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# FCC TEST REPORT (15.407)

**REPORT NO.:** RF110620E02-1

**MODEL NO.:** DAP-2565

**FCC ID:** KA2AP2565A1

**RECEIVED:** June 20, 2011

**TESTED:** June 21 to July 04, 2011

**ISSUED:** Aug 01, 2011

**APPLICANT:** D-Link Corporation

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

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## Table of Contents

RELEASE CONTROL RECORD .....	4
1. CERTIFICATION .....	5
2. SUMMARY OF TEST RESULTS .....	6
2.1 MEASUREMENT UNCERTAINTY.....	7
3. GENERAL INFORMATION .....	8
3.1 GENERAL DESCRIPTION OF EUT .....	8
3.2 DESCRIPTION OF TEST MODES .....	11
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL .....	12
3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS .....	15
3.4 DESCRIPTION OF SUPPORT UNITS.....	16
3.5 CONFIGURATION OF SYSTEM UNDER TEST .....	17
4. TEST TYPES AND RESULTS .....	18
4.1 CONDUCTED EMISSION MEASUREMENT .....	18
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT .....	18
4.1.2 TEST INSTRUMENTS.....	18
4.1.3 TEST PROCEDURES .....	19
4.1.4 DEVIATION FROM TEST STANDARD .....	19
4.1.5 TEST SETUP .....	20
4.1.6 EUT OPERATING CONDITIONS .....	20
4.1.7 TEST RESULTS .....	21
4.2 RADIATED EMISSION MEASUREMENT .....	23
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT.....	23
4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS.....	24
4.2.3 TEST INSTRUMENTS.....	25
4.2.4 TEST PROCEDURES .....	27
4.2.5 DEVIATION FROM TEST STANDARD .....	27
4.2.6 TEST SETUP .....	28
4.2.7 EUT OPERATING CONDITION .....	28
4.2.8 TEST RESULTS .....	29
4.3 OUTPUT TRANSMIT POWER MEASUREMENT .....	50
4.3.1 LIMITS OF OUTPUT TRANSMIT POWER MEASUREMENT.....	50
4.3.2 TEST INSTRUMENTS.....	50
4.3.3 TEST PROCEDURE.....	50
4.3.4 DEVIATION FROM TEST STANDARD .....	50
4.3.5 TEST SETUP .....	51
4.3.6 EUT OPERATING CONDITIONS .....	51
4.3.7 TEST RESULTS .....	52
4.4 PEAK POWER EXCURSION MEASUREMENT .....	58
4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT.....	58
4.4.2 TEST INSTRUMENTS.....	58



A D T

4.4.3 TEST PROCEDURE.....	58
4.4.4 DEVIATION FROM TEST STANDARD.....	58
4.4.5 TEST SETUP .....	59
4.4.6 EUT OPERATING CONDITIONS .....	59
4.4.7 TEST RESULTS .....	60
4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT .....	63
4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT .....	63
4.5.2 TEST INSTRUMENTS.....	63
4.5.3 TEST PROCEDURES .....	63
4.5.4 DEVIATION FROM TEST STANDARD.....	63
4.5.5 TEST SETUP .....	63
4.5.6 EUT OPERATING CONDITIONS .....	63
4.5.7 TEST RESULTS .....	64
4.6 FREQUENCY STABILITY.....	67
4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT .....	67
4.6.2 TEST INSTRUMENTS.....	67
4.6.3 TEST PROCEDURE.....	67
4.6.4 DEVIATION FROM TEST STANDARD.....	68
4.6.5 TEST SETUP .....	68
4.6.6 EUT OPERATING CONDITION.....	68
4.6.7 TEST RESULTS .....	69
4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT.....	70
4.7.1 TEST INSTRUMENTS.....	70
4.7.2 TEST PROCEDURE.....	70
4.7.3 EUT OPERATING CONDITION.....	70
4.7.4 TEST RESULTS .....	70
5. INFORMATION ON THE TESTING LABORATORIES .....	83
6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB.....	84



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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110620E02-1	Original release	Aug 01, 2011



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## 1. CERTIFICATION

**PRODUCT:** AIRPREMIER N DUAL BAND, PLENUM-RATED POE ACCESS POINT POWERED BY CLOUDCOMMAND

**BRAND NAME:** D-Link

**MODEL NO.:** DAP-2565

**TEST SAMPLE:** MASS-PRODUCTION

**APPLICANT:** D-Link Corporation

**TESTED:** June 21 to July 04, 2011

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

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: DAP-2565) 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 :** Claire Kuan , **DATE:** Aug. 01, 2011  
( Claire Kuan, Specialist )

**APPROVED BY :** May Chen , **DATE:** Aug. 01, 2011  
( May Chen, Deputy Manager )



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## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)			
Standard Section	Test Type	Result	Remark
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -11.23dB at 0.177MHz
15.407(b/1/2/3) (b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -0.7dB at 5416.80MHz
15.407(a/1/2/3)	Output Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is SMA Plug Straight /Reverse not a standard connector.

### NOTE:

1. The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.25GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.25GHz. For the 2400 ~ 2483.5MHz and 5.725~5.850GHz RF parameters was recorded in another test report.



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## 2.1 MEASUREMENT UNCERTAINTY

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

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

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.81 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB



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### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	AIRPREMIER N DUAL BAND, PLENUM-RATED POE ACCESS POINT POWERED BY CLOUDCOMMAND
MODEL NO.	DAP-2565
FCC ID	KA2AP2565A1
POWER SUPPLY	DC 48 from POE
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11a/g: 54/48/36/24/18/12/9/6Mbps HT20 MCS0~7 (800ns GI): 6.5Mbps, 13Mbps, 19.5Mbps, 26Mbps, 39Mbps, 52Mbps, 58.5Mbps, 65Mbps, HT20 MCS8~15 (800ns GI): 13Mbps, 26Mbps, 39Mbps, 52Mbps, 78Mbps, 104Mbps, 117Mbps, 130Mbps. HT40 MCS0~7 (800ns GI): 13.5Mbps, 27Mbps, 40.5Mbps, 54Mbps, 81Mbps, 108Mbps, 121.5Mbps, 135Mbps. HT40 MCS8~15 (800ns GI): 27Mbps, 54Mbps, 81Mbps, 108Mbps, 162Mbps, 216Mbps, 243Mbps, 270Mbps. HT20 MCS0~7 (400ns GI): 7.2Mbps, 14.4Mbps, 21.7Mbps, 28.9Mbps, 43.3Mbps, 57.8Mbps, 65.0Mbps, 72.2Mbps, HT20 MCS8~15 (400ns GI): 14.444Mbps, 28.889Mbps, 43.333Mbps, 57.778Mbps, 86.667Mbps, 115.556Mbps, 130.000Mbps, 144.444Mbps. HT40 MCS0~7 (400ns GI): 15.0Mbps, 30.0Mbps, 45.0Mbps, 60.0Mbps, 90.0Mbps, 120.0Mbps, 135.0Mbps, 150.0Mbps, HT40 MCS8~15 (400ns GI): 30.0Mbps, 60.0Mbps, 90.0Mbps, 120.0Mbps, 180.0Mbps, 240.0Mbps, 270.0Mbps, 300.0Mbps.
OPERATING FREQUENCY	<b>For 15.407</b> 802.11a: 5.18 ~ 5.24GHz <b>For 15.247</b> 802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 5.745 ~ 5.825GHz



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<b>NUMBER OF CHANNEL</b>	<b>For 15.407</b> 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
	<b>For 15.247(2.4GHz)</b> 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz)
	<b>For 15.247(5GHz)</b> 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
<b>MAXIMUM OUTPUT POWER</b>	<b>For 15.407</b> 802.11a: 14.5mW 802.11n (20MHz): 25.8mW 802.11n (40MHz): 44.3mW <b>For 15.247(2.4GHz)</b> 802.11b: 186.7mW 802.11g: 463.5mW 802.11n (20MHz): 485.4mW 802.11n (40MHz): 303.4mW <b>For 15.247(5GHz)</b> 802.11a: 453.0mW 802.11n (20MHz): 386.1mW 802.11n (40MHz): 405.0mW
<b>ANTENNA TYPE</b>	Please see note
<b>DATA CABLE</b>	Ethernet cable (Unshielded, 1.5m)
<b>I/O PORTS</b>	LAN port x 1(10/100/1000Mbps)
<b>ASSOCIATED DEVICES</b>	Adapter x 1 POE x 1

**NOTE:**

1. There are two antennas provided to this EUT, please refer to the following table:

Transmitter Circuit	Brand	Model	Gain (dBi) include cable loss	Antenna Type	Connector
Chain (0)	WHA YU GROUP	C037-511111-A(SSR-10963)	2.4G: 3.5dBi 5G : 6dBi	Dipole	SMA Plug Straight /Reverse
Chain (1)	WHA YU GROUP	C037-511111-A(SSR-10963)	2.4G: 3.5dBi 5G : 6dBi	Dipole	SMA Plug Straight /Reverse

2. 2.4GHz and 5GHz technology cannot transmit at same time.



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

Test Mode	Description
Mode A	Laying-flat type
<b>Mode B</b>	<b>Stand-up type</b>

From the above modes, the worst radiated test was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

4. The EUT must be supplied with a PoE as following table:

PoE	
<b>BRAND</b>	Base-Unit
<b>MODEL</b>	EBU-101G-T2 LF
<b>OUTPUT POWER</b>	DC 48V, 0.4A
* <b>ADAPTER</b> (use only with PoE)	
<b>BRAND:</b>	Bothhand Enterprise Inc.
<b>MODEL:</b>	SA06-20S48-V
<b>INPUT POWER:</b>	AC 100-240V, 0.6A, 50-60Hz 1.85 m unshielded without core.
<b>OUTPUT POWER:</b>	DC 48V, 0.4A 1.8 m unshielded with one core.

5. The EUT incorporates CDD function with 802.11a, 802.11b, 802.11g and MIMO function with 802.11n.
6. The EUT is 2 \* 2 spatial MIMO (2Tx & 2Rx) without beam forming function.
7. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
8. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.



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### 3.2 DESCRIPTION OF TEST MODES

#### Operated in 5150MHz ~ 5250MHz bands:

Four channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz

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

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz



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### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

### ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)
A	802.11 a	√	√
B	802.11n(20MHz) for MCS0~15	√	√
C	802.11n(40MHz) for MCS0~15	√	√

Note: 1. The above information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

### POWER LINE CONDUCTED EMISSION TEST:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
For 5 GHz 802.11n (20MHz)	36 to 48	48	OFDM	BPSK	6.5	B

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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
For 5 GHz 802.11n (20MHz)	36 to 48	48	OFDM	BPSK	13	B



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

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	36 to 48	36, 40, 48	OFDM	BPSK	6.5	B
For 5 GHz 802.11n (40MHz)	38 to 46	38, 46	OFDM	BPSK	13.5	C

#### CONDUCTED OUT-BAND EMISSION MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
802.11a	36 to 48	36, 48	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	36 to 48	36, 48	OFDM	BPSK	6.5	B
For 5 GHz 802.11n (40MHz)	38 to 46	38, 46	OFDM	BPSK	13.5	C

#### ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6	A
For 5 GHz 802.11n (20MHz)	36 to 48	36, 40, 48	OFDM	BPSK	6.5	B
For 5 GHz 802.11n (40MHz)	38 to 46	38, 46	OFDM	BPSK	13.5	C

※ After verification, bandwidth as show worst chain in report by investigations.



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**TEST CONDITION:**

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE <sup>3</sup> 1G	25deg. C, 69%RH, 1003 hPa	120Vac, 60Hz	Kent Liu
RE<1G	26deg. C, 69%RH, 1003 hPa	120Vac, 60Hz	Rex Huang
PLC	27deg. C, 70%RH, 1003 hPa	120Vac, 60Hz	Kent Liu
APCM	25deg. C, 60%RH, 1003 hPa	120Vac, 60Hz	Kent Liu
OB	25deg. C, 60%RH, 1003 hPa	120Vac, 60Hz	Kent Liu



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### **3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS**

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

**FCC Part 15, Subpart E (Section 15.407)**

**ANSI C63.4-2003**

**ANSI C63.10-2009**

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

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



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### 3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-70166-5CA-0448	PIW632500516610

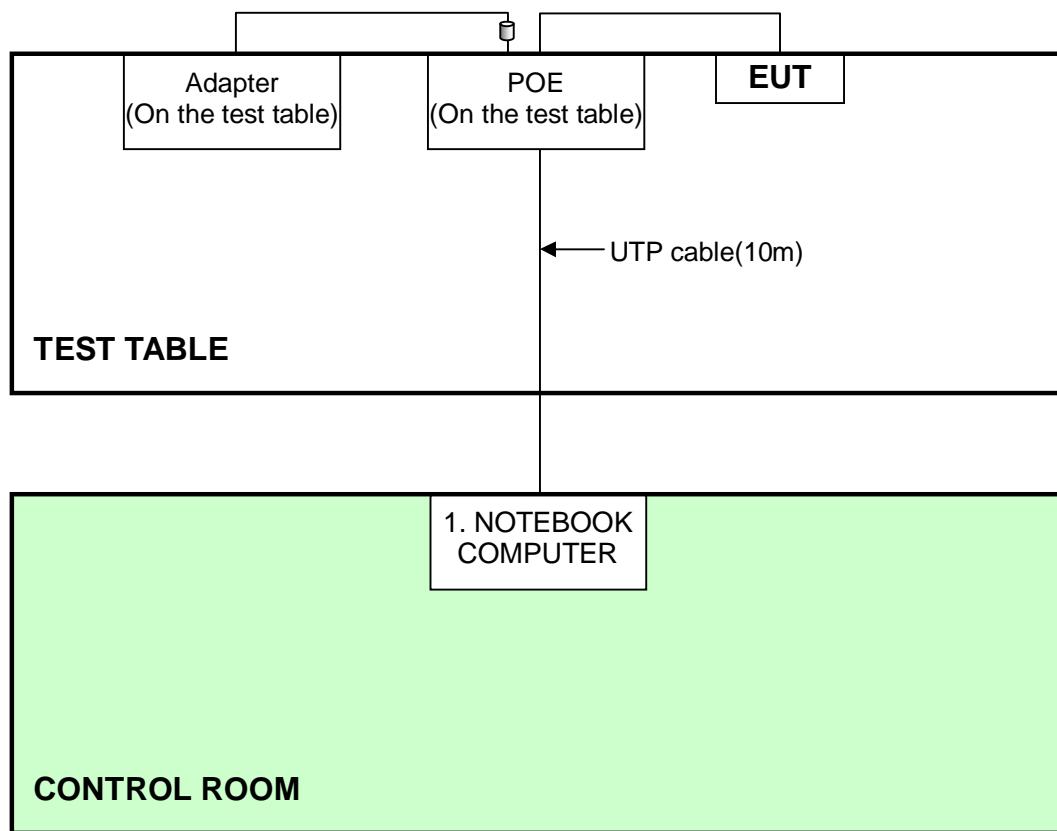
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m UTP cable

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



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### 3.5 CONFIGURATION OF SYSTEM UNDER TEST





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## 4. TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ 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 0.50 MHz.  
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 4.1.2 TEST INSTRUMENTS

Test date: June 21, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	100287	Mar. 02, 2011	Mar. 01, 2012
Line-Impedance Stabilization Network (for EUT)	NSLK 8127	8127-523	Sep. 17, 2010	Sep. 16, 2011
Line-Impedance Stabilization Network (for Peripheral)	ENV-216	100072	June 10, 2011	June 09, 2012
RF Cable (JYEBAO)	5DFB	CONCAB-003	Aug. 06, 2010	Aug. 05, 2011
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

**Note:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.



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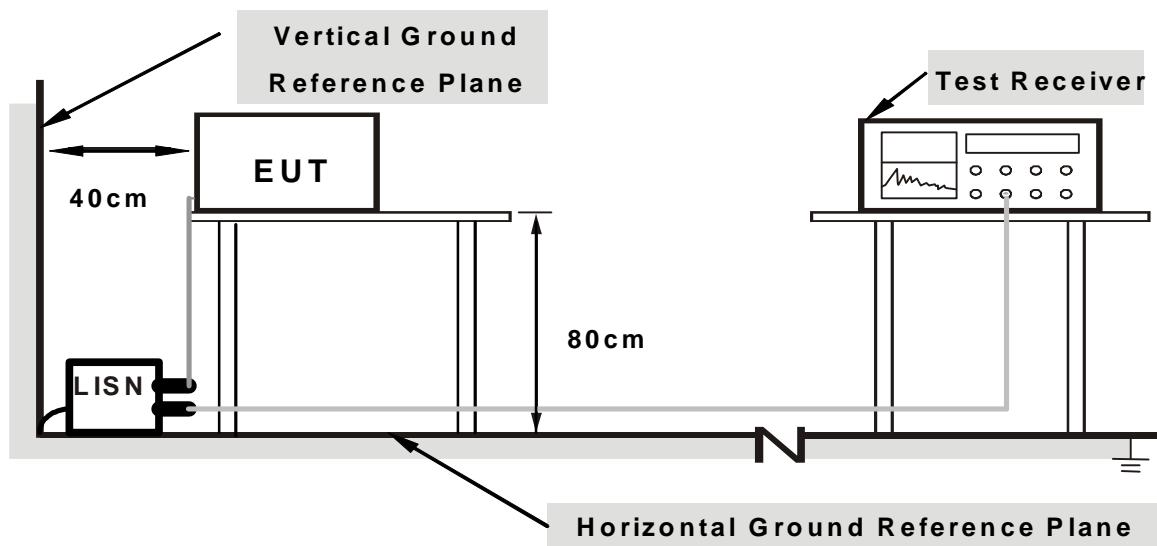
#### 4.1.3 TEST PROCEDURES

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

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



**Note:**

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

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

#### 4.1.6 EUT OPERATING CONDITIONS

1. The communication partner run test program “ART R0.7B16” to enable EUT under transmission/receiving condition continuously at specific channel frequency.



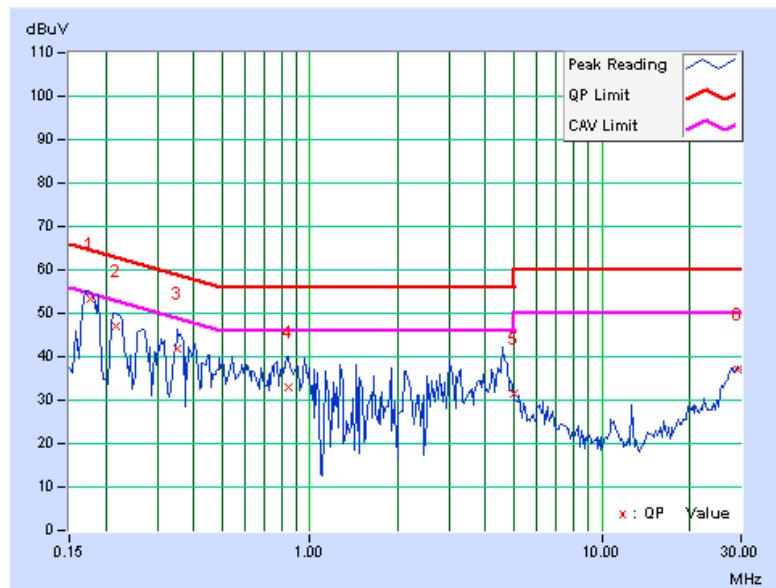
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#### 4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor (dB)	[dB (uV)]	[dB (uV)]	[dB (uV)]	[dB (uV)]	(dB)	(dB)	(dB)	(dB)
1	0.177	0.36	53.02	40.84	53.38	41.20	64.61	54.61	-11.23	-13.41
2	0.216	0.36	46.58	31.57	46.94	31.93	62.96	52.96	-16.02	-21.03
3	0.353	0.36	41.34	29.79	41.70	30.15	58.89	48.89	-17.19	-18.74
4	0.841	0.40	32.42	14.60	32.82	15.00	56.00	46.00	-23.18	-31.00
5	5.000	0.54	31.07	22.46	31.61	23.00	56.00	46.00	-24.39	-23.00
6	29.320	1.59	35.27	33.70	36.86	35.29	60.00	50.00	-23.14	-14.71

- 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.



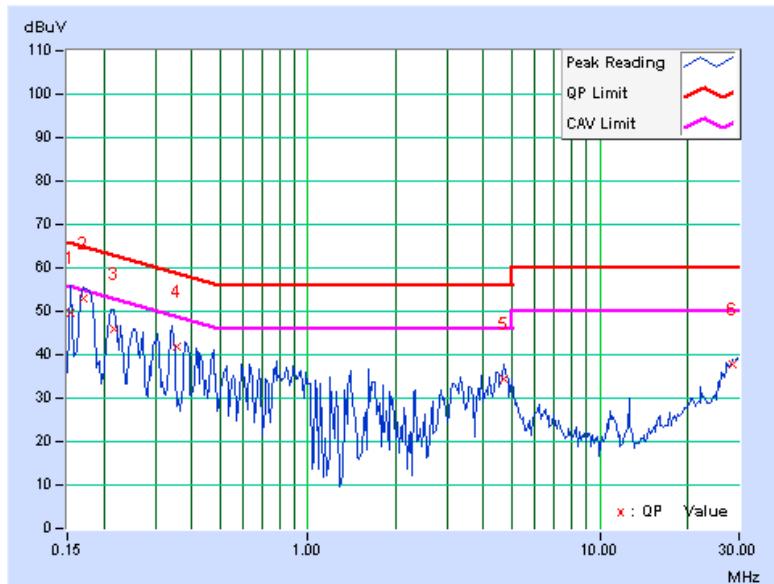


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PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor (dB)	[dB (uV)] Q.P.	[dB (uV)] AV.	[dB (uV)] Q.P.	[dB (uV)] AV.	[dB (uV)] Q.P.	[dB (uV)] AV.	(dB) Q.P.	(dB) AV.
1	0.154	0.10	49.64	30.98	49.74	31.08	65.79	55.79	-16.05	-24.71
2	0.170	0.10	52.92	34.17	53.02	34.27	64.98	54.98	-11.97	-20.72
3	0.216	0.10	45.77	30.16	45.87	30.26	62.96	52.96	-17.08	-22.69
4	0.356	0.11	41.64	33.80	41.75	33.91	58.83	48.83	-17.08	-14.92
5	4.723	0.27	34.08	25.33	34.35	25.60	56.00	46.00	-21.65	-20.40
6	28.492	1.94	35.78	34.57	37.72	36.51	60.00	50.00	-22.28	-13.49

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = Emission level - Limit value
  5. Correction factor = Insertion loss + Cable loss
  6. Emission Level = Correction Factor + Reading Value.





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## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dB<sub>uV/m</sub>) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.



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#### 4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

**NOTE:**

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

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



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#### 4.2.3 TEST INSTRUMENTS

For below 1GHz test: (Test date: July 01, 2011)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 23, 2010	Aug. 22, 2011
Agilent Pre-Selector	N9039A	MY46520310	Aug. 23, 2010	Aug. 22, 2011
Agilent Signal Generator	N5181A	MY49060347	July 30, 2010	July 29, 2011
LIG NEX1 Test Receiver	ER-265	L09068005	Oct. 25, 2010	Oct. 24, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 16, 2010	Nov. 15, 2011
Agilent Pre-Amplifier	8449B	3008A02465	Feb. 28, 2011	Feb. 27, 2012
Miteq Pre-Amplifier	AFS33-1800265 0-30-8P-44	881786	NA	NA
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 22, 2010	Nov. 21, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-205 RF104-207 RF104-202	Dec. 28, 2010	Dec. 27, 2011
RF Cable	NA	CHHCAB_001	NA	NA
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  3. The test was performed in 966 Chamber No. H.
  4. The FCC Site Registration No. is 797305.
  5. The CANADA Site Registration No. is IC 7450H-3.



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## For above 1GHz test: (Test date: July 04, 2011)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 08, 2010	Dec. 07, 2011
Agilent PSA Spectrum Analyzer	E4446A	MY48250113	Nov. 30 , 2010	Nov. 29 , 2011
HP Pre_Amplifier	8449B	300801923	Nov. 01, 2010	Oct. 31, 2011
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 03, 2010	Sep. 02, 2011
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	Apr. 14, 2011	Apr. 13, 2012
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 17, 2010	Dec. 16, 2011
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 17, 2011	Jan. 16, 2012
RF Switches	EMH-011	1001	NA	NA
RF CABLE (Chaintek)	Sucoflex 104+ Sucoflex 106	RF104-101+R F106-101	Aug. 24, 2010	Aug. 23, 2011
RF Cable	8DFB	STCCAB-30M-1GHz	NA	NA
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
  3. The test was performed in Open Site No. C.
  4. The FCC Site Registration No. is 656396.
  5. The VCCI Site Registration No. is R-1626.
  6. The CANADA Site Registration No. is IC 7450G-3.



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#### 4.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for below 1GHz test and 10 meter open field site for above 1GHz test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### NOTE:

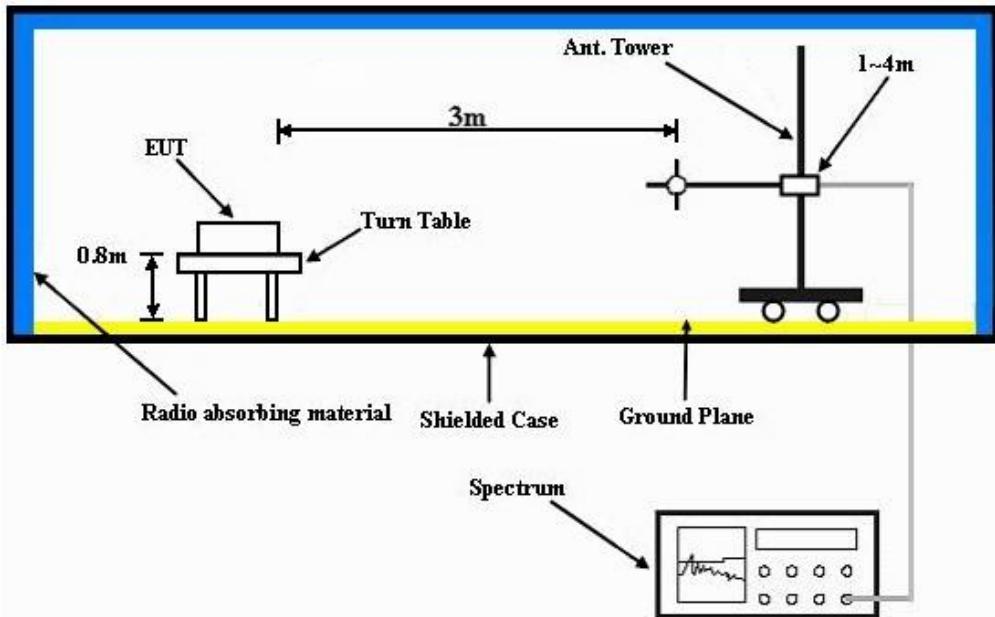
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

#### 4.2.5 DEVIATION FROM TEST STANDARD

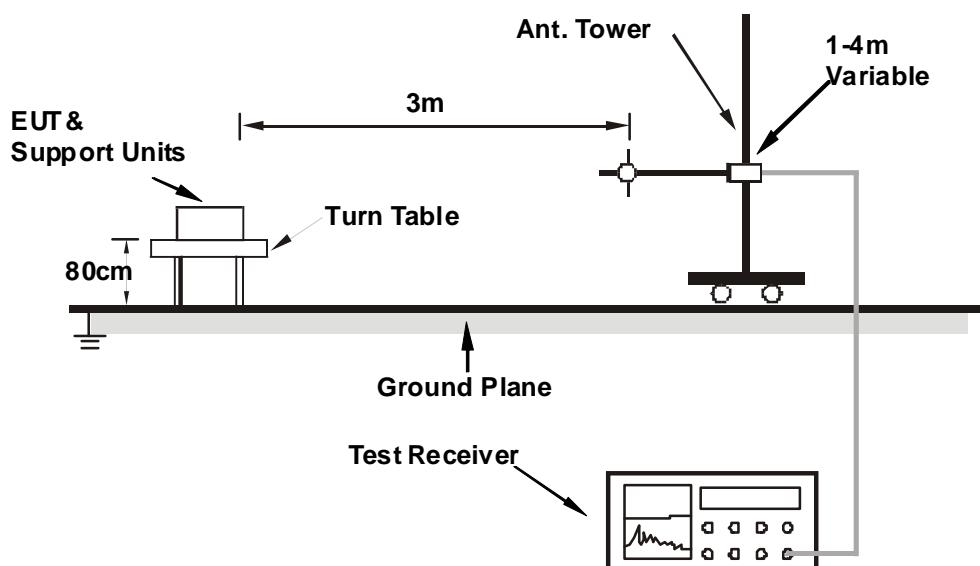
No deviation

#### 4.2.6 TEST SETUP

##### <Frequency Range below 1GHz>



##### <Frequency Range above 1GHz>



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

#### 4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



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#### 4.2.8 TEST RESULTS

##### **BELOW 1GHz WORST-CASE DATA : 802.11n (20MHz) OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL		
<b>CHANNEL</b>		Channel 48		<b>FREQUENCY RANGE</b> Below 1000MHz
<b>INPUT POWER</b>		120Vac, 60 Hz		<b>DETECTOR FUNCTION</b> Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>		26deg. C, 69%RH 1003 hPa		<b>TESTED BY</b> Rex Huang

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	97.03	34.5 QP	43.5	-9.0	1.00 H	159	25.49	8.98
2	146.29	33.4 QP	43.5	-10.1	1.07 H	12	19.03	14.34
3	211.66	34.9 QP	43.5	-8.7	1.00 H	13	23.21	11.64
4	375.08	40.1 QP	46.0	-5.9	1.00 H	227	23.34	16.79
5	500.02	35.2 QP	46.0	-10.8	1.50 H	222	15.70	19.53
6	750.13	25.3 QP	46.0	-20.7	1.00 H	243	1.99	23.27
7	875.06	31.3 QP	46.0	-14.7	1.00 H	313	5.81	25.47

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	38.25	36.7 QP	40.0	-3.3	1.00 V	154	22.88	13.78
2	135.28	33.2 QP	43.5	-10.3	1.00 V	126	19.55	13.68
3	249.91	35.6 QP	46.0	-10.5	1.57 V	43	22.51	13.04
4	375.00	40.5 QP	46.0	-5.5	1.21 V	253	23.68	16.79
5	500.02	39.7 QP	46.0	-6.3	1.00 V	321	20.15	19.53
6	875.06	28.2 QP	46.0	-17.8	1.03 V	116	2.74	25.47

**REMARKS:** 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.



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**ABOVE 1GHz WORST-CASE DATA****802.11a OFDM MODULATION**

EUT TEST CONDITION		MEASUREMENT DETAIL		
<b>CHANNEL</b>		<b>FREQUENCY RANGE</b>		1 ~ 30GHz
<b>INPUT POWER</b>		<b>DETECTOR FUNCTION</b>		Peak (PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>		<b>TESTED BY</b>		Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.6 PK	74.0	-21.4	1.27 H	140	12.66	39.94
2	5150.00	42.7 AV	54.0	-11.3	1.27 H	140	2.76	39.94
3	*5180.00	89.2 PK			1.27 H	140	49.18	40.02
4	*5180.00	80.2 AV			1.27 H	140	40.18	40.02
5	#10360.00	58.8 PK	68.3	-9.5	1.37 H	9	12.27	46.53
6	15540.00	61.1 PK	74.0	-12.9	1.24 H	55	9.73	51.37
7	15540.00	49.2 AV	54.0	-4.8	1.24 H	55	-2.17	51.37

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

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.1 PK	74.0	-18.9	1.32 V	196	15.16	39.94
2	5150.00	45.4 AV	54.0	-8.6	1.32 V	196	5.46	39.94
3	*5180.00	110.3 PK			1.32 V	196	70.28	40.02
4	*5180.00	101.1 AV			1.32 V	196	61.08	40.02
5	#10360.00	58.5 PK	68.3	-9.8	1.31 V	20	11.97	46.53
6	15540.00	61.1 PK	74.0	-12.9	1.48 V	227	9.73	51.37
7	15540.00	49.5 AV	54.0	-4.5	1.48 V	227	-1.87	51.37

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



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EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 40		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	89.7 PK			1.32 H	142	49.63	40.07
2	*5200.00	80.4 AV			1.32 H	142	40.33	40.07
3	#10400.00	58.6 PK	68.3	-9.7	1.36 H	7	12.03	46.57
4	15600.00	61.5 PK	74.0	-12.5	1.25 H	47	10.03	51.47
5	15600.00	49.5 AV	54.0	-4.5	1.25 H	47	-1.97	51.47
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.0 PK			1.27 V	190	69.93	40.07
2	*5200.00	101.1 AV			1.27 V	190	61.03	40.07
3	#10400.00	58.4 PK	68.3	-9.9	1.35 V	15	11.83	46.57
4	15600.00	61.6 PK	74.0	-12.4	1.43 V	238	10.13	51.47
5	15600.00	49.7 AV	54.0	-4.3	1.43 V	238	-1.77	51.47

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



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EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 48		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

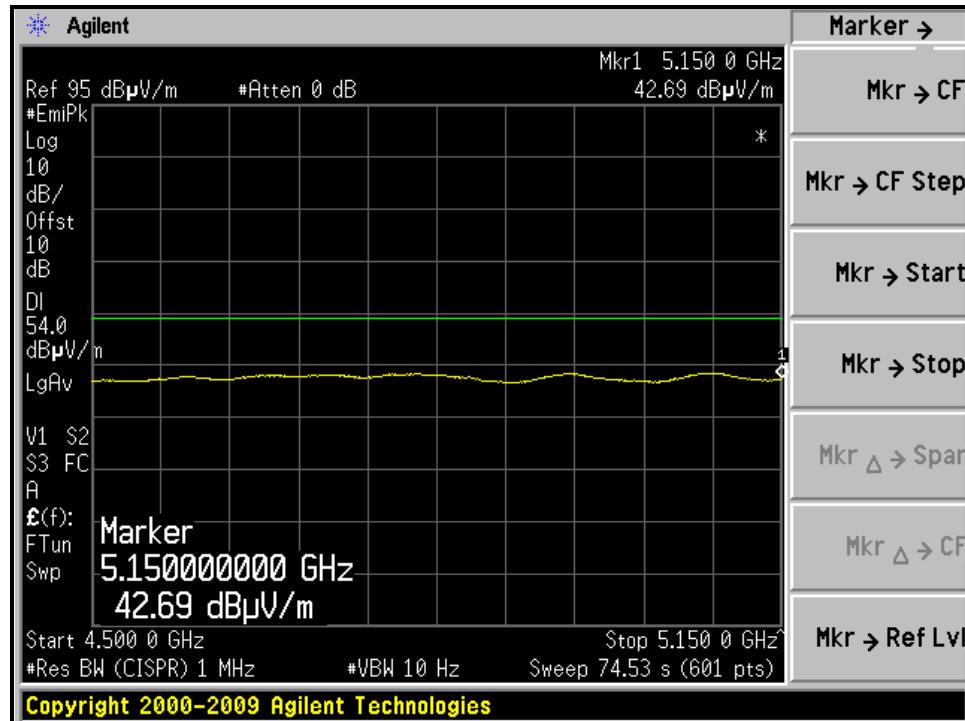
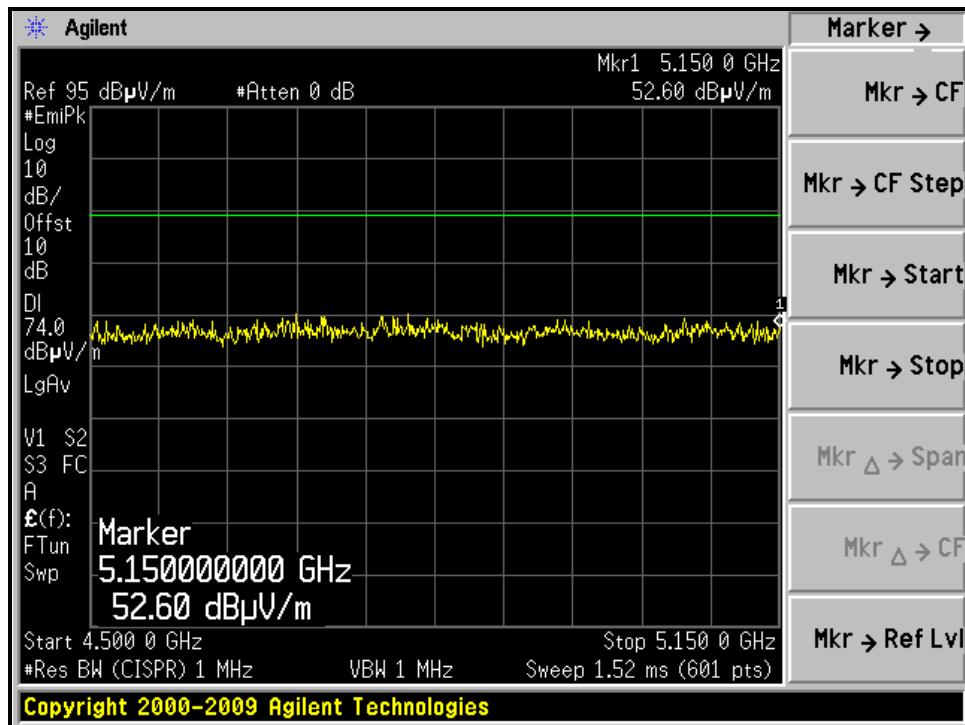
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	89.0 PK			1.30 H	143	48.83	40.17
2	*5240.00	79.9 AV			1.30 H	143	39.73	40.17
3	5350.00	55.3 PK	74.0	-18.7	1.30 H	143	14.83	40.47
4	5350.00	43.9 AV	54.0	-10.1	1.30 H	143	3.43	40.47
5	#10480.00	58.9 PK	68.3	-9.4	1.41 H	13	12.23	46.67
6	15720.00	61.2 PK	74.0	-12.8	1.21 H	45	9.69	51.51
7	15720.00	49.1 AV	54.0	-4.9	1.21 H	45	-2.41	51.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	110.4 PK			1.30 V	186	70.23	40.17
2	*5240.00	101.1 AV			1.30 V	186	60.93	40.17
3	5350.00	55.0 PK	74.0	-19.0	1.37 V	199	14.53	40.47
4	5350.00	44.5 AV	54.0	-9.5	1.37 V	199	4.03	40.47
5	#10480.00	58.0 PK	68.3	-10.3	1.33 V	6	11.33	46.67
6	15720.00	61.0 PK	74.0	-13.0	1.49 V	236	9.49	51.51
7	15720.00	49.6 AV	54.0	-4.4	1.49 V	236	-1.91	51.51

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



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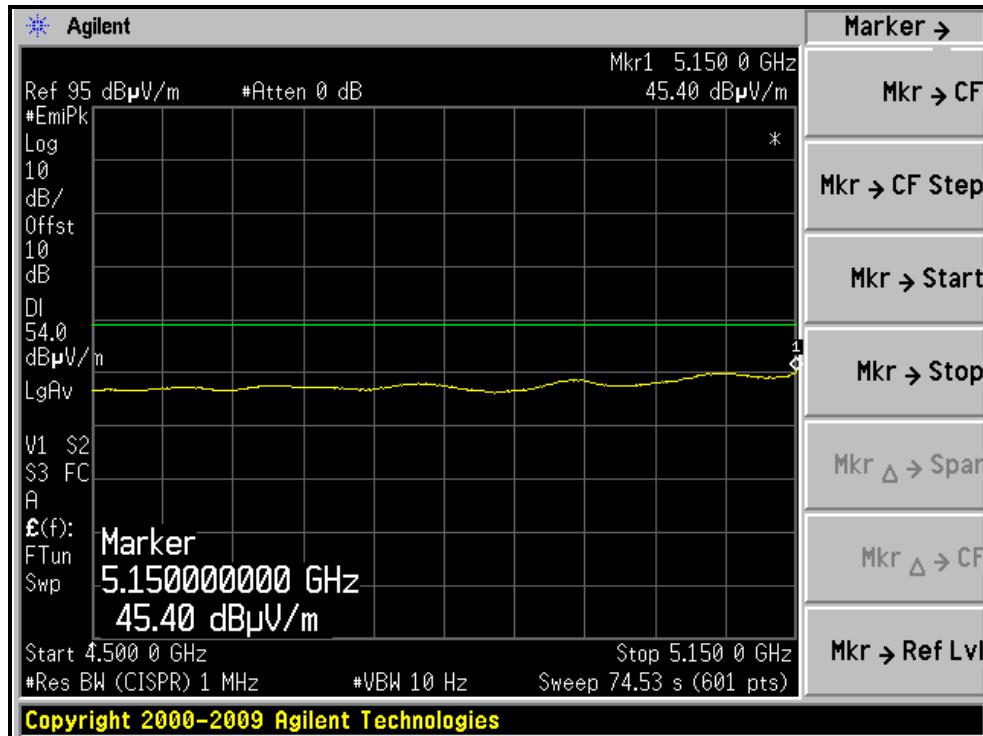
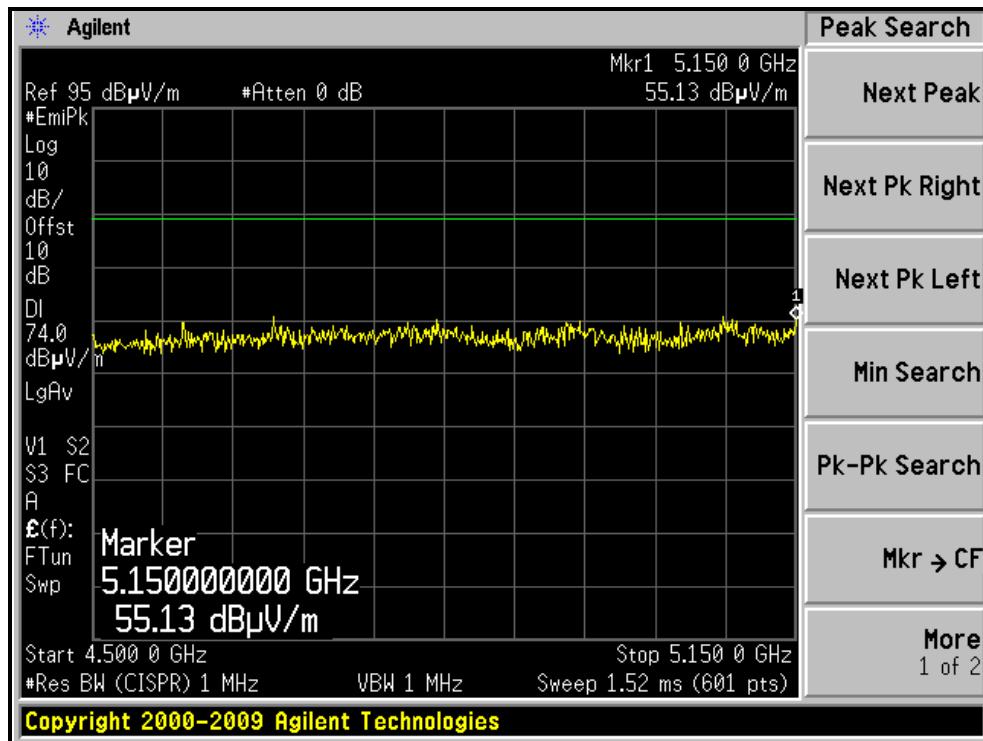
## RESTRICTED BANDEDGE (802.11a MODE, CH36, HORIZONTAL)





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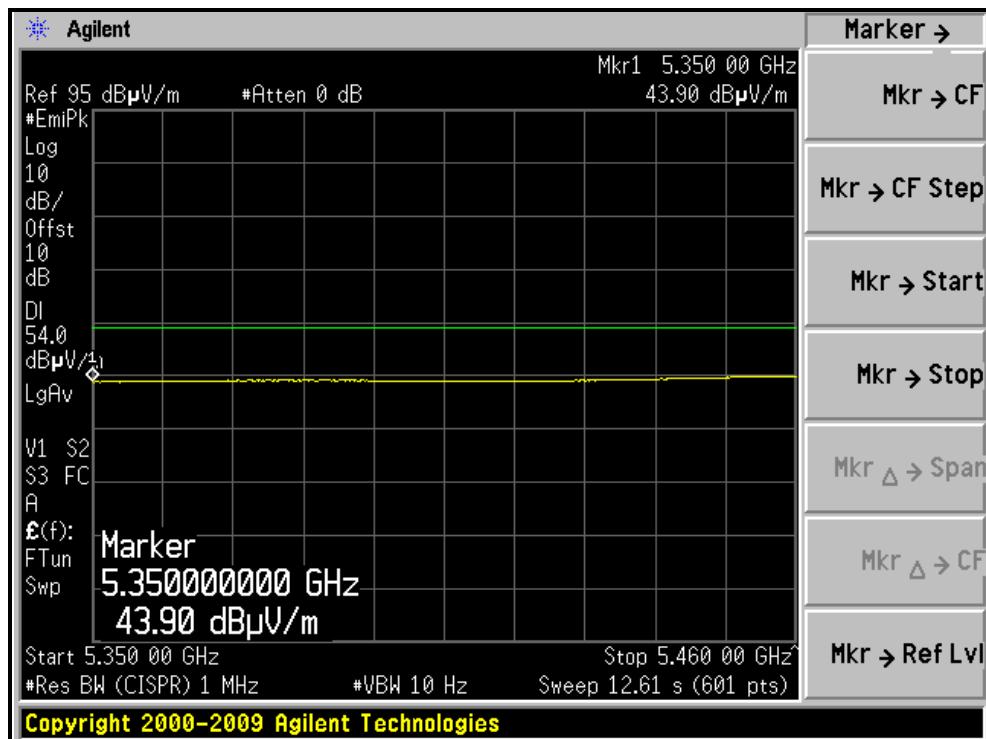
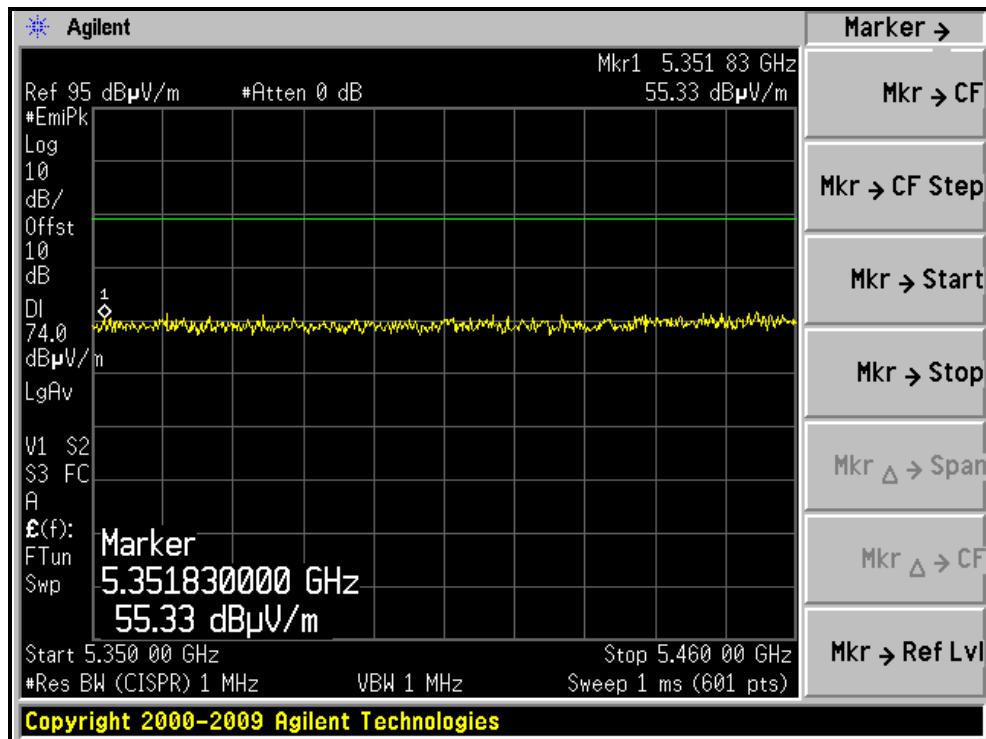
## RESTRICTED BANDEDGE (802.11a MODE, CH36, VERTICAL)





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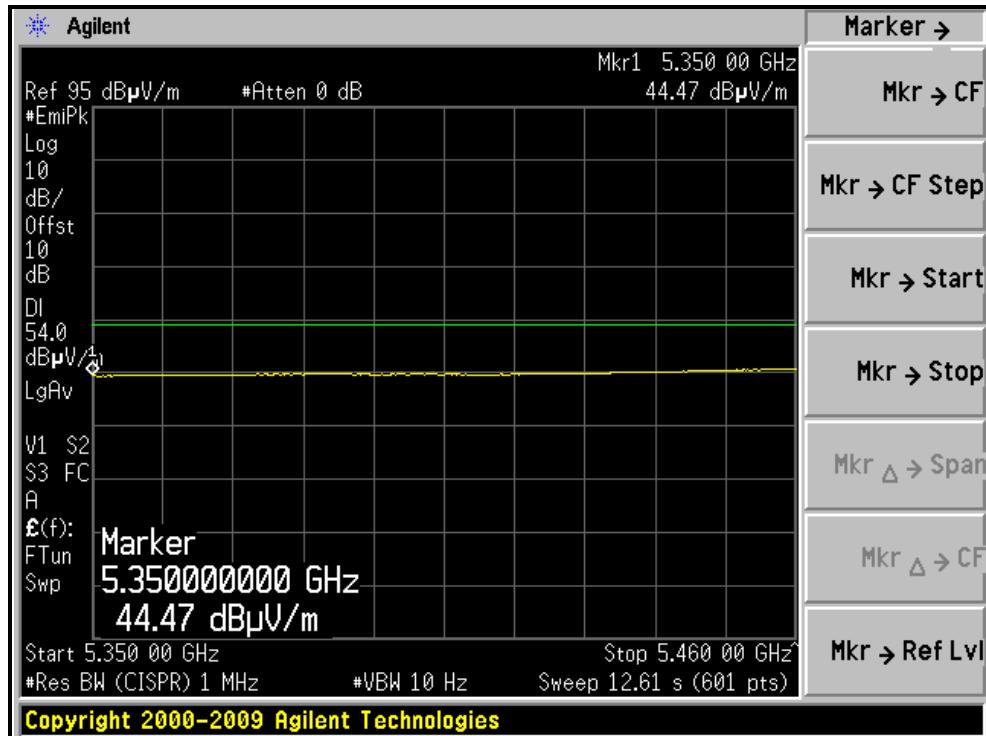
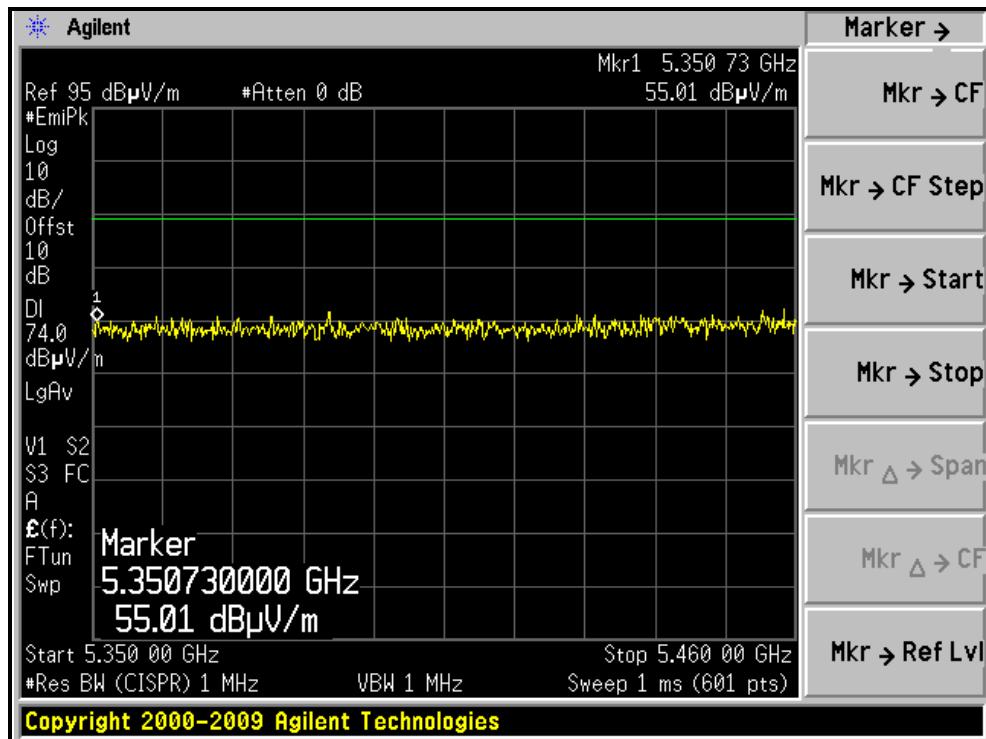
## RESTRICTED BANDEDGE (802.11a MODE, CH48, HORIZONTAL)





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## RESTRICTED BANDEDGE (802.11a MODE, CH48, VERTICAL)





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## 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 36		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	53.8 PK	74.0	-20.2	1.32 H	146	13.86	39.94
2	5150.00	43.2 AV	54.0	-10.8	1.32 H	146	3.26	39.94
3	*5180.00	92.0 PK			1.32 H	146	51.98	40.02
4	*5180.00	82.8 AV			1.32 H	146	42.78	40.02
5	#10360.00	59.2 PK	68.3	-9.1	1.34 H	13	12.67	46.53
6	15540.00	61.2 PK	74.0	-12.8	1.23 H	60	9.83	51.37
7	15540.00	49.3 AV	54.0	-4.7	1.23 H	60	-2.07	51.37

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.4 PK	74.0	-15.6	1.33 V	193	18.46	39.94
2	5150.00	44.8 AV	54.0	-9.2	1.33 V	193	4.86	39.94
3	*5180.00	113.2 PK			1.33 V	193	73.18	40.02
4	*5180.00	103.5 AV			1.33 V	193	63.48	40.02
5	#10360.00	58.9 PK	68.3	-9.4	1.26 V	24	12.37	46.53
6	15540.00	60.8 PK	74.0	-13.2	1.47 V	230	9.43	51.37
7	15540.00	49.2 AV	54.0	-4.8	1.47 V	230	-2.17	51.37

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



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EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 40		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	92.5 PK			1.29 H	154	52.43	40.07
2	*5200.00	83.5 AV			1.29 H	154	43.43	40.07
3	#10400.00	59.4 PK	68.3	-8.9	1.36 H	11	12.83	46.57
4	15600.00	60.8 PK	74.0	-13.2	1.27 H	65	9.33	51.47
5	15600.00	49.0 AV	54.0	-5.0	1.27 H	65	-2.47	51.47

## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	114.6 PK			1.38 V	201	74.53	40.07
2	*5200.00	104.7 AV			1.38 V	201	64.63	40.07
3	#10400.00	58.8 PK	68.3	-9.5	1.32 V	30	12.23	46.57
4	15600.00	60.5 PK	74.0	-13.5	1.44 V	237	9.03	51.47
5	15600.00	49.0 AV	54.0	-5.0	1.44 V	237	-2.47	51.47

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



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EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 48		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	92.1 PK			1.34 H	151	51.93	40.17
2	*5240.00	83.2 AV			1.34 H	151	43.03	40.17
3	5350.00	55.1 PK	74.0	-18.9	1.34 H	151	14.63	40.47
4	5350.00	43.9 AV	54.0	-10.1	1.34 H	151	3.43	40.47
5	#10480.00	59.5 PK	68.3	-8.8	1.39 H	1	12.83	46.67
6	15720.00	60.8 PK	74.0	-13.2	1.33 H	72	9.29	51.51
7	15720.00	49.3 AV	54.0	-4.7	1.33 H	72	-2.21	51.51

## ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M

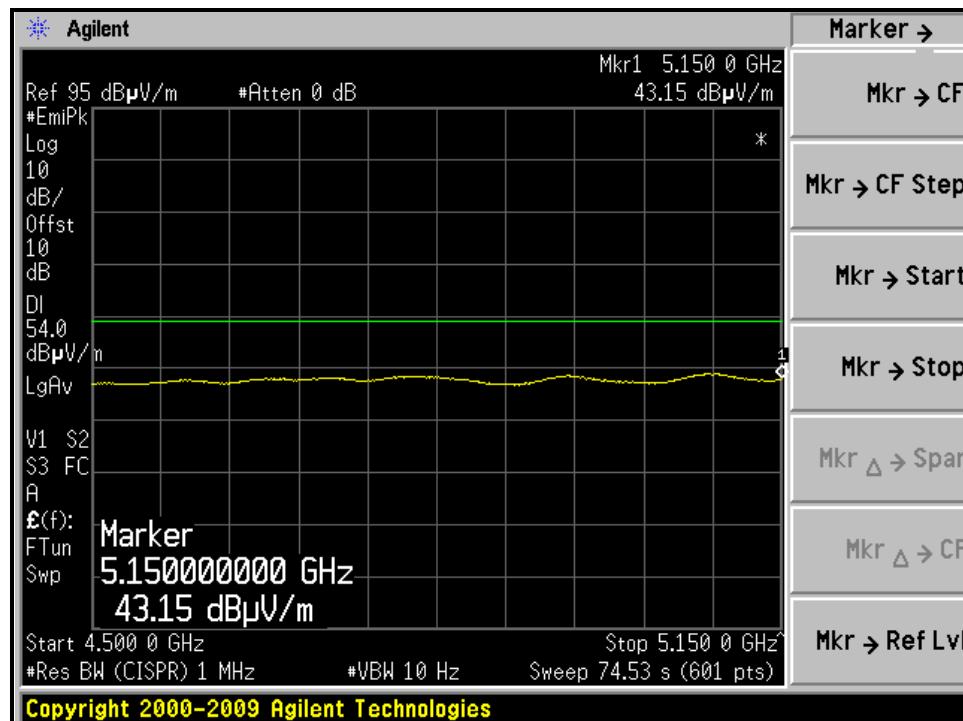
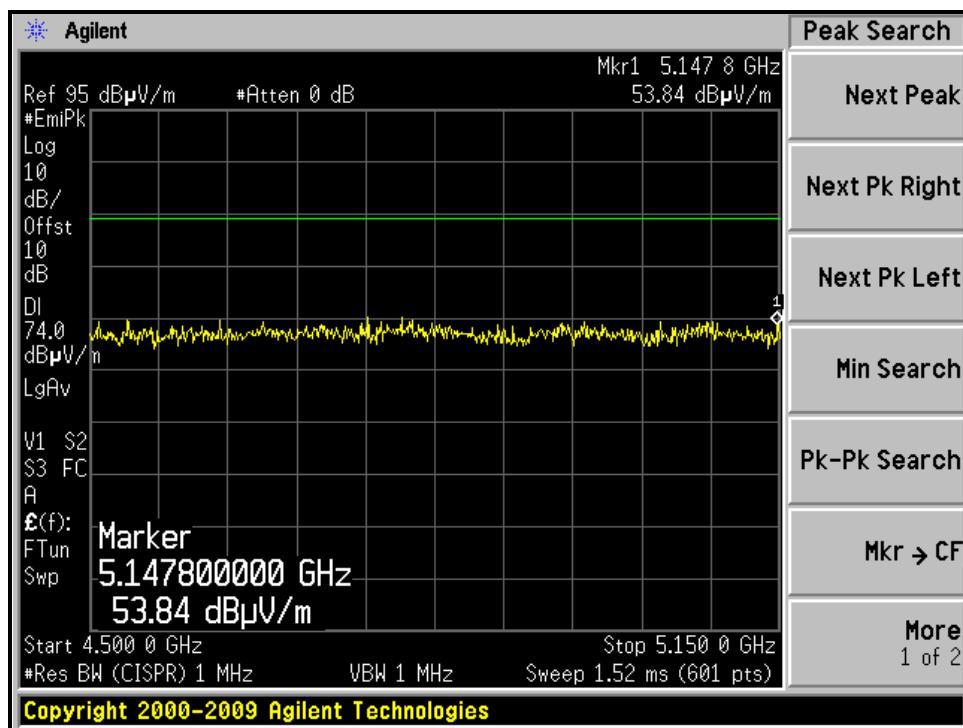
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	114.9 PK			1.35 V	187	74.73	40.17
2	*5240.00	104.8 AV			1.35 V	187	64.63	40.17
3	5350.00	56.0 PK	74.0	-18.0	1.35 V	194	15.53	40.47
4	5350.00	44.4 AV	54.0	-9.6	1.35 V	194	3.93	40.47
5	#10480.00	58.3 PK	68.3	-10.0	1.36 V	37	11.63	46.67
6	15720.00	60.7 PK	74.0	-13.3	1.40 V	229	9.19	51.51
7	15720.00	49.0 AV	54.0	-5.0	1.40 V	229	-2.51	51.51

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



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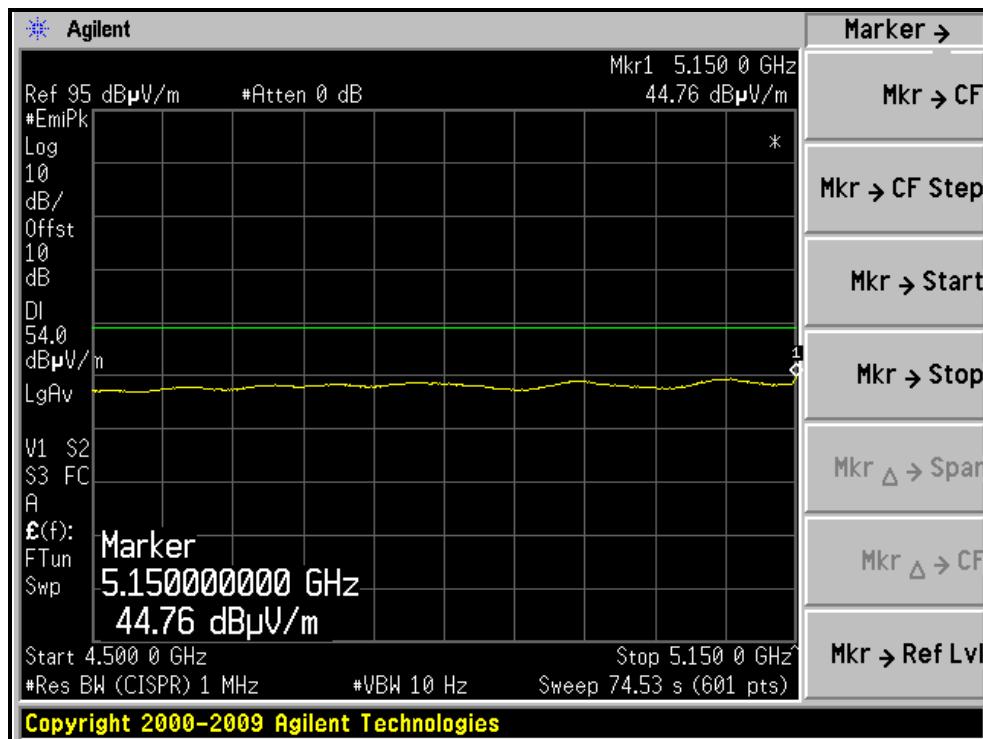
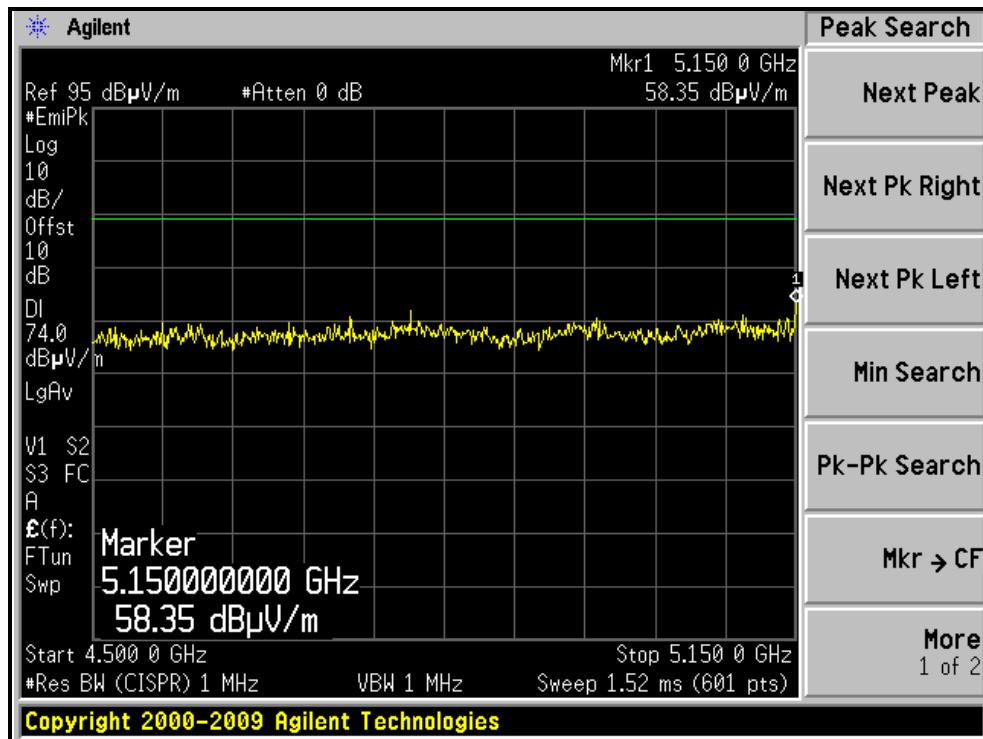
## RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH36, HORIZONTAL )





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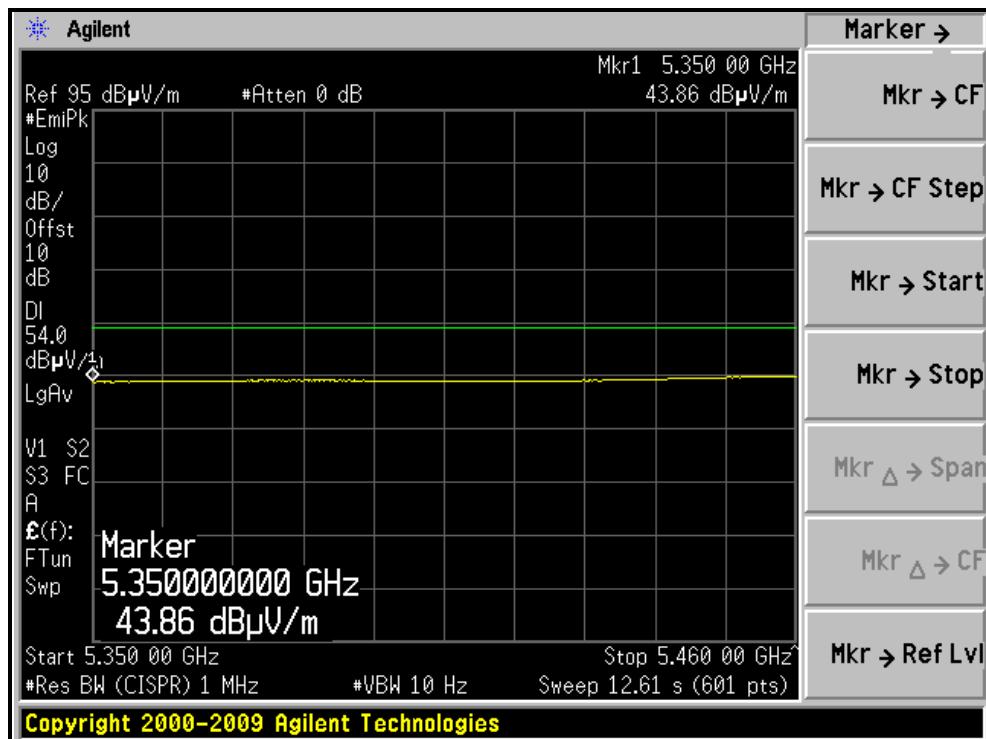
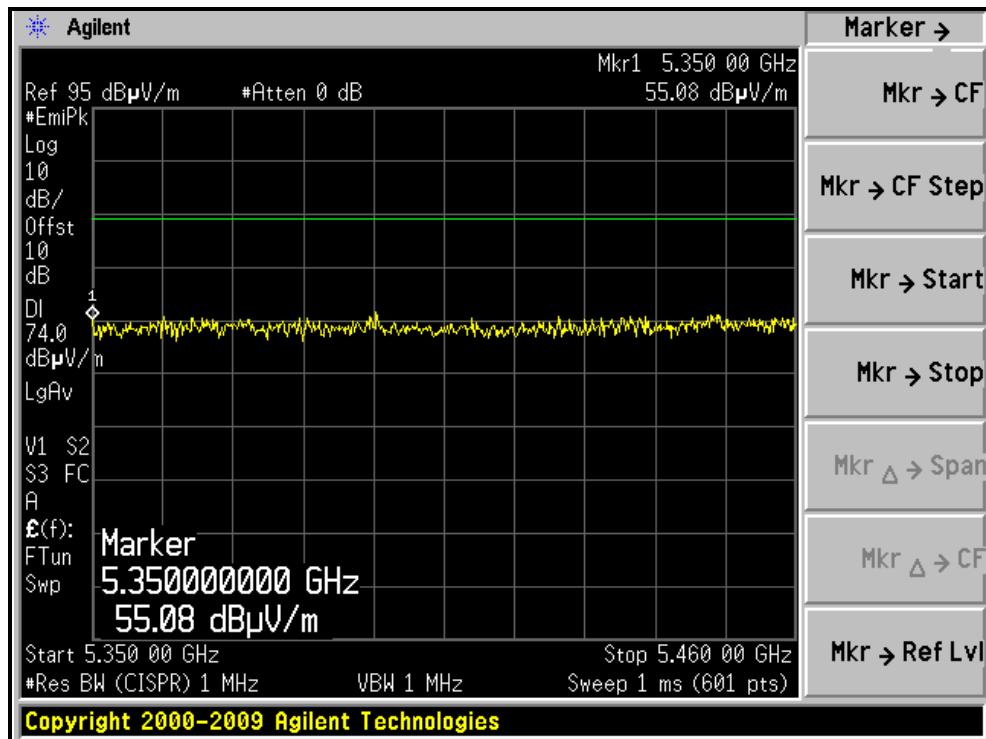
## RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH36, VERTICAL )





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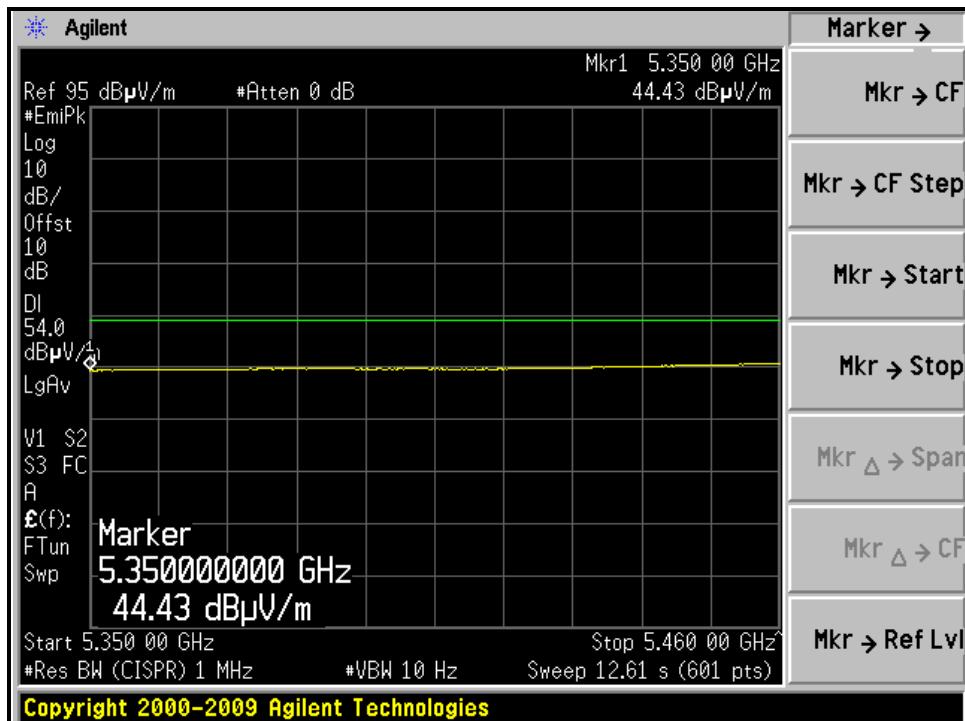
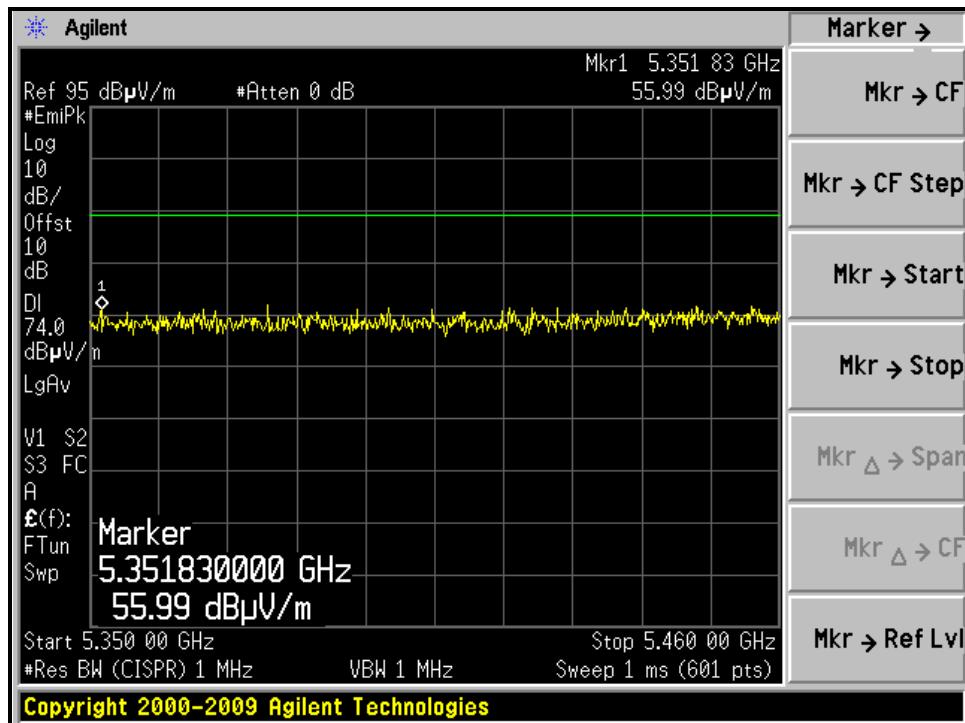
## RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 48, HORIZONTAL )





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## RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 48, VERTICAL )





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## 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 38		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.5 PK	74.0	-18.5	1.31 H	146	15.56	39.94
2	5150.00	44.7 AV	54.0	-9.3	1.31 H	146	4.76	39.94
3	*5190.00	86.4 PK			1.31 H	146	46.36	40.04
4	*5190.00	77.5 AV			1.31 H	146	37.46	40.04
5	#10380.00	58.6 PK	68.3	-9.7	1.40 H	11	12.05	46.55
6	15570.00	61.3 PK	74.0	-12.7	1.25 H	60	9.88	51.42
7	15570.00	49.3 AV	54.0	-4.7	1.25 H	60	-2.12	51.42

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	5146.80	67.0 PK	74.0	-7.0	1.32 V	193	27.07	39.93
2	<b>5146.80</b>	<b>53.3 AV</b>	<b>54.0</b>	<b>-0.7</b>	<b>1.32 V</b>	<b>193</b>	<b>13.37</b>	<b>39.93</b>
3	*5190.00	108.1 PK			1.32 V	193	68.06	40.04
4	*5190.00	98.1 AV			1.32 V	193	58.06	40.04
5	#10380.00	58.0 PK	68.3	-10.3	1.37 V	31	11.45	46.55
6	15570.00	60.6 PK	74.0	-13.4	1.39 V	235	9.18	51.42
7	15570.00	48.8 AV	54.0	-5.2	1.39 V	235	-2.62	51.42

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



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EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL		Channel 46		FREQUENCY RANGE 1 ~ 30GHz
INPUT POWER		120Vac, 60 Hz		DETECTOR FUNCTION Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS		25deg. C, 69%RH 1003 hPa		TESTED BY Kent Liu

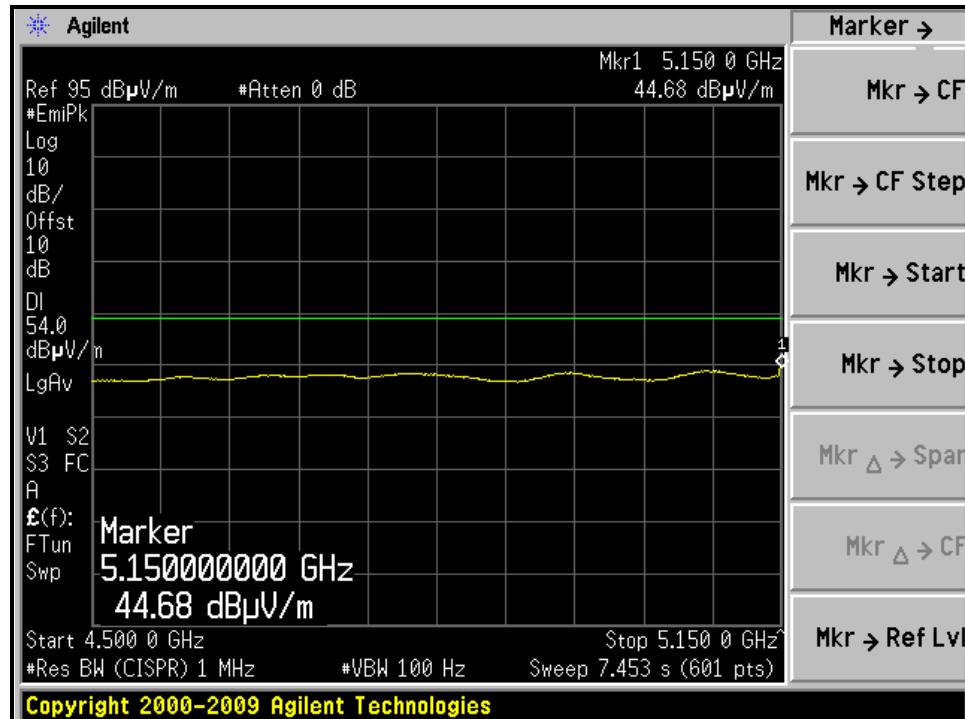
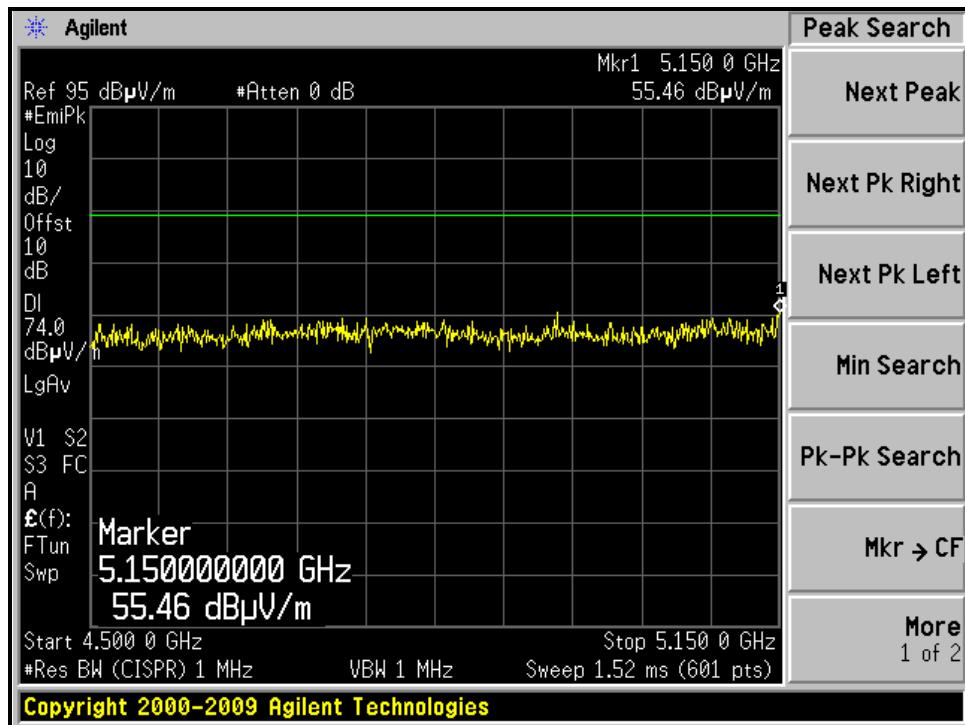
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	89.1 PK			1.27 H	159	48.95	40.15
2	*5230.00	80.4 AV			1.27 H	159	40.25	40.15
3	5350.00	55.4 PK	74.0	-18.6	1.27 H	159	14.93	40.47
4	5350.00	43.8 AV	54.0	-10.2	1.27 H	159	3.33	40.47
5	#10460.00	58.5 PK	68.3	-9.8	1.42 H	9	11.85	46.65
6	15690.00	60.8 PK	74.0	-13.2	1.24 H	69	9.31	51.49
7	15690.00	49.0 AV	54.0	-5.0	1.24 H	69	-2.49	51.49
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	111.1 PK			1.30 V	195	70.95	40.15
2	*5230.00	101.3 AV			1.30 V	195	61.15	40.15
3	5350.00	55.1 PK	74.0	-18.9	1.34 V	197	14.63	40.47
4	5350.00	44.6 AV	54.0	-9.4	1.34 V	197	4.13	40.47
5	#10460.00	58.1 PK	68.3	-10.2	1.38 V	38	11.45	46.65
6	15690.00	60.5 PK	74.0	-13.5	1.43 V	233	9.01	51.49
7	15690.00	48.8 AV	54.0	-5.2	1.43 V	233	-2.69	51.49

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



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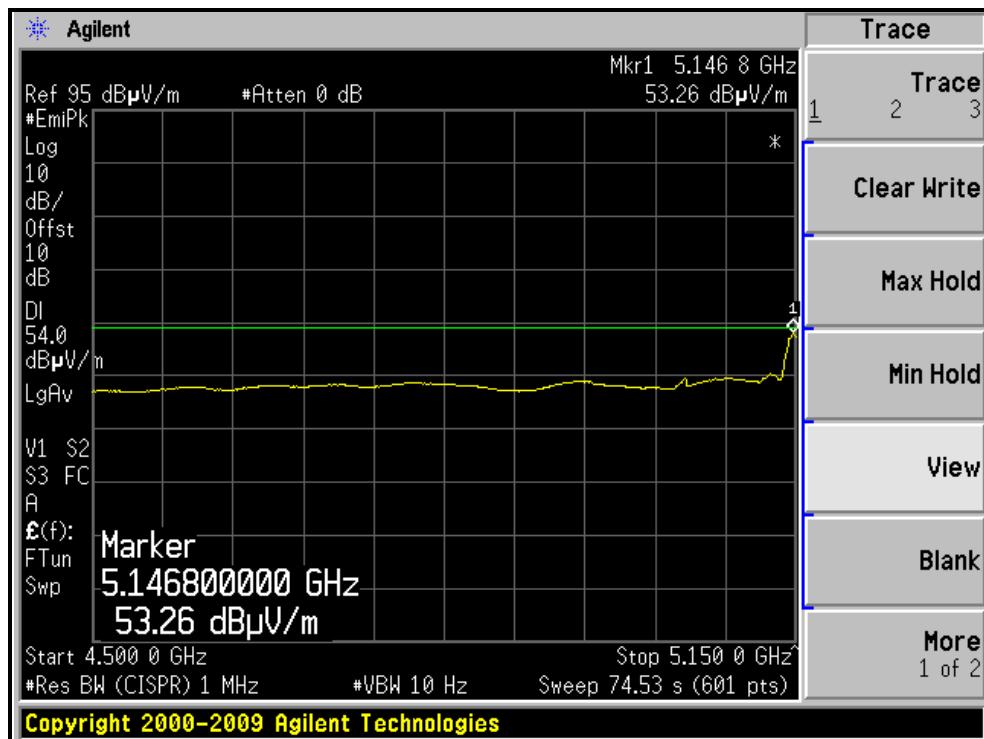
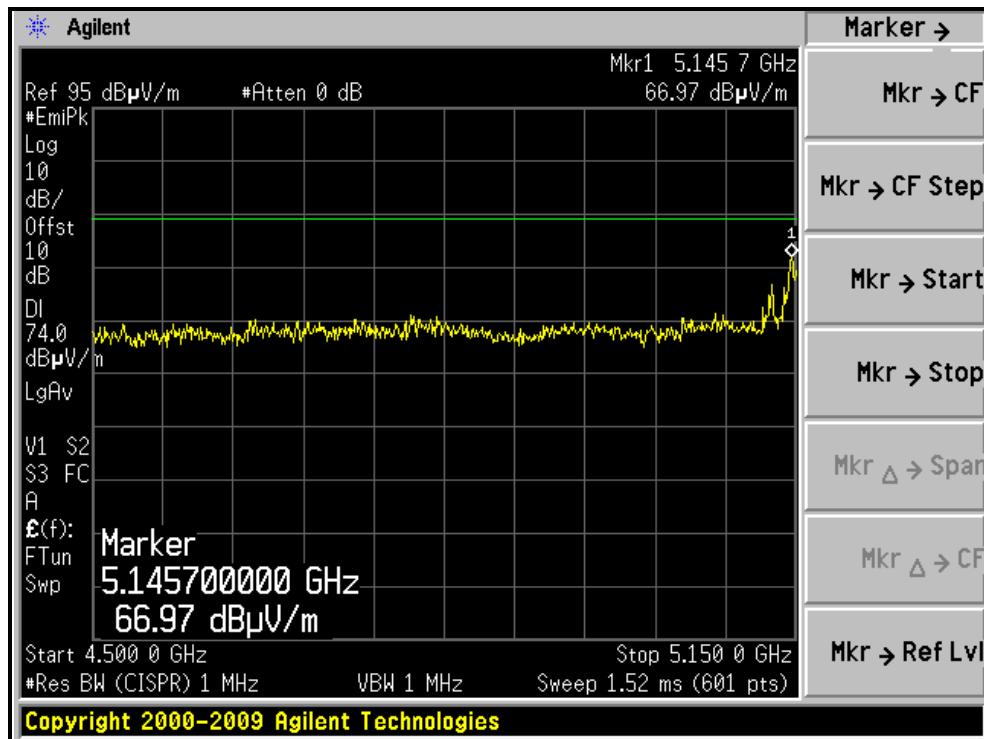
## RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH38, HORIZONTAL)





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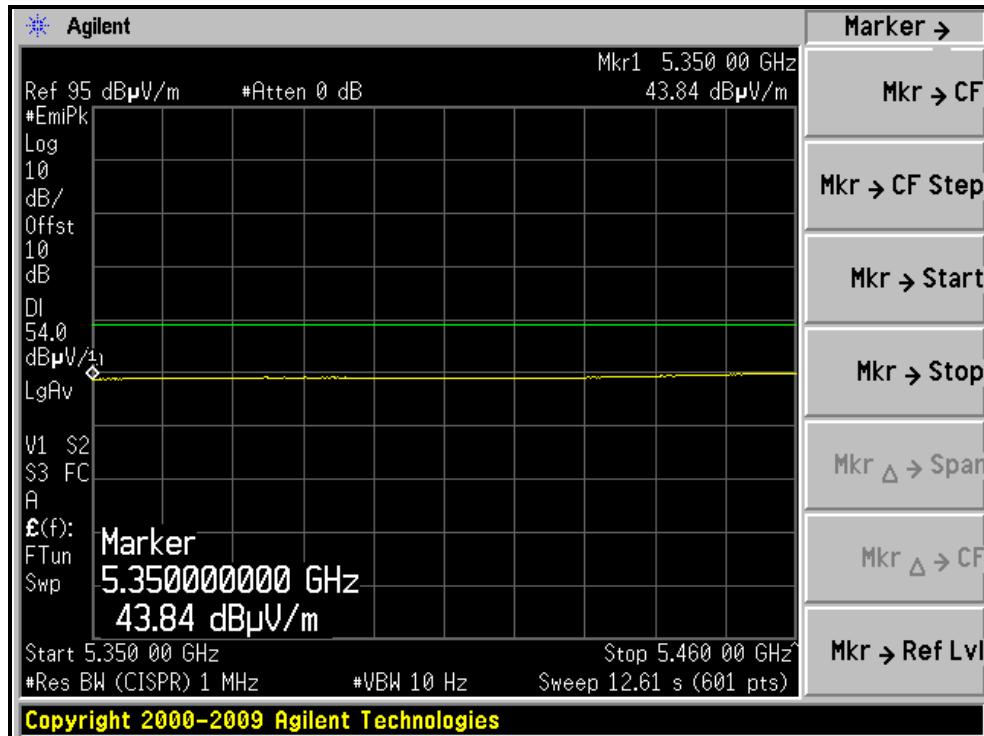
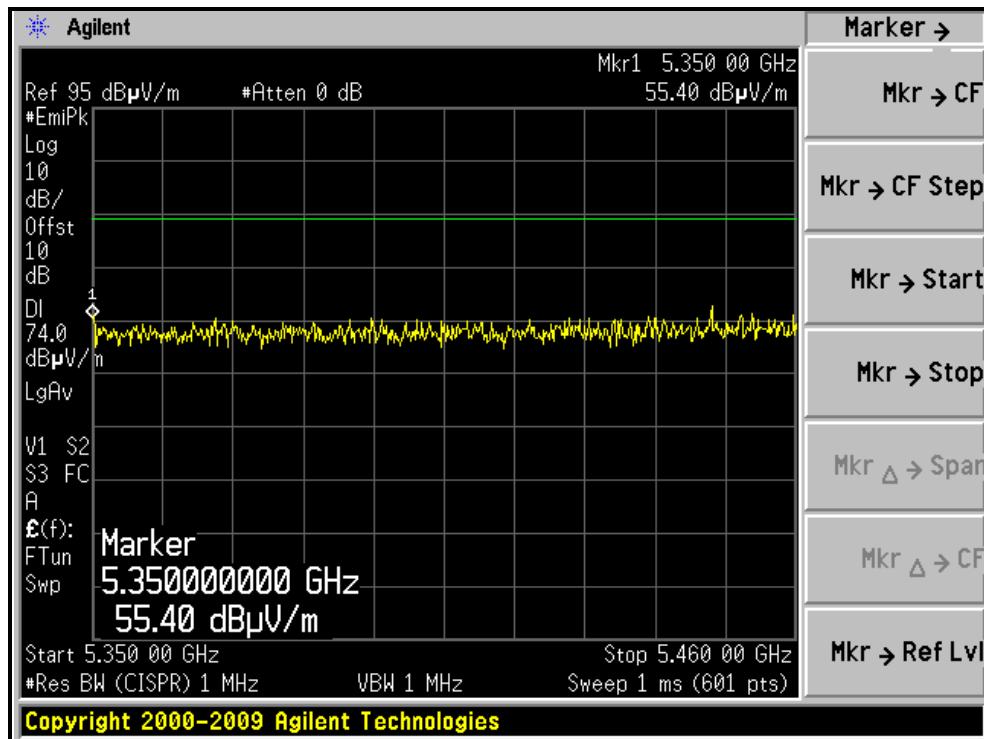
## RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH38, VERTICAL )





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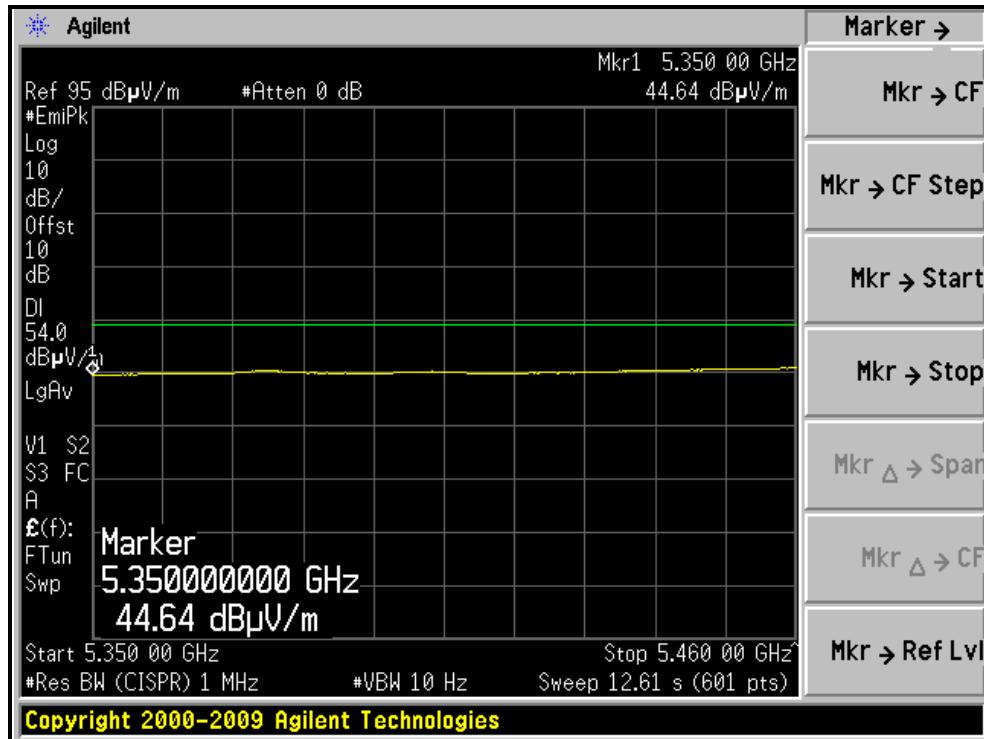
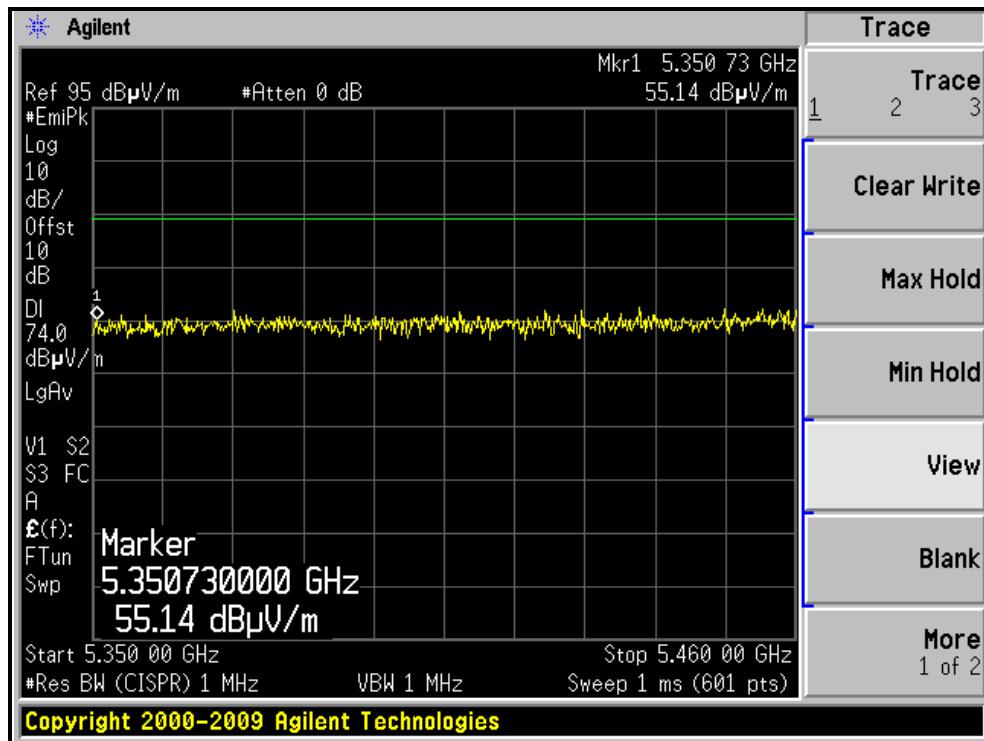
## RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH46, HORIZONTAL)





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## RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH46, VERTICAL)





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## 4.3 OUTPUT TRANSMIT POWER MEASUREMENT

### 4.3.1 LIMITS OF OUTPUT TRANSMIT POWER MEASUREMENT

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

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

### 4.3.2 TEST INSTRUMENTS

**Test date:** July 04, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 3MHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation



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#### 4.3.5 TEST SETUP



#### 4.3.6 EUT OPERATING CONDITIONS

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



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#### 4.3.7 TEST RESULTS

##### 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (dBm)		TOTAL OUTPUT POWER (mW)	TOTAL OUTPUT POWER (dBm)	OUTPUT POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)					
36	5180	8.7	8.5	14.5	11.6	14	23.17	PASS
40	5200	8.3	8.3	13.5	11.3	14	23.50	PASS
48	5240	8.2	8.6	13.9	11.4	14	24.33	PASS

**NOTE:** The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

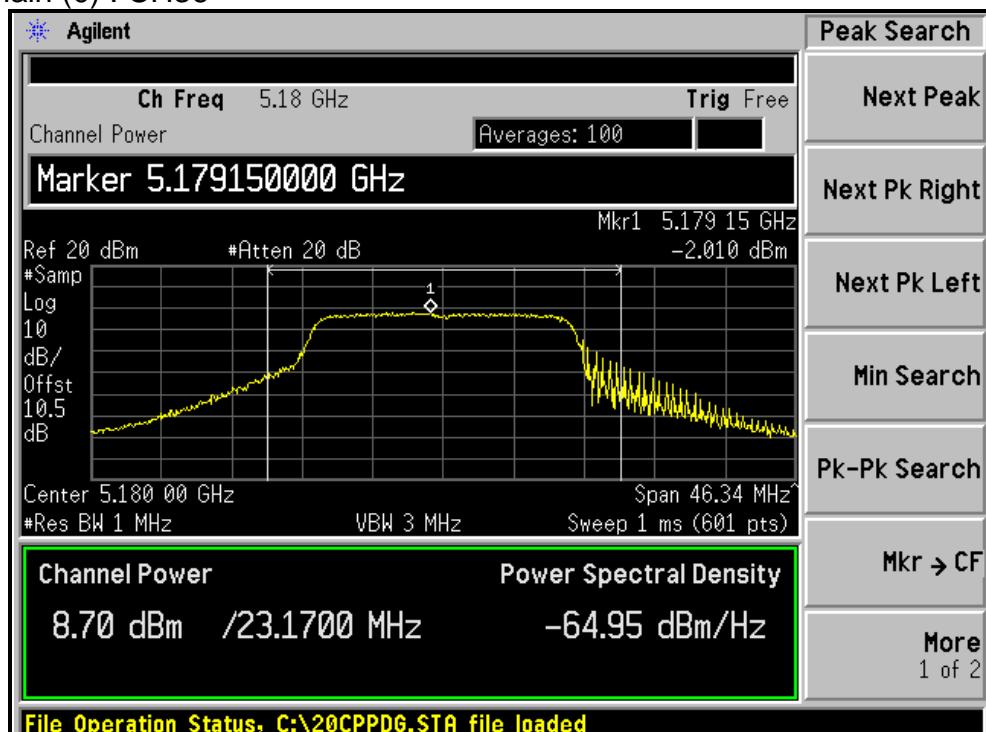
Effective Legacy Gain (dBi)=9

The effective legacy gain is 9dBi, therefore the limit needs to reduce

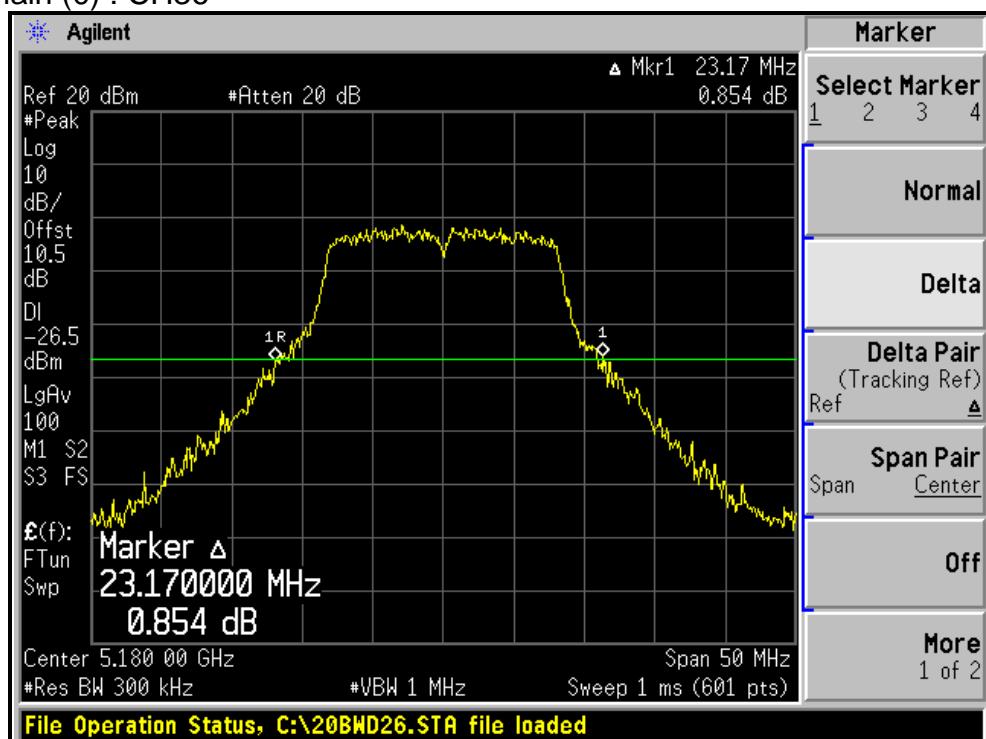


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Peak Power Output:  
For Chain (0) : CH36



26dB Occupied Bandwidth:  
For Chain (0) : CH36





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**802.11n (20MHz) OFDM MODULATION:**

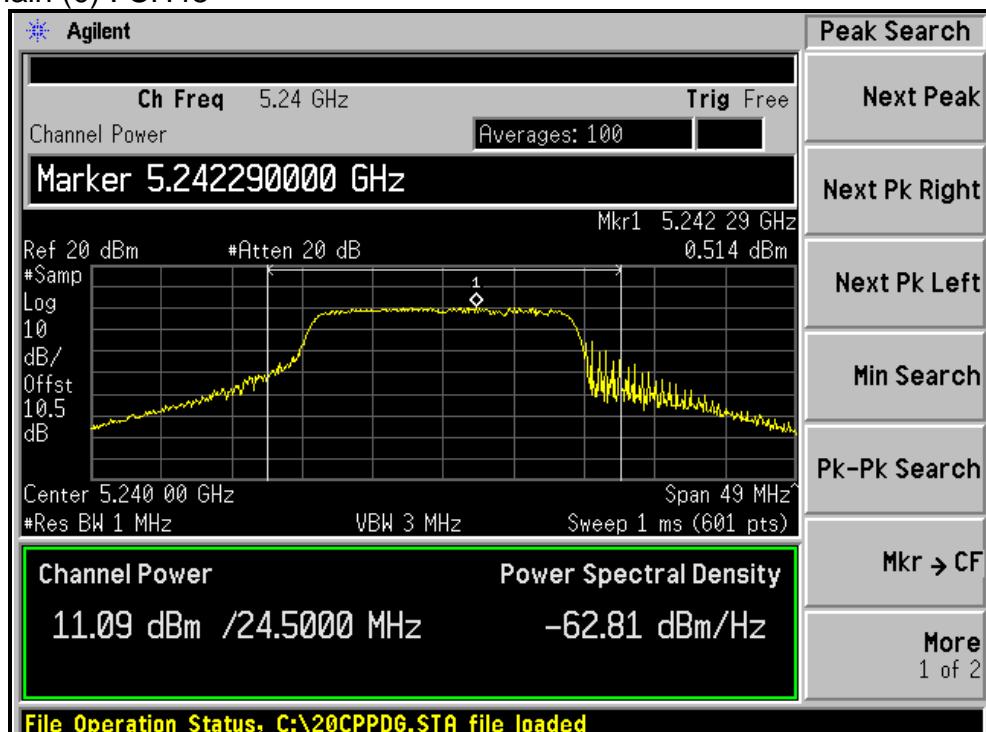
CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (dBm)		TOTAL OUTPUT POWER (mW)	TOTAL OUTPUT POWER (dBm)	OUTPUT POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)					
36	5180	11.1	10.9	25.2	14.0	17	24.08	PASS
40	5200	10.6	10.7	23.2	13.7	17	24.17	PASS
48	5240	11.1	11.1	25.8	14.1	17	24.50	PASS

**NOTE:** The 26dBc Occupied Bandwidth plot, please refer to the following pages.

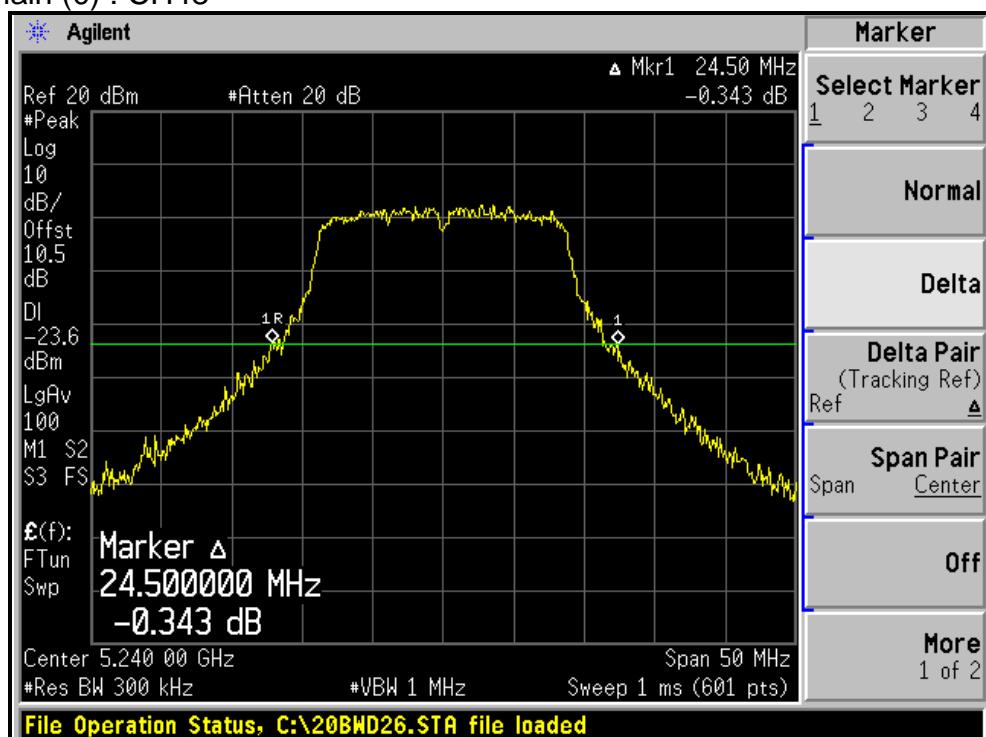


A D T

Peak Power Output:  
For Chain (0) : CH48



26dB Occupied Bandwidth:  
For Chain (0) : CH48





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**802.11n (40MHz) OFDM modulation:**

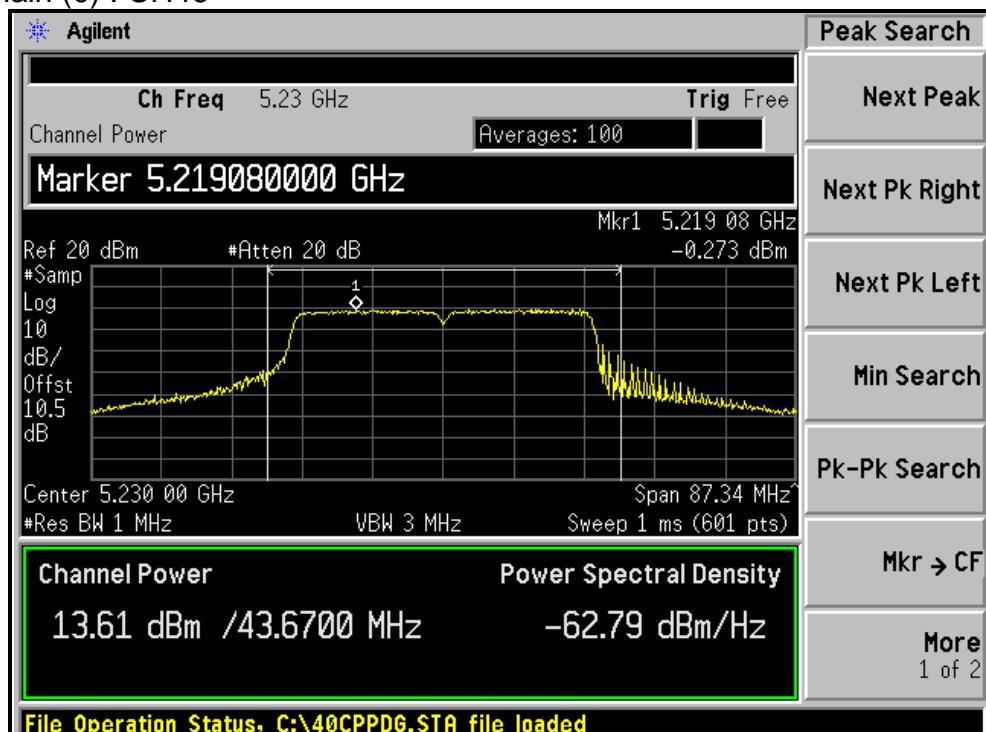
CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (dBm)		TOTAL OUTPUT POWER (mW)	TOTAL OUTPUT POWER (dBm)	OUTPUT POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS / FAIL
		CHAIN(0)	CHAIN(1)					
38	5190	7.9	8.2	12.8	11.1	17	44.67	PASS
46	5230	13.6	13.3	44.3	16.5	17	43.67	PASS

**NOTE:** The 26dBc Occupied Bandwidth plot, please refer to the following pages.

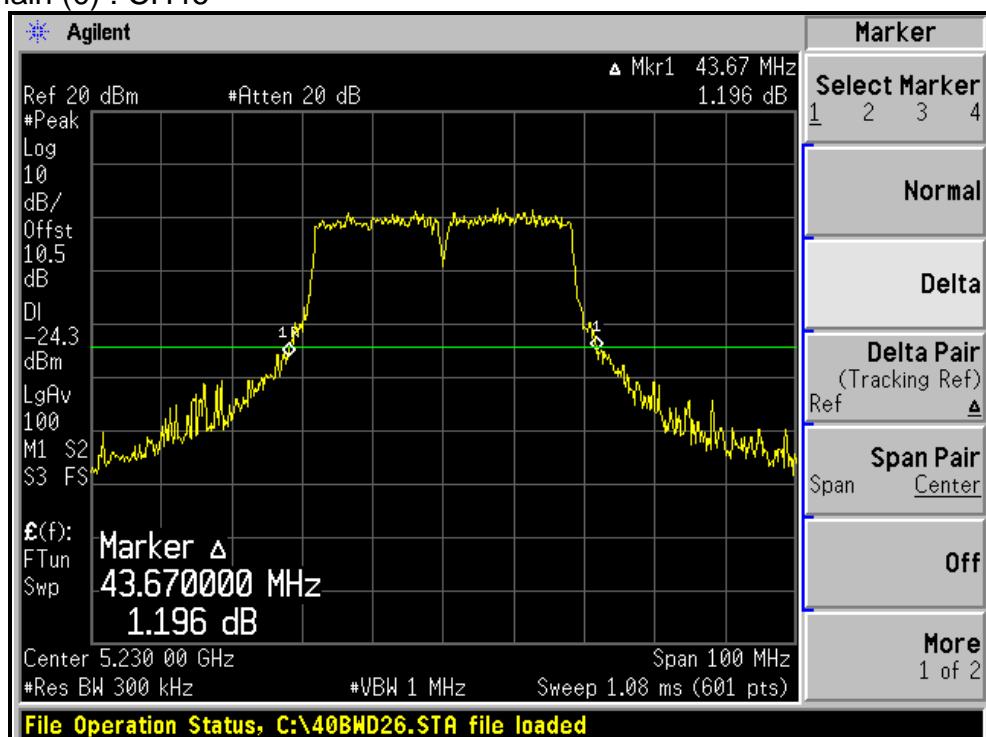


A D T

Peak Power Output:  
For Chain (0) : CH46



26dB Occupied Bandwidth:  
For Chain (0) : CH46





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## 4.4 PEAK POWER EXCURSION MEASUREMENT

### 4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.47 – 5.725GHz	13dB
5.725 – 5.825 GHz	13dB

### 4.4.2 TEST INSTRUMENTS

Test date: July 04, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.4.3 TEST PROCEDURE

1. Connect the cable from the spectrum analyzer to the EUT antenna port using an appropriate RF attenuator.
2. Verify the antenna port selected is the active one if the system has more than one antenna.
3. Verify the unlicensed wireless device is set to operate at 100 % duty cycle at the maximum allowed power for operation.
4. Testing shall be done on the center frequency of each U-NII band.
5. Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be 13 dB for all frequencies across the emission bandwidth.
  - a. First trace: set RBW = 1 MHz, VBW = 3 MHz with peak detector and max hold settings.
  - b. Second trace: set RBW = 1 MHz, VBW = 3 MHz with sample detector and trace average across 100 traces in power averaging mode.

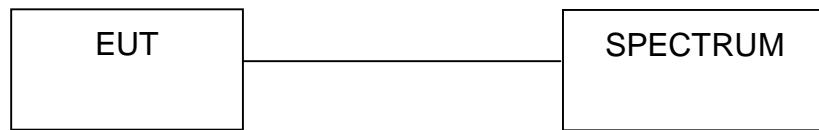
### 4.4.4 DEVIATION FROM TEST STANDARD

No deviation



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#### 4.4.5 TEST SETUP



#### 4.4.6 EUT OPERATING CONDITIONS

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



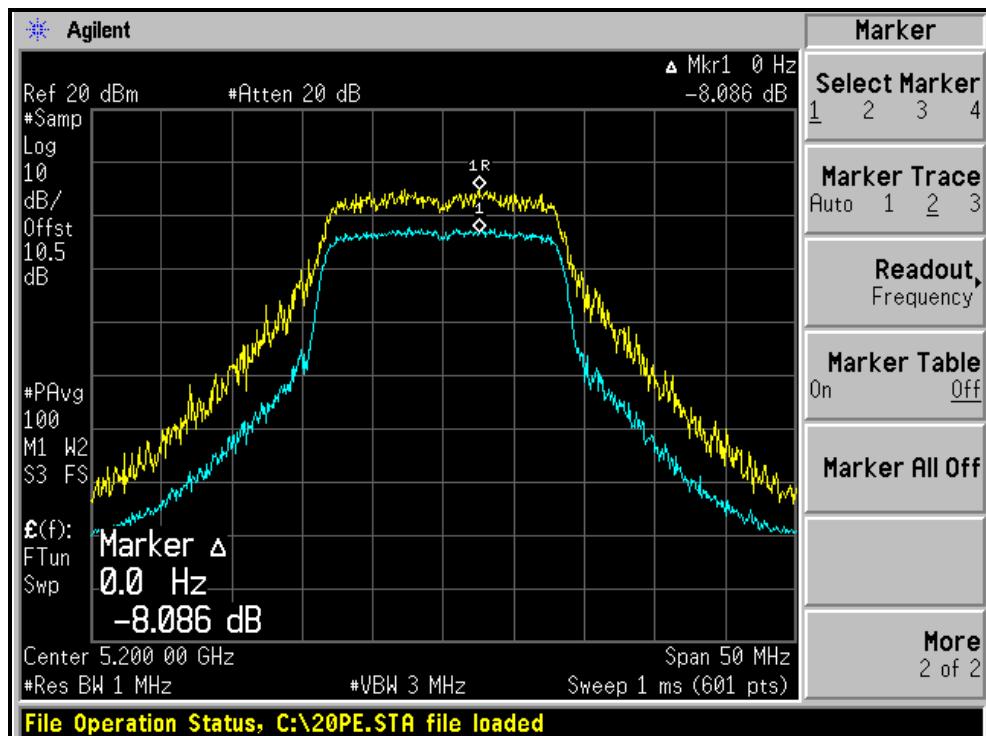
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#### 4.4.7 TEST RESULTS

##### 802.11a OFDM MODULATION

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	7.5	13	PASS
40	5200	8.1	13	PASS
48	5240	7.7	13	PASS

CH40



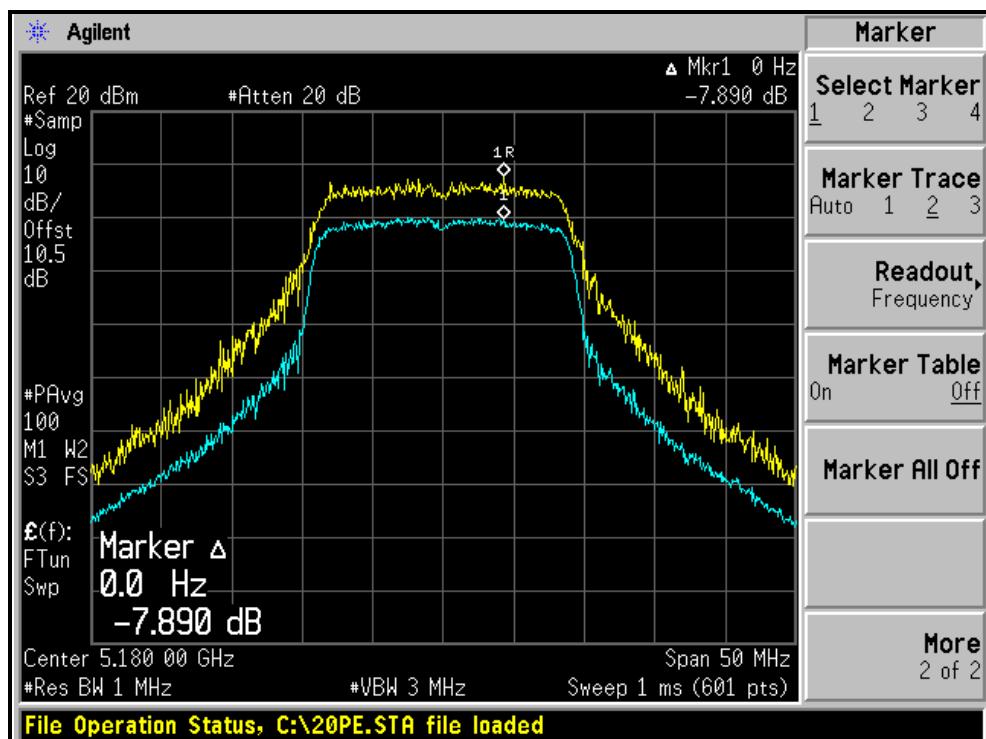


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**802.11n (20MHz) OFDM MODULATION:**

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	7.9	13	PASS
40	5200	7.4	13	PASS
48	5240	7.8	13	PASS

CH36



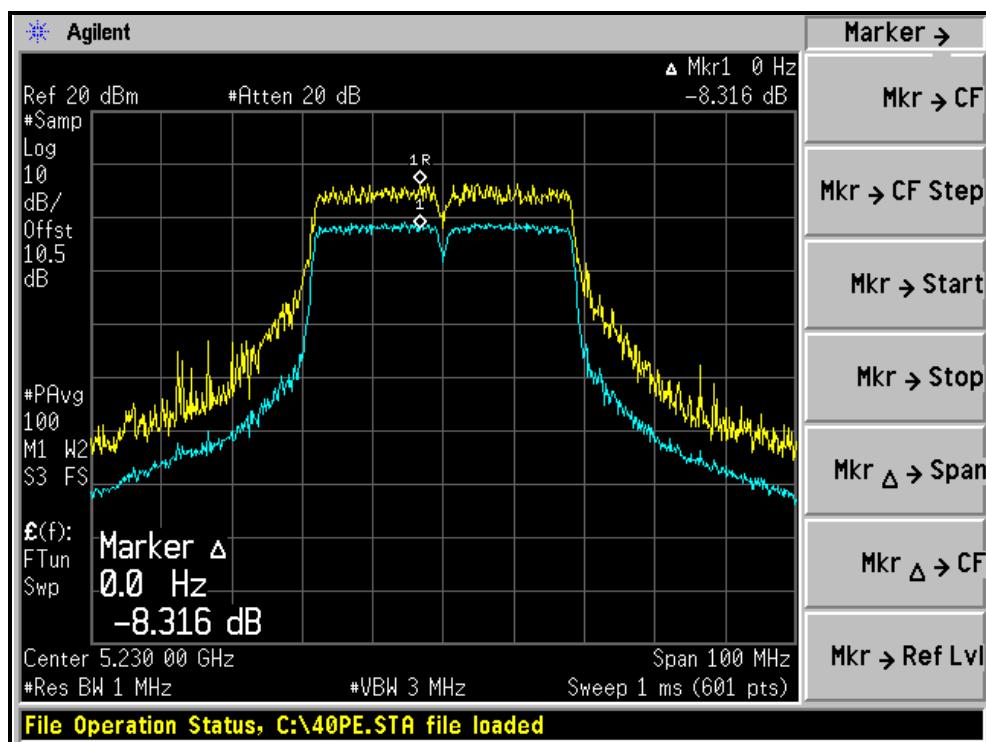


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**802.11n (40MHz) OFDM MODULATION:**

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
38	5190	8.0	13	PASS
46	5230	8.3	13	PASS

CH46





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## 4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

### 4.5.2 TEST INSTRUMENTS

Test date: July 04, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250254	July 14, 2010	July 13, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.5.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.5.5 TEST SETUP



### 4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6



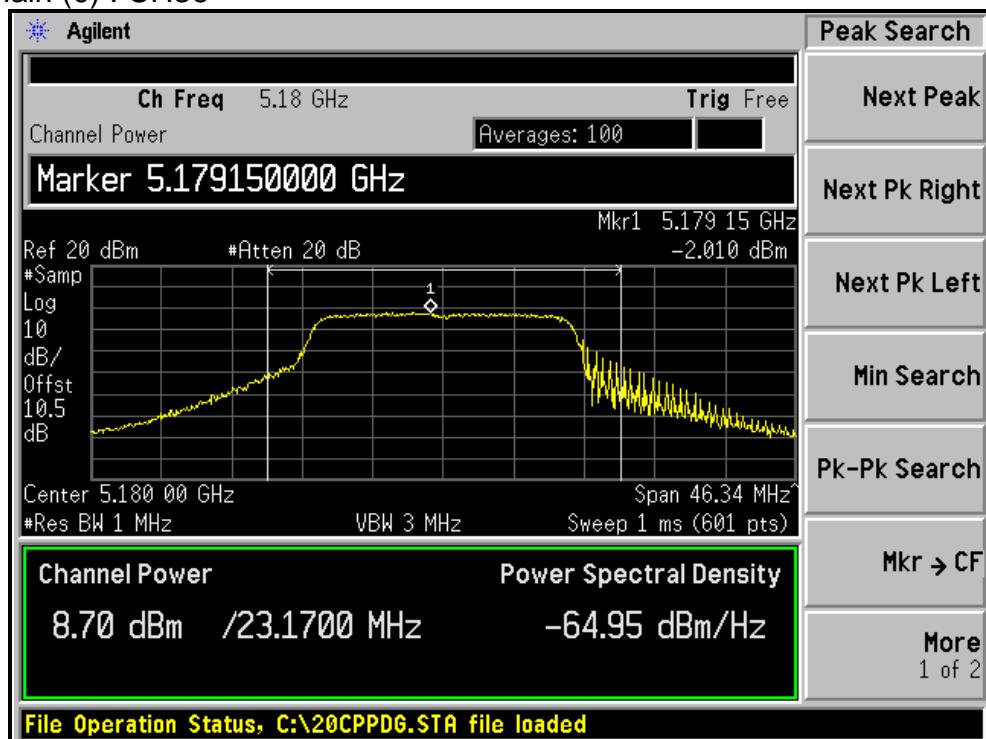
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#### 4.5.7 TEST RESULTS

##### 802.11a OFDM MODULATION

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
36	5180	-2.0	-2.2	1.234	4	PASS
40	5200	-2.2	-2.6	1.152	4	PASS
48	5240	-2.3	-2.3	1.178	4	PASS

For Chain (0) : CH36



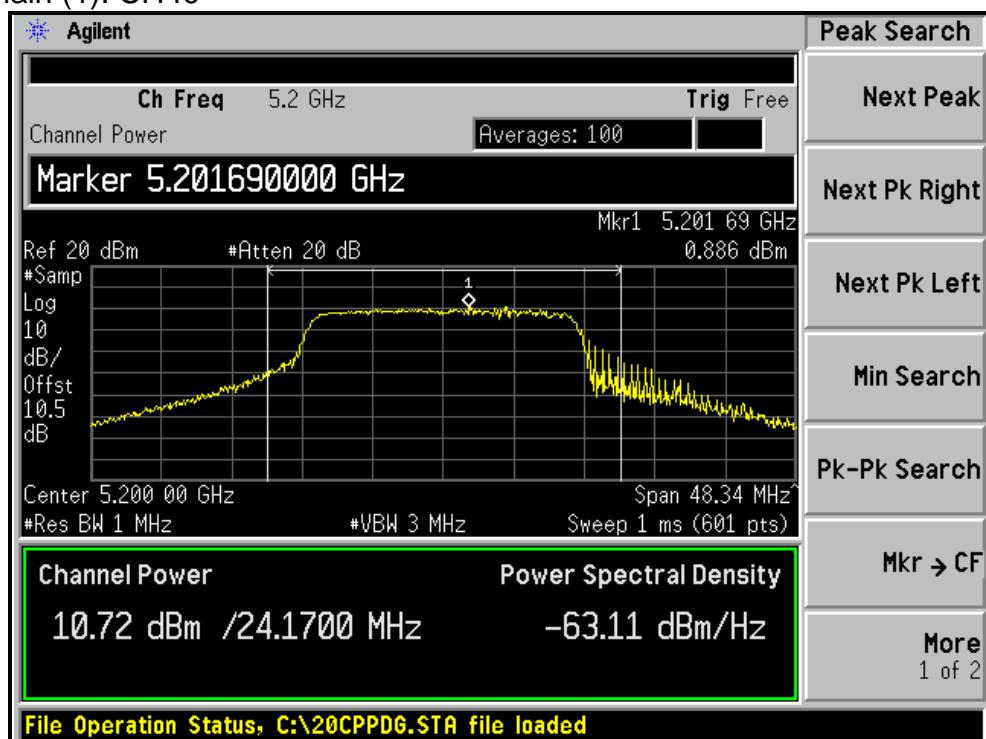


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**802.11n (20MHz) OFDM MODULATION:**

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
36	5180	0.7	0.5	3.6	4	PASS
40	5200	0.5	0.9	3.7	4	PASS
48	5240	0.5	0.8	3.7	4	PASS

For Chain (1): CH40



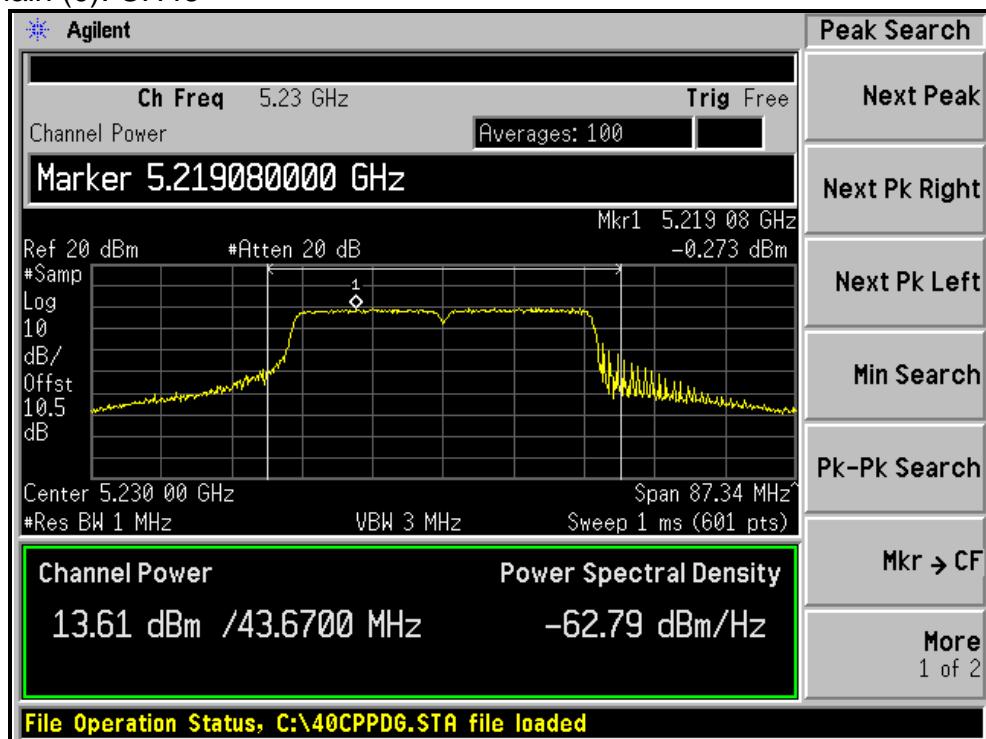


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**802.11n (40MHz) OFDM MODULATION:**

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
		CHAIN(0)	CHAIN(1)			
38	5190	-6.3	-6.0	-3.1	4	PASS
46	5230	-0.2	-0.8	2.5	4	PASS

For Chain (0): CH46





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## 4.6 FREQUENCY STABILITY

### 4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within the band of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

### 4.6.2 TEST INSTRUMENTS

**Test date:** June 23, 2011

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

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

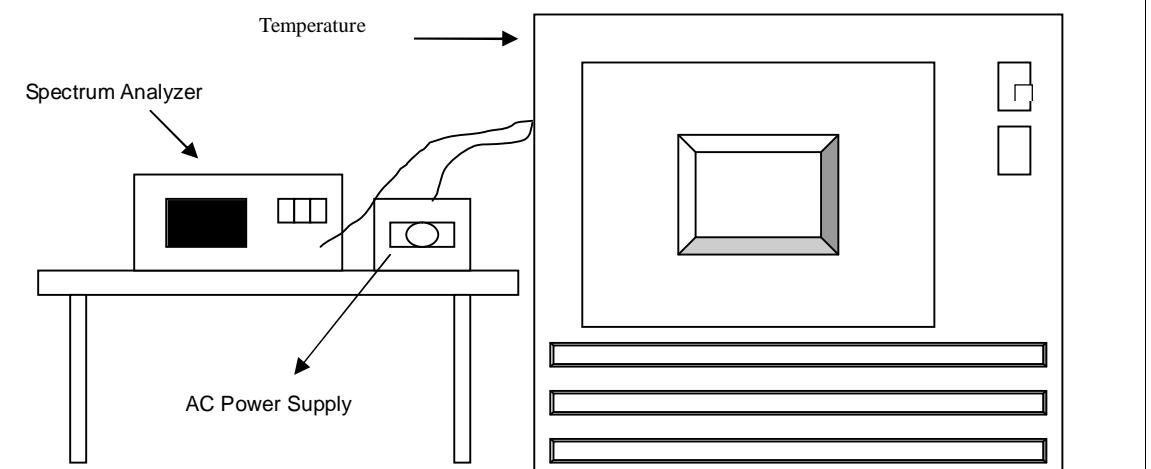
### 4.6.3 TEST PROCEDURE

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

#### 4.6.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.6.5 TEST SETUP



#### 4.6.6 EUT OPERATING CONDITION

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



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#### 4.6.7 TEST RESULTS

Operating frequency: 5240MHz									
Temp. (°C)	Power supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		(MHz)	ppm	(MHz)	ppm	(MHz)	ppm	(MHz)	ppm
50	138	5239.9993	-0.1336	5240.0022	0.4198	5240.0068	1.2977	5240.0026	0.4962
	120	5240.0005	0.0954	5240.0012	0.2290	5240.0074	1.4122	5240.0009	0.1718
	102	5239.9997	-0.0573	5240.0016	0.3053	5240.006	1.1450	5240.0011	0.2099
40	138	5239.9852	-2.8244	5239.9828	-3.2824	5239.9806	-3.7023	5239.9801	-3.7977
	120	5239.9867	-2.5382	5239.9824	-3.3588	5239.9806	-3.7023	5239.9802	-3.7786
	102	5239.9863	-2.6145	5239.9829	-3.2634	5239.9796	-3.8931	5239.9814	-3.5496
30	138	5240.0044	0.8397	5240.008	1.5267	5240.0039	0.7443	5240.0059	1.1260
	120	5240.0042	0.8015	5240.0081	1.5458	5240.0034	0.6489	5240.0049	0.9351
	102	5240.0041	0.7824	5240.0078	1.4885	5240.0049	0.9351	5240.0061	1.1641
20	138	5239.9958	-0.8015	5239.9967	-0.6298	5239.9943	-1.0878	5239.9895	-2.0038
	120	5239.9953	-0.8969	5239.9957	-0.8206	5239.9941	-1.1260	5239.9899	-1.9275
	102	5239.9964	-0.6870	5239.9963	-0.7061	5239.9951	-0.9351	5239.9897	-1.9656
10	138	5239.9833	-3.1870	5239.985	-2.8626	5239.9876	-2.3664	5239.9864	-2.5954
	120	5239.9849	-2.8817	5239.9861	-2.6527	5239.9876	-2.3664	5239.9878	-2.3282
	102	5239.9845	-2.9580	5239.9858	-2.7099	5239.9869	-2.5000	5239.9866	-2.5573
0	138	5239.9996	-0.0763	5240.004	0.7634	5240.0012	0.2290	5240.0065	1.2405
	120	5239.9986	-0.2672	5240.0036	0.6870	5240.0007	0.1336	5240.0061	1.1641
	102	5239.9991	-0.1718	5240.0038	0.7252	5240.0009	0.1718	5240.006	1.1450
-10	138	5240.0164	3.1298	5240.0179	3.4160	5240.0188	3.5878	5240.0215	4.1031
	120	5240.015	2.8626	5240.018	3.4351	5240.0188	3.5878	5240.0217	4.1412
	102	5240.0164	3.1298	5240.0181	3.4542	5240.019	3.6260	5240.023	4.3893
-20	138	5240.004	0.7634	5240.0084	1.6031	5240.0049	0.9351	5240.0003	0.0573
	120	5240.0028	0.5344	5240.008	1.5267	5240.0043	0.8206	5240.0001	0.0191
	102	5240.003	0.5725	5240.008	1.5267	5240.0055	1.0496	5240.0001	0.0191
-30	138	5239.9858	-2.7099	5239.9864	-2.5954	5239.9857	-2.7290	5239.9882	-2.2519
	120	5239.9841	-3.0344	5239.9876	-2.3664	5239.9869	-2.5000	5239.9882	-2.2519
	102	5239.985	-2.8626	5239.9876	-2.3664	5239.986	-2.6718	5239.9871	-2.4618



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## 4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT

### 4.7.1 TEST INSTRUMENTS

Test date : July 04, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 08, 2010	Dec. 07, 2011

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set RBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz or 200 MHz bandwidth from band edge. The band edges was measured and recorded.

### 4.7.3 EUT OPERATING CONDITION

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

### 4.7.4 TEST RESULTS

For 5.15 to 5.25GHz band:

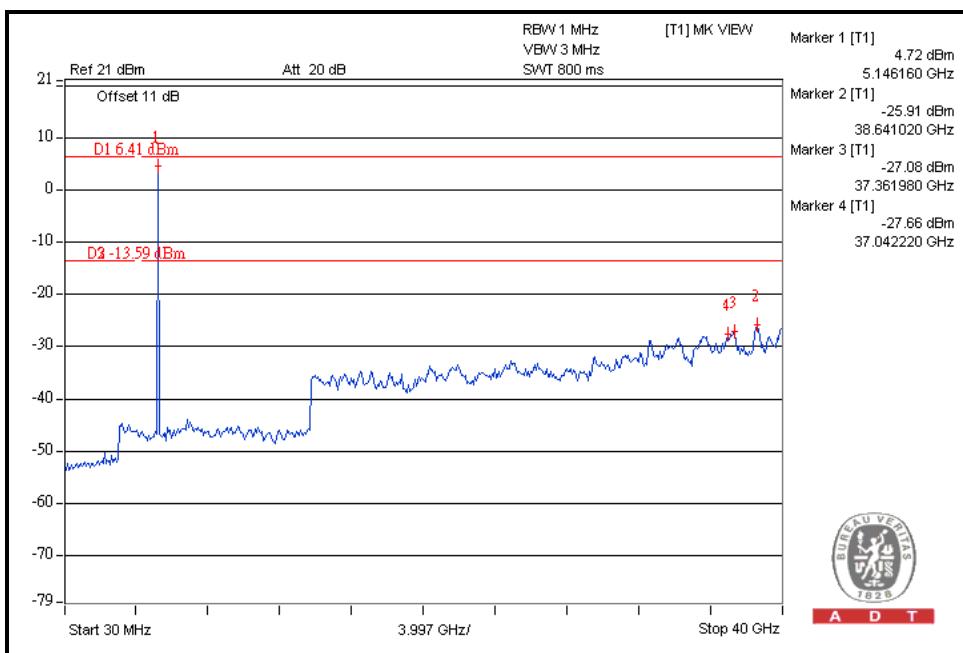
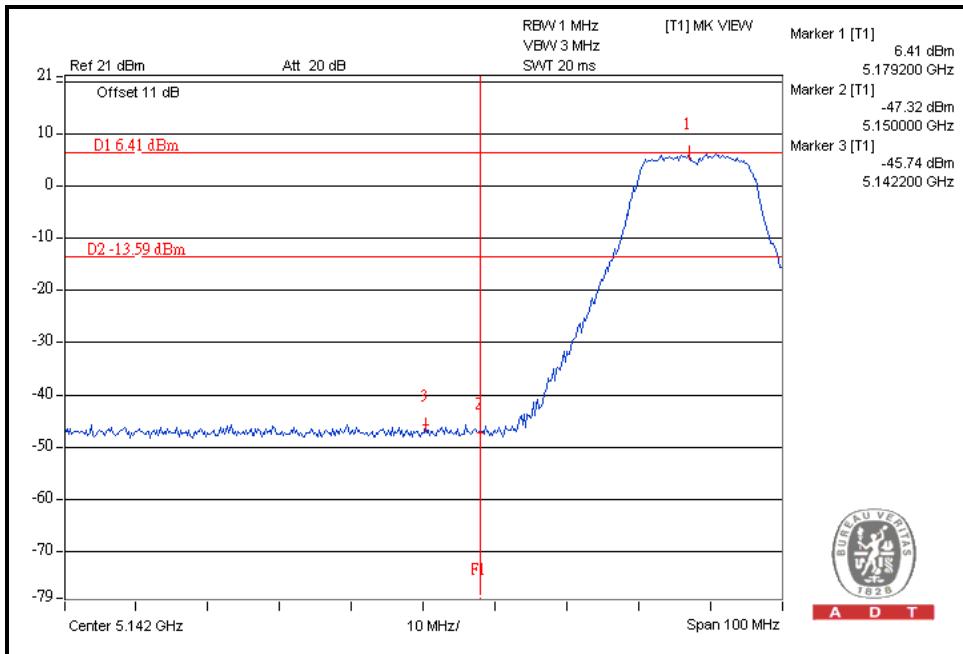
The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.



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## 802.11a OFDM MODULATION

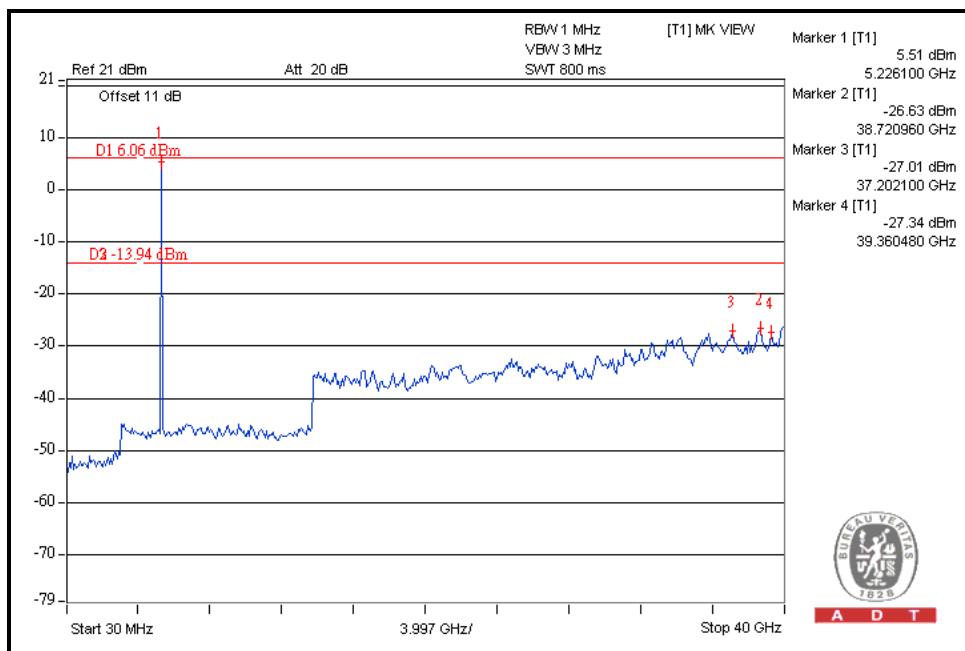
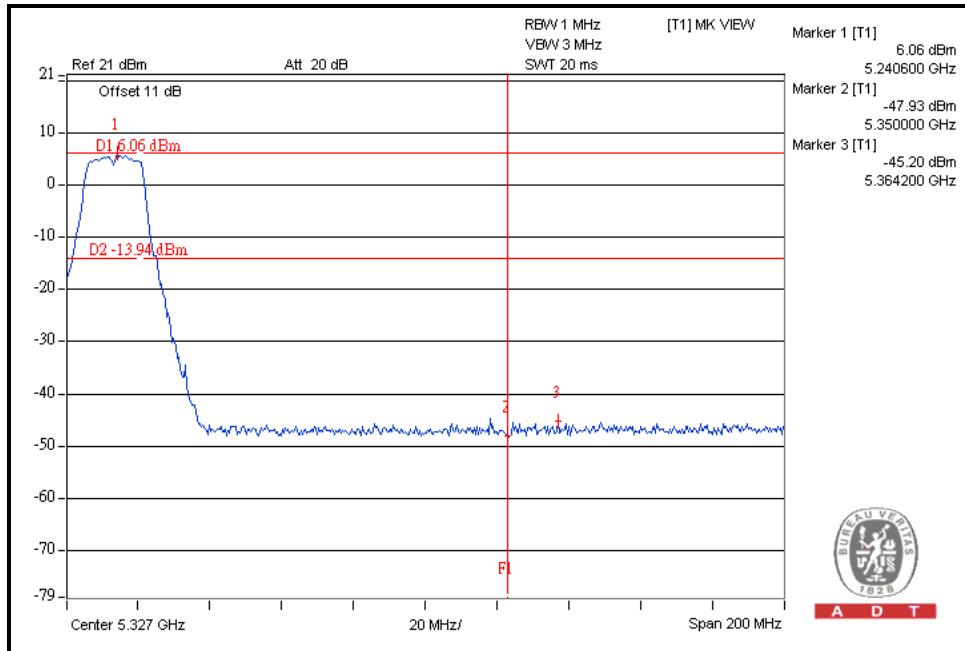
For Chain (0): CH36





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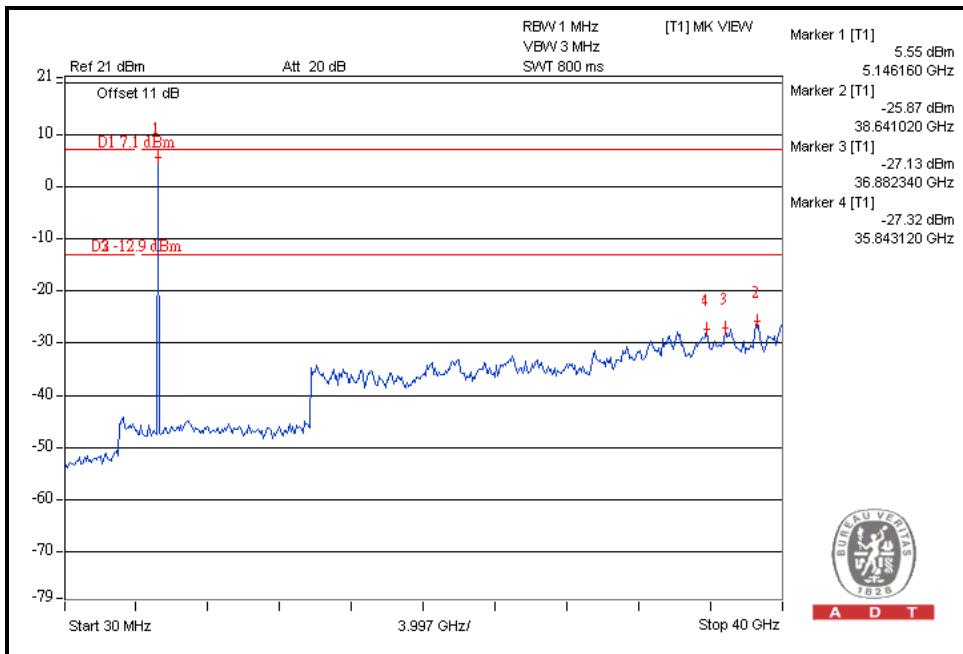
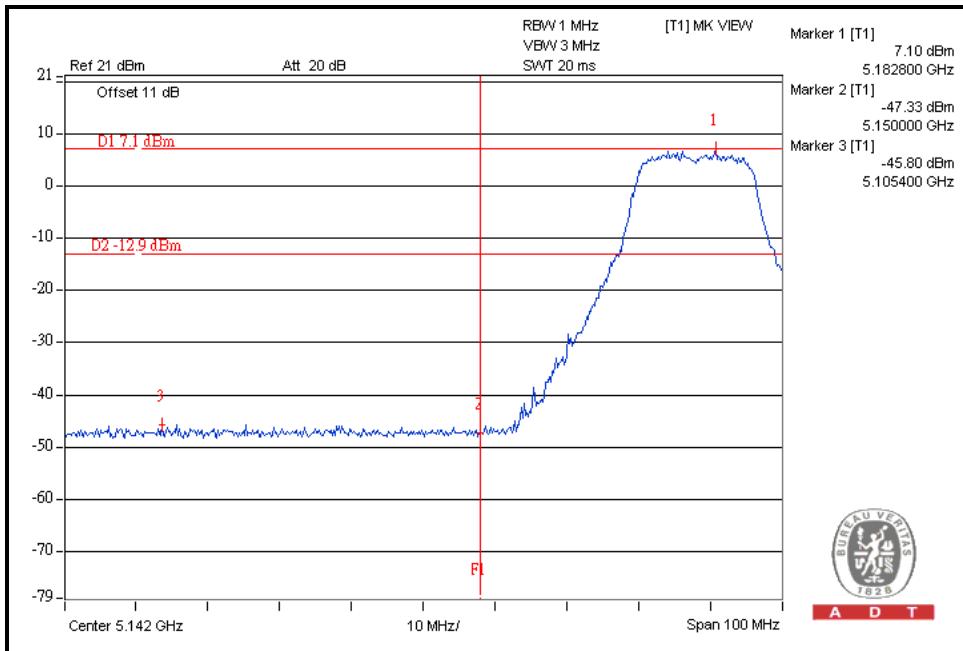
## For Chain (0): CH48





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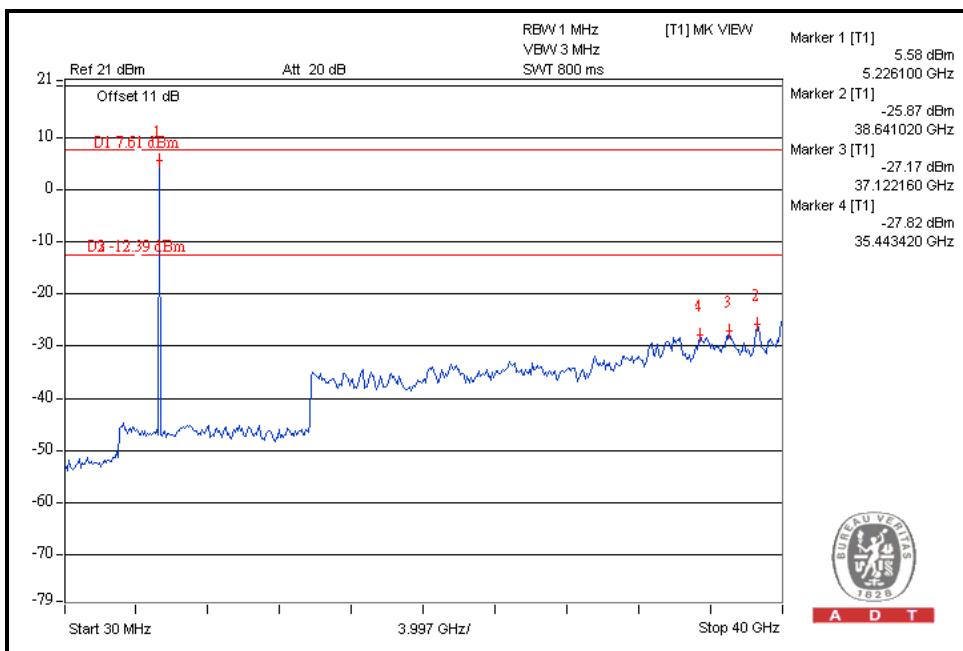
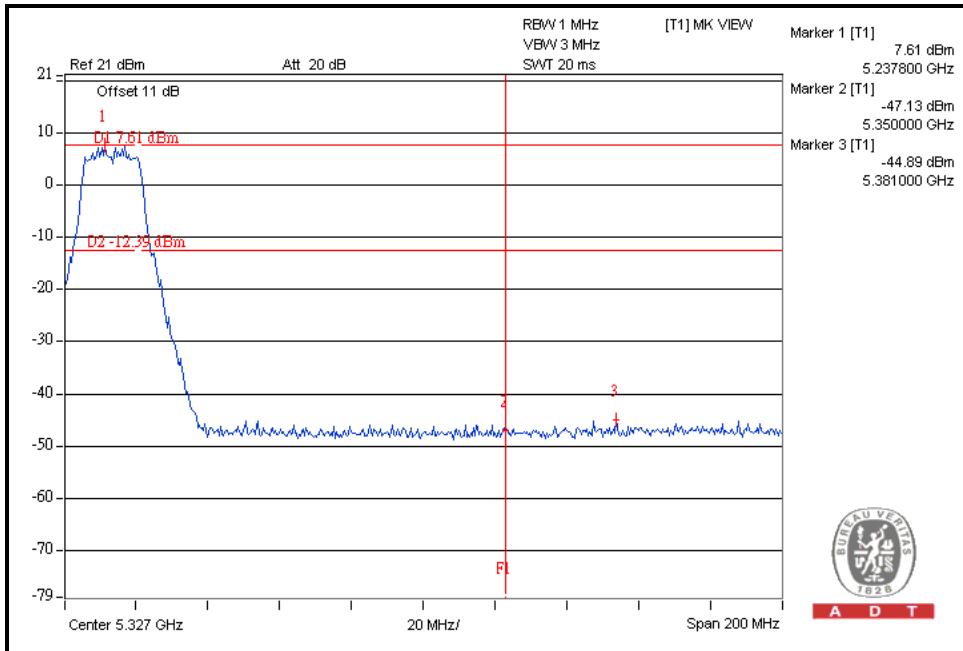
## For Chain (1): CH36





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## For Chain (1): CH48

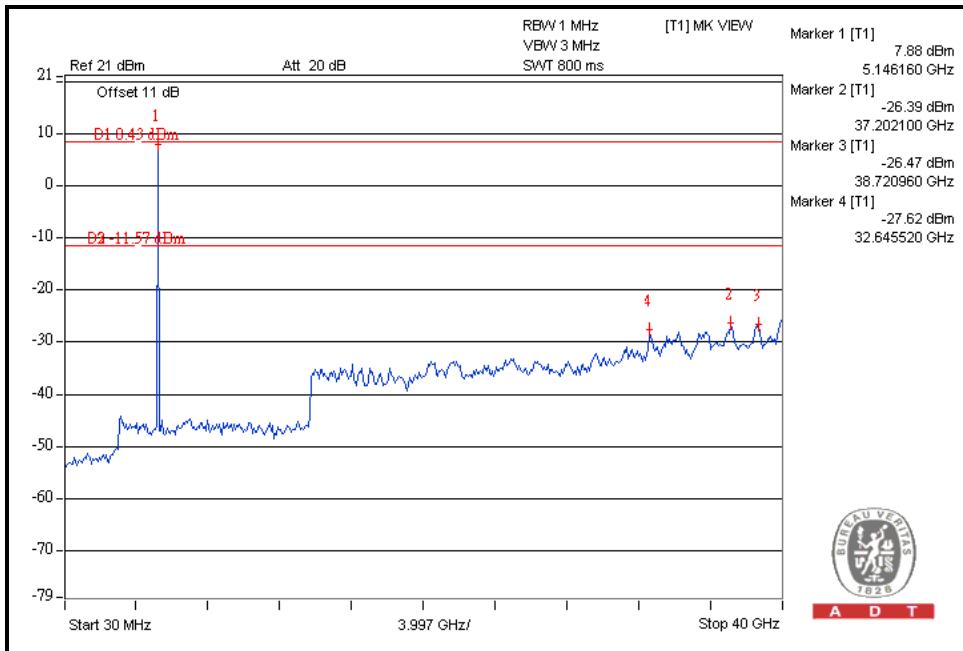
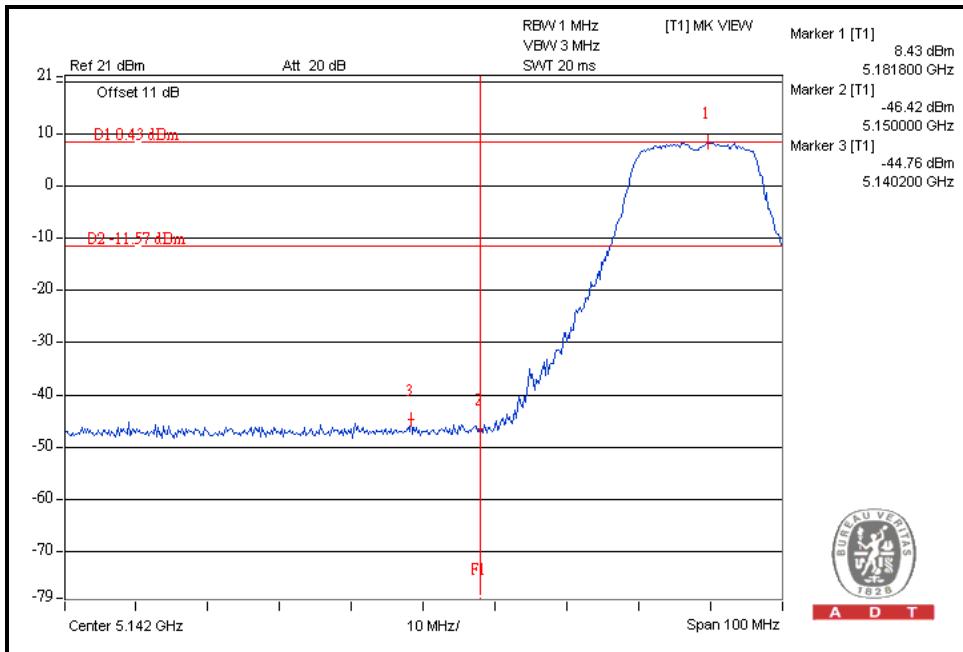




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## 802.11n (20MHz) OFDM MODULATION:

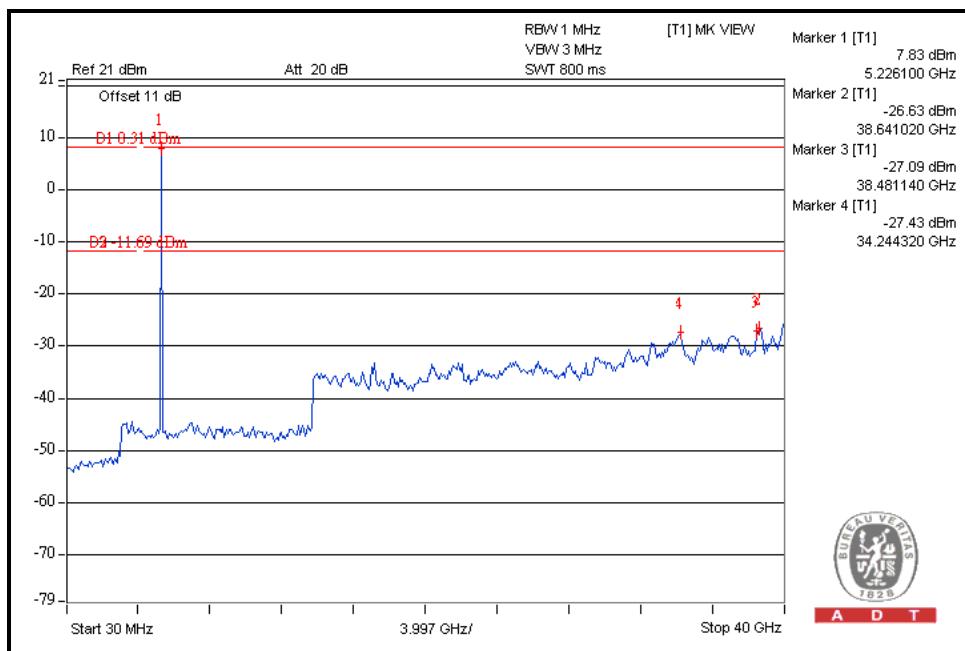
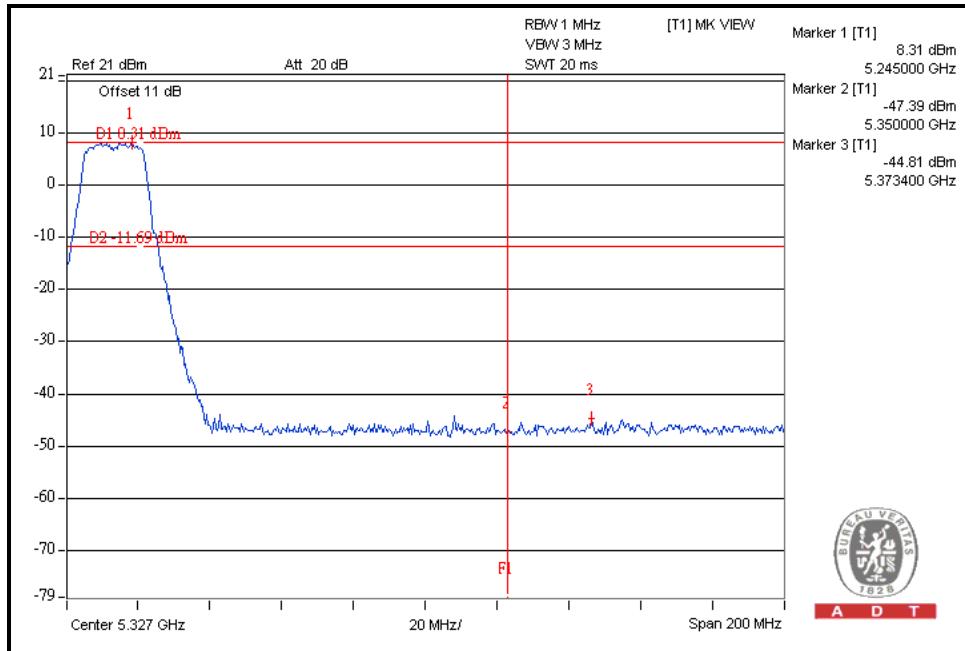
For Chain(0) : CH36





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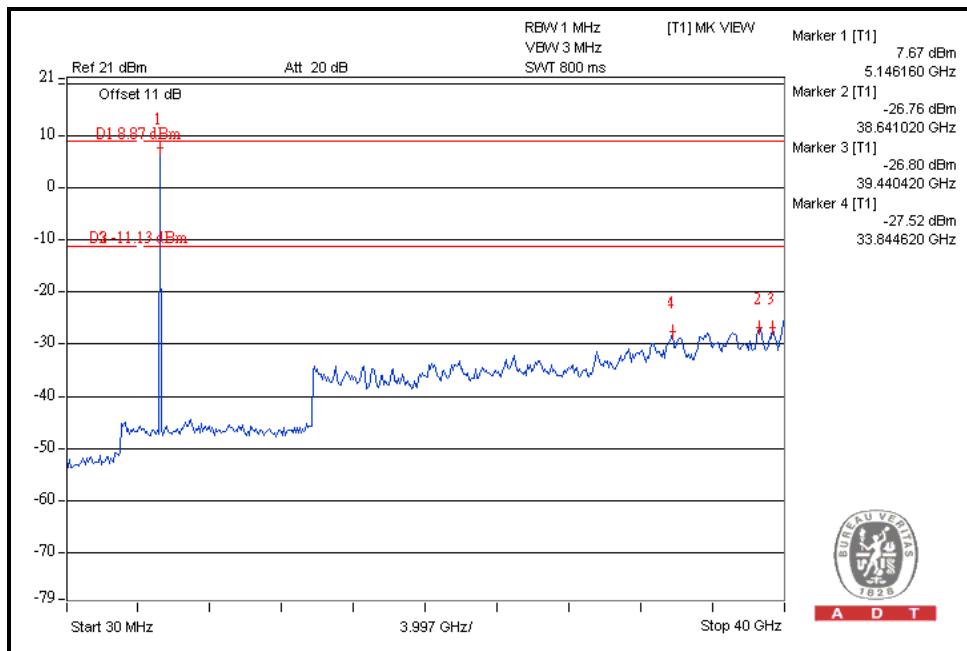
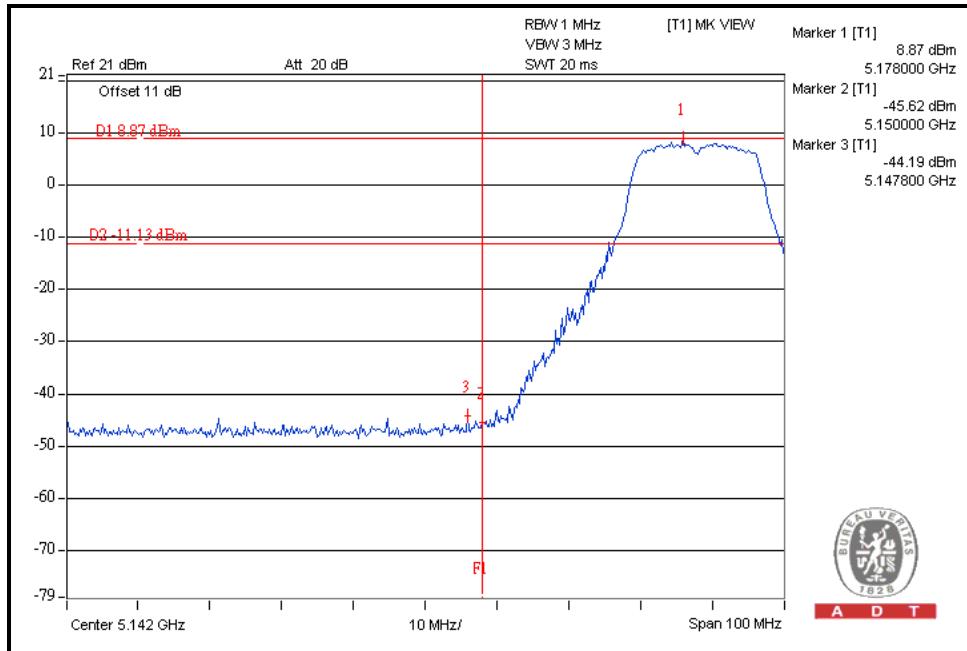
## For Chain(0) : CH48





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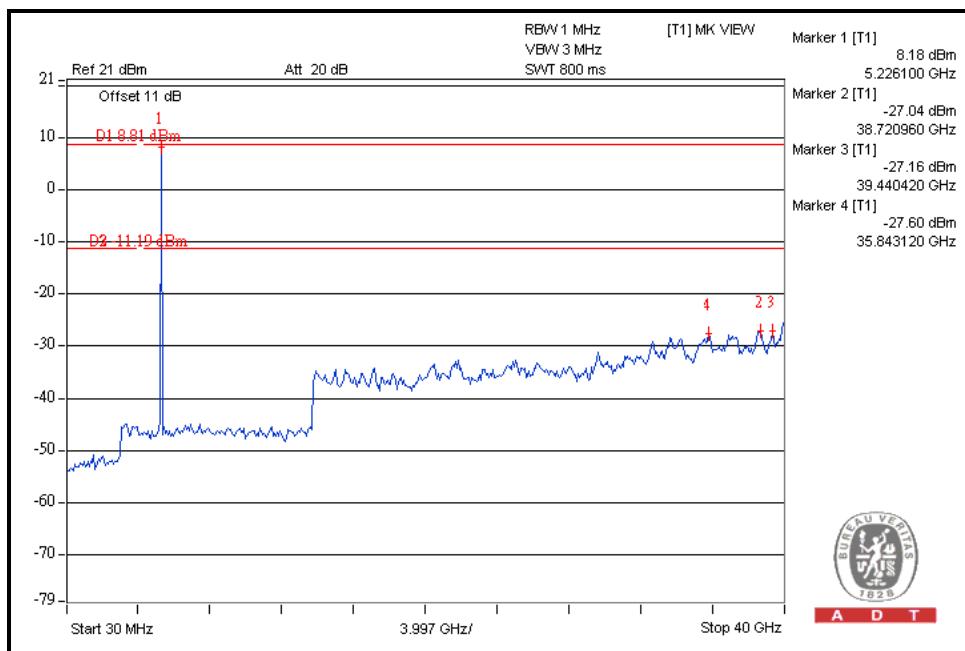
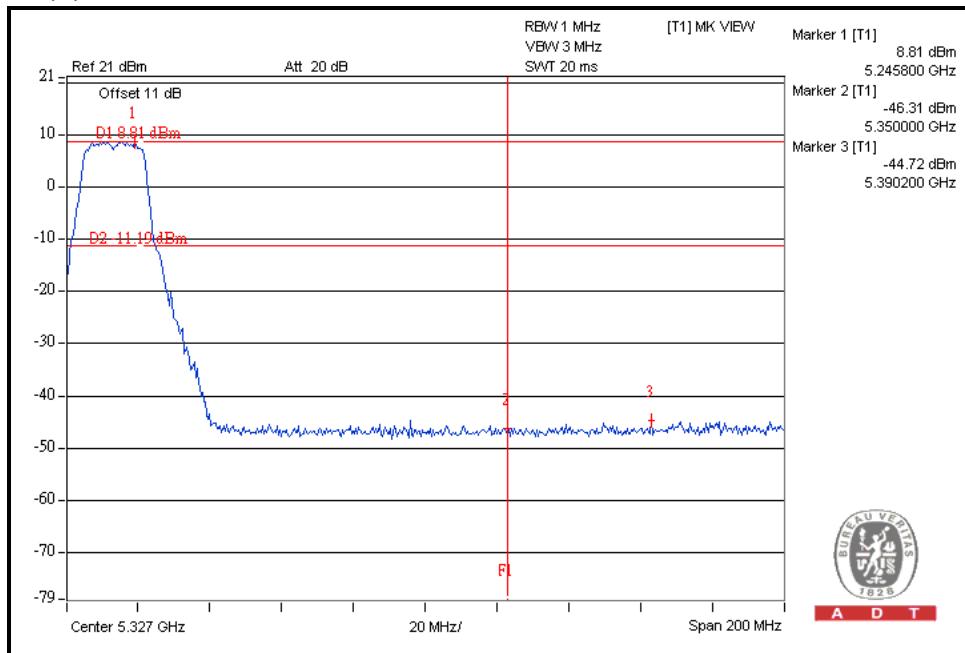
## For Chain(1) : CH36





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## For Chain(1) : CH48

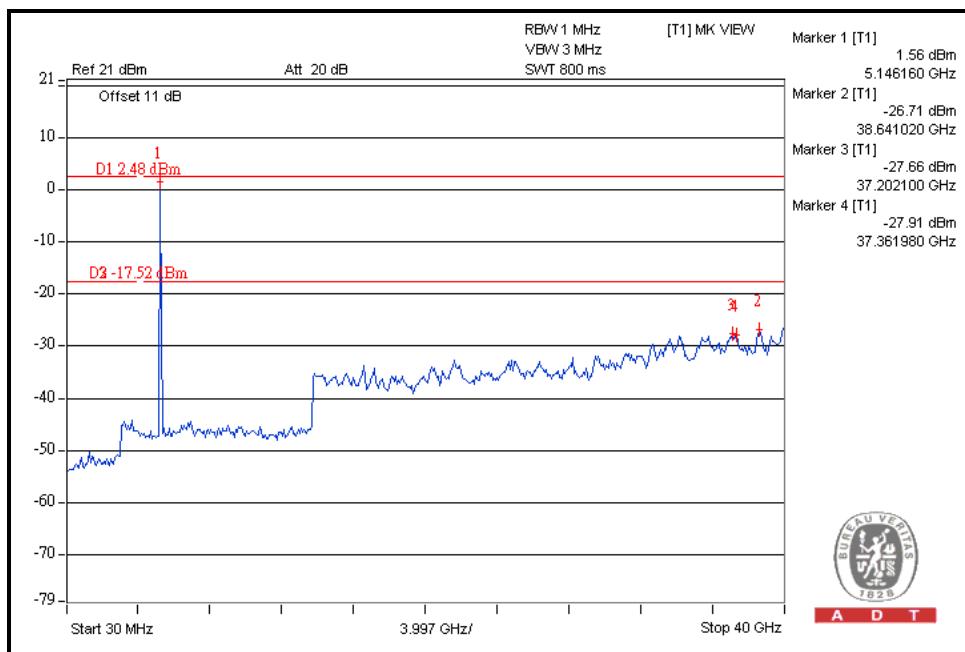
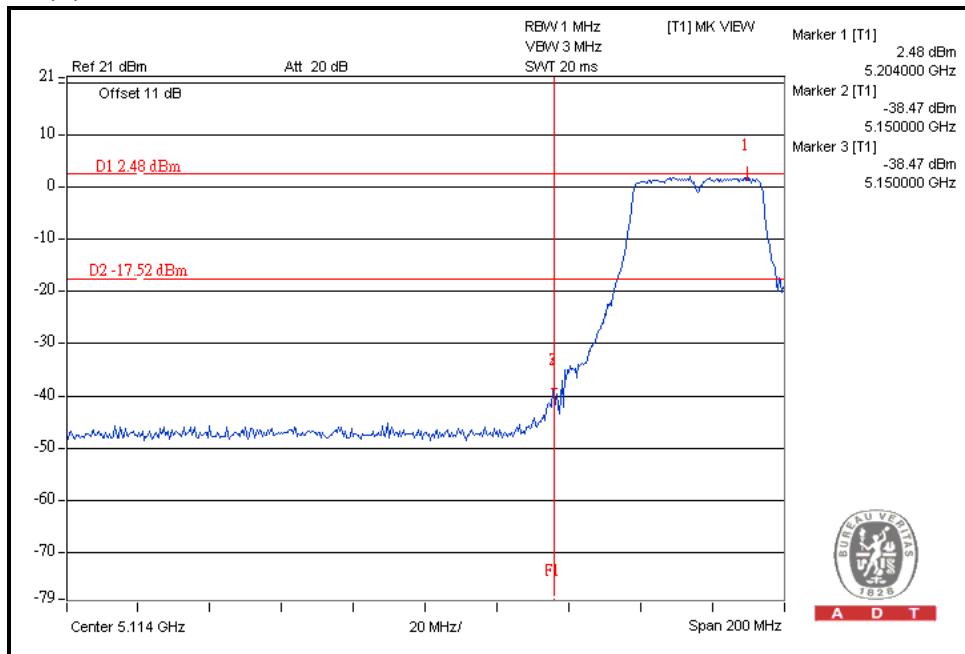




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## 802.11n (40MHz) OFDM MODULATION:

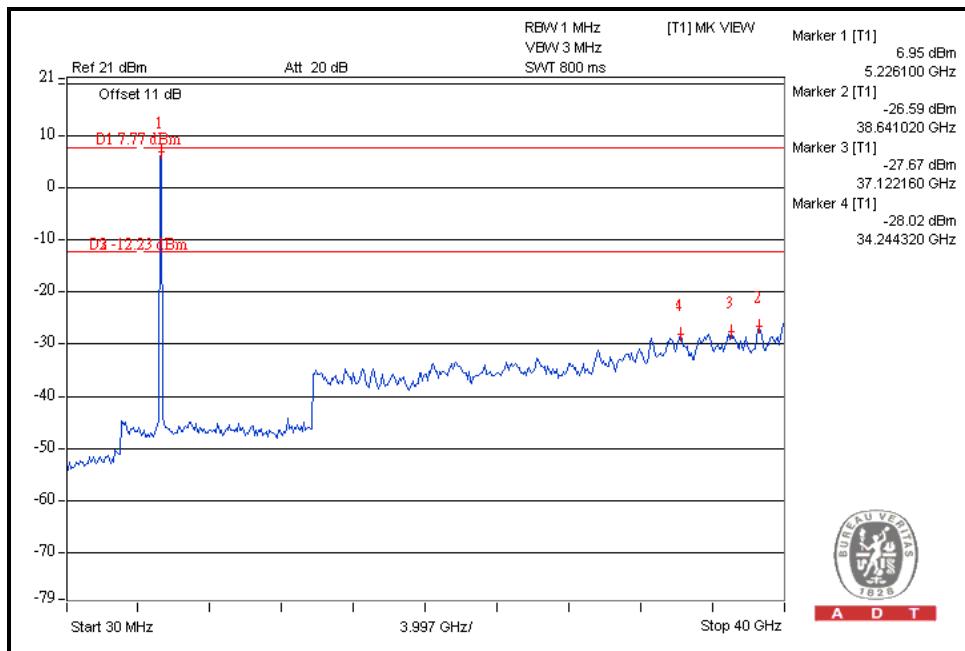
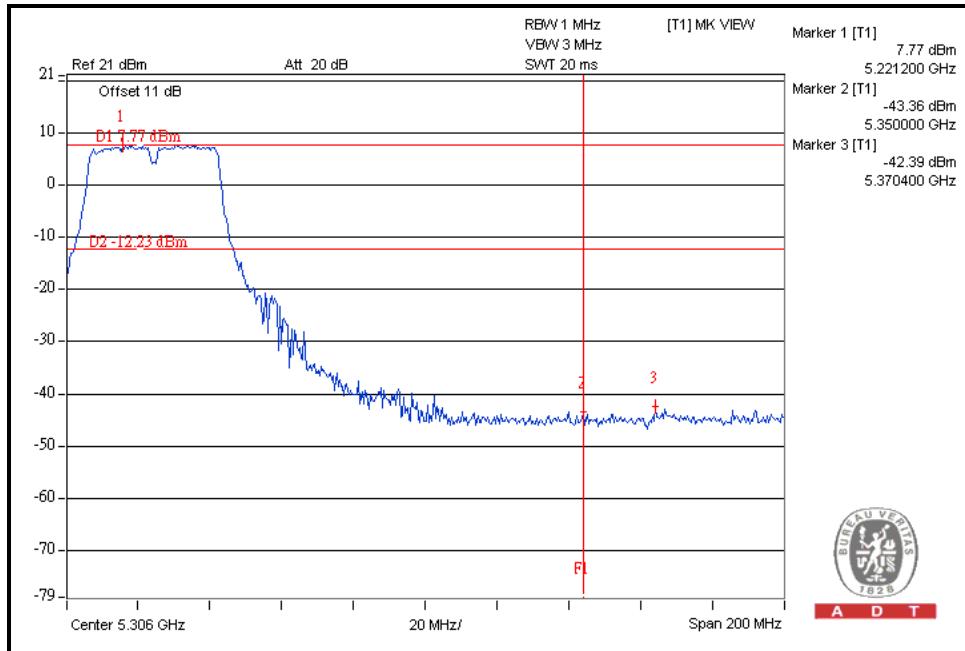
For Chain(0) : CH38





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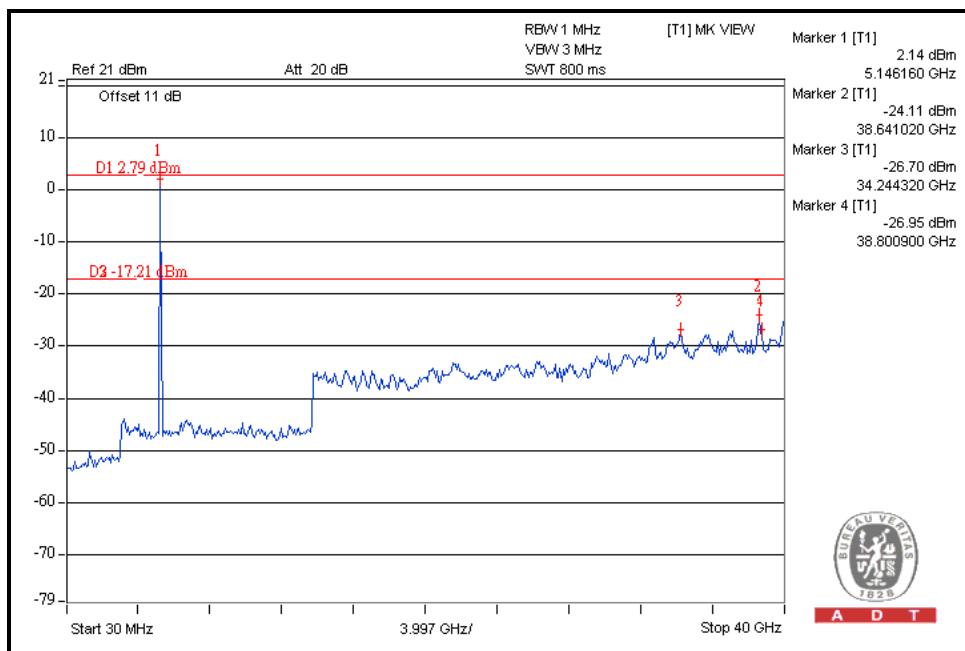
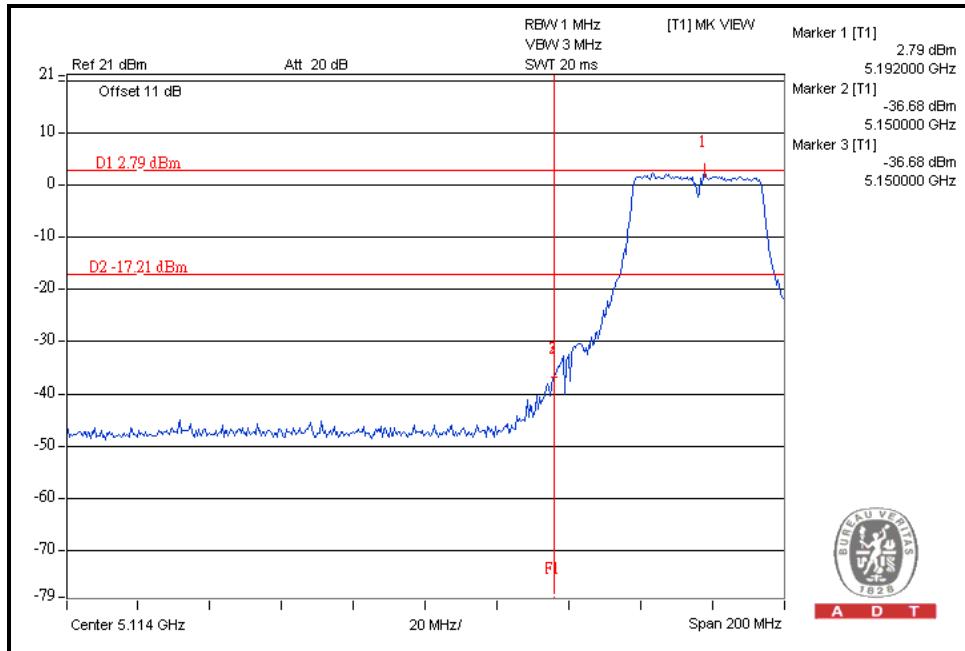
## For Chain(0) : CH46





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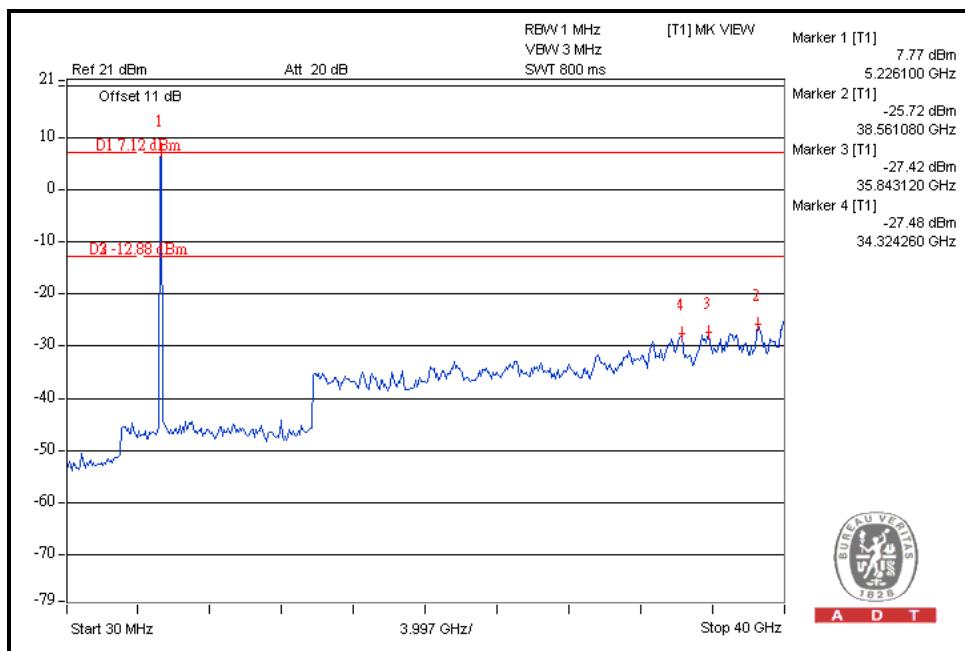
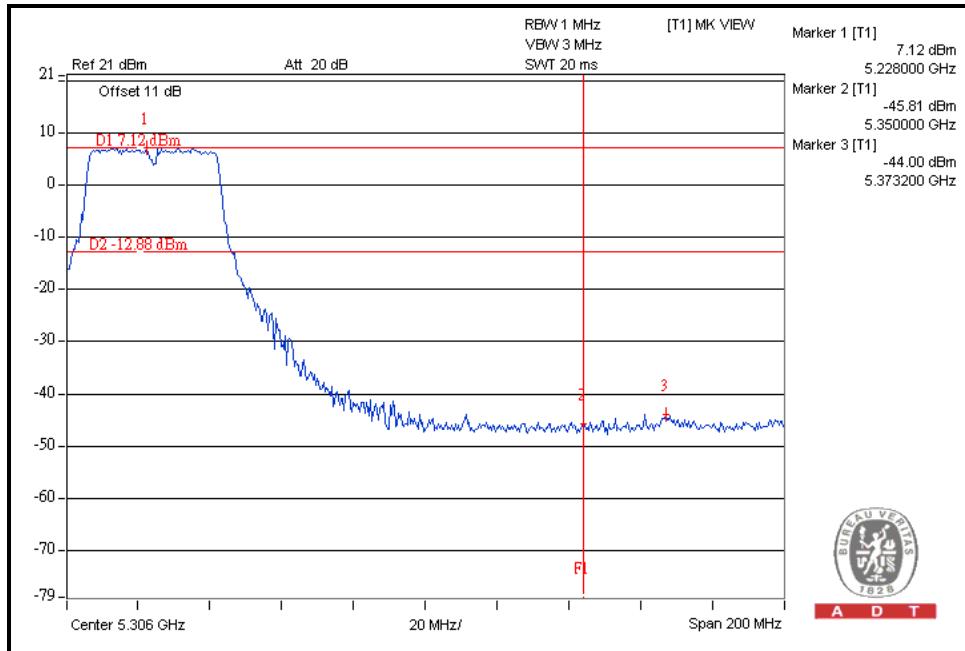
## For Chain(1) : CH38





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## For Chain(1) : CH46





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## 5. INFORMATION ON THE TESTING LABORATORIES

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

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5.phtml](http://www.adt.com.tw/index.5.phtml). If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab:**

Tel: 886-2-26052180  
Fax: 886-2-26052943

**Hsin Chu EMC/RF Lab:**

Tel: 886-3-5935343  
Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab:**

Tel: 886-3-3183232  
Fax: 886-3-3185050

**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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



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## 6.APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

--- END ---