

# CE Test Report

Product Name : WIRELESS-A/N 26DBM NETWORK  
MINI PCI ADAPTER  
Model No. : IWAVEPORT WLM200N5-26

Applicant : Compex Systems Pte Ltd  
Address : 135 Joo Seng Road, #08-01 PM Industrial Building  
Singapore 368363

Date of Receipt : 2008/10/30  
Issued Date : 2008/12/09  
Report No. : 08BS034R-RF-CE-P14V02

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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# Test Report Certification

Issued Date : 2008/12/09

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Product Name : WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER

Applicant : Compex Systems Pte Ltd

Address : 135 Joo Seng Road, #08-01 PM Industrial Building  
Singapore 368363

Manufacturer : Compex Systems Pte Ltd

Model No. : IWAVEPORT WLM200N5-26

EUT Voltage : AC 100-240 V / 50-60 Hz

Trade Name : COMPEX

Applicable Standard : ETSI EN 301 893 V1.4.1 (2007-07)

Test Result : Complied

Performed Location : SuZhou EMC laboratory  
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## Laboratory Information

We , **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>  
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**TABLE OF CONTENTS**

Description	Page
1. General Information.....	6
1.1. EUT Description.....	6
1.2. Mode of Operation.....	8
1.3. Tested System Details.....	9
1.4. Configuration of Tested System.....	10
1.5. EUT Exercise Software.....	10
2. Technical Test.....	12
2.1. Summary of Test Result.....	12
2.2. Measurement Uncertainty.....	13
2.3. Test Environment.....	14
3. Carrier Frequencies.....	15
3.1. Test Equipment.....	15
3.2. Test Setup.....	16
3.3. Limit.....	16
3.4. Test Procedure.....	16
3.5. Test Result.....	17
4. Occupied Channel Bandwidth.....	19
4.1. Test Equipment.....	19
4.2. Test Setup.....	19
4.3. Limit.....	19
4.4. Test Procedure.....	20
4.5. Test Result.....	21
5. RF Output Power, Transmit Power Control (TPC) and Power Density.....	23
5.1. Test Equipment.....	23
5.2. Test Setup.....	24
5.3. Limit.....	24
5.4. Test Procedure.....	25
5.5. Test Result.....	26
6. Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands.....	50
6.1. Test Equipment.....	50
6.2. Test Setup.....	51
6.3. Limit.....	52
6.4. Test Procedure.....	52
6.5. Test Result.....	53
6.6. Test Photograph.....	69
7. Transmitter Unwanted Emissions Within the 5GHz RLAN Bands.....	70
7.1. Test Equipment.....	70

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7.2.	Test Setup.....	70
7.3.	Limit.....	71
7.4.	Test Procedure .....	71
7.5.	Test Result.....	72
7.6.	Test Photograph .....	112
8.	Reveiver Spurious Emissions .....	113
8.1.	Test Equipment.....	113
8.2.	Test Setup.....	114
8.3.	Limit....	114
8.4.	Test Procedure .....	115
8.5.	Test Result.....	116
8.6.	Test Photograph .....	128
9.	Dynamic Frequency Selection (DFS) .....	129
9.1.	Test Equipment.....	129
9.2.	Test Setup.....	129
9.3.	Limit....	130
9.4.	Test Procedure .....	132
9.5.	Test Result.....	132
10.	Attachment .....	133
➤	EUT Photograph .....	133

## 1. General Information

### 1.1. EUT Description

Product Name	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Trade Name	COMPEX
Model No.	IWAVEPORT WLM200N5-26
Working Voltage	DC 3.3V
Frequency Range	<b>For 5.0GHz Band</b> 802.11a/n(20MHz): 5180 - 5320 MHz, 5500 - 5700 MHz 802.11n(40MHz): 5190 - 5310 MHz, 5510 - 5670 MHz
Channel Number	<b>For 5.0GHz Band</b> 802.11a/n(20MHz): 19 802.11n(40MHz): 9
Type of Modulation	802.11a/n: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps 802.11n: up to 450 Mbps
Channel Control	Auto
Antenna Type	Dipole
Antenna Gain	Refer to the "Antenna List"

**For 5.0GHz Band**

802.11a/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz	48	5240 MHz
52	5260 MHz	56	5280 MHz	60	5300 MHz	64	5320 MHz
100	5500 MHz	104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz	128	5640 MHz
132	5660 MHz	136	5680 MHz	140	5700 MHz	N/A	N/A

802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz	62	5310 MHz
102	5510 MHz	110	5550 MHz	118	5590 MHz	126	5630 MHz
134	5670 MHz	N/A	N/A	N/A	N/A	N/A	N/A

**802.11a/n Antenna List**

Antenna	Manufacturer	Model No.	Peak Gain
MIMO Antenna	Exceltek Electronics (Kunshan) Co.,Ltd	C0053-ANG0004	5GHz: 2.0dBi

**1.2. Mode of Operation**

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

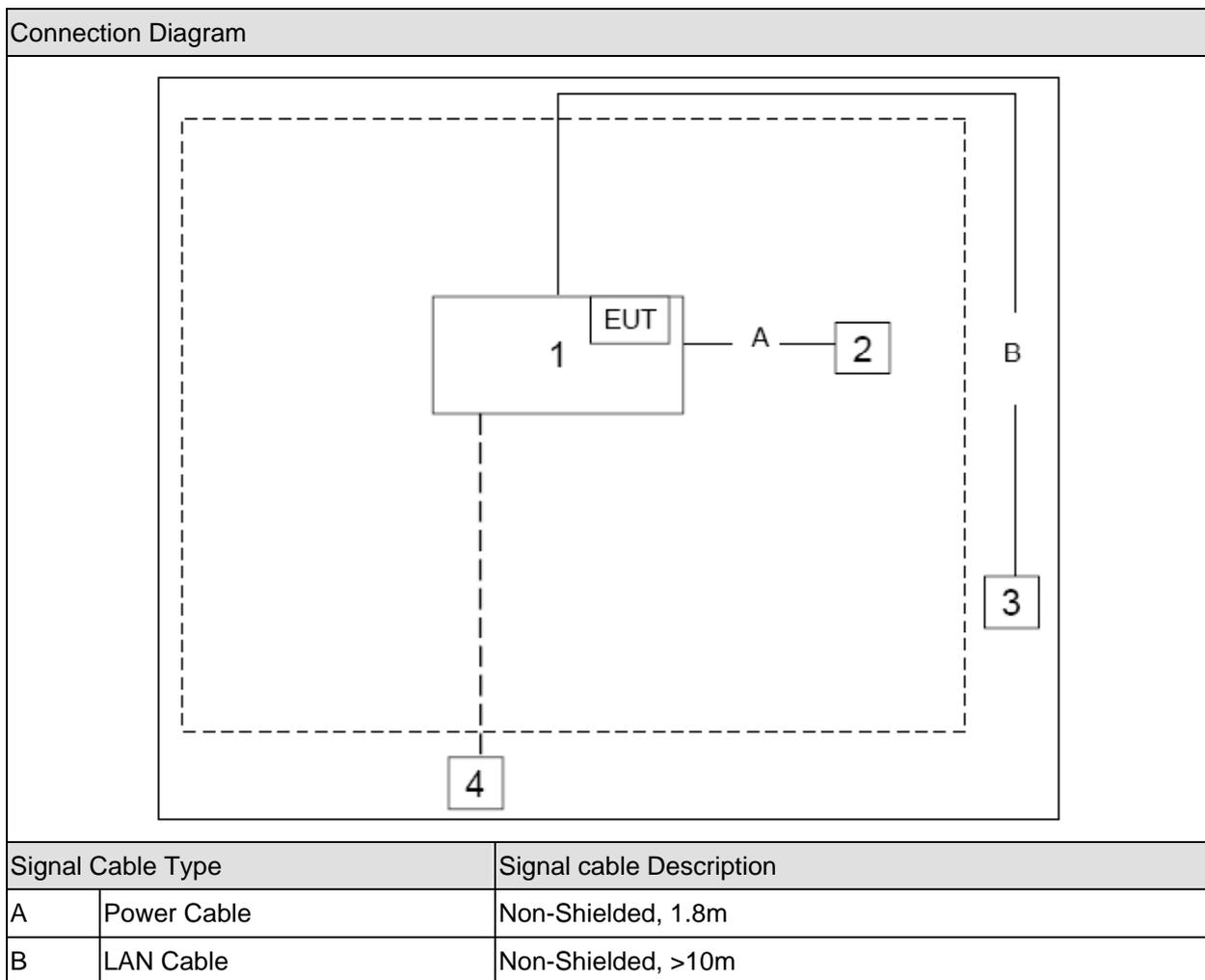
Test Mode
Mode 1: Transmit by 802.11a (Chain 1X 010, Chain 1X 100)
Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010, Chain 1X 100 and Chain 2X 110)
Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 010, Chain 1X 100 and Chain 2X 110)
Mode 4: Receive by 802.11n(20MHz) (Chain 1X 010, Chain 1X 100 and Chain 2X 110)
Mode 5: Receive by 802.11n(40MHz) (Chain 1X 010, Chain 1X 100 and Chain 2X 110)

### 1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Router Frame	Compex	B-543W	N/A	N/A
2 Adapter	DVE	BSW0134	N/A	N/A
3 Notebook	DELL	PP19L	JH097 A01	Power by adapter
4 MacBook	Apple	MB061CH	W8732B4TZ5V	Power by adapter

### 1.4. Configuration of Tested System



**1.5. EUT Exercise Software**

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Execute test software "bricks", provided by applicant, then select test mode and test channel, press OK to communication with another Notebook P.C. by wireless.

## 2. Technical Test

### 2.1. Summary of Test Result

- No deviations from the test standards  
 Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Carrier Frequencies	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
Occupied Channel Bandwidth	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
RF Output Power, Transmit Power Control (TPC) and Power Density	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
Receiver Spurious Emissions	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No
Dynamic Frequency Selection (DFS)	ETSI EN 301 893 V1.4.1 (2007-07)	Yes	No

Note: The requirement of **Medium Access Protocol** and **User Access Restrictions for DFS Controls** shall be implemented by manufacture.

## 2.2. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
RF Power Conducted	$\pm 0.7\text{dB}$
RF Power Radiated	$\pm 5.2\text{dB}$
Spurious Emissions, Conducted	$\pm 2.8\text{dB}$
Spurious Emissions, Radiated	$\pm 5.2\text{dB}$
Humidity	$\pm 1\%$
Temperature	$\pm 0.5^\circ\text{C}$
Time	$\pm 8\%$

**2.3. Test Environment**

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

### 3. Carrier Frequencies

#### 3.1. Test Equipment

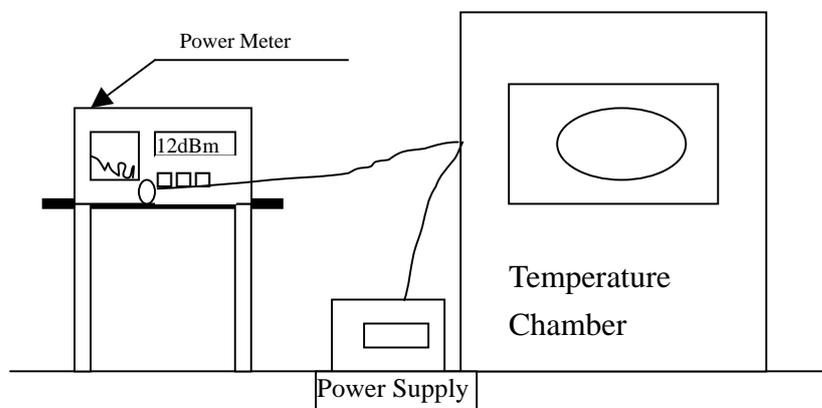
Carrier Frequencies / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Preamplifier	QuieTek	AP-180C	CHM-0602013	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
AC Power Supply	IDRC	CF-500TP	979422	2008/10/21
DC Power Supply	IDRC	CD-035-020PR	977272	2008/10/21
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2008/01/19
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

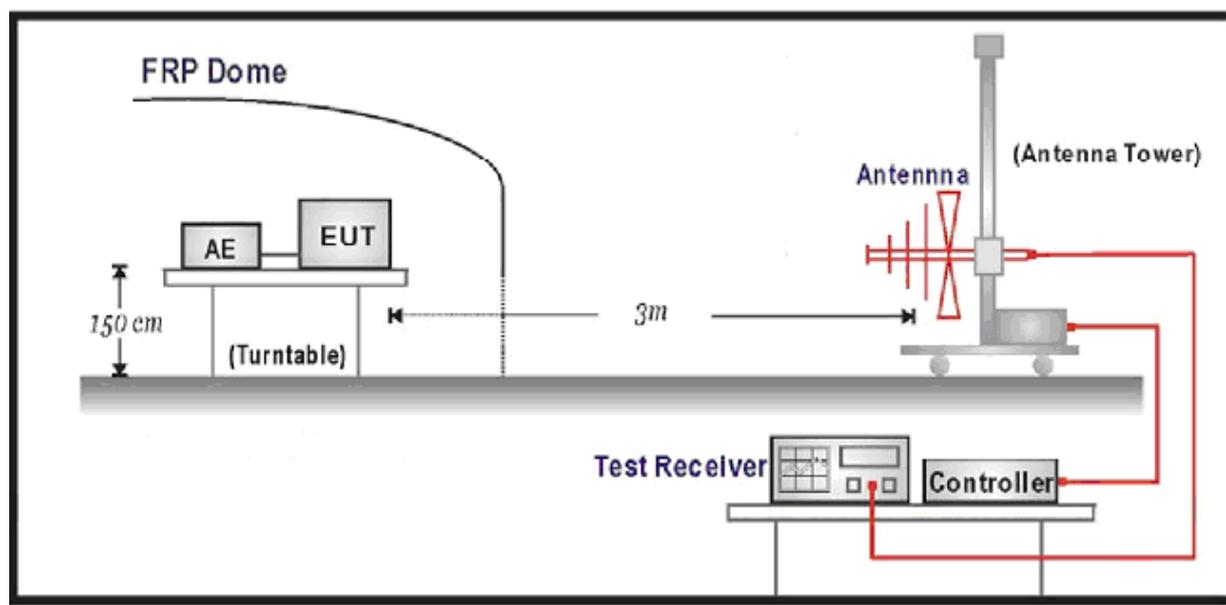
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 3.2. Test Setup

#### For Conducted Measurement



#### For Radiated Measurement



### 3.3. Limit

The actual centre frequency for any given channel declared by the manufacturer shall be maintained within the range  $f_c \pm 20$  ppm.

### 3.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.2

### 3.5. Test Result

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Carrier Frequencies
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)

Test Conditions		Frequency (MHz)	Measured Carrier Frequency (MHz)	$\Delta F$ (ppm)	Limit (ppm)
Tnom (25 °C)	Vnom (AC 230V)	5180.000000	5179.985564	-2.79	$\pm 20$
		5320.000000	5319.986000	-2.63	$\pm 20$
		5500.000000	5499.991333	-1.58	$\pm 20$
		5700.000000	5699.988333	-2.05	$\pm 20$
Tmax (35 °C)	Vmax (AC 253V)	5180.000000	5179.974373	-4.95	$\pm 20$
		5320.000000	5319.972446	-5.18	$\pm 20$
		5500.000000	5499.983562	-2.99	$\pm 20$
		5700.000000	5699.978426	-3.78	$\pm 20$
Tmax (35 °C)	Vmin (AC 207V)	5180.000000	5179.975677	-4.70	$\pm 20$
		5320.000000	5319.971237	-5.41	$\pm 20$
		5500.000000	5499.983021	-3.09	$\pm 20$
		5700.000000	5699.978527	-3.77	$\pm 20$
Tmin (0°C)	Vmax (AC 253V)	5180.000000	5179.970832	-5.63	$\pm 20$
		5320.000000	5319.974863	-4.72	$\pm 20$
		5500.000000	5499.982895	-3.11	$\pm 20$
		5700.000000	5699.976853	-4.06	$\pm 20$
Tmin (0°C)	Vmin (AC 207V)	5180.000000	5179.970524	-5.69	$\pm 20$
		5320.000000	5319.974962	-4.71	$\pm 20$
		5500.000000	5499.982674	-3.15	$\pm 20$
		5700.000000	5699.977563	-3.94	$\pm 20$

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Carrier Frequencies
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

Test Conditions		Frequency (MHz)	Measured Carrier Frequency (MHz)	$\Delta F$ (ppm)	Limit (ppm)
Tnom (25 °C)	Vnom (AC 230V)	5180.000000	5179.991564	-1.63	$\pm 20$
		5320.000000	5319.982000	-3.38	$\pm 20$
		5500.000000	5499.992333	-1.39	$\pm 20$
		5700.000000	5699.991333	-1.52	$\pm 20$
Tmax (35 °C)	Vmax (AC 253V)	5180.000000	5179.981373	-3.60	$\pm 20$
		5320.000000	5319.972446	-5.18	$\pm 20$
		5500.000000	5499.983562	-2.99	$\pm 20$
		5700.000000	5699.983426	-2.91	$\pm 20$
Tmax (35 °C)	Vmin (AC 207V)	5180.000000	5179.980677	-3.73	$\pm 20$
		5320.000000	5319.971237	-5.41	$\pm 20$
		5500.000000	5499.983021	-3.09	$\pm 20$
		5700.000000	5699.983527	-2.89	$\pm 20$
Tmin (0°C)	Vmax (AC 253V)	5180.000000	5179.980832	-3.70	$\pm 20$
		5320.000000	5319.968863	-5.85	$\pm 20$
		5500.000000	5499.982895	-3.11	$\pm 20$
		5700.000000	5699.982853	-3.01	$\pm 20$
Tmin (0°C)	Vmin (AC 207V)	5180.000000	5179.980524	-3.76	$\pm 20$
		5320.000000	5319.969962	-5.65	$\pm 20$
		5500.000000	5499.970674	-5.33	$\pm 20$
		5700.000000	5699.982563	-3.06	$\pm 20$

## 4. Occupied Channel Bandwidth

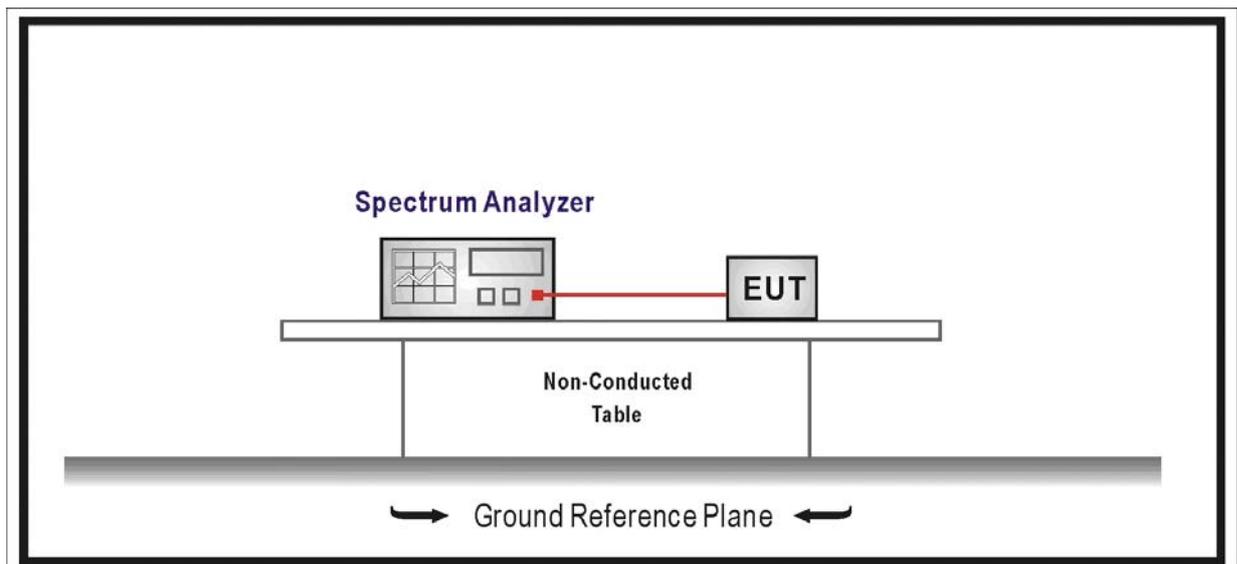
### 4.1. Test Equipment

Occupied Channel Bandwidth / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 4.2. Test Setup



### 4.3. Limit

The nominal bandwidth shall be in the range from 10 MHz to 40 MHz.

The occupied channel bandwidth shall be between 80% and 100% of the declared nominal channel bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet this requirement.

Note: The limit for occupied bandwidth is not applicable for devices with a nominal bandwidth of 40 MHz when temporarily operating in a mode in which they transmit only in the upper or lower 20 MHz part of a 40 MHz channel. (e.g. to transmit a packet in the upper or lower 20 MHz part of a 40 MHz channel).

## 4.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.3

**4.5. Test Result**

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5180	16.88	10 - 40	20	84.40	80 - 100
5320	16.67	10 - 40	20	83.35	80 - 100
5500	16.55	10 - 40	20	82.75	80 - 100
5700	16.60	10 - 40	20	83.00	80 - 100

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Occupied Channel Bandwidth
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

Frequency (MHz)	Occupied Channel Bandwidth (MHz)	Limit (MHz)	Declared Nominal Channel Bandwidth (MHz)	Occupied Channel Bandwidth (%)	Limit (%)
5180	16.41	10 - 40	20	82.05	80 - 100
5320	16.46	10 - 40	20	82.30	80 - 100
5500	16.41	10 - 40	20	82.05	80 - 100
5700	16.52	10 - 40	20	82.60	80 - 100

## 5. RF Output Power, Transmit Power Control (TPC) and Power Density

### 5.1. Test Equipment

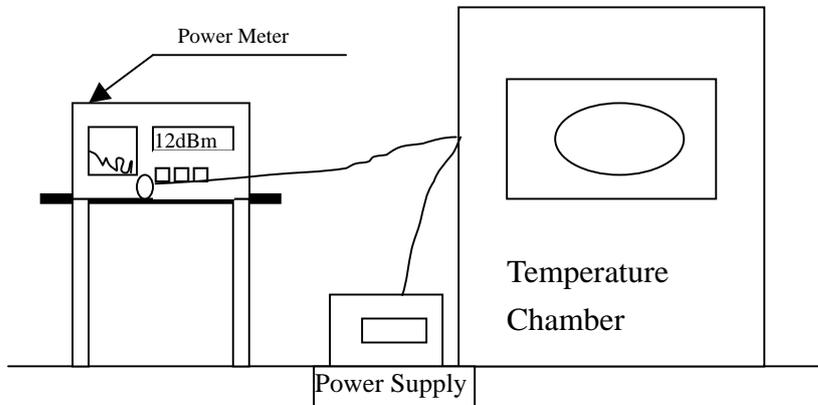
RF Output Power, Transmit Power Control (TPC) and Power Density / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
PSG Analog S.G.	Agilent	E8257D	MY44321116	2008/06/11
Power Meter	Agilent	E4416A	GB41293844	2008/10/21
Power Sensor	Agilent	E9323A	MY44420302	2008/10/21
Preamplifier	Quietek	AP-180C	CHM-0602013	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2008/11/24
AC Power Supply	IDRC	CF-500TP	979422	2008/10/21
DC Power Supply	IDRC	CD-035-020PR	977272	2008/10/21
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2008/01/19
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-T	08	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

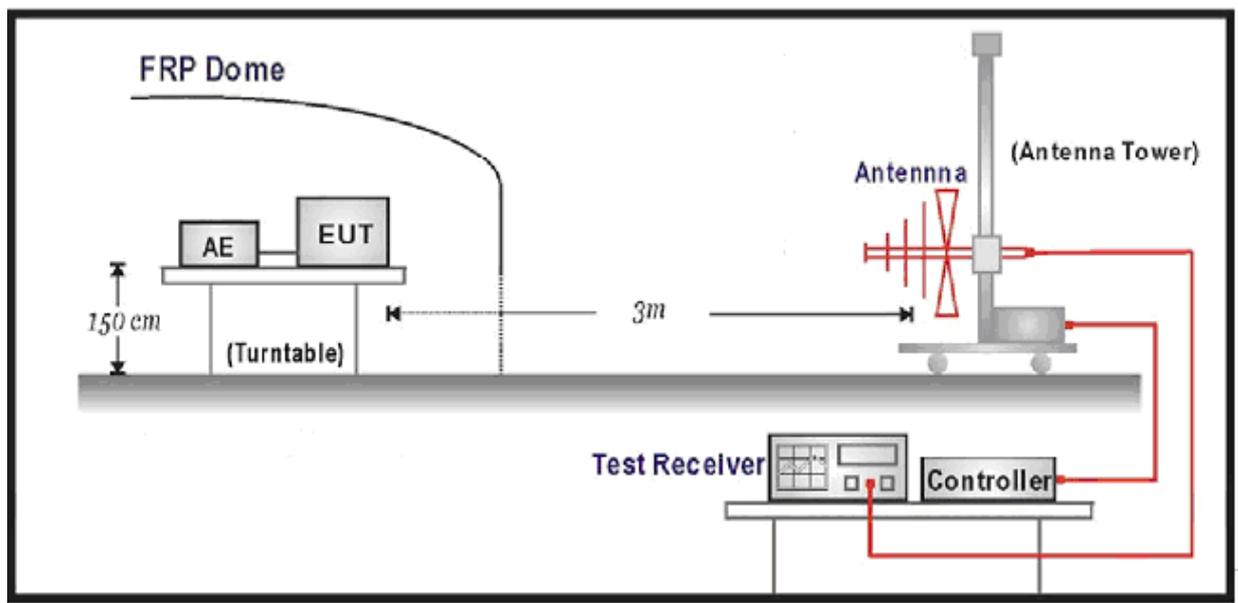
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup

For Conducted Measurement



For Radiated Measurement



5.3. Limit

**RF Output Power and Power density at the Highest Power Level**

For devices with TPC, the RF output power and the power density when configured to operate at the highest stated power level of the TPC range shall not exceed the levels given in following table.

For devices without TPC, the limits in table shall be reduced by 3 dB, except when operating on channels whose nominal bandwidth falls completely within the band 5150 MHz to 5250 MHz.

<b>Mean EIRP limits for RF Output Power and Power Density at the Highest Power Level</b>		
Frequency Range	Mean EIRP Limit	Mean EIRP Density Limit
5150 MHz to 5350 MHz	23 dBm	10 dBm/MHz
5470 MHz to 5725 MHz	30 dBm (see note)	17 dBm/MHz (see note)
Note: For Slave devices without a Radar Interference Detection function the mean EIRP shall be less than 23 dBm and the mean EIRP density shall be less than 10 dBm/MHz.		

**RF Output Power at the Lowest Power Level of the TPC Range**

For devices using TPC, the RF output power during a transmission burst when configured to operate at the lowest stated power level of the TPC range shall not exceed the levels given in following table.

<b>Mean EIRP Limits for RF Output Power at the Lowest Power Level of the TPC Range</b>	
Frequency Range	Mean EIRP
5250 MHz to 5350 MHz	17 dBm
5470 MHz to 5725 MHz	24 dBm (see note)
Note: For Slave devices without a Radar Interference Detection function the mean EIRP shall be less than 17 dBm.	

**5.4. Test Procedure**

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.4

**5.5. Test Result**

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5180	16.33	1	19.37	23
		5320	16.49	1	19.53	23
		5500	20.53	1	23.57	30
		5700	19.14	1	22.18	30
Tmax (35 °C)	Vmax (AC 253V)	5180	15.27	1	18.31	23
		5320	15.31	1	18.35	23
		5500	19.41	1	22.45	30
		5700	18.08	1	21.12	30
Tmax (35 °C)	Vmin (AC 207V)	5180	15.26	1	18.30	23
		5320	15.30	1	18.34	23
		5500	19.43	1	18.21	30
		5700	18.10	1	21.14	30
Tmin (0°C)	Vmax (AC 253V)	5180	17.59	1	20.63	23
		5320	17.61	1	20.65	23
		5500	21.62	1	24.66	30
		5700	20.26	1	23.30	30
Tmin (0°C)	Vmin (AC 207V)	5180	17.58	1	20.62	23
		5320	17.63	1	20.67	23
		5500	21.64	1	24.68	30
		5700	20.25	1	23.29	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5180	16.32	1	19.36	23
		5320	16.45	1	19.49	23
		5500	20.55	1	23.59	30
		5700	18.95	1	21.99	30
Tmax (35 °C)	Vmax (AC 253V)	5180	15.30	1	18.34	23
		5320	15.41	1	18.45	23
		5500	19.45	1	22.49	30
		5700	17.88	1	20.92	30
Tmax (35 °C)	Vmin (AC 207V)	5180	15.31	1	18.35	23
		5320	15.42	1	18.46	23
		5500	19.44	1	22.48	30
		5700	17.89	1	20.93	30
Tmin (0°C)	Vmax (AC 253V)	5180	17.58	1	20.62	23
		5320	17.63	1	20.67	23
		5500	21.47	1	24.51	30
		5700	20.03	1	23.07	30
Tmin (0°C)	Vmin (AC 207V)	5180	17.59	1	20.63	23
		5320	17.61	1	20.65	23
		5500	21.45	1	24.49	30
		5700	20.01	1	23.05	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5190	16.45	1	19.53	23
		5310	16.43	1	19.51	23
		5510	20.74	1	23.82	30
		5670	21.33	1	24.41	30
Tmax (35 °C)	Vmax (AC 253V)	5190	15.24	1	18.32	23
		5310	15.20	1	18.28	23
		5510	19.45	1	22.53	30
		5670	20.23	1	23.31	30
Tmax (35 °C)	Vmin (AC 207V)	5190	15.23	1	18.31	23
		5310	15.19	1	18.27	23
		5510	19.46	1	22.54	30
		5670	20.21	1	23.29	30
Tmin (0°C)	Vmax (AC 253V)	5190	17.65	1	20.73	23
		5310	17.59	1	20.67	23
		5510	21.97	1	25.05	30
		5670	22.51	1	25.59	30
Tmin (0°C)	Vmin (AC 207V)	5190	17.64	1	20.72	23
		5310	17.58	1	20.66	23
		5510	21.95	1	25.03	30
		5670	22.53	1	25.61	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5180	16.65	1	19.69	23
		5320	16.60	1	19.64	23
		5500	20.40	1	23.44	30
		5700	18.62	1	21.66	30
Tmax (35 °C)	Vmax (AC 253V)	5180	15.46	1	18.50	23
		5320	15.51	1	18.55	23
		5500	19.36	1	22.40	30
		5700	17.42	1	20.46	30
Tmax (35 °C)	Vmin (AC 207V)	5180	15.45	1	18.49	23
		5320	15.49	1	18.53	23
		5500	19.34	1	22.38	30
		5700	17.40	1	20.44	30
Tmin (0°C)	Vmax (AC 253V)	5180	17.84	1	20.88	23
		5320	17.91	1	20.95	23
		5500	20.61	1	23.65	30
		5700	19.74	1	22.78	30
Tmin (0°C)	Vmin (AC 207V)	5180	17.86	1	20.9	23
		5320	17.90	1	20.94	23
		5500	20.63	1	23.67	30
		5700	19.72	1	18.50	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11a (20MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5180	16.75	1	19.79	23
		5320	16.66	1	19.70	23
		5500	20.46	1	23.50	30
		5700	18.72	1	21.76	30
Tmax (35 °C)	Vmax (AC 253V)	5180	15.43	1	18.47	23
		5320	15.34	1	18.38	23
		5500	19.26	1	22.30	30
		5700	17.52	1	20.56	30
Tmax (35 °C)	Vmin (AC 207V)	5180	15.41	1	18.45	23
		5320	15.32	1	18.36	23
		5500	19.25	1	22.29	30
		5700	17.53	1	20.57	30
Tmin (0°C)	Vmax (AC 253V)	5180	17.91	1	20.95	23
		5320	17.86	1	20.90	23
		5500	21.51	1	24.55	30
		5700	19.88	1	22.92	30
Tmin (0°C)	Vmin (AC 207V)	5180	17.92	1	20.96	23
		5320	17.85	1	20.89	23
		5500	21.50	1	24.54	30
		5700	19.89	1	22.93	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5190	16.54	1	19.62	23
		5310	16.36	1	19.44	23
		5510	22.05	1	25.13	30
		5670	21.41	1	24.49	30
Tmax (35 °C)	Vmax (AC 253V)	5190	15.41	1	18.49	23
		5310	15.23	1	18.31	23
		5510	20.89	1	23.97	30
		5670	20.23	1	23.31	30
Tmax (35 °C)	Vmin (AC 207V)	5190	15.40	1	18.48	23
		5310	15.22	1	18.30	23
		5510	20.88	1	23.96	30
		5670	20.22	1	23.30	30
Tmin (0°C)	Vmax (AC 253V)	5190	17.63	1	20.71	23
		5310	17.51	1	20.59	23
		5510	23.25	1	26.33	30
		5670	22.59	1	25.67	30
Tmin (0°C)	Vmin (AC 207V)	5190	17.62	1	20.70	23
		5310	17.52	1	20.60	23
		5510	23.26	1	26.34	30
		5670	22.58	1	25.66	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5180	16.61	1	19.65	23
		5320	16.76	1	19.80	23
		5500	23.31	1	26.35	30
		5700	23.12	1	26.16	30
Tmax (35 °C)	Vmax (AC 253V)	5180	15.43	1	18.47	23
		5320	15.54	1	18.58	23
		5500	22.12	1	25.16	30
		5700	22.01	1	25.05	30
Tmax (35 °C)	Vmin (AC 207V)	5180	15.44	1	18.48	23
		5320	15.55	1	18.59	23
		5500	22.13	1	25.17	30
		5700	22.02	1	25.06	30
Tmin (0°C)	Vmax (AC 253V)	5180	17.74	1	20.78	23
		5320	17.88	1	20.92	23
		5500	24.56	1	27.60	30
		5700	24.31	1	27.35	30
Tmin (0°C)	Vmin (AC 207V)	5180	17.75	1	20.79	23
		5320	17.87	1	20.91	23
		5500	24.55	1	27.59	30
		5700	24.30	1	27.34	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	RF Output Power
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5190	16.58	1	19.66	23
		5310	16.78	1	19.86	23
		5510	23.23	1	26.31	30
		5670	23.58	1	26.66	30
Tmax (35 °C)	Vmax (AC 253V)	5190	15.41	1	18.49	23
		5310	15.56	1	18.64	23
		5510	22.01	1	25.09	30
		5670	22.38	1	25.46	30
Tmax (35 °C)	Vmin (AC 207V)	5190	15.40	1	18.48	23
		5310	15.55	1	18.63	23
		5510	22.00	1	25.08	30
		5670	23.37	1	26.45	30
Tmin (0°C)	Vmax (AC 253V)	5190	17.67	1	20.75	23
		5310	17.92	1	21.00	23
		5510	24.46	1	27.54	30
		5670	24.61	1	27.69	30
Tmin (0°C)	Vmin (AC 207V)	5190	17.66	1	20.74	23
		5310	17.91	1	20.99	23
		5510	24.45	1	27.53	30
		5670	24.62	1	27.70	30

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.48	1	15.52	17
		5500	14.34	1	17.38	24
		5700	14.69	1	17.73	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.34	1	14.38	17
		5500	13.12	1	16.16	24
		5700	13.47	1	16.51	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.24	1	14.28	17
		5500	13.16	1	16.20	24
		5700	13.31	1	16.35	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.56	1	16.60	17
		5500	15.54	1	18.58	24
		5700	15.71	1	18.75	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.55	1	16.59	17
		5500	15.51	1	18.55	24
		5700	15.64	1	18.68	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.41	1	15.45	17
		5500	14.31	1	17.35	24
		5700	14.70	1	17.74	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.31	1	14.35	17
		5500	13.12	1	16.16	24
		5700	13.32	1	16.36	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.24	1	14.28	17
		5500	13.22	1	16.26	24
		5700	13.42	1	16.46	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.64	1	16.68	17
		5500	15.44	1	18.48	24
		5700	15.65	1	18.69	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.53	1	16.57	17
		5500	15.52	1	18.56	24
		5700	15.64	1	18.68	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11a (40MHz) (Chain 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.32	1	15.36	17
		5500	14.54	1	17.58	24
		5700	14.78	1	17.82	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.30	1	14.34	17
		5500	13.32	1	16.36	24
		5700	13.57	1	16.61	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.29	1	14.33	17
		5500	13.30	1	16.34	24
		5700	13.50	1	16.54	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.56	1	16.60	17
		5500	15.58	1	18.62	24
		5700	15.70	1	18.74	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.55	1	16.59	17
		5500	15.57	1	18.61	24
		5700	15.68	1	18.72	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.26	1	15.30	17
		5500	14.27	1	17.31	24
		5700	14.36	1	17.40	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.15	1	14.19	17
		5500	13.14	1	16.18	24
		5700	13.19	1	16.23	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.16	1	14.20	17
		5500	13.12	1	16.16	24
		5700	13.18	1	16.22	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.34	1	16.38	17
		5500	15.31	1	18.35	24
		5700	15.54	1	18.58	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.36	1	16.40	17
		5500	15.32	1	18.36	24
		5700	15.55	1	18.59	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.28	1	15.32	17
		5500	14.21	1	17.25	24
		5700	14.34	1	17.38	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.12	1	14.16	17
		5500	13.16	1	16.20	24
		5700	13.14	1	16.18	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.11	1	14.15	17
		5500	13.17	1	16.21	24
		5700	13.14	1	16.18	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.35	1	16.39	17
		5500	15.37	1	18.41	24
		5700	15.59	1	18.63	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.32	1	16.36	17
		5500	15.34	1	18.38	24
		5700	15.54	1	18.58	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.32	1	15.40	17
		5500	14.41	1	17.49	24
		5700	14.52	1	17.60	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.14	1	14.22	17
		5500	13.26	1	16.34	24
		5700	13.15	1	16.23	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.13	1	14.21	17
		5500	13.27	1	16.35	24
		5700	13.14	1	16.22	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.46	1	16.54	17
		5500	15.37	1	18.45	24
		5700	15.59	1	18.67	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.45	1	16.53	17
		5500	15.36	1	18.44	24
		5700	15.58	1	18.66	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.46	1	15.5	17
		5500	14.11	1	17.15	24
		5700	14.22	1	17.26	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.75	1	14.79	17
		5500	13.01	1	16.05	24
		5700	13.12	1	16.16	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.74	1	14.78	17
		5500	13.03	1	16.07	24
		5700	13.11	1	16.15	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.67	1	16.71	17
		5500	15.23	1	18.27	24
		5700	15.45	1	18.49	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.68	1	16.72	17
		5500	15.25	1	18.29	24
		5700	15.61	1	18.65	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmit Power Control (TPC)
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Power (dBm)	Test Cable Loss (dB)	EIRP of TPC (dBm)	Limit (dBm)
Tnom (25 °C)	Vnom (AC 230V)	5320	12.55	1	15.63	17
		5500	14.16	1	17.24	24
		5700	14.28	1	17.36	24
Tmax (35 °C)	Vmax (AC 253V)	5320	11.35	1	14.43	17
		5500	13.09	1	16.17	24
		5700	13.22	1	16.30	24
Tmax (35 °C)	Vmin (AC 207V)	5320	11.32	1	14.40	17
		5500	13.05	1	16.13	24
		5700	13.20	1	16.28	24
Tmin (0°C)	Vmax (AC 253V)	5320	13.67	1	16.75	17
		5500	15.36	1	18.44	24
		5700	15.45	1	18.53	24
Tmin (0°C)	Vmin (AC 207V)	5320	13.68	1	16.76	17
		5500	15.35	1	18.43	24
		5700	15.49	1	18.57	24

EIRP = Measured Power + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	4.486	1	7.526	10
		5320	4.602	1	7.642	10
		5500	8.598	1	11.638	17
		5700	7.354	1	10.394	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	4.207	1	7.247	10
		5320	4.500	1	7.540	10
		5500	8.316	1	11.356	17
		5700	7.369	1	10.409	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 010)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	1.419	1	4.189	10
		5320	1.355	1	4.395	10
		5500	7.789	1	10.829	17
		5700	6.229	1	9.269	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	4.512	1	7.552	10
		5320	5.147	1	8.187	10
		5500	8.596	1	11.636	17
		5700	6.991	1	10.031	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	4.864	1	7.904	10
		5320	4.786	1	7.826	10
		5500	8.533	1	11.573	17
		5700	6.642	1	9.682	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 100)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	1.425	1	4.505	10
		5320	1.501	1	4.581	10
		5500	8.265	1	11.345	17
		5700	6.493	1	9.573	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	4.612	1	7.652	10
		5320	5.494	1	8.534	10
		5500	11.321	1	14.361	17
		5700	10.354	1	13.394	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Power Density
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (2X)

Antenna Gain = 2dBi, Duty Cycle = 99 %						
Test Conditions		Frequency (MHz)	Measured Density (dBm/MHz)	Test Cable Loss (dB)	Power Density (dBm/MHz)	Limit (dBm/MHz)
Tnom (25 °C)	Vnom (AC 230V)	5180	2.658	1	5.738	10
		5320	2.104	1	5.184	10
		5500	8.451	1	11.531	17
		5700	8.441	1	11.521	17

Power Density = Measured Density + Antenna Gain + Test Cable Loss + 10 log (1/Duty Cycle)

## 6. Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands

### 6.1. Test Equipment

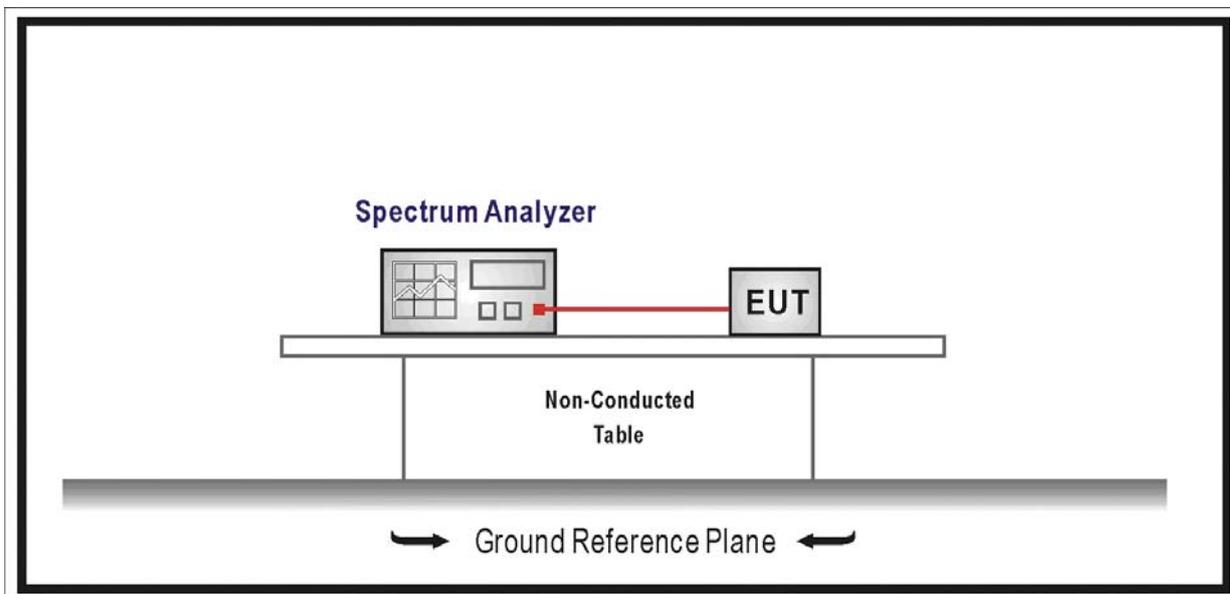
Transmitter Unwanted Emissions Outside the 5GHz RLAN Bands / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
PSG Analog S.G.	Agilent	E8257D	MY44321116	2008/06/11
Preamplifier	Quietek	AP-025C	QT-AP005	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602013	2008/11/24
Bilog Type Antenna	Schaffner	CBL6141A	4278	2008/11/24
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	499	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	295	2008/11/24
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2008/03/03
Low-Pass Filter	Wainwright	WLKS4500-9SS	SN2	2008/03/03
Coaxial Cable	Huber+Suhner	AC4-RL	06	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-T	08	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

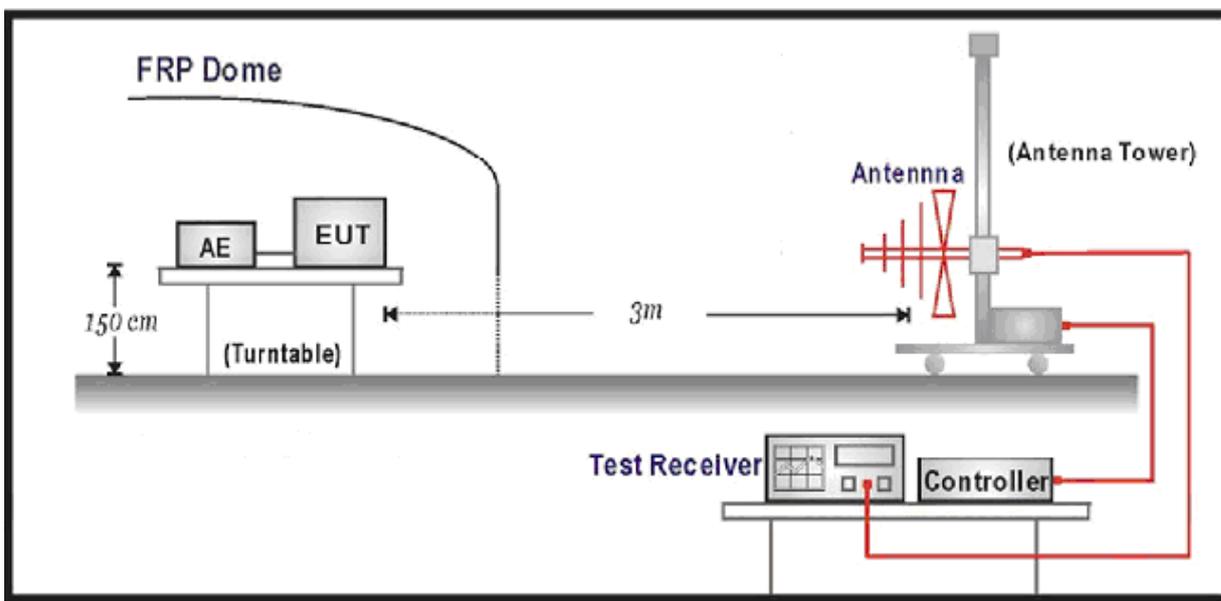
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup

For Conducted Measurement



For Radiated Measurement



**6.3. Limit**

Frequency Range	Maximum Power, ERP	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 5.15 GHz	-30 dBm	1 MHz
5.35 GHz to 5.47 GHz	-30 dBm	1 MHz
5.725 GHz to 26.5 GHz	-30 dBm	1 MHz

**6.4. Test Procedure**

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.5

6.5. Test Result

Mode 1: Transmit by 802.11a (Chain 1X 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 36 (5180MHz)					
107.60	H	-57.07	-54	-3.07	PEAK
107.60	V	-56.46	-54	-2.46	PEAK
426.08	H	-57.77	-36	-21.77	PEAK
426.08	V	-52.93	-36	-16.93	PEAK
597.45	H	-68.40	-54	-14.40	PEAK
597.45	V	-63.07	-54	-9.07	PEAK
8637.50	H	-58.01	-30	-28.01	PEAK
8637.50	V	-50.15	-30	-20.15	PEAK
10360.83	H	-40.09	-30	-10.09	PEAK
10360.83	V	-36.24	-30	-6.24	PEAK
11888.33	H	-54.05	-30	-24.05	PEAK
11888.33	V	-48.57	-30	-18.57	PEAK
Channel 64 (5320MHz)					
151.25	H	-42.35	-36	-6.35	PEAK
151.25	V	-39.23	-36	-3.23	PEAK
214.30	H	-62.09	-54	-8.09	PEAK
214.30	V	-57.55	-54	-3.55	PEAK
390.51	H	-63.42	-36	-27.42	PEAK
390.51	V	-57.33	-36	-21.33	PEAK
7070.83	H	-60.14	-30	-30.14	PEAK
7070.83	V	-55.07	-30	-25.07	PEAK
9655.83	H	-56.85	-30	-26.85	PEAK
9655.83	V	-51.56	-30	-21.56	PEAK
10635.00	H	-53.39	-30	-23.39	PEAK
10635.00	V	-48.76	-30	-18.76	PEAK
Channel 100 (5500MHz)					
110.83	H	-57.73	-54	-3.73	PEAK
110.83	V	-55.43	-54	-1.43	PEAK
211.06	H	-58.34	-54	-4.34	PEAK
211.06	V	-56.05	-54	-2.05	PEAK
521.46	H	-66.64	-54	-12.64	PEAK
521.46	V	-57.15	-54	-3.15	PEAK
9362.08	H	-57.42	-30	-27.42	PEAK

9362.08	V	-52.35	-30	-22.35	PEAK
10987.50	H	-45.13	-30	-15.13	PEAK
10987.50	V	-38.55	-30	-8.55	PEAK
11437.91	H	-53.87	-30	-23.87	PEAK
11437.91	V	-38.74	-30	-8.74	PEAK
Channel 140 (5700MHz)					
156.10	H	-42.11	-36	-6.11	PEAK
156.10	V	-39.15	-36	-3.15	PEAK
272.50	H	-56.68	-36	-20.68	PEAK
272.50	V	-52.74	-36	-16.74	PEAK
361.41	H	-64.90	-36	-28.90	PEAK
361.41	V	-57.20	-36	-21.20	PEAK
7364.58	H	-59.48	-30	-29.48	PEAK
7364.58	V	-55.01	-30	-25.01	PEAK
8755.00	H	-58.27	-30	-28.27	PEAK
8755.00	V	-52.62	-30	-22.62	PEAK
11398.75	H	-48.00	-30	-18.00	PEAK
11398.75	V	-42.70	-30	-12.70	PEAK

Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
<b>Channel 36 (5180MHz)</b>					
170.65	H	-45.87	-36	-9.87	PEAK
170.65	V	-40.63	-36	-4.63	PEAK
240.16	H	-52.91	-36	-16.91	PEAK
240.16	V	-48.36	-36	-12.36	PEAK
458.41	H	-58.30	-36	-22.30	PEAK
458.41	V	-54.89	-36	-18.89	PEAK
5053.75	H	-64.47	-30	-34.47	PEAK
5053.75	V	-60.40	-30	-30.40	PEAK
8050.00	H	-58.11	-30	-28.11	PEAK
8050.00	V	-53.85	-30	-23.85	PEAK
10360.83	H	-36.37	-30	-6.37	PEAK
10360.83	V	-32.65	-30	-2.65	PEAK
<b>Channel 64 (5320MHz)</b>					
188.43	H	-60.13	-54	-6.13	PEAK
188.43	V	-57.83	-54	-3.83	PEAK
248.25	H	-59.48	-54	-5.48	PEAK
248.25	V	-58.39	-54	-4.39	PEAK
597.45	H	-68.40	-54	-14.40	PEAK
597.45	V	-64.34	-54	-10.34	PEAK
7207.91	H	-59.70	-30	-29.70	PEAK
7207.91	V	-55.47	-30	-25.47	PEAK
9655.83	H	-56.71	-30	-26.71	PEAK
9655.83	V	-52.26	-30	-22.26	PEAK
10635.00	H	-46.52	-30	-16.52	PEAK
10635.00	V	-41.34	-30	-11.34	PEAK
<b>Channel 100 (5500MHz)</b>					
104.36	H	-62.41	-54	-8.41	PEAK
104.36	V	-58.75	-54	-4.75	PEAK
143.16	H	-44.30	-36	-8.30	PEAK
143.16	V	-40.95	-36	-4.95	PEAK
350.10	H	-58.84	-36	-22.84	PEAK
350.10	V	-52.95	-36	-16.95	PEAK
5993.75	H	-62.83	-30	-32.83	PEAK

5993.75	V	-57.85	-30	-27.85	PEAK
7423.33	H	-59.66	-30	-29.66	PEAK
7423.33	V	-54.10	-30	-24.10	PEAK
11007.08	H	-47.06	-30	-17.06	PEAK
11007.08	V	-40.60	-30	-10.60	PEAK
Channel 140 (5700MHz)					
122.15	H	-53.07	-36	-17.07	PEAK
122.15	V	-48.67	-36	-12.67	PEAK
274.11	H	-50.72	-36	-14.72	PEAK
274.11	V	-45.23	-36	-9.23	PEAK
390.51	H	-63.42	-36	-27.42	PEAK
390.51	V	-58.14	-36	-22.14	PEAK
7070.83	H	-59.87	-30	-29.87	PEAK
7070.83	V	-55.08	-30	-25.08	PEAK
8735.41	H	-57.87	-30	-27.87	PEAK
8735.41	V	-51.48	-30	-21.48	PEAK
11398.75	H	-47.76	-30	-17.76	PEAK
11398.75	V	-41.38	-30	-11.38	PEAK

Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
102.75	H	-63.44	-54	-9.44	PEAK
102.75	V	-59.92	-54	-5.92	PEAK
340.40	H	-52.67	-36	-16.67	PEAK
340.40	V	-48.07	-36	-14.07	PEAK
662.12	H	-63.19	-54	-9.19	PEAK
662.12	V	-57.86	-54	-3.86	PEAK
5778.33	H	-63.38	-30	-33.38	PEAK
5778.33	V	-56.83	-30	-26.83	PEAK
9322.91	H	-56.36	-30	-26.36	PEAK
9322.91	V	-52.38	-30	-22.38	PEAK
10380.41	H	-41.92	-30	-11.92	PEAK
10380.41	V	-38.27	-30	-8.27	PEAK
Channel 62 (5310MHz)					
107.60	H	-62.26	-54	-8.26	PEAK
107.60	V	-58.75	-54	-4.75	PEAK
590.98	H	-64.32	-54	-10.32	PEAK
590.98	V	-59.90	-54	-5.90	PEAK
856.12	H	-64.86	-54	-10.86	PEAK
856.12	V	-58.17	-54	-4.17	PEAK
4622.91	H	-48.62	-30	-18.62	PEAK
4622.91	V	-43.15	-30	-13.15	PEAK
6463.75	H	-51.28	-30	-21.28	PEAK
6463.75	V	-47.20	-30	-17.2	PEAK
10615.41	H	-46.72	-30	-16.72	PEAK
10615.41	V	-36.45	-30	-6.45	PEAK
Channel 102 (5510MHz)					
136.70	H	-54.06	-36	-18.06	PEAK
136.70	V	-50.54	-36	-14.54	PEAK
288.67	H	-51.39	-36	-15.39	PEAK
288.67	V	-47.11	-36	-11.11	PEAK
531.17	H	-60.87	-54	-6.87	PEAK
531.17	V	-57.16	-54	-3.16	PEAK
3545.83	H	-66.88	-30	-36.88	PEAK

3545.83	V	-60.34	-30	-30.34	PEAK
7952.08	H	-58.05	-30	-28.05	PEAK
7952.08	V	-52.47	-30	-22.47	PEAK
11026.66	H	-40.52	-30	-10.52	PEAK
11026.66	V	-35.31	-30	-5.31	PEAK
Channel 134 (5670MHz)					
148.02	H	-51.61	-36	-15.61	PEAK
148.02	V	-47.41	-36	-11.41	PEAK
458.41	H	-58.31	-36	-22.31	PEAK
458.41	V	-53.14	-36	-17.14	PEAK
694.45	H	-67.15	-54	-13.15	PEAK
694.45	V	-60.87	-54	-6.87	PEAK
7971.66	H	-57.71	-30	-27.71	PEAK
7971.66	V	-49.35	-30	-19.35	PEAK
10458.75	H	-54.15	-30	-24.15	PEAK
10458.75	V	-50.38	-30	-20.38	PEAK
11340.00	H	-45.93	-30	-15.93	PEAK
11340.00	V	-38.70	-30	-8.70	PEAK

Mode 1: Transmit by 802.11a (Chain 1X 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
<b>Channel 36 (5180MHz)</b>					
136.70	H	-54.06	-36	-18.06	PEAK
136.70	V	-51.24	-36	-15.24	PEAK
295.13	H	-55.04	-36	-19.04	PEAK
295.13	V	-50.23	-36	-14.23	PEAK
398.60	H	-56.11	-36	-20.11	PEAK
398.60	V	-50.25	-36	-14.25	PEAK
3115.00	H	-68.39	-30	-38.39	PEAK
3115.00	V	-60.43	-30	-30.43	PEAK
10360.83	H	-41.09	-30	-11.09	PEAK
10360.83	V	-36.24	-30	-6.24	PEAK
11888.33	H	-55.05	-30	-25.05	PEAK
11888.33	V	-48.57	-30	-18.57	PEAK
<b>Channel 64 (5320MHz)</b>					
110.83	H	-61.10	-54	-7.1	PEAK
110.83	V	-57.23	-54	-3.23	PEAK
156.10	H	-49.09	-36	-13.09	PEAK
156.10	V	-45.56	-36	-9.56	PEAK
254.71	H	-51.96	-36	-15.96	PEAK
254.71	V	-45.33	-36	-9.33	PEAK
1254.58	H	-72.58	-30	-42.58	PEAK
1254.58	V	-65.07	-30	-35.07	PEAK
9655.83	H	-57.85	-30	-27.85	PEAK
9655.83	V	-51.56	-30	-21.56	PEAK
10635.00	H	-51.39	-30	-21.39	PEAK
10635.00	V	-45.76	-30	-15.76	PEAK
<b>Channel 100 (5500MHz)</b>					
107.60	H	-62.26	-54	-8.26	PEAK
107.60	V	-58.23	-54	-4.23	PEAK
167.42	H	-52.75	-36	-16.75	PEAK
167.42	V	-47.00	-36	-11.00	PEAK
361.42	H	-52.56	-36	-16.56	PEAK
361.42	V	-48.51	-36	-12.51	PEAK
2331.66	H	-69.97	-30	-39.97	PEAK

2331.66	V	-60.79	-30	-30.79	PEAK
10987.50	H	-42.13	-30	-12.13	PEAK
10987.50	V	-35.45	-30	-5.45	PEAK
11437.91	H	-55.87	-30	-25.87	PEAK
11437.91	V	-46.74	-30	-16.74	PEAK
Channel 140 (5700MHz)					
154.48	H	-50.86	-36	-14.86	PEAK
154.48	V	-45.38	-36	-9.38	PEAK
280.58	H	-50.17	-36	-14.17	PEAK
280.58	V	-46.21	-36	-10.21	PEAK
377.58	H	-58.66	-36	-22.66	PEAK
377.58	V	-52.25	-36	-16.25	PEAK
2194.58	H	-69.95	-30	-39.95	PEAK
2194.58	V	-63.38	-30	-33.38	PEAK
8755.00	H	-58.27	-30	-28.27	PEAK
8755.00	V	-52.63	-30	-22.63	PEAK
11398.75	H	-48.00	-30	-18.00	PEAK
11398.75	V	-44.73	-30	-14.73	PEAK

Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
<b>Channel 36 (5180MHz)</b>					
102.75	H	-61.93	-54	-7.93	PEAK
102.75	V	-57.54	-54	-3.54	PEAK
274.11	H	-50.72	-36	-14.72	PEAK
274.11	V	-45.15	-36	-9.15	PEAK
390.51	H	-63.42	-36	-27.42	PEAK
390.51	V	-56.26	-36	-20.26	PEAK
5053.75	H	-64.47	-30	-34.47	PEAK
5053.75	V	-58.40	-30	-28.4	PEAK
5389.20	H	-53.74	-30	-23.74	PEAK
5389.20	V	-45.44	-30	-15.44	PEAK
10360.83	H	-34.37	-30	-4.37	PEAK
10360.83	V	-31.63	-30	-1.63	PEAK
<b>Channel 64 (5320MHz)</b>					
107.60	H	-59.41	-54	-5.41	PEAK
107.60	V	-57.11	-54	-3.11	PEAK
188.43	H	-59.13	-54	-5.13	PEAK
188.43	V	-56.35	-54	-2.35	PEAK
299.98	H	-51.68	-36	-15.68	PEAK
299.98	V	-48.74	-36	-12.74	PEAK
2214.16	H	-69.91	-30	-39.91	PEAK
2214.16	V	-60.47	-30	-30.47	PEAK
9655.83	H	-56.71	-30	-26.71	PEAK
9655.83	V	-51.86	-30	-21.86	PEAK
10635.00	H	-46.52	-30	-16.52	PEAK
10635.00	V	-41.84	-30	-11.84	PEAK
<b>Channel 100 (5500MHz)</b>					
99.51	H	-63.49	-54	-9.49	PEAK
99.51	V	-59.84	-54	-5.84	PEAK
165.80	H	-43.22	-36	-7.22	PEAK
165.80	V	-40.24	-36	-4.24	PEAK
361.41	H	-58.41	-36	-22.41	PEAK
361.41	V	-52.34	-36	-16.34	PEAK
2194.58	H	-69.69	-30	-39.69	PEAK

2194.58	V	-60.01	-30	-30.01	PEAK
7423.33	H	-59.66	-30	-29.66	PEAK
7423.33	V	-52.11	-30	-22.11	PEAK
11007.08	H	-47.06	-30	-17.06	PEAK
11007.08	V	-41.63	-30	-11.63	PEAK
Channel 140 (5700MHz)					
188.43	H	-59.13	-54	-5.13	PEAK
188.43	V	-57.27	-54	-3.27	PEAK
257.95	H	-47.42	-36	-11.42	PEAK
257.95	V	-41.67	-36	-5.67	PEAK
390.51	H	-63.42	-36	-27.42	PEAK
390.51	V	-58.27	-36	-22.27	PEAK
6444.16	H	-61.53	-30	-31.53	PEAK
6444.16	V	-56.07	-30	-26.07	PEAK
8735.41	H	-56.87	-30	-26.87	PEAK
8735.41	V	-50.38	-30	-20.38	PEAK
11398.75	H	-46.76	-30	-16.76	PEAK
11398.75	V	-40.78	-30	-10.78	PEAK

Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
96.28	H	-66.90	-54	-12.9	PEAK
96.28	V	-61.96	-54	-7.96	PEAK
143.16	H	-44.30	-36	-8.30	PEAK
143.16	V	-41.07	-36	-5.07	PEAK
426.08	H	-57.77	-36	-21.77	PEAK
426.08	V	-52.38	-36	-16.38	PEAK
2194.58	H	-70.23	-30	-40.23	PEAK
2194.58	V	-63.34	-30	-33.34	PEAK
9322.91	H	-55.36	-30	-25.36	PEAK
9322.91	V	-51.48	-30	-21.48	PEAK
10380.41	H	-40.92	-30	-10.92	PEAK
10380.41	V	-38.17	-30	-8.17	PEAK
Channel 62 (5310MHz)					
156.10	H	-42.11	-36	-6.11	PEAK
156.10	V	-39.66	-36	-3.66	PEAK
233.70	H	-58.63	-36	-22.63	PEAK
233.70	V	-53.41	-36	-17.41	PEAK
500.45	H	-62.78	-54	-8.78	PEAK
500.45	V	-57.17	-54	-3.17	PEAK
3937.50	H	-65.63	-30	-35.63	PEAK
3937.50	V	-57.26	-30	-27.26	PEAK
6463.75	H	-51.28	-30	-21.28	PEAK
6463.75	V	-47.20	-30	-17.20	PEAK
10615.41	H	-46.70	-30	-16.70	PEAK
10615.41	V	-40.85	-30	-10.85	PEAK
Channel 102 (5510MHz)					
159.33	H	-43.16	-36	-7.16	PEAK
159.33	V	-40.23	-36	-4.23	PEAK
291.90	H	-52.94	-36	-16.94	PEAK
291.90	V	-48.85	-36	-12.85	PEAK
694.45	H	-67.65	-54	-13.65	PEAK
694.45	V	-63.37	-54	-9.37	PEAK
3193.33	H	-67.78	-30	-37.78	PEAK

3193.33	V	-60.19	-30	-30.19	PEAK
7952.08	H	-58.05	-30	-28.05	PEAK
7952.08	V	-50.37	-30	-20.37	PEAK
11026.66	H	-40.52	-30	-10.52	PEAK
11026.66	V	-35.11	-30	-5.11	PEAK
Channel 134 (5670MHz)					
107.60	H	-57.07	-54	-3.07	PEAK
107.60	V	-55.64	-54	-1.64	PEAK
225.61	H	-59.24	-54	-5.24	PEAK
225.61	V	-57.43	-54	-3.43	PEAK
329.08	H	-58.59	-36	-22.59	PEAK
329.08	V	-53.88	-36	-17.88	PEAK
3185.75	H	-54.47	-30	-24.47	PEAK
3185.75	V	-49.22	-30	-19.22	PEAK
5427.60	H	-53.27	-30	-23.27	PEAK
5427.60	V	-48.49	-30	-18.49	PEAK
17079.00	H	-39.57	-30	-9.57	PEAK
17079.00	V	-34.42	-30	-4.42	PEAK

Mode 2: Transmit by 802.11n(20MHz) (Chain 2X 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
<b>Channel 36 (5180MHz)</b>					
128.62	H	-56.62	-36	-20.62	PEAK
128.62	V	-51.57	-36	-15.57	PEAK
390.52	H	-49.44	-36	-13.44	PEAK
390.52	V	-44.07	-36	-8.07	PEAK
565.11	H	-67.83	-54	-13.83	PEAK
565.11	V	-61.95	-54	-7.95	PEAK
4583.75	H	-49.58	-30	-19.58	PEAK
4583.75	V	-43.25	-30	-13.25	PEAK
6914.16	H	-53.06	-30	-23.06	PEAK
6914.16	V	-49.44	-30	-19.44	PEAK
10380.41	H	-37.59	-30	-7.59	PEAK
10380.41	V	-35.57	-30	-5.57	PEAK
<b>Channel 64 (5320MHz)</b>					
165.80	H	-46.20	-36	-10.2	PEAK
165.80	V	-43.85	-36	-7.85	PEAK
500.45	H	-62.78	-54	-8.78	PEAK
500.45	V	-55.58	-54	-1.58	PEAK
720.32	H	-68.15	-54	-14.15	PEAK
720.32	V	-63.24	-54	-9.24	PEAK
7090.41	H	-44.94	-30	-14.94	PEAK
7090.41	V	-40.23	-30	-10.23	PEAK
8794.16	H	-58.30	-30	-28.3	PEAK
8794.16	V	-52.27	-30	-22.27	PEAK
10654.58	H	-44.93	-30	-14.93	PEAK
10654.58	V	-39.29	-30	-9.29	PEAK
<b>Channel 100 (5500MHz)</b>					
114.07	H	-58.91	-54	-4.91	PEAK
114.07	V	-56.36	-54	-2.36	PEAK
329.08	H	-58.59	-36	-26.59	PEAK
329.08	V	-53.37	-36	-17.37	PEAK
521.46	H	-66.64	-54	-12.64	PEAK
521.46	V	-60.73	-54	-6.73	PEAK
7325.41	H	-47.02	-30	-17.02	PEAK

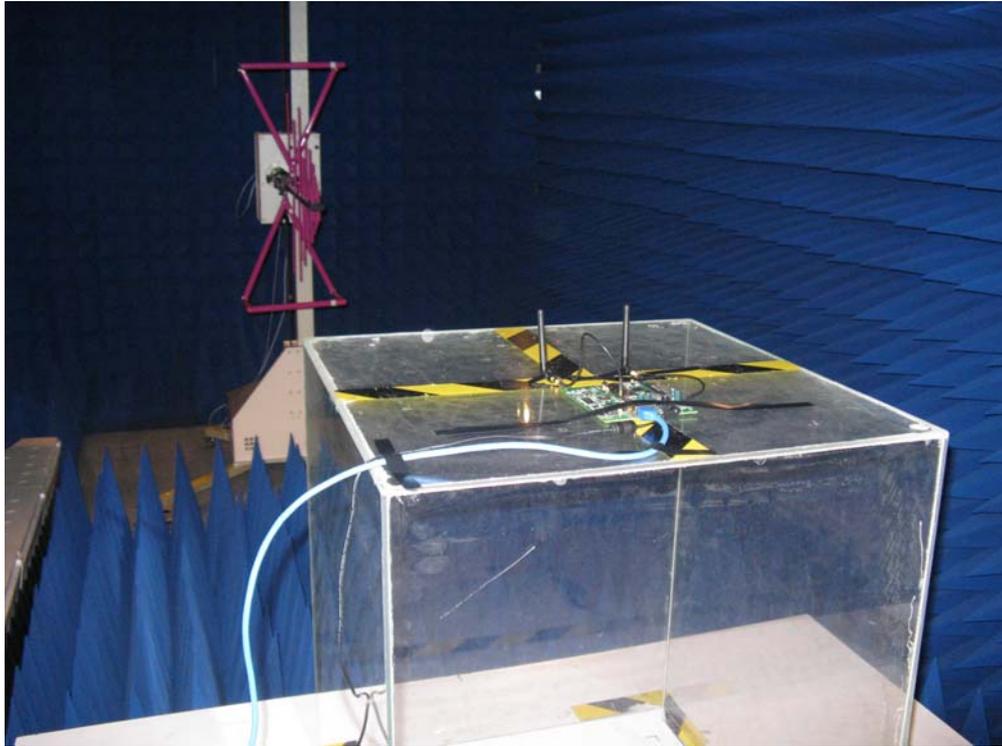
7325.41	V	-42.43	-30	-12.43	PEAK
7697.50	H	-59.43	-30	-29.43	PEAK
7697.50	V	-52.47	-30	-22.47	PEAK
11026.66	H	-40.53	-30	-10.53	PEAK
11026.66	V	-38.58	-30	-8.58	PEAK
Channel 140 (5700MHz)					
204.60	H	-60.16	-54	-6.16	PEAK
204.60	V	-57.26	-54	-3.26	PEAK
413.15	H	-52.24	-36	-16.24	PEAK
413.15	V	-48.18	-36	-18.18	PEAK
679.90	H	-65.11	-54	-11.11	PEAK
679.90	V	-60.81	-54	-10.81	PEAK
2058.25	H	-49.68	-30	-19.68	PEAK
2058.25	V	-44.27	-30	-14.27	PEAK
5427.60	H	-53.27	-30	-23.27	PEAK
5427.60	V	-47.49	-30	-17.49	PEAK
17079.00	H	-39.57	-30	-9.57	PEAK
17079.00	V	-36.42	-30	-6.42	PEAK

Mode 3: Transmit by 802.11n(40MHz) (Chain 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
188.43	H	-59.11	-54	-5.11	PEAK
188.43	V	-57.28	-54	-3.28	PEAK
317.76	H	-51.64	-36	-15.64	PEAK
317.76	V	-47.14	-36	-11.14	PEAK
458.41	H	-58.30	-36	-22.3	PEAK
458.41	V	-53.78	-36	-17.78	PEAK
1989.08	H	-48.82	-30	-18.82	PEAK
1989.08	V	-43.16	-30	-13.16	PEAK
5415.80	H	-51.47	-30	-21.47	PEAK
5415.80	V	-46.93	-30	-16.93	PEAK
10380.41	H	-41.92	-30	-11.92	PEAK
10380.41	V	-37.27	-30	-7.27	PEAK
Channel 62 (5310MHz)					
125.38	H	-51.18	-36	-15.18	PEAK
125.38	V	-45.38	-36	-9.38	PEAK
350.10	H	-64.90	-36	-28.9	PEAK
350.10	V	-56.28	-36	-20.28	PEAK
618.76	H	-61.38	-54	-7.38	PEAK
618.76	V	-56.46	-54	-2.46	PEAK
2390.25	H	-46.42	-30	-16.42	PEAK
2390.25	V	-41.12	-30	-11.12	PEAK
5407.80	H	-53.64	-30	-23.64	PEAK
5407.80	V	-48.59	-30	-18.59	PEAK
10615.41	H	-46.70	-30	-16.7	PEAK
10615.41	V	-35.45	-30	-5.45	PEAK
Channel 102 (5510MHz)					
233.70	H	-58.63	-36	-22.63	PEAK
233.70	V	-54.39	-36	-18.39	PEAK
456.80	H	-61.34	-54	-7.34	PEAK
456.80	V	-56.37	-54	-2.37	PEAK
521.46	H	-66.64	-54	-12.64	PEAK
521.46	V	-62.25	-54	-8.25	PEAK
2431.75	H	-50.26	-30	-20.26	PEAK

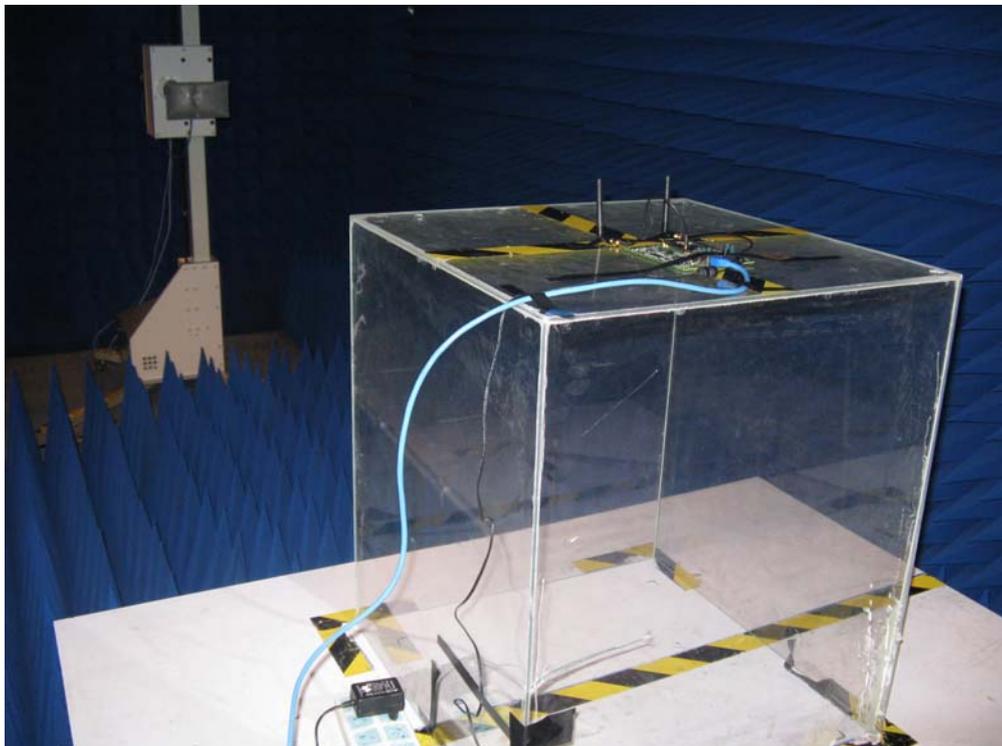
2431.75	V	-47.25	-30	-17.25	PEAK
5416.60	H	-52.93	-30	-22.93	PEAK
5416.60	V	-46.38	-30	-16.38	PEAK
11026.66	H	-40.51	-30	-10.51	PEAK
11026.66	V	-35.17	-30	-5.17	PEAK
Channel 134 (5670MHz)					
148.01	H	-45.48	-36	-9.48	PEAK
148.01	V	-40.39	-36	-4.39	PEAK
299.98	H	-51.68	-36	-15.68	PEAK
299.98	V	-48.28	-36	-12.28	PEAK
694.45	H	-67.65	-54	-13.65	PEAK
694.45	V	-62.25	-54	-8.25	PEAK
2245.00	H	-49.27	-30	-19.27	PEAK
2245.00	V	-44.56	-30	-14.56	PEAK
5428.00	H	-55.37	-30	-25.37	PEAK
5428.00	V	-52.28	-30	-22.28	PEAK
11340.00	H	-49.23	-30	-19.23	PEAK
11340.00	V	-41.32	-30	-11.32	PEAK

**6.6. Test Photograph**

Description: Transmitter Spurious Emissions Test Setup for Under 1GHz



Description: Transmitter Spurious Emissions Test Setup for Above 1GHz



## 7. Transmitter Unwanted Emissions Within the 5GHz RLAN Bands

### 7.1. Test Equipment

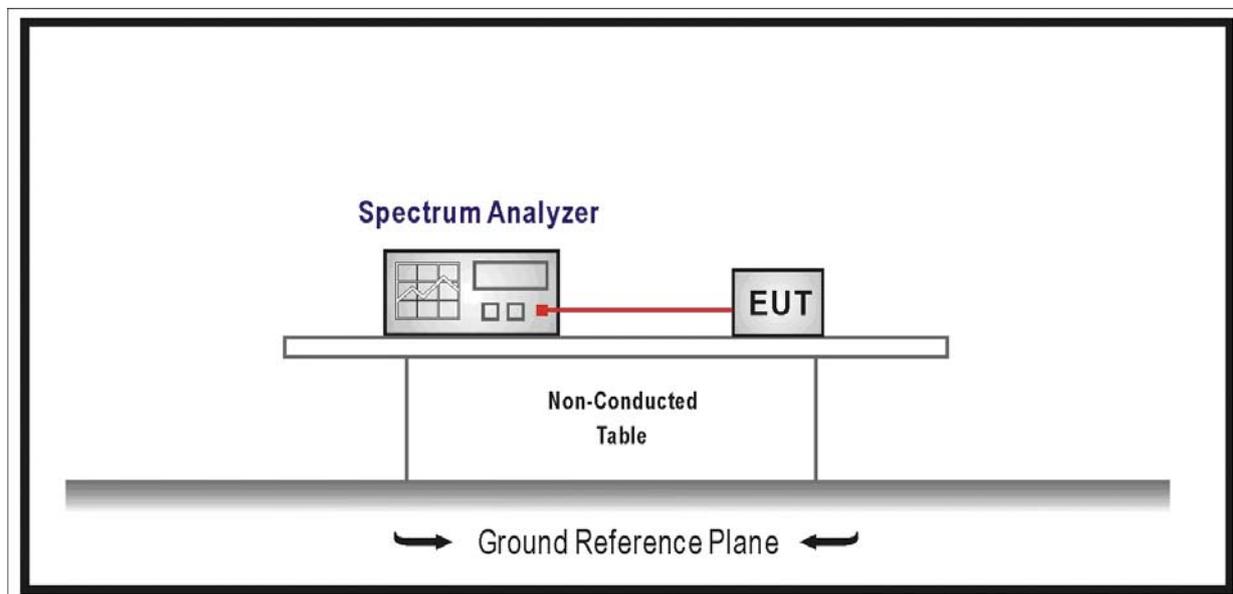
Transmitter Unwanted Emissions Within the 5GHz RLAN Bands / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
Preamplifier	QuieTek	AP-180C	CHM-0602013	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

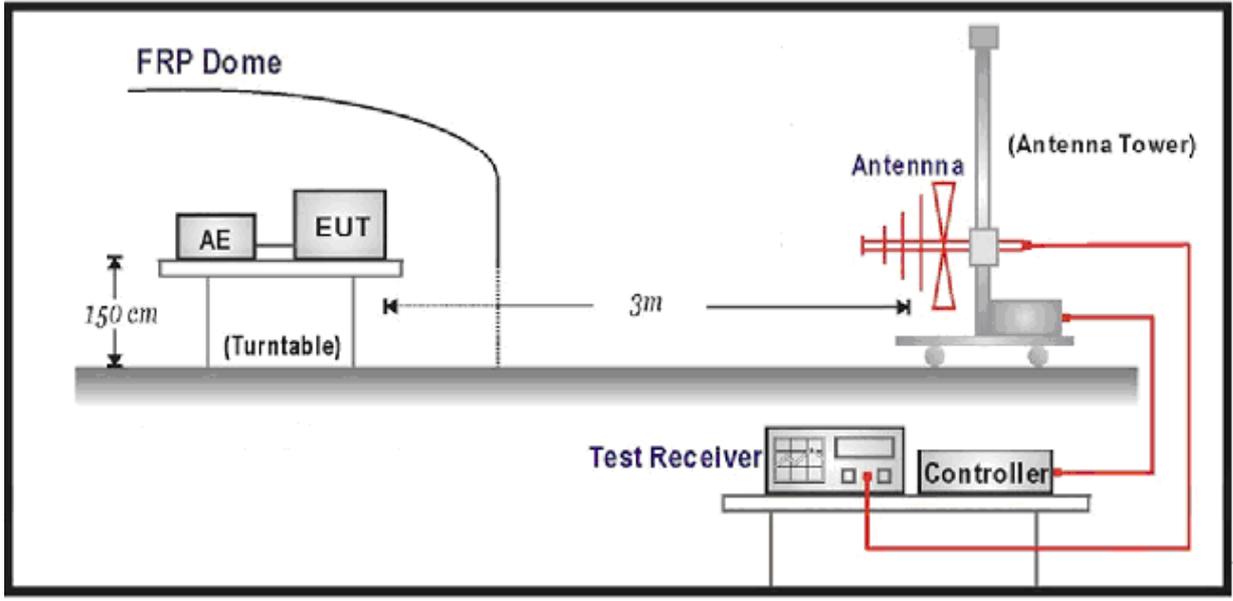
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 7.2. Test Setup

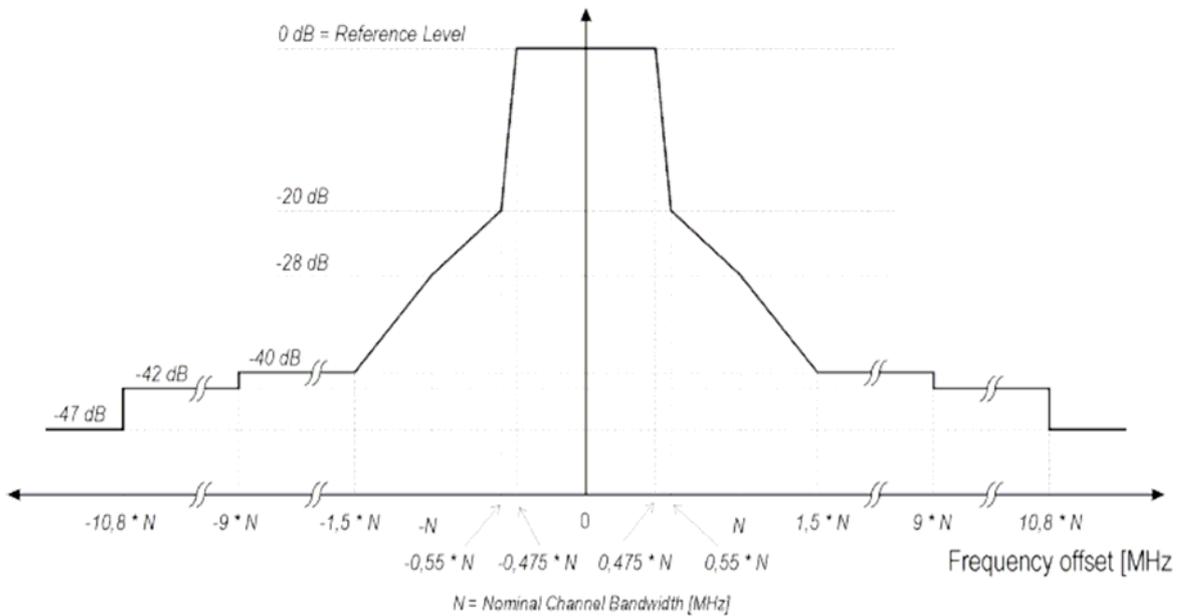
#### For Conducted Measurement



For Radiated Measurement



7.3. Limit



NOTE: dBc is the spectral density relative to the maximum spectral power density of the transmitted signal.

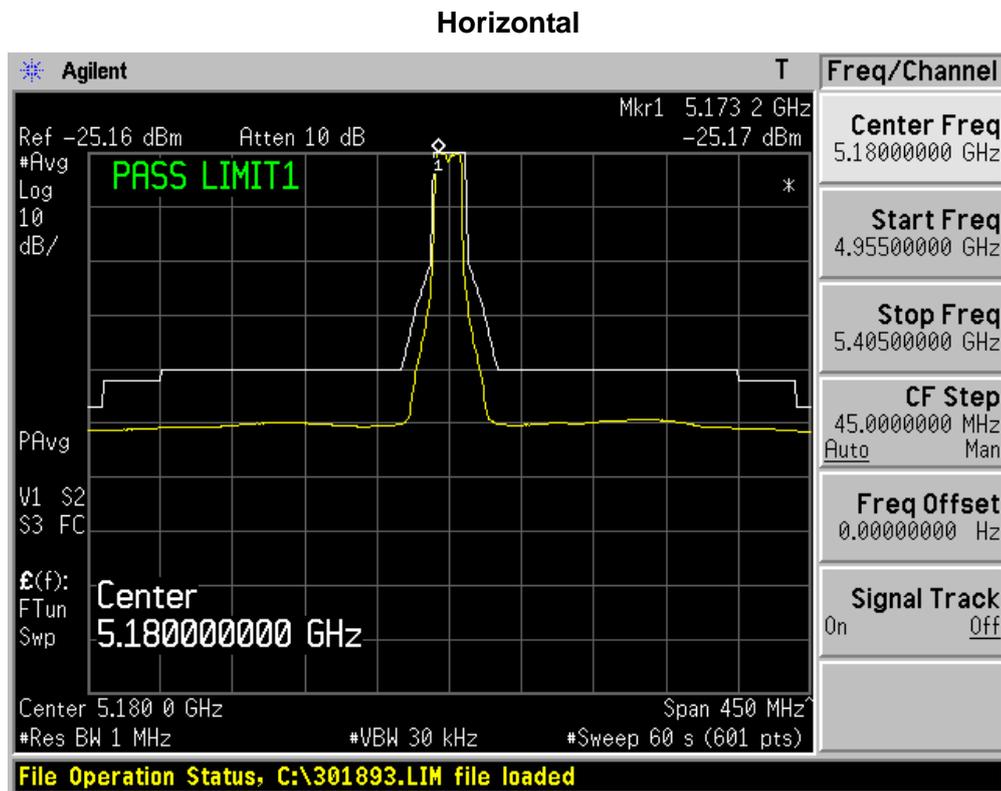
Figure 1: Transmit spectral power mask

7.4. Test Procedure

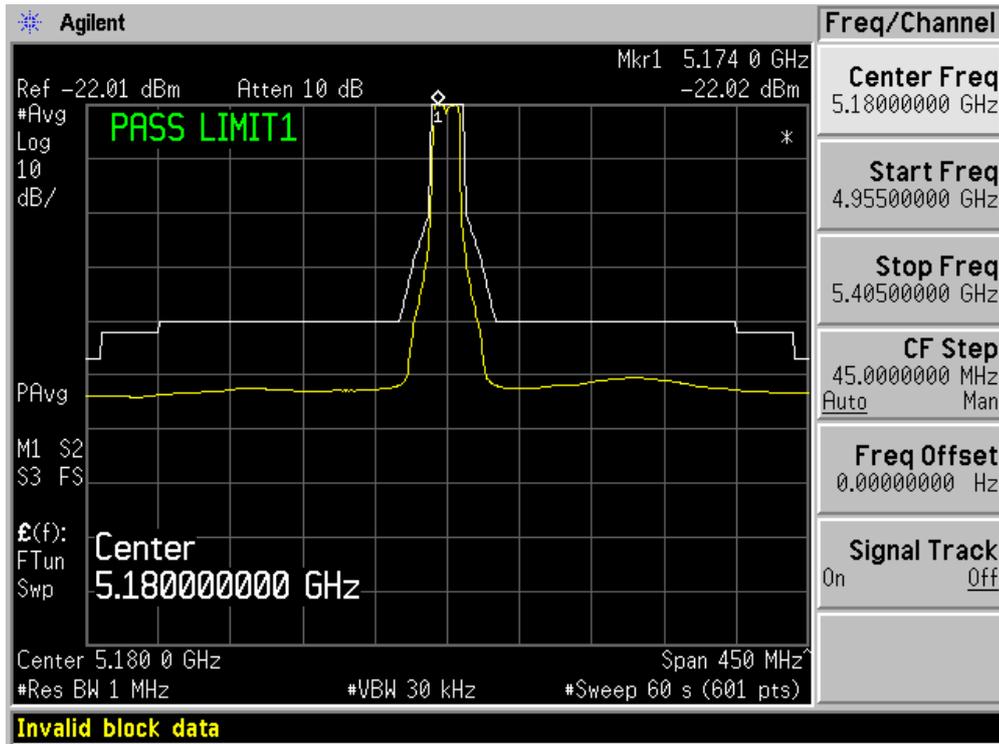
Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.6

7.5. Test Result

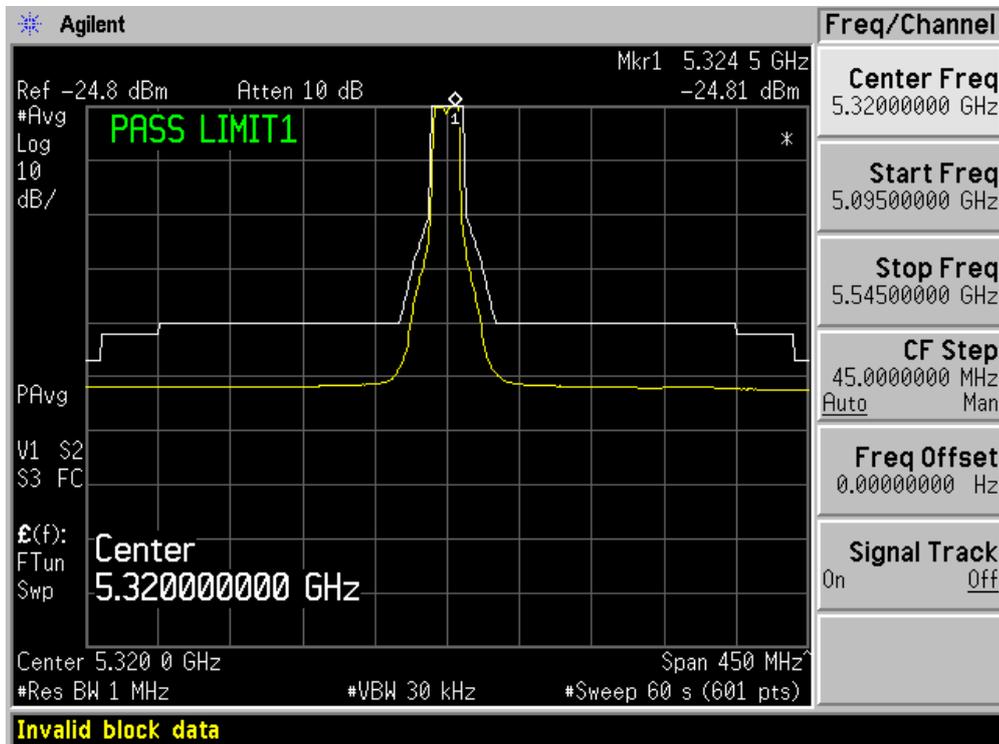
Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 010)



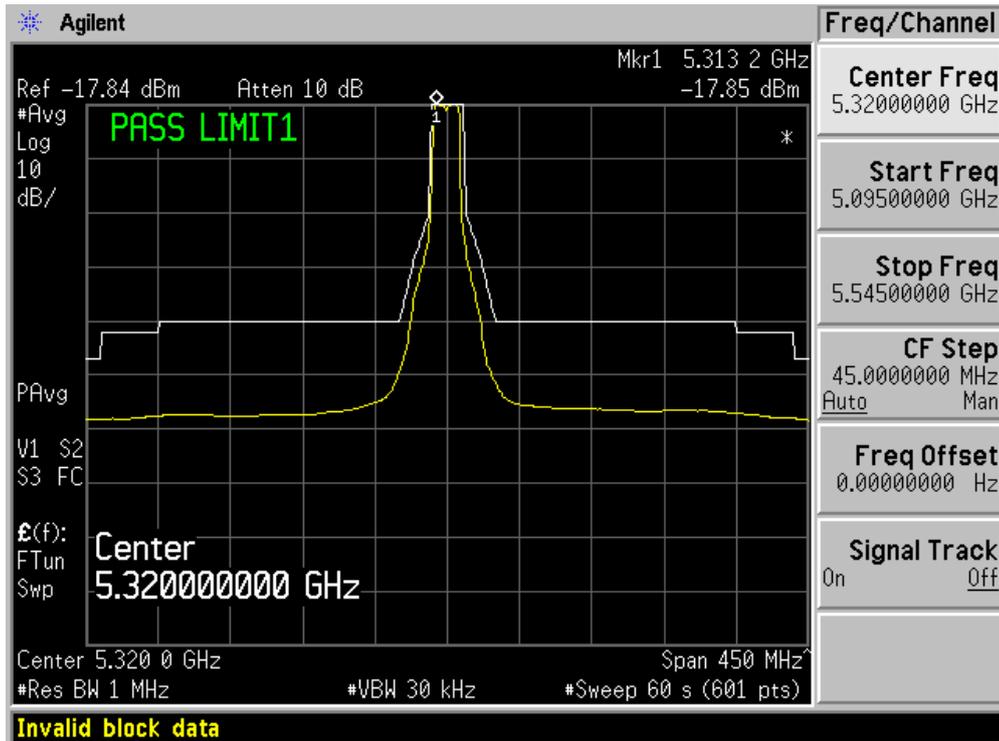
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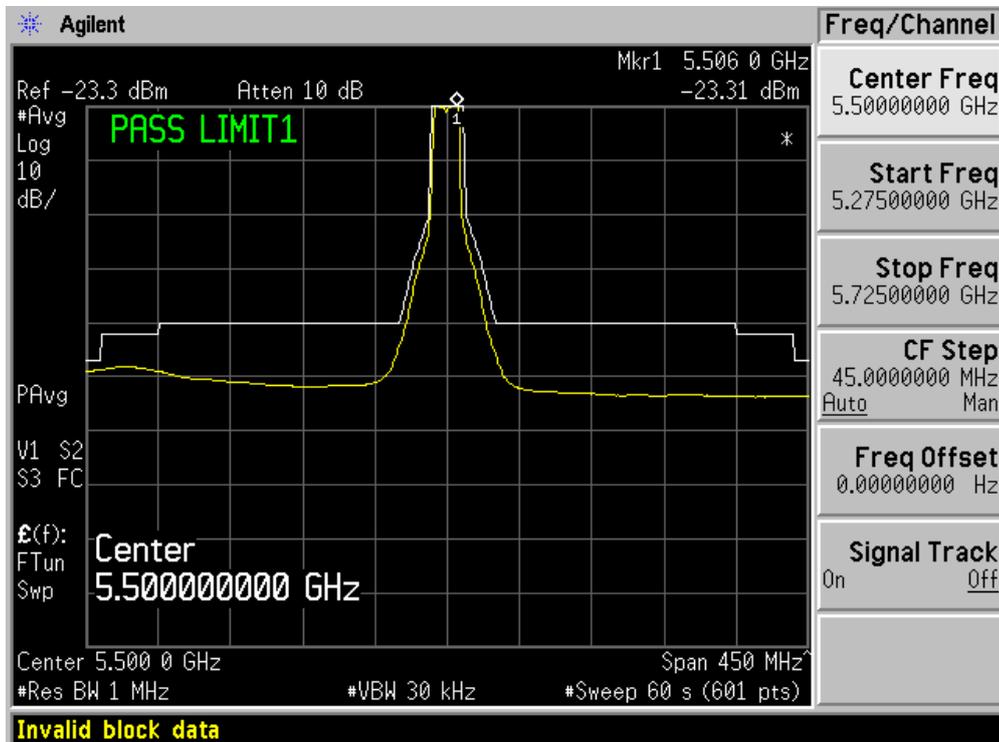
Horizontal



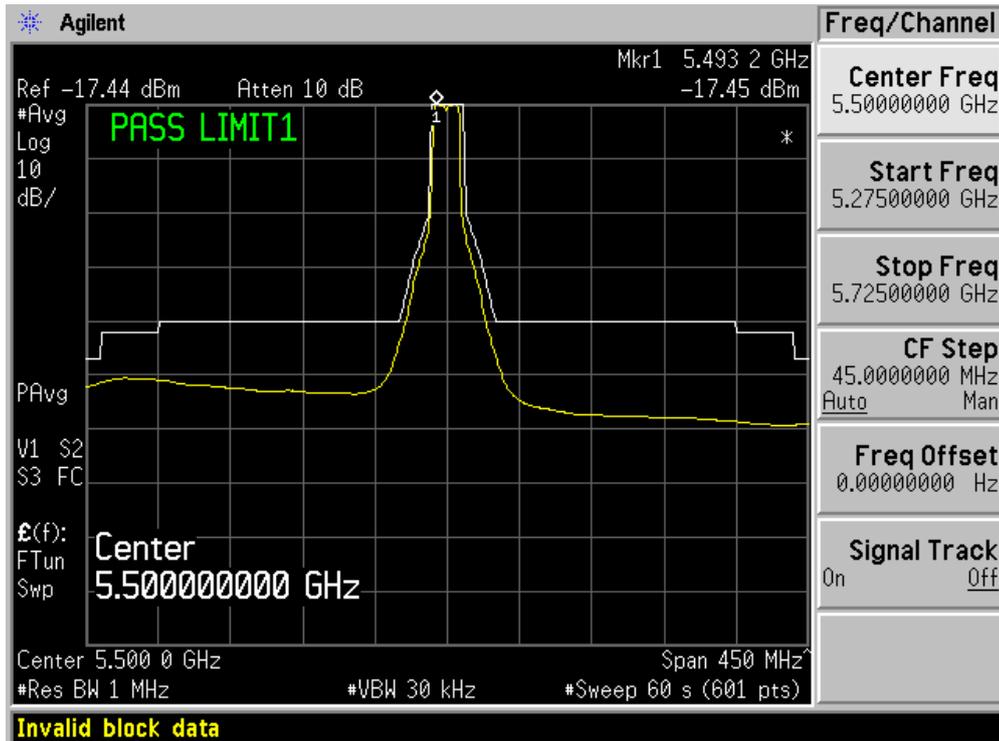
Vertical



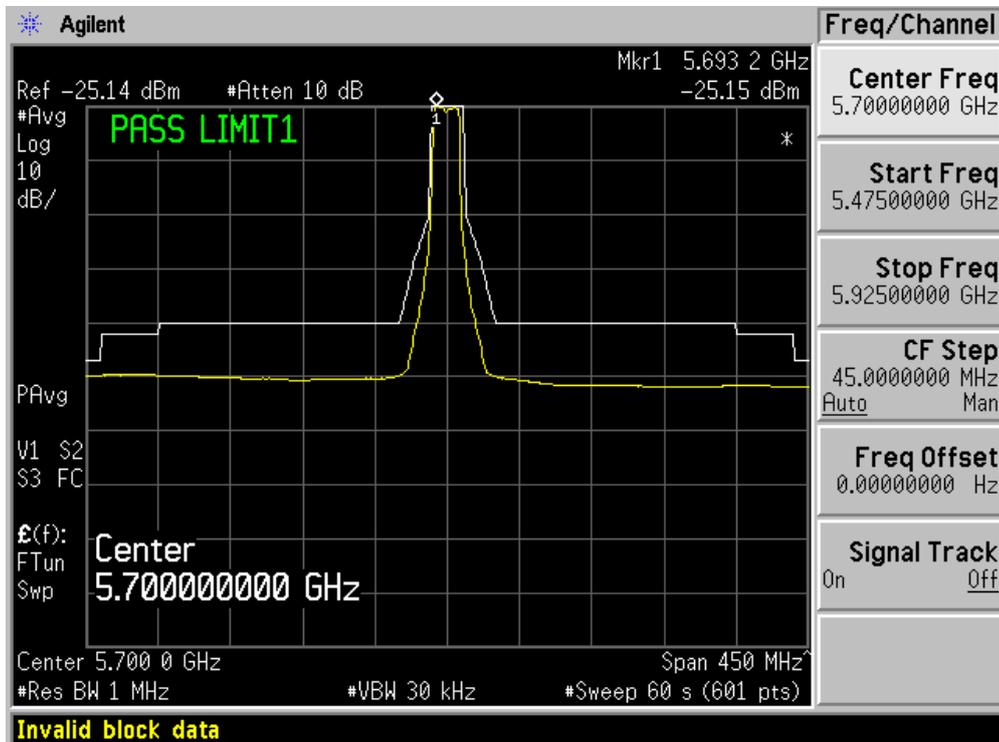
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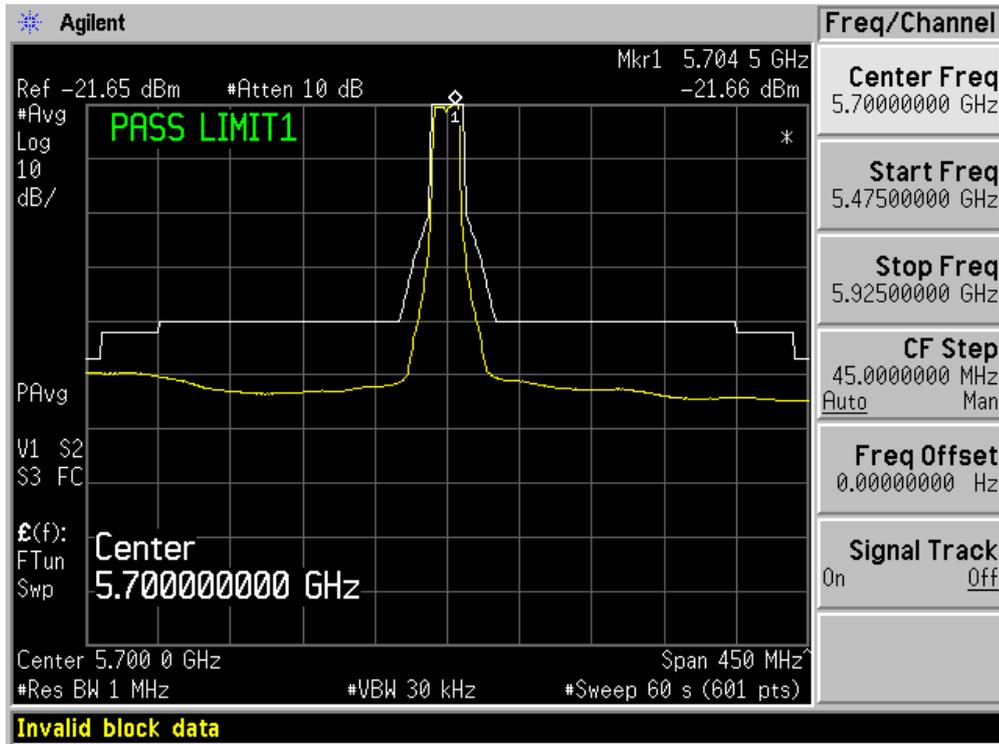
Vertical



Horizontal

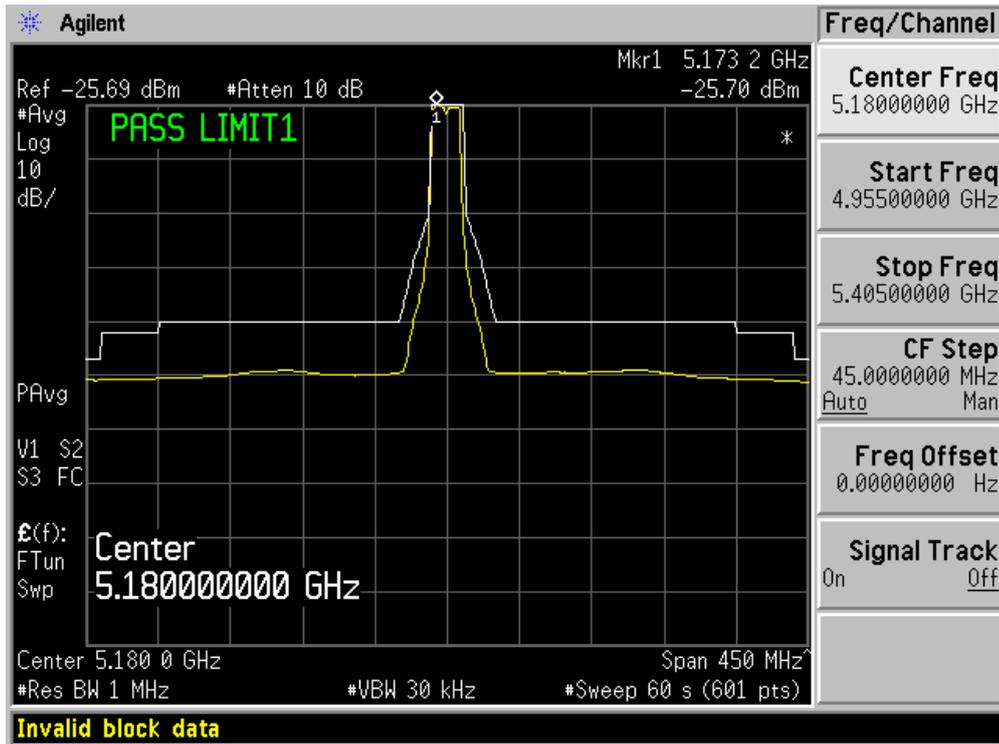


Vertical

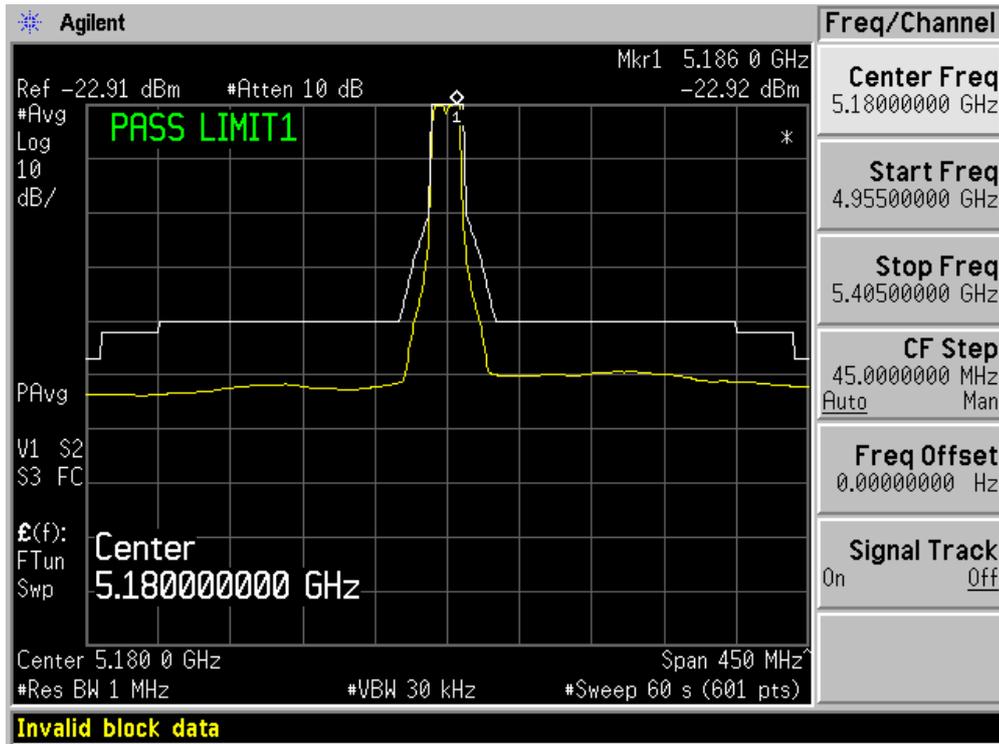


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 010)

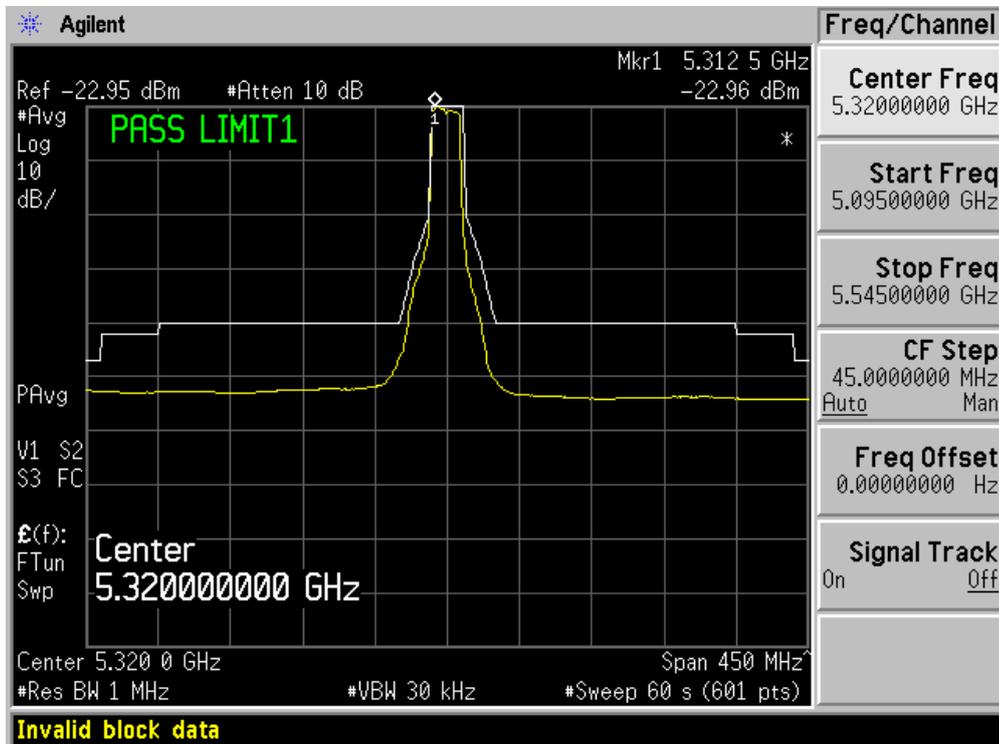
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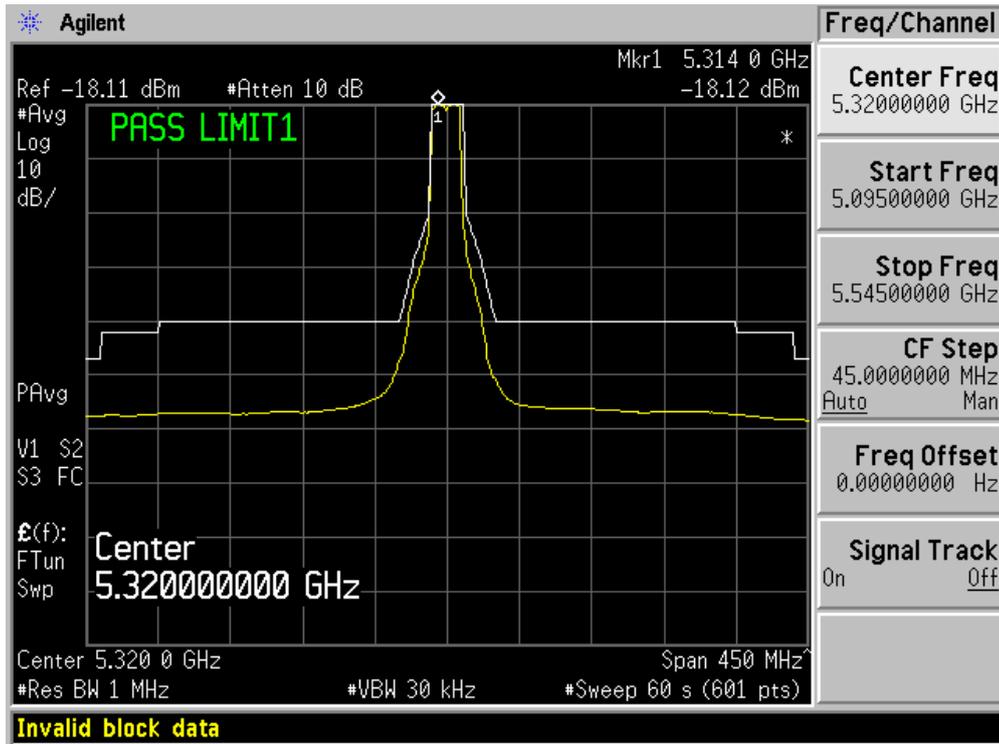
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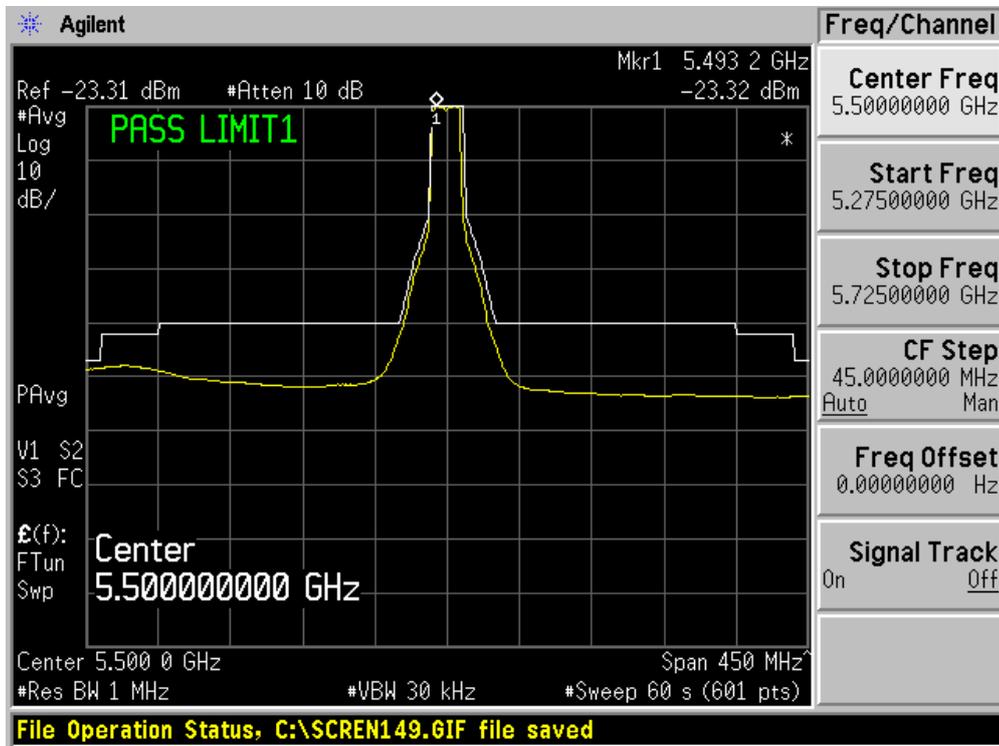
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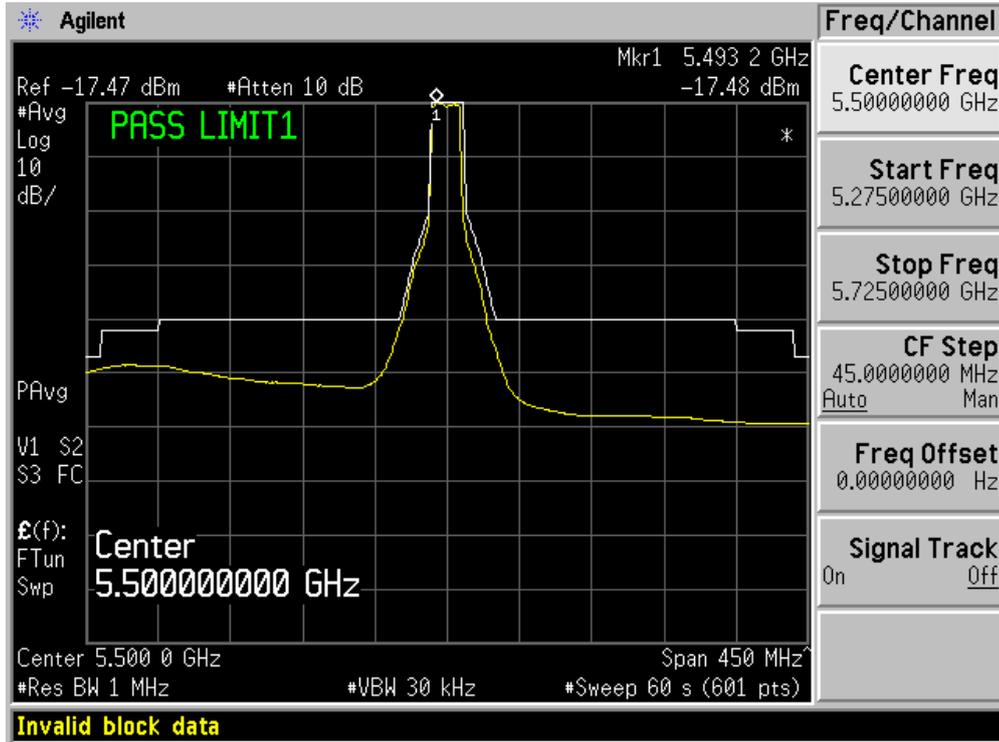
Vertical



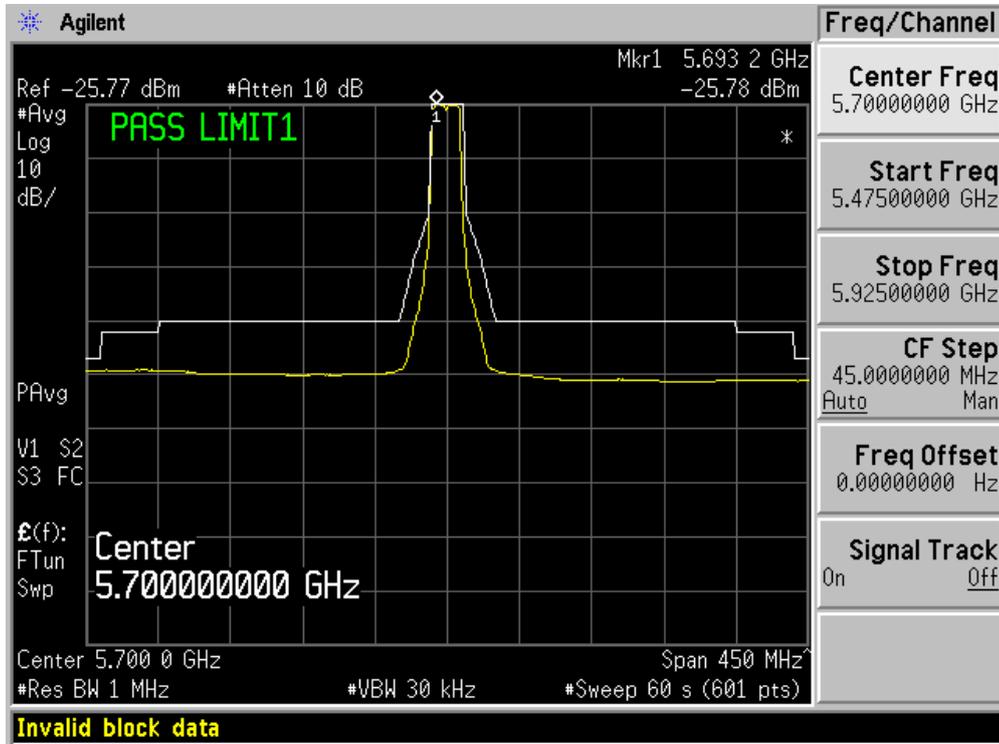
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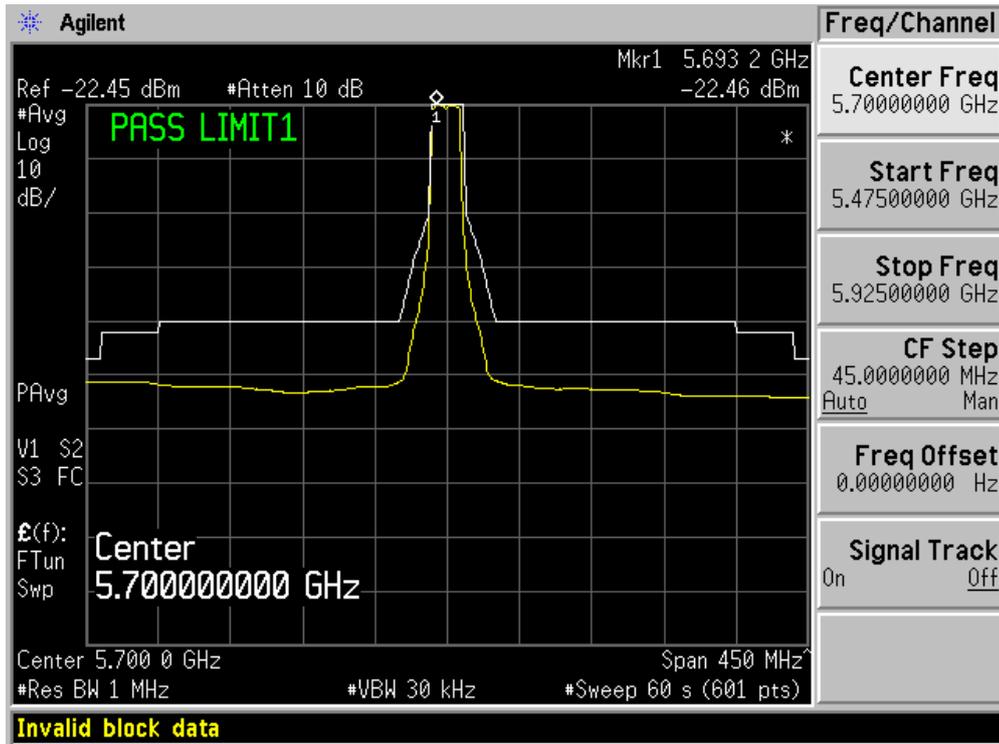
Vertical



Horizontal

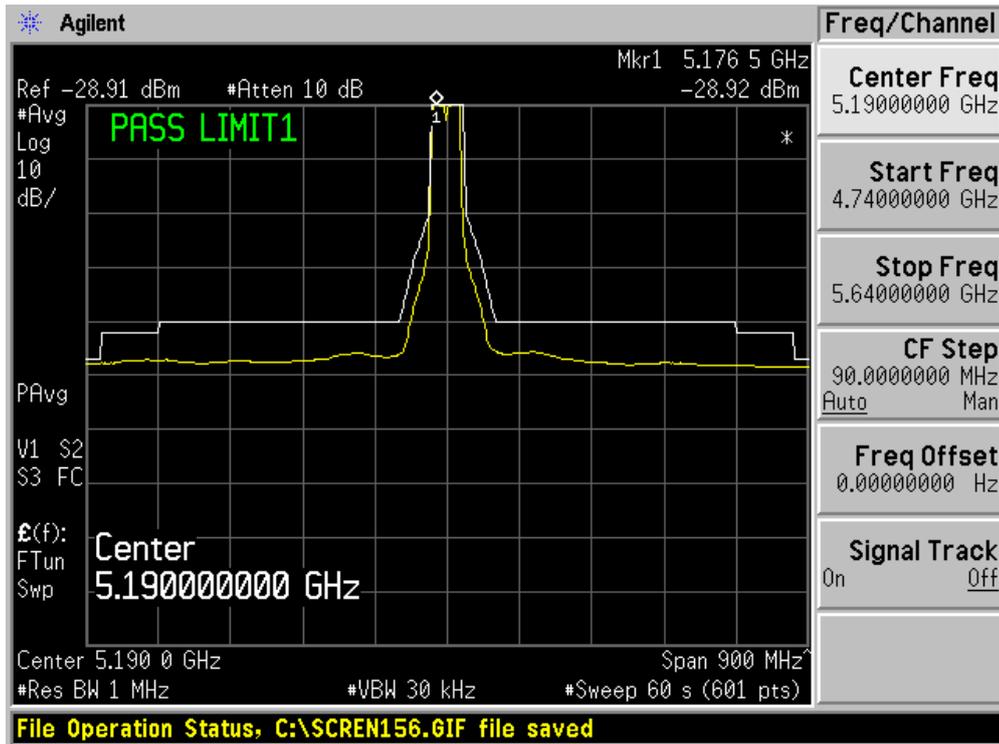


Vertical

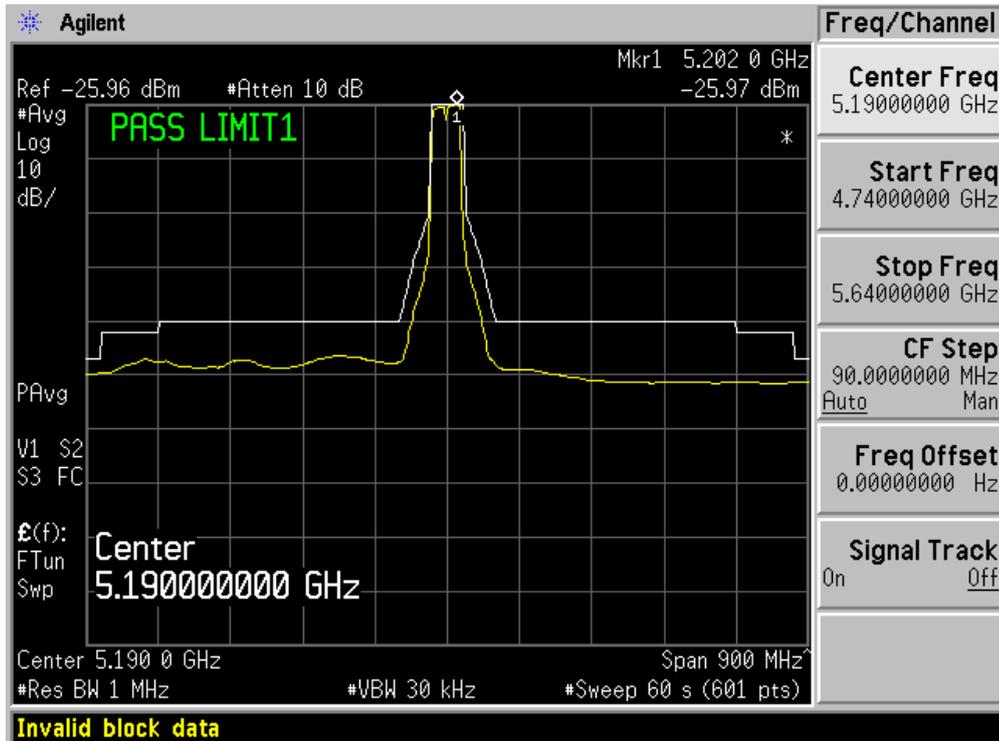


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 010)

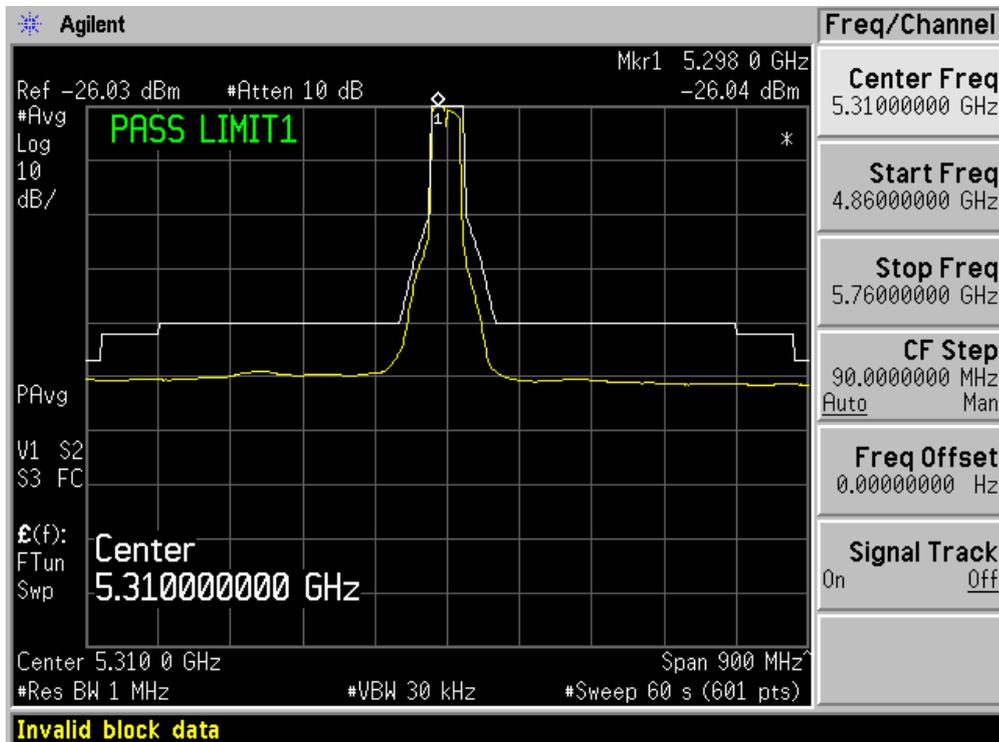
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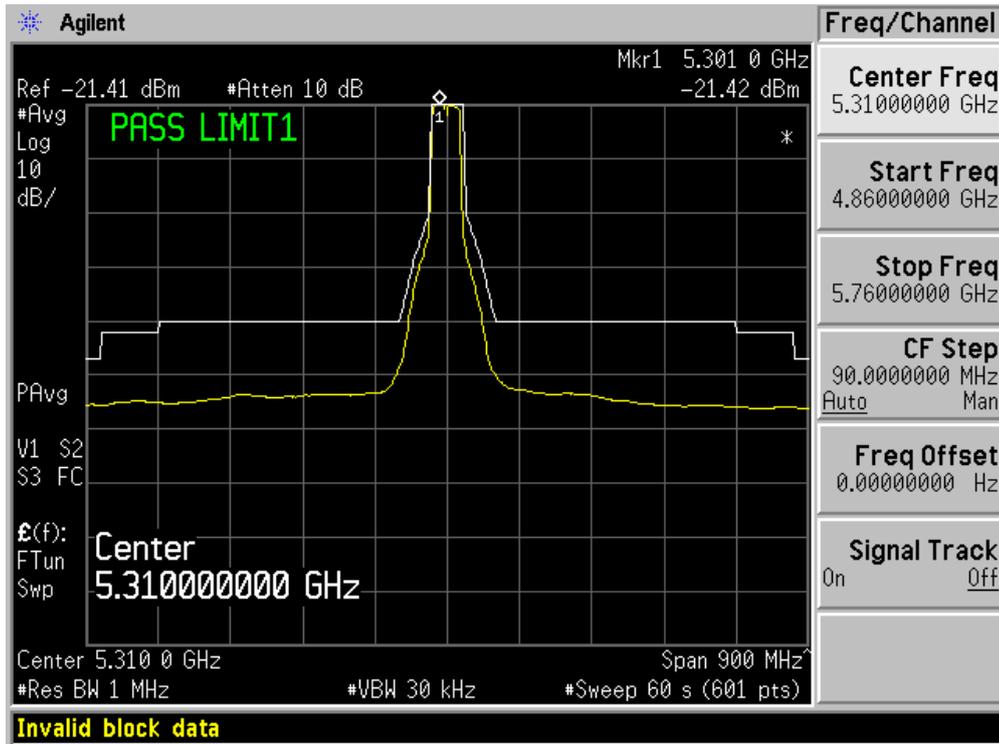
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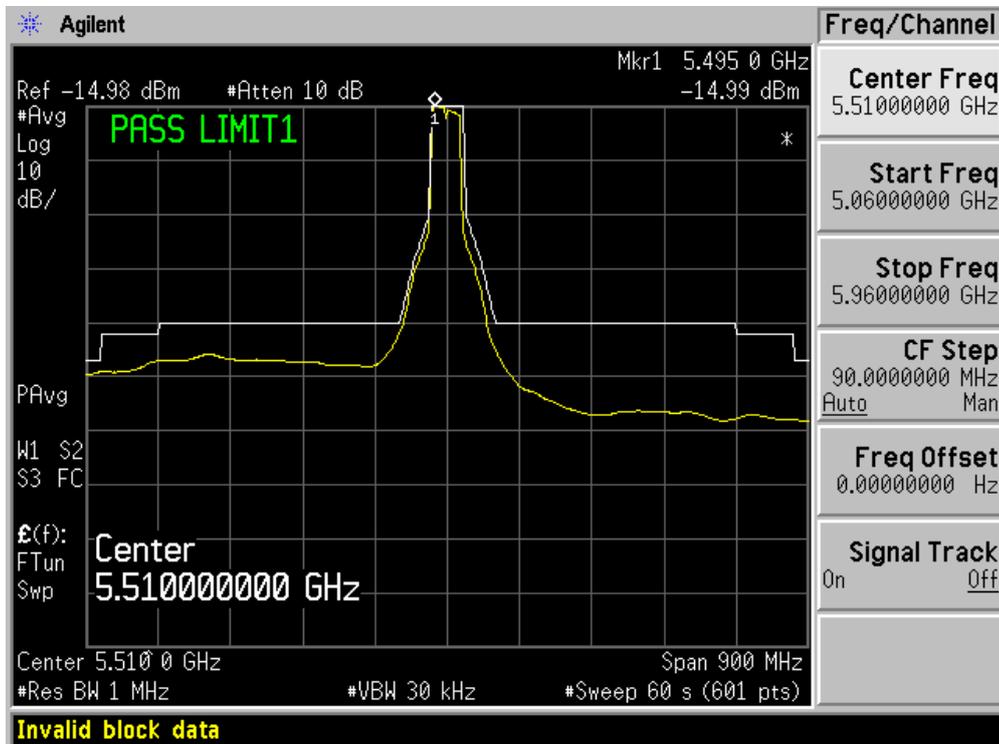
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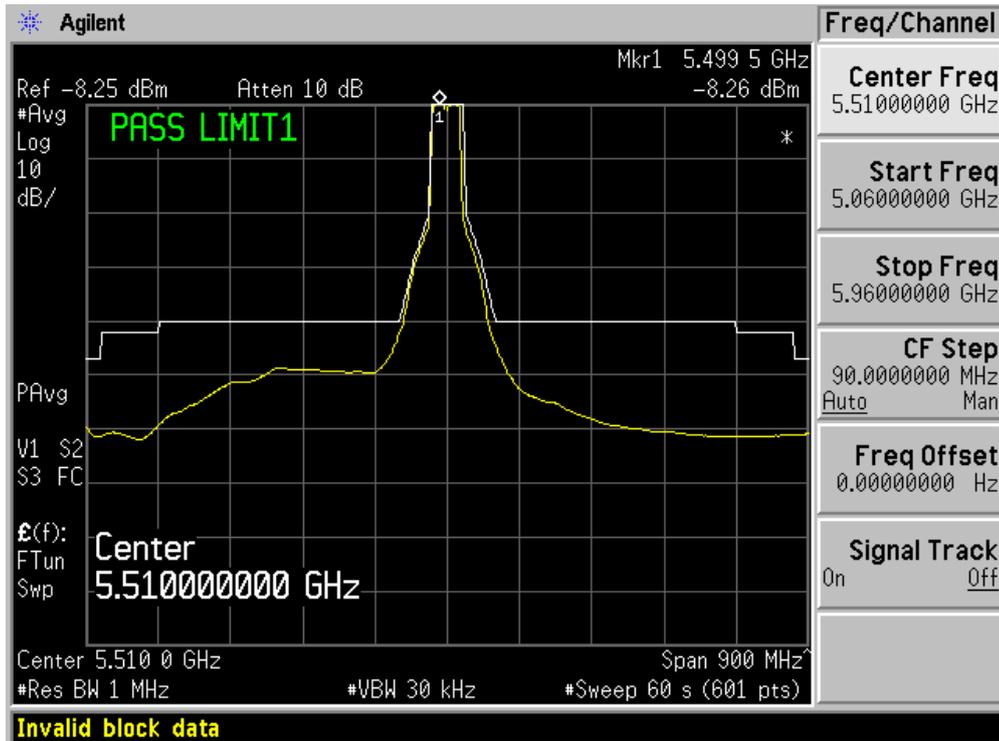
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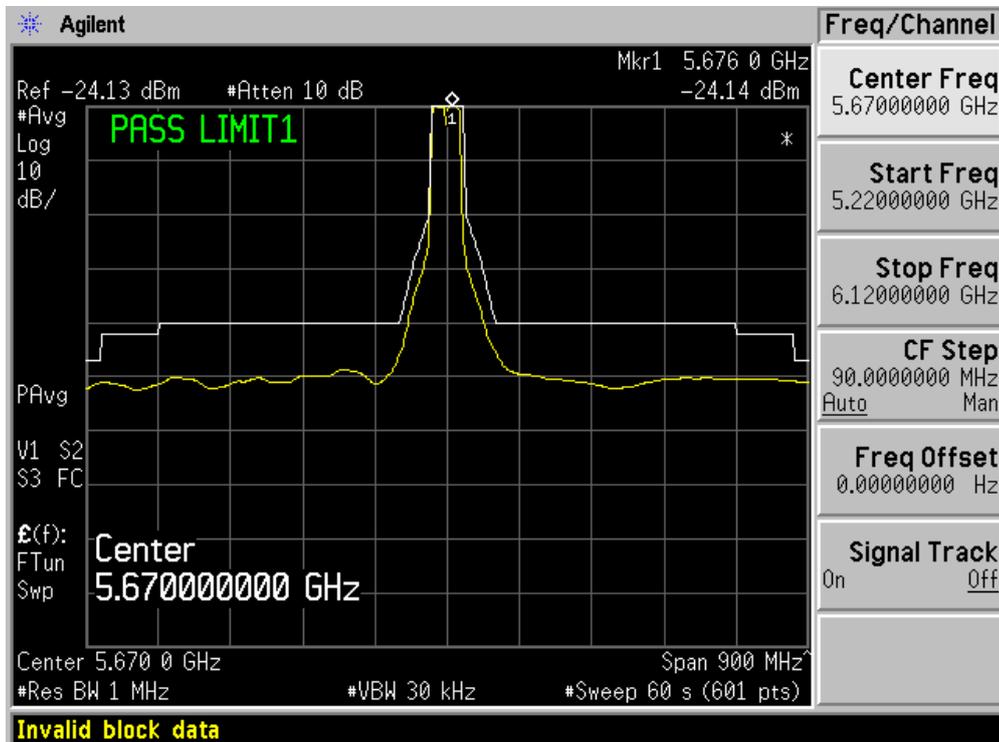
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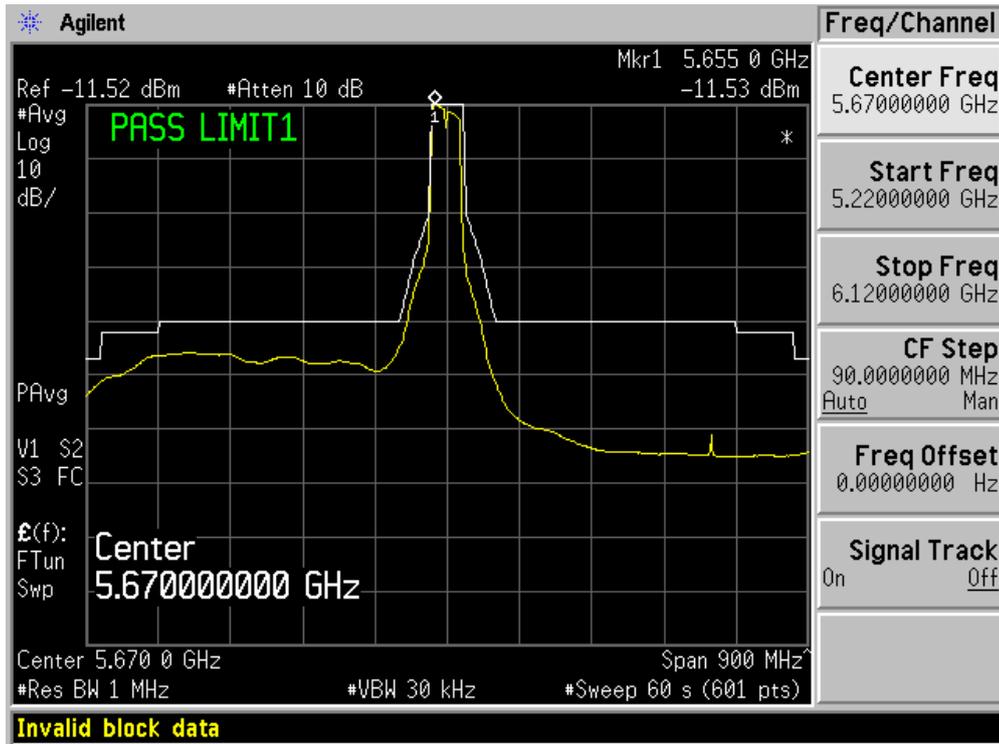
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Horizontal

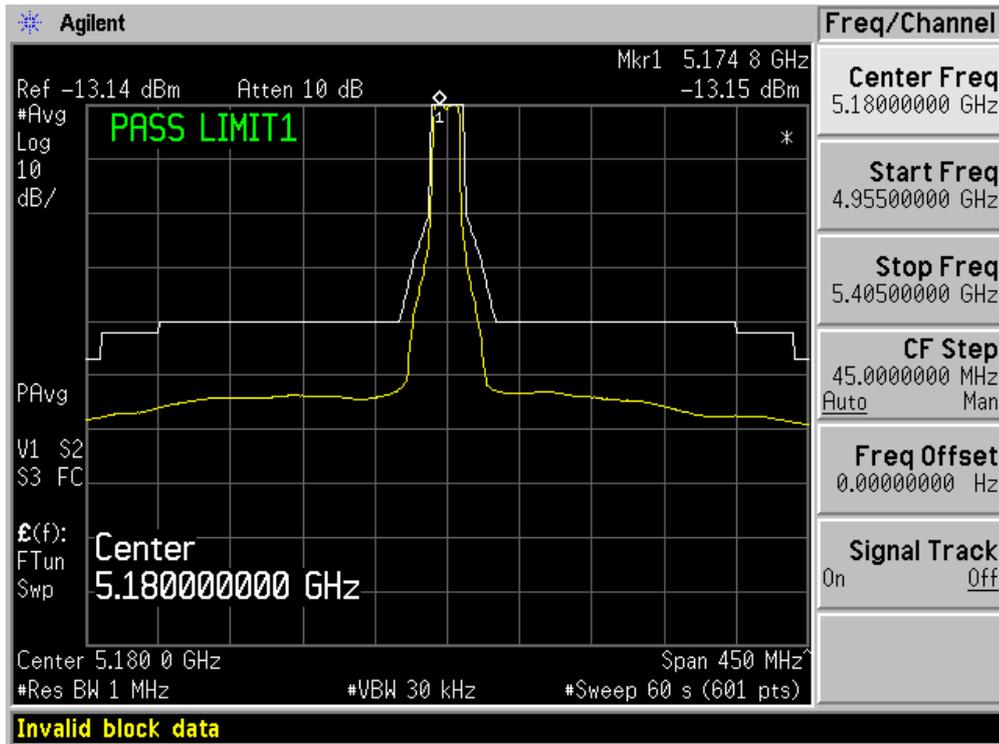


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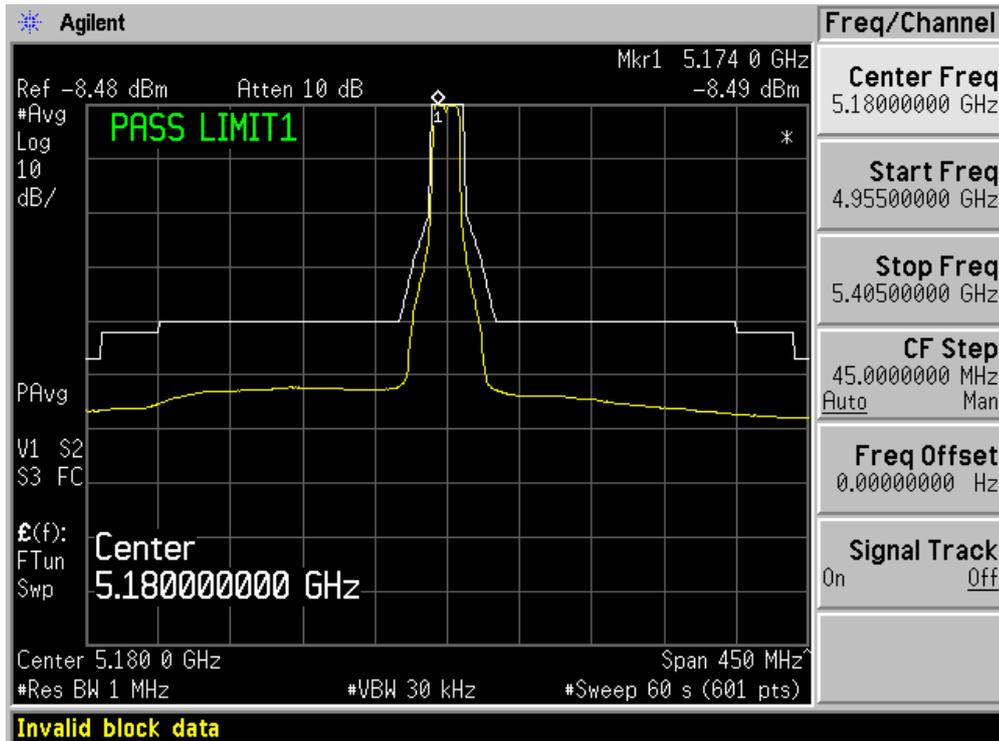


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 1: Transmit by 802.11a (Chain 1X 100)

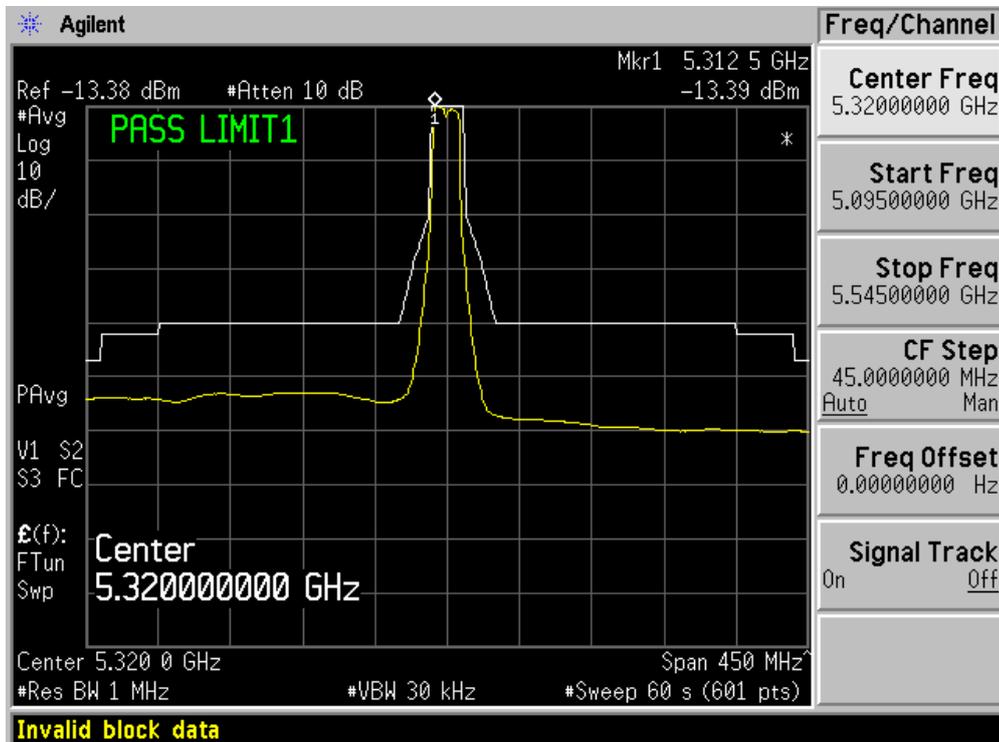
Horizontal



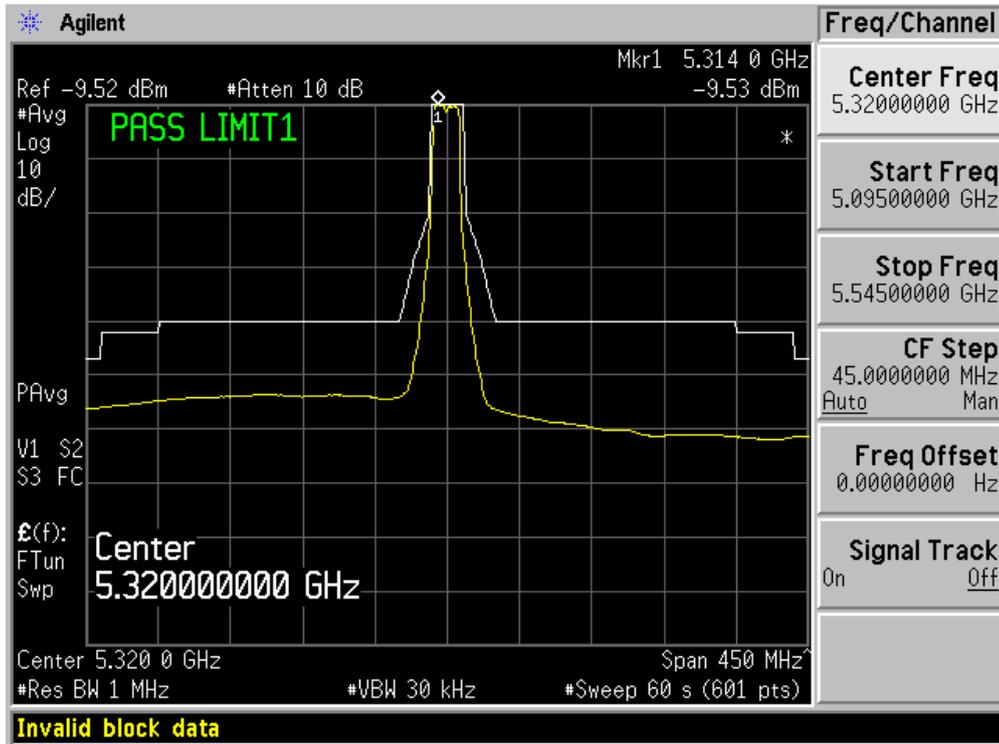
Vertical



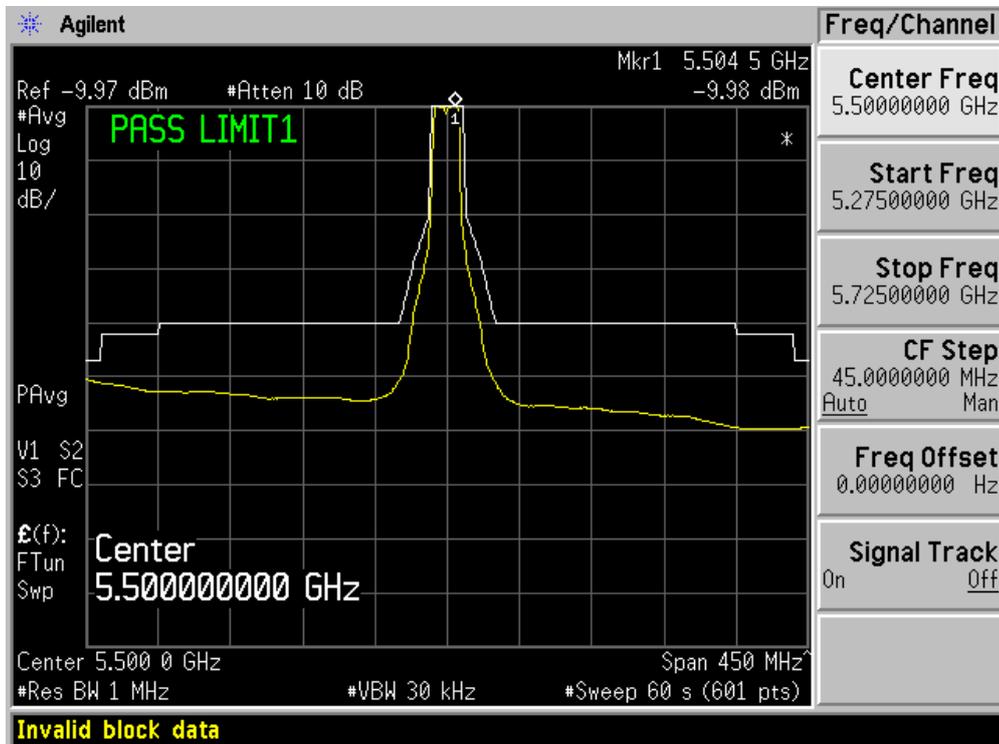
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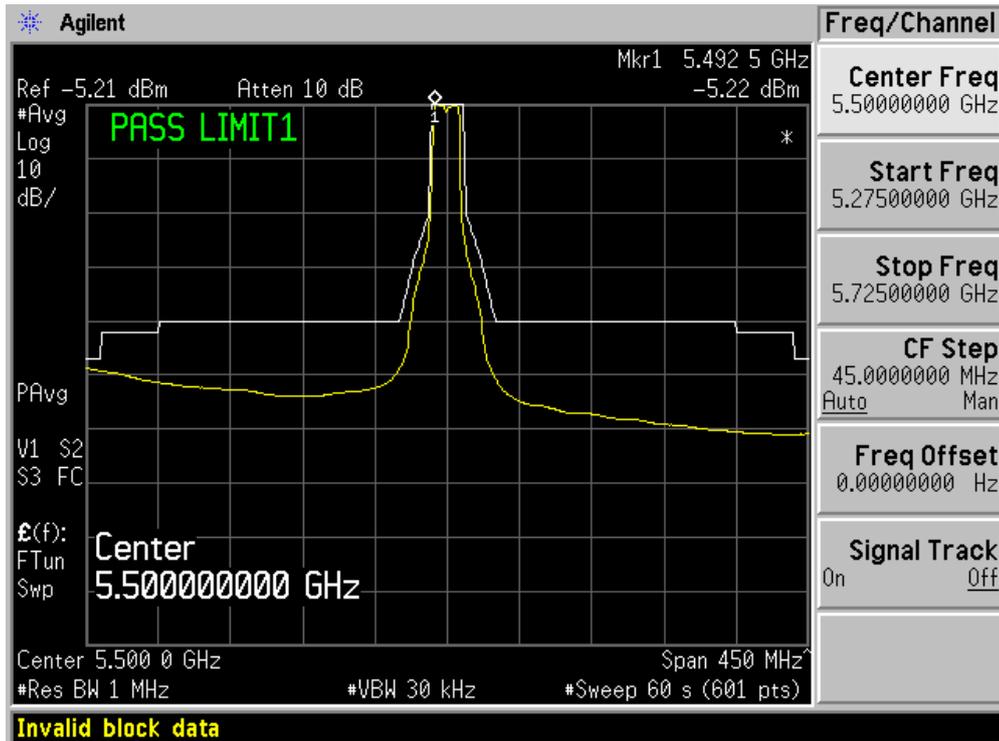
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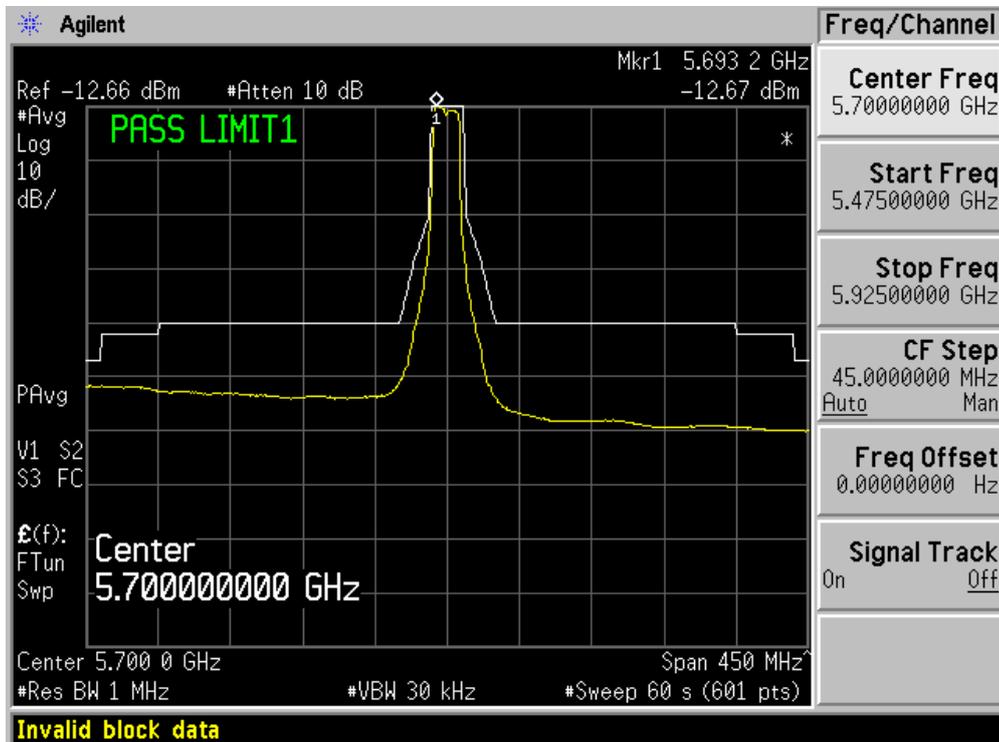
Horizontal



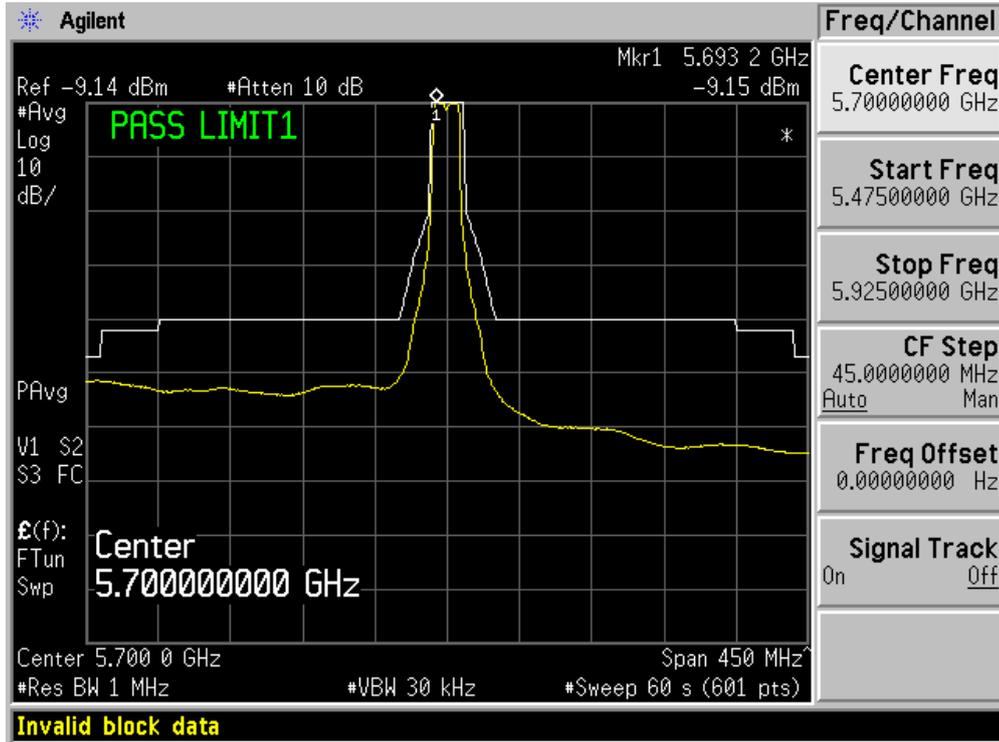
Vertical



Horizontal

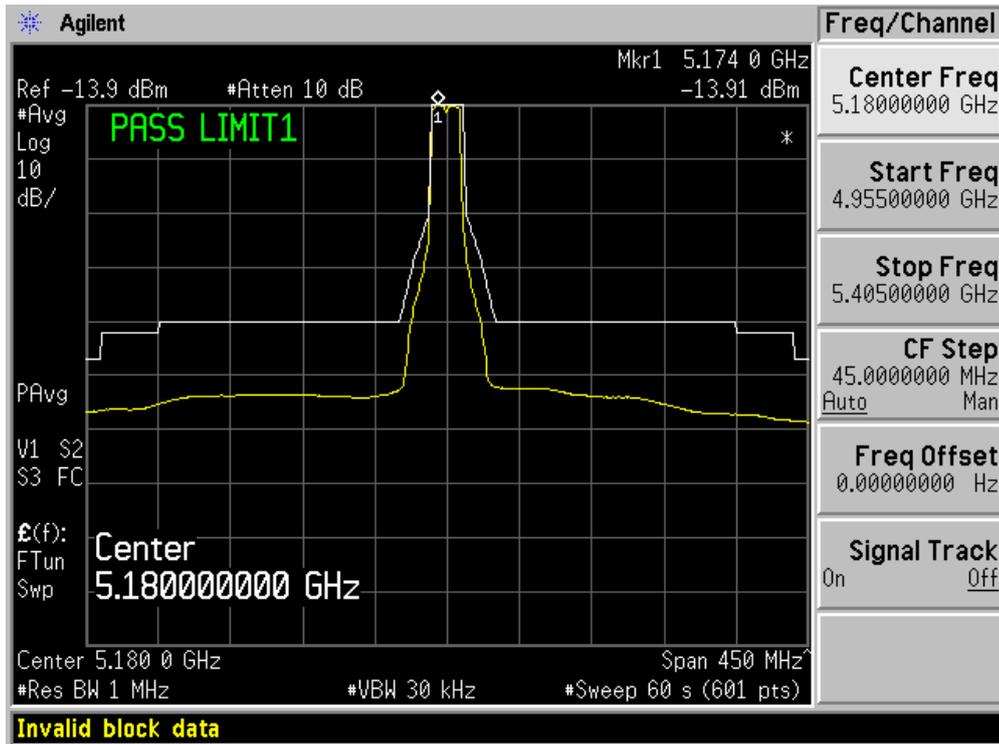


Vertical

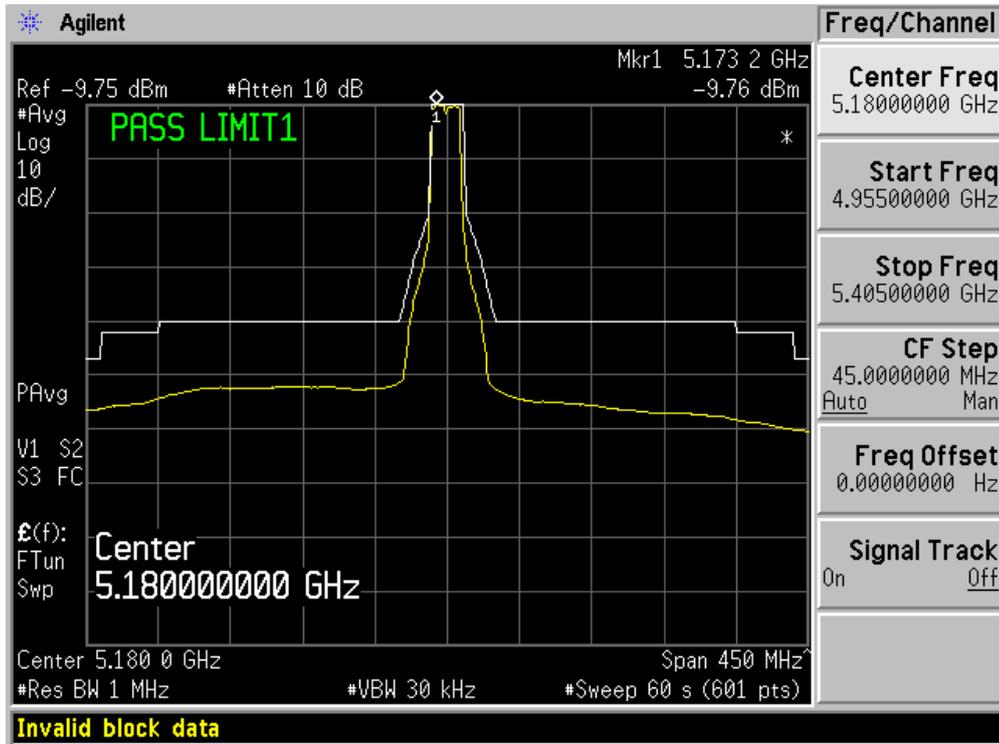


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 1X 100)

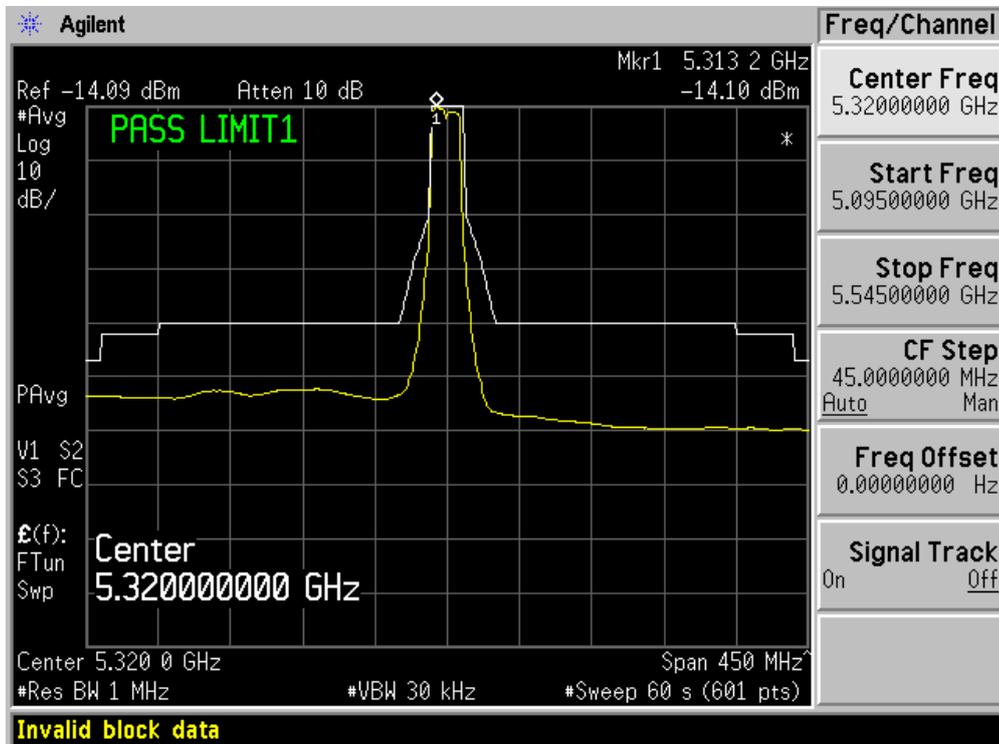
Horizontal



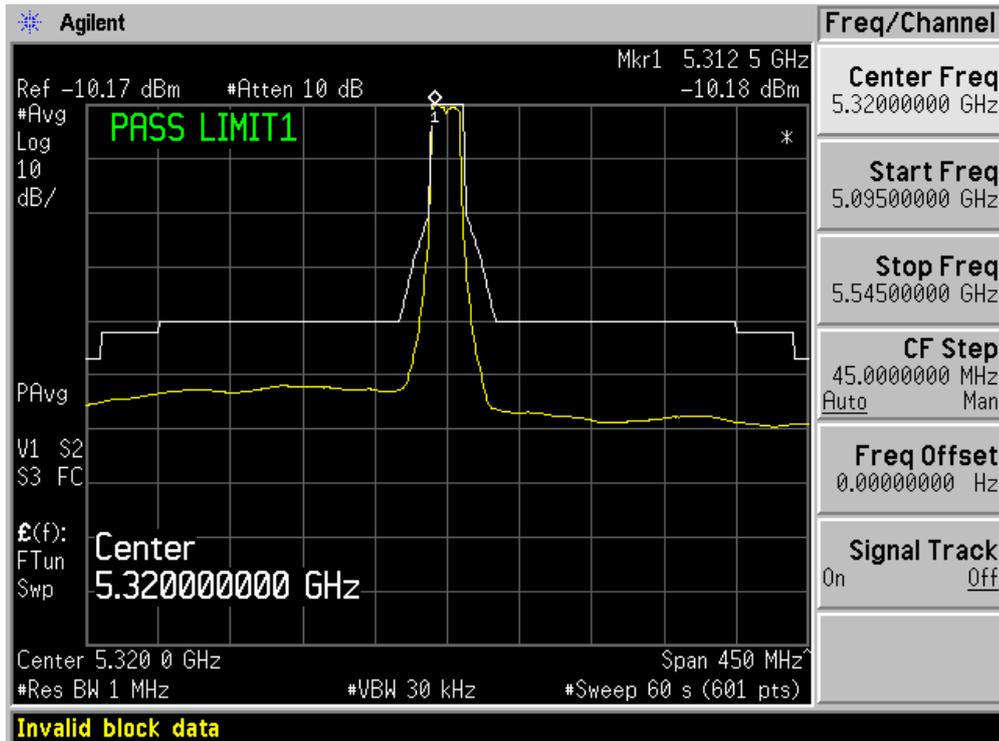
Vertical



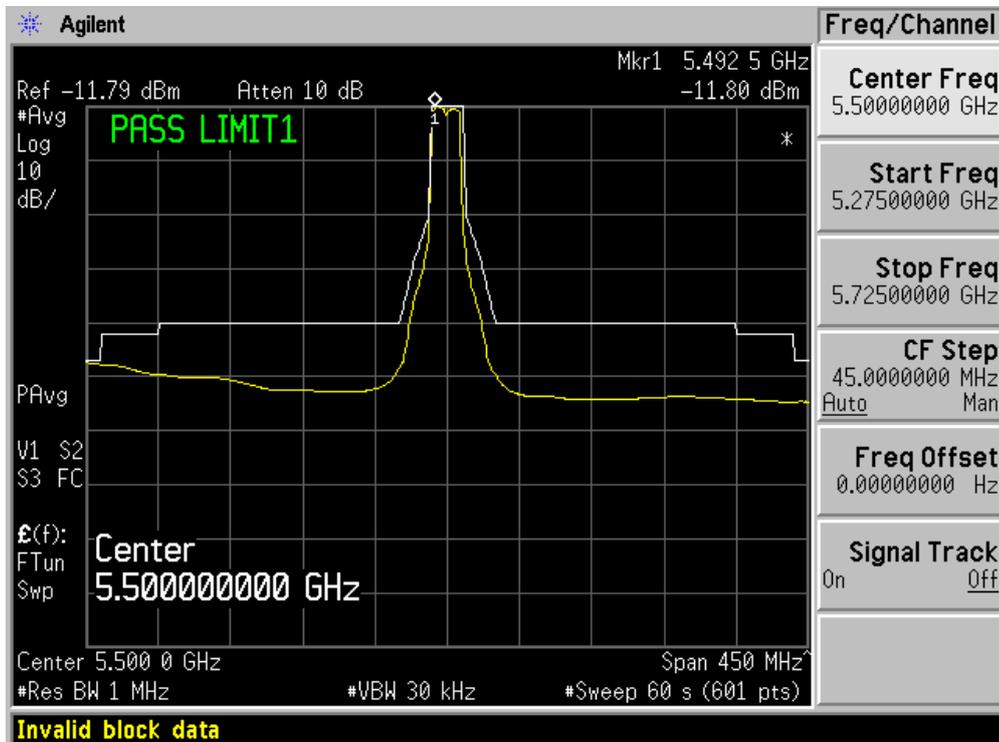
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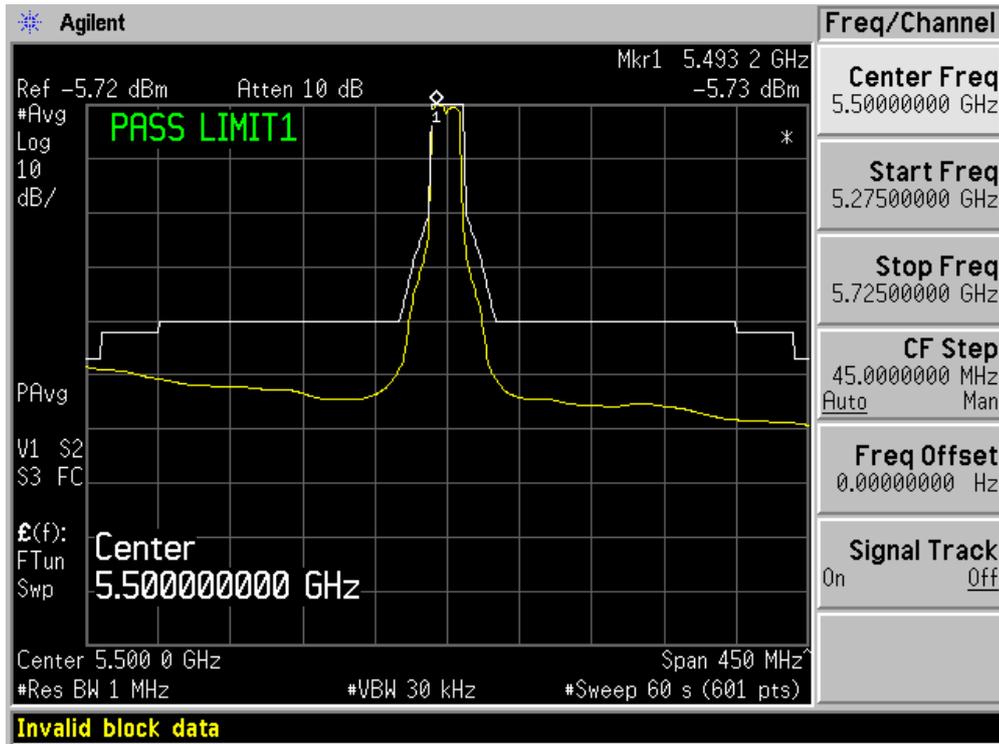
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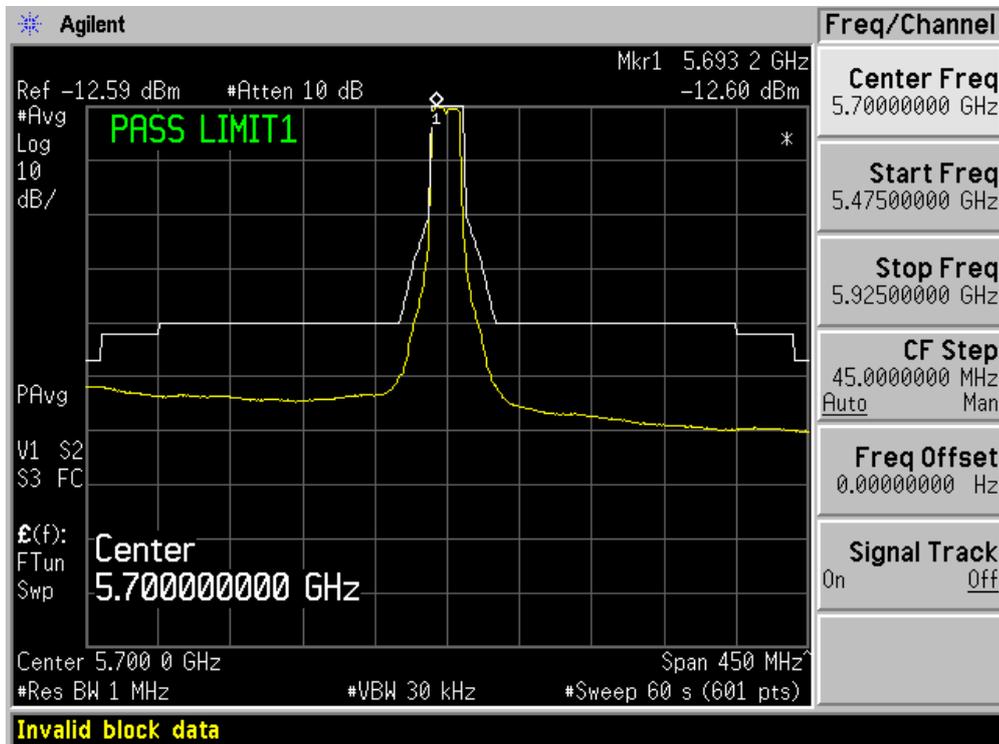
Horizontal



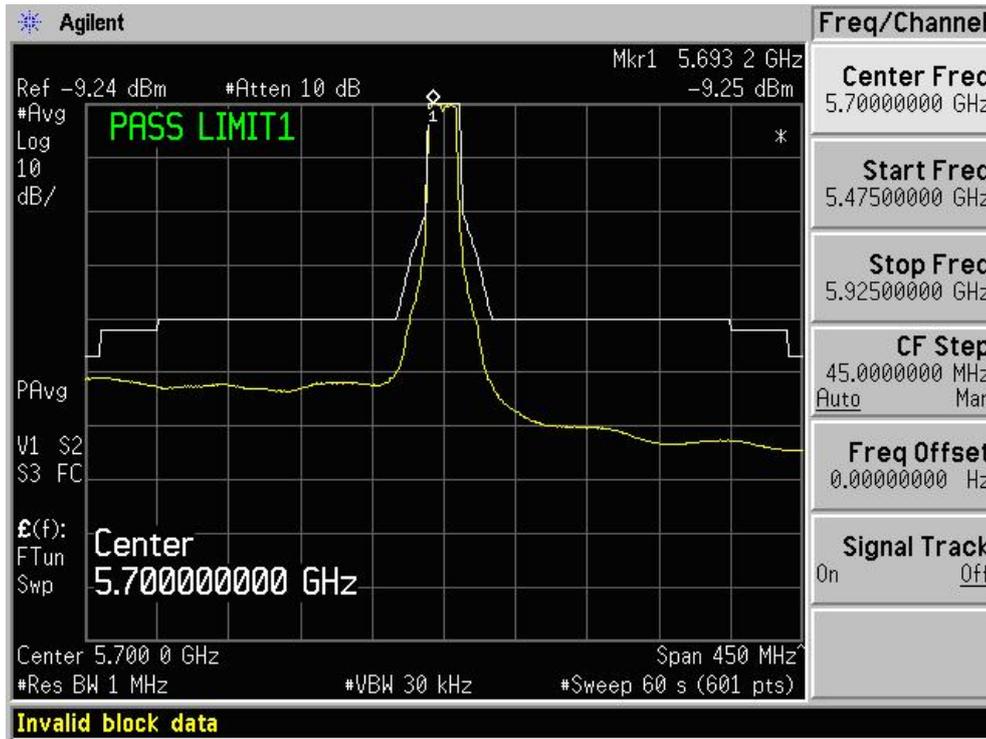
Vertical



Horizontal

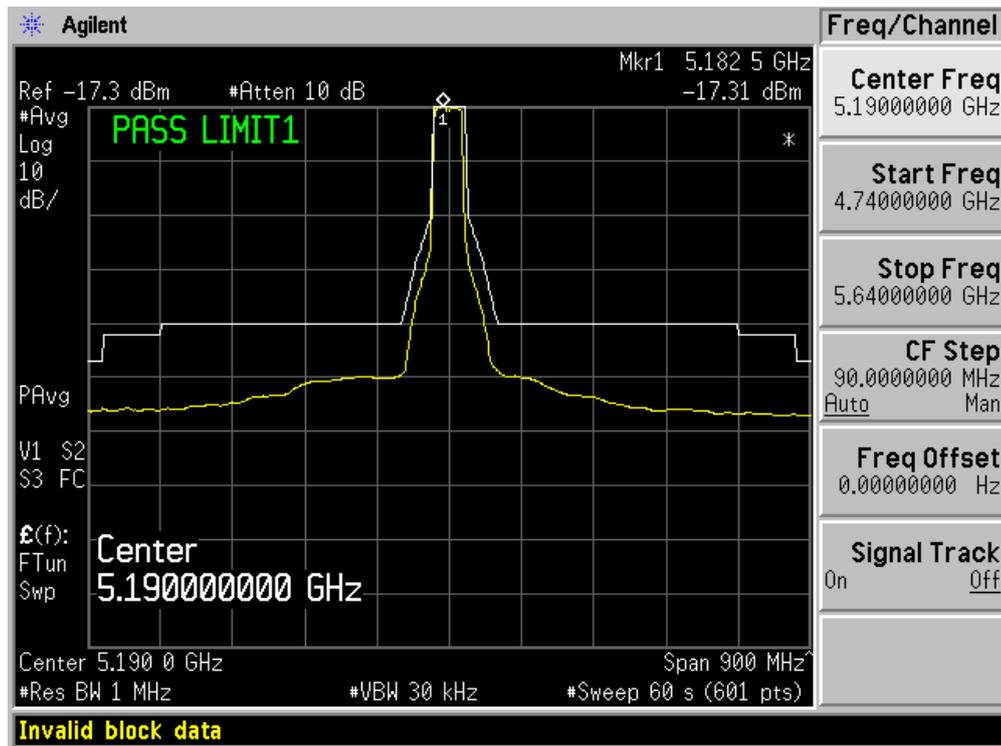


Vertical

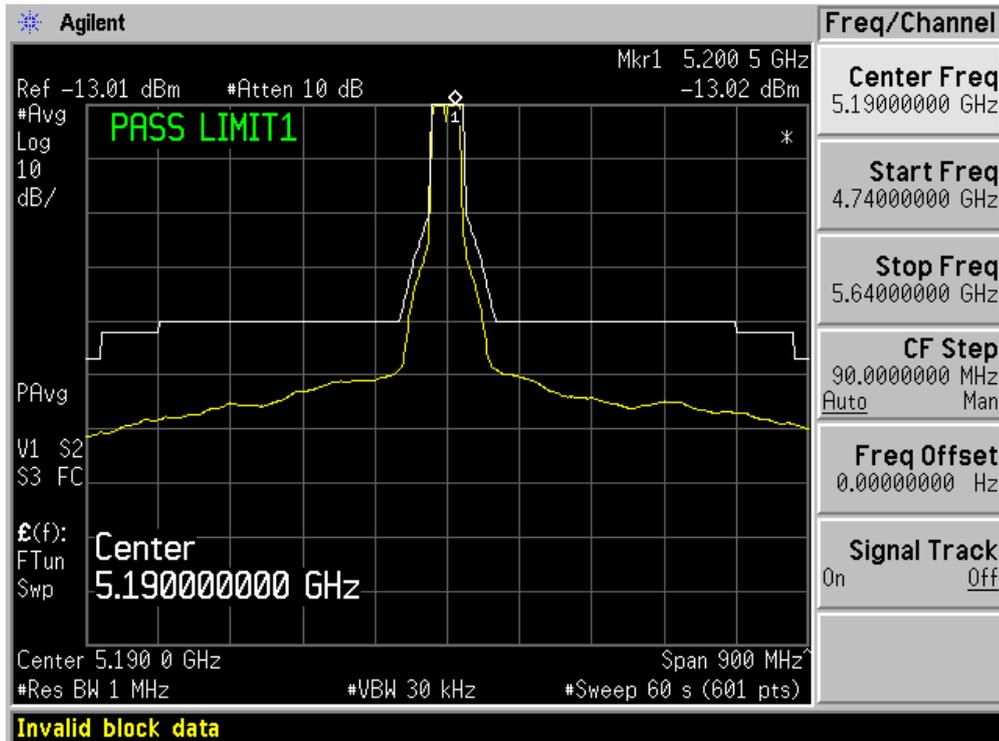


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 3: Transmit by 802.11n(40MHz) (Chain 1X 100)

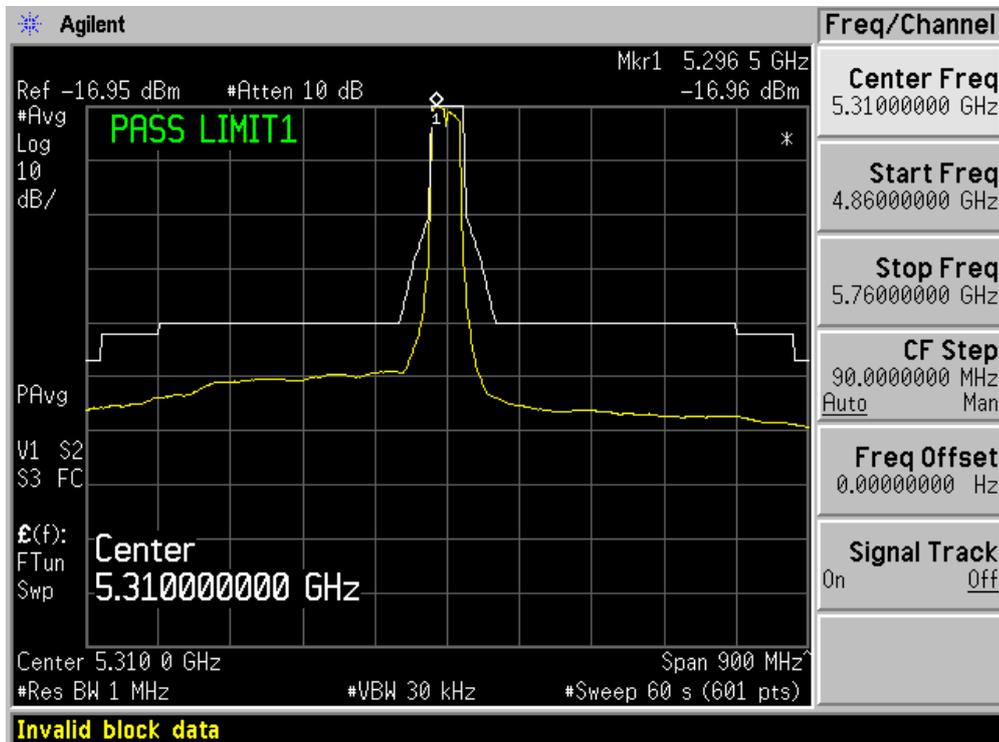
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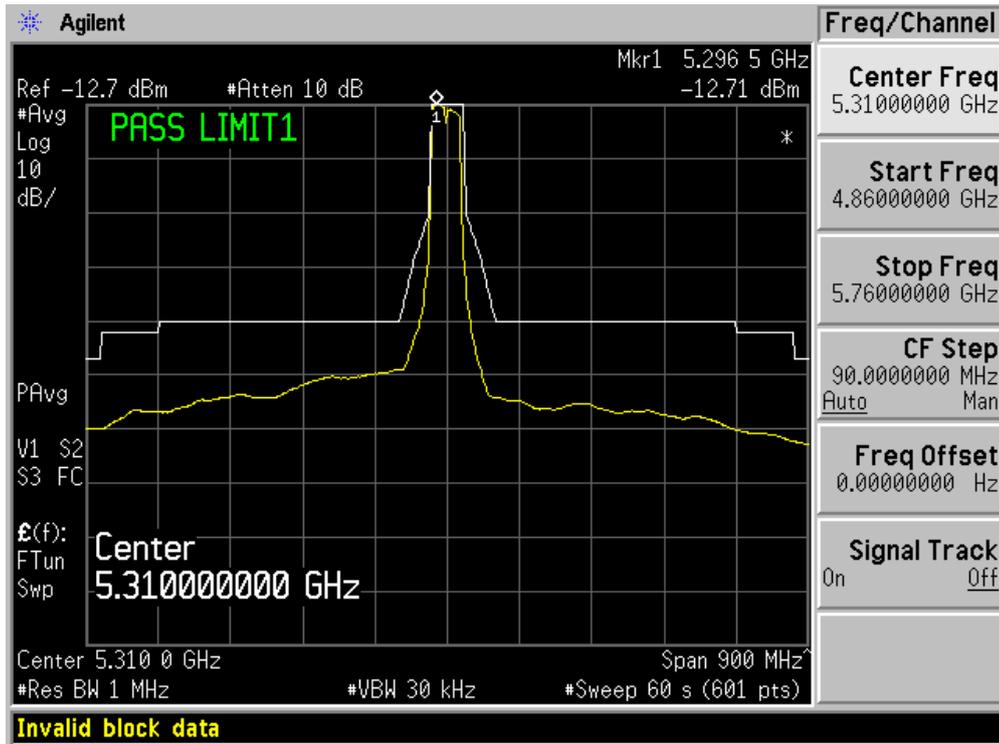
Vertical



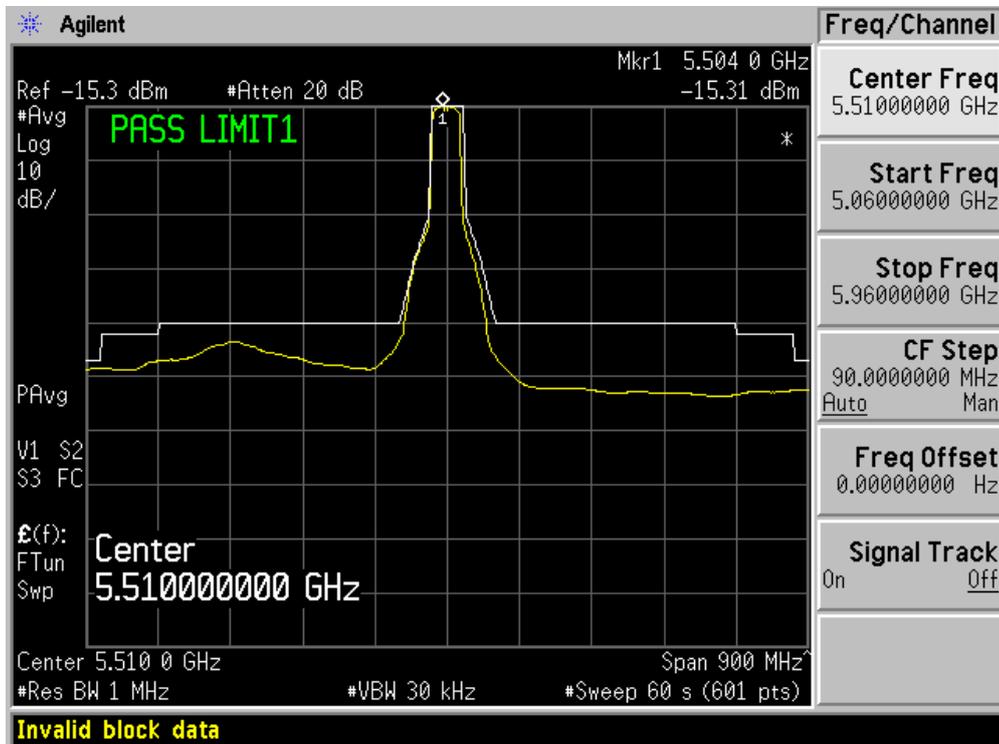
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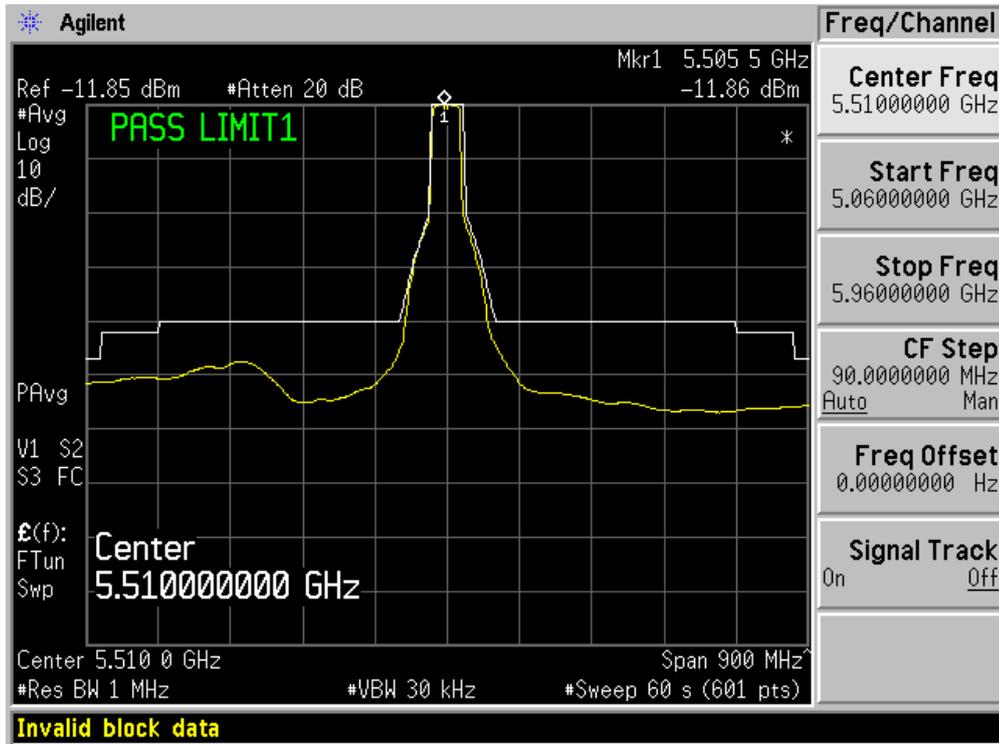
Vertical



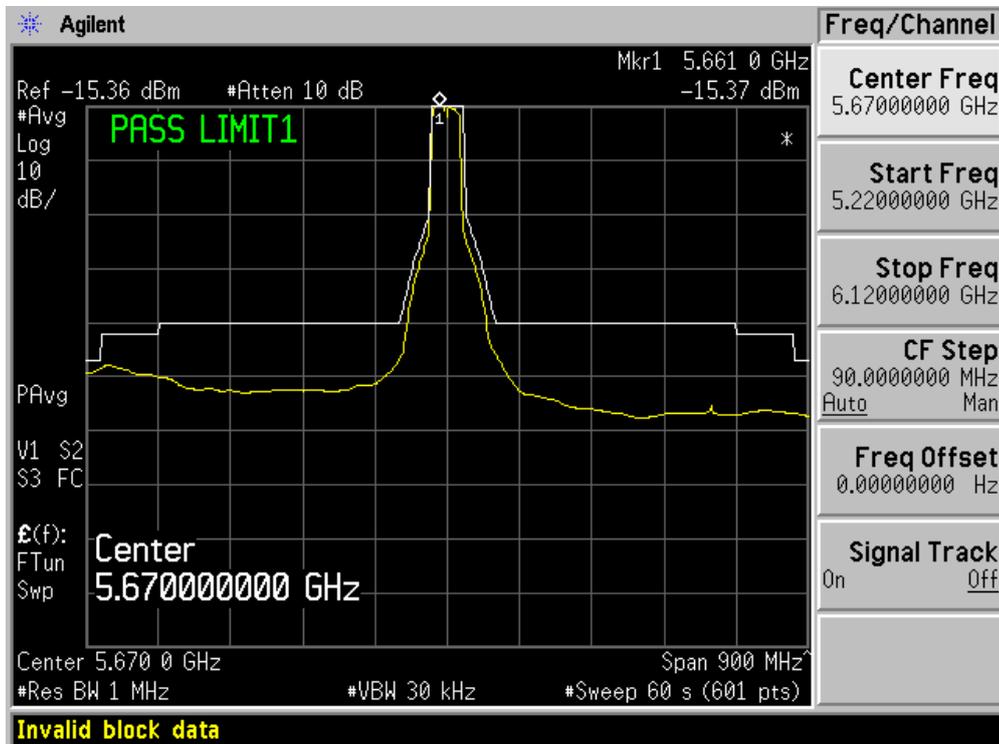
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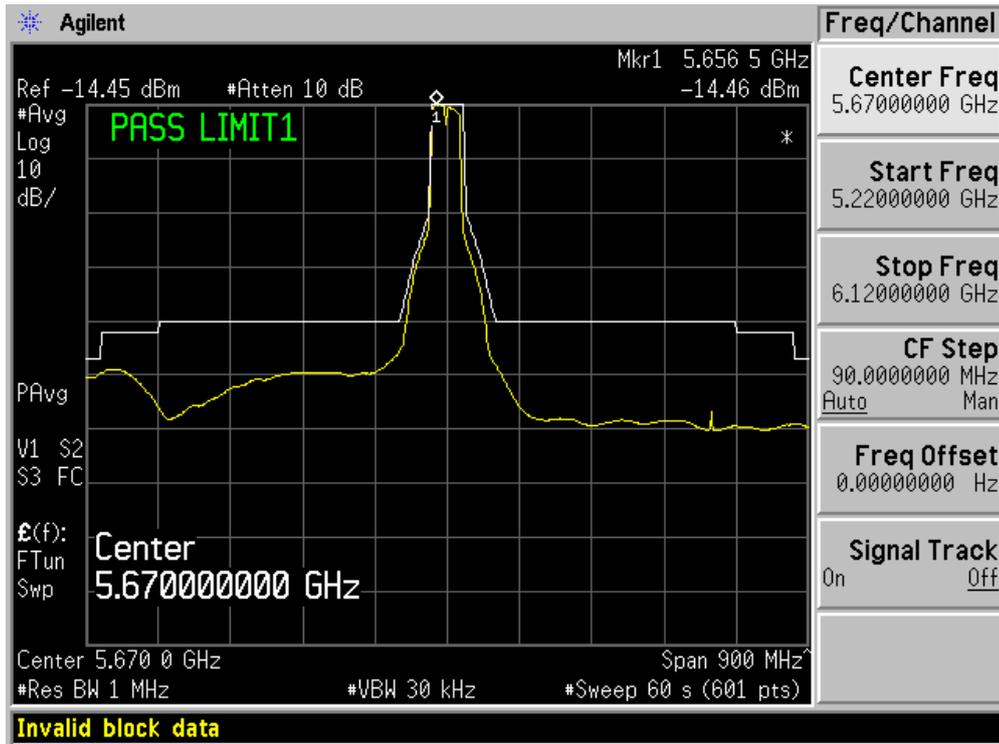
Vertical



Horizontal

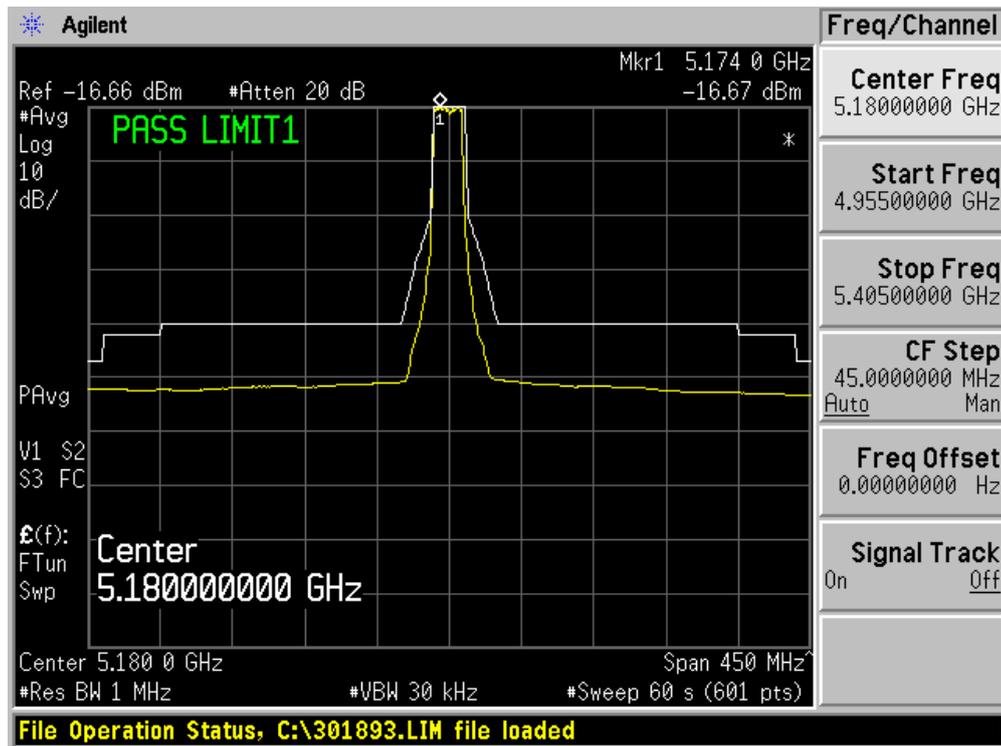


Vertical

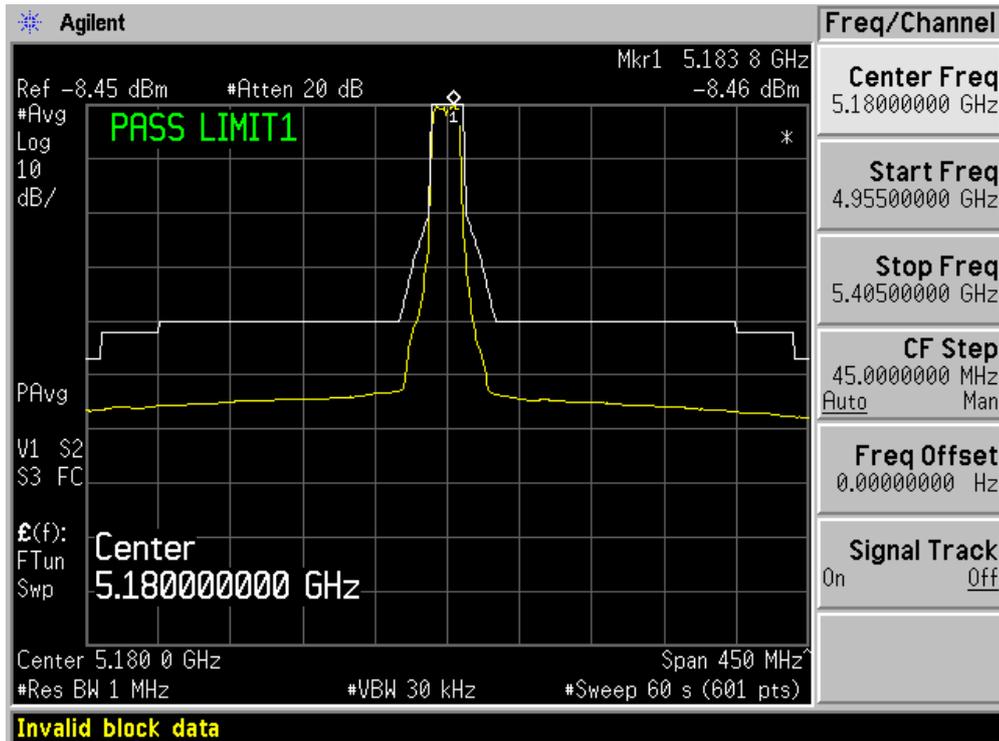


Product	:	WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	:	Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	:	AC-4
Test Mode	:	Mode 2: Transmit by 802.11n(20MHz) (Chain 2X 110)

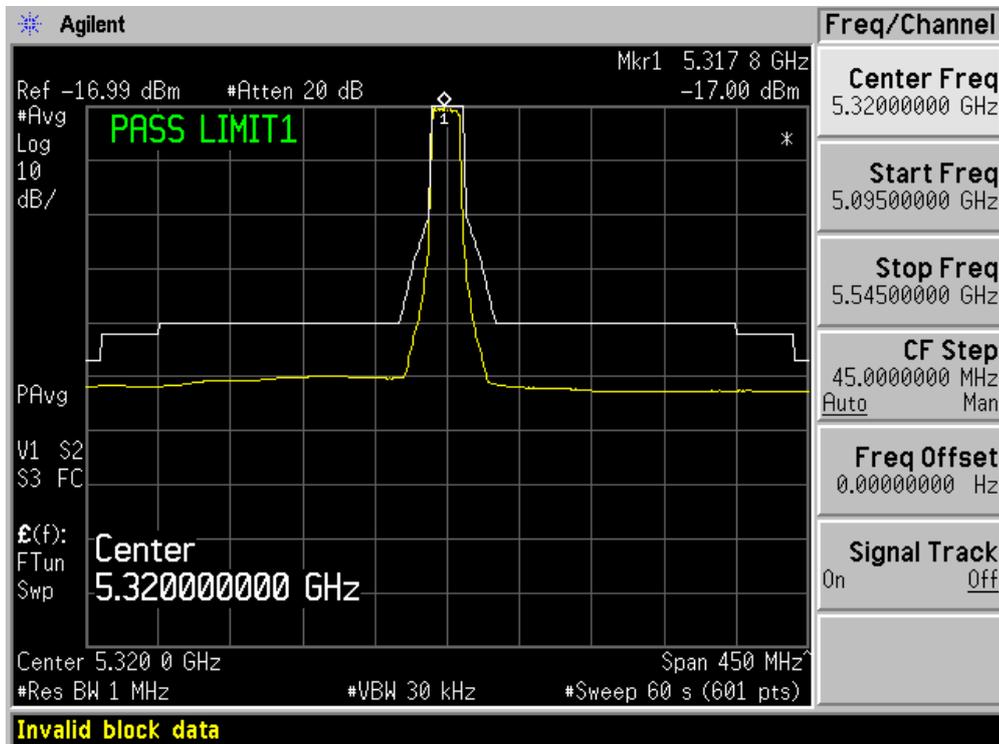
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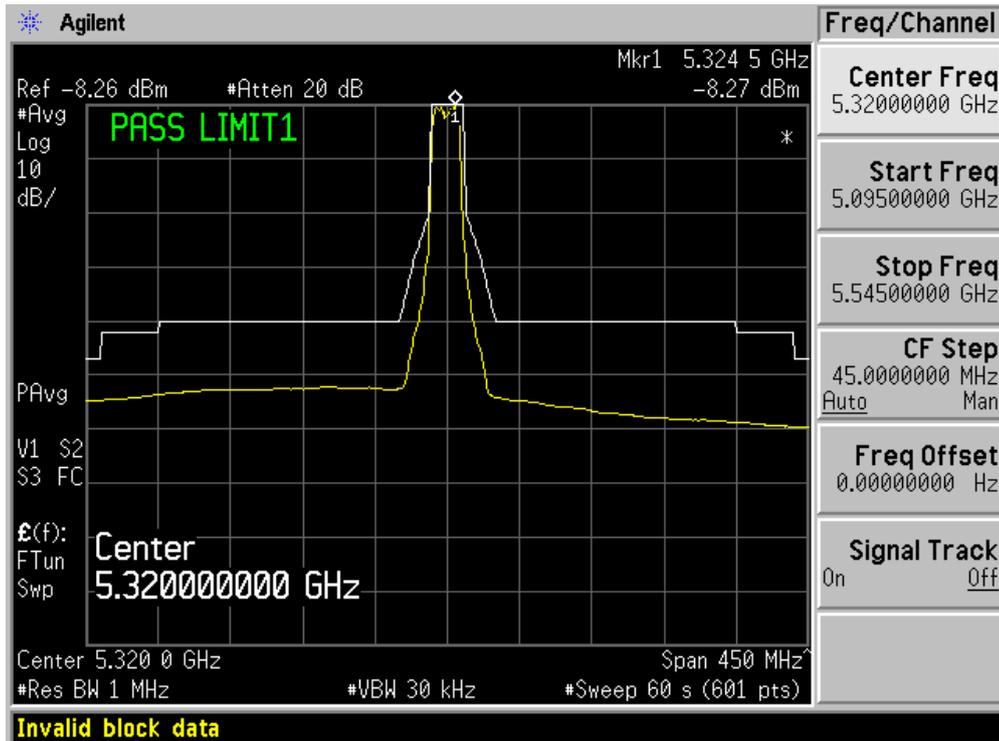
Vertical



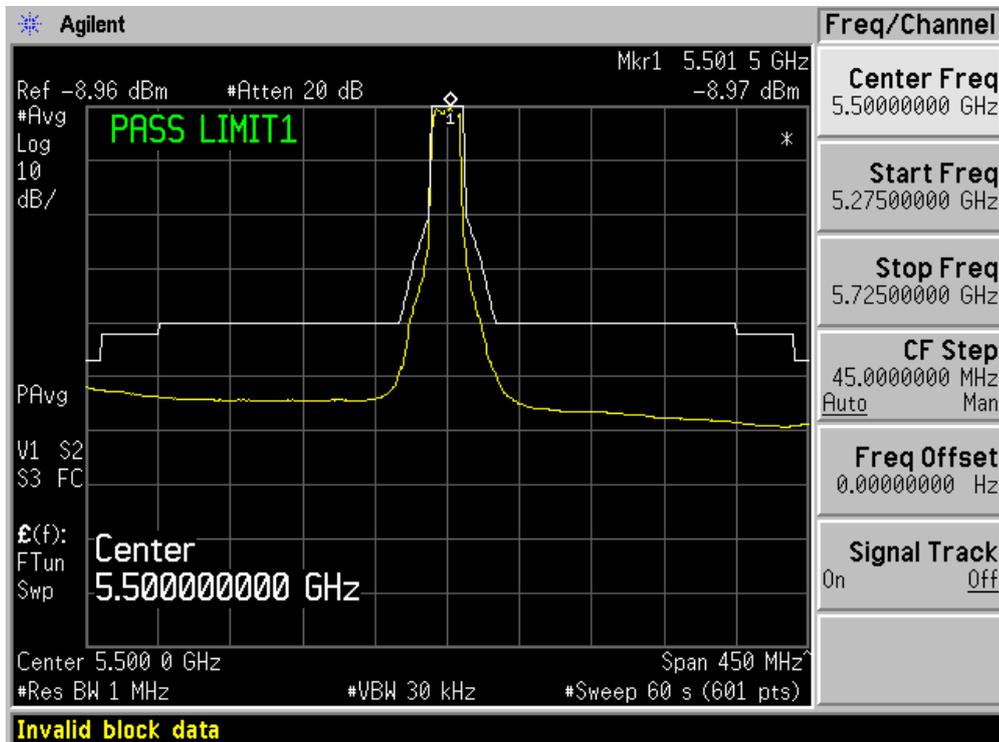
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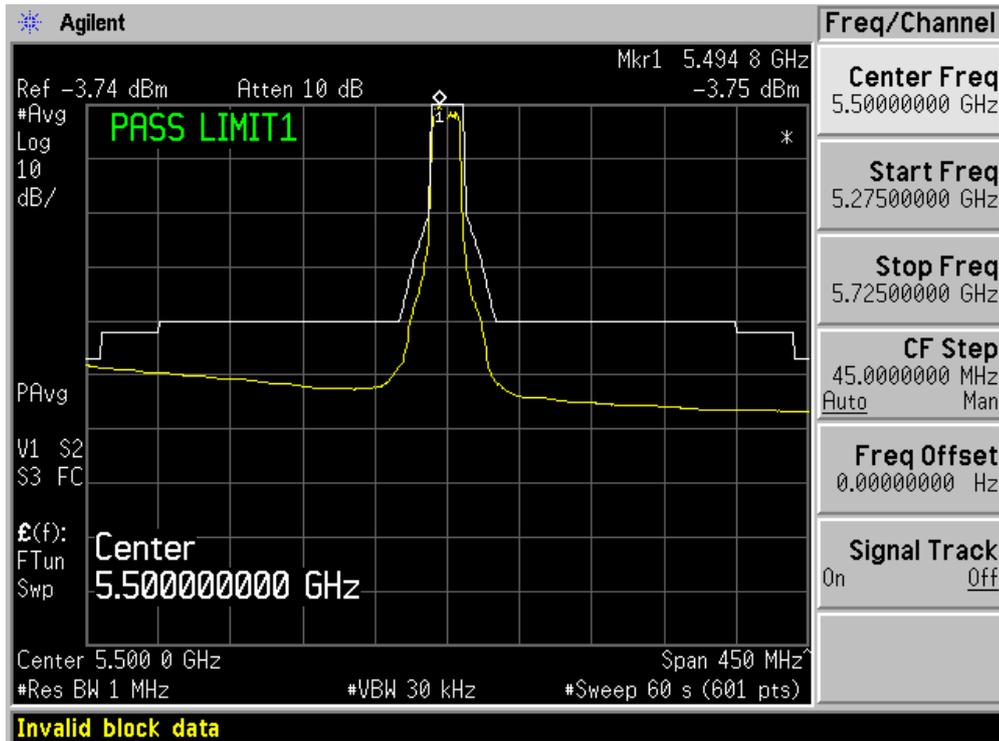
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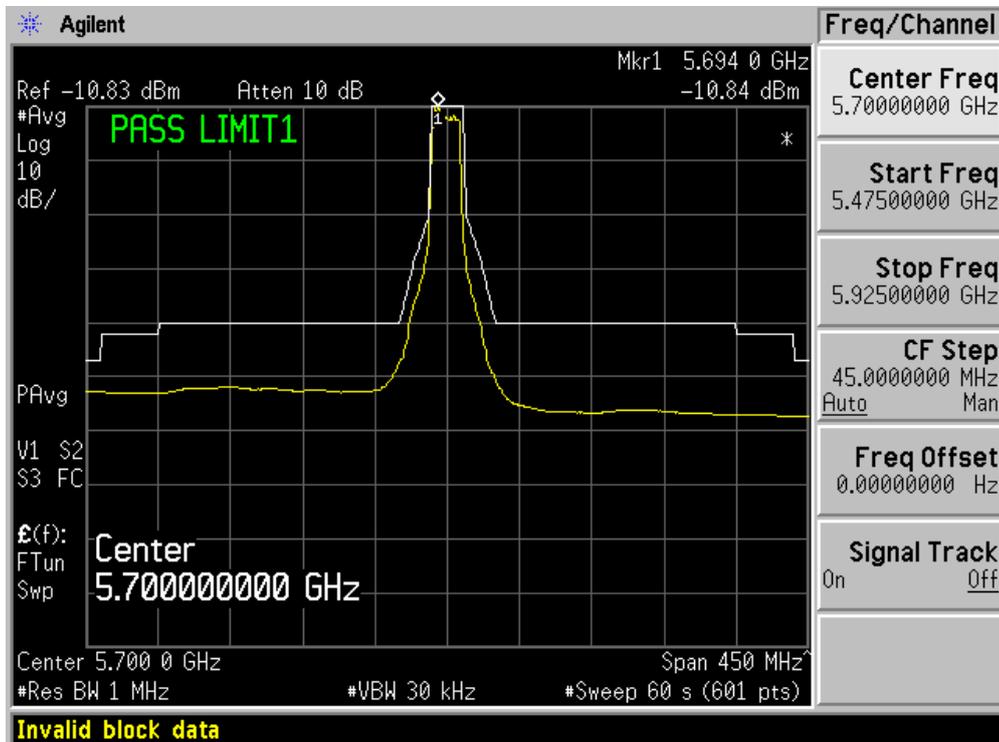
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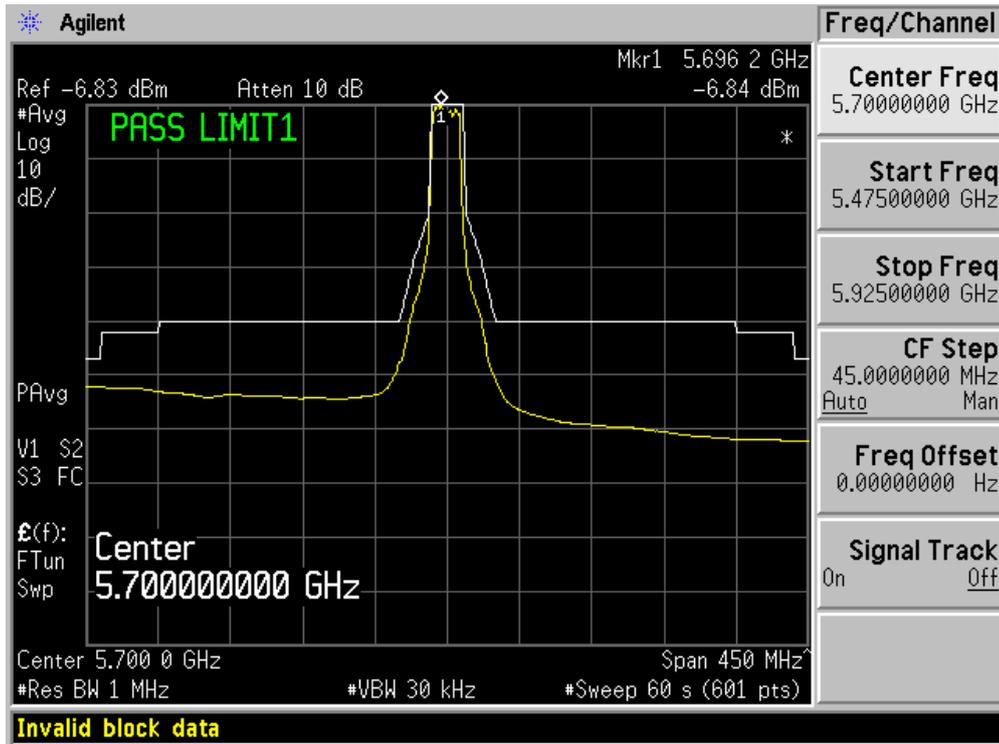
Vertical



Horizontal

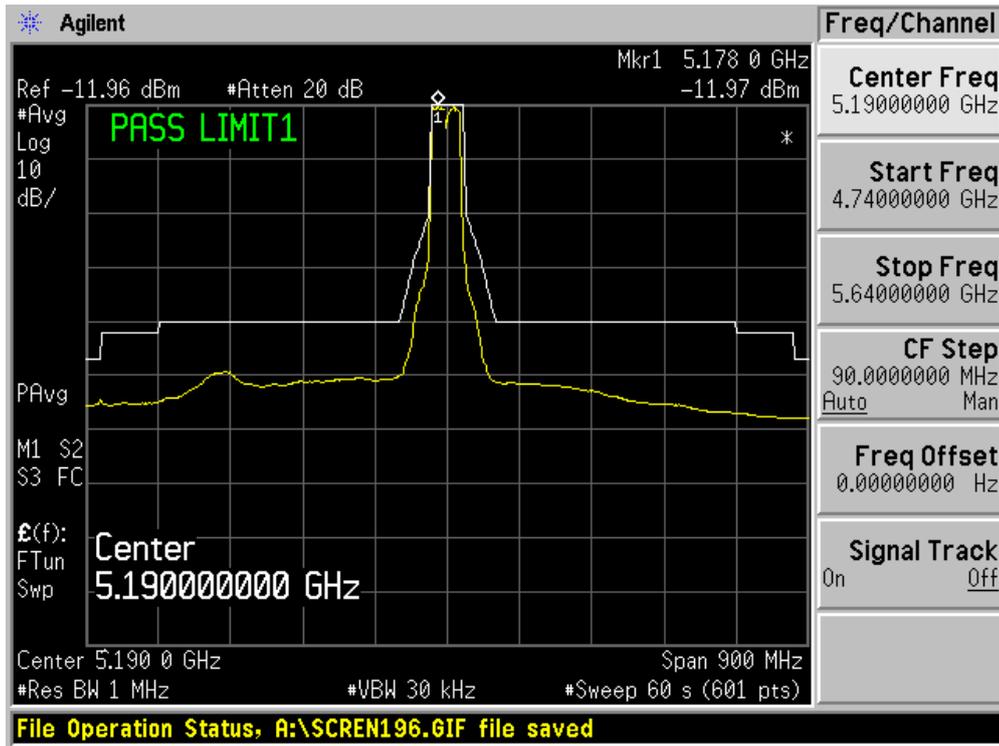


Vertical

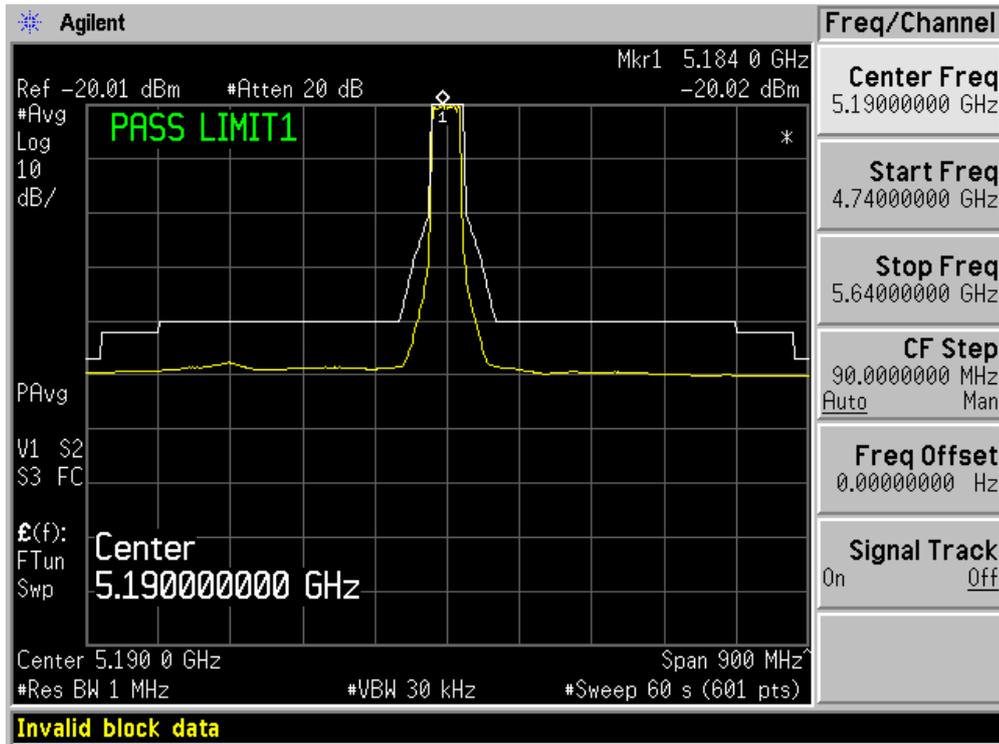


Product	: WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER
Test Item	: Transmitter Unwanted Emissions Within the 5GHz RLAN Bands
Test Site	: AC-4
Test Mode	: Mode 3: Transmit by 802.11n(40MHz) (Chain 2X 110)

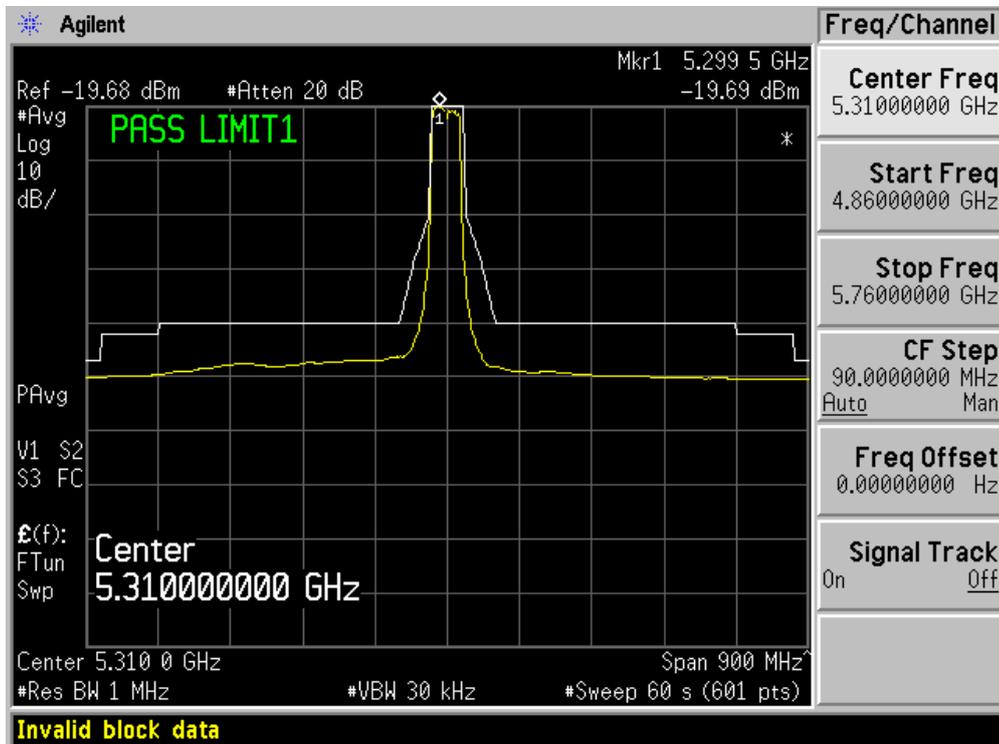
Horizontal



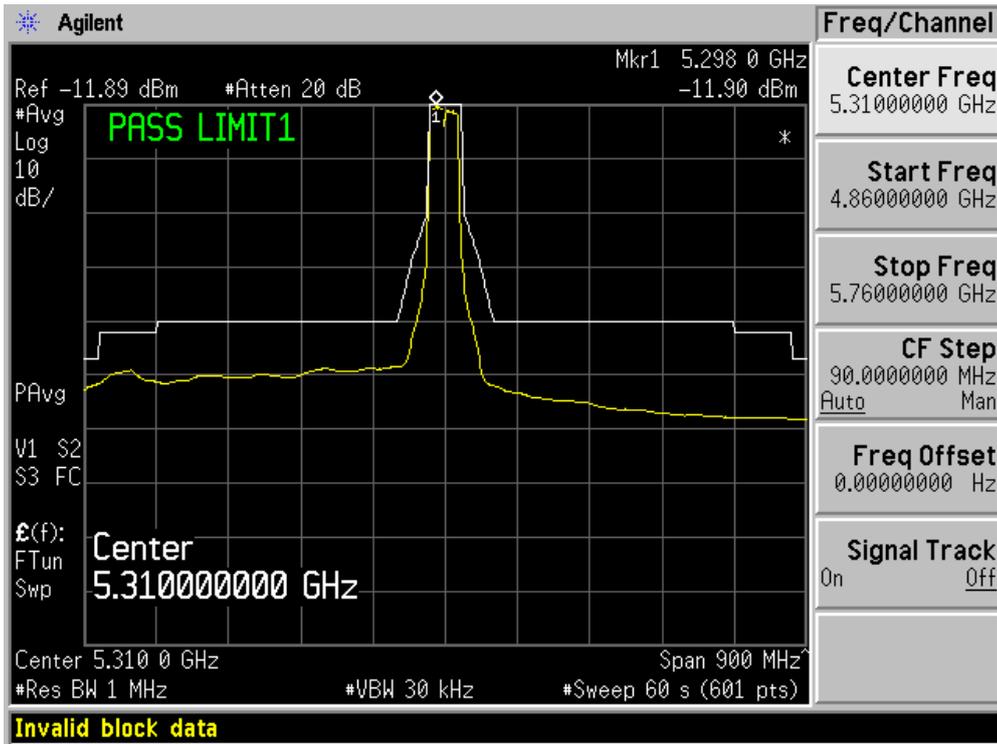
Vertical



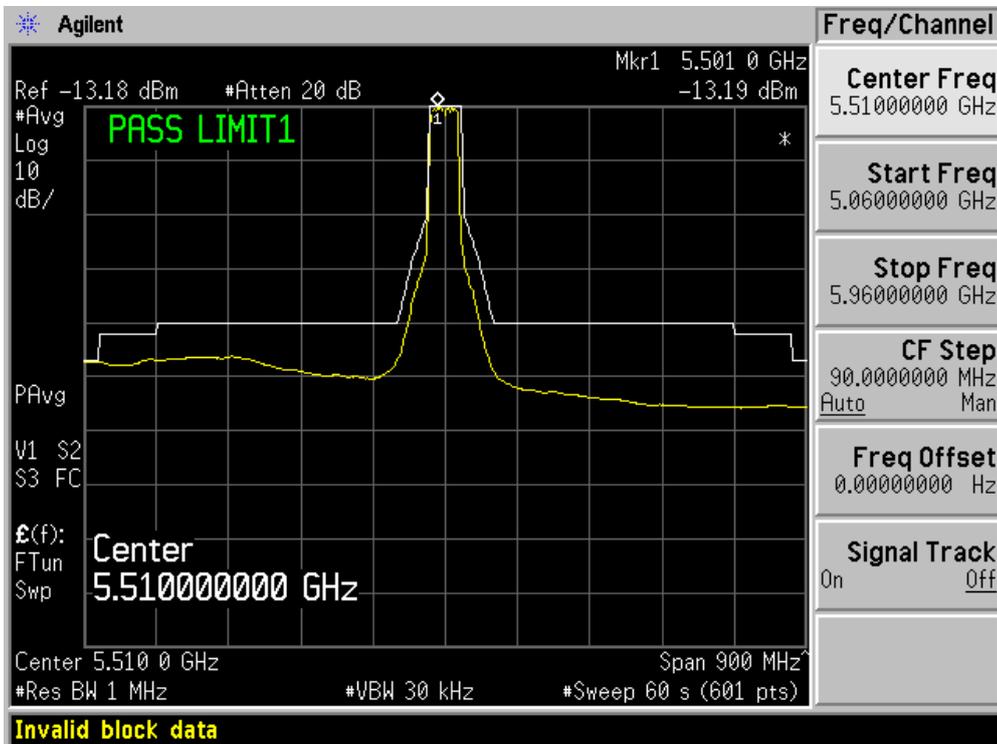
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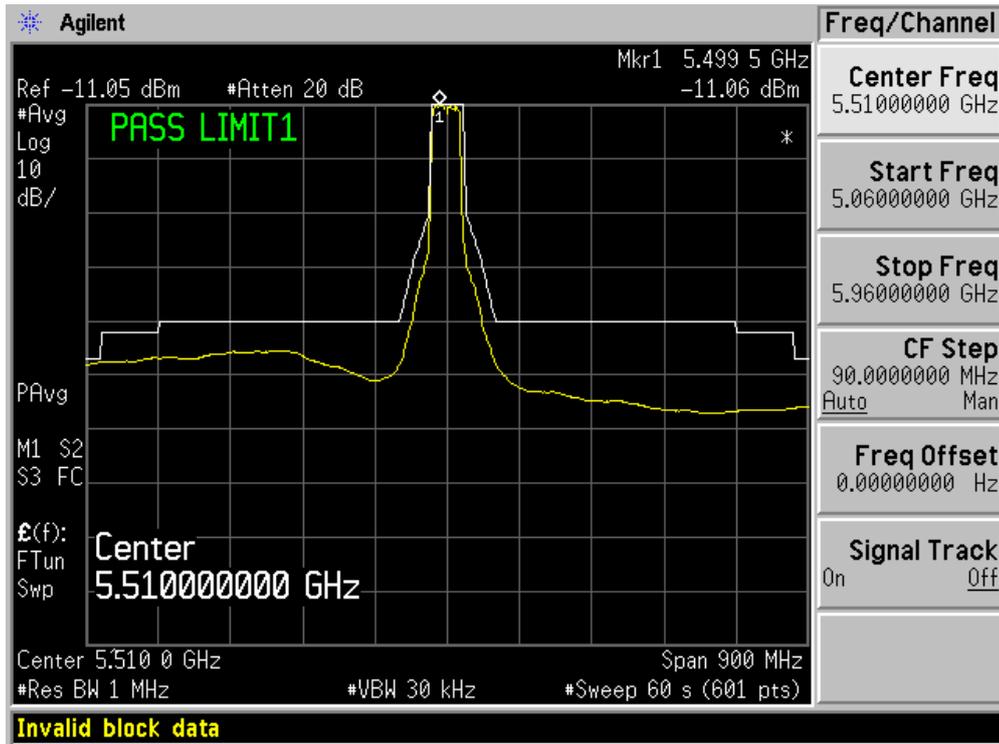
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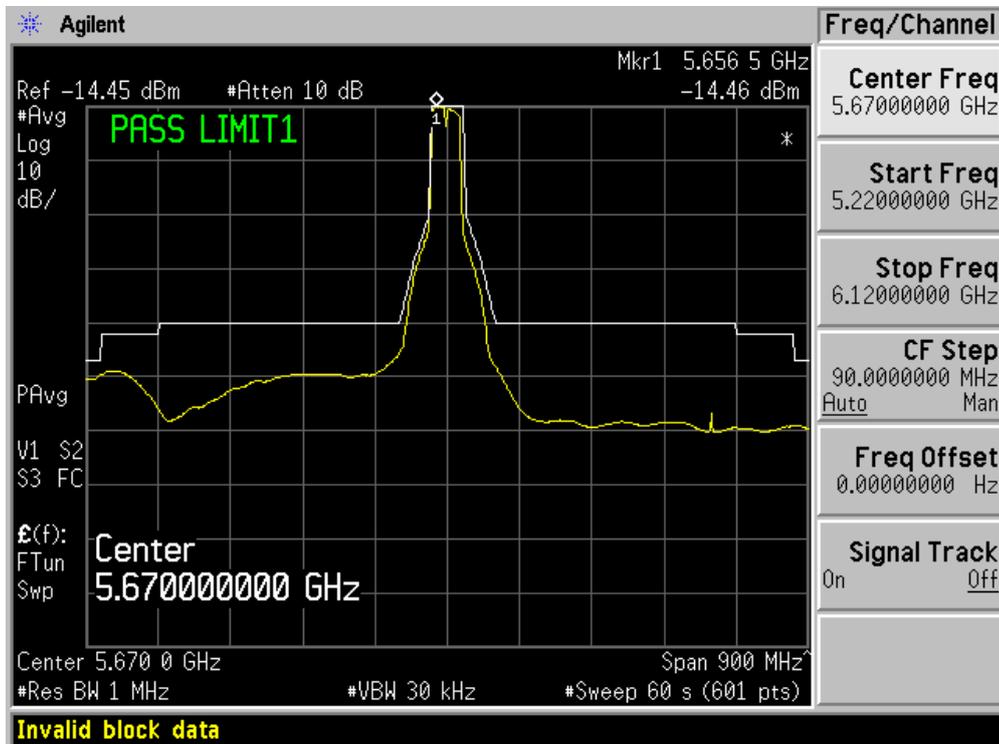
Horizontal



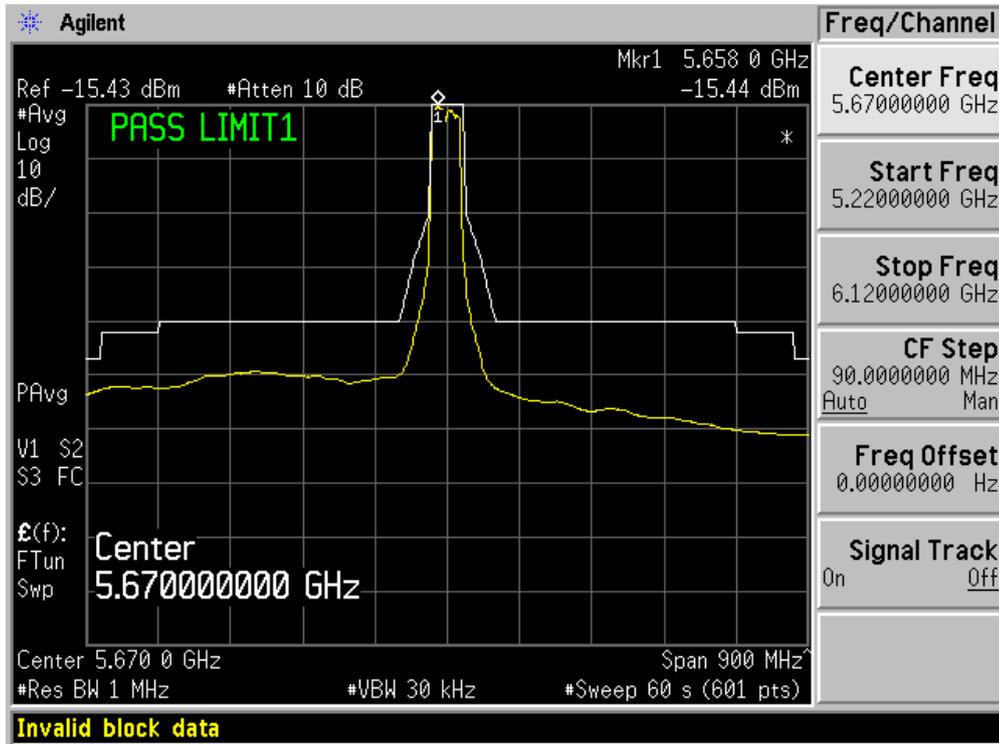
Vertical



Horizontal

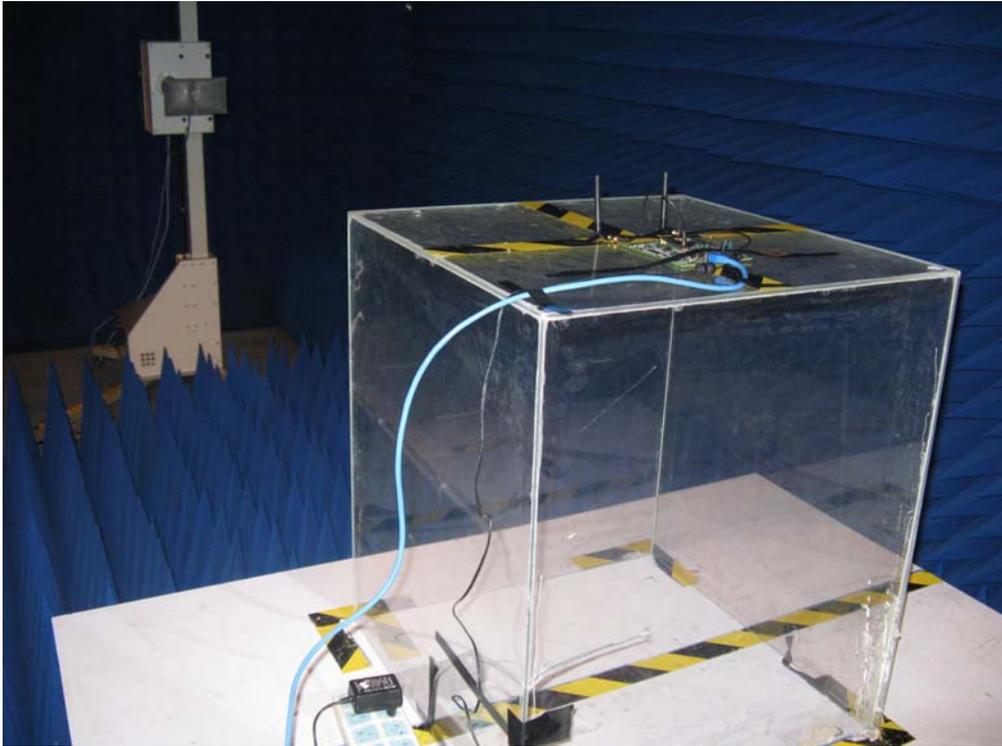


Vertical



**7.6. Test Photograph**

Description : Transmitter Unwanted Emissions Within the 5GHz RLAN Bands



## 8. Receiver Spurious Emissions

### 8.1. Test Equipment

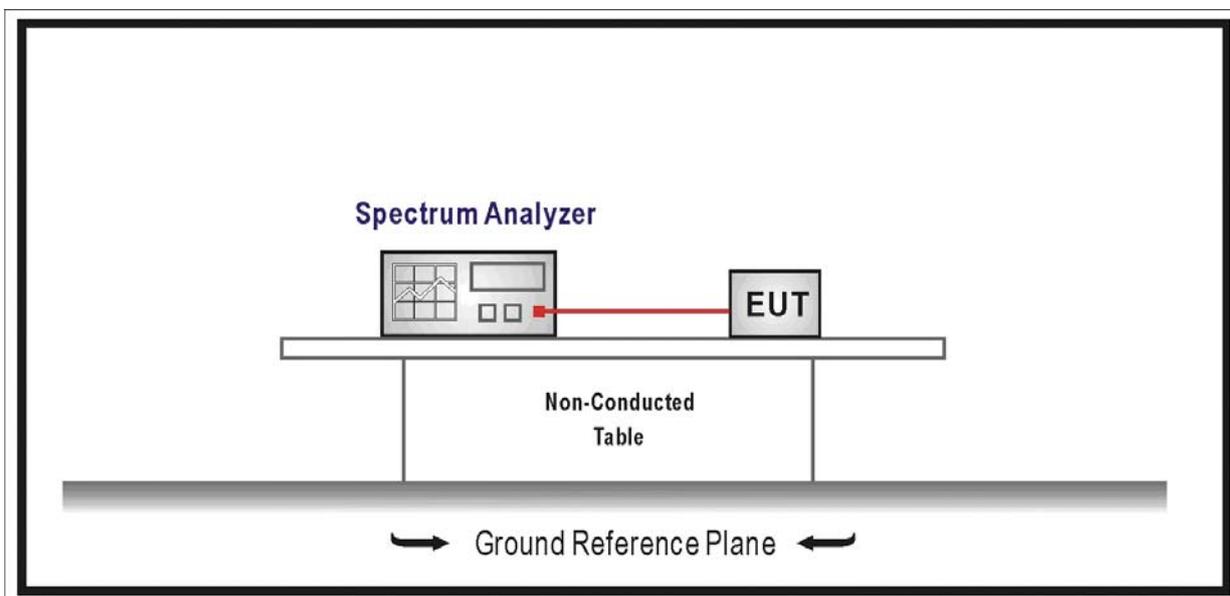
#### Receiver Spurious Emissions / AC-4

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2008/06/11
PSG Analog S.G.	Agilent	E8257D	MY44321116	2008/06/11
Preamplifier	Quietek	AP-025C	QT-AP005	2008/11/24
Preamplifier	Quietek	AP-180C	CHM-0602013	2008/11/24
Bilog Type Antenna	Schaffner	CBL6141A	4278	2008/11/24
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	499	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	295	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RL	06	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-T	08	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF	09	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2008/03/09

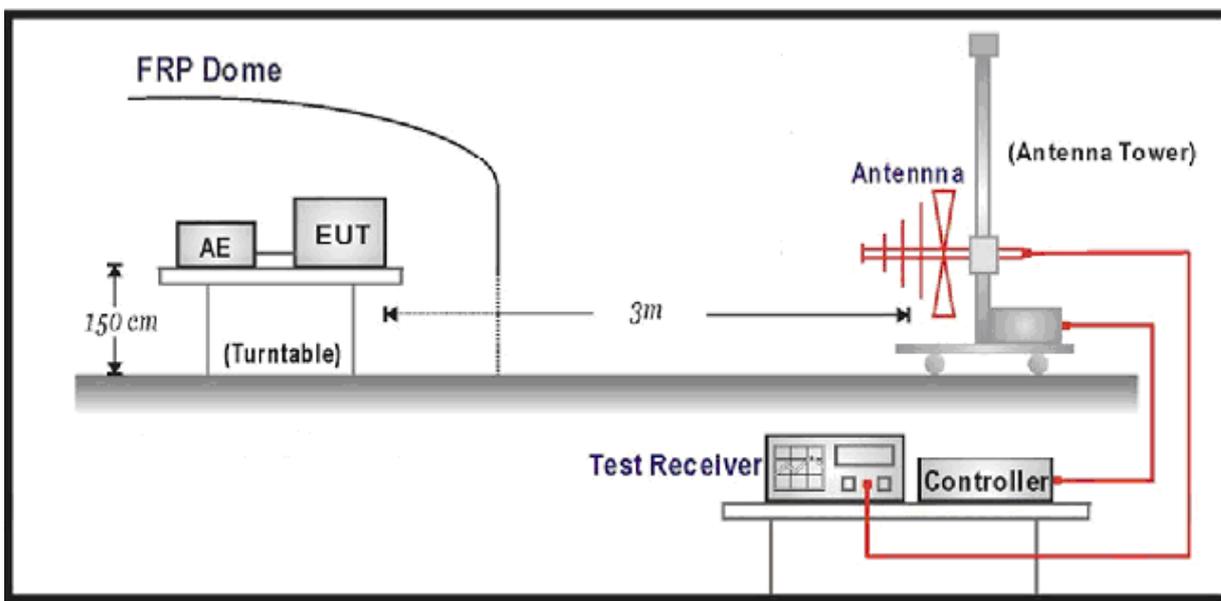
Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

## 8.2. Test Setup

### For Conducted Measurement



### For Radiated Measurement



## 8.3. Limit

Frequency Range	Maximum Power, ERP	Measurement Bandwidth
30 MHz to 1GHz	-57 dBm	100 kHz
1 GHz to 26 GHz	-47 dBm	1 MHz

## 8.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.7

**8.5. Test Result**

<b>Mode 4: Receive by 802.11n(20MHz) (Chain 1X 010)</b>					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
<b>Channel 36 (5180MHz)</b>					
96.28	H	-67.28	-57	-10.28	PEAK
96.28	V	-62.33	-57	-5.33	PEAK
311.30	H	-68.34	-57	-11.34	PEAK
311.30	V	-63.55	-57	-6.55	PEAK
694.45	H	-67.40	-57	-10.4	PEAK
694.45	V	-62.46	-57	-5.46	PEAK
1607.08	H	-68.28	-47	-21.28	PEAK
1607.08	V	-60.39	-47	-13.39	PEAK
2253.33	H	-55.65	-47	-8.65	PEAK
2253.33	V	-50.50	-47	-3.5	PEAK
3389.16	H	-64.69	-47	-17.69	PEAK
3389.16	V	-58.74	-47	-11.74	PEAK
<b>Channel 64 (5320MHz)</b>					
240.16	H	-71.47	-57	-14.47	PEAK
240.16	V	-64.97	-57	-7.97	PEAK
527.93	H	-71.60	-57	-14.6	PEAK
527.93	V	-65.94	-57	-8.94	PEAK
749.41	H	-68.03	-57	-11.03	PEAK
749.41	V	-64.65	-57	-7.65	PEAK
1254.58	H	-66.73	-47	-19.73	PEAK
1254.58	V	-59.34	-47	-12.34	PEAK
2057.50	H	-66.29	-47	-19.29	PEAK
2057.50	V	-58.89	-47	-11.89	PEAK
3741.66	H	-63.76	-47	-16.76	PEAK
3741.66	V	-58.88	-47	-11.88	PEAK
<b>Channel 100 (5500MHz)</b>					
232.08	H	-68.02	-57	-11.02	PEAK
232.08	V	-64.48	-57	-7.48	PEAK
432.55	H	-60.68	-57	-3.68	PEAK
432.55	V	-59.36	-57	-2.36	PEAK
786.60	H	-70.77	-57	-13.77	PEAK
786.60	V	-65.47	-57	-8.47	PEAK

1607.08	H	-68.28	-47	-21.28	PEAK
1607.08	V	-61.43	-47	-14.43	PEAK
2390.41	H	-64.03	-47	-17.03	PEAK
2390.41	V	-58.28	-47	-11.28	PEAK
3741.66	H	-62.84	-47	-15.84	PEAK
3741.66	V	-55.24	-47	-8.24	PEAK
Channel 140 (5700MHz)					
191.66	H	-66.85	-57	-9.85	PEAK
191.66	V	-61.92	-57	-4.92	PEAK
500.45	H	-62.91	-57	-5.91	PEAK
500.45	V	-60.63	-57	-3.63	PEAK
749.41	H	-68.03	-57	-11.03	PEAK
749.41	V	-66.17	-57	-9.17	PEAK
1332.91	H	-68.49	-47	-21.49	PEAK
1332.91	V	-60.75	-47	-13.75	PEAK
2468.75	H	-67.94	-47	-20.94	PEAK
2468.75	V	-60.64	-47	-13.64	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-58.47	-47	-11.47	PEAK

Mode 5: Receive by 802.11n(40MHz) (Chain 1X 010)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
167.41	H	-65.52	-57	-8.52	PEAK
167.41	V	-63.64	-57	-6.64	PEAK
299.98	H	-61.66	-57	-4.66	PEAK
299.98	V	-58.67	-57	-1.67	PEAK
679.90	H	-67.37	-57	-10.37	PEAK
679.90	V	-64.67	-57	-7.67	PEAK
1176.25	H	-61.66	-47	-14.66	PEAK
1176.25	V	-55.85	-47	-8.85	PEAK
2253.33	H	-59.04	-47	-12.04	PEAK
2253.33	V	-52.75	-47	-5.75	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-57.73	-47	-10.73	PEAK
Channel 62 (5310MHz)					
99.51	H	-72.48	-57	-15.48	PEAK
99.51	V	-65.29	-57	-8.29	PEAK
288.66	H	-70.40	-57	-13.4	PEAK
288.66	V	-67.46	-57	-10.46	PEAK
584.51	H	-70.86	-57	-13.86	PEAK
584.51	V	-65.73	-57	-8.73	PEAK
1332.91	H	-68.49	-47	-21.49	PEAK
1332.91	V	-62.36	-47	-15.36	PEAK
2264.47	H	-67.94	-47	-20.94	PEAK
2264.47	V	-60.56	-47	-13.56	PEAK
5993.75	H	-58.74	-47	-11.74	PEAK
5993.75	V	-53.85	-47	-6.85	PEAK
Channel 102 (5510MHz)					
157.71	H	-67.47	-57	-10.47	PEAK
157.71	V	-62.45	-57	-5.45	PEAK
274.11	H	-69.97	-57	-12.97	PEAK
274.11	V	-63.74	-57	-6.74	PEAK
527.93	H	-71.60	-57	-14.6	PEAK
527.93	V	-65.28	-57	-8.28	PEAK
1509.16	H	-54.15	-47	-7.15	PEAK

1509.16	V	-50.77	-47	-3.77	PEAK
2253.33	H	-58.10	-47	-11.1	PEAK
2253.33	V	-53.45	-47	-6.45	PEAK
3389.16	H	-65.20	-47	-18.2	PEAK
3389.16	V	-57.59	-47	-10.59	PEAK
Channel 134 (5670MHz)					
96.28	H	-70.56	-57	-13.56	PEAK
96.28	V	-65.42	-57	-8.42	PEAK
215.91	H	-71.90	-57	-14.9	PEAK
215.91	V	-65.24	-57	-8.24	PEAK
694.45	H	-67.40	-57	-10.4	PEAK
694.45	V	-64.35	-57	-7.35	PEAK
2253.33	H	-57.53	-47	-10.53	PEAK
2253.33	V	-51.43	-47	-4.43	PEAK
3741.66	H	-60.00	-47	-13.0	PEAK
3741.66	V	-55.35	-47	-8.35	PEAK
5249.58	H	-60.19	-47	-13.19	PEAK
5249.58	V	-55.66	-47	-8.66	PEAK

Mode 4: Receive by 802.11n(20MHz) (Chain 1X 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 36 (5180MHz)					
67.18	H	-68.96	-57	-11.96	PEAK
67.18	V	-63.56	-57	-6.56	PEAK
366.26	H	-67.50	-57	-10.5	PEAK
366.26	V	-64.36	-57	-7.36	PEAK
527.93	H	-71.60	-57	-14.6	PEAK
527.93	V	-67.38	-57	-10.38	PEAK
2057.50	H	-63.07	-47	-16.07	PEAK
2057.50	V	-57.38	-47	-10.38	PEAK
3389.16	H	-64.48	-47	-17.48	PEAK
3389.16	V	-57.27	-47	-10.27	PEAK
4505.41	H	-64.36	-47	-17.36	PEAK
4505.41	V	-56.28	-47	-9.28	PEAK
Channel 64 (5320MHz)					
96.28	H	-70.56	-57	-13.56	PEAK
96.28	V	-63.46	-57	-6.46	PEAK
233.70	H	-63.81	-57	-6.81	PEAK
233.70	V	-59.55	-57	-2.55	PEAK
384.05	H	-69.22	-57	-12.22	PEAK
384.05	V	-67.57	-57	-10.57	PEAK
2057.50	H	-63.07	-47	-16.07	PEAK
2057.50	V	-58.33	-47	-11.33	PEAK
3389.16	H	-64.48	-47	-17.48	PEAK
3389.16	V	-57.44	-47	-10.44	PEAK
3741.66	H	-62.15	-47	-15.15	PEAK
3741.66	V	-56.25	-47	-9.25	PEAK
Channel 100 (5500MHz)					
233.70	H	-62.81	-57	-5.81	PEAK
233.70	V	-60.47	-57	-3.47	PEAK
335.55	H	-65.35	-57	-8.35	PEAK
335.55	V	-63.58	-57	-6.58	PEAK
749.41	H	-68.03	-57	-11.03	PEAK
749.41	V	-66.44	-57	-9.44	PEAK
1802.91	H	-65.45	-47	-18.45	PEAK

1802.91	V	-58.35	-47	-11.35	PEAK
2997.50	H	-56.86	-47	-9.86	PEAK
2997.50	V	-52.45	-47	-5.45	PEAK
5249.58	H	-60.19	-47	-13.19	PEAK
5249.58	V	-54.64	-47	-7.64	PEAK
Channel 140 (5700MHz)					
167.41	H	-65.52	-57	-8.52	PEAK
167.41	V	-61.52	-57	-4.52	PEAK
299.98	H	-63.66	-57	-6.66	PEAK
299.98	V	-60.66	-57	-3.66	PEAK
515.00	H	-74.39	-57	-17.39	PEAK
515.00	V	-64.89	-57	-7.89	PEAK
1254.58	H	-66.06	-47	-19.06	PEAK
1254.58	V	-58.67	-47	-11.67	PEAK
2057.50	H	-66.89	-47	-19.89	PEAK
2057.50	V	-60.57	-47	-13.57	PEAK
5249.58	H	-60.19	-47	-13.19	PEAK
5249.58	V	-55.37	-47	-8.37	PEAK

Mode 5: Receive by 802.11n(40MHz) (Chain 1X 100)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
57.48	H	-72.82	-57	-15.82	PEAK
57.48	V	-64.62	-57	-7.62	PEAK
240.16	H	-71.47	-57	-14.47	PEAK
240.16	V	-65.62	-57	-8.62	PEAK
545.71	H	-70.32	-57	-13.32	PEAK
545.71	V	-64.54	-57	-7.54	PEAK
1802.91	H	-63.59	-47	-16.59	PEAK
1802.91	V	-55.75	-47	-8.75	PEAK
3389.16	H	-65.20	-47	-18.2	PEAK
3389.16	V	-54.47	-47	-7.47	PEAK
3741.66	H	-61.47	-47	-14.47	PEAK
3741.66	V	-53.67	-47	-6.67	PEAK
Channel 62 (5310MHz)					
215.91	H	-71.90	-57	-14.9	PEAK
215.91	V	-66.18	-57	-9.18	PEAK
385.66	H	-66.83	-57	-9.83	PEAK
385.66	V	-63.18	-57	-6.18	PEAK
678.28	H	-70.86	-57	-13.86	PEAK
678.28	V	-66.27	-57	-9.27	PEAK
1332.91	H	-68.49	-47	-21.49	PEAK
1332.91	V	-59.75	-47	-12.75	PEAK
2390.41	H	-66.62	-47	-19.62	PEAK
2390.41	V	-58.37	-47	-11.37	PEAK
3741.66	H	-63.04	-47	-16.04	PEAK
3741.66	V	-57.39	-47	-10.39	PEAK
Channel 102 (5510MHz)					
107.60	H	-76.03	-57	-19.03	PEAK
107.60	V	-60.58	-57	-3.58	PEAK
432.55	H	-61.16	-57	-4.16	PEAK
432.55	V	-59.35	-57	-2.35	PEAK
584.51	H	-70.86	-57	-13.86	PEAK
584.51	V	-66.37	-57	-9.37	PEAK
1489.58	H	-65.09	-47	-18.09	PEAK

1489.58	V	-59.74	-47	-12.74	PEAK
2468.75	H	-67.94	-47	-20.94	PEAK
2468.75	V	-59.86	-47	-12.86	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-56.73	-47	-9.73	PEAK
Channel 134 (5670MHz)					
99.51	H	-75.48	-57	-18.48	PEAK
99.51	V	-66.52	-57	-9.52	PEAK
288.66	H	-70.40	-57	-13.4	PEAK
288.66	V	-67.64	-57	-10.64	PEAK
584.51	H	-70.86	-57	-13.86	PEAK
584.51	V	-67.77	-57	-10.77	PEAK
1176.25	H	-60.23	-47	-13.23	PEAK
1176.25	V	-56.62	-47	-9.62	PEAK
2135.83	H	-66.64	-47	-19.64	PEAK
2135.83	V	-59.95	-47	-12.95	PEAK
5993.75	H	-61.08	-47	-14.08	PEAK
5993.75	V	-56.62	-47	-9.62	PEAK

Mode 4: Receive by 802.11n(20MHz) (Chain 2X 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 36 (5180MHz)					
99.51	H	-72.48	-57	-15.48	PEAK
99.51	V	-66.38	-57	-9.38	PEAK
240.16	H	-71.47	-57	-14.47	PEAK
240.16	V	-65.46	-57	-8.46	PEAK
364.65	H	-68.25	-57	-11.25	PEAK
364.65	V	-66.27	-57	-9.27	PEAK
1254.58	H	-65.56	-47	-18.56	PEAK
1254.58	V	-58.46	-47	-11.46	PEAK
3389.16	H	-64.48	-47	-17.48	PEAK
3389.16	V	-59.62	-47	-12.62	PEAK
4505.41	H	-64.36	-47	-17.36	PEAK
4505.41	V	-57.16	-47	-10.16	PEAK
Channel 64 (5320MHz)					
102.75	H	-71.73	-57	-14.73	PEAK
102.75	V	-66.24	-57	-9.24	PEAK
233.70	H	-61.81	-57	-4.81	PEAK
233.70	V	-58.76	-57	-1.76	PEAK
527.93	H	-71.60	-57	-14.6	PEAK
527.93	V	-66.79	-57	-9.79	PEAK
1176.25	H	-59.26	-47	-12.26	PEAK
1176.25	V	-58.74	-47	-11.74	PEAK
3389.16	H	-64.48	-47	-17.48	PEAK
3389.16	V	-55.47	-47	-8.47	PEAK
4505.41	H	-64.36	-47	-17.36	PEAK
4505.41	V	-58.28	-47	-11.28	PEAK
Channel 100 (5500MHz)					
118.91	H	-69.89	-57	-12.89	PEAK
118.91	V	-66.19	-57	-9.19	PEAK
432.55	H	-61.16	-57	-4.16	PEAK
432.55	V	-59.78	-57	-2.78	PEAK
833.48	H	-70.71	-57	-13.71	PEAK
833.48	V	-65.78	-57	-8.78	PEAK
1254.58	H	-65.56	-47	-18.56	PEAK

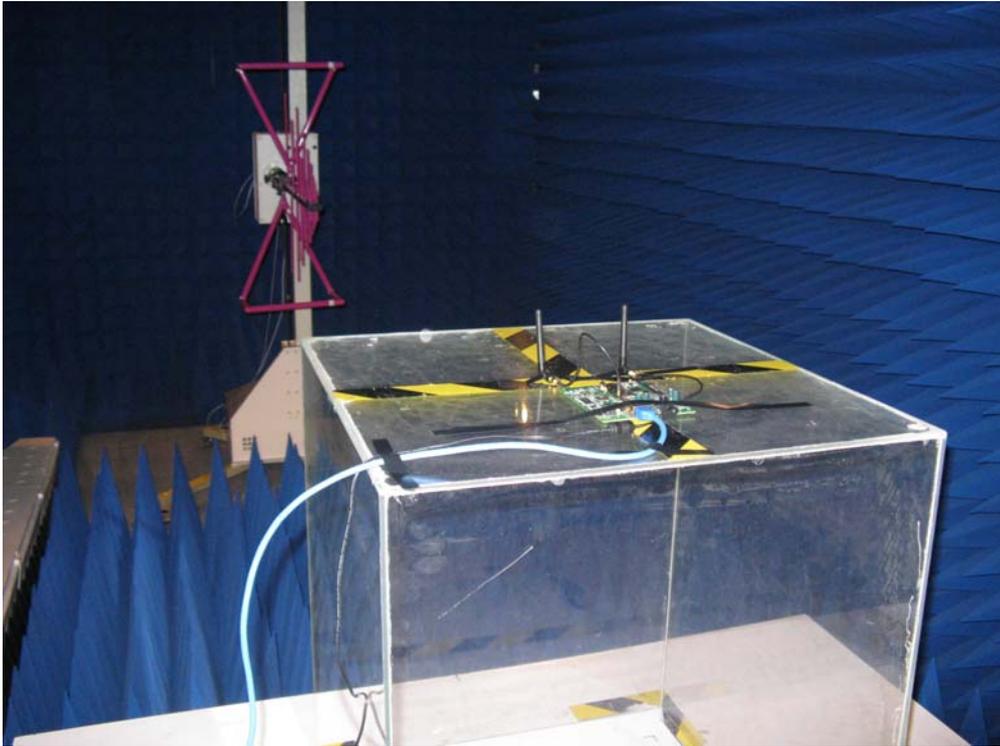
1254.58	V	-58.46	-47	-11.46	PEAK
2997.50	H	-63.07	-47	-16.07	PEAK
2997.50	V	-57.26	-47	-10.26	PEAK
4505.41	H	-64.36	-47	-17.36	PEAK
4505.41	V	-59.71	-47	-12.71	PEAK
Channel 140 (5700MHz)					
148.01	H	-62.27	-57	-5.27	PEAK
148.01	V	-60.36	-57	-3.36	PEAK
432.55	H	-60.68	-57	-3.68	PEAK
432.55	V	-58.66	-57	-1.66	PEAK
749.41	H	-68.03	-57	-11.03	PEAK
749.41	V	-65.47	-57	-8.47	PEAK
1176.25	H	-61.66	-47	-14.66	PEAK
1176.25	V	-57.87	-47	-10.87	PEAK
2253.33	H	-59.04	-47	-12.04	PEAK
2253.33	V	-55.57	-47	-8.57	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-56.56	-47	-9.56	PEAK

Mode 5: Receive by 802.11n(40MHz) (Chain 2X 110)					
Frequency (MHz)	Polarization (H/V)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector
Channel 38 (5190MHz)					
67.18	H	-69.41	-57	-12.41	PEAK
67.18	V	-65.32	-57	-8.32	PEAK
288.66	H	-70.40	-57	-13.40	PEAK
288.66	V	-66.31	-57	-9.31	PEAK
678.28	H	-70.11	-57	-13.11	PEAK
678.28	V	-66.66	-57	-9.66	PEAK
1332.91	H	-68.49	-47	-21.49	PEAK
1332.91	V	-60.72	-47	-13.72	PEAK
2390.41	H	-66.62	-47	-19.62	PEAK
2390.41	V	-59.58	-47	-12.58	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-58.36	-47	-11.36	PEAK
Channel 62 (5310MHz)					
99.51	H	-70.48	-57	-13.48	PEAK
99.51	V	-66.44	-57	-9.44	PEAK
464.88	H	-70.38	-57	-13.38	PEAK
464.88	V	-65.38	-57	-8.38	PEAK
694.45	H	-66.13	-57	-9.13	PEAK
694.45	V	-64.24	-57	-7.24	PEAK
1254.58	H	-63.81	-47	-16.81	PEAK
1254.58	V	-57.06	-47	-10.06	PEAK
2253.33	H	-55.65	-47	-8.65	PEAK
2253.33	V	-53.00	-47	-6.00	PEAK
3389.16	H	-64.69	-47	-17.69	PEAK
3389.16	V	-59.18	-47	-12.18	PEAK
Channel 102 (5510MHz)					
232.08	H	-68.02	-57	-11.02	PEAK
232.08	V	-66.21	-57	-9.21	PEAK
385.66	H	-66.83	-57	-9.83	PEAK
385.66	V	-64.91	-57	-7.91	PEAK
694.45	H	-66.13	-57	-9.13	PEAK
694.45	V	-64.72	-57	-7.72	PEAK
1489.58	H	-65.09	-47	-18.09	PEAK

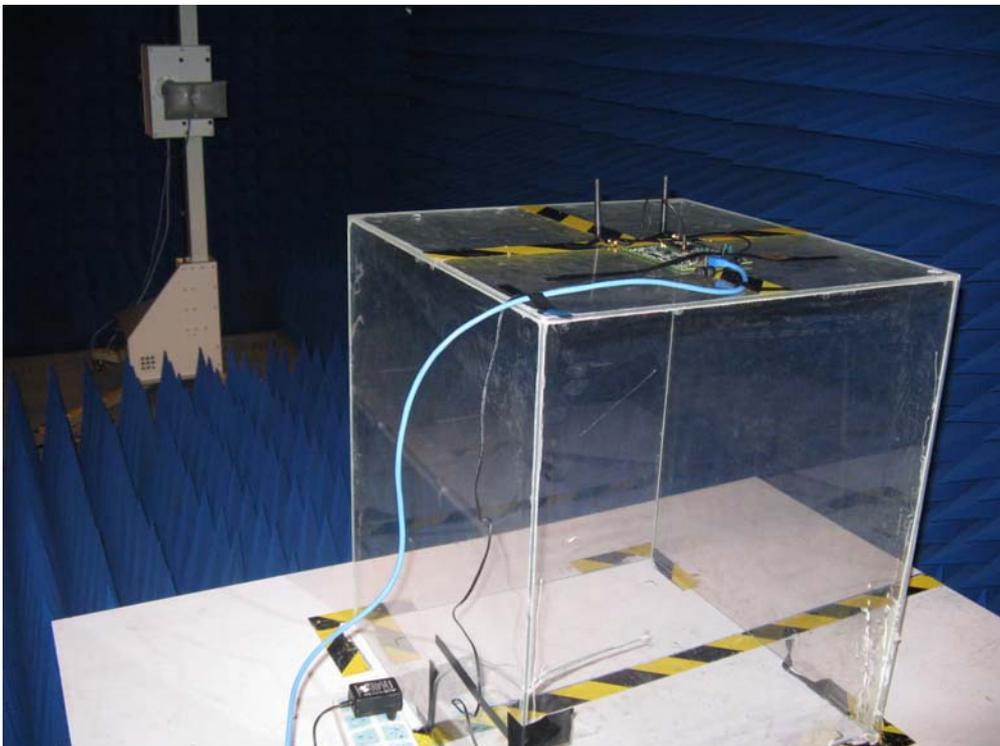
1489.58	V	-59.77	-47	-12.77	PEAK
2468.75	H	-67.94	-47	-20.94	PEAK
2468.75	V	-60.45	-47	-13.45	PEAK
3741.66	H	-63.08	-47	-16.08	PEAK
3741.66	V	-58.59	-47	-11.59	PEAK
Channel 134 (5670MHz)					
233.70	H	-61.81	-57	-4.81	PEAK
233.70	V	-60.45	-57	-3.45	PEAK
384.05	H	-69.22	-57	-12.22	PEAK
384.05	V	-66.47	-57	-9.47	PEAK
749.41	H	-68.03	-57	-11.03	PEAK
749.41	V	-66.33	-57	-9.33	PEAK
1332.91	H	-68.21	-47	-21.21	PEAK
1332.91	V	-62.73	-47	-15.73	PEAK
2390.41	H	-62.31	-47	-15.31	PEAK
2390.41	V	-57.76	-47	-10.76	PEAK
4505.41	H	-64.36	-47	-17.36	PEAK
4505.41	V	-58.06	-47	-11.06	PEAK

**8.6. Test Photograph**

Description: Receiver Spurious Emissions Test Setup for Under 1GHz



Description: Receiver Spurious Emissions Test Setup for Above 1GHz



## 9. Dynamic Frequency Selection (DFS)

### 9.1. Test Equipment

Dynamic Frequency Selection (DFS) / AC-4

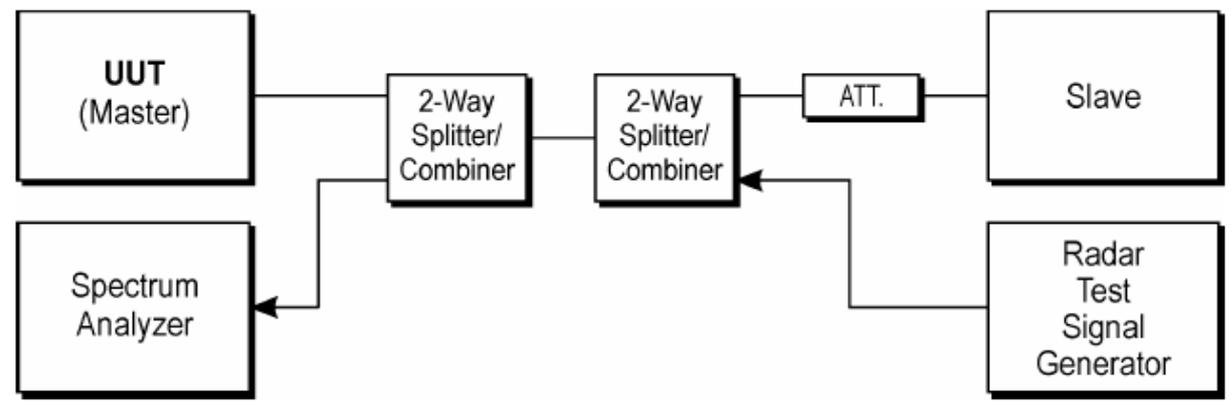
Instrument	Manufacturer	Type No.	Serial No.	Cal. Date
Spectrum Analyzer	Rohde & Schwarz	FSP7	100561	2008/09/03
Vector Signal Generator	Rohde & Schwarz	SUM 200A	102168	2008/01/23
Splitter/Combiner (Qty: 2)	Mini-Circuits	ZAPD-50W 4.2-6.0 GHz	NN256400424	2008/05/18
ATT (Qty: 2)	Mini-Circuits	BW-S3W2 DC-18GHz	0025	2008/05/18
Aironet Lightweight Access Point	Cisco System	1242AG	FOC10352PCV	2008/08/15
RF Cable (Qty: 5)	Schaffner	N/A	25494/6	2008/05/18

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

### 9.2. Test Setup

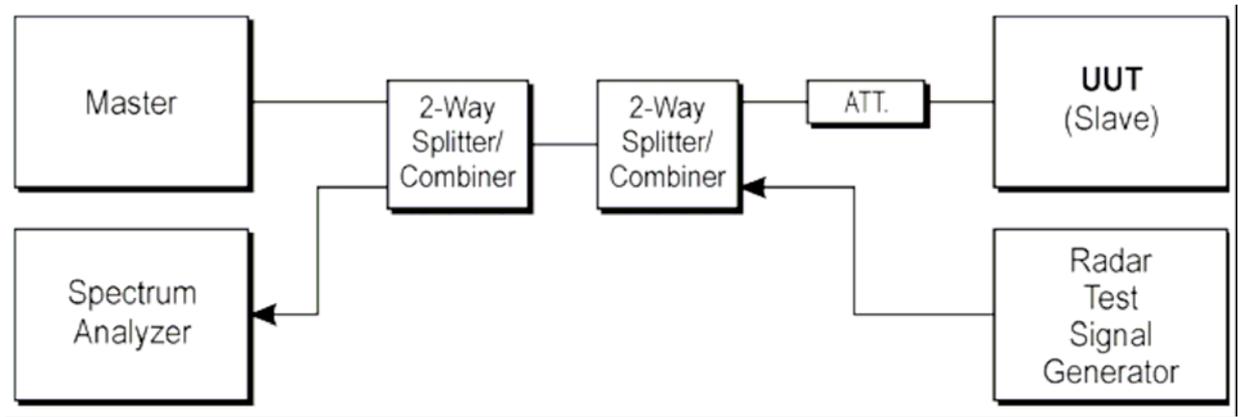
#### Set-up A

Set-up A is a set-up whereby the UUT is a RLAN device operating in master mode. Radar test signals are injected into the UUT. This set-up also contains a RLAN device operating in slave mode which is associated with the UUT.



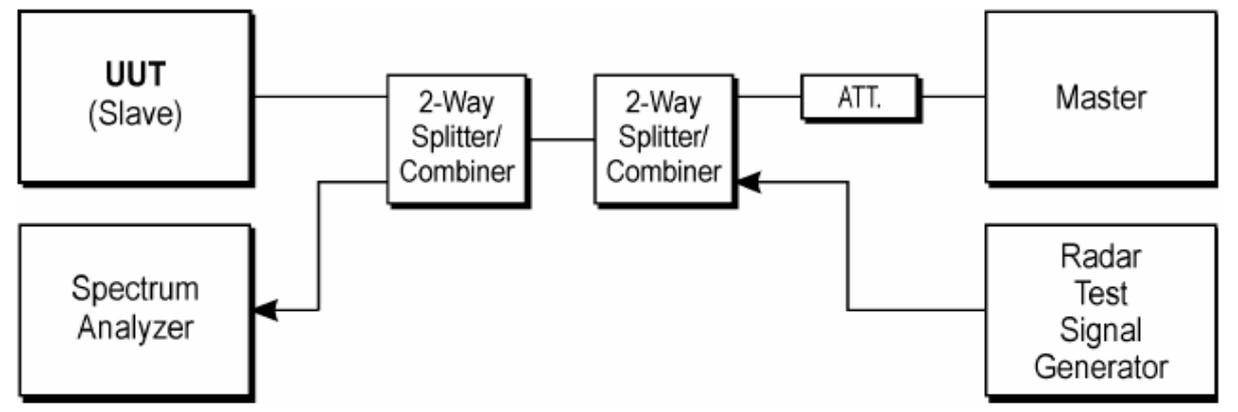
**Set-up B**

Set-up B is a set-up whereby the UUT is a RLAN device operating in slave mode. With or without Radar Interference Detection function. This set-up also contains a RLAN device operating in master mode. The radar test signals are injected into the master device. The UUT (slave device) is associated with the master device.



**Set-up C**

The UUT is a RLAN device operating in slave mode with Radar Interference Detection function. Radar test signals are injected into the slave device. This set-up also contains a RLAN device operating in master mode. The UUT (slave device) is associated with the master device.



**9.3. Limit**

**DFS technical requirements specifications**

Following Table lists the DFS related essential requirements and their applicability for each of the operational modes described in clause 4.7.1 of standard. If the RLAN device is capable of operating in more than one operational mode then each operating mode shall be assessed separately.

Requirement	DFS Operational mode		
	Master	Slave without radar detection (see table D.3)	Slave with radar detection (see table D.3)
Channel Availability Check	✓	Not required	Not required
In-Service Monitoring	✓	Not required	✓
Channel Shutdown	✓	✓	✓
Non-Occupancy Period	✓	Not required	✓
Uniform Spreading	✓	Not required	Not required

**In-Service Monitoring**

The *In-Service Monitoring* shall be used to continuously monitor an *Operating Channel*.

The *In-Service Monitoring* shall start immediately after the RLAN has started transmissions on an *Operating Channel*.

During the *In-Service Monitoring*, the RLAN shall be capable of detecting any of the radar signals that fall within the range given by table D.4 of standard with a level above the *Interference Detection Threshold* defined in tables D.2 and D.3 of standard.

The detection probability for a given radar signal shall be greater than the value defined in table D.4 of standard.

**Channel Shutdown**

The *Channel Shutdown* process shall start immediately after a radar signal has been detected.

The *Channel Move Time* shall not exceed the limit defined in table D.1 of standard.

The *Channel Closing Transmission Time* shall not exceed the limit defined in table D.1 of standard.

**Non-Occupancy Period**

The Non-Occupancy Period shall not be less than the value defined in table D.1 of standard.

**Uniform Spreading**

Each of the declared channel plans (combination of centre frequencies and declared nominal bandwidths) shall make use of at least 80% of the spectrum available in the applicable sub-band(s).

The probability of selecting each of the *usable channels* shall be within 10 % of the theoretical probability. For “n” *Usable channels*, the theoretical probability is 1/n.

**Table D.1: DFS requirement values**

Parameter	Value
Channel Availability Check Time	60 s
Channel Move Time	10 s
Channel Closing Transmission Time	260 ms
Non-Occupancy Period	30 min

**Table D.2: Interference threshold values, master**

Maximum transmit power (EIRP)	Value (see note)
≥ 200 mW	-64 dBm
< 200 mW	-62 dBm
NOTE: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	

**Table D.3: Interference threshold values, slave**

Maximum transmit power (EIRP)	Value (see note)
≥ 200 mW	-64 dBm
< 200 mW	N/A
NOTE: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	

#### 9.4. Test Procedure

Refer to ETSI EN 301 893 V1.4.1 (2007-07) Clause 5.3.8

#### 9.5. Test Result

This test result was based on Quietek report **091307S-RFCE**

10. Attachment

➤ EUT Photograph

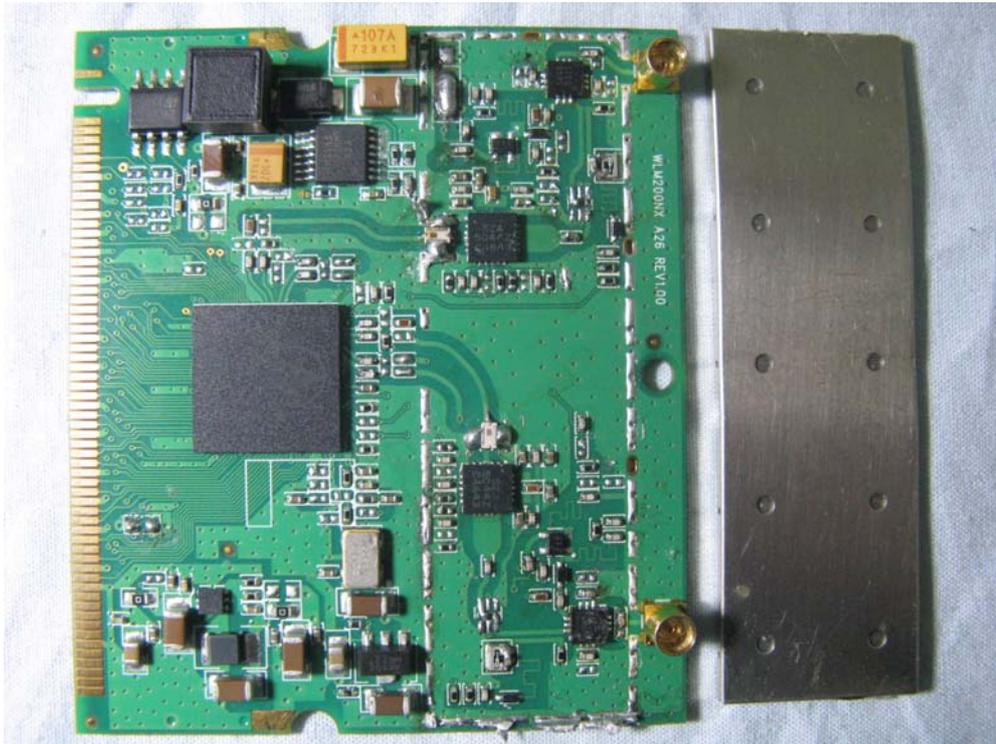
(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo

