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# FCC TEST REPORT (WLAN 15.247)

**REPORT NO.:** RF130923D14

**MODEL NO.:** DC-NU2-UMPC

**FCC ID:** 2AA69001

**RECEIVED:** Sep. 23, 2013

**TESTED:** Sep. 24 ~ Oct. 24, 2013

**ISSUED:** Oct. 25, 2013

**APPLICANT:** Capsule Technologie SAS

**ADDRESS:** 9 villa Pierre Ginier 75018 Paris, France

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

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A D T

## TABLE OF CONTENTS

RELEASE CONTROL RECORD.....	4
1. CERTIFICATION.....	5
2. SUMMARY OF TEST RESULTS .....	6
2.1 MEASUREMENT UNCERTAINTY.....	6
3. GENERAL INFORMATION.....	7
3.1 GENERAL DESCRIPTION OF EUT .....	7
3.2 DESCRIPTION OF TEST MODES .....	9
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL .....	10
3.3 DUTY CYCLE OF TEST SIGNAL.....	13
3.4 DESCRIPTION OF SUPPORT UNITS .....	15
3.4.1 CONFIGURATION OF SYSTEM UNDER TEST .....	15
3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS .....	16
4. TEST TYPES AND RESULTS .....	17
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT .....	17
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT .....	17
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.....	20
4.1.6 EUT OPERATING CONDITIONS .....	20
4.1.7 TEST RESULTS .....	21
4.2 CONDUCTED EMISSION MEASUREMENT .....	43
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT .....	43
4.2.2 TEST INSTRUMENTS.....	43
4.2.3 TEST PROCEDURES .....	44
4.2.4 DEVIATION FROM TEST STANDARD.....	44
4.2.5 TEST SETUP.....	44
4.2.6 EUT OPERATING CONDITIONS .....	44
4.2.7 TEST RESULTS .....	45
4.3 6dB BANDWIDTH MEASUREMENT .....	49
4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT .....	49
4.3.2 TEST SETUP.....	49
4.3.3 TEST INSTRUMENTS.....	49
4.3.4 TEST PROCEDURE.....	49
4.3.5 DEVIATION FROM TEST STANDARD.....	49



A D T

4.3.6	EUT OPERATING CONDITIONS .....	49
4.3.7	TEST RESULTS .....	50
4.4	CONDUCTED OUTPUT POWER.....	54
4.4.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT .....	54
4.4.2	TEST SETUP.....	54
4.4.3	TEST INSTRUMENTS.....	54
4.4.4	TEST PROCEDURES .....	54
4.4.5	DEVIATION FROM TEST STANDARD.....	54
4.4.6	EUT OPERATING CONDITIONS .....	54
4.4.7	TEST RESULTS - FOR PEAK POWER .....	55
4.4.8	TEST RESULTS - FOR AVERAGE POWER.....	57
4.5	POWER SPECTRAL DENSITY MEASUREMENT .....	59
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT .....	59
4.5.2	TEST SETUP.....	59
4.5.3	TEST INSTRUMENTS.....	59
4.5.4	TEST PROCEDURE.....	59
4.5.5	DEVIATION FROM TEST STANDARD.....	59
4.5.6	EUT OPERATING CONDITION.....	59
4.5.7	TEST RESULTS .....	60
4.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT .....	64
4.6.1	LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT .....	64
4.6.2	TEST SETUP.....	64
4.6.3	TEST INSTRUMENTS.....	64
4.6.4	TEST PROCEDURE.....	64
4.6.5	DEVIATION FROM TEST STANDARD.....	65
4.6.6	EUT OPERATING CONDITION.....	65
4.6.7	TEST RESULTS .....	65
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	77
6.	INFORMATION ON THE TESTING LABORATORIES .....	78
7.	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	79



A D T

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130923D14	Original release	Oct. 25, 2013



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## 1. CERTIFICATION

**PRODUCT:** Neuron 2  
**BRAND NAME:** Capsule  
**MODEL NO.:** DC-NU2-UMPC  
**APPLICANT:** Capsule Technologie SAS  
**TESTED:** Sep. 24 ~ Oct. 24, 2013  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** **FCC Part 15, Subpart C (Section 15.247)**  
ANSI C63.10-2009

The above equipment 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 :** Annie Chang , **DATE:** Oct. 25, 2013  
( Annie Chang / Supervisor )

**APPROVED BY :** Rex Lai , **DATE:** Oct. 25, 2013  
( Rex Lai / Assistant 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 -11.85dB at 0.15519MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -5.5dB at 11570.00MHz.
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 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:

Measurement	Frequency	Uncertainty
Conducted emissions	150kHz~30MHz	2.41 dB
Radiated emissions	30MHz ~ 1GHz	4.30 dB
	Above 1GHz	3.36 dB

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



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Neuron 2
<b>MODEL NO.</b>	DC-NU2-UMPC
<b>POWER SUPPLY</b>	17-21Vdc from Adapter or 11.1Vdc from battery
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11b:11/ 5.5/ 2/ 1Mbps 802.11g: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6Mbps 802.11a: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6Mbps 802.11n: up to 300Mbps
<b>OPERATING FREQUENCY</b>	<b>2.4GHz:</b> 2412 ~ 2462MHz <b>5.0GHz:</b> 5745 ~ 5825MHz
<b>NUMBER OF CHANNEL</b>	<b>2.4GHz:</b> 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) <b>5.0GHz:</b> 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
<b>OUTPUT POWER</b>	140.2mW for 2412 ~ 2462MHz 126.2mW for 5745 ~ 5825MHz
<b>ANTENNA TYPE</b>	PCB antenna with 2dBi gain
<b>ANTENNA CONNECTOR</b>	N/A
<b>DATA CABLE</b>	N/A
<b>I/O PORTS</b>	Refer to user's manual
<b>ACCESSORY DEVICES</b>	Refer to Note as below

**NOTE:**

1. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX



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2. The EUT was power supplied from the following power adapter or battery:

Item	Brand	Model	Spec.
Adapter	PROTEK POWER	PMP60-13-1-B5	AC I/P: 100-240V, 1.22-0.68A, 47-63Hz DC O/P: 17-21V, 3.53A, 60W Non-shielded AC 3-pin cable (1.8m) Non-shielded DC cable (1.3m) with one ferrite core.
Battery 1	Capsule	DC-NU2-BAT	11.1V, 2.6Ah, 28.8Wh
Battery 2	Capsule	DC-NU2-EXTBAT	11.1V, 5.2Ah, 57.7Wh

3. The EUT was pre-tested with the following modes:

- ✧ Operating Mode (EUT stand-alone)
- ✧ Operating + Charging Mode (EUT + Adapter)

The worst emission level was found when the EUT tested under **Operating + Charging Mode (EUT + Adapter)**, therefore, only its test data was recorded in this report.

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



### 3.2 DESCRIPTION OF TEST MODES

#### FOR 2.4GHz:

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

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

7 channels are provided for 802.11n (40MHz):

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

#### FOR 5.0GHz (5745 ~ 5825MHz):

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

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

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz



### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE $<$ 1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz      **RE $<$ 1G**: Radiated Emission below 1GHz  
**PLC**: Power Line Conducted Emission      **APCM**: Antenna Port Conducted Measurement

**NOTE:** The EUT had been pre-tested on the positioned of 3 axis. The worst case was found when positioned on Y-plane.

#### **RADIATED EMISSION TEST (ABOVE 1GHz):**

- 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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	2412-2462	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
802.11g		1 to 11	1, 6, 11	OFDM	BPSK	6.0
802.11n (20MHz)		1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)		3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5

#### **RADIATED EMISSION TEST (BELOW 1GHz):**

- 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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	2412-2462	1 to 11	1	OFDM	BPSK	6.5
802.11n (20MHz)	5745-5825	149 to 165	149	OFDM	BPSK	6.5



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### **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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	2412-2462	1 to 11	1	OFDM	BPSK	6.5
802.11n (20MHz)	5745-5825	149 to 165	149	OFDM	BPSK	6.5

### **BANDEDGE 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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	2412-2462	1 to 11	1, 11	DSSS	DBPSK	1.0
802.11g		1 to 11	1, 11	OFDM	BPSK	6.0
802.11n (20MHz)		1 to 11	1, 11	OFDM	BPSK	6.5
802.11n (40MHz)		3 to 9	3, 9	OFDM	BPSK	13.5
802.11a	5745-5825	149 to 165	149, 165	OFDM	BPSK	6.0
802.11n (20MHz)		149 to 165	149, 165	OFDM	BPSK	6.5
802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5

### **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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	2412-2462	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
802.11g		1 to 11	1, 6, 11	OFDM	BPSK	6.0
802.11n (20MHz)		1 to 11	1, 6, 11	OFDM	BPSK	6.5
802.11n (40MHz)		3 to 9	3, 6, 9	OFDM	BPSK	13.5
802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5



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**TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	24deg. C, 77% RH	120Vac, 60Hz	Joey Liu
RE $<$ 1G	24deg. C, 77% RH	120Vac, 60Hz	Joey Liu
PLC	26deg. C, 78% RH	120Vac, 60Hz	Aaron You
APCM	25deg. C, 60%RH	120Vac, 60Hz	Chad Lee

### 3.3 DUTY CYCLE OF TEST SIGNAL

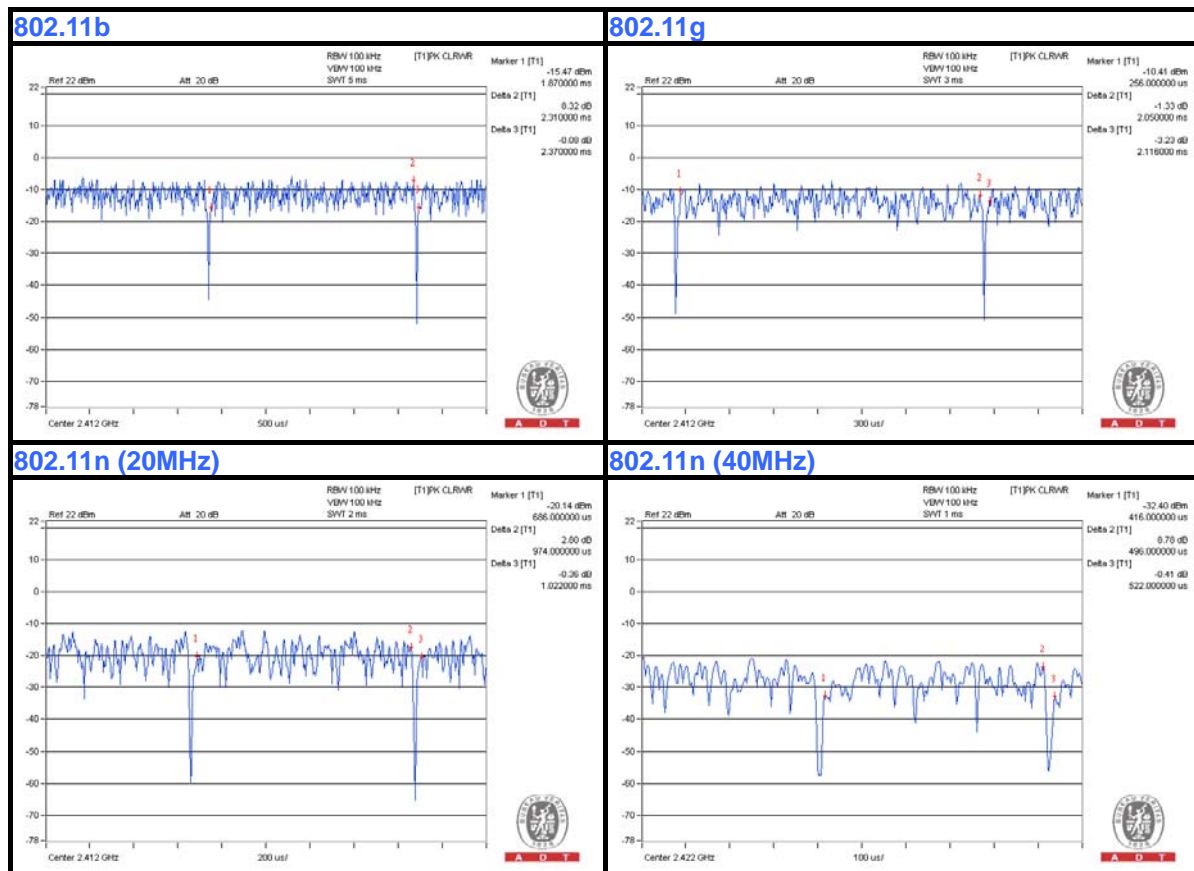
Duty cycle is < 98%, duty factor shall be considered.

**802.11b:** Duty cycle =  $2.31/2.37 = 0.975$ , Duty factor =  $10 * \log(1/0.975) = 0.11$

**802.11g:** Duty cycle =  $2.05/2.11 = 0.972$ , Duty factor =  $10 * \log(1/0.972) = 0.12$

**802.11n (20MHz):** Duty cycle =  $0.974/1.022 = 0.953$ , Duty factor =  $10 * \log(1/0.953) = 0.21$

**802.11n (40MHz):** Duty cycle =  $0.496/0.522 = 0.950$ , Duty factor =  $10 * \log(1/0.950) = 0.22$



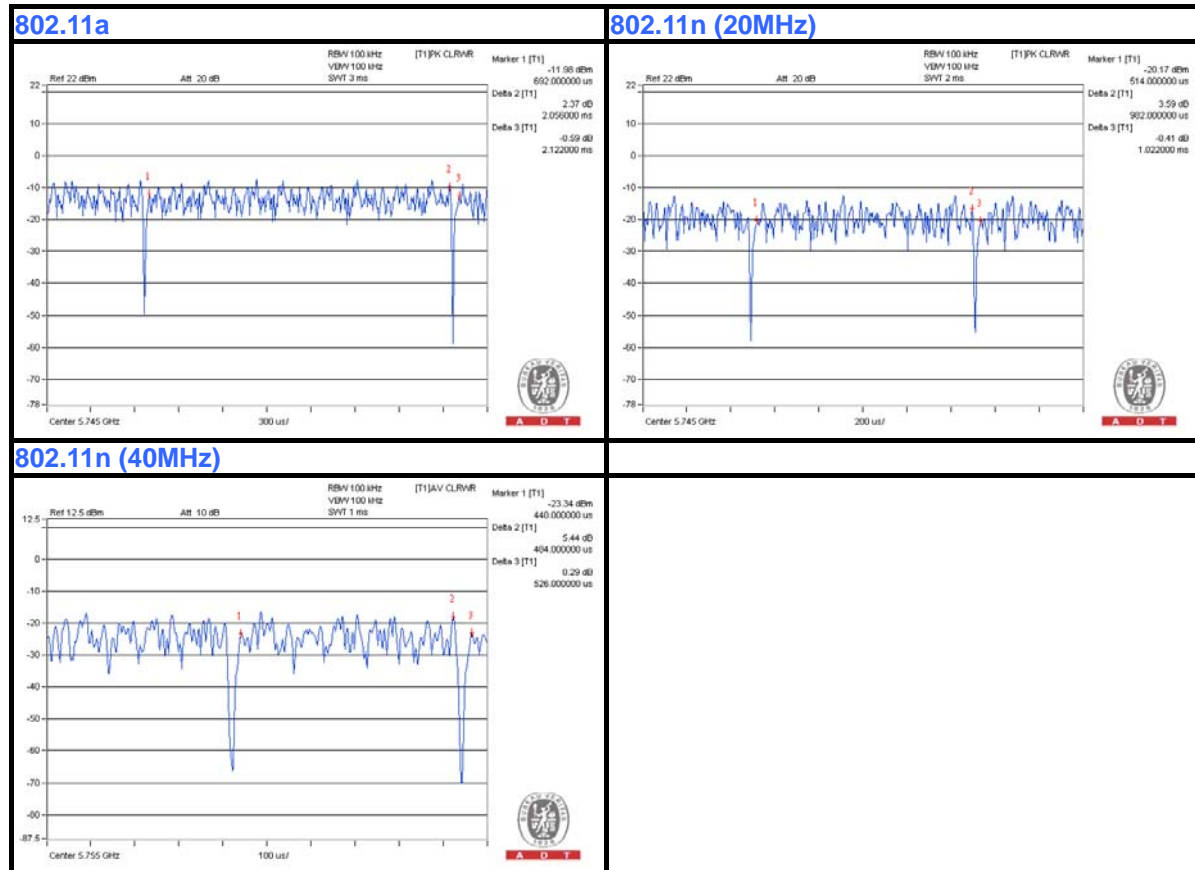


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**802.11a:** Duty cycle =  $2.056/2.122 = 0.969$ , Duty factor =  $10 * \log( 1/0.969) = 0.14$

**802.11n (20MHz):** Duty cycle =  $0.982/1.022 = 0.961$ , Duty factor =  $10 * \log( 1/0.961) = 0.17$

**802.11n (40MHz):** Duty cycle =  $0.484/0.526 = 0.920$ , Duty factor =  $10 * \log( 1/0.920) = 0.36$



### 3.4 DESCRIPTION OF SUPPORT UNITS

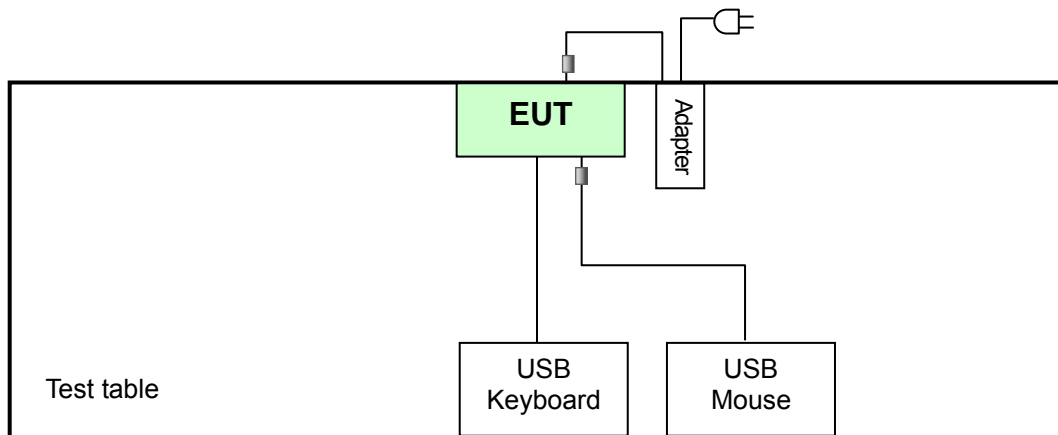
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	USB KEYBOARD	BTC	5200U	G09302046486	E5XKB5122U
2	USB Mouse	Microsoft	1113	9170515897028	FCC DOC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.5 m braid shielded wire, terminated with USB connector via drain wire, w/o core.
2	1.5 m braid shielded wire, terminated with USB connector via drain wire, w/. one core.

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

#### 3.4.1 CONFIGURATION OF SYSTEM UNDER TEST





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### **3.5 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**

**662911 D01 Multiple Transmitter Output v01 r02**

**ANSI C63.10-2009**

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





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## 4. TEST TYPES AND RESULTS

### 4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

**NOTE:**

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



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#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 26, 2013	Feb. 25, 2014
HP Preamplifier	8449B	3008A01201	Feb. 26, 2013	Feb. 25, 2014
Agilent TEST RECEIVER	N9038A	MY51210129	Jan. 03, 2013	Jan. 02, 2014
Schwarzbeck Antenna	VULB 9168	137	Mar. 20, 2013	Mar. 19, 2014
Schwarzbeck Antenna	VHBA 9123	480	May 29, 2013	May 28, 2014
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	ADT_Radiated_V 7.6.15.9.2	NA	NA	NA
SUHNER RF cable	SF102	CABLE-CH6	Aug. 19, 2013	Aug. 18, 2014
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	May 13, 2013	May 12, 2014
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100036	May. 17, 2013	May. 16, 2014
Anritsu Power Sensor	MA2411B	0738404	Apr. 24, 2013	Apr. 23, 2014
Anritsu Power Meter	ML2495A	0842014	Apr. 25, 2013	Apr. 24, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.  
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.  
3. The test was performed in Chamber No. 6.  
4. The Industry Canada Reference No. IC 7450E-6.  
5. The FCC Site Registration No. is 447212.



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#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**NOTE:**

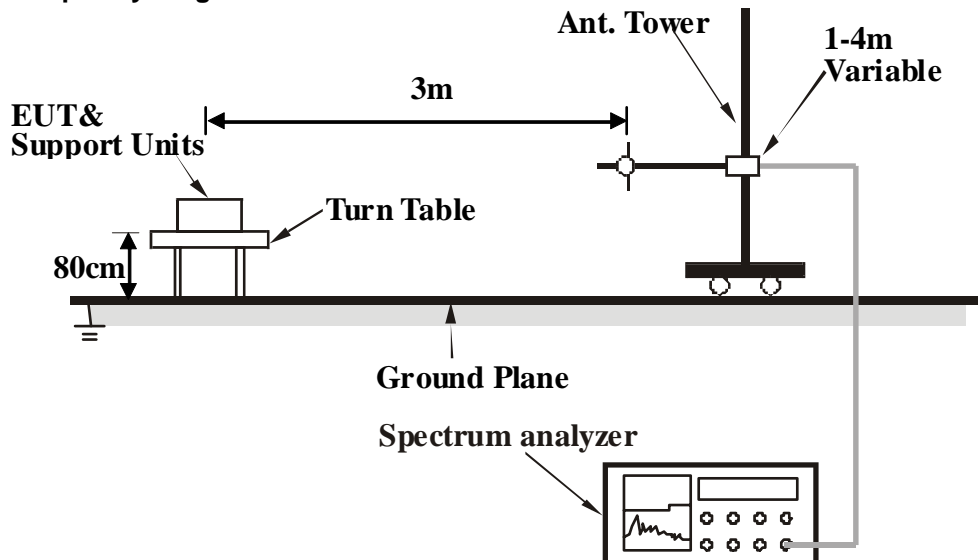
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz(Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 DEVIATION FROM TEST STANDARD

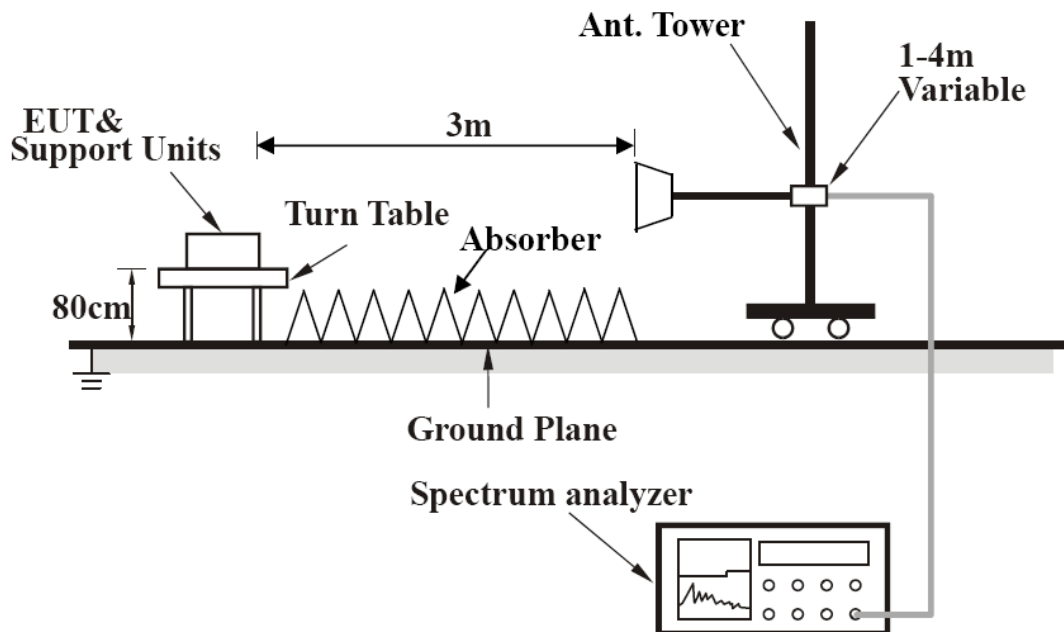
No deviation.

#### 4.1.5 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.6 EUT OPERATING CONDITIONS

The EUT ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.



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### 4.1.7 TEST RESULTS

#### ABOVE 1GHz DATA

##### 802.11b

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	45.3 PK	74.0	-28.7	1.28 H	231	49.05	-3.75
2	2390.00	31.9 AV	54.0	-22.1	1.28 H	231	35.67	-3.75
3	*2412.00	103.6 PK			1.28 H	231	107.24	-3.64
4	*2412.00	101.8 AV			1.28 H	231	105.40	-3.64
5	4824.00	41.9 PK	74.0	-32.1	1.28 H	236	38.20	3.73
6	4824.00	34.9 AV	54.0	-19.1	1.28 H	236	31.13	3.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	45.0 PK	74.0	-29.0	1.16 V	166	48.78	-3.75
2	2390.00	32.0 AV	54.0	-22.0	1.16 V	166	35.74	-3.75
3	*2412.00	106.7 PK			1.16 V	166	110.33	-3.64
4	*2412.00	102.8 AV			1.16 V	166	106.48	-3.64
5	4824.00	42.7 PK	74.0	-31.3	1.12 V	160	38.98	3.73
6	4824.00	35.9 AV	54.0	-18.1	1.12 V	160	32.19	3.73

#### REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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.



A D T

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.3 PK			1.22 H	225	106.83	-3.53
2	*2437.00	99.7 AV			1.22 H	225	103.24	-3.53
3	4874.00	44.7 PK	74.0	-29.3	1.21 H	221	40.98	3.75
4	4874.00	35.0 AV	54.0	-19.0	1.21 H	221	31.23	3.75
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	105.9 PK			1.12 V	163	109.43	-3.53
2	*2437.00	103.4 AV			1.12 V	163	106.90	-3.53
3	4874.00	45.7 PK	74.0	-28.3	1.12 V	160	41.97	3.75
4	4874.00	39.2 AV	54.0	-14.8	1.12 V	160	35.43	3.75

**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.



A D T

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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			1.25 H	230	106.51	-3.41
2	*2462.00	99.6 AV			1.25 H	230	103.02	-3.41
3	2483.50	40.5 PK	74.0	-33.5	1.25 H	230	43.78	-3.32
4	2483.50	27.7 AV	54.0	-26.3	1.25 H	230	31.01	-3.32
5	4924.00	43.4 PK	74.0	-30.6	1.24 H	227	39.64	3.74
6	4924.00	35.5 AV	54.0	-18.5	1.24 H	227	31.74	3.74

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.0 PK			1.12 V	164	109.43	-3.41
2	*2462.00	102.3 AV			1.12 V	164	105.73	-3.41
3	2483.50	40.2 PK	74.0	-33.8	1.12 V	164	43.55	-3.32
4	2483.50	28.0 AV	54.0	-26.0	1.12 V	164	31.29	-3.32
5	4924.00	45.3 PK	74.0	-28.7	1.12 V	159	41.58	3.74
6	4924.00	37.5 AV	54.0	-16.5	1.12 V	159	33.76	3.74

**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.



A D T

802.11g

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	51.9 PK	74.0	-22.1	1.30 H	229	55.66	-3.75
2	2390.00	32.8 AV	54.0	-21.2	1.30 H	229	36.57	-3.75
3	*2412.00	103.4 PK			1.30 H	229	106.99	-3.64
4	*2412.00	93.6 AV			1.30 H	229	97.25	-3.64
5	4824.00	44.0 PK	74.0	-30.0	1.31 H	224	40.29	3.73
6	4824.00	35.7 AV	54.0	-18.4	1.31 H	224	31.92	3.73
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	51.7 PK	74.0	-22.3	1.12 V	144	55.45	-3.75
2	2390.00	33.4 AV	54.0	-20.7	1.12 V	144	37.10	-3.75
3	*2412.00	106.0 PK			1.12 V	144	109.60	-3.64
4	*2412.00	95.7 AV			1.12 V	144	99.32	-3.64
5	4824.00	45.0 PK	74.0	-29.0	1.12 V	144	41.30	3.73
6	4824.00	35.5 AV	54.0	-18.5	1.12 V	144	31.81	3.73

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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.





A D T

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.8 PK			1.30 H	222	107.31	-3.53
2	*2437.00	93.1 AV			1.30 H	222	96.59	-3.53
3	4874.00	43.7 PK	74.0	-30.3	1.31 H	211	39.91	3.75
4	4874.00	35.3 AV	54.0	-18.7	1.31 H	211	31.57	3.75
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	105.9 PK			1.35 V	204	109.42	-3.53
2	*2437.00	95.4 AV			1.35 V	204	98.94	-3.53
3	4874.00	42.6 PK	74.0	-31.5	1.32 V	201	38.80	3.75
4	4874.00	35.1 AV	54.0	-18.9	1.32 V	201	31.38	3.75

**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.



A D T

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	103.8 PK			1.28 H	233	107.25	-3.41
2	*2462.00	93.5 AV			1.28 H	233	96.87	-3.41
3	2483.50	50.1 PK	74.0	-23.9	1.28 H	233	53.41	-3.32
4	2483.50	30.2 AV	54.0	-23.8	1.28 H	233	33.49	-3.32
5	4924.00	43.6 PK	74.0	-30.4	1.27 H	230	39.83	3.74
6	4924.00	35.4 AV	54.0	-18.6	1.27 H	230	31.70	3.74

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	105.7 PK			1.14 V	161	109.12	-3.41
2	*2462.00	95.6 AV			1.14 V	161	99.03	-3.41
3	2483.50	52.1 PK	74.0	-21.9	1.14 V	161	55.41	-3.32
4	2483.50	28.3 AV	54.0	-25.7	1.14 V	161	31.61	-3.32
5	4924.00	44.9 PK	74.0	-29.1	1.13 V	158	41.12	3.74
6	4924.00	34.8 AV	54.0	-19.2	1.13 V	158	31.05	3.74

**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.



A D T

802.11n (20MHz)

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	40.5 PK	74.0	-33.5	1.32 H	236	44.22	-3.75
2	2390.00	28.1 AV	54.0	-25.9	1.32 H	236	31.85	-3.75
3	*2412.00	100.7 PK			1.32 H	236	104.32	-3.64
4	*2412.00	89.6 AV			1.32 H	236	93.26	-3.64
5	4824.00	42.6 PK	74.0	-31.4	1.31 H	231	38.83	3.73
6	4824.00	35.4 AV	54.0	-18.6	1.31 H	231	31.66	3.73

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	41.4 PK	74.0	-32.6	1.15 V	164	45.16	-3.75
2	2390.00	28.2 AV	54.0	-25.8	1.15 V	164	31.95	-3.75
3	*2412.00	102.9 PK			1.15 V	164	106.52	-3.64
4	*2412.00	90.9 AV			1.15 V	164	94.55	-3.64
5	4824.00	43.4 PK	74.0	-30.6	1.14 V	161	39.64	3.73
6	4824.00	35.0 AV	54.0	-19.0	1.14 V	161	31.25	3.73

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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.



A D T

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	100.3 PK			1.27 H	234	103.87	-3.53
2	*2437.00	89.0 AV			1.27 H	234	92.50	-3.53
3	4874.00	43.2 PK	74.0	-30.8	1.25 H	229	39.49	3.75
4	4874.00	35.3 AV	54.0	-18.7	1.25 H	229	31.54	3.75
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.7 PK			1.15 V	163	106.23	-3.53
2	*2437.00	90.9 AV			1.15 V	163	94.43	-3.53
3	4874.00	42.5 PK	74.0	-31.5	1.12 V	160	38.78	3.75
4	4874.00	34.9 AV	54.0	-19.1	1.12 V	160	31.13	3.75

**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.



A D T

<b>CHANNEL</b>	TX Channel 11	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	100.9 PK			1.27 H	236	104.35	-3.41
2	*2462.00	89.1 AV			1.27 H	236	92.54	-3.41
3	2483.50	40.2 PK	74.0	-33.8	1.27 H	236	43.51	-3.32
4	2483.50	28.0 AV	54.0	-26.0	1.27 H	236	31.30	-3.32
5	4924.00	42.6 PK	74.0	-31.4	1.22 H	231	38.87	3.74
6	4924.00	35.6 AV	54.0	-18.4	1.22 H	231	31.90	3.74

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.9 PK			1.13 V	166	106.33	-3.41
2	*2462.00	90.8 AV			1.13 V	166	94.25	-3.41
3	2483.50	42.2 PK	74.0	-31.8	1.13 V	166	45.54	-3.32
4	2483.50	27.7 AV	54.0	-26.3	1.13 V	166	31.06	-3.32
5	4924.00	39.5 PK	74.0	-34.5	1.12 V	160	35.80	3.74
6	4924.00	35.1 AV	54.0	-18.9	1.12 V	160	31.39	3.74

**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.



A D T

802.11n (40MHz)

<b>CHANNEL</b>	TX Channel 3	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	48.4 PK	74.0	-25.6	1.30 H	237	52.14	-3.75
2	2390.00	30.9 AV	54.0	-23.1	1.30 H	237	34.67	-3.75
3	*2422.00	100.6 PK			1.30 H	237	104.15	-3.59
4	*2422.00	88.6 AV			1.30 H	237	92.20	-3.59
5	4844.00	42.2 PK	74.0	-31.8	1.31 H	233	38.44	3.74
6	4844.00	35.1 AV	54.0	-19.0	1.31 H	233	31.31	3.74

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	52.6 PK	74.0	-21.4	1.17 V	166	56.33	-3.75
2	2390.00	33.8 AV	54.0	-20.2	1.17 V	166	37.56	-3.75
3	*2422.00	102.5 PK			1.17 V	166	106.13	-3.59
4	*2422.00	91.4 AV			1.17 V	166	94.96	-3.59
5	4844.00	42.2 PK	74.0	-31.9	1.16 V	163	38.41	3.74
6	4844.00	35.3 AV	54.0	-18.7	1.16 V	163	31.56	3.74

**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.



A D T

<b>CHANNEL</b>	TX Channel 6	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	100.6 PK			1.30 H	230	104.17	-3.53
2	*2437.00	88.8 AV			1.30 H	230	92.36	-3.53
3	4874.00	42.8 PK	74.0	-31.2	1.28 H	231	39.08	3.75
4	4874.00	34.9 AV	54.0	-19.1	1.28 H	231	31.19	3.75

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.9 PK			1.37 V	162	106.42	-3.53
2	*2437.00	90.8 AV			1.37 V	162	94.32	-3.53
3	4874.00	42.7 PK	74.0	-31.3	1.35 V	160	38.94	3.75
4	4874.00	35.1 AV	54.0	-18.9	1.35 V	160	31.32	3.75

**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.



A D T

<b>CHANNEL</b>	TX Channel 9	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	100.7 PK			1.45 H	225	104.12	-3.46
2	*2452.00	88.7 AV			1.45 H	225	92.12	-3.46
3	2483.50	44.3 PK	74.0	-29.7	1.45 H	225	47.66	-3.32
4	2483.50	28.7 AV	54.0	-25.3	1.45 H	225	32.04	-3.32
5	4904.00	42.8 PK	74.0	-31.2	1.44 H	221	39.04	3.76
6	4904.00	35.7 AV	54.0	-18.3	1.44 H	221	31.95	3.76

**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	103.5 PK			1.16 V	0	106.96	-3.46
2	*2452.00	92.1 AV			1.16 V	0	95.60	-3.46
3	2483.50	48.1 PK	74.0	-26.0	1.16 V	162	51.37	-3.32
4	2483.50	31.0 AV	54.0	-23.0	1.16 V	162	34.31	-3.32
5	4904.00	42.3 PK	74.0	-31.7	1.15 V	158	38.53	3.76
6	4904.00	35.1 AV	54.0	-18.9	1.15 V	158	31.32	3.76

**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.





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802.11a

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	5725.00	60.5 PK	74.0	-13.5	1.05 H	242	55.15	5.39
2	5725.00	41.0 AV	54.0	-13.0	1.05 H	242	35.62	5.39
3	*5745.00	103.6 PK			1.05 H	242	98.20	5.41
4	*5745.00	93.1 AV			1.05 H	242	87.66	5.41
5	11490.00	52.5 PK	74.0	-21.5	1.03 H	240	36.06	16.43
6	11490.00	47.7 AV	54.0	-6.3	1.03 H	240	31.28	16.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5725.00	61.2 PK	74.0	-12.8	1.00 V	354	55.81	5.39
2	5725.00	45.9 AV	54.0	-8.1	1.00 V	354	40.49	5.39
3	*5745.00	105.5 PK			1.00 V	354	100.10	5.41
4	*5745.00	94.6 AV			1.00 V	354	89.22	5.41
5	11490.00	52.9 PK	74.0	-21.1	1.00 V	350	36.49	16.43
6	11490.00	47.9 AV	54.0	-6.1	1.00 V	350	31.43	16.43

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	103.3 PK			1.04 H	235	97.83	5.47
2	*5785.00	92.9 AV			1.04 H	235	87.47	5.47
3	11570.00	52.6 PK	74.0	-21.4	1.00 H	233	36.14	16.45
4	11570.00	48.3 AV	54.0	-5.7	1.00 H	233	31.81	16.45
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	*5785.00	105.8 PK			1.06 V	354	100.33	5.47
2	*5785.00	95.3 AV			1.06 V	354	89.80	5.47
3	11570.00	52.5 PK	74.0	-21.5	1.06 V	350	36.01	16.45
4	11570.00	48.2 AV	54.0	-5.8	1.06 V	350	31.78	16.45

**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.



A D T

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

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	103.0 PK			1.37 H	274	97.46	5.57
2	*5825.00	92.6 AV			1.37 H	274	86.99	5.57
3	5850.00	52.8 PK	74.0	-21.2	1.37 H	274	47.20	5.63
4	5850.00	37.2 AV	54.0	-16.8	1.37 H	274	31.61	5.63
5	11650.00	53.4 PK	74.0	-20.6	1.33 H	271	37.28	16.12
6	11650.00	47.5 AV	54.0	-6.5	1.33 H	271	31.39	16.12

**ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M**

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	106.0 PK			1.23 V	334	100.39	5.57
2	*5825.00	95.2 AV			1.23 V	334	89.58	5.57
3	5850.00	55.1 PK	74.0	-18.9	1.23 V	334	49.49	5.63
4	5850.00	36.7 AV	54.0	-17.3	1.23 V	334	31.03	5.63
5	11650.00	53.5 PK	74.0	-20.6	1.22 V	331	37.33	16.12
6	11650.00	47.6 AV	54.0	-6.4	1.22 V	331	31.45	16.12

**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.



A D T

802.11n (20MHz)

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	5725.00	40.9 PK	74.0	-33.1	1.04 H	238	35.52	5.39
2	5725.00	35.8 AV	54.0	-18.2	1.04 H	238	30.45	5.39
3	*5745.00	101.0 PK			1.04 H	238	95.55	5.41
4	*5745.00	88.4 AV			1.04 H	238	82.97	5.41
5	11490.00	52.0 PK	74.0	-22.0	1.04 H	235	35.58	16.43
6	11490.00	47.6 AV	54.0	-6.5	1.04 H	235	31.12	16.43
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5725.00	53.9 PK	74.0	-20.1	1.05 V	158	48.47	5.39
2	5725.00	37.1 AV	54.0	-16.9	1.05 V	158	31.69	5.39
3	*5745.00	102.4 PK			1.05 V	158	96.97	5.41
4	*5745.00	90.1 AV			1.05 V	158	84.67	5.41
5	11490.00	52.8 PK	74.0	-21.2	1.04 V	166	36.33	16.43
6	11490.00	47.9 AV	54.0	-6.1	1.04 V	166	31.45	16.43

**REMARKS:**

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	100.7 PK			1.41 H	57	95.25	5.47
2	*5785.00	88.5 AV			1.41 H	57	82.99	5.47
3	11570.00	53.4 PK	74.0	-20.6	1.44 H	53	36.99	16.45
4	11570.00	48.4 AV	54.0	-5.6	1.44 H	53	31.91	16.45
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	*5785.00	102.6 PK			1.05 V	156	97.15	5.47
2	*5785.00	90.9 AV			1.05 V	156	85.42	5.47
3	11570.00	54.4 PK	74.0	-19.6	1.04 V	159	37.91	16.45
4	11570.00	48.5 AV	54.0	-5.5	1.04 V	159	32.04	16.45

**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.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	100.3 PK			1.39 H	53	94.75	5.57
2	*5825.00	87.9 AV			1.39 H	53	82.37	5.57
3	11650.00	52.8 PK	74.0	-21.2	1.40 H	55	36.68	16.12
4	11650.00	47.8 AV	54.0	-6.3	1.40 H	55	31.63	16.12
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	102.2 PK			1.04 V	155	96.58	5.57
2	*5825.00	90.2 AV			1.04 V	155	84.58	5.57
3	11650.00	53.0 PK	74.0	-21.0	1.04 V	158	36.87	16.12
4	11650.00	47.7 AV	54.0	-6.3	1.04 V	158	31.57	16.12

**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.



A D T

802.11n (40MHz)

<b>CHANNEL</b>	TX Channel 151	<b>DETECTOR FUNCTION</b>	Peak (PK)
<b>FREQUENCY RANGE</b>	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	5725.00	49.3 PK	74.0	-24.7	1.24 H	120	43.88	5.39
2	5725.00	38.1 AV	54.0	-15.9	1.24 H	120	32.72	5.39
3	*5755.00	100.9 PK			1.24 H	120	95.48	5.43
4	*5755.00	89.1 AV			1.24 H	120	83.68	5.43
5	11510.00	52.8 PK	74.0	-21.2	1.22 H	123	36.38	16.46
6	11510.00	48.3 AV	54.0	-5.7	1.22 H	123	31.82	16.46
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	5725.00	52.6 PK	74.0	-21.4	1.05 V	159	47.25	5.39
2	5725.00	37.1 AV	54.0	-16.9	1.05 V	159	31.69	5.39
3	*5755.00	102.8 PK			1.05 V	159	97.36	5.43
4	*5755.00	91.0 AV			1.05 V	159	85.61	5.43
5	11510.00	52.9 PK	74.0	-21.1	1.03 V	161	36.46	16.46
6	11510.00	48.3 AV	54.0	-5.7	1.03 V	161	31.81	16.46

**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.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	100.3 PK			1.25 H	119	94.77	5.48
2	*5795.00	88.4 AV			1.25 H	119	82.94	5.48
3	5850.00	43.1 PK	74.0	-30.9	1.25 H	119	37.48	5.63
4	5850.00	37.6 AV	54.0	-16.4	1.25 H	119	31.97	5.63
5	11590.00	52.7 PK	74.0	-21.3	1.22 H	120	36.21	16.46
6	11590.00	47.7 AV	54.0	-6.3	1.22 H	120	31.23	16.46
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	103.6 PK			1.04 V	155	98.07	5.48
2	*5795.00	91.0 AV			1.04 V	155	85.51	5.48
3	5850.00	44.0 PK	74.0	-30.0	1.04 V	155	38.39	5.63
4	5850.00	37.7 AV	54.0	-16.3	1.04 V	155	32.04	5.63
5	11590.00	52.8 PK	74.0	-21.2	1.01 V	149	36.32	16.46
6	11590.00	47.7 AV	54.0	-6.3	1.01 V	149	31.24	16.46

**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.





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**BELOW 1GHz WORST-CASE DATA**

**802.11n (20MHz)**

<b>CHANNEL</b>	TX Channel 1	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	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	44.62	31.1 QP	40.0	-8.9	2.12 H	161	44.49	-13.38
2	144.07	37.2 QP	43.5	-6.3	1.18 H	93	50.51	-13.30
3	240.00	38.3 QP	46.0	-7.7	1.32 H	67	52.38	-14.06
4	335.67	36.3 QP	46.0	-9.8	1.17 H	322	46.92	-10.67
5	527.82	37.5 QP	46.0	-8.5	2.15 H	328	44.43	-6.90
6	808.91	36.9 QP	46.0	-9.1	2.55 H	360	38.69	-1.81
7	950.72	37.9 QP	46.0	-8.1	1.34 H	9	37.61	0.31

**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	38.78	31.4 QP	40.0	-8.6	1.16 V	135	46.08	-14.69
2	125.32	33.6 QP	43.5	-10.0	1.22 V	163	48.72	-15.17
3	240.00	33.8 QP	46.0	-12.2	2.32 V	344	47.84	-14.06
4	432.02	35.4 QP	46.0	-10.6	1.19 V	28	44.10	-8.72
5	624.03	34.9 QP	46.0	-11.1	1.06 V	179	39.63	-4.69
6	833.12	35.2 QP	46.0	-10.8	1.42 V	221	36.74	-1.50
7	950.43	37.2 QP	46.0	-8.8	1.09 V	83	36.91	0.31

**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



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802.11n (20MHz)

<b>CHANNEL</b>	TX Channel 149	<b>DETECTOR FUNCTION</b>	Quasi-Peak (QP)
<b>FREQUENCY RANGE</b>	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	34.52	32.3 QP	40.0	-7.7	2.14 H	338	47.41	-15.08
2	144.12	35.7 QP	43.5	-7.8	1.42 H	86	48.97	-13.30
3	240.00	37.4 QP	46.0	-8.6	1.34 H	168	51.45	-14.06
4	336.15	37.7 QP	46.0	-8.3	1.58 H	311	48.34	-10.65
5	528.26	37.2 QP	46.0	-8.8	2.18 H	336	44.07	-6.90
6	785.64	36.3 QP	46.0	-9.7	1.43 H	158	38.37	-2.05
7	950.16	35.4 QP	46.0	-10.6	1.49 H	167	35.09	0.30

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	38.94	31.9 QP	40.0	-8.1	1.45 V	137	46.58	-14.71
2	96.24	33.2 QP	43.5	-10.3	3.07 V	87	51.92	-18.76
3	292.14	34.0 QP	46.0	-12.0	2.27 V	144	45.65	-11.68
4	431.69	35.3 QP	46.0	-10.7	1.52 V	134	43.97	-8.71
5	624.17	35.4 QP	46.0	-10.6	1.76 V	191	40.06	-4.69
6	833.31	38.0 QP	46.0	-8.0	1.57 V	229	39.48	-1.50

**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



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## 4.2 CONDUCTED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ 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 0.50MHz.

### 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Jan. 07, 2013	Jan. 06, 2014
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100219	Nov. 28, 2012	Nov. 27, 2013
LISN With Adapter (for EUT)	AD10	C10Ada-001	Nov. 28, 2012	Nov. 27, 2013
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Dec. 05, 2012	Dec. 04, 2013
Software	ADT_Cond_V7.3.7	NA	NA	NA
Software	ADT_ISN_V7.3.7	NA	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Feb. 19, 2013	Feb. 18, 2014
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 06, 2013	Feb. 05, 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. The test was performed in Shielded Room No. 10.

3. The VCCI Site Registration No. C-1852.

#### 4.2.3 TEST PROCEDURES

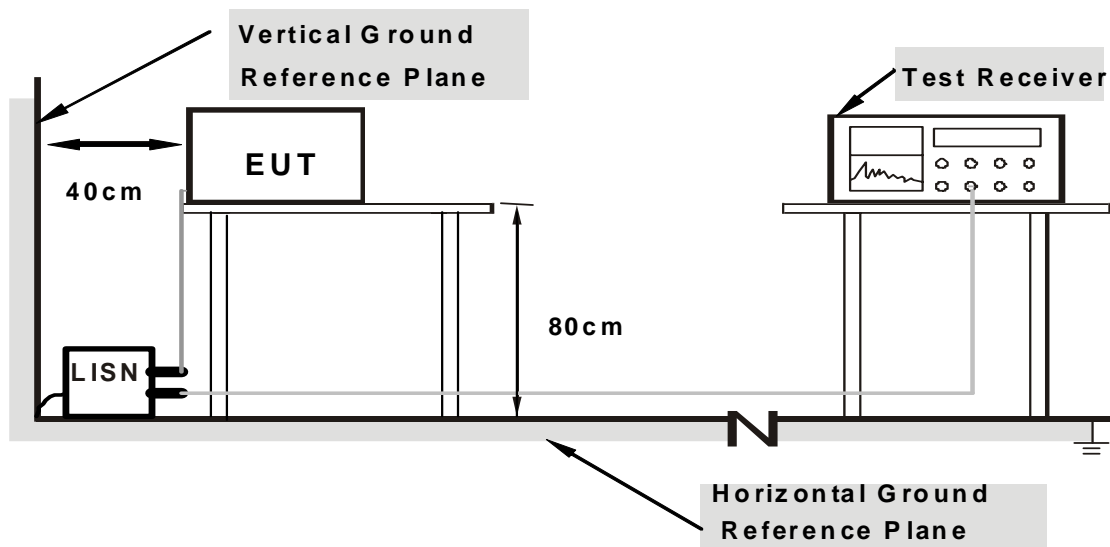
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

**NOTE:** 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



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

For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

### 4.2.7 TEST RESULTS

#### CONDUCTED WORST-CASE DATA :

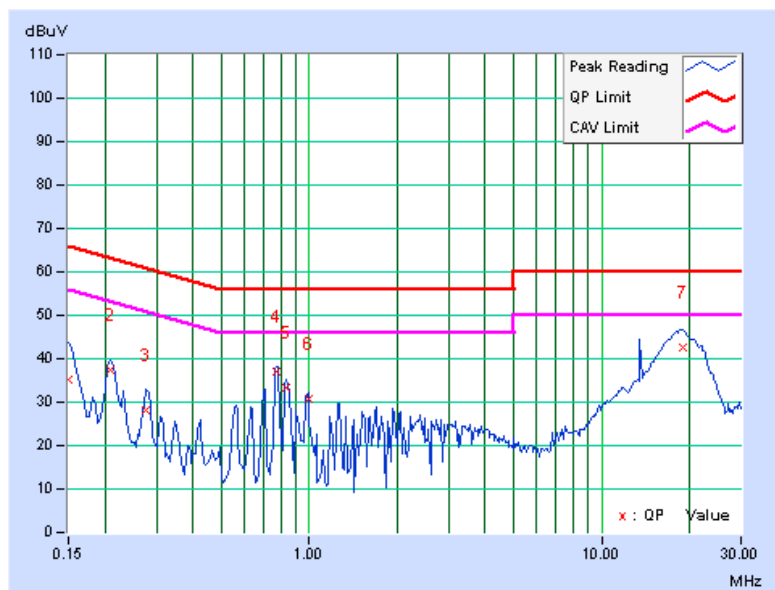
For 2.4GHz: 802.11n (20MHz)

<b>PHASE</b>	Line 1	<b>6dB BANDWIDTH</b>	9kHz
<b>CHANNEL</b>	TX Channel 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15003	0.14	34.97	27.45	35.11	27.59	66.00
2	0.20859	0.14	37.27	34.18	37.41	34.32	63.26	53.26	-25.85	-18.94
3	0.27500	0.15	27.99	21.52	28.14	21.67	60.97	50.97	-32.82	-29.29
4	0.77500	0.18	36.82	31.89	37.00	32.07	56.00	46.00	-19.00	-13.93
5	0.82969	0.18	33.27	23.44	33.45	23.62	56.00	46.00	-22.55	-22.38
6	0.98984	0.19	30.51	22.00	30.70	22.19	56.00	46.00	-25.30	-23.81
7	18.89844	1.12	41.65	31.19	42.77	32.31	60.00	50.00	-17.23	-17.69

#### 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

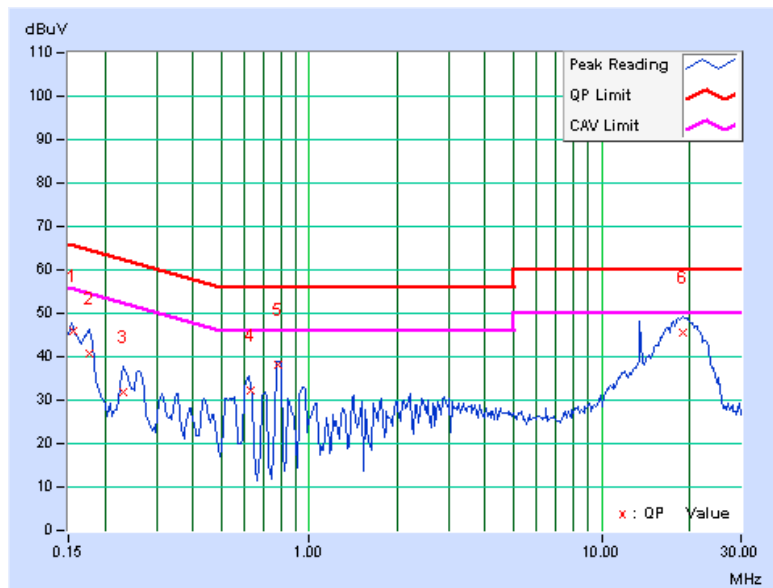


<b>PHASE</b>	Line 2	<b>6dB BANDWIDTH</b>	9kHz
<b>CHANNEL</b>	TX Channel 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15519	0.11	45.89	43.76	46.00	43.87	65.72	55.72	-19.72	-11.85
2	0.17734	0.11	40.75	38.94	40.86	39.05	64.61	54.61	-23.75	-15.56
3	0.23203	0.11	31.89	26.41	32.00	26.52	62.38	52.38	-30.37	-25.85
4	0.62831	0.14	32.09	27.43	32.23	27.57	56.00	46.00	-23.77	-18.43
5	0.77891	0.15	38.02	31.16	38.17	31.31	56.00	46.00	-17.83	-14.69
6	18.94141	0.77	44.62	32.00	45.39	32.77	60.00	50.00	-14.61	-17.23

**REMARKS:**

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





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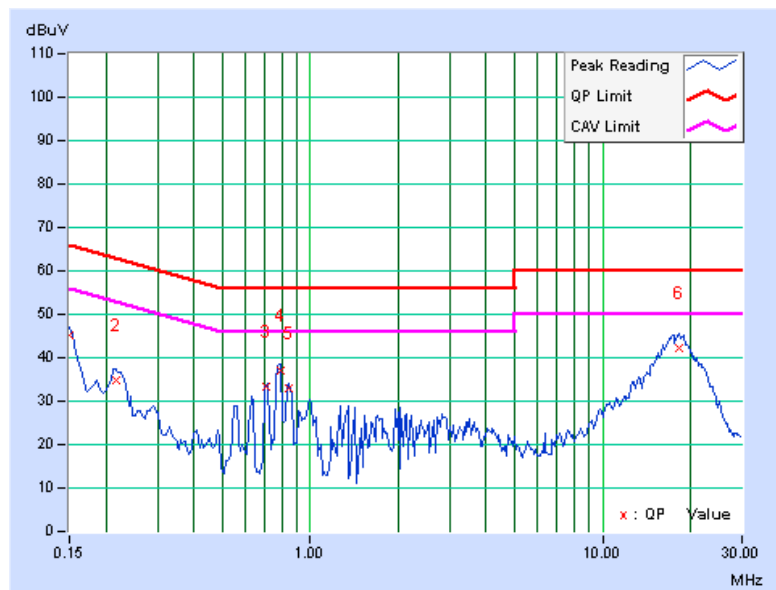
**For 5.0GHz: 802.11n (20MHz)**

<b>PHASE</b>	Line 1	<b>6dB BANDWIDTH</b>	9kHz
<b>CHANNEL</b>	TX Channel 149		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15011	0.14	44.94	43.73	45.08	43.87	65.99	55.99	-20.92	-12.13
2	0.21641	0.14	34.67	26.45	34.81	26.59	62.96	52.96	-28.14	-26.36
3	0.71122	0.18	33.11	26.01	33.29	26.19	56.00	46.00	-22.71	-19.81
4	0.79063	0.18	37.02	26.06	37.20	26.24	56.00	46.00	-18.80	-19.76
5	0.84162	0.18	32.67	25.29	32.85	25.47	56.00	46.00	-23.15	-20.53
6	18.28906	1.08	41.03	30.20	42.11	31.28	60.00	50.00	-17.89	-18.72

**REMARKS:**

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





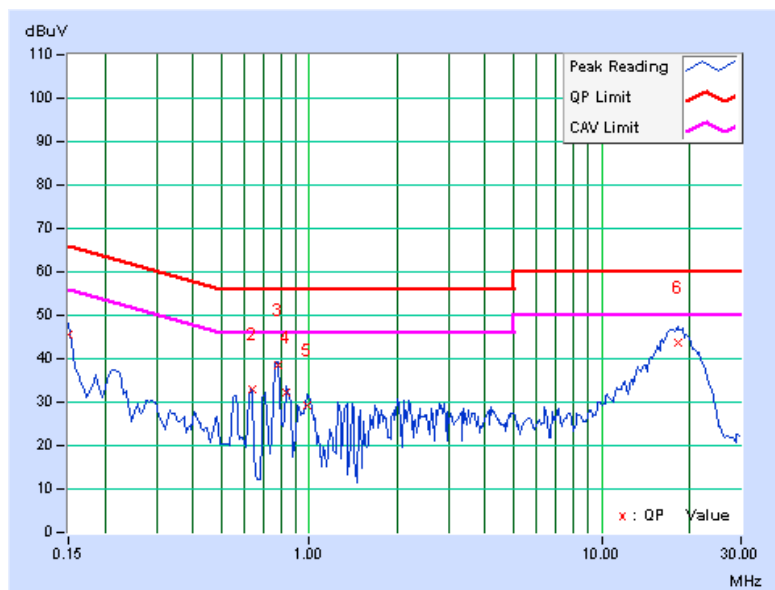
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<b>PHASE</b>	Line 2	<b>6dB BANDWIDTH</b>	9kHz
<b>CHANNEL</b>	TX Channel 149		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15001	0.11	45.51	42.96	45.62	43.07	66.00	56.00	-20.38	-12.93
2	0.63565	0.14	33.00	25.87	33.14	26.01	56.00	46.00	-22.86	-19.99
3	0.78146	0.15	38.35	32.11	38.50	32.26	56.00	46.00	-17.50	-13.74
4	0.83878	0.15	31.94	23.94	32.09	24.09	56.00	46.00	-23.91	-21.91
5	0.98194	0.15	29.00	21.46	29.15	21.61	56.00	46.00	-26.85	-24.39
6	18.28906	0.75	42.95	32.48	43.70	33.23	60.00	50.00	-16.30	-16.77

**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



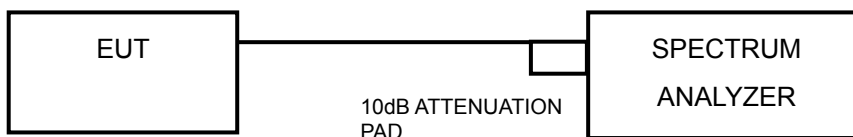


### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST SETUP



#### 4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 TEST PROCEDURE

- a. Set resolution bandwidth (RBW) = 100kHz
- b. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. 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

#### 4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 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

For 2.4GHz:

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
<b>802.11b</b>				
1	2412	11.21	0.5	PASS
6	2437	10.19	0.5	PASS
11	2462	10.20	0.5	PASS
<b>802.11g</b>				
1	2412	15.18	0.5	PASS
6	2437	15.17	0.5	PASS
11	2462	15.20	0.5	PASS

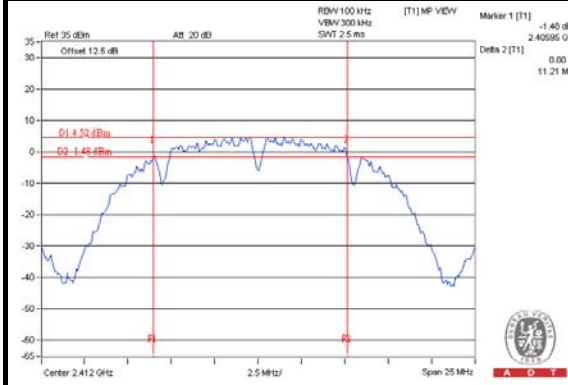
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
<b>802.11n (20MHz)</b>					
1	2412	15.13	15.11	0.5	PASS
6	2437	15.17	15.14	0.5	PASS
11	2462	16.39	15.17	0.5	PASS
<b>802.11n (40MHz)</b>					
3	2422	35.82	35.16	0.5	PASS
6	2437	36.42	35.75	0.5	PASS
9	2452	35.51	35.67	0.5	PASS



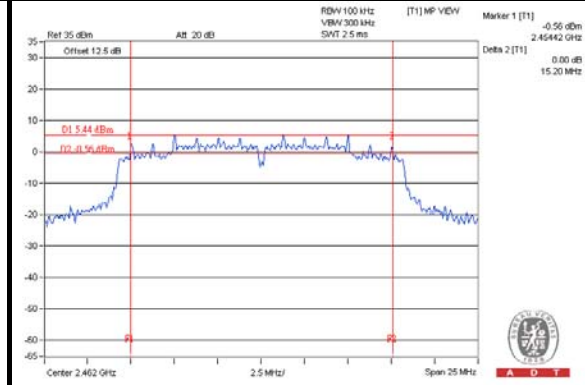
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### SPECTRUM PLOT OF WORST VALUE

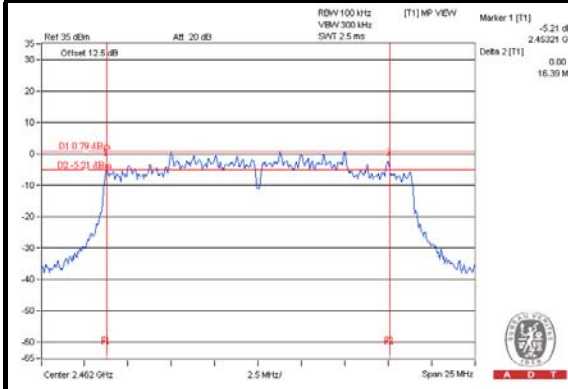
#### 802.11b



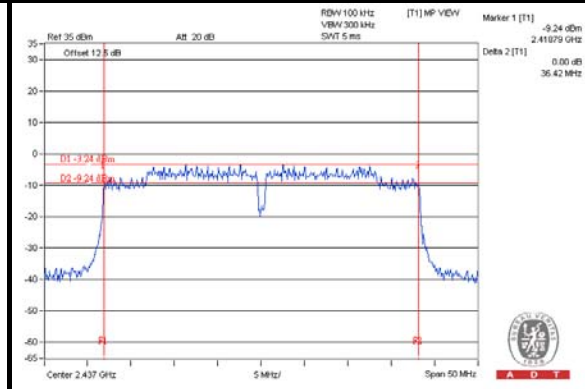
#### 802.11g



#### 802.11n (20MHz)



#### 802.11n (40MHz)





For 5.0GHz:

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
<b>802.11a</b>				
149	5745	16.38	0.5	PASS
157	5785	16.37	0.5	PASS
165	5825	16.40	0.5	PASS

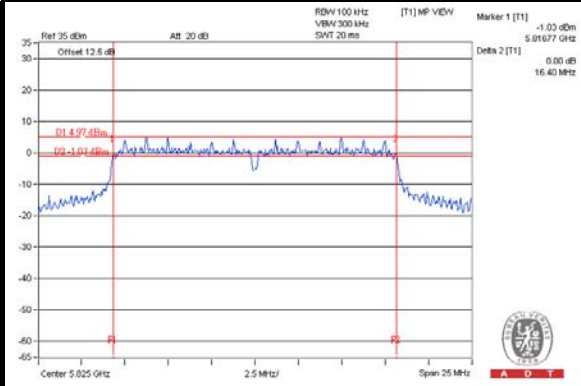
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
<b>802.11n (20MHz)</b>					
149	5745	16.37	17.61	0.5	PASS
157	5785	16.37	17.65	0.5	PASS
165	5825	16.36	17.62	0.5	PASS
<b>802.11n (40MHz)</b>					
151	5755	35.87	35.21	0.5	PASS
159	5795	35.82	35.16	0.5	PASS



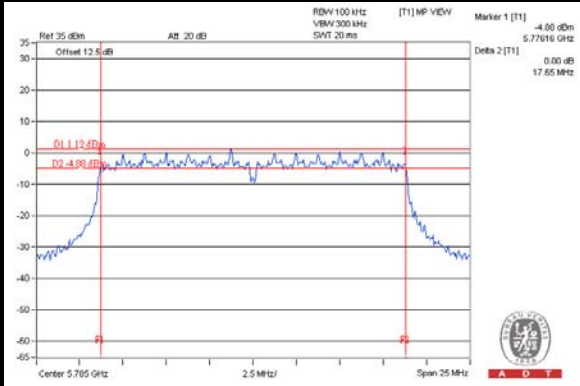
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### SPECTRUM PLOT OF WORST VALUE

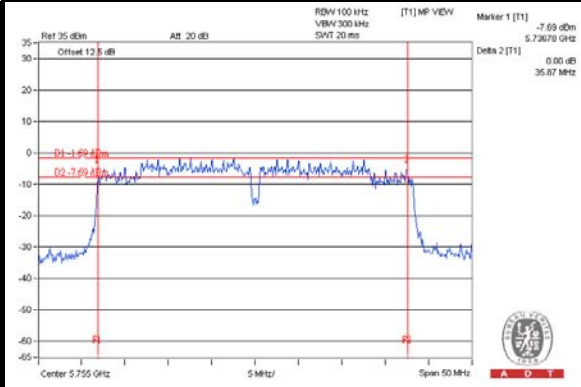
#### 802.11a



#### 802.11n (20MHz)



#### 802.11n (40MHz)



## 4.4 CONDUCTED OUTPUT POWER

### 4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation: 1 Watt (30dBm)

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

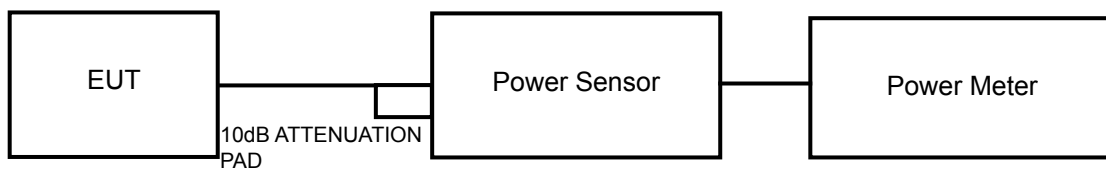
Array Gain = 0 dB (i.e., no array gain) for  $NANT \leq 4$ ;

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

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

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

### 4.4.2 TEST SETUP



### 4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.4.4 TEST PROCEDURES

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

### 4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



#### 4.4.7 TEST RESULTS - FOR PEAK POWER

For 2.4GHz:

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	LIMIT (dBm)	PASS/FAIL
<b>802.11b</b>					
1	2412	17.93	62.1	30	PASS
6	2437	17.82	60.5	30	PASS
11	2462	17.61	57.7	30	PASS
<b>802.11g</b>					
1	2412	21.01	126.2	30	PASS
6	2437	21.01	126.2	30	PASS
11	2462	21.31	135.2	30	PASS

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
<b>802.11n (20MHz)</b>							
1	2412	18.75	18.14	<b>140.2</b>	21.47	30	PASS
6	2437	18.35	18.21	134.6	21.29	30	PASS
11	2462	18.42	18.21	135.7	21.33	30	PASS
<b>802.11n (40MHz)</b>							
3	2422	18.35	18.45	138.4	21.41	30	PASS
6	2437	18.34	18.42	137.7	21.39	30	PASS
9	2452	18.24	18.42	136.2	21.34	30	PASS



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For 5.0GHz:

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	LIMIT (dBm)	PASS/FAIL
<b>802.11a</b>					
149	5745	19.20	83.2	30	PASS
157	5785	18.70	74.1	30	PASS
165	5825	18.75	75.0	30	PASS

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
<b>802.11n (20MHz)</b>							
149	5745	17.95	18.05	<b>126.2</b>	21.01	30	PASS
157	5785	17.52	17.81	116.9	20.68	30	PASS
165	5825	17.51	17.99	119.3	20.77	30	PASS
<b>802.11n (40MHz)</b>							
151	5755	17.53	17.63	114.6	20.59	30	PASS
159	5795	17.51	17.95	118.7	20.75	30	PASS





#### 4.4.8 TEST RESULTS - FOR AVERAGE POWER

For 2.4GHz:

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
<b>802.11b</b>		
1	2412	15.83
6	2437	15.61
11	2462	15.56
<b>802.11g</b>		
1	2412	15.72
6	2437	15.47
11	2462	15.67

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	
<b>802.11n (20MHz)</b>				
1	2412	10.95	10.40	13.69
6	2437	10.94	10.87	13.92
11	2462	10.78	10.54	13.67
<b>802.11n (40MHz)</b>				
3	2422	10.33	10.14	13.25
6	2437	10.86	10.34	13.62
9	2452	10.57	10.36	13.48



For 5.0GHz:

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
<b>802.11a</b>		
149	5745	15.30
157	5785	15.20
165	5825	15.23

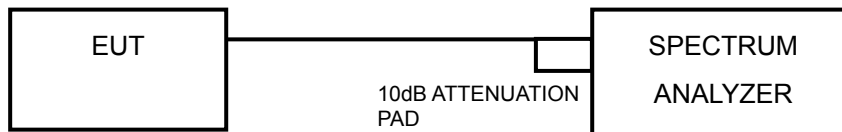
CHANNEL	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	
<b>802.11n (20MHz)</b>				
149	5745	10.91	11.15	10.04
157	5785	10.86	11.04	13.96
165	5825	11.25	10.95	14.11
<b>802.11n (40MHz)</b>				
151	5755	10.47	10.07	13.28
159	5795	10.81	10.55	13.69

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST SETUP



### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 TEST PROCEDURE

- Set the RBW = 3 kHz, VBW = 10 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- Record the max value and add 10 log (1/duty cycle)

### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



### 4.5.7 TEST RESULTS

For 2.4GHz:

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
<b>802.11b</b>				
1	2412	-9.41	8	PASS
6	2437	-9.58	8	PASS
11	2462	-9.56	8	PASS
<b>802.11g</b>				
1	2412	-9.63	8	PASS
6	2437	-9.34	8	PASS
11	2462	-10.15	8	PASS

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
<b>802.11n (20MHz)</b>							
0	1	2412	-12.67	3.01	-9.66	8	PASS
	6	2437	-15.13	3.01	-12.12	8	PASS
	11	2462	-13.97	3.01	-10.96	8	PASS
1	1	2412	-15.64	3.01	-12.63	8	PASS
	6	2437	-16.15	3.01	-13.14	8	PASS
	11	2462	-15.57	3.01	-12.56	8	PASS
<b>802.11n (40MHz)</b>							
0	3	2422	-17.24	3.01	-14.23	8	PASS
	6	2437	-18.08	3.01	-15.07	8	PASS
	9	2452	-17.14	3.01	-14.13	8	PASS
1	3	2422	-18.17	3.01	-15.16	8	PASS
	6	2437	-17.99	3.01	-14.98	8	PASS
	9	2452	-18.16	3.01	-15.15	8	PASS

**NOTE:**

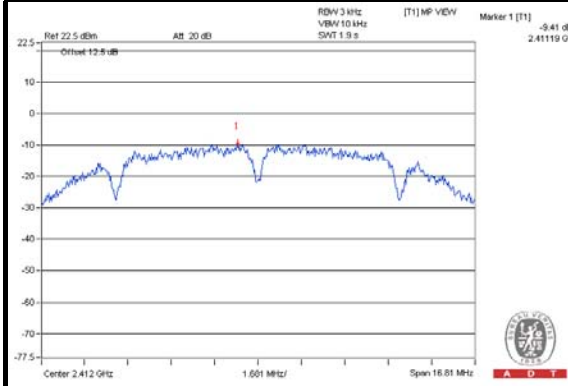
- Method a of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = 2dBi + 10log(2) < 6dBi which meet the requirement of antenna gain, so the conducted power limit is not reduced.



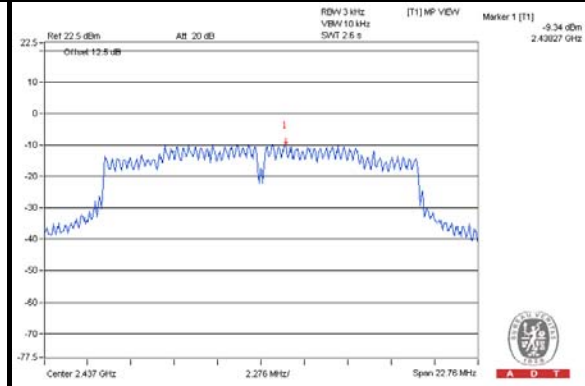
A D T

### SPECTRUM PLOT OF WORST VALUE

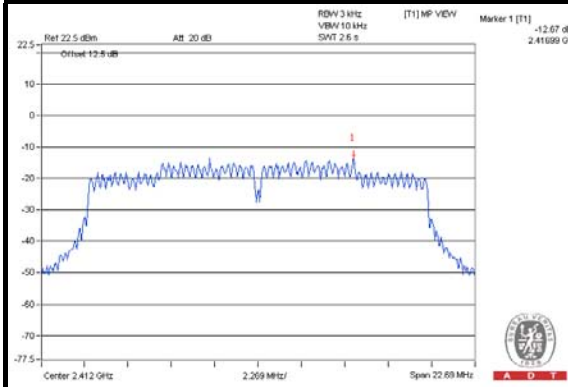
**802.11b**



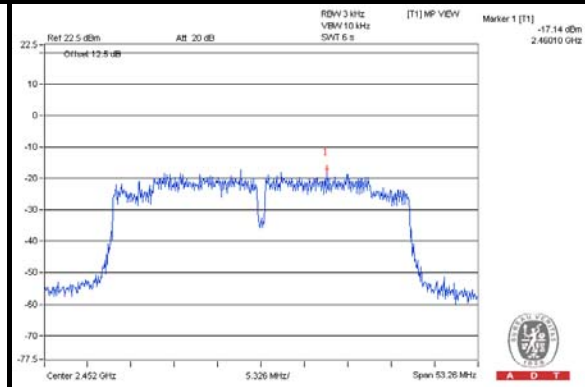
**802.11g**



**802.11n (20MHz)**



**802.11n (40MHz)**





A D T

**For 5.0GHz:**

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
<b>802.11a</b>				
149	5745	-9.23	8	PASS
157	5785	-10.11	8	PASS
165	5825	-9.10	8	PASS

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
<b>802.11n (20MHz)</b>							
0	149	5745	-13.11	3.01	-10.10	8	PASS
	157	5785	-11.63	3.01	-8.62	8	PASS
	165	5825	-10.57	3.01	-7.56	8	PASS
1	149	5745	-15.34	3.01	-12.33	8	PASS
	157	5785	-14.13	3.01	-11.12	8	PASS
	165	5825	-15.07	3.01	-12.06	8	PASS

<b>802.11n (40MHz)</b>							
0	151	5755	-17.51	3.01	-14.50	8	PASS
	159	5795	-16.45	3.01	-13.44	8	PASS
1	151	5755	-18.03	3.01	-15.02	8	PASS
	159	5795	-17.69	3.01	-14.68	8	PASS

**NOTE:**

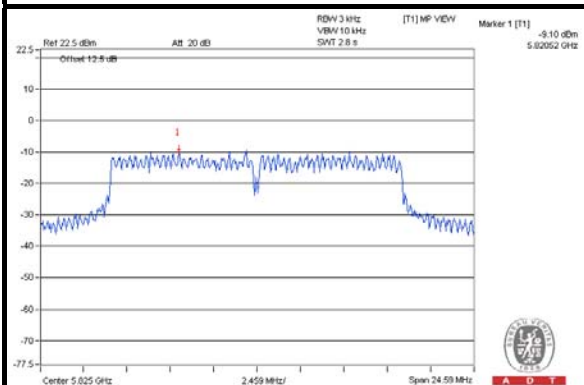
1. Method a of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =2dBi + 10log(2)<6dBi which meet the requirement of antenna gain, so the conducted power limit is not reduced.



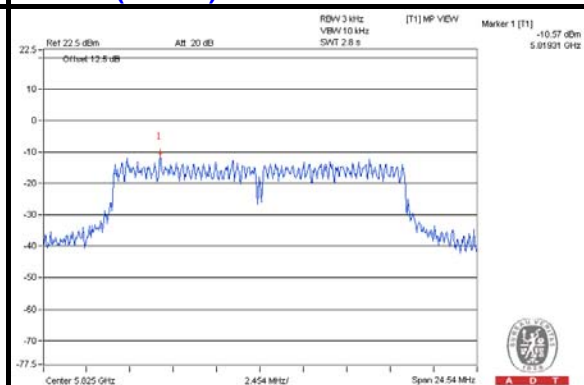
A D T

### SPECTRUM PLOT OF WORST VALUE

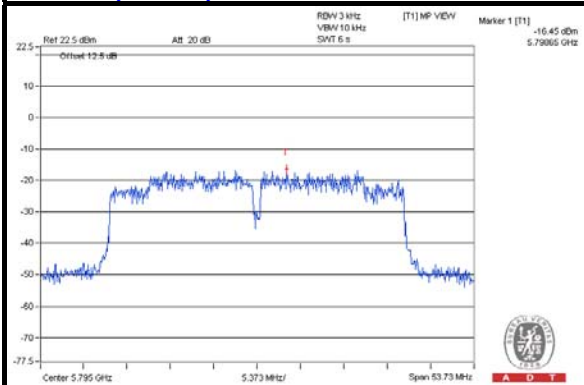
802.11a



802.11n (20MHz)



802.11n (40MHz)

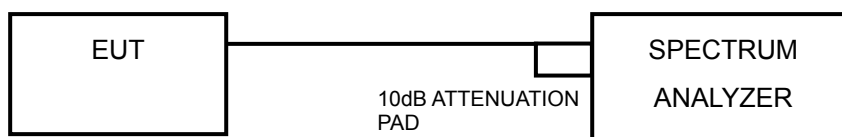


## 4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

### 4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

### 4.6.2 TEST SETUP



### 4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 TEST PROCEDURE

#### MEASUREMENT PROCEDURE REF

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





A D T

## MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  300 kHz.
3. Ensure that the number of measurement points  $\geq$  span/RBW
4. According to measurement points to set differ measurement span.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.

### 4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

### 4.6.7 TEST RESULTS

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

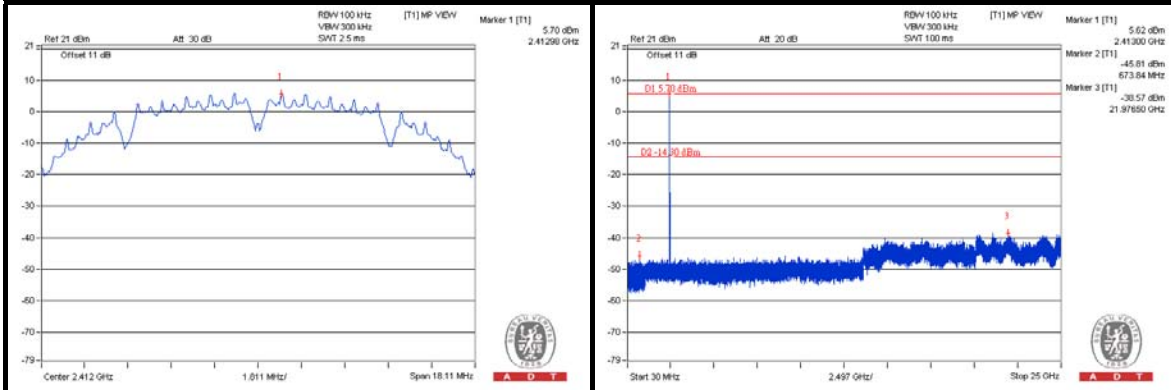
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



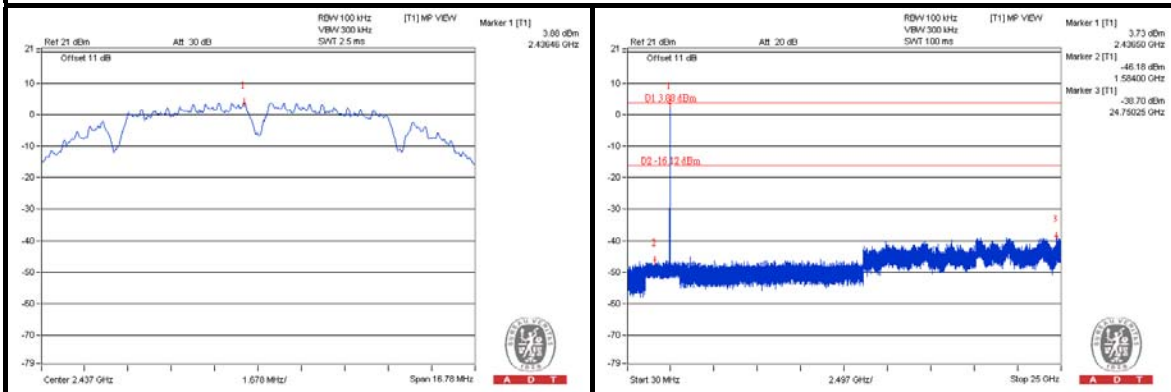
A D T

### 802.11b

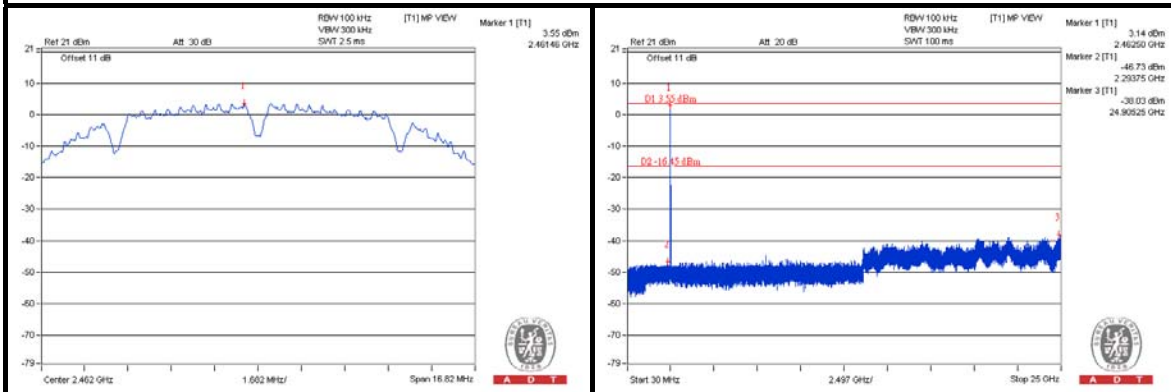
#### CH 1



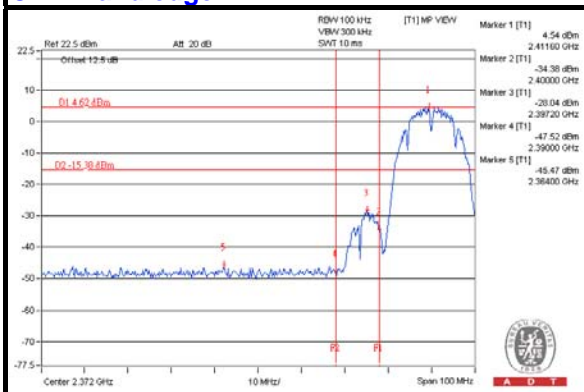
#### CH 6



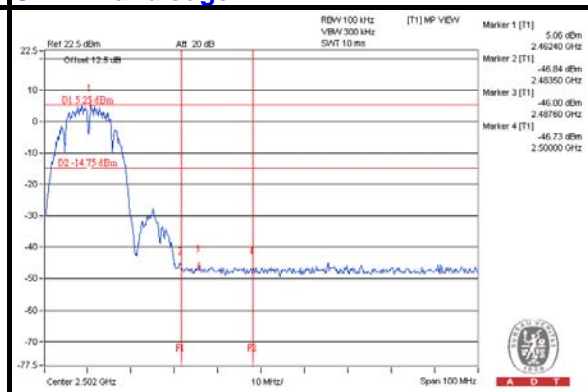
#### CH 11



#### CH 1 Band edge



#### CH 11 Band edge

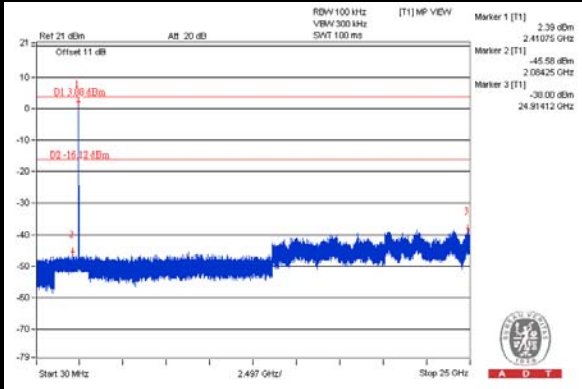
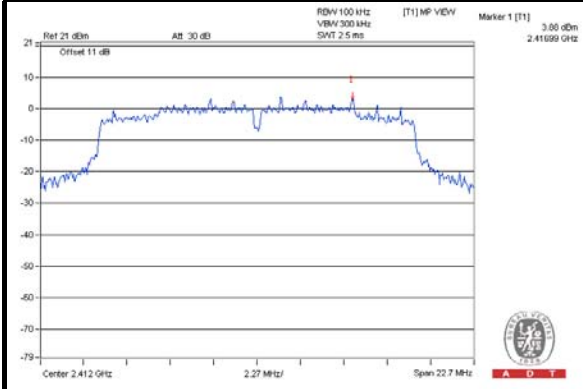




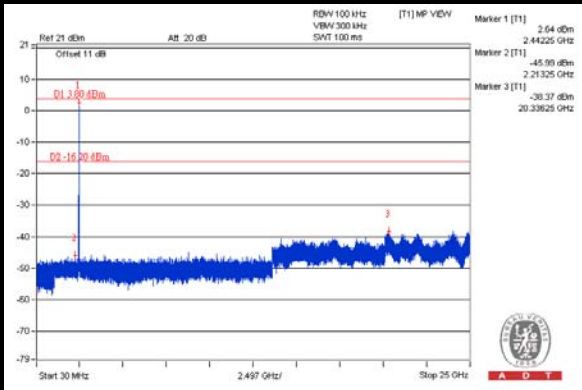
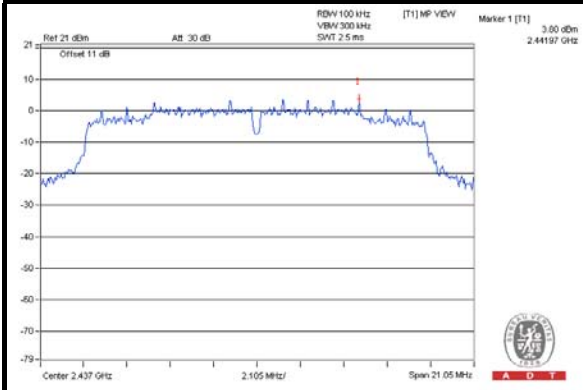
A D T

802.11g

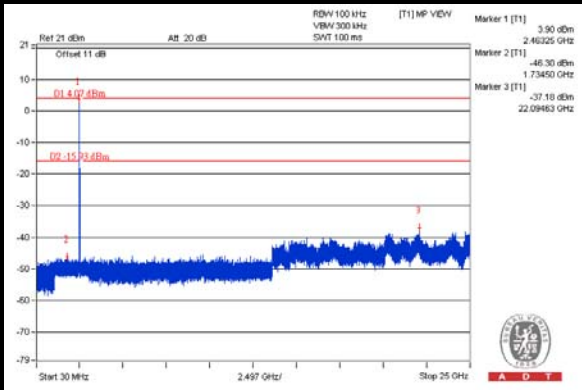
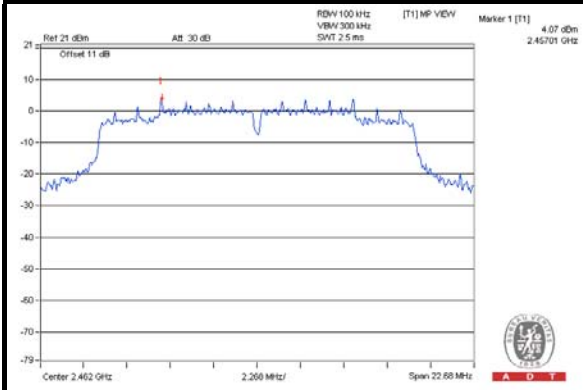
### CH 1



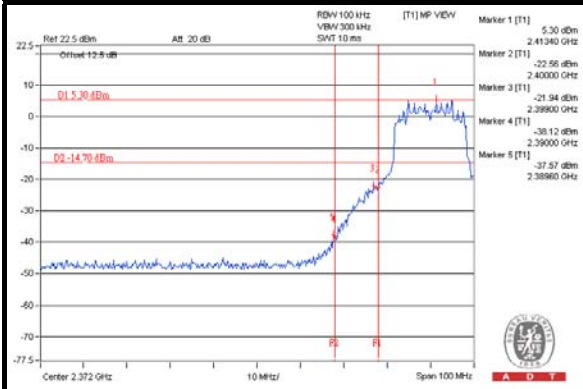
### CH 6



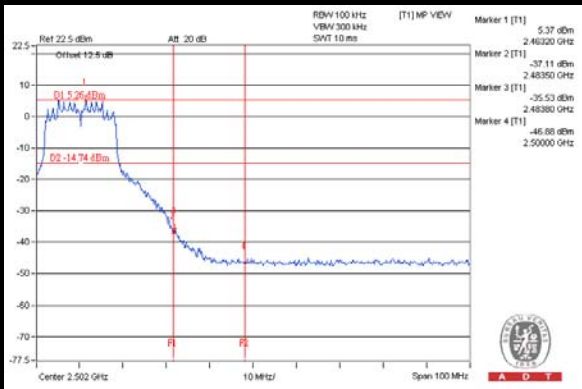
### CH 11



### CH 1 Band edge



### CH 11 Band edge

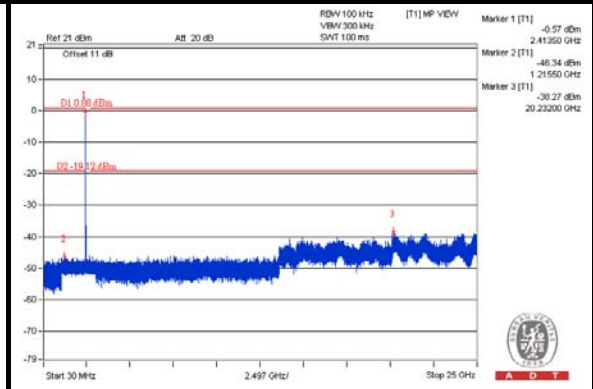
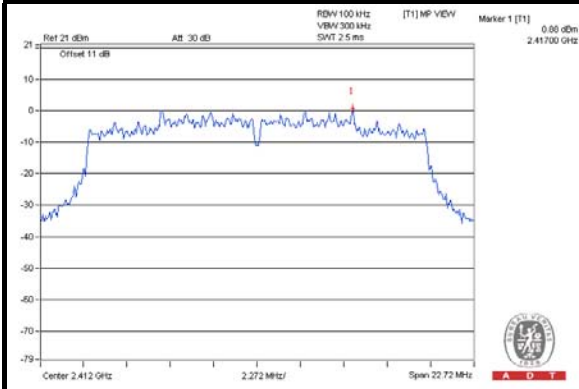




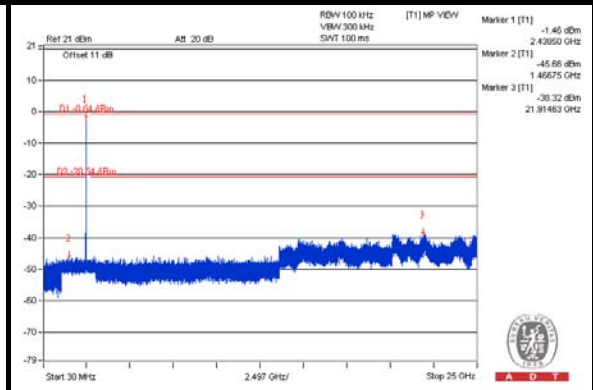
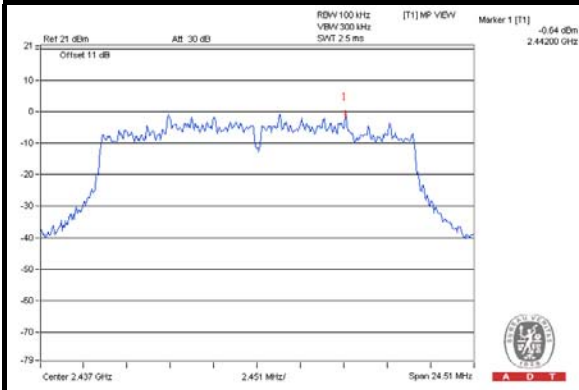
A D T

### 802.11n (20MHz): CHAIN 0

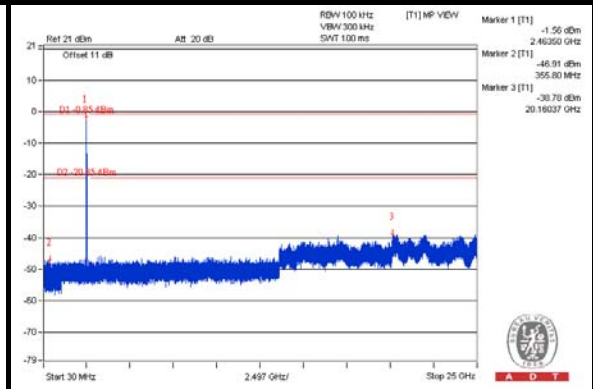
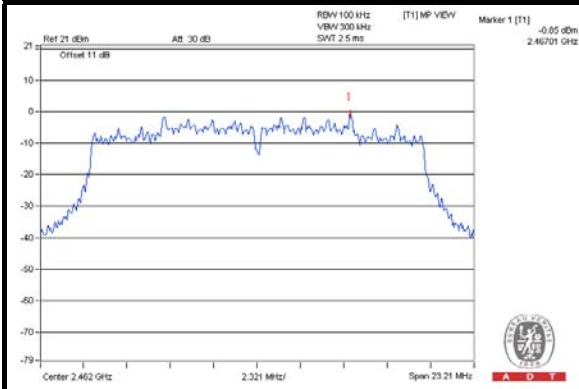
#### CH 1



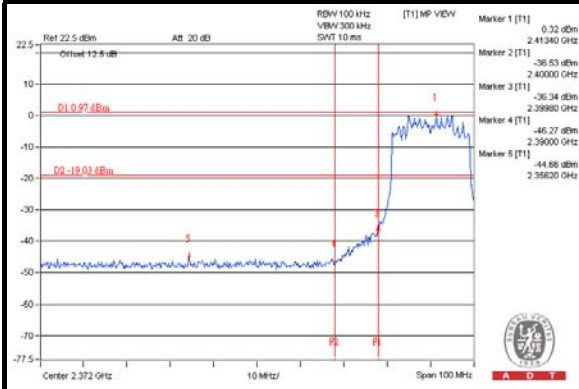
#### CH 6



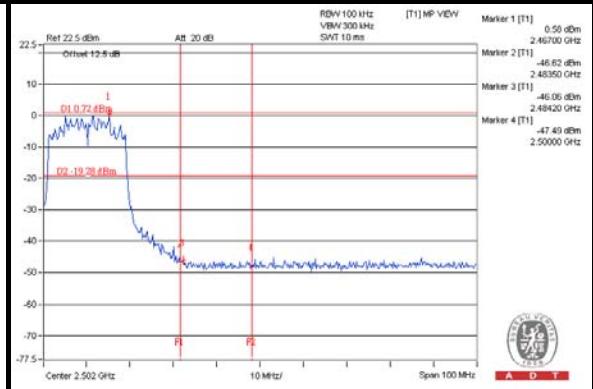
#### CH 11



#### CH 1 Band edge



#### CH 11 Band edge

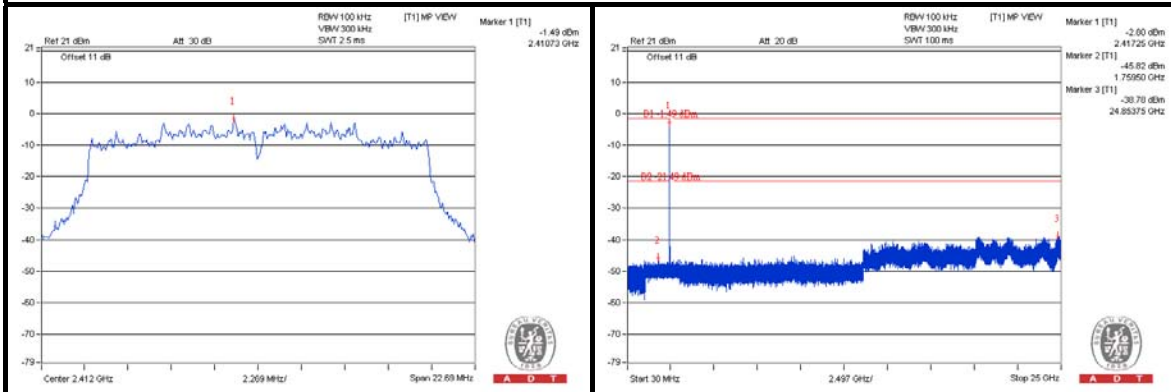




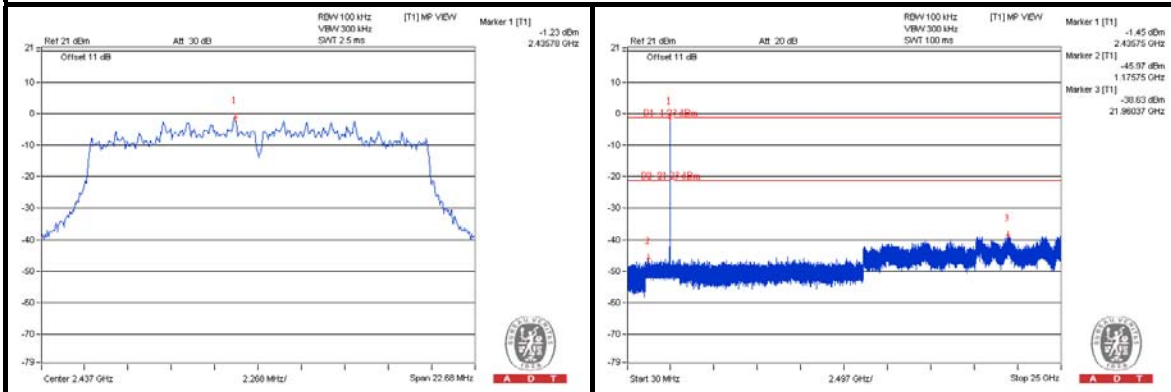
A D T

### 802.11n (20MHz): CHAIN 1

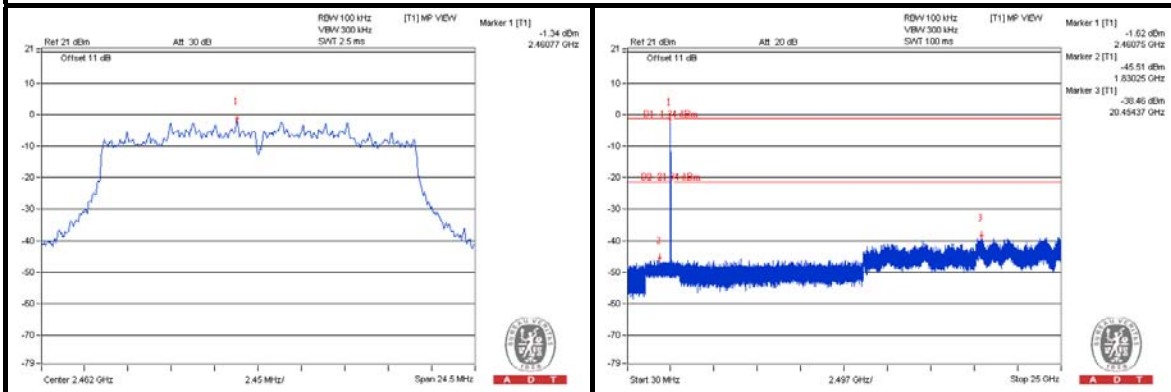
#### CH 1



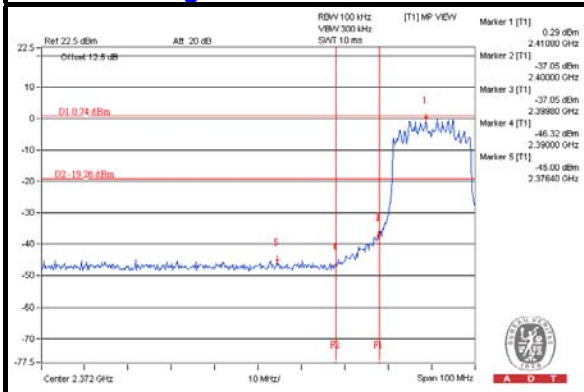
#### CH 6



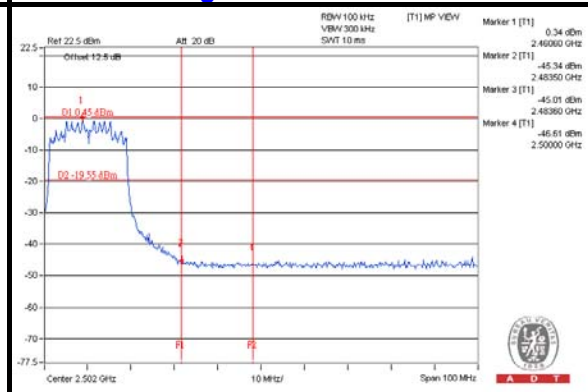
#### CH 11



#### CH 1 Band edge



#### CH 11 Band edge

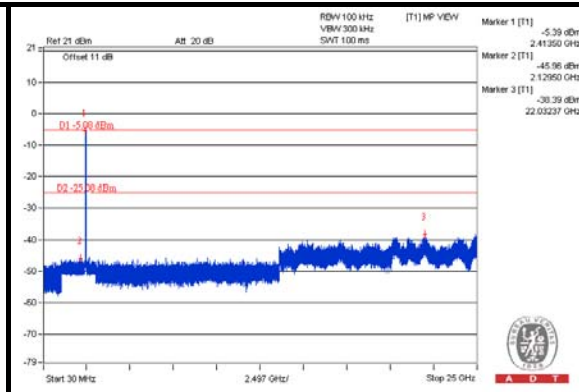
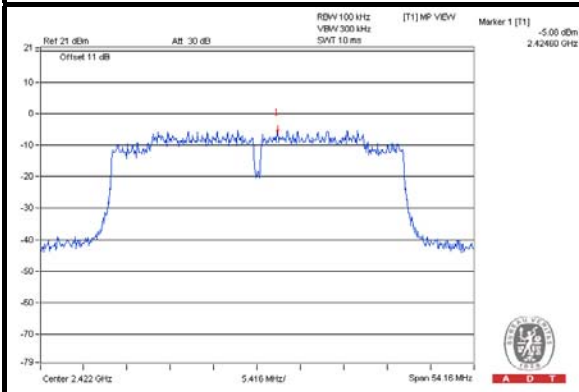




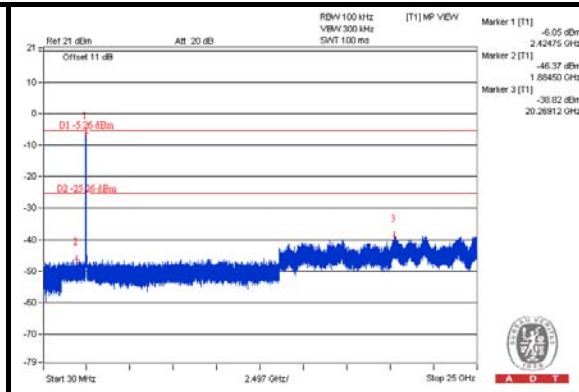
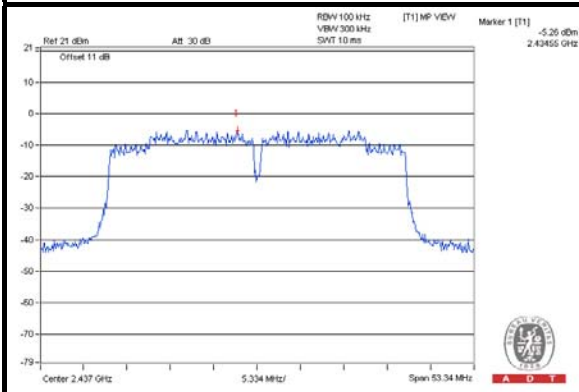
A D T

### 802.11n (40MHz): CHAIN 3

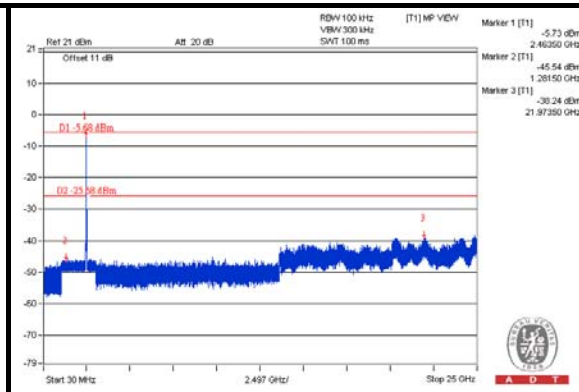
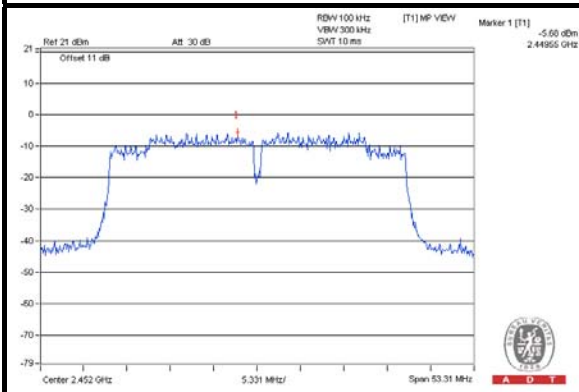
#### CH 3



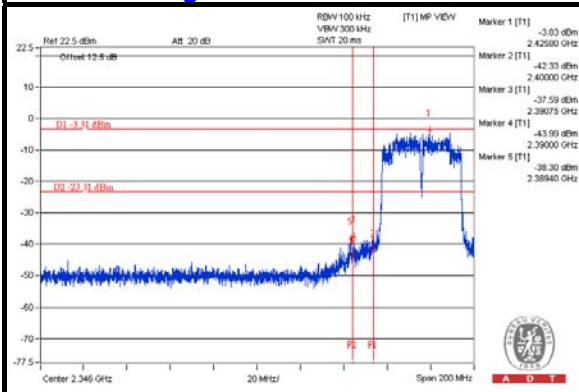
#### CH 6



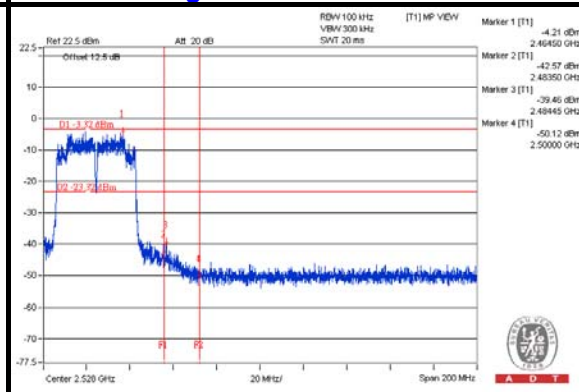
#### CH 9



#### CH 3 Band edge



#### CH 9 Band edge

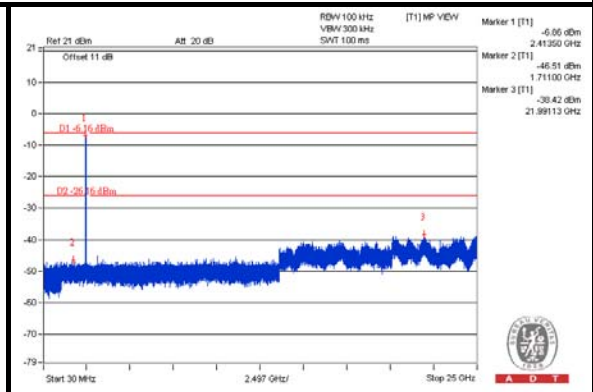
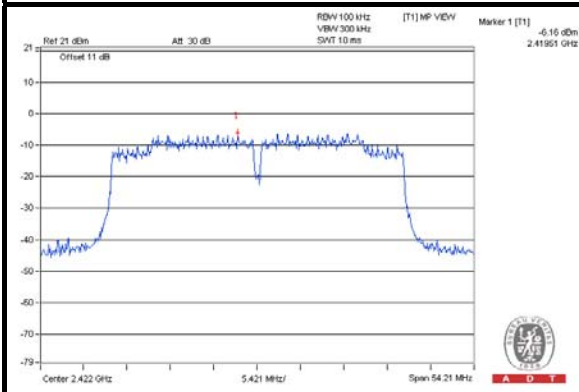




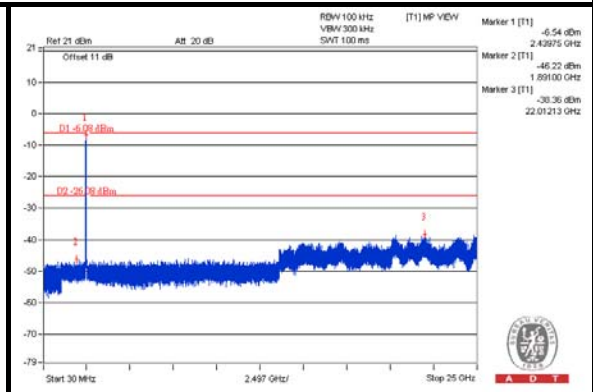
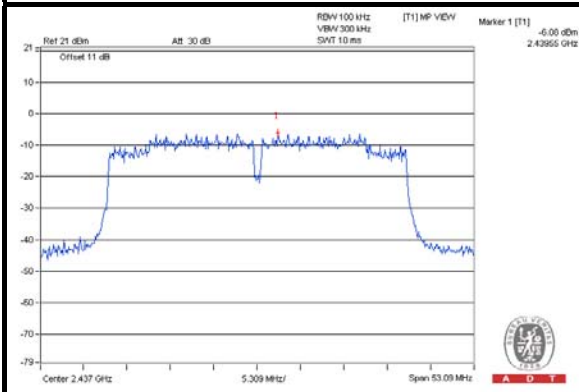
A D T

### 802.11n (40MHz): CHAIN 1

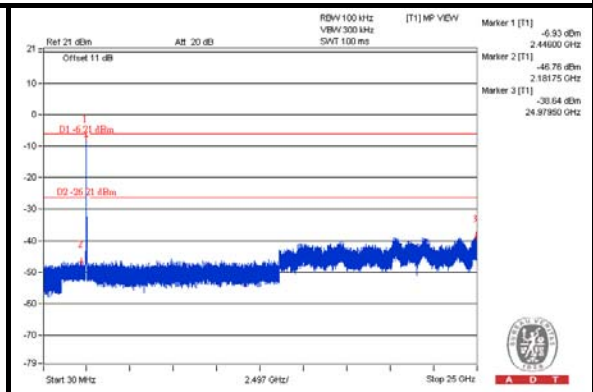
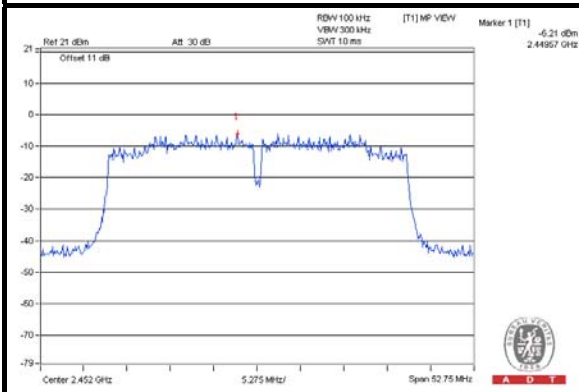
#### CH 3



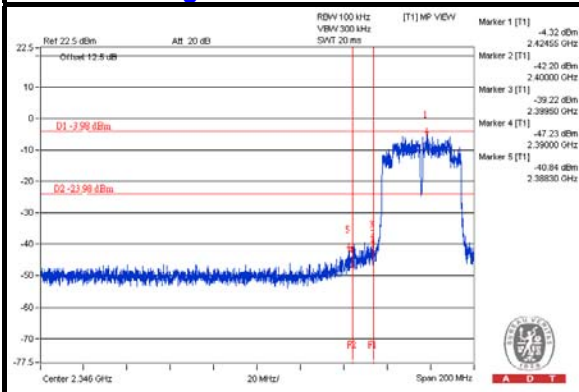
#### CH 6



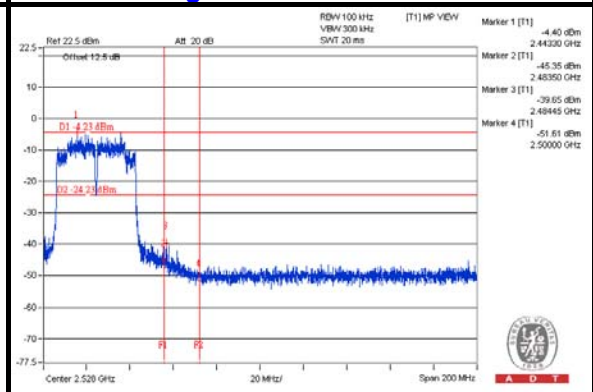
#### CH 9



#### CH 3 Band edge



#### CH 9 Band edge

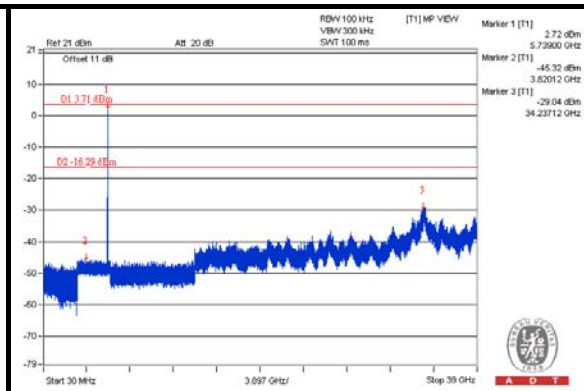
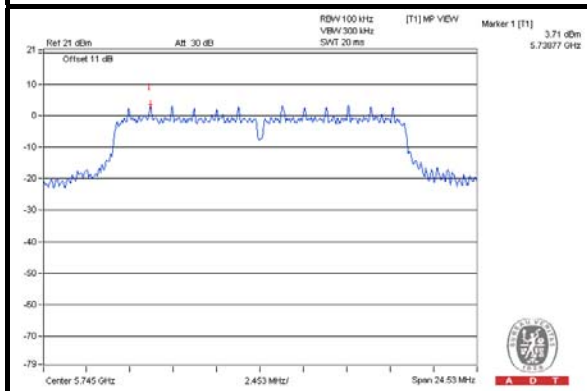




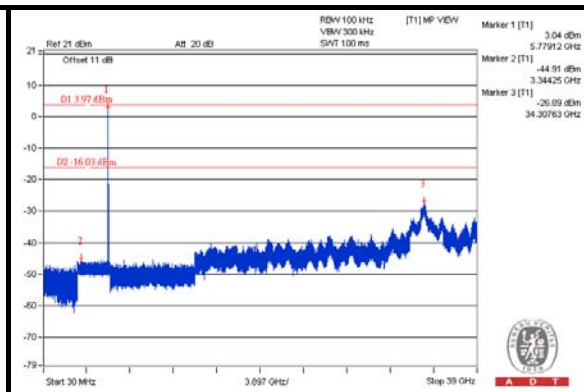
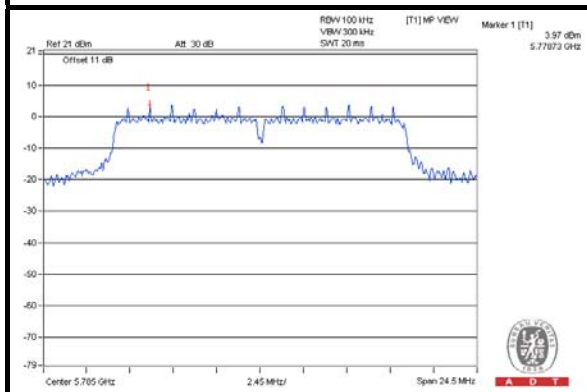
A D T

### 802.11a

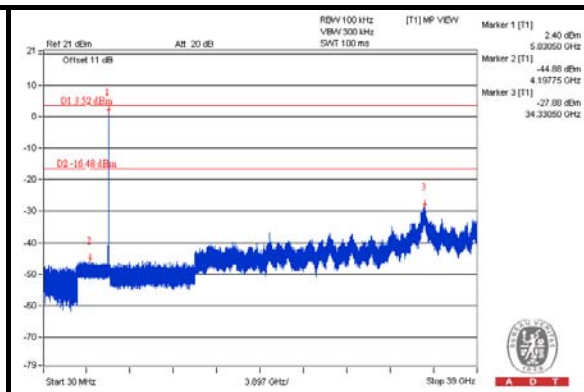
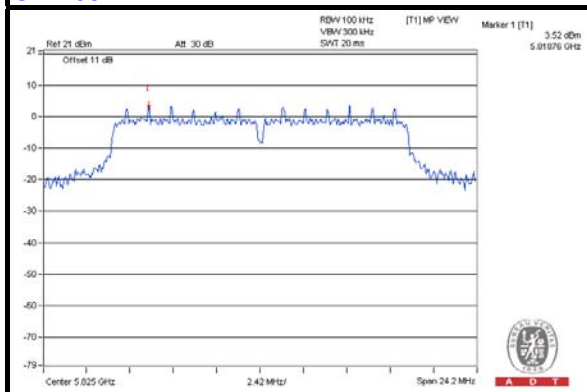
### CH 149



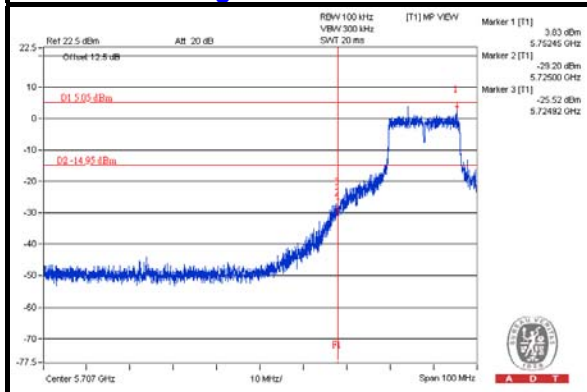
### CH 157



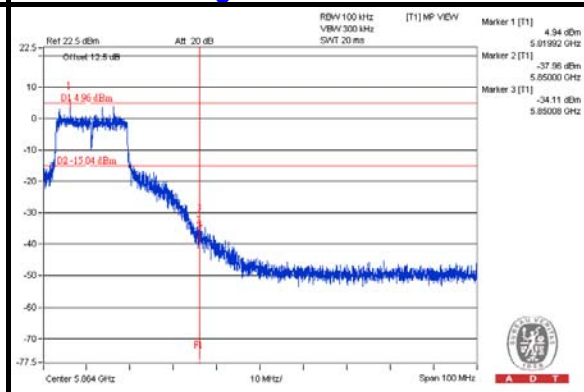
### CH 165



### CH 149 Band edge



### CH 165 Band edge



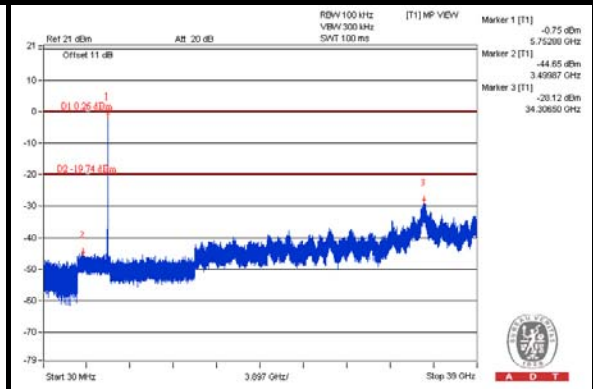
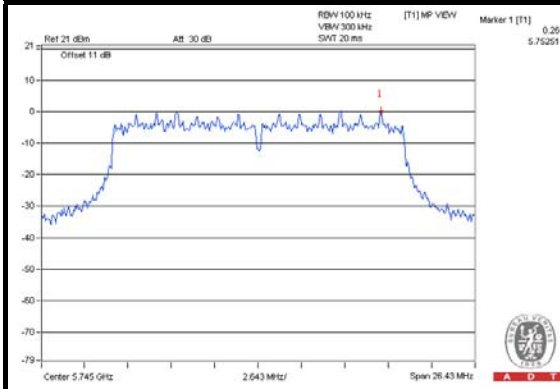




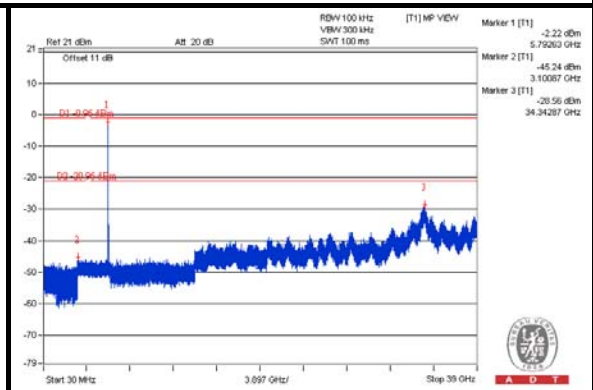
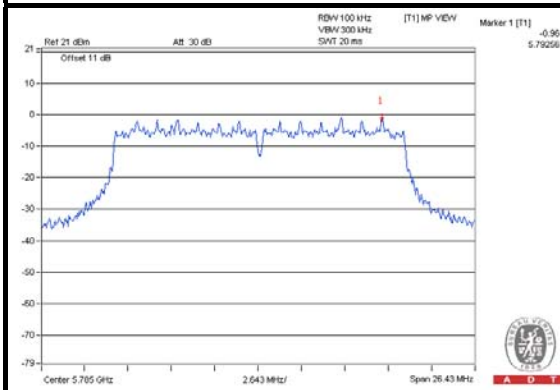
A D T

### 802.11n (20MHz): CHAIN 0

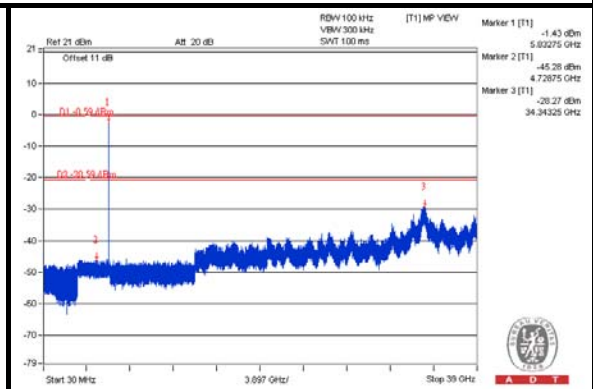
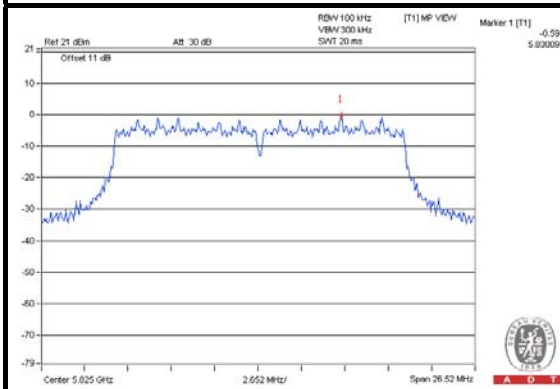
#### CH 149



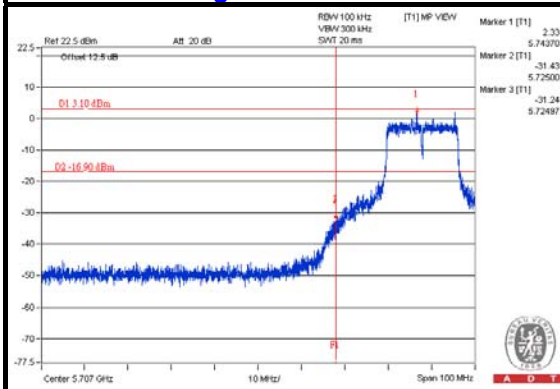
#### CH 157



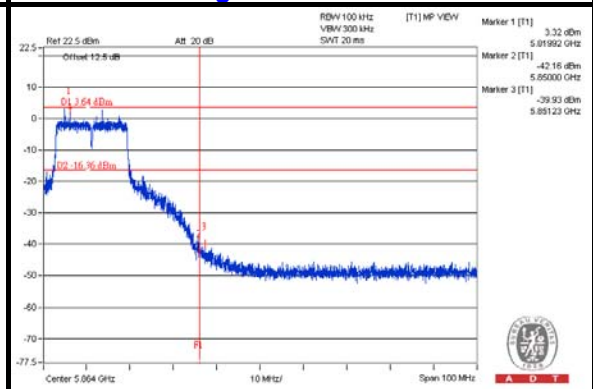
#### CH 165



#### CH 149 Band edge



#### CH 165 Band edge

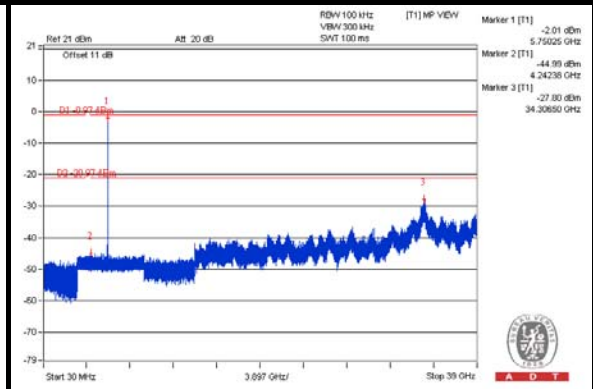
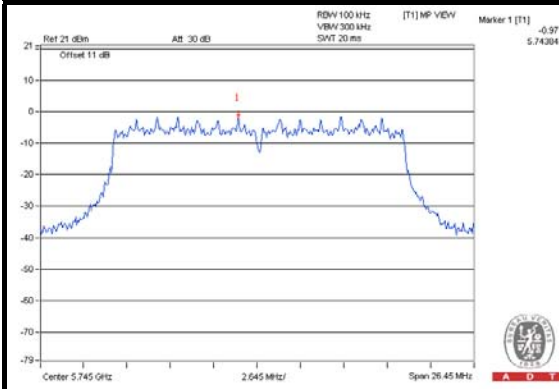




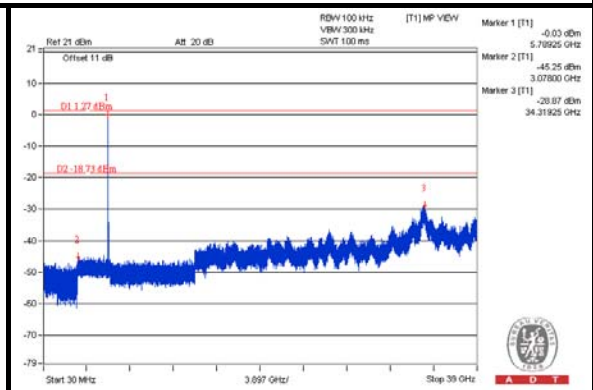
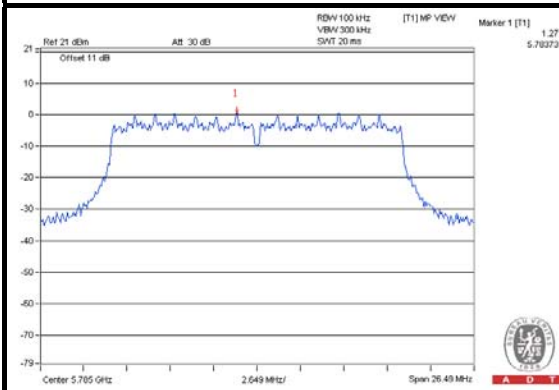
A D T

### 802.11n (20MHz): CHAIN 1

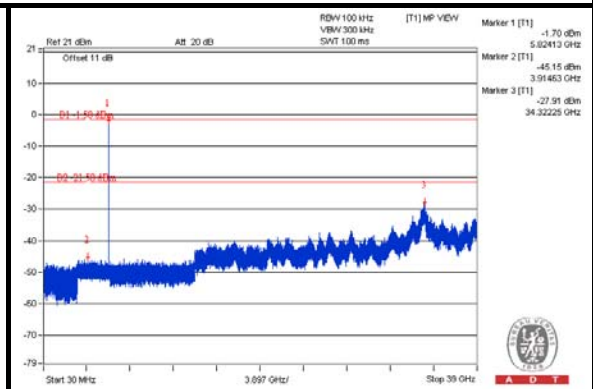
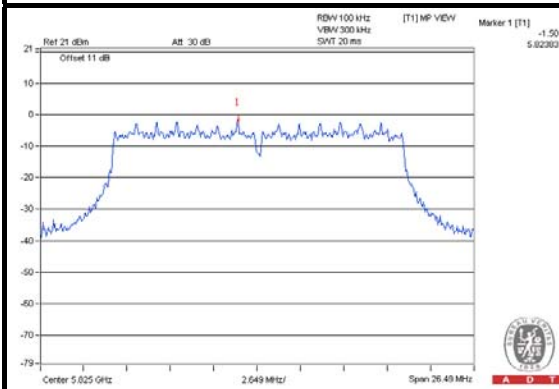
#### CH 149



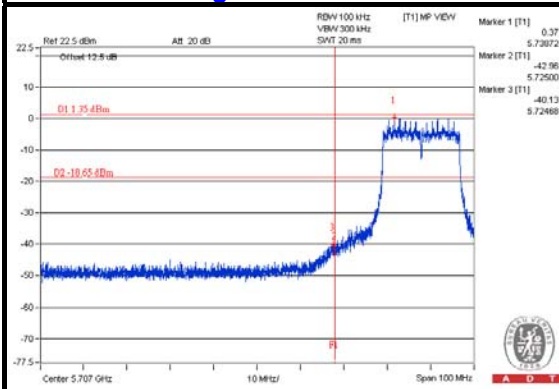
#### CH 157



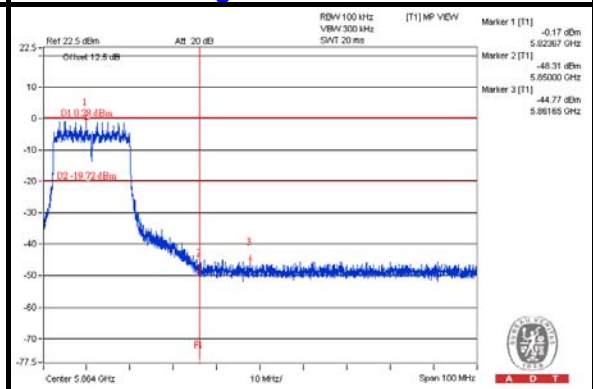
#### CH 165



#### CH 149 Band edge



#### CH 165 Band edge

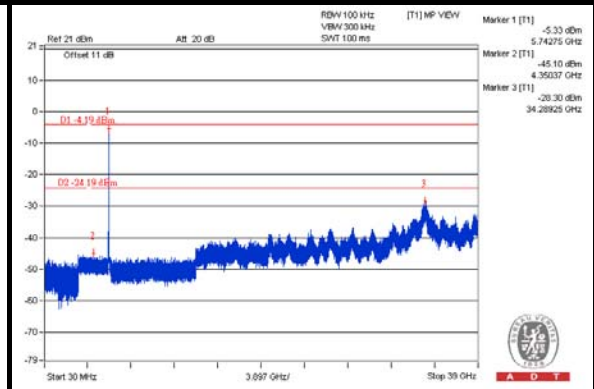
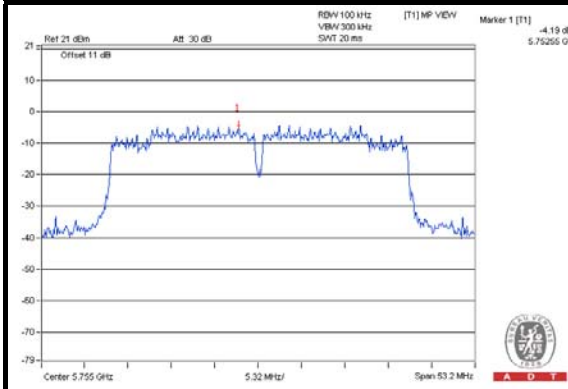




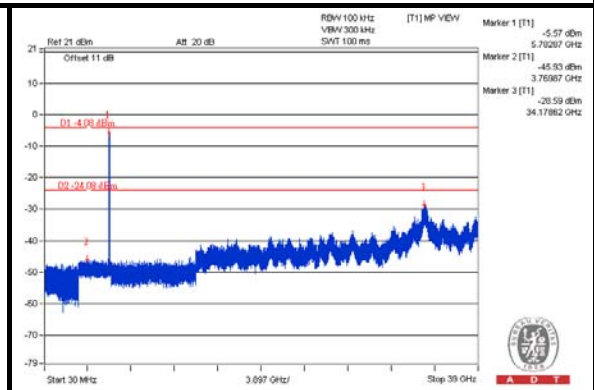
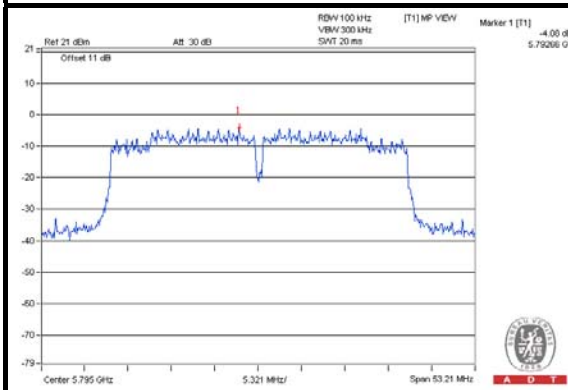
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### 802.11n (40MHz): CHIAN 0

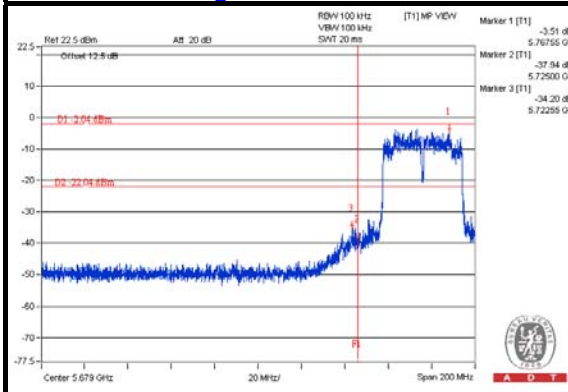
#### CH 151



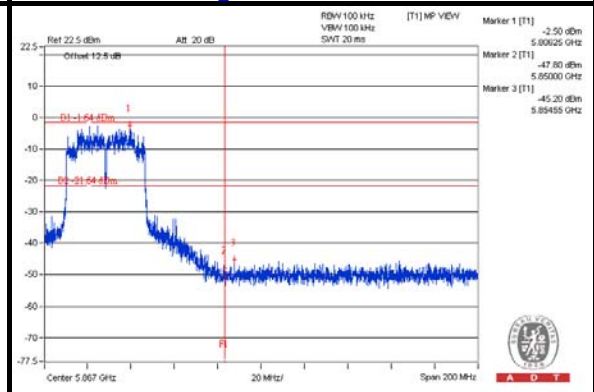
#### CH 159



#### CH 151 Band edge



#### CH 159 Band edge

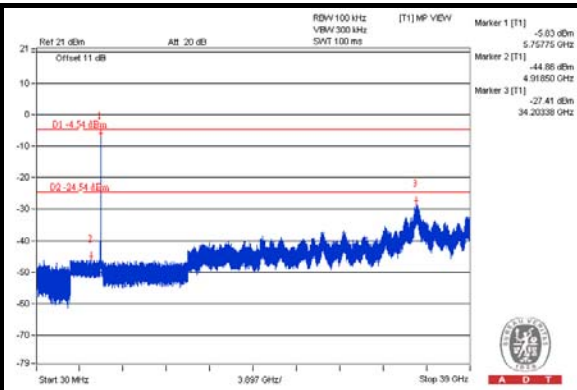
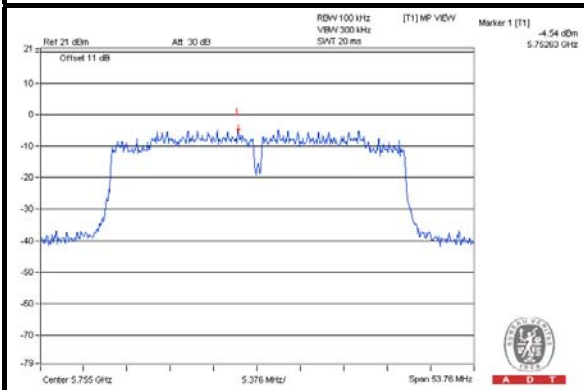




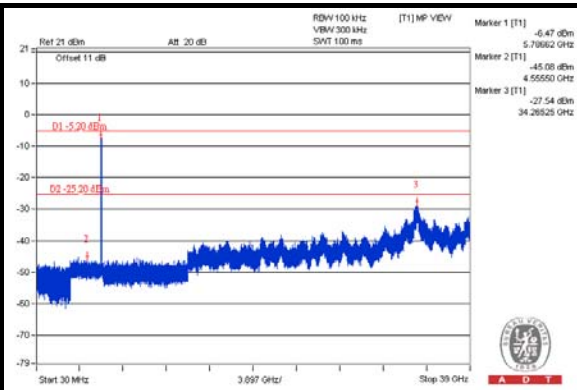
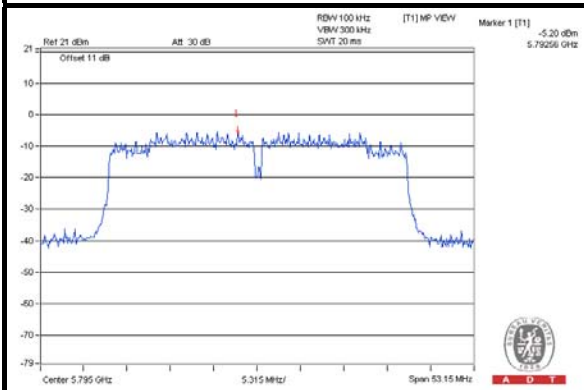
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### 802.11n (40MHz): CHIAN 1

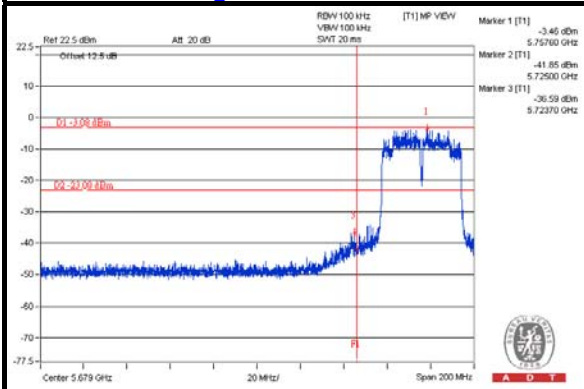
#### CH 151



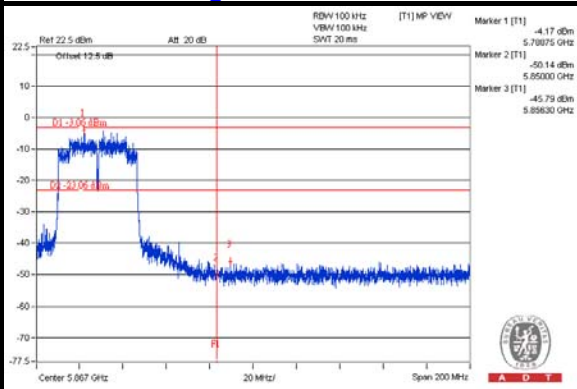
#### CH 159



#### CH 151 Band edge



#### CH 159 Band edge





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## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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## 6. INFORMATION ON THE TESTING LABORATORIES

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

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

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



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## **7. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

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

**---END---**