FCC Test Report

Report No.:	RF150224E01
FCC ID:	K7SF9K1010V2
Test Model:	F9K1010v2
Received Date:	Feb. 24, 2015
Test Date:	Apr. 23 to 29, 2015
Issued Date:	May 12, 2015
Applicant:	Belkin International, Inc.
Address:	12045 E. Waterfront Drive, Playa Vista, CA 90094
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.
Test Location (1):	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, 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.

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF150224E01	Original release.	May 12, 2015

1 Certificate of Conformity

Product:	Wireless N300 Router
Brand:	Belkin
Test Model:	F9K1010v2
Sample Status:	ENGINEERING SAMPLE
Applicant:	Belkin International, Inc.
Test Date:	Apr. 23 to 29, 2015
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2009

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 : Phoenix Huang , **Date:** May 12, 2015

Phoenix Huang / Specialist

Approved by : , **Date:** May 12, 2015

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 -12.27dB at 0.38438MHz.
15.205 / 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.1dB at 4824.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2390.00MHz.
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	No antenna connector is used.

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) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.65 dB
	1GHz ~6GHz	3.72 dB
Radiated Emissions above 1 GHz	6GHz ~ 18GHz	4.00 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	Wireless N300 Router
Brand	Belkin
Test Model	F9K1010v2
Status of EUT	ENGINEERING SAMPLE
Driver version	1.00.00
Power Supply Rating	DC 12V from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
Operating Frequency	2.412GHz ~ 2.462GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	578.093mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter × 1
Data Cable Supplied	NA

Note:

1. According to the applicant's requirement two test samples were tested for radiated emission (above 1GHz) only.
2. The EUT must be supplied with a power adapter and following table:

Brand	Model No.	Spec.
Shenzhen GongiinElectronics Co., Ltd.	S06A12-120A050-P4	Input: 100-240V, 0.3A, 50~60Hz Output: 12V, 0.5A DC output cable: 1.5m, unshielded

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

Transmitter Circuit	Brand	Model No.	Gain (dBi) (excluding cable loss)	Cable Loss (dB)	Net Gain (dBi)	Freq. Range (GHz to GHz)	Ant. Type	Connecter Type	Cable Length (mm)
Chain (0)	SHENZHEN HFC TECHNOLOGY CO.,LTD	800000000344	3	0.25	2.75	2.4 ~ 2.4835	Dipole	NA	100
Chain (1)		800000000341	3	0.51	2.49	2.4 ~ 2.4835	Dipole	NA	200

4. The EUT incorporates a MIMO function.

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20) & 802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX

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 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≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	Sample No.: #2
2	√	-	-	-	Sample No.: #1

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1, 2	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1	802.11g	1 to 11	6	OFDM	BPSK	6

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1	802.11g	1 to 11	6	OFDM	BPSK	6

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

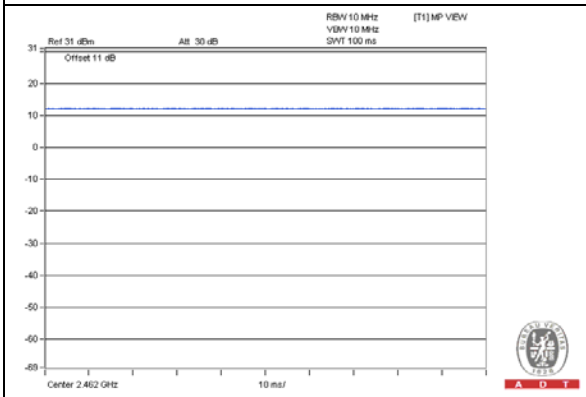
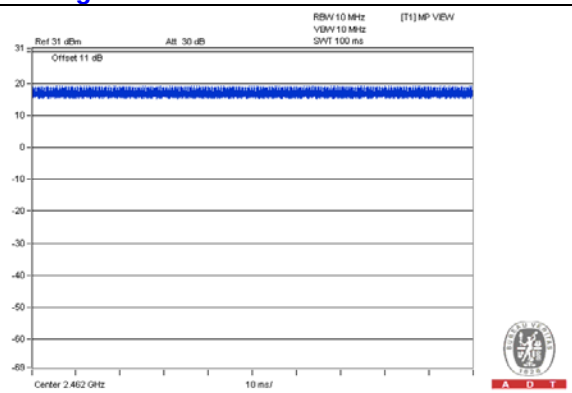
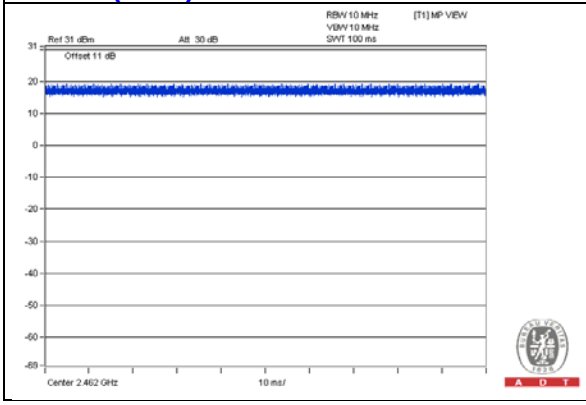
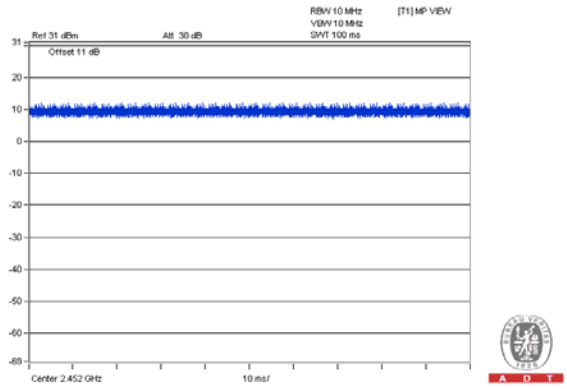
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 69%RH	120Vac, 60Hz	Robert Cheng
RE<1G	24deg. C, 71%RH	120Vac, 60Hz	Gary Cheng
PLC	20deg. C, 70%RH	120Vac, 60Hz	Mike Hsieh
APCM	25deg. C, 60%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

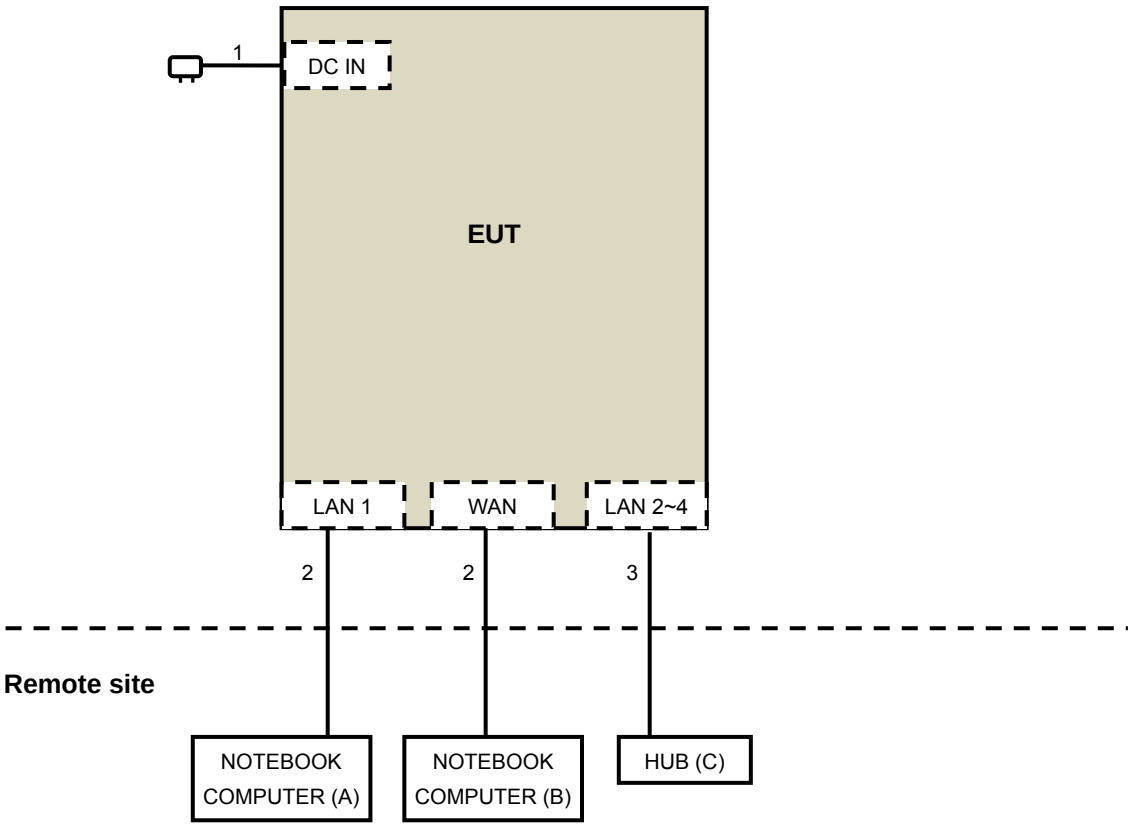
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	FCC DoC	Provided by Lab
B.	NOTEBOOK COMPUTER	DELL	D531	CN-0XM006-48643-86 L-4472	QDS-BRCM1019	Provided by Lab
C.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	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	1	1.5	No	0	Supplied by Client
2.	RJ-45	1	10	No	0	Provided by Lab
3.	RJ-45	3	10	No	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)
558074 D01 DTS Meas Guidance v03r02
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2009

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

Above 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Aug. 11, 2014	Aug. 10, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-04	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 06, 2015	Feb. 05, 2016
RF Cable	NA	CHHCAB_001	Oct. 05, 2014	Oct. 04, 2015
Horn_Antenna AISI	AIH.8018	0000220091110	Feb. 06, 2015	Feb. 05, 2016
Pre-Amplifier Agilent	8449B	300801923	Oct. 28, 2014	Oct. 27, 2015
RF Cable	NA	131206 131213 131215 SNMY23685/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
Software	ADT_Radiated_V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Spectrum Analyzer R&S	FSP 40	100060	May 08, 2014	May 07, 2015
Power meter Anritsu	ML2495A	0824006	May 22, 2014	May 21, 2015
Power sensor Anritsu	MA2411B	0738172	May 22, 2014	May 21, 2015

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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5 The CANADA Site Registration No. is IC 7450H-3.
6 Tested Date: Apr. 29, 2015

Below 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	July 21, 2014	July 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 12, 2014	Nov. 11, 2015
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 09, 2015	Feb. 08, 2016
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Feb. 09, 2015	Feb. 08, 2016
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131216 131217 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Dec. 12, 2014	Dec. 11, 2015
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Feb. 05, 2015	Feb. 04, 2016
RF Cable	NA	329751/4 RF104-204	Dec. 11, 2014	Dec. 10, 2015
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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Apr. 23, 2015

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters 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:

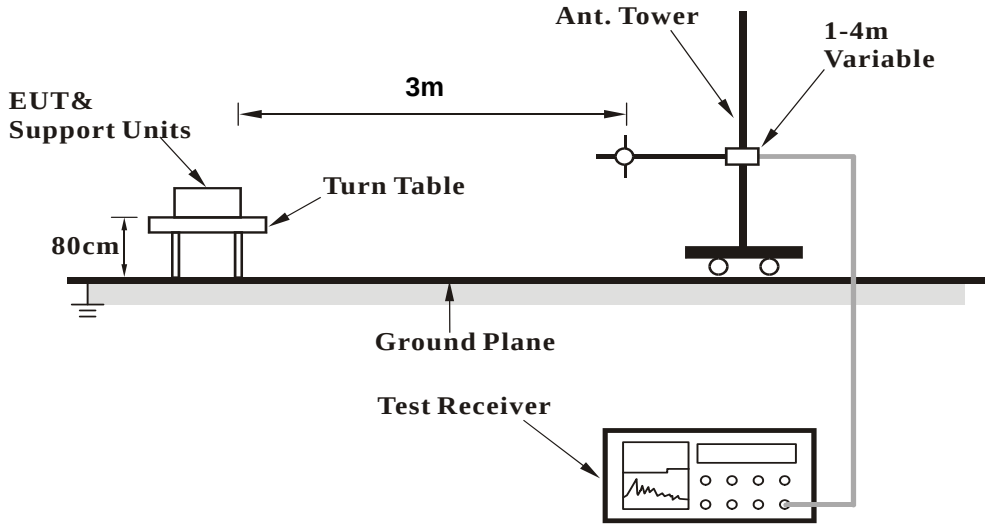
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. 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/duty cycle)).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

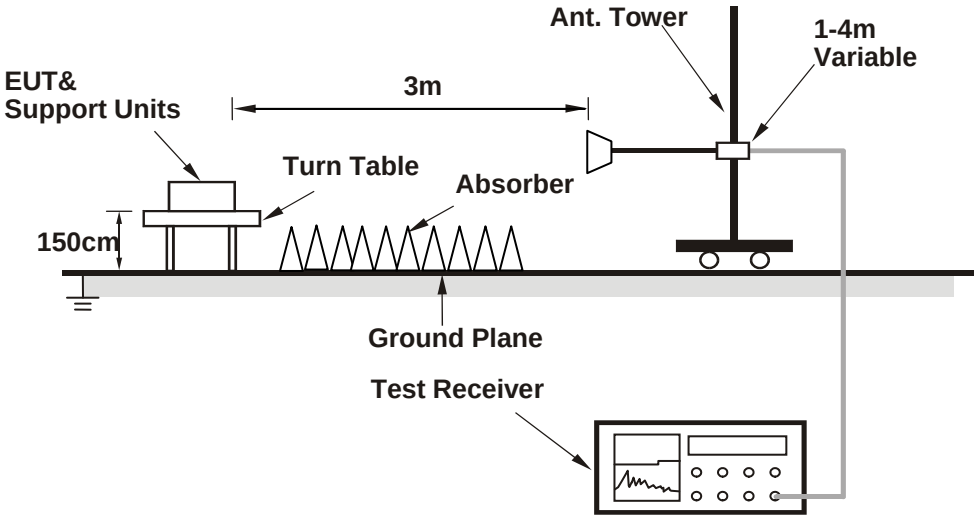
No deviation.

4.1.5 Test Setup

<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 in remote site.
2. The communication partner run test program “smartool.exe Version:2.3.1.0” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 Test Results (Mode 1)

Above 1GHz Data

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	48.5 PK	74.0	-25.5	2.06 H	153	51.39	-2.89
2	2390.00	37.8 AV	54.0	-16.2	2.06 H	153	40.69	-2.89
3	*2412.00	99.0 PK			2.06 H	153	101.85	-2.85
4	*2412.00	96.1 AV			2.06 H	153	98.95	-2.85
5	4824.00	53.3 PK	74.0	-20.7	1.14 H	334	47.08	6.22
6	4824.00	49.8 AV	54.0	-4.2	1.14 H	334	43.58	6.22
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	54.9 PK	74.0	-19.1	2.10 V	187	57.79	-2.89
2	2390.00	46.8 AV	54.0	-7.2	2.10 V	187	49.69	-2.89
3	*2412.00	112.1 PK			2.10 V	187	114.95	-2.85
4	*2412.00	109.7 AV			2.10 V	187	112.55	-2.85
5	4824.00	54.1 PK	74.0	-19.9	1.70 V	227	47.88	6.22
6	4824.00	50.9 AV	54.0	-3.1	1.70 V	227	44.68	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	96.7 PK			2.10 H	150	99.49	-2.79
2	*2437.00	93.5 AV			2.10 H	150	96.29	-2.79
3	4874.00	53.8 PK	74.0	-20.2	1.07 H	336	47.54	6.26
4	4874.00	49.0 AV	54.0	-5.0	1.07 H	336	42.74	6.26
5	7311.00	55.4 PK	74.0	-18.6	1.06 H	299	44.20	11.20
6	7311.00	45.8 AV	54.0	-8.2	1.06 H	299	34.60	11.20
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	108.9 PK			2.11 V	180	111.69	-2.79
2	*2437.00	106.5 AV			2.11 V	180	109.29	-2.79
3	4874.00	54.4 PK	74.0	-19.6	1.54 V	165	48.14	6.26
4	4874.00	50.5 AV	54.0	-3.5	1.54 V	165	44.24	6.26
5	7311.00	54.4 PK	74.0	-19.6	1.06 V	314	43.20	11.20
6	7311.00	44.5 AV	54.0	-9.5	1.06 V	314	33.30	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	93.7 PK			2.00 H	143	96.42	-2.72
2	*2462.00	91.2 AV			2.00 H	143	93.92	-2.72
3	2483.50	37.4 PK	74.0	-36.6	2.00 H	143	40.07	-2.67
4	2483.50	30.0 AV	54.0	-24.0	2.00 H	143	32.67	-2.67
5	4924.00	53.3 PK	74.0	-20.7	1.13 H	347	47.05	6.25
6	4924.00	47.8 AV	54.0	-6.2	1.13 H	347	41.55	6.25
7	7386.00	55.9 PK	74.0	-18.1	1.09 H	305	44.29	11.61
8	7386.00	46.1 AV	54.0	-7.9	1.09 H	305	34.49	11.61
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	106.7 PK			1.67 V	191	109.42	-2.72
2	*2462.00	104.2 AV			1.67 V	191	106.92	-2.72
3	2483.50	49.9 PK	74.0	-24.1	1.67 V	191	52.57	-2.67
4	2483.50	42.6 AV	54.0	-11.4	1.67 V	191	45.27	-2.67
5	4924.00	54.7 PK	74.0	-19.3	1.40 V	193	48.45	6.25
6	4924.00	50.8 AV	54.0	-3.2	1.40 V	193	44.55	6.25
7	7386.00	54.4 PK	74.0	-19.6	1.06 V	317	42.79	11.61
8	7386.00	44.4 AV	54.0	-9.6	1.06 V	317	32.79	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.6 PK	74.0	-16.4	2.00 H	142	60.49	-2.89
2	2390.00	41.2 AV	54.0	-12.8	2.00 H	142	44.09	-2.89
3	*2412.00	102.0 PK			2.00 H	140	104.85	-2.85
4	*2412.00	92.9 AV			2.00 H	140	95.75	-2.85
5	4824.00	48.4 PK	74.0	-25.6	1.13 H	340	42.18	6.22
6	4824.00	33.6 AV	54.0	-20.4	1.13 H	340	27.38	6.22
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	68.8 PK	74.0	-5.2	1.67 V	212	71.69	-2.89
2	2390.00	52.6 AV	54.0	-1.4	1.67 V	212	55.49	-2.89
3	*2412.00	113.6 PK			1.67 V	212	116.45	-2.85
4	*2412.00	104.5 AV			1.67 V	212	107.35	-2.85
5	4824.00	50.7 PK	74.0	-23.3	1.49 V	355	44.48	6.22
6	4824.00	35.5 AV	54.0	-18.5	1.49 V	355	29.28	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	45.7 PK	74.0	-28.3	2.01 H	142	48.59	-2.89
2	2390.00	32.8 AV	54.0	-21.2	2.01 H	142	35.69	-2.89
3	*2437.00	102.0 PK			2.01 H	142	104.79	-2.79
4	*2437.00	92.9 AV			2.01 H	142	95.69	-2.79
5	2483.50	48.1 PK	74.0	-25.9	2.01 H	142	50.77	-2.67
6	2483.50	36.4 AV	54.0	-17.6	2.01 H	142	39.07	-2.67
7	4874.00	60.5 PK	74.0	-13.5	1.09 H	352	54.24	6.26
8	4874.00	48.6 AV	54.0	-5.4	1.09 H	352	42.34	6.26
9	7311.00	51.1 PK	74.0	-22.9	1.12 H	294	39.90	11.20
10	7311.00	37.7 AV	54.0	-16.3	1.12 H	294	26.50	11.20
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	57.7 PK	74.0	-16.3	1.41 V	212	60.59	-2.89
2	2390.00	44.9 AV	54.0	-9.1	1.41 V	212	47.79	-2.89
3	*2437.00	114.2 PK			1.95 V	224	116.99	-2.79
4	*2437.00	105.0 AV			1.95 V	224	107.79	-2.79
5	2483.50	60.1 PK	74.0	-13.9	1.41 V	212	62.77	-2.67
6	2483.50	46.5 AV	54.0	-7.5	1.41 V	212	49.17	-2.67
7	4874.00	62.5 PK	74.0	-11.5	1.84 V	29	56.24	6.26
8	4874.00	50.5 AV	54.0	-3.5	1.84 V	29	44.24	6.26
9	7311.00	53.6 PK	74.0	-20.4	1.02 V	84	42.40	11.20
10	7311.00	39.3 AV	54.0	-14.7	1.02 V	84	28.10	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.5 PK			1.97 H	138	105.22	-2.72
2	*2462.00	93.2 AV			1.97 H	138	95.92	-2.72
3	2483.50	58.2 PK	74.0	-15.8	1.97 H	138	60.87	-2.67
4	2483.50	42.2 AV	54.0	-11.8	1.97 H	138	44.87	-2.67
5	4924.00	49.1 PK	74.0	-24.9	1.17 H	336	42.85	6.25
6	4924.00	34.1 AV	54.0	-19.9	1.17 H	336	27.85	6.25
7	7386.00	51.1 PK	74.0	-22.9	1.12 H	290	39.49	11.61
8	7386.00	38.0 AV	54.0	-16.0	1.12 H	290	26.39	11.61
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	113.6 PK			1.69 V	209	116.32	-2.72
2	*2462.00	104.7 AV			1.69 V	209	107.42	-2.72
3	2483.50	68.0 PK	74.0	-6.0	1.69 V	209	70.67	-2.67
4	2483.50	52.7 AV	54.0	-1.3	1.69 V	209	55.37	-2.67
5	4924.00	50.4 PK	74.0	-23.6	1.48 V	356	44.15	6.25
6	4924.00	35.3 AV	54.0	-18.7	1.48 V	356	29.05	6.25
7	7386.00	51.5 PK	74.0	-22.5	1.00 V	115	39.89	11.61
8	7386.00	37.6 AV	54.0	-16.4	1.00 V	115	25.99	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.2 PK	74.0	-16.8	1.99 H	125	60.09	-2.89
2	2390.00	40.8 AV	54.0	-13.2	1.99 H	125	43.69	-2.89
3	*2412.00	101.5 PK			1.99 H	125	104.35	-2.85
4	*2412.00	92.5 AV			1.99 H	125	95.35	-2.85
5	4824.00	48.7 PK	74.0	-25.3	1.19 H	347	42.48	6.22
6	4824.00	34.0 AV	54.0	-20.0	1.19 H	347	27.78	6.22
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	68.1 PK	74.0	-5.9	1.48 V	212	70.99	-2.89
2	**2390.00**	**53.0 AV**	**54.0**	**-1.0**	**1.48 V**	**212**	**55.89**	**-2.89**
3	*2412.00	113.3 PK			1.48 V	212	116.15	-2.85
4	*2412.00	103.6 AV			1.48 V	212	106.45	-2.85
5	4824.00	50.8 PK	74.0	-23.2	1.49 V	348	44.58	6.22
6	4824.00	35.6 AV	54.0	-18.4	1.49 V	348	29.38	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	45.7 PK	74.0	-28.3	1.99 H	141	48.59	-2.89
2	2390.00	32.6 AV	54.0	-21.4	1.99 H	141	35.49	-2.89
3	*2437.00	102.2 PK			1.99 H	141	104.99	-2.79
4	*2437.00	93.3 AV			1.99 H	141	96.09	-2.79
5	2483.50	48.0 PK	74.0	-26.0	1.99 H	141	50.67	-2.67
6	2483.50	36.2 AV	54.0	-17.8	1.99 H	141	38.87	-2.67
7	4874.00	60.5 PK	74.0	-13.5	1.12 H	360	54.24	6.26
8	4874.00	48.9 AV	54.0	-5.1	1.12 H	360	42.64	6.26
9	7311.00	51.2 PK	74.0	-22.8	1.15 H	307	40.00	11.20
10	7311.00	37.5 AV	54.0	-16.5	1.15 H	307	26.30	11.20
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	57.4 PK	74.0	-16.6	1.95 V	222	60.29	-2.89
2	2390.00	44.5 AV	54.0	-9.5	1.95 V	222	47.39	-2.89
3	*2437.00	114.1 PK			1.95 V	222	116.89	-2.79
4	*2437.00	105.1 AV			1.95 V	222	107.89	-2.79
5	2483.50	60.5 PK	74.0	-13.5	1.95 V	222	63.17	-2.67
6	2483.50	46.8 AV	54.0	-7.2	1.95 V	222	49.47	-2.67
7	4874.00	64.6 PK	74.0	-9.4	1.77 V	29	58.34	6.26
8	4874.00	50.8 AV	54.0	-3.2	1.77 V	29	44.54	6.26
9	7311.00	53.7 PK	74.0	-20.3	1.02 V	78	42.50	11.20
10	7311.00	39.2 AV	54.0	-14.8	1.02 V	78	28.00	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.5 PK			1.98 H	143	105.22	-2.72
2	*2462.00	93.1 AV			1.98 H	143	95.82	-2.72
3	2483.50	58.6 PK	74.0	-15.4	1.98 H	143	61.27	-2.67
4	2483.50	42.6 AV	54.0	-11.4	1.98 H	143	45.27	-2.67
5	4924.00	48.6 PK	74.0	-25.4	1.20 H	325	42.35	6.25
6	4924.00	33.6 AV	54.0	-20.4	1.20 H	325	27.35	6.25
7	7386.00	50.6 PK	74.0	-23.4	1.07 H	276	38.99	11.61
8	7386.00	37.8 AV	54.0	-16.2	1.07 H	276	26.19	11.61
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	113.9 PK			1.66 V	219	116.62	-2.72
2	*2462.00	103.8 AV			1.66 V	219	106.52	-2.72
3	2483.50	68.9 PK	74.0	-5.1	1.66 V	219	71.57	-2.67
4	2483.50	52.8 AV	54.0	-1.2	1.66 V	219	55.47	-2.67
5	4924.00	50.6 PK	74.0	-23.4	1.54 V	360	44.35	6.25
6	4924.00	35.2 AV	54.0	-18.8	1.54 V	360	28.95	6.25
7	7386.00	51.3 PK	74.0	-22.7	1.02 V	108	39.69	11.61
8	7386.00	37.2 AV	54.0	-16.8	1.02 V	108	25.59	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.1 PK	74.0	-15.9	1.64 H	98	60.99	-2.89
2	2390.00	42.0 AV	54.0	-12.0	1.64 H	98	44.89	-2.89
3	*2422.00	94.9 PK			1.64 H	98	97.73	-2.83
4	*2422.00	85.6 AV			1.64 H	98	88.43	-2.83
5	4844.00	52.3 PK	74.0	-21.7	1.08 H	308	46.07	6.23
6	4844.00	38.7 AV	54.0	-15.3	1.08 H	308	32.47	6.23
7	7266.00	53.6 PK	74.0	-20.4	1.07 H	302	42.42	11.18
8	7266.00	39.5 AV	54.0	-14.5	1.07 H	302	28.32	11.18
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	67.2 PK	74.0	-6.8	1.65 V	213	70.09	-2.89
2	2390.00	52.8 AV	54.0	-1.2	1.65 V	213	55.69	-2.89
3	*2422.00	108.3 PK			1.65 V	213	111.13	-2.83
4	*2422.00	98.6 AV			1.65 V	213	101.43	-2.83
5	4844.00	49.9 PK	74.0	-24.1	1.56 V	310	43.67	6.23
6	4844.00	35.5 AV	54.0	-18.5	1.56 V	310	29.27	6.23
7	7266.00	51.4 PK	74.0	-22.6	1.00 V	110	40.22	11.18
8	7266.00	37.5 AV	54.0	-16.5	1.00 V	110	26.32	11.18

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.1 PK	74.0	-18.9	1.65 H	95	57.99	-2.89
2	2390.00	40.0 AV	54.0	-14.0	1.65 H	95	42.89	-2.89
3	*2437.00	101.7 PK			1.65 H	95	104.49	-2.79
4	*2437.00	94.2 AV			1.65 H	95	96.99	-2.79
5	2483.50	61.7 PK	74.0	-12.3	1.65 H	95	64.37	-2.67
6	2483.50	45.2 AV	54.0	-8.8	1.65 H	95	47.87	-2.67
7	4874.00	52.1 PK	74.0	-21.9	1.03 H	288	45.84	6.26
8	4874.00	38.9 AV	54.0	-15.1	1.03 H	288	32.64	6.26
9	7311.00	53.2 PK	74.0	-20.8	1.04 H	319	42.00	11.20
10	7311.00	39.1 AV	54.0	-14.9	1.04 H	319	27.90	11.20
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	66.7 PK	74.0	-7.3	1.80 V	221	69.59	-2.89
2	2390.00	49.8 AV	54.0	-4.2	1.80 V	221	52.69	-2.89
3	*2437.00	111.9 PK			1.80 V	221	114.69	-2.79
4	*2437.00	102.1 AV			1.80 V	221	104.89	-2.79
5	2483.50	67.2 PK	74.0	-6.8	1.80 V	221	69.87	-2.67
6	2483.50	52.8 AV	54.0	-1.2	1.80 V	221	55.47	-2.67
7	4874.00	50.1 PK	74.0	-23.9	1.40 V	360	43.84	6.26
8	4874.00	36.1 AV	54.0	-17.9	1.40 V	360	29.84	6.26
9	7311.00	51.4 PK	74.0	-22.6	1.02 V	63	40.20	11.20
10	7311.00	37.1 AV	54.0	-16.9	1.02 V	63	25.90	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	93.9 PK			1.68 H	96	96.65	-2.75
2	*2452.00	85.3 AV			1.68 H	96	88.05	-2.75
3	2483.50	55.9 PK	74.0	-18.1	1.59 H	118	58.57	-2.67
4	2483.50	42.3 AV	54.0	-11.7	1.59 H	118	44.97	-2.67
5	4904.00	52.8 PK	74.0	-21.2	1.01 H	318	46.52	6.28
6	4904.00	38.7 AV	54.0	-15.3	1.01 H	318	32.42	6.28
7	7356.00	52.7 PK	74.0	-21.3	1.02 H	306	41.25	11.45
8	7356.00	39.3 AV	54.0	-14.7	1.02 H	306	27.85	11.45
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	*2452.00	108.0 PK			1.82 V	216	110.75	-2.75
2	*2452.00	97.8 AV			1.82 V	216	100.55	-2.75
3	2483.50	65.8 PK	74.0	-8.2	1.82 V	216	68.47	-2.67
4	2483.50	52.7 AV	54.0	-1.3	1.82 V	216	55.37	-2.67
5	4904.00	49.8 PK	74.0	-24.2	1.38 V	352	43.52	6.28
6	4904.00	35.6 AV	54.0	-18.4	1.38 V	352	29.32	6.28
7	7356.00	51.7 PK	74.0	-22.3	1.00 V	94	40.25	11.45
8	7356.00	37.4 AV	54.0	-16.6	1.00 V	94	25.95	11.45

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.

Below 1GHz Data

802.11g

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	125.01	36.8 QP	43.5	-6.7	2.00 H	68	51.69	-14.85
2	141.21	34.1 QP	43.5	-9.4	2.00 H	268	47.49	-13.37
3	243.30	36.6 QP	46.0	-9.4	1.00 H	91	50.87	-14.26
4	468.73	38.2 QP	46.0	-7.8	2.00 H	324	45.64	-7.48
5	627.67	38.6 QP	46.0	-7.4	1.50 H	311	42.31	-3.69
6	937.48	34.0 QP	46.0	-12.0	1.50 H	329	32.58	1.43
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	47.80	33.7 QP	40.0	-6.3	1.50 V	360	46.72	-13.04
2	54.17	33.9 QP	40.0	-6.1	1.00 V	327	46.93	-13.04
3	108.86	33.2 QP	43.5	-10.3	1.00 V	330	49.30	-16.06
4	125.01	37.4 QP	43.5	-6.1	1.00 V	333	52.29	-14.85
5	601.23	36.8 QP	46.0	-9.2	1.00 V	16	41.08	-4.25
6	634.50	39.5 QP	46.0	-6.6	1.50 V	111	42.97	-3.52

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

4.1.8 Test Results (Mode 2)

Above 1GHz Data

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	46.9 PK	74.0	-27.1	2.11 H	144	49.79	-2.89
2	2390.00	38.1 AV	54.0	-15.9	2.11 H	144	40.99	-2.89
3	*2412.00	98.4 PK			2.11 H	144	101.25	-2.85
4	*2412.00	95.5 AV			2.11 H	144	98.35	-2.85
5	4824.00	53.7 PK	74.0	-20.3	1.26 H	355	47.48	6.22
6	4824.00	47.5 AV	54.0	-6.5	1.26 H	355	41.28	6.22
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.8 PK	74.0	-17.2	1.35 V	200	59.69	-2.89
2	2390.00	47.6 AV	54.0	-6.4	1.35 V	200	50.49	-2.89
3	*2412.00	111.4 PK			1.23 V	192	114.25	-2.85
4	*2412.00	109.0 AV			1.23 V	192	111.85	-2.85
5	4824.00	55.4 PK	74.0	-18.6	1.37 V	130	49.18	6.22
6	4824.00	50.9 AV	54.0	-3.1	1.37 V	130	44.68	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	100.2 PK			2.10 H	140	102.99	-2.79
2	*2437.00	96.9 AV			2.10 H	140	99.69	-2.79
3	4874.00	53.7 PK	74.0	-20.3	1.32 H	354	47.44	6.26
4	4874.00	47.6 AV	54.0	-6.4	1.32 H	354	41.34	6.26
5	7311.00	59.9 PK	74.0	-14.1	1.02 H	73	48.70	11.20
6	7311.00	48.0 AV	54.0	-6.0	1.02 H	73	36.80	11.20
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	113.2 PK			1.26 V	190	115.99	-2.79
2	*2437.00	110.8 AV			1.26 V	190	113.59	-2.79
3	4874.00	55.3 PK	74.0	-18.7	1.47 V	42	49.04	6.26
4	4874.00	50.5 AV	54.0	-3.5	1.47 V	42	44.24	6.26
5	7311.00	58.5 PK	74.0	-15.5	1.00 V	125	47.30	11.20
6	7311.00	46.8 AV	54.0	-7.2	1.00 V	125	35.60	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.0 PK			2.11 H	140	103.72	-2.72
2	*2462.00	98.2 AV			2.11 H	140	100.92	-2.72
3	2483.50	49.4 PK	74.0	-24.6	2.11 H	140	52.07	-2.67
4	2483.50	40.6 AV	54.0	-13.4	2.11 H	140	43.27	-2.67
5	4924.00	54.2 PK	74.0	-19.8	1.38 H	360	47.95	6.25
6	4924.00	47.8 AV	54.0	-6.2	1.38 H	360	41.55	6.25
7	7386.00	60.0 PK	74.0	-14.0	1.00 H	65	48.39	11.61
8	7386.00	48.0 AV	54.0	-6.0	1.00 H	65	36.39	11.61
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	114.2 PK			1.27 V	194	116.92	-2.72
2	*2462.00	111.8 AV			1.27 V	194	114.52	-2.72
3	2483.50	58.6 PK	74.0	-15.4	1.07 V	194	61.27	-2.67
4	2483.50	49.8 AV	54.0	-4.2	1.07 V	194	52.47	-2.67
5	4924.00	55.1 PK	74.0	-18.9	1.31 V	352	48.85	6.25
6	4924.00	50.6 AV	54.0	-3.4	1.31 V	352	44.35	6.25
7	7386.00	58.3 PK	74.0	-15.7	1.00 V	125	46.69	11.61
8	7386.00	46.5 AV	54.0	-7.5	1.00 V	125	34.89	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.3 PK	74.0	-13.7	1.57 H	101	63.19	-2.89
2	2390.00	43.5 AV	54.0	-10.5	1.57 H	101	46.39	-2.89
3	*2412.00	100.5 PK			1.57 H	101	103.35	-2.85
4	*2412.00	91.9 AV			1.57 H	101	94.75	-2.85
5	4824.00	54.9 PK	74.0	-19.1	1.15 H	304	48.68	6.22
6	4824.00	40.5 AV	54.0	-13.5	1.15 H	304	34.28	6.22
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	68.9 PK	74.0	-5.1	1.55 V	199	71.79	-2.89
2	2390.00	52.6 AV	54.0	-1.4	1.55 V	199	55.49	-2.89
3	*2412.00	112.5 PK			1.55 V	199	115.35	-2.85
4	*2412.00	103.1 AV			1.55 V	199	105.95	-2.85
5	4824.00	50.6 PK	74.0	-23.4	1.54 V	340	44.38	6.22
6	4824.00	35.4 AV	54.0	-18.6	1.54 V	340	29.18	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.1 PK	74.0	-20.9	1.65 H	90	55.99	-2.89
2	2390.00	38.9 AV	54.0	-15.1	1.65 H	90	41.79	-2.89
3	*2437.00	109.3 PK			1.65 H	90	112.09	-2.79
4	*2437.00	100.3 AV			1.65 H	90	103.09	-2.79
5	2483.50	55.6 PK	74.0	-18.4	1.65 H	90	58.27	-2.67
6	2483.50	42.9 AV	54.0	-11.1	1.65 H	90	45.57	-2.67
7	4874.00	54.9 PK	74.0	-19.1	1.00 H	332	48.64	6.26
8	4874.00	40.6 AV	54.0	-13.4	1.00 H	332	34.34	6.26
9	7311.00	55.9 PK	74.0	-18.1	1.02 H	311	44.70	11.20
10	7311.00	41.8 AV	54.0	-12.2	1.02 H	311	30.60	11.20
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	62.4 PK	74.0	-11.6	1.53 V	200	65.29	-2.89
2	2390.00	48.5 AV	54.0	-5.5	1.53 V	200	51.39	-2.89
3	*2437.00	118.1 PK			1.53 V	200	120.89	-2.79
4	*2437.00	108.7 AV			1.53 V	200	111.49	-2.79
5	2483.50	67.4 PK	74.0	-6.6	1.53 V	200	70.07	-2.67
6	2483.50	51.7 AV	54.0	-2.3	1.53 V	200	54.37	-2.67
7	4874.00	52.4 PK	74.0	-21.6	1.46 V	360	46.14	6.26
8	4874.00	38.6 AV	54.0	-15.4	1.46 V	360	32.34	6.26
9	7311.00	53.5 PK	74.0	-20.5	1.05 V	108	42.30	11.20
10	7311.00	39.1 AV	54.0	-14.9	1.05 V	108	27.90	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.6 PK			1.51 H	95	106.32	-2.72
2	*2462.00	94.3 AV			1.51 H	95	97.02	-2.72
3	2483.50	60.2 PK	74.0	-13.8	1.51 H	95	62.87	-2.67
4	2483.50	42.1 AV	54.0	-11.9	1.51 H	95	44.77	-2.67
5	4924.00	55.2 PK	74.0	-18.8	1.04 H	324	48.95	6.25
6	4924.00	41.1 AV	54.0	-12.9	1.04 H	324	34.85	6.25
7	7386.00	53.1 PK	74.0	-20.9	1.51 H	95	41.49	11.61
8	7386.00	39.3 AV	54.0	-14.7	1.51 H	95	27.69	11.61
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	114.1 PK			1.50 V	192	116.82	-2.72
2	*2462.00	104.7 AV			1.50 V	192	107.42	-2.72
3	2483.50	68.5 PK	74.0	-5.5	1.50 V	192	71.17	-2.67
4	2483.50	52.6 AV	54.0	-1.4	1.50 V	192	55.27	-2.67
5	4924.00	50.4 PK	74.0	-23.6	1.50 V	360	44.15	6.25
6	4924.00	35.6 AV	54.0	-18.4	1.50 V	360	29.35	6.25
7	7386.00	51.7 PK	74.0	-22.3	1.08 V	109	40.09	11.61
8	7386.00	37.9 AV	54.0	-16.1	1.08 V	109	26.29	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.6 PK	74.0	-14.4	1.60 H	100	62.49	-2.89
2	2390.00	41.9 AV	54.0	-12.1	1.60 H	100	44.79	-2.89
3	*2412.00	100.4 PK			1.60 H	100	103.25	-2.85
4	*2412.00	90.6 AV			1.60 H	100	93.45	-2.85
5	4824.00	55.1 PK	74.0	-18.9	1.12 H	310	48.88	6.22
6	4824.00	40.8 AV	54.0	-13.2	1.12 H	310	34.58	6.22
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	69.2 PK	74.0	-4.8	1.53 V	192	72.09	-2.89
2	2390.00	52.3 AV	54.0	-1.7	1.53 V	192	55.19	-2.89
3	*2412.00	111.6 PK			1.37 V	139	114.45	-2.85
4	*2412.00	102.2 AV			1.37 V	139	105.05	-2.85
5	4824.00	50.9 PK	74.0	-23.1	1.54 V	341	44.68	6.22
6	4824.00	35.7 AV	54.0	-18.3	1.54 V	341	29.48	6.22

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	53.0 PK	74.0	-21.0	1.66 H	82	55.89	-2.89
2	2390.00	38.6 AV	54.0	-15.4	1.66 H	82	41.49	-2.89
3	*2437.00	108.9 PK			1.66 H	82	111.69	-2.79
4	*2437.00	100.1 AV			1.66 H	82	102.89	-2.79
5	2483.50	55.6 PK	74.0	-18.4	1.66 H	82	58.27	-2.67
6	2483.50	43.1 AV	54.0	-10.9	1.66 H	82	45.77	-2.67
7	4874.00	55.5 PK	74.0	-18.5	1.02 H	341	49.24	6.26
8	4874.00	41.0 AV	54.0	-13.0	1.02 H	341	34.74	6.26
9	7311.00	55.9 PK	74.0	-18.1	1.04 H	299	44.70	11.20
10	7311.00	41.8 AV	54.0	-12.2	1.04 H	299	30.60	11.20
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	62.5 PK	74.0	-11.5	1.44 V	186	65.39	-2.89
2	2390.00	48.7 AV	54.0	-5.3	1.44 V	186	51.59	-2.89
3	*2437.00	117.0 PK			1.48 V	202	119.79	-2.79
4	*2437.00	108.0 AV			1.48 V	202	110.79	-2.79
5	2483.50	66.8 PK	74.0	-7.2	1.59 V	175	69.47	-2.67
6	2483.50	51.2 AV	54.0	-2.8	1.59 V	175	53.87	-2.67
7	4874.00	52.4 PK	74.0	-21.6	1.42 V	352	46.14	6.26
8	4874.00	38.5 AV	54.0	-15.5	1.42 V	352	32.24	6.26
9	7311.00	53.3 PK	74.0	-20.7	1.09 V	112	42.10	11.20
10	7311.00	39.0 AV	54.0	-15.0	1.09 V	112	27.80	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.0 PK			1.46 H	82	106.72	-2.72
2	*2462.00	94.4 AV			1.46 H	82	97.12	-2.72
3	2483.50	60.5 PK	74.0	-13.5	1.48 H	82	63.17	-2.67
4	2483.50	42.5 AV	54.0	-11.5	1.48 H	82	45.17	-2.67
5	4924.00	54.5 PK	74.0	-19.5	1.02 H	321	48.25	6.25
6	4924.00	40.6 AV	54.0	-13.4	1.02 H	321	34.35	6.25
7	7386.00	52.7 PK	74.0	-21.3	1.48 H	83	41.09	11.61
8	7386.00	39.0 AV	54.0	-15.0	1.48 H	83	27.39	11.61
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	113.2 PK			1.73 V	190	115.92	-2.72
2	*2462.00	103.3 AV			1.73 V	190	106.02	-2.72
3	2483.50	65.4 PK	74.0	-8.6	1.73 V	190	68.07	-2.67
4	2483.50	52.8 AV	54.0	-1.2	1.73 V	190	55.47	-2.67
5	4924.00	50.0 PK	74.0	-24.0	1.48 V	357	43.75	6.25
6	4924.00	35.1 AV	54.0	-18.9	1.48 V	357	28.85	6.25
7	7386.00	51.9 PK	74.0	-22.1	1.02 V	99	40.29	11.61
8	7386.00	37.9 AV	54.0	-16.1	1.02 V	99	26.29	11.61

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.6 PK	74.0	-15.4	1.65 H	87	61.49	-2.89
2	2390.00	42.3 AV	54.0	-11.7	1.65 H	87	45.19	-2.89
3	*2422.00	95.3 PK			1.65 H	87	98.13	-2.83
4	*2422.00	85.9 AV			1.65 H	87	88.73	-2.83
5	4844.00	52.5 PK	74.0	-21.5	1.03 H	311	46.27	6.23
6	4844.00	38.6 AV	54.0	-15.4	1.03 H	311	32.37	6.23
7	7266.00	53.0 PK	74.0	-21.0	1.04 H	306	41.82	11.18
8	7266.00	39.1 AV	54.0	-14.9	1.04 H	306	27.92	11.18
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	68.2 PK	74.0	-5.8	1.57 V	193	71.09	-2.89
2	2390.00	52.7 AV	54.0	-1.3	1.57 V	193	55.59	-2.89
3	*2422.00	107.6 PK			1.54 V	180	110.43	-2.83
4	*2422.00	98.2 AV			1.54 V	180	101.03	-2.83
5	4844.00	50.3 PK	74.0	-23.7	1.52 V	326	44.07	6.23
6	4844.00	35.9 AV	54.0	-18.1	1.52 V	326	29.67	6.23
7	7266.00	51.6 PK	74.0	-22.4	1.00 V	104	40.42	11.18
8	7266.00	37.5 AV	54.0	-16.5	1.00 V	104	26.32	11.18

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.8 PK	74.0	-18.2	1.63 H	103	58.69	-2.89
2	2390.00	40.4 AV	54.0	-13.6	1.63 H	103	43.29	-2.89
3	*2437.00	102.3 PK			1.63 H	103	105.09	-2.79
4	*2437.00	94.6 AV			1.63 H	103	97.39	-2.79
5	2483.50	61.5 PK	74.0	-12.5	1.63 H	103	64.17	-2.67
6	2483.50	45.0 AV	54.0	-9.0	1.63 H	103	47.67	-2.67
7	4874.00	51.9 PK	74.0	-22.1	1.08 H	287	45.64	6.26
8	4874.00	38.5 AV	54.0	-15.5	1.08 H	287	32.24	6.26
9	7311.00	53.2 PK	74.0	-20.8	1.02 H	318	42.00	11.20
10	7311.00	39.3 AV	54.0	-14.7	1.02 H	318	28.10	11.20
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	65.2 PK	74.0	-8.8	1.45 V	195	68.09	-2.89
2	2390.00	50.1 AV	54.0	-3.9	1.45 V	195	52.99	-2.89
3	*2437.00	111.1 PK			1.43 V	195	113.89	-2.79
4	*2437.00	101.5 AV			1.43 V	195	104.29	-2.79
5	2483.50	66.7 PK	74.0	-7.3	1.77 V	198	69.37	-2.67
6	2483.50	52.7 AV	54.0	-1.3	1.77 V	198	55.37	-2.67
7	4874.00	50.6 PK	74.0	-23.4	1.43 V	353	44.34	6.26
8	4874.00	36.5 AV	54.0	-17.5	1.43 V	353	30.24	6.26
9	7311.00	51.4 PK	74.0	-22.6	1.00 V	79	40.20	11.20
10	7311.00	37.2 AV	54.0	-16.8	1.00 V	79	26.00	11.20

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) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	94.3 PK			1.63 H	106	97.05	-2.75
2	*2452.00	85.5 AV			1.63 H	106	88.25	-2.75
3	2483.50	56.3 PK	74.0	-17.7	1.63 H	106	58.97	-2.67
4	2483.50	42.6 AV	54.0	-11.4	1.63 H	106	45.27	-2.67
5	4904.00	52.2 PK	74.0	-21.8	1.00 H	320	45.92	6.28
6	4904.00	38.3 AV	54.0	-15.7	1.00 H	320	32.02	6.28
7	7356.00	52.7 PK	74.0	-21.3	1.03 H	320	41.25	11.45
8	7356.00	39.1 AV	54.0	-14.9	1.03 H	320	27.65	11.45
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	*2452.00	106.9 PK			1.56 V	193	109.65	-2.75
2	*2452.00	97.6 AV			1.56 V	193	100.35	-2.75
3	2483.50	67.0 PK	74.0	-7.0	1.83 V	172	69.67	-2.67
4	2483.50	52.9 AV	54.0	-1.1	1.83 V	172	55.57	-2.67
5	4904.00	50.0 PK	74.0	-24.0	1.44 V	337	43.72	6.28
6	4904.00	35.8 AV	54.0	-18.2	1.44 V	337	29.52	6.28
7	7356.00	51.9 PK	74.0	-22.1	1.00 V	96	40.45	11.45
8	7356.00	37.6 AV	54.0	-16.4	1.00 V	96	26.15	11.45

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.

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 ROHDE & SCHWARZ	ESCS 30	847124/029	Oct. 22, 2014	Oct. 21, 2015
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 15, 2014	Sep. 14, 2015
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 10, 2014	Nov. 09, 2015
RF Cable (JYEBAO)	5D-FB	COCCAB-001	Mar. 09, 2015	Mar. 08, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 22, 2014	Sep. 21, 2015
50 ohms Terminator	N/A	EMC-02	Sep. 30, 2014	Sep. 29, 2015
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Apr. 27, 2015

4.2.3 Test Procedures

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

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

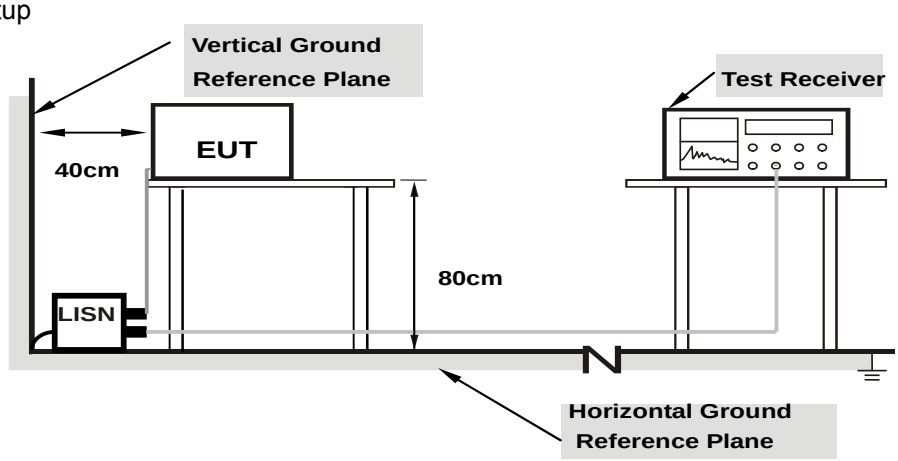
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

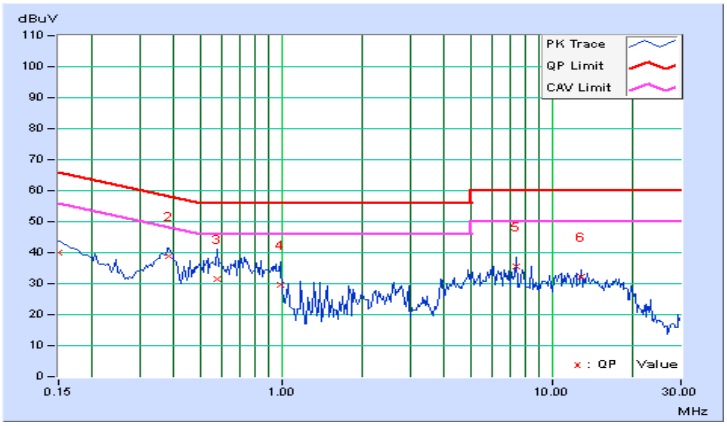
4.2.7 Test Results

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

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.08	40.04	30.10	40.12	30.18	66.00	56.00	-25.88	-25.82
2	**0.38438**	**0.10**	**38.82**	**35.82**	**38.92**	**35.92**	**58.18**	**48.18**	**-19.27**	**-12.27**
3	0.57578	0.11	31.22	22.29	31.33	22.40	56.00	46.00	-24.67	-23.60
4	0.98984	0.13	29.49	19.08	29.62	19.21	56.00	46.00	-26.38	-26.79
5	7.37891	0.35	35.26	31.94	35.61	32.29	60.00	50.00	-24.39	-17.71
6	12.79688	0.52	31.88	28.38	32.40	28.90	60.00	50.00	-27.60	-21.10

REMARKS:

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

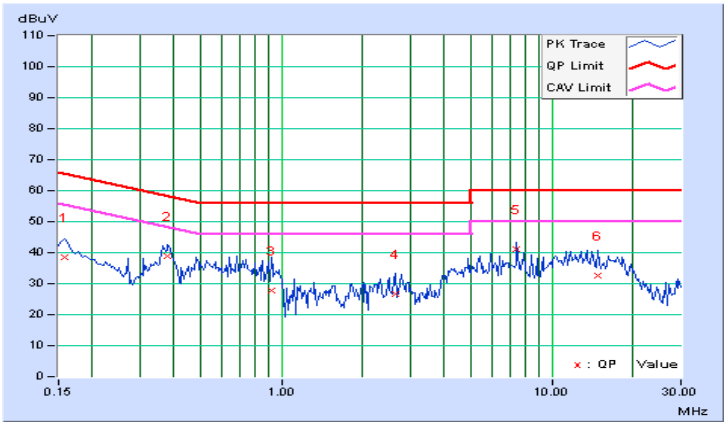


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.08	38.26	27.96	38.34	28.04	65.58	55.58	-27.24	-27.54
2	0.38047	0.10	38.80	34.75	38.90	34.85	58.27	48.27	-19.37	-13.42
3	0.91563	0.13	27.63	18.87	27.76	19.00	56.00	46.00	-28.24	-27.00
4	2.65625	0.19	26.41	19.67	26.60	19.86	56.00	46.00	-29.40	-26.14
5	7.38281	0.36	40.70	36.35	41.06	36.71	60.00	50.00	-18.94	-13.29
6	14.70703	0.59	31.97	26.20	32.56	26.79	60.00	50.00	-27.44	-23.21

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

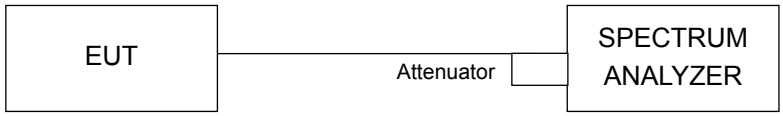


4.3 6dB Bandwidth Measurement

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 Procedures

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Results

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	10.09	10.09	0.5	Pass
6	2437	10.07	10.07	0.5	Pass
11	2462	10.10	10.09	0.5	Pass

802.11g

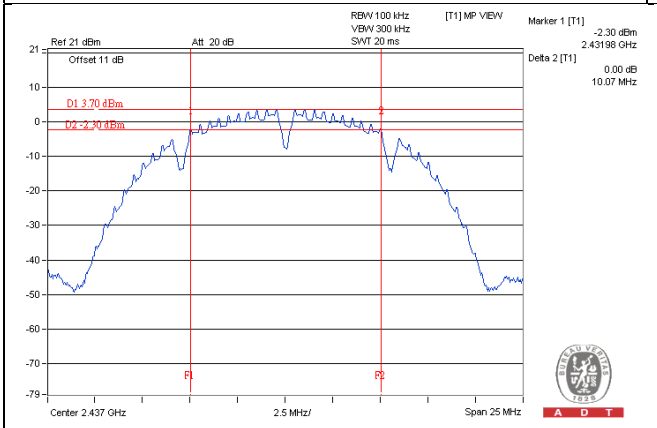
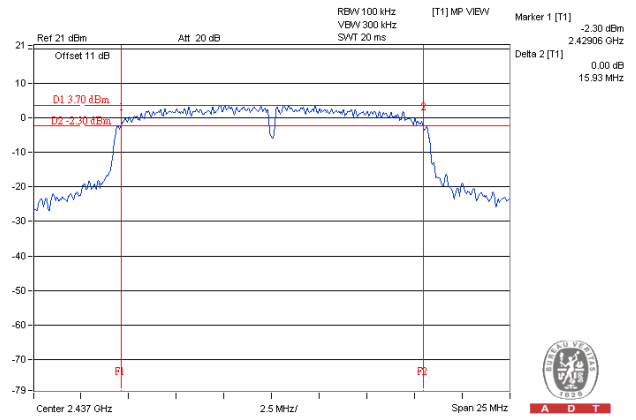
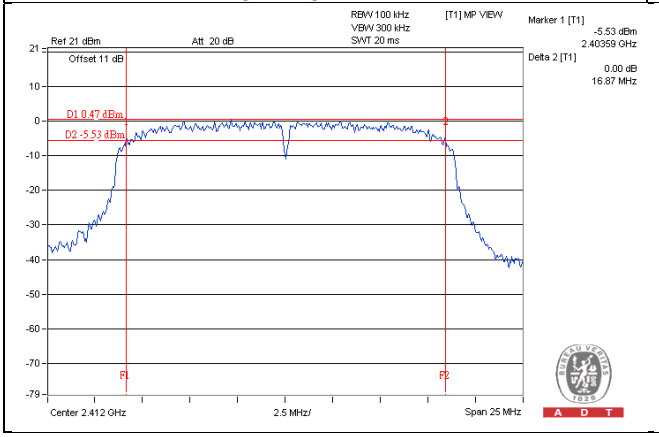
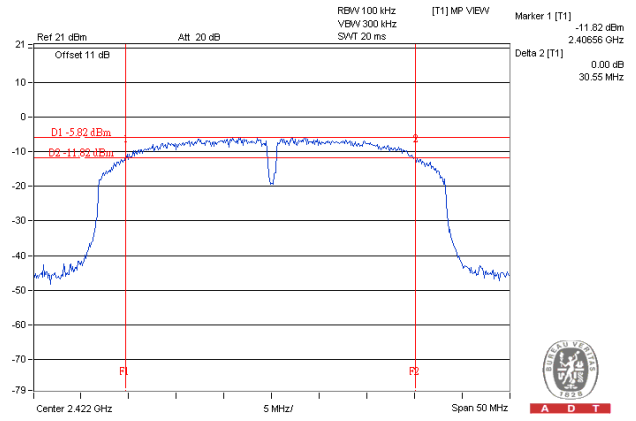
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.41	16.33	0.5	Pass
6	2437	16.40	15.93	0.5	Pass
11	2462	16.42	16.41	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.87	16.87	0.5	Pass
6	2437	16.88	16.88	0.5	Pass
11	2462	16.87	16.87	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	30.80	30.55	0.5	Pass
6	2437	31.22	30.76	0.5	Pass
9	2452	31.17	30.59	0.5	Pass

Spectrum Plot of Worst Value	
802.11b_Chain 0 / CH6	**802.11g_Chain 1 / CH6**
	
802.11n (HT20) _Chain 0 / CH1	**802.11n (HT40) _Chain 1 / CH3**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

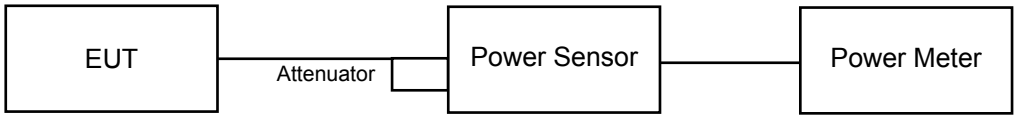
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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 NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) 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

The 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

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	21.02	21.65	272.692	24.36	30	Pass
6	2437	18.61	18.61	145.222	21.62	30	Pass
11	2462	13.61	14.31	49.938	16.98	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.89	23.82	485.897	26.87	30	Pass
6	2437	24.89	24.31	578.093	27.62	30	Pass
11	2462	23.75	22.64	420.791	26.24	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	23.41	23.54	445.224	26.49	30	Pass
6	2437	24.81	24.37	576.218	27.61	30	Pass
11	2462	22.64	22.38	356.636	25.52	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Peak Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	19.71	19.62	185.163	22.68	30	Pass
6	2437	23.21	22.65	393.488	25.95	30	Pass
9	2452	19.82	19.17	178.544	22.52	30	Pass

FOR AVERAGE POWER

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	18.51	18.61	143.569	21.57
6	2437	15.91	15.86	77.542	18.90
11	2462	10.91	11.51	26.489	14.23

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	15.01	15.56	67.671	18.30
6	2437	18.82	18.21	142.43	21.54
11	2462	15.02	14.97	63.174	18.01

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
1	2412	14.89	15.52	66.477	18.23
6	2437	18.75	18.72	149.462	21.75
11	2462	13.92	14.41	52.266	17.18

802.11n (HT40)

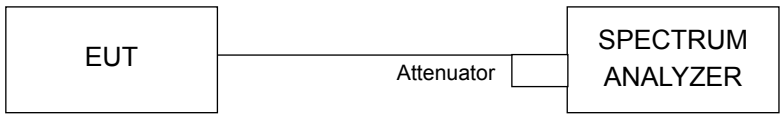
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1		
3	2422	11.12	10.81	24.992	13.98
6	2437	15.21	14.82	63.528	18.03
9	2452	10.32	10.51	22.011	13.43

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 Procedures

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6

4.5.7 Test Results

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-13.42	3.01	-10.41	8	Pass
	6	2437	-16.42	3.01	-13.41	8	Pass
	11	2462	-20.21	3.01	-17.20	8	Pass
1	1	2412	-12.52	3.01	-9.51	8	Pass
	6	2437	-16.24	3.01	-13.23	8	Pass
	11	2462	-20.08	3.01	-17.07	8	Pass

Note: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.63dBi < 6dBi , so the power density limit shall not be reduced.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-14.17	3.01	-11.16	8	Pass
	6	2437	-11.79	3.01	-8.78	8	Pass
	11	2462	-14.76	3.01	-11.75	8	Pass
1	1	2412	-13.68	3.01	-10.67	8	Pass
	6	2437	-10.98	3.01	-7.97	8	Pass
	11	2462	-14.86	3.01	-11.85	8	Pass

Note: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.63dBi < 6dBi , so the power density limit shall not be reduced.

802.11n (HT20)

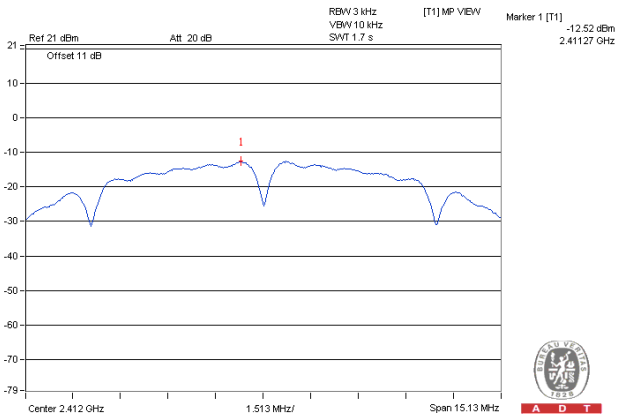
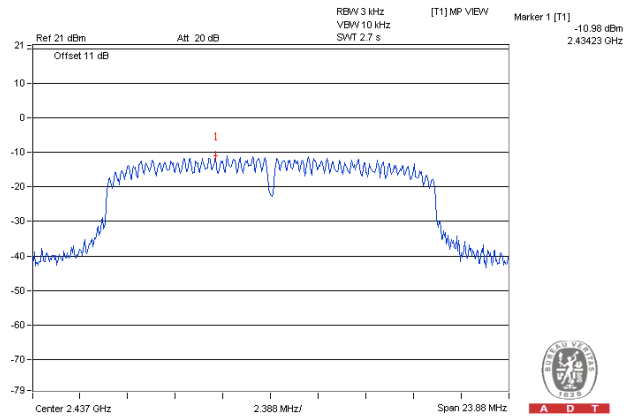
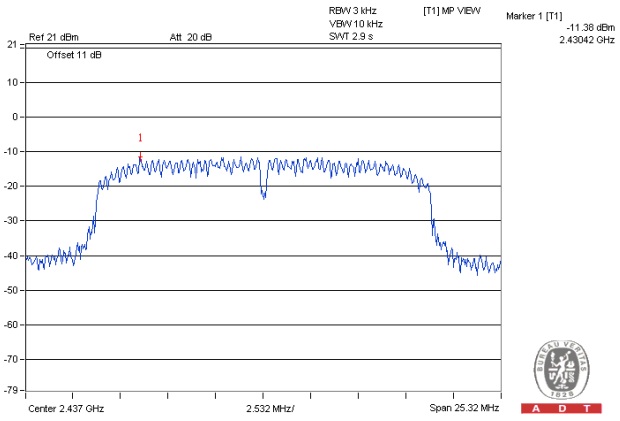
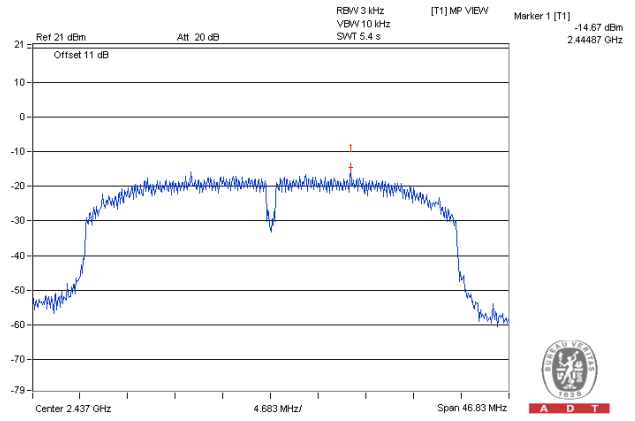
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-14.39	3.01	-11.38	8	Pass
	6	2437	-11.44	3.01	-8.43	8	Pass
	11	2462	-15.12	3.01	-12.11	8	Pass
1	1	2412	-15.07	3.01	-12.06	8	Pass
	6	2437	-11.38	3.01	-8.37	8	Pass
	11	2462	-14.52	3.01	-11.51	8	Pass

Note: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.63dBi < 6dBi , so the power density limit shall not be reduced.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-18.48	3.01	-15.47	8	Pass
	6	2437	-14.67	3.01	-11.66	8	Pass
	9	2452	-19.78	3.01	-16.77	8	Pass
1	3	2422	-18.88	3.01	-15.87	8	Pass
	6	2437	-16.27	3.01	-13.26	8	Pass
	9	2452	-20.53	3.01	-17.52	8	Pass

Note: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 5.63dBi < 6dBi , so the power density limit shall not be reduced.

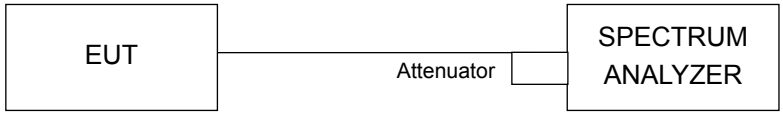
Spectrum Plot of Worst Value	
802.11b_Chain 1 / CH1	**802.11g_Chain 1 / CH6**
	
802.11n (HT20)_Chain 1 / CH6	**802.11n (HT40)_Chain 0 / CH6**
	

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 Procedures

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOBE

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Conditions

Same as Item 4.3.6

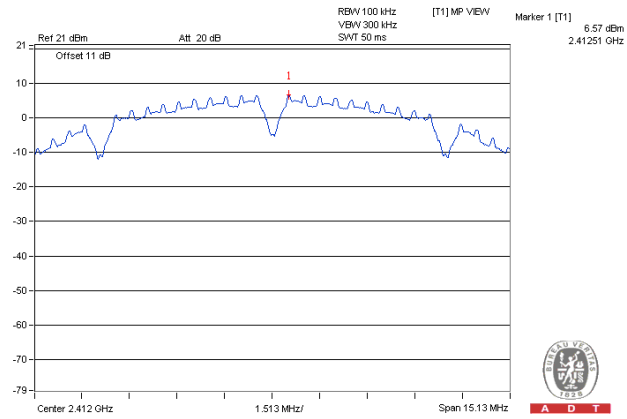
4.6.7 Test Results

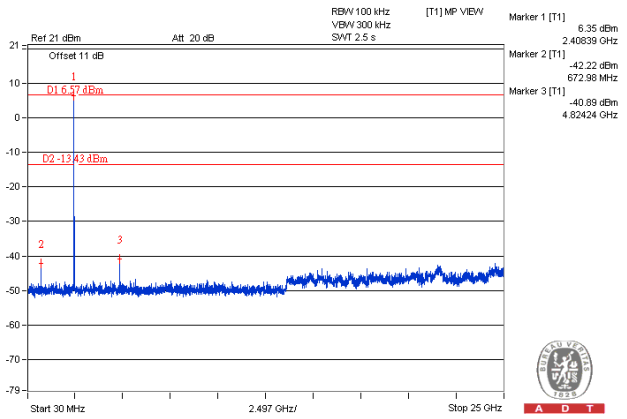
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

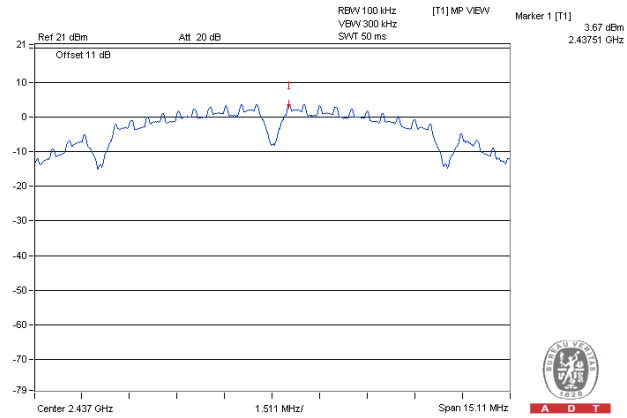
Chain 0

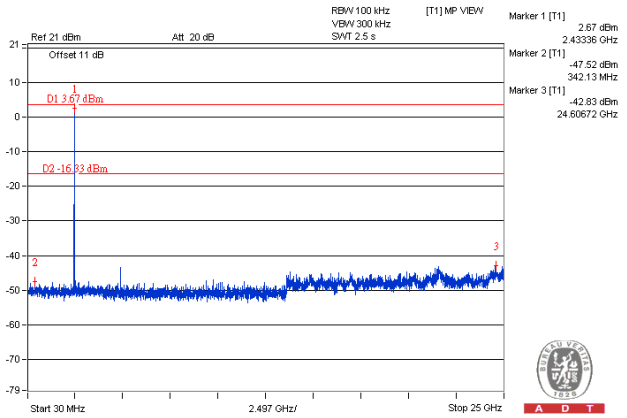
CH 1



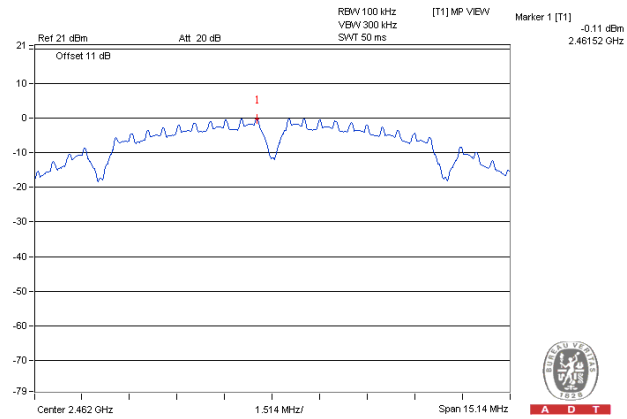


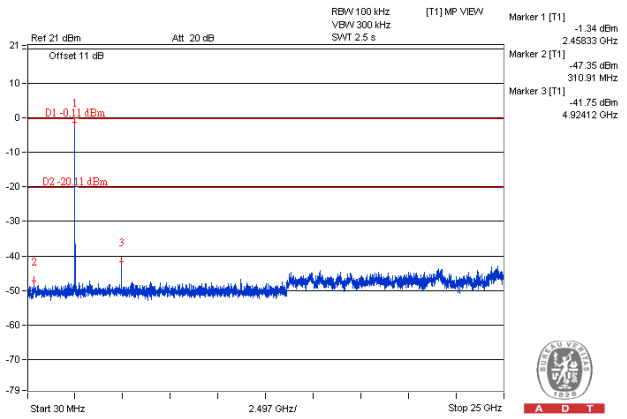
CH 6



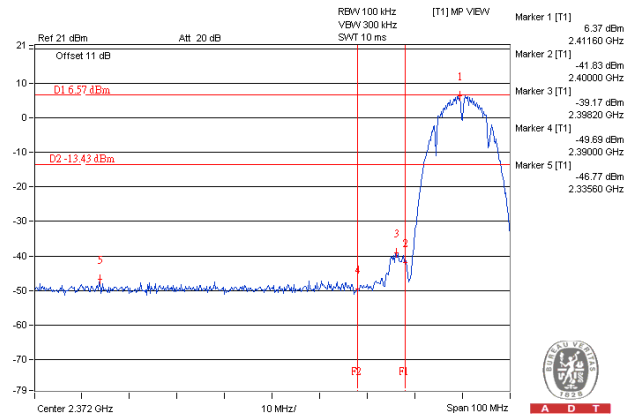


CH 11

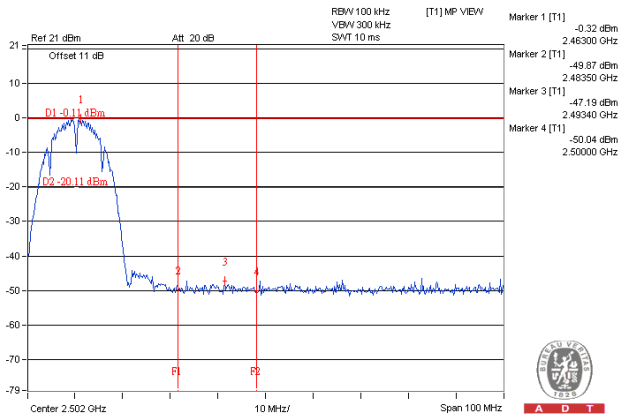




CH 1 Band edge

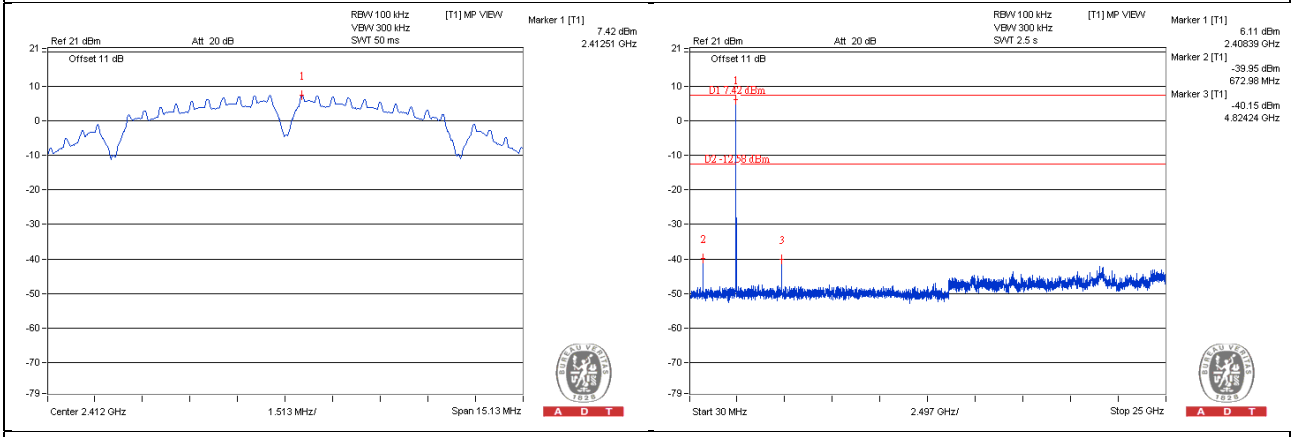


CH 11 Band edge

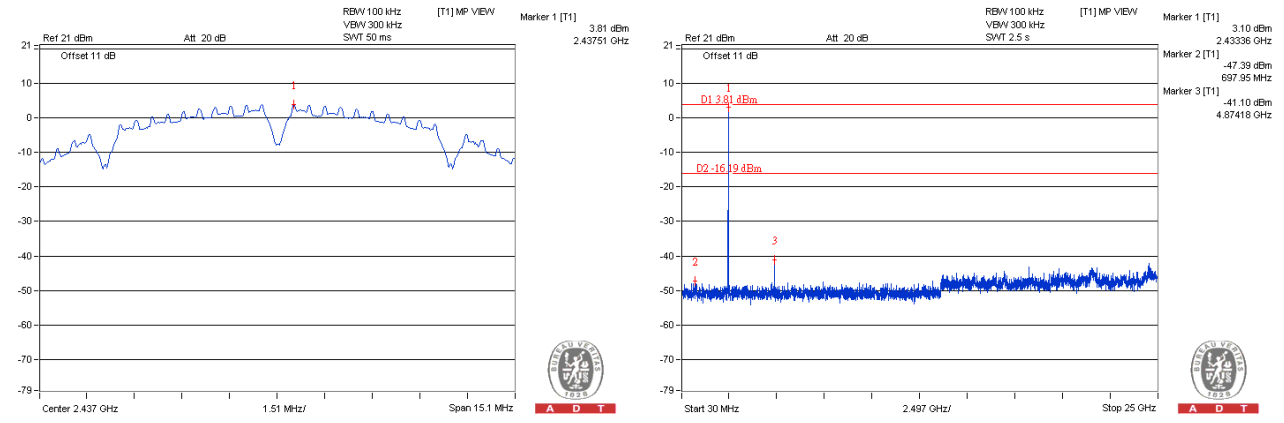


Chain 1

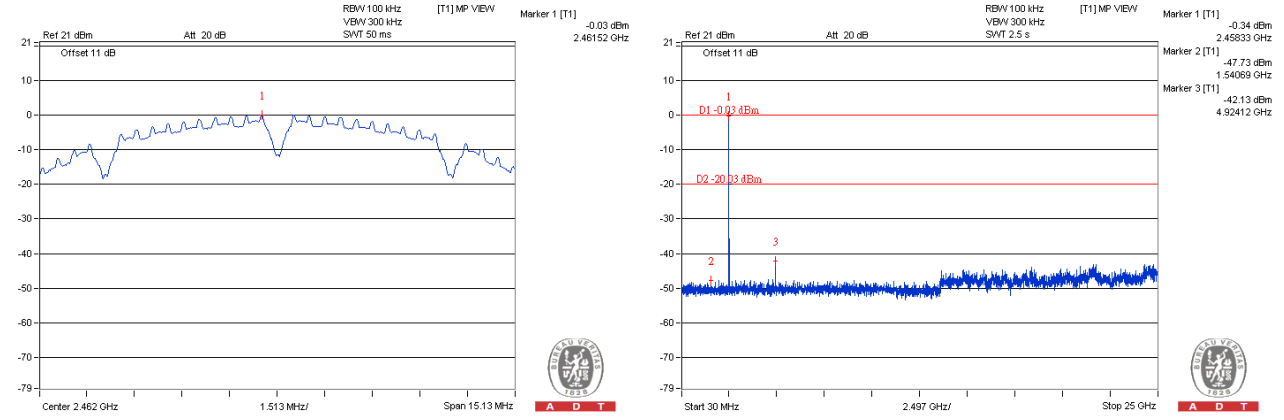
CH 1



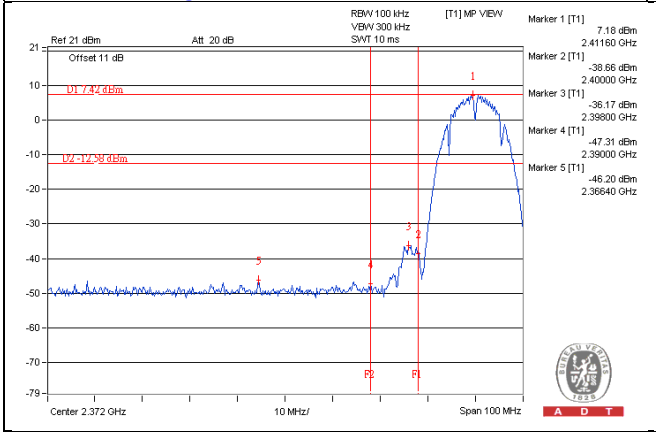
CH 6



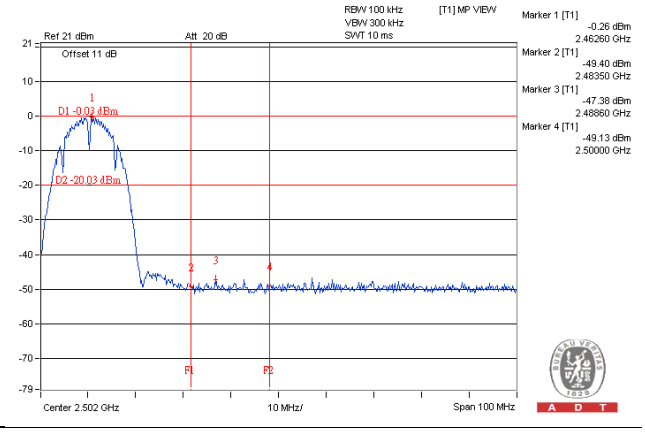
CH 11



CH 1 Band edge



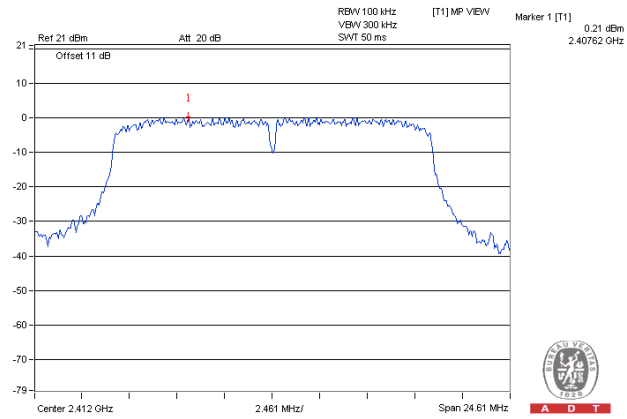
CH 11 Band edge

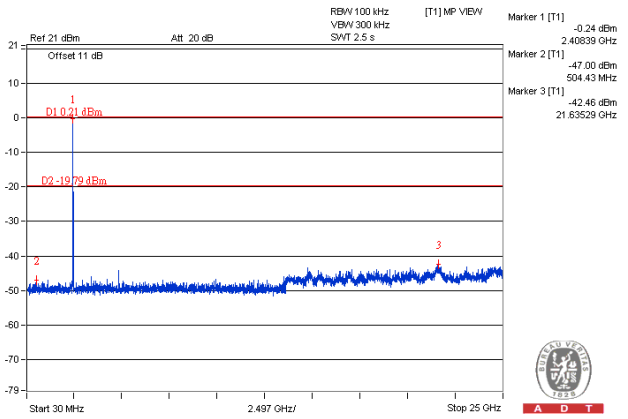


802.11g

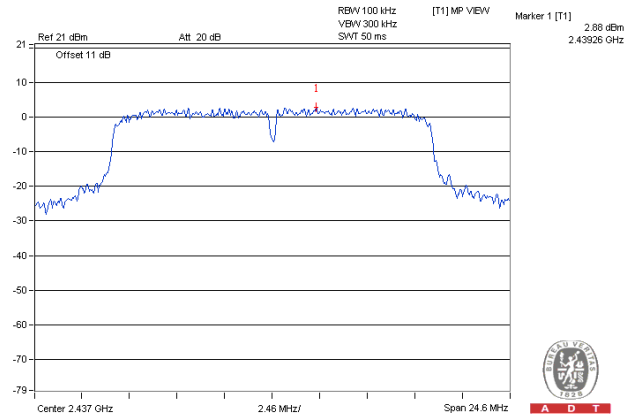
Chain 0

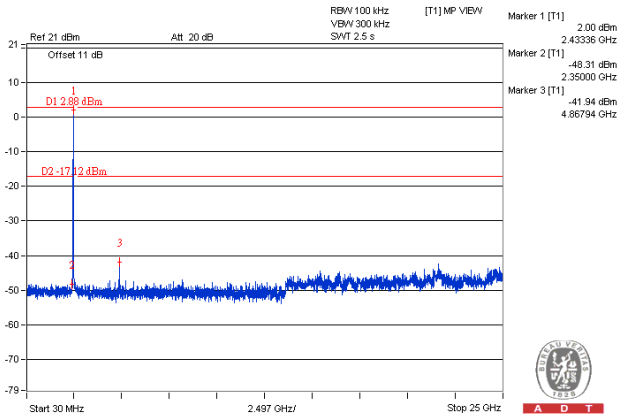
CH 1



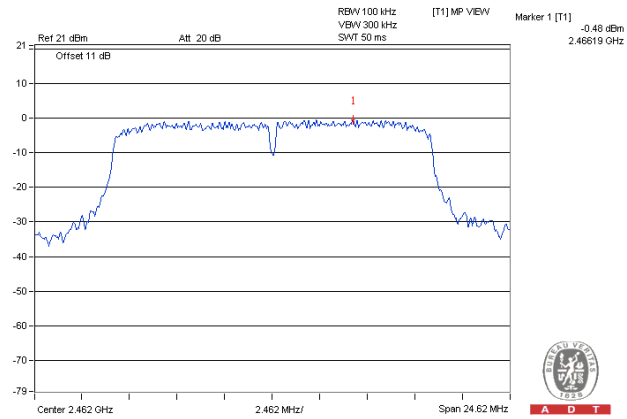


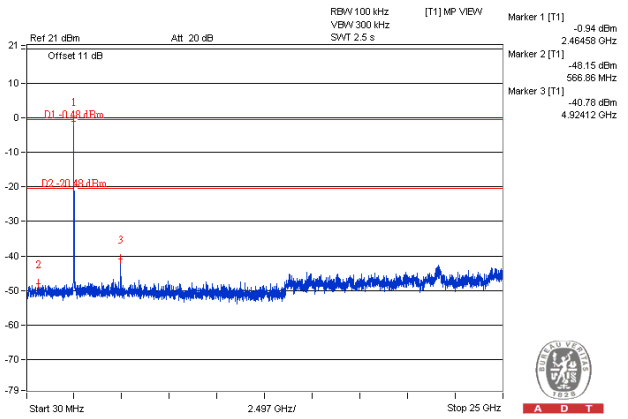
CH 6



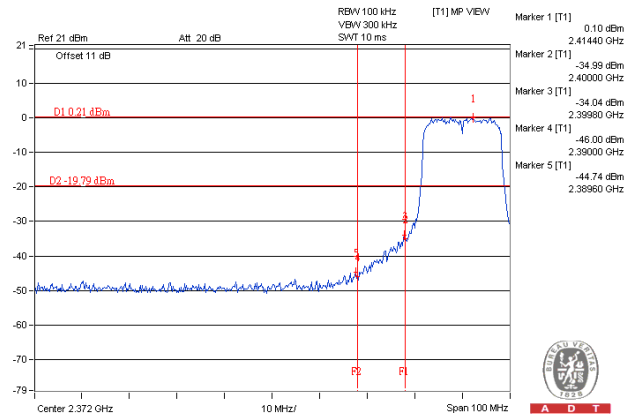


CH 11

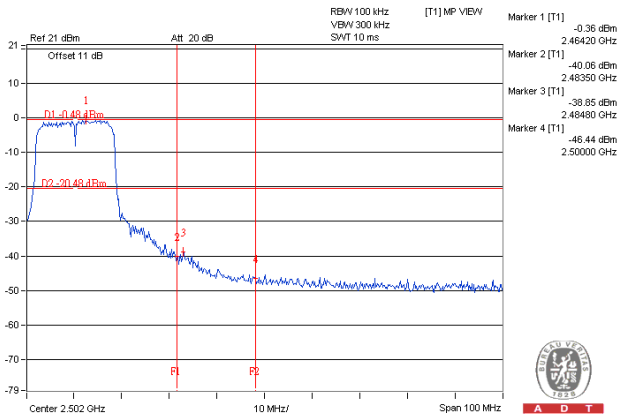




CH 1 Band edge

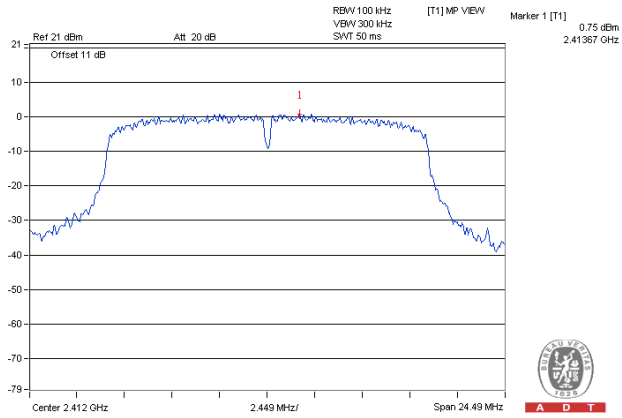


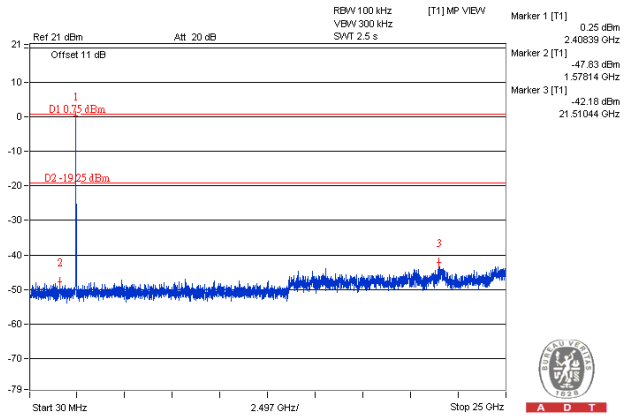
CH 11 Band edge



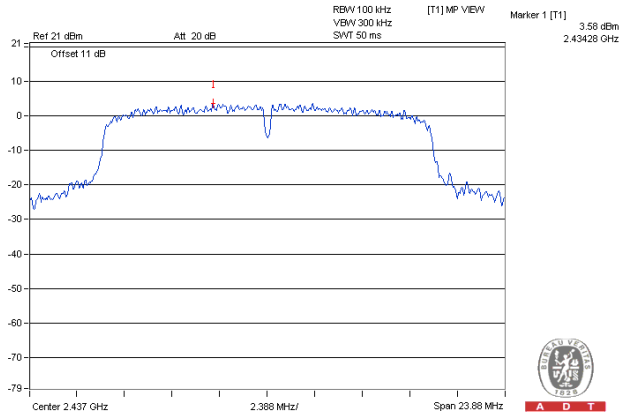
Chain 1

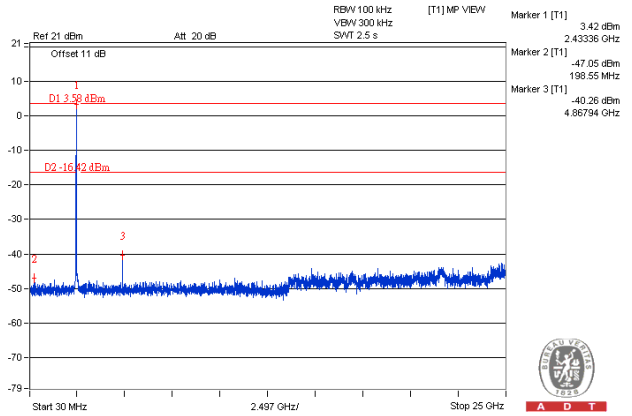
CH 1



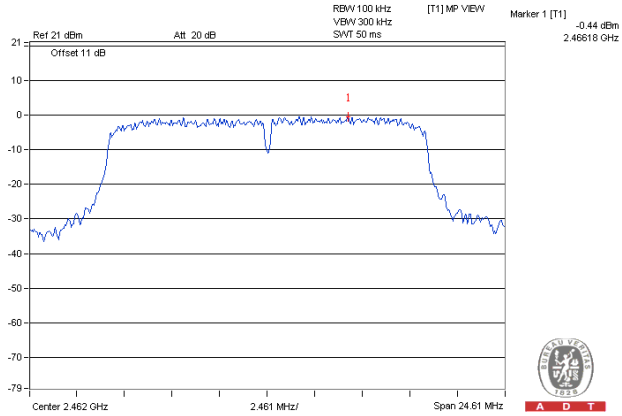


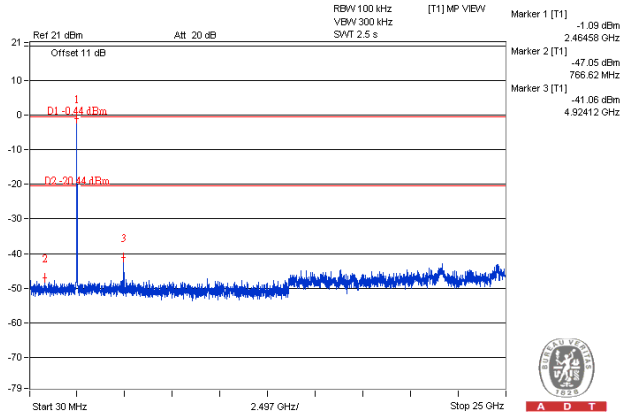
CH 6



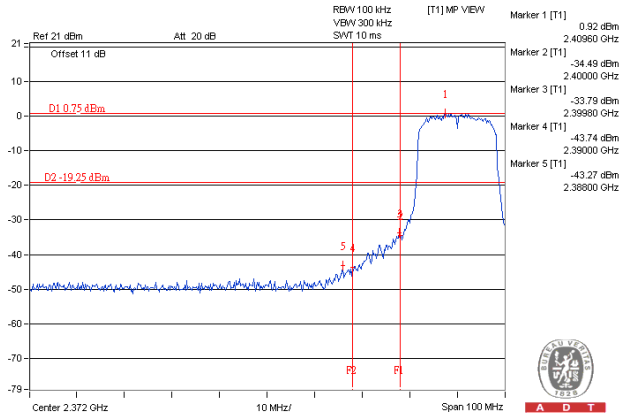


CH 11

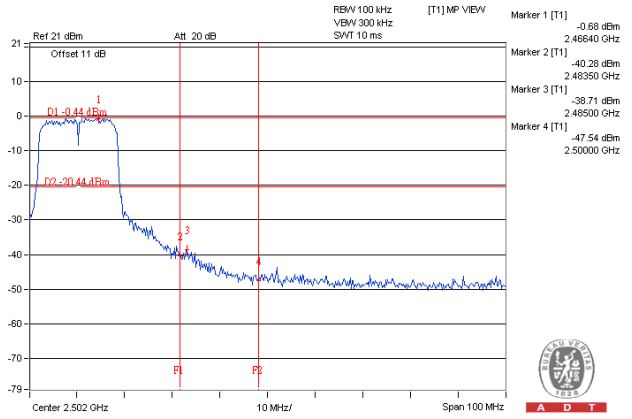




CH 1 Band edge



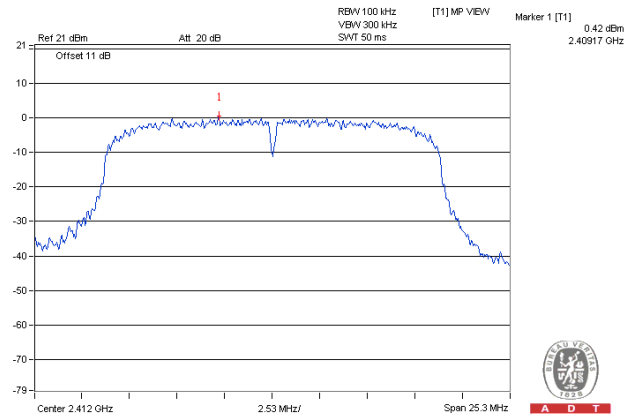
CH 11 Band edge

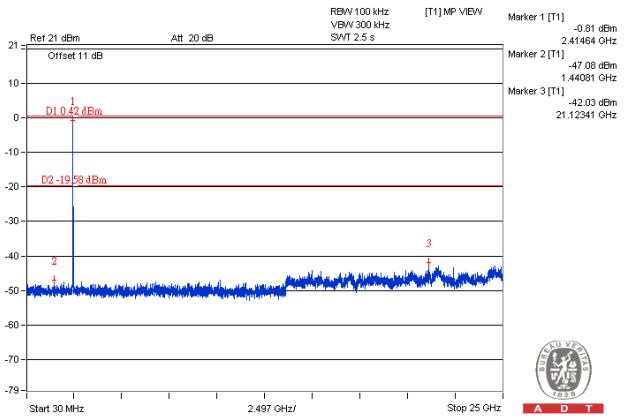


802.11n (HT20)

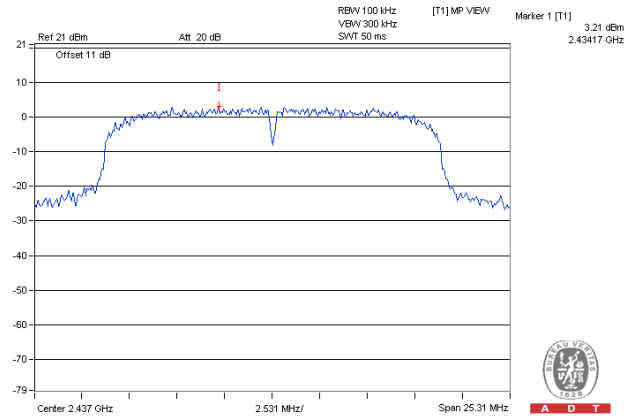
Chain 0

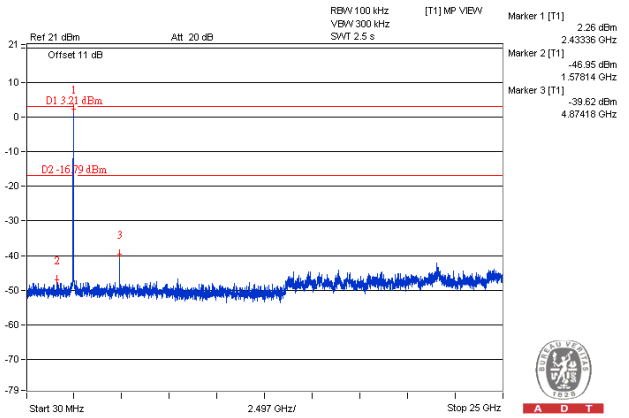
CH 1



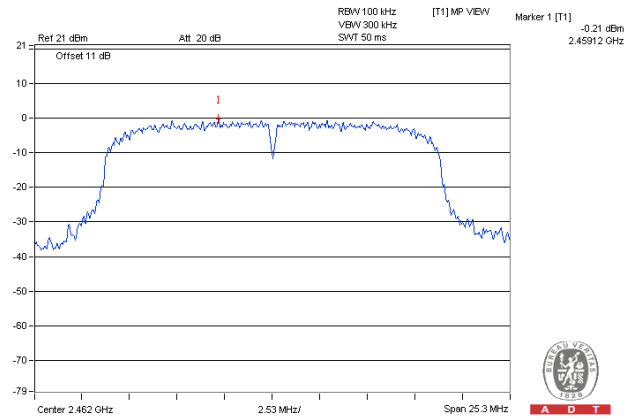


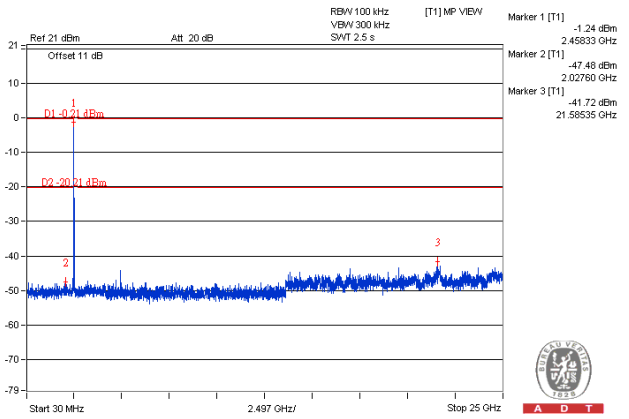
CH 6



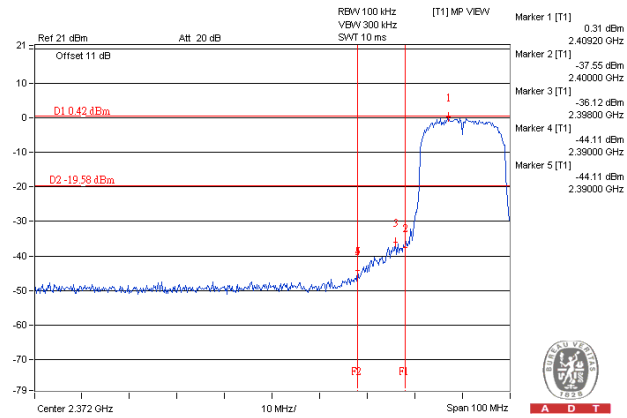


CH 11

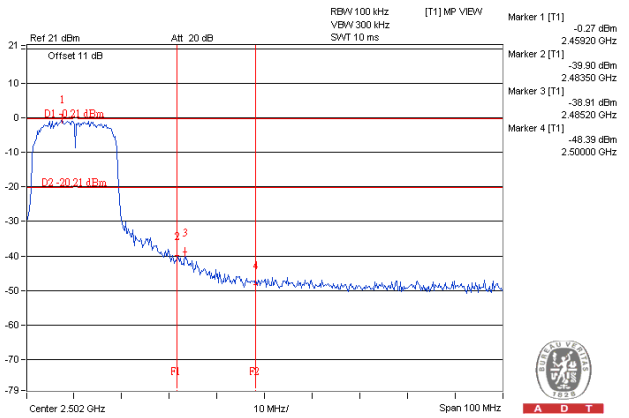




CH 1 Band edge

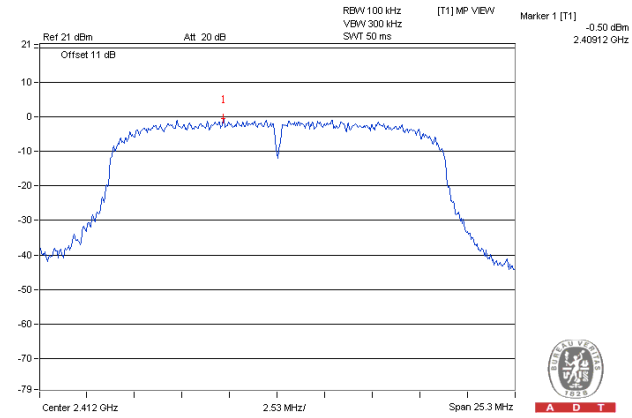


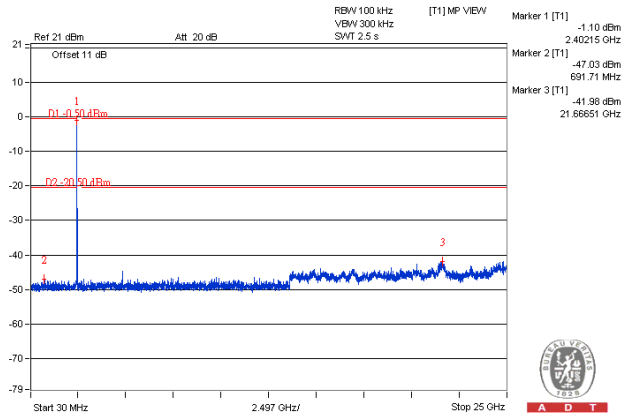
CH 11 Band edge



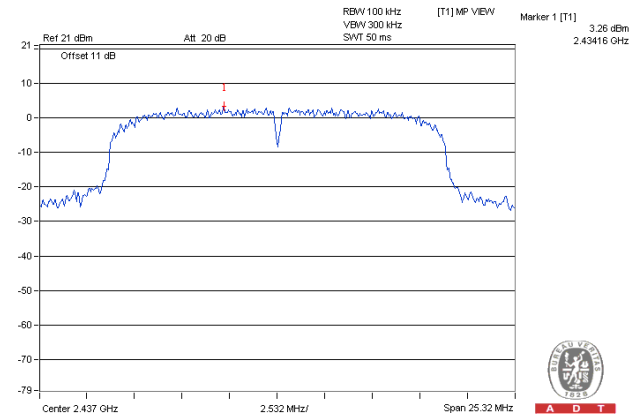
Chain 1

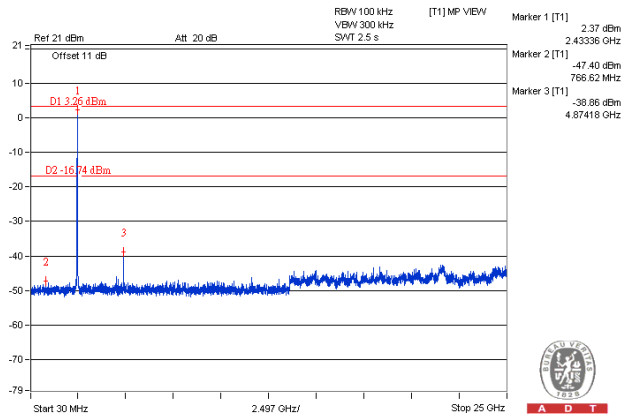
CH 1



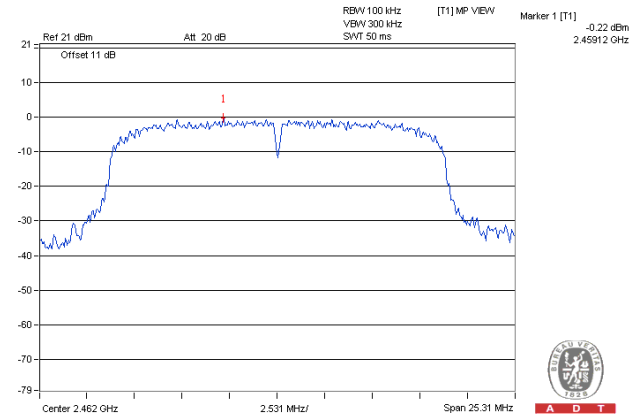


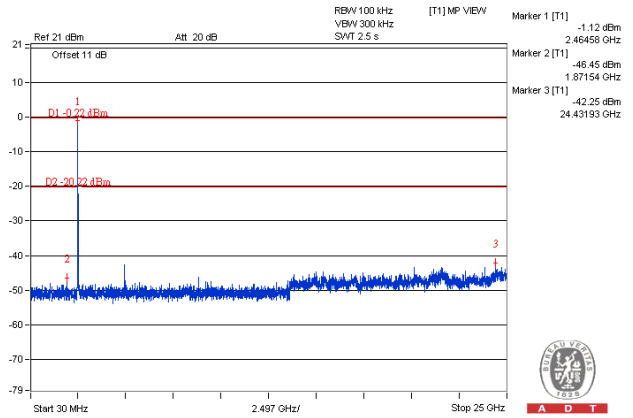
CH 6



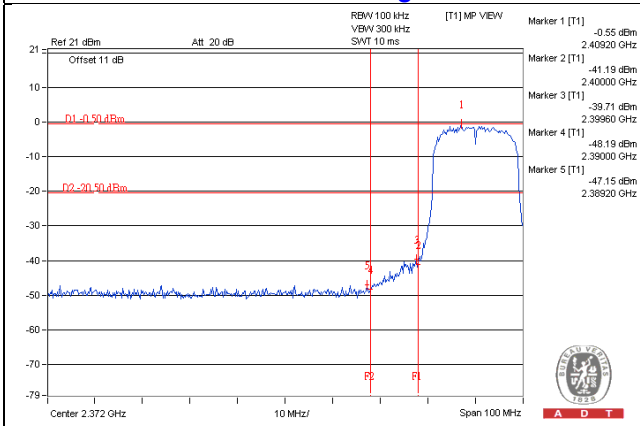


CH 11

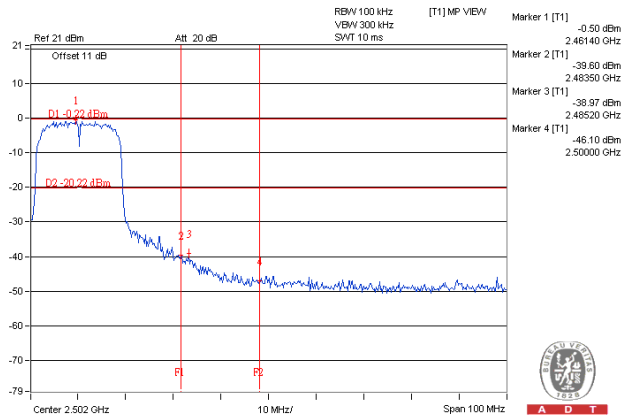




CH 1 Band edge



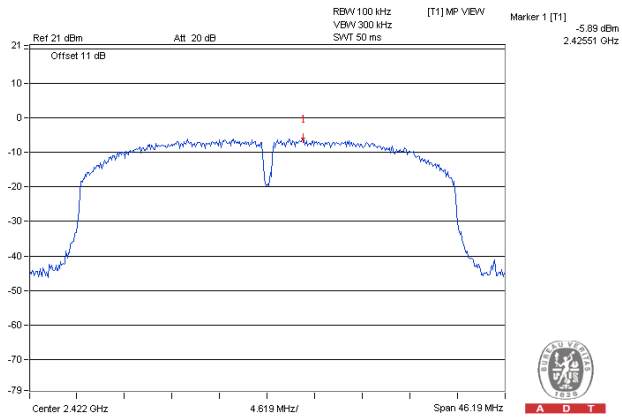
CH 11 Band edge

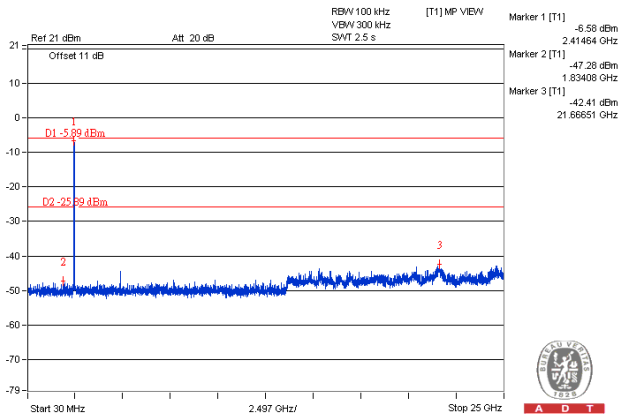


802.11n (HT40)

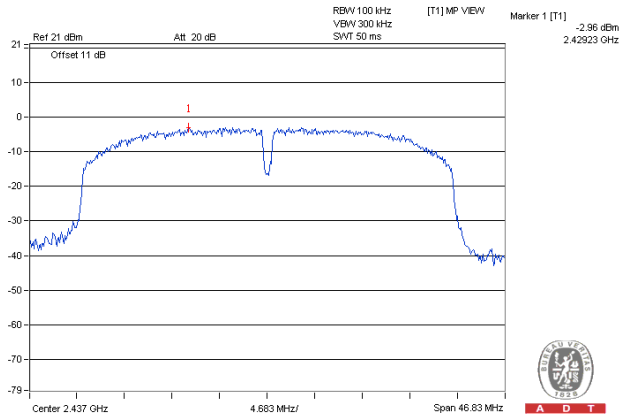
Chain 0

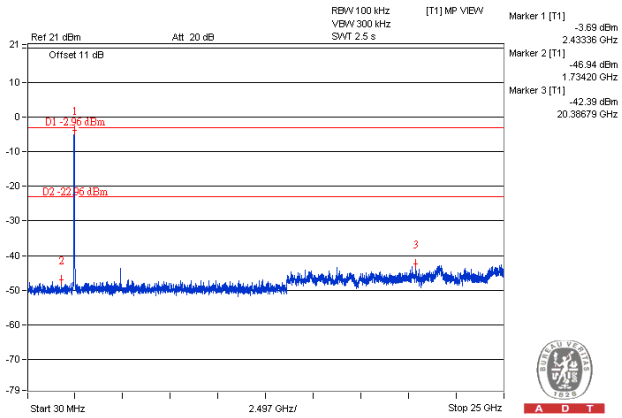
CH 3



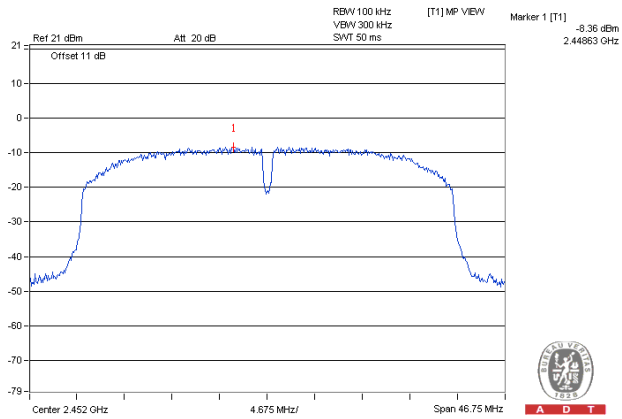


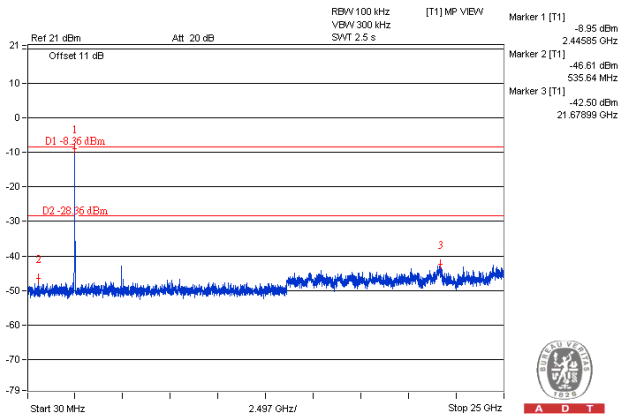
CH 6



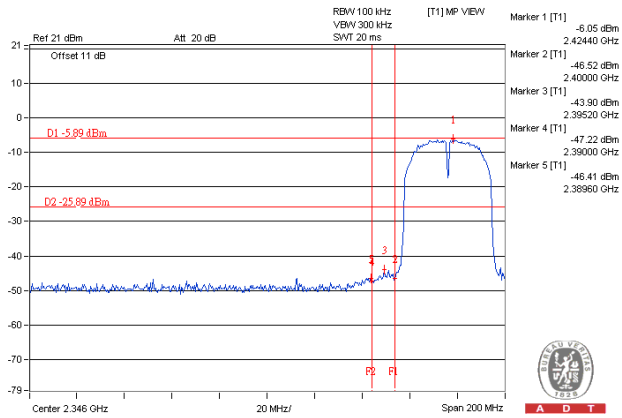


CH 9

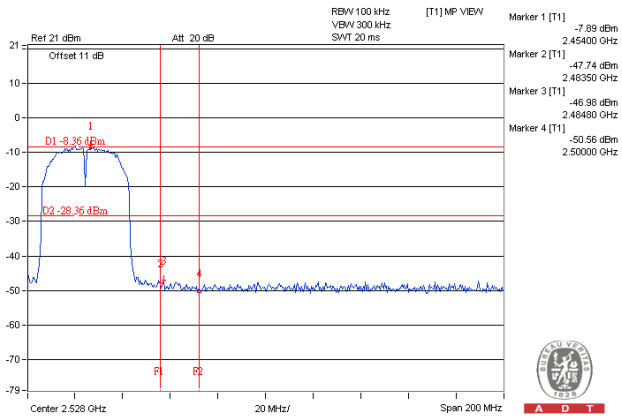




CH 3 Band edge

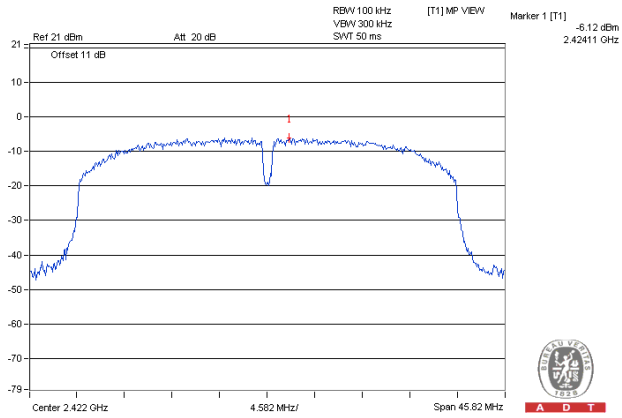


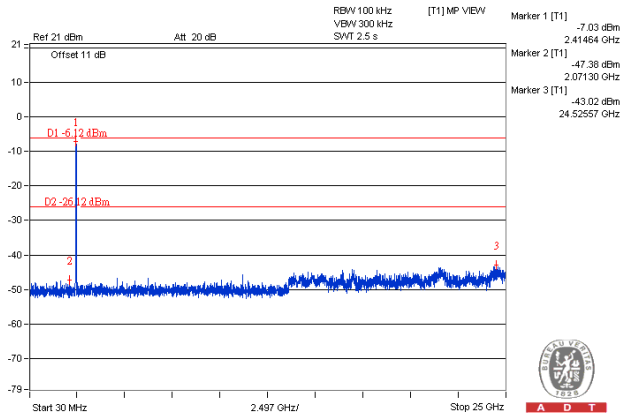
CH 9 Band edge



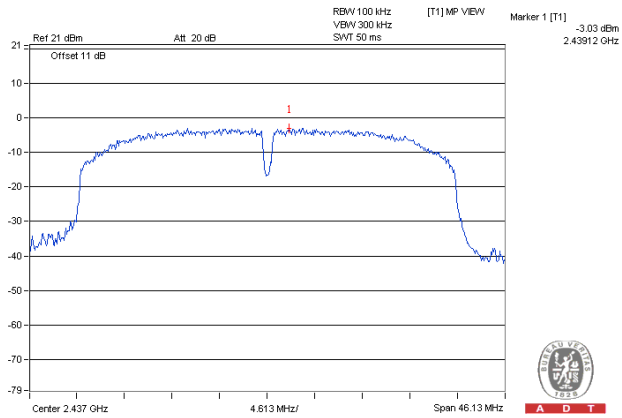
Chain 1

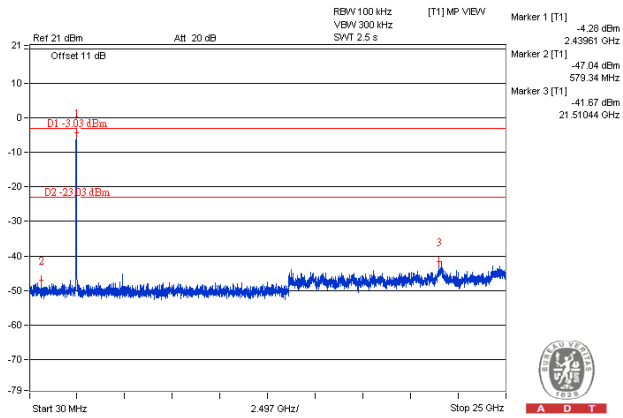
CH 3



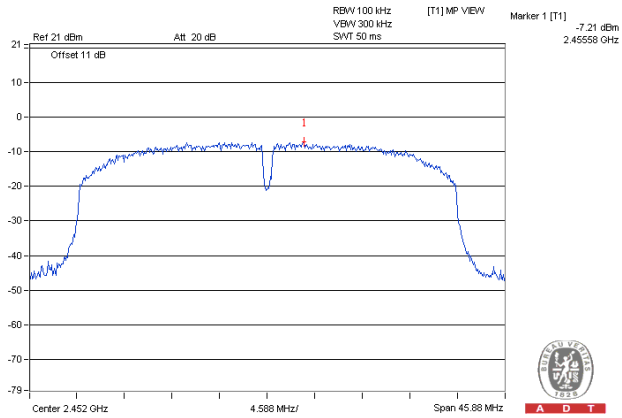


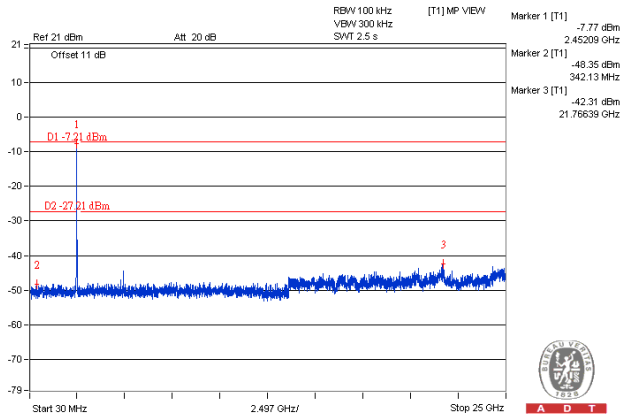
CH 6



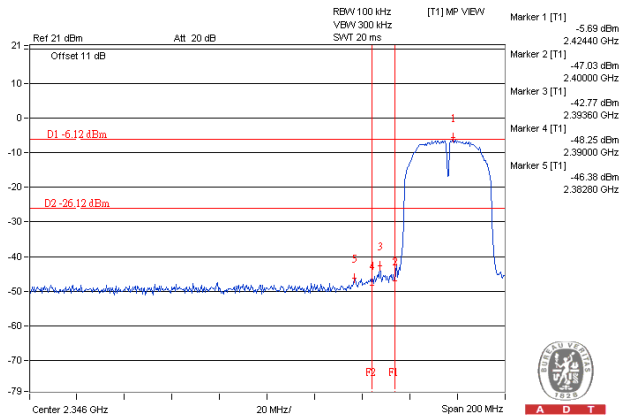


CH 9

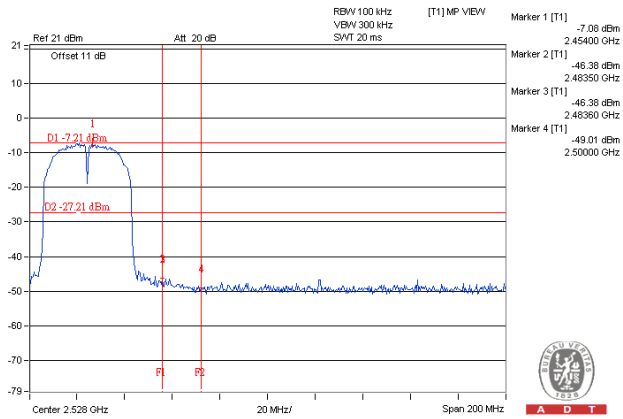




CH 3 Band edge



CH 9 Band edge



5 Pictures of Test Arrangements

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

Appendix I – Modification Record

To reduce the transmission of the radiated emission for Tx 11b mode 2nd harmonic.

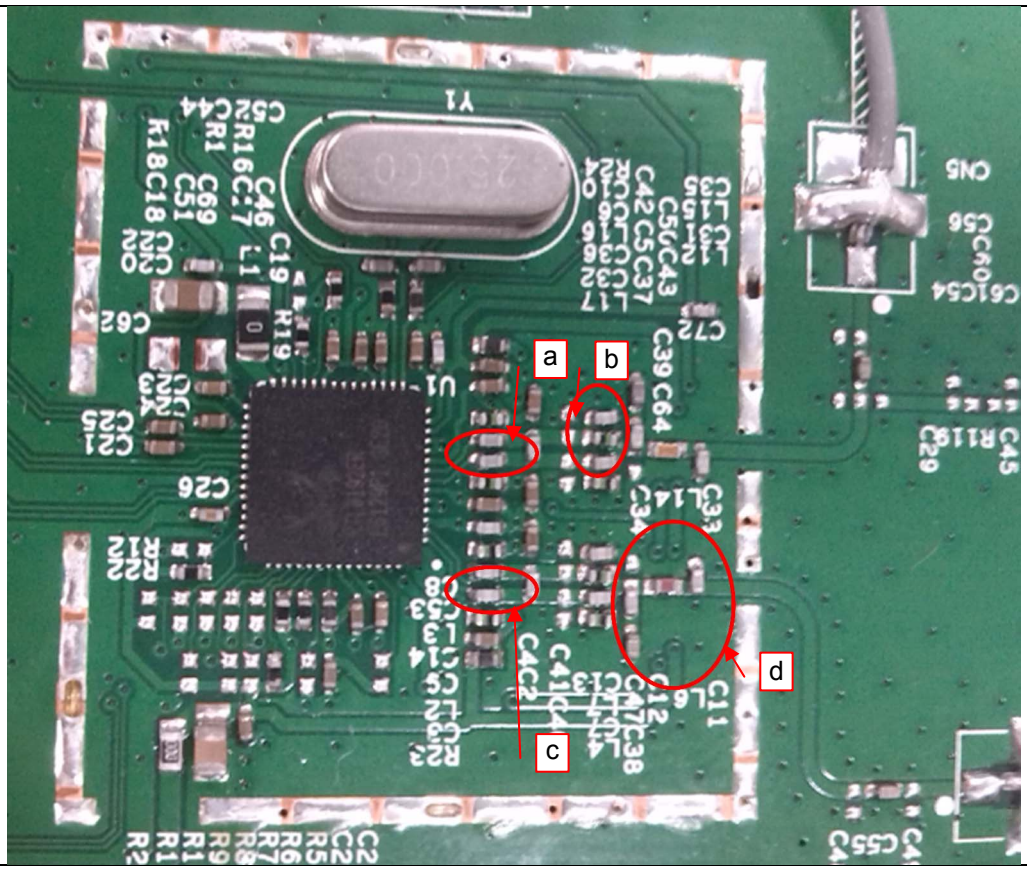
Modification 1:

a. Change C36、C32 from 8.2pf to 10pf

b. Change C31、C35 from 1.2pf to 1pf

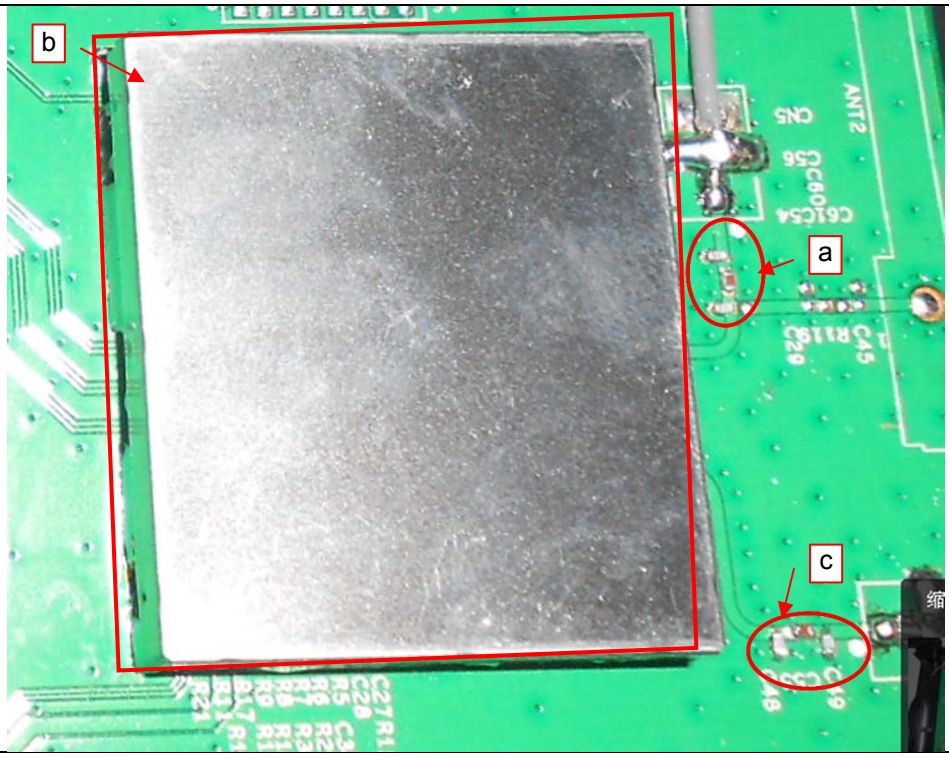
c. Change C9、C14 from 2.7pf to 5.6pf

d. Remove C47、C38, Add C12 1pf; L6 from 1.8nH to 2.7nH; C11 from 0.6pf to 1pf



Modification 2:

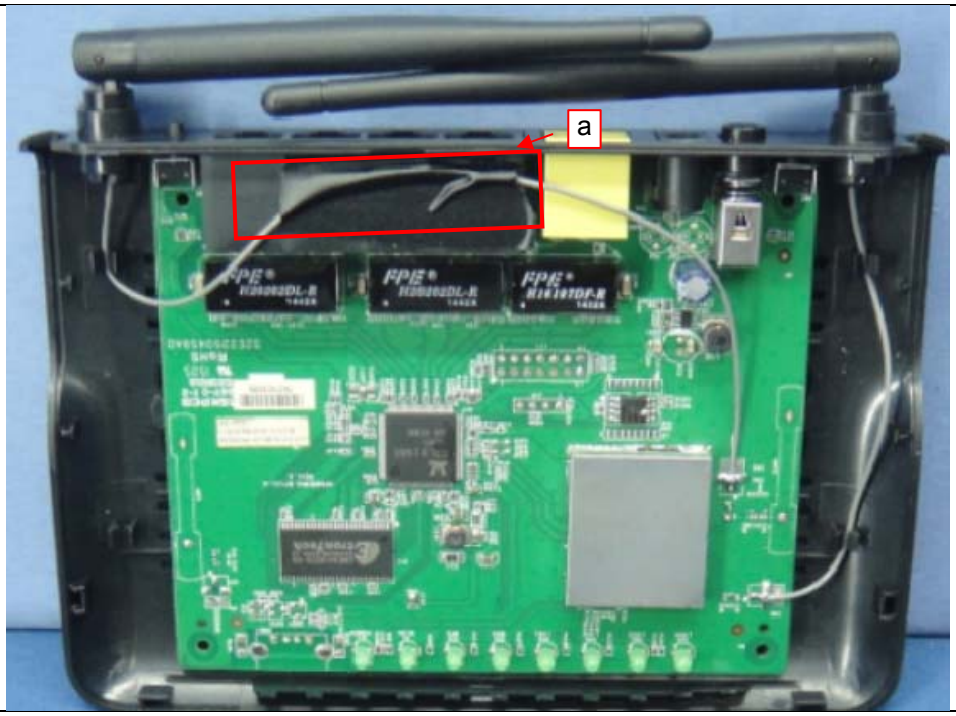
a. Change C60 from 22pf to 1.8nH ; add C56 1.5pf to ground ; add C54 0.5pf
b. Add shielding cover
c. Change C55 form 22pf to1.8nH;add C48、C49 0.5pf to ground



To reduce the transmission of the radiated emission below 1GHz.

Modification 3:

a. The antenna cable was fixed with tape on RJ45 connector to avoid antenna cable away from the transformer.



Appendix II – 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:

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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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