

FCC Test Report

Report No.: RF150415E06H

FCC ID: HEDIRAC750

Test Model: IR-AC750

Series Model: IR-AC750-EU

Received Date: Dec. 28, 2015

Test Date: Dec. 29, 2015 to Jan. 14, 2016

Issued Date: Jan. 25, 2016

Applicant: Accton Technology Corporation

Address: No.1, Creation Rd. III, Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

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

Test Location (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.



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Release Control Record

Issue No.	Description	Date Issued
RF150415E06H	Original release.	Jan. 25, 2016

1 Certificate of Conformity

Product: Cloud-Enabled Enterprise Access Point

Brand: IgniteNet

Test Model: IR-AC750

Series Model: IR-AC750-EU

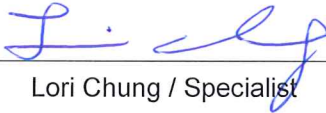
Sample Status: ENGINEERING SAMPLE

Applicant: Accton Technology Corporation

Test Date: Dec. 29, 2015 to Jan. 14, 2016

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:** Jan. 25, 2016
Lori Chung / Specialist

Approved by : , **Date:** Jan. 25, 2016
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 -11.89dB at 0.43125MHz.
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 4824.00MHz & 4874.00MHz & 2483.50MHz
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	Expended Uncertainty (k=2) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.37 dB
	1GHz ~6GHz	3.65 dB
Radiated Emissions above 1 GHz	6GHz ~ 18GHz	3.88 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Cloud-Enabled Enterprise Access Point
Brand	IgniteNet
Test Model	IR-AC750
Series Model	IR-AC750-EU
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	12-48Vdc from power adapter or 24Vdc from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode
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 433.3Mbps
Operating Frequency	For 15.407 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
Number of Channel	For 15.407 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	For 15.407 802.11a: 212.814mW 802.11ac (VHT20): 187.932mW 802.11ac (VHT40): 179.473mW 802.11ac (VHT80): 72.946mW
	For 15.247 802.11b: 114.551mW 802.11g: 564.937mW 802.11n (HT20): 967.697mW 802.11n (HT40): 652.316mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1, POE x 1
Data Cable Supplied	NA

Note:

- The EUT has below Model names, which are identical to each other in all aspects except for the following information:

Model Name	Difference
IR-AC750	For marketing purpose.
IR-AC750-EU	

From the above models, model: **SP-AC750** was selected as representative model for the test and its data was recorded in this report.

- The emission of the simultaneous operation (2.4GHz & 5GHz) has been evaluated and no non-compliance was found.

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

2.4GHz Band						
Antenna No.	PCB Chain No.	Ant. Gain(dBi)	Frequency Range (GHz to GHz)	Ant. Type	Connector Type	Cable Length (mm)
1 (White)	Chain (0)	4.3	2.4~2.4835	PCB	i-pex(MHF)	130
2 (Gray)	Chain (1)	4.01	2.4~2.4835	PCB	i-pex(MHF)	90
**For 802.11bg mode will fix transmission on Chain (0).						
5GHz Band						
Antenna No.	Ant. Gain(dBi)	Frequency Range (GHz to GHz)	Ant. Type	Connector Type	Cable Length (mm)	
3 (Black)	5	5.15~5.85	PCB	MMCX-plug	60	

4. The EUT must be supplied with a power adapter or a POE as following table:

Power Adapter		
Brand	Model No.	Spec.
APD	WB-18D12FU	AC Input: 100-240V, 0.5A, 50-60Hz DC Output: 12V, 1.5A DC Output cable: Unshielded, 1.8m
POE		
Brand	Model No.	Spec.
LEI	NU24-F240100-I2	AC Input: 100-240V, 0.7A, 50/60Hz AC Input cable: Unshielded, 0.8m DC Output: 24V, 1A
For Radiated Emission test, the EUT was pre-tested with adapter and POE, the worst case was found in POE. Therefore only the test data of the POE was recorded in this report.		

5. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	1TX (fix on chain 0)	2RX
802.11g	6 ~ 54Mbps	1TX (fix on chain 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (fix on chain 0)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (fix on chain 0)	2RX
	MCS 8~15*	2TX	2RX
5GHz Band			
MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11a	6 ~ 54Mbps	1TX	1RX
802.11n (HT20)	MCS 0~7	1TX	1RX
802.11n (HT40)	MCS 0~7	1TX	1RX
802.11ac (VHT20)	MCS 0~8, Nss=1	1TX	1RX
802.11ac (VHT40)	MCS 0~9, Nss=1	1TX	1RX
802.11ac (VHT80)	MCS 0~9, Nss=1	1TX	1RX

Remark: “*” means the device operate with two spatial stream (Nss = 2) with different data, and two signals are not correlated.

6. 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 and 802.11n (HT20):

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):

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 $\geq$ 1G	RE<1G	PLC	APCM	
1	√	√	√	√	POE Mode
2	-	-	√	-	Adapter Mode

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

NOTE: 1. The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on Laying-flat type (for below 1GHz) and Wall-mount type (for above 1GHz).
2. "-" means no effect.

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	13
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

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	13

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	13

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	13
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

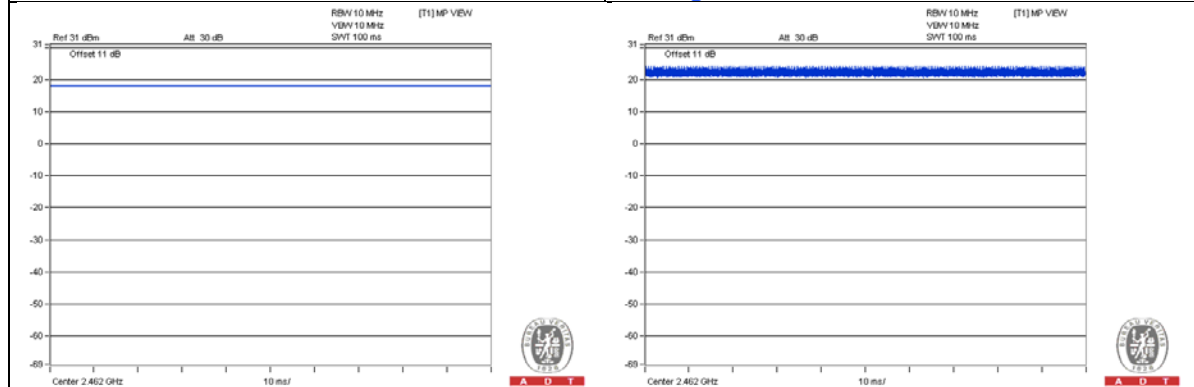
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	22deg. C, 62%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	23deg. C, 66%RH	120Vac, 60Hz	Weiwei Lo
PLC	26deg. C, 65%RH	120Vac, 60Hz	Jason Huang
APCM	16deg. C, 59%RH	120Vac, 60Hz	Anderson Chen

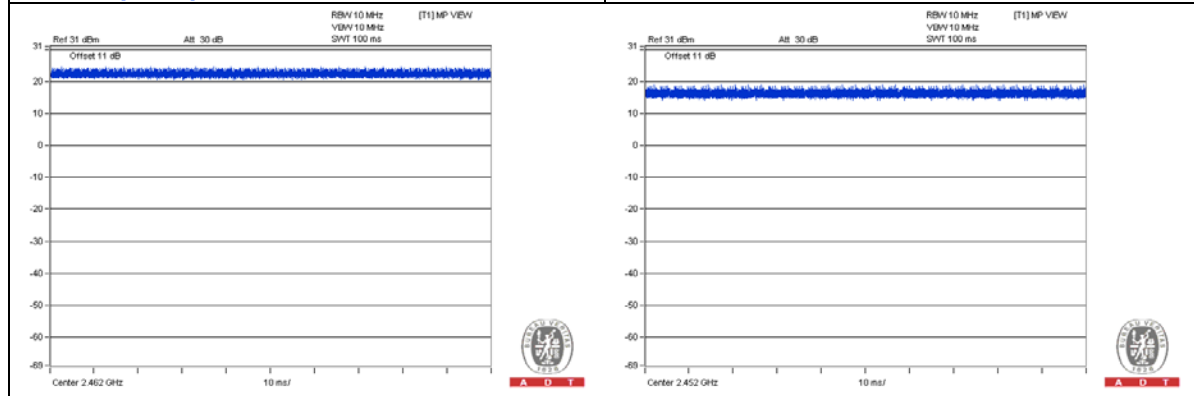
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.

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.

No.	Product	Brand	Model No.	Serial No.	FCC ID	Remark
A	iPod shuffle	Apple	MD778TA/A	CC4JMCMTX4T1	NA	Provided by Lab
B	Notebook Computer	DELL	E6440	F9LYQ32	FCC DoC	Provided by Lab
C	Notebook Computer	DELL	E5430	4YV4VY1	FCC DoC	Provided by Lab
D	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab

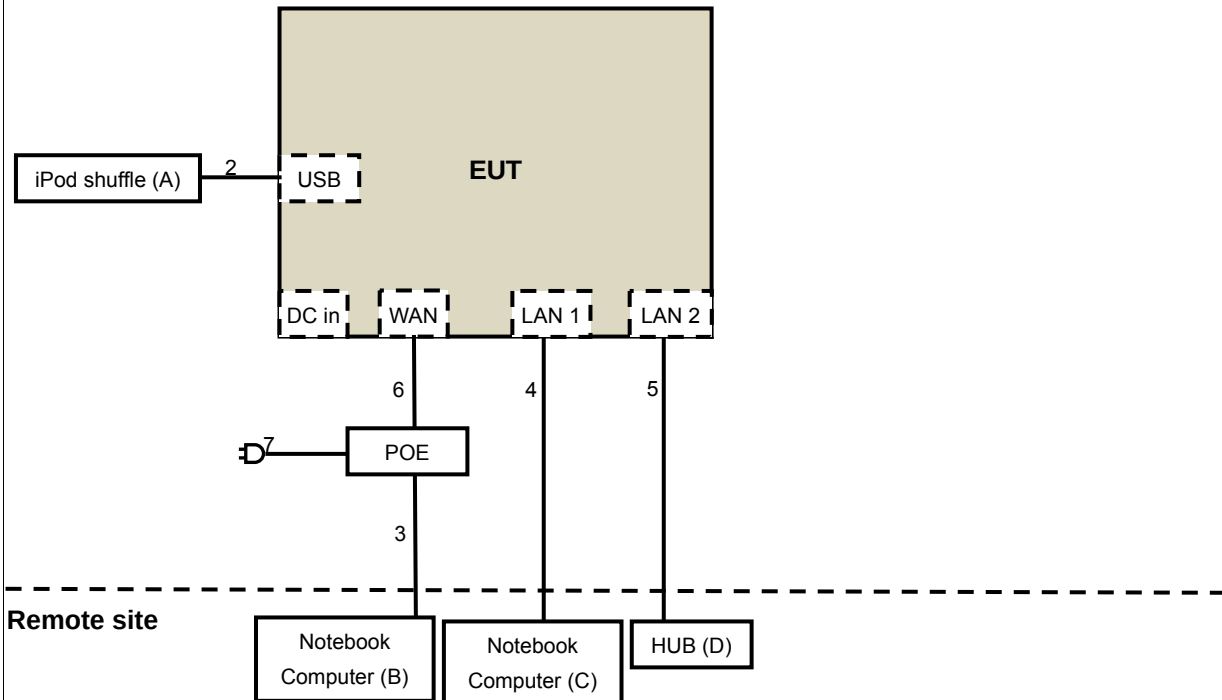
NOTE:

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

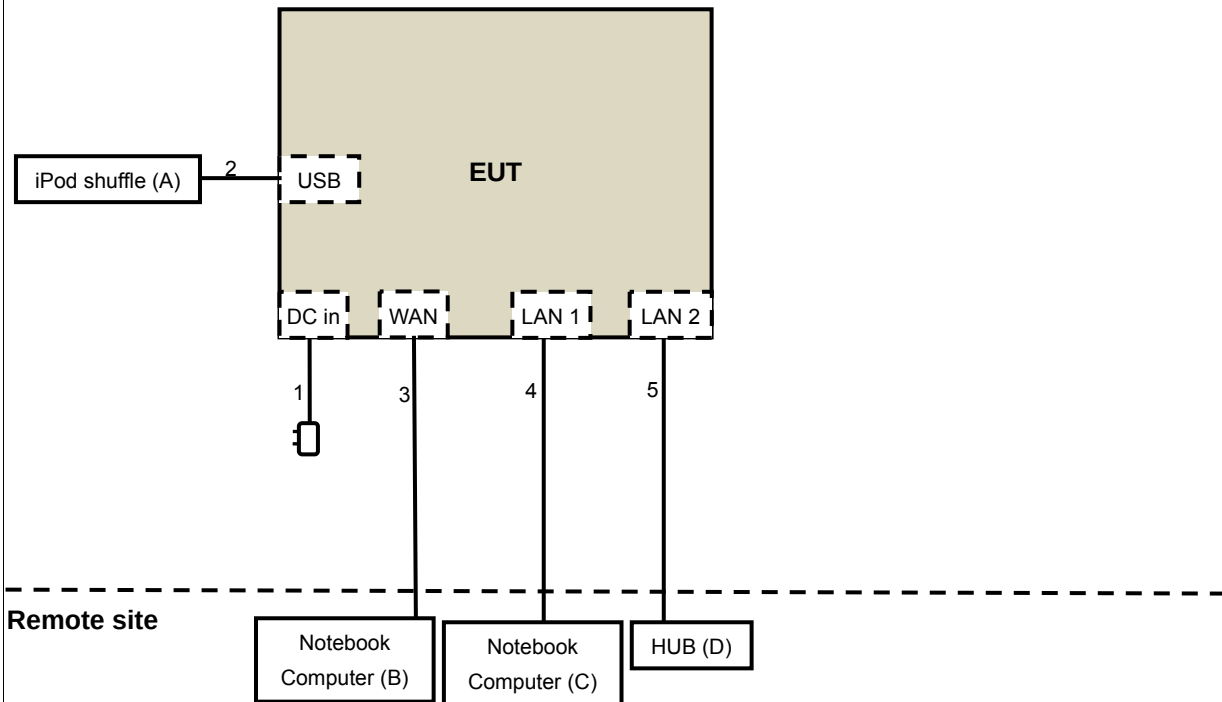
No.	Cable	Qty.	Length (m)	Shielded (Yes/ No)	Cores (Number)	Remark
1	DC	1	1.8	No	0	Supplied by Client
2	USB	1	0.1	Yes	0	Provided by Lab
3	RJ45	1	10	No	0	Provided by Lab
4	RJ45	1	10	No	0	Provided by Lab
5	RJ45	1	10	No	0	Provided by Lab
6	RJ45	1	1.5	No	0	Provided by Lab
7	AC	1	0.8	No	0	Supplied by Client

3.4.1 Configuration of System under Test

POE Mode:



Adapter Mode:



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 v03r04

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

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Pre-Amplifier ^(*) EMCI	EMC001340	980142	Jan. 13, 2014	Jan. 12, 2016
Loop Antenna ^(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2015	Jan. 17, 2016
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 11, 2015	Nov. 10, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 06, 2015	Feb. 05, 2016
RF Cable	8D-FB	CHGCAB-001 -1 CHGCAB-001 -2	Oct. 03, 2015	Oct. 02, 2016
	RF-141	CHGCAB-004	Oct. 03, 2015	Oct. 02, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Loop antenna was used for all emissions below 30 MHz.
4. The test was performed in 966 Chamber No. G.
5. The FCC Site Registration No. is 966073.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: Dec. 30, 2015

For Other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY51210105	July 24, 2015	July 23, 2016
Horn_Antenna AISI	AIH.8018	000032009111 0	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 23, 2015	June 22, 2016
RF Cable	NA	131205 131216 131217 SNMY23684/ 4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer Agilent	E4446A	MY48250254	Nov. 25, 2015	Nov. 24, 2016
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 11, 2015	Dec. 10, 2016
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	SUCOFLEX 102	36442/2 36434/2	Dec. 10, 2015	Dec.09, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016
Spectrum Analyzer R&S	FSP40	100060	May 08, 2015	May 07, 2016

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. G.
3. The FCC Site Registration No. is 966073.
4. The VCCI Site Registration No. is G-137.
5. The CANADA Site Registration No. is IC 7450H-2.
6. Tested Date: Jan. 14, 2016

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

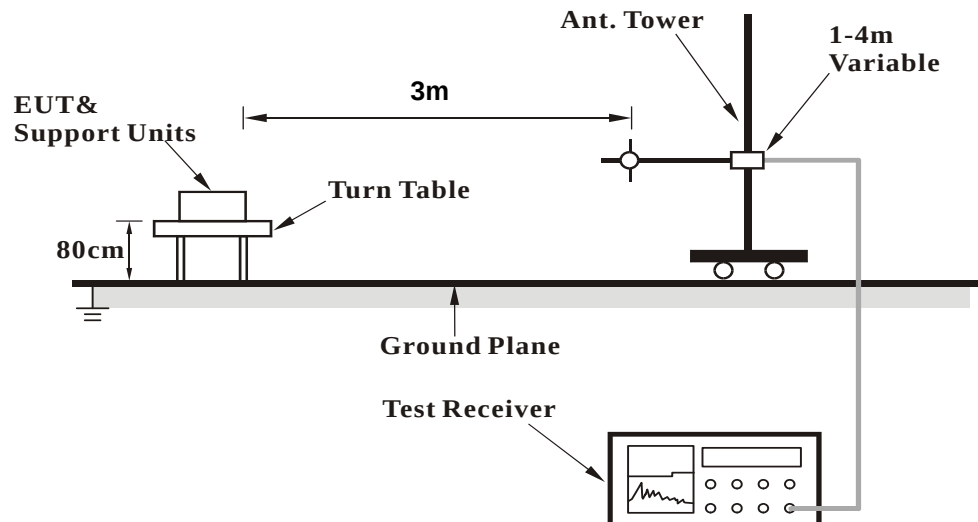
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

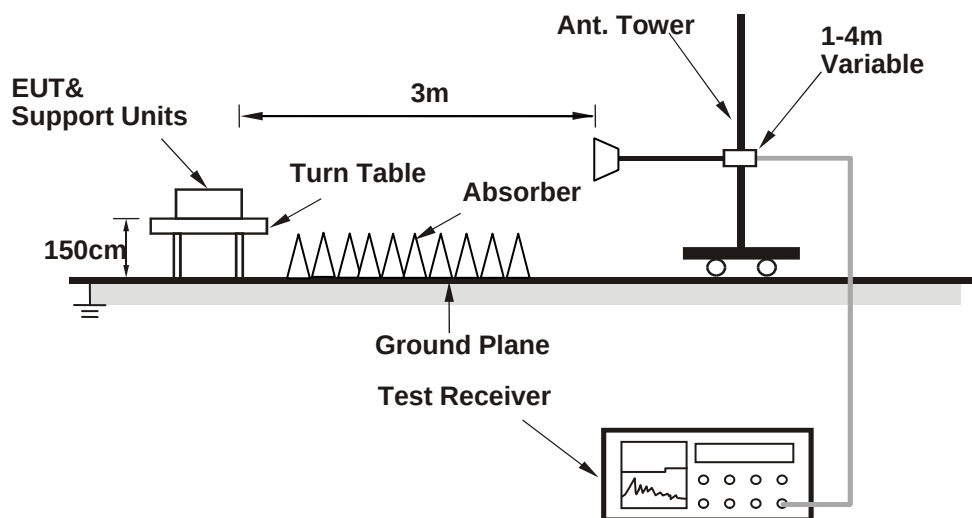
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

1. Connect the EUT with the support units B & C (Notebook Computer) which is placed on remote site.
2. Controlling software (MP_TEST.exe [V1.3.8.0]) 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	48.5 PK	74.0	-25.5	1.66 H	1	49.93	-1.43
2	2390.00	37.4 AV	54.0	-16.6	1.66 H	1	38.83	-1.43
3	*2412.00	95.8 PK			1.66 H	1	97.18	-1.38
4	*2412.00	91.2 AV			1.66 H	1	92.58	-1.38
5	4824.00	52.8 PK	74.0	-21.2	1.56 H	316	45.71	7.09
6	4824.00	48.6 AV	54.0	-5.4	1.56 H	316	41.51	7.09
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.3 PK	74.0	-16.7	1.32 V	94	58.73	-1.43
2	2390.00	44.8 AV	54.0	-9.2	1.32 V	94	46.23	-1.43
3	*2412.00	107.3 PK			1.32 V	94	108.68	-1.38
4	*2412.00	104.3 AV			1.32 V	94	105.68	-1.38
5	4824.00	57.1 PK	74.0	-16.9	1.84 V	164	50.01	7.09
6	4824.00	53.9 AV	54.0	-0.1	1.84 V	164	46.81	7.09

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	94.4 PK			1.56 H	334	95.72	-1.32
2	*2437.00	89.9 AV			1.56 H	334	91.22	-1.32
3	4874.00	53.2 PK	74.0	-20.8	1.58 H	311	45.95	7.25
4	4874.00	48.8 AV	54.0	-5.2	1.58 H	311	41.55	7.25
5	7311.00	59.5 PK	74.0	-14.5	1.48 H	204	45.05	14.45
6	7311.00	46.3 AV	54.0	-7.7	1.48 H	204	31.85	14.45
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	105.6 PK			1.28 V	93	106.92	-1.32
2	*2437.00	103.2 AV			1.28 V	93	104.52	-1.32
3	4874.00	55.8 PK	74.0	-18.2	1.60 V	164	48.55	7.25
4	4874.00	53.5 AV	54.0	-0.5	1.60 V	164	46.25	7.25
5	7311.00	55.3 PK	74.0	-18.7	1.60 V	164	40.85	14.45
6	7311.00	42.4 AV	54.0	-11.6	1.60 V	164	27.95	14.45

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	92.4 PK			1.58 H	339	93.66	-1.26
2	*2462.00	88.0 AV			1.58 H	339	89.26	-1.26
3	2483.50	48.8 PK	74.0	-25.2	1.58 H	339	50.01	-1.21
4	2483.50	37.5 AV	54.0	-16.5	1.58 H	339	38.71	-1.21
5	4924.00	53.0 PK	74.0	-21.0	1.59 H	324	45.55	7.45
6	4924.00	47.2 AV	54.0	-6.8	1.59 H	324	39.75	7.45
7	7386.00	60.0 PK	74.0	-14.0	1.54 H	195	45.48	14.52
8	7386.00	46.7 AV	54.0	-7.3	1.54 H	195	32.18	14.52
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	103.6 PK			1.29 V	93	104.86	-1.26
2	*2462.00	100.9 AV			1.29 V	93	102.16	-1.26
3	2483.50	55.6 PK	74.0	-18.4	1.29 V	93	56.81	-1.21
4	2483.50	43.9 AV	54.0	-10.1	1.29 V	93	45.11	-1.21
5	4924.00	56.2 PK	74.0	-17.8	1.46 V	164	48.75	7.45
6	4924.00	53.5 AV	54.0	-0.5	1.46 V	164	46.05	7.45
7	7386.00	55.9 PK	74.0	-18.1	1.46 V	164	41.38	14.52
8	7386.00	42.6 AV	54.0	-11.4	1.46 V	164	28.08	14.52

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	61.6 PK	74.0	-12.4	1.83 H	208	63.03	-1.43
2	2390.00	45.9 AV	54.0	-8.1	1.83 H	208	47.33	-1.43
3	*2412.00	101.3 PK			1.83 H	208	102.68	-1.38
4	*2412.00	91.9 AV			1.83 H	208	93.28	-1.38
5	4824.00	53.5 PK	74.0	-20.5	1.68 H	225	46.41	7.09
6	4824.00	45.1 AV	54.0	-8.9	1.68 H	225	38.01	7.09
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	70.3 PK	74.0	-3.7	1.45 V	43	71.73	-1.43
2	2390.00	53.8 AV	54.0	-0.2	1.45 V	43	55.23	-1.43
3	*2412.00	109.5 PK			1.45 V	43	110.88	-1.38
4	*2412.00	99.9 AV			1.45 V	43	101.28	-1.38
5	4824.00	53.6 PK	74.0	-20.4	1.56 V	309	46.51	7.09
6	4824.00	47.6 AV	54.0	-6.4	1.56 V	309	40.51	7.09

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	53.6 PK	74.0	-20.4	1.45 H	235	55.03	-1.43
2	2390.00	45.1 AV	54.0	-8.9	1.45 H	235	46.53	-1.43
3	*2437.00	105.1 PK			1.45 H	235	106.42	-1.32
4	*2437.00	97.6 AV			1.45 H	235	98.92	-1.32
5	2483.50	59.4 PK	74.0	-14.6	1.45 H	235	60.61	-1.21
6	2483.50	46.4 AV	54.0	-7.6	1.45 H	235	47.61	-1.21
7	4874.00	53.4 PK	74.0	-20.6	1.70 H	237	46.15	7.25
8	4874.00	44.9 AV	54.0	-9.1	1.70 H	237	37.65	7.25
9	7311.00	59.5 PK	74.0	-14.5	1.49 H	203	45.05	14.45
10	7311.00	46.5 AV	54.0	-7.5	1.49 H	203	32.05	14.45

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	59.9 PK	74.0	-14.1	1.44 V	138	61.33	-1.43
2	2390.00	46.8 AV	54.0	-7.2	1.44 V	138	48.23	-1.43
3	*2437.00	112.7 PK			1.44 V	138	114.02	-1.32
4	*2437.00	105.2 AV			1.44 V	138	106.52	-1.32
5	2483.50	61.3 PK	74.0	-12.7	1.44 V	138	62.51	-1.21
6	2483.50	46.0 AV	54.0	-8.0	1.44 V	138	47.21	-1.21
7	4874.00	67.0 PK	74.0	-7.0	1.63 V	163	59.75	7.25
8	4874.00	53.9 AV	54.0	-0.1	1.63 V	163	46.65	7.25
9	7311.00	56.7 PK	74.0	-17.3	1.63 V	163	42.25	14.45
10	7311.00	43.7 AV	54.0	-10.3	1.63 V	163	29.25	14.45

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	100.8 PK			1.53 H	208	102.06	-1.26
2	*2462.00	93.5 AV			1.53 H	208	94.76	-1.26
3	2483.50	59.4 PK	74.0	-14.6	1.53 H	208	60.61	-1.21
4	2483.50	46.1 AV	54.0	-7.9	1.53 H	208	47.31	-1.21
5	4924.00	53.2 PK	74.0	-20.8	1.72 H	234	45.75	7.45
6	4924.00	44.8 AV	54.0	-9.2	1.72 H	234	37.35	7.45
7	7386.00	59.8 PK	74.0	-14.2	1.52 H	194	45.28	14.52
8	7386.00	46.7 AV	54.0	-7.3	1.52 H	194	32.18	14.52
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	108.9 PK			1.61 V	140	110.16	-1.26
2	*2462.00	101.2 AV			1.61 V	140	102.46	-1.26
3	2483.50	69.3 PK	74.0	-4.7	1.61 V	140	70.51	-1.21
4	2483.50	53.9 AV	54.0	-0.1	1.61 V	140	55.11	-1.21
5	4924.00	53.6 PK	74.0	-20.4	1.66 V	248	46.15	7.45
6	4924.00	44.8 AV	54.0	-9.2	1.66 V	248	37.35	7.45
7	7386.00	59.6 PK	74.0	-14.4	1.43 V	207	45.08	14.52
8	7386.00	46.4 AV	54.0	-7.6	1.43 V	207	31.88	14.52

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	61.4 PK	74.0	-12.6	1.00 H	223	62.83	-1.43
2	2390.00	44.6 AV	54.0	-9.4	1.00 H	223	46.03	-1.43
3	*2412.00	105.9 PK			1.00 H	223	107.28	-1.38
4	*2412.00	98.5 AV			1.00 H	223	99.88	-1.38
5	4824.00	58.2 PK	74.0	-15.8	1.07 H	167	51.11	7.09
6	4824.00	44.3 AV	54.0	-9.7	1.07 H	167	37.21	7.09
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	1.61 V	343	71.63	-1.43
2	2390.00	53.8 AV	54.0	-0.2	1.61 V	343	55.23	-1.43
3	*2412.00	111.2 PK			1.61 V	343	112.58	-1.38
4	*2412.00	103.8 AV			1.61 V	343	105.18	-1.38
5	4824.00	63.8 PK	74.0	-10.2	1.22 V	342	56.71	7.09
6	4824.00	49.2 AV	54.0	-4.8	1.22 V	342	42.11	7.09

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	60.5 PK	74.0	-13.5	1.02 H	227	61.93	-1.43
2	2390.00	44.1 AV	54.0	-9.9	1.02 H	227	45.53	-1.43
3	*2437.00	113.1 PK			1.02 H	227	114.42	-1.32
4	*2437.00	105.0 AV			1.02 H	227	106.32	-1.32
5	2483.50	61.6 PK	74.0	-12.4	1.02 H	227	62.81	-1.21
6	2483.50	44.7 AV	54.0	-9.3	1.02 H	227	45.91	-1.21
7	4874.00	58.3 PK	74.0	-15.7	1.00 H	173	51.05	7.25
8	4874.00	44.3 AV	54.0	-9.7	1.00 H	173	37.05	7.25
9	7311.00	55.1 PK	74.0	-18.9	1.00 H	171	40.65	14.45
10	7311.00	42.8 AV	54.0	-11.2	1.00 H	171	28.35	14.45

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	64.9 PK	74.0	-9.1	1.60 V	360	66.33	-1.43
2	2390.00	47.7 AV	54.0	-6.3	1.60 V	360	49.13	-1.43
3	*2437.00	117.8 PK			1.60 V	360	119.12	-1.32
4	*2437.00	109.9 AV			1.60 V	360	111.22	-1.32
5	2483.50	64.0 PK	74.0	-10.0	1.60 V	360	65.21	-1.21
6	2483.50	46.2 AV	54.0	-7.8	1.60 V	360	47.41	-1.21
7	4874.00	66.6 PK	74.0	-7.4	1.29 V	333	59.35	7.25
8	4874.00	53.4 AV	54.0	-0.6	1.29 V	333	46.15	7.25
9	7311.00	55.3 PK	74.0	-18.7	1.29 V	333	40.85	14.45
10	7311.00	42.7 AV	54.0	-11.3	1.29 V	333	28.25	14.45

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	102.6 PK			1.00 H	228	103.86	-1.26
2	*2462.00	92.8 AV			1.00 H	228	94.06	-1.26
3	2483.50	61.2 PK	74.0	-12.8	1.00 H	228	62.41	-1.21
4	2483.50	44.6 AV	54.0	-9.4	1.00 H	228	45.81	-1.21
5	4924.00	58.1 PK	74.0	-15.9	1.03 H	177	50.65	7.45
6	4924.00	44.4 AV	54.0	-9.6	1.03 H	177	36.95	7.45
7	7386.00	54.9 PK	74.0	-19.1	1.00 H	177	40.38	14.52
8	7386.00	42.7 AV	54.0	-11.3	1.00 H	177	28.18	14.52
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	107.5 PK			1.68 V	95	108.76	-1.26
2	*2462.00	97.8 AV			1.68 V	95	99.06	-1.26
3	2483.50	71.7 PK	74.0	-2.3	1.68 V	95	72.91	-1.21
4	2483.50	53.5 AV	54.0	-0.5	1.68 V	95	54.71	-1.21
5	4924.00	64.5 PK	74.0	-9.5	1.21 V	336	57.05	7.45
6	4924.00	50.3 AV	54.0	-3.7	1.21 V	336	42.85	7.45
7	7386.00	54.8 PK	74.0	-19.2	1.21 V	336	40.28	14.52
8	7386.00	42.7 AV	54.0	-11.3	1.21 V	336	28.18	14.52

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	51.3 PK	74.0	-22.7	1.22 H	300	52.73	-1.43
2	2390.00	40.1 AV	54.0	-13.9	1.22 H	300	41.53	-1.43
3	*2422.00	97.6 PK			1.22 H	300	98.96	-1.36
4	*2422.00	88.8 AV			1.22 H	300	90.16	-1.36
5	4844.00	60.5 PK	74.0	-13.5	1.76 H	21	53.35	7.15
6	4844.00	49.0 AV	54.0	-5.0	1.76 H	21	41.85	7.15
7	7266.00	55.9 PK	74.0	-18.1	1.70 H	16	41.33	14.57
8	7266.00	43.8 AV	54.0	-10.2	1.70 H	16	29.23	14.57
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.2 PK	74.0	-16.8	2.93 V	360	58.63	-1.43
2	2390.00	42.7 AV	54.0	-11.3	2.93 V	360	44.13	-1.43
3	*2422.00	102.2 PK			2.93 V	360	103.56	-1.36
4	*2422.00	92.4 AV			2.93 V	360	93.76	-1.36
5	4844.00	58.1 PK	74.0	-15.9	1.58 V	353	50.95	7.15
6	4844.00	46.2 AV	54.0	-7.8	1.58 V	353	39.05	7.15
7	7266.00	55.2 PK	74.0	-18.8	1.55 V	348	40.63	14.57
8	7266.00	43.1 AV	54.0	-10.9	1.55 V	348	28.53	14.57

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	60.5 PK	74.0	-13.5	1.05 H	212	61.93	-1.43
2	2390.00	44.0 AV	54.0	-10.0	1.05 H	212	45.43	-1.43
3	*2437.00	106.3 PK			1.05 H	212	107.62	-1.32
4	*2437.00	97.3 AV			1.05 H	212	98.62	-1.32
5	2483.50	61.8 PK	74.0	-12.2	1.05 H	212	63.01	-1.21
6	2483.50	44.8 AV	54.0	-9.2	1.05 H	212	46.01	-1.21
7	4874.00	60.7 PK	74.0	-13.3	1.74 H	19	53.45	7.25
8	4874.00	49.3 AV	54.0	-4.7	1.74 H	19	42.05	7.25
9	7311.00	55.7 PK	74.0	-18.3	1.74 H	19	41.25	14.45
10	7311.00	43.7 AV	54.0	-10.3	1.74 H	19	29.25	14.45

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	70.4 PK	74.0	-3.6	1.73 V	346	71.83	-1.43
2	2390.00	53.0 AV	54.0	-1.0	1.73 V	346	54.43	-1.43
3	*2437.00	110.6 PK			1.73 V	346	111.92	-1.32
4	*2437.00	100.7 AV			1.73 V	346	102.02	-1.32
5	2483.50	65.7 PK	74.0	-8.3	1.73 V	346	66.91	-1.21
6	2483.50	50.1 AV	54.0	-3.9	1.73 V	346	51.31	-1.21
7	4874.00	57.9 PK	74.0	-16.1	1.57 V	339	50.65	7.25
8	4874.00	46.3 AV	54.0	-7.7	1.57 V	339	39.05	7.25
9	7311.00	54.7 PK	74.0	-19.3	1.57 V	339	40.25	14.45
10	7311.00	42.7 AV	54.0	-11.3	1.57 V	339	28.25	14.45

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	99.0 PK			1.23 H	307	100.28	-1.28
2	*2452.00	89.2 AV			1.23 H	307	90.48	-1.28
3	2483.50	52.0 PK	74.0	-22.0	1.23 H	307	53.21	-1.21
4	2483.50	40.6 AV	54.0	-13.4	1.23 H	307	41.81	-1.21
5	4904.00	60.4 PK	74.0	-13.6	1.78 H	18	53.04	7.36
6	4904.00	49.1 AV	54.0	-4.9	1.78 H	18	41.74	7.36
7	7356.00	55.7 PK	74.0	-18.3	1.76 H	30	41.20	14.50
8	7356.00	43.6 AV	54.0	-10.4	1.76 H	30	29.10	14.50
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	103.4 PK			2.45 V	360	104.68	-1.28
2	*2452.00	93.4 AV			2.45 V	360	94.68	-1.28
3	2483.50	59.9 PK	74.0	-14.1	2.45 V	360	61.11	-1.21
4	2483.50	46.7 AV	54.0	-7.3	2.45 V	360	47.91	-1.21
5	4904.00	57.6 PK	74.0	-16.4	1.59 V	337	50.24	7.36
6	4904.00	45.9 AV	54.0	-8.1	1.59 V	337	38.54	7.36
7	7356.00	54.3 PK	74.0	-19.7	1.58 V	338	39.80	14.50
8	7356.00	42.3 AV	54.0	-11.7	1.58 V	338	27.80	14.50

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	Below 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	250.00	36.9 QP	46.0	-9.1	1.00 H	97	45.72	-8.84
2	375.01	38.7 QP	46.0	-7.3	1.00 H	9	43.35	-4.68
3	500.01	38.9 QP	46.0	-7.1	2.00 H	154	40.67	-1.73
4	617.07	38.7 QP	46.0	-7.4	2.00 H	222	37.26	1.39
5	625.00	38.4 QP	46.0	-7.6	1.50 H	360	36.96	1.40
6	874.99	37.3 QP	46.0	-8.7	1.00 H	360	31.91	5.35
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	104.76	34.3 QP	43.5	-9.2	1.50 V	360	45.77	-11.45
2	250.02	32.5 QP	46.0	-13.5	2.00 V	0	41.31	-8.84
3	375.01	35.8 QP	46.0	-10.2	1.50 V	277	40.45	-4.68
4	500.01	38.1 QP	46.0	-7.9	1.00 V	305	39.80	-1.73
5	625.00	38.5 QP	46.0	-7.5	1.00 V	169	37.12	1.40
6	728.64	35.3 QP	46.0	-10.7	1.50 V	277	32.43	2.91

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	100375	May 06, 2015	May 05, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 01, 2015	Aug. 31, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 11, 2015	June 10, 2016
RF Cable	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 23, 2015	Sep. 22, 2016
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2015	Sep. 30, 2016
Software BVADT	BVADT_Cond_ V7.3.7.3	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. C.
- 3 The VCCI Con C Registration No. is C-3611.
- 4 Tested Date: Dec. 29 to 30, 2015

4.2.3 Test Procedures

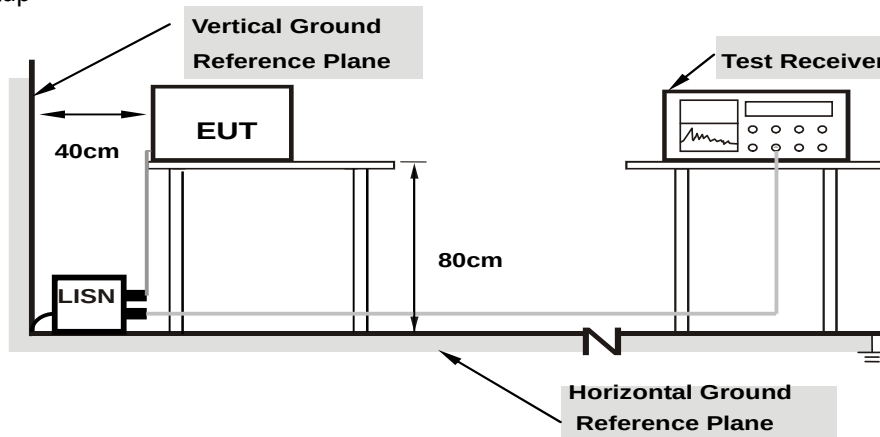
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

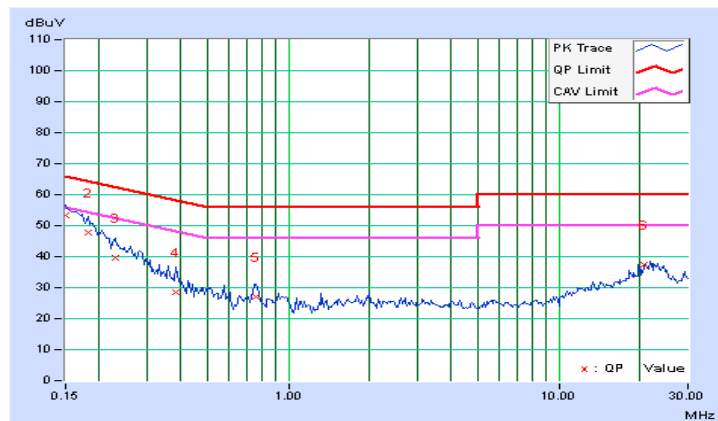
4.2.7 Test Results (Mode 1)

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	10.26	43.02	26.24	53.28	36.50	66.00	56.00	-12.72	-19.50
2	0.18125	10.24	37.45	23.56	47.69	33.80	64.43	54.43	-16.74	-20.63
3	0.22812	10.22	29.27	15.77	39.49	25.99	62.52	52.52	-23.03	-26.53
4	0.38438	10.24	18.17	5.65	28.41	15.89	58.18	48.18	-29.78	-32.30
5	0.75938	10.20	16.94	8.57	27.14	18.77	56.00	46.00	-28.86	-27.23
6	20.70703	10.93	26.58	19.61	37.51	30.54	60.00	50.00	-22.49	-19.46

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

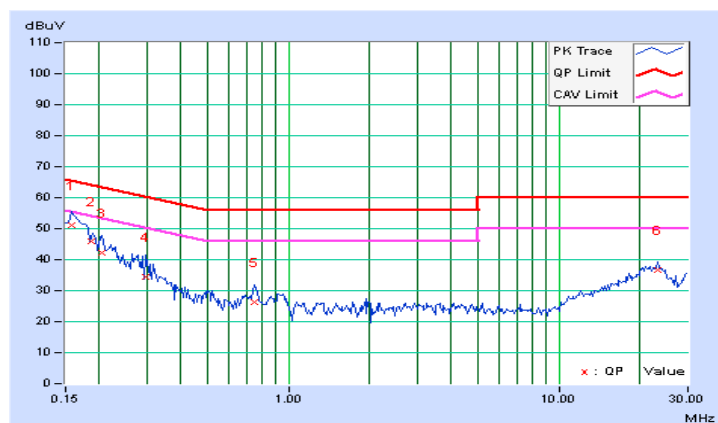


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.23	40.93	26.20	51.16	36.43	65.58	55.58	-14.41	-19.14
2	0.18634	10.21	35.59	22.63	45.80	32.84	64.20	54.20	-18.40	-21.36
3	0.20469	10.20	32.12	17.90	42.32	28.10	63.42	53.42	-21.10	-25.32
4	0.29844	10.21	24.14	16.81	34.35	27.02	60.29	50.29	-25.94	-23.27
5	0.75156	10.18	16.08	12.81	26.26	22.99	56.00	46.00	-29.74	-23.01
6	23.12500	10.98	25.61	22.12	36.59	33.10	60.00	50.00	-23.41	-16.90

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



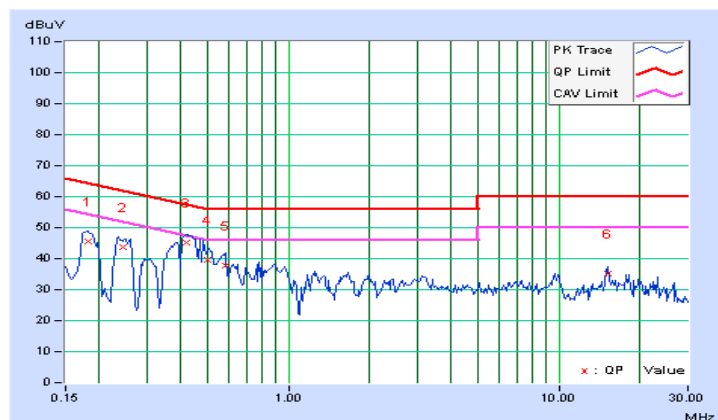
4.2.8 Test Results (Mode 2)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18125	10.36	35.09	27.04	45.45	37.40	64.43	54.43	-18.98	-17.03
2	0.24388	10.35	33.38	25.69	43.73	36.04	61.96	51.96	-18.24	-15.93
3	0.41953	10.37	35.00	25.13	45.37	35.50	57.46	47.46	-12.09	-11.96
4	0.50000	10.36	29.24	17.74	39.60	28.10	56.00	46.00	-16.40	-17.90
5	0.58359	10.35	27.47	15.47	37.82	25.82	56.00	46.00	-18.18	-20.18
6	15.14063	11.24	23.82	16.31	35.06	27.55	60.00	50.00	-24.94	-22.45

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

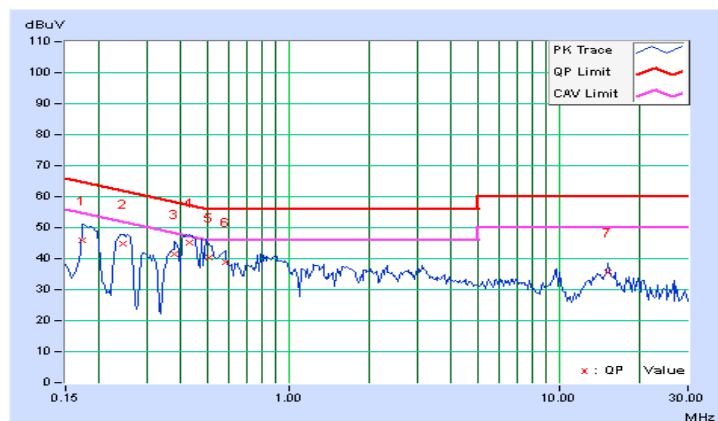


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	-------------	-------------------	--------------------------------

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	10.38	35.50	23.98	45.88	34.36	64.79	54.79	-18.91	-20.43
2	0.24375	10.40	34.48	27.14	44.88	37.54	61.97	51.97	-17.09	-14.43
3	0.38047	10.42	31.20	20.64	41.62	31.06	58.27	48.27	-16.65	-17.21
4	0.43125	10.42	34.92	24.27	45.34	34.69	57.23	47.23	-11.89	-12.54
5	0.50750	10.41	30.05	18.23	40.46	28.64	56.00	46.00	-15.54	-17.36
6	0.58359	10.40	28.44	17.20	38.84	27.60	56.00	46.00	-17.16	-18.40
7	15.19922	11.25	24.17	16.91	35.42	28.16	60.00	50.00	-24.58	-21.84

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

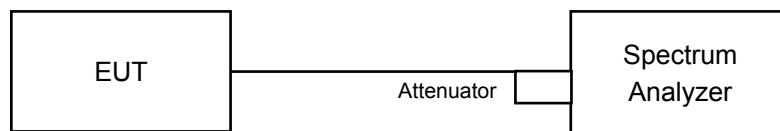


4.3 6dB Bandwidth Measurement

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	10.13	0.5	PASS
6	2437	10.12	0.5	PASS
11	2462	10.10	0.5	PASS

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.66	0.5	PASS
6	2437	16.65	0.5	PASS
11	2462	16.64	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.88	17.88	0.5	Pass
6	2437	17.87	17.87	0.5	Pass
11	2462	17.87	17.87	0.5	Pass

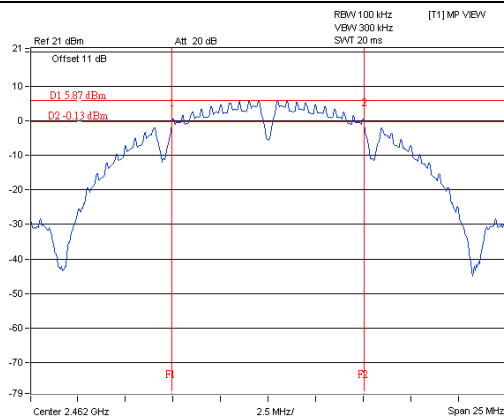
802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.55	36.57	0.5	Pass
6	2437	36.54	36.57	0.5	Pass
9	2452	36.56	36.56	0.5	Pass

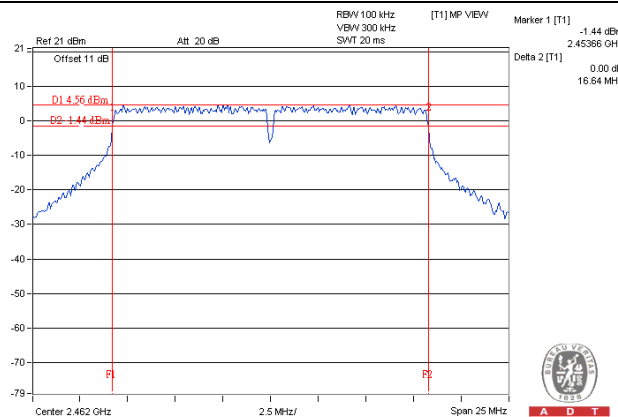
Spectrum Plot of Worst Value

802.11b - CH11

802.11g - CH11



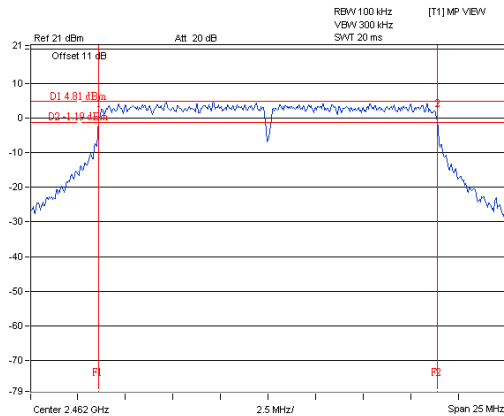
A D T



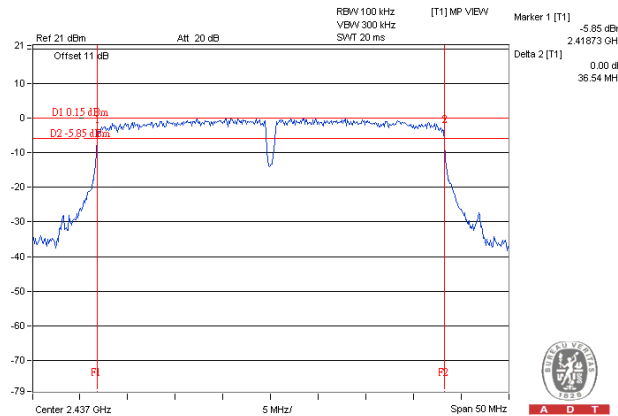
A D T

802.11n (HT20) - Chain 1: CH11

802.11n (HT40) - Chain 0: CH6



A D T



A D T

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,

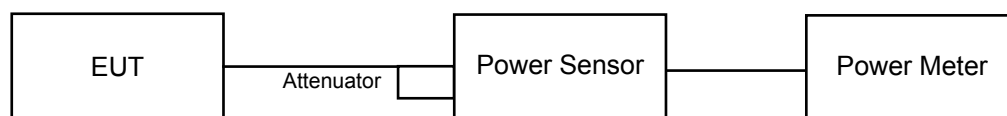
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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	114.551	20.59	30	Pass
6	2437	74.131	18.70	30	Pass
11	2462	57.81	17.62	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	393.55	25.95	30	Pass
6	2437	564.937	27.52	30	Pass
11	2462	452.898	26.56	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	25.27	25.21	668.406	28.25	30	Pass
6	2437	26.71	26.98	967.697	29.86	30	Pass
11	2462	26.33	26.13	839.74	29.24	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	15.74	17.61	95.174	19.79	30	Pass
6	2437	24.51	25.68	652.316	28.14	30	Pass
9	2452	18.18	18.26	132.754	21.23	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	69.984	18.45
6	2437	44.668	16.50
11	2462	35.156	15.46

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	76.736	18.85
6	2437	187.068	22.72
11	2462	80.353	19.05

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.11	17.47	120.561	20.81
6	2437	17.64	17.93	120.163	20.80
11	2462	19.00	18.94	157.776	21.98

802.11n (HT40)

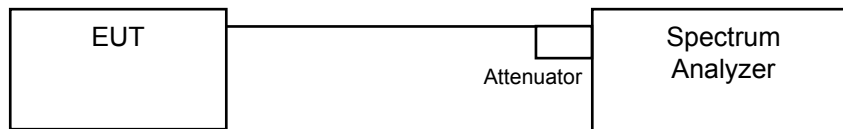
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	15.66	16.65	83.051	19.19
6	2437	17.51	17.63	114.307	20.58
9	2452	16.41	16.44	87.807	19.44

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)	Pass /Fail
1	2412	-11.51	8	Pass
6	2437	-13.18	8	Pass
11	2462	-14.24	8	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm)	Pass /Fail
1	2412	-9.96	8	Pass
6	2437	-5.64	8	Pass
11	2462	-10.21	8	Pass

802.11n (HT20)

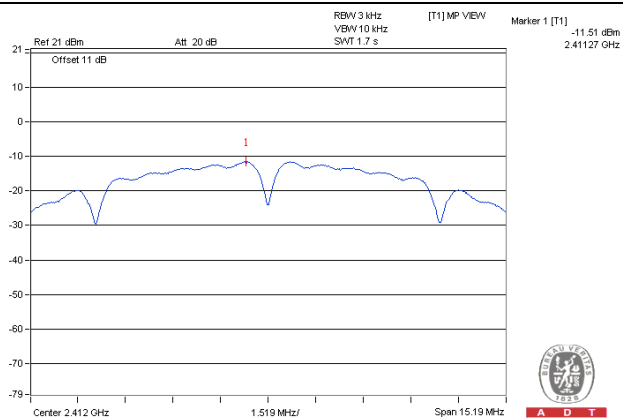
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm)	Pass /Fail
0	1	2412	-11.15	3.01	-8.14	8	Pass
	6	2437	-10.88	3.01	-7.87	8	Pass
	11	2462	-9.75	3.01	-6.74	8	Pass
1	1	2412	-11.45	3.01	-8.44	8	Pass
	6	2437	-9.82	3.01	-6.81	8	Pass
	11	2462	-10.14	3.01	-7.13	8	Pass

802.11n (HT40)

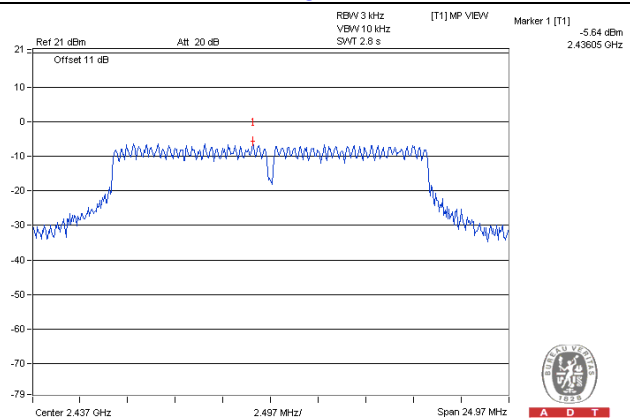
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm)	Pass /Fail
0	3	2422	-14.97	3.01	-11.96	8	Pass
	6	2437	-11.20	3.01	-8.19	8	Pass
	9	2452	-14.75	3.01	-11.74	8	Pass
1	3	2422	-13.28	3.01	-10.27	8	Pass
	6	2437	-12.98	3.01	-9.97	8	Pass
	9	2452	-14.29	3.01	-11.28	8	Pass

Spectrum Plot of Worst Value

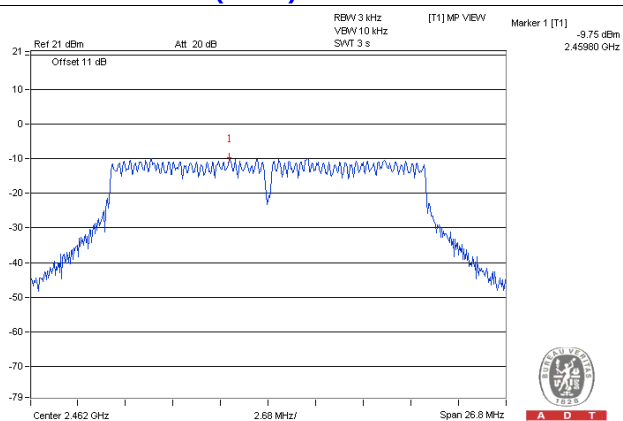
802.11b - CH1



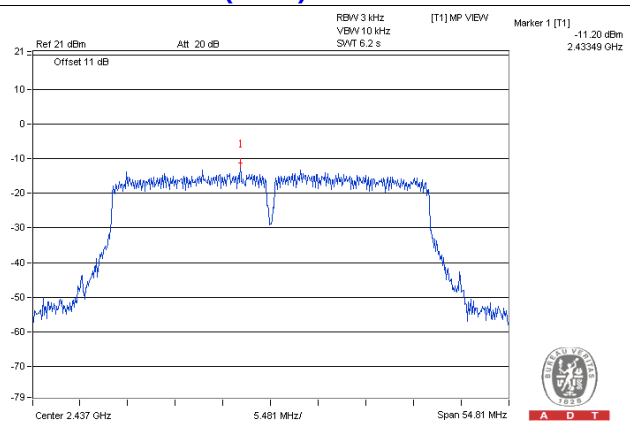
802.11g - CH6



802.11n (HT20) - Chain 0: CH11



802.11n (HT40) - Chain 0: CH6

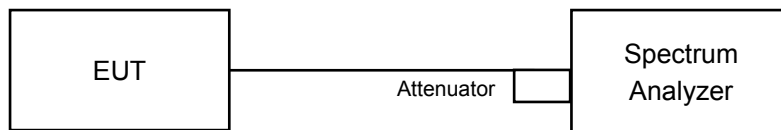


4.6 Conducted Out of Band Emission Measurement

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

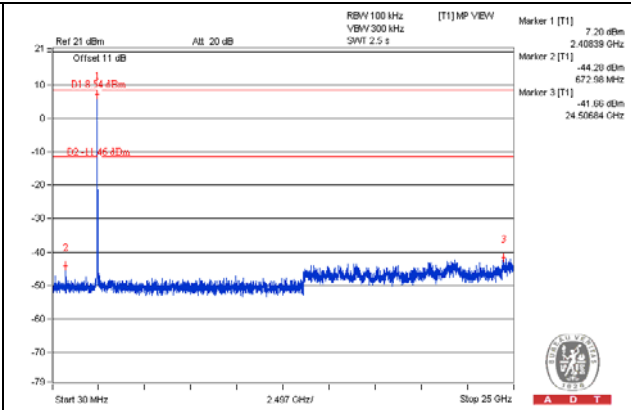
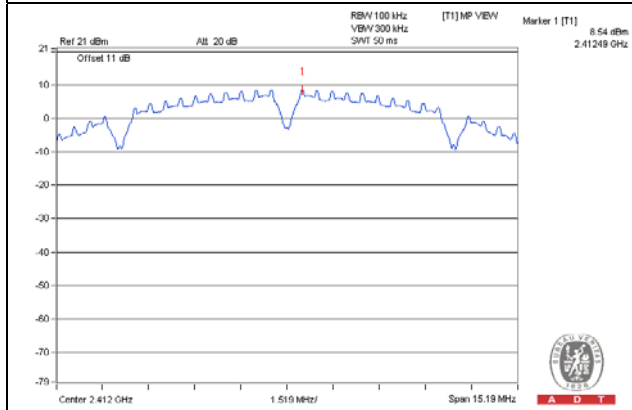
Same as Item 4.3.6

4.6.7 Test Results

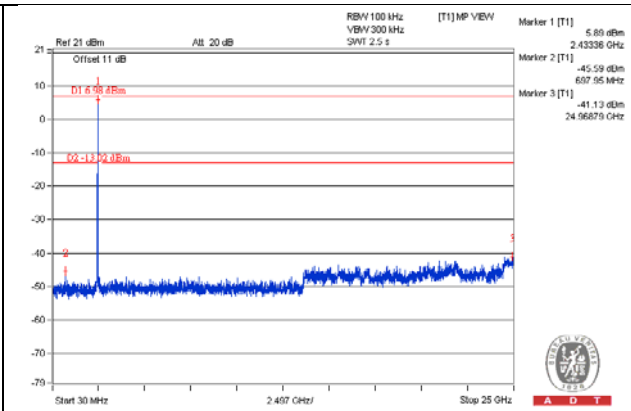
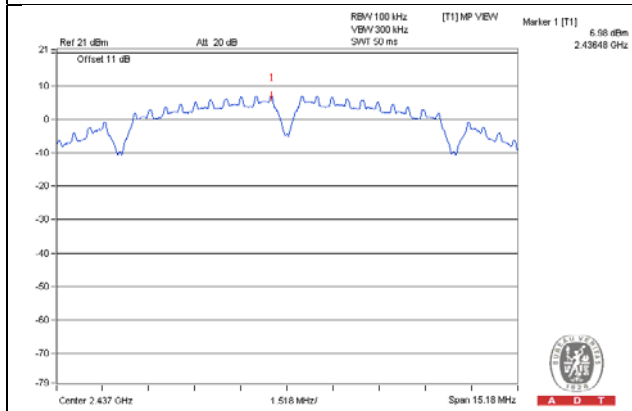
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

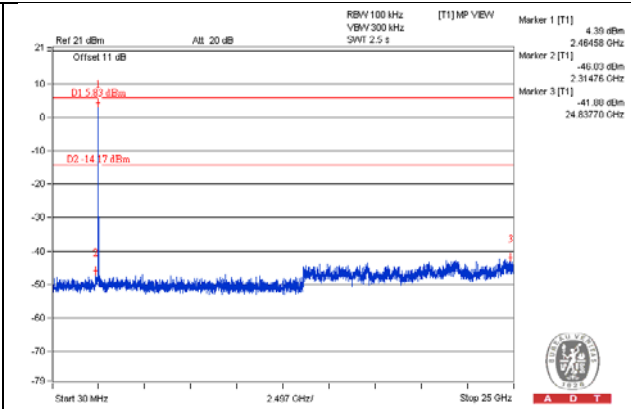
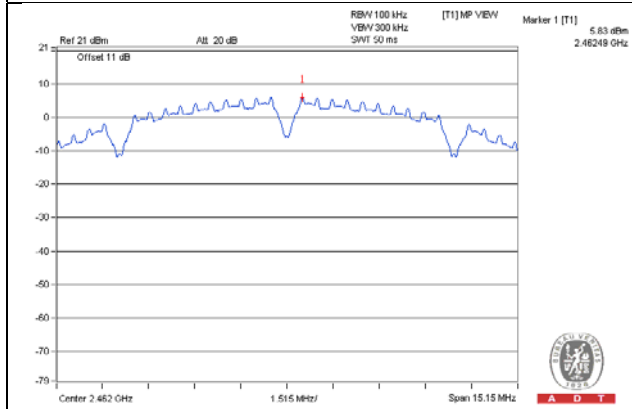
CH 1



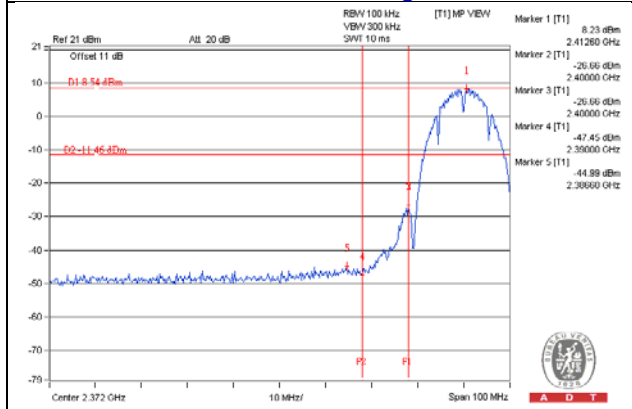
CH 6



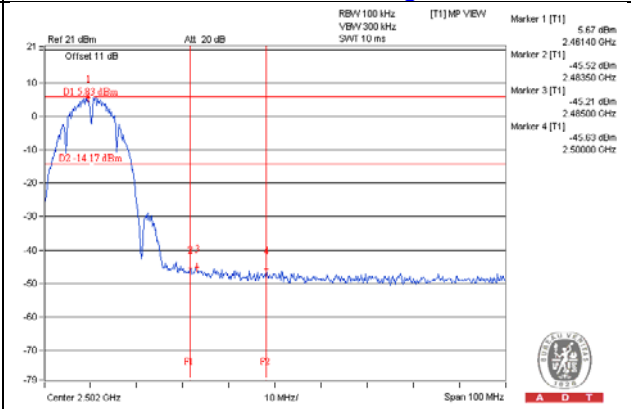
CH 11



CH 1 Band edge

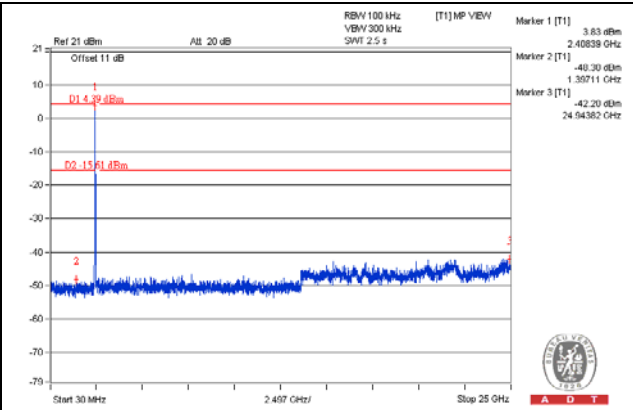
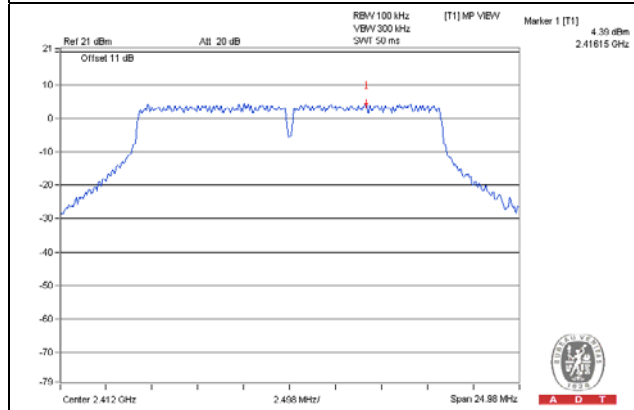


CH 11 Band edge

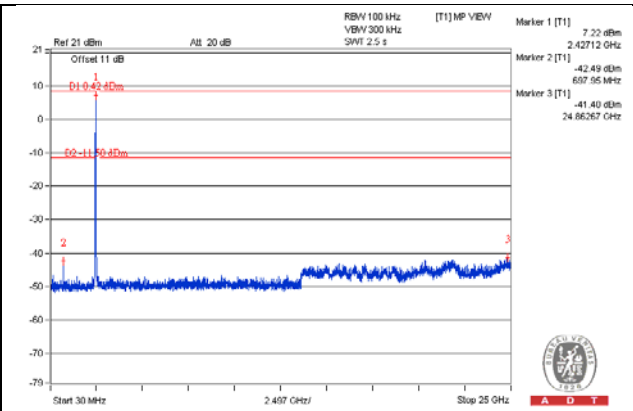
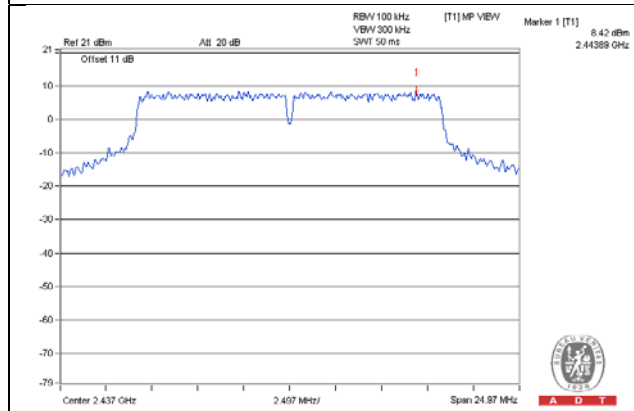


802.11g

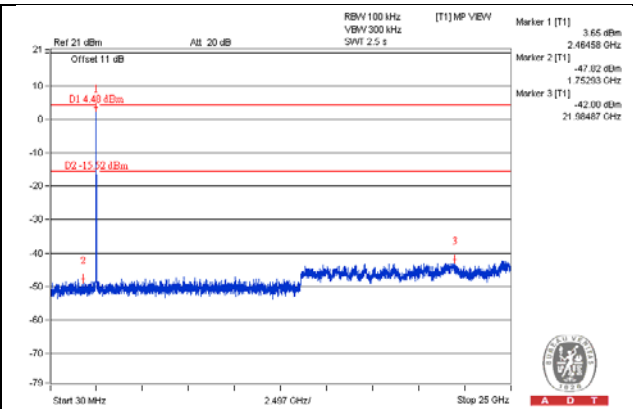
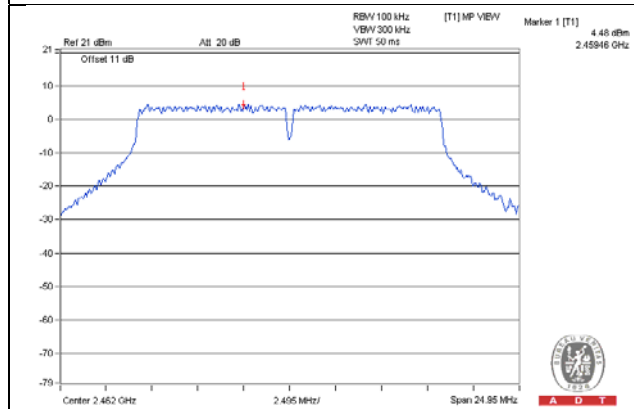
CH 1



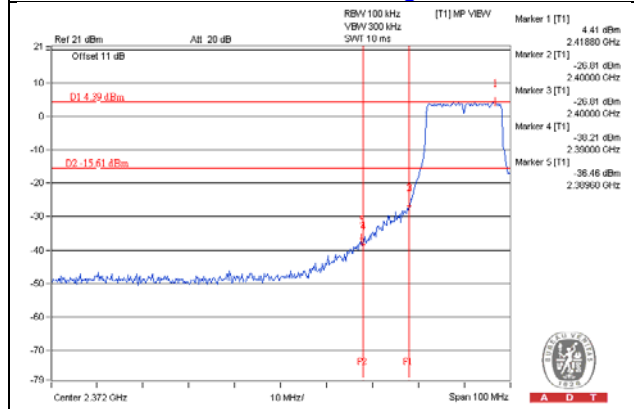
CH 6



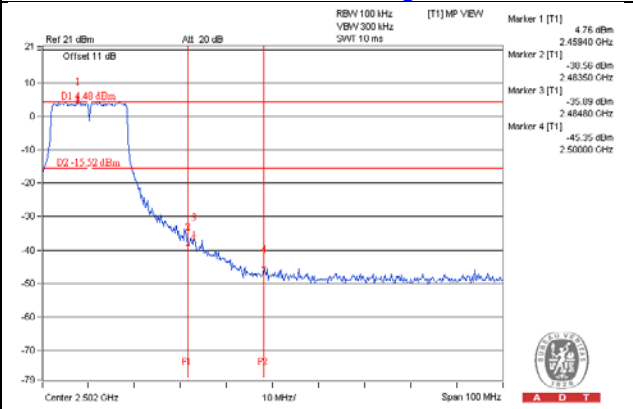
CH 11



CH 1 Band edge



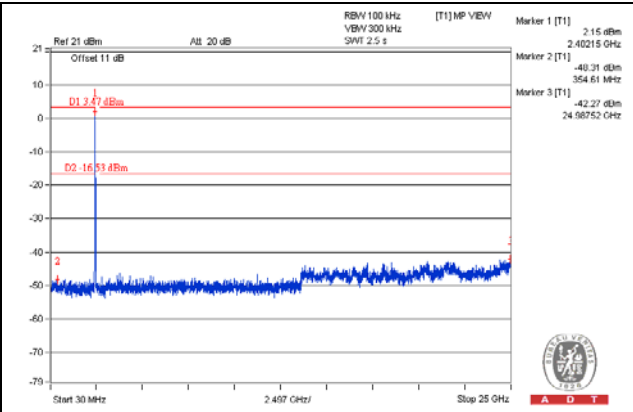
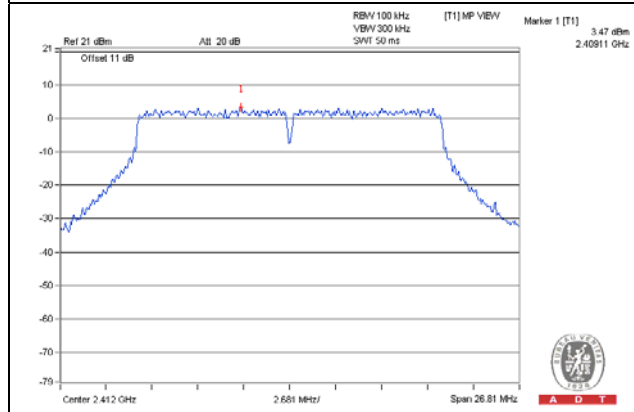
CH 11 Band edge



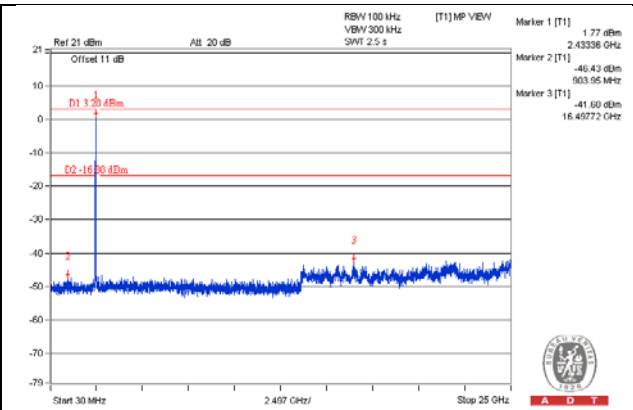
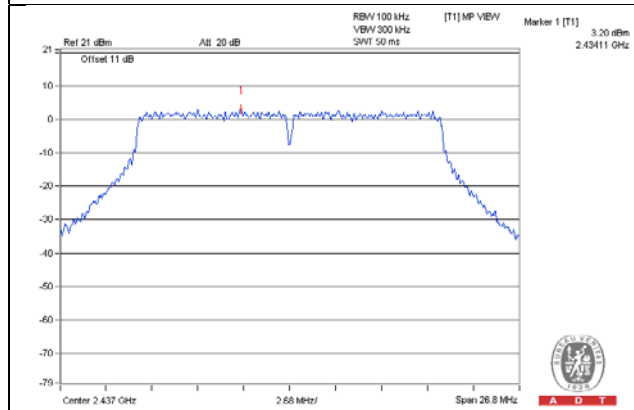
802.11n (HT20)

Chain 0

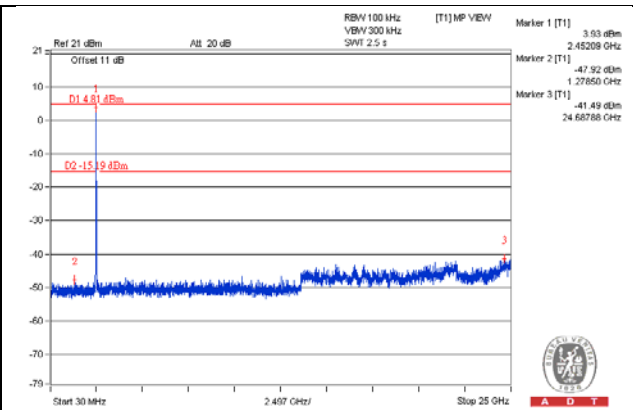
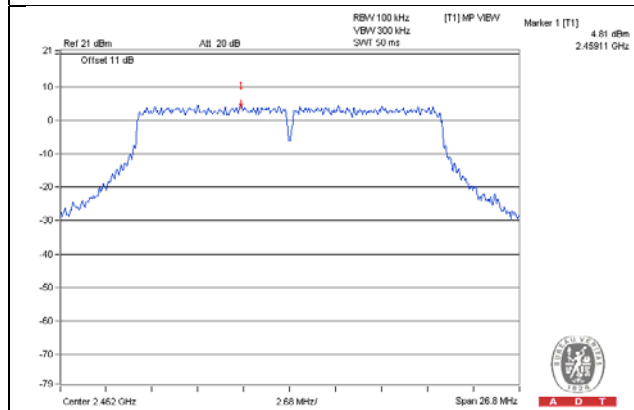
CH 1



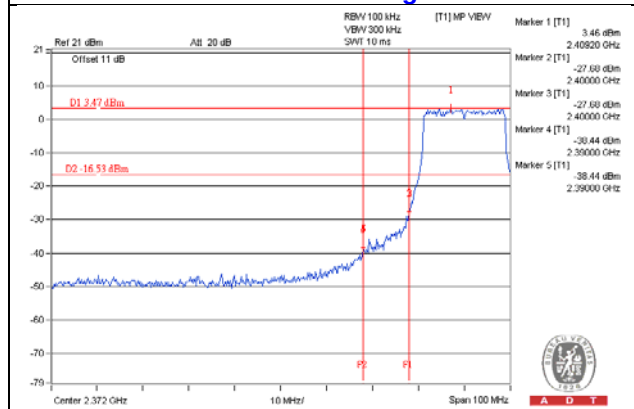
CH 6



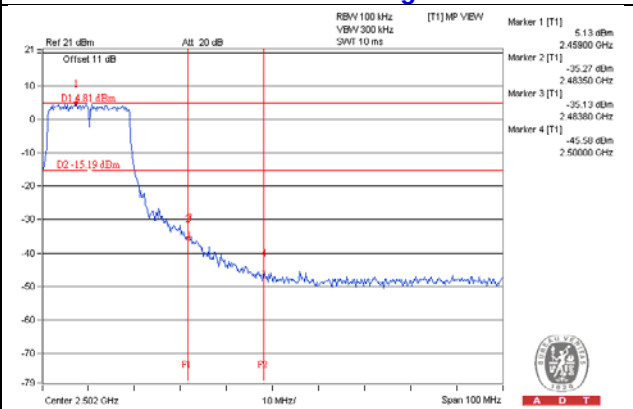
CH 11



CH 1 Band edge

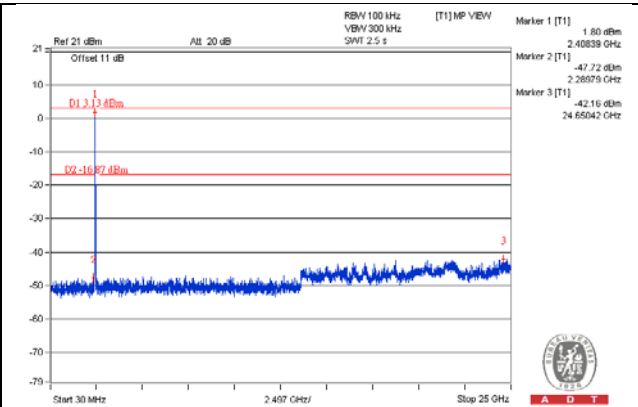
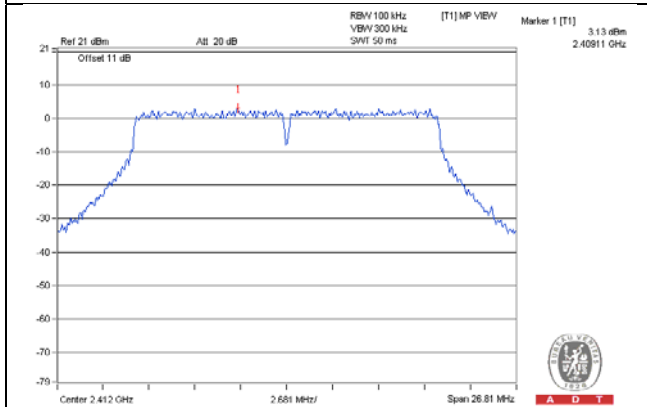


CH 11 Band edge

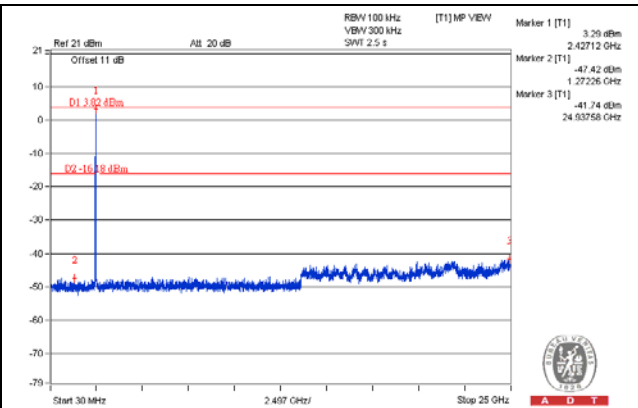
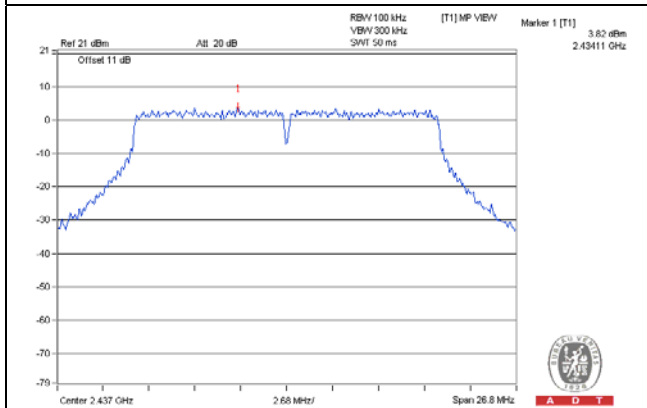


Chain 1

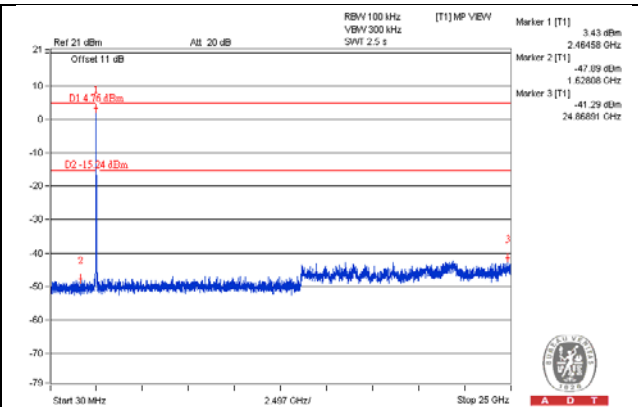
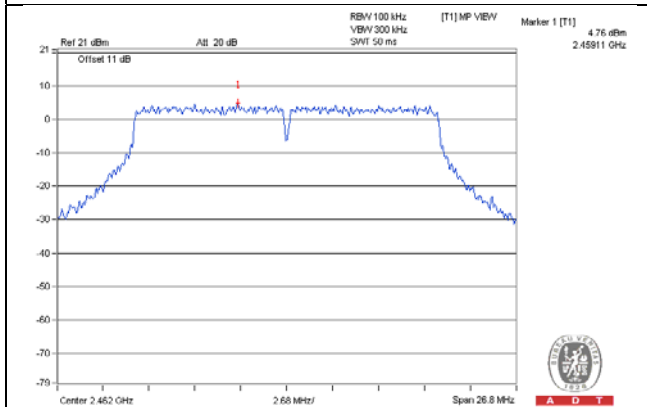
CH 1



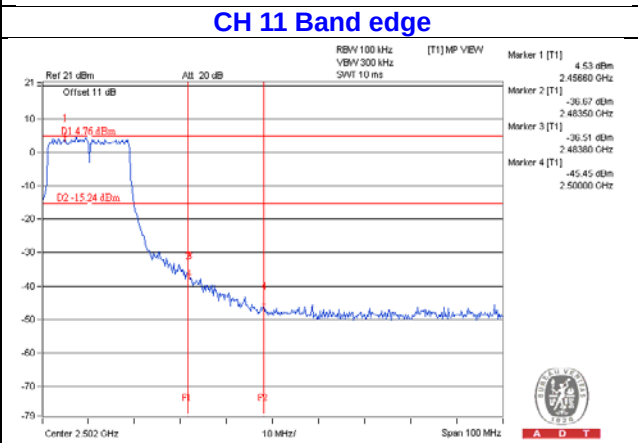
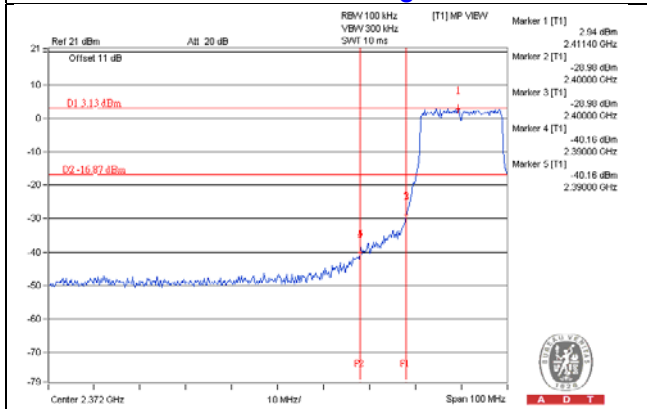
CH 6



CH 11



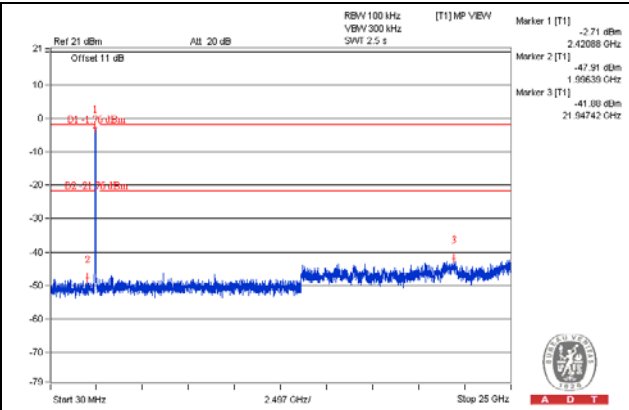
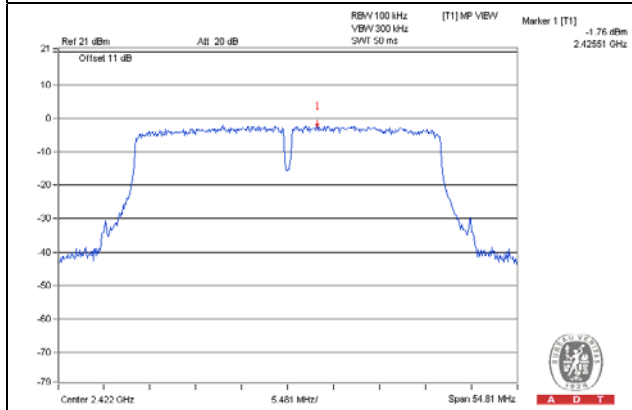
CH 1 Band edge



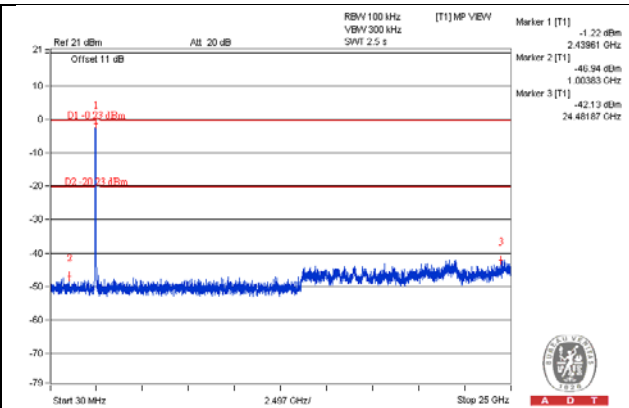
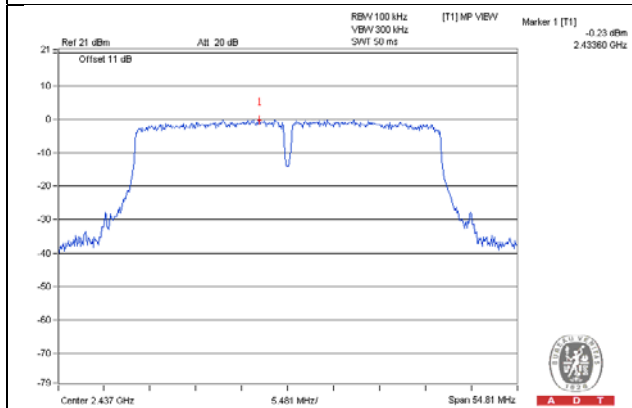
802.11n (HT40)

Chain 0

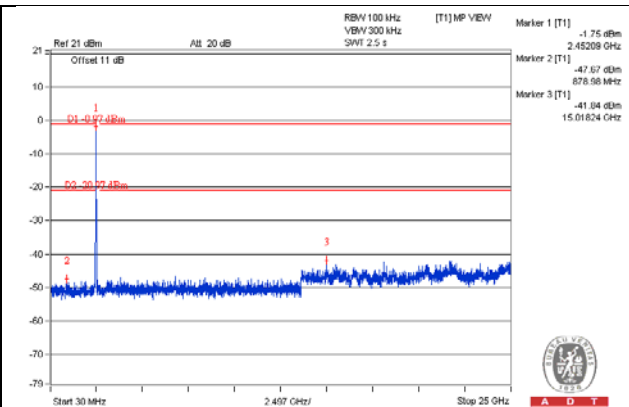
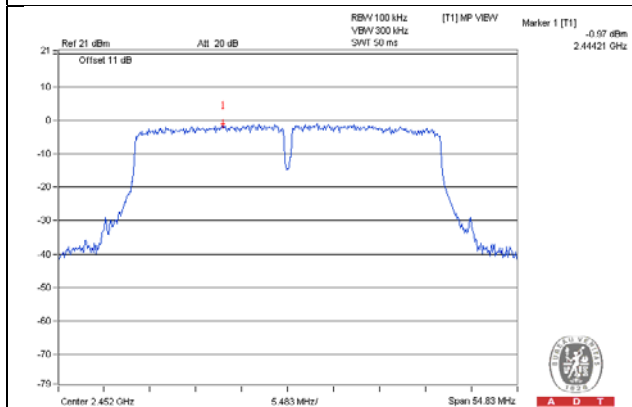
CH 3



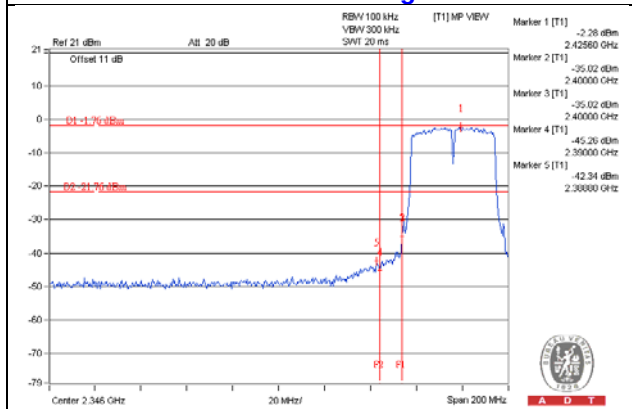
CH 6



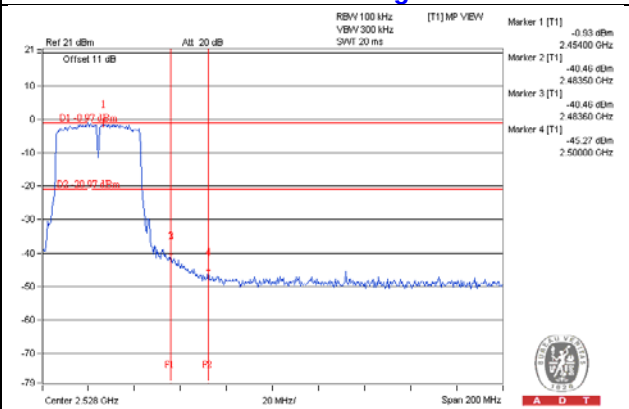
CH 9



CH 3 Band edge

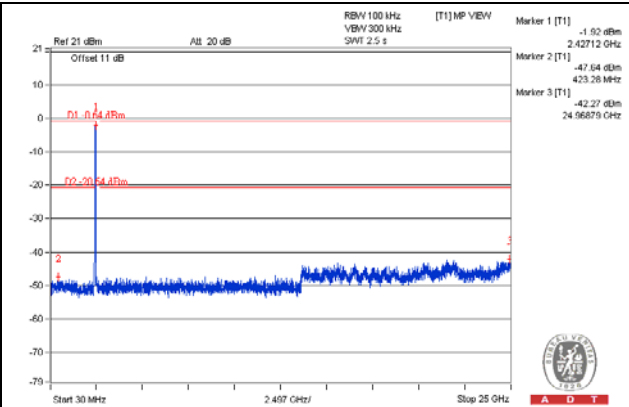
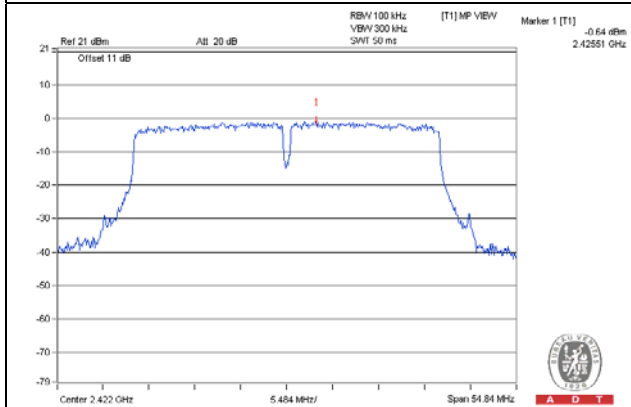


CH 9 Band edge

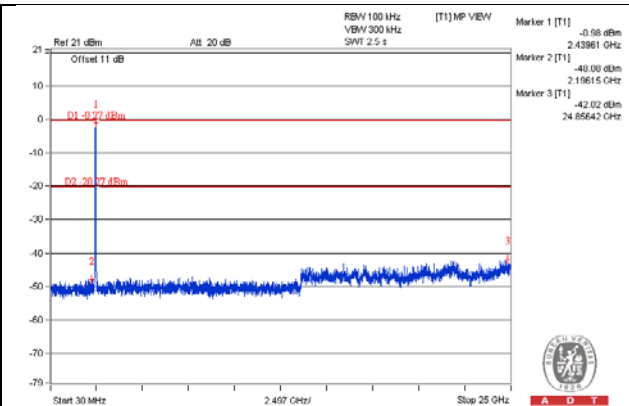
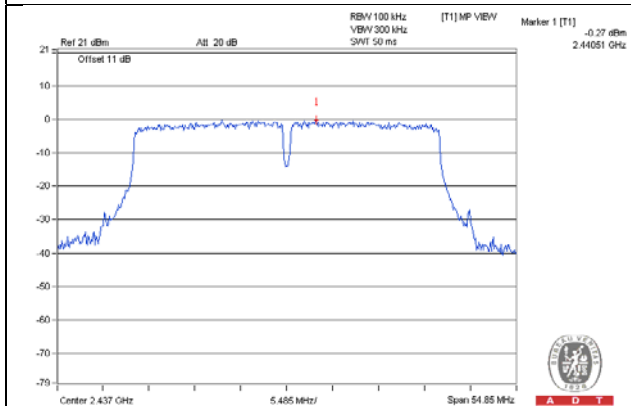


Chain 1

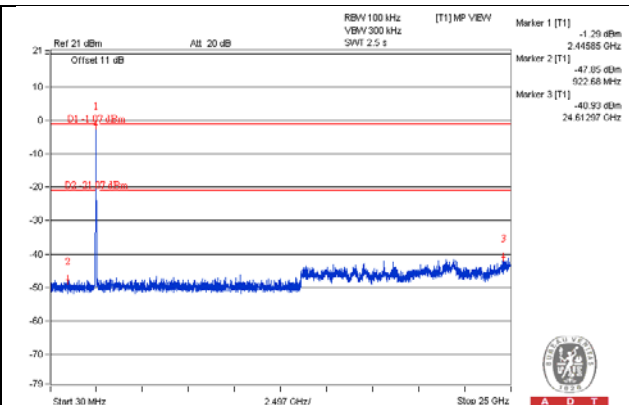
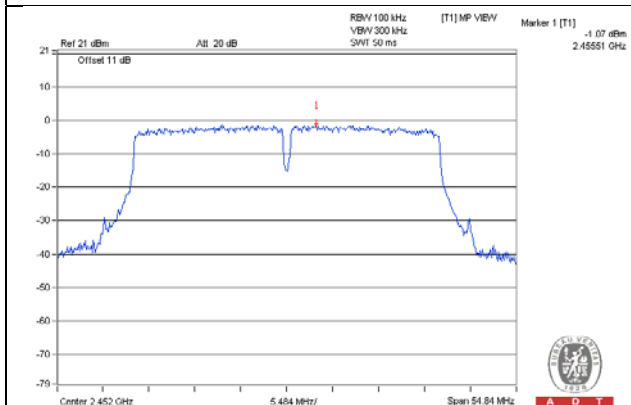
CH 3



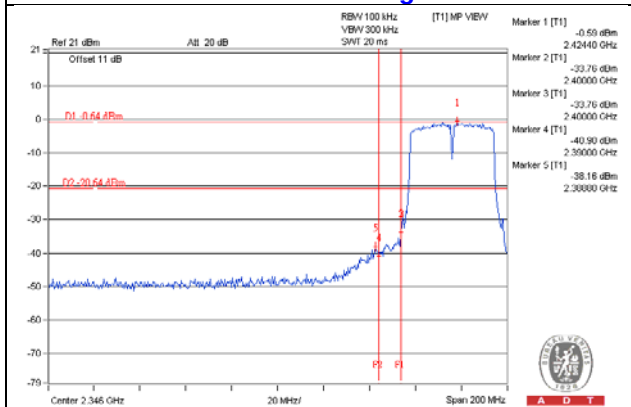
CH 6



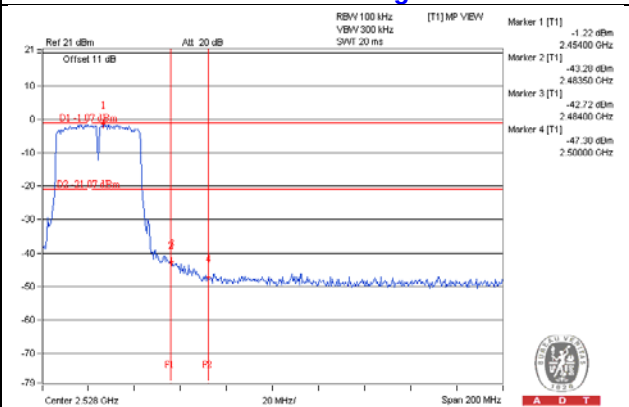
CH 9



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 accredited and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

--- END ---