.:</i>	238494146	Seite 1 von 24 Page 1 of 24
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum <i>Order date:</i>	2020-11-17	
Auftraggeber: <i>Client:</i>	TAIWAN CAROL ELECTRONICS CO., LTD. NO.202 TUNG KUANG ROAD, TAICHUNG, TAIWAN			
Prüfgegenstand: <i>Test item:</i>	BLE True Sound low Latency Audio Transmission Adapter			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	BTM-510BD, BTM-510BC, BTM-510BR			
Auftrags-Inhalt: <i>Order content:</i>	NCC LP0002 Test Report (BLE)			
Prüfgrundlage: <i>Test specification:</i>	NCC Low-power Radio-frequency Devices Technology Regulations LP0002 (2020) Section 4.10.1			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2020-11-20			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A002953499-001, 002, 007 A002953499-004			
Prüfzeitraum: <i>Testing period:</i>	2020-11-27 - 2020-12-01			
Ort der Prüfung: <i>Place of testing:</i>	EMC/RF Taipei Testing Site			
Prüflaboratorium: <i>Testing laboratory:</i>	Taipei Testing Laboratories			
Prüfergebnis*: <i>Test result*:</i>	Pass			
überprüft von: <i>reviewed by:</i>			genehmigt von: <i>authorized by:</i>	
Datum: <i>Date:</i>	2020-12-30		Ausstellungsdatum: <i>Issue date:</i>	2020-12-30
Stellung / Position:	David Huang Project Manager		Stellung / Position:	Jack Chang Senior Project Manager
Sonstiges / Other:	The model number BTM-510BD, BTM-510BC, BTM-510BR are electrically identical, but the audio connector types are different. Through the software setting, BTM-510BD and BTM-510BC only support transmission function, and BTM-510BR supports receiving function. Therefore, we evaluated the complete tests for BTM-510BD and verified the worst mode of BTM-510BC for transmission spurious emission. Then, we evaluated and tested receiver spurious emission for BTM-510BR.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

TEST SUMMARY

Report Section	NCC Clause	Test Item	Result
5.1.1	LP0002 4.10.1.3 & 4.10.1.4	Antenna Requirement	Pass
0	LP0002 4.10.1.2	Peak Output Power	Pass
5.1.3	LP0002 4.10.1.6	6 dB Bandwidth	Pass
5.1.4	LP0002 4.10.1.6	Power Spectral Density	Pass
5.1.5	LP0002 4.10.1.5	Conducted Spurious Emissions and Band Edges	Pass
5.1.6	LP0002 4.10.1.5	Radiated Spurious Emissions and Band Edges	Pass
-	LP0002 3.3	Mains Conducted Emission	Not Applicable

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

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APPENDIX A - TEST RESULT OF CONDUCTED

APPENDIX B - TEST RESULT OF RADIATED EMISSIONS

APPENDIX SP - PHOTOGRAPHS OF TEST SETUP

APPENDIX EP - PHOTOGRAPHS OF EUT

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HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN204SNI(LP0002-BLE) 001	Original Release	2020-12-30

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A - Test Result of Conducted

Appendix B - Test Result of Radiated Emissions

Appendix SP - Photographs of Test Setup

Appendix EP - Photographs of EUT

Applied Standard and Test Levels

Radio
NCC Low-power Radio-frequency Devices Technical Regulations LP0002 (2020) (109 年 7 月 1 日)
ANSI C63.10:2013
KDB 558074 D01 15.247 Meas Guidance v05r02

1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 226631
ISED Registration No.: 25563

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of k=2 to indicate a 95% level of confidence.

Emission Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission (9 kHz ~ 30 MHz)	± 1.15 dB
Radiated Emission (30 MHz ~ 200 MHz)	± 1.30 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.30 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.54 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.52 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a BLE True Sound low Latency Audio Transmission Adapter. It contains a Bluetooth compatible module enabling the user to communicate data through a Wireless interface.

For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	BLE True Sound low Latency Audio Transmission Adapter
Type Identification	BTM-510BD, BTM-510BC, BTM-510BR
Brand Name	CAROL

Technical Specification of EUT

Item	EUT information
Operating Frequency	2402 MHz ~ 2480 MHz
Channel Spacing	2 MHz
Channel number	40
Data Rate	1Mbps, 2Mbps
Operation Voltage	3Vdc
Modulation	GFSK
Maximum Output Power (mW)	8.73
Antenna Information	Refer to 5.1.1
Accessory Device	Refer to 4.4

Note:

1. All models are listed as below.

Model Type	Type Identification	Difference
Main	BTM-510BD	They are electrically identical, but the audio connector types are different. BTM-510BR used with 6.3Ø Phone Jack. BTM-510BC used with 3.5Ø Phone Jack. BTM-510BD used with Cannon XLR connector.
Series	BTM-510BC	
	BTM-510BR	

3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The test modes were adapted accordingly in reference to the instructions for use.

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output expected by the customer and is going to be fixed on the firmware of the final end product.

Table for Parameters of Test Software Setting

Frequency (MHz)	Power Setting
2402	total 9.5db FW
2440	total 9.5db FW
2480	total 9.5db FW

4.2 Carrier Frequency and Channel

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

4.3 Test Operation and Test Software

Setup for testing: Test samples are provided with a USB interface which makes it possible to control them through a test software installed on a notebook computer.

This software was running on the laptop computer connected to the EUT. It was used to enable the operation modes listed as below.

Test Software	CMW270
---------------	--------

The samples were used as follows:

A002953499-001(BTM-510BC), 002(BTM-510BR), 007 (BTM-510BD) for radiated

A002953499-004 for conducted

Full test was applied on all test modes, but only worst case was shown.

EUT Configure Mode	Applicable To				Description
	Antenna Port Conducted Measurement	Radiated Spurious Emissions above 1 GHz	Radiated Spurious Emissions below 1 GHz	Mains Conducted Emission	
BTM-510BD	√	√	√	-	-
BTM-510BC	-	√	√	-	-
BTM-510BR	-	√	√	-	-

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on Z-plane.
2. "-" means no effect.

Antenna Port Conducted Measurement

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

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

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)	Date Rate (Mbps)
BTM-510BD	2402 to 2480	2402, 2440, 2480	1
BTM-510BD	2402 to 2480	2402, 2440, 2480	2

Radiated Spurious Emissions (Above 1 GHz)

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

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

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)	Date Rate (Mbps)
Tx			
BTM-510BD	2402 to 2480	2402, 2440, 2480	1 & 2
BTM-510BC	2402 to 2480	2440	1
Rx			
BTM-510BR	2402 to 2480	2440	1

Radiated Spurious Emissions (Below 1 GHz)

☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.

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

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)	Date Rate (Mbps)
Tx			
BTM-510BD	2402 to 2480	2440	1
BTM-510BC	2402 to 2480	2440	1
Rx			
BTM-510BR	2402 to 2480	2440	1

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	24.8 °C	54.2 %	Stanislas Charles
Radiated Spurious Emissions above 1 GHz	21.4~22 °C	55.4~58.4 %	Simon Tsai
Radiated Spurious Emissions below 1 GHz	21.4~22 °C	55.4~58.4 %	Simon Tsai

4.4 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Accessory of EUT

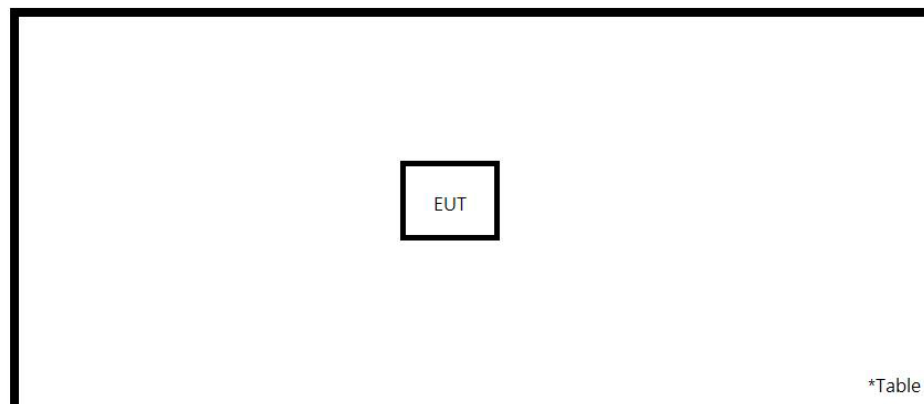
None.

Support Unit

No.	Description	Brand	Model	S/N	Remark
-	Wireless Tester	R&S	CMW270	101929	Radiated Test
-	UART	Pu-yang	CP2102	-	
-	USB Cable	HongJIXIN	2725	-	
-	Wireless Tester	R & S	CMW500	166924	300 cm shielded cable w/o core
-	Wireless Tester	R & S	CMW500	166924	Conducted Test

4.5 Test Setup Diagram

<Radiated Spurious Emissions mode>



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

According to the manufacturer declaration, the antenna information is as listed below. The antenna is chip antenna with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Brand Name	Model No.	Antenna Type	Antenna Gain (dBi)
ACX	AT5020	Chip Antenna	0

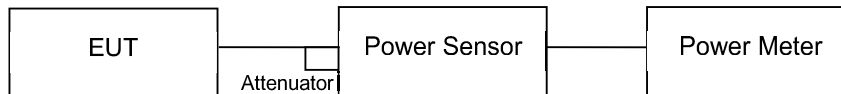
Refer to EUT photo for details.

5.1.2 Peak Output Power

Limit 1 watt (30 dBm)

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Power Meter	Anritsu	ML2495A	1901008	2020/4/6	2021/4/5	2020/12/1	2020/12/1
Power Sensor	Anritsu	MA2411B	1725269	2020/4/7	2021/4/6		

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.

Test Result

Peak Output Power

<1Mbps>

Channel	Channel Frequency	Peak Output Power		Limit (dBm)
	(MHz)	(dBm)	(mW)	
Low Channel	2402	9.15	8.22	30
Middle Channel	2440	8.98	7.91	30
High Channel	2480	9.36	8.63	30

<2Mbps>

Channel	Channel Frequency	Peak Output Power		Limit (dBm)
	(MHz)	(dBm)	(mW)	
Low Channel	2402	9.21	8.34	30
Middle Channel	2440	9.01	7.96	30
High Channel	2480	9.41	8.73	30

Average Power

<1Mbps>

Channel	Channel Frequency	Average Power	
	(MHz)	(dBm)	(mW)
Low Channel	2402	9.13	8.18
Middle Channel	2440	8.95	7.85
High Channel	2480	9.34	8.59

<2Mbps>

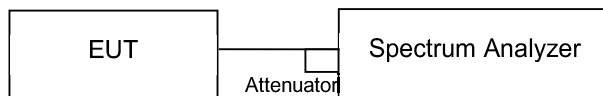
Channel	Channel Frequency	Average Power	
	(MHz)	(dBm)	(mW)
Low Channel	2402	9.18	8.28
Middle Channel	2440	8.99	7.93
High Channel	2480	9.39	8.69

5.1.3 6 dB Bandwidth

Limit The minimum 6 dB bandwidth shall be at least 500 kHz.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16	2020/12/1	2020/12/1

Test Procedure

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

Test Results

Please refer to Appendix A.

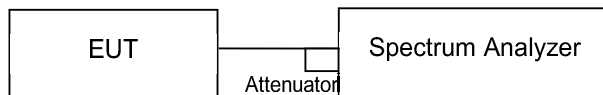
5.1.4 Power Spectral Density

Limit

The power spectral density shall not be greater than 8 dBm in any 3 kHz band.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16	2020/12/1	2020/12/1

Test Procedure

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq 3 \times \text{RBW}$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

Test Results

Please refer to Appendix A.

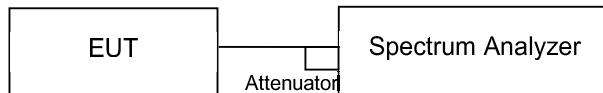
5.1.5 Conducted Spurious Emissions and Frequency Band Edges Measured in 100kHz Bandwidth

Limit

20dB (below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.)

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV40	101512	2020/2/18	2021/2/16	2020/12/1	2020/12/1

Test Procedure

Measurement procedure REF

1. Set the RBW = 100 kHz.
2. Set the VBW $\geq$ 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 $\geq$ 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.

Test Results

Please refer to Appendix A.

5.1.6 Radiated Spurious Emissions and Band Edges

Limit

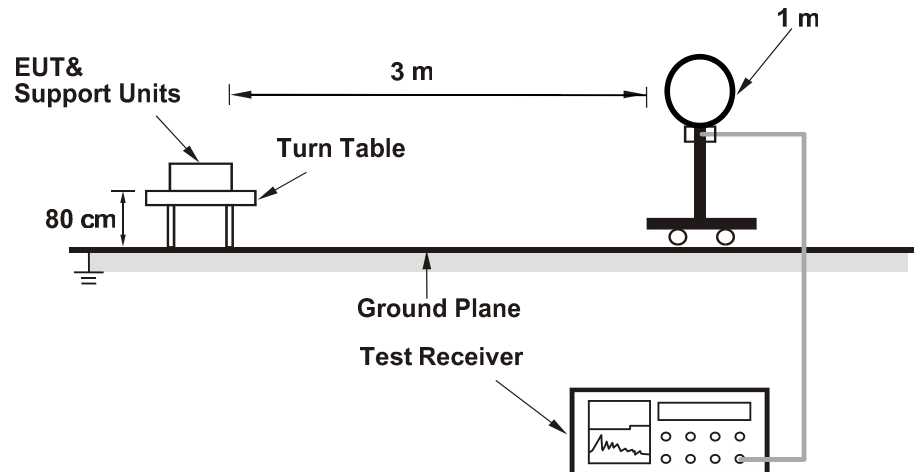
Radiated emissions which fall in the restricted bands, as defined in LP0002 (2020): 3.5, must comply with the radiated emission limits specified in LP0002 (2020): 3.6.

Emissions radiated outside the specified frequency bands must comply with the radiated emission limits specified in LP0002 (2020): 3.6.

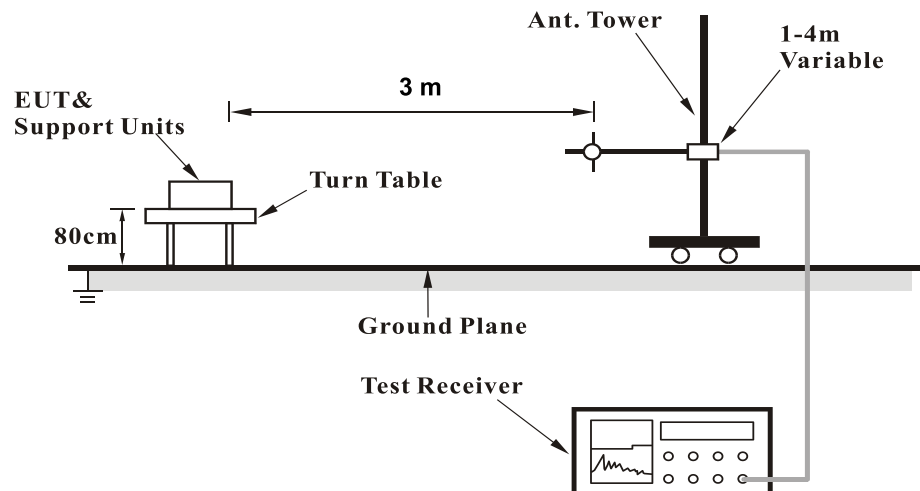
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

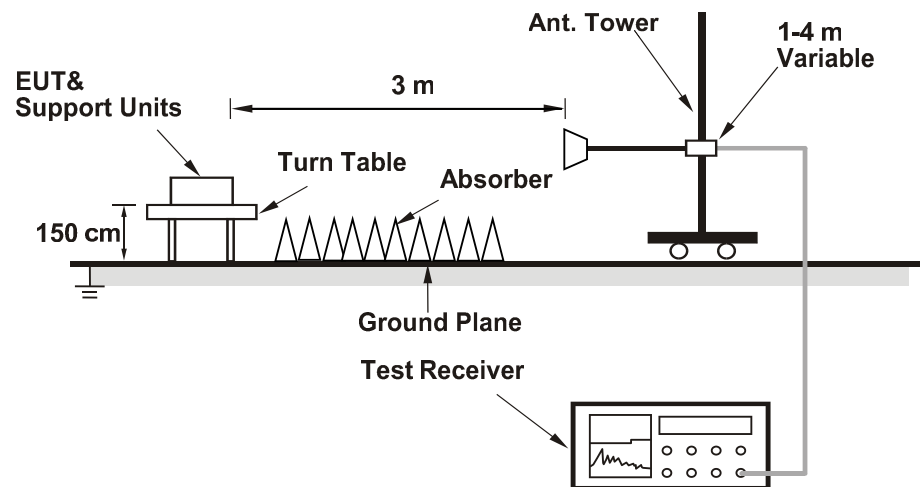
<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



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

Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101508	2020/3/16	2021/3/15
Receiver	R&S	ESR7	102108	2020/4/22	2021/4/21
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2020/2/14	2021/2/12
Horn Antenna	SCHWARZBECK	BBHA 9120D	01945	2020/9/9	2021/9/8
LF-AMP	Agilent	8447D	2944A10772	2020/2/11	2021/2/9
HF-AMP + AC source	EMCI	EMC051845SE	980633	2020/2/17	2021/2/15
HF-AMP + AC source	EMCI	EMC184045SE	980657	2020/2/17	2021/2/15
Horn Antenna	SCHWARZBECK	BBHA 9170	00887	2020/4/10	2021/4/9
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104EA	800056/4EA	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	804680/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	MY37202/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800898/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800901/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	801027/2EA	2020/4/22	2021/4/21
Loop Antenna	Chance Most	EMCILPA600 +calibration	287	2020/1/9	2021/1/7

Test Procedures**For Radiated Emissions 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 (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) 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.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions 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) or Peak detection (PK) 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 $\geq 1/T$ (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.
5. The Radiated Emissions testing was performed in the X, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix B.

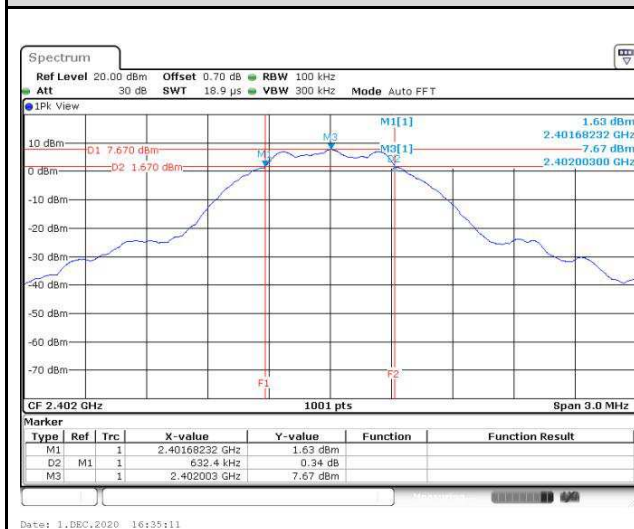
Appendix A: Test Results of Conducted Test

Test Result of 6 dB Bandwidth

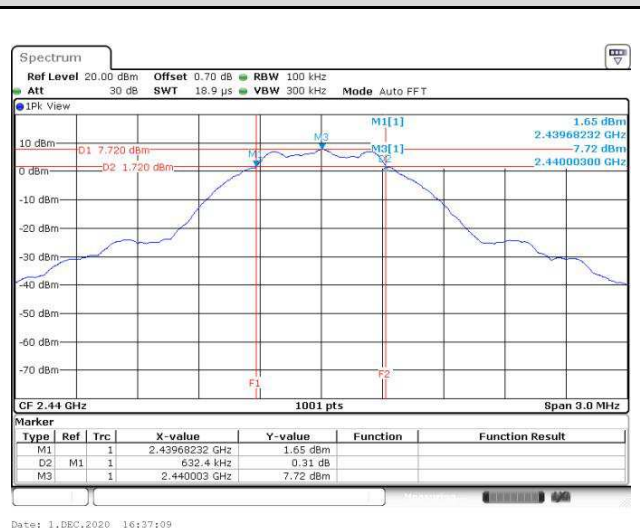
BLE_1M

Channel	Channel Frequency (MHz)	6 dB Bandwidth (kHz)	Limit (kHz)	Result
Low Channel	2402	632.4	> 500	Pass
Middle Channel	2440	632.4	> 500	Pass
High Channel	2480	632.4	> 500	Pass

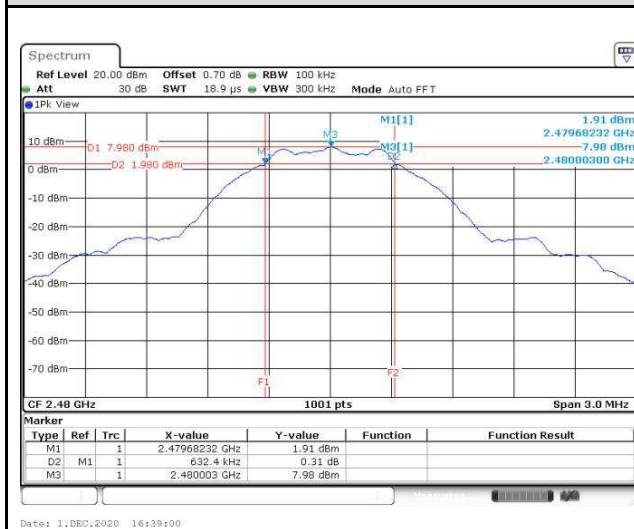
Low Channel



Middle Channel

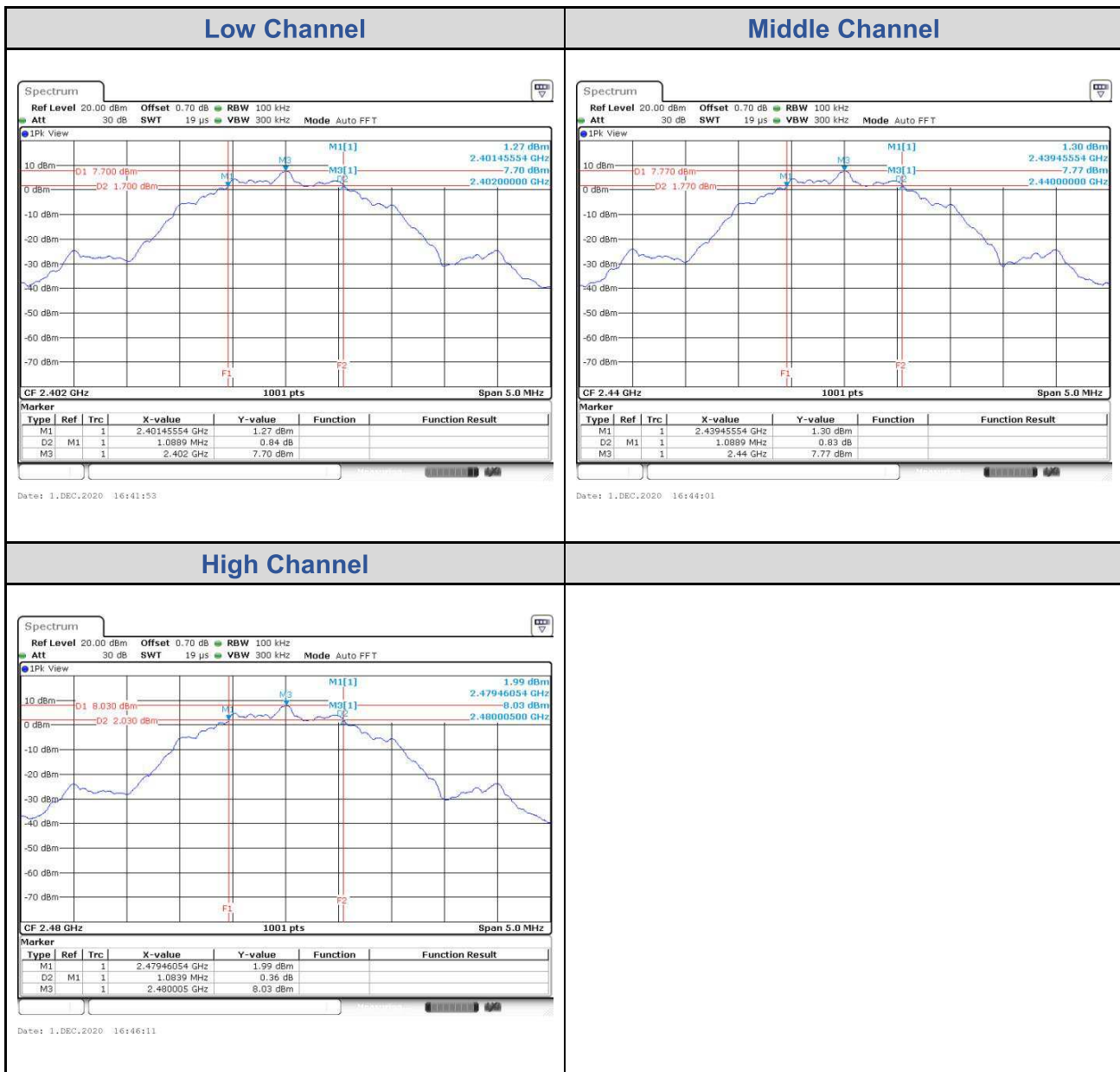


High Channel



BLE_2M

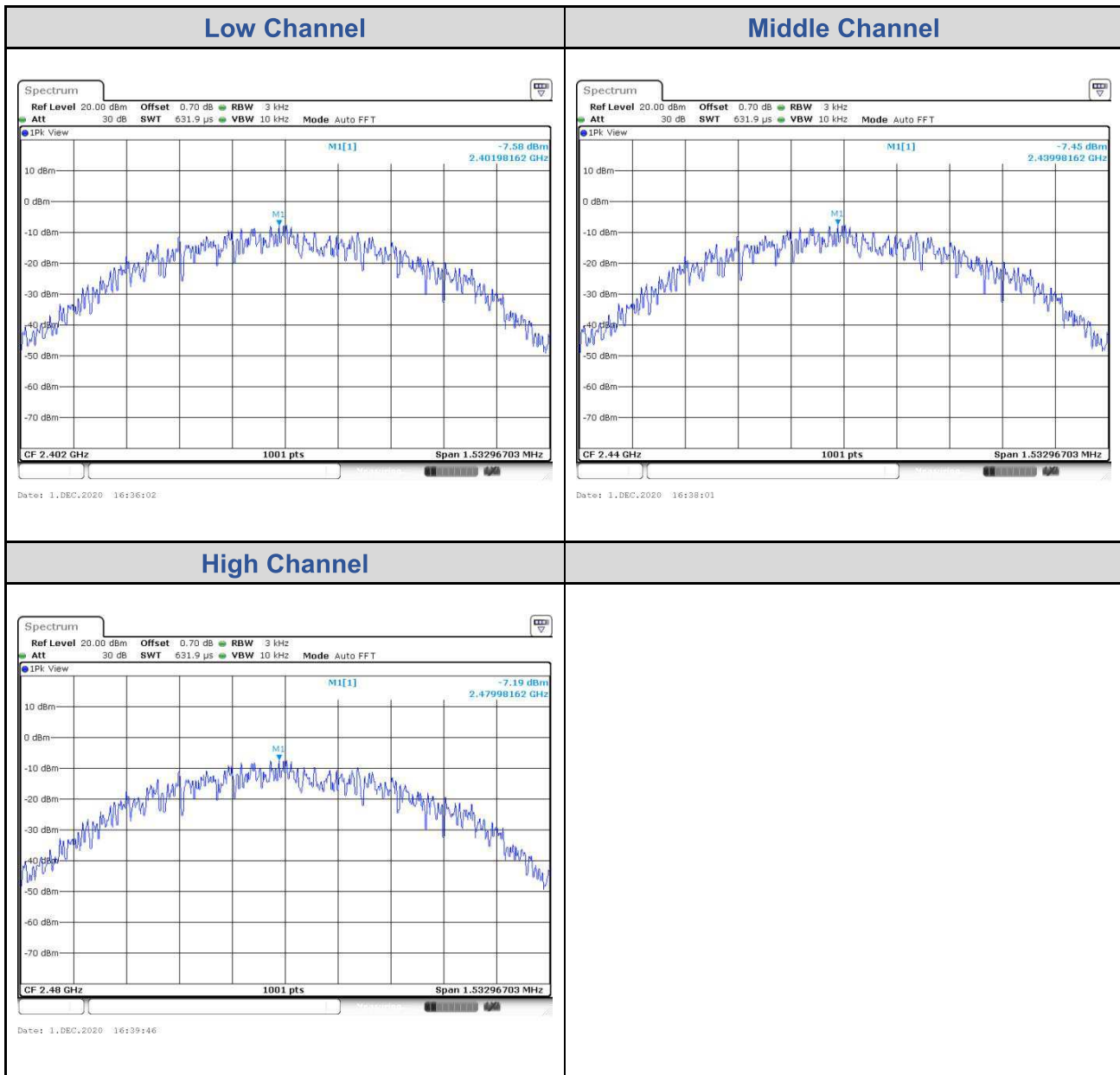
Channel	Channel Frequency (MHz)	6 dB Bandwidth (kHz)	Limit (kHz)	Result
Low Channel	2402	1088.90	> 500	Pass
Middle Channel	2440	1088.90	> 500	Pass
High Channel	2480	1083.90	> 500	Pass



Test Result of Power Spectral Density

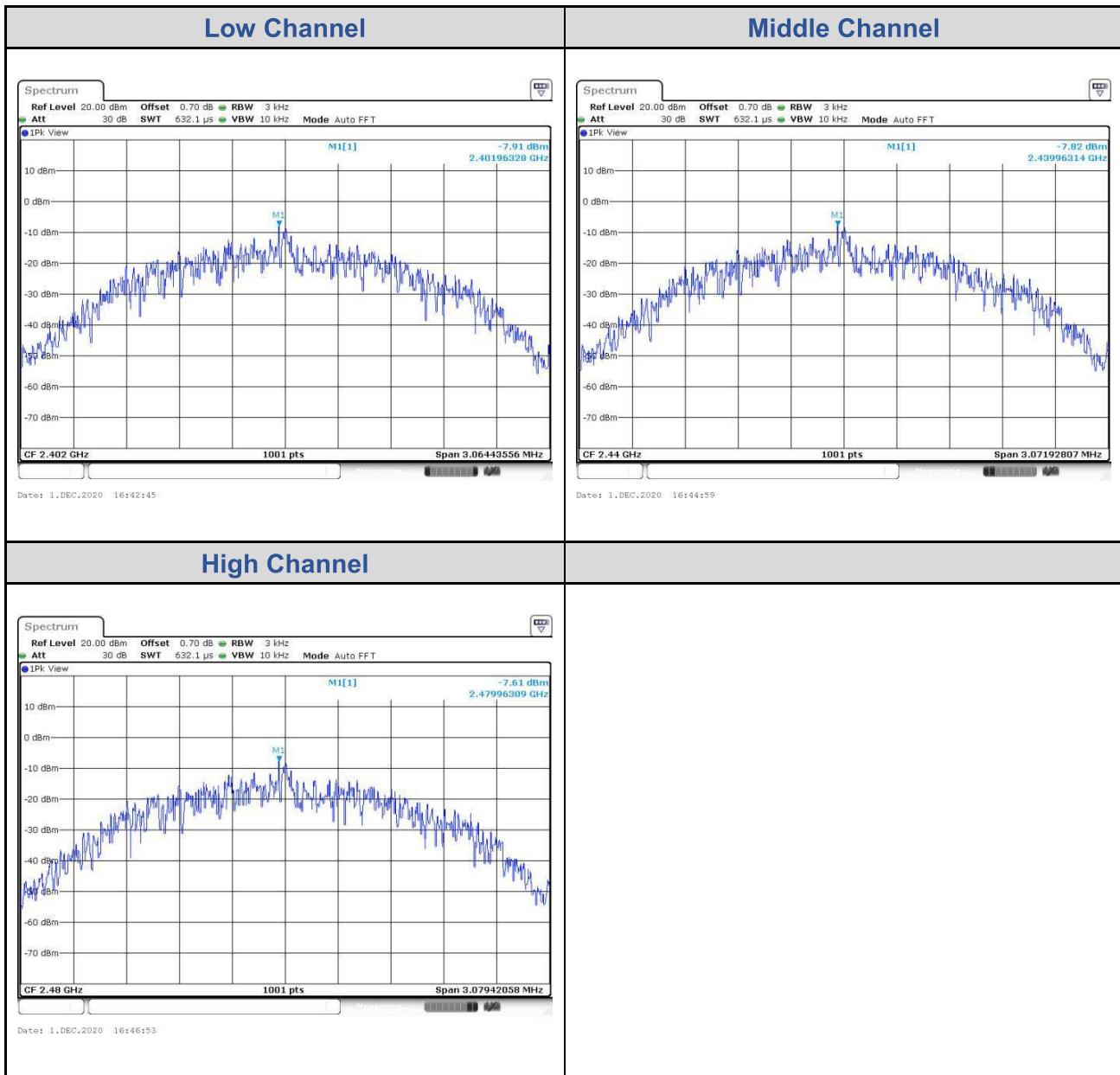
BLE_1M

Channel	Channel Frequency (MHz)	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	2402	-7.58	8	Pass
Middle Channel	2440	-7.45	8	Pass
High Channel	2480	-7.19	8	Pass



BLE_2M

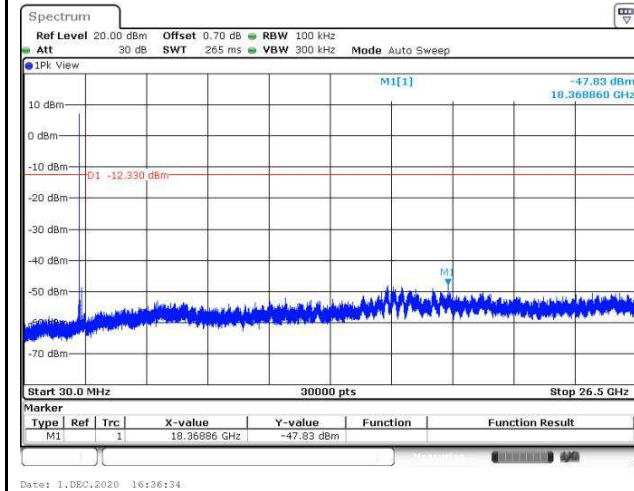
Channel	Channel Frequency (MHz)	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	2402	-7.91	8	Pass
Middle Channel	2440	-7.82	8	Pass
High Channel	2480	-7.61	8	Pass



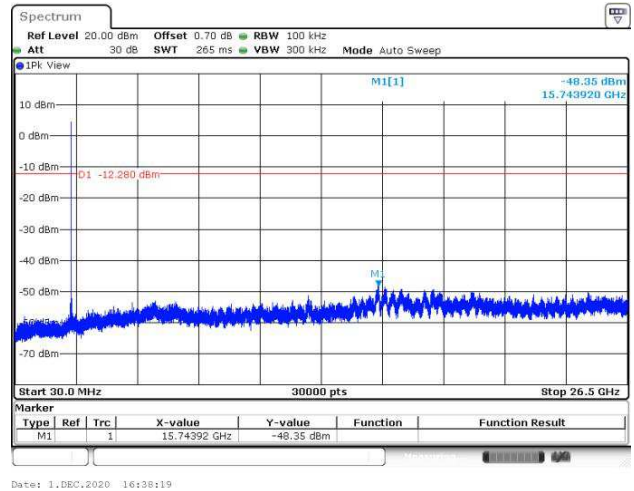
Test Result of Conducted Spurious Emissions, Tx Mode

BLE_1M

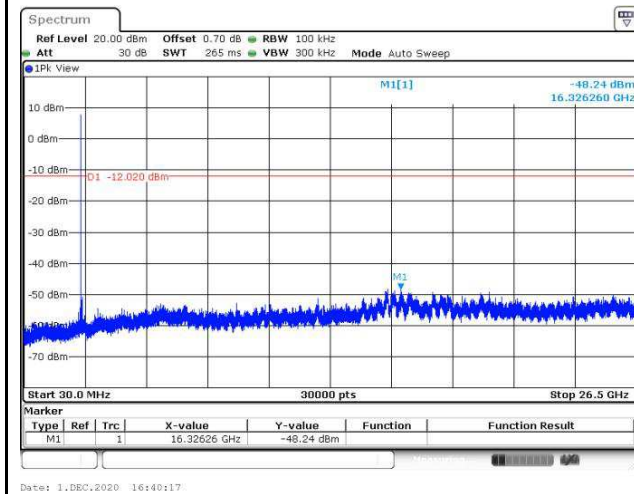
Low Channel



Middle Channel

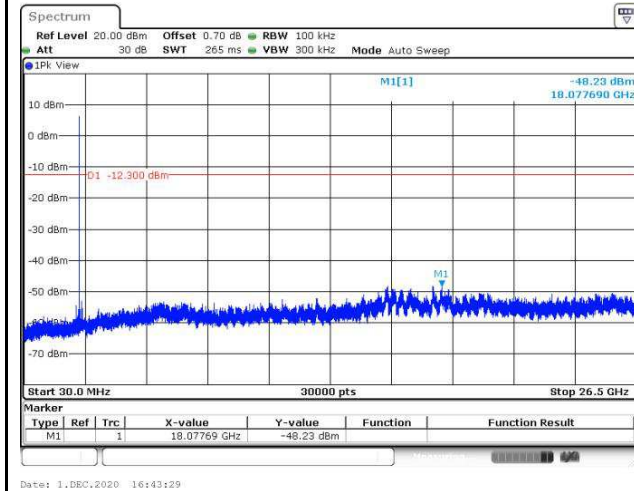


High Channel

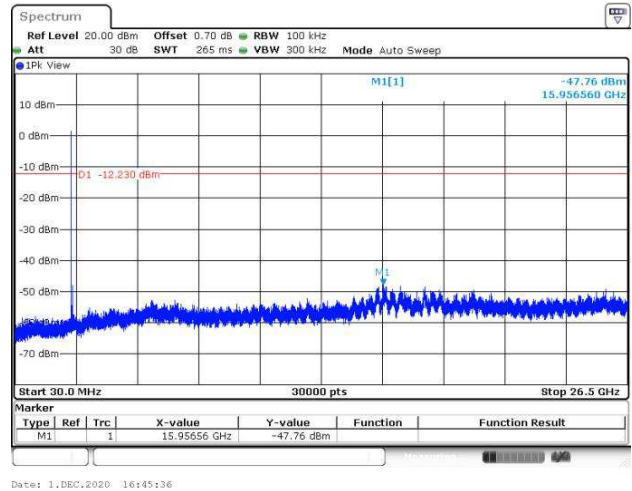


BLE_2M

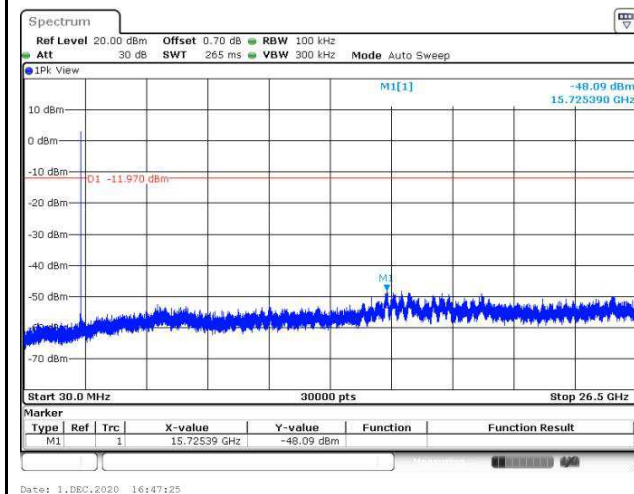
Low Channel



Middle Channel

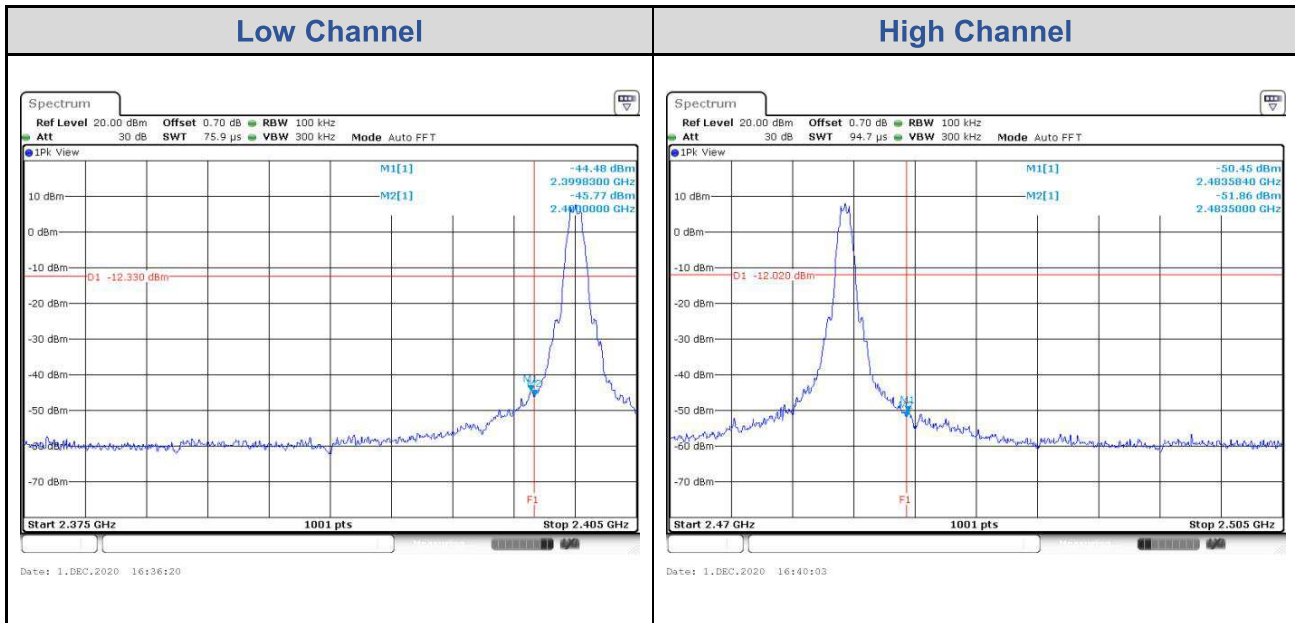


High Channel

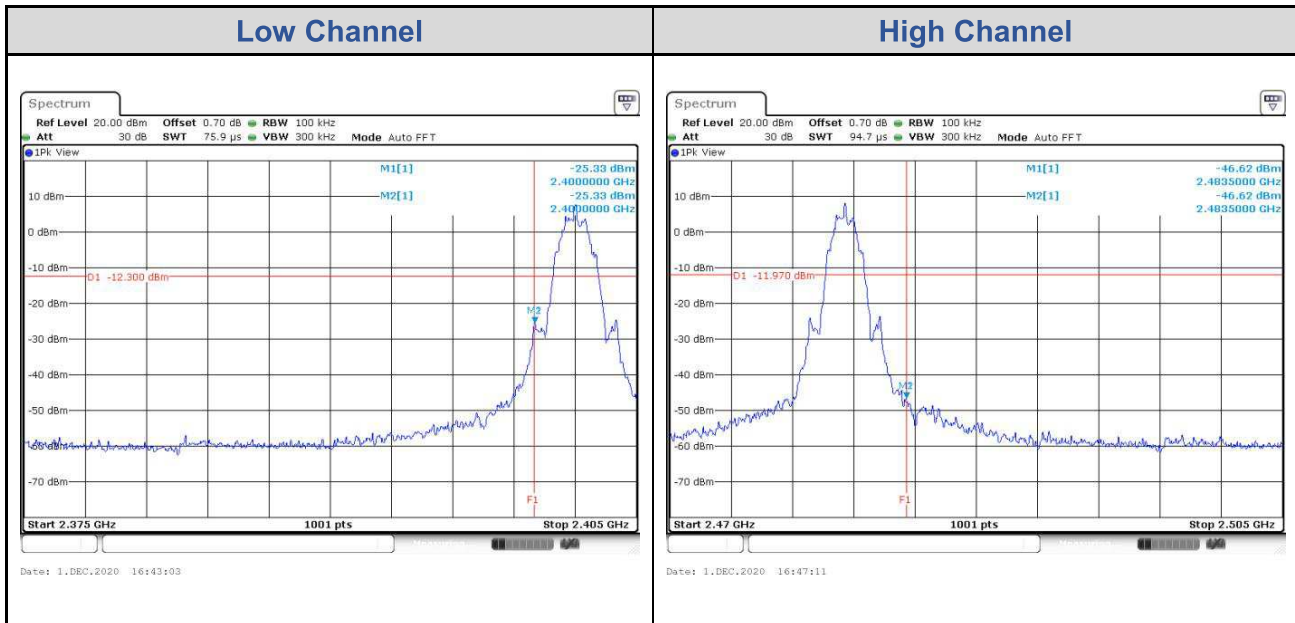


Test Result of Conducted Band Edge, Tx Mode

BLE_1M



BLE_2M

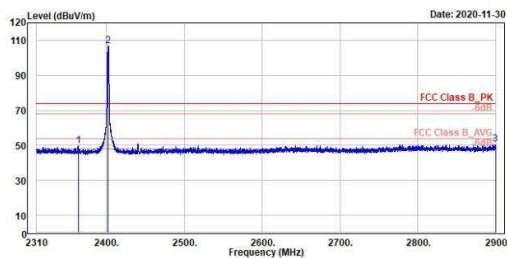


Appendix B: Test Results of Radiated Emissions_BT-M-510BD

Band Edges, 2.31GHz ~ 2.9GHz

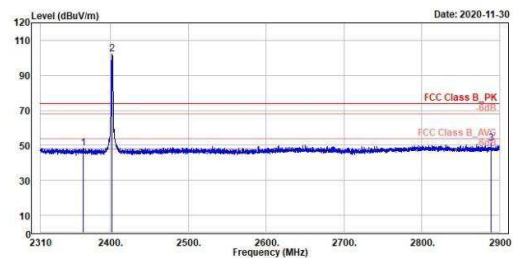
BLE_1M

Low Channel (Horizontal) Peak



	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.48	49.98	16.83	33.87	74.00	-24.10		303	252	Peak	Horizontal	
2 *	2402.00	106.57	73.68	32.97	74.00	32.57		303	252	Peak	Horizontal	
3	2900.00	50.76	16.54	34.22	74.00	-23.24		303	252	Peak	Horizontal	

Low Channel (Vertical) Peak



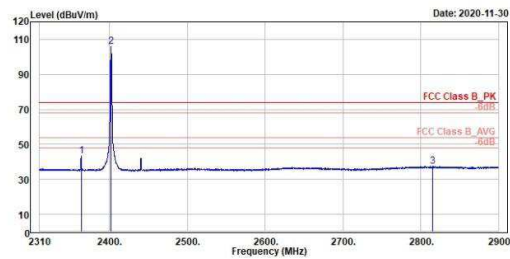
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2364.77	48.56	15.50	33.06	74.00	-25.44		306	332	Peak	Vertical	
2 *	2402.00	102.03	69.06	32.97	74.00	28.03		306	332	Peak	Vertical	
3	2889.40	50.92	16.71	34.21	74.00	-23.08		306	332	Peak	Vertical	

BLE_1M

Low Channel (Horizontal) Average



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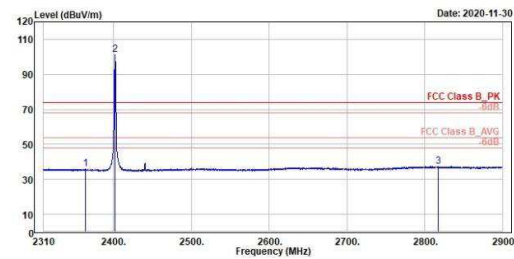


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.48	43.19	10.12	33.07	54.00	-10.81		303	252	Average	Horizontal	
2 *	2402.00	105.68	72.71	32.97	54.00	51.68		303	252	Average	Horizontal	
3	2814.96	37.48	3.42	34.06	54.00	-16.52		303	252	Average	Horizontal	

Low Channel (Vertical) Average



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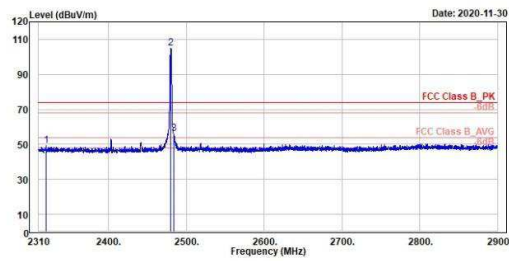
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.59	36.15	3.00	33.07	54.00	-17.85		306	332	Average	Vertical	
2 *	2402.00	101.11	68.14	32.97	54.00	47.11		306	332	Average	Vertical	
3	2816.96	37.39	3.33	34.06	54.00	-16.61		306	332	Average	Vertical	

BLE_1M

High Channel (Horizontal) Peak



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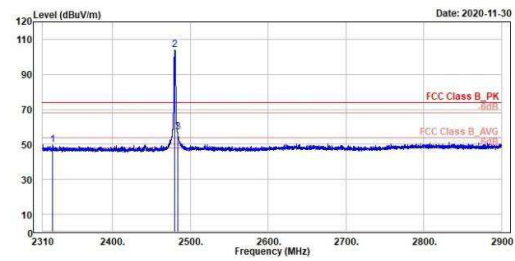


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2319.89	49.89	15.98	33.19	74.00	-24.91	105	252	Peak	Horizontal		
2 *	2480.00	104.94	71.98	32.96	74.00	30.94	105	252	Peak	Horizontal		
3	2483.50	55.93	22.97	32.96	74.00	-18.07	105	252	Peak	Horizontal		

High Channel (Vertical) Peak



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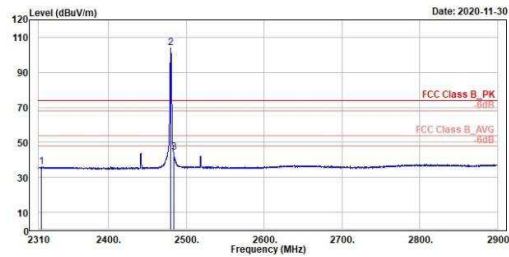
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2322.72	49.78	16.60	33.18	74.00	-24.22	325	0	Peak	Vertical		
2 *	2480.00	105.96	71.00	32.96	74.00	29.96	325	0	Peak	Vertical		
3	2483.50	57.17	24.21	32.96	74.00	-16.83	325	0	Peak	Vertical		

BLE_1M

High Channel (Horizontal) Average



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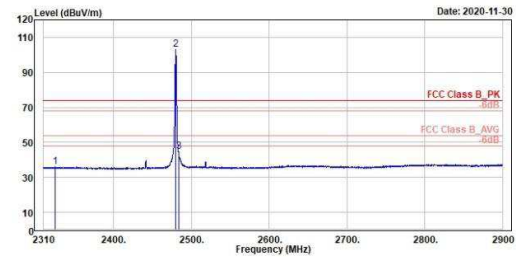


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2313.77	35.90	2.70	33.20	54.00	-18.10		105	252	Average	Horizontal	
2 *	2480.00	104.00	71.04	32.96	54.00	50.00		105	252	Average	Horizontal	
3	2483.50	44.04	11.08	32.96	54.00	-9.96		105	252	Average	Horizontal	

High Channel (Vertical) Average



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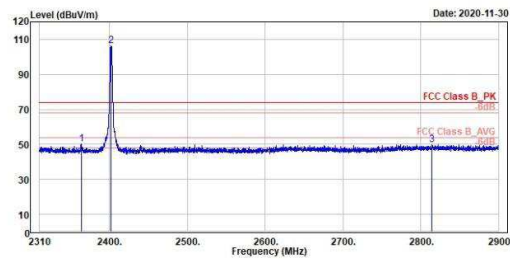
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2324.72	35.87	2.69	33.18	54.00	-18.13		325	0	Average	Vertical	
2 *	2480.00	103.07	70.11	32.96	54.00	49.07		325	0	Average	Vertical	
3	2483.50	44.83	11.87	32.96	54.00	-9.17		325	0	Average	Vertical	

BLE_2M

Low Channel (Horizontal) Peak



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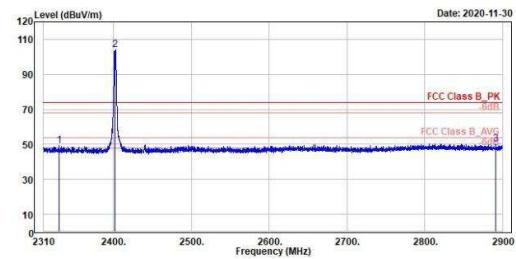


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.71	50.11	17.04	33.07	74.00	-23.89		303	122	Peak	Horizontal	
2 *	2402.00	106.21	73.24	32.97	74.00	32.21		303	122	Peak	Horizontal	
3	2814.60	49.86	15.80	34.06	74.00	-24.14		303	122	Peak	Horizontal	

Low Channel (Vertical) Peak



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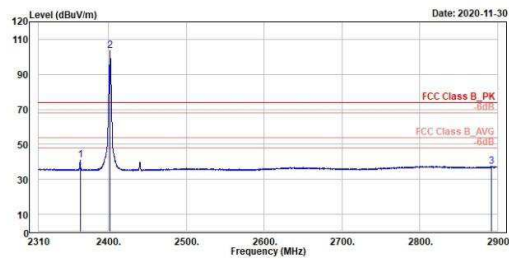
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2330.02	49.42	16.26	33.16	74.00	-24.58		306	342	Peak	Vertical	
2 *	2402.00	105.82	70.85	32.97	74.00	29.82		306	342	Peak	Vertical	
3	2891.64	50.28	16.07	34.21	74.00	-23.72		306	342	Peak	Vertical	

BLE_2M

Low Channel (Horizontal) Average



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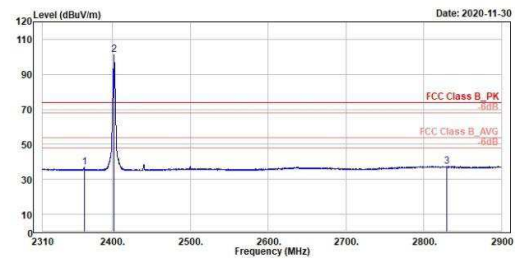


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.48	41.24	8.17	33.07	54.00	-12.76		303	122	Average	Horizontal	
2 *	2402.00	103.48	78.51	32.97	54.00	49.48		383	122	Average	Horizontal	
3	2891.99	37.45	3.24	34.21	54.00	-16.55		303	122	Average	Horizontal	

Low Channel (Vertical) Average



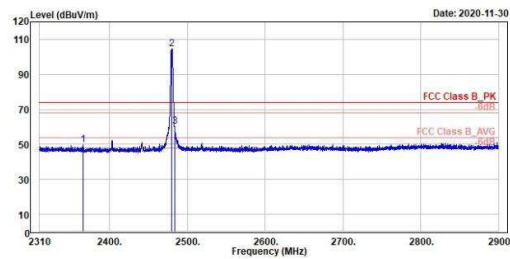
TÜV Rheinland Taiwan Ltd.
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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2363.59	36.97	3.90	33.07	54.00	-17.03		306	342	Average	Vertical	
2 *	2402.00	101.14	68.17	32.97	54.00	47.14		386	342	Average	Vertical	
3	2829.33	37.45	3.35	34.10	54.00	-16.55		306	342	Average	Vertical	

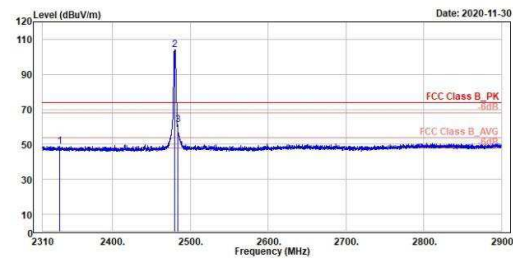
BLE_2M

High Channel (Horizontal) Peak



	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2365.60	49.83	16.77	33.06	74.00	-24.17	105	252	Peak	Horizontal		
2 *	2480.00	104.64	71.68	32.96	74.00	30.64	105	252	Peak	Horizontal		
3	2483.50	60.24	27.28	32.96	74.00	-13.76	105	252	Peak	Horizontal		

High Channel (Vertical) Peak



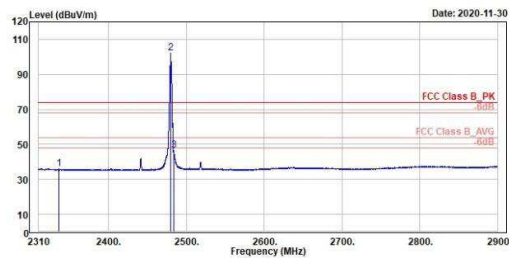
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2331.67	49.01	15.86	33.15	74.00	-24.99	325	0	Peak	Vertical		
2 *	2480.00	104.09	71.13	32.96	74.00	30.09	325	0	Peak	Vertical		
3	2483.74	61.18	28.22	32.96	74.00	-12.82	325	0	Peak	Vertical		

BLE_2M

High Channel (Horizontal) Average



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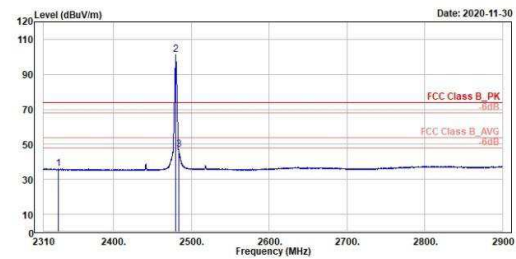


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2336.27	36.00	2.86	33.14	54.00	-18.00		105	252	Average	Horizontal	
2 *	2480.00	102.34	69.38	32.96	54.00	48.34		105	252	Average	Horizontal	
3	2483.62	46.72	13.76	32.96	54.00	-7.28		105	252	Average	Horizontal	

High Channel (Vertical) Average



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	2328.73	35.97	2.80	33.17	54.00	-18.03		325	0	Average	Vertical	
2 *	2480.00	101.32	68.36	32.96	54.00	47.32		325	0	Average	Vertical	
3	2483.50	47.14	14.18	32.96	54.00	-6.86		325	0	Average	Vertical	

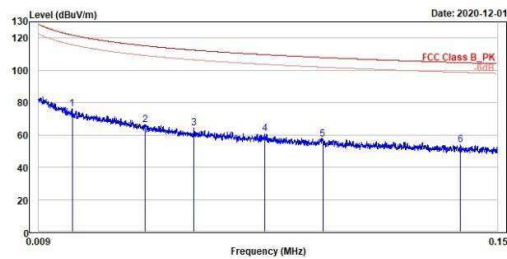
Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

BLE_1M

Middle Channel (Open) 9kHz~150kHz



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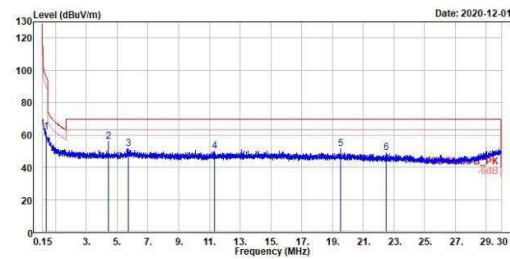


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.02	76.27	3.29	72.98	121.87	-45.60	100	89	QP	Open		
2	0.04	66.39	-0.70	67.09	115.16	-48.77	100	358	QP	Open		
3	0.06	64.32	0.21	64.11	112.52	-48.20	100	41	QP	Open		
4	0.08	60.69	-0.72	61.41	109.69	-49.00	100	358	QP	Open		
5	0.10	57.17	-2.52	59.69	107.93	-50.75	100	213	QP	Open		
6	0.14	53.64	-3.37	57.01	104.76	-51.12	100	82	QP	Open		

Middle Channel (Open) 150kHz~30MHz



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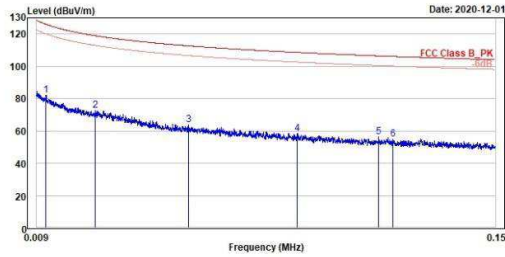
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.39	62.00	13.47	48.53	95.74	-33.74	100	358	QP	Open		
2	4.44	55.78	17.45	38.33	69.50	-13.72	100	87	QP	Open		
3	5.72	51.63	13.28	38.35	69.50	-17.87	100	108	QP	Open		
4	11.32	49.83	12.60	37.23	69.50	-19.67	100	214	QP	Open		
5	19.53	51.20	14.86	36.34	69.50	-18.30	100	302	QP	Open		
6	22.50	48.91	13.19	35.72	69.50	-20.59	100	253	QP	Open		

BLE_1M

Middle Channel (Close) 9kHz~150kHz



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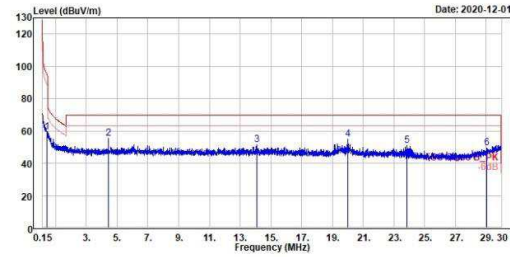


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.01	82.28	4.66	77.62	126.05	-43.77	100	140	QP	Close		
2	0.03	72.50	1.22	71.28	118.96	-46.46	100	12	QP	Close		
3	0.06	63.58	-0.68	64.26	112.69	-49.11	100	205	QP	Close		
4	0.09	58.55	-1.97	60.52	108.59	-50.04	100	339	QP	Close		
5	0.11	56.57	-1.06	58.43	106.45	-49.00	100	12	QP	Close		
6	0.12	54.75	-3.43	58.18	106.13	-51.38	100	285	QP	Close		

Middle Channel (Close) 150kHz~30MHz



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	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	0.46	59.51	12.11	47.40	94.34	-34.83	100	240	QP	Close		
2	4.43	55.40	17.07	38.33	69.50	-14.10	100	166	QP	Close		
3	14.07	51.19	13.56	37.63	69.50	-18.31	100	257	QP	Close		
4	19.99	54.92	18.66	36.26	69.50	-14.58	100	145	QP	Close		
5	23.87	50.08	16.01	34.97	69.50	-18.52	100	40	QP	Close		
6	29.03	49.36	12.05	37.31	69.50	-20.14	100	361	QP	Close		

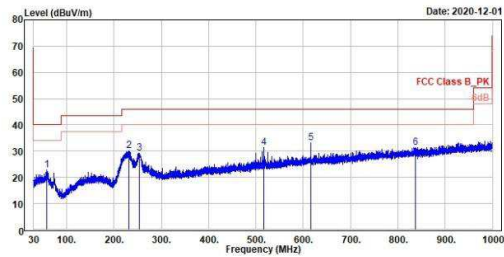
Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

BLE_1M

Middle Channel (Horizontal)



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No. 458-18, Sec 2, Fenhiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
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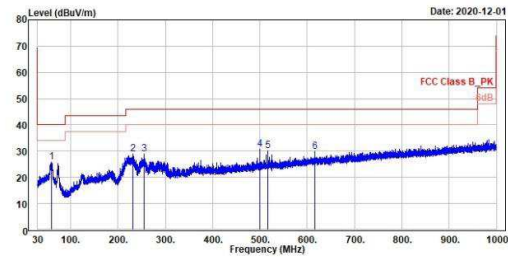


	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	57.35	22.71	39.62	-7.91	40.00	-17.29	100	146	QP	Horizontal	
2	231.57	30.19	38.96	-8.77	46.00	-15.81	300	2	QP	Horizontal	
3	254.07	29.33	37.33	-8.00	46.00	-16.67	254	0	QP	Horizontal	
4	516.65	31.29	34.14	-2.85	46.00	-14.71	100	155	QP	Horizontal	
5	616.75	33.09	33.95	-0.86	46.00	-12.91	100	198	QP	Horizontal	
6	838.01	31.28	28.98	2.30	46.00	-14.72	126	360	QP	Horizontal	

Middle Channel (Vertical)



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	60.26	25.90	34.21	-8.31	40.00	-14.10	100	116	QP	Vertical	
2	231.08	29.02	37.83	-8.81	46.00	-16.98	100	191	QP	Vertical	
3	254.75	28.76	36.75	-7.99	46.00	-17.24	100	263	QP	Vertical	
4	500.06	30.06	34.06	-3.20	46.00	-15.14	100	330	QP	Vertical	
5	516.75	30.18	33.03	-2.85	46.00	-15.82	100	86	QP	Vertical	
6	616.75	29.81	30.67	-0.86	46.00	-16.19	100	91	QP	Vertical	

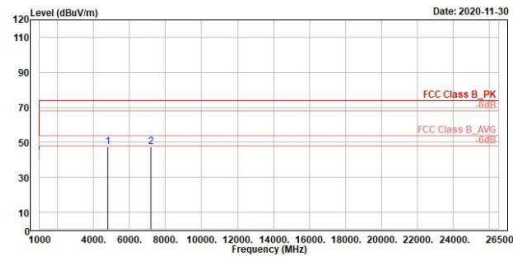
Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

BLE_1M

Low Channel (Horizontal)



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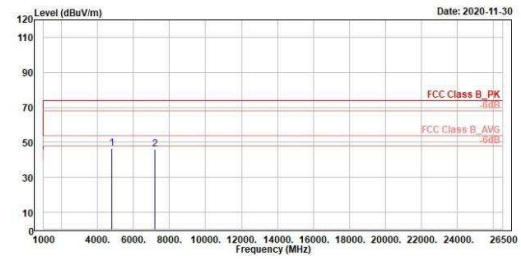


Peak	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	47.63	69.63	-13.00	74.00	-26.37	300	207	Peak	Horizontal	
2	7206.00	47.59	54.80	-7.21	74.00	-26.41	200	154	Peak	Horizontal	

Low Channel (Vertical)



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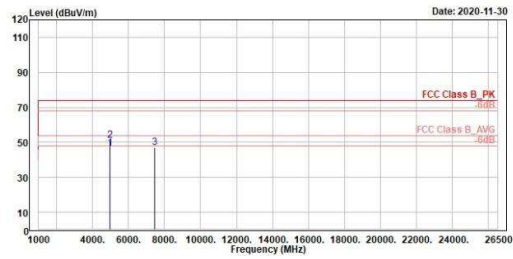
Peak	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	46.74	59.74	-13.00	74.00	-27.26	100	148	Peak	Vertical	
2	7206.00	45.87	53.08	-7.21	74.00	-28.13	300	215	Peak	Vertical	

BLE_1M

High Channel (Horizontal)



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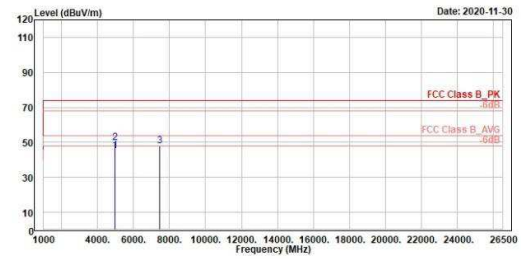


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4968.00	46.38	59.14	-12.76	54.00	-7.62	289	208	Average	Horizontal		
2	4968.00	50.90	63.66	-12.76	74.00	-23.10	289	208	Peak	Horizontal		
3	7440.00	46.90	53.96	-7.06	74.00	-27.10	400	141	Peak	Horizontal		

High Channel (Vertical)



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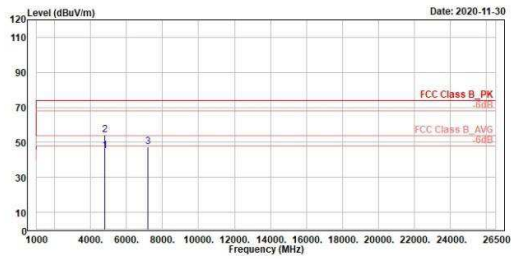
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4968.00	45.18	57.94	-12.76	54.00	-8.82	100	274	Average	Vertical		
2	4968.00	49.81	62.57	-12.76	74.00	-24.19	100	274	Peak	Vertical		
3	7440.00	47.87	54.93	-7.06	74.00	-26.13	100	303	Peak	Vertical		

BLE_2M

Low Channel (Horizontal)



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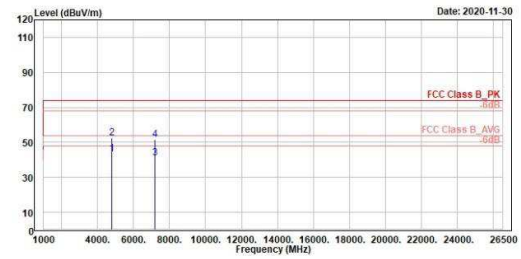


Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	4884.00	45.25	58.25	-13.00	54.00	-8.75	264	205	Average	Horizontal	
2	4884.00	54.10	67.10	-13.00	74.00	-19.90	264	205	Peak	Horizontal	
3	7206.00	47.64	54.85	-7.21	74.00	-26.36	320	360	Peak	Horizontal	

Low Channel (Vertical)



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No. 458-18, Sec 2, Fenhiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
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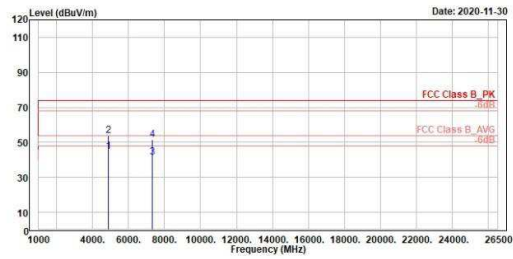
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MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1	4884.00	43.56	56.56	-13.00	54.00	-10.44	100	277	Average	Vertical	
2	4884.00	52.61	65.61	-13.00	74.00	-21.39	100	277	Peak	Vertical	
3	7206.00	41.05	48.26	-7.21	54.00	-12.95	103	36	Average	Vertical	
4	7206.00	51.36	58.57	-7.21	74.00	-22.64	103	36	Peak	Vertical	

BLE_2M

Middle Channel (Horizontal)



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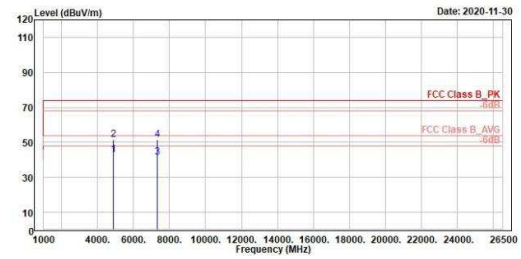


	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4880.00	44.82	57.74	-12.92	54.00	-9.18		270	206	Average	Horizontal	
2	4880.00	53.69	66.61	-12.92	74.00	-20.31		270	206	Peak	Horizontal	
3	7320.00	41.62	48.70	-7.08	54.00	-12.38		319	360	Average	Horizontal	
4	7320.00	51.70	58.78	-7.08	74.00	-22.30		319	360	Peak	Horizontal	

Middle Channel (Vertical)



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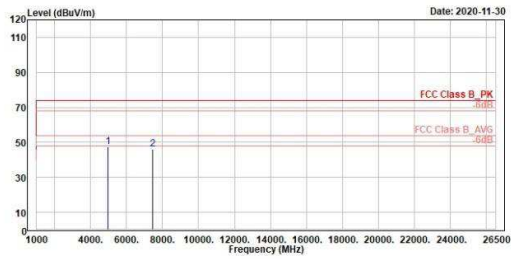
	Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB	cm	deg			
1	4880.00	42.71	55.63	-12.92	54.00	-11.29		119	275	Average	Vertical	
2	4880.00	51.57	64.49	-12.92	74.00	-22.43		119	275	Peak	Vertical	
3	7320.00	41.60	48.68	-7.08	54.00	-12.40		112	33	Average	Vertical	
4	7320.00	51.69	58.77	-7.08	74.00	-22.31		112	33	Peak	Vertical	

BLE_2M

High Channel (Horizontal)



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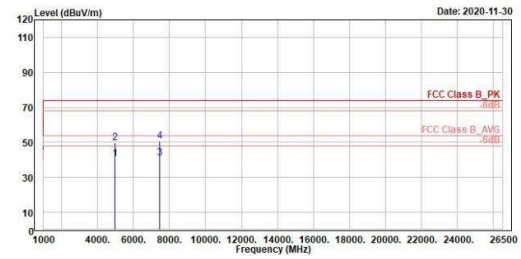


Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1 4960.00	47.49	60.25	-12.76	74.00	-26.51	369	360	Peak	Horizontal		
2 7440.00	45.96	53.02	-7.06	74.00	-28.04	336	360	Peak	Horizontal		

High Channel (Vertical)



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Freq	Level	Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg				
1 4960.00	40.63	53.39	-12.76	54.00	-13.37	100	272	Average	Vertical		
2 4960.00	49.77	62.53	-12.76	74.00	-24.23	100	272	Peak	Vertical		
3 7440.00	48.92	47.98	-7.06	54.00	-13.08	103	303	Average	Vertical		
4 7440.00	58.84	57.90	-7.06	74.00	-23.16	103	303	Peak	Vertical		

Test Results of Radiated Emissions_ BTM-510BC

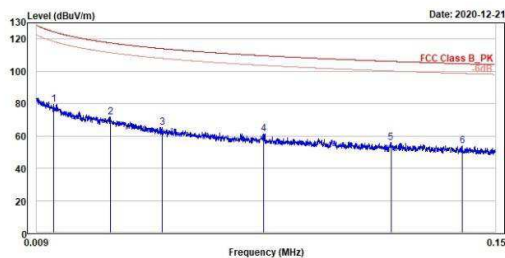
Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

BLE_1M

Middle Channel (Open) 9kHz~150kHz



TUV Rheinland Taiwan Ltd.
No. 438-18, Sec. 2, Fenhua, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

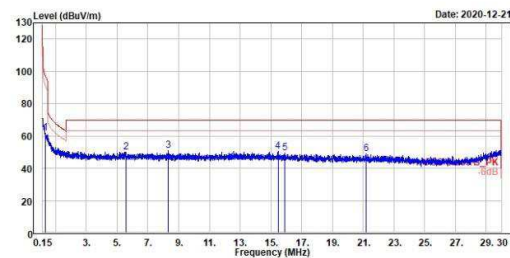


	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dB/m	dBuV/m	dB			
1	0.01	79.64	3.53	76.11	124.46	-44.82 QP	Open	
2	0.03	71.83	1.59	70.24	117.60	-45.77 QP	Open	
3	0.05	65.41	-0.25	65.66	114.05	-48.64 QP	Open	
4	0.08	61.10	-0.30	61.40	109.68	-48.58 QP	Open	
5	0.12	55.87	-2.34	58.21	106.17	-50.30 QP	Open	
6	0.14	53.90	-3.05	56.95	104.69	-50.79 QP	Open	

Middle Channel (Open) 150kHz~30MHz



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No. 438-18, Sec. 2, Fenhua, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
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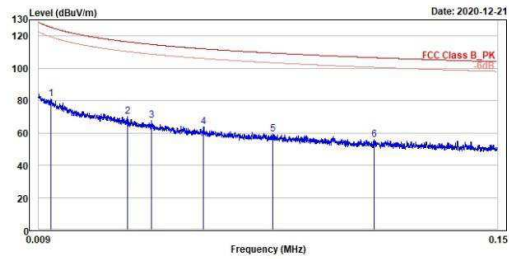
	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dB/m	dBuV/m	dB			
1	0.32	61.98	11.94	50.04	97.49	-35.51 QP	Open	
2	5.58	50.13	11.78	38.35	69.50	-19.37 QP	Open	
3	8.32	50.71	12.74	37.97	69.50	-19.79 QP	Open	
4	15.47	50.44	12.60	37.64	69.50	-19.06 QP	Open	
5	15.88	49.61	12.06	37.55	69.50	-19.89 QP	Open	
6	21.19	48.90	12.87	36.03	69.50	-20.60 QP	Open	

BLE_1M

Middle Channel (Close) 9kHz~150kHz



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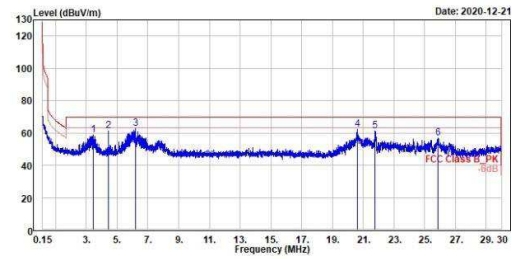


	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	0.01	80.95	3.83	77.12	125.50	-44.55 QP	vertical	
2	0.04	70.23	1.50	68.73	116.39	-46.16 QP	vertical	
3	0.04	67.55	0.92	66.63	114.79	-47.24 QP	vertical	
4	0.06	63.04	0.15	63.69	112.07	-48.23 QP	vertical	
5	0.08	59.50	-1.67	61.17	109.43	-49.93 QP	vertical	
6	0.11	55.74	-2.80	58.54	106.60	-50.86 QP	vertical	

Middle Channel (Close) 150kHz~30MHz



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	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	3.47	59.00	20.73	38.27	69.50	-10.50 QP	Close	
2	4.43	61.47	23.14	38.33	69.50	-8.03 QP	Close	
3	6.20	62.71	24.36	38.35	69.50	-6.79 QP	Close	
4	20.63	62.33	26.20	36.13	69.50	-7.17 QP	Close	
5	21.70	61.22	25.31	35.91	69.50	-8.28 QP	Close	
6	25.88	56.68	22.42	34.26	69.50	-12.82 QP	Close	

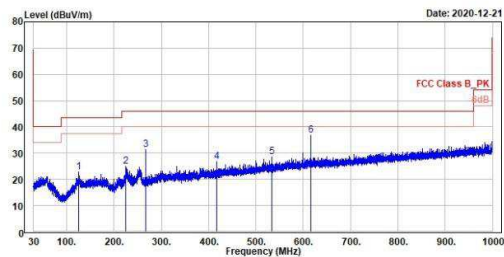
Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

BLE_1M

Middle Channel (Horizontal)



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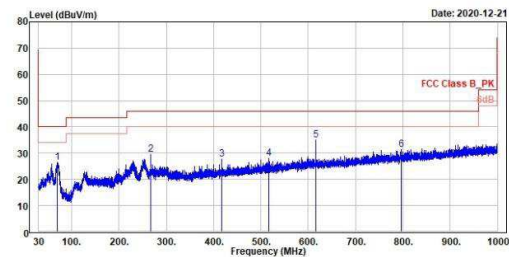


	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level	Line	Limit	Remark	Pol/Phase	Note
		dBuV	Factor	dB/m	dB			
1	125.93	22.88	32.49	-9.61	43.50	-20.62 QP	horizontal	
2	225.46	25.05	34.32	-9.27	46.00	-20.95 QP	horizontal	
3	266.68	31.27	39.17	-7.90	46.00	-14.73 QP	horizontal	
4	416.64	26.76	31.11	-4.35	46.00	-19.24 QP	horizontal	
5	533.43	29.64	31.26	-2.64	46.00	-17.36 QP	horizontal	
6	616.75	36.75	37.61	-0.86	46.00	-9.25 QP	horizontal	

Middle Channel (Vertical)



TÜV Rheinland Taiwan Ltd.
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	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level	Line	Limit	Remark	Pol/Phase	Note
		dBuV	Factor	dB/m	dB			
1	79.06	26.48	36.55	-10.07	46.00	-13.52 QP	vertical	
2	266.68	29.40	37.30	-7.90	46.00	-16.60 QP	vertical	
3	416.74	27.57	31.92	-4.35	46.00	-18.43 QP	vertical	
4	516.75	28.12	30.97	-2.85	46.00	-17.88 QP	vertical	
5	616.75	35.09	35.95	-0.86	46.00	-10.91 QP	vertical	
6	796.11	31.33	29.68	1.65	46.00	-14.67 QP	vertical	

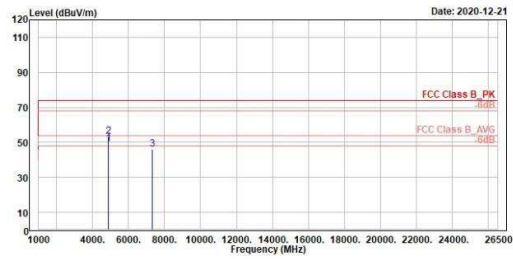
Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

BLE_1M

Middle Channel (Horizontal)



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No. 458-18, Sec 2, Fenhiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
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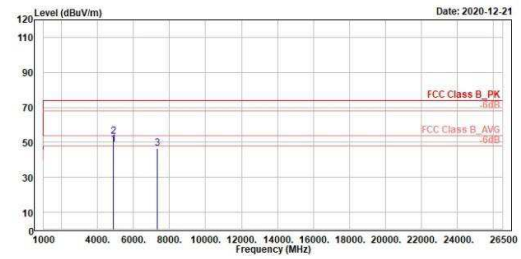


	Freq	Level	Read	Level	Factor	Limit	Over	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB				
1	4880.00	49.27	59.33	-10.06	54.00	-4.73	Average	Horizontal			
2	4880.00	53.45	63.51	-10.06	74.00	-20.55	Peak	Horizontal			
3	7320.00	46.15	53.93	-7.78	74.00	-27.85	Peak	Horizontal			

Middle Channel (Vertical)



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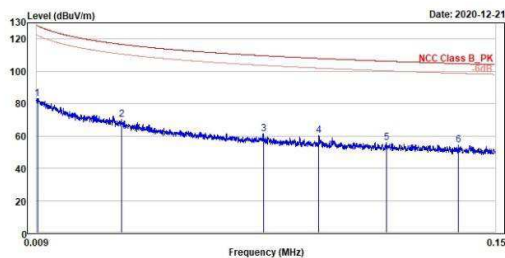
	Freq	Level	Read	Level	Factor	Limit	Over	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	dB				
1	4880.00	48.92	58.98	-10.06	54.00	-5.08	Average	Vertical			
2	4880.00	53.58	63.64	-10.06	74.00	-20.42	Peak	Vertical			
3	7320.00	46.36	54.14	-7.78	74.00	-27.64	Peak	Vertical			

Test Results of Radiated Emissions_ BTM-510BR

Spurious Emissions, Rx Mode, 9kHz ~ 30MHz

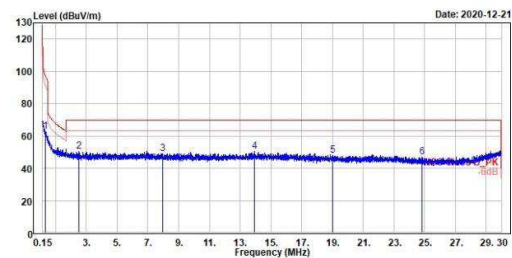
BLE_1M

Middle Channel (Open) 9kHz~150kHz



	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dB/m	dBuV/m	dB			
1	0.01	82.98	3.32	79.66	126.26	-45.28 QP	Open	
2	0.04	69.99	0.86	69.13	116.69	-46.70 QP	Open	
3	0.06	61.16	-0.24	61.40	109.68	-48.52 QP	Open	
4	0.10	60.32	0.56	59.76	107.97	-47.65 QP	Open	
5	0.12	55.79	-2.51	58.30	106.27	-50.48 QP	Open	
6	0.14	54.53	-2.48	57.01	104.76	-50.23 QP	Open	

Middle Channel (Open) 150kHz~30MHz



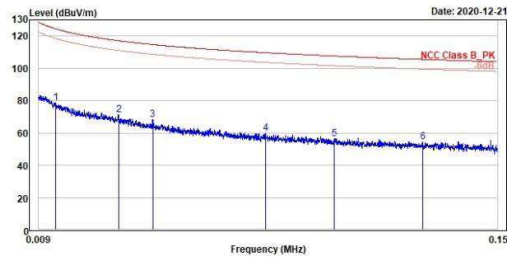
	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dB/m	dBuV/m	dB			
1	0.34	62.92	13.38	49.54	96.87	-33.95 QP	Open	
2	2.51	58.37	11.91	38.46	69.50	-19.13 QP	Open	
3	7.98	49.03	10.95	38.08	69.50	-20.47 QP	Open	
4	13.92	58.35	12.75	37.60	69.50	-19.15 QP	Open	
5	19.82	47.78	11.33	36.45	69.50	-21.72 QP	Open	
6	24.84	46.96	12.83	34.13	69.50	-22.54 QP	Open	

BLE_1M

Middle Channel (Close) 9kHz~150kHz



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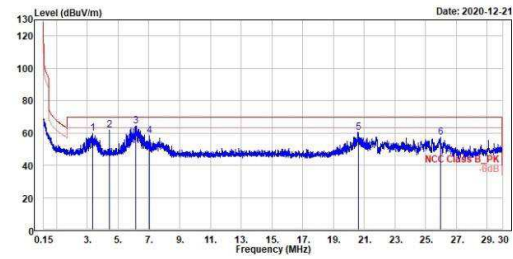


	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	0.01	78.61	2.48	76.13	124.48	-45.87 QP	Close	
2	0.03	71.29	1.67	69.62	117.08	-45.79 QP	Close	
3	0.04	68.10	1.57	66.53	114.71	-46.61 QP	Close	
4	0.08	59.59	-1.81	61.40	109.68	-50.09 QP	Close	
5	0.10	56.58	-2.67	59.25	107.60	-51.02 QP	Close	
6	0.13	54.41	-3.28	57.69	105.52	-51.11 QP	Close	

Middle Channel (Close) 150kHz~30MHz



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	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level Factor	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	3.34	59.59	21.34	38.25	69.50	-9.91 QP	Close	
2	4.43	61.68	23.35	38.33	69.50	-7.82 QP	Close	
3	6.14	64.35	26.00	38.35	69.50	-5.15 QP	Close	
4	7.05	58.46	20.11	38.35	69.50	-11.04 QP	Close	
5	20.61	68.38	24.24	36.14	69.50	-9.12 QP	Close	
6	25.97	57.27	22.98	34.29	69.50	-12.23 QP	Close	

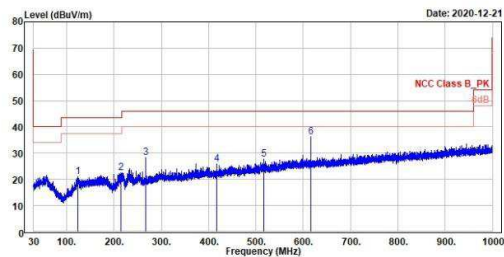
Spurious Emissions, Rx Mode, 30MHz ~ 1GHz

BLE_1M

Middle Channel (Horizontal)



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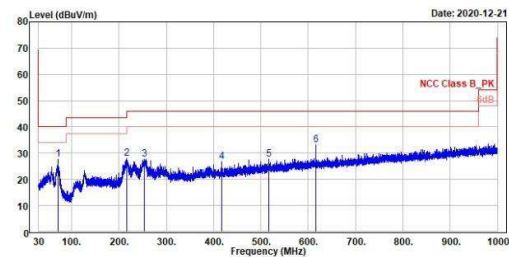


	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dB			
1	123.31	28.94	38.82	-9.88	43.50	-22.56 QP	Horizontal	
2	214.59	22.46	32.18	-9.72	43.50	-21.04 QP	Horizontal	
3	266.68	28.23	36.13	-7.90	46.00	-17.77 QP	Horizontal	
4	416.74	25.74	38.09	-4.35	46.00	-20.26 QP	Horizontal	
5	516.75	27.67	38.52	-2.85	46.00	-18.33 QP	Horizontal	
6	616.75	36.22	37.08	-0.86	46.00	-9.78 QP	Horizontal	

Middle Channel (Vertical)



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	Freq	Level	Read	Limit	Over			
	MHz	dBuV/m	Level	Line	Limit	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dB			
1	71.61	27.53	37.94	-10.41	48.00	-12.47 QP	Vertical	
2	216.14	27.89	37.58	-9.69	46.00	-18.11 QP	Vertical	
3	254.36	27.62	35.61	-7.99	46.00	-18.38 QP	Vertical	
4	416.74	26.92	31.27	-4.35	46.00	-19.08 QP	Vertical	
5	516.65	27.73	38.58	-2.85	46.00	-18.27 QP	Vertical	
6	616.75	33.07	33.93	-0.86	46.00	-12.93 QP	Vertical	

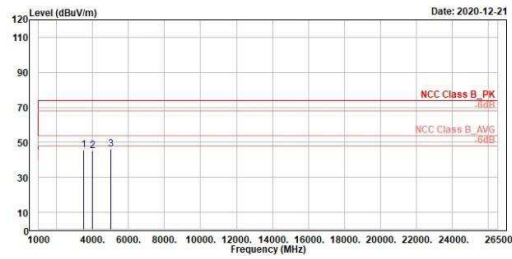
Spurious Emissions, Rx Mode, 1GHz ~ 26.5GHz

BLE_1M

Middle Channel (Horizontal)



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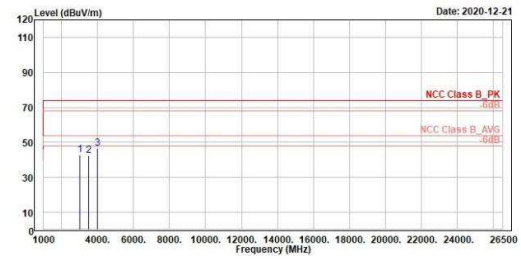


	Freq	Level	Read	Limit	Over		Pol/Phase	Note
	MHz	dBuV/m	Level Factor	Line	Limit	Remark		
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	3500.00	45.58	58.12	-12.54	74.00	-28.42 Peak	horizontal	
2	4000.00	45.32	56.85	-11.53	74.00	-28.68 Peak	horizontal	
3	5000.00	45.98	55.95	-9.97	74.00	-28.02 Peak	horizontal	

Middle Channel (Vertical)



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	Freq	Level	Read	Limit	Over		Pol/Phase	Note
	MHz	dBuV/m	Level Factor	Line	Limit	Remark		
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB		
1	3000.00	42.73	55.81	-13.08	74.00	-31.27 Peak	vertical	
2	3500.00	42.27	54.81	-12.54	74.00	-31.73 Peak	vertical	
3	4000.00	46.41	57.94	-11.53	74.00	-27.59 Peak	vertical	