FCC TEST REPORT (15.247)

REPORT NO.:	RF130725E01
MODEL NO.:	EA6900
FCC ID:	Q87-EA6900
RECEIVED:	July 25, 2013
TESTED:	July 26 to Aug. 09, 2013
ISSUED:	Sep. 02, 2013

APPLICANT:	Linksys LLC
ADDRESS:	131 Theory Drive, Irvine, California, 92617 United States

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.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130725E01	Original release	Sep. 02, 2013

1. CERTIFICATION

PRODUCT:	Linksys Smart Wi-Fi Router AC1900
BRAND NAME:	Linksys
MODEL NO.:	EA6900
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Linksys LLC
TESTED:	July 26 to Aug. 09, 2013
STANDARDS:	FCC Part 15, Subpart C (Section 15.247) ANSI C63.10-2009

The above equipment (Model: EA6900) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** *Sep. 02, 2013*
(Claire Kuan, Specialist)

APPROVED BY : _____ , **DATE:** *Sep. 02, 2013*
(May Chen, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 2.4GHz, 2400~2483.5MHz Band

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.81dB at 0.16172MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2390.00MHz & 2483.50MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is R-SMA not a standard connector.

For 5GHz, 5725~5850MHz Band

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.36dB at 0.16172MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.8dB at 37.50MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is R-SMA not a standard connector.

NOTE: The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.25GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2.400 ~ 2.4835GHz and 5.725~5.850GHz. For the 5.15~5.25GHz RF parameters was recorded in another test report.

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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.98 dB
Radiated emissions (30MHz-1GHz)	5.63 dB
Radiated emissions (1GHz -6GHz)	3.73 dB
Radiated emissions (6GHz -18GHz)	3.90 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Linksys Smart Wi-Fi Router AC1900
MODEL NO.	EA6900
POWER SUPPLY	DC 12V from power adapter
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 450Mbps 802.11ac: up to 1300Mbps
OPERATING FREQUENCY	**For 15.407** 5GHz: 5.18 ~ 5.24GHz
	For 15.247 2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	**For 15.407** 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
	For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) **For 15.247 (5GHz)** 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
MAXIMUM OUTPUT POWER	Please see NOTE
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	Adapter x1

NOTE:

1. The EUT is a 2.4GHz & 5GHz WLAN device.
2. The maximum output power table as below table:

MAXIMUM OUTPUT POWER (mW)					
Legacy/MIMO (CDD) with beam forming mode					
15.247 (2.4GHz)		**15.247 (5GHz)**		**15.407**	
802.11b	267.301	**802.11a**	348.337	**802.11a**	41.305
802.11g	232.274	**802.11n (HT20)**	587.241	**802.11n (HT20)**	24.237
802.11n (HT20)	606.625	**802.11n (HT40)**	586.756	**802.11n (HT40)**	27.815
802.11n (HT40)	256.930	**802.11ac (VHT80)**	368.485	**802.11ac (VHT80)**	26.934
Legacy/MIMO (CDD) without beam forming mode					
15.247 (2.4GHz)		**15.247 (5GHz)**		**15.407**	
802.11b	267.301	**802.11a**	348.337	**802.11a**	41.305
802.11g	232.274	**802.11n (HT20)**	988.352	**802.11n (HT20)**	24.237
802.11n (HT20)	741.986	**802.11n (HT40)**	944.845	**802.11n (HT40)**	48.970
802.11n (HT40)	256.930	**802.11ac (VHT80)**	368.485	**802.11ac (VHT80)**	47.214
Legacy/MIMO (STBC) without beam forming mode					
15.247 (2.4GHz)		**15.247 (5GHz)**		**15.407**	
802.11b	267.301	**802.11a**	348.337	**802.11a**	41.305
802.11g	232.274	**802.11n (HT20)**	988.352	**802.11n (HT20)**	40.736
802.11n (HT20)	716.360	**802.11n (HT40)**	944.845	**802.11n (HT40)**	48.970
802.11n (HT40)	312.116	**802.11ac (VHT80)**	368.485	**802.11ac (VHT80)**	47.214

3. The EUT has two different RJ45 XFRM Transformer types could be chosen and please refer the below table:

Type 1(Vendor: MINGTEK)			
Vendor P/N	**Different**	**Vendor**	**Location**
HN1878CG	TRANSFORMER VARIABLE COILS,DIP,350UH,HN1878CG	MINGTEK	T1
HN3678CG	TRANSFORMER VARIABLE COILS,DIP,350UH,HN3678CG	MINGTEK	T2, T3
Type 2(Vendor: MYJWD)			
Vendor P/N	**Different**	**Vendor**	**Location**
DG18107-1 G	TRANSFORMER,DIP,350UH,16.8*8.5*11.85MM,18PIN,DG18107-1 G	MYJWD	T1
DG36005-1 G	TRANSFORMER,DIP,350UH,32.7*8.5*11.85MM,36PIN	MYJWD	T2, T3

From the above types, the worst case was found in **Type 2(Vendor: MYJWD)**. Therefore only the test data of the type were recorded in this report.

4. The EUT must be supplied with a power adapter and following two different models could be chosen as following table:

No	Brand	Model No.	Spec.
1	Ktec	KSAS0451200350HU	Input: 100-240V, 1.2A, 50-60Hz Output: 12V, 3.5A DC power cable: 1.5m, unshielded
2	LEI	MU42-1120350-A1	Input: 100-240V, 1.5A, 50-60Hz Output: 12V, 3.5A DC power cable: 1.5m, unshielded
From the above adapters, the worst radiated emission was found in **Adapter 2**. Therefore only the test data of the modes were recorded in this report.			

5. The antenna provided to the EUT, please refer to the following table:

Transmitter Circuit	Brand	Antenna Type	Peak Gain(dBi) (Include cable loss)		Connecter Type	Cable Loss (dB)	Cable Length (mm)
			For 2.4GHz (2.4GHz to 2.4835GHz)	For 5GHz (Band 1: 5.15 to 5.25GHz Band 4: 5.725 to 5.85GHz)			
Right Side Chain (0)	Galtronics	Dipole	2.60	5G Band1: 3.70 5G Band4: 2.81	R-SMA	NA	168
In center Chain (1)	Galtronics	Dipole	4.18	5G Band1: 3.35 5G Band4: 2.97	R-SMA	NA	255
Left Side Chain (2)	Galtronics	Dipole	2.99	5G Band1: 3.89 5G Band4: 3.58	R-SMA	NA	260

6. The EUT incorporates MIMO CDD/STBC function with beam forming.

MODULATION MODE	Tx/Rx FUNCTION
802.11a	1TX (Diversity)/3Rx
802.11b	1TX(Diversity)/3RX
802.11g	1TX(Diversity)/3RX
802.11n (HT20)	3TX/3RX
802.11n (HT40)	3TX/3RX
802.11ac (VHT20)	3TX/3RX
802.11ac (VHT40)	3TX/3RX
802.11ac (VHT80)	3TX/3RX

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)

7. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 23.

8. When the EUT operating in 802.11ac, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 9.

9. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

11 channels are provided for 802.11b, 802.11g, 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		

Operated in 5725 ~ 5850MHz band:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

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

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
155	5775 MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	OB	
1	√	-	-	-	-	Legacy/MIMO (CDD) + adapter 1
2	-	-	√	√	√	Legacy/MIMO (CDD) with beam forming + adapter 2
3	√	√	√	√	√	Legacy/MIMO (CDD) + adapter 2
4	-	-	√	√	√	Legacy/MIMO (STBC) + adapter 2

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ≥ 1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

OB: Conducted Out-Band Emission Measurement

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

POWER LINE CONDUCTED EMISSION TEST:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT20)	149 to 165	157	OFDM	BPSK	6.5

RADIATED EMISSION TEST (BELOW 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION N TYPE	DATA RATE (Mbps)
For 2.4 GHz 802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT20)	149 to 165	157	OFDM	BPSK	6.5

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
For 5 GHz 802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
For 5 GHz 802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
For 5 GHz 802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
For 5 GHz 802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6
For 5 GHz 802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
For 5 GHz 802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5
For 5 GHz 802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	26deg. C,66%RH	120Vac, 60Hz	JyunChun Lin
RE<1G	22deg. C, 71%RH	120Vac, 60Hz	Chilin Lee
RE≥1G	23deg. C, 68%RH	120Vac, 60Hz	Tim Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	James Chan
OB	25deg. C, 60%RH	120Vac, 60Hz	James Chan

3.3 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 v03r01

662911 D01 Multiple Transmitter Output v01 r02

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.

3.4 DUTY CYCLE OF TEST SIGNAL

If duty cycle of test signal is > 98 %, duty factor is not required.

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

Legacy/MIMO (CDD) with beam forming

For 2.4G

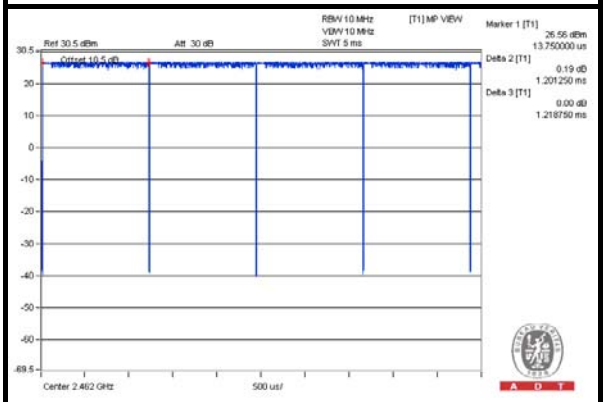
802.11b: Duty cycle = 1.201 ms/1.219 ms = 0.985

802.11g: Duty cycle = 2.064 ms/2.081 ms = 0.992

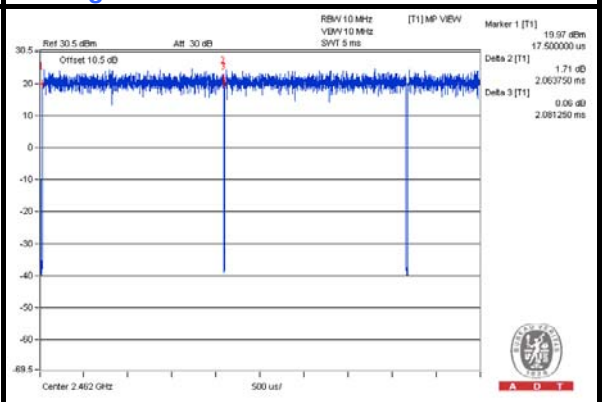
802.11n (HT20): Duty cycle = 1.924 ms/1.944 ms = 0.99

802.11n (HT40): Duty cycle = 0.937 ms/0.961 ms = 0.975, Duty factor = 10 * log(1/0.975) = 0.11

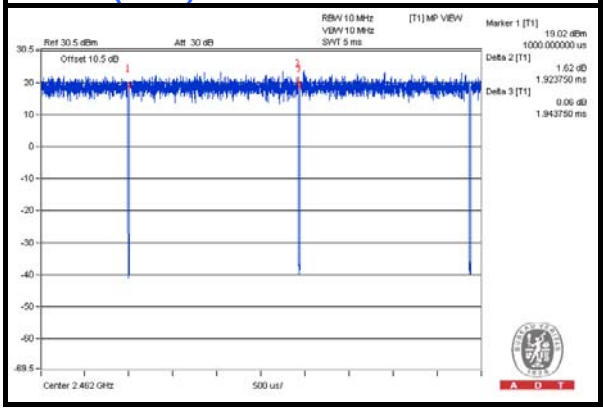
802.11b



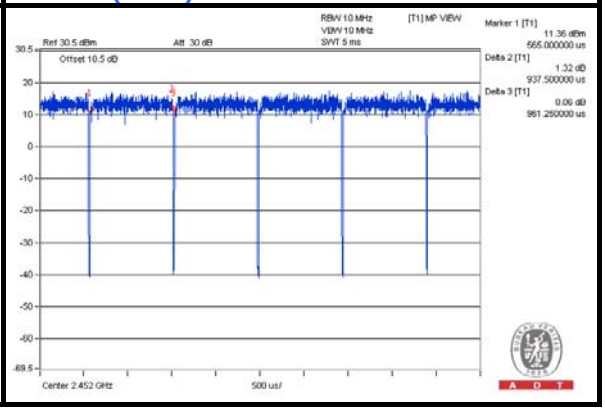
802.11g



802.11n (HT20)



802.11n (HT40)



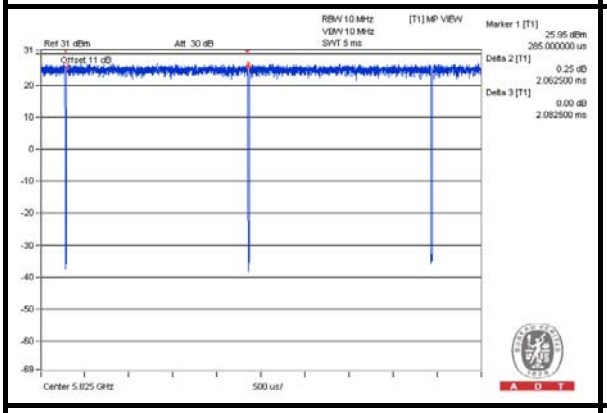
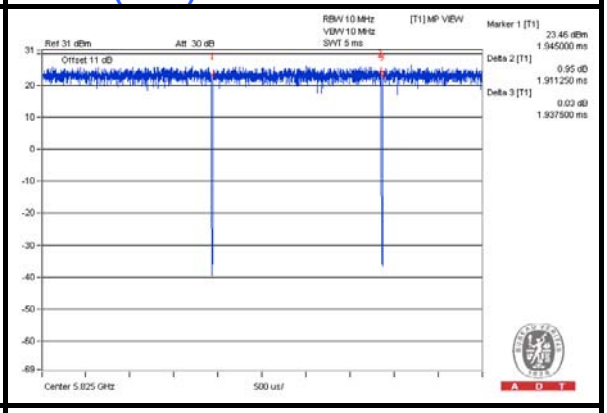
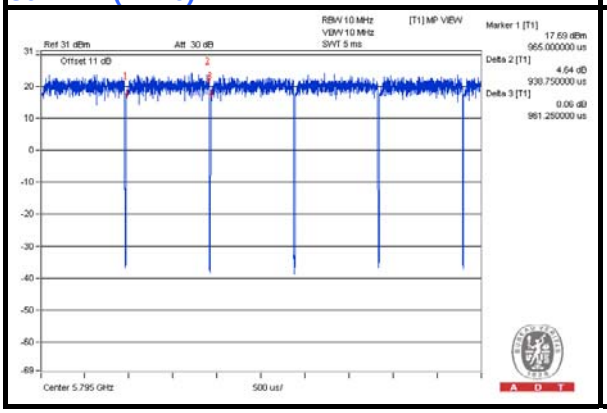
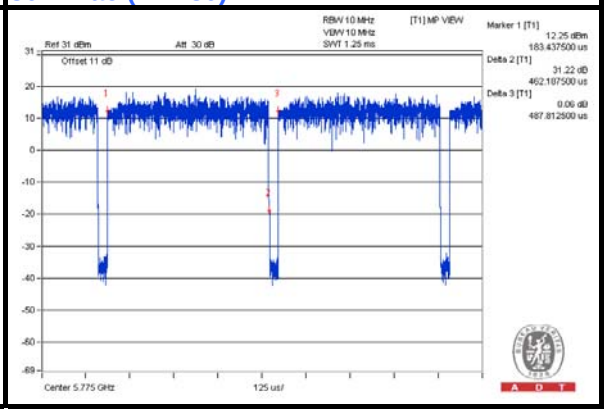
For 5G

802.11a: Duty cycle = 2.062 ms/2.082 ms = 0.99

802.11n (HT20): Duty cycle = 1.911 ms/1.937 ms = 0.987

802.11n (HT40): Duty cycle = 0.939 ms/0.961 ms = 0.977, Duty factor = 10 * log(1/0.977) = 0.10

802.11ac (VHT80): Duty cycle = 0.456 ms/0.479 ms = 0.952, Duty factor = 10 * log(1/0.952) = 0.21

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

Legacy/MIMO (CDD)

For 2.4G

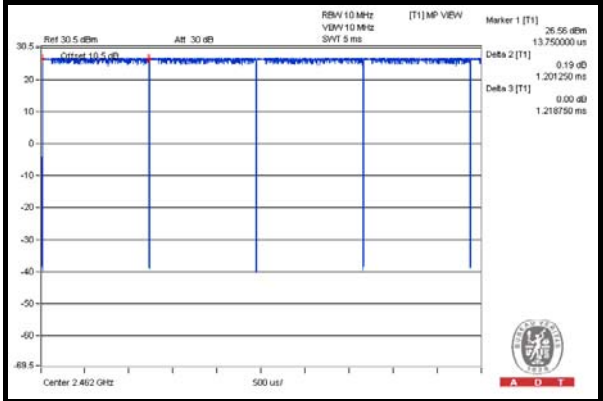
802.11b: Duty cycle = 1.201 ms/1.219 ms = 0.985

802.11g: Duty cycle = 2.064 ms/2.081 ms = 0.992

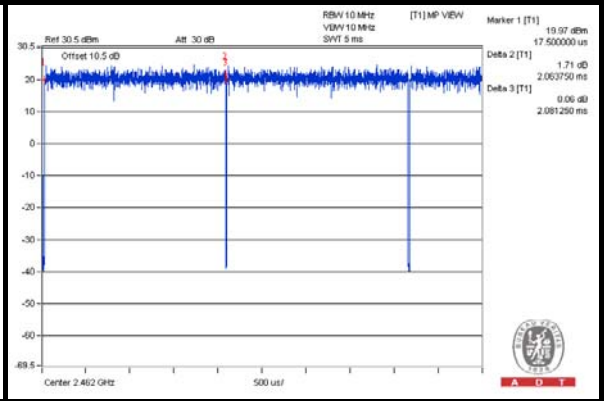
802.11n (HT20): Duty cycle = 1.914 ms/1.942 ms = 0.986

802.11n (HT40): Duty cycle = 0.937 ms/0.961 ms = 0.975 , Duty factor = 10 * log(1/0.975) = 0.11

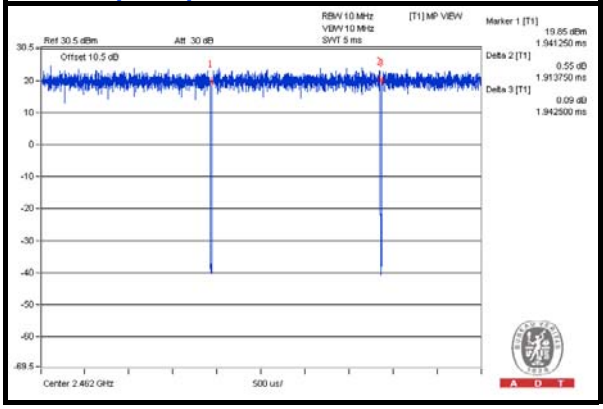
802.11b



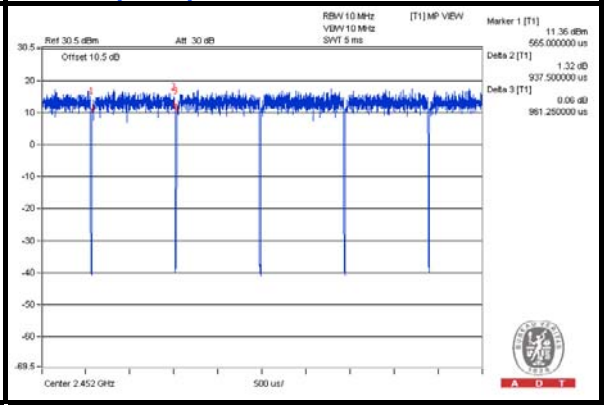
802.11g



802.11n (HT20)



802.11n (HT40)



For 5G

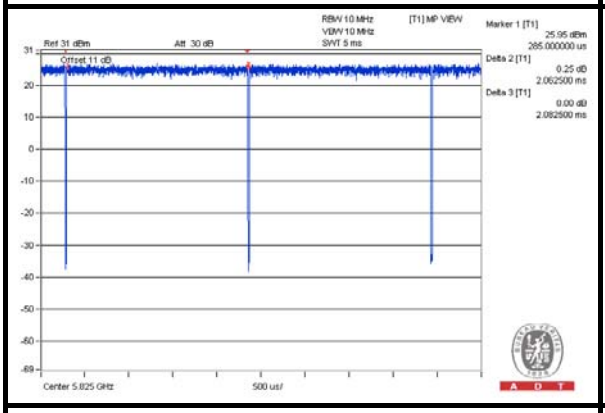
802.11a: Duty cycle = 2.062 ms/2.082 ms = 0.99

802.11n (HT20): Duty cycle = 1.917 ms/1.936 ms = 0.99

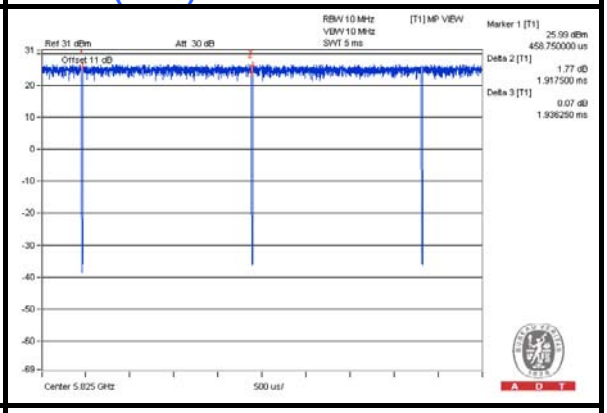
802.11n (HT40): Duty cycle = 0.946 ms/0.962 ms = 0.983

802.11ac (VHT80): Duty cycle = 0.456 ms/0.479 ms = 0.952, Duty factor = 10 * log(1/0.952) = 0.21

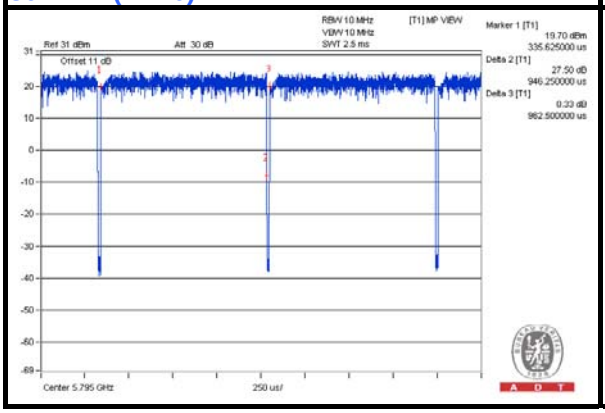
802.11a



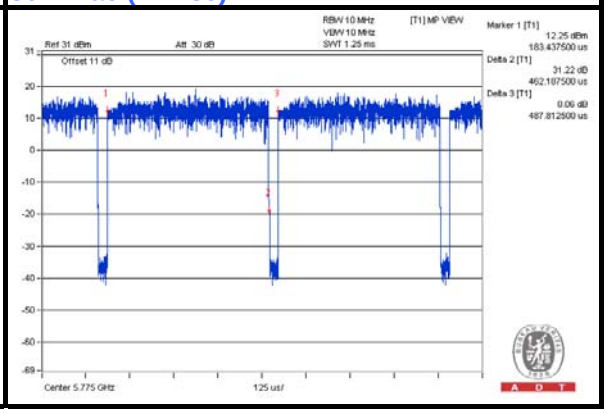
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Legacy/MIMO (STBC)

For 2.4G

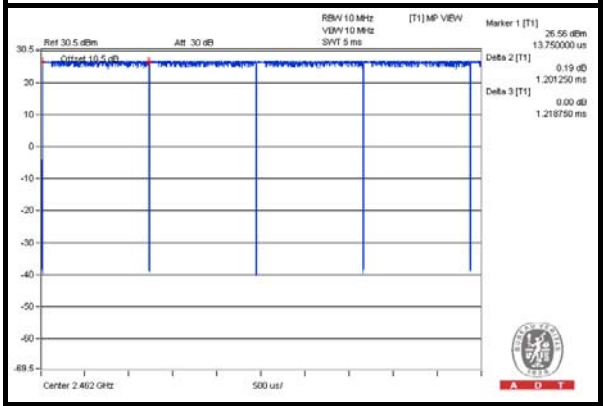
802.11b: Duty cycle = 1.201 ms/1.219 ms = 0.985

802.11g: Duty cycle = 2.064 ms/2.081 ms = 0.992

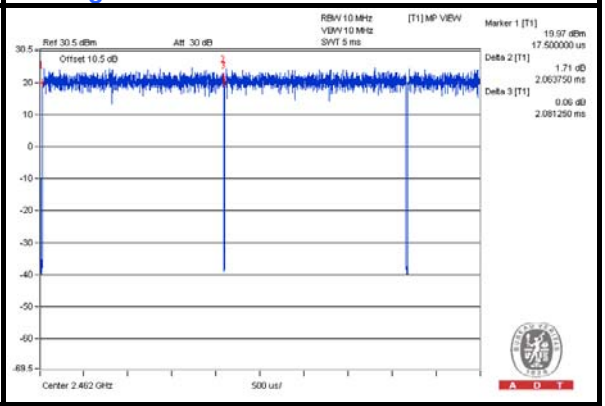
802.11n (HT20): Duty cycle = 1.924 ms/1.944 ms = 0.99

802.11n (HT40): Duty cycle = 0.945 ms/0.969 ms = 0.975, Duty factor = 10 * log(1/0.975) = 0.11

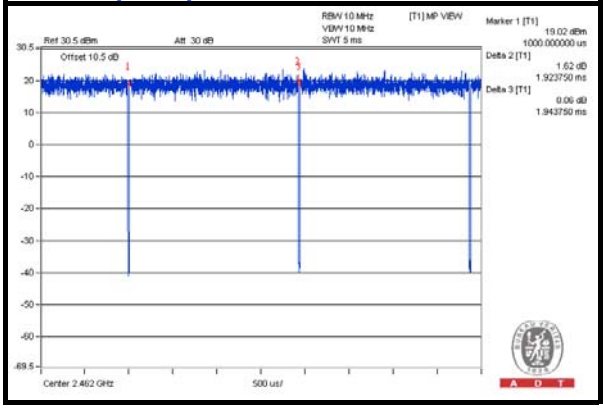
802.11b



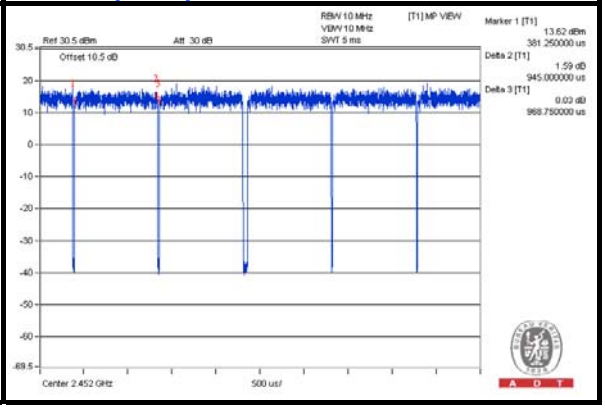
802.11g



802.11n (HT20)



802.11n (HT40)



For 5G

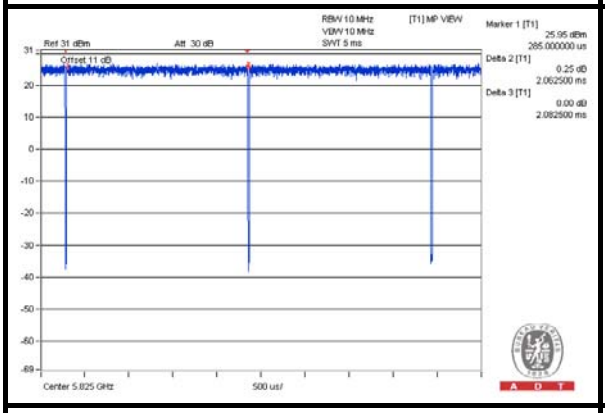
802.11a: Duty cycle = 2.062 ms/2.082 ms = 0.99

802.11n (HT20): Duty cycle = 1.917 ms/1.936 ms = 0.99

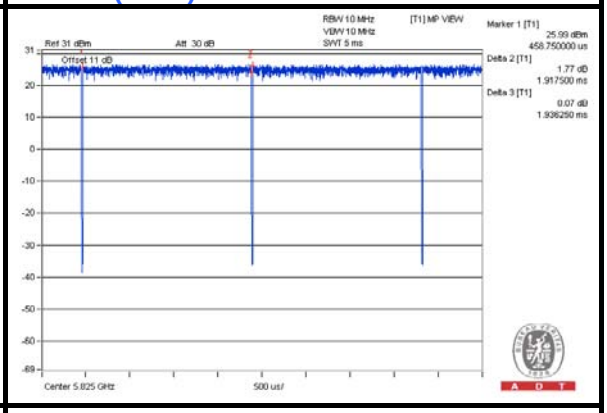
802.11n (HT40): Duty cycle = 0.946 ms/0.962 ms = 0.983

802.11ac (VHT80): Duty cycle = 0.456 ms/0.479 ms = 0.952, Duty factor = 10 * log(1/0.952) = 0.21

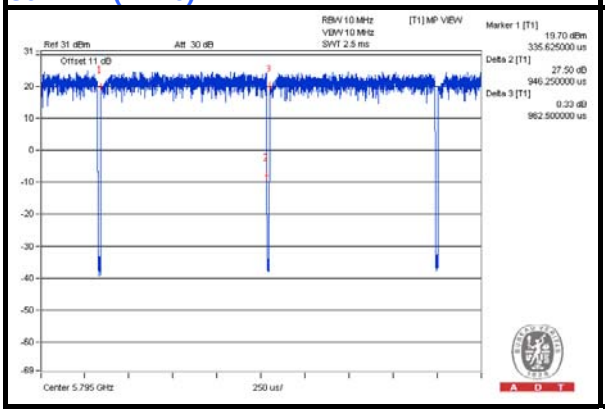
802.11a



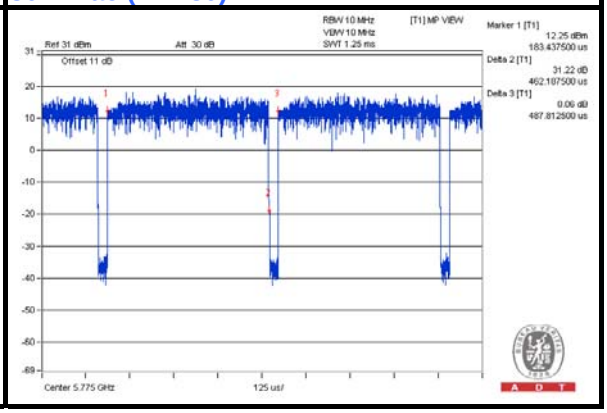
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3.5 DESCRIPTION OF SUPPORT UNITS

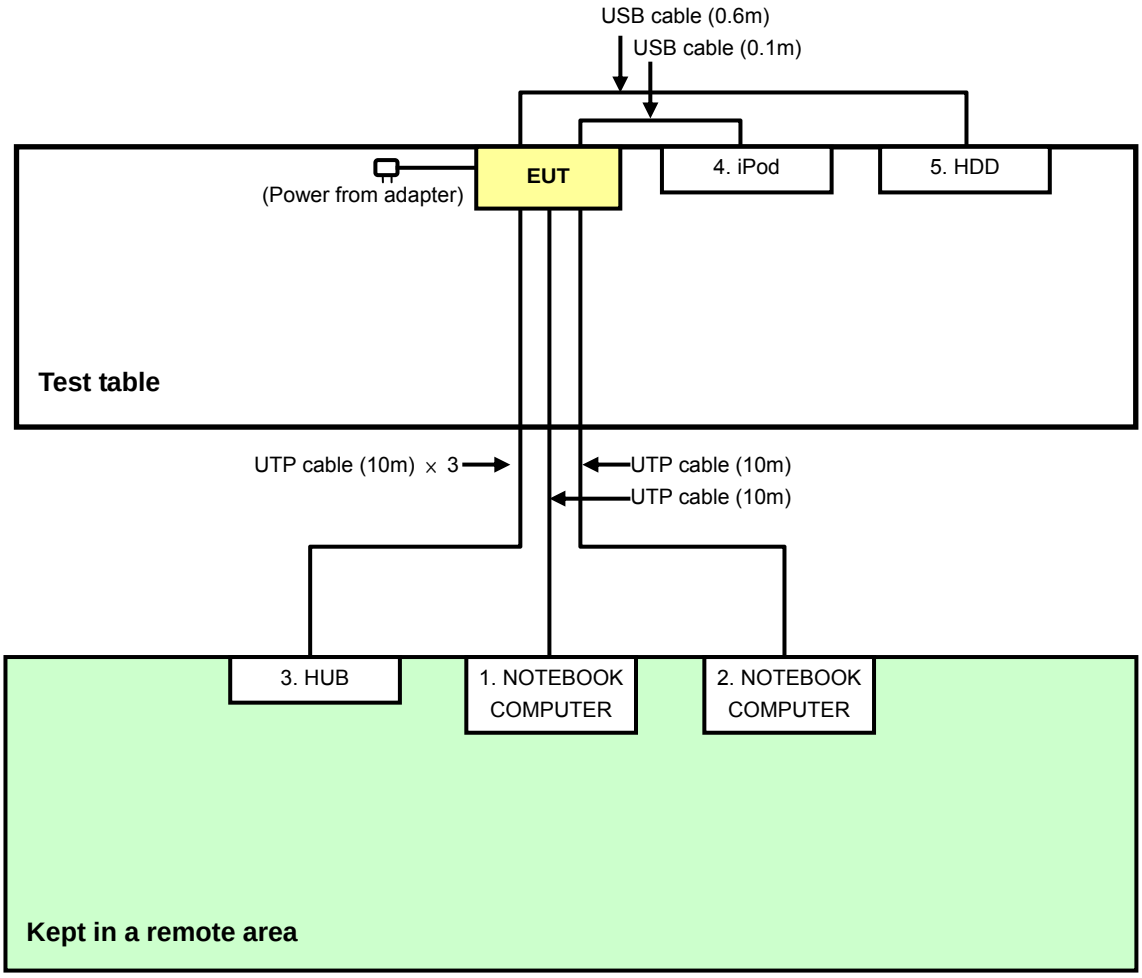
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	FCC DoC
3	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC
4	iPod	Apple	MC749TA/A	CC4DMFJUDFDM	NA
5	HDD	WD	WDBACW0010H BK-SESN	WXK1A51E5819	FCC DoC

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	UTP cable, 10m
2	UTP cable, 10m
3	UTP cable, 10m
4	USB cable, 0.1m
5	USB cable, 0.6m

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS (FOR 2.4GHz, 2.400 ~ 2.4835GHz Band)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Mar. 08, 2013	Mar. 07, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 06, 2012	Sep. 05, 2013
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 07,2013	June 06,2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 11, 2013	Mar. 10, 2014
50 ohms Terminator	50	EMC-3	Sep. 25, 2012	Sep. 24, 2013
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: July 26, 2013

4.1.3 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.
b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

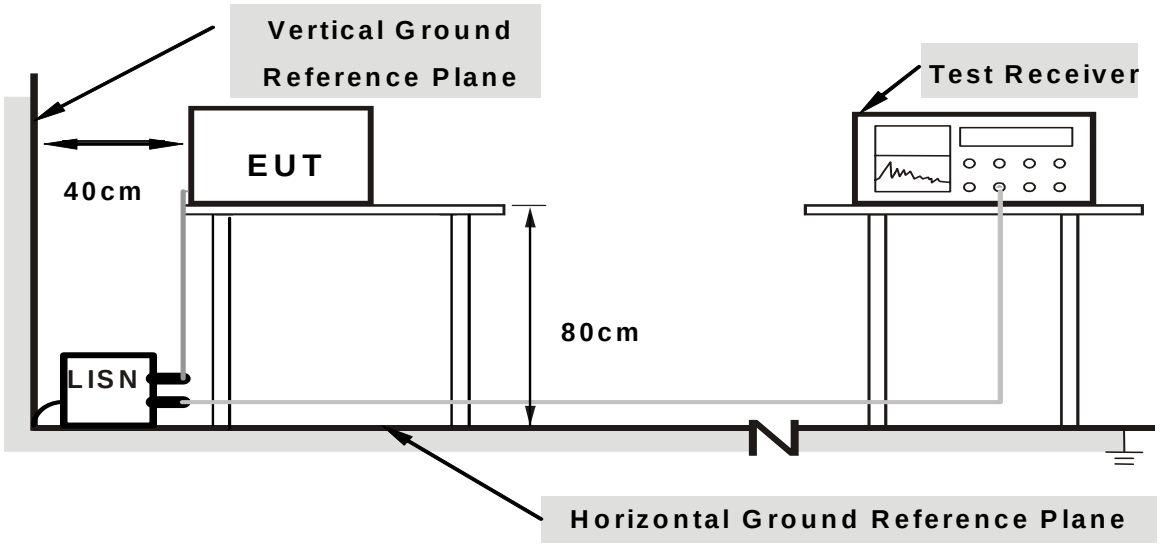
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

1. Turn on the power of EUT.
2. The communication partner run test program “MTool.exe[2.0.0.8]” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

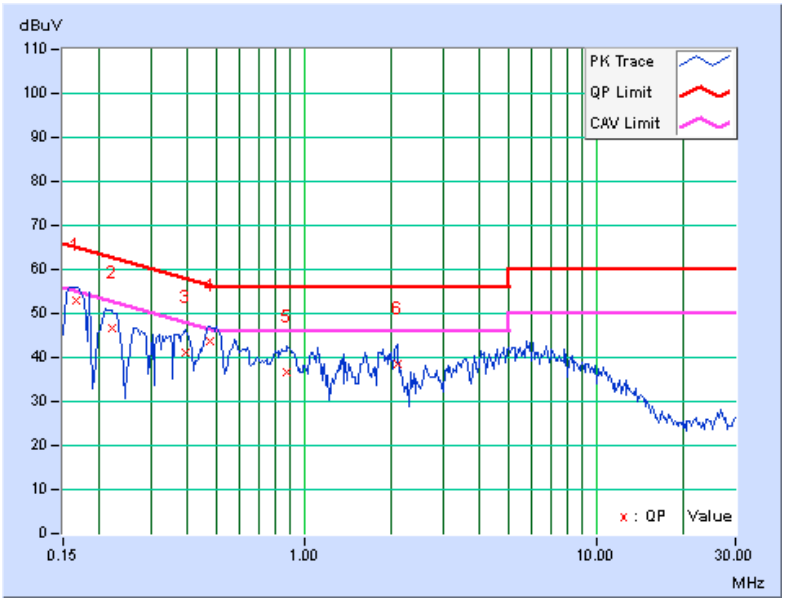
4.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.14	52.93	41.10	53.07	41.24	65.18	55.18	-12.11	-13.94
2	0.22031	0.16	46.67	34.54	46.83	34.70	62.81	52.81	-15.98	-18.11
3	0.39219	0.20	41.02	30.19	41.22	30.39	58.02	48.02	-16.80	-17.63
4	0.47813	0.21	43.46	34.42	43.67	34.63	56.37	46.37	-12.70	-11.74
5	0.87656	0.24	36.42	26.74	36.66	26.98	56.00	46.00	-19.34	-19.02
6	2.08594	0.35	38.11	30.70	38.46	31.05	56.00	46.00	-17.54	-14.95

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

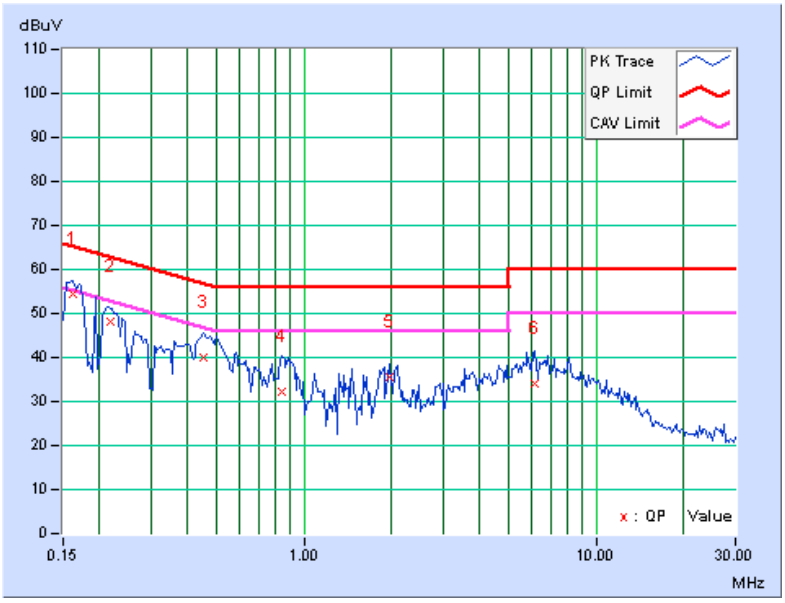


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.11	54.44	43.15	54.55	43.26	65.38	55.38	-10.82	-12.11
2	0.21641	0.13	47.95	35.85	48.08	35.98	62.96	52.96	-14.87	-16.97
3	0.45469	0.19	39.88	27.96	40.07	28.15	56.79	46.79	-16.72	-18.64
4	0.84141	0.21	32.10	21.41	32.31	21.62	56.00	46.00	-23.69	-24.38
5	1.95313	0.30	35.14	24.44	35.44	24.74	56.00	46.00	-20.56	-21.26
6	6.18359	0.54	33.40	25.53	33.94	26.07	60.00	50.00	-26.06	-23.93

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



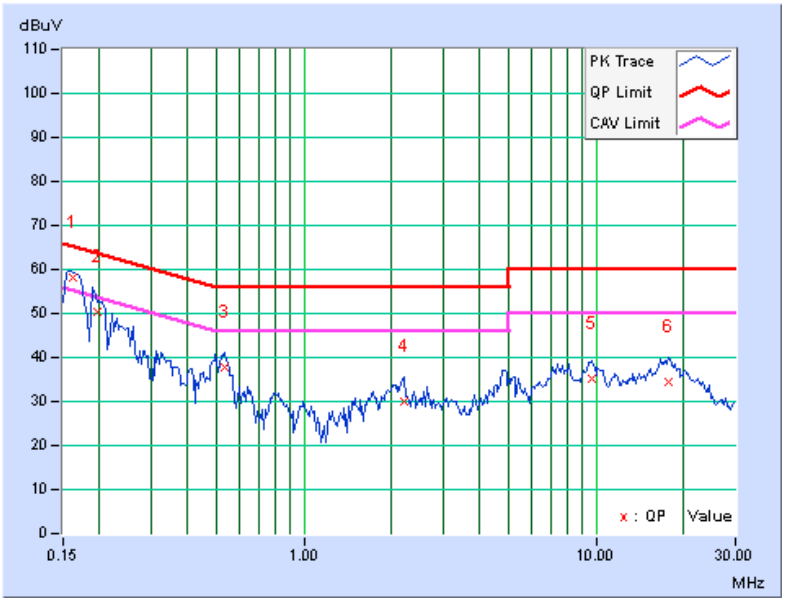
4.1.8 TEST RESULTS (MODE 3)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16172**	**0.13**	**58.17**	**48.43**	**58.30**	**48.56**	**65.38**	**55.38**	**-7.07**	**-6.81**
2	0.19656	0.15	50.19	37.03	50.34	37.18	63.75	53.75	-13.42	-16.58
3	0.53672	0.21	37.41	31.98	37.62	32.19	56.00	46.00	-18.38	-13.81
4	2.20703	0.35	29.53	23.90	29.88	24.25	56.00	46.00	-26.12	-21.75
5	9.61328	0.87	34.17	29.38	35.04	30.25	60.00	50.00	-24.96	-19.75
6	17.68359	1.34	33.26	28.74	34.60	30.08	60.00	50.00	-25.40	-19.92

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

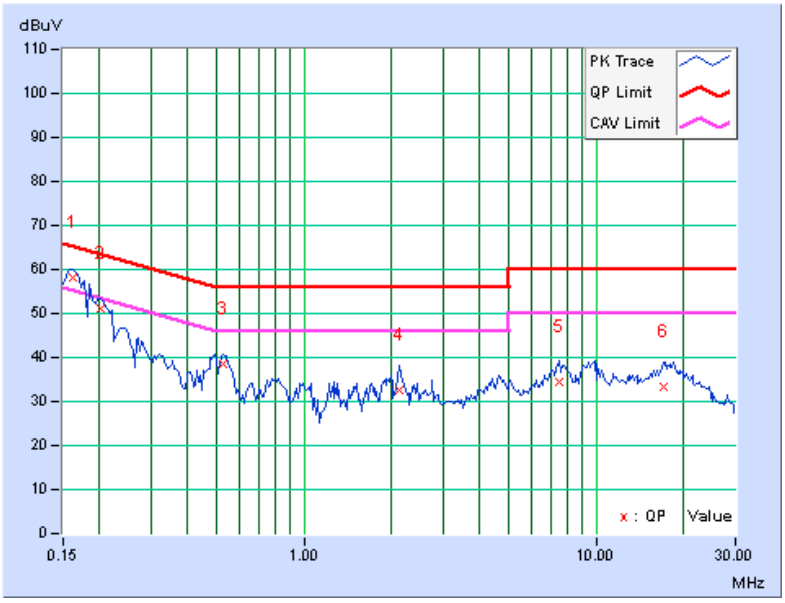


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.11	57.87	47.66	57.98	47.77	65.38	55.38	-7.39	-7.60
2	0.20078	0.13	50.98	40.86	51.11	40.99	63.58	53.58	-12.47	-12.59
3	0.52891	0.20	38.50	32.07	38.70	32.27	56.00	46.00	-17.30	-13.73
4	2.12891	0.31	32.14	26.43	32.45	26.74	56.00	46.00	-23.55	-19.26
5	7.50000	0.61	33.83	29.20	34.44	29.81	60.00	50.00	-25.56	-20.19
6	16.94141	1.02	32.45	27.54	33.47	28.56	60.00	50.00	-26.53	-21.44

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 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 29,2013	Jan. 28,2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 19, 2012	Nov. 18, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 25, 2012	Dec. 24, 2013
RF Cable	NA	CHGCAB_001	Oct. 06, 2012	Oct. 05, 2013
Software	ADT_Radiated _V8.7.05	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The 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: July 29 to Aug. 06, 2013

4.2.3 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.

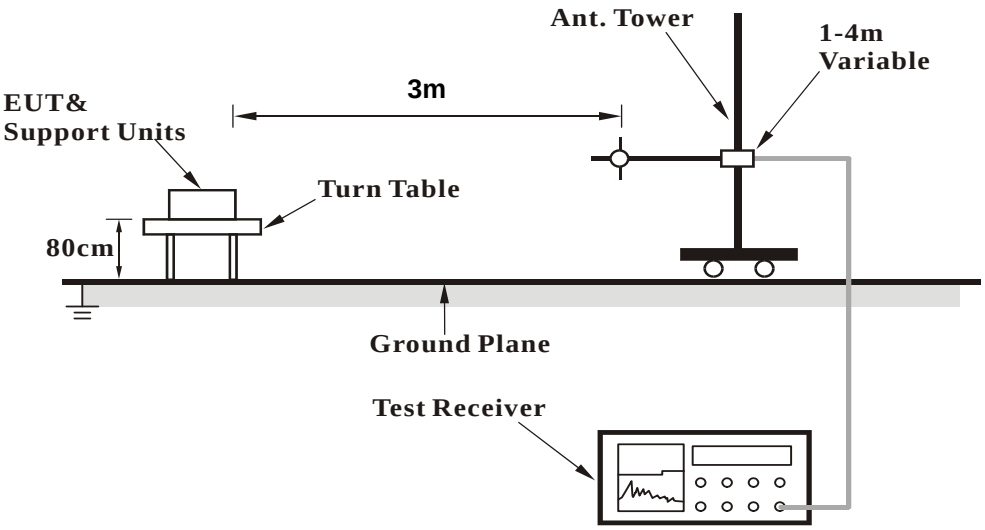
NOTE:

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 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE 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	106.14	34.9 QP	43.5	-8.6	2.00 H	311	51.94	-17.03
2	250.00	32.2 QP	46.0	-13.8	1.00 H	284	46.65	-14.44
3	289.91	34.4 QP	46.0	-11.6	1.00 H	280	47.44	-13.03
4	533.33	39.3 QP	46.0	-6.7	2.00 H	4	46.61	-7.28
5	775.01	31.6 QP	46.0	-14.4	1.00 H	320	33.67	-2.08
6	875.02	29.5 QP	46.0	-16.5	1.00 H	313	30.45	-0.94
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	38.25	36.6 QP	40.0	-3.4	1.00 V	50	50.73	-14.13
2	63.76	35.9 QP	40.0	-4.1	1.50 V	0	50.08	-14.22
3	212.75	31.7 QP	43.5	-11.8	1.50 V	14	48.15	-16.44
4	500.01	31.6 QP	46.0	-14.4	2.00 V	321	39.36	-7.76
5	533.33	33.4 QP	46.0	-12.6	1.00 V	73	40.64	-7.28
6	675.00	28.5 QP	46.0	-17.5	1.50 V	0	32.88	-4.34

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

ABOVE 1GHz DATA

Legacy / MIMO (CDD) with beam forming mode

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	53.9 PK	74.0	-20.1	1.00 H	267	55.09	-1.19
2	2390.00	45.0 AV	54.0	-9.0	1.00 H	267	46.19	-1.19
3	*2412.00	106.7 PK			1.00 H	267	107.79	-1.09
4	*2412.00	104.0 AV			1.00 H	267	105.09	-1.09
5	4824.00	47.4 PK	74.0	-26.6	1.00 H	3	39.81	7.59
6	4824.00	34.7 AV	54.0	-19.3	1.00 H	3	27.11	7.59
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	60.2 PK	74.0	-13.8	1.10 V	58	61.39	-1.19
2	2390.00	51.6 AV	54.0	-2.4	1.10 V	58	52.79	-1.19
3	*2412.00	115.4 PK			1.10 V	58	116.49	-1.09
4	*2412.00	112.8 AV			1.10 V	58	113.89	-1.09
5	4824.00	48.1 PK	74.0	-25.9	1.24 V	278	40.51	7.59
6	4824.00	35.7 AV	54.0	-18.3	1.24 V	278	28.11	7.59

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	55.4 PK	74.0	-18.6	1.11 H	253	56.59	-1.19
2	2390.00	42.4 AV	54.0	-11.6	1.11 H	253	43.59	-1.19
3	*2437.00	106.7 PK			1.11 H	253	107.69	-0.99
4	*2437.00	104.6 AV			1.11 H	253	105.59	-0.99
5	2483.50	58.7 PK	74.0	-15.3	1.11 H	253	59.50	-0.80
6	2483.50	44.7 AV	54.0	-9.3	1.11 H	253	45.50	-0.80
7	4874.00	47.2 PK	74.0	-26.8	1.00 H	252	39.43	7.77
8	4874.00	36.2 AV	54.0	-17.8	1.00 H	252	28.43	7.77
9	7311.00	56.1 PK	74.0	-17.9	1.00 H	252	40.61	15.49
10	7311.00	43.1 AV	54.0	-10.9	1.00 H	252	27.61	15.49
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	55.9 PK	74.0	-18.1	1.08 V	66	57.09	-1.19
2	2390.00	42.6 AV	54.0	-11.4	1.08 V	66	43.79	-1.19
3	*2437.00	115.7 PK			1.08 V	66	116.69	-0.99
4	*2437.00	113.3 AV			1.08 V	66	114.29	-0.99
5	2483.50	59.3 PK	74.0	-14.7	1.08 V	66	60.10	-0.80
6	2483.50	45.5 AV	54.0	-8.5	1.08 V	66	46.30	-0.80
7	4874.00	48.3 PK	74.0	-25.7	1.00 V	301	40.53	7.77
8	4874.00	35.1 AV	54.0	-18.9	1.00 V	301	27.33	7.77
9	7311.00	55.6 PK	74.0	-18.4	1.00 V	140	40.11	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.00 V	140	27.41	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.9 PK			1.03 H	244	109.79	-0.89
2	*2462.00	106.0 AV			1.03 H	244	106.89	-0.89
3	2483.50	56.0 PK	74.0	-18.0	1.03 H	244	56.80	-0.80
4	2483.50	47.3 AV	54.0	-6.7	1.03 H	244	48.10	-0.80
5	4924.00	48.5 PK	74.0	-25.5	1.00 H	305	40.56	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.00 H	305	27.16	7.94
7	7386.00	54.7 PK	74.0	-19.3	1.05 H	135	39.19	15.51
8	7386.00	42.5 AV	54.0	-11.5	1.05 H	135	26.99	15.51
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	116.2 PK			1.08 V	67	117.09	-0.89
2	*2462.00	113.5 AV			1.08 V	67	114.39	-0.89
3	2483.50	61.9 PK	74.0	-12.1	1.08 V	67	62.70	-0.80
4	2483.50	53.1 AV	54.0	-0.9	1.08 V	67	53.90	-0.80
5	4924.00	48.4 PK	74.0	-25.6	1.04 V	309	40.46	7.94
6	4924.00	35.2 AV	54.0	-18.8	1.04 V	309	27.26	7.94
7	7386.00	55.9 PK	74.0	-18.1	1.00 V	138	40.39	15.51
8	7386.00	43.3 AV	54.0	-10.7	1.00 V	138	27.79	15.51

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
5. " * ": Fundamental frequency.

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.0 PK	74.0	-6.0	1.05 H	240	69.19	-1.19
2	2390.00	48.0 AV	54.0	-6.0	1.05 H	240	49.19	-1.19
3	*2412.00	102.9 PK			1.05 H	240	103.99	-1.09
4	*2412.00	93.0 AV			1.05 H	240	94.09	-1.09
5	4824.00	48.8 PK	74.0	-25.2	1.06 H	125	41.21	7.59
6	4824.00	34.9 AV	54.0	-19.1	1.06 H	125	27.31	7.59
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	73.8 PK	74.0	-0.2	1.10 V	64	74.99	-1.19
2	2390.00	53.5 AV	54.0	-0.5	1.10 V	64	54.69	-1.19
3	*2412.00	113.4 PK			1.10 V	64	114.49	-1.09
4	*2412.00	103.5 AV			1.10 V	64	104.59	-1.09
5	4824.00	48.0 PK	74.0	-26.0	1.00 V	277	40.41	7.59
6	4824.00	34.6 AV	54.0	-19.4	1.00 V	277	27.01	7.59

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	54.9 PK	74.0	-19.1	1.09 H	236	56.09	-1.19
2	2390.00	39.5 AV	54.0	-14.5	1.09 H	236	40.69	-1.19
3	*2437.00	107.0 PK			1.09 H	236	107.99	-0.99
4	*2437.00	96.6 AV			1.09 H	236	97.59	-0.99
5	2483.50	57.4 PK	74.0	-16.6	1.09 H	236	58.20	-0.80
6	2483.50	41.8 AV	54.0	-12.2	1.09 H	236	42.60	-0.80
7	4874.00	48.6 PK	74.0	-25.4	1.01 H	125	40.83	7.77
8	4874.00	34.9 AV	54.0	-19.1	1.01 H	125	27.13	7.77
9	7311.00	55.8 PK	74.0	-18.2	1.01 H	255	40.31	15.49
10	7311.00	43.5 AV	54.0	-10.5	1.01 H	255	28.01	15.49
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	60.9 PK	74.0	-13.1	1.10 V	68	62.09	-1.19
2	2390.00	45.3 AV	54.0	-8.7	1.10 V	68	46.49	-1.19
3	*2437.00	117.7 PK			1.10 V	68	118.69	-0.99
4	*2437.00	107.2 AV			1.10 V	68	108.19	-0.99
5	2483.50	63.6 PK	74.0	-10.4	1.10 V	68	64.40	-0.80
6	2483.50	48.1 AV	54.0	-5.9	1.10 V	68	48.90	-0.80
7	4874.00	49.0 PK	74.0	-25.0	1.00 V	287	41.23	7.77
8	4874.00	35.6 AV	54.0	-18.4	1.00 V	287	27.83	7.77
9	7311.00	55.1 PK	74.0	-18.9	1.00 V	135	39.61	15.49
10	7311.00	42.6 AV	54.0	-11.4	1.00 V	135	27.11	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.9 PK			1.12 H	215	103.79	-0.89
2	*2462.00	92.6 AV			1.12 H	215	93.49	-0.89
3	2483.50	67.7 PK	74.0	-6.3	1.12 H	215	68.50	-0.80
4	2483.50	47.2 AV	54.0	-6.8	1.12 H	215	48.00	-0.80
5	4924.00	45.5 PK	74.0	-28.5	1.00 H	300	37.56	7.94
6	4924.00	34.1 AV	54.0	-19.9	1.00 H	300	26.16	7.94
7	7386.00	54.4 PK	74.0	-19.6	1.18 H	294	38.89	15.51
8	7386.00	42.0 AV	54.0	-12.0	1.18 H	294	26.49	15.51
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	113.3 PK			1.07 V	68	114.19	-0.89
2	*2462.00	103.1 AV			1.07 V	68	103.99	-0.89
3	2483.50	73.8 PK	74.0	-0.2	1.07 V	68	74.60	-0.80
4	2483.50	53.5 AV	54.0	-0.5	1.07 V	68	54.30	-0.80
5	4924.00	49.5 PK	74.0	-24.5	1.00 V	272	41.56	7.94
6	4924.00	36.0 AV	54.0	-18.0	1.00 V	272	28.06	7.94
7	7386.00	55.2 PK	74.0	-18.8	1.00 V	141	39.69	15.51
8	7386.00	42.8 AV	54.0	-11.2	1.00 V	141	27.29	15.51

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
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	2387.00	66.7 PK	74.0	-7.3	1.08 H	202	67.91	-1.21
2	2387.00	46.8 AV	54.0	-7.2	1.08 H	202	48.01	-1.21
3	*2412.00	102.1 PK			1.08 H	202	103.19	-1.09
4	*2412.00	93.5 AV			1.08 H	202	94.59	-1.09
5	4824.00	48.0 PK	74.0	-26.0	1.18 H	95	40.41	7.59
6	4824.00	35.1 AV	54.0	-18.9	1.18 H	95	27.51	7.59
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	2387.00	73.0 PK	74.0	-1.0	1.00 V	323	74.21	-1.21
2	2387.00	53.3 AV	54.0	-0.7	1.00 V	323	54.51	-1.21
3	*2412.00	112.4 PK			1.00 V	323	113.49	-1.09
4	*2412.00	103.6 AV			1.00 V	323	104.69	-1.09
5	4824.00	47.8 PK	74.0	-26.2	1.00 V	293	40.21	7.59
6	4824.00	34.8 AV	54.0	-19.2	1.00 V	293	27.21	7.59

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	2388.00	53.8 PK	74.0	-20.2	1.07 H	168	54.99	-1.19
2	2388.00	39.4 AV	54.0	-14.6	1.07 H	168	40.59	-1.19
3	*2437.00	104.8 PK			1.07 H	168	105.79	-0.99
4	*2437.00	96.1 AV			1.07 H	168	97.09	-0.99
5	2483.50	56.6 PK	74.0	-17.4	1.07 H	168	57.40	-0.80
6	2483.50	40.9 AV	54.0	-13.1	1.07 H	168	41.70	-0.80
7	4874.00	48.7 PK	74.0	-25.3	1.22 H	111	40.93	7.77
8	4874.00	35.6 AV	54.0	-18.4	1.22 H	111	27.83	7.77
9	7311.00	55.3 PK	74.0	-18.7	1.03 H	298	39.81	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.03 H	298	27.41	15.49
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	2388.00	60.1 PK	74.0	-13.9	1.00 V	321	61.29	-1.19
2	2388.00	45.7 AV	54.0	-8.3	1.00 V	321	46.89	-1.19
3	*2437.00	115.3 PK			1.00 V	321	116.29	-0.99
4	*2437.00	106.3 AV			1.00 V	321	107.29	-0.99
5	2483.50	62.9 PK	74.0	-11.1	1.00 V	321	63.70	-0.80
6	2483.50	47.0 AV	54.0	-7.0	1.00 V	321	47.80	-0.80
7	4874.00	48.8 PK	74.0	-25.2	1.04 V	281	41.03	7.77
8	4874.00	35.4 AV	54.0	-18.6	1.04 V	281	27.63	7.77
9	7311.00	55.5 PK	74.0	-18.5	1.00 V	141	40.01	15.49
10	7311.00	42.8 AV	54.0	-11.2	1.00 V	141	27.31	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.3 PK			1.01 H	176	102.19	-0.89
2	*2462.00	90.4 AV			1.01 H	176	91.29	-0.89
3	2484.00	67.1 PK	74.0	-6.9	1.01 H	176	67.89	-0.79
4	2484.00	44.5 AV	54.0	-9.5	1.01 H	176	45.29	-0.79
5	4924.00	48.2 PK	74.0	-25.8	1.17 H	82	40.26	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.17 H	82	27.16	7.94
7	7386.00	55.2 PK	74.0	-18.8	1.00 H	285	39.69	15.51
8	7386.00	43.0 AV	54.0	-11.0	1.00 H	285	27.49	15.51
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	111.7 PK			1.04 V	320	112.59	-0.89
2	*2462.00	100.9 AV			1.04 V	320	101.79	-0.89
3	2484.00	73.1 PK	74.0	-0.9	1.04 V	320	73.89	-0.79
4	2484.00	50.6 AV	54.0	-3.4	1.04 V	320	51.39	-0.79
5	4924.00	48.4 PK	74.0	-25.6	1.05 V	265	40.46	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.05 V	265	27.16	7.94
7	7386.00	55.4 PK	74.0	-18.6	1.01 V	153	39.89	15.51
8	7386.00	42.9 AV	54.0	-11.1	1.01 V	153	27.39	15.51

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
5. " * ": Fundamental frequency.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.3 PK	74.0	-10.7	1.00 H	175	64.49	-1.19
2	2390.00	47.9 AV	54.0	-6.1	1.00 H	175	49.09	-1.19
3	*2422.00	101.8 PK			1.00 H	175	102.85	-1.05
4	*2422.00	90.5 AV			1.00 H	175	91.55	-1.05
5	4844.00	47.9 PK	74.0	-26.1	1.29 H	107	40.24	7.66
6	4844.00	34.8 AV	54.0	-19.2	1.29 H	107	27.14	7.66
7	7266.00	54.6 PK	74.0	-19.4	1.00 H	287	39.09	15.51
8	7266.00	42.5 AV	54.0	-11.5	1.00 H	287	26.99	15.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.5 PK	74.0	-4.5	1.39 V	271	70.69	-1.19
2	2390.00	53.7 AV	54.0	-0.3	1.39 V	271	54.89	-1.19
3	*2422.00	112.1 PK			1.39 V	271	113.15	-1.05
4	*2422.00	100.8 AV			1.39 V	271	101.85	-1.05
5	4844.00	48.4 PK	74.0	-25.6	1.02 V	242	40.74	7.66
6	4844.00	35.2 AV	54.0	-18.8	1.02 V	242	27.54	7.66
7	7266.00	55.2 PK	74.0	-18.8	1.02 V	94	39.69	15.51
8	7266.00	42.4 AV	54.0	-11.6	1.02 V	94	26.89	15.51

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
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	64.7 PK	74.0	-9.3	1.01 H	178	65.89	-1.19
2	2390.00	43.9 AV	54.0	-10.1	1.01 H	178	45.09	-1.19
3	*2437.00	105.5 PK			1.01 H	178	106.49	-0.99
4	*2437.00	95.0 AV			1.01 H	178	95.99	-0.99
5	2483.50	67.1 PK	74.0	-6.9	1.01 H	178	67.90	-0.80
6	2483.50	44.7 AV	54.0	-9.3	1.01 H	178	45.50	-0.80
7	4874.00	48.1 PK	74.0	-25.9	1.28 H	113	40.33	7.77
8	4874.00	35.0 AV	54.0	-19.0	1.28 H	113	27.23	7.77
9	7311.00	55.0 PK	74.0	-19.0	1.00 H	297	39.51	15.49
10	7311.00	42.7 AV	54.0	-11.3	1.00 H	297	27.21	15.49
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	70.8 PK	74.0	-3.2	1.43 V	270	71.99	-1.19
2	2390.00	49.7 AV	54.0	-4.3	1.43 V	270	50.89	-1.19
3	*2437.00	115.3 PK			1.43 V	270	116.29	-0.99
4	*2437.00	104.6 AV			1.43 V	270	105.59	-0.99
5	2483.50	73.1 PK	74.0	-0.9	1.43 V	270	73.90	-0.80
6	2483.50	50.7 AV	54.0	-3.3	1.43 V	270	51.50	-0.80
7	4874.00	48.5 PK	74.0	-25.5	1.00 V	250	40.73	7.77
8	4874.00	35.2 AV	54.0	-18.8	1.00 V	250	27.43	7.77
9	7311.00	55.7 PK	74.0	-18.3	1.00 V	117	40.21	15.49
10	7311.00	42.8 AV	54.0	-11.2	1.00 V	117	27.31	15.49

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	101.4 PK			1.06 H	176	102.32	-0.92
2	*2452.00	91.7 AV			1.06 H	176	92.62	-0.92
3	2483.50	61.9 PK	74.0	-12.1	1.06 H	176	62.70	-0.80
4	2483.50	48.3 AV	54.0	-5.7	1.06 H	176	49.10	-0.80
5	4904.00	47.3 PK	74.0	-26.7	1.22 H	115	39.42	7.88
6	4904.00	34.0 AV	54.0	-20.0	1.22 H	115	26.12	7.88
7	7356.00	54.8 PK	74.0	-19.2	1.00 H	283	39.31	15.49
8	7356.00	42.5 AV	54.0	-11.5	1.00 H	283	27.01	15.49
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	111.4 PK			1.41 V	269	112.32	-0.92
2	*2452.00	101.3 AV			1.41 V	269	102.22	-0.92
3	2483.50	67.7 PK	74.0	-6.3	1.41 V	269	68.50	-0.80
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.41 V**	**269**	**54.70**	**-0.80**
5	4904.00	48.1 PK	74.0	-25.9	1.00 V	254	40.22	7.88
6	4904.00	34.9 AV	54.0	-19.1	1.00 V	254	27.02	7.88
7	7356.00	55.0 PK	74.0	-19.0	1.00 V	94	39.51	15.49
8	7356.00	42.4 AV	54.0	-11.6	1.00 V	94	26.91	15.49

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.

Legacy / MIMO (CDD) mode

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	53.9 PK	74.0	-20.1	1.00 H	267	55.09	-1.19
2	2390.00	45.0 AV	54.0	-9.0	1.00 H	267	46.19	-1.19
3	*2412.00	106.7 PK			1.00 H	267	107.79	-1.09
4	*2412.00	104.0 AV			1.00 H	267	105.09	-1.09
5	4824.00	47.4 PK	74.0	-26.6	1.00 H	3	39.81	7.59
6	4824.00	34.7 AV	54.0	-19.3	1.00 H	3	27.11	7.59
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	60.2 PK	74.0	-13.8	1.10 V	58	61.39	-1.19
2	2390.00	51.6 AV	54.0	-2.4	1.10 V	58	52.79	-1.19
3	*2412.00	115.4 PK			1.10 V	58	116.49	-1.09
4	*2412.00	112.8 AV			1.10 V	58	113.89	-1.09
5	4824.00	48.1 PK	74.0	-25.9	1.24 V	278	40.51	7.59
6	4824.00	35.7 AV	54.0	-18.3	1.24 V	278	28.11	7.59

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	55.4 PK	74.0	-18.6	1.11 H	253	56.59	-1.19
2	2390.00	42.4 AV	54.0	-11.6	1.11 H	253	43.59	-1.19
3	*2437.00	106.7 PK			1.11 H	253	107.69	-0.99
4	*2437.00	104.6 AV			1.11 H	253	105.59	-0.99
5	2483.50	58.7 PK	74.0	-15.3	1.11 H	253	59.50	-0.80
6	2483.50	44.7 AV	54.0	-9.3	1.11 H	253	45.50	-0.80
7	4874.00	47.2 PK	74.0	-26.8	1.00 H	252	39.43	7.77
8	4874.00	36.2 AV	54.0	-17.8	1.00 H	252	28.43	7.77
9	7311.00	56.1 PK	74.0	-17.9	1.00 H	252	40.61	15.49
10	7311.00	43.1 AV	54.0	-10.9	1.00 H	252	27.61	15.49
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	55.9 PK	74.0	-18.1	1.08 V	66	57.09	-1.19
2	2390.00	42.6 AV	54.0	-11.4	1.08 V	66	43.79	-1.19
3	*2437.00	115.7 PK			1.08 V	66	116.69	-0.99
4	*2437.00	113.3 AV			1.08 V	66	114.29	-0.99
5	2483.50	59.3 PK	74.0	-14.7	1.08 V	66	60.10	-0.80
6	2483.50	45.5 AV	54.0	-8.5	1.08 V	66	46.30	-0.80
7	4874.00	48.3 PK	74.0	-25.7	1.00 V	301	40.53	7.77
8	4874.00	35.1 AV	54.0	-18.9	1.00 V	301	27.33	7.77
9	7311.00	55.6 PK	74.0	-18.4	1.00 V	140	40.11	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.00 V	140	27.41	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.9 PK			1.03 H	244	109.79	-0.89
2	*2462.00	106.0 AV			1.03 H	244	106.89	-0.89
3	2483.50	56.0 PK	74.0	-18.0	1.03 H	244	56.80	-0.80
4	2483.50	47.3 AV	54.0	-6.7	1.03 H	244	48.10	-0.80
5	4924.00	48.5 PK	74.0	-25.5	1.00 H	305	40.56	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.00 H	305	27.16	7.94
7	7386.00	54.7 PK	74.0	-19.3	1.05 H	135	39.19	15.51
8	7386.00	42.5 AV	54.0	-11.5	1.05 H	135	26.99	15.51
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	116.2 PK			1.08 V	67	117.09	-0.89
2	*2462.00	113.5 AV			1.08 V	67	114.39	-0.89
3	2483.50	61.9 PK	74.0	-12.1	1.08 V	67	62.70	-0.80
4	2483.50	53.1 AV	54.0	-0.9	1.08 V	67	53.90	-0.80
5	4924.00	48.4 PK	74.0	-25.6	1.04 V	309	40.46	7.94
6	4924.00	35.2 AV	54.0	-18.8	1.04 V	309	27.26	7.94
7	7386.00	55.9 PK	74.0	-18.1	1.00 V	138	40.39	15.51
8	7386.00	43.3 AV	54.0	-10.7	1.00 V	138	27.79	15.51

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
5. " * ": Fundamental frequency.

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.0 PK	74.0	-6.0	1.05 H	240	69.19	-1.19
2	2390.00	48.0 AV	54.0	-6.0	1.05 H	240	49.19	-1.19
3	*2412.00	102.9 PK			1.05 H	240	103.99	-1.09
4	*2412.00	93.0 AV			1.05 H	240	94.09	-1.09
5	4824.00	48.8 PK	74.0	-25.2	1.06 H	125	41.21	7.59
6	4824.00	34.9 AV	54.0	-19.1	1.06 H	125	27.31	7.59
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	73.8 PK	74.0	-0.2	1.10 V	64	74.99	-1.19
2	2390.00	53.5 AV	54.0	-0.5	1.10 V	64	54.69	-1.19
3	*2412.00	113.4 PK			1.10 V	64	114.49	-1.09
4	*2412.00	103.5 AV			1.10 V	64	104.59	-1.09
5	4824.00	48.0 PK	74.0	-26.0	1.00 V	277	40.41	7.59
6	4824.00	34.6 AV	54.0	-19.4	1.00 V	277	27.01	7.59

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	54.9 PK	74.0	-19.1	1.09 H	236	56.09	-1.19
2	2390.00	39.5 AV	54.0	-14.5	1.09 H	236	40.69	-1.19
3	*2437.00	107.0 PK			1.09 H	236	107.99	-0.99
4	*2437.00	96.6 AV			1.09 H	236	97.59	-0.99
5	2483.50	57.4 PK	74.0	-16.6	1.09 H	236	58.20	-0.80
6	2483.50	41.8 AV	54.0	-12.2	1.09 H	236	42.60	-0.80
7	4874.00	48.6 PK	74.0	-25.4	1.01 H	125	40.83	7.77
8	4874.00	34.9 AV	54.0	-19.1	1.01 H	125	27.13	7.77
9	7311.00	55.8 PK	74.0	-18.2	1.01 H	255	40.31	15.49
10	7311.00	43.5 AV	54.0	-10.5	1.01 H	255	28.01	15.49
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	60.9 PK	74.0	-13.1	1.10 V	68	62.09	-1.19
2	2390.00	45.3 AV	54.0	-8.7	1.10 V	68	46.49	-1.19
3	*2437.00	117.7 PK			1.10 V	68	118.69	-0.99
4	*2437.00	107.2 AV			1.10 V	68	108.19	-0.99
5	2483.50	63.6 PK	74.0	-10.4	1.10 V	68	64.40	-0.80
6	2483.50	48.1 AV	54.0	-5.9	1.10 V	68	48.90	-0.80
7	4874.00	49.0 PK	74.0	-25.0	1.00 V	287	41.23	7.77
8	4874.00	35.6 AV	54.0	-18.4	1.00 V	287	27.83	7.77
9	7311.00	55.1 PK	74.0	-18.9	1.00 V	135	39.61	15.49
10	7311.00	42.6 AV	54.0	-11.4	1.00 V	135	27.11	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.9 PK			1.12 H	215	103.79	-0.89
2	*2462.00	92.6 AV			1.12 H	215	93.49	-0.89
3	2483.50	67.7 PK	74.0	-6.3	1.12 H	215	68.50	-0.80
4	2483.50	47.2 AV	54.0	-6.8	1.12 H	215	48.00	-0.80
5	4924.00	45.5 PK	74.0	-28.5	1.00 H	300	37.56	7.94
6	4924.00	34.1 AV	54.0	-19.9	1.00 H	300	26.16	7.94
7	7386.00	54.4 PK	74.0	-19.6	1.18 H	294	38.89	15.51
8	7386.00	42.0 AV	54.0	-12.0	1.18 H	294	26.49	15.51
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	113.3 PK			1.07 V	68	114.19	-0.89
2	*2462.00	103.1 AV			1.07 V	68	103.99	-0.89
3	2483.50	73.8 PK	74.0	-0.2	1.07 V	68	74.60	-0.80
4	2483.50	53.5 AV	54.0	-0.5	1.07 V	68	54.30	-0.80
5	4924.00	49.5 PK	74.0	-24.5	1.00 V	272	41.56	7.94
6	4924.00	36.0 AV	54.0	-18.0	1.00 V	272	28.06	7.94
7	7386.00	55.2 PK	74.0	-18.8	1.00 V	141	39.69	15.51
8	7386.00	42.8 AV	54.0	-11.2	1.00 V	141	27.29	15.51

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
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	2387.00	66.7 PK	74.0	-7.3	1.08 H	202	67.91	-1.21
2	2387.00	46.8 AV	54.0	-7.2	1.08 H	202	48.01	-1.21
3	*2412.00	102.1 PK			1.08 H	202	103.19	-1.09
4	*2412.00	93.5 AV			1.08 H	202	94.59	-1.09
5	4824.00	48.0 PK	74.0	-26.0	1.18 H	95	40.41	7.59
6	4824.00	35.1 AV	54.0	-18.9	1.18 H	95	27.51	7.59
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	2387.00	73.0 PK	74.0	-1.0	1.00 V	323	74.21	-1.21
2	2387.00	53.3 AV	54.0	-0.7	1.00 V	323	54.51	-1.21
3	*2412.00	112.4 PK			1.00 V	323	113.49	-1.09
4	*2412.00	103.6 AV			1.00 V	323	104.69	-1.09
5	4824.00	47.8 PK	74.0	-26.2	1.00 V	293	40.21	7.59
6	4824.00	34.8 AV	54.0	-19.2	1.00 V	293	27.21	7.59

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	2388.00	53.8 PK	74.0	-20.2	1.07 H	168	54.99	-1.19
2	2388.00	39.4 AV	54.0	-14.6	1.07 H	168	40.59	-1.19
3	*2437.00	104.8 PK			1.07 H	168	105.79	-0.99
4	*2437.00	96.1 AV			1.07 H	168	97.09	-0.99
5	2483.50	56.6 PK	74.0	-17.4	1.07 H	168	57.40	-0.80
6	2483.50	40.9 AV	54.0	-13.1	1.07 H	168	41.70	-0.80
7	4874.00	48.7 PK	74.0	-25.3	1.22 H	111	40.93	7.77
8	4874.00	35.6 AV	54.0	-18.4	1.22 H	111	27.83	7.77
9	7311.00	55.3 PK	74.0	-18.7	1.03 H	298	39.81	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.03 H	298	27.41	15.49
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	2388.00	60.1 PK	74.0	-13.9	1.00 V	321	61.29	-1.19
2	2388.00	45.7 AV	54.0	-8.3	1.00 V	321	46.89	-1.19
3	*2437.00	115.3 PK			1.00 V	321	116.29	-0.99
4	*2437.00	106.3 AV			1.00 V	321	107.29	-0.99
5	2483.50	62.9 PK	74.0	-11.1	1.00 V	321	63.70	-0.80
6	2483.50	47.0 AV	54.0	-7.0	1.00 V	321	47.80	-0.80
7	4874.00	48.8 PK	74.0	-25.2	1.04 V	281	41.03	7.77
8	4874.00	35.4 AV	54.0	-18.6	1.04 V	281	27.63	7.77
9	7311.00	55.5 PK	74.0	-18.5	1.00 V	141	40.01	15.49
10	7311.00	42.8 AV	54.0	-11.2	1.00 V	141	27.31	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	101.3 PK			1.01 H	176	102.19	-0.89
2	*2462.00	90.4 AV			1.01 H	176	91.29	-0.89
3	2484.00	67.1 PK	74.0	-6.9	1.01 H	176	67.89	-0.79
4	2484.00	44.5 AV	54.0	-9.5	1.01 H	176	45.29	-0.79
5	4924.00	48.2 PK	74.0	-25.8	1.17 H	82	40.26	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.17 H	82	27.16	7.94
7	7386.00	55.2 PK	74.0	-18.8	1.00 H	285	39.69	15.51
8	7386.00	43.0 AV	54.0	-11.0	1.00 H	285	27.49	15.51
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	111.7 PK			1.04 V	320	112.59	-0.89
2	*2462.00	100.9 AV			1.04 V	320	101.79	-0.89
3	2484.00	73.1 PK	74.0	-0.9	1.04 V	320	73.89	-0.79
4	2484.00	50.6 AV	54.0	-3.4	1.04 V	320	51.39	-0.79
5	4924.00	48.4 PK	74.0	-25.6	1.05 V	265	40.46	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.05 V	265	27.16	7.94
7	7386.00	55.4 PK	74.0	-18.6	1.01 V	153	39.89	15.51
8	7386.00	42.9 AV	54.0	-11.1	1.01 V	153	27.39	15.51

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
5. " * ": Fundamental frequency.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.3 PK	74.0	-10.7	1.00 H	175	64.49	-1.19
2	2390.00	47.9 AV	54.0	-6.1	1.00 H	175	49.09	-1.19
3	*2422.00	101.8 PK			1.00 H	175	102.85	-1.05
4	*2422.00	90.5 AV			1.00 H	175	91.55	-1.05
5	4844.00	47.9 PK	74.0	-26.1	1.29 H	107	40.24	7.66
6	4844.00	34.8 AV	54.0	-19.2	1.29 H	107	27.14	7.66
7	7266.00	54.6 PK	74.0	-19.4	1.00 H	287	39.09	15.51
8	7266.00	42.5 AV	54.0	-11.5	1.00 H	287	26.99	15.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.5 PK	74.0	-4.5	1.39 V	271	70.69	-1.19
2	2390.00	53.7 AV	54.0	-0.3	1.39 V	271	54.89	-1.19
3	*2422.00	112.1 PK			1.39 V	271	113.15	-1.05
4	*2422.00	100.8 AV			1.39 V	271	101.85	-1.05
5	4844.00	48.4 PK	74.0	-25.6	1.02 V	242	40.74	7.66
6	4844.00	35.2 AV	54.0	-18.8	1.02 V	242	27.54	7.66
7	7266.00	55.2 PK	74.0	-18.8	1.02 V	94	39.69	15.51
8	7266.00	42.4 AV	54.0	-11.6	1.02 V	94	26.89	15.51

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
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	64.7 PK	74.0	-9.3	1.01 H	178	65.89	-1.19
2	2390.00	43.9 AV	54.0	-10.1	1.01 H	178	45.09	-1.19
3	*2437.00	105.5 PK			1.01 H	178	106.49	-0.99
4	*2437.00	95.0 AV			1.01 H	178	95.99	-0.99
5	2483.50	67.1 PK	74.0	-6.9	1.01 H	178	67.90	-0.80
6	2483.50	44.7 AV	54.0	-9.3	1.01 H	178	45.50	-0.80
7	4874.00	48.1 PK	74.0	-25.9	1.28 H	113	40.33	7.77
8	4874.00	35.0 AV	54.0	-19.0	1.28 H	113	27.23	7.77
9	7311.00	55.0 PK	74.0	-19.0	1.00 H	297	39.51	15.49
10	7311.00	42.7 AV	54.0	-11.3	1.00 H	297	27.21	15.49
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	70.8 PK	74.0	-3.2	1.43 V	270	71.99	-1.19
2	2390.00	49.7 AV	54.0	-4.3	1.43 V	270	50.89	-1.19
3	*2437.00	115.3 PK			1.43 V	270	116.29	-0.99
4	*2437.00	104.6 AV			1.43 V	270	105.59	-0.99
5	2483.50	73.1 PK	74.0	-0.9	1.43 V	270	73.90	-0.80
6	2483.50	50.7 AV	54.0	-3.3	1.43 V	270	51.50	-0.80
7	4874.00	48.5 PK	74.0	-25.5	1.00 V	250	40.73	7.77
8	4874.00	35.2 AV	54.0	-18.8	1.00 V	250	27.43	7.77
9	7311.00	55.7 PK	74.0	-18.3	1.00 V	117	40.21	15.49
10	7311.00	42.8 AV	54.0	-11.2	1.00 V	117	27.31	15.49

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	101.4 PK			1.06 H	176	102.32	-0.92
2	*2452.00	91.7 AV			1.06 H	176	92.62	-0.92
3	2483.50	61.9 PK	74.0	-12.1	1.06 H	176	62.70	-0.80
4	2483.50	48.3 AV	54.0	-5.7	1.06 H	176	49.10	-0.80
5	4904.00	47.3 PK	74.0	-26.7	1.22 H	115	39.42	7.88
6	4904.00	34.0 AV	54.0	-20.0	1.22 H	115	26.12	7.88
7	7356.00	54.8 PK	74.0	-19.2	1.00 H	283	39.31	15.49
8	7356.00	42.5 AV	54.0	-11.5	1.00 H	283	27.01	15.49
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	111.4 PK			1.41 V	269	112.32	-0.92
2	*2452.00	101.3 AV			1.41 V	269	102.22	-0.92
3	2483.50	67.7 PK	74.0	-6.3	1.41 V	269	68.50	-0.80
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.41 V**	**269**	**54.70**	**-0.80**
5	4904.00	48.1 PK	74.0	-25.9	1.00 V	254	40.22	7.88
6	4904.00	34.9 AV	54.0	-19.1	1.00 V	254	27.02	7.88
7	7356.00	55.0 PK	74.0	-19.0	1.00 V	94	39.51	15.49
8	7356.00	42.4 AV	54.0	-11.6	1.00 V	94	26.91	15.49

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.

Legacy / MIMO (STBC) mode

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	53.9 PK	74.0	-20.1	1.00 H	267	55.09	-1.19
2	2390.00	45.0 AV	54.0	-9.0	1.00 H	267	46.19	-1.19
3	*2412.00	106.7 PK			1.00 H	267	107.79	-1.09
4	*2412.00	104.0 AV			1.00 H	267	105.09	-1.09
5	4824.00	47.4 PK	74.0	-26.6	1.00 H	3	39.81	7.59
6	4824.00	34.7 AV	54.0	-19.3	1.00 H	3	27.11	7.59
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	60.2 PK	74.0	-13.8	1.10 V	58	61.39	-1.19
2	2390.00	51.6 AV	54.0	-2.4	1.10 V	58	52.79	-1.19
3	*2412.00	115.4 PK			1.10 V	58	116.49	-1.09
4	*2412.00	112.8 AV			1.10 V	58	113.89	-1.09
5	4824.00	48.1 PK	74.0	-25.9	1.24 V	278	40.51	7.59
6	4824.00	35.7 AV	54.0	-18.3	1.24 V	278	28.11	7.59

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	55.4 PK	74.0	-18.6	1.11 H	253	56.59	-1.19
2	2390.00	42.4 AV	54.0	-11.6	1.11 H	253	43.59	-1.19
3	*2437.00	106.7 PK			1.11 H	253	107.69	-0.99
4	*2437.00	104.6 AV			1.11 H	253	105.59	-0.99
5	2483.50	58.7 PK	74.0	-15.3	1.11 H	253	59.50	-0.80
6	2483.50	44.7 AV	54.0	-9.3	1.11 H	253	45.50	-0.80
7	4874.00	47.2 PK	74.0	-26.8	1.00 H	252	39.43	7.77
8	4874.00	36.2 AV	54.0	-17.8	1.00 H	252	28.43	7.77
9	7311.00	56.1 PK	74.0	-17.9	1.00 H	252	40.61	15.49
10	7311.00	43.1 AV	54.0	-10.9	1.00 H	252	27.61	15.49
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	55.9 PK	74.0	-18.1	1.08 V	66	57.09	-1.19
2	2390.00	42.6 AV	54.0	-11.4	1.08 V	66	43.79	-1.19
3	*2437.00	115.7 PK			1.08 V	66	116.69	-0.99
4	*2437.00	113.3 AV			1.08 V	66	114.29	-0.99
5	2483.50	59.3 PK	74.0	-14.7	1.08 V	66	60.10	-0.80
6	2483.50	45.5 AV	54.0	-8.5	1.08 V	66	46.30	-0.80
7	4874.00	48.3 PK	74.0	-25.7	1.00 V	301	40.53	7.77
8	4874.00	35.1 AV	54.0	-18.9	1.00 V	301	27.33	7.77
9	7311.00	55.6 PK	74.0	-18.4	1.00 V	140	40.11	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.00 V	140	27.41	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.9 PK			1.03 H	244	109.79	-0.89
2	*2462.00	106.0 AV			1.03 H	244	106.89	-0.89
3	2483.50	56.0 PK	74.0	-18.0	1.03 H	244	56.80	-0.80
4	2483.50	47.3 AV	54.0	-6.7	1.03 H	244	48.10	-0.80
5	4924.00	48.5 PK	74.0	-25.5	1.00 H	305	40.56	7.94
6	4924.00	35.1 AV	54.0	-18.9	1.00 H	305	27.16	7.94
7	7386.00	54.7 PK	74.0	-19.3	1.05 H	135	39.19	15.51
8	7386.00	42.5 AV	54.0	-11.5	1.05 H	135	26.99	15.51
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	116.2 PK			1.08 V	67	117.09	-0.89
2	*2462.00	113.5 AV			1.08 V	67	114.39	-0.89
3	2483.50	61.9 PK	74.0	-12.1	1.08 V	67	62.70	-0.80
4	2483.50	53.1 AV	54.0	-0.9	1.08 V	67	53.90	-0.80
5	4924.00	48.4 PK	74.0	-25.6	1.04 V	309	40.46	7.94
6	4924.00	35.2 AV	54.0	-18.8	1.04 V	309	27.26	7.94
7	7386.00	55.9 PK	74.0	-18.1	1.00 V	138	40.39	15.51
8	7386.00	43.3 AV	54.0	-10.7	1.00 V	138	27.79	15.51

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
5. " * ": Fundamental frequency.

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.0 PK	74.0	-6.0	1.05 H	240	69.19	-1.19
2	2390.00	48.0 AV	54.0	-6.0	1.05 H	240	49.19	-1.19
3	*2412.00	102.9 PK			1.05 H	240	103.99	-1.09
4	*2412.00	93.0 AV			1.05 H	240	94.09	-1.09
5	4824.00	48.8 PK	74.0	-25.2	1.06 H	125	41.21	7.59
6	4824.00	34.9 AV	54.0	-19.1	1.06 H	125	27.31	7.59
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	73.8 PK	74.0	-0.2	1.10 V	64	74.99	-1.19
2	2390.00	53.5 AV	54.0	-0.5	1.10 V	64	54.69	-1.19
3	*2412.00	113.4 PK			1.10 V	64	114.49	-1.09
4	*2412.00	103.5 AV			1.10 V	64	104.59	-1.09
5	4824.00	48.0 PK	74.0	-26.0	1.00 V	277	40.41	7.59
6	4824.00	34.6 AV	54.0	-19.4	1.00 V	277	27.01	7.59

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	54.9 PK	74.0	-19.1	1.09 H	236	56.09	-1.19
2	2390.00	39.5 AV	54.0	-14.5	1.09 H	236	40.69	-1.19
3	*2437.00	107.0 PK			1.09 H	236	107.99	-0.99
4	*2437.00	96.6 AV			1.09 H	236	97.59	-0.99
5	2483.50	57.4 PK	74.0	-16.6	1.09 H	236	58.20	-0.80
6	2483.50	41.8 AV	54.0	-12.2	1.09 H	236	42.60	-0.80
7	4874.00	48.6 PK	74.0	-25.4	1.01 H	125	40.83	7.77
8	4874.00	34.9 AV	54.0	-19.1	1.01 H	125	27.13	7.77
9	7311.00	55.8 PK	74.0	-18.2	1.01 H	255	40.31	15.49
10	7311.00	43.5 AV	54.0	-10.5	1.01 H	255	28.01	15.49
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	60.9 PK	74.0	-13.1	1.10 V	68	62.09	-1.19
2	2390.00	45.3 AV	54.0	-8.7	1.10 V	68	46.49	-1.19
3	*2437.00	117.7 PK			1.10 V	68	118.69	-0.99
4	*2437.00	107.2 AV			1.10 V	68	108.19	-0.99
5	2483.50	63.6 PK	74.0	-10.4	1.10 V	68	64.40	-0.80
6	2483.50	48.1 AV	54.0	-5.9	1.10 V	68	48.90	-0.80
7	4874.00	49.0 PK	74.0	-25.0	1.00 V	287	41.23	7.77
8	4874.00	35.6 AV	54.0	-18.4	1.00 V	287	27.83	7.77
9	7311.00	55.1 PK	74.0	-18.9	1.00 V	135	39.61	15.49
10	7311.00	42.6 AV	54.0	-11.4	1.00 V	135	27.11	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.9 PK			1.12 H	215	103.79	-0.89
2	*2462.00	92.6 AV			1.12 H	215	93.49	-0.89
3	2483.50	67.7 PK	74.0	-6.3	1.12 H	215	68.50	-0.80
4	2483.50	47.2 AV	54.0	-6.8	1.12 H	215	48.00	-0.80
5	4924.00	45.5 PK	74.0	-28.5	1.00 H	300	37.56	7.94
6	4924.00	34.1 AV	54.0	-19.9	1.00 H	300	26.16	7.94
7	7386.00	54.4 PK	74.0	-19.6	1.18 H	294	38.89	15.51
8	7386.00	42.0 AV	54.0	-12.0	1.18 H	294	26.49	15.51
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	113.3 PK			1.07 V	68	114.19	-0.89
2	*2462.00	103.1 AV			1.07 V	68	103.99	-0.89
3	2483.50	73.8 PK	74.0	-0.2	1.07 V	68	74.60	-0.80
4	2483.50	53.5 AV	54.0	-0.5	1.07 V	68	54.30	-0.80
5	4924.00	49.5 PK	74.0	-24.5	1.00 V	272	41.56	7.94
6	4924.00	36.0 AV	54.0	-18.0	1.00 V	272	28.06	7.94
7	7386.00	55.2 PK	74.0	-18.8	1.00 V	141	39.69	15.51
8	7386.00	42.8 AV	54.0	-11.2	1.00 V	141	27.29	15.51

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
5. " * ": Fundamental frequency.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.6 PK	74.0	-7.4	1.11 H	171	67.79	-1.19
2	2390.00	47.6 AV	54.0	-6.4	1.11 H	171	48.79	-1.19
3	*2412.00	105.9 PK			1.11 H	171	106.99	-1.09
4	*2412.00	95.5 AV			1.11 H	171	96.59	-1.09
5	4824.00	44.6 PK	74.0	-29.4	1.00 H	334	37.01	7.59
6	4824.00	33.1 AV	54.0	-20.9	1.00 H	334	25.51	7.59
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	73.2 PK	74.0	-0.8	1.19 V	272	74.39	-1.19
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.19 V**	**272**	**55.09**	**-1.19**
3	*2412.00	116.7 PK			1.21 V	272	117.79	-1.09
4	*2412.00	106.2 AV			1.21 V	272	107.29	-1.09
5	4824.00	47.7 PK	74.0	-26.3	1.00 V	84	40.11	7.59
6	4824.00	35.1 AV	54.0	-18.9	1.00 V	84	27.51	7.59

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	58.6 PK	74.0	-15.4	1.15 H	160	59.79	-1.19
2	2390.00	42.5 AV	54.0	-11.5	1.15 H	160	43.69	-1.19
3	*2437.00	111.9 PK			1.15 H	160	112.89	-0.99
4	*2437.00	101.6 AV			1.15 H	160	102.59	-0.99
5	2483.50	59.8 PK	74.0	-14.2	1.15 H	160	60.60	-0.80
6	2483.50	44.5 AV	54.0	-9.5	1.15 H	160	45.30	-0.80
7	4874.00	46.1 PK	74.0	-27.9	1.00 H	323	38.33	7.77
8	4874.00	34.3 AV	54.0	-19.7	1.00 H	323	26.53	7.77
9	7311.00	55.8 PK	74.0	-18.2	1.22 H	281	40.31	15.49
10	7311.00	42.9 AV	54.0	-11.1	1.22 H	281	27.41	15.49
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	65.3 PK	74.0	-8.7	1.18 V	271	66.49	-1.19
2	2390.00	48.9 AV	54.0	-5.1	1.18 V	271	50.09	-1.19
3	*2437.00	122.6 PK			1.18 V	271	123.59	-0.99
4	*2437.00	112.0 AV			1.18 V	271	112.99	-0.99
5	2483.50	66.0 PK	74.0	-8.0	1.18 V	271	66.80	-0.80
6	2483.50	50.7 AV	54.0	-3.3	1.18 V	271	51.50	-0.80
7	4874.00	47.8 PK	74.0	-26.2	1.00 V	101	40.03	7.77
8	4874.00	35.1 AV	54.0	-18.9	1.00 V	101	27.33	7.77
9	7311.00	54.7 PK	74.0	-19.3	1.03 V	135	39.21	15.49
10	7311.00	42.3 AV	54.0	-11.7	1.03 V	135	26.81	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.2 PK			1.01 H	157	104.09	-0.89
2	*2462.00	94.2 AV			1.01 H	157	95.09	-0.89
3	2483.50	64.3 PK	74.0	-9.7	1.01 H	157	65.10	-0.80
4	2483.50	46.7 AV	54.0	-7.3	1.01 H	157	47.50	-0.80
5	4924.00	45.5 PK	74.0	-28.5	1.00 H	330	37.56	7.94
6	4924.00	33.9 AV	54.0	-20.1	1.00 H	330	25.96	7.94
7	7386.00	55.8 PK	74.0	-18.2	1.12 H	294	40.29	15.51
8	7386.00	43.1 AV	54.0	-10.9	1.12 H	294	27.59	15.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	114.2 PK			1.05 V	69	115.09	-0.89
2	*2462.00	105.1 AV			1.05 V	69	105.99	-0.89
3	2483.50	71.3 PK	74.0	-2.7	1.05 V	69	72.10	-0.80
4	2483.50	53.3 AV	54.0	-0.7	1.05 V	69	54.10	-0.80
5	4924.00	47.9 PK	74.0	-26.1	1.00 V	115	39.96	7.94
6	4924.00	35.3 AV	54.0	-18.7	1.00 V	115	27.36	7.94
7	7386.00	54.0 PK	74.0	-20.0	1.02 V	110	38.49	15.51
8	7386.00	42.0 AV	54.0	-12.0	1.02 V	110	26.49	15.51

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
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	63.6 PK	74.0	-10.4	1.00 H	156	64.79	-1.19
2	2390.00	47.6 AV	54.0	-6.4	1.00 H	156	48.79	-1.19
3	*2422.00	99.8 PK			1.00 H	156	100.85	-1.05
4	*2422.00	92.8 AV			1.00 H	156	93.85	-1.05
5	4844.00	45.0 PK	74.0	-29.0	1.00 H	331	37.34	7.66
6	4844.00	33.8 AV	54.0	-20.2	1.00 H	331	26.14	7.66
7	7266.00	55.5 PK	74.0	-18.5	1.07 H	298	39.99	15.51
8	7266.00	42.8 AV	54.0	-11.2	1.07 H	298	27.29	15.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.7 PK	74.0	-4.3	1.08 V	69	70.89	-1.19
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.08 V**	**69**	**55.09**	**-1.19**
3	*2422.00	110.0 PK			1.08 V	69	111.05	-1.05
4	*2422.00	102.6 AV			1.08 V	69	103.65	-1.05
5	4844.00	46.6 PK	74.0	-27.4	1.00 V	104	38.94	7.66
6	4844.00	34.3 AV	54.0	-19.7	1.00 V	104	26.64	7.66
7	7266.00	54.3 PK	74.0	-19.7	1.06 V	132	38.79	15.51
8	7266.00	42.4 AV	54.0	-11.6	1.06 V	132	26.89	15.51

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
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	62.5 PK	74.0	-11.5	1.01 H	148	63.69	-1.19
2	2390.00	45.6 AV	54.0	-8.4	1.01 H	148	46.79	-1.19
3	*2437.00	103.3 PK			1.01 H	148	104.29	-0.99
4	*2437.00	96.9 AV			1.01 H	148	97.89	-0.99
5	2483.50	64.4 PK	74.0	-9.6	1.01 H	148	65.20	-0.80
6	2483.50	47.1 AV	54.0	-6.9	1.01 H	148	47.90	-0.80
7	4874.00	45.4 PK	74.0	-28.6	1.00 H	339	37.63	7.77
8	4874.00	33.6 AV	54.0	-20.4	1.00 H	339	25.83	7.77
9	7311.00	55.1 PK	74.0	-18.9	1.16 H	269	39.61	15.49
10	7311.00	42.8 AV	54.0	-11.2	1.16 H	269	27.31	15.49
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.8 PK	74.0	-5.2	1.04 V	76	69.99	-1.19
2	2390.00	51.6 AV	54.0	-2.4	1.04 V	76	52.79	-1.19
3	*2437.00	113.6 PK			1.04 V	76	114.59	-0.99
4	*2437.00	106.8 AV			1.04 V	76	107.79	-0.99
5	2483.50	71.2 PK	74.0	-2.8	1.04 V	76	72.00	-0.80
6	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.04 V**	**76**	**54.70**	**-0.80**
7	4874.00	47.8 PK	74.0	-26.2	1.01 V	78	40.03	7.77
8	4874.00	34.8 AV	54.0	-19.2	1.01 V	78	27.03	7.77
9	7311.00	54.5 PK	74.0	-19.5	1.08 V	144	39.01	15.49
10	7311.00	42.4 AV	54.0	-11.6	1.08 V	144	26.91	15.49

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.9 PK			1.05 H	157	100.82	-0.92
2	*2452.00	92.4 AV			1.05 H	157	93.32	-0.92
3	2483.50	64.6 PK	74.0	-9.4	1.05 H	157	65.40	-0.80
4	2483.50	48.0 AV	54.0	-6.0	1.05 H	157	48.80	-0.80
5	4904.00	45.5 PK	74.0	-28.5	1.05 H	338	37.62	7.88
6	4904.00	33.7 AV	54.0	-20.3	1.05 H	338	25.82	7.88
7	7356.00	55.6 PK	74.0	-18.4	1.15 H	305	40.11	15.49
8	7356.00	43.0 AV	54.0	-11.0	1.15 H	305	27.51	15.49
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	109.7 PK			1.04 V	75	110.62	-0.92
2	*2452.00	102.3 AV			1.04 V	75	103.22	-0.92
3	2483.50	70.2 PK	74.0	-3.8	1.04 V	75	71.00	-0.80
4	2483.50	53.8 AV	54.0	-0.2	1.04 V	75	54.60	-0.80
5	4904.00	47.6 PK	74.0	-26.4	1.00 V	90	39.72	7.88
6	4904.00	34.9 AV	54.0	-19.1	1.00 V	90	27.02	7.88
7	7356.00	54.5 PK	74.0	-19.5	1.04 V	112	39.01	15.49
8	7356.00	41.9 AV	54.0	-12.1	1.04 V	112	26.41	15.49

REMARKS:

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

4.3 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

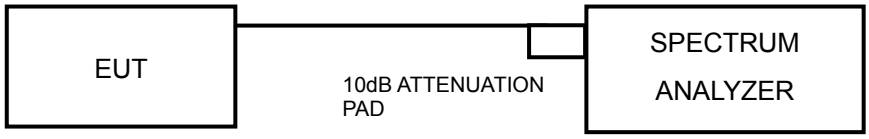
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. 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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



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

Legacy/MIMO (CDD) with beam forming

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.22	0.5	PASS
6	2437	8.59	0.5	PASS
11	2462	8.74	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.42	0.5	PASS
6	2437	16.41	0.5	PASS
11	2462	16.11	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.66	17.71	17.69	0.5	PASS
6	2437	17.31	17.68	17.66	0.5	PASS
11	2462	17.68	17.67	17.66	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	36.14	36.37	36.40	0.5	PASS
6	2437	36.16	36.54	36.52	0.5	PASS
9	2452	36.45	35.92	36.13	0.5	PASS

Legacy/MIMO (CDD)

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.22	0.5	PASS
6	2437	8.59	0.5	PASS
11	2462	8.74	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.42	0.5	PASS
6	2437	16.41	0.5	PASS
11	2462	16.11	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.62	17.65	17.68	0.5	PASS
6	2437	17.64	17.65	17.08	0.5	PASS
11	2462	17.60	17.39	17.67	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	36.14	36.37	36.40	0.5	PASS
6	2437	36.16	36.54	36.52	0.5	PASS
9	2452	36.45	35.92	36.13	0.5	PASS

Legacy/MIMO (STBC)

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.22	0.5	PASS
6	2437	8.59	0.5	PASS
11	2462	8.74	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.42	0.5	PASS
6	2437	16.41	0.5	PASS
11	2462	16.11	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	17.68	17.66	17.72	0.5	PASS
6	2437	17.64	17.70	17.70	0.5	PASS
11	2462	17.61	17.67	17.67	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
3	2422	35.15	36.17	36.09	0.5	PASS
6	2437	35.12	36.53	35.92	0.5	PASS
9	2452	35.55	36.13	35.77	0.5	PASS

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 v01r02 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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	0824006	May 20, 2013	May 19, 2014
Power sensor Anritsu	MA2411B	0738172	May 20, 2013	May 19, 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. Tested date : Aug. 09, 2013

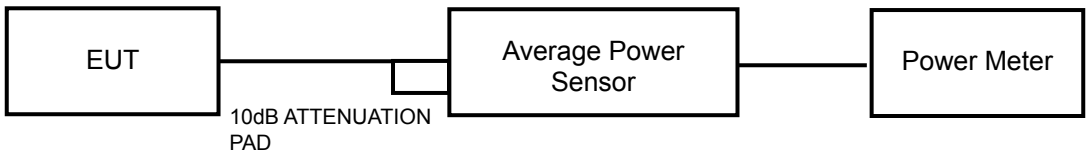
4.4.3 TEST PROCEDURES

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	260.016	24.15	30	PASS
6	2437	264.850	24.23	30	PASS
11	2462	267.301	24.27	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	107.399	20.31	30	PASS
6	2437	232.274	23.66	30	PASS
11	2462	91.833	19.63	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.59	20.91	20.63	353.472	25.48	27.95	PASS
6	2437	22.86	23.42	22.87	606.625	27.83	27.95	PASS
11	2462	20.03	19.97	19.92	298.180	24.74	27.95	PASS

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 8.05dBi > 6dBi , so the power limit shall be reduced to 30-(8.05-6) = 27.95dBm.

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
3	2422	15.74	16.14	15.71	115.851	20.64	27.95	PASS
6	2437	19.26	19.34	19.38	256.930	24.10	27.95	PASS
9	2452	16.47	16.35	16.39	131.064	21.17	27.95	PASS

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 8.05dBi > 6dBi , so the power limit shall be reduced to 30-(8.05-6) = 27.95dBm.

Legacy/MIMO (CDD)

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	260.016	24.15	30	PASS
6	2437	264.850	24.23	30	PASS
11	2462	267.301	24.27	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	107.399	20.31	30	PASS
6	2437	232.274	23.66	30	PASS
11	2462	91.833	19.63	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	20.59	20.91	20.63	353.472	25.48	30	PASS
6	2437	23.67	24.32	23.78	741.986	28.70	30	PASS
11	2462	20.03	19.97	19.92	298.180	24.74	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
3	2422	15.74	16.14	15.71	115.851	20.64	30	PASS
6	2437	19.26	19.34	19.38	256.930	24.10	30	PASS
9	2452	16.47	16.35	16.39	131.064	21.17	30	PASS

Legacy/MIMO (STBC)

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	260.016	24.15	30	PASS
6	2437	264.850	24.23	30	PASS
11	2462	267.301	24.27	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	107.399	20.31	30	PASS
6	2437	232.274	23.66	30	PASS
11	2462	91.833	19.63	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
1	2412	18.40	18.47	18.68	213.280	23.29	30	PASS
6	2437	23.54	23.95	23.84	716.360	28.55	30	PASS
11	2462	18.11	17.86	18.24	192.489	22.84	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
3	2422	16.83	16.83	16.77	143.924	21.58	30	PASS
6	2437	20.11	20.35	20.05	312.116	24.94	30	PASS
9	2452	16.43	16.31	16.26	128.977	21.11	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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

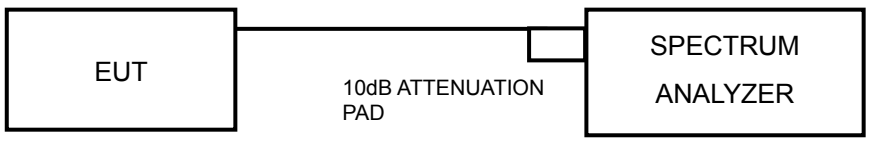
4.5.3 TEST PROCEDURE

1. Set the RBW = 30 kHz, VBW =100 kHz, Detector = power averaging (RMS) .
2. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW
3. Sweep time = auto couple,
4. Use the peak marker function to determine the maximum power level in any 30 kHz band segment within the fundamental EBW.
5. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(3 kHz/30kHz)

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-0.58	-10.58	8	PASS
6	2437	-0.11	-10.11	8	PASS
11	2462	-0.64	-10.64	8	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-5.28	-15.28	8	PASS
6	2437	-2.51	-12.51	8	PASS
11	2462	-6.65	-16.65	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-6.65	-16.65	4.77	-11.88	5.95	PASS
	6	2437	-4.41	-14.41	4.77	-9.64	5.95	PASS
	11	2462	-7.93	-17.93	4.77	-13.16	5.95	PASS
1	1	2412	-7.09	-17.09	4.77	-12.32	5.95	PASS
	6	2437	-4.50	-14.50	4.77	-9.73	5.95	PASS
	11	2462	-7.67	-17.67	4.77	-12.90	5.95	PASS
2	1	2412	-7.04	-17.04	4.77	-12.27	5.95	PASS
	6	2437	-4.57	-14.57	4.77	-9.80	5.95	PASS
	11	2462	-7.60	-17.60	4.77	-12.83	5.95	PASS

NOTE: 1. Directional gain = 10 log[(10G^1/20 + 10G^2/20 + 10G^3/20)^2 / 3] = 8.05dBi > 6dBi , so the power density limit shall be reduced to 8-(8.05-6) = 5.95dBm.

802.11n (HT40)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-13.88	-23.88	4.77	0.11	-19.00	5.95	PASS
	6	2437	-9.79	-19.79	4.77	0.11	-14.91	5.95	PASS
	9	2452	-13.74	-23.74	4.77	0.11	-18.86	5.95	PASS
1	3	2422	-14.00	-24.00	4.77	0.11	-19.12	5.95	PASS
	6	2437	-10.45	-20.45	4.77	0.11	-15.57	5.95	PASS
	9	2452	-13.32	-23.32	4.77	0.11	-18.44	5.95	PASS
2	3	2422	-14.60	-24.60	4.77	0.11	-19.72	5.95	PASS
	6	2437	-9.97	-19.97	4.77	0.11	-15.09	5.95	PASS
	9	2452	-13.38	-23.38	4.77	0.11	-18.50	5.95	PASS

NOTE: 1. Directional gain = 10 log[(10G^1/20 + 10G^2/20 + 10G^3/20)^2 / 3] = 8.05dBi > 6dBi , so the power density limit shall be reduced to 8-(8.05-6) = 5.95dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

Legacy/MIMO (CDD)

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-0.58	-10.58	8	PASS
6	2437	-0.11	-10.11	8	PASS
11	2462	-0.64	-10.64	8	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-5.28	-15.28	8	PASS
6	2437	-2.51	-12.51	8	PASS
11	2462	-6.65	-16.65	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-6.63	-16.63	4.77	-11.86	5.95	PASS
	6	2437	-3.61	-13.61	4.77	-8.84	5.95	PASS
	11	2462	-7.85	-17.85	4.77	-13.08	5.95	PASS
1	1	2412	-6.89	-16.89	4.77	-12.12	5.95	PASS
	6	2437	-2.88	-12.88	4.77	-8.11	5.95	PASS
	11	2462	-7.40	-17.40	4.77	-12.63	5.95	PASS
2	1	2412	-9.27	-19.27	4.77	-14.50	5.95	PASS
	6	2437	-3.81	-13.81	4.77	-9.04	5.95	PASS
	11	2462	-9.44	-19.44	4.77	-14.67	5.95	PASS

NOTE: 1. Directional gain = 10 log[(10G^1/20 + 10G^2/20 + 10G^3/20)^2 / 3] = 8.05dBi > 6dBi , so the power density limit shall be reduced to 8-(8.05-6) = 5.95dBm.

802.11n (HT40)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-13.88	-23.88	4.77	0.11	-19.00	5.95	PASS
	6	2437	-9.79	-19.79	4.77	0.11	-14.91	5.95	PASS
	9	2452	-13.74	-23.74	4.77	0.11	-18.86	5.95	PASS
1	3	2422	-14.00	-24.00	4.77	0.11	-19.12	5.95	PASS
	6	2437	-10.45	-20.45	4.77	0.11	-15.57	5.95	PASS
	9	2452	-13.32	-23.32	4.77	0.11	-18.44	5.95	PASS
2	3	2422	-14.60	-24.60	4.77	0.11	-19.72	5.95	PASS
	6	2437	-9.97	-19.97	4.77	0.11	-15.09	5.95	PASS
	9	2452	-13.38	-23.38	4.77	0.11	-18.50	5.95	PASS

NOTE:

1. Directional gain = 10 log[(10G^1/20 + 10G^2/20 + 10G^3/20)^2 / 3] = 8.05dBi > 6dBi , so the power density limit shall be reduced to 8-(8.05-6) = 5.95dBm.
2. Refer to section 3.4 for duty cycle spectrum plot.

Legacy/MIMO (STBC)

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-0.58	-10.58	8	PASS
6	2437	-0.11	-10.11	8	PASS
11	2462	-0.64	-10.64	8	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
1	2412	-5.28	-15.28	8	PASS
6	2437	-2.51	-12.51	8	PASS
11	2462	-6.65	-16.65	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	5.08	-4.92	4.77	-0.15	8.00	PASS
	6	2437	10.08	0.08	4.77	4.85	8.00	PASS
	11	2462	4.41	-5.59	4.77	-0.82	8.00	PASS
1	1	2412	-8.42	-18.42	4.77	-13.65	8.00	PASS
	6	2437	-3.39	-13.39	4.77	-8.62	8.00	PASS
	11	2462	-9.51	-19.51	4.77	-14.74	8.00	PASS
2	1	2412	-2.07	-12.07	4.77	-7.30	8.00	PASS
	6	2437	2.73	-7.27	4.77	-2.50	8.00	PASS
	11	2462	-3.25	-13.25	4.77	-8.48	8.00	PASS

NOTE: 1. Directional gain = 10 log[$(10G^1/20 + 10G^2/20 + 10G^3/20)^2$ / 3] = 3.58dBi > 6dBi , so the power density limit shall not be reduced..

802.11n (HT40)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	3.56	-6.44	4.77	0.11	-1.56	8.00	PASS
	6	2437	6.35	-3.65	4.77	0.11	1.23	8.00	PASS
	9	2452	2.64	-7.36	4.77	0.11	-2.48	8.00	PASS
1	3	2422	-12.78	-22.78	4.77	0.11	-17.90	8.00	PASS
	6	2437	-9.90	-19.90	4.77	0.11	-15.02	8.00	PASS
	9	2452	-13.44	-23.44	4.77	0.11	-18.56	8.00	PASS
2	3	2422	-5.16	-15.16	4.77	0.11	-10.28	8.00	PASS
	6	2437	-1.37	-11.37	4.77	0.11	-6.49	8.00	PASS
	9	2452	-4.75	-14.75	4.77	0.11	-9.87	8.00	PASS

NOTE: 1. Directional gain = 10 log[(10G^1/20 + 10G^2/20 + 10G^3/20)^2 / 3] = 3.58dBi > 6dBi , so the power density limit shall not be reduced..

2. Refer to section 3.4 for duty cycle spectrum plot.

4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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.

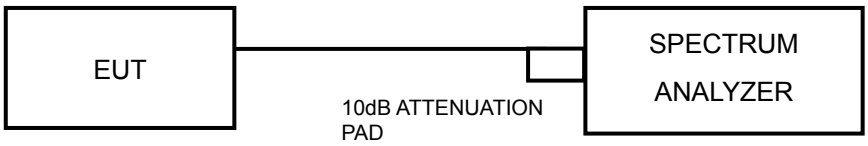
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

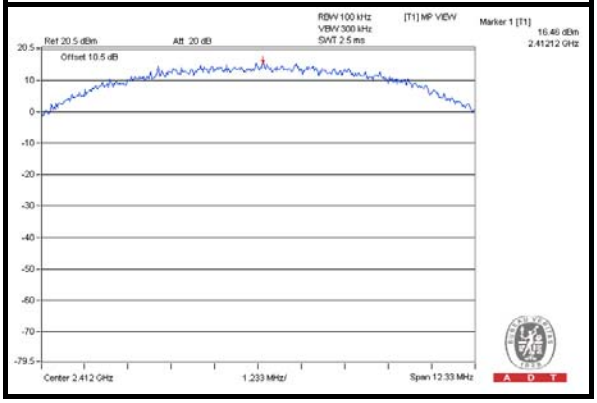
4.6.7 TEST RESULTS

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

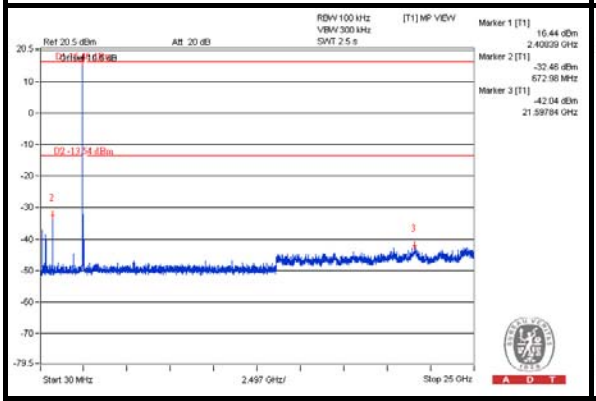
Legacy/MIMO (CDD) with beam forming

802.11b

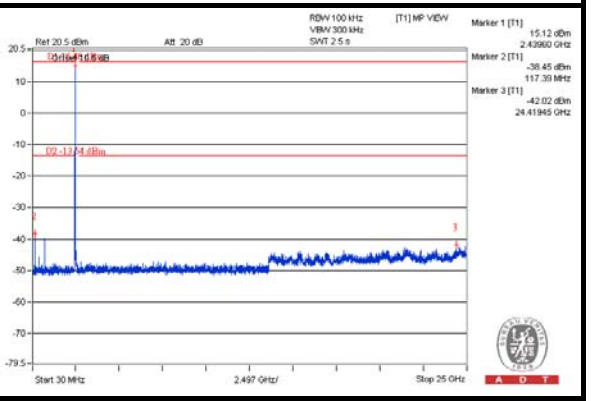
Maximum REF



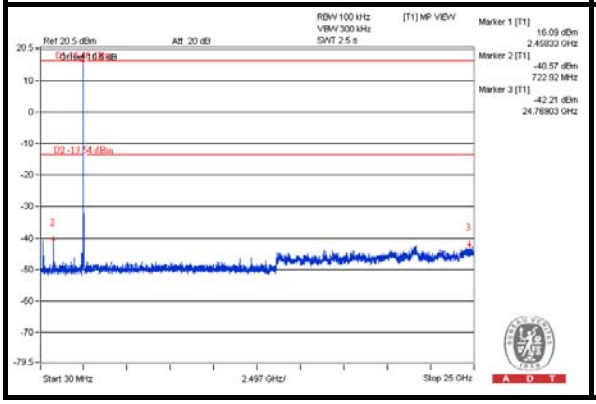
CH 1



CH 6

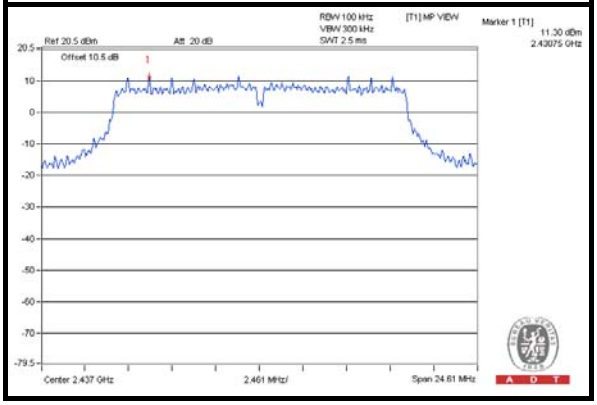


CH 11

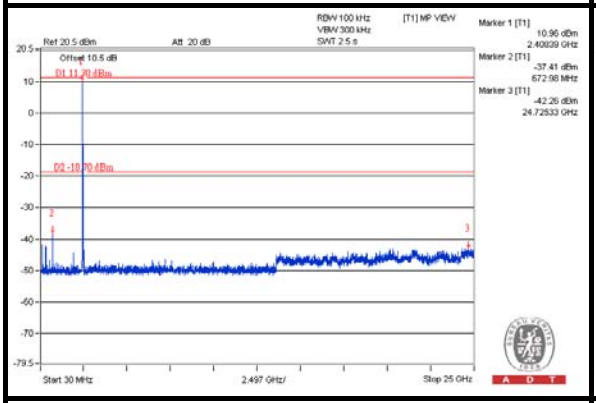


802.11g

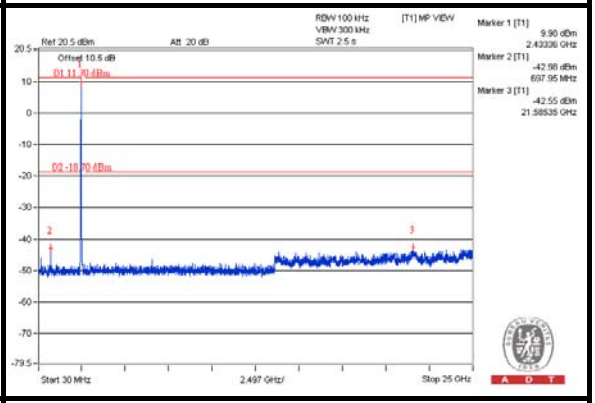
Maximum REF



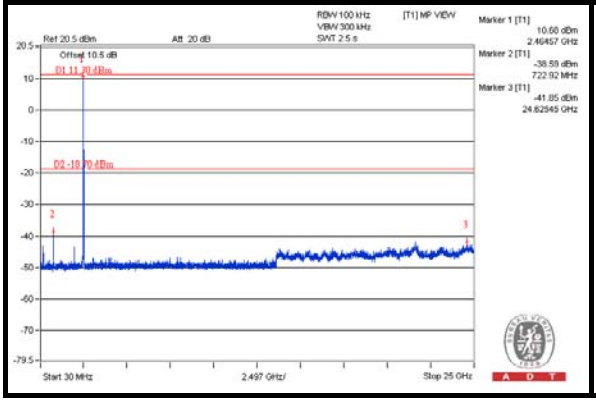
CH 1



CH 6

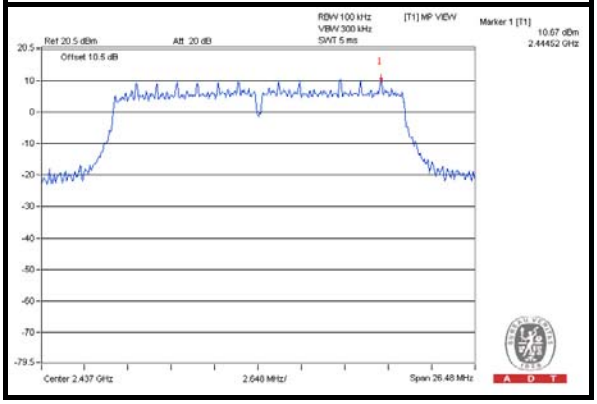


CH 11



802.11n (HT20)

Maximum REF



CHAIN (0)

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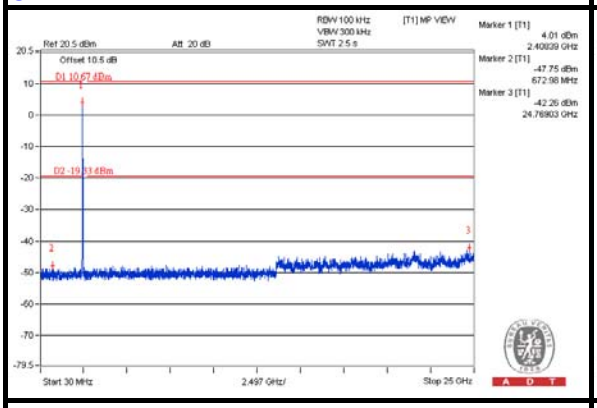
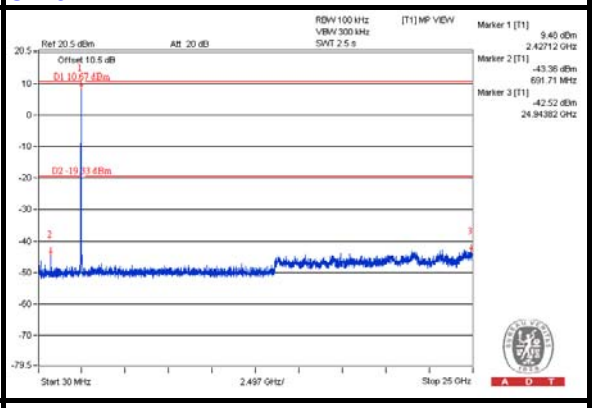
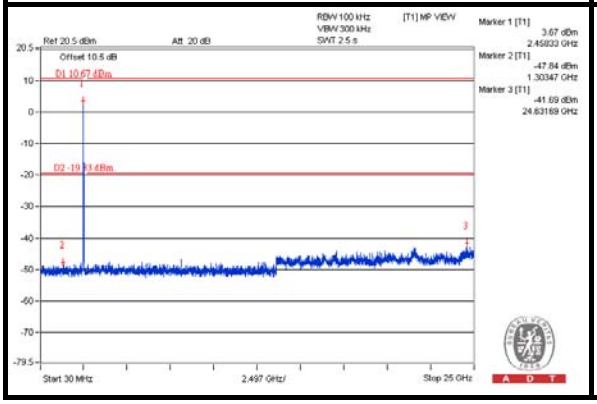


CH 6

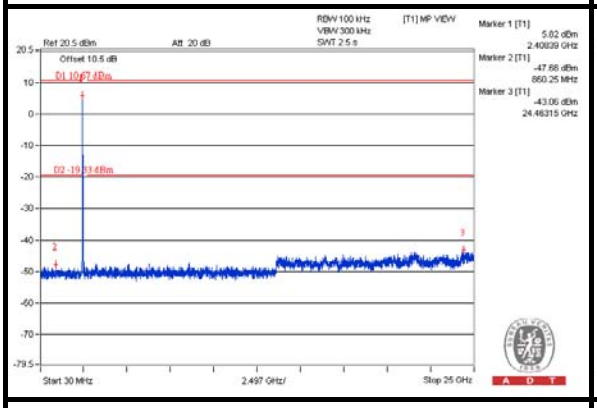


CH 11

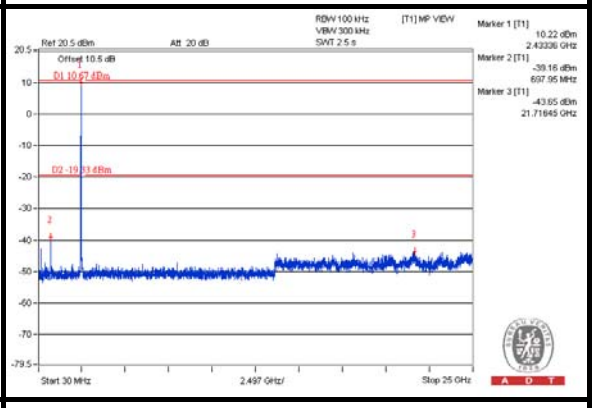


CHAIN (1)

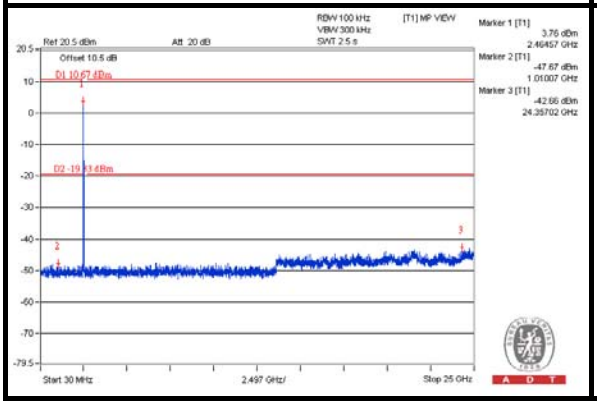
CH 1



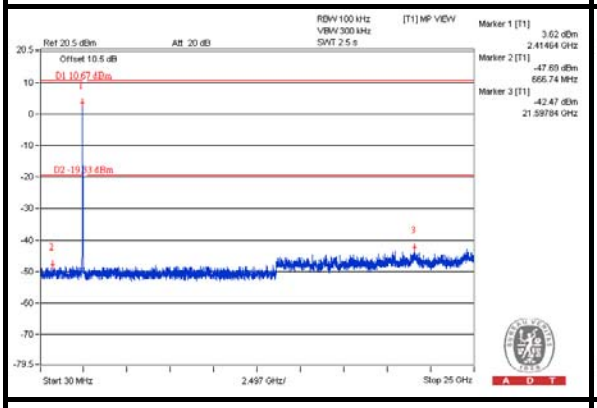
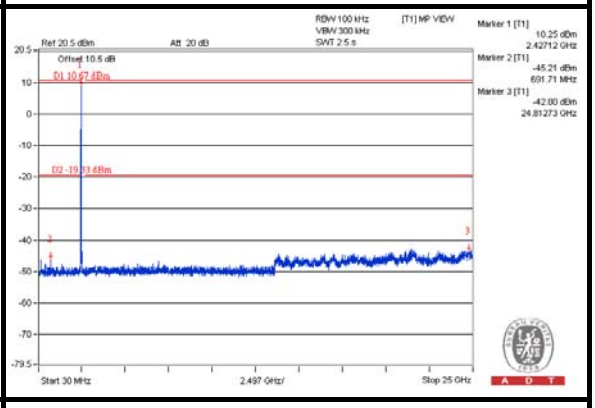
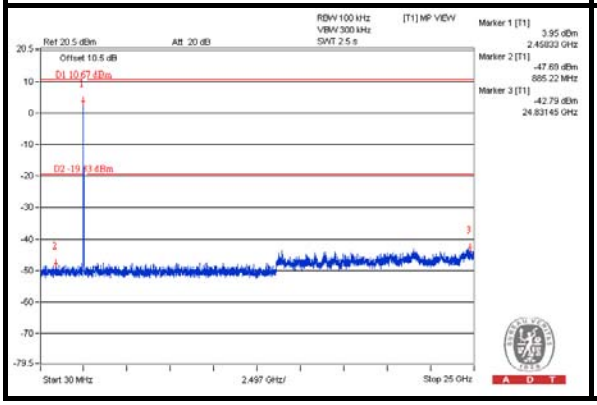
CH 6



CH 11

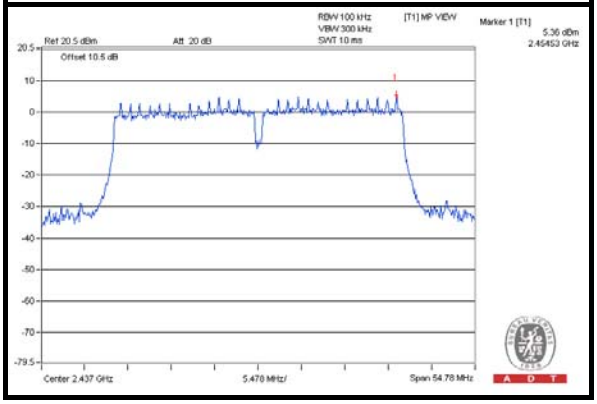


CHAIN (2)

CH 1	CH 6
	
CH 11	
	

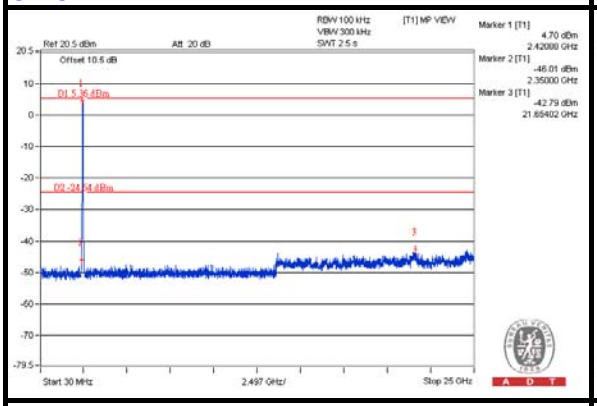
802.11n (HT40)

Maximum REF

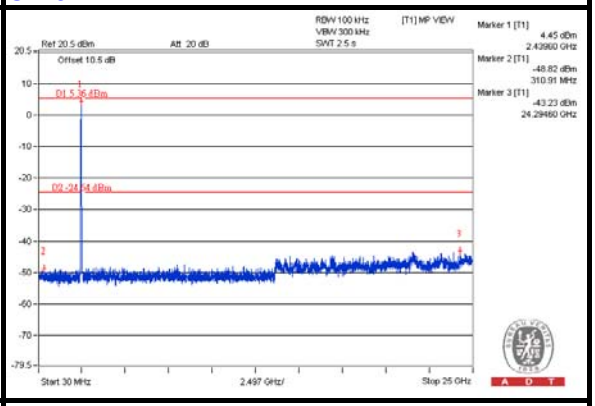


CHAIN (0)

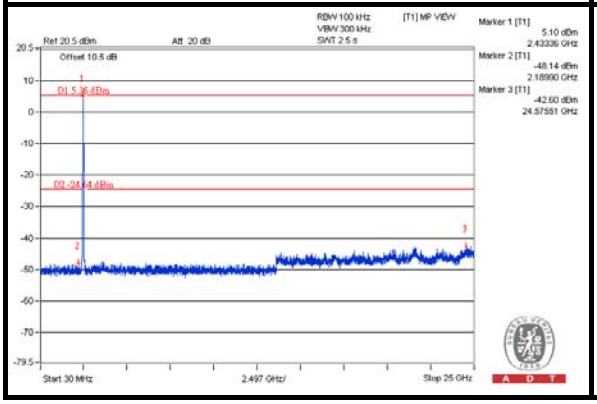
CH 3



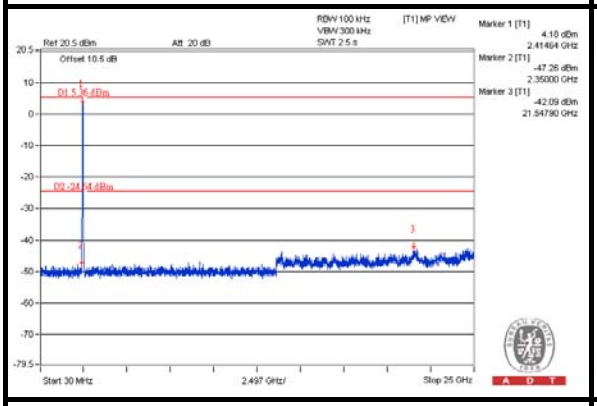
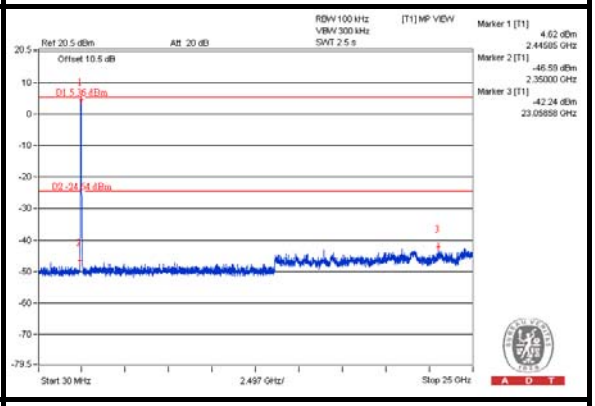
CH 6



CH 9



CHAIN (1)

CH 3	CH 6
	
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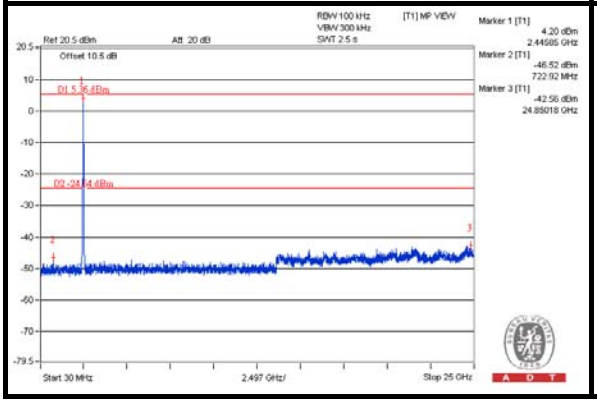
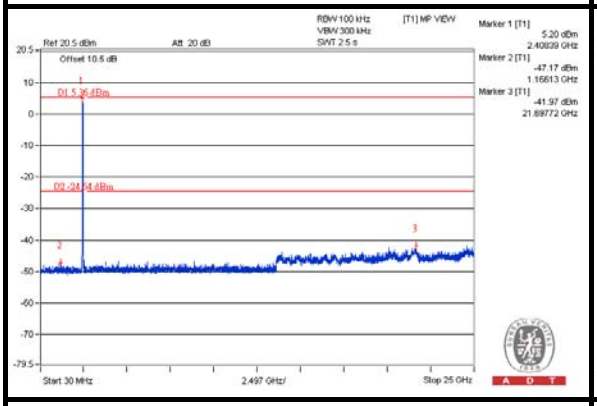
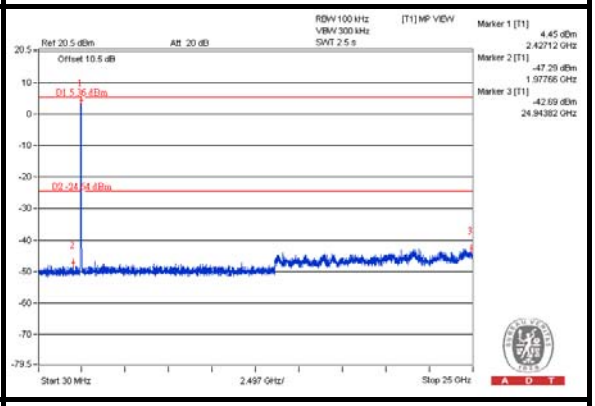
	

CHAIN (2)

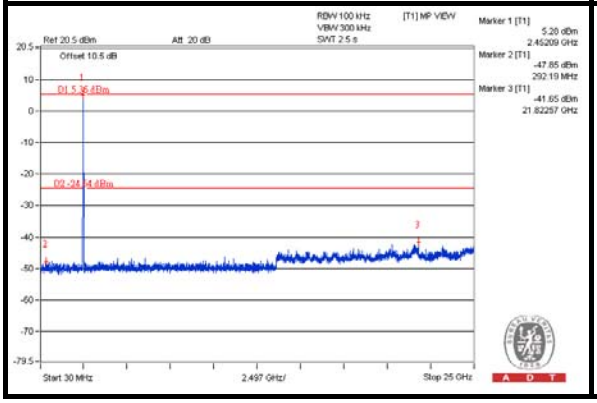
CH 3



CH 6

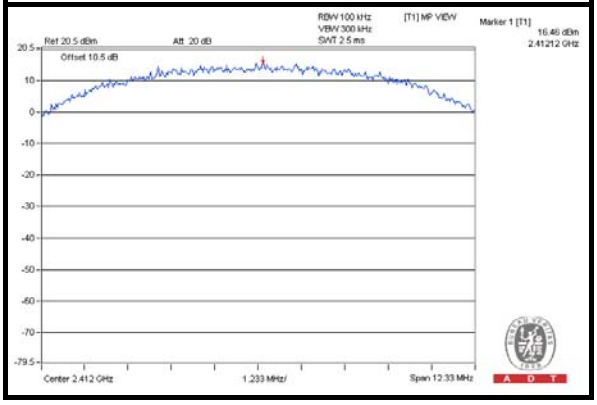


CH 9

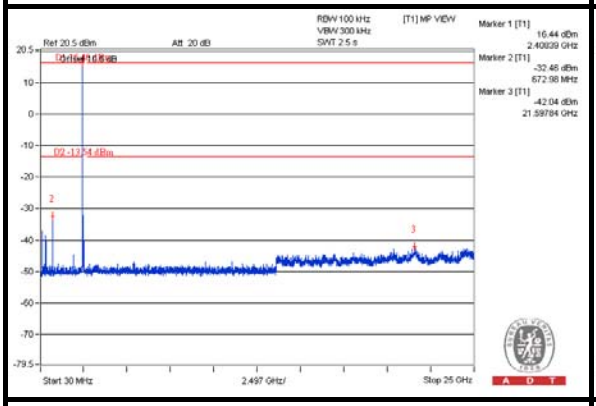


Legacy/MIMO (CDD)
802.11b

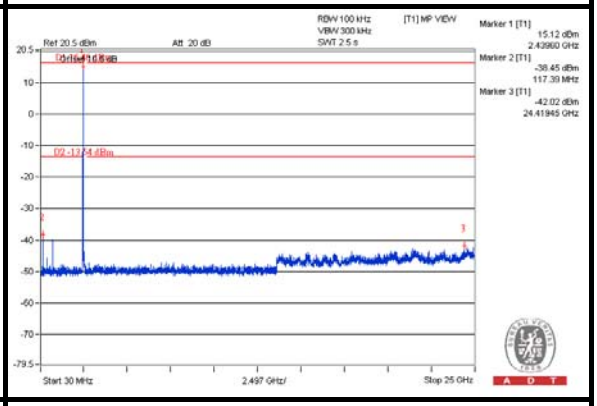
Maximum REF



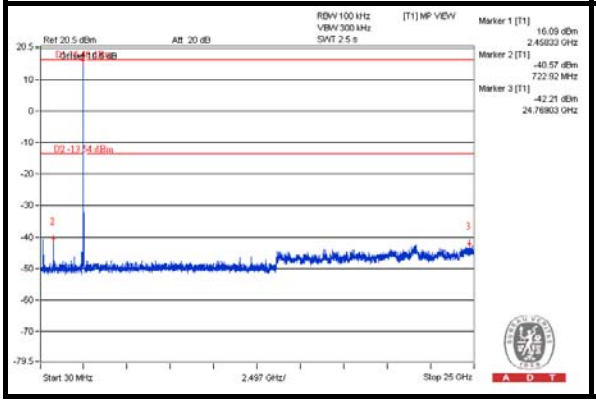
CH 1



CH 6

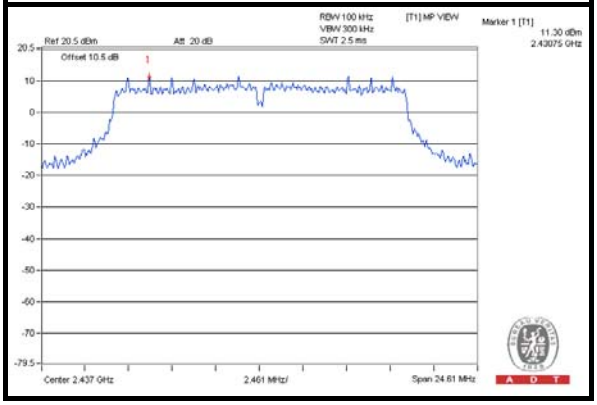


CH 11

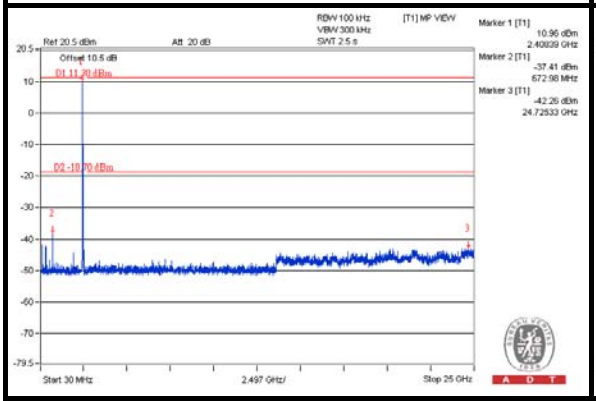


802.11g

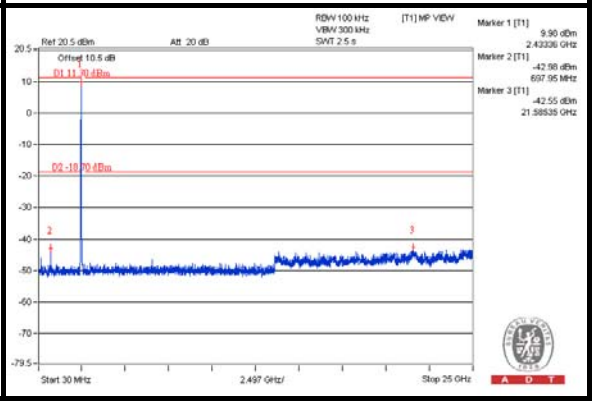
Maximum REF



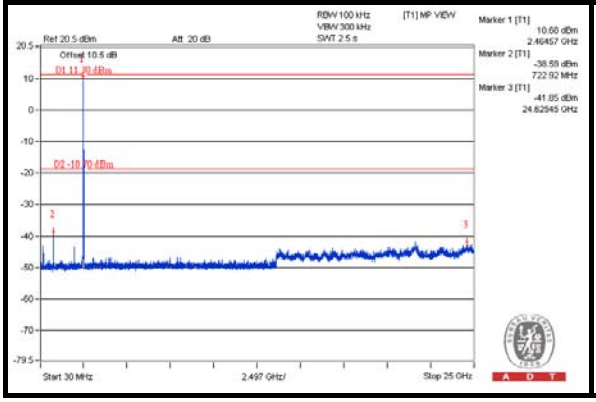
CH 1



CH 6

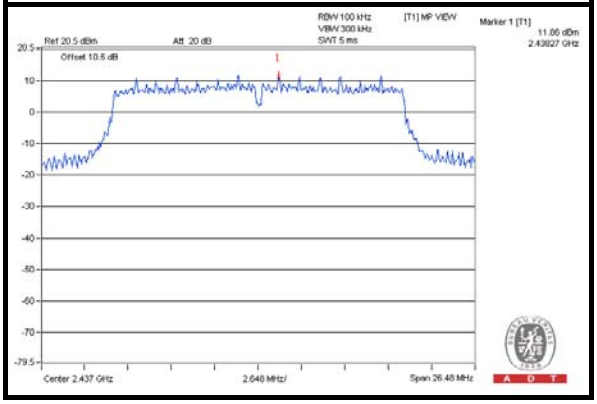


CH 11



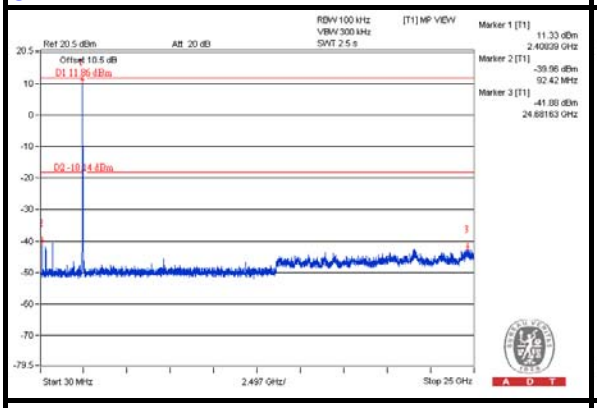
802.11n (HT20)

Maximum REF

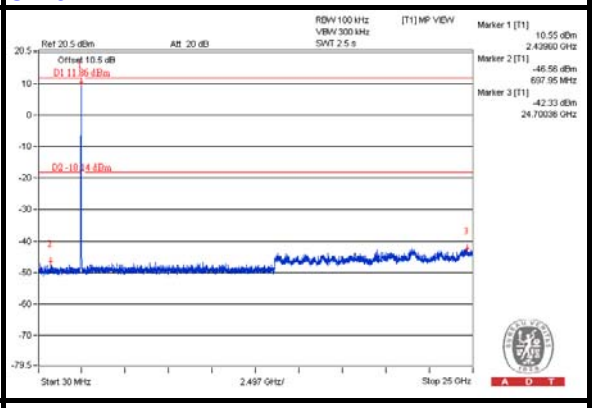


CHAIN (0)

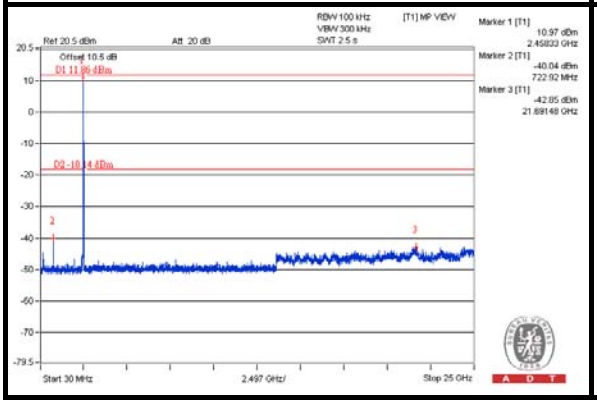
CH 1



CH 6

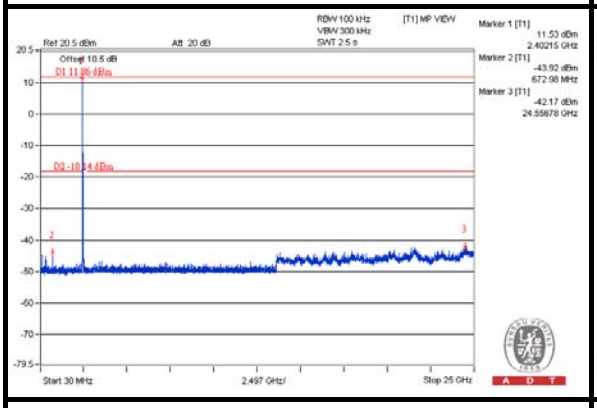


CH 11



CHAIN (1)

CH 1



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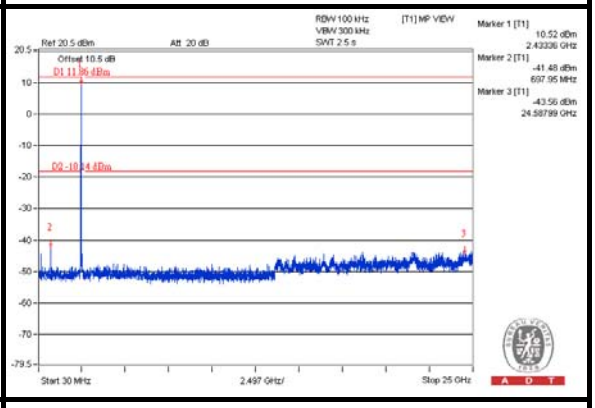

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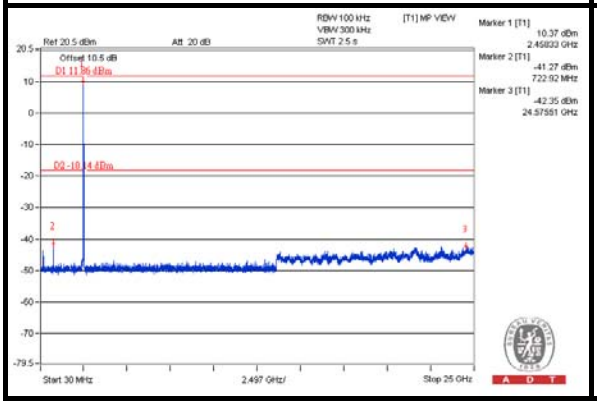

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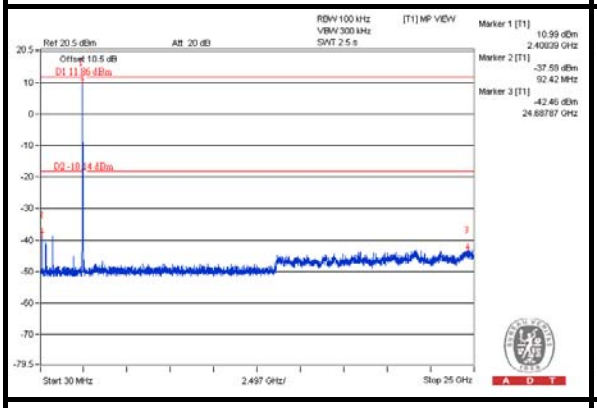

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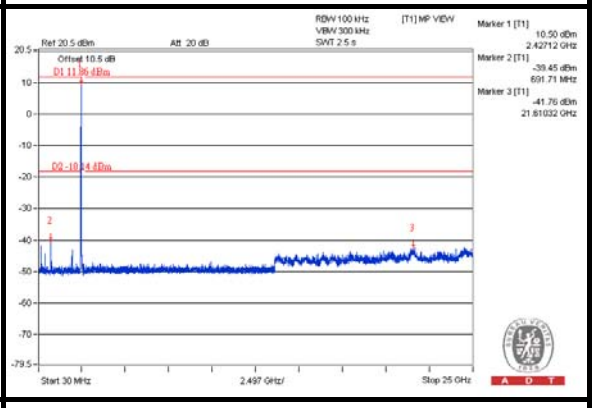

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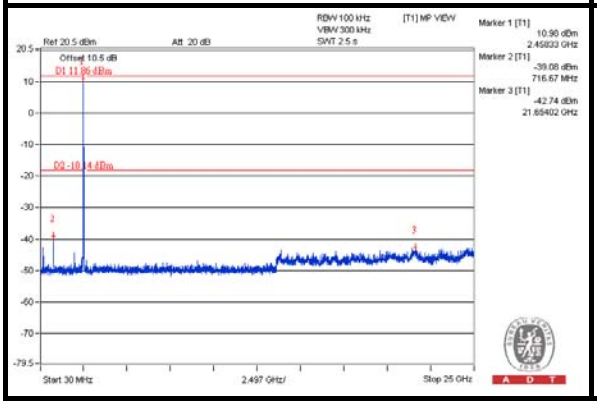
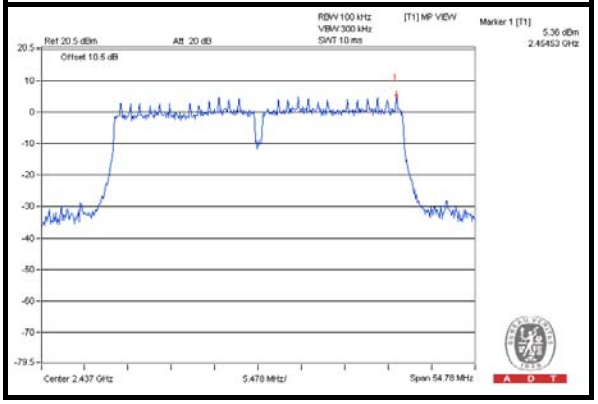


802.11n (HT40)

Maximum REF


CHAIN (0)

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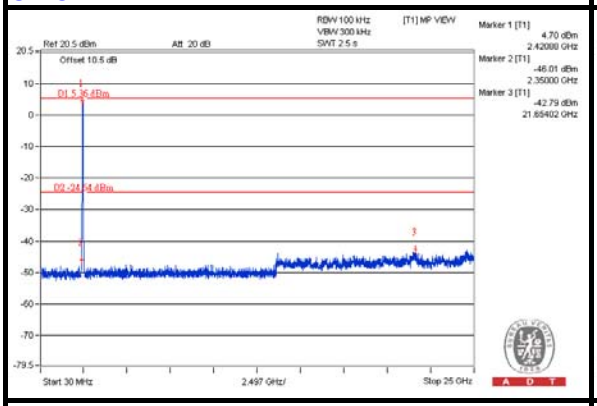	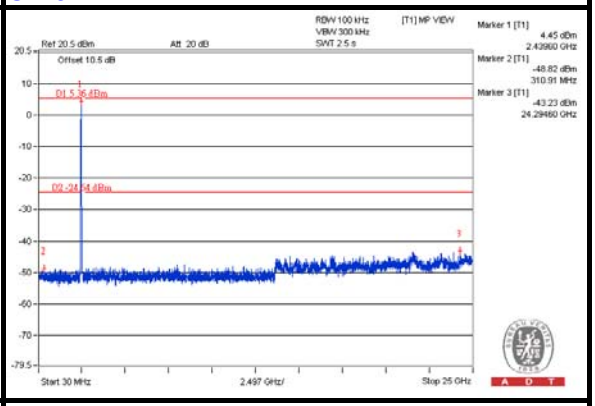
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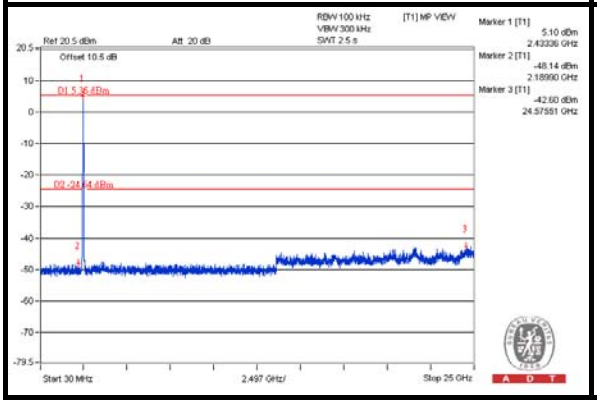	

CHAIN (1)

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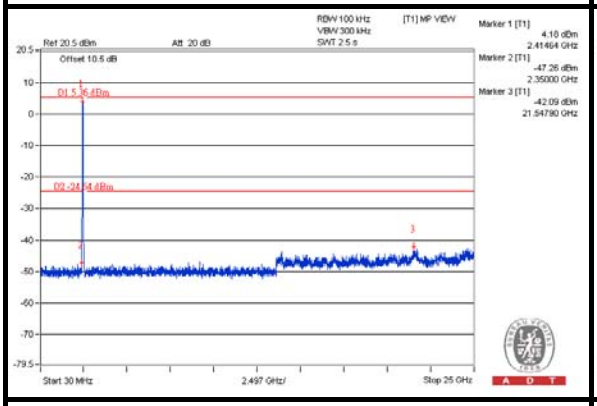	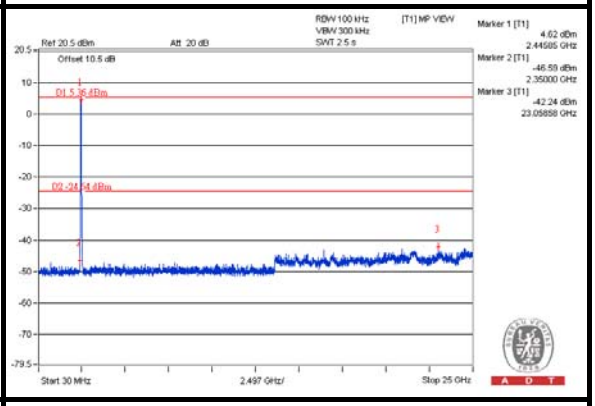
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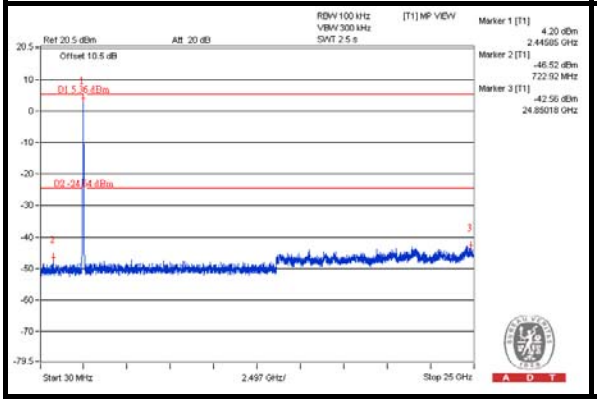	

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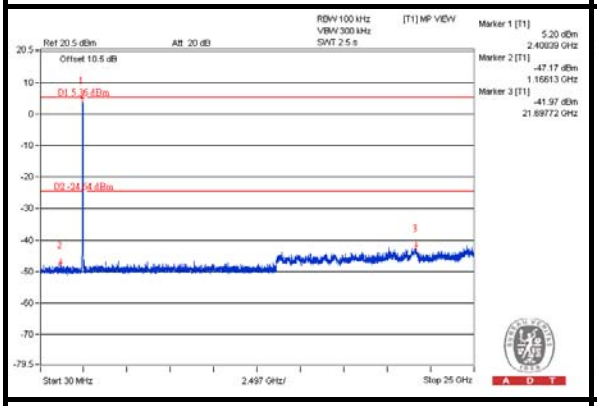

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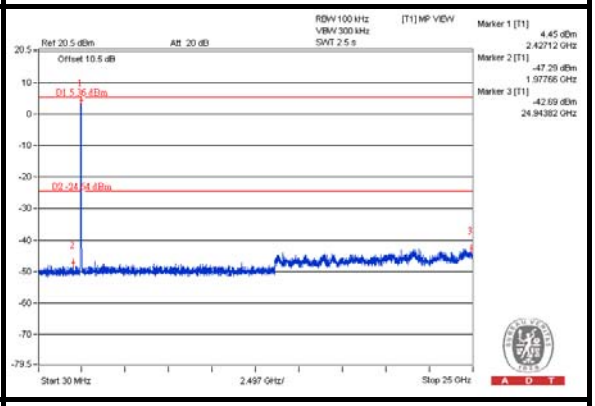

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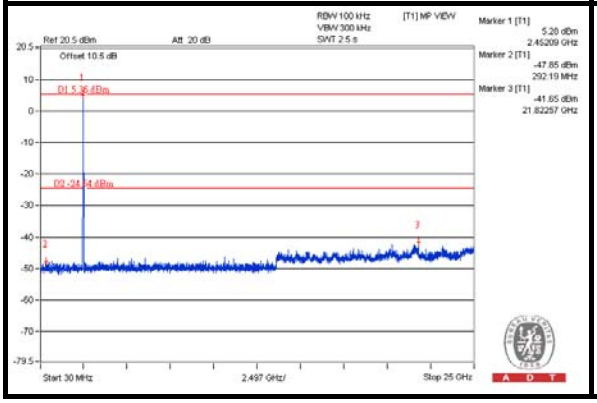
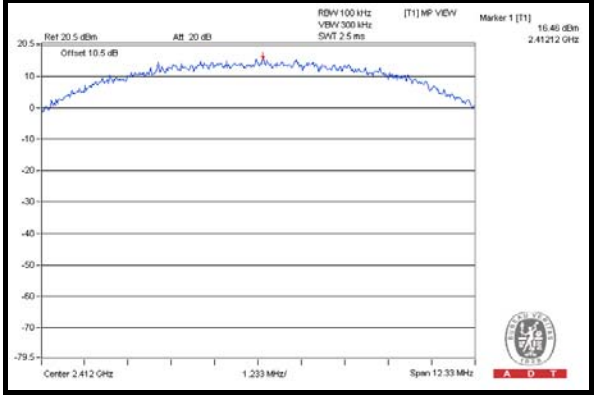
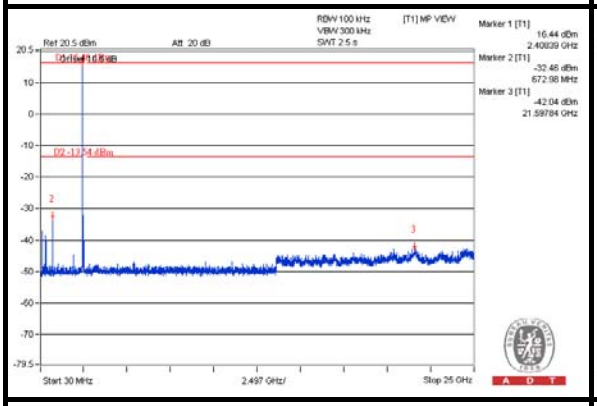


Legacy/MIMO (STBC)
802.11b

Maximum REF



CH 1



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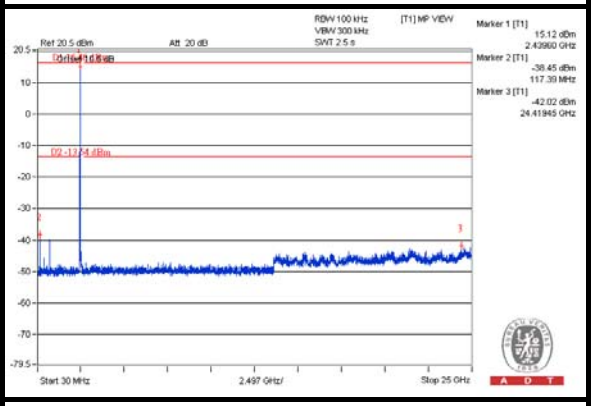

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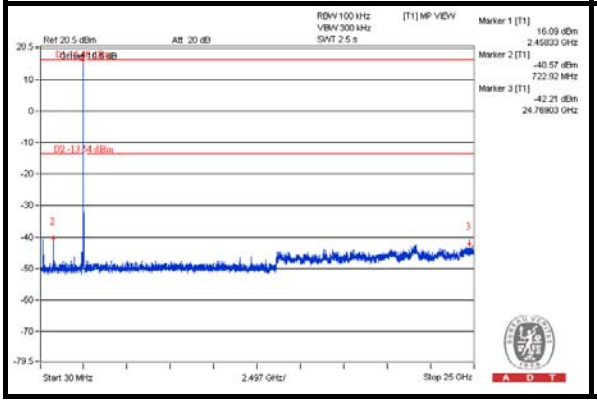
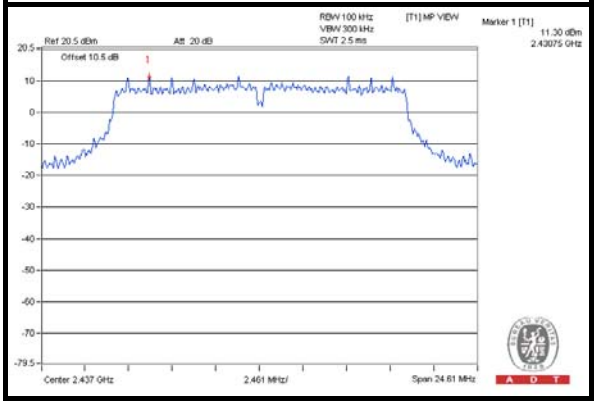
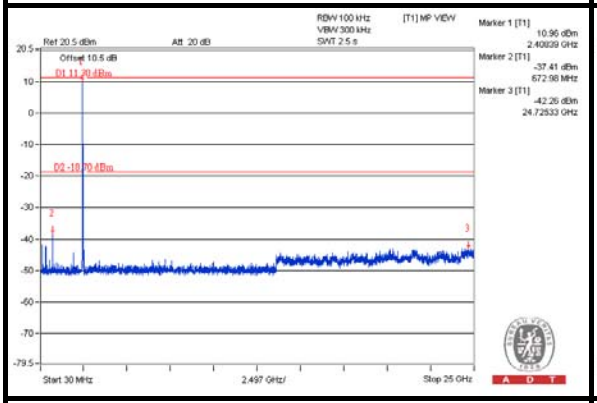


802.11g

Maximum REF



CH 1



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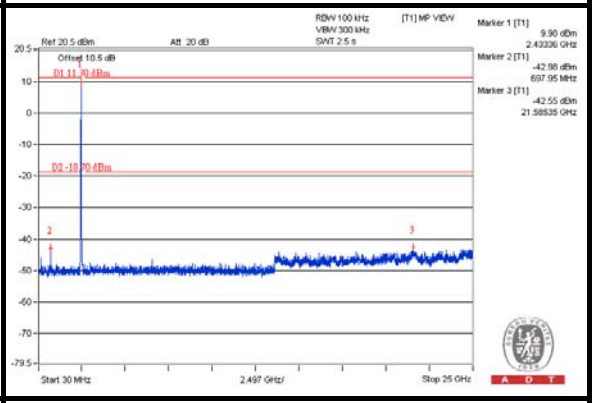

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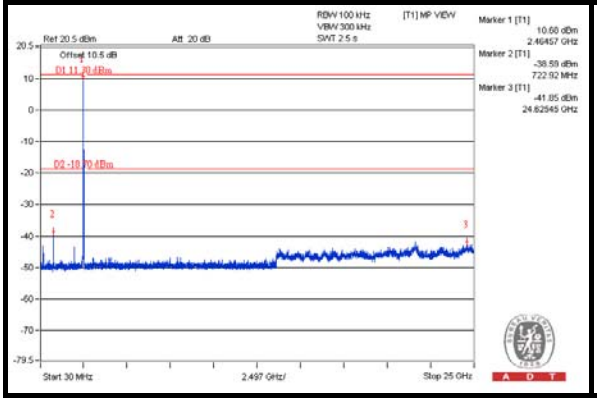
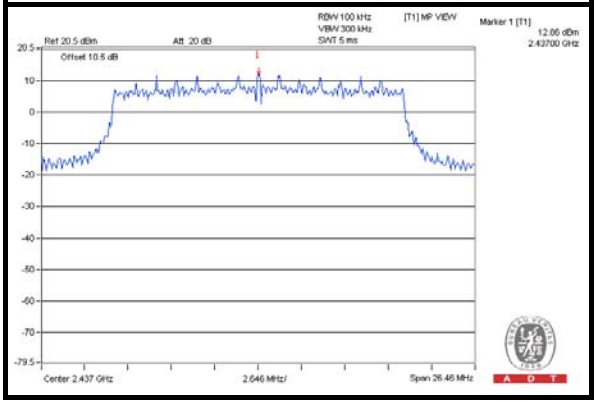


802.11n (HT20)

Maximum REF



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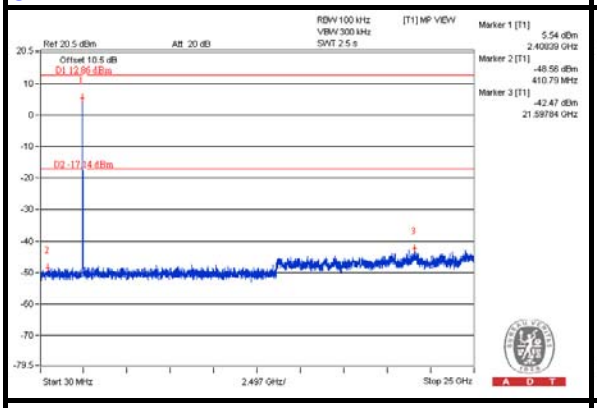

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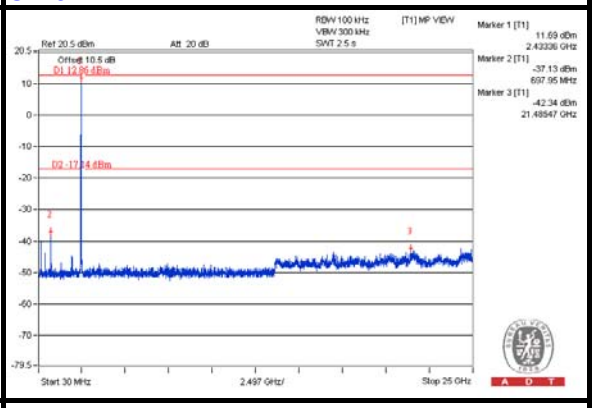

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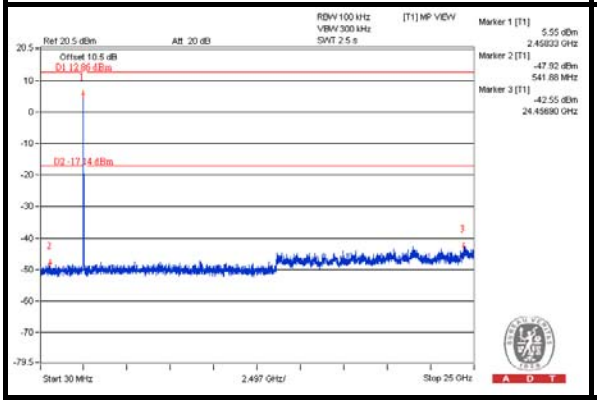

CHAIN (1)

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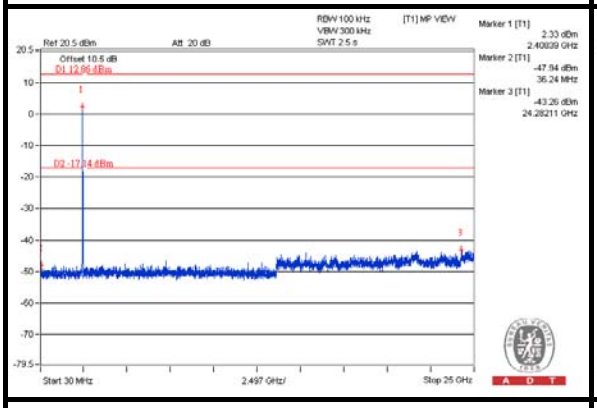	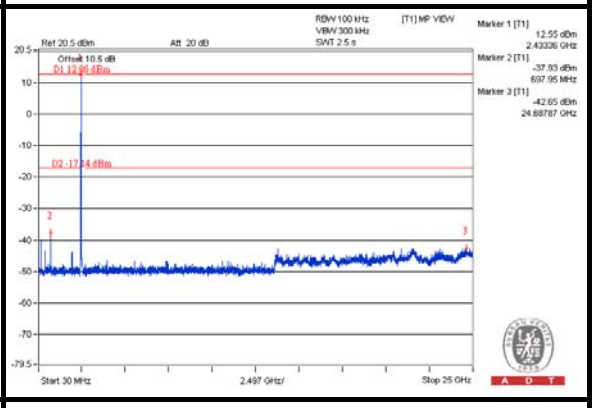
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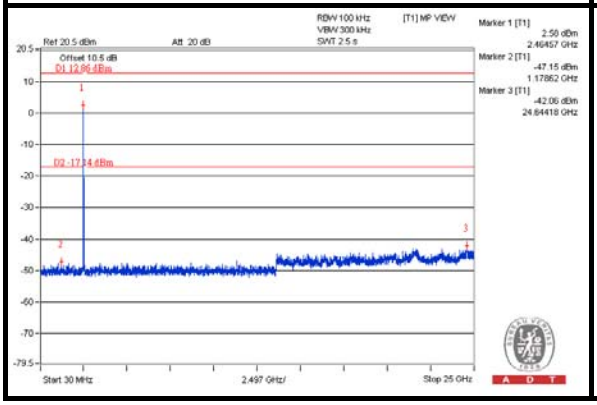	

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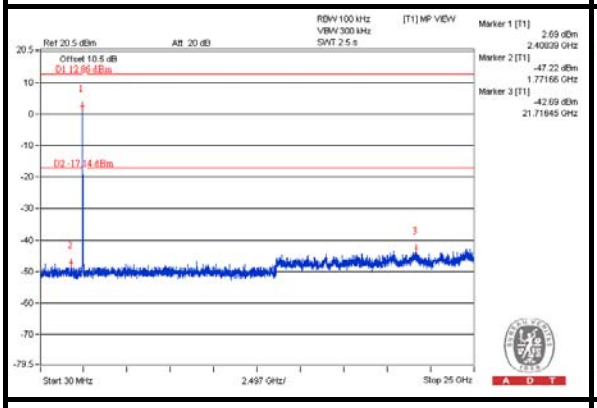
CH 1



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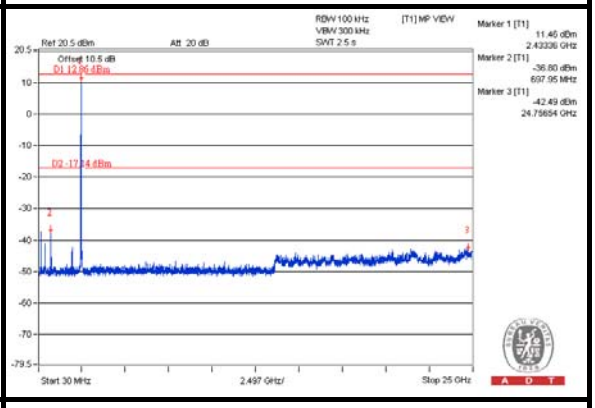

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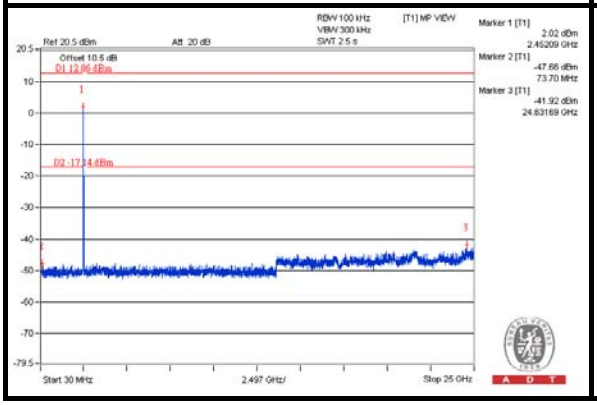

802.11n (HT40)

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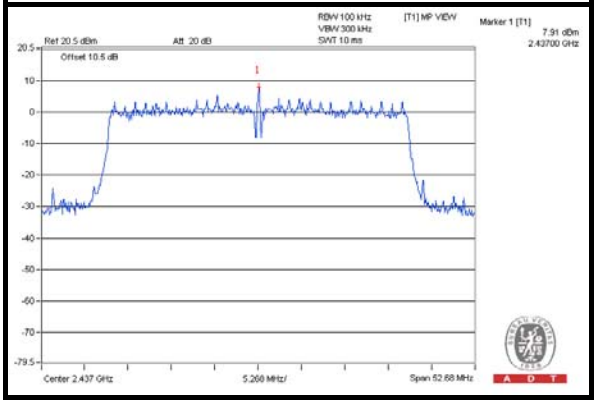

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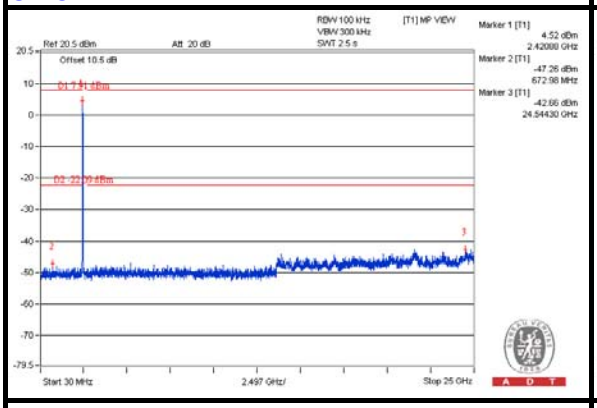

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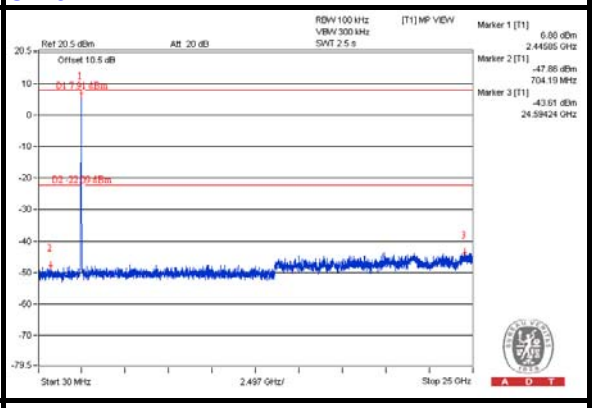

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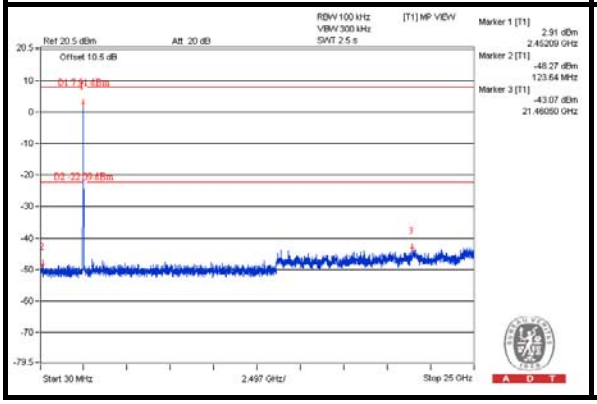
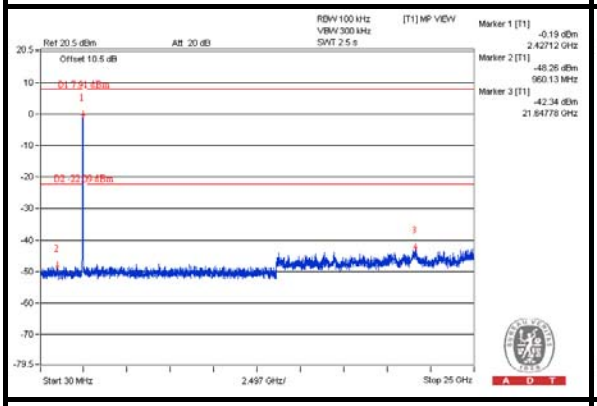
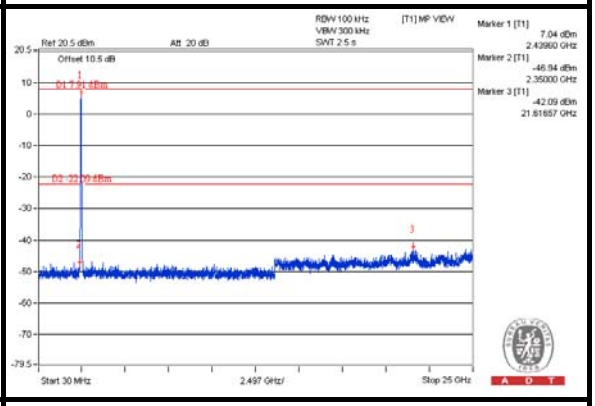


CHAIN (1)

CH 3



CH 6



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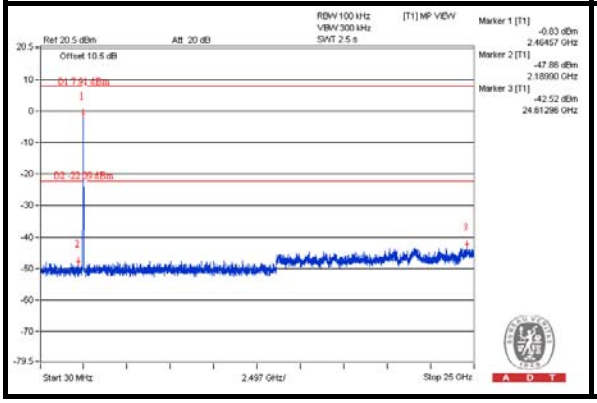

CHAIN (2)

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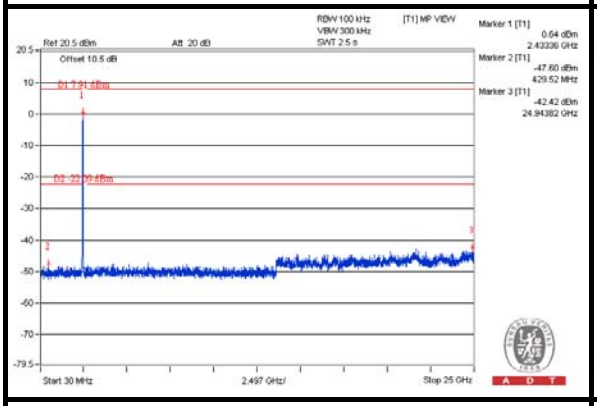
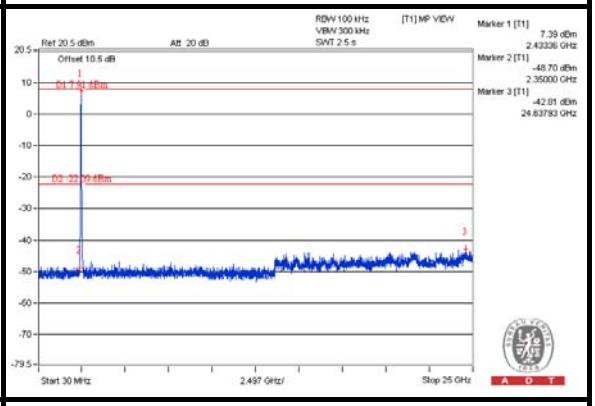
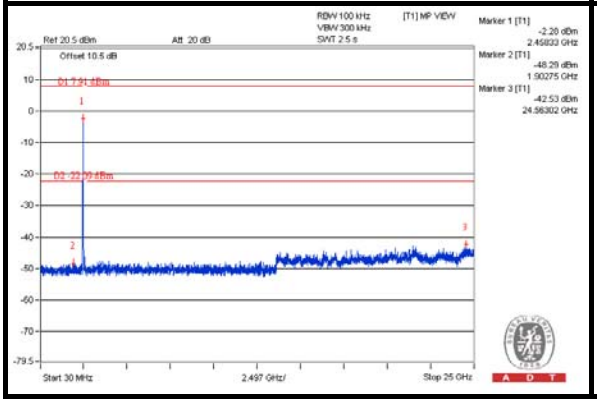
	
CH 9	
	

5. TEST TYPES AND RESULTS (FOR 5GHz, 5.725~5.850GHz Band)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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 0.50 MHz.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	100375	Mar. 08, 2013	Mar. 07, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 06, 2012	Sep. 05, 2013
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 07,2013	June 06,2014
RF Cable (JYEBAO)	5DFB	COCCAB-001	Mar. 11, 2013	Mar. 10, 2014
50 ohms Terminator	50	EMC-3	Sep. 25, 2012	Sep. 24, 2013
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: July 26, 2013

5.1.3 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.
b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit – 20dB) were not recorded.

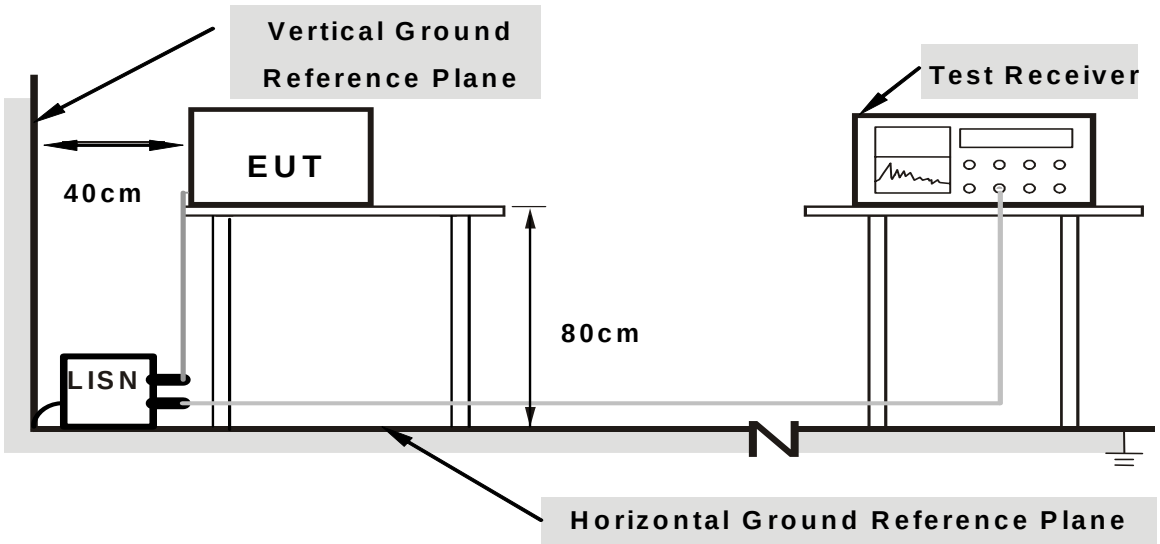
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.1.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

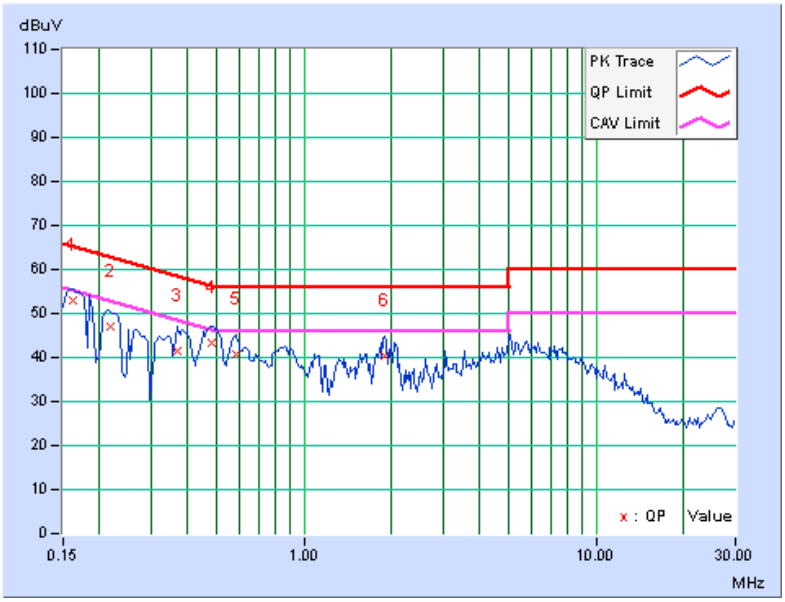
5.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.13	52.83	41.97	52.96	42.10	65.38	55.38	-12.41	-13.27
2	0.21641	0.15	46.89	35.67	47.04	35.82	62.96	52.96	-15.91	-17.13
3	0.36875	0.19	41.41	31.31	41.60	31.50	58.53	48.53	-16.93	-17.03
4	0.48203	0.21	43.24	33.75	43.45	33.96	56.30	46.30	-12.86	-12.35
5	0.58359	0.22	40.49	31.28	40.71	31.50	56.00	46.00	-15.29	-14.50
6	1.88672	0.33	39.89	32.03	40.22	32.36	56.00	46.00	-15.78	-13.64

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

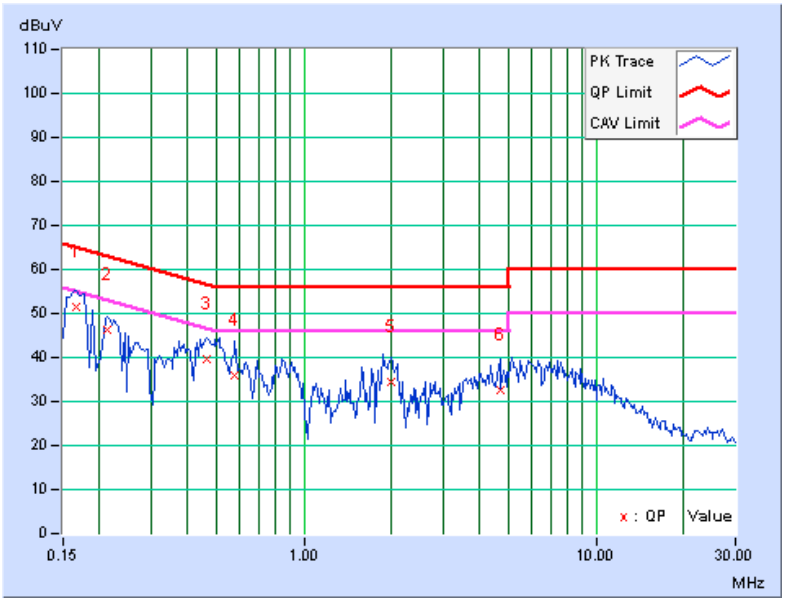


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.12	51.49	39.10	51.61	39.22	65.18	55.18	-13.57	-15.96
2	0.21250	0.13	46.18	33.71	46.31	33.84	63.11	53.11	-16.79	-19.26
3	0.46250	0.19	39.44	26.58	39.63	26.77	56.65	46.65	-17.01	-19.87
4	0.57969	0.20	35.88	26.29	36.08	26.49	56.00	46.00	-19.92	-19.51
5	1.98438	0.30	34.25	23.62	34.55	23.92	56.00	46.00	-21.45	-22.08
6	4.69531	0.47	32.19	23.40	32.66	23.87	56.00	46.00	-23.34	-22.13

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



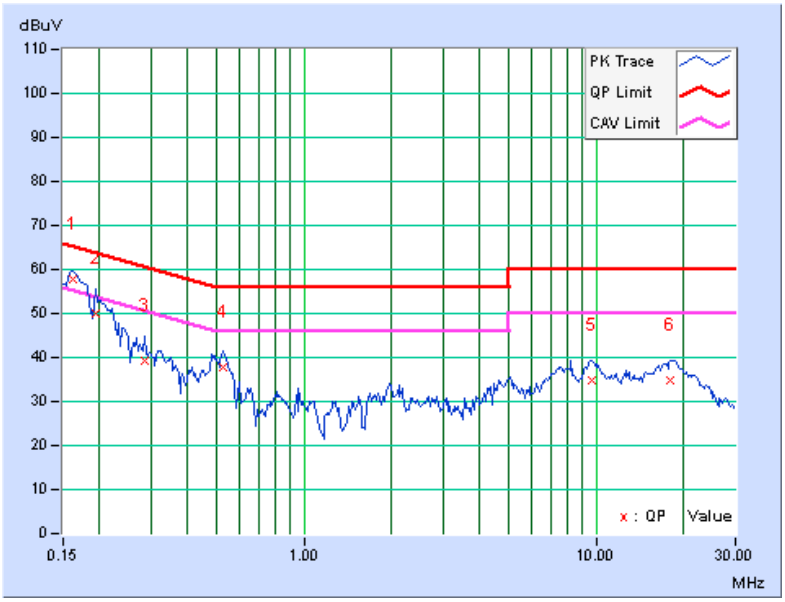
5.1.8 TEST RESULTS (MODE 3)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16172**	**0.13**	**57.54**	**47.88**	**57.67**	**48.01**	**65.38**	**55.38**	**-7.70**	**-7.36**
2	0.19297	0.15	49.91	35.83	50.06	35.98	63.91	53.91	-13.85	-17.93
3	0.28672	0.17	39.08	28.75	39.25	28.92	60.62	50.62	-21.37	-21.70
4	0.52891	0.21	37.65	31.74	37.86	31.95	56.00	46.00	-18.14	-14.05
5	9.73047	0.88	34.11	29.46	34.99	30.34	60.00	50.00	-25.01	-19.66
6	17.95703	1.35	33.44	28.49	34.79	29.84	60.00	50.00	-25.21	-20.16

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

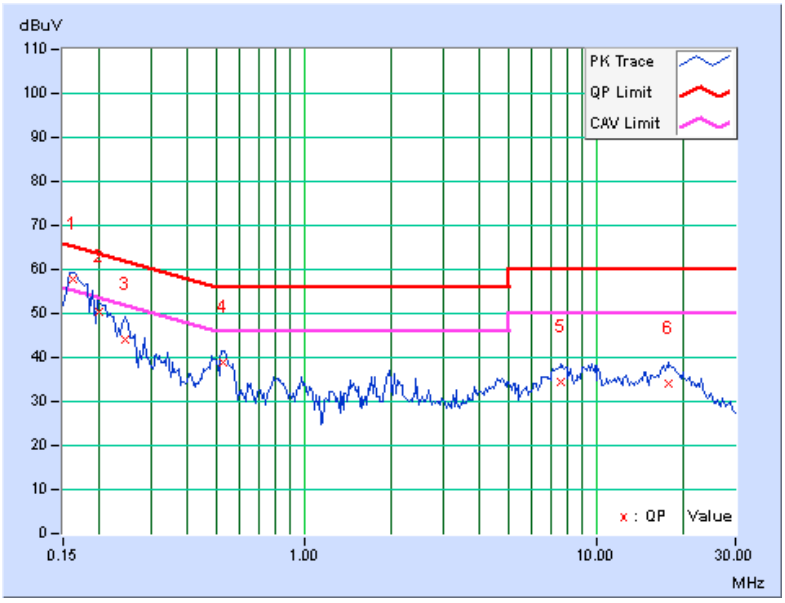


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.11	57.64	47.59	57.75	47.70	65.38	55.38	-7.62	-7.67
2	0.19984	0.13	50.33	39.88	50.46	40.01	63.62	53.62	-13.16	-13.61
3	0.24375	0.14	43.82	33.31	43.96	33.45	61.97	51.97	-18.00	-18.51
4	0.53075	0.20	38.52	32.19	38.72	32.39	56.00	46.00	-17.28	-13.61
5	7.59766	0.62	33.70	29.17	34.32	29.79	60.00	50.00	-25.68	-20.21
6	17.64453	1.04	32.86	27.86	33.90	28.90	60.00	50.00	-26.10	-21.10

REMARKS:

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



5.2 RADIATED AND BANDEDGE EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED AND BANDEDGE EMISSION 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.

5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 29,2013	Jan. 28,2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 19, 2012	Nov. 18, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 25, 2012	Dec. 24, 2013
RF Cable	NA	CHGCAB_001	Oct. 06, 2012	Oct. 05, 2013
Software	ADT_Radiated _V8.7.05	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The 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: July 29 to Aug. 06, 2013

5.2.3 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.

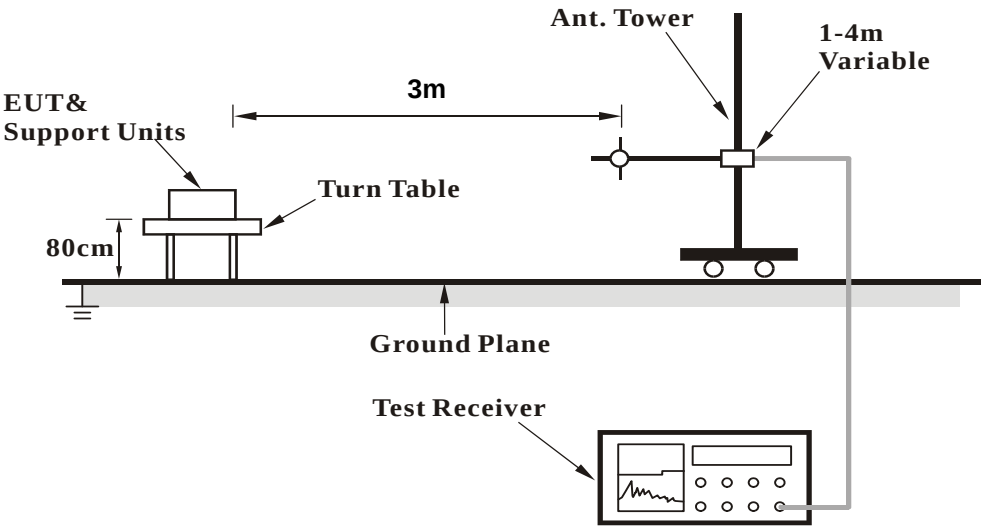
NOTE:

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 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

5.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11n (HT20)

CHANNEL	TX Channel 157	**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	106.31	34.7 QP	43.5	-8.8	2.00 H	291	51.68	-16.99
2	250.00	32.6 QP	46.0	-13.4	1.00 H	314	47.08	-14.44
3	290.10	34.2 QP	46.0	-11.8	1.00 H	270	47.27	-13.03
4	533.33	39.0 QP	46.0	-7.0	2.00 H	30	46.25	-7.28
5	775.01	31.7 QP	46.0	-14.3	1.00 H	310	33.82	-2.08
6	874.99	29.9 QP	46.0	-16.1	1.00 H	293	30.89	-0.96
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	**37.50**	**36.2 QP**	**40.0**	**-3.8**	**1.00 V**	**238**	**50.20**	**-13.99**
2	63.90	35.7 QP	40.0	-4.3	1.50 V	7	49.94	-14.24
3	212.83	32.1 QP	43.5	-11.4	1.50 V	34	48.56	-16.43
4	500.68	32.1 QP	46.0	-13.9	2.00 V	301	39.81	-7.75
5	534.23	33.2 QP	46.0	-12.8	1.00 V	113	40.41	-7.24
6	675.00	28.4 QP	46.0	-17.6	1.50 V	50	32.73	-4.35

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

ABOVE 1GHz DATA

Legacy / MIMO (CDD) with beam forming mode

802.11a

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	55.1 PK	74.0	-18.9	1.02 H	189	45.45	9.65
2	5460.00	42.6 AV	54.0	-11.4	1.02 H	189	32.95	9.65
3	*5745.00	106.0 PK			1.02 H	189	95.58	10.42
4	*5745.00	96.4 AV			1.02 H	189	85.98	10.42
5	11490.00	51.9 PK	74.0	-22.1	1.28 H	200	34.64	17.26
6	11490.00	43.5 AV	54.0	-10.5	1.28 H	200	26.24	17.26
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	5460.00	55.4 PK	74.0	-18.6	1.26 V	277	45.75	9.65
2	5460.00	43.4 AV	54.0	-10.6	1.26 V	277	33.75	9.65
3	*5745.00	118.1 PK			1.26 V	277	107.68	10.42
4	*5745.00	108.6 AV			1.26 V	277	98.18	10.42
5	11490.00	52.1 PK	74.0	-21.9	1.22 V	222	34.84	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.22 V	222	26.04	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.5 PK	74.0	-20.5	1.05 H	198	43.85	9.65
2	5460.00	41.7 AV	54.0	-12.3	1.05 H	198	32.05	9.65
3	*5785.00	106.6 PK			1.05 H	198	96.11	10.49
4	*5785.00	96.8 AV			1.05 H	198	86.31	10.49
5	11570.00	51.7 PK	74.0	-22.3	1.28 H	187	34.41	17.29
6	11570.00	43.8 AV	54.0	-10.2	1.28 H	187	26.51	17.29
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	5460.00	55.3 PK	74.0	-18.7	1.27 V	284	45.65	9.65
2	5460.00	43.3 AV	54.0	-10.7	1.27 V	284	33.65	9.65
3	*5785.00	117.7 PK			1.27 V	284	107.21	10.49
4	*5785.00	108.5 AV			1.27 V	284	98.01	10.49
5	11570.00	51.4 PK	74.0	-22.6	1.23 V	237	34.11	17.29
6	11570.00	42.8 AV	54.0	-11.2	1.23 V	237	25.51	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.7 PK	74.0	-20.3	1.07 H	200	44.05	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.07 H	200	32.25	9.65
3	*5825.00	106.5 PK			1.07 H	200	95.85	10.65
4	*5825.00	97.0 AV			1.07 H	200	86.35	10.65
5	11650.00	51.0 PK	74.0	-23.0	1.22 H	180	33.34	17.66
6	11650.00	43.5 AV	54.0	-10.5	1.22 H	180	25.84	17.66
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	5460.00	54.9 PK	74.0	-19.1	1.20 V	268	45.25	9.65
2	5460.00	43.1 AV	54.0	-10.9	1.20 V	268	33.45	9.65
3	*5825.00	118.5 PK			1.20 V	268	107.85	10.65
4	*5825.00	109.0 AV			1.20 V	268	98.35	10.65
5	11650.00	52.1 PK	74.0	-21.9	1.19 V	210	34.44	17.66
6	11650.00	43.3 AV	54.0	-10.7	1.19 V	210	25.64	17.66

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 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	54.4 PK	74.0	-19.6	1.12 H	186	44.75	9.65
2	5460.00	42.3 AV	54.0	-11.7	1.12 H	186	32.65	9.65
3	*5745.00	112.2 PK			1.12 H	186	101.78	10.42
4	*5745.00	104.0 AV			1.12 H	186	93.58	10.42
5	11490.00	51.6 PK	74.0	-22.4	1.27 H	190	34.34	17.26
6	11490.00	43.2 AV	54.0	-10.8	1.27 H	190	25.94	17.26
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	5460.00	54.3 PK	74.0	-19.7	1.18 V	281	44.65	9.65
2	5460.00	43.4 AV	54.0	-10.6	1.18 V	281	33.75	9.65
3	*5745.00	124.9 PK			1.18 V	281	114.48	10.42
4	*5745.00	116.5 AV			1.18 V	281	106.08	10.42
5	11490.00	51.7 PK	74.0	-22.3	1.12 V	224	34.44	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.12 V	224	26.04	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	54.8 PK	74.0	-19.2	1.06 H	173	45.15	9.65
2	5460.00	42.7 AV	54.0	-11.3	1.06 H	173	33.05	9.65
3	*5785.00	112.7 PK			1.06 H	173	102.21	10.49
4	*5785.00	104.4 AV			1.06 H	173	93.91	10.49
5	11570.00	52.1 PK	74.0	-21.9	1.18 H	188	34.81	17.29
6	11570.00	43.5 AV	54.0	-10.5	1.18 H	188	26.21	17.29
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	5460.00	54.2 PK	74.0	-19.8	1.21 V	267	44.55	9.65
2	5460.00	43.2 AV	54.0	-10.8	1.21 V	267	33.55	9.65
3	*5785.00	124.6 PK			1.21 V	267	114.11	10.49
4	*5785.00	116.3 AV			1.21 V	267	105.81	10.49
5	11570.00	52.1 PK	74.0	-21.9	1.15 V	216	34.81	17.29
6	11570.00	43.5 AV	54.0	-10.5	1.15 V	216	26.21	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.7 PK	74.0	-20.3	1.08 H	182	44.05	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.08 H	182	32.25	9.65
3	*5825.00	112.1 PK			1.08 H	182	101.45	10.65
4	*5825.00	103.9 AV			1.08 H	182	93.25	10.65
5	11650.00	51.2 PK	74.0	-22.8	1.32 H	175	33.54	17.66
6	11650.00	42.9 AV	54.0	-11.1	1.32 H	175	25.24	17.66
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	5460.00	54.0 PK	74.0	-20.0	1.16 V	290	44.35	9.65
2	5460.00	43.0 AV	54.0	-11.0	1.16 V	290	33.35	9.65
3	*5825.00	124.9 PK			1.16 V	290	114.25	10.65
4	*5825.00	116.7 AV			1.16 V	290	106.05	10.65
5	11650.00	51.8 PK	74.0	-22.2	1.24 V	203	34.14	17.66
6	11650.00	43.2 AV	54.0	-10.8	1.24 V	203	25.54	17.66

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 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	53.6 PK	74.0	-20.4	1.03 H	189	43.95	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.03 H	189	31.95	9.65
3	*5755.00	108.1 PK			1.03 H	189	97.67	10.43
4	*5755.00	98.7 AV			1.03 H	189	88.27	10.43
5	11510.00	51.6 PK	74.0	-22.4	1.16 H	208	34.37	17.23
6	11510.00	43.2 AV	54.0	-10.8	1.16 H	208	25.97	17.23
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	5460.00	56.7 PK	74.0	-17.3	1.18 V	280	47.05	9.65
2	5460.00	45.0 AV	54.0	-9.0	1.18 V	280	35.35	9.65
3	*5755.00	120.7 PK			1.18 V	280	110.27	10.43
4	*5755.00	111.2 AV			1.18 V	280	100.77	10.43
5	11510.00	52.1 PK	74.0	-21.9	1.27 V	236	34.87	17.23
6	11510.00	43.6 AV	54.0	-10.4	1.27 V	236	26.37	17.23

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 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	54.0 PK	74.0	-20.0	1.02 H	194	44.35	9.65
2	5460.00	42.0 AV	54.0	-12.0	1.02 H	194	32.35	9.65
3	*5795.00	108.5 PK			1.02 H	194	98.00	10.50
4	*5795.00	99.1 AV			1.02 H	194	88.60	10.50
5	11590.00	51.7 PK	74.0	-22.3	1.33 H	197	34.39	17.31
6	11590.00	43.5 AV	54.0	-10.5	1.33 H	197	26.19	17.31
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	5460.00	56.7 PK	74.0	-17.3	1.21 V	282	47.05	9.65
2	5460.00	45.3 AV	54.0	-8.7	1.21 V	282	35.65	9.65
3	*5795.00	121.1 PK			1.21 V	282	110.60	10.50
4	*5795.00	111.5 AV			1.21 V	282	101.00	10.50
5	11590.00	51.7 PK	74.0	-22.3	1.18 V	224	34.39	17.31
6	11590.00	43.0 AV	54.0	-11.0	1.18 V	224	25.69	17.31

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.

802.11ac (VHT80)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.6 PK	74.0	-20.4	1.07 H	182	43.95	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.07 H	182	31.95	9.65
3	*5775.00	104.2 PK			1.07 H	182	93.73	10.47
4	*5775.00	94.1 AV			1.07 H	182	83.63	10.47
5	11550.00	51.8 PK	74.0	-22.2	1.32 H	187	34.53	17.27
6	11550.00	43.7 AV	54.0	-10.3	1.32 H	187	26.43	17.27
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	5460.00	60.9 PK	74.0	-13.1	1.19 V	280	51.25	9.65
2	5460.00	48.6 AV	54.0	-5.4	1.19 V	280	38.95	9.65
3	*5775.00	116.9 PK			1.19 V	280	106.43	10.47
4	*5775.00	106.5 AV			1.19 V	280	96.03	10.47
5	11550.00	52.4 PK	74.0	-21.6	1.13 V	198	35.13	17.27
6	11550.00	43.6 AV	54.0	-10.4	1.13 V	198	26.33	17.27

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.

Legacy / MIMO (CDD) mode

802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	55.1 PK	74.0	-18.9	1.02 H	189	45.45	9.65
2	5460.00	42.6 AV	54.0	-11.4	1.02 H	189	32.95	9.65
3	*5745.00	106.0 PK			1.02 H	189	95.58	10.42
4	*5745.00	96.4 AV			1.02 H	189	85.98	10.42
5	11490.00	51.9 PK	74.0	-22.1	1.28 H	200	34.64	17.26
6	11490.00	43.5 AV	54.0	-10.5	1.28 H	200	26.24	17.26
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	5460.00	55.4 PK	74.0	-18.6	1.26 V	277	45.75	9.65
2	5460.00	43.4 AV	54.0	-10.6	1.26 V	277	33.75	9.65
3	*5745.00	118.1 PK			1.26 V	277	107.68	10.42
4	*5745.00	108.6 AV			1.26 V	277	98.18	10.42
5	11490.00	52.1 PK	74.0	-21.9	1.22 V	222	34.84	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.22 V	222	26.04	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.5 PK	74.0	-20.5	1.05 H	198	43.85	9.65
2	5460.00	41.7 AV	54.0	-12.3	1.05 H	198	32.05	9.65
3	*5785.00	106.6 PK			1.05 H	198	96.11	10.49
4	*5785.00	96.8 AV			1.05 H	198	86.31	10.49
5	11570.00	51.7 PK	74.0	-22.3	1.28 H	187	34.41	17.29
6	11570.00	43.8 AV	54.0	-10.2	1.28 H	187	26.51	17.29
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	5460.00	55.3 PK	74.0	-18.7	1.27 V	284	45.65	9.65
2	5460.00	43.3 AV	54.0	-10.7	1.27 V	284	33.65	9.65
3	*5785.00	117.7 PK			1.27 V	284	107.21	10.49
4	*5785.00	108.5 AV			1.27 V	284	98.01	10.49
5	11570.00	51.4 PK	74.0	-22.6	1.23 V	237	34.11	17.29
6	11570.00	42.8 AV	54.0	-11.2	1.23 V	237	25.51	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.7 PK	74.0	-20.3	1.07 H	200	44.05	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.07 H	200	32.25	9.65
3	*5825.00	106.5 PK			1.07 H	200	95.85	10.65
4	*5825.00	97.0 AV			1.07 H	200	86.35	10.65
5	11650.00	51.0 PK	74.0	-23.0	1.22 H	180	33.34	17.66
6	11650.00	43.5 AV	54.0	-10.5	1.22 H	180	25.84	17.66
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	5460.00	54.9 PK	74.0	-19.1	1.20 V	268	45.25	9.65
2	5460.00	43.1 AV	54.0	-10.9	1.20 V	268	33.45	9.65
3	*5825.00	118.5 PK			1.20 V	268	107.85	10.65
4	*5825.00	109.0 AV			1.20 V	268	98.35	10.65
5	11650.00	52.1 PK	74.0	-21.9	1.19 V	210	34.44	17.66
6	11650.00	43.3 AV	54.0	-10.7	1.19 V	210	25.64	17.66

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 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	54.4 PK	74.0	-19.6	1.12 H	186	44.75	9.65
2	5460.00	42.3 AV	54.0	-11.7	1.12 H	186	32.65	9.65
3	*5745.00	112.2 PK			1.12 H	186	101.78	10.42
4	*5745.00	104.0 AV			1.12 H	186	93.58	10.42
5	11490.00	51.6 PK	74.0	-22.4	1.27 H	190	34.34	17.26
6	11490.00	43.2 AV	54.0	-10.8	1.27 H	190	25.94	17.26
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	5460.00	54.3 PK	74.0	-19.7	1.18 V	281	44.65	9.65
2	5460.00	43.4 AV	54.0	-10.6	1.18 V	281	33.75	9.65
3	*5745.00	124.9 PK			1.18 V	281	114.48	10.42
4	*5745.00	116.5 AV			1.18 V	281	106.08	10.42
5	11490.00	51.7 PK	74.0	-22.3	1.12 V	224	34.44	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.12 V	224	26.04	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	54.8 PK	74.0	-19.2	1.06 H	173	45.15	9.65
2	5460.00	42.7 AV	54.0	-11.3	1.06 H	173	33.05	9.65
3	*5785.00	112.7 PK			1.06 H	173	102.21	10.49
4	*5785.00	104.4 AV			1.06 H	173	93.91	10.49
5	11570.00	52.1 PK	74.0	-21.9	1.18 H	188	34.81	17.29
6	11570.00	43.5 AV	54.0	-10.5	1.18 H	188	26.21	17.29
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	5460.00	54.2 PK	74.0	-19.8	1.21 V	267	44.55	9.65
2	5460.00	43.2 AV	54.0	-10.8	1.21 V	267	33.55	9.65
3	*5785.00	124.6 PK			1.21 V	267	114.11	10.49
4	*5785.00	116.3 AV			1.21 V	267	105.81	10.49
5	11570.00	52.1 PK	74.0	-21.9	1.15 V	216	34.81	17.29
6	11570.00	43.5 AV	54.0	-10.5	1.15 V	216	26.21	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.7 PK	74.0	-20.3	1.08 H	182	44.05	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.08 H	182	32.25	9.65
3	*5825.00	112.1 PK			1.08 H	182	101.45	10.65
4	*5825.00	103.9 AV			1.08 H	182	93.25	10.65
5	11650.00	51.2 PK	74.0	-22.8	1.32 H	175	33.54	17.66
6	11650.00	42.9 AV	54.0	-11.1	1.32 H	175	25.24	17.66
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	5460.00	54.0 PK	74.0	-20.0	1.16 V	290	44.35	9.65
2	5460.00	43.0 AV	54.0	-11.0	1.16 V	290	33.35	9.65
3	*5825.00	124.9 PK			1.16 V	290	114.25	10.65
4	*5825.00	116.7 AV			1.16 V	290	106.05	10.65
5	11650.00	51.8 PK	74.0	-22.2	1.24 V	203	34.14	17.66
6	11650.00	43.2 AV	54.0	-10.8	1.24 V	203	25.54	17.66

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 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	53.6 PK	74.0	-20.4	1.03 H	189	43.95	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.03 H	189	31.95	9.65
3	*5755.00	108.1 PK			1.03 H	189	97.67	10.43
4	*5755.00	98.7 AV			1.03 H	189	88.27	10.43
5	11510.00	51.6 PK	74.0	-22.4	1.16 H	208	34.37	17.23
6	11510.00	43.2 AV	54.0	-10.8	1.16 H	208	25.97	17.23
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	5460.00	56.7 PK	74.0	-17.3	1.18 V	280	47.05	9.65
2	5460.00	45.0 AV	54.0	-9.0	1.18 V	280	35.35	9.65
3	*5755.00	120.7 PK			1.18 V	280	110.27	10.43
4	*5755.00	111.2 AV			1.18 V	280	100.77	10.43
5	11510.00	52.1 PK	74.0	-21.9	1.27 V	236	34.87	17.23
6	11510.00	43.6 AV	54.0	-10.4	1.27 V	236	26.37	17.23

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 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	54.0 PK	74.0	-20.0	1.02 H	194	44.35	9.65
2	5460.00	42.0 AV	54.0	-12.0	1.02 H	194	32.35	9.65
3	*5795.00	108.5 PK			1.02 H	194	98.00	10.50
4	*5795.00	99.1 AV			1.02 H	194	88.60	10.50
5	11590.00	51.7 PK	74.0	-22.3	1.33 H	197	34.39	17.31
6	11590.00	43.5 AV	54.0	-10.5	1.33 H	197	26.19	17.31
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	5460.00	56.7 PK	74.0	-17.3	1.21 V	282	47.05	9.65
2	5460.00	45.3 AV	54.0	-8.7	1.21 V	282	35.65	9.65
3	*5795.00	121.1 PK			1.21 V	282	110.60	10.50
4	*5795.00	111.5 AV			1.21 V	282	101.00	10.50
5	11590.00	51.7 PK	74.0	-22.3	1.18 V	224	34.39	17.31
6	11590.00	43.0 AV	54.0	-11.0	1.18 V	224	25.69	17.31

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.

802.11ac (VHT80)

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.6 PK	74.0	-20.4	1.07 H	182	43.95	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.07 H	182	31.95	9.65
3	*5775.00	104.2 PK			1.07 H	182	93.73	10.47
4	*5775.00	94.1 AV			1.07 H	182	83.63	10.47
5	11550.00	51.8 PK	74.0	-22.2	1.32 H	187	34.53	17.27
6	11550.00	43.7 AV	54.0	-10.3	1.32 H	187	26.43	17.27
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	5460.00	60.9 PK	74.0	-13.1	1.19 V	280	51.25	9.65
2	5460.00	48.6 AV	54.0	-5.4	1.19 V	280	38.95	9.65
3	*5775.00	116.9 PK			1.19 V	280	106.43	10.47
4	*5775.00	106.5 AV			1.19 V	280	96.03	10.47
5	11550.00	52.4 PK	74.0	-21.6	1.13 V	198	35.13	17.27
6	11550.00	43.6 AV	54.0	-10.4	1.13 V	198	26.33	17.27

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.

Legacy / MIMO (STBC) mode

802.11a

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	55.1 PK	74.0	-18.9	1.02 H	189	45.45	9.65
2	5460.00	42.6 AV	54.0	-11.4	1.02 H	189	32.95	9.65
3	*5745.00	106.0 PK			1.02 H	189	95.58	10.42
4	*5745.00	96.4 AV			1.02 H	189	85.98	10.42
5	11490.00	51.9 PK	74.0	-22.1	1.28 H	200	34.64	17.26
6	11490.00	43.5 AV	54.0	-10.5	1.28 H	200	26.24	17.26
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	5460.00	55.4 PK	74.0	-18.6	1.26 V	277	45.75	9.65
2	5460.00	43.4 AV	54.0	-10.6	1.26 V	277	33.75	9.65
3	*5745.00	118.1 PK			1.26 V	277	107.68	10.42
4	*5745.00	108.6 AV			1.26 V	277	98.18	10.42
5	11490.00	52.1 PK	74.0	-21.9	1.22 V	222	34.84	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.22 V	222	26.04	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.5 PK	74.0	-20.5	1.05 H	198	43.85	9.65
2	5460.00	41.7 AV	54.0	-12.3	1.05 H	198	32.05	9.65
3	*5785.00	106.6 PK			1.05 H	198	96.11	10.49
4	*5785.00	96.8 AV			1.05 H	198	86.31	10.49
5	11570.00	51.7 PK	74.0	-22.3	1.28 H	187	34.41	17.29
6	11570.00	43.8 AV	54.0	-10.2	1.28 H	187	26.51	17.29
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	5460.00	55.3 PK	74.0	-18.7	1.27 V	284	45.65	9.65
2	5460.00	43.3 AV	54.0	-10.7	1.27 V	284	33.65	9.65
3	*5785.00	117.7 PK			1.27 V	284	107.21	10.49
4	*5785.00	108.5 AV			1.27 V	284	98.01	10.49
5	11570.00	51.4 PK	74.0	-22.6	1.23 V	237	34.11	17.29
6	11570.00	42.8 AV	54.0	-11.2	1.23 V	237	25.51	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.7 PK	74.0	-20.3	1.07 H	200	44.05	9.65
2	5460.00	41.9 AV	54.0	-12.1	1.07 H	200	32.25	9.65
3	*5825.00	106.5 PK			1.07 H	200	95.85	10.65
4	*5825.00	97.0 AV			1.07 H	200	86.35	10.65
5	11650.00	51.0 PK	74.0	-23.0	1.22 H	180	33.34	17.66
6	11650.00	43.5 AV	54.0	-10.5	1.22 H	180	25.84	17.66
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	5460.00	54.9 PK	74.0	-19.1	1.20 V	268	45.25	9.65
2	5460.00	43.1 AV	54.0	-10.9	1.20 V	268	33.45	9.65
3	*5825.00	118.5 PK			1.20 V	268	107.85	10.65
4	*5825.00	109.0 AV			1.20 V	268	98.35	10.65
5	11650.00	52.1 PK	74.0	-21.9	1.19 V	210	34.44	17.66
6	11650.00	43.3 AV	54.0	-10.7	1.19 V	210	25.64	17.66

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 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	52.5 PK	74.0	-21.5	1.02 H	193	42.85	9.65
2	5460.00	40.8 AV	54.0	-13.2	1.02 H	193	31.15	9.65
3	*5745.00	109.1 PK			1.02 H	193	98.68	10.42
4	*5745.00	99.2 AV			1.02 H	193	88.78	10.42
5	11490.00	51.2 PK	74.0	-22.8	1.29 H	193	33.94	17.26
6	11490.00	43.3 AV	54.0	-10.7	1.29 H	193	26.04	17.26
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	5460.00	56.2 PK	74.0	-17.8	1.21 V	284	46.55	9.65
2	5460.00	44.8 AV	54.0	-9.2	1.21 V	284	35.15	9.65
3	*5745.00	121.4 PK			1.21 V	284	110.98	10.42
4	*5745.00	111.4 AV			1.21 V	284	100.98	10.42
5	11490.00	51.3 PK	74.0	-22.7	1.26 V	219	34.04	17.26
6	11490.00	43.1 AV	54.0	-10.9	1.26 V	219	25.84	17.26

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 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.4 PK	74.0	-20.6	1.06 H	152	43.75	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.06 H	152	31.95	9.65
3	*5785.00	109.0 PK			1.06 H	152	98.51	10.49
4	*5785.00	98.6 AV			1.06 H	152	88.11	10.49
5	11570.00	51.1 PK	74.0	-22.9	1.21 H	194	33.81	17.29
6	11570.00	42.8 AV	54.0	-11.2	1.21 H	194	25.51	17.29
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	5460.00	56.3 PK	74.0	-17.7	1.24 V	283	46.65	9.65
2	5460.00	45.1 AV	54.0	-8.9	1.24 V	283	35.45	9.65
3	*5785.00	121.5 PK			1.24 V	283	111.01	10.49
4	*5785.00	111.3 AV			1.24 V	283	100.81	10.49
5	11570.00	52.0 PK	74.0	-22.0	1.12 V	217	34.71	17.29
6	11570.00	43.5 AV	54.0	-10.5	1.12 V	217	26.21	17.29

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 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.3 PK	74.0	-20.7	1.03 H	174	43.65	9.65
2	5460.00	41.2 AV	54.0	-12.8	1.03 H	174	31.55	9.65
3	*5825.00	108.7 PK			1.03 H	174	98.05	10.65
4	*5825.00	98.9 AV			1.03 H	174	88.25	10.65
5	11650.00	52.0 PK	74.0	-22.0	1.30 H	184	34.34	17.66
6	11650.00	43.7 AV	54.0	-10.3	1.30 H	184	26.04	17.66
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	5460.00	55.7 PK	74.0	-18.3	1.17 V	282	46.05	9.65
2	5460.00	44.6 AV	54.0	-9.4	1.17 V	282	34.95	9.65
3	*5825.00	120.7 PK			1.17 V	282	110.05	10.65
4	*5825.00	110.9 AV			1.17 V	282	100.25	10.65
5	11650.00	52.1 PK	74.0	-21.9	1.21 V	238	34.44	17.66
6	11650.00	43.3 AV	54.0	-10.7	1.21 V	238	25.64	17.66

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 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	54.1 PK	74.0	-19.9	1.05 H	148	44.45	9.65
2	5460.00	41.8 AV	54.0	-12.2	1.05 H	148	32.15	9.65
3	*5755.00	106.5 PK			1.05 H	148	96.07	10.43
4	*5755.00	96.3 AV			1.05 H	148	85.87	10.43
5	11510.00	51.5 PK	74.0	-22.5	1.26 H	171	34.27	17.23
6	11510.00	43.0 AV	54.0	-11.0	1.26 H	171	25.77	17.23
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	5460.00	55.5 PK	74.0	-18.5	1.21 V	284	45.85	9.65
2	5460.00	44.7 AV	54.0	-9.3	1.21 V	284	35.05	9.65
3	*5755.00	118.2 PK			1.21 V	284	107.77	10.43
4	*5755.00	108.1 AV			1.21 V	284	97.67	10.43
5	11510.00	51.6 PK	74.0	-22.4	1.14 V	210	34.37	17.23
6	11510.00	43.0 AV	54.0	-11.0	1.14 V	210	25.77	17.23

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 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		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	5460.00	53.5 PK	74.0	-20.5	1.08 H	179	43.85	9.65
2	5460.00	41.7 AV	54.0	-12.3	1.08 H	179	32.05	9.65
3	*5795.00	106.3 PK			1.08 H	179	95.80	10.50
4	*5795.00	96.1 AV			1.08 H	179	85.60	10.50
5	11590.00	52.4 PK	74.0	-21.6	1.28 H	184	35.09	17.31
6	11590.00	43.9 AV	54.0	-10.1	1.28 H	184	26.59	17.31
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	5460.00	54.6 PK	74.0	-19.4	1.25 V	287	44.95	9.65
2	5460.00	43.7 AV	54.0	-10.3	1.25 V	287	34.05	9.65
3	*5795.00	117.7 PK			1.25 V	287	107.20	10.50
4	*5795.00	107.8 AV			1.25 V	287	97.30	10.50
5	11590.00	51.8 PK	74.0	-22.2	1.15 V	203	34.49	17.31
6	11590.00	43.2 AV	54.0	-10.8	1.15 V	203	25.89	17.31

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.

802.11ac (VHT80)

CHANNEL	TX Channel 155	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	53.6 PK	74.0	-20.4	1.00 H	181	43.95	9.65
2	5460.00	41.6 AV	54.0	-12.4	1.00 H	181	31.95	9.65
3	*5775.00	102.5 PK			1.00 H	181	92.03	10.47
4	*5775.00	95.4 AV			1.00 H	181	84.93	10.47
5	11550.00	52.8 PK	74.0	-21.2	1.31 H	194	35.53	17.27
6	11550.00	44.2 AV	54.0	-9.8	1.31 H	194	26.93	17.27
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	5460.00	60.4 PK	74.0	-13.6	1.19 V	299	50.75	9.65
2	5460.00	46.9 AV	54.0	-7.1	1.19 V	299	37.25	9.65
3	*5775.00	115.0 PK			1.19 V	299	104.53	10.47
4	*5775.00	107.9 AV			1.19 V	299	97.43	10.47
5	11550.00	51.7 PK	74.0	-22.3	1.15 V	202	34.43	17.27
6	11550.00	43.0 AV	54.0	-11.0	1.15 V	202	25.73	17.27

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.

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

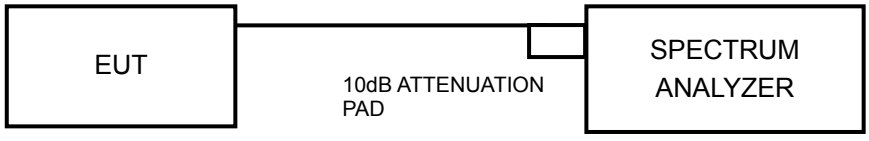
5.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. 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

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

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

5.3.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.40	0.5	PASS
157	5785	16.41	0.5	PASS
165	5825	16.39	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
149	5745	17.65	17.66	17.68	0.5	PASS
157	5785	17.64	17.67	17.65	0.5	PASS
165	5825	17.65	17.67	17.66	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
151	5755	36.39	36.47	36.41	0.5	PASS
159	5795	36.46	36.51	36.47	0.5	PASS

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
155	5775	75.70	75.65	75.67	0.5	PASS

Legacy/MIMO (CDD)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.40	0.5	PASS
157	5785	16.41	0.5	PASS
165	5825	16.39	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
149	5745	17.66	17.68	17.66	0.5	PASS
157	5785	17.65	17.68	17.63	0.5	PASS
165	5825	17.62	17.66	17.63	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
151	5755	36.36	36.48	36.45	0.5	PASS
159	5795	36.44	36.44	36.47	0.5	PASS

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
155	5775	75.70	75.65	75.67	0.5	PASS

Legacy/MIMO (STBC)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.40	0.5	PASS
157	5785	16.41	0.5	PASS
165	5825	16.39	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
149	5745	17.66	17.68	17.66	0.5	PASS
157	5785	17.65	17.68	17.63	0.5	PASS
165	5825	17.62	17.66	17.63	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
151	5755	36.36	36.48	36.45	0.5	PASS
159	5795	36.44	36.44	36.47	0.5	PASS

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
155	5775	75.70	75.65	75.67	0.5	PASS

5.4 CONDUCTED OUTPUT POWER MEASUREMENT

5.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz band: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 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.

5.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	0824006	May 20, 2013	May 19, 2014
Power sensor Anritsu	MA2411B	0738172	May 20, 2013	May 19, 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. Tested date : Aug. 09, 2013

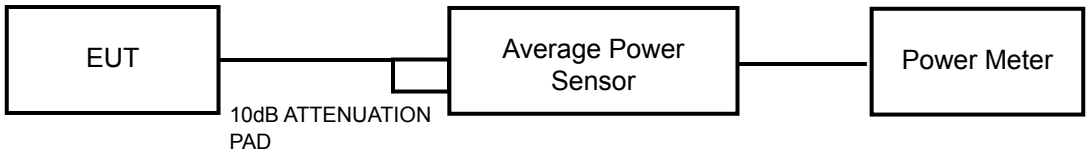
5.4.3 TEST PROCEDURES

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation.

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 5.3.6

5.4.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11a

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	199.986	23.01	30	PASS
157	5785	348.337	25.42	30	PASS
165	5825	343.558	25.36	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
149	5745	21.92	22.21	22.01	480.793	26.82	28.10	PASS
157	5785	22.81	22.96	22.92	584.566	27.67	28.10	PASS
165	5825	22.85	22.97	22.93	587.241	27.69	28.10	PASS

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power limit shall be reduced to 30-(7.9-6) = 28.1dBm.

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
151	5755	21.21	21.14	21.36	398.920	26.01	28.10	PASS
159	5795	22.89	22.93	22.92	586.756	27.68	28.10	PASS

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power limit shall be reduced to 30-(7.9-6) = 28.1dBm.

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
155	5775	21.21	20.78	20.67	368.485	25.66	28.10	PASS

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power limit shall be reduced to 30-(7.9-6) = 28.1dBm.

Legacy/MIMO (CDD)

802.11a

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	199.986	23.01	30	PASS
157	5785	348.337	25.42	30	PASS
165	5825	343.558	25.36	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
149	5745	22.29	22.42	22.72	531.084	27.25	30.00	PASS
157	5785	25.32	25.13	25.08	988.352	29.95	30.00	PASS
165	5825	24.21	24.23	24.21	792.116	28.99	30.00	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
151	5755	25.31	24.73	24.72	933.275	29.70	30.00	PASS
159	5795	25.29	24.81	24.83	944.845	29.75	30.00	PASS

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
155	5775	21.21	20.78	20.67	368.485	25.66	30.00	PASS

Legacy/MIMO (STBC)

802.11a

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	199.986	23.01	30	PASS
157	5785	348.337	25.42	30	PASS
165	5825	343.558	25.36	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
149	5745	22.29	22.42	22.72	531.084	27.25	30.00	PASS
157	5785	25.32	25.13	25.08	988.352	29.95	30.00	PASS
165	5825	24.21	24.23	24.21	792.116	28.99	30.00	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
151	5755	25.31	24.73	24.72	933.275	29.70	30.00	PASS
159	5795	25.29	24.81	24.83	944.845	29.75	30.00	PASS

802.11ac (VHT80)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
155	5775	21.21	20.78	20.67	368.485	25.66	30.00	PASS

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

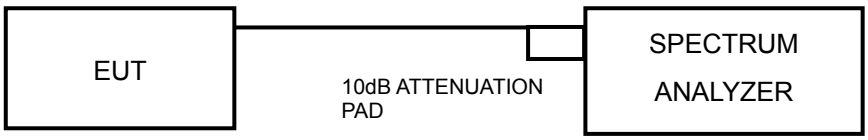
5.5.3 TEST PROCEDURE

1. Set the RBW = 30 kHz, VBW =100 kHz, Detector = power averaging (RMS).
2. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW
3. Sweep time = auto couple,
4. Use the peak marker function to determine the maximum power level in any 30 kHz band segment within the fundamental EBW.
5. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(3 kHz/30kHz)

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

5.5.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
149	5745	-4.28	-14.28	8	PASS
157	5785	-2.37	-12.37	8	PASS
165	5825	-1.84	-11.84	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-5.54	-15.54	4.77	-10.77	6.10	PASS
	157	5785	-4.57	-14.57	4.77	-9.80	6.10	PASS
	165	5825	-4.60	-14.60	4.77	-9.83	6.10	PASS
1	149	5745	-5.31	-15.31	4.77	-10.54	6.10	PASS
	157	5785	-5.13	-15.13	4.77	-10.36	6.10	PASS
	165	5825	-5.02	-15.02	4.77	-10.25	6.10	PASS
2	149	5745	-5.44	-15.44	4.77	-10.67	6.10	PASS
	157	5785	-4.85	-14.85	4.77	-10.08	6.10	PASS
	165	5825	-4.59	-14.59	4.77	-9.82	6.10	PASS

NOTE: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

802.11n (HT40)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-8.28	-18.28	4.77	0.10	-13.41	6.10	PASS
	159	5795	-6.73	-16.73	4.77	0.10	-11.86	6.10	PASS
1	151	5755	-8.27	-18.27	4.77	0.10	-13.40	6.10	PASS
	159	5795	-7.32	-17.32	4.77	0.10	-12.45	6.10	PASS
2	151	5755	-8.26	-18.26	4.77	0.10	-13.39	6.10	PASS
	159	5795	-6.73	-16.73	4.77	0.10	-11.86	6.10	PASS

NOTE: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	155	5775	-8.28	-18.28	4.77	0.21	-13.41	6.10	PASS
1	155	5775	-8.27	-18.27	4.77	0.21	-13.40	6.10	PASS
2	155	5775	-8.26	-18.26	4.77	0.21	-13.39	6.10	PASS

NOTE: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

Legacy/MIMO (CDD)

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
149	5745	-4.28	-14.28	8	PASS
157	5785	-2.37	-12.37	8	PASS
165	5825	-1.84	-11.84	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-4.82	-14.82	4.77	-10.05	6.10	PASS
	157	5785	-2.25	-12.25	4.77	-7.48	6.10	PASS
	165	5825	-2.97	-12.97	4.77	-8.20	6.10	PASS
1	149	5745	-5.59	-15.59	4.77	-10.82	6.10	PASS
	157	5785	-2.90	-12.90	4.77	-8.13	6.10	PASS
	165	5825	-3.51	-13.51	4.77	-8.74	6.10	PASS
2	149	5745	-4.69	-14.69	4.77	-9.92	6.10	PASS
	157	5785	-2.50	-12.50	4.77	-7.73	6.10	PASS
	165	5825	-2.92	-12.92	4.77	-8.15	6.10	PASS

NOTE: 1. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

802.11n (HT40)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-8.26	-18.26	4.77	-13.49	6.10	PASS
	159	5795	-4.90	-14.90	4.77	-10.13	6.10	PASS
1	151	5755	-9.10	-19.10	4.77	-14.33	6.10	PASS
	159	5795	-5.81	-15.81	4.77	-11.04	6.10	PASS
2	151	5755	-8.85	-18.85	4.77	-14.08	6.10	PASS
	159	5795	-5.13	-15.13	4.77	-10.36	6.10	PASS

NOTE: 1. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$)^2 / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

802.11ac (VHT80)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	155	5775	-9.94	-19.94	4.77	0.21	-14.96	6.10	PASS
1	155	5775	-10.13	-20.13	4.77	0.21	-15.15	6.10	PASS
2	155	5775	-9.92	-19.92	4.77	0.21	-14.94	6.10	PASS

NOTE: 1. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$)^2 / 3] = 7.9dBi > 6dBi , so the power density limit shall be reduced to 8-(7.9-6) = 6.1dBm.

2. Refer to section 3.4 for duty cycle spectrum plot.

Legacy/MIMO (STBC)

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS /FAIL
149	5745	-4.28	-14.28	8	PASS
157	5785	-2.37	-12.37	8	PASS
165	5825	-1.84	-11.84	8	PASS

802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-4.82	-14.82	4.77	-10.05	8	PASS
	157	5785	-2.25	-12.25	4.77	-7.48	8	PASS
	165	5825	-2.97	-12.97	4.77	-8.20	8	PASS
1	149	5745	-5.59	-15.59	4.77	-10.82	8	PASS
	157	5785	-2.90	-12.90	4.77	-8.13	8	PASS
	165	5825	-3.51	-13.51	4.77	-8.74	8	PASS
2	149	5745	-4.69	-14.69	4.77	-9.92	8	PASS
	157	5785	-2.50	-12.50	4.77	-7.73	8	PASS
	165	5825	-2.92	-12.92	4.77	-8.15	8	PASS

802.11n (HT40)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/30kHz)	PSD (dBm/3kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-8.26	-18.26	4.77	-13.49	8	PASS
	159	5795	-4.90	-14.90	4.77	-10.13	8	PASS
1	151	5755	-9.10	-19.10	4.77	-14.33	8	PASS
	159	5795	-5.81	-15.81	4.77	-11.04	8	PASS
2	151	5755	-8.85	-18.85	4.77	-14.08	8	PASS
	159	5795	-5.13	-15.13	4.77	-10.36	8	PASS

802.11ac (VHT80)

TX chain	CHAN.	FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm/30kHz)	PSD W/O DUTY FACTOR (dBm/3kHz)	10 log (N=3) dB	DUTY FACTOR (dB)	Total PSD WITH DUTY FACTOR (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	155	5775	-9.94	-19.94	4.77	0.21	-14.96	8	PASS
1	155	5775	-10.13	-20.13	4.77	0.21	-15.15	8	PASS
2	155	5775	-9.92	-19.92	4.77	0.21	-14.94	8	PASS

NOTE: 1. Refer to section 3.4 for duty cycle spectrum plot.

5.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 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. Tested date : Aug. 09, 2013

5.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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.

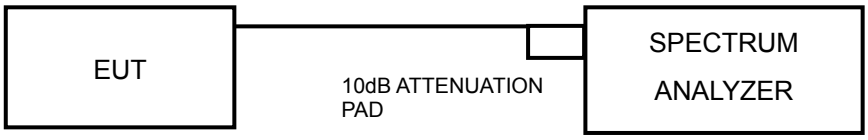
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

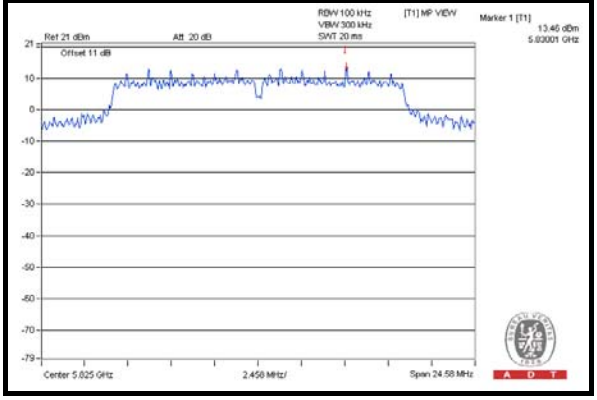
Same as Item 4.3.6

5.6.7 TEST RESULTS

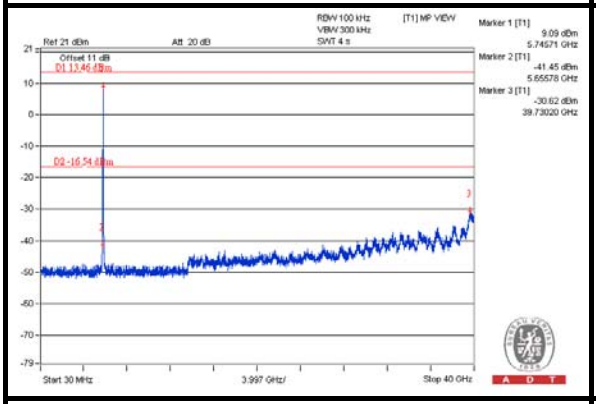
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

Legacy/MIMO (CDD) with beam forming
802.11a

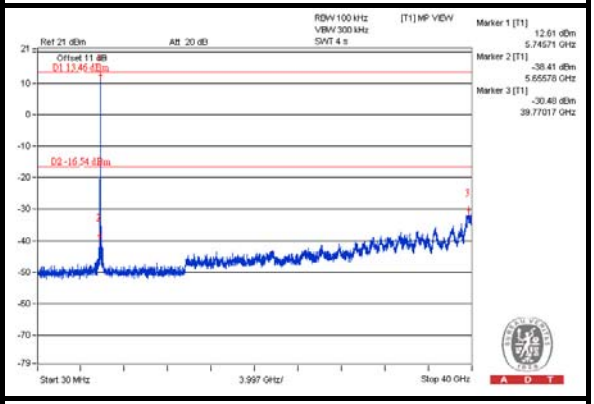
Maximum REF



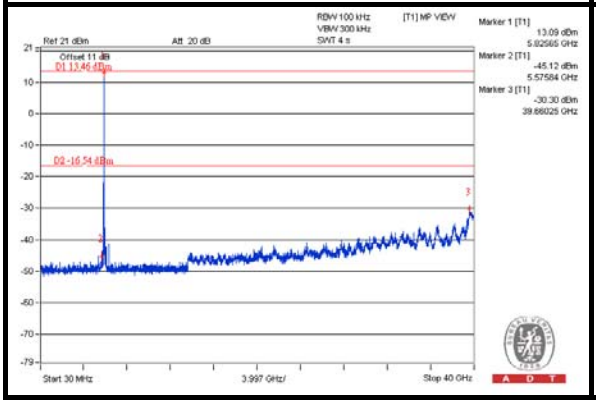
CH 149



CH 157

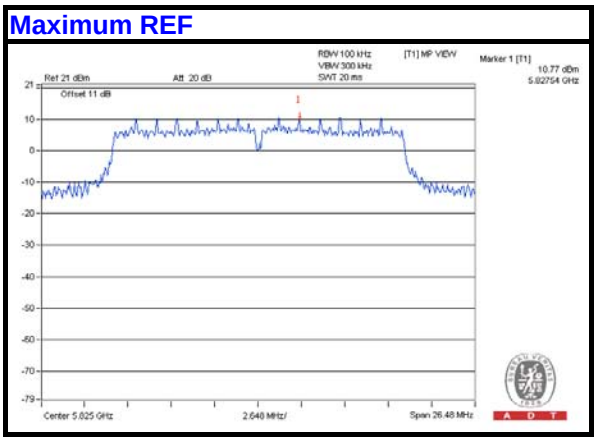


CH 165



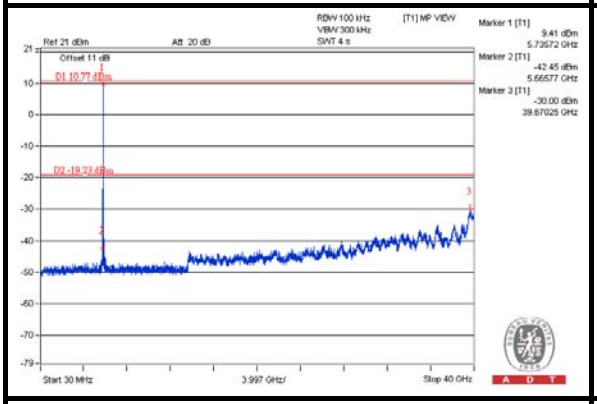
802.11n (HT20)

Maximum REF

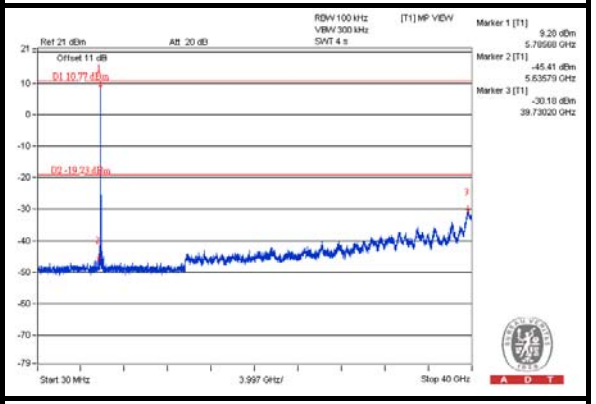


CHAIN (0)

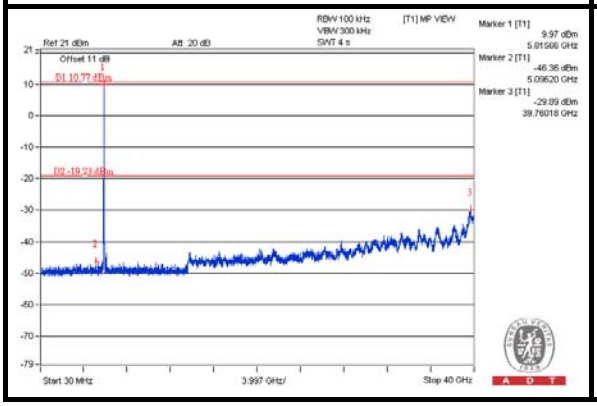
CH 149



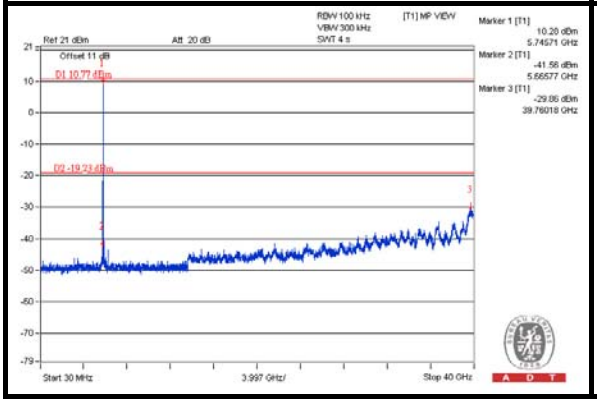
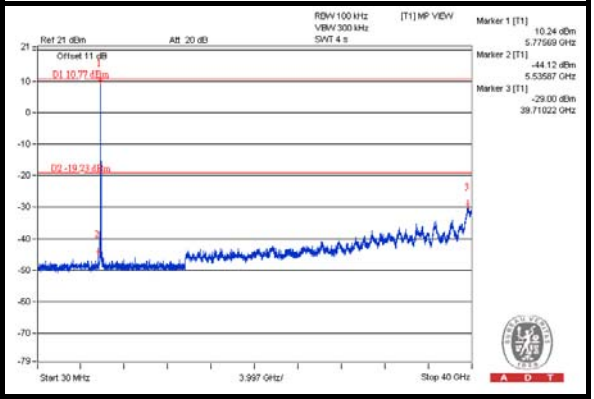
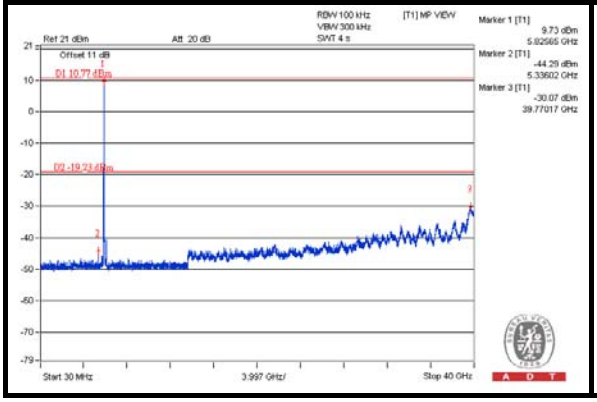
CH 157



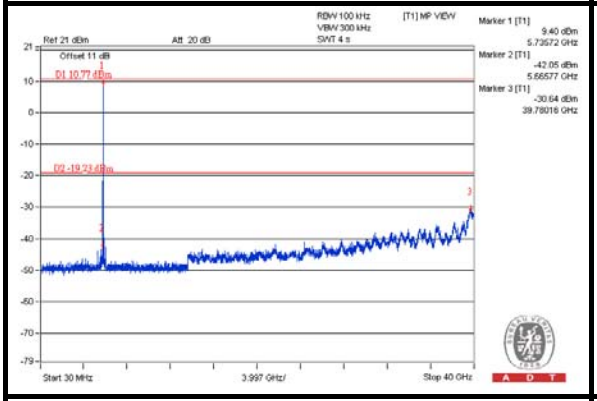
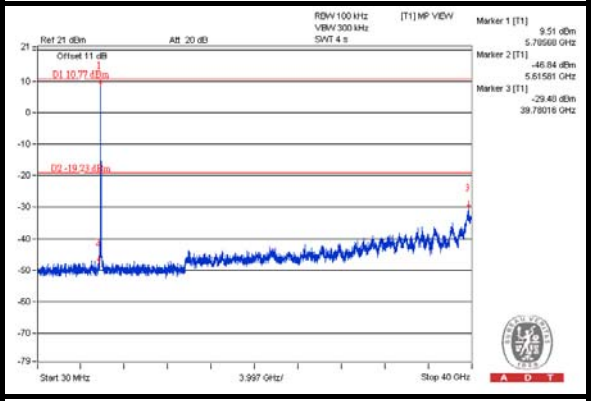
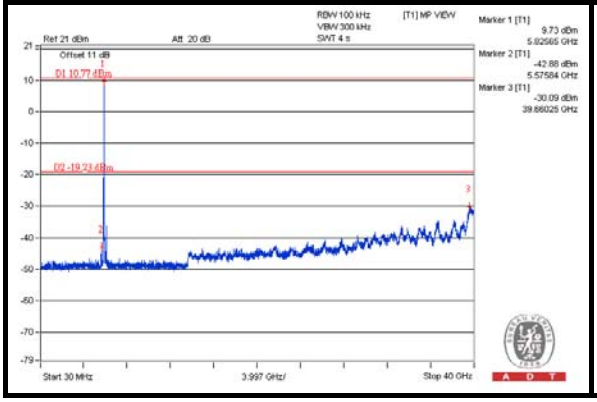
CH 165



CHAIN (1)

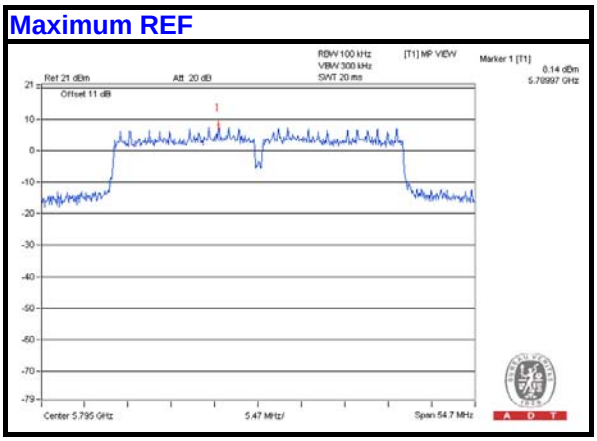
CH 149	CH 157
	
CH 165	
	

CHAIN (2)

CH 149	CH 157
	
CH 165	
	

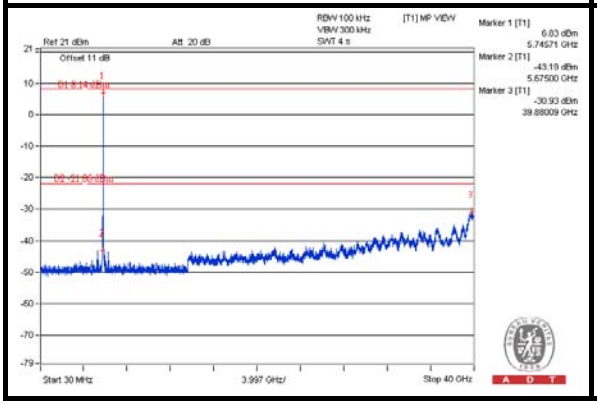
802.11n (HT40)

Maximum REF

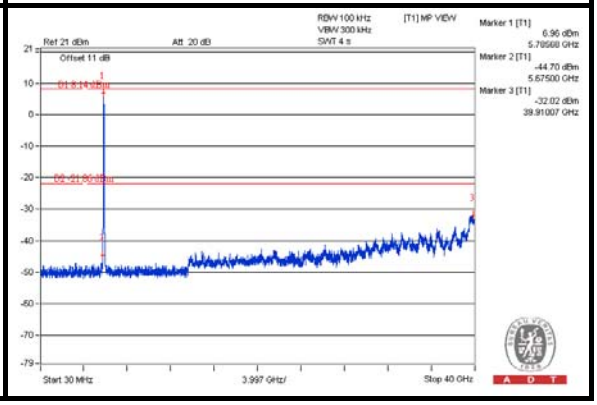


CHAIN (0)

CH 151

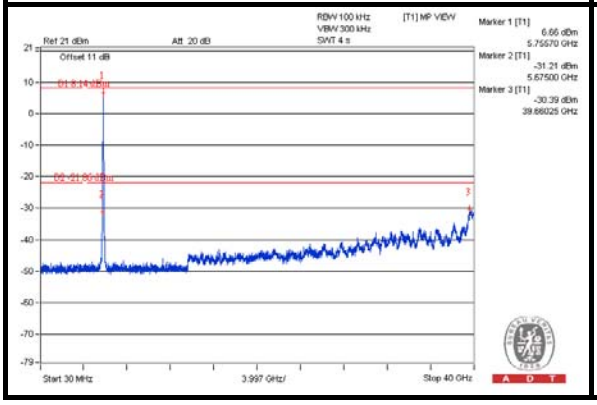


CH 159

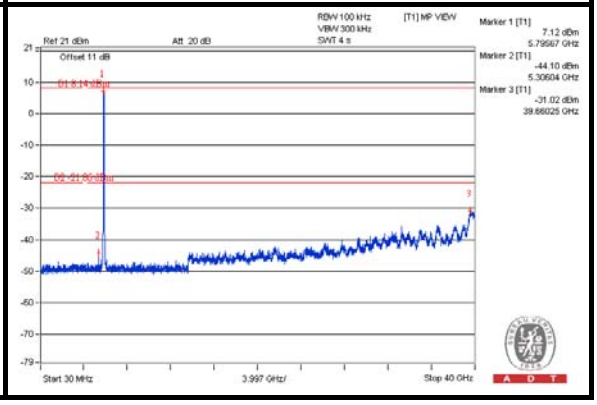


CHAIN (1)

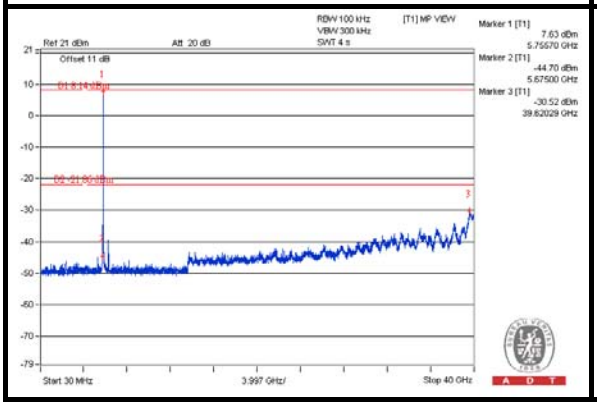
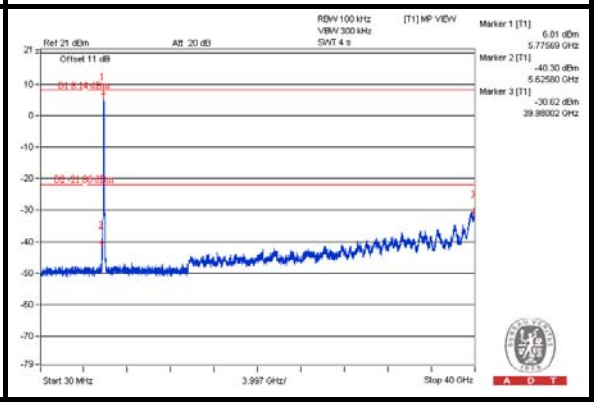
CH 151



CH 159

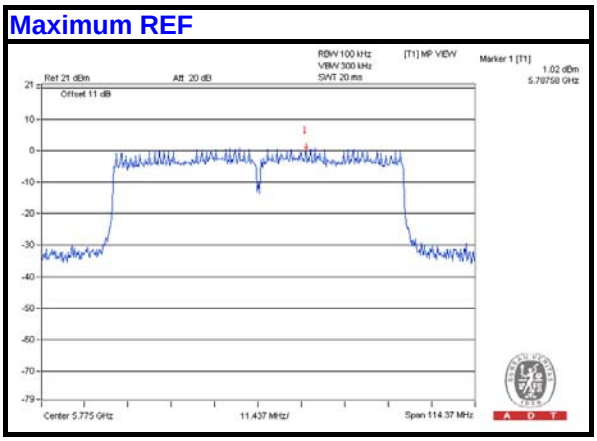


CHAIN (2)

CH 151	CH 159
	

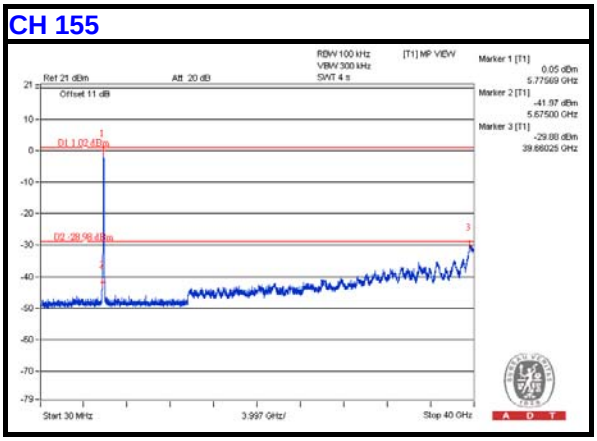
802.11ac (VHT80)

Maximum REF



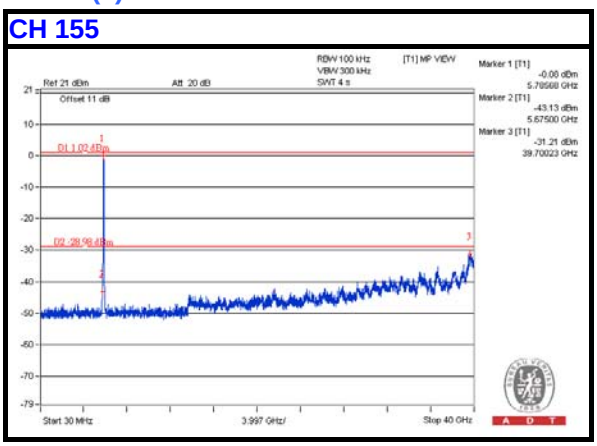
CHAIN (0)

CH 155



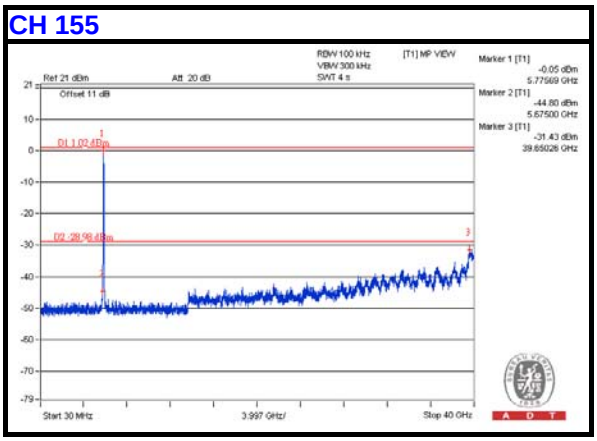
CHAIN (1)

CH 155



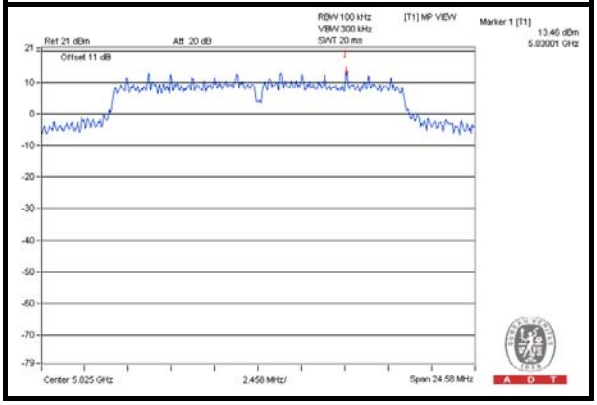
CHAIN (2)

CH 155

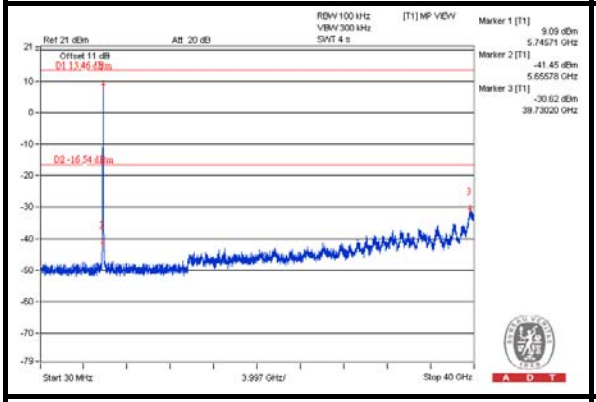


Legacy/MIMO (CDD)
802.11a

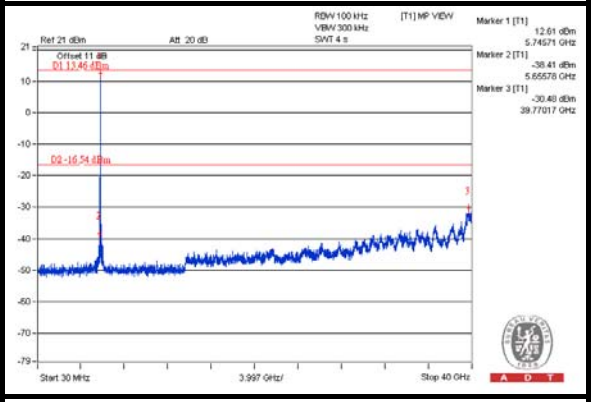
Maximum REF



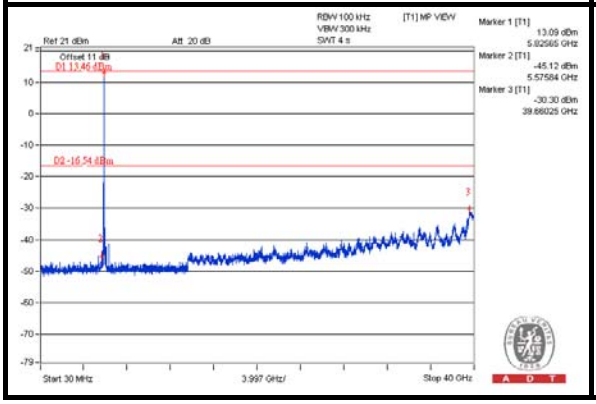
CH 149



CH 157

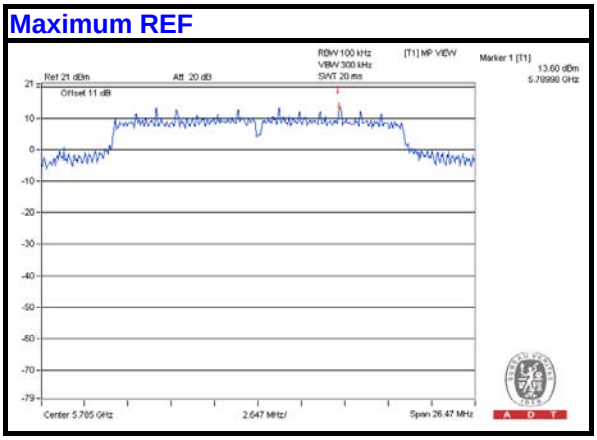


CH 165



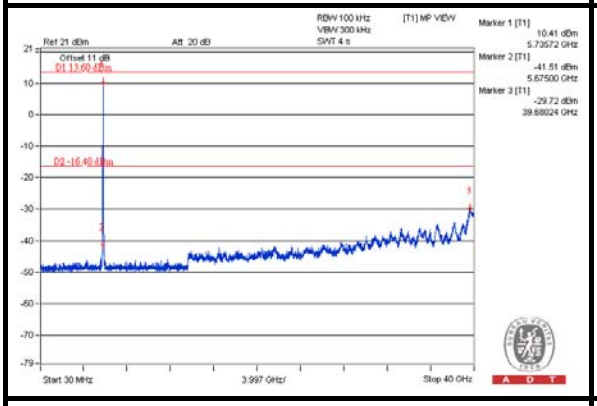
802.11n (HT20)

Maximum REF

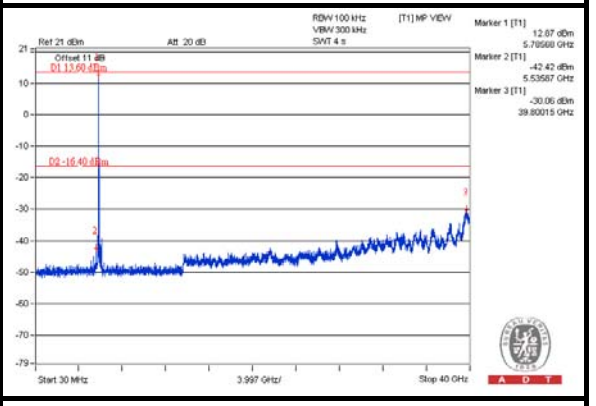


CHAIN (0)

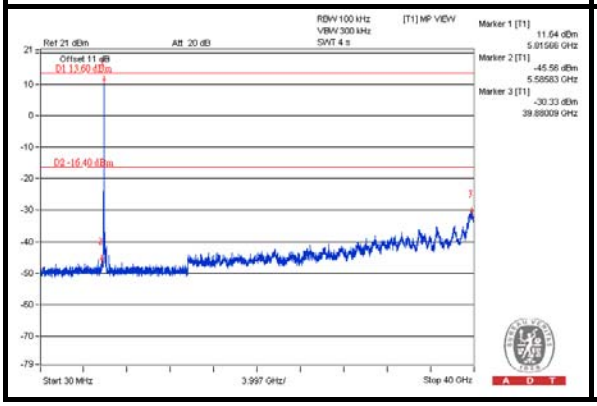
CH 149



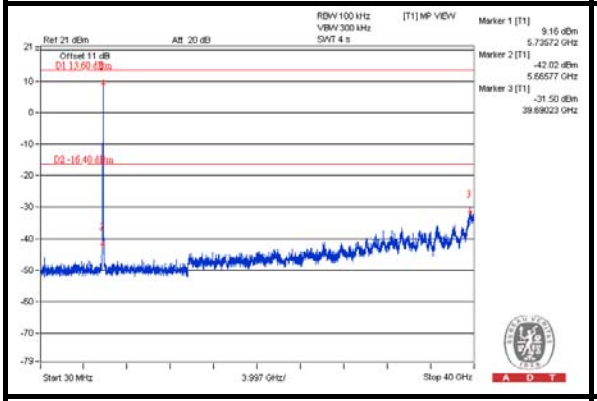
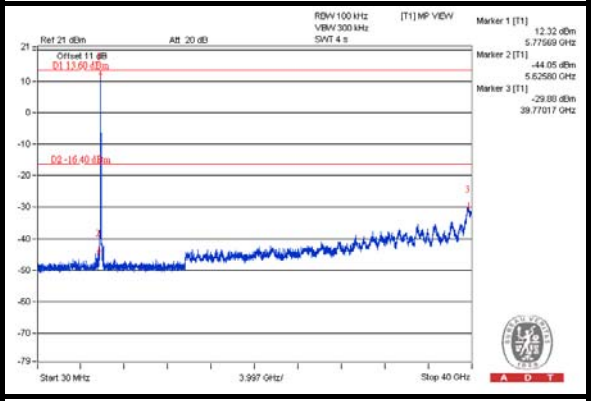
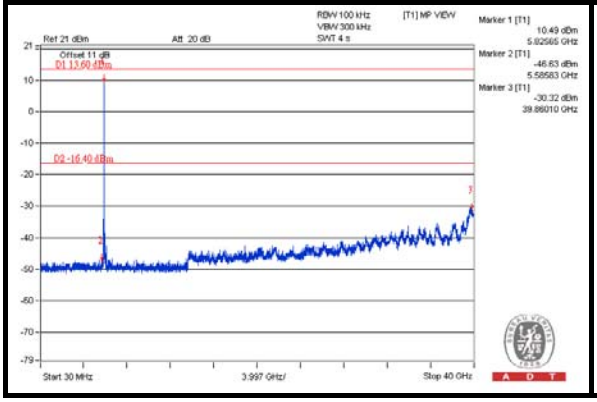
CH 157



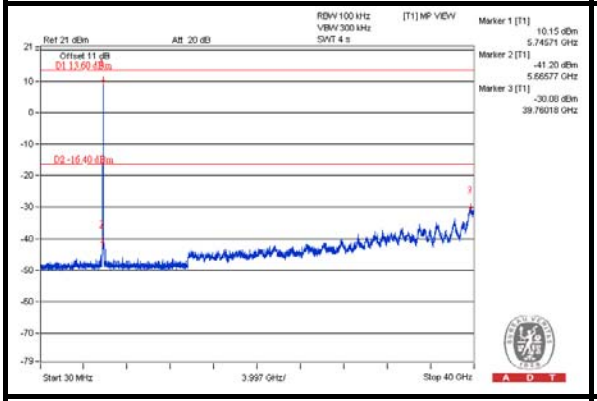
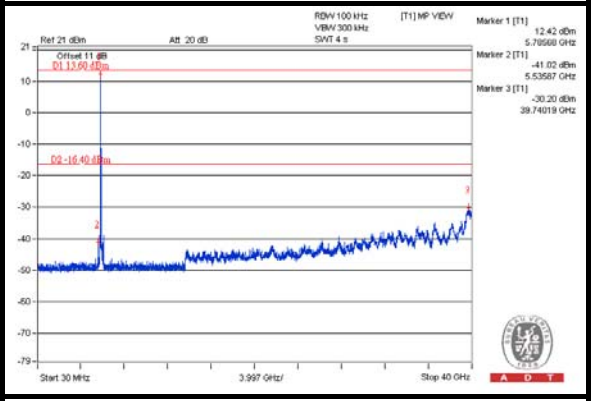
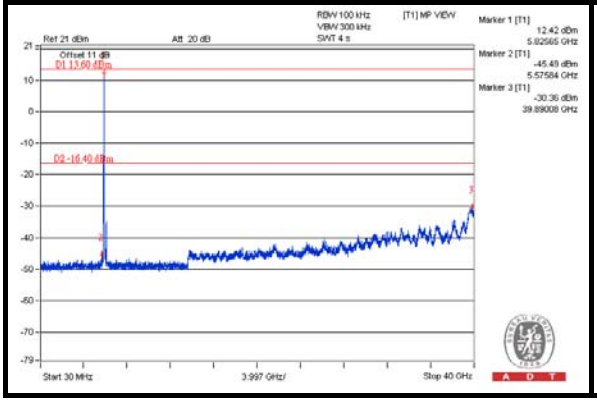
CH 165



CHAIN (1)

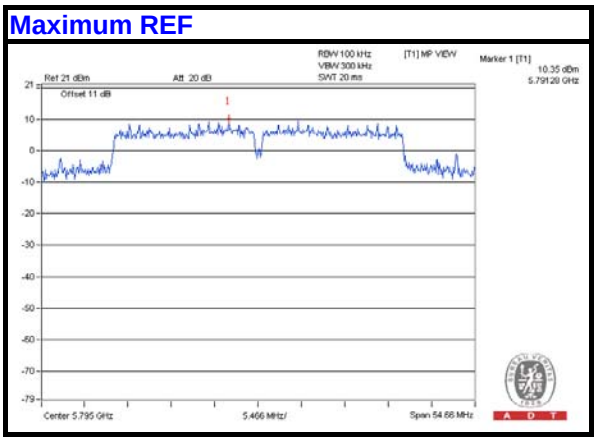
CH 149	CH 157
	
CH 165	
	

CHAIN (2)

CH 149	CH 157
	
CH 165	
	

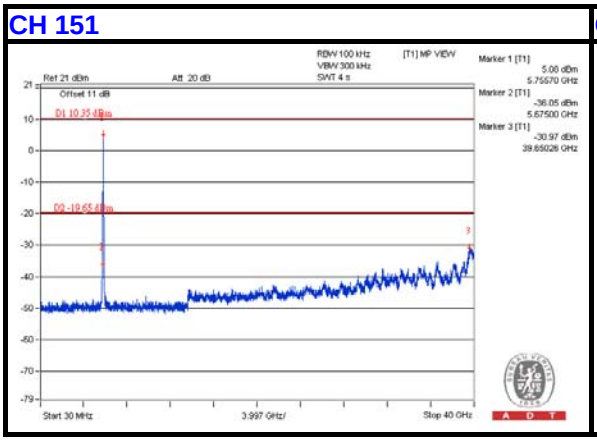
802.11n (HT40)

Maximum REF

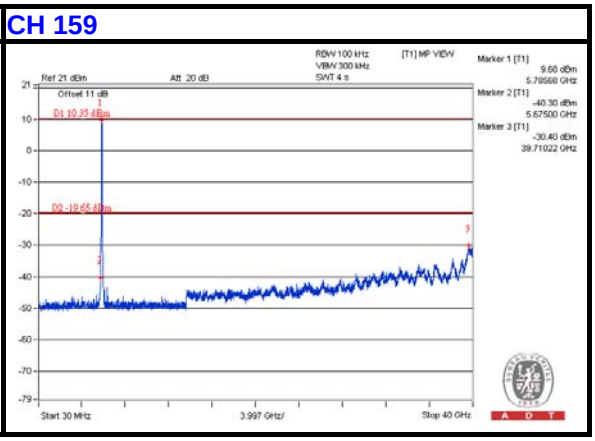


CHAIN (0)

CH 151

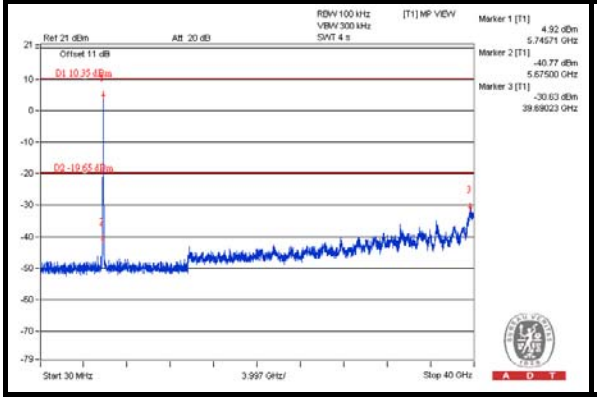


CH 159

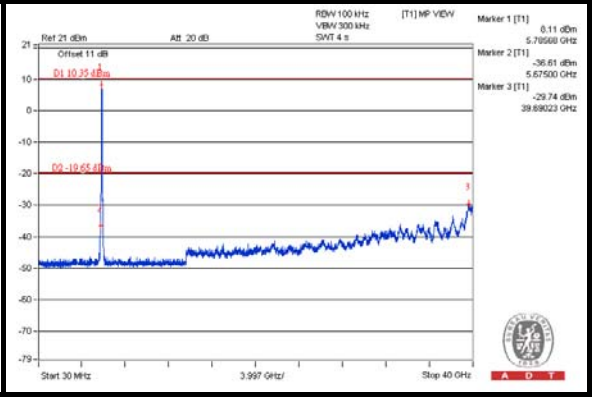


CHAIN (1)

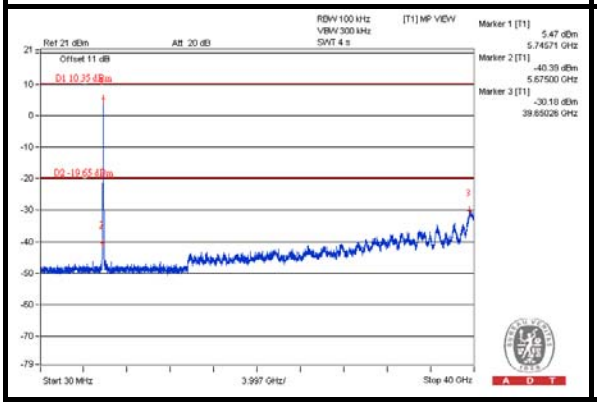
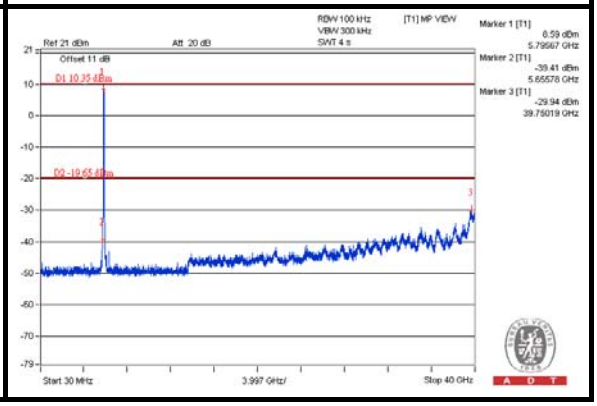
CH 151



CH 159

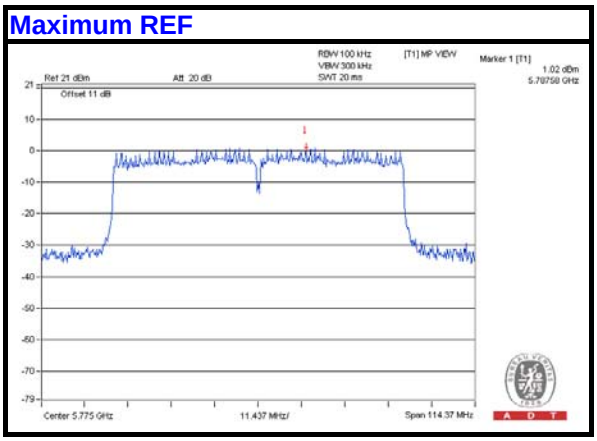


CHAIN (2)

CH 151	CH 159
	

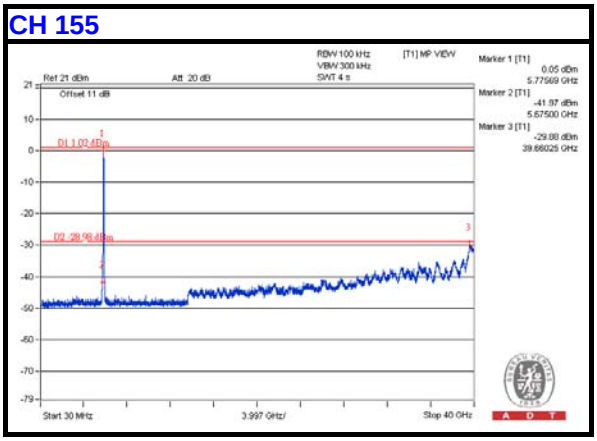
802.11ac (VHT80)

Maximum REF



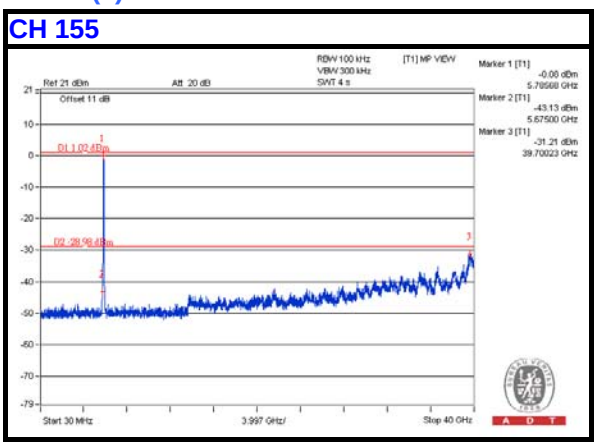
CHAIN (0)

CH 155



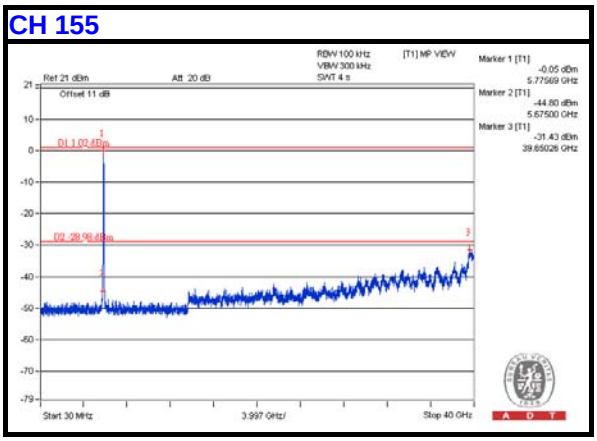
CHAIN (1)

CH 155



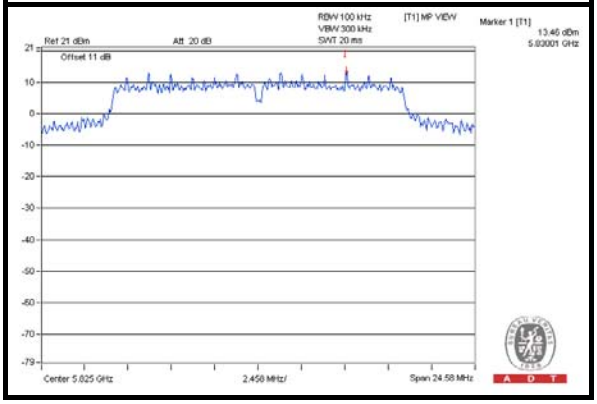
CHAIN (2)

CH 155

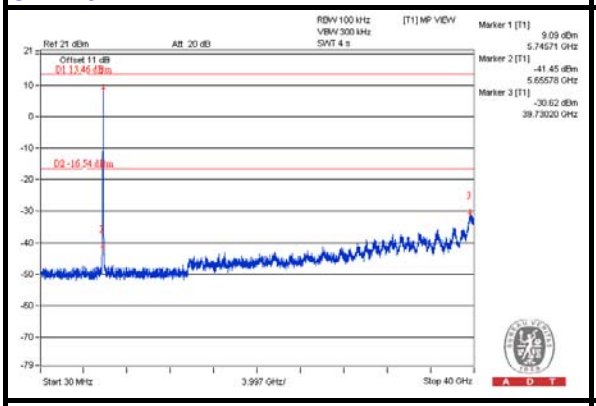


Legacy/MIMO (STBC)
802.11a

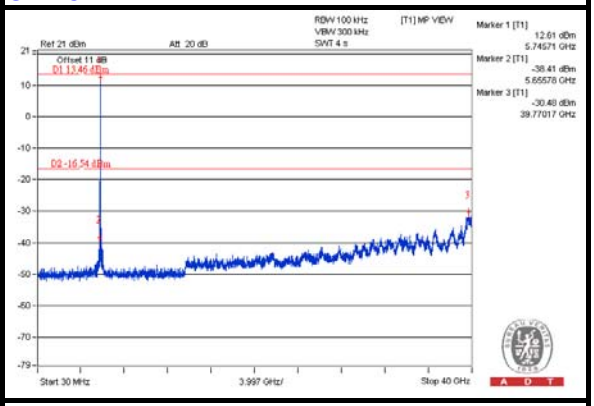
Maximum REF



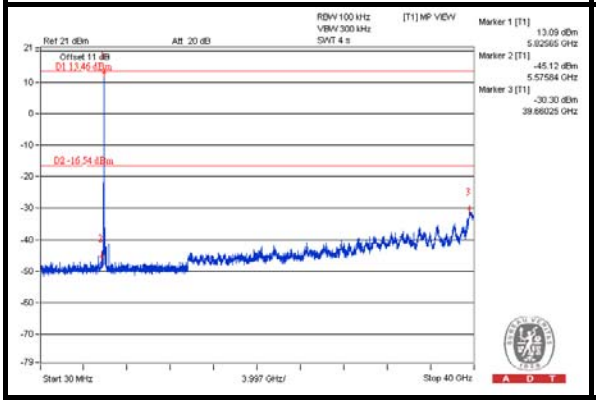
CH 149



CH 157

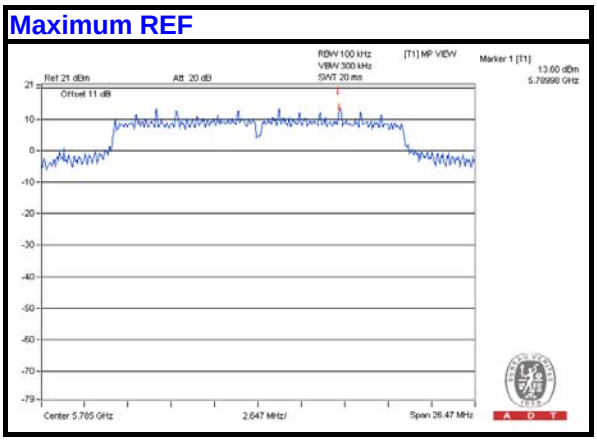


CH 165



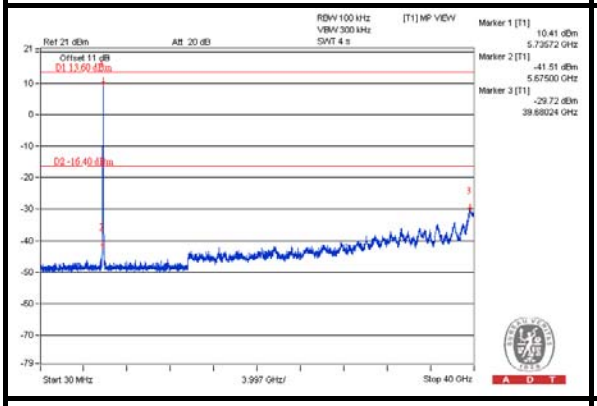
802.11n (HT20)

Maximum REF



CHAIN (0)

CH 149



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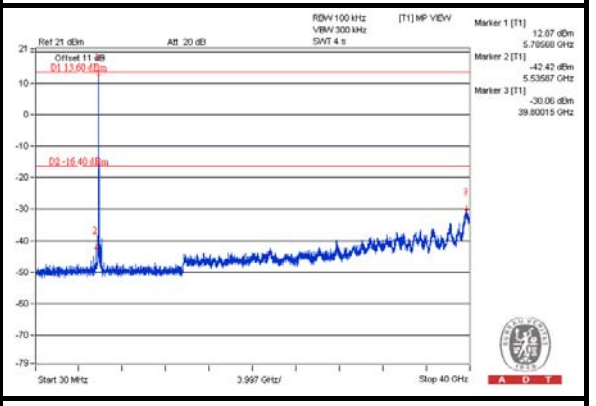

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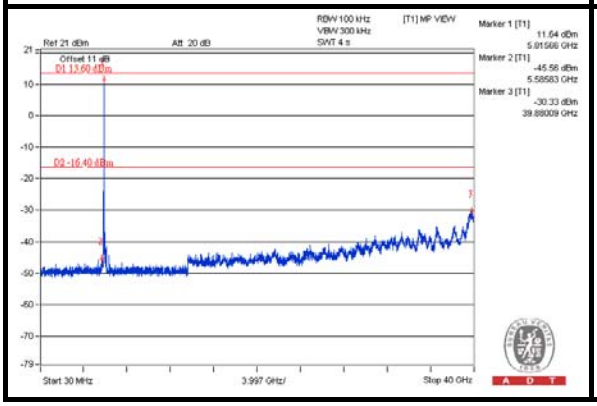
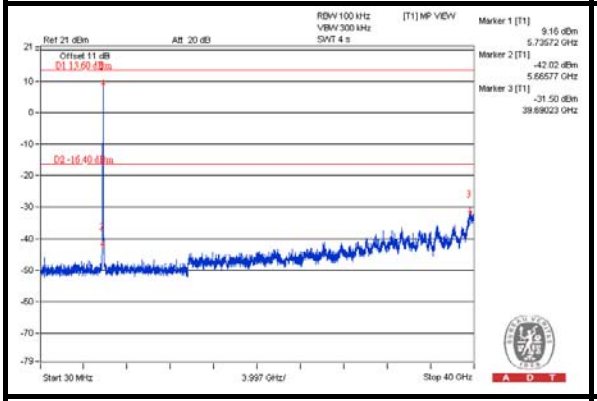
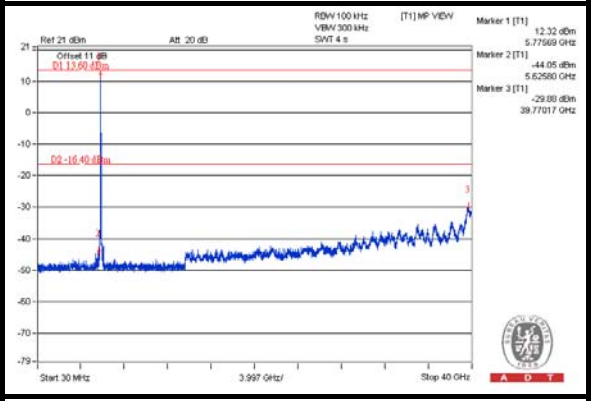


CHAIN (1)

CH 149	CH 157
	
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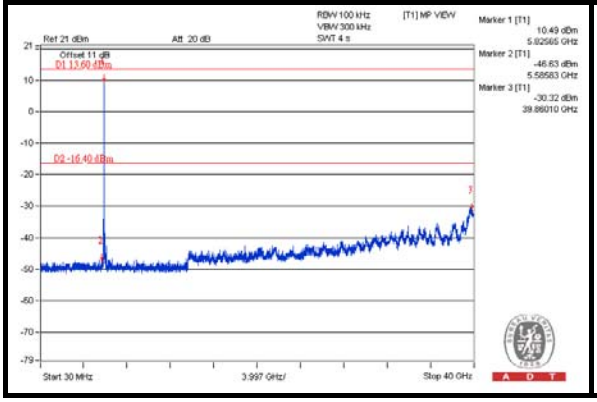
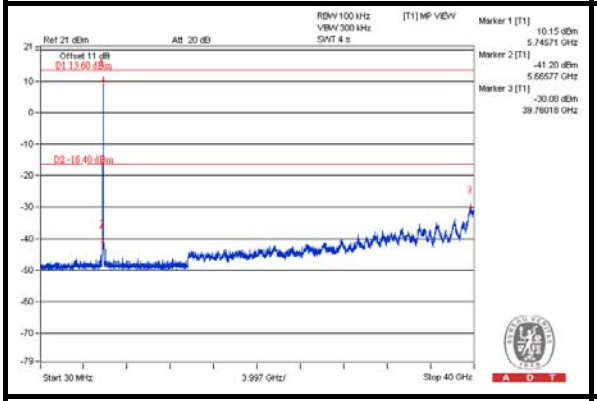
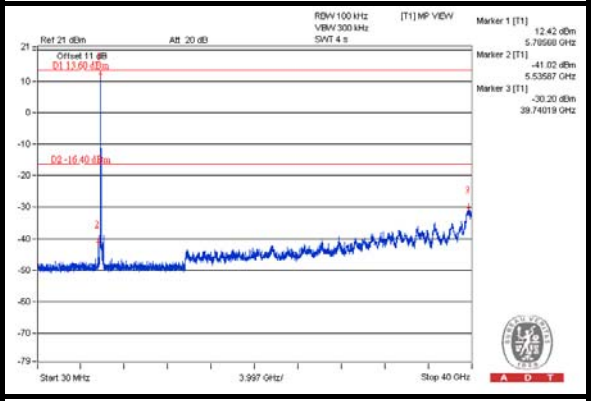
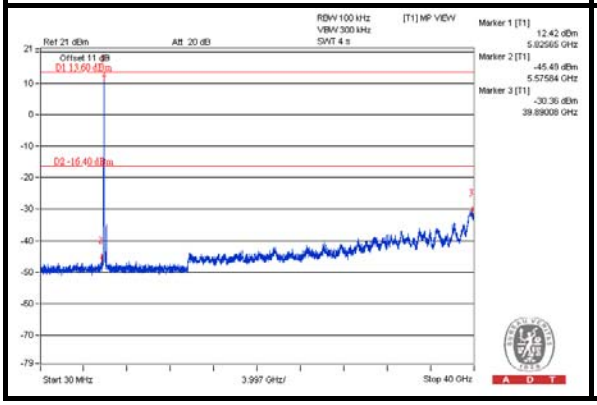
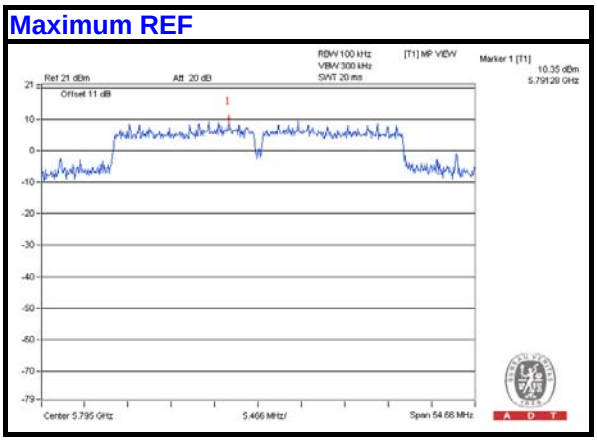
	

CHAIN (2)

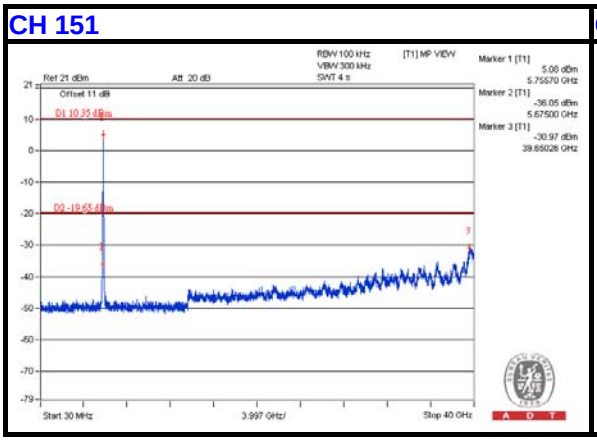
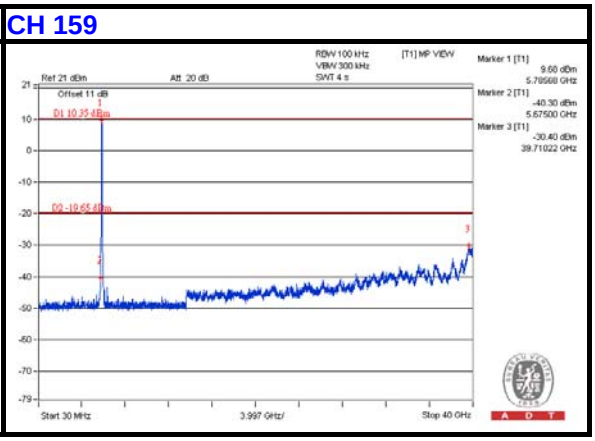
CH 149	CH 157
	
CH 165	
	

802.11n (HT40)

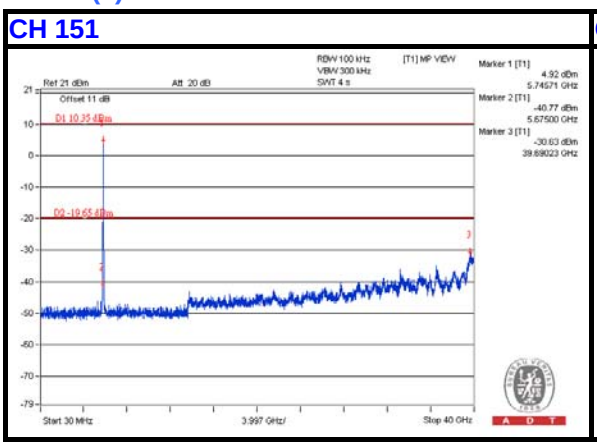
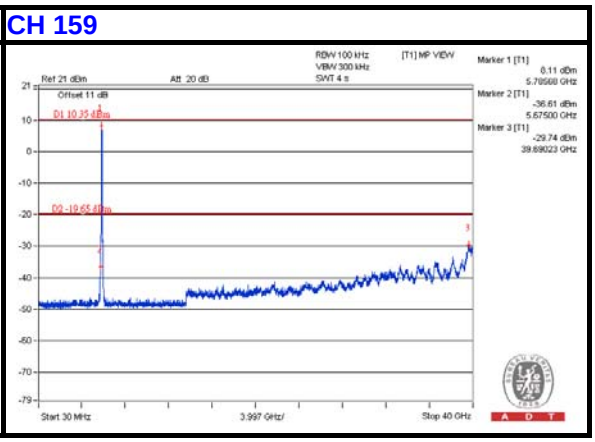
Maximum REF



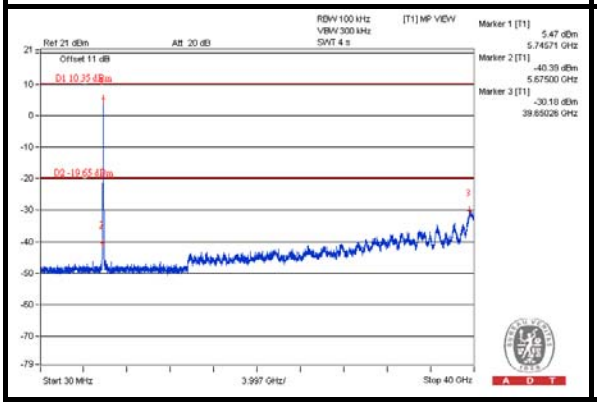
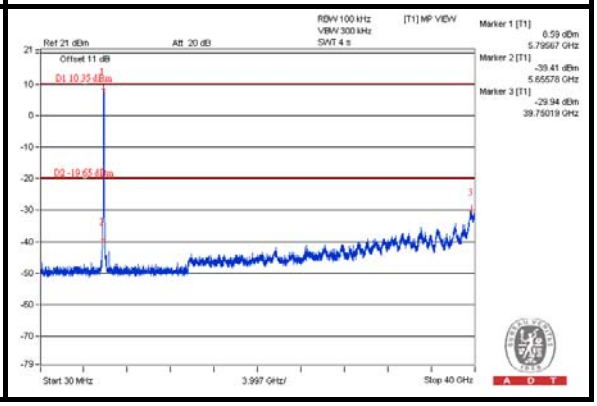
CHAIN (0)

CH 151	CH 159
	

CHAIN (1)

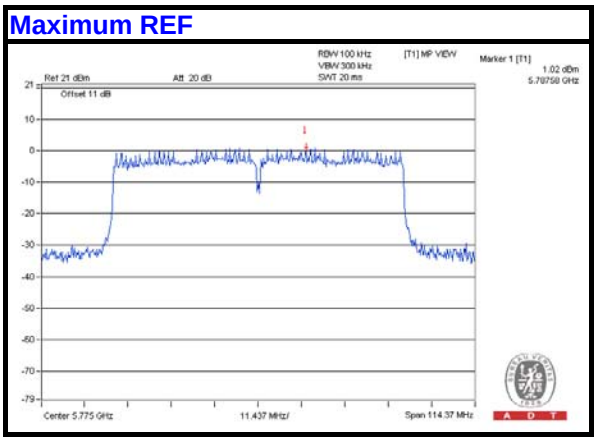
CH 151	CH 159
	

CHAIN (2)

CH 151	CH 159
	

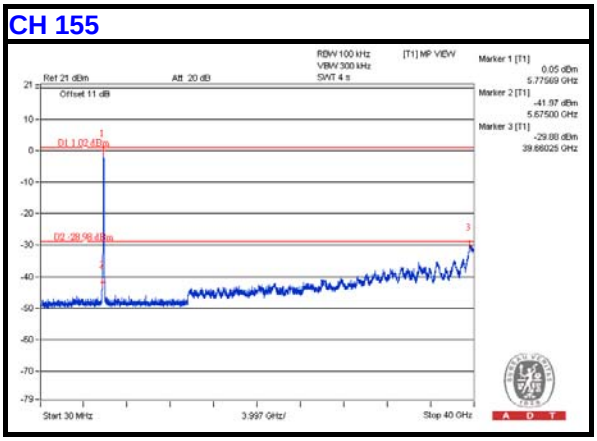
802.11ac (VHT80)

Maximum REF



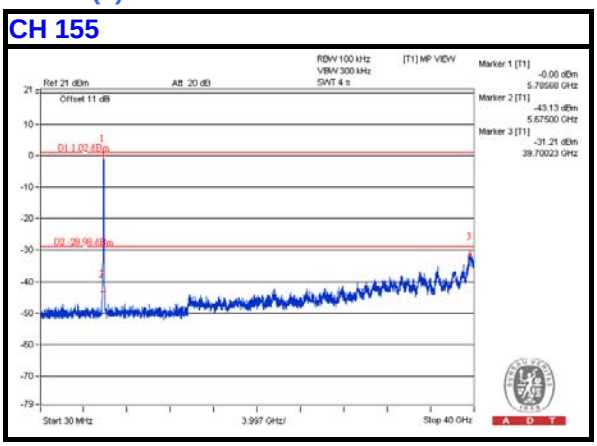
CHAIN (0)

CH 155



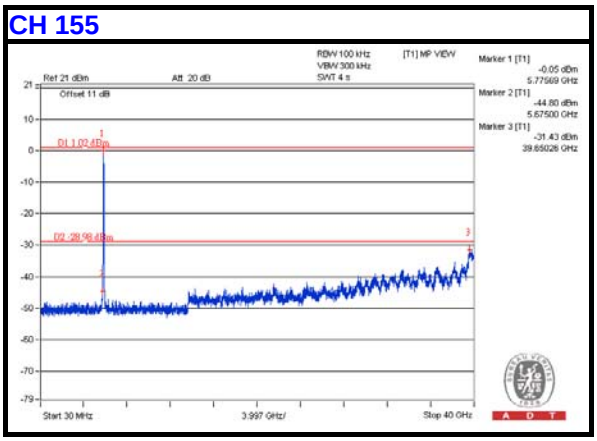
CHAIN (1)

CH 155



CHAIN (2)

CH 155



6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

7. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
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Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

8. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---