FCC TEST REPORT

REPORT NO.: RF140221E10

MODEL NO.: IC727w

FCC ID: N5C90172701

RECEIVED: Feb. 21, 2014

TESTED: Mar. 10 to 28, 2014

ISSUED: Apr. 07, 2014

APPLICANT: StarVedia Technology Inc.

ADDRESS: 4F.-1, No.32, Taiyuan St., Jhubei City, Hsinchu County 302, Taiwan

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

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

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

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

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

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

Table of Contents

RELEASE CONTROL RECORD 4
1. CERTIFICATION 5
2. SUMMARY OF TEST RESULTS 6
2.1 MEASUREMENT UNCERTAINTY 7
3. GENERAL INFORMATION 8
3.1 GENERAL DESCRIPTION OF EUT 8
3.2 DESCRIPTION OF TEST MODES 10
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL 11
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS 14
3.4 DUTY CYCLE OF TEST SIGNAL 15
3.5 DESCRIPTION OF SUPPORT UNITS 16
3.6 CONFIGURATION OF SYSTEM UNDER TEST 17
4. TEST TYPES AND RESULTS 18
4.1 CONDUCTED EMISSION MEASUREMENT 18
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT 18
4.1.2 TEST INSTRUMENTS 18
4.1.3 TEST PROCEDURES 19
4.1.4 DEVIATION FROM TEST STANDARD 19
4.1.5 TEST SETUP 19
4.1.6 EUT OPERATING CONDITIONS 20
4.1.7 TEST RESULTS 21
4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT 23
4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT 23
4.2.2 TEST INSTRUMENTS 24
4.2.3 TEST PROCEDURES 25
4.2.4 DEVIATION FROM TEST STANDARD 25
4.2.5 TEST SETUP 26
4.2.6 EUT OPERATING CONDITIONS 26
4.2.7 TEST RESULTS 27
4.3 6DB BANDWIDTH MEASUREMENT 40
4.3.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT 40
4.3.2 TEST INSTRUMENTS 40
4.3.3 TEST PROCEDURE 40
4.3.4 DEVIATION FROM TEST STANDARD 40
4.3.5 TEST SETUP 40
4.3.6 EUT OPERATING CONDITIONS 40
4.3.7 TEST RESULTS 41
4.4 CONDUCTED OUTPUT POWER MEASUREMENT 43
4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT 43
4.4.2 INSTRUMENTS 43
4.4.3 TEST PROCEDURES 43
4.4.4 DEVIATION FROM TEST STANDARD 44
4.4.5 TEST SETUP 44
4.4.6 EUT OPERATING CONDITIONS 44
4.4.7 TEST RESULTS 45
4.5 AVERAGE OUTPUT POWER 46
4.5.1 FOR REFERENCE. 46
4.5.2 TEST INSTRUMENTS 46
4.5.3 TEST PROCEDURES 46
4.5.4 TEST SETUP 46

4.5.5 EUT OPERATING CONDITIONS 46
4.5.6 TEST RESULTS 47
4.6 POWER SPECTRAL DENSITY MEASUREMENT 48
4.6.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT 48
4.6.2 TEST INSTRUMENTS 48
4.6.3 TEST PROCEDURE 48
4.6.4 DEVIATION FROM TEST STANDARD 48
4.6.5 TEST SETUP 48
4.6.6 EUT OPERATING CONDITION 48
4.6.7 TEST RESULTS 49
4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT 51
4.7.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT 51
4.7.2 TEST INSTRUMENTS 51
4.7.3 TEST PROCEDURE 51
4.7.4 DEVIATION FROM TEST STANDARD 52
4.7.5 TEST SETUP 52
4.7.6 EUT OPERATING CONDITION 52
4.7.7 TEST RESULTS 52
5. PHOTOGRAPHS OF THE TEST CONFIGURATION 61
6. INFORMATION ON THE TESTING LABORATORIES 62
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB 63

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140221E10	Original release	Apr. 07, 2014

1. CERTIFICATION

PRODUCT:	OutDoor IP Camera
BRAND NAME:	StarVedia
MODEL NO.:	IC727w
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	StarVedia Technology Inc.
TESTED:	Mar. 10 to 28, 2014
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)** ANSI C63.10-2009

The above equipment (Model: IC727w) 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:** *Apr. 07, 2014*
(Lori Chung, Specialist)

APPROVED BY : _____ , **DATE:** *Apr. 07, 2014*
(May Chen, Manager)

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 -9.05dB at 0.41563MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.4dB at 4824.00MHz
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	2.86 dB
Radiated emissions (30MHz-1GHz)	5.37 dB
Radiated emissions (1GHz -6GHz)	3.65 dB
Radiated emissions (6GHz -18GHz)	3.88 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	OutDoor IP Camera
MODEL NO.	IC727w
POWER SUPPLY	DC 20V 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 802.11g: up to 54Mbps 802.11n: up to 150Mbps
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: 20.324mW 802.11g: 328.095mW 802.11n (HT20): 296.483mW 802.11n (HT40): 260.016mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	RJ45 cable (unshielded, 0.4m) x 1 RJ45 cable (unshielded, 1.8m) x 1 Extension cord (unshielded, 0.15m) x 1
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	Adapter x 1

NOTE:

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

Gain (dBi)	Antenna Type	Frequency range (MHz to MHz)
2.54	Printed	2400~2500

2. The EUT could be supplied with a power adapter as the following table:

Brand	Model No.	Spec.
TEKA	TEKA012-2000600XX	AC I/P: 100-240V, 50/60Hz, 0.35A DC O/P: 20V, 0.6A DC output cable (unshielded, 1.5m)

3. The EUT incorporates a SISO function.

MODULATION MODE	TX/RX FUNCTION
802.11b	1TX/1RX
802.11g	1TX/1RX
802.11n (HT20)	1TX/1RX
802.11n (HT40)	1TX/1RX

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

5. The EUT has no wireless function under LAN mode.

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

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		

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	1	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	1	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

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	21deg. C, 61%RH	120Vac, 60Hz	Ping Liu
RE<1G	25deg. C, 69%RH	120Vac, 60Hz	Tim Ho
RE≥1G	22deg. C, 67%RH	120Vac, 60Hz	Nelson Teng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Chilin Lee
OB	25deg. C, 60%RH	120Vac, 60Hz	Chilin Lee

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247)

558074 D01 DTS Meas Guidance v03r01

ANSI C63.10-2009

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

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DUTY CYCLE OF TEST SIGNAL

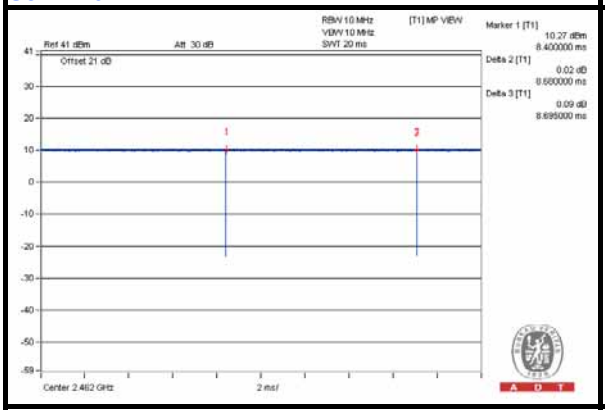
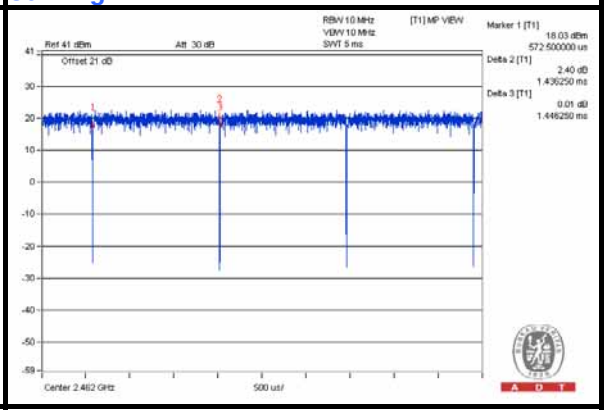
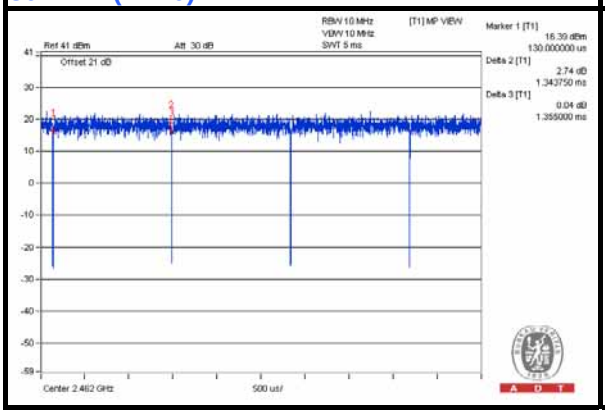
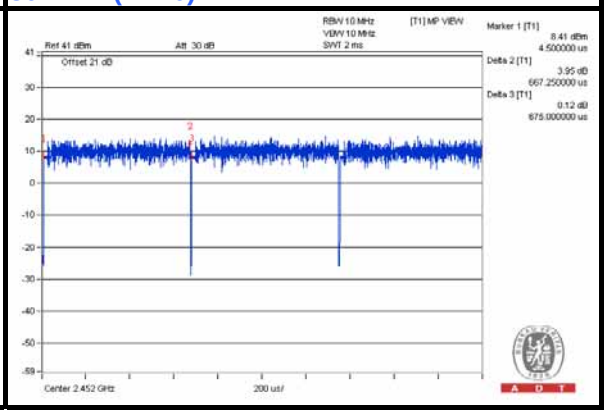
Duty cycle of test signal is ≥ 98 %, duty factor is not required.

802.11b: Duty cycle = 8.68 ms/8.695 ms = 0.998

802.11g: Duty cycle = 1.436 ms/1.446 ms = 0.993

802.11n (HT20): Duty cycle = 1.344 ms/1.355 ms = 0.992

802.11n (HT40): Duty cycle = 0.667 ms/0.675 ms = 0.988

802.11b	802.11g
	
802.11n (HT20)	**802.11n (HT40)**
	

3.5 DESCRIPTION OF SUPPORT UNITS

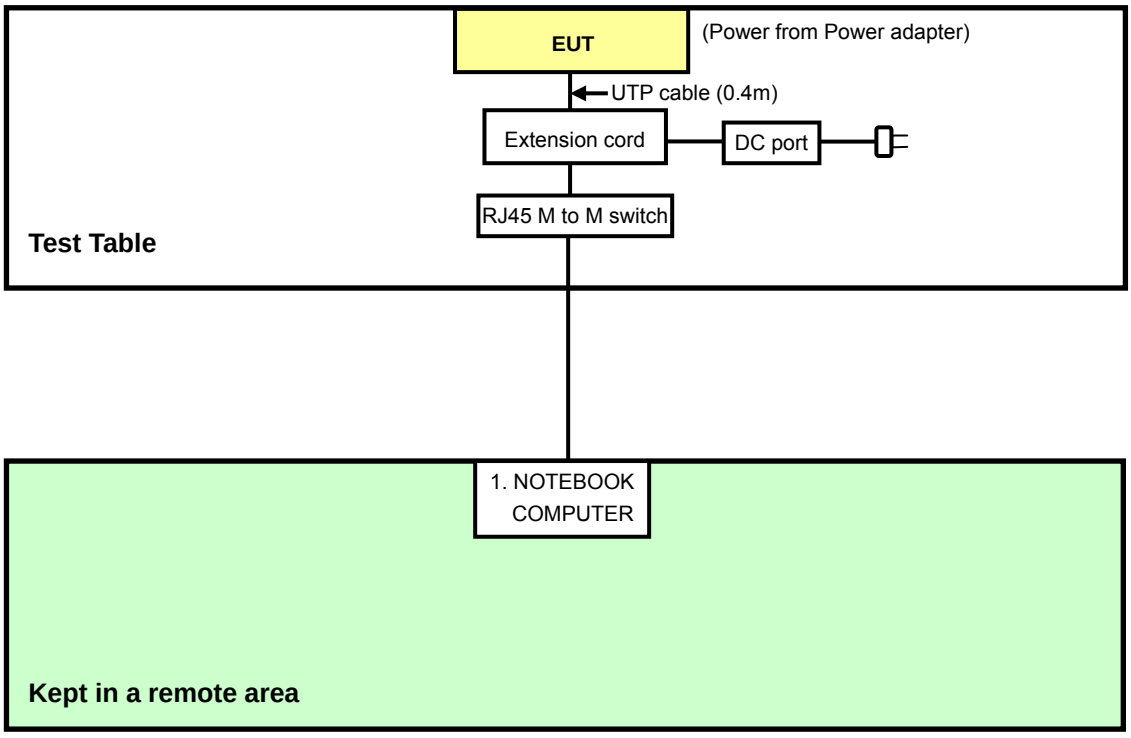
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC

No.	Signal cable description
1	UTP cable (10m)

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS 30	847124/029	Oct. 21, 2013	Oct. 20, 2014
Line-Impedance Stabilization Network (for EUT) ROHDE & SCHWARZ	NSLK-8127	5127-523	Oct. 02, 2013	Oct. 01, 2014
Line-Impedance Stabilization Network (for Peripheral) ROHDE & SCHWARZ	ENV216	100071	Nov. 13, 2013	Nov. 12, 2014
RF Cable (JYEBAO)	5DFB	COACAB-001	May 27, 2013	May 26, 2014
50 ohms Terminator	50	3	Oct. 17, 2013	Oct. 16, 2014
50 ohms Terminator	N/A	EMC-04	Oct. 17, 2013	Oct. 16, 2014
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. A.
3 The VCCI Con A Registration No. is C-817.
4. Tested Date: Mar. 25, 2014

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.

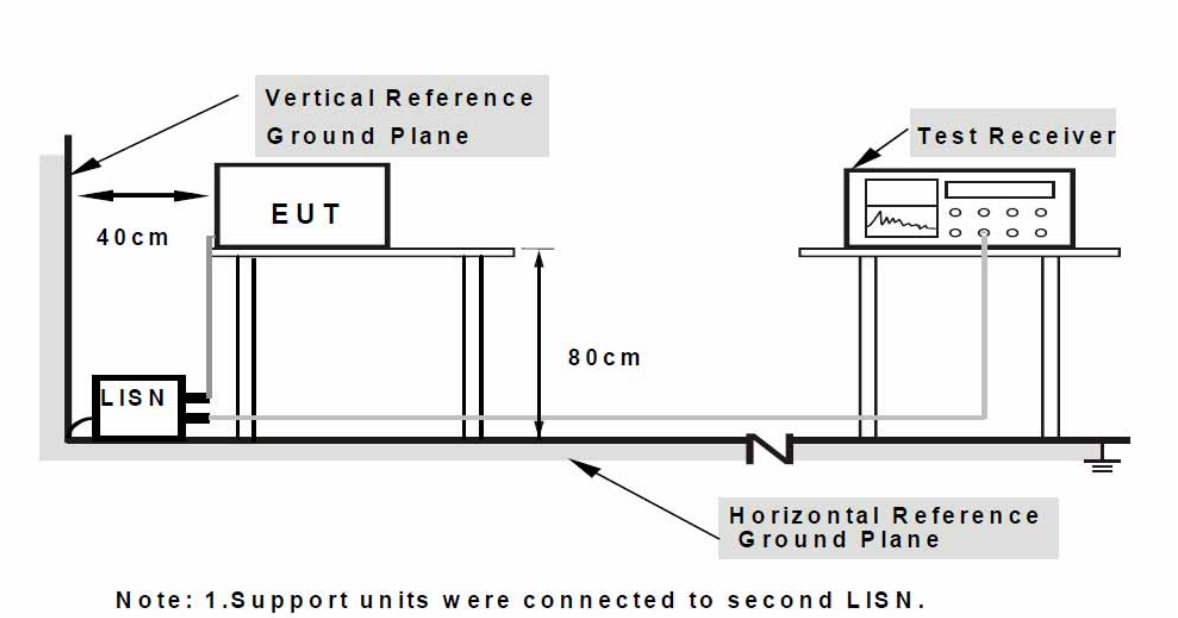
NOTE:

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



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 “RT5x7xQA.exe” to enable EUT under transmission/receiving condition continuously.

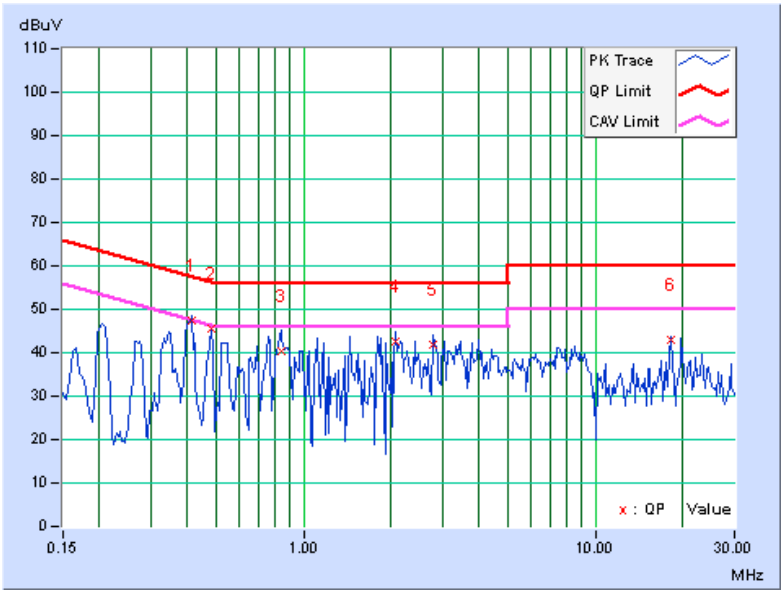
4.1.7 TEST RESULTS

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

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.41563**	**0.11**	**47.21**	**38.37**	**47.32**	**38.48**	**57.54**	**47.54**	**-10.21**	**-9.05**
2	0.48594	0.11	45.33	35.71	45.44	35.82	56.24	46.24	-10.79	-10.41
3	0.83750	0.12	40.27	23.68	40.39	23.80	56.00	46.00	-15.61	-22.20
4	2.07813	0.18	42.36	26.92	42.54	27.10	56.00	46.00	-13.46	-18.90
5	2.76953	0.24	41.48	26.88	41.72	27.12	56.00	46.00	-14.28	-18.88
6	18.24219	0.74	42.15	35.59	42.89	36.33	60.00	50.00	-17.11	-13.67

REMARKS:

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

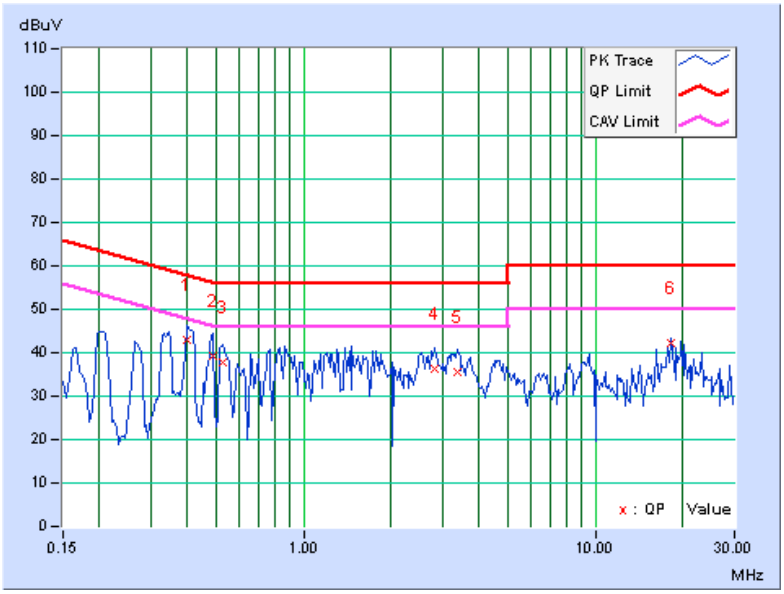


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.40000	0.11	42.78	33.28	42.89	33.39	57.85	47.85	-14.96	-14.46
2	0.48984	0.11	39.25	26.56	39.36	26.67	56.17	46.17	-16.81	-19.50
3	0.52891	0.12	37.50	23.67	37.62	23.79	56.00	46.00	-18.38	-22.21
4	2.80469	0.21	36.21	21.28	36.42	21.49	56.00	46.00	-19.58	-24.51
5	3.35547	0.23	35.21	21.18	35.44	21.41	56.00	46.00	-20.56	-24.59
6	18.24219	0.70	41.37	33.53	42.07	34.23	60.00	50.00	-17.93	-15.77

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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21, 2014	Jan. 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Mar. 19, 2013	Mar. 18, 2014
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5 The VCCI Site Registration No. is G-137.
6 The CANADA Site Registration No. is IC 7450H-2.
7 Tested Date: Mar. 10 to 28, 2014

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

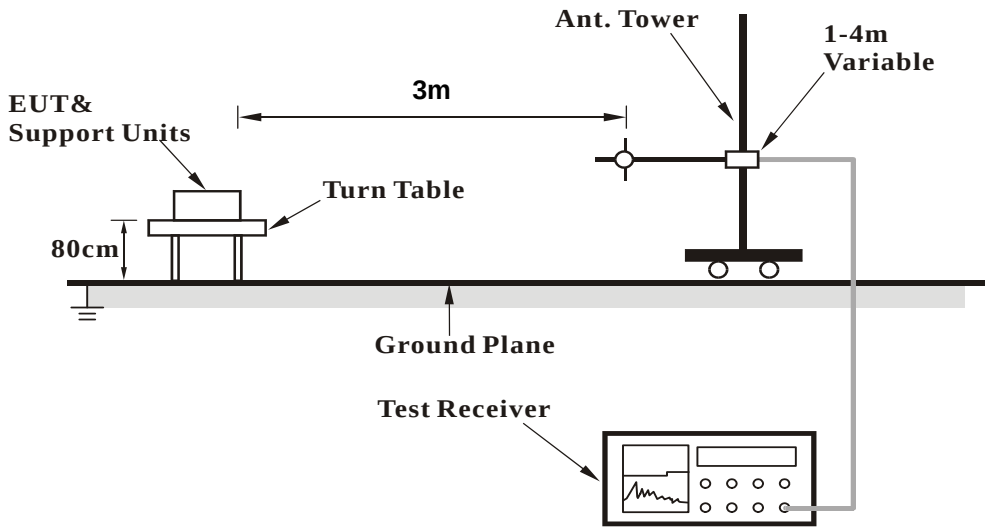
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) 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

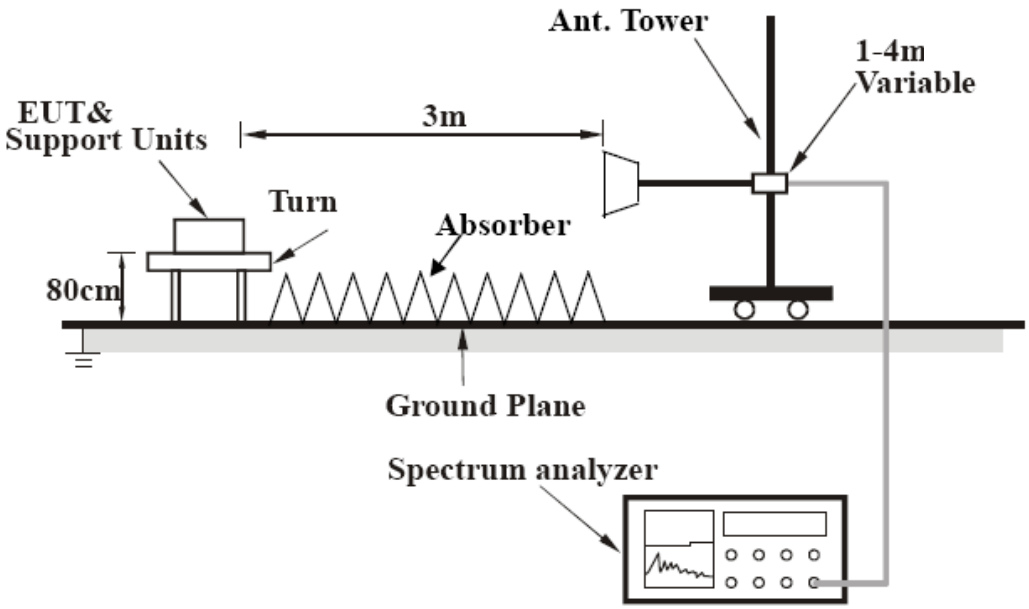
No deviation

4.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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 1	**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	76.27	35.2 QP	40.0	-4.8	1.00 H	265	52.36	-17.12
2	127.89	42.8 QP	43.5	-0.7	2.00 H	52	57.35	-14.59
3	156.34	37.9 QP	43.5	-5.6	1.50 H	284	51.02	-13.15
4	213.14	38.5 QP	43.5	-5.0	1.00 H	335	54.76	-16.25
5	270.03	41.8 QP	46.0	-4.2	1.00 H	78	55.23	-13.42
6	412.13	40.2 QP	46.0	-5.8	2.00 H	127	49.68	-9.45
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	39.47	37.5 QP	40.0	-2.5	1.00 V	153	51.31	-13.80
2	58.71	37.8 QP	40.0	-2.2	1.50 V	360	51.77	-13.93
3	99.50	37.2 QP	43.5	-6.3	1.00 V	330	55.22	-18.04
4	213.14	39.1 QP	43.5	-4.4	1.00 V	247	55.36	-16.25
5	241.61	40.9 QP	46.0	-5.1	1.00 V	286	55.57	-14.65
6	326.87	40.2 QP	46.0	-5.8	2.00 V	293	51.76	-11.52

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

ABOVE 1GHz DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	56.6 PK	74.0	-17.4	1.08 H	129	58.30	-1.70
2	2390.00	44.9 AV	54.0	-9.1	1.08 H	129	46.60	-1.70
3	*2412.00	90.7 PK			1.08 H	129	92.30	-1.60
4	*2412.00	88.8 AV			1.08 H	129	90.40	-1.60
5	4824.00	56.5 PK	74.0	-17.5	1.72 H	217	49.30	7.20
6	**4824.00**	**53.6 AV**	**54.0**	**-0.4**	**1.72 H**	**217**	**46.40**	**7.20**

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	56.9 PK	74.0	-17.1	1.10 V	3	58.60	-1.70
2	2390.00	45.2 AV	54.0	-8.8	1.10 V	3	46.90	-1.70
3	*2412.00	95.2 PK			1.10 V	3	96.80	-1.60
4	*2412.00	92.1 AV			1.10 V	3	93.70	-1.60
5	4824.00	54.7 PK	74.0	-19.3	1.01 V	65	47.50	7.20
6	4824.00	51.4 AV	54.0	-2.6	1.01 V	65	44.20	7.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	91.2 PK			1.01 H	133	92.69	-1.49
2	*2437.00	89.0 AV			1.01 H	133	90.49	-1.49
3	4874.00	56.2 PK	74.0	-17.8	1.69 H	214	48.87	7.33
4	4874.00	53.4 AV	54.0	-0.6	1.69 H	214	46.07	7.33
5	7311.00	52.9 PK	74.0	-21.1	1.36 H	217	37.94	14.96
6	7311.00	41.4 AV	54.0	-12.6	1.36 H	217	26.44	14.96
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	94.8 PK			1.12 V	5	96.29	-1.49
2	*2437.00	91.6 AV			1.12 V	5	93.09	-1.49
3	4874.00	53.8 PK	74.0	-20.2	1.00 V	52	46.47	7.33
4	4874.00	50.5 AV	54.0	-3.5	1.00 V	52	43.17	7.33
5	7311.00	52.6 PK	74.0	-21.4	1.07 V	79	37.64	14.96
6	7311.00	40.9 AV	54.0	-13.1	1.07 V	79	25.94	14.96

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	90.7 PK			1.02 H	141	92.08	-1.38
2	*2462.00	88.7 AV			1.02 H	141	90.08	-1.38
3	2483.50	57.8 PK	74.0	-16.2	1.02 H	141	59.08	-1.28
4	2483.50	45.9 AV	54.0	-8.1	1.02 H	141	47.18	-1.28
5	4924.00	56.3 PK	74.0	-17.7	1.62 H	216	48.83	7.47
6	4924.00	53.5 AV	54.0	-0.5	1.62 H	216	46.03	7.47
7	7386.00	52.6 PK	74.0	-21.4	1.31 H	224	37.71	14.89
8	7386.00	40.9 AV	54.0	-13.1	1.31 H	224	26.01	14.89
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	95.1 PK			1.14 V	3	96.48	-1.38
2	*2462.00	91.8 AV			1.14 V	3	93.18	-1.38
3	2483.50	57.9 PK	74.0	-16.1	1.14 V	3	59.18	-1.28
4	2483.50	45.9 AV	54.0	-8.1	1.14 V	3	47.18	-1.28
5	4924.00	54.4 PK	74.0	-19.6	1.00 V	59	46.93	7.47
6	4924.00	50.9 AV	54.0	-3.1	1.00 V	59	43.43	7.47
7	7386.00	52.5 PK	74.0	-21.5	1.10 V	88	37.61	14.89
8	7386.00	40.7 AV	54.0	-13.3	1.10 V	88	25.81	14.89

REMARKS:

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.2 PK	74.0	-7.8	1.04 H	203	67.90	-1.70
2	2390.00	49.4 AV	54.0	-4.6	1.04 H	203	51.10	-1.70
3	*2412.00	103.5 PK			1.04 H	203	105.10	-1.60
4	*2412.00	93.8 AV			1.04 H	203	95.40	-1.60
5	4824.00	45.5 PK	74.0	-28.5	1.11 H	330	38.30	7.20
6	4824.00	34.0 AV	54.0	-20.0	1.11 H	330	26.80	7.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.4 PK	74.0	-3.6	1.17 V	3	72.10	-1.70
2	2390.00	53.1 AV	54.0	-0.9	1.17 V	3	54.80	-1.70
3	*2412.00	107.2 PK			1.17 V	3	108.80	-1.60
4	*2412.00	96.8 AV			1.17 V	3	98.40	-1.60
5	4824.00	45.5 PK	74.0	-28.5	1.29 V	202	38.30	7.20
6	4824.00	33.8 AV	54.0	-20.2	1.29 V	202	26.60	7.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2384.76	55.9 PK	74.0	-18.1	1.06 H	218	57.62	-1.72
2	2384.76	44.3 AV	54.0	-9.7	1.06 H	218	46.02	-1.72
3	*2437.00	104.5 PK			1.06 H	218	105.99	-1.49
4	*2437.00	94.1 AV			1.06 H	218	95.59	-1.49
5	2489.34	56.3 PK	74.0	-17.7	1.06 H	218	57.56	-1.26
6	2489.34	43.9 AV	54.0	-10.1	1.06 H	218	45.16	-1.26
7	4874.00	45.4 PK	74.0	-28.6	1.07 H	344	38.07	7.33
8	4874.00	34.1 AV	54.0	-19.9	1.07 H	344	26.77	7.33
9	7311.00	52.7 PK	74.0	-21.3	1.32 H	215	37.74	14.96
10	7311.00	41.1 AV	54.0	-12.9	1.32 H	215	26.14	14.96

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	2384.76	59.1 PK	74.0	-14.9	1.17 V	3	60.82	-1.72
2	2384.76	47.6 AV	54.0	-6.4	1.17 V	3	49.32	-1.72
3	*2437.00	107.7 PK			1.17 V	3	109.19	-1.49
4	*2437.00	97.1 AV			1.17 V	3	98.59	-1.49
5	2489.34	59.3 PK	74.0	-14.7	1.17 V	3	60.56	-1.26
6	2489.34	46.8 AV	54.0	-7.2	1.17 V	3	48.06	-1.26
7	4874.00	44.9 PK	74.0	-29.1	1.30 V	198	37.57	7.33
8	4874.00	33.3 AV	54.0	-20.7	1.30 V	198	25.97	7.33
9	7311.00	52.4 PK	74.0	-21.6	1.06 V	90	37.44	14.96
10	7311.00	40.6 AV	54.0	-13.4	1.06 V	90	25.64	14.96

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.9 PK			1.00 H	207	104.28	-1.38
2	*2462.00	92.9 AV			1.00 H	207	94.28	-1.38
3	2483.50	66.9 PK	74.0	-7.1	1.00 H	207	68.18	-1.28
4	2483.50	49.9 AV	54.0	-4.1	1.00 H	207	51.18	-1.28
5	4924.00	45.5 PK	74.0	-28.5	1.10 H	351	38.03	7.47
6	4924.00	34.0 AV	54.0	-20.0	1.10 H	351	26.53	7.47
7	7386.00	52.9 PK	74.0	-21.1	1.29 H	201	38.01	14.89
8	7386.00	41.4 AV	54.0	-12.6	1.29 H	201	26.51	14.89
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.8 PK			1.14 V	5	108.18	-1.38
2	*2462.00	96.1 AV			1.14 V	5	97.48	-1.38
3	2483.50	70.6 PK	74.0	-3.4	1.14 V	5	71.88	-1.28
4	2483.50	53.3 AV	54.0	-0.7	1.14 V	5	54.58	-1.28
5	4924.00	45.1 PK	74.0	-28.9	1.32 V	196	37.63	7.47
6	4924.00	33.6 AV	54.0	-20.4	1.32 V	196	26.13	7.47
7	7386.00	52.9 PK	74.0	-21.1	1.00 V	75	38.01	14.89
8	7386.00	41.1 AV	54.0	-12.9	1.00 V	75	26.21	14.89

REMARKS:

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

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.6 PK	74.0	-6.4	1.07 H	230	69.30	-1.70
2	2390.00	50.8 AV	54.0	-3.2	1.07 H	230	52.50	-1.70
3	*2412.00	102.0 PK			1.07 H	230	103.60	-1.60
4	*2412.00	92.2 AV			1.07 H	230	93.80	-1.60
5	4824.00	45.9 PK	74.0	-28.1	1.15 H	317	38.70	7.20
6	4824.00	34.2 AV	54.0	-19.8	1.15 H	317	27.00	7.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.1 PK	74.0	-3.9	1.15 V	4	71.80	-1.70
2	2390.00	53.5 AV	54.0	-0.5	1.15 V	4	55.20	-1.70
3	*2412.00	105.1 PK			1.15 V	4	106.70	-1.60
4	*2412.00	95.2 AV			1.15 V	4	96.80	-1.60
5	4824.00	45.4 PK	74.0	-28.6	1.39 V	227	38.20	7.20
6	4824.00	33.5 AV	54.0	-20.5	1.39 V	227	26.30	7.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2385.24	57.0 PK	74.0	-17.0	1.07 H	232	58.72	-1.72
2	2385.24	44.3 AV	54.0	-9.7	1.07 H	232	46.02	-1.72
3	*2437.00	103.6 PK			1.07 H	232	105.09	-1.49
4	*2437.00	93.5 AV			1.07 H	232	94.99	-1.49
5	2488.76	57.0 PK	74.0	-17.0	1.07 H	232	58.26	-1.26
6	2488.76	44.4 AV	54.0	-9.6	1.07 H	232	45.66	-1.26
7	4874.00	45.3 PK	74.0	-28.7	1.02 H	347	37.97	7.33
8	4874.00	34.1 AV	54.0	-19.9	1.02 H	347	26.77	7.33
9	7311.00	52.9 PK	74.0	-21.1	1.37 H	215	37.94	14.96
10	7311.00	41.4 AV	54.0	-12.6	1.37 H	215	26.44	14.96

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	2385.24	60.0 PK	74.0	-14.0	1.17 V	0	61.72	-1.72
2	2385.24	47.5 AV	54.0	-6.5	1.17 V	0	49.22	-1.72
3	*2437.00	106.5 PK			1.17 V	0	107.99	-1.49
4	*2437.00	96.6 AV			1.17 V	0	98.09	-1.49
5	2488.76	59.5 PK	74.0	-14.5	1.17 V	0	60.76	-1.26
6	2488.76	47.1 AV	54.0	-6.9	1.17 V	0	48.36	-1.26
7	4874.00	45.2 PK	74.0	-28.8	1.35 V	214	37.87	7.33
8	4874.00	33.3 AV	54.0	-20.7	1.35 V	214	25.97	7.33
9	7311.00	52.4 PK	74.0	-21.6	1.09 V	99	37.44	14.96
10	7311.00	40.8 AV	54.0	-13.2	1.09 V	99	25.84	14.96

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	103.1 PK			1.00 H	221	104.48	-1.38
2	*2462.00	92.5 AV			1.00 H	221	93.88	-1.38
3	2483.50	67.9 PK	74.0	-6.1	1.00 H	221	69.18	-1.28
4	2483.50	50.4 AV	54.0	-3.6	1.00 H	221	51.68	-1.28
5	4924.00	45.4 PK	74.0	-28.6	1.03 H	355	37.93	7.47
6	4924.00	33.8 AV	54.0	-20.2	1.03 H	355	26.33	7.47
7	7386.00	52.8 PK	74.0	-21.2	1.28 H	218	37.91	14.89
8	7386.00	41.0 AV	54.0	-13.0	1.28 H	218	26.11	14.89
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	105.5 PK			1.15 V	360	106.88	-1.38
2	*2462.00	95.1 AV			1.15 V	360	96.48	-1.38
3	2483.50	70.7 PK	74.0	-3.3	1.15 V	360	71.98	-1.28
4	2483.50	53.1 AV	54.0	-0.9	1.15 V	360	54.38	-1.28
5	4924.00	44.6 PK	74.0	-29.4	1.26 V	208	37.13	7.47
6	4924.00	33.0 AV	54.0	-21.0	1.26 V	208	25.53	7.47
7	7386.00	52.0 PK	74.0	-22.0	1.05 V	106	37.11	14.89
8	7386.00	40.2 AV	54.0	-13.8	1.05 V	106	25.31	14.89

REMARKS:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.7 PK	74.0	-7.3	1.03 H	212	68.40	-1.70
2	2390.00	50.9 AV	54.0	-3.1	1.03 H	212	52.60	-1.70
3	*2422.00	96.5 PK			1.03 H	212	98.05	-1.55
4	*2422.00	86.4 AV			1.03 H	212	87.95	-1.55
5	4844.00	45.3 PK	74.0	-28.7	1.10 H	330	38.06	7.24
6	4844.00	34.1 AV	54.0	-19.9	1.10 H	330	26.86	7.24
7	7266.00	53.1 PK	74.0	-20.9	1.31 H	218	38.08	15.02
8	7266.00	41.5 AV	54.0	-12.5	1.31 H	218	26.48	15.02
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	69.1 PK	74.0	-4.9	1.17 V	2	70.80	-1.70
2	2390.00	53.5 AV	54.0	-0.5	1.17 V	2	55.20	-1.70
3	*2422.00	99.5 PK			1.17 V	2	101.05	-1.55
4	*2422.00	89.3 AV			1.17 V	2	90.85	-1.55
5	4844.00	44.8 PK	74.0	-29.2	1.35 V	207	37.56	7.24
6	4844.00	32.9 AV	54.0	-21.1	1.35 V	207	25.66	7.24
7	7266.00	52.7 PK	74.0	-21.3	1.03 V	80	37.68	15.02
8	7266.00	40.7 AV	54.0	-13.3	1.03 V	80	25.68	15.02

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.5 PK	74.0	-10.5	1.02 H	210	65.20	-1.70
2	2390.00	48.7 AV	54.0	-5.3	1.02 H	210	50.40	-1.70
3	*2437.00	99.4 PK			1.02 H	210	100.89	-1.49
4	*2437.00	89.3 AV			1.02 H	210	90.79	-1.49
5	2483.50	65.4 PK	74.0	-8.6	1.02 H	210	66.68	-1.28
6	2483.50	50.3 AV	54.0	-3.7	1.02 H	210	51.58	-1.28
7	4874.00	44.8 PK	74.0	-29.2	1.06 H	353	37.47	7.33
8	4874.00	33.8 AV	54.0	-20.2	1.06 H	353	26.47	7.33
9	7311.00	52.5 PK	74.0	-21.5	1.27 H	218	37.54	14.96
10	7311.00	40.7 AV	54.0	-13.3	1.27 H	218	25.74	14.96

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	66.3 PK	74.0	-7.7	1.19 V	4	68.00	-1.70
2	2390.00	51.3 AV	54.0	-2.7	1.19 V	4	53.00	-1.70
3	*2437.00	102.6 PK			1.19 V	4	104.09	-1.49
4	*2437.00	92.5 AV			1.19 V	4	93.99	-1.49
5	2483.50	68.2 PK	74.0	-5.8	1.19 V	4	69.48	-1.28
6	2483.50	53.2 AV	54.0	-0.8	1.19 V	4	54.48	-1.28
7	4874.00	45.3 PK	74.0	-28.7	1.28 V	187	37.97	7.33
8	4874.00	33.6 AV	54.0	-20.4	1.28 V	187	26.27	7.33
9	7311.00	52.7 PK	74.0	-21.3	1.01 V	92	37.74	14.96
10	7311.00	40.9 AV	54.0	-13.1	1.01 V	92	25.94	14.96

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	95.6 PK			1.09 H	234	97.02	-1.42
2	*2452.00	85.5 AV			1.09 H	234	86.92	-1.42
3	2483.50	67.1 PK	74.0	-6.9	1.09 H	234	68.38	-1.28
4	2483.50	49.6 AV	54.0	-4.4	1.09 H	234	50.88	-1.28
5	4904.00	44.9 PK	74.0	-29.1	1.13 H	333	37.49	7.41
6	4904.00	33.8 AV	54.0	-20.2	1.13 H	333	26.39	7.41
7	7356.00	53.2 PK	74.0	-20.8	1.29 H	220	38.29	14.91
8	7356.00	41.6 AV	54.0	-12.4	1.29 H	220	26.69	14.91
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	98.6 PK			1.14 V	8	100.02	-1.42
2	*2452.00	88.6 AV			1.14 V	8	90.02	-1.42
3	2483.50	69.9 PK	74.0	-4.1	1.14 V	8	71.18	-1.28
4	2483.50	52.6 AV	54.0	-1.4	1.14 V	8	53.88	-1.28
5	4904.00	45.2 PK	74.0	-28.8	1.26 V	191	37.79	7.41
6	4904.00	33.5 AV	54.0	-20.5	1.26 V	191	26.09	7.41
7	7356.00	52.5 PK	74.0	-21.5	1.06 V	85	37.59	14.91
8	7356.00	40.5 AV	54.0	-13.5	1.06 V	85	25.59	14.91

REMARKS:

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

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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 : Mar. 11, 2014

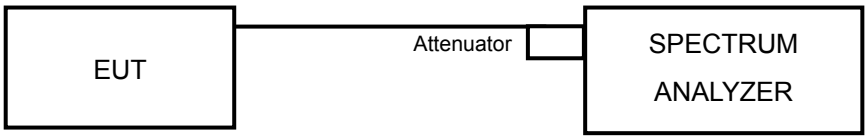
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.13	0.5	PASS
6	2437	12.11	0.5	PASS
11	2462	12.12	0.5	PASS

802.11g

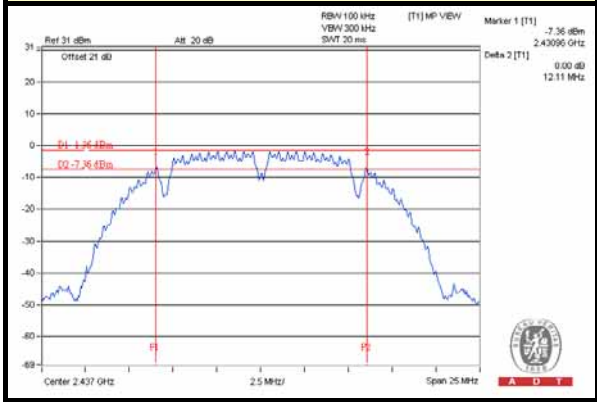
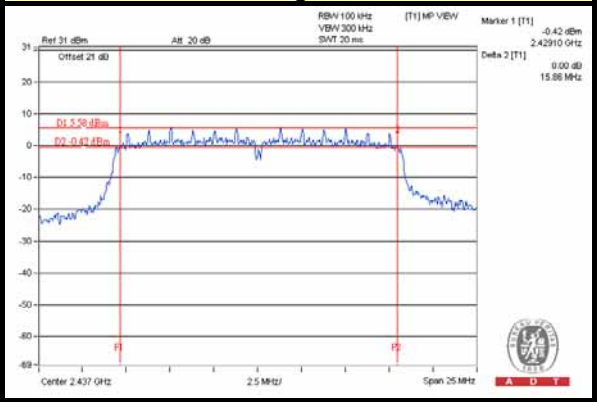
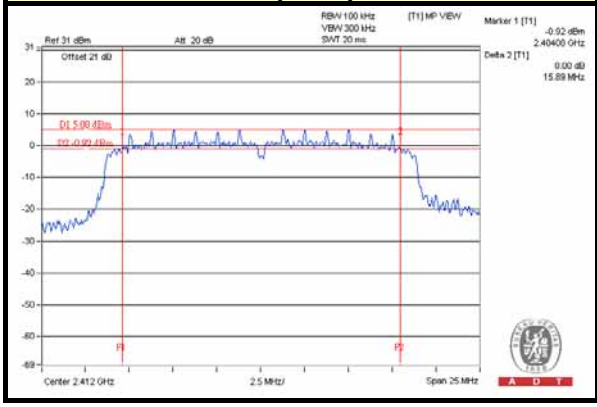
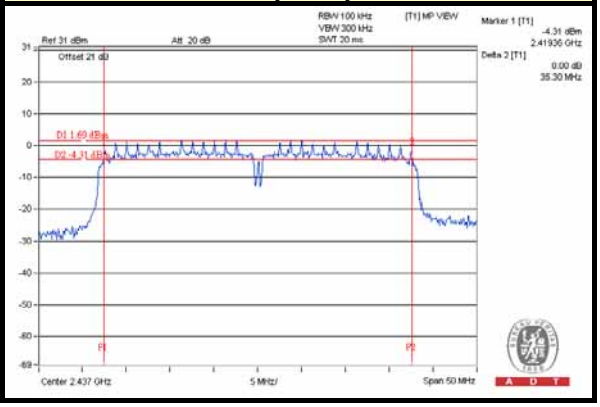
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.91	0.5	PASS
6	2437	15.86	0.5	PASS
11	2462	15.88	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.89	0.5	PASS
6	2437	15.89	0.5	PASS
11	2462	15.98	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.31	0.5	PASS
6	2437	35.30	0.5	PASS
9	2452	35.31	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11b / CH6	**802.11g / CH6**
	
802.11n (HT20) / CH1	**802.11n (HT40) / CH6**
	

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 bands: 1 Watt (30dBm)

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	1014008	Apr. 23, 2013	Apr. 22, 2014
Power Sensor	MA2411B	0917122	Apr. 23, 2013	Apr. 22, 2014

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Mar. 11, 2014

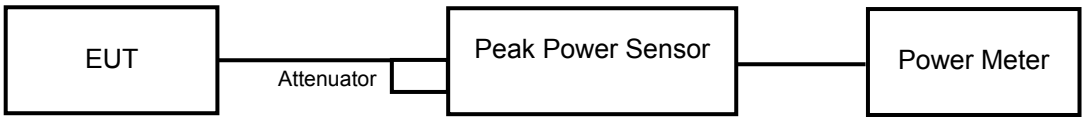
4.4.3 TEST PROCEDURES

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



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)	LIMIT (dBm)	PASS/FAIL
1	2412	20.324	13.08	30	PASS
6	2437	16.482	12.17	30	PASS
11	2462	12.388	10.93	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	328.095	25.16	30	PASS
6	2437	314.775	24.98	30	PASS
11	2462	267.917	24.28	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	288.403	24.60	30	PASS
6	2437	296.483	24.72	30	PASS
11	2462	260.615	24.16	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
3	2422	154.170	21.88	30	PASS
6	2437	260.016	24.15	30	PASS
9	2452	156.315	21.94	30	PASS

4.5 AVERAGE OUTPUT POWER

4.5.1 FOR REFERENCE.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	1014008	Apr. 23, 2013	Apr. 22, 2014
Power Sensor	MA2411B	0917122	Apr. 23, 2013	Apr. 22, 2014

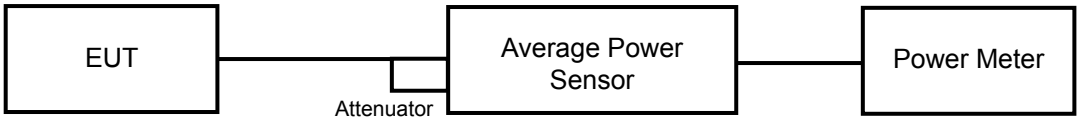
Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Mar. 11, 2014

4.5.3 TEST PROCEDURES

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

4.5.4 TEST SETUP



4.5.5 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.5.6 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	11.015	10.42
6	2437	8.730	9.41
11	2462	7.096	8.51

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	57.943	17.63
6	2437	59.293	17.73
11	2462	50.933	17.07

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	45.394	16.57
6	2437	56.234	17.50
11	2462	38.459	15.85

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
3	2422	19.679	12.94
6	2437	47.753	16.79
9	2452	19.409	12.88

4.6 POWER SPECTRAL DENSITY MEASUREMENT

4.6.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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 : Mar. 11, 2014

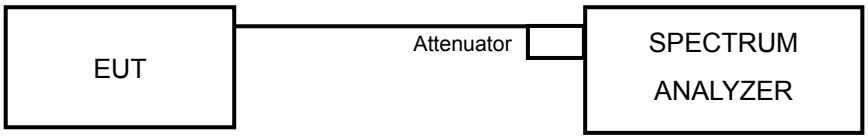
4.6.3 TEST PROCEDURE

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.

4.6.4 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

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-1.95	8	PASS
6	2437	-2.73	8	PASS
11	2462	-3.60	8	PASS

802.11g

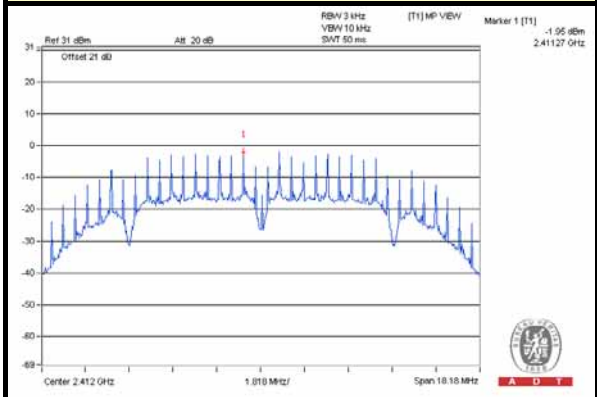
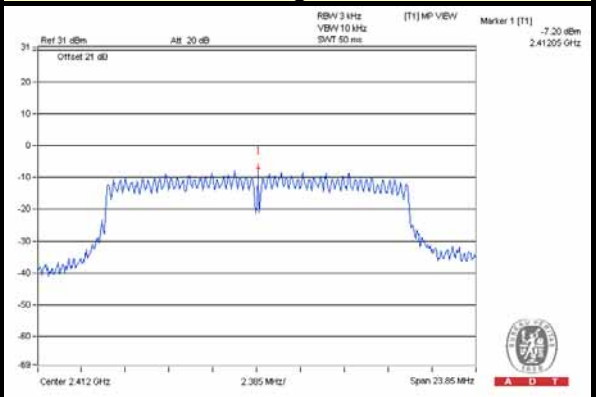
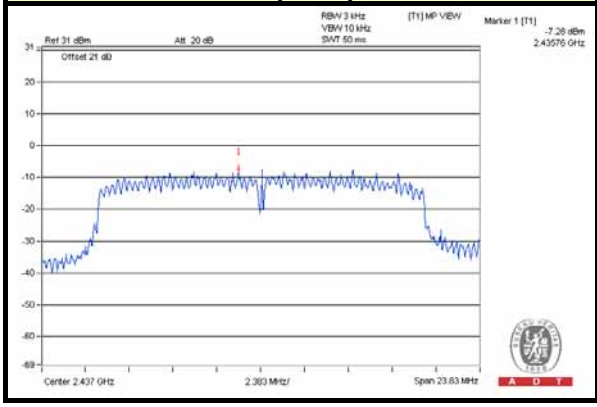
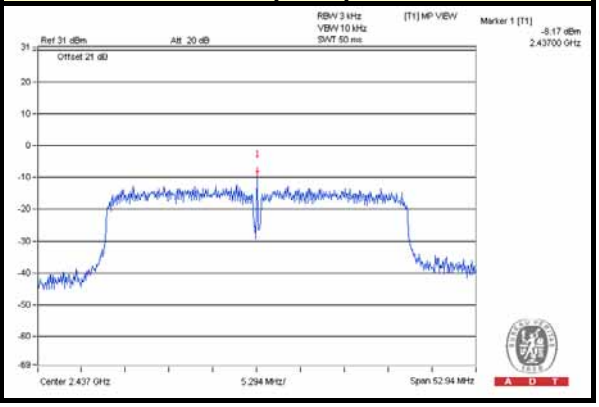
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-7.20	8	PASS
6	2437	-7.65	8	PASS
11	2462	-8.06	8	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
1	2412	-8.54	8	PASS
6	2437	-7.28	8	PASS
11	2462	-9.22	8	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	LIMIT (dBm)	PASS /FAIL
3	2422	-12.22	8	PASS
6	2437	-8.17	8	PASS
9	2452	-13.05	8	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11b / CH1	**802.11g / CH1**
	
802.11n (HT20) / CH6	**802.11n (HT40) / CH6**
	

4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.7.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

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

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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 : Mar. 11, 2014

4.7.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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

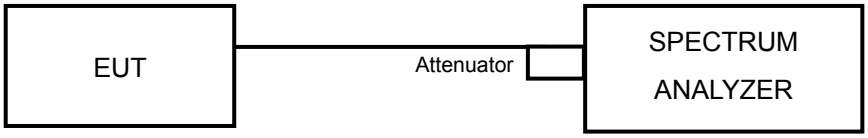
Measurement Procedure –Unwanted Emission Level

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

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



4.7.6 EUT OPERATING CONDITION

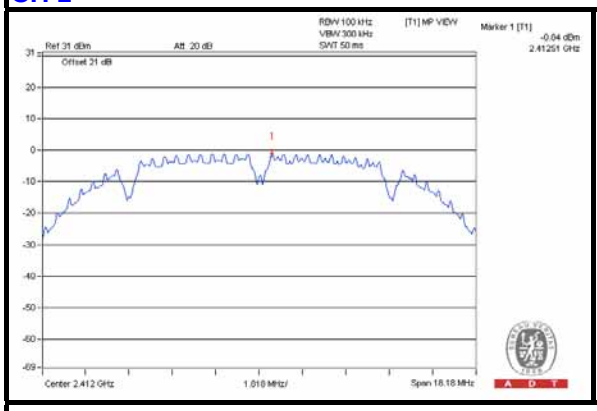
Same as Item 4.3.6

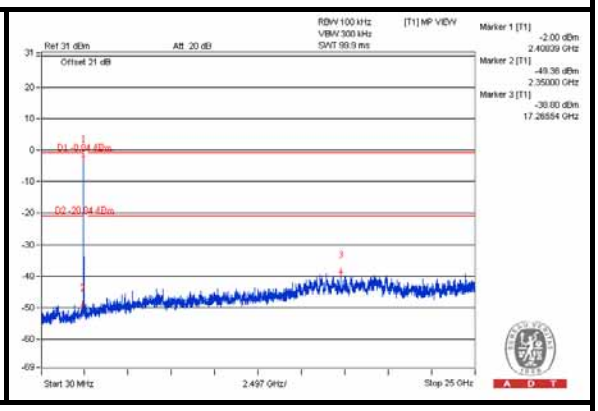
4.7.7 TEST RESULTS

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.

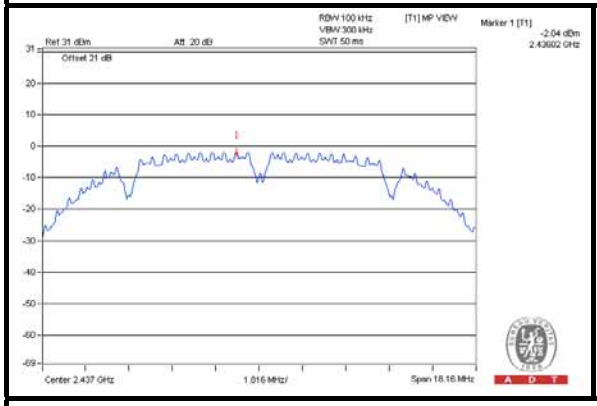
802.11b:

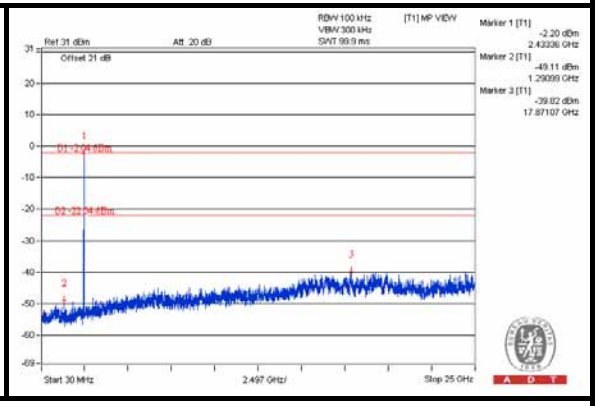
CH 1



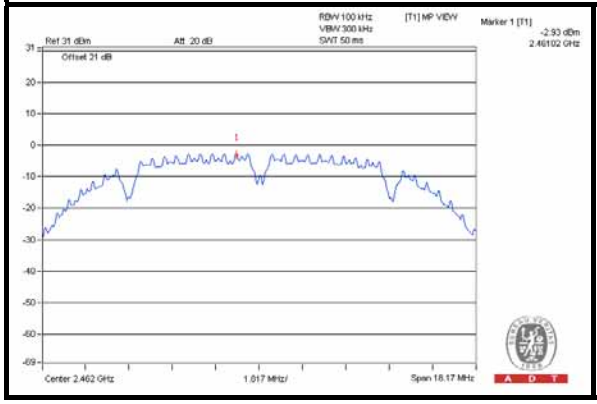


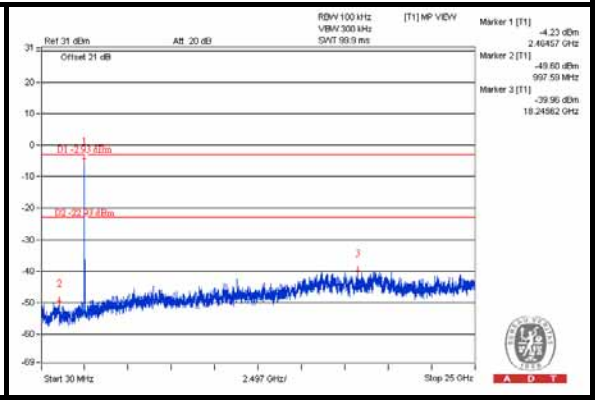
CH 6

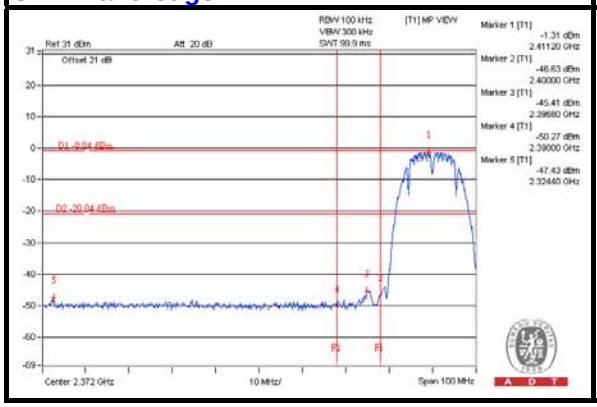
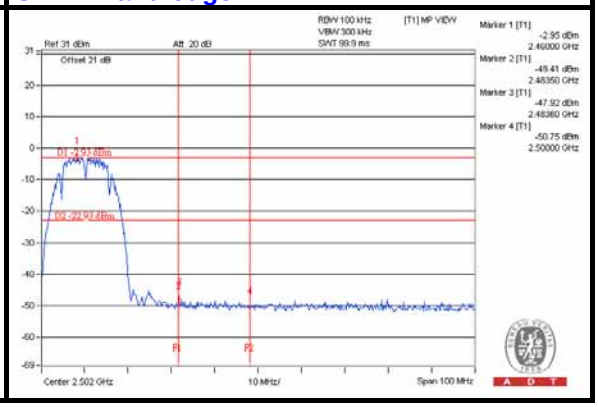




CH 11

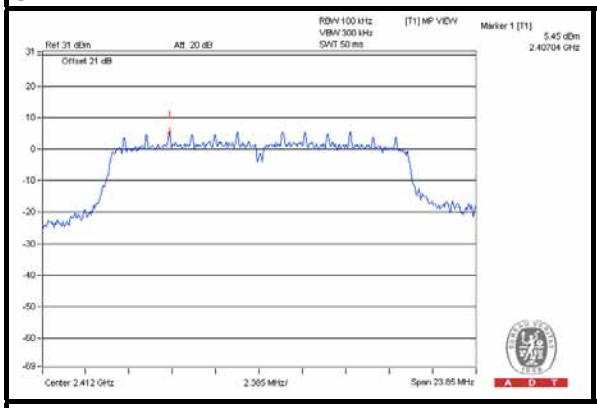


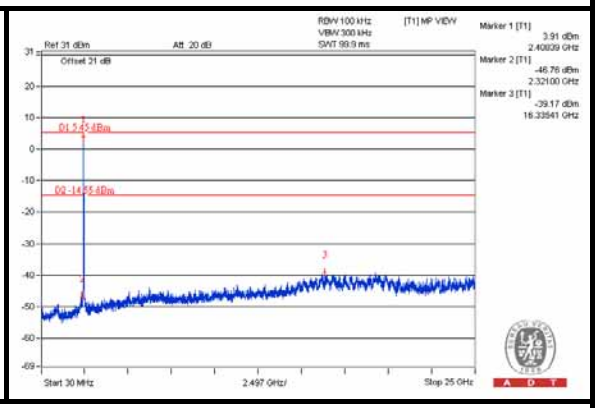


CH 1 Band edge	CH 11 Band edge
	

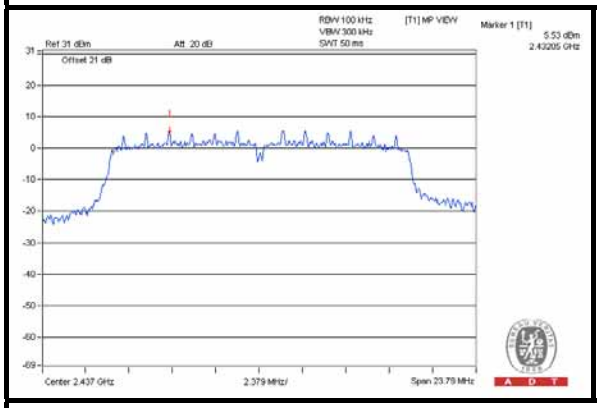
802.11g:

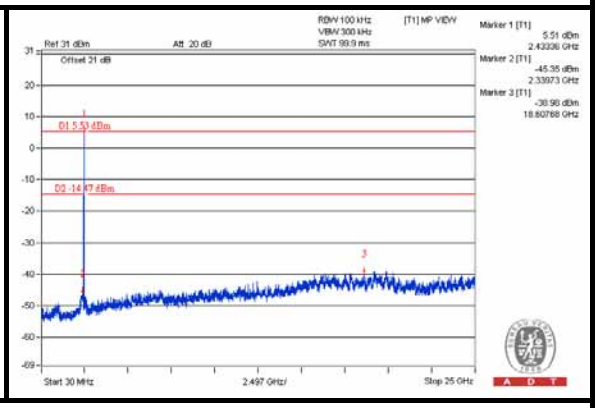
CH 1



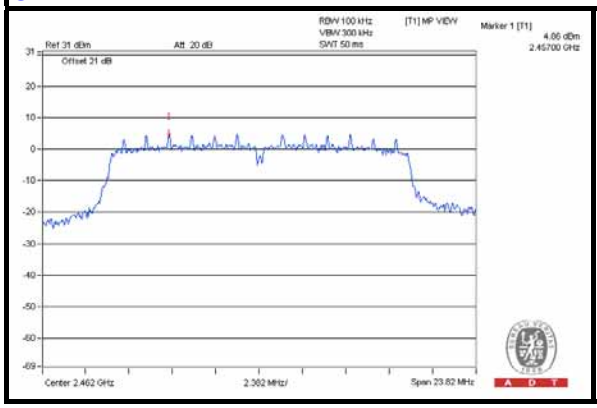


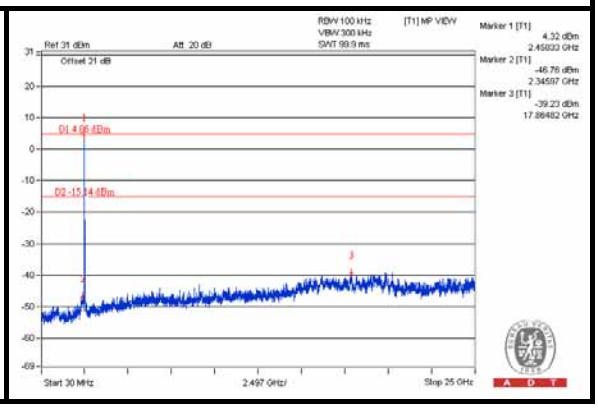
CH 6

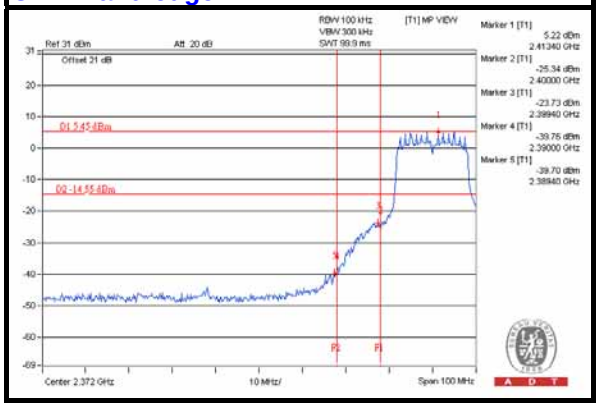
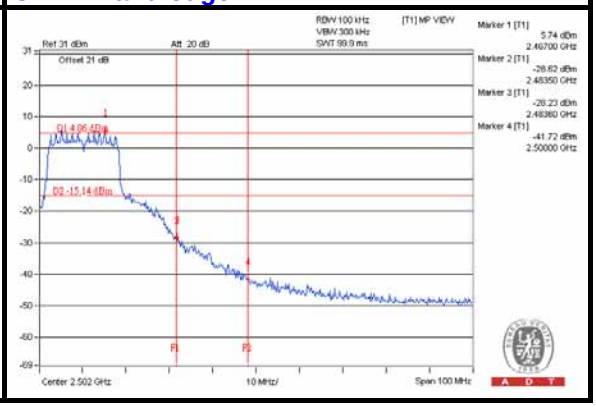




CH 11

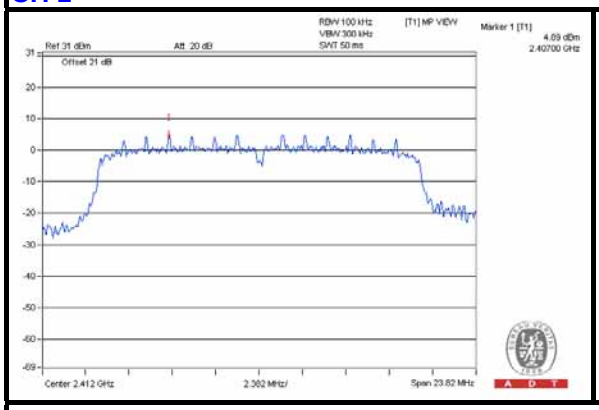


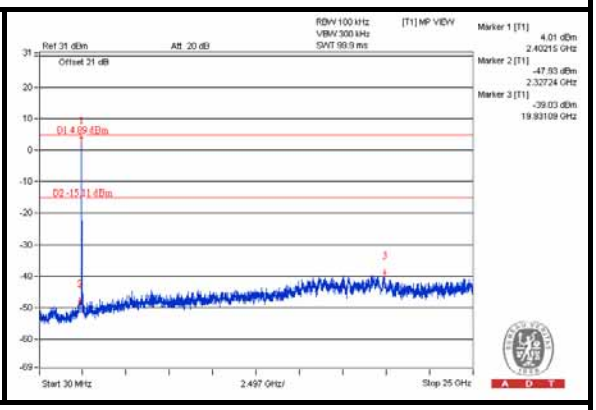


CH 1 Band edge	CH 11 Band edge
	

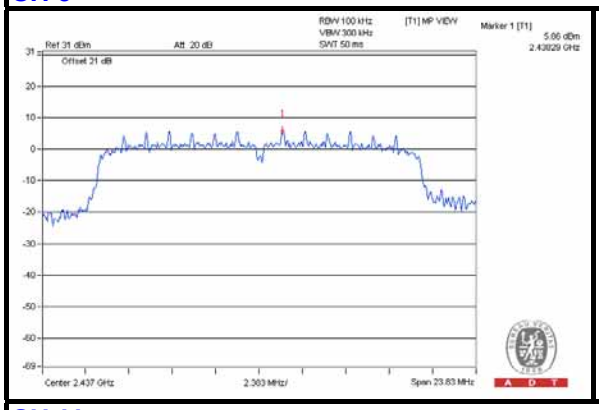
802.11n (HT20):

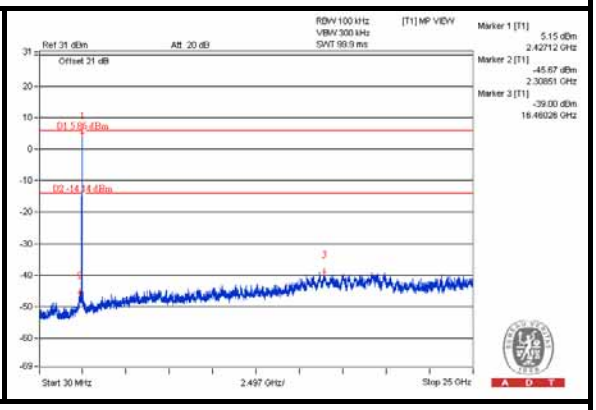
CH 1



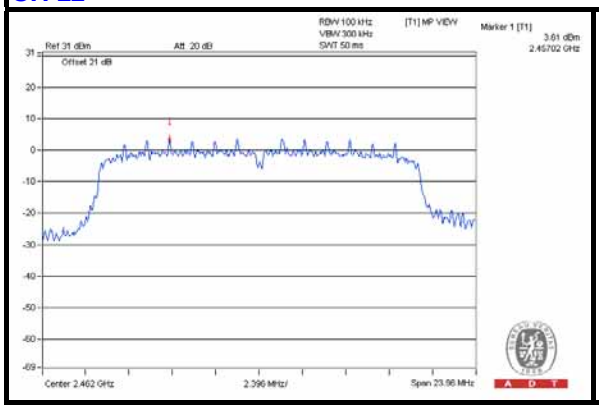


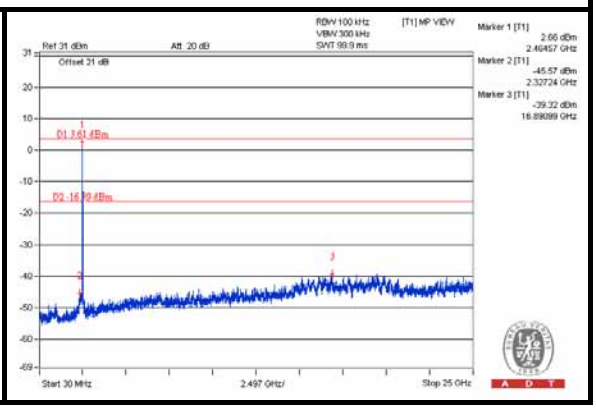
CH 6

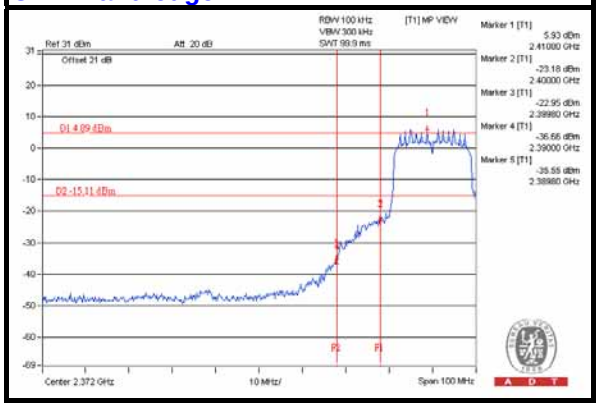
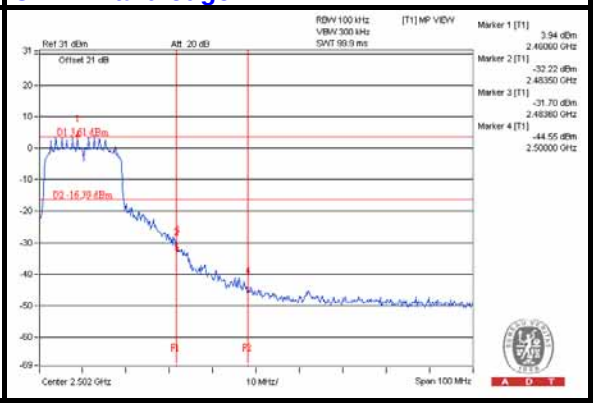




CH 11

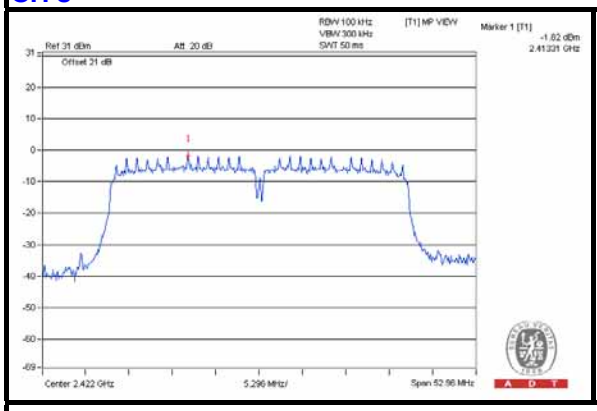


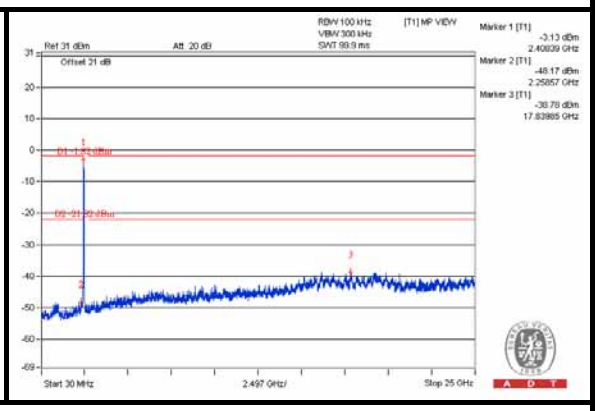


CH 1 Band edge	CH 11 Band edge
	

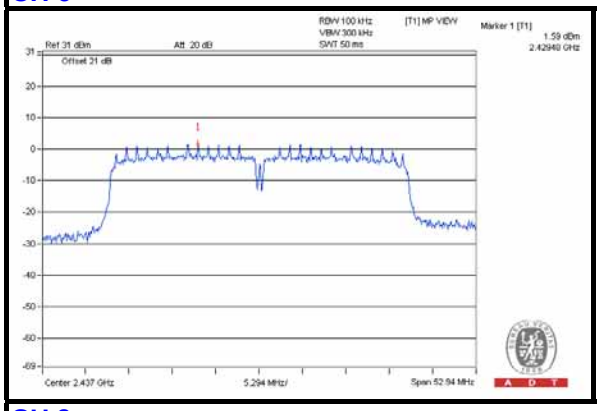
802.11n (HT40):

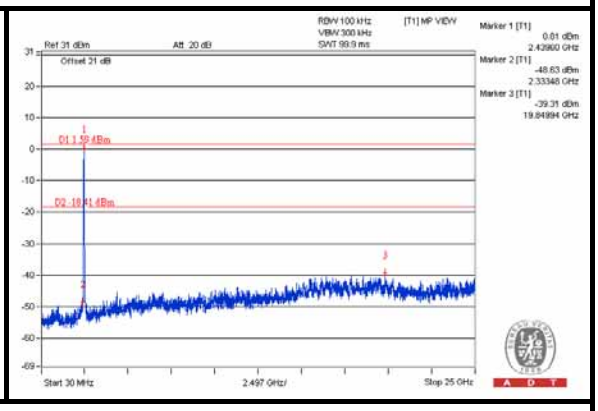
CH 3



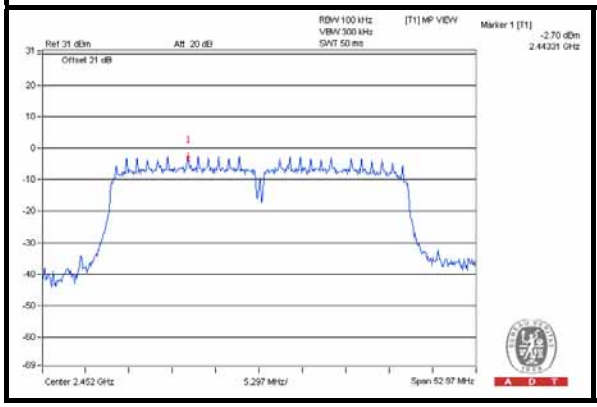


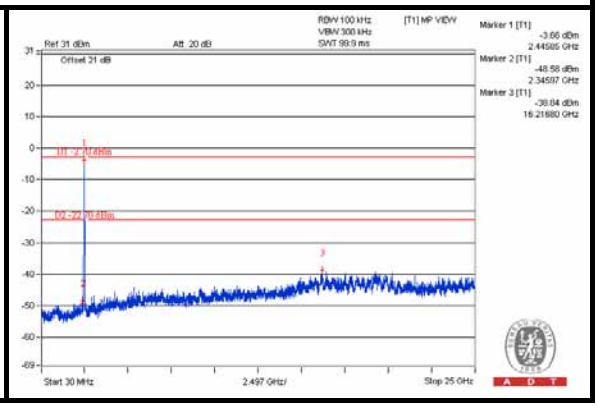
CH 6

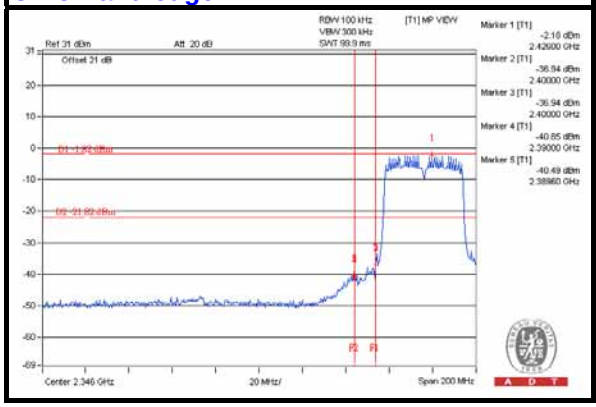
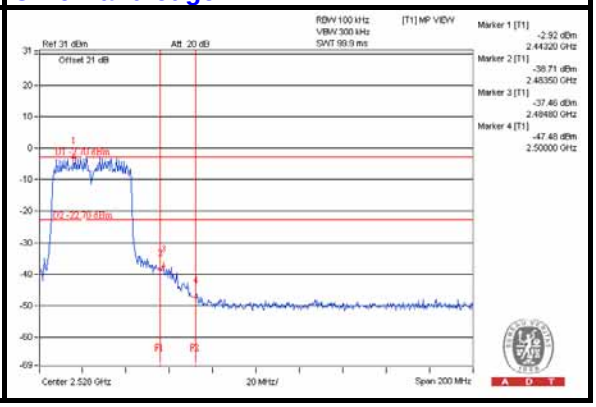




CH 9





CH 3 Band edge	CH 9 Band edge
	

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:

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.bureauveritas-adt.com

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

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 ---