FCC Test Report (BT-LE)

Report No.: RF180816E04-3

FCC ID: TX2-RTL8822CE

Test Model: RTL8822CE

Received Date: Aug. 16, 2018

Test Date: Oct. 01 to 22, 2018

Issued Date: Oct. 25, 2018

Applicant: Realtek Semiconductor Corp.

Address: No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan

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

Lab Address: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

Test Location : E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

FCC Registration / Designation Number: 723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF180816E04-3	Original release.	Oct. 25, 2018

1 Certificate of Conformity

Product: 802.11a/b/g/n/ac RTL8822CE Combo module

Brand: Realtek

Test Model: RTL8822CE

Sample Status: ENGINEERING SAMPLE

Applicant: Realtek Semiconductor Corp.

Test Date: Oct. 01 to 22, 2018

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 EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Oct. 25, 2018
Claire Kuan / Specialist

Approved by : _____ , **Date:** Oct. 25, 2018
May Chen / Manager

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 -9.46 dB at 0.18516 MHz.
15.205 & 209 & 15.247(d)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -6.1 dB at 31.54 MHz.
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	Antenna connector is i-pex(MHF) not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.53 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.10 dB
	6GHz ~ 18GHz	4.85 dB
	18GHz ~ 40GHz	5.24 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (BT-LE)

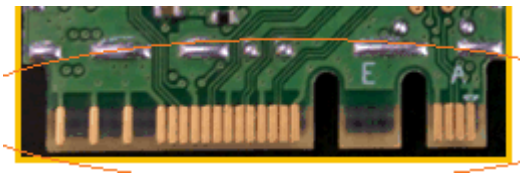
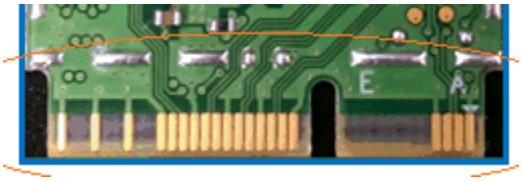
Product	802.11a/b/g/n/ac RTL8822CE Combo module
Brand	Realtek
Test Model	RTL8822CE
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 3.3V from host equipment
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 2Mbps
Operating Frequency	2402MHz ~ 2480MHz
Number of Channel	40
Output Power	15.524mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. The EUT has four SKUs, please refer to the following table:

SKU	Ant Port	Interface
A	Tri	PCI-E with A+E key
B	Tri	PCI-E with E key
C	Dual	PCI-E with A+E key
D	Dual	PCI-E with E key
Note: From the above SKUs, SKU: A was selected as representative model for the test and its data was recorded in this report.		

3. The EUT has two interfaces. The main difference is interface, but RF is the same. Please refer to the following table:

Interface	Photo	Difference
PCI-E with A+E key		Interface (RF is the same.)
PCI-E with E key		

4. Simultaneously transmission condition (only for SKU A, B).

Condition	Technology	
1	WLAN (2.4GHz)	Bluetooth
2	WLAN (5GHz)	Bluetooth
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.		

5. The EUT has dual antenna and tri antenna, please refer to the following table:

Dual antenna
CON1+CON2 ➢ 2X2 WIFI Antenna port: CON1 & CON2 ➢ 1X1 BT Antenna port: CON1 ➢ WiFi/BT used Time-division duplex function at CON1, so WiFi/BT not transmitter simultaneous at CON1.
Tri antenna
CON1+CON2+CON3 ➢ 2X2 WIFI Antenna port: CON1 & CON2 ➢ 1X1 BT Antenna port: CON3 or CON1 ➢ If BT function at CON1, WiFi/BT used Time-division duplex function, so WiFi/BT not transmitter simultaneous at CON1. ➢ If BT function at CON3, WiFi/BT can transmitter simultaneous for BT at CON 3 and WiFi at CON1 & CON2.

6. The antennas provided to the EUT, please refer to the following table:

Antenna No.	CON No.	Brand	Model	Ant. Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connecter Type
1	CON1 CON2 CON3 (only for SKU A,B)	LYNwave	ALA110-222050-300011	3.5	2.4~2.4835	PIFA	i-pex(MHF)
				5	5.15~5.85	PIFA	i-pex(MHF)
2	CON1 CON2 CON3 (only for SKU A,B)	PSA	RFDPA171320EMLB301	3.14	2.4~2.4835	Dipole	i-pex(MHF)
				5	5.15~5.85	Dipole	i-pex(MHF)

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

3.2 Description of Test Modes

BT-LE channels:

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

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	With PIFA Antenna
2	√	√	-	-	With Dipole Antenna

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

Note: 1. The EUT's antenna (PIFA) had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane.**

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.

CON 3 / CON 1 Mode			
AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 39	0, 19, 39	GFSK	1
1 to 38	1, 19, 38	GFSK	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.

CON 3 Mode			
AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
1 to 38	1	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.

CON 3 Mode			
AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
1 to 38	1	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.

CON 1 Mode			
AVAILABLE CHANNEL	**TESTED CHANNEL**	**MODULATION TYPE**	**DATA RATE (Mbps)**
0 to 39	0, 19, 39	GFSK	1
1 to 38	1, 19, 38	GFSK	2

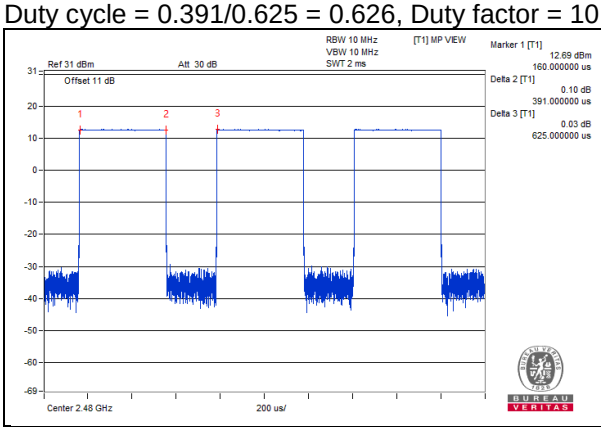
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	22deg. C, 66%RH	120Vac, 60Hz	Robert Cheng
RE<1G	21deg. C, 64%RH	120Vac, 60Hz	Steven Chiang
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 Duty Cycle of Test Signal

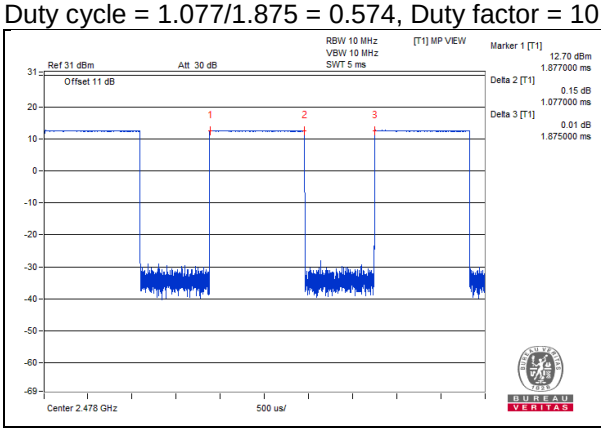
Technology LE 1M

Duty cycle = 0.391/0.625 = 0.626, Duty factor = 10 * log(1/0.626) = 2.04



Technology LE 2M

Duty cycle = 1.077/1.875 = 0.574, Duty factor = 10 * log(1/0.574) = 2.41



3.4 Description of Support Units

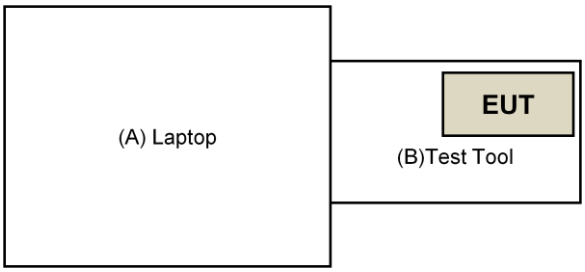
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B.	Test Tool	NA	NA	NA	NA	Supplied by client

Note:

1. All power cords of the above support units are non-shielded (1.8m).

3.4.1 Configuration of System under Test



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 v05
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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 05, 2018	July 04, 2019
Pre-Amplifier EMCI	EMC001340	980142	Feb. 09, 2018	Feb. 08, 2019
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001	Jan. 15, 2018	Jan. 14, 2019
RF Cable	NA	LOOPCAB-002	Jan. 15, 2018	Jan. 14, 2019
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 09, 2017	Nov. 08, 2018
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Nov. 29, 2017	Nov. 28, 2018
RF Cable	8D	966-4-1	Mar. 21, 2018	Mar. 20, 2019
RF Cable	8D	966-4-2	Mar. 21, 2018	Mar. 20, 2019
RF Cable	8D	966-4-3	Mar. 21, 2018	Mar. 20, 2019
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Sep. 27, 2018	Sep. 26, 2019
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 12, 2017	Dec. 11, 2018
Pre-Amplifier Mini-Circuits	ZVA-183-S+	AMP-ZVA-03	May 10, 2018	May 09, 2019
RF Cable	EMC104-SM-SM-1200	160923	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-2000	150318	Jan. 29, 2018	Jan. 28, 2019
RF Cable	EMC104-SM-SM-5000	150321	Jan. 29, 2018	Jan. 28, 2019
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 29, 2018	Jan. 28, 2019
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 14, 2017	Dec. 13, 2018
RF Cable	EMC102-KM-KM-1200	160925	Jan. 29, 2018	Jan. 28, 2019
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 20, 2018	June 19, 2019
Power meter Anritsu	ML2495A	1014008	May 09, 2018	May 08, 2019
Power sensor Anritsu	MA2411B	0917122	May 09, 2018	May 08, 2019

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The CANADA Site Registration No. is 20331-2
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: Oct. 01 to 22, 2018

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:

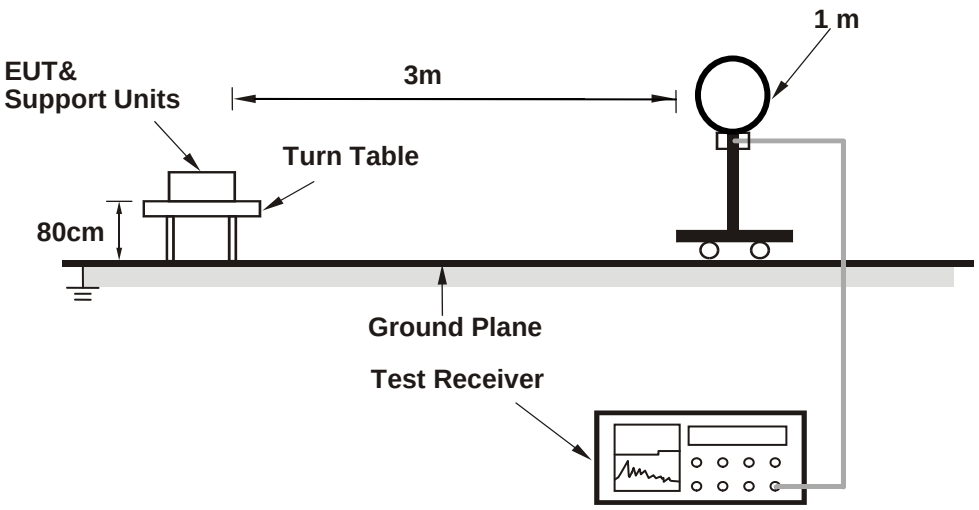
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

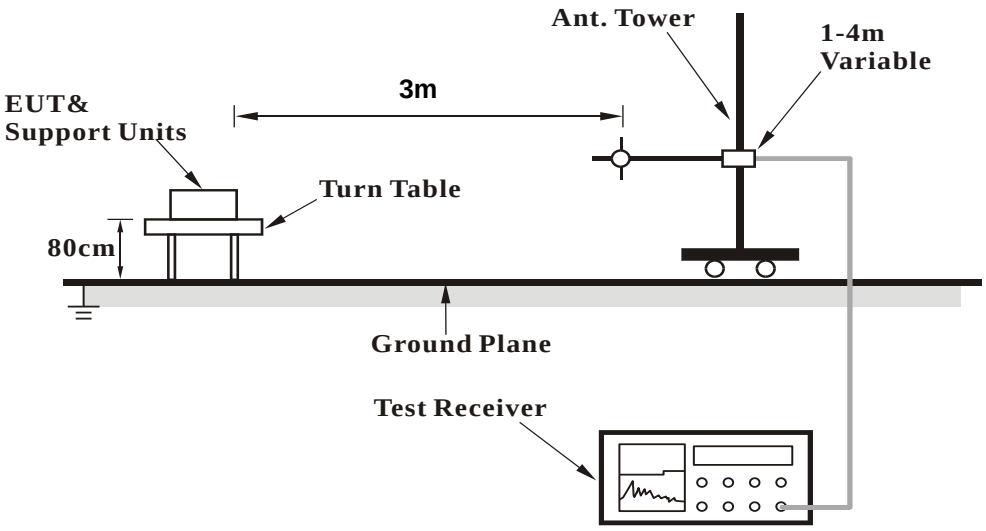
No deviation.

4.1.5 Test Setup

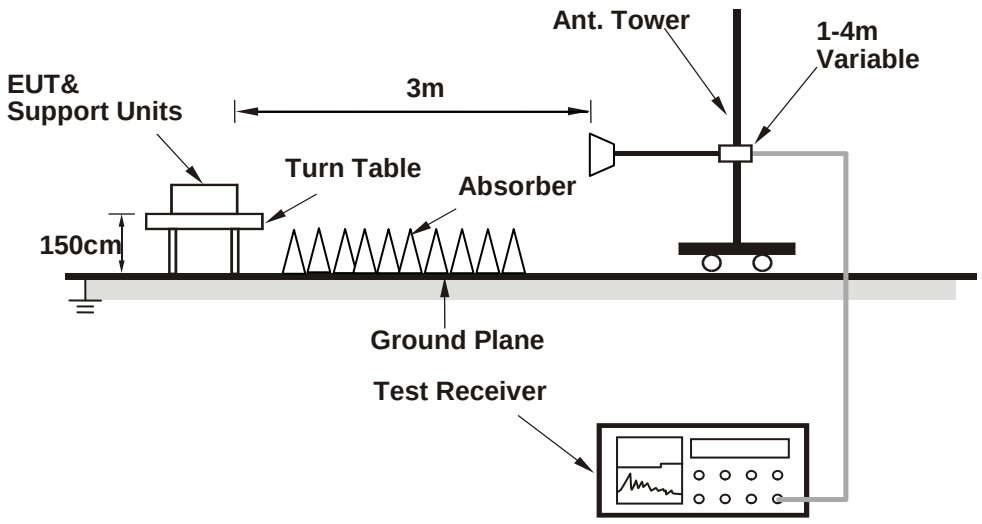
For Radiated emission below 30MHz



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

a. Placed the EUT on the testing table.
b. Controlling software (Bluetooth RF test tool (5.2.1.21)) has been activated to set the EUT under transmission/receiving condition continuously.

4.1.7 Test Results (Mode 1)

CON 3 Mode

Technology LE 1M

Above 1GHz Data:

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	53.7 PK	74.0	-20.3	2.98 H	88	55.9	-2.2
2	2390.00	44.2 AV	54.0	-9.8	2.98 H	88	46.4	-2.2
3	*2402.00	111.5 PK			2.98 H	88	113.8	-2.3
4	*2402.00	110.3 AV			2.98 H	88	112.6	-2.3
5	4804.00	42.5 PK	74.0	-31.5	1.59 H	311	40.7	1.8
6	4804.00	30.3 AV	54.0	-23.7	1.59 H	311	28.5	1.8
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	50.2 PK	74.0	-23.8	1.31 V	133	52.4	-2.2
2	2390.00	38.9 AV	54.0	-15.1	1.31 V	133	41.1	-2.2
3	*2402.00	101.5 PK			1.31 V	133	103.8	-2.3
4	*2402.00	100.2 AV			1.31 V	133	102.5	-2.3
5	4804.00	43.3 PK	74.0	-30.7	1.70 V	325	41.5	1.8
6	4804.00	31.0 AV	54.0	-23.0	1.70 V	325	29.2	1.8

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.
4. Margin value = Emission Level – Limit value
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	112.2 PK			3.05 H	82	114.8	-2.6
2	*2440.00	110.7 AV			3.05 H	82	113.3	-2.6
3	4880.00	43.2 PK	74.0	-30.8	1.61 H	326	41.2	2.0
4	4880.00	31.0 AV	54.0	-23.0	1.61 H	326	29.0	2.0
5	7320.00	48.6 PK	74.0	-25.4	2.12 H	180	40.2	8.4
6	7320.00	35.8 AV	54.0	-18.2	2.12 H	180	27.4	8.4
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	101.1 PK			1.31 V	139	103.7	-2.6
2	*2440.00	100.1 AV			1.31 V	139	102.7	-2.6
3	4880.00	43.2 PK	74.0	-30.8	1.61 V	310	41.2	2.0
4	4880.00	31.0 AV	54.0	-23.0	1.61 V	310	29.0	2.0
5	7320.00	49.4 PK	74.0	-24.6	2.12 V	155	41.0	8.4
6	7320.00	36.2 AV	54.0	-17.8	2.12 V	155	27.8	8.4

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	111.2 PK			2.99 H	79	113.8	-2.6
2	*2480.00	110.1 AV			2.99 H	79	112.7	-2.6
3	2483.50	53.2 PK	74.0	-20.8	2.99 H	79	55.6	-2.4
4	2483.50	43.7 AV	54.0	-10.3	2.99 H	79	46.1	-2.4
5	4960.00	42.8 PK	74.0	-31.2	1.65 H	314	40.7	2.1
6	4960.00	30.7 AV	54.0	-23.3	1.65 H	314	28.6	2.1
7	7440.00	48.7 PK	74.0	-25.3	2.11 H	165	39.9	8.8
8	7440.00	35.8 AV	54.0	-18.2	2.11 H	165	27.0	8.8

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	101.5 PK			1.34 V	139	104.1	-2.6
2	*2480.00	100.3 AV			1.34 V	139	102.9	-2.6
3	2483.50	50.4 PK	74.0	-23.6	1.34 V	139	52.8	-2.4
4	2483.50	38.7 AV	54.0	-15.3	1.34 V	139	41.1	-2.4
5	4960.00	43.5 PK	74.0	-30.5	2.00 V	165	41.4	2.1
6	4960.00	31.1 AV	54.0	-22.9	2.00 V	165	29.0	2.1
7	7440.00	48.8 PK	74.0	-25.2	1.77 V	99	40.0	8.8
8	7440.00	35.8 AV	54.0	-18.2	1.77 V	99	27.0	8.8

REMARKS:

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

Technology LE 2M

Above 1GHz Data:

CHANNEL	TX Channel 1	**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	53.8 PK	74.0	-20.2	2.97 H	83	56.0	-2.2
2	2390.00	44.2 AV	54.0	-9.8	2.97 H	83	46.4	-2.2
3	*2404.00	111.1 PK			2.97 H	83	113.4	-2.3
4	*2404.00	110.1 AV			2.97 H	83	112.4	-2.3
5	4808.00	43.2 PK	74.0	-30.8	1.66 H	302	41.4	1.8
6	4808.00	31.1 AV	54.0	-22.9	1.66 H	302	29.3	1.8
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	50.3 PK	74.0	-23.7	1.37 V	147	52.5	-2.2
2	2390.00	39.1 AV	54.0	-14.9	1.37 V	147	41.3	-2.2
3	*2404.00	101.8 PK			1.37 V	147	104.1	-2.3
4	*2404.00	100.5 AV			1.37 V	147	102.8	-2.3
5	4808.00	42.6 PK	74.0	-31.4	1.64 V	323	40.8	1.8
6	4808.00	30.7 AV	54.0	-23.3	1.64 V	323	28.9	1.8

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.
4. Margin value = Emission Level – Limit value
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	111.6 PK			3.01 H	92	114.2	-2.6
2	*2440.00	110.6 AV			3.01 H	92	113.2	-2.6
3	4880.00	42.8 PK	74.0	-31.2	1.69 H	299	40.8	2.0
4	4880.00	30.6 AV	54.0	-23.4	1.69 H	299	28.6	2.0
5	7320.00	48.7 PK	74.0	-25.3	2.10 H	152	40.3	8.4
6	7320.00	35.9 AV	54.0	-18.1	2.10 H	152	27.5	8.4
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	101.2 PK			1.26 V	131	103.8	-2.6
2	*2440.00	99.8 AV			1.26 V	131	102.4	-2.6
3	4880.00	42.4 PK	74.0	-31.6	1.60 V	310	40.4	2.0
4	4880.00	30.4 AV	54.0	-23.6	1.60 V	310	28.4	2.0
5	7320.00	47.9 PK	74.0	-26.1	2.12 V	166	39.5	8.4
6	7320.00	35.3 AV	54.0	-18.7	2.12 V	166	26.9	8.4

REMARKS:

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

CHANNEL	TX Channel 38	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	*2478.00	111.1 PK			3.01 H	84	113.7	-2.6
2	*2478.00	109.9 AV			3.01 H	84	112.5	-2.6
3	2483.50	52.5 PK	74.0	-21.5	3.01 H	84	54.9	-2.4
4	2483.50	43.4 AV	54.0	-10.6	3.01 H	84	45.8	-2.4
5	4956.00	42.3 PK	74.0	-31.7	1.65 H	316	40.2	2.1
6	4956.00	30.3 AV	54.0	-23.7	1.65 H	316	28.2	2.1
7	7434.00	48.6 PK	74.0	-25.4	2.15 H	166	39.8	8.8
8	7434.00	36.0 AV	54.0	-18.0	2.15 H	166	27.2	8.8
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	*2478.00	101.2 PK			1.33 V	135	103.8	-2.6
2	*2478.00	100.0 AV			1.33 V	135	102.6	-2.6
3	2483.50	50.6 PK	74.0	-23.4	1.33 V	135	53.0	-2.4
4	2483.50	39.1 AV	54.0	-14.9	1.33 V	135	41.5	-2.4
5	4956.00	42.4 PK	74.0	-31.6	1.62 V	328	40.3	2.1
6	4956.00	30.6 AV	54.0	-23.4	1.62 V	328	28.5	2.1
7	7434.00	48.4 PK	74.0	-25.6	2.06 V	171	39.6	8.8
8	7434.00	35.7 AV	54.0	-18.3	2.06 V	171	26.9	8.8

REMARKS:

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

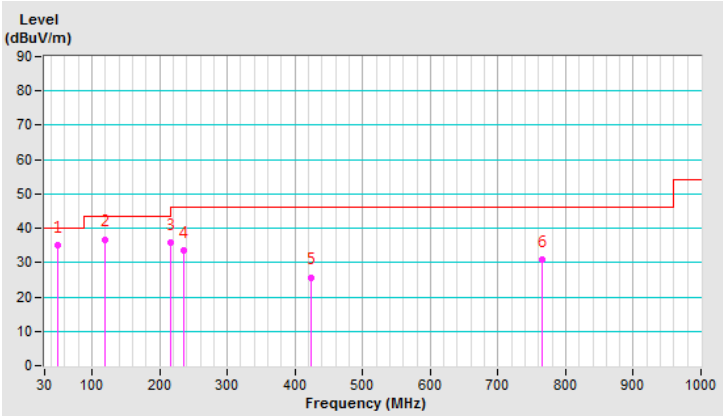
Below 1GHz Data:

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	50.06	34.9 QP	40.0	-5.1	1.00 H	93	42.8	-7.9
2	119.53	36.8 QP	43.5	-6.7	1.00 H	65	46.6	-9.8
3	216.60	35.7 QP	46.0	-10.3	1.50 H	68	46.9	-11.2
4	235.11	33.7 QP	46.0	-12.3	1.50 H	42	43.4	-9.7
5	423.55	25.7 QP	46.0	-20.3	1.50 H	35	29.2	-3.5
6	765.31	30.7 QP	46.0	-15.3	1.00 H	143	27.2	3.5

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 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.

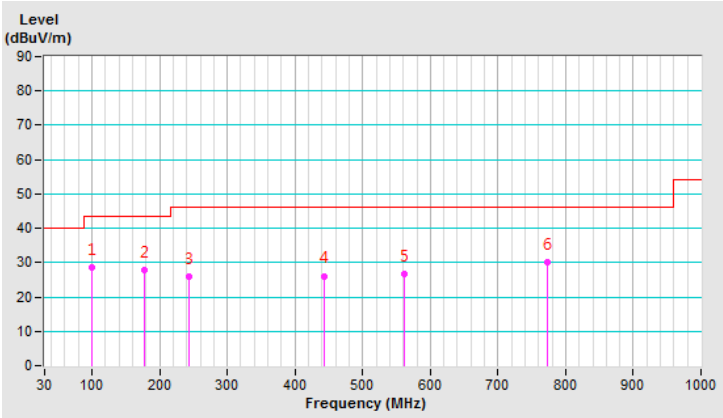


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	99.79	28.5 QP	43.5	-15.0	1.00 V	213	40.8	-12.3
2	177.34	27.7 QP	43.5	-15.8	1.00 V	177	36.8	-9.1
3	243.55	26.0 QP	46.0	-20.0	1.50 V	265	35.2	-9.2
4	444.02	26.1 QP	46.0	-19.9	1.50 V	5	28.8	-2.7
5	562.07	26.8 QP	46.0	-19.2	2.00 V	318	27.4	-0.6
6	772.27	30.0 QP	46.0	-16.0	1.50 V	277	27.0	3.0

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 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.



CON 1 Mode

Technology LE 1M

Above 1GHz Data:

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	53.7 PK	74.0	-20.3	2.98 H	88	55.9	-2.2
2	2390.00	44.2 AV	54.0	-9.8	2.98 H	88	46.4	-2.2
3	*2402.00	111.5 PK			2.98 H	88	113.8	-2.3
4	*2402.00	110.3 AV			2.98 H	88	112.6	-2.3
5	4804.00	42.5 PK	74.0	-31.5	1.59 H	311	40.7	1.8
6	4804.00	30.3 AV	54.0	-23.7	1.59 H	311	28.5	1.8
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	50.2 PK	74.0	-23.8	1.31 V	133	52.4	-2.2
2	2390.00	38.9 AV	54.0	-15.1	1.31 V	133	41.1	-2.2
3	*2402.00	101.5 PK			1.31 V	133	103.8	-2.3
4	*2402.00	100.2 AV			1.31 V	133	102.5	-2.3
5	4804.00	43.3 PK	74.0	-30.7	1.70 V	325	41.5	1.8
6	4804.00	31.0 AV	54.0	-23.0	1.70 V	325	29.2	1.8

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.
4. Margin value = Emission Level – Limit value
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	112.2 PK			3.05 H	82	114.8	-2.6
2	*2440.00	110.7 AV			3.05 H	82	113.3	-2.6
3	4880.00	43.2 PK	74.0	-30.8	1.61 H	326	41.2	2.0
4	4880.00	31.0 AV	54.0	-23.0	1.61 H	326	29.0	2.0
5	7320.00	48.6 PK	74.0	-25.4	2.12 H	180	40.2	8.4
6	7320.00	35.8 AV	54.0	-18.2	2.12 H	180	27.4	8.4
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	101.1 PK			1.31 V	139	103.7	-2.6
2	*2440.00	100.1 AV			1.31 V	139	102.7	-2.6
3	4880.00	43.2 PK	74.0	-30.8	1.61 V	310	41.2	2.0
4	4880.00	31.0 AV	54.0	-23.0	1.61 V	310	29.0	2.0
5	7320.00	49.4 PK	74.0	-24.6	2.12 V	155	41.0	8.4
6	7320.00	36.2 AV	54.0	-17.8	2.12 V	155	27.8	8.4

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	111.2 PK			2.99 H	79	113.8	-2.6
2	*2480.00	110.1 AV			2.99 H	79	112.7	-2.6
3	2483.50	53.2 PK	74.0	-20.8	2.99 H	79	55.6	-2.4
4	2483.50	43.7 AV	54.0	-10.3	2.99 H	79	46.1	-2.4
5	4960.00	42.8 PK	74.0	-31.2	1.65 H	314	40.7	2.1
6	4960.00	30.7 AV	54.0	-23.3	1.65 H	314	28.6	2.1
7	7440.00	48.7 PK	74.0	-25.3	2.11 H	165	39.9	8.8
8	7440.00	35.8 AV	54.0	-18.2	2.11 H	165	27.0	8.8

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	101.5 PK			1.34 V	139	104.1	-2.6
2	*2480.00	100.3 AV			1.34 V	139	102.9	-2.6
3	2483.50	50.4 PK	74.0	-23.6	1.34 V	139	52.8	-2.4
4	2483.50	38.7 AV	54.0	-15.3	1.34 V	139	41.1	-2.4
5	4960.00	43.5 PK	74.0	-30.5	2.00 V	165	41.4	2.1
6	4960.00	31.1 AV	54.0	-22.9	2.00 V	165	29.0	2.1
7	7440.00	48.8 PK	74.0	-25.2	1.77 V	99	40.0	8.8
8	7440.00	35.8 AV	54.0	-18.2	1.77 V	99	27.0	8.8

REMARKS:

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

Technology LE 2M

Above 1GHz Data:

CHANNEL	TX Channel 1	**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	53.8 PK	74.0	-20.2	2.97 H	83	56.0	-2.2
2	2390.00	44.2 AV	54.0	-9.8	2.97 H	83	46.4	-2.2
3	*2404.00	111.1 PK			2.97 H	83	113.4	-2.3
4	*2404.00	110.1 AV			2.97 H	83	112.4	-2.3
5	4808.00	43.2 PK	74.0	-30.8	1.66 H	302	41.4	1.8
6	4808.00	31.1 AV	54.0	-22.9	1.66 H	302	29.3	1.8
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	50.3 PK	74.0	-23.7	1.37 V	147	52.5	-2.2
2	2390.00	39.1 AV	54.0	-14.9	1.37 V	147	41.3	-2.2
3	*2404.00	101.8 PK			1.37 V	147	104.1	-2.3
4	*2404.00	100.5 AV			1.37 V	147	102.8	-2.3
5	4808.00	42.6 PK	74.0	-31.4	1.64 V	323	40.8	1.8
6	4808.00	30.7 AV	54.0	-23.3	1.64 V	323	28.9	1.8

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.
4. Margin value = Emission Level – Limit value
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	111.6 PK			3.01 H	92	114.2	-2.6
2	*2440.00	110.6 AV			3.01 H	92	113.2	-2.6
3	4880.00	42.8 PK	74.0	-31.2	1.69 H	299	40.8	2.0
4	4880.00	30.6 AV	54.0	-23.4	1.69 H	299	28.6	2.0
5	7320.00	48.7 PK	74.0	-25.3	2.10 H	152	40.3	8.4
6	7320.00	35.9 AV	54.0	-18.1	2.10 H	152	27.5	8.4
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	101.2 PK			1.26 V	131	103.8	-2.6
2	*2440.00	99.8 AV			1.26 V	131	102.4	-2.6
3	4880.00	42.4 PK	74.0	-31.6	1.60 V	310	40.4	2.0
4	4880.00	30.4 AV	54.0	-23.6	1.60 V	310	28.4	2.0
5	7320.00	47.9 PK	74.0	-26.1	2.12 V	166	39.5	8.4
6	7320.00	35.3 AV	54.0	-18.7	2.12 V	166	26.9	8.4

REMARKS:

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

CHANNEL	TX Channel 38	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	*2478.00	111.1 PK			3.01 H	84	113.7	-2.6
2	*2478.00	109.9 AV			3.01 H	84	112.5	-2.6
3	2483.50	52.5 PK	74.0	-21.5	3.01 H	84	54.9	-2.4
4	2483.50	43.4 AV	54.0	-10.6	3.01 H	84	45.8	-2.4
5	4956.00	42.3 PK	74.0	-31.7	1.65 H	316	40.2	2.1
6	4956.00	30.3 AV	54.0	-23.7	1.65 H	316	28.2	2.1
7	7434.00	48.6 PK	74.0	-25.4	2.15 H	166	39.8	8.8
8	7434.00	36.0 AV	54.0	-18.0	2.15 H	166	27.2	8.8
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	*2478.00	101.2 PK			1.33 V	135	103.8	-2.6
2	*2478.00	100.0 AV			1.33 V	135	102.6	-2.6
3	2483.50	50.6 PK	74.0	-23.4	1.33 V	135	53.0	-2.4
4	2483.50	39.1 AV	54.0	-14.9	1.33 V	135	41.5	-2.4
5	4956.00	42.4 PK	74.0	-31.6	1.62 V	328	40.3	2.1
6	4956.00	30.6 AV	54.0	-23.4	1.62 V	328	28.5	2.1
7	7434.00	48.4 PK	74.0	-25.6	2.06 V	171	39.6	8.8
8	7434.00	35.7 AV	54.0	-18.3	2.06 V	171	26.9	8.8

REMARKS:

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

4.1.8 Test Results (Mode 2)

CON 3 Mode

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Above 1GHz Data:

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	50.0 PK	74.0	-24.0	1.14 H	58	52.2	-2.2
2	2390.00	39.2 AV	54.0	-14.8	1.14 H	58	41.4	-2.2
3	*2402.00	99.7 PK			1.14 H	58	102.0	-2.3
4	*2402.00	98.8 AV			1.14 H	58	101.1	-2.3
5	4804.00	44.2 PK	74.0	-29.8	1.76 H	260	42.4	1.8
6	4804.00	30.6 AV	54.0	-23.4	1.76 H	260	28.8	1.8
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	50.8 PK	74.0	-23.2	1.00 V	191	53.0	-2.2
2	2390.00	39.5 AV	54.0	-14.5	1.00 V	191	41.7	-2.2
3	*2402.00	107.2 PK			1.00 V	191	109.5	-2.3
4	*2402.00	105.6 AV			1.00 V	191	107.9	-2.3
5	4804.00	44.1 PK	74.0	-29.9	2.40 V	322	42.3	1.8
6	4804.00	31.1 AV	54.0	-22.9	2.40 V	322	29.3	1.8

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.
4. Margin value = Emission Level – Limit value
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	100.2 PK			1.13 H	56	102.8	-2.6
2	*2440.00	99.1 AV			1.13 H	56	101.7	-2.6
3	4880.00	43.3 PK	74.0	-30.7	1.82 H	237	41.3	2.0
4	4880.00	29.8 AV	54.0	-24.2	1.82 H	237	27.8	2.0
5	7320.00	48.4 PK	74.0	-25.6	2.37 H	236	40.0	8.4
6	7320.00	35.4 AV	54.0	-18.6	2.37 H	236	27.0	8.4
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	107.5 PK			1.02 V	207	110.1	-2.6
2	*2440.00	106.2 AV			1.02 V	207	108.8	-2.6
3	4880.00	44.2 PK	74.0	-29.8	2.47 V	339	42.2	2.0
4	4880.00	30.9 AV	54.0	-23.1	2.47 V	339	28.9	2.0
5	7320.00	48.5 PK	74.0	-25.5	1.59 V	79	40.1	8.4
6	7320.00	35.8 AV	54.0	-18.2	1.59 V	79	27.4	8.4

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	100.3 PK			1.09 H	54	102.9	-2.6
2	*2480.00	99.6 AV			1.09 H	54	102.2	-2.6
3	2483.50	50.3 PK	74.0	-23.7	1.09 H	54	52.7	-2.4
4	2483.50	39.2 AV	54.0	-14.8	1.09 H	54	41.6	-2.4
5	4960.00	44.1 PK	74.0	-29.9	1.78 H	248	42.0	2.1
6	4960.00	30.3 AV	54.0	-23.7	1.78 H	248	28.2	2.1
7	7440.00	48.5 PK	74.0	-25.5	2.39 H	250	39.7	8.8
8	7440.00	35.4 AV	54.0	-18.6	2.39 H	250	26.6	8.8
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	107.8 PK			1.00 V	188	110.4	-2.6
2	*2480.00	106.3 AV			1.00 V	188	108.9	-2.6
3	2483.50	55.0 PK	74.0	-19.0	1.00 V	188	57.4	-2.4
4	2483.50	42.3 AV	54.0	-11.7	1.00 V	188	44.7	-2.4
5	4960.00	44.2 PK	74.0	-29.8	2.43 V	325	42.1	2.1
6	4960.00	31.0 AV	54.0	-23.0	2.43 V	325	28.9	2.1
7	7440.00	48.4 PK	74.0	-25.6	1.61 V	93	39.6	8.8
8	7440.00	35.6 AV	54.0	-18.4	1.61 V	93	26.8	8.8

REMARKS:

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

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Above 1GHz Data:

CHANNEL	TX Channel 1	**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	50.6 PK	74.0	-23.4	1.12 H	59	52.8	-2.2
2	2390.00	39.4 AV	54.0	-14.6	1.12 H	59	41.6	-2.2
3	*2404.00	100.1 PK			1.12 H	59	102.4	-2.3
4	*2404.00	99.2 AV			1.12 H	59	101.5	-2.3
5	4808.00	43.6 PK	74.0	-30.4	1.82 H	250	41.8	1.8
6	4808.00	29.9 AV	54.0	-24.1	1.82 H	250	28.1	1.8
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	51.7 PK	74.0	-22.3	1.00 V	200	53.9	-2.2
2	2390.00	39.9 AV	54.0	-14.1	1.00 V	200	42.1	-2.2
3	*2404.00	107.3 PK			1.00 V	200	109.6	-2.3
4	*2404.00	105.9 AV			1.00 V	200	108.2	-2.3
5	4808.00	43.6 PK	74.0	-30.4	2.47 V	325	41.8	1.8
6	4808.00	30.6 AV	54.0	-23.4	2.47 V	325	28.8	1.8

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.
4. Margin value = Emission Level – Limit value
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	99.8 PK			1.06 H	50	102.4	-2.6
2	*2440.00	99.1 AV			1.06 H	50	101.7	-2.6
3	4880.00	44.7 PK	74.0	-29.3	1.75 H	256	42.7	2.0
4	4880.00	30.7 AV	54.0	-23.3	1.75 H	256	28.7	2.0
5	7320.00	48.1 PK	74.0	-25.9	2.43 H	258	39.7	8.4
6	7320.00	35.2 AV	54.0	-18.8	2.43 H	258	26.8	8.4
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	107.1 PK			1.03 V	182	109.7	-2.6
2	*2440.00	105.8 AV			1.03 V	182	108.4	-2.6
3	4880.00	44.3 PK	74.0	-29.7	2.48 V	334	42.3	2.0
4	4880.00	31.1 AV	54.0	-22.9	2.48 V	334	29.1	2.0
5	7320.00	48.5 PK	74.0	-25.5	1.57 V	102	40.1	8.4
6	7320.00	35.7 AV	54.0	-18.3	1.57 V	102	27.3	8.4

REMARKS:

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

CHANNEL	TX Channel 38	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	*2478.00	99.8 PK			1.06 H	55	102.4	-2.6
2	*2478.00	99.1 AV			1.06 H	55	101.7	-2.6
3	2483.50	50.6 PK	74.0	-23.4	1.06 H	55	53.0	-2.4
4	2483.50	39.5 AV	54.0	-14.5	1.06 H	55	41.9	-2.4
5	4956.00	44.5 PK	74.0	-29.5	1.83 H	235	42.4	2.1
6	4956.00	30.5 AV	54.0	-23.5	1.83 H	235	28.4	2.1
7	7434.00	48.1 PK	74.0	-25.9	2.38 H	247	39.3	8.8
8	7434.00	35.0 AV	54.0	-19.0	2.38 H	247	26.2	8.8
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	*2478.00	106.9 PK			1.02 V	189	109.5	-2.6
2	*2478.00	105.5 AV			1.02 V	189	108.1	-2.6
3	2483.50	51.2 PK	74.0	-22.8	1.02 V	189	53.6	-2.4
4	2483.50	39.6 AV	54.0	-14.4	1.02 V	189	42.0	-2.4
5	4956.00	44.1 PK	74.0	-29.9	2.41 V	328	42.0	2.1
6	4956.00	30.7 AV	54.0	-23.3	2.41 V	328	28.6	2.1
7	7434.00	48.4 PK	74.0	-25.6	1.64 V	88	39.6	8.8
8	7434.00	35.9 AV	54.0	-18.1	1.64 V	88	27.1	8.8

REMARKS:

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

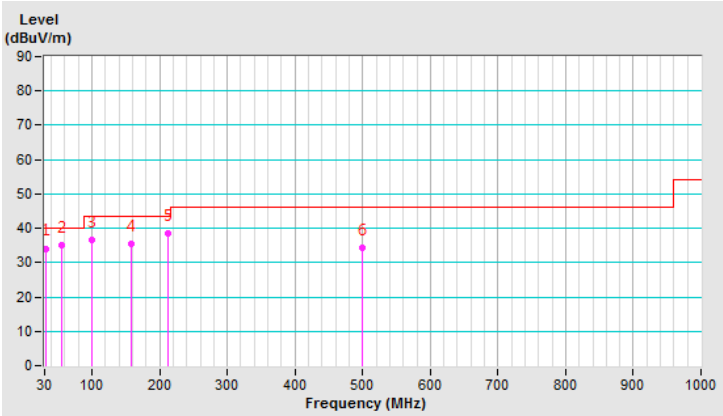
Below 1GHz Data:

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

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	31.54	34.1 QP	40.0	-5.9	1.42 H	234	43.1	-9.0
2	**54.65**	**35.1 QP**	**40.0**	**-4.9**	**1.42 H**	**211**	**43.0**	**-7.9**
3	99.99	36.5 QP	43.5	-7.0	1.52 H	209	48.8	-12.3
4	158.45	35.6 QP	43.5	-7.9	1.67 H	185	43.2	-7.6
5	211.62	38.5 QP	43.5	-5.0	1.40 H	219	49.6	-11.1
6	499.85	34.4 QP	46.0	-11.6	2.46 H	142	36.2	-1.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The 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.

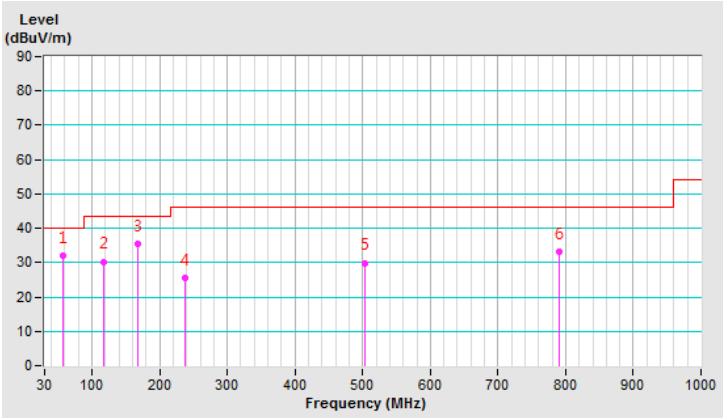


CHANNEL	TX Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	57.85	32.1 QP	40.0	-7.9	1.44 V	302	40.2	-8.1
2	117.59	30.3 QP	43.5	-13.2	1.24 V	245	40.3	-10.0
3	166.95	35.5 QP	43.5	-8.0	2.14 V	306	43.6	-8.1
4	236.85	25.4 QP	46.0	-20.6	1.98 V	301	35.0	-9.6
5	502.85	29.9 QP	46.0	-16.1	1.71 V	142	31.6	-1.7
6	791.42	33.1 QP	46.0	-12.9	1.69 V	63	29.3	3.8

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The 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.



CON 1 Mode

Technology LE 1M

Above 1GHz Data:

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	50.4 PK	74.0	-23.6	1.12 H	70	52.6	-2.2
2	2390.00	39.3 AV	54.0	-14.7	1.12 H	70	41.5	-2.2
3	*2402.00	99.7 PK			1.12 H	70	102.0	-2.3
4	*2402.00	98.7 AV			1.12 H	70	101.0	-2.3
5	4804.00	44.1 PK	74.0	-29.9	1.72 H	252	42.3	1.8
6	4804.00	30.7 AV	54.0	-23.3	1.72 H	252	28.9	1.8
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	50.2 PK	74.0	-23.8	1.00 V	253	52.4	-2.2
2	2390.00	39.5 AV	54.0	-14.5	1.00 V	253	41.7	-2.2
3	*2402.00	107.0 PK			1.00 V	253	109.3	-2.3
4	*2402.00	105.3 AV			1.00 V	253	107.6	-2.3
5	4804.00	44.1 PK	74.0	-29.9	2.43 V	304	42.3	1.8
6	4804.00	30.6 AV	54.0	-23.4	2.43 V	304	28.8	1.8

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.
4. Margin value = Emission Level – Limit value
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	100.0 PK			1.16 H	68	102.6	-2.6
2	*2440.00	99.2 AV			1.16 H	68	101.8	-2.6
3	4880.00	44.9 PK	74.0	-29.1	1.78 H	232	42.9	2.0
4	4880.00	31.2 AV	54.0	-22.8	1.78 H	232	29.2	2.0
5	7320.00	47.8 PK	74.0	-26.2	2.47 H	242	39.4	8.4
6	7320.00	34.8 AV	54.0	-19.2	2.47 H	242	26.4	8.4
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	107.3 PK			1.07 V	253	109.9	-2.6
2	*2440.00	105.8 AV			1.07 V	253	108.4	-2.6
3	4880.00	44.0 PK	74.0	-30.0	2.49 V	325	42.0	2.0
4	4880.00	30.6 AV	54.0	-23.4	2.49 V	325	28.6	2.0
5	7320.00	47.9 PK	74.0	-26.1	1.61 V	104	39.5	8.4
6	7320.00	34.8 AV	54.0	-19.2	1.61 V	104	26.4	8.4

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
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	99.9 PK			1.08 H	79	102.5	-2.6
2	*2480.00	99.0 AV			1.08 H	79	101.6	-2.6
3	2483.50	54.9 PK	74.0	-19.1	1.08 H	79	57.3	-2.4
4	2483.50	42.1 AV	54.0	-11.9	1.08 H	79	44.5	-2.4
5	4960.00	44.4 PK	74.0	-29.6	1.75 H	245	42.3	2.1
6	4960.00	30.8 AV	54.0	-23.2	1.75 H	245	28.7	2.1
7	7440.00	48.1 PK	74.0	-25.9	2.41 H	253	39.3	8.8
8	7440.00	35.2 AV	54.0	-18.8	2.41 H	253	26.4	8.8
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	107.5 PK			1.00 V	256	110.1	-2.6
2	*2480.00	105.7 AV			1.00 V	256	108.3	-2.6
3	2483.50	55.6 PK	74.0	-18.4	1.00 V	256	58.0	-2.4
4	2483.50	42.7 AV	54.0	-11.3	1.00 V	256	45.1	-2.4
5	4960.00	44.2 PK	74.0	-29.8	2.46 V	313	42.1	2.1
6	4960.00	30.8 AV	54.0	-23.2	2.46 V	313	28.7	2.1
7	7440.00	48.2 PK	74.0	-25.8	1.62 V	107	39.4	8.8
8	7440.00	35.2 AV	54.0	-18.8	1.62 V	107	26.4	8.8

REMARKS:

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

Technology LE 2M

Above 1GHz Data:

CHANNEL	TX Channel 1	**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	50.5 PK	74.0	-23.5	1.18 H	65	52.7	-2.2
2	2390.00	39.5 AV	54.0	-14.5	1.18 H	65	41.7	-2.2
3	*2404.00	99.9 PK			1.18 H	65	102.2	-2.3
4	*2404.00	98.7 AV			1.18 H	65	101.0	-2.3
5	4808.00	44.0 PK	74.0	-30.0	1.74 H	250	42.2	1.8
6	4808.00	30.6 AV	54.0	-23.4	1.74 H	250	28.8	1.8
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	50.3 PK	74.0	-23.7	1.00 V	254	52.5	-2.2
2	2390.00	39.7 AV	54.0	-14.3	1.00 V	254	41.9	-2.2
3	*2404.00	107.1 PK			1.00 V	254	109.4	-2.3
4	*2404.00	105.6 AV			1.00 V	254	107.9	-2.3
5	4808.00	43.8 PK	74.0	-30.2	2.48 V	327	42.0	1.8
6	4808.00	30.5 AV	54.0	-23.5	2.48 V	327	28.7	1.8

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.
4. Margin value = Emission Level – Limit value
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	100.4 PK			1.21 H	42	103.0	-2.6
2	*2440.00	99.5 AV			1.21 H	42	102.1	-2.6
3	4880.00	45.0 PK	74.0	-29.0	1.80 H	257	43.0	2.0
4	4880.00	31.2 AV	54.0	-22.8	1.80 H	257	29.2	2.0
5	7320.00	48.5 PK	74.0	-25.5	2.46 H	250	40.1	8.4
6	7320.00	35.5 AV	54.0	-18.5	2.46 H	250	27.1	8.4
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	107.5 PK			1.05 V	249	110.1	-2.6
2	*2440.00	106.1 AV			1.05 V	249	108.7	-2.6
3	4880.00	44.8 PK	74.0	-29.2	2.40 V	320	42.8	2.0
4	4880.00	31.2 AV	54.0	-22.8	2.40 V	320	29.2	2.0
5	7320.00	47.9 PK	74.0	-26.1	1.65 V	120	39.5	8.4
6	7320.00	35.1 AV	54.0	-18.9	1.65 V	120	26.7	8.4

REMARKS:

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

CHANNEL	TX Channel 38	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	*2478.00	100.7 PK			1.13 H	50	103.3	-2.6
2	*2478.00	99.6 AV			1.13 H	50	102.2	-2.6
3	2483.50	55.3 PK	74.0	-18.7	1.13 H	50	57.7	-2.4
4	2483.50	42.4 AV	54.0	-11.6	1.13 H	50	44.8	-2.4
5	4956.00	44.6 PK	74.0	-29.4	1.72 H	229	42.5	2.1
6	4956.00	30.8 AV	54.0	-23.2	1.72 H	229	28.7	2.1
7	7434.00	48.3 PK	74.0	-25.7	2.47 H	243	39.5	8.8
8	7434.00	35.6 AV	54.0	-18.4	2.47 H	243	26.8	8.8
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	*2478.00	107.1 PK			1.00 V	256	109.7	-2.6
2	*2478.00	105.7 AV			1.00 V	256	108.3	-2.6
3	2483.50	55.2 PK	74.0	-18.8	1.00 V	256	57.6	-2.4
4	2483.50	42.6 AV	54.0	-11.4	1.00 V	256	45.0	-2.4
5	4956.00	43.8 PK	74.0	-30.2	2.47 V	304	41.7	2.1
6	4956.00	30.5 AV	54.0	-23.5	2.47 V	304	28.4	2.1
7	7434.00	48.0 PK	74.0	-26.0	1.61 V	94	39.2	8.8
8	7434.00	35.2 AV	54.0	-18.8	1.61 V	94	26.4	8.8

REMARKS:

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

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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Nov. 01, 2017	Oct. 31, 2018
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Nov. 15, 2017	Nov. 14, 2018
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 04, 2018	June 03, 2019
50 ohms Terminator	N/A	EMC-04	Nov. 01, 2017	Oct. 31, 2018
RF Cable	5D-FB	COCCAB-001	Sep. 28, 2018	Sep. 27, 2019
Fixed attenuator EMCI	STI02-2200-10	003	Mar. 16, 2018	Mar. 15, 2019
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:
1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3. Tested Date: Oct. 13, 2018

4.2.3 Test Procedures

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

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

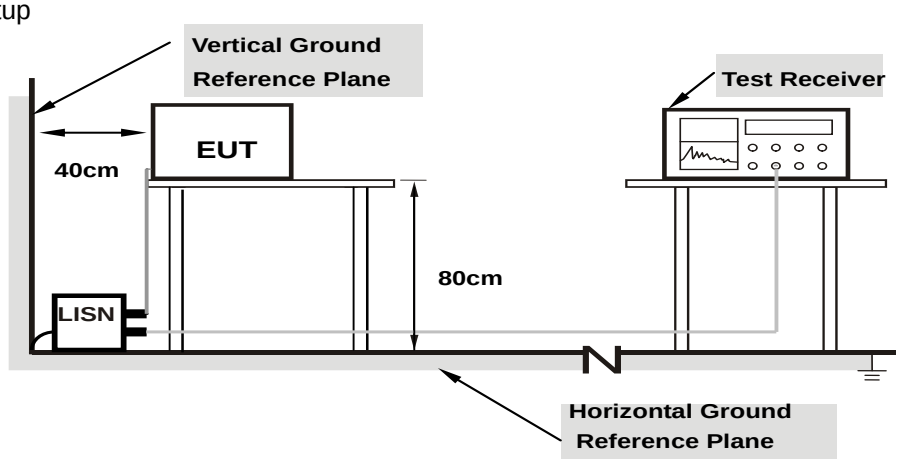
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

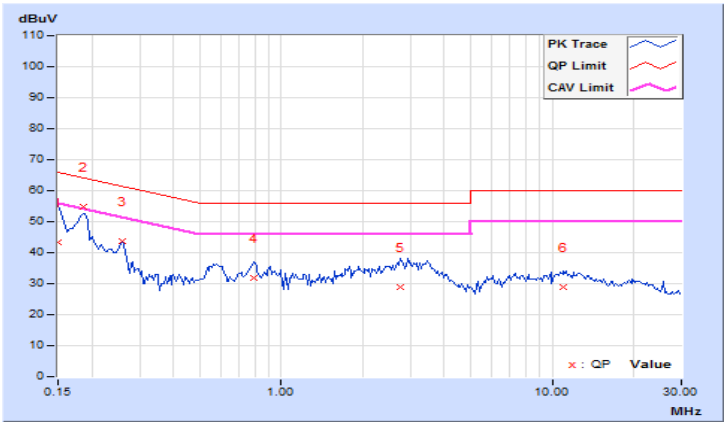
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.03	33.22	18.73	43.25	28.76	66.00	56.00	-22.75	-27.24
2	**0.18516**	**10.05**	**44.74**	**28.26**	**54.79**	**38.31**	**64.25**	**54.25**	**-9.46**	**-15.94**
3	0.25938	10.07	33.45	0.63	43.52	10.70	61.45	51.45	-17.93	-40.75
4	0.79453	10.14	21.67	10.24	31.81	20.38	56.00	46.00	-24.19	-25.62
5	2.75781	10.22	18.51	12.64	28.73	22.86	56.00	46.00	-27.27	-23.14
6	11.03516	10.60	18.32	12.63	28.92	23.23	60.00	50.00	-31.08	-26.77

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.

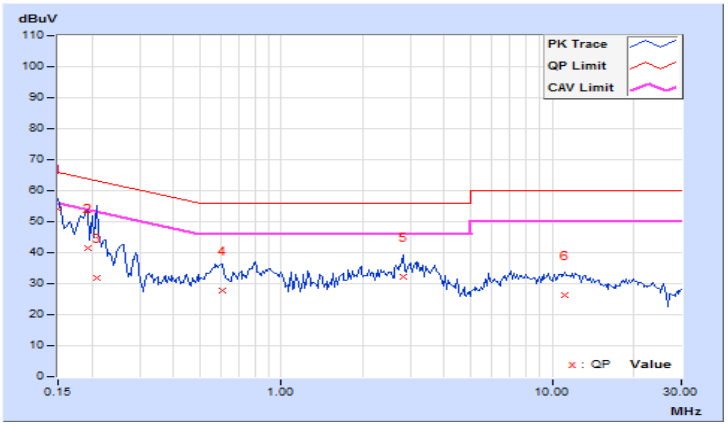


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.94	43.95	28.66	53.89	38.60	66.00	56.00	-12.11	-17.40
2	0.19297	9.96	31.58	20.48	41.54	30.44	63.91	53.91	-22.37	-23.47
3	0.20859	9.96	21.89	8.39	31.85	18.35	63.26	53.26	-31.41	-34.91
4	0.60313	10.01	17.70	9.51	27.71	19.52	56.00	46.00	-28.29	-26.48
5	2.82813	10.10	22.20	12.46	32.30	22.56	56.00	46.00	-23.70	-23.44
6	11.18750	10.45	15.86	12.80	26.31	23.25	60.00	50.00	-33.69	-26.75

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.

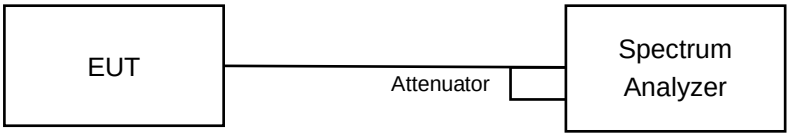


4.3 6dB Bandwidth Measurement

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

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

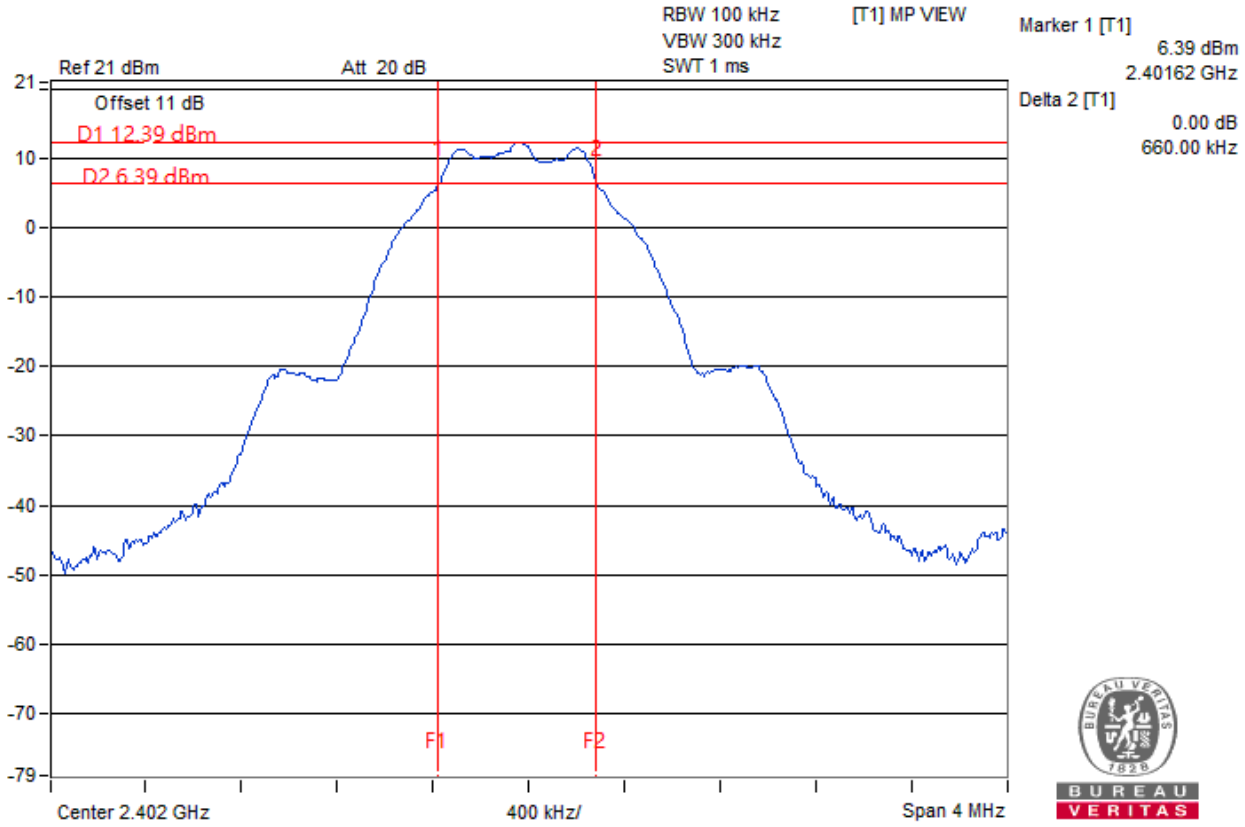
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

Technology LE 1M

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
0	2402	0.66	0.5	Pass
19	2440	0.66	0.5	Pass
39	2480	0.67	0.5	Pass

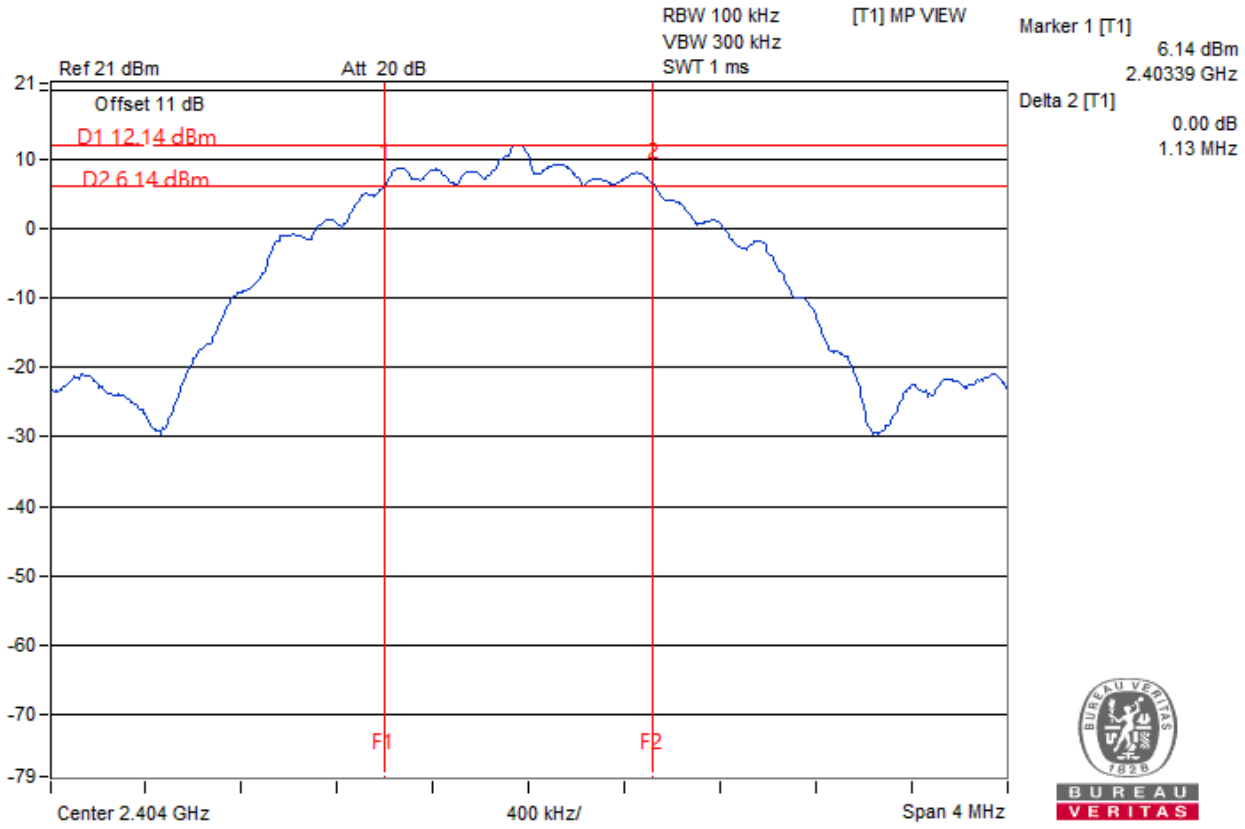
Spectrum Plot of Worst Value
CH 0



Technology LE 2M

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2404	1.13	0.5	Pass
19	2440	1.13	0.5	Pass
38	2478	1.13	0.5	Pass

Spectrum Plot of Worst Value
CH 1



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.

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

Technology LE 1M

FOR PEAK POWER

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	15.417	11.88	30	Pass
19	2440	14.928	11.74	30	Pass
39	2480	13.868	11.42	30	Pass

FOR AVERAGE POWER

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	14.454	11.60
19	2440	14.06	11.48
39	2480	13.092	11.17

Technology LE 2M

FOR PEAK POWER

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2404	15.524	11.91	30	Pass
19	2440	15.031	11.77	30	Pass
38	2478	13.996	11.46	30	Pass

FOR AVERAGE POWER

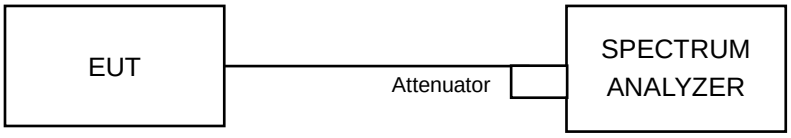
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2404	14.555	11.63
19	2440	14.158	11.51
38	2478	13.183	11.20

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

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

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

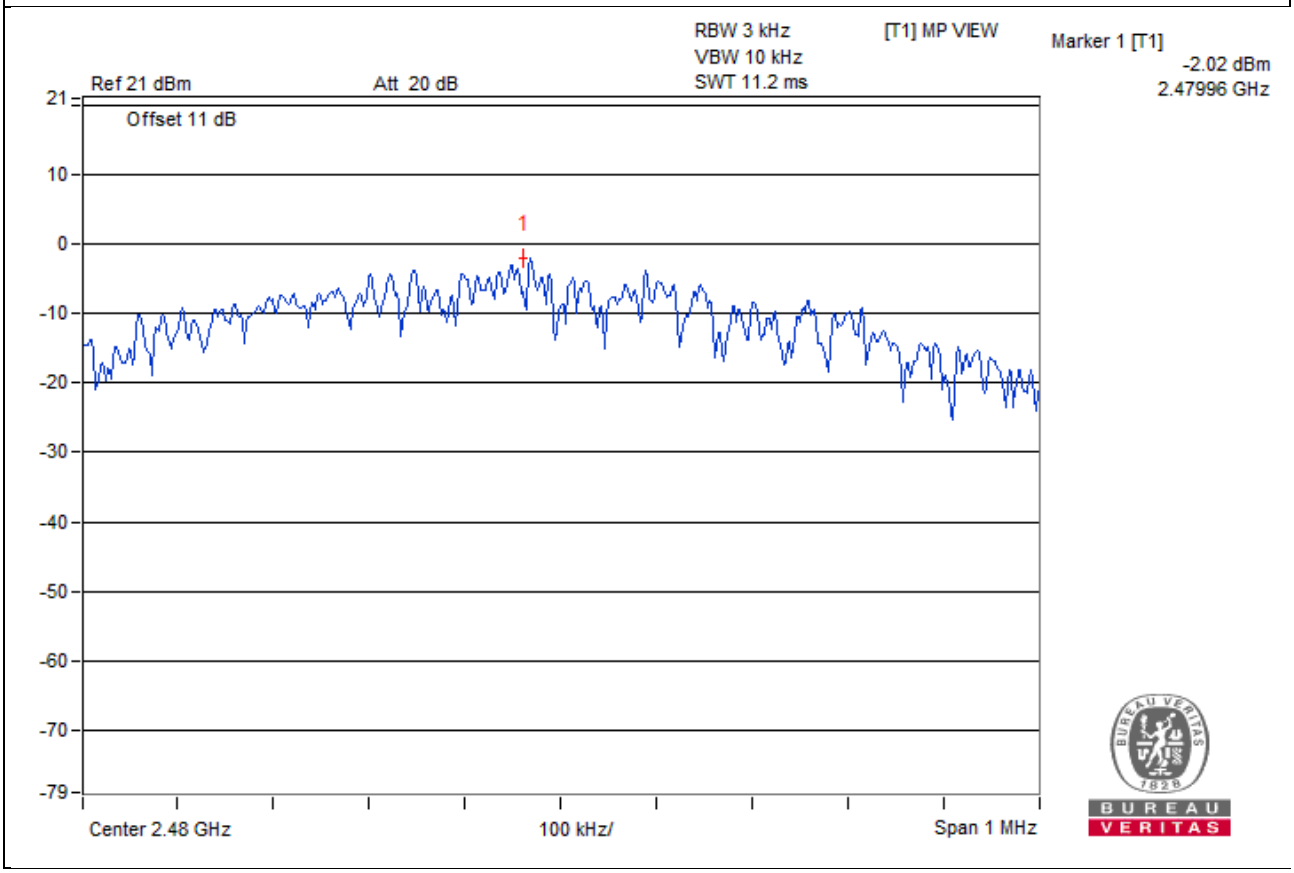
Same as Item 4.3.6.

4.5.7 Test Results

Technology LE 1M

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	2402	-2.71	8	Pass
19	2440	-3.86	8	Pass
39	2480	-2.02	8	Pass

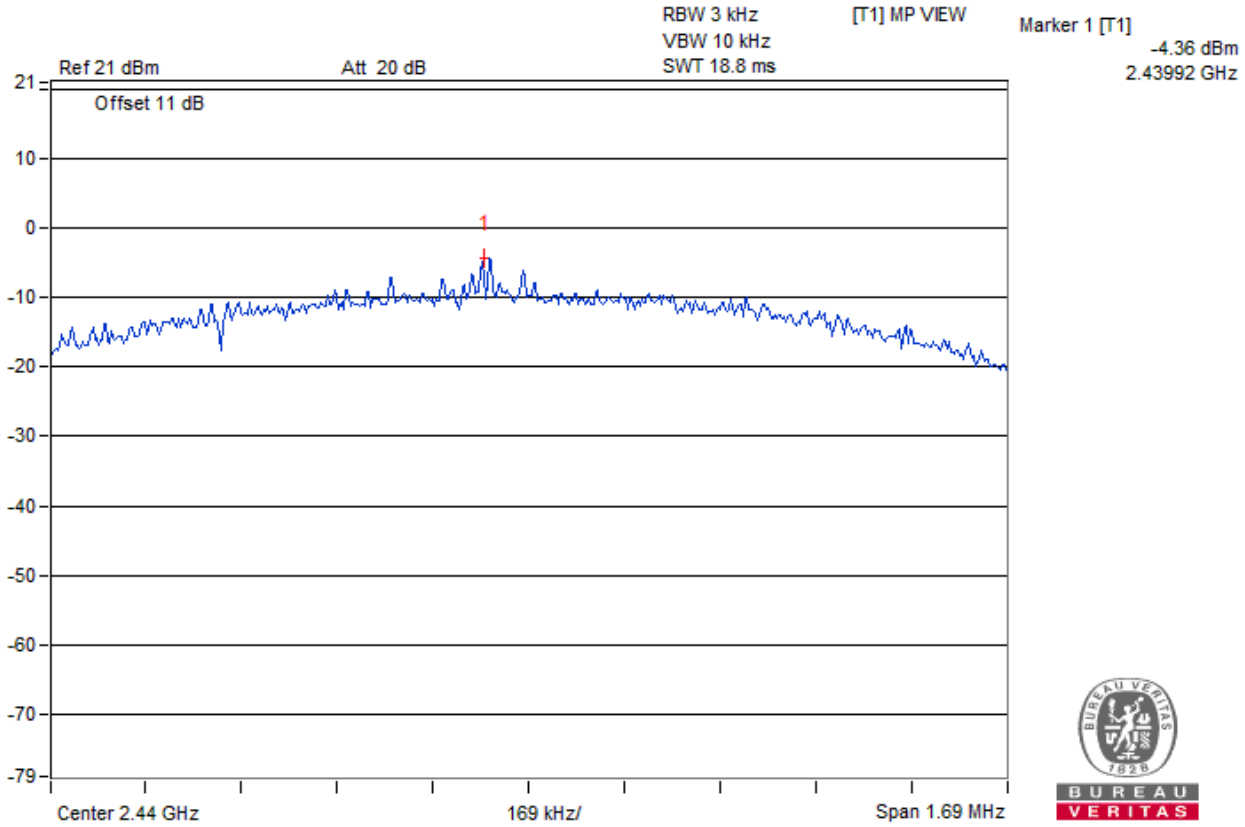
Spectrum Plot of Worst Value
CH 39



Technology LE 2M

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2404	-5.92	8	Pass
19	2440	-4.36	8	Pass
38	2478	-4.37	8	Pass

Spectrum Plot of Worst Value
CH 19

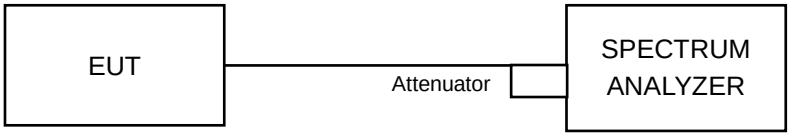


4.6 Conducted Out of Band Emission Measurement

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

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

MEASUREMENT PROCEDURE OOBE

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

4.6.5 Deviation from Test Standard

No deviation.

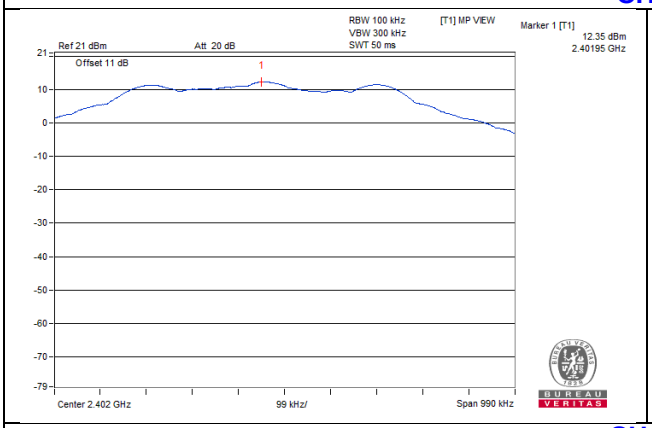
4.6.6 EUT Operating Condition

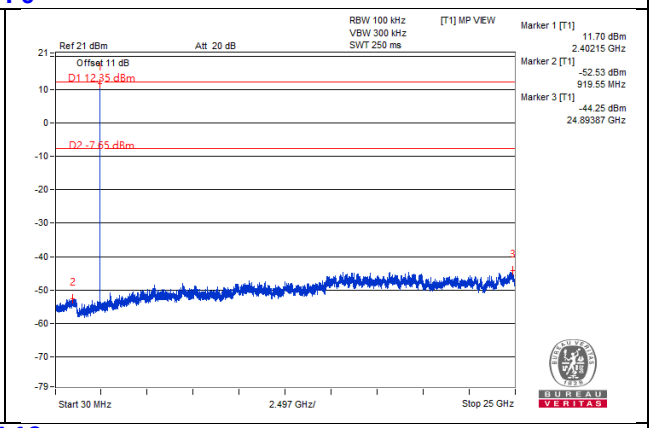
Same as Item 4.3.6.

4.6.7 Test Results

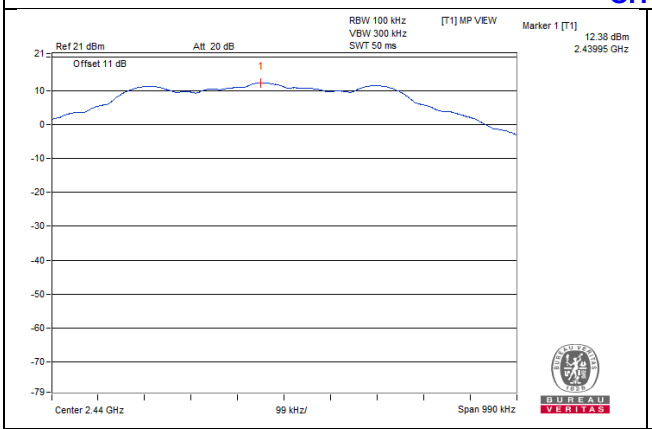
Technology LE 1M

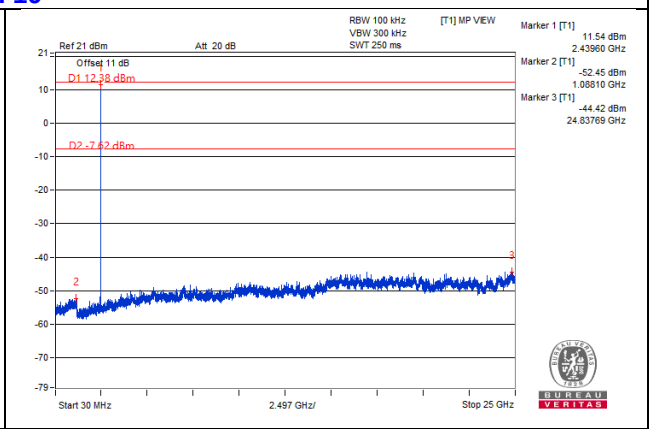
CH 0



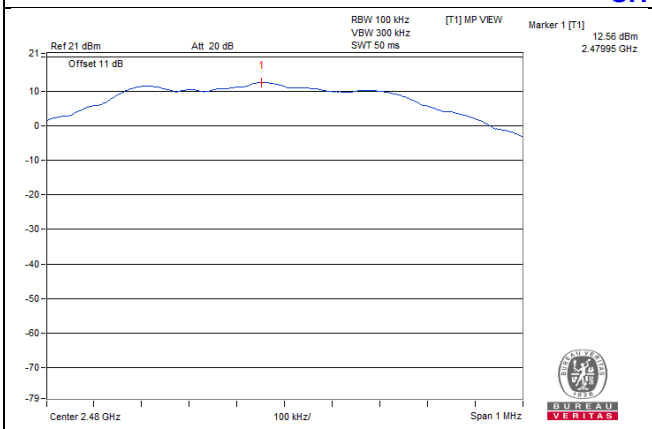


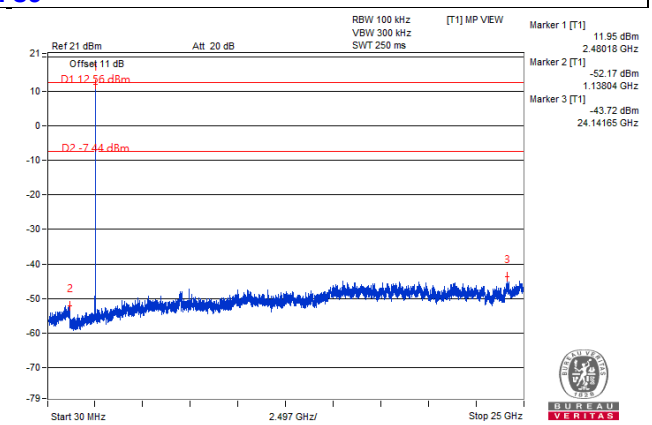
CH 19



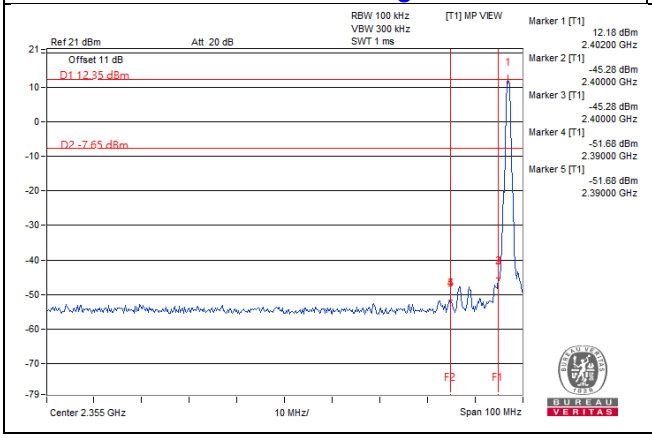


CH 39

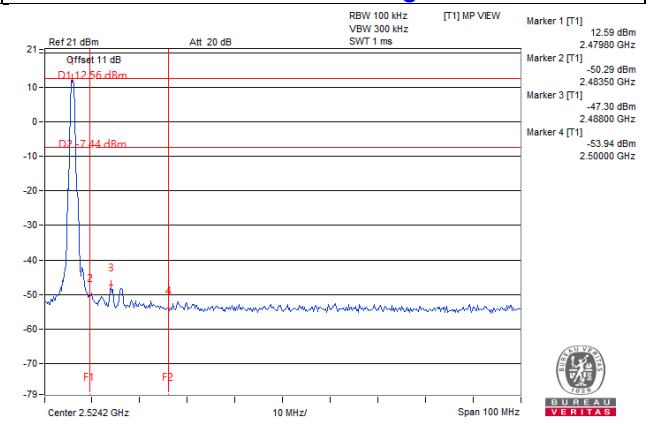




CH 0 Band edge

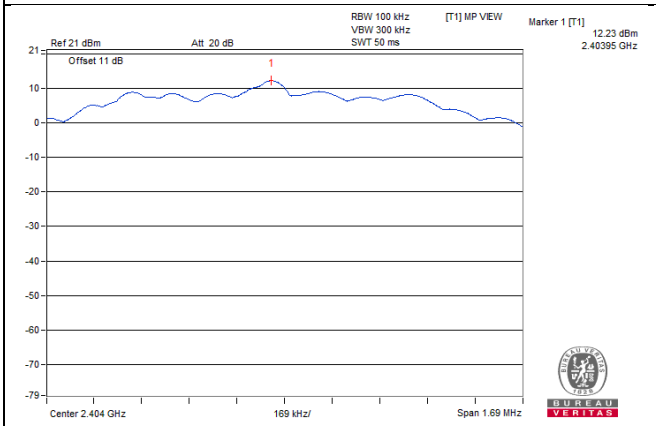


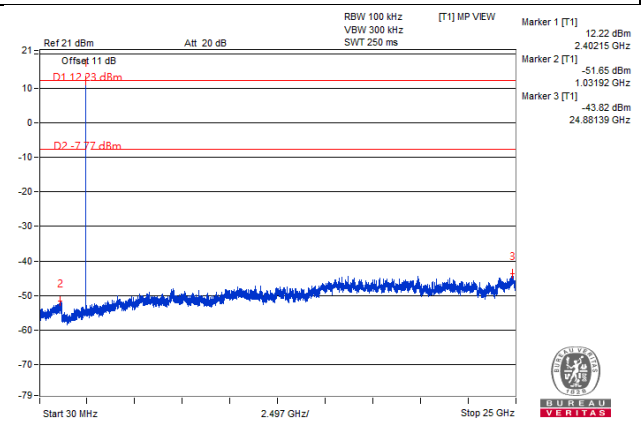
CH 39 Band edge



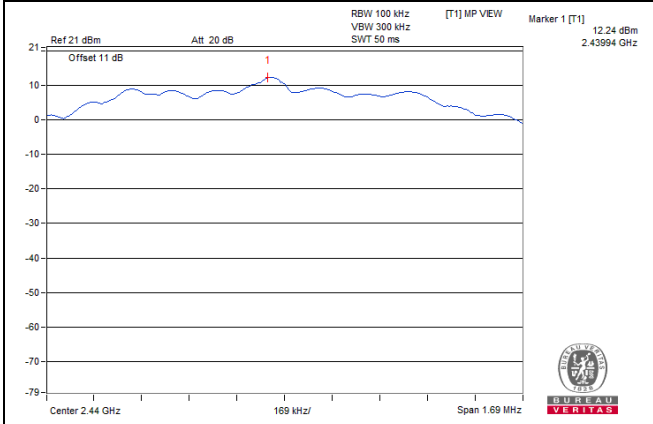
Technology LE 2M

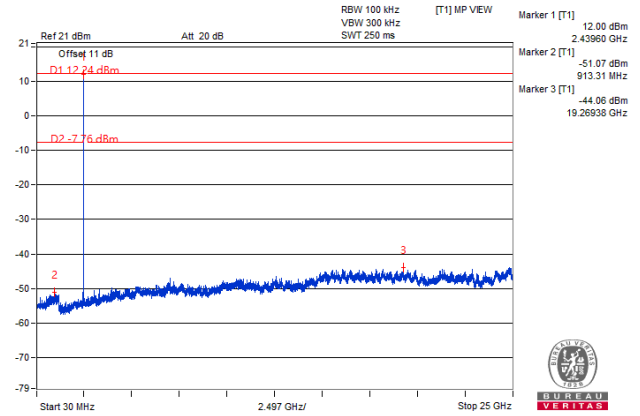
CH 1



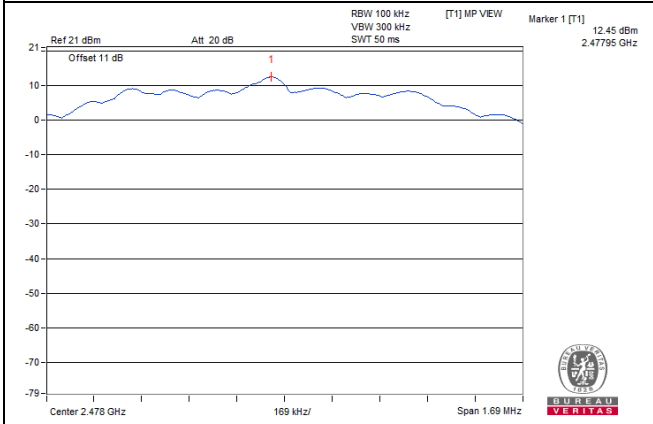


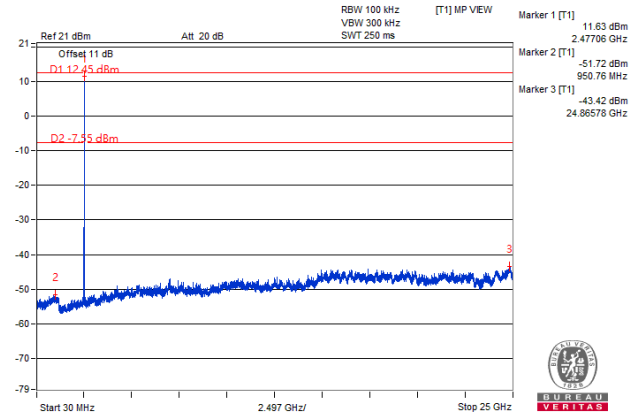
CH 19



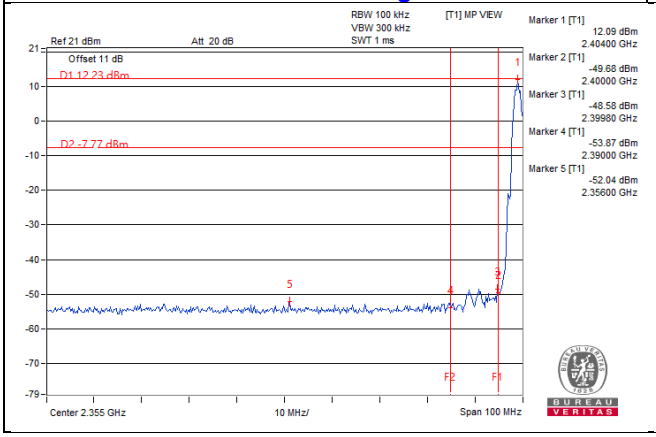


CH 38

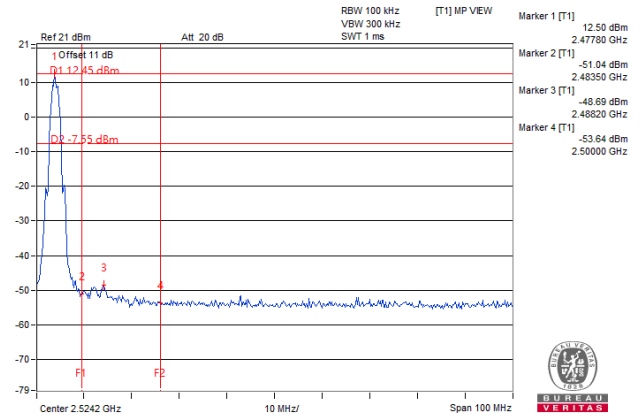




CH 1 Band edge



CH 38 Band edge



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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Tel: 886-3-3183232
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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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