

FCC TEST REPORT (WLAN/DTS-15.247)

REPORT NO.: RF110907E02N

MODEL NO.: AR5B22

FCC ID: PPD-AR5B22

IC: 4104A-AR5B22

RECEIVED: Oct. 03, 2012

TESTED: Oct. 03 to 25, 2012

ISSUED: Nov. 14, 2012

APPLICANT: Qualcomm Atheros, Inc.

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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
RF110907E02N	Original release	Nov. 14, 2012



A D T

1. CERTIFICATION

PRODUCT: PCIE 802.11a/b/g/n 2.4GHz/5GHz + USB BT 4.0 card
BRAND NAME: Atheros
MODEL NO.: AR5B22
TEST SAMPLE: R&D SAMPLE
APPLICANT: Qualcomm Atheros, Inc.
TESTED: Oct. 03 to 25, 2012
STANDARDS: FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10-2009
Canada RSS-210 Issue 8 (2010-12)
Canada RSS-Gen Issue 3 (2010-12)

The above equipment (Model: AR5B22) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and was in 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 : Midoli Peng, **DATE:** Nov. 14, 2012
(Midoli Peng, Specialist)

APPROVED BY : May Chen, **DATE:** Nov. 14, 2012
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 2.4GHz(WLAN), 2412~2462MHz Band

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) ; RSS-210; RSS-Gen				
STANDARD SECTION		TEST TYPE	RESULT	REMARK
FCC Part 15	RSS-Gen			
15.247(d) 15.209	RSS-210 A8.5	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 7311.00MHz & 2483.5MHz & 2390.00MHz
15.247(b)	RSS-210 A8.2 (4)	Conducted power	PASS	Meet the requirement of limit.

For 2.4GHz(BT-LE(GFSK)), 2402~2480MHz Band

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) ; RSS-210; RSS-Gen				
STANDARD SECTION		TEST TYPE	RESULT	REMARK
FCC Part 15	RSS-Gen			
15.247(d) 15.209	RSS-210 A8.5	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -4.2dB at 798.00MHz
15.247(b)	RSS-210 A8.2 (4)	Conducted power	PASS	Meet the requirement of limit.

For 5GHz, 5725~5850MHz Band

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) ; RSS-210; RSS-Gen				
STANDARD SECTION		TEST TYPE	RESULT	REMARK
FCC Part 15	RSS-210; RSS-Gen			
15.247(d) 15.209	RSS-210 A8.5	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.9dB at 799.85MHz
15.247(b)	RSS-210 A8.2 (4)	Conducted power	PASS	Meet the requirement of limit.

- NOTE:** 1. The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2400 ~ 2483.5MHz and 5.725~5.850GHz. For the 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz RF parameters was recorded in another test report.
2. This report is prepared for FCC class II change and IC reassessment change. Only radiated emission and conducted power were presented in this test report.

2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Radiated emissions (30MHz-1GHz)	5.59 dB
Radiated emissions (1GHz -6GHz)	3.84 dB
Radiated emissions (6GHz -18GHz)	4.09 dB
Radiated emissions (18GHz -40GHz)	4.24 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT(WLAN / DTS)

PRODUCT	PCIE 802.11a/b/g/n 2.4GHz/5GHz + USB BT 4.0 card
MODEL NO.	AR5B22
POWER SUPPLY	DC 3.3V from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM GFSK(BT <LE> mode) for DTS
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n (HT20, 800ns GI): up to 130Mbps 802.11n (HT20, 400ns GI): up to 144.4Mbps 802.11n (HT40, 800ns GI) : up to 270Mbps 802.11n (HT40, 400ns GI) : up to 300Mbps BT-LE(GFSK): 1Mbps
OPERATING FREQUENCY	For 15.407 802.11a: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5~5.58GHz & 5.66~5.7GHz
	For 15.247 2.4GHz: 2.412 ~ 2.462GHz 5GHz: 5.745 ~ 5.825GHz BT-LE(GFSK): 2.402 ~ 2.480GHz
NUMBER OF CHANNEL	For 15.407 16 for 802.11a, 802.11n (HT20) 7 for 802.11n (HT40)
	For 15.247(2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) 40 for BT-LE(GFSK) For 15.247(5GHz) 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)

MAXIMUM OUTPUT POWER	For 15.407 802.11a: 107.663mW 802.11n (HT20): 61.199mW 802.11n (HT40): 62.724mW For 15.247(2.4GHz) 802.11b: 170.950mW 802.11g: 504.510mW 802.11n (HT20): 475.816mW 802.11n (HT40): 343.787mW BT-LE(GFSK): 2.570mW For 15.247(5GHz) 802.11a: 205.147mW 802.11n (HT20): 203.940mW 802.11n (HT40): 191.635mW
ANTENNA TYPE	See item 3.2
ANTENNA CONNECTOR	See item 3.2
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

- This report is prepared for FCC class II permissive change and IC reassessment change. The difference compared with the Report No.: RF110907E02 R1 design is as the following information:
 - u Swap chain 0 and chain 1 antenna location & Shielding change.
- There are Bluetooth technology and WLAN technology used for the EUT. And the report number corresponds with EUT functions are listed as below:

Function	Report No.
WLAN / BT(LE MODE)	RF110907E02N (15.247) RF110907E02N-1(15.407)
Bluetooth	RF110907E02N-2

- The device has three configurations (working mode)
 - WLAN only (2x2 MIMO)
 - BT+WLAN (2x2 MIMO) with reduced power on WLAN
 - BT+WLAN (1x1 mode on a/b/g only, chain 0 is used for BT and chain 1 is used for WLAN)
- The HW version is CUS229.

5. Spurious Emission (radiated emission) of the simultaneous operation (WiFi & Bluetooth) have been evaluated and no non-compliance found. The detail combinations of transmitters / frequencies / modes as below table

Mode	Available Channel	Tested Channel	Modulation Technology
2.4 GHz (802.11g) + Bluetooth	1 to 11	6	OFDM
	0 to 78	78	FHSS
5 GHz (802.11a) + Bluetooth	149 to 165	165	OFDM
	0 to 78	78	FHSS

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

3.2 DESCRIPTION OF ANTENNA

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

No.	Brand	Model	Antenna Type	Connector	Antenna Gain (dBi)< included cable loss>			
					For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.850)
1&2	WNC	81.EBJ15.005	PIFA	IPEX	3.62	3.08	4.76	4.76

Cable Loss:

No.	Brand	Model	Cable Loss(dB)				Cable Length
			For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.850)	
1&2	WNC	81-EBJ15.005	1.15	1.70	1.74	1.79	300

Note: Above antenna gains of antenna are Total (H+V).

3.3 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

Eleven channels are provided for 802.11b, 802.11g, 802.11n (HT20):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

Seven channels are provided for 802.11n (HT 40):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

Forty channels are provided for Bluetooth LE mode:

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

Operated in 5725 ~ 5850MHz band:

Five channels are provided for 802.11a, 802.11n (HT20):

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

Two channels are provided for 802.11n (HT40):

CHANNEL	FREQUENCY
151	5755 MHz
159	5795 MHz

3.3.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	RE < 1G	RE ³ 1G	APCM	
-	√	√	√	-

Where **RE < 1G**: Radiated Emission below 1GHz **RE ³ 1G**: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

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).
- ☒ The investigation has been done for the worst-case (1x1 vs. 2x2) on harmonics and band-edge to find out the worst-case for the final tests.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11g	1 to 11	6	OFDM	6
BT-LE	0 to 39	39	DTS	1
802.11a	149 to 165	165	OFDM	6.5

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1
802.11g	1 to 11	1, 6, 11	OFDM	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	13.5
BT-LE	0 to 39	0, 19, 39	DTS	1
802.11a	149 to 165	149, 157, 165	OFDM	6
For 5 GHz 802.11n (HT20)	149 to 165	149, 157, 165	OFDM	6.5
For 5 GHz 802.11n (HT40)	151 to 159	151, 159	OFDM	13.5

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	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	1
802.11g	1 to 11	1, 6, 11	OFDM	6
For 2.4 GHz 802.11n (HT20)	1 to 11	1, 6, 11	OFDM	6.5
For 2.4 GHz 802.11n (HT40)	3 to 9	3, 6, 9	OFDM	13.5
BT-LE	0 to 39	0, 19, 39	DTS	1
802.11a	149 to 165	149, 157, 165	OFDM	6
For 5 GHz 802.11n (HT20)	149 to 165	149, 157, 165	OFDM	6.5
For 5 GHz 802.11n (HT40)	151 to 159	151, 159	OFDM	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE<1G	23deg. C, 65%RH	120Vac, 60Hz	Robert Cheng
RE ³ 1G	25deg. C, 65%RH	120Vac, 60Hz	Evan Huang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nelson Teng

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (Section 15.247)

558074 D01 DTS Meas Guidance v01

ANSI C63.10-2009

Canada RSS-210 Issue 8 (2010-12)

Canada RSS-Gen Issue 3 (2010-12)

All test items have been performed and recorded as per the above standards.

3.5 DESCRIPTION OF SUPPORT UNITS

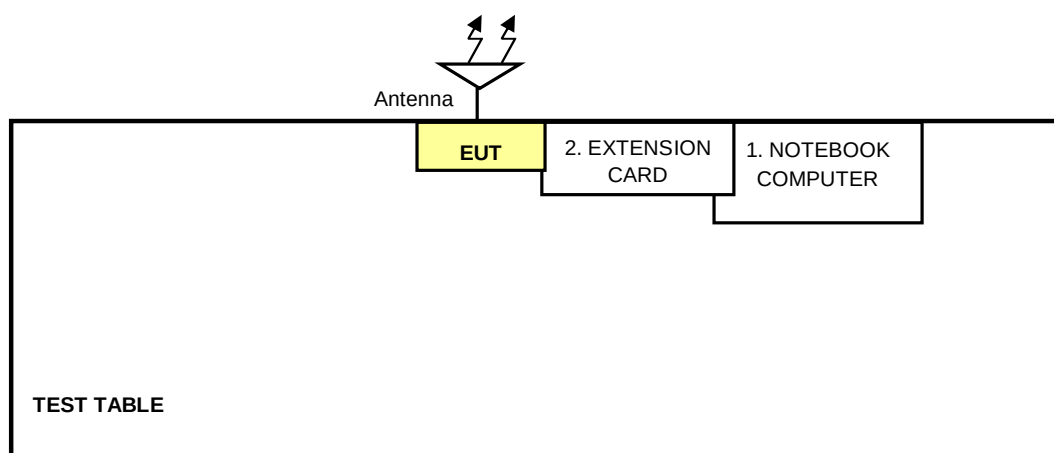
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-70166-5 CA-0448	PIW6325005166 10
2	EXTENSION CARD	Atheros	NA	NA	NA

No.	Signal cable description
1	NA
2	NA

Note: The power cords of the above support units were unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS (FOR 2.4GHz, 2400 ~ 2483.5MHz Band)

4.1 CONDUCTED OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

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

4.1.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	0824006	May 10, 2012	May 09, 2013
Peak Power Sensor	MA2411B	0738172	May 10, 2012	May 09, 2013

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 : Oct. 24, 2012

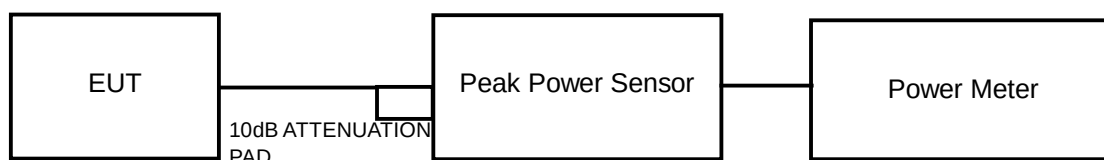
4.1.3 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the peak power level.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

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

4.1.7 TEST RESULTS

Single chain - 802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	97.724	19.9	30	PASS
6	2437	131.826	21.2	30	PASS
11	2462	123.027	20.9	30	PASS

Single chain - 802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	288.403	24.6	30	PASS
6	2437	489.779	26.9	30	PASS
11	2462	251.189	24.0	30	PASS

Multiple chain - 802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
1	2412	18.9	19.2	160.801	22.06	29.37	PASS
6	2437	18.9	19.7	170.950	22.33	29.37	PASS
11	2462	18.7	19.5	163.256	22.13	29.37	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=6.63

The effective legacy gain is 6.63dBi, therefore the limit needs to reduce.

Multiple chain - 802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
1	2412	21.7	22.0	306.400	24.86	29.37	PASS
6	2437	23.6	24.4	504.510	27.03	29.37	PASS
11	2462	21.8	21.3	286.252	24.57	29.37	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)= 6.63

The effective legacy gain is 6.63dBi, therefore the limit needs to reduce.

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
1	2412	21.5	21.1	270.079	24.31	29.37	PASS
6	2437	23.4	24.1	475.816	26.77	29.37	PASS
11	2462	20.8	20.9	243.253	23.86	29.37	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=6.63

The effective legacy gain is 6.63dBi, therefore the limit needs to reduce.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
3	2422	18.0	18.4	132.279	21.21	29.37	PASS
6	2437	22.2	22.5	343.787	25.36	29.37	PASS
9	2452	19.9	20.1	200.053	23.01	29.37	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=6.63

The effective legacy gain is 6.63dBi, therefore the limit needs to reduce.

BT_LE-GFSK

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
0	2402	2.089	3.2	30	PASS
19	2440	2.239	3.5	30	PASS
39	2480	2.570	4.1	30	PASS

4.2 AVERAGE OUTPUT POWER

4.2.1 FOR REFERENCE.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	0824006	May 10, 2012	May 09, 2013
Average Power Sensor	MA2411B	0738172	May 10, 2012	May 09, 2013

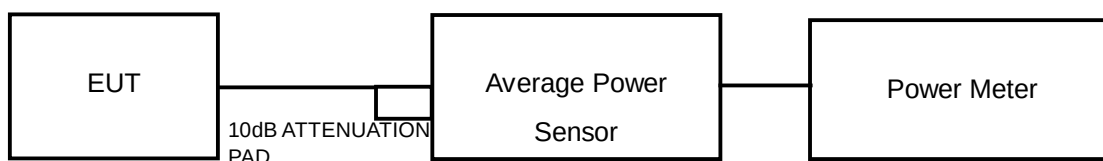
Note:

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 : Oct. 24, 2012

4.2.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator, the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the average power level.

4.2.4 TEST SETUP



4.2.5 EUT OPERATING CONDITIONS

Same as Item 4.1.6

4.2.6 TEST RESULTS

Single chain - 802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	17.8
6	2437	19.7
11	2462	18.9

Single chain - 802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
1	2412	15.3
6	2437	20.1
11	2462	14.8

Multiple chain - 802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
1	2412	16.2	16.9	19.6
6	2437	16.4	17.6	20.1
11	2462	16.5	17.4	20.0

Multiple chain - 802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
1	2412	12.4	13.7	16.1
6	2437	16.3	17.7	20.1
11	2462	12.3	13.2	15.8

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
1	2412	12.1	12.7	15.4
6	2437	16.4	17.2	19.8
11	2462	11.6	12.1	14.9

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
3	2422	9.3	10.1	12.7
6	2437	13.5	14.6	17.1
9	2452	11.1	11.5	14.3

BT_LE-GFSK

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
0	2402	3.0
19	2440	3.3
39	2480	3.8

4.3 RADIATED EMISSION MEASUREMENT

4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

4.3.2 TEST INSTRUMENTS

Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250254	July 09, 2012	July 08, 2013
Pre-Selector Agilent	N9039A	MY46520311	July 09, 2012	July 08, 2013
Signal Generator Agilent	N5181A	MY49060517	July 09, 2012	July 08, 2013
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Pre-Amplifier Agilent	8449B	3008A02578	June 26, 2012	June 25, 2013
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Apr. 09, 2012	Apr. 08, 2013
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 05, 2012	Oct. 04, 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: Oct. 17, 2012

Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
Pre-Selector Agilent	N9039A	MY46520310	Sep. 03, 2012	Sep. 02, 2013
Signal Generator Agilent	N5181A	MY49060347	July 24, 2012	July 23, 2013
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 15, 2011	Nov. 14, 2012
Pre-Amplifier Agilent	8449B	3008A02465	Feb. 27, 2012	Feb. 26, 2013
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Apr. 06, 2012	Apr. 05, 2013
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 23, 2011	Nov. 22, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 27, 2011	Dec. 26, 2012
RF Cable	NA	CHHCAB_001	Oct. 05, 2012	Oct. 04, 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. H.
4. The FCC Site Registration No. is 797305.
- 5 The CANADA Site Registration No. is IC 7450H-3.
- 6 Tested Date: Oct. 24, 2012

4.3.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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.

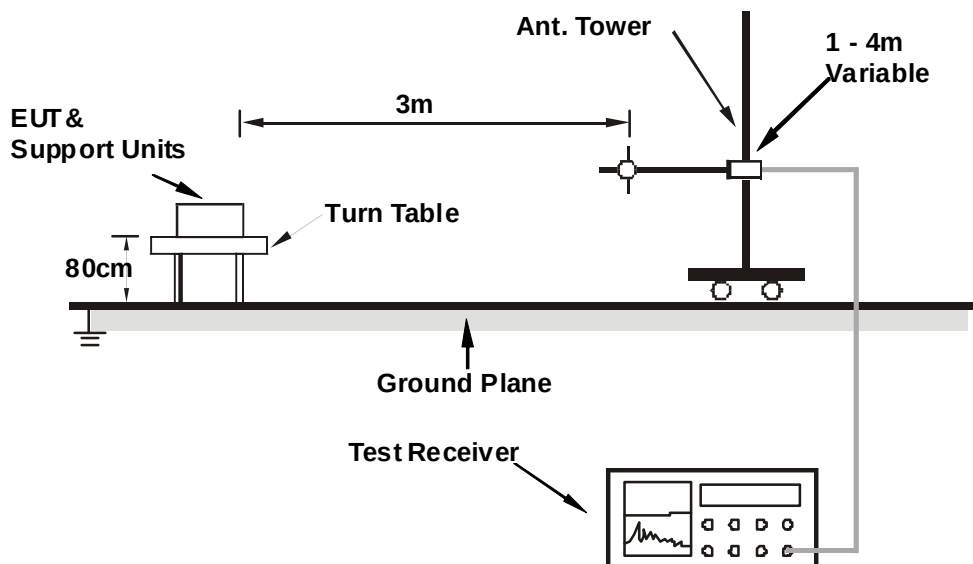
NOTE:

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.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



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

4.3.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “artgui.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.3.7 TEST RESULTS (WLAN MODE)

BELOW 1GHz WORST-CASE DATA

Multiple chain - 802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	Below 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	149.96	39.3 QP	43.5	-4.2	1.50 H	76	24.30	15.00
2	258.32	38.0 QP	46.0	-8.0	1.00 H	305	24.34	13.68
3	349.98	42.1 QP	46.0	-3.9	1.00 H	208	25.56	16.58
4	499.90	41.8 QP	46.0	-4.2	1.50 H	254	21.37	20.39
5	699.80	34.4 QP	46.0	-11.6	1.00 H	268	10.41	23.97
6	799.87	42.9 QP	46.0	-3.1	2.00 H	291	17.01	25.92
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	168.32	31.2 QP	43.5	-12.3	2.00 V	287	17.35	13.82
2	366.68	36.8 QP	46.0	-9.2	1.50 V	245	19.79	17.01
3	450.05	35.2 QP	46.0	-10.8	1.00 V	262	16.07	19.14
4	499.90	41.1 QP	46.0	-4.9	1.00 V	45	20.75	20.39
5	766.59	33.8 QP	46.0	-12.3	1.50 V	119	8.51	25.24
6	799.87	42.6 QP	46.0	-3.4	1.50 V	319	16.70	25.92

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

ABOVE 1GHz DATA

Single chain - 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.4 PK	74.0	-12.6	1.40 H	81	29.02	32.38
2	2390.00	52.8 AV	54.0	-1.2	1.40 H	81	20.42	32.38
3	*2412.00	107.1 PK			1.36 H	84	74.66	32.44
4	*2412.00	105.0 AV			1.36 H	84	72.56	32.44
5	4824.00	51.9 PK	74.0	-22.1	1.22 H	50	9.96	41.94
6	4824.00	44.0 AV	54.0	-10.0	1.22 H	50	2.06	41.94

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	2390.00	60.8 PK	74.0	-13.2	1.00 V	207	28.42	32.38
2	2390.00	52.3 AV	54.0	-1.7	1.00 V	207	19.92	32.38
3	*2412.00	105.5 PK			1.00 V	214	73.06	32.44
4	*2412.00	103.3 AV			1.00 V	214	70.86	32.44
5	4824.00	50.0 PK	74.0	-24.0	1.00 V	240	8.06	41.94
6	4824.00	40.5 AV	54.0	-13.5	1.00 V	240	-1.44	41.94

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.9 PK			1.38 H	75	75.39	32.51
2	*2437.00	105.8 AV			1.38 H	75	73.29	32.51
3	4874.00	51.5 PK	74.0	-22.5	1.16 H	52	9.51	41.99
4	4874.00	43.9 AV	54.0	-10.1	1.16 H	52	1.91	41.99
5	7311.00	58.0 PK	74.0	-16.0	1.34 H	116	11.47	46.53
6	7311.00	52.1 AV	54.0	-1.9	1.34 H	116	5.57	46.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.4 PK			1.18 V	109	74.89	32.51
2	*2437.00	105.3 AV			1.18 V	109	72.79	32.51
3	4874.00	51.2 PK	74.0	-22.8	1.40 V	299	9.21	41.99
4	4874.00	41.8 AV	54.0	-12.2	1.40 V	299	-0.19	41.99
5	7311.00	58.2 PK	74.0	-15.8	1.38 V	62	11.67	46.53
6	7311.00	53.5 AV	54.0	-0.5	1.38 V	62	6.97	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.3 PK			1.38 H	78	74.73	32.57
2	*2462.00	105.3 AV			1.38 H	78	72.73	32.57
3	2483.50	59.8 PK	74.0	-14.2	1.34 H	76	27.17	32.63
4	2483.50	52.1 AV	54.0	-1.9	1.34 H	76	19.47	32.63
5	4924.00	51.4 PK	74.0	-22.6	1.15 H	45	9.39	42.01
6	4924.00	43.8 AV	54.0	-10.2	1.15 H	45	1.79	42.01
7	7386.00	58.5 PK	74.0	-15.5	1.32 H	118	11.77	46.73
8	7386.00	52.6 AV	54.0	-1.4	1.32 H	118	5.87	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.0 PK			1.17 V	192	73.43	32.57
2	*2462.00	103.8 AV			1.17 V	192	71.23	32.57
3	2483.50	59.3 PK	74.0	-14.7	1.17 V	191	26.67	32.63
4	2483.50	50.7 AV	54.0	-3.3	1.17 V	191	18.07	32.63
5	4924.00	52.6 PK	74.0	-21.4	1.21 V	90	10.59	42.01
6	4924.00	46.7 AV	54.0	-7.3	1.21 V	90	4.69	42.01
7	7386.00	55.6 PK	74.0	-18.4	1.52 V	56	8.87	46.73
8	7386.00	47.2 AV	54.0	-6.8	1.52 V	56	0.47	46.73

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Single chain - 802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.4 PK	74.0	-1.6	1.36 H	88	40.02	32.38
2	2390.00	53.5 AV	54.0	-0.5	1.36 H	88	21.12	32.38
3	*2412.00	106.5 PK			1.37 H	88	74.06	32.44
4	*2412.00	96.3 AV			1.37 H	88	63.86	32.44
5	4824.00	51.6 PK	74.0	-22.4	1.18 H	34	9.66	41.94
6	4824.00	43.8 AV	54.0	-10.2	1.18 H	34	1.86	41.94
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	2390.00	68.7 PK	74.0	-5.3	1.00 V	207	36.32	32.38
2	2390.00	53.5 AV	54.0	-0.5	1.00 V	207	21.12	32.38
3	*2412.00	105.7 PK			1.00 V	196	73.26	32.44
4	*2412.00	96.2 AV			1.00 V	196	63.76	32.44
5	4824.00	52.3 PK	74.0	-21.7	1.16 V	93	10.36	41.94
6	4824.00	46.3 AV	54.0	-7.7	1.16 V	93	4.36	41.94

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.5 PK			1.40 H	79	78.99	32.51
2	*2437.00	101.8 AV			1.40 H	79	69.29	32.51
3	4874.00	50.8 PK	74.0	-23.2	1.13 H	52	8.81	41.99
4	4874.00	43.1 AV	54.0	-10.9	1.13 H	52	1.11	41.99
5	7311.00	58.3 PK	74.0	-15.7	1.34 H	127	11.77	46.53
6	7311.00	52.2 AV	54.0	-1.8	1.34 H	127	5.67	46.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.6 PK			1.00 V	51	78.09	32.51
2	*2437.00	100.4 AV			1.00 V	51	67.89	32.51
3	4874.00	47.8 PK	74.0	-26.2	1.24 V	87	5.81	41.99
4	4874.00	36.9 AV	54.0	-17.1	1.24 V	87	-5.09	41.99
5	7311.00	60.1 PK	74.0	-13.9	1.55 V	51	13.57	46.53
6	7311.00	48.7 AV	54.0	-5.3	1.55 V	51	2.17	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.9 PK			1.37 H	77	73.33	32.57
2	*2462.00	95.5 AV			1.37 H	77	62.93	32.57
3	2483.50	70.7 PK	74.0	-3.3	1.37 H	77	38.07	32.63
4	2483.50	52.8 AV	54.0	-1.2	1.37 H	77	20.17	32.63
5	4924.00	51.1 PK	74.0	-22.9	1.11 H	39	9.09	42.01
6	4924.00	43.8 AV	54.0	-10.2	1.11 H	39	1.79	42.01
7	7386.00	57.8 PK	74.0	-16.2	1.33 H	144	11.07	46.73
8	7386.00	51.7 AV	54.0	-2.3	1.33 H	144	4.97	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.9 PK			1.00 V	217	72.33	32.57
2	*2462.00	93.5 AV			1.00 V	217	60.93	32.57
3	2483.50	69.1 PK	74.0	-4.9	1.00 V	204	36.47	32.63
4	2483.50	51.1 AV	54.0	-2.9	1.00 V	204	18.47	32.63
5	4924.00	47.7 PK	74.0	-26.3	1.28 V	64	5.69	42.01
6	4924.00	36.6 AV	54.0	-17.4	1.28 V	64	-5.41	42.01
7	7386.00	60.6 PK	74.0	-13.4	1.55 V	55	13.87	46.73
8	7386.00	49.2 AV	54.0	-4.8	1.55 V	55	2.47	46.73

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Multiple chain - 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.27	61.1 PK	74.0	-12.9	1.11 H	120	28.73	32.37
2	2386.27	52.9 AV	54.0	-1.1	1.11 H	120	20.53	32.37
3	*2412.00	108.1 PK			1.06 H	115	75.66	32.44
4	*2412.00	105.8 AV			1.06 H	115	73.36	32.44
5	4824.00	51.3 PK	74.0	-22.7	1.03 H	149	9.36	41.94
6	4824.00	43.3 AV	54.0	-10.7	1.03 H	149	1.36	41.94
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	2390.00	59.1 PK	74.0	-14.9	1.00 V	223	26.72	32.38
2	2390.00	51.8 AV	54.0	-2.2	1.00 V	223	19.42	32.38
3	*2412.00	107.8 PK			1.22 V	176	75.36	32.44
4	*2412.00	105.6 AV			1.22 V	176	73.16	32.44
5	4824.00	51.2 PK	74.0	-22.8	1.03 V	101	9.26	41.94
6	4824.00	41.9 AV	54.0	-12.1	1.03 V	101	-0.04	41.94

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.5 PK			1.58 H	93	74.99	32.51
2	*2437.00	107.2 AV			1.58 H	93	74.69	32.51
3	4874.00	50.9 PK	74.0	-23.1	1.16 H	78	8.91	41.99
4	4874.00	41.7 AV	54.0	-12.3	1.16 H	78	-0.29	41.99
5	7311.00	52.5 PK	74.0	-21.5	1.11 H	196	5.97	46.53
6	7311.00	40.9 AV	54.0	-13.1	1.11 H	196	-5.63	46.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.6 PK			1.21 V	156	76.09	32.51
2	*2437.00	106.4 AV			1.21 V	156	73.89	32.51
3	4874.00	51.6 PK	74.0	-22.4	1.08 V	96	9.61	41.99
4	4874.00	41.8 AV	54.0	-12.2	1.08 V	96	-0.19	41.99
5	7311.00	54.8 PK	74.0	-19.2	1.83 V	19	8.27	46.53
6	7311.00	45.3 AV	54.0	-8.7	1.83 V	19	-1.23	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.5 PK			1.07 H	87	75.93	32.57
2	*2462.00	106.2 AV			1.07 H	87	73.63	32.57
3	2487.70	59.9 PK	74.0	-14.1	1.05 H	92	27.26	32.64
4	2487.70	52.4 AV	54.0	-1.6	1.05 H	92	19.76	32.64
5	4924.00	50.5 PK	74.0	-23.5	1.15 H	72	8.49	42.01
6	4924.00	42.3 AV	54.0	-11.7	1.15 H	72	0.29	42.01
7	7386.00	53.1 PK	74.0	-20.9	1.10 H	194	6.37	46.73
8	7386.00	41.1 AV	54.0	-12.9	1.10 H	194	-5.63	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.7 PK			1.45 V	191	76.13	32.57
2	*2462.00	106.8 AV			1.45 V	191	74.23	32.57
3	2483.50	59.9 PK	74.0	-14.1	1.40 V	190	27.27	32.63
4	2483.50	53.5 AV	54.0	-0.5	1.40 V	190	20.87	32.63
5	4924.00	51.6 PK	74.0	-22.4	1.10 V	110	9.59	42.01
6	4924.00	41.9 AV	54.0	-12.1	1.10 V	110	-0.11	42.01
7	7386.00	54.7 PK	74.0	-19.3	1.88 V	16	7.97	46.73
8	7386.00	45.1 AV	54.0	-8.9	1.88 V	16	-1.63	46.73

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

Multiple chain - 802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.3 PK	74.0	-4.7	1.34 H	96	36.92	32.38
2	2390.00	52.5 AV	54.0	-1.5	1.34 H	96	20.12	32.38
3	*2412.00	100.0 PK			1.38 H	90	67.56	32.44
4	*2412.00	96.6 AV			1.38 H	90	64.20	32.44
5	4824.00	47.9 PK	74.0	-26.1	1.36 H	136	5.96	41.94
6	4824.00	36.8 AV	54.0	-17.2	1.36 H	136	-5.14	41.94
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	2390.00	67.4 PK	74.0	-6.6	1.25 V	171	35.02	32.38
2	2390.00	51.1 AV	54.0	-2.9	1.25 V	171	18.72	32.38
3	*2412.00	108.2 PK			1.24 V	162	75.76	32.44
4	*2412.00	98.4 AV			1.24 V	162	65.96	32.44
5	4824.00	48.3 PK	74.0	-25.7	1.00 V	328	6.36	41.94
6	4824.00	36.2 AV	54.0	-17.8	1.00 V	328	-5.74	41.94

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.8 PK	74.0	-17.2	1.33 H	82	24.42	32.38
2	2390.00	44.9 AV	54.0	-9.1	1.33 H	82	12.52	32.38
3	*2437.00	109.9 PK			1.34 H	86	77.39	32.51
4	*2437.00	100.6 AV			1.34 H	86	68.09	32.51
5	2483.50	57.0 PK	74.0	-17.0	1.32 H	87	24.37	32.63
6	2483.50	45.2 AV	54.0	-8.8	1.32 H	87	12.57	32.63
7	4874.00	47.5 PK	74.0	-26.5	1.29 H	123	5.51	41.99
8	4874.00	36.9 AV	54.0	-17.1	1.29 H	123	-5.09	41.99
9	7311.00	58.2 PK	74.0	-15.8	1.34 H	116	11.67	46.53
10	7311.00	45.2 AV	54.0	-8.8	1.34 H	116	-1.33	46.53

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.7 PK			1.24 V	162	78.19	32.51
2	*2437.00	101.3 AV			1.24 V	162	68.79	32.51
3	4874.00	48.5 PK	74.0	-25.5	1.00 V	305	6.51	41.99
4	4874.00	36.7 AV	54.0	-17.3	1.00 V	305	-5.29	41.99
5	7311.00	56.6 PK	74.0	-17.4	1.78 V	16	10.07	46.53
6	7311.00	47.9 AV	54.0	-6.1	1.78 V	16	1.37	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.7 PK			1.07 H	87	74.13	32.57
2	*2462.00	96.4 AV			1.07 H	87	63.83	32.57
3	2483.50	67.0 PK	74.0	-7.0	1.09 H	99	34.37	32.63
4	2483.50	51.6 AV	54.0	-2.4	1.09 H	99	18.97	32.63
5	4924.00	47.5 PK	74.0	-26.5	1.32 H	130	5.49	42.01
6	4924.00	37.0 AV	54.0	-17.0	1.32 H	130	-5.01	42.01
7	7386.00	57.8 PK	74.0	-16.2	1.39 H	121	11.07	46.73
8	7386.00	44.8 AV	54.0	-9.2	1.39 H	121	-1.93	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.0 PK			1.24 V	162	73.43	32.57
2	*2462.00	96.8 AV			1.24 V	162	64.23	32.57
3	2483.50	69.5 PK	74.0	-4.5	1.19 V	229	36.87	32.63
4	2483.50	50.7 AV	54.0	-3.3	1.19 V	229	18.07	32.63
5	4924.00	48.1 PK	74.0	-25.9	1.05 V	342	6.09	42.01
6	4924.00	36.2 AV	54.0	-17.8	1.05 V	342	-5.81	42.01
7	7386.00	56.1 PK	74.0	-17.9	1.81 V	8	9.37	46.73
8	7386.00	47.6 AV	54.0	-6.4	1.81 V	8	0.87	46.73

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.9 PK	74.0	-3.1	1.38 H	89	38.52	32.38
2	2390.00	53.0 AV	54.0	-1.0	1.38 H	89	20.62	32.38
3	*2412.00	106.8 PK			1.35 H	86	74.36	32.44
4	*2412.00	96.8 AV			1.35 H	86	64.36	32.44
5	4824.00	47.8 PK	74.0	-26.2	1.34 H	142	5.86	41.94
6	4824.00	37.4 AV	54.0	-16.6	1.34 H	142	-4.54	41.94
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	2390.00	69.6 PK	74.0	-4.4	1.00 V	211	37.22	32.38
2	2390.00	53.1 AV	54.0	-0.9	1.00 V	211	20.72	32.38
3	*2412.00	103.8 PK			1.00 V	161	71.36	32.44
4	*2412.00	94.2 AV			1.00 V	161	61.76	32.44
5	4824.00	48.1 PK	74.0	-25.9	1.09 V	329	6.16	41.94
6	4824.00	36.3 AV	54.0	-17.7	1.09 V	329	-5.64	41.94

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.8 PK			1.07 H	87	81.29	32.51
2	*2437.00	103.2 AV			1.07 H	87	70.69	32.51
3	4874.00	48.1 PK	74.0	-25.9	1.34 H	113	6.11	41.99
4	4874.00	37.5 AV	54.0	-16.5	1.34 H	113	-4.49	41.99
5	7311.00	58.0 PK	74.0	-16.0	1.43 H	119	11.47	46.53
6	7311.00	44.8 AV	54.0	-9.2	1.43 H	119	-1.73	46.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.0 PK			1.00 V	179	77.49	32.51
2	*2437.00	101.0 AV			1.00 V	179	68.49	32.51
3	4874.00	48.1 PK	74.0	-25.9	1.00 V	348	6.11	41.99
4	4874.00	36.1 AV	54.0	-17.9	1.00 V	348	-5.89	41.99
5	7311.00	56.0 PK	74.0	-18.0	1.78 V	23	9.47	46.53
6	7311.00	47.7 AV	54.0	-6.3	1.78 V	23	1.17	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.1 PK			1.09 H	89	73.53	32.57
2	*2462.00	96.2 AV			1.09 H	89	63.63	32.57
3	2483.50	70.3 PK	74.0	-3.7	1.07 H	89	37.67	32.63
4	2483.50	53.0 AV	54.0	-1.0	1.07 H	89	20.37	32.63
5	4924.00	48.1 PK	74.0	-25.9	1.33 H	108	6.09	42.01
6	4924.00	38.0 AV	54.0	-16.0	1.33 H	108	-4.01	42.01
7	7386.00	57.9 PK	74.0	-16.1	1.44 H	119	11.17	46.73
8	7386.00	44.7 AV	54.0	-9.3	1.44 H	119	-2.03	46.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.2 PK			1.09 V	88	72.63	32.57
2	*2462.00	95.1 AV			1.09 V	88	62.53	32.57
3	2483.50	68.2 PK	74.0	-5.8	1.06 V	231	35.57	32.63
4	2483.50	52.3 AV	54.0	-1.7	1.06 V	231	19.67	32.63
5	4924.00	47.6 PK	74.0	-26.4	1.00 V	360	5.59	42.01
6	4924.00	36.0 AV	54.0	-18.0	1.00 V	360	-6.01	42.01
7	7386.00	56.6 PK	74.0	-17.4	1.78 V	50	9.87	46.73
8	7386.00	48.4 AV	54.0	-5.6	1.78 V	50	1.67	46.73

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.1 PK	74.0	-4.9	1.11 H	89	36.72	32.38
2	2390.00	53.1 AV	54.0	-0.9	1.11 H	89	20.72	32.38
3	*2422.00	100.9 PK			1.09 H	89	68.43	32.47
4	*2422.00	90.8 AV			1.09 H	89	58.33	32.47
5	4844.00	48.1 PK	74.0	-25.9	1.31 H	106	6.14	41.96
6	4844.00	38.3 AV	54.0	-15.7	1.31 H	106	-3.66	41.96
7	7266.00	58.1 PK	74.0	-15.9	1.42 H	122	11.70	46.40
8	7266.00	45.1 AV	54.0	-8.9	1.42 H	122	-1.30	46.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.8 PK	74.0	-6.2	1.00 V	233	35.42	32.38
2	2390.00	52.6 AV	54.0	-1.4	1.00 V	233	20.22	32.38
3	*2422.00	98.2 PK			1.00 V	182	65.73	32.47
4	*2422.00	88.9 AV			1.00 V	182	56.43	32.47
5	4844.00	47.5 PK	74.0	-26.5	1.00 V	360	5.54	41.96
6	4844.00	35.8 AV	54.0	-18.2	1.00 V	360	-6.16	41.96
7	7266.00	56.3 PK	74.0	-17.7	1.77 V	42	9.90	46.40
8	7266.00	48.2 AV	54.0	-5.8	1.77 V	42	1.80	46.40

REMARKS:

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

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.7 PK	74.0	-3.3	1.08 H	119	38.32	32.38
2	2390.00	52.5 AV	54.0	-1.5	1.08 H	119	20.12	32.38
3	*2437.00	105.5 PK			1.10 H	87	72.99	32.51
4	*2437.00	94.7 AV			1.10 H	87	62.19	32.51
5	2483.50	68.1 PK	74.0	-5.9	1.07 H	88	35.47	32.63
6	2483.50	52.2 AV	54.0	-1.8	1.07 H	88	19.57	32.63
7	4874.00	47.7 PK	74.0	-26.3	1.28 H	130	5.71	41.99
8	4874.00	38.0 AV	54.0	-16.0	1.28 H	130	-3.99	41.99
9	7311.00	57.9 PK	74.0	-16.1	1.40 H	143	11.37	46.53
10	7311.00	44.8 AV	54.0	-9.2	1.40 H	143	-1.73	46.53
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.2 PK			1.05 V	175	71.69	32.51
2	*2437.00	92.9 AV			1.05 V	175	60.39	32.51
3	4874.00	48.6 PK	74.0	-25.4	1.00 V	327	6.61	41.99
4	4874.00	36.5 AV	54.0	-17.5	1.00 V	327	-5.49	41.99
5	7311.00	55.8 PK	74.0	-18.2	1.80 V	18	9.27	46.53
6	7311.00	47.5 AV	54.0	-6.5	1.80 V	18	0.97	46.53

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.4 PK			1.05 H	91	68.85	32.55
2	*2452.00	91.8 AV			1.05 H	91	59.25	32.55
3	2483.50	67.4 PK	74.0	-6.6	1.05 H	85	34.77	32.63
4	2483.50	52.9 AV	54.0	-1.1	1.05 H	85	20.27	32.63
5	4904.00	47.8 PK	74.0	-26.2	1.21 H	135	5.78	42.02
6	4904.00	37.9 AV	54.0	-16.1	1.21 H	135	-4.12	42.02
7	7356.00	58.4 PK	74.0	-15.6	1.48 H	143	11.75	46.65
8	7356.00	45.0 AV	54.0	-9.0	1.48 H	143	-1.65	46.65
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	100.1 PK			1.04 V	177	67.55	32.55
2	*2452.00	90.1 AV			1.04 V	177	57.55	32.55
3	2483.50	66.5 PK	74.0	-7.5	1.00 V	216	33.87	32.63
4	2483.50	52.1 AV	54.0	-1.9	1.00 V	216	19.47	32.63
5	4904.00	49.1 PK	74.0	-24.9	1.00 V	335	7.08	42.02
6	4904.00	37.1 AV	54.0	-16.9	1.00 V	335	-4.92	42.02
7	7356.00	56.1 PK	74.0	-17.9	1.87 V	23	9.45	46.65
8	7356.00	47.7 AV	54.0	-6.3	1.87 V	23	1.05	46.65

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

4.3.8 TEST RESULTS (BT <LE> MODE)

BELOW 1GHz WORST-CASE DATA

CHANNEL	TX Channel 39	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	149.40	39.0 QP	43.5	-4.5	1.45 H	125	24.07	14.94
2	255.00	37.4 QP	46.0	-8.6	1.25 H	200	23.86	13.55
3	349.40	40.5 QP	46.0	-5.6	1.45 H	125	23.89	16.56
4	498.00	40.5 QP	46.0	-5.5	1.87 H	51	20.12	20.34
5	698.00	33.2 QP	46.0	-12.8	1.50 H	345	9.27	23.94
6	798.00	41.9 QP	46.0	-4.2	1.47 H	67	15.97	25.88
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	167.10	30.9 QP	43.5	-12.6	2.00 V	287	16.99	13.89
2	365.22	36.1 QP	46.0	-9.9	1.50 V	245	19.09	16.97
3	449.00	34.0 QP	46.0	-12.0	1.00 V	262	14.87	19.11
4	499.20	40.2 QP	46.0	-5.8	1.00 V	45	19.80	20.37
5	763.00	33.1 QP	46.0	-12.9	1.50 V	119	7.90	25.17
6	799.30	41.6 QP	46.0	-4.4	1.50 V	319	15.72	25.91

REMARKS:

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

ABOVE 1GHz DATA

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#2400.00	59.7 PK	76.5	-16.8	1.87 H	61	27.29	32.41
2	#2400.00	46.9 AV	69.8	-22.9	1.87 H	61	14.49	32.41
3	*2402.00	96.5 PK			1.00 H	88	64.08	32.42
4	*2402.00	89.8 AV			1.00 H	88	57.38	32.42
5	4810.00	50.9 PK	74.0	-23.1	1.37 H	125	8.98	41.92
6	4810.00	39.9 AV	54.0	-14.1	1.37 H	125	-2.02	41.92
7	#7215.00	54.9 PK	76.5	-21.6	1.84 H	141	8.65	46.25
8	#7215.00	44.0 AV	69.8	-25.8	1.84 H	141	-2.25	46.25
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	#2400.00	59.0 PK	75.7	-16.7	1.00 V	340	26.58	32.41
2	#2400.00	49.4 AV	69.2	-19.8	1.00 V	340	16.99	32.41
3	*2402.00	95.7 PK			1.00 V	348	63.28	32.42
4	*2402.00	89.2 AV			1.00 V	348	56.78	32.42
5	4810.00	55.5 PK	74.0	-18.5	1.00 V	89	13.58	41.92
6	4810.00	44.0 AV	54.0	-10.0	1.00 V	89	2.08	41.92
7	#7215.00	59.3 PK	75.7	-16.4	1.00 V	358	13.05	46.25
8	#7215.00	46.0 AV	69.2	-23.2	1.00 V	358	-0.25	46.25

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).
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 19	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2440.00	96.2 PK			1.03 H	360	63.69	32.51
2	*2440.00	89.3 AV			1.03 H	360	56.79	32.51
3	4880.00	55.6 PK	74.0	-18.4	1.01 H	88	13.60	42.00
4	4880.00	44.0 AV	54.0	-10.0	1.01 H	88	2.00	42.00
5	7320.00	59.6 PK	74.0	-14.4	1.04 H	360	13.05	46.55
6	7320.00	46.0 AV	54.0	-8.0	1.04 H	360	-0.55	46.55
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	*2440.00	96.4 PK			1.02 V	360	63.89	32.51
2	*2440.00	89.9 AV			1.02 V	360	57.39	32.51
3	4880.00	56.2 PK	74.0	-17.8	1.05 V	113	14.20	42.00
4	4880.00	44.5 AV	54.0	-9.5	1.05 V	113	2.50	42.00
5	7320.00	59.1 PK	74.0	-14.9	1.04 V	360	12.55	46.55
6	7320.00	45.9 AV	54.0	-8.1	1.04 V	360	-0.65	46.55

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2480.00	99.8 PK			1.86 H	90	67.18	32.62
2	*2480.00	89.9 AV			1.86 H	90	57.28	32.62
3	2483.50	59.5 PK	74.0	-14.5	1.87 H	71	26.87	32.63
4	2483.50	46.7 AV	54.0	-7.3	1.87 H	71	14.07	32.63
5	4960.00	51.1 PK	74.0	-22.9	1.42 H	122	9.11	41.99
6	4960.00	40.0 AV	54.0	-14.0	1.42 H	122	-1.99	41.99
7	7440.00	54.7 PK	74.0	-19.3	1.79 H	134	7.89	46.81
8	7440.00	43.9 AV	54.0	-10.1	1.79 H	134	-2.91	46.81
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	*2480.00	96.3 PK			1.02 V	360	63.68	32.62
2	*2480.00	89.6 AV			1.02 V	360	56.98	32.62
3	2483.50	59.4 PK	74.0	-14.6	1.01 V	334	26.77	32.63
4	2483.50	45.2 AV	54.0	-8.8	1.01 V	334	12.57	32.63
5	4960.00	55.6 PK	74.0	-18.4	1.00 V	101	13.61	41.99
6	4960.00	44.1 AV	54.0	-9.9	1.00 V	101	2.11	41.99
7	7440.00	59.5 PK	74.0	-14.5	1.00 V	360	12.69	46.81
8	7440.00	46.2 AV	54.0	-7.8	1.00 V	360	-0.61	46.81

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

5. TEST TYPES AND RESULTS (FOR 5GHz, 5725~5850MHz Band)

5.1 CONDUCTED OUTPUT POWER MEASUREMENT

5.1.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

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

5.1.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	0824006	May 10, 2012	May 09, 2013
Peak Power Sensor	MA2411B	0738172	May 10, 2012	May 09, 2013

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 : Oct. 03, 2012

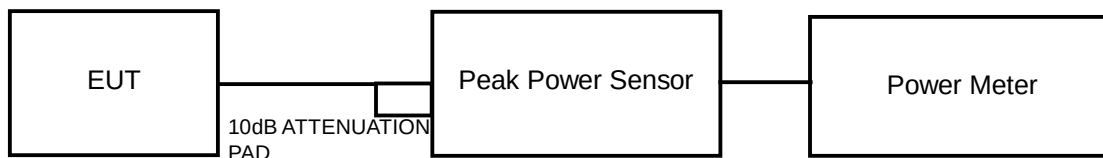
5.1.3 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the peak power level.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



5.1.6 EUT OPERATING CONDITIONS

Same as Item 4.1.6

5.1.7 TEST RESULTS

Single chain - 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
149	5745	162.181	22.1	30	PASS
157	5785	162.181	22.1	30	PASS
165	5825	162.181	22.1	30	PASS

Multiple chain - 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	19.3	20.1	187.443	22.73	28.23	PASS
157	5785	19.4	20.3	194.248	22.88	28.23	PASS
165	5825	19.8	20.4	205.147	23.12	28.23	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
149	5745	18.0	19.9	160.820	22.06	28.23	PASS
157	5785	19.3	20.7	202.604	23.07	28.23	PASS
165	5825	19.5	20.6	203.940	23.10	28.23	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)				
151	5755	18.2	20.8	186.295	22.70	28.23	PASS
159	5795	19.0	20.5	191.635	22.82	28.23	PASS

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi)=7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

5.2 AVERAGE OUTPUT POWER

5.2.1 For reference.

5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	0824006	May 10, 2012	May 09, 2013
Average Power Sensor	MA2411B	0738172	May 10, 2012	May 09, 2013

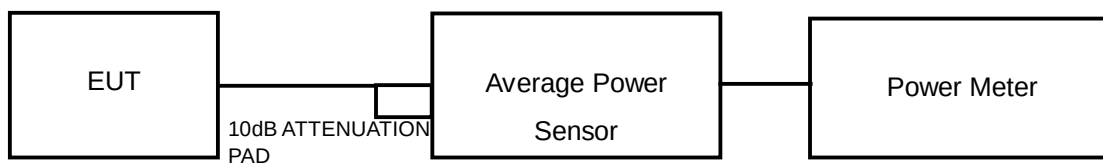
Note:

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 : Oct. 03, 2012

5.2.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator, the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the average power level.

5.2.4 TEST SETUP



5.2.5 EUT OPERATING CONDITIONS

Same as Item 4.1.6

5.2.6 TEST RESULTS

Single chain - 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
149	5745	14.5
157	5785	14.5
165	5825	15.3

Multiple chain - 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
149	5745	11.8	12.5	15.2
157	5785	12.0	12.6	15.3
165	5825	12.3	12.8	15.6

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
149	5745	12.5	13.6	16.1
157	5785	13.7	14.5	17.1
165	5825	13.5	14.6	17.1

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
151	5755	13.6	15.1	17.4
159	5795	14.1	15.0	17.6

5.3 RADIATED EMISSION MEASUREMENT

5.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

5.3.2 TEST INSTRUMENTS

Below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250254	July 09, 2012	July 08, 2013
Pre-Selector Agilent	N9039A	MY46520311	July 09, 2012	July 08, 2013
Signal Generator Agilent	N5181A	MY49060517	July 09, 2012	July 08, 2013
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Pre-Amplifier Agilent	8449B	3008A02578	June 26, 2012	June 25, 2013
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Apr. 09, 2012	Apr. 08, 2013
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 05, 2012	Oct. 04, 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: Oct. 17, 2012

Above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
Pre-Selector Agilent	N9039A	MY46520310	Sep. 03, 2012	Sep. 02, 2013
Signal Generator Agilent	N5181A	MY49060347	July 24, 2012	July 23, 2013
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 15, 2011	Nov. 14, 2012
Pre-Amplifier Agilent	8449B	3008A02465	Feb. 27, 2012	Feb. 26, 2013
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Apr. 06, 2012	Apr. 05, 2013
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 23, 2011	Nov. 22, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 27, 2011	Dec. 26, 2012
RF Cable	NA	CHHCAB_001	Oct. 05, 2012	Oct. 04, 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. H.
4. The FCC Site Registration No. is 797305.
- 5 The CANADA Site Registration No. is IC 7450H-3.
- 6 Tested Date: Oct. 24, 2012

5.3.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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.

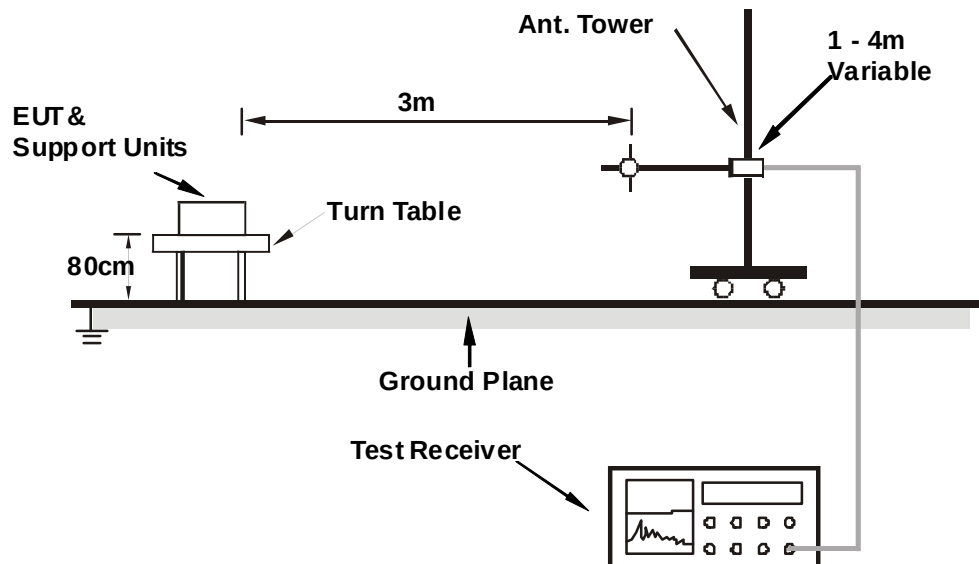
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



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

5.3.6 EUT OPERATING CONDITIONS

Same as the 4.3.6

5.3.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

Multiple chain - 802.11a

CHANNEL	TX Channel 165	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	145.00	37.8 QP	43.5	-5.8	1.35 H	100	23.28	14.47
2	239.00	37.2 QP	46.0	-8.8	1.20 H	122	24.34	12.87
3	336.00	39.4 QP	46.0	-6.6	1.25 H	124	23.19	16.22
4	490.00	39.5 QP	46.0	-6.6	1.41 H	77	19.31	20.14
5	690.00	32.6 QP	46.0	-13.4	1.34 H	100	8.78	23.83
6	791.00	41.0 QP	46.0	-5.0	1.61 H	85	15.27	25.74
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	168.20	31.0 QP	43.5	-12.5	2.00 V	287	17.19	13.82
2	366.17	36.7 QP	46.0	-9.4	1.50 V	245	19.66	16.99
3	450.01	35.0 QP	46.0	-11.0	1.00 V	262	15.87	19.14
4	499.71	40.8 QP	46.0	-5.3	1.00 V	45	20.37	20.38
5	766.51	33.5 QP	46.0	-12.6	1.50 V	119	8.21	25.24
6	799.85	42.1 QP	46.0	-3.9	1.50 V	319	16.18	25.92

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

ABOVE 1GHz DATA

Single chain - 802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	102.5 PK			1.06 H	113	59.18	43.32
2	*5745.00	91.8 AV			1.06 H	113	48.48	43.32
3	11490.00	54.8 PK	74.0	-19.2	1.00 H	310	5.01	49.79
4	11490.00	44.0 AV	54.0	-10.0	1.00 H	310	-5.79	49.79
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	*5745.00	104.3 PK			1.04 V	257	60.98	43.32
2	*5745.00	94.5 AV			1.04 V	257	51.18	43.32
3	11490.00	54.8 PK	74.0	-19.2	1.00 V	251	5.01	49.79
4	11490.00	44.3 AV	54.0	-9.7	1.00 V	251	-5.49	49.79

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	102.8 PK			1.00 H	110	59.43	43.37
2	*5785.00	91.6 AV			1.00 H	110	48.23	43.37
3	11570.00	54.8 PK	74.0	-19.2	1.00 H	319	4.97	49.83
4	11570.00	43.9 AV	54.0	-10.1	1.00 H	319	-5.93	49.83
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	*5785.00	104.6 PK			1.02 V	251	61.23	43.37
2	*5785.00	94.8 AV			1.02 V	251	51.43	43.37
3	11570.00	55.4 PK	74.0	-18.6	1.00 V	259	5.57	49.83
4	11570.00	44.7 AV	54.0	-9.3	1.00 V	259	-5.13	49.83

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.2 PK			1.05 H	117	59.73	43.47
2	*5825.00	92.7 AV			1.05 H	117	49.23	43.47
3	11650.00	54.6 PK	74.0	-19.4	1.02 H	311	4.49	50.11
4	11650.00	43.9 AV	54.0	-10.1	1.02 H	311	-6.21	50.11
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	*5825.00	104.5 PK			1.09 V	170	61.03	43.47
2	*5825.00	94.5 AV			1.09 V	170	51.03	43.47
3	11650.00	55.3 PK	74.0	-18.7	1.12 V	254	5.19	50.11
4	11650.00	45.6 AV	54.0	-8.4	1.12 V	254	-4.51	50.11

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

Multiple chain - 802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	105.3 PK			1.12 H	139	61.98	43.32
2	*5745.00	96.4 AV			1.12 H	139	53.08	43.32
3	11490.00	55.6 PK	74.0	-18.4	1.18 H	120	5.81	49.79
4	11490.00	43.6 AV	54.0	-10.4	1.18 H	120	-6.19	49.79
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	*5745.00	105.8 PK			1.00 V	287	62.48	43.32
2	*5745.00	96.8 AV			1.00 V	287	53.48	43.32
3	11490.00	55.8 PK	74.0	-18.2	1.06 V	94	6.01	49.79
4	11490.00	45.3 AV	54.0	-8.7	1.06 V	94	-4.49	49.79

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	105.2 PK			1.13 H	134	61.83	43.37
2	*5785.00	95.2 AV			1.13 H	134	51.83	43.37
3	11570.00	54.7 PK	74.0	-19.3	1.27 H	120	4.87	49.83
4	11570.00	43.0 AV	54.0	-11.0	1.27 H	120	-6.83	49.83
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	*5785.00	105.3 PK			1.01 V	259	61.93	43.37
2	*5785.00	96.0 AV			1.01 V	259	52.63	43.37
3	11570.00	55.6 PK	74.0	-18.4	1.11 V	91	5.77	49.83
4	11570.00	44.8 AV	54.0	-9.2	1.11 V	91	-5.03	49.83

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	105.2 PK			1.18 H	140	61.73	43.47
2	*5825.00	94.9 AV			1.18 H	140	51.43	43.47
3	11650.00	55.1 PK	74.0	-18.9	1.23 H	112	4.99	50.11
4	11650.00	43.2 AV	54.0	-10.8	1.23 H	112	-6.91	50.11
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	*5825.00	106.9 PK			1.32 V	255	63.43	43.47
2	*5825.00	97.4 AV			1.32 V	255	53.93	43.47
3	11650.00	55.8 PK	74.0	-18.2	1.42 V	325	5.69	50.11
4	11650.00	43.5 AV	54.0	-10.5	1.42 V	325	-6.61	50.11

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5745.00	106.4 PK			1.13 H	134	63.08	43.32
2	*5745.00	96.5 AV			1.13 H	134	53.18	43.32
3	11490.00	55.1 PK	74.0	-18.9	1.28 H	119	5.31	49.79
4	11490.00	43.2 AV	54.0	-10.8	1.28 H	119	-6.59	49.79
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	*5745.00	106.6 PK			1.01 V	259	63.28	43.32
2	*5745.00	97.2 AV			1.01 V	259	53.88	43.32
3	11490.00	55.3 PK	74.0	-18.7	1.10 V	92	5.51	49.79
4	11490.00	44.7 AV	54.0	-9.3	1.10 V	92	-5.09	49.79

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	107.5 PK			1.12 H	135	64.13	43.37
2	*5785.00	97.6 AV			1.12 H	135	54.23	43.37
3	11570.00	54.7 PK	74.0	-19.3	1.19 H	119	4.87	49.83
4	11570.00	43.0 AV	54.0	-11.0	1.19 H	119	-6.83	49.83
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	*5785.00	108.5 PK			1.01 V	267	65.13	43.37
2	*5785.00	98.8 AV			1.01 V	267	55.43	43.37
3	11570.00	55.8 PK	74.0	-18.2	1.14 V	96	5.97	49.83
4	11570.00	45.1 AV	54.0	-8.9	1.14 V	96	-4.73	49.83

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	106.0 PK			1.10 H	129	62.53	43.47
2	*5825.00	96.9 AV			1.10 H	129	53.43	43.47
3	11650.00	55.1 PK	74.0	-18.9	1.18 H	107	4.99	50.11
4	11650.00	43.4 AV	54.0	-10.6	1.18 H	107	-6.71	50.11
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	*5825.00	108.7 PK			1.33 V	255	65.23	43.47
2	*5825.00	98.9 AV			1.33 V	255	55.43	43.47
3	11650.00	54.1 PK	74.0	-19.9	1.03 V	196	3.99	50.11
4	11650.00	44.2 AV	54.0	-9.8	1.03 V	196	-5.91	50.11

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11n (HT40)

CHANNEL	TX Channel 151	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	*5755.00	105.4 PK			1.10 H	129	62.06	43.34
2	*5755.00	94.4 AV			1.10 H	129	51.06	43.34
3	11510.00	54.6 PK	74.0	-19.4	1.22 H	125	4.82	49.78
4	11510.00	42.7 AV	54.0	-11.3	1.22 H	125	-7.08	49.78
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	*5755.00	105.9 PK			1.01 V	265	62.56	43.34
2	*5755.00	96.2 AV			1.01 V	265	52.86	43.34
3	11510.00	55.7 PK	74.0	-18.3	1.10 V	97	5.92	49.78
4	11510.00	45.0 AV	54.0	-9.0	1.10 V	97	-4.78	49.78

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	103.7 PK			1.13 H	125	60.32	43.38
2	*5795.00	93.7 AV			1.13 H	125	50.32	43.38
3	11590.00	55.2 PK	74.0	-18.8	1.23 H	96	5.36	49.84
4	11590.00	43.4 AV	54.0	-10.6	1.23 H	96	-6.44	49.84
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	*5795.00	105.4 PK			1.34 V	255	62.02	43.38
2	*5795.00	95.7 AV			1.34 V	255	52.32	43.38
3	11590.00	55.6 PK	74.0	-18.4	1.12 V	89	5.76	49.84
4	11590.00	44.9 AV	54.0	-9.1	1.12 V	89	-4.94	49.84

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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7. INFORMATION ON THE TESTING LABORATORIES

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

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

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Fax: 886-2-26052943

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

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

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