



**FCC 47 CFR PART 15 SUBPART C AND ANSI C63.4:2003**  
**TEST REPORT (Class II Permissive Change Report)**

**For**

**802.11bgn WLAN + Bluetooth Mini Card**

**Model : BCM943227HMB**

**Trade Name : Broadcom**

**Issued for**

**BROADCOM CORPORATION**

**190 MATHILDA PLACE SUNNYVALE, CA 94086, U.S.A.**

**Issued by**

**Compliance Certification Services Inc.**

**Hsinchu Lab.**

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**Issued Date: March 03, 2012**



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## Revision History

<b>Rev.</b>	<b>Issue Date</b>	<b>Revisions</b>	<b>Effect Page</b>	<b>Revised By</b>
00	12/18/2011	Initial Issue	All Page 78	Winnie Chen
01	03/03/2012	Revise the Description of Class II Change and Average Power (WiFi).	Page 5, 6, 30 ~ 44 All Page 93	Winnie Chen

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## 1. TEST REPORT CERTIFICATION

**Applicant** : BROADCOM CORPORATION  
**Address** : 190 MATHILDA PLACE SUNNYVALE, CA 94086, U.S.A.  
**Equipment Under Test** : 802.11bgn WLAN + Bluetooth Mini Card  
**Model** : BCM943227HMB  
**Trade Name** : Broadcom  
**Tested Date** : December 05 ~ 18, 2011

APPLICABLE STANDARD	
Standard	Test Result
FCC Part 15 Subpart C AND ANSI C63.4:2003	PASS

WE HEREBY CERTIFY THAT: The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

*Approved by:*

Rex Liao  
Deputy Section Manager

*Reviewed by:*

Jacky Chen  
Deputy Section Manager



## 2. EUT DESCRIPTION

<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card
<b>Model Number</b>	BCM943227HMB
<b>Identify Number</b>	T111111107
<b>Received Date</b>	December 05, 2011
<b>Frequency Range</b>	IEEE 802.11b/g, 802.11n HT20 : 2412MHz~2462MHz IEEE 802.11n HT40 : 2422MHz~2452MHz Bluetooth : 2402MHz ~ 2480MHz $f = 2402 + n\text{MHz}$ , $n = 0, \dots, 78$
<b>Transmit Power</b>	Peak Power IEEE 802.11b : 21.54dBm (0.1426W) IEEE 802.11g : 24.69dBm (0.2944W) IEEE 802.11n HT20 : 24.92dBm (0.3102W) IEEE 802.11n HT40 : 24.26dBm (0.2665W) Bluetooth : 2.43dBm (0.0017W) Average Power IEEE 802.11b : 17.72dBm (0.0592W) IEEE 802.11g : 17.25dBm (0.0531W) IEEE 802.11n HT20 : 15.21dBm (0.0332W) IEEE 802.11n HT40 : 15.66dBm (0.0368W)
<b>Channel Spacing</b>	IEEE 802.11b/g, 802.11n HT20/HT40 : 5MHz Bluetooth : 1MHz
<b>Channel Number</b>	IEEE 802.11b/g, 802.11n HT20 : 11 Channels IEEE 802.11n HT40 : 7 Channels Bluetooth : 79 Channels
<b>Transmit Data Rate</b>	IEEE 802.11b : 11, 5.5, 2, 1 Mbps IEEE 802.11g : 54, 48, 36, 24, 18, 12, 9, 6 Mbps IEEE 802.11n HT20 : 144.44, 130, 117, 115.56, 104, 86.67, 78, 72.2, 65, 58.5, 57.78, 52, 43.33, 39, 28.89, 26, 21.7, 19.5, 14.44, 13, 7.2, 6.5 Mbps IEEE 802.11n HT40 : 300, 270, 243, 240, 216, 180, 162, 150, 135, 121.5, 120, 108, 90, 81, 60, 54, 45, 40.5, 30, 27, 15, 13.5Mbps Bluetooth : GFSK (1Mbps), $\pi/4$ -DQPSK (2Mbps), 8-DPSK (3Mbps)



Type of Modulation	IEEE 802.11b : DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g : OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40 : OFDM (64QAM, 16QAM, QPSK, BPSK) Bluetooth : Frequency Hopping Spread Spectrum
Frequency Selection	by software / firmware
Antenna Type	PIFA Antenna x 2, Antenna Gain 0.68 dBi
Power Rating	20Vdc, 3.25A (From Power Adapter)
Test Voltage	120Vac/60Hz
DC Power Cable Type	Non-shielded cable 1.8m (Non-detachable)
I/O Port	USB 2.0 Port x 1, RJ-45 Port x 1, HDMI Port x 1, USB 3.0 Port x 2, VGA Port x 1, Audio In Port x 1, Audio Out Port x 1, SD Card Port x 1, Power Port x 1

**Power Adapter :**

No.	Manufacturer	Model No.	Power Input	Power Output
1	lenovo	PA-1650-56LC	100-240Vac, 50/60Hz, 1.7A	20Vdc, 3.25A

**Remark :**

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. For more details, please refer to the User's manual of the EUT.
3. This submittal(s) (test report) is intended for FCC ID: QDS-BRCM1060 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

### 3. DESCRIPTION OF CLASS II CHANGE

The major change filed under this application is:

Add portable Condition compliance to the grant so that the module may be used in qualified host PC(s) and implementation of module-notebook authentication.

Product name: Notebook Computer

Brand name: lenovo

Model: 20133, 2129, Lenovo IdeaPad Z380

The above model numbers have the same specifications.



## 4. DESCRIPTION OF TEST MODES

The EUT is an 802.11n MIMO transceiver in 802.11bgn WLAN + Bluetooth Mini Card form factor. It has two transmitter chains and two receive chains (2x2 configurations). 11b/g mode, Chain 0 transmitter.

### Radiated Emission Test (Below 1 GHz)

TX Mode

### Conducted / Radiated Emission Test (Above 1 GHz)

#### IEEE 802.11b, 802.11g, 802.11n HT20 mode

The EUT had been tested under operating condition.

There are three channels have been tested as following :

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

IEEE 802.11b mode : 1Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11g mode : 6Mbps data rate (worst case) were chosen for full testing.

IEEE 802.11n HT20 mode : 6.5Mbps data rate (worst case) were chosen for full testing.

#### IEEE 802.11n HT40 mode

The EUT had been tested under operating condition.

There are three channels have been tested as following :

Channel	Frequency (MHz)
Low	2422
Middle	2437
High	2452

IEEE 802.11n HT40 mode : 13.5Mbps data rate (worst case) were chosen for full testing.



## Bluetooth

There are three channels have been tested as following :

Channel	Frequency (MHz)
Low	2402
Middle	2441
High	2480

## Radiated Emission Test (Above 1 GHz):

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

Tested Channel	Modulation Technology	Modulation Type	Packet Type
Low, Mid, High	FHSS	GFSK	DH5
Low, Mid, High	FHSS	8-DPSK	3-DH5

## Bandedge Measurement :

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

Tested Channel	Modulation Technology	Modulation Type	Packet Type
Low, High	FHSS	GFSK	DH5
Low, High	FHSS	8-DPSK	3-DH5

## Antenna Port Conducted Measurement :

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

Following channel(s) was (were) selected for the final test as listed below.

Tested Channel	Modulation Technology	Modulation Type	Packet Type
Low, Mid, High	FHSS	GFSK	DH5
Low, Mid, High	FHSS	8-DPSK	3-DH5



## 5. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4: 2003 and FCC CFR 47, 15.207, 15.209 and 15.247.

## 6. FACILITIES AND ACCREDITATION

### 6.1 FACILITIES

All measurement facilities used to collect the measurement data are located at  
NO. 989-1 Wen Shan Rd., Shang Shan Village,  
Qionglin Shiang Hsinchu County 30741, Taiwan, R.O.C

The sites are constructed in conformance with the requirements of ANSI C63.4:2003 and CISPR 22. All receiving equipment conforms to CISPR 16-1-1, CISPR 16-1-2, CISPR 16-1-3, CISPR 16-1-4, CISPR 16-1-5.

### 6.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

**Taiwan**      TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

<b>Canada</b>	INDUSTRY CANADA
<b>Japan</b>	VCCI
<b>Taiwan</b>	BSMI
<b>USA</b>	FCC MRA

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.ccsrf.com>



## 6.3 MEASUREMENT UNCERTAINTY

The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4-2.

PARAMETER	UNCERTAINTY
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 30 to 1000 MHz	+/- 3.0371
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 1 to 18GHz	+/- 2.5258
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 18 to 26 GHz	+/- 2.5012
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 26 to 40 GHz	+/- 2.7846

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

Consistent with industry standard (e.g. CISPR 22: 2006, clause 11, Measurement Uncertainty) determining compliance with the limits shall be base on the results of the compliance measurement. Consequently the measure emissions being less than the maximum allowed emission result in this be a compliant test or passing test.

The acceptable measurement uncertainty value without requiring revision of the compliance statement is base on conducted and radiated emissions being less than  $U_{CISPR}$  which is 3.6dB and 5.2dB respectively. CCS values (called  $U_{Lab}$  in CISPR 16-4-2) is less than  $U_{CISPR}$  as shown in the table above. Therefore, MU need not be considered for compliance.



## 7. SETUP OF EQUIPMENT UNDER TEST

### SUPPORT EQUIPMENT

N/A

### SETUP DIAGRAM FOR TESTS

EUT & peripherals setup diagram is shown in appendix setup photos.

### EUT OPERATING CONDITION

#### **WiFi**

1. Setup all computers like the setup diagram.

2. Run Test software..

3. Select the following settings

4. net stop wlansvc

timeout 1

net start wlansvc

timeout 4

wl out

wl up

wl antdiv 0

wl txant 0

wl mpc 0

wl frameburst 1

wl down

wl ampdu 1

wl country ALL

wl band b

wl up

wl chanspec -c 1 -b 2 -w 20 -s 0

timeout 4

wl wsec 0

timeout 4

wl join testb imode adhoc

timeout 4

wl legacylink

timeout 6

wl nrate -r 1

wl cck\_txbw 2

wl txpwr1 -o -q 75

timeout 4

epi\_ttcp -tsuHfm -l 8760 -n 10000000 192.168.66.255

6.All of the functions are under run.

7.Start test.



## Bluetooth

1. Setup all computers like the setup diagram.
2. Run BlueTool Test software.
3. Select the following settings
4. TX mode(GFSK)

0: Vendor-specific Commands (0 key)

TX\_Test

Hopping\_Mode: Single frequency

Frequency: 2402, 2441, 2480

Modulation\_Type: PRES9 Pattern

Logical\_Channel: ACL Basic

BB\_Packet\_Type: DH5 / 3-DH5

BB\_Packet\_Length: 339

Tx\_Power\_Level: 0dBm

TX mode(8-DPSK)

0: Vendor-specific Commands (0 key)

TX\_Test

Hopping\_Mode: Single frequency

Frequency: 2402, 2441, 2480

Modulation\_Type: PRES9 Pattern

Logical\_Channel: ACL EDR

BB\_Packet\_Type: DH5 / 3-DH5

BB\_Packet\_Length: 1021

Tx\_Power\_Level: 0dBm

5. All of the functions are under run.

6. Start test.



## 8. FCC PART 15.247 REQUIREMENTS

### 8.1 MAXIMUM PEAK OUTPUT POWER (WIFI)

#### LIMITS

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following :

§ 15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands : 1 watt.

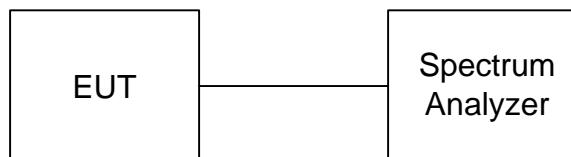
§ 15.247(b) (4) Except as shown in paragraphs (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4407B	US41443108	08/09/2012

*Remark: Each piece of equipment is scheduled for calibration once a year.*

#### TEST SETUP



#### TEST PROCEDURE

1. The spectrum shall be set as follows :

Span : 1.5 times channel integration bandwidth.

RBW : 1MHz

VBW : 3MHz

Detector : Peak

Sweep : Single trace

2. Compute the combined power of all signal responses contained in the trace by covering all the data points.

3. The peak output power is the channel power integrated over 26dB bandwidth.

**TEST RESULTS****IEEE 802.11b Mode**

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2412	21.11	0.1291	30	1	PASS
Middle	2437	21.54	0.1426	30	1	PASS
High	2462	20.21	0.1050	30	1	PASS

**Remark:**

1. At final test to get the worst-case emission at 1Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

**IEEE 802.11g Mode**

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2412	20.81	0.1205	30	1	PASS
Middle	2437	24.69	0.2944	30	1	PASS
High	2462	20.41	0.1099	30	1	PASS

**Remark:**

1. At final test to get the worst-case emission at 6Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.



## IEEE 802.11n HT20 Mode (Two TX)

Channel	Channel Frequency (MHz)	Peak Power (dBm)		Peak Power Total		Peak Power Limit		Pass / Fail
		Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	
Low	2412	21.88	20.39	24.21	0.2636	30	1	PASS
Middle	2437	22.14	21.66	24.92	0.3102	30	1	PASS
High	2462	20.82	20.77	23.81	0.2402	30	1	PASS

**Remark:**

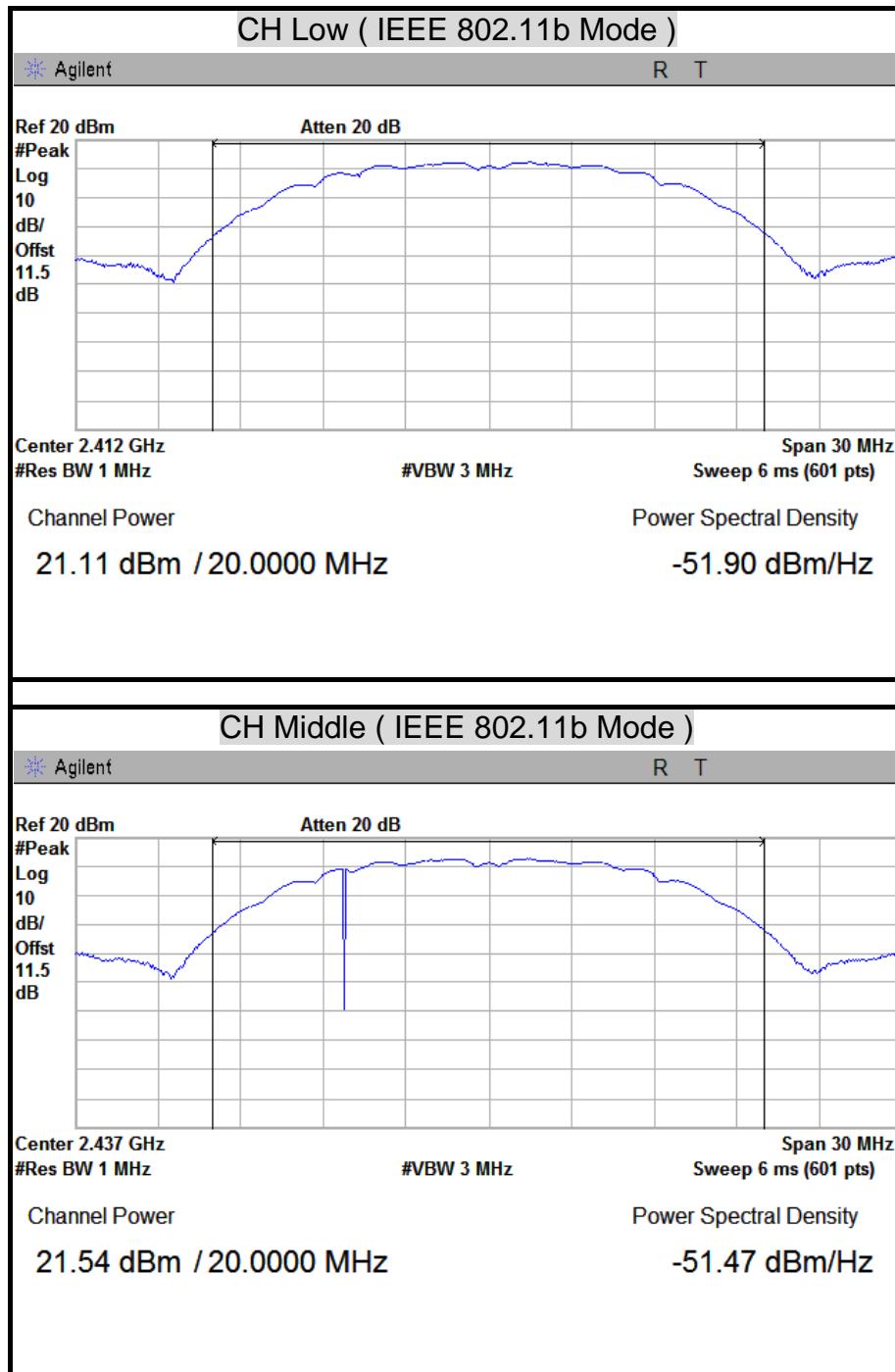
1. At final test to get the worst-case emission at 6.5Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. Total peak power = Chain 0 + Chain 1.
4. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

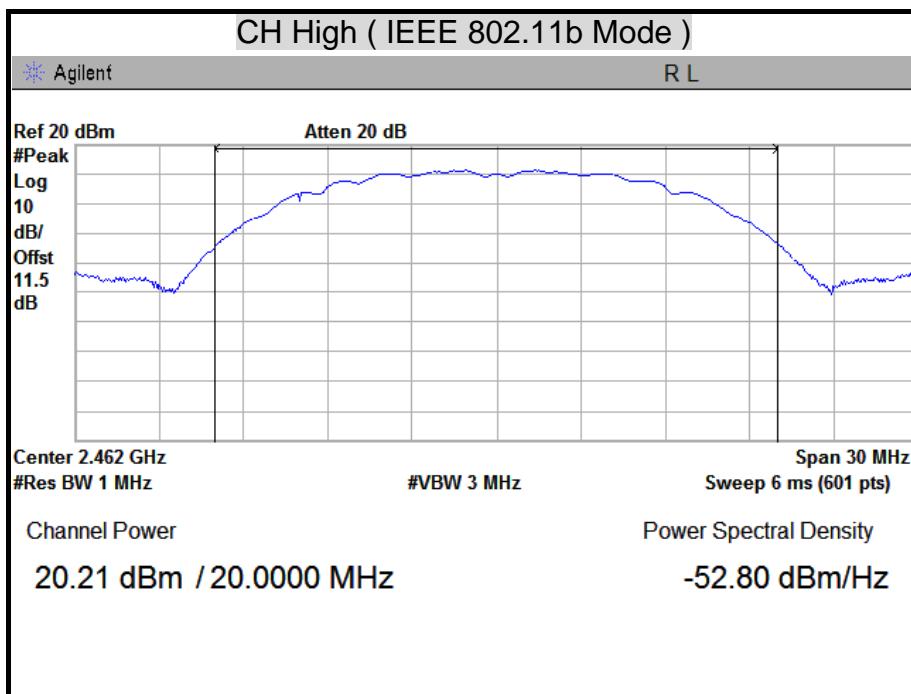
## IEEE 802.11n HT40 Mode (Two TX)

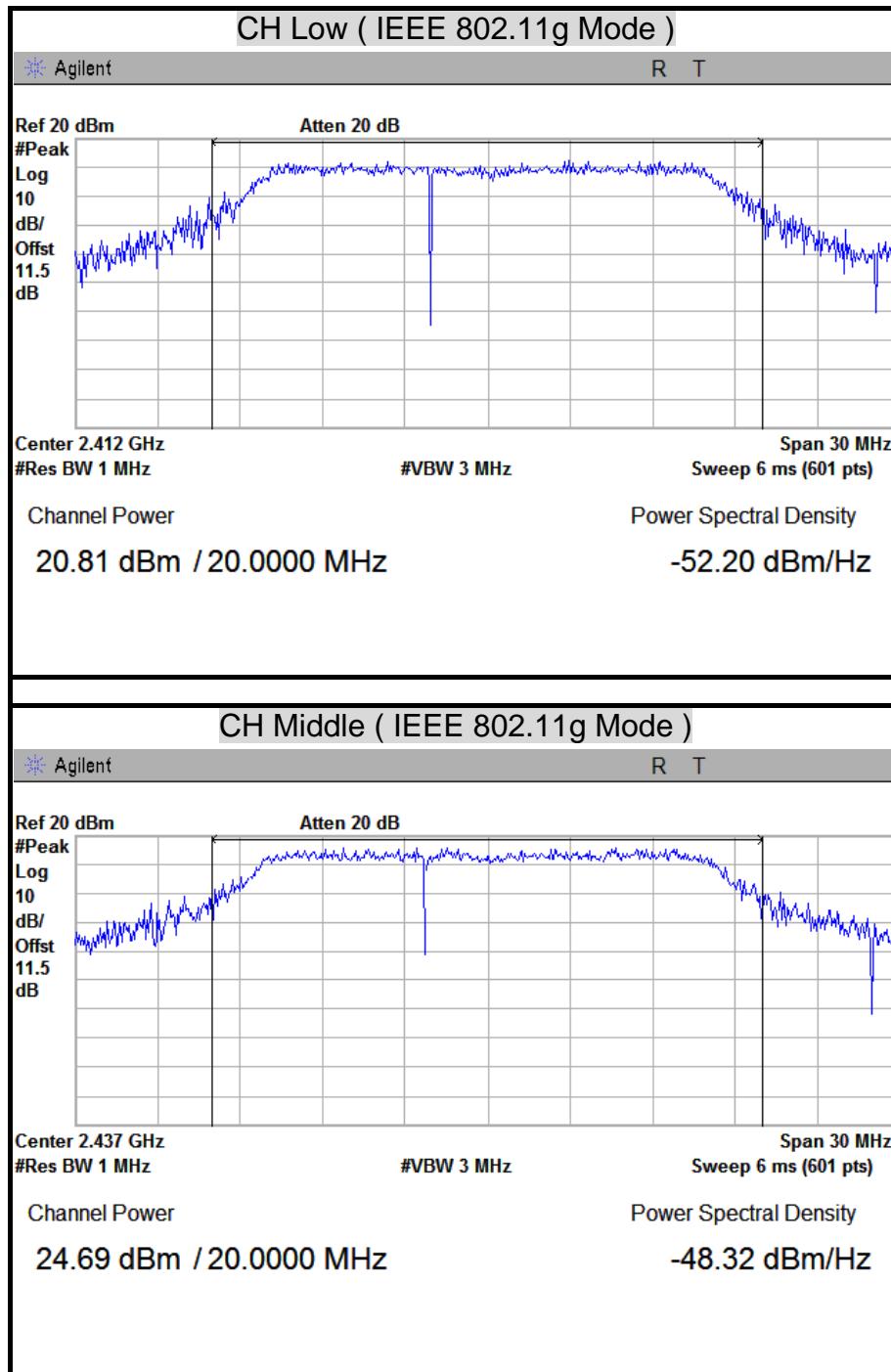
Channel	Channel Frequency (MHz)	Peak Power (dBm)		Peak Power Total		Peak Power Limit		Pass / Fail
		Chain 0	Chain 1	(dBm)	(W)	(dBm)	(W)	
Low	2422	20.26	20.78	23.54	0.2258	30	1	PASS
Middle	2437	21.56	20.45	24.05	0.2541	30	1	PASS
High	2452	21.47	21.01	24.26	0.2665	30	1	PASS

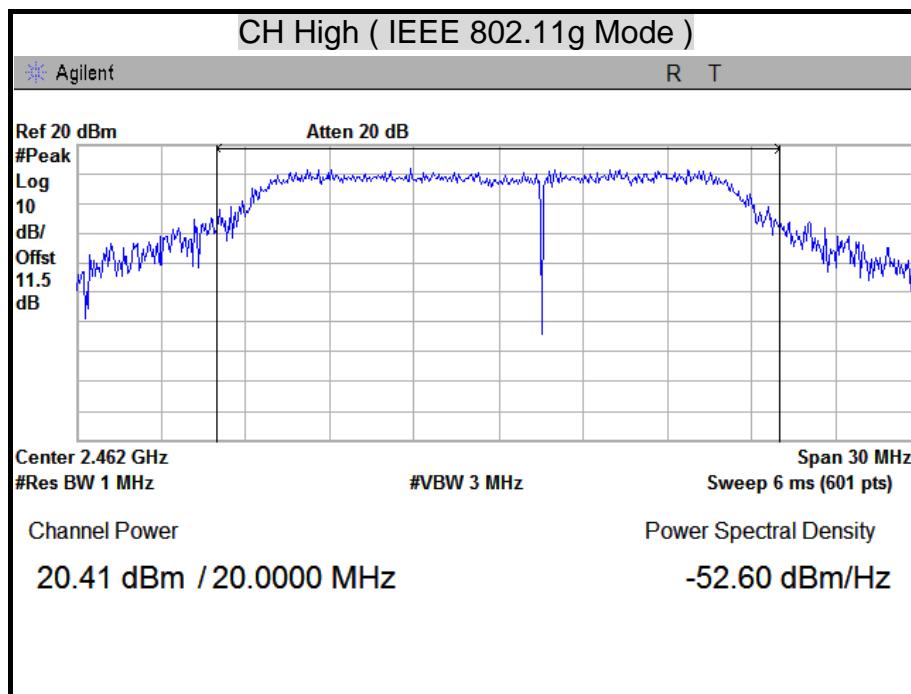
**Remark:**

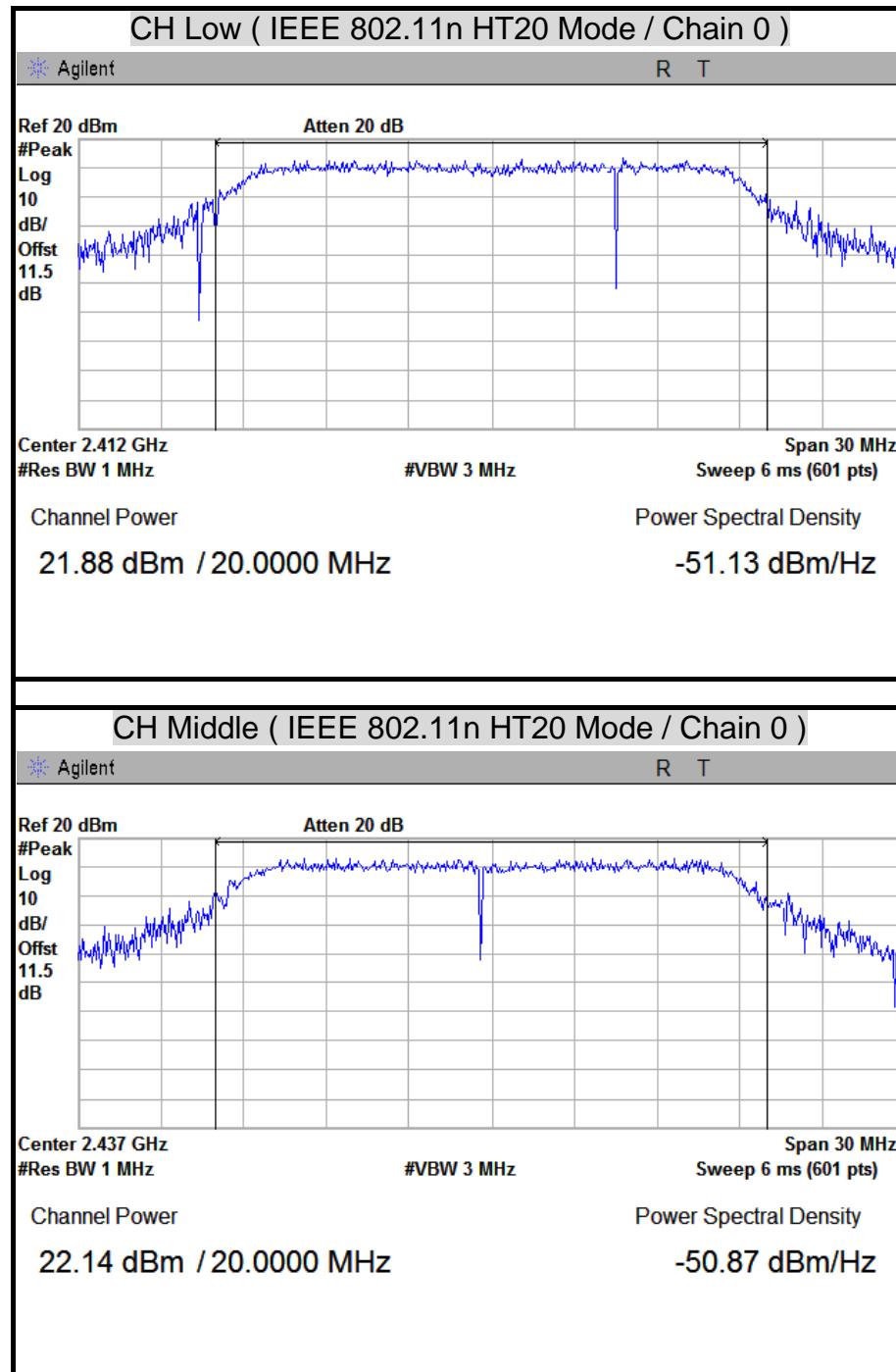
1. At final test to get the worst-case emission at 13.5Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. Total peak power = Chain 0 + Chain 1.
4. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

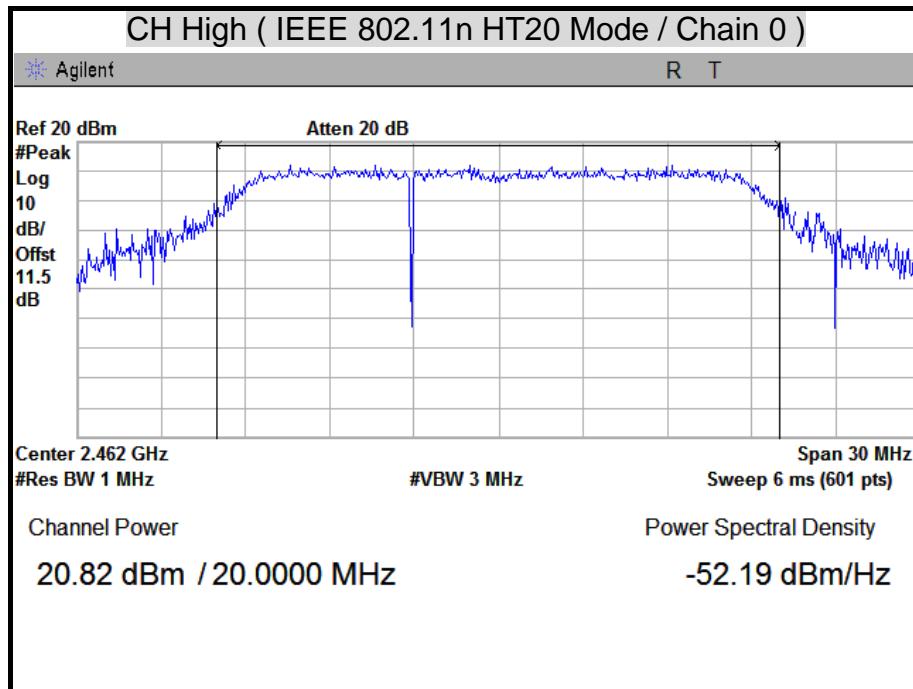
**MAXIMUM PEAK OUTPUT POWER**

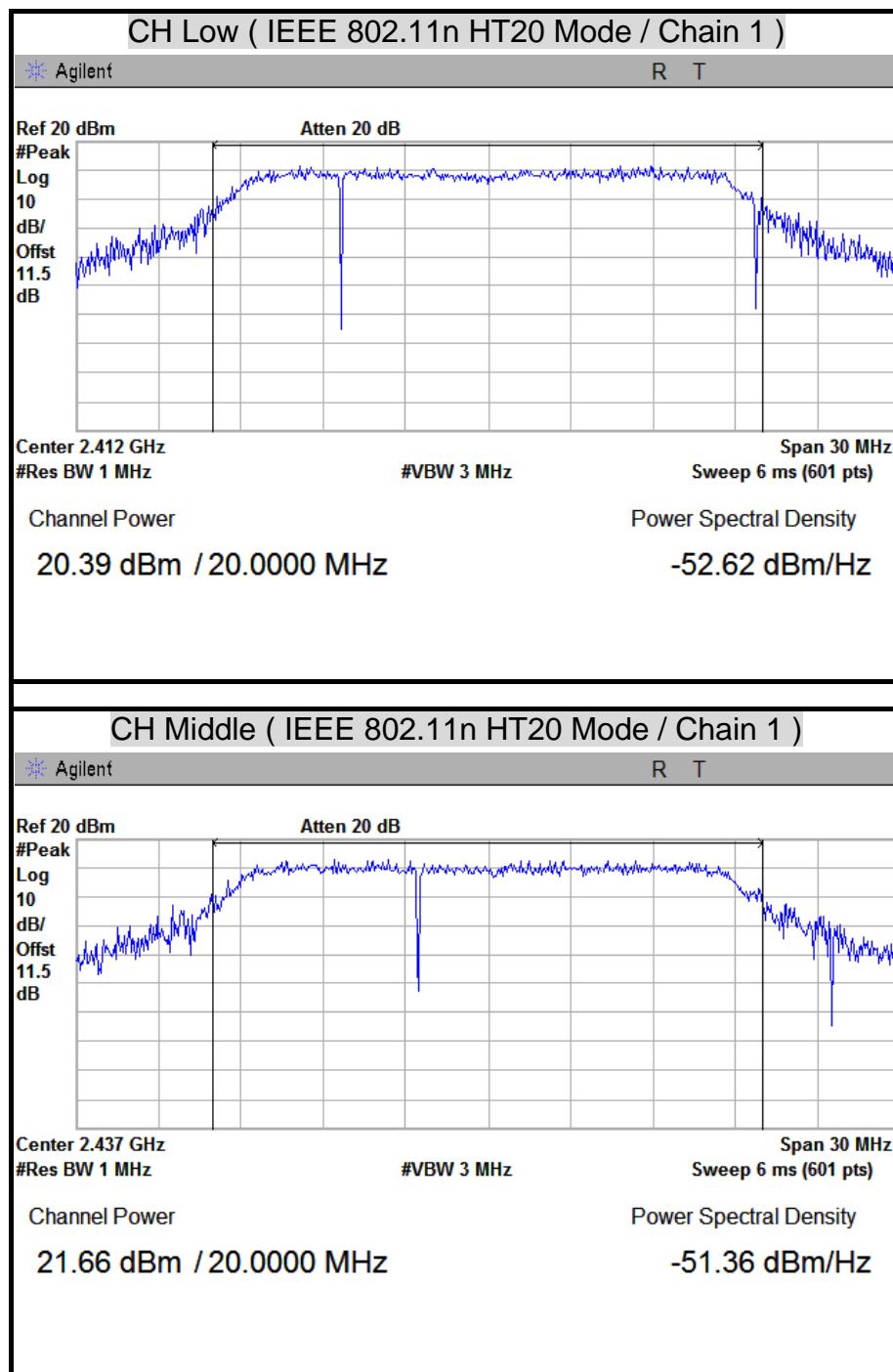


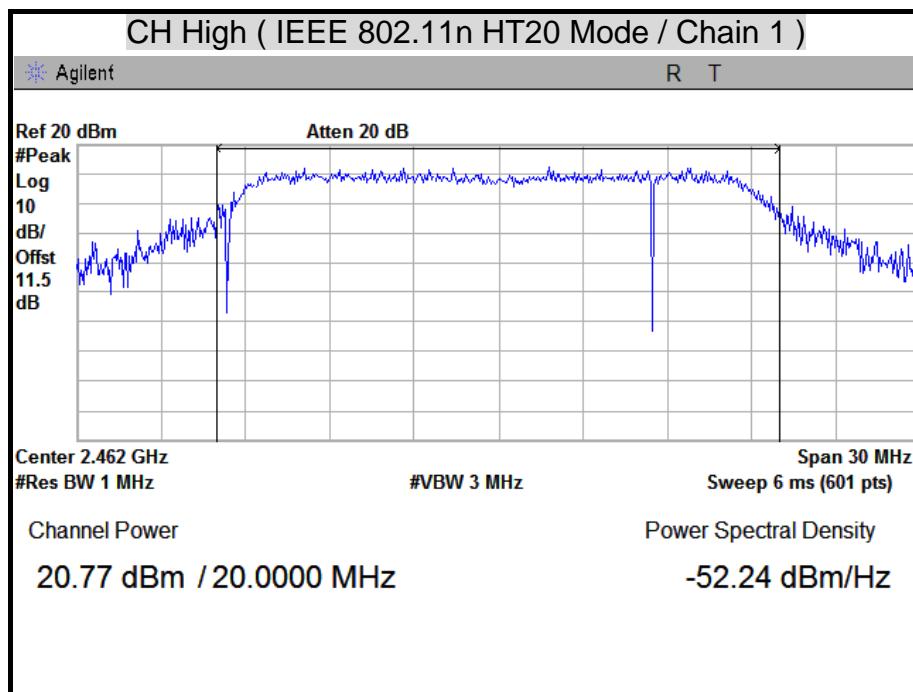


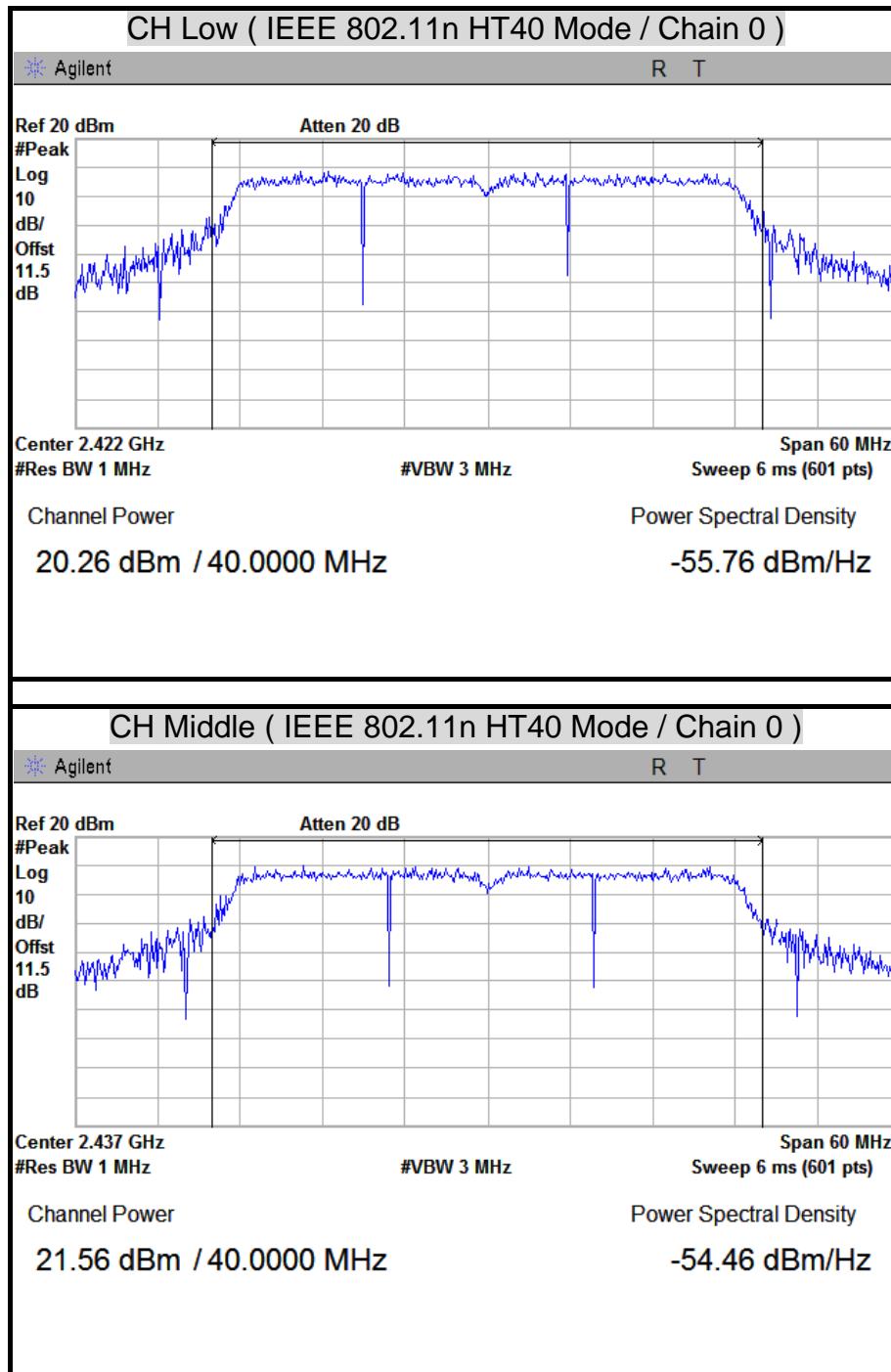


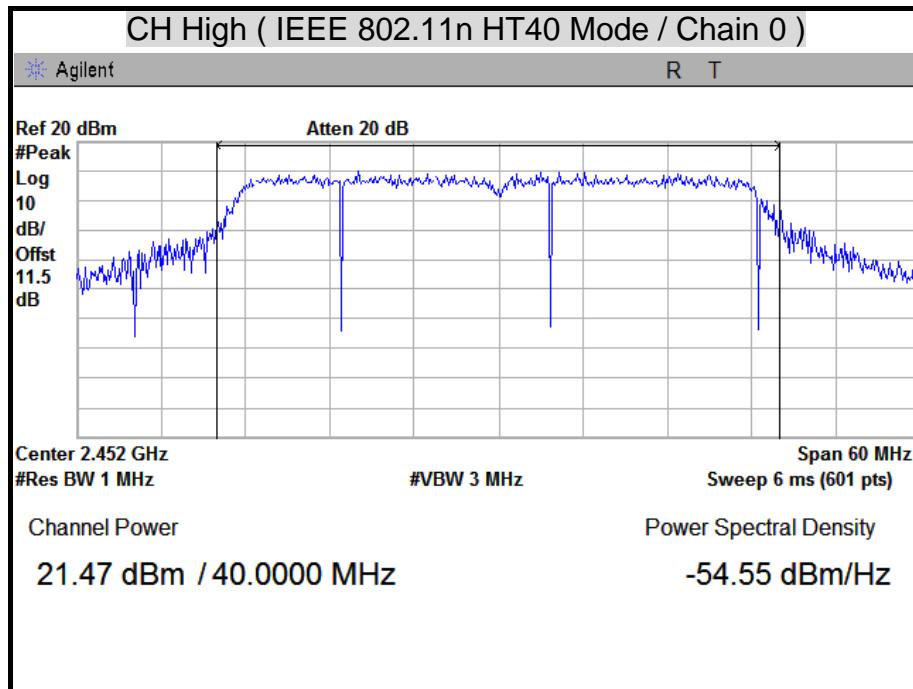


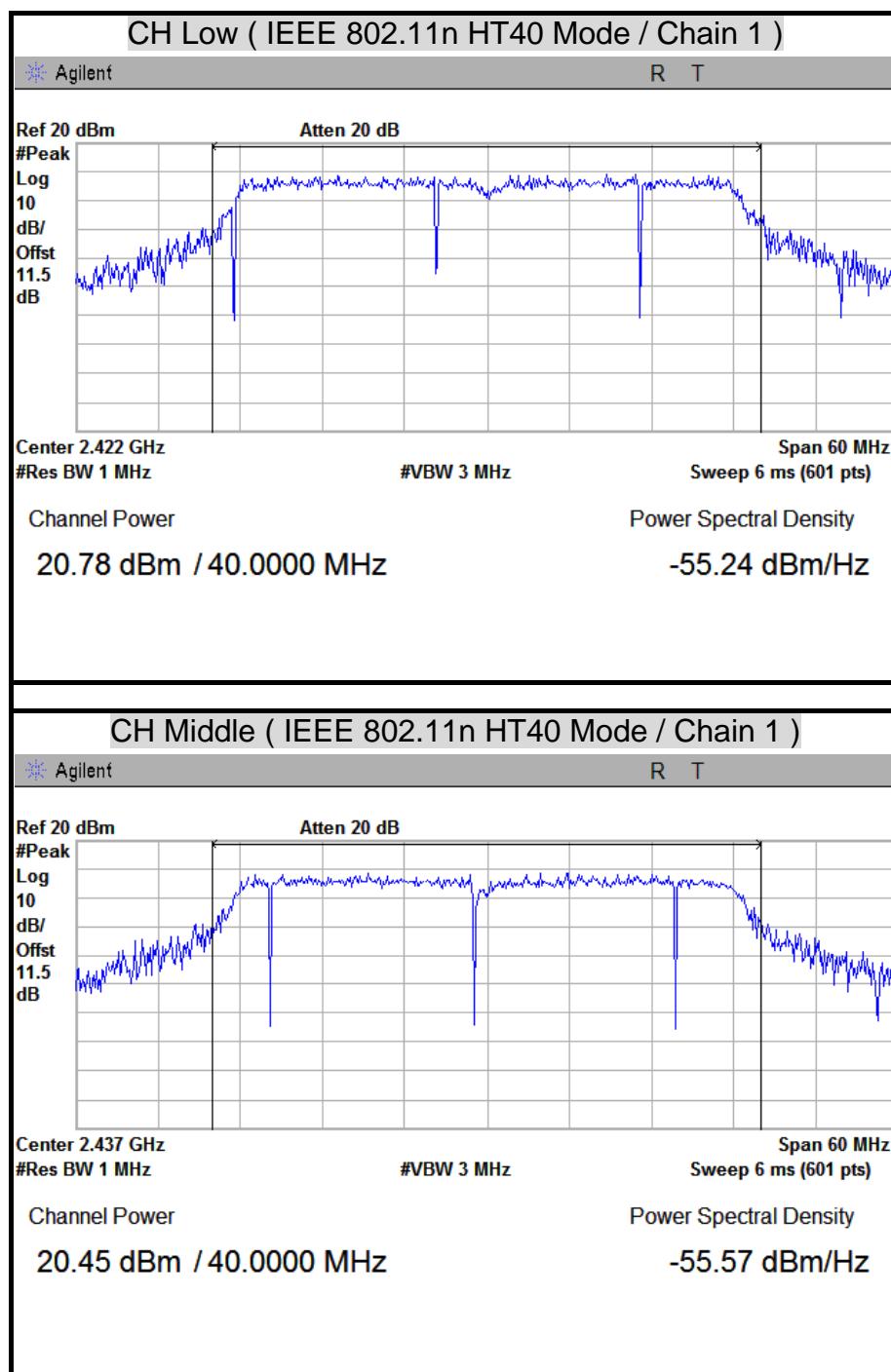


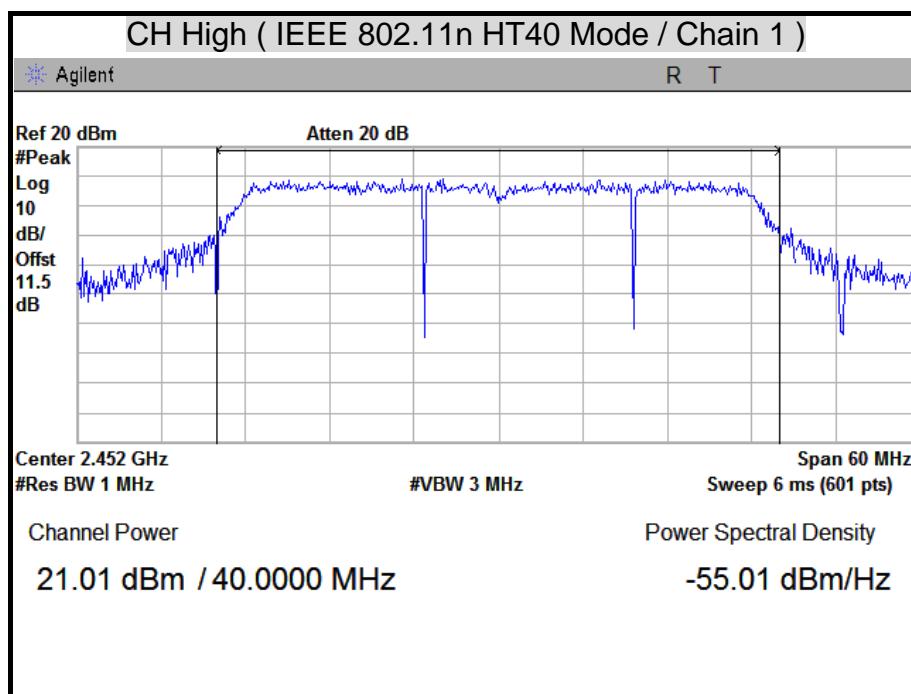














## 8.2 MAXIMUM PEAK OUTPUT POWER (BLUETOOTH)

### LIMITS

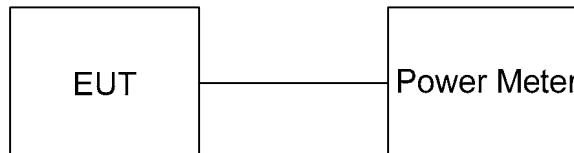
§15.247(b)(1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

### TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Wideband Peak Power Meter	Anritsu	ML2487A	6K00001783	04/18/2012
Wide Bandwidth Sensor	Anritsu	MA2491A	030982	04/18/2012

*Remark:* Each piece of equipment is scheduled for calibration once a year.

### TEST SETUP



### TEST PROCEDURE

The RF power output was measured with a power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency, a power meter was used to record the shape of the transmit signal.

**TEST RESULTS**

Modulation Type: GFSK , CFG PKT Packet Type: 15 Packet Size: 339 (DH5)

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Result
		(dBm)	(W)	(dBm)	(W)	
Low	2402	0.36	0.0011	20.97	0.125	PASS
Middle	2441	1.04	0.0013	20.97	0.125	PASS
High	2480	1.56	0.0014	20.97	0.125	PASS

**Remark:** The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was  
Entered as an offset in the power meter to allow for direct reading of power.

Modulation Type: 8-DPSK , CFG PKT Packet Type: 31 Packet Size: 1021 (3-DH5)

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Result
		(dBm)	(W)	(dBm)	(W)	
Low	2402	1.62	0.0015	20.97	0.125	PASS
Middle	2441	2.25	0.0017	20.97	0.125	PASS
High	2480	2.43	0.0017	20.97	0.125	PASS

**Remark:** The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was  
Entered as an offset in the power meter to allow for direct reading of power.



## 8.3 AVERAGE POWER (WIFI)

### LIMITS

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following :

§ 15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands : 1 watt.

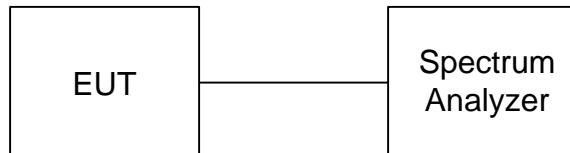
§ 15.247(b) (4) Except as shown in paragraphs (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4407B	US41443108	08/09/2012

*Remark: Each piece of equipment is scheduled for calibration once a year.*

### TEST SETUP



### TEST PROCEDURE

1. The spectrum shall be set as follows :

Span : 1.5 times channel integration bandwidth.

RBW : 1MHz

VBW : 3MHz

Detector : Sample

Sweep : 100 traces

2. Compute the combined power of all signal responses contained in the trace by covering all the data points.

3. The output power is the channel power integrated over EBW.

**TEST RESULTS****IEEE 802.11b Mode**

Channel	Channel Frequency (MHz)	Average Power		Pass / Fail
		(dBm)	(W)	
Low	2412	17.64	0.0581	PASS
Middle	2437	17.72	0.0592	PASS
High	2462	16.20	0.0417	PASS

**Remark:**

1. At final test to get the worst-case emission at 1Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

**IEEE 802.11g Mode**

Channel	Channel Frequency (MHz)	Average Power		Pass / Fail
		(dBm)	(W)	
Low	2412	11.65	0.0146	PASS
Middle	2437	17.25	0.0531	PASS
High	2462	11.34	0.0136	PASS

**Remark:**

1. At final test to get the worst-case emission at 1Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.



## IEEE 802.11n HT20 Mode (Two TX)

Channel	Channel Frequency (MHz)	Average Power (dBm)		Average Power Total		Pass / Fail
		Chain 0	Chain 1	(dBm)	(W)	
Low	2412	11.44	11.34	14.40	0.0275	PASS
Middle	2437	12.23	11.58	14.93	0.0311	PASS
High	2462	12.48	11.90	15.21	0.0332	PASS

**Remark:**

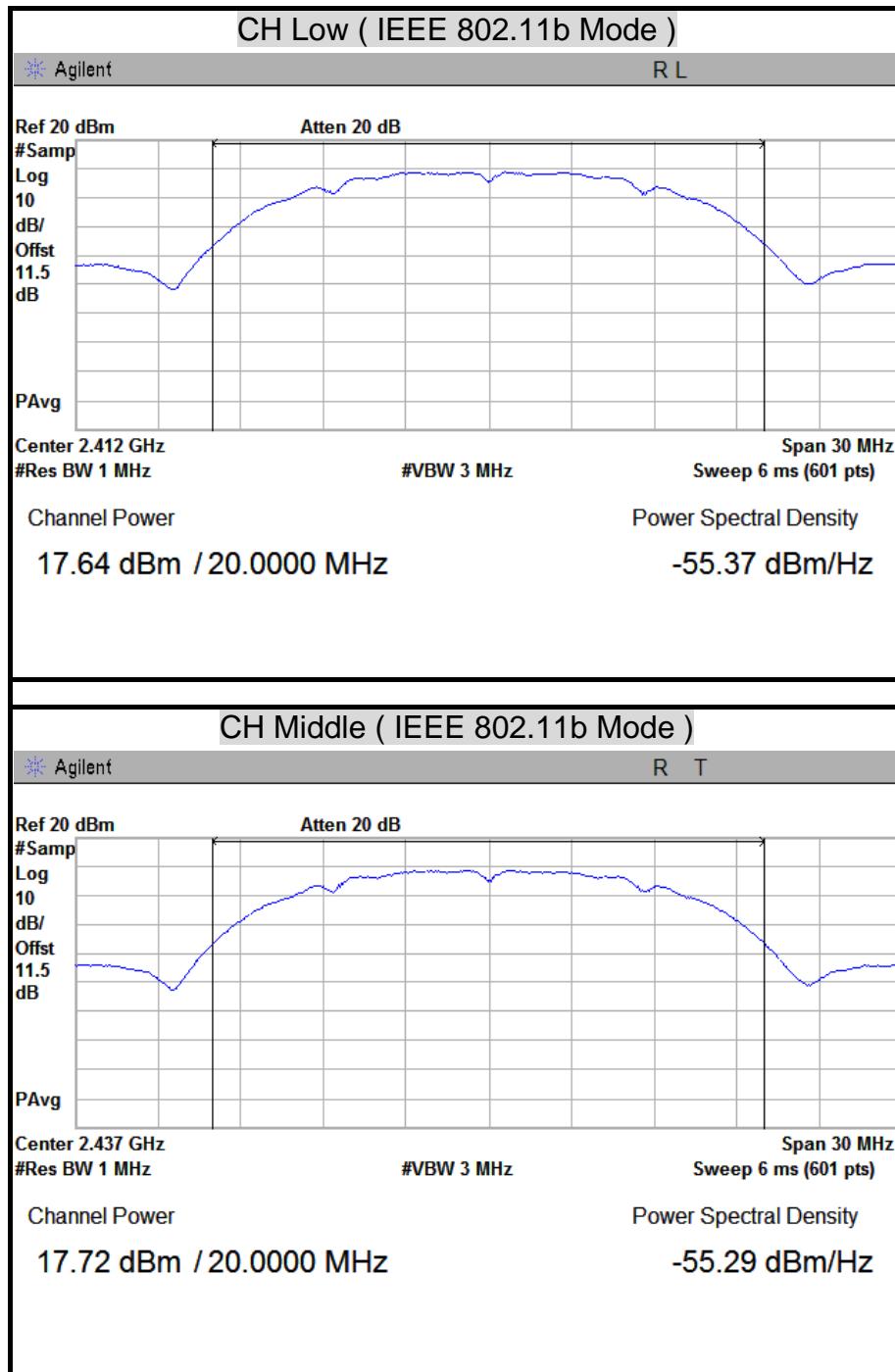
1. At final test to get the worst-case emission at 6.5Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. Total power = Chain 0 + Chain 1.
4. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

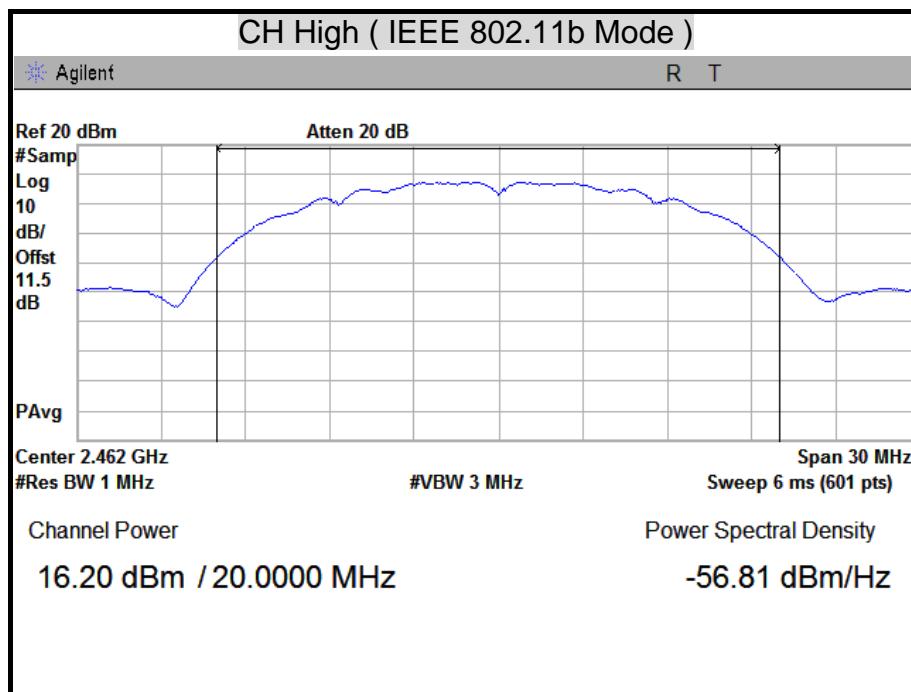
## IEEE 802.11n HT40 Mode (Two TX)

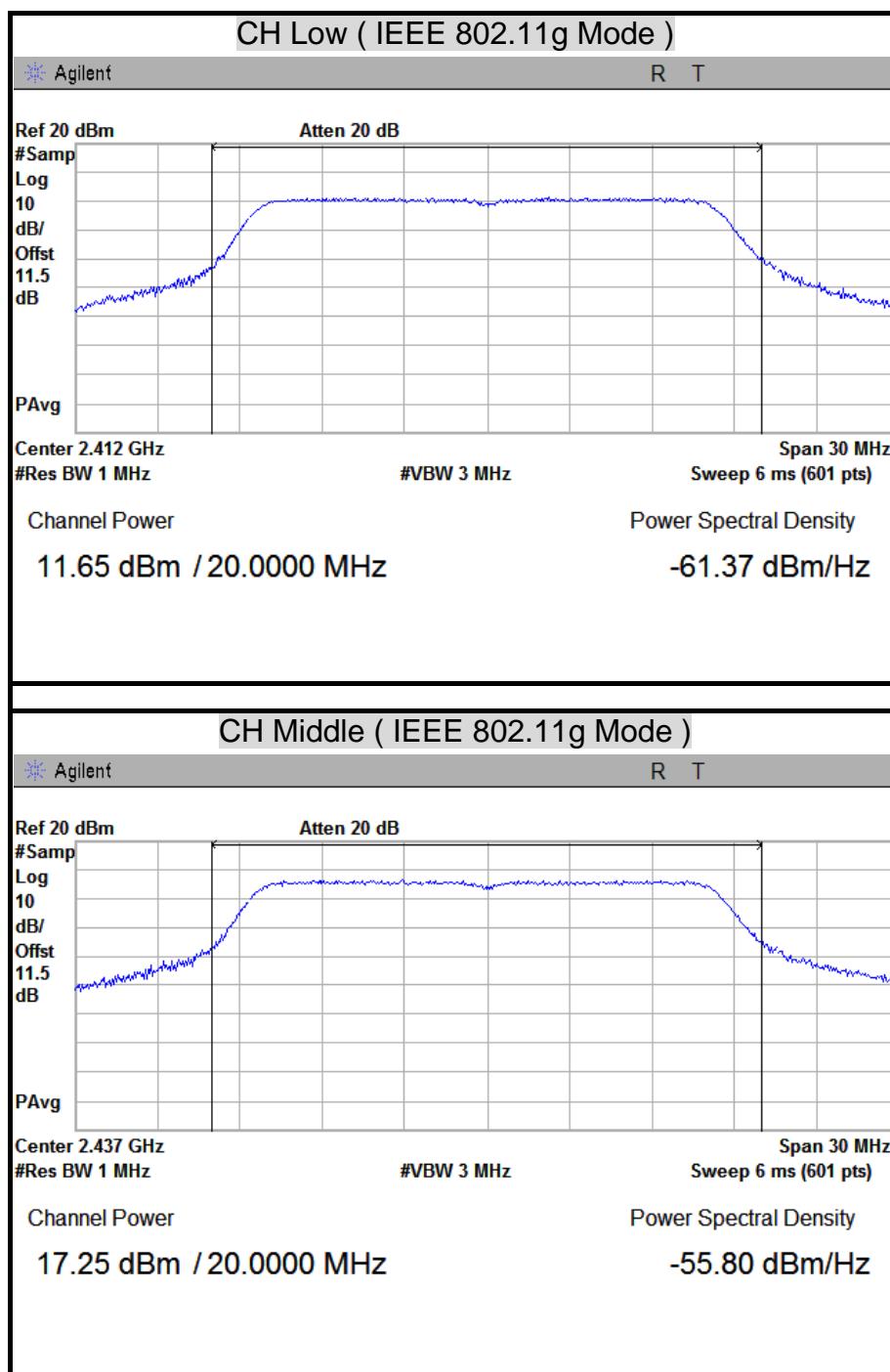
Channel	Channel Frequency (MHz)	Average Power (dBm)		Average Power Total		Pass / Fail
		Chain 0	Chain 1	(dBm)	(W)	
Low	2422	12.10	11.98	15.05	0.0320	PASS
Middle	2437	12.86	12.42	15.66	0.0368	PASS
High	2452	11.65	11.62	14.65	0.0291	PASS

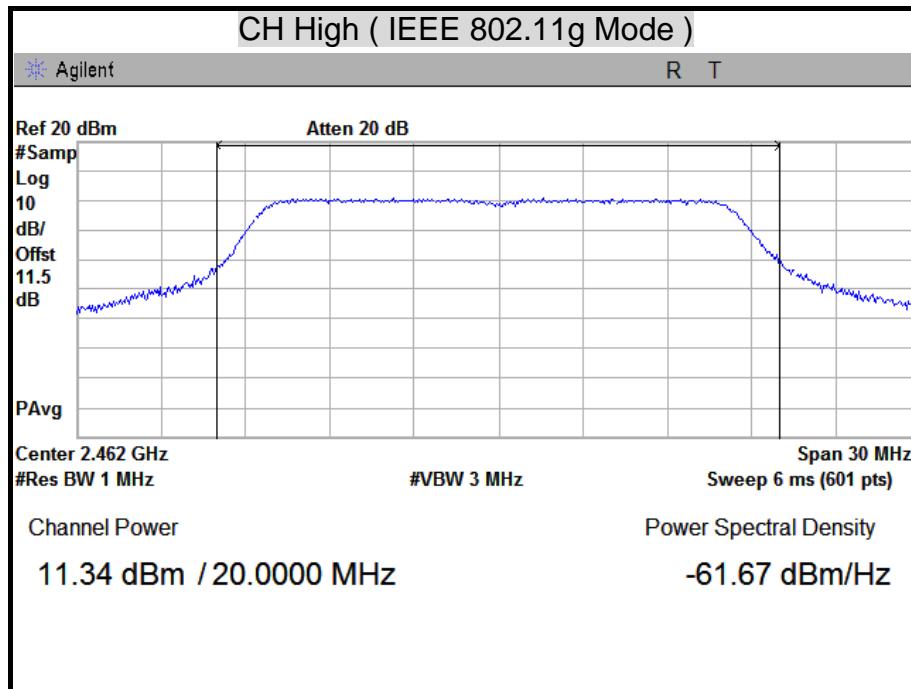
**Remark:**

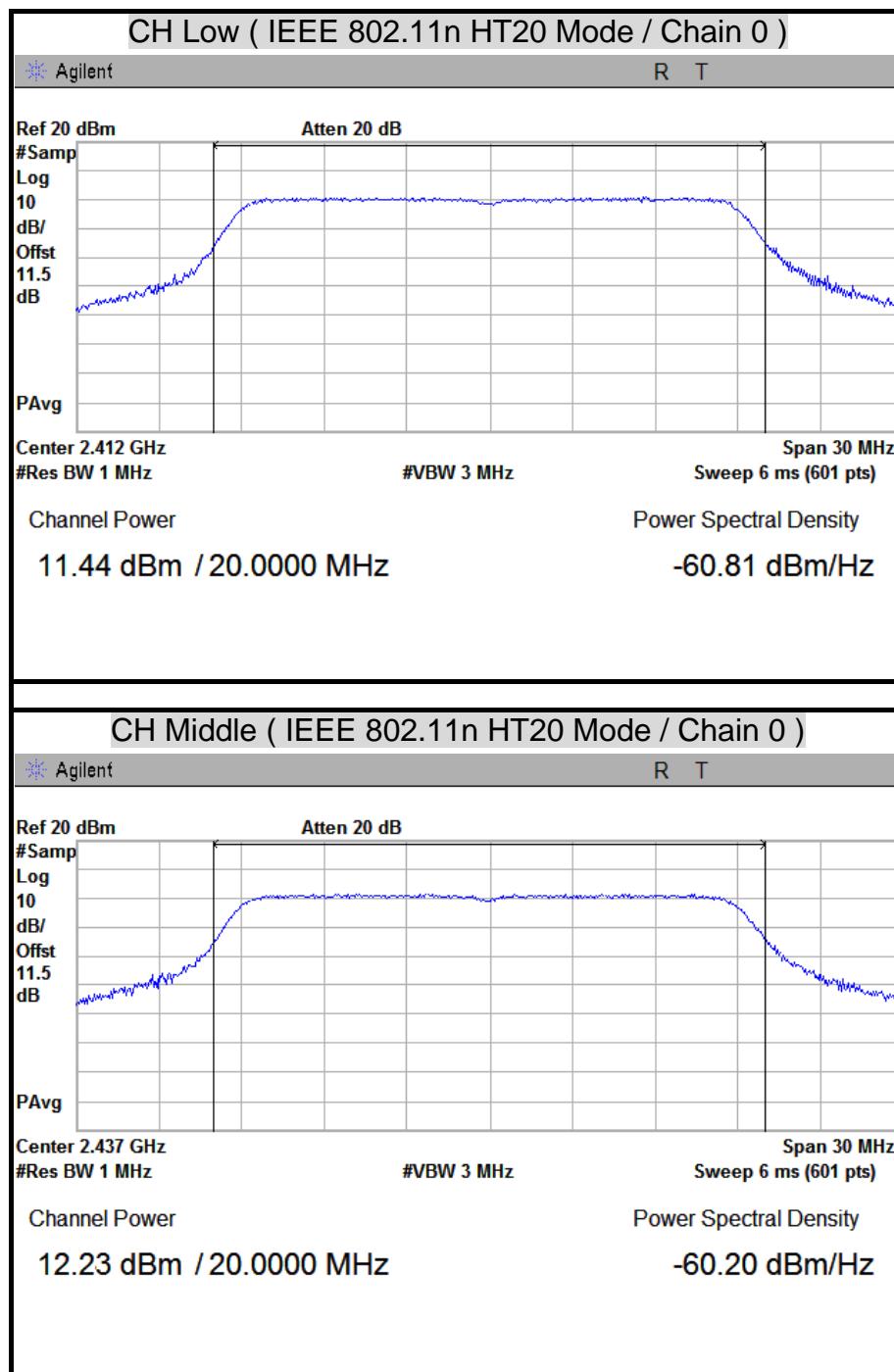
1. At final test to get the worst-case emission at 6.5Mbps.
2. The cable assembly insertion loss of 11.5dB (including 10 dB pad and 1.5 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.
3. Total power = Chain 0 + Chain 1.
4. The maximum antenna gain is 3.69dBi which is less than 6dBi, the limit should be 1W.

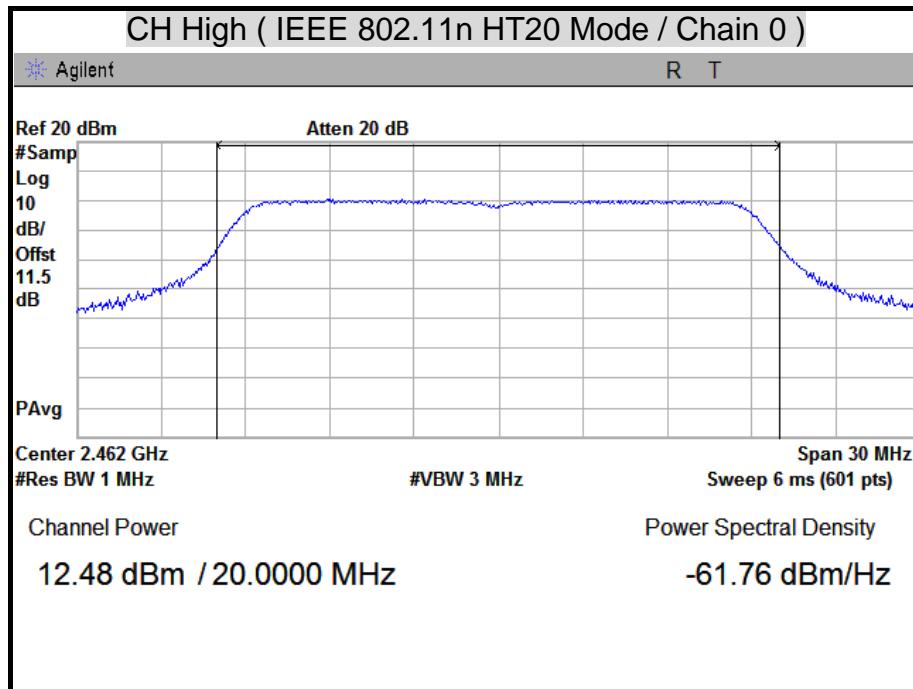
AVERAGE POWER

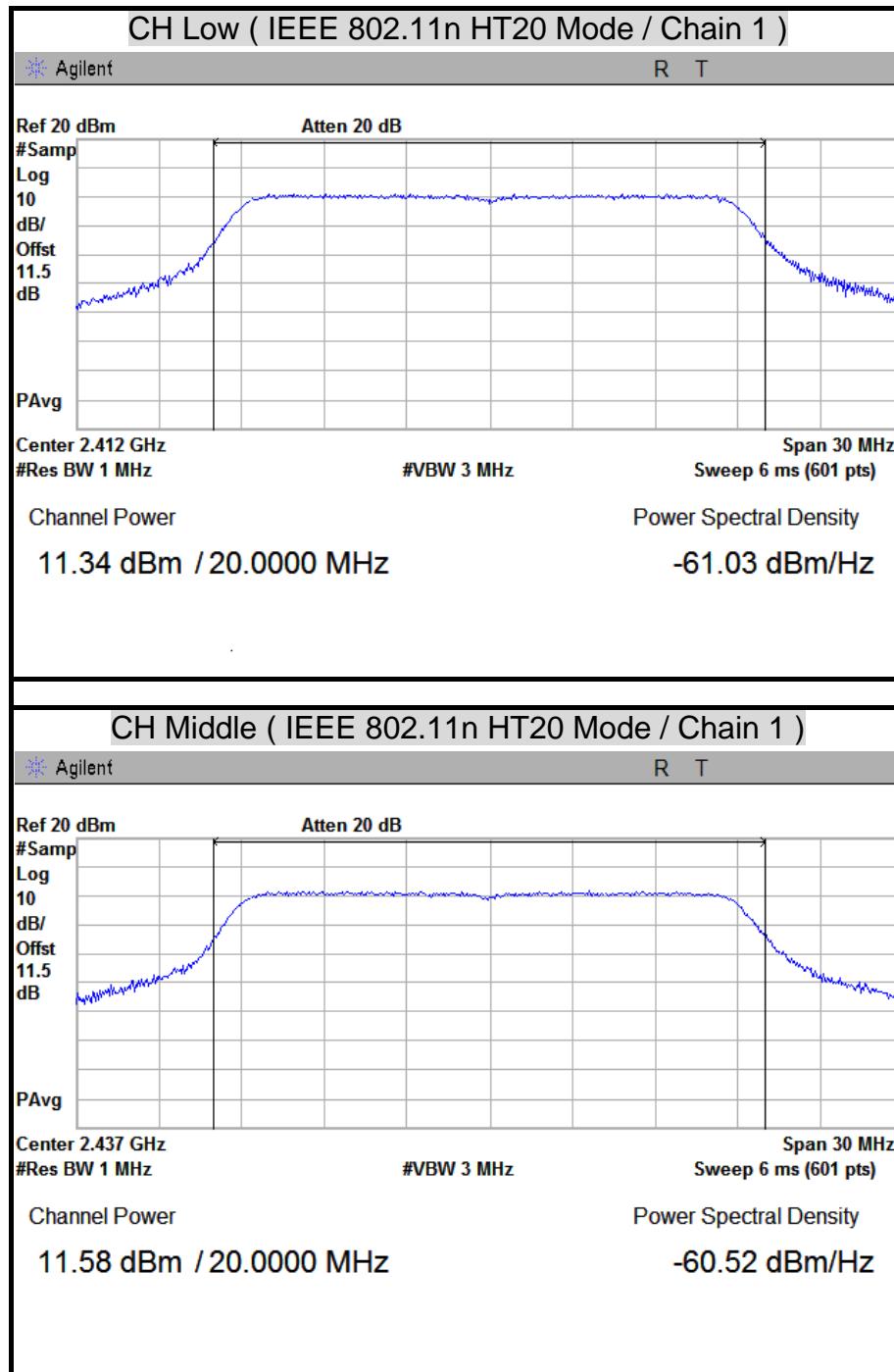


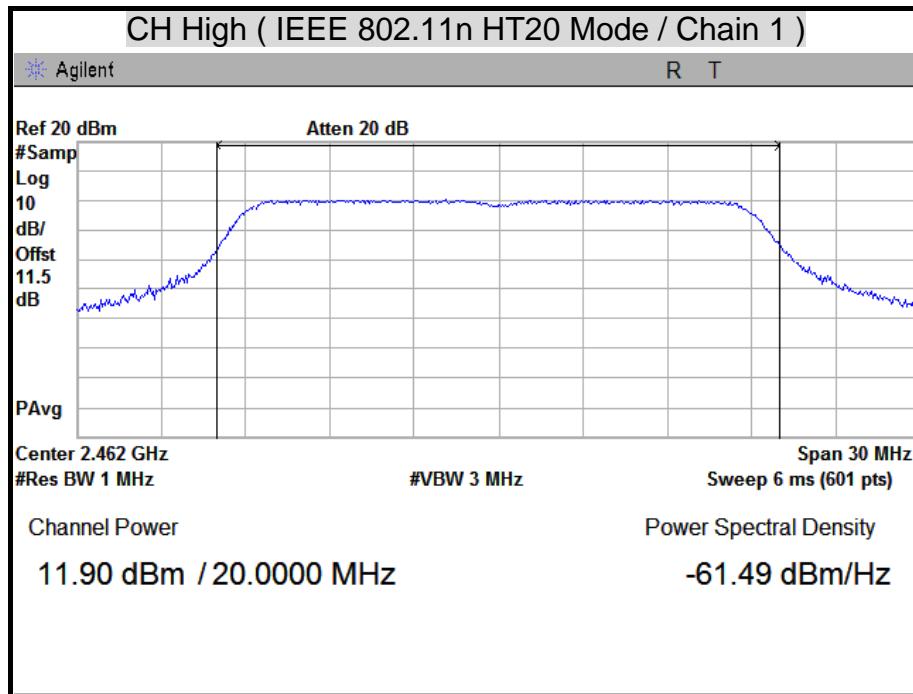


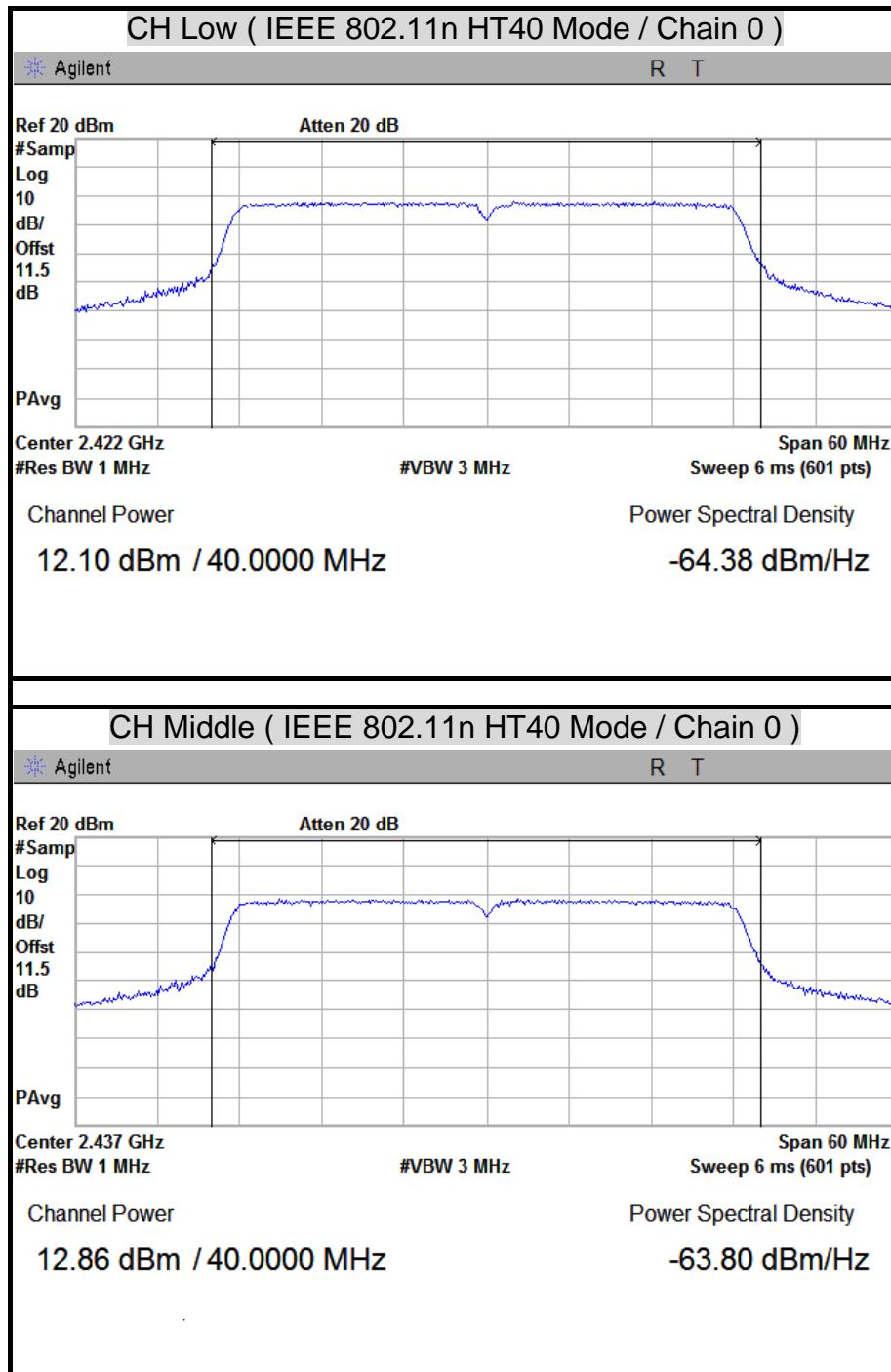


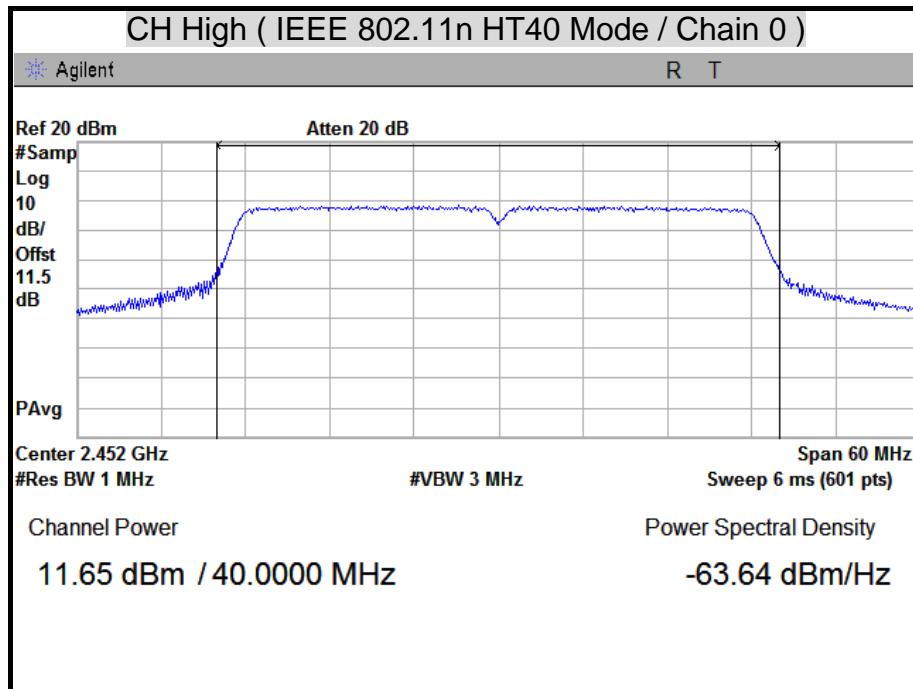


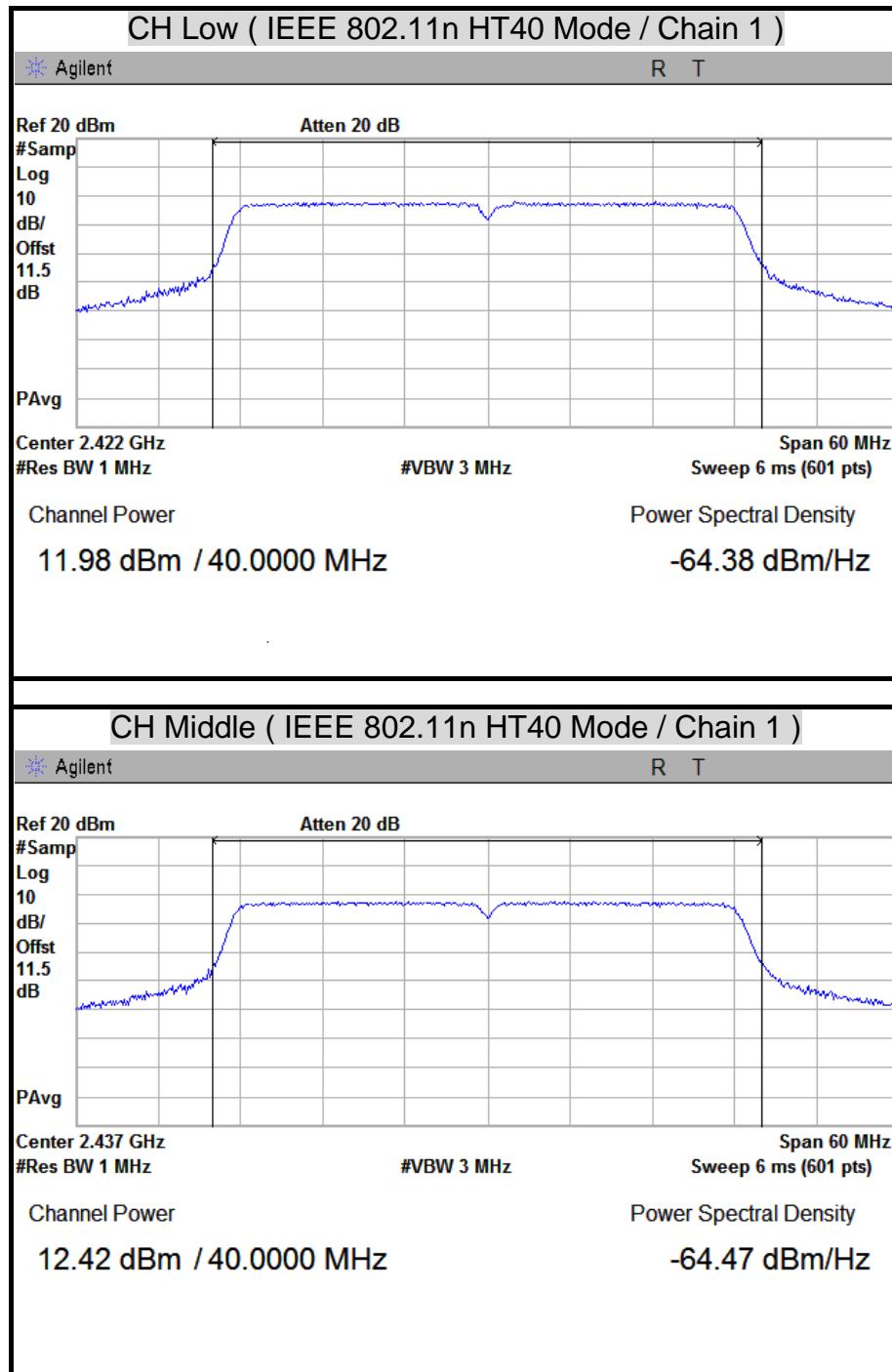


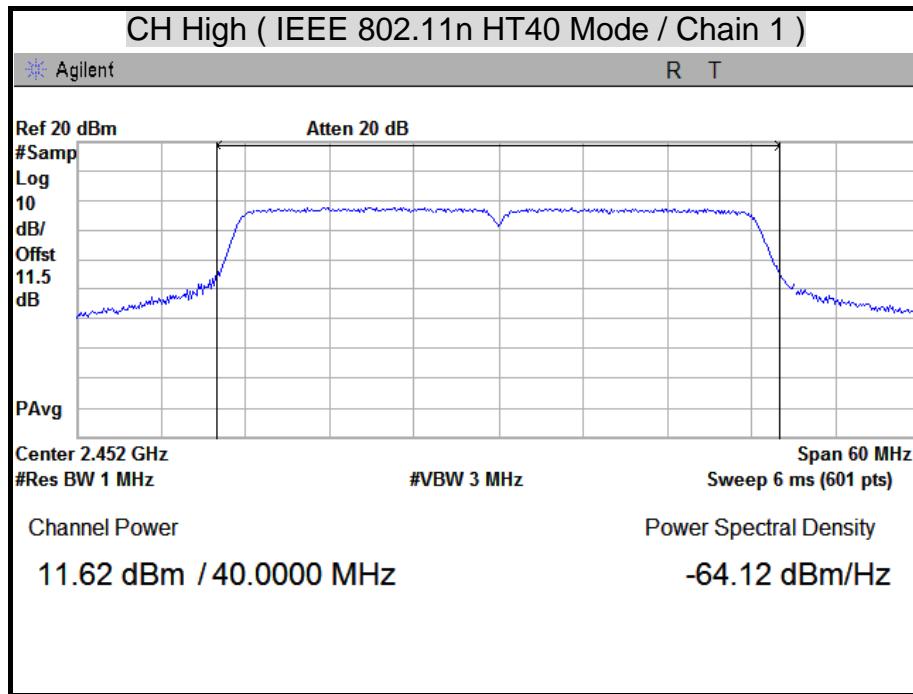














## 8.4 RADIATED EMISSION

### LIMITS

(1) According to § 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41			

**Remark:**

1. <sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
2. <sup>2</sup> Above 38.6

(2) According to § 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



(3) According to § 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

**Remark:** \*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

(4) According to § 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

## TEST EQUIPMENT

### 966Chamber\_A

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY46180323	04/24/2012
EMI Receiver	ROHDE & SCHWARZ	ESCI	100221	04/24/2012
Bi-log Antenna	SCHWARZBECK	VULB 9168	9168-249	10/03/2012
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-778	09/05/2012
Horn Antenna	COM-POWER	AH-840	03077	12/06/2012
Pre-Amplifier	Agilent	8449B	3008A01471	07/24/2012
Pre-Amplifier	HP	8447F	2944A03748	09/18/2012
LOOP Antenna	EMCO	6502	8905-2356	06/10/2012
Band Reject Notch Filter	Micro-Tronics	BRM05702-01	009	N.C.R

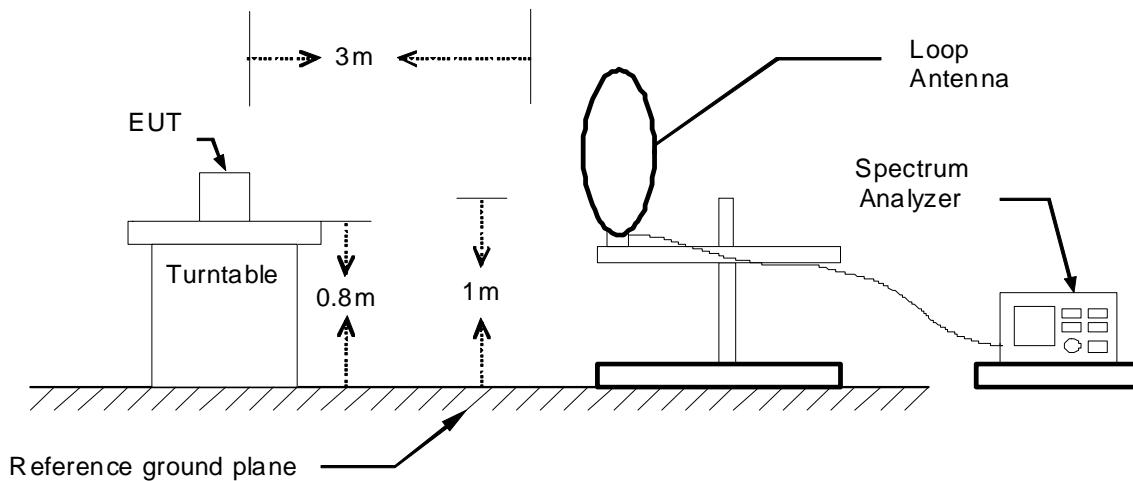
**Remark:** 1. Each piece of equipment is scheduled for calibration once a year.  
2. N.C.R = No Calibration Request.



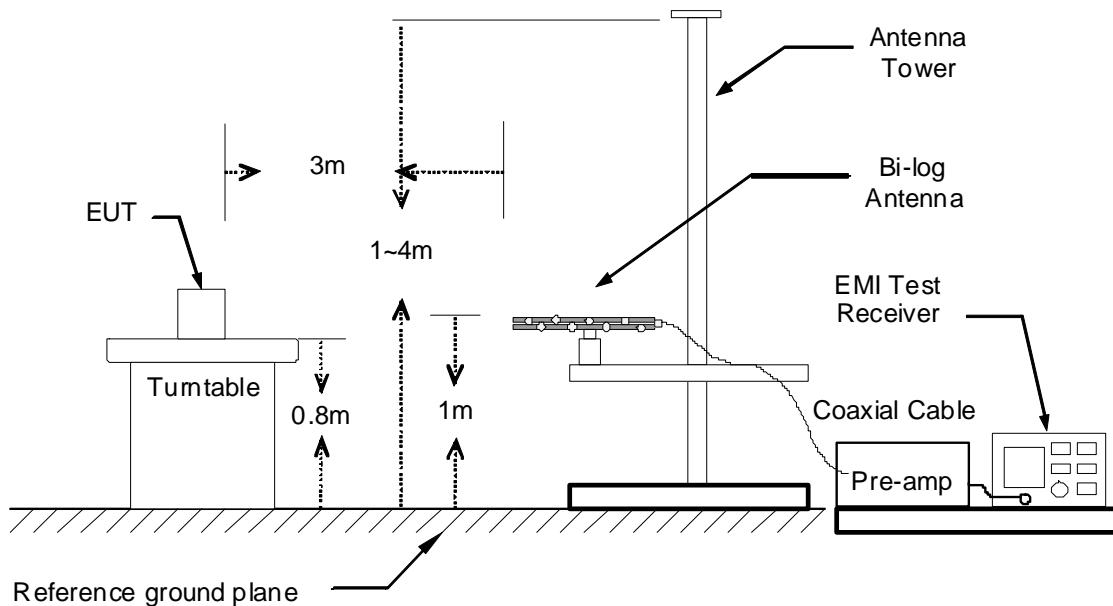
## TEST SETUP

The diagram below shows the test setup that is utilized to make the measurements for emission from below 1GHz.

### **9kHz ~ 30MHz**

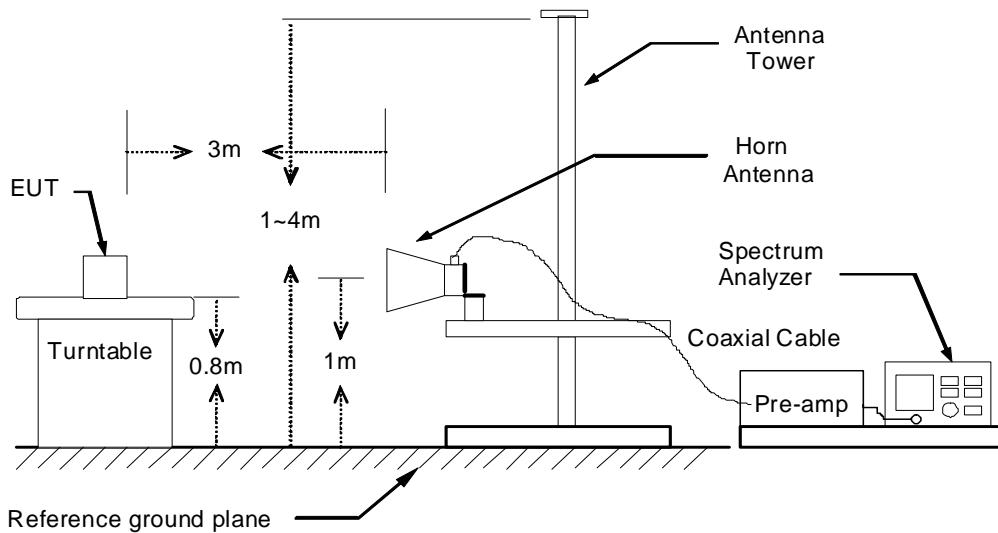


### **30MHz ~ 1GHz**





The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



## **TEST PROCEDURE**

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
2. While measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. While measuring the radiated emission above 1GHz, the EUT was set 3 meters away from the interference-receiving antenna.
3. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

### ***Remark :***

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

**TEST RESULTS****Below 1 GHz (9kHz ~ 30MHz)**

No emission found between lowest internal used/generated frequency to 30MHz.

**Below 1 GHz (30MHz ~ 1GHz)**

<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/11/18
<b>Test Mode</b>	IEEE 802.11b TX / CH Low (worst case)	<b>TEMP &amp; Humidity</b>	24°C, 45%

966 Chamber_A at 3Meter / Horizontal						
Frequency (MHz)	Reading (dB $\mu$ V)	Correction Factor (dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
279.29	42.60	-9.34	33.27	46.00	-12.73	Peak
299.66	44.33	-8.75	35.58	46.00	-10.42	Peak
388.90	38.64	-6.32	32.32	46.00	-13.68	Peak
449.04	33.65	-4.84	28.81	46.00	-17.19	Peak
676.99	32.18	-0.35	31.83	46.00	-14.17	Peak
786.60	30.85	1.73	32.58	46.00	-13.42	Peak

966 Chamber_A at 3Meter / Vertical						
Frequency (MHz)	Reading (dB $\mu$ V)	Correction Factor (dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
207.51	38.92	-12.33	26.59	43.50	-16.91	Peak
299.66	42.77	-8.75	34.03	46.00	-11.97	Peak
374.35	37.07	-6.73	30.34	46.00	-15.66	Peak
449.04	35.83	-4.84	30.98	46.00	-15.02	Peak
599.39	34.35	-1.38	32.97	46.00	-13.03	Peak
789.51	30.75	1.79	32.54	46.00	-13.46	Peak

**Remark:**

1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
2. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) – PreAmp.Gain (dB)
4. Result (dB $\mu$ V/m) = Reading (dB $\mu$ V) + Correction Factor (dB/m)
5. Margin (dB) = Remark result (dB $\mu$ V/m) - Quasi-peak limit (dB $\mu$ V/m).



Product Name	802.11bgn WLAN + Bluetooth Mini Card	Test By	Leon Cheng
Test Model	BCM943227HMB	Test Date	2011/11/18
Test Mode	Bluetooth / GFSK TX / CH Low (worst case)	Temp. & Humidity	24°C, 45%

966 Chamber_A at 3Meter / Horizontal						
Frequency (MHz)	Reading (dB $\mu$ V)	Correction Factor (dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
210.42	42.74	-12.34	30.41	43.50	-13.09	Peak
277.35	43.71	-9.41	34.31	46.00	-11.69	Peak
300.63	45.90	-8.72	37.17	46.00	-8.83	Peak
601.33	31.90	-1.35	30.55	46.00	-15.45	Peak
676.99	33.84	-0.35	33.49	46.00	-12.51	Peak
748.77	32.36	0.99	33.35	46.00	-12.65	Peak

966 Chamber_A at 3Meter / Vertical						
Frequency (MHz)	Reading (dB $\mu$ V)	Correction Factor (dB/m)	Result (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Remark
207.51	38.35	-12.33	26.02	43.50	-17.48	Peak
279.29	37.65	-9.34	28.32	46.00	-17.68	Peak
299.66	39.86	-8.75	31.11	46.00	-14.89	Peak
387.93	36.74	-6.34	30.39	46.00	-15.61	Peak
599.39	32.85	-1.38	31.47	46.00	-14.53	Peak
789.51	30.48	1.79	32.27	46.00	-13.73	Peak

**Remark:**

1. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
2. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - PreAmp.Gain (dB)
4. Result (dB $\mu$ V/m) = Reading (dB $\mu$ V) + Correction Factor (dB/m)
5. Margin (dB) = Remark result (dB $\mu$ V/m) - Quasi-peak limit (dB $\mu$ V/m).



## TX Above 1 GHz

<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11b TX / CH Low	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1522.00	54.29	---	-4.95	49.34	---	74.00	54.00	-4.66	Peak
3210.00	44.80	---	0.83	45.62	---	74.00	54.00	-8.38	Peak
4395.00	41.80	---	4.16	45.96	---	74.00	54.00	-8.04	Peak
4800.00	41.44	---	5.47	46.91	---	74.00	54.00	-7.09	Peak
966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2110.00	53.03	---	-2.66	50.37	---	74.00	54.00	-3.63	Peak
3210.00	50.80	---	0.83	51.63	---	74.00	54.00	-2.37	Peak
4395.00	41.70	---	4.16	45.85	---	74.00	54.00	-8.15	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11b TX / CH Middle	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2280.00	54.50	---	-1.97	52.53	---	74.00	54.00	-1.47	Peak
3255.00	44.44	---	0.88	45.32	---	74.00	54.00	-8.68	Peak
4440.00	42.42	---	4.30	46.72	---	74.00	54.00	-7.28	Peak
4950.00	41.22	---	5.95	47.17	---	74.00	54.00	-6.83	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2172.00	53.71	---	-2.41	51.30	---	74.00	54.00	-2.70	Peak
3255.00	45.61	---	0.88	46.49	---	74.00	54.00	-7.51	Peak
4755.00	41.46	---	5.32	46.78	---	74.00	54.00	-7.22	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11b TX / CH High	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2072.00	52.66	---	-2.81	49.85	---	74.00	54.00	-4.15	Peak
3285.00	43.81	---	0.92	44.73	---	74.00	54.00	-9.27	Peak
4470.00	41.75	---	4.40	46.16	---	74.00	54.00	-7.84	Peak
4890.00	40.85	---	5.76	46.61	---	74.00	54.00	-7.39	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2088.00	53.95	---	-2.75	51.20	---	74.00	54.00	-2.80	Peak
3285.00	43.83	---	0.92	44.75	---	74.00	54.00	-9.25	Peak
4350.00	41.90	---	4.01	45.91	---	74.00	54.00	-8.09	Peak
4890.00	41.10	---	5.76	46.86	---	74.00	54.00	-7.14	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



Product Name	802.11bgn WLAN + Bluetooth Mini Card	Test By	Leon Cheng
Test Model	BCM943227HMB	Test Date	2011/12/14
Test Mode	IEEE 802.11g TX / CH Low	TEMP & Humidity	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1824.00	51.38	---	-3.78	47.59	---	74.00	54.00	-6.41	Peak
3210.00	45.15	---	0.83	45.98	---	74.00	54.00	-8.02	Peak
4590.00	41.73	---	4.79	46.52	---	74.00	54.00	-7.48	Peak
4875.00	41.67	---	5.71	47.38	---	74.00	54.00	-6.62	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1824.00	53.92	---	-3.78	50.14	---	74.00	54.00	-3.86	Peak
3210.00	52.55	---	0.83	53.38	---	74.00	54.00	-0.62	Peak
4455.00	41.41	---	4.35	45.76	---	74.00	54.00	-8.24	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11g TX / CH Middle	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1918.00	52.92	---	-3.42	49.51	---	74.00	54.00	-4.49	Peak
3255.00	44.68	---	0.88	45.56	---	74.00	54.00	-8.44	Peak
4530.00	42.25	---	4.60	46.84	---	74.00	54.00	-7.16	Peak
4890.00	41.33	---	5.76	47.08	---	74.00	54.00	-6.92	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1814.00	53.38	---	-3.82	49.56	---	74.00	54.00	-4.44	Peak
3255.00	47.84	---	0.88	48.72	---	74.00	54.00	-5.28	Peak
4635.00	41.49	---	4.93	46.43	---	74.00	54.00	-7.57	Peak
4890.00	41.66	---	5.76	47.42	---	74.00	54.00	-6.58	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11g TX / CH High	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2022.00	53.08	---	-3.01	50.07	---	74.00	54.00	-3.93	Peak
3285.00	43.26	---	0.92	44.18	---	74.00	54.00	-9.82	Peak
3885.00	42.11	---	2.48	44.59	---	74.00	54.00	-9.41	Peak
4905.00	41.25	---	5.80	47.06	---	74.00	54.00	-6.94	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2022.00	51.46	---	-3.01	48.45	---	74.00	54.00	-5.55	Peak
4365.00	41.90	---	4.06	45.96	---	74.00	54.00	-8.04	Peak
4710.00	42.25	---	5.18	47.43	---	74.00	54.00	-6.57	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT20 TX / CH Low	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1554.00	53.44	---	-4.83	48.61	---	74.00	54.00	-5.39	Peak
3210.00	45.22	---	0.83	46.05	---	74.00	54.00	-7.95	Peak
4785.00	41.26	---	5.42	46.68	---	74.00	54.00	-7.32	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1418.00	54.63	---	-5.52	49.11	---	74.00	54.00	-4.89	Peak
3210.00	50.91	---	0.83	51.74	---	74.00	54.00	-2.26	Peak
4470.00	42.69	---	4.40	47.09	---	74.00	54.00	-6.91	Peak
4800.00	41.15	---	5.47	46.61	---	74.00	54.00	-7.39	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT20 TX / CH Middle	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1666.00	52.91	---	-4.40	48.51	---	74.00	54.00	-5.49	Peak
3210.00	44.49	---	0.83	45.32	---	74.00	54.00	-8.68	Peak
4800.00	41.43	---	5.47	46.90	---	74.00	54.00	-7.10	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1594.00	54.17	---	-4.68	49.50	---	74.00	54.00	-4.50	Peak
3210.00	49.24	---	0.83	50.06	---	74.00	54.00	-3.94	Peak
4740.00	41.83	---	5.27	47.10	---	74.00	54.00	-6.90	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT20 TX / CH High	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1886.00	53.51	---	-3.54	49.97	---	74.00	54.00	-4.03	Peak
4890.00	41.98	---	5.76	47.73	---	74.00	54.00	-6.27	Peak
966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2026.00	53.82	---	-3.00	50.83	---	74.00	54.00	-3.17	Peak
3210.00	49.25	---	0.83	50.08	---	74.00	54.00	-3.92	Peak
4665.00	41.57	---	5.03	46.61	---	74.00	54.00	-7.39	Peak
4860.00	41.57	---	5.66	47.23	---	74.00	54.00	-6.77	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT40 TX / CH Low	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2060.00	52.74	---	-2.86	49.88	---	74.00	54.00	-4.12	Peak
3210.00	43.89	---	0.83	44.72	---	74.00	54.00	-9.28	Peak
4275.00	42.60	---	3.77	46.37	---	74.00	54.00	-7.63	Peak
4860.00	41.17	---	5.66	46.83	---	74.00	54.00	-7.17	Peak
966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1600.00	55.14	---	-4.65	50.49	---	74.00	54.00	-3.51	Peak
3210.00	49.37	---	0.83	50.20	---	74.00	54.00	-3.80	Peak
4905.00	41.00	---	5.80	46.81	---	74.00	54.00	-7.19	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT40 TX / CH Middle	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1838.00	53.26	---	-3.73	49.53	---	74.00	54.00	-4.47	Peak
3210.00	43.63	---	0.83	44.45	---	74.00	54.00	-9.55	Peak
4935.00	41.18	---	5.90	47.08	---	74.00	54.00	-6.92	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1774.00	53.66	---	-3.98	49.68	---	74.00	54.00	-4.32	Peak
3210.00	50.08	---	0.83	50.91	---	74.00	54.00	-3.09	Peak
4935.00	41.38	---	5.90	47.29	---	74.00	54.00	-6.71	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/14
<b>Test Mode</b>	IEEE 802.11n HT40 TX / CH High	<b>TEMP &amp; Humidity</b>	21.5°C, 63%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1668.00	54.17	---	-4.39	49.78	---	74.00	54.00	-4.22	Peak
4545.00	41.32	---	4.64	45.97	---	74.00	54.00	-8.03	Peak
5025.00	41.11	---	6.15	47.26	---	74.00	54.00	-6.74	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2164.00	54.23	---	-2.44	51.79	---	74.00	54.00	-2.21	Peak
3210.00	48.63	---	0.83	49.46	---	74.00	54.00	-4.54	Peak
4830.00	41.25	---	5.56	46.81	---	74.00	54.00	-7.19	Peak
4935.00	40.22	---	5.90	46.12	---	74.00	54.00	-7.88	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / GFSK TX / CH Low	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1710.00	53.34	---	-4.23	49.12	---	74.00	54.00	-4.88	Peak
3210.00	41.52	---	0.83	42.35	---	74.00	54.00	-11.65	Peak
4350.00	40.11	---	4.01	44.12	---	74.00	54.00	-9.88	Peak
4785.00	40.81	---	5.42	46.23	---	74.00	54.00	-7.77	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1732.00	52.78	---	-4.14	48.64	---	74.00	54.00	-5.36	Peak
3210.00	44.27	---	0.83	45.10	---	74.00	54.00	-8.90	Peak
3960.00	40.18	---	2.73	42.91	---	74.00	54.00	-11.09	Peak
4890.00	40.56	---	5.76	46.32	---	74.00	54.00	-7.68	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / GFSK TX / CH Middle	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1682.00	53.26	---	-4.33	48.92	---	74.00	54.00	-5.08	Peak
3060.00	42.31	---	0.64	42.95	---	74.00	54.00	-11.05	Peak
4155.00	40.27	---	3.38	43.65	---	74.00	54.00	-10.35	Peak
4920.00	39.89	---	5.85	45.74	---	74.00	54.00	-8.26	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1576.00	53.72	---	-4.75	48.98	---	74.00	54.00	-5.02	Peak
3255.00	42.72	---	0.88	43.60	---	74.00	54.00	-10.40	Peak
3825.00	40.62	---	2.28	42.90	---	74.00	54.00	-11.10	Peak
4935.00	41.58	---	5.90	47.48	---	74.00	54.00	-6.52	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor

Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / GFSK TX / CH High	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1352.00	53.76	---	-5.91	47.85	---	74.00	54.00	-6.15	Peak
3030.00	41.54	---	0.61	42.15	---	74.00	54.00	-11.85	Peak
4275.00	39.74	---	3.77	43.50	---	74.00	54.00	-10.50	Peak
4980.00	40.17	---	6.05	46.22	---	74.00	54.00	-7.78	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1426.00	53.87	---	-5.48	48.39	---	74.00	54.00	-5.61	Peak
3330.00	41.66	---	0.97	42.63	---	74.00	54.00	-11.37	Peak
4365.00	39.96	---	4.06	44.02	---	74.00	54.00	-9.98	Peak
4905.00	40.12	---	5.80	45.93	---	74.00	54.00	-8.07	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / 8-DPSK TX / CH Low	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
3255.00	42.26	---	0.88	43.14	---	74.00	54.00	-10.86	Peak
4560.00	40.28	---	4.69	44.97	---	74.00	54.00	-9.03	Peak
4935.00	39.79	---	5.90	45.69	---	74.00	54.00	-8.31	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1422.00	53.77	---	-5.50	48.27	---	74.00	54.00	-5.73	Peak
3195.00	43.02	---	0.81	43.83	---	74.00	54.00	-10.17	Peak
3885.00	40.83	---	2.48	43.31	---	74.00	54.00	-10.69	Peak
4845.00	40.36	---	5.61	45.97	---	74.00	54.00	-8.03	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / 8-DPSK TX / CH Middle	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
2046.00	53.00	---	-2.92	50.09	---	74.00	54.00	-3.91	Peak
3270.00	42.26	---	0.90	43.16	---	74.00	54.00	-10.84	Peak
4320.00	40.74	---	3.91	44.65	---	74.00	54.00	-9.35	Peak
4950.00	40.36	---	5.95	46.31	---	74.00	54.00	-7.69	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1970.00	52.96	---	-3.22	49.74	---	74.00	54.00	-4.26	Peak
3300.00	42.77	---	0.94	43.71	---	74.00	54.00	-10.29	Peak
4170.00	39.93	---	3.42	43.36	---	74.00	54.00	-10.64	Peak
4995.00	40.21	---	6.09	46.30	---	74.00	54.00	-7.70	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit

Remark Peak = Result(PK) - Limit(AV)

Remark AVG = Result(AV) - Limit(AV)



<b>Product Name</b>	802.11bgn WLAN + Bluetooth Mini Card	<b>Test By</b>	Leon Cheng
<b>Test Model</b>	BCM943227HMB	<b>Test Date</b>	2011/12/16
<b>Test Mode</b>	Bluetooth / 8-DPSK TX / CH High	<b>TEMP &amp; Humidity</b>	22°C, 53%

966 Chamber_A at 3Meter / Horizontal									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1684.00	53.87	---	-4.33	49.55	---	74.00	54.00	-4.45	Peak
3330.00	41.34	---	0.97	42.32	---	74.00	54.00	-11.68	Peak
3870.00	41.31	---	2.43	43.74	---	74.00	54.00	-10.26	Peak
4905.00	39.75	---	5.80	45.55	---	74.00	54.00	-8.45	Peak

966 Chamber_A at 3Meter / Vertical									
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1614.00	53.44	---	-4.60	48.84	---	74.00	54.00	-5.16	Peak
3585.00	41.46	---	1.47	42.93	---	74.00	54.00	-11.07	Peak
4395.00	40.11	---	4.16	44.27	---	74.00	54.00	-9.73	Peak
4905.00	39.15	---	5.80	44.95	---	74.00	54.00	-9.05	Peak

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Average test would be performed if the peak result were greater than the average limit.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Result = Reading + Correction Factor  
Margin = Result - Limit  
Remark Peak = Result(PK) - Limit(AV)  
Remark AVG = Result(AV) - Limit(AV)



## Restricted Band Edges

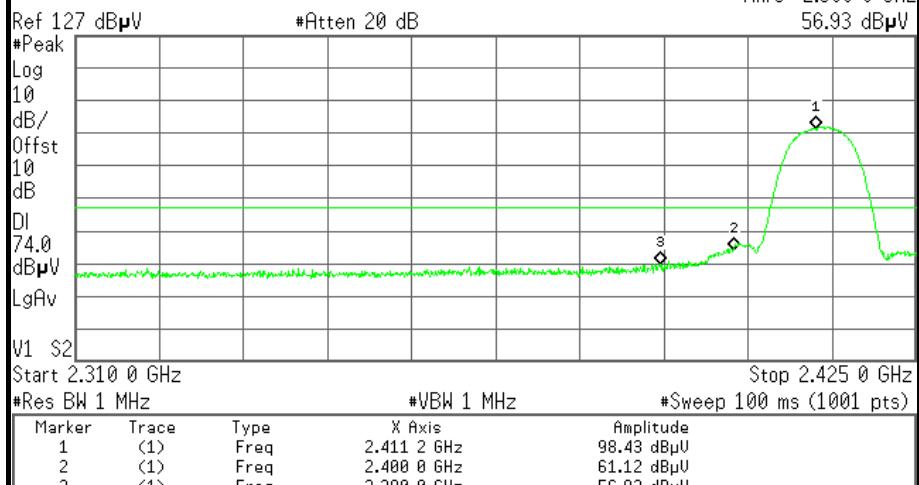
## Detector Mode : Peak

## Polarity : Horizontal

WiFi / CH Low ( IEEE 802.11b Mode )

Agilent

R T

Mkr3 2.390 0 GHz  
56.93 dB $\mu$ V

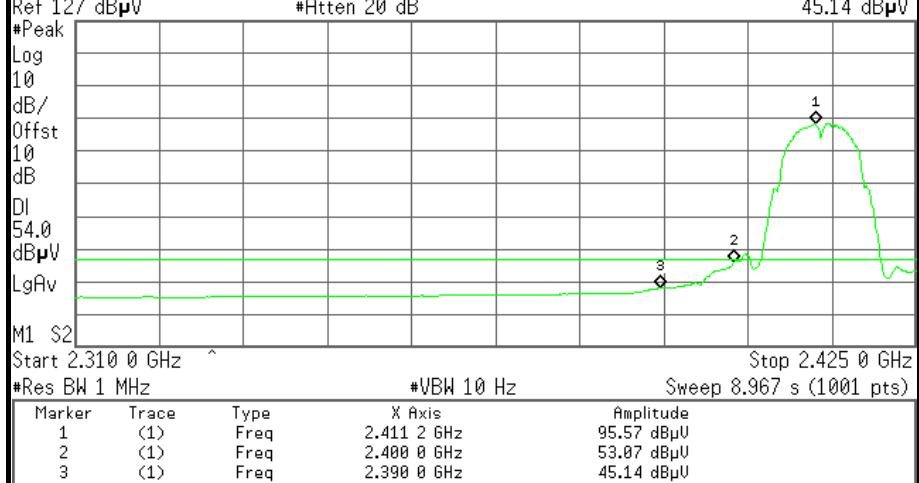
## Detector Mode : Average

## Polarity : Horizontal

WiFi / CH Low ( IEEE 802.11b Mode )

Agilent

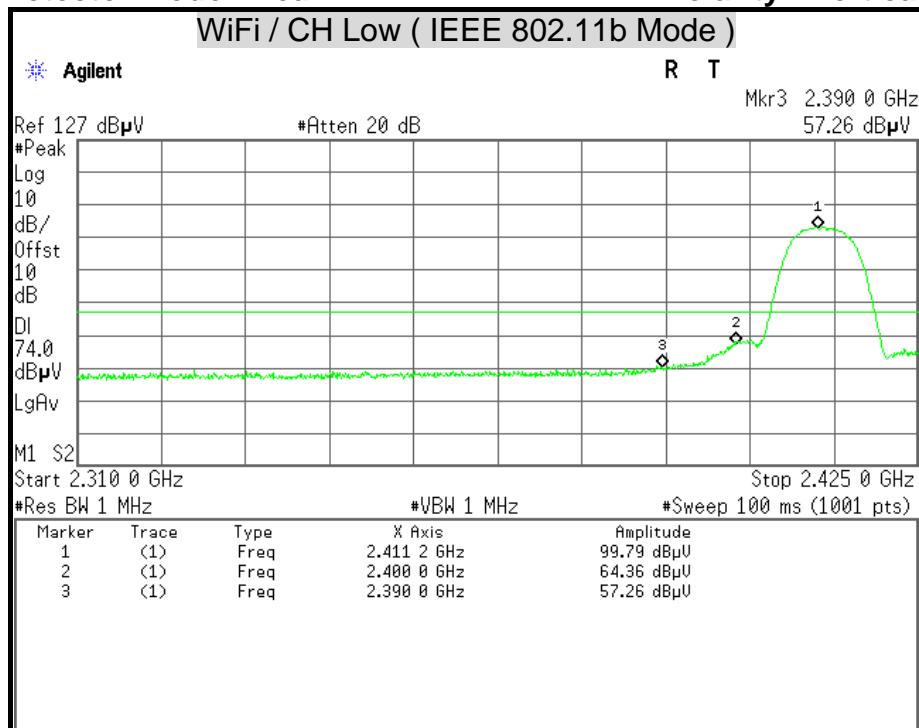
R T

Mkr3 2.390 0 GHz  
45.14 dB $\mu$ V



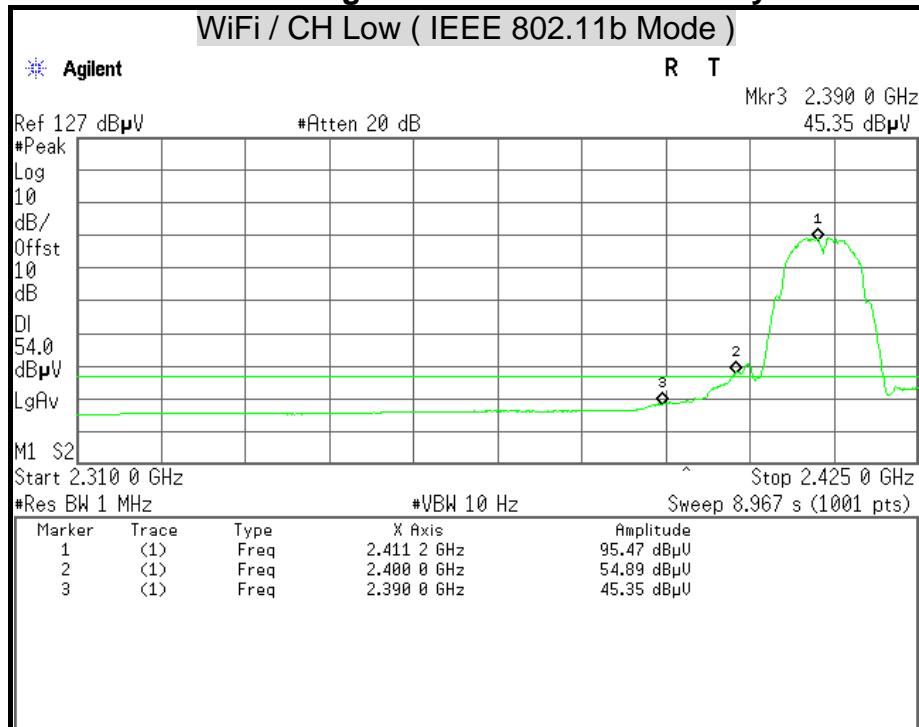
## Detector Mode : Peak

## Polarity : Vertical



## Detector Mode : Average

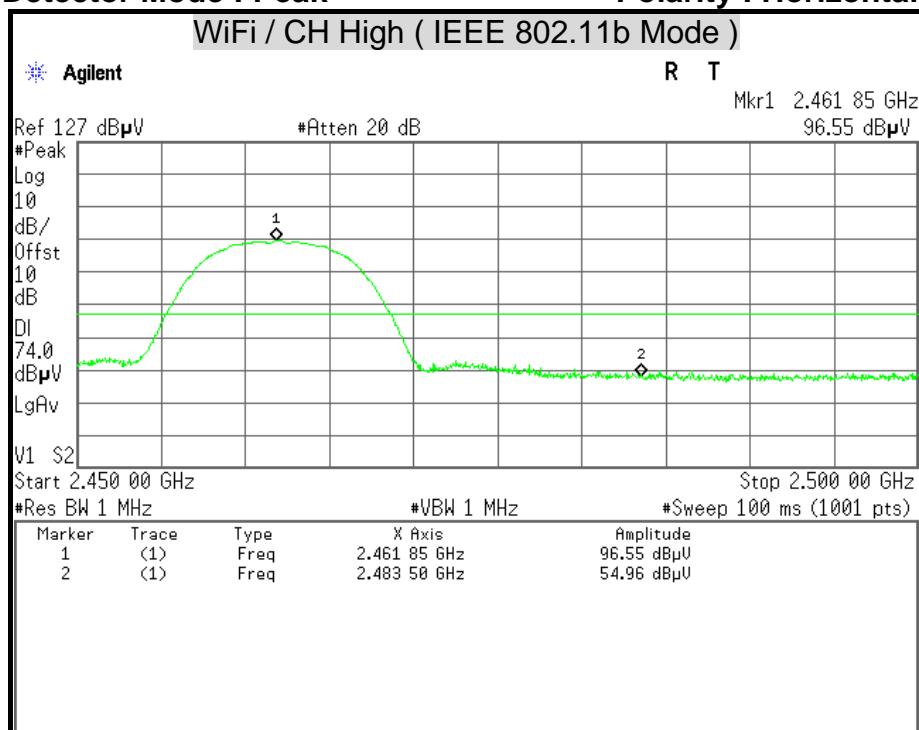
## Polarity : Vertical





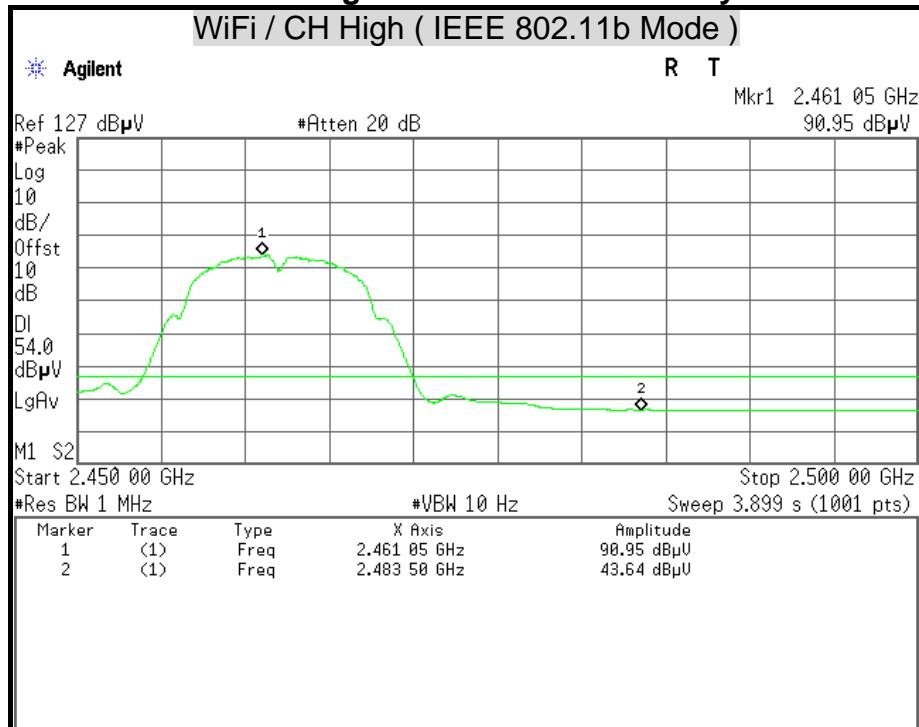
## Detector Mode : Peak

## Polarity : Horizontal



## Detector Mode : Average

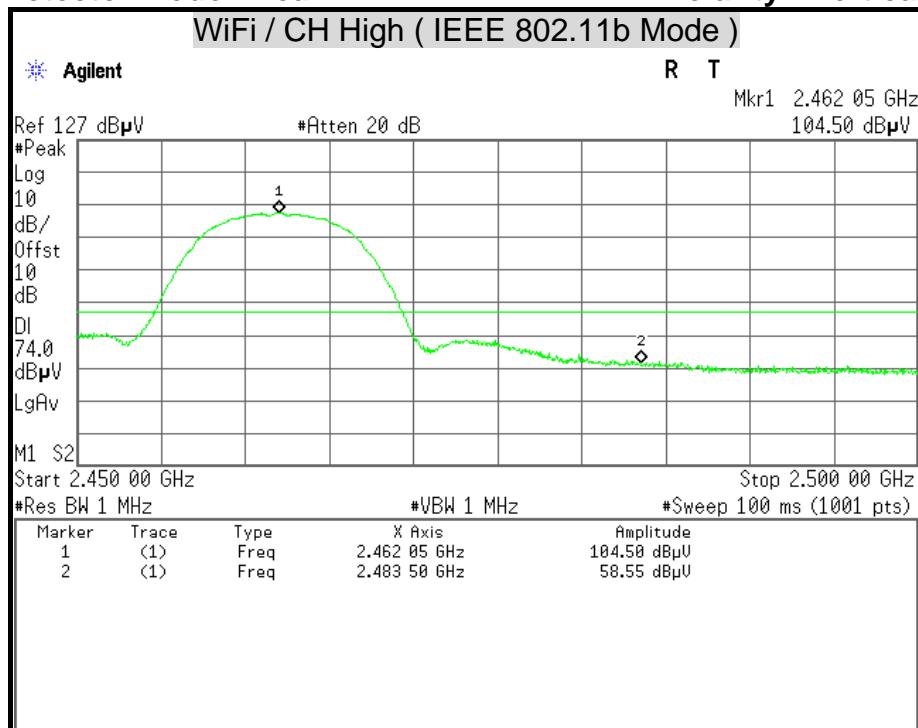
## Polarity : Horizontal





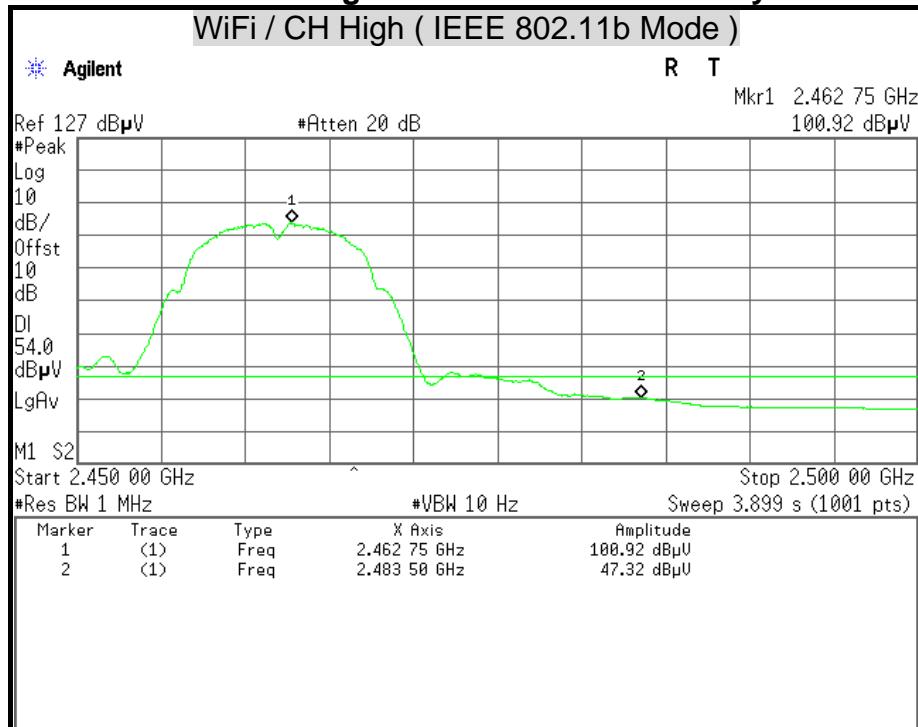
## Detector Mode : Peak

## Polarity : Vertical



## Detector Mode : Average

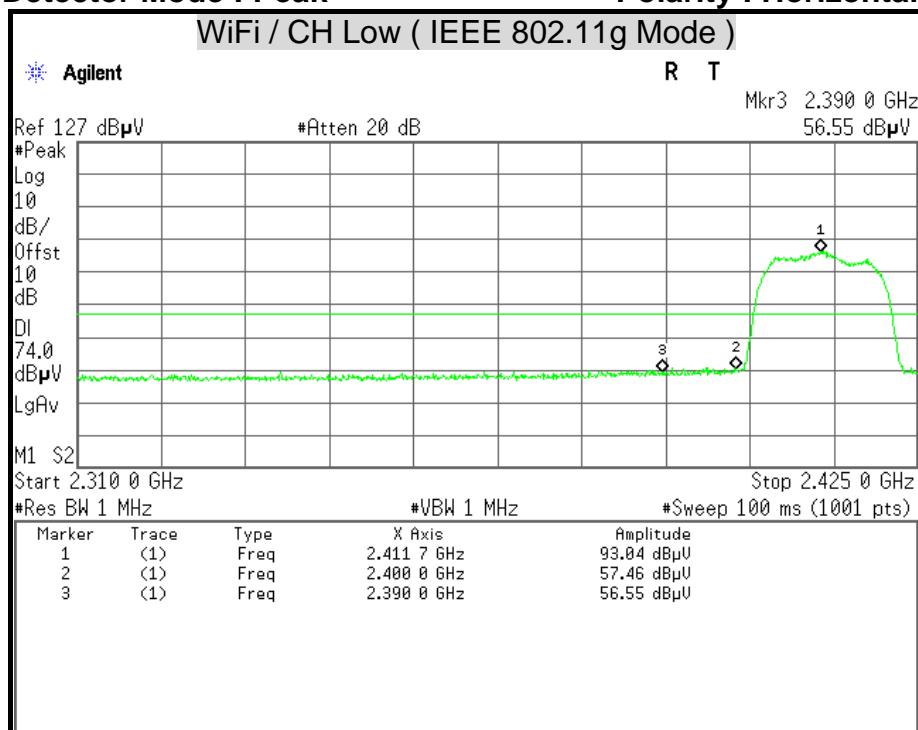
## Polarity : Vertical





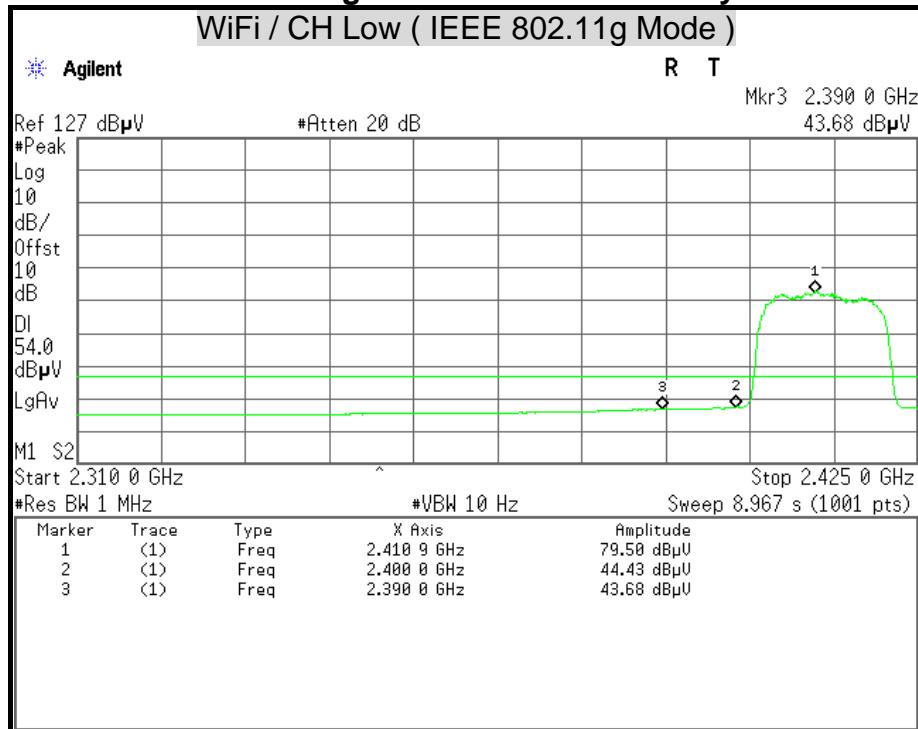
## Detector Mode : Peak

## Polarity : Horizontal



## Detector Mode : Average

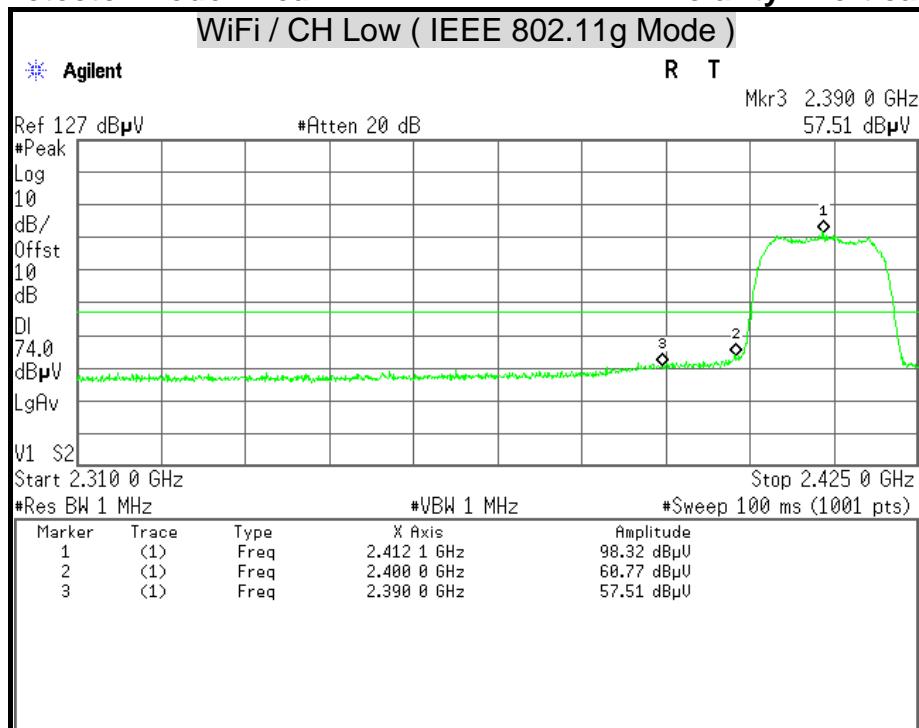
## Polarity : Horizontal





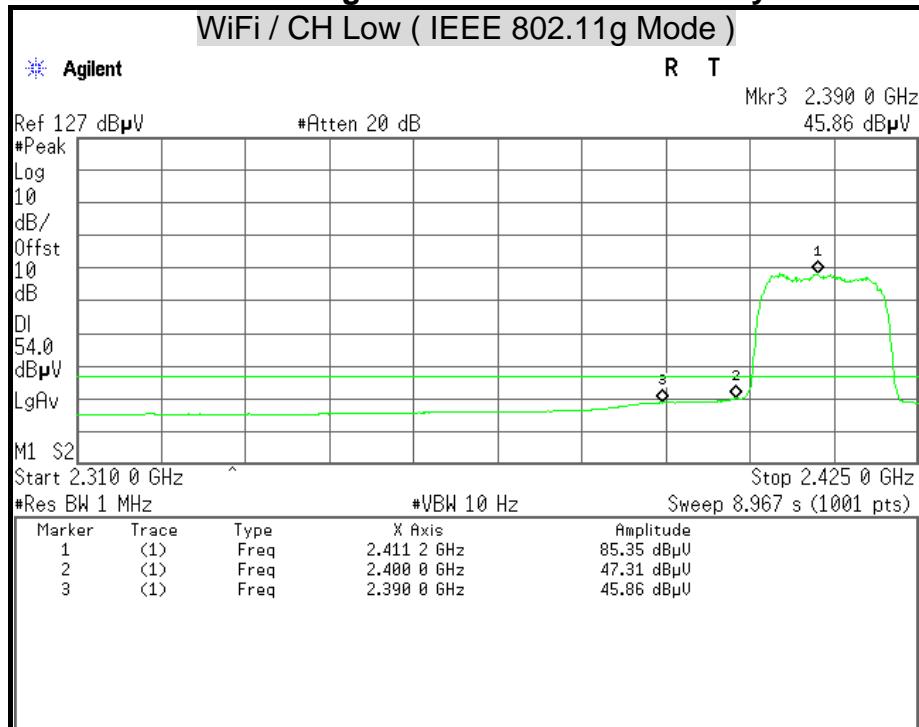
## Detector Mode : Peak

## Polarity : Vertical



## Detector Mode : Average

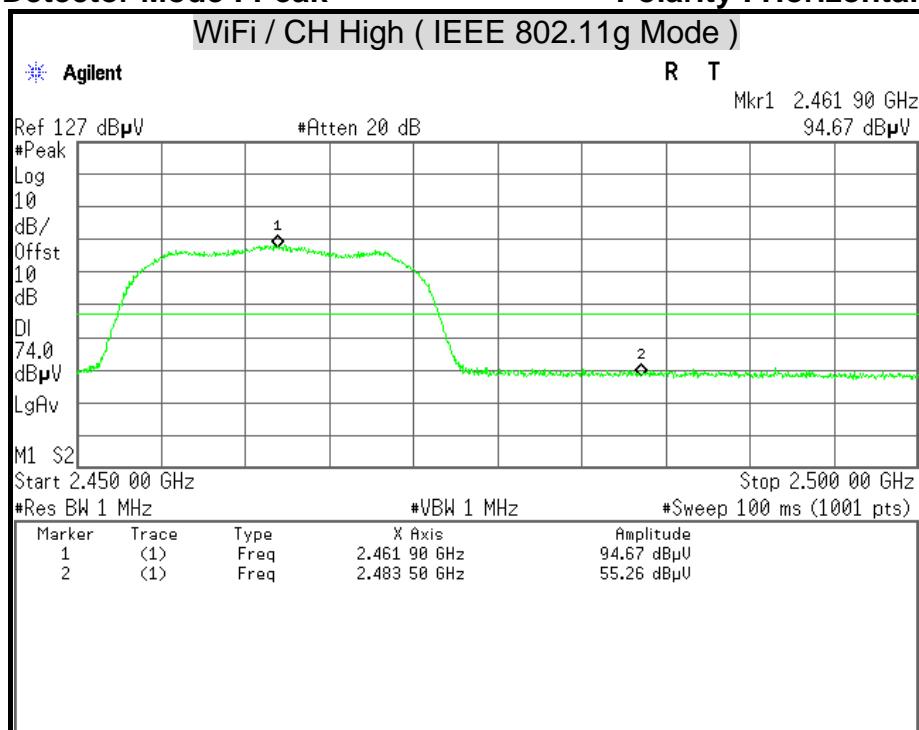
## Polarity : Vertical





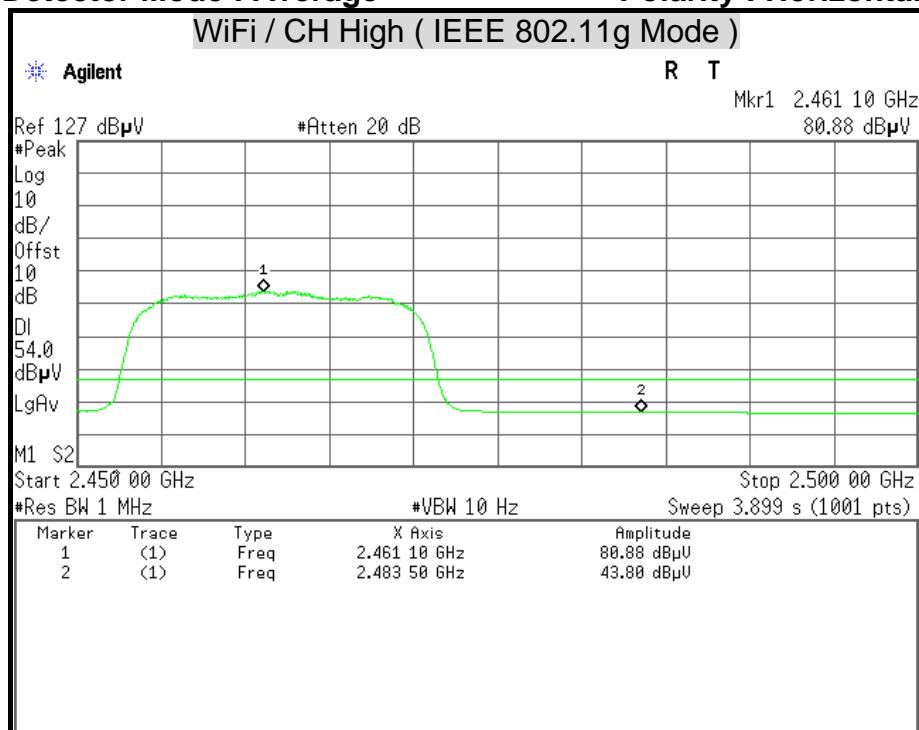
## Detector Mode : Peak

## Polarity : Horizontal



## Detector Mode : Average

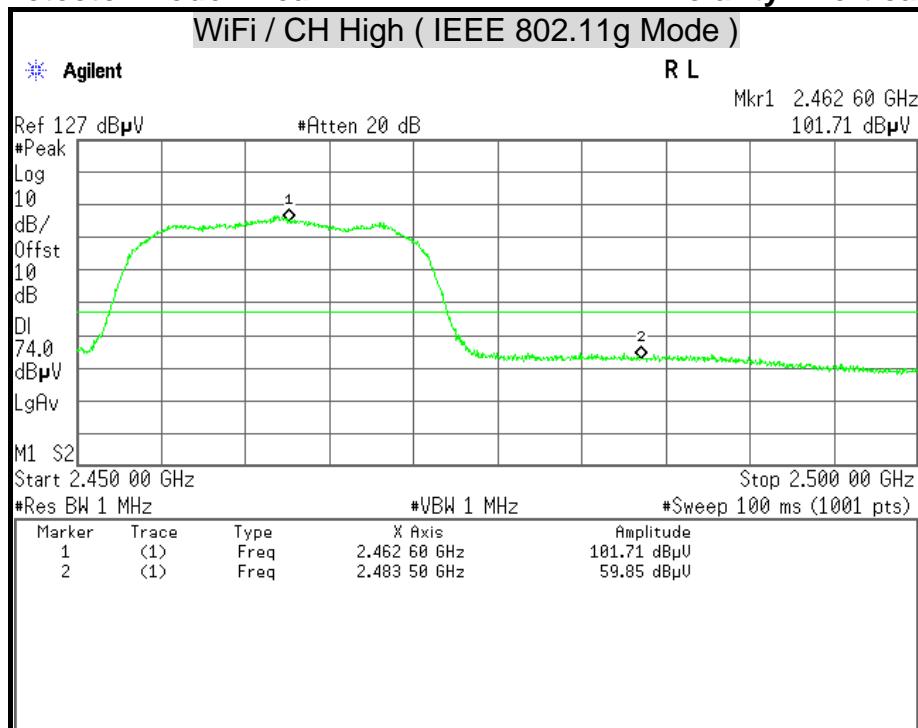
## Polarity : Horizontal





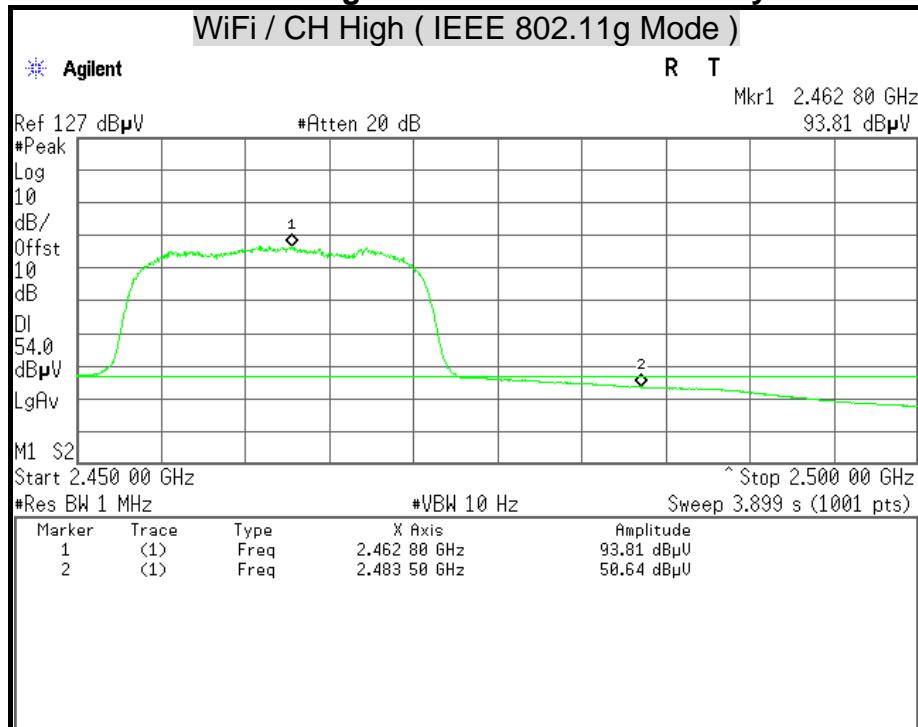
## Detector Mode : Peak

## Polarity : Vertical



## Detector Mode : Average

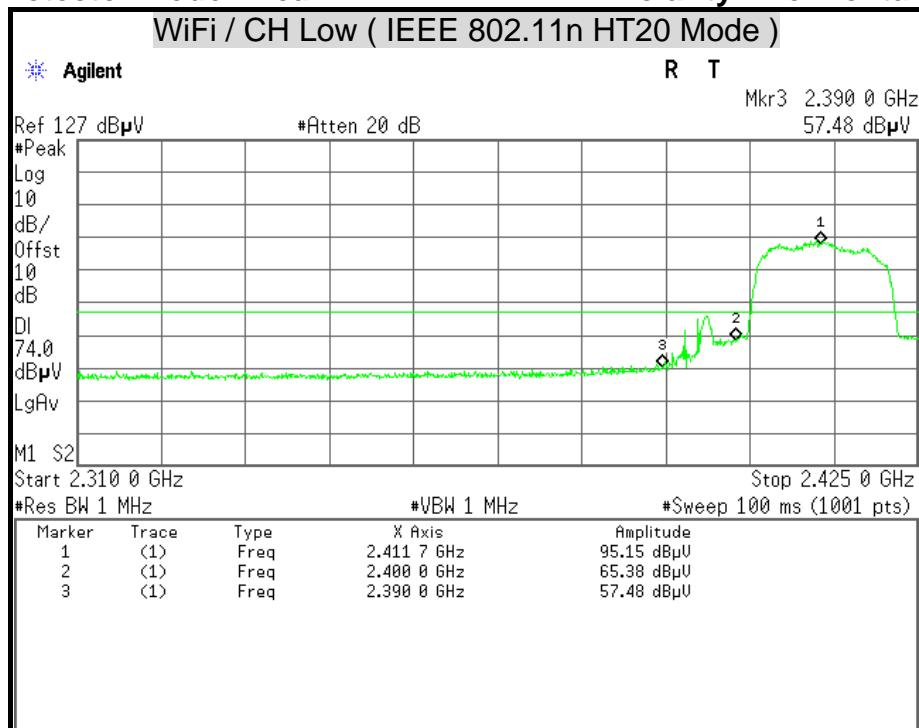
## Polarity : Vertical





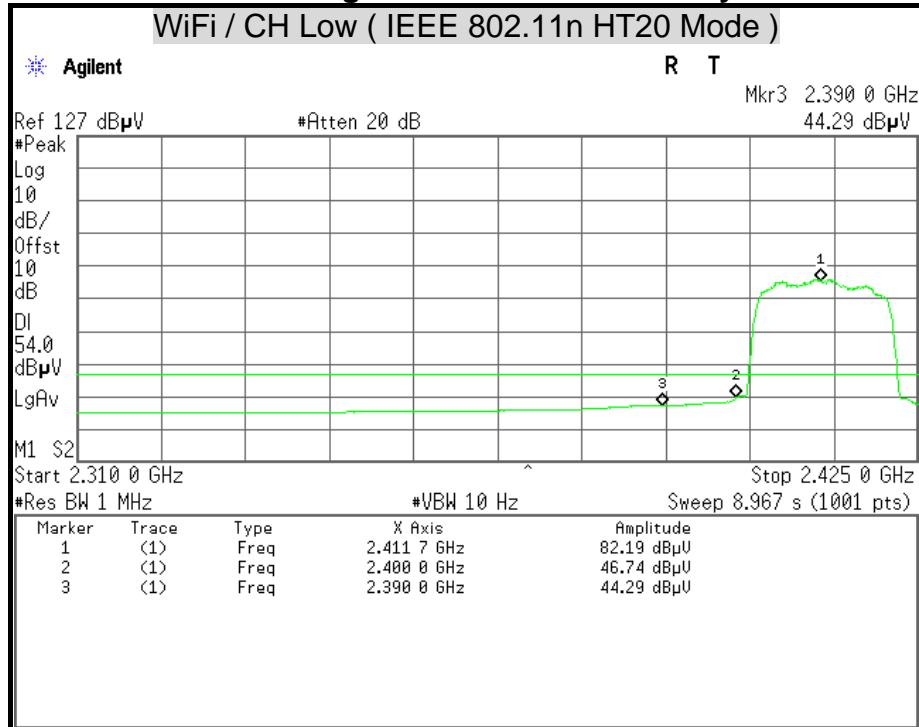
## Detector Mode : Peak

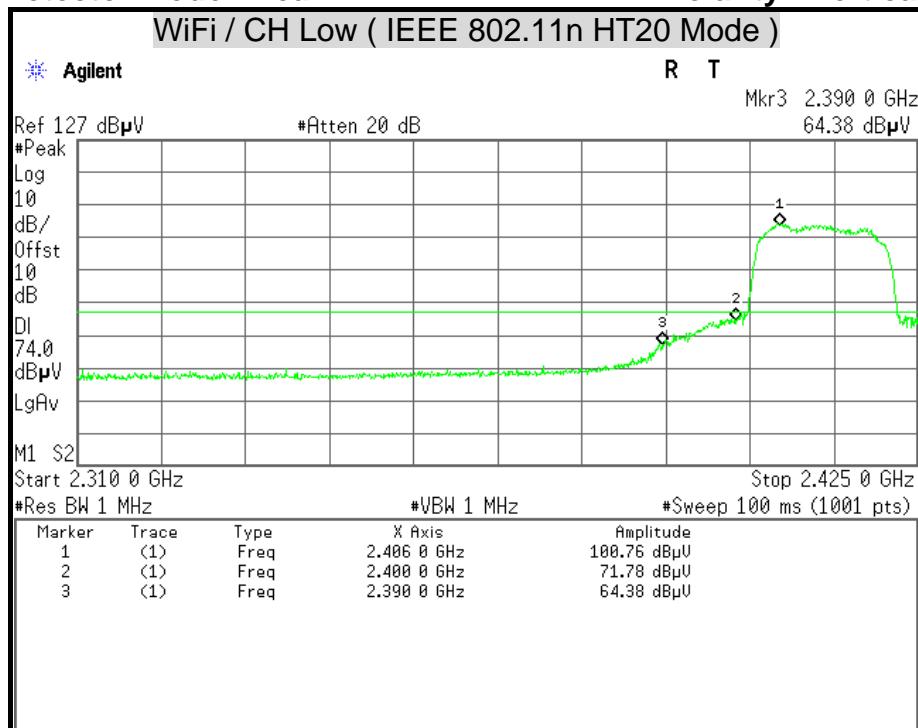
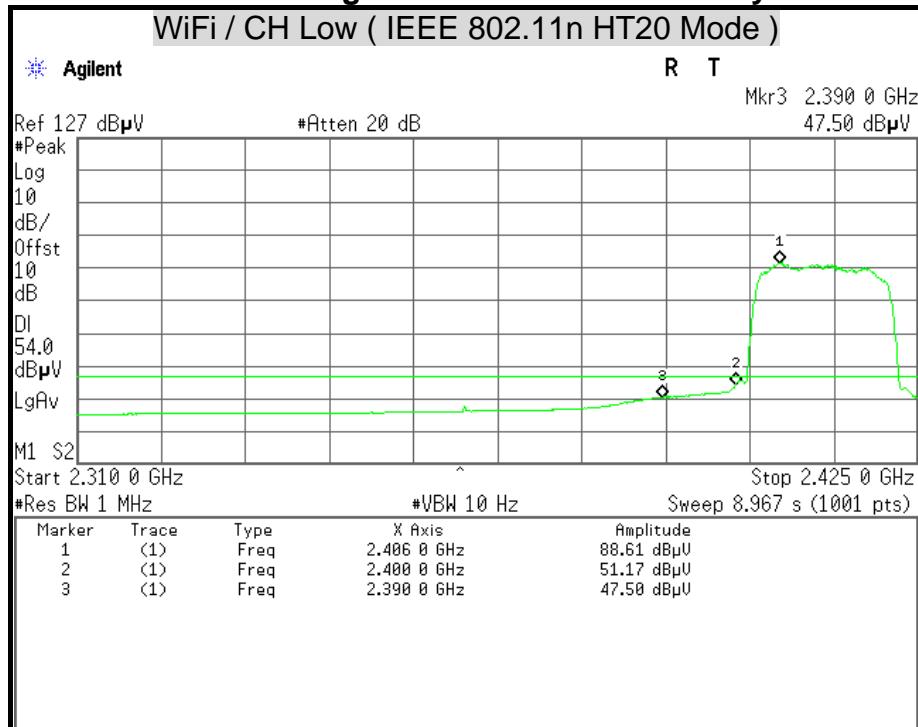
## Polarity : Horizontal

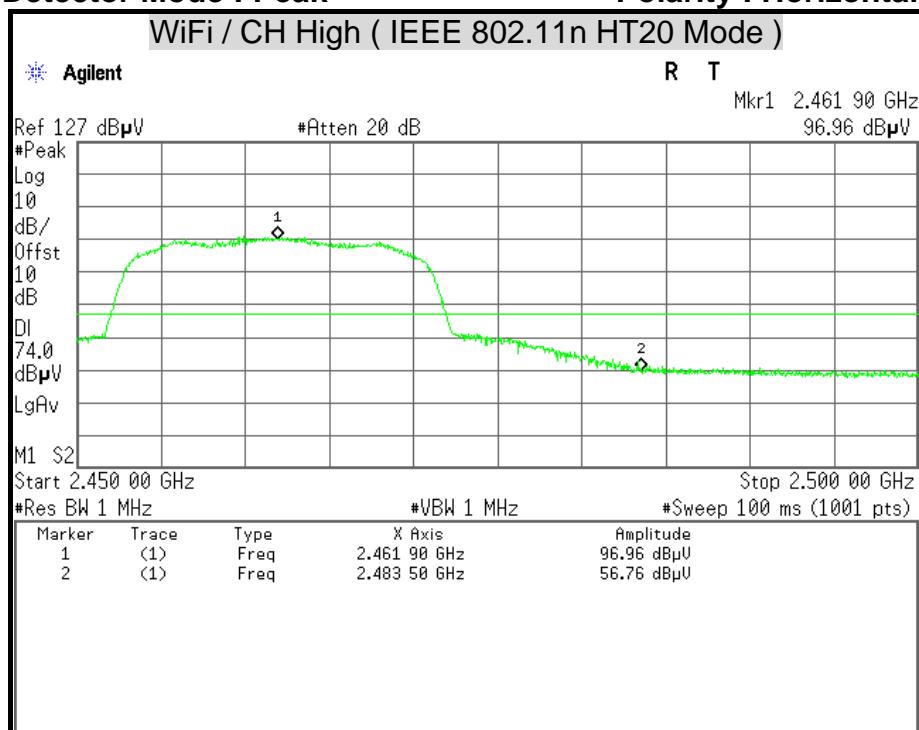
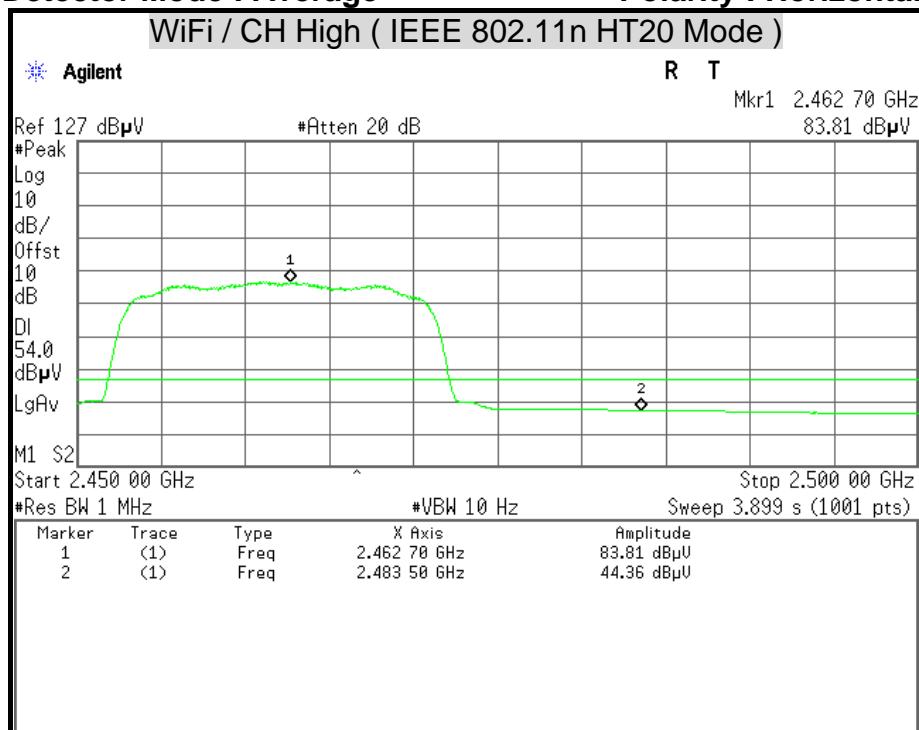


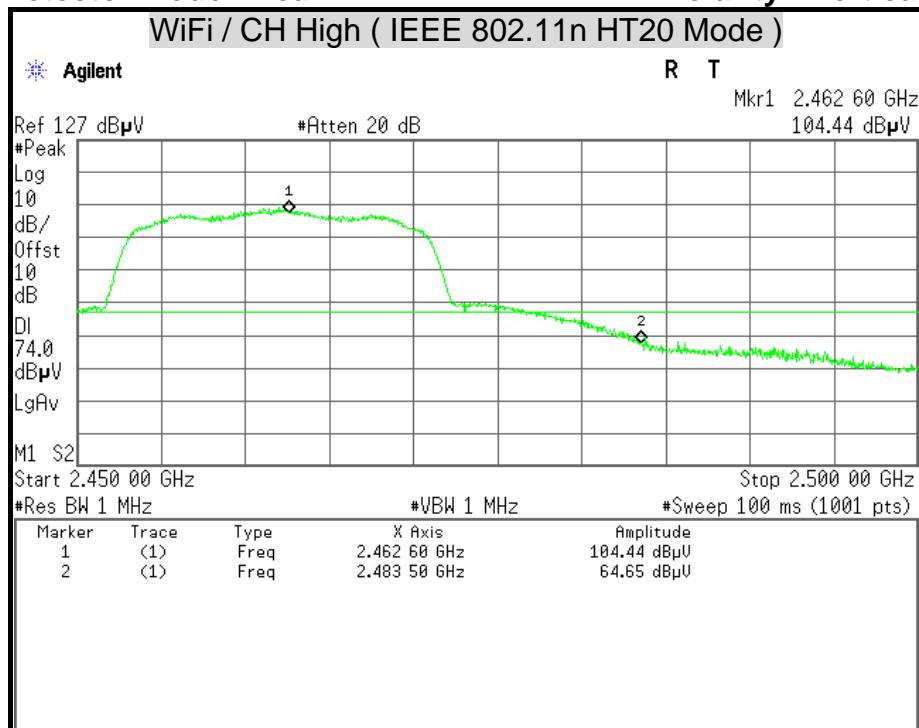
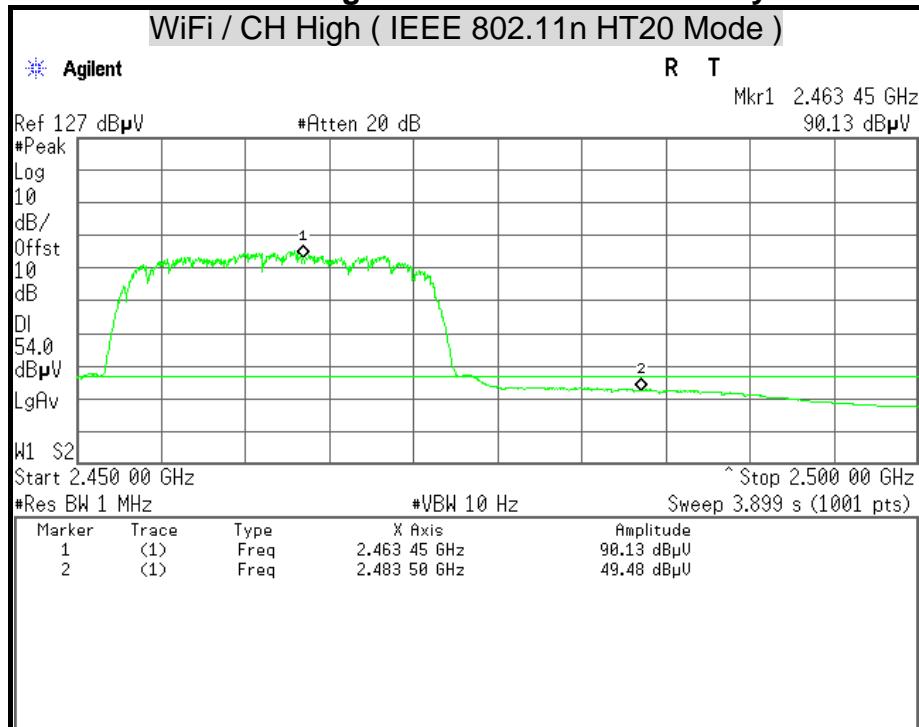
## Detector Mode : Average

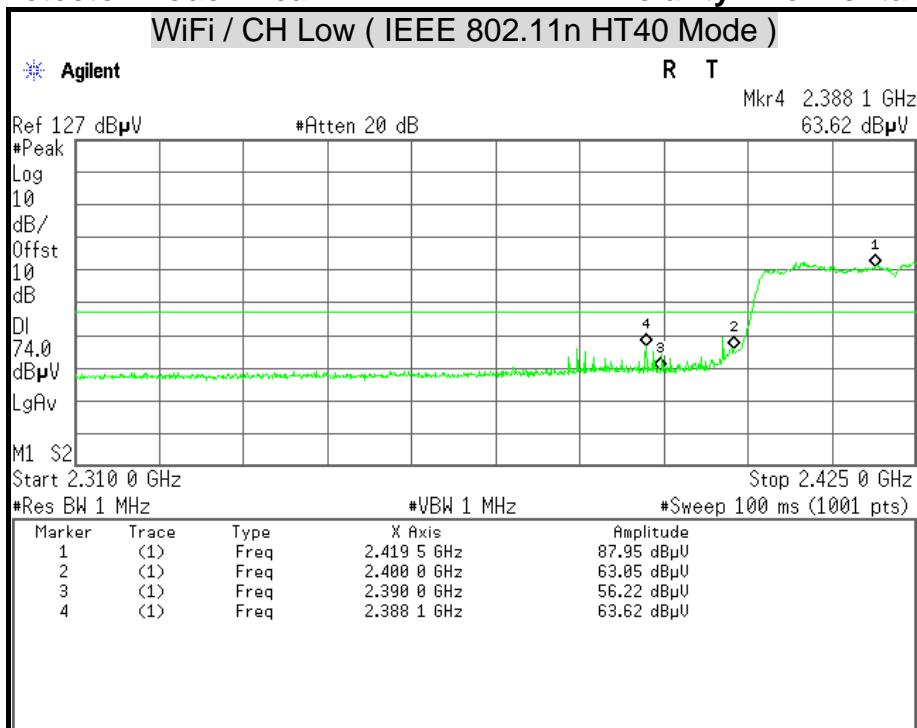
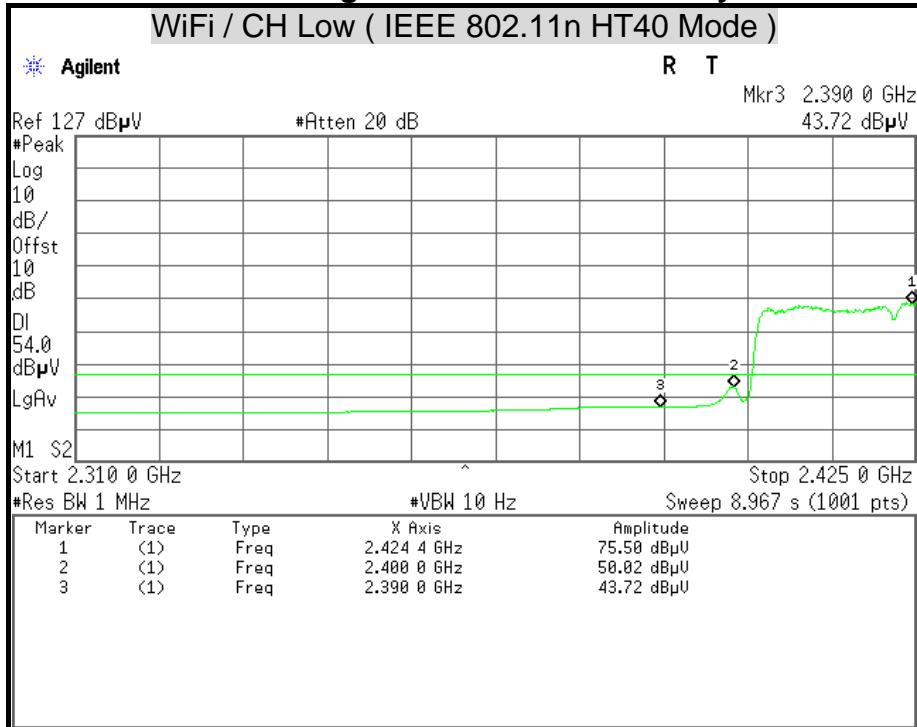
## Polarity : Horizontal



**Detector Mode : Peak****Polarity : Vertical****Detector Mode : Average****Polarity : Vertical**

**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**

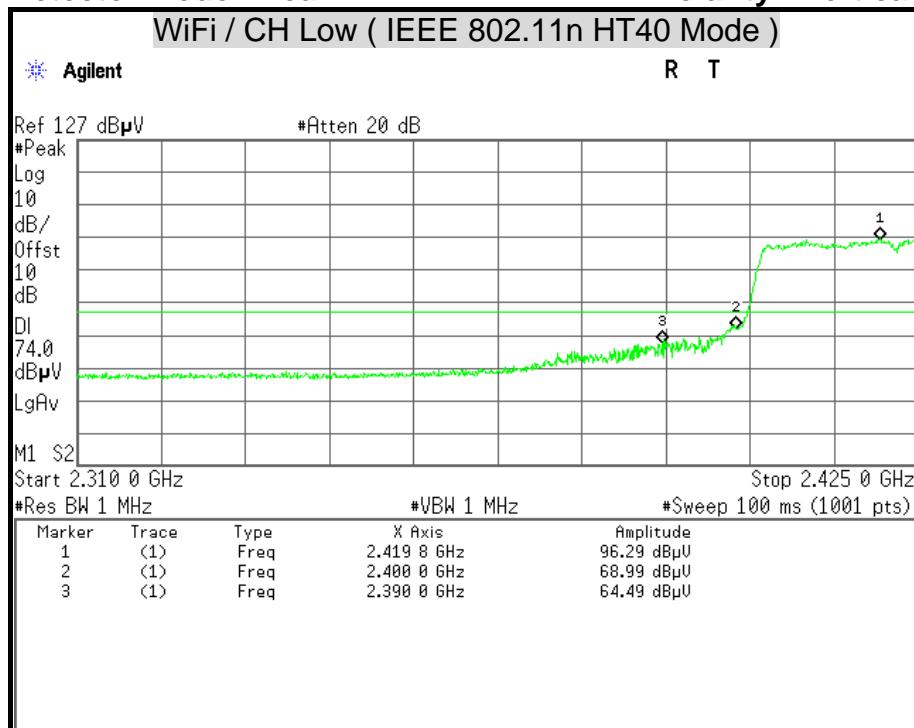
**Detector Mode : Peak****Polarity : Vertical****Detector Mode : Average****Polarity : Vertical**

**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**



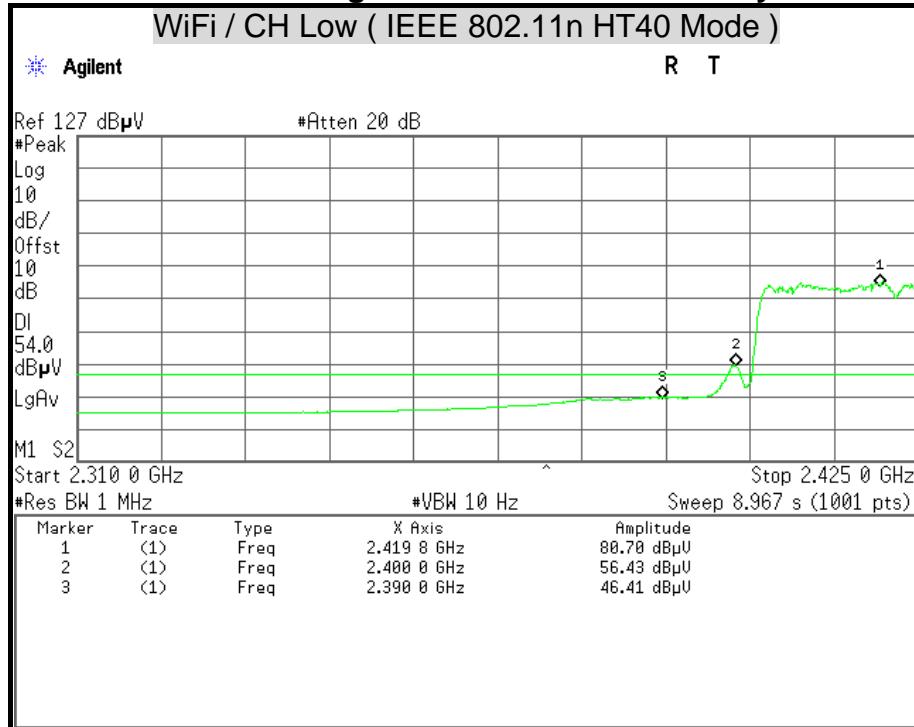
## Detector Mode : Peak

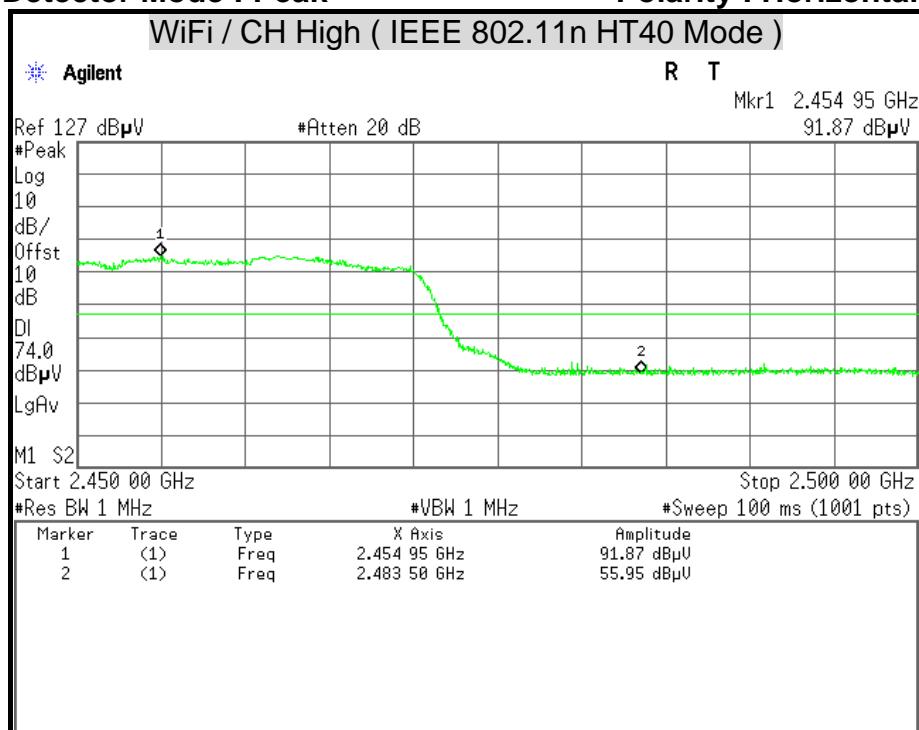
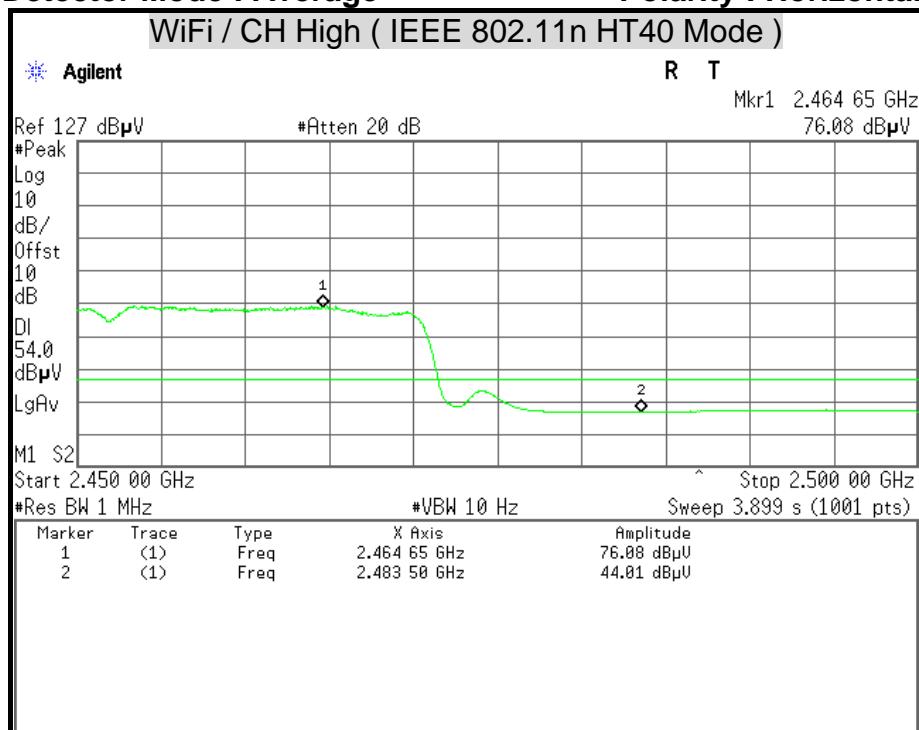
## Polarity : Vertical



## Detector Mode : Average

## Polarity : Vertical

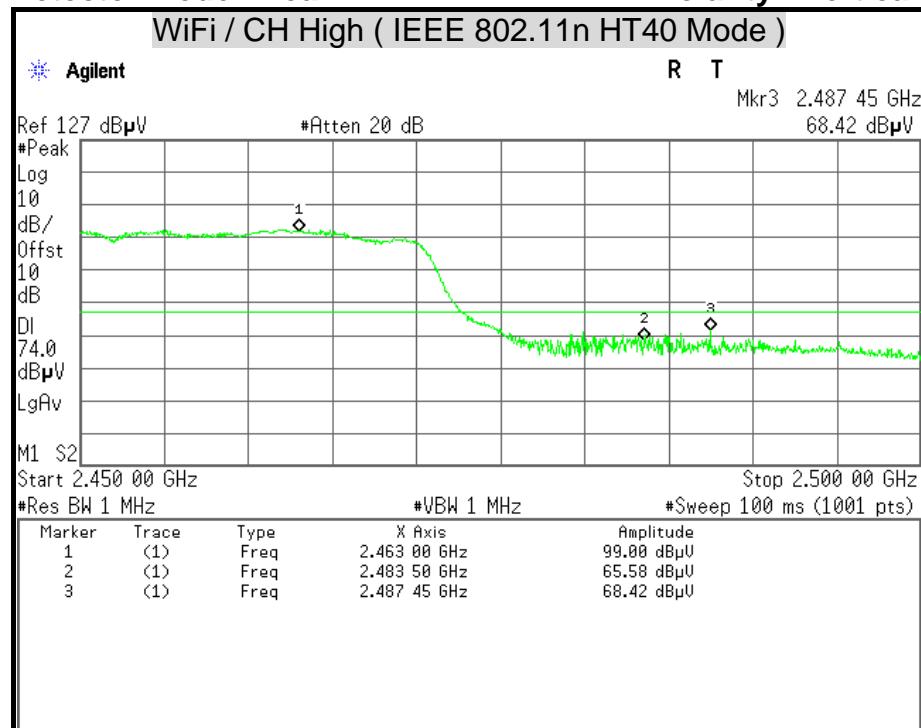


**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**



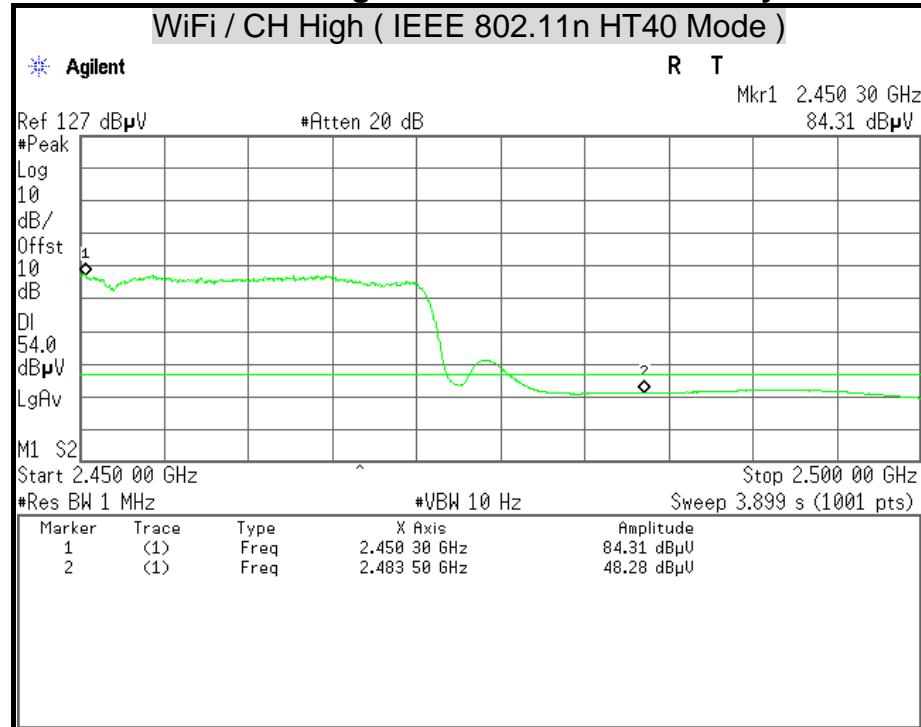
## Detector Mode : Peak

## Polarity : Vertical



## Detector Mode : Average

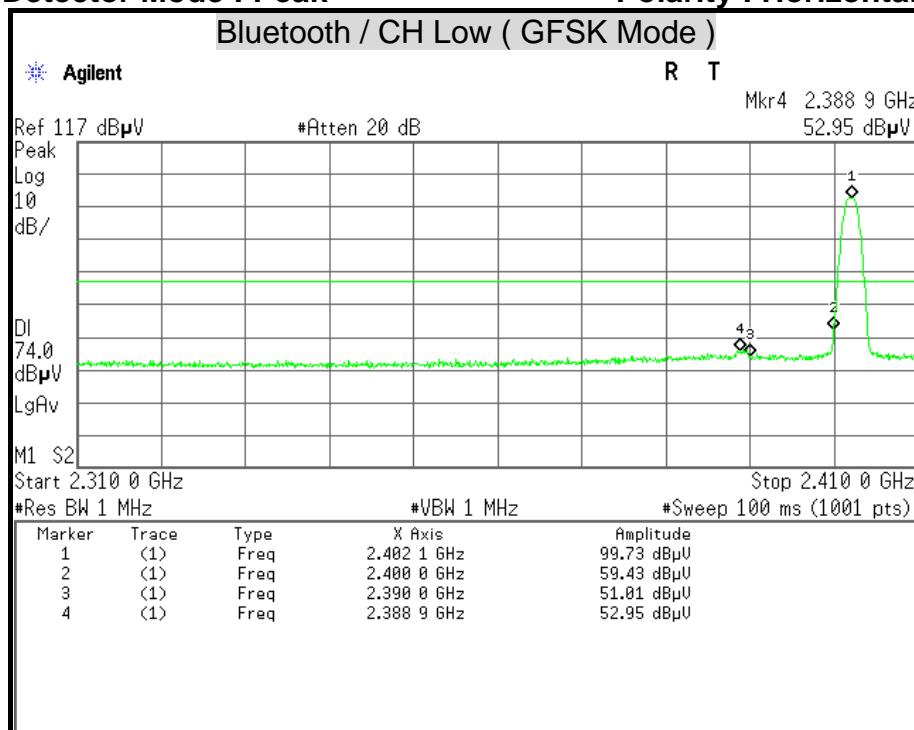
## Polarity : Vertical





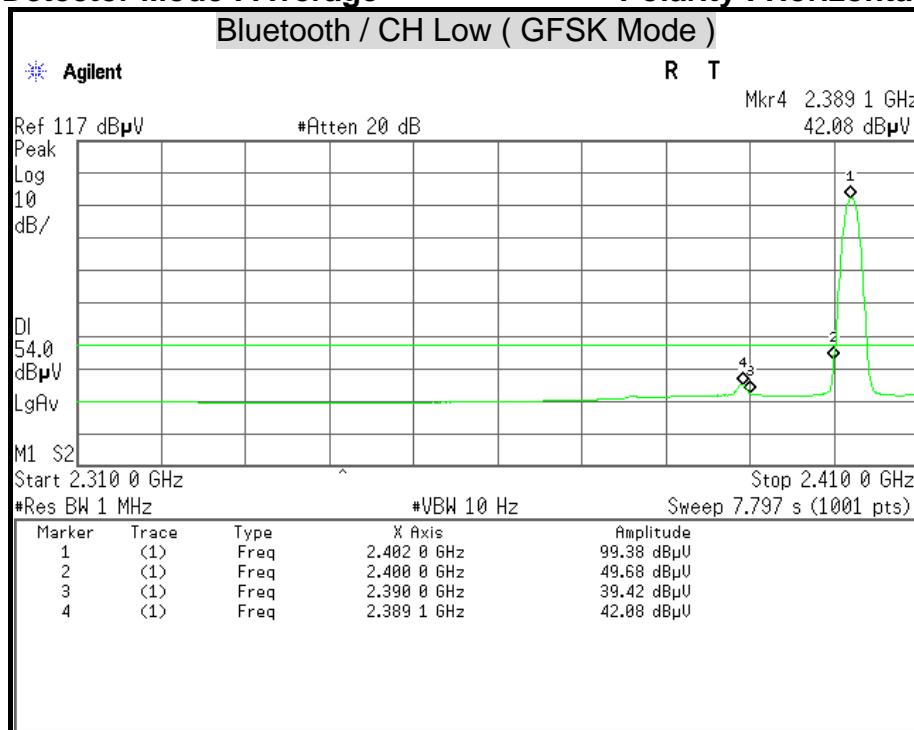
## Detector Mode : Peak

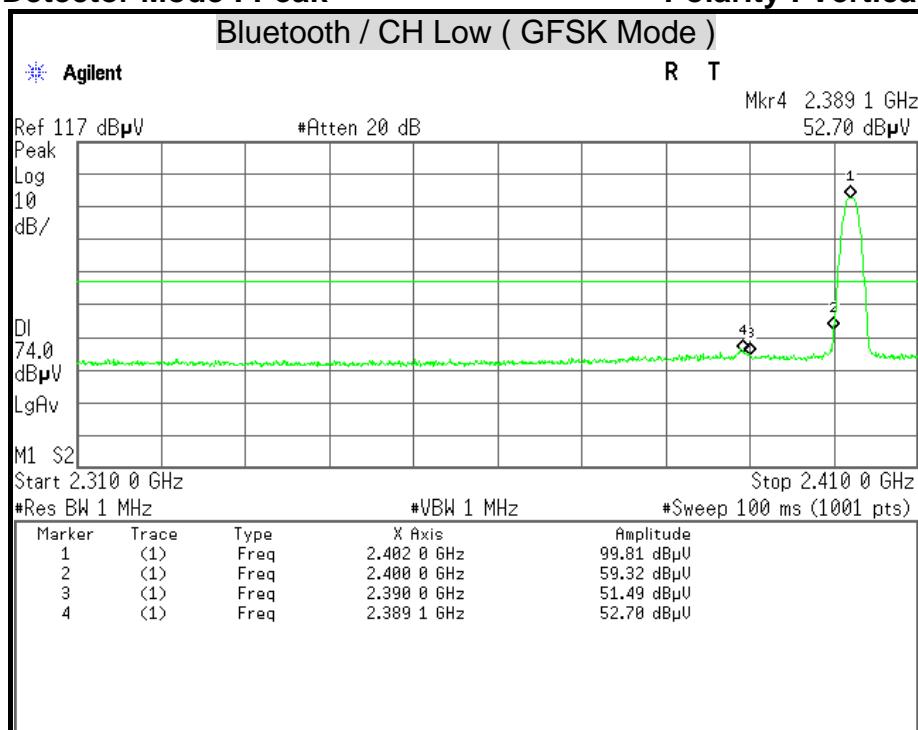
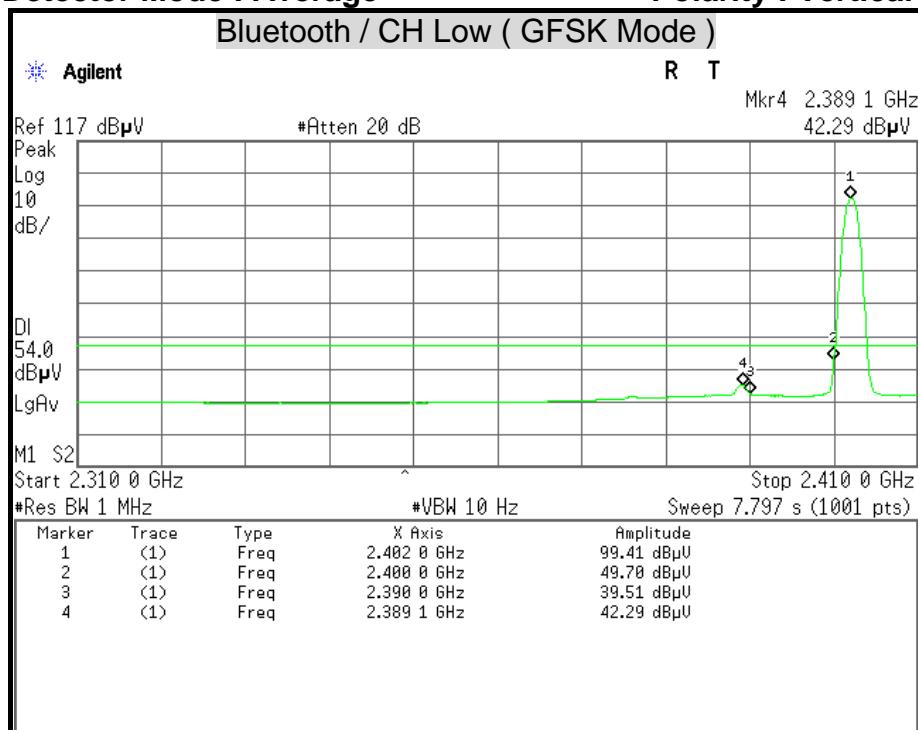
## Polarity : Horizontal

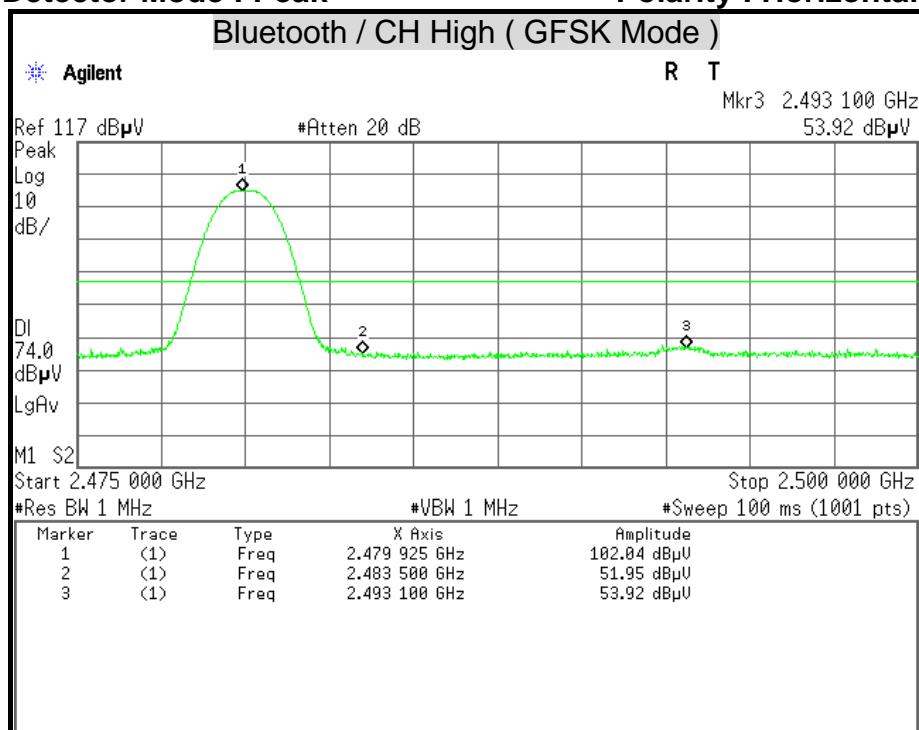
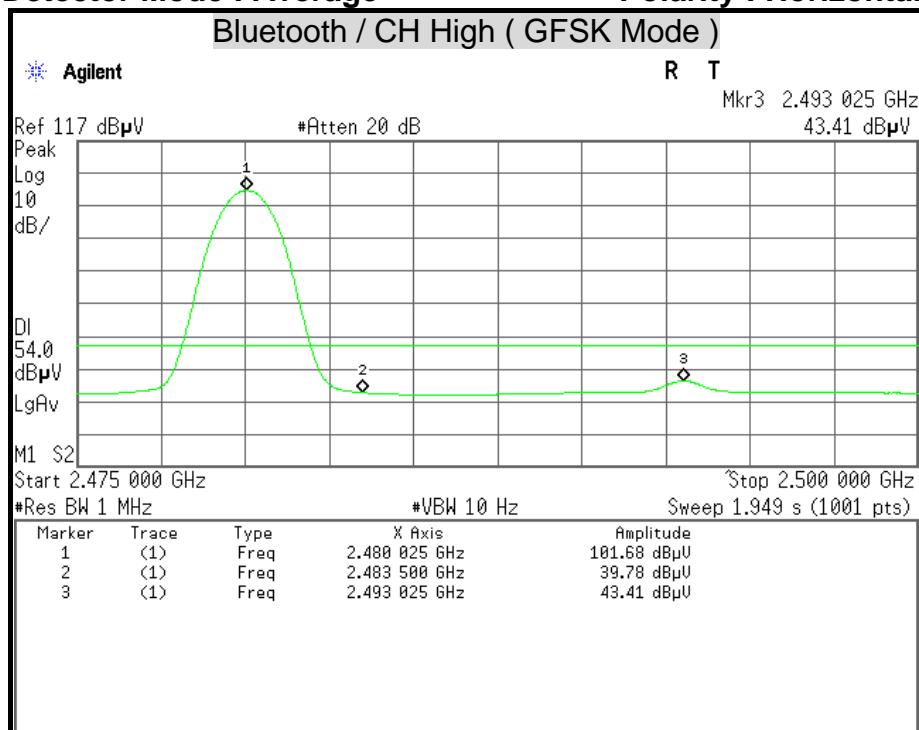


## Detector Mode : Average

## Polarity : Horizontal



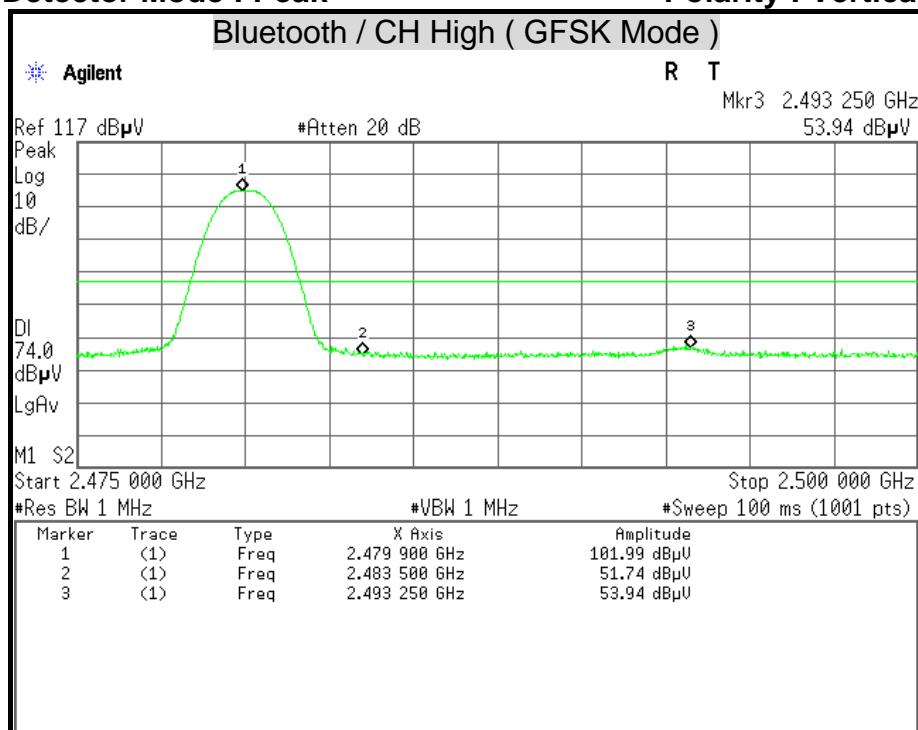
**Detector Mode : Peak****Polarity : Vertical****Detector Mode : Average****Polarity : Vertical**

**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**



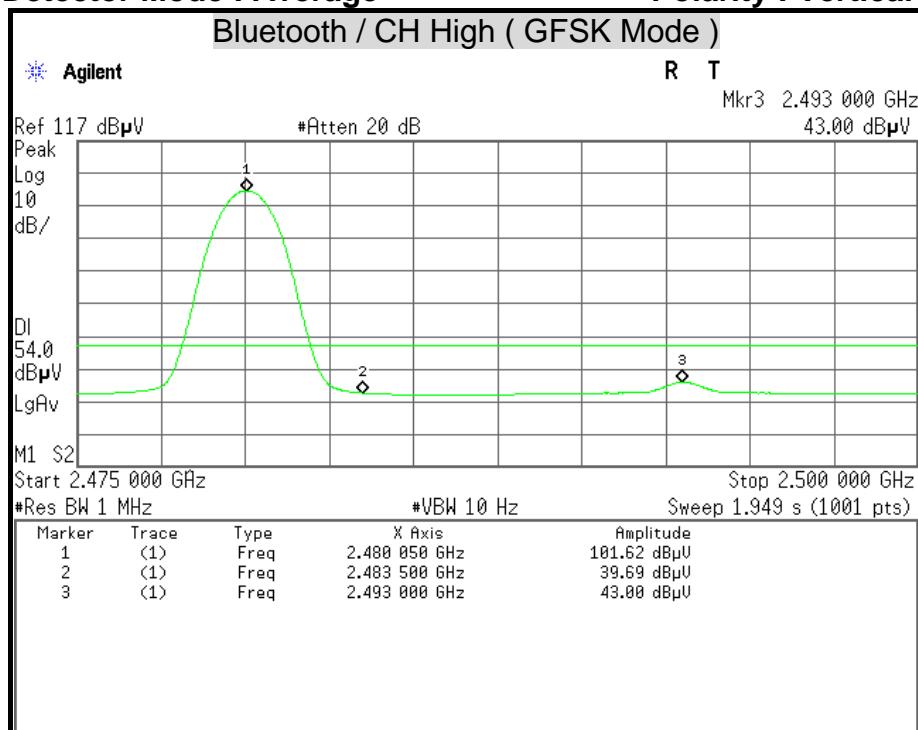
## Detector Mode : Peak

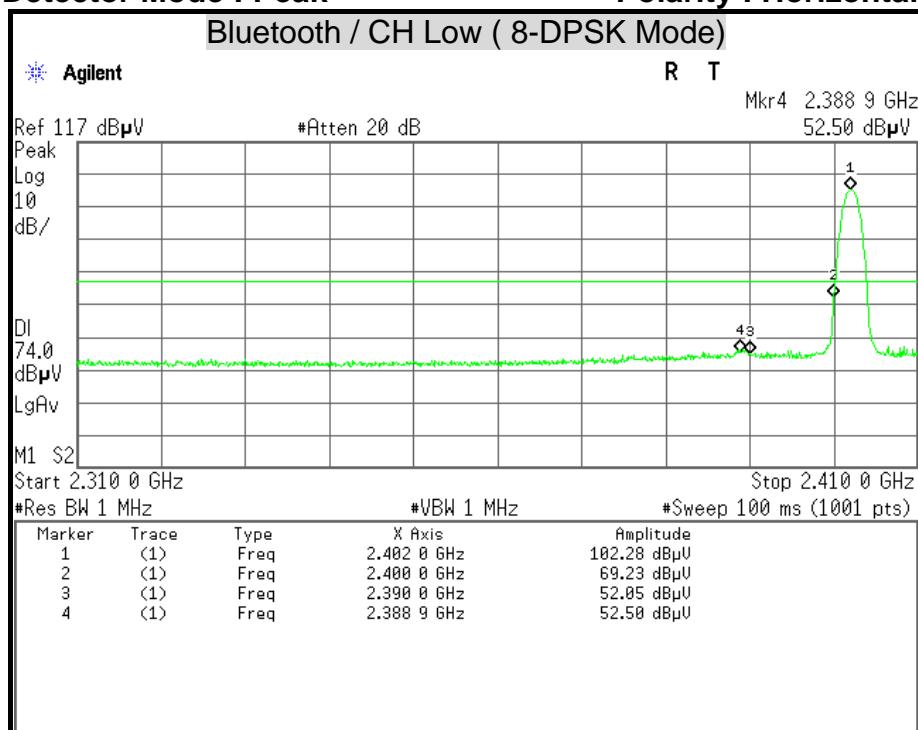
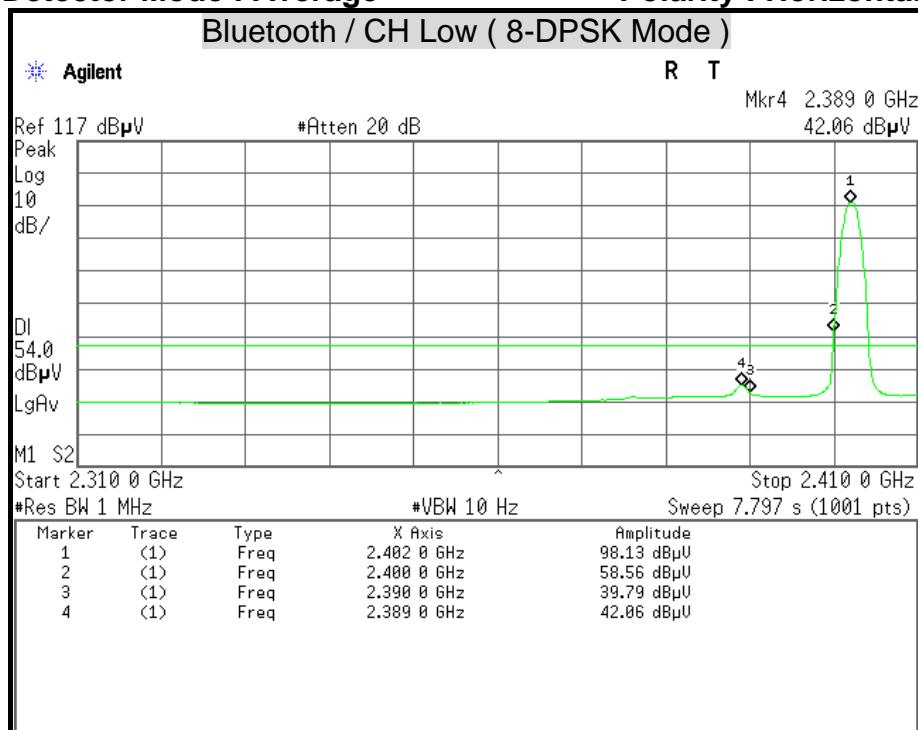
## Polarity : Vertical



## Detector Mode : Average

## Polarity : Vertical

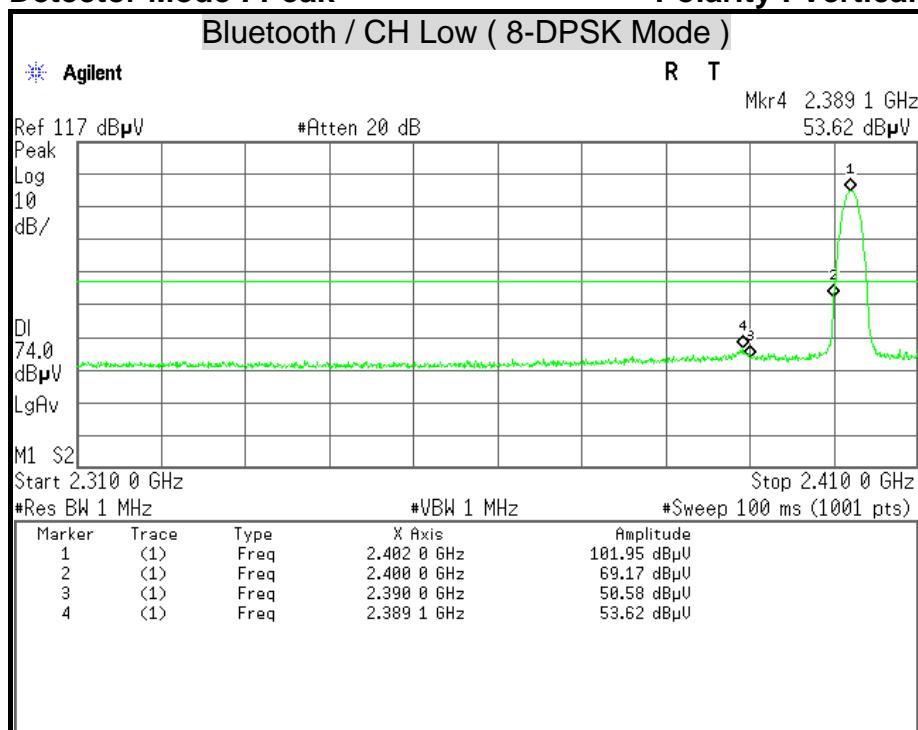


**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**



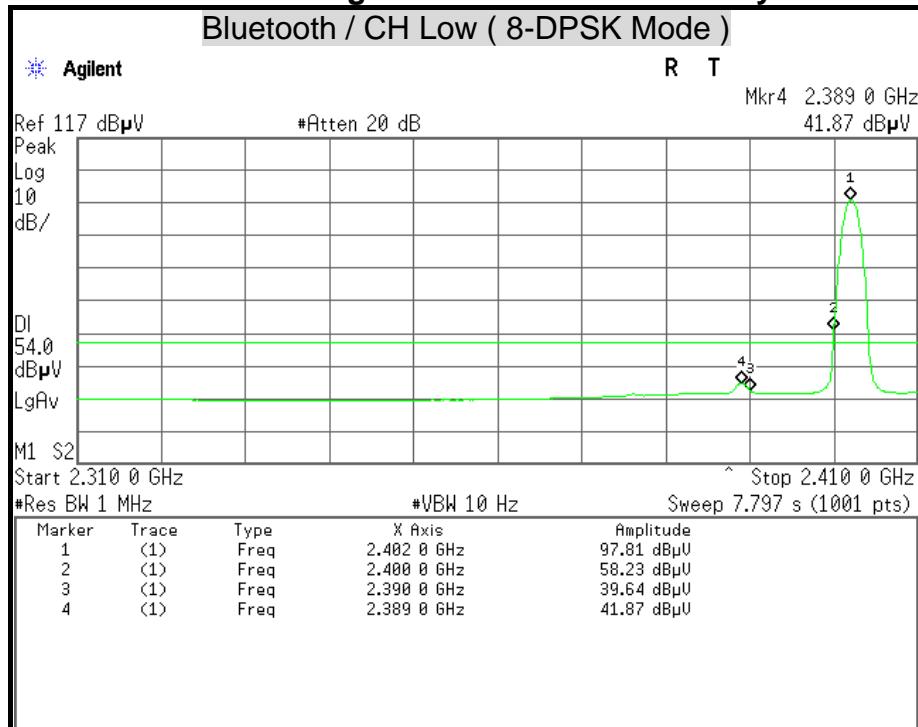
## Detector Mode : Peak

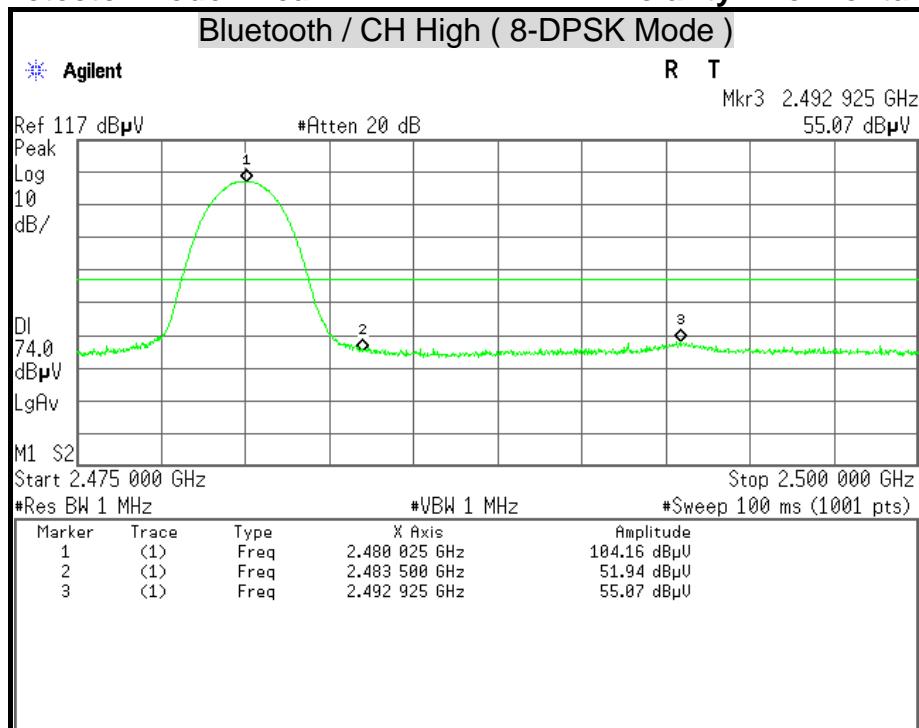
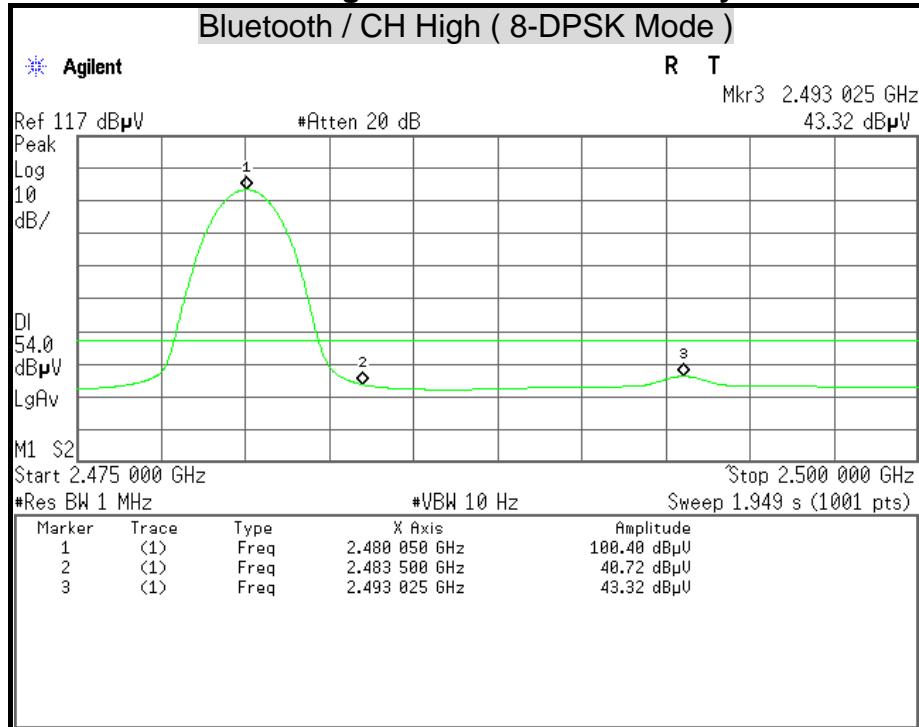
## Polarity : Vertical



## Detector Mode : Average

## Polarity : Vertical

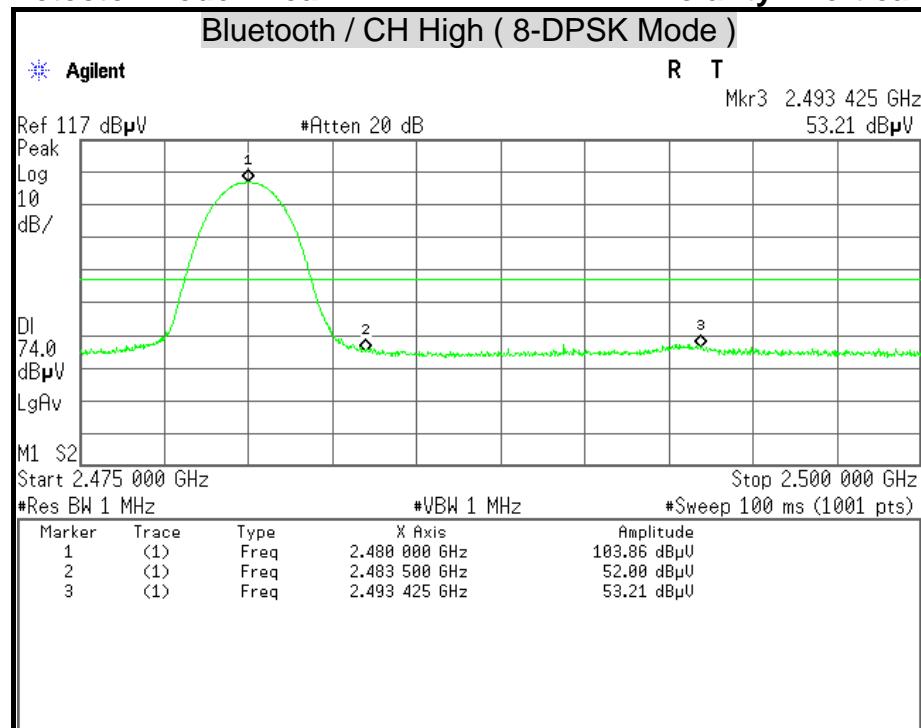


**Detector Mode : Peak****Polarity : Horizontal****Detector Mode : Average****Polarity : Horizontal**



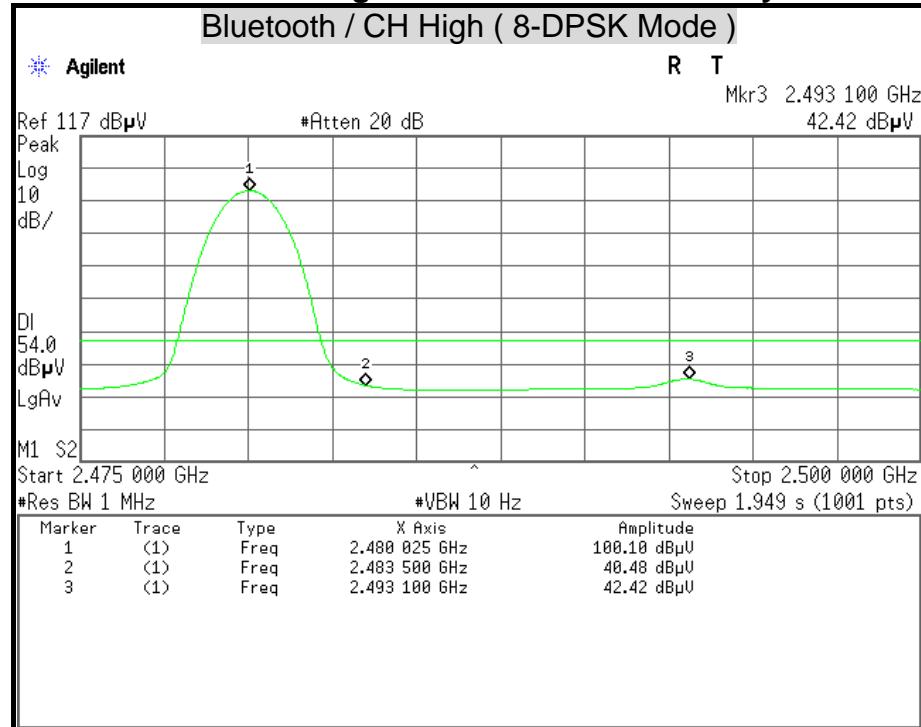
Detector Mode : Peak

Polarity : Vertical



Detector Mode : Average

Polarity : Vertical





## APPENDIX SETUP PHOTOS

### RADIATED EMISSION SETUP

