

TEST REPORT

CERTIFICATE OF CONFORMITY

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

Report No.: RFCFQC-WTW-P22060736-3

FCC ID: 2A3ULCONCPLUS1

Product Name: Conversation Clear Plus (ConCPlus1), ConC 400 (ConCPlus1)
(refer to item 3.1 for more details)

Brand Name: SENNHEISER

Model No.: ConCPlus1 (refer to item 3.1 for more details)

Received Date: 2022/7/6

Test Date: 2022/8/8 ~ 2022/9/23

Issued Date: 2022/11/21

Applicant: Sonova Consumer Hearing GmbH

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 (1): No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

Test Location (2): No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan

FCC Registration / (1) 788550 / TW0003

Designation Number: (2) 281270 / TW0032

Approved by:

Jeremy Lin

Jeremy Lin / Project Engineer

Date:

2022/11/21

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Prepared by : Vera Huang / Specialist



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Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description	7
3.2 Antenna Description of EUT	8
3.3 Channel List	9
3.4 Test Mode Applicability and Tested Channel Detail	10
3.5 Duty Cycle of Test Signal	11
3.6 Description of Support Units	12
3.6.1 Configuration of System under Test	12
4 Test Instruments	13
4.1 RF Output Power	13
4.2 Power Spectral Density	13
4.3 6 dB Bandwidth	13
4.4 Conducted Out of Band Emissions	13
4.5 AC Power Conducted Emissions	14
4.6 Unwanted Emissions below 1 GHz	15
4.7 Unwanted Emissions above 1 GHz	16
5 Limits of Test Items.....	17
5.1 RF Output Power	17
5.2 Power Spectral Density	17
5.3 6 dB Bandwidth	17
5.4 Conducted Out of Band Emissions	17
5.5 AC Power Conducted Emissions	17
5.6 Unwanted Emissions below 1 GHz	17
5.7 Unwanted Emissions above 1 GHz	18
6 Test Arrangements	19
6.1 RF Output Power	19
6.1.1 Test Setup	19
6.1.2 Test Procedure	19
6.2 Power Spectral Density	19
6.2.1 Test Setup	19
6.2.2 Test Procedure	19
6.3 6 dB Bandwidth	20
6.3.1 Test Setup	20
6.3.2 Test Procedure	20
6.4 Conducted Out of Band Emissions	20
6.4.1 Test Setup	20
6.4.2 Test Procedure	20
6.5 AC Power Conducted Emissions	21
6.5.1 Test Setup	21
6.5.2 Test Procedure	21
6.6 Unwanted Emissions below 1 GHz	22
6.6.1 Test Setup	22
6.6.2 Test Procedure	23
6.7 Unwanted Emissions above 1 GHz	24
6.7.1 Test Setup	24
6.7.2 Test Procedure	24
7 Test Results of Test Item	25
7.1 RF Output Power	25

7.2	Power Spectral Density	26
7.3	6 dB Bandwidth	28
7.4	Conducted Out of Band Emissions	30
7.5	AC Power Conducted Emissions	33
7.6	Unwanted Emissions below 1 GHz	37
7.7	Unwanted Emissions above 1 GHz	47
8	Pictures of Test Arrangements	58
9	Construction Photos of EUT	59
10	Information of the Testing Laboratories	60

Release Control Record

Issue No.	Description	Date Issued
RFCFQC-WTW-P22060736-3	Original Release	2022/11/21

1 Certificate

Product Name: Conversation Clear Plus (ConCPlus1), ConC 400 (ConCPlus1)
(refer to item 3.1 for more details)

Brand Name: SENNHEISER

Model No.: ConCPlus1 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: Sonova Consumer Hearing GmbH

Test Date: 2022/8/8 ~ 2022/9/23

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

Measurement procedure: ANSI C63.10-2013
KDB 558074 D01 15.247 Meas Guidance v05r02

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

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.247(a)(2)	6 dB Bandwidth	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -8.02 dB at 0.46200 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -8.7 dB at 41.64 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	Pass	Minimum passing margin is -3.6 dB at 2483.50 MHz
15.203	Antenna Requirement	Pass	No antenna connector is used.

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

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.79 dB
AC Power Conducted Emissions	9 kHz ~ 30 MHz	2.79 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3 dB
	30 MHz ~ 1 GHz	2.92 dB
Unwanted Emissions above 1 GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description

Test Item Description	True Wireless Earphones
Product Name	Conversation Clear Plus (ConCPlus1), ConC 400 (ConCPlus1) (refer to note for more details)
Brand Name	SENNHEISER
Model No.	ConCPlus1 (refer to note for more details)
Sample Status	Engineering sample
Power Ratings	Left earbud & Right earbud: 3.7Vdc, 70mAh (from battery) Charging Case: 5Vdc, 900 mA (from Type-C USB interface) 3.7Vdc, 500 mAh (from battery)
Power Supply (Nominal & Testing)	5Vdc, 900 mA (from Type-C USB interface)
Nominal Testing Voltage (Vnom)	3.7Vdc
Operating Temperature range	0~40°C
Modulation Type	GFSK, GMSK
Transmission Technology	DSSS
Technology	BLUETOOTH, DM (Proprietary), FLORA (Proprietary)
Operating Frequency	BLUETOOTH & DM (Proprietary): 2402~2480MHz (for Frequency band 2400-2483.5MHz) FLORA (Proprietary): 2404~2480MHz (for Frequency band 2400-2483.5MHz)
No. of channels	Bluetooth LE 4.2: 40 DM: 40 FLORA: 39
Channel Spacing	Bluetooth LE 4.2: 2MHz DM: 2MHz FLORA: 2MHz
Channel Bandwidth	Bluetooth LE 4.2: 80MHz DM: 80MHz FLORA: 78MHz
Data Transfer Rate	Bluetooth LE 4.2: 1Mbps DM: 2Mbps FLORA: 2.6Mbps
Maximum Transmit/ Output Power	Bluetooth LE 4.2: 2.317 mW (3.65 dBm) DM: 4.083 mW (6.11 dBm) FLORA: 4.111 mW (6.14 dBm)
HW Version	Earbuds: PTR6 Charging Case: R2
SW Version	Earbuds: 1.0.2.0 Charging Case: 1.0.14

Note:

1. This test report is for Right Earbud.
2. The EUT system model no. ConCPlus1 contain the following devices. The enclosure of earbuds includes 2 colors, and 1 color for charging case.

Device Name	Brand Name	Device Model No.
Right Earbud	SENNHEISER	ConCPlus1-R
Left Earbud	SENNHEISER	ConCPlus1-L
Charging Case	SENNHEISER	ConCPlus1-C

* ConCPlus1-R and ConCPlus1-L with BT, BT LE, DM, and Flora TX/RX function.

* Charging case is solely used for charging ConCPlus1-R and ConCPlus1-L only.

3. The enclosure colors of ConCPlus1 are available in the following combinations.

System Model No.	Product Name	Enclosure Color
ConCPlus1	Conversation Clear Plus (ConCPlus1)	Earbuds: Black (top & bottom housing) Charging Case: Black
	ConC 400 (ConCPlus1)	Earbuds: Silver (top housing) and Black (bottom housing) Charging Case: Black

4. The EUT contains following accessory devices.

USB Cable		
Brand Name	Model No.	Specification
SENNHEISER	043-3093	Signal Line : 1M shielded cable w/o core

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

6. BT, BT-LE, DM, and Flora technology cannot transmit at same time.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Gain (dBi)	Antenna Type	Connector Type
-5	PCB Dipole Antenna	N/A

* Detail antenna specification please refer to antenna datasheet or an antenna gain measurement report.

3.3 Channel List

40 channels are provided for BT-LE:

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

40 channels are provided for DM:

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

39 channels are provided for Flora:

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

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan in these ways and find the worst case as a representative test condition.
Worst Case:	Worst Condition: Y-axis
EUT Configure Mode:	Mode A: EUT (Right Earbud) Mode B: EUT (Left Earbud + Right Earbud + Charging case) Mode C: EUT (Left Earbud + Right Earbud + Charging case + Wireless charger) Mode D: EUT (Left Earbud + Right Earbud + Charging case) + Notebook Mode E: EUT (Left Earbud + Right Earbud + Charging case + Wireless charger) + Notebook

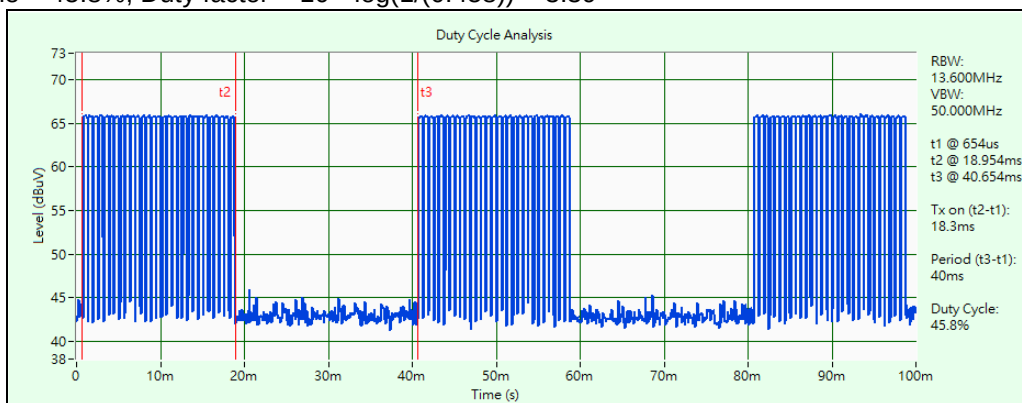
*The EUT had been pre-test on Mode A-E. The worst case was found on Mode A-C. Therefore, Mode A-C was chosen for final test.

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

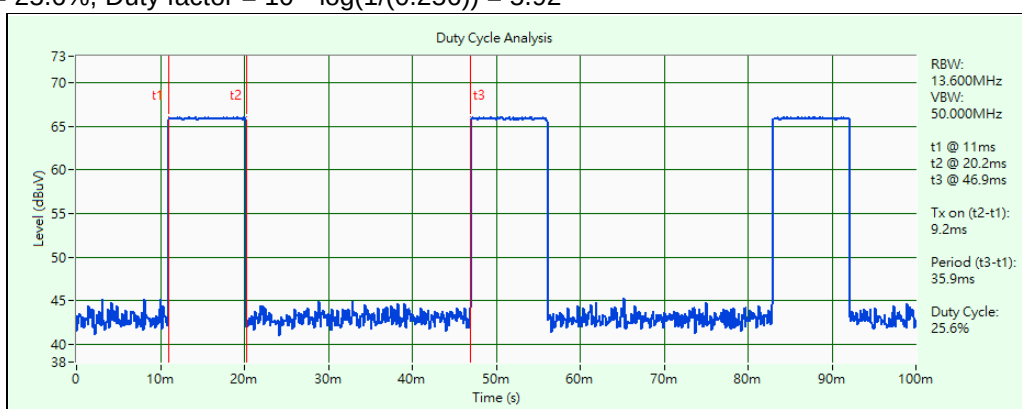
Test Item	EUT Configure Mode	Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	B, C	Charging Mode			
Unwanted Emissions below 1 GHz	A	BT-LE	0	GFSK	1Mb/s
		DM	19	GFSK	2Mb/s
		Flora	19	GMSK	2.6Mb/s
	B, C	Charging Mode			
Unwanted Emissions above 1 GHz	A	BT-LE	0, 19, 39	GFSK	1Mb/s
		DM	0, 19, 39	GFSK	2Mb/s
		Flora	1, 19, 39	GMSK	2.6Mb/s
RF Output Power / Power Spectral Density	A	BT-LE	0, 19, 39	GFSK	1Mb/s
		DM	0, 19, 39	GFSK	2Mb/s
		Flora	1, 19, 39	GMSK	2.6Mb/s
6 dB Bandwidth / Conducted Out of Band Emissions	A	BT-LE	0, 19, 39	GFSK	1Mb/s
		DM	0, 19, 39	GFSK	2Mb/s
		Flora	1, 19, 39	GMSK	2.6Mb/s

3.5 Duty Cycle of Test Signal

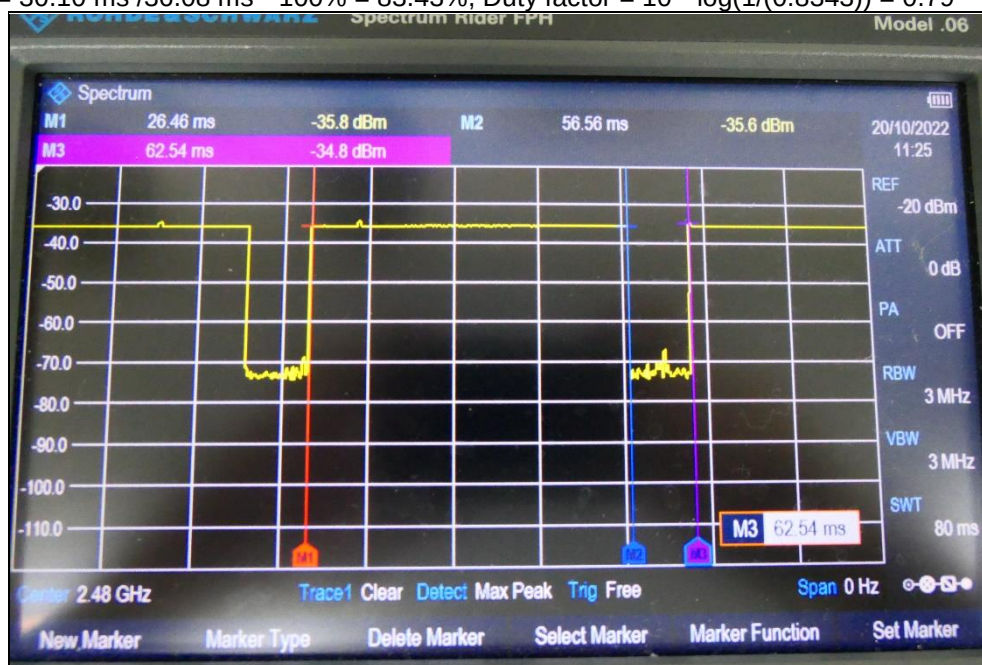
BT-LE: Duty cycle = 45.8%, Duty factor = $10 * \log(1/(0.458)) = 3.39$



DM: Duty cycle = 25.6%, Duty factor = $10 * \log(1/(0.256)) = 5.92$



Flora: Duty cycle = $30.10 \text{ ms} / 36.08 \text{ ms} * 100\% = 83.43\%$, Duty factor = $10 * \log(1/(0.8343)) = 0.79$



3.6 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	Liteon	PA-1050-39	NA	NA	Provided by Lab
B.	Wireless Charger	MI	MDY-10-EP	NA	NA	Provided by Lab
C.	Adapter	MI	MDY-10-EJ	NA	NA	Provided by Lab

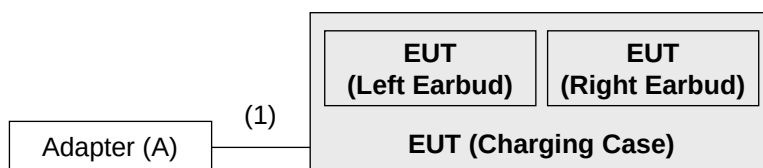
No.	Cable Descriptions	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Qty.)	Remark
1.	USB Cable	1	1	Y	0	Accessory of the EUT
2.	USB Cable	1	0.6	Y	0	Provided by Lab

3.6.1 Configuration of System under Test

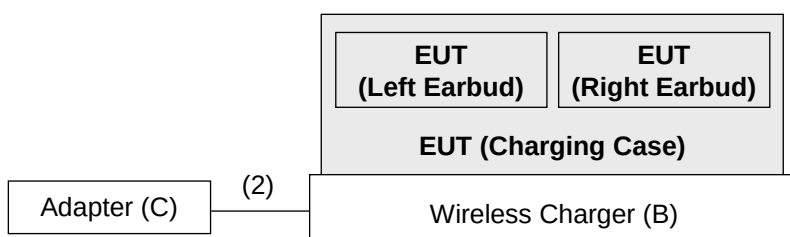
Test Mode A



Test Mode B



Test Mode C



4 Test Instruments

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

4.1 RF Output Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	2022/1/18	2023/1/17
Power sensor Keysight	U2021XA	MY55380009	2022/3/23	2023/3/22
Wideband Power Sensor(N1923A) KEYSIGHT	N1923A	MY58020002	2022/1/17	2023/1/16

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/9/18

4.2 Power Spectral Density

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Software BV	ADT_RF Test Software V6.6.5.4	N/A	N/A	N/A
Spectrum Analyzer R&S	FSV40	100979	2022/3/25	2023/3/24

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2022/9/18

4.3 6 dB Bandwidth

Refer to section 4.2 to get information of the instruments.

4.4 Conducted Out of Band Emissions

Refer to section 4.2 to get information of the instruments.

4.5 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
DC-LISN SCHWARZBECK MESS- ELETRONIK	NNBM 8126G	8126G-069	2021/11/10	2022/11/9
LISN R&S	ESH3-Z5	100220	2021/11/25	2022/11/24
LISN ROHDE & SCHWARZ	ENV216	101826	2022/3/14	2023/3/13
RF Coaxial Cable WOKEN	5D-FB	Cable-cond1-01	2022/1/15	2023/1/14
Software BVADT	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
Test Receiver Rohde&Schwarz	ESCI	100613	2021/12/3	2022/12/2
V-LISN Schwarzbeck	NNBL 8226-2	8226-142	2022/8/31	2023/8/30

Notes:

1. The test was performed in HY - Conduction 1.
2. Tested Date: 2022/9/22 ~ 2022/9/23

4.6 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Bi-log Broadband Antenna Schwarzbeck	VULB9168	9168-995	2021/10/28	2022/10/27
Loop Antenna EMCI	EM-6879	269	2021/9/16	2022/9/15
Loop Antenna TESEQ	HLA 6121	45745	2022/7/27	2023/7/26
MXA Signal Analyzer KEYSIGHT	N9020B	MY60110462	2021/12/21	2022/12/20
Pre-amplifier EMCI	EMC001340	980201	2021/9/15	2022/9/14
Pre_Amplifier EMCI	EMC330N	980783	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	2022/1/15	2023/1/14
	EMCCFD400-NM-NM-500	201245	2022/1/17	2023/1/16
	EMCCFD400-NM-NM-3000	201250	2022/1/17	2023/1/16
	EMCCFD400-NM-NM-9000	201252	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_V7.6.15.9.5	N/A	N/A	N/A
Test Receiver R&S	ESR3	102579	2022/7/1	2023/6/30
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2022/8/27

4.7 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower KaiTuo	N/A	N/A	N/A	N/A
Antenna Tower Controller KaiTuo	KT-2000	N/A	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210104A18E	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	9170-1048	2021/11/14	2022/11/13
MXA Signal Analyzer KEYSIGHT	N9020B	MY60110462	2021/12/21	2022/12/20
Pre_Amplifier EMCI	EMC118A45SE	980810	2021/12/30	2022/12/29
	EMC184045SE	980787	2022/1/17	2023/1/16
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201253	2022/1/17	2023/1/16
	EMC101G-KM-KM-3000	201256	2022/1/17	2023/1/16
	EMC101G-KM-KM-5000	201259	2022/1/17	2023/1/16
	EMC104-SM-SM-1000	210101	2022/1/17	2023/1/16
	EMC104-SM-SM-3000	201242	2022/1/17	2023/1/16
	EMC104-SM-SM-9000	201230	2022/1/17	2023/1/16
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Test Receiver R&S	ESR3	102579	2022/7/1	2023/6/30
Turn Table Max-Full	MFT-151SS-0.5T	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208675	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 7.
2. Tested Date: 2022/8/8 ~ 2022/9/20

5 Limits of Test Items

5.1 RF Output Power

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

5.2 Power Spectral Density

The Maximum of Power Spectral Density Measurement is 8 dBm in any 3 kHz.

5.3 6 dB Bandwidth

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

5.4 Conducted Out of Band Emissions

Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

5.5 AC Power Conducted Emissions

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

Notes:

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

5.6 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

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

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.7 Unwanted Emissions above 1 GHz

Radiated emissions above 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

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

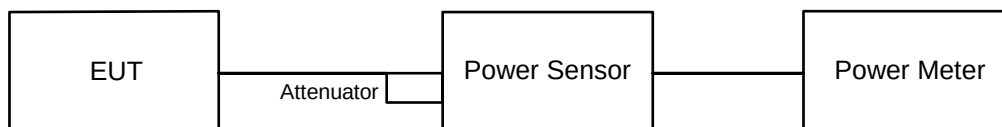
Notes:

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

6 Test Arrangements

6.1 RF Output Power

6.1.1 Test Setup



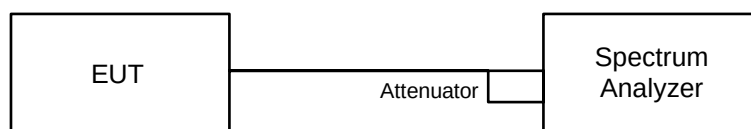
6.1.2 Test Procedure

Average Power:

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

6.2 Power Spectral Density

6.2.1 Test Setup



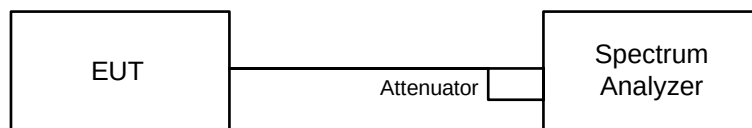
6.2.2 Test Procedure

- Measure the duty cycle (x).
- Set instrument center frequency to DTS channel center frequency.
- Set span to at least 1.5 times the OBW.
- Set RBW to: 3 kHz.
- Set VBW $\geq 3 \times$ RBW.
- Detector = power averaging (RMS) or sample detector (when RMS not available).
- Ensure that the number of measurement points in the sweep $\geq 2 \times$ span/RBW.
- Sweep time = auto couple.
- Do not use sweep triggering. Allow sweep to "free run".
- Employ trace averaging (RMS) mode over a minimum of 100 traces.
- Use the peak marker function to determine the maximum amplitude level.

Note: If Duty cycle < 98%, Add $10 \log (1/x)$, where x is the duty cycle measured in step (a), to the measured PSD to compute the average PSD during the actual transmission time.

6.3 6 dB Bandwidth

6.3.1 Test Setup

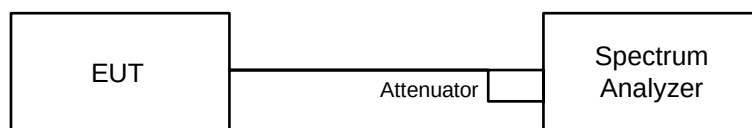


6.3.2 Test Procedure

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

6.4 Conducted Out of Band Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

MEASUREMENT PROCEDURE REF

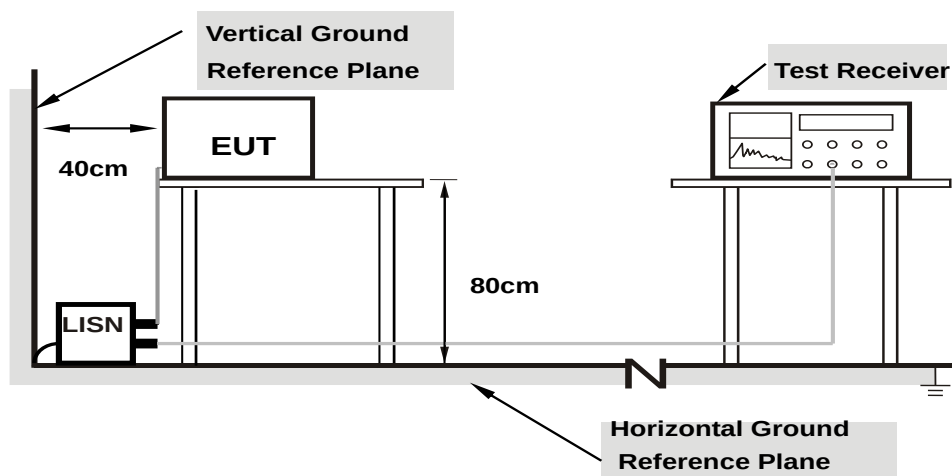
- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

6.5 AC Power Conducted Emissions

6.5.1 Test Setup



Note: 1. Support units were connected to second LISN.

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

6.5.2 Test Procedure

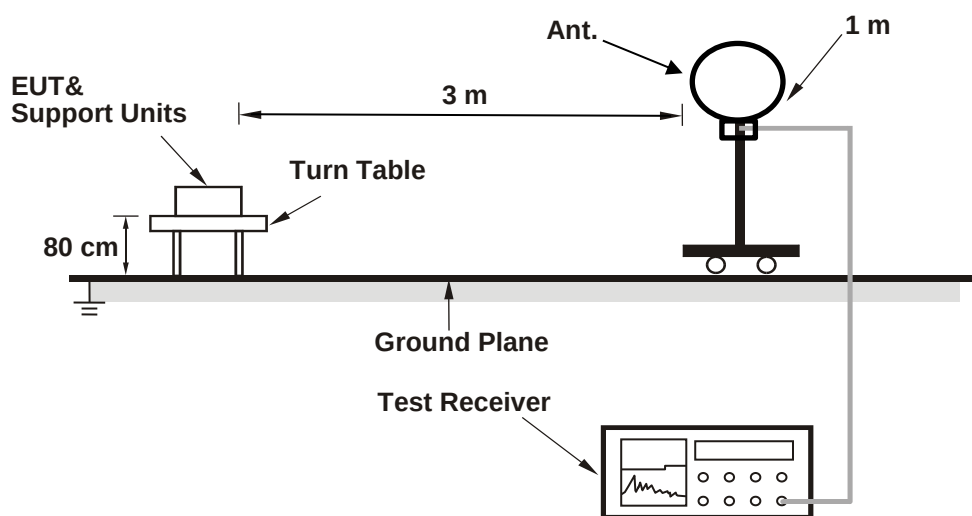
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

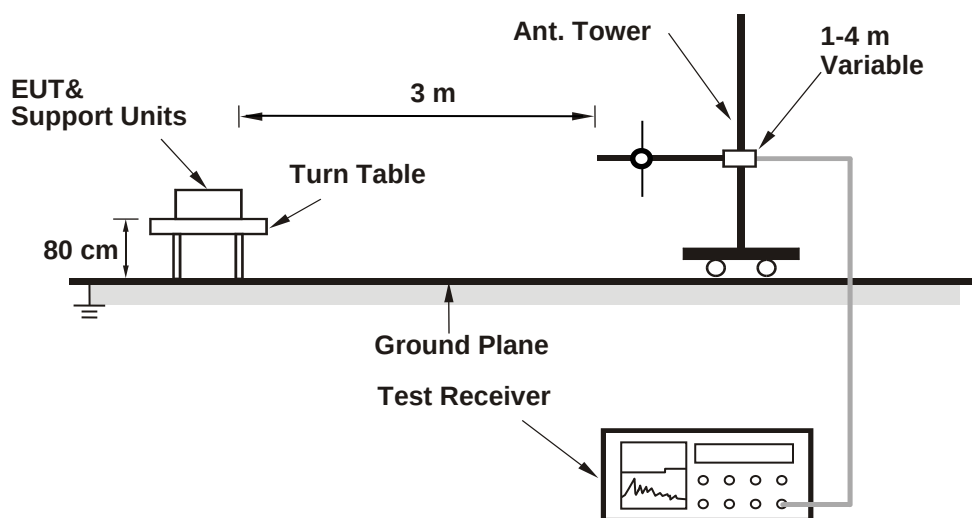
6.6 Unwanted Emissions below 1 GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.6.2 Test Procedure

For Radiated emission below 30 MHz

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

Notes:

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

For Radiated emission above 30 MHz

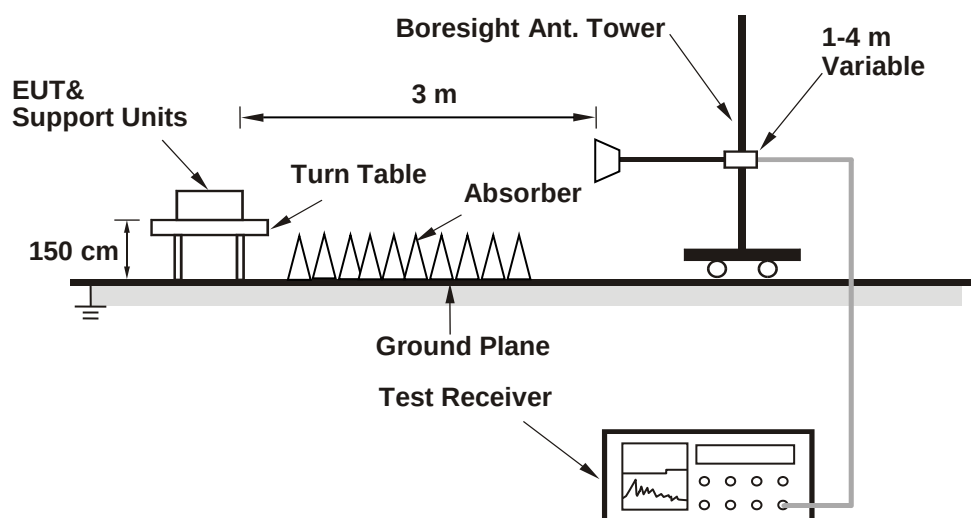
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the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

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

6.7 Unwanted Emissions above 1 GHz

6.7.1 Test Setup



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

6.7.2 Test Procedure

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

Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- Flora: For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10 Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1 GHz.
- BT-LE & DM: According to ANSI C63.10 section 6.6.4 and 4.1.4.2.2. For fundamental and harmonic signal measurement, according to ANSI C63.10 section 7.5, the average value = peak value + duty cycle correction factor. For duty cycle correction factor values, see the Test Signal Duty Cycle section in this report.
- All modes of operation were investigated and the worst-case emissions are reported.

7 Test Results of Test Item

7.1 RF Output Power

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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BT-LE

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
0	2402	2.296	3.61	30	Pass
19	2440	1.945	2.89	30	Pass
39	2480	2.317	3.65	30	Pass

Note: The antenna gain is -5 dBi < 6 dBi, so the output power limit shall not be reduced.

DM

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
0	2402	4.083	6.11	30	Pass
19	2440	3.999	6.02	30	Pass
39	2480	3.945	5.96	30	Pass

Note: The antenna gain is -5 dBi < 6 dBi, so the output power limit shall not be reduced.

Flora

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Power Limit (dBm)	Test Result
1	2404	4.111	6.14	30	Pass
19	2440	4.009	6.03	30	Pass
39	2480	3.972	5.99	30	Pass

Note: The antenna gain is -5 dBi < 6 dBi, so the output power limit shall not be reduced.

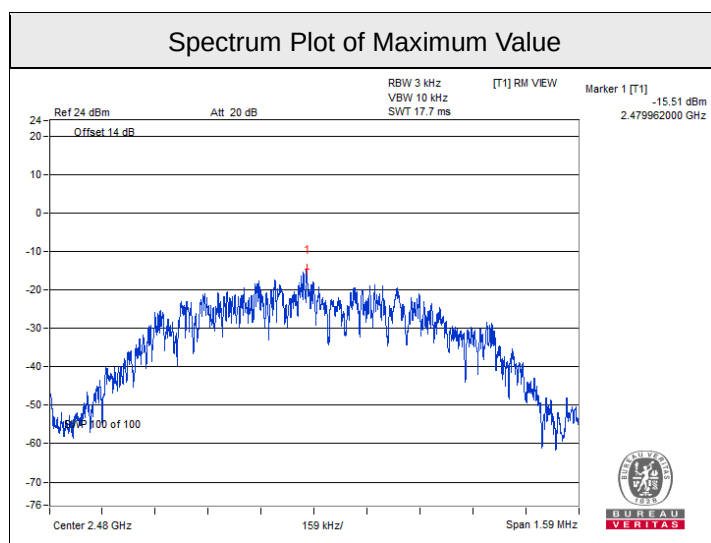
7.2 Power Spectral Density

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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BT-LE

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)	Duty Factor (dB)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	-15.58	3.39	-12.19	8.00	Pass
19	2440	-15.99	3.39	-12.60	8.00	Pass
39	2480	-15.51	3.39	-12.12	8.00	Pass

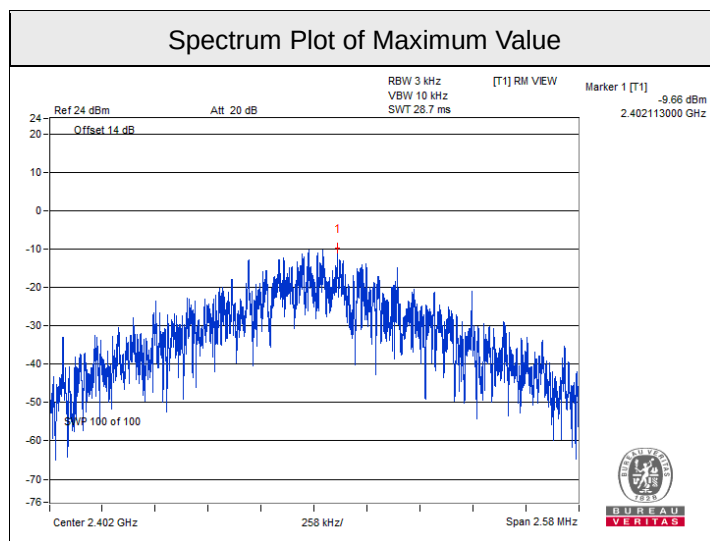
Note: The antenna gain is -5 dBi < 6 dBi, so the power density limit shall not be reduced.



DM

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)	Duty Factor (dB)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
0	2402	-9.66	5.92	-3.74	8.00	Pass
19	2440	-9.79	5.92	-3.87	8.00	Pass
39	2480	-9.73	5.92	-3.81	8.00	Pass

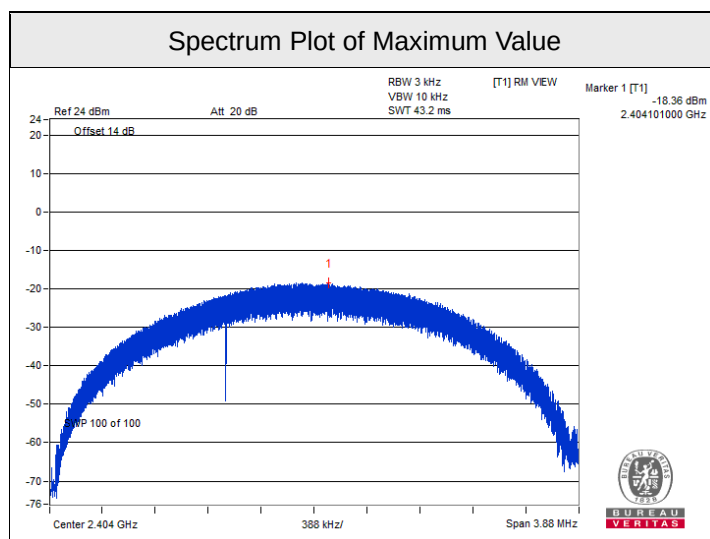
Note: The antenna gain is -5 dBi < 6 dBi, so the power density limit shall not be reduced.



Flora

Chan.	Chan. Freq. (MHz)	PSD w/o Duty Factor (dBm/3kHz)	Duty Factor (dB)	PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Test Result
1	2404	-18.36	0.79	-17.57	8.00	Pass
19	2440	-18.51	0.79	-17.72	8.00	Pass
39	2480	-18.59	0.79	-17.80	8.00	Pass

Note: The antenna gain is -5 dBi < 6 dBi, so the power density limit shall not be reduced.

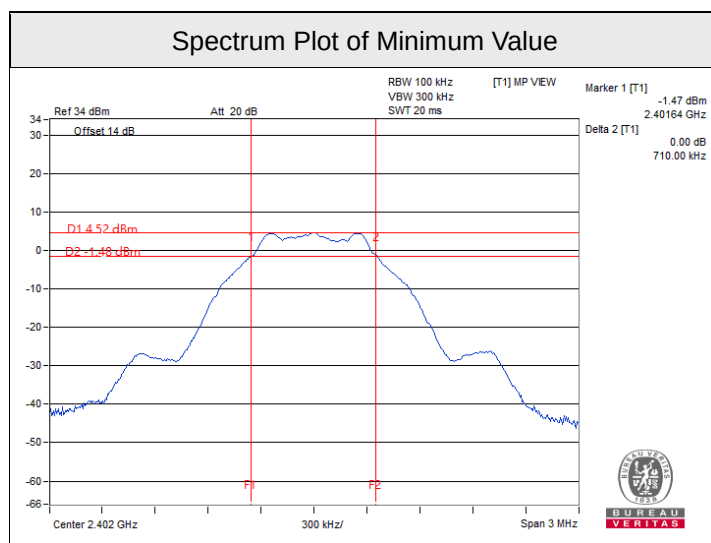


7.3 6 dB Bandwidth

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyong Wang
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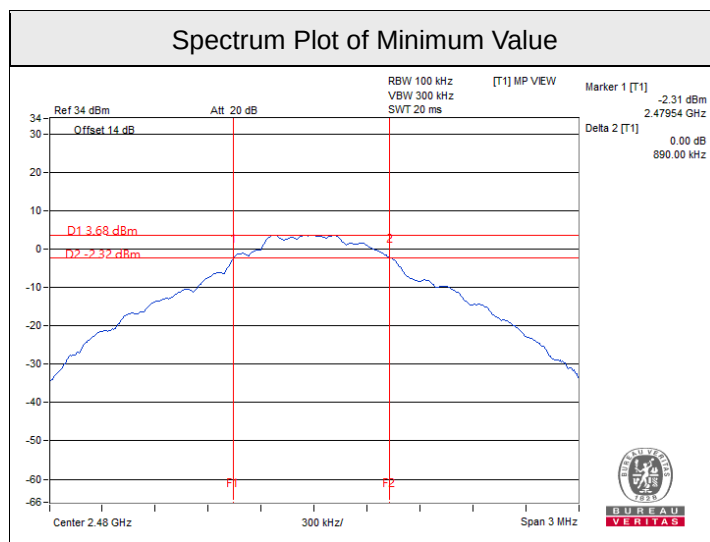
BT-LE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.71	0.5	Pass
19	2440	0.74	0.5	Pass
39	2480	0.76	0.5	Pass



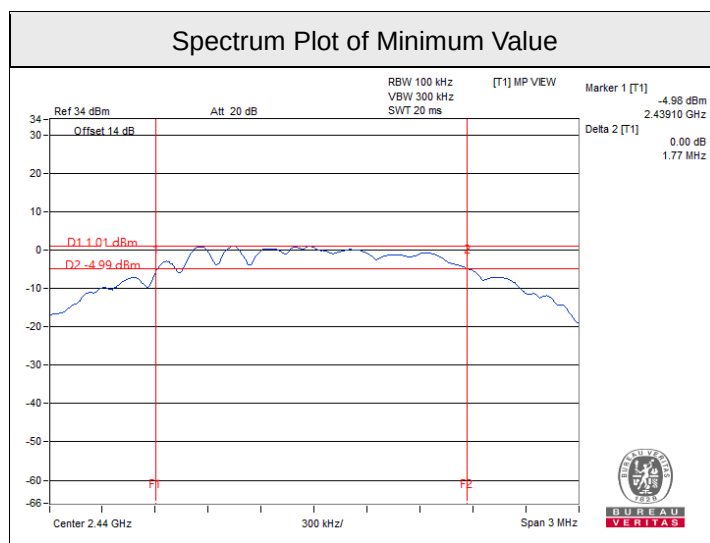
DM

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
0	2402	0.9	0.5	Pass
19	2440	0.9	0.5	Pass
39	2480	0.89	0.5	Pass



Flora

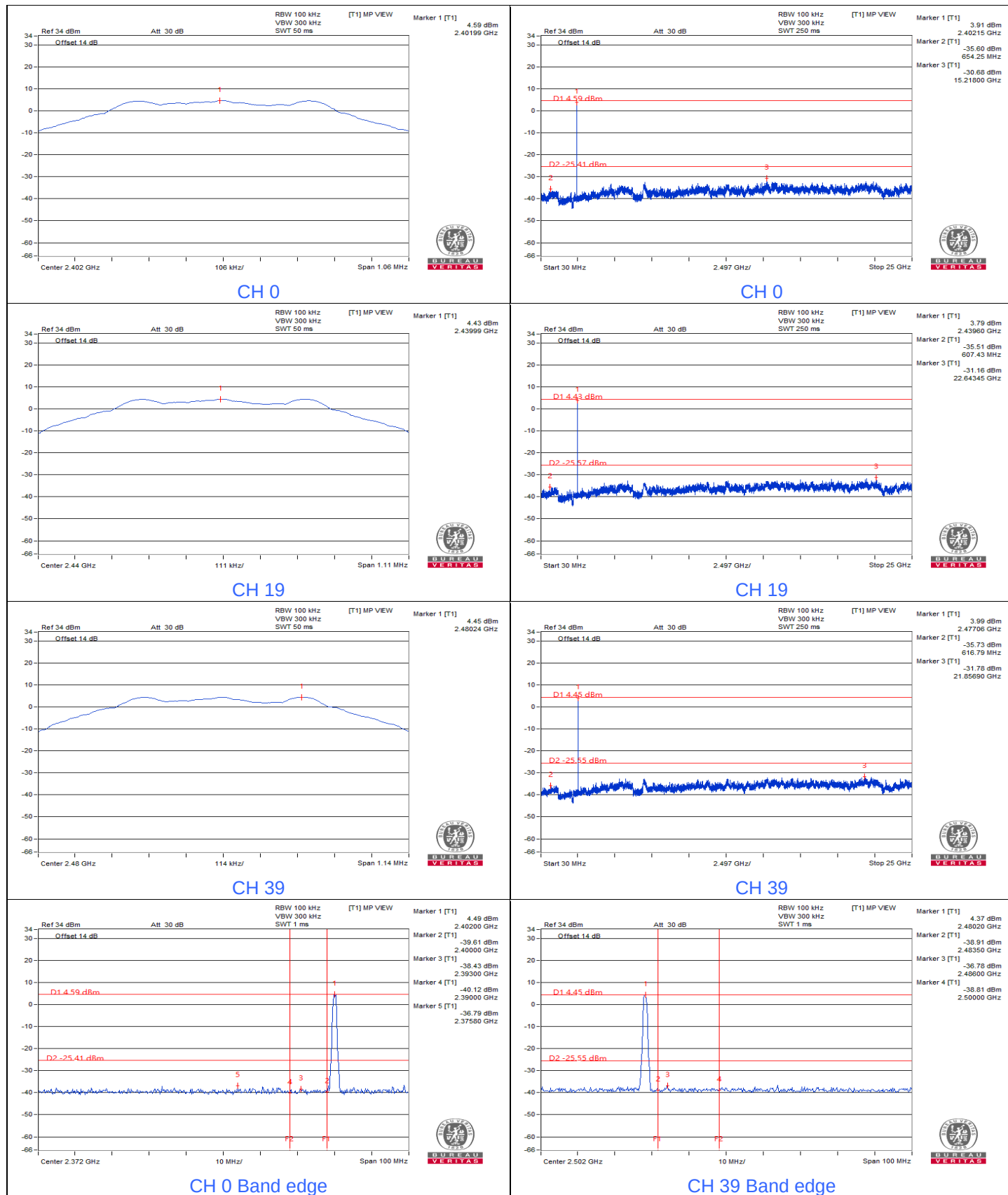
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Test Result
1	2404	1.78	0.5	Pass
19	2440	1.77	0.5	Pass
39	2480	1.77	0.5	Pass



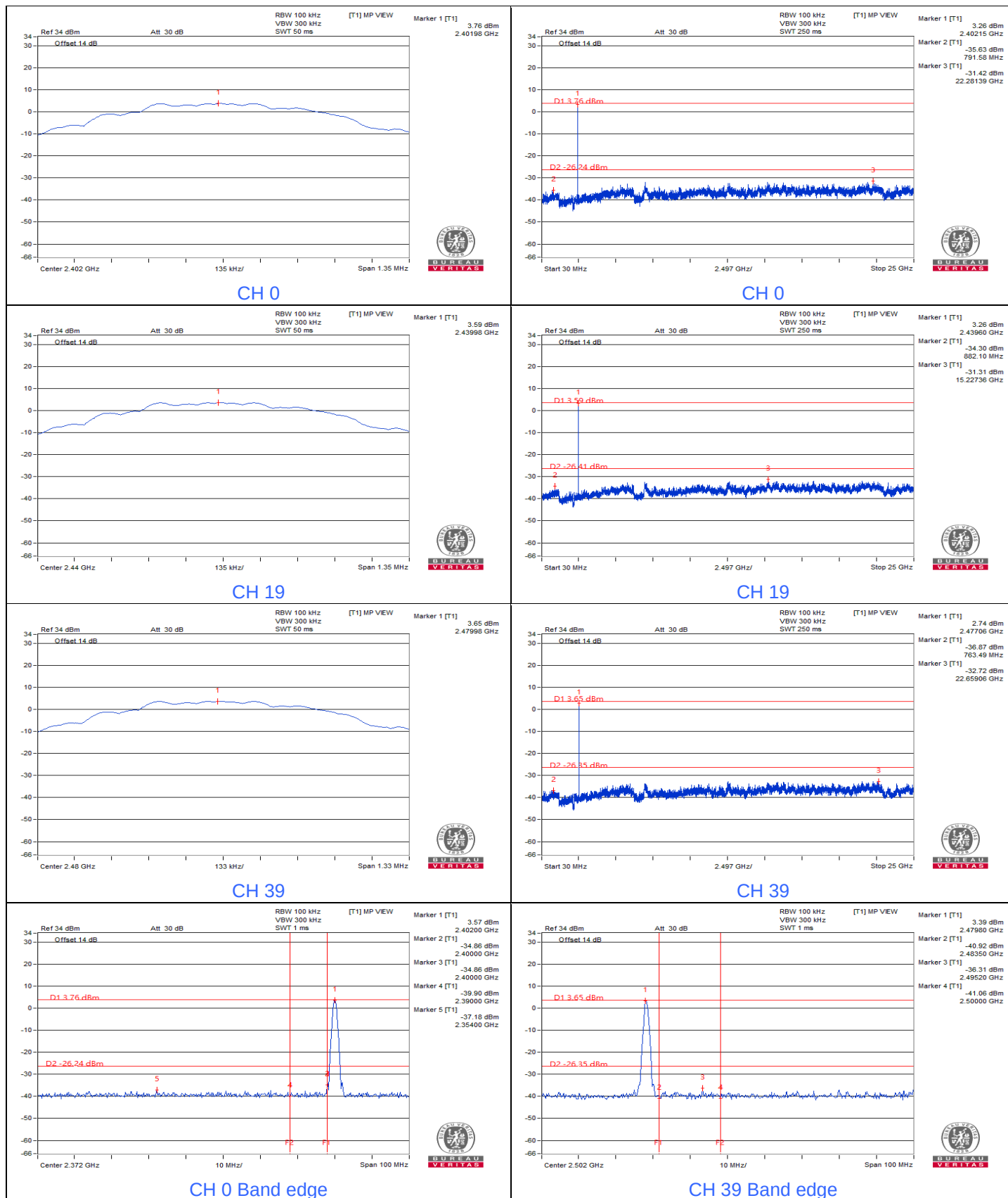
7.4 Conducted Out of Band Emissions

Input Power:	3.7 Vdc	Environmental Conditions:	25°C, 60% RH	Tested By:	Jisyoung Wang
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BT-LE 1M



DM



Flora



7.5 AC Power Conducted Emissions

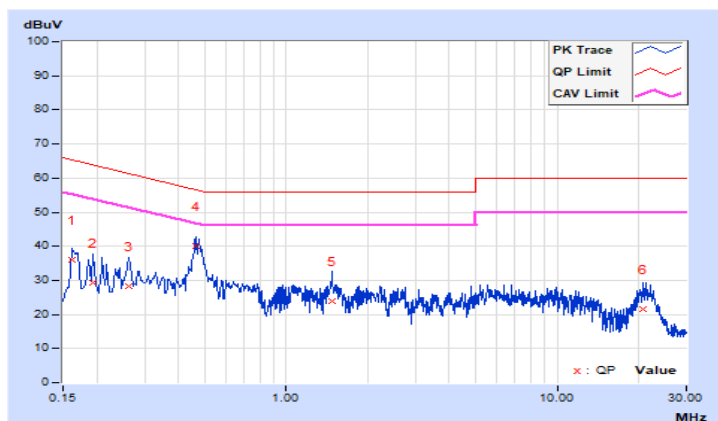
Mode B

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

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	0.16190	9.69	26.49	16.86	36.18	26.55	65.37	55.37	-29.19	-28.82
2	0.19400	9.72	19.57	13.16	29.29	22.88	63.86	53.86	-34.57	-30.98
3	0.26200	9.74	18.54	13.07	28.28	22.81	61.37	51.37	-33.09	-28.56
4	0.46200	9.80	30.41	28.84	40.21	38.64	56.66	46.66	-16.45	-8.02
5	1.48200	9.87	14.20	4.84	24.07	14.71	56.00	46.00	-31.93	-31.29
6	20.69400	10.16	11.40	3.08	21.56	13.24	60.00	50.00	-38.44	-36.76

Remarks:

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

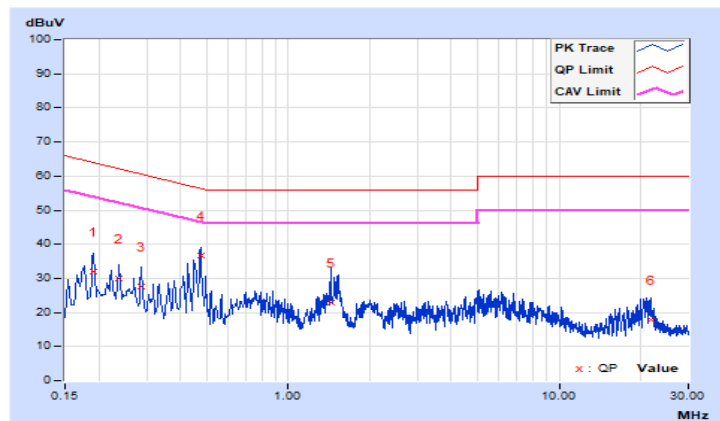


RF Mode	Charging Mode		
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Rex Wang		

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	0.19000	9.71	22.42	8.92	32.13	18.63	64.04	54.04	-31.91	-35.41
2	0.23800	9.74	20.18	11.15	29.92	20.89	62.17	52.17	-32.25	-31.28
3	0.28600	9.76	17.72	7.78	27.48	17.54	60.64	50.64	-33.16	-33.10
4	0.47400	9.82	26.94	24.80	36.76	34.62	56.44	46.44	-19.68	-11.82
5	1.43800	9.89	13.16	3.20	23.05	13.09	56.00	46.00	-32.95	-32.91
6	21.71400	10.20	7.62	0.65	17.82	10.85	60.00	50.00	-42.18	-39.15

Remarks:

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



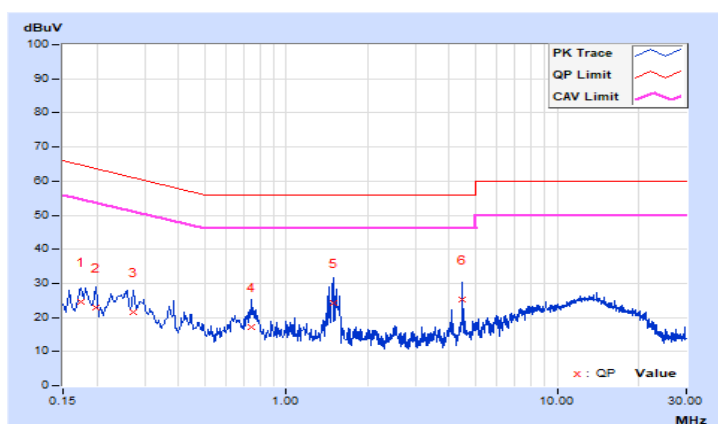
Mode C

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

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	0.17384	9.70	14.93	6.59	24.63	16.29	64.77	54.77	-40.14	-38.48
2	0.19800	9.72	13.24	6.49	22.96	16.21	63.69	53.69	-40.73	-37.48
3	0.27400	9.75	11.91	6.66	21.66	16.41	61.00	51.00	-39.34	-34.59
4	0.74600	9.82	7.29	3.48	17.11	13.30	56.00	46.00	-38.89	-32.70
5	1.49000	9.87	14.28	3.66	24.15	13.53	56.00	46.00	-31.85	-32.47
6	4.45800	9.96	15.36	2.55	25.32	12.51	56.00	46.00	-30.68	-33.49

Remarks:

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

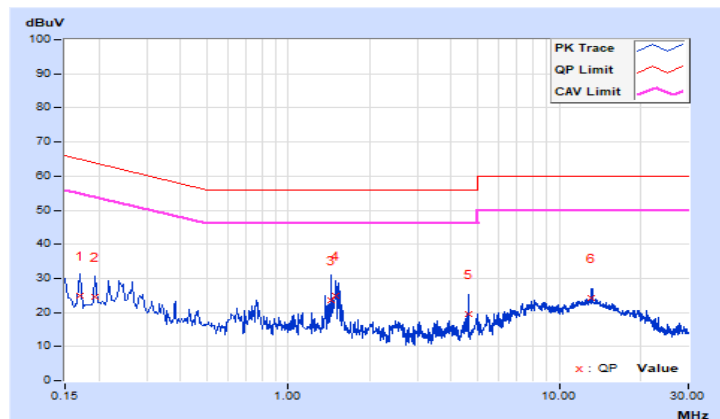


RF Mode	Charging Mode		
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	25°C, 75% RH
Tested By	Rex Wang		

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	0.17000	9.70	15.06	5.29	24.76	14.99	64.96	54.96	-40.20	-39.97
2	0.19400	9.72	14.71	8.82	24.43	18.54	63.86	53.86	-39.43	-35.32
3	1.44198	9.89	13.54	2.59	23.43	12.48	56.00	46.00	-32.57	-33.52
4	1.49000	9.89	15.19	4.24	25.08	14.13	56.00	46.00	-30.92	-31.87
5	4.60600	9.98	9.54	2.32	19.52	12.30	56.00	46.00	-36.48	-33.70
6	13.19000	10.11	14.28	3.53	24.39	13.64	60.00	50.00	-35.61	-36.36

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



7.6 Unwanted Emissions below 1 GHz

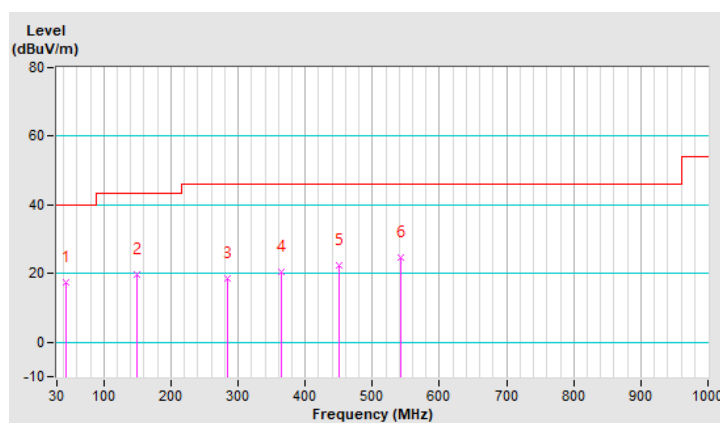
Mode A

RF Mode	TX BT-LE	Channel	CH 0 : 2402 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	43.58	17.3 QP	40.0	-22.7	1.49 H	19	30.7	-13.4
2	148.34	19.8 QP	43.5	-23.7	2.00 H	18	33.1	-13.3
3	285.11	18.5 QP	46.0	-27.5	1.01 H	23	31.7	-13.2
4	364.65	20.5 QP	46.0	-25.5	1.01 H	2	31.9	-11.4
5	450.01	22.3 QP	46.0	-23.7	1.49 H	18	31.3	-9.0
6	542.16	24.6 QP	46.0	-21.4	1.01 H	204	32.1	-7.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

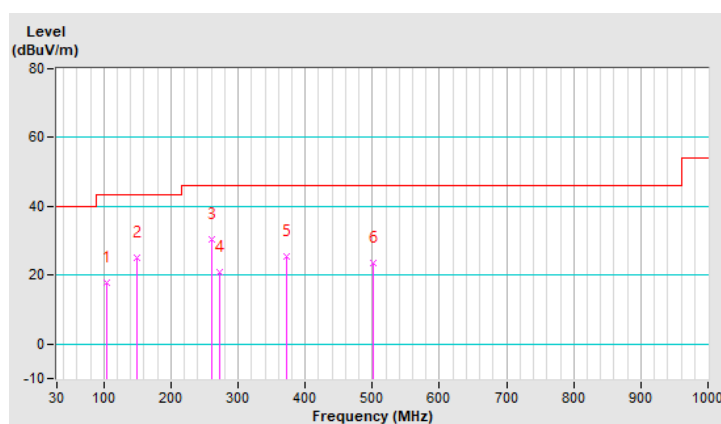


RF Mode	TX BT-LE	Channel	CH 0 : 2402 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	103.72	18.0 QP	43.5	-25.5	2.00 V	18	35.0	-17.0
2	148.34	25.2 QP	43.5	-18.3	1.01 V	144	38.5	-13.3
3	259.89	30.6 QP	46.0	-15.4	1.01 V	172	45.1	-14.5
4	273.47	21.0 QP	46.0	-25.0	1.01 V	236	34.7	-13.7
5	371.44	25.5 QP	46.0	-20.5	1.49 V	281	36.6	-11.1
6	500.45	23.7 QP	46.0	-22.3	1.49 V	2	32.0	-8.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

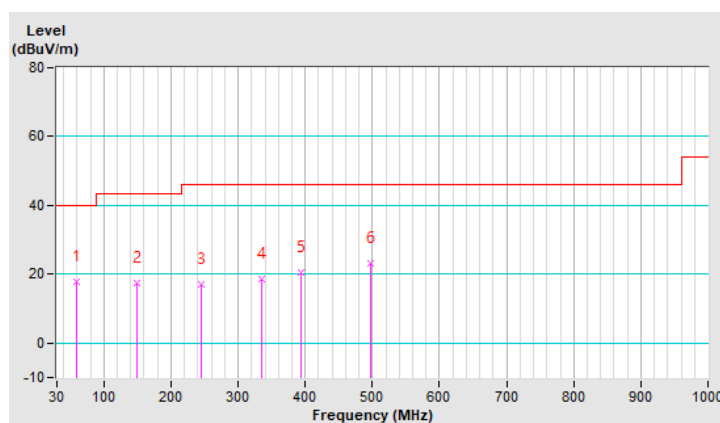


RF Mode	TX DM	Channel	CH 19 : 2440 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	59.10	17.7 QP	40.0	-22.3	1.01 H	130	31.4	-13.7
2	148.34	17.6 QP	43.5	-25.9	1.50 H	191	30.9	-13.3
3	244.37	17.0 QP	46.0	-29.0	1.50 H	122	31.8	-14.8
4	335.55	18.7 QP	46.0	-27.3	2.00 H	270	30.6	-11.9
5	393.75	20.5 QP	46.0	-25.5	1.01 H	198	31.1	-10.6
6	496.57	23.2 QP	46.0	-22.8	1.01 H	343	31.6	-8.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

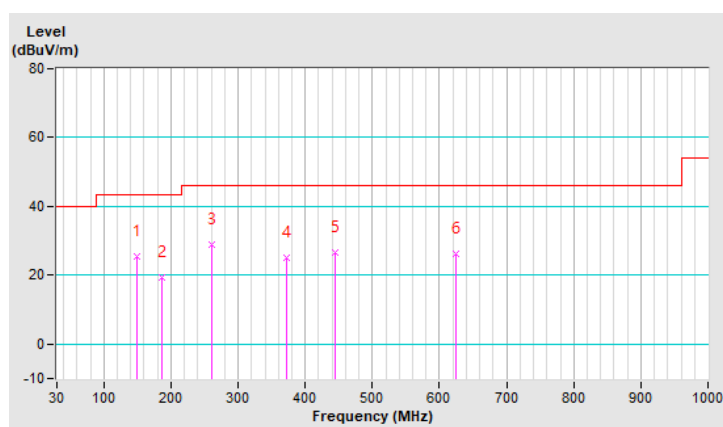


RF Mode	TX DM	Channel	CH 19 : 2440 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	148.34	25.3 QP	43.5	-18.2	1.01 V	224	38.6	-13.3
2	186.17	19.3 QP	43.5	-24.2	2.00 V	294	34.8	-15.5
3	259.89	28.9 QP	46.0	-17.1	1.01 V	132	43.4	-14.5
4	371.44	25.2 QP	46.0	-20.8	1.50 V	273	36.3	-11.1
5	445.16	26.6 QP	46.0	-19.4	1.01 V	257	35.7	-9.1
6	624.61	26.4 QP	46.0	-19.6	1.50 V	81	31.8	-5.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

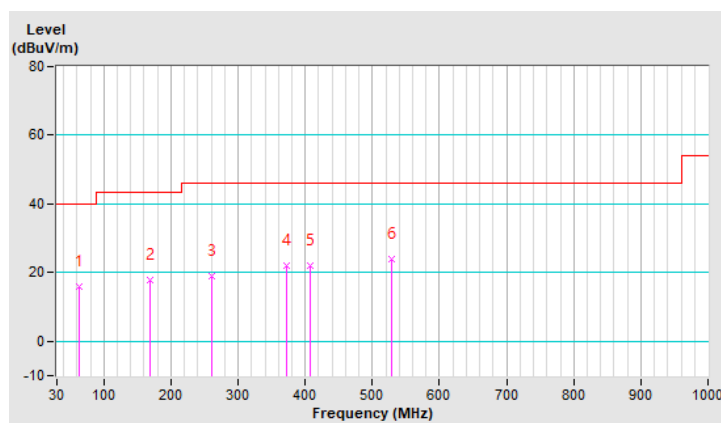


RF Mode	TX Flora	Channel	CH 19 : 2440 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	63.95	16.0 QP	40.0	-24.0	2.00 H	268	30.4	-14.4
2	169.68	17.7 QP	43.5	-25.8	1.01 H	2	31.5	-13.8
3	259.89	19.0 QP	46.0	-27.0	1.49 H	256	33.5	-14.5
4	371.44	22.1 QP	46.0	-23.9	1.01 H	315	33.2	-11.1
5	408.30	22.2 QP	46.0	-23.8	1.49 H	87	32.6	-10.4
6	528.58	24.0 QP	46.0	-22.0	1.49 H	18	31.5	-7.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

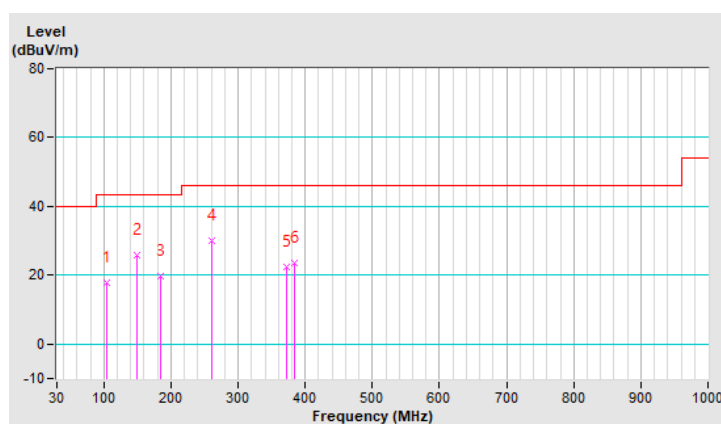


RF Mode	TX Flora	Channel	CH 19 : 2440 MHz
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	3.7 Vdc	Environmental Conditions	24°C, 68% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	103.72	17.9 QP	43.5	-25.6	2.00 V	18	34.9	-17.0
2	148.34	26.0 QP	43.5	-17.5	1.01 V	164	39.3	-13.3
3	185.20	19.6 QP	43.5	-23.9	1.50 V	293	35.0	-15.4
4	259.89	30.2 QP	46.0	-15.8	1.01 V	187	44.7	-14.5
5	371.44	22.4 QP	46.0	-23.6	1.50 V	247	33.5	-11.1
6	384.05	23.5 QP	46.0	-22.5	1.01 V	328	34.3	-10.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



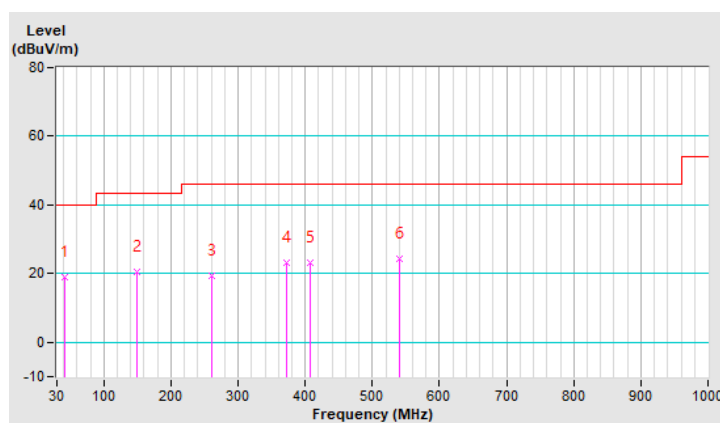
Mode B

RF Mode	Charging Mode		
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	19.0 QP	40.0	-21.0	1.99 H	175	32.5	-13.5
2	148.34	20.5 QP	43.5	-23.0	1.51 H	111	33.8	-13.3
3	259.89	19.3 QP	46.0	-26.7	1.00 H	77	33.8	-14.5
4	371.44	23.1 QP	46.0	-22.9	1.99 H	271	34.2	-11.1
5	408.30	23.1 QP	46.0	-22.9	1.99 H	313	33.5	-10.4
6	540.22	24.2 QP	46.0	-21.8	1.99 H	133	31.7	-7.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

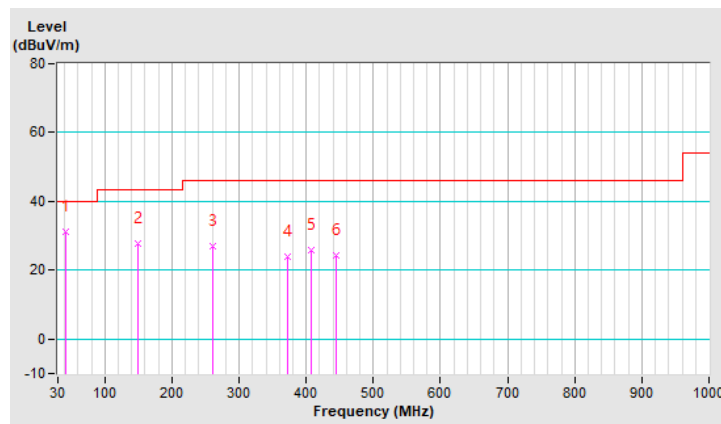


RF Mode	Charging Mode		
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	31.3 QP	40.0	-8.7	1.49 V	196	44.8	-13.5
2	148.34	27.9 QP	43.5	-15.6	1.00 V	88	41.2	-13.3
3	259.89	27.1 QP	46.0	-18.9	1.49 V	130	41.6	-14.5
4	371.44	24.0 QP	46.0	-22.0	1.49 V	18	35.1	-11.1
5	408.30	25.8 QP	46.0	-20.2	1.00 V	87	36.2	-10.4
6	445.16	24.3 QP	46.0	-21.7	1.49 V	292	33.4	-9.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



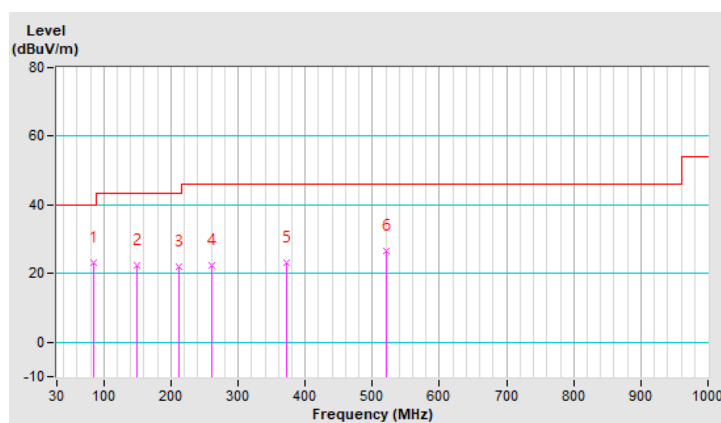
Mode C

RF Mode	Charging Mode		
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	84.32	23.1 QP	40.0	-16.9	1.99 H	121	42.2	-19.1
2	148.34	22.4 QP	43.5	-21.1	1.01 H	79	35.7	-13.3
3	211.39	22.2 QP	43.5	-21.3	1.01 H	85	39.1	-16.9
4	259.89	22.6 QP	46.0	-23.4	1.99 H	2	37.1	-14.5
5	371.44	23.1 QP	46.0	-22.9	1.99 H	289	34.2	-11.1
6	520.82	26.8 QP	46.0	-19.2	1.99 H	204	34.4	-7.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

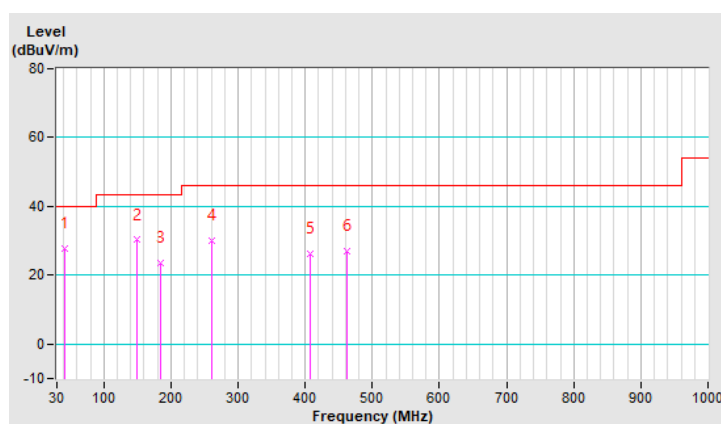


RF Mode	Charging Mode		
Frequency Range	9 kHz ~ 1 GHz	Detector Function & Bandwidth	(QP) RB = 120kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	22°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	27.9 QP	40.0	-12.1	1.01 V	1	41.4	-13.5
2	148.34	30.2 QP	43.5	-13.3	1.01 V	100	43.5	-13.3
3	185.20	23.6 QP	43.5	-19.9	2.00 V	357	39.0	-15.4
4	259.89	30.1 QP	46.0	-15.9	1.01 V	147	44.6	-14.5
5	408.30	26.2 QP	46.0	-19.8	1.51 V	101	36.6	-10.4
6	462.62	27.0 QP	46.0	-19.0	1.01 V	18	35.8	-8.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



7.7 Unwanted Emissions above 1 GHz

RF Mode	TX BT-LE	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.7 PK	74.0	-15.3	2.19 H	335	26.8	31.9
2	2390.00	47.2 AV	54.0	-6.8	2.19 H	335	15.3	31.9
3	*2402.00	94.8 PK			2.19 H	335	62.8	32.0
4	*2402.00	88.0 AV			2.19 H	335	56.0	32.0
5	4804.00	52.9 PK	74.0	-21.1	2.03 H	335	49.6	3.3
6	4804.00	46.1 AV	54.0	-7.9	2.03 H	335	42.8	3.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.6 PK	74.0	-16.4	3.29 V	62	25.7	31.9
2	2390.00	47.0 AV	54.0	-7.0	3.29 V	62	15.1	31.9
3	*2402.00	89.2 PK			3.29 V	62	57.2	32.0
4	*2402.00	82.4 AV			3.29 V	62	50.4	32.0
5	4804.00	50.0 PK	74.0	-24.0	1.63 V	26	46.7	3.3
6	4804.00	43.2 AV	54.0	-10.8	1.63 V	26	39.9	3.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.458 \text{ ms}) = -6.8 \text{ dB}$$

RF Mode	TX BT-LE	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	94.7 PK			1.84 H	340	62.9	31.8
2	*2440.00	87.9 AV			1.84 H	340	56.1	31.8
3	4880.00	51.8 PK	74.0	-22.2	1.79 H	324	48.4	3.4
4	4880.00	45.0 AV	54.0	-9.0	1.79 H	324	41.6	3.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	89.8 PK			3.13 V	46	58.0	31.8
2	*2440.00	83.0 AV			3.13 V	46	51.2	31.8
3	4880.00	49.0 PK	74.0	-25.0	1.54 V	19	45.6	3.4
4	4880.00	42.2 AV	54.0	-11.8	1.54 V	19	38.8	3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.458 \text{ ms}) = -6.8 \text{ dB}$$

RF Mode	TX BT-LE	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	95.2 PK			1.81 H	321	63.4	31.8
2	*2480.00	88.4 AV			1.81 H	321	56.6	31.8
3	2483.50	52.1 PK	74.0	-21.9	1.84 H	341	56.7	-4.6
4	2483.50	45.3 AV	54.0	-8.7	1.84 H	341	49.9	-4.6
5	4960.00	51.8 PK	74.0	-22.2	1.62 H	330	48.6	3.2
6	4960.00	45.0 AV	54.0	-9.0	1.62 H	330	41.8	3.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	90.1 PK			3.90 V	47	58.3	31.8
2	*2480.00	83.3 AV			3.90 V	47	51.5	31.8
3	2483.50	49.5 PK	74.0	-24.5	3.90 V	47	54.1	-4.6
4	2483.50	42.7 AV	54.0	-11.3	3.90 V	47	47.3	-4.6
5	4960.00	48.3 PK	74.0	-25.7	1.82 V	240	45.1	3.2
6	4960.00	41.5 AV	54.0	-12.5	1.82 V	240	38.3	3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:
 $20 \log(\text{Duty cycle}) = 20 \log(0.458 \text{ ms}) = -6.8 \text{ dB}$

RF Mode	TX DM	Channel	CH 0 : 2402 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	58.2 PK	74.0	-15.8	1.41 H	338	26.3	31.9
2	2390.00	47.6 AV	54.0	-6.4	1.41 H	338	15.7	31.9
3	*2402.00	98.2 PK			1.41 H	338	66.2	32.0
4	*2402.00	86.4 AV			1.41 H	338	54.4	32.0
5	4804.00	54.0 PK	74.0	-20.0	1.29 H	329	50.7	3.3
6	4804.00	42.2 AV	54.0	-11.8	1.29 H	329	38.9	3.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.3 PK	74.0	-16.7	3.27 V	59	25.4	31.9
2	2390.00	47.7 AV	54.0	-6.3	3.27 V	59	15.8	31.9
3	*2402.00	92.5 PK			3.27 V	59	60.5	32.0
4	*2402.00	80.7 AV			3.27 V	59	48.7	32.0
5	4804.00	50.2 PK	74.0	-23.8	2.28 V	0	46.9	3.3
6	4804.00	38.4 AV	54.0	-15.6	2.28 V	0	35.1	3.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.256 \text{ ms}) = -11.8 \text{ dB}$$

RF Mode	TX DM	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	98.4 PK			1.38 H	331	66.6	31.8
2	*2440.00	86.6 AV			1.38 H	331	54.8	31.8
3	4880.00	54.3 PK	74.0	-19.7	1.00 H	330	50.9	3.4
4	4880.00	42.5 AV	54.0	-11.5	1.00 H	330	39.1	3.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	91.2 PK			3.14 V	39	59.4	31.8
2	*2440.00	79.4 AV			3.14 V	39	47.6	31.8
3	4880.00	49.4 PK	74.0	-24.6	2.66 V	0	46.0	3.4
4	4880.00	37.6 AV	54.0	-16.4	2.66 V	0	34.2	3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:

$$20 \log(\text{Duty cycle}) = 20 \log(0.256 \text{ ms}) = -11.8 \text{ dB}$$

RF Mode	TX DM	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 3 MHz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	97.8 PK			1.37 H	347	66.0	31.8
2	*2480.00	86.0 AV			1.37 H	347	54.2	31.8
3	2483.50	51.9 PK	74.0	-22.1	1.37 H	347	56.5	-4.6
4	2483.50	40.1 AV	54.0	-13.9	1.37 H	347	44.7	-4.6
5	4960.00	54.0 PK	74.0	-20.0	1.38 H	319	50.8	3.2
6	4960.00	42.2 AV	54.0	-11.8	1.38 H	319	39.0	3.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	91.9 PK			3.47 V	61	60.1	31.8
2	*2480.00	80.6 AV			3.47 V	61	48.8	31.8
3	2483.50	50.3 PK	74.0	-23.7	3.47 V	61	54.9	-4.6
4	2483.50	38.5 AV	54.0	-15.5	3.47 V	61	43.1	-4.6
5	4960.00	50.4 PK	74.0	-23.6	2.79 V	247	47.2	3.2
6	4960.00	38.6 AV	54.0	-15.4	2.79 V	247	35.4	3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.
6. The average value of fundamental and harmonic frequency is: Average = Peak value + 20 log(Duty cycle) Where the duty cycle correction factor is calculated from following formula:
 $20 \log(\text{Duty cycle}) = 20 \log(0.256 \text{ ms}) = -11.8 \text{ dB}$

RF Mode	TX Flora	Channel	CH 1 : 2404 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.9 PK	74.0	-14.1	2.21 H	335	28.0	31.9
2	2390.00	45.2 AV	54.0	-8.8	2.21 H	335	13.3	31.9
3	*2404.00	98.4 PK			2.21 H	335	66.4	32.0
4	*2404.00	95.8 AV			2.21 H	335	63.8	32.0
5	4808.00	54.1 PK	74.0	-19.9	1.31 H	316	50.8	3.3
6	4808.00	45.4 AV	54.0	-8.6	1.31 H	316	42.1	3.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.8 PK	74.0	-14.2	3.30 V	52	27.9	31.9
2	2390.00	45.0 AV	54.0	-9.0	3.30 V	52	13.1	31.9
3	*2404.00	92.5 PK			3.30 V	52	60.5	32.0
4	*2404.00	89.7 AV			3.30 V	52	57.7	32.0
5	4808.00	50.3 PK	74.0	-23.7	3.80 V	29	47.0	3.3
6	4808.00	39.9 AV	54.0	-14.1	3.80 V	29	36.6	3.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

RF Mode	TX Flora	Channel	CH 19 : 2440 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	98.8 PK			2.09 H	335	67.0	31.8
2	*2440.00	96.3 AV			2.09 H	335	64.5	31.8
3	4880.00	55.4 PK	74.0	-18.6	1.49 H	308	52.0	3.4
4	4880.00	46.7 AV	54.0	-7.3	1.49 H	308	43.3	3.4
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2440.00	93.8 PK			3.33 V	75	62.0	31.8
2	*2440.00	91.4 AV			3.33 V	75	59.6	31.8
3	4880.00	48.5 PK	74.0	-25.5	1.59 V	58	45.1	3.4
4	4880.00	40.1 AV	54.0	-13.9	1.59 V	58	36.7	3.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

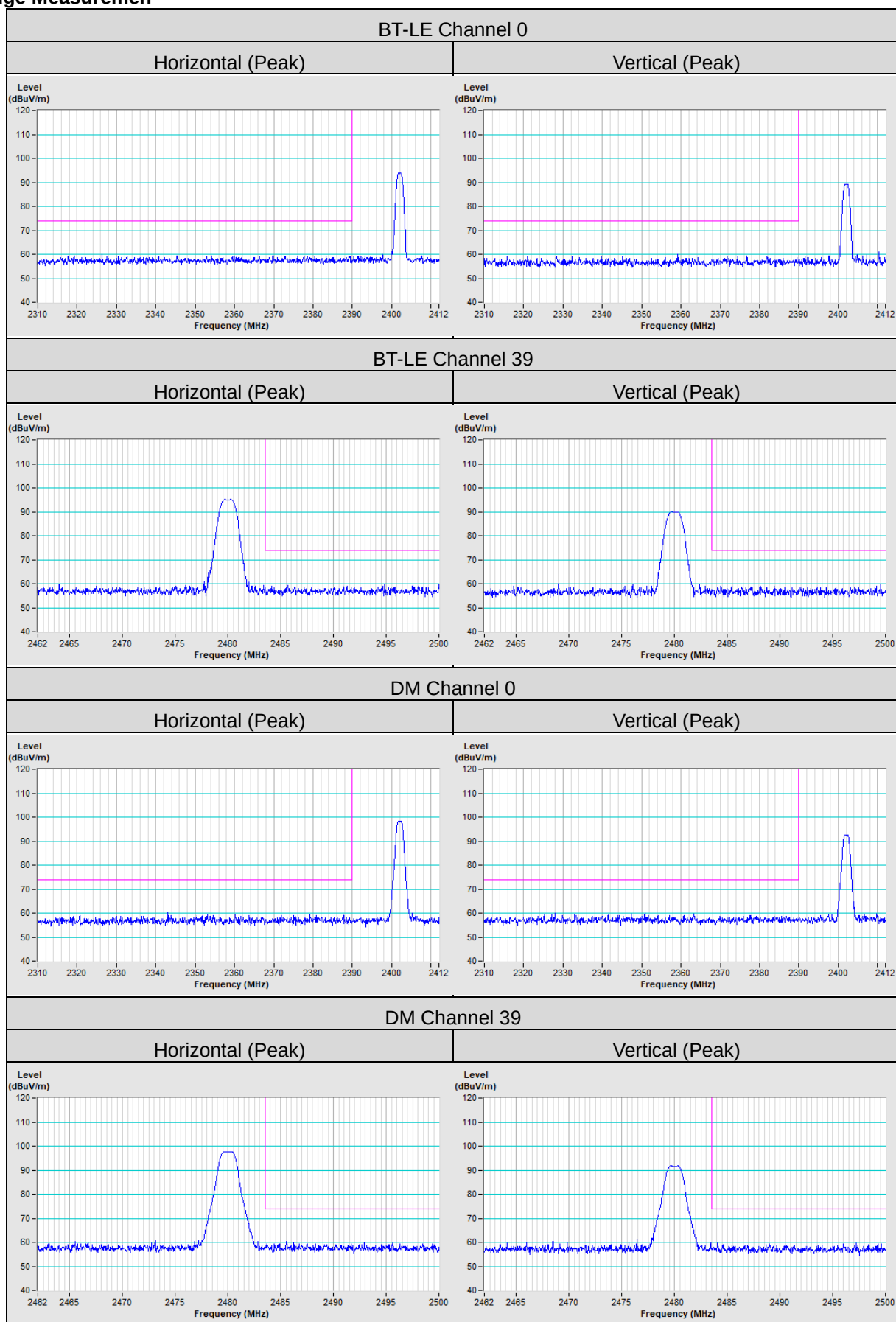
RF Mode	TX Flora	Channel	CH 39 : 2480 MHz
Frequency Range	1 GHz ~ 25 GHz	Detector Function & Bandwidth	(PK) RB = 1 MHz, VB = 3 MHz (AV) RB = 1 MHz, VB = 10 Hz
Input Power	3.7 Vdc	Environmental Conditions	23°C, 69% RH
Tested By	Wade Huang		

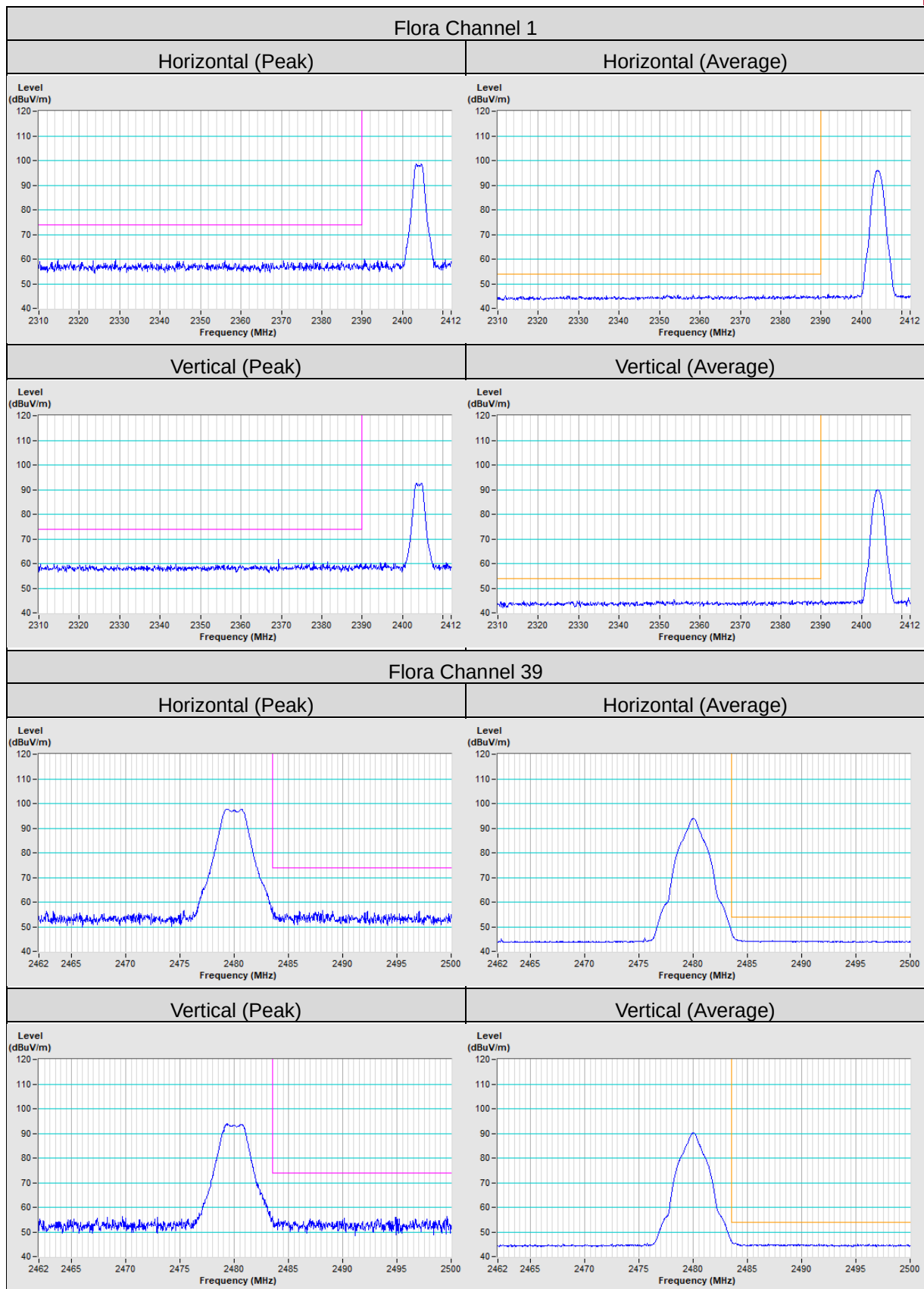
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	97.4 PK			2.09 H	322	65.6	31.8
2	*2480.00	94.8 AV			2.09 H	322	63.0	31.8
3	2483.50	57.8 PK	74.0	-16.2	1.97 H	323	25.9	31.9
4	2483.50	50.4 AV	54.0	-3.6	1.97 H	323	18.5	31.9
5	4960.00	55.0 PK	74.0	-19.0	1.50 H	299	51.8	3.2
6	4960.00	46.2 AV	54.0	-7.8	1.50 H	299	43.0	3.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2480.00	94.6 PK			3.30 V	73	62.8	31.8
2	*2480.00	90.8 AV			3.30 V	73	59.0	31.8
3	2483.50	57.5 PK	74.0	-16.5	3.30 V	73	25.6	31.9
4	2483.50	48.7 AV	54.0	-5.3	3.30 V	73	16.8	31.9
5	4960.00	48.1 PK	74.0	-25.9	1.57 V	57	44.9	3.2
6	4960.00	39.7 AV	54.0	-14.3	1.57 V	57	36.5	3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency, the limit was restricted at the RF Output Power.

Band Edge Measuremen





8 Pictures of Test Arrangements

Please refer to the attached file (Reference no.: CFQC-WTW-P22060736-1 (TSup Photo_Right Earbud))

9 Construction Photos of EUT

Please refer to the attached file (CFQC-WTW-P22060736 (EUT photo)).

10 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@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

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

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