

FCC Test Report

Report No.: RF170623E04

FCC ID: KA2IR815D1

Test Model: DIR-815

Received Date: June 23, 2017

Test Date: July 18 to Aug. 07, 2017

Issued Date: Aug. 30, 2017

Applicant: D-Link Corporation

Address: 17595 Mt. Herrmann , Fountain Valley, California, United States

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

Issue No.	Description	Date Issued
RF170623E04	Original release.	Aug. 30, 2017

1 Certificate of Conformity

Product: Wireless AC1200 Dual Band Router

Brand: D-Link

Test Model: DIR-815

Sample Status: ENGINEERING SAMPLE

Applicant: D-Link Corporation

Test Date: July 18 to Aug. 07, 2017

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:** Aug. 30, 2017
Wendy Wu / Specialist

Approved by :  , **Date:** Aug. 30, 2017
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 -13.61dB at 0.15MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 4874MHz, 4924MHz, 2390MHz, 2483.5MHz.
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) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.30 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.16 dB
	6GHz ~ 18GHz	4.91 dB
	18GHz ~ 40GHz	5.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless AC1200 Dual Band Router
Brand	D-Link
Test Model	DIR-815
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 12V from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 mode in 2.4GHz band
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz
Number of Channel	2.4GHz: 802.11b/g, 802.11n (HT20), VHT20 : 11 802.11n (HT40), VHT40: 7 5GHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 9 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80): 2
Output Power	2.4GHz: 836.97mW 5.18 ~ 5.24GHz: 346.853mW 5.745 ~ 5.825GHz: 182.643mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ45 cable (Unshielded, 0.9m) x 1

Note:

1. The EUT could be supplied with a power adapter as following table:

Brand	Model No.	Spec.
Gongjin	S12B22-120A100-C4	AC Input: 100-240V, 0.5A, 50/60Hz DC Output: 12V, 1A DC cable: 1.1m, Unshielded

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

Antenna No.	Chain No.	Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type
2.4GHz_0	Chain 0	5	2.4~2.4835GHz	Dipole	i-pex(MHF)
2.4GHz_1	Chain 1	5	2.4~2.4835GHz	Dipole	i-pex(MHF)
5GHz_0	Chain 0	5	5.15~5.85GHz	Dipole	i-pex(MHF)
5GHz_1	Chain 1	5	5.15~5.85GHz	Dipole	i-pex(MHF)

3. Simultaneously transmission condition.

Condition	Technology	
1	WLAN 2.4GHz	WLAN 5GHz

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

4. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX Fixed Chain 0	1RX Fixed chain 0
802.11g	6 ~ 54Mbps	1TX Fixed Chain 0	1RX Fixed chain 0
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
VHT20	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
VHT40	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss=1	2TX	2RX
	MCS0~8 Nss=2	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss=1	2TX	2RX
	MCS0~9 Nss=2	2TX	2RX
Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report.			

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

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20:

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40), VHT40:

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE≥1G**: Radiated Emission above 1GHz & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **Y-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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	26deg. C, 69%RH	120Vac, 60Hz	Jyunchun Lin
RE $<$ 1G	24deg. C, 65%RH	120Vac, 60Hz	Jyunchun Lin
PLC	24deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 Duty Cycle of Test Signal

If duty cycle of test signal is $\geq 98\%$, duty factor is not required.

If duty cycle of test signal is $< 98\%$, duty factor shall be considered.

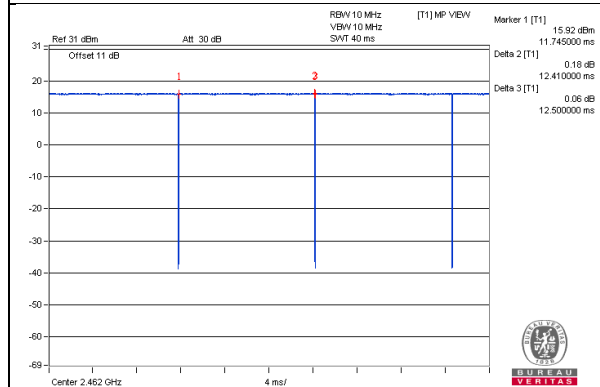
802.11b: Duty cycle = $12.41/12.5 = 0.993$

802.11g: Duty cycle = $2.063/2.196 = 0.939$, Duty factor = $10 * \log(1/0.939) = 0.27$

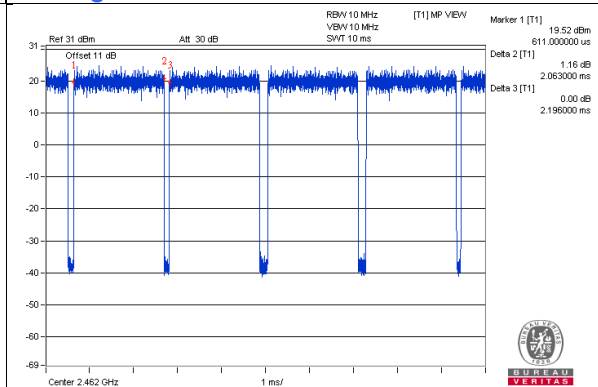
802.11n (HT20): Duty cycle = $2.061/2.245 = 0.918$, Duty factor = $10 * \log(1/0.918) = 0.37$

802.11n (HT40): Duty cycle = $0.943/1.095 = 0.861$, Duty factor = $10 * \log(1/0.861) = 0.65$

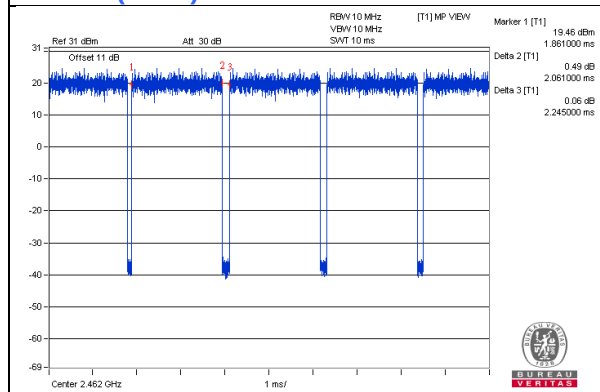
802.11b



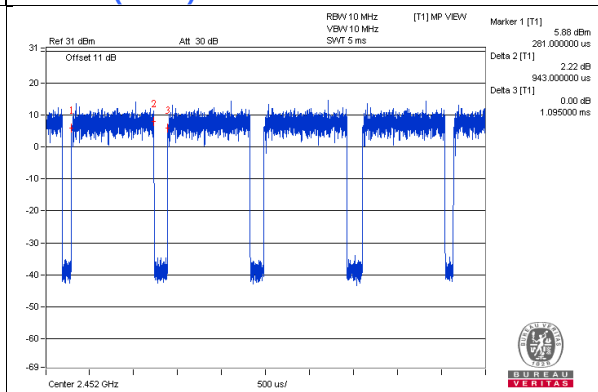
802.11g



802.11n (HT20)



802.11n (HT40)



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.

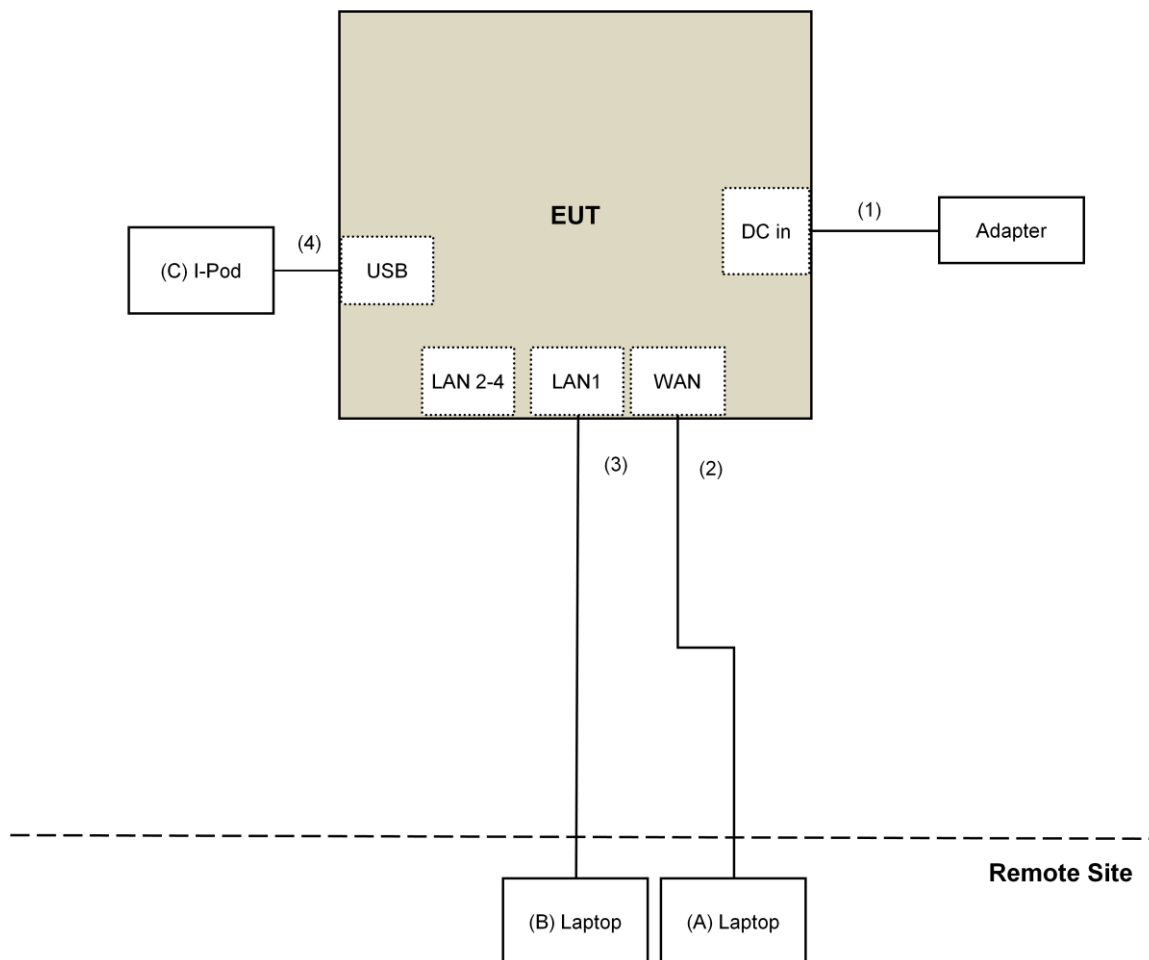
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E6420	B92T3R1	FCC DoC	Provided by Lab
B.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
C.	iPod	Apple	MD778TA/A	CC4JL03FF4T1	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.1	No	0	Supplied by client
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	10	No	0	Provided by Lab
4.	USB Cable	1	0.1	Yes	0	Provided by Lab

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 DTS Meas Guidance v04
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 Agilent	N9038A	MY50010156	July 12, 2017	July 11, 2018
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 06, 2017	May 05, 2018
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Dec. 29, 2016	Dec. 28, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Dec. 28, 2016	Dec. 27, 2017
Pre-Amplifier EMCI	EMC12630SE	980384	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1 200 EMC104-SM-SM-2 000 EMC104-SM-SM-5 000	160922 150317 150322	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Spectrum Analyzer Keysight	N9030A	MY54490520	July 25, 2017	July 24, 2018
Pre-Amplifier EMCI	EMC184045SE	980386	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8. 7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSV40	100964	July 1, 2017	June 30, 2018
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

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. 3.
4. The CANADA Site Registration No. is 20331-1.
5. Loop antenna was used for all emissions below 30 MHz.
6. Tested Date: Aug. 04 to 07, 2017.

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. Both X and Y axes 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:

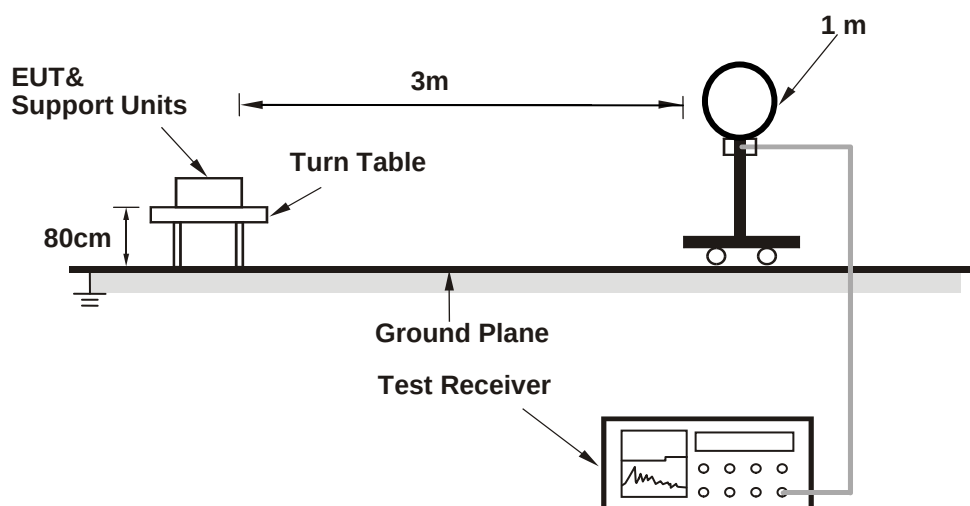
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

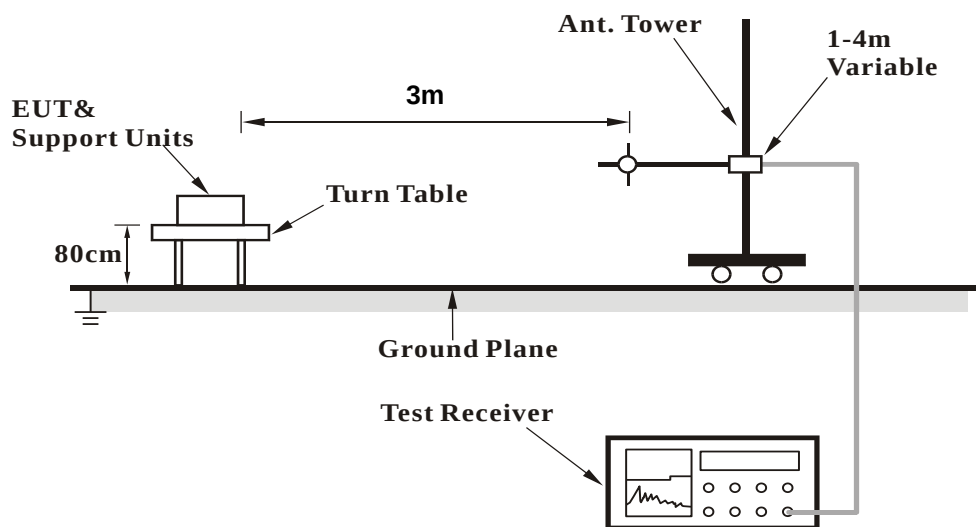
No deviation.

4.1.5 Test Setup

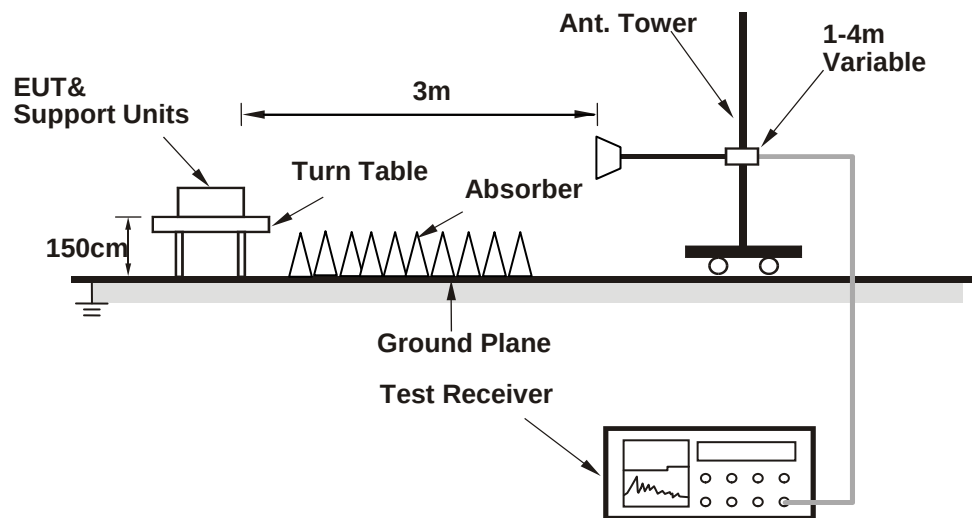
For Radiated emission below 30MHz



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

- Connected the EUT with the Laptop which is placed on remote site.
- Contorlling software (telnet (command)) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz Data:

802.11b

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

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	54.6 PK	74.0	-19.4	1.75 H	54	55.9	-1.3
2	2390.00	42.2 AV	54.0	-11.8	1.75 H	54	43.5	-1.3
3	*2412.00	94.3 PK			1.75 H	54	95.4	-1.1
4	*2412.00	91.6 AV			1.75 H	54	92.7	-1.1
5	4824.00	53.0 PK	74.0	-21.0	2.35 H	243	49.8	3.2
6	4824.00	52.1 AV	54.0	-1.9	2.35 H	243	48.9	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.0 PK	74.0	-15.0	1.52 V	210	60.3	-1.3
2	2390.00	48.3 AV	54.0	-5.7	1.52 V	210	49.6	-1.3
3	*2412.00	112.1 PK			1.52 V	210	113.2	-1.1
4	*2412.00	109.5 AV			1.52 V	210	110.6	-1.1
5	4824.00	54.2 PK	74.0	-19.8	1.79 V	165	51.0	3.2
6	4824.00	53.7 AV	54.0	-0.3	1.79 V	165	50.5	3.2

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2437.00	93.2 PK			1.75 H	58	94.4	-1.2
2	*2437.00	90.5 AV			1.75 H	58	91.7	-1.2
3	4874.00	53.9 PK	74.0	-20.1	2.31 H	228	50.6	3.3
4	4874.00	52.5 AV	54.0	-1.5	2.31 H	228	49.2	3.3
5	7311.00	47.0 PK	74.0	-27.0	2.47 H	250	37.2	9.8
6	7311.00	38.2 AV	54.0	-15.8	2.47 H	250	28.4	9.8
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	*2437.00	111.0 PK			1.92 V	215	112.2	-1.2
2	*2437.00	108.4 AV			1.92 V	215	109.6	-1.2
3	4874.00	55.3 PK	74.0	-18.7	1.92 V	160	52.0	3.3
4	4874.00	53.9 AV	54.0	-0.1	1.92 V	160	50.6	3.3
5	7311.00	46.1 PK	74.0	-27.9	1.50 V	151	36.3	9.8
6	7311.00	36.8 AV	54.0	-17.2	1.50 V	151	27.0	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	89.9 PK			1.70 H	53	91.0	-1.1
2	*2462.00	87.1 AV			1.70 H	53	88.2	-1.1
3	2483.50	54.9 PK	74.0	-19.1	1.70 H	53	55.9	-1.0
4	2483.50	40.2 AV	54.0	-13.8	1.70 H	53	41.2	-1.0
5	4924.00	53.3 PK	74.0	-20.7	2.35 H	236	49.8	3.5
6	4924.00	52.0 AV	54.0	-2.0	2.35 H	236	48.5	3.5
7	7386.00	47.1 PK	74.0	-26.9	2.42 H	250	37.2	9.9
8	7386.00	38.6 AV	54.0	-15.4	2.42 H	250	28.7	9.9
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	*2462.00	107.7 PK			1.93 V	215	108.8	-1.1
2	*2462.00	105.0 AV			1.93 V	215	106.1	-1.1
3	2483.50	59.6 PK	74.0	-14.4	1.93 V	215	60.6	-1.0
4	2483.50	46.3 AV	54.0	-7.7	1.93 V	215	47.3	-1.0
5	4924.00	55.5 PK	74.0	-18.5	2.25 V	167	52.0	3.5
6	4924.00	53.9 AV	54.0	-0.1	2.25 V	167	50.4	3.5
7	7386.00	46.5 PK	74.0	-27.5	1.56 V	165	36.6	9.9
8	7386.00	37.2 AV	54.0	-16.8	1.56 V	165	27.3	9.9

REMARKS:

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

802.11g

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

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	64.1 PK	74.0	-9.9	1.71 H	68	65.4	-1.3
2	2390.00	47.8 AV	54.0	-6.2	1.71 H	68	49.1	-1.3
3	*2412.00	92.8 PK			1.71 H	68	93.9	-1.1
4	*2412.00	83.4 AV			1.71 H	68	84.5	-1.1
5	4824.00	50.8 PK	74.0	-23.2	1.00 H	234	47.6	3.2
6	4824.00	39.4 AV	54.0	-14.6	1.00 H	234	36.2	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.2 PK	74.0	-3.8	1.92 V	224	71.5	-1.3
2	2390.00	53.9 AV	54.0	-0.1	1.92 V	224	55.2	-1.3
3	*2412.00	110.6 PK			1.92 V	166	111.7	-1.1
4	*2412.00	101.9 AV			1.92 V	166	103.0	-1.1
5	4824.00	52.5 PK	74.0	-21.5	2.00 V	167	49.3	3.2
6	4824.00	40.5 AV	54.0	-13.5	2.00 V	167	37.3	3.2

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	61.7 PK	74.0	-12.3	1.76 H	76	63.0	-1.3
2	2390.00	47.2 AV	54.0	-6.8	1.76 H	76	48.5	-1.3
3	*2437.00	99.2 PK			1.76 H	76	100.4	-1.2
4	*2437.00	89.5 AV			1.76 H	76	90.7	-1.2
5	2483.50	64.3 PK	74.0	-9.7	1.76 H	76	65.3	-1.0
6	2483.50	47.9 AV	54.0	-6.1	1.76 H	76	48.9	-1.0
7	4874.00	57.7 PK	74.0	-16.3	2.35 H	59	54.4	3.3
8	4874.00	45.6 AV	54.0	-8.4	2.35 H	59	42.3	3.3
9	7311.00	54.5 PK	74.0	-19.5	2.55 H	80	44.7	9.8
10	7311.00	41.3 AV	54.0	-12.7	2.55 H	80	31.5	9.8
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	67.7 PK	74.0	-6.3	1.92 V	162	69.0	-1.3
2	2390.00	53.4 AV	54.0	-0.6	1.92 V	162	54.7	-1.3
3	*2437.00	117.5 PK			1.92 V	162	118.7	-1.2
4	*2437.00	107.9 AV			1.92 V	162	109.1	-1.2
5	2483.50	70.5 PK	74.0	-3.5	1.92 V	162	71.5	-1.0
6	2483.50	53.9 AV	54.0	-0.1	1.92 V	162	54.9	-1.0
7	4874.00	59.2 PK	74.0	-14.8	2.00 V	357	55.9	3.3
8	4874.00	47.4 AV	54.0	-6.6	2.00 V	357	44.1	3.3
9	7311.00	57.7 PK	74.0	-16.3	3.89 V	29	47.9	9.8
10	7311.00	44.6 AV	54.0	-9.4	3.89 V	29	34.8	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	91.9 PK			1.71 H	75	93.0	-1.1
2	*2462.00	82.3 AV			1.71 H	75	83.4	-1.1
3	2483.50	61.9 PK	74.0	-12.1	1.71 H	75	62.9	-1.0
4	2483.50	47.6 AV	54.0	-6.4	1.71 H	75	48.6	-1.0
5	4924.00	49.9 PK	74.0	-24.1	2.35 H	59	46.4	3.5
6	4924.00	38.3 AV	54.0	-15.7	2.35 H	59	34.8	3.5
7	7386.00	45.5 PK	74.0	-28.5	2.50 H	80	35.6	9.9
8	7386.00	33.0 AV	54.0	-21.0	2.50 H	80	23.1	9.9

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	*2462.00	110.2 PK			1.92 V	162	111.3	-1.1
2	*2462.00	100.8 AV			1.92 V	162	101.9	-1.1
3	2483.50	67.9 PK	74.0	-6.1	1.92 V	162	68.9	-1.0
4	2483.50	53.7 AV	54.0	-0.3	1.92 V	162	54.7	-1.0
5	4924.00	51.5 PK	74.0	-22.5	2.00 V	360	48.0	3.5
6	4924.00	39.9 AV	54.0	-14.1	2.00 V	360	36.4	3.5
7	7386.00	48.8 PK	74.0	-25.2	3.93 V	34	38.9	9.9
8	7386.00	36.2 AV	54.0	-17.8	3.93 V	34	26.3	9.9

REMARKS:

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

802.11n (HT20)

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

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	61.7 PK	74.0	-12.3	1.75 H	87	63.0	-1.3
2	2390.00	47.9 AV	54.0	-6.1	1.75 H	87	49.2	-1.3
3	*2412.00	94.3 PK			1.75 H	87	95.4	-1.1
4	*2412.00	84.1 AV			1.75 H	87	85.2	-1.1
5	4824.00	48.5 PK	74.0	-25.5	2.35 H	53	45.3	3.2
6	4824.00	36.1 AV	54.0	-17.9	2.35 H	53	32.9	3.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.6 PK	74.0	-6.4	1.62 V	10	68.9	-1.3
2	2390.00	53.9 AV	54.0	-0.1	1.62 V	10	55.2	-1.3
3	*2412.00	112.7 PK			1.62 V	10	113.8	-1.1
4	*2412.00	102.6 AV			1.62 V	10	103.7	-1.1
5	4824.00	49.3 PK	74.0	-24.7	3.34 V	134	46.1	3.2
6	4824.00	36.8 AV	54.0	-17.2	3.34 V	134	33.6	3.2

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	65.0 PK	74.0	-9.0	1.75 H	101	66.3	-1.3
2	2390.00	46.7 AV	54.0	-7.3	1.75 H	101	48.0	-1.3
3	*2437.00	101.8 PK			1.75 H	101	103.0	-1.2
4	*2437.00	91.8 AV			1.75 H	101	93.0	-1.2
5	2483.50	64.3 PK	74.0	-9.7	1.75 H	101	65.3	-1.0
6	2483.50	47.8 AV	54.0	-6.2	1.75 H	101	48.8	-1.0
7	4874.00	58.0 PK	74.0	-16.0	2.35 H	54	54.7	3.3
8	4874.00	46.8 AV	54.0	-7.2	2.35 H	54	43.5	3.3
9	7311.00	50.9 PK	74.0	-23.1	2.55 H	350	41.1	9.8
10	7311.00	36.2 AV	54.0	-17.8	2.55 H	350	26.4	9.8

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	71.1 PK	74.0	-2.9	1.44 V	10	72.4	-1.3
2	2390.00	52.8 AV	54.0	-1.2	1.44 V	10	54.1	-1.3
3	*2437.00	120.2 PK			1.44 V	10	121.4	-1.2
4	*2437.00	110.3 AV			1.44 V	10	111.5	-1.2
5	2483.50	70.4 PK	74.0	-3.6	1.44 V	10	71.4	-1.0
6	2483.50	53.9 AV	54.0	-0.1	1.44 V	10	54.9	-1.0
7	4874.00	59.7 PK	74.0	-14.3	3.32 V	147	56.4	3.3
8	4874.00	47.8 AV	54.0	-6.2	3.32 V	147	44.5	3.3
9	7311.00	52.5 PK	74.0	-21.5	1.19 V	180	42.7	9.8
10	7311.00	37.1 AV	54.0	-16.9	1.19 V	180	27.3	9.8

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 11	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2462.00	91.7 PK			1.74 H	86	92.8	-1.1
2	*2462.00	81.5 AV			1.74 H	86	82.6	-1.1
3	2483.50	63.1 PK	74.0	-10.9	1.74 H	86	64.1	-1.0
4	2483.50	47.4 AV	54.0	-6.6	1.74 H	86	48.4	-1.0
5	4924.00	47.2 PK	74.0	-26.8	2.35 H	64	43.7	3.5
6	4924.00	34.5 AV	54.0	-19.5	2.35 H	64	31.0	3.5
7	7386.00	44.7 PK	74.0	-29.3	2.59 H	356	34.8	9.9
8	7386.00	32.1 AV	54.0	-21.9	2.59 H	356	22.2	9.9

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	*2462.00	110.1 PK			1.62 V	10	111.2	-1.1
2	*2462.00	100.0 AV			1.62 V	10	101.1	-1.1
3	2483.50	69.2 PK	74.0	-4.8	1.62 V	10	70.2	-1.0
4	2483.50	53.5 AV	54.0	-0.5	1.62 V	10	54.5	-1.0
5	4924.00	48.5 PK	74.0	-25.5	3.35 V	139	45.0	3.5
6	4924.00	35.3 AV	54.0	-18.7	3.35 V	139	31.8	3.5
7	7386.00	45.3 PK	74.0	-28.7	1.22 V	182	35.4	9.9
8	7386.00	32.8 AV	54.0	-21.2	1.22 V	182	22.9	9.9

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	61.8 PK	74.0	-12.2	1.68 H	102	63.1	-1.3
2	2390.00	47.7 AV	54.0	-6.3	1.68 H	102	49.0	-1.3
3	*2422.00	87.9 PK			1.68 H	102	89.2	-1.3
4	*2422.00	78.3 AV			1.68 H	102	79.6	-1.3
5	4844.00	45.8 PK	74.0	-28.2	2.32 H	56	42.5	3.3
6	4844.00	33.4 AV	54.0	-20.6	2.32 H	56	30.1	3.3
7	7266.00	44.8 PK	74.0	-29.2	2.60 H	350	35.0	9.8
8	7266.00	32.4 AV	54.0	-21.6	2.60 H	350	22.6	9.8

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	67.9 PK	74.0	-6.1	1.54 V	10	69.2	-1.3
2	2390.00	53.9 AV	54.0	-0.1	1.54 V	10	55.2	-1.3
3	*2422.00	106.2 PK			1.54 V	10	107.5	-1.3
4	*2422.00	96.8 AV			1.54 V	10	98.1	-1.3
5	4844.00	47.6 PK	74.0	-26.4	3.30 V	128	44.3	3.3
6	4844.00	34.4 AV	54.0	-19.6	3.30 V	128	31.1	3.3
7	7266.00	44.9 PK	74.0	-29.1	1.24 V	174	35.1	9.8
8	7266.00	32.4 AV	54.0	-21.6	1.24 V	174	22.6	9.8

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 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	60.8 PK	74.0	-13.2	1.72 H	108	62.1	-1.3
2	2390.00	47.1 AV	54.0	-6.9	1.72 H	108	48.4	-1.3
3	*2437.00	91.7 PK			1.72 H	108	92.9	-1.2
4	*2437.00	81.7 AV			1.72 H	108	82.9	-1.2
5	2483.50	63.1 PK	74.0	-10.9	1.72 H	108	64.1	-1.0
6	2483.50	47.5 AV	54.0	-6.5	1.72 H	108	48.5	-1.0
7	4874.00	47.2 PK	74.0	-26.8	2.40 H	60	43.9	3.3
8	4874.00	34.3 AV	54.0	-19.7	2.40 H	60	31.0	3.3
9	7311.00	45.2 PK	74.0	-28.8	2.60 H	352	35.4	9.8
10	7311.00	32.4 AV	54.0	-21.6	2.60 H	352	22.6	9.8

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	66.8 PK	74.0	-7.2	1.48 V	10	68.1	-1.3
2	2390.00	53.1 AV	54.0	-0.9	1.48 V	10	54.4	-1.3
3	*2437.00	110.0 PK			1.48 V	10	111.2	-1.2
4	*2437.00	100.2 AV			1.48 V	10	101.4	-1.2
5	2483.50	69.2 PK	74.0	-4.8	1.48 V	10	70.2	-1.0
6	2483.50	53.6 AV	54.0	-0.4	1.48 V	10	54.6	-1.0
7	4874.00	49.0 PK	74.0	-25.0	3.35 V	147	45.7	3.3
8	4874.00	35.8 AV	54.0	-18.2	3.35 V	147	32.5	3.3
9	7311.00	44.7 PK	74.0	-29.3	1.25 V	195	34.9	9.8
10	7311.00	32.4 AV	54.0	-21.6	1.25 V	195	22.6	9.8

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 9	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	*2452.00	86.5 PK			1.68 H	91	87.6	-1.1
2	*2452.00	76.9 AV			1.68 H	91	78.0	-1.1
3	2483.50	61.3 PK	74.0	-12.7	1.68 H	91	62.3	-1.0
4	2483.50	47.8 AV	54.0	-6.2	1.68 H	91	48.8	-1.0
5	4904.00	45.7 PK	74.0	-28.3	2.31 H	66	42.2	3.5
6	4904.00	33.0 AV	54.0	-21.0	2.31 H	66	29.5	3.5
7	7356.00	45.0 PK	74.0	-29.0	2.61 H	346	35.1	9.9
8	7356.00	32.6 AV	54.0	-21.4	2.61 H	346	22.7	9.9

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	*2452.00	104.8 PK			1.42 V	10	105.9	-1.1
2	*2452.00	95.4 AV			1.42 V	10	96.5	-1.1
3	2483.50	67.2 PK	74.0	-6.8	1.42 V	10	68.2	-1.0
4	2483.50	53.8 AV	54.0	-0.2	1.42 V	10	54.8	-1.0
5	4904.00	46.8 PK	74.0	-27.2	3.36 V	152	43.3	3.5
6	4904.00	33.6 AV	54.0	-20.4	3.36 V	152	30.1	3.5
7	7356.00	45.3 PK	74.0	-28.7	1.19 V	197	35.4	9.9
8	7356.00	32.8 AV	54.0	-21.2	1.19 V	197	22.9	9.9

REMARKS:

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

Below 1GHz Data:

802.11n (HT20)

CHANNEL	TX Channel 6	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	125.01	30.8 QP	43.5	-12.7	1.50 H	102	40.4	-9.6
2	181.27	32.8 QP	43.5	-10.7	1.00 H	136	42.6	-9.8
3	250.00	42.9 QP	46.0	-3.1	1.00 H	360	52.4	-9.5
4	362.52	29.4 QP	46.0	-16.6	1.00 H	196	35.4	-6.0
5	500.01	41.5 QP	46.0	-4.5	1.50 H	209	44.3	-2.8
6	906.25	35.4 QP	46.0	-10.6	1.00 H	71	31.3	4.1

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	64.77	34.2 QP	40.0	-5.8	1.00 V	171	43.1	-8.9
2	106.73	31.8 QP	43.5	-11.7	1.00 V	256	43.3	-11.5
3	181.25	29.1 QP	43.5	-14.4	2.50 V	302	38.9	-9.8
4	250.00	37.7 QP	46.0	-8.3	1.50 V	139	47.2	-9.5
5	362.49	28.4 QP	46.0	-17.6	1.50 V	346	34.5	-6.1
6	499.99	42.7 QP	46.0	-3.3	1.00 V	148	45.5	-2.8

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

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	Oct. 24, 2016	Oct. 23, 2017
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 03, 2017	June 02, 2018
50 ohms Terminator	N/A	EMC-02	Sep. 29, 2016	Sep. 28, 2017
RF Cable	5D-FB	COCCAB-001	Sep. 30, 2016	Sep. 29, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 18, 2017	June 17, 2018
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 Shielded Room No. 1.
3. Tested Date: July 18, 2017.

4.2.3 Test Procedures

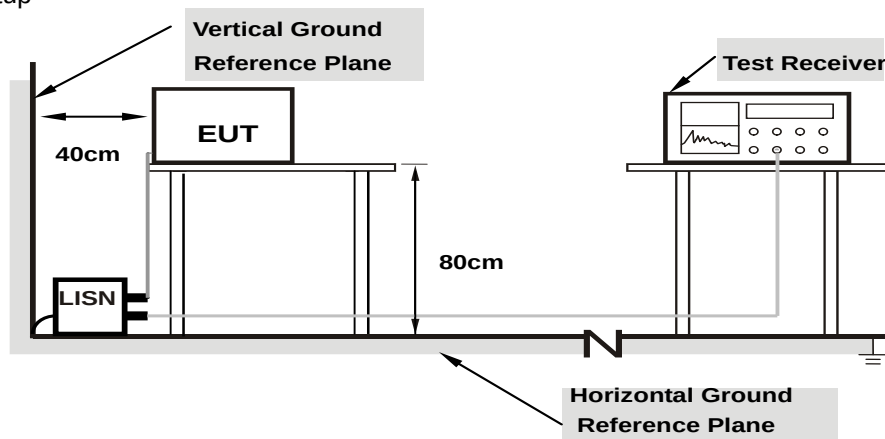
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

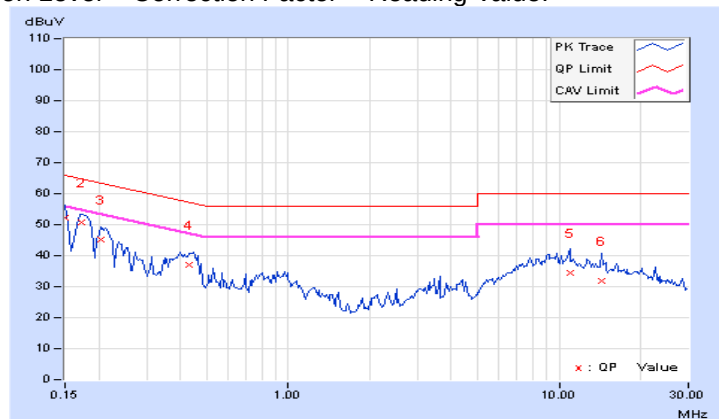
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.08	42.22	26.42	52.30	36.50	66.00	56.00	-13.70	-19.50
2	0.17344	10.08	40.81	30.69	50.89	40.77	64.79	54.79	-13.90	-14.02
3	0.20469	10.07	35.15	22.81	45.22	32.88	63.42	53.42	-18.20	-20.54
4	0.43125	10.12	26.81	21.92	36.93	32.04	57.23	47.23	-20.30	-15.19
5	10.94531	10.86	23.58	18.70	34.44	29.56	60.00	50.00	-25.56	-20.44
6	14.43750	11.14	20.66	15.74	31.80	26.88	60.00	50.00	-28.20	-23.12

REMARKS:

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

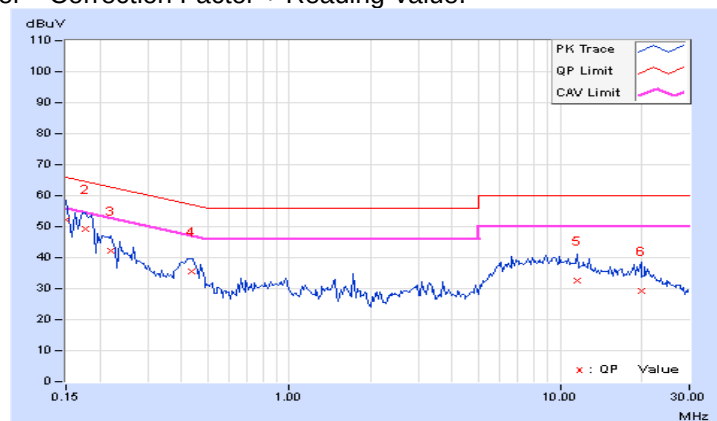


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.07	42.32	29.18	52.39	39.25	66.00	56.00	-13.61	-16.75
2	0.17734	10.05	39.25	28.51	49.30	38.56	64.61	54.61	-15.31	-16.05
3	0.22031	10.05	32.29	18.59	42.34	28.64	62.81	52.81	-20.47	-24.17
4	0.43516	10.12	25.28	20.06	35.40	30.18	57.15	47.15	-21.75	-16.97
5	11.60547	10.80	21.85	16.96	32.65	27.76	60.00	50.00	-27.35	-22.24
6	19.87109	11.27	18.10	13.76	29.37	25.03	60.00	50.00	-30.63	-24.97

REMARKS:

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

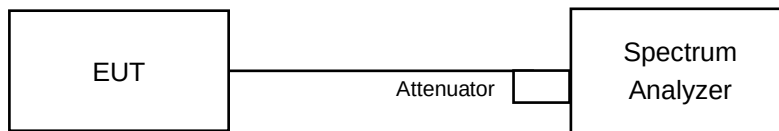


4.3 6dB Bandwidth Measurement

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

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	9.60	0.5	PASS
6	2437	9.58	0.5	PASS
11	2462	9.17	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.65	0.5	PASS
6	2437	16.40	0.5	PASS
11	2462	16.41	0.5	PASS

802.11n (HT20)

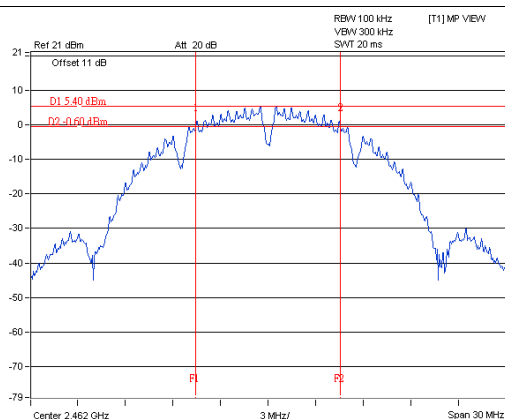
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.61	17.66	0.5	Pass
6	2437	17.64	17.61	0.5	Pass
11	2462	17.68	17.12	0.5	Pass

802.11n (HT40)

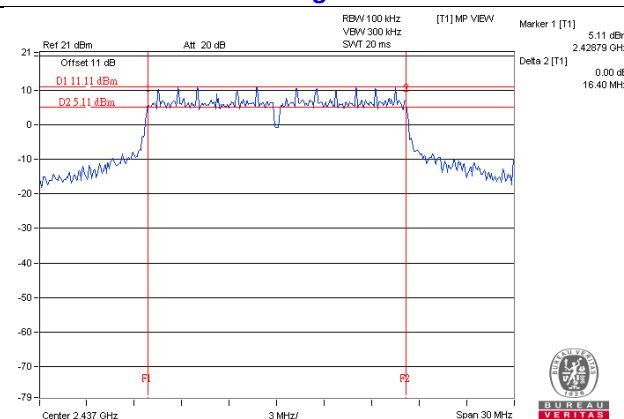
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	35.49	35.44	0.5	Pass
6	2437	35.55	35.57	0.5	Pass
9	2452	35.58	35.54	0.5	Pass

Spectrum Plot of Worst Value

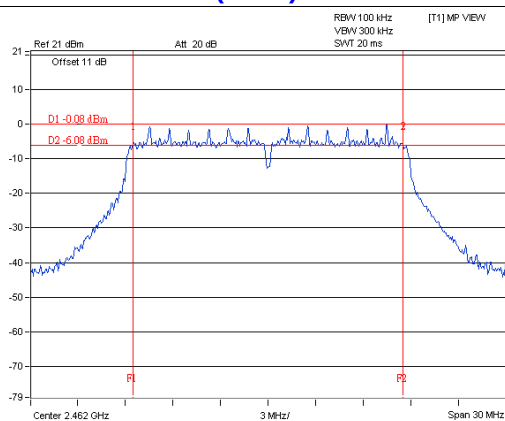
802.11b : CH11



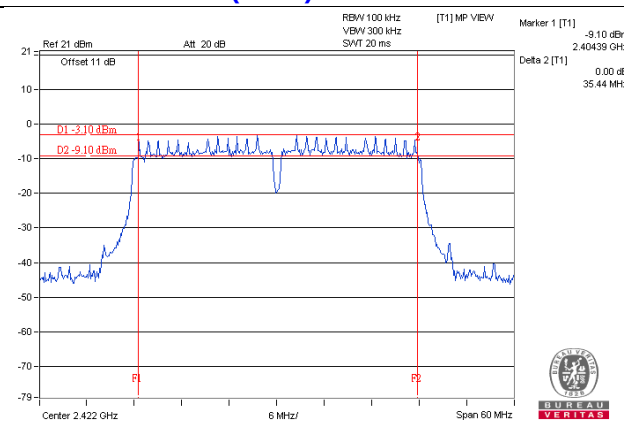
802.11g : CH6



802.11n (HT20) / Chain 1 : CH11



802.11n (HT40) / Chain 1 : CH3



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)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

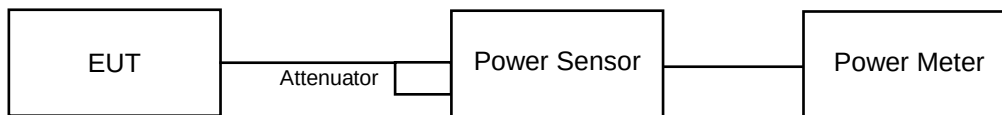
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

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

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	137.404	21.38	30	Pass
6	2437	95.719	19.81	30	Pass
11	2462	52.481	17.20	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	301.995	24.80	30	Pass
6	2437	416.869	26.20	30	Pass
11	2462	229.087	23.60	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	22.99	22.19	364.644	25.62	30	Pass
6	2437	26.09	26.34	836.97	29.23	30	Pass
11	2462	19.44	19.30	173.016	22.38	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	19.69	18.16	158.575	22.00	30.00	Pass
6	2437	23.17	22.16	371.928	25.70	30.00	Pass
9	2452	18.74	17.11	126.221	21.01	30.00	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	85.704	19.33
6	2437	60.674	17.83
11	2462	32.659	15.14

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	50.816	17.06
6	2437	167.494	22.24
11	2462	31.189	14.94

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	14.78	13.42	52.04	17.16
6	2437	22.19	21.29	300.163	24.77
11	2462	11.56	10.49	25.516	14.07

802.11n (HT40)

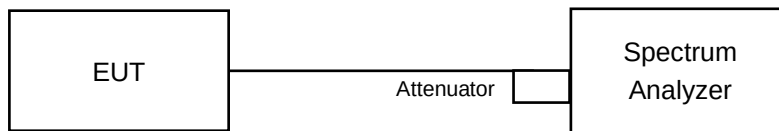
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	11.46	9.94	23.859	13.78
6	2437	14.81	13.45	52.4	17.19
9	2452	9.96	8.61	17.169	12.35

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

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

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-6.69	8.00	Pass
6	2437	-1.99	8.00	Pass
11	2462	-3.17	8.00	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-11.57	8.00	Pass
6	2437	-6.66	8.00	Pass
11	2462	-13.29	8.00	Pass

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-12.99	3.01	-9.98	5.99	Pass
	6	2437	-5.78	3.01	-2.77	5.99	Pass
	11	2462	-16.22	3.01	-13.21	5.99	Pass
1	1	2412	-13.89	3.01	-10.88	5.99	Pass
	6	2437	-5.69	3.01	-2.68	5.99	Pass
	11	2462	-16.82	3.01	-13.81	5.99	Pass

Note: 1. Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power density limit shall be reduced to 8-(8.01-6) = 5.99dBm.

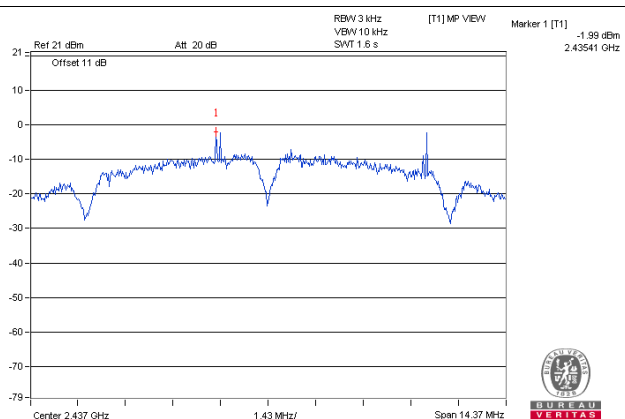
802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-17.01	3.01	-14.00	5.99	Pass
	6	2437	-15.11	3.01	-12.10	5.99	Pass
	9	2452	-19.10	3.01	-16.09	5.99	Pass
1	3	2422	-18.72	3.01	-15.71	5.99	Pass
	6	2437	-17.18	3.01	-14.17	5.99	Pass
	9	2452	-20.23	3.01	-17.22	5.99	Pass

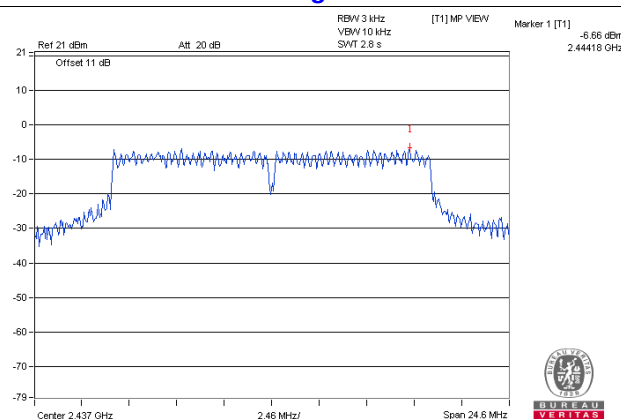
Note: 1. Directional gain = 5dBi + 10log(2) = 8.01dBi > 6dBi , so the power density limit shall be reduced to 8-(8.01-6) = 5.99dBm.

Spectrum Plot of Worst Value

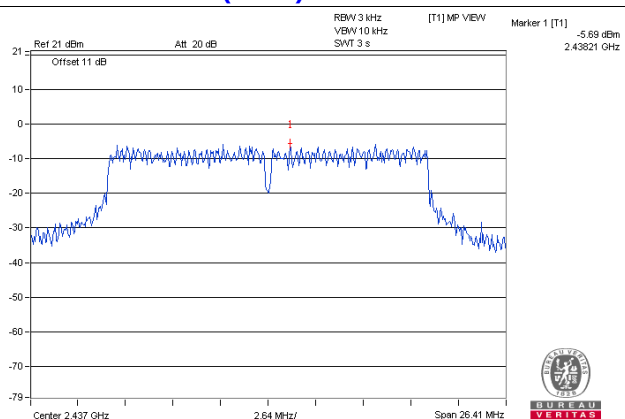
802.11b: CH6



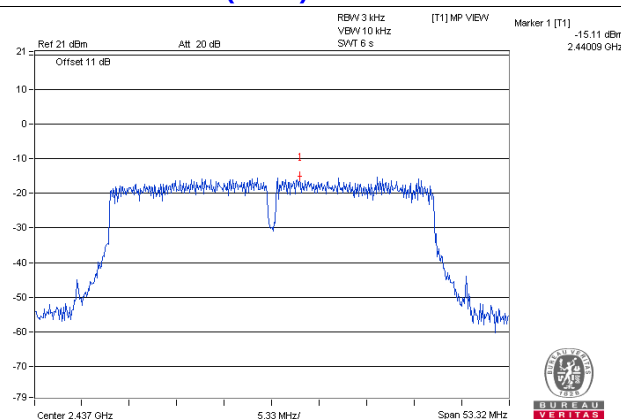
802.11g: CH6



802.11n (HT20) / Chain 1 : CH6



802.11n (HT40) / Chain 0 : CH6

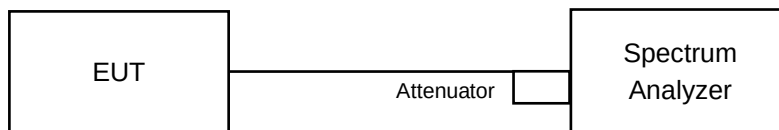


4.6 Conducted Out of Band Emission Measurement

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 $\geq$ 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 OOB

1. Set RBW = 100 kHz.
2. Set VBW $\geq$ 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.

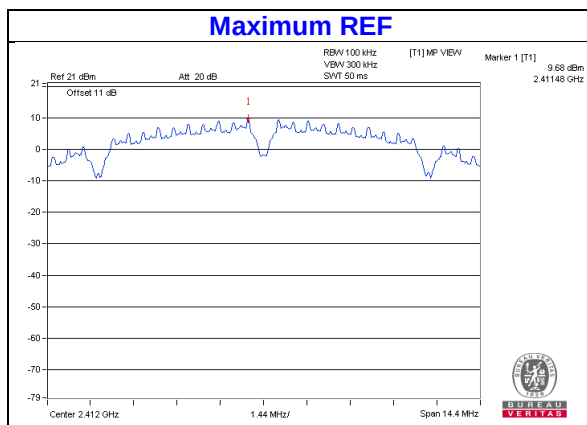
4.6.6 EUT Operating Condition

Same as Item 4.3.6

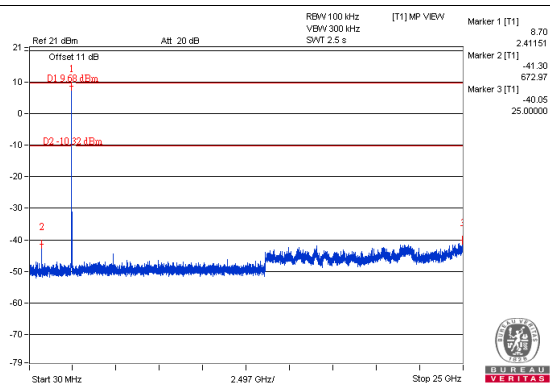
4.6.7 Test Results

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.

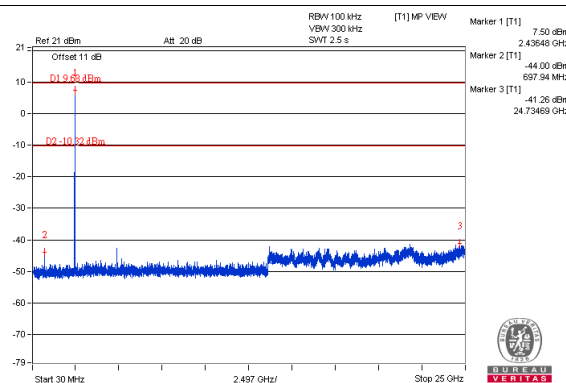
802.11b



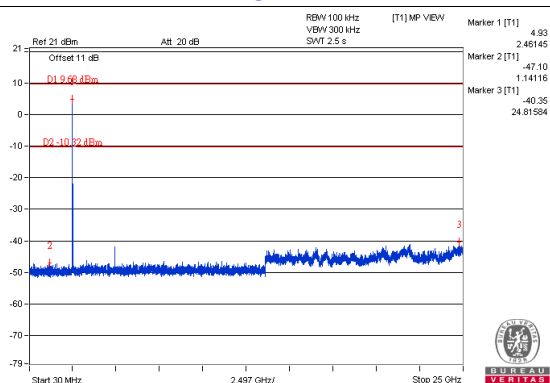
CH 1



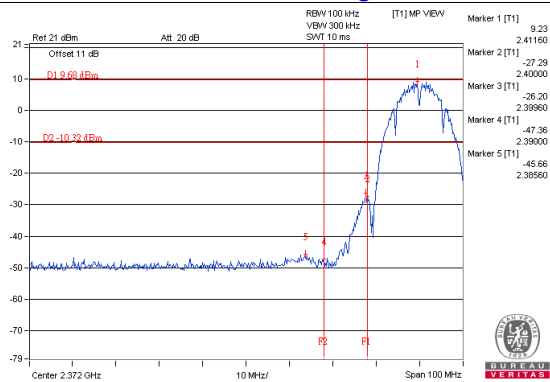
CH 6



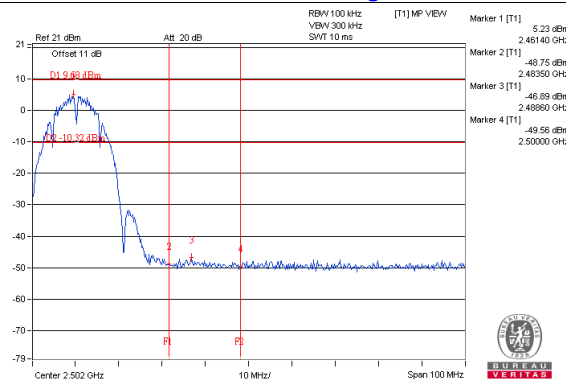
CH 11



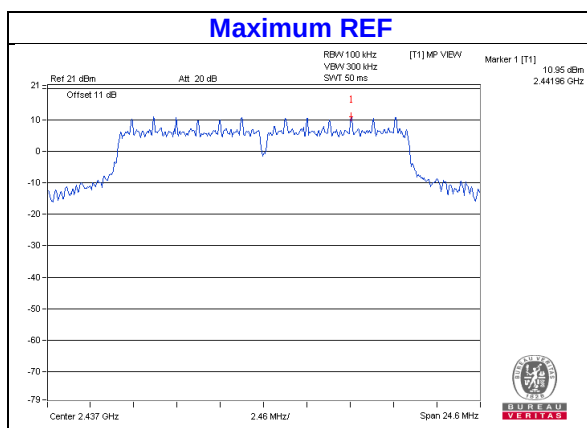
CH 1 Band edge



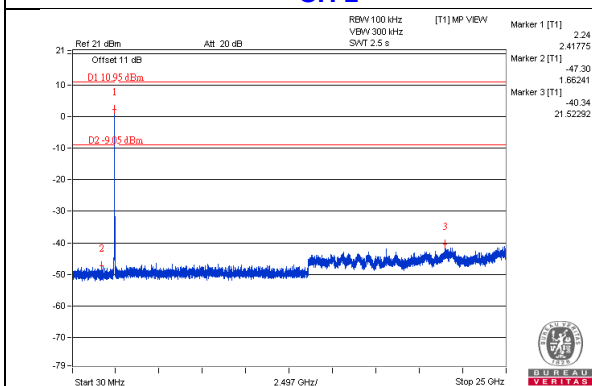
CH 11 Band edge



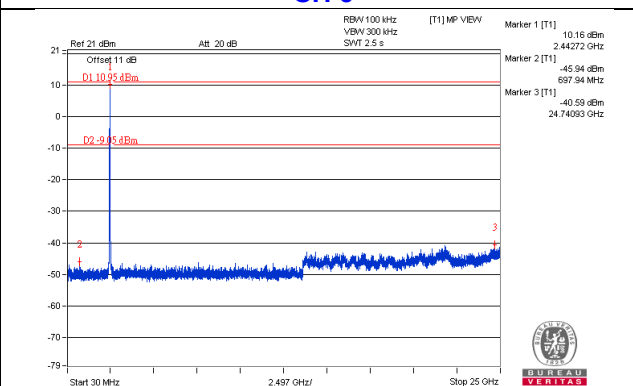
802.11g



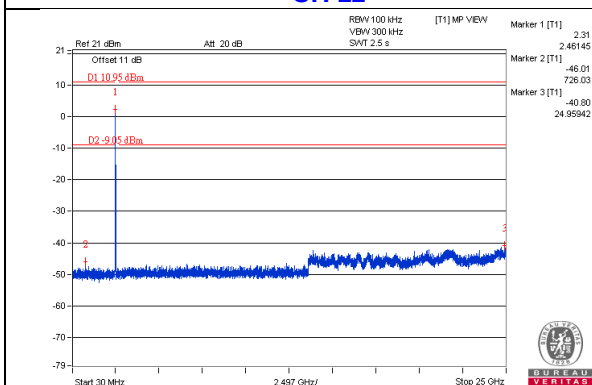
CH 1



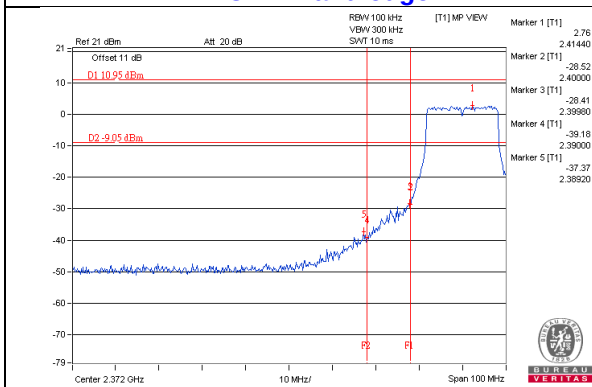
CH 6



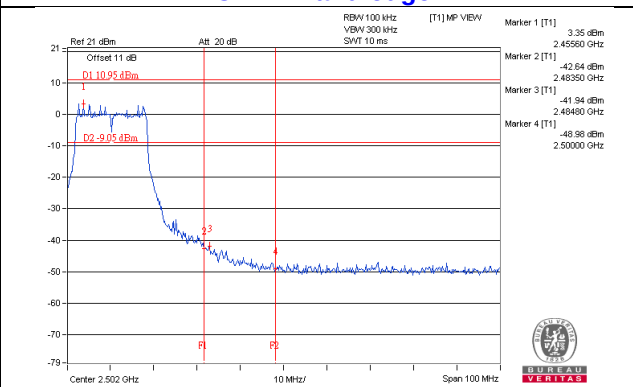
CH 11



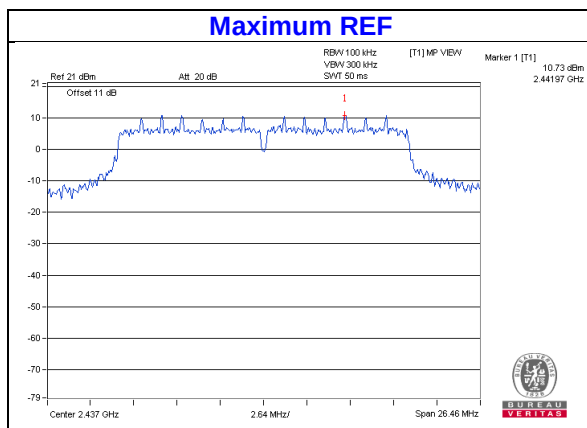
CH 1 Band edge



CH 11 Band edge

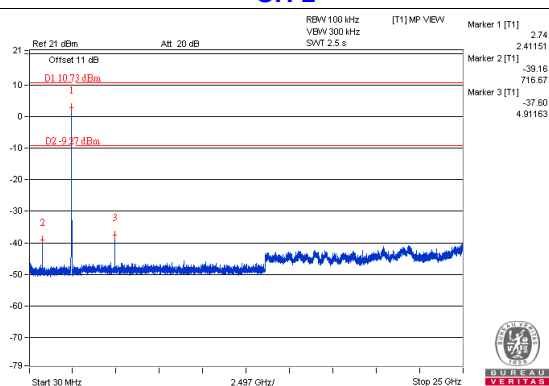


802.11n (HT20)

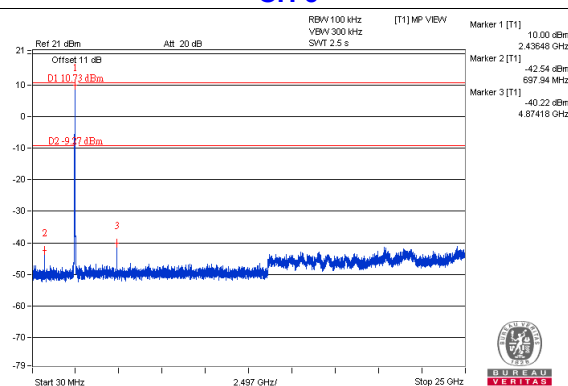


CHAIN 0

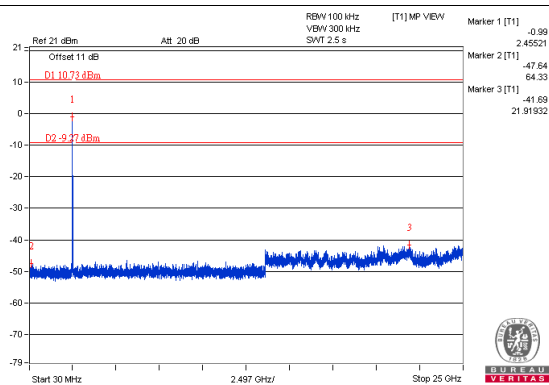
CH 1



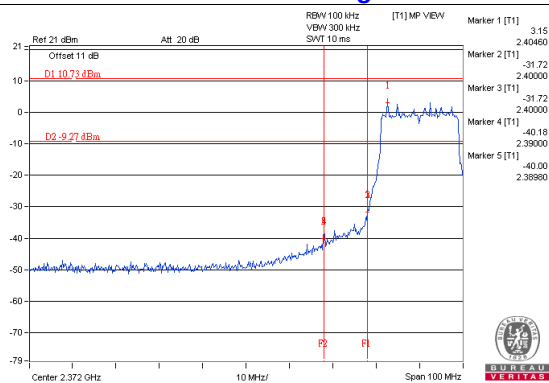
CH 6



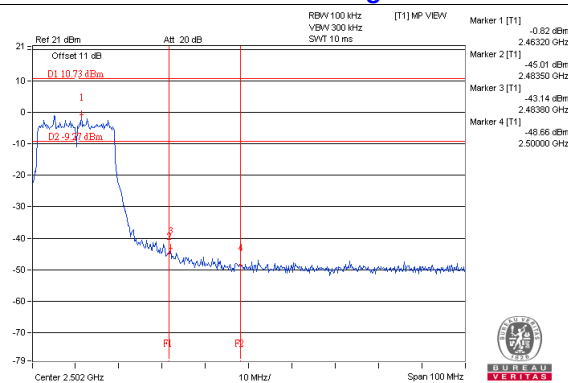
CH 11



CH 1 Band edge

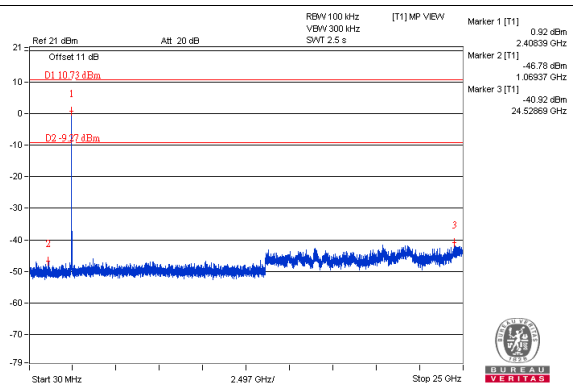


CH 11 Band edge

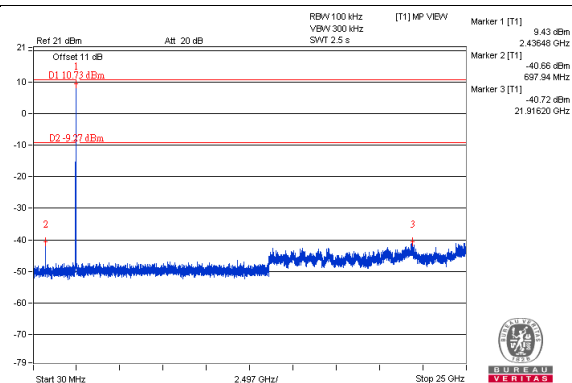


CHAIN 1

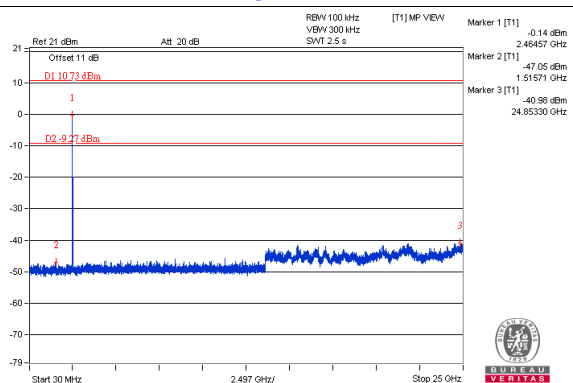
CH 1



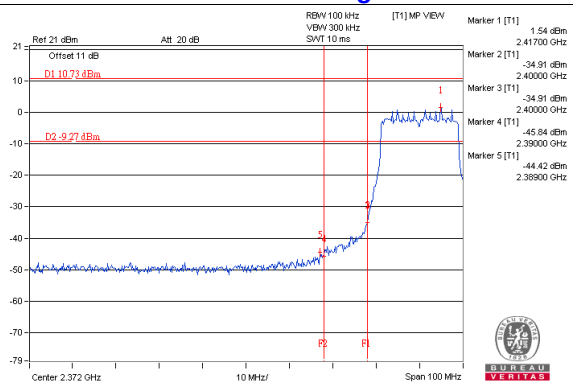
CH 6



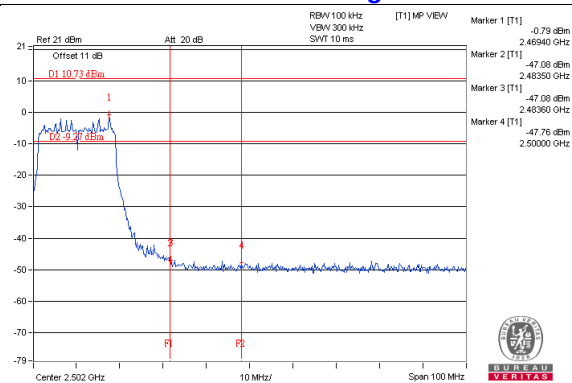
CH 11



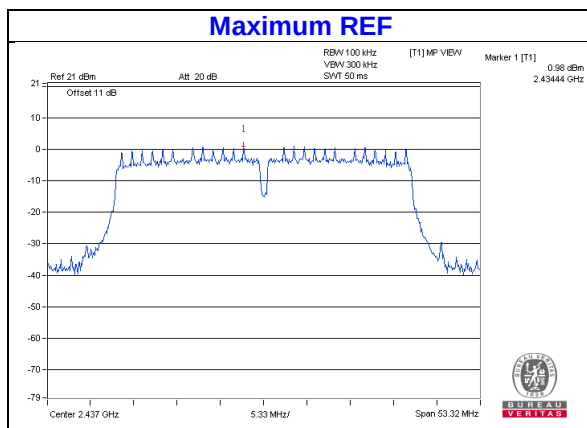
CH 1 Band edge



CH 11 Band edge

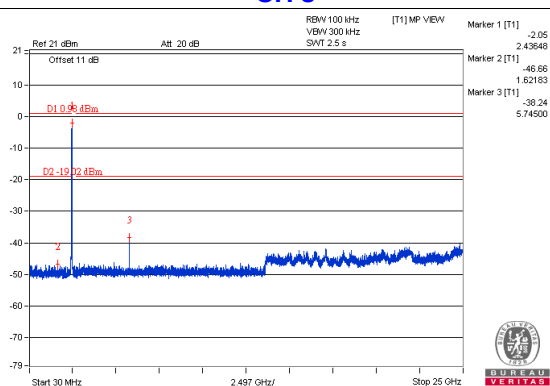


802.11n (HT40)

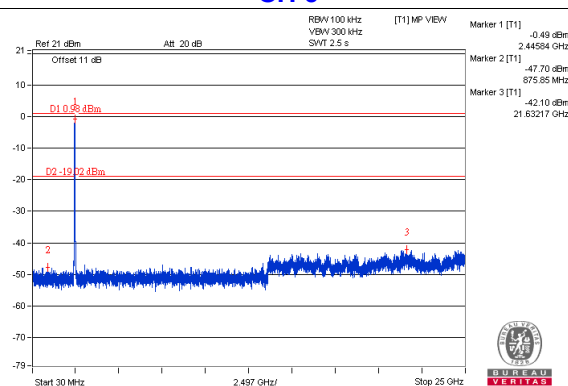


CHAIN 0

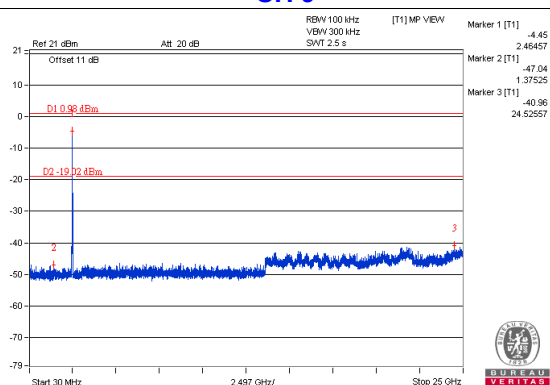
CH 3



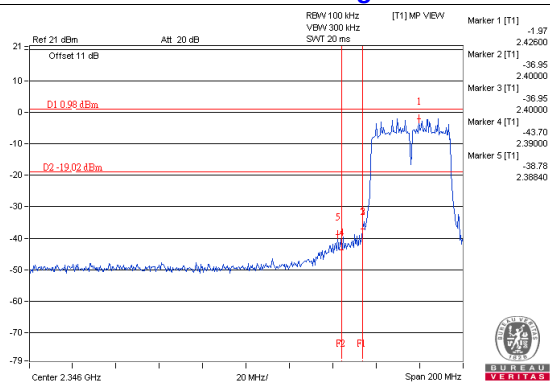
CH 6



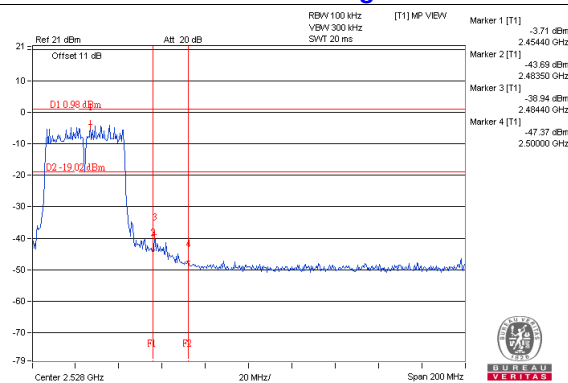
CH 9



CH 3 Band edge

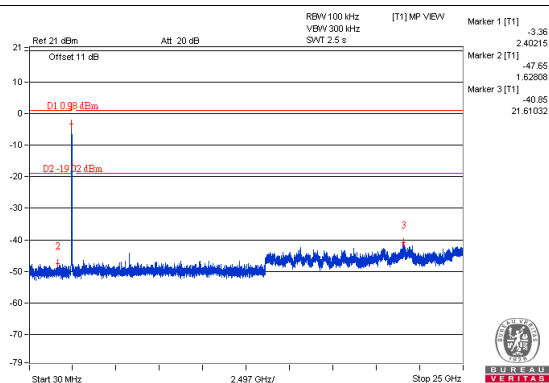


CH 9 Band edge

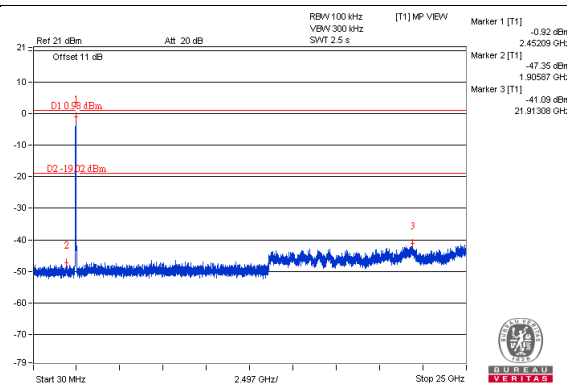


CHAIN 1

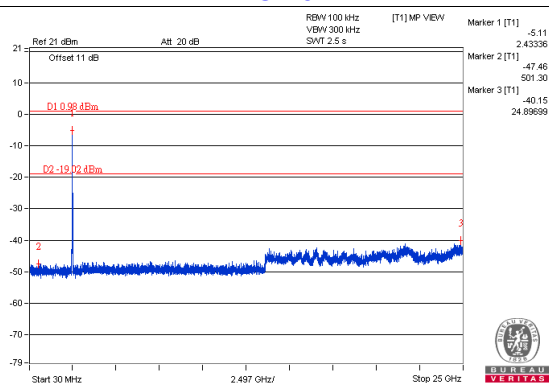
CH 3



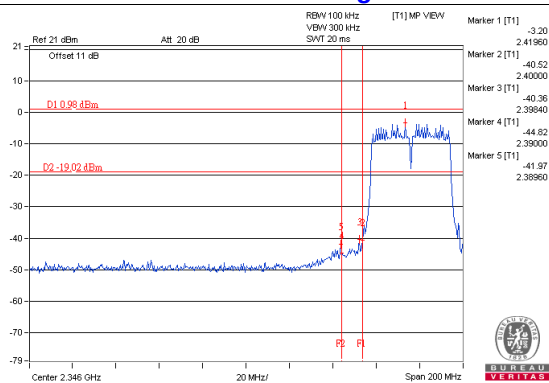
CH 6



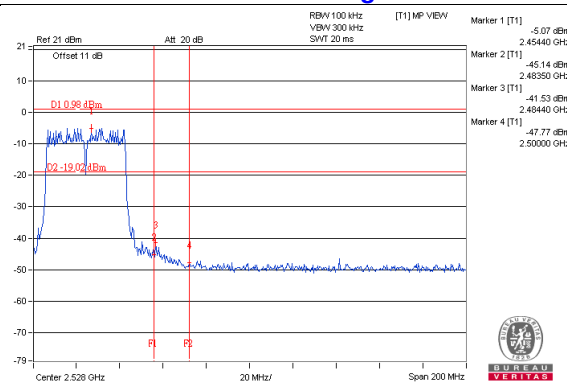
CH 9



CH 3 Band edge



CH 9 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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Fax: 886-2-26051924

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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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