

FCC TEST REPORT

REPORT NO.: RF120531E04

MODEL NO.: C2H

FCC ID: RRK-C2H

RECEIVED: May 31, 2012

TESTED: June 04 to 15, 2012

ISSUED: July 12, 2012

APPLICANT: Alpha Networks Inc.

ADDRESS: No.8 Li-shing 7th Rd., Science-based Industrial
Park, Hsinchu, Taiwan, R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd.,
Taoyuan Branch Hsin Chu Laboratory

LAB ADDRESS : No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung
Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

TEST LOCATION (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung
Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

TEST LOCATION (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung
Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

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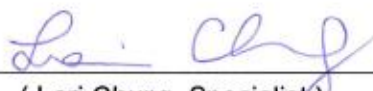
RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120531E04	Original release	July 12, 2012

1. CERTIFICATION

PRODUCT: WD TV Play TM
BRAND NAME: WD
MODEL NO.: C2H
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Alpha Networks Inc.
TESTED: June 04 to 15, 2012
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.10-2009

The above equipment (Model: C2H) 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:** July 12, 2012
(Lori Chung, Specialist)

APPROVED BY :  , **DATE:** July 12, 2012
(May Chen, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -11.16dB at 0.49375MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 4924.00MHz & 2489.50MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

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)	5.69 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WD TV Play TM
MODEL NO.	C2H
POWER SUPPLY	DC 12V from power adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11a / g: up to 54Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	2.412 ~ 2.462GHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
MAXIMUM OUTPUT POWER	802.11b: 186.209mW 802.11g: 398.107mW 802.11n (20MHz): 618.715mW 802.11n (40MHz): 328.313mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	Adapter × 1 Remote control × 1

NOTE:

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

Antenna	Brand	Model name	Antenna Gain (dBi) (Include cable loss)	Antenna Type	Connector Type	Frequency range (MHz to MHz)	Cable Loss (dBi)	Cable Length (mm)
Right Antenna	Galtronics	02100073-05154-1	2.5	Dipole	soldering	2400 ~ 2500	0.46	160
Left Antenna	Galtronics	02100073-05154-2	2.7	Dipole	soldering	2400 ~ 2500	0.21	75

2. 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	KSAS0241200150HU	Input: 100-240V, 0.6A, 50-60Hz Output: 12V, 1.5A
2	APD	WA-18Q12FU	Input: 100-240V, 0.5A, 50-60Hz Output: 12V, 1.5A

From the above adapters were pre-tested in chamber, the worse radiated emission was found in **Adapter 1**. Therefore only the test data of the adapter was recorded in this report.

3. The EUT incorporates a MIMO function.

MODULATION MODE	Tx/Rx FUNCTION
802.11b	1Tx/1Rx
802.11g	1Tx/1Rx
802.11n (20MHz)	2Tx/2Rx
802.11n (40MHz)	2Tx/2Rx

4. The EUT is 2 * 2 spatial MIMO (2Tx & 2Rx) without beam forming function.

5. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.

6. 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

Eleven channels are provided for 802.11b, 802.11g, 802.11n (20MHz):

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 (40MHz):

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ³ 1G	APCM	OB	
Mode 1	√	√	√	√	√	With Adapter 1
Mode 2	√	-	-	-	-	With Adapter 2

Where **PLC:** Power Line Conducted Emission

RE < 1G: Radiated Emission below 1GHz

RE ³ 1G: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

OB: Conducted Out-Band Emission Measurement

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 (20MHz)	1 to 11	6	OFDM	BPSK	6.5

RADIATED EMISSION TEST (BELOW 1 GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5

RADIATED EMISSION TEST (ABOVE 1 GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	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	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	26deg. C, 65%RH	120Vac, 60Hz	Bear Lee
RE<1G	21deg. C, 64%RH	120Vac, 60Hz	Robert Cheng
RE ³ 1G	22deg. C, 62%RH 23deg. C, 63%RH	120Vac, 60Hz	Evan Huang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Evan Huang
OB	25deg. C, 60%RH	120Vac, 60Hz	Evan Huang

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (15.247)

558074 D01 DTS Meas Guidance v01

ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It 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 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.

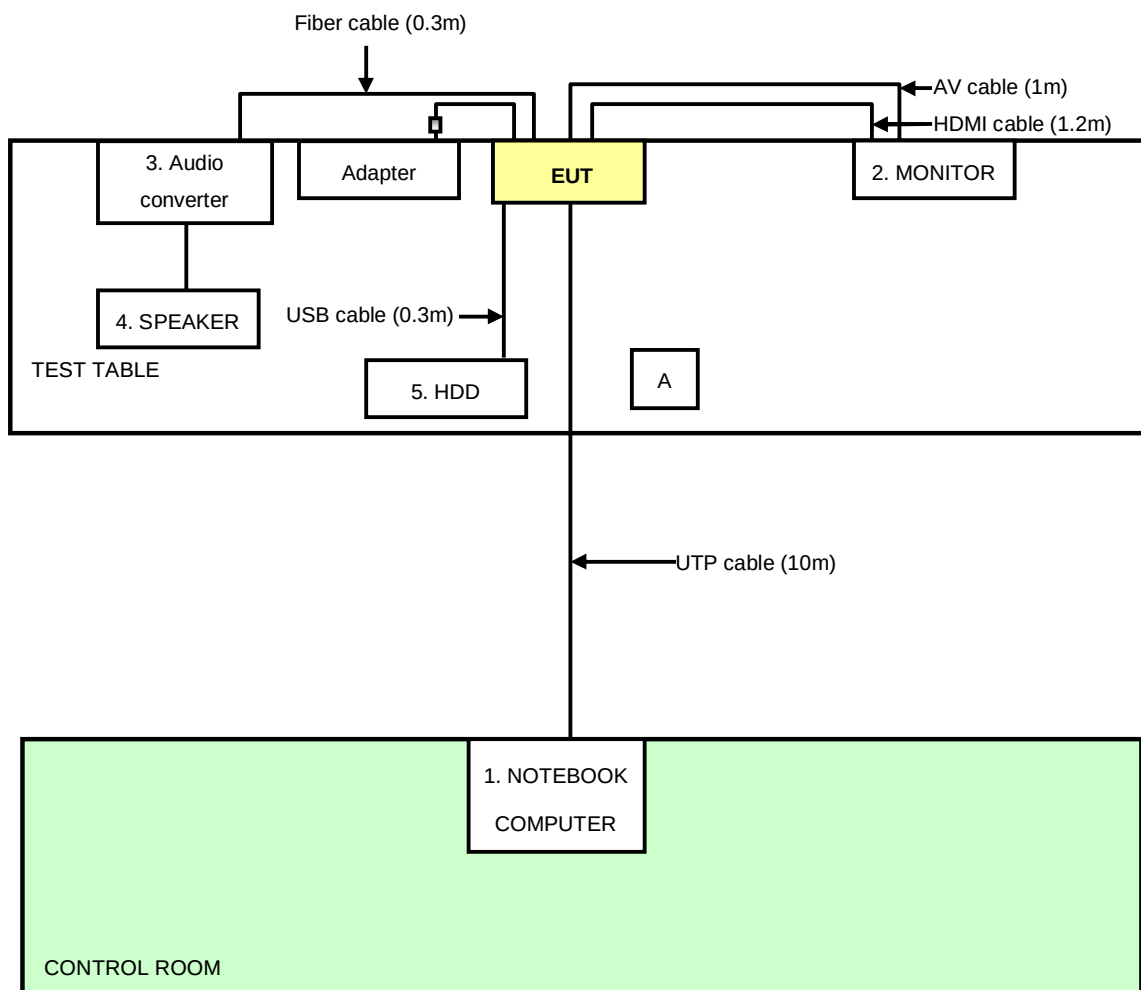
For conducted emission test:					
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	E6420	B92T3R1	FCC DoC
2	MONITOR	SONY	KDL-32CX520	3676813	FCC DoC
3	Audio converter	Kodak	AUA100A	10455D0TA	FCC DoC
4	SPEAKER	J-S	JY2003	090404572	FCC DoC
5	HDD	WD	33106B	D33015	NA
For Other test items:					
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	MONITOR	SONY	KDL-32CX520	3676813	FCC DoC
3	SPEAKER	J-S	JY2003	090404619	FCC DoC
4	USB AUDIO 8 sound card	Kodak	AUA100A	10455D0TA	FCC DoC
5	USB Dongle	ALPHA	NA	NA	NA

For conducted test:	
No.	Signal cable description
1	UTP cable (10m)
2	AV cable (1m), HDMI cable (1.2m)
3	Fiber cable (0.3m)
4	Audio cable (1m)
5	USB cable (0.3m)
For Other test items:	
No.	Signal cable description
1	UTP cable (10m)
2	AV cable (1m) / HDMI cable (1.8m)
3	Audio cable (1.2m)
4	Fiber cable (1m)
5	NA

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

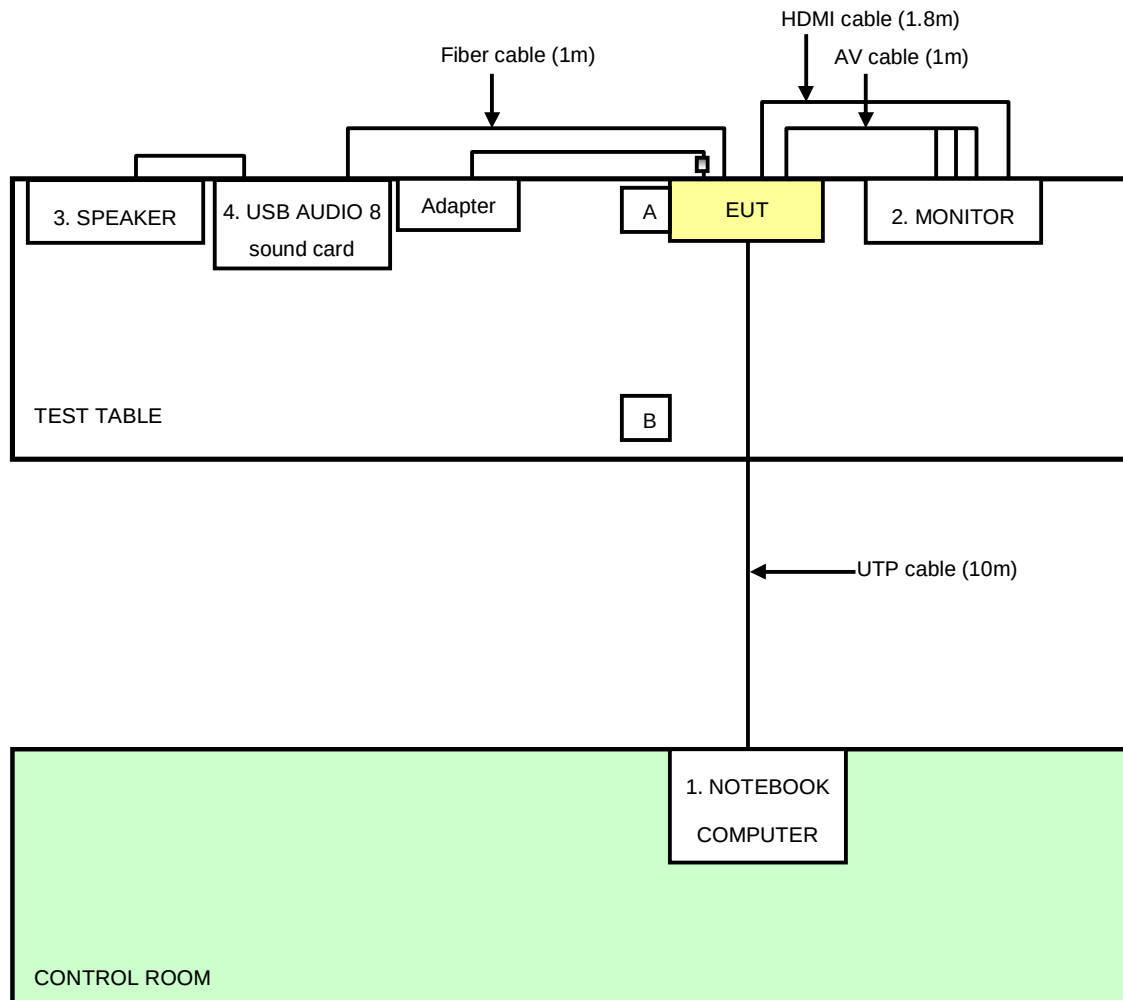
3.5 CONFIGURATION OF SYSTEM UNDER TEST

For Conducted emission test



Note: The item A is Remote Control.

For Other test items:



Note: 1. The item A is support unit 5 (USB Dongle).
 2. The item B is Remote control.

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	100287	Mar. 01, 2012	Feb. 28, 2013
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK 8127	8127-523	Sep. 20, 2011	Sep. 19, 2012
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ESH3-Z5	848773/004	Nov. 01, 2011	Oct. 31, 2012
RF Cable (JYEBAO)	5DFB	COACAB-002	Aug. 06, 2011	Aug. 05, 2012
50 ohms Terminator	50	3	Nov. 02, 2011	Nov. 01, 2012
Software ADT	BV ADT_Cond_V7.3.7	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. A.
3. The VCCI Con A Registration No. is C-817.
4. Tested Date: June 12, 2012

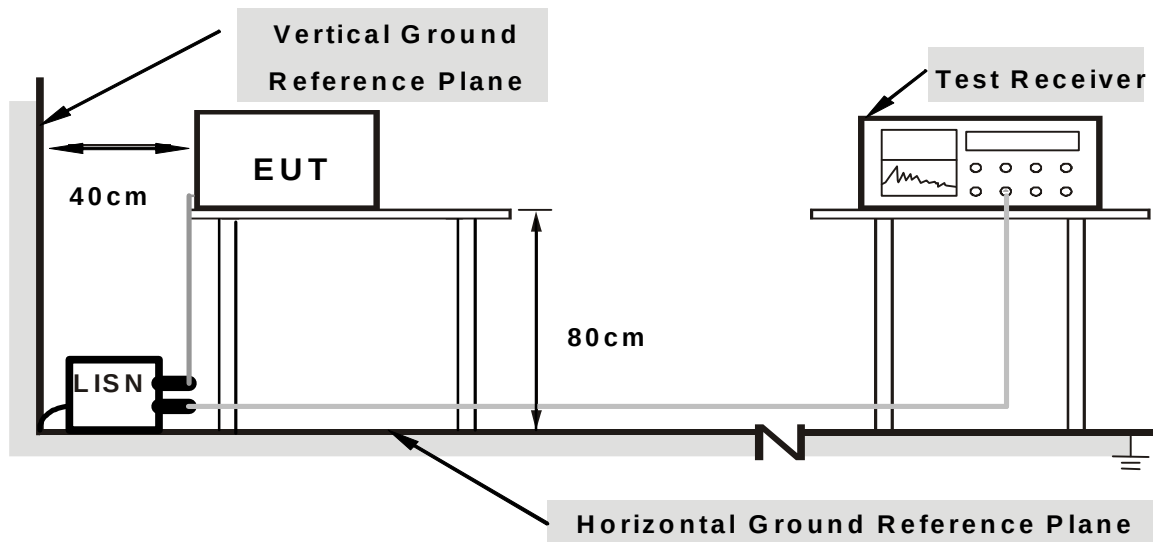
4.1.3 TEST PROCEDURES

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.1.6 EUT OPERATING CONDITIONS

1. Placed the EUT on testing table.
2. Prepared computer system (support unit 1) to act as communication partner.
3. The communication partner ran test program “Telnet command” to enable EUT under transmission/receiving condition continuously.

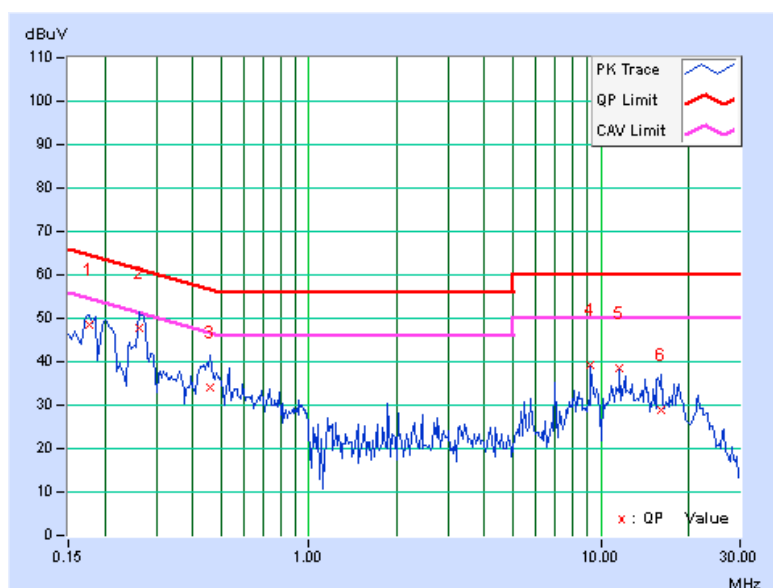
4.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	0.06	48.31	37.64	48.37	37.70	64.61	54.61	-16.24	-16.91
2	0.26328	0.06	47.69	30.33	47.75	30.39	61.33	51.33	-13.57	-20.93
3	0.45859	0.07	33.88	28.65	33.95	28.72	56.72	46.72	-22.76	-17.99
4	9.25391	0.38	38.74	33.54	39.12	33.92	60.00	50.00	-20.88	-16.08
5	11.57031	0.44	37.93	31.81	38.37	32.25	60.00	50.00	-21.63	-17.75
6	16.16406	0.54	28.53	17.94	29.07	18.48	60.00	50.00	-30.93	-31.52

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.

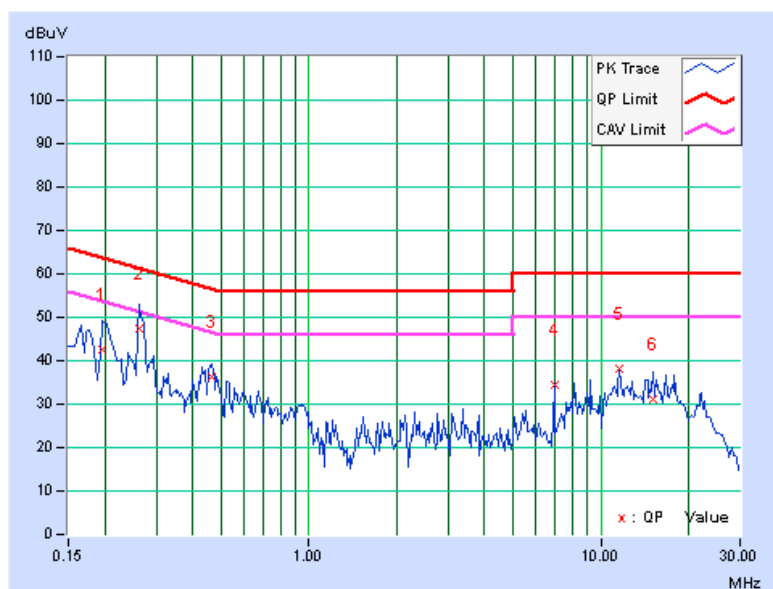


PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.07	42.62	27.21	42.69	27.28	63.74	53.74	-21.05	-26.46
2	0.26328	0.07	47.44	28.78	47.51	28.85	61.33	51.33	-13.81	-22.47
3	0.46250	0.08	36.27	32.29	36.35	32.37	56.65	46.65	-20.29	-14.27
4	6.93750	0.31	34.25	30.33	34.56	30.64	60.00	50.00	-25.44	-19.36
5	11.56250	0.42	37.91	32.75	38.33	33.17	60.00	50.00	-21.67	-16.83
6	15.19531	0.50	30.75	20.50	31.25	21.00	60.00	50.00	-28.75	-29.00

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.



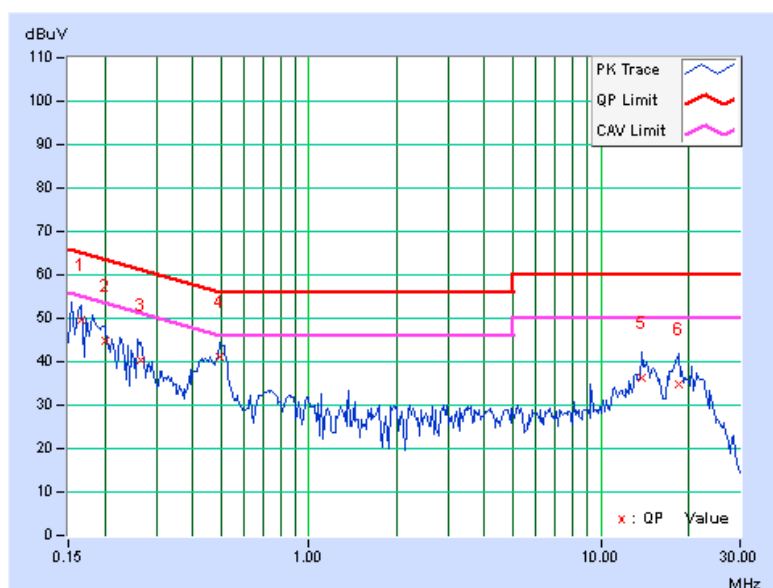
4.1.8 TEST RESULTS (MODE 2)

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
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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	0.16562	0.06	49.42	40.97	49.48	41.03	65.18	55.18	-15.70	-14.15
2	0.20078	0.06	44.64	32.97	44.70	33.03	63.58	53.58	-18.88	-20.55
3	0.26719	0.06	40.38	29.98	40.44	30.04	61.20	51.20	-20.76	-21.16
4	0.49375	0.08	41.10	34.87	41.18	34.95	56.10	46.10	-14.93	-11.16
5	13.88281	0.49	35.69	28.45	36.18	28.94	60.00	50.00	-23.82	-21.06
6	18.60547	0.59	34.10	22.83	34.69	23.42	60.00	50.00	-25.31	-26.58

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.

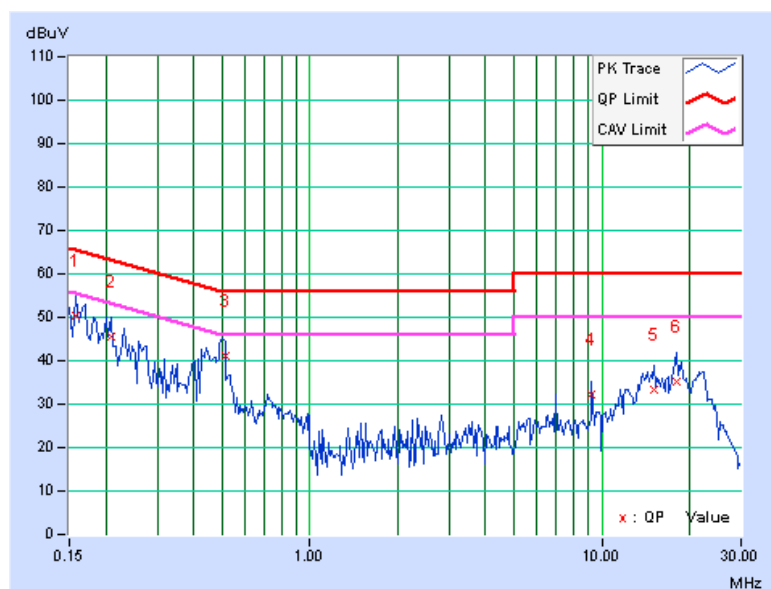


PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.07	50.30	37.21	50.37	37.28	65.58	55.58	-15.21	-18.30
2	0.20859	0.07	45.58	30.79	45.65	30.86	63.26	53.26	-17.61	-22.40
3	0.51328	0.09	41.08	27.45	41.17	27.54	56.00	46.00	-14.83	-18.46
4	9.25391	0.36	31.73	27.77	32.09	28.13	60.00	50.00	-27.91	-21.87
5	15.16797	0.50	32.71	22.90	33.21	23.40	60.00	50.00	-26.79	-26.60
6	18.03516	0.56	34.51	21.94	35.07	22.50	60.00	50.00	-24.93	-27.50

REMARKS:

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



4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 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.

4.2.2 TEST INSTRUMENTS

For Below 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 29, 2011	Aug. 28, 2012
Pre-Selector Agilent	N9039A	MY46520310	Aug. 29, 2011	Aug. 28, 2012
Signal Generator Agilent	N5181A	MY49060347	July 25, 2011	July 24, 2012
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. 07, 2011	Oct. 06, 2012
Loop Antenna ^(*) R&S	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 27, 2011	Dec. 26, 2012
RF Cable	NA	CHHCAB_001	Oct. 08, 2011	Oct. 07, 2012
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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in 966 Chamber No. H.
5. The FCC Site Registration No. is 797305.
6. The CANADA Site Registration No. is IC 7450H-3.
7. Tested Date: June 04, 2012

For Above 1GHz:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100036	Dec. 14, 2011	Dec. 13, 2012
Spectrum Analyzer Agilent PSA	E4446A	MY48250113	Nov. 30 , 2011	Nov. 29 , 2012
Pre_Amplifier HP	8449B	300801923	Oct. 31, 2011	Oct. 30, 2012
Test Receiver ROHDE & SCHWARZ	ESCS30	847124/029	Sep. 02, 2011	Sep. 01, 2012
TRILOG Broadband Antenna SCHWARZBECK	VULB 9168	138	Apr. 02, 2012	Apr. 01, 2013
Horn_Antenna SCHWARZBECK	BBHA9120	D124	Dec. 16, 2011	Dec. 15, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170153	Jan. 17, 2012	Jan. 16, 2013
Loop Antenna ^(*) R&S	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
RF Switches	EMH-011	1001	Sep. 24, 2011	Sep. 23, 2012
RF Cable (Chaintek)	Sucoflex 106	RF106-102	Jan. 19, 2012	Jan. 18, 2013
RF Cable	8DFB	STCCAB-30M -1GHz	Sep. 24, 2011	Sep. 23, 2012
Software	ADT_Radiated _V7.6.15.9.2	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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
- 3 The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in Open Site No. C.
- 5 The FCC Site Registration No. is 656396.
- 6 The VCCI Site Registration No. is R-1626.
- 7 The CANADA Site Registration No. is IC 7450G-3.
- 8 Tested Date: June 13, 2012

4.2.3 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 for below 1GHz test, 10 meters open field site for above 1GHz test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

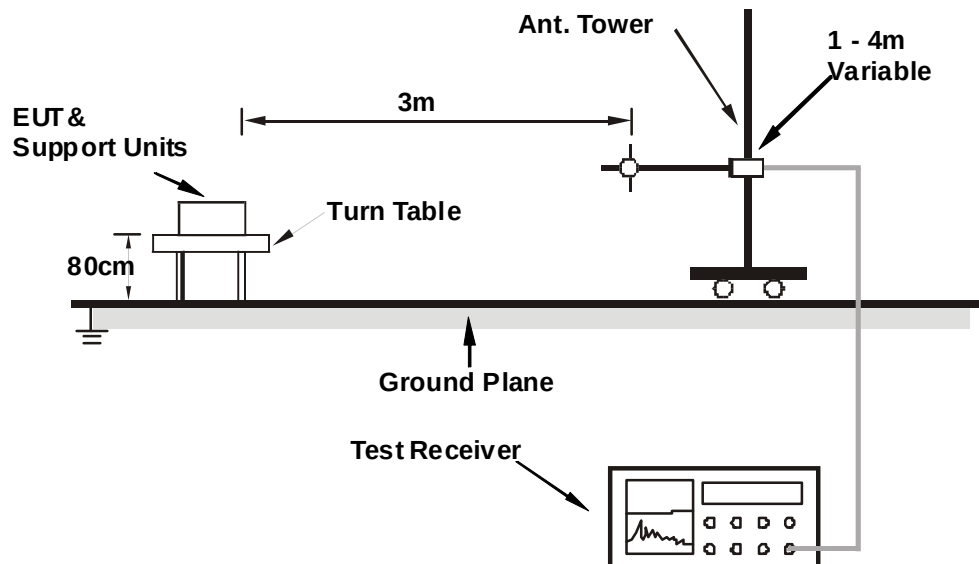
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11n (20MHz)

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	225.52	40.5 QP	46.0	-5.5	1.50 H	345	28.28	12.18
2	296.69	36.6 QP	46.0	-9.4	1.00 H	0	21.47	15.17
3	327.95	41.2 QP	46.0	-4.8	1.00 H	299	25.24	15.95
4	350.69	35.1 QP	46.0	-10.9	1.00 H	197	18.65	16.48
5	527.97	37.2 QP	46.0	-8.9	1.00 H	0	16.50	20.65
6	593.46	39.2 QP	46.0	-6.8	1.50 H	257	17.15	22.08
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	98.45	35.8 QP	43.5	-7.7	1.50 V	31	26.23	9.53
2	225.40	34.3 QP	46.0	-11.7	1.50 V	0	22.15	12.18
3	593.46	38.7 QP	46.0	-7.3	1.50 V	323	16.63	22.08
4	624.01	37.8 QP	46.0	-8.2	1.50 V	0	15.30	22.53
5	890.10	40.7 QP	46.0	-5.3	1.50 V	0	13.81	26.89
6	936.05	40.9 QP	46.0	-5.2	1.00 V	360	13.24	27.61

REMARKS:

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

ABOVE 1GHz DATA

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	56.8 PK	74.0	-17.2	1.39 H	246	26.74	30.06
2	2390.00	44.9 AV	54.0	-9.1	1.39 H	246	14.84	30.06
3	*2412.00	102.8 PK			1.39 H	246	72.65	30.15
4	*2412.00	101.3 AV			1.39 H	246	71.15	30.15
5	4824.00	56.0 PK	74.0	-18.0	1.54 H	67	20.57	35.43
6	4824.00	53.3 AV	54.0	-0.7	1.54 H	67	17.87	35.43

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.0 PK	74.0	-18.0	1.44 V	63	25.94	30.06
2	2390.00	44.2 AV	54.0	-9.8	1.44 V	63	14.14	30.06
3	*2412.00	102.6 PK			1.44 V	63	72.45	30.15
4	*2412.00	100.1 AV			1.44 V	63	69.95	30.15
5	4824.00	53.4 PK	74.0	-20.6	1.03 V	23	17.97	35.43
6	4824.00	49.2 AV	54.0	-4.8	1.03 V	23	13.77	35.43

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	102.6 PK			1.35 H	247	72.36	30.24
2	*2437.00	101.1 AV			1.35 H	247	70.86	30.24
3	4874.00	56.0 PK	74.0	-18.0	1.54 H	66	20.48	35.52
4	4874.00	53.1 AV	54.0	-0.9	1.54 H	66	17.58	35.52
5	7311.00	54.1 PK	74.0	-19.9	1.00 H	115	12.14	41.96
6	7311.00	41.9 AV	54.0	-12.1	1.00 H	115	-0.06	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.4 PK			1.45 V	65	72.16	30.24
2	*2437.00	100.2 AV			1.45 V	65	69.96	30.24
3	4874.00	53.2 PK	74.0	-20.8	1.00 V	11	17.68	35.52
4	4874.00	48.9 AV	54.0	-5.1	1.00 V	11	13.38	35.52
5	7311.00	54.2 PK	74.0	-19.8	1.03 V	252	12.24	41.96
6	7311.00	42.0 AV	54.0	-12.0	1.03 V	252	0.04	41.96

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	103.1 PK			1.38 H	250	72.76	30.34
2	*2462.00	101.7 AV			1.38 H	250	71.36	30.34
3	2483.50	57.5 PK	74.0	-16.5	1.38 H	250	27.07	30.43
4	2483.50	45.4 AV	54.0	-8.6	1.38 H	250	14.97	30.43
5	4924.00	56.6 PK	74.0	-17.4	1.51 H	65	20.98	35.62
6	4924.00	53.5 AV	54.0	-0.5	1.51 H	65	17.88	35.62
7	7386.00	54.5 PK	74.0	-19.5	1.00 H	125	12.40	42.10
8	7386.00	42.3 AV	54.0	-11.7	1.00 H	125	0.20	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.8 PK			1.49 V	65	72.46	30.34
2	*2462.00	100.5 AV			1.49 V	65	70.16	30.34
3	2483.50	55.9 PK	74.0	-18.1	1.49 V	65	25.47	30.43
4	2483.50	43.9 AV	54.0	-10.1	1.49 V	65	13.47	30.43
5	4924.00	52.9 PK	74.0	-21.1	1.00 V	6	17.28	35.62
6	4924.00	48.6 AV	54.0	-5.4	1.00 V	6	12.98	35.62
7	7386.00	54.2 PK	74.0	-19.8	1.00 V	251	12.10	42.10
8	7386.00	42.2 AV	54.0	-11.8	1.00 V	251	0.10	42.10

REMARKS:

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.5 PK	74.0	-6.5	1.37 H	245	37.44	30.06
2	2390.00	51.2 AV	54.0	-2.8	1.37 H	245	21.14	30.06
3	*2412.00	105.3 PK			1.37 H	245	75.15	30.15
4	*2412.00	95.9 AV			1.37 H	245	65.75	30.15
5	4824.00	54.2 PK	74.0	-19.8	1.57 H	77	18.77	35.43
6	4824.00	42.0 AV	54.0	-12.0	1.57 H	77	6.57	35.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	69.3 PK	74.0	-4.7	1.19 V	61	39.24	30.06
2	2390.00	53.1 AV	54.0	-0.9	1.19 V	61	23.04	30.06
3	*2412.00	105.8 PK			1.19 V	61	75.65	30.15
4	*2412.00	96.2 AV			1.19 V	61	66.05	30.15
5	4824.00	50.1 PK	74.0	-23.9	1.03 V	0	14.67	35.43
6	4824.00	40.2 AV	54.0	-13.8	1.03 V	0	4.77	35.43

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	2384.70	62.4 PK	74.0	-11.6	1.35 H	243	32.36	30.04
2	2384.70	52.9 AV	54.0	-1.1	1.35 H	243	22.86	30.04
3	*2437.00	106.7 PK			1.35 H	243	76.46	30.24
4	*2437.00	97.5 AV			1.35 H	243	67.26	30.24
5	2489.50	60.8 PK	74.0	-13.2	1.35 H	243	30.35	30.45
6	2489.50	50.1 AV	54.0	-3.9	1.35 H	243	19.65	30.45
7	4874.00	53.7 PK	74.0	-20.3	1.53 H	65	18.18	35.52
8	4874.00	41.5 AV	54.0	-12.5	1.53 H	65	5.98	35.52
9	7311.00	54.6 PK	74.0	-19.4	1.05 H	119	12.64	41.96
10	7311.00	42.7 AV	54.0	-11.3	1.05 H	119	0.74	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2384.70	61.5 PK	74.0	-12.5	1.20 V	87	31.46	30.04
2	2384.70	51.3 AV	54.0	-2.7	1.20 V	87	21.26	30.04
3	*2437.00	107.2 PK			1.20 V	87	76.96	30.24
4	*2437.00	98.1 AV			1.20 V	87	67.86	30.24
5	2489.50	62.8 PK	74.0	-11.2	1.20 V	87	32.35	30.45
6	2489.50	53.5 AV	54.0	-0.5	1.20 V	87	23.05	30.45
7	4874.00	54.2 PK	74.0	-19.8	1.05 V	0	18.68	35.52
8	4874.00	41.5 AV	54.0	-12.5	1.05 V	0	5.98	35.52
9	7311.00	51.1 PK	74.0	-22.9	1.06 V	246	9.14	41.96
10	7311.00	38.9 AV	54.0	-15.1	1.06 V	246	-3.06	41.96

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	105.1 PK			1.34 H	246	74.76	30.34
2	*2462.00	94.8 AV			1.34 H	246	64.46	30.34
3	2483.50	67.4 PK	74.0	-6.6	1.34 H	250	36.97	30.43
4	2483.50	51.0 AV	54.0	-3.0	1.34 H	250	20.57	30.43
5	4924.00	53.1 PK	74.0	-20.9	1.52 H	50	17.48	35.62
6	4924.00	41.5 AV	54.0	-12.5	1.52 H	50	5.88	35.62
7	7386.00	54.5 PK	74.0	-19.5	1.05 H	127	12.40	42.10
8	7386.00	42.4 AV	54.0	-11.6	1.05 H	127	0.30	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.1 PK			1.27 V	348	74.76	30.34
2	*2462.00	96.1 AV			1.27 V	348	65.76	30.34
3	2483.50	69.5 PK	74.0	-4.5	1.27 V	348	39.07	30.43
4	2483.50	53.2 AV	54.0	-0.8	1.27 V	348	22.77	30.43
5	4924.00	54.1 PK	74.0	-19.9	1.10 V	12	18.48	35.62
6	4924.00	41.6 AV	54.0	-12.4	1.10 V	12	5.98	35.62
7	7386.00	51.4 PK	74.0	-22.6	1.05 V	232	9.30	42.10
8	7386.00	39.4 AV	54.0	-14.6	1.05 V	232	-2.70	42.10

REMARKS:

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

802.11n (20MHz)

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	67.8 PK	74.0	-6.2	1.39 H	242	37.74	30.06
2	2390.00	48.4 AV	54.0	-5.6	1.39 H	242	18.34	30.06
3	*2412.00	102.3 PK			1.39 H	242	72.15	30.15
4	*2412.00	93.5 AV			1.39 H	242	63.35	30.15
5	4824.00	47.4 PK	74.0	-26.6	1.52 H	34	11.97	35.43
6	4824.00	36.8 AV	54.0	-17.2	1.52 H	34	1.37	35.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.7 PK	74.0	-1.3	1.20 V	83	42.64	30.06
2	2390.00	50.8 AV	54.0	-3.2	1.20 V	83	20.74	30.06
3	*2412.00	104.3 PK			1.20 V	83	74.15	30.15
4	*2412.00	95.5 AV			1.20 V	83	65.35	30.15
5	4824.00	47.3 PK	74.0	-26.7	1.12 V	0	11.87	35.43
6	4824.00	36.0 AV	54.0	-18.0	1.12 V	0	0.57	35.43

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	2385.20	67.0 PK	74.0	-7.0	1.35 H	237	36.96	30.04
2	2385.20	50.7 AV	54.0	-3.3	1.35 H	237	20.66	30.04
3	*2437.00	103.7 PK			1.39 H	242	73.46	30.24
4	*2437.00	94.3 AV			1.39 H	242	64.06	30.24
5	2483.50	54.7 PK	74.0	-19.3	1.07 H	111	24.27	30.43
6	2483.50	42.4 AV	54.0	-11.6	1.07 H	111	11.97	30.43
7	4874.00	47.6 PK	74.0	-26.4	1.54 H	66	12.08	35.52
8	4874.00	36.0 AV	54.0	-18.0	1.54 H	66	0.48	35.52
9	7311.00	54.8 PK	74.0	-19.2	1.00 H	37	12.84	41.96
10	7311.00	42.5 AV	54.0	-11.5	1.00 H	37	0.54	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2385.20	58.2 PK	74.0	-15.8	1.20 V	83	28.16	30.04
2	2385.20	47.5 AV	54.0	-6.5	1.20 V	83	17.46	30.04
3	*2437.00	105.7 PK			1.20 V	83	75.46	30.24
4	*2437.00	96.5 AV			1.20 V	83	66.26	30.24
5	2483.50	66.2 PK	74.0	-7.8	1.20 V	83	35.77	30.43
6	2483.50	53.1 AV	54.0	-0.9	1.20 V	83	22.67	30.43
7	4874.00	47.6 PK	74.0	-26.4	1.12 V	51	12.08	35.52
8	4874.00	37.0 AV	54.0	-17.0	1.12 V	51	1.48	35.52
9	7311.00	54.0 PK	74.0	-20.0	1.00 V	254	12.04	41.96
10	7311.00	42.4 AV	54.0	-11.6	1.00 V	254	0.44	41.96

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	101.6 PK			1.39 H	245	71.26	30.34
2	*2462.00	93.0 AV			1.39 H	245	62.66	30.34
3	2483.50	66.7 PK	74.0	-7.3	1.40 H	231	36.27	30.43
4	2483.50	50.3 AV	54.0	-3.7	1.40 H	231	19.87	30.43
5	4924.00	47.5 PK	74.0	-26.5	1.00 H	26	11.88	35.62
6	4924.00	36.1 AV	54.0	-17.9	1.00 H	26	0.48	35.62
7	7386.00	54.5 PK	74.0	-19.5	1.06 H	116	12.40	42.10
8	7386.00	42.4 AV	54.0	-11.6	1.06 H	116	0.30	42.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.3 PK			1.20 V	83	72.96	30.34
2	*2462.00	94.7 AV			1.20 V	83	64.36	30.34
3	2483.50	72.1 PK	74.0	-1.9	1.20 V	83	41.67	30.43
4	2483.50	53.0 AV	54.0	-1.0	1.20 V	83	22.57	30.43
5	4924.00	47.4 PK	74.0	-26.6	1.12 V	66	11.78	35.62
6	4924.00	37.0 AV	54.0	-17.0	1.12 V	66	1.38	35.62
7	7386.00	54.0 PK	74.0	-20.0	1.03 V	253	11.90	42.10
8	7386.00	42.4 AV	54.0	-11.6	1.03 V	253	0.30	42.10

REMARKS:

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

802.11n (40MHz)

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	67.3 PK	74.0	-6.7	1.34 H	227	37.24	30.06
2	2390.00	50.7 AV	54.0	-3.3	1.34 H	227	20.64	30.06
3	*2422.00	96.1 PK			1.39 H	241	65.91	30.19
4	*2422.00	87.5 AV			1.39 H	241	57.31	30.19
5	4844.00	47.8 PK	74.0	-26.2	1.00 H	21	12.33	35.47
6	4844.00	36.2 AV	54.0	-17.8	1.00 H	21	0.73	35.47
7	7266.00	54.4 PK	74.0	-19.6	1.06 H	118	12.53	41.87
8	7266.00	42.0 AV	54.0	-12.0	1.06 H	118	0.13	41.87
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	67.3 PK	74.0	-6.7	1.20 V	83	37.24	30.06
2	2390.00	52.6 AV	54.0	-1.4	1.20 V	83	22.54	30.06
3	*2422.00	98.3 PK			1.20 V	83	68.11	30.19
4	*2422.00	89.4 AV			1.20 V	83	59.21	30.19
5	4844.00	47.1 PK	74.0	-26.9	1.13 V	59	11.63	35.47
6	4844.00	36.1 AV	54.0	-17.9	1.13 V	59	0.63	35.47
7	7266.00	54.1 PK	74.0	-19.9	1.08 V	262	12.23	41.87
8	7266.00	42.5 AV	54.0	-11.5	1.08 V	262	0.63	41.87

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	67.1 PK	74.0	-6.9	1.47 H	209	37.04	30.06
2	2390.00	50.8 AV	54.0	-3.2	1.47 H	209	20.74	30.06
3	*2437.00	98.0 PK			1.39 H	241	67.76	30.24
4	*2437.00	89.0 AV			1.39 H	241	58.76	30.24
5	2485.70	67.0 PK	74.0	-7.0	1.42 H	214	36.57	30.43
6	2485.70	50.7 AV	54.0	-3.3	1.42 H	214	20.27	30.43
7	4874.00	47.0 PK	74.0	-27.0	1.01 H	20	11.48	35.52
8	4874.00	36.2 AV	54.0	-17.8	1.01 H	20	0.68	35.52
9	7311.00	54.1 PK	74.0	-19.9	1.02 H	128	12.14	41.96
10	7311.00	41.7 AV	54.0	-12.3	1.02 H	128	-0.26	41.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.3 PK	74.0	-12.7	1.20 V	83	31.24	30.06
2	2390.00	47.3 AV	54.0	-6.7	1.20 V	83	17.24	30.06
3	*2437.00	100.2 PK			1.20 V	83	69.96	30.24
4	*2437.00	91.0 AV			1.20 V	83	60.76	30.24
5	2485.70	68.3 PK	74.0	-5.7	1.20 V	83	37.87	30.43
6	2485.70	51.9 AV	54.0	-2.1	1.20 V	83	21.47	30.43
7	4874.00	47.6 PK	74.0	-26.4	1.16 V	66	12.08	35.52
8	4874.00	35.4 AV	54.0	-18.6	1.16 V	66	-0.12	35.52
9	7311.00	54.4 PK	74.0	-19.6	1.13 V	266	12.44	41.96
10	7311.00	42.8 AV	54.0	-11.2	1.13 V	266	0.84	41.96

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	95.7 PK			1.39 H	235	65.40	30.30
2	*2452.00	86.8 AV			1.39 H	235	56.50	30.30
3	2492.90	67.2 PK	74.0	-6.8	1.40 H	211	36.74	30.46
4	2492.90	50.8 AV	54.0	-3.2	1.40 H	211	20.34	30.46
5	4904.00	47.2 PK	74.0	-26.8	1.00 H	17	11.62	35.58
6	4904.00	36.5 AV	54.0	-17.5	1.00 H	17	0.92	35.58
7	7356.00	54.1 PK	74.0	-19.9	1.03 H	130	12.06	42.04
8	7356.00	41.8 AV	54.0	-12.2	1.03 H	130	-0.24	42.04
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	97.1 PK			1.20 V	83	66.80	30.30
2	*2452.00	88.7 AV			1.20 V	83	58.40	30.30
3	2492.90	71.3 PK	74.0	-2.7	1.20 V	83	40.84	30.46
4	2492.90	53.0 AV	54.0	-1.0	1.20 V	83	22.54	30.46
5	4904.00	48.1 PK	74.0	-25.9	1.20 V	74	12.52	35.58
6	4904.00	35.8 AV	54.0	-18.2	1.20 V	74	0.22	35.58
7	7356.00	54.1 PK	74.0	-19.9	1.19 V	265	12.06	42.04
8	7356.00	42.5 AV	54.0	-11.5	1.19 V	265	0.46	42.04

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 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 09, 2012	May 08, 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 : June 15, 2012

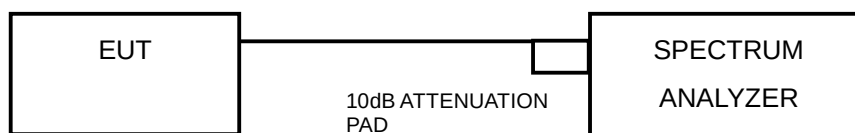
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	11.47	0.5	PASS
6	2437	11.48	0.5	PASS
11	2462	11.51	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.43	0.5	PASS
6	2437	16.45	0.5	PASS
11	2462	16.48	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.62	17.58	0.5	PASS
6	2437	17.62	17.62	0.5	PASS
11	2462	17.66	17.64	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.54	36.47	0.5	PASS
6	2437	36.49	36.53	0.5	PASS
9	2452	36.55	36.52	0.5	PASS

4.4 CONDUCTED OUTPUT POWER MEASUREMENT

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

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

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	0824006	May 10, 2012	May 09, 2013
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 : June 15, 2012

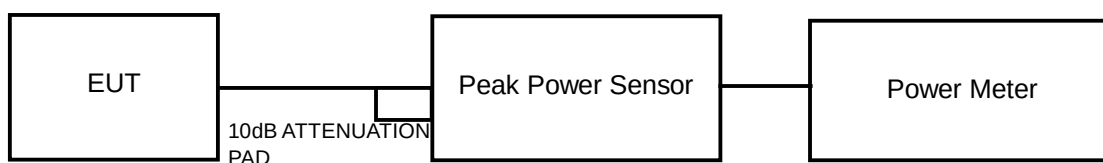
4.4.3 TEST PROCEDURES

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.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	181.970	22.6	30	PASS
6	2437	186.209	22.7	30	PASS
11	2462	181.970	22.6	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	309.030	24.9	30	PASS
6	2437	398.107	26.0	30	PASS
11	2462	316.228	25.0	30	PASS

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	23.1	23.0	403.700	26.06	30	PASS
6	2437	25.1	24.7	618.715	27.91	30	PASS
11	2462	21.4	20.7	255.528	24.07	30	PASS

802.11n (40MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	21.2	21.5	273.080	24.36	30	PASS
6	2437	22.0	22.3	328.313	25.16	30	PASS
9	2452	20.1	20.2	207.042	23.16	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 09, 2012	May 08, 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 : June 15, 2012

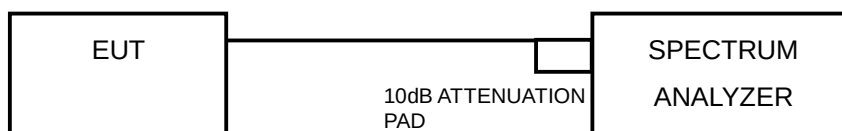
4.5.3 TEST PROCEDURE

1. Set the RBW = 100 kHz, VBW =300 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3 \text{ kHz}/100\text{kHz})$

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	7.92	-7.31	8	PASS
6	2437	7.97	-7.26	8	PASS
11	2462	7.92	-7.31	8	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	3.07	-12.16	8	PASS
6	2437	5.82	-9.41	8	PASS
11	2462	3.14	-12.09	8	PASS

802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	1.52	-13.71	3.01	-10.70	8	PASS
	6	2437	3.36	-11.87	3.01	-8.86	8	PASS
	11	2462	-0.50	-15.73	3.01	-12.72	8	PASS
1	1	2412	1.77	-13.46	3.01	-10.45	8	PASS
	6	2437	3.44	-11.79	3.01	-8.78	8	PASS
	11	2462	-1.04	-16.27	3.01	-13.26	8	PASS

802.11n (40MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-3.98	-19.21	3.01	-16.20	8	PASS
	6	2437	-3.19	-18.42	3.01	-15.41	8	PASS
	9	2452	-4.75	-19.98	3.01	-16.97	8	PASS
1	3	2422	-3.20	-18.43	3.01	-15.42	8	PASS
	6	2437	-2.73	-17.96	3.01	-14.95	8	PASS
	9	2452	-5.11	-20.34	3.01	-17.33	8	PASS

4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 09, 2012	May 08, 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 : June 15, 2012

4.6.3 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

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

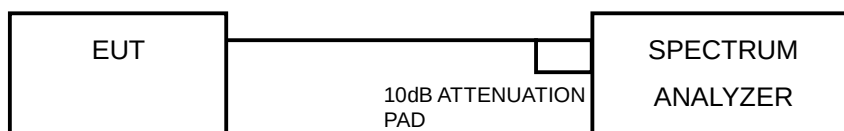
MEASUREMENT PROCEDURE OOB

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

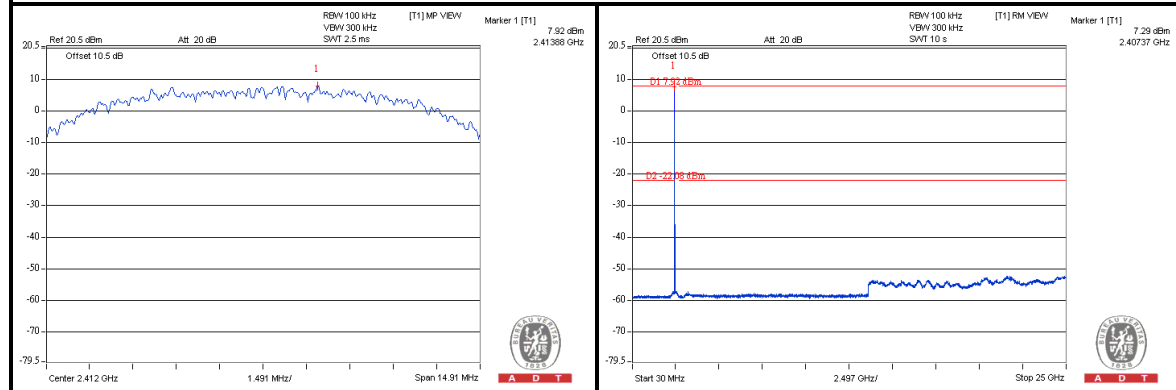
4.6.7 TEST RESULTS

The conducted emission test is performed on each TX port of operating mode without summing or adding $10\log(N)$ since the limit is relative emission limit. Only worst data of each operating mode is presented.

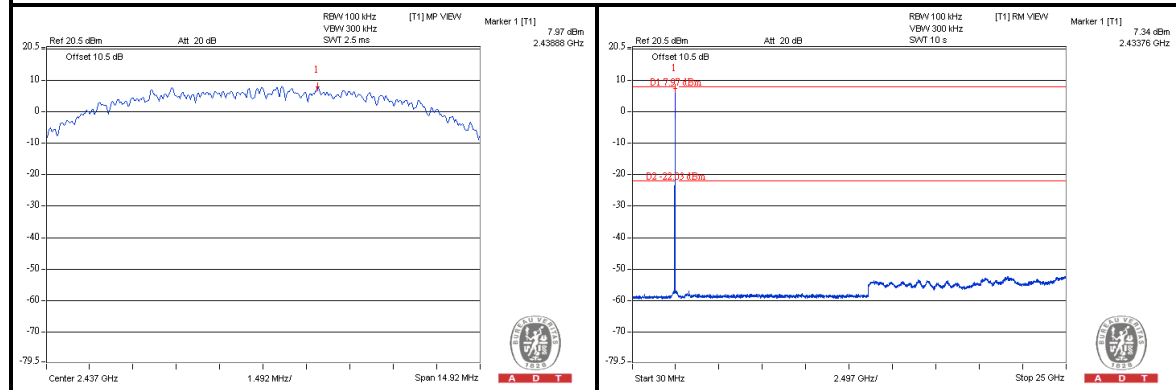
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b

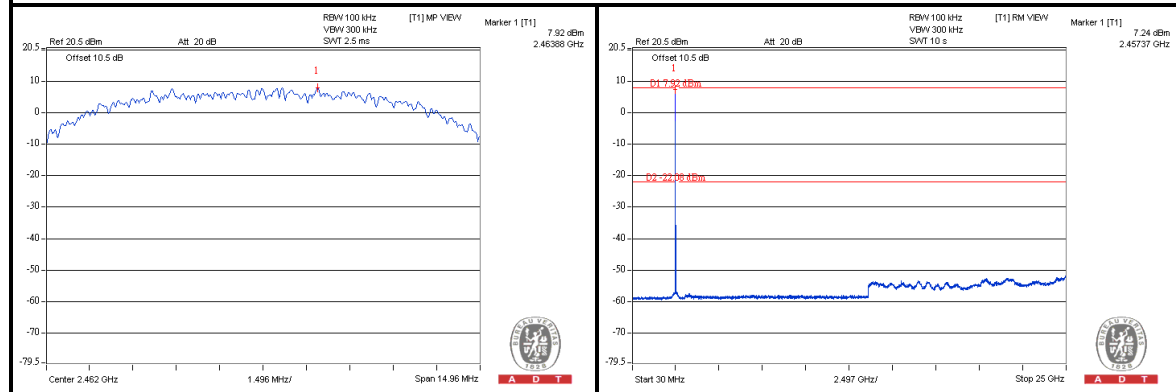
CH 1



CH 6



CH 11

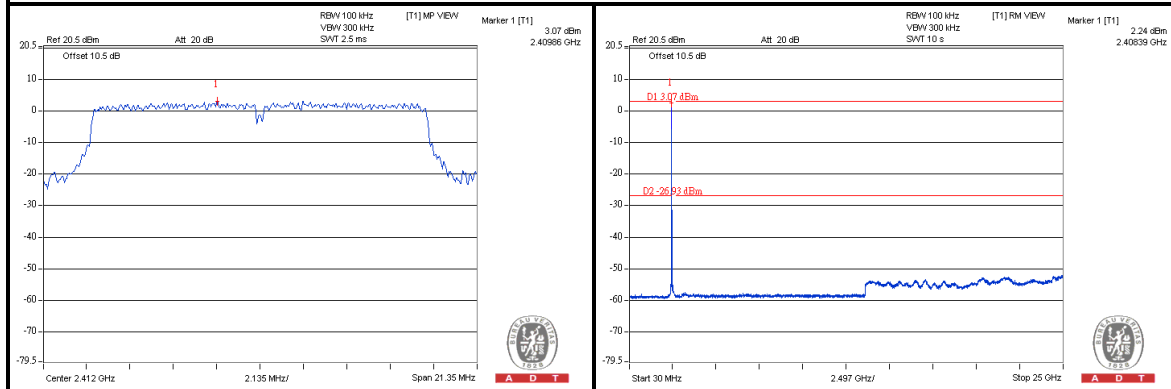




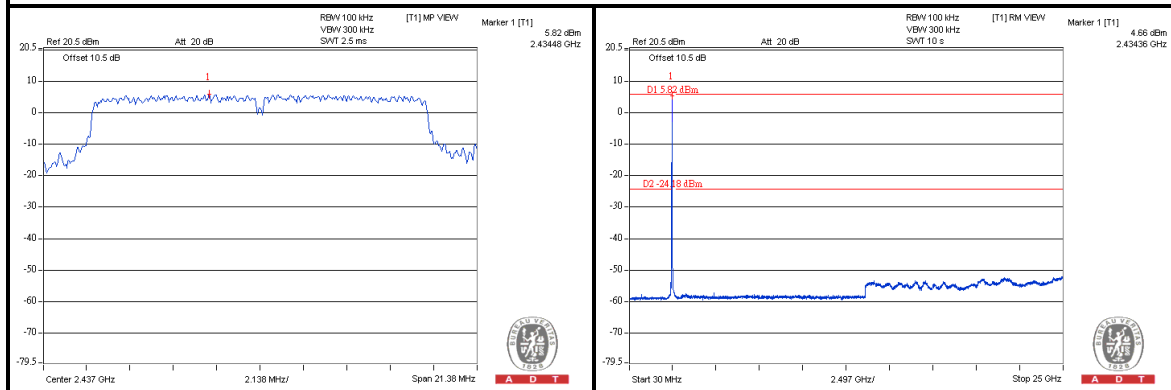
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802.11g

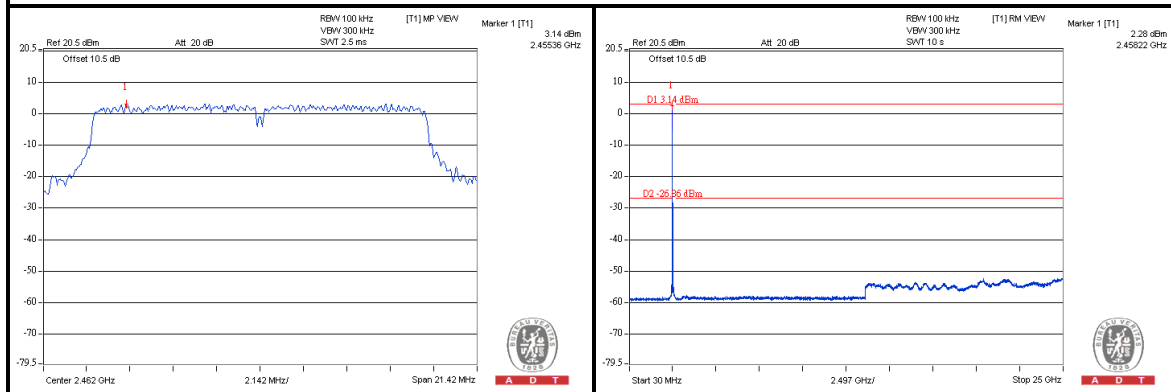
CH 1



CH 6

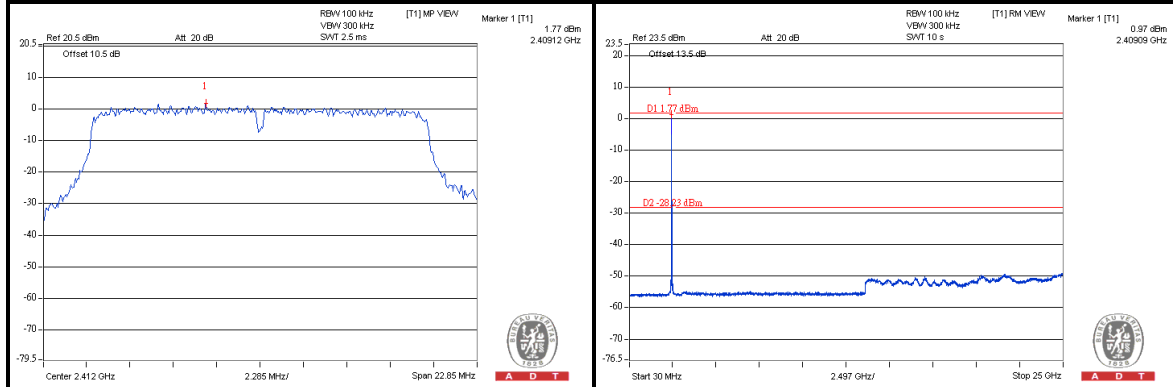


CH 11

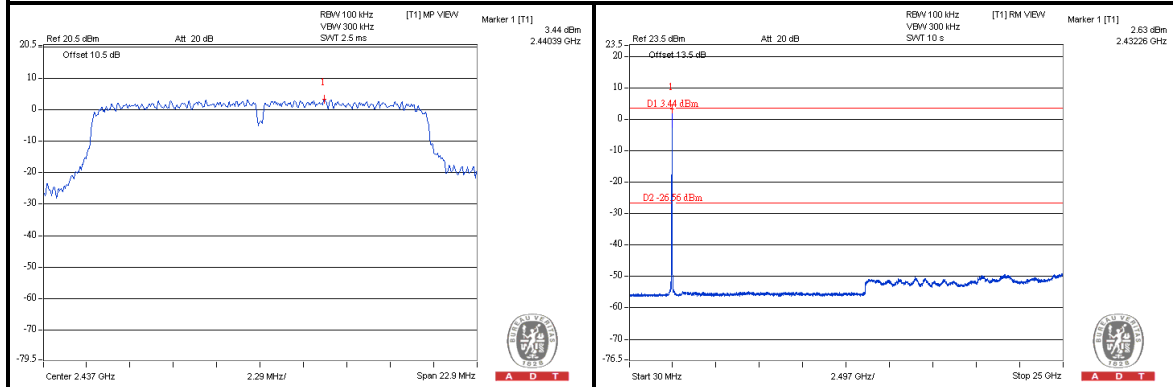


802.11n (20MHz)

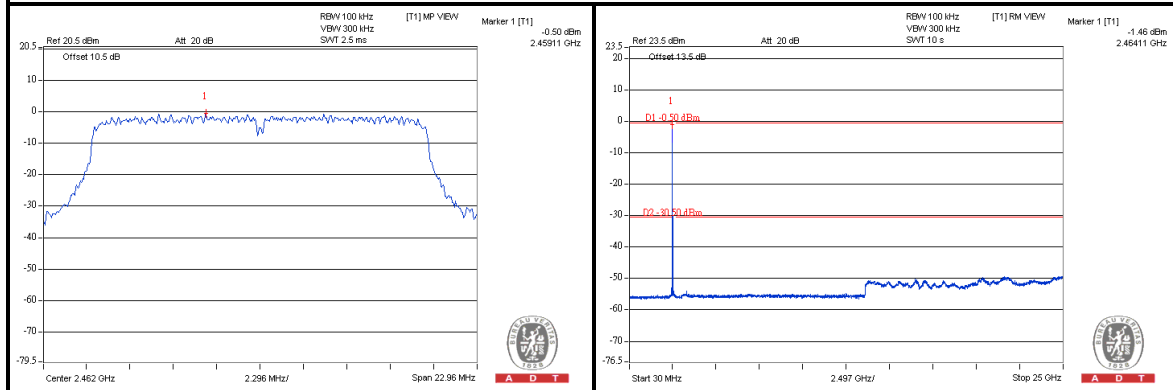
CH 1



CH 6

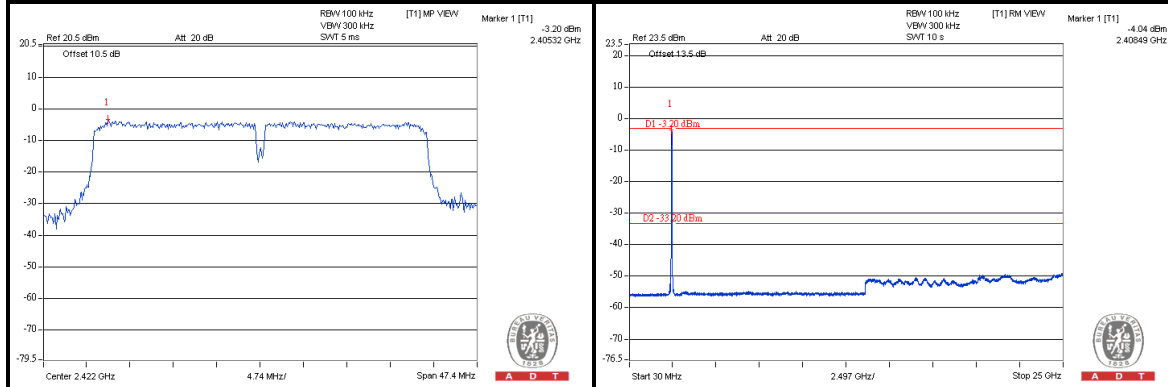


CH 11

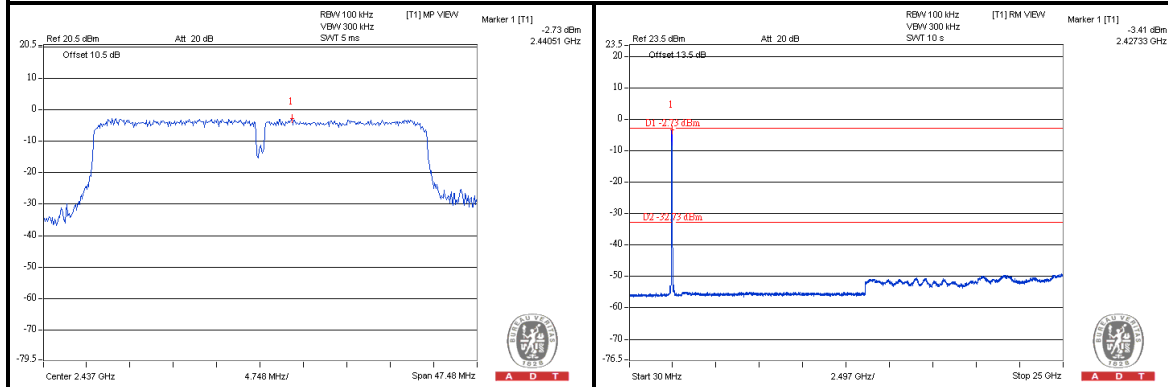


802.11n (40MHz)

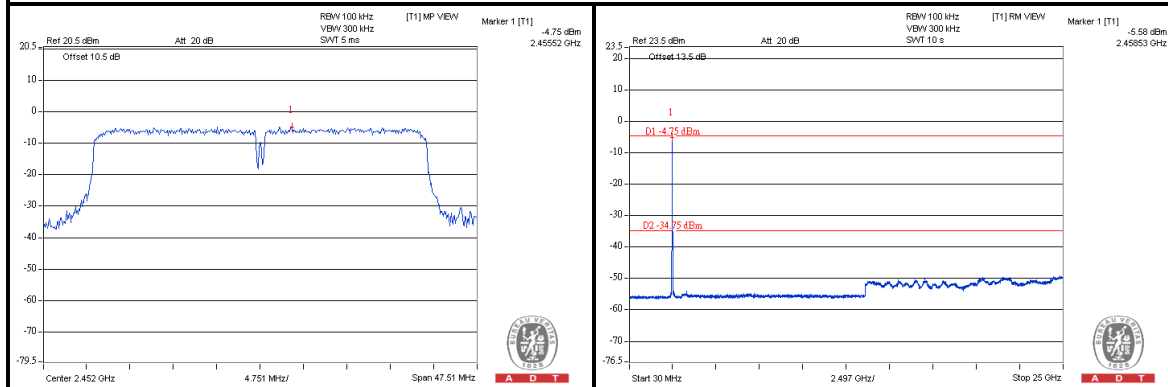
CH 3



CH 6



CH 9



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.adt.com.tw

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.

--- END ---