FCC 47 CFR PART 15 SUBPART C/Oct. 2012 AND ANSI 63.4:2009 TEST REPORT

For

Display Unit

Model : EEHD301XXXXXX

Data Applies To : EEHDYY301XXXXXX
(where "X" or "Y" may be any alphanumeric character or blank and where "Y" is a country code.)

Trade Name : Snap-on

Issued for

Snap-on Diagnostics

420 Barclay Blvd, Lincolnshire, Illinois, USA

Issued by

Compliance Certification Services Inc.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	04/18/2013	Initial Issue	All Page 86	Gloria Chang
01	07/22/2013	Revised	All Page 88, P.1,P.4, P.7-P.10, P.51, P.54, P.83, P.88	Gloria Chang
02	08/06/2013	Revised Description Of Test Modes	P.7	Gloria Chang

TABLE OF CONTENTS

TITLE PAGE NO.

1. TEST REPORT CERTIFICATION

Applicant	:	Snap-on Diagnostics.
Address	:	420 Barclay Blvd, Lincolnshire, Illinois, USA
Equipment Under Test	:	Display Unit
Model	:	EEHD301XXXXXX
Data Applies To	:	EEHDYY301XXXXXX (where "X" or "Y" may be any alphanumeric character or blank and where "Y" is a country code.)
Trade Name	:	Snap-on
Tested Date	:	May 23 ~ July 30, 2012 ; March 11 ~ April 18, 2013

APPLICABLE STANDARD	
Standard	**Test Result**
FCC Part 15 Subpart C/Oct. 2012 AND ANSI C63.4:2009	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:

Sb. Lu
Sr. Engineer

Reviewed by:

Gundam Lin
Sr. Engineer

2. EUT DESCRIPTION

Product Name	Display Unit
Model Number	EEHD301XXXXXX
Data Applies To	EEHDYY301XXXXXX (where "X" or "Y" may be any alphanumeric character or blank and where "Y" is a country code.)
Identify Number	T130311L05
Received Date	May 23, 2012
Frequency Range	IEEE 802.11b/g, 802.11n HT20 : 2412MHz ~ 2462MHz IEEE 802.11n HT40 : 2422MHz ~ 2452MHz
Transmit Power	IEEE 802.11b : 16.58 dBm (0.0455W) IEEE 802.11g : 21.16 dBm (0.1306W) IEEE 802.11n HT20: 21.10 dBm (0.1288W) IEEE 802.11n HT40: 19.76 dBm (0.0946W)
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 : 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 : 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, Antenna Gain : 2.07dBi
AC Power Cord Type	Non-shielded cable 1.8 m (Detachable)
DC Power Cable Type	Non-shielded cable 1.5 m (Non-detachable) with a ferrite core
Power Rating	19Vdc
Test Voltage	120Vac, 60Hz
I/O Port	EUT : USB 1.1 Port × 1, USB 2.0 Port × 2, Audio Port ×1, Micrphone Port × 1, Power Port × 1, Banana Port × 5, RS232 Port × 1 Docking : USB 2.0 Port × 4, VGA Port × 1, Power Port × 1

Power Adapter :

No.	Manufacturer	Model No.	Power Input	Power Output
1	FSP	FSP065-RAB	100-240Vac, 1.5A, 50-60Hz	19Vdc, 3.42A

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 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*
4. *The only difference between all models is the market segmentation.*
5. *The model EEHD301 was considered the main model for testing.*

3. DESCRIPTION OF TEST MODES

The EUT is an 802.11n transceiver in Display Unit form factor. The module has one transmitter chain and two receive chains (1x2 configurations). The 1x2 configuration is implemented with two outside chains (Chain 1 and chain 2).
The WiFi device uses a Chain 1(MAIN) transmits configuration.

Conducted Emission / Radiated Emission Test (Below 1 GHz)

1. The following test modes were scanned during the preliminary test:

No.	Pre-Test Mode
1	Normal Operating
2	TX Mode

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Final Test Mode		
Emission	Radiated Emission	TX Mode
	Conducted Emission	Normal Operating

Remark : *Then, the above highest emission mode of the configuration of the EUT and cable was chosen for all final test items.*

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.

Remark :*The field strength of spurious emission was measured in the following position: lie-down position(X, Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.*

4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 and FCC CFR 47, 15.207, 15.209 and 15.247.

5. FACILITIES AND ACCREDITATION

5.1 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 C63.4:2009 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.

5.2 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

Remark: *1.FCC filing number is TW1027.*
2.IC filing number is 2324 K-1/-2/-3.

5.3 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_B) / Radiated Emission, 0.009 to 30 MHz	+/- 3.1252
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.5189
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 2.5164
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 2.4967
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 2.7655
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 1.5923

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.

6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

No.	Product	Manufacturer	Model No.	Serial No.	FCC ID
1	Notebook PC	HP	ProBook 4421s	CNF03242PJ	DoC
2	LCD Monitor	DELL	ST2420Lb	ZU10040-10006	DoC
3	Mouse	HP	M-UAE96	265986-011	DoC
4	Keyboard	Microsoft	1336	0065804642034	DoC
5	Multi-media Stereo Headset	KINYO	EM-3000	4712257589073	DoC
6	USB Flash disk	SanDisk	SDCZ6-1024	BB0706I6B	DoC
7	USB Flash disk	SanDisk	SDSDM-1024	BB07251CTE	DoC
8	USB Flash disk	Transcend	Jet Flash V10(4G)	258909 0093	DoC
9	USB Flash disk	Transcend	Jet Flash V10(4G)	258909 0094	DoC

SETUP DIAGRAM FOR TESTS

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

EUT OPERATING CONDITION

1. run " CRTU " ,click continuous TX, choice 11a or 11b、g、HT20、HT40
2. click "start TX

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) TX Power 14
IEEE 802.11b Channel Mid (2437MHz) TX Power 14
IEEE 802.11b Channel High (2462MHz) TX Power 14
IEEE 802.11g Channel Low (2412MHz) TX Power 09
IEEE 802.11g Channel Mid (2437MHz) TX Power 13
IEEE 802.11g Channel High (2462MHz) TX Power 08

IEEE 802.11n HT20 Channel Low (2412MHz) TX Power 7.5
IEEE 802.11n HT20 Channel Mid (2437MHz) TX Power 13
IEEE 802.11n HT20 Channel High (2462MHz) TX Power 7.5
IEEE 802.11n HT40 Channel Low (2422MHz) TX Power 5.5
IEEE 802.11n HT40 Channel Mid (2437MHz) TX Power 11
IEEE 802.11n HT40 Channel High (2452MHz) TX Power 05

3. All of the functions are under run.
4. Start test.

7. FCC PART 15.247 REQUIREMENTS

7.1 6dB BANDWIDTH

LIMITS

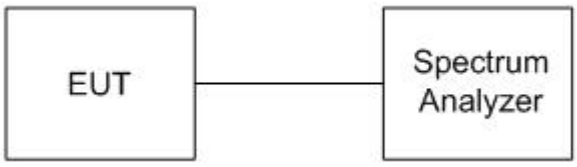
§ 15.247(a) (2) For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	AGILENT	E4407B	US41443108	09/12/2013

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

TEST SETUP



TEST PROCEDURE

1. The transmitter output was connected to a spectrum analyzer.
2. Set resolution bandwidth (RBW) = 1-5% or DTS BW, not to exceed 100 kHz.
3. Set the video bandwidth (VBW) ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST RESULTS

IEEE 802.11b Mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (kHz)	Pass / Fail
Low	2412	10.20	500	PASS
Middle	2437	9.30	500	PASS
High	2462	9.80	500	PASS

IEEE 802.11g Mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (kHz)	Pass / Fail
Low	2412	16.50	500	PASS
Middle	2437	16.50	500	PASS
High	2462	16.50	500	PASS

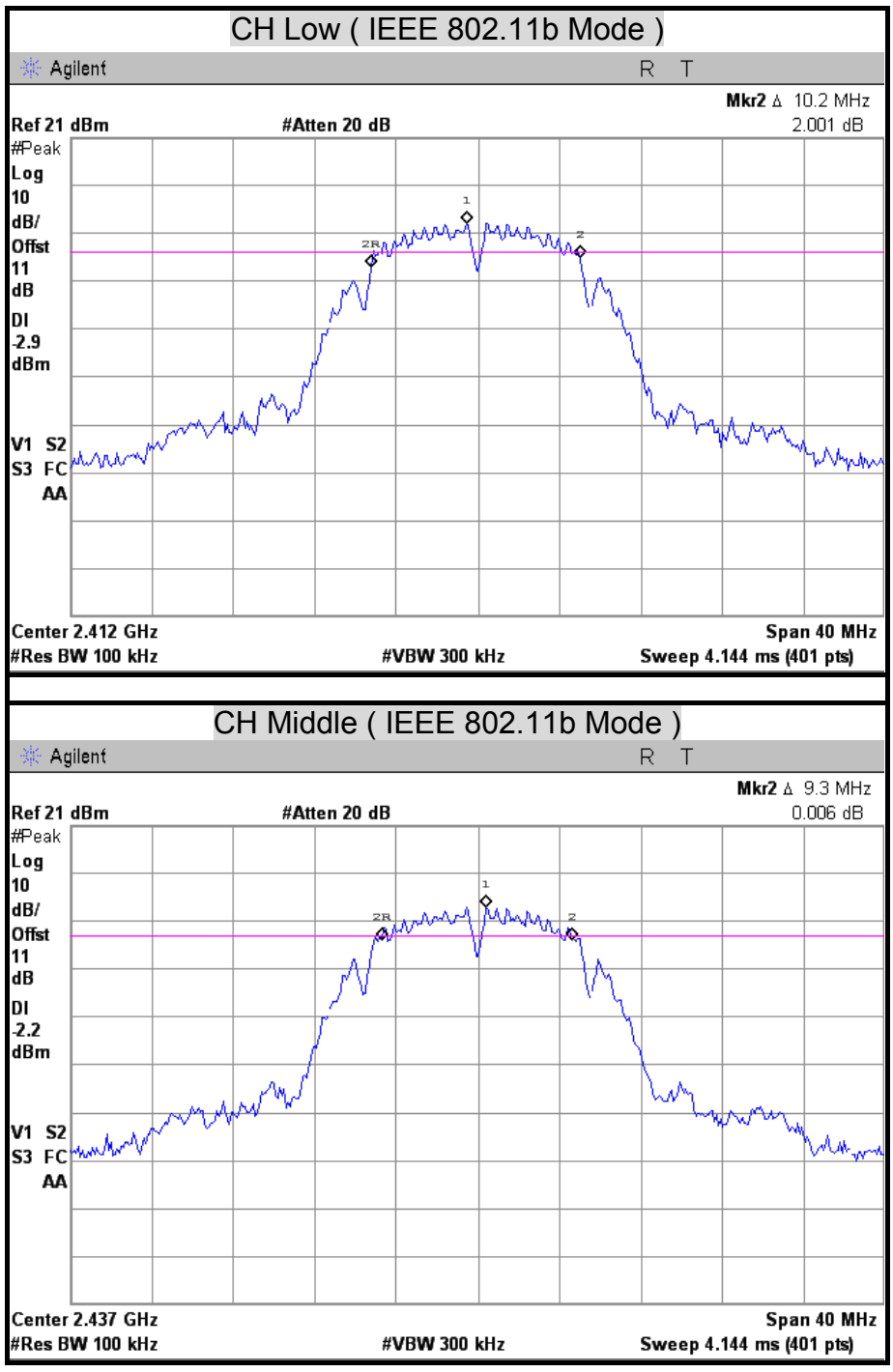
IEEE 802.11n HT20 mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (kHz)	Pass / Fail
Low	2412	17.70	500	PASS
Middle	2437	17.70	500	PASS
High	2462	17.70	500	PASS

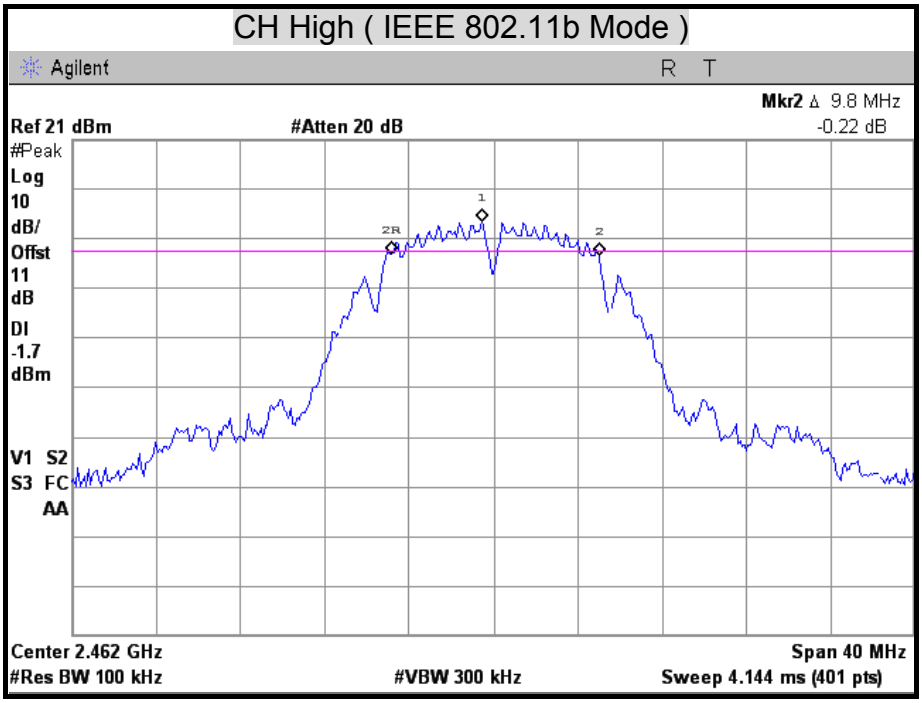
IEEE 802.11n HT40 mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (kHz)	Pass / Fail
Low	2422	35.70	500	PASS
Middle	2437	36.00	500	PASS
High	2452	36.00	500	PASS

6dB BANDWIDTH



CH High (IEEE 802.11b Mode)



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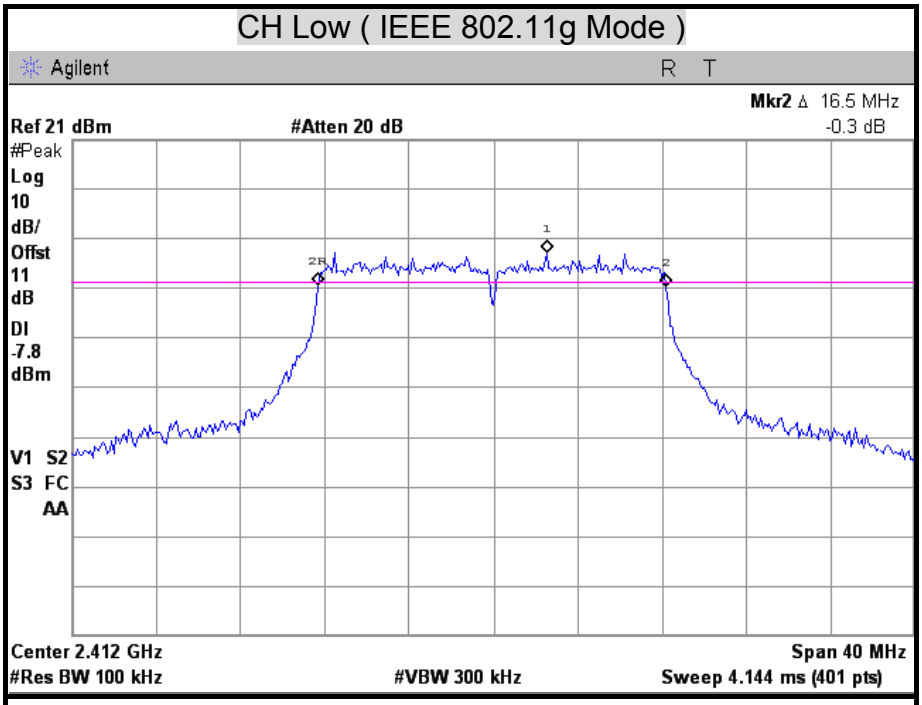

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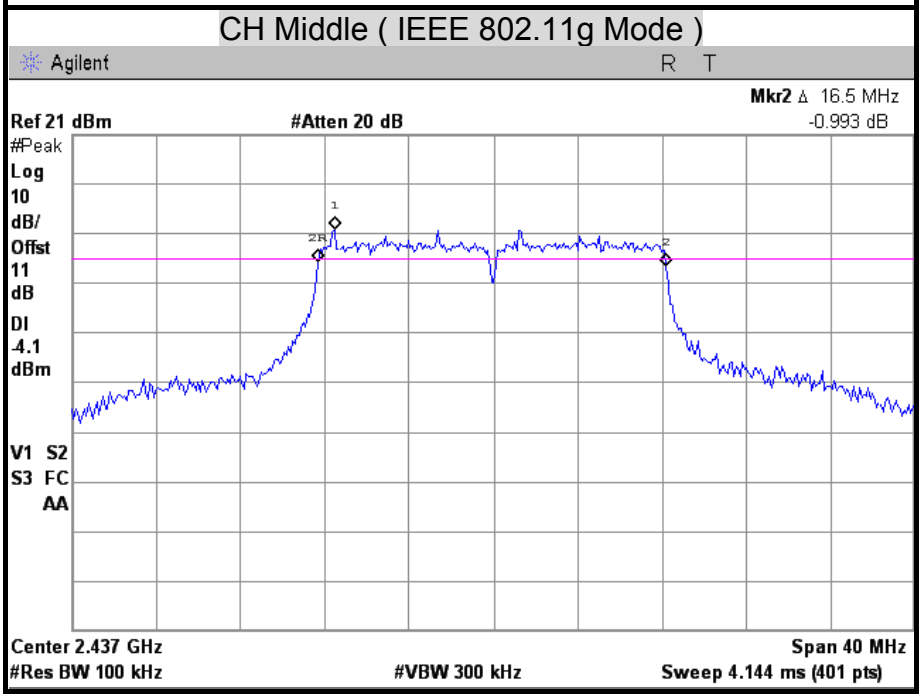

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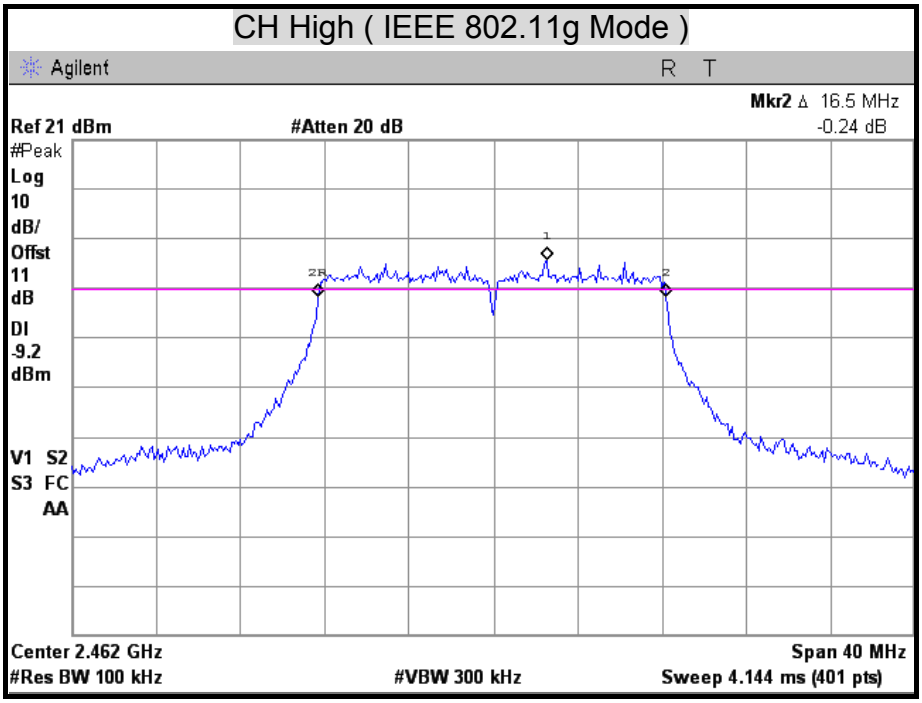

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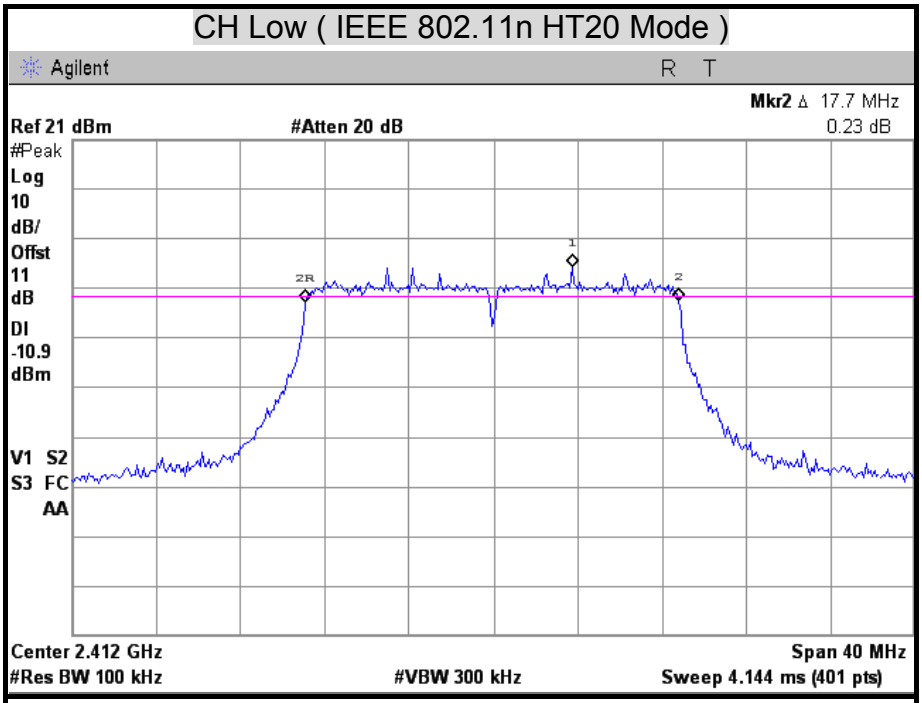

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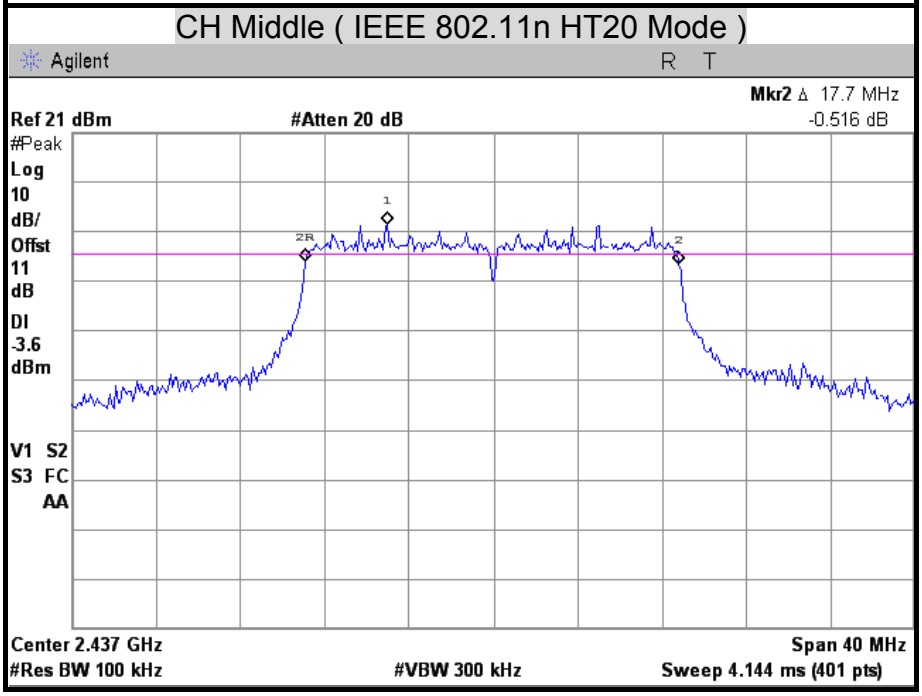

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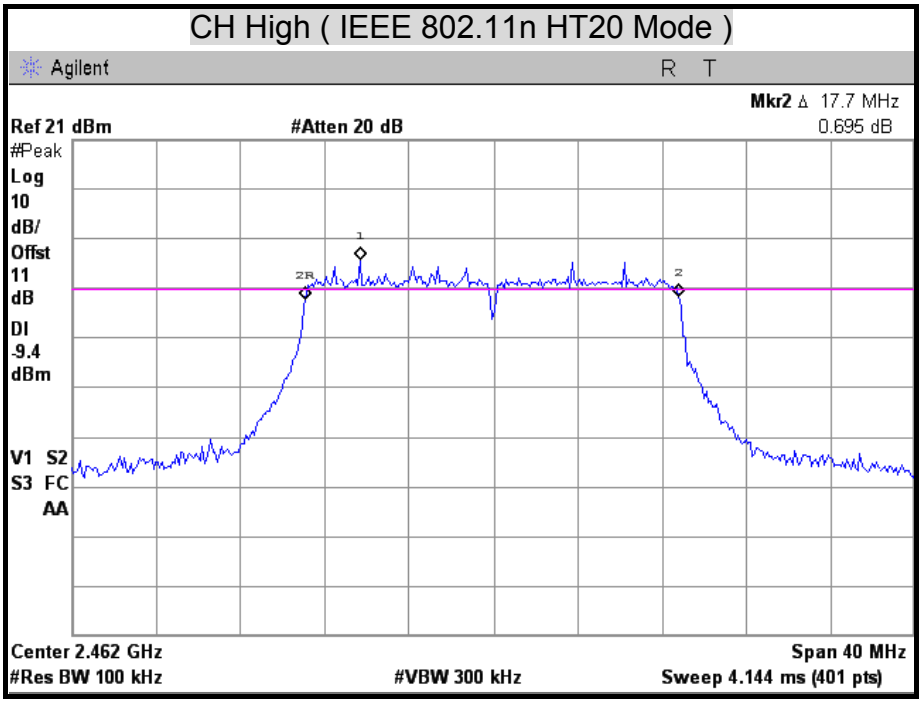

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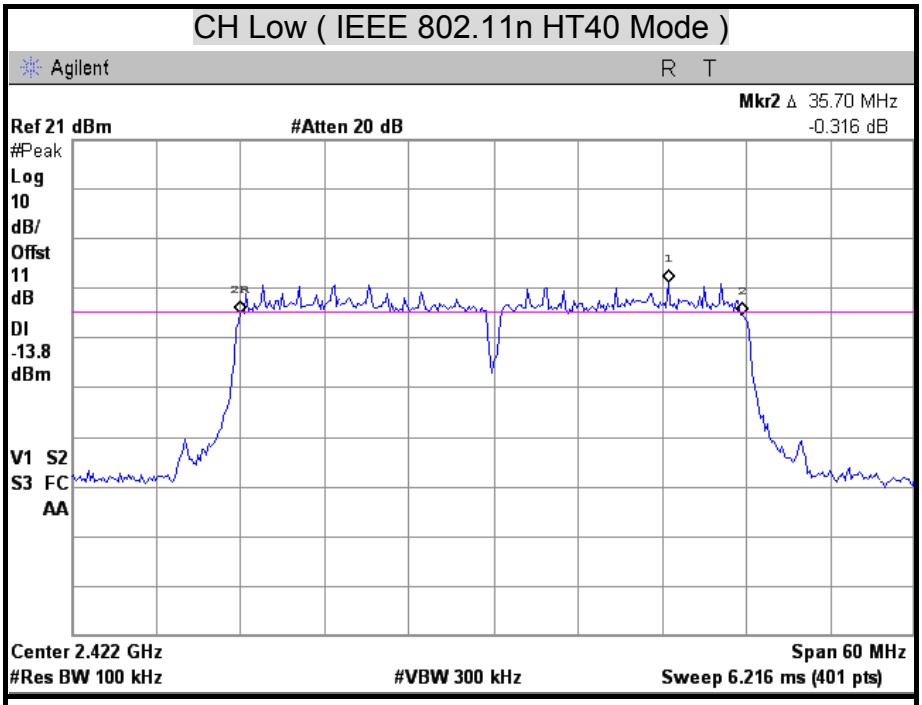
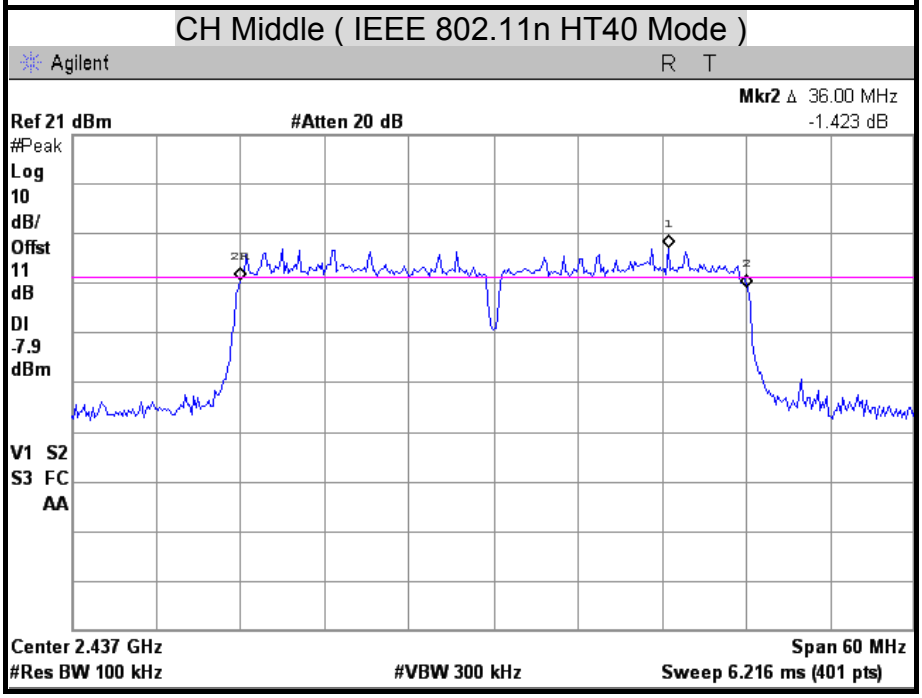
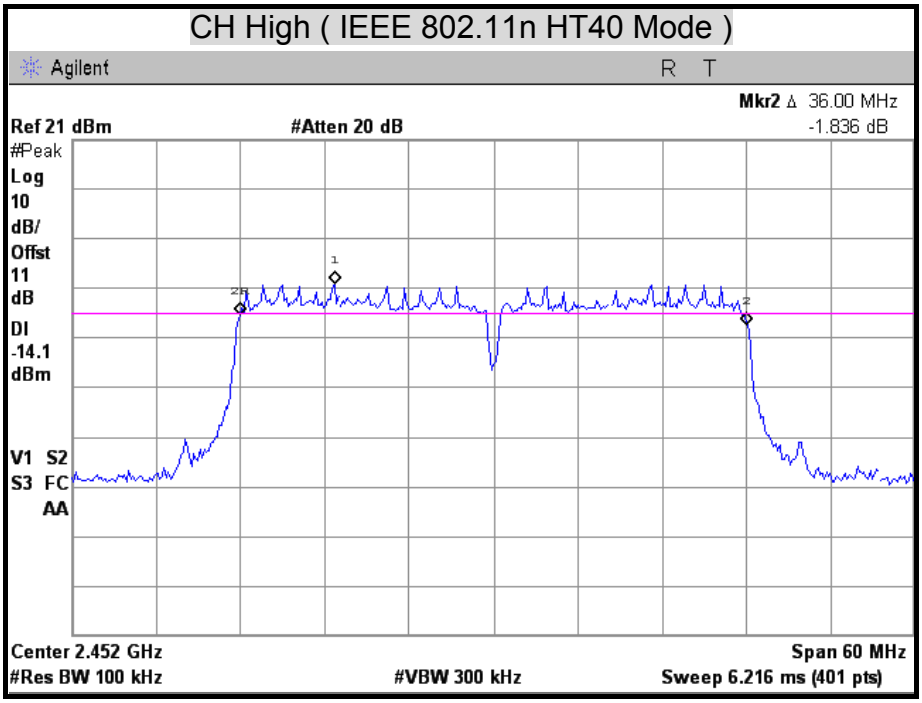


CH Middle (IEEE 802.11n HT40 Mode)



CH High (IEEE 802.11n HT40 Mode)



7.2 MAXIMUM PEAK OUTPUT POWER

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
Power Meter	ANRITSU	ML2495A	1149001	12/06/2013
Power Sensor	ANRITSU	MA2411B	1126148	12/07/2013

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

TEST SETUP

TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the peak power detection.

TEST RESULTS

IEEE 802.11b Mode

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2412	15.72	0.0373	30	1	PASS
Middle	2437	16.00	0.0398	30	1	PASS
High	2462	16.58	0.0455	30	1	PASS

Remark:

1. *At finial test to get the worst-case emission at 1Mbps.*
2. *The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the Power Meter to allow for direct reading of power.*

IEEE 802.11g Mode

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2412	18.76	0.0752	30	1	PASS
Middle	2437	21.16	0.1306	30	1	PASS
High	2462	16.88	0.0488	30	1	PASS

Remark:

1. *At finial test to get the worst-case emission at 6Mbps.*
2. *The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the Power Meter to allow for direct reading of power.*

IEEE 802.11n HT20 mode

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2412	15.45	0.0351	30	1	PASS
Middle	2437	21.10	0.1288	30	1	PASS
High	2462	16.08	0.0406	30	1	PASS

Remark:

1. At finial test to get the worst-case emission at 6.5Mbps.

2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the Power Meter to allow for direct reading of power.

IEEE 802.11n HT40 mode

Channel	Channel Frequency (MHz)	Peak Power		Peak Power Limit		Pass / Fail
		(dBm)	(W)	(dBm)	(W)	
Low	2422	14.65	0.0292	30	1	PASS
Middle	2437	19.76	0.0946	30	1	PASS
High	2452	14.27	0.0267	30	1	PASS

Remark:

1. At finial test to get the worst-case emission at 13.5Mbps.

2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the Power Meter to allow for direct reading of power.

7.3 POWER SPECTRAL DENSITY

LIMITS

§ 15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	AGILENT	E4407B	US41443108	09/12/2013

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

TEST SETUP

TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set analyzer center frequency to DTS channel center frequency.
3. Set the span to 1.5 times the DTS channel bandwidth.
4. Set the RBW ≥ 3 kHz.
5. Set the VBW ≥ 3 x RBW.
6. Detector = peak.
7. Sweep time = auto couple.
8. Trace mode = max hold.
9. Allow trace to fully stabilize.
10. Use the peak marker function to determine the maximum amplitude level.
11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST RESULTS

IEEE 802.11b Mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail
Low	2412	-9.81	8	PASS
Middle	2437	-8.95	8	PASS
High	2462	-9.55	8	PASS

Remark:

1. At finial test to get the worst-case emission at 1Mbps.
2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11g Mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail
Low	2412	-16.74	8	PASS
Middle	2437	-12.50	8	PASS
High	2462	-17.98	8	PASS

Remark:

1. At finial test to get the worst-case emission at 6Mbps.
2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11n HT20 mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail
Low	2412	-18.01	8	PASS
Middle	2437	-12.21	8	PASS
High	2462	-16.37	8	PASS

Remark:

1. At finial test to get the worst-case emission at 6.5Mbps.

2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

IEEE 802.11n HT40 mode

Channel	Channel Frequency (MHz)	Final RF Power Level in 3KHz BW (dBm)	Minimum Limit (dBm)	Pass / Fail
Low	2422	-21.06	8	PASS
Middle	2437	-16.96	8	PASS
High	2452	-22.35	8	PASS

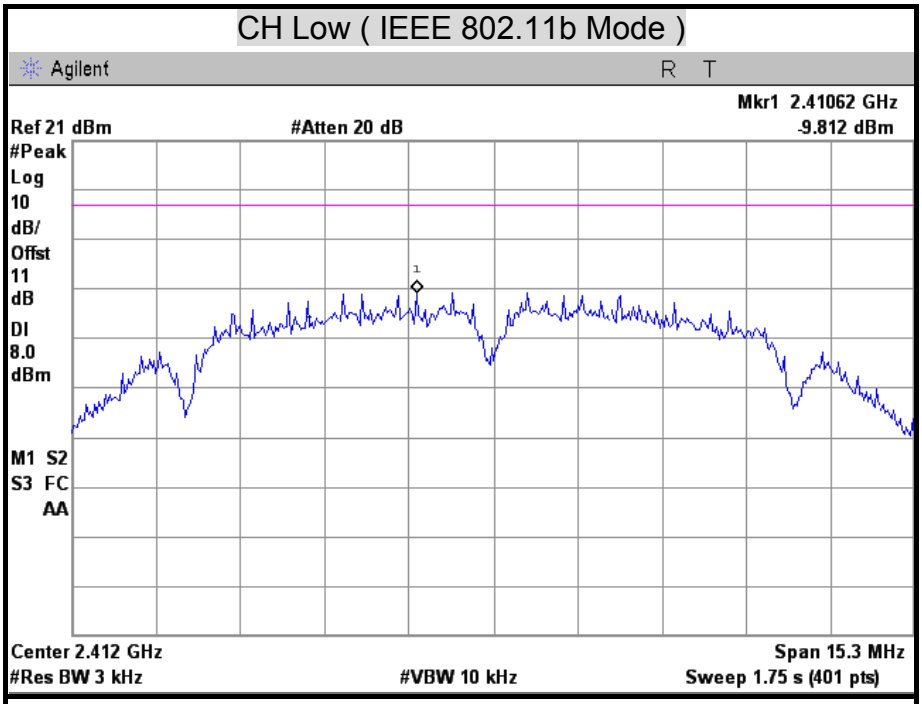
Remark:

1. At finial test to get the worst-case emission at 13.5Mbps.

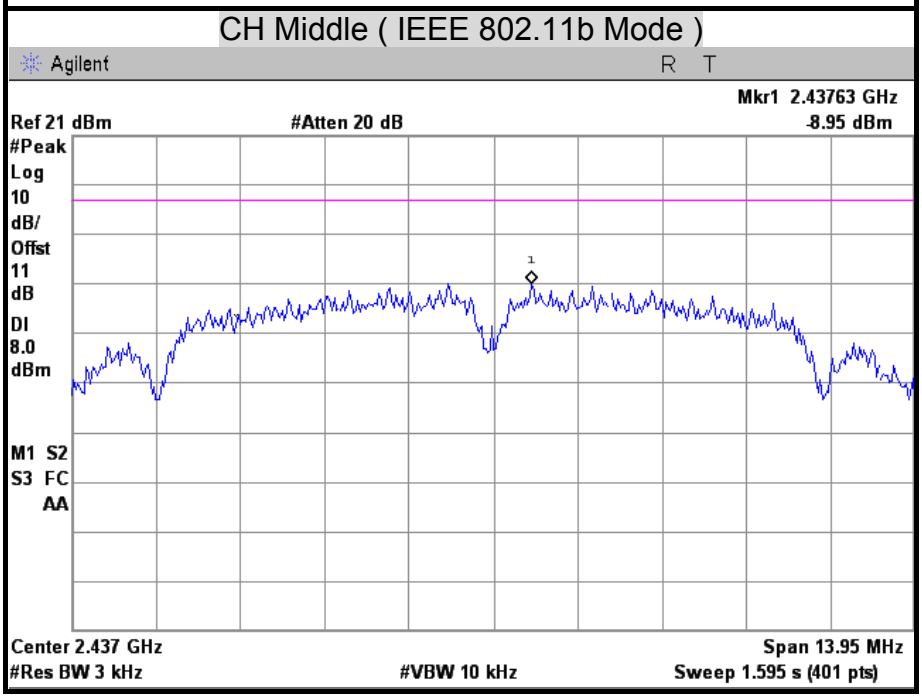
2. The cable assembly insertion loss of 11dB (including 10 dB pad and 1 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.

POWER SPECTRAL DENSITY

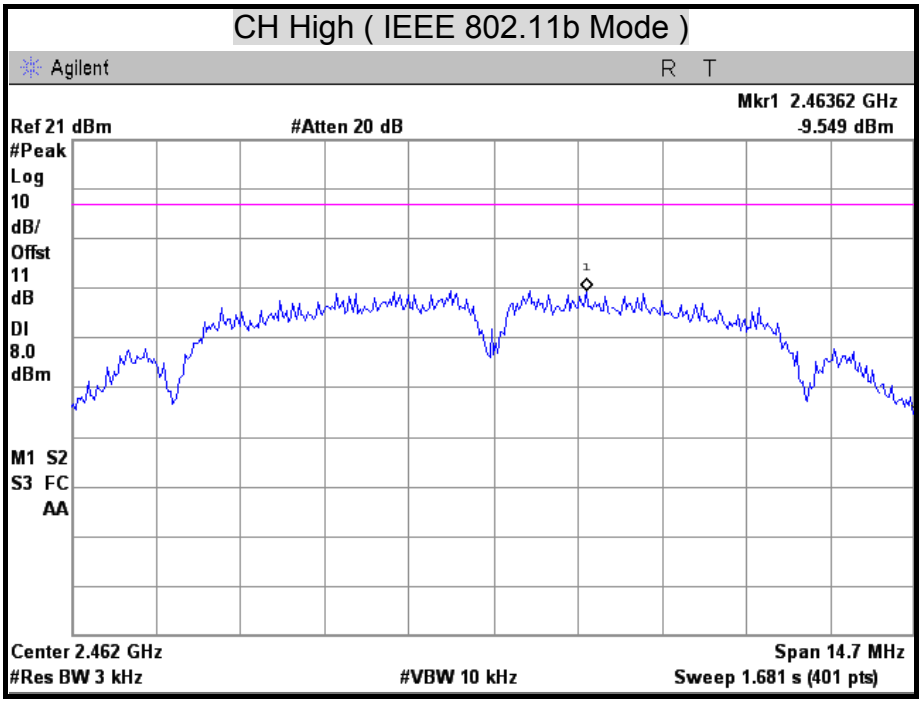
CH Low (IEEE 802.11b Mode)



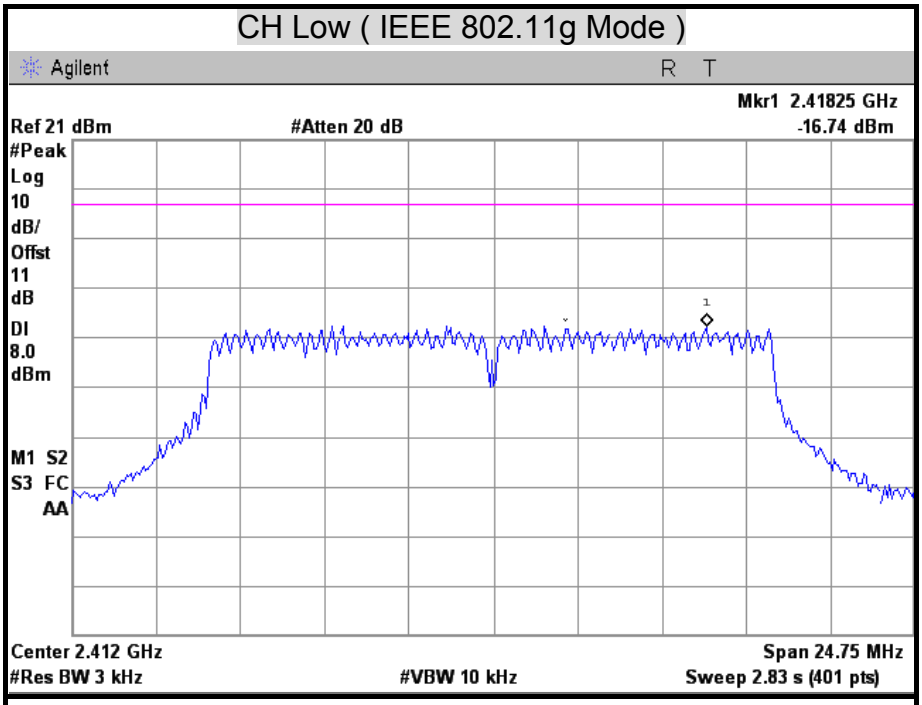
CH Middle (IEEE 802.11b Mode)



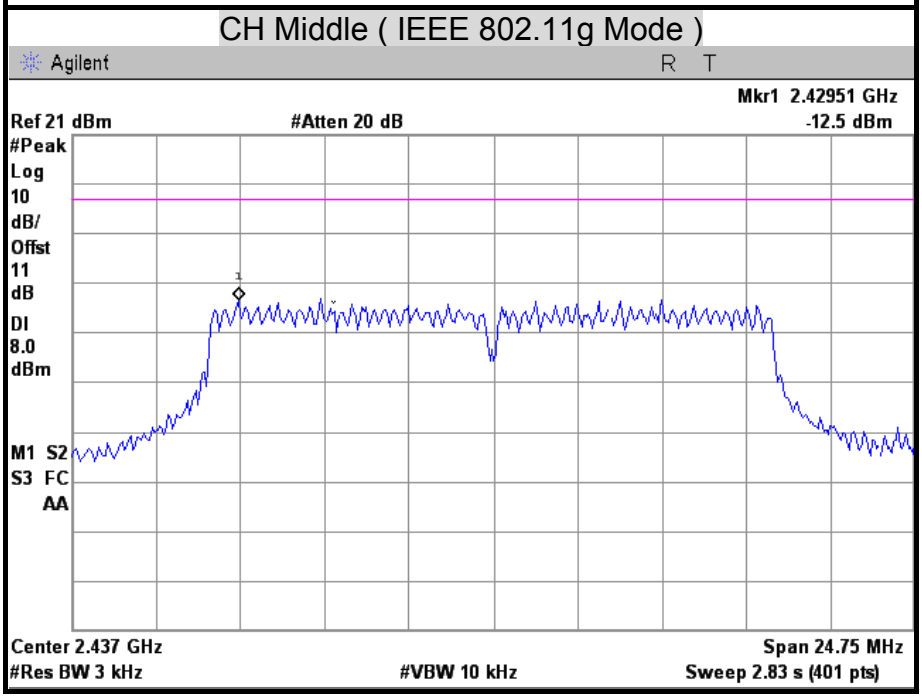
CH High (IEEE 802.11b Mode)



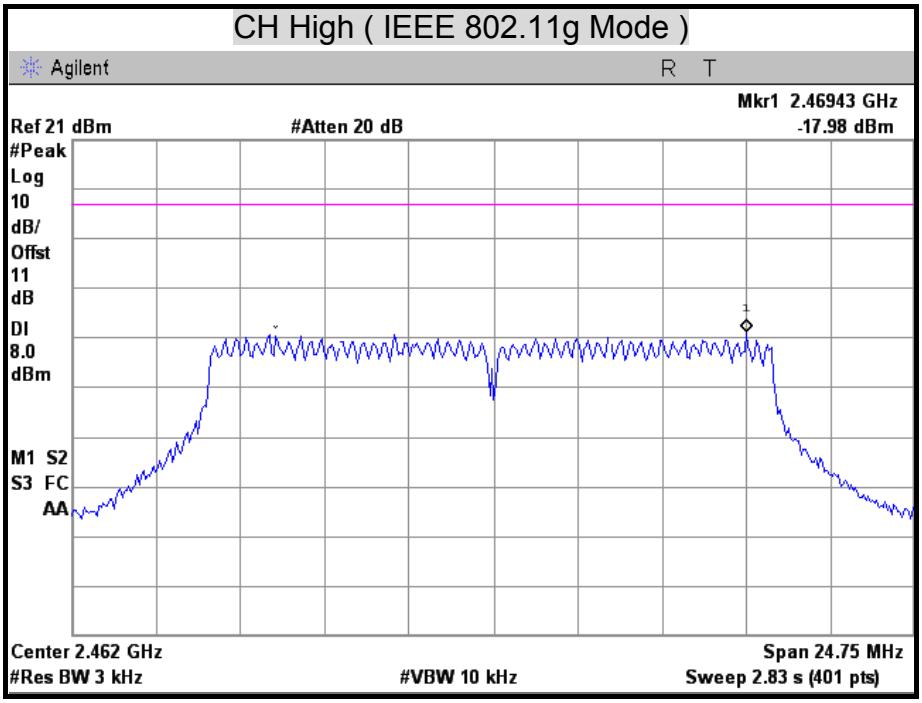
CH Low (IEEE 802.11g Mode)



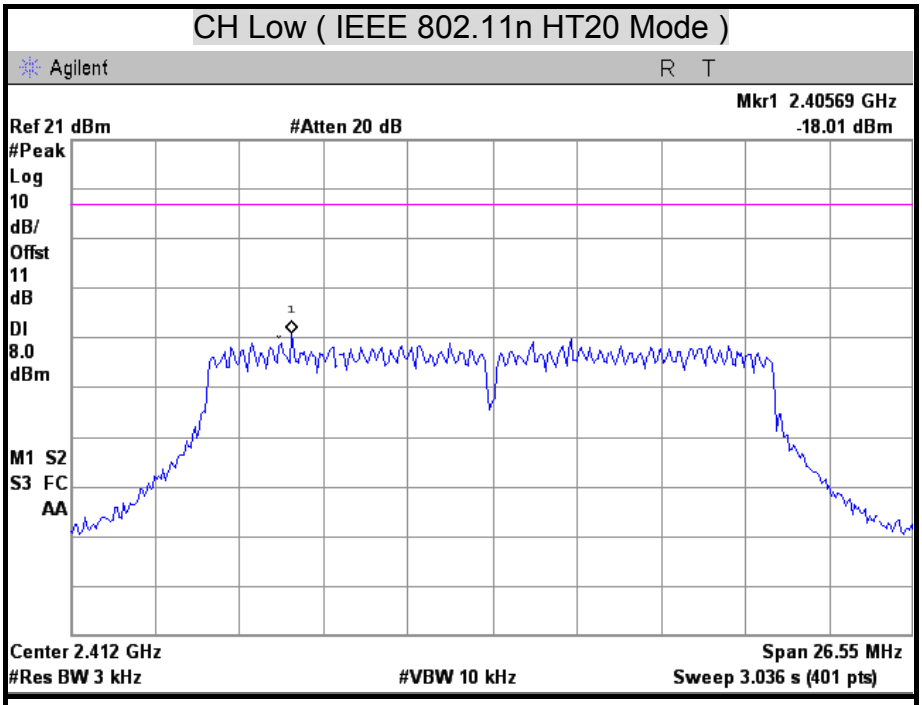
CH Middle (IEEE 802.11g Mode)



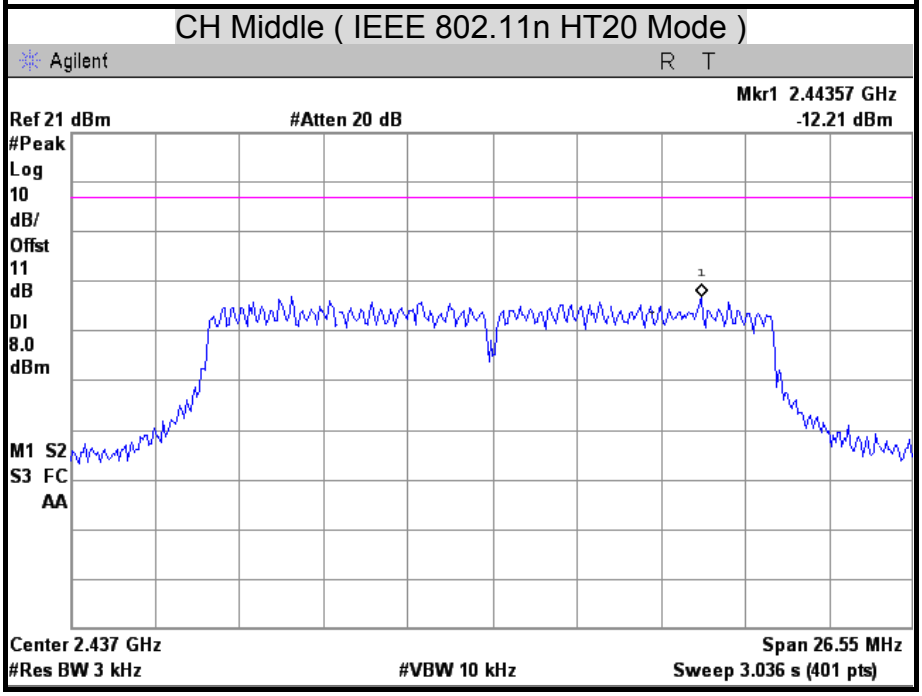
CH High (IEEE 802.11g Mode)



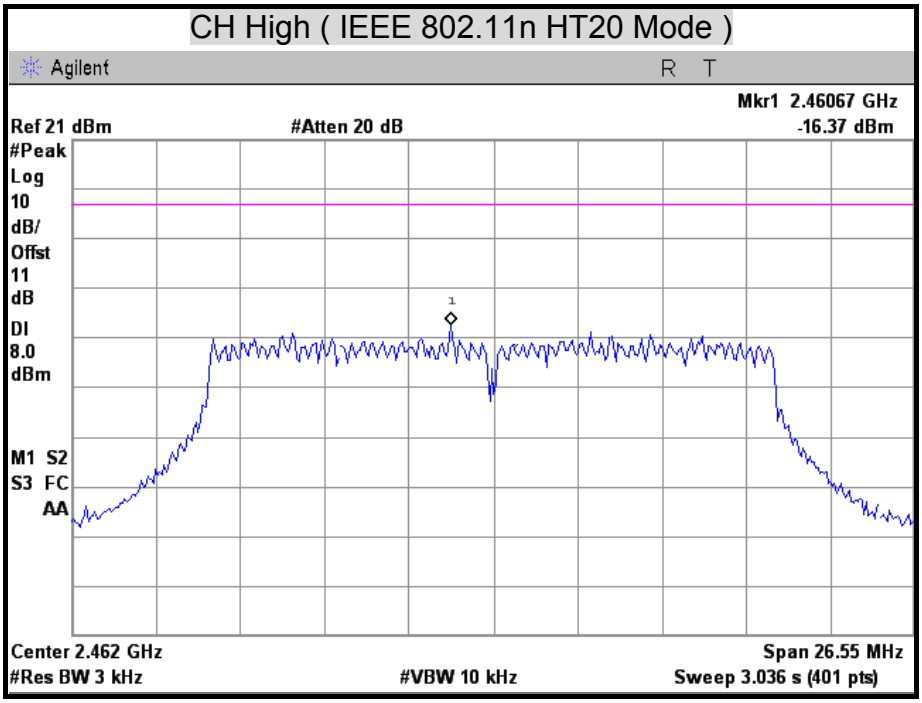
CH Low (IEEE 802.11n HT20 Mode)



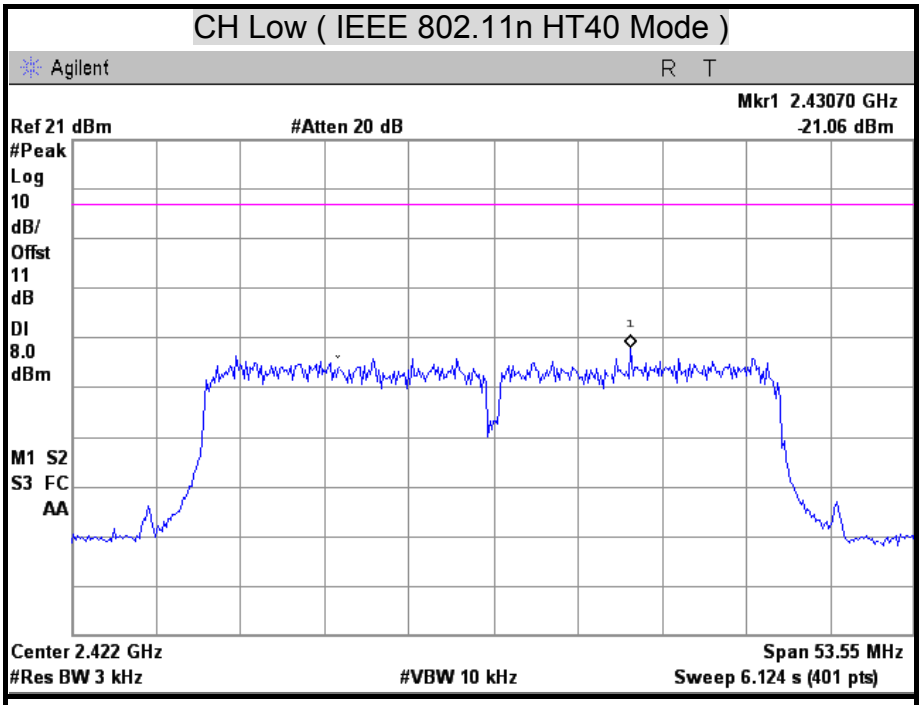
CH Middle (IEEE 802.11n HT20 Mode)



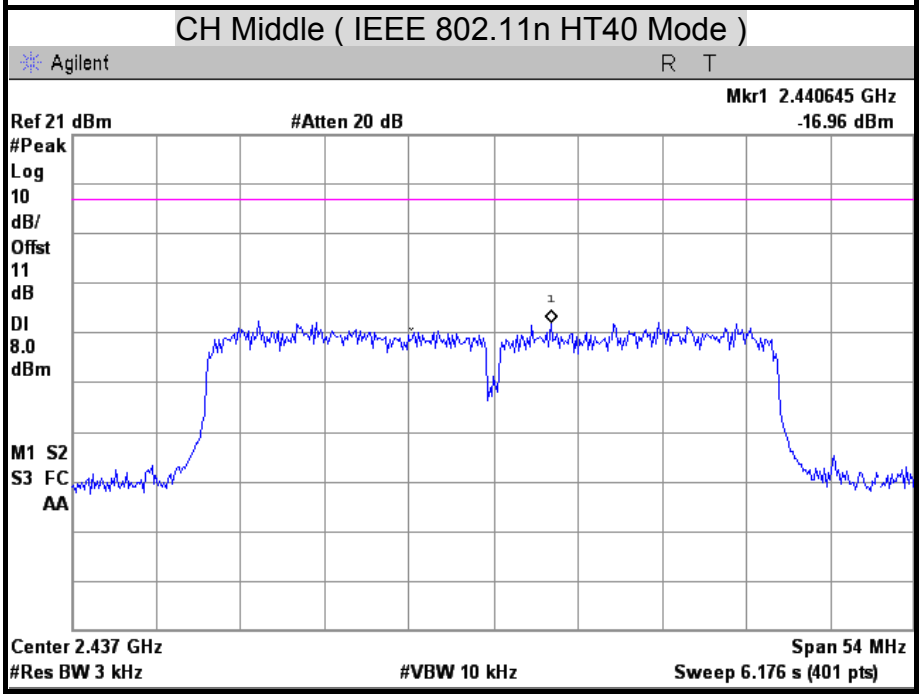
CH High (IEEE 802.11n HT20 Mode)



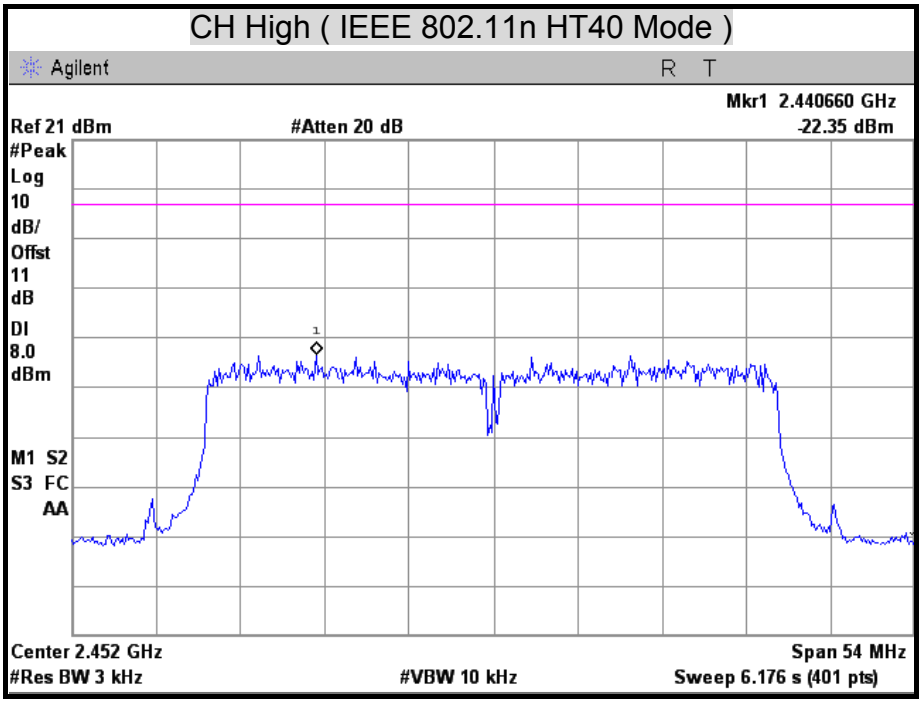
CH Low (IEEE 802.11n HT40 Mode)



CH Middle (IEEE 802.11n HT40 Mode)



CH High (IEEE 802.11n HT40 Mode)



7.4 CONDUCTED SPURIOUS EMISSION

LIMITS

§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	AGILENT	E4446A	MY43360132	06/14/2013

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

TEST SETUP

TEST PROCEDURE

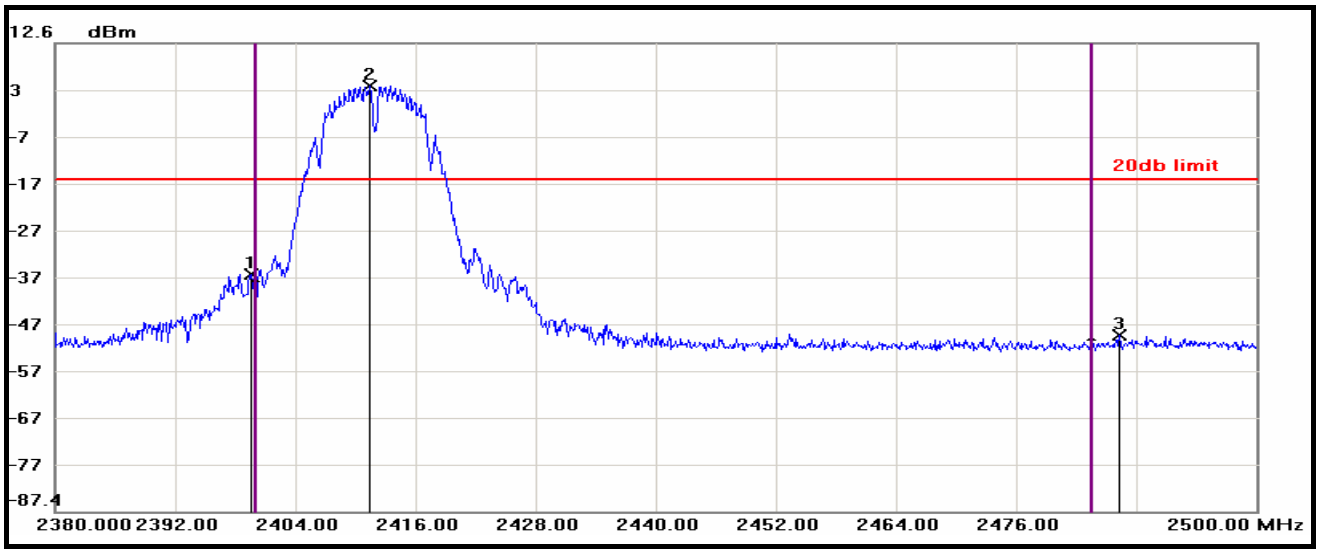
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 25 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

TEST RESULTS

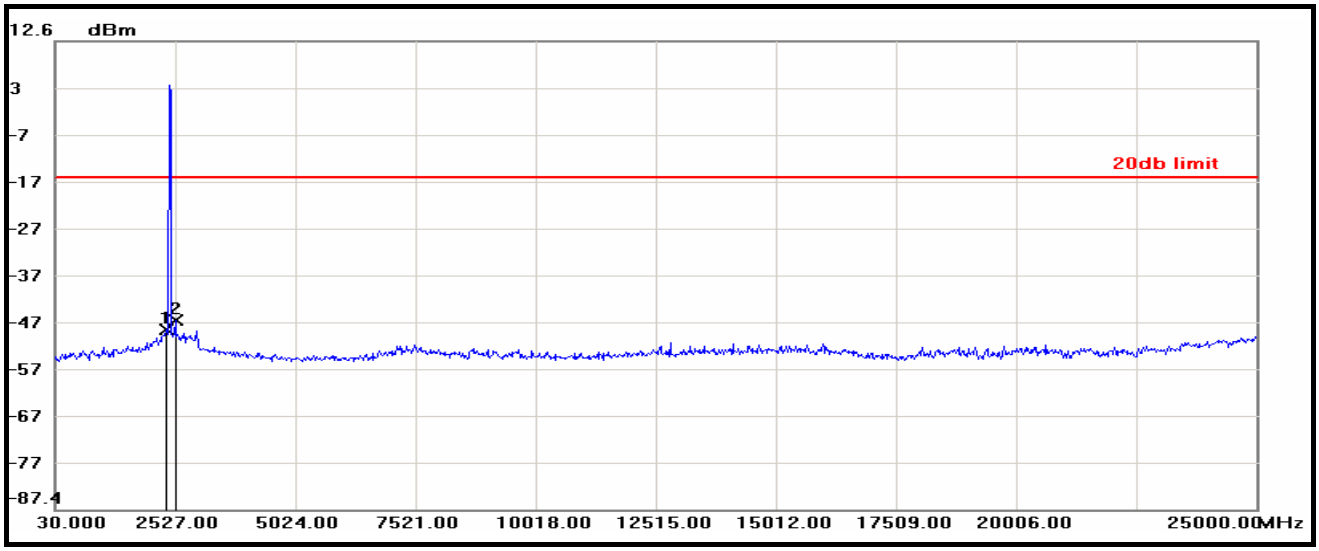
OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

IEEE 802.11b Mode / CH Low / 2.38GHz ~ 2.5GHz



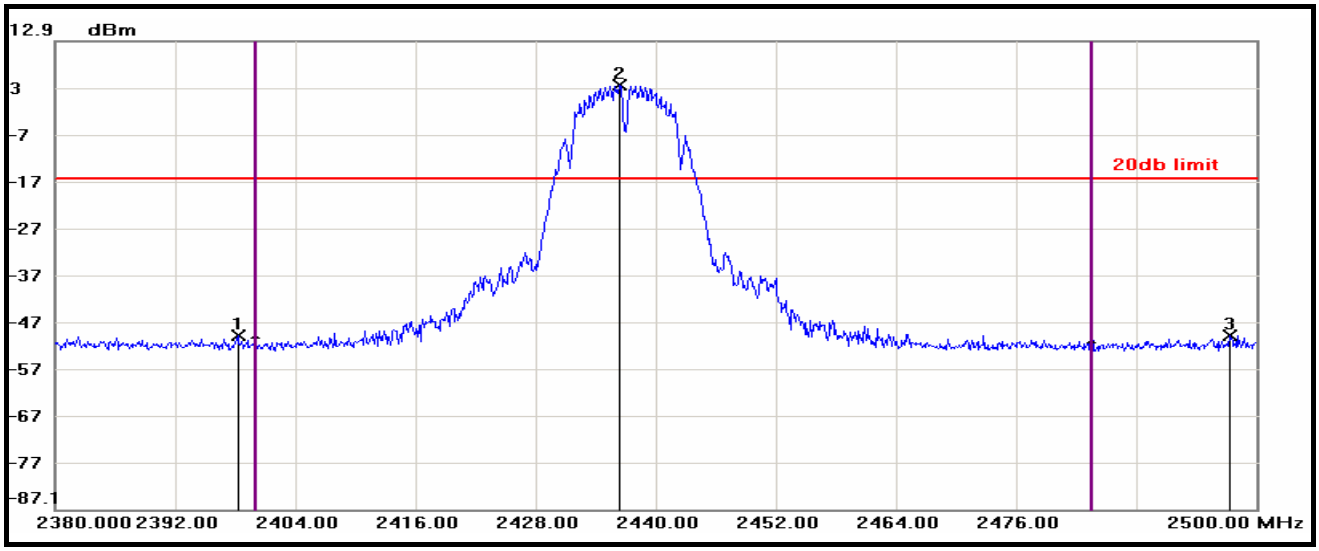
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.5600	-36.72	-16.45	-20.27
2	2411.4400	3.55	-16.45	20.00
3	2486.3200	-49.82	-16.45	-33.37

IEEE 802.11b Mode / CH Low / 30MHz ~ 25GHz



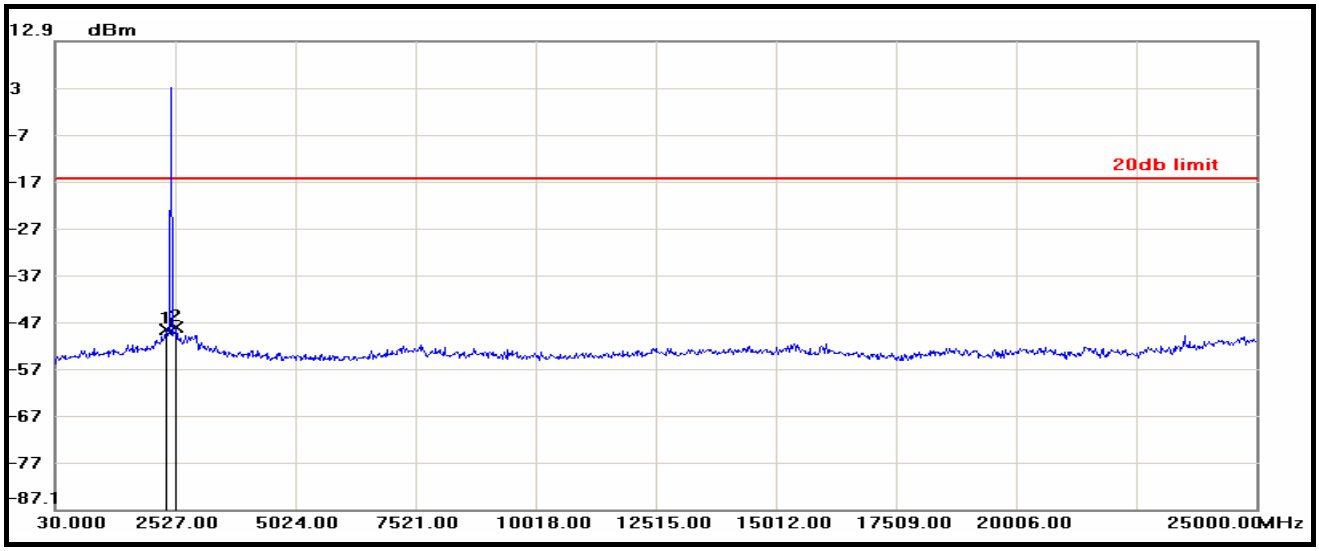
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2327.2400	-49.03	-16.45	-32.58
2	2527.0000	-46.97	-16.45	-30.52

IEEE 802.11b Mode / CH Middle / 2.38GHz ~ 2.5GHz



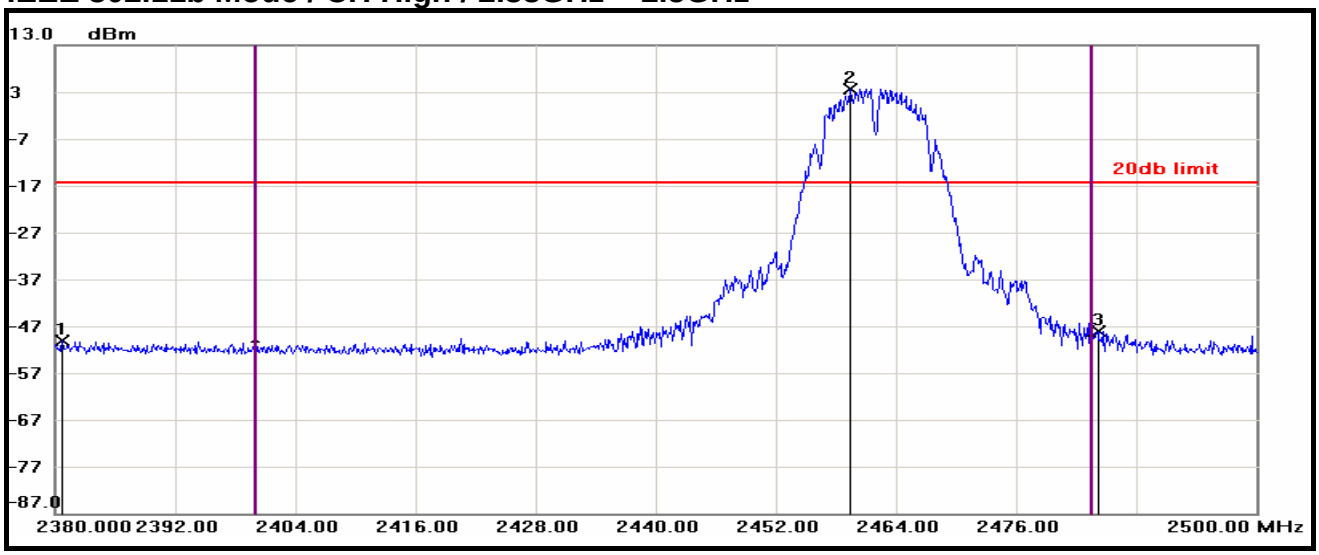
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2398.2400	-50.05	-16.40	-33.65
2	2436.4000	3.60	-16.40	20.00
3	2497.3600	-49.99	-16.40	-33.59

IEEE 802.11b Mode / CH Middle / 30MHz ~ 25GHz



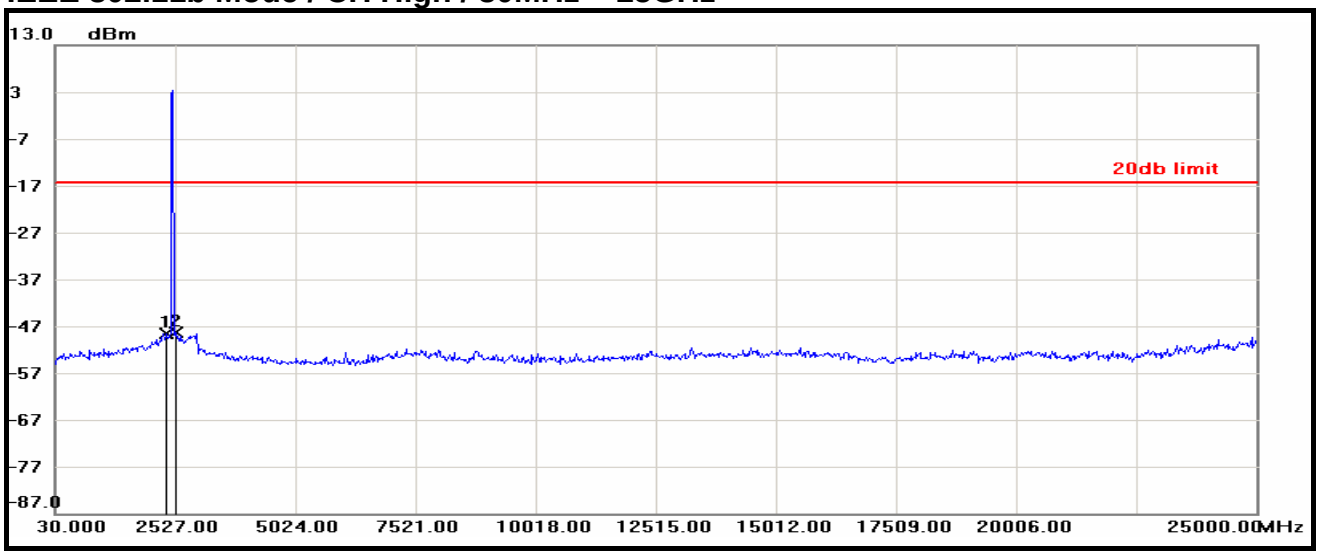
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2352.2100	-48.77	-16.40	-32.37
2	2551.9700	-48.17	-16.40	-31.77

IEEE 802.11b Mode / CH High / 2.38GHz ~ 2.5GHz



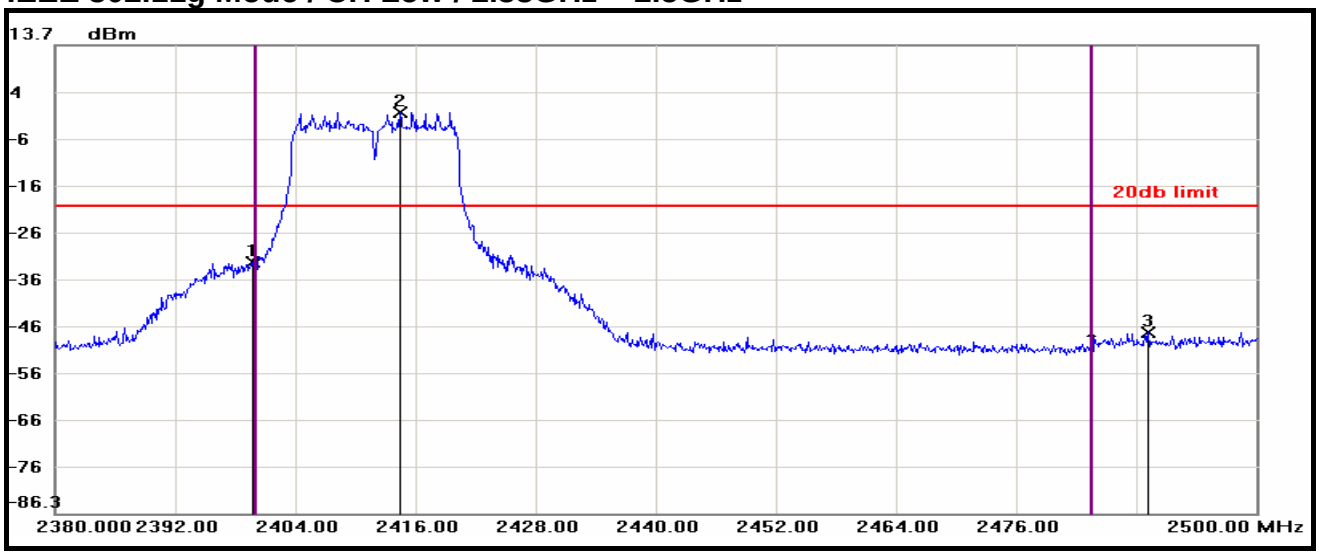
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2380.7200	-50.23	-16.29	-33.94
2	2459.4400	3.71	-16.29	20.00
3	2484.1600	-48.09	-16.29	-31.80

IEEE 802.11b Mode / CH High / 30MHz ~ 25GHz



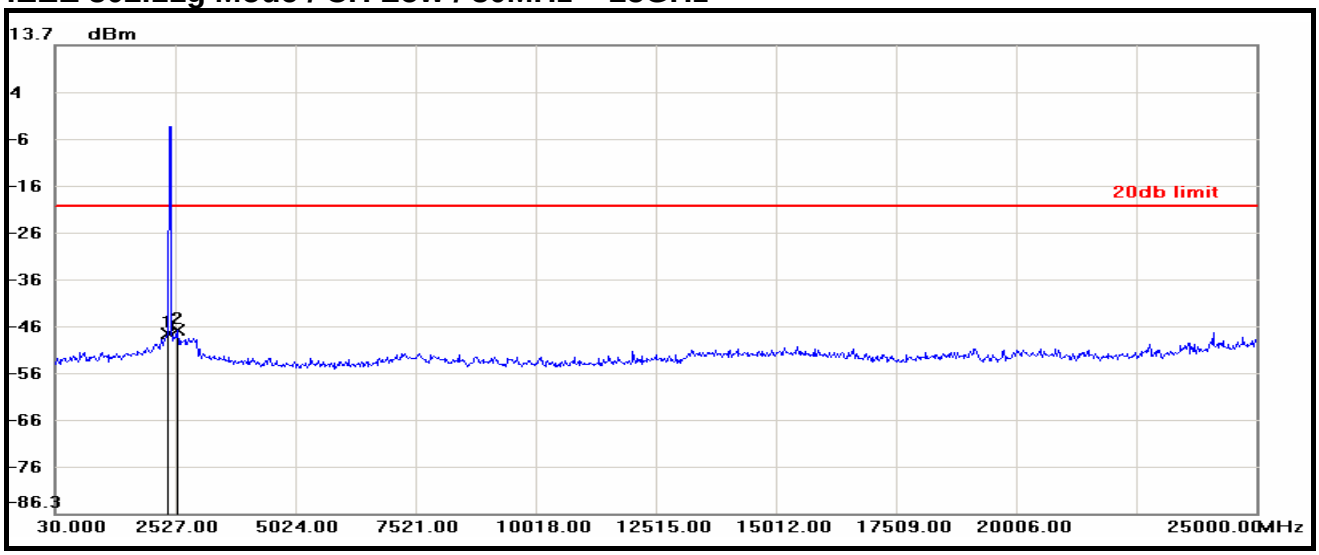
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2352.2100	-48.73	-16.29	-32.44
2	2527.0000	-48.44	-16.29	-32.15

IEEE 802.11g Mode / CH Low / 2.38GHz ~ 2.5GHz



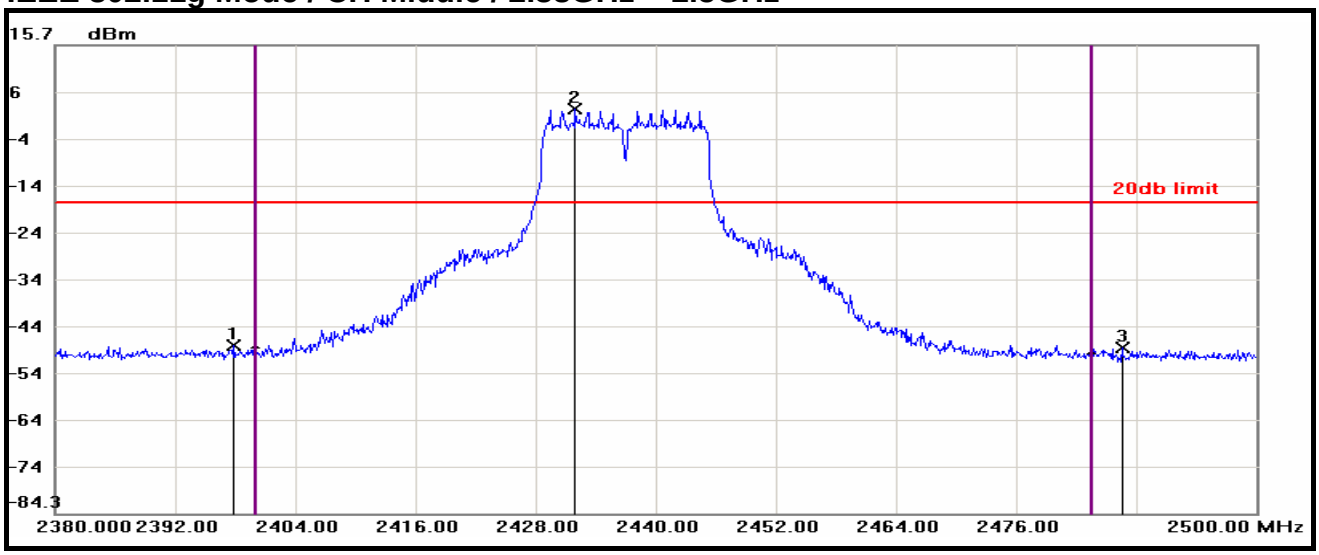
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.6800	-32.69	-20.66	-12.03
2	2414.4400	-0.66	-20.66	20.00
3	2489.2000	-47.74	-20.66	-27.08

IEEE 802.11g Mode / CH Low / 30MHz ~ 25GHz



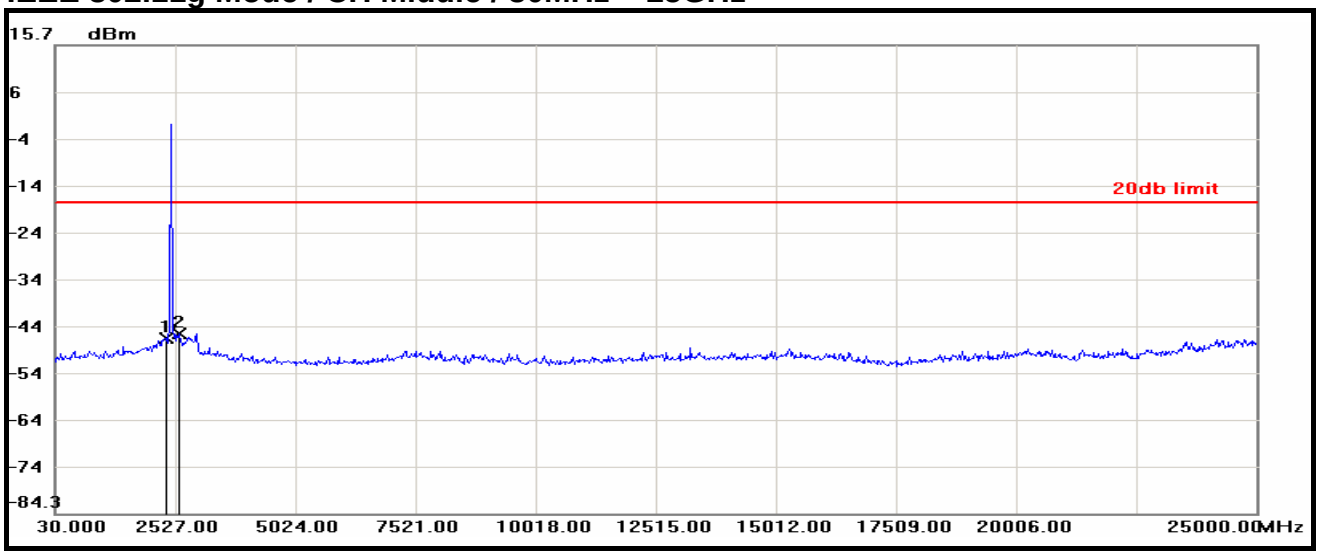
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-48.05	-20.66	-27.39
2	2576.9400	-47.21	-20.66	-26.55

IEEE 802.11g Mode / CH Middle / 2.38GHz ~ 2.5GHz



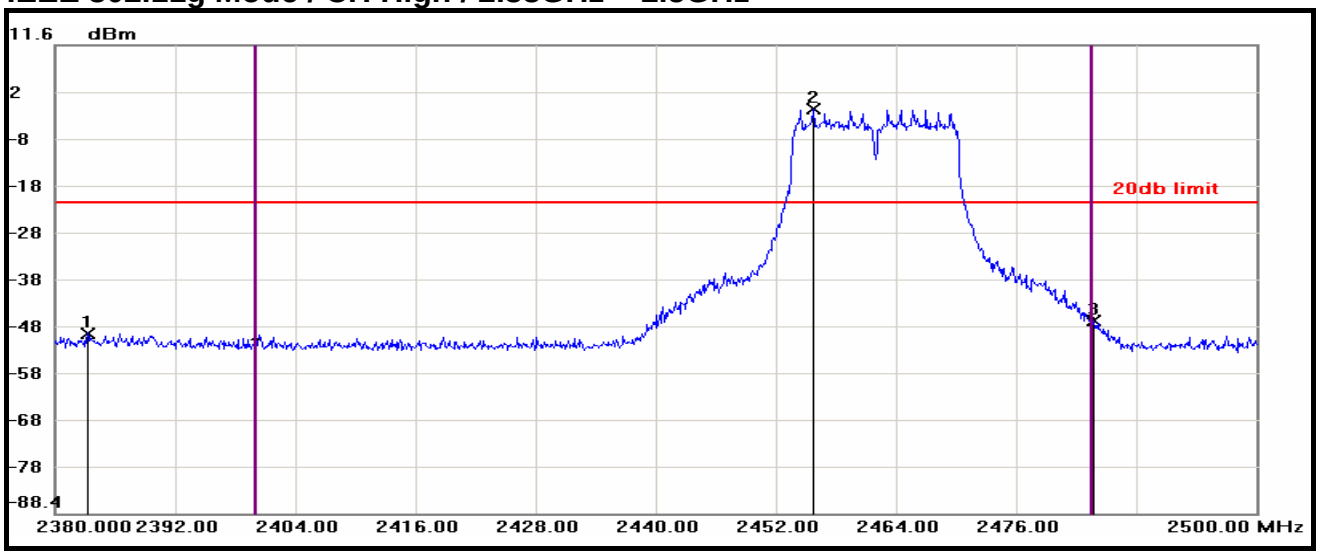
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2397.8800	-48.46	-17.96	-30.50
2	2431.9600	2.04	-17.96	20.00
3	2486.5600	-48.89	-17.96	-30.93

IEEE 802.11g Mode / CH Middle / 30MHz ~ 25GHz



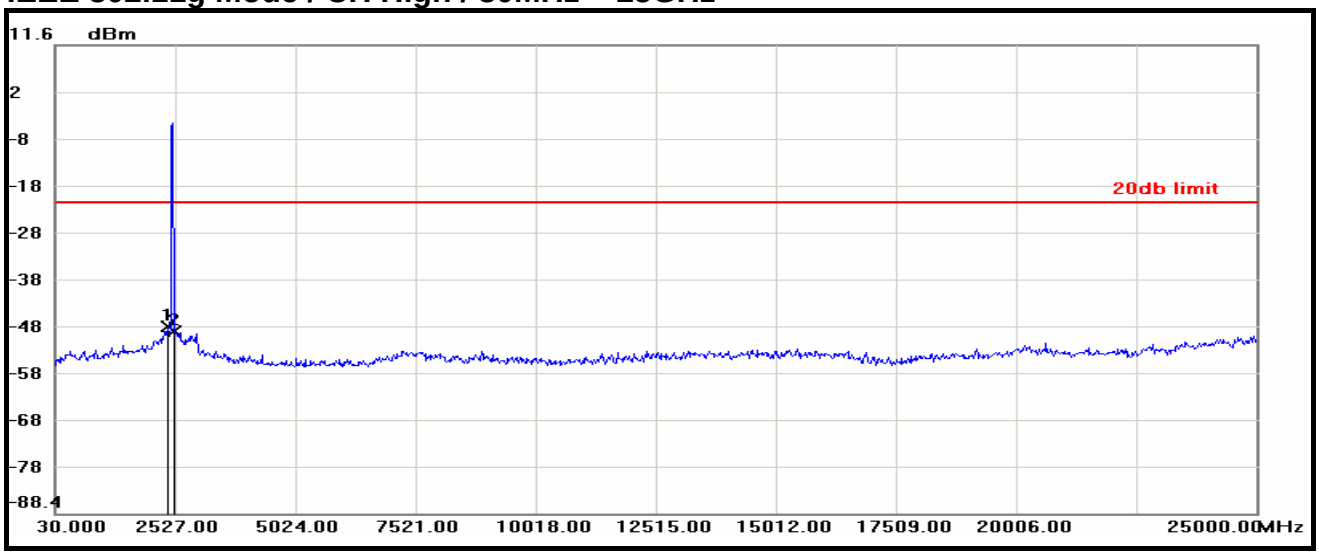
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2327.2400	-46.85	-17.96	-28.89
2	2601.9100	-45.83	-17.96	-27.87

IEEE 802.11g Mode / CH High / 2.38GHz ~ 2.5GHz



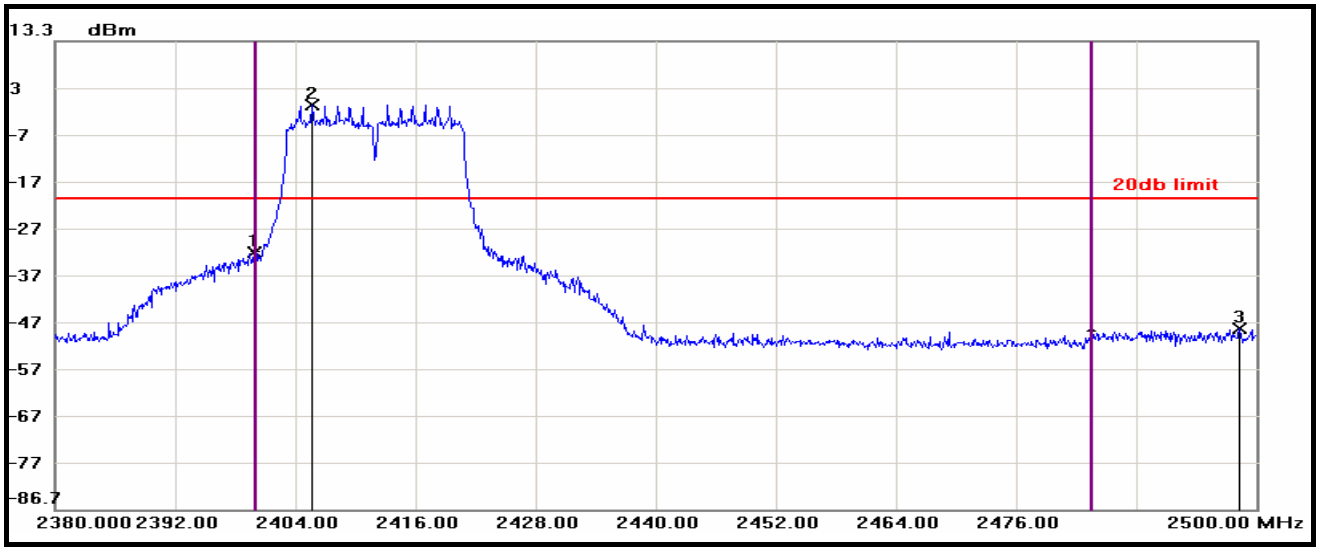
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2383.2400	-49.89	-22.10	-27.79
2	2455.7200	-2.10	-22.10	20.00
3	2483.8000	-47.33	-22.10	-25.23

IEEE 802.11g Mode / CH High / 30MHz ~ 25GHz



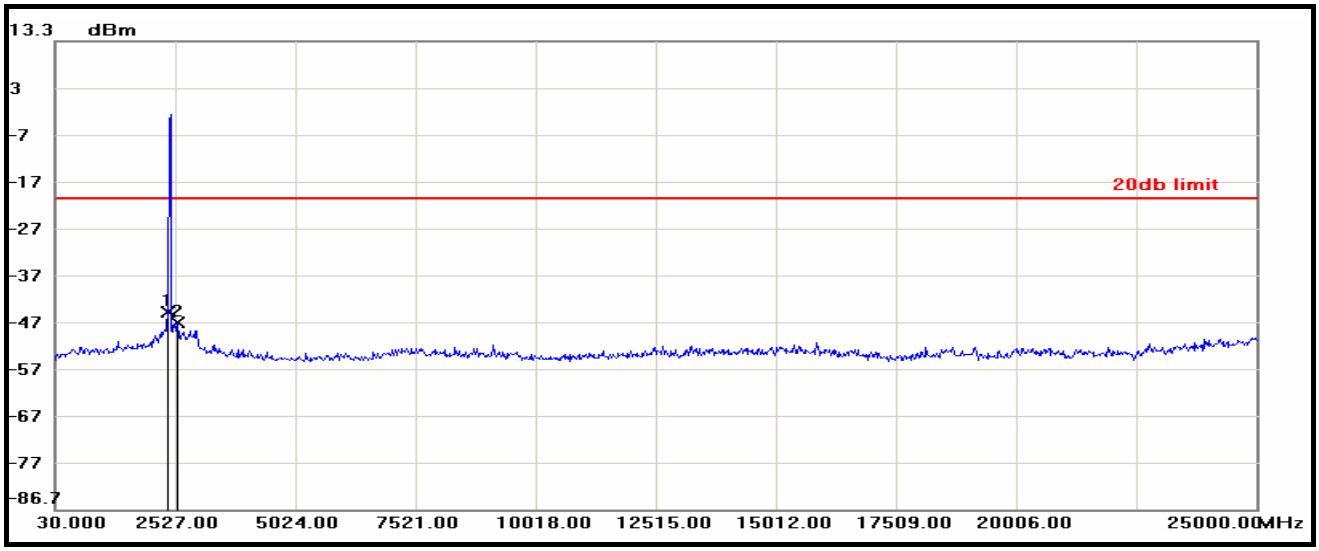
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-48.47	-22.10	-26.37
2	2502.0300	-49.52	-22.10	-27.42

IEEE 802.11n HT20 Mode / CH Low / 2.38GHz ~ 2.5GHz



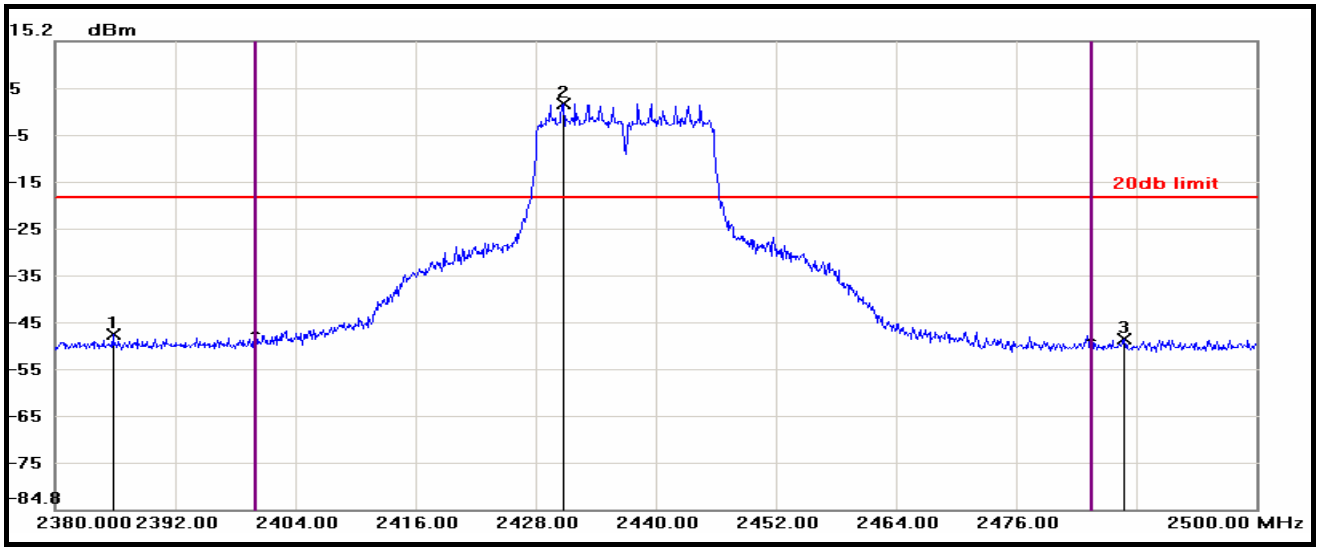
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.9200	-31.93	-20.20	-11.73
2	2405.6800	-0.20	-20.20	20.00
3	2498.3200	-48.10	-20.20	-27.90

IEEE 802.11n HT20 Mode / CH Low / 30MHz ~ 25GHz



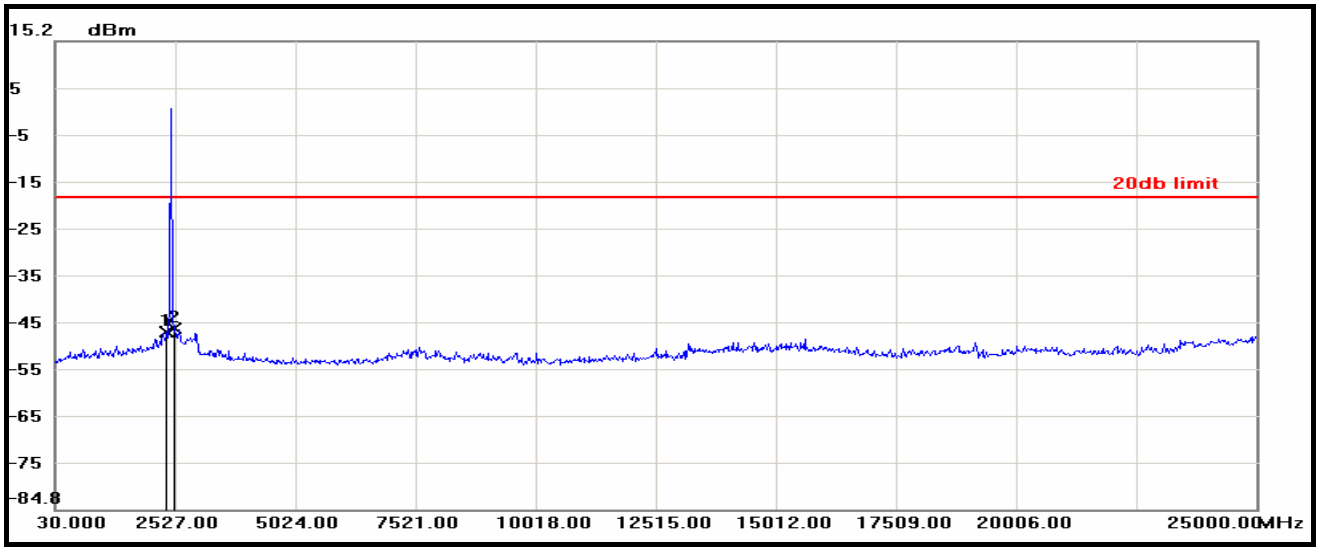
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-44.63	-20.20	-24.43
2	2576.9400	-46.71	-20.20	-26.51

IEEE 802.11n HT20 Mode / CH Middle / 2.38GHz ~ 2.5GHz



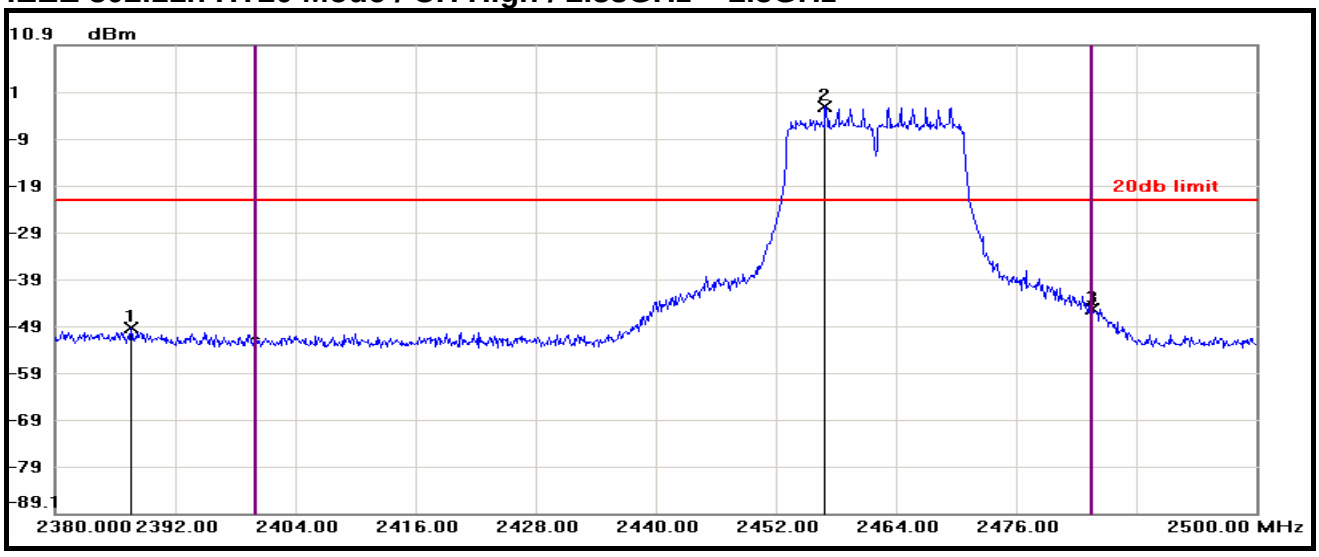
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2385.7600	-47.43	-18.13	-29.30
2	2430.7600	1.87	-18.13	20.00
3	2486.8000	-48.39	-18.13	-30.26

IEEE 802.11n HT20 Mode / CH Middle / 30MHz ~ 25GHz



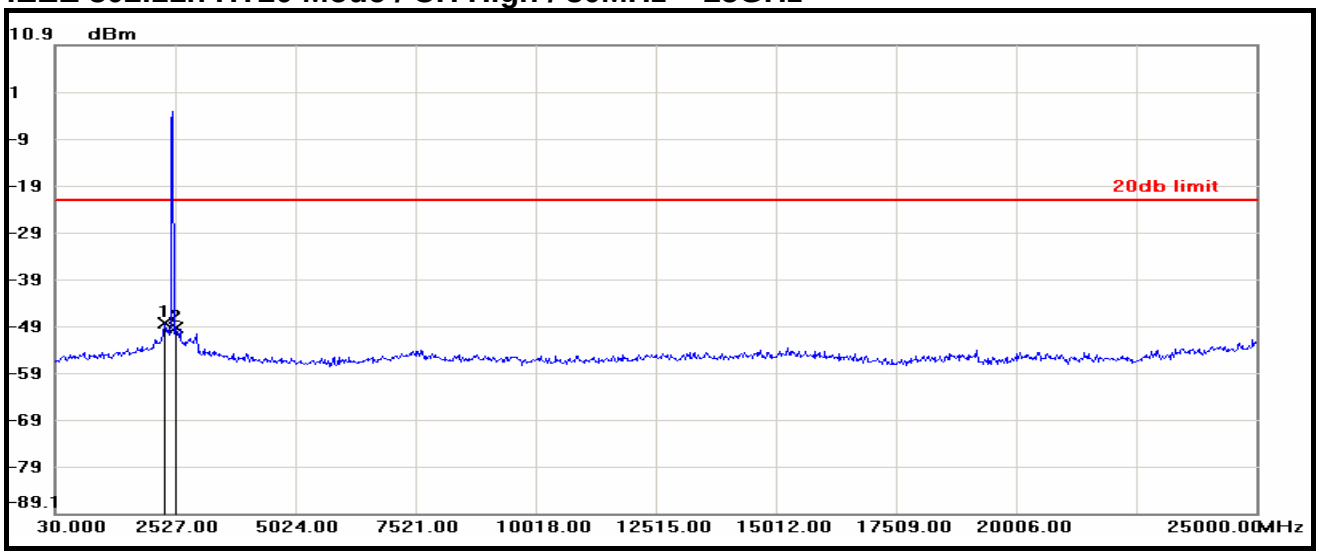
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2352.2100	-46.95	-18.13	-28.82
2	2502.0300	-46.19	-18.13	-28.06

IEEE 802.11n HT20 Mode / CH High / 2.38GHz ~ 2.5GHz



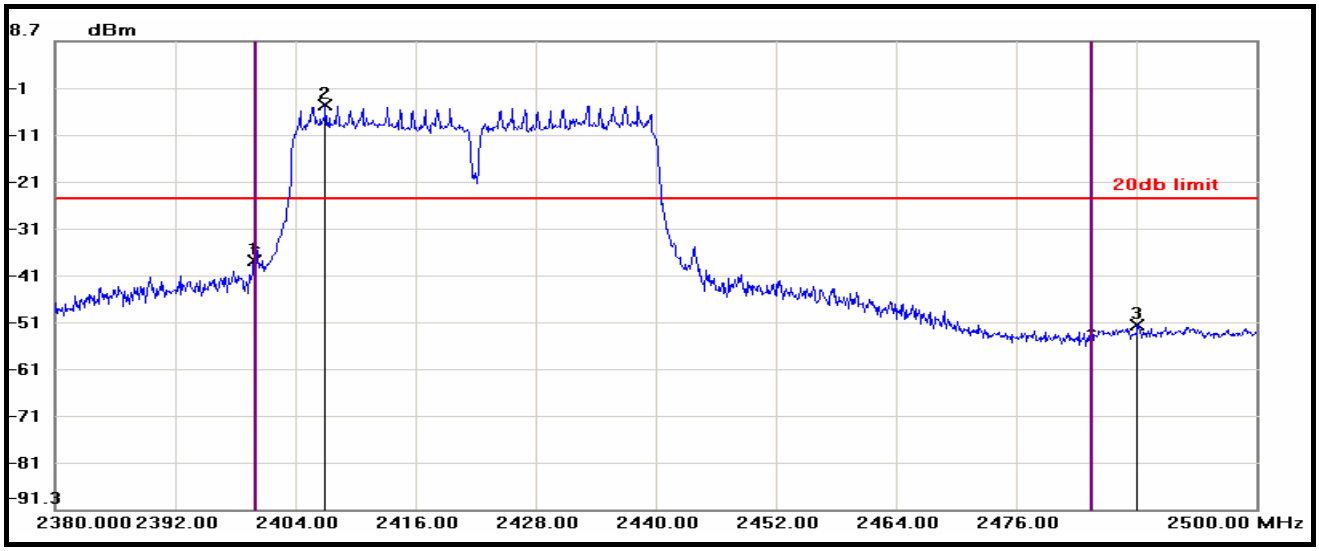
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2387.5600	-49.39	-22.29	-27.10
2	2456.9200	-2.29	-22.29	20.00
3	2483.5600	-45.42	-22.29	-23.13

IEEE 802.11n HT20 Mode / CH High / 30MHz ~ 25GHz



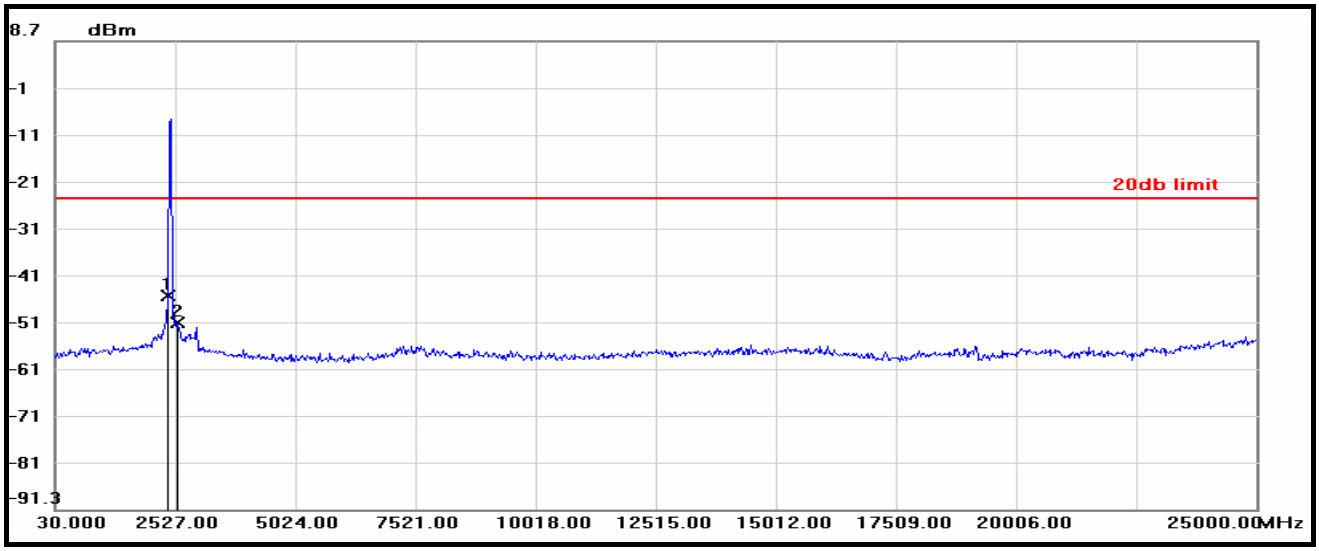
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2302.2700	-48.45	-22.29	-26.16
2	2551.9700	-49.43	-22.29	-27.14

IEEE 802.11n HT40 Mode / CH Low / 2.38GHz ~ 2.5GHz



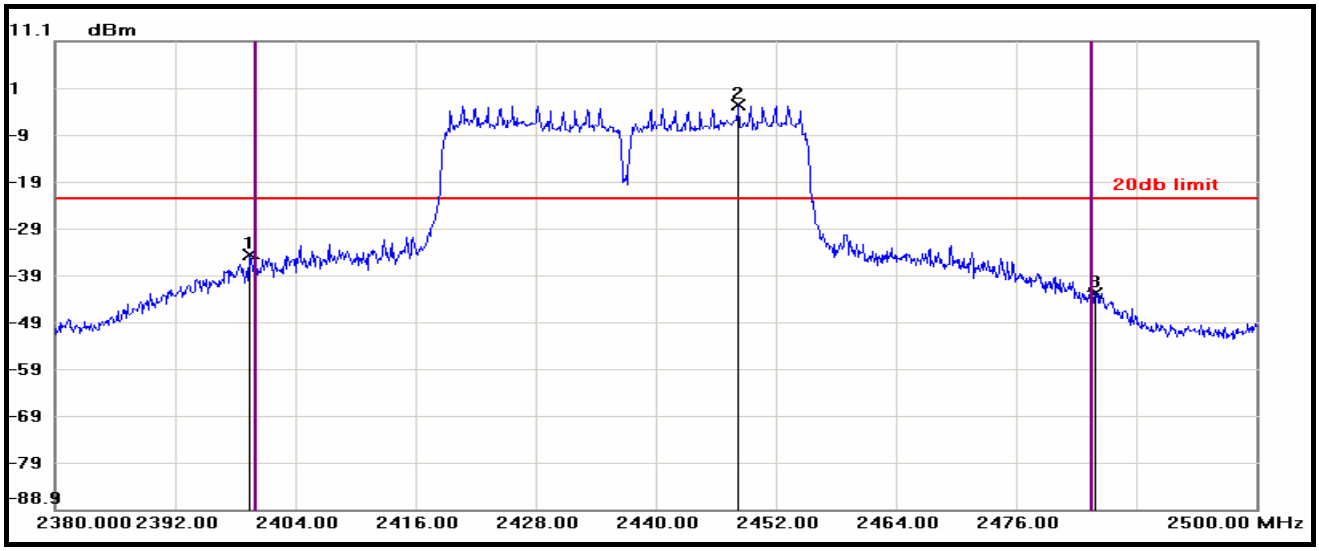
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.9200	-38.16	-24.88	-13.28
2	2407.0000	-4.88	-24.88	20.00
3	2488.1200	-51.88	-24.88	-27.00

IEEE 802.11n HT40 Mode / CH Low / 30MHz ~ 25GHz



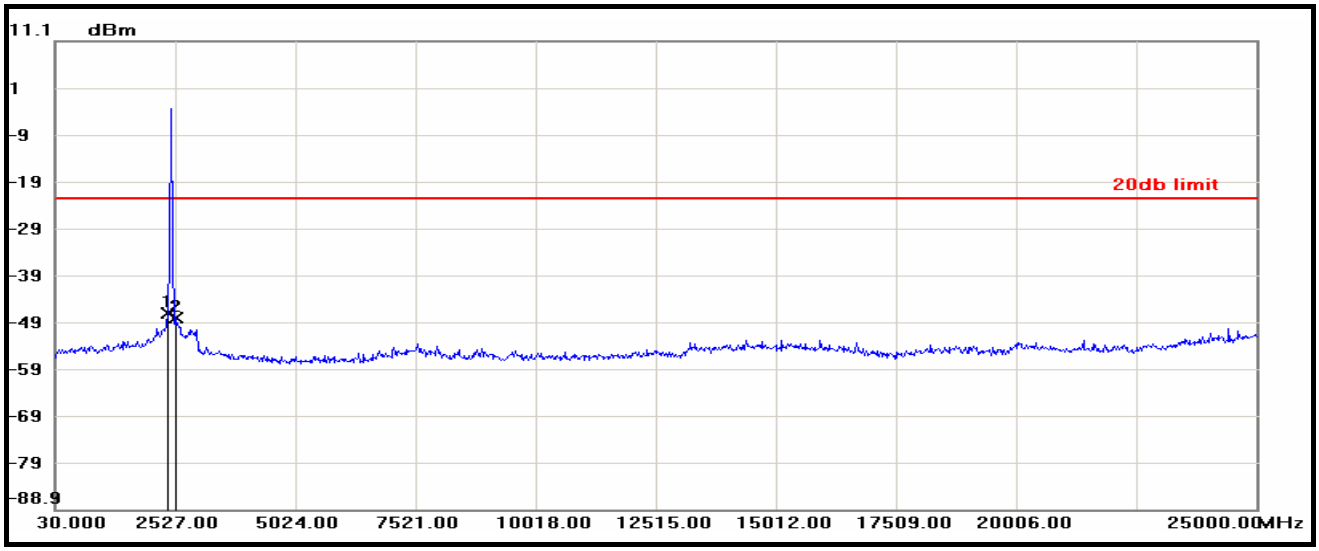
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-45.79	-24.88	-20.91
2	2576.9400	-51.42	-24.88	-26.54

IEEE 802.11n HT40 Mode / CH Middle / 2.38GHz ~ 2.5GHz



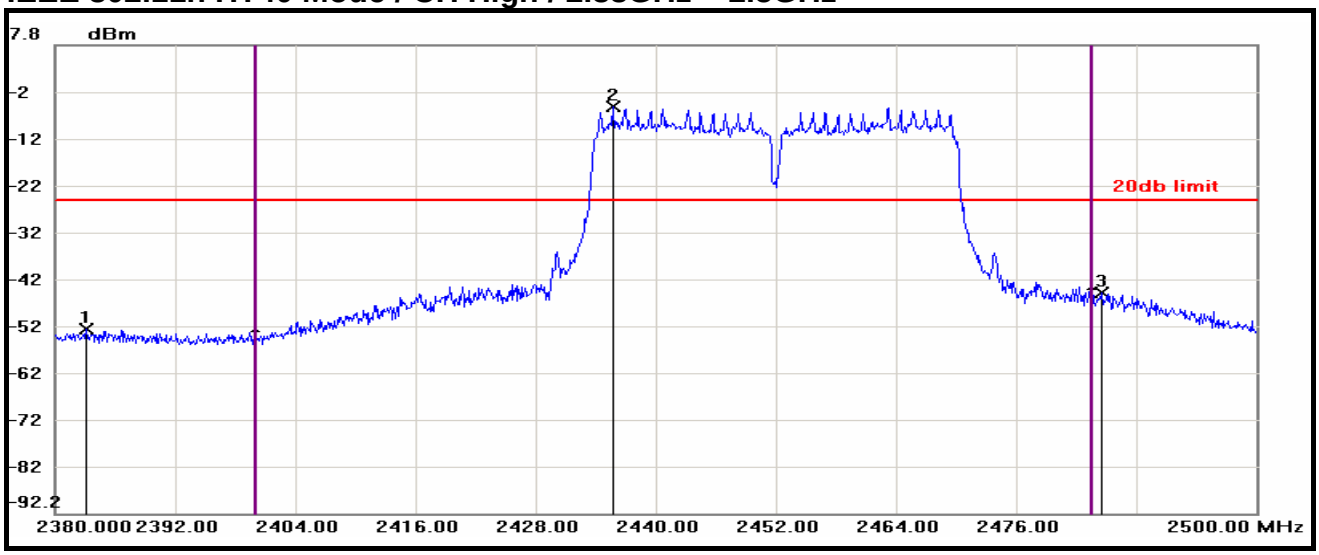
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2399.4400	-34.58	-22.64	-11.94
2	2448.2800	-2.64	-22.64	20.00
3	2483.9200	-42.66	-22.64	-20.02

IEEE 802.11n HT40 Mode / CH Middle / 30MHz ~ 25GHz



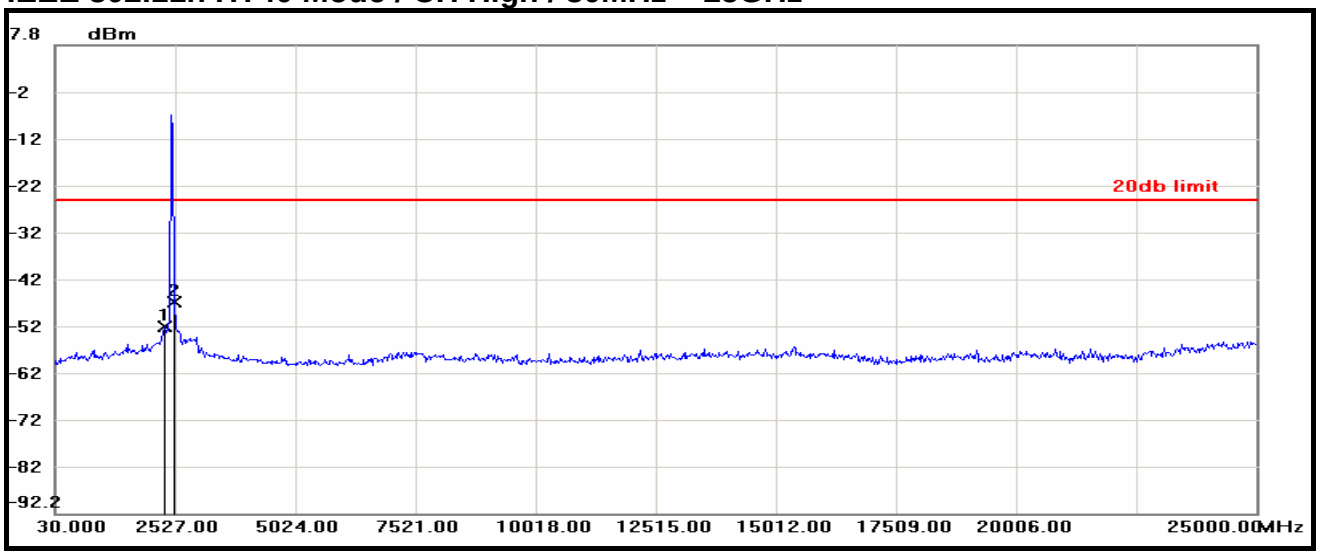
No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2377.1800	-46.93	-22.64	-24.29
2	2527.0000	-48.04	-22.64	-25.40

IEEE 802.11n HT40 Mode / CH High / 2.38GHz ~ 2.5GHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2383.1200	-52.91	-25.41	-27.50
2	2435.6800	-5.41	-25.41	20.00
3	2484.5200	-45.16	-25.41	-19.75

IEEE 802.11n HT40 Mode / CH High / 30MHz ~ 25GHz



No.	Frequency(MHz)	Result(dBm)	Limit(dBm)	Margin(dBm)
1	2302.2700	-52.30	-25.41	-26.89
2	2502.0300	-47.08	-25.41	-21.67

7.5 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_B

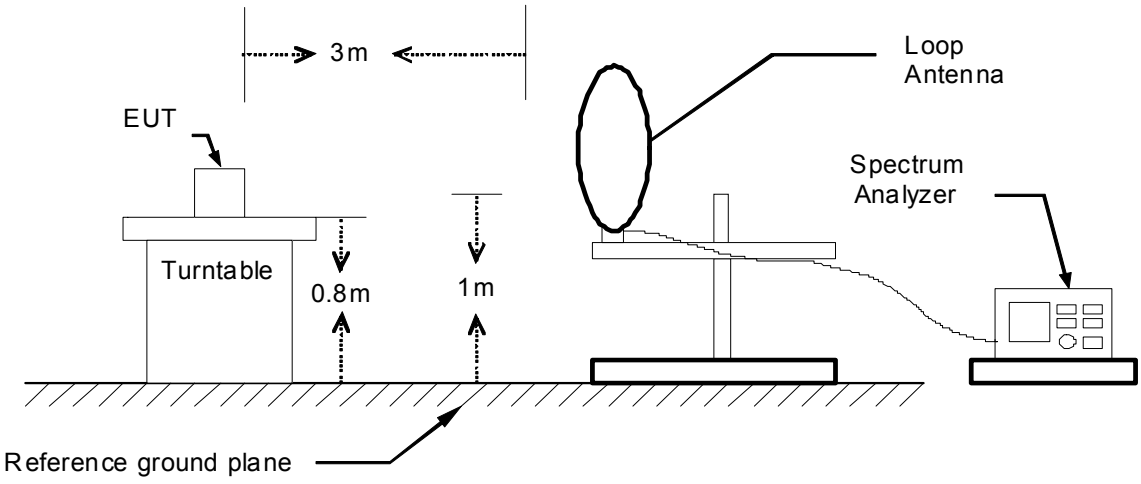
Name of Equipment	Manufacture	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY46180323	04/22/2013
EMI Receiver	ROHDE & SCHWARZ	ESCS 30	826547/004	10/27/2012
Broadband Hybrid Bi-Log Antenna	Sunol Sciences	JB1	A100209-4	10/05/2012
Double-Ridged Waveguide Horn	ETS-LINDGREN	3117	00078733	12/06/2012
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.

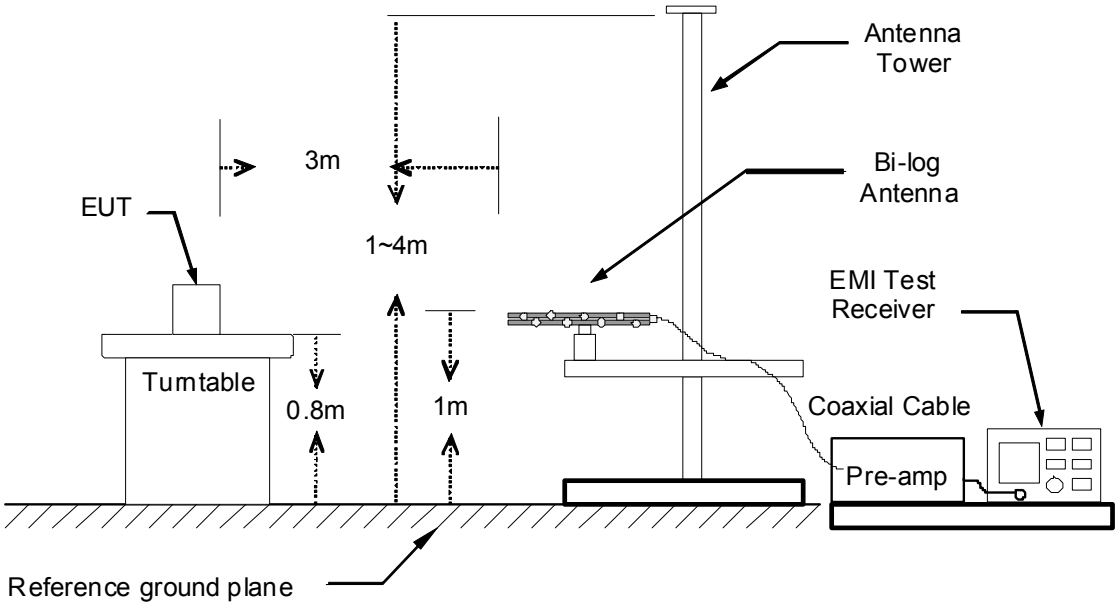
TEST SETUP

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

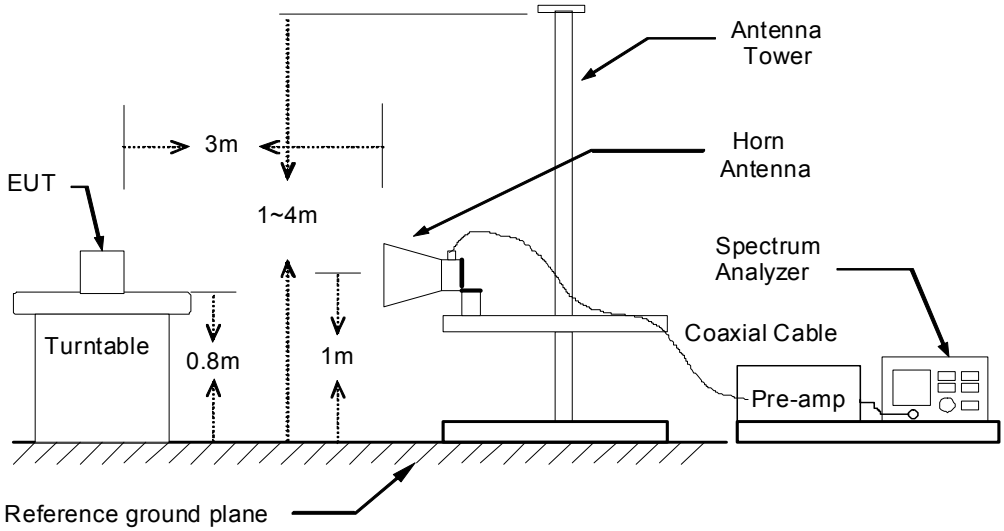
9kHz ~ 30MHz



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	Display Unit	Test By	Rueyyan Lin
Test Model	EEHD301	Test Date	2012/07/27
Test Mode	TX Mode	Temp. & Humidity	29°C, 49%

966 Chamber_B at 3Meter / Horizontal						
Frequency (MHz)	Reading (dBµV)	Correction Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
230.79	55.18	-14.04	41.14	46.00	-4.86	Peak
260.86	54.14	-12.83	41.31	46.00	-4.69	Peak
520.82	48.73	-7.49	41.24	46.00	-4.76	Peak
651.77	46.49	-5.45	41.04	46.00	-4.96	Peak
716.76	45.68	-4.52	41.17	46.00	-4.83	QP
781.75	46.22	-3.35	42.88	46.00	-3.12	Peak
800.18	45.90	-3.04	42.86	46.00	-3.14	QP
976.72	42.35	-0.40	41.95	54.00	-12.05	Peak

966 Chamber_B at 3Meter / Vertical						
Frequency (MHz)	Reading (dBµV)	Correction Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Remark
204.60	45.49	-13.31	32.18	43.50	-11.32	Peak
260.86	51.07	-12.83	38.24	46.00	-7.76	Peak
336.52	53.20	-10.69	42.50	46.00	-3.50	Peak
455.83	47.39	-8.60	38.79	46.00	-7.21	Peak
520.82	48.22	-7.49	40.74	46.00	-5.26	Peak
586.78	47.05	-6.52	40.54	46.00	-5.46	Peak
651.77	48.40	-5.45	42.95	46.00	-3.05	QP
716.76	47.35	-4.52	42.83	46.00	-3.17	QP
799.21	45.80	-3.05	42.75	46.00	-3.25	QP
977.69	45.29	-0.38	44.91	54.00	-9.09	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 (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	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11b TX / CH Low	Temp. & Humidity	25°C, 56%

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
1062.00	69.66	42.28	-3.68	65.98	38.60	74.00	54.00	-15.40	AVG
1332.00	73.62	43.25	-2.81	70.81	40.44	74.00	54.00	-13.56	AVG
1598.00	60.86	38.15	-1.39	59.47	36.76	74.00	54.00	-17.24	AVG
1864.00	60.76	36.42	1.00	61.76	37.42	74.00	54.00	-16.58	AVG
2124.00	56.55	38.75	2.63	59.18	41.38	74.00	54.00	-12.62	AVG
2522.00	59.37	46.25	3.93	63.30	50.18	74.00	54.00	-3.82	AVG
3000.00	54.10	45.39	5.41	59.51	50.80	74.00	54.00	-3.20	AVG
4807.50	39.92	---	9.45	49.36	---	74.00	54.00	-4.64	Peak
4972.50	46.47	31.23	9.85	56.32	41.08	74.00	54.00	-12.92	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
1062.00	68.68	39.70	-3.68	65.00	36.02	74.00	54.00	-17.98	AVG
1332.00	71.02	38.49	-2.81	68.21	35.68	74.00	54.00	-18.32	AVG
1864.00	65.86	38.79	1.00	66.86	39.79	74.00	54.00	-14.21	AVG
3465.00	42.48	---	5.91	48.39	---	74.00	54.00	-5.61	Peak
4522.50	40.02	---	8.75	48.77	---	74.00	54.00	-5.23	Peak
4987.50	45.99	31.61	9.89	55.88	41.50	74.00	54.00	-12.50	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11b TX / CH Middle	Temp. & Humidity	25°C, 56%

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
1062.00	70.43	41.86	-3.68	66.75	38.18	74.00	54.00	-15.82	AVG
1332.00	72.24	41.23	-2.81	69.43	38.42	74.00	54.00	-15.58	AVG
1598.00	60.04	38.75	-1.39	58.65	37.36	74.00	54.00	-16.64	AVG
1866.00	68.21	38.66	1.02	69.23	39.68	74.00	54.00	-14.32	AVG
2124.00	58.36	38.78	2.63	60.99	41.41	74.00	54.00	-12.59	AVG
2544.00	59.33	46.43	4.00	63.33	50.43	74.00	54.00	-3.57	AVG
3000.00	54.09	47.32	5.41	59.50	52.73	74.00	54.00	-1.27	AVG
4567.50	40.58	---	8.86	49.43	---	74.00	54.00	-4.57	Peak
4995.00	45.74	31.41	9.91	55.65	41.32	74.00	54.00	-12.68	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
1066.00	68.57	39.80	-3.67	64.90	36.13	74.00	54.00	-17.87	AVG
1328.00	72.31	41.21	-2.82	69.49	38.39	74.00	54.00	-15.61	AVG
1862.00	64.20	38.16	0.98	65.18	39.14	74.00	54.00	-14.86	AVG
3000.00	45.32	---	5.41	50.73	---	74.00	54.00	-3.27	Peak
4845.00	40.51	---	9.54	50.05	---	74.00	54.00	-3.95	Peak
4987.50	46.21	32.73	9.89	56.10	42.62	74.00	54.00	-11.38	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11b TX / CH High	Temp. & Humidity	25°C, 56%

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
1066.00	64.73	38.83	-3.67	61.06	35.16	74.00	54.00	-18.84	AVG
1346.00	66.62	42.00	-2.77	63.85	39.23	74.00	54.00	-14.77	AVG
1596.00	51.03	---	-1.41	49.62	---	74.00	54.00	-4.38	Peak
1864.00	65.58	38.38	1.00	66.58	39.38	74.00	54.00	-14.62	AVG
2124.00	57.56	38.87	2.63	60.19	41.50	74.00	54.00	-12.50	AVG
2568.00	60.31	46.82	4.07	64.38	50.89	74.00	54.00	-3.11	AVG
3000.00	55.19	46.51	5.41	60.60	51.92	74.00	54.00	-2.08	AVG
4515.00	40.73	---	8.73	49.46	---	74.00	54.00	-4.54	Peak
4980.00	47.19	31.65	9.87	57.06	41.52	74.00	54.00	-12.48	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
1062.00	66.57	40.23	-3.68	62.89	36.55	74.00	54.00	-17.45	AVG
1330.00	70.94	38.70	-2.82	68.12	35.88	74.00	54.00	-18.12	AVG
1862.00	66.07	38.03	0.98	67.05	39.01	74.00	54.00	-14.99	AVG
3000.00	43.70	---	5.41	49.11	---	74.00	54.00	-4.89	Peak
4897.50	40.01	---	9.67	49.67	---	74.00	54.00	-4.33	Peak
4995.00	46.24	31.70	9.91	56.15	41.61	74.00	54.00	-12.39	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11g TX / CH Low	Temp. & Humidity	25°C, 56%

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
1062.00	67.30	40.57	-3.68	63.62	36.89	74.00	54.00	-17.11	AVG
1330.00	72.94	41.47	-2.82	70.12	38.65	74.00	54.00	-15.35	AVG
1598.00	58.87	38.10	-1.39	57.48	36.71	74.00	54.00	-17.29	AVG
1862.00	62.24	36.78	0.98	63.22	37.76	74.00	54.00	-16.24	AVG
2124.00	56.97	38.94	2.63	59.60	41.57	74.00	54.00	-12.43	AVG
2574.00	60.53	46.26	4.09	64.62	50.35	74.00	54.00	-3.65	AVG
3000.00	54.65	47.08	5.41	60.06	52.49	74.00	54.00	-1.51	AVG
4230.00	41.08	---	7.78	48.86	---	74.00	54.00	-5.14	Peak
4980.00	47.33	31.52	9.87	57.20	41.39	74.00	54.00	-12.61	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
1062.00	66.97	38.67	-3.68	63.29	34.99	74.00	54.00	-19.01	AVG
1332.00	66.88	38.39	-2.81	64.07	35.58	74.00	54.00	-18.42	AVG
1860.00	56.61	36.69	0.96	57.57	37.65	74.00	54.00	-16.35	AVG
3000.00	44.05	---	5.41	49.46	---	74.00	54.00	-4.54	Peak
4830.00	39.09	---	9.50	48.59	---	74.00	54.00	-5.41	Peak
4980.00	46.71	31.42	9.87	56.58	41.29	74.00	54.00	-12.71	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11g TX / CH Middle	Temp. & Humidity	25°C, 56%

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
1066.00	67.39	39.92	-3.67	63.72	36.25	74.00	54.00	-17.75	AVG
1244.00	53.76	---	-3.09	50.66	---	74.00	54.00	-3.34	Peak
1332.00	73.29	40.01	-2.81	70.48	37.20	74.00	54.00	-16.80	AVG
1860.00	68.04	38.33	0.96	69.00	39.29	74.00	54.00	-14.71	AVG
2126.00	56.92	38.91	2.63	59.55	41.54	74.00	54.00	-12.46	AVG
2590.00	60.22	45.03	4.14	64.36	49.17	74.00	54.00	-4.83	AVG
3000.00	54.21	47.09	5.41	59.62	52.50	74.00	54.00	-1.50	AVG
4867.50	39.15	---	9.59	48.74	---	74.00	54.00	-5.26	Peak
4980.00	46.93	31.60	9.87	56.80	41.47	74.00	54.00	-12.53	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
1062.00	68.99	38.59	-3.68	65.31	34.91	74.00	54.00	-19.09	AVG
1332.00	72.98	40.34	-2.81	70.17	37.53	74.00	54.00	-16.47	AVG
1866.00	60.59	38.00	1.02	61.61	39.02	74.00	54.00	-14.98	AVG
3000.00	44.58	---	5.41	49.99	---	74.00	54.00	-4.01	Peak
4282.50	41.24	---	7.95	49.20	---	74.00	54.00	-4.80	Peak
4980.00	46.50	31.72	9.87	56.37	41.59	74.00	54.00	-12.41	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11g TX / CH High	Temp. & Humidity	25°C, 56%

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
1052.00	68.79	40.62	-3.71	65.08	36.91	74.00	54.00	-17.09	AVG
1332.00	72.83	42.66	-2.81	70.02	39.85	74.00	54.00	-14.15	AVG
1598.00	58.56	40.84	-1.39	57.17	39.45	74.00	54.00	-14.55	AVG
1858.00	66.86	39.47	0.94	67.80	40.41	74.00	54.00	-13.59	AVG
2124.00	56.82	39.84	2.63	59.45	42.47	74.00	54.00	-11.53	AVG
2614.00	56.83	43.66	4.21	61.04	47.87	74.00	54.00	-6.13	AVG
3000.00	54.36	45.79	5.41	59.77	51.20	74.00	54.00	-2.80	AVG
4980.00	47.07	31.55	9.87	56.94	41.42	74.00	54.00	-12.58	AVG
5992.50	42.90	30.91	11.79	54.69	42.70	74.00	54.00	-11.30	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
1062.00	66.51	38.32	-3.68	62.83	34.64	74.00	54.00	-19.36	AVG
1332.00	69.43	40.08	-2.81	66.62	37.27	74.00	54.00	-16.73	AVG
1862.00	66.49	38.49	0.98	67.47	39.47	74.00	54.00	-14.53	AVG
3000.00	44.74	---	5.41	50.15	---	74.00	54.00	-3.85	Peak
4515.00	39.74	---	8.73	48.47	---	74.00	54.00	-5.53	Peak
4995.00	45.98	31.65	9.91	55.89	41.56	74.00	54.00	-12.44	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11n HT20 TX / CH Low	Temp. & Humidity	25°C, 56%

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
1062.00	62.21	35.71	-3.68	58.53	32.03	74.00	54.00	-21.97	AVG
1330.00	70.00	38.32	-2.82	67.18	35.50	74.00	54.00	-18.50	AVG
1598.00	51.51	---	-1.39	50.12	---	74.00	54.00	-3.88	Peak
1866.00	65.57	38.41	1.02	66.59	39.43	74.00	54.00	-14.57	AVG
2124.00	56.08	38.63	2.63	58.71	41.26	74.00	54.00	-12.74	AVG
2574.00	60.60	44.93	4.09	64.69	49.02	74.00	54.00	-4.98	AVG
3000.00	54.99	46.99	5.41	60.40	52.40	74.00	54.00	-1.60	AVG
4987.50	46.78	31.48	9.89	56.67	41.37	74.00	54.00	-12.63	AVG
5992.50	43.97	31.87	11.79	55.76	43.66	74.00	54.00	-10.34	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
1062.00	63.34	38.30	-3.68	59.66	34.62	74.00	54.00	-19.38	AVG
1332.00	67.62	40.24	-2.81	64.81	37.43	74.00	54.00	-16.57	AVG
1858.00	59.97	36.96	0.94	60.91	37.90	74.00	54.00	-16.10	AVG
3000.00	45.44	---	5.41	50.85	---	74.00	54.00	-3.15	Peak
4552.50	39.80	---	8.82	48.62	---	74.00	54.00	-5.38	Peak
4980.00	46.42	31.43	9.87	56.29	41.30	74.00	54.00	-12.70	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11n HT20 TX / CH Middle	Temp. & Humidity	25°C, 56%

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
1058.00	59.63	40.59	-3.69	55.94	36.90	74.00	54.00	-17.10	AVG
1330.00	73.04	43.81	-2.82	70.22	40.99	74.00	54.00	-13.01	AVG
1628.00	51.44	---	-1.12	50.32	---	74.00	54.00	-3.68	Peak
1860.00	59.60	38.06	0.96	60.56	39.02	74.00	54.00	-14.98	AVG
2124.00	56.85	38.00	2.63	59.48	40.63	74.00	54.00	-13.37	AVG
2588.00	58.50	42.90	4.13	62.63	47.03	74.00	54.00	-6.97	AVG
3000.00	54.35	47.09	5.41	59.76	52.50	74.00	54.00	-1.50	AVG
4995.00	46.78	31.28	9.91	56.69	41.19	74.00	54.00	-12.81	AVG
5992.50	44.31	31.53	11.79	56.10	43.32	74.00	54.00	-10.68	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
1066.00	66.24	40.75	-3.67	62.57	37.08	74.00	54.00	-16.92	AVG
1334.00	63.04	38.60	-2.80	60.24	35.80	74.00	54.00	-18.20	AVG
1872.00	62.79	38.42	1.07	63.86	39.49	74.00	54.00	-14.51	AVG
3000.00	45.38	---	5.41	50.79	---	74.00	54.00	-3.21	Peak
4830.00	40.05	---	9.50	49.55	---	74.00	54.00	-4.45	Peak
4980.00	46.99	31.58	9.87	56.86	41.45	74.00	54.00	-12.55	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11 n HT20 TX / CH High	Temp. & Humidity	25°C, 56%

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
1062.00	62.38	38.29	-3.68	58.70	34.61	74.00	54.00	-19.39	AVG
1326.00	69.26	40.84	-2.83	66.43	38.01	74.00	54.00	-15.99	AVG
1596.00	51.94	---	-1.41	50.54	---	74.00	54.00	-3.46	Peak
1860.00	60.10	38.19	0.96	61.06	39.15	74.00	54.00	-14.85	AVG
2132.00	55.44	38.87	2.65	58.09	41.52	74.00	54.00	-12.48	AVG
2546.00	55.08	44.36	4.00	59.08	48.36	74.00	54.00	-5.64	AVG
3000.00	54.03	47.08	5.41	59.44	52.49	74.00	54.00	-1.51	AVG
4980.00	47.28	31.52	9.87	57.15	41.39	74.00	54.00	-12.61	AVG
6000.00	44.05	31.20	11.81	55.86	43.01	74.00	54.00	-10.99	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
1064.00	68.62	38.40	-3.67	64.95	34.73	74.00	54.00	-19.27	AVG
1330.00	63.66	38.95	-2.82	60.84	36.13	74.00	54.00	-17.87	AVG
1862.00	68.03	38.23	0.98	69.01	39.21	74.00	54.00	-14.79	AVG
3000.00	43.48	---	5.41	48.89	---	74.00	54.00	-5.11	Peak
4560.00	40.24	---	8.84	49.08	---	74.00	54.00	-4.92	Peak
4980.00	46.48	31.35	9.87	56.35	41.22	74.00	54.00	-12.78	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11n HT40 TX / CH Low	Temp. & Humidity	25°C, 56%

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
1054.00	54.88	---	-3.71	51.17	---	74.00	54.00	-2.83	Peak
1332.00	73.49	42.48	-2.81	70.68	39.67	74.00	54.00	-14.33	AVG
1596.00	56.32	37.39	-1.41	54.91	35.98	74.00	54.00	-18.02	AVG
1858.00	58.45	32.69	0.94	59.39	33.63	74.00	54.00	-20.37	AVG
2124.00	55.42	37.73	2.63	58.05	40.36	74.00	54.00	-13.64	AVG
2566.00	55.83	42.50	4.06	59.89	46.56	74.00	54.00	-7.44	AVG
3000.00	55.02	47.09	5.41	60.43	52.50	74.00	54.00	-1.50	AVG
4470.00	39.86	---	8.59	48.45	---	74.00	54.00	-5.55	Peak
4980.00	47.15	31.55	9.87	57.02	41.42	74.00	54.00	-12.58	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
1062.00	65.85	38.63	-3.68	62.17	34.95	74.00	54.00	-19.05	AVG
1332.00	63.58	38.17	-2.81	60.77	35.36	74.00	54.00	-18.64	AVG
2124.00	53.27	38.86	2.63	55.90	41.49	74.00	54.00	-12.51	AVG
3000.00	44.46	---	5.41	49.87	---	74.00	54.00	-4.13	Peak
4845.00	39.25	---	9.54	48.79	---	74.00	54.00	-5.21	Peak
4980.00	47.42	31.51	9.87	57.29	41.38	74.00	54.00	-12.62	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11n HT40 TX / CH Middle	Temp. & Humidity	25°C, 56%

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
1062.00	60.57	38.52	-3.68	56.89	34.84	74.00	54.00	-19.16	AVG
1330.00	72.31	40.96	-2.82	69.49	38.14	74.00	54.00	-15.86	AVG
1628.00	50.98	---	-1.12	49.86	---	74.00	54.00	-4.14	Peak
1864.00	63.94	35.44	1.00	64.94	36.44	74.00	54.00	-17.56	AVG
2124.00	55.71	38.53	2.63	58.34	41.16	74.00	54.00	-12.84	AVG
2580.00	54.20	39.67	4.11	58.31	43.78	74.00	54.00	-10.22	AVG
3000.00	55.09	47.04	5.41	60.50	52.45	74.00	54.00	-1.55	AVG
4980.00	46.23	31.46	9.87	56.10	41.33	74.00	54.00	-12.67	AVG
6000.00	40.45	---	11.81	52.26	---	74.00	54.00	-1.74	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
1064.00	68.02	34.91	-3.67	64.35	31.24	74.00	54.00	-22.76	AVG
1330.00	65.74	37.01	-2.82	62.92	34.19	74.00	54.00	-19.81	AVG
1864.00	65.15	37.34	1.00	66.15	38.34	74.00	54.00	-15.66	AVG
3000.00	42.84	---	5.41	48.25	---	74.00	54.00	-5.75	Peak
4860.00	38.70	---	9.58	48.27	---	74.00	54.00	-5.73	Peak
4980.00	46.82	31.22	9.87	56.69	41.09	74.00	54.00	-12.91	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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Product Name	Display Unit	Test By	Waternil Guan
Test Model	EEHD301	Test Date	2012/06/04
Test Mode	IEEE 802.11 n HT40 TX / CH High	Temp. & Humidity	25°C, 56%

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
1062.00	63.38	39.50	-3.68	59.70	35.82	74.00	54.00	-18.18	AVG
1332.00	72.00	41.39	-2.81	69.19	38.58	74.00	54.00	-15.42	AVG
1858.00	60.60	35.29	0.94	61.54	36.23	74.00	54.00	-17.77	AVG
1886.00	54.98	35.28	1.20	56.18	36.48	74.00	54.00	-17.52	AVG
2124.00	54.57	37.77	2.63	57.20	40.40	74.00	54.00	-13.60	AVG
2598.00	54.16	39.72	4.16	58.32	43.88	74.00	54.00	-10.12	AVG
3000.00	55.14	47.02	5.41	60.55	52.43	74.00	54.00	-1.57	AVG
4620.00	39.70	---	8.99	48.69	---	74.00	54.00	-5.31	Peak
4980.00	47.02	31.11	9.87	56.89	40.98	74.00	54.00	-13.02	AVG

966 Chamber_A at 3Meter / Vertical

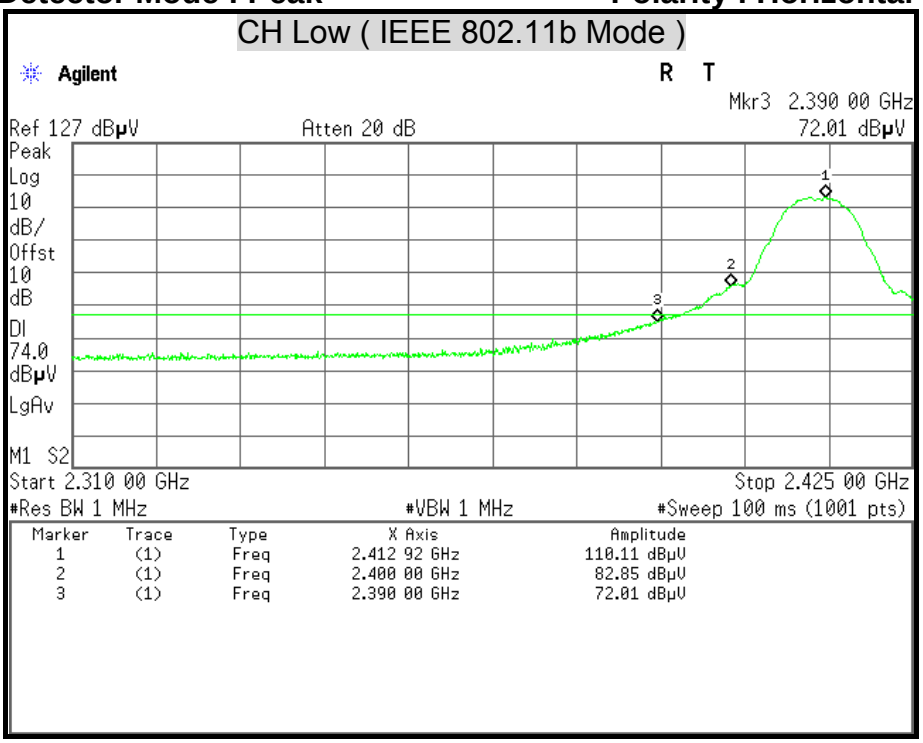
Frequency (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Remark
1064.00	66.72	38.07	-3.67	63.05	34.40	74.00	54.00	-19.60	AVG
1330.00	68.98	36.95	-2.82	66.16	34.13	74.00	54.00	-19.87	AVG
1868.00	63.22	36.75	1.03	64.25	37.78	74.00	54.00	-16.22	AVG
3000.00	43.99	---	5.41	49.40	---	74.00	54.00	-4.60	Peak
4380.00	40.30	---	8.28	48.59	---	74.00	54.00	-5.41	Peak
4980.00	46.85	31.50	9.87	56.72	41.37	74.00	54.00	-12.63	AVG

Remark:

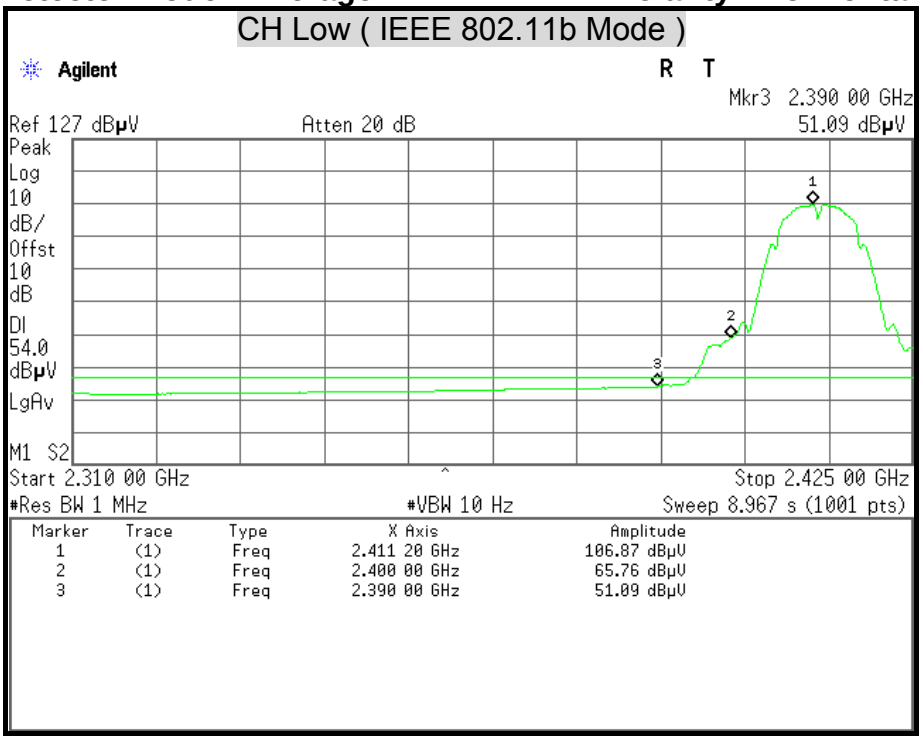
1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Average test would be performed if the peak result were greater than the average limit.*
3. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions 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. *In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.*
6. *Result = Reading + Correction Factor*
   Margin = Result – Limit
   Remark Peak = Result(PK) – Limit(AV)
   Remark AVG = Result(AV) – Limit(AV)

Restricted Band Edges

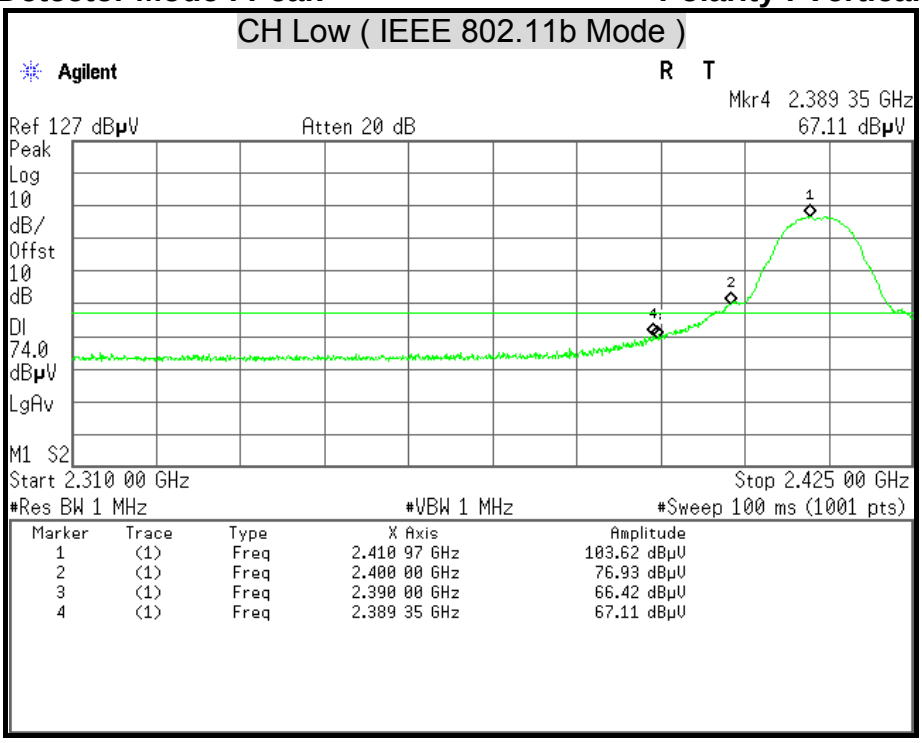
Detector Mode : Peak **Polarity : Horizontal**



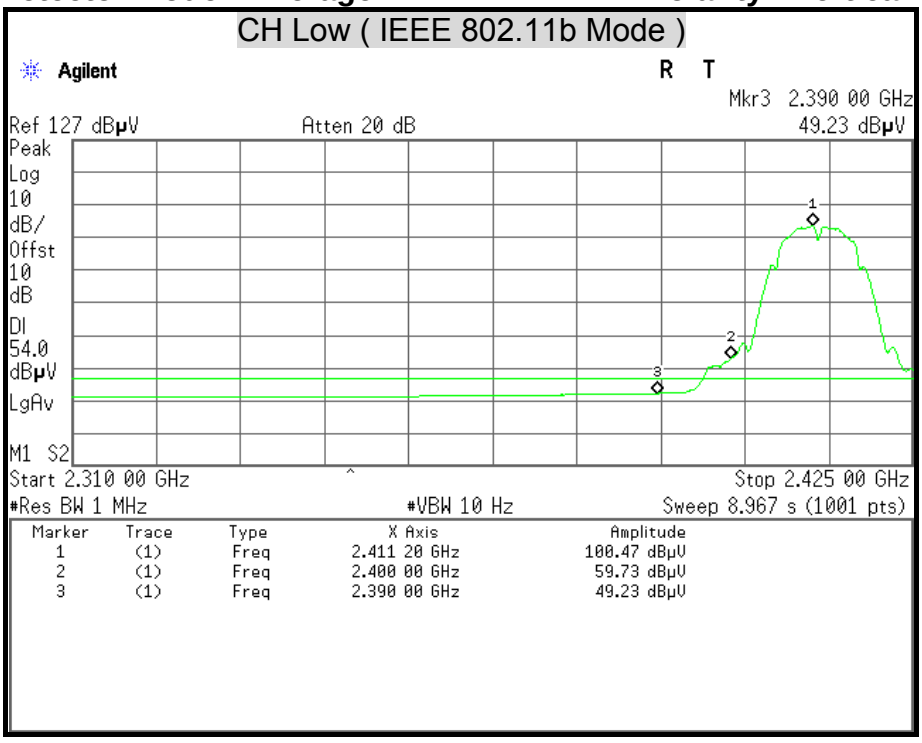
Detector Mode : Average **Polarity : Horizontal**



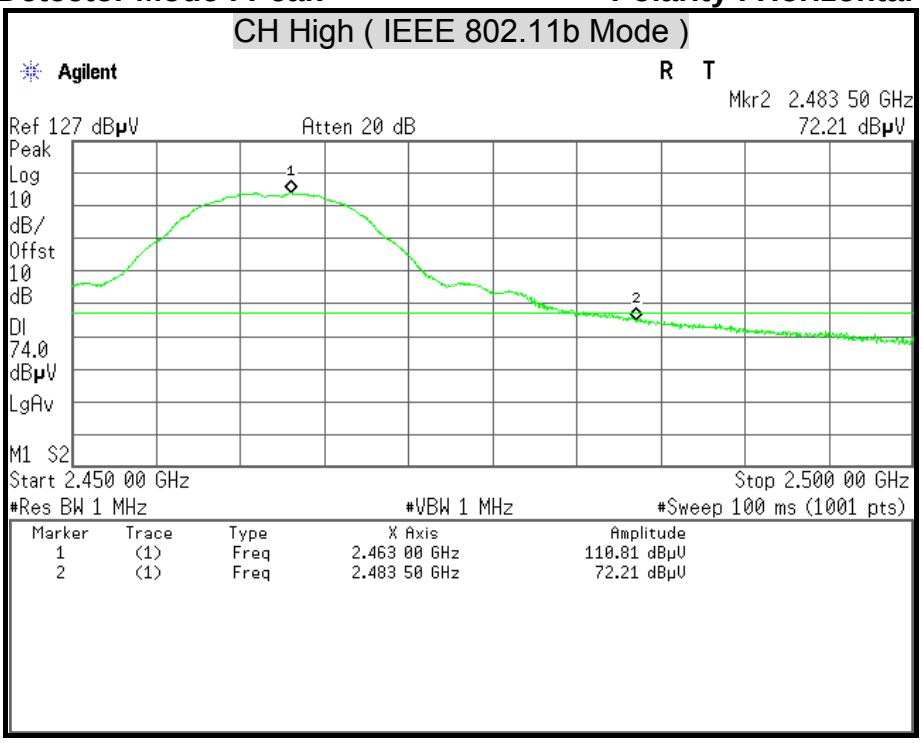
Detector Mode : Peak **Polarity : Vertical**



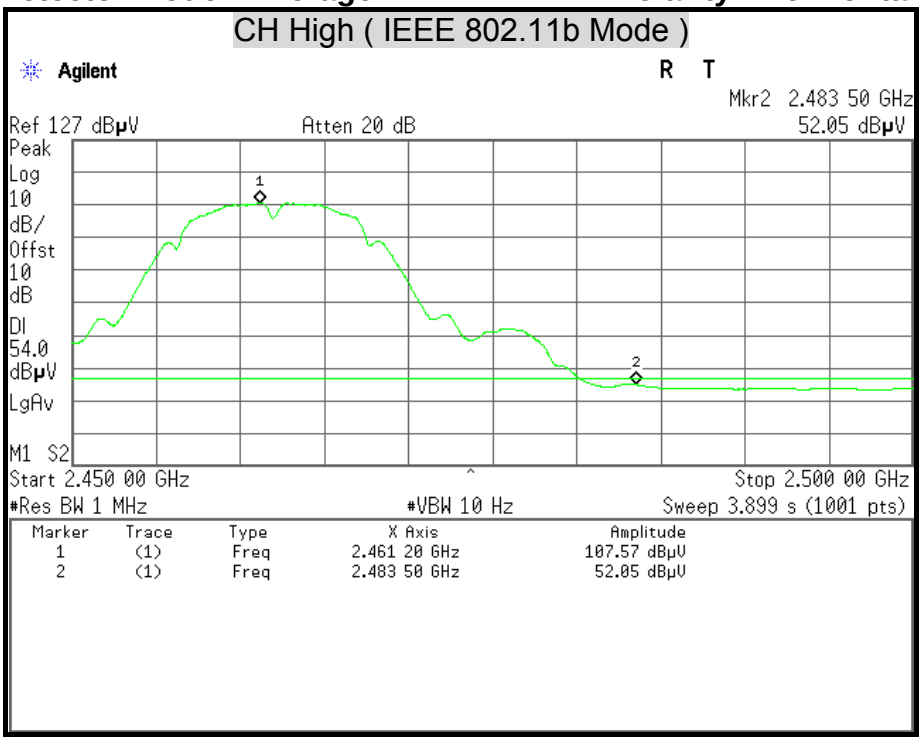
Detector Mode : Average **Polarity : Vertical**



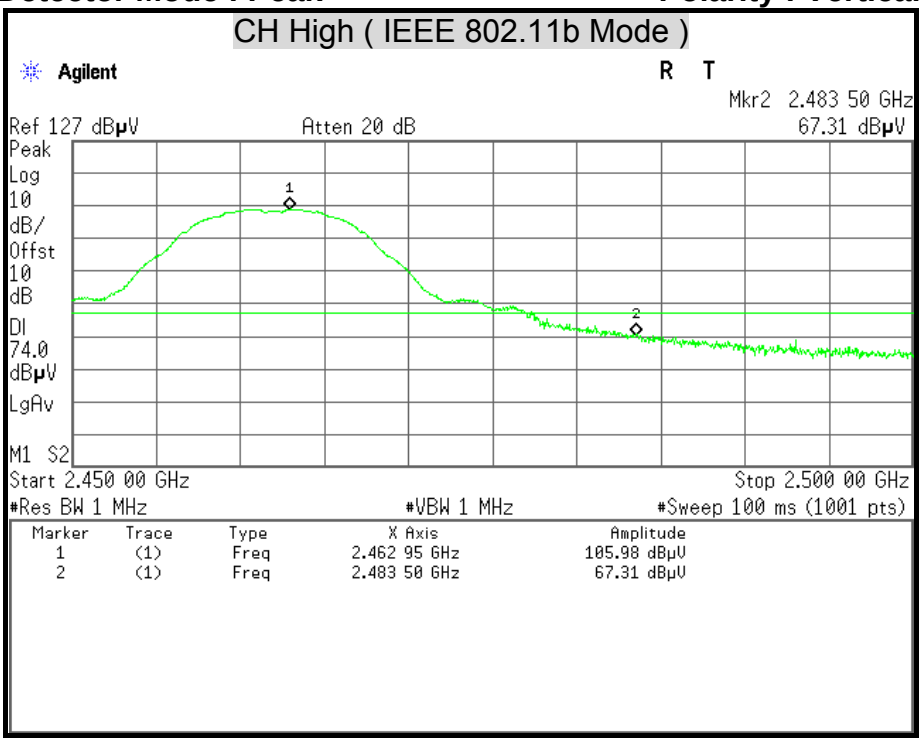
Detector Mode : Peak **Polarity : Horizontal**



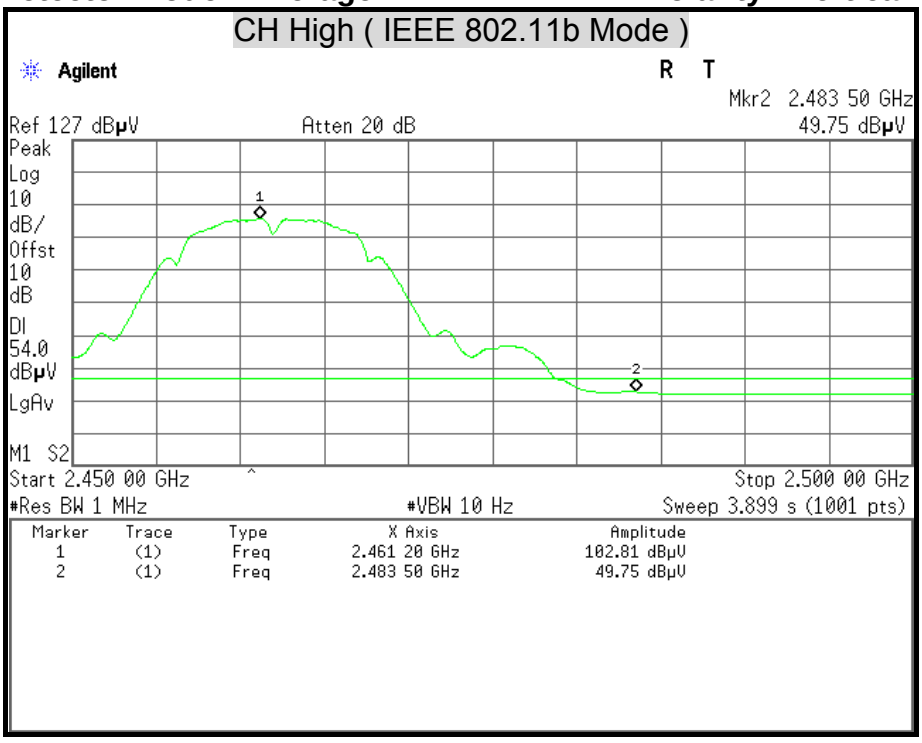
Detector Mode : Average **Polarity : Horizontal**



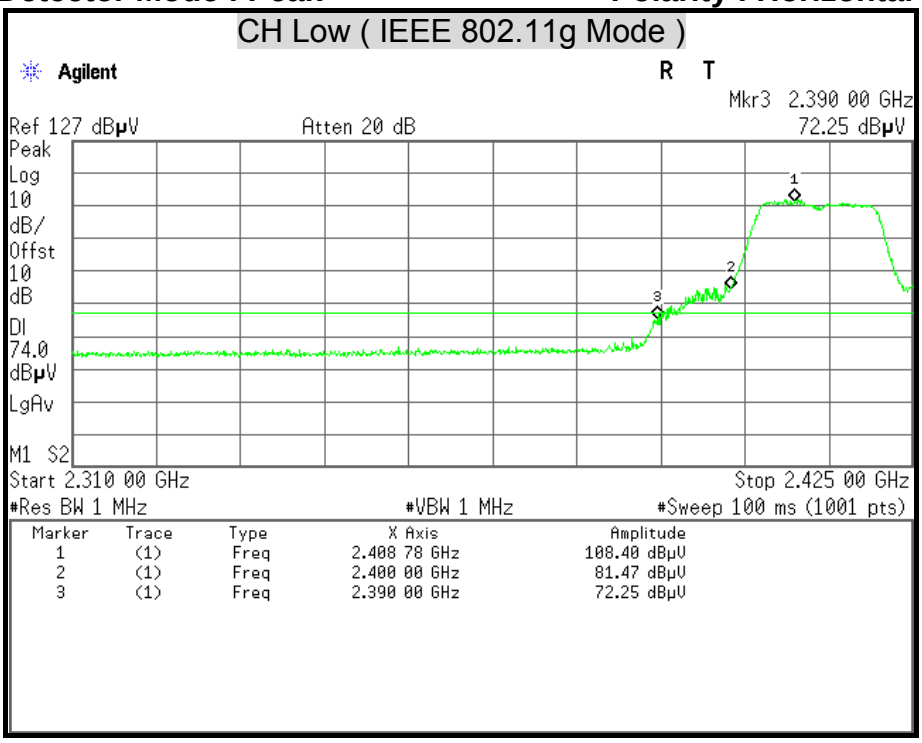
Detector Mode : Peak **Polarity : Vertical**



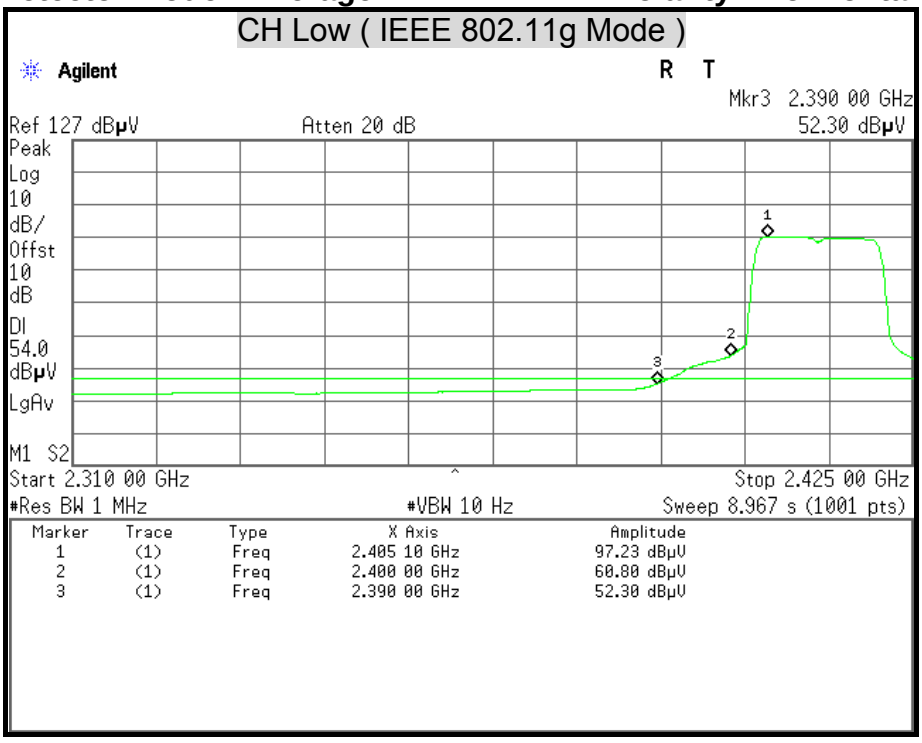
Detector Mode : Average **Polarity : Vertical**



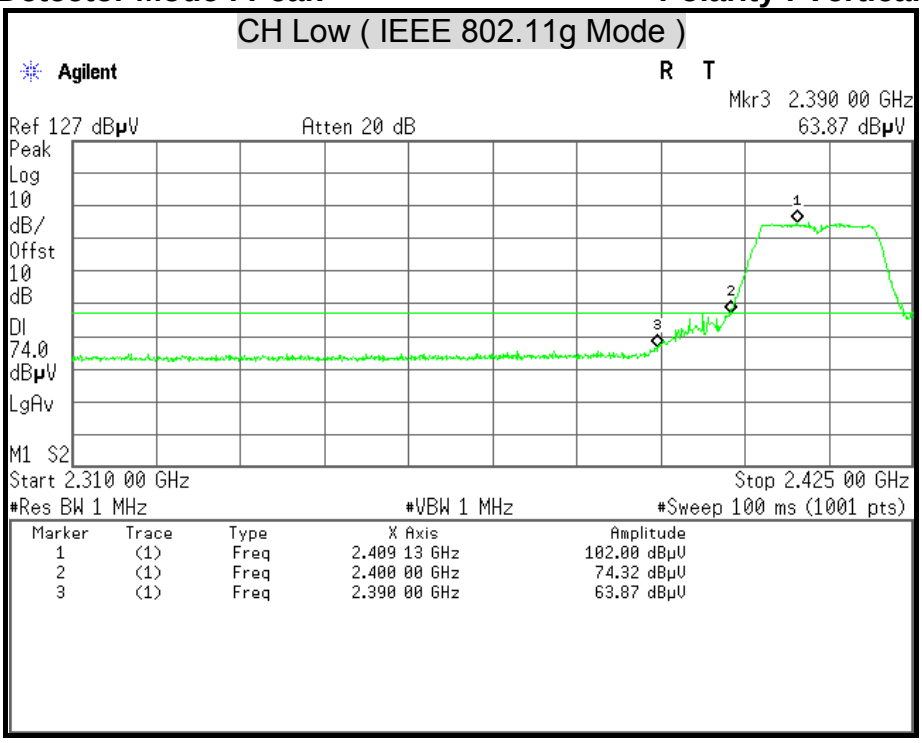
Detector Mode : Peak **Polarity : Horizontal**



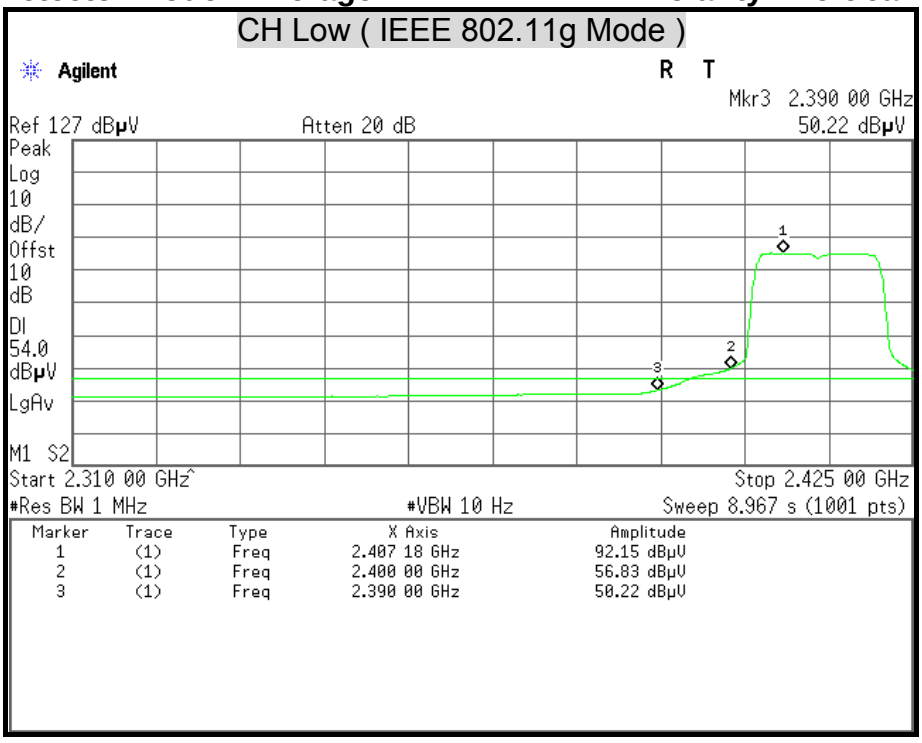
Detector Mode : Average **Polarity : Horizontal**



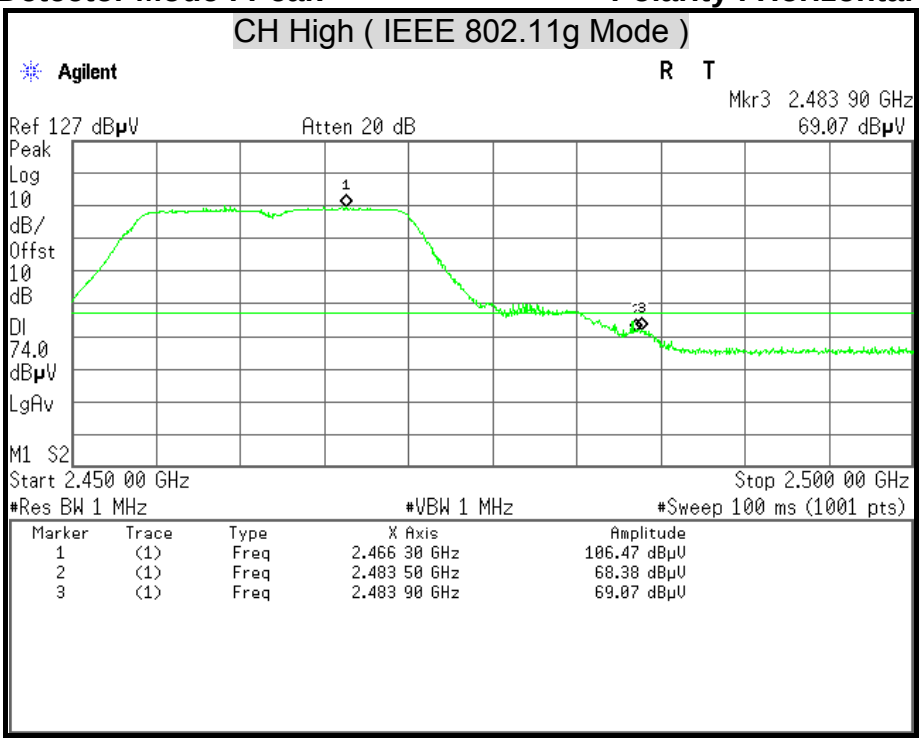
Detector Mode : Peak **Polarity : Vertical**



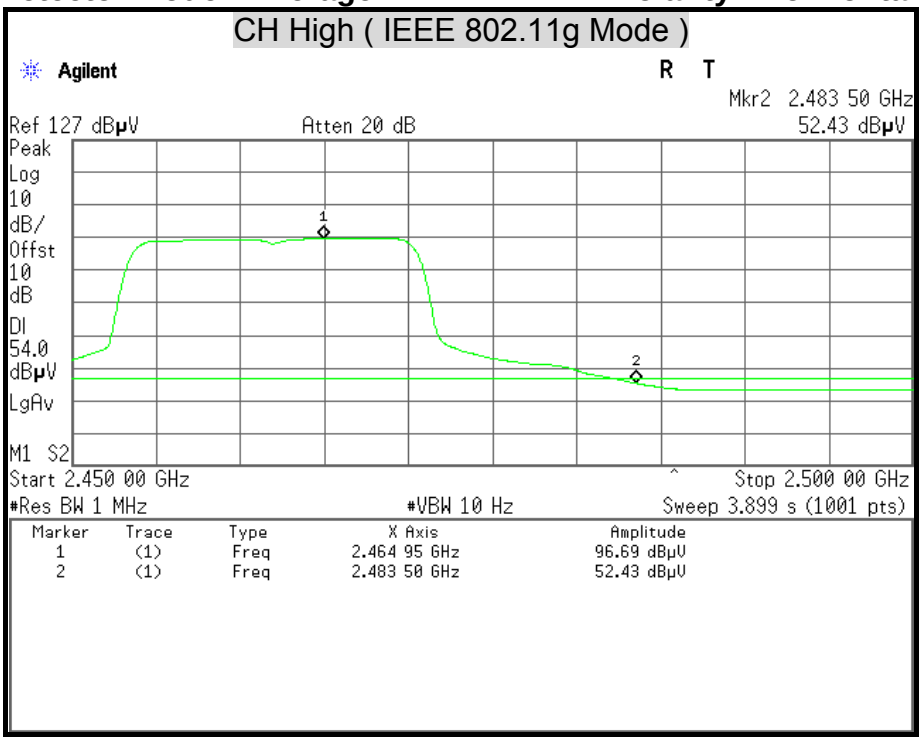
Detector Mode : Average **Polarity : Vertical**



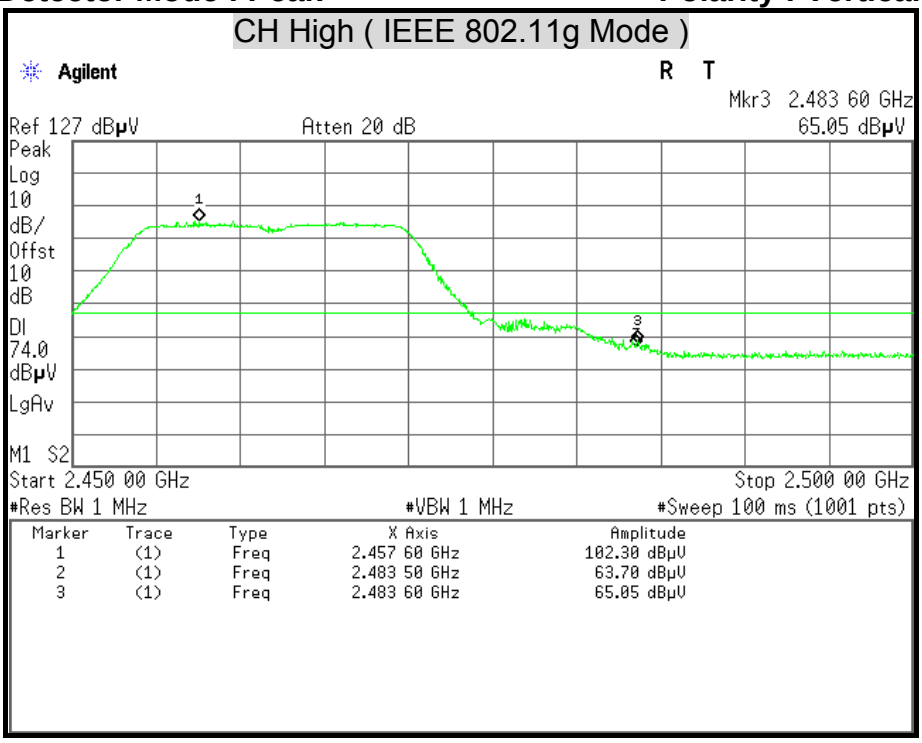
Detector Mode : Peak **Polarity : Horizontal**



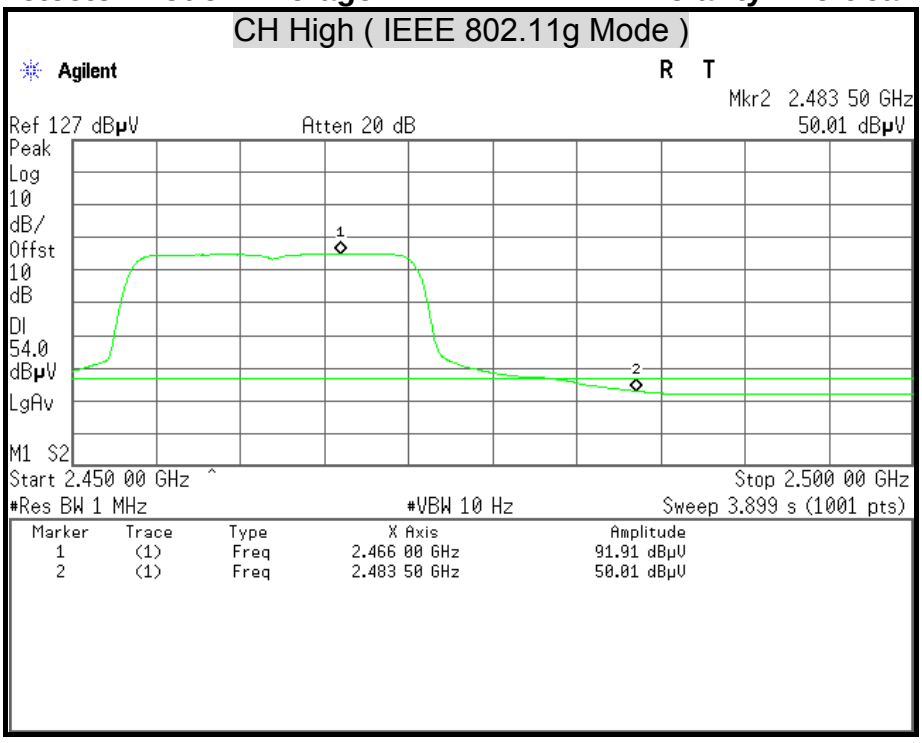
Detector Mode : Average **Polarity : Horizontal**



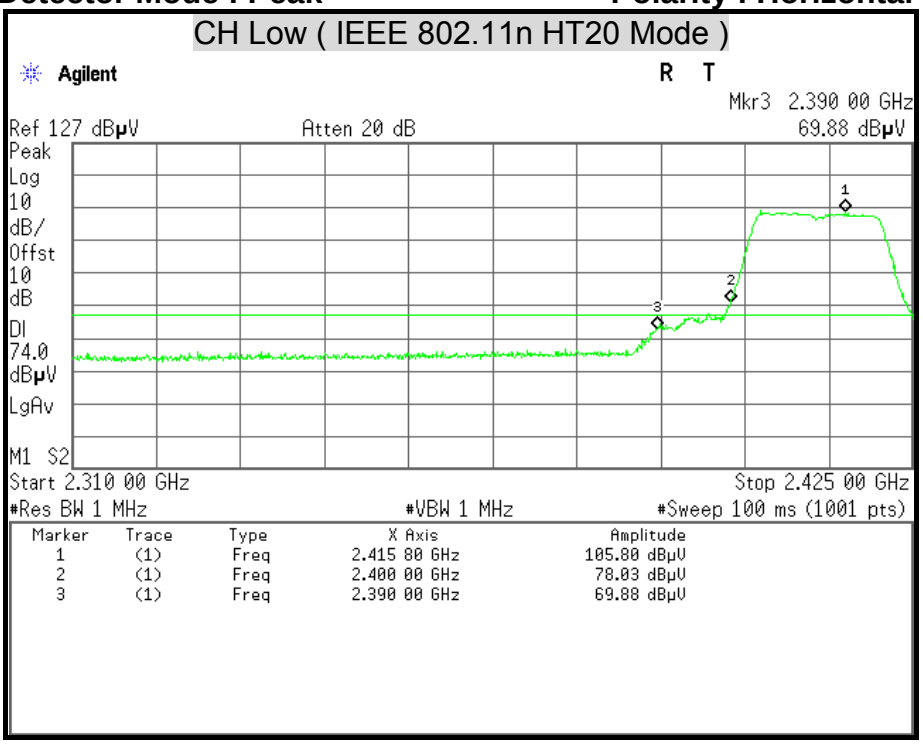
Detector Mode : Peak **Polarity : Vertical**



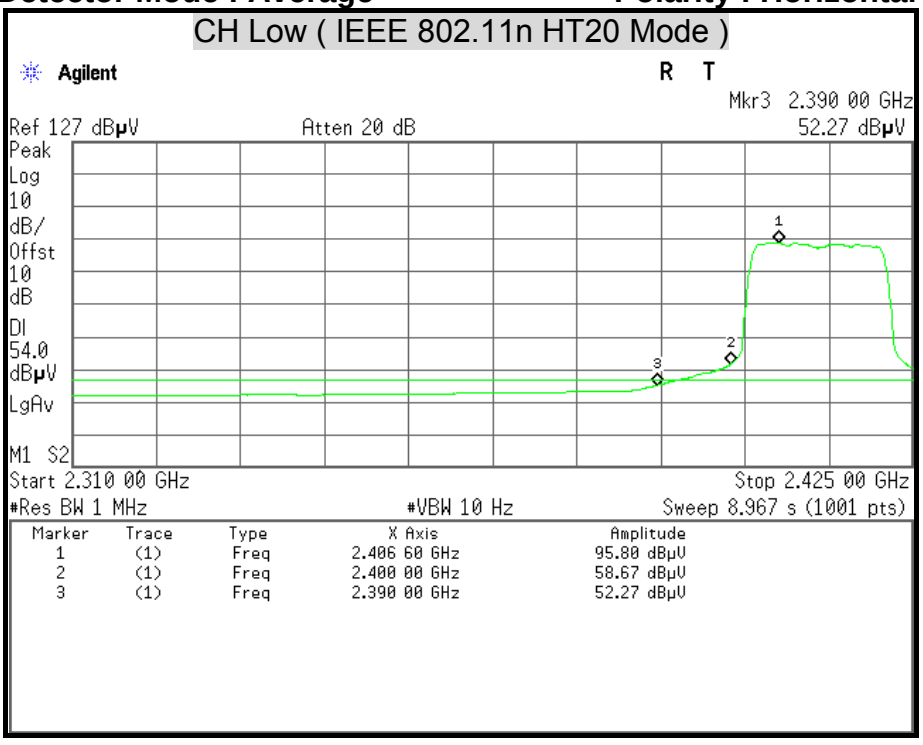
Detector Mode : Average **Polarity : Vertical**



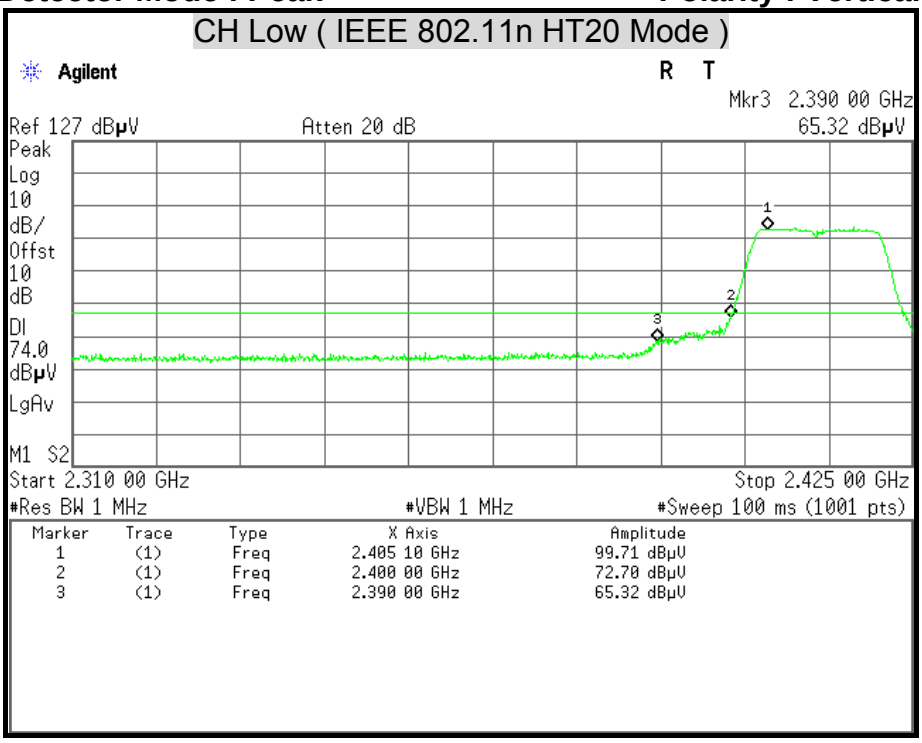
Detector Mode : Peak **Polarity : Horizontal**



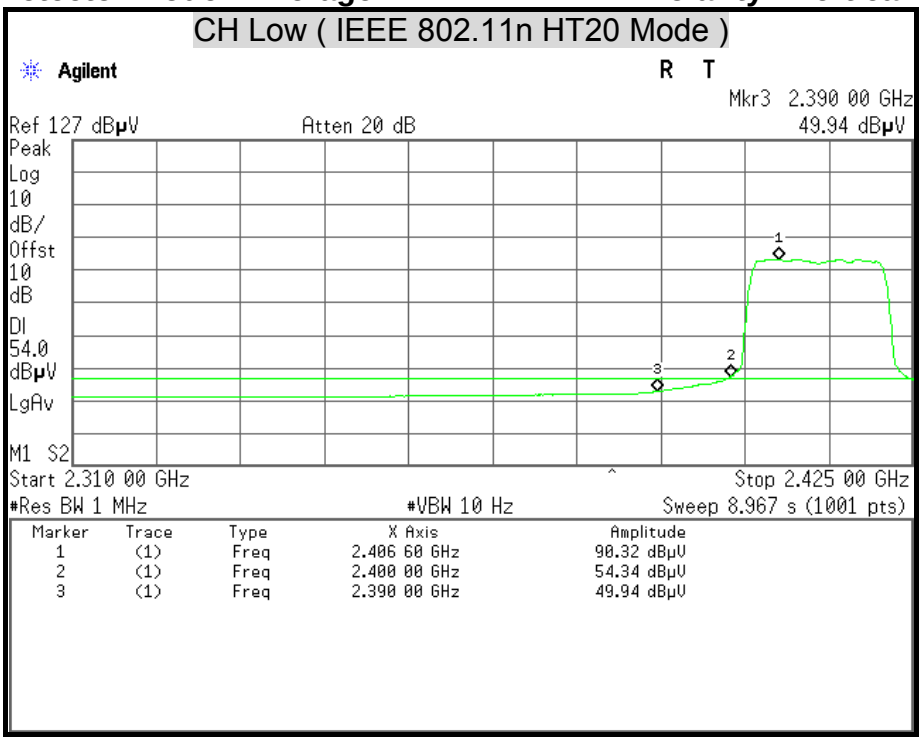
Detector Mode : Average **Polarity : Horizontal**



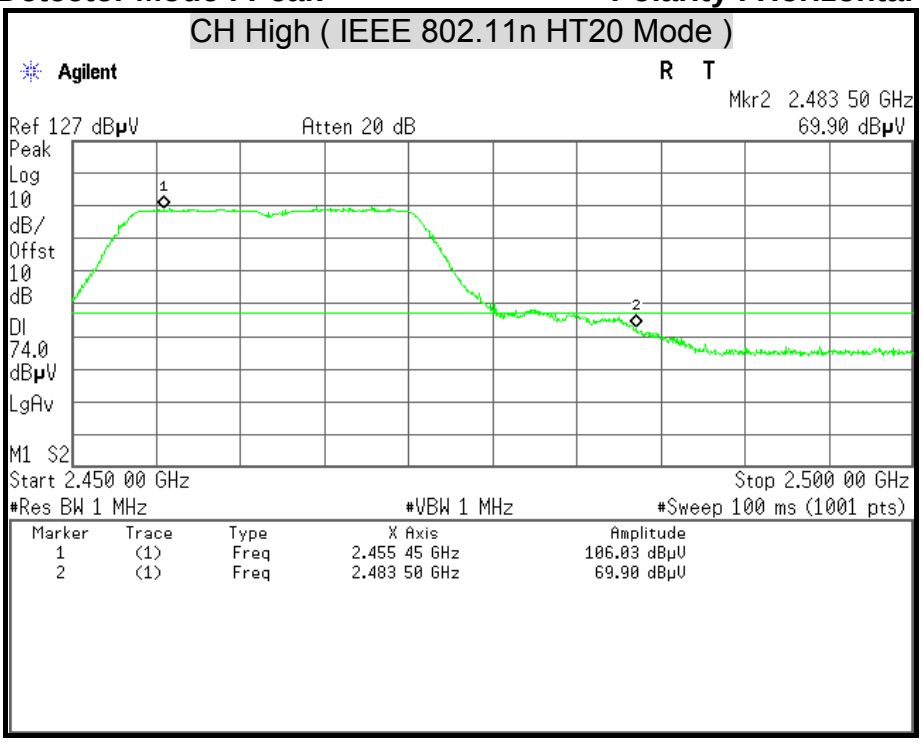
Detector Mode : Peak **Polarity : Vertical**



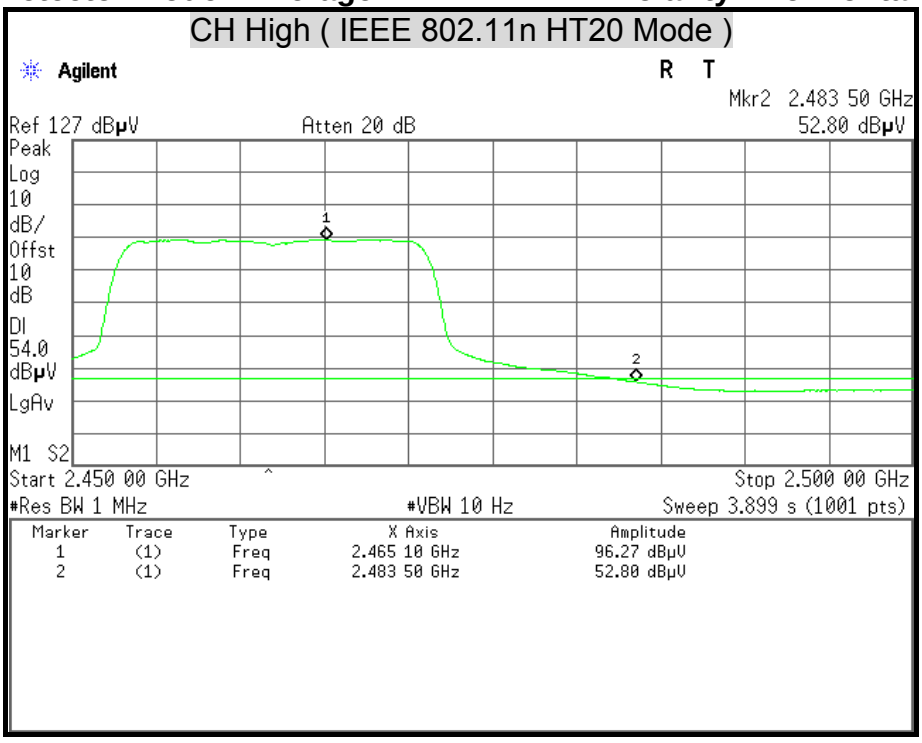
Detector Mode : Average **Polarity : Vertical**



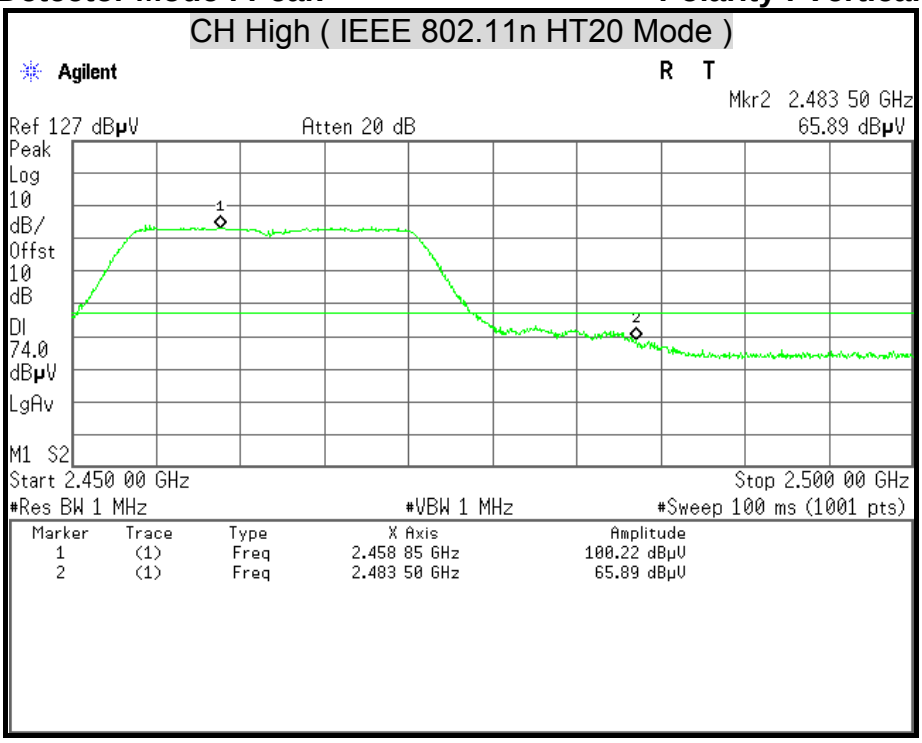
Detector Mode : Peak **Polarity : Horizontal**



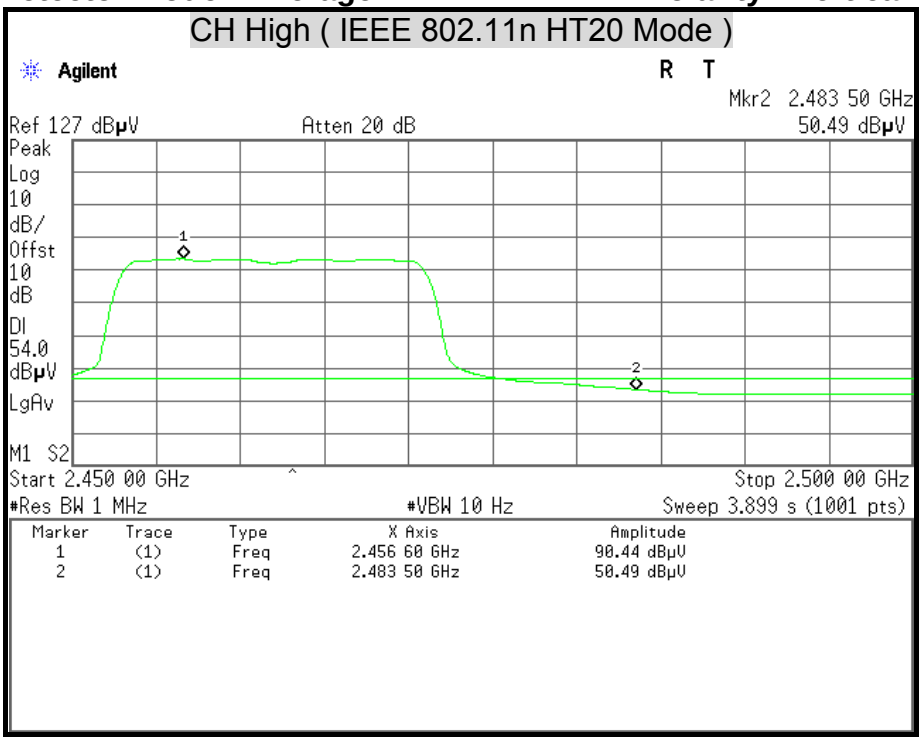
Detector Mode : Average **Polarity : Horizontal**



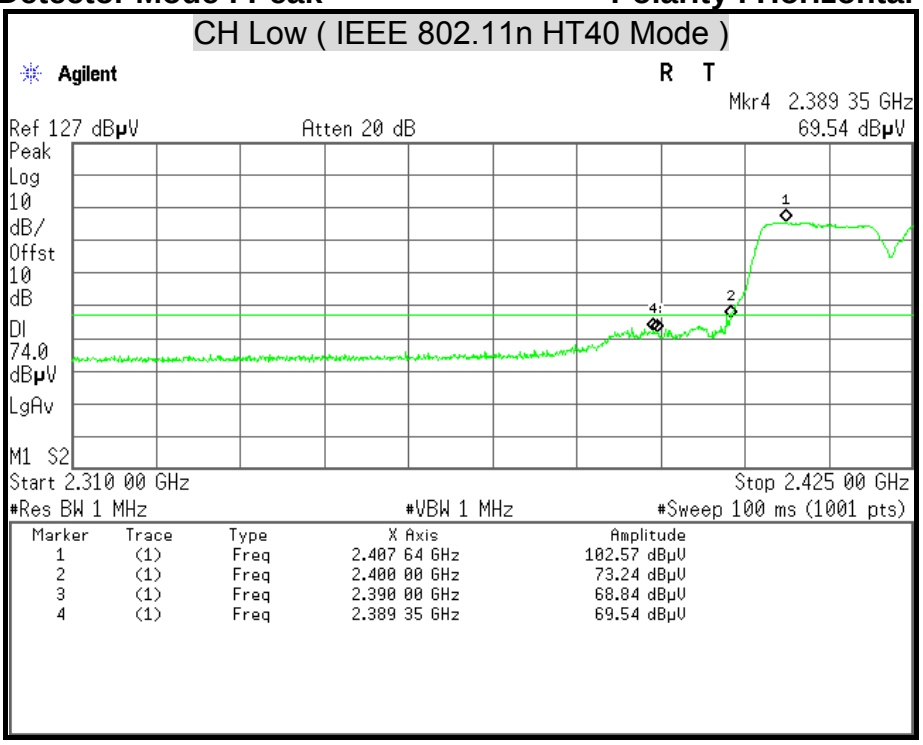
Detector Mode : Peak **Polarity : Vertical**



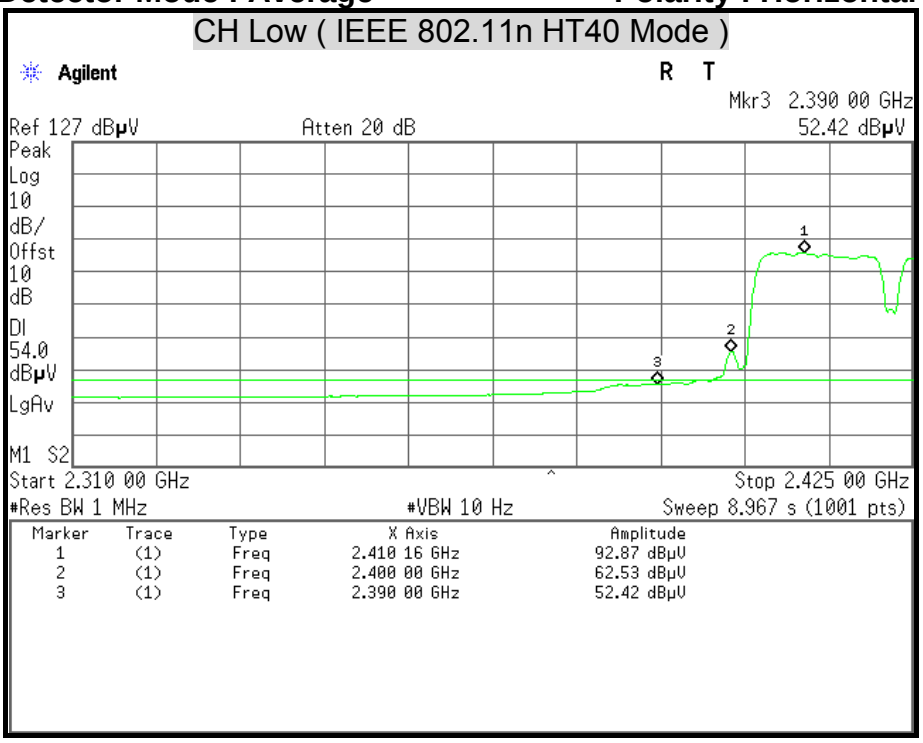
Detector Mode : Average **Polarity : Vertical**



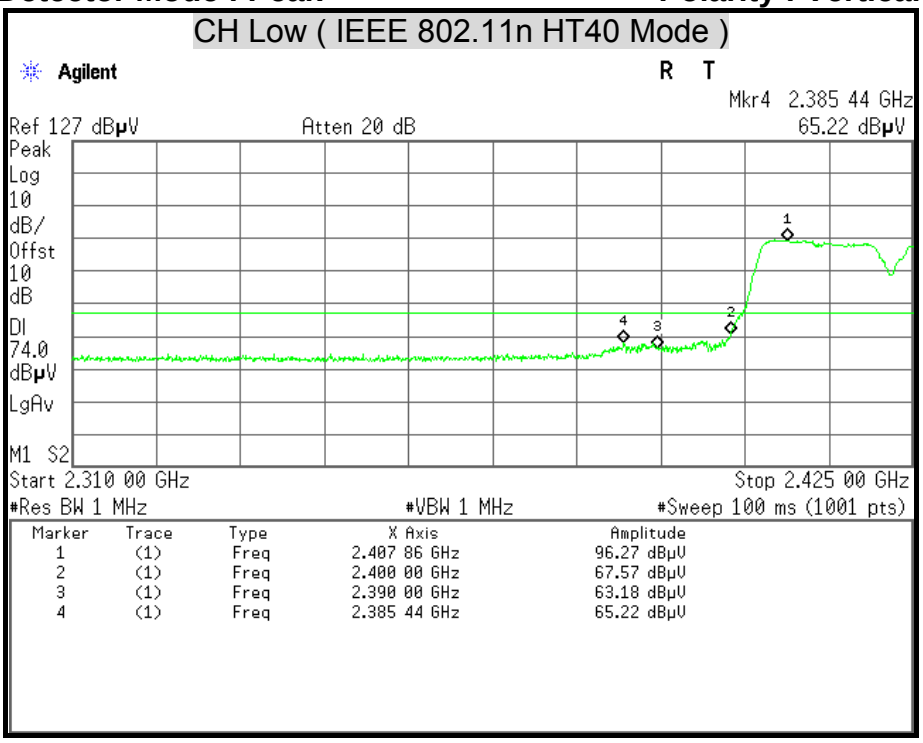
Detector Mode : Peak **Polarity : Horizontal**



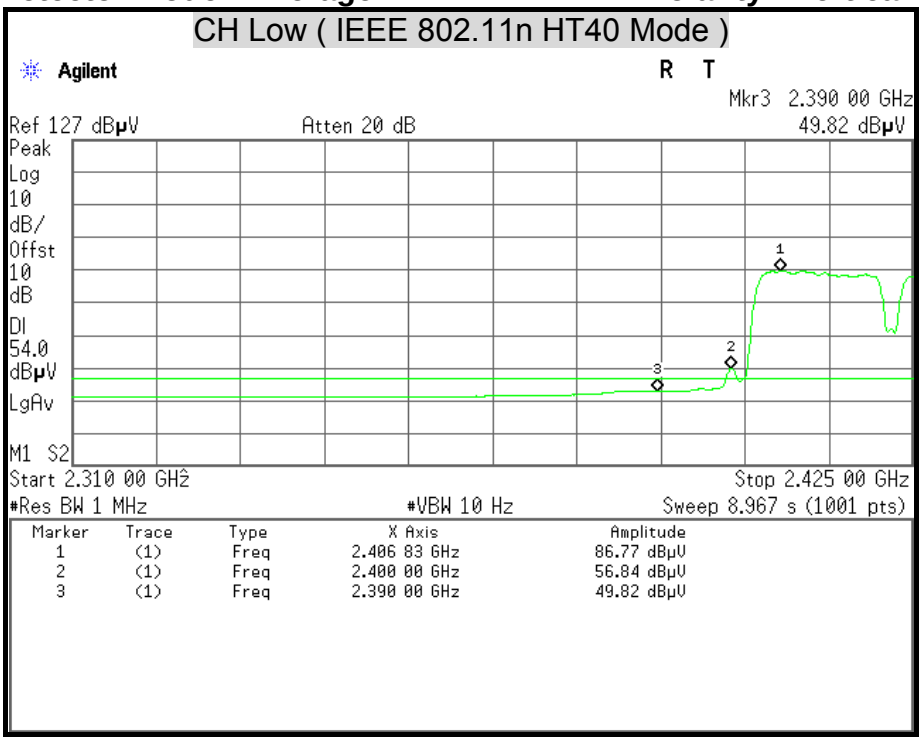
Detector Mode : Average **Polarity : Horizontal**



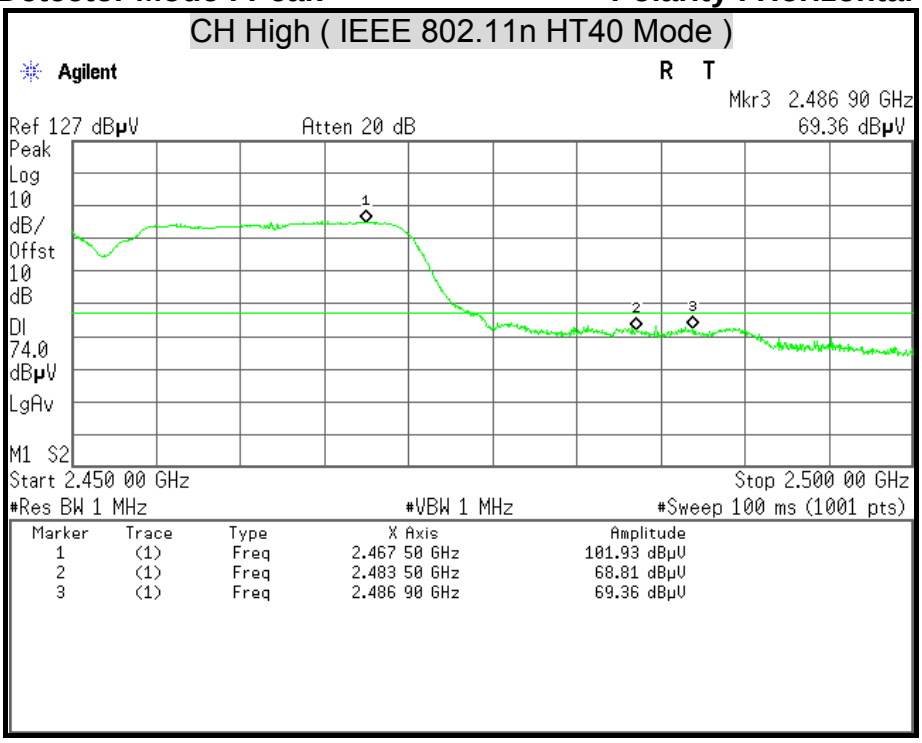
Detector Mode : Peak **Polarity : Vertical**



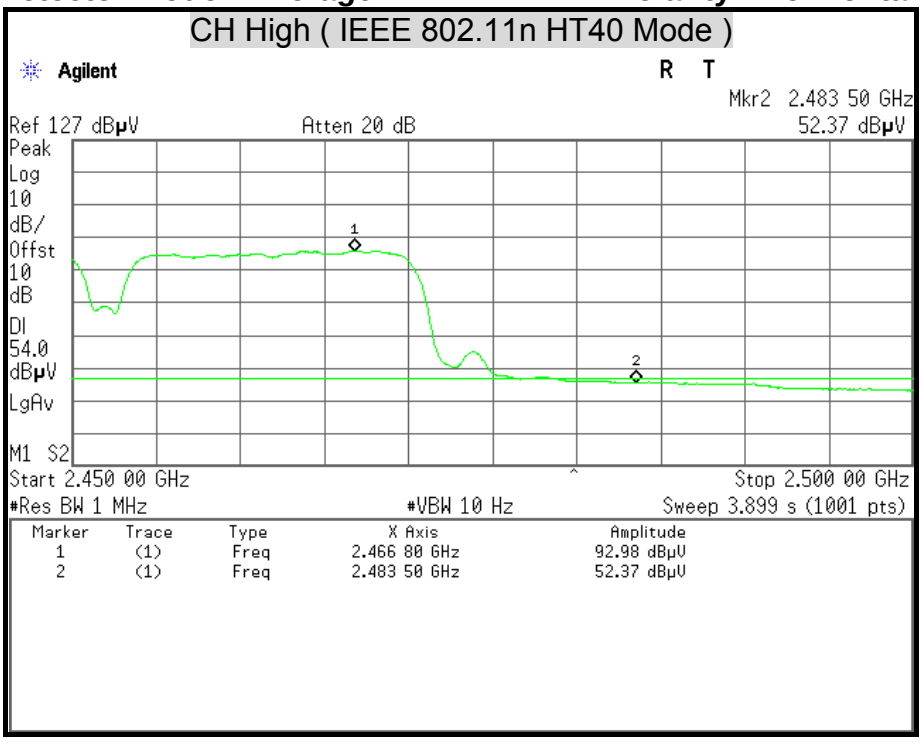
Detector Mode : Average **Polarity : Vertical**



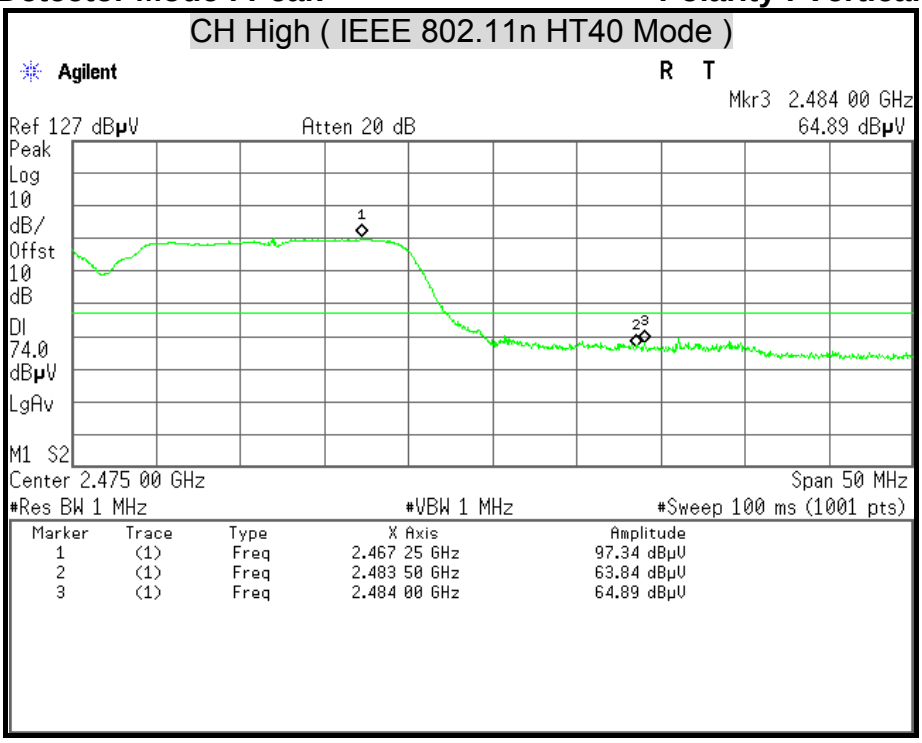
Detector Mode : Peak **Polarity : Horizontal**



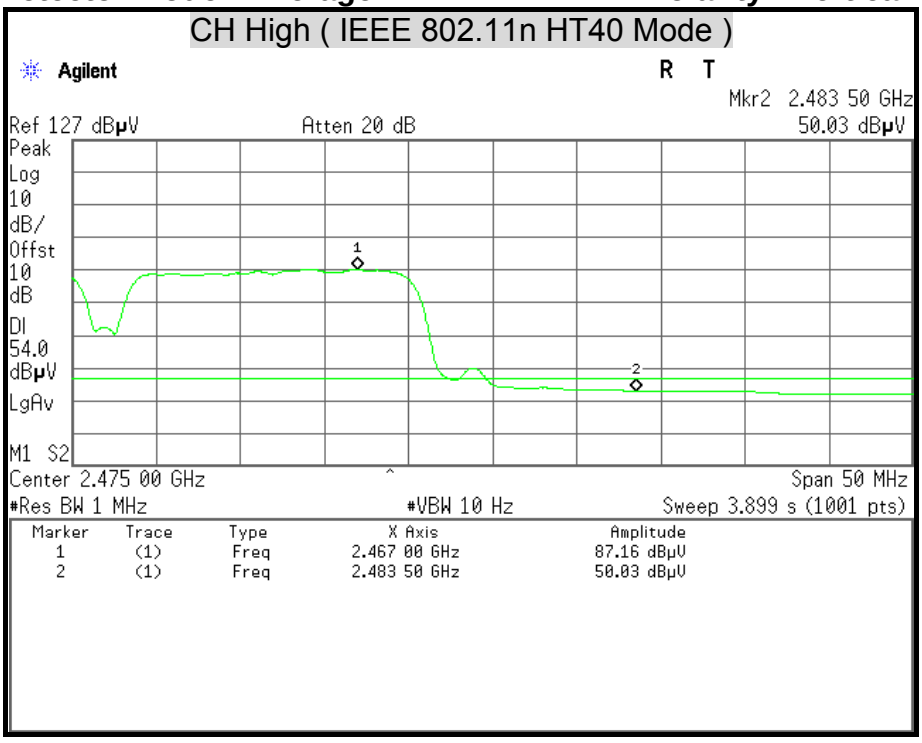
Detector Mode : Average **Polarity : Horizontal**



Detector Mode : Peak **Polarity : Vertical**



Detector Mode : Average **Polarity : Vertical**



7.6 CONDUCTED EMISSION

LIMITS

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

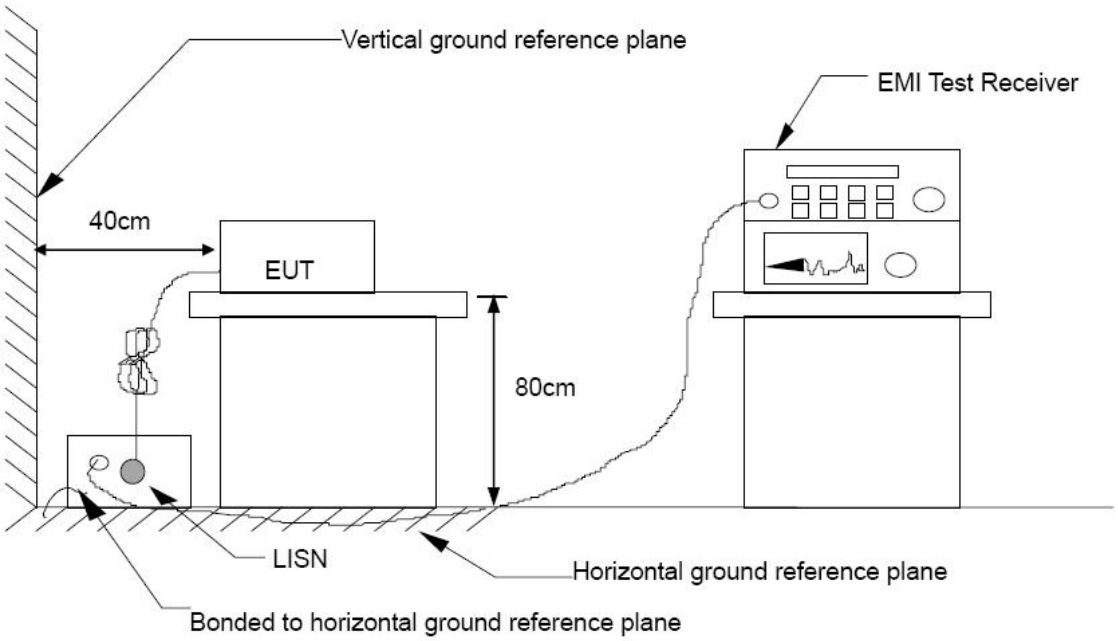
Frequency Range (MHz)	Conducted Limit (dBμv)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5.00	56	46
5.00 - 30.0	60	50

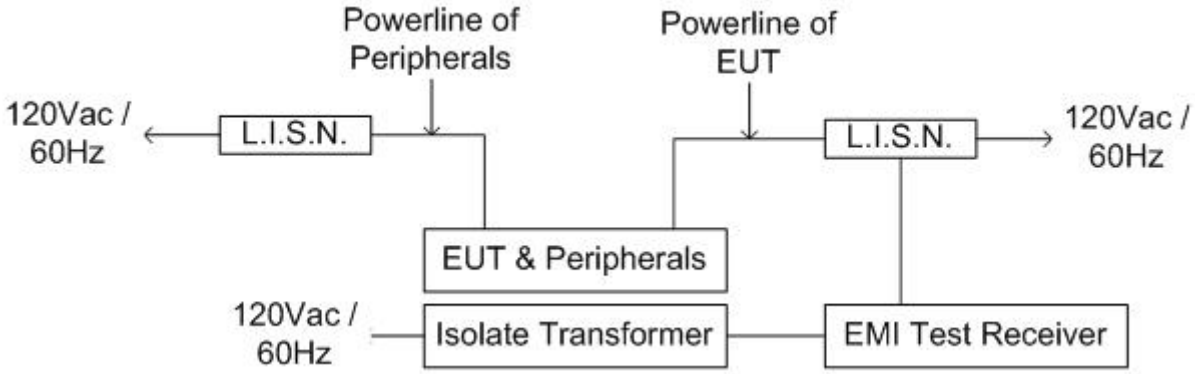
TEST EQUIPMENT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-465	08/09/2012
L.I.S.N	SCHWARZBECK	NSLK 8127	8127-473	03/12/2013
EMI Receiver	ROHDE & SCHWARZ	ESCS 30	835418/008	10/20/2012
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	100117	07/03/2013

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

TEST SETUP





TEST PROCEDURE

The basic test procedure was in accordance with ANSI C63.4:2009.

The test procedure is performed in a 4m × 3m × 2.4m (L×W×H) shielded room.

The EUT along with its peripherals were placed on a 1.0m (W) × 1.5m (L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.

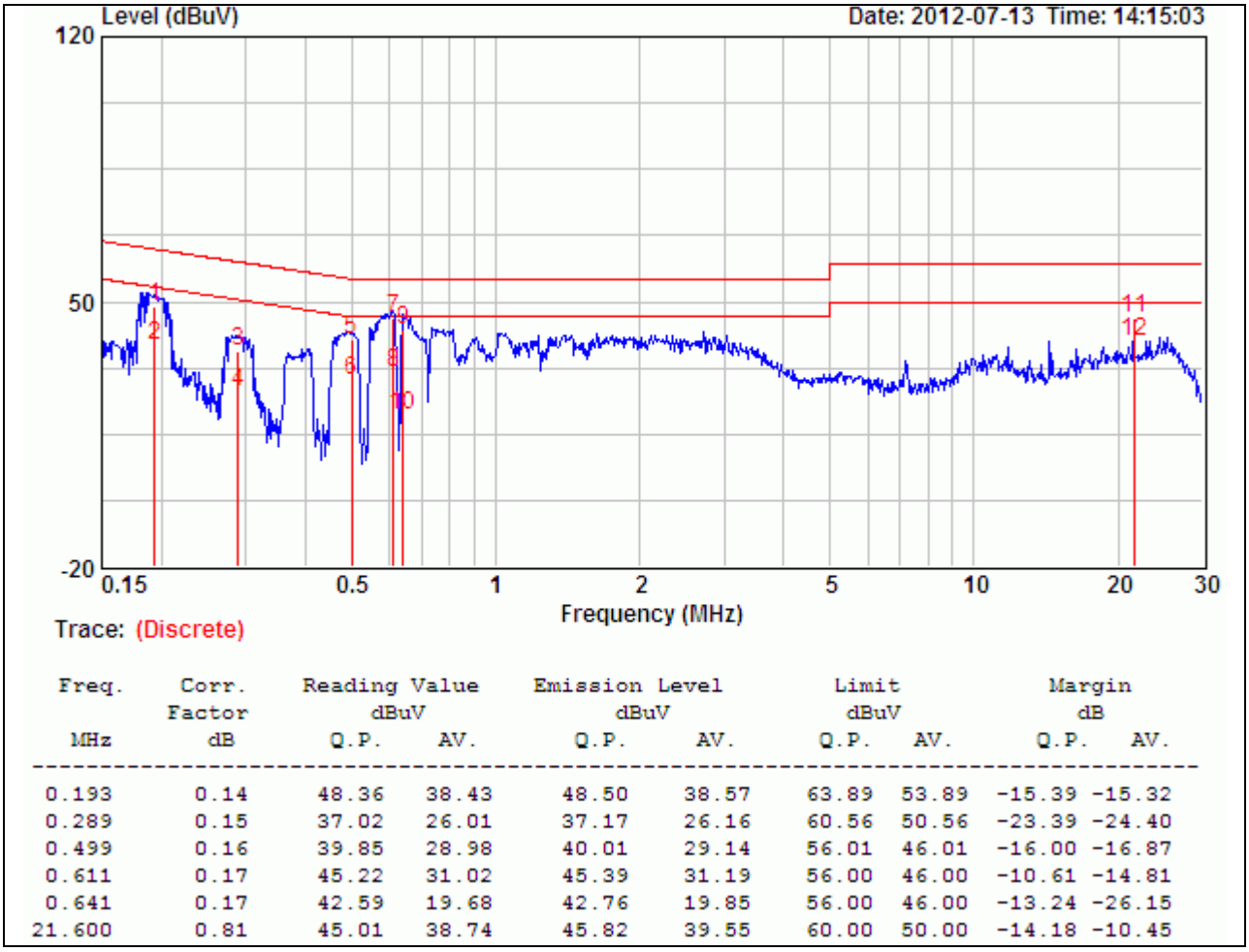
The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.

The EUT was located so that the distance between the boundary of the EUT and the closest surface of the LISN is 0.8 m. Where a mains flexible cord was provided by the manufacturer shall be 1 m long, or if in excess of 1 m, the excess cable was folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

TEST RESULTS

Product Name	Display Unit	Test By	Bell Huang
Test Model	EEHD301	Test Date	2012/07/13
Test Mode	Normal Operating	Temp. & Humidity	25°C, 57%

LINE



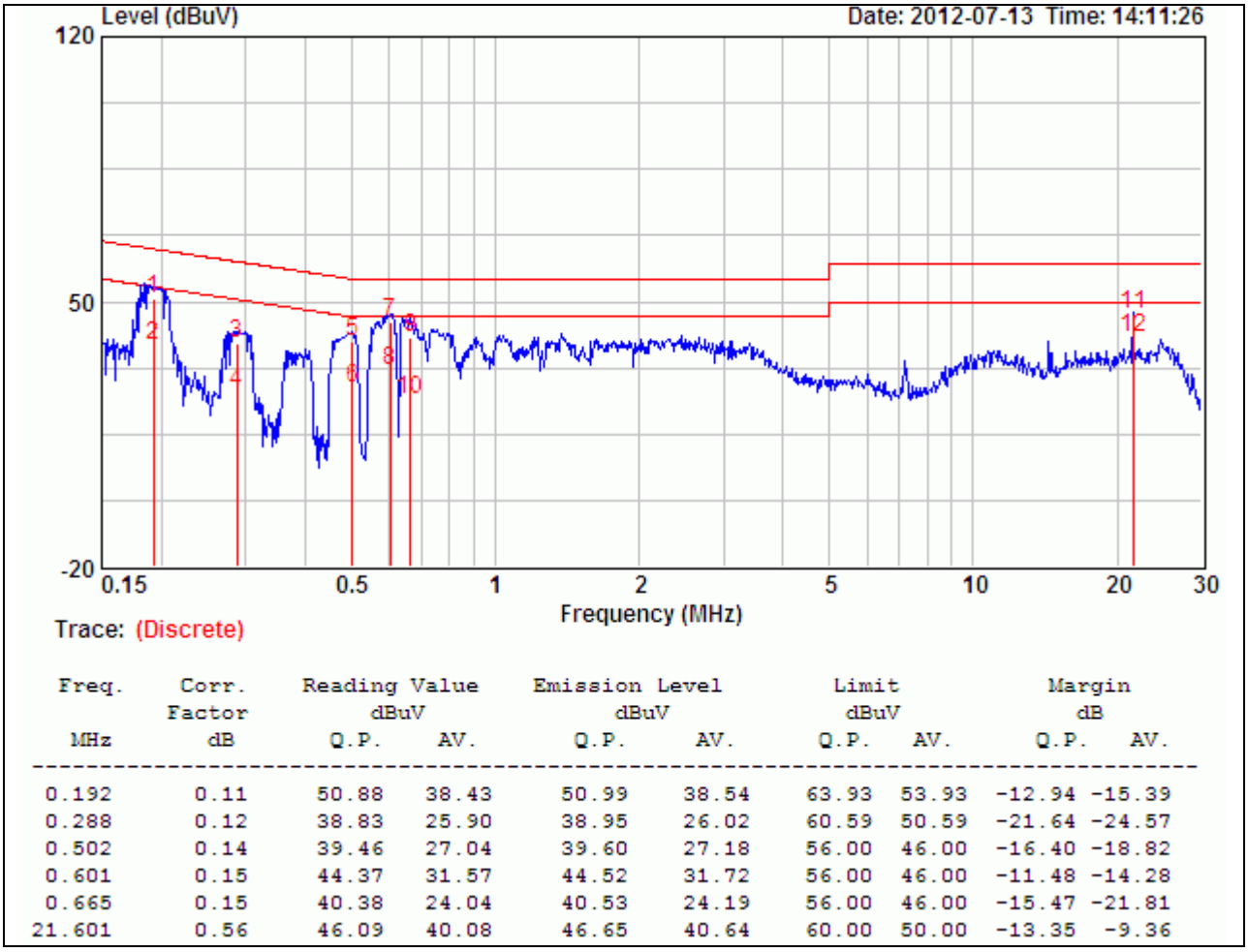
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV AV.	Emission Level dBuV Q.P.	Emission Level dBuV AV.	Limit dBuV Q.P.	Limit dBuV AV.	Margin dB Q.P.	Margin dB AV.
0.193	0.14	48.36	38.43	48.50	38.57	63.89	53.89	-15.39	-15.32
0.289	0.15	37.02	26.01	37.17	26.16	60.56	50.56	-23.39	-24.40
0.499	0.16	39.85	28.98	40.01	29.14	56.01	46.01	-16.00	-16.87
0.611	0.17	45.22	31.02	45.39	31.19	56.00	46.00	-10.61	-14.81
0.641	0.17	42.59	19.68	42.76	19.85	56.00	46.00	-13.24	-26.15
21.600	0.81	45.01	38.74	45.82	39.55	60.00	50.00	-14.18	-10.45

Remark:

1. *Correction Factor = Insertion loss + Cable loss*
2. *Emission level = Reading Value + Correction factor*
3. *Margin value = Emission level – Limit value*

Product Name	Display Unit	Test By	Bell Huang
Test Model	EEHD301	Test Date	2012/07/13
Test Mode	Normal Operating	Temp. & Humidity	25°C, 57%

NEUTRAL



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV AV.	Emission Level dBuV Q.P.	Emission Level dBuV AV.	Limit dBuV Q.P.	Limit dBuV AV.	Margin dB Q.P.	Margin dB AV.
0.192	0.11	50.88	38.43	50.99	38.54	63.93	53.93	-12.94	-15.39
0.288	0.12	38.83	25.90	38.95	26.02	60.59	50.59	-21.64	-24.57
0.502	0.14	39.46	27.04	39.60	27.18	56.00	46.00	-16.40	-18.82
0.601	0.15	44.37	31.57	44.52	31.72	56.00	46.00	-11.48	-14.28
0.665	0.15	40.38	24.04	40.53	24.19	56.00	46.00	-15.47	-21.81
21.601	0.56	46.09	40.08	46.65	40.64	60.00	50.00	-13.35	-9.36

Remark:

1. *Correction Factor = Insertion loss + Cable loss*
2. *Emission level = Reading Value + Correction factor*
3. *Margin value = Emission level – Limit value*

8. ANTENNA REQUIREMENT

8.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is PIFA antenna. The maximum Gain of the antenna only 2.07dBi.