



FCC TEST REPORT

REPORT NO.: RF120927E01

MODEL NO.: Flex AP (Refer to 3.1 for more details)

FCC ID: U8G-P1371

RECEIVED: Sep. 27, 2012

TESTED: Dec. 12, 2012 to Feb. 01, 2013

ISSUED: Feb. 20, 2013

APPLICANT: Pismo Labs Technology Limited

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD


ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120927E01	Original release	Feb. 20, 2013



1. CERTIFICATION

PRODUCT: Pepwave / Peplink / Pismo Wireless Product
BRAND NAME: Pepwave, Peplink, Pismo
MODEL NO.: Flex AP (Refer to 3.1 for more details)
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Pismo Labs Technology Limited
TESTED: Dec. 12, 2012 to Feb. 01, 2013
STANDARDS: FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10-2009

The above equipment (Model: Flex AP) 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:** Feb. 20, 2013
(Claire Kuan, Specialist)

APPROVED BY :  , **DATE:** Feb. 20, 2013
(May Chen, Deputy Manager)



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2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -7.16dB at 0.482031MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.6dB at 2390.00MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	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)	5.47 dB
Radiated emissions (1GHz-6GHz)	3.54 dB
Radiated emissions (6GHz-18GHz)	4.08 dB
Radiated emissions (18GHz-40GHz)	4.11 dB



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Pepwave / Peplink / Pismo Wireless Product
MODEL NO.	Flex AP (Refer to NOTE for more details)
POWER SUPPLY	DC12V from power adapter or DC 12~48V from Passive PoE Injector
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11g: 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 (HT20) 7 for 802.11n (HT40)
MAXIMUM OUTPUT POWER	802.11b: 359.989mW 802.11g: 648.732mW 802.11n (HT20): 635.140mW 802.11n (HT40): 677.868mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

- The EUT has nine model names which are identical to each other in all aspects except for the following table:

Brand	Model Name	Description
Pepwave / Peplink / Pismo Wireless Product	Flex AP	For marketing purposes
	MAX	
	Surf Pro	
	AP One	
	AP Pro	
	Device Connector	
	Express	
	Balance	
	Pismo731	

From the above models, model: **Flex AP** was selected as representative model for the test and its data was recorded in this report.

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

WLAN Antenna Spec.							
Transmitter Circuit	Antenna Type	Gain(dBi)	Connector Type	Frequency range (GHz)			
Chain (0)	Patch	10	NA	2.4 ~ 2.5			
Chain (1)	Patch	10	NA	2.4 ~ 2.5			
GPS Antenna Spec.							
Brand	Model	Antenna Type	Gain(dBi)	Connector Type	Frequency range (MHz)		
ACX	ATR240-T1R5HCA	Chip	1.21	NA	1570 ~ 1580		
LTE Antenna Spec.							
Transmitter Circuit	Brand	Model	Antenna Type	Gain (dBi) Included loss	Cable Loss (dBi)	Connector Type	Frequency range (MHz)
Chain (0)	Pulse	SPDA24700/2700	Dipole	1.5	0.5	SMA	698-960/ 1710-2170/ 2500 ~ 2700
Chain (1)	Pulse	SPDA24700/2700	Dipole	1.5	0.5	SMA	698-960/ 1710-2170/ 2500 ~ 2700



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3. The EUT could be supplied with a power adapter and POE as the following table:

Adapter		
Brand	Model No.	Spec.
Ten Pao	S024EM1200200	AC I/P: 100-240V, 50/60Hz, 600mA DC O/P: 12V, 2000mA DC output cable: shielded, 1.5m with one core
Passive PoE Injector		
Brand	Model No.	Spec.
PEPWAVE	PE-1012	12~48V, 2A

4. The EUT incorporates a MIMO function without beam forming.

MODULATION MODE	TX/RX FUNCTION
802.11b	2Tx/2Rx
802.11g	2Tx/2Rx
802.11n (HT20)	2Tx/2Rx
802.11n (HT40)	2Tx/2Rx

5. Conducted emission and Radiated emission of the simultaneous operation has been evaluated and no non-compliance found. (WLAN and LTE technology can transmit at same time.)

6. The EUT inside has one LTE Module which FCC ID: N7NMC7700

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

8. 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

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

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

7 channels are provided for 802.11n (HT40):

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



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3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz
RE ≥ 1G: Radiated Emission above 1GHz **APCM**: Antenna Port Conducted Measurement
OB: Conducted Out-Band Emission Measurement

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)
802.11g	1 to 11	6	OFDM	BPSK	6

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)
802.11g	1 to 11	6	OFDM	BPSK	6

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 (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	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 (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	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 (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	24deg. C, 64%RH	120Vac, 60Hz	Gavin Peng
RE<1G	22deg. C, 73%RH	120Vac, 60Hz	Amos Chuang
RE ³ 1G	25deg. C, 65%RH	120Vac, 60Hz	Amos Chuang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng
OB	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

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

662911 D01 Multiple Transmitter Output

ANSI C63.10-2009

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



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3.4 DESCRIPTION OF SUPPORT UNITS

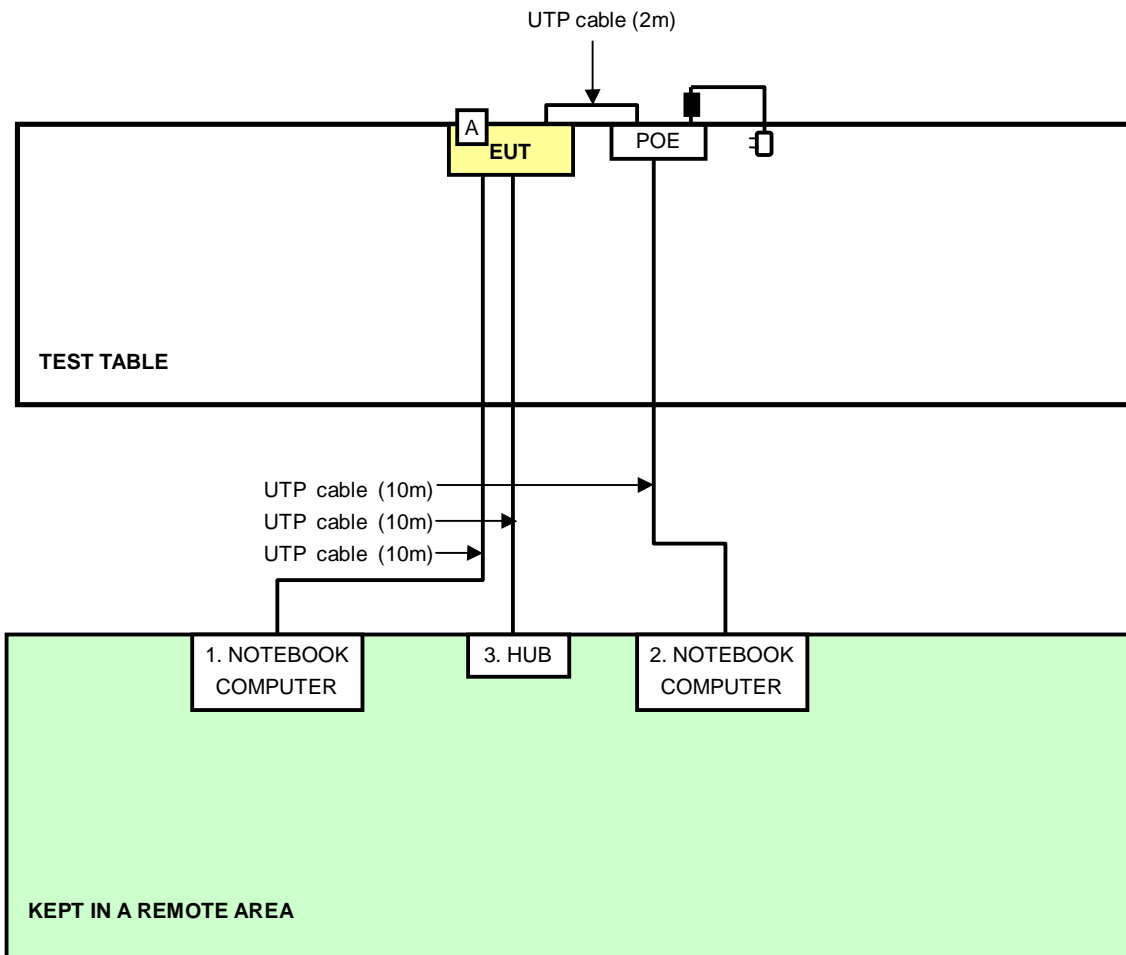
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	NOTEBOOK COMPUTER	DELL	PP32LA	GSLB32S	FCC DoC
3	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	UTP cable, 10m
2	UTP cable, 10m
3	UTP cable, 10m

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



Note: The item A is SD card.



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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	ESCS 30	100375	Mar. 12, 2012	Mar.11, 2013
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 06, 2012	Sep. 05, 2013
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 08,2012	June 07,2013
RF Cable (JYEBAO)	5DFB	COCCAB-001	Aug. 28, 2012	Aug. 27, 2013
50 ohms Terminator	50	EMC-3	Sep. 25, 2012	Sep. 24, 2013
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Jan. 22, 2013

4.1.3 TEST PROCEDURES

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

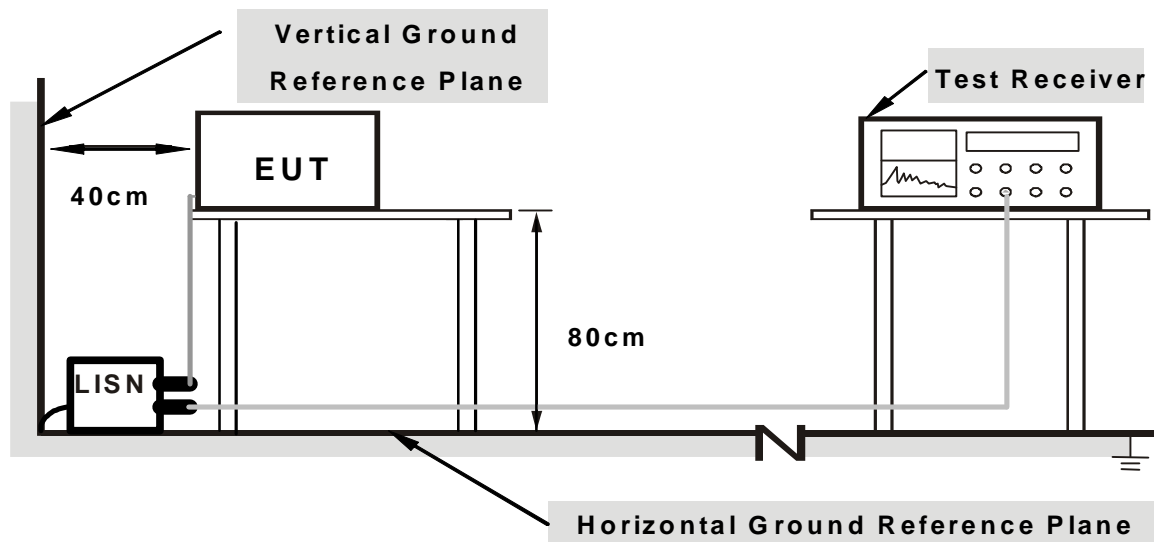
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

1. Place the EUT on testing table.
2. The communication partner run test program “art.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

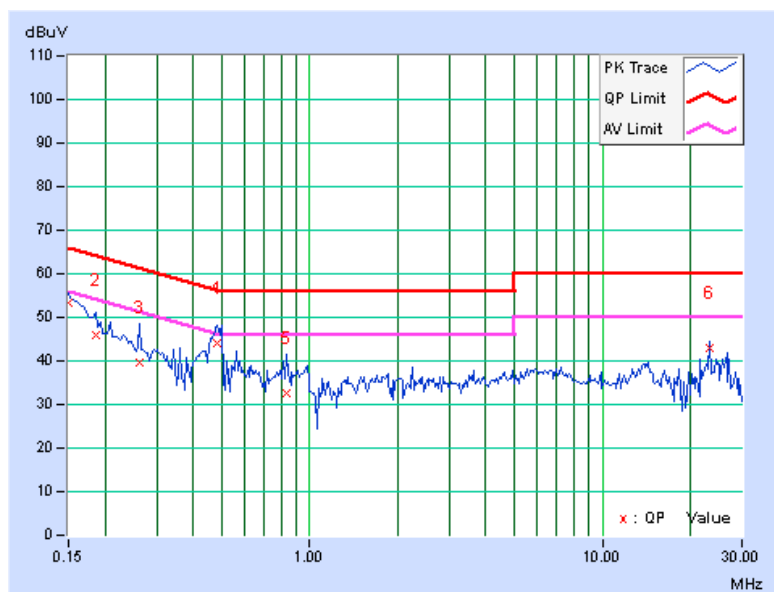
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.15000	0.11	53.40	41.25	53.51	41.36	66.00	56.00	-12.49
2	0.18516	0.12	45.82	34.72	45.94	34.84	64.25	54.25	-18.32	-19.42
3	0.26328	0.13	39.54	32.46	39.67	32.59	61.33	51.33	-21.65	-18.73
4	0.48203	0.16	44.05	38.98	44.21	39.14	56.30	46.30	-12.09	-7.16
5	0.82969	0.18	32.36	26.96	32.54	27.14	56.00	46.00	-23.46	-18.86
6	23.12891	1.01	42.10	40.02	43.11	41.03	60.00	50.00	-16.89	-8.97

REMARKS:

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

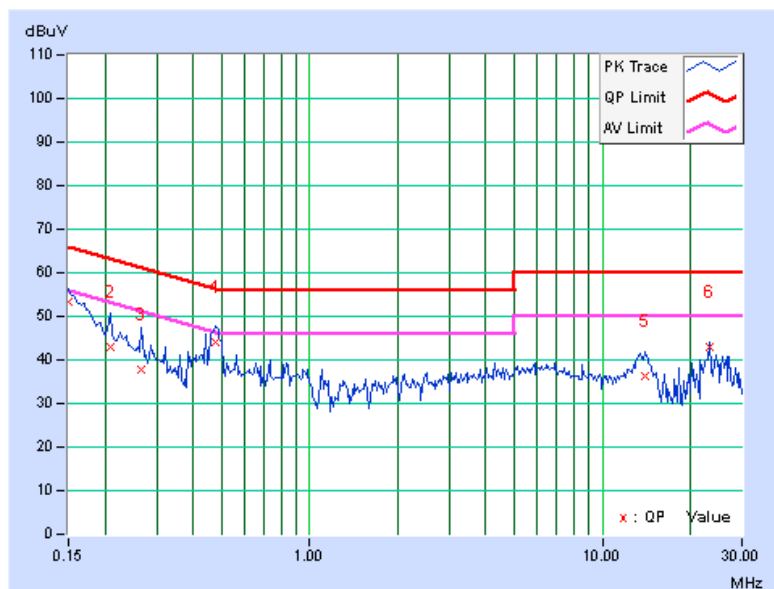


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.15000	0.09	53.42	40.74	53.51	40.83	66.00	56.00	-12.49
2	0.20859	0.10	42.90	32.52	43.00	32.62	63.26	53.26	-20.26	-20.64
3	0.26719	0.12	37.53	29.22	37.65	29.34	61.20	51.20	-23.56	-21.87
4	0.47813	0.15	43.89	38.05	44.04	38.20	56.37	46.37	-12.33	-8.17
5	13.93750	0.50	35.67	31.97	36.17	32.47	60.00	50.00	-23.83	-17.53
6	23.12891	0.68	42.35	40.19	43.03	40.87	60.00	50.00	-16.97	-9.13

REMARKS:

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





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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.



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4.2.2 TEST INSTRUMENTS

For below 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. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A02465	Feb. 27, 2012	Feb. 26, 2013
SPACEK LABS	SLKka-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Apr. 06, 2012	Apr. 05, 2013
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 27, 2012	Nov. 26, 2013
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. 07, 2012	Oct. 06, 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: Dec. 12, 2012



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For 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. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A02465	Feb. 27, 2012	Feb. 26, 2013
SPACEK LABS	SLKka-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Apr. 06, 2012	Apr. 05, 2013
Horn_Antenna AISl	AIH.8018	0000220091110	Nov. 27, 2012	Nov. 26, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 26, 2012	Dec. 25, 2013
RF Cable	NA	CHHCAB_001	Oct. 07, 2012	Oct. 06, 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: Feb. 01, 2013

4.2.3 TEST PROCEDURES

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

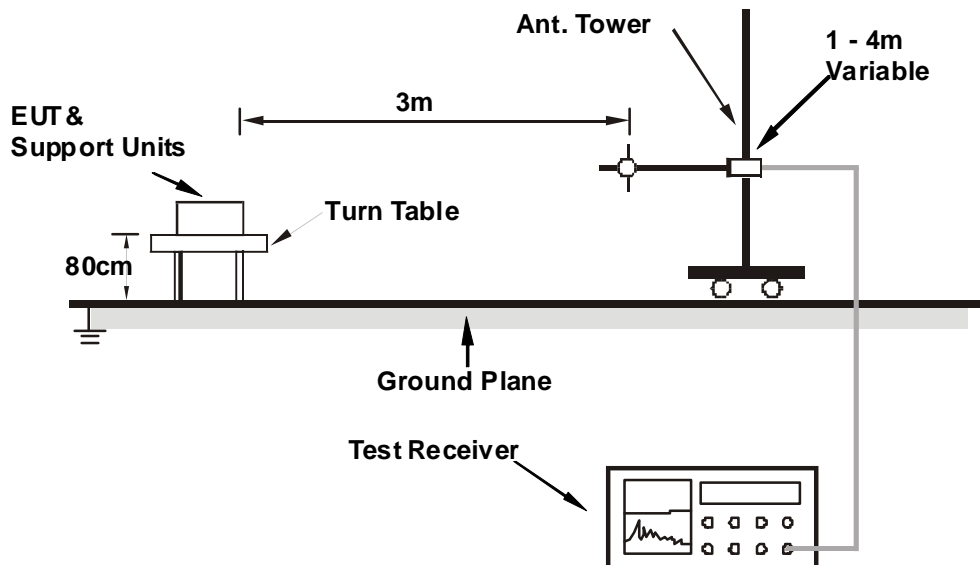
NOTE:

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. 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.
4. 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.
5. 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

802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	77.25	38.0 QP	40.0	-2.0	2.00 H	123	27.88	10.10
2	110.76	39.9 QP	43.5	-3.6	1.50 H	326	28.75	11.11
3	145.23	39.4 QP	43.5	-4.1	1.00 H	282	25.05	14.36
4	159.55	38.4 QP	43.5	-5.1	2.00 H	288	24.11	14.29
5	276.56	36.4 QP	46.0	-9.7	1.00 H	86	21.98	14.37
6	999.88	42.7 QP	54.0	-11.3	1.50 H	107	13.91	28.81
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	64.82	37.1 QP	40.0	-2.9	1.00 V	201	24.21	12.90
2	108.75	39.3 QP	43.5	-4.2	1.50 V	360	28.44	10.85
3	151.62	33.7 QP	43.5	-9.8	2.00 V	356	19.18	14.51
4	399.95	38.3 QP	46.0	-7.7	1.00 V	61	20.52	17.76
5	599.97	40.5 QP	46.0	-5.5	1.50 V	48	18.23	22.26
6	849.96	40.0 QP	46.0	-6.0	1.50 V	360	13.67	26.36

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	60.8 PK	74.0	-13.2	1.18 H	178	28.82	31.98
2	2390.00	53.4 AV	54.0	-0.6	1.18 H	178	21.42	31.98
3	*2412.00	114.1 PK			1.18 H	178	82.05	32.05
4	*2412.00	111.8 AV			1.18 H	178	79.75	32.05
5	4824.00	53.8 PK	74.0	-20.2	1.00 H	147	14.22	39.58
6	4824.00	48.1 AV	54.0	-5.9	1.00 H	147	8.52	39.58

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	60.6 PK	74.0	-13.4	1.00 V	187	28.62	31.98
2	2390.00	53.1 AV	54.0	-0.9	1.00 V	187	21.12	31.98
3	*2412.00	112.2 PK			1.00 V	187	80.15	32.05
4	*2412.00	109.9 AV			1.00 V	187	77.85	32.05
5	4824.00	53.1 PK	74.0	-20.9	1.23 V	101	13.52	39.58
6	4824.00	46.9 AV	54.0	-7.1	1.23 V	101	7.32	39.58

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	115.6 PK			1.15 H	177	83.48	32.12
2	*2437.00	113.6 AV			1.15 H	177	81.48	32.12
3	4874.00	56.2 PK	74.0	-17.8	1.00 H	131	16.50	39.70
4	4874.00	53.2 AV	54.0	-0.8	1.00 H	131	13.50	39.70
5	7311.00	52.6 PK	74.0	-21.4	1.00 H	155	5.01	47.59
6	7311.00	40.8 AV	54.0	-13.2	1.00 H	155	-6.79	47.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	113.3 PK			1.00 V	189	81.18	32.12
2	*2437.00	111.8 AV			1.00 V	189	79.68	32.12
3	4874.00	53.4 PK	74.0	-20.6	1.24 V	96	13.70	39.70
4	4874.00	47.0 AV	54.0	-7.0	1.24 V	96	7.30	39.70
5	7311.00	52.9 PK	74.0	-21.1	1.00 V	38	5.31	47.59
6	7311.00	40.6 AV	54.0	-13.4	1.00 V	38	-6.99	47.59

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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 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	112.6 PK			1.16 H	171	80.42	32.18
2	*2462.00	110.5 AV			1.16 H	171	78.32	32.18
3	2483.50	59.6 PK	74.0	-14.4	1.16 H	171	27.36	32.24
4	2483.50	53.2 AV	54.0	-0.8	1.16 H	171	20.96	32.24
5	4924.00	53.1 PK	74.0	-20.9	1.00 H	142	13.26	39.84
6	4924.00	48.8 AV	54.0	-5.2	1.00 H	142	8.96	39.84
7	7386.00	53.0 PK	74.0	-21.0	1.04 H	140	5.48	47.52
8	7386.00	41.1 AV	54.0	-12.9	1.04 H	140	-6.42	47.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	111.7 PK			1.00 V	182	79.52	32.18
2	*2462.00	109.7 AV			1.00 V	182	77.52	32.18
3	2483.50	59.6 PK	74.0	-14.4	1.00 V	182	27.36	32.24
4	2483.50	51.3 AV	54.0	-2.7	1.00 V	182	19.06	32.24
5	4924.00	53.2 PK	74.0	-20.8	1.28 V	108	13.36	39.84
6	4924.00	46.6 AV	54.0	-7.4	1.28 V	108	6.76	39.84
7	7386.00	52.5 PK	74.0	-21.5	1.02 V	46	4.98	47.52
8	7386.00	40.4 AV	54.0	-13.6	1.02 V	46	-7.12	47.52

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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802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.9 PK	74.0	-5.1	1.14 H	175	36.92	31.98
2	2390.00	53.2 AV	54.0	-0.8	1.14 H	175	21.22	31.98
3	*2412.00	115.1 PK			1.14 H	175	83.05	32.05
4	*2412.00	106.3 AV			1.14 H	175	74.25	32.05
5	4824.00	50.2 PK	74.0	-23.8	1.00 H	152	10.62	39.58
6	4824.00	39.3 AV	54.0	-14.7	1.00 H	152	-0.28	39.58

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	64.7 PK	74.0	-9.3	1.04 V	187	32.72	31.98
2	2390.00	49.7 AV	54.0	-4.3	1.04 V	187	17.72	31.98
3	*2412.00	115.5 PK			1.04 V	187	83.45	32.05
4	*2412.00	104.9 AV			1.04 V	187	72.85	32.05
5	4824.00	49.6 PK	74.0	-24.4	1.25 V	101	10.02	39.58
6	4824.00	38.3 AV	54.0	-15.7	1.25 V	101	-1.28	39.58

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	64.1 PK	74.0	-9.9	1.15 H	175	32.12	31.98
2	2390.00	49.4 AV	54.0	-4.6	1.15 H	175	17.42	31.98
3	*2437.00	122.7 PK			1.15 H	175	90.58	32.12
4	*2437.00	113.9 AV			1.15 H	175	81.78	32.12
5	2483.50	61.8 PK	74.0	-12.2	1.15 H	175	29.56	32.24
6	2483.50	50.3 AV	54.0	-3.7	1.15 H	175	18.06	32.24
7	4874.00	56.7 PK	74.0	-17.3	1.00 H	131	17.00	39.70
8	4874.00	45.3 AV	54.0	-8.7	1.00 H	131	5.60	39.70
9	7311.00	52.5 PK	74.0	-21.5	1.00 H	156	4.91	47.59
10	7311.00	40.8 AV	54.0	-13.2	1.00 H	156	-6.79	47.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.3 PK	74.0	-15.7	1.00 V	187	26.32	31.98
2	2390.00	47.6 AV	54.0	-6.4	1.00 V	187	15.62	31.98
3	*2437.00	120.1 PK			1.00 V	187	87.98	32.12
4	*2437.00	111.8 AV			1.00 V	187	79.68	32.12
5	2483.50	58.6 PK	74.0	-15.4	1.00 V	187	26.36	32.24
6	2483.50	48.8 AV	54.0	-5.2	1.00 V	187	16.56	32.24
7	4874.00	57.3 PK	74.0	-16.7	1.29 V	110	17.60	39.70
8	4874.00	43.7 AV	54.0	-10.3	1.29 V	110	4.00	39.70
9	7311.00	55.6 PK	74.0	-18.4	1.00 V	51	8.01	47.59
10	7311.00	43.2 AV	54.0	-10.8	1.00 V	51	-4.39	47.59

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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 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	114.3 PK			1.10 H	174	82.12	32.18
2	*2462.00	105.1 AV			1.10 H	174	72.92	32.18
3	2483.50	67.9 PK	74.0	-6.1	1.10 H	174	35.66	32.24
4	2483.50	53.1 AV	54.0	-0.9	1.10 H	174	20.86	32.24
5	4924.00	50.6 PK	74.0	-23.4	1.00 H	156	10.76	39.84
6	4924.00	39.6 AV	54.0	-14.4	1.00 H	156	-0.24	39.84
7	7386.00	52.6 PK	74.0	-21.4	1.00 H	161	5.08	47.52
8	7386.00	40.9 AV	54.0	-13.1	1.00 H	161	-6.62	47.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	114.4 PK			1.00 V	189	82.22	32.18
2	*2462.00	103.3 AV			1.00 V	189	71.12	32.18
3	2483.50	64.3 PK	74.0	-9.7	1.00 V	189	32.06	32.24
4	2483.50	50.2 AV	54.0	-3.8	1.00 V	189	17.96	32.24
5	4924.00	49.2 PK	74.0	-24.8	1.25 V	101	9.36	39.84
6	4924.00	38.6 AV	54.0	-15.4	1.25 V	101	-1.24	39.84
7	7386.00	56.3 PK	74.0	-17.7	1.00 V	45	8.78	47.52
8	7386.00	43.6 AV	54.0	-10.4	1.00 V	45	-3.92	47.52

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	69.0 PK	74.0	-5.0	1.14 H	171	37.02	31.98
2	2390.00	53.3 AV	54.0	-0.7	1.14 H	171	21.32	31.98
3	*2412.00	112.5 PK			1.14 H	171	80.45	32.05
4	*2412.00	103.3 AV			1.14 H	171	71.25	32.05
5	4824.00	50.3 PK	74.0	-23.7	1.00 H	156	10.72	39.58
6	4824.00	39.6 AV	54.0	-14.4	1.00 H	156	0.02	39.58
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	1.00 V	183	29.32	31.98
2	2390.00	49.8 AV	54.0	-4.2	1.00 V	183	17.82	31.98
3	*2412.00	111.4 PK			1.00 V	183	79.35	32.05
4	*2412.00	101.4 AV			1.00 V	183	69.35	32.05
5	4824.00	49.4 PK	74.0	-24.6	1.25 V	101	9.82	39.58
6	4824.00	38.6 AV	54.0	-15.4	1.25 V	101	-0.98	39.58

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	61.6 PK	74.0	-12.4	1.14 H	172	29.62	31.98
2	2390.00	49.5 AV	54.0	-4.5	1.14 H	172	17.52	31.98
3	*2437.00	122.4 PK			1.14 H	172	90.28	32.12
4	*2437.00	113.3 AV			1.14 H	172	81.18	32.12
5	2483.50	62.2 PK	74.0	-11.8	1.14 H	172	29.96	32.24
6	2483.50	49.4 AV	54.0	-4.6	1.14 H	172	17.16	32.24
7	4874.00	56.1 PK	74.0	-17.9	1.00 H	133	16.40	39.70
8	4874.00	45.3 AV	54.0	-8.7	1.00 H	133	5.60	39.70
9	7311.00	52.6 PK	74.0	-21.4	1.00 H	151	5.01	47.59
10	7311.00	40.6 AV	54.0	-13.4	1.00 H	151	-6.99	47.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.6 PK	74.0	-16.4	1.00 V	182	25.62	31.98
2	2390.00	46.8 AV	54.0	-7.2	1.00 V	182	14.82	31.98
3	*2437.00	120.6 PK			1.00 V	182	88.48	32.12
4	*2437.00	111.4 AV			1.00 V	182	79.28	32.12
5	2483.50	58.4 PK	74.0	-15.6	1.00 V	182	26.16	32.24
6	2483.50	47.2 AV	54.0	-6.8	1.00 V	182	14.96	32.24
7	4874.00	54.2 PK	74.0	-19.8	1.36 V	113	14.50	39.70
8	4874.00	43.9 AV	54.0	-10.1	1.36 V	113	4.20	39.70
9	7311.00	53.6 PK	74.0	-20.4	1.00 V	55	6.01	47.59
10	7311.00	43.3 AV	54.0	-10.7	1.00 V	55	-4.29	47.59

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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 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	112.5 PK			1.14 H	177	80.32	32.18
2	*2462.00	102.8 AV			1.14 H	177	70.62	32.18
3	2483.50	66.6 PK	74.0	-7.4	1.14 H	177	34.36	32.24
4	2483.50	53.2 AV	54.0	-0.8	1.14 H	177	20.96	32.24
5	4924.00	50.1 PK	74.0	-23.9	1.00 H	156	10.26	39.84
6	4924.00	38.3 AV	54.0	-15.7	1.00 H	156	-1.54	39.84
7	7386.00	51.9 PK	74.0	-22.1	1.00 H	161	4.38	47.52
8	7386.00	40.6 AV	54.0	-13.4	1.00 H	161	-6.92	47.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.1 PK			1.00 V	188	77.92	32.18
2	*2462.00	101.6 AV			1.00 V	188	69.42	32.18
3	2483.50	61.6 PK	74.0	-12.4	1.00 V	188	29.36	32.24
4	2483.50	50.2 AV	54.0	-3.8	1.00 V	188	17.96	32.24
5	4924.00	49.6 PK	74.0	-24.4	1.25 V	101	9.76	39.84
6	4924.00	38.7 AV	54.0	-15.3	1.25 V	101	-1.14	39.84
7	7386.00	56.1 PK	74.0	-17.9	1.00 V	45	8.58	47.52
8	7386.00	43.2 AV	54.0	-10.8	1.00 V	45	-4.32	47.52

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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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	64.5 PK	74.0	-9.5	1.15 H	171	32.52	31.98
2	2390.00	53.1 AV	54.0	-0.9	1.15 H	171	21.12	31.98
3	*2422.00	108.8 PK			1.15 H	171	76.72	32.08
4	*2422.00	99.5 AV			1.15 H	171	67.42	32.08
5	4844.00	50.2 PK	74.0	-23.8	1.00 H	151	10.57	39.63
6	4844.00	37.6 AV	54.0	-16.4	1.00 H	151	-2.03	39.63
7	7266.00	57.9 PK	74.0	-16.1	1.00 H	163	10.30	47.60
8	7266.00	44.9 AV	54.0	-9.1	1.00 H	163	-2.70	47.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.9 PK	74.0	-12.1	1.00 V	182	29.92	31.98
2	2390.00	50.8 AV	54.0	-3.2	1.00 V	182	18.82	31.98
3	*2422.00	107.3 PK			1.00 V	182	75.22	32.08
4	*2422.00	98.1 AV			1.00 V	182	66.02	32.08
5	4844.00	48.8 PK	74.0	-25.2	1.23 V	109	9.17	39.63
6	4844.00	37.1 AV	54.0	-16.9	1.23 V	109	-2.53	39.63
7	7266.00	57.6 PK	74.0	-16.4	1.00 V	53	10.00	47.60
8	7266.00	44.7 AV	54.0	-9.3	1.00 V	53	-2.90	47.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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	68.3 PK	74.0	-5.7	1.13 H	171	36.32	31.98
2	2390.00	53.3 AV	54.0	-0.7	1.13 H	171	21.32	31.98
3	*2437.00	113.7 PK			1.13 H	171	81.58	32.12
4	*2437.00	104.9 AV			1.13 H	171	72.78	32.12
5	2483.50	63.6 PK	74.0	-10.4	1.13 H	171	31.36	32.24
6	2483.50	50.1 AV	54.0	-3.9	1.13 H	171	17.86	32.24
7	4874.00	50.6 PK	74.0	-23.4	1.00 H	153	10.90	39.70
8	4874.00	37.9 AV	54.0	-16.1	1.00 H	153	-1.80	39.70
9	7311.00	58.3 PK	74.0	-15.7	1.00 H	165	10.71	47.59
10	7311.00	45.1 AV	54.0	-8.9	1.00 H	165	-2.49	47.59

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	1.00 V	189	33.92	31.98
2	2390.00	50.3 AV	54.0	-3.7	1.00 V	189	18.32	31.98
3	*2437.00	112.4 PK			1.00 V	188	80.28	32.12
4	*2437.00	103.3 AV			1.00 V	188	71.18	32.12
5	2483.50	60.1 PK	74.0	-13.9	1.00 V	189	27.86	32.24
6	2483.50	47.6 AV	54.0	-6.4	1.00 V	189	15.36	32.24
7	4874.00	50.9 PK	74.0	-23.1	1.26 V	109	11.20	39.70
8	4874.00	38.3 AV	54.0	-15.7	1.26 V	109	-1.40	39.70
9	7311.00	57.3 PK	74.0	-16.7	1.00 V	58	9.71	47.59
10	7311.00	44.6 AV	54.0	-9.4	1.00 V	58	-2.99	47.59

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
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 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	108.6 PK			1.14 H	169	76.44	32.16
2	*2452.00	98.7 AV			1.14 H	169	66.54	32.16
3	2483.50	68.4 PK	74.0	-5.6	1.14 H	169	36.16	32.24
4	2483.50	52.9 AV	54.0	-1.1	1.14 H	169	20.66	32.24
5	4904.00	50.3 PK	74.0	-23.7	1.00 H	156	10.53	39.77
6	4904.00	37.2 AV	54.0	-16.8	1.00 H	156	-2.57	39.77
7	7356.00	57.6 PK	74.0	-16.4	1.00 H	169	10.05	47.55
8	7356.00	44.7 AV	54.0	-9.3	1.00 H	169	-2.85	47.55

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	*2452.00	105.9 PK			1.00 V	171	73.74	32.16
2	*2452.00	96.8 AV			1.00 V	171	64.64	32.16
3	2483.50	64.8 PK	74.0	-9.2	1.00 V	171	32.56	32.24
4	2483.50	51.3 AV	54.0	-2.7	1.00 V	171	19.06	32.24
5	4904.00	48.9 PK	74.0	-25.1	1.25 V	103	9.13	39.77
6	4904.00	37.3 AV	54.0	-16.7	1.25 V	103	-2.47	39.77
7	7356.00	57.6 PK	74.0	-16.4	1.00 V	55	10.05	47.55
8	7356.00	44.9 AV	54.0	-9.1	1.00 V	55	-2.65	47.55

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.

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	FSP40	100060	May 09, 2012	May 10, 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 : Jan. 30, 2013

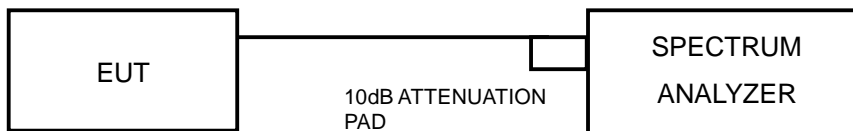
4.3.3 TEST PROCEDURE

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.



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4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	11.74	11.89	0.5	PASS
6	2437	12.41	12.90	0.5	PASS
11	2462	10.74	12.51	0.5	PASS

802.11g

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.07	16.50	0.5	PASS
6	2437	16.45	16.48	0.5	PASS
11	2462	16.42	16.47	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.48	17.11	0.5	PASS
6	2437	17.62	17.69	0.5	PASS
11	2462	17.36	17.71	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	34.54	35.83	0.5	PASS
6	2437	35.73	35.26	0.5	PASS
9	2452	35.91	35.85	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)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	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 : Jan. 30, 2013

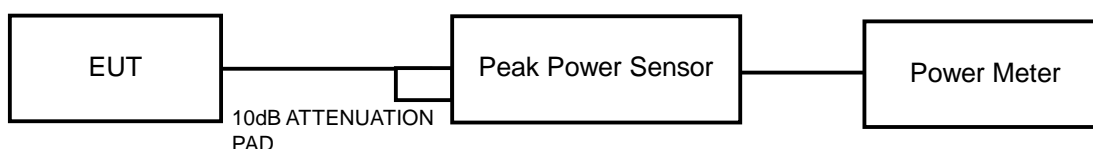
4.4.3 TEST PROCEDURES

The 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





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4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	19.10	19.60	172.484	22.37	28.67	PASS
6	2437	22.40	22.70	359.989	25.56	28.67	PASS
11	2462	19.60	19.80	186.700	22.71	28.67	PASS

The antenna gain is 10dBi > 6dBi, therefore the limit shall be reduced to $30 - [(10-6)/3] = 28.67\text{dBm}$.

802.11g

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	23.5	24.0	475.061	26.77	28.67	PASS
6	2437	25.4	24.8	648.732	28.12	28.67	PASS
11	2462	24.8	24.2	565.022	27.52	28.67	PASS

The antenna gain is 10dBi > 6dBi, therefore the limit shall be reduced to $30 - [(10-6)/3] = 28.67\text{dBm}$.

802.11n (HT20)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.2	22.5	343.787	25.36	28.67	PASS
6	2437	25.4	24.6	635.140	28.03	28.67	PASS
11	2462	22.1	22.3	332.005	25.21	28.67	PASS

The antenna gain is 10dBi > 6dBi, therefore the limit shall be reduced to $30 - [(10-6)/3] = 28.67\text{dBm}$.

802.11n (HT40)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	20.7	19.9	215.214	23.33	28.67	PASS
6	2437	25.2	25.4	677.868	28.31	28.67	PASS
9	2452	19.5	20.3	196.277	22.93	28.67	PASS

The antenna gain is 10dBi > 6dBi, therefore the limit shall be reduced to $30 - [(10-6)/3] = 28.67\text{dBm}$.



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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	FSP40	100060	May 09, 2012	May 10, 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 : Jan. 30, 2013

4.5.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 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 amplitude level.

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

TX chain	Channel	FREQ. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-7.81	3.01	-4.80	5.66	PASS
	6	2437	-5.52	3.01	-2.51	5.66	PASS
	11	2462	-6.14	3.01	-3.13	5.66	PASS
1	1	2412	-4.78	3.01	-1.77	5.66	PASS
	6	2437	-4.87	3.01	-1.86	5.66	PASS
	11	2462	-6.01	3.01	-3.00	5.66	PASS

NOTE: Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8 - [(13.01 - 6)/3] = 5.66\text{dBm}$.

802.11g

TX chain	Channel	FREQ. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-10.07	3.01	-7.06	5.66	PASS
	6	2437	-8.08	3.01	-5.07	5.66	PASS
	11	2462	-7.24	3.01	-4.23	5.66	PASS
1	1	2412	-2.48	3.01	0.53	5.66	PASS
	6	2437	-6.47	3.01	-3.46	5.66	PASS
	11	2462	-7.48	3.01	-4.47	5.66	PASS

NOTE: Directional gain = $10\text{dBi} + 10\log(2) = 13.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8 - [(13.01 - 6)/3] = 5.66\text{dBm}$.



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802.11n (HT20)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-12.94	3.01	-9.93	5.66	PASS
	6	2437	-8.31	3.01	-5.30	5.66	PASS
	11	2462	-6.54	3.01	-3.53	5.66	PASS
1	1	2412	-9.13	3.01	-6.12	5.66	PASS
	6	2437	-0.36	3.01	2.65	5.66	PASS
	11	2462	-9.33	3.01	-6.32	5.66	PASS

NOTE: Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi , so the power density limit shall be reduced to $8 - [(13.01 - 6) / 3] = 5.66\text{dBm}$.

802.11n (HT40)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-11.34	3.01	-8.33	5.66	PASS
	6	2437	-10.24	3.01	-7.23	5.66	PASS
	9	2452	-14.90	3.01	-11.89	5.66	PASS
1	3	2422	-13.59	3.01	-10.58	5.66	PASS
	6	2437	-5.30	3.01	-2.29	5.66	PASS
	9	2452	-13.72	3.01	-10.71	5.66	PASS

NOTE: Directional gain = 10dBi + 10log(2) = 13.01dBi > 6dBi , so the power density limit shall be reduced to $8 - [(13.01 - 6) / 3] = 5.66\text{dBm}$.



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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	FSP40	100060	May 09, 2012	May 10, 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 : Jan. 30, 2013

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.

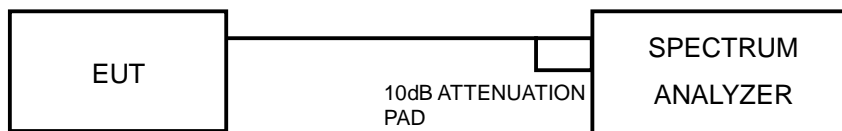
MEASUREMENT PROCEDURE OOB

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 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.

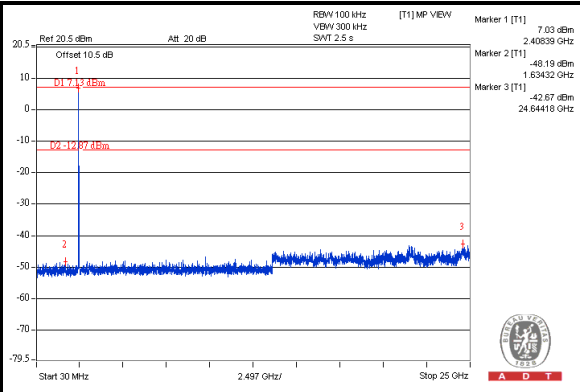
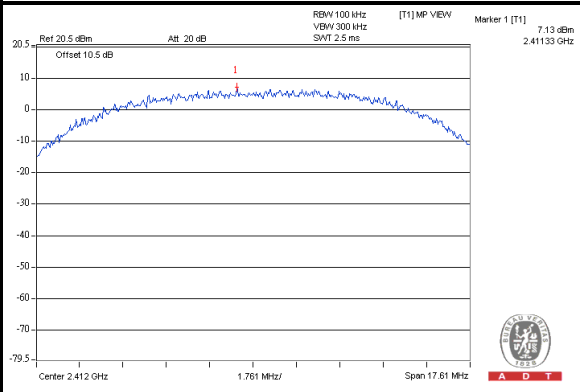


A D T

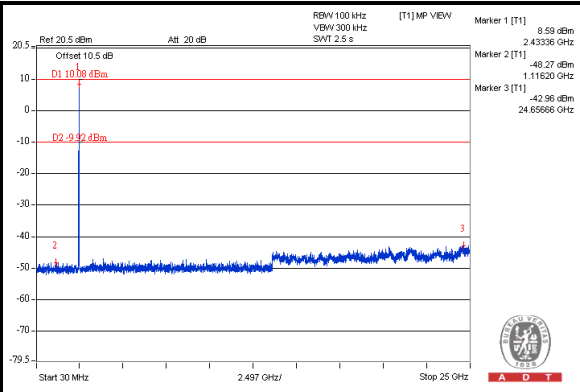
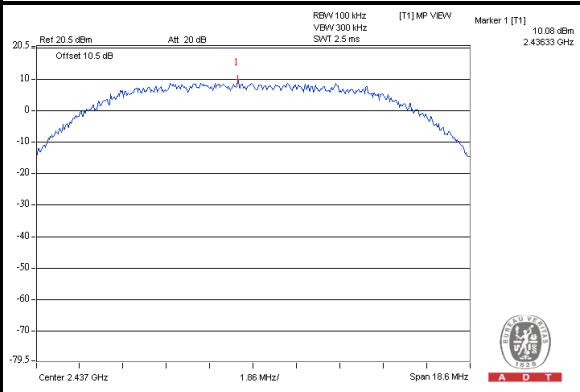
802.11b

CHAIN 0

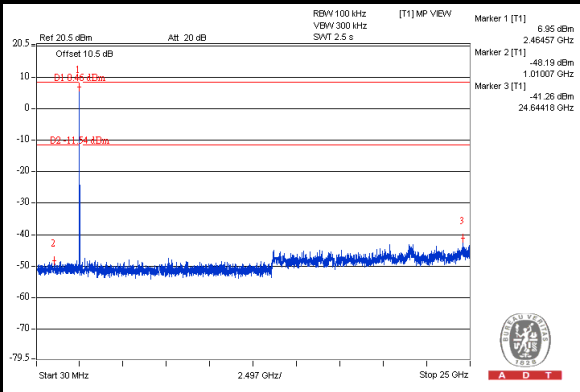
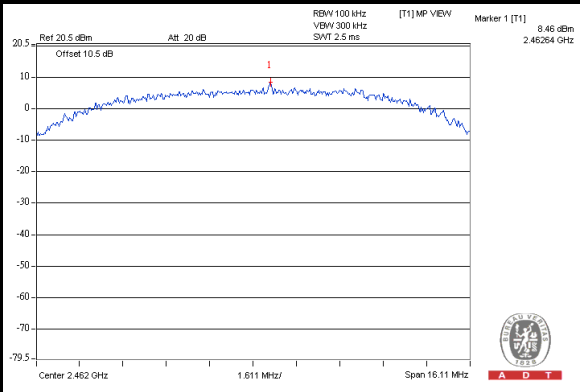
CH 1



CH 6



CH 11

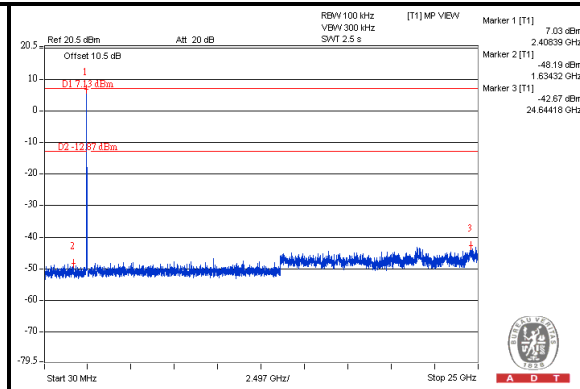
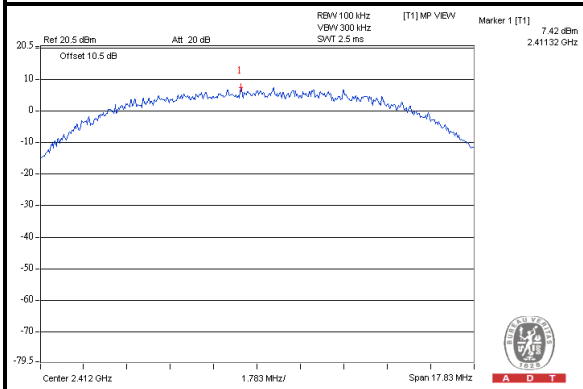




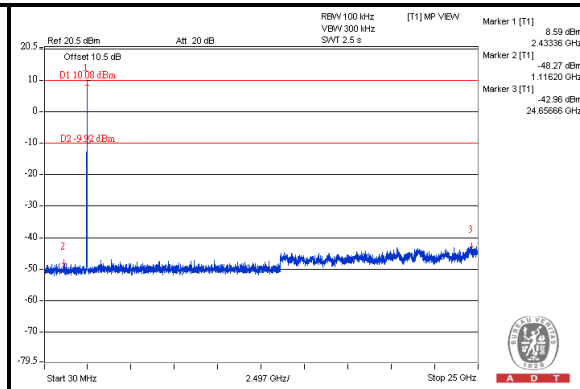
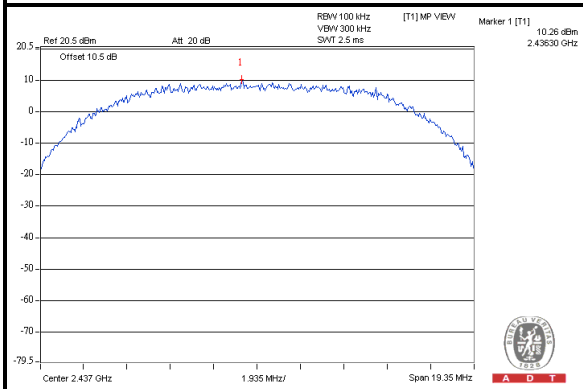
A D T

CHAIN 1

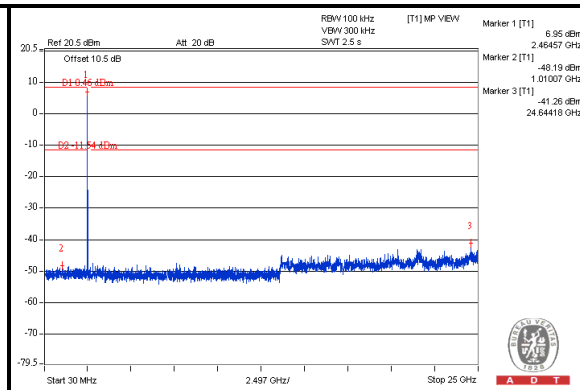
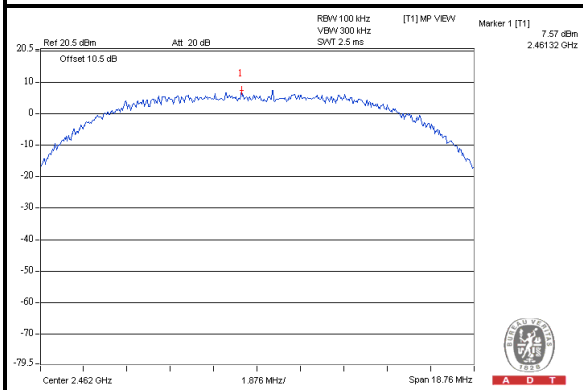
CH 1



CH 6



CH 11



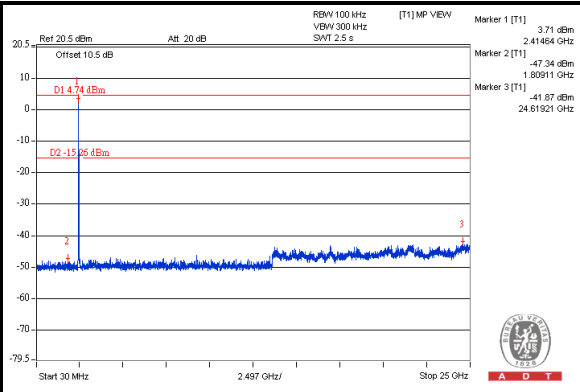
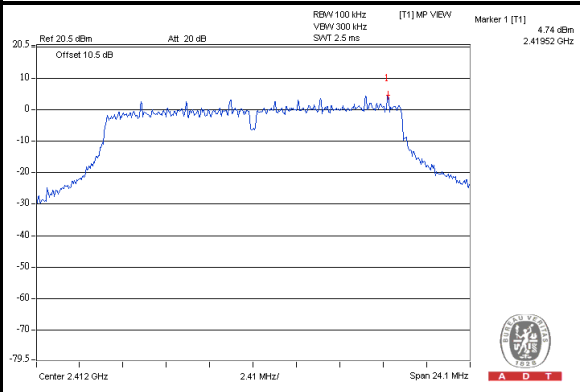


A D T

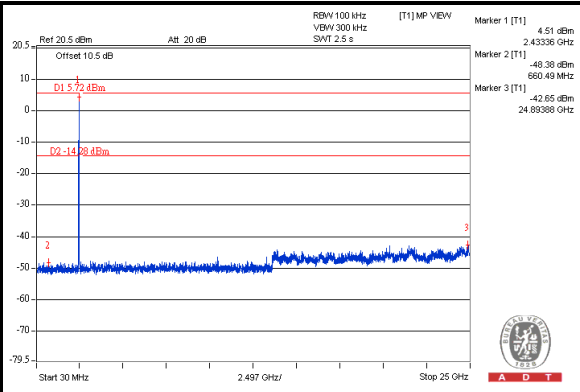
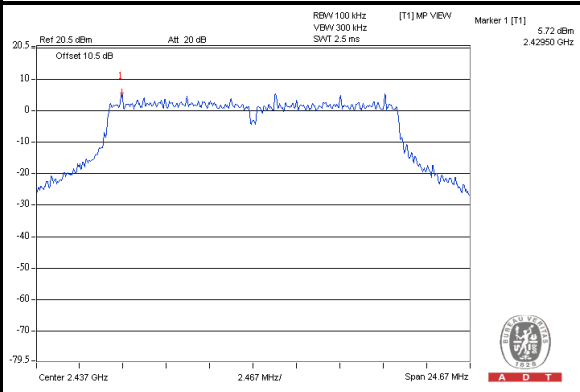
802.11g

CHAIN 0

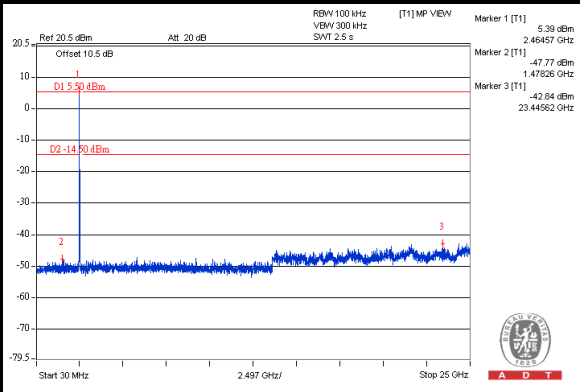
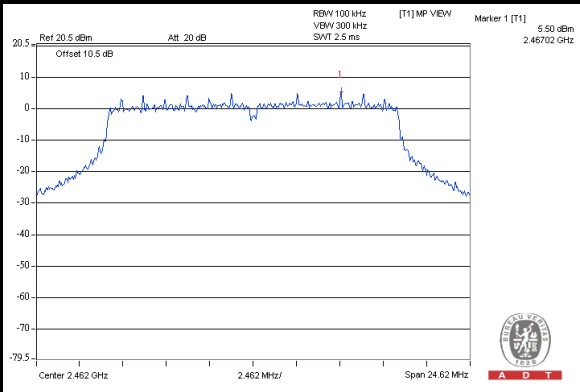
CH 1



CH 6



CH 11

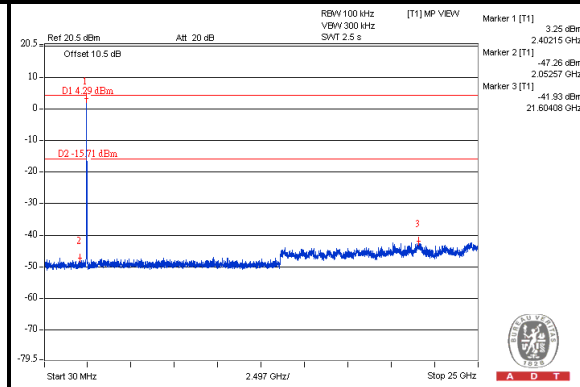
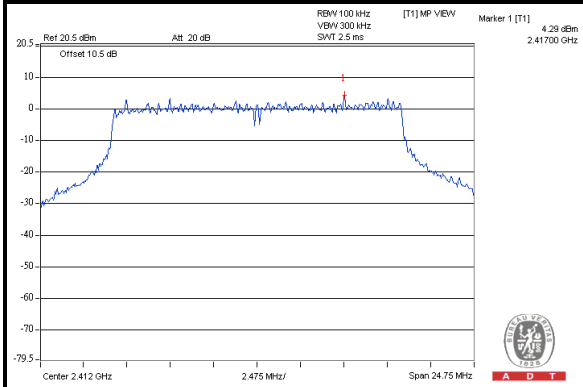




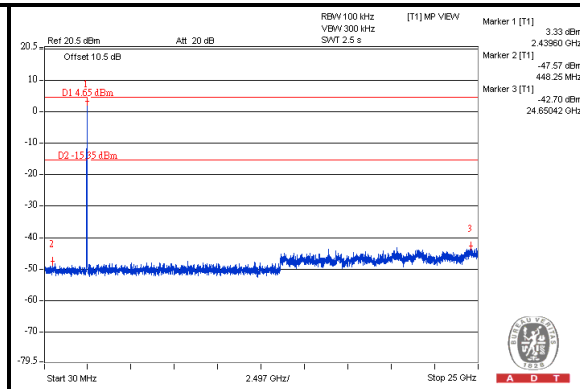
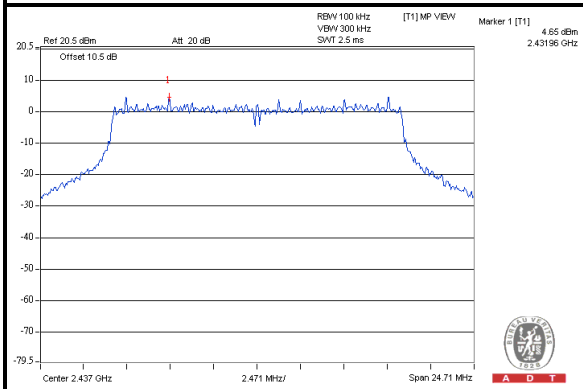
A D T

CHAIN 1

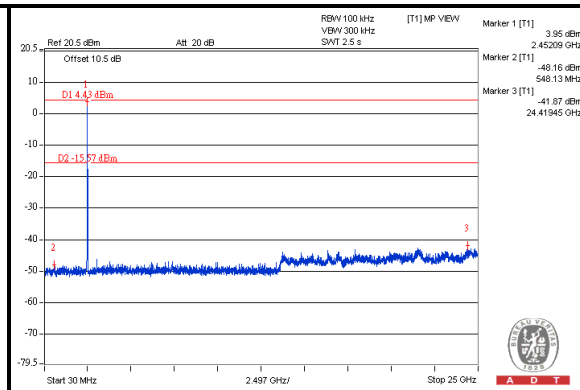
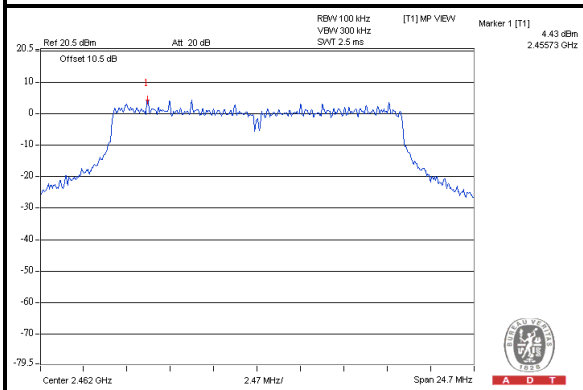
CH 1



CH 6



CH 11



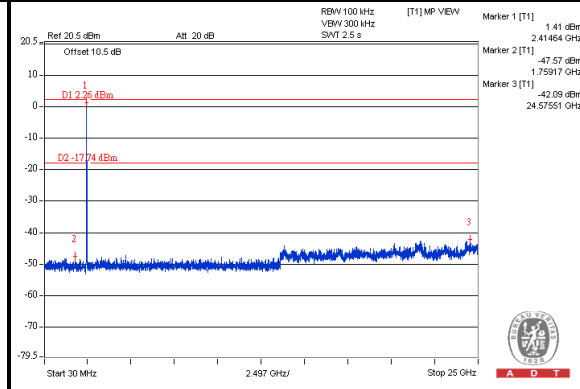
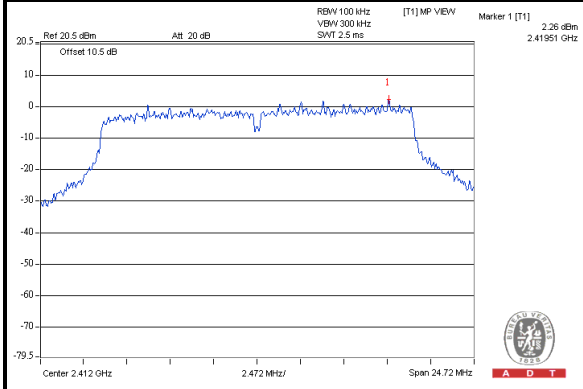


A D T

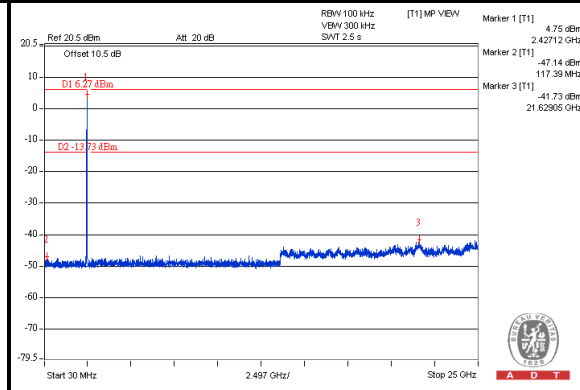
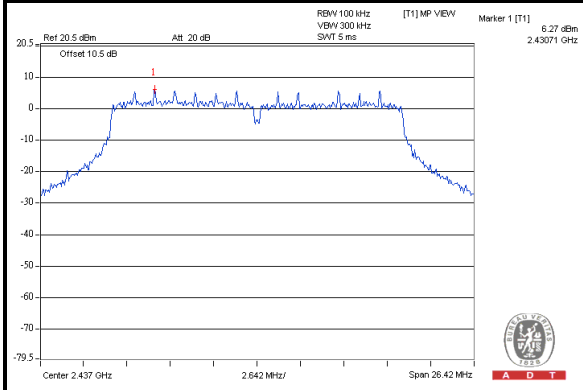
802.11n (HT20)

CHAIN 0

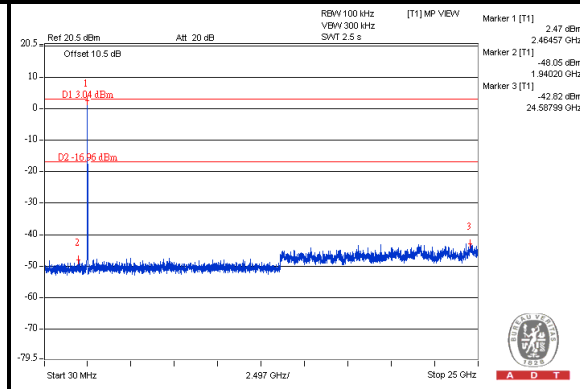
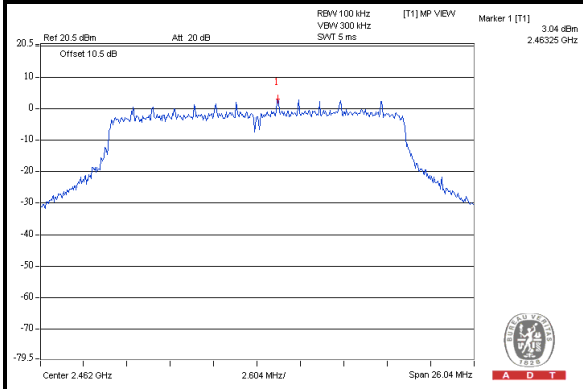
CH 1



CH 6



CH 11

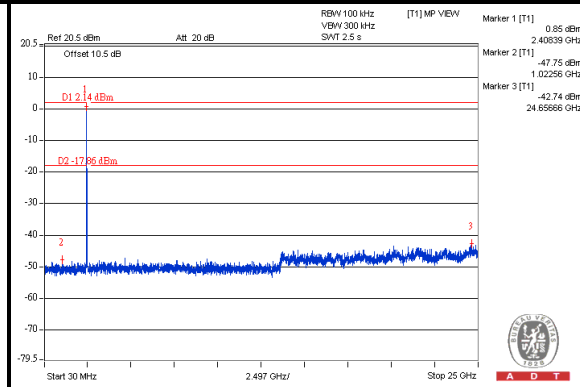
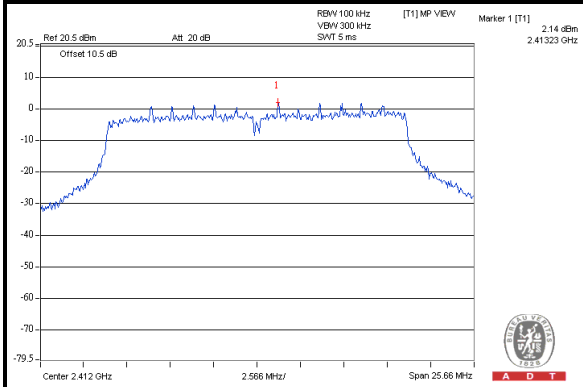




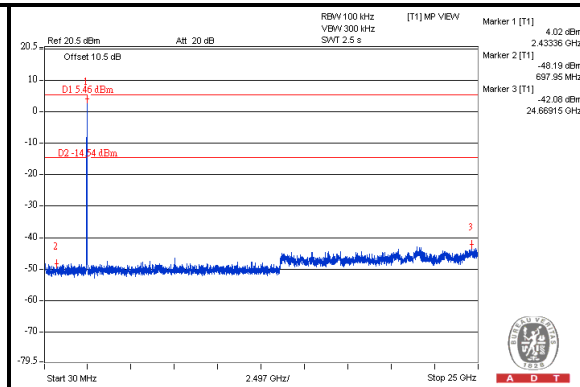
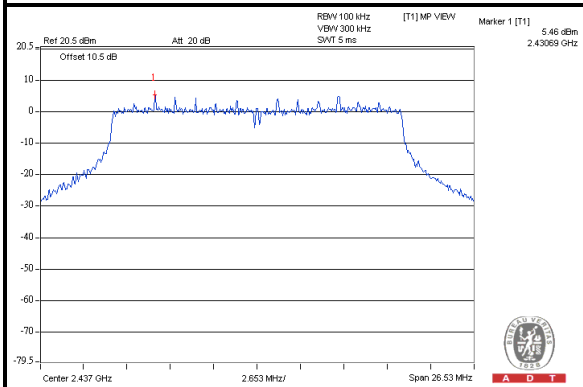
A D T

CHAIN 1

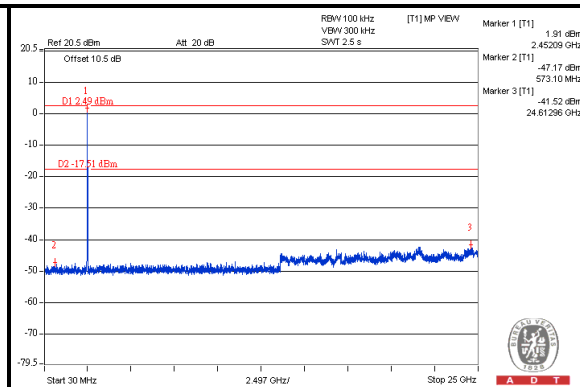
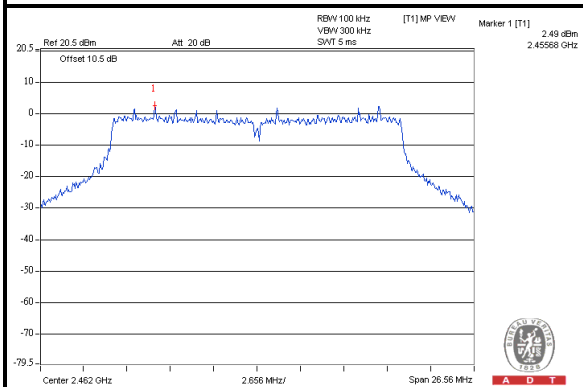
CH 1



CH 6



CH 11



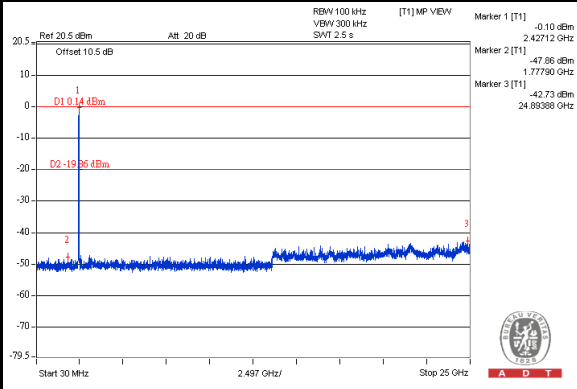
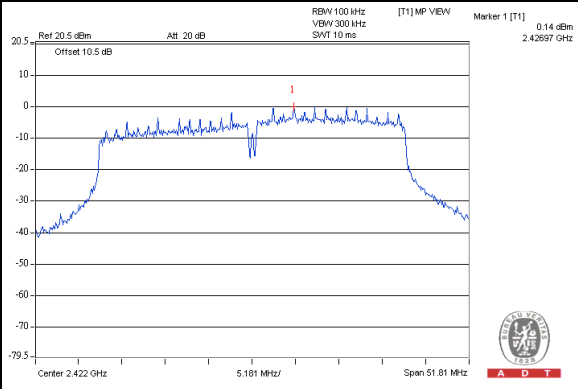


A D T

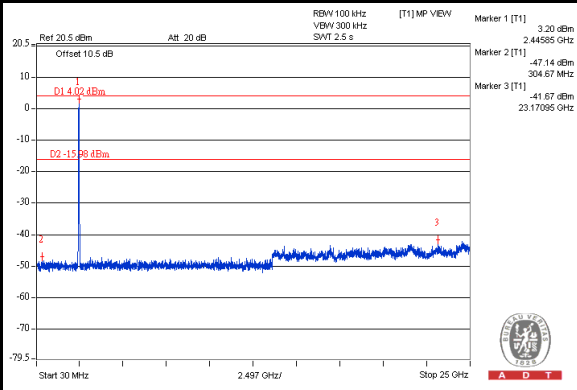
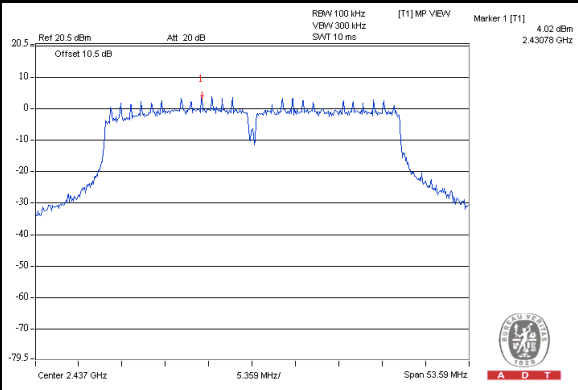
802.11n (HT40)

CHAIN 0

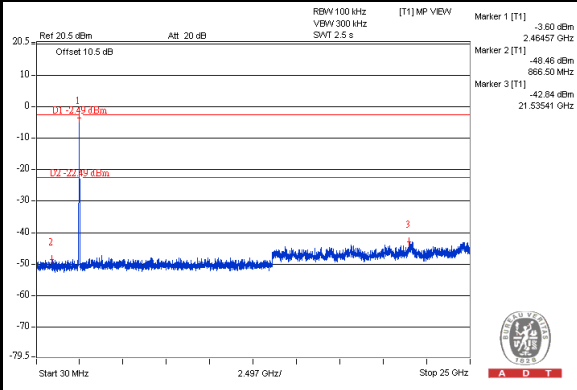
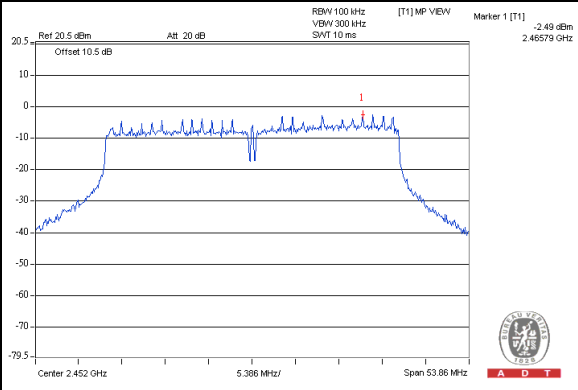
CH 3



CH 6



CH 9

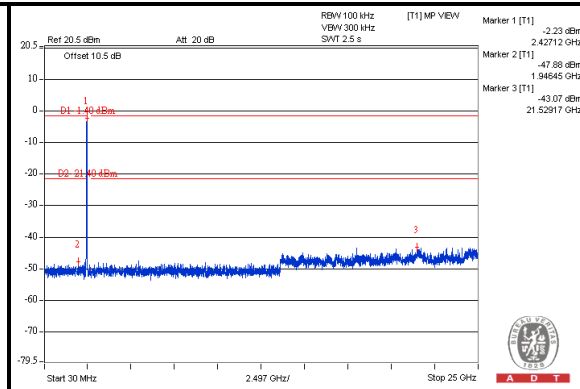
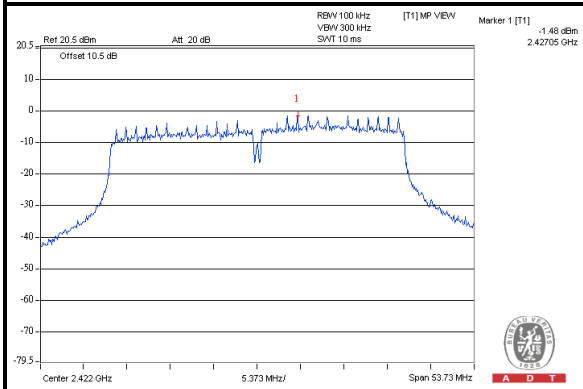




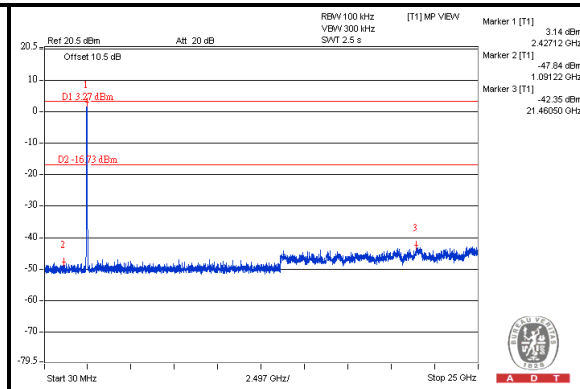
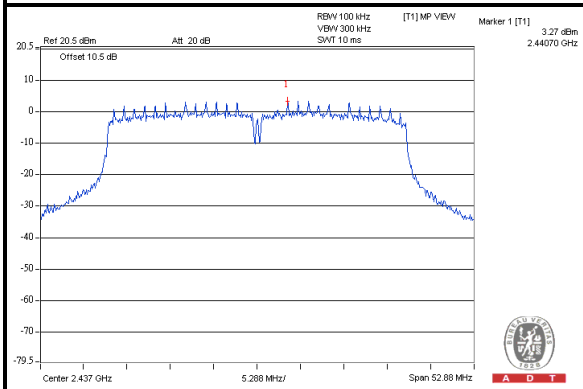
A D T

CHAIN 1

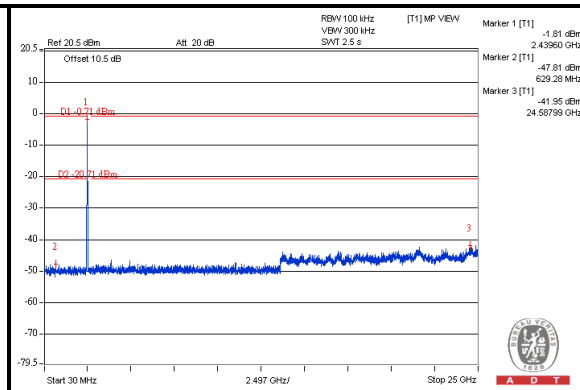
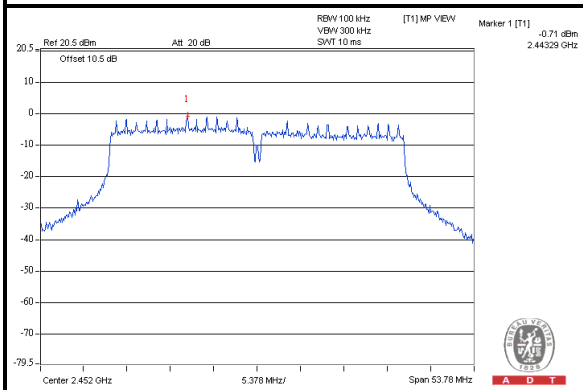
CH 3



CH 6



CH 9





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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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





6. INFORMATION ON THE TESTING LABORATORIES

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

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

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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



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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 ---