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

For

3x3 802.11n WiFi Router

Model : CGNXXXXXXXXX
(The "X" in model name can be " - ", 0 to 9, A to Z or blank, for marking purpose.)

Trade Name : Hitron

Issued for

Hitron Technologies, Inc.

No. 1-8, Lihsin 1st Rd., HsinChu Science Park, HsinChu, Taiwan 300, R.O.C.

Issued by

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Issued Date: July 18, 2013

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	12/18/2012	Initial Issue	All Page 44	Victoria Liu
01	07/18/2013	Revised the model	Page 1、4、5	Victoria Liu

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1. TEST REPORT CERTIFICATION

Applicant	：	Hitron Technologies, Inc.
Address	：	No. 1-8, Lihsin 1st Rd., HsinChu Science Park, HsinChu, Taiwan 300, R.O.C.
Equipment Under Test	：	3x3 802.11n WiFi Router
Model	：	CGNXXXXXXXXX (The "X" in model name can be " - ", 0 to 9, A to Z or blank, for marking purpose.)
Trade Name	：	Hitron
Tested Date	：	November 06 ~ December 18, 2012

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: ***Reviewed by:***

Michael.Yu
Manager

Sb. Lu
Sr. Engineer

2. EUT DESCRIPTION

Product Name	3x3 802.11n WiFi Router
Model Number	CGNXXXXXXXXX (The "X" in model name can be " - ", 0 to 9, A to Z or blank, for marking purpose.)
Identify Number	T121106S03
Received Date	November 06, 2012
Frequency Range	IEEE 802.11b/g, 802.11n HT20 : 2412MHz～2462MHz IEEE 802.11n HT40 : 2422MHz～2452MHz
Transmit Power	IEEE 802.11b : 22.83 dBm (0.1919W) IEEE 802.11g : 26.47 dBm (0.4436W) IEEE 802.11n HT20 : 26.21 dBm (0.4178W) IEEE 802.11n HT40 : 24.49 dBm (0.2812W)
Channel Spacing	IEEE 802.11b/g, 802.11n HT20/HT40 : 5MHz
Channel Number	IEEE 802.11b/g, 802.11n HT20 : 11 Channels IEEE 802.11n HT40 : 7 Channels
Transmit Data Rate	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 : 144.444, 130, 117, 115.556, 104, 86.667, 78, 72.2, 65, 58.5, 57.8, 57.778, 52, 43.333, 43.3, 39, 28.9, 28.889, 26, 21.7, 19.5, 14.444, 14.4,13, 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
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)
Antenna Type	PIFA Antenna 1, Antenna Gain 3.51 dBi PCB Antenna 2, Antenna Gain 5.88 dBi PIFA Antenna 3, Antenna Gain 0.67 dBi
Test Voltage	120Vac, 60Hz
AC Power Cable Type	Non-shielded cable 2.0 m (Detachable)
I/O Port	RJ-45 Port × 4, Power Port × 1, (Coaxial Cable) RF Port × 1, USB Port × 1

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: U4P-CGN01A filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*
4. *Client consigns only one sample to test (model number: CGN-20121106). Therefore, the testing Lab. just guarantees the unit, which has been tested.*

3. DESCRIPTION OF CLASS II CHANGE

The major update of this application is to add a different antenna into antenna list which may be used on this device, CGNXXXXXXXXX.
For the detail of this antenna, please refer to spec.

4. DESCRIPTION OF TEST MODES

The EUT is an 802.11n transceiver in 3x3 802.11n WiFi Router form factor.
For IEEE 802.11b mode (1TX / 1RX):
Only Ant. 1 can be use as transmit and receive antenna.
For IEEE 802.11g mode (1TX / 1RX):
Only Ant. 1 can be use as transmit and receive antenna.
For IEEE 802.11n mode (3TX / 3RX):
Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antennas.
Ant. 1, Ant. 2 and Ant. 3 could transmit/receive simultaneously.

Radiated Emission Test (Below 1 GHz)

Normal Mode

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.

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.

Canada	INDUSTRY CANADA
Japan	VCCI
Taiwan	BSMI
USA	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	+/- 3.59
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 1 to 18GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_A) / Radiated Emission, 26 to 40 GHz	+/- 3.82
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.97
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 3.58
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 3.81
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 2.48

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, 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

No.	Product	Manufacturer	Model No.	FCC ID
1	Notebook PC	DELL	Latitude D610	DoC
2	Notebook PC	HP	ProBook 4421s	DoC
3	USB Flash disk	Transcend	Jet Flash V10(4G)	-----

SETUP DIAGRAM FOR TESTS

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

EUT OPERATING CONDITION

RF Mode

1. Setup all computers like the setup diagram.
2. Open software：tftpd32
3. Run HyperTerminal-→Transfer mode：115200
4. keyin：cd var→cd tmp→ tftp -g 192.168.100.10 -r wifi_QA_test→
   chmod +x ./wifi_QA_test→./wifi_QA_test
5. keyin：exit→ iwpriv ra0 set QAEnable=1
6. Open QA tool
7. Select the following settings.
8. TX Mode:

⇨ **Tx Data Rate:** 1Mbps Bandwidth 20 (IEEE 802.11b mode)
6Mbps Bandwidth 20 (IEEE 802.11g mode)
6.5Mbps Bandwidth 20 (IEEE 802.11n HT20 mode)
13.5Mbps Bandwidth 40 (IEEE 802.11n HT40 mode)

⇨ **Power control**

IEEE 802.11b Channel Low (2412MHz) TX1 Power 17
IEEE 802.11b Channel Mid (2437MHz) TX1 Power 18
IEEE 802.11b Channel High (2462MHz) TX1 Power 18
IEEE 802.11g Channel Low (2412MHz) TX1 Power 0E
IEEE 802.11g Channel Mid (2437MHz) TX1 Power 1E
IEEE 802.11g Channel High (2462MHz) TX1 Power 17
IEEE 802.11n HT20 Channel Low (2412MHz) TX1/TX2/TX3 Power 09/19/16
IEEE 802.11n HT20 Channel Mid (2437MHz) TX1/TX2/TX3 Power 0E/1F/1E
IEEE 802.11n HT20 Channel High (2462MHz) TX1/TX2/TX3 Power 10/1C/1C

IEEE 802.11n HT40 Channel Low (2422MHz) TX1/TX2/TX3 Power 0E/17/14
IEEE 802.11n HT40 Channel Mid (2437MHz) TX1/TX2/TX3 Power 14/1D/1A
IEEE 802.11n HT40 Channel High (2452MHz) TX1/TX2/TX3 Power 12/1B/19

9. All of the functions are under run.
10. Send test

Normal Mode:

1. EUT & peripherals setup diagram is shown in appendix setup photos.
2. Power on all equipments.
3. Coaxial cable link Headend-CMTS.
4. Notebook PC (2) ping to Notebook PC (1).
5. Notebook PC (1) ping to Notebook PC (2).
6. LAN 2~4 port link ethernet switch load.
7. USB port link USB flash disk load.
8. Start test.

8. FCC PART 15.247 REQUIREMENTS

8.1 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
[1]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	([2])
13.36 - 13.41			

Remark:
1. [1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
2. [2] 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 is 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

Radiated Emission / 966Chamber_A

Name of Equipment	Manufacture	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360132	06/14/2013
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100221	05/01/2013
Bi-log Antenna	SCHWARZBECK	VULB 9168	9168-249	09/26/2013
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-778	09/11/2013
Pre-Amplifier	Agilent	8449B	3008A01471	07/17/2013
Pre-Amplifier	PNY	8447F	2944A03748	07/17/2013
Band Reject Notch Filter	Micro-Tronics	BRM05702-01	009	N.C.R

Radiated Emission / 966Chamber_B

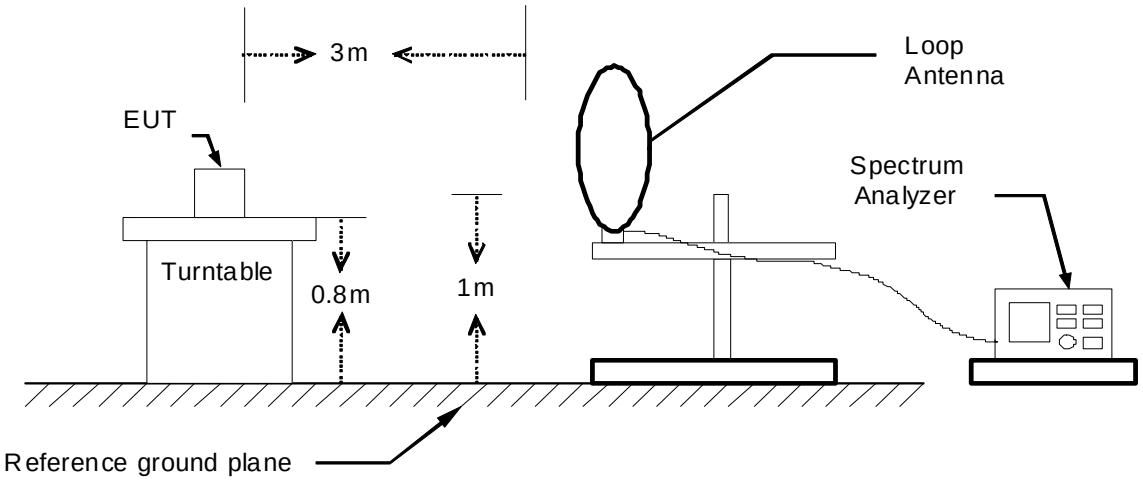
Name of Equipment	Manufacture	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY46180323	04/22/2013
EMI Test Receiver	ROHDE & SCHWARZ	ESCI	101131	01/15/2013
Broadband Hybrid Bi-Log Antenna	Sunol Sciences	JB1	A100209-4	10/01/2013
Double-Ridged Waveguide Horn	ETS-LINDGREN	3117	00078733	12/11/2013
Horn Antenna	COM-POWER	AH-840	03077	12/06/2012
Pre-Amplifier	Agilent	8447D	2944A10052	07/17/2013
Pre-Amplifier	Agilent	8449B	3008A01916	07/17/2013
LOOP Antenna	EMCO	6502	8905-2356	06/10/2013
Notch Filters Band Reject	Micro-Tronics	BRM05702-01	026	N.C.R

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

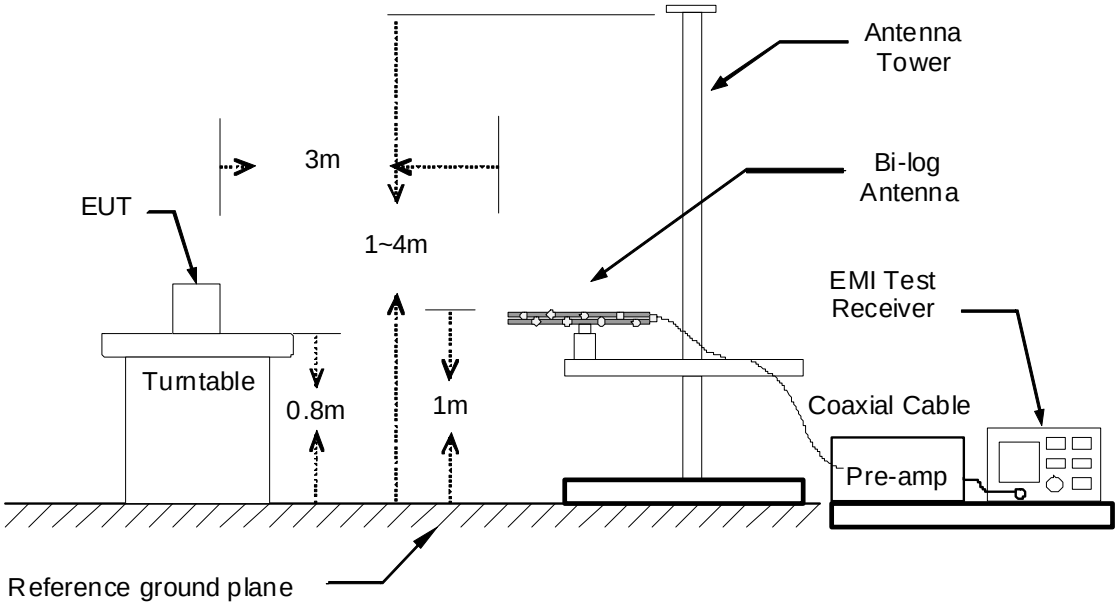
TEST SETUP

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

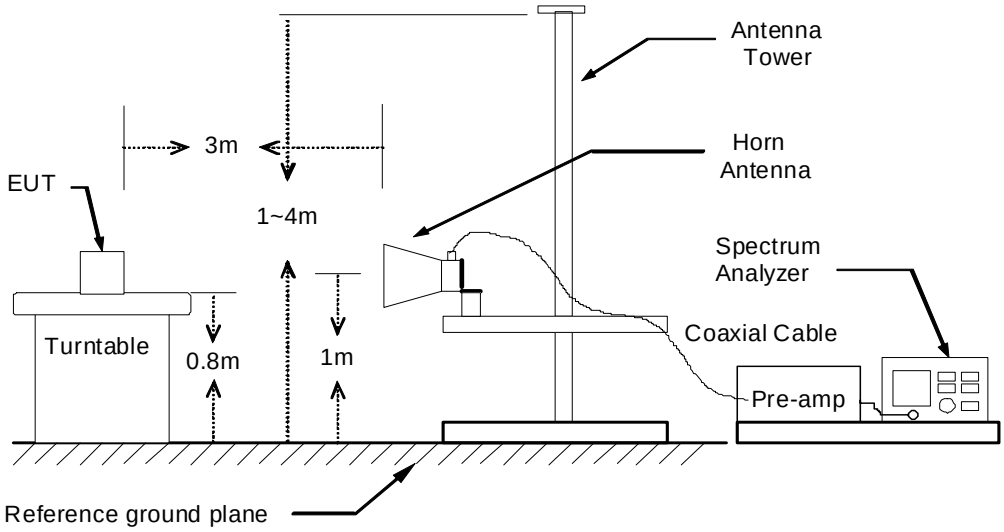
9kHz ~ 30MHz



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)

Product Name	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/12/10
Test Mode	Normal Mode	Temp. & Humidity	21°C, 54%

966 Chamber_A at 3Meter / Horizontal						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
249.22	52.87	-10.57	42.30	46.00	-3.70	QP
375.32	52.40	-6.87	45.53	46.00	-0.47	QP
499.48	47.92	-3.82	44.10	46.00	-1.90	QP
625.58	46.70	-1.04	45.66	46.00	-0.34	QP
703.18	41.38	-0.08	41.30	46.00	-4.70	Peak
749.74	37.24	1.03	38.27	46.00	-7.73	Peak
875.84	37.60	3.07	40.67	46.00	-5.33	Peak

966 Chamber_A at 3Meter / Vertical						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
68.80	46.70	-12.21	34.49	40.00	-5.51	QP
249.22	51.08	-10.57	40.51	46.00	-5.49	Peak
375.32	52.16	-6.87	45.29	46.00	-0.71	QP
625.58	43.34	-1.04	42.30	46.00	-3.70	Peak
703.18	44.06	-0.08	43.98	46.00	-2.02	QP
831.22	39.69	2.32	42.00	46.00	-4.00	Peak
875.84	42.14	3.07	45.21	46.00	-0.79	QP

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 (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)*
5. *Margin (dB) = Remark result (dBuV/m) - Quasi-peak limit (dBuV/m).*

Above 1 GHz

Product Name	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11b TX / CH Low	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	58.19	46.80	-3.57	54.62	43.23	74.00	54.00	-10.77	AVG
1626.00	60.30	53.78	-1.12	59.18	52.66	74.00	54.00	-1.34	AVG
2486.00	52.05	36.44	3.90	55.95	40.34	74.00	54.00	-13.66	AVG
3195.00	41.92	---	5.40	47.32	---	74.00	54.00	-6.68	Peak
3465.00	41.09	---	5.95	47.04	---	74.00	54.00	-6.96	Peak
4080.00	39.92	---	7.37	47.30	---	74.00	54.00	-6.70	Peak
4830.00	49.21	44.29	9.24	58.45	53.53	74.00	54.00	-0.47	AVG

966 Chamber_B 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
1124.00	59.04	51.31	-3.57	55.47	47.74	74.00	54.00	-6.26	AVG
1626.00	51.96	---	-1.12	50.84	---	74.00	54.00	-3.16	Peak
2488.00	58.03	47.04	3.91	61.94	50.95	74.00	54.00	-3.05	AVG
3240.00	41.35	---	5.49	46.84	---	74.00	54.00	-7.16	Peak
3960.00	40.98	---	7.09	48.07	---	74.00	54.00	-5.93	Peak
4305.00	39.93	---	7.91	47.83	---	74.00	54.00	-6.17	Peak
4830.00	45.72	41.24	9.24	54.96	50.48	74.00	54.00	-3.52	AVG

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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11b TX / CH Middle	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	54.01	---	-3.57	50.44	---	74.00	54.00	-3.56	Peak
1626.00	58.02	53.48	-1.12	56.90	52.36	74.00	54.00	-1.64	AVG
2346.00	53.44	41.17	3.43	56.87	44.60	74.00	54.00	-9.40	AVG
2484.00	53.41	36.01	3.90	57.31	39.91	74.00	54.00	-14.09	AVG
3360.00	41.31	---	5.73	47.05	---	74.00	54.00	-6.95	Peak
3900.00	40.25	---	6.95	47.20	---	74.00	54.00	-6.80	Peak
4350.00	39.91	---	8.01	47.92	---	74.00	54.00	-6.08	Peak
4875.00	50.50	44.12	9.36	59.86	53.48	74.00	54.00	-0.52	AVG

966 Chamber_B 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
1124.00	59.22	51.07	-3.57	55.65	47.50	74.00	54.00	-6.50	AVG
1624.00	51.22	---	-1.13	50.09	---	74.00	54.00	-3.91	Peak
2338.00	60.31	42.85	3.40	63.71	46.25	74.00	54.00	-7.75	AVG
2490.00	57.60	45.34	3.92	61.52	49.26	74.00	54.00	-4.74	AVG
3405.00	42.01	---	5.83	47.84	---	74.00	54.00	-6.16	Peak
3795.00	40.59	---	6.70	47.30	---	74.00	54.00	-6.70	Peak
4365.00	40.17	---	8.05	48.21	---	74.00	54.00	-5.79	Peak
4875.00	40.92	---	9.36	50.28	---	74.00	54.00	-3.72	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11b TX / CH High	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	58.29	47.25	-3.56	54.73	43.69	74.00	54.00	-10.31	AVG
1626.00	58.55	52.87	-1.12	57.43	51.75	74.00	54.00	-2.25	AVG
1750.00	51.66	---	0.00	51.66	---	74.00	54.00	-2.34	Peak
2310.00	56.72	40.46	3.30	60.02	43.76	74.00	54.00	-10.24	AVG
3405.00	41.41	---	5.83	47.24	---	74.00	54.00	-6.76	Peak
4065.00	40.22	---	7.33	47.55	---	74.00	54.00	-6.45	Peak
4530.00	39.32	---	8.45	47.77	---	74.00	54.00	-6.23	Peak
4920.00	50.63	44.39	9.48	60.11	53.87	74.00	54.00	-0.13	AVG

966 Chamber_B 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
1124.00	60.98	51.02	-3.57	57.41	47.45	74.00	54.00	-6.55	AVG
1624.00	55.96	47.07	-1.13	54.83	45.94	74.00	54.00	-8.06	AVG
1750.00	49.89	---	0.00	49.89	---	74.00	54.00	-4.11	Peak
2316.00	58.01	44.03	3.32	61.33	47.35	74.00	54.00	-6.65	AVG
3405.00	42.21	---	5.83	48.03	---	74.00	54.00	-5.97	Peak
3690.00	41.18	---	6.46	47.64	---	74.00	54.00	-6.36	Peak
4395.00	39.68	---	8.12	47.80	---	74.00	54.00	-6.20	Peak
4920.00	45.90	36.19	9.48	55.38	45.67	74.00	54.00	-8.33	AVG

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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11g TX / CH Low	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	52.81	---	-3.56	49.25	---	74.00	54.00	-4.75	Peak
1626.00	58.84	52.83	-1.12	57.72	51.71	74.00	54.00	-2.29	AVG
1754.00	51.46	---	0.04	51.49	---	74.00	54.00	-2.51	Peak
2444.00	54.85	42.81	3.76	58.61	46.57	74.00	54.00	-7.43	AVG
3000.00	43.12	---	5.00	48.12	---	74.00	54.00	-5.88	Peak
3960.00	41.06	---	7.09	48.15	---	74.00	54.00	-5.85	Peak
4575.00	39.93	---	8.57	48.49	---	74.00	54.00	-5.51	Peak
4980.00	39.60	---	9.64	49.24	---	74.00	54.00	-4.76	Peak

966 Chamber_B 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
1126.00	61.70	51.19	-3.56	58.14	47.63	74.00	54.00	-6.37	AVG
1626.00	51.09	---	-1.12	49.97	---	74.00	54.00	-4.03	Peak
2124.00	50.16	---	2.67	52.83	---	74.00	54.00	-1.17	Peak
2486.00	53.80	41.60	3.90	57.70	45.50	74.00	54.00	-8.50	AVG
3150.00	42.17	---	5.31	47.47	---	74.00	54.00	-6.53	Peak
3405.00	42.04	---	5.83	47.86	---	74.00	54.00	-6.14	Peak
4155.00	40.24	---	7.55	47.79	---	74.00	54.00	-6.21	Peak
4530.00	39.89	---	8.45	48.34	---	74.00	54.00	-5.66	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11g TX / CH Middle	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	53.32	---	-3.56	49.76	---	74.00	54.00	-4.24	Peak
1624.00	58.04	53.36	-1.13	56.91	52.23	74.00	54.00	-1.77	AVG
2314.00	56.34	42.12	3.32	59.66	45.44	74.00	54.00	-8.56	AVG
2490.00	52.38	40.06	3.92	56.30	43.98	74.00	54.00	-10.02	AVG
3180.00	41.75	---	5.37	47.11	---	74.00	54.00	-6.89	Peak
3405.00	41.14	---	5.83	46.96	---	74.00	54.00	-7.04	Peak
4125.00	40.53	---	7.48	48.01	---	74.00	54.00	-5.99	Peak
4950.00	39.80	---	9.56	49.36	---	74.00	54.00	-4.64	Peak

966 Chamber_B 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
1124.00	61.07	50.87	-3.57	57.50	47.30	74.00	54.00	-6.70	AVG
1624.00	51.23	---	-1.13	50.10	---	74.00	54.00	-3.90	Peak
2320.00	60.53	46.76	3.34	63.87	50.10	74.00	54.00	-3.90	AVG
2490.00	60.72	48.20	3.92	64.64	52.12	74.00	54.00	-1.88	AVG
3405.00	41.98	---	5.83	47.81	---	74.00	54.00	-6.19	Peak
3915.00	41.30	---	6.98	48.28	---	74.00	54.00	-5.72	Peak
4950.00	39.96	---	9.56	49.51	---	74.00	54.00	-4.49	Peak
5805.00	39.45	---	11.11	50.56	---	74.00	54.00	-3.44	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11g TX / CH High	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	53.47	---	-3.56	49.91	---	74.00	54.00	-4.09	Peak
1624.00	58.21	53.41	-1.13	57.08	52.28	74.00	54.00	-1.72	AVG
2330.00	56.98	40.67	3.37	60.35	44.04	74.00	54.00	-9.96	AVG
3000.00	43.58	---	5.00	48.58	---	74.00	54.00	-5.42	Peak
3660.00	40.56	---	6.39	46.95	---	74.00	54.00	-7.05	Peak
4425.00	40.15	---	8.19	48.34	---	74.00	54.00	-5.66	Peak
4950.00	40.25	---	9.56	49.81	---	74.00	54.00	-4.19	Peak

966 Chamber_B 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
1124.00	59.28	50.07	-3.57	55.71	46.50	74.00	54.00	-7.50	AVG
1626.00	51.43	---	-1.12	50.32	---	74.00	54.00	-3.68	Peak
2124.00	50.37	---	2.67	53.04	---	74.00	54.00	-0.96	Peak
2324.00	60.37	44.39	3.35	63.72	47.74	74.00	54.00	-6.26	AVG
3405.00	42.54	---	5.83	48.37	---	74.00	54.00	-5.63	Peak
3615.00	41.22	---	6.29	47.51	---	74.00	54.00	-6.49	Peak
4320.00	40.17	---	7.94	48.11	---	74.00	54.00	-5.89	Peak
4980.00	39.70	---	9.64	49.33	---	74.00	54.00	-4.67	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT20 TX / CH Low	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	53.99	---	-3.57	50.42	---	74.00	54.00	-3.58	Peak
1624.00	58.74	53.46	-1.13	57.61	52.33	74.00	54.00	-1.67	AVG
2484.00	56.18	42.23	3.90	60.08	46.13	74.00	54.00	-7.87	AVG
3165.00	42.05	---	5.34	47.39	---	74.00	54.00	-6.61	Peak
3930.00	39.96	---	7.02	46.98	---	74.00	54.00	-7.02	Peak
4185.00	40.20	---	7.62	47.82	---	74.00	54.00	-6.18	Peak
4830.00	46.26	34.20	9.24	55.50	43.44	74.00	54.00	-10.56	AVG

966 Chamber_B 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
1126.00	60.12	50.52	-3.56	56.56	46.96	74.00	54.00	-7.04	AVG
1624.00	50.75	---	-1.13	49.61	---	74.00	54.00	-4.39	Peak
2464.00	57.91	46.30	3.83	61.74	50.13	74.00	54.00	-3.87	AVG
2484.00	54.08	41.31	3.90	57.98	45.21	74.00	54.00	-8.79	AVG
3165.00	41.97	---	5.34	47.31	---	74.00	54.00	-6.69	Peak
3465.00	41.04	---	5.95	46.99	---	74.00	54.00	-7.01	Peak
4155.00	40.62	---	7.55	48.17	---	74.00	54.00	-5.83	Peak
4815.00	41.46	---	9.20	50.66	---	74.00	54.00	-3.34	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT20 TX / CH Middle	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	53.21	---	-3.57	49.65	---	74.00	54.00	-4.35	Peak
1624.00	57.57	52.56	-1.13	56.44	51.43	74.00	54.00	-2.57	AVG
2384.00	63.11	48.44	3.56	66.67	52.00	74.00	54.00	-2.00	AVG
2488.00	63.08	49.48	3.91	66.99	53.39	74.00	54.00	-0.61	AVG
3210.00	42.60	---	5.43	48.03	---	74.00	54.00	-5.97	Peak
3405.00	41.90	---	5.83	47.72	---	74.00	54.00	-6.28	Peak
3930.00	40.48	---	7.02	47.49	---	74.00	54.00	-6.51	Peak
4875.00	51.60	40.70	9.36	60.96	50.06	74.00	54.00	-3.94	AVG

966 Chamber_B 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
1126.00	61.01	51.27	-3.56	57.45	47.71	74.00	54.00	-6.29	AVG
1626.00	50.88	---	-1.12	49.76	---	74.00	54.00	-4.24	Peak
2126.00	50.21	---	2.68	52.88	---	74.00	54.00	-1.12	Peak
2386.00	60.78	48.64	3.56	64.34	52.20	74.00	54.00	-1.80	AVG
2488.00	62.39	49.95	3.91	66.30	53.86	74.00	54.00	-0.14	AVG
3405.00	43.15	---	5.83	48.97	---	74.00	54.00	-5.03	Peak
3960.00	41.37	---	7.09	48.46	---	74.00	54.00	-5.54	Peak
4635.00	39.67	---	8.73	48.39	---	74.00	54.00	-5.61	Peak
4875.00	47.26	36.70	9.36	56.62	46.06	74.00	54.00	-7.94	AVG

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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT20 TX / CH High	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	53.48	---	-3.56	49.92	---	74.00	54.00	-4.08	Peak
1626.00	57.59	52.87	-1.12	56.47	51.75	74.00	54.00	-2.25	AVG
2334.00	57.69	43.75	3.39	61.08	47.14	74.00	54.00	-6.86	AVG
2410.00	61.10	50.32	3.64	64.74	53.96	74.00	54.00	-0.04	AVG
3405.00	40.70	---	5.83	46.53	---	74.00	54.00	-7.47	Peak
3675.00	40.43	---	6.43	46.86	---	74.00	54.00	-7.14	Peak
4320.00	39.90	---	7.94	47.85	---	74.00	54.00	-6.15	Peak
4920.00	40.33	---	9.48	49.81	---	74.00	54.00	-4.19	Peak

966 Chamber_B 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
1126.00	60.98	51.32	-3.56	57.42	47.76	74.00	54.00	-6.24	AVG
1626.00	51.61	---	-1.12	50.50	---	74.00	54.00	-3.50	Peak
2320.00	58.87	43.79	3.34	62.21	47.13	74.00	54.00	-6.87	AVG
2410.00	61.30	49.80	3.64	64.94	53.44	74.00	54.00	-0.56	AVG
3405.00	41.90	---	5.83	47.73	---	74.00	54.00	-6.27	Peak
3675.00	40.36	---	6.43	46.79	---	74.00	54.00	-7.21	Peak
4170.00	40.51	---	7.58	48.10	---	74.00	54.00	-5.90	Peak
5070.00	38.98	---	9.79	48.76	---	74.00	54.00	-5.24	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)

Product Name	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT40 TX / CH Low	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	58.40	47.61	-3.57	54.83	44.04	74.00	54.00	-9.96	AVG
1626.00	58.41	52.47	-1.12	57.29	51.35	74.00	54.00	-2.65	AVG
2320.00	60.85	46.50	3.34	64.19	49.84	74.00	54.00	-4.16	AVG
3225.00	42.01	---	5.46	47.47	---	74.00	54.00	-6.53	Peak
3600.00	41.37	---	6.25	47.62	---	74.00	54.00	-6.38	Peak
4545.00	39.31	---	8.49	47.79	---	74.00	54.00	-6.21	Peak
4905.00	39.37	---	9.44	48.81	---	74.00	54.00	-5.19	Peak

966 Chamber_B 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
1126.00	59.17	49.70	-3.56	55.61	46.14	74.00	54.00	-7.86	AVG
1624.00	50.94	---	-1.13	49.81	---	74.00	54.00	-4.19	Peak
2490.00	54.76	40.13	3.92	58.68	44.05	74.00	54.00	-9.95	AVG
2524.00	56.71	45.03	4.00	60.71	49.03	74.00	54.00	-4.97	AVG
3405.00	42.18	---	5.83	48.00	---	74.00	54.00	-6.00	Peak
4320.00	40.54	---	7.94	48.48	---	74.00	54.00	-5.52	Peak
4770.00	39.40	---	9.08	48.48	---	74.00	54.00	-5.52	Peak
5160.00	39.90	---	9.91	49.80	---	74.00	54.00	-4.20	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT40 TX / CH Middle	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1124.00	57.90	47.75	-3.57	54.33	44.18	74.00	54.00	-9.82	AVG
1626.00	58.70	52.61	-1.12	57.58	51.49	74.00	54.00	-2.51	AVG
2332.00	62.07	50.13	3.38	65.45	53.51	74.00	54.00	-0.49	AVG
2484.00	68.10	49.70	3.90	72.00	53.60	74.00	54.00	-0.40	AVG
3180.00	42.03	---	5.37	47.39	---	74.00	54.00	-6.61	Peak
3630.00	40.56	---	6.32	46.88	---	74.00	54.00	-7.12	Peak
4365.00	40.40	---	8.05	48.45	---	74.00	54.00	-5.55	Peak
5070.00	39.27	---	9.79	49.05	---	74.00	54.00	-4.95	Peak

966 Chamber_B 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
1126.00	61.20	50.99	-3.56	57.64	47.43	74.00	54.00	-6.57	AVG
1548.00	56.30	36.01	-1.82	54.48	34.19	74.00	54.00	-19.81	AVG
1626.00	50.90	---	-1.12	49.78	---	74.00	54.00	-4.22	Peak
2334.00	62.47	50.49	3.39	65.86	53.88	74.00	54.00	-0.12	AVG
2484.00	65.76	49.11	3.90	69.66	53.01	74.00	54.00	-0.99	AVG
3135.00	42.17	---	5.28	47.45	---	74.00	54.00	-6.55	Peak
3525.00	41.11	---	6.08	47.19	---	74.00	54.00	-6.81	Peak
4950.00	39.65	---	9.56	49.21	---	74.00	54.00	-4.79	Peak
5355.00	39.28	---	10.17	49.46	---	74.00	54.00	-4.54	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	3x3 802.11n WiFi Router	Test By	Allen Liu
Test Model	CGN-20121106	Test Date	2012/11/30
Test Mode	IEEE 802.11n HT40 TX / CH High	Temp. & Humidity	21°C, 50%

966 Chamber_B 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
1126.00	54.01	---	-3.56	50.45	---	74.00	54.00	-3.55	Peak
1626.00	57.66	52.80	-1.12	56.54	51.68	74.00	54.00	-2.32	AVG
2348.00	59.77	47.27	3.43	63.20	50.70	74.00	54.00	-3.30	AVG
3120.00	42.70	---	5.24	47.94	---	74.00	54.00	-6.06	Peak
3795.00	40.06	---	6.70	46.77	---	74.00	54.00	-7.23	Peak
4425.00	40.70	---	8.19	48.89	---	74.00	54.00	-5.11	Peak
4935.00	40.15	---	9.52	49.67	---	74.00	54.00	-4.33	Peak

966 Chamber_B at 3Meter / Vertical

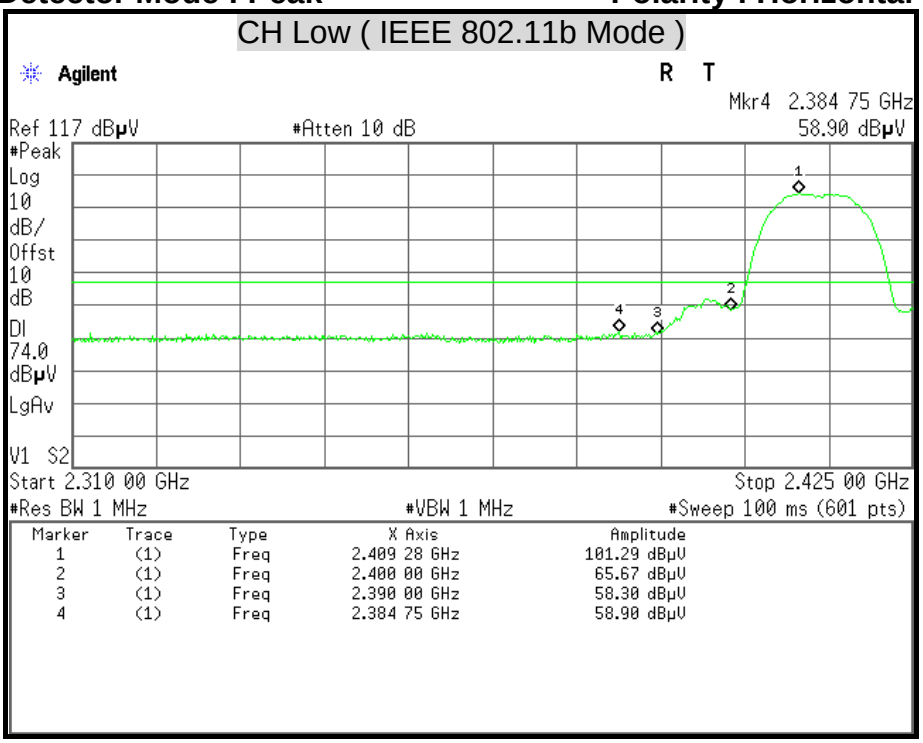
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1126.00	59.52	51.37	-3.56	55.96	47.81	74.00	54.00	-6.19	AVG
1626.00	50.66	---	-1.12	49.55	---	74.00	54.00	-4.45	Peak
2126.00	50.84	---	2.68	53.52	---	74.00	54.00	-0.48	Peak
2350.00	61.81	49.05	3.44	65.25	52.49	74.00	54.00	-1.51	AVG
3405.00	42.17	---	5.83	48.00	---	74.00	54.00	-6.00	Peak
3900.00	40.62	---	6.95	47.57	---	74.00	54.00	-6.43	Peak
4215.00	40.47	---	7.69	48.16	---	74.00	54.00	-5.84	Peak
4980.00	38.63	---	9.64	48.27	---	74.00	54.00	-5.73	Peak

Remark:

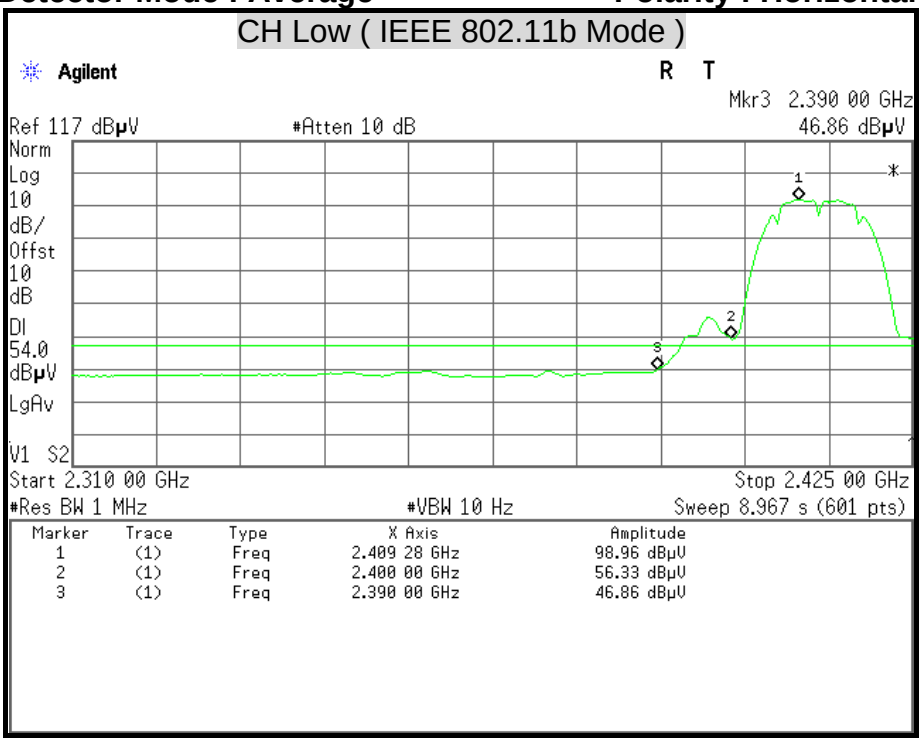
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Average test would be performed if the peak result were greater than the average limit.*
3. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions 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

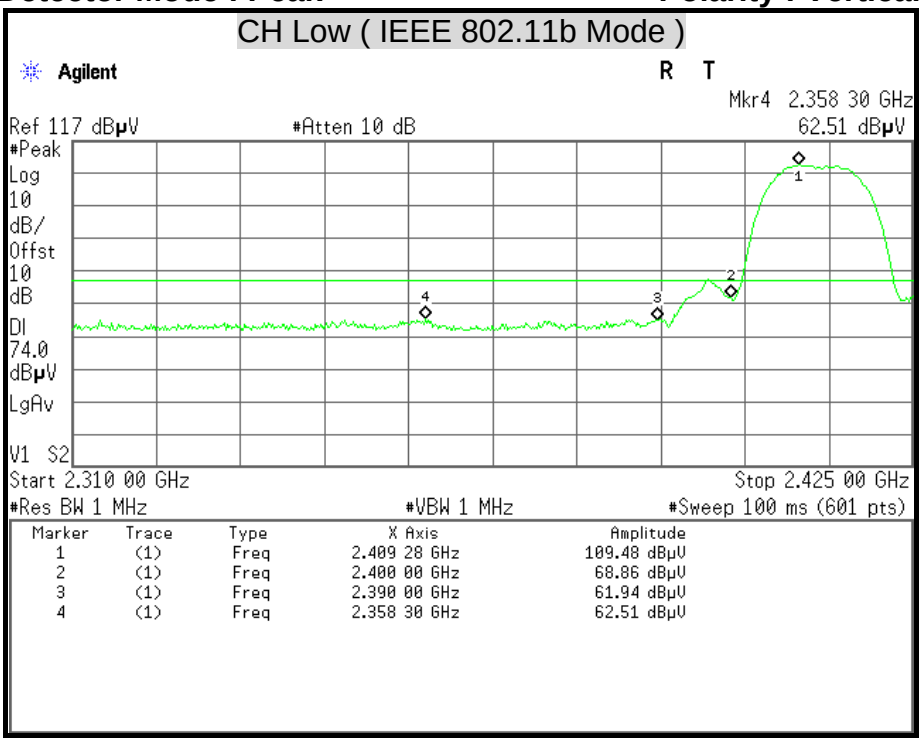
Detector Mode : Peak **Polarity : Horizontal**



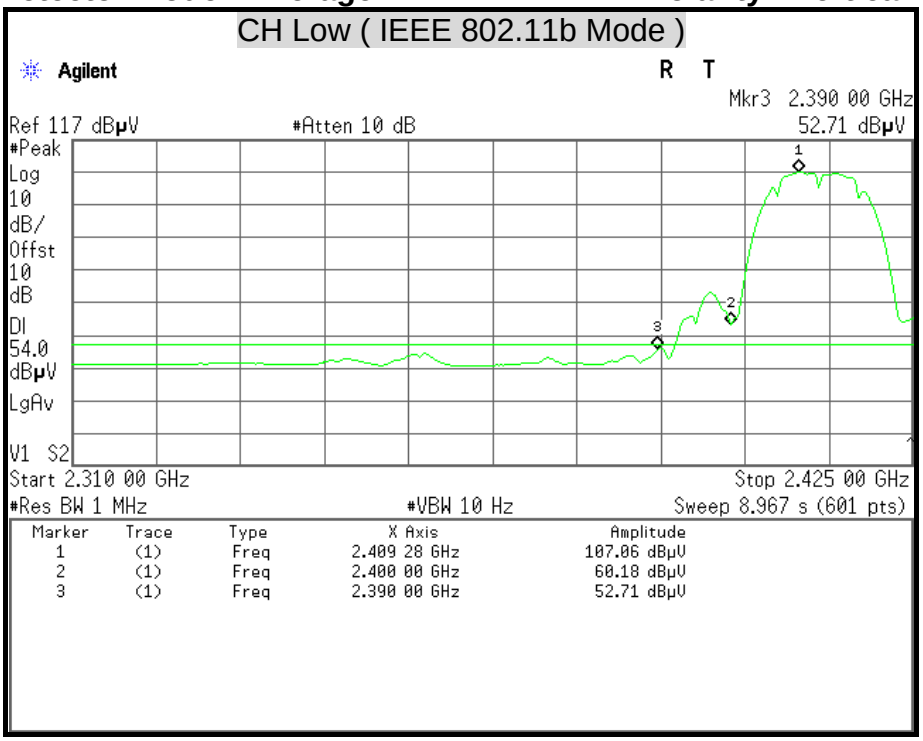
Detector Mode : Average **Polarity : Horizontal**



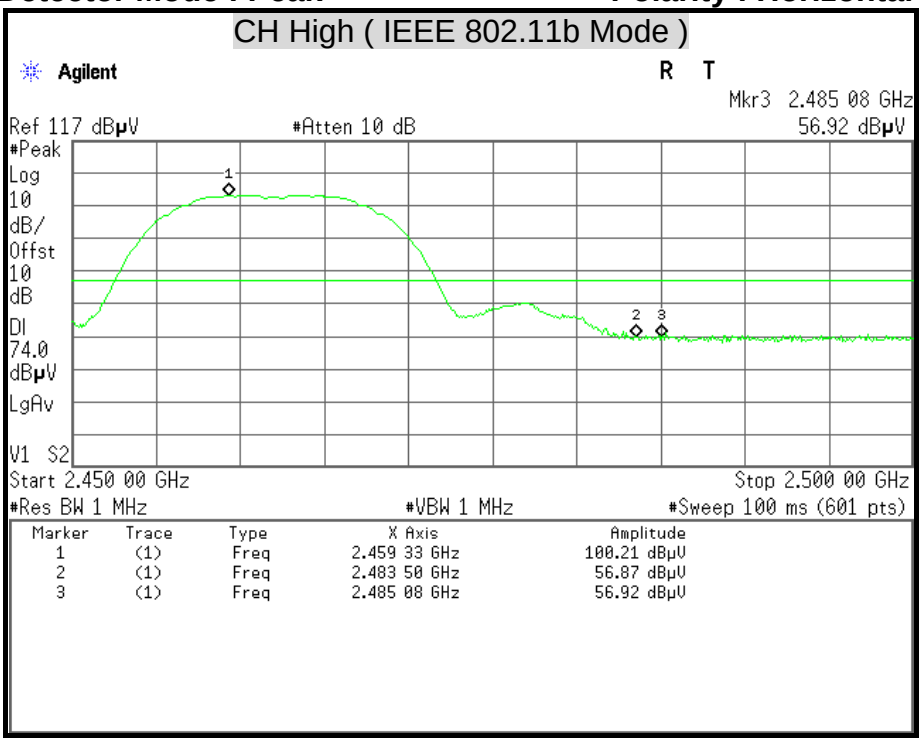
Detector Mode : Peak **Polarity : Vertical**



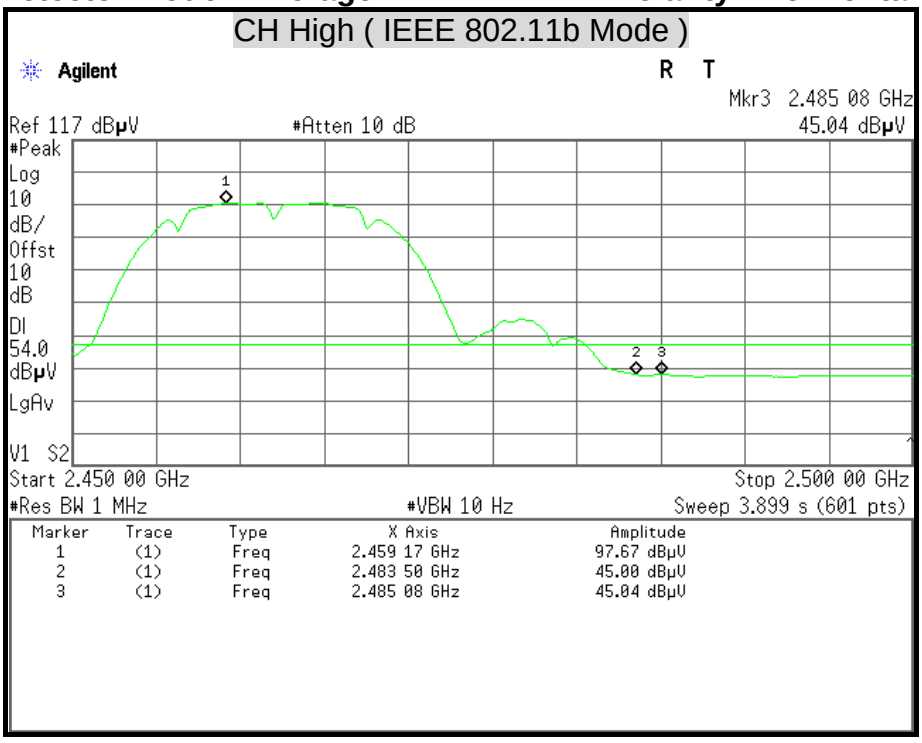
Detector Mode : Average **Polarity : Vertical**



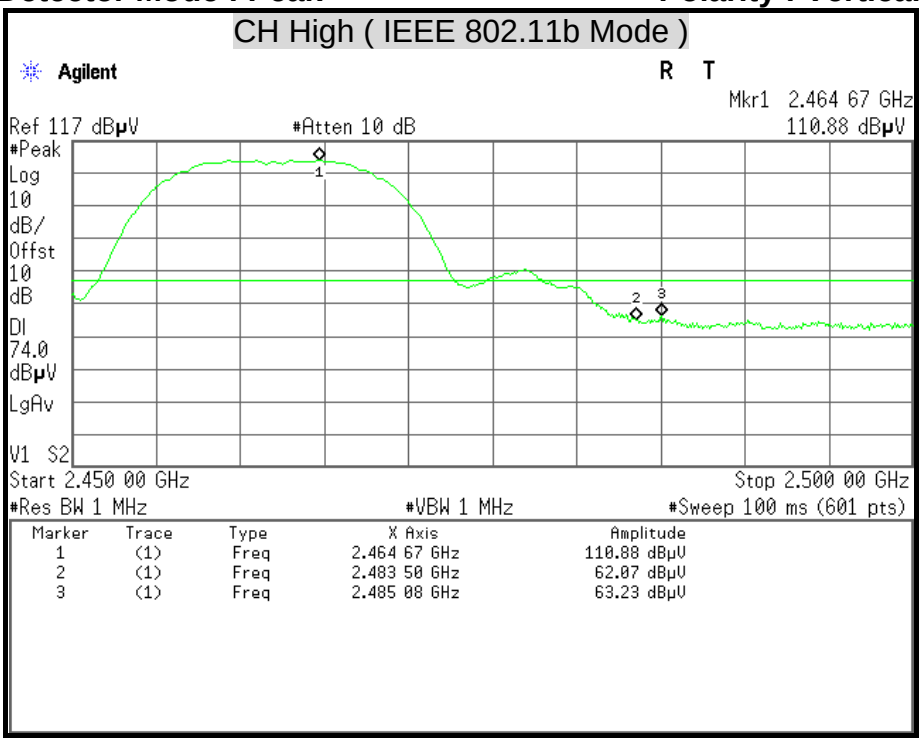
Detector Mode : Peak **Polarity : Horizontal**



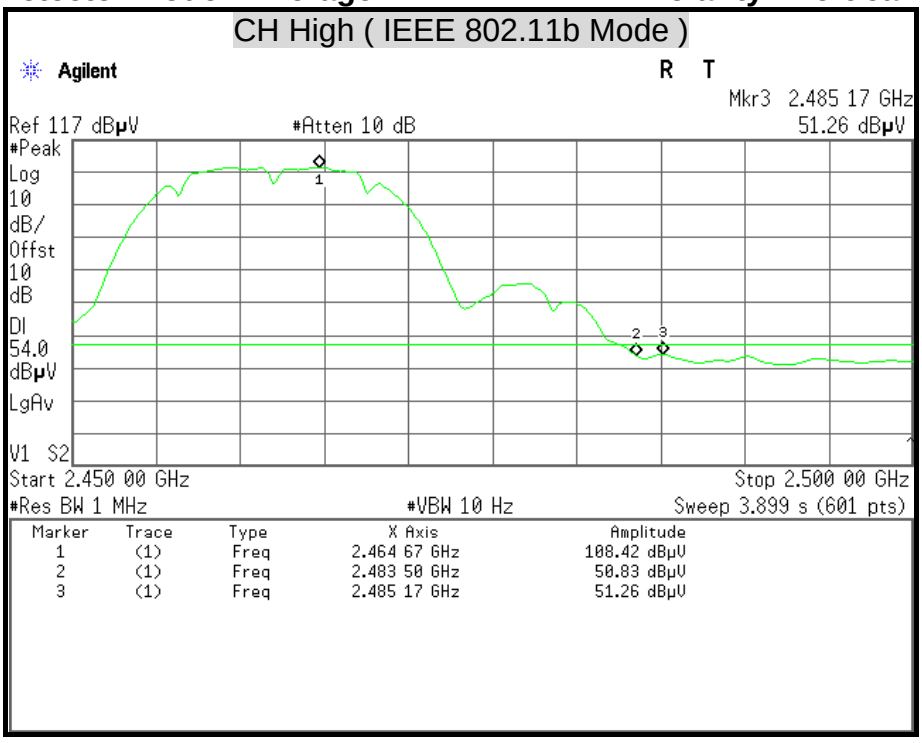
Detector Mode : Average **Polarity : Horizontal**



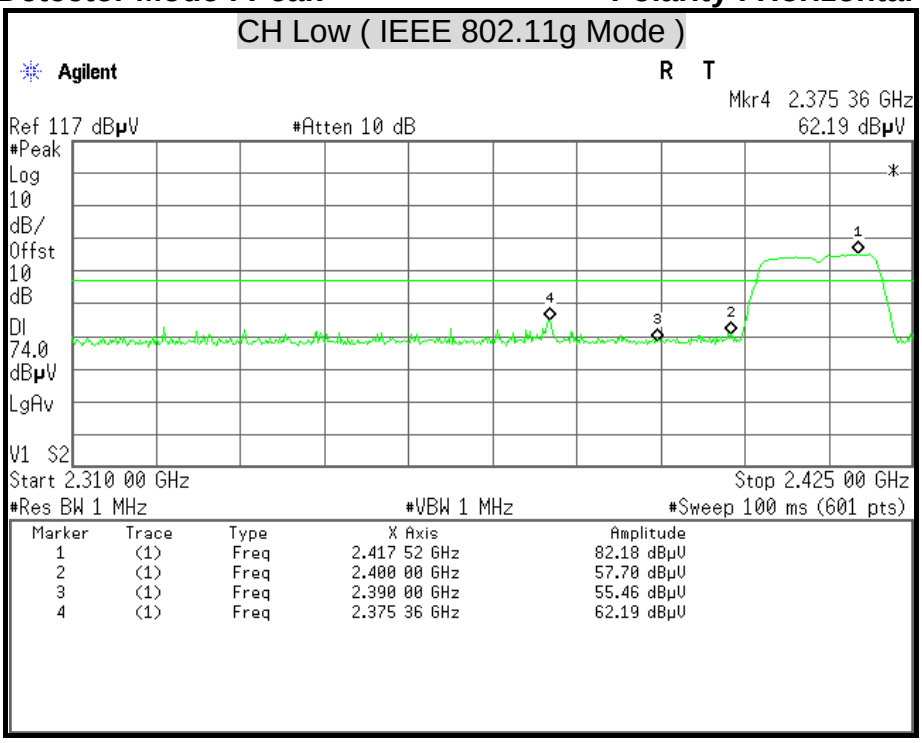
Detector Mode : Peak **Polarity : Vertical**



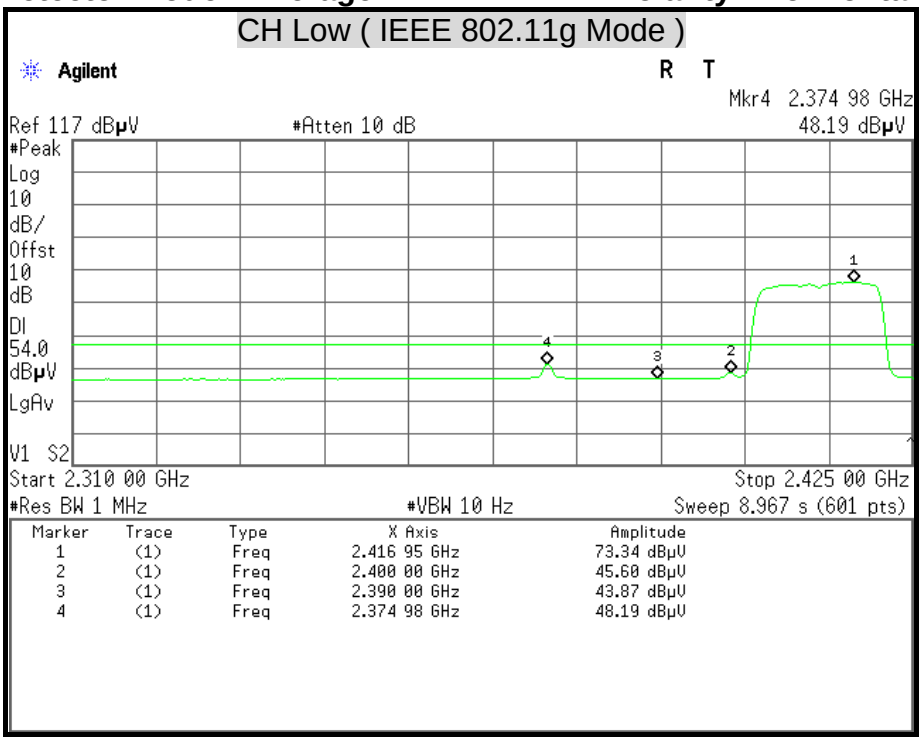
Detector Mode : Average **Polarity : Vertical**



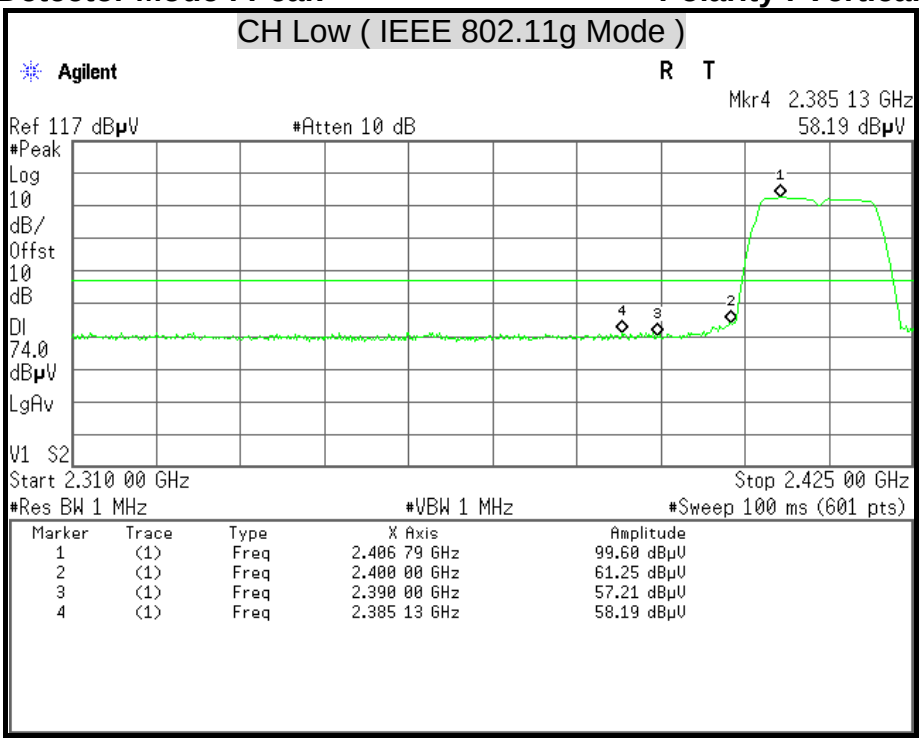
Detector Mode : Peak **Polarity : Horizontal**



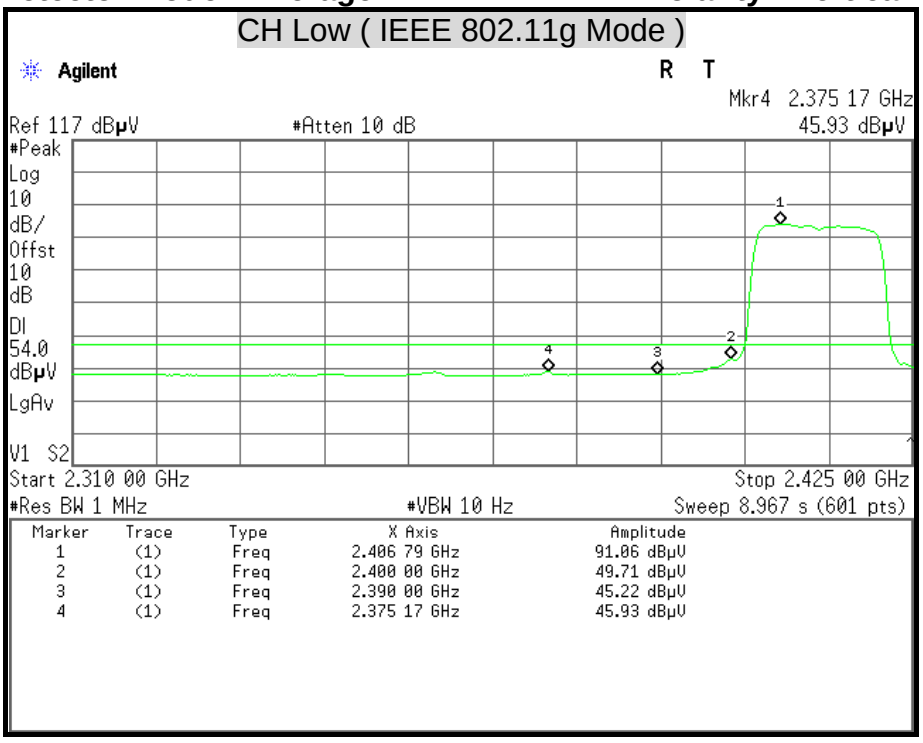
Detector Mode : Average **Polarity : Horizontal**



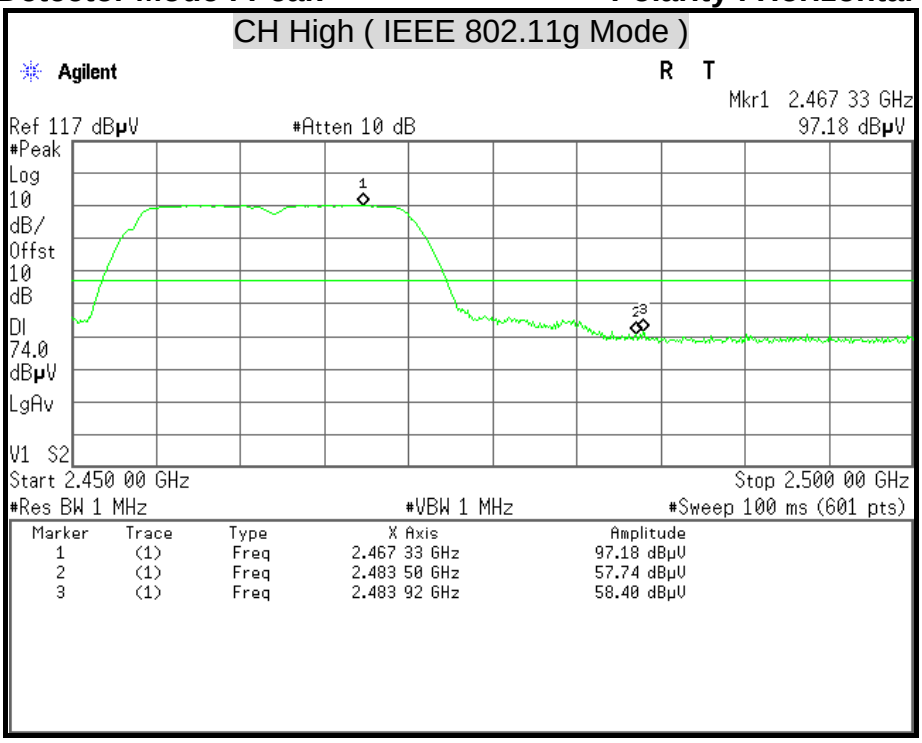
Detector Mode : Peak **Polarity : Vertical**



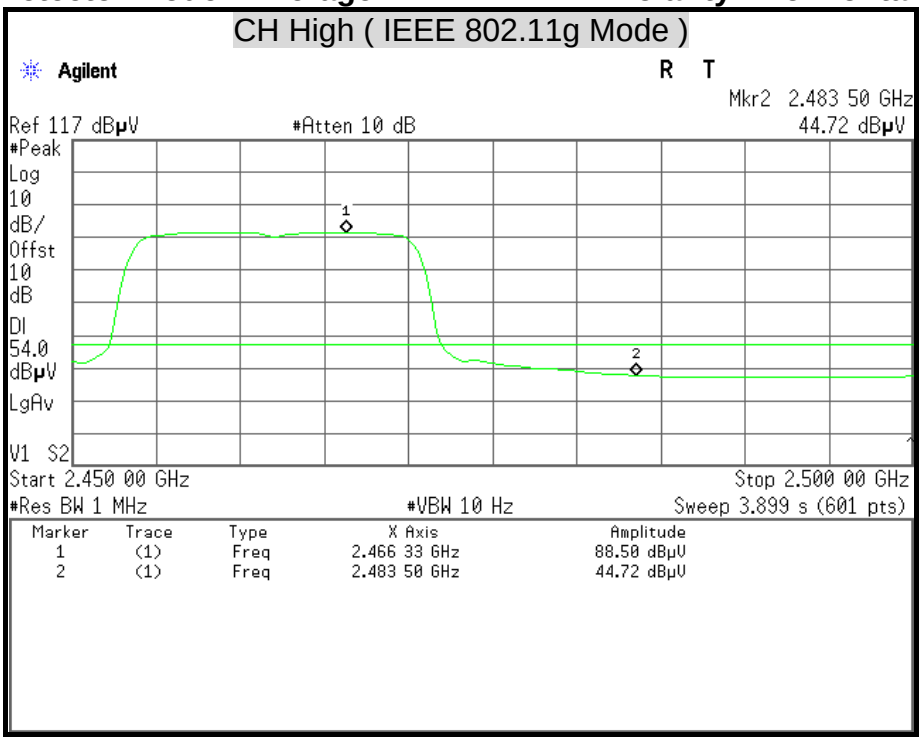
Detector Mode : Average **Polarity : Vertical**



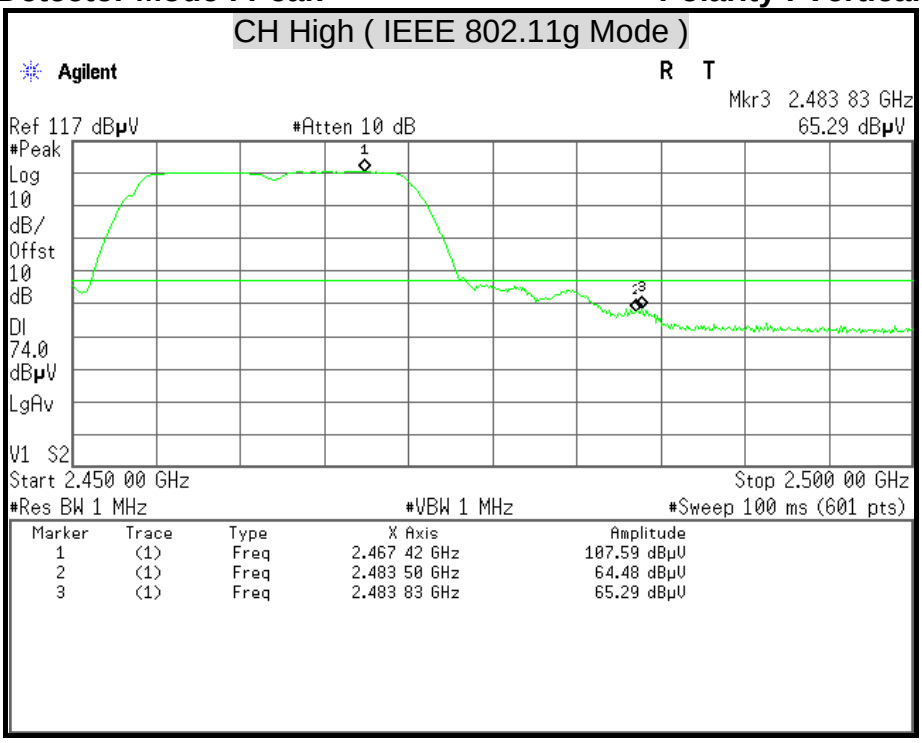
Detector Mode : Peak **Polarity : Horizontal**



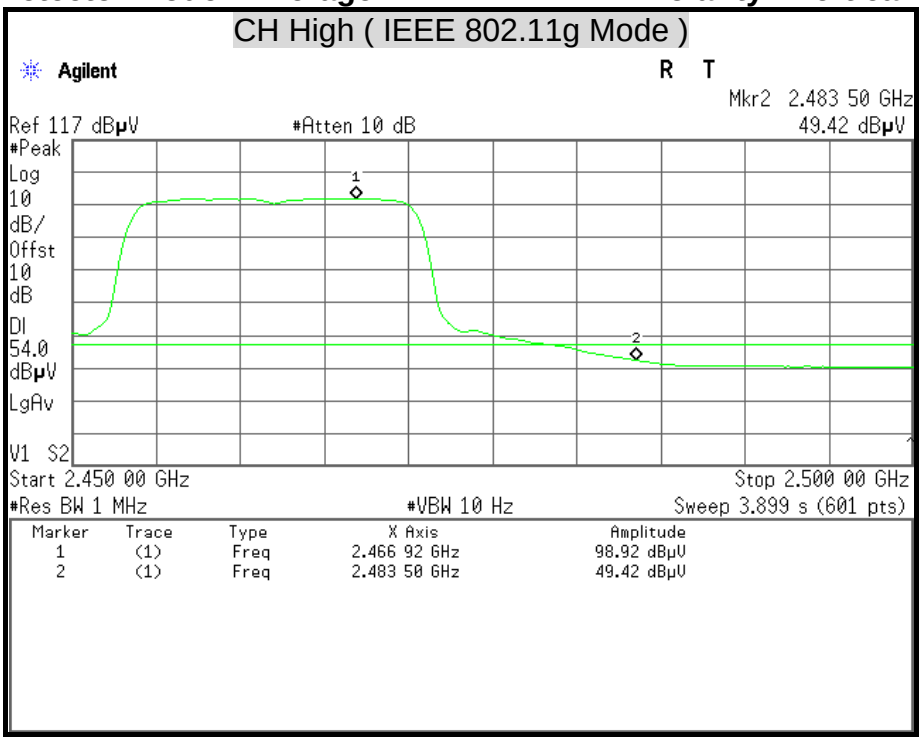
Detector Mode : Average **Polarity : Horizontal**



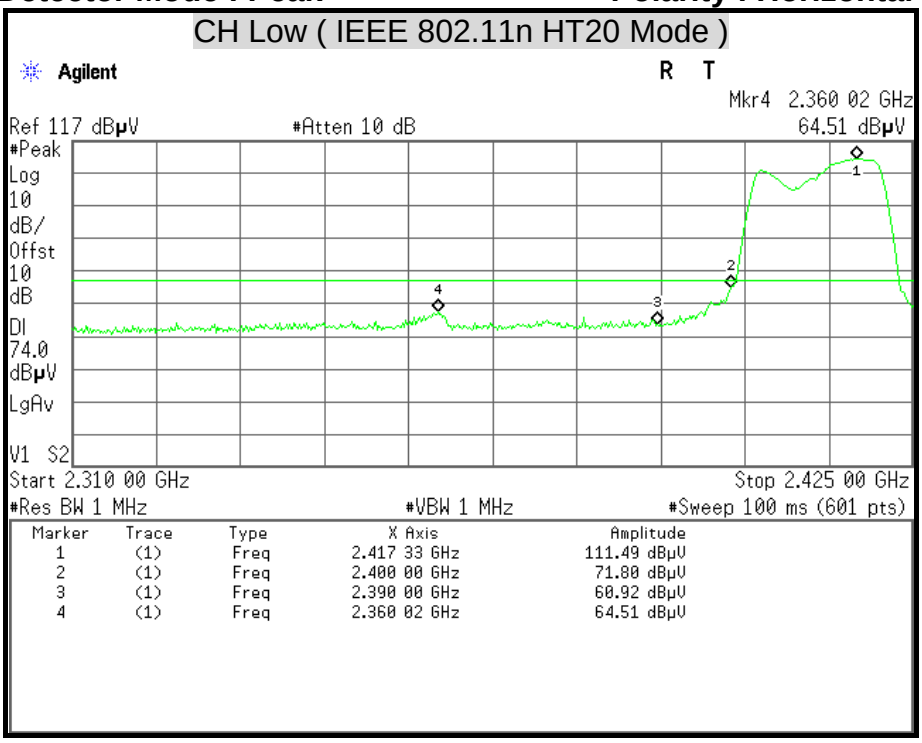
Detector Mode : Peak **Polarity : Vertical**



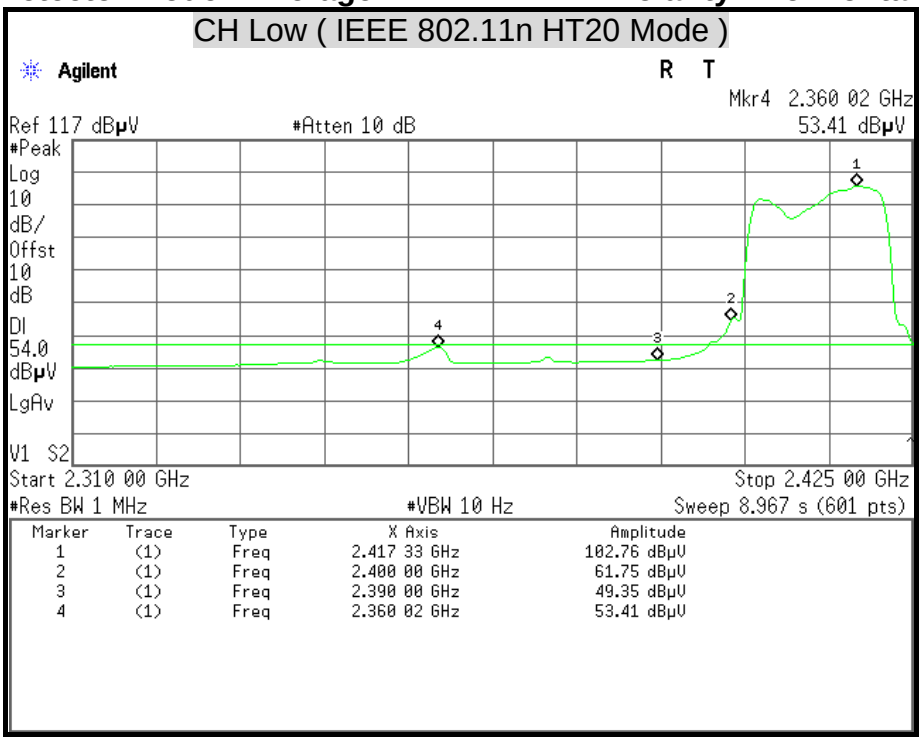
Detector Mode : Average **Polarity : Vertical**



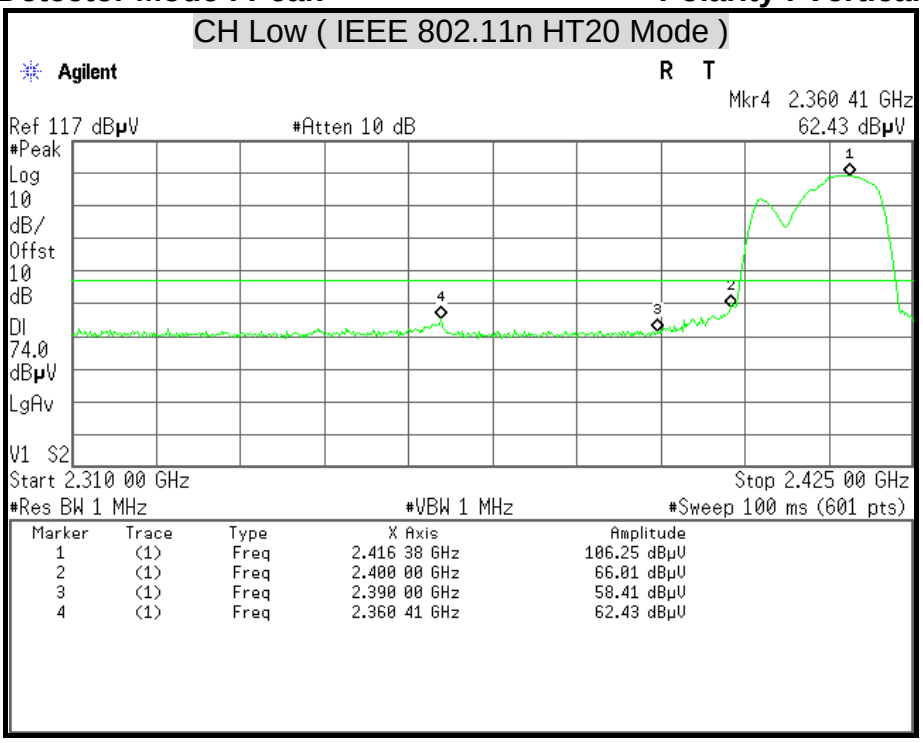
Detector Mode : Peak **Polarity : Horizontal**



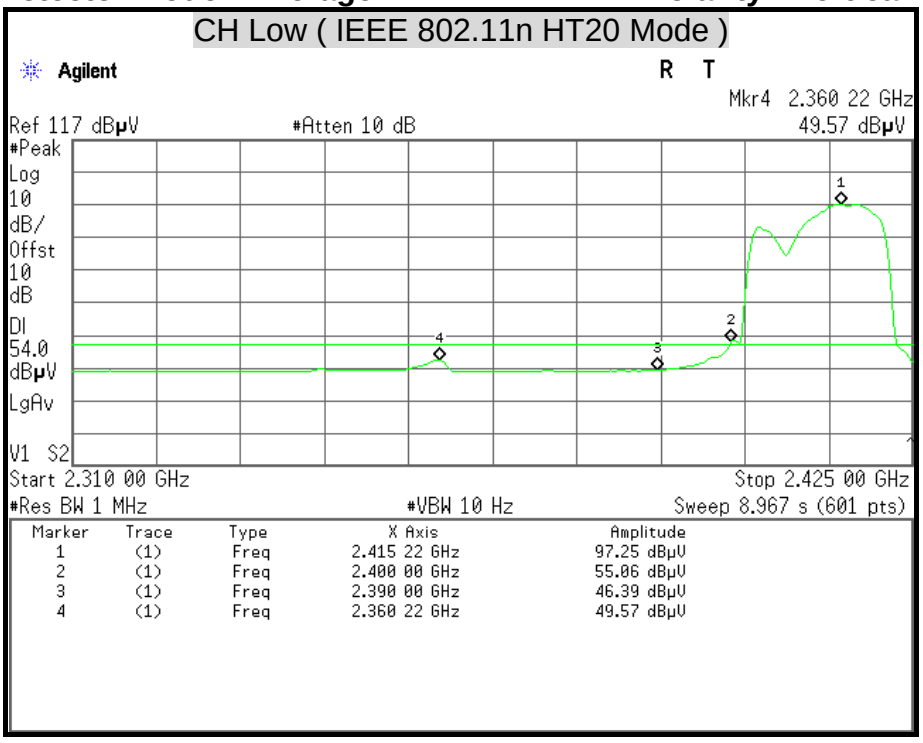
Detector Mode : Average **Polarity : Horizontal**



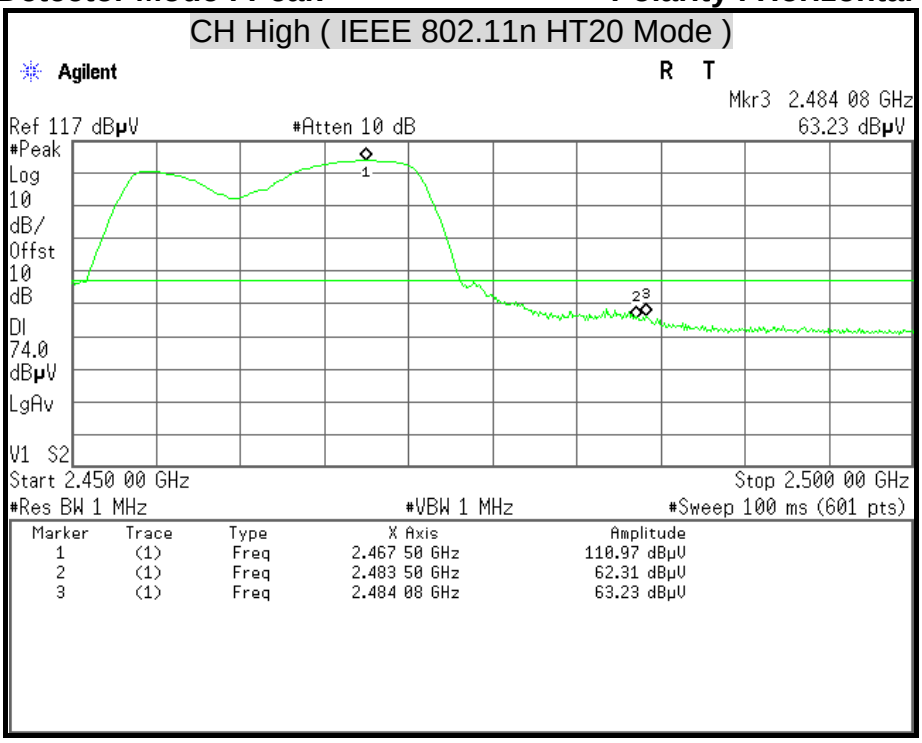
Detector Mode : Peak **Polarity : Vertical**



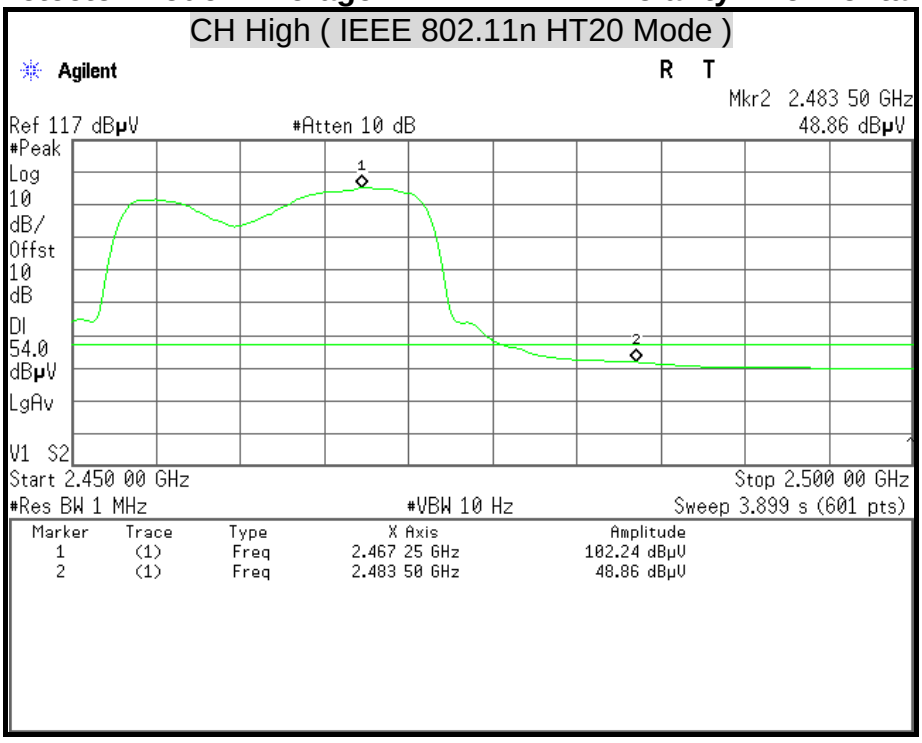
Detector Mode : Average **Polarity : Vertical**



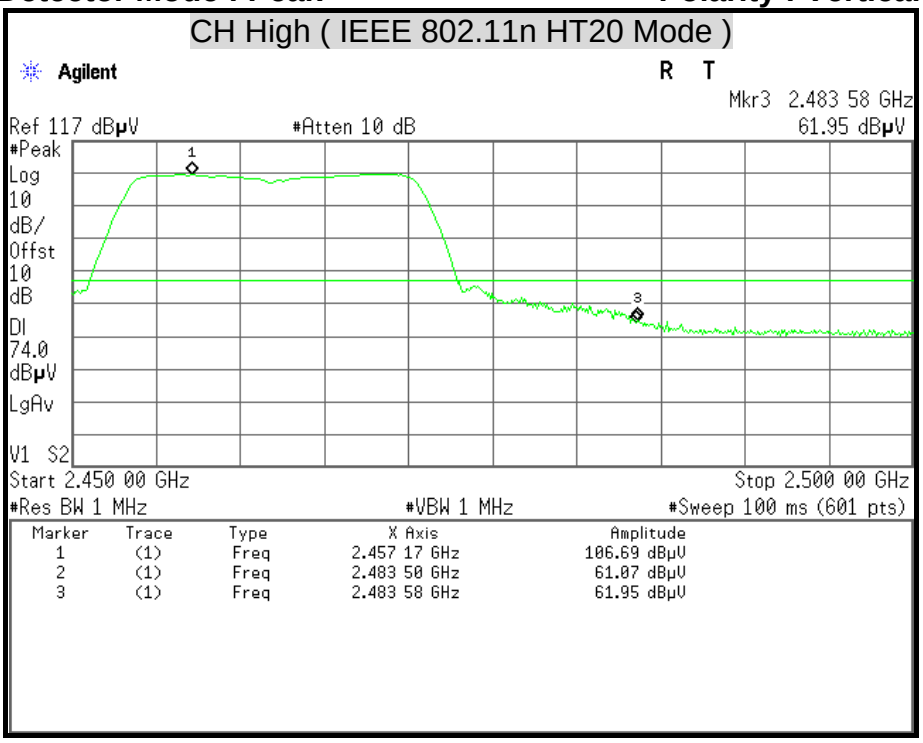
Detector Mode : Peak **Polarity : Horizontal**



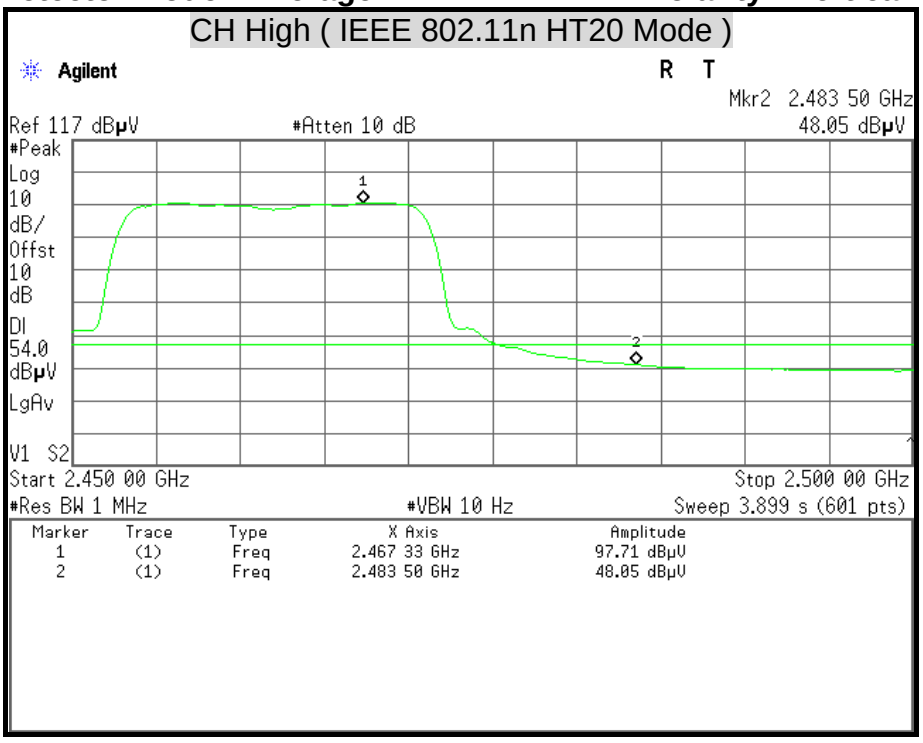
Detector Mode : Average **Polarity : Horizontal**



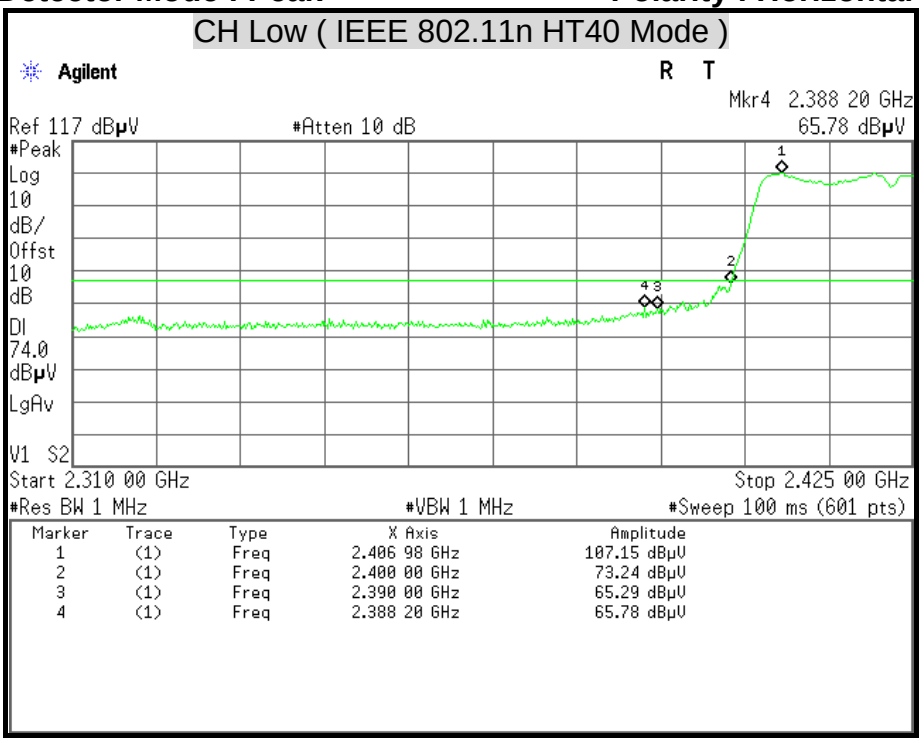
Detector Mode : Peak **Polarity : Vertical**



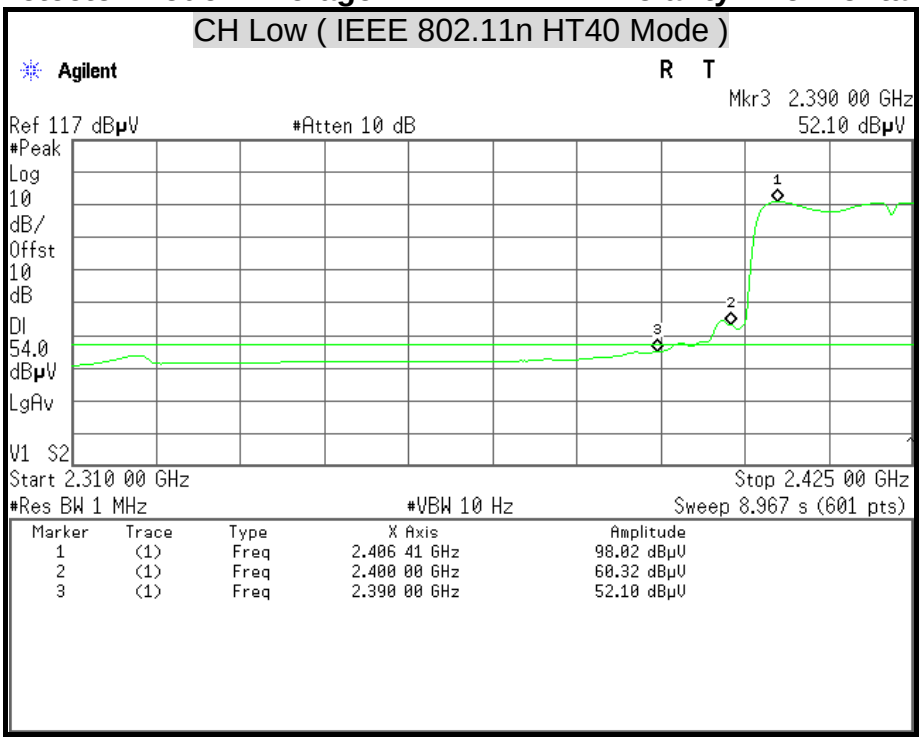
Detector Mode : Average **Polarity : Vertical**



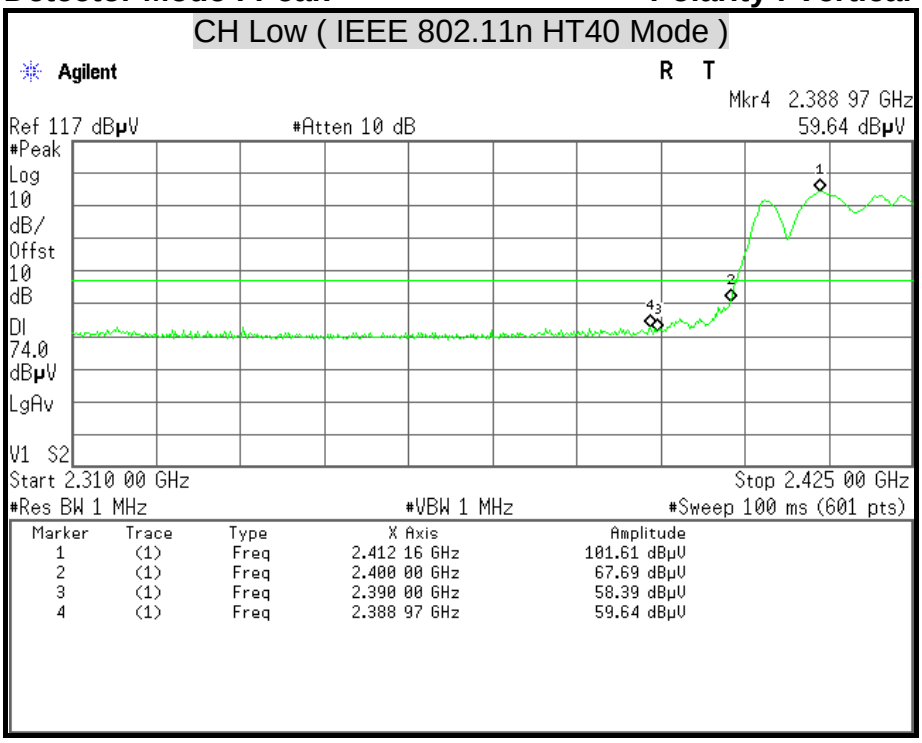
Detector Mode : Peak **Polarity : Horizontal**



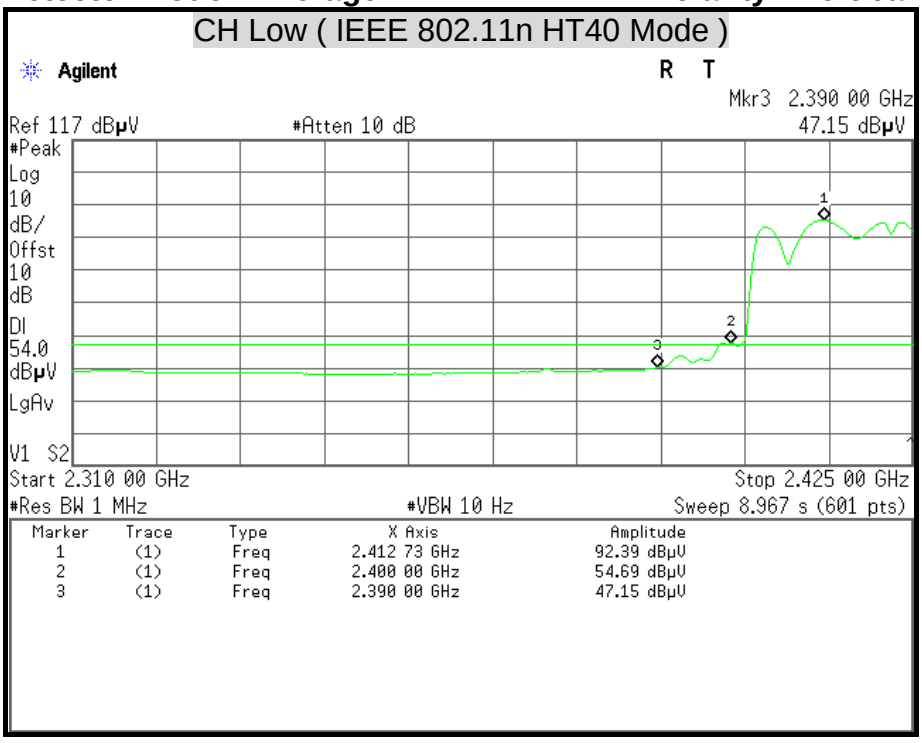
Detector Mode : Average **Polarity : Horizontal**



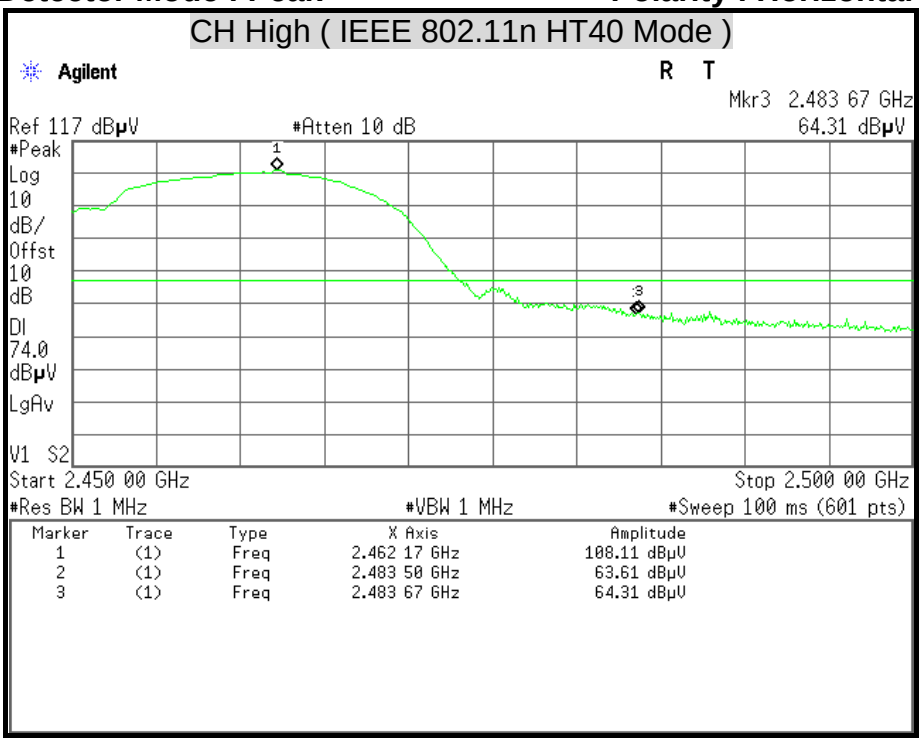
Detector Mode : Peak **Polarity : Vertical**



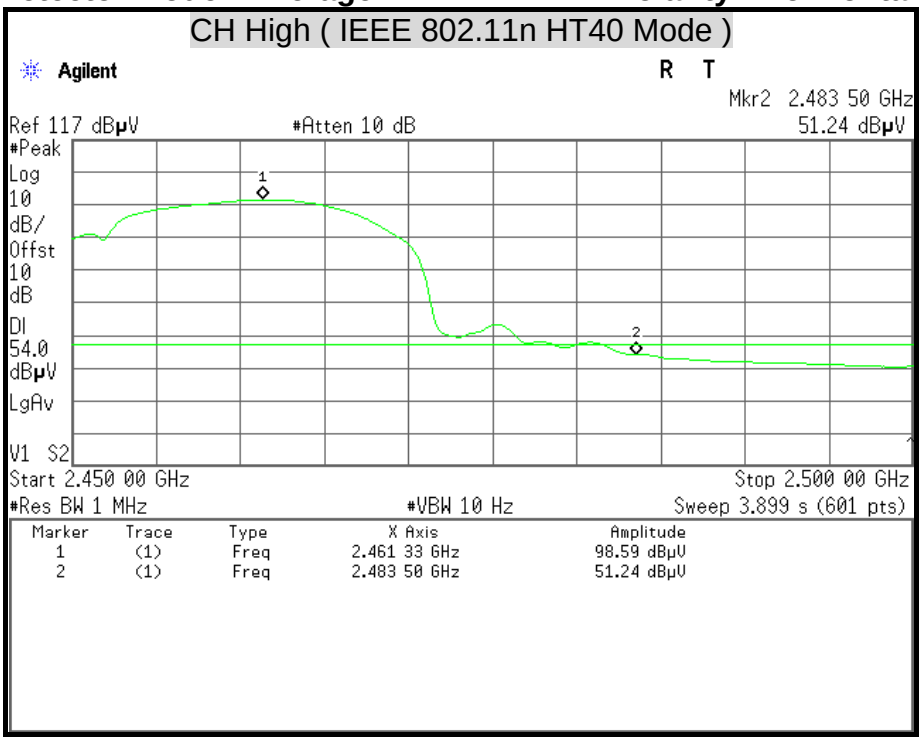
Detector Mode : Average **Polarity : Vertical**



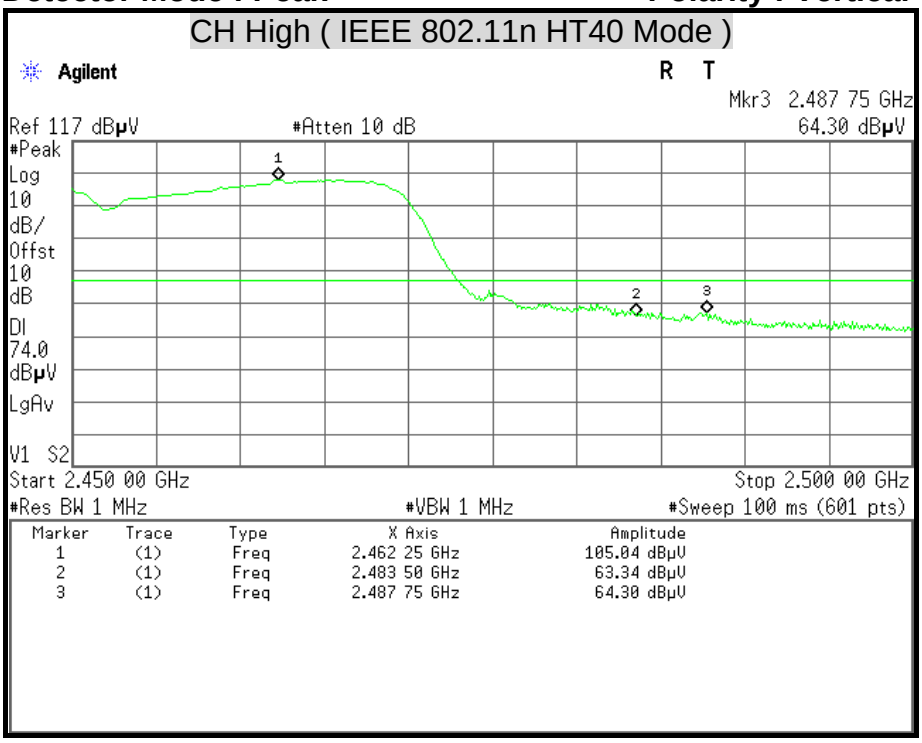
Detector Mode : Peak **Polarity : Horizontal**



Detector Mode : Average **Polarity : Horizontal**



Detector Mode : Peak **Polarity : Vertical**



Detector Mode : Average **Polarity : Vertical**