



A D T

FCC TEST REPORT (15.407)

REPORT NO.: RF120210E04-1 R2

MODEL NO.: WT41N0

FCC ID: UZ7WT41N0

RECEIVED: Feb. 10, 2012

TESTED: Feb. 15 to Oct. 19, 2012

ISSUED: Nov. 09, 2012

APPLICANT: Motorola Solutions, Inc.

ADDRESS: One Motorola Plaza Holtsville NY 11742-1300 USA

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 test report consists of 72 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies. The test results in the report only apply to the tested sample.





A D T

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	13
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	14
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS	17
3.4 DUTY CYCLE OF TEST SIGNAL	17
3.5 DESCRIPTION OF SUPPORT UNITS	18
3.6 CONFIGURATION OF SYSTEM UNDER TEST	19
4. TEST TYPES AND RESULTS	20
4.1 CONDUCTED EMISSION MEASUREMENT	20
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	20
4.1.2 TEST INSTRUMENTS	20
4.1.3 TEST PROCEDURES	21
4.1.4 DEVIATION FROM TEST STANDARD	21
4.1.5 TEST SETUP	22
4.1.6 EUT OPERATING CONDITIONS	22
4.1.7 TEST RESULTS (MODE 1)	23
4.1.8 TEST RESULTS (MODE 2)	25
4.2 RADIATED EMISSION MEASUREMENT	27
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	27
4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	28
4.2.3 TEST INSTRUMENTS	29
4.2.4 TEST PROCEDURES	31
4.2.5 DEVIATION FROM TEST STANDARD	31
4.2.6 TEST SETUP	32
4.2.7 EUT OPERATING CONDITION	32
4.2.8 TEST RESULTS	33
4.3 TRANSMIT POWER MEASUREMENT	54
4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT	54
4.3.2 TEST INSTRUMENTS	54
4.3.3 TEST PROCEDURE	55
4.3.4 DEVIATION FROM TEST STANDARD	55
4.3.5 TEST SETUP	56
4.3.6 EUT OPERATING CONDITIONS	56



A D T

4.3.7 TEST RESULTS	57
4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT	59
4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	59
4.4.2 TEST INSTRUMENTS.....	59
4.4.3 TEST PROCEDURES	59
4.4.4 DEVIATION FROM TEST STANDARD.....	59
4.4.5 TEST SETUP	60
4.4.6 EUT OPERATING CONDITIONS	60
4.4.7 TEST RESULTS	61
4.5 PEAK POWER EXCURSION MEASUREMENT	62
4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT	62
4.5.2 TEST INSTRUMENTS.....	62
4.5.3 TEST PROCEDURE.....	62
4.5.4 DEVIATION FROM TEST STANDARD.....	62
4.5.5 TEST SETUP	62
4.5.6 EUT OPERATING CONDITIONS	62
4.5.7 TEST RESULTS	63
4.6 FREQUENCY STABILITY.....	67
4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT	67
4.6.2 TEST INSTRUMENTS.....	67
4.6.3 TEST PROCEDURE.....	67
4.6.4 DEVIATION FROM TEST STANDARD	68
4.6.5 TEST SETUP	68
4.6.6 EUT OPERATING CONDITION.....	68
4.6.7 TEST RESULTS	69
5. PHOTOGRAPHS OF THE TEST CONFIGURATION.....	70
6. INFORMATION ON THE TESTING LABORATORIES	71
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	72



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120210E04-1	Original release	July 05, 2012
RF120210E04-1 R1	<ol style="list-style-type: none">1. Changed CMI display of EUT.2. Modified the test data of radiated emissions test item:<ol style="list-style-type: none">I. Radiated emissions below 1GHzII. Radiated emissions above 1GHz for worst channel of original release report.)	Oct. 31, 2012
RF120210E04-1 R2	Modified the test sample to ENGINEERING SAMPLE_DV3 for section 1.	Nov. 09, 2012



A D T

1. CERTIFICATION

PRODUCT: Wearable Terminal

BRAND NAME: MOTOROLA

MODEL NO.: WT41N0

TEST SAMPLE: ENGINEERING SAMPLE_DV3

APPLICANT: Motorola Solutions, Inc.

TESTED: Feb. 15 to Oct. 19, 2012

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (Model: WT41N0) 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 : Phoenix Huang, **DATE:** Nov. 09, 2012
(Phoenix Huang, Specialist)

APPROVED BY : May Chen, **DATE:** Nov. 09, 2012
(May Chen, Deputy Manager)



A D T

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 5GHz, 5180~5240MHz, 5260~5320MHz and 5500~5700MHz

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -16.38dB at 0.69688MHz
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.1dB at 5150.00MHz.
15.407(a/1/2)	Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

NOTE: The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz and 5.47~5.725GHz. For the 2.400 ~ 2.4835GHz and 5.725~5.85GHz RF parameters was recorded in another test report.



A D T

2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Conducted emissions	2.98 dB
Radiated emissions (30MHz-1GHz)	5.69 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB



A D T

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wearable Terminal
MODEL NO.	WT41N0
POWER SUPPLY	DC 3.7V
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 / a: up to 54Mbps 802.11n (20MHz, 800ns GI): up to 65Mbps 802.11n (20MHz, 400ns GI): up to 72.2Mbps
OPERATING FREQUENCY	For 15.407 5GHz: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.47~5.6GHz, 5.65~5.725GHz For 15.247 2.4GHz: 2.412 ~ 2.472GHz 5GHz: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	For 15.407 16 for 802.11a, 802.11n (20MHz) For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (20MHz) For 15.247 (5GHz) 5 for 802.11a, 802.11n (20MHz)
MAXIMUM OUTPUT POWER	For 15.407 802.11a: 100.000mW 802.11n (20MHz): 79.433mW For 15.247(2.4GHz) 802.11b: 186.209mW 802.11g: 218.776mW 802.11n (20MHz): 223.872mW For 15.247(5GHz) 802.11a: 204.174mW 802.11n (20MHz): 194.984mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	Battery x 1



A D T

NOTE:

1. There are Bluetooth technology and WLAN technology used for the EUT. And the report number corresponds with EUT functions are listed as below:

Function	Report No.
WLAN	RF120210E04 R2 (15.247) RF120210E04-1 R2 (15.407) RF120210E04-3 R1 (DFS)
Bluetooth	RF120210E04-2 R2

2. The EUT has different versions, the relationship of testing sample versions are listed as below:

Sample No.	Brand	Model	Description
1	MOTOROLA	WT41N0	VOW version
2			Touch version
3			Non-Touch version

3. The EUT hardware/software information are as below:

Brand	Model	Description
Wearable Terminal	OS Version	07.00.2806
	OEM Name	MOTOROLA WT41N0
	OEM Version	00.17.0001
	HW Version	WT41N0_MB V3.0
Wireless (Fusion)	Part Number	31-FUSION-X2.00
	Version	X_2.00.0.0.93
XWingCon	XappVersion	X_2.00.0.0.24
BTRegTestVer4.1	Version	4.1



A D T

4. The EUT could be supplied from a cradle, power adapter and battery, the information are listed as below:

Cradle 1 (1-slot, option)	
Brand:	MOTOROLA
Model No.:	CRD4000-1000UR
Part No.:	CRD4000-1000UR
Input power :	+12V ----- 3.33A
I/O Ports:	USB Port x 1
Associated Devices:	USB cable (Part No.:25-64396-01R) Adapter x 1 (Adapter 1: Part No.: 50-14000-148R)
Adapter 1 (option)	
Brand:	HIPRO
Model No.:	HP-O2040D43
Part No.:	50-14000-148R
Input power :	100-240V, 50-60Hz, 1.5A
Output power :	+12V ----- 3.33A DC output cable (unshielded, 1.8m with one core)
Battery 1	
Brand:	SYMBOL
Part No.:	82-90005-05 Rev. A (1X LiION)
Rating:	3.7V, 2400mAh, 8.88Wh
Battery 2	
Brand:	SYMBOL
Part No.:	82-90005-04 Rev. D (2X LiION)
Rating:	3.7V, 4800mAh, 17.76Wh



A D T

5. The EUT could be supplied with one laser scanner (optional). There are four options as below:

Laser scanner 1 (option)	
Brand:	MOTOROLA
Model No.:	RS409 1D Laser scanner
Laser scanner 2 (option)	
Brand:	MOTOROLA
Model No.:	RS309 1D Laser scanner
Laser scanner 3 (option)	
Brand:	MOTOROLA
Model No.:	RS507 2D Imager scanner
Description :	Wireless link (no direct wire-link to EUT)
Laser scanner 4 (option)	
Brand:	MOTOROLA
Model No.:	RS419 scanner
Description :	Type 1: Long USB cable (Length: 2.3m) Type 2: Short USB cable (Length: 0.4m)

6. The EUT antennas information:

Bluetooth Antenna Spec			
Antenna Type	Gain (dBi)	Connector Type	Frequency range (MHz)
PIFA	1.47	NA	2400~2500
WLAN Antenna Spec.			
Antenna Type	Gain (dBi)	Connector Type	Frequency range (MHz)
PIFA	1.48 (2.4G)	NA	2400~2500
	5.7 (5G)		4900~5850



A D T

7. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	1TX

8. Radiated and Conducted emission of the simultaneous operation (Bluetooth and WLAN technology) has been evaluated and no non-compliance was found.

9. The EUT was pre-tested in chamber under following test modes :

Pre-test Mode	Description
Mode A	X_plane: Sample_1 + Battery 1 + Laser scanner 1
Mode B	X_plane: Sample_2 + Battery 1 + Laser scanner 1
Mode C	X_plane: Sample_3 + Battery 1 + Laser scanner 1
Mode D	X_plane: Sample_2 + Battery 2 + Laser scanner 1
Mode E	Y_plane: Sample_2 + Battery 2 + Laser scanner 1
Mode F	Z_plane: Sample_2 + Battery 2 + Laser scanner 1
Mode G	X_plane: Sample_2 + Battery 2 + Laser scanner 2
Mode H	X_plane: Sample_2 + Battery 2 + Laser scanner 4 (Short cable)
Mode I	X_plane: Sample_2 + Battery 2 + Laser scanner 4 (Long cable)
Mode J	Sample_2 + Battery 2 + Laser scanner 4 (Long cable) + Cradle 1

The worse radiated emission (Below 1GHz) was found in **Mode J**. And the radiated emission (Above 1GHz) was found in **Mode I**. Therefore only the test data of the modes were recorded in this report.

10. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 7.
11. 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.



A D T

3.2 DESCRIPTION OF TEST MODES

Operated in 5180 ~ 5320MHz band:

8 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	52	5260 MHz
40	5200 MHz	56	5280 MHz
44	5220 MHz	60	5300 MHz
48	5240 MHz	64	5320 MHz

Operated in 5500 ~ 5700MHz band:

8 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz



A D T

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO					DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	OB	
1	√	√	-	√	√	Cradle 1 + Battery 2
	-	-	√	-	-	Battery 2
2	√	-	-	-	-	Cradle 1 + Battery 1

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)
802.11a	36 to 140	52	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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	52	OFDM	BPSK	6



A D T

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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11n (20MHz)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6
802.11n (20MHz)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5



A D T

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
PLC	20deg. C, 70%RH	120Vac, 60Hz (SYSTEM)	Mike Hsieh
RE<1G	23deg. C, 70%RH	120Vac, 60Hz (SYSTEM)	Amos Chuang
	23deg. C, 66%RH	120Vac, 60Hz (SYSTEM)	Evan Huang
RE ³ 1G	23deg. C, 71%RH	DC: 3.7Vdc	Nelson Teng
	20deg. C, 63%RH	DC: 3.7Vdc	Evan Huang
APCM	25deg. C, 60%RH	120Vac, 60Hz (SYSTEM)	Rex Huang
OB	25deg. C, 60%RH	120Vac, 60Hz (SYSTEM)	Rex Huang



A D T

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

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

Test tool can set the EUT to transmit at > 98 % duty cycle.



A D T

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.

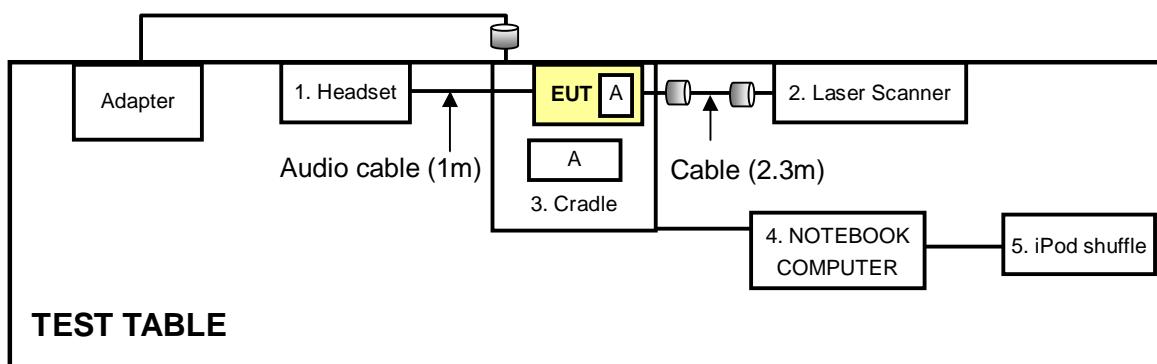
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	Headset	MOTOROLA	Vix	BE09311114401G	NA
2	Laser Scanner	MOTOROLA	RS419 scanner	NA	NA
3	Cradle	MOTOROLA	CRD4000-100UR	NA	NA
4	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
5	iPod shuffle	Apple	MC749TA/A	CC4DMFJUDFDM	NA

No.	Signal cable description
1	Audio cable, 1m
2	Cable, 2.3m
3	NA
4	USB cable, 1.6m
5	USB cable, 0.1m

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

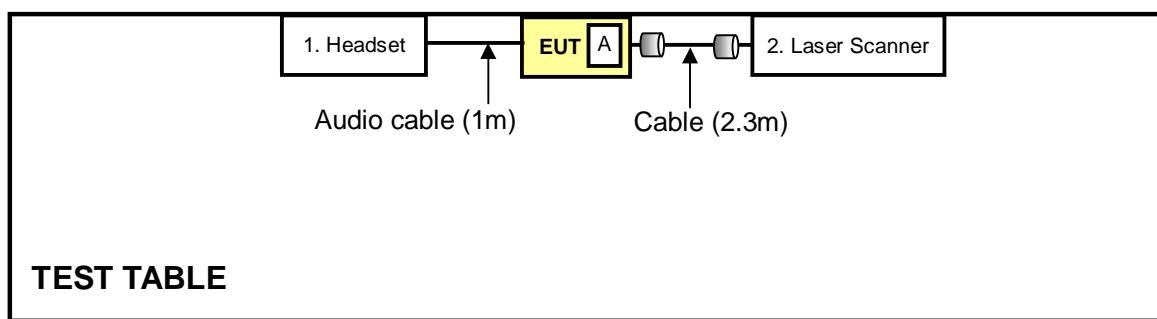
3.6 CONFIGURATION OF SYSTEM UNDER TEST

For Conducted emission / Radiated emission (below 1GHz) test:



NOTE: 1. Item A is the battery.

For Radiated emission (above 1GHz) test:



NOTE: 1. Item A is the battery.



A D T

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. 08, 2012	Mar. 07, 2013
Line-Impedance Stabilization Network (for EUT)	NSLK8127	8127-522	Sep. 07, 2011	Sep. 06, 2012
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 02, 2011	Nov. 01, 2012
RF Cable (JYEBAO)	5DFB	COCCAB-001	Aug. 29, 2011	Aug. 28, 2012
50 ohms Terminator	50	3	Nov. 02, 2011	Nov. 01, 2012
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Apr. 26, 2012



A D T

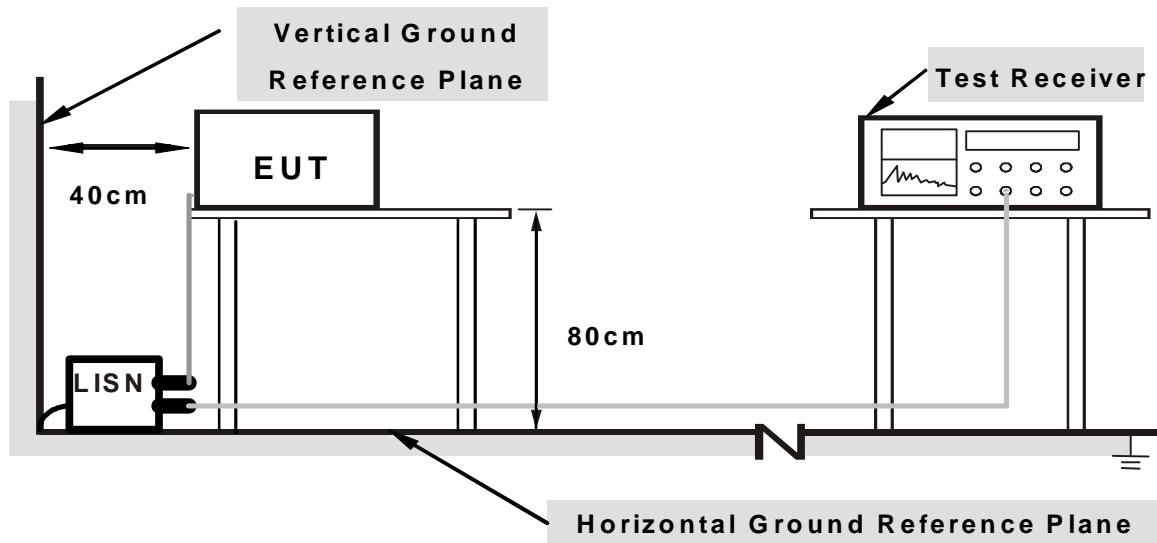
4.1.3 TEST PROCEDURES

- 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 level under (Limit – 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

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

4.1.6 EUT OPERATING CONDITIONS

1. Turn on the power of EUT.
2. The communication partner run test program “XWingCon.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.



A D T

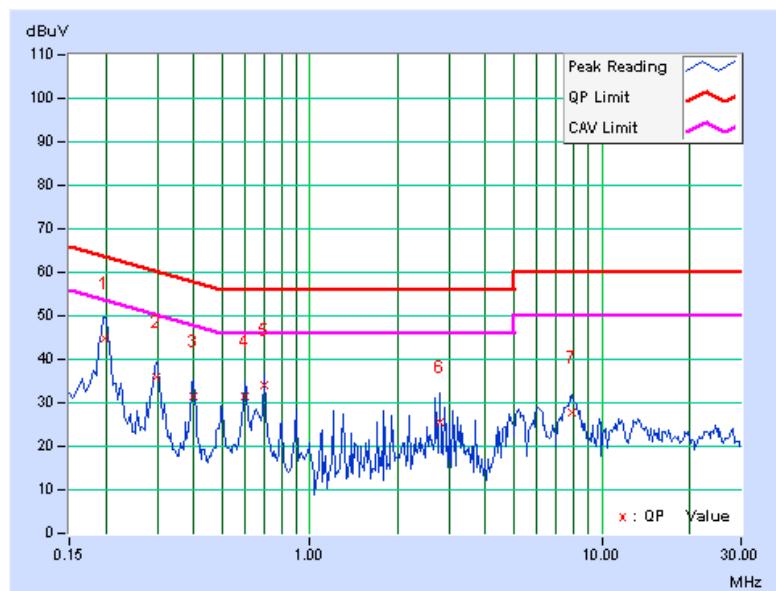
4.1.7 TEST RESULTS (MODE 1)

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
--------------	----------	----------------------	-------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19750	0.07	44.86	32.46	44.93	32.53	63.72	53.72	-18.79	-21.19
2	0.29844	0.07	36.01	22.67	36.08	22.74	60.29	50.29	-24.20	-27.54
3	0.40000	0.08	31.33	23.11	31.41	23.19	57.85	47.85	-26.44	-24.66
4	0.59922	0.09	31.28	25.87	31.37	25.96	56.00	46.00	-24.63	-20.04
5	0.69688	0.09	34.08	27.78	34.17	27.87	56.00	46.00	-21.83	-18.13
6	2.79688	0.25	25.25	13.51	25.50	13.76	56.00	46.00	-30.50	-32.24
7	7.88281	0.46	27.18	21.29	27.64	21.75	60.00	50.00	-32.36	-28.25

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.





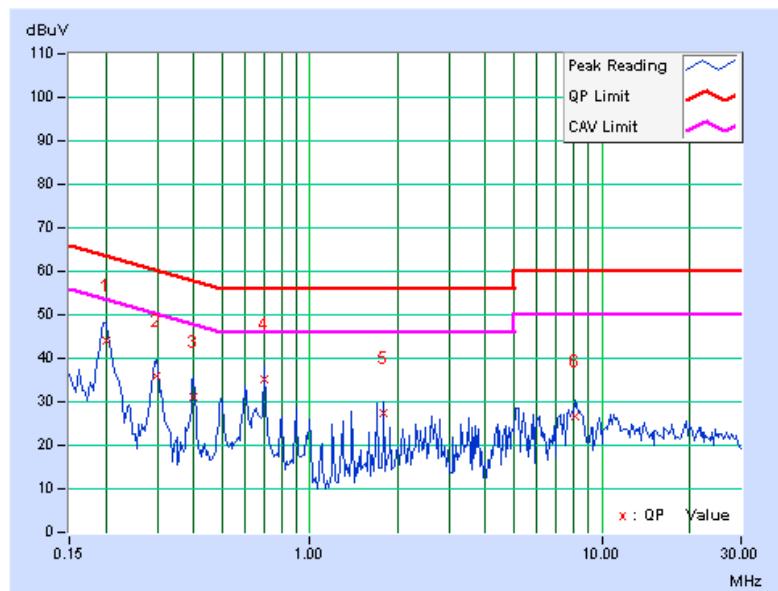
A D T

PHASE	Neutral (N)	6dB BANDWIDTH		9 kHz	
--------------	-------------	----------------------	--	-------	--

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	(dB)	(dB)		
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20078	0.06	44.09	32.24	44.15	32.30	63.58	53.58	-19.43	-21.28
2	0.29844	0.07	35.78	24.48	35.85	24.55	60.29	50.29	-24.44	-25.74
3	0.40000	0.08	30.92	23.80	31.00	23.88	57.85	47.85	-26.85	-23.97
4	0.69688	0.08	35.16	29.54	35.24	29.62	56.00	46.00	-20.76	-16.38
5	1.79297	0.15	27.36	20.71	27.51	20.86	56.00	46.00	-28.49	-25.14
6	8.08594	0.34	26.37	20.91	26.71	21.25	60.00	50.00	-33.29	-28.75

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.





A D T

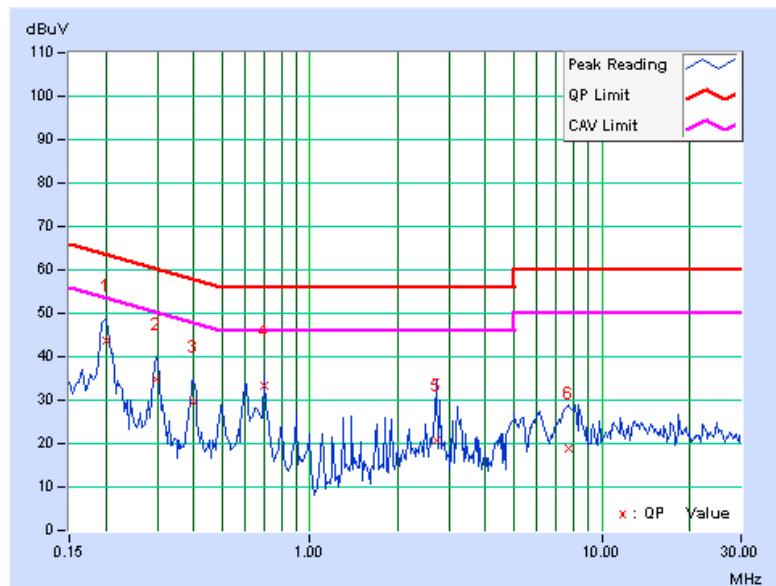
4.1.8 TEST RESULTS (MODE 2)

PHASE		Line (L)		6dB BANDWIDTH		9 kHz	
-------	--	----------	--	---------------	--	-------	--

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20078	0.07	43.46	27.51	43.53	27.58	63.58	53.58	-20.05	-26.00
2	0.29844	0.07	34.73	20.25	34.80	20.32	60.29	50.29	-25.48	-29.96
3	0.40000	0.08	29.43	20.19	29.51	20.27	57.85	47.85	-28.34	-27.58
4	0.69688	0.09	33.25	24.68	33.34	24.77	56.00	46.00	-22.66	-21.23
5	2.71094	0.24	20.67	12.36	20.91	12.60	56.00	46.00	-35.09	-33.40
6	7.69531	0.45	18.38	13.39	18.83	13.84	60.00	50.00	-41.17	-36.16

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.





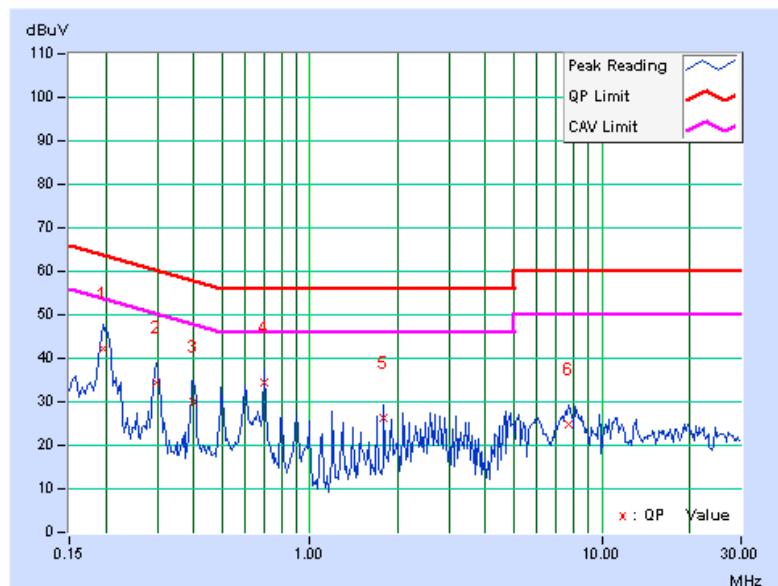
A D T

PHASE	Neutral (N)	6dB BANDWIDTH		9 kHz	
--------------	-------------	----------------------	--	-------	--

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.06	42.34	28.96	42.40	29.02	63.74	53.74	-21.34	-24.72
2	0.29844	0.07	34.51	21.56	34.58	21.63	60.29	50.29	-25.71	-28.66
3	0.40000	0.08	29.93	21.22	30.01	21.30	57.85	47.85	-27.84	-26.55
4	0.69688	0.08	34.44	26.70	34.52	26.78	56.00	46.00	-21.48	-19.22
5	1.79297	0.15	26.19	16.57	26.34	16.72	56.00	46.00	-29.66	-29.28
6	7.67969	0.33	24.67	16.79	25.00	17.12	60.00	50.00	-35.00	-32.88

REMARKS:

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





A D T

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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 (dB_{uV/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.



A D T

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dB μ V/m) *NOTE 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27 *NOTE 1	68.3
	-17 *NOTE 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

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



A D T

4.2.3 TEST INSTRUMENTS

For below 1GHz and above 1GHz of 802.11a channel 52:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
Pre-Selector Agilent	N9039A	MY46520310	Sep. 03, 2012	Sep. 02, 2013
Signal Generator Agilent	N5181A	MY49060347	July 24, 2012	July 23, 2013
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 15, 2011	Nov. 14, 2012
Pre-Amplifier Agilent	8449B	3008A02465	Feb. 27, 2012	Feb. 26, 2013
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Apr. 06, 2012	Apr. 05, 2013
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 23, 2011	Nov. 22, 2012
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 27, 2011	Dec. 26, 2012
RF Cable	NA	CHHCAB_001	Oct. 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: Oct. 16 to 19, 2012



A D T

For above 1GHz: (for other test channels)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012
Agilent Pre-Selector	N9039A	MY46520311	July 12, 2011	July 11, 2012
Agilent Signal Generator	N5181A	MY49060517	July 12, 2011	July 11, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-03	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02578	July 04, 2011	July 03, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-360	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000320091110	Nov. 14, 2011	Nov. 13, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-201 RF104-203 RF104-204	Dec. 26, 2011	Dec. 25, 2012
RF Cable	NA	CHGCAB_001	Oct. 07, 2011	Oct. 06, 2012
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	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. 13, 2012



A D T

4.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meters chamber room test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

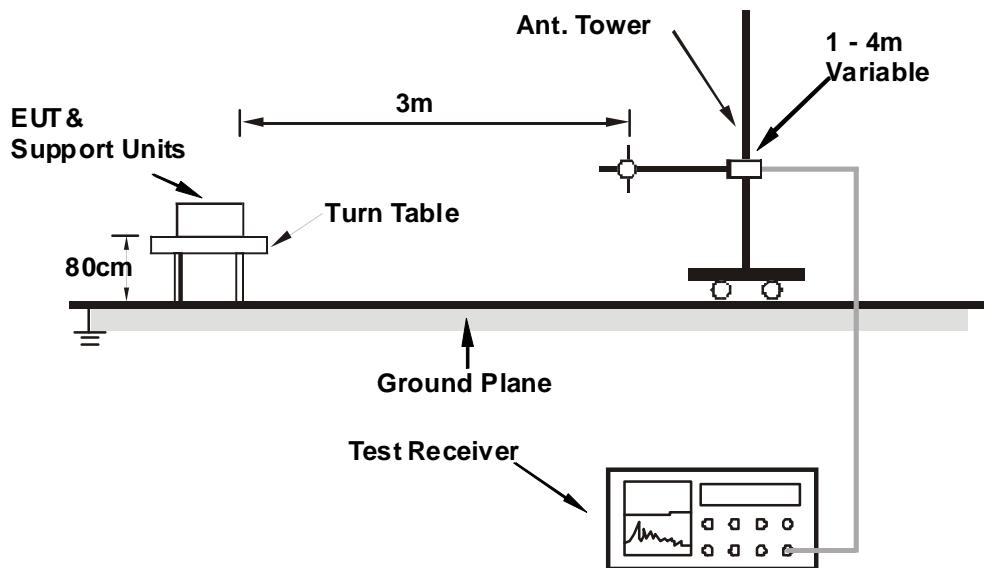
NOTE:

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

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



A D T

4.2.8 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

CHANNEL	TX Channel 52	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	48.00	26.1 QP	40.0	-14.0	1.50 H	224	12.06	13.99
2	97.62	28.4 QP	43.5	-15.2	2.00 H	75	18.95	9.40
3	146.05	30.7 QP	43.5	-12.8	1.00 H	52	16.28	14.40
4	202.30	30.9 QP	43.5	-12.6	1.50 H	0	19.73	11.14
5	240.08	32.3 QP	46.0	-13.7	1.00 H	85	19.48	12.85
6	747.76	29.9 QP	46.0	-16.1	1.50 H	271	5.26	24.60

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	48.00	36.0 QP	40.0	-4.0	1.00 V	290	22.04	13.99
2	143.09	33.2 QP	43.5	-10.3	1.00 V	332	18.96	14.28
3	270.04	29.4 QP	46.0	-16.6	2.00 V	18	15.33	14.11
4	308.06	29.8 QP	46.0	-16.3	2.00 V	144	14.24	15.51
5	848.30	32.0 QP	46.0	-14.0	1.00 V	226	5.66	26.34
6	959.97	33.8 QP	46.0	-12.2	1.00 V	0	5.63	28.15

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.



A D T

ABOVE 1GHz DATA

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	69.1 PK	74.0	-4.9	1.38 H	334	29.08	40.02
2	5150.00	52.8 AV	54.0	-1.2	1.38 H	334	12.78	40.02
3	*5180.00	114.6 PK			1.24 H	349	74.52	40.08
4	*5180.00	100.9 AV			1.24 H	349	60.82	40.08
5	#10360.00	56.2 PK	68.3	-12.1	1.31 H	141	9.74	46.46
6	15540.00	62.7 PK	74.0	-11.3	1.19 H	257	11.26	51.44
7	15540.00	50.2 AV	54.0	-3.8	1.19 H	257	-1.24	51.44

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.1 PK	74.0	-12.9	1.25 V	102	21.08	40.02
2	5150.00	47.8 AV	54.0	-6.2	1.25 V	102	7.78	40.02
3	*5180.00	105.9 PK			1.24 V	102	65.82	40.08
4	*5180.00	93.1 AV			1.24 V	102	53.02	40.08
5	#10360.00	55.7 PK	68.3	-12.6	1.11 V	173	9.24	46.46
6	15540.00	62.1 PK	74.0	-11.9	1.16 V	124	10.66	51.44
7	15540.00	49.9 AV	54.0	-4.1	1.16 V	124	-1.54	51.44

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.1 PK			1.19 H	16	71.98	40.12
2	*5200.00	99.1 AV			1.19 H	16	58.98	40.12
3	#10400.00	56.5 PK	68.3	-11.8	1.27 H	138	10.02	46.48
4	15600.00	62.7 PK	74.0	-11.3	1.19 H	270	11.30	51.40
5	15600.00	49.9 AV	54.0	-4.1	1.19 H	270	-1.50	51.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	105.8 PK			1.20 V	101	65.68	40.12
2	*5200.00	93.8 AV			1.20 V	101	53.68	40.12
3	#10400.00	56.2 PK	68.3	-12.1	1.12 V	174	9.72	46.48
4	15600.00	62.1 PK	74.0	-11.9	1.11 V	110	10.70	51.40
5	15600.00	50.2 AV	54.0	-3.8	1.11 V	110	-1.20	51.40

REMARKS:

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



A D T

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.0 PK			1.17 H	27	71.75	40.25
2	*5240.00	99.2 AV			1.17 H	27	58.95	40.25
3	#10480.00	56.5 PK	68.3	-11.8	1.27 H	124	9.98	46.52
4	15720.00	62.9 PK	74.0	-11.1	1.20 H	266	11.57	51.33
5	15720.00	50.1 AV	54.0	-3.9	1.20 H	266	-1.23	51.33
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	*5240.00	108.4 PK			1.17 V	101	68.15	40.25
2	*5240.00	94.1 AV			1.17 V	101	53.85	40.25
3	#10480.00	55.6 PK	68.3	-12.7	1.09 V	171	9.08	46.52
4	15720.00	62.1 PK	74.0	-11.9	1.17 V	119	10.77	51.33
5	15720.00	50.0 AV	54.0	-4.0	1.17 V	119	-1.33	51.33

REMARKS:

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



A D T

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	115.4 PK			1.19 H	49	75.09	40.31
2	*5260.00	102.1 AV			1.19 H	49	61.79	40.31
3	5350.00	61.2 PK	74.0	-12.8	1.10 H	54	20.63	40.57
4	5350.00	51.4 AV	54.0	-2.6	1.10 H	54	10.83	40.57
5	#10520.00	57.0 PK	68.3	-11.3	1.27 H	110	10.39	46.61
6	15780.00	63.4 PK	74.0	-10.6	1.19 H	263	11.88	51.52
7	15780.00	50.4 AV	54.0	-3.6	1.19 H	263	-1.12	51.52

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	*5260.00	111.8 PK			1.09 V	122	71.49	40.31
2	*5260.00	98.4 AV			1.09 V	122	58.09	40.31
3	#10520.00	56.7 PK	68.3	-11.6	1.00 V	145	10.09	46.61
4	15780.00	63.4 PK	74.0	-10.6	1.09 V	104	11.88	51.52
5	15780.00	50.9 AV	54.0	-3.1	1.09 V	104	-0.62	51.52

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



A D T

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	114.4 PK			1.07 H	51	73.96	40.44
2	*5300.00	101.7 AV			1.07 H	51	61.26	40.44
3	5350.00	66.5 PK	74.0	-7.5	1.10 H	56	25.93	40.57
4	5350.00	52.2 AV	54.0	-1.8	1.10 H	56	11.63	40.57
5	10600.00	57.5 PK	74.0	-16.5	1.29 H	112	10.56	46.94
6	10600.00	44.5 AV	54.0	-9.5	1.29 H	112	-2.44	46.94
7	15900.00	63.2 PK	74.0	-10.8	1.16 H	270	11.69	51.51
8	15900.00	50.2 AV	54.0	-3.8	1.16 H	270	-1.31	51.51

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	*5300.00	111.4 PK			1.08 V	105	70.96	40.44
2	*5300.00	97.6 AV			1.08 V	105	57.16	40.44
3	10600.00	56.2 PK	74.0	-17.8	1.10 V	160	9.26	46.94
4	10600.00	44.2 AV	54.0	-9.8	1.10 V	160	-2.74	46.94
5	15900.00	62.1 PK	74.0	-11.9	1.15 V	111	10.59	51.51
6	15900.00	50.1 AV	54.0	-3.9	1.15 V	111	-1.41	51.51

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.



A D T

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.9 PK			1.33 H	347	72.41	40.49
2	*5320.00	100.2 AV			1.33 H	347	59.71	40.49
3	5350.00	67.7 PK	74.0	-6.3	1.33 H	347	27.13	40.57
4	5350.00	52.7 AV	54.0	-1.3	1.33 H	347	12.13	40.57
5	10640.00	56.9 PK	74.0	-17.1	1.22 H	139	9.94	46.96
6	10640.00	43.6 AV	54.0	-10.4	1.22 H	139	-3.36	46.96
7	15960.00	63.0 PK	74.0	-11.0	1.24 H	275	11.51	51.49
8	15960.00	50.4 AV	54.0	-3.6	1.24 H	275	-1.09	51.49
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	*5320.00	107.8 PK			1.32 V	93	67.31	40.49
2	*5320.00	93.7 AV			1.32 V	93	53.21	40.49
3	5350.00	59.9 PK	74.0	-14.1	1.29 V	109	19.33	40.57
4	5350.00	48.8 AV	54.0	-5.2	1.29 V	109	8.23	40.57
5	10640.00	55.3 PK	74.0	-18.7	1.10 V	151	8.34	46.96
6	10640.00	43.2 AV	54.0	-10.8	1.10 V	151	-3.76	46.96
7	15960.00	61.6 PK	74.0	-12.4	1.09 V	99	10.11	51.49
8	15960.00	49.6 AV	54.0	-4.4	1.09 V	99	-1.89	51.49

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.



A D T

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.3 PK	74.0	-12.7	1.29 H	338	20.45	40.85
2	5460.00	49.2 AV	54.0	-4.8	1.29 H	338	8.35	40.85
3	#5470.00	66.7 PK	68.3	-1.6	1.29 H	342	25.83	40.87
4	*5500.00	112.4 PK			1.29 H	338	71.45	40.95
5	*5500.00	99.3 AV			1.29 H	338	58.35	40.95
6	11000.00	56.2 PK	74.0	-17.8	1.31 H	111	8.71	47.49
7	11000.00	43.4 AV	54.0	-10.6	1.31 H	111	-4.09	47.49
8	#16500.00	62.9 PK	68.3	-5.4	1.15 H	274	9.79	53.11
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	1.26 V	90	17.75	40.85
2	5460.00	46.9 AV	54.0	-7.1	1.26 V	90	6.05	40.85
3	#5470.00	59.4 PK	68.3	-8.9	1.22 V	87	18.53	40.87
4	*5500.00	104.5 PK			1.25 V	85	63.55	40.95
5	*5500.00	92.1 AV			1.25 V	85	51.15	40.95
6	11000.00	55.6 PK	74.0	-18.4	1.04 V	150	8.11	47.49
7	11000.00	43.3 AV	54.0	-10.7	1.04 V	150	-4.19	47.49
8	#16500.00	61.5 PK	68.3	-6.8	1.08 V	110	8.39	53.11

REMARKS:

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



A D T

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	115.7 PK			1.01 H	63	74.52	41.18
2	*5580.00	103.4 AV			1.01 H	63	62.22	41.18
3	11160.00	57.0 PK	74.0	-17.0	1.24 H	154	9.49	47.51
4	11160.00	43.6 AV	54.0	-10.4	1.24 H	154	-3.91	47.51
5	#16740.00	63.1 PK	68.3	-5.2	1.20 H	264	10.12	52.98
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	*5580.00	110.2 PK			1.10 V	119	69.02	41.18
2	*5580.00	96.5 AV			1.10 V	119	55.32	41.18
3	11160.00	55.0 PK	74.0	-19.0	1.19 V	164	7.49	47.51
4	11160.00	42.2 AV	54.0	-11.8	1.19 V	164	-5.31	47.51
5	#16740.00	61.8 PK	68.3	-6.5	1.21 V	102	8.82	52.98

REMARKS:

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



A D T

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	115.7 PK			1.67 H	343	74.27	41.43
2	*5660.00	102.7 AV			1.67 H	343	61.27	41.43
3	11320.00	57.4 PK	74.0	-16.6	1.18 H	158	9.90	47.50
4	11320.00	43.7 AV	54.0	-10.3	1.18 H	158	-3.80	47.50
5	#16980.00	63.1 PK	68.3	-5.2	1.17 H	263	9.93	53.17
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	*5660.00	109.6 PK			1.27 V	87	68.17	41.43
2	*5660.00	96.7 AV			1.27 V	87	55.27	41.43
3	11320.00	55.0 PK	74.0	-19.0	1.12 V	164	7.50	47.50
4	11320.00	42.4 AV	54.0	-11.6	1.12 V	164	-5.10	47.50
5	#16980.00	61.1 PK	68.3	-7.2	1.16 V	131	7.93	53.17

REMARKS:

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



A D T

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.8 PK			1.22 H	337	70.24	41.56
2	*5700.00	99.1 AV			1.22 H	337	57.54	41.56
3	#5725.00	66.3 PK	68.3	-2.0	1.23 H	342	24.66	41.64
4	11400.00	57.6 PK	74.0	-16.4	1.24 H	152	9.93	47.67
5	11400.00	44.1 AV	54.0	-9.9	1.24 H	152	-3.57	47.67
6	#17100.00	63.1 PK	68.3	-5.2	1.19 H	252	9.81	53.29
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	*5700.00	102.9 PK			1.33 V	92	61.34	41.56
2	*5700.00	90.9 AV			1.33 V	92	49.34	41.56
3	#5725.00	60.3 PK	68.3	-8.0	1.33 V	105	18.66	41.64
4	11400.00	54.8 PK	74.0	-19.2	1.16 V	179	7.13	47.67
5	11400.00	42.6 AV	54.0	-11.4	1.16 V	179	-5.07	47.67
6	#17100.00	60.8 PK	68.3	-7.5	1.19 V	139	7.51	53.29

REMARKS:

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



A D T

802.11n (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.9 PK	74.0	-10.1	1.33 H	334	23.88	40.02
2	5150.00	52.9 AV	54.0	-1.1	1.33 H	334	12.88	40.02
3	*5180.00	114.3 PK			1.20 H	344	74.22	40.08
4	*5180.00	100.9 AV			1.20 H	344	60.82	40.08
5	#10360.00	57.1 PK	68.3	-11.2	1.28 H	142	10.64	46.46
6	15540.00	63.5 PK	74.0	-10.5	1.23 H	253	12.06	51.44
7	15540.00	50.9 AV	54.0	-3.1	1.23 H	253	-0.54	51.44
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.6 PK	74.0	-10.4	1.20 V	106	23.58	40.02
2	5150.00	49.3 AV	54.0	-4.7	1.20 V	106	9.28	40.02
3	*5180.00	106.9 PK			1.24 V	105	66.82	40.08
4	*5180.00	92.9 AV			1.24 V	105	52.82	40.08
5	#10360.00	55.0 PK	68.3	-13.3	1.10 V	183	8.54	46.46
6	15540.00	60.6 PK	74.0	-13.4	1.20 V	151	9.16	51.44
7	15540.00	48.5 AV	54.0	-5.5	1.20 V	151	-2.94	51.44

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	112.1 PK			1.19 H	35	71.98	40.12
2	*5200.00	99.3 AV			1.19 H	35	59.18	40.12
3	#10400.00	57.8 PK	68.3	-10.5	1.26 H	156	11.32	46.48
4	15600.00	63.5 PK	74.0	-10.5	1.22 H	248	12.10	51.40
5	15600.00	50.9 AV	54.0	-3.1	1.22 H	248	-0.50	51.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	107.4 PK			1.23 V	102	67.28	40.12
2	*5200.00	93.4 AV			1.23 V	102	53.28	40.12
3	#10400.00	54.9 PK	68.3	-13.4	1.14 V	173	8.42	46.48
4	15600.00	60.8 PK	74.0	-13.2	1.19 V	120	9.40	51.40
5	15600.00	48.8 AV	54.0	-5.2	1.19 V	120	-2.60	51.40

REMARKS:

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



A D T

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	112.3 PK			1.23 H	23	72.05	40.25
2	*5240.00	99.2 AV			1.23 H	23	58.95	40.25
3	#10480.00	57.1 PK	68.3	-11.2	1.32 H	131	10.58	46.52
4	15720.00	63.7 PK	74.0	-10.3	1.18 H	257	12.37	51.33
5	15720.00	51.2 AV	54.0	-2.8	1.18 H	257	-0.13	51.33
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	*5240.00	108.0 PK			1.22 V	107	67.75	40.25
2	*5240.00	93.6 AV			1.22 V	107	53.35	40.25
3	#10480.00	54.6 PK	68.3	-13.7	1.19 V	175	8.08	46.52
4	15720.00	60.6 PK	74.0	-13.4	1.17 V	134	9.27	51.33
5	15720.00	48.7 AV	54.0	-5.3	1.17 V	134	-2.63	51.33

REMARKS:

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



A D T

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	116.1 PK			1.11 H	17	75.79	40.31
2	*5260.00	104.4 AV			1.11 H	17	64.09	40.31
3	5350.00	62.7 PK	74.0	-11.3	1.11 H	65	22.13	40.57
4	5350.00	52.7 AV	54.0	-1.3	1.11 H	65	12.13	40.57
5	#10520.00	57.8 PK	68.3	-10.5	1.28 H	143	11.19	46.61
6	15780.00	63.8 PK	74.0	-10.2	1.21 H	268	12.28	51.52
7	15780.00	50.9 AV	54.0	-3.1	1.21 H	268	-0.62	51.52

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	*5260.00	109.8 PK			1.22 V	102	69.49	40.31
2	*5260.00	96.5 AV			1.22 V	102	56.19	40.31
3	#10520.00	55.5 PK	68.3	-12.8	1.14 V	143	8.89	46.61
4	15780.00	61.7 PK	74.0	-12.3	1.21 V	109	10.18	51.52
5	15780.00	49.5 AV	54.0	-4.5	1.21 V	109	-2.02	51.52

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



A D T

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.7 PK			1.67 H	344	70.12	42.58
2	*5300.00	97.9 AV			1.67 H	344	55.32	42.58
3	5350.00	65.1 PK	74.0	-8.9	1.67 H	344	22.51	42.59
4	5350.00	50.2 AV	54.0	-3.8	1.67 H	344	7.61	42.59
5	10600.00	56.1 PK	74.0	-17.9	1.02 H	222	6.75	49.35
6	10600.00	43.5 AV	54.0	-10.5	1.02 H	222	-5.81	49.35
7	15900.00	62.6 PK	74.0	-11.4	1.26 H	333	7.51	55.09
8	15900.00	50.9 AV	54.0	-3.1	1.26 H	333	-4.19	55.09

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	*5300.00	106.9 PK			1.11 V	262	64.32	42.58
2	*5300.00	93.8 AV			1.11 V	262	51.22	42.58
3	10600.00	54.9 PK	74.0	-19.1	1.42 V	324	5.55	49.35
4	10600.00	42.9 AV	54.0	-11.1	1.42 V	324	-6.45	49.35
5	15900.00	63.6 PK	74.0	-10.4	1.21 V	192	8.51	55.09
6	15900.00	49.8 AV	54.0	-4.2	1.21 V	192	-5.29	55.09

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.



A D T

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.5 PK			1.35 H	338	73.01	40.49
2	*5320.00	98.9 AV			1.35 H	338	58.41	40.49
3	5350.00	63.6 PK	74.0	-10.4	1.36 H	338	23.03	40.57
4	5350.00	52.1 AV	54.0	-1.9	1.36 H	338	11.53	40.57
5	10640.00	57.5 PK	74.0	-16.5	1.21 H	170	10.54	46.96
6	10640.00	43.6 AV	54.0	-10.4	1.21 H	170	-3.36	46.96
7	15960.00	63.4 PK	74.0	-10.6	1.17 H	261	11.91	51.49
8	15960.00	51.0 AV	54.0	-3.0	1.17 H	261	-0.49	51.49
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	*5320.00	108.2 PK			1.32 V	101	67.71	40.49
2	*5320.00	94.4 AV			1.32 V	101	53.91	40.49
3	5350.00	60.4 PK	74.0	-13.6	1.30 V	100	19.83	40.57
4	5350.00	49.6 AV	54.0	-4.4	1.30 V	100	9.03	40.57
5	10640.00	55.0 PK	74.0	-19.0	1.20 V	169	8.04	46.96
6	10640.00	42.5 AV	54.0	-11.5	1.20 V	169	-4.46	46.96
7	15960.00	60.9 PK	74.0	-13.1	1.20 V	126	9.41	51.49
8	15960.00	49.0 AV	54.0	-5.0	1.20 V	126	-2.49	51.49

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.



A D T

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.1 PK	74.0	-11.9	1.22 H	339	21.25	40.85
2	5460.00	49.2 AV	54.0	-4.8	1.22 H	339	8.35	40.85
3	#5470.00	66.4 PK	68.3	-1.9	1.18 H	340	25.53	40.87
4	*5500.00	112.9 PK			1.18 H	340	71.95	40.95
5	*5500.00	98.1 AV			1.18 H	340	57.15	40.95
6	11000.00	56.2 PK	74.0	-17.8	1.35 H	173	8.71	47.49
7	11000.00	43.6 AV	54.0	-10.4	1.35 H	173	-3.89	47.49
8	#16500.00	62.2 PK	68.3	-6.1	1.27 H	260	9.09	53.11
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.3 PK	74.0	-14.7	1.15 V	162	18.45	40.85
2	5460.00	46.9 AV	54.0	-7.1	1.15 V	162	6.05	40.85
3	#5470.00	59.7 PK	68.3	-8.6	1.16 V	154	18.83	40.87
4	*5500.00	100.4 PK			1.11 V	158	59.45	40.95
5	*5500.00	87.3 AV			1.11 V	158	46.35	40.95
6	11000.00	55.3 PK	74.0	-18.7	1.17 V	183	7.81	47.49
7	11000.00	42.8 AV	54.0	-11.2	1.17 V	183	-4.69	47.49
8	#16500.00	61.0 PK	68.3	-7.3	1.23 V	115	7.89	53.11

REMARKS:

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



A D T

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.6 PK	74.0	-8.4	1.10 H	15	24.75	40.85
2	5460.00	52.8 AV	54.0	-1.2	1.10 H	15	11.95	40.85
3	*5580.00	116.9 PK			1.09 H	8	75.72	41.18
4	*5580.00	104.3 AV			1.09 H	8	63.12	41.18
5	11160.00	57.3 PK	74.0	-16.7	1.39 H	163	9.79	47.51
6	11160.00	44.8 AV	54.0	-9.2	1.39 H	163	-2.71	47.51
7	#16740.00	63.1 PK	68.3	-5.2	1.31 H	268	10.12	52.98

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	*5580.00	110.3 PK			1.22 V	122	69.12	41.18
2	*5580.00	97.8 AV			1.22 V	122	56.62	41.18
3	11160.00	56.5 PK	74.0	-17.5	1.10 V	150	8.99	47.51
4	11160.00	43.5 AV	54.0	-10.5	1.10 V	150	-4.01	47.51
5	#16740.00	62.6 PK	68.3	-5.7	1.18 V	118	9.62	52.98

REMARKS:

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



A D T

CHANNEL	TX Channel 132	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	115.7 PK			1.15 H	11	74.27	41.43
2	*5660.00	103.0 AV			1.15 H	11	61.57	41.43
3	11320.00	58.0 PK	74.0	-16.0	1.23 H	158	10.50	47.50
4	11320.00	43.9 AV	54.0	-10.1	1.23 H	158	-3.60	47.50
5	#16980.00	63.4 PK	68.3	-4.9	1.15 H	255	10.23	53.17
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	*5660.00	109.8 PK			1.26 V	137	68.37	41.43
2	*5660.00	97.4 AV			1.26 V	137	55.97	41.43
3	11320.00	55.5 PK	74.0	-18.5	1.16 V	189	8.00	47.50
4	11320.00	43.2 AV	54.0	-10.8	1.16 V	189	-4.30	47.50
5	#16980.00	60.9 PK	68.3	-7.4	1.17 V	101	7.73	53.17

REMARKS:

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



A D T

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	111.8 PK			1.24 H	344	70.24	41.56
2	*5700.00	97.4 AV			1.24 H	344	55.84	41.56
3	#5725.00	66.7 PK	68.3	-1.6	1.23 H	344	25.06	41.64
4	11400.00	57.9 PK	74.0	-16.1	1.16 H	171	10.23	47.67
5	11400.00	43.8 AV	54.0	-10.2	1.16 H	171	-3.87	47.67
6	#17100.00	63.5 PK	68.3	-4.8	1.22 H	266	10.21	53.29
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	*5700.00	100.8 PK			1.22 V	135	59.24	41.56
2	*5700.00	88.5 AV			1.22 V	135	46.94	41.56
3	#5725.00	60.4 PK	68.3	-7.9	1.21 V	133	18.76	41.64
4	11400.00	55.6 PK	74.0	-18.4	1.10 V	150	7.93	47.67
5	11400.00	43.4 AV	54.0	-10.6	1.10 V	150	-4.27	47.67
6	#17100.00	61.7 PK	68.3	-6.6	1.19 V	117	8.41	53.29

REMARKS:

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



A D T

4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF TRANSMIT POWER MEASUREMENT

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

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

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
Power Sensor	MA2411B	0738172	May 03, 2011	May 02, 2012

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. 12, 2012

FOR 26dB OCCUPIED BANDWIDTH

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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. 12, 2012



A D T

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

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

4.3.4 DEVIATION FROM TEST STANDARD

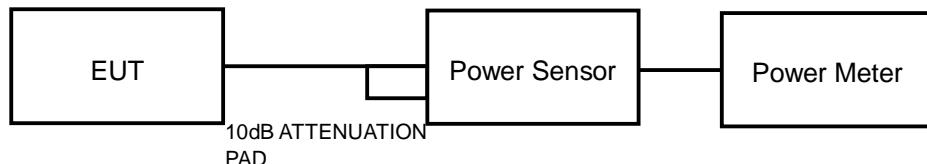
No deviation



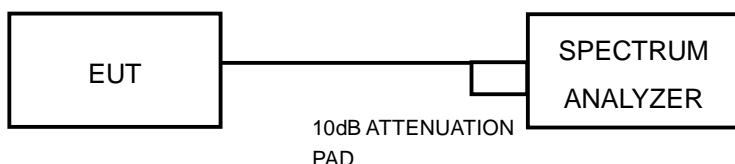
A D T

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

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



A D T

4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	26.915	14.30	17	PASS
40	5200	27.542	14.40	17	PASS
48	5240	26.303	14.20	17	PASS
52	5260	100.000	20.00	24	PASS
60	5300	95.499	19.80	24	PASS
64	5320	40.738	16.10	24	PASS
100	5500	25.704	14.10	24	PASS
116	5580	93.325	19.70	24	PASS
132	5660	38.905	15.90	24	PASS
140	5700	14.454	11.60	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	20.893	13.20	17	PASS
40	5200	20.893	13.20	17	PASS
48	5240	20.417	13.10	17	PASS
52	5260	79.433	19.00	24	PASS
60	5300	75.858	18.80	24	PASS
64	5320	30.903	14.90	24	PASS
100	5500	19.498	12.90	24	PASS
116	5580	79.433	19.00	24	PASS
132	5660	29.512	14.70	24	PASS
140	5700	11.220	10.50	24	PASS



A D T

26dB BANDWIDTH:**802.11a**

CHANNEL	FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	21.56
40	5200	22.08
48	5240	21.73
52	5260	38.01
60	5300	40.55
64	5320	24.24
100	5500	21.26
116	5580	48.64
132	5660	31.38
140	5700	22.15

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	23.34
40	5200	22.24
48	5240	22.65
52	5260	41.06
60	5300	40.60
64	5320	27.57
100	5500	23.24
116	5580	48.19
132	5660	33.87
140	5700	22.97



A D T

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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. 12, 2012

4.4.3 TEST PROCEDURES

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Sweep time = auto, trigger set to “free run”.
- 4) Trace average at least 100 traces in power averaging mode.
- 5) Record the max value

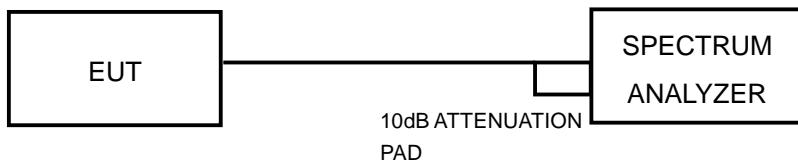
4.4.4 DEVIATION FROM TEST STANDARD

No deviation



A D T

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6



A D T

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.60	4	PASS
40	5200	3.46	4	PASS
48	5240	3.76	4	PASS
52	5260	8.79	11	PASS
60	5300	9.01	11	PASS
64	5320	5.45	11	PASS
100	5500	2.57	11	PASS
116	5580	8.40	11	PASS
132	5660	4.83	11	PASS
140	5700	1.04	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.67	4	PASS
40	5200	3.48	4	PASS
48	5240	3.48	4	PASS
52	5260	8.59	11	PASS
60	5300	8.67	11	PASS
64	5320	5.90	11	PASS
100	5500	3.26	11	PASS
116	5580	8.18	11	PASS
132	5660	4.68	11	PASS
140	5700	0.69	11	PASS



A D T

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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 : Feb. 23, 2012

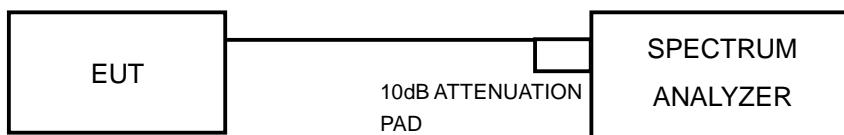
4.5.3 TEST PROCEDURE

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

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



A D T

4.5.7 TEST RESULTS

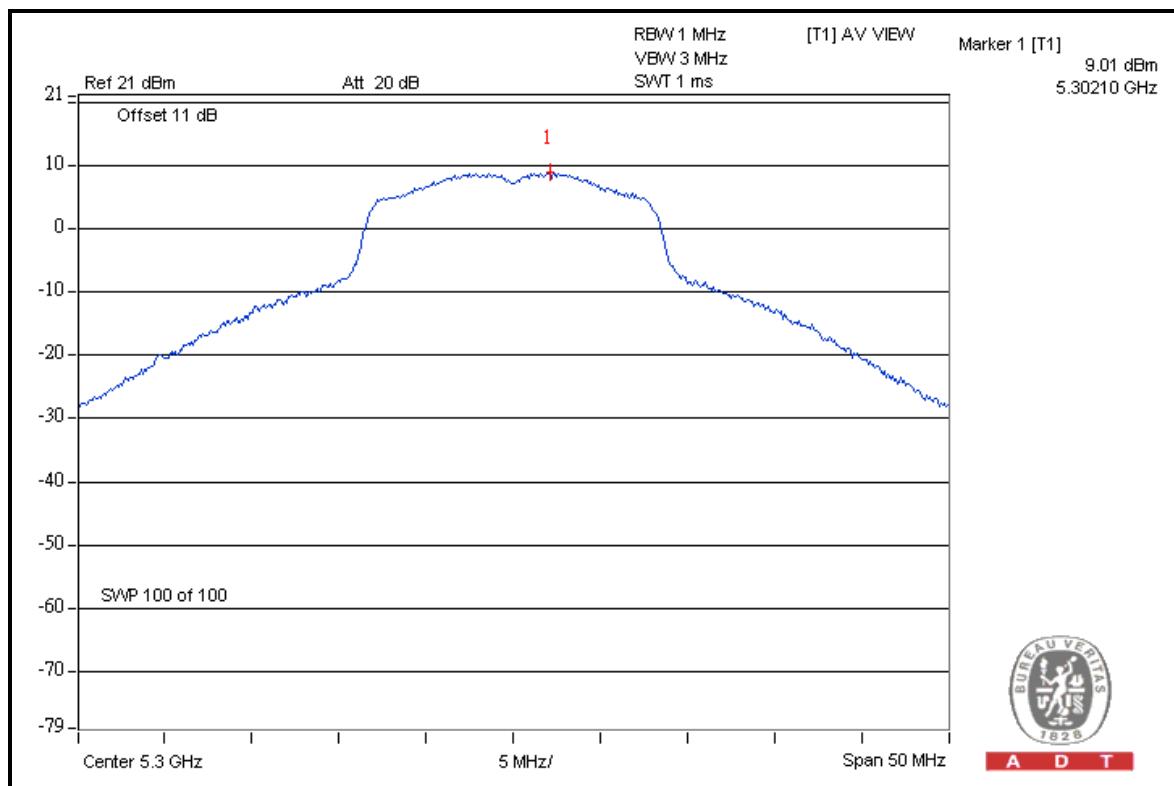
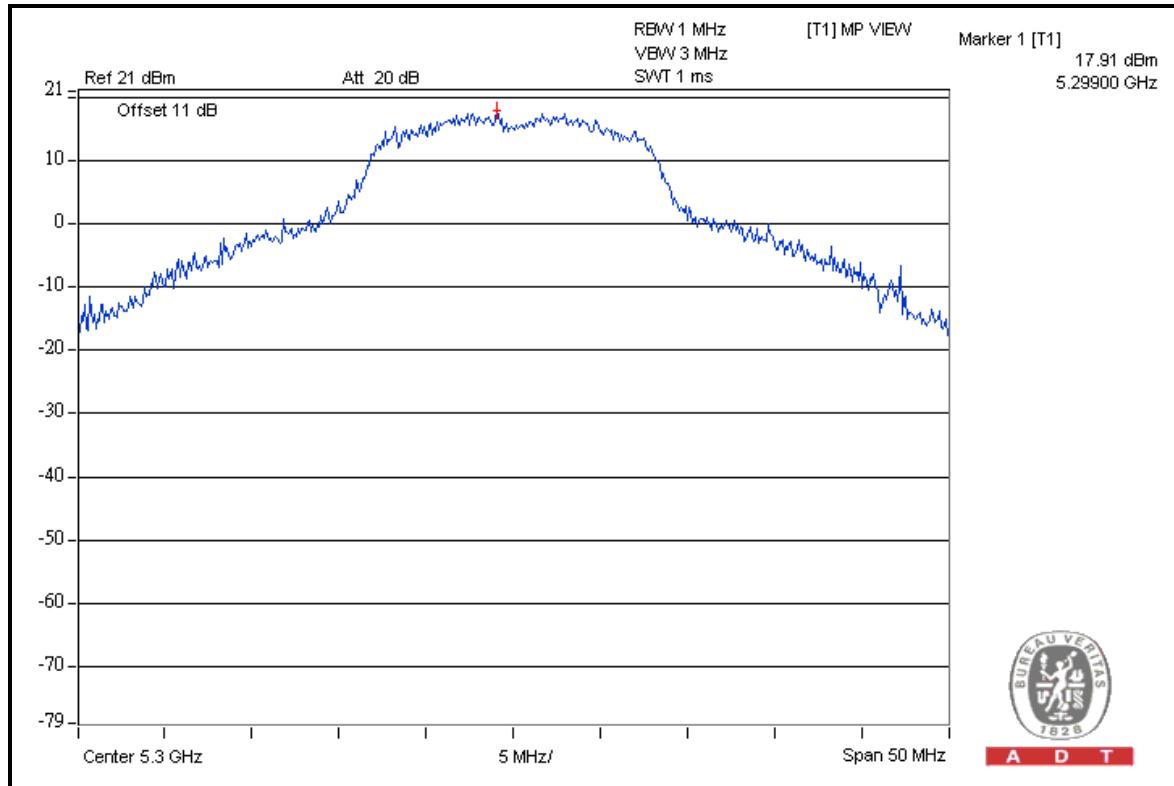
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK Excursion (dB)	LIMIT (dB)	PASS/FAIL
36	5180	10.01	3.60	6.41	13	PASS
40	5200	9.83	3.46	6.37	13	PASS
48	5240	9.71	3.76	5.95	13	PASS
52	5260	17.40	8.79	8.61	13	PASS
60	5300	17.91	9.01	8.90	13	PASS
64	5320	11.02	5.45	5.57	13	PASS
100	5500	8.54	2.57	5.97	13	PASS
116	5580	17.16	8.40	8.76	13	PASS
132	5660	10.65	4.83	5.82	13	PASS
140	5700	7.08	1.04	6.04	13	PASS



A D T

CH 60





A D T

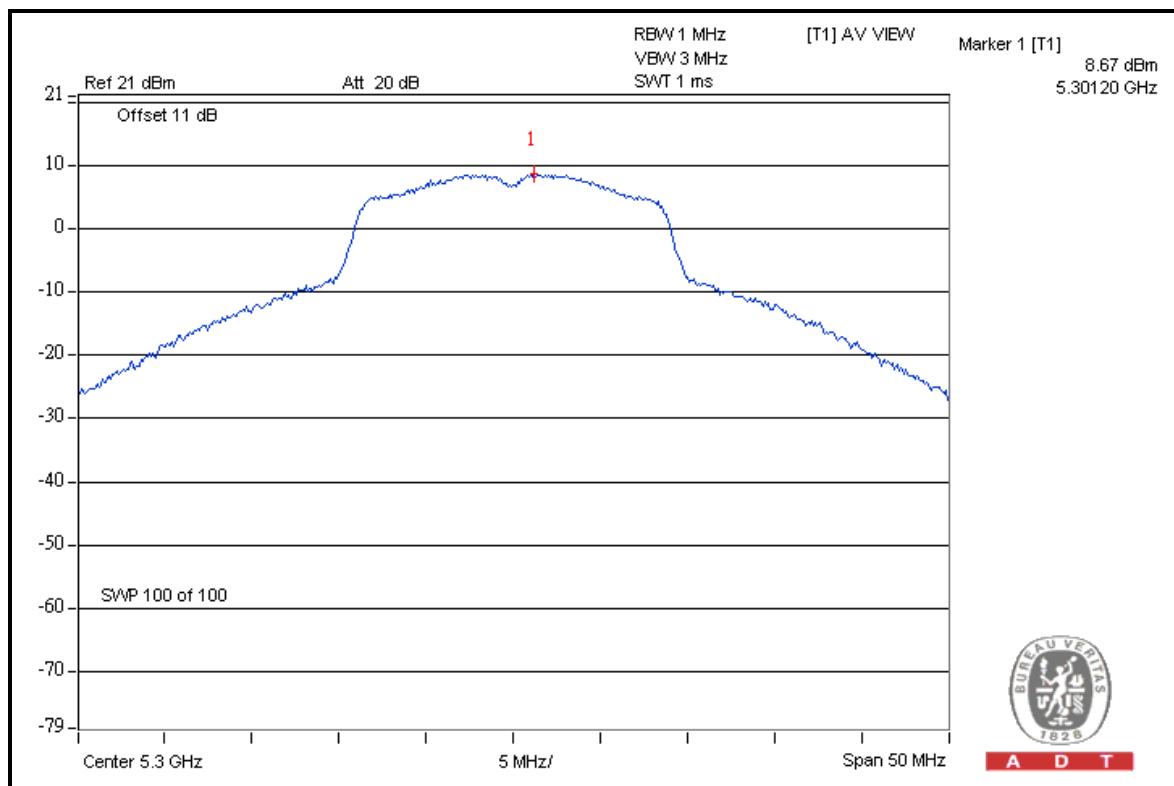
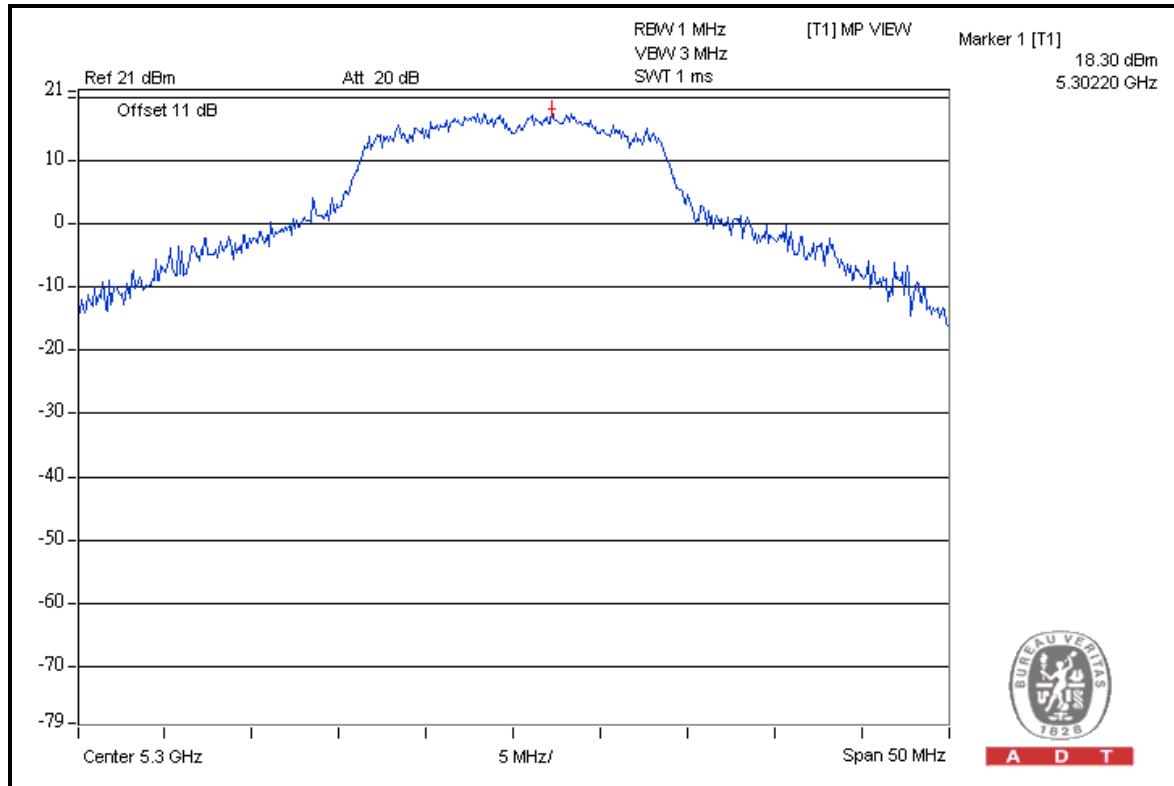
802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK Excursion (dB)	LIMIT (dB)	PASS/FAIL
36	5180	11.84	3.67	8.17	13	PASS
40	5200	10.18	3.48	6.70	13	PASS
48	5240	10.40	3.48	6.92	13	PASS
52	5260	17.47	8.59	8.88	13	PASS
60	5300	18.30	8.67	9.63	13	PASS
64	5320	14.66	5.90	8.76	13	PASS
100	5500	10.89	3.26	7.63	13	PASS
116	5580	17.01	8.18	8.83	13	PASS
132	5660	11.32	4.68	6.64	13	PASS
140	5700	9.04	0.69	8.35	13	PASS



A D T

CH 60





A D T

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 11, 2011	May 10, 2012

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. 12, 2012

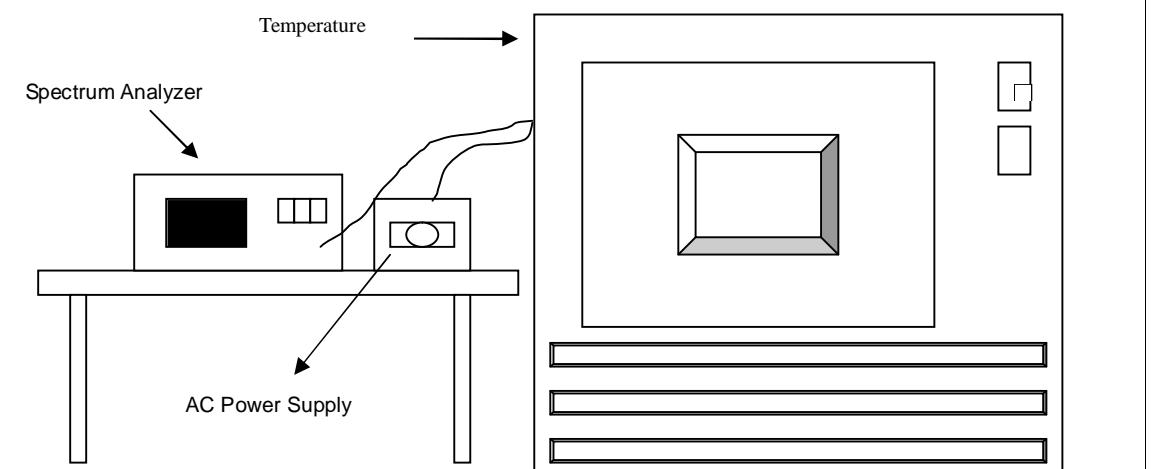
4.6.3 TEST PROCEDURE

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

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



A D T

4.6.7 TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift						
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
50	120	5320.0052	0.9774	5320.0014	0.2632	5320.0053	0.9962	5320.0075	1.4098
40	120	5320.0234	4.3985	5320.0221	4.1541	5320.024	4.5113	5320.0211	3.9662
30	120	5320.0117	2.1992	5320.0054	1.0150	5320.0102	1.9173	5320.0135	2.5376
20	120	5319.9783	-4.0789	5319.9791	-3.9286	5319.9792	-3.9098	5319.976	-4.5113
10	120	5319.9926	-1.3910	5319.9905	-1.7857	5319.9898	-1.9173	5319.9905	-1.7857
0	120	5320.0042	0.7895	5320.0066	1.2406	5320.0092	1.7293	5320.0067	1.2594
-10	120	5319.9964	-0.6767	5319.9968	-0.6015	5319.9987	-0.2444	5320.002	0.3759
-20	120	5320.0076	1.4286	5320.01	1.8797	5320.0057	1.0714	5320.0026	0.4887
-30	120	5319.9882	-2.2180	5319.9857	-2.6880	5319.9882	-2.2180	5319.9846	-2.8947

FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift						
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
20	138	5319.9777	-4.1917	5319.9798	-3.7970	5319.9781	-4.1165	5319.9757	-4.5677
	120	5319.9783	-4.0789	5319.9791	-3.9286	5319.9792	-3.9098	5319.976	-4.5113
	102	5319.9776	-4.2105	5319.9802	-3.7218	5319.9787	-4.0038	5319.9758	-4.5489



A D T

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

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.

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5.phtml.

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

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.adt.com.tw

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



A D T

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 ---