

FCC Test Report

Report No.: RF190514C12-5

FCC ID: 2ARXKVHE10

Test Model: VHE10

Series Model: VHE10XXX (X=A-Z, 0-9, blank or "-")

Received Date: May 14, 2019

Test Date: Jun. 26 ~ Jul. 20, 2019

Issued Date: Jul. 26, 2019

Applicant: Veea Inc

Address: 164 E 83rd Street, New York NY, 10028, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF190514C12-5	Original release	Jul. 26, 2019

1 Certificate of Conformity

Product: veeahub

Brand: 

Test Model: VHE10

Series Model: VHE10XXX (X=A-Z, 0-9, blank or "-")

Sample Status: Engineering sample

Applicant: Veea Inc

Test Date: Jun. 26 ~ Jul. 20, 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:** Jul. 26, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 26, 2019
Bruce Chen / 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 -0.52dB at 0.48626MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.3dB at 51.29MHz.
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	2.94 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	VHE10
Series Model	VHE10XXX (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: 0.508mW Bluetooth LE 5.0: 0.516mW
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	Adapter
Cable Supplied	NA

Note:

1. The EUT uses following adapter and POE.

Adapter	
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 **Y-plane for Chip Antenna, X-plane for PIFA and 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	2

Power Line Conducted Emission Test:

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A1, A2, B1, B2, C1, C2	0 to 39	0	GFSK	2

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
A1	0 to 39	0, 19, 39	GFSK	1, 2

Test Condition:

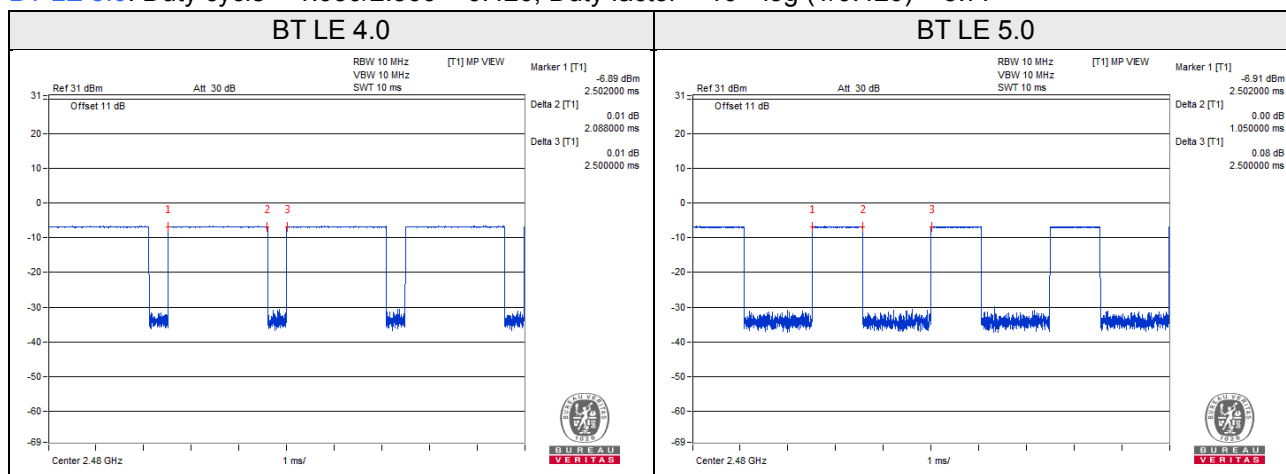
Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 69% RH	120Vac, 60Hz	Willy Cheng
RE<1G	25 deg. C, 68% RH	120Vac, 60Hz 48Vdc	Willy Cheng
PLC	21 deg. C, 61% RH	120Vac, 60Hz 48Vdc	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ted Chang

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98%.

BT LE 4.0: Duty cycle = 2.088/2.500 = 0.835, Duty factor = $10 * \log (1/0.835) = 0.78$

BT LE 5.0: Duty cycle = 1.050/2.500 = 0.420, Duty factor = $10 * \log (1/0.420) = 3.77$



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	USB Flash	HP	v250W	03	NA	-
D.	USB Flash	HP	v250W	05	NA	-
E.	USB Flash	HP	v250W	09	NA	-
F.	POE	NA	APOE02-WM	NA	NA	Provided by manufacturer

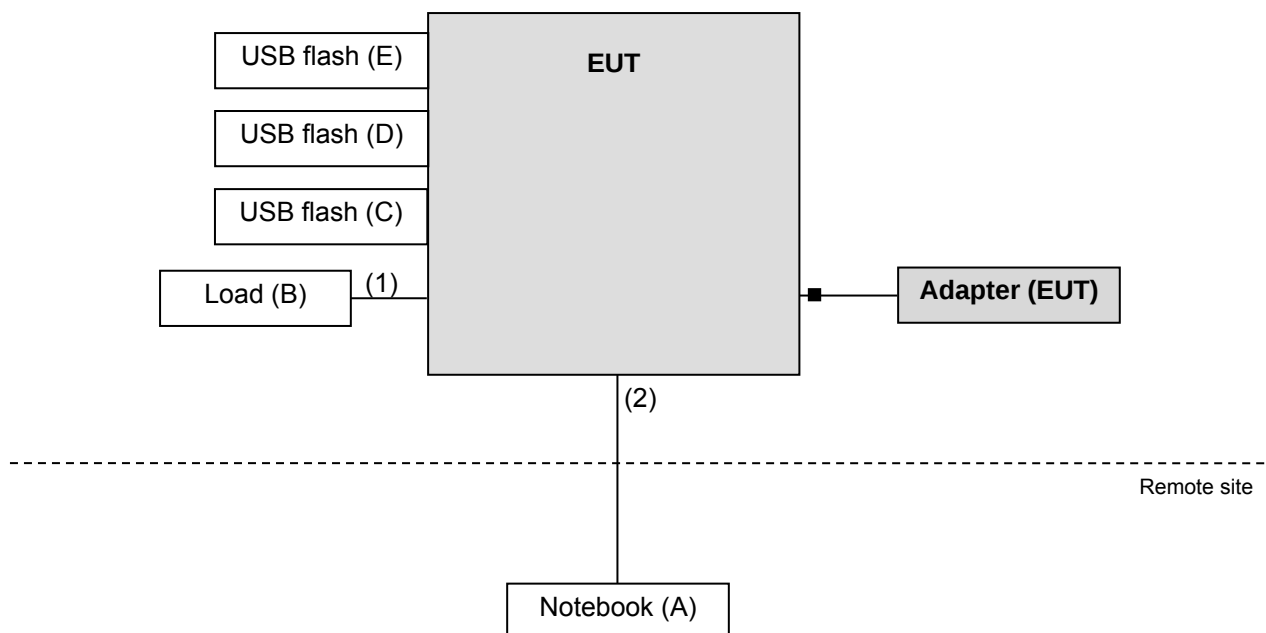
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

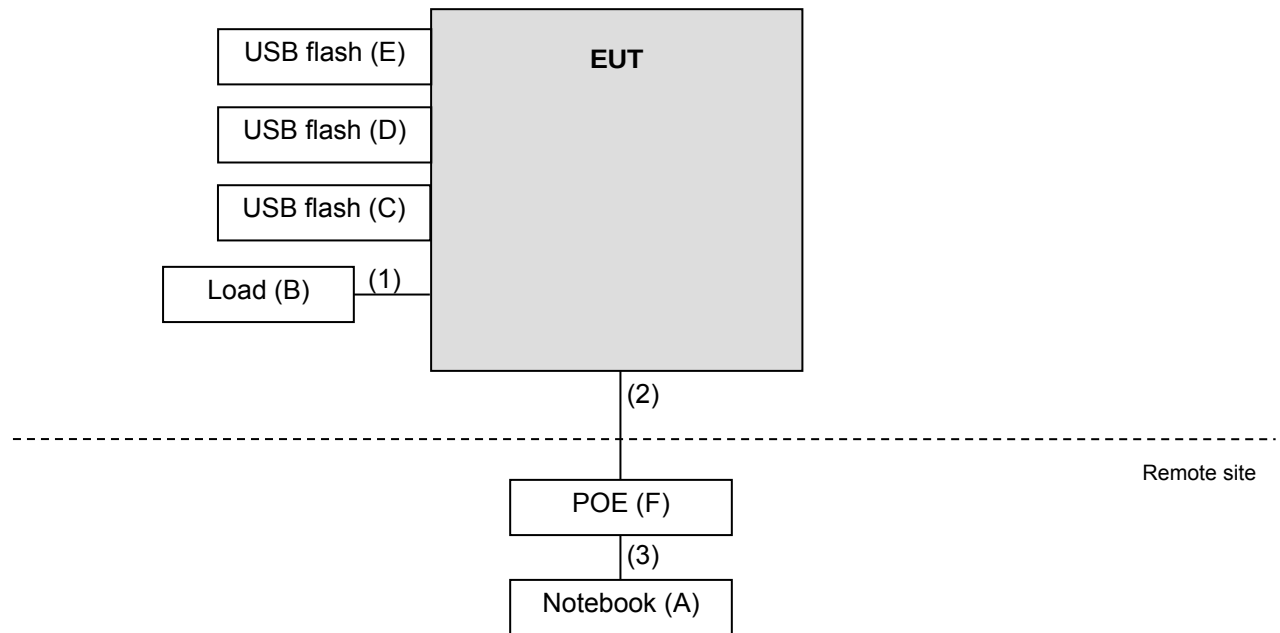
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	1.5	N	0	Cat5e
2.	RJ45 cable	1	5	N	0	Cat5e
3.	RJ45 cable	1	1.5	N	0	Cat5e

3.4.1 Configuration of System under Test

Test Mode A1, B1, C1



Test Mode A2, B2, C2



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart C (15.247)

KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10:2013

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

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. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna EMCI	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable WOKEN	8D-FB	Cable-CH3-01	Aug. 21, 2018	Aug. 20, 2019
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. 17, 2018	Jul. 16, 2019
			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:

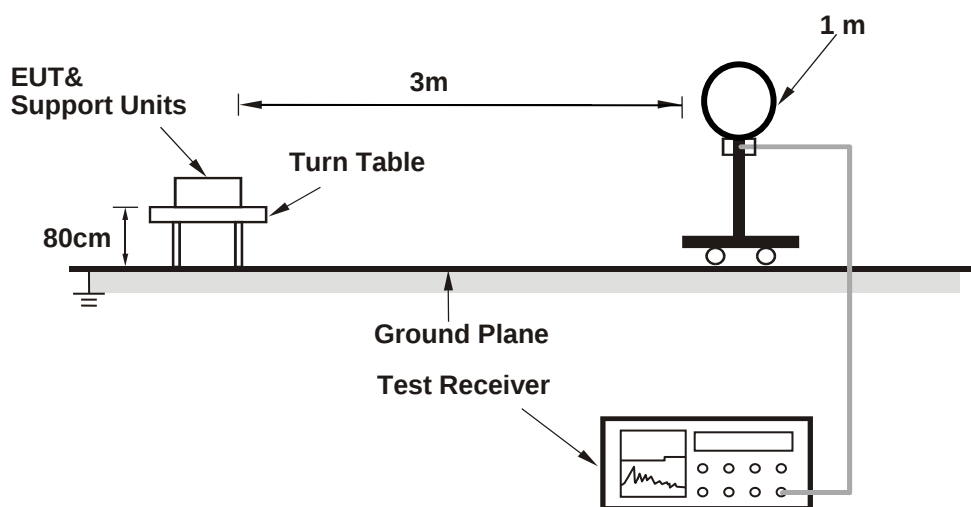
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

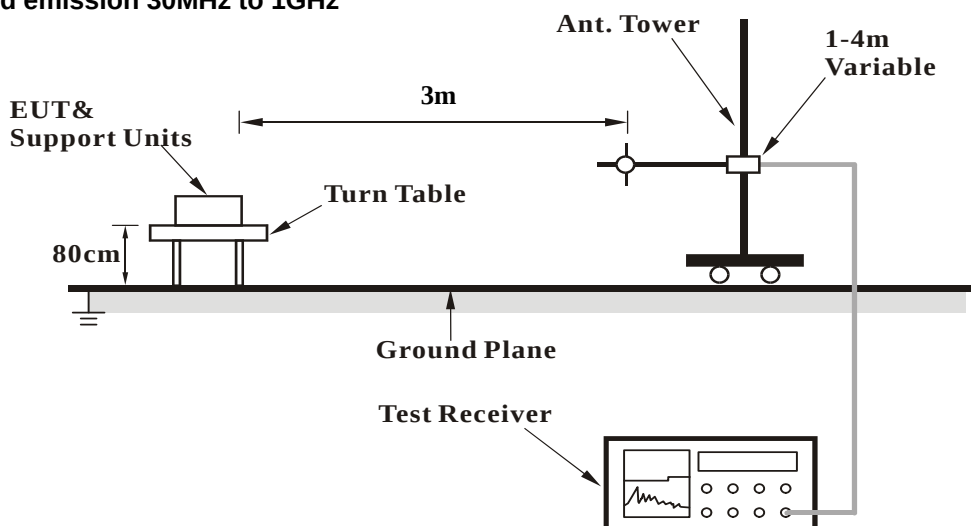
No deviation.

4.1.5 Test Setup

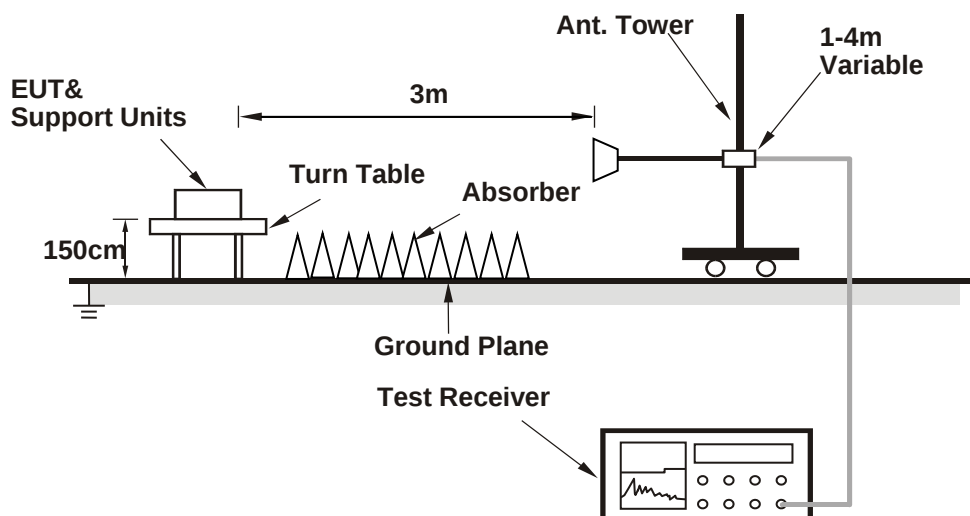
For Radiated emission below 30MHz



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 (CMD) 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	59.2 PK	74.0	-14.8	1.23 H	355	26.3	32.9
2	2390.00	47.1 AV	54.0	-6.9	1.23 H	355	14.2	32.9
3	*2402.00	88.2 PK			1.05 H	329	55.3	32.9
4	*2402.00	82.4 AV			1.05 H	329	49.5	32.9
5	4804.00	46.1 PK	74.0	-27.9	2.63 H	217	42.5	3.6
6	4804.00	32.6 AV	54.0	-21.4	2.63 H	217	29.0	3.6
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	59.8 PK	74.0	-14.2	1.09 V	284	26.9	32.9
2	2390.00	47.4 AV	54.0	-6.6	1.09 V	284	14.5	32.9
3	*2402.00	92.5 PK			1.18 V	299	59.6	32.9
4	*2402.00	90.5 AV			1.18 V	299	57.6	32.9
5	4804.00	45.9 PK	74.0	-28.1	1.89 V	274	42.3	3.6
6	4804.00	32.1 AV	54.0	-21.9	1.89 V	274	28.5	3.6

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.
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	86.0 PK			1.09 H	305	53.1	32.9
2	*2440.00	81.1 AV			1.09 H	305	48.2	32.9
3	4880.00	47.2 PK	74.0	-26.8	2.93 H	155	43.2	4.0
4	4880.00	33.5 AV	54.0	-20.5	2.93 H	155	29.5	4.0
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	90.4 PK			1.52 V	357	57.5	32.9
2	*2440.00	88.5 AV			1.52 V	357	55.6	32.9
3	4880.00	47.5 PK	74.0	-26.5	2.32 V	218	43.5	4.0
4	4880.00	33.9 AV	54.0	-20.1	2.32 V	218	29.9	4.0

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. 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	84.2 PK			1.12 H	293	51.2	33.0
2	*2480.00	82.3 AV			1.12 H	293	49.3	33.0
3	2483.50	64.6 PK	74.0	-9.4	1.48 H	335	31.6	33.0
4	2483.50	47.6 AV	54.0	-6.4	1.48 H	335	14.6	33.0
5	4960.00	48.1 PK	74.0	-25.9	2.53 H	269	43.6	4.5
6	4960.00	34.2 AV	54.0	-19.8	2.53 H	269	29.7	4.5
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	88.3 PK			1.07 V	351	55.3	33.0
2	*2480.00	86.2 AV			1.07 V	351	53.2	33.0
3	2483.50	64.4 PK	74.0	-9.6	1.32 V	341	31.4	33.0
4	2483.50	47.8 AV	54.0	-6.2	1.32 V	341	14.8	33.0
5	4960.00	48.4 PK	74.0	-25.6	1.83 V	205	43.9	4.5
6	4960.00	34.4 AV	54.0	-19.6	1.83 V	205	29.9	4.5

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.
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	59.4 PK	74.0	-14.6	1.33 H	303	26.5	32.9
2	2390.00	47.3 AV	54.0	-6.7	1.33 H	303	14.4	32.9
3	*2402.00	87.2 PK			1.06 H	329	54.3	32.9
4	*2402.00	82.6 AV			1.06 H	329	49.7	32.9
5	4804.00	46.1 PK	74.0	-27.9	2.48 H	293	42.5	3.6
6	4804.00	32.4 AV	54.0	-21.6	2.48 H	293	28.8	3.6
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	59.3 PK	74.0	-14.7	1.32 V	289	26.4	32.9
2	2390.00	47.6 AV	54.0	-6.4	1.32 V	289	14.7	32.9
3	*2402.00	91.9 PK			1.20 V	296	59.0	32.9
4	*2402.00	86.3 AV			1.20 V	296	53.4	32.9
5	4804.00	46.2 PK	74.0	-27.8	2.38 V	255	42.6	3.6
6	4804.00	32.5 AV	54.0	-21.5	2.38 V	255	28.9	3.6

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.
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	85.4 PK			1.02 H	328	52.5	32.9
2	*2440.00	80.1 AV			1.02 H	328	47.2	32.9
3	4880.00	47.2 PK	74.0	-26.8	2.51 H	263	43.2	4.0
4	4880.00	33.5 AV	54.0	-20.5	2.51 H	263	29.5	4.0
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	90.0 PK			1.48 V	357	57.1	32.9
2	*2440.00	84.6 AV			1.48 V	357	51.7	32.9
3	4880.00	47.6 PK	74.0	-26.4	2.36 V	217	43.6	4.0
4	4880.00	33.7 AV	54.0	-20.3	2.36 V	217	29.7	4.0

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. 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	84.8 PK			1.05 H	350	51.8	33.0
2	*2480.00	78.5 AV			1.05 H	350	45.5	33.0
3	2483.50	60.6 PK	74.0	-13.4	1.11 H	343	27.6	33.0
4	2483.50	47.9 AV	54.0	-6.1	1.11 H	343	14.9	33.0
5	4960.00	48.3 PK	74.0	-25.7	2.28 H	231	43.8	4.5
6	4960.00	34.4 AV	54.0	-19.6	2.28 H	231	29.9	4.5
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	88.0 PK			1.07 V	343	55.0	33.0
2	*2480.00	81.8 AV			1.07 V	343	48.8	33.0
3	2483.50	64.3 PK	74.0	-9.7	1.33 V	327	31.3	33.0
4	2483.50	48.6 AV	54.0	-5.4	1.33 V	327	15.6	33.0
5	4960.00	48.2 PK	74.0	-25.8	2.31 V	251	43.7	4.5
6	4960.00	34.3 AV	54.0	-19.7	2.31 V	251	29.8	4.5

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.
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	59.9 PK	74.0	-14.1	1.63 H	44	27.0	32.9
2	2390.00	47.3 AV	54.0	-6.7	1.63 H	44	14.4	32.9
3	*2402.00	82.8 PK			2.77 H	306	49.9	32.9
4	*2402.00	80.8 AV			2.77 H	306	47.9	32.9
5	4804.00	46.6 PK	74.0	-27.4	3.81 H	359	43.0	3.6
6	4804.00	32.7 AV	54.0	-21.3	3.81 H	359	29.1	3.6

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	59.5 PK	74.0	-14.5	2.64 V	323	26.6	32.9
2	2390.00	47.5 AV	54.0	-6.5	2.64 V	323	14.6	32.9
3	*2402.00	88.0 PK			2.77 V	306	55.1	32.9
4	*2402.00	86.1 AV			2.77 V	306	53.2	32.9
5	4804.00	45.9 PK	74.0	-28.1	2.78 V	205	42.3	3.6
6	4804.00	32.6 AV	54.0	-21.4	2.78 V	205	29.0	3.6

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.
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	81.7 PK			2.27 H	119	48.8	32.9
2	*2440.00	79.4 AV			2.27 H	119	46.5	32.9
3	4880.00	47.6 PK	74.0	-26.4	2.25 H	165	43.6	4.0
4	4880.00	34.2 AV	54.0	-19.8	2.25 H	165	30.2	4.0
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	84.8 PK			2.76 V	302	51.9	32.9
2	*2440.00	82.7 AV			2.76 V	302	49.8	32.9
3	4880.00	47.9 PK	74.0	-26.1	2.46 V	242	43.9	4.0
4	4880.00	34.4 AV	54.0	-19.6	2.46 V	242	30.4	4.0

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. 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	81.4 PK			2.78 H	122	48.4	33.0
2	*2480.00	79.1 AV			2.78 H	122	46.1	33.0
3	2483.50	59.3 PK	74.0	-14.7	2.42 H	195	26.3	33.0
4	2483.50	51.1 AV	54.0	-2.9	2.42 H	195	18.1	33.0
5	4960.00	48.5 PK	74.0	-25.5	2.25 H	272	44.0	4.5
6	4960.00	34.9 AV	54.0	-19.1	2.25 H	272	30.4	4.5
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	85.1 PK			2.59 V	306	52.1	33.0
2	*2480.00	82.9 AV			2.59 V	306	49.9	33.0
3	2483.50	61.0 PK	74.0	-13.0	2.69 V	255	28.0	33.0
4	2483.50	48.0 AV	54.0	-6.0	2.69 V	255	15.0	33.0
5	4960.00	48.7 PK	74.0	-25.3	2.73 V	217	44.2	4.5
6	4960.00	35.0 AV	54.0	-19.0	2.73 V	217	30.5	4.5

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.
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	59.2 PK	74.0	-14.8	1.92 H	165	26.3	32.9
2	2390.00	47.5 AV	54.0	-6.5	1.92 H	165	14.6	32.9
3	*2402.00	81.9 PK			2.31 H	117	49.0	32.9
4	*2402.00	76.7 AV			2.31 H	117	43.8	32.9
5	4804.00	45.7 PK	74.0	-28.3	2.65 H	195	42.1	3.6
6	4804.00	32.6 AV	54.0	-21.4	2.65 H	195	29.0	3.6
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	58.9 PK	74.0	-15.1	1.79 V	46	26.0	32.9
2	2390.00	47.5 AV	54.0	-6.5	1.79 V	46	14.6	32.9
3	*2402.00	87.4 PK			2.74 V	314	54.5	32.9
4	*2402.00	82.0 AV			2.74 V	314	49.1	32.9
5	4804.00	45.8 PK	74.0	-28.2	2.60 V	232	42.2	3.6
6	4804.00	32.7 AV	54.0	-21.3	2.60 V	232	29.1	3.6

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.
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	81.9 PK			2.26 H	117	49.0	32.9
2	*2440.00	75.3 AV			2.26 H	117	42.4	32.9
3	4880.00	47.6 PK	74.0	-26.4	3.23 H	275	43.6	4.0
4	4880.00	34.0 AV	54.0	-20.0	3.23 H	275	30.0	4.0
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	84.8 PK			3.03 V	304	51.9	32.9
2	*2440.00	78.2 AV			3.03 V	304	45.3	32.9
3	4880.00	47.7 PK	74.0	-26.3	2.89 V	220	43.7	4.0
4	4880.00	34.1 AV	54.0	-19.9	2.89 V	220	30.1	4.0

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. 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	82.9 PK			2.75 H	29	49.9	33.0
2	*2480.00	76.5 AV			2.75 H	29	43.5	33.0
3	2483.50	60.0 PK	74.0	-14.0	2.02 H	166	27.0	33.0
4	2483.50	50.0 AV	54.0	-4.0	2.02 H	166	17.0	33.0
5	4960.00	48.2 PK	74.0	-25.8	2.95 H	223	43.7	4.5
6	4960.00	35.1 AV	54.0	-18.9	2.95 H	223	30.6	4.5
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	85.0 PK			2.61 V	302	52.0	33.0
2	*2480.00	78.7 AV			2.61 V	302	45.7	33.0
3	2483.50	59.8 PK	74.0	-14.2	2.57 V	163	26.8	33.0
4	2483.50	47.8 AV	54.0	-6.2	2.57 V	163	14.8	33.0
5	4960.00	48.6 PK	74.0	-25.4	2.33 V	199	44.1	4.5
6	4960.00	34.8 AV	54.0	-19.2	2.33 V	199	30.3	4.5

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.
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	59.2 PK	74.0	-14.8	1.55 H	66	26.3	32.9
2	2390.00	47.2 AV	54.0	-6.8	1.55 H	66	14.3	32.9
3	*2402.00	90.2 PK			1.54 H	73	57.3	32.9
4	*2402.00	88.3 AV			1.54 H	73	55.4	32.9
5	4804.00	46.2 PK	74.0	-27.8	2.93 H	152	42.6	3.6
6	4804.00	32.1 AV	54.0	-21.9	2.93 H	152	28.5	3.6

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	59.3 PK	74.0	-14.7	1.95 V	339	26.4	32.9
2	2390.00	47.4 AV	54.0	-6.6	1.95 V	339	14.5	32.9
3	*2402.00	94.0 PK			2.14 V	359	61.1	32.9
4	*2402.00	92.2 AV			2.14 V	359	59.3	32.9
5	4804.00	46.0 PK	74.0	-28.0	1.65 V	284	42.4	3.6
6	4804.00	32.5 AV	54.0	-21.5	1.65 V	284	28.9	3.6

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.
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	88.1 PK			1.93 H	62	55.2	32.9
2	*2440.00	86.3 AV			1.93 H	62	53.4	32.9
3	4880.00	47.8 PK	74.0	-26.2	1.54 H	325	43.8	4.0
4	4880.00	33.7 AV	54.0	-20.3	1.54 H	325	29.7	4.0
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	93.4 PK			1.49 V	311	60.5	32.9
2	*2440.00	91.6 AV			1.49 V	311	58.7	32.9
3	4880.00	48.1 PK	74.0	-25.9	2.43 V	192	44.1	4.0
4	4880.00	34.0 AV	54.0	-20.0	2.43 V	192	30.0	4.0

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. 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	87.9 PK			1.73 H	76	54.9	33.0
2	*2480.00	85.5 AV			1.73 H	76	52.5	33.0
3	2483.50	66.5 PK	74.0	-7.5	1.38 H	55	33.5	33.0
4	2483.50	47.8 AV	54.0	-6.2	1.38 H	55	14.8	33.0
5	4960.00	48.5 PK	74.0	-25.5	1.63 H	341	44.0	4.5
6	4960.00	34.1 AV	54.0	-19.9	1.63 H	341	29.6	4.5
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	91.8 PK			1.54 V	341	58.8	33.0
2	*2480.00	89.8 AV			1.54 V	341	56.8	33.0
3	2483.50	66.9 PK	74.0	-7.1	1.61 V	334	33.9	33.0
4	2483.50	48.5 AV	54.0	-5.5	1.61 V	334	15.5	33.0
5	4960.00	48.7 PK	74.0	-25.3	2.13 V	232	44.2	4.5
6	4960.00	34.7 AV	54.0	-19.3	2.13 V	232	30.2	4.5

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.
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	59.4 PK	74.0	-14.6	1.66 H	43	26.5	32.9
2	2390.00	47.3 AV	54.0	-6.7	1.66 H	43	14.4	32.9
3	*2402.00	88.6 PK			1.58 H	44	55.7	32.9
4	*2402.00	83.2 AV			1.58 H	44	50.3	32.9
5	4804.00	46.7 PK	74.0	-27.3	2.38 H	224	43.1	3.6
6	4804.00	33.0 AV	54.0	-21.0	2.38 H	224	29.4	3.6
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	59.7 PK	74.0	-14.3	1.82 V	341	26.8	32.9
2	2390.00	47.4 AV	54.0	-6.6	1.82 V	341	14.5	32.9
3	*2402.00	93.5 PK			2.02 V	356	60.6	32.9
4	*2402.00	88.3 AV			2.02 V	356	55.4	32.9
5	4804.00	46.3 PK	74.0	-27.7	1.73 V	148	42.7	3.6
6	4804.00	32.4 AV	54.0	-21.6	1.73 V	148	28.8	3.6

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.
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	89.6 PK			1.62 H	68	56.7	32.9
2	*2440.00	83.1 AV			1.62 H	68	50.2	32.9
3	4880.00	47.6 PK	74.0	-26.4	2.23 H	189	43.6	4.0
4	4880.00	33.7 AV	54.0	-20.3	2.23 H	189	29.7	4.0
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	93.4 PK			1.81 V	343	60.5	32.9
2	*2440.00	87.2 AV			1.81 V	343	54.3	32.9
3	4880.00	47.8 PK	74.0	-26.2	1.75 V	263	43.8	4.0
4	4880.00	34.0 AV	54.0	-20.0	1.75 V	263	30.0	4.0

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. 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	86.6 PK			1.50 H	45	53.6	33.0
2	*2480.00	80.5 AV			1.50 H	45	47.5	33.0
3	2483.50	61.4 PK	74.0	-12.6	1.55 H	49	28.4	33.0
4	2483.50	48.1 AV	54.0	-5.9	1.55 H	49	15.1	33.0
5	4960.00	48.0 PK	74.0	-26.0	2.31 H	159	43.5	4.5
6	4960.00	34.4 AV	54.0	-19.6	2.31 H	159	29.9	4.5
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	90.9 PK			1.53 V	351	57.9	33.0
2	*2480.00	85.0 AV			1.53 V	351	52.0	33.0
3	2483.50	65.8 PK	74.0	-8.2	1.65 V	340	32.8	33.0
4	2483.50	49.3 AV	54.0	-4.7	1.65 V	340	16.3	33.0
5	4960.00	48.7 PK	74.0	-25.3	2.83 V	292	44.2	4.5
6	4960.00	34.4 AV	54.0	-19.6	2.83 V	292	29.9	4.5

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.
5. " * ": Fundamental frequency.

Below 1GHz worst-case data:

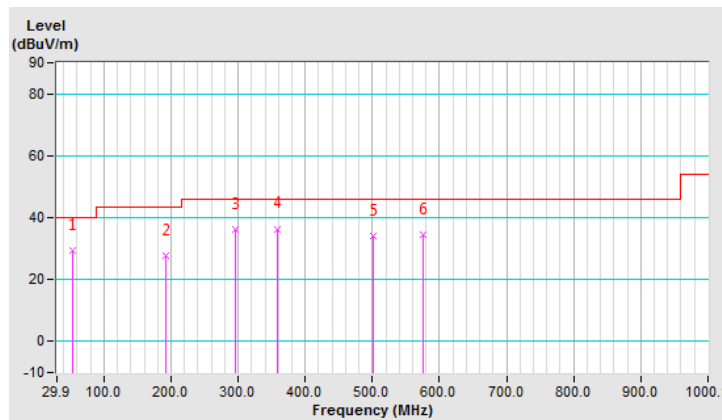
BT LE 5.0

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	53.23	29.5 QP	40.0	-10.5	1.00 H	107	39.3	-9.8
2	193.22	27.7 QP	43.5	-15.8	1.00 H	294	38.9	-11.2
3	296.27	36.2 QP	46.0	-9.8	1.50 H	316	43.8	-7.6
4	358.48	36.4 QP	46.0	-9.6	1.00 H	237	42.8	-6.4
5	500.42	34.2 QP	46.0	-11.8	2.00 H	15	37.8	-3.6
6	576.25	34.4 QP	46.0	-11.6	1.00 H	21	36.4	-2.0

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.

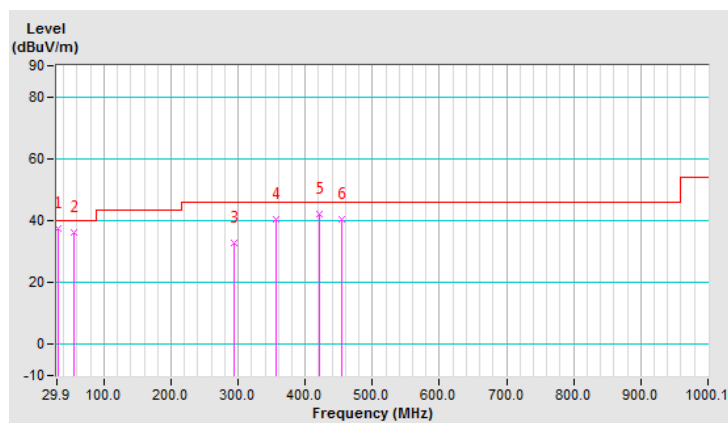


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A1		

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	31.84	37.4 QP	40.0	-2.6	1.00 V	236	48.9	-11.5
2	55.18	36.1 QP	40.0	-3.9	1.00 V	13	45.9	-9.8
3	294.32	32.7 QP	46.0	-13.3	1.00 V	171	40.3	-7.6
4	356.54	40.5 QP	46.0	-5.5	1.50 V	5	47.0	-6.5
5	420.70	42.0 QP	46.0	-4.0	1.00 V	150	46.9	-4.9
6	453.75	40.3 QP	46.0	-5.7	2.00 V	5	44.6	-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. 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.

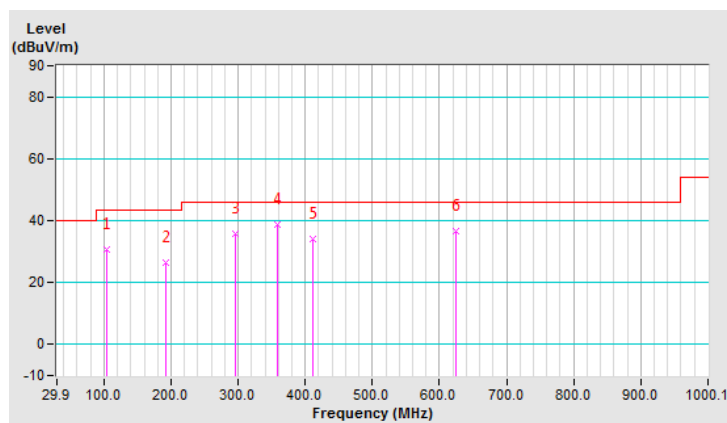


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A2		

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	103.78	30.6 QP	43.5	-12.9	1.00 H	113	43.7	-13.1
2	193.22	26.3 QP	43.5	-17.2	1.00 H	66	37.5	-11.2
3	296.27	35.9 QP	46.0	-10.1	1.50 H	67	43.5	-7.6
4	358.48	38.6 QP	46.0	-7.4	1.00 H	48	45.0	-6.4
5	410.98	34.1 QP	46.0	-11.9	1.50 H	345	39.5	-5.4
6	624.85	36.5 QP	46.0	-9.5	1.00 H	271	37.2	-0.7

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.

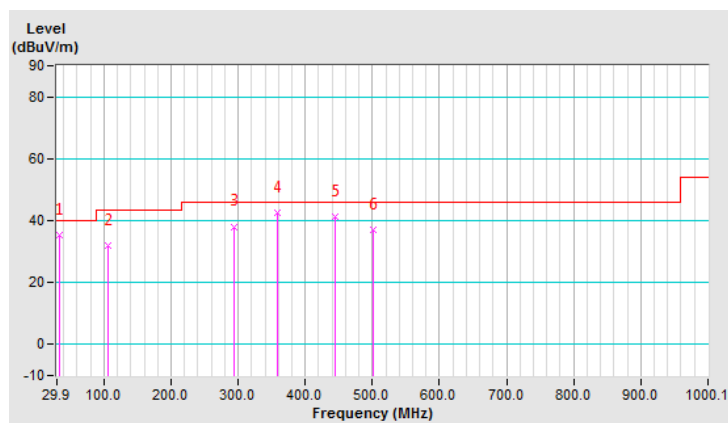


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A2		

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	33.79	35.5 QP	40.0	-4.5	1.49 V	20	46.7	-11.2
2	105.73	31.8 QP	43.5	-11.7	1.00 V	99	44.7	-12.9
3	294.32	38.1 QP	46.0	-7.9	2.00 V	16	45.7	-7.6
4	358.48	42.4 QP	46.0	-3.6	1.49 V	20	48.8	-6.4
5	444.03	41.1 QP	46.0	-4.9	1.00 V	354	45.5	-4.4
6	500.42	37.1 QP	46.0	-8.9	1.00 V	8	40.7	-3.6

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. 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.

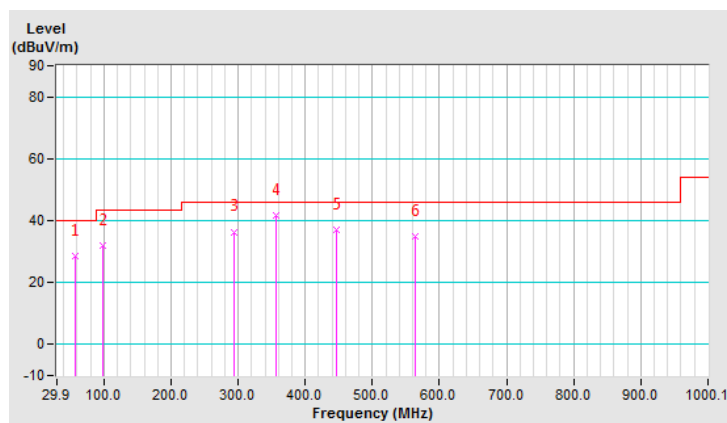


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B1		

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	57.12	28.6 QP	40.0	-11.4	1.51 H	191	38.7	-10.1
2	97.95	31.9 QP	43.5	-11.6	2.00 H	90	45.9	-14.0
3	294.32	36.4 QP	46.0	-9.6	1.01 H	321	44.0	-7.6
4	356.54	41.5 QP	46.0	-4.5	1.01 H	317	48.0	-6.5
5	445.98	37.0 QP	46.0	-9.0	2.00 H	240	41.4	-4.4
6	564.58	34.9 QP	46.0	-11.1	1.51 H	7	37.3	-2.4

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.

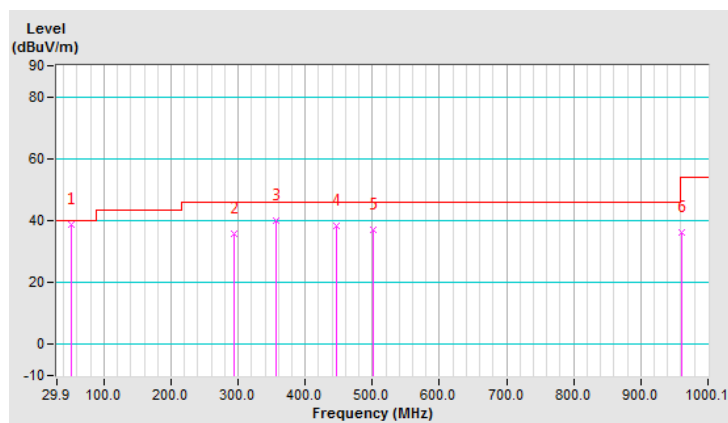


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B1		

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	51.29	38.7 QP	40.0	-1.3	1.00 V	5	48.4	-9.7
2	294.32	35.8 QP	46.0	-10.2	1.99 V	82	43.4	-7.6
3	356.54	39.8 QP	46.0	-6.2	1.00 V	206	46.3	-6.5
4	445.98	38.4 QP	46.0	-7.6	1.00 V	259	42.8	-4.4
5	500.42	37.2 QP	46.0	-8.8	1.00 V	312	40.8	-3.6
6	961.21	36.1 QP	54.0	-17.9	1.49 V	2	31.0	5.1

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. 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.

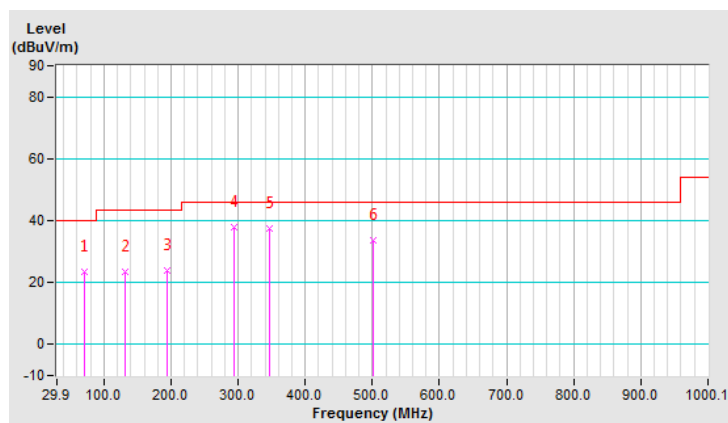


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B2		

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	70.73	23.6 QP	40.0	-16.4	2.00 H	118	35.6	-12.0
2	131.00	23.3 QP	43.5	-20.2	1.51 H	258	33.8	-10.5
3	195.16	24.0 QP	43.5	-19.5	2.00 H	101	35.3	-11.3
4	294.63	37.8 QP	46.0	-8.2	1.51 H	336	45.4	-7.6
5	346.82	37.6 QP	46.0	-8.4	1.00 H	341	44.4	-6.8
6	500.42	33.7 QP	46.0	-12.3	1.51 H	113	37.3	-3.6

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. 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.

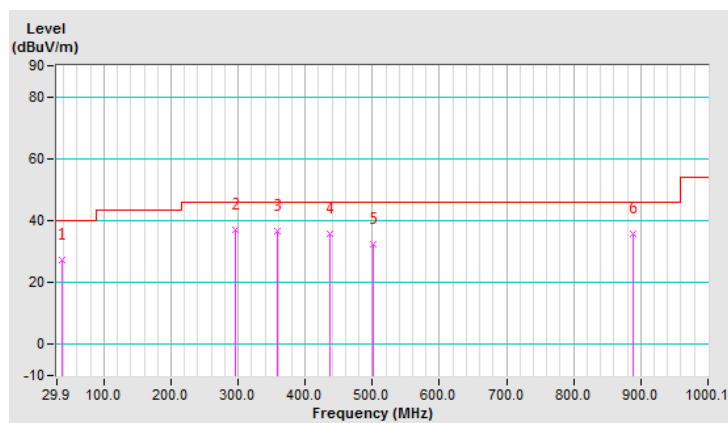


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B2		

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	37.68	27.4 QP	40.0	-12.6	1.00 V	6	38.1	-10.7
2	295.81	37.1 QP	46.0	-8.9	1.49 V	250	44.7	-7.6
3	358.48	36.6 QP	46.0	-9.4	1.49 V	72	43.0	-6.4
4	436.26	35.9 QP	46.0	-10.1	1.00 V	252	40.4	-4.5
5	500.42	32.5 QP	46.0	-13.5	1.00 V	148	36.1	-3.6
6	889.28	35.9 QP	46.0	-10.1	1.00 V	319	32.2	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. 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.

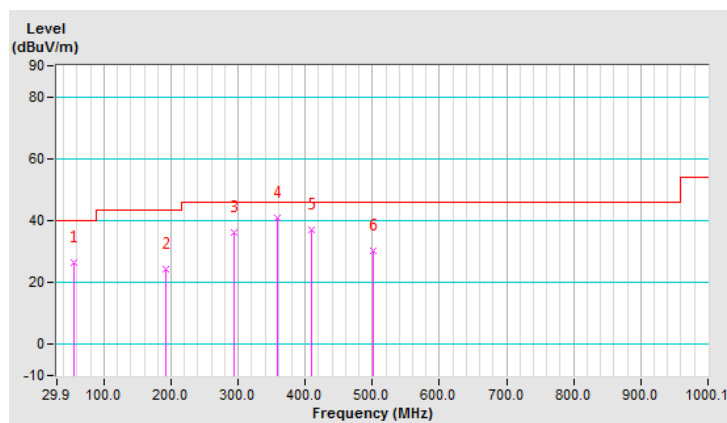


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C1		

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	55.18	26.3 QP	40.0	-13.7	1.00 H	105	36.1	-9.8
2	193.22	24.3 QP	43.5	-19.2	1.00 H	243	35.5	-11.2
3	294.32	36.0 QP	46.0	-10.0	1.50 H	329	43.6	-7.6
4	358.48	40.8 QP	46.0	-5.2	1.00 H	174	47.2	-6.4
5	409.04	37.1 QP	46.0	-8.9	2.00 H	343	42.5	-5.4
6	500.42	30.1 QP	46.0	-15.9	1.00 H	318	33.7	-3.6

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. 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.

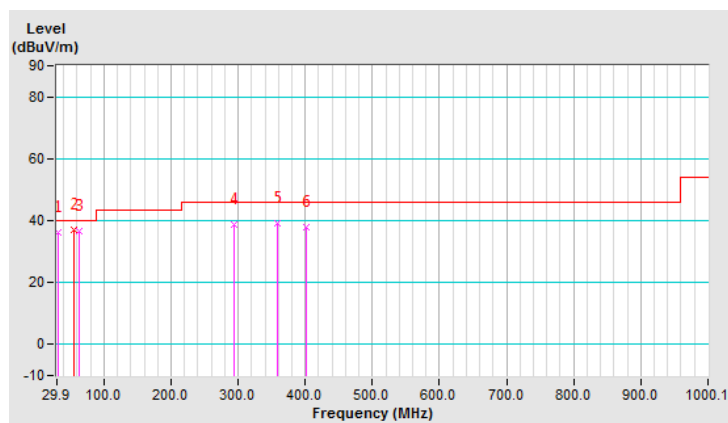


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C1		

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	31.84	36.3 QP	40.0	-3.7	1.00 V	240	47.8	-11.5
2	56.18	36.9 QP	40.0	-3.1	1.00 V	34	46.9	-10.0
3	62.95	36.7 QP	40.0	-3.3	1.50 V	1	47.0	-10.3
4	294.32	38.8 QP	46.0	-7.2	1.50 V	59	46.4	-7.6
5	358.48	39.2 QP	46.0	-6.8	1.50 V	291	45.6	-6.4
6	401.26	37.7 QP	46.0	-8.3	1.00 V	230	43.2	-5.5

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.

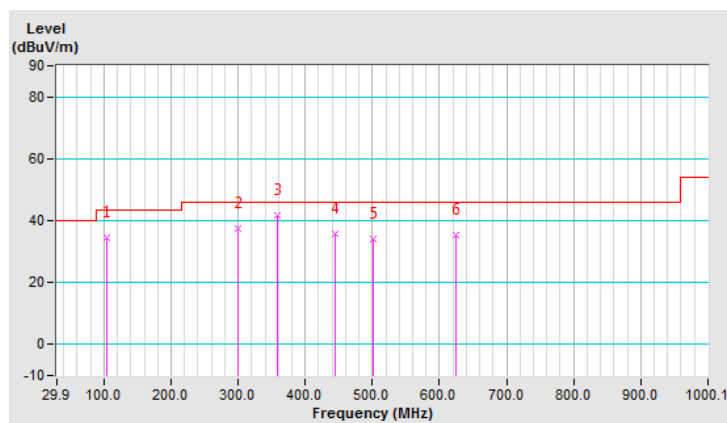


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C2		

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	103.78	34.5 QP	43.5	-9.0	1.99 H	89	47.6	-13.1
2	300.16	37.6 QP	46.0	-8.4	1.49 H	342	45.0	-7.4
3	358.48	41.6 QP	46.0	-4.4	1.00 H	330	48.0	-6.4
4	444.03	35.6 QP	46.0	-10.4	1.99 H	126	40.0	-4.4
5	500.42	34.2 QP	46.0	-11.8	1.49 H	112	37.8	-3.6
6	624.85	35.4 QP	46.0	-10.6	1.00 H	144	36.1	-0.7

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.

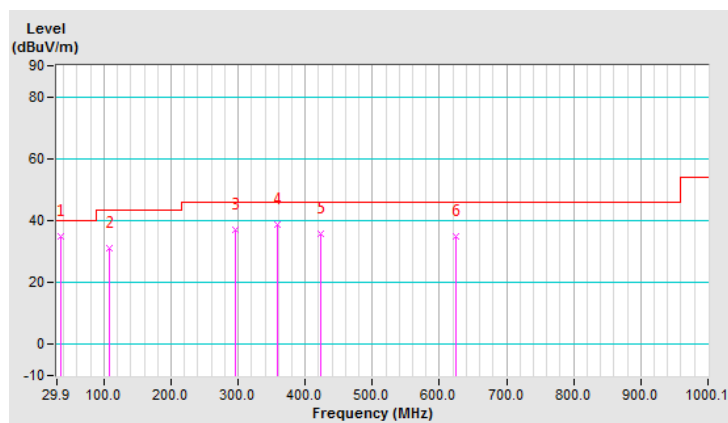


CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	C2		

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	35.73	34.9 QP	40.0	-5.1	1.01 V	207	46.0	-11.1
2	107.67	31.1 QP	43.5	-12.4	1.51 V	15	43.7	-12.6
3	296.27	36.9 QP	46.0	-9.1	2.00 V	86	44.5	-7.6
4	358.48	38.8 QP	46.0	-7.2	1.51 V	321	45.2	-6.4
5	422.65	35.9 QP	46.0	-10.1	1.01 V	244	40.8	-4.9
6	624.85	35.0 QP	46.0	-11.0	1.01 V	153	35.7	-0.7

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.



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, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
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

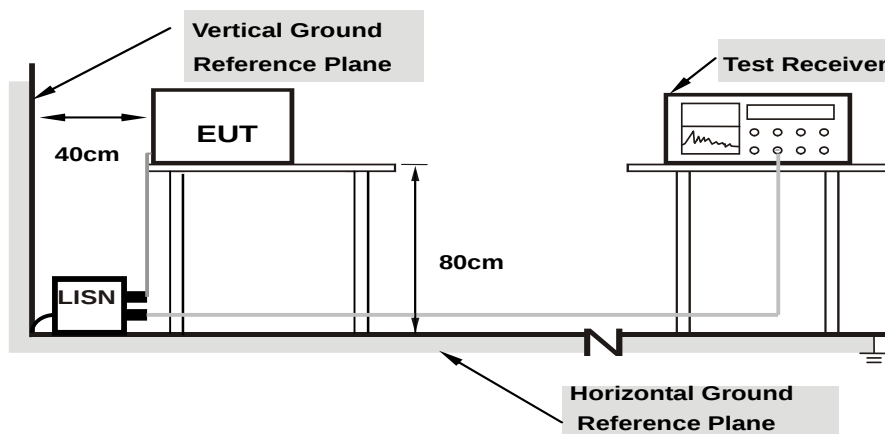
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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

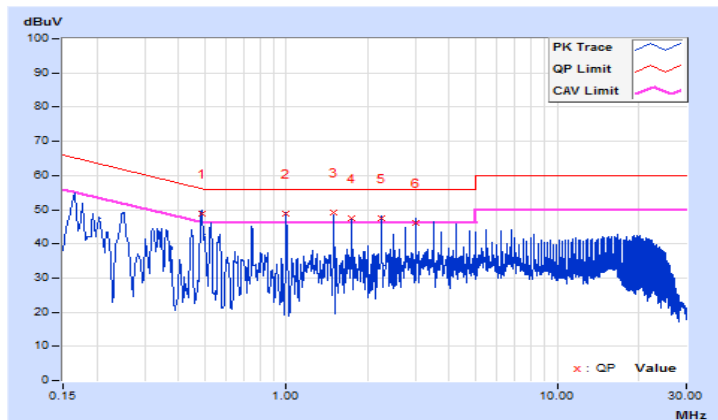
BT LE 5.0

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.48678	9.89	38.97	35.60	48.86	45.49	56.22	46.22	-7.36	-0.73
2	0.99939	9.92	38.93	35.18	48.85	45.10	56.00	46.00	-7.15	-0.90
3	1.49895	9.93	39.16	35.36	49.09	45.29	56.00	46.00	-6.91	-0.71
4	1.74919	9.94	37.46	35.27	47.40	45.21	56.00	46.00	-8.60	-0.79
5	2.24967	9.96	37.41	35.30	47.37	45.26	56.00	46.00	-8.63	-0.74
6	2.99648	9.98	36.17	35.49	46.15	45.47	56.00	46.00	-9.85	-0.53

Remarks:

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

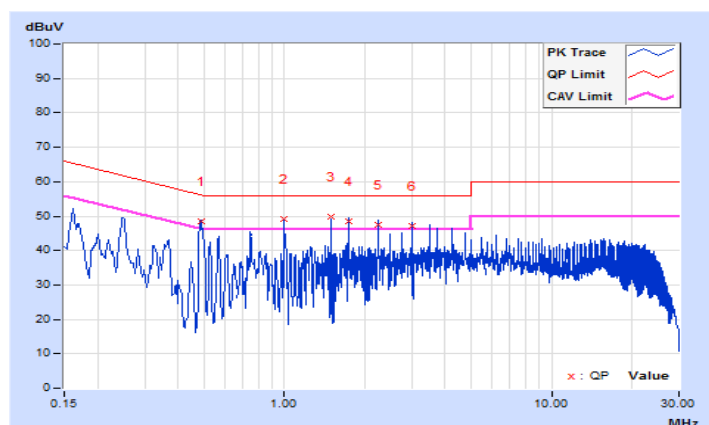


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A1		

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	0.48626	9.87	38.64	35.84	48.51	45.71	56.23	46.23	-7.72	-0.52
2	0.99939	9.88	39.13	35.48	49.01	45.36	56.00	46.00	-6.99	-0.64
3	1.49895	9.90	40.04	35.57	49.94	45.47	56.00	46.00	-6.06	-0.53
4	1.74919	9.92	38.63	35.41	48.55	45.33	56.00	46.00	-7.45	-0.67
5	2.24967	9.94	37.68	35.28	47.62	45.22	56.00	46.00	-8.38	-0.78
6	2.99648	9.96	37.28	35.37	47.24	45.33	56.00	46.00	-8.76	-0.67

Remarks:

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

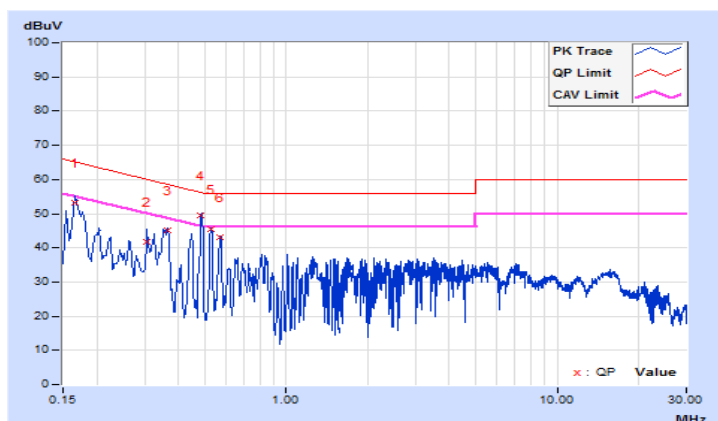


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

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	0.16569	9.84	43.36	35.86	53.20	45.70	65.17	55.17	-11.97	-9.47
2	0.30640	9.87	31.97	21.41	41.84	31.28	60.07	50.07	-18.23	-18.79
3	0.36526	9.87	35.12	30.66	44.99	40.53	58.61	48.61	-13.62	-8.08
4	0.48550	9.89	39.71	35.81	49.60	45.70	56.24	46.24	-6.64	-0.54
5	0.52544	9.89	35.68	34.47	45.57	44.36	56.00	46.00	-10.43	-1.64
6	0.57166	9.89	33.24	31.98	43.13	41.87	56.00	46.00	-12.87	-4.13

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.

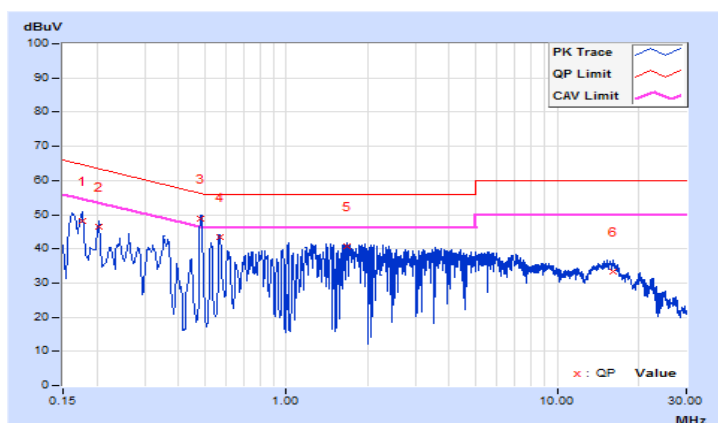


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A2		

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	0.17698	9.83	38.44	26.61	48.27	36.44	64.63	54.63	-16.36	-18.19
2	0.20458	9.84	36.73	28.02	46.57	37.86	63.42	53.42	-16.85	-15.56
3	0.48550	9.87	39.08	35.79	48.95	45.66	56.24	46.24	-7.29	-0.58
4	0.56716	9.87	33.50	31.90	43.37	41.77	56.00	46.00	-12.63	-4.23
5	1.67061	9.91	30.73	25.34	40.64	35.25	56.00	46.00	-15.36	-10.75
6	16.11453	10.26	23.11	13.98	33.37	24.24	60.00	50.00	-26.63	-25.76

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.

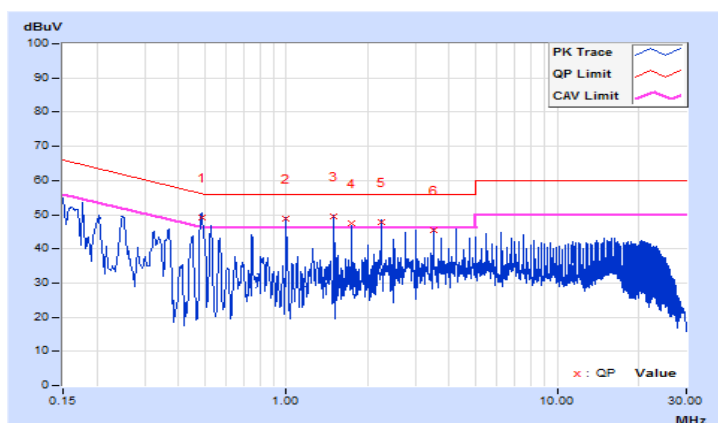


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

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	0.48626	9.89	39.14	35.46	49.03	45.35	56.23	46.23	-7.20	-0.88
2	0.99847	9.92	38.87	35.22	48.79	45.14	56.00	46.00	-7.21	-0.86
3	1.49895	9.93	39.42	35.50	49.35	45.43	56.00	46.00	-6.65	-0.57
4	1.74919	9.94	37.64	34.85	47.58	44.79	56.00	46.00	-8.42	-1.21
5	2.24967	9.96	37.76	34.99	47.72	44.95	56.00	46.00	-8.28	-1.05
6	3.49696	10.00	35.59	34.97	45.59	44.97	56.00	46.00	-10.41	-1.03

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.

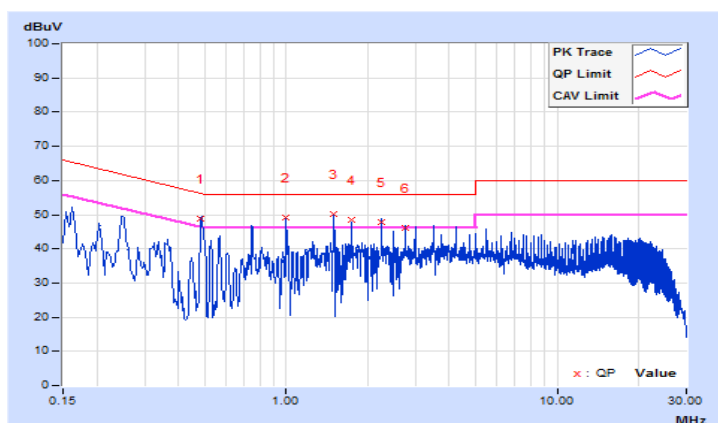


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B1		

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	0.48295	9.87	38.83	35.88	48.70	45.75	56.29	46.29	-7.59	-0.54
2	0.99939	9.88	39.15	35.51	49.03	45.39	56.00	46.00	-6.97	-0.61
3	1.49954	9.90	40.26	35.53	50.16	45.43	56.00	46.00	-5.84	-0.57
4	1.74919	9.92	38.62	34.94	48.54	44.86	56.00	46.00	-7.46	-1.14
5	2.24967	9.94	37.80	35.46	47.74	45.40	56.00	46.00	-8.26	-0.60
6	2.74885	9.96	36.19	34.18	46.15	44.14	56.00	46.00	-9.85	-1.86

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.

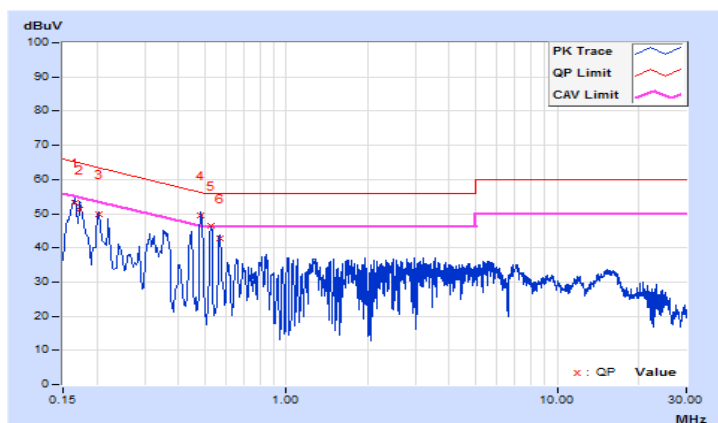


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

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	0.16564	9.84	43.26	36.03	53.10	45.87	65.18	55.18	-12.08	-9.31
2	0.17346	9.84	41.24	30.38	51.08	40.22	64.79	54.79	-13.71	-14.57
3	0.20458	9.85	40.03	32.11	49.88	41.96	63.42	53.42	-13.54	-11.46
4	0.48295	9.89	39.70	35.55	49.59	45.44	56.29	46.29	-6.70	-0.85
5	0.52682	9.89	36.42	35.16	46.31	45.05	56.00	46.00	-9.69	-0.95
6	0.56716	9.89	32.93	31.45	42.82	41.34	56.00	46.00	-13.18	-4.66

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.

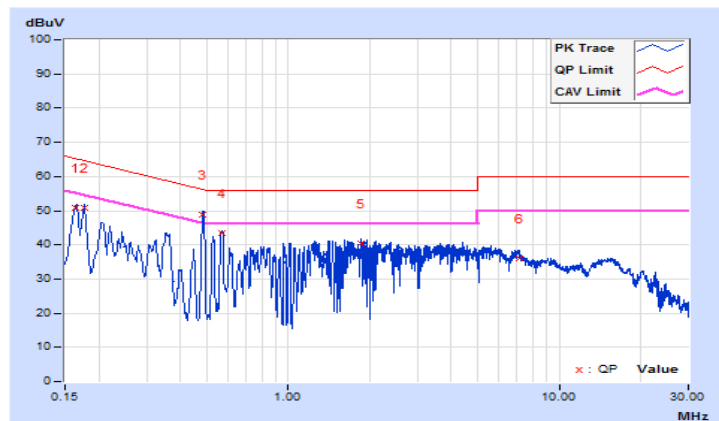


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B2		

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	0.16482	9.83	40.88	33.47	50.71	43.30	65.22	55.22	-14.51	-11.92
2	0.17737	9.83	40.96	33.62	50.79	43.45	64.61	54.61	-13.82	-11.16
3	0.48295	9.87	39.02	35.66	48.89	45.53	56.29	46.29	-7.40	-0.76
4	0.56866	9.87	33.57	32.67	43.44	42.54	56.00	46.00	-12.56	-3.46
5	1.84694	9.92	30.39	23.57	40.31	33.49	56.00	46.00	-15.69	-12.51
6	7.10198	10.08	26.00	15.58	36.08	25.66	60.00	50.00	-23.92	-24.34

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.

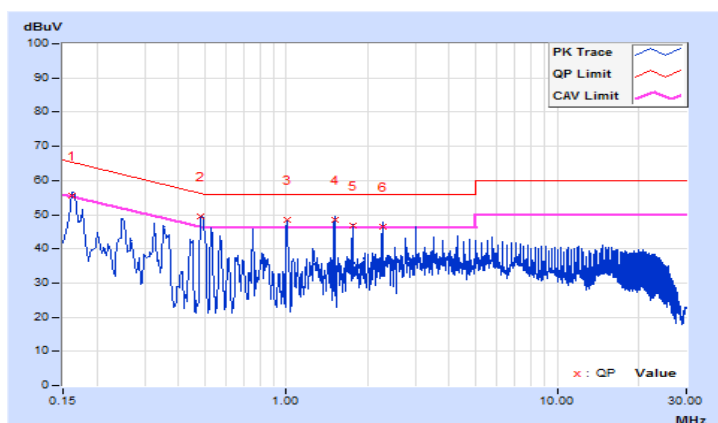


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C1		

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	0.16181	9.84	45.67	39.42	55.51	49.26	65.37	55.37	-9.86	-6.11
2	0.48550	9.89	39.59	35.68	49.48	45.57	56.24	46.24	-6.76	-0.67
3	1.00467	9.92	38.54	35.31	48.46	45.23	56.00	46.00	-7.54	-0.77
4	1.50677	9.94	38.40	35.38	48.34	45.32	56.00	46.00	-7.66	-0.68
5	1.75701	9.94	36.95	35.18	46.89	45.12	56.00	46.00	-9.11	-0.88
6	2.26140	9.96	36.61	35.17	46.57	45.13	56.00	46.00	-9.43	-0.87

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.

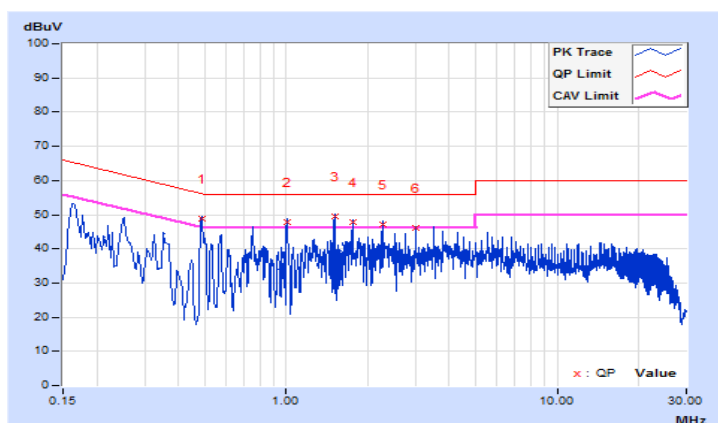


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C1		

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	0.48626	9.87	39.10	35.68	48.97	45.55	56.23	46.23	-7.26	-0.68
2	1.00629	9.88	37.95	35.27	47.83	45.15	56.00	46.00	-8.17	-0.85
3	1.50677	9.91	39.43	35.55	49.34	45.46	56.00	46.00	-6.66	-0.54
4	1.75701	9.92	37.97	35.26	47.89	45.18	56.00	46.00	-8.11	-0.82
5	2.26140	9.94	37.04	35.48	46.98	45.42	56.00	46.00	-9.02	-0.58
6	3.01603	9.97	36.12	33.99	46.09	43.96	56.00	46.00	-9.91	-2.04

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.

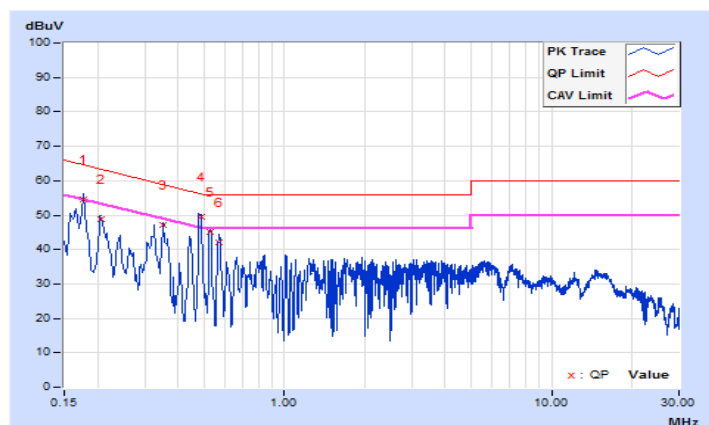


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C2		

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	0.17737	9.85	44.80	37.11	54.65	46.96	64.61	54.61	-9.96	-7.65
2	0.20511	9.85	39.01	25.51	48.86	35.36	63.40	53.40	-14.54	-18.04
3	0.35332	9.87	37.27	34.72	47.14	44.59	58.88	48.88	-11.74	-4.29
4	0.48678	9.89	39.53	35.76	49.42	45.65	56.22	46.22	-6.80	-0.57
5	0.52544	9.89	35.21	31.44	45.10	41.33	56.00	46.00	-10.90	-4.67
6	0.56837	9.89	32.28	27.31	42.17	37.20	56.00	46.00	-13.83	-8.80

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.

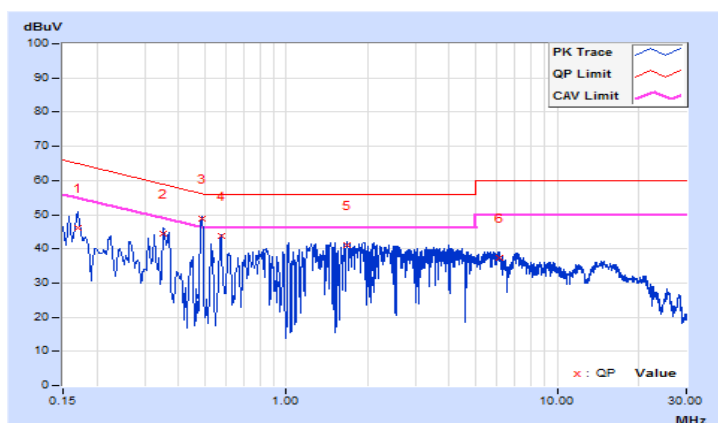


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C2		

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	0.16955	9.83	36.23	26.94	46.06	36.77	64.98	54.98	-18.92	-18.21
2	0.35332	9.86	34.67	30.59	44.53	40.45	58.88	48.88	-14.35	-8.43
3	0.48626	9.87	38.95	35.84	48.82	45.71	56.23	46.23	-7.41	-0.52
4	0.57620	9.87	33.84	31.95	43.71	41.82	56.00	46.00	-12.29	-4.18
5	1.67944	9.91	31.33	25.62	41.24	35.53	56.00	46.00	-14.76	-10.47
6	6.09320	10.06	27.18	15.52	37.24	25.58	60.00	50.00	-22.76	-24.42

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.

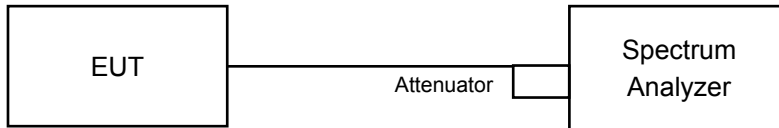


4.3 6dB Bandwidth Measurement

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.

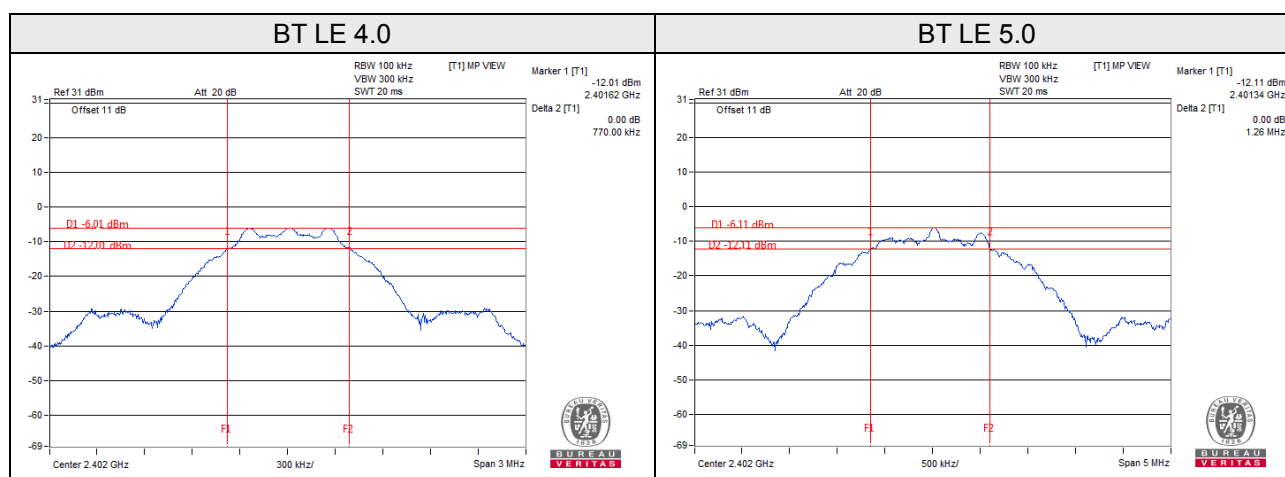
4.3.7 Test Result

BT LE 4.0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.770	0.5	Pass
19	2440	0.790	0.5	Pass
39	2480	0.830	0.5	Pass

BT LE 5.0

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	1.260	0.5	Pass
19	2440	1.320	0.5	Pass
39	2480	1.540	0.5	Pass

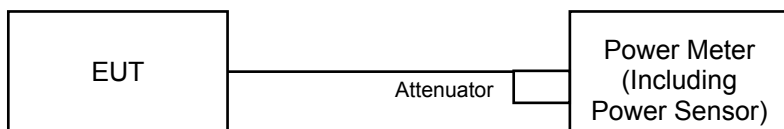


4.4 Conducted Output Power Measurement

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

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.

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

BT LE 4.0

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	0.508	-2.94	30.00	Pass
19	2440	0.334	-4.76	30.00	Pass
39	2480	0.166	-7.79	30.00	Pass

BT LE 5.0

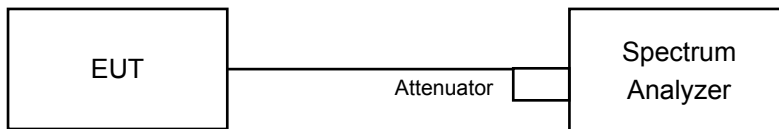
Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	0.516	-2.87	30.00	Pass
19	2440	0.340	-4.69	30.00	Pass
39	2480	0.166	-7.81	30.00	Pass

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

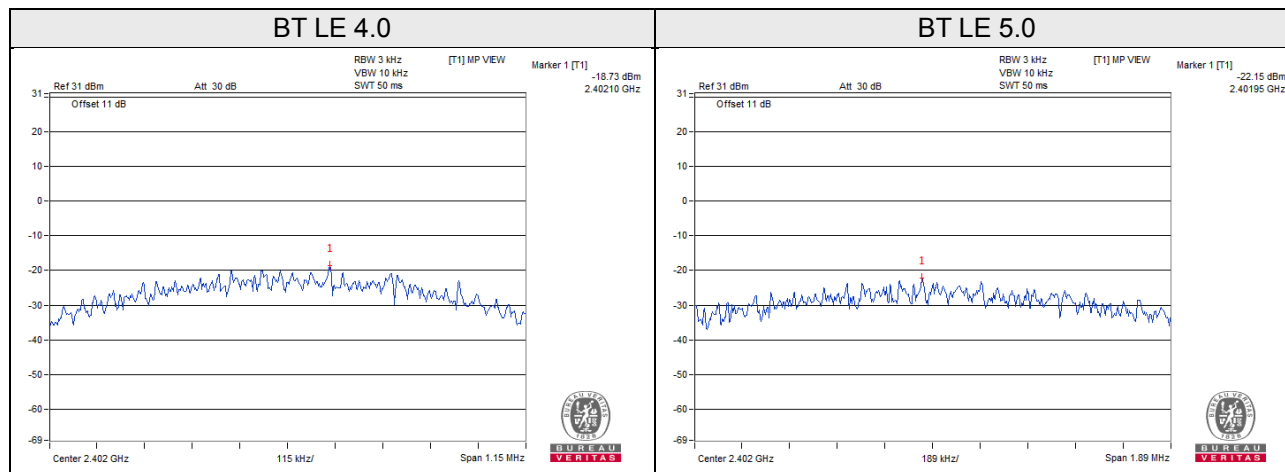
4.5.7 Test Results

BT LE 4.0

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	2402	-18.73	8.00	Pass
19	2440	-19.57	8.00	Pass
39	2480	-20.98	8.00	Pass

BT LE 5.0

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass / Fail
0	2402	-22.15	8.00	Pass
19	2440	-22.52	8.00	Pass
39	2480	-23.74	8.00	Pass

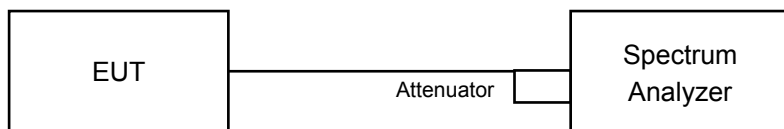


4.6 Conducted Out of Band Emission Measurement

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

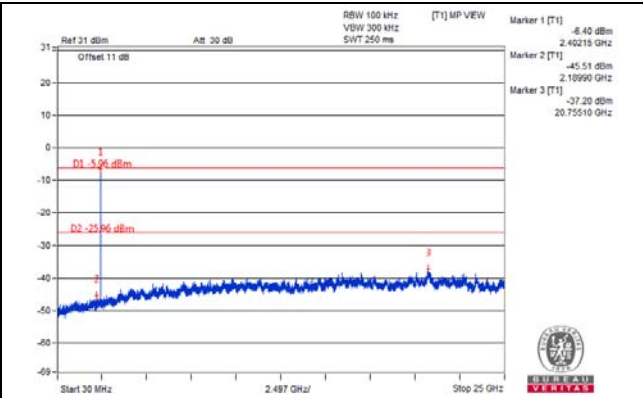
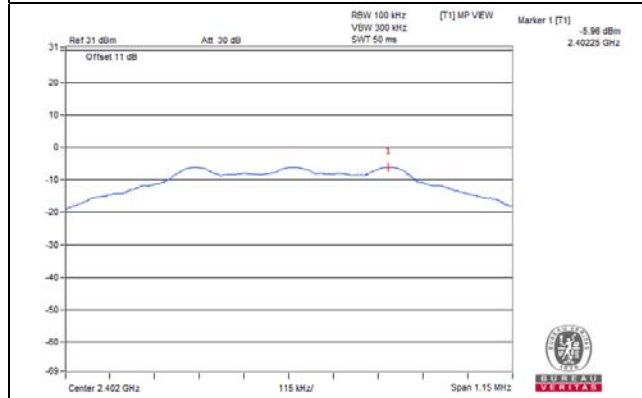
4.6.7 Test Results

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.

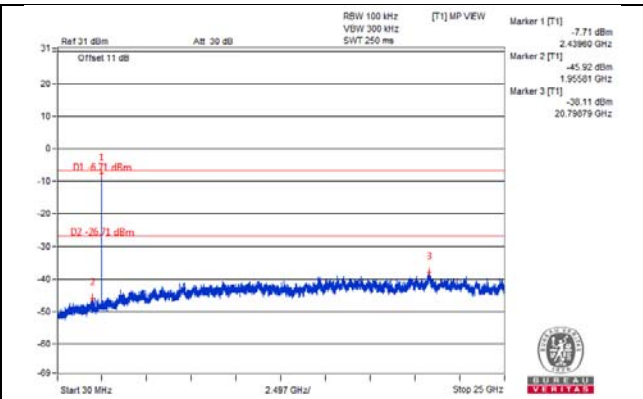
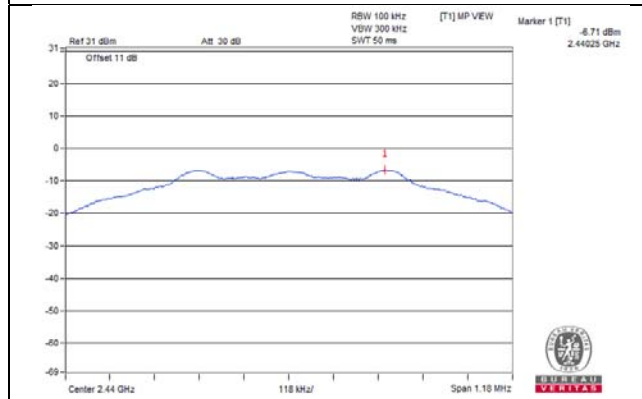
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

BT LE 4.0

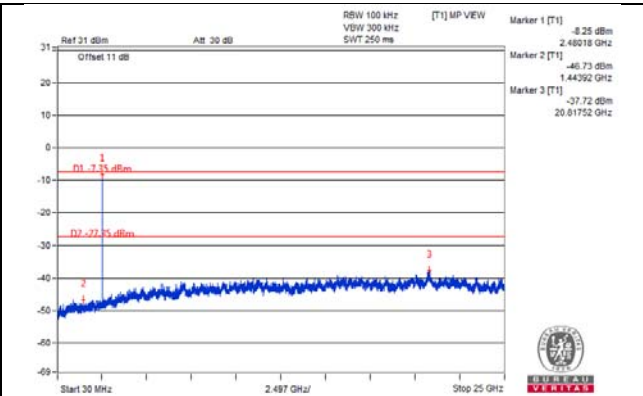
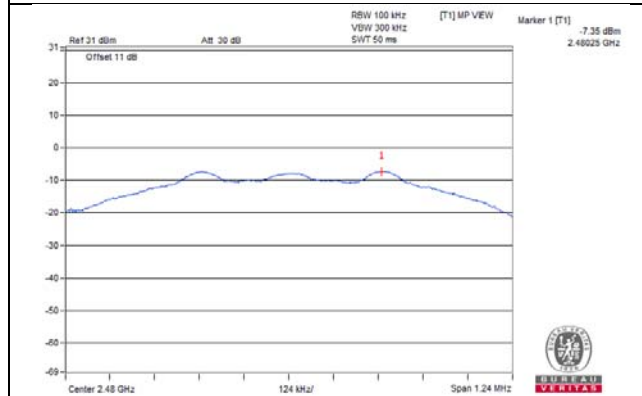
CH 0



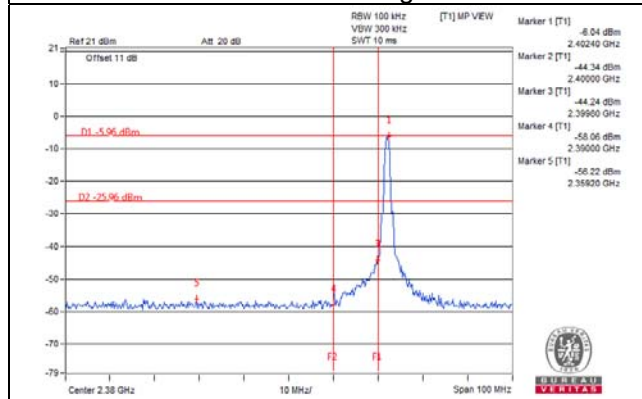
CH 19



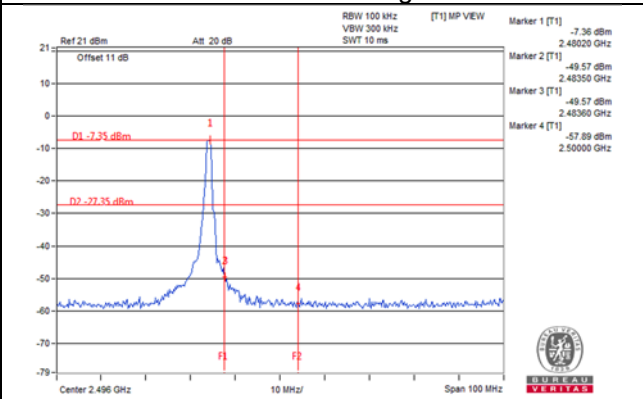
CH 39



CH 0 Band edge

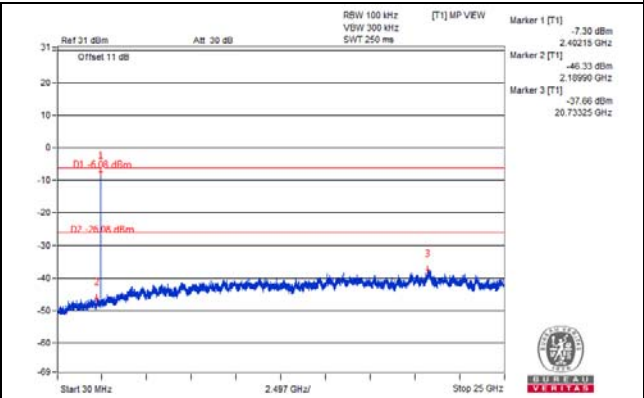
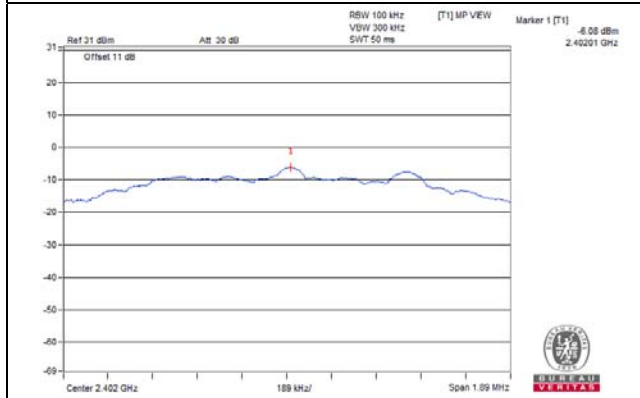


CH 39 Band edge

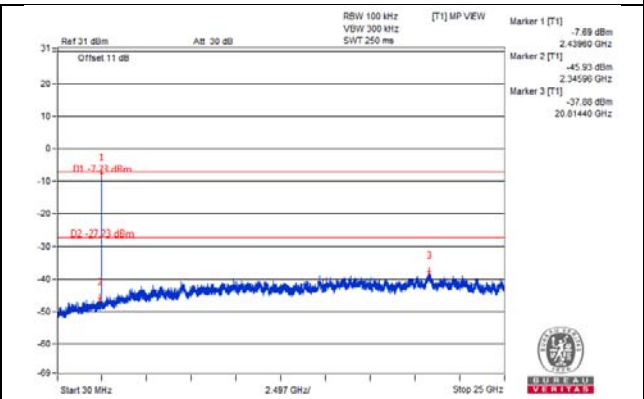
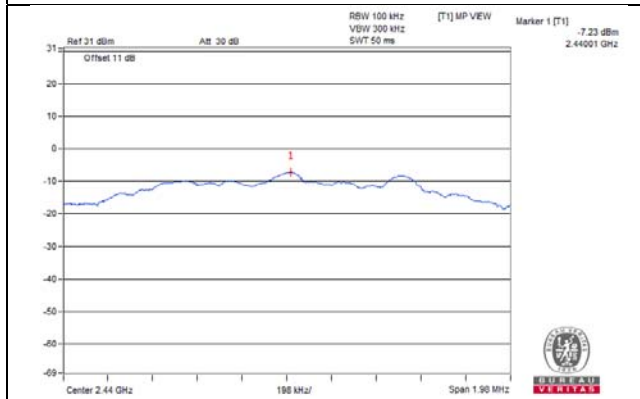


BT LE 5.0

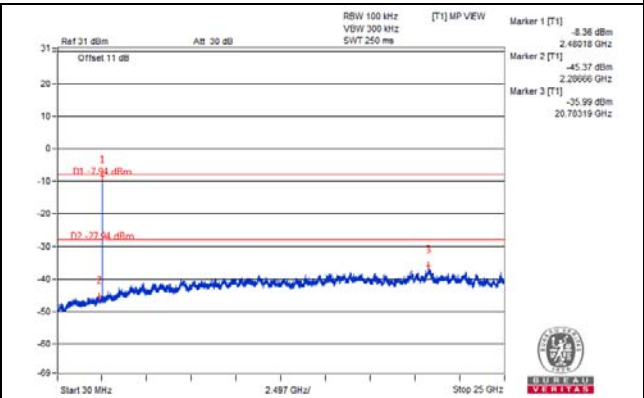
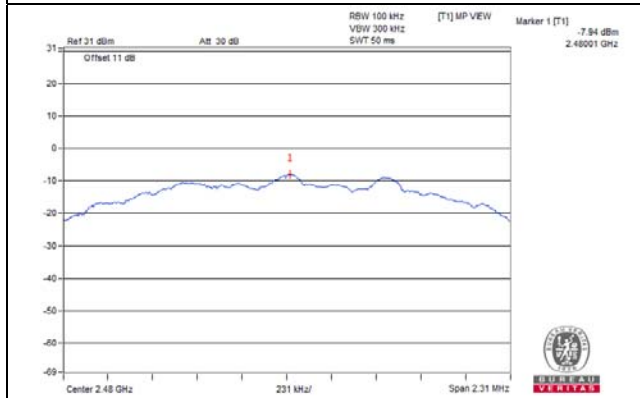
CH 0



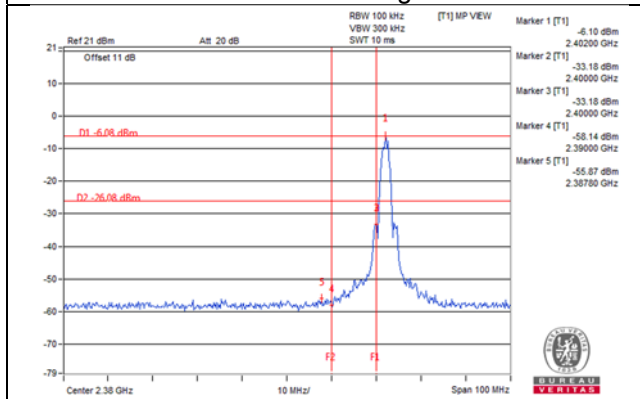
CH 19



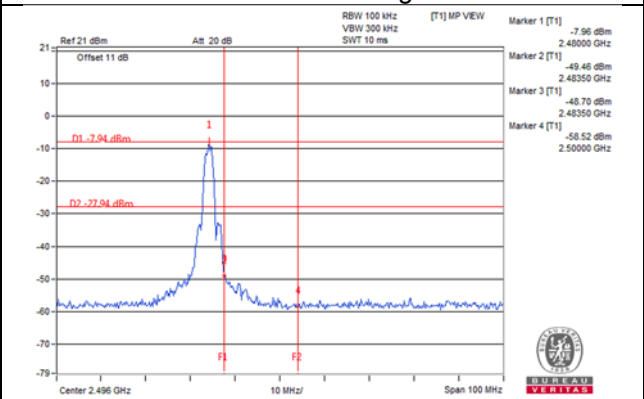
CH 39



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:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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