FCC Test Report

Report No.:	RFBCEE-WTW-P20120260-1
FCC ID:	DMOCX200TW1L
Model No.:	CX200TW1 L
Received Date:	Jan. 27, 2021
Test Date:	Jan. 30 ~ Feb. 17, 2021
Issued Date:	Feb. 23, 2021
Applicant:	Sennheiser electronic GmbH & Co. KG
Address:	Am Labor 1, D-30900 Wedemark, Germany
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBCEE-WTW-P20120260-1	Original Release	Feb. 23, 2021

1 Certificate of Conformity

Product Name:	CX True Wireless (CX200TW1)
Brand Name:	SENNHEISER
Model No.:	CX200TW1 L
Sample Status:	Engineering Sample
Applicant:	Sennheiser electronic GmbH & Co. KG
Test Date:	Jan. 30 ~ Feb. 17, 2021
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , **Date:** Feb. 23, 2021

Lena Wang / Specialist

Approved by : , **Date:** Feb. 23, 2021

Dylan Chiou / Senior Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -35.72 dB at 0.16579 MHz.
15.205 & 209	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -7.97 dB at 2483.5 MHz.
15.247(d)	Band Edge Measurement	Pass	Meet the requirement of limit.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Reference only
15.247(b)	Conducted Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:
1. For 2.4G band compliance with rule 15.247(d) of the band-edge items, the test plots were recorded in Annex A. Test Procedures refer to report 4.1.3.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Test Item Description	True Wireless Earphones
Product Name	CX True Wireless (CX200TW1)
Brand Name	SENNHEISER
Model No.	CX200TW1 L
Status of EUT	Engineering Sample
Power Ratings	Left earbud& Right earbud: 3.7Vdc, 55-72mAh (from battery) Charging Case: 5Vdc, 600 mA (from Type-C USB interface) 3.7Vdc, 400-420mAh (from battery)
Power Supply (Nominal & Testing)	5Vdc, 600 mA (from Type-C USB interface)
Operating Temperature range	0°C - +40°C
Modulation Type	GFSK
Transmission Technology	DSSS
Technology	Bluetooth
Operating Frequency	2402 - 2480MHz (for Frequency Band: 2400-2483.5MHz)
Channel Spacing	2MHz
Channel Bandwidth	80MHz
Data Transfer Rate	LE 4.0: 1Mbps LE 5.1: 2Mbps
Number of Channel	40
Maximum Output Power	LE 4.0: 6.471 mW LE 5.1: 6.501 mW
Antenna Type	MONOPOLE antenna
Antenna Gain	Max -2.36 dBi
HW Version	Earbuds: V0F Charging case: V0G
SW Version	Earbuds: 0.12.19 Charging case: 20.12.31
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Cable Supplied	0.25m Shielded USB cable without core

Note:

1. The EUT system CX True Wireless (CX200TW1), contain the following devices:

Item	Brand	Device Model No.
Right Earbud	SENNHEISER	CX200TW1 R
Left Earbud	SENNHEISER	CX200TW1 L
Charging Case	SENNHEISER	CX200TW1 C

* CX200TW1 R and CX200TW1 L with BT & BT LE TX/RX function
* Charging case is solely used for charging CX200TW1 R and CX200TW1 L only

2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or User's Manual.

3.2 Description of Test Modes

40 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.2.1 Test Mode Applicability and Tested Channel Detail

<LE 4.0>

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	-	√	EUT (Left Earbud (main battery cell))
B	-	√	-	-	EUT (Left Earbud (alternative battery cell))
C	-	√	√	-	EUT (Left Earbud + Right Earbud + Charging case (main battery))
D	-	√	√	-	EUT (Left Earbud + Right Earbud + Charging case (alternative battery))

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

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
Note: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A	0 to 39	0, 19, 39	GFSK	1

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B, C, D	0 to 39	0	GFSK	1

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
C, D	0 to 39	0	GFSK	1

Antenna Port Conducted Measurement:

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

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A	0 to 39	0, 19, 39	GFSK	1

<LE 5.1>

EUT Configure Mode	Applicable To				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	-	√	EUT (Left Earbud (main battery cell))
B	-	√	-	-	EUT (Left Earbud (alternative battery cell))
C	-	√	√	-	EUT (Left Earbud + Right Earbud + Charging case (main battery))
D	-	√	√	-	EUT (Left Earbud + Right Earbud + Charging case (alternative battery))

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

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.
Note: "-"means no effect.

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A	0 to 39	0, 19, 39	GFSK	2

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A, B, C, D	0 to 39	39	GFSK	2

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
C, D	0 to 39	39	GFSK	2

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A	0 to 39	0, 19, 39	GFSK	2

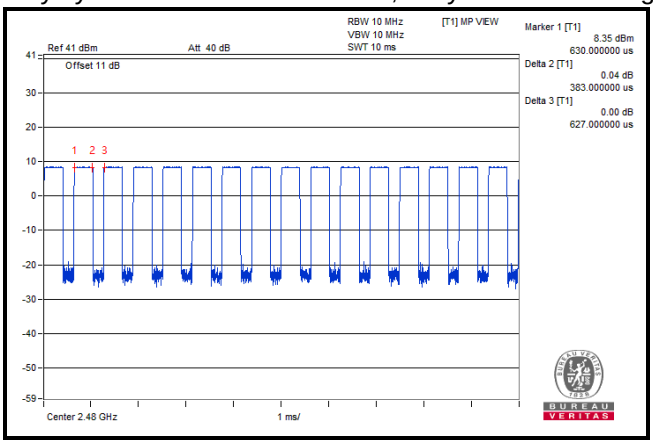
Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	3.7 Vdc	Tim Chen
RE<1G	25 deg. C, 65 % RH	3.7 Vdc, 120 Vac, 60Hz	Tim Chen
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Tim Chen
APCM	25 deg. C, 65 % RH	3.7 Vdc	Ivan Tseng

3.3 Duty Cycle of Test Signal

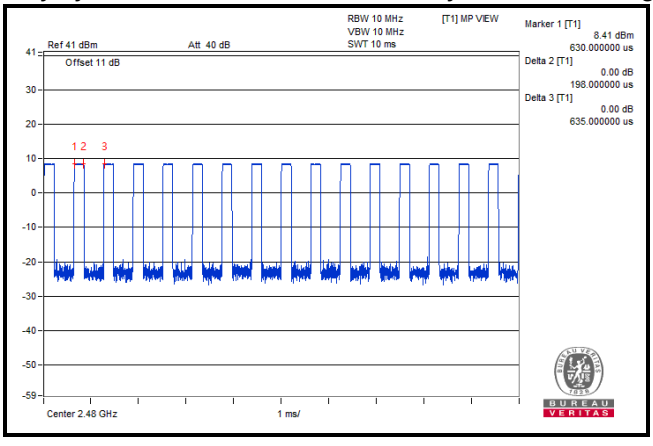
<LE 4.0>

Duty cycle = 0.383/0.627 = 0.611, Duty factor = 10 * log(1/0.611) = 2.14



<LE 5.1>

Duty cycle = 0.198/0.635 = 0.312, Duty factor = 10 * log(1/0.312) = 5.06



3.4 Description of Support Units

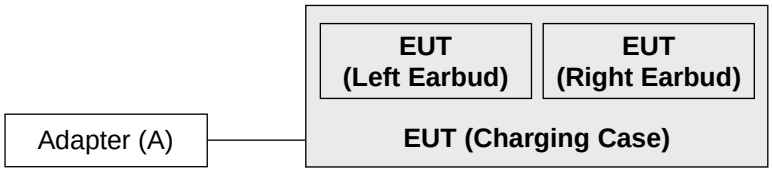
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
1.	Adapter	ASUS	AD827M	NA	NA	-

3.4.1 Configuration of System under Test

Test Mode A, B

Test Mode C, D



3.5 General Description of Applied Standards and References

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

Test Standard:

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

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

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 18, 2020	Mar. 17, 2021
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 07, 2020	Dec. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSV40	100980	Apr. 20, 2020	Apr. 19, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 16, 2020	Apr. 15, 2021
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 22, 2020	Nov. 21, 2021
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 06, 2020	Nov. 05, 2021
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021
Loop Antenna	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
Preamplifier EMCI	EMC001340	980201	Oct. 21, 2020	Oct. 20, 2021
Preamplifier EMCI	EMC 012645	980115	Oct. 07, 2020	Oct. 06, 2021
Preamplifier EMCI	EMC 184045	980116	Oct. 07, 2020	Oct. 06, 2021
Preamplifier EMCI	EMC 330H	980112	Oct. 07, 2020	Oct. 06, 2021
Power Meter Anritsu	ML2495A	1012010	Sep. 01, 2020	Aug. 31, 2021
Power Sensor Anritsu	MA2411B	1315050	Sep. 01, 2020	Aug. 31, 2021
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 07, 2020	Oct. 06, 2021
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 07, 2020	Oct. 06, 2021
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 10.

4.1.3 Test Procedures

For Radiated Emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated Emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

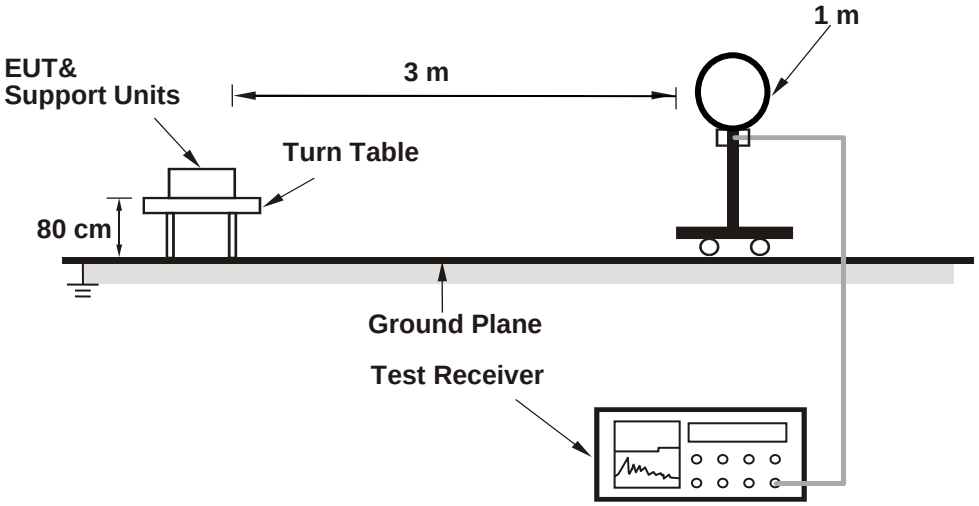
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) 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. (LE 4.0: RBW = 1 MHz, VBW = 3 kHz ; LE 5.1: RBW = 1 MHz, VBW = 5.1 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

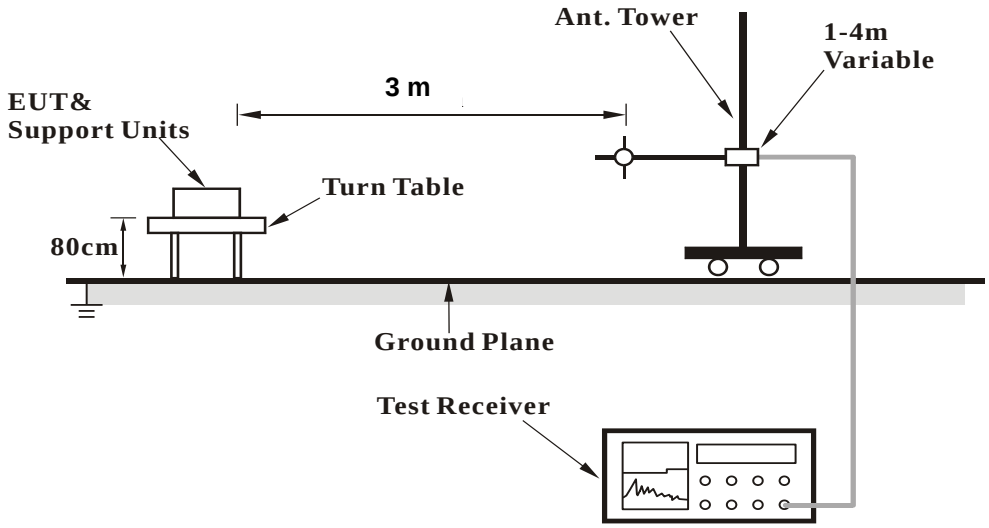
No deviation.

4.1.5 Test Set Up

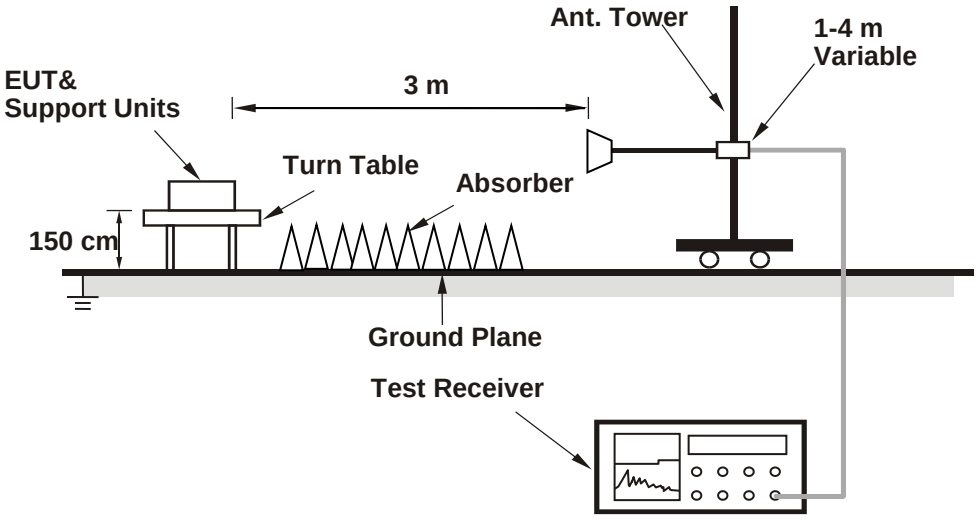
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1 GHz Data:

<LE 4.0>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2362	37.39	44.35	-6.96	54	-16.61	116	65	Average
2362	47.26	54.22	-6.96	74	-26.74	116	65	Peak
2402	99.57	106.62	-7.05	------	------	116	65	Average
2402	100.33	107.38	-7.05	------	------	116	65	Peak
4804	36.73	52.54	-15.81	54	-17.27	139	227	Average
4804	43.98	59.79	-15.81	74	-30.02	139	227	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2362	42.59	49.55	-6.96	54	-11.41	202	2	Average
2362	47.99	54.95	-6.96	74	-26.01	202	2	Peak
2402	99.09	106.14	-7.05	------	------	202	2	Average
2402	99.85	106.9	-7.05	------	------	202	2	Peak
4804	37.12	52.93	-15.81	54	-16.88	164	138	Average
4804	44.27	60.08	-15.81	74	-29.73	164	138	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2402 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 19	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	34.93	41.98	-7.05	54	-19.07	106	62	Average
2390	45.12	52.17	-7.05	74	-28.88	106	62	Peak
2440	98.83	105.83	-7	------	------	106	62	Average
2440	99.64	106.64	-7	------	------	106	62	Peak
2483.5	34.9	41.76	-6.86	54	-19.1	106	62	Average
2483.5	45.11	51.97	-6.86	74	-28.89	106	62	Peak
4880	35.08	51.02	-15.94	54	-18.92	189	301	Average
4880	42.21	58.15	-15.94	74	-31.79	189	301	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	34.89	41.94	-7.05	54	-19.11	261	0	Average
2390	45.26	52.31	-7.05	74	-28.74	261	0	Peak
2440	97.88	104.88	-7	------	------	261	0	Average
2440	98.54	105.54	-7	------	------	261	0	Peak
2483.5	34.83	41.69	-6.86	54	-19.17	261	0	Average
2483.5	44.93	51.79	-6.86	74	-29.07	261	0	Peak
4880	35.37	51.31	-15.94	54	-18.63	194	65	Average
4880	42.61	58.55	-15.94	74	-31.39	194	65	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2440 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2480	99.06	105.92	-6.86	------	------	111	62	Average
2480	100.22	107.08	-6.86	------	------	111	62	Peak
2483.5	38.74	45.6	-6.86	54	-15.26	111	62	Average
2483.5	49.24	56.1	-6.86	74	-24.76	111	62	Peak
4960	36.48	52.18	-15.7	54	-17.52	189	201	Average
4960	43.69	59.39	-15.7	74	-30.31	189	201	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2480	98.68	105.54	-6.86	------	------	296	0	Average
2480	99.48	106.34	-6.86	------	------	296	0	Peak
2483.5	38.14	45	-6.86	54	-15.86	296	0	Average
2483.5	48.3	55.16	-6.86	74	-25.7	296	0	Peak
4960	36.22	51.92	-15.7	54	-17.78	236	108	Average
4960	43.47	59.17	-15.7	74	-30.53	236	108	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2480 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

<LE 5.1>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	36.48	43.53	-7.05	54	-17.52	114	65	Average
2390	47.42	54.47	-7.05	74	-26.58	114	65	Peak
2402	96.19	103.24	-7.05	------	------	111	65	Average
2402	98.28	105.33	-7.05	------	------	111	65	Peak
4804	35.24	51.05	-15.81	54	-18.76	215	183	Average
4804	42.39	58.2	-15.81	74	-31.61	215	183	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2362	40.2	47.16	-6.96	54	-13.8	187	2	Average
2362	47.15	54.11	-6.96	74	-26.85	187	2	Peak
2402	95.77	102.82	-7.05	------	------	187	2	Average
2402	97.86	104.91	-7.05	------	------	187	2	Peak
4804	35.7	51.51	-15.81	54	-18.3	174	237	Average
4804	42.81	58.62	-15.81	74	-31.19	174	237	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2402 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 19	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	35.15	42.2	-7.05	54	-18.85	106	62	Average
2390	44.73	51.78	-7.05	74	-29.27	106	62	Peak
2440	97.89	104.89	-7	------	------	106	62	Average
2440	100.09	107.09	-7	------	------	106	62	Peak
2483.5	35.42	42.28	-6.86	54	-18.58	106	62	Average
2483.5	45.65	52.51	-6.86	74	-28.35	106	62	Peak
4880	35.49	51.43	-15.94	54	-18.51	168	220	Average
4880	42.71	58.65	-15.94	74	-31.29	168	220	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2390	35.04	42.09	-7.05	54	-18.96	260	0	Average
2390	45.18	52.23	-7.05	74	-28.82	260	0	Peak
2440	96.61	103.61	-7	------	------	260	0	Average
2440	98.73	105.73	-7	------	------	260	0	Peak
2483.5	35.04	41.9	-6.86	54	-18.96	260	0	Average
2483.5	44.77	51.63	-6.86	74	-29.23	260	0	Peak
4880	34.72	50.66	-15.94	54	-19.28	251	126	Average
4880	41.78	57.72	-15.94	74	-32.22	251	126	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2440 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2480	98.38	105.24	-6.86	------	------	108	61	Average
2480	100.52	107.38	-6.86	------	------	108	61	Peak
2483.5	46.03	52.89	-6.86	54	-7.97	112	61	Average
2483.5	53.43	60.29	-6.86	74	-20.57	112	61	Peak
4960	34.6	50.3	-15.7	54	-19.4	143	325	Average
4960	41.91	57.61	-15.7	74	-32.09	143	325	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
2480	97.68	104.54	-6.86	------	------	294	0	Average
2480	99.77	106.63	-6.86	------	------	294	0	Peak
2483.5	45.43	52.29	-6.86	54	-8.57	294	0	Average
2483.5	53.12	59.98	-6.86	74	-20.88	294	0	Peak
4960	35.32	51.02	-15.7	54	-18.68	242	106	Average
4960	42.56	58.26	-15.7	74	-31.44	242	106	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. 2480 MHz: Fundamental frequency.
3. The emission levels of other frequencies were very low against the limit.

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

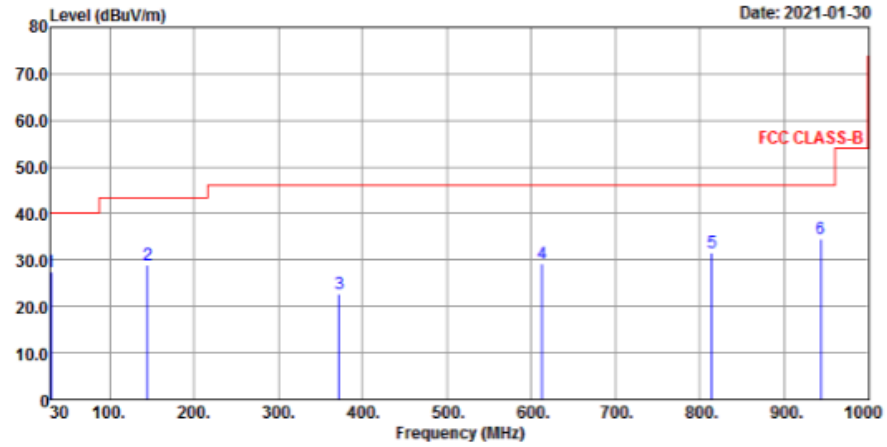
30 MHz ~ 1 GHz Worst-Case Data:

Mode A

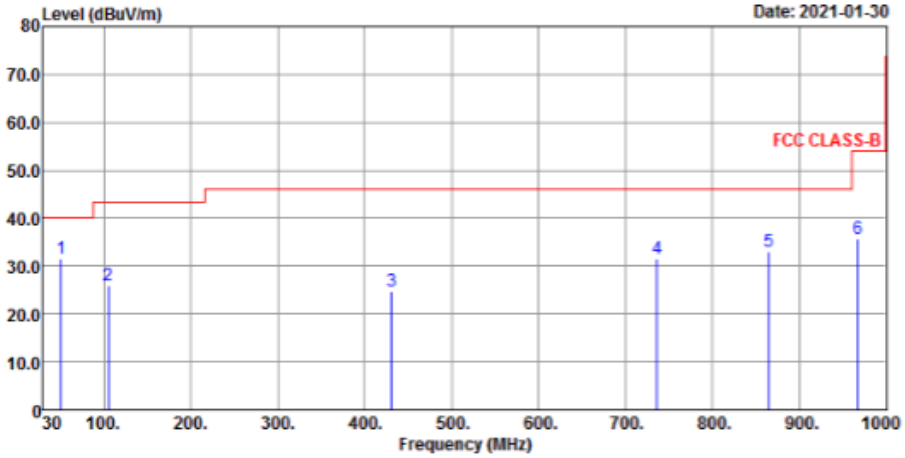
<LE 4.0>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
30.02	27.55	40.79	-13.24	40	-12.45	127	83	QP
144.46	28.84	41.36	-12.52	43.5	-14.66	132	116	QP
372.41	22.71	31.94	-9.23	46	-23.29	115	318	QP
612.97	29.16	31.58	-2.42	46	-16.84	164	221	QP
814.73	31.48	30.49	0.99	46	-14.52	152	255	QP
943.74	34.52	31.3	3.22	46	-11.48	172	305	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
50.37	31.45	44.01	-12.56	40	-8.55	216	337	QP
104.69	25.91	41.38	-15.47	43.5	-17.59	115	191	QP
430.61	24.74	32.44	-7.7	46	-21.26	113	292	QP
736.16	31.51	31.65	-0.14	46	-14.49	182	54	QP
865.17	33.1	31.47	1.63	46	-12.9	174	277	QP
967.02	35.64	32.15	3.49	54	-18.36	104	232	QP

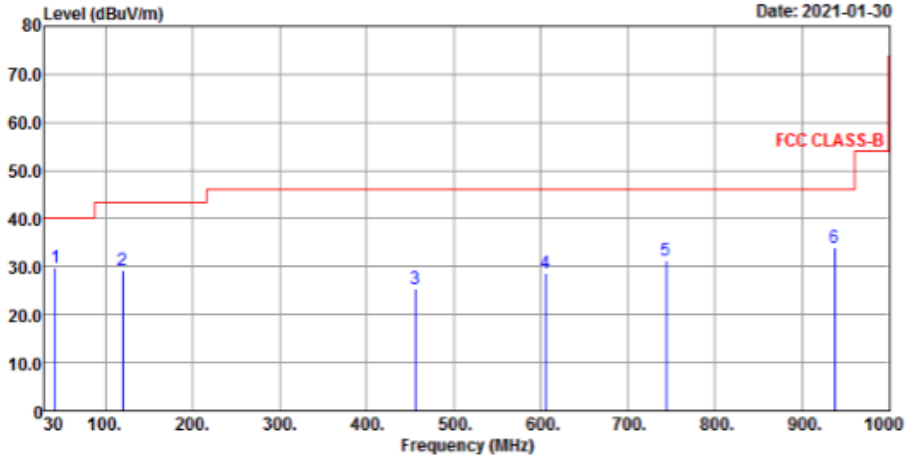
Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

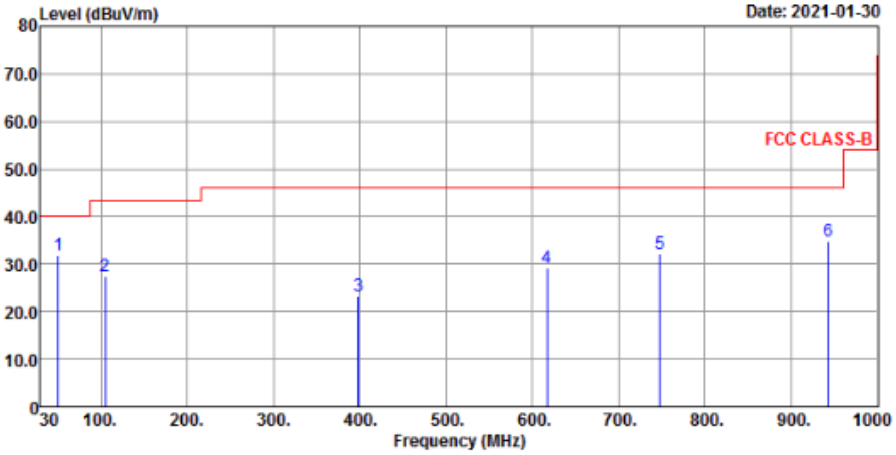
<LE 5.1>

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
42.61	29.91	42.6	-12.69	40	-10.09	284	98	QP
119.24	29.25	43.05	-13.8	43.5	-14.25	157	239	QP
455.83	25.4	32.07	-6.67	46	-20.6	159	199	QP
605.21	28.73	31.44	-2.71	46	-17.27	110	351	QP
743.92	31.21	31.15	0.06	46	-14.79	143	26	QP
936.95	33.92	30.9	3.02	46	-12.08	180	177	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
50.37	31.96	44.52	-12.56	40	-8.04	101	261	QP
104.69	27.59	43.06	-15.47	43.5	-15.91	115	271	QP
398.6	23.29	32.01	-8.72	46	-22.71	253	336	QP
616.85	29.29	31.62	-2.33	46	-16.71	148	288	QP
747.8	32.26	32.13	0.13	46	-13.74	167	268	QP
942.77	34.73	31.54	3.19	46	-11.27	126	335	QP

Remarks:

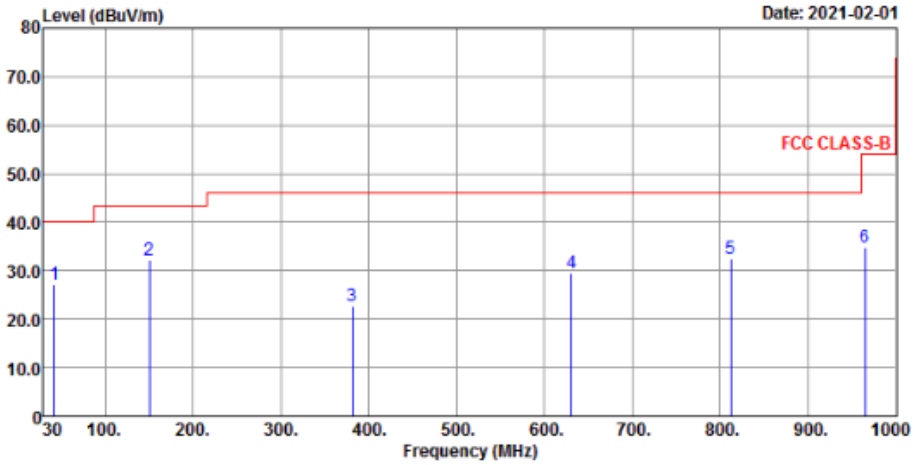
1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

Mode B

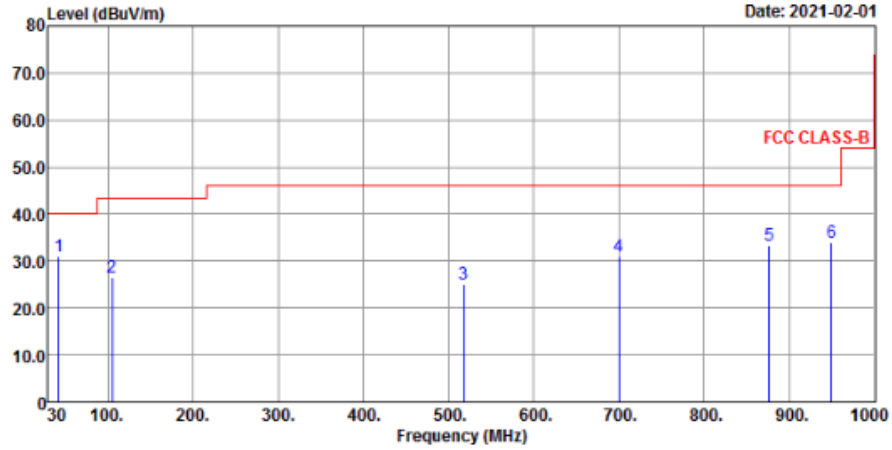
<LE 4.0>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
42.61	27.06	39.75	-12.69	40	-12.94	137	235	QP
150.28	32.29	44.58	-12.29	43.5	-11.21	211	355	QP
381.14	22.67	31.62	-8.95	46	-23.33	117	187	QP
630.43	29.63	31.65	-2.02	46	-16.37	104	42	QP
811.82	32.47	31.58	0.89	46	-13.53	151	146	QP
965.08	34.94	31.43	3.51	54	-19.06	111	233	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
42.61	31	43.69	-12.69	40	-9	111	278	QP
104.69	26.68	42.15	-15.47	43.5	-16.82	199	262	QP
517.91	25.13	30.25	-5.12	46	-20.87	175	333	QP
700.27	31.13	32.32	-1.19	46	-14.87	116	106	QP
875.84	33.4	31.55	1.85	46	-12.6	197	131	QP
949.56	34.01	30.72	3.29	46	-11.99	141	61	QP

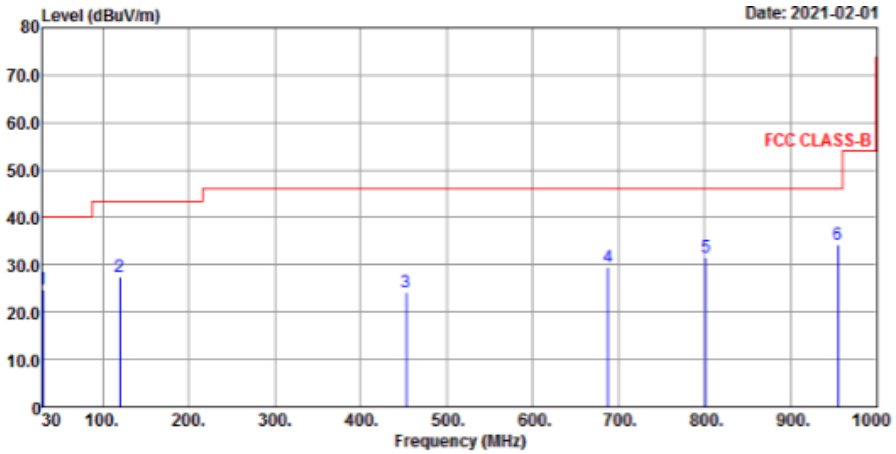
Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

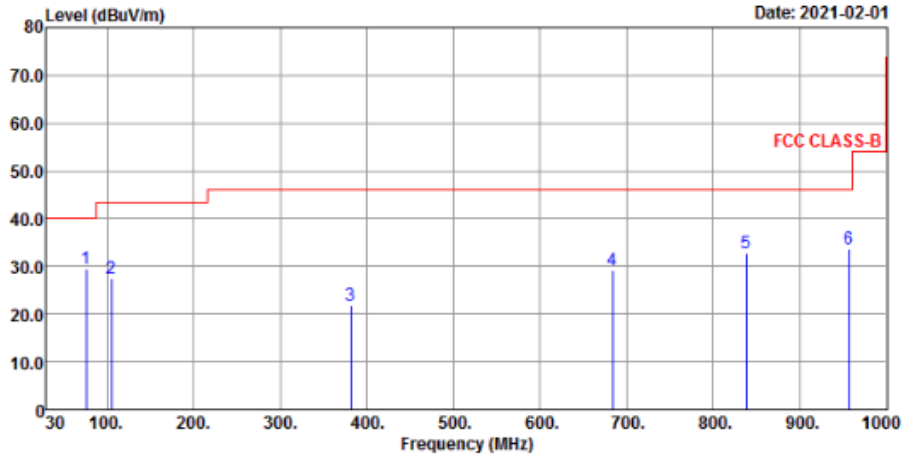
<LE 5.1>

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
30.05	24.87	38.11	-13.24	40	-15.13	169	186	QP
119.24	27.5	41.3	-13.8	43.5	-16	162	355	QP
452.92	24.06	30.82	-6.76	46	-21.94	128	253	QP
687.66	29.62	30.97	-1.35	46	-16.38	112	276	QP
801.15	31.56	31.14	0.42	46	-14.44	172	296	QP
955.38	34.22	30.88	3.34	46	-11.78	183	133	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
75.59	29.43	45.74	-16.31	40	-10.57	272	2	QP
104.69	27.53	43	-15.47	43.5	-15.97	139	308	QP
381.14	21.94	30.89	-8.95	46	-24.06	148	211	QP
683.78	29.12	30.49	-1.37	46	-16.88	118	175	QP
838.01	32.81	31.47	1.34	46	-13.19	194	223	QP
956.35	33.77	30.42	3.35	46	-12.23	155	68	QP

Remarks:

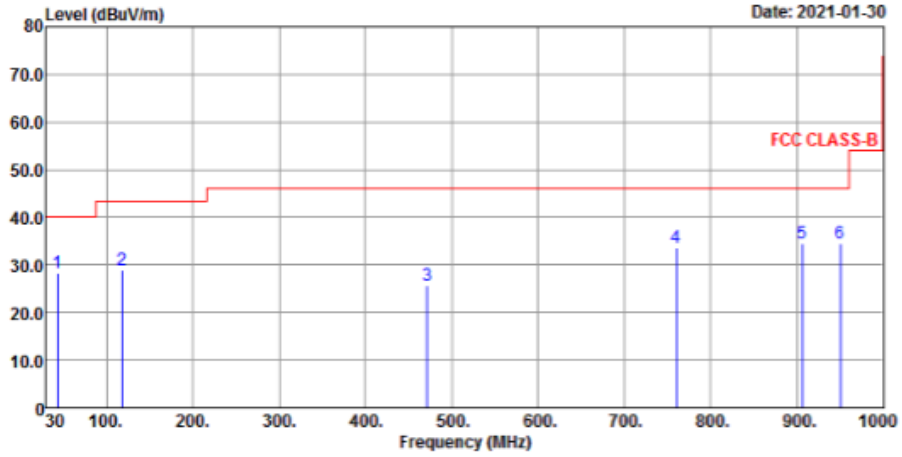
1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

Mode C

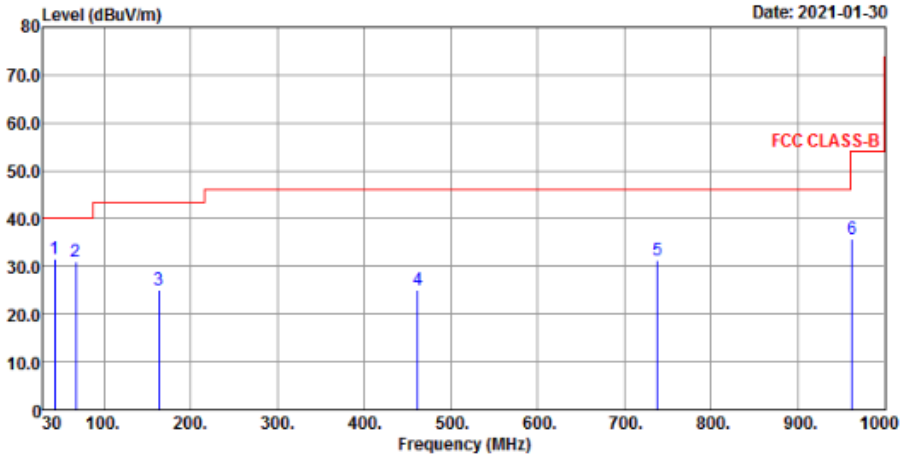
<LE 4.0>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.58	28.28	40.86	-12.58	40	-11.72	139	38	QP
118.27	28.99	42.89	-13.9	43.5	-14.51	144	252	QP
471.35	25.62	31.97	-6.35	46	-20.38	181	76	QP
760.41	33.55	33.31	0.24	46	-12.45	148	185	QP
905.91	34.6	32.24	2.36	46	-11.4	142	161	QP
950.53	34.66	31.37	3.29	46	-11.34	234	305	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.58	31.61	44.19	-12.58	40	-8.39	162	54	QP
67.83	31.02	45.44	-14.42	40	-8.98	102	83	QP
163.86	25.03	38.16	-13.13	43.5	-18.47	152	101	QP
461.65	25.22	31.78	-6.56	46	-20.78	121	288	QP
738.1	31.41	31.48	-0.07	46	-14.59	136	302	QP
962.17	35.69	32.23	3.46	54	-18.31	182	155	QP

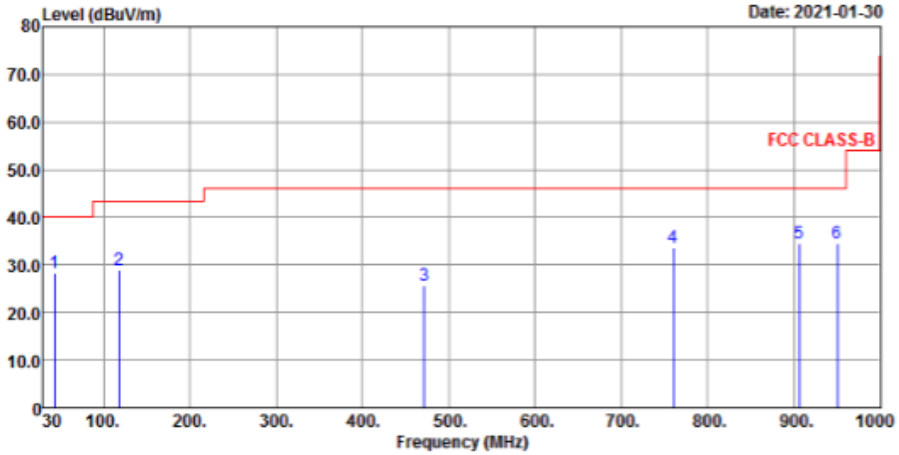
Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

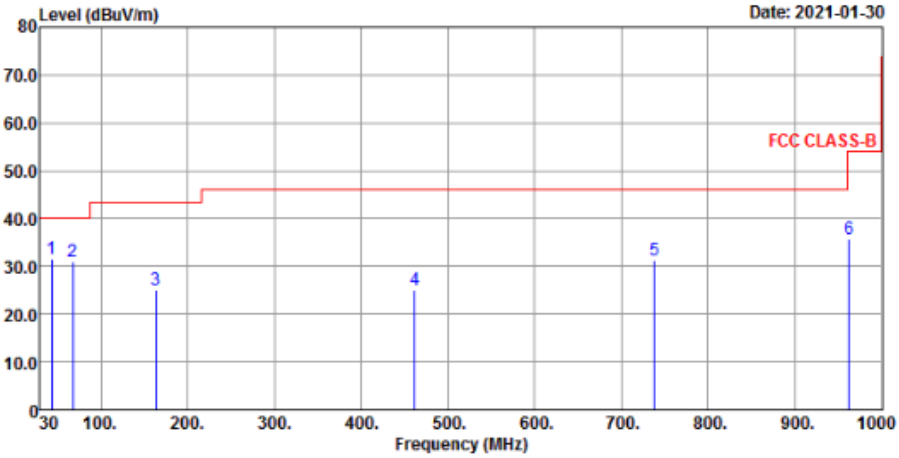
<LE 5.1>

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.58	28.28	40.86	-12.58	40	-11.72	139	38	QP
118.27	28.99	42.89	-13.9	43.5	-14.51	144	252	QP
471.35	25.62	31.97	-6.35	46	-20.38	181	76	QP
760.41	33.55	33.31	0.24	46	-12.45	148	185	QP
905.91	34.6	32.24	2.36	46	-11.4	142	161	QP
950.53	34.66	31.37	3.29	46	-11.34	234	305	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.58	31.61	44.19	-12.58	40	-8.39	162	54	QP
67.83	31.02	45.44	-14.42	40	-8.98	102	83	QP
163.86	25.03	38.16	-13.13	43.5	-18.47	152	101	QP
461.65	25.22	31.78	-6.56	46	-20.78	121	288	QP
738.1	31.41	31.48	-0.07	46	-14.59	136	302	QP
962.17	35.69	32.23	3.46	54	-18.31	182	155	QP

Remarks:

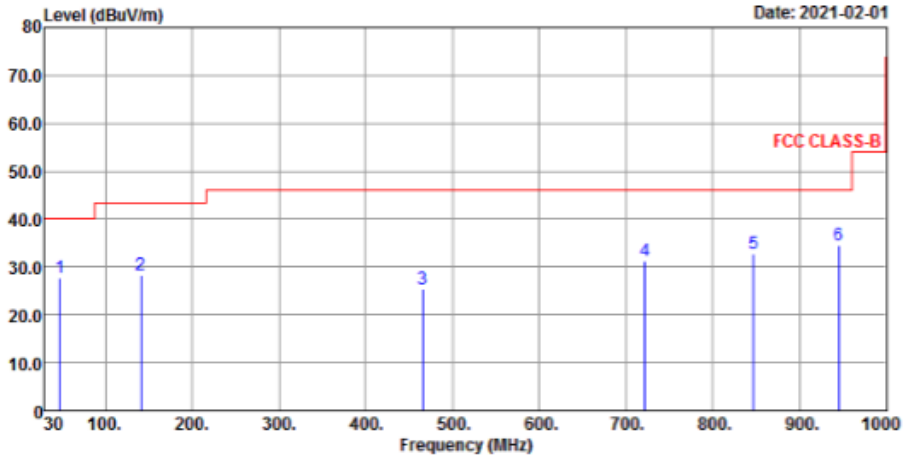
1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

Mode D

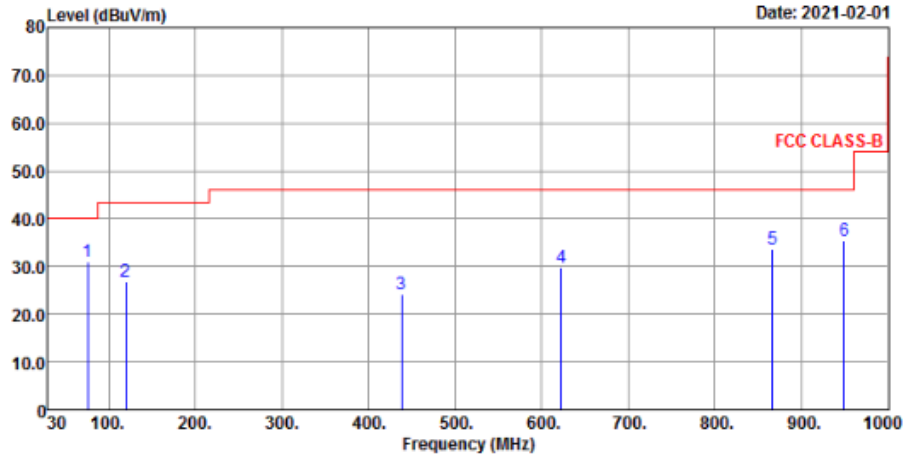
<LE 4.0>

EUT Test Condition		Measurement Detail	
Channel	Channel 0	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
47.46	27.72	40.3	-12.58	40	-12.28	114	90	QP
140.58	28.37	41.12	-12.75	43.5	-15.13	127	268	QP
465.53	25.52	32	-6.48	46	-20.48	161	135	QP
721.61	31.41	32.24	-0.83	46	-14.59	138	229	QP
846.74	32.87	31.46	1.41	46	-13.13	165	208	QP
945.68	34.45	31.2	3.25	46	-11.55	172	163	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
75.59	30.87	47.18	-16.31	40	-9.13	107	55	QP
119.24	26.89	40.69	-13.8	43.5	-16.61	153	334	QP
438.37	24.2	31.51	-7.31	46	-21.8	108	107	QP
622.67	29.69	31.89	-2.2	46	-16.31	127	156	QP
866.14	33.77	32.12	1.65	46	-12.23	141	93	QP
949.56	35.29	32	3.29	46	-10.71	124	137	QP

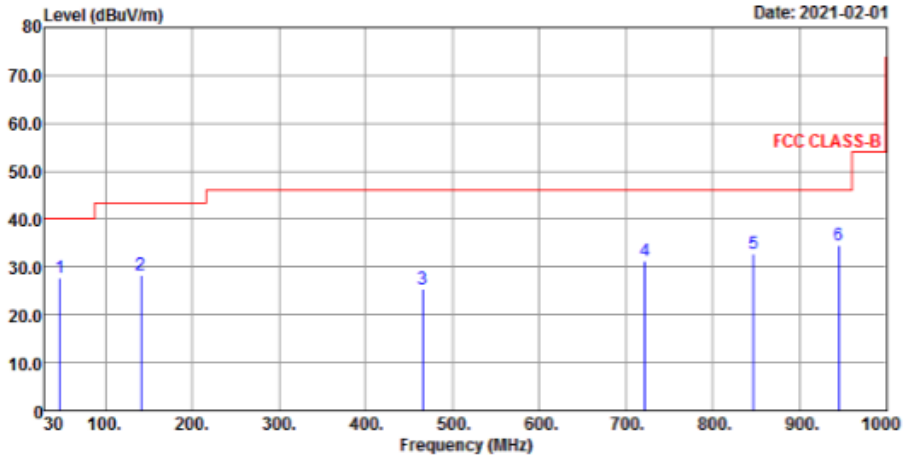
Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

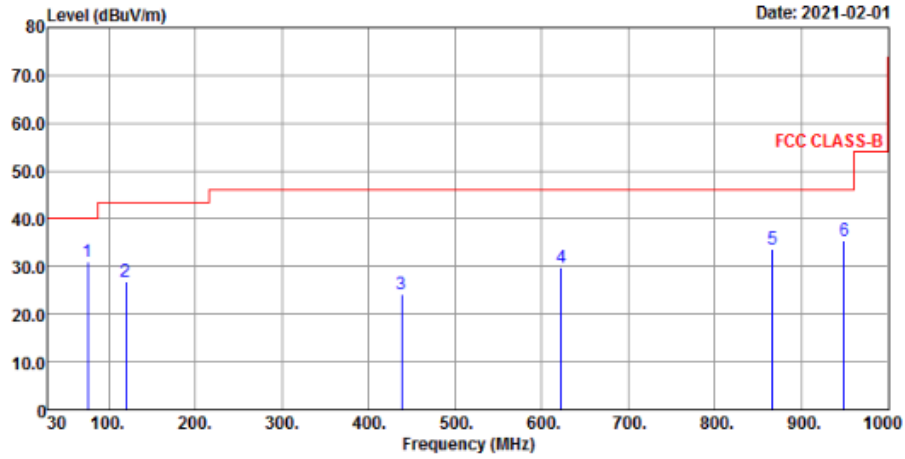
<LE 5.1>

EUT Test Condition		Measurement Detail	
Channel	Channel 39	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Tim Chen

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
47.46	27.72	40.3	-12.58	40	-12.28	114	90	QP
140.58	28.37	41.12	-12.75	43.5	-15.13	127	268	QP
465.53	25.52	32	-6.48	46	-20.48	161	135	QP
721.61	31.41	32.24	-0.83	46	-14.59	138	229	QP
846.74	32.87	31.46	1.41	46	-13.13	165	208	QP
945.68	34.45	31.2	3.25	46	-11.55	172	163	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
75.59	30.87	47.18	-16.31	40	-9.13	107	55	QP
119.24	26.89	40.69	-13.8	43.5	-16.61	153	334	QP
438.37	24.2	31.51	-7.31	46	-21.8	108	107	QP
622.67	29.69	31.89	-2.2	46	-16.31	127	156	QP
866.14	33.77	32.12	1.65	46	-12.23	141	93	QP
949.56	35.29	32	3.29	46	-10.71	124	137	QP

Remarks:

1. Emission Level = Read Level + Factor
   Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit.

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102783	Jan. 06, 2021	Jan. 05, 2022
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2020	Sep. 03, 2021
V-LISN/AMN SCHWARZBECK (EUT)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 18, 2020	Aug. 17, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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

4.2.3 Test Procedures

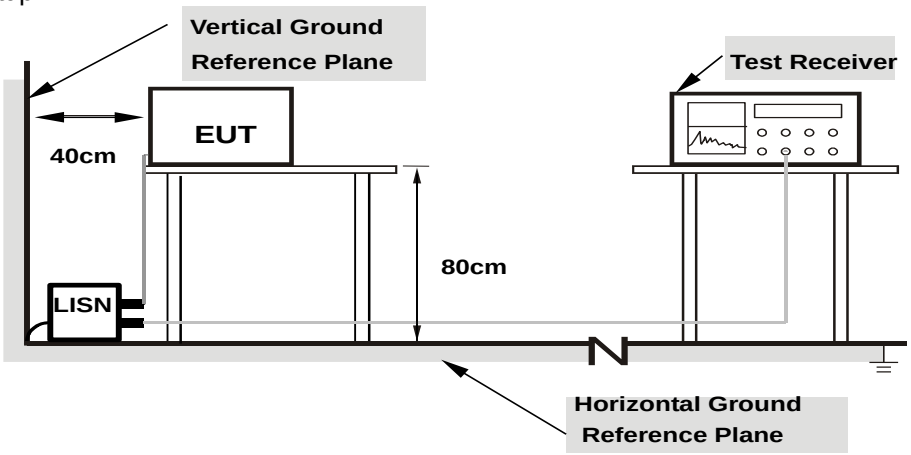
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

4.2.6 EUT Operating Conditions

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

4.2.7 Test Results

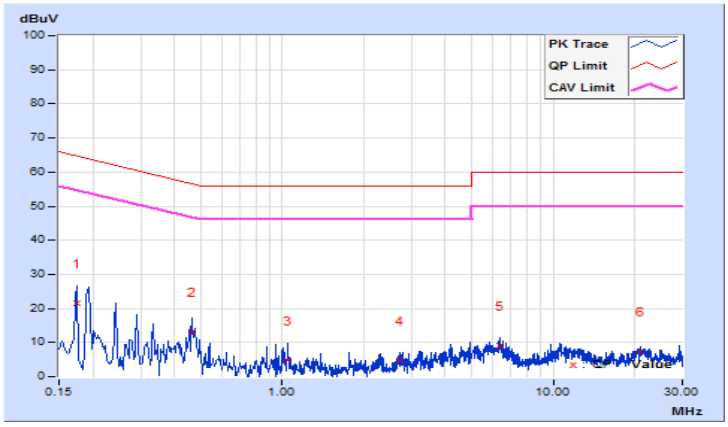
<LE4.0>

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode C		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17400	0.16	21.33	3.39	21.49	3.55	64.77	54.77	-43.28	-51.22
2	0.46200	0.25	12.85	2.00	13.10	2.25	56.66	46.66	-43.56	-44.41
3	1.05400	0.31	4.26	0.29	4.57	0.60	56.00	46.00	-51.43	-45.40
4	2.71000	0.38	4.18	0.85	4.56	1.23	56.00	46.00	-51.44	-44.77
5	6.38600	0.46	8.56	1.30	9.02	1.76	60.00	50.00	-50.98	-48.24
6	20.95000	0.66	6.70	1.23	7.36	1.89	60.00	50.00	-52.64	-48.11

Remarks:

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

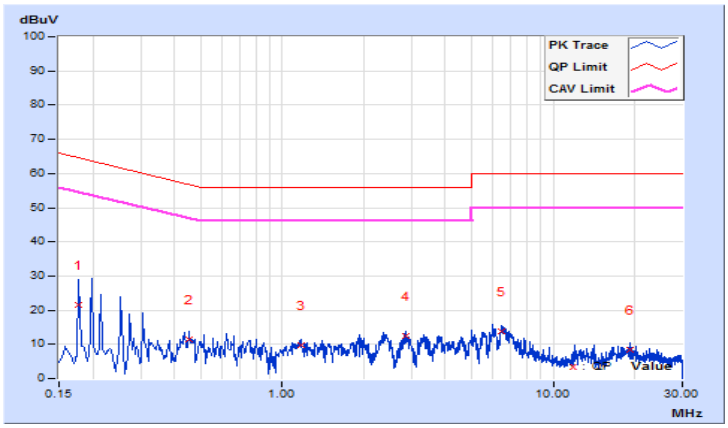


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode C		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17800	0.13	21.42	3.58	21.55	3.71	64.58	54.58	-43.03	-50.87
2	0.45400	0.24	11.24	1.51	11.48	1.75	56.80	46.80	-45.32	-45.05
3	1.17000	0.31	9.56	0.88	9.87	1.19	56.00	46.00	-46.13	-44.81
4	2.84200	0.40	12.09	1.17	12.49	1.57	56.00	46.00	-43.51	-44.43
5	6.45800	0.52	13.40	1.12	13.92	1.64	60.00	50.00	-46.08	-48.36
6	19.34200	0.90	7.47	0.65	8.37	1.55	60.00	50.00	-51.63	-48.45

Remarks:

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



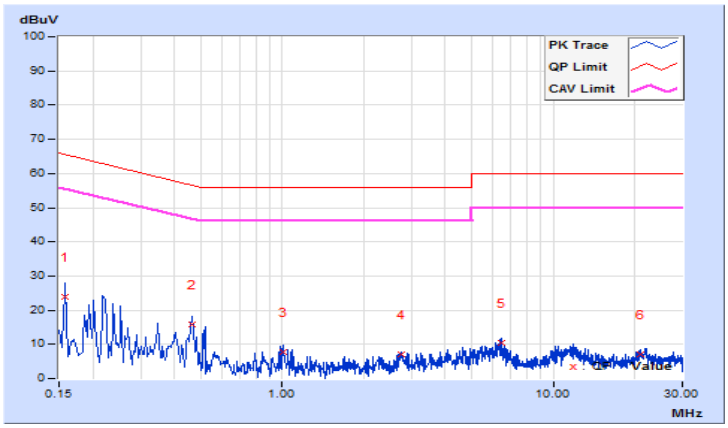
<LE 5.1>

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode C		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15800	0.14	23.61	3.05	23.75	3.19	65.57	55.57	-41.82	-52.38
2	0.46600	0.25	15.42	2.48	15.67	2.73	56.58	46.58	-40.91	-43.85
3	1.00600	0.31	7.44	1.15	7.75	1.46	56.00	46.00	-48.25	-44.54
4	2.73800	0.39	6.64	0.81	7.03	1.20	56.00	46.00	-48.97	-44.80
5	6.41800	0.46	9.96	1.55	10.42	2.01	60.00	50.00	-49.58	-47.99
6	20.95800	0.66	6.46	0.98	7.12	1.64	60.00	50.00	-52.88	-48.36

Remarks:

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

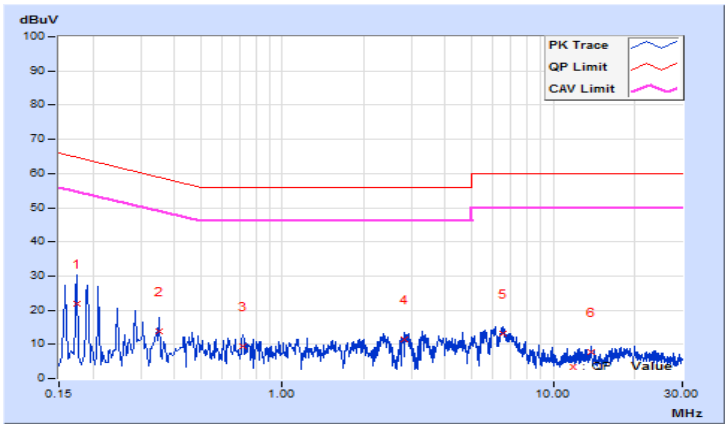


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode C		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17400	0.12	21.89	3.14	22.01	3.26	64.77	54.77	-42.76	-51.51
2	0.35000	0.21	13.62	2.92	13.83	3.13	58.96	48.96	-45.13	-45.83
3	0.71800	0.27	9.22	1.43	9.49	1.70	56.00	46.00	-46.51	-44.30
4	2.83400	0.40	11.13	2.16	11.53	2.56	56.00	46.00	-44.47	-43.44
5	6.56200	0.52	12.47	2.21	12.99	2.73	60.00	50.00	-47.01	-47.27
6	13.87800	0.74	6.85	1.25	7.59	1.99	60.00	50.00	-52.41	-48.01

Remarks:

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



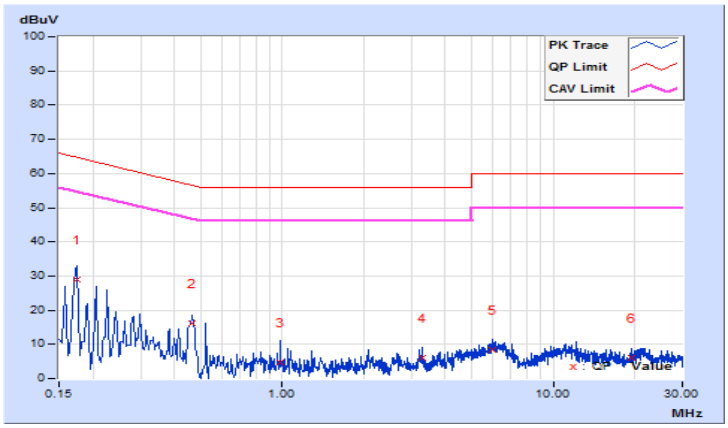
<LE 4.0>

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode D		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17400	0.16	28.85	3.12	29.01	3.28	64.77	54.77	-35.76	-51.49
2	0.46567	0.25	15.82	2.37	16.07	2.62	56.59	46.59	-40.52	-43.97
3	0.98200	0.31	4.30	0.89	4.61	1.20	56.00	46.00	-51.39	-44.80
4	3.29000	0.41	5.64	0.96	6.05	1.37	56.00	46.00	-49.95	-44.63
5	6.00600	0.46	8.10	1.93	8.56	2.39	60.00	50.00	-51.44	-47.61
6	19.41400	0.66	5.40	0.81	6.06	1.47	60.00	50.00	-53.94	-48.53

Remarks:

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

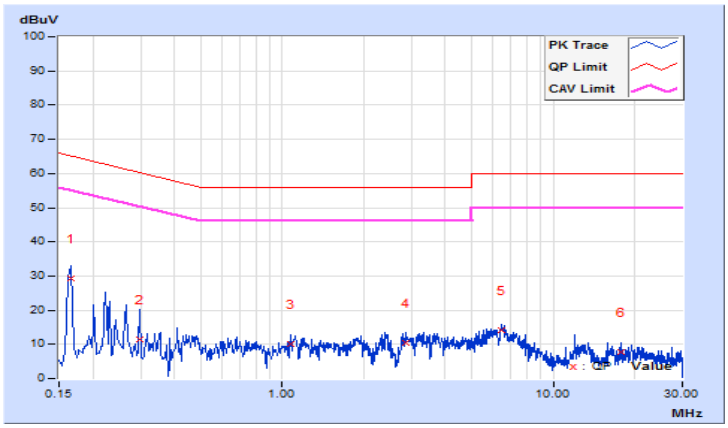


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode D		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	**0.16579**	**0.12**	**29.33**	**3.10**	**29.45**	**3.22**	**65.17**	**55.17**	**-35.72**	**-51.95**
2	0.29800	0.19	11.21	2.61	11.40	2.80	60.30	50.30	-48.90	-47.50
3	1.07000	0.30	9.74	1.51	10.04	1.81	56.00	46.00	-45.96	-44.19
4	2.85000	0.40	10.18	2.60	10.58	3.00	56.00	46.00	-45.42	-43.00
5	6.42200	0.52	13.65	2.78	14.17	3.30	60.00	50.00	-45.83	-46.70
6	17.91400	0.86	7.04	1.17	7.90	2.03	60.00	50.00	-52.10	-47.97

Remarks:

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



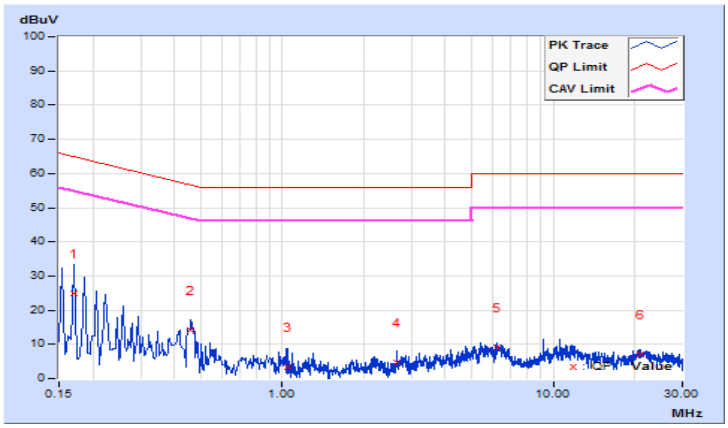
<LE 5.1>

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode D		

Phase Of Power : Line (L)										
No	**Frequency** (MHz)	**Correction Factor** (dB)	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17000	0.15	24.68	3.60	24.83	3.75	64.96	54.96	-40.13	-51.21
2	0.45800	0.25	13.75	2.73	14.00	2.98	56.73	46.73	-42.73	-43.75
3	1.05000	0.31	3.09	0.73	3.40	1.04	56.00	46.00	-52.60	-44.96
4	2.64200	0.38	4.36	0.81	4.74	1.19	56.00	46.00	-51.26	-44.81
5	6.18200	0.46	8.78	1.77	9.24	2.23	60.00	50.00	-50.76	-47.77
6	21.06200	0.66	6.37	1.27	7.03	1.93	60.00	50.00	-52.97	-48.07

Remarks:

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

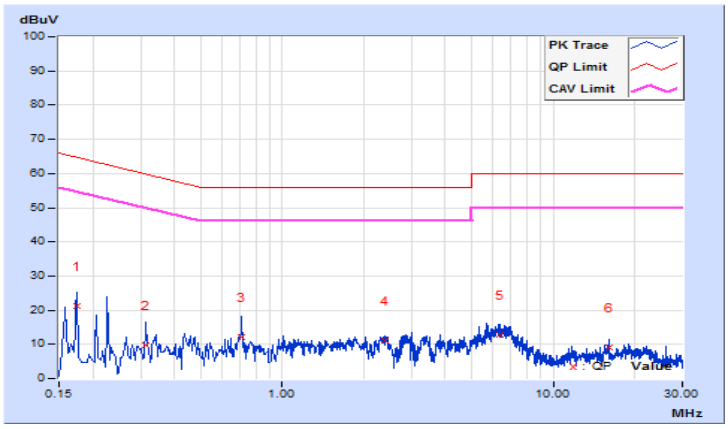


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	**Environmental Conditions**	23℃, 67%RH
Tested by	Tim Chen	**Test Date**	2021/2/4
Test Mode	Mode D		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17400	0.12	21.12	2.96	21.24	3.08	64.77	54.77	-43.53	-51.69
2	0.31400	0.20	9.62	1.21	9.82	1.41	59.86	49.86	-50.04	-48.45
3	0.70600	0.27	11.75	1.07	12.02	1.34	56.00	46.00	-43.98	-44.66
4	2.40600	0.38	10.60	1.46	10.98	1.84	56.00	46.00	-45.02	-44.16
5	6.39800	0.52	12.39	1.29	12.91	1.81	60.00	50.00	-47.09	-48.19
6	16.02200	0.80	8.25	1.53	9.05	2.33	60.00	50.00	-50.95	-47.67

Remarks:

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

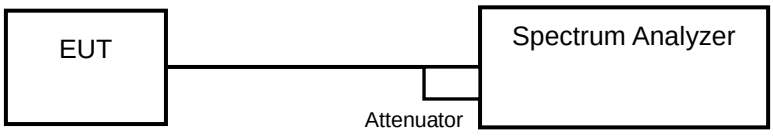


4.3 6 dB Bandwidth Measurement

4.3.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

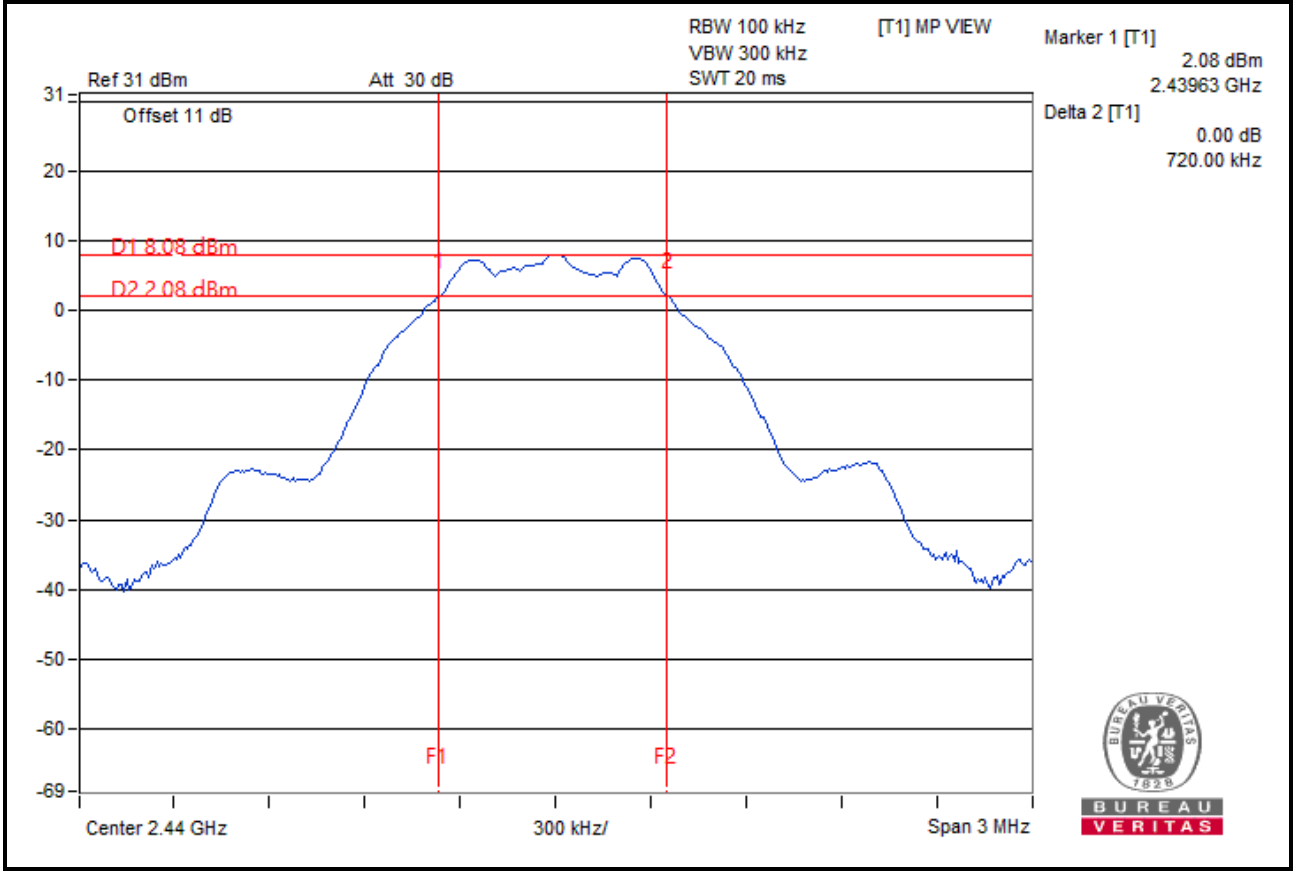
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Results

<LE 4.0>

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.73	0.5	Pass
19	2440	0.72	0.5	Pass
39	2480	0.72	0.5	Pass

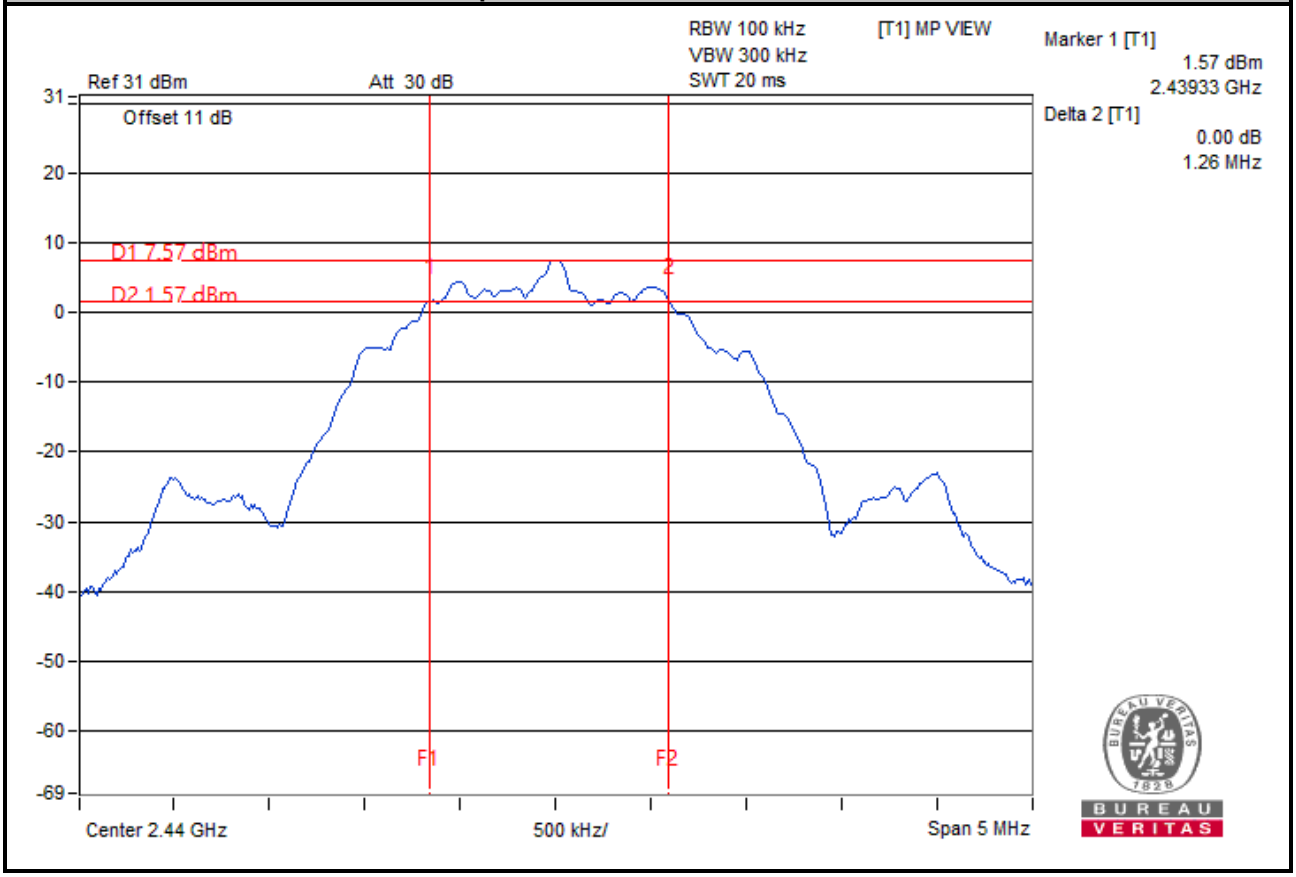
Spectrum Plot of Worst Value



<LE 5.1>

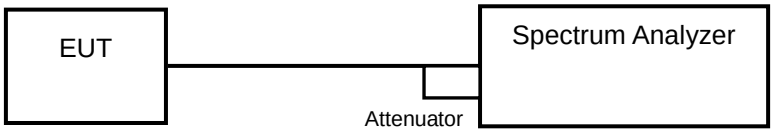
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	1.27	0.5	Pass
19	2440	1.26	0.5	Pass
39	2480	1.27	0.5	Pass

Spectrum Plot of Worst Value



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

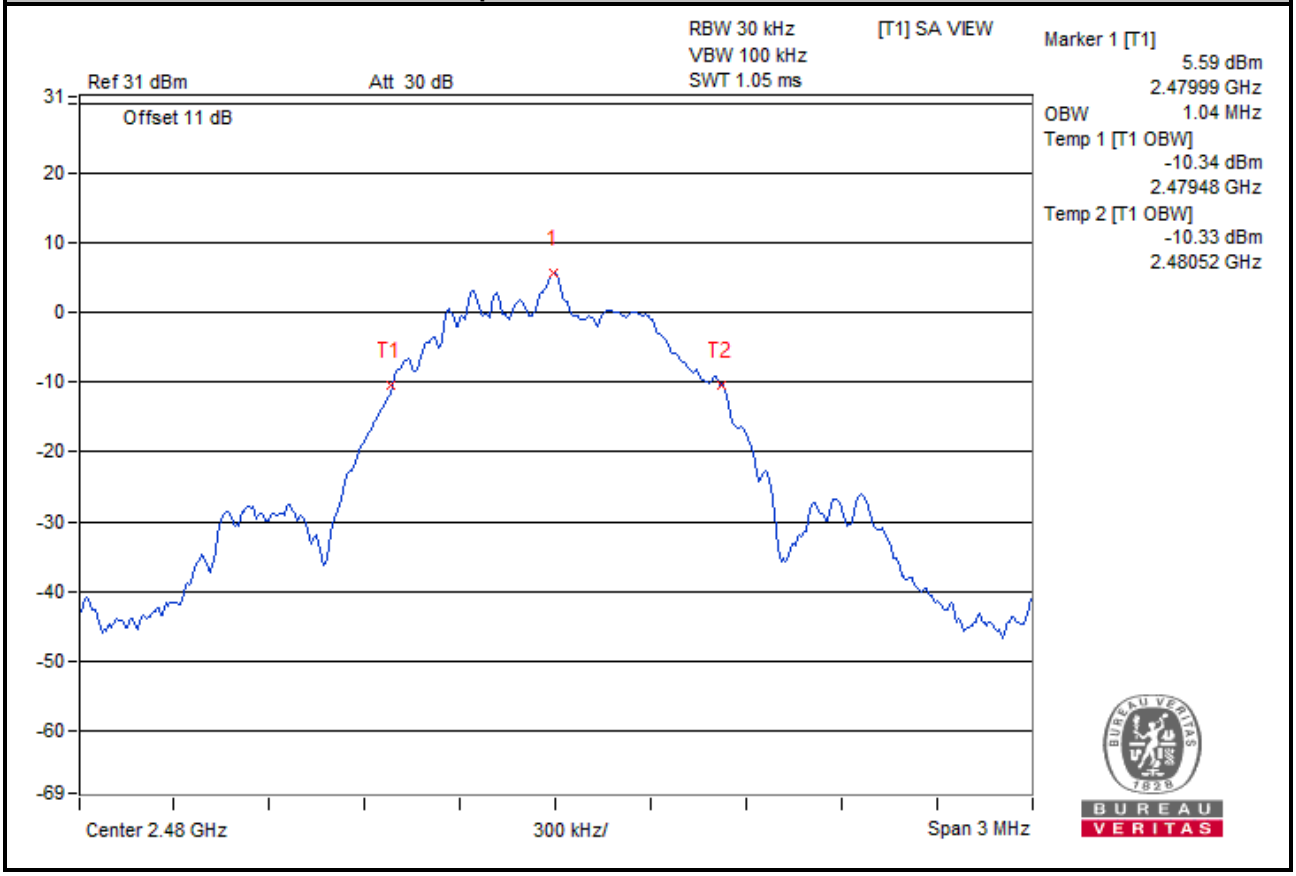
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.4.6 Test Results

<LE 4.0>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	1.03	Pass
19	2440	1.03	Pass
39	2480	1.04	Pass

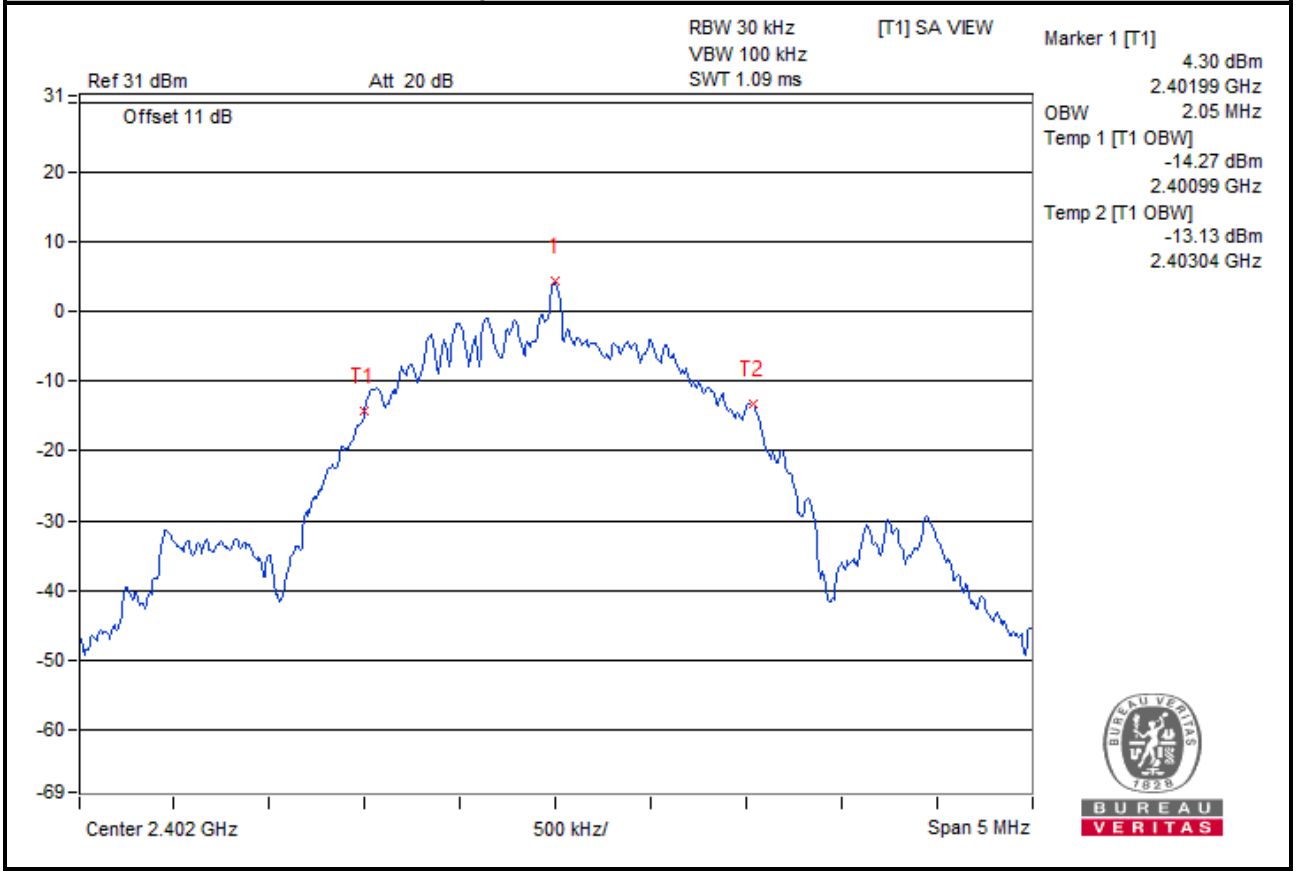
Spectrum Plot of Worst Value



<LE 5.1>

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
0	2402	2.05	Pass
19	2440	2.05	Pass
39	2480	2.03	Pass

Spectrum Plot of Worst Value

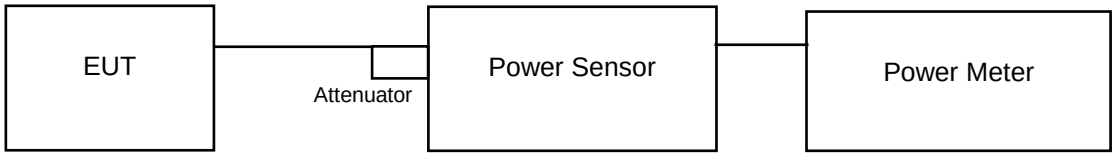


4.5 Conducted Output Power Measurement

4.5.1 Limits of Conducted Output Power Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

<LE 4.0>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (dBm)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	5.383	7.31	5.321	7.26	30	Pass
19	2440	6.471	8.11	6.427	8.08	30	Pass
39	2480	6.223	7.94	6.18	7.91	30	Pass

<LE 5.1>

Channel	Freq. (MHz)	Peak Power		Average Power		Power Limit (dBm)	Pass / Fail
		(mW)	(dBm)	(mW)	(dBm)		
0	2402	5.395	7.32	5.346	7.28	30	Pass
19	2440	6.501	8.13	6.427	8.08	30	Pass
39	2480	6.266	7.97	6.138	7.88	30	Pass

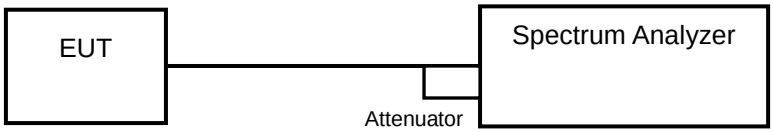
4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

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

.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

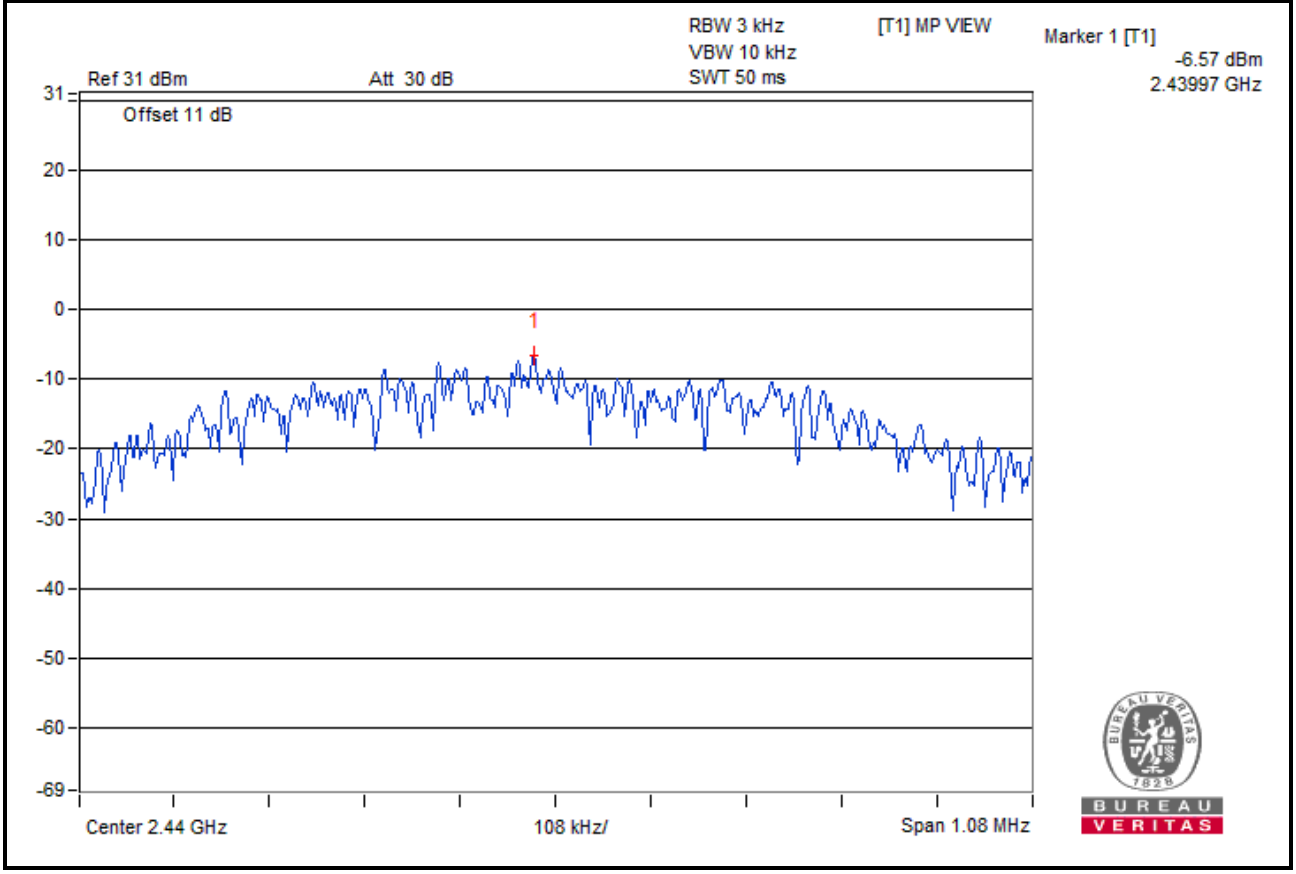
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.6.7 Test Results

<LE 4.0>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	-7.62	8	Pass
19	2440	-6.57	8	Pass
39	2480	-6.86	8	Pass

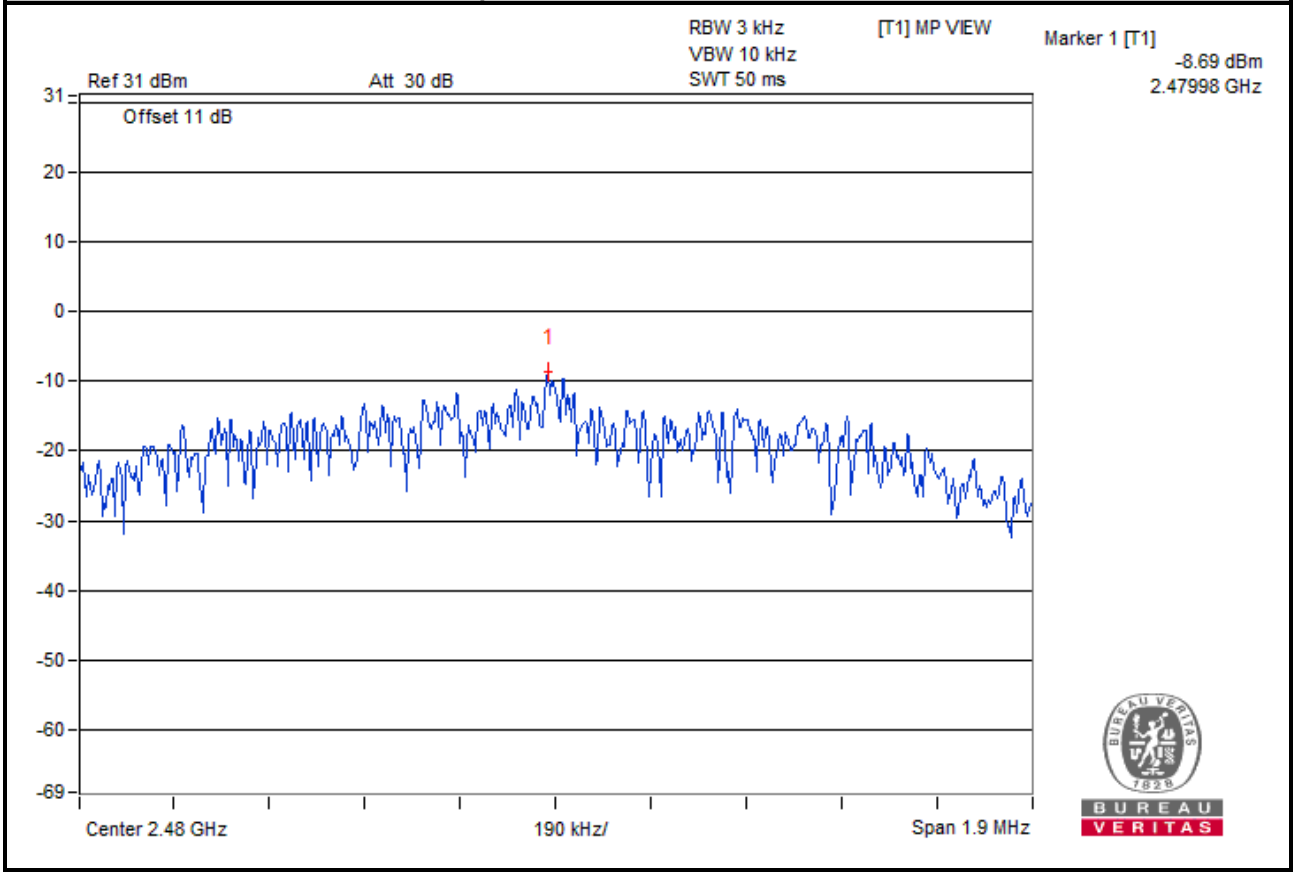
Spectrum Plot of Worst Value



<LE 5.1>

Channel	Frequency (MHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Pass / Fail
0	2402	-10.51	8	Pass
19	2440	-9.61	8	Pass
39	2480	-8.69	8	Pass

Spectrum Plot of Worst Value

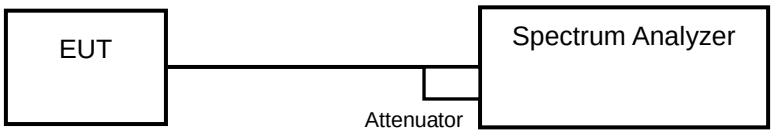


4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

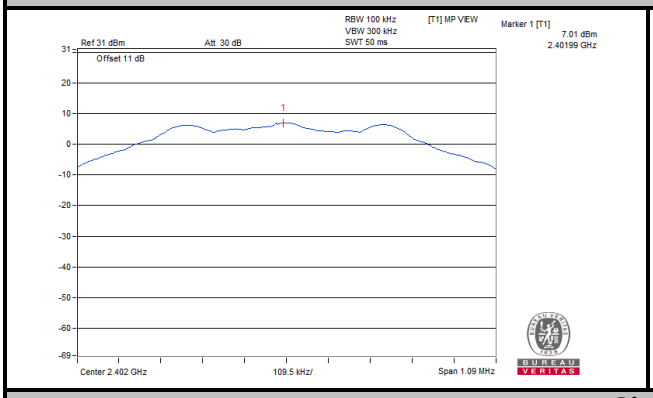
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

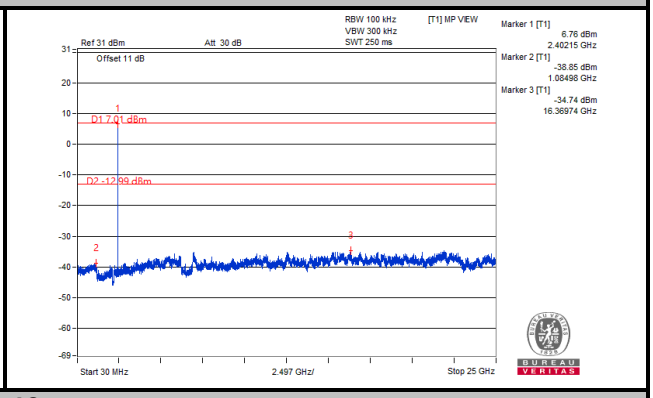
4.7.7 Test Results

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

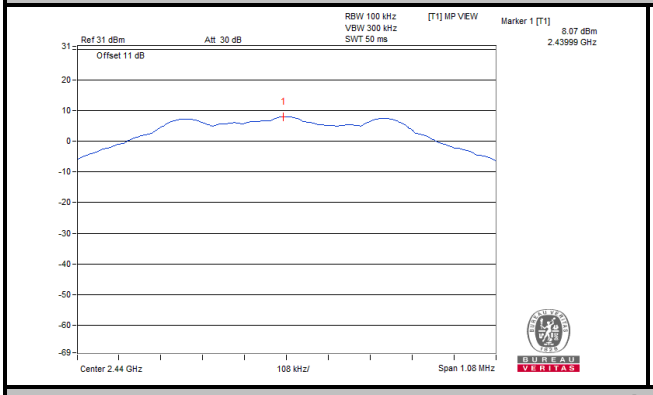
<LE 4.0>

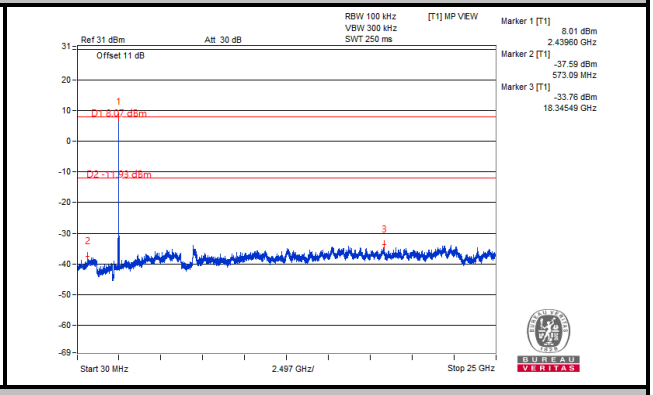
Ch 0



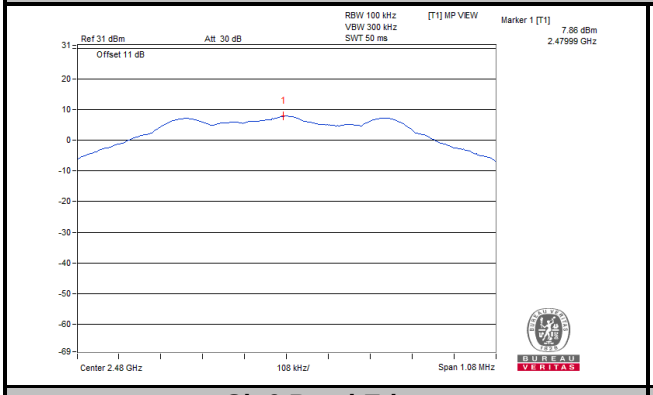


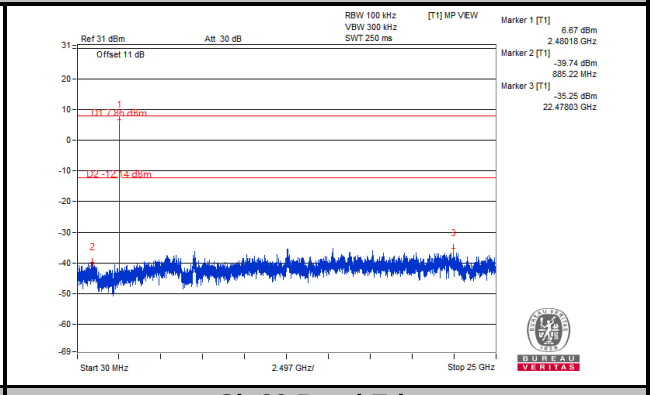
Ch 19



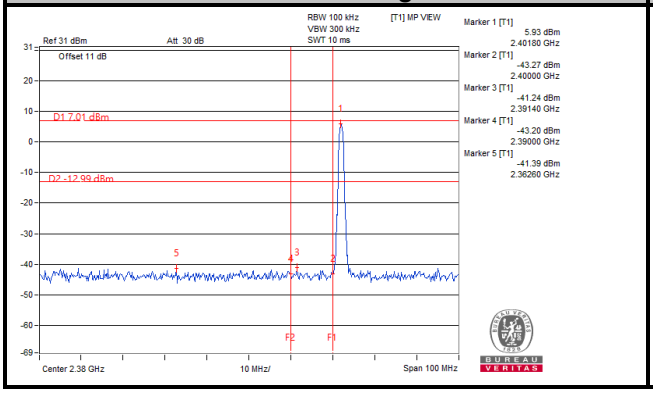


Ch 39

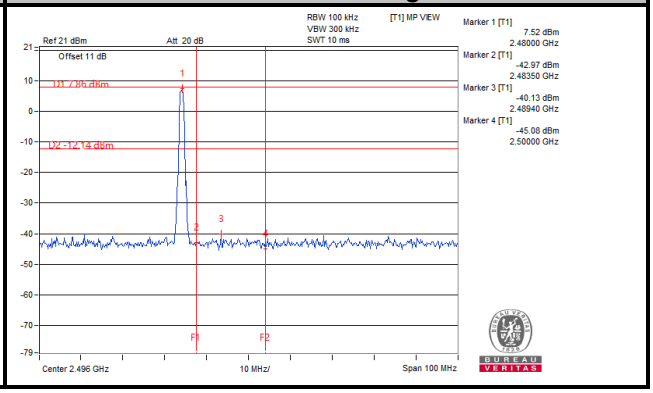




Ch 0 Band Edge

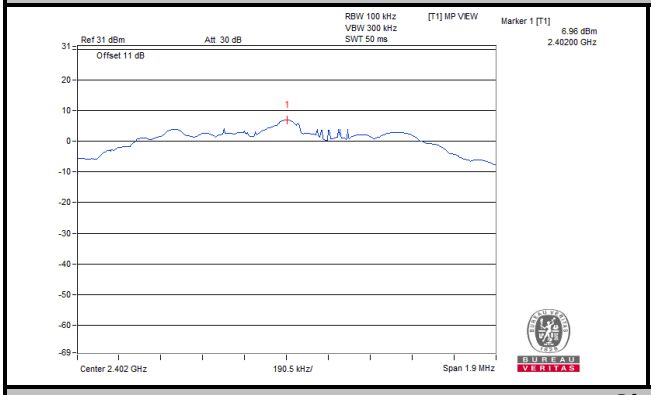


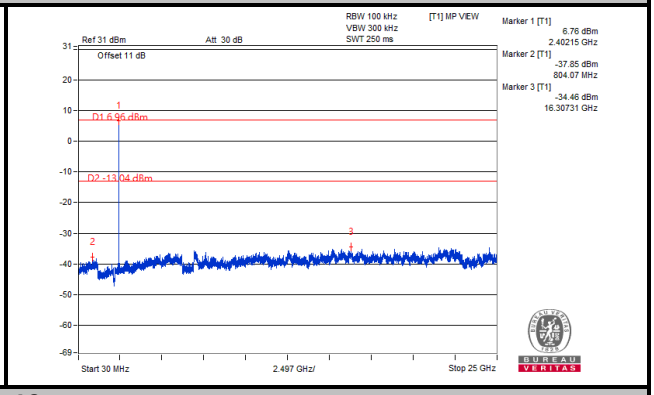
Ch 39 Band Edge



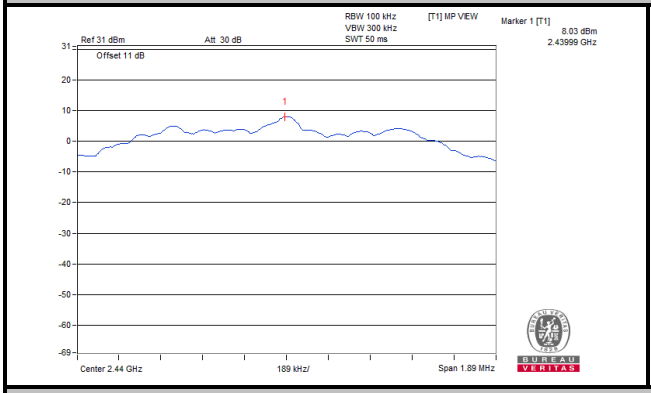
<LE 5.1>

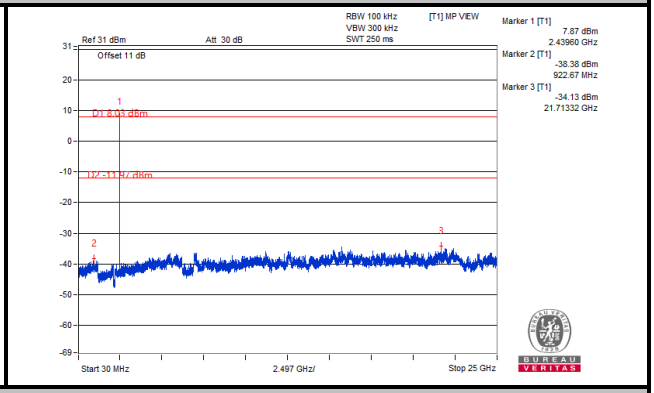
Ch 0



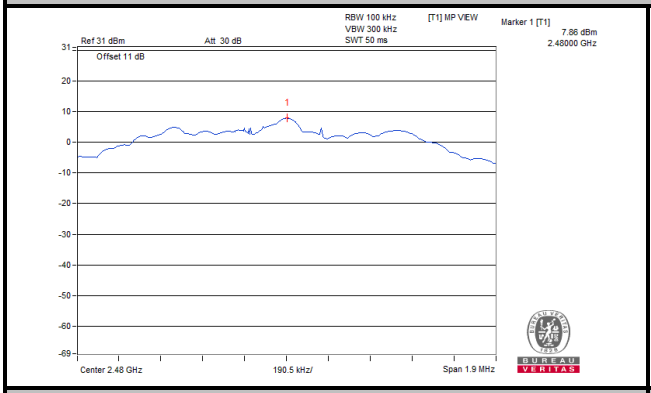


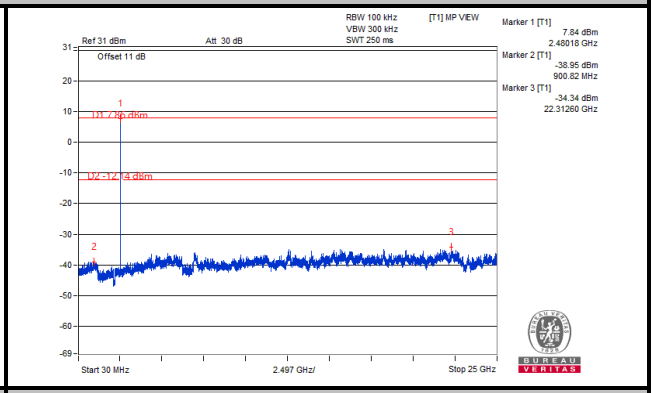
Ch 19



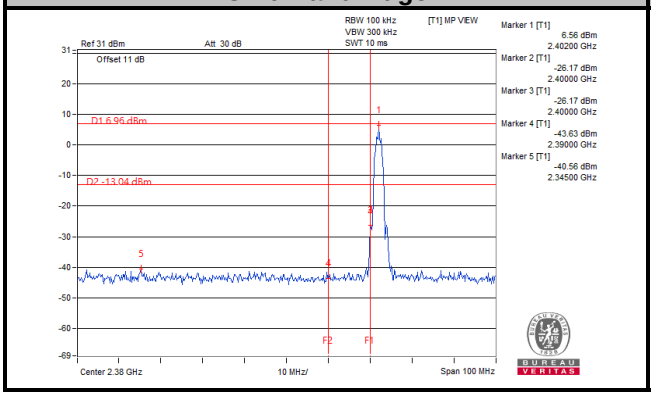


Ch 39

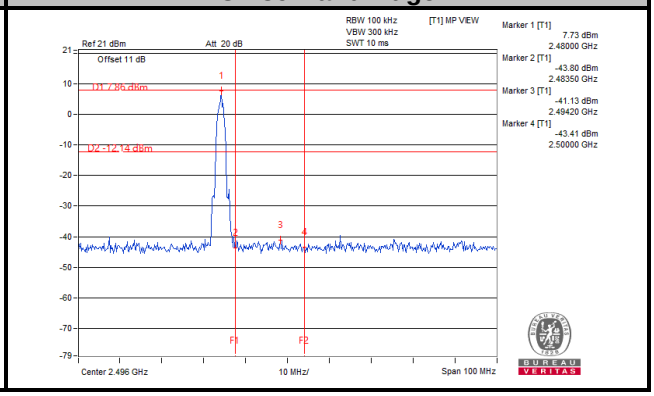




Ch 0 Band Edge



Ch 39 Band Edge



5 Photographs of the Test Configuration

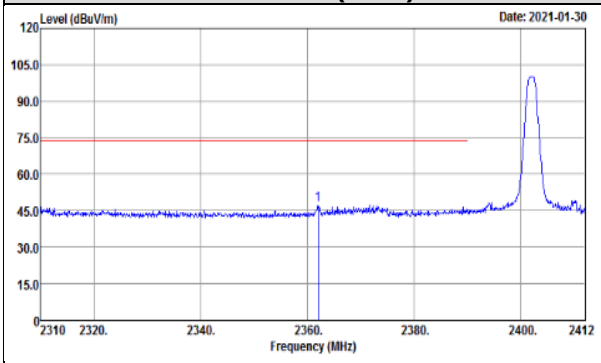
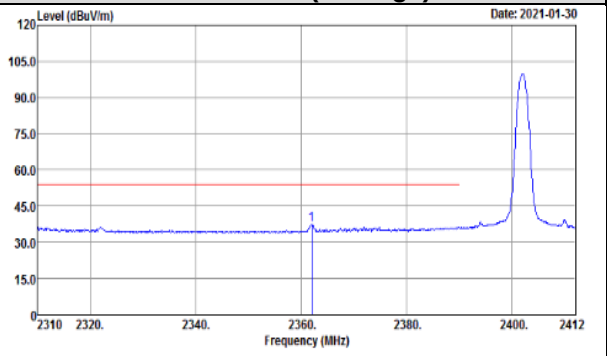
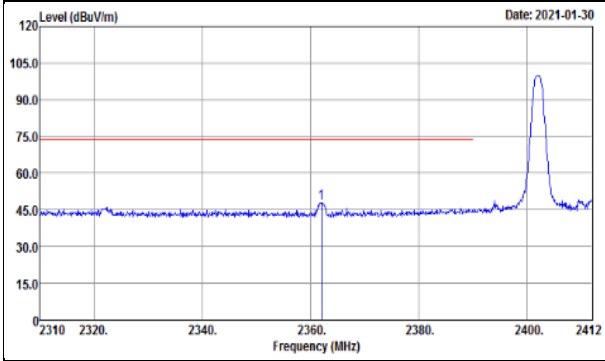
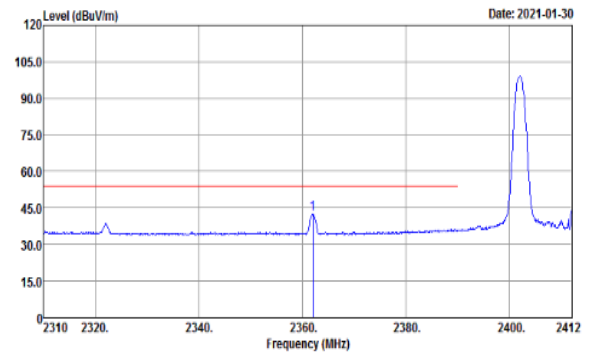
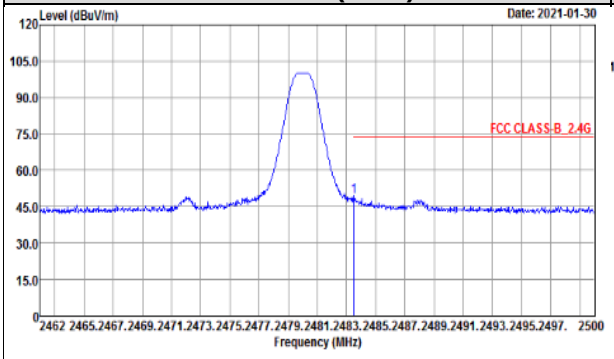
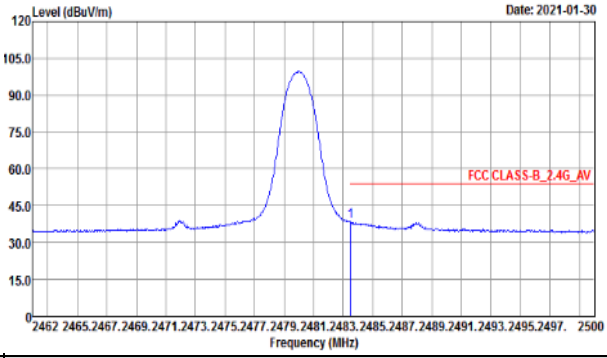
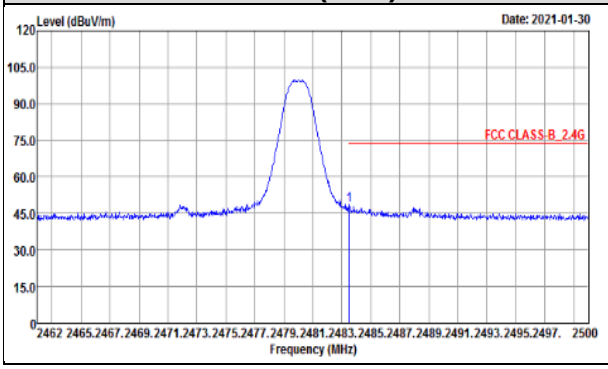
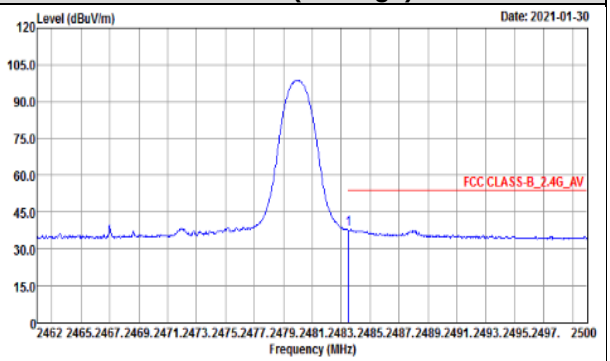
Please refer to the attached file (Reference no.: RFBCEE-WTW-P20120260 (TSup photo_left earbud)).

6 Construction Photos of EUT

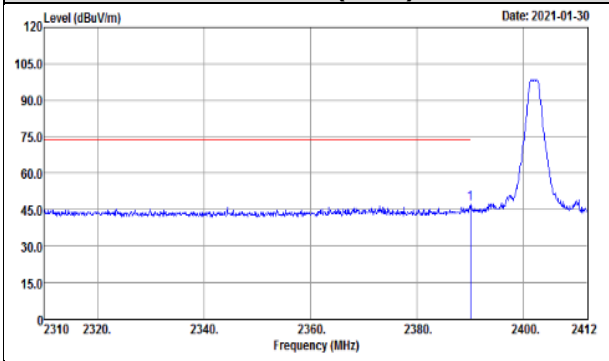
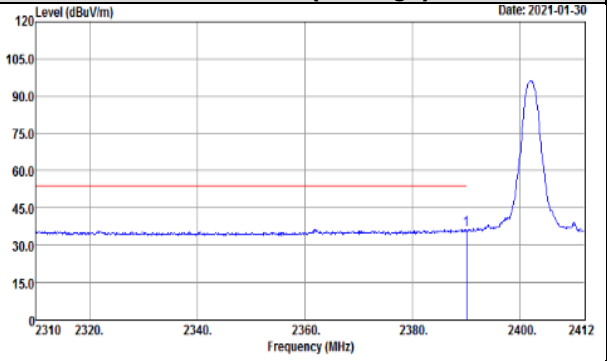
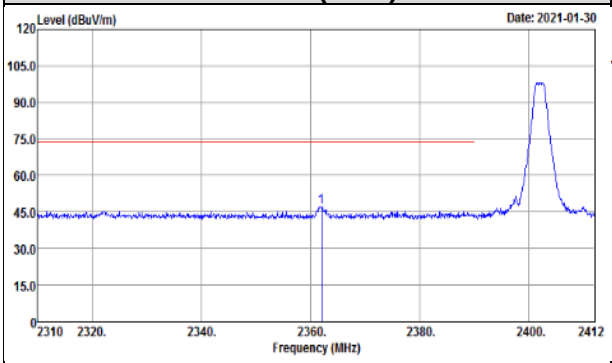
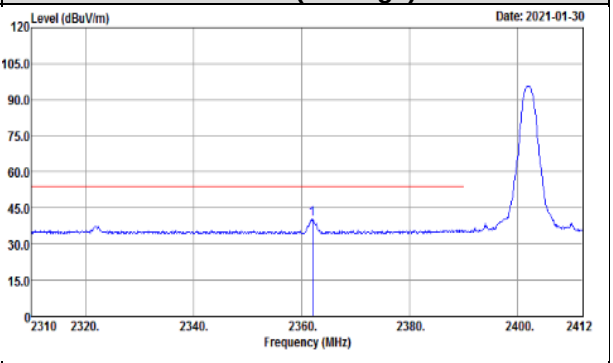
Please refer to the attached file (BCEE-WTW-P20120260 (EUT photo)).

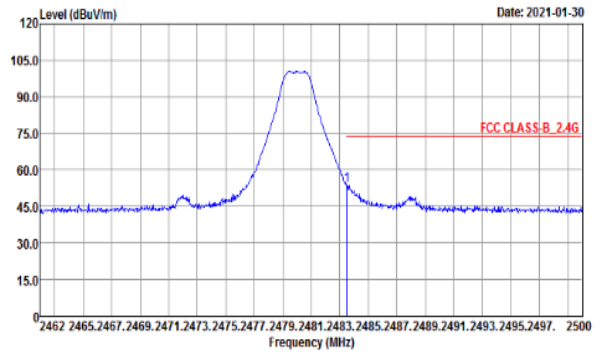
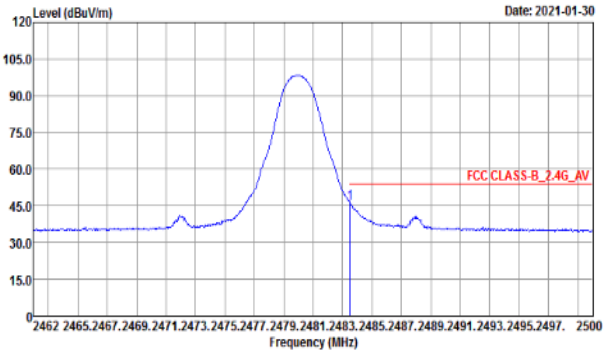
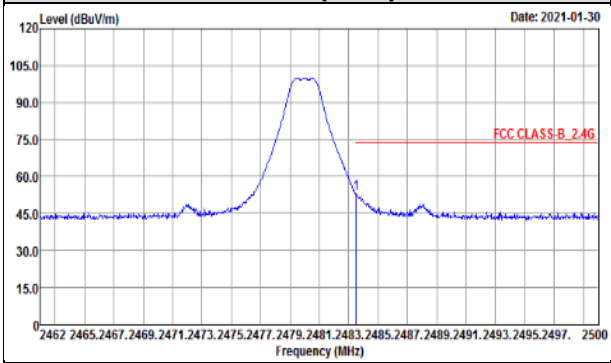
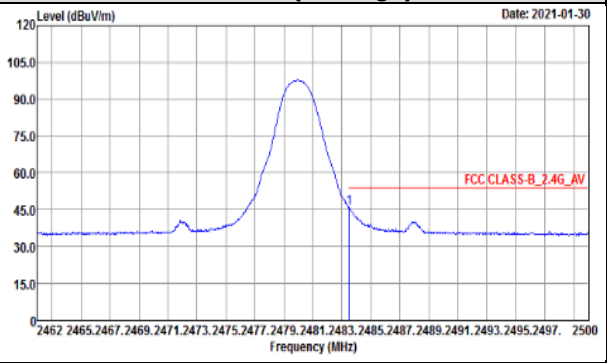
Annex A- Band Edge Measurement

<LE 4.0>

BT_LE-1M Channel 0	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	
BT_LE-1M Channel 39	
Horizontal (Peak)	**Horizontal (Average)**
	
Vertical (Peak)	**Vertical (Average)**
	

<LE 5.1>

BT_LE-2M Channel 0	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

BT_LE-2M Channel 39	
Horizontal (Peak)	Horizontal (Average)
	
Vertical (Peak)	Vertical (Average)
	

Appendix – Information of the Testing Laboratories

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

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

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

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

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

--- END ---