FCC Test Report

Report No.:	RF140402E02F
FCC ID:	HEDAC1200
Test Model:	SF-AC1200, SF-AC1200-1, SF-AC1200-2
Series Model:	ECWO5320, ECWO5320-L, ECWO5320-C, ECWO5324, ECWO5324-L, ECWO5324-C
Received Date:	Apr. 08, 2014
Test Date:	Apr. 08 to 16, 2014 and Mar. 19 to Apr. 09, 2015
Issued Date:	Apr. 17, 2015
Applicant:	Accton Technology Corporation
Address:	No.1, Creation Rd. III, Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	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.

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Table of Contents

Release Control Record 4

1 Certificate of Conformity 5

2 Summary of Test Results 6

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information 7

3.1 General Description of EUT 7
3.2 Description of Test Modes 11
3.2.1 Test Mode Applicability and Tested Channel Detail 12
3.3 Duty Cycle of Test Signal 14
3.4 Description of Support Units 15
3.4.1 Configuration of System under Test 16
3.5 General Description of Applied Standards 17

4 Test Types and Results 18

4.1 Radiated Emission and Bandedge Measurement 18
4.1.1 Limits of Radiated Emission and Bandedge Measurement 18
4.1.2 Test Instruments 19
4.1.3 Test Procedures 22
4.1.4 Deviation from Test Standard 22
4.1.5 Test Setup 23
4.1.6 EUT Operating Conditions 24
4.1.7 Test Results (Mode 1) 25
4.1.8 Test Results (Mode 2) 44
4.2 Conducted Emission Measurement 63
4.2.1 Limits of Conducted Emission Measurement 63
4.2.2 Test Instruments 63
4.2.3 Test Procedures 64
4.2.4 Deviation from Test Standard 64
4.2.5 Test Setup 64
4.2.6 EUT Operating Conditions 64
4.2.7 Test Results (Mode 1) 65
4.2.8 Test Results (Mode 2) 67
4.3 6dB Bandwidth Measurement 69
4.3.1 Limits of 6dB Bandwidth Measurement 69
4.3.2 Test Setup 69
4.3.3 Test Instruments 69
4.3.4 Test Procedure 69
4.3.5 Deviation from Test Standard 69
4.3.6 EUT Operating Conditions 69
4.3.7 Test Results (Mode 1) 70
4.3.8 Test Results (Mode 2) 73
4.4 Conducted Output Power Measurement 76
4.4.1 Limits of Conducted Output Power Measurement 76
4.4.2 Test Setup 76
4.4.3 Test Instruments 76
4.4.4 Test Procedures 76
4.4.5 Deviation from Test Standard 76
4.4.6 EUT Operating Conditions 76
4.4.7 Test Results (Mode 1) 77
4.4.8 Test Results (Mode 2) 79
4.5 Power Spectral Density Measurement 81
4.5.1 Limits of Power Spectral Density Measurement 81
4.5.2 Test Setup 81

4.5.3 Test Instruments 81
4.5.4 Test Procedures 81
4.5.5 Deviation from Test Standard 81
4.5.6 EUT Operating Conditions 81
4.5.7 Test Results (Mode 1) 82
4.5.8 Test Results (Mode 2) 85
4.6 Conducted Out of Band Emission Measurement 88
4.6.1 Limits of Conducted Out of Band Emission Measurement 88
4.6.2 Test Setup 88
4.6.3 Test Instruments 88
4.6.4 Test Procedures 88
4.6.5 Deviation from Test Standard 88
4.6.6 EUT Operating Conditions 88
4.6.7 Test Results (Mode 1) 88
4.6.8 Test Results (Mode 2) 97

5 Pictures of Test Arrangements 106

Appendix – Information on the Testing Laboratories 107

Release Control Record

Issue No.	Description	Date Issued
RF140402E02F	Original release.	Apr. 17, 2015

1 Certificate of Conformity

Product:	Dualband Outdoor AP, 802.11ac Outdoor Dual Band Access Point
Brand:	IgniteNet, Edge-CorE
Test Model:	SF-AC1200, SF-AC1200-1, SF-AC1200-2
Series Model:	ECWO5320, ECWO5320-L, ECWO5320-C, ECWO5324, ECWO5324-L, ECWO5324-C
Sample Status:	ENGINEERING SAMPLE
Applicant:	Accton Technology Corporation
Test Date:	Apr. 08 to 16, 2014 and Mar. 19 to Apr. 09, 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:** Apr. 17, 2015

Phoenix Huang / Specialist

Approved by : , **Date:** Apr. 17, 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 -18.86dB at 0.15000MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2483.5MHz, 4874.00MHz & 4924.00MHz.
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	For External Antenna connector is RP-SMA not a standard connector. For Internal Antenna connector is MMCX not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.86 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.37 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.72 dB
	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	Dualband Outdoor AP, 802.11ac Outdoor Dual Band Access Point
Brand	IgniteNet, Edge-CorE
Test Model	SF-AC1200, SF-AC1200-1, SF-AC1200-2
Series Model:	ECWO5320, ECWO5320-L, ECWO5320-C, ECWO5324, ECWO5324-L, ECWO5324-C
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 24V from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	For 15.247 2.412GHz ~ 2.462GHz For 15.407 5.18GHz ~ 5.24GHz, 5.745GHz ~ 5.825GHz
Number of Channel	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) For 15.407 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
Output Power	Refer to Note
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	PoE × 1
Data Cable Supplied	NA

Note:

1. The EUT is a 2.4GHz & 5GHz WLAN device.
2. 2.4GHz & 5GHz technology can transmit at same time.

3. The maximum output power (mW) table as below table:

15.247 (2.4GHz)				
Modulation Mode	**External antenna**		**Internal antenna**	
	1Tx	**2Tx**	**1Tx**	**2Tx**
802.11b	137.404	-	209.894	-
802.11g	146.893	-	142.889	-
802.11n (HT20)	148.594	222.389	143.880	120.881
802.11n (HT40)	102.802	260.942	53.088	102.505
15.407 (5GHz)				
Modulation Mode	**External antenna**		**Internal antenna**	
	1Tx	**2Tx**	**1Tx**	**2Tx**
802.11a	265.461	-	137.721	-
802.11ac (VHT20)	240.436	283.351	142.561	130.78
802.11ac (VHT40)	209.411	265.659	83.56	105.454
802.11ac (VHT80)	87.297	77.763	15.311	24.755

4. The EUT has below model names, which are identical to each other in all aspects except for the followings:

Product Name	Brand Name	Model Name	Different
Dualband Outdoor AP	IgniteNet	SF-AC1200	1. External antenna 1 (2.4GHz) + Internal antenna 1 (5GHz) 2. Without mini USB port
	IgniteNet	SF-AC1200-1	1. External antenna 1 (2.4GHz) + External antenna 2 (5GHz) 2. Without mini USB port
	IgniteNet	SF-AC1200-2	1. Internal antenna 2 (2.4GHz) + Internal antenna 2 (5GHz) 2. Without mini USB port
802.11ac Outdoor Dual Band Access Point	Edge-corE	ECWO5320	1. External antenna 1 (2.4GHz) + Internal antenna 3 (5GHz) 2. With mini USB port
	Edge-corE	ECWO5320-L	1. External antenna 1 (2.4GHz) + Internal antenna 3 (5GHz) 2. With mini USB port
	Edge-corE	ECWO5320-C	1. External antenna 1 (2.4GHz) + Internal antenna 3 (5GHz) 2. With mini USB port
	Edge-corE	ECWO5324	1. External antenna 1 (2.4GHz) + External antenna 2 (5GHz) 2. With mini USB port
	Edge-corE	ECWO5324-L	1. External antenna 1 (2.4GHz) + External antenna 2 (5GHz) 2. With mini USB port
	Edge-corE	ECWO5324-C	1. External antenna 1 (2.4GHz) + External antenna 2 (5GHz) 2. With mini USB port

Note:
1. 2.4GHz band: from the above models, models: **SF-AC1200, SF-AC1200-2** were selected as representative model for the test and its data was recorded in this report.
2. 5GHz band: from the above models, models: **SF-AC1200-1, SF-AC1200-2** were selected as representative model for the test and its data was recorded in this report.

5. The EUT must be supplied with a POE as following table:

Brand	Model No.	Spec.
LEI	NU24-F240100-I2	AC Input: 100-240V, 0.7A, 50/60Hz AC Input cable: 0.8m DC Output: 24V, 1A

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

External antenna 1 (Signal Band Ant.)
Brand Name: Cortec / Model Name: AN2400-0334RS

Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi) <excluding cable loss>	Inside EUT		Outside EUT		Net. Gain (dBi)	Frequency range (MHz to MHz)
				Cable Loss (dB)	Cable Length (mm)	Cable Loss (dB)	Cable Length (mm)		
Chain (0)	Dipole	RP-SMA	2.65	1	250	1.5	500	0.15	2400~2500
Chain (1)	Dipole	RP-SMA	2.65	1	250	1.5	500	0.15	2400~2500

External antenna 2 (Signal Band Ant.)
Brand Name: Cortec / Model Name: AN5000-0301RS

Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi) <excluding cable loss>	Inside EUT		Outside EUT		Net. Gain (dBi)	Frequency range (MHz to MHz)
				Cable Loss (dB)	Cable Length (mm)	Cable Loss (dB)	Cable Length (mm)		
Chain (0)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	-1.4	5150~5850
Chain (1)	Dipole	RP-SMA	2.7	1.2	250	2.9	500	-1.4	5150~5850

Internal antenna 1 (Signal Band Ant.)
Brand Name: Accton / Model Name: 123800000297A

Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)
Chain (0)	Patch Array	MMCX	13.81	5150~5850
Chain (1)	Patch Array	MMCX	13.72	5150~5850

Internal antenna 2 (Dual Band Ant.)
Brand Name: Accton / Model Name: 123800000295A

Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)
Chain (0)	Dipole	MMCX	3.03	2400~2500
	Patch Array		11.94	5150~5850
Chain (1)	Dipole	MMCX	5.58	2400~2500
	Patch Array		12.19	5150~5850

Internal antenna 3 (Signal Band Ant.)
Brand Name: Accton / Model Name: OAP1232RL-FLF-EC

Transmitter Circuit	Antenna Type	Connecter Type	Antenna Gain(dBi)	Frequency range (MHz to MHz)
Chain (0)	Patch Array	MMCX	12.5	5150~5850
Chain (1)	Patch Array	MMCX	12.5	5150~5850

Note:
1. For 802.11a/b/g mode will fix transmission on Chain (0)
2. From the above Internal antennas, **Internal antenna 2** max gain was selected as representative antenna for the 2.4GHz test and **Internal antenna 1** max gain was selected as representative antenna for the 5GHz test, its data was recorded in this report.

7. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	1TX (fix Chain 0)	2RX
802.11g	6 ~ 54Mbps	1TX (fix Chain 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (fix Chain 0)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (fix Chain 0)	2RX
	MCS 8~15*	2TX	2RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	1TX (fix Chain 0)	2RX
802.11n (HT20)	MCS 0~7	1TX (fix Chain 0)	2RX
	MCS 8~15*	2TX	2RX
802.11n (HT40)	MCS 0~7	1TX (fix Chain 0)	2RX
	MCS 8~15*	2TX	2RX
802.11ac (VHT20)	MCS0~8 Nss= 1	1TX (fix Chain 0)	2RX
	MCS0~8 Nss= 2*	2TX	2RX
802.11ac (VHT40)	MCS0~9 Nss= 1	1TX (fix Chain 0)	2RX
	MCS0~9 Nss= 2*	2TX	2RX
802.11ac (VHT80)	MCS0~9 Nss= 1	1TX (fix Chain 0)	2RX
	MCS0~9 Nss= 2*	2TX	2RX
Remark: "*" means the device operate with two spatial stream (Nss = 2) with different data, and two signals are not correlated.			

Note: The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

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

9. 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	√	√	√	√	With External Antenna
2	√	√	√	√	With Internal Antenna

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

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.

1TX Mode						
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
2TX Mode						
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1, 2	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

Radiated Emission Test (Below 1GHz):

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

2TX Mode						
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1	802.11n (HT40)	3 to 9	6	OFDM	BPSK	27
2	802.11n (HT20)	1 to 11	6	OFDM	BPSK	13

Power Line Conducted Emission Test:

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

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

2TX Mode						
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1	802.11n (HT40)	3 to 9	6	OFDM	BPSK	27
2	802.11n (HT20)	1 to 11	6	OFDM	BPSK	13

Antenna Port Conducted Measurement:

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

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

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

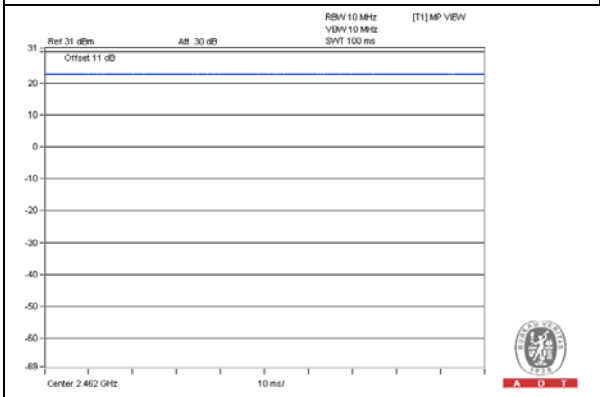
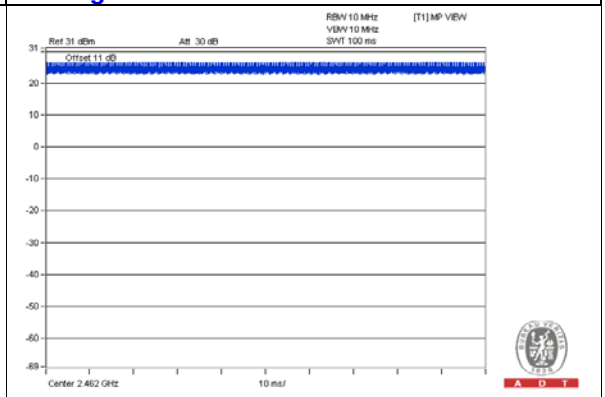
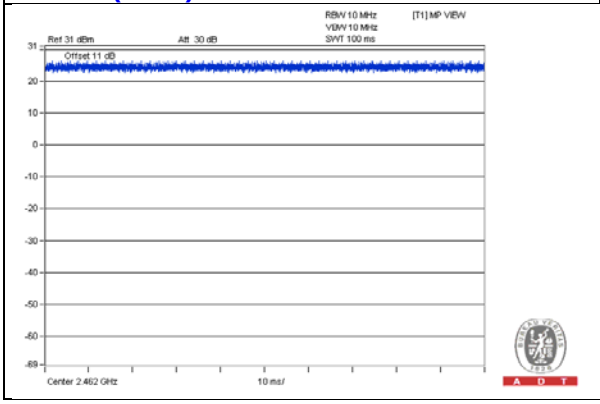
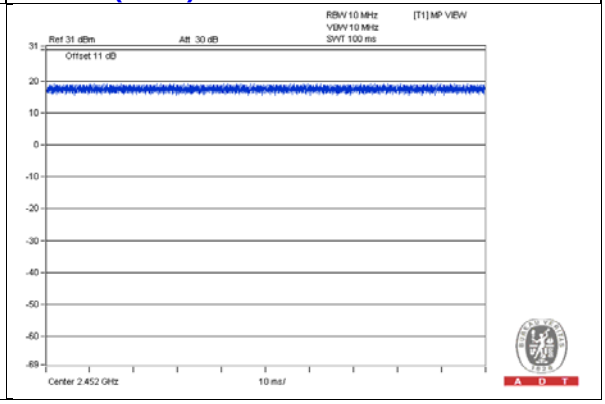
1TX Mode						
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1, 2	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
2TX Mode						
EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
1, 2	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	13
	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	27

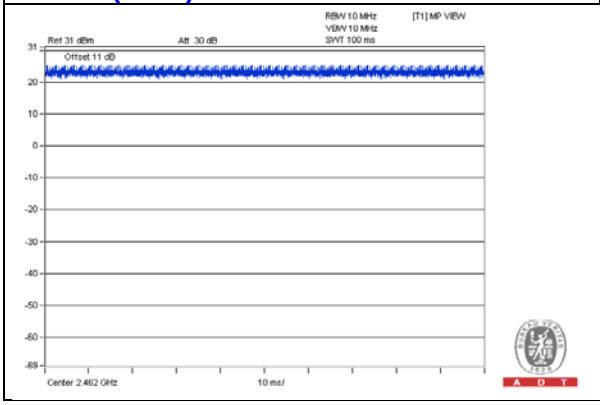
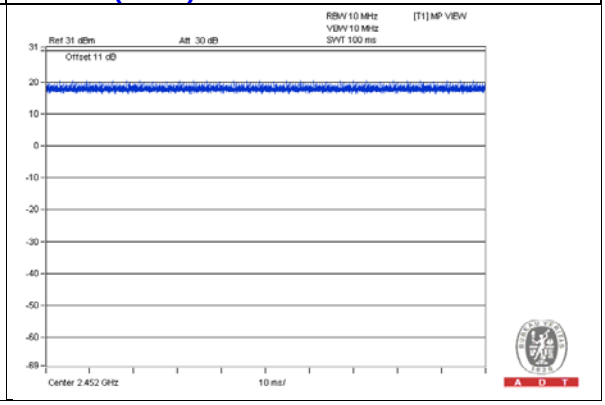
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	24deg. C, 73%RH	120Vac, 60Hz	Andy Ho
	23deg. C, 66%RH	120Vac, 60Hz	Andy Ho
	24deg. C, 73%RH	120Vac, 60Hz	Tim Ho
	23deg. C, 66%RH	120Vac, 60Hz	Tim Ho
	23deg. C, 66%RH	120Vac, 60Hz	Nelson Teng
	24deg. C, 71%RH	120Vac, 60Hz	Weiwei Lo
RE<1G	23deg. C, 68%RH	120Vac, 60Hz	Robert Cheng
PLC	28deg. C, 72%RH	120Vac, 60Hz	Wythe Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng
	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.

1TX Mode	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

2TX Mode	
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.

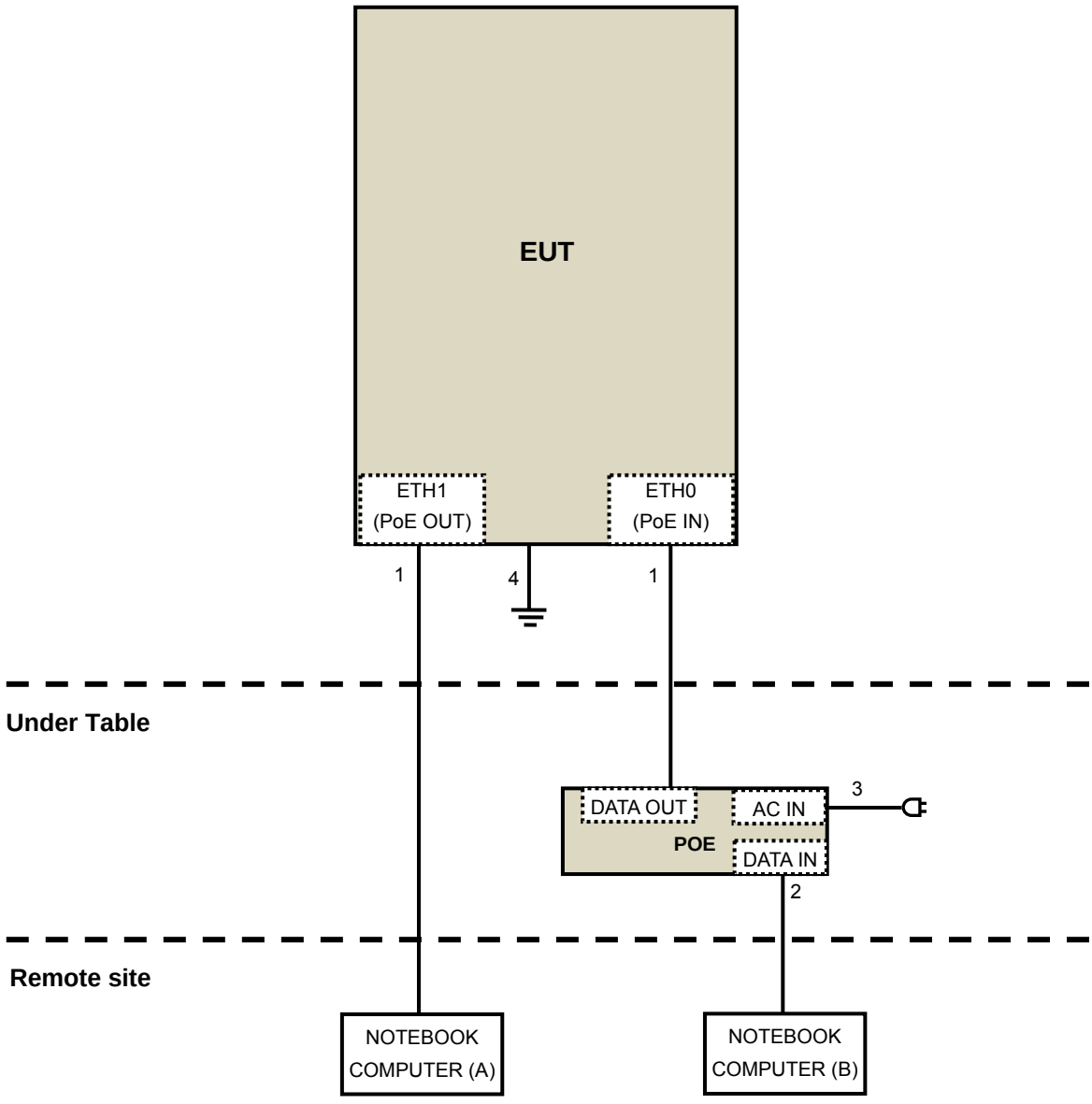
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	DELL	PP32LA	DSLB32S	FCC DoC	Provided by Lab
B.	NOTEBOOK COMPUTER	DELL	E5440	6FC7F12	FCC DoC	Provided by Lab

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.	RJ45	1	10	No	0	Provided by Lab
2.	RJ45	1	1.5	No	0	Provided by Lab
3.	AC	1	0.8	No	0	Supplied by Client
4.	Earth Line	1	1.5	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 30dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test Instruments

For Above 1GHz test – Mode 1

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 15, 2014	Jan. 14, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-04	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Feb. 27, 2014	Feb. 26, 2015
RF Cable	NA	CHHCAB_001	Oct. 06, 2013	Oct. 05, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Dec. 06, 2013	Dec. 05, 2014
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 29, 2013	Oct. 28, 2014
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated_V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Spectrum Analyzer R&S	FSV 40	100964	July 15, 2013	July 14, 2014
Power meter Anritsu	ML2495A	1014008	Apr. 23, 2013	Apr. 22, 2014
Power sensor Anritsu	MA2411B	0917122	Apr. 23, 2013	Apr. 22, 2014

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. 08 to 16, 2014

For Above 1GHz test – Mode 2

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-1000VH2 B	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	Aug. 26, 2014	Aug. 25, 2015
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	Aug. 26, 2014	Aug. 25, 2015
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	1014008	Apr. 30, 2014	Apr. 29, 2015
Power Sensor Anritsu	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 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. 08 to 09, 2015

For Below 1GHz test – Mode 1 & 2

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. 06, 2015	Feb. 05, 2016
RF Cable	NA	CHGCAB_001	Oct. 04, 2014	Oct. 03, 2015
Horn_Antenna AISI	AIH.8018	0000320091110	Aug. 27, 2014	Aug. 26, 2015
Pre-Amplifier Agilent	8449B	3008A02578	June 24, 2014	June 23, 2015
RF Cable	NA	131205 131214 SNMY23684/4	Jan. 16, 2015	Jan. 15, 2016
Spectrum Analyzer R&S	FSV40	100964	July 05, 2014	July 04, 2015
Pre-Amplifier EMCI	EMC184045	980143	Jan. 16, 2015	Jan. 15, 2016
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Aug. 26, 2014	Aug. 25, 2015
RF Cable	NA	RF104-121 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: Mar. 19, 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:

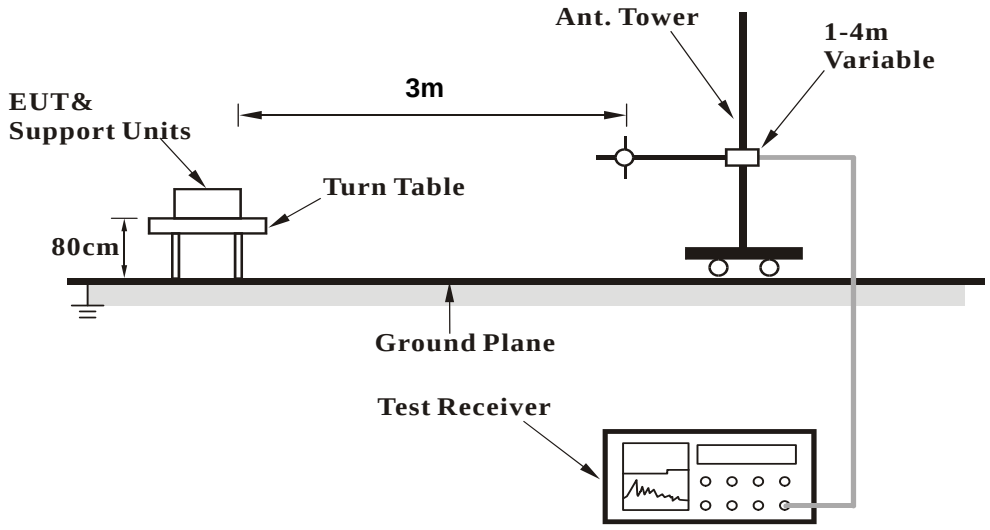
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

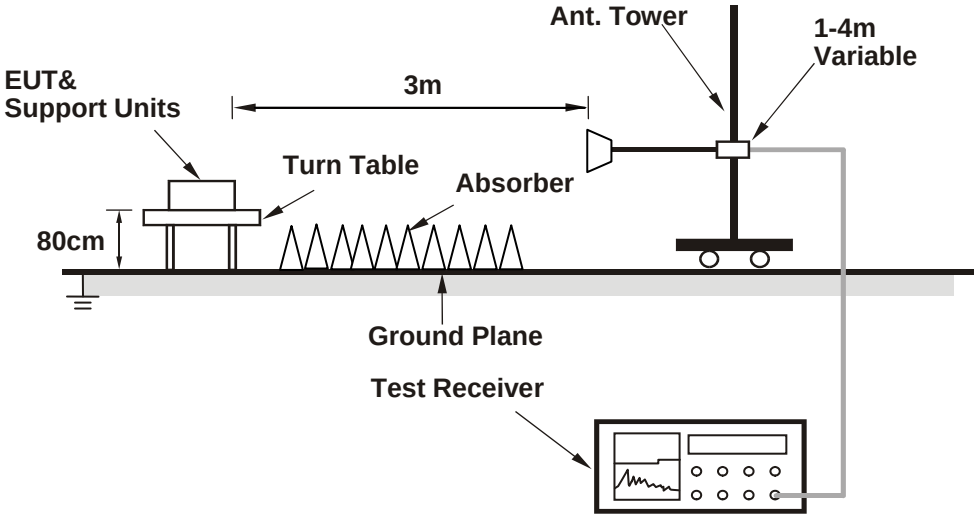
No deviation.

4.1.5 Test 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 unit A (Notebook computer) which is placed in remote site.
2. The communication partner run test program “MP_TEST.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 Test Results (Mode 1)

1TX Mode

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	50.0 PK	74.0	-24.0	1.13 H	146	55.60	-5.60
2	2390.00	37.8 AV	54.0	-16.2	1.13 H	146	43.40	-5.60
3	*2412.00	104.1 PK			1.13 H	146	109.60	-5.50
4	*2412.00	100.9 AV			1.13 H	146	106.40	-5.50
5	4824.00	50.2 PK	74.0	-23.8	1.00 H	95	46.40	3.80
6	4824.00	46.9 AV	54.0	-7.1	1.00 H	95	43.10	3.80
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	54.5 PK	74.0	-19.5	1.54 V	42	60.10	-5.60
2	2390.00	43.0 AV	54.0	-11.0	1.54 V	42	48.60	-5.60
3	*2412.00	108.5 PK			1.54 V	42	114.00	-5.50
4	*2412.00	106.0 AV			1.54 V	42	111.50	-5.50
5	4824.00	55.8 PK	74.0	-18.2	1.38 V	141	52.00	3.80
6	4824.00	53.8 AV	54.0	-0.2	1.38 V	141	50.00	3.80

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	2384.00	50.3 PK	74.0	-23.7	1.36 H	152	55.90	-5.60
2	2384.00	38.0 AV	54.0	-16.0	1.36 H	152	43.60	-5.60
3	*2437.00	105.7 PK			1.36 H	152	111.10	-5.40
4	*2437.00	102.4 AV			1.36 H	152	107.80	-5.40
5	2483.50	51.2 PK	74.0	-22.8	1.36 H	152	56.30	-5.10
6	2483.50	38.9 AV	54.0	-15.1	1.36 H	152	44.00	-5.10
7	4874.00	51.3 PK	74.0	-22.7	1.29 H	235	47.50	3.80
8	4874.00	47.9 AV	54.0	-6.1	1.29 H	235	44.10	3.80
9	7311.00	53.6 PK	74.0	-20.4	1.00 H	274	45.30	8.30
10	7311.00	41.8 AV	54.0	-12.2	1.00 H	274	33.50	8.30
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	2384.00	53.3 PK	74.0	-20.7	1.21 V	42	58.90	-5.60
2	2384.00	40.1 AV	54.0	-13.9	1.21 V	42	45.70	-5.60
3	*2437.00	111.5 PK			1.21 V	42	116.90	-5.40
4	*2437.00	107.7 AV			1.21 V	42	113.10	-5.40
5	2483.50	53.2 PK	74.0	-20.8	1.21 V	42	58.30	-5.10
6	2483.50	41.1 AV	54.0	-12.9	1.21 V	42	46.20	-5.10
7	4874.00	55.5 PK	74.0	-18.5	1.82 V	174	51.70	3.80
8	**4874.00**	**53.9 AV**	**54.0**	**-0.1**	**1.82 V**	**174**	**50.10**	**3.80**
9	7311.00	53.9 PK	74.0	-20.1	1.00 V	152	45.60	8.30
10	7311.00	41.7 AV	54.0	-12.3	1.00 V	152	33.40	8.30

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	105.4 PK			1.41 H	147	110.80	-5.40
2	*2462.00	102.6 AV			1.41 H	147	108.00	-5.40
3	2483.50	51.6 PK	74.0	-22.4	1.41 H	147	56.70	-5.10
4	2483.50	39.4 AV	54.0	-14.6	1.41 H	147	44.50	-5.10
5	4924.00	51.7 PK	74.0	-22.3	1.30 H	231	47.90	3.80
6	4924.00	48.1 AV	54.0	-5.9	1.30 H	231	44.30	3.80
7	7386.00	53.5 PK	74.0	-20.5	1.00 H	283	44.90	8.60
8	7386.00	41.4 AV	54.0	-12.6	1.00 H	283	32.80	8.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.3 PK			1.22 V	42	115.70	-5.40
2	*2462.00	107.8 AV			1.22 V	42	113.20	-5.40
3	2483.50	56.8 PK	74.0	-17.2	1.22 V	42	61.90	-5.10
4	2483.50	44.7 AV	54.0	-9.3	1.22 V	42	49.80	-5.10
5	4924.00	55.9 PK	74.0	-18.1	1.11 V	144	52.10	3.80
6	**4924.00**	**53.9 AV**	**54.0**	**-0.1**	**1.11 V**	**144**	**50.10**	**3.80**
7	7386.00	53.7 PK	74.0	-20.3	1.00 V	205	45.10	8.60
8	7386.00	41.5 AV	54.0	-12.5	1.00 V	205	32.90	8.60

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	62.0 PK	74.0	-12.0	1.02 H	336	67.60	-5.60
2	2390.00	46.9 AV	54.0	-7.1	1.02 H	336	52.50	-5.60
3	*2412.00	104.6 PK			1.02 H	336	110.10	-5.50
4	*2412.00	95.2 AV			1.02 H	336	100.70	-5.50
5	4824.00	49.3 PK	74.0	-24.7	1.30 H	27	45.50	3.80
6	4824.00	37.9 AV	54.0	-16.1	1.30 H	27	34.10	3.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.6 PK	74.0	-3.4	1.24 V	40	76.20	-5.60
2	2390.00	53.5 AV	54.0	-0.5	1.24 V	40	59.10	-5.60
3	*2412.00	110.0 PK			1.24 V	40	115.50	-5.50
4	*2412.00	100.6 AV			1.24 V	40	106.10	-5.50
5	4824.00	61.4 PK	74.0	-12.6	1.33 V	132	57.60	3.80
6	4824.00	47.5 AV	54.0	-6.5	1.33 V	132	43.70	3.80

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	46.2 PK	74.0	-27.8	1.02 H	333	51.80	-5.60
2	2390.00	34.5 AV	54.0	-19.5	1.02 H	333	40.10	-5.60
3	*2437.00	106.7 PK			1.02 H	333	112.10	-5.40
4	*2437.00	97.2 AV			1.02 H	333	102.60	-5.40
5	2483.50	50.0 PK	74.0	-24.0	1.02 H	333	55.10	-5.10
6	2483.50	37.5 AV	54.0	-16.5	1.02 H	333	42.60	-5.10
7	4874.00	49.3 PK	74.0	-24.7	1.33 H	16	45.50	3.80
8	4874.00	37.7 AV	54.0	-16.3	1.33 H	16	33.90	3.80
9	7311.00	52.1 PK	74.0	-21.9	1.00 H	162	43.80	8.30
10	7311.00	39.0 AV	54.0	-15.0	1.00 H	162	30.70	8.30
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	53.5 PK	74.0	-20.5	1.24 V	42	59.10	-5.60
2	2390.00	40.1 AV	54.0	-13.9	1.24 V	42	45.70	-5.60
3	*2437.00	111.8 PK			1.24 V	42	117.20	-5.40
4	*2437.00	102.5 AV			1.24 V	42	107.90	-5.40
5	2483.50	55.6 PK	74.0	-18.4	1.24 V	42	60.70	-5.10
6	2483.50	42.5 AV	54.0	-11.5	1.24 V	42	47.60	-5.10
7	4874.00	61.2 PK	74.0	-12.8	1.37 V	143	57.40	3.80
8	4874.00	47.4 AV	54.0	-6.6	1.37 V	143	43.60	3.80
9	7311.00	54.0 PK	74.0	-20.0	1.00 V	218	45.70	8.30
10	7311.00	41.9 AV	54.0	-12.1	1.00 V	218	33.60	8.30

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	105.4 PK			1.25 H	336	110.80	-5.40
2	*2462.00	96.4 AV			1.25 H	336	101.80	-5.40
3	2483.50	63.4 PK	74.0	-10.6	1.25 H	336	68.50	-5.10
4	2483.50	48.4 AV	54.0	-5.6	1.25 H	336	53.50	-5.10
5	4924.00	48.7 PK	74.0	-25.3	1.30 H	23	44.90	3.80
6	4924.00	37.4 AV	54.0	-16.6	1.30 H	23	33.60	3.80
7	7386.00	51.7 PK	74.0	-22.3	1.00 H	163	43.10	8.60
8	7386.00	38.9 AV	54.0	-15.1	1.00 H	163	30.30	8.60
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	109.8 PK			1.22 V	42	115.20	-5.40
2	*2462.00	100.6 AV			1.22 V	42	106.00	-5.40
3	2483.50	69.0 PK	74.0	-5.0	1.22 V	42	74.10	-5.10
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.22 V**	**42**	**59.00**	**-5.10**
5	4924.00	45.9 PK	74.0	-28.1	1.12 V	154	42.10	3.80
6	4924.00	34.3 AV	54.0	-19.7	1.12 V	154	30.50	3.80
7	7386.00	53.8 PK	74.0	-20.2	1.00 V	221	45.20	8.60
8	7386.00	41.7 AV	54.0	-12.3	1.00 V	221	33.10	8.60

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	67.5 PK	74.0	-6.5	1.38 H	73	73.10	-5.60
2	2390.00	49.4 AV	54.0	-4.6	1.38 H	73	55.00	-5.60
3	*2412.00	105.7 PK			1.38 H	73	111.20	-5.50
4	*2412.00	95.0 AV			1.38 H	73	100.50	-5.50
5	4824.00	55.9 PK	74.0	-18.1	1.06 H	29	52.10	3.80
6	4824.00	41.7 AV	54.0	-12.3	1.06 H	29	37.90	3.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.7 PK	74.0	-2.3	1.00 V	192	77.30	-5.60
2	2390.00	53.4 AV	54.0	-0.6	1.00 V	192	59.00	-5.60
3	*2412.00	107.8 PK			1.00 V	192	113.30	-5.50
4	*2412.00	98.0 AV			1.00 V	192	103.50	-5.50
5	4824.00	60.0 PK	74.0	-14.0	1.00 V	2	56.20	3.80
6	4824.00	45.2 AV	54.0	-8.8	1.00 V	2	41.40	3.80

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	109.7 PK			1.32 H	67	115.10	-5.40
2	*2437.00	99.1 AV			1.32 H	67	104.50	-5.40
3	4874.00	56.2 PK	74.0	-17.8	1.00 H	16	52.40	3.80
4	4874.00	41.8 AV	54.0	-12.2	1.00 H	16	38.00	3.80
5	7311.00	51.8 PK	74.0	-22.2	1.00 H	169	43.50	8.30
6	7311.00	38.6 AV	54.0	-15.4	1.00 H	169	30.30	8.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.6 PK			1.44 V	197	117.00	-5.40
2	*2437.00	102.0 AV			1.44 V	197	107.40	-5.40
3	4874.00	60.4 PK	74.0	-13.6	1.00 V	12	56.60	3.80
4	4874.00	45.5 AV	54.0	-8.5	1.00 V	12	41.70	3.80
5	7311.00	54.2 PK	74.0	-19.8	1.00 V	220	45.90	8.30
6	7311.00	42.3 AV	54.0	-11.7	1.00 V	220	34.00	8.30

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	106.8 PK			1.35 H	53	112.20	-5.40
2	*2462.00	95.8 AV			1.35 H	53	101.20	-5.40
3	2483.50	67.6 PK	74.0	-6.4	1.36 H	88	72.70	-5.10
4	2483.50	49.7 AV	54.0	-4.3	1.36 H	88	54.80	-5.10
5	4924.00	56.2 PK	74.0	-17.8	1.00 H	15	52.40	3.80
6	4924.00	42.0 AV	54.0	-12.0	1.00 H	15	38.20	3.80
7	7386.00	52.2 PK	74.0	-21.8	1.04 H	169	43.60	8.60
8	7386.00	38.7 AV	54.0	-15.3	1.04 H	169	30.10	8.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.6 PK			1.00 V	196	114.00	-5.40
2	*2462.00	98.6 AV			1.00 V	196	104.00	-5.40
3	2483.50	70.4 PK	74.0	-3.6	1.00 V	196	75.50	-5.10
4	2483.50	53.7 AV	54.0	-0.3	1.00 V	196	58.80	-5.10
5	4924.00	60.1 PK	74.0	-13.9	1.01 V	25	56.30	3.80
6	4924.00	45.1 AV	54.0	-8.9	1.01 V	25	41.30	3.80
7	7386.00	54.1 PK	74.0	-19.9	1.04 V	208	45.50	8.60
8	7386.00	42.2 AV	54.0	-11.8	1.04 V	208	33.60	8.60

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	58.8 PK	74.0	-15.2	1.00 H	327	64.40	-5.60
2	2390.00	43.4 AV	54.0	-10.6	1.00 H	327	49.00	-5.60
3	*2422.00	96.9 PK			1.00 H	327	102.40	-5.50
4	*2422.00	88.0 AV			1.00 H	327	93.50	-5.50
5	4844.00	56.8 PK	74.0	-17.2	1.04 H	24	53.00	3.80
6	4844.00	42.4 AV	54.0	-11.6	1.04 H	24	38.60	3.80
7	7266.00	52.8 PK	74.0	-21.2	1.00 H	185	44.70	8.10
8	7266.00	39.1 AV	54.0	-14.9	1.00 H	185	31.00	8.10
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	67.1 PK	74.0	-6.9	1.00 V	193	72.70	-5.60
2	2390.00	53.3 AV	54.0	-0.7	1.00 V	193	58.90	-5.60
3	*2422.00	102.0 PK			1.00 V	193	107.50	-5.50
4	*2422.00	93.7 AV			1.00 V	193	99.20	-5.50
5	4844.00	59.8 PK	74.0	-14.2	1.00 V	11	56.00	3.80
6	4844.00	45.0 AV	54.0	-9.0	1.00 V	11	41.20	3.80
7	7266.00	53.8 PK	74.0	-20.2	1.09 V	223	45.70	8.10
8	7266.00	41.8 AV	54.0	-12.2	1.09 V	223	33.70	8.10

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	59.0 PK	74.0	-15.0	1.00 H	337	64.60	-5.60
2	2390.00	43.5 AV	54.0	-10.5	1.00 H	337	49.10	-5.60
3	*2437.00	101.7 PK			1.00 H	337	107.10	-5.40
4	*2437.00	92.5 AV			1.00 H	337	97.90	-5.40
5	2483.50	59.0 PK	74.0	-15.0	1.00 H	337	64.10	-5.10
6	2483.50	45.2 AV	54.0	-8.8	1.00 H	337	50.30	-5.10
7	4874.00	56.3 PK	74.0	-17.7	1.03 H	16	52.50	3.80
8	4874.00	42.1 AV	54.0	-11.9	1.03 H	16	38.30	3.80
9	7311.00	52.3 PK	74.0	-21.7	1.03 H	180	44.00	8.30
10	7311.00	38.8 AV	54.0	-15.2	1.03 H	180	30.50	8.30
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	68.5 PK	74.0	-5.5	1.00 V	190	74.10	-5.60
2	2390.00	53.8 AV	54.0	-0.2	1.00 V	190	59.40	-5.60
3	*2437.00	107.3 PK			1.00 V	190	112.70	-5.40
4	*2437.00	98.9 AV			1.00 V	190	104.30	-5.40
5	2483.50	65.1 PK	74.0	-8.9	1.00 V	190	70.20	-5.10
6	2483.50	52.4 AV	54.0	-1.6	1.00 V	190	57.50	-5.10
7	4874.00	59.6 PK	74.0	-14.4	1.05 V	27	55.80	3.80
8	4874.00	44.7 AV	54.0	-9.3	1.05 V	27	40.90	3.80
9	7311.00	53.5 PK	74.0	-20.5	1.11 V	230	45.20	8.30
10	7311.00	41.7 AV	54.0	-12.3	1.11 V	230	33.40	8.30

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	97.3 PK			1.00 H	319	102.70	-5.40
2	*2452.00	88.2 AV			1.00 H	319	93.60	-5.40
3	2483.50	59.0 PK	74.0	-15.0	1.00 H	319	64.10	-5.10
4	2483.50	45.1 AV	54.0	-8.9	1.00 H	319	50.20	-5.10
5	4904.00	56.3 PK	74.0	-17.7	1.08 H	12	52.60	3.70
6	4904.00	42.0 AV	54.0	-12.0	1.08 H	12	38.30	3.70
7	7356.00	52.0 PK	74.0	-22.0	1.00 H	174	43.60	8.40
8	7356.00	38.7 AV	54.0	-15.3	1.00 H	174	30.30	8.40
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	102.7 PK			1.00 V	191	108.10	-5.40
2	*2452.00	94.3 AV			1.00 V	191	99.70	-5.40
3	2483.50	64.3 PK	74.0	-9.7	1.00 V	191	69.40	-5.10
4	2483.50	53.1 AV	54.0	-0.9	1.00 V	191	58.20	-5.10
5	4904.00	60.0 PK	74.0	-14.0	1.00 V	27	56.30	3.70
6	4904.00	45.2 AV	54.0	-8.8	1.00 V	27	41.50	3.70
7	7356.00	53.1 PK	74.0	-20.9	1.16 V	214	44.70	8.40
8	7356.00	41.4 AV	54.0	-12.6	1.16 V	214	33.00	8.40

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.

2TX Mode

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	49.2 PK	74.0	-24.8	1.03 H	154	54.80	-5.60
2	2390.00	37.6 AV	54.0	-16.4	1.03 H	154	43.20	-5.60
3	*2412.00	109.8 PK			1.07 H	149	115.30	-5.50
4	*2412.00	98.3 AV			1.07 H	149	103.80	-5.50
5	4824.00	55.5 PK	74.0	-18.5	1.57 H	250	51.70	3.80
6	4824.00	41.9 AV	54.0	-12.1	1.57 H	250	38.10	3.80
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	1.22 V	38	74.50	-5.60
2	2390.00	53.8 AV	54.0	-0.2	1.22 V	38	59.40	-5.60
3	*2412.00	111.8 PK			1.22 V	38	117.30	-5.50
4	*2412.00	100.6 AV			1.22 V	38	106.10	-5.50
5	4824.00	57.4 PK	74.0	-16.6	1.32 V	140	53.60	3.80
6	4824.00	45.2 AV	54.0	-8.8	1.32 V	140	41.40	3.80

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	49.1 PK	74.0	-24.9	1.05 H	148	54.70	-5.60
2	2390.00	37.3 AV	54.0	-16.7	1.05 H	148	42.90	-5.60
3	*2437.00	112.0 PK			1.05 H	148	117.40	-5.40
4	*2437.00	100.2 AV			1.05 H	148	105.60	-5.40
5	2483.50	51.0 PK	74.0	-23.0	1.05 H	148	56.10	-5.10
6	2483.50	39.0 AV	54.0	-15.0	1.05 H	148	44.10	-5.10
7	4874.00	55.0 PK	74.0	-19.0	1.59 H	245	51.20	3.80
8	4874.00	41.7 AV	54.0	-12.3	1.59 H	245	37.90	3.80
9	7311.00	53.0 PK	74.0	-21.0	1.00 H	291	44.70	8.30
10	7311.00	41.1 AV	54.0	-12.9	1.00 H	291	32.80	8.30
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	54.3 PK	74.0	-19.7	1.17 V	38	59.90	-5.60
2	2390.00	42.7 AV	54.0	-11.3	1.17 V	38	48.30	-5.60
3	*2437.00	113.9 PK			1.17 V	38	119.30	-5.40
4	*2437.00	102.7 AV			1.17 V	38	108.10	-5.40
5	2483.50	55.7 PK	74.0	-18.3	1.17 V	38	60.80	-5.10
6	2483.50	42.5 AV	54.0	-11.5	1.17 V	38	47.60	-5.10
7	4874.00	66.2 PK	74.0	-7.8	1.37 V	143	62.40	3.80
8	4874.00	53.6 AV	54.0	-0.4	1.37 V	143	49.80	3.80
9	7311.00	54.6 PK	74.0	-19.4	1.00 V	213	46.30	8.30
10	7311.00	41.0 AV	54.0	-13.0	1.00 V	213	32.70	8.30

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	109.8 PK			1.09 H	146	115.20	-5.40
2	*2462.00	98.4 AV			1.09 H	146	103.80	-5.40
3	2483.50	64.6 PK	74.0	-9.4	1.09 H	146	69.70	-5.10
4	2483.50	50.6 AV	54.0	-3.4	1.09 H	146	55.70	-5.10
5	4924.00	54.8 PK	74.0	-19.2	1.61 H	234	51.00	3.80
6	4924.00	41.7 AV	54.0	-12.3	1.61 H	234	37.90	3.80
7	7386.00	53.6 PK	74.0	-20.4	1.00 H	302	45.00	8.60
8	7386.00	41.5 AV	54.0	-12.5	1.00 H	302	32.90	8.60
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	111.6 PK			1.22 V	41	117.00	-5.40
2	*2462.00	100.1 AV			1.22 V	41	105.50	-5.40
3	2483.50	67.2 PK	74.0	-6.8	1.22 V	41	72.30	-5.10
4	2483.50	53.4 AV	54.0	-0.6	1.22 V	41	58.50	-5.10
5	4924.00	57.7 PK	74.0	-16.3	1.35 V	144	53.90	3.80
6	4924.00	45.3 AV	54.0	-8.7	1.35 V	144	41.50	3.80
7	7386.00	54.2 PK	74.0	-19.8	1.00 V	211	45.60	8.60
8	7386.00	42.0 AV	54.0	-12.0	1.00 V	211	33.40	8.60

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	61.0 PK	74.0	-13.0	1.02 H	311	66.60	-5.60
2	2390.00	47.7 AV	54.0	-6.3	1.02 H	311	53.30	-5.60
3	*2422.00	105.9 PK			1.00 H	340	111.40	-5.50
4	*2422.00	94.3 AV			1.00 H	340	99.80	-5.50
5	4844.00	52.8 PK	74.0	-21.2	1.00 H	287	49.00	3.80
6	4844.00	40.7 AV	54.0	-13.3	1.00 H	287	36.90	3.80
7	7266.00	54.0 PK	74.0	-20.0	1.00 H	303	45.90	8.10
8	7266.00	41.9 AV	54.0	-12.1	1.00 H	303	33.80	8.10
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	66.6 PK	74.0	-7.4	1.20 V	40	72.20	-5.60
2	2390.00	53.8 AV	54.0	-0.2	1.20 V	40	59.40	-5.60
3	*2422.00	107.6 PK			1.20 V	40	113.10	-5.50
4	*2422.00	96.2 AV			1.20 V	40	101.70	-5.50
5	4844.00	63.0 PK	74.0	-11.0	1.33 V	158	59.20	3.80
6	4844.00	50.7 AV	54.0	-3.3	1.33 V	158	46.90	3.80
7	7266.00	53.6 PK	74.0	-20.4	1.00 V	208	45.50	8.10
8	7266.00	41.5 AV	54.0	-12.5	1.00 V	208	33.40	8.10

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	61.2 PK	74.0	-12.8	1.01 H	324	66.80	-5.60
2	2390.00	47.9 AV	54.0	-6.1	1.01 H	324	53.50	-5.60
3	*2437.00	109.6 PK			1.01 H	324	115.00	-5.40
4	*2437.00	97.9 AV			1.01 H	324	103.30	-5.40
5	2483.50	61.5 PK	74.0	-12.5	1.01 H	324	66.60	-5.10
6	2483.50	47.5 AV	54.0	-6.5	1.01 H	324	52.60	-5.10
7	4874.00	53.1 PK	74.0	-20.9	1.00 H	296	49.30	3.80
8	4874.00	41.2 AV	54.0	-12.8	1.00 H	296	37.40	3.80
9	7311.00	54.2 PK	74.0	-19.8	1.00 H	295	45.90	8.30
10	7311.00	41.9 AV	54.0	-12.1	1.00 H	295	33.60	8.30
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	66.5 PK	74.0	-7.5	1.19 V	39	72.10	-5.60
2	2390.00	53.2 AV	54.0	-0.8	1.19 V	39	58.80	-5.60
3	*2437.00	111.4 PK			1.19 V	39	116.80	-5.40
4	*2437.00	100.5 AV			1.19 V	39	105.90	-5.40
5	2483.50	64.8 PK	74.0	-9.2	1.19 V	39	69.90	-5.10
6	2483.50	50.3 AV	54.0	-3.7	1.19 V	39	55.40	-5.10
7	4874.00	63.6 PK	74.0	-10.4	1.37 V	144	59.80	3.80
8	4874.00	51.0 AV	54.0	-3.0	1.37 V	144	47.20	3.80
9	7311.00	53.2 PK	74.0	-20.8	1.00 V	206	44.90	8.30
10	7311.00	41.3 AV	54.0	-12.7	1.00 V	206	33.00	8.30

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	106.3 PK			1.00 H	325	111.70	-5.40
2	*2452.00	94.4 AV			1.00 H	325	99.80	-5.40
3	2483.50	61.1 PK	74.0	-12.9	1.04 H	334	66.20	-5.10
4	2483.50	47.1 AV	54.0	-6.9	1.04 H	334	52.20	-5.10
5	4904.00	53.1 PK	74.0	-20.9	1.01 H	290	49.40	3.70
6	4904.00	40.8 AV	54.0	-13.2	1.01 H	290	37.10	3.70
7	7356.00	54.5 PK	74.0	-19.5	1.00 H	309	46.10	8.40
8	7356.00	42.2 AV	54.0	-11.8	1.00 H	309	33.80	8.40
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	108.2 PK			1.19 V	40	113.60	-5.40
2	*2452.00	96.8 AV			1.19 V	40	102.20	-5.40
3	2483.50	66.2 PK	74.0	-7.8	1.19 V	40	71.30	-5.10
4	2483.50	53.7 AV	54.0	-0.3	1.19 V	40	58.80	-5.10
5	4904.00	63.1 PK	74.0	-10.9	1.25 V	171	59.40	3.70
6	4904.00	50.9 AV	54.0	-3.1	1.25 V	171	47.20	3.70
7	7356.00	52.7 PK	74.0	-21.3	1.05 V	214	44.30	8.40
8	7356.00	41.1 AV	54.0	-12.9	1.05 V	214	32.70	8.40

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.

2TX Mode

Below 1GHz Data

802.11n (HT40)

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	125.25	33.0 QP	43.5	-10.5	1.64 H	211	47.88	-14.86
2	175.12	34.3 QP	43.5	-9.2	1.75 H	201	48.20	-13.86
3	249.75	42.3 QP	46.0	-3.7	1.45 H	301	56.36	-14.02
4	374.71	37.7 QP	46.0	-8.3	1.24 H	311	47.69	-9.98
5	500.11	35.4 QP	46.0	-10.6	1.42 H	100	42.25	-6.83
6	749.74	38.5 QP	46.0	-7.5	1.24 H	100	39.73	-1.22
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	34.21	36.0 QP	40.0	-4.0	1.34 V	64	50.14	-14.13
2	66.34	33.2 QP	40.0	-6.8	1.64 V	245	47.69	-14.48
3	209.54	37.0 QP	43.5	-6.5	1.24 V	301	53.01	-16.04
4	249.24	37.5 QP	46.0	-8.5	2.14 V	301	51.54	-14.03
5	400.24	38.3 QP	46.0	-7.7	1.24 V	301	47.70	-9.39
6	424.51	41.2 QP	46.0	-4.8	1.64 V	201	49.75	-8.51

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)

1TX Mode

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	2320.00	46.4 PK	74.0	-27.6	1.30 H	20	49.38	-2.98
2	2320.00	38.1 AV	54.0	-15.9	1.30 H	20	41.08	-2.98
3	2390.00	53.8 PK	74.0	-20.2	1.29 H	19	56.69	-2.89
4	2390.00	43.5 AV	54.0	-10.5	1.29 H	19	46.39	-2.89
5	*2412.00	106.3 PK			1.25 H	24	109.15	-2.85
6	*2412.00	103.5 AV			1.25 H	24	106.35	-2.85
7	4824.00	51.5 PK	74.0	-22.5	1.00 H	322	45.28	6.22
8	4824.00	42.8 AV	54.0	-11.2	1.00 H	322	36.58	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	2320.00	56.4 PK	74.0	-17.6	1.32 V	360	59.38	-2.98
2	2320.00	47.4 AV	54.0	-6.6	1.32 V	360	50.38	-2.98
3	2390.00	62.5 PK	74.0	-11.5	1.28 V	360	65.39	-2.89
4	2390.00	52.6 AV	54.0	-1.4	1.28 V	360	55.49	-2.89
5	*2412.00	115.6 PK			1.56 V	360	118.45	-2.85
6	*2412.00	113.4 AV			1.56 V	360	116.25	-2.85
7	4824.00	56.6 PK	74.0	-17.4	1.08 V	351	50.38	6.22
8	4824.00	53.2 AV	54.0	-0.8	1.08 V	351	46.98	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	107.3 PK			1.19 H	12	110.09	-2.79
2	*2437.00	104.3 AV			1.19 H	12	107.09	-2.79
3	4874.00	50.8 PK	74.0	-23.2	1.00 H	306	44.54	6.26
4	4874.00	42.7 AV	54.0	-11.3	1.00 H	306	36.44	6.26
5	7311.00	58.2 PK	74.0	-15.8	1.34 H	25	47.00	11.20
6	7311.00	45.2 AV	54.0	-8.8	1.34 H	25	34.00	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	116.6 PK			1.50 V	360	119.39	-2.79
2	*2437.00	114.2 AV			1.50 V	360	116.99	-2.79
3	4874.00	55.9 PK	74.0	-18.1	1.06 V	360	49.64	6.26
4	4874.00	53.1 AV	54.0	-0.9	1.06 V	360	46.84	6.26
5	7311.00	58.3 PK	74.0	-15.7	1.06 V	360	47.10	11.20
6	7311.00	46.5 AV	54.0	-7.5	1.06 V	360	35.30	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	107.6 PK			1.31 H	40	110.32	-2.72
2	*2462.00	104.7 AV			1.31 H	40	107.42	-2.72
3	2483.50	53.7 PK	74.0	-20.3	1.30 H	20	56.37	-2.67
4	2483.50	42.9 AV	54.0	-11.1	1.30 H	20	45.57	-2.67
5	4924.00	50.3 PK	74.0	-23.7	1.06 H	317	44.05	6.25
6	4924.00	42.4 AV	54.0	-11.6	1.06 H	317	36.15	6.25
7	7386.00	58.8 PK	74.0	-15.2	1.33 H	26	47.19	11.61
8	7386.00	45.5 AV	54.0	-8.5	1.33 H	26	33.89	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	116.8 PK			1.53 V	360	119.52	-2.72
2	*2462.00	114.5 AV			1.53 V	360	117.22	-2.72
3	2483.50	61.9 PK	74.0	-12.1	1.51 V	360	64.57	-2.67
4	2483.50	52.1 AV	54.0	-1.9	1.51 V	360	54.77	-2.67
5	4924.00	57.3 PK	74.0	-16.7	1.19 V	360	51.05	6.25
6	4924.00	53.6 AV	54.0	-0.4	1.19 V	360	47.35	6.25
7	7386.00	58.4 PK	74.0	-15.6	1.04 V	360	46.79	11.61
8	7386.00	46.6 AV	54.0	-7.4	1.04 V	360	34.99	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.

802.11g

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	2320.00	46.1 PK	74.0	-27.9	1.26 H	35	49.08	-2.98
2	2320.00	36.8 AV	54.0	-17.2	1.26 H	35	39.78	-2.98
3	2390.00	60.3 PK	74.0	-13.7	1.25 H	32	63.19	-2.89
4	2390.00	44.7 AV	54.0	-9.3	1.25 H	32	47.59	-2.89
5	*2412.00	105.5 PK			1.30 H	32	108.35	-2.85
6	*2412.00	95.7 AV			1.30 H	32	98.55	-2.85
7	4824.00	51.7 PK	74.0	-22.3	1.02 H	306	45.48	6.22
8	4824.00	43.0 AV	54.0	-11.0	1.02 H	306	36.78	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	2320.00	56.1 PK	74.0	-17.9	1.33 V	360	59.08	-2.98
2	2320.00	46.1 AV	54.0	-7.9	1.33 V	360	49.08	-2.98
3	2390.00	69.0 PK	74.0	-5.0	1.29 V	360	71.89	-2.89
4	2390.00	53.8 AV	54.0	-0.2	1.29 V	360	56.69	-2.89
5	*2412.00	114.6 PK			1.29 V	360	117.45	-2.85
6	*2412.00	105.3 AV			1.29 V	360	108.15	-2.85
7	4824.00	52.5 PK	74.0	-21.5	1.22 V	360	46.28	6.22
8	4824.00	40.4 AV	54.0	-13.6	1.22 V	360	34.18	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	52.4 PK	74.0	-21.6	1.32 H	32	55.29	-2.89
2	2390.00	44.0 AV	54.0	-10.0	1.32 H	32	46.89	-2.89
3	*2437.00	108.8 PK			1.30 H	54	111.59	-2.79
4	*2437.00	99.0 AV			1.30 H	54	101.79	-2.79
5	4874.00	52.0 PK	74.0	-22.0	1.56 H	343	45.74	6.26
6	4874.00	40.1 AV	54.0	-13.9	1.56 H	343	33.84	6.26
7	7311.00	58.0 PK	74.0	-16.0	1.06 H	355	46.80	11.20
8	7311.00	45.2 AV	54.0	-8.8	1.06 H	355	34.00	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	61.0 PK	74.0	-13.0	1.64 V	360	63.89	-2.89
2	2390.00	53.0 AV	54.0	-1.0	1.64 V	360	55.89	-2.89
3	*2437.00	117.9 PK			1.29 V	360	120.69	-2.79
4	*2437.00	108.6 AV			1.29 V	360	111.39	-2.79
5	4874.00	52.9 PK	74.0	-21.1	1.20 V	353	46.64	6.26
6	4874.00	40.9 AV	54.0	-13.1	1.20 V	353	34.64	6.26
7	7311.00	58.1 PK	74.0	-15.9	1.04 V	354	46.90	11.20
8	7311.00	45.6 AV	54.0	-8.4	1.04 V	354	34.40	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	105.7 PK			1.29 H	16	108.42	-2.72
2	*2462.00	95.9 AV			1.29 H	16	98.62	-2.72
3	2483.50	58.8 PK	74.0	-15.2	1.30 H	16	61.47	-2.67
4	2483.50	44.3 AV	54.0	-9.7	1.30 H	16	46.97	-2.67
5	4924.00	51.7 PK	74.0	-22.3	1.00 H	338	45.45	6.25
6	4924.00	39.8 AV	54.0	-14.2	1.00 H	338	33.55	6.25
7	7386.00	58.0 PK	74.0	-16.0	1.35 H	3	46.39	11.61
8	7386.00	45.0 AV	54.0	-9.0	1.35 H	3	33.39	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	114.8 PK			1.54 V	360	117.52	-2.72
2	*2462.00	105.5 AV			1.54 V	360	108.22	-2.72
3	2483.50	67.0 PK	74.0	-7.0	1.24 V	360	69.67	-2.67
4	2483.50	53.5 AV	54.0	-0.5	1.24 V	360	56.17	-2.67
5	4924.00	53.3 PK	74.0	-20.7	1.10 V	342	47.05	6.25
6	4924.00	41.5 AV	54.0	-12.5	1.10 V	342	35.25	6.25
7	7386.00	57.9 PK	74.0	-16.1	1.09 V	358	46.29	11.61
8	7386.00	45.3 AV	54.0	-8.7	1.09 V	358	33.69	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	2320.00	46.1 PK	74.0	-27.9	1.26 H	35	49.08	-2.98
2	2320.00	38.4 AV	54.0	-15.6	1.26 H	35	41.38	-2.98
3	2390.00	61.4 PK	74.0	-12.6	1.25 H	18	64.29	-2.89
4	2390.00	44.6 AV	54.0	-9.4	1.25 H	18	47.49	-2.89
5	*2412.00	103.8 PK			1.26 H	17	106.65	-2.85
6	*2412.00	95.0 AV			1.26 H	17	97.85	-2.85
7	4824.00	51.7 PK	74.0	-22.3	1.01 H	295	45.48	6.22
8	4824.00	43.0 AV	54.0	-11.0	1.01 H	295	36.78	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	2320.00	56.2 PK	74.0	-17.8	1.30 V	360	59.18	-2.98
2	2320.00	47.6 AV	54.0	-6.4	1.30 V	360	50.58	-2.98
3	2390.00	70.0 PK	74.0	-4.0	1.30 V	360	72.89	-2.89
4	2390.00	53.6 AV	54.0	-0.4	1.30 V	360	56.49	-2.89
5	*2412.00	112.8 PK			1.03 V	360	115.65	-2.85
6	*2412.00	104.6 AV			1.03 V	360	107.45	-2.85
7	4824.00	52.4 PK	74.0	-21.6	1.19 V	360	46.18	6.22
8	4824.00	40.5 AV	54.0	-13.5	1.19 V	360	34.28	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	54.4 PK	74.0	-19.6	1.26 H	15	57.29	-2.89
2	2390.00	44.7 AV	54.0	-9.3	1.26 H	15	47.59	-2.89
3	*2437.00	108.9 PK			1.30 H	31	111.69	-2.79
4	*2437.00	98.8 AV			1.30 H	31	101.59	-2.79
5	2483.50	49.4 PK	74.0	-24.6	1.24 H	33	52.07	-2.67
6	2483.50	37.9 AV	54.0	-16.1	1.24 H	33	40.57	-2.67
7	4874.00	51.6 PK	74.0	-22.4	1.04 H	335	45.34	6.26
8	4874.00	39.7 AV	54.0	-14.3	1.04 H	335	33.44	6.26
9	7311.00	58.1 PK	74.0	-15.9	1.36 H	22	46.90	11.20
10	7311.00	45.3 AV	54.0	-8.7	1.36 H	22	34.10	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	63.0 PK	74.0	-11.0	1.27 V	360	65.89	-2.89
2	2390.00	53.6 AV	54.0	-0.4	1.27 V	360	56.49	-2.89
3	*2437.00	117.9 PK			1.25 V	350	120.69	-2.79
4	*2437.00	108.3 AV			1.25 V	350	111.09	-2.79
5	2483.50	60.1 PK	74.0	-13.9	1.51 V	360	62.77	-2.67
6	2483.50	48.4 AV	54.0	-5.6	1.51 V	360	51.07	-2.67
7	4874.00	52.7 PK	74.0	-21.3	1.24 V	360	46.44	6.26
8	4874.00	40.9 AV	54.0	-13.1	1.24 V	360	34.64	6.26
9	7311.00	57.5 PK	74.0	-16.5	1.03 V	356	46.30	11.20
10	7311.00	45.2 AV	54.0	-8.8	1.03 V	356	34.00	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	104.4 PK			1.30 H	35	107.12	-2.72
2	*2462.00	95.8 AV			1.30 H	35	98.52	-2.72
3	2483.50	57.9 PK	74.0	-16.1	1.20 H	11	60.57	-2.67
4	2483.50	44.6 AV	54.0	-9.4	1.20 H	11	47.27	-2.67
5	4924.00	52.0 PK	74.0	-22.0	1.02 H	343	45.75	6.25
6	4924.00	39.9 AV	54.0	-14.1	1.02 H	343	33.65	6.25
7	7386.00	58.4 PK	74.0	-15.6	1.36 H	16	46.79	11.61
8	7386.00	45.4 AV	54.0	-8.6	1.36 H	16	33.79	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	113.4 PK			1.52 V	360	116.12	-2.72
2	*2462.00	105.3 AV			1.52 V	360	108.02	-2.72
3	2483.50	66.0 PK	74.0	-8.0	1.50 V	360	68.67	-2.67
4	2483.50	53.7 AV	54.0	-0.3	1.50 V	360	56.37	-2.67
5	4924.00	53.4 PK	74.0	-20.6	1.16 V	351	47.15	6.25
6	4924.00	41.4 AV	54.0	-12.6	1.16 V	351	35.15	6.25
7	7386.00	58.1 PK	74.0	-15.9	1.07 V	360	46.49	11.61
8	7386.00	45.5 AV	54.0	-8.5	1.07 V	360	33.89	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.

802.11n (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	2320.00	42.8 PK	74.0	-31.2	1.35 H	12	45.78	-2.98
2	2320.00	39.0 AV	54.0	-15.0	1.35 H	12	41.98	-2.98
3	2390.00	57.8 PK	74.0	-16.2	1.30 H	21	60.69	-2.89
4	2390.00	44.9 AV	54.0	-9.1	1.30 H	21	47.79	-2.89
5	*2422.00	99.2 PK			1.29 H	14	102.03	-2.83
6	*2422.00	90.5 AV			1.29 H	14	93.33	-2.83
7	4844.00	51.7 PK	74.0	-22.3	1.09 H	327	45.47	6.23
8	4844.00	39.5 AV	54.0	-14.5	1.09 H	327	33.27	6.23
9	7266.00	58.3 PK	74.0	-15.7	1.35 H	9	47.12	11.18
10	7266.00	45.6 AV	54.0	-8.4	1.35 H	9	34.42	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	2320.00	53.2 PK	74.0	-20.8	1.04 V	360	56.18	-2.98
2	2320.00	48.0 AV	54.0	-6.0	1.04 V	360	50.98	-2.98
3	2390.00	66.5 PK	74.0	-7.5	1.04 V	360	69.39	-2.89
4	2390.00	53.7 AV	54.0	-0.3	1.04 V	360	56.59	-2.89
5	*2422.00	108.1 PK			1.55 V	360	110.93	-2.83
6	*2422.00	99.7 AV			1.55 V	360	102.53	-2.83
7	4844.00	53.5 PK	74.0	-20.5	1.21 V	360	47.27	6.23
8	4844.00	41.3 AV	54.0	-12.7	1.21 V	360	35.07	6.23
9	7266.00	58.4 PK	74.0	-15.6	1.04 V	360	47.22	11.18
10	7266.00	45.7 AV	54.0	-8.3	1.04 V	360	34.52	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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.5 PK	74.0	-17.5	1.22 H	15	59.39	-2.89
2	2390.00	44.7 AV	54.0	-9.3	1.22 H	15	47.59	-2.89
3	*2437.00	102.7 PK			1.20 H	15	105.49	-2.79
4	*2437.00	94.2 AV			1.20 H	15	96.99	-2.79
5	2483.50	49.1 PK	74.0	-24.9	1.23 H	12	51.77	-2.67
6	2483.50	37.4 AV	54.0	-16.6	1.23 H	12	40.07	-2.67
7	4874.00	51.9 PK	74.0	-22.1	1.01 H	333	45.64	6.26
8	4874.00	40.0 AV	54.0	-14.0	1.01 H	333	33.74	6.26
9	7311.00	58.4 PK	74.0	-15.6	1.35 H	17	47.20	11.20
10	7311.00	45.6 AV	54.0	-8.4	1.35 H	17	34.40	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	65.0 PK	74.0	-9.0	1.22 V	360	67.89	-2.89
2	2390.00	53.4 AV	54.0	-0.6	1.22 V	360	56.29	-2.89
3	*2437.00	111.6 PK			1.41 V	360	114.39	-2.79
4	*2437.00	103.4 AV			1.41 V	360	106.19	-2.79
5	2483.50	57.1 PK	74.0	-16.9	1.38 V	360	59.77	-2.67
6	2483.50	46.4 AV	54.0	-7.6	1.38 V	360	49.07	-2.67
7	4874.00	52.3 PK	74.0	-21.7	1.14 V	352	46.04	6.26
8	4874.00	40.5 AV	54.0	-13.5	1.14 V	352	34.24	6.26
9	7311.00	58.2 PK	74.0	-15.8	1.04 V	360	47.00	11.20
10	7311.00	45.5 AV	54.0	-8.5	1.04 V	360	34.30	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 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	100.6 PK			1.28 H	36	103.35	-2.75
2	*2452.00	91.9 AV			1.28 H	36	94.65	-2.75
3	2483.50	55.3 PK	74.0	-18.7	1.32 H	12	57.97	-2.67
4	2483.50	44.4 AV	54.0	-9.6	1.32 H	12	47.07	-2.67
5	4904.00	52.0 PK	74.0	-22.0	1.04 H	351	45.72	6.28
6	4904.00	39.8 AV	54.0	-14.2	1.04 H	351	33.52	6.28
7	7356.00	57.3 PK	74.0	-16.7	1.38 H	36	45.85	11.45
8	7356.00	44.8 AV	54.0	-9.2	1.38 H	36	33.35	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	109.5 PK			1.65 V	360	112.25	-2.75
2	*2452.00	101.1 AV			1.65 V	360	103.85	-2.75
3	2483.50	63.2 PK	74.0	-10.8	1.51 V	360	65.87	-2.67
4	2483.50	53.4 AV	54.0	-0.6	1.51 V	360	56.07	-2.67
5	4904.00	52.8 PK	74.0	-21.2	1.23 V	357	46.52	6.28
6	4904.00	41.0 AV	54.0	-13.0	1.23 V	357	34.72	6.28
7	7356.00	57.7 PK	74.0	-16.3	1.07 V	347	46.25	11.45
8	7356.00	45.4 AV	54.0	-8.6	1.07 V	347	33.95	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.

2TX Mode

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	56.2 PK	74.0	-17.8	1.19 H	11	59.09	-2.89
2	2390.00	43.2 AV	54.0	-10.8	1.19 H	11	46.09	-2.89
3	*2412.00	106.9 PK			1.19 H	11	109.75	-2.85
4	*2412.00	95.9 AV			1.19 H	11	98.75	-2.85
5	2500.00	59.2 PK	74.0	-14.8	1.21 H	138	61.83	-2.63
6	2500.00	50.3 AV	54.0	-3.7	1.21 H	138	52.93	-2.63
7	4824.00	47.0 PK	74.0	-27.0	1.04 H	337	40.78	6.22
8	4824.00	38.4 AV	54.0	-15.6	1.04 H	337	32.18	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	1.42 V	360	70.99	-2.89
2	2390.00	53.8 AV	54.0	-0.2	1.42 V	360	56.69	-2.89
3	*2412.00	115.7 PK			1.42 V	360	118.55	-2.85
4	*2412.00	104.2 AV			1.42 V	360	107.05	-2.85
5	2500.00	62.8 PK	74.0	-11.2	1.17 V	360	65.43	-2.63
6	2500.00	53.6 AV	54.0	-0.4	1.17 V	360	56.23	-2.63
7	4824.00	52.4 PK	74.0	-21.6	1.05 V	347	46.18	6.22
8	4824.00	49.2 AV	54.0	-4.8	1.05 V	347	42.98	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	2357.00	52.4 PK	74.0	-21.6	1.19 H	24	55.34	-2.94
2	2357.00	40.2 AV	54.0	-13.8	1.19 H	24	43.14	-2.94
3	*2437.00	110.0 PK			1.19 H	24	112.79	-2.79
4	*2437.00	99.4 AV			1.19 H	24	102.19	-2.79
5	2500.00	58.3 PK	74.0	-15.7	1.16 H	137	60.93	-2.63
6	2500.00	49.6 AV	54.0	-4.4	1.16 H	137	52.23	-2.63
7	4874.00	47.2 PK	74.0	-26.8	1.04 H	341	40.94	6.26
8	4874.00	38.4 AV	54.0	-15.6	1.04 H	341	32.14	6.26
9	7311.00	43.4 PK	74.0	-30.6	1.35 H	35	32.20	11.20
10	7311.00	34.6 AV	54.0	-19.4	1.35 H	35	23.40	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	2357.00	60.4 PK	74.0	-13.6	1.21 V	27	63.34	-2.94
2	2357.00	48.7 AV	54.0	-5.3	1.21 V	27	51.64	-2.94
3	*2437.00	118.7 PK			1.16 V	5	121.49	-2.79
4	*2437.00	107.3 AV			1.16 V	5	110.09	-2.79
5	2500.00	62.3 PK	74.0	-11.7	1.18 V	1	64.93	-2.63
6	2500.00	53.0 AV	54.0	-1.0	1.18 V	1	55.63	-2.63
7	4874.00	53.4 PK	74.0	-20.6	1.03 V	319	47.14	6.26
8	4874.00	50.8 AV	54.0	-3.2	1.03 V	319	44.54	6.26
9	7311.00	52.3 PK	74.0	-21.7	1.22 V	360	41.10	11.20
10	7311.00	44.6 AV	54.0	-9.4	1.22 V	360	33.40	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	106.3 PK			1.17 H	16	109.02	-2.72
2	*2462.00	95.5 AV			1.17 H	16	98.22	-2.72
3	2483.50	57.2 PK	74.0	-16.8	1.17 H	16	59.87	-2.67
4	2483.50	43.2 AV	54.0	-10.8	1.17 H	16	45.87	-2.67
5	2500.00	59.4 PK	74.0	-14.6	1.21 H	138	62.03	-2.63
6	2500.00	50.6 AV	54.0	-3.4	1.21 H	138	53.23	-2.63
7	4924.00	47.4 PK	74.0	-26.6	1.03 H	332	41.15	6.25
8	4924.00	38.6 AV	54.0	-15.4	1.03 H	332	32.35	6.25
9	7386.00	42.2 PK	74.0	-31.8	1.31 H	22	30.59	11.61
10	7386.00	33.2 AV	54.0	-20.8	1.31 H	22	21.59	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	115.4 PK			1.41 V	6	118.12	-2.72
2	*2462.00	104.1 AV			1.41 V	6	106.82	-2.72
3	2483.50	67.8 PK	74.0	-6.2	1.11 V	27	70.47	-2.67
4	2483.50	53.7 AV	54.0	-0.3	1.11 V	27	56.37	-2.67
5	2500.00	62.1 PK	74.0	-11.9	1.18 V	6	64.73	-2.63
6	2500.00	53.4 AV	54.0	-0.6	1.18 V	6	56.03	-2.63
7	4924.00	51.0 PK	74.0	-23.0	1.01 V	307	44.75	6.25
8	4924.00	48.3 AV	54.0	-5.7	1.01 V	307	42.05	6.25
9	7386.00	51.2 PK	74.0	-22.8	1.20 V	360	39.59	11.61
10	7386.00	43.1 AV	54.0	-10.9	1.20 V	360	31.49	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	58.8 PK	74.0	-15.2	1.12 H	17	61.69	-2.89
2	2390.00	45.2 AV	54.0	-8.8	1.12 H	17	48.09	-2.89
3	*2422.00	102.4 PK			1.12 H	17	105.23	-2.83
4	*2422.00	91.4 AV			1.12 H	17	94.23	-2.83
5	2500.00	59.2 PK	74.0	-14.8	1.21 H	138	61.83	-2.63
6	2500.00	50.2 AV	54.0	-3.8	1.21 H	138	52.83	-2.63
7	4844.00	52.0 PK	74.0	-22.0	1.05 H	339	45.77	6.23
8	4844.00	39.8 AV	54.0	-14.2	1.05 H	339	33.57	6.23
9	7266.00	57.6 PK	74.0	-16.4	1.33 H	27	46.42	11.18
10	7266.00	44.7 AV	54.0	-9.3	1.33 H	27	33.52	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	66.2 PK	74.0	-7.8	1.20 V	2	69.09	-2.89
2	2390.00	53.5 AV	54.0	-0.5	1.20 V	2	56.39	-2.89
3	*2422.00	110.3 PK			1.45 V	4	113.13	-2.83
4	*2422.00	99.1 AV			1.45 V	4	101.93	-2.83
5	2500.00	62.1 PK	74.0	-11.9	1.16 V	360	64.73	-2.63
6	2500.00	52.9 AV	54.0	-1.1	1.16 V	360	55.53	-2.63
7	4844.00	53.4 PK	74.0	-20.6	1.15 V	342	47.17	6.23
8	4844.00	41.2 AV	54.0	-12.8	1.15 V	342	34.97	6.23
9	7266.00	57.9 PK	74.0	-16.1	1.08 V	360	46.72	11.18
10	7266.00	45.3 AV	54.0	-8.7	1.08 V	360	34.12	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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.4 PK	74.0	-15.6	1.14 H	20	61.29	-2.89
2	2390.00	43.0 AV	54.0	-11.0	1.14 H	20	45.89	-2.89
3	*2437.00	104.3 PK			1.14 H	20	107.09	-2.79
4	*2437.00	94.2 AV			1.14 H	20	96.99	-2.79
5	2483.50	53.3 PK	74.0	-20.7	1.14 H	20	55.97	-2.67
6	2483.50	41.3 AV	54.0	-12.7	1.14 H	20	43.97	-2.67
7	2500.00	58.9 PK	74.0	-15.1	1.25 H	116	61.53	-2.63
8	2500.00	50.0 AV	54.0	-4.0	1.25 H	116	52.63	-2.63
9	4874.00	52.3 PK	74.0	-21.7	1.05 H	324	46.04	6.26
10	4874.00	40.2 AV	54.0	-13.8	1.05 H	324	33.94	6.26
11	7311.00	59.4 PK	74.0	-14.6	1.36 H	6	48.20	11.20
12	7311.00	46.3 AV	54.0	-7.7	1.36 H	6	35.10	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	66.3 PK	74.0	-7.7	1.19 V	3	69.19	-2.89
2	2390.00	51.5 AV	54.0	-2.5	1.19 V	3	54.39	-2.89
3	*2437.00	115.1 PK			1.39 V	4	117.89	-2.79
4	*2437.00	103.0 AV			1.39 V	4	105.79	-2.79
5	2483.50	61.2 PK	74.0	-12.8	1.33 V	5	63.87	-2.67
6	2483.50	49.3 AV	54.0	-4.7	1.33 V	5	51.97	-2.67
7	2500.00	62.4 PK	74.0	-11.6	1.20 V	360	65.03	-2.63
8	2500.00	53.4 AV	54.0	-0.6	1.20 V	360	56.03	-2.63
9	4874.00	54.6 PK	74.0	-19.4	1.19 V	349	48.34	6.26
10	4874.00	42.3 AV	54.0	-11.7	1.19 V	349	36.04	6.26
11	7311.00	59.3 PK	74.0	-14.7	1.05 V	360	48.10	11.20
12	7311.00	46.4 AV	54.0	-7.6	1.05 V	360	35.20	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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.6 PK			1.09 H	7	104.35	-2.75
2	*2452.00	90.8 AV			1.09 H	7	93.55	-2.75
3	2483.50	60.2 PK	74.0	-13.8	1.09 H	7	62.87	-2.67
4	2483.50	45.9 AV	54.0	-8.1	1.09 H	7	48.57	-2.67
5	2500.00	58.3 PK	74.0	-15.7	1.16 H	141	60.93	-2.63
6	2500.00	49.8 AV	54.0	-4.2	1.16 H	141	52.43	-2.63
7	4904.00	51.4 PK	74.0	-22.6	1.02 H	334	45.12	6.28
8	4904.00	39.5 AV	54.0	-14.5	1.02 H	334	33.22	6.28
9	7356.00	58.1 PK	74.0	-15.9	1.34 H	1	46.65	11.45
10	7356.00	45.1 AV	54.0	-8.9	1.34 H	1	33.65	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	112.4 PK			1.11 V	4	115.15	-2.75
2	*2452.00	100.9 AV			1.11 V	4	103.65	-2.75
3	2483.50	68.3 PK	74.0	-5.7	1.36 V	4	70.97	-2.67
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.36 V**	**4**	**56.57**	**-2.67**
5	2500.00	62.2 PK	74.0	-11.8	1.14 V	360	64.83	-2.63
6	2500.00	53.0 AV	54.0	-1.0	1.14 V	360	55.63	-2.63
7	4904.00	53.1 PK	74.0	-20.9	1.19 V	360	46.82	6.28
8	4904.00	41.2 AV	54.0	-12.8	1.19 V	360	34.92	6.28
9	7356.00	58.2 PK	74.0	-15.8	1.02 V	360	46.75	11.45
10	7356.00	45.4 AV	54.0	-8.6	1.02 V	360	33.95	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.

2TX Mode

Below 1GHz Data

802.11n (HT20)

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 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	125.11	33.2 QP	43.5	-10.4	1.32 H	220	48.00	-14.85
2	175.11	34.3 QP	43.5	-9.3	1.68 H	195	48.11	-13.86
3	249.54	42.4 QP	46.0	-3.6	1.31 H	195	56.38	-14.02
4	374.71	37.7 QP	46.0	-8.4	1.26 H	238	47.63	-9.98
5	500.11	35.4 QP	46.0	-10.7	1.00 H	116	42.18	-6.83
6	749.82	38.5 QP	46.0	-7.5	1.36 H	251	39.70	-1.21
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	34.41	36.1 QP	40.0	-3.9	1.72 V	115	50.20	-14.12
2	66.52	33.2 QP	40.0	-6.8	1.69 V	256	47.79	-14.55
3	209.76	36.7 QP	43.5	-6.8	1.61 V	234	52.75	-16.03
4	249.76	37.1 QP	46.0	-8.9	1.63 V	268	51.10	-14.02
5	400.11	38.4 QP	46.0	-7.6	1.58 V	237	47.83	-9.39
6	424.45	41.1 QP	46.0	-4.9	1.36 V	214	49.63	-8.51

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Apr. 29, 2014	Apr. 28, 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: Mar. 20, 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.

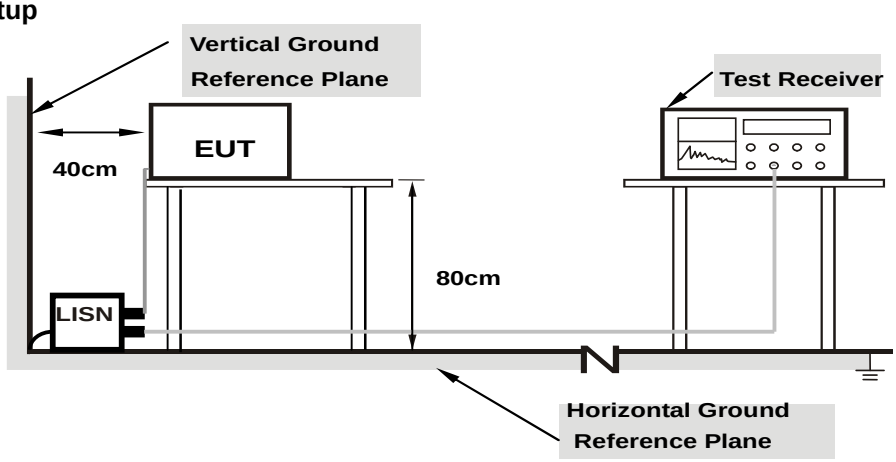
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

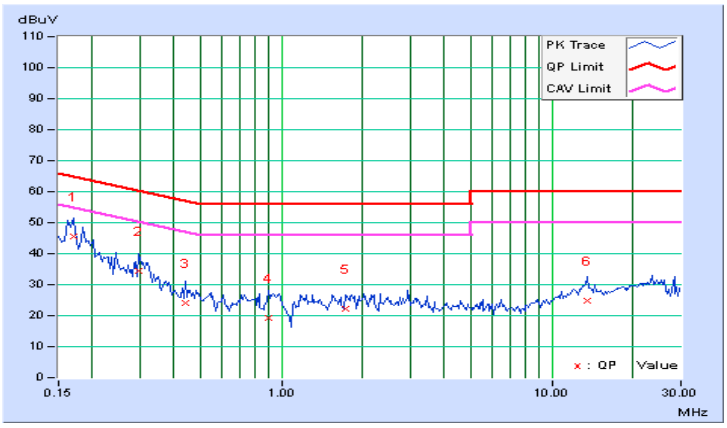
4.2.7 Test Results (Mode 1)

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	0.16953	0.08	45.48	32.66	45.56	32.74	64.98	54.98	-19.42	-22.24
2	0.29844	0.09	34.50	26.56	34.59	26.65	60.29	50.29	-25.69	-23.63
3	0.43906	0.10	24.08	12.52	24.18	12.62	57.08	47.08	-32.90	-34.46
4	0.89219	0.12	19.00	11.46	19.12	11.58	56.00	46.00	-36.88	-34.42
5	1.73047	0.16	22.24	16.76	22.40	16.92	56.00	46.00	-33.60	-29.08
6	13.53516	0.54	24.30	19.18	24.84	19.72	60.00	50.00	-35.16	-30.28

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.

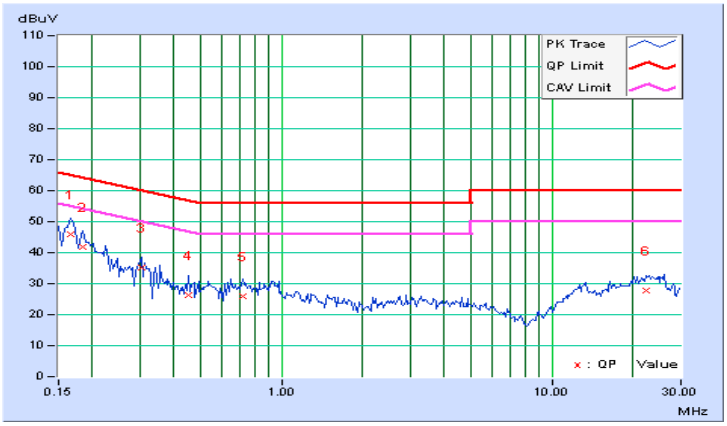


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.16562	0.08	46.02	33.10	46.10	33.18	65.18	55.18	-19.08	-22.00
2	0.18516	0.08	41.64	25.72	41.72	25.80	64.25	54.25	-22.53	-28.45
3	0.30234	0.09	35.24	26.12	35.33	26.21	60.18	50.18	-24.85	-23.97
4	0.45469	0.10	26.04	19.36	26.14	19.46	56.79	46.79	-30.65	-27.33
5	0.72422	0.12	25.66	21.18	25.78	21.30	56.00	46.00	-30.22	-24.70
6	22.19922	0.79	26.98	22.50	27.77	23.29	60.00	50.00	-32.23	-26.71

REMARKS:

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



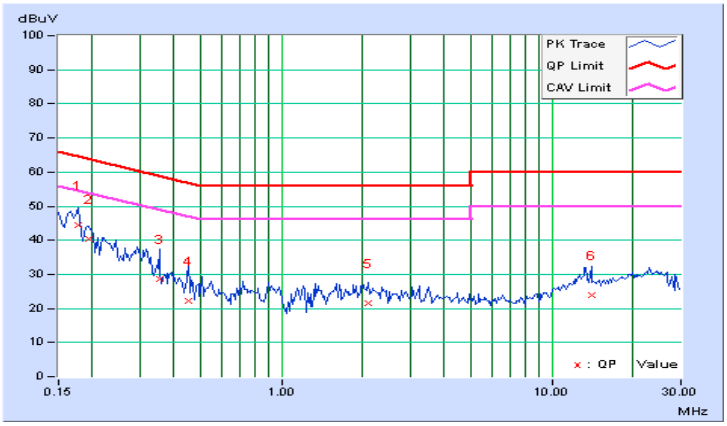
4.2.8 Test Results (Mode 2)

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	0.09	44.28	28.22	44.37	28.31	64.61	54.61	-20.24	-26.30
2	0.19297	0.09	40.44	26.78	40.53	26.87	63.91	53.91	-23.38	-27.04
3	0.35313	0.10	28.42	17.58	28.52	17.68	58.89	48.89	-30.37	-31.21
4	0.45078	0.10	22.24	12.70	22.34	12.80	56.86	46.86	-34.52	-34.06
5	2.10547	0.17	21.28	15.08	21.45	15.25	56.00	46.00	-34.55	-30.75
6	14.09375	0.55	23.40	18.28	23.95	18.83	60.00	50.00	-36.05	-31.17

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

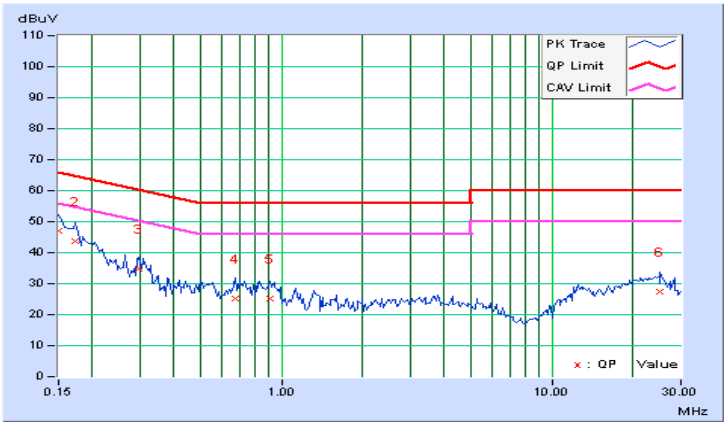


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15000**	**0.08**	**47.06**	**30.16**	**47.14**	**30.24**	**66.00**	**56.00**	**-18.86**	**-25.76**
2	0.17344	0.08	43.70	30.08	43.78	30.16	64.79	54.79	-21.01	-24.63
3	0.29844	0.09	34.90	25.48	34.99	25.57	60.29	50.29	-25.30	-24.72
4	0.67734	0.11	25.00	19.26	25.11	19.37	56.00	46.00	-30.89	-26.63
5	0.90781	0.13	25.02	20.40	25.15	20.53	56.00	46.00	-30.85	-25.47
6	25.04297	0.86	26.62	21.46	27.48	22.32	60.00	50.00	-32.52	-27.68

Remarks:

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

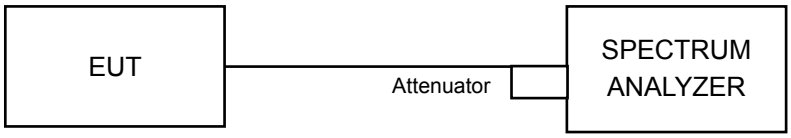


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Results (Mode 1)

1TX Mode

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.10	0.5	Pass
6	2437	10.12	0.5	Pass
11	2462	10.10	0.5	Pass

802.11g

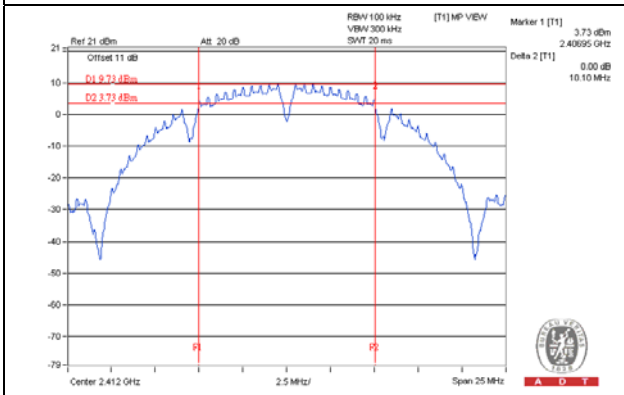
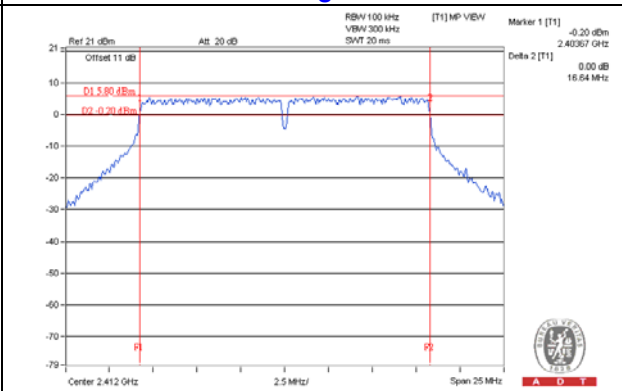
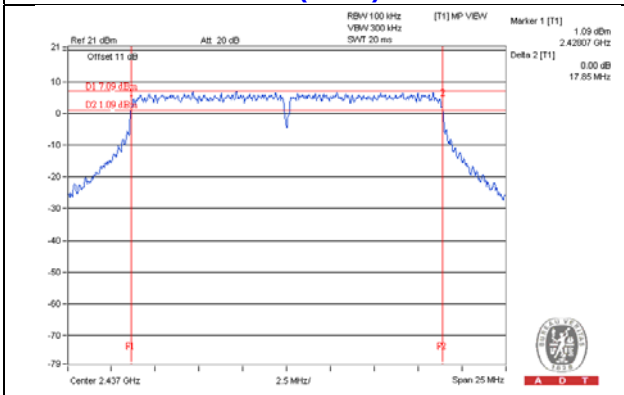
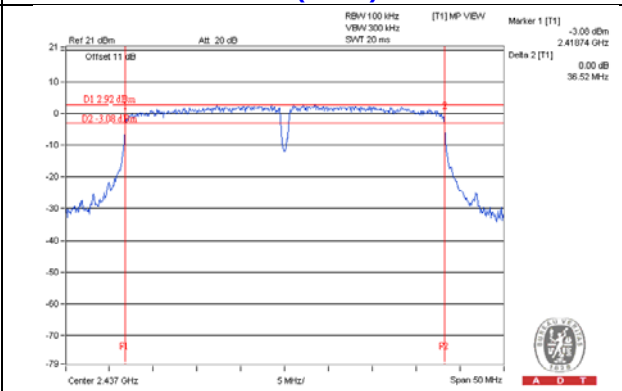
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.64	0.5	Pass
6	2437	16.64	0.5	Pass
11	2462	16.65	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.86	0.5	Pass
6	2437	17.85	0.5	Pass
11	2462	17.87	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
3	2422	36.54	0.5	Pass
6	2437	36.52	0.5	Pass
9	2452	36.53	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / CH1	**802.11g / CH1**
	
802.11n (HT20) / CH6	**802.11n (HT40) / CH6**
	

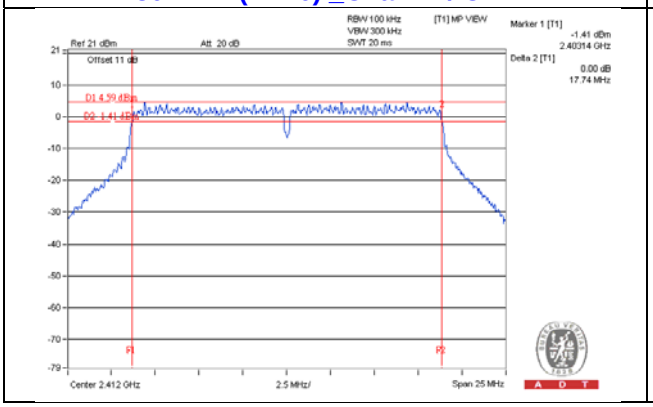
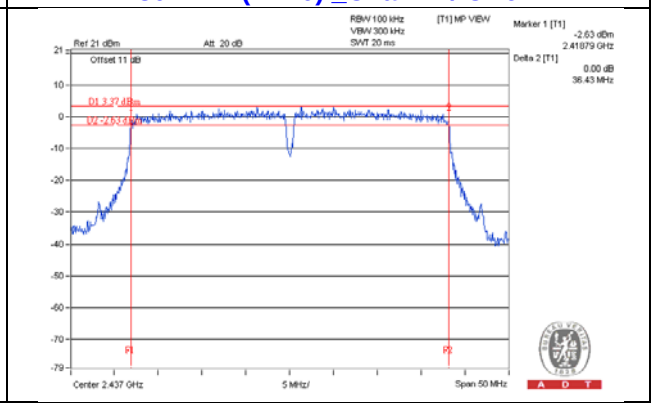
2TX Mode

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.88	17.74	0.5	Pass
6	2437	17.87	17.75	0.5	Pass
11	2462	17.88	17.79	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.53	36.47	0.5	Pass
6	2437	36.50	36.43	0.5	Pass
9	2452	36.53	36.45	0.5	Pass

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

4.3.8 Test Results (Mode 2)

1TX Mode

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.13	0.5	Pass
6	2437	10.12	0.5	Pass
11	2462	10.12	0.5	Pass

802.11g

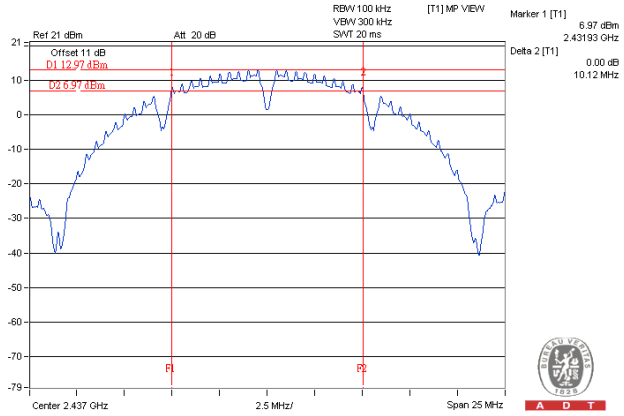
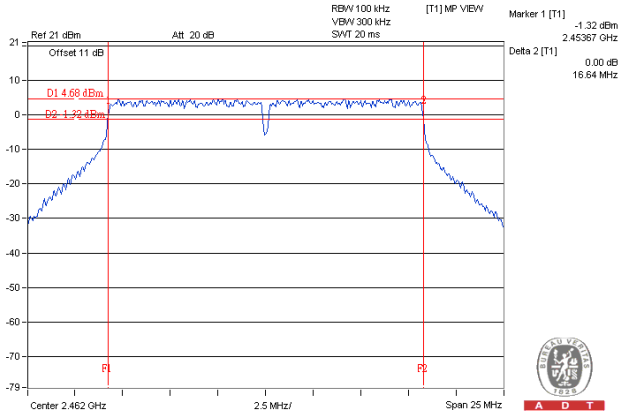
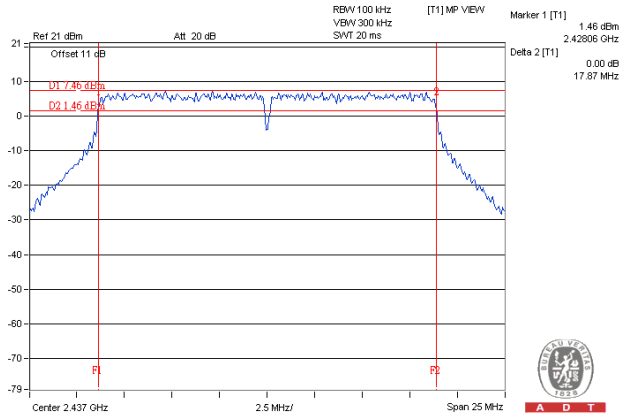
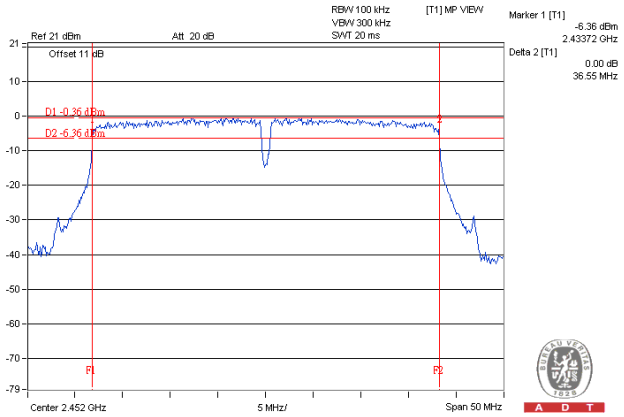
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.65	0.5	Pass
6	2437	16.65	0.5	Pass
11	2462	16.64	0.5	Pass

802.11n (HT20)

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

802.11n (HT40)

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

Spectrum Plot of Worst Value	
802.11b / CH6	**802.11g / CH11**
	
802.11n (HT20) / CH6	**802.11n (HT40) / CH9**
	

2TX Mode

802.11n (HT20)

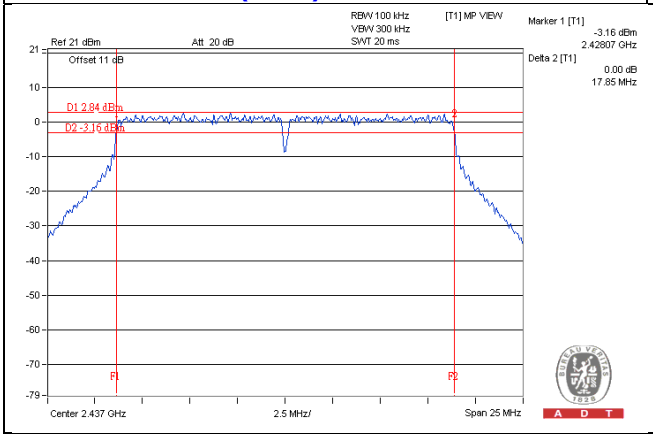
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.88	17.89	0.5	Pass
6	2437	17.85	17.87	0.5	Pass
11	2462	17.88	17.87	0.5	Pass

802.11n (HT40)

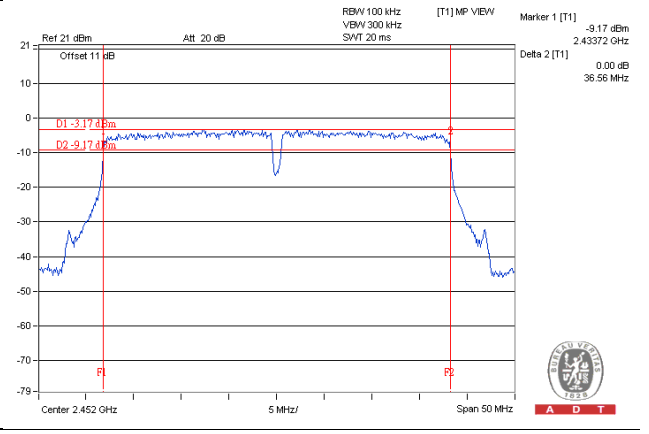
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.57	36.58	0.5	Pass
6	2437	36.57	36.58	0.5	Pass
9	2452	36.56	36.58	0.5	Pass

Spectrum Plot of Worst Value

802.11n (HT20) _Chain 0 / CH6



802.11n (HT40) _Chain 0 / CH9



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 average power sensor was used on the output port of the EUT. A power meter was used to read the response of the 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 (Mode 1)

1TX Mode

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	105.439	20.23	30	Pass
6	2437	122.744	20.89	30	Pass
11	2462	137.404	21.38	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	119.124	20.76	30	Pass
6	2437	146.893	21.67	30	Pass
11	2462	89.536	19.52	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	74.302	18.71	30	Pass
6	2437	148.594	21.72	30	Pass
11	2462	88.716	19.48	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	38.637	15.87	30	Pass
6	2437	102.802	20.12	30	Pass
9	2452	35.645	15.52	30	Pass

2TX Mode

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	18.71	18.34	142.536	21.54	30	Pass
6	2437	20.68	20.23	222.389	23.47	30	Pass
11	2462	18.97	18.54	150.336	21.77	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	16.79	16.74	94.959	19.78	30	Pass
6	2437	21.12	21.19	260.942	24.17	30	Pass
9	2452	17.01	17.03	100.700	20.03	30	Pass

4.4.8 Test Results (Mode 2)

1TX Mode

802.11b

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	129.420	21.12	30	Pass
6	2437	209.894	23.22	30	Pass
11	2462	200.447	23.02	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	53.211	17.26	30	Pass
6	2437	142.889	21.55	30	Pass
11	2462	85.507	19.32	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	33.266	15.22	30	Pass
6	2437	143.880	21.58	30	Pass
11	2462	60.256	17.80	30	Pass

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
3	2422	21.928	13.41	30	Pass
6	2437	53.088	17.25	30	Pass
9	2452	47.424	16.76	30	Pass

2TX Mode

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	13.71	14.98	54.973	17.40	30	Pass
6	2437	16.94	18.54	120.881	20.82	30	Pass
11	2462	14.14	15.75	63.526	18.03	30	Pass

802.11n (HT40)

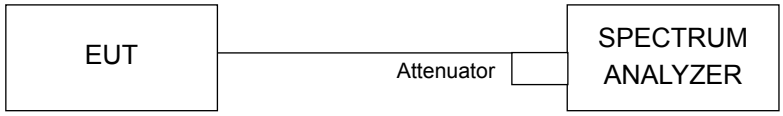
Chan.	Chan. Freq. (MHz)	Average Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	12.60	14.09	43.842	16.42	30	Pass
6	2437	16.76	17.41	102.505	20.11	30	Pass
9	2452	14.05	15.55	61.302	17.87	30	Pass

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

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 instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz. .
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.

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 (Mode 1)

1TX Mode

802.11b

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-7.84	8	Pass
6	2437	-7.37	8	Pass
11	2462	-6.91	8	Pass

802.11g

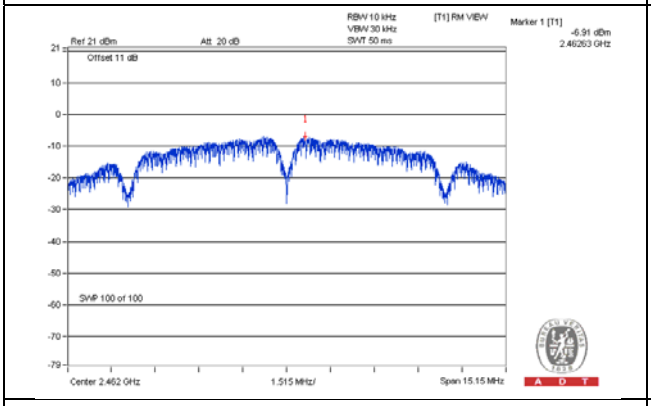
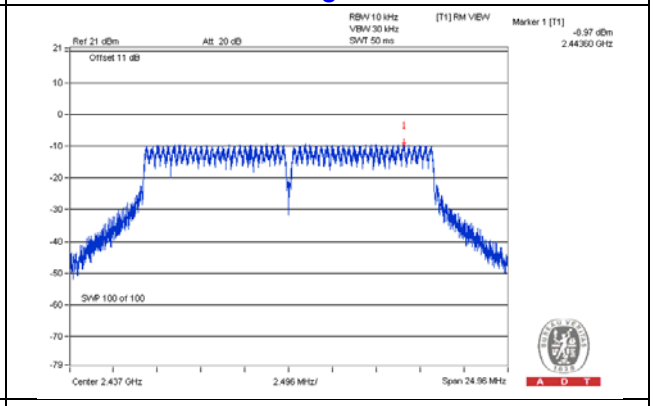
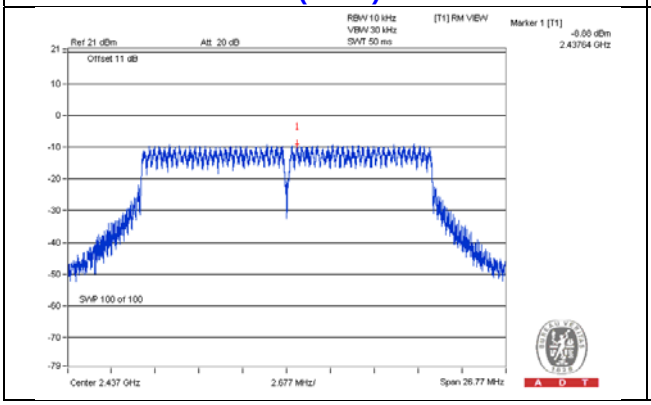
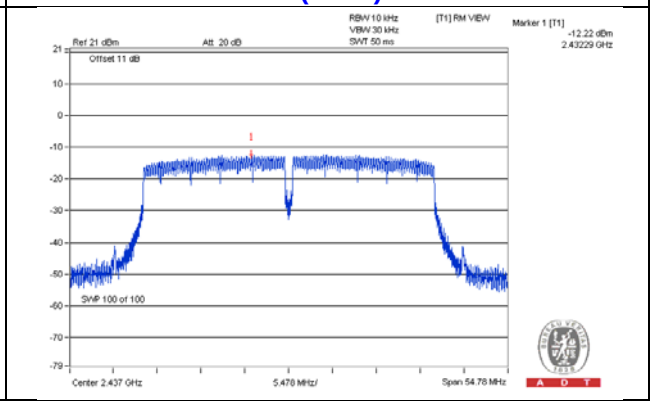
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-9.14	8	Pass
6	2437	-8.97	8	Pass
11	2462	-10.80	8	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-11.70	8	Pass
6	2437	-8.88	8	Pass
11	2462	-10.89	8	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
3	2422	-16.87	8	Pass
6	2437	-12.22	8	Pass
9	2452	-16.90	8	Pass

Spectrum Plot of Worst Value	
802.11b / CH11	**802.11g / CH6**
	
802.11n (HT20) / CH6	**802.11n (HT40) / CH6**
	

2TX Mode

802.11n (HT20)

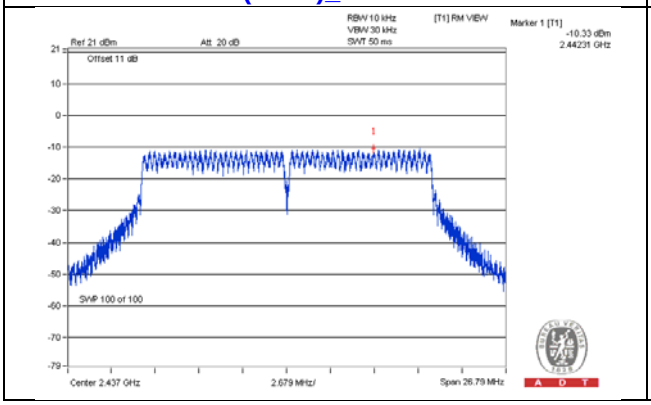
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-12.79	3.01	-9.78	8	Pass
	6	2437	-10.33	3.01	-7.32	8	Pass
	11	2462	-12.46	3.01	-9.45	8	Pass
1	1	2412	-12.49	3.01	-9.48	8	Pass
	6	2437	-11.87	3.01	-8.86	8	Pass
	11	2462	-12.62	3.01	-9.61	8	Pass

802.11n (HT40)

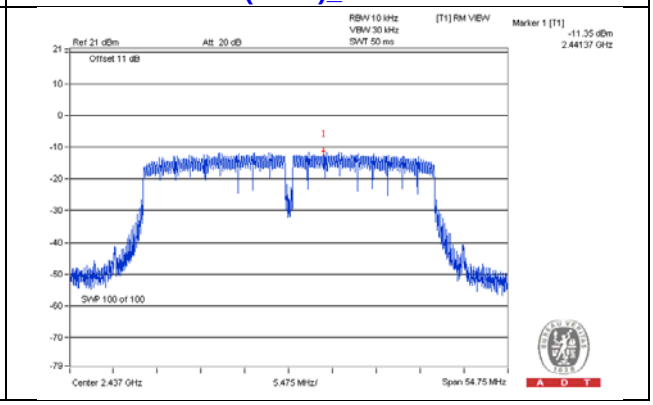
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-16.31	3.01	-13.30	8	Pass
	6	2437	-11.35	3.01	-8.34	8	Pass
	9	2452	-16.13	3.01	-13.12	8	Pass
1	3	2422	-15.64	3.01	-12.63	8	Pass
	6	2437	-12.73	3.01	-9.72	8	Pass
	9	2452	-15.17	3.01	-12.16	8	Pass

Spectrum Plot of Worst Value

802.11n (HT20)_Chain 0 / CH6



802.11n (HT40)_Chain 0 / CH6



4.5.8 Test Results (Mode 2)

1TX Mode

802.11b

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-6.49	8	Pass
6	2437	-4.29	8	Pass
11	2462	-4.72	8	Pass

802.11g

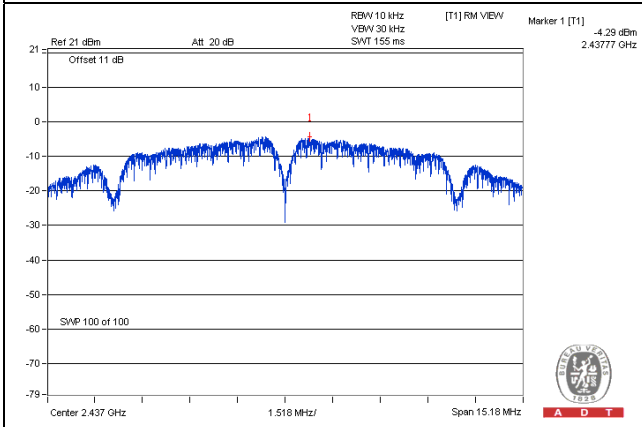
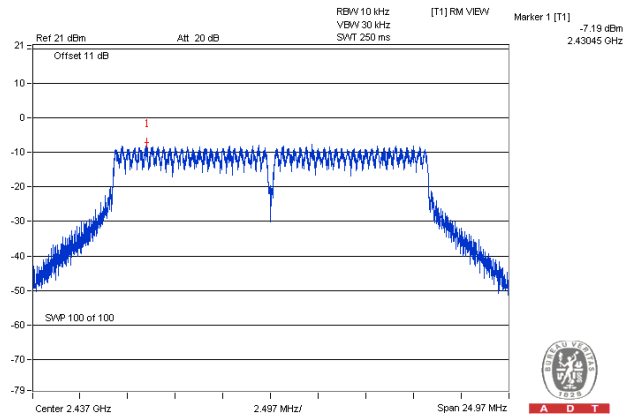
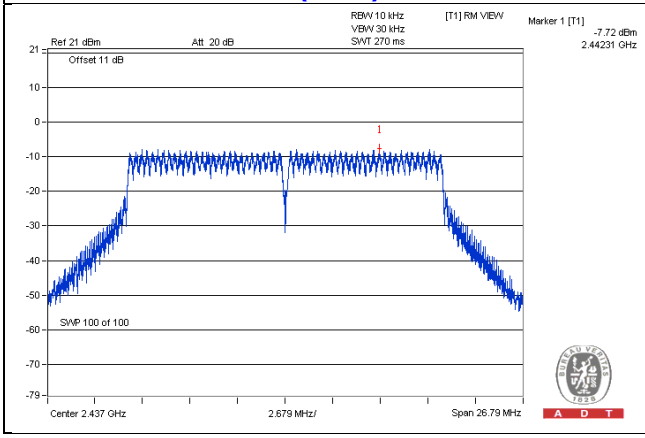
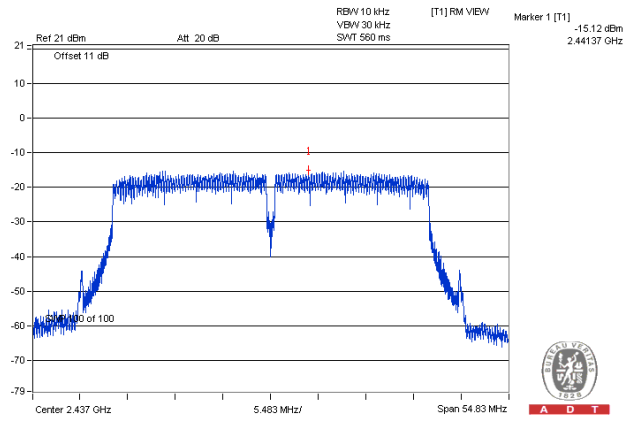
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-12.23	8	Pass
6	2437	-7.19	8	Pass
11	2462	-10.27	8	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
1	2412	-14.28	8	Pass
6	2437	-7.72	8	Pass
11	2462	-11.66	8	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
3	2422	-19.38	8	Pass
6	2437	-15.12	8	Pass
9	2452	-15.31	8	Pass

Spectrum Plot of Worst Value	
802.11b / CH6	**802.11g / CH6**
	
802.11n (HT20) / CH6	**802.11n (HT40) / CH6**
	

2TX Mode

802.11n (HT20)

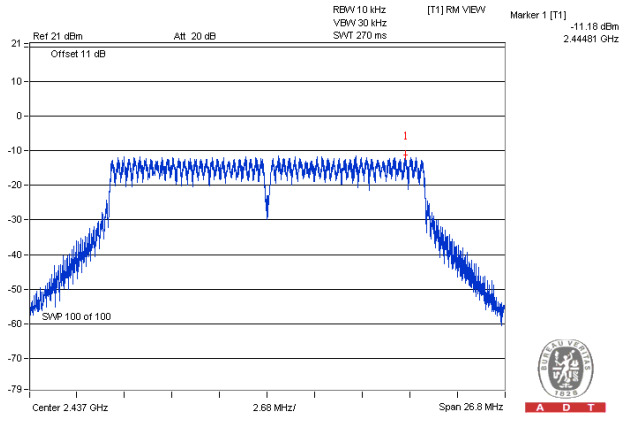
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	1	2412	-16.10	3.01	-13.09	8	Pass
	6	2437	-12.71	3.01	-9.70	8	Pass
	11	2462	-15.49	3.01	-12.48	8	Pass
1	1	2412	-14.99	3.01	-11.98	8	Pass
	6	2437	-11.18	3.01	-8.17	8	Pass
	11	2462	-14.13	3.01	-11.12	8	Pass

802.11n (HT40)

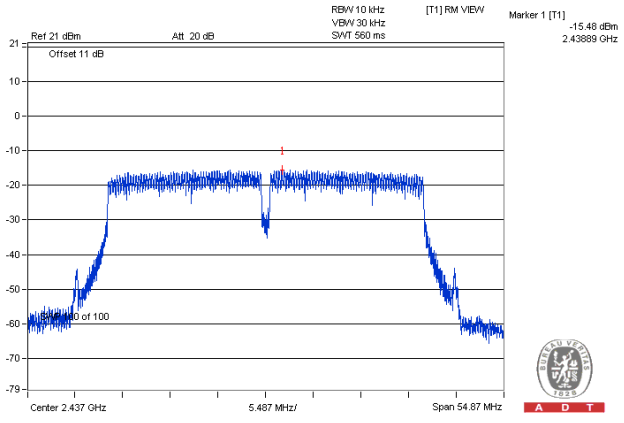
TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=2) dB	Total PSD (dBm)	Limit (dBm)	Pass /Fail
0	3	2422	-20.24	3.01	-17.23	8	Pass
	6	2437	-16.98	3.01	-13.97	8	Pass
	9	2452	-18.34	3.01	-15.33	8	Pass
1	3	2422	-18.71	3.01	-15.70	8	Pass
	6	2437	-15.48	3.01	-12.47	8	Pass
	9	2452	-17.31	3.01	-14.30	8	Pass

Spectrum Plot of Worst Value

802.11n (HT20)_Chain 1 / CH6



802.11n (HT40)_Chain 1 / CH6

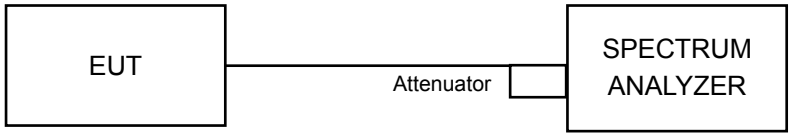


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB 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

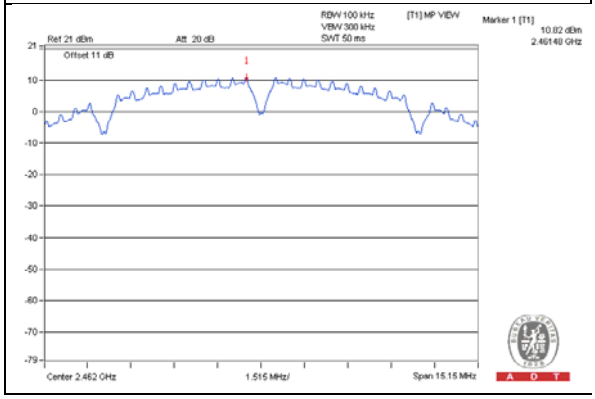
4.6.7 Test Results (Mode 1)

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

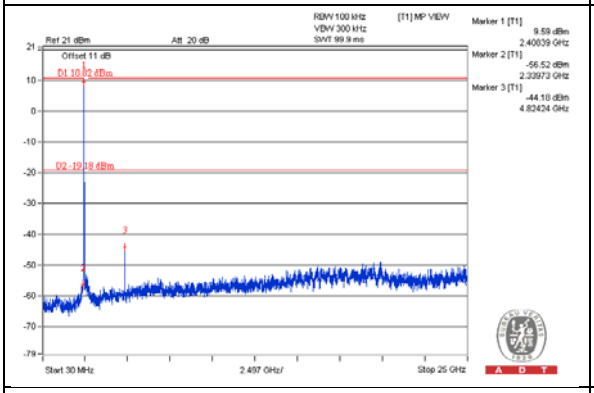
1TX Mode

802.11b

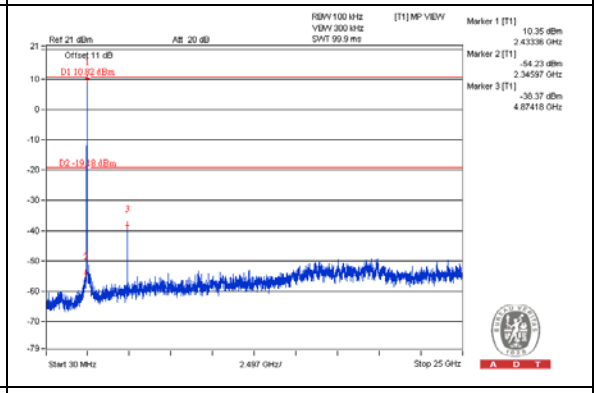
Maximum REF



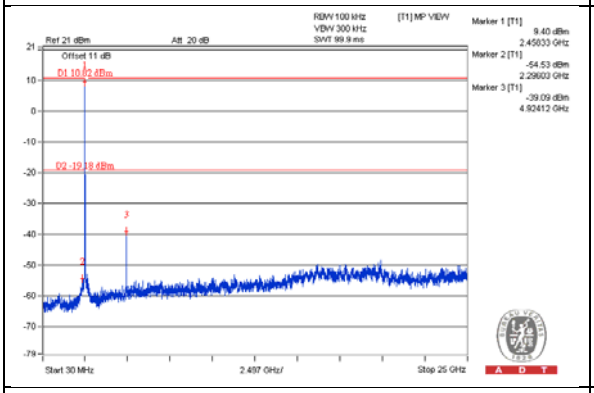
CH 1



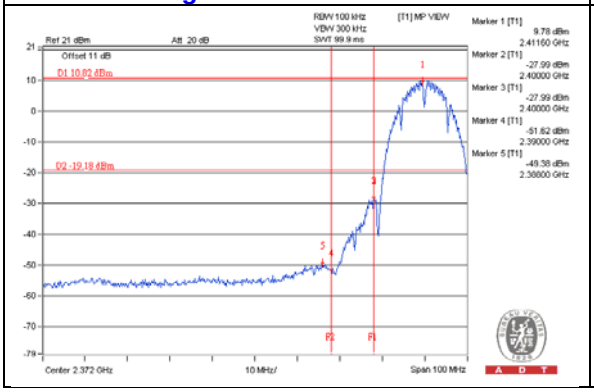
CH 6



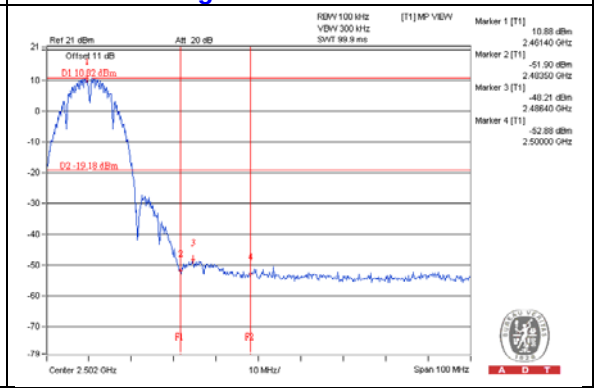
CH 11



CH 1 Band edge

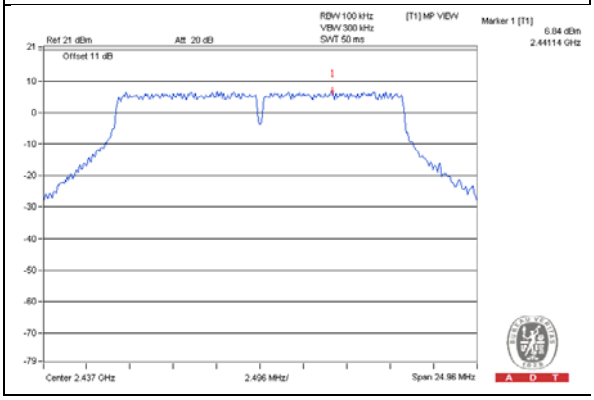


CH 11 Band edge

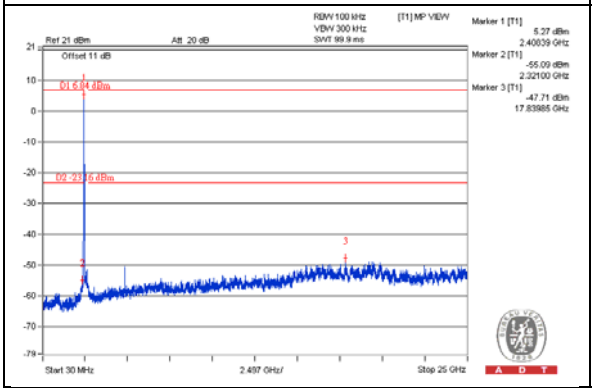


802.11g

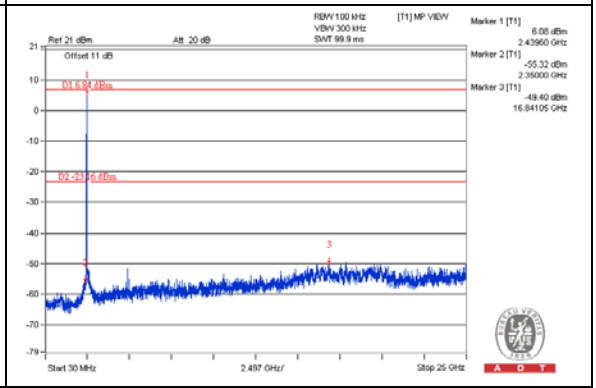
Maximum REF



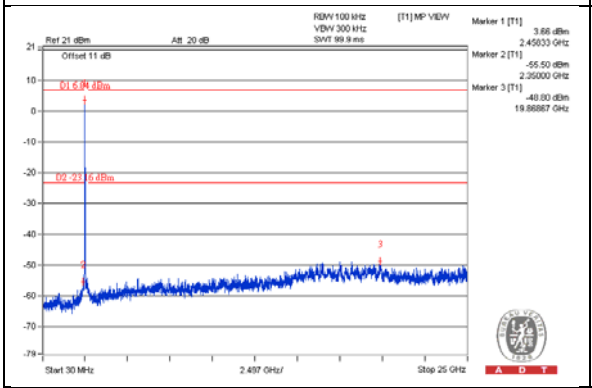
CH 1



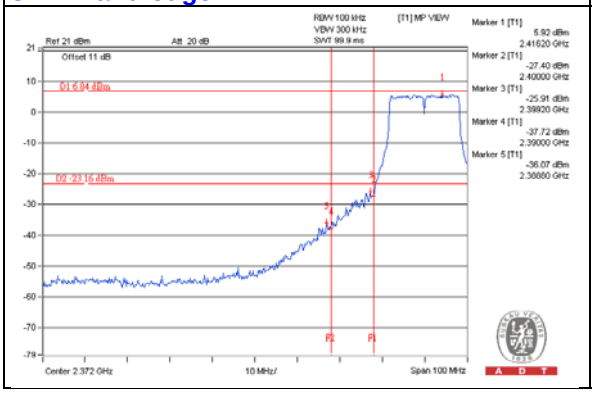
CH 6



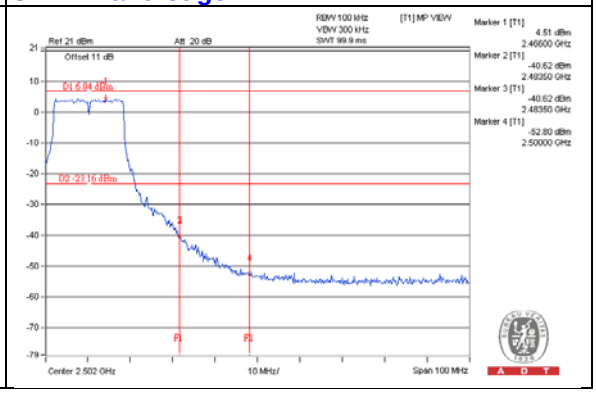
CH 11



CH 1 Band edge

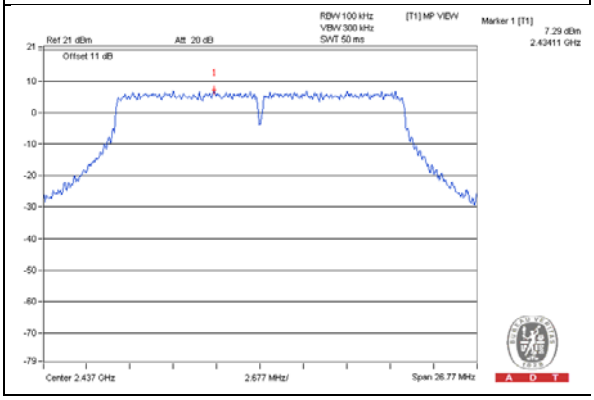


CH 11 Band edge

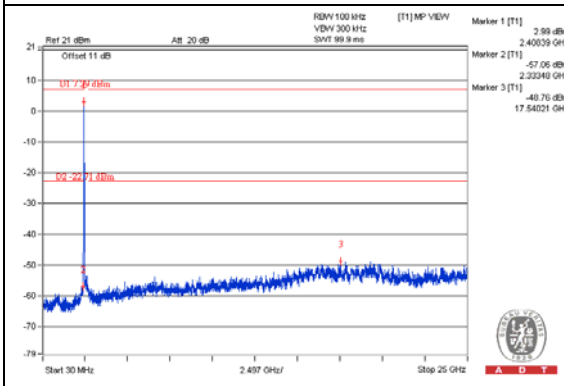


802.11n (HT20)

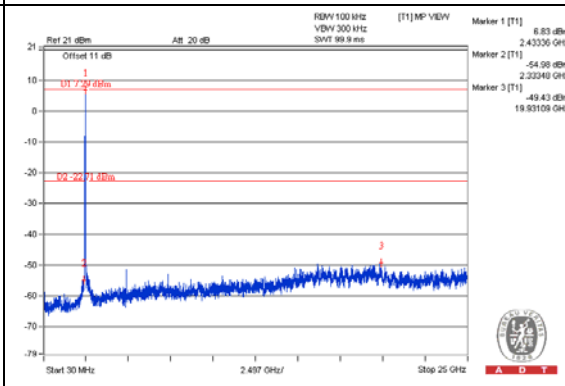
Maximum REF



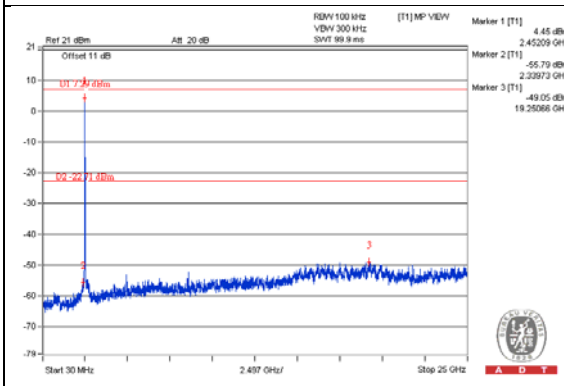
CH 1



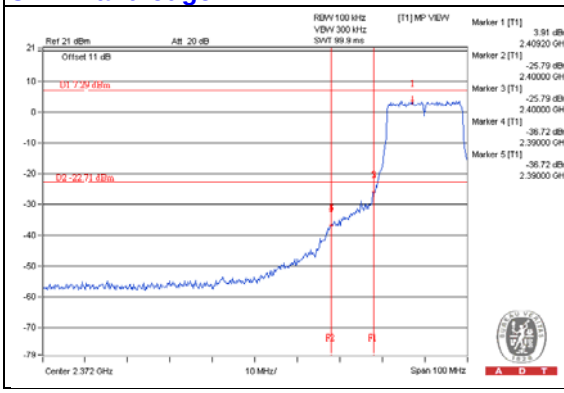
CH 6



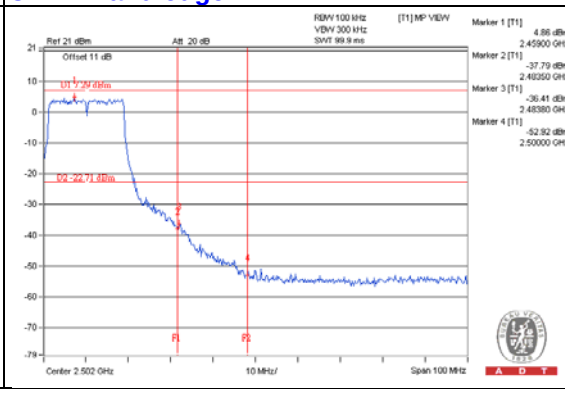
CH 11



CH 1 Band edge

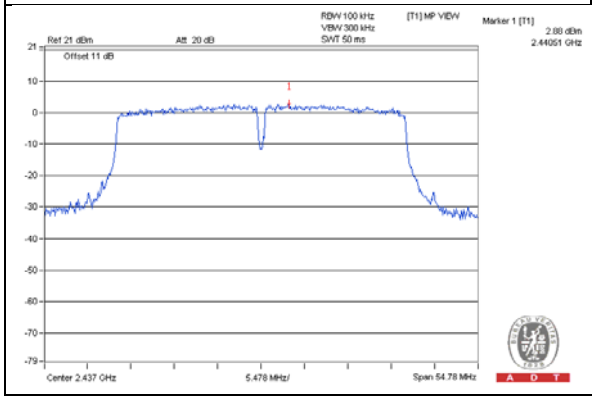


CH 11 Band edge

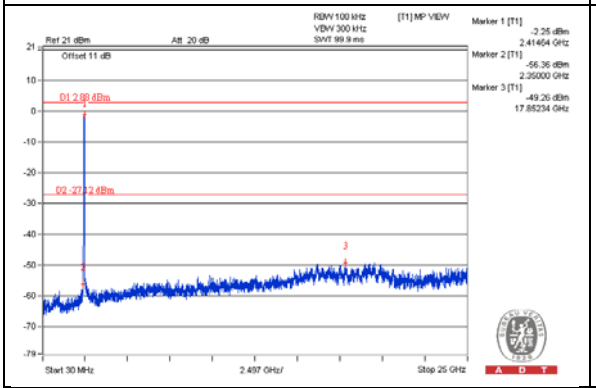


802.11n (HT40)

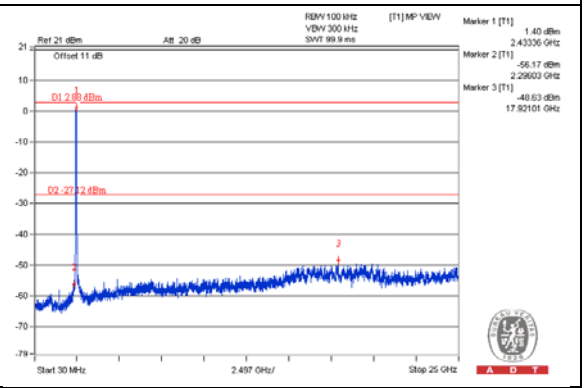
Maximum REF



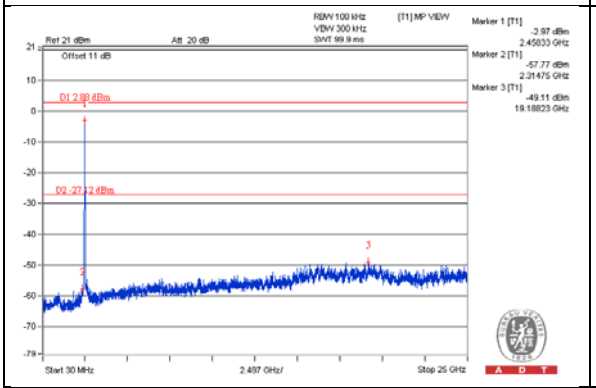
CH 3



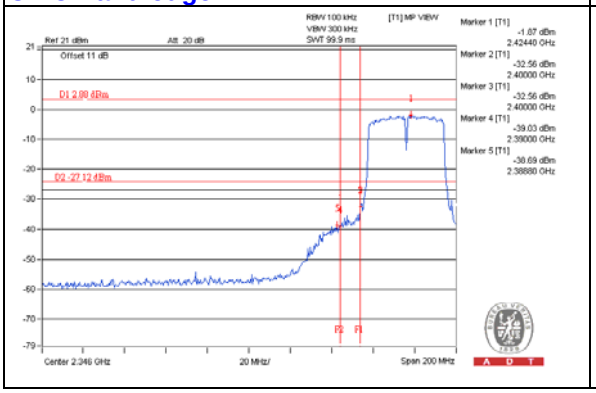
CH 6



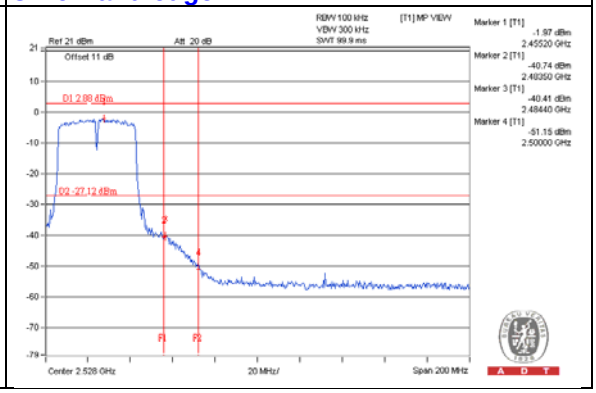
CH 9



CH 3 Band edge



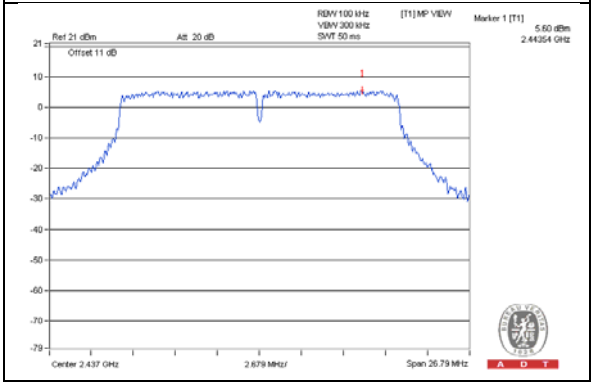
CH 9 Band edge



2TX Mode

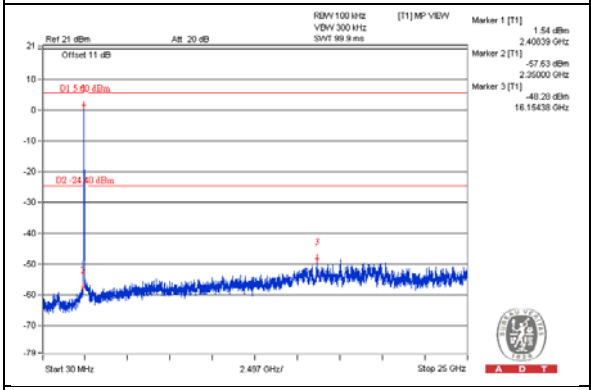
802.11n (HT20)

Maximum REF

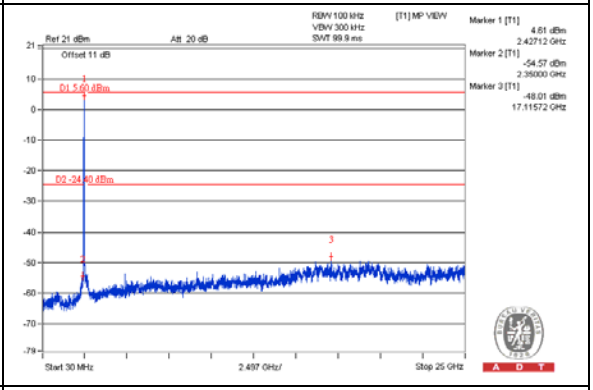


Chain 0

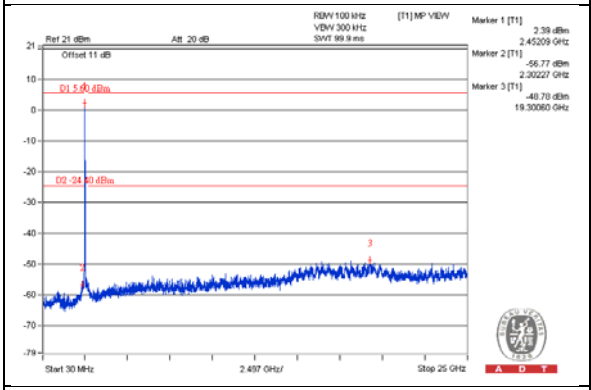
CH 1



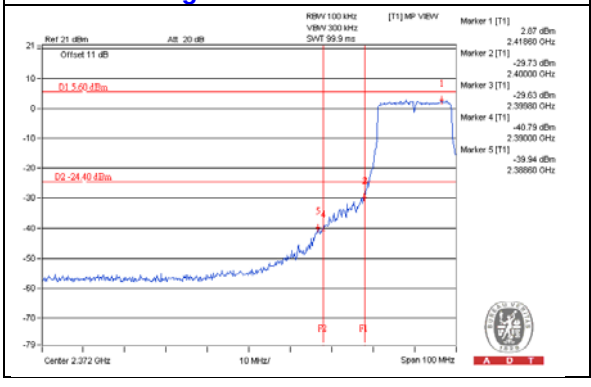
CH 6



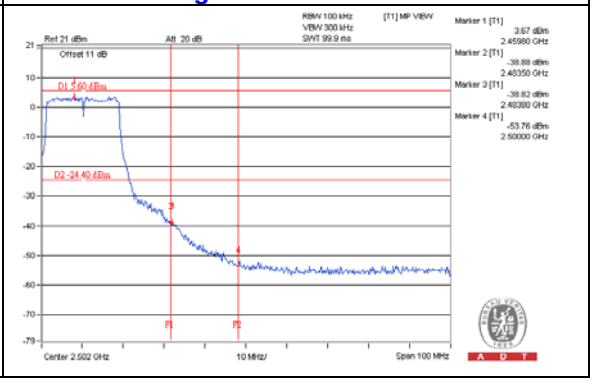
CH 11



CH 1 Band edge

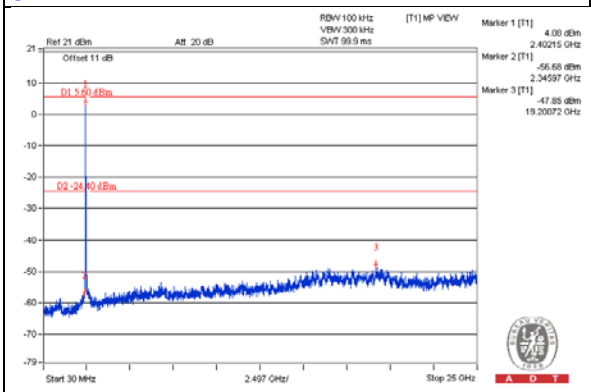


CH 11 Band edge

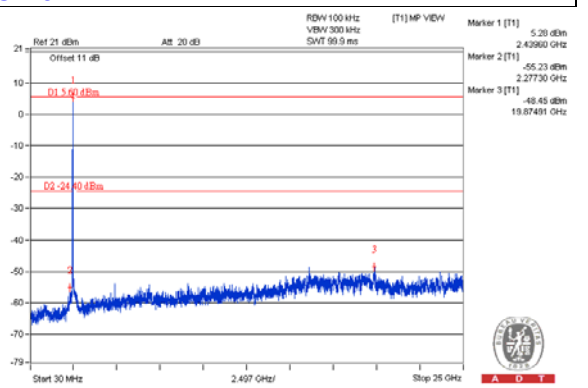


Chain 1

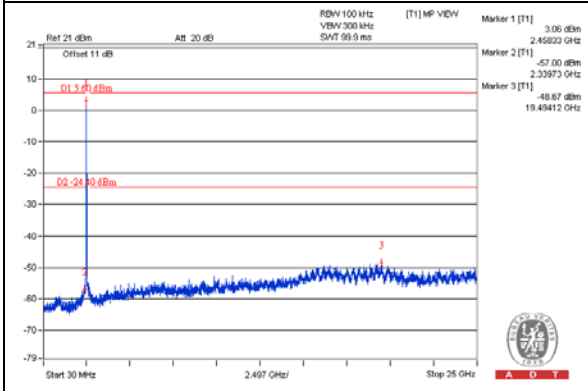
CH 1



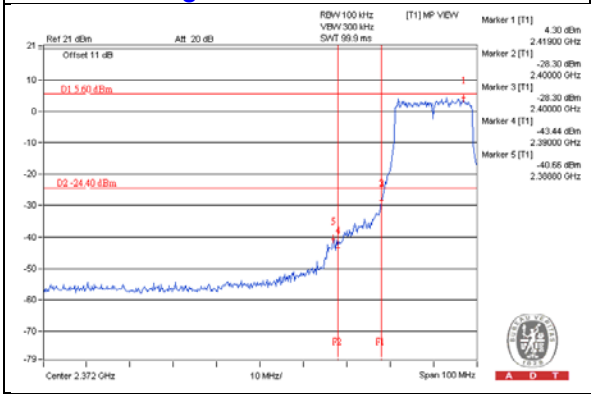
CH 6



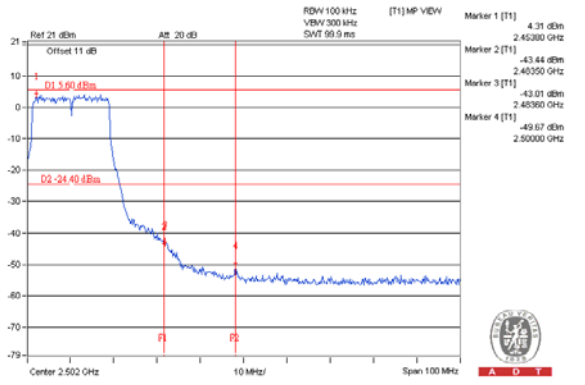
CH 11



CH 1 Band edge

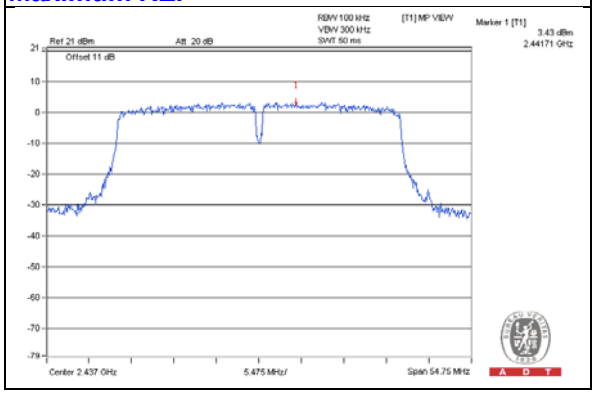


CH 11 Band edge



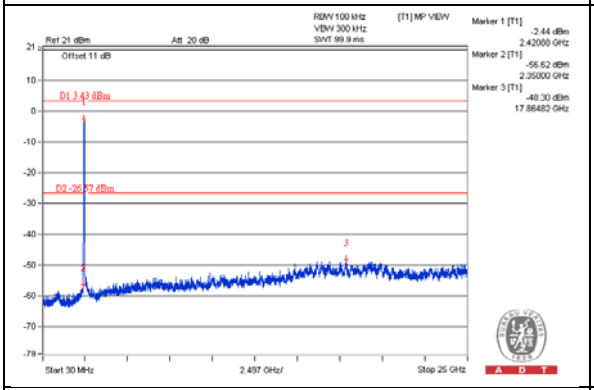
802.11n (HT40)

Maximum REF

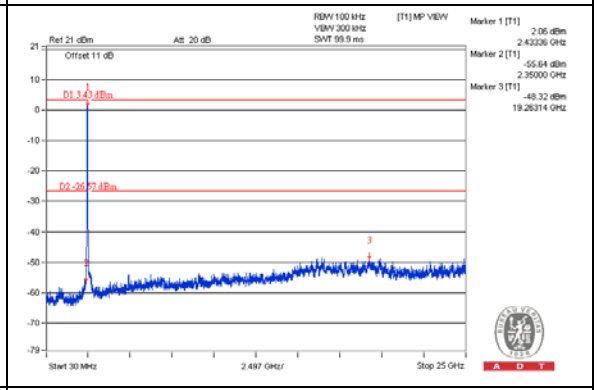


Chain 0

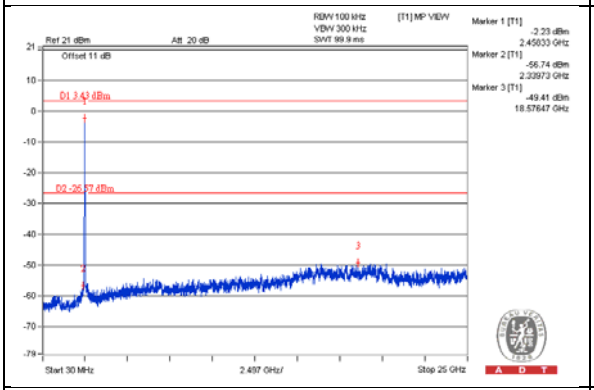
CH 3



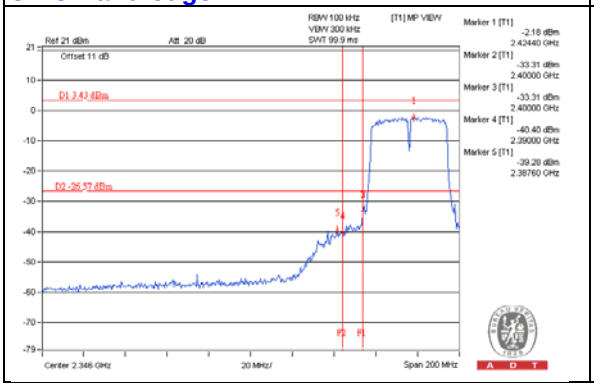
CH 6



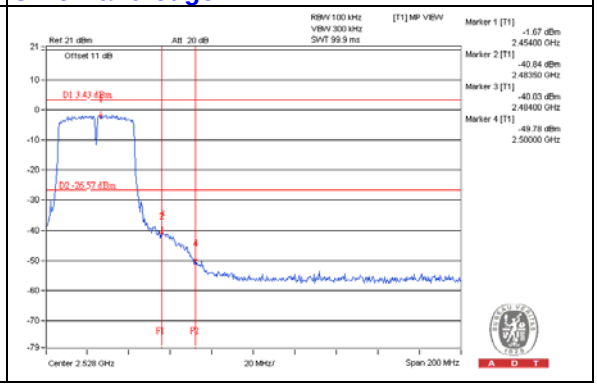
CH 9



CH 3 Band edge

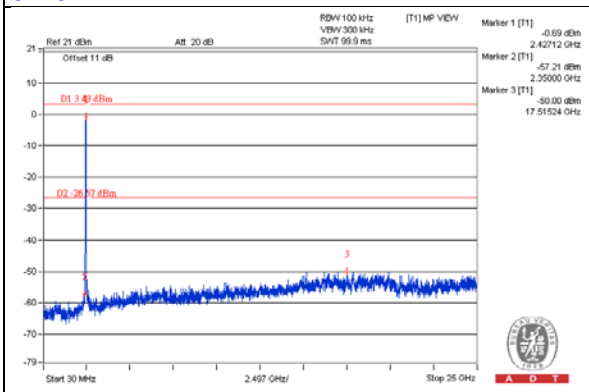


CH 9 Band edge

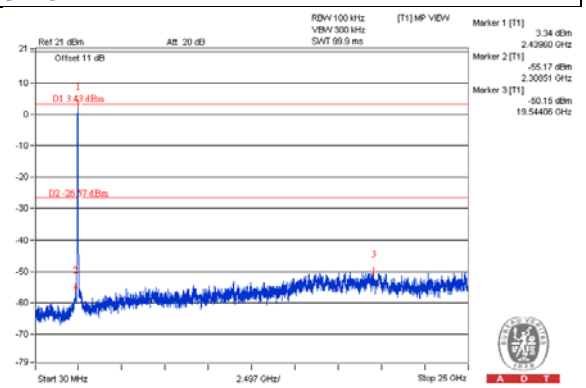


Chain 1

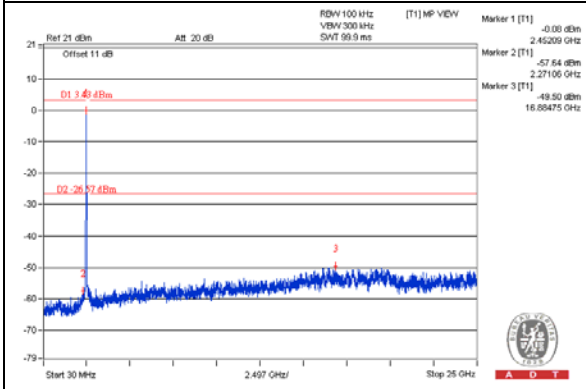
CH 3



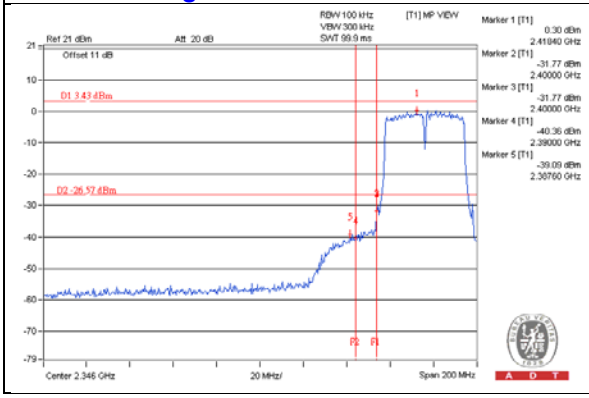
CH 6



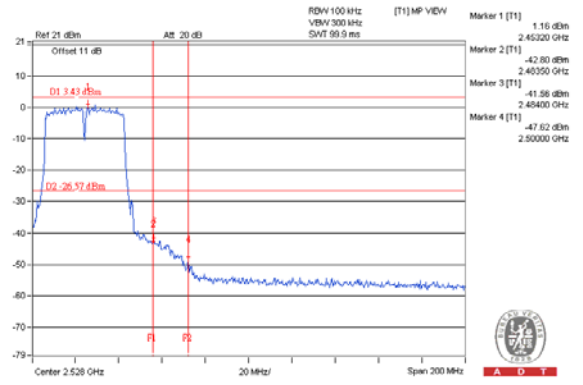
CH 9



CH 3 Band edge



CH 9 Band edge



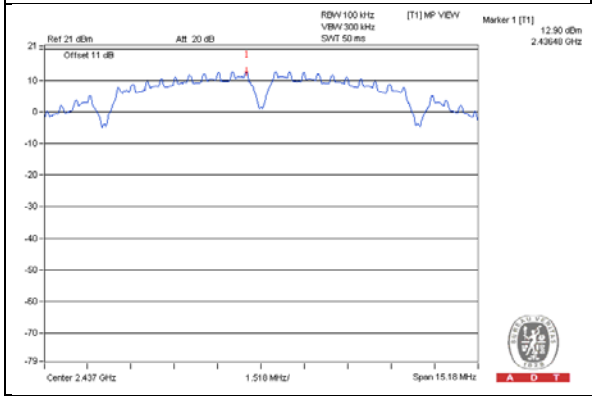
4.6.8 Test Results (Mode 2)

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

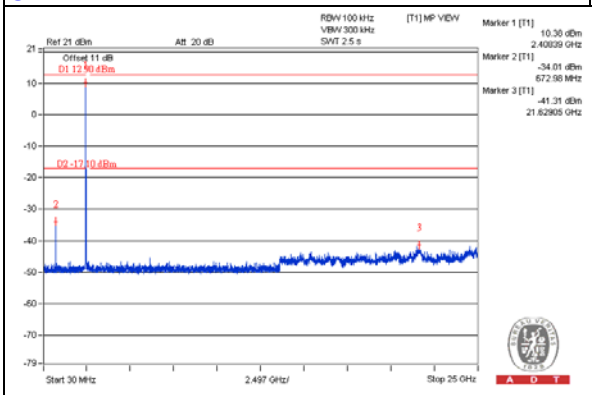
1TX Mode

802.11b

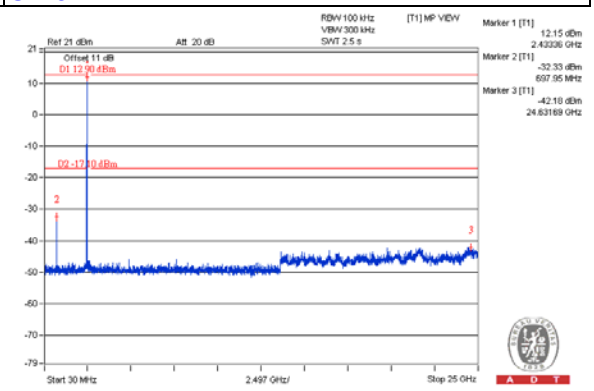
Maximum REF



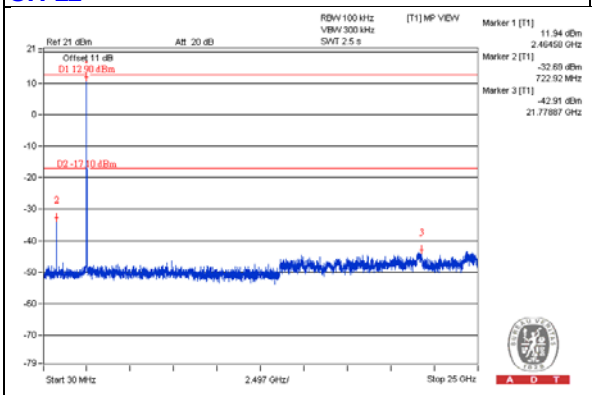
CH 1



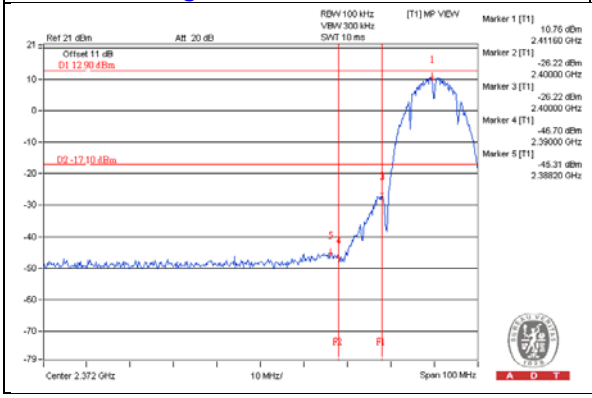
CH 6



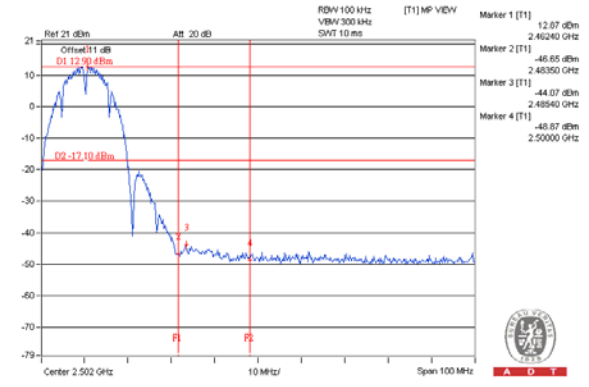
CH 11



CH 1 Band edge

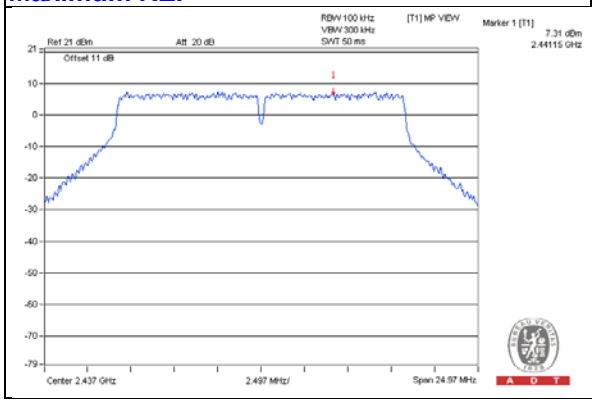


CH 11 Band edge

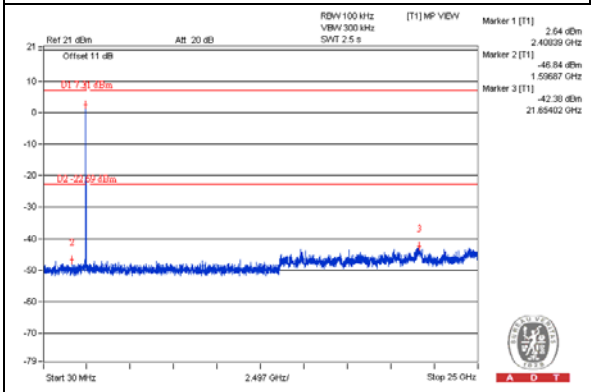


802.11g

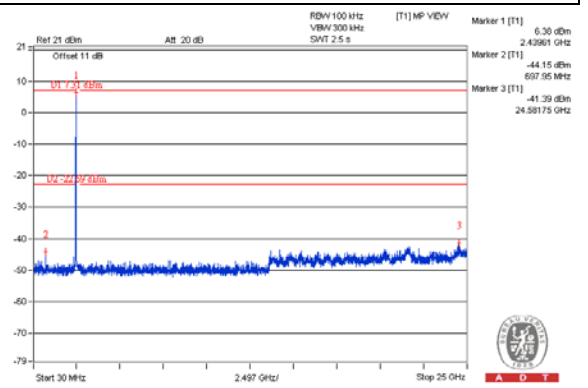
Maximum REF



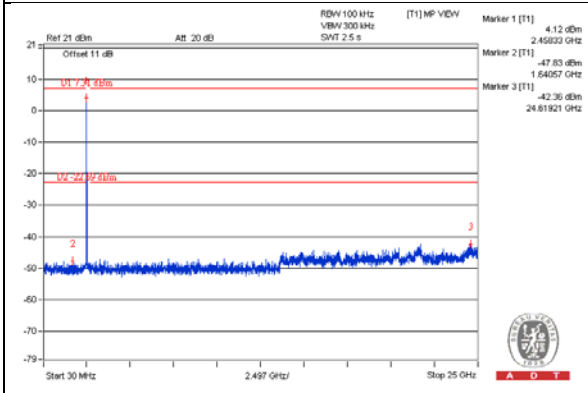
CH 1



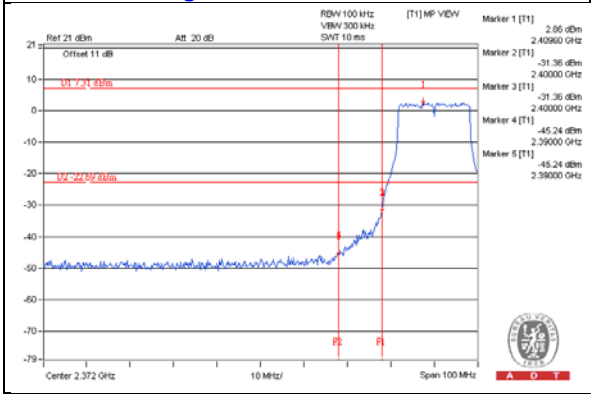
CH 6



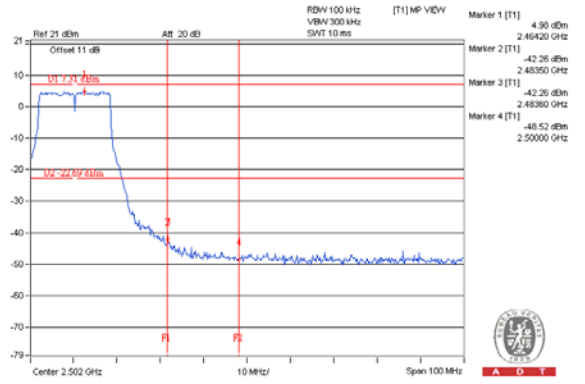
CH 11



CH 1 Band edge

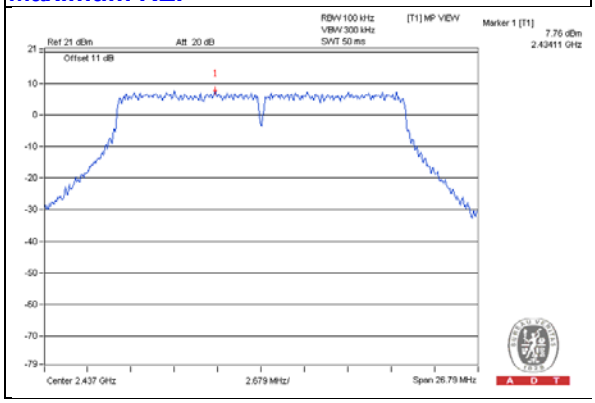


CH 11 Band edge

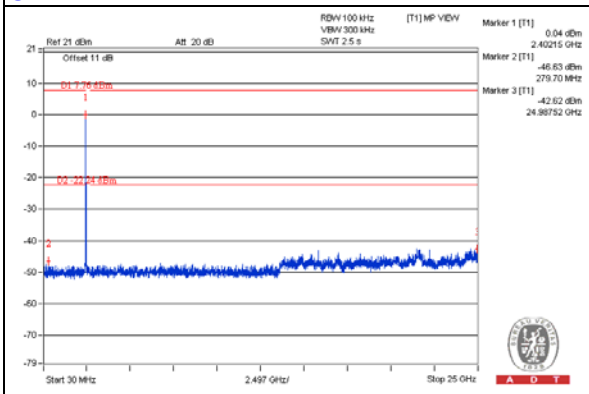


802.11n (HT20)

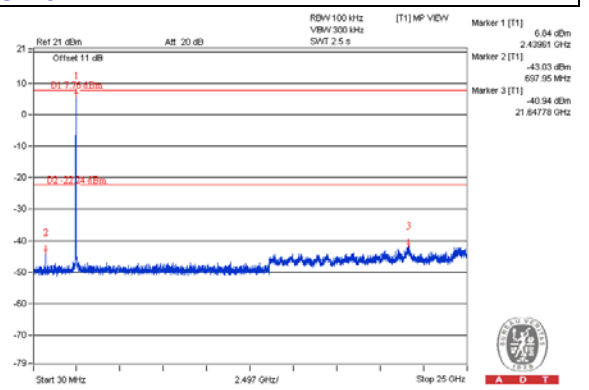
Maximum REF



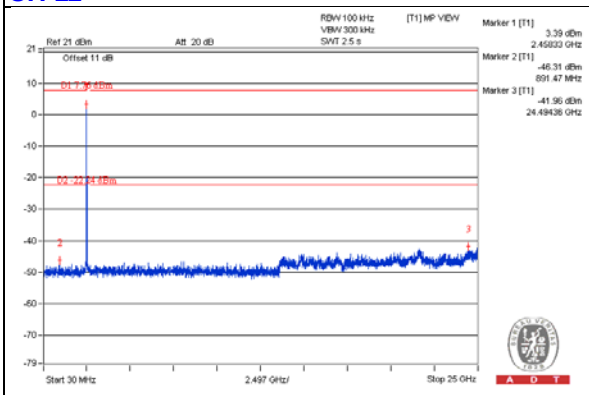
CH 1



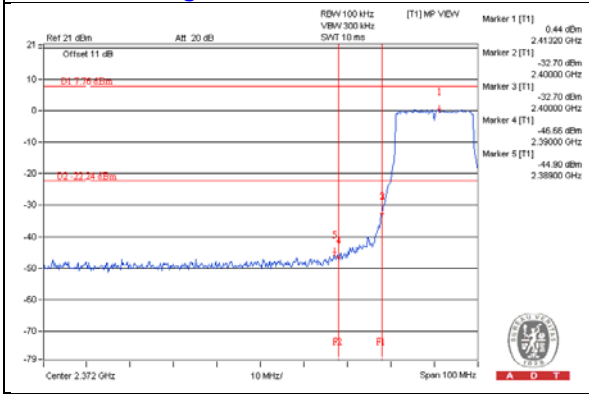
CH 6



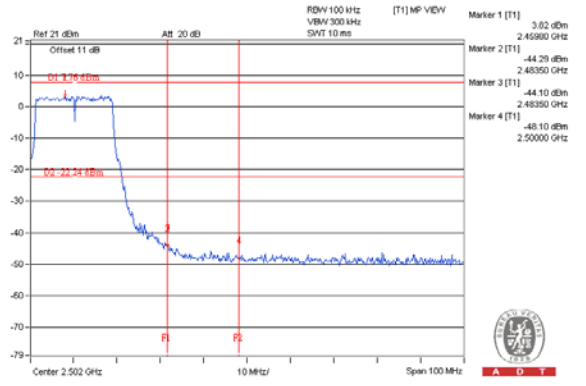
CH 11



CH 1 Band edge

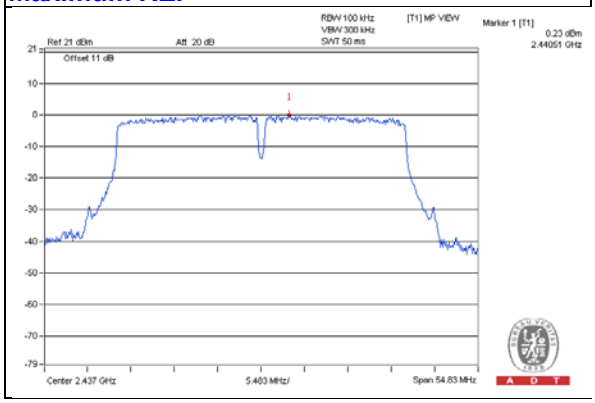


CH 11 Band edge

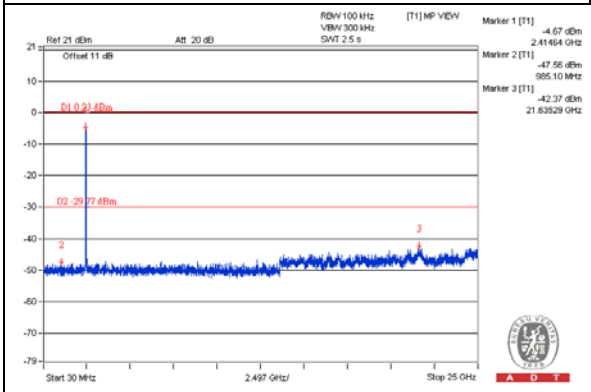


802.11n (HT40)

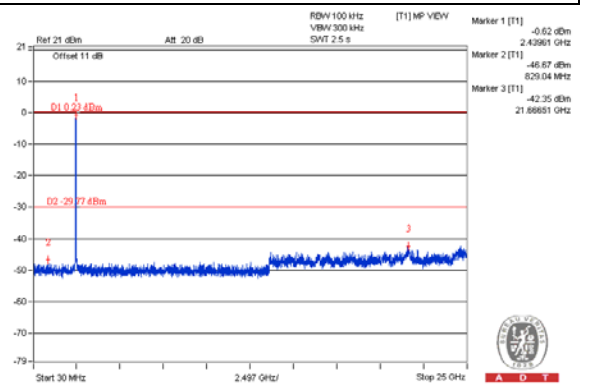
Maximum REF



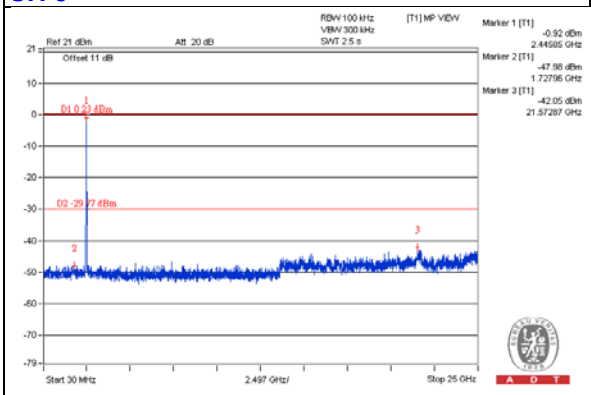
CH 3



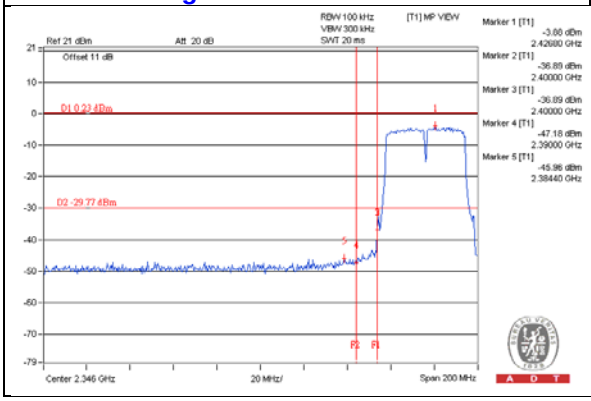
CH 6



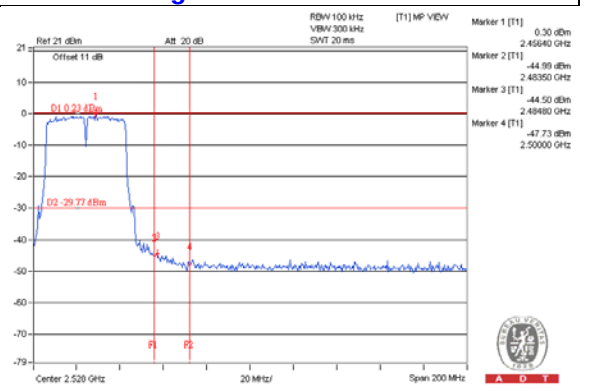
CH 9



CH 3 Band edge

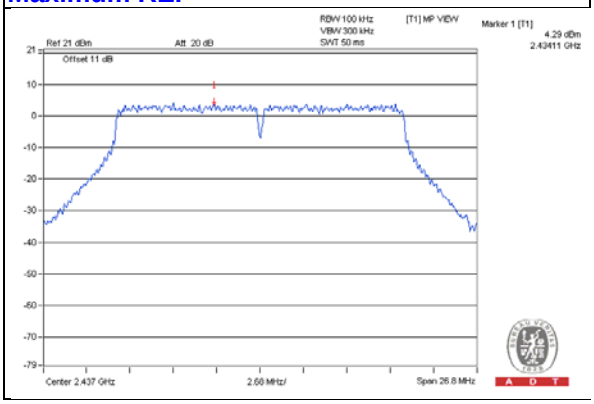


CH 9 Band edge



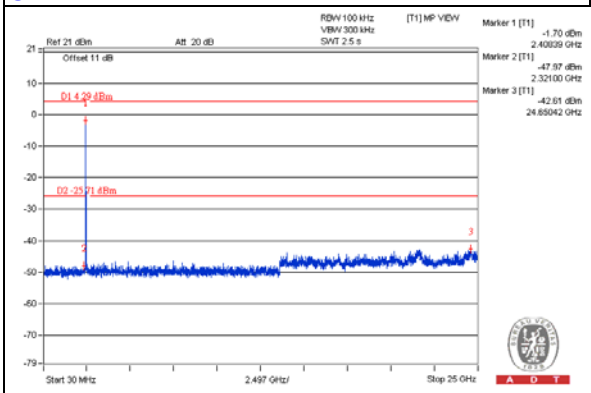
2TX Mode
802.11n (HT20)

Maximum REF

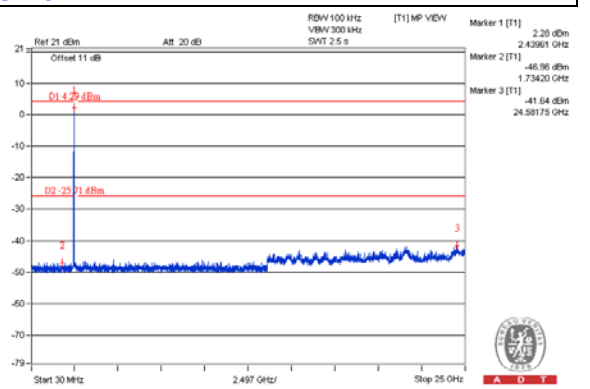


Chain 0

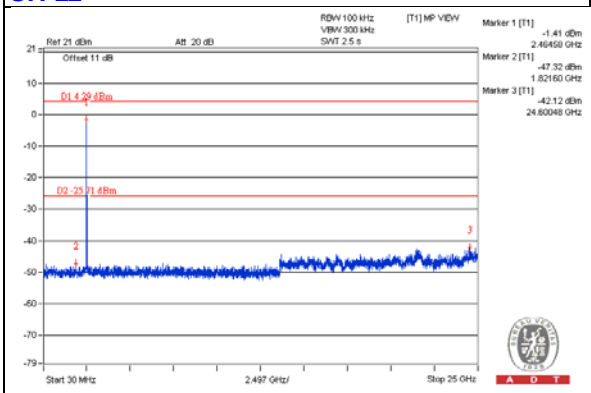
CH 1



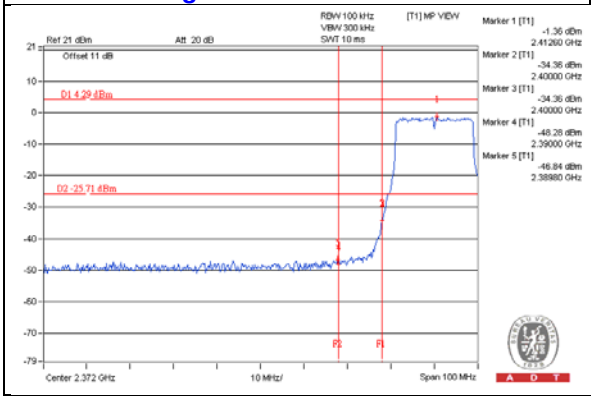
CH 6



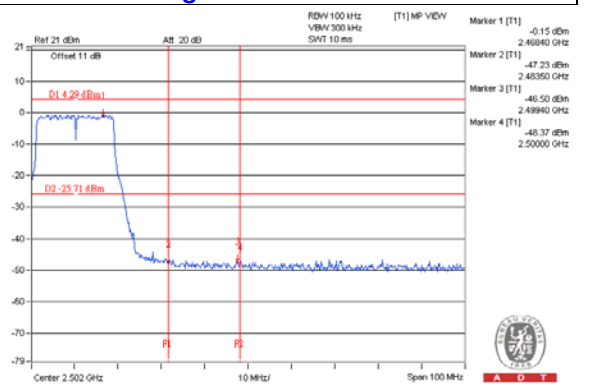
CH 11



CH 1 Band edge

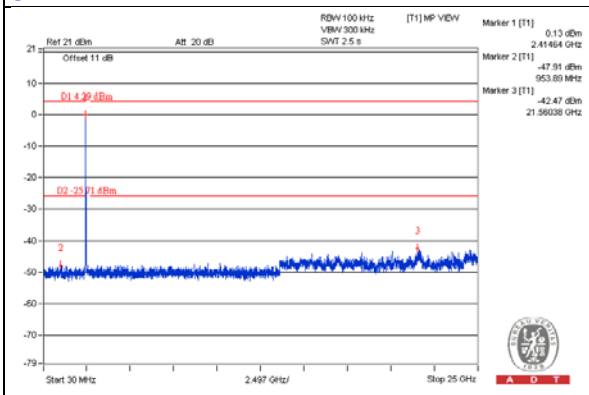


CH 11 Band edge

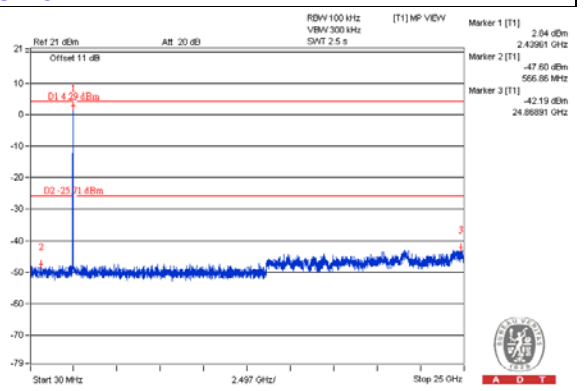


Chain 1

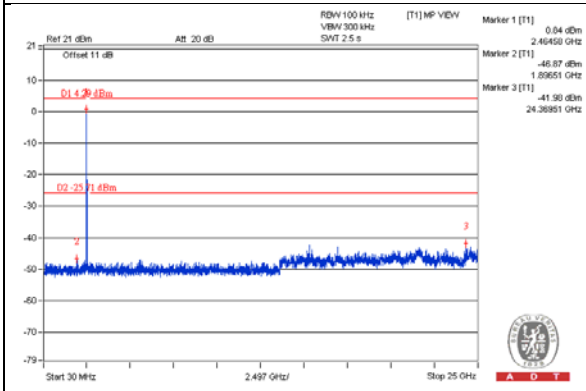
CH 1



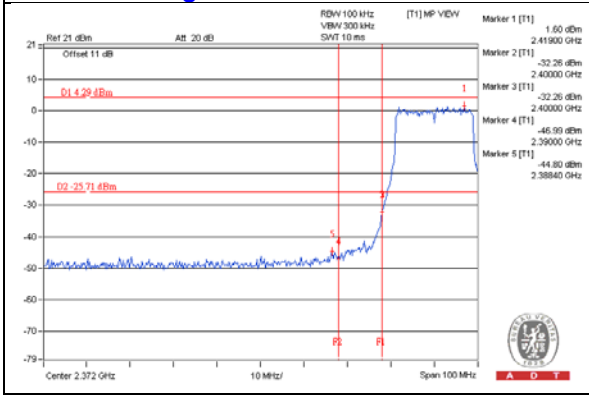
CH 6



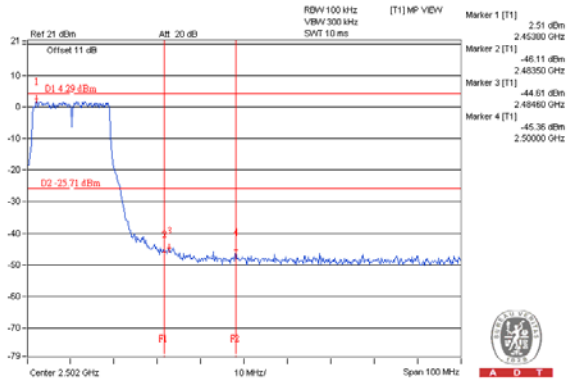
CH 11



CH 1 Band edge

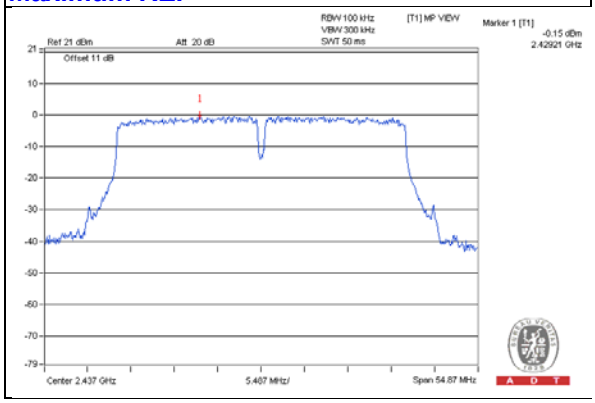


CH 11 Band edge



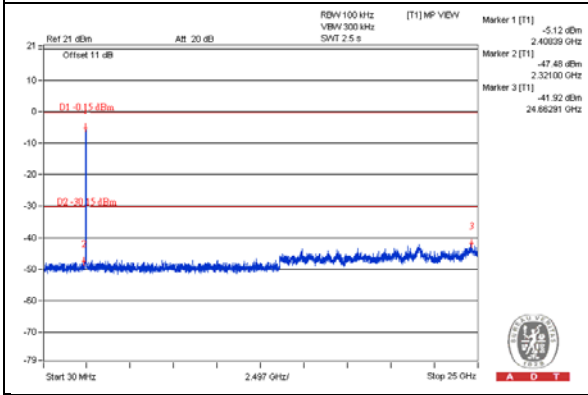
802.11n (HT40)

Maximum REF



Chain 0

CH 3



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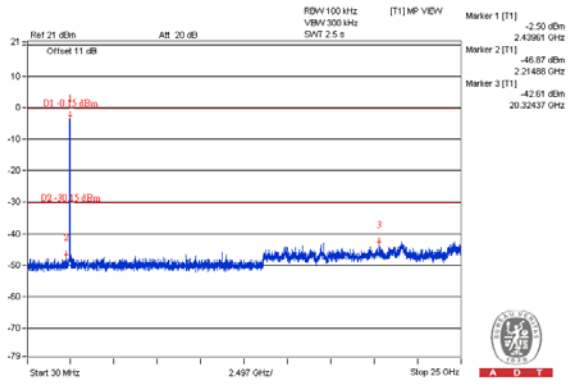

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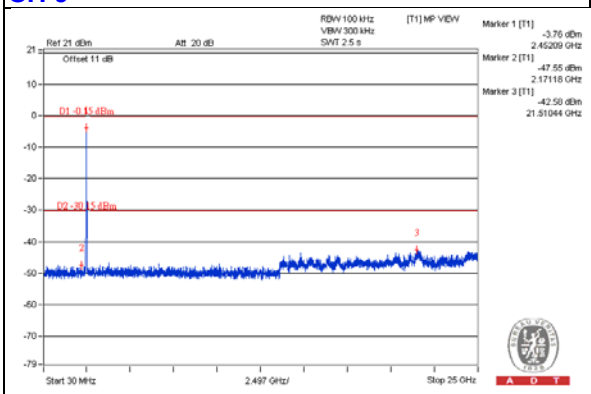
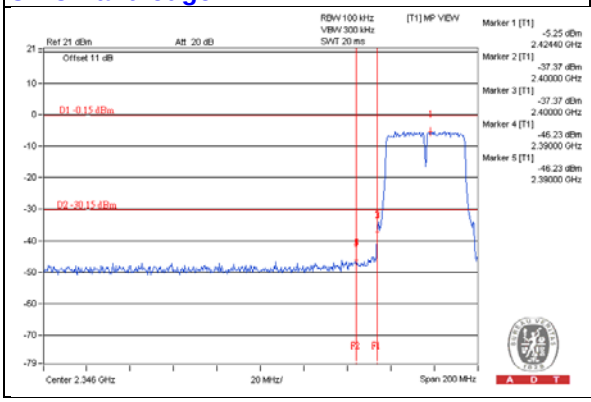


CH 3 Band edge



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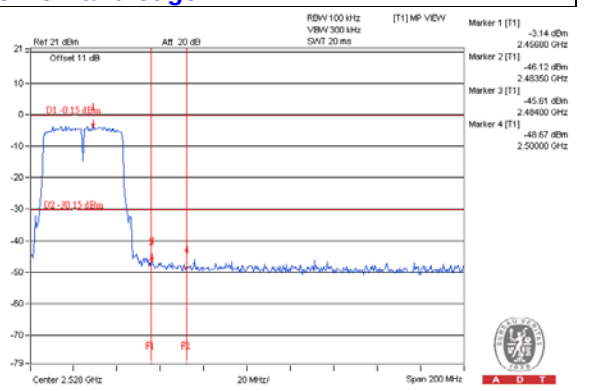
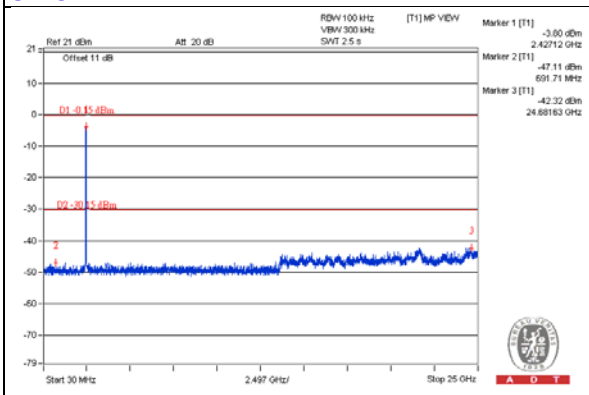


Chain 1

CH 3



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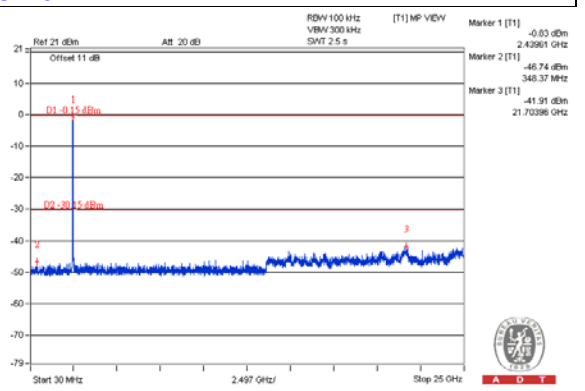

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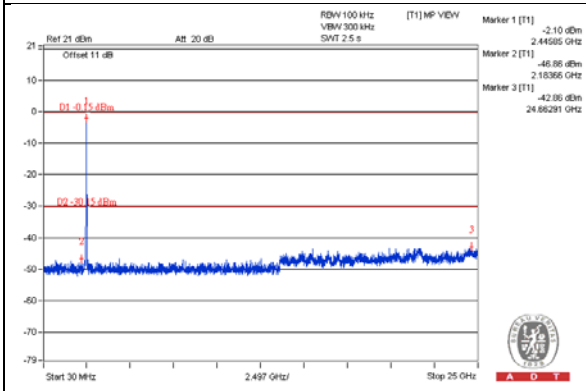

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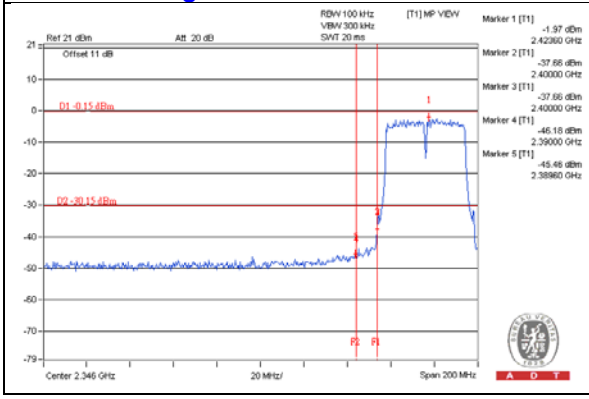

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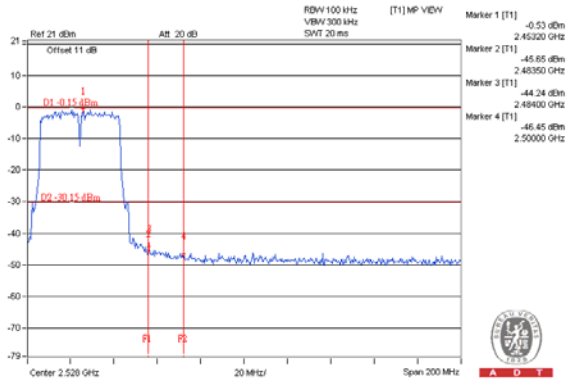

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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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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