

FCC Test Report

Report No.: RF190918C14-5

FCC ID: 2ARXKVHH10

Test Model: VHH10

Series Model: VHH10XXX (X=A-Z, 0-9, blank or "-")

Received Date: Sep. 18, 2019

Test Date: Oct. 28 ~ Nov. 29, 2019

Issued Date: Dec. 11, 2019

Applicant: Veea Inc

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF190918C14-5	Original release	Dec. 11, 2019

1 Certificate of Conformity

Product: veeaHub

Brand: 

Test Model: VHH10

Series Model: VHH10XXX (X=A-Z, 0-9, blank or "-")

Sample Status: Engineering sample

Applicant: Veea Inc

Test Date: Oct. 28 ~ Nov. 29, 2019

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 : Celine Chou , **Date:** Dec. 11, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Dec. 11, 2019
Bruce Chen / 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 -0.43dB at 0.49000MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.8dB at 361.77MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
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	Chip antenna: No antenna connector is used. PIFA antenna: Antenna connector is U.FL not a standard connector. Dipole antenna: Antenna connector is RP-SMA-Male not a standard connector.

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	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	veeaHub
Brand	veeaHub 
Test Model	VHH10
Series Model	VHH10XXX (X=A-Z, 0-9, blank or "-")
Model Difference	Marketing purposes
Sample Status	Engineering sample
Power Supply Rating	48Vdc (Adapter and POE)
Modulation Type	GFSK
Transfer Rate	Bluetooth LE 4.0: 1Mbps Bluetooth LE 5.0: 2Mbps
Operating Frequency	2402 ~ 2480MHz
Number of Channel	40
Channel Spacing	2MHz
Output Power	Bluetooth LE 4.0: 0.315mW Bluetooth LE 5.0: 0.315mW
Antenna Type	Chip antenna with 6dBi gain PIFA antenna with 2.2dBi gain Dipole antenna with 4.1dBi gain
Antenna Connector	Chip antenna: NA PIFA antenna: U.FL Dipole antenna: RP-SMA-Male
Accessory Device	NA
Cable Supplied	NA

Note:

1. The EUT uses following adapter and POE.

Adapter (Support unit)	
Brand	EDACPOWER ELEC.
Model	EA1062SGR-480
Input Power	100-240Vac, 50-60Hz, 2.5A
Output Power	48Vdc, 1.35A
Power Line	1.2m DC cable with one core

POE (Support unit)	
Model	APOE02-WM
Output Power	48Vdc

2. The EUT with Chip antenna (with maximum gain) was chosen for the Antenna Port Conducted Measurement tests.

3. The EUT has two sale types.

Type	Description
A	Without LTE function, BT internal ant.
B	With LTE function, BT external ant.

4. WLAN, zigbee and Bluetooth technology can transmit at same time.

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

EUT Configure Mode	Applicable to				Description	
	RE $\geq$ 1G	RE<1G	PLC	APCM	Antenna	Power
A1	√	√	√	√	Chip Antenna	Power from adapter
A2	-	√	√	-		Power from POE
B1	√	√	√	-	PIFA Antenna	Power from adapter
B2	-	√	√	-		Power from POE
C1	√	√	√	-	Dipole Antenna	Power from adapter
C2	-	√	√	-		Power from POE

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
PLC: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Note:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane for Chip Antenna, Z-plane for PIFA Antenna and Y-plane for Dipole Antenna.**
- Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

Radiated Emission Test (Above 1GHz):

- ☒ 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)
A1, B1, C1	0 to 39	0, 19, 39	GFSK	1, 2

Radiated Emission Test (Below 1GHz):

- ☒ 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)
A1, A2, B1, B2, C1, C2	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)
A1, A2, B1, B2, C1, C2	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)
A1	0 to 39	0, 19, 39	GFSK	1, 2

Test Condition:

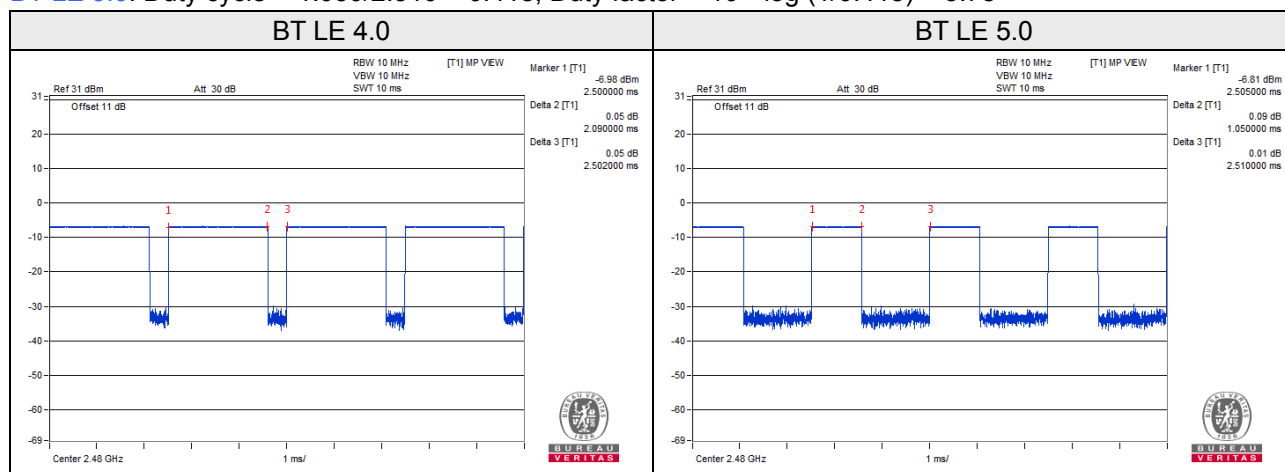
Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22 deg. C, 66% RH 23 deg. C, 67% RH	120Vac, 60Hz	Adair Peng
RE<1G	22 deg. C, 66% RH 23 deg. C, 67% RH	120Vac, 60Hz 48Vdc	Adair Peng
PLC	25 deg. C, 75% RH	120Vac, 60Hz 48Vdc	Jones Chang
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ted Chang

3.3 Duty Cycle of Test Signal

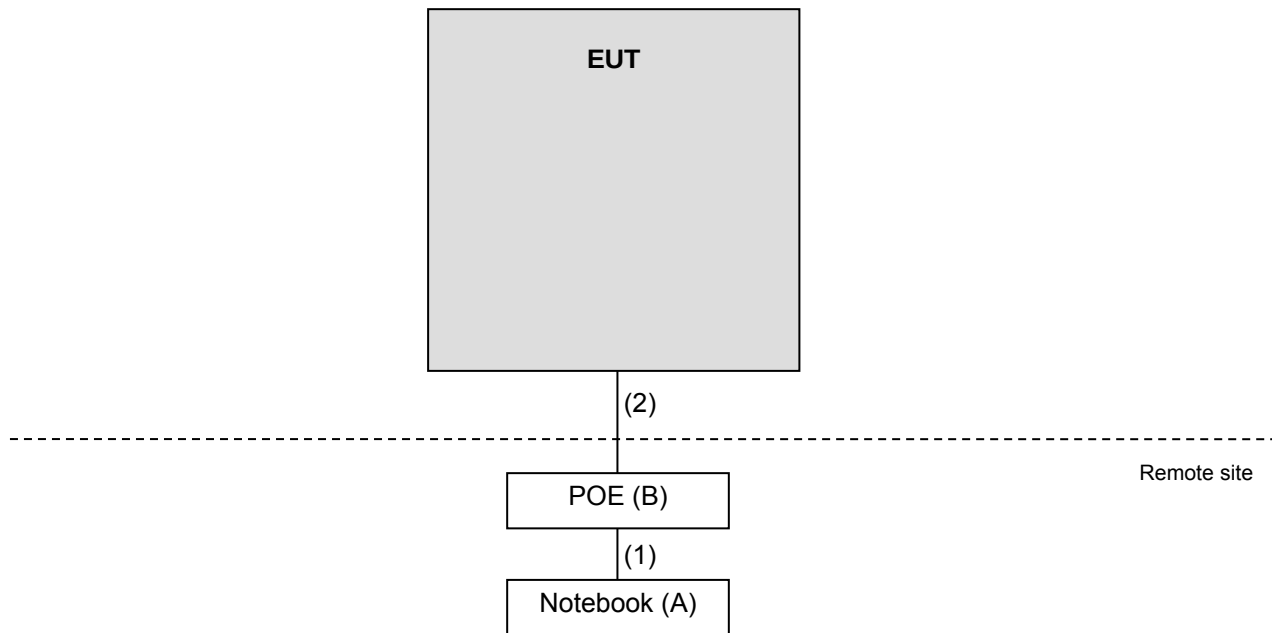
Duty cycle of test signal is < 98%.

BT LE 4.0: Duty cycle = 2.090/2.502 = 0.835, Duty factor = 10 * log (1/0.835) = 0.78

BT LE 5.0: Duty cycle = 1.050/2.510 = 0.418, Duty factor = 10 * log (1/0.418) = 3.78



POE Mode



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:

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 20dB 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 1000MHz, 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 20dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 30, 2019	May 29, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018 Nov. 11, 2019	Nov. 21, 2019 Nov. 10, 2020
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018 Nov. 24, 2019	Nov. 24, 2019 Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018 Nov. 24, 2019	Nov. 24, 2019 Nov. 23, 2020
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 20, 2019	Aug. 19, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 20, 2019	Aug. 19, 2020
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 20, 2019	Aug. 19, 2020
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 15, 2019	Jul. 14, 2020

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 3.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- 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 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) 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 detect 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:

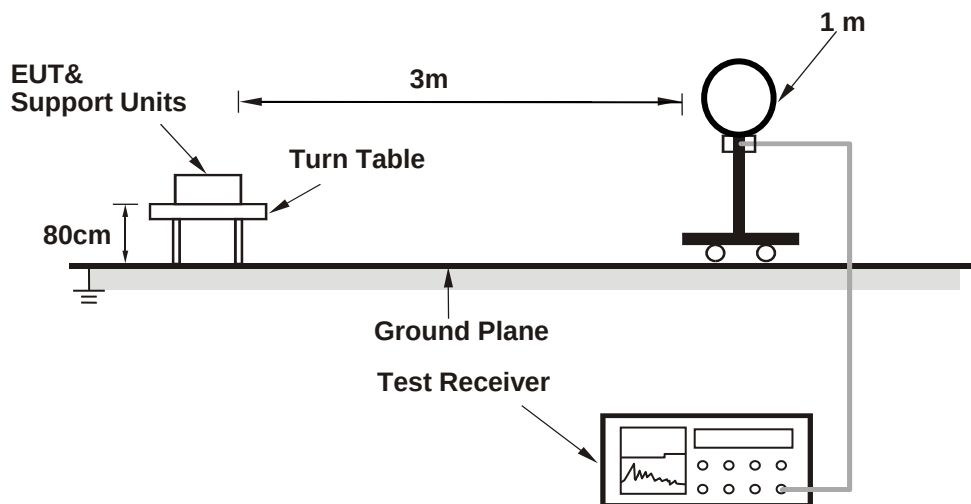
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (BT LE 4.0: RBW = 1MHz, VBW = 1kHz, BT LE 5.0: RBW = 1MHz, VBW = 1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

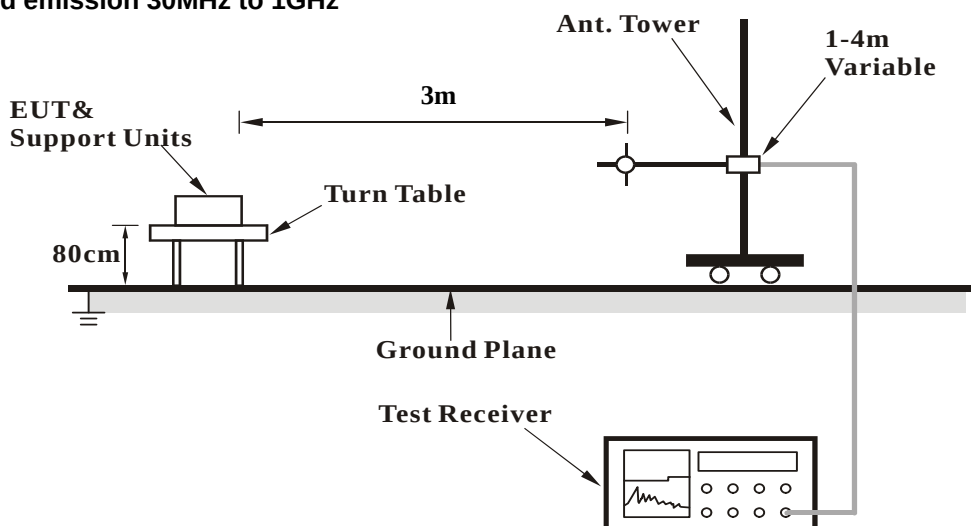
No deviation.

4.1.5 Test Setup

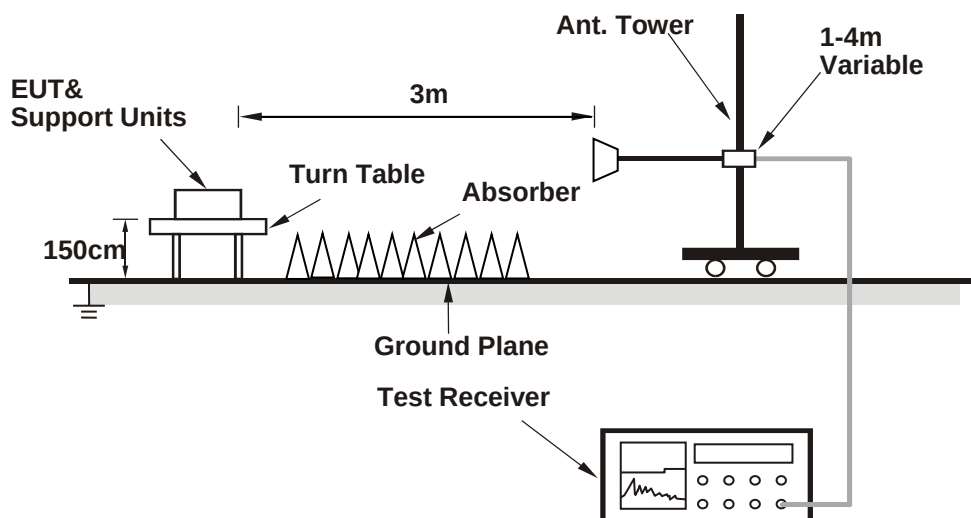
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Prepared a notebook to act as a communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and ran a test program (QRCT V3.0.264.0) to enable EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1 GHz Data:

Test Mode A1

BT LE 4.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	56.9 PK	74.0	-17.1	1.50 H	47	24.4	32.5
2	2390.00	45.5 AV	54.0	-8.5	1.50 H	47	13.0	32.5
3	*2402.00	87.3 PK			1.47 H	50	54.8	32.5
4	*2402.00	85.7 AV			1.47 H	50	53.2	32.5
5	4804.00	45.2 PK	74.0	-28.8	2.05 H	166	42.0	3.2
6	4804.00	32.0 AV	54.0	-22.0	2.05 H	166	28.8	3.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	57.0 PK	74.0	-17.0	2.77 V	75	24.5	32.5
2	2390.00	45.3 AV	54.0	-8.7	2.77 V	75	12.8	32.5
3	*2402.00	85.5 PK			2.67 V	62	53.0	32.5
4	*2402.00	83.7 AV			2.67 V	62	51.2	32.5
5	4804.00	45.0 PK	74.0	-29.0	1.81 V	295	41.8	3.2
6	4804.00	31.8 AV	54.0	-22.2	1.81 V	295	28.6	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	87.4 PK			1.38 H	45	55.0	32.4
2	*2440.00	85.3 AV			1.38 H	45	52.9	32.4
3	4880.00	46.4 PK	74.0	-27.6	2.13 H	170	42.7	3.7
4	4880.00	32.6 AV	54.0	-21.4	2.13 H	170	28.9	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.5 PK			2.79 V	75	53.1	32.4
2	*2440.00	83.3 AV			2.79 V	75	50.9	32.4
3	4880.00	46.1 PK	74.0	-27.9	1.81 V	307	42.4	3.7
4	4880.00	32.2 AV	54.0	-21.8	1.81 V	307	28.5	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	88.6 PK			1.76 H	51	56.0	32.6
2	*2480.00	86.5 AV			1.76 H	51	53.9	32.6
3	2483.50	63.3 PK	74.0	-10.7	1.61 H	48	30.7	32.6
4	2483.50	46.2 AV	54.0	-7.8	1.61 H	48	13.6	32.6
5	4960.00	46.6 PK	74.0	-27.4	2.07 H	169	42.3	4.3
6	4960.00	33.0 AV	54.0	-21.0	2.07 H	169	28.7	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	86.7 PK			2.61 V	69	54.1	32.6
2	*2480.00	84.6 AV			2.61 V	69	52.0	32.6
3	2483.50	60.0 PK	74.0	-14.0	2.69 V	61	27.4	32.6
4	2483.50	45.5 AV	54.0	-8.5	2.69 V	61	12.9	32.6
5	4960.00	46.3 PK	74.0	-27.7	1.85 V	307	42.0	4.3
6	4960.00	32.8 AV	54.0	-21.2	1.85 V	307	28.5	4.3

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.

BT LE 5.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	57.4 PK	74.0	-16.6	1.61 H	58	24.9	32.5
2	2390.00	45.4 AV	54.0	-8.6	1.61 H	58	12.9	32.5
3	*2402.00	88.5 PK			1.58 H	56	56.0	32.5
4	*2402.00	84.1 AV			1.58 H	56	51.6	32.5
5	4804.00	45.3 PK	74.0	-28.7	1.99 H	177	42.1	3.2
6	4804.00	32.1 AV	54.0	-21.9	1.99 H	177	28.9	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	56.6 PK	74.0	-17.4	2.67 V	98	24.1	32.5
2	2390.00	44.8 AV	54.0	-9.2	2.67 V	98	12.3	32.5
3	*2402.00	85.0 PK			2.75 V	87	52.5	32.5
4	*2402.00	81.0 AV			2.75 V	87	48.5	32.5
5	4804.00	45.2 PK	74.0	-28.8	1.73 V	308	42.0	3.2
6	4804.00	31.9 AV	54.0	-22.1	1.73 V	308	28.7	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	87.9 PK			1.57 H	48	55.5	32.4
2	*2440.00	82.1 AV			1.57 H	48	49.7	32.4
3	4880.00	46.4 PK	74.0	-27.6	2.20 H	179	42.7	3.7
4	4880.00	33.1 AV	54.0	-20.9	2.20 H	179	29.4	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	84.4 PK			2.78 V	99	52.0	32.4
2	*2440.00	79.0 AV			2.78 V	99	46.6	32.4
3	4880.00	46.2 PK	74.0	-27.8	1.75 V	299	42.5	3.7
4	4880.00	32.7 AV	54.0	-21.3	1.75 V	299	29.0	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	88.9 PK			1.53 H	49	56.3	32.6
2	*2480.00	82.8 AV			1.53 H	49	50.2	32.6
3	2483.50	64.3 PK	74.0	-9.7	1.60 H	50	31.7	32.6
4	2483.50	48.0 AV	54.0	-6.0	1.60 H	50	15.4	32.6
5	4960.00	46.8 PK	74.0	-27.2	2.01 H	175	42.5	4.3
6	4960.00	33.2 AV	54.0	-20.8	2.01 H	175	28.9	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.3 PK			2.71 V	97	52.7	32.6
2	*2480.00	79.6 AV			2.71 V	97	47.0	32.6
3	2483.50	62.8 PK	74.0	-11.2	2.61 V	101	30.2	32.6
4	2483.50	46.5 AV	54.0	-7.5	2.61 V	101	13.9	32.6
5	4960.00	46.3 PK	74.0	-27.7	1.69 V	303	42.0	4.3
6	4960.00	32.7 AV	54.0	-21.3	1.69 V	303	28.4	4.3

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.

Test Mode B1

BT LE 4.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	57.2 PK	74.0	-16.8	1.57 H	299	24.7	32.5
2	2390.00	45.6 AV	54.0	-8.4	1.57 H	299	13.1	32.5
3	*2402.00	88.1 PK			1.48 H	289	55.6	32.5
4	*2402.00	85.8 AV			1.48 H	289	53.3	32.5
5	4804.00	46.0 PK	74.0	-28.0	1.96 H	163	42.8	3.2
6	4804.00	32.1 AV	54.0	-21.9	1.96 H	163	28.9	3.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	57.1 PK	74.0	-16.9	1.63 V	13	24.6	32.5
2	2390.00	45.5 AV	54.0	-8.5	1.63 V	13	13.0	32.5
3	*2402.00	87.3 PK			1.75 V	10	54.8	32.5
4	*2402.00	85.0 AV			1.75 V	10	52.5	32.5
5	4804.00	45.7 PK	74.0	-28.3	1.99 V	309	42.5	3.2
6	4804.00	31.8 AV	54.0	-22.2	1.99 V	309	28.6	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	86.6 PK			1.56 H	290	54.2	32.4
2	*2440.00	84.3 AV			1.56 H	290	51.9	32.4
3	4880.00	46.4 PK	74.0	-27.6	2.05 H	170	42.7	3.7
4	4880.00	32.4 AV	54.0	-21.6	2.05 H	170	28.7	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.8 PK			1.81 V	13	53.4	32.4
2	*2440.00	83.5 AV			1.81 V	13	51.1	32.4
3	4880.00	46.0 PK	74.0	-28.0	1.90 V	323	42.3	3.7
4	4880.00	32.1 AV	54.0	-21.9	1.90 V	323	28.4	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	83.6 PK			1.51 H	283	51.0	32.6
2	*2480.00	81.5 AV			1.51 H	283	48.9	32.6
3	2483.50	60.7 PK	74.0	-13.3	1.59 H	290	28.1	32.6
4	2483.50	45.5 AV	54.0	-8.5	1.59 H	290	12.9	32.6
5	4960.00	46.8 PK	74.0	-27.2	1.89 H	177	42.5	4.3
6	4960.00	32.8 AV	54.0	-21.2	1.89 H	177	28.5	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	82.8 PK			1.67 V	16	50.2	32.6
2	*2480.00	80.7 AV			1.67 V	16	48.1	32.6
3	2483.50	58.4 PK	74.0	-15.6	1.73 V	14	25.8	32.6
4	2483.50	45.3 AV	54.0	-8.7	1.73 V	14	12.7	32.6
5	4960.00	46.4 PK	74.0	-27.6	1.97 V	318	42.1	4.3
6	4960.00	32.4 AV	54.0	-21.6	1.97 V	318	28.1	4.3

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.

BT LE 5.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	57.1 PK	74.0	-16.9	1.57 H	293	24.6	32.5
2	2390.00	45.5 AV	54.0	-8.5	1.57 H	293	13.0	32.5
3	*2402.00	88.0 PK			1.48 H	288	55.5	32.5
4	*2402.00	82.0 AV			1.48 H	288	49.5	32.5
5	4804.00	45.5 PK	74.0	-28.5	1.91 H	159	42.3	3.2
6	4804.00	31.5 AV	54.0	-22.5	1.91 H	159	28.3	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	56.5 PK	74.0	-17.5	1.51 V	17	24.0	32.5
2	2390.00	45.3 AV	54.0	-8.7	1.51 V	17	12.8	32.5
3	*2402.00	85.0 PK			1.57 V	20	52.5	32.5
4	*2402.00	78.9 AV			1.57 V	20	46.4	32.5
5	4804.00	45.1 PK	74.0	-28.9	1.87 V	315	41.9	3.2
6	4804.00	31.3 AV	54.0	-22.7	1.87 V	315	28.1	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	86.7 PK			1.60 H	294	54.3	32.4
2	*2440.00	80.5 AV			1.60 H	294	48.1	32.4
3	4880.00	46.0 PK	74.0	-28.0	1.99 H	161	42.3	3.7
4	4880.00	31.9 AV	54.0	-22.1	1.99 H	161	28.2	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	83.6 PK			1.60 V	15	51.2	32.4
2	*2440.00	77.4 AV			1.60 V	15	45.0	32.4
3	4880.00	45.6 PK	74.0	-28.4	2.05 V	313	41.9	3.7
4	4880.00	31.6 AV	54.0	-22.4	2.05 V	313	27.9	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	84.4 PK			1.35 H	286	51.8	32.6
2	*2480.00	77.9 AV			1.35 H	286	45.3	32.6
3	2483.50	61.5 PK	74.0	-12.5	1.47 H	291	28.9	32.6
4	2483.50	46.4 AV	54.0	-7.6	1.47 H	291	13.8	32.6
5	4960.00	46.7 PK	74.0	-27.3	1.97 H	170	42.4	4.3
6	4960.00	32.6 AV	54.0	-21.4	1.97 H	170	28.3	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	81.2 PK			1.56 V	30	48.6	32.6
2	*2480.00	74.7 AV			1.56 V	30	42.1	32.6
3	2483.50	58.1 PK	74.0	-15.9	1.51 V	12	25.5	32.6
4	2483.50	45.5 AV	54.0	-8.5	1.51 V	12	12.9	32.6
5	4960.00	46.3 PK	74.0	-27.7	1.93 V	322	42.0	4.3
6	4960.00	32.3 AV	54.0	-21.7	1.93 V	322	28.0	4.3

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.

Test Mode C1

BT LE 4.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	59.0 PK	74.0	-15.0	1.77 H	250	26.5	32.5
2	2390.00	48.1 AV	54.0	-5.9	1.77 H	250	15.6	32.5
3	*2402.00	95.2 PK			1.93 H	243	62.7	32.5
4	*2402.00	94.0 AV			1.93 H	243	61.5	32.5
5	4804.00	49.2 PK	74.0	-24.8	2.53 H	160	46.0	3.2
6	4804.00	39.0 AV	54.0	-15.0	2.53 H	160	35.8	3.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	2.36 V	119	25.7	32.5
2	2390.00	47.8 AV	54.0	-6.2	2.36 V	119	15.3	32.5
3	*2402.00	87.2 PK			2.50 V	123	54.7	32.5
4	*2402.00	86.0 AV			2.50 V	123	53.5	32.5
5	4804.00	48.7 PK	74.0	-25.3	2.20 V	331	45.5	3.2
6	4804.00	38.6 AV	54.0	-15.4	2.20 V	331	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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			1.79 H	236	61.4	32.4
2	*2440.00	92.6 AV			1.79 H	236	60.2	32.4
3	4880.00	49.0 PK	74.0	-25.0	2.43 H	188	45.3	3.7
4	4880.00	38.8 AV	54.0	-15.2	2.43 H	188	35.1	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.9 PK			2.61 V	120	53.5	32.4
2	*2440.00	84.4 AV			2.61 V	120	52.0	32.4
3	4880.00	48.7 PK	74.0	-25.3	2.31 V	321	45.0	3.7
4	4880.00	38.3 AV	54.0	-15.7	2.31 V	321	34.6	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	93.1 PK			1.85 H	243	60.5	32.6
2	*2480.00	90.8 AV			1.85 H	243	58.2	32.6
3	2483.50	59.2 PK	74.0	-14.8	1.91 H	260	26.6	32.6
4	2483.50	48.2 AV	54.0	-5.8	1.91 H	260	15.6	32.6
5	4960.00	48.8 PK	74.0	-25.2	2.43 H	174	44.5	4.3
6	4960.00	38.7 AV	54.0	-15.3	2.43 H	174	34.4	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.2 PK			2.51 V	120	52.6	32.6
2	*2480.00	84.1 AV			2.51 V	120	51.5	32.6
3	2483.50	59.0 PK	74.0	-15.0	2.23 V	119	26.4	32.6
4	2483.50	48.0 AV	54.0	-6.0	2.23 V	119	15.4	32.6
5	4960.00	48.2 PK	74.0	-25.8	2.31 V	330	43.9	4.3
6	4960.00	38.1 AV	54.0	-15.9	2.31 V	330	33.8	4.3

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.

BT LE 5.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	58.5 PK	74.0	-15.5	1.80 H	263	26.0	32.5
2	2390.00	47.7 AV	54.0	-6.3	1.80 H	263	15.2	32.5
3	*2402.00	94.8 PK			1.84 H	250	62.3	32.5
4	*2402.00	93.5 AV			1.84 H	250	61.0	32.5
5	4804.00	49.0 PK	74.0	-25.0	2.64 H	152	45.8	3.2
6	4804.00	38.7 AV	54.0	-15.3	2.64 H	152	35.5	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	58.0 PK	74.0	-16.0	2.43 V	136	25.5	32.5
2	2390.00	47.2 AV	54.0	-6.8	2.43 V	136	14.7	32.5
3	*2402.00	86.8 PK			2.33 V	123	54.3	32.5
4	*2402.00	85.3 AV			2.33 V	123	52.8	32.5
5	4804.00	48.3 PK	74.0	-25.7	2.35 V	299	45.1	3.2
6	4804.00	38.1 AV	54.0	-15.9	2.35 V	299	34.9	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.

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	93.0 PK			1.81 H	240	60.6	32.4
2	*2440.00	91.5 AV			1.81 H	240	59.1	32.4
3	4880.00	48.6 PK	74.0	-25.4	2.50 H	199	44.9	3.7
4	4880.00	38.7 AV	54.0	-15.3	2.50 H	199	35.0	3.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	85.2 PK			2.63 V	130	52.8	32.4
2	*2440.00	84.0 AV			2.63 V	130	51.6	32.4
3	4880.00	48.1 PK	74.0	-25.9	2.35 V	331	44.4	3.7
4	4880.00	38.2 AV	54.0	-15.8	2.35 V	331	34.5	3.7

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.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	92.0 PK			1.88 H	231	59.4	32.6
2	*2480.00	90.1 AV			1.88 H	231	57.5	32.6
3	2483.50	59.0 PK	74.0	-15.0	1.90 H	236	26.4	32.6
4	2483.50	48.0 AV	54.0	-6.0	1.90 H	236	15.4	32.6
5	4960.00	48.5 PK	74.0	-25.5	2.41 H	180	44.2	4.3
6	4960.00	38.3 AV	54.0	-15.7	2.41 H	180	34.0	4.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (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	83.7 PK			2.65 V	129	51.1	32.6
2	*2480.00	82.4 AV			2.65 V	129	49.8	32.6
3	2483.50	58.3 PK	74.0	-15.7	2.53 V	133	25.7	32.6
4	2483.50	47.7 AV	54.0	-6.3	2.53 V	133	15.1	32.6
5	4960.00	48.0 PK	74.0	-26.0	2.13 V	321	43.7	4.3
6	4960.00	38.0 AV	54.0	-16.0	2.13 V	321	33.7	4.3

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.

Below 1GHz worst-case data:

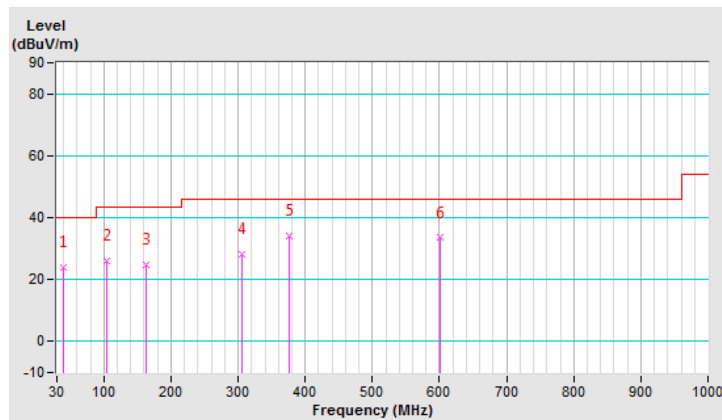
BT LE 4.0

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A1		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.70	23.7 QP	40.0	-16.3	1.50 H	23	33.4	-9.7
2	103.72	26.1 QP	43.5	-17.4	1.50 H	146	38.6	-12.5
3	163.86	24.9 QP	43.5	-18.6	1.00 H	117	33.6	-8.7
4	305.48	28.3 QP	46.0	-17.7	1.00 H	246	35.5	-7.2
5	375.32	33.9 QP	46.0	-12.1	2.00 H	312	39.1	-5.2
6	600.36	33.4 QP	46.0	-12.6	1.00 H	321	32.4	1.0

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

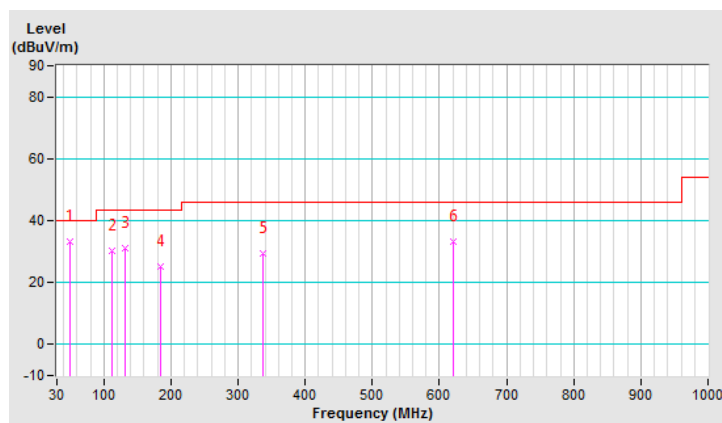


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A1		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.40	33.1 QP	40.0	-6.9	2.00 V	11	42.1	-9.0
2	111.48	30.4 QP	43.5	-13.1	1.50 V	35	42.2	-11.8
3	130.88	31.0 QP	43.5	-12.5	1.50 V	10	41.0	-10.0
4	185.20	25.3 QP	43.5	-18.2	1.00 V	191	35.6	-10.3
5	336.52	29.6 QP	46.0	-16.4	1.00 V	208	36.0	-6.4
6	619.76	33.2 QP	46.0	-12.8	1.00 V	145	31.9	1.3

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

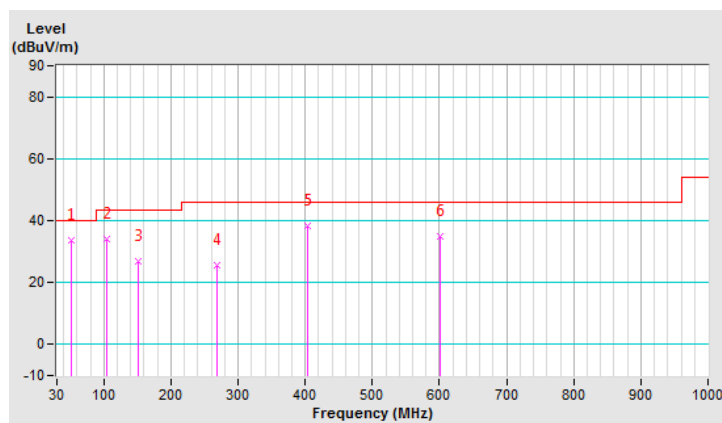


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A2		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.11	33.7 QP	40.0	-6.3	1.50 H	303	42.7	-9.0
2	104.77	34.2 QP	43.5	-9.3	1.50 H	339	46.6	-12.4
3	152.22	27.0 QP	43.5	-16.5	1.00 H	130	35.8	-8.8
4	268.62	25.8 QP	46.0	-20.2	1.50 H	183	34.3	-8.5
5	404.42	38.4 QP	46.0	-7.6	1.00 H	299	42.8	-4.4
6	600.36	34.9 QP	46.0	-11.1	2.00 H	346	33.9	1.0

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

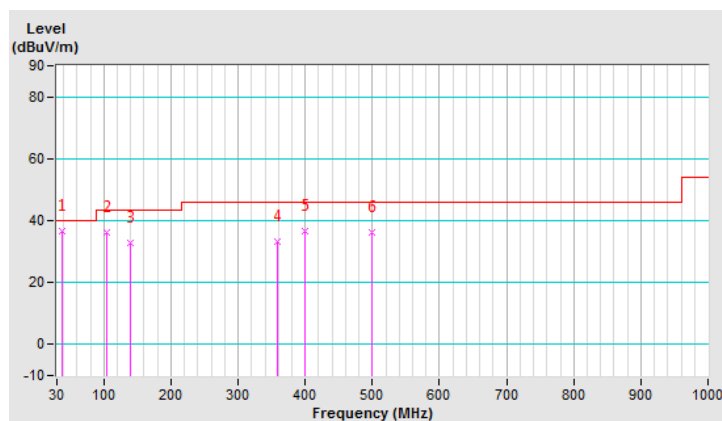


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A2		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	37.76	36.5 QP	40.0	-3.5	1.50 V	358	46.5	-10.0
2	103.72	36.1 QP	43.5	-7.4	1.00 V	37	48.6	-12.5
3	138.64	32.6 QP	43.5	-10.9	2.00 V	18	41.8	-9.2
4	357.86	33.1 QP	46.0	-12.9	2.00 V	18	39.1	-6.0
5	400.54	36.7 QP	46.0	-9.3	1.00 V	167	41.3	-4.6
6	499.48	36.0 QP	46.0	-10.0	1.50 V	139	37.5	-1.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

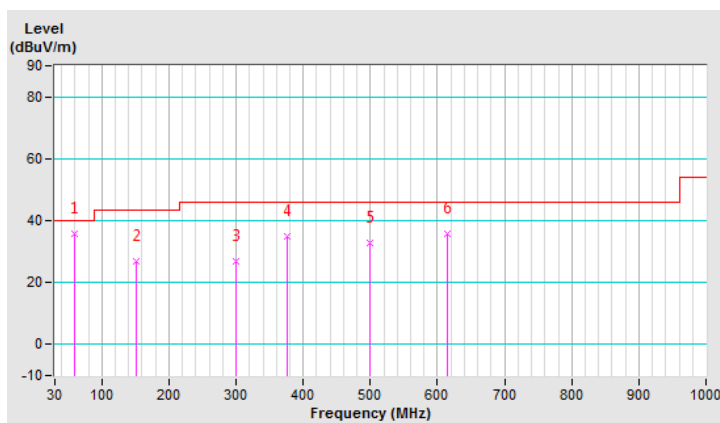


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B1		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (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	35.7 QP	40.0	-4.3	1.50 H	11	45.1	-9.4
2	152.22	27.0 QP	43.5	-16.5	1.00 H	87	35.8	-8.8
3	299.66	26.7 QP	46.0	-19.3	1.00 H	313	34.1	-7.4
4	375.32	35.0 QP	46.0	-11.0	1.00 H	300	40.2	-5.2
5	499.48	32.6 QP	46.0	-13.4	1.50 H	24	34.1	-1.5
6	613.94	35.6 QP	46.0	-10.4	1.00 H	326	34.3	1.3

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

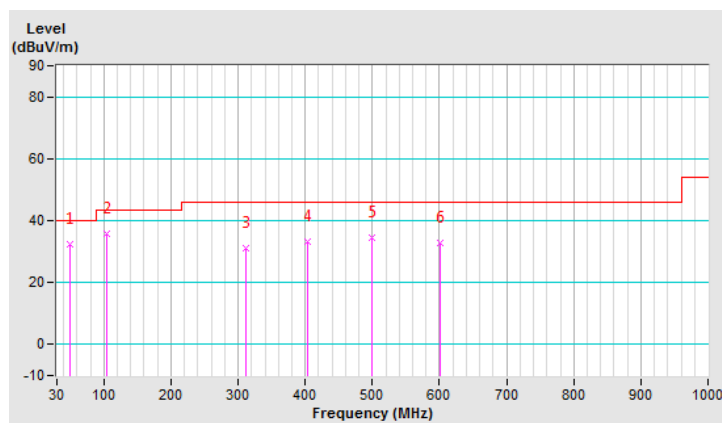


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B1		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.40	32.5 QP	40.0	-7.5	1.50 V	8	41.5	-9.0
2	103.72	35.8 QP	43.5	-7.7	1.00 V	278	48.3	-12.5
3	311.30	31.3 QP	46.0	-14.7	1.50 V	218	38.3	-7.0
4	404.42	33.2 QP	46.0	-12.8	1.00 V	312	37.6	-4.4
5	499.48	34.4 QP	46.0	-11.6	1.00 V	145	35.9	-1.5
6	600.36	32.6 QP	46.0	-13.4	2.00 V	37	31.6	1.0

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

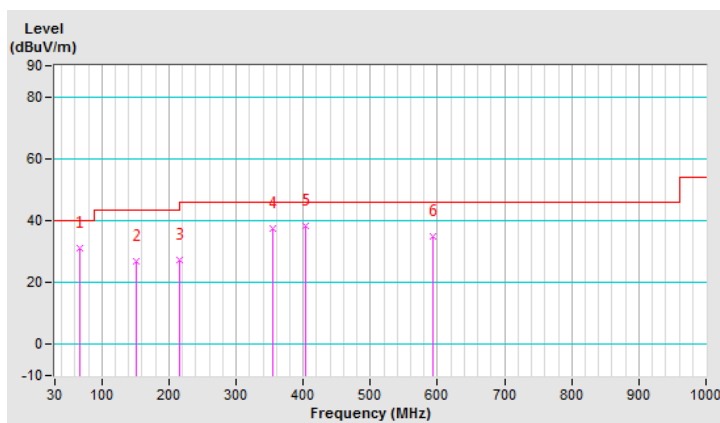


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B2		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	66.86	30.9 QP	40.0	-9.1	1.50 H	346	41.2	-10.3
2	152.22	26.9 QP	43.5	-16.6	1.00 H	89	35.7	-8.8
3	216.24	27.4 QP	46.0	-18.6	2.00 H	256	38.1	-10.7
4	353.98	37.6 QP	46.0	-8.4	1.00 H	32	43.8	-6.2
5	404.42	38.1 QP	46.0	-7.9	1.50 H	278	42.5	-4.4
6	592.60	35.1 QP	46.0	-10.9	1.00 H	337	34.3	0.8

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

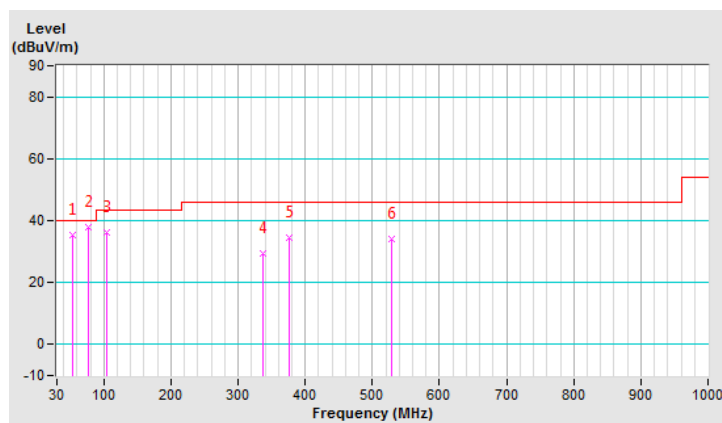


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B2		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.28	35.3 QP	40.0	-4.7	1.50 V	276	44.4	-9.1
2	76.56	37.8 QP	40.0	-2.2	1.50 V	276	50.4	-12.6
3	103.72	36.1 QP	43.5	-7.4	1.00 V	199	48.6	-12.5
4	336.52	29.4 QP	46.0	-16.6	1.00 V	256	35.8	-6.4
5	375.32	34.6 QP	46.0	-11.4	1.50 V	354	39.8	-5.2
6	528.58	34.1 QP	46.0	-11.9	1.00 V	262	35.0	-0.9

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

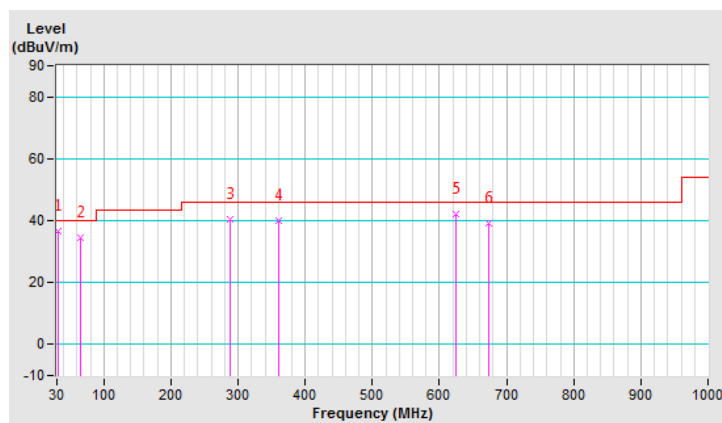


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C1		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.81	36.4 QP	40.0	-3.6	1.50 H	236	46.9	-10.5
2	65.14	34.7 QP	40.0	-5.3	1.00 H	253	44.7	-10.0
3	288.67	40.4 QP	46.0	-5.6	2.00 H	306	48.1	-7.7
4	360.36	39.9 QP	46.0	-6.1	1.50 H	353	45.7	-5.8
5	624.65	42.3 QP	46.0	-3.7	1.00 H	34	40.9	1.4
6	673.86	39.1 QP	46.0	-6.9	1.00 H	39	37.4	1.7

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

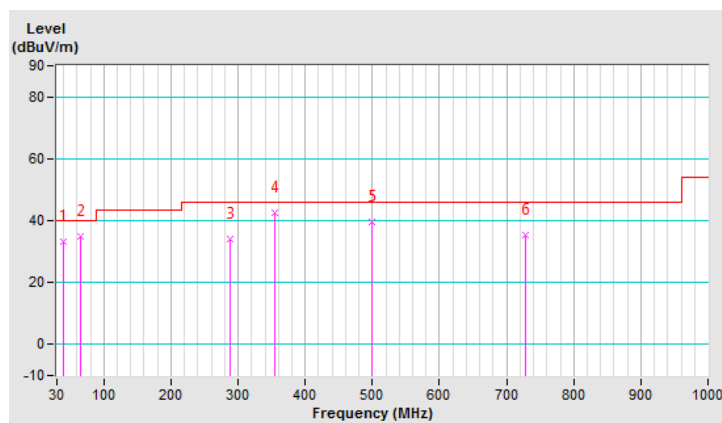


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C1		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.84	33.1 QP	40.0	-6.9	1.00 V	109	42.6	-9.5
2	65.14	35.1 QP	40.0	-4.9	1.49 V	52	45.1	-10.0
3	288.67	34.0 QP	46.0	-12.0	1.99 V	150	41.7	-7.7
4	354.74	42.7 QP	46.0	-3.3	1.49 V	273	48.8	-6.1
5	499.54	39.7 QP	46.0	-6.3	1.00 V	299	41.2	-1.5
6	727.28	35.2 QP	46.0	-10.8	1.49 V	16	32.7	2.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

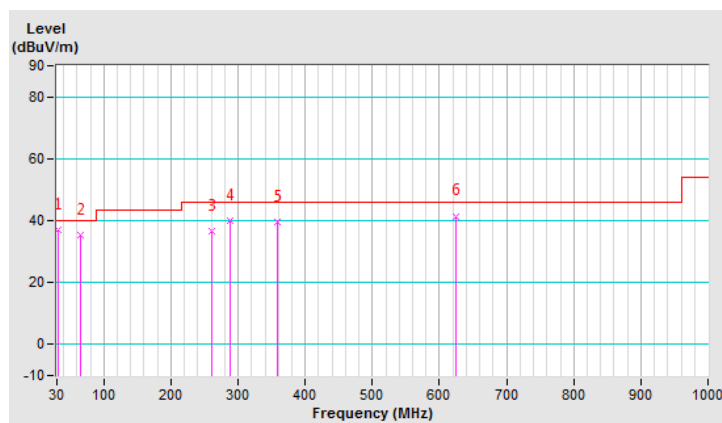


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C2		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	32.81	37.1 QP	40.0	-2.9	1.49 H	329	47.6	-10.5
2	65.14	35.4 QP	40.0	-4.6	2.00 H	114	45.4	-10.0
3	260.55	36.4 QP	46.0	-9.6	1.00 H	329	45.5	-9.1
4	287.26	40.0 QP	46.0	-6.0	1.00 H	295	47.7	-7.7
5	358.96	39.6 QP	46.0	-6.4	1.00 H	17	45.5	-5.9
6	624.65	41.5 QP	46.0	-4.5	1.00 H	17	40.1	1.4

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

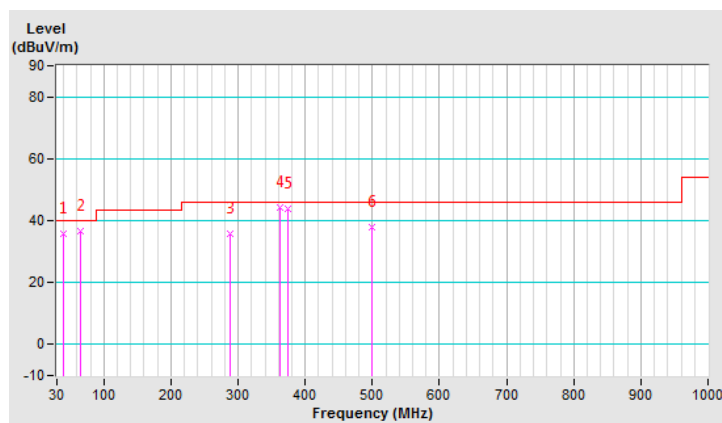


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C2		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.84	35.7 QP	40.0	-4.3	1.00 V	15	45.2	-9.5
2	65.14	36.6 QP	40.0	-3.4	1.00 V	0	46.6	-10.0
3	288.67	35.9 QP	46.0	-10.1	2.00 V	130	43.6	-7.7
4	361.77	44.2 QP	46.0	-1.8	1.51 V	15	49.9	-5.7
5	374.42	43.9 QP	46.0	-2.1	1.51 V	15	49.0	-5.1
6	499.54	38.0 QP	46.0	-8.0	1.00 V	308	39.5	-1.5

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. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 22, 2019	Aug. 21, 2020
Software ADT	BV ADT_Conc_ 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 1.
 3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

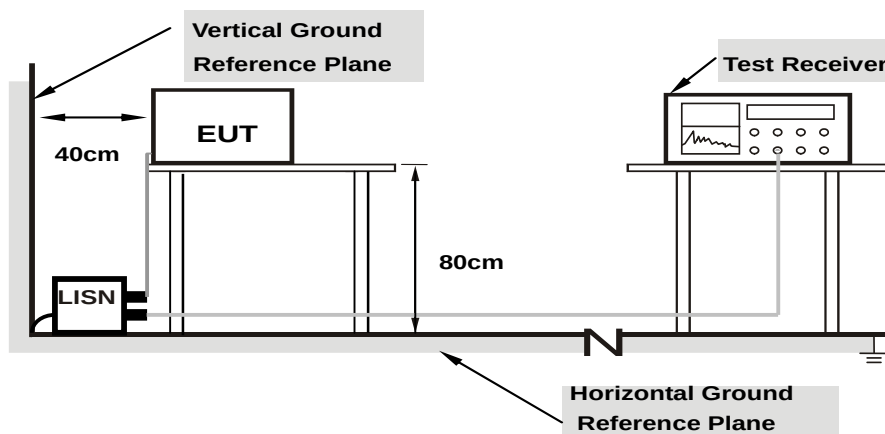
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 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).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

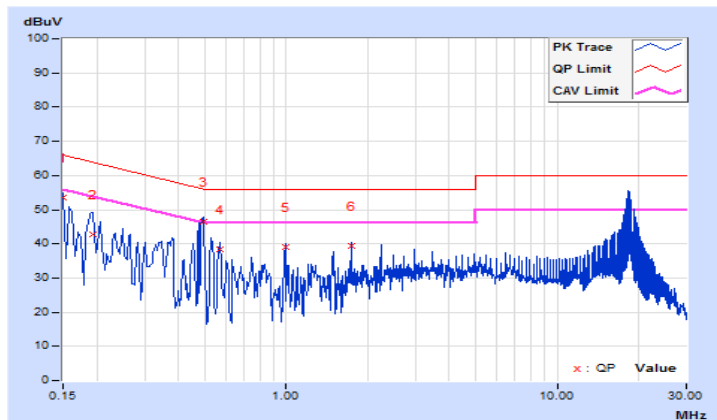
BT LE 4.0

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A1		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.67	43.74	33.11	53.41	42.78	66.00	56.00	-12.59	-13.22
2	0.19400	9.66	33.23	23.52	42.89	33.18	63.86	53.86	-20.97	-20.68
3	0.49346	9.70	36.84	33.44	46.54	43.14	56.11	46.11	-9.57	-2.97
4	0.57000	9.70	28.83	25.46	38.53	35.16	56.00	46.00	-17.47	-10.84
5	0.99400	9.73	29.40	29.36	39.13	39.09	56.00	46.00	-16.87	-6.91
6	1.73800	9.77	29.51	27.47	39.28	37.24	56.00	46.00	-16.72	-8.76

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.

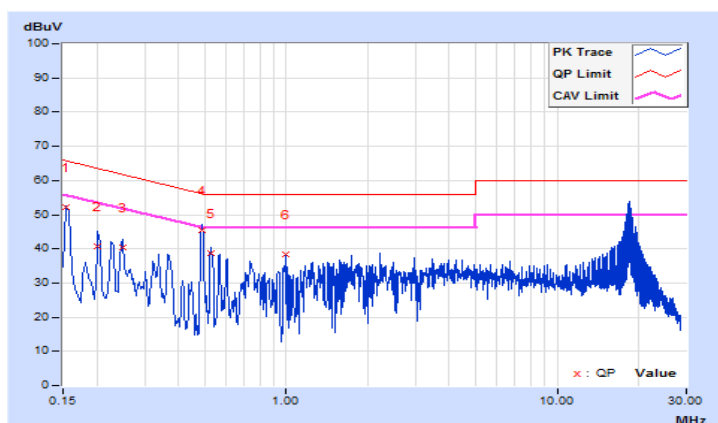


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.64	42.56	31.21	52.20	40.85	65.78	55.78	-13.58	-14.93
2	0.20200	9.64	31.03	14.54	40.67	24.18	63.53	53.53	-22.86	-29.35
3	0.24964	9.64	30.92	29.85	40.56	39.49	61.77	51.77	-21.21	-12.28
4	0.49000	9.67	35.87	35.16	45.54	44.83	56.17	46.17	-10.63	-1.34
5	0.52600	9.67	29.09	26.36	38.76	36.03	56.00	46.00	-17.24	-9.97
6	0.99400	9.70	28.64	27.95	38.34	37.65	56.00	46.00	-17.66	-8.35

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.

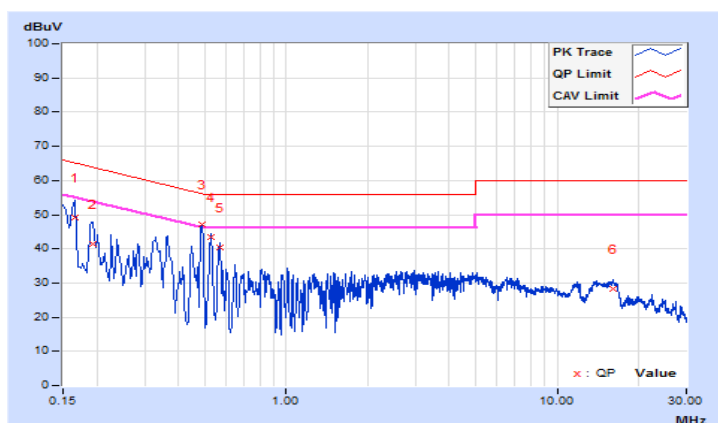


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16579	9.67	39.53	28.04	49.20	37.71	65.17	55.17	-15.97	-17.46
2	0.19400	9.66	31.88	18.54	41.54	28.20	63.86	53.86	-22.32	-25.66
3	0.48600	9.70	37.30	35.63	47.00	45.33	56.24	46.24	-9.24	-0.91
4	0.53000	9.70	33.69	30.42	43.39	40.12	56.00	46.00	-12.61	-5.88
5	0.56591	9.70	30.61	28.70	40.31	38.40	56.00	46.00	-15.69	-7.60
6	16.07400	9.97	18.26	9.91	28.23	19.88	60.00	50.00	-31.77	-30.12

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.

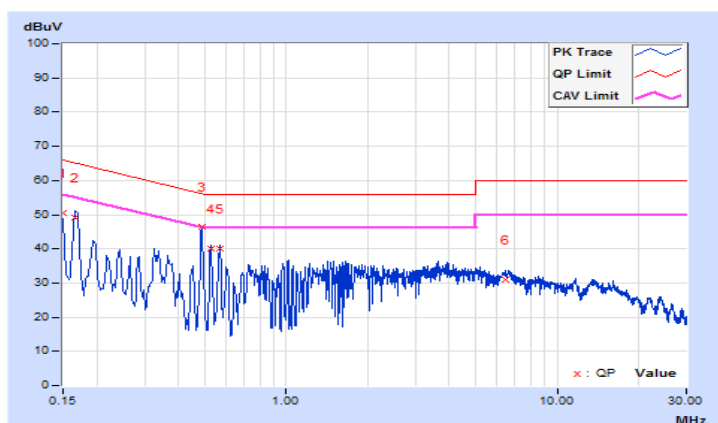


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.64	41.01	21.25	50.65	30.89	66.00	56.00	-15.35	-25.11
2	0.16600	9.64	39.43	26.24	49.07	35.88	65.16	55.16	-16.09	-19.28
3	0.48600	9.67	36.89	35.50	46.56	45.17	56.24	46.24	-9.68	-1.07
4	0.52600	9.67	30.54	29.51	40.21	39.18	56.00	46.00	-15.79	-6.82
5	0.56600	9.67	30.41	29.01	40.08	38.68	56.00	46.00	-15.92	-7.32
6	6.44200	9.85	21.01	11.57	30.86	21.42	60.00	50.00	-29.14	-28.58

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.

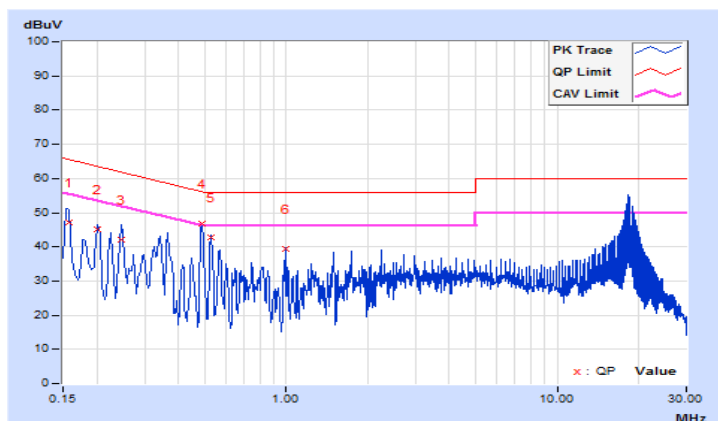


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.67	37.61	23.87	47.28	33.54	65.57	55.57	-18.29	-22.03
2	0.20200	9.66	35.30	23.17	44.96	32.83	63.53	53.53	-18.57	-20.70
3	0.24600	9.67	32.47	30.51	42.14	40.18	61.89	51.89	-19.75	-11.71
4	0.48700	9.70	37.06	34.90	46.76	44.60	56.22	46.22	-9.46	-1.62
5	0.52984	9.70	32.98	29.68	42.68	39.38	56.00	46.00	-13.32	-6.62
6	0.99400	9.73	29.72	29.68	39.45	39.41	56.00	46.00	-16.55	-6.59

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.

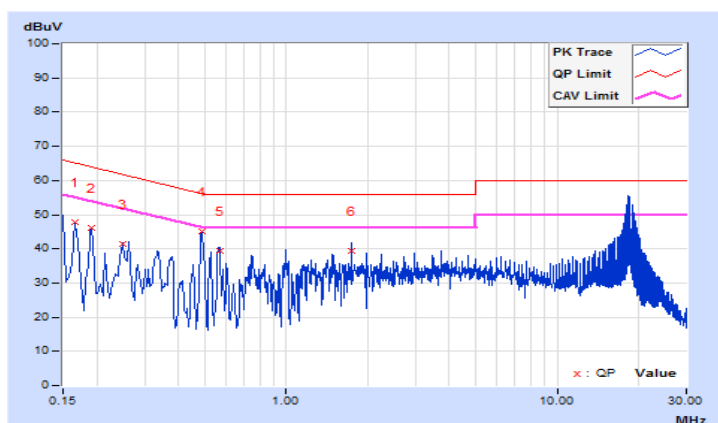


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16579	9.64	38.15	22.84	47.79	32.48	65.17	55.17	-17.38	-22.69
2	0.19000	9.64	36.35	26.48	45.99	36.12	64.04	54.04	-18.05	-17.92
3	0.25000	9.65	31.68	31.16	41.33	40.81	61.76	51.76	-20.43	-10.95
4	0.48600	9.67	35.36	33.47	45.03	43.14	56.24	46.24	-11.21	-3.10
5	0.56600	9.67	29.80	28.48	39.47	38.15	56.00	46.00	-16.53	-7.85
6	1.73800	9.74	29.73	27.58	39.47	37.32	56.00	46.00	-16.53	-8.68

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.

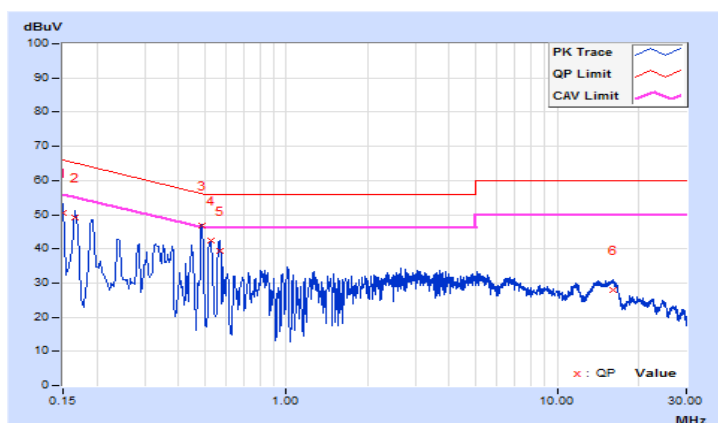


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.67	40.90	21.71	50.57	31.38	66.00	56.00	-15.43	-24.62
2	0.16600	9.67	39.36	27.85	49.03	37.52	65.16	55.16	-16.13	-17.64
3	0.48600	9.70	37.26	35.65	46.96	45.35	56.24	46.24	-9.28	-0.89
4	0.52705	9.70	32.81	32.52	42.51	42.22	56.00	46.00	-13.49	-3.78
5	0.56591	9.70	29.59	28.70	39.29	38.40	56.00	46.00	-16.71	-7.60
6	16.01000	9.97	18.09	10.05	28.06	20.02	60.00	50.00	-31.94	-29.98

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.

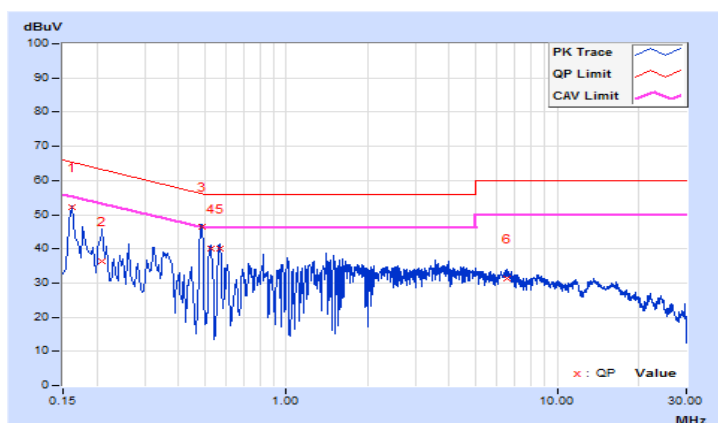


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	9.64	42.61	29.85	52.25	39.49	65.37	55.37	-13.12	-15.88
2	0.21000	9.64	26.85	13.12	36.49	22.76	63.21	53.21	-26.72	-30.45
3	0.48600	9.67	36.85	35.38	46.52	45.05	56.24	46.24	-9.72	-1.19
4	0.52567	9.67	30.45	29.14	40.12	38.81	56.00	46.00	-15.88	-7.19
5	0.56591	9.67	30.39	29.03	40.06	38.70	56.00	46.00	-15.94	-7.30
6	6.57000	9.85	21.62	10.95	31.47	20.80	60.00	50.00	-28.53	-29.20

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.

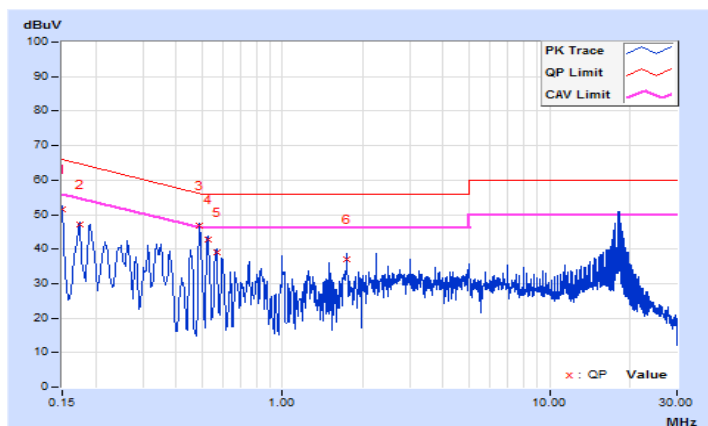


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.67	41.72	26.01	51.39	35.68	66.00	56.00	-14.61	-20.32
2	0.17400	9.67	37.56	24.40	47.23	34.07	64.77	54.77	-17.54	-20.70
3	0.49000	9.70	37.00	36.04	46.70	45.74	56.17	46.17	-9.47	-0.43
4	0.52600	9.70	33.05	32.05	42.75	41.75	56.00	46.00	-13.25	-4.25
5	0.56591	9.70	29.21	26.20	38.91	35.90	56.00	46.00	-17.09	-10.10
6	1.74600	9.77	27.16	26.04	36.93	35.81	56.00	46.00	-19.07	-10.19

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.

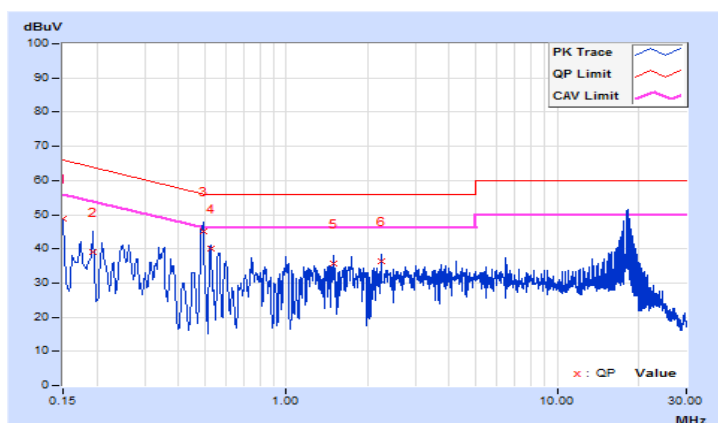


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.64	39.33	29.79	48.97	39.43	66.00	56.00	-17.03	-16.57
2	0.19400	9.64	29.56	18.04	39.20	27.68	63.86	53.86	-24.66	-26.18
3	0.49400	9.67	35.41	33.09	45.08	42.76	56.10	46.10	-11.02	-3.34
4	0.52567	9.67	30.53	29.91	40.20	39.58	56.00	46.00	-15.80	-6.42
5	1.49800	9.72	25.84	24.61	35.56	34.33	56.00	46.00	-20.44	-11.67
6	2.24600	9.76	26.64	24.68	36.40	34.44	56.00	46.00	-19.60	-11.56

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.

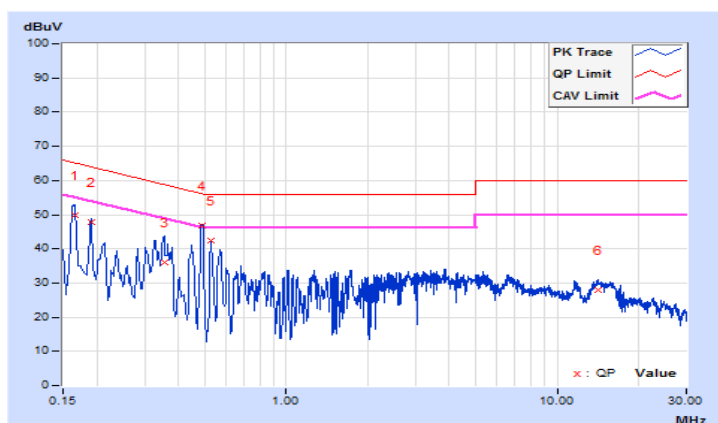


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16535	9.67	40.28	26.00	49.95	35.67	65.19	55.19	-15.24	-19.52
2	0.19000	9.66	38.25	26.22	47.91	35.88	64.04	54.04	-16.13	-18.16
3	0.35400	9.68	26.28	9.41	35.96	19.09	58.87	48.87	-22.91	-29.78
4	0.48600	9.70	37.19	34.55	46.89	44.25	56.24	46.24	-9.35	-1.99
5	0.52600	9.70	32.84	31.37	42.54	41.07	56.00	46.00	-13.46	-4.93
6	14.10600	9.96	17.97	9.24	27.93	19.20	60.00	50.00	-32.07	-30.80

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.

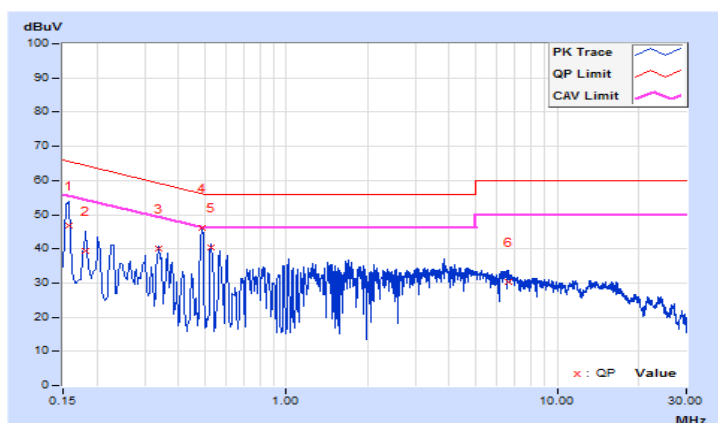


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C2		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15800	9.64	37.10	21.14	46.74	30.78	65.57	55.57	-18.83	-24.79
2	0.18200	9.64	29.66	17.54	39.30	27.18	64.39	54.39	-25.09	-27.21
3	0.33800	9.65	30.44	27.66	40.09	37.31	59.25	49.25	-19.16	-11.94
4	0.49000	9.67	36.46	35.77	46.13	45.44	56.17	46.17	-10.04	-0.73
5	0.52600	9.67	30.58	29.21	40.25	38.88	56.00	46.00	-15.75	-7.12
6	6.60200	9.85	20.44	10.10	30.29	19.95	60.00	50.00	-29.71	-30.05

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.

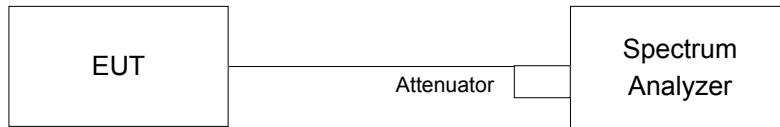


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB 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

- Set resolution bandwidth (RBW) = 100kHz.
- 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.

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.

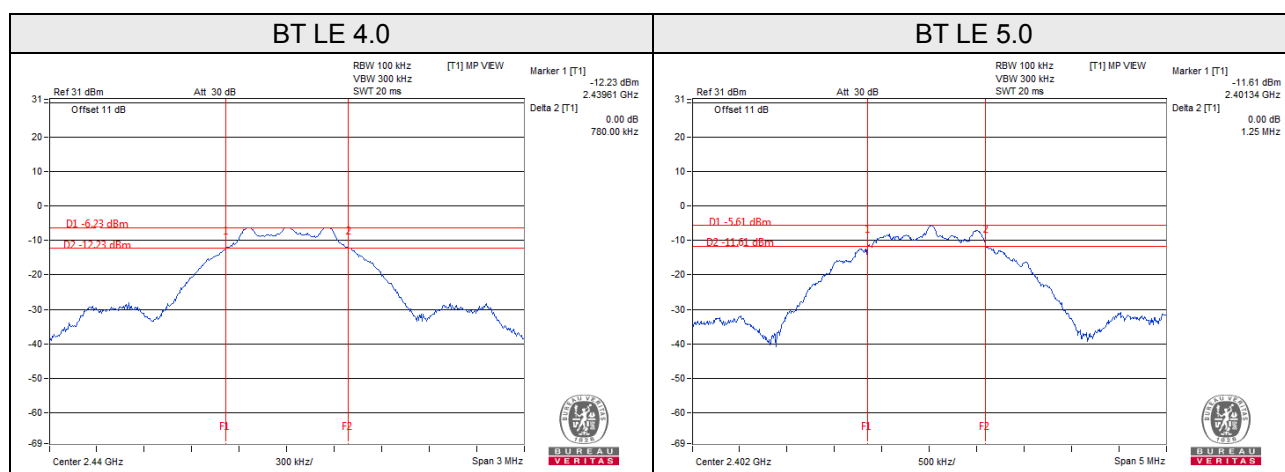
4.3.7 Test Result

BT LE 4.0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.78	0.5	Pass
19	2440	0.78	0.5	Pass
39	2480	0.78	0.5	Pass

BT LE 5.0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	1.25	0.5	Pass
19	2440	1.29	0.5	Pass
39	2480	1.30	0.5	Pass

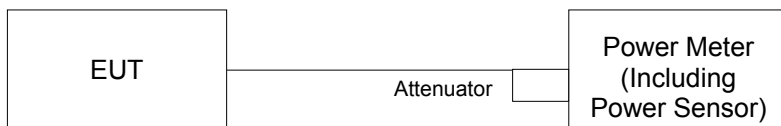


4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

For Peak Power

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.

For 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.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as item 4.3.6.

4.4.7 Test Results

For Peak Power

BT LE 4.0

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	0.315	-5.02	30.00	Pass
19	2440	0.278	-5.58	30.00	Pass
39	2480	0.208	-6.82	30.00	Pass

BT LE 5.0

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	0.315	-5.02	30.00	Pass
19	2440	0.278	-5.58	30.00	Pass
39	2480	0.208	-6.83	30.00	Pass

For Average Power

BT LE 4.0

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	0.309	-5.10
19	2440	0.259	-5.87
39	2480	0.204	-6.91

BT LE 5.0

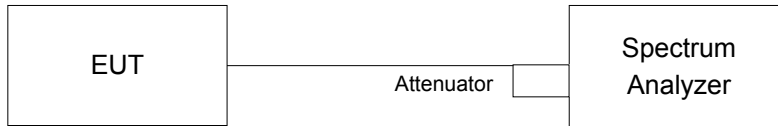
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	0.310	-5.09
19	2440	0.259	-5.86
39	2480	0.204	-6.91

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

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

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 Procedure

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as item 4.3.6

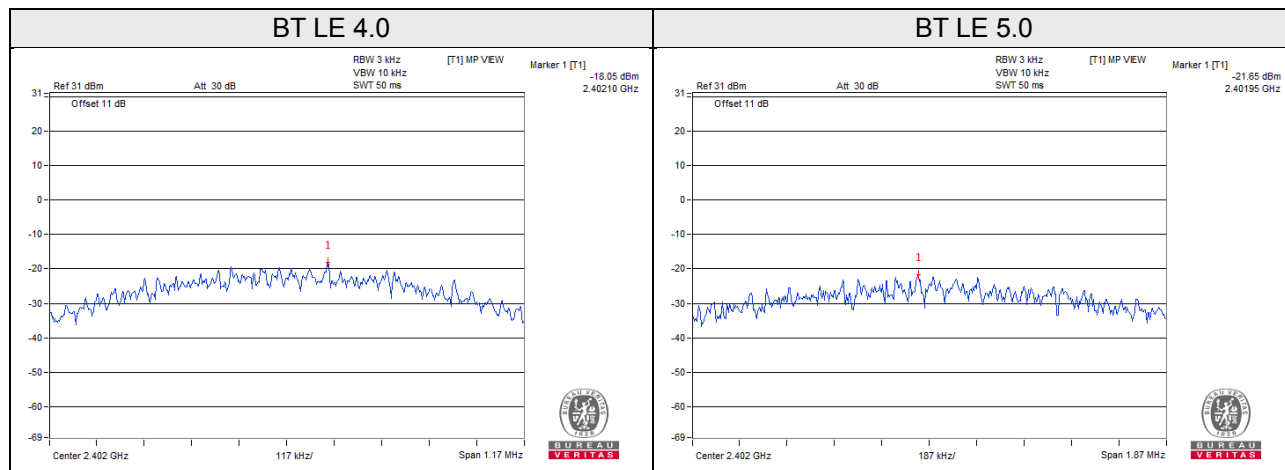
4.5.7 Test Results

BT LE 4.0

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	2402	-18.05	8.00	Pass
19	2440	-18.65	8.00	Pass
39	2480	-20.00	8.00	Pass

BT LE 5.0

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	2402	-21.65	8.00	Pass
19	2440	-22.12	8.00	Pass
39	2480	-23.52	8.00	Pass

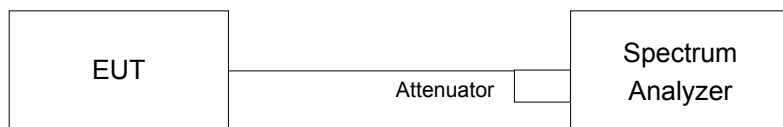


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

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

MEASUREMENT PROCEDURE REF

- Set the RBW = 100 kHz.
- Set the VBW $\geq$ 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 $\geq$ 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.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as item 4.3.6

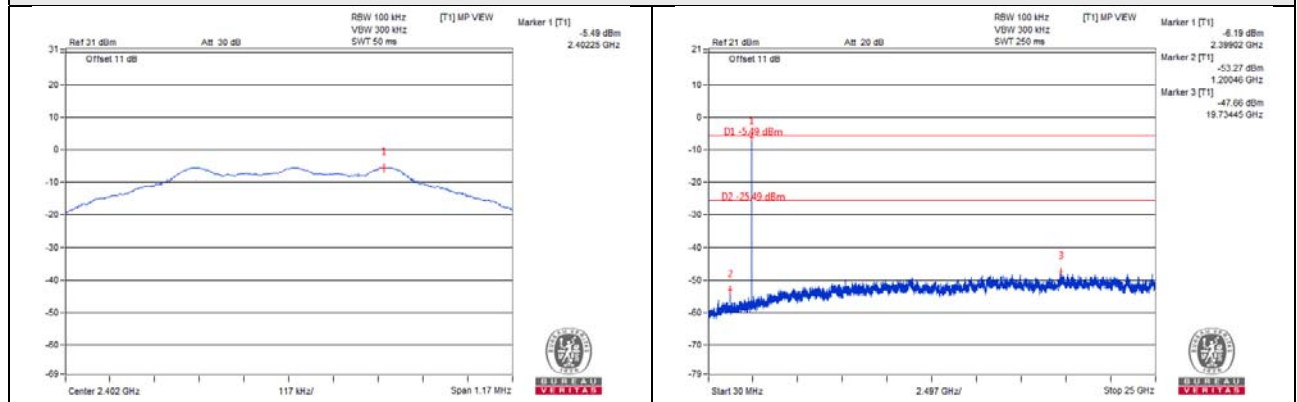
4.6.7 Test Results

The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

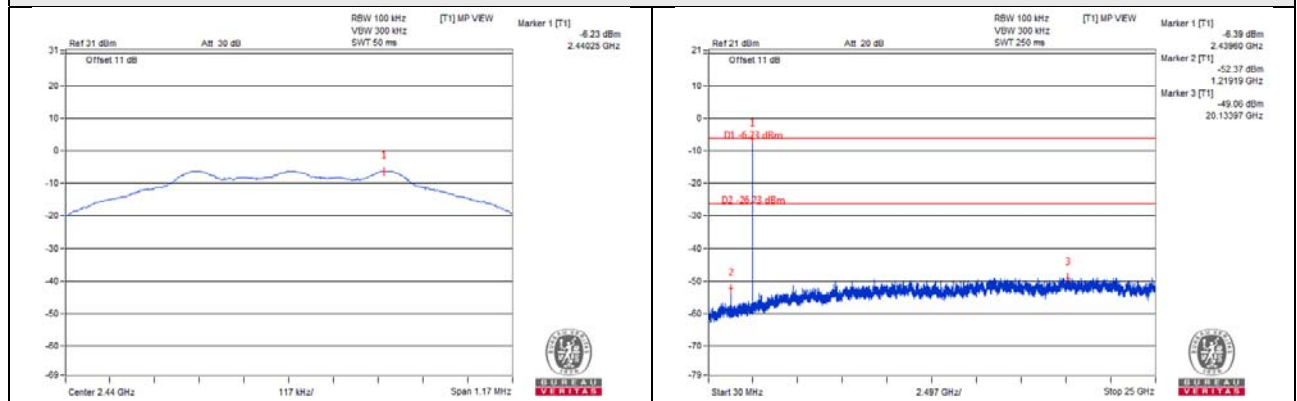
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

BT LE 4.0

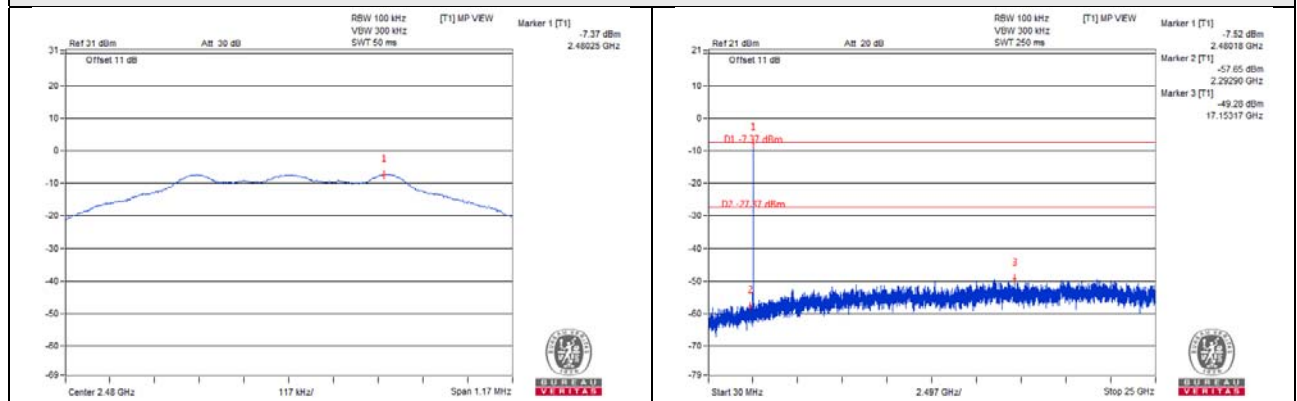
CH 0



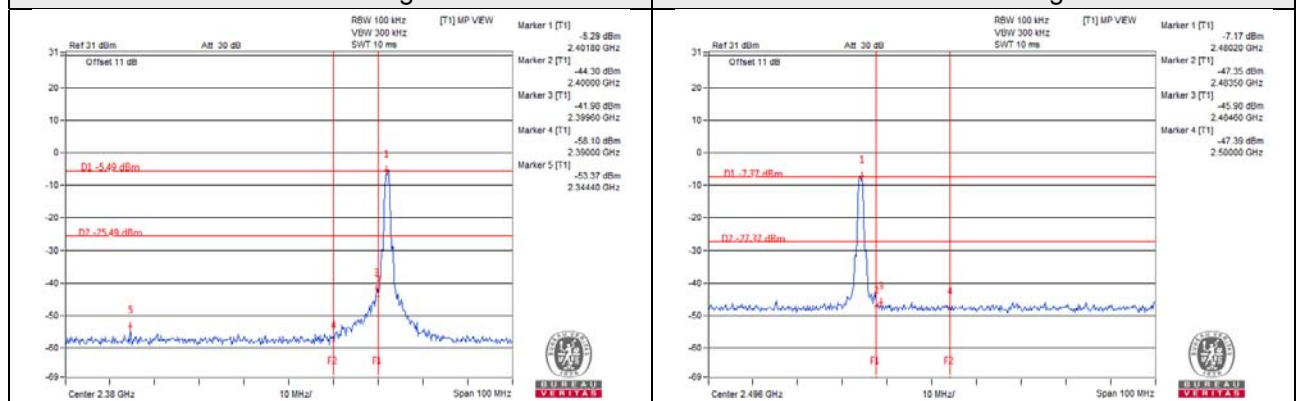
CH 19



CH 39

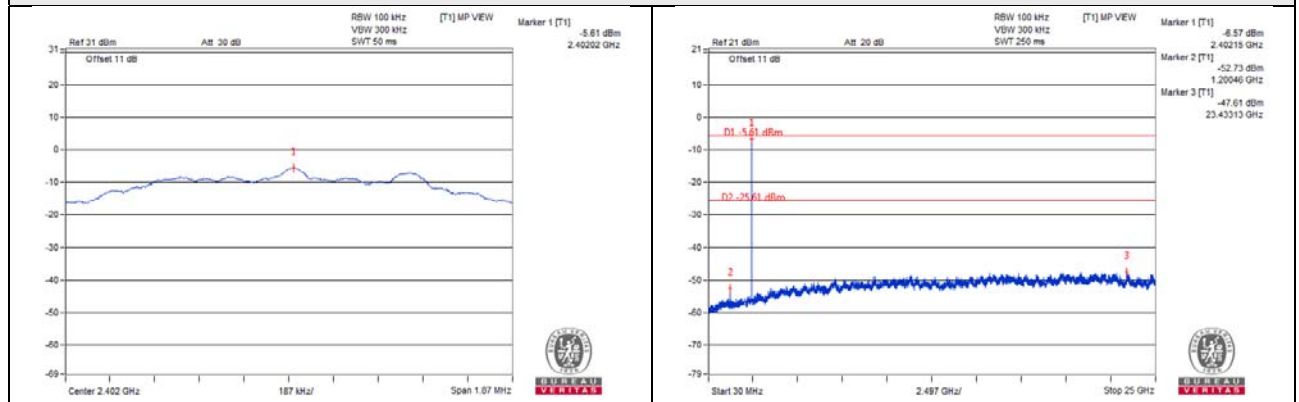


CH 0 Band edge

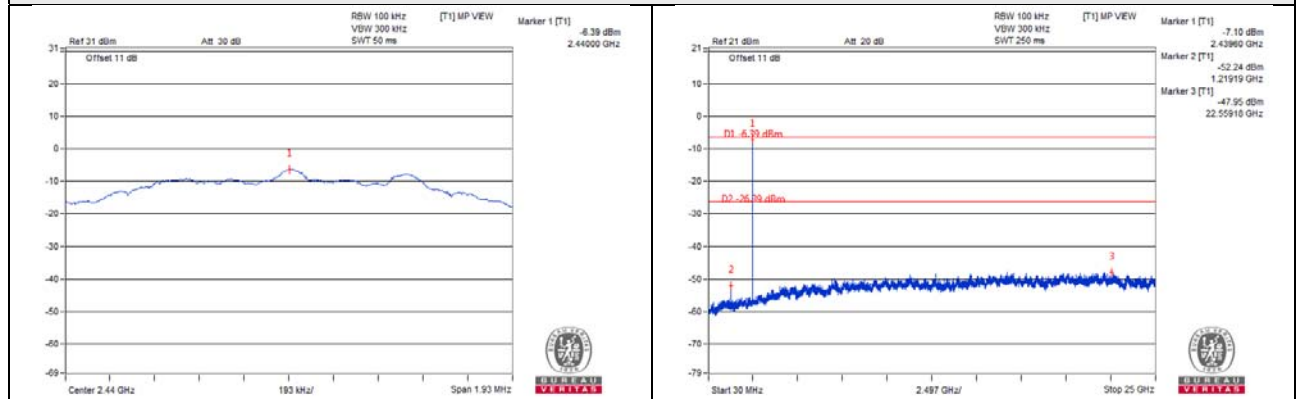


BT LE 5.0

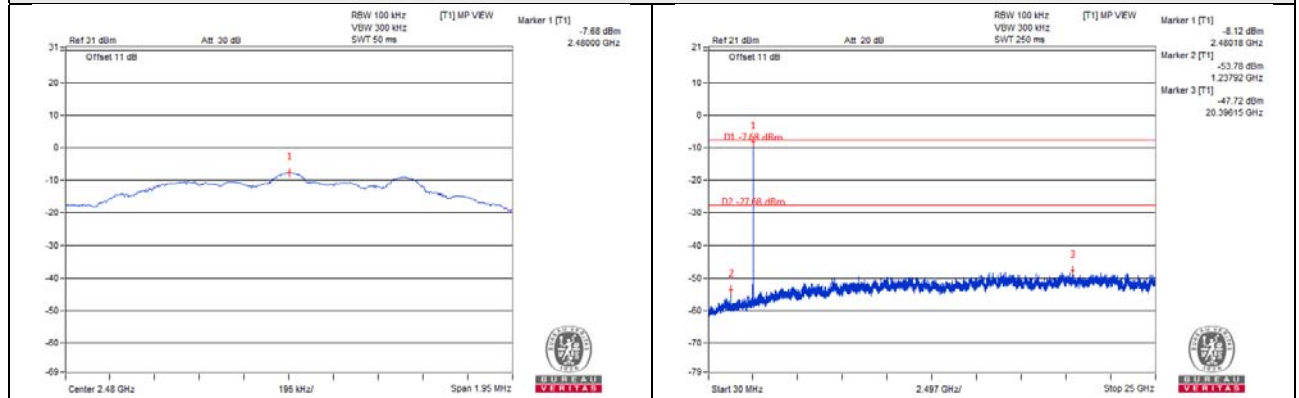
CH 0



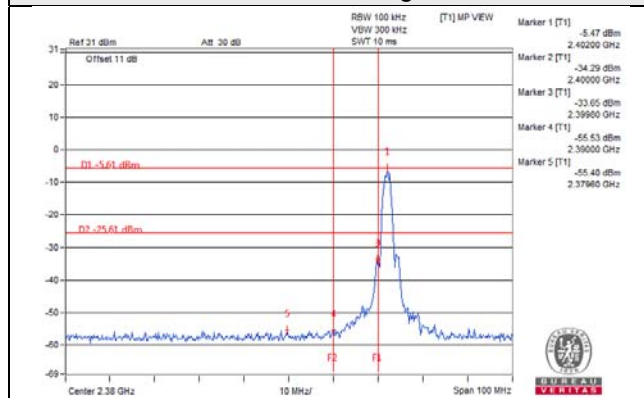
CH 19



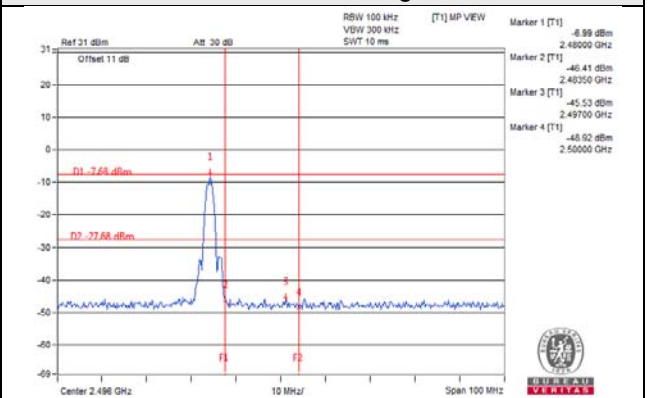
CH 39



CH 0 Band edge



CH 39 Band edge



5 Pictures of Test Arrangements

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

Appendix – Information of the Testing Laboratories

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

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

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

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