



FCC TEST REPORT (15.407)

REPORT NO.: RF130725E01-1

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130725E01-1	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 E (Section 15.407)
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)



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2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 5GHz, 5150~5250MHz

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.39dB at 0.15781MHz
15.407(b/1/2/3) (b)(5)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.8dB at 5150.00MHz
15.407(a/1/2/3)	Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	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 5.15~5.25GHz. For the 2.400 ~ 2.4835GHz and 5.725~5.850GHz RF parameters was recorded in another test report.



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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)	5.46 dB
Radiated emissions (1GHz -6GHz)	3.54 dB
Radiated emissions (6GHz -18GHz)	4.08 dB
Radiated emissions (18GHz -40GHz)	4.11 dB



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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*1 1.85MM,18PIN,DG18107-1 G	MYJWD	T1
DG36005-1 G	TRANSFORMER,DIP,350UH,32.7*8.5*1 1.85MM,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)		Connector 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 5150 ~ 5250MHz band:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

CHANNEL	FREQUENCY
42	5210 MHz



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Note: The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane** (for below 1GHz) and **Y-plane** (for above 1GHz).

POWER LINE CONDUCTED EMISSION TEST:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (MBPS)
802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5

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 TYPE	DATA RATE (Mbps)
802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5

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)
802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)	42	42	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)
802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6
802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (VHT80)	42	42	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	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
RE≥1G	22deg. C, 71%RH	120Vac, 60Hz	Chilin Lee
APCM	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 E (15.407)

789033 D01 General UNII Test Procedures v01 r03

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.

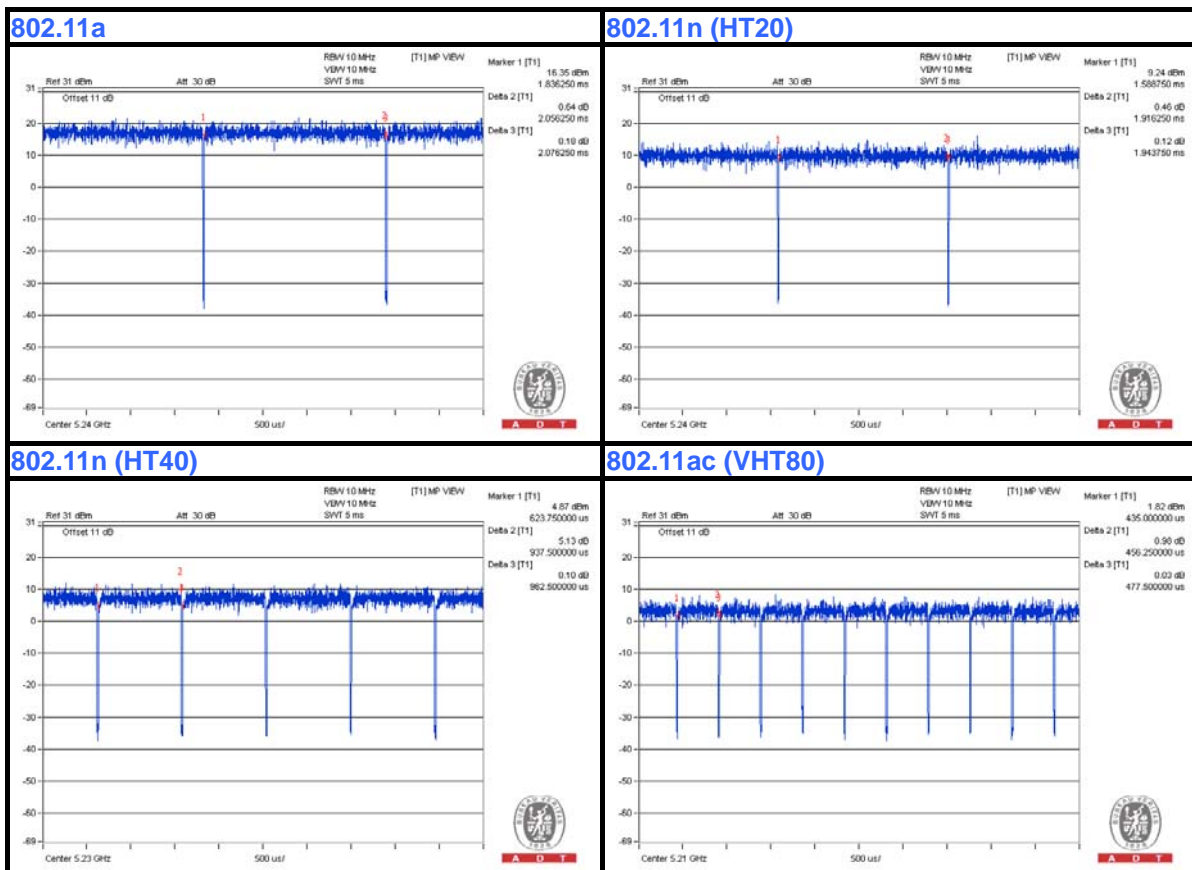
Legacy/MIMO (CDD) with beam forming

802.11a: Duty cycle = 2.056 ms/2.076 ms = 0.99

802.11n (HT20): Duty cycle = 1.916 ms/1.944 ms = 0.986

802.11n (HT40): Duty cycle = 0.937 ms/0.962 ms = 0.974, Duty factor = $10 * \log(1/0.974) = 0.11$

802.11ac (VHT80): Duty cycle = 0.456 ms/0.477 ms = 0.956, Duty factor = $10 * \log(1/0.956) = 0.20$





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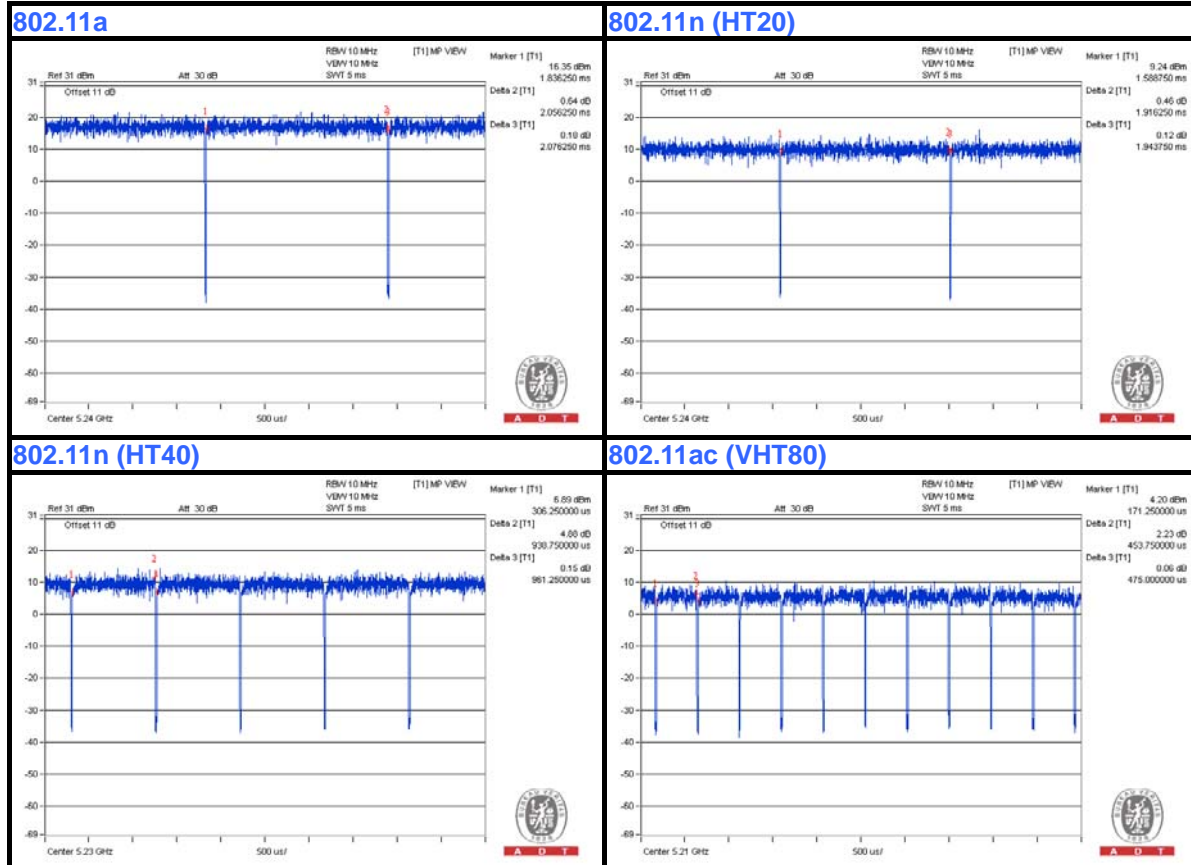
Legacy/MIMO (CDD)

802.11a: Duty cycle = 2.056 ms/2.076 ms = 0.99

802.11n (HT20): Duty cycle = 1.916 ms/1.944 ms = 0.986

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 = 0.454 ms/0.475 ms = 0.956, Duty factor = $10 * \log(1/0.956) = 0.20$





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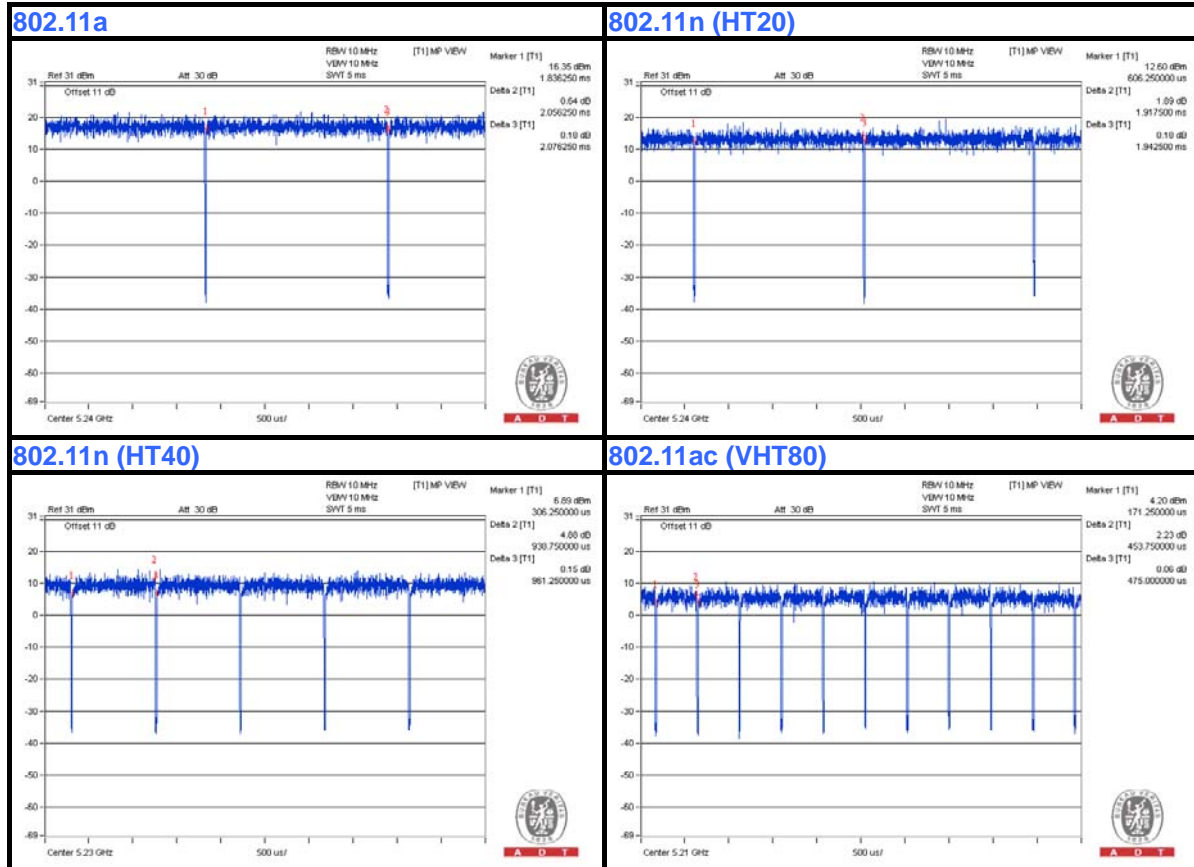
Legacy/MIMO (STBC)

802.11a: Duty cycle = 2.056 ms/2.076 ms = 0.99

802.11n (HT20): Duty cycle = 1.917 ms/1.942 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 = 0.454 ms/0.475 ms = 0.956, Duty factor = $10 * \log(1/0.956) = 0.20$





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3.5 DESCRIPTION OF SUPPORT UNITS

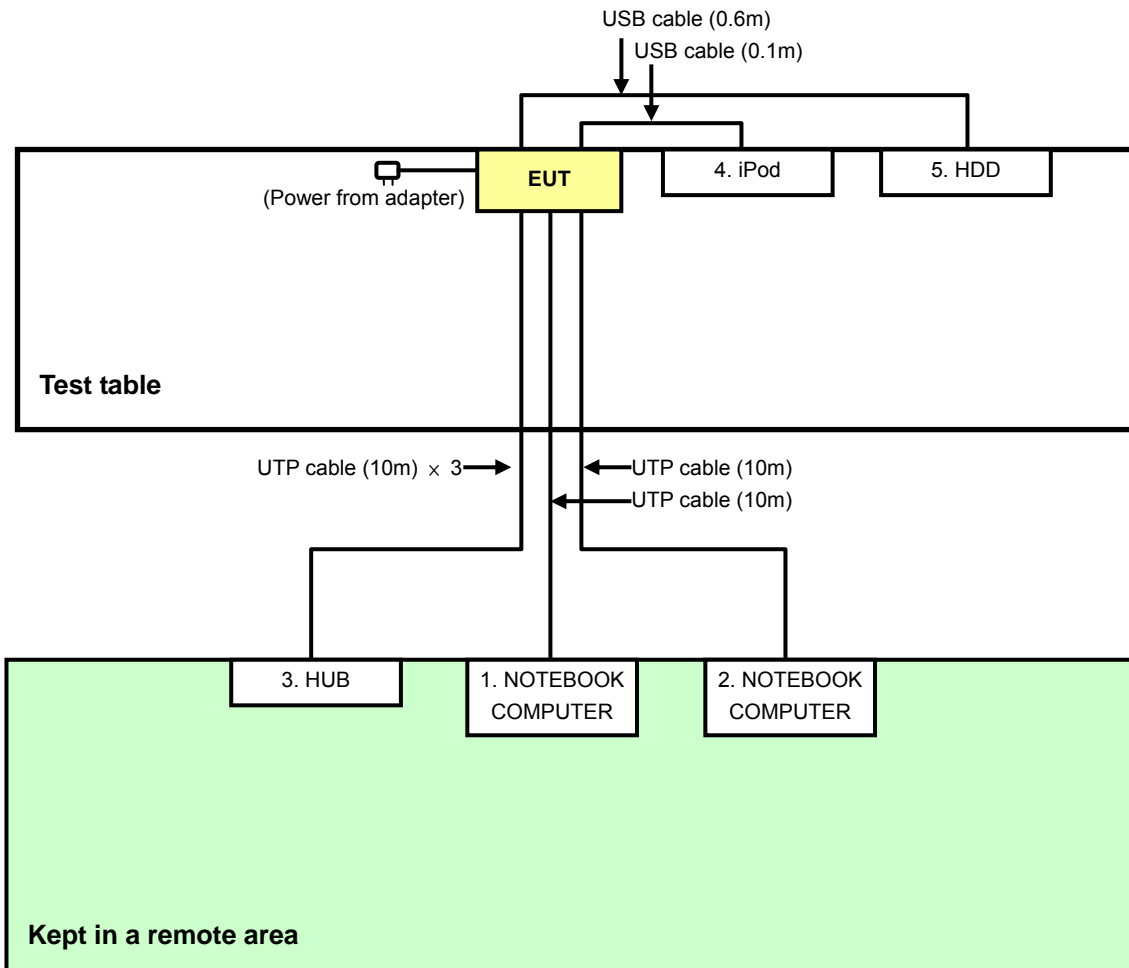
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission level under (Limit – 20dB) was not recorded.

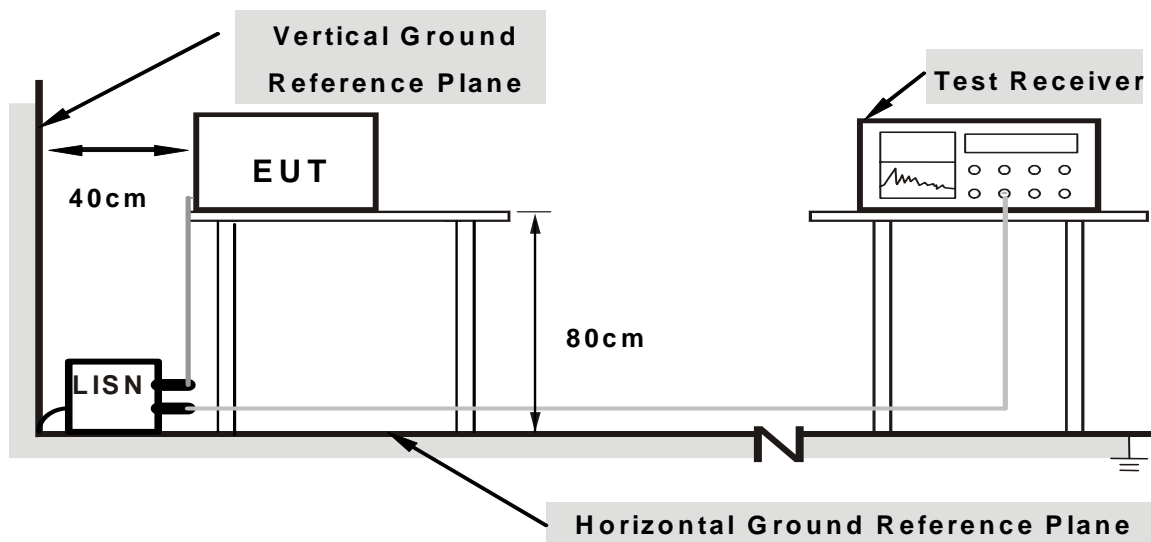
NOTE:

- 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.

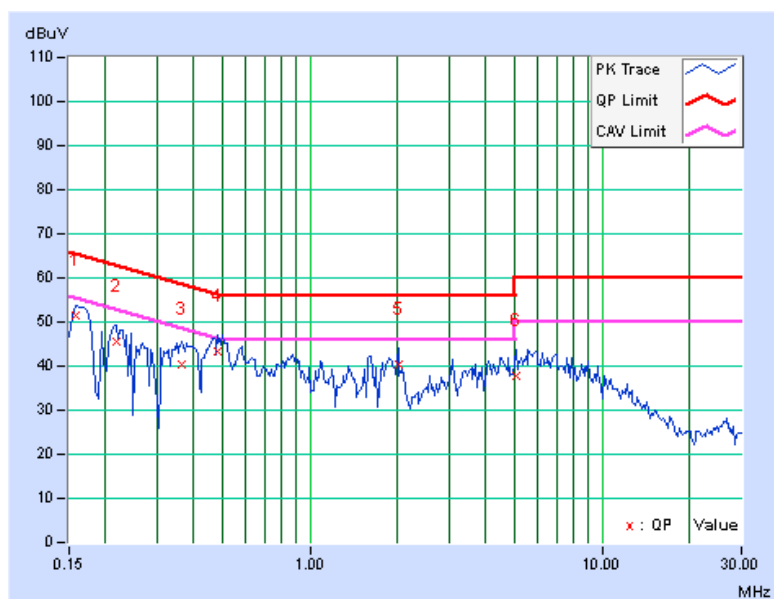
4.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor [dB]	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.13	51.29	38.13	51.42	38.26	65.58	55.58	-14.16	-17.32
2	0.21641	0.15	45.41	34.10	45.56	34.25	62.96	52.96	-17.39	-18.70
3	0.36484	0.19	40.30	26.85	40.49	27.04	58.62	48.62	-18.13	-21.58
4	0.48203	0.21	43.08	33.75	43.29	33.96	56.30	46.30	-13.02	-12.35
5	2.01172	0.34	39.91	30.56	40.25	30.90	56.00	46.00	-15.75	-15.10
6	5.07813	0.55	37.25	29.62	37.80	30.17	60.00	50.00	-22.20	-19.83

REMARKS:

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

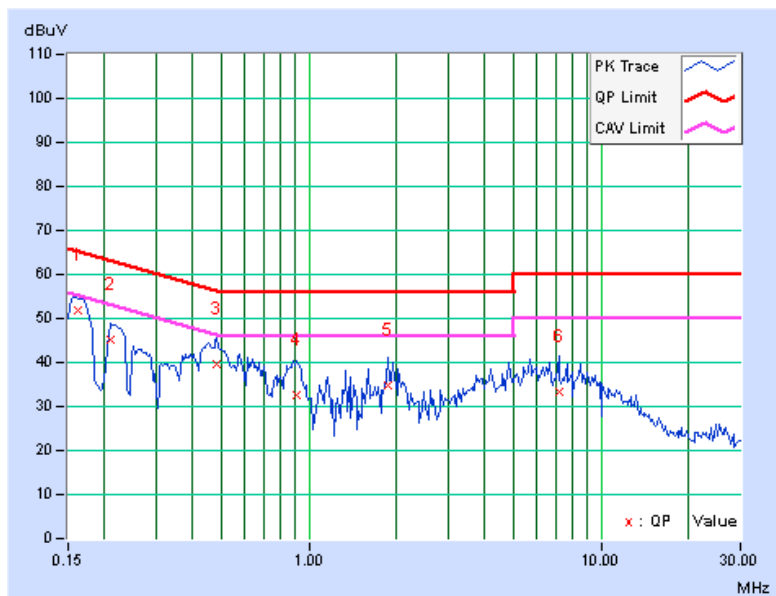


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.11	51.76	39.92	51.87	40.03	65.38	55.38	-13.50	-15.34
2	0.20859	0.13	45.05	29.73	45.18	29.86	63.26	53.26	-18.08	-23.40
3	0.48203	0.19	39.32	28.85	39.51	29.04	56.30	46.30	-16.79	-17.26
4	0.90781	0.22	32.21	21.92	32.43	22.14	56.00	46.00	-23.57	-23.86
5	1.85938	0.29	34.34	26.01	34.63	26.30	56.00	46.00	-21.37	-19.70
6	7.16016	0.59	32.56	24.53	33.15	25.12	60.00	50.00	-26.85	-24.88

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



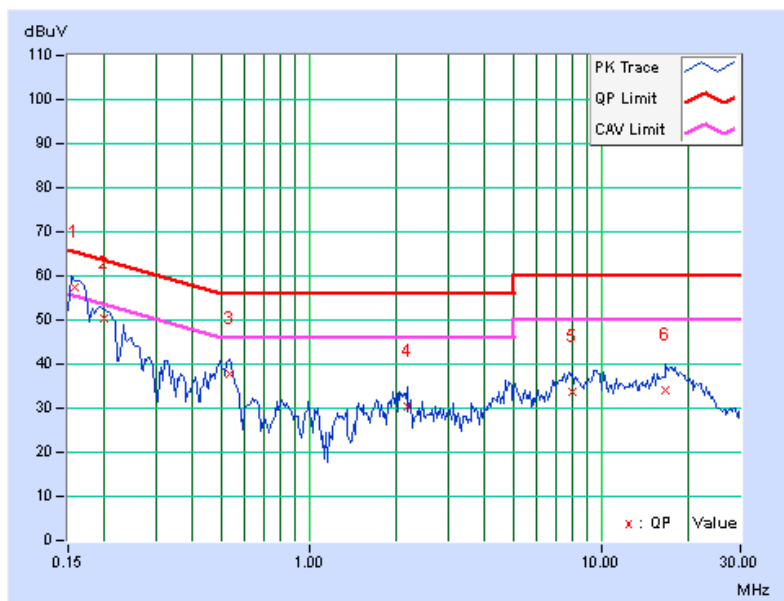
4.1.8 TEST RESULTS (MODE 3)

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15881	0.13	57.40	46.54	57.53	46.67	65.53	55.53	-7.99	-8.85
2	0.19872	0.15	50.11	38.19	50.26	38.34	63.66	53.66	-13.40	-15.32
3	0.53281	0.21	37.67	31.86	37.88	32.07	56.00	46.00	-18.12	-13.93
4	2.16797	0.35	30.01	23.99	30.36	24.34	56.00	46.00	-25.64	-21.66
5	7.99609	0.76	32.87	27.79	33.63	28.55	60.00	50.00	-26.37	-21.45
6	16.64844	1.29	32.76	27.80	34.05	29.09	60.00	50.00	-25.95	-20.91

REMARKS:

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

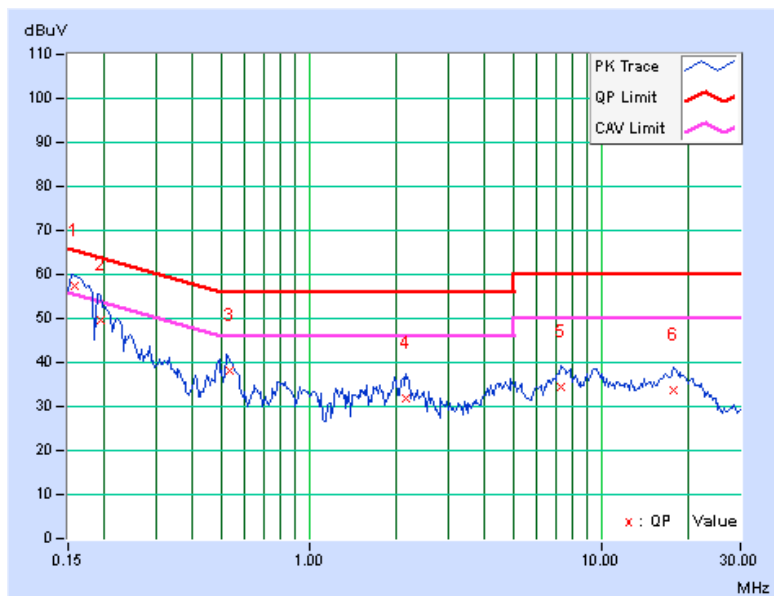


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.11	57.40	48.08	57.51	48.19	65.58	55.58	-8.07	-7.39
2	0.19331	0.13	49.68	35.87	49.81	36.00	63.89	53.89	-14.09	-17.90
3	0.53350	0.20	37.89	32.74	38.09	32.94	56.00	46.00	-17.91	-13.06
4	2.15625	0.31	31.53	26.05	31.84	26.36	56.00	46.00	-24.16	-19.64
5	7.29297	0.60	33.76	28.99	34.36	29.59	60.00	50.00	-25.64	-20.41
6	17.78906	1.05	32.75	28.13	33.80	29.18	60.00	50.00	-26.20	-20.82

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 BANDEGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

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 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
-	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

NOTE:

1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$



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4.2.3 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

4.2.4 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.

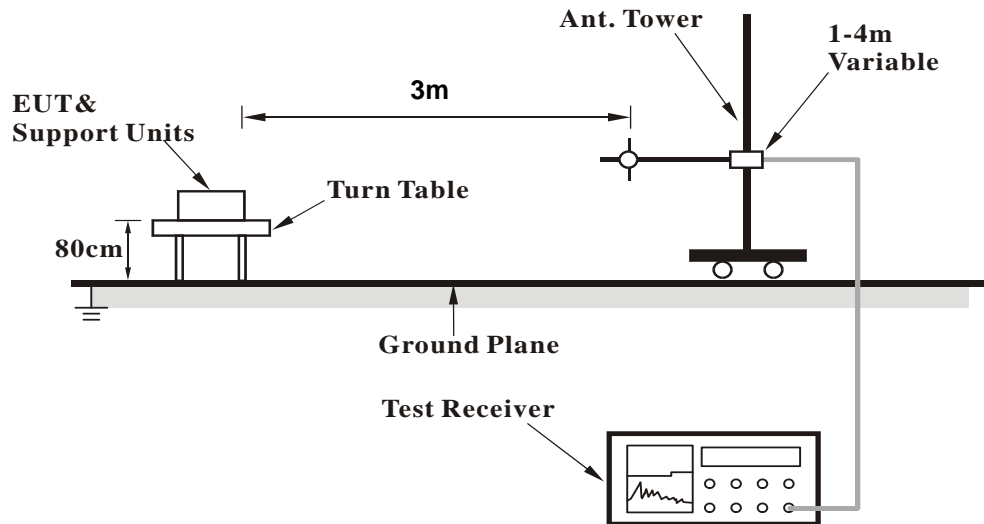
NOTE:

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.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11n (HT40)

CHANNEL	TX Channel 38	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	107.19	34.6 QP	43.5	-8.9	2.00 H	331	51.42	-16.80
2	250.00	33.2 QP	46.0	-12.8	1.00 H	264	47.65	-14.44
3	291.91	33.5 QP	46.0	-12.5	1.00 H	260	46.49	-13.01
4	533.33	39.8 QP	46.0	-6.2	2.00 H	2	47.07	-7.28
5	776.17	31.9 QP	46.0	-14.1	1.00 H	220	33.96	-2.07
6	875.02	30.1 QP	46.0	-15.9	1.00 H	283	31.08	-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	37.50	36.0 QP	40.0	-4.0	1.00 V	118	50.00	-13.99
2	63.42	35.6 QP	40.0	-4.4	1.50 V	20	49.73	-14.17
3	213.11	32.3 QP	43.5	-11.2	1.50 V	94	48.77	-16.43
4	500.68	32.5 QP	46.0	-13.5	2.00 V	331	40.22	-7.75
5	535.09	32.9 QP	46.0	-13.1	1.00 V	133	40.13	-7.23
6	675.02	28.8 QP	46.0	-17.2	1.50 V	90	33.13	-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

802.11a

CHANNEL	TX Channel 36	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	5101.00	54.2 PK	74.0	-19.8	1.00 H	333	45.88	8.32
2	5101.00	43.5 AV	54.0	-10.5	1.00 H	333	35.18	8.32
3	*5180.00	100.0 PK			1.00 H	333	91.24	8.76
4	*5180.00	90.5 AV			1.00 H	333	81.74	8.76
5	#10360.00	51.2 PK	74.0	-22.8	1.35 H	153	35.66	15.54
6	#10360.00	40.4 AV	54.0	-13.6	1.35 H	153	24.86	15.54
7	15540.00	56.2 PK	74.0	-17.8	1.00 H	74	33.83	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 H	74	21.93	22.37

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	5101.00	62.0 PK	74.0	-12.0	1.29 V	281	53.68	8.32
2	5101.00	50.7 AV	54.0	-3.3	1.29 V	281	42.38	8.32
3	*5180.00	112.7 PK			1.29 V	281	103.94	8.76
4	*5180.00	104.3 AV			1.29 V	281	95.54	8.76
5	#10360.00	51.6 PK	74.0	-22.4	1.30 V	147	36.06	15.54
6	#10360.00	40.8 AV	54.0	-13.2	1.30 V	147	25.26	15.54
7	15540.00	56.5 PK	74.0	-17.5	1.00 V	289	34.13	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 V	289	21.93	22.37

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.



A D T

CHANNEL	TX Channel 40	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	5150.00	52.7 PK	74.0	-21.3	1.00 H	348	44.10	8.60
2	5150.00	42.3 AV	54.0	-11.7	1.00 H	348	33.70	8.60
3	*5200.00	99.8 PK			1.00 H	348	90.93	8.87
4	*5200.00	90.2 AV			1.00 H	348	81.33	8.87
5	#10400.00	51.2 PK	74.0	-22.8	1.36 H	151	36.02	15.18
6	#10400.00	40.5 AV	54.0	-13.5	1.36 H	151	25.32	15.18
7	15600.00	55.5 PK	74.0	-18.5	1.03 H	63	33.38	22.12
8	15600.00	43.8 AV	54.0	-10.2	1.03 H	63	21.68	22.12

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	5150.00	54.5 PK	74.0	-19.5	1.29 V	280	45.90	8.60
2	5150.00	43.3 AV	54.0	-10.7	1.29 V	280	34.70	8.60
3	*5200.00	113.2 PK			1.29 V	280	104.33	8.87
4	*5200.00	104.4 AV			1.29 V	280	95.53	8.87
5	#10400.00	51.6 PK	74.0	-22.4	1.33 V	147	36.42	15.18
6	#10400.00	40.9 AV	54.0	-13.1	1.33 V	147	25.72	15.18
7	15600.00	56.9 PK	74.0	-17.1	1.02 V	296	34.78	22.12
8	15600.00	44.5 AV	54.0	-9.5	1.02 V	296	22.38	22.12

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	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	5150.00	54.3 PK	74.0	-19.7	1.02 H	316	45.70	8.60
2	5150.00	43.4 AV	54.0	-10.6	1.02 H	316	34.80	8.60
3	*5240.00	99.6 PK			1.02 H	316	90.59	9.01
4	*5240.00	90.4 AV			1.02 H	316	81.39	9.01
5	#10480.00	49.9 PK	74.0	-24.1	1.37 H	146	34.10	15.80
6	#10480.00	39.3 AV	54.0	-14.7	1.37 H	146	23.50	15.80
7	15720.00	56.6 PK	74.0	-17.4	1.00 H	73	34.80	21.80
8	15720.00	44.4 AV	54.0	-9.6	1.00 H	73	22.60	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.27 V	281	46.30	8.60
2	5150.00	43.7 AV	54.0	-10.3	1.27 V	281	35.10	8.60
3	*5240.00	112.9 PK			1.27 V	281	103.89	9.01
4	*5240.00	104.8 AV			1.27 V	281	95.79	9.01
5	#10480.00	50.1 PK	74.0	-23.9	1.28 V	136	34.30	15.80
6	#10480.00	39.7 AV	54.0	-14.3	1.28 V	136	23.90	15.80
7	15720.00	55.9 PK	74.0	-18.1	1.02 V	289	34.10	21.80
8	15720.00	44.2 AV	54.0	-9.8	1.02 V	289	22.40	21.80

REMARKS:

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

802.11n (HT20)

CHANNEL	TX Channel 36	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	5101.00	54.5 PK	74.0	-19.5	1.02 H	311	46.18	8.32
2	5101.00	43.4 AV	54.0	-10.6	1.02 H	311	35.08	8.32
3	*5180.00	100.9 PK			1.02 H	311	92.14	8.76
4	*5180.00	89.8 AV			1.02 H	311	81.04	8.76
5	#10360.00	50.8 PK	74.0	-23.2	1.37 H	150	35.26	15.54
6	#10360.00	40.2 AV	54.0	-13.8	1.37 H	150	24.66	15.54
7	15540.00	55.8 PK	74.0	-18.2	1.00 H	67	33.43	22.37
8	15540.00	44.5 AV	54.0	-9.5	1.00 H	67	22.13	22.37

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	5101.00	58.4 PK	74.0	-15.6	1.00 V	283	50.08	8.32
2	5101.00	48.9 AV	54.0	-5.1	1.00 V	283	40.58	8.32
3	*5180.00	112.9 PK			1.00 V	283	104.14	8.76
4	*5180.00	102.0 AV			1.00 V	283	93.24	8.76
5	#10360.00	51.6 PK	74.0	-22.4	1.22 V	122	36.06	15.54
6	#10360.00	40.6 AV	54.0	-13.4	1.22 V	122	25.06	15.54
7	15540.00	56.1 PK	74.0	-17.9	1.03 V	296	33.73	22.37
8	15540.00	44.0 AV	54.0	-10.0	1.03 V	296	21.63	22.37

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	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	5101.00	54.2 PK	74.0	-19.8	1.00 H	301	45.88	8.32
2	5101.00	43.4 AV	54.0	-10.6	1.00 H	301	35.08	8.32
3	*5200.00	99.7 PK			1.00 H	301	90.83	8.87
4	*5200.00	89.3 AV			1.00 H	301	80.43	8.87
5	#10400.00	50.1 PK	74.0	-23.9	1.31 H	159	34.92	15.18
6	#10400.00	40.0 AV	54.0	-14.0	1.31 H	159	24.82	15.18
7	15600.00	54.6 PK	74.0	-19.4	1.02 H	63	32.48	22.12
8	15600.00	43.5 AV	54.0	-10.5	1.02 H	63	21.38	22.12

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	5101.00	59.7 PK	74.0	-14.3	1.00 V	283	51.38	8.32
2	5101.00	49.1 AV	54.0	-4.9	1.00 V	283	40.78	8.32
3	*5200.00	111.9 PK			1.00 V	283	103.03	8.87
4	*5200.00	101.6 AV			1.00 V	283	92.73	8.87
5	#10400.00	51.9 PK	74.0	-22.1	1.26 V	140	36.72	15.18
6	#10400.00	41.3 AV	54.0	-12.7	1.26 V	140	26.12	15.18
7	15600.00	56.2 PK	74.0	-17.8	1.00 V	290	34.08	22.12
8	15600.00	44.1 AV	54.0	-9.9	1.00 V	290	21.98	22.12

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	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	5122.00	54.2 PK	74.0	-19.8	1.00 H	309	45.76	8.44
2	5122.00	43.4 AV	54.0	-10.6	1.00 H	309	34.96	8.44
3	*5240.00	100.8 PK			1.00 H	309	91.79	9.01
4	*5240.00	89.6 AV			1.00 H	309	80.59	9.01
5	#10480.00	50.0 PK	74.0	-24.0	1.41 H	163	34.20	15.80
6	#10480.00	39.7 AV	54.0	-14.3	1.41 H	163	23.90	15.80
7	15720.00	56.0 PK	74.0	-18.0	1.05 H	75	34.20	21.80
8	15720.00	44.5 AV	54.0	-9.5	1.05 H	75	22.70	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5122.00	54.3 PK	74.0	-19.7	1.00 V	284	45.86	8.44
2	5122.00	43.2 AV	54.0	-10.8	1.00 V	284	34.76	8.44
3	*5240.00	111.0 PK			1.00 V	284	101.99	9.01
4	*5240.00	101.4 AV			1.00 V	284	92.39	9.01
5	#10480.00	51.6 PK	74.0	-22.4	1.24 V	119	35.80	15.80
6	#10480.00	41.0 AV	54.0	-13.0	1.24 V	119	25.20	15.80
7	15720.00	56.5 PK	74.0	-17.5	1.04 V	295	34.70	21.80
8	15720.00	44.3 AV	54.0	-9.7	1.04 V	295	22.50	21.80

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 38	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	5147.00	54.4 PK	74.0	-19.6	1.01 H	265	45.83	8.57
2	5147.00	43.8 AV	54.0	-10.2	1.01 H	265	35.23	8.57
3	*5190.00	96.1 PK			1.01 H	265	87.28	8.82
4	*5190.00	87.3 AV			1.01 H	265	78.48	8.82
5	#10380.00	51.3 PK	74.0	-22.7	1.39 H	162	35.93	15.37
6	#10380.00	40.8 AV	54.0	-13.2	1.39 H	162	25.43	15.37
7	15570.00	56.0 PK	74.0	-18.0	1.03 H	83	33.76	22.24
8	15570.00	44.2 AV	54.0	-9.8	1.03 H	83	21.96	22.24

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	5147.00	64.7 PK	74.0	-9.3	1.00 V	284	56.13	8.57
2	5147.00	50.5 AV	54.0	-3.5	1.00 V	284	41.93	8.57
3	*5190.00	108.5 PK			1.00 V	284	99.68	8.82
4	*5190.00	99.3 AV			1.00 V	284	90.48	8.82
5	#10380.00	51.3 PK	74.0	-22.7	1.31 V	137	35.93	15.37
6	#10380.00	40.9 AV	54.0	-13.1	1.31 V	137	25.53	15.37
7	15570.00	56.2 PK	74.0	-17.8	1.00 V	278	33.96	22.24
8	15570.00	44.3 AV	54.0	-9.7	1.00 V	278	22.06	22.24

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	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	5146.00	54.4 PK	74.0	-19.6	1.02 H	270	45.83	8.57
2	5146.00	43.6 AV	54.0	-10.4	1.02 H	270	35.03	8.57
3	*5230.00	95.9 PK			1.02 H	270	86.93	8.97
4	*5230.00	87.0 AV			1.02 H	270	78.03	8.97
5	#10460.00	51.4 PK	74.0	-22.6	1.42 H	141	35.76	15.64
6	#10460.00	40.7 AV	54.0	-13.3	1.42 H	141	25.06	15.64
7	15690.00	56.0 PK	74.0	-18.0	1.00 H	86	34.22	21.78
8	15690.00	44.5 AV	54.0	-9.5	1.00 H	86	22.72	21.78

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	5146.00	57.8 PK	74.0	-16.2	1.01 V	268	49.23	8.57
2	5146.00	47.9 AV	54.0	-6.1	1.01 V	268	39.33	8.57
3	*5230.00	107.9 PK			1.01 V	268	98.93	8.97
4	*5230.00	98.8 AV			1.01 V	268	89.83	8.97
5	#10460.00	51.5 PK	74.0	-22.5	1.30 V	129	35.86	15.64
6	#10460.00	40.5 AV	54.0	-13.5	1.30 V	129	24.86	15.64
7	15690.00	55.8 PK	74.0	-18.2	1.00 V	276	34.02	21.78
8	15690.00	43.4 AV	54.0	-10.6	1.00 V	276	21.62	21.78

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.



A D T

802.11ac (VHT80)

CHANNEL	TX Channel 42	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	5150.00	54.3 PK	74.0	-19.7	1.05 H	246	45.70	8.60
2	5150.00	43.5 AV	54.0	-10.5	1.05 H	246	34.90	8.60
3	*5210.00	93.4 PK			1.05 H	246	84.50	8.90
4	*5210.00	83.8 AV			1.05 H	246	74.90	8.90
5	5350.00	55.4 PK	74.0	-18.6	1.05 H	246	46.09	9.31
6	5350.00	43.0 AV	54.0	-11.0	1.05 H	246	33.69	9.31
7	#10420.00	50.8 PK	74.0	-23.2	1.32 H	115	35.47	15.33
8	#10420.00	39.9 AV	54.0	-14.1	1.32 H	115	24.57	15.33
9	15630.00	56.4 PK	74.0	-17.6	1.08 H	57	34.39	22.01
10	15630.00	44.4 AV	54.0	-9.6	1.08 H	57	22.39	22.01

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	5150.00	63.6 PK	74.0	-10.4	1.00 V	270	55.00	8.60
2	5150.00	52.2 AV	54.0	-1.8	1.00 V	270	43.60	8.60
3	*5210.00	105.1 PK			1.00 V	270	96.20	8.90
4	*5210.00	95.7 AV			1.00 V	270	86.80	8.90
5	5350.00	55.3 PK	74.0	-18.7	1.00 V	270	45.99	9.31
6	5350.00	42.9 AV	54.0	-11.1	1.00 V	270	33.59	9.31
7	#10420.00	51.6 PK	74.0	-22.4	1.25 V	123	36.27	15.33
8	#10420.00	41.0 AV	54.0	-13.0	1.25 V	123	25.67	15.33
9	15630.00	55.2 PK	74.0	-18.8	1.06 V	287	33.19	22.01
10	15630.00	42.9 AV	54.0	-11.1	1.06 V	287	20.89	22.01

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.
6. " # ": The radiated frequency is out of the restricted band.



A D T

Legacy / MIMO (CDD) mode

802.11a

CHANNEL	TX Channel 36	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	5101.00	54.2 PK	74.0	-19.8	1.00 H	333	45.88	8.32
2	5101.00	43.5 AV	54.0	-10.5	1.00 H	333	35.18	8.32
3	*5180.00	100.0 PK			1.00 H	333	91.24	8.76
4	*5180.00	90.5 AV			1.00 H	333	81.74	8.76
5	#10360.00	51.2 PK	74.0	-22.8	1.35 H	153	35.66	15.54
6	#10360.00	40.4 AV	54.0	-13.6	1.35 H	153	24.86	15.54
7	15540.00	56.2 PK	74.0	-17.8	1.00 H	74	33.83	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 H	74	21.93	22.37

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	5101.00	62.0 PK	74.0	-12.0	1.29 V	281	53.68	8.32
2	5101.00	50.7 AV	54.0	-3.3	1.29 V	281	42.38	8.32
3	*5180.00	112.7 PK			1.29 V	281	103.94	8.76
4	*5180.00	104.3 AV			1.29 V	281	95.54	8.76
5	#10360.00	51.6 PK	74.0	-22.4	1.30 V	147	36.06	15.54
6	#10360.00	40.8 AV	54.0	-13.2	1.30 V	147	25.26	15.54
7	15540.00	56.5 PK	74.0	-17.5	1.00 V	289	34.13	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 V	289	21.93	22.37

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.
6. " # ": The radiated frequency is out of the restricted band.



A D T

CHANNEL	TX Channel 40	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	5150.00	52.7 PK	74.0	-21.3	1.00 H	348	44.10	8.60
2	5150.00	42.3 AV	54.0	-11.7	1.00 H	348	33.70	8.60
3	*5200.00	99.8 PK			1.00 H	348	90.93	8.87
4	*5200.00	90.2 AV			1.00 H	348	81.33	8.87
5	#10400.00	51.2 PK	74.0	-22.8	1.36 H	151	36.02	15.18
6	#10400.00	40.5 AV	54.0	-13.5	1.36 H	151	25.32	15.18
7	15600.00	55.5 PK	74.0	-18.5	1.03 H	63	33.38	22.12
8	15600.00	43.8 AV	54.0	-10.2	1.03 H	63	21.68	22.12

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	5150.00	54.5 PK	74.0	-19.5	1.29 V	280	45.90	8.60
2	5150.00	43.3 AV	54.0	-10.7	1.29 V	280	34.70	8.60
3	*5200.00	113.2 PK			1.29 V	280	104.33	8.87
4	*5200.00	104.4 AV			1.29 V	280	95.53	8.87
5	#10400.00	51.6 PK	74.0	-22.4	1.33 V	147	36.42	15.18
6	#10400.00	40.9 AV	54.0	-13.1	1.33 V	147	25.72	15.18
7	15600.00	56.9 PK	74.0	-17.1	1.02 V	296	34.78	22.12
8	15600.00	44.5 AV	54.0	-9.5	1.02 V	296	22.38	22.12

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	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	5150.00	54.3 PK	74.0	-19.7	1.02 H	316	45.70	8.60
2	5150.00	43.4 AV	54.0	-10.6	1.02 H	316	34.80	8.60
3	*5240.00	99.6 PK			1.02 H	316	90.59	9.01
4	*5240.00	90.4 AV			1.02 H	316	81.39	9.01
5	#10480.00	49.9 PK	74.0	-24.1	1.37 H	146	34.10	15.80
6	#10480.00	39.3 AV	54.0	-14.7	1.37 H	146	23.50	15.80
7	15720.00	56.6 PK	74.0	-17.4	1.00 H	73	34.80	21.80
8	15720.00	44.4 AV	54.0	-9.6	1.00 H	73	22.60	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.27 V	281	46.30	8.60
2	5150.00	43.7 AV	54.0	-10.3	1.27 V	281	35.10	8.60
3	*5240.00	112.9 PK			1.27 V	281	103.89	9.01
4	*5240.00	104.8 AV			1.27 V	281	95.79	9.01
5	#10480.00	50.1 PK	74.0	-23.9	1.28 V	136	34.30	15.80
6	#10480.00	39.7 AV	54.0	-14.3	1.28 V	136	23.90	15.80
7	15720.00	55.9 PK	74.0	-18.1	1.02 V	289	34.10	21.80
8	15720.00	44.2 AV	54.0	-9.8	1.02 V	289	22.40	21.80

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.



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802.11n (HT20)

CHANNEL	TX Channel 36	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	5101.00	54.5 PK	74.0	-19.5	1.02 H	311	46.18	8.32
2	5101.00	43.4 AV	54.0	-10.6	1.02 H	311	35.08	8.32
3	*5180.00	100.9 PK			1.02 H	311	92.14	8.76
4	*5180.00	89.8 AV			1.02 H	311	81.04	8.76
5	#10360.00	50.8 PK	74.0	-23.2	1.37 H	150	35.26	15.54
6	#10360.00	40.2 AV	54.0	-13.8	1.37 H	150	24.66	15.54
7	15540.00	55.8 PK	74.0	-18.2	1.00 H	67	33.43	22.37
8	15540.00	44.5 AV	54.0	-9.5	1.00 H	67	22.13	22.37

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	5101.00	58.4 PK	74.0	-15.6	1.00 V	283	50.08	8.32
2	5101.00	48.9 AV	54.0	-5.1	1.00 V	283	40.58	8.32
3	*5180.00	112.9 PK			1.00 V	283	104.14	8.76
4	*5180.00	102.0 AV			1.00 V	283	93.24	8.76
5	#10360.00	51.6 PK	74.0	-22.4	1.22 V	122	36.06	15.54
6	#10360.00	40.6 AV	54.0	-13.4	1.22 V	122	25.06	15.54
7	15540.00	56.1 PK	74.0	-17.9	1.03 V	296	33.73	22.37
8	15540.00	44.0 AV	54.0	-10.0	1.03 V	296	21.63	22.37

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	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	5101.00	54.2 PK	74.0	-19.8	1.00 H	301	45.88	8.32
2	5101.00	43.4 AV	54.0	-10.6	1.00 H	301	35.08	8.32
3	*5200.00	99.7 PK			1.00 H	301	90.83	8.87
4	*5200.00	89.3 AV			1.00 H	301	80.43	8.87
5	#10400.00	50.1 PK	74.0	-23.9	1.31 H	159	34.92	15.18
6	#10400.00	40.0 AV	54.0	-14.0	1.31 H	159	24.82	15.18
7	15600.00	54.6 PK	74.0	-19.4	1.02 H	63	32.48	22.12
8	15600.00	43.5 AV	54.0	-10.5	1.02 H	63	21.38	22.12

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	5101.00	59.7 PK	74.0	-14.3	1.00 V	283	51.38	8.32
2	5101.00	49.1 AV	54.0	-4.9	1.00 V	283	40.78	8.32
3	*5200.00	111.9 PK			1.00 V	283	103.03	8.87
4	*5200.00	101.6 AV			1.00 V	283	92.73	8.87
5	#10400.00	51.9 PK	74.0	-22.1	1.26 V	140	36.72	15.18
6	#10400.00	41.3 AV	54.0	-12.7	1.26 V	140	26.12	15.18
7	15600.00	56.2 PK	74.0	-17.8	1.00 V	290	34.08	22.12
8	15600.00	44.1 AV	54.0	-9.9	1.00 V	290	21.98	22.12

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	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	5122.00	54.2 PK	74.0	-19.8	1.00 H	309	45.76	8.44
2	5122.00	43.4 AV	54.0	-10.6	1.00 H	309	34.96	8.44
3	*5240.00	100.8 PK			1.00 H	309	91.79	9.01
4	*5240.00	89.6 AV			1.00 H	309	80.59	9.01
5	#10480.00	50.0 PK	74.0	-24.0	1.41 H	163	34.20	15.80
6	#10480.00	39.7 AV	54.0	-14.3	1.41 H	163	23.90	15.80
7	15720.00	56.0 PK	74.0	-18.0	1.05 H	75	34.20	21.80
8	15720.00	44.5 AV	54.0	-9.5	1.05 H	75	22.70	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5122.00	54.3 PK	74.0	-19.7	1.00 V	284	45.86	8.44
2	5122.00	43.2 AV	54.0	-10.8	1.00 V	284	34.76	8.44
3	*5240.00	111.0 PK			1.00 V	284	101.99	9.01
4	*5240.00	101.4 AV			1.00 V	284	92.39	9.01
5	#10480.00	51.6 PK	74.0	-22.4	1.24 V	119	35.80	15.80
6	#10480.00	41.0 AV	54.0	-13.0	1.24 V	119	25.20	15.80
7	15720.00	56.5 PK	74.0	-17.5	1.04 V	295	34.70	21.80
8	15720.00	44.3 AV	54.0	-9.7	1.04 V	295	22.50	21.80

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	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	5147.00	54.4 PK	74.0	-19.6	1.01 H	265	45.83	8.57
2	5147.00	43.8 AV	54.0	-10.2	1.01 H	265	35.23	8.57
3	*5190.00	96.1 PK			1.01 H	265	87.28	8.82
4	*5190.00	87.3 AV			1.01 H	265	78.48	8.82
5	#10380.00	51.3 PK	74.0	-22.7	1.39 H	162	35.93	15.37
6	#10380.00	40.8 AV	54.0	-13.2	1.39 H	162	25.43	15.37
7	15570.00	56.0 PK	74.0	-18.0	1.03 H	83	33.76	22.24
8	15570.00	44.2 AV	54.0	-9.8	1.03 H	83	21.96	22.24

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	5147.00	64.7 PK	74.0	-9.3	1.00 V	284	56.13	8.57
2	5147.00	50.5 AV	54.0	-3.5	1.00 V	284	41.93	8.57
3	*5190.00	108.5 PK			1.00 V	284	99.68	8.82
4	*5190.00	99.3 AV			1.00 V	284	90.48	8.82
5	#10380.00	51.3 PK	74.0	-22.7	1.31 V	137	35.93	15.37
6	#10380.00	40.9 AV	54.0	-13.1	1.31 V	137	25.53	15.37
7	15570.00	56.2 PK	74.0	-17.8	1.00 V	278	33.96	22.24
8	15570.00	44.3 AV	54.0	-9.7	1.00 V	278	22.06	22.24

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.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 46	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	5146.00	54.4 PK	74.0	-19.6	1.02 H	270	45.83	8.57
2	5146.00	43.6 AV	54.0	-10.4	1.02 H	270	35.03	8.57
3	*5230.00	95.9 PK			1.02 H	270	86.93	8.97
4	*5230.00	87.0 AV			1.02 H	270	78.03	8.97
5	#10460.00	51.4 PK	74.0	-22.6	1.42 H	141	35.76	15.64
6	#10460.00	40.7 AV	54.0	-13.3	1.42 H	141	25.06	15.64
7	15690.00	56.0 PK	74.0	-18.0	1.00 H	86	34.22	21.78
8	15690.00	44.5 AV	54.0	-9.5	1.00 H	86	22.72	21.78

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	5146.00	57.8 PK	74.0	-16.2	1.01 V	268	49.23	8.57
2	5146.00	47.9 AV	54.0	-6.1	1.01 V	268	39.33	8.57
3	*5230.00	107.9 PK			1.01 V	268	98.93	8.97
4	*5230.00	98.8 AV			1.01 V	268	89.83	8.97
5	#10460.00	51.5 PK	74.0	-22.5	1.30 V	129	35.86	15.64
6	#10460.00	40.5 AV	54.0	-13.5	1.30 V	129	24.86	15.64
7	15690.00	55.8 PK	74.0	-18.2	1.00 V	276	34.02	21.78
8	15690.00	43.4 AV	54.0	-10.6	1.00 V	276	21.62	21.78

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.
6. " # ": The radiated frequency is out of the restricted band.



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802.11ac (VHT80)

CHANNEL	TX Channel 42	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	5150.00	54.3 PK	74.0	-19.7	1.05 H	246	45.70	8.60
2	5150.00	43.5 AV	54.0	-10.5	1.05 H	246	34.90	8.60
3	*5210.00	93.4 PK			1.05 H	246	84.50	8.90
4	*5210.00	83.8 AV			1.05 H	246	74.90	8.90
5	5350.00	55.4 PK	74.0	-18.6	1.05 H	246	46.09	9.31
6	5350.00	43.0 AV	54.0	-11.0	1.05 H	246	33.69	9.31
7	#10420.00	50.8 PK	74.0	-23.2	1.32 H	115	35.47	15.33
8	#10420.00	39.9 AV	54.0	-14.1	1.32 H	115	24.57	15.33
9	15630.00	56.4 PK	74.0	-17.6	1.08 H	57	34.39	22.01
10	15630.00	44.4 AV	54.0	-9.6	1.08 H	57	22.39	22.01

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	5150.00	63.6 PK	74.0	-10.4	1.00 V	270	55.00	8.60
2	5150.00	52.2 AV	54.0	-1.8	1.00 V	270	43.60	8.60
3	*5210.00	105.1 PK			1.00 V	270	96.20	8.90
4	*5210.00	95.7 AV			1.00 V	270	86.80	8.90
5	5350.00	55.3 PK	74.0	-18.7	1.00 V	270	45.99	9.31
6	5350.00	42.9 AV	54.0	-11.1	1.00 V	270	33.59	9.31
7	#10420.00	51.6 PK	74.0	-22.4	1.25 V	123	36.27	15.33
8	#10420.00	41.0 AV	54.0	-13.0	1.25 V	123	25.67	15.33
9	15630.00	55.2 PK	74.0	-18.8	1.06 V	287	33.19	22.01
10	15630.00	42.9 AV	54.0	-11.1	1.06 V	287	20.89	22.01

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.
6. " # ": The radiated frequency is out of the restricted band.

Legacy / MIMO (STBC) mode
802.11a

CHANNEL	TX Channel 36	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	5101.00	54.2 PK	74.0	-19.8	1.00 H	333	45.88	8.32
2	5101.00	43.5 AV	54.0	-10.5	1.00 H	333	35.18	8.32
3	*5180.00	100.0 PK			1.00 H	333	91.24	8.76
4	*5180.00	90.5 AV			1.00 H	333	81.74	8.76
5	#10360.00	51.2 PK	74.0	-22.8	1.35 H	153	35.66	15.54
6	#10360.00	40.4 AV	54.0	-13.6	1.35 H	153	24.86	15.54
7	15540.00	56.2 PK	74.0	-17.8	1.00 H	74	33.83	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 H	74	21.93	22.37

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	5101.00	62.0 PK	74.0	-12.0	1.29 V	281	53.68	8.32
2	5101.00	50.7 AV	54.0	-3.3	1.29 V	281	42.38	8.32
3	*5180.00	112.7 PK			1.29 V	281	103.94	8.76
4	*5180.00	104.3 AV			1.29 V	281	95.54	8.76
5	#10360.00	51.6 PK	74.0	-22.4	1.30 V	147	36.06	15.54
6	#10360.00	40.8 AV	54.0	-13.2	1.30 V	147	25.26	15.54
7	15540.00	56.5 PK	74.0	-17.5	1.00 V	289	34.13	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 V	289	21.93	22.37

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	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	5150.00	52.7 PK	74.0	-21.3	1.00 H	348	44.10	8.60
2	5150.00	42.3 AV	54.0	-11.7	1.00 H	348	33.70	8.60
3	*5200.00	99.8 PK			1.00 H	348	90.93	8.87
4	*5200.00	90.2 AV			1.00 H	348	81.33	8.87
5	#10400.00	51.2 PK	74.0	-22.8	1.36 H	151	36.02	15.18
6	#10400.00	40.5 AV	54.0	-13.5	1.36 H	151	25.32	15.18
7	15600.00	55.5 PK	74.0	-18.5	1.03 H	63	33.38	22.12
8	15600.00	43.8 AV	54.0	-10.2	1.03 H	63	21.68	22.12

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	5150.00	54.5 PK	74.0	-19.5	1.29 V	280	45.90	8.60
2	5150.00	43.3 AV	54.0	-10.7	1.29 V	280	34.70	8.60
3	*5200.00	113.2 PK			1.29 V	280	104.33	8.87
4	*5200.00	104.4 AV			1.29 V	280	95.53	8.87
5	#10400.00	51.6 PK	74.0	-22.4	1.33 V	147	36.42	15.18
6	#10400.00	40.9 AV	54.0	-13.1	1.33 V	147	25.72	15.18
7	15600.00	56.9 PK	74.0	-17.1	1.02 V	296	34.78	22.12
8	15600.00	44.5 AV	54.0	-9.5	1.02 V	296	22.38	22.12

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 48	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	5150.00	54.3 PK	74.0	-19.7	1.02 H	316	45.70	8.60
2	5150.00	43.4 AV	54.0	-10.6	1.02 H	316	34.80	8.60
3	*5240.00	99.6 PK			1.02 H	316	90.59	9.01
4	*5240.00	90.4 AV			1.02 H	316	81.39	9.01
5	#10480.00	49.9 PK	74.0	-24.1	1.37 H	146	34.10	15.80
6	#10480.00	39.3 AV	54.0	-14.7	1.37 H	146	23.50	15.80
7	15720.00	56.6 PK	74.0	-17.4	1.00 H	73	34.80	21.80
8	15720.00	44.4 AV	54.0	-9.6	1.00 H	73	22.60	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.27 V	281	46.30	8.60
2	5150.00	43.7 AV	54.0	-10.3	1.27 V	281	35.10	8.60
3	*5240.00	112.9 PK			1.27 V	281	103.89	9.01
4	*5240.00	104.8 AV			1.27 V	281	95.79	9.01
5	#10480.00	50.1 PK	74.0	-23.9	1.28 V	136	34.30	15.80
6	#10480.00	39.7 AV	54.0	-14.3	1.28 V	136	23.90	15.80
7	15720.00	55.9 PK	74.0	-18.1	1.02 V	289	34.10	21.80
8	15720.00	44.2 AV	54.0	-9.8	1.02 V	289	22.40	21.80

REMARKS:

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



A D T

802.11n (HT20)

CHANNEL	TX Channel 36	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	5103.00	53.5 PK	74.0	-20.5	1.02 H	251	45.16	8.34
2	5103.00	43.0 AV	54.0	-11.0	1.02 H	251	34.66	8.34
3	*5180.00	98.3 PK			1.02 H	251	89.54	8.76
4	*5180.00	87.8 AV			1.02 H	251	79.04	8.76
5	#10360.00	50.7 PK	74.0	-23.3	1.40 H	159	35.16	15.54
6	#10360.00	40.5 AV	54.0	-13.5	1.40 H	159	24.96	15.54
7	15540.00	56.2 PK	74.0	-17.8	1.00 H	79	33.83	22.37
8	15540.00	44.5 AV	54.0	-9.5	1.00 H	79	22.13	22.37

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	5103.00	57.4 PK	74.0	-16.6	1.52 V	237	49.06	8.34
2	5103.00	47.9 AV	54.0	-6.1	1.52 V	237	39.56	8.34
3	*5180.00	111.2 PK			1.52 V	237	102.44	8.76
4	*5180.00	100.4 AV			1.52 V	237	91.64	8.76
5	#10360.00	51.8 PK	74.0	-22.2	1.33 V	141	36.26	15.54
6	#10360.00	40.8 AV	54.0	-13.2	1.33 V	141	25.26	15.54
7	15540.00	56.5 PK	74.0	-17.5	1.00 V	275	34.13	22.37
8	15540.00	44.3 AV	54.0	-9.7	1.00 V	275	21.93	22.37

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 40	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	5120.00	53.3 PK	74.0	-20.7	1.08 H	243	44.87	8.43
2	5120.00	42.7 AV	54.0	-11.3	1.08 H	243	34.27	8.43
3	*5200.00	98.9 PK			1.08 H	243	90.03	8.87
4	*5200.00	88.3 AV			1.08 H	243	79.43	8.87
5	#10400.00	51.1 PK	74.0	-22.9	1.31 H	140	35.92	15.18
6	#10400.00	40.6 AV	54.0	-13.4	1.31 H	140	25.42	15.18
7	15600.00	56.0 PK	74.0	-18.0	1.00 H	83	33.88	22.12
8	15600.00	44.2 AV	54.0	-9.8	1.00 H	83	22.08	22.12

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	5120.00	57.6 PK	74.0	-16.4	1.50 V	250	49.17	8.43
2	5120.00	47.9 AV	54.0	-6.1	1.50 V	250	39.47	8.43
3	*5200.00	111.6 PK			1.46 V	236	102.73	8.87
4	*5200.00	100.8 AV			1.46 V	236	91.93	8.87
5	#10400.00	51.7 PK	74.0	-22.3	1.30 V	136	36.52	15.18
6	#10400.00	40.9 AV	54.0	-13.1	1.30 V	136	25.72	15.18
7	15600.00	56.0 PK	74.0	-18.0	1.04 V	263	33.88	22.12
8	15600.00	43.9 AV	54.0	-10.1	1.04 V	263	21.78	22.12

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 48	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	5150.00	52.2 PK	74.0	-21.8	1.13 H	238	43.60	8.60
2	5150.00	41.5 AV	54.0	-12.5	1.13 H	238	32.90	8.60
3	*5240.00	98.9 PK			1.13 H	238	89.89	9.01
4	*5240.00	88.7 AV			1.13 H	238	79.69	9.01
5	#10480.00	51.0 PK	74.0	-23.0	1.35 H	160	35.20	15.80
6	#10480.00	40.0 AV	54.0	-14.0	1.35 H	160	24.20	15.80
7	15720.00	56.2 PK	74.0	-17.8	1.02 H	75	34.40	21.80
8	15720.00	44.5 AV	54.0	-9.5	1.02 H	75	22.70	21.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.6 PK	74.0	-20.4	1.00 V	278	45.00	8.60
2	5150.00	42.2 AV	54.0	-11.8	1.00 V	278	33.60	8.60
3	*5240.00	110.9 PK			1.52 V	239	101.89	9.01
4	*5240.00	100.4 AV			1.52 V	239	91.39	9.01
5	#10480.00	51.4 PK	74.0	-22.6	1.30 V	130	35.60	15.80
6	#10480.00	40.9 AV	54.0	-13.1	1.30 V	130	25.10	15.80
7	15720.00	55.6 PK	74.0	-18.4	1.00 V	303	33.80	21.80
8	15720.00	43.5 AV	54.0	-10.5	1.00 V	303	21.70	21.80

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

CHANNEL	TX Channel 38	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	5150.00	54.2 PK	74.0	-19.8	1.13 H	241	45.60	8.60
2	5150.00	43.3 AV	54.0	-10.7	1.13 H	241	34.70	8.60
3	*5190.00	95.3 PK			1.13 H	241	86.48	8.82
4	*5190.00	86.5 AV			1.13 H	241	77.68	8.82
5	#10380.00	51.0 PK	74.0	-23.0	1.32 H	167	35.63	15.37
6	#10380.00	40.4 AV	54.0	-13.6	1.32 H	167	25.03	15.37
7	15570.00	56.6 PK	74.0	-17.4	1.00 H	67	34.36	22.24
8	15570.00	44.5 AV	54.0	-9.5	1.00 H	67	22.26	22.24

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	5150.00	59.6 PK	74.0	-14.4	1.00 V	283	51.00	8.60
2	5150.00	48.8 AV	54.0	-5.2	1.00 V	283	40.20	8.60
3	*5190.00	107.4 PK			1.00 V	283	98.58	8.82
4	*5190.00	98.4 AV			1.00 V	283	89.58	8.82
5	#10380.00	51.9 PK	74.0	-22.1	1.34 V	135	36.53	15.37
6	#10380.00	41.2 AV	54.0	-12.8	1.34 V	135	25.83	15.37
7	15570.00	56.2 PK	74.0	-17.8	1.00 V	290	33.96	22.24
8	15570.00	44.1 AV	54.0	-9.9	1.00 V	290	21.86	22.24

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 46	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	5150.00	54.5 PK	74.0	-19.5	1.08 H	237	45.90	8.60
2	5150.00	43.7 AV	54.0	-10.3	1.08 H	237	35.10	8.60
3	*5230.00	95.8 PK			1.08 H	237	86.83	8.97
4	*5230.00	86.5 AV			1.08 H	237	77.53	8.97
5	#10460.00	50.6 PK	74.0	-23.4	1.37 H	130	34.96	15.64
6	#10460.00	39.8 AV	54.0	-14.2	1.37 H	130	24.16	15.64
7	15690.00	56.6 PK	74.0	-17.4	1.06 H	59	34.82	21.78
8	15690.00	44.6 AV	54.0	-9.4	1.06 H	59	22.82	21.78

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	5150.00	57.4 PK	74.0	-16.6	1.00 V	262	48.80	8.60
2	5150.00	46.8 AV	54.0	-7.2	1.00 V	262	38.20	8.60
3	*5230.00	107.6 PK			1.02 V	292	98.63	8.97
4	*5230.00	98.4 AV			1.02 V	292	89.43	8.97
5	#10460.00	51.8 PK	74.0	-22.2	1.31 V	152	36.16	15.64
6	#10460.00	40.8 AV	54.0	-13.2	1.31 V	152	25.16	15.64
7	15690.00	56.3 PK	74.0	-17.7	1.06 V	274	34.52	21.78
8	15690.00	44.2 AV	54.0	-9.8	1.06 V	274	22.42	21.78

REMARKS:

- Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
- The other emission levels were very low against the limit.
- Margin value = Emission Level – Limit value
- " * ": Fundamental frequency.
- " # ": The radiated frequency is out of the restricted band.

802.11ac (VHT80)

CHANNEL	TX Channel 42	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	5150.00	53.9 PK	74.0	-20.1	1.07 H	224	45.30	8.60
2	5150.00	43.0 AV	54.0	-11.0	1.07 H	224	34.40	8.60
3	*5210.00	93.3 PK			1.07 H	224	84.40	8.90
4	*5210.00	87.0 AV			1.07 H	224	78.10	8.90
5	#10420.00	50.3 PK	74.0	-23.7	1.34 H	119	34.97	15.33
6	#10420.00	39.7 AV	54.0	-14.3	1.34 H	119	24.37	15.33
7	15630.00	56.9 PK	74.0	-17.1	1.03 H	69	34.89	22.01
8	15630.00	44.7 AV	54.0	-9.3	1.03 H	69	22.69	22.01

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	5150.00	61.8 PK	74.0	-12.2	1.00 V	277	53.20	8.60
2	5150.00	50.9 AV	54.0	-3.1	1.00 V	277	42.30	8.60
3	*5210.00	105.3 PK			1.00 V	277	96.40	8.90
4	*5210.00	99.2 AV			1.00 V	277	90.30	8.90
5	#10420.00	51.9 PK	74.0	-22.1	1.22 V	127	36.57	15.33
6	#10420.00	40.7 AV	54.0	-13.3	1.22 V	127	25.37	15.33
7	15630.00	55.7 PK	74.0	-18.3	1.00 V	271	33.69	22.01
8	15630.00	43.6 AV	54.0	-10.4	1.00 V	271	21.59	22.01

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.
6. " # ": The radiated frequency is out of the restricted band.

4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

Note: Where B is the 26dB emission bandwidth in MHz.

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.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

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



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FOR 26dB OCCUPIED BANDWIDTH

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

FOR POWER OUTPUT MEASUREMENT

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.

FOR 26dB OCCUPIED BANDWIDTH

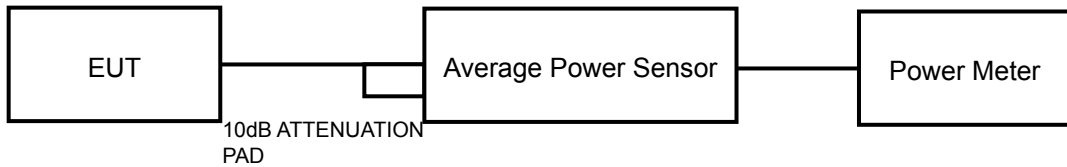
1. Set RBW = approximately 1% of the emission bandwidth.
2. Set the VBW > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.3.4 DEVIATION FROM TEST STANDARD

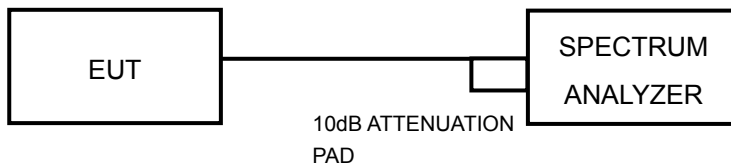
No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	41.020	16.13	17.00	PASS
40	5200	41.305	16.16	17.00	PASS
48	5240	41.115	16.14	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	20.49
40	5200	20.44
48	5240	20.49

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.49	17.11 > 17
40	5200	20.44	17.1 > 17
48	5240	20.49	17.11 > 17



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802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
36	5180	8.77	9.10	9.13	23.847	13.77	14.58	PASS
40	5200	8.82	9.16	9.23	24.237	13.84	14.58	PASS
48	5240	8.80	9.18	9.19	24.164	13.83	14.58	PASS

Note: 5180~5240MHz: The directional gain is 8.42dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $17.00 - (8.42 - 6) = 14.58\text{dBm}$.

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
36	5180	20.89	20.55	20.73
40	5200	20.81	20.53	20.61
48	5240	20.78	20.53	20.63

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = $4\text{dBm} + 10\log B < \text{Band 1} >$			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.55	17.12 > 17
40	5200	20.53	17.12 > 17
48	5240	20.53	17.12 > 17



802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	9.52	9.79	9.70	27.815	14.44	14.58	PASS
46	5230	9.54	9.71	9.76	27.811	14.44	14.58	PASS

Note: 5190~5230MHz: The directional gain is 8.42dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to 17.00-(8.42-6) = 14.58dBm.

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
38	5190	41.63	41.19	41.29
46	5230	41.52	41.16	40.91

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
38	5190	41.19	20.14 > 17
46	5230	41.16	20.11 > 17



A D T

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	8.94	9.84	9.76	26.934	14.30	14.58	PASS

Note: 5210MHz: The directional gain is 8.42dBi > 6dBi, therefore the limit needs to reduce, so the power limit shall be reduced to $17.00 - (8.42 - 6) = 14.58$ dBm.

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
42	5210	82.87	82.58	82.40

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = $4\text{dBm} + 10\log B$ < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
42	5210	82.40	$23.15 > 17$

Legacy/MIMO (CDD)

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	41.020	16.13	17.00	PASS
40	5200	41.305	16.16	17.00	PASS
48	5240	41.115	16.14	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	20.49
40	5200	20.44
48	5240	20.49

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.49	17.11 > 17
40	5200	20.44	17.1 > 17
48	5240	20.49	17.11 > 17



A D T

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
36	5180	8.77	9.10	9.13	23.847	13.77	17.00	PASS
40	5200	8.82	9.16	9.23	24.237	13.84	17.00	PASS
48	5240	8.80	9.18	9.19	24.164	13.83	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
36	5180	20.89	20.55	20.73
40	5200	20.81	20.53	20.61
48	5240	20.78	20.53	20.63

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.55	17.12 > 17
40	5200	20.53	17.12 > 17
48	5240	20.53	17.12 > 17



A D T

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	11.97	12.20	12.21	48.970	16.90	17.00	PASS
46	5230	11.94	12.23	12.16	48.786	16.88	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
38	5190	41.56	41.23	41.26
46	5230	41.77	41.07	41.17

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
38	5190	41.23	20.15 > 17
46	5230	41.07	20.13 > 17



A D T

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	11.48	12.21	12.18	47.214	16.74	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
42	5210	83.16	82.97	82.46

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = $4\text{dBm} + 10\log\text{B}$ < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
42	5210	82.46	23.16 > 17

Legacy/MIMO (STBC)

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	41.020	16.13	17.00	PASS
40	5200	41.305	16.16	17.00	PASS
48	5240	41.115	16.14	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	20.49
40	5200	20.44
48	5240	20.49

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.49	17.11 > 17
40	5200	20.44	17.1 > 17
48	5240	20.49	17.11 > 17



A D T

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
36	5180	11.15	11.41	11.42	40.736	16.10	17.00	PASS
40	5200	11.13	11.37	11.38	40.421	16.07	17.00	PASS
48	5240	11.11	11.42	11.37	40.489	16.07	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
36	5180	20.92	20.52	20.59
40	5200	20.76	20.40	20.48
48	5240	20.94	20.58	20.73

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
36	5180	20.52	17.12 > 17
40	5200	20.40	17.09 > 17
48	5240	20.58	17.13 > 17



A D T

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	11.97	12.20	12.21	48.970	16.90	17.00	PASS
46	5230	11.94	12.23	12.16	48.786	16.88	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
38	5190	41.56	41.23	41.26
46	5230	41.77	41.07	41.17

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
38	5190	41.23	19.63 > 17
46	5230	41.07	19.63 > 17



A D T

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	11.48	12.21	12.18	47.214	16.74	17.00	PASS

26dB OCCUPIED BANDWIDTH:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		CHAIN 0	CHAIN 1	CHAIN 2
42	5210	83.16	82.97	82.46

Note: For output power limitation is determined based on 26dBc bandwidth.

Power Limit = 4dBm + 10logB < Band 1 >			
Channel Number	Freq.(MHz)	Min. B(MHz)	Determined Limit (dBm)
42	5210	82.46	23.16 > 17



A D T

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 ~ 5.25GHz	4dBm
5.25 ~ 5.35GHz	11dBm
5.47 – 5.725GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.4.2 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

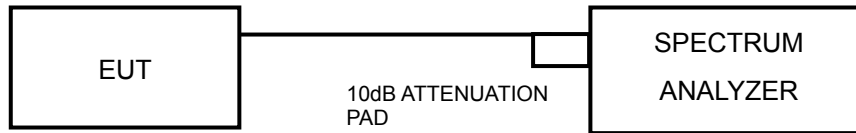
4.4.3 TEST PROCEDURES

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and for duty cycle of test signal is $< 98\%$ add $10 \log (1/\text{duty cycle})$

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6



4.4.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.91	4	PASS
40	5200	1.89	4	PASS
48	5240	1.88	4	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)			TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2			
36	5180	-4.01	-4.08	-3.93	0.76	1.58	PASS
40	5200	-3.90	-3.90	-3.71	0.94	1.58	PASS
48	5240	-4.19	-4.00	-3.72	0.81	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.42dBi > 6dBi , so the power density limit shall be reduced to $4-(8.42-6) = 1.58$ dBm.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	-8.08	-7.86	-7.31	0.11	-2.86	1.58	PASS
46	5230	-7.94	-7.71	-7.59	0.11	-2.86	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.42dBi > 6dBi , so the power density limit shall be reduced to $4-(8.42-6) = 1.58$ dBm.
3. Refer to section 3.4 for duty cycle spectrum plot.



802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dBm)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	-11.61	-11.10	-10.87	0.2	-6.21	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.42dBi > 6dBi , so the power density limit shall be reduced to $4-(8.42-6) = 1.58\text{dBm}$.
3. Refer to section 3.4 for duty cycle spectrum plot.



Legacy/MIMO (CDD)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.91	4	PASS
40	5200	1.89	4	PASS
48	5240	1.88	4	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)			TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2			
36	5180	-4.01	-4.08	-3.93	0.76	1.58	PASS
40	5200	-3.90	-3.90	-3.71	0.94	1.58	PASS
48	5240	-4.19	-4.00	-3.72	0.81	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.42\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(8.42-6) = 1.58\text{dBm}$.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	-5.81	-5.37	-5.24	0.1	-0.60	1.58	PASS
46	5230	-5.77	-5.37	-5.43	0.1	-0.65	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.42\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(8.42-6) = 1.58\text{dBm}$.
3. Refer to section 3.4 for duty cycle spectrum plot.



802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dBm)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	-9.39	-8.86	-8.66	0.2	-3.99	1.58	PASS

- NOTE:** 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3]$ = 8.42dBi > 6dBi , so the power density limit shall be reduced to $4-(8.42-6) = 1.58$ dBm.
3. Refer to section 3.4 for duty cycle spectrum plot.



Legacy/MIMO (STBC)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.91	4	PASS
40	5200	1.89	4	PASS
48	5240	1.88	4	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD (dBm)			TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2			
36	5180	-2.12	-1.94	-1.72	2.85	4.00	PASS
40	5200	-1.95	-1.75	-1.45	3.06	4.00	PASS
48	5240	-1.97	-1.97	-1.81	2.86	4.00	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dB)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
38	5190	-5.81	-5.37	-5.24	0.1	-0.60	4.00	PASS
46	5230	-5.77	-5.37	-5.43	0.1	-0.65	4.00	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.



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802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)			DUTY FACTOR (dBm)	TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
42	5210	-9.39	-8.86	-8.66	0.2	-3.99	4.00	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB

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

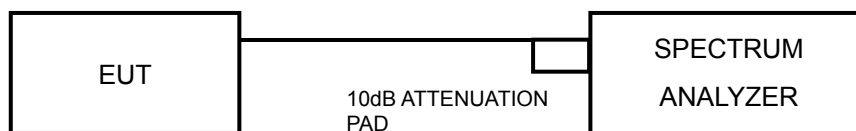
4.5.3 TEST PROCEDURE

1. Set RBW = 1 MHz, VBW \geq 3 MHz, Detector = peak.
2. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
3. Use the peak search function to find the peak of the spectrum.
4. Measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



4.5.7 TEST RESULTS

Legacy/MIMO (CDD) with beam forming

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	10.25	1.91	8.34	13	PASS
40	5200	10.42	1.89	8.53	13	PASS
48	5240	10.60	1.88	8.72	13	PASS

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
36	5180	5.36	6.40	6.29	-4.01	-4.08	-3.93	9.37	10.48	10.22	13	PASS
40	5200	5.40	6.37	6.61	-3.90	-3.90	-3.71	9.30	10.27	10.32	13	PASS
48	5240	5.11	6.63	5.98	-4.19	-4.00	-3.72	9.30	10.63	9.70	13	PASS

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
38	5190	1.48	3.17	2.68	0.11	-7.97	-7.75	-7.20	9.45	10.92	9.88	13	PASS
46	5230	1.34	2.99	2.28	0.11	-7.83	-7.60	-7.48	9.17	10.59	9.76	13	PASS

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
42	5210	-2.29	-0.05	-0.05	0.2	-11.41	-10.90	-10.67	9.12	10.85	10.62	13	PASS



Legacy/MIMO (CDD)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	10.25	1.91	8.34	13	PASS
40	5200	10.42	1.89	8.53	13	PASS
48	5240	10.60	1.88	8.72	13	PASS

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
36	5180	5.36	6.40	6.29	-4.01	-4.08	-3.93	9.37	10.48	10.22	13	PASS
40	5200	5.40	6.37	6.61	-3.90	-3.90	-3.71	9.30	10.27	10.32	13	PASS
48	5240	5.11	6.63	5.98	-4.19	-4.00	-3.72	9.30	10.63	9.70	13	PASS

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
38	5190	3.34	4.78	4.64	0.1	-5.71	-5.27	-5.14	9.05	10.05	9.78	13	PASS
46	5230	3.88	5.32	4.53	0.1	-5.67	-5.27	-5.33	9.55	10.59	9.86	13	PASS

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
42	5210	1.06	1.61	1.64	0.2	-9.19	-8.66	-8.46	10.25	10.27	10.10	13	PASS



Legacy/MIMO (STBC)

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	10.25	1.91	8.34	13	PASS
40	5200	10.42	1.89	8.53	13	PASS
48	5240	10.60	1.88	8.72	13	PASS

802.11n (HT20)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
36	5180	6.71	8.52	7.92	-2.12	-1.94	-1.72	8.83	10.46	9.64	13	PASS
40	5200	7.42	8.40	8.38	-1.95	-1.75	-1.45	9.37	10.15	9.83	13	PASS
48	5240	7.04	8.43	8.53	-1.97	-1.97	-1.81	9.01	10.40	10.34	13	PASS

802.11n (HT40)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
38	5190	3.34	4.78	4.64	0.1	-5.71	-5.27	-5.14	9.05	10.05	9.78	13	PASS
46	5230	3.88	5.32	4.53	0.1	-5.67	-5.27	-5.33	9.55	10.59	9.86	13	PASS

802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			DUTY FACTOR (dB)	PPSD WITH DUTY FACTOR (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 0	CHAIN 1	CHAIN 2		
42	5210	1.06	1.61	1.64	0.2	-9.19	-8.66	-8.46	10.25	10.27	10.10	13	PASS



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4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

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
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40 -SP-AR	MAA0812-008	Jan. 17, 2013	Jan. 16, 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

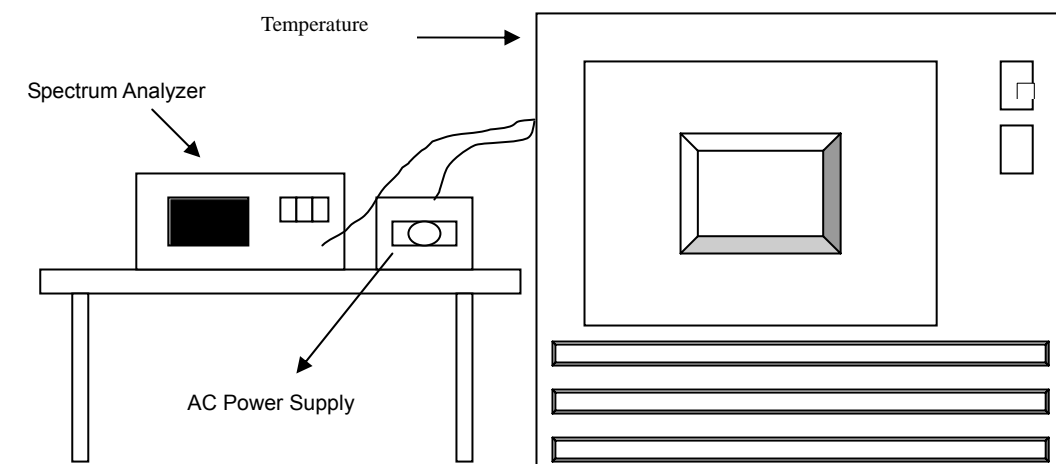
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.



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4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5240MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5240.0152	0.00029	5240.0208	0.00040	5240.0172	0.00033	5240.0226	0.00043
40	120	5239.9966	-0.00006	5240.0037	0.00007	5239.9957	-0.00008	5240.0015	0.00003
30	120	5239.9914	-0.00016	5239.996	-0.00008	5239.998	-0.00004	5239.9943	-0.00011
20	120	5240.022	0.00042	5240.0236	0.00045	5240.0189	0.00036	5240.0202	0.00039
10	120	5240.024	0.00046	5240.0276	0.00053	5240.0302	0.00058	5240.0313	0.00060
0	120	5240.0189	0.00036	5240.0221	0.00042	5240.0165	0.00031	5240.0161	0.00031
-10	120	5239.9981	-0.00004	5239.9976	-0.00005	5239.9958	-0.00008	5240.0031	0.00006
-20	120	5239.9997	-0.00001	5240.0004	0.00001	5239.999	-0.00002	5240.0043	0.00008
-30	120	5240.0202	0.00039	5240.0189	0.00036	5240.0203	0.00039	5240.0183	0.00035

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5240MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	138	5240.0225	0.00043	5240.0239	0.00046	5240.0187	0.00036	5240.0212	0.00040
	120	5240.022	0.00042	5240.0236	0.00045	5240.0189	0.00036	5240.0202	0.00039
	102	5240.0224	0.00043	5240.0229	0.00044	5240.019	0.00036	5240.0209	0.00040

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

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

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

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Web Site: www.bureauveritas-adt.com

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



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7.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.

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