Prüfbericht-Nr.: *Test report no.:*	CN23XTTV (P15C-BLE) 001	**Auftrags-Nr.:** *Order no.*:	48218172	Seite 1 von 27 *Page 1 of 27*
Kunden-Referenz-Nr.: *Client reference no.:*	N/A	**Auftragsdatum:** *Order date:*	2023-04-18	
Auftraggeber: *Client:*	Wistron Corporation 21F., No. 88, Sec. 1, HsinTai 5th Rd., Hsichih Dist, New Taipei City 221, Taiwan			
Prüfgegenstand: *Test item:*	charging cradle			
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	R5CC100			
Auftrags-Inhalt: *Order content*:	FCC Part 15C Test report (BLE)			
Prüfgrundlage: *Test specification:*	FCC 47CFR Part 15: Subpart C Section 15.247			

Wareneingangsdatum: *Date of sample receipt:*	2023-05-05
Prüfmuster-Nr.: *Test sample no:*	A003469060-003 A003469060-009
Prüfzeitraum: *Testing period:*	2023-05-10 - 2023-05-24
Ort der Prüfung: *Place of testing:*	EMC/RF Taipei Testing Site
Prüflaboratorium: *Testing laboratory:*	Taipei Testing Laboratories
Prüfergebnis*: *Test result*:*	Pass

zusammengestellt von: *compiled by:*	David Huang David Huang Project Manager	**genehmigt von:** authorized by:	Brenda Chen Brenda Chen Senior Project Manager
Datum: *Date:* 2023-06-07		**Ausstellungsdatum:** *Issue date:* 2023-06-07	
Stellung / *Position:*		**Stellung** / *Position:*	

Sonstiges / *Other:*

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

Report Section	FCC Clause	Test Item	Result
5.1.1	15.247(b) & 15.203	Antenna Requirement	Pass
5.1.2	15.247(b)(3)	Peak Output Power	Pass
5.1.3	15.247(a)(2)	6 dB Bandwidth	Pass
5.1.3	2.1049	99% Occupied Bandwidth	Pass
5.1.4	15.247(e)	Power Spectral Density	Pass
5.1.5	15.247(d)	Conducted Spurious Emissions and Band Edges	Pass
5.1.6	15.247(d) & 15.205 & 15.209	Radiated Spurious Emissions and Band Edges	Pass
5.2.1	15.207	Mains Conducted Emission	Pass

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

Contents

HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN23XTTV (P15C-BLE) 001	Original Release	2023-06-07

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 & Mains Conducted Emission
Appendix SP - Photographs of Test Setup
Appendix EP - Photographs of EUT

Applied Standard and Test Levels

Radio
FCC 47CFR Part 15: Subpart C Section 15.247
FCC 47CFR Part 2: Subpart J Section 2.1049
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.: 180491
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 basics 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)	± 1.32 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.31 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.53 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.50 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a charging cradle. 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	charging cradle
Type Identification	R5CC100
FCC ID	PU5-R5CC100

Technical Specification of EUT

Item	EUT information
Operating Frequency	2402 MHz ~ 2480 MHz
Channel Number	40
Data Rate	1Mbps, 2Mbps
Operation Voltage	5 Vdc
Modulation	GFSK
Maximum Output Power (mW)	2.89
Antenna Information	Refer to 5.1.1
Accessory Device	Refer to 4.4

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	30(+5dBM)
2440	30(+5dBM)
2480	30(+5dBM)

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	STM32CubMonitor-RF Tool

The samples were used as follows:
A003469060-003
A003469060-009
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	
-	√	√	√	√	-

Note:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on **Y-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)
-	2402 to 2480	2402, 2440, 2480	1
-	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)
NB	2402 to 2480	2402, 2440, 2480	1
	2402 to 2480	2402, 2440, 2480	2

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)
NB	2402 to 2480	2480	2
Adapter	2402 to 2480	2480	2

Mains Conducted Emission

☒ 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)
NB	2402 to 2480	2480	2

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
Conducted Measurement	22.6-23.4 °C	47.9-55.1 %	Andy Chen
Radiated Spurious Emissions above 1 GHz	22.6-24.5 °C	52-54 %	Roger Liao
Radiated Spurious Emissions below 1 GHz	22.6-24.5 °C	52-54 %	Roger Liao
Mains Conducted Emission	21.1-24.9 °C	51.7-54.9 %	Ray Huang

4.4 Special Accessories and Auxiliary Equipment

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

Accessory of EUT

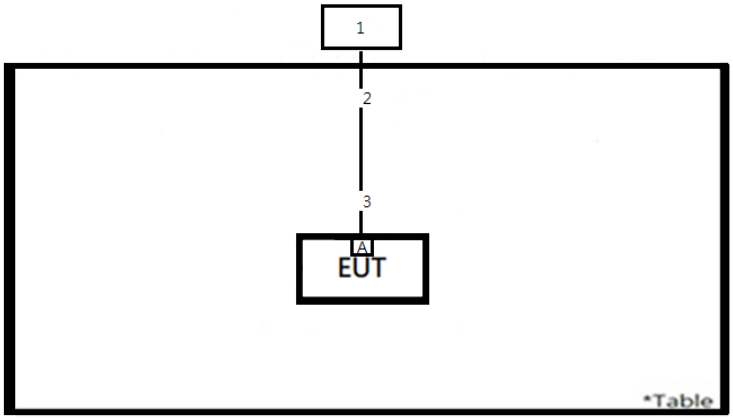
No.	Product	Brand	Model	Description
B	Adapter	MASS POWER	NBS05C050100VU	I/P: 100-240 Vac, 50/60 Hz, 0.15 mA O/P: 5 Vdc, 1 A

Support Unit

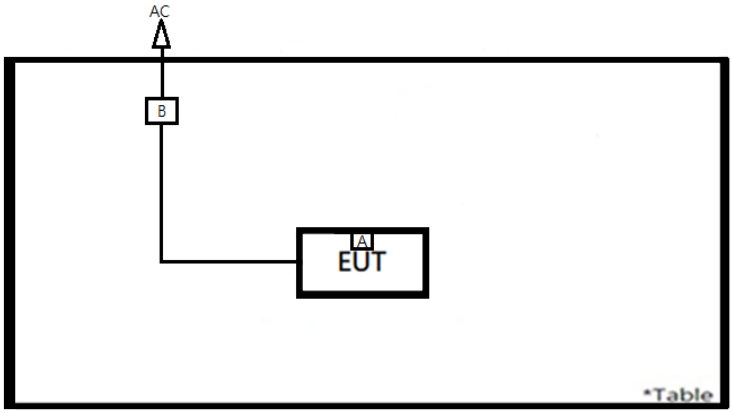
Support Unit								
No	Description	Brand	Model	S/N	Shielded	Ferrite Core (Qty)	Length (cm)	Remark
A	Load	lively	R5	N/A	-	-	-	Radiated
1	Notebook	Lenovo	81BL	MP1DCD6Y	-	-	-	
2	USB to Type-C	TUV	TUV-01	N/A	NO	NO	100	
3	USB to USB	TUV	TUV-02	N/A	NO	NO	300	
A	Load	lively	R5	N/A	-	-	-	Mains Conducted
1	Adapter	HP	PPP009D	N/A	YES	NO	179	
2	Notebook	Lenovo	81BL	MP1DCD6Y	-	-	-	
3	USB to Type-C	TUV	TUV-01	N/A	NO	NO	100	

4.5 Test Setup Diagram

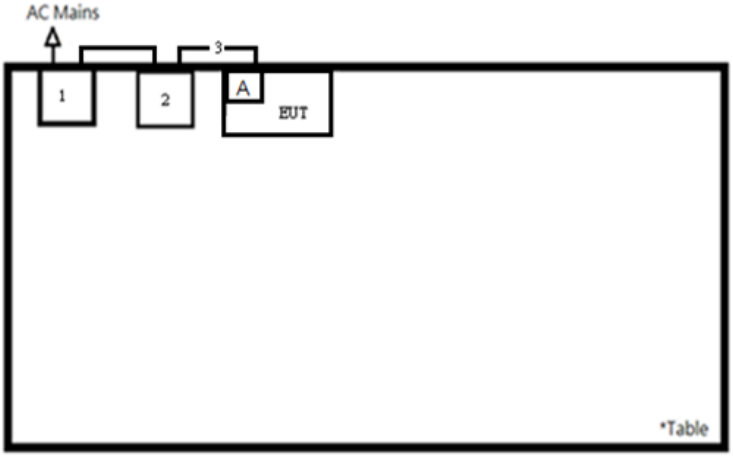
<Radiated Spurious Emissions mode>
NB Mode



Adapter Mode



<Mains Conducted Emission 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 EUT has an antenna with a directional gain of 3.05 dBi. The antenna is a 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.
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	2023/3/17	2024/3/15	2023/5/10	2023/5/16
Power Sensor	Anritsu	MA2411B	1725269	2023/3/17	2024/3/15	2023/5/10	2023/5/16

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	4.61	2.89	30
Middle Channel	2440	4.52	2.83	30
High Channel	2480	4.44	2.78	30

<2Mbps>

Channel	Channel Frequency	Peak Output Power		Limit (dBm)
	(MHz)	(dBm)	(mW)	
Low Channel	2402	4.59	2.88	30
Middle Channel	2440	4.50	2.82	30
High Channel	2480	4.41	2.76	30

Average Power (For Reference)

<1Mbps>

Channel	Channel Frequency	Average Power	
	(MHz)	(dBm)	(mW)
Low Channel	2402	4.50	2.82
Middle Channel	2440	4.41	2.76
High Channel	2480	4.31	2.70

<2Mbps>

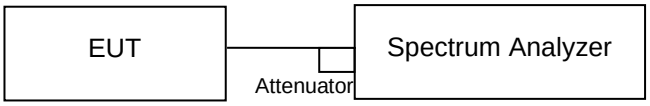
Channel	Channel Frequency	Average Power	
	(MHz)	(dBm)	(mW)
Low Channel	2402	4.49	2.81
Middle Channel	2440	4.40	2.75
High Channel	2480	4.30	2.69

5.1.3 6 dB Bandwidth and 99% Occupied 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	FSV	101512	2023/2/23	2024/2/22	2023/5/10	2023/5/16

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.
f. For 99% occupied bandwidth measurement, 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 PEAK. 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.

Test Results

Please refer to Appendix A.

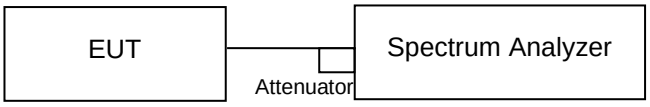
5.1.4 Power Spectral Density

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	FSV	101512	2023/2/23	2024/2/22	2023/5/10	2023/5/16

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.

Test Results

Please refer to Appendix A.

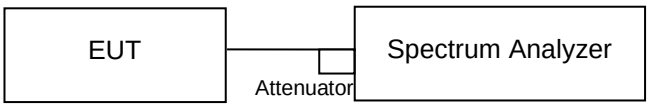
5.1.5 Conducted Spurious Emissions and Frequency Band Edges Measured in 100kHz Bandwidth

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	FSV	101512	2023/2/23	2024/2/22	2023/5/10	2023/5/16

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.

Test Results

Please refer to Appendix A.

5.1.6 Radiated Spurious Emissions and Band Edges

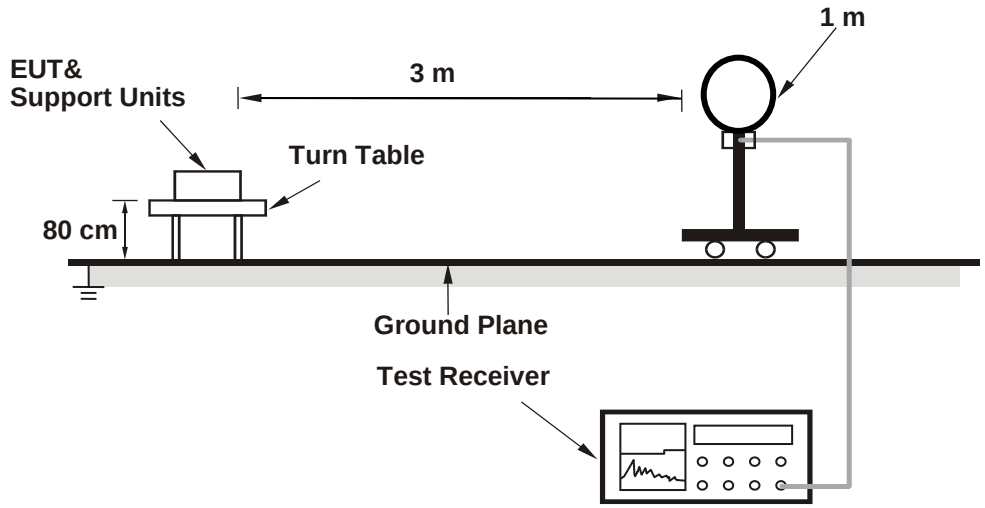
Limit

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).
Emissions radiated outside the restricted and authorized frequency bands must either comply with the radiated emission limits specified for the restricted bands or in §15.247(d).

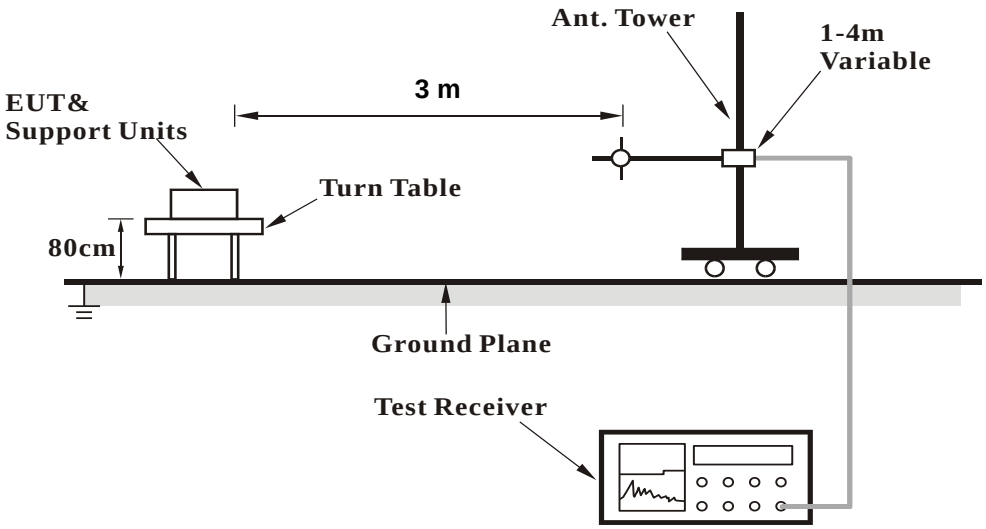
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

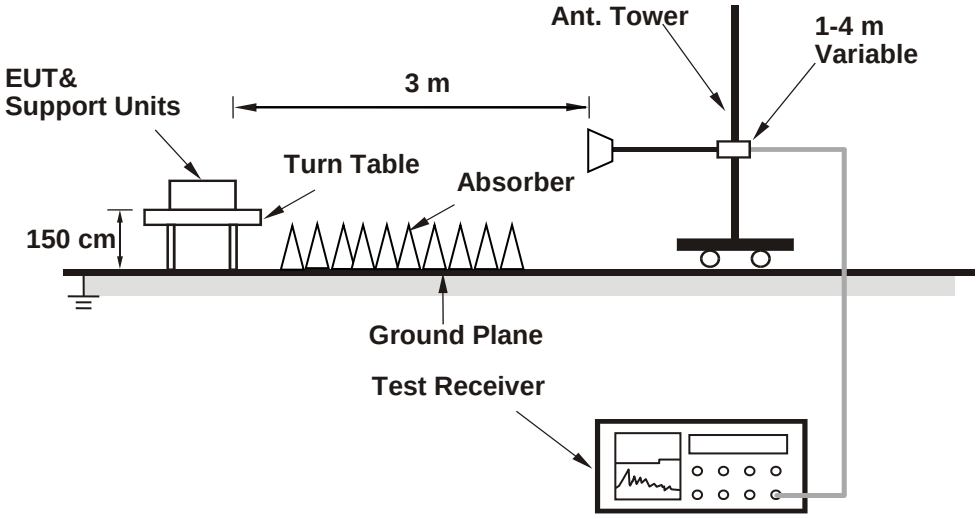
<Radiated Emissions below 30 MHz>



<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
Above 1 GHz					
Signal Analyzer	R&S	FSV40	101509	2023/4/26	2024/4/24
Horn Antenna	ETS-Lindgren	3117	00218929	2022/11/17	2023/11/16
HF-AMP + AC source	EMCI	EM01G18GA	980635	2023/2/16	2024/2/15
HF-AMP + AC source	EMCI	EMC184045SE	980656	2023/1/6	2024/1/5
Horn Antenna	SCHWARZBECK	BBHA 9170	00890	2023/5/4	2024/5/2
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
30 MHz ~ 1 GHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2023/3/31	2024/3/29
LF-AMP	Agilent	8447D	2727A05146	2023/2/16	2024/2/15
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
Below 30 MHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Loop Antenna	SCHWARZBECK	FMZB 1519B	00215	2023/1/4	2024/1/3
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A

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 ≥ 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(E1), Y(H) and Z(E2) 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.

5.2 Mains Emission

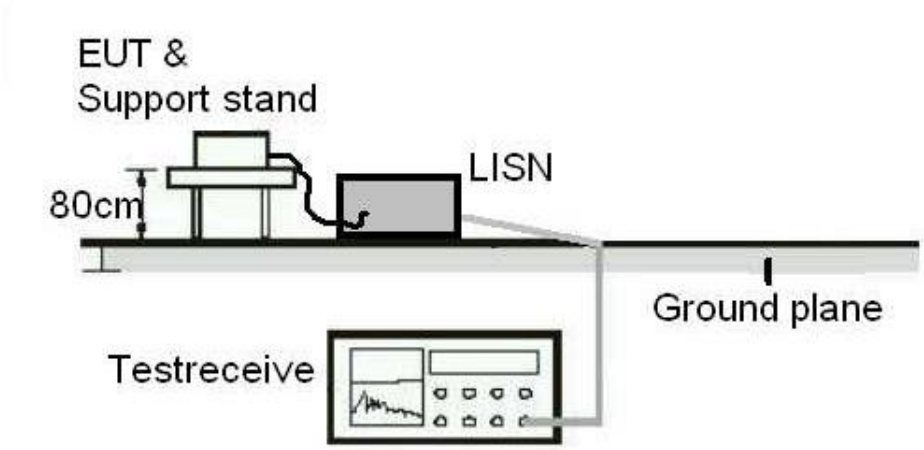
5.2.1 Mains Conducted Emission

Limit

Mains Conducted Emission as defined in §15.207 must comply with the mains conducted emission limits.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Two-Line V-Network	Rohde & Schwarz	ENV216	101938	2022/9/22	2023/9/21
EMI Test Receiver	R&S	ESCI	100797	2022/6/19	2023/6/18

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.

Test Results

Please refer to Appendix B.

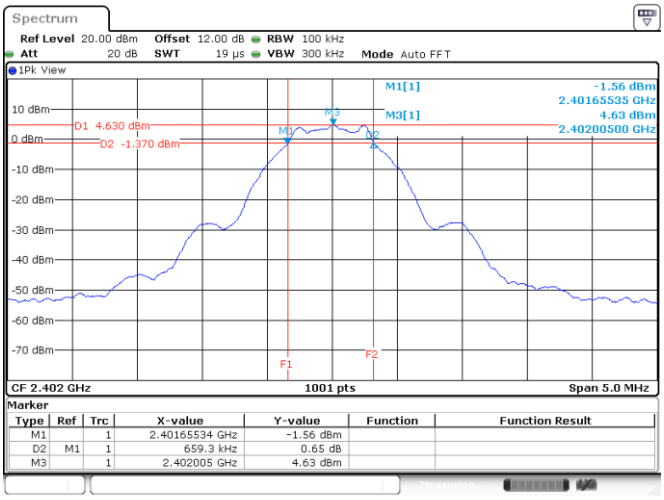
Appendix A: Test Results of Conducted Test

Test Result of 6 dB Bandwidth

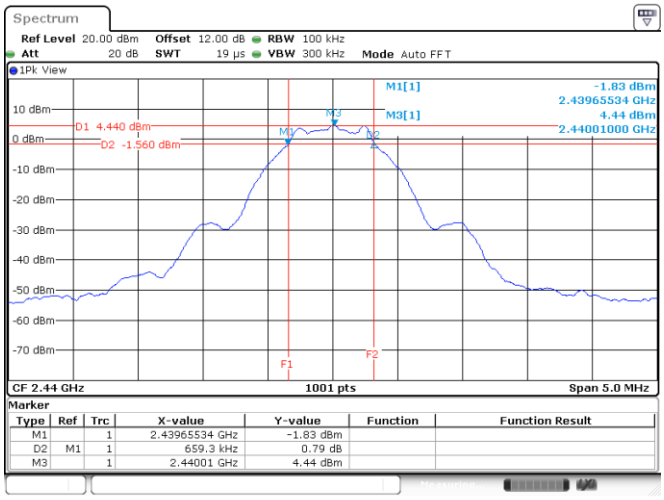
BLE_1M

Channel	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	0.66	> 0.5	Pass
Middle Channel	2440	0.66	> 0.5	Pass
High Channel	2480	0.66	> 0.5	Pass

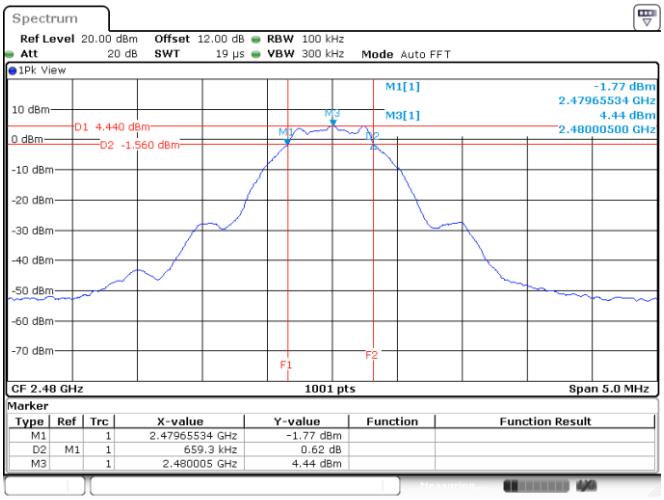
Low Channel



Middle Channel



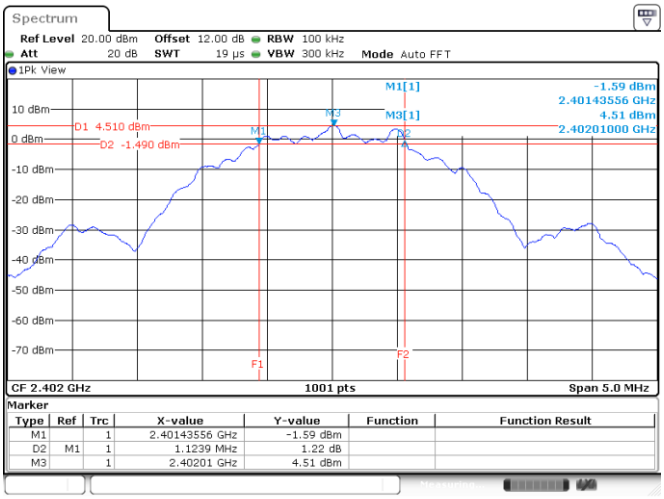
High Channel



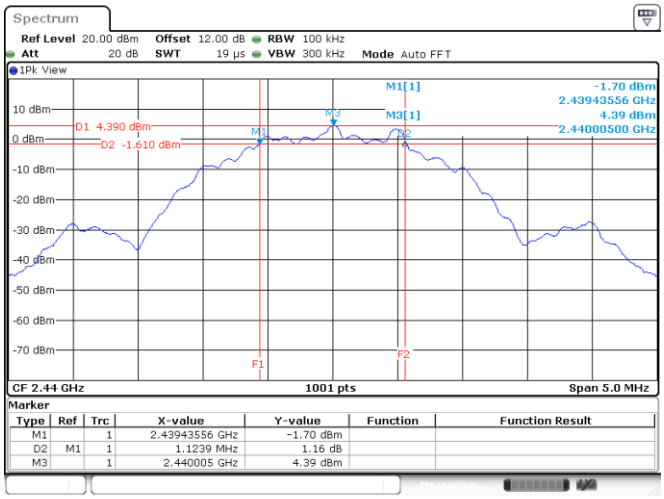
BLE_2M

Channel	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
Low Channel	2402	1.12	> 0.5	Pass
Middle Channel	2440	1.12	> 0.5	Pass
High Channel	2480	1.12	> 0.5	Pass

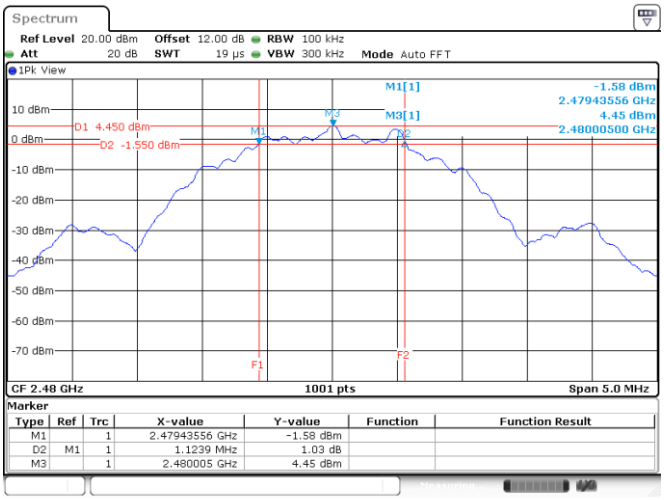
Low Channel



Middle Channel



High Channel

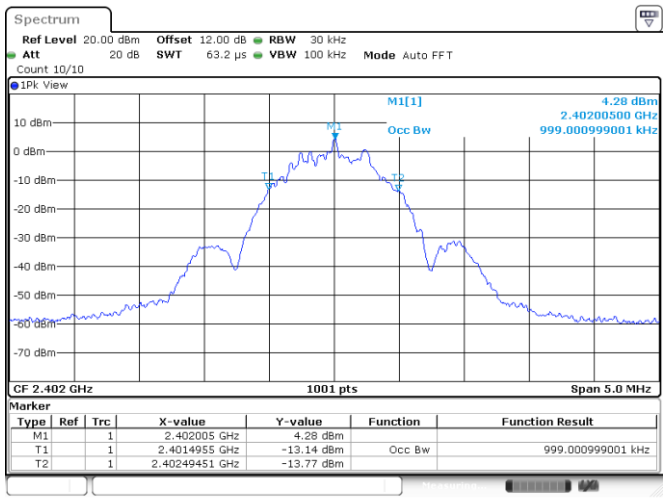


Test Result of 99% Occupied Bandwidth

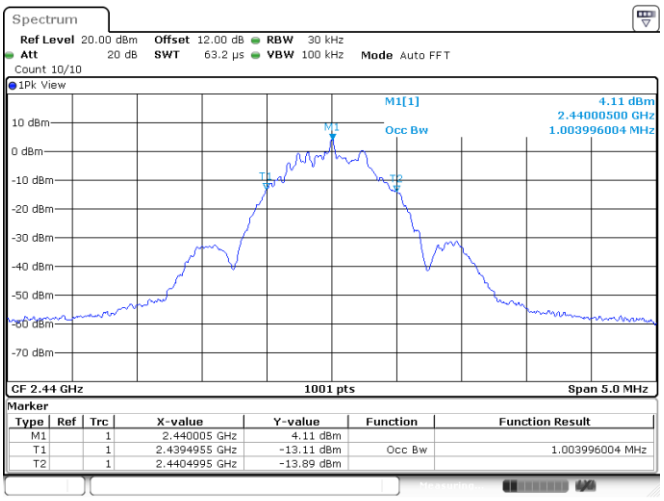
BLE_1M

Channel	Channel Frequency (MHz)	99% Bandwidth (MHz)
Low Channel	2402	1.00
Middle Channel	2440	1.00
High Channel	2480	1.00

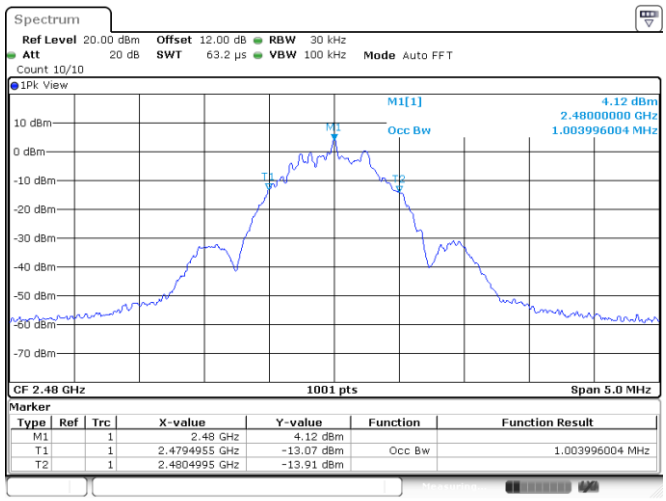
Low Channel



Middle Channel



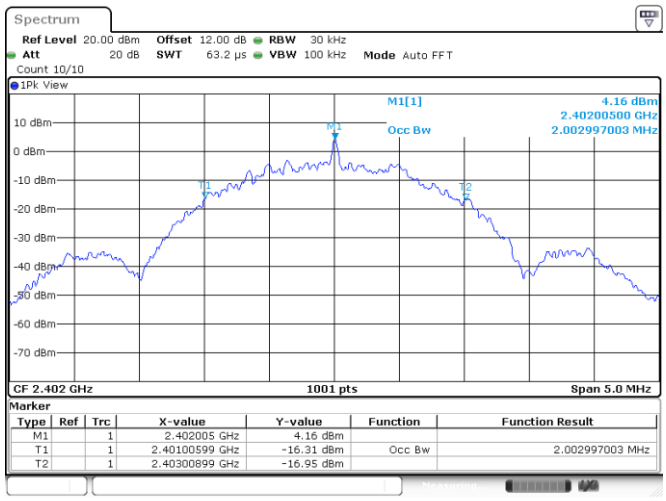
High Channel



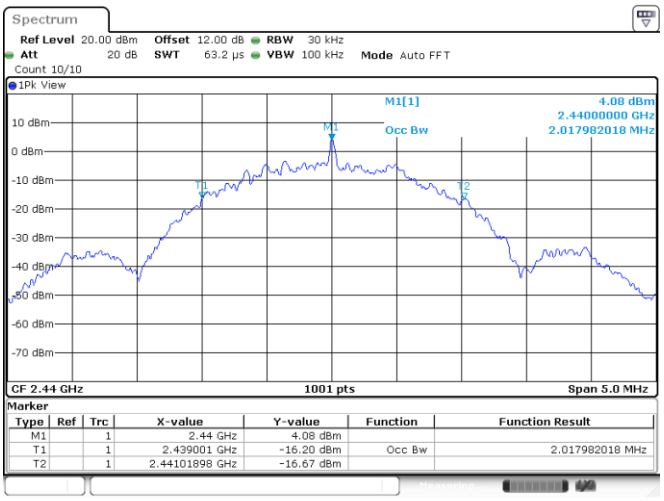
BLE_2M

Channel	Channel Frequency (MHz)	99% Bandwidth (MHz)
Low Channel	2402	2.00
Middle Channel	2440	2.02
High Channel	2480	2.01

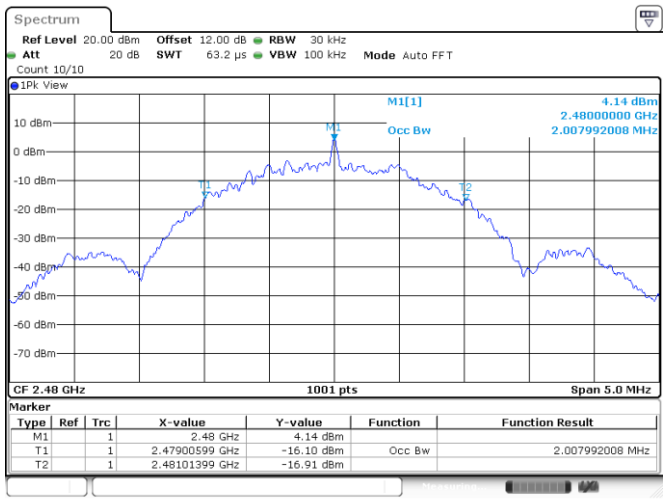
Low Channel



Middle Channel



High Channel

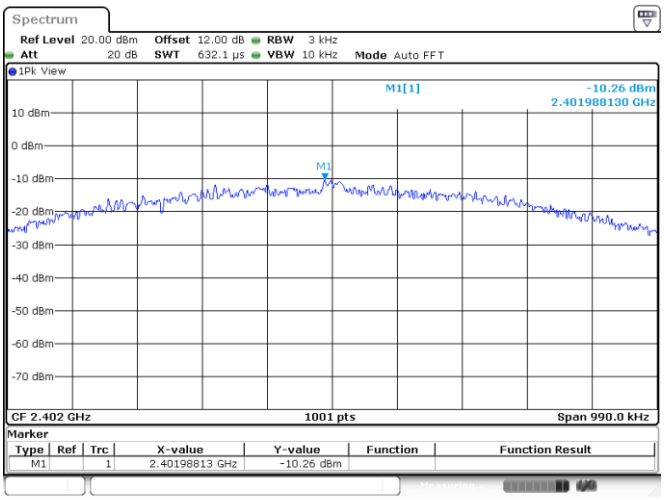


Test Result of Power Spectral Density

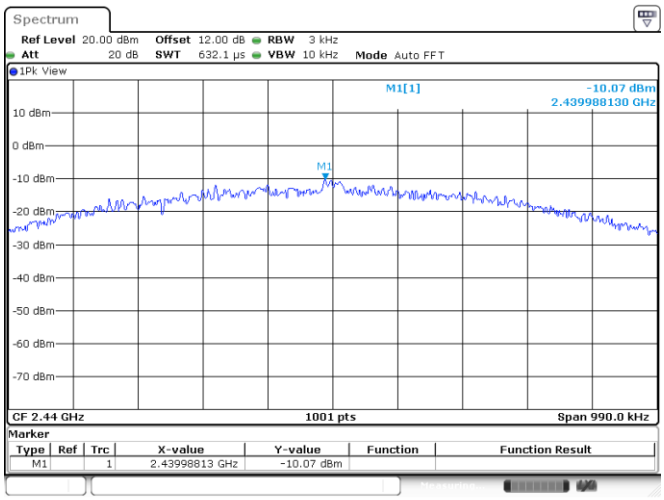
BLE_1M

Channel	Channel Frequency (MHz)	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	2402	-10.26	8	Pass
Middle Channel	2440	-10.07	8	Pass
High Channel	2480	-9.82	8	Pass

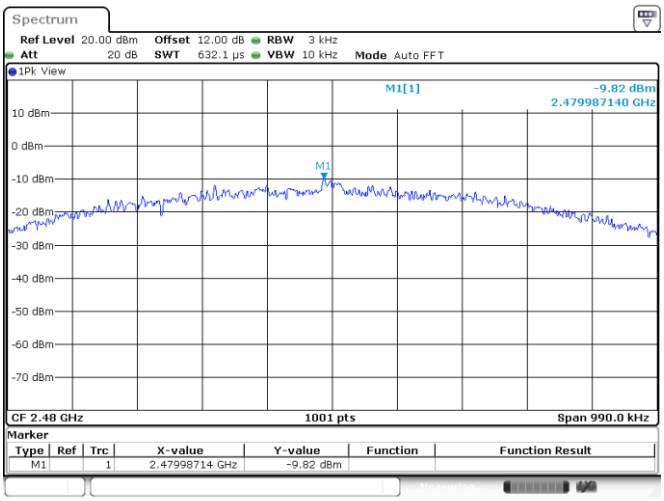
Low Channel



Middle Channel



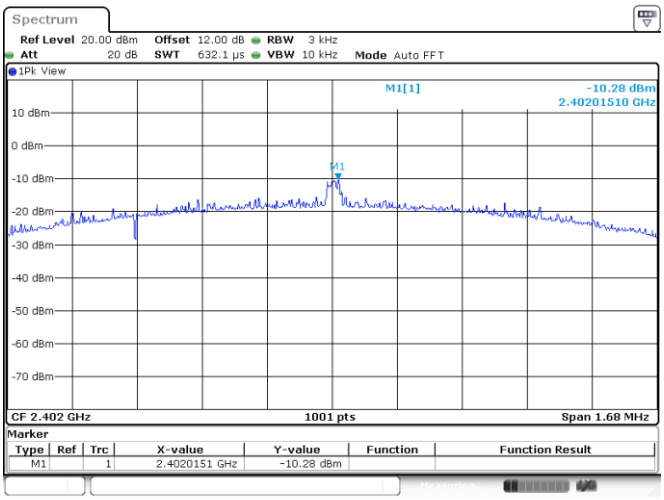
High Channel



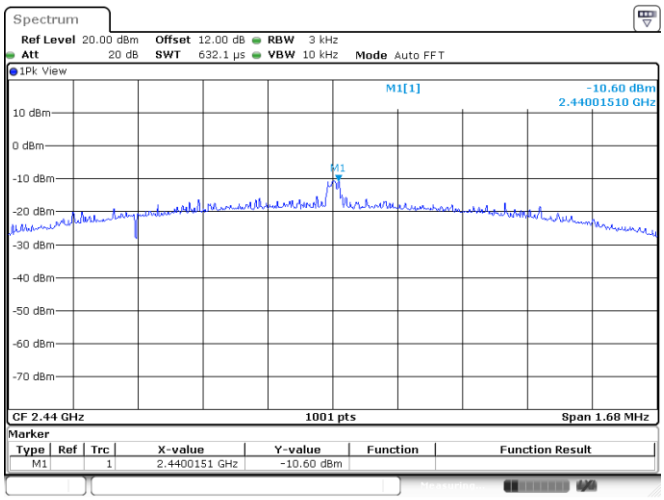
BLE_2M

Channel	Channel Frequency (MHz)	Power Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	2402	-10.28	8	Pass
Middle Channel	2440	-10.60	8	Pass
High Channel	2480	-10.66	8	Pass

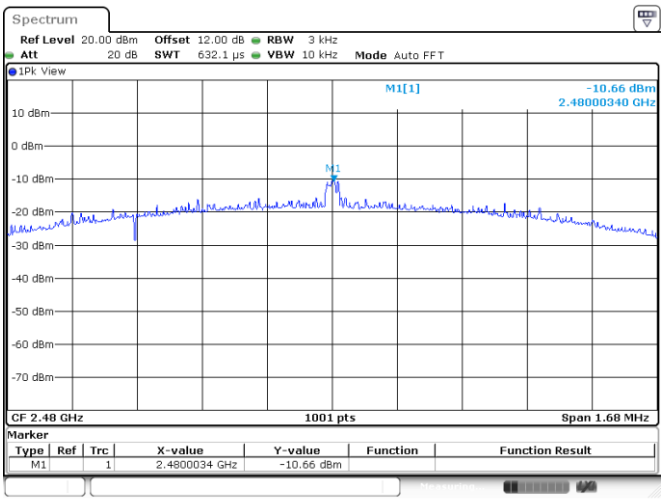
Low Channel



Middle Channel



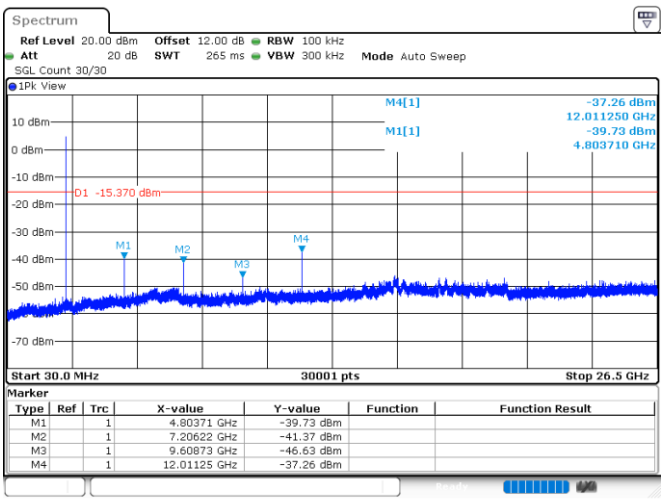
High Channel



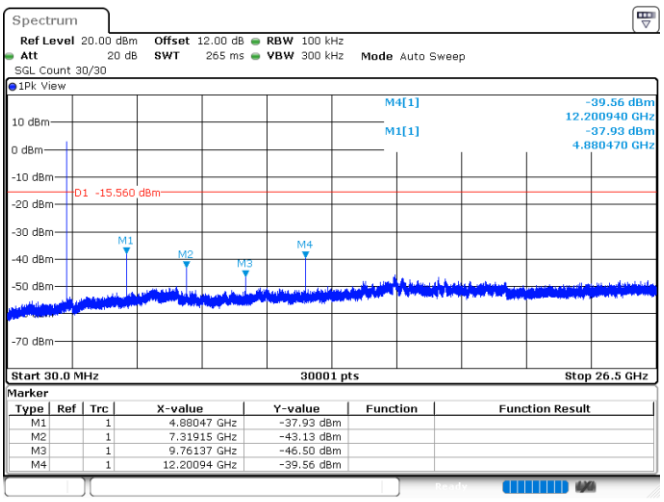
Test Result of Conducted Spurious Emissions, Tx Mode

BLE_1M

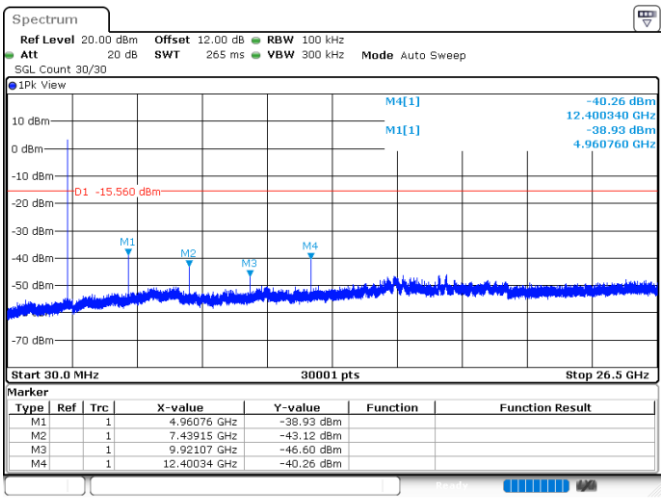
Low Channel



Middle Channel

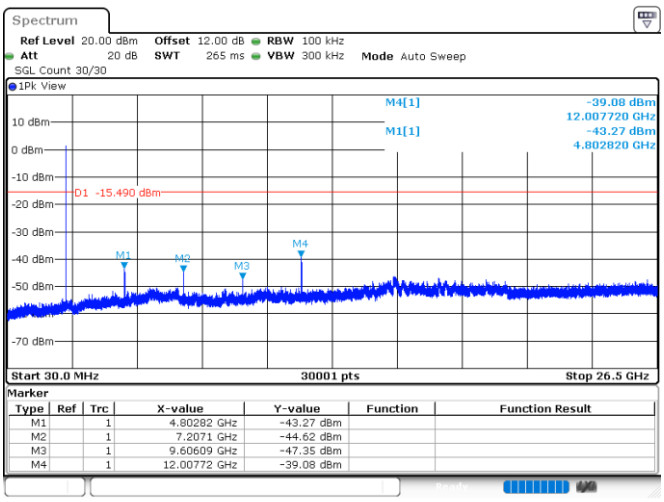


High Channel

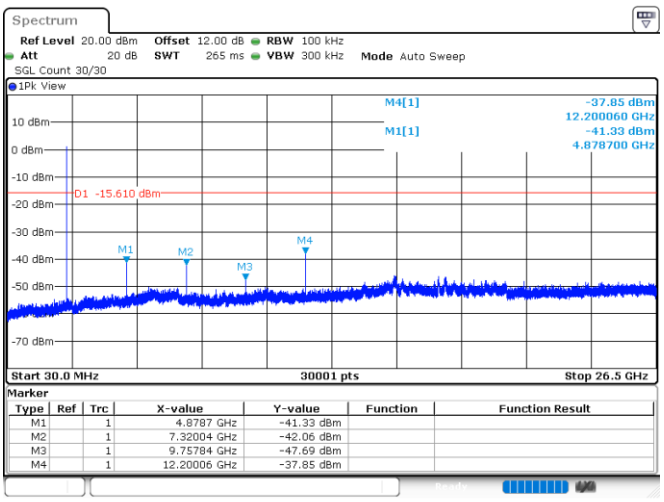


BLE_2M

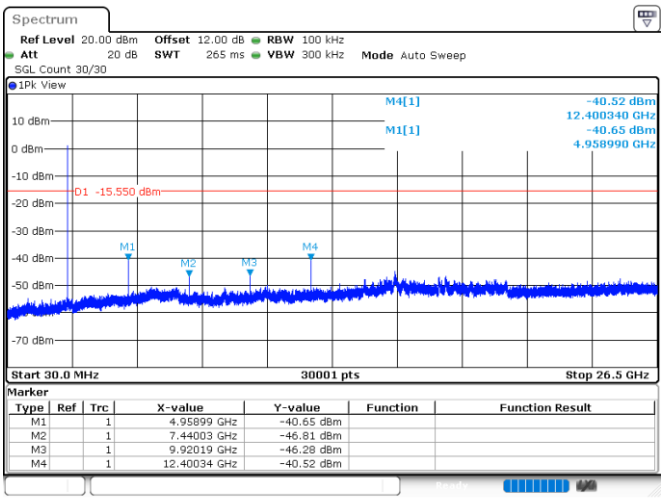
Low Channel



Middle Channel

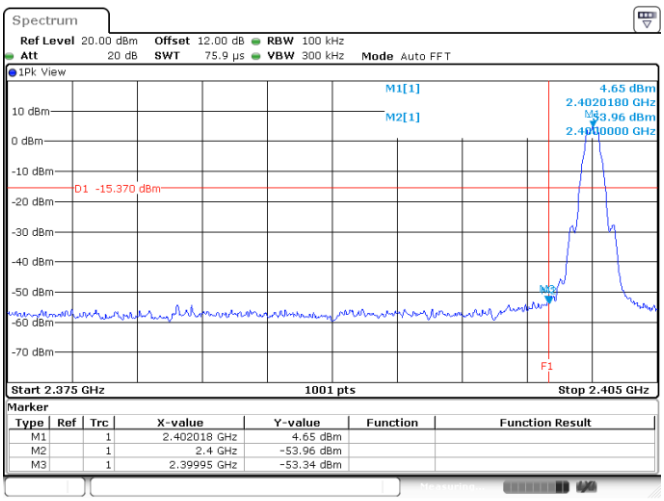
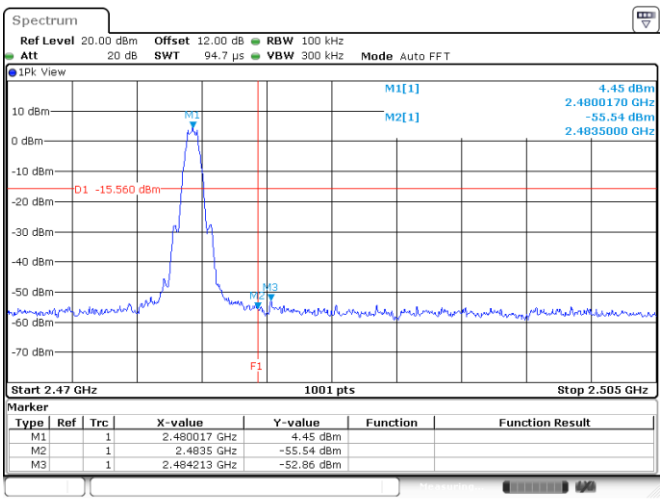


High Channel

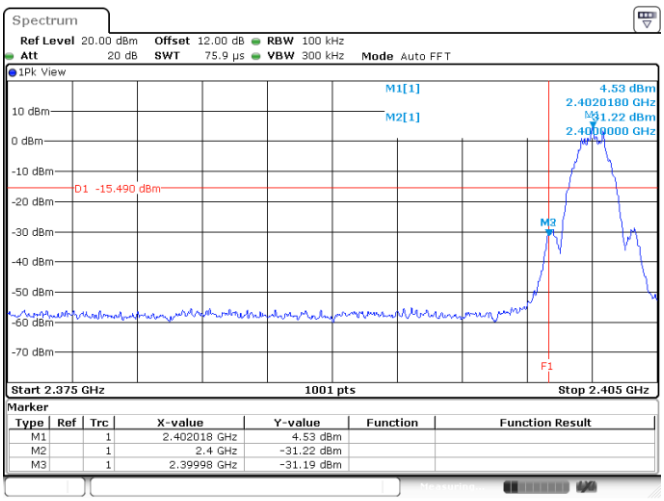
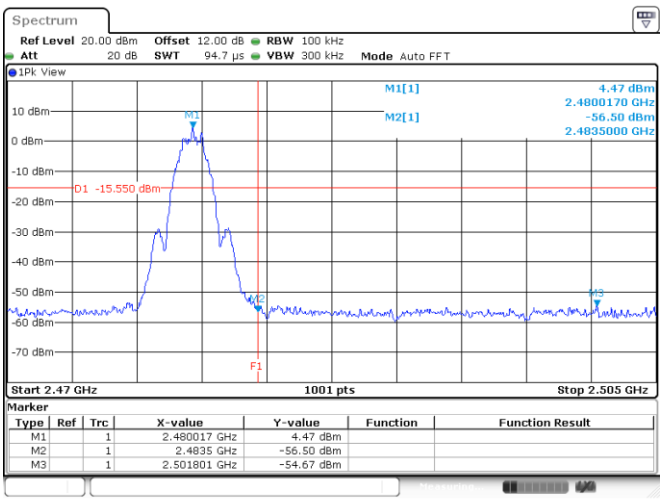


Test Result of Conducted Band Edge, Tx Mode

BLE_1M

Low Channel	High Channel
	

BLE_2M

Low Channel	High Channel
	

Appendix B: Test Results of Radiated Spurious Emissions & Mains

Conducted Emission Test

<NB Mode>

Band Edges, 2.31GHz ~ 2.9GHz

BLE_1M

Low Channel (Horizontal) Peak

TÜV Rheinland Taiwan Ltd.
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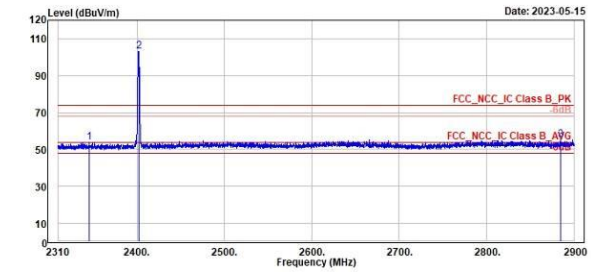
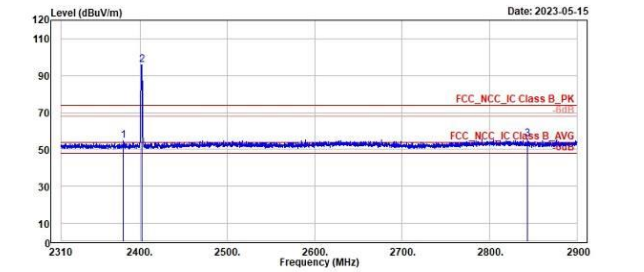


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2345.75	54.00	16.08	37.92	74.00	-20.00	344	304	Peak	Horizontal	
2 *	2402.00	103.30	65.37	37.93	74.00	29.30	344	304	Peak	Horizontal	
3	2885.13	55.15	16.40	38.75	74.00	-18.85	344	304	Peak	Horizontal	

Low Channel (Vertical) Peak

TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao., Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2381.63	54.53	16.60	37.93	74.00	-19.47	336	142	Peak	Vertical	
2 *	2402.00	95.78	57.85	37.93	74.00	21.78	336	142	Peak	Vertical	
3	2843.48	55.50	16.87	38.63	74.00	-18.50	336	142	Peak	Vertical	

BLE_1M

Low Channel (Horizontal) Average

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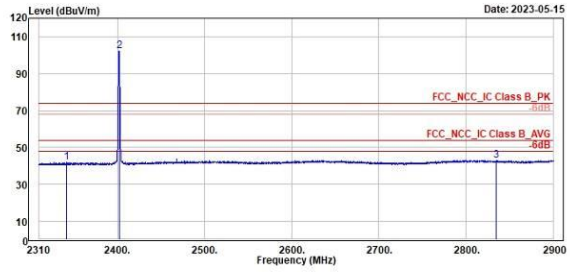

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2341.86	41.89	4.01	37.88	54.00	-12.11	344	304	Average	Horizontal	
2 *	2402.00	102.42	64.49	37.93	54.00	48.42	344	304	Average	Horizontal	
3	2834.39	43.04	4.42	38.62	54.00	-10.96	344	304	Average	Horizontal	

Low Channel (Vertical) Average

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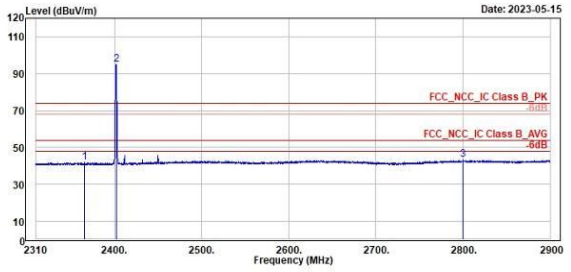

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2365.93	41.79	3.85	37.94	54.00	-12.21	336	142	Average	Vertical	
2 *	2402.00	94.91	56.98	37.93	54.00	40.91	336	142	Average	Vertical	
3	2799.94	43.13	4.55	38.58	54.00	-10.87	336	142	Average	Vertical	

BLE_1M

Middle Channel (Horizontal) Peak

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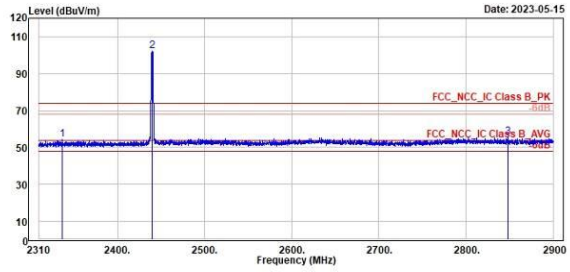

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2336.79	54.13	16.30	37.83	74.00	-19.87	298	299	Peak	Horizontal	
2 *	2440.00	102.34	64.14	38.20	74.00	28.34	298	299	Peak	Horizontal	
3	2848.43	55.54	16.91	38.63	74.00	-18.46	298	299	Peak	Horizontal	

Middle Channel (Vertical) Peak

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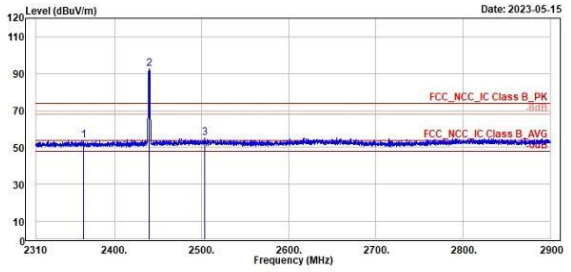

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2364.75	53.96	16.02	37.94	74.00	-20.04	120	150	Peak	Vertical	
2 *	2440.00	92.49	54.29	38.20	74.00	18.49	120	150	Peak	Vertical	
3	2503.52	55.17	16.85	38.32	74.00	-18.83	120	150	Peak	Vertical	

BLE_1M

Middle Channel (Horizontal) Average

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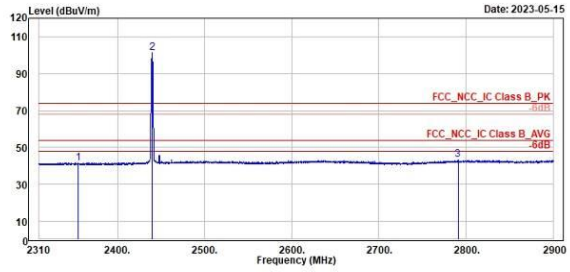

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2355.08	41.63	3.68	37.95	54.00	-12.37	298	299	Average	Horizontal	
2 *	2440.00	101.44	63.24	38.20	54.00	47.44	298	299	Average	Horizontal	
3	2790.73	43.20	4.70	38.50	54.00	-10.80	298	299	Average	Horizontal	

Middle Channel (Vertical) Average

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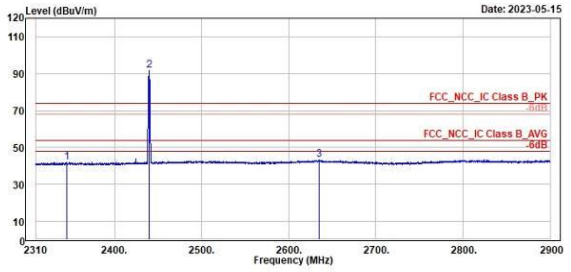
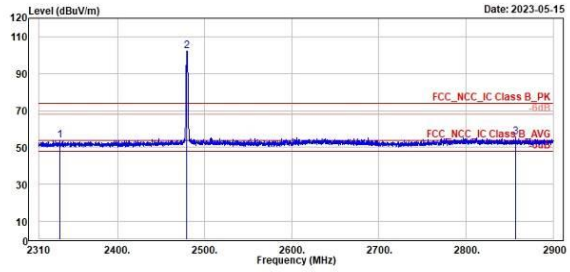


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2345.16	41.82	3.91	37.91	54.00	-12.18	120	150	Average	Vertical	
2 *	2440.00	91.60	53.40	38.20	54.00	37.60	120	150	Average	Vertical	
3	2634.97	43.34	4.92	38.42	54.00	-10.66	120	150	Average	Vertical	

BLE_1M

High Channel (Horizontal) Peak

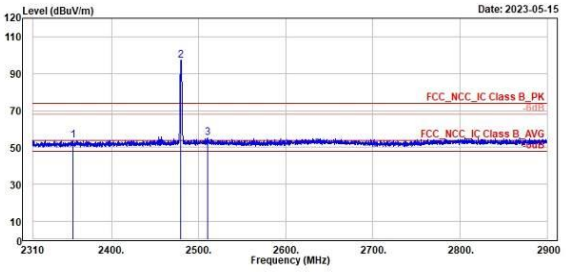
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2333.84	54.06	16.25	37.81	74.00	-19.94	293	300	Peak	Horizontal	
2 *	2480.00	102.29	63.98	38.31	74.00	28.29	293	300	Peak	Horizontal	
3	2856.93	55.48	16.83	38.65	74.00	-18.52	293	300	Peak	Horizontal	

High Channel (Vertical) Peak

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

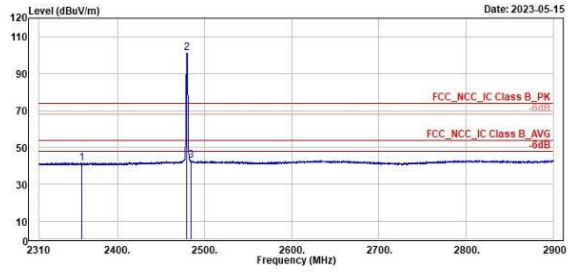


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2355.67	54.04	16.09	37.95	74.00	-19.96	398	81	Peak	Vertical	
2 *	2480.00	97.29	58.98	38.31	74.00	23.29	398	81	Peak	Vertical	
3	2510.84	55.29	16.99	38.30	74.00	-18.71	398	81	Peak	Vertical	

BLE_1M

High Channel (Horizontal) Average

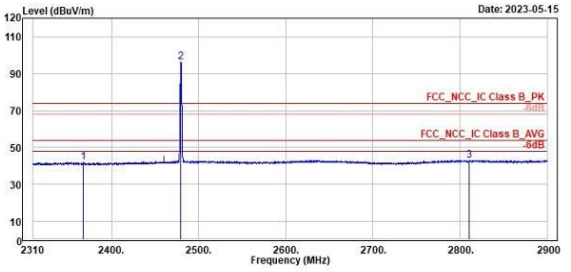
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2359.32	41.73	3.78	37.95	54.00	-12.27	293	300	Average	Horizontal	
2 *	2480.00	101.43	63.12	38.31	54.00	47.43	293	300	Average	Horizontal	
3	2484.29	43.09	4.78	38.31	54.00	-10.91	293	300	Average	Horizontal	

High Channel (Vertical) Average

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

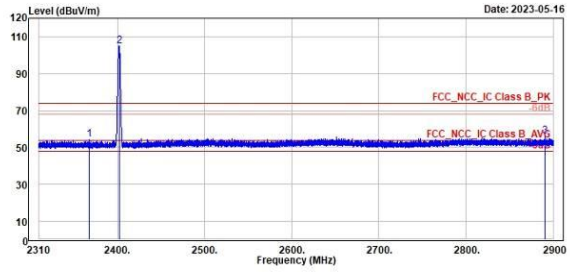


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2367.47	41.84	3.89	37.95	54.00	-12.16	398	81	Average	Vertical	
2 *	2480.00	96.41	58.10	38.31	54.00	42.41	398	81	Average	Vertical	
3	2810.79	43.11	4.52	38.59	54.00	-10.89	398	81	Average	Vertical	

BLE_2M

Low Channel (Horizontal) Peak

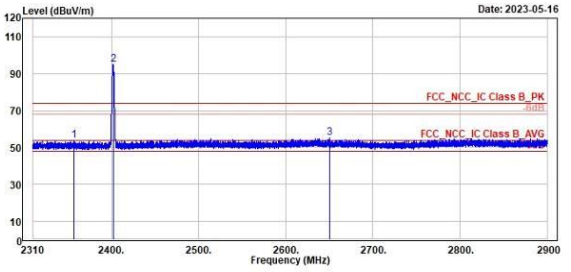
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2367.27	54.14	16.19	37.95	74.00	-19.86	300	279	Peak	Horizontal	
2 *	2402.00	104.99	67.06	37.93	74.00	30.99	300	279	Peak	Horizontal	
3	2891.01	56.15	17.39	38.76	74.00	-17.85	300	279	Peak	Horizontal	

Low Channel (Vertical) Peak

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2356.68	53.95	16.00	37.95	74.00	-20.05	376	142	Peak	Vertical	
2 *	2402.00	94.93	57.00	37.93	74.00	20.93	376	142	Peak	Vertical	
3	2650.50	55.22	16.82	38.40	74.00	-18.78	376	142	Peak	Vertical	

BLE_2M

Low Channel (Horizontal) Average

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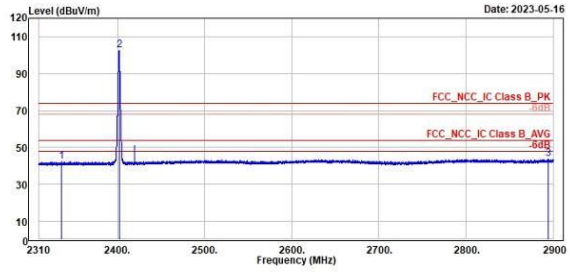
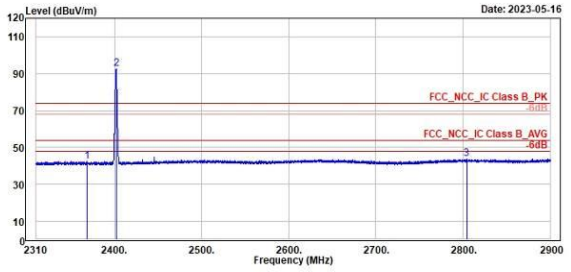


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2335.93	42.38	4.55	37.83	54.00	-11.62	300	279	Average	Horizontal	
2 *	2402.00	102.47	64.54	37.93	54.00	48.47	300	279	Average	Horizontal	
3	2894.31	43.64	4.86	38.78	54.00	-10.36	300	279	Average	Horizontal	

Low Channel (Vertical) Average

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2368.55	42.45	4.51	37.94	54.00	-11.55	376	142	Average	Vertical	
2 *	2402.00	92.44	54.51	37.93	54.00	38.44	376	142	Average	Vertical	
3	2804.25	43.85	5.27	38.58	54.00	-10.15	376	142	Average	Vertical	

BLE_2M

Middle Channel (Horizontal) Peak

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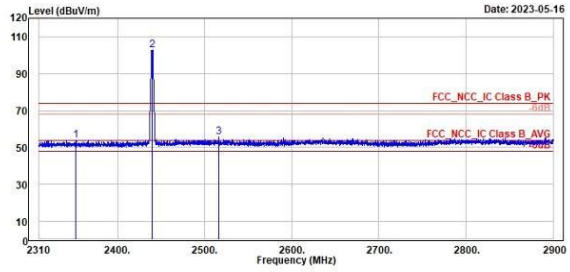
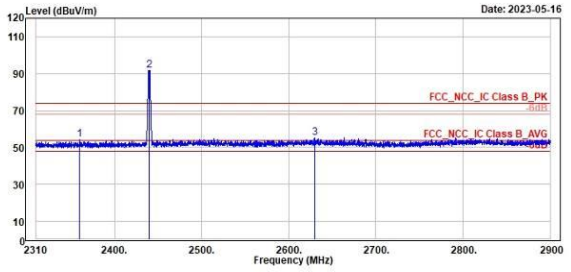


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2352.24	53.88	15.92	37.96	74.00	-20.12	337	304	Peak	Horizontal	
2 *	2440.00	102.77	64.57	38.20	74.00	28.77	337	304	Peak	Horizontal	
3	2516.26	55.56	17.28	38.28	74.00	-18.44	337	304	Peak	Horizontal	

Middle Channel (Vertical) Peak

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2360.27	54.16	16.21	37.95	74.00	-19.84	295	152	Peak	Vertical	
2 *	2440.00	91.89	53.69	38.20	74.00	17.89	295	152	Peak	Vertical	
3	2629.78	55.27	16.85	38.42	74.00	-18.73	295	152	Peak	Vertical	

BLE_2M

Middle Channel (Horizontal) Average

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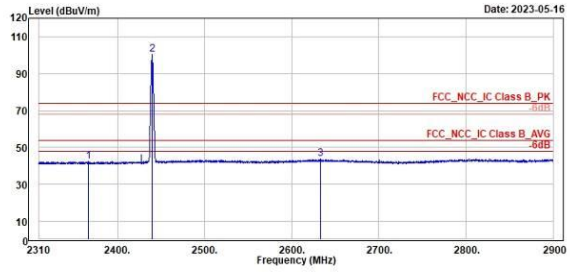

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2366.99	42.29	4.34	37.95	54.00	-11.71	337	304	Average	Horizontal	
2 *	2440.00	100.31	62.11	38.20	54.00	46.31	337	304	Average	Horizontal	
3	2633.44	43.92	5.51	38.41	54.00	-10.08	337	304	Average	Horizontal	

Middle Channel (Vertical) Average

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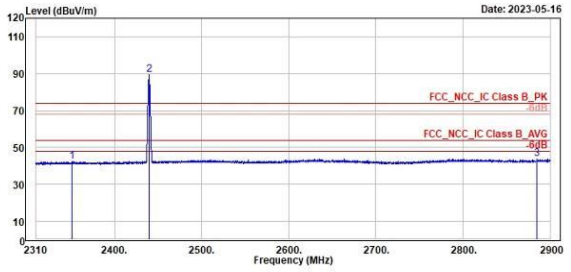
No. 458-18, Sec 2, Fenliao. ,Linkou Dist. ,New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

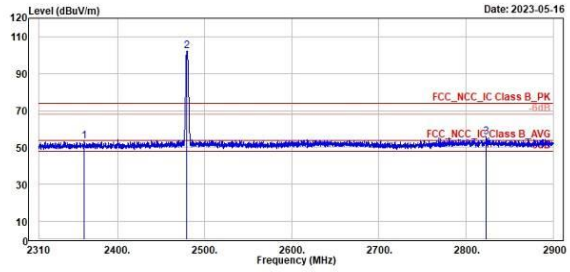


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2351.54	42.47	4.51	37.96	54.00	-11.53	295	152	Average	Vertical	
2 *	2440.00	89.32	51.12	38.20	54.00	35.32	295	152	Average	Vertical	
3	2884.66	43.84	5.09	38.75	54.00	-10.16	295	152	Average	Vertical	

BLE_2M

High Channel (Horizontal) Peak

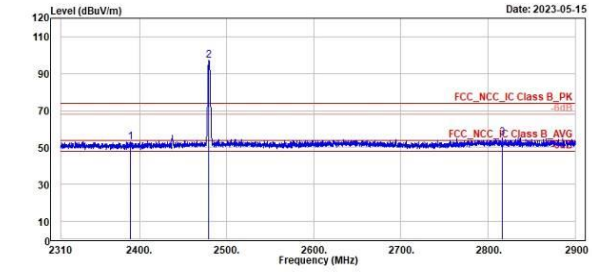
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2361.80	53.29	15.34	37.95	74.00	-20.71	318	300	Peak	Horizontal	
2 *	2480.00	102.27	63.96	38.31	74.00	28.27	318	300	Peak	Horizontal	
3	2823.42	55.59	16.98	38.61	74.00	-18.41	318	300	Peak	Horizontal	

High Channel (Vertical) Peak

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	2389.53	53.07	15.15	37.92	74.00	-20.93	400	82	Peak	Vertical	
2 *	2480.00	97.00	58.69	38.31	74.00	23.00	400	82	Peak	Vertical	
3	2816.22	55.06	16.46	38.60	74.00	-18.94	400	82	Peak	Vertical	

BLE_2M

High Channel (Horizontal) Average

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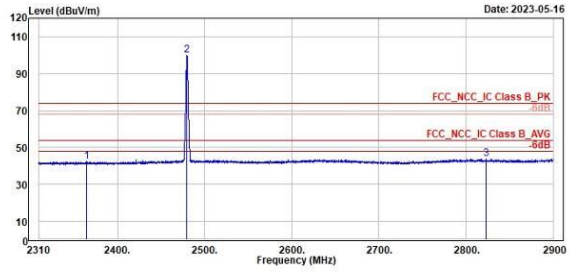

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2364.40	42.21	4.27	37.94	54.00	-11.79	318	300	Average	Horizontal	
2 *	2480.00	99.71	61.40	38.31	54.00	45.71	318	300	Average	Horizontal	
3	2822.71	43.76	5.16	38.60	54.00	-10.24	318	300	Average	Horizontal	

High Channel (Vertical) Average

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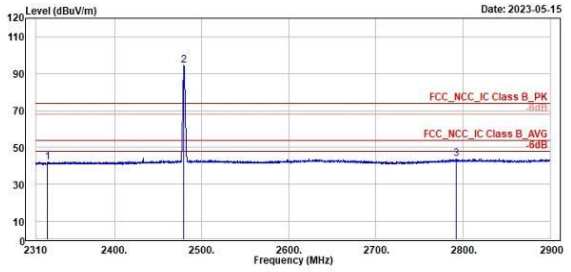

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	2323.57	42.16	4.44	37.72	54.00	-11.84	400	82	Average	Vertical	
2 *	2480.00	94.48	56.17	38.31	54.00	40.48	400	82	Average	Vertical	
3	2791.79	43.83	5.33	38.50	54.00	-10.17	400	82	Average	Vertical	

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

BLE_2M

High Channel (Open) 9kHz~150kHz

TUV Rheinland Taiwan Ltd.
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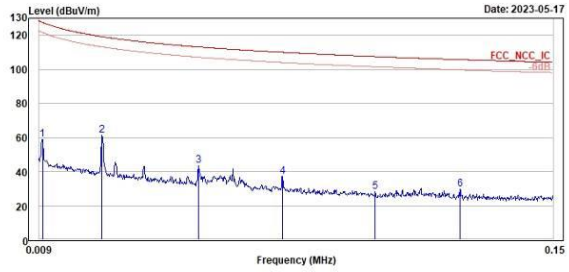

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.01	58.78	41.06	17.72	127.60	-68.82	100	129	Peak	Open	
2	0.03	61.49	42.55	18.94	119.18	-57.69	100	248	Peak	Open	
3	0.05	43.70	24.65	19.05	113.13	-69.43	100	360	Peak	Open	
4	0.08	36.97	18.47	18.50	110.00	-73.03	100	288	Peak	Open	
5	0.10	28.06	10.14	17.92	107.49	-79.43	100	270	Peak	Open	
6	0.12	29.45	11.43	18.02	105.70	-76.25	100	222	Peak	Open	

High Channel (Open) 150kHz~30MHz

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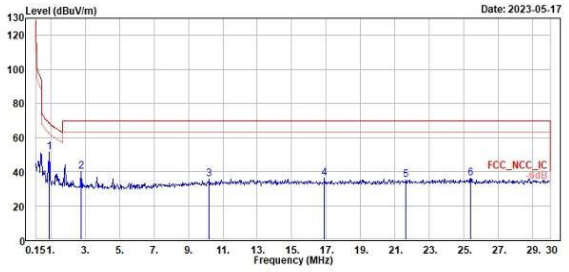

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.93	51.30	32.27	19.03	68.27	-16.97	100	147	Peak	Open	
2	2.78	40.23	20.68	19.55	69.50	-29.27	100	149	Peak	Open	
3	10.21	35.48	13.98	21.50	69.50	-34.02	100	204	Peak	Open	
4	16.90	36.04	14.08	21.96	69.50	-33.46	100	210	Peak	Open	
5	21.61	35.24	13.06	22.18	69.50	-34.26	100	177	Peak	Open	
6	25.37	35.85	13.65	22.20	69.50	-33.65	100	293	Peak	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

BLE_2M

High Channel (Horizontal)

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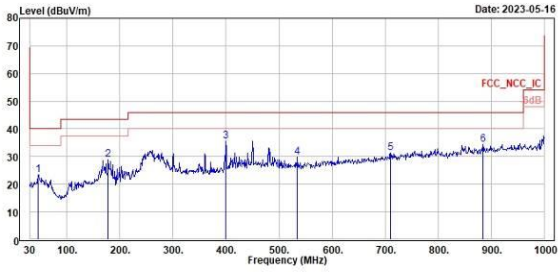
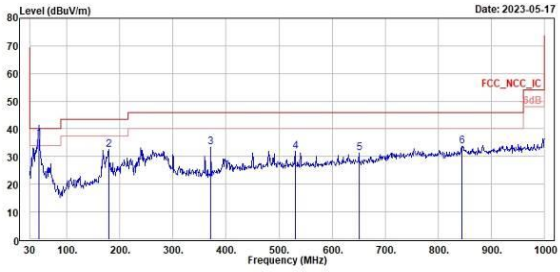


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	45.52	23.40	29.33	-5.93	40.00	-16.60	100	58	Peak	Horizontal	
2	177.44	28.84	35.35	-6.51	43.50	-14.66	200	157	Peak	Horizontal	
3	399.57	35.50	38.44	-2.94	46.00	-10.50	100	206	Peak	Horizontal	
4	534.40	29.90	30.83	-0.93	46.00	-16.10	200	216	Peak	Horizontal	
5	709.97	31.23	29.04	2.19	46.00	-14.77	200	360	Peak	Horizontal	
6	884.57	34.39	29.75	4.64	46.00	-11.61	100	213	Peak	Horizontal	

High Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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 !	46.49	36.63	42.50	-5.87	40.00	-3.37	114	360	QP	Vertical	
2	178.41	32.69	39.30	-6.61	43.50	-10.81	100	242	Peak	Vertical	
3	371.44	33.40	36.77	-3.37	46.00	-12.60	100	222	Peak	Vertical	
4	530.52	31.97	32.90	-0.93	46.00	-14.03	200	191	Peak	Vertical	
5	650.80	31.39	30.49	0.90	46.00	-14.61	100	177	Peak	Vertical	
6	844.80	33.90	29.78	4.12	46.00	-12.10	100	164	Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 26.5GHz

BLE_1M

Low Channel (Horizontal)

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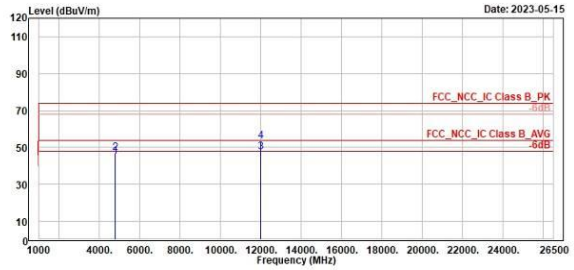
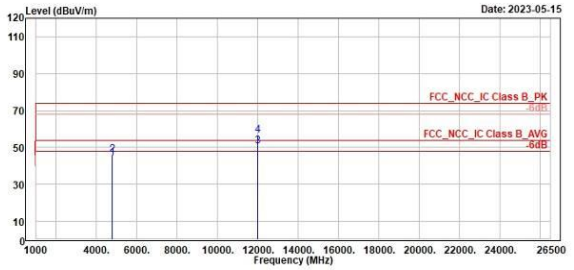


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	45.00	52.86	-7.86	54.00	-9.00	300	262	Average	Horizontal	
2	4804.00	47.14	55.00	-7.86	74.00	-26.86	300	262	Peak	Horizontal	
3	12010.00	47.40	45.83	1.57	54.00	-6.60	400	140	Average	Horizontal	
4	12010.00	53.49	51.92	1.57	74.00	-20.51	400	140	Peak	Horizontal	

Low Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

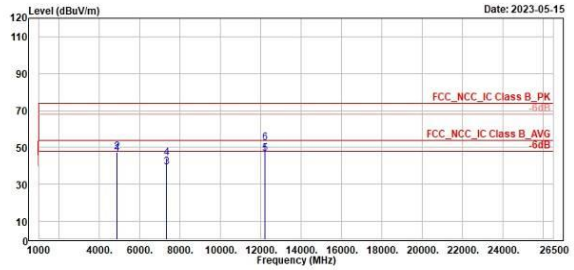


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	44.26	52.12	-7.86	54.00	-9.74	200	23	Average	Vertical	
2	4804.00	46.04	53.90	-7.86	74.00	-27.96	200	23	Peak	Vertical	
3	12010.00	50.85	49.28	1.57	54.00	-3.15	326	30	Average	Vertical	
4	12010.00	56.67	55.10	1.57	74.00	-17.33	326	30	Peak	Vertical	

BLE_1M

Middle Channel (Horizontal)

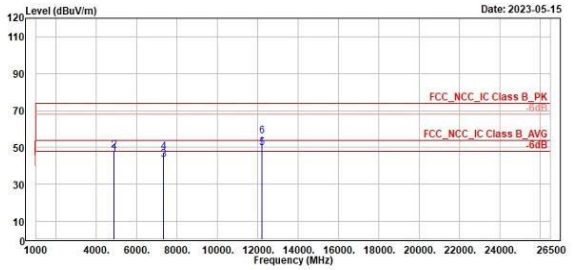
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	4880.00	46.55	54.41	-7.86	54.00	-7.45	270	24	Average	Horizontal	
2	4880.00	47.53	55.39	-7.86	74.00	-26.47	270	24	Peak	Horizontal	
3	7320.00	39.40	44.96	-5.56	54.00	-14.60	306	360	Average	Horizontal	
4	7320.00	44.13	49.69	-5.56	74.00	-29.87	306	360	Peak	Horizontal	
5	12200.00	46.61	44.63	1.98	54.00	-7.39	400	130	Average	Horizontal	
6	12200.00	52.31	50.33	1.98	74.00	-21.69	400	130	Peak	Horizontal	

Middle Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

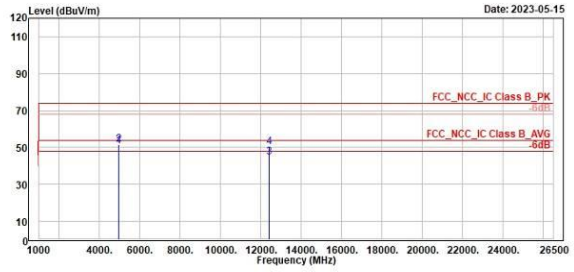


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4880.00	46.40	54.26	-7.86	54.00	-7.60	300	33	Average	Vertical	
2	4880.00	48.59	56.45	-7.86	74.00	-25.41	300	33	Peak	Vertical	
3	7320.00	43.25	48.81	-5.56	54.00	-10.75	100	280	Average	Vertical	
4	7320.00	47.32	52.88	-5.56	74.00	-26.68	100	280	Peak	Vertical	
5	12200.00	49.79	47.81	1.98	54.00	-4.21	100	61	Average	Vertical	
6	12200.00	56.14	54.16	1.98	74.00	-17.86	100	61	Peak	Vertical	

BLE_1M

High Channel (Horizontal)

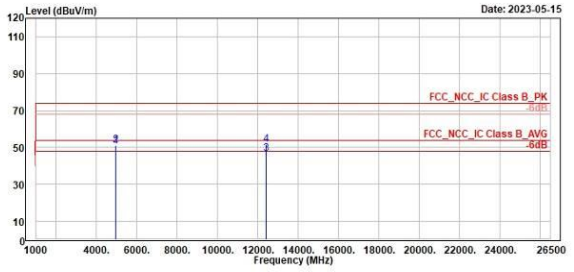
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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 !	4960.00	50.53	58.18	-7.65	54.00	-3.47	300	113	Average	Horizontal	
2	4960.00	51.61	59.26	-7.65	74.00	-22.39	300	113	Peak	Horizontal	
3	12400.00	44.64	42.33	2.31	54.00	-9.36	400	123	Average	Horizontal	
4	12400.00	49.99	47.68	2.31	74.00	-24.01	400	123	Peak	Horizontal	

High Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

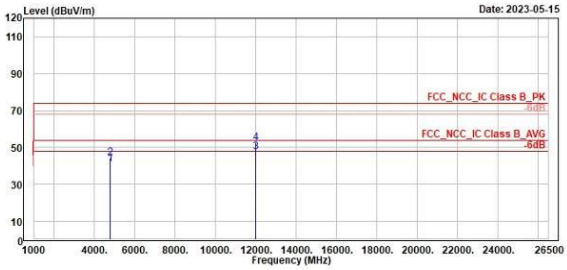


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1 !	4960.00	50.63	58.28	-7.65	54.00	-3.37	300	200	Average	Vertical	
2	4960.00	51.23	58.88	-7.65	74.00	-22.77	300	200	Peak	Vertical	
3	12400.00	46.56	44.25	2.31	54.00	-7.44	300	182	Average	Vertical	
4	12400.00	51.74	49.43	2.31	74.00	-22.26	300	182	Peak	Vertical	

BLE_2M

Low Channel (Horizontal)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	41.24	49.10	-7.86	54.00	-12.76	300	264	Average	Horizontal	
2	4804.00	44.24	52.10	-7.86	74.00	-29.76	300	264	Peak	Horizontal	
3	12010.00	47.39	45.82	1.57	54.00	-6.61	300	261	Average	Horizontal	
4	12010.00	52.48	50.91	1.57	74.00	-21.52	300	261	Peak	Horizontal	

Low Channel (Vertical)

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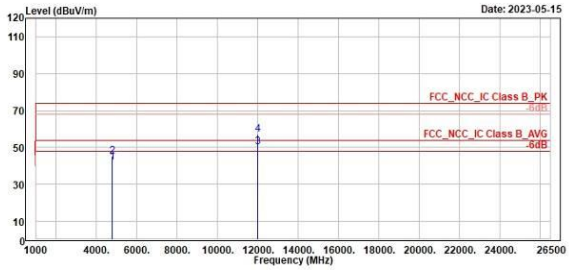
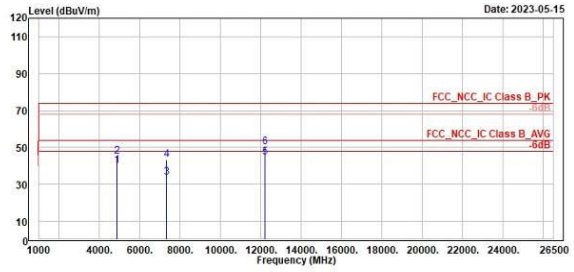


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4804.00	41.78	49.64	-7.86	54.00	-12.22	300	189	Average	Vertical	
2	4804.00	45.25	53.11	-7.86	74.00	-28.75	300	189	Peak	Vertical	
3	12010.00	49.99	48.42	1.57	54.00	-4.01	100	62	Average	Vertical	
4	12010.00	57.11	55.54	1.57	74.00	-16.89	100	62	Peak	Vertical	

BLE_2M

Middle Channel (Horizontal)

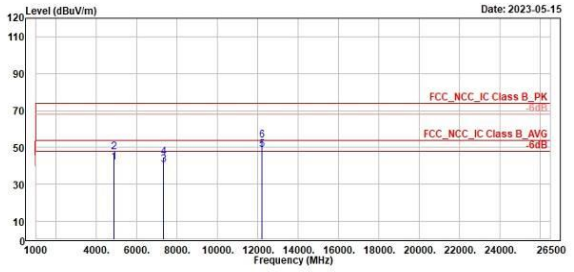
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	4880.00	39.95	47.81	-7.86	54.00	-14.05	100	351	Average	Horizontal	
2	4880.00	45.22	53.08	-7.86	74.00	-28.78	100	351	Peak	Horizontal	
3	7320.00	33.57	39.13	-5.56	54.00	-20.43	300	360	Average	Horizontal	
4	7320.00	43.42	48.98	-5.56	74.00	-30.58	300	360	Peak	Horizontal	
5	12200.00	44.88	42.90	1.98	54.00	-9.12	300	95	Average	Horizontal	
6	12200.00	50.35	48.37	1.98	74.00	-23.65	300	95	Peak	Horizontal	

Middle Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322

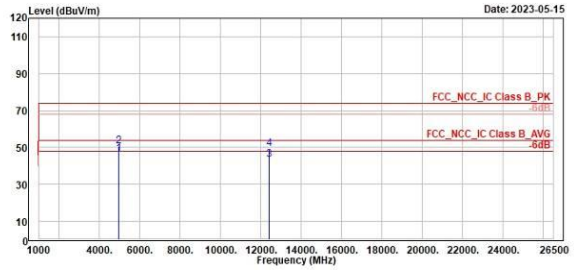


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	4880.00	41.93	49.79	-7.86	54.00	-12.07	256	19	Average	Vertical	
2	4880.00	47.59	55.45	-7.86	74.00	-26.41	256	19	Peak	Vertical	
3	7320.00	40.68	46.24	-5.56	54.00	-13.32	100	297	Average	Vertical	
4	7320.00	44.50	50.06	-5.56	74.00	-29.50	100	297	Peak	Vertical	
5	12200.00	48.90	46.92	1.98	54.00	-5.10	100	76	Average	Vertical	
6	12200.00	53.73	51.75	1.98	74.00	-20.27	100	76	Peak	Vertical	

BLE_2M

High Channel (Horizontal)

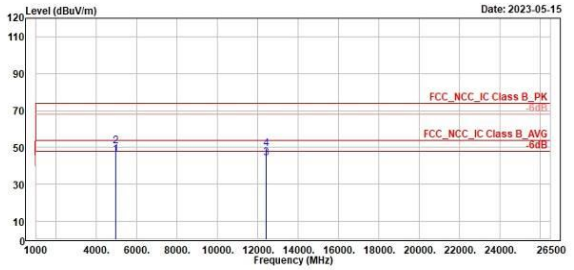
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	4960.00	46.52	54.17	-7.65	54.00	-7.48	302	140	Average	Horizontal	
2	4960.00	50.63	58.28	-7.65	74.00	-23.37	302	140	Peak	Horizontal	
3	12400.00	43.37	41.06	2.31	54.00	-10.63	200	114	Average	Horizontal	
4	12400.00	49.28	46.97	2.31	74.00	-24.72	200	114	Peak	Horizontal	

High Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao. ,Linkou Dist., New Taipei City 244. Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	4960.00	46.22	53.87	-7.65	54.00	-7.78	300	164	Average	Vertical	
2	4960.00	50.52	58.17	-7.65	74.00	-23.48	300	164	Peak	Vertical	
3	12400.00	44.25	41.94	2.31	54.00	-9.75	300	41	Average	Vertical	
4	12400.00	49.17	46.86	2.31	74.00	-24.83	300	41	Peak	Vertical	

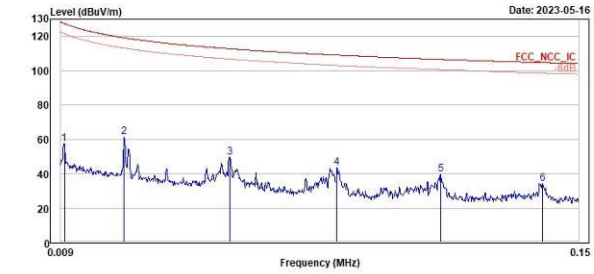
<Adapter Mode>

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

BLE_2M

High Channel (Open) 9kHz~150kHz

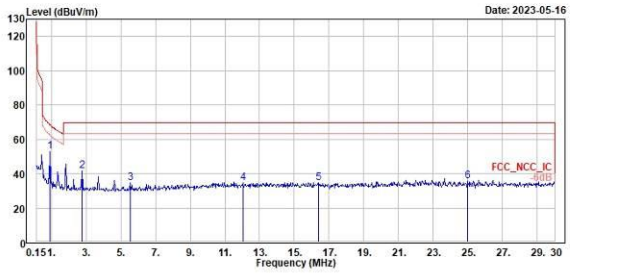
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, , Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	0.01	57.56	39.84	17.72	127.60	-70.04	100	225	Peak	Open	
2	0.03	61.07	42.13	18.94	119.18	-58.11	100	133	Peak	Open	
3	0.05	49.47	30.47	19.00	112.79	-63.32	100	278	Peak	Open	
4	0.08	43.31	25.01	18.30	109.09	-65.78	100	246	Peak	Open	
5	0.11	39.36	21.39	17.97	106.57	-67.21	100	334	Peak	Open	
6	0.14	34.32	16.24	18.08	104.67	-70.35	100	88	Peak	Open	

High Channel (Open) 150kHz~30MHz

TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, , Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



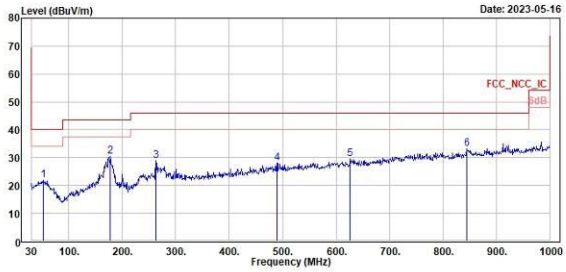
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.93	53.00	33.97	19.03	68.27	-15.27	100	138	Peak	Open	
2	2.78	41.28	21.73	19.55	69.50	-28.22	100	138	Peak	Open	
3	5.55	34.76	15.09	19.67	69.50	-34.74	100	140	Peak	Open	
4	12.03	34.44	12.81	21.63	69.50	-35.06	100	306	Peak	Open	
5	16.39	34.54	12.62	21.92	69.50	-34.96	100	168	Peak	Open	
6	24.99	35.64	13.44	22.20	69.50	-33.86	100	143	Peak	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

BLE_2M

High Channel (Horizontal)

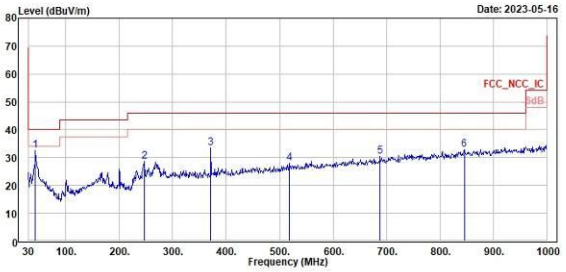
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	52.31	22.05	27.72	-5.67	40.00	-17.95	400	276	Peak	Horizontal	
2	177.44	30.32	36.83	-6.51	43.50	-13.18	300	141	Peak	Horizontal	
3	262.80	28.84	34.87	-6.03	46.00	-17.16	200	199	Peak	Horizontal	
4	489.78	27.97	29.85	-1.88	46.00	-18.03	200	315	Peak	Horizontal	
5	626.55	29.36	28.41	0.95	46.00	-16.64	400	46	Peak	Horizontal	
6	844.80	33.04	28.92	4.12	46.00	-12.96	101	360	Peak	Horizontal	

High Channel (Vertical)

TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel:+886-2172-1000 Fax:+886-2172-1322



	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	42.61	32.58	38.91	-6.33	40.00	-7.42	100	248	Peak	Vertical	
2	246.31	28.51	35.01	-6.50	46.00	-17.49	100	88	Peak	Vertical	
3	371.44	33.50	36.87	-3.37	46.00	-12.50	100	195	Peak	Vertical	
4	518.88	27.95	29.02	-1.07	46.00	-18.05	100	296	Peak	Vertical	
5	688.63	30.53	28.84	1.69	46.00	-15.47	400	337	Peak	Vertical	
6	845.77	32.96	28.86	4.10	46.00	-13.04	400	0	Peak	Vertical	

Mains Conducted Emission, 150kHz ~ 30MHz

Worst Band

(Line)

TÜV Rheinland Taiwan Ltd.
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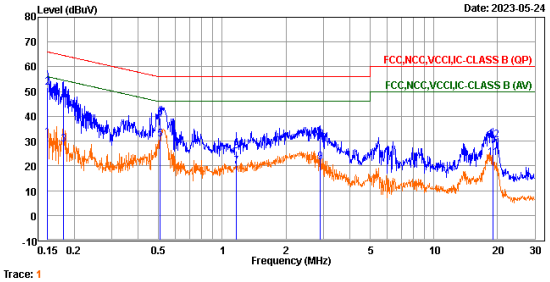
Tel:+886-2172-1000 Fax:+886-2172-1322



Trace: 1

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.15	31.52	21.90	9.62	56.00	-24.48	Average	line1	
2	0.15	51.44	41.82	9.62	66.00	-14.56	QP	line1	
3	0.18	28.53	18.91	9.62	54.59	-26.06	Average	line1	
4	0.18	46.35	36.73	9.62	64.59	-18.24	QP	line1	
5	0.51	30.66	21.03	9.63	46.00	-15.34	Average	line1	
6	0.51	39.19	29.56	9.63	56.00	-16.81	QP	line1	
7	1.17	19.73	10.09	9.64	46.00	-26.27	Average	line1	
8	1.17	25.95	16.31	9.64	56.00	-30.05	QP	line1	
9	2.91	21.55	11.87	9.68	46.00	-24.45	Average	line1	
10	2.91	28.88	19.20	9.68	56.00	-27.12	QP	line1	
11	18.97	23.25	13.48	9.77	50.00	-26.75	Average	line1	
12	18.97	30.33	20.56	9.77	60.00	-29.67	QP	line1	

(Neutral)

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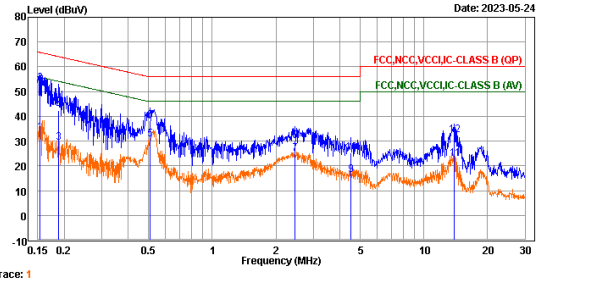

Trace: 1

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Remark	Pol/Phase	Note
	MHz	dBuV	dBuV	dB	dBuV	dB			
1	0.15	33.40	23.78	9.62	55.79	-22.39	Average	neutral	
2	0.15	53.18	43.56	9.62	65.79	-12.61	QP	neutral	
3	0.19	29.19	19.57	9.62	54.10	-24.91	Average	neutral	
4	0.19	42.40	32.78	9.62	64.10	-21.70	QP	neutral	
5	0.51	30.63	21.00	9.63	46.00	-15.37	Average	neutral	
6	0.51	38.27	28.64	9.63	56.00	-17.73	QP	neutral	
7	2.46	24.75	15.08	9.67	46.00	-21.25	Average	neutral	
8	2.46	30.10	20.43	9.67	56.00	-25.90	QP	neutral	
9	4.54	16.52	6.81	9.71	46.00	-29.48	Average	neutral	
10	4.54	25.28	15.57	9.71	56.00	-30.72	QP	neutral	
11	13.92	22.76	12.94	9.82	50.00	-27.24	Average	neutral	
12	13.92	32.31	22.49	9.82	60.00	-27.69	QP	neutral	