

# FCC TEST REPORT

For

**Notebook Computer**

**Model Number: A86, A86M, A0212**

**FCC ID: KXYA86**

**Report Number : WT098003518**

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## Test report declaration

Applicant : CHINA GREATWALL COMPUTER SHENZHEN CO., LTD.  
Address : Greatwall Bldg., Science & Industry Park, Nanshan District, Shenzhen,  
: P. R. China  
Manufacturer : CHINA GREATWALL COMPUTER SHENZHEN CO., LTD.  
Address : Greatwall Bldg., Science & Industry Park, Nanshan District, Shenzhen,  
: P. R. China  
EUT  
Description : Notebook Computer  
Model No : A86, A86M, A0212  
Trade mark : Greatwall  
Serial Number : (No)  
FCC ID : KXYA86

### Test Standards:

**FCC Part 15B, Part 15C, §15.247, §15.107, §15.109, §15.203, §15.205, §15.207, §15.209;**

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with FCC Rules Part 15.207, 15.209 and 15.247.

The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project  
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Checked by: Ryan Chen Date: 2010-03-09  
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Approved by: Peter Lin Date: 2010-03-09  
(Peter Lin)

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# 1. TEST RESULTS SUMMARY

Table 1 Test Results Summary

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Results</b>
§15.247 (i), §1.1310(b) (1), §2.1091	Maximum Permissible Exposure (MPE)	Compliant
§ 15.203, 15.247 (c)	Antenna Requirement	Compliant
§15.107(a), §15.207 (a)	Conducted Emissions	Compliant
§ 15.247 (d), §15.205, §15.109, §15.209	Radiated Emissions and Band edges	Compliant
§ 15.247 (a) (2)	6dB Bandwidth	Refer to 80815201-RP1 report FCC ID: TLZ-NU706
§ 15.247 (b) (3)	Maximum Peak Conducted Output Power	Refer to 80815201-RP1 report FCC ID: TLZ-NU706
§15.247(e)	Power Spectral Density	Refer to 80815201-RP1 report FCC ID: TLZ-NU706

Remark:

“ N/A” means “ Not applicable.”

Device category: Mobile (WLAN antennae installed in the lid (display) which provides at least 20 cm separation from the user body with the lid open, at top of display section), refer to EUT photo please.

## 2. GENERAL INFORMATION

### 2.1. Report information

2.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

2.1.2. The sample/s mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

2.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

### 2.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at Bldg. of Metrology & Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, Guangdong, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number are 97379(open area test site) and 274801(semi anechoic chamber).

The Laboratory is listed in Voluntary Control Council for Interference by Information Technology Equipment (VCCI), and the registration number are R-1974(open area test site), R-1966(semi anechoic chamber), C-2117(mains ports conducted interference measurement) and T-180(telecommunication ports conducted interference measurement).

The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is IC4174.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is E2024086Z02.

### **2.3.Measurement Uncertainty**

#### **Conducted Emission**

9 kHz~30MHz	3.5dB
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#### **Radiated Emission**

30MHz~1000MHz	4.5dB
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1GHz~25GHz	4.6dB
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### 3. PRODUCT DESCRIPTION

#### 3.1.EUT Description

Table 2 EUT Description

Description	: Notebook Computer
Manufacturer	: CHINA GREATWALL COMPUTER SHENZHEN CO., LTD.
Model Number	: A86, A86M, A0212
Frequency Band	: 2400 MHz~2483.5 MHz
Carrier Frequency	: 802.11b/g/n(20MHz): 2412 MHz to 2462 MHz 802.11n(40MHz): 2422 MHz to 2452 MHz
Modulation	: DSSS: BPSK, QPSK, CCK; OFDM: BPSK, QPSK, 16QAM, 64QAM; 802.11b: DSSS; 1/2/5.5/11 Mbps 802.11g: OFDM; 6/9/12/18/24/36/48/54 Mbps 802.11n(20MHz): OFDM;
Data Rate	: 6.5/7.2/13/14.4/14.44/19.5/21.7/26/28.89/28.9/39/43.3/43.33/52/57.78 /57.8/58.5/65.0/72.2/78/86.67/104/15.56/117/130/144.44 Mbps; 802.11n(40MHz): OFDM; 13.5/15/27/30/40.5/45/54/60/81/90/108/120/121.5/135/150/162/180/2 16/240/243/270/300 Mbps
Antenna Type/ Pattern	: PIFA/ Omni-Directional
Connector Type/ Maximum Gain	: I-PEX / 1.8dBi Max.
Antenna diversity	802.11n (20MHz/40MHz): 1 transmitter chain, and 2 receiver chains.
Power Type	: From Host system Model: ADP40S-1902100
Adaptor	: Input: 100VAC ~240VAC, 50/60Hz, 1.5A Output: 19VDC,2.1A



Communication port : WLAN Port;

Remark:

1. The models are all the same in schematic diagram and critical components except for marketing strategy. So the A86 model was selected to test.
2. The CPU working frequency is at 1.6 GHz, and the WLAN RF frequency up to 2462 MHz.

Table 3 RF Carrier Frequency List (IEEE 802.11b/g/n ( 20MHz))

Channel No.	Center Frequency (MHz)	Channel No.	Center Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	--	--
6	2437	--	--
7	2442	--	--

Table 4 RF Carrier Frequency List (IEEE 802.11n ( 40MHz))

Channel No.	Center Frequency (MHz)	Channel No.	Center Frequency (MHz)
1	2422	--	--
2	2427	--	--
3	2432	--	--
4	2437	--	--
5	2442	--	--
6	2447	--	--
7	2452	--	--

### 3.2. Related Submittal(s) / Grant (s)

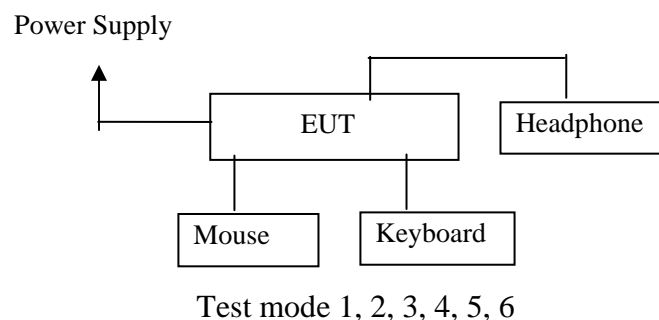
This Type approval report is prepared on behalf of Notebook Computer, in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart B, Subpart C, and sections 15.107, 15.109, 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

### 3.3. Related Submittal(s) / Grant (s)

No related submittal(s).

### 3.4. Block Diagram of EUT Configuration



### 3.5. Operating Condition of EUT

Test mode 1: Run test program

Test mode 2: IEEE802.11b Transmitting

Test mode 3: IEEE802.11g Transmitting

Test mode 4: IEEE802.11n (20MHz) Transmitting

Test mode 5: IEEE802.11n (40MHz) Transmitting

Test mode 6: IEEE802.11b/g/n Receiving

### 3.6. Support Equipment List

Table 5 Support Equipment List

Name	Model No	S/N	Manufacturer
Keyboard(PS/2)	SK-8811	01669394	IBM
Mouse(PS/2)	MU29J	--	IBM
Headphone	--	--	Great wall

### 3.7. Test Conditions

Date of test: 2009-09-10 to 2010-03-09

Date of EUT Receive: 2009-09-10

Temperature: 20-30 °C

Relative Humidity: 45-60 %

### 3.8. Special Accessories

No available for this EUT intended for grant.

### 3.9. Equipment Modifications

No available for this EUT intended for grant.

### 3.10. Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

#### 4. TEST EQUIPMENT USED

Table 6 Test Equipment

No.	Equipment	Manufacturer	Model No.	Last Cal.	Cal. Interval
SB2603	EMI Test Receiver	Rohde & Schwarz	ESCS30	Jan.23, 2010	1 Year
SB3321	AMN	Rohde & Schwarz	ESH2-Z5	Jan.23, 2010	1 Year
SB2604	AMN	Rohde & Schwarz	ESH3-Z5	Jan.23, 2010	1 Year
SB3436	EMI Test Receiver	Rohde & Schwarz	ESI26	Jan.23, 2010	1 Year
SB3440	Bilog Antenna	Chase	CBL6112B	Jan.23, 2010	1 Year
SB3435	Horn Antenna	Rohde & Schwarz	HF906	Jan.23, 2010	1 Year
SB3435/01	Amplifier(1-18GHz)	Rohde & Schwarz	---	Jan.23, 2010	1 Year
SB3435/02	Amplifier(18-40GHz)	Rohde & Schwarz	---	May.03, 2009	1 Year
SB3435/03	Horn Antenna	Rohde & Schwarz	AT4560	May.03, 2009	1 Year
SB3450/01	3m Semi-anechoic chamber	Albatross Projects	9X6X6	Jan.30, 2010	2 Years
SB3437/02	Power probe	Rohde & Schwarz	URV5-Z2	Jan.23, 2010	1 Year
SB3437	Power meter	Rohde & Schwarz	NRVD	Jan.23, 2010	1 Year
---	Power combiner	4226	Huatong	Jan.23, 2010	1 Year

## 5. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### 5.1. Test Standard and Limit

#### 5.1.1. Test Standard

FCC §15.247 (i), §1.1310(b) (1), §2.1091

#### 5.1.2. Test Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Radio frequency radiation exposure was calculated based on § 1.1310 limits.

Table 7: Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
<b>Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	21.7	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

Note: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

## 5.2. Test Data

Prediction of MPE limit at a given distance.

This EUT is a Notebook Computer, installed with one 802.11b/g/n (20/40MHz) wireless USB mini card inside (AW-NU706); and one WLAN antenna installed in the lid (display) which provides at least 20 cm separation from the user body with the lid open (at top of display section); please refer to 80815201-RP1 report, FCC ID: TLZ-NU706, i.e., 47 CFR FCC Part 15 Subpart C § 15.247.

$$S = PG/4\pi R^2$$

Where: S = power density

P = power input to antenna

G = power gain of the antenna

R = distance to the center of radiation of the antenna

### 802.11b mode:

Maximum peak output power at antenna input terminal:	16.66dBm
Maximum peak output power at antenna input terminal:	46.34mW
Prediction distance:	20 cm
Prediction frequency:	2412 MHz
Antenna gain (actual):	1.8dBi
Antenna gain (numeric):	1.51
Power density at the predication frequency at 20 cm:	0.014mW/cm <sup>2</sup>

### 802.11g mode:

Maximum peak output power at antenna input terminal:	17.58dBm
Maximum peak output power at antenna input terminal:	57.28mW
Prediction distance:	20 cm
Prediction frequency:	2412 MHz
Antenna gain (actual):	1.8dBi
Antenna gain (numeric):	1.51
Power density at the predication frequency at 20 cm:	0.017mW/cm <sup>2</sup>

### 802.11n (20MHz) mode:

Maximum peak output power at antenna input terminal:	16.31dBm
Maximum peak output power at antenna input terminal:	42.76mW
Prediction distance:	20 cm
Prediction frequency:	2412 MHz
Antenna gain (actual):	1.8dBi
Antenna gain (numeric):	1.51
Power density at the predication frequency at 20 cm:	0.013mW/cm <sup>2</sup>

**802.11n (40MHz) mode:**

Maximum peak output power at antenna input terminal:	14.24dBm
Maximum peak output power at antenna input terminal:	26.55mW
Prediction distance:	20 cm
Prediction frequency:	2422 MHz
Antenna gain (actual):	1.8dBi
Antenna gain (numeric):	1.51
Power density at the predication frequency at 20 cm:	0.008mW/cm <sup>2</sup>

**Test Results:** All of above results are compliance with the limit of 1.0 mW/cm<sup>2</sup>

## 6. ANTENNA REQUIREMENT

### 6.1. Test Standard and Limit

#### 6.1.1. Test Standard

FCC § 15.203, §15.247 (c)

#### 6.1.2. Test Limit

According to § 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria: Antenna must be permanently attached to the unit.

Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the 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.

### 6.2. Result

#### Compliance

The EUT has a component antenna which, in accordance to the above sections, is considered sufficient to comply with the provisions of these sections. Please see EUT photo for details.



There is warning information to user Inside User's Manual. The maximum gain is 1.8dBi for 802.11b, 802.11g, and 802.11n which in accordance to about sections, is considered sufficient to comply with the provisions of this section. The EUT under tested is compliant with §15.203.

## 7. CONDUCTED DISTURBANCE TEST

### 7.1. Test Standard and Limit

#### 7.1.1. Test Standard

FCC Part 15, §15.107(a), §15.207(a)

#### 7.1.2. Test Limit

Table 8 Conducted Disturbance Test Limit

Frequency	Maximum RF Line Voltage (dB $\mu$ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

\* Decreasing linearly with logarithm of the frequency

\* The lower limit shall apply at the transition frequency.

### 7.2. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). An EMI test receiver (R&S Test Receiver ESCS30) is used to test the emissions from both sides of AC line. According to the requirements in Section 7 and 13 of ANSI C63.4-2003. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

### 7.3. Test Arrangement

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

### 7.4. Test Data

The emissions don't show in below are too low against the limits. Refer to the test curves.

Table 9 Conducted Disturbance Test Data

<b>Test Date</b>	September 11, 2009		<b>Temperature</b>		25		°C						
<b>Test Result</b>	Pass		<b>Humidity</b>		51		%						
			<b>Atmosphere Pressure</b>		100.5		kPa						
			<b>Test Port</b>		AC Port								
<b>Test Mode</b>	Run Test Program												
<b>Line</b>							<b>Neutral</b>						
<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>		<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>	
	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>		<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>
MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB
0.190	48.9	41.9	64.0	54.0	-15.1	-12.1	0.190	45.7	35.4	64.0	54.0	-18.3	-18.6
0.266	43.7	33.7	61.2	51.2	-17.5	-17.5	0.266	41.5	32.3	61.2	51.2	-19.7	-18.9
2.230	31.8	17.6	56.0	46.0	-24.2	-28.4	0.842	38.6	29.5	56.0	46.0	-17.4	-16.5
2.480	32.6	19.9	56.0	46.0	-23.4	-26.1	1.510	33.4	26.8	56.0	46.0	-22.6	-19.2
14.320	27.3	18.8	60.0	50.0	-32.7	-31.2	2.683	37.9	31.5	56.0	46.0	-18.1	-14.5
20.110	30.4	19.3	60.0	50.0	-29.6	-30.7	21.930	36.8	29.4	60.0	50.0	-23.2	-20.6

REMARKS:

1. Emission level (dB $\mu$ V) = Read Value (dB $\mu$ V) + Correction Factor (dB)
2. Correction Factor (dB) = LISN Factor (dB) + Cable Factor (dB) + Limiter Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit

Table 10 Conducted Disturbance Test Data

<b>Test Date</b>	November 4, 2009		<b>Temperature</b>		24		°C						
<b>Test Result</b>	Pass		<b>Humidity</b>		33		%						
			<b>Atmosphere Pressure</b>		102.1		kPa						
			<b>Test Port</b>		AC Port								
<b>Test Mode</b>	802.11b Tx/Rx												
<b>Line</b>							<b>Neutral</b>						
<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>		<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>	
	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>		<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>
MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB
0.150	35.8	13.3	66.0	56.0	-30.2	-42.7	0.198	45.7	34.8	63.7	53.7	-18.0	-18.9
0.194	45.8	31.6	63.9	53.9	-18.1	-22.3	0.407	38.3	28.1	57.7	47.7	-19.4	-19.6
0.525	37.8	30.5	56.0	46.0	-18.2	-15.5	0.466	38.5	28.4	56.6	46.6	-18.1	-18.2
2.480	30.5	18.2	56.0	46.0	-25.5	-27.8	2.515	29.5	15.3	56.0	46.0	-26.5	-30.7
12.065	39.4	39.1	60.0	50.0	-20.6	-10.9	20.905	39.2	32.8	60.0	50.0	-20.8	-17.2
24.590	35.6	28.7	60.0	50.0	-24.4	-21.3	23.560	38.2	31.6	60.0	50.0	-21.8	-18.4

REMARKS:

1. Emission level (dB $\mu$ V) = Read Value (dB $\mu$ V) + Correction Factor (dB)
2. Correction Factor (dB) = LISN Factor (dB) + Cable Factor (dB) + Limiter Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit

Table 11 Conducted Disturbance Test Data

<b>Test Date</b>	November 4, 2009		<b>Temperature</b>		24		°C						
<b>Test Result</b>	Pass		<b>Humidity</b>		33		%						
			<b>Atmosphere Pressure</b>		102.1		kPa						
			<b>Test Port</b>		AC Port								
<b>Test Mode</b>	802.11g Tx/Rx												
<b>Line</b>							<b>Neutral</b>						
<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>		<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>	
	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>		<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>
MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB
0.194	43.8	29.1	63.9	53.9	-20.1	-24.8	0.194	45.1	30.5	63.9	53.9	-18.8	-23.4
0.466	40.7	33.0	56.6	46.6	-15.9	-13.6	0.458	40.5	32.4	56.7	46.7	-16.2	-14.3
0.750	34.0	19.2	56.0	46.0	-22.0	-26.8	0.525	38.4	29.8	56.0	46.0	-17.6	-16.2
2.330	30.5	15.4	56.0	46.0	-25.5	-30.6	2.450	29.6	15.7	56.0	46.0	-26.4	-30.3
20.785	36.5	30.4	60.0	50.0	-23.5	-19.6	20.575	38.6	32.7	60.0	50.0	-21.4	-17.3
23.205	33.8	27.6	60.0	50.0	-26.2	-22.4	23.325	36.8	30.8	60.0	50.0	-23.2	-19.2

REMARKS:

1. Emission level (dB $\mu$ V) = Read Value (dB $\mu$ V) + Correction Factor (dB)
2. Correction Factor (dB) = LISN Factor (dB) + Cable Factor (dB) + Limiter Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit

Table 12 Conducted Disturbance Test Data

<b>Test Date</b>	November 4, 2009		<b>Temperature</b>		24		°C						
<b>Test Result</b>	Pass		<b>Humidity</b>		33		%						
			<b>Atmosphere Pressure</b>		102.1		kPa						
			<b>Test Port</b>		AC Port								
<b>Test Mode</b>	802.11 n (20MHz) Tx/Rx												
<b>Line</b>							<b>Neutral</b>						
<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>		<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>	
	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>		<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>
MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB	MHz	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB $\mu$ V	dB	dB
0.194	43.7	29.3	63.9	53.9	-20.2	-24.6	0.194	44.2	29.8	63.9	53.9	-19.7	-24.1
0.478	39.8	27.5	56.4	46.4	-16.6	-18.9	0.262	39.1	27.9	61.4	51.4	-22.3	-23.5
2.435	30.3	17.5	56.0	46.0	-25.7	-28.5	0.474	41.6	31.9	56.4	46.4	-14.8	-14.5
12.065	39.2	39.0	60.0	50.0	-20.8	-11.0	1.345	33.8	18.6	56.0	46.0	-22.2	-27.4
21.815	36.8	31.1	60.0	50.0	-23.2	-18.9	12.065	40.3	39.9	60.0	50.0	-19.7	-10.1
24.130	39.6	38.5	60.0	50.0	-20.4	-11.5	20.645	44.2	31.8	60.0	50.0	-15.8	-18.2

REMARKS:

1. Emission level (dB $\mu$ V) =Read Value (dB $\mu$ V) + Correction Factor (dB)
2. Correction Factor (dB) =LISN Factor (dB) + Cable Factor (dB) +Limiter Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit

Table 13 Conducted Disturbance Test Data

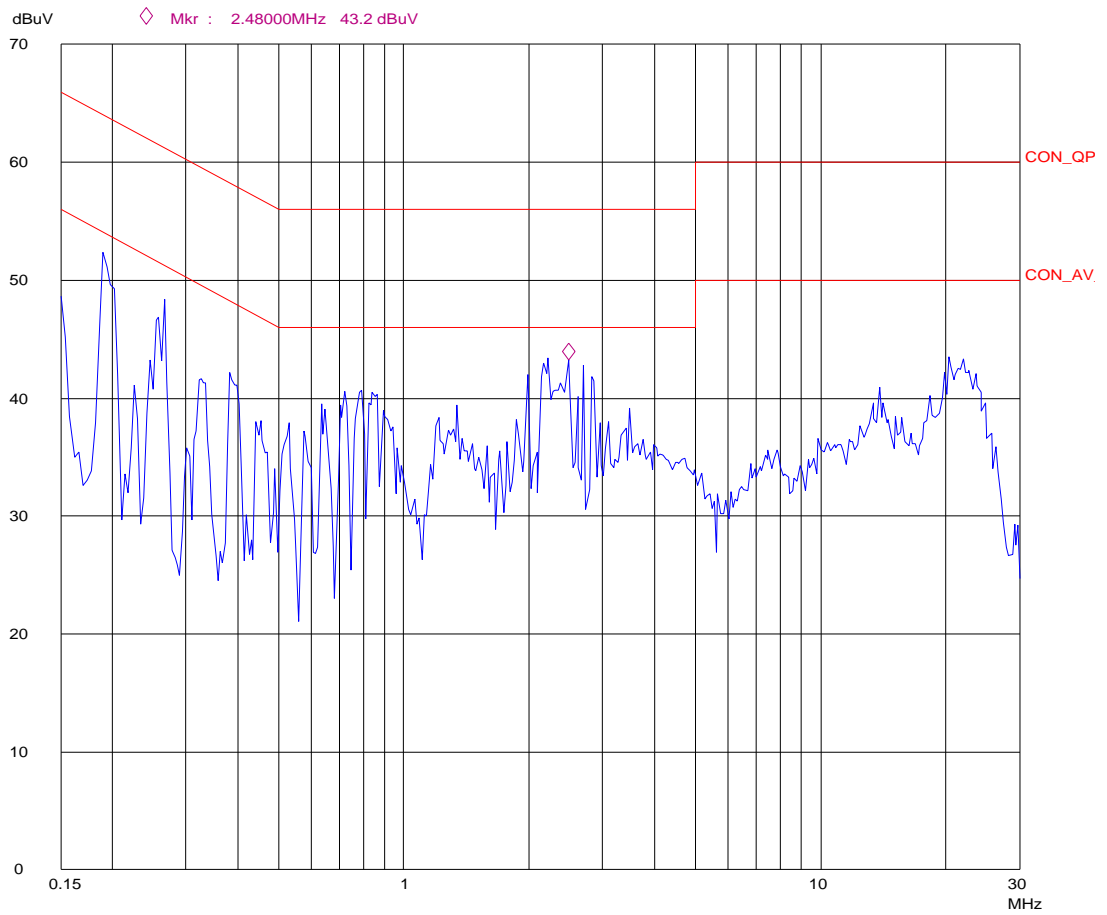
<b>Test Date</b>	November 4, 2009		<b>Temperature</b>		24		°C						
<b>Test Result</b>	Pass		<b>Humidity</b>		33		%						
			<b>Atmosphere Pressure</b>		102.1		kPa						
			<b>Test Port</b>		AC Port								
<b>Test Mode</b>	802.11 n (40MHz) Tx/Rx												
<b>Line</b>							<b>Neutral</b>						
<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>		<b>Freq.</b>	<b>Readings</b>		<b>Limit</b>		<b>Margin</b>	
	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>		<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>	<b>QP</b>	<b>AV</b>
<b>MHz</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB</b>	<b>dB</b>	<b>MHz</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB<math>\mu</math>V</b>	<b>dB</b>	<b>dB</b>
0.194	43.8	29.4	63.9	53.9	-20.1	-24.5	0.198	44.5	33.2	63.7	53.7	-19.2	-20.5
0.466	40.6	33.1	56.6	46.6	-16.0	-13.5	0.470	41.4	33.4	56.5	46.5	-15.1	-13.1
1.330	32.9	17.3	56.0	46.0	-23.1	-28.7	2.480	30.8	16.1	56.0	46.0	-25.2	-29.9
2.100	30.2	18.0	56.0	46.0	-25.8	-28.0	12.065	40.1	39.9	60.0	50.0	-19.9	-10.1
12.065	39.4	39.0	60.0	50.0	-20.6	-11.0	18.100	38.9	36.7	60.0	50.0	-21.1	-13.3
22.510	36.0	30.1	60.0	50.0	-24.0	-19.9	20.860	37.2	31.1	60.0	50.0	-22.8	-18.9

REMARKS:

1. Emission level (dB $\mu$ V) =Read Value (dB $\mu$ V) + Correction Factor (dB)
2. Correction Factor (dB) =LISN Factor (dB) + Cable Factor (dB) +Limiter Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit

# Conducted Disturbance

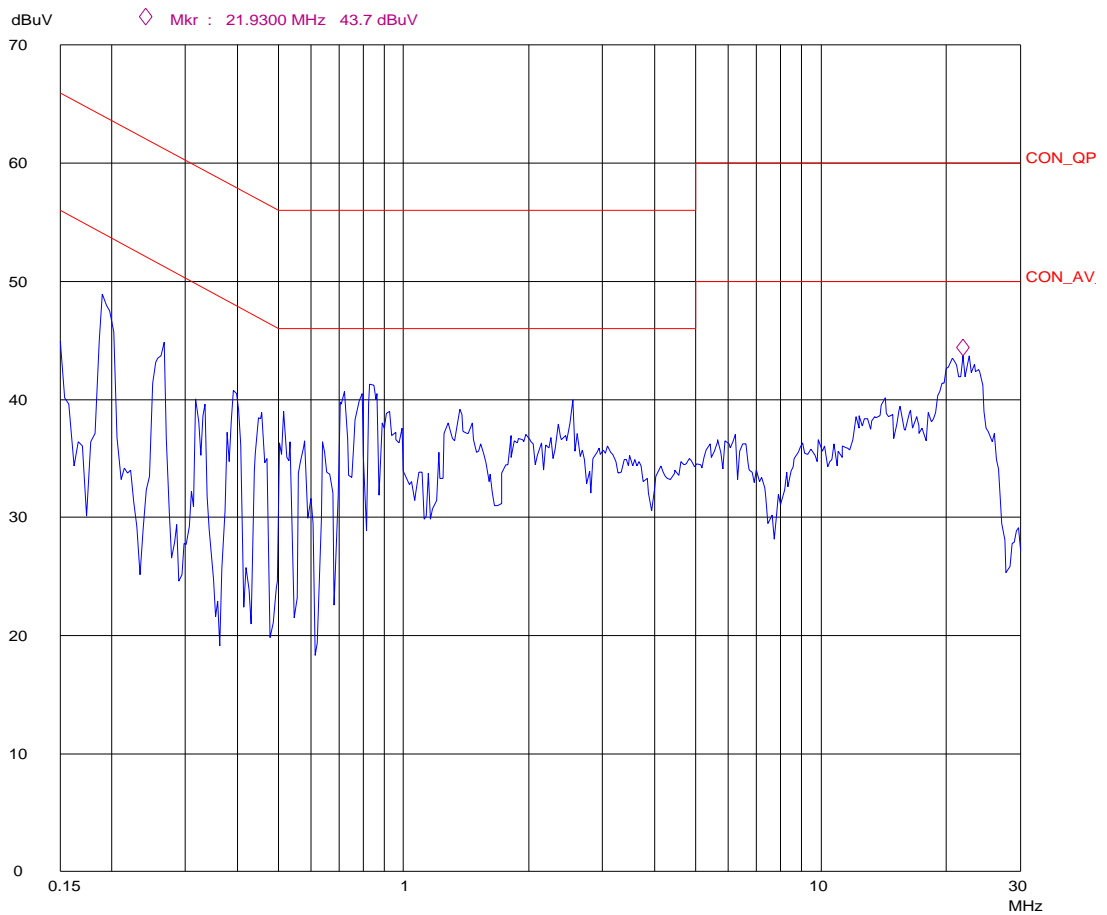
EUT: M/N:A86  
Op Cond: Run test program  
Test Spec: L  
Comment: AC 120V/60Hz





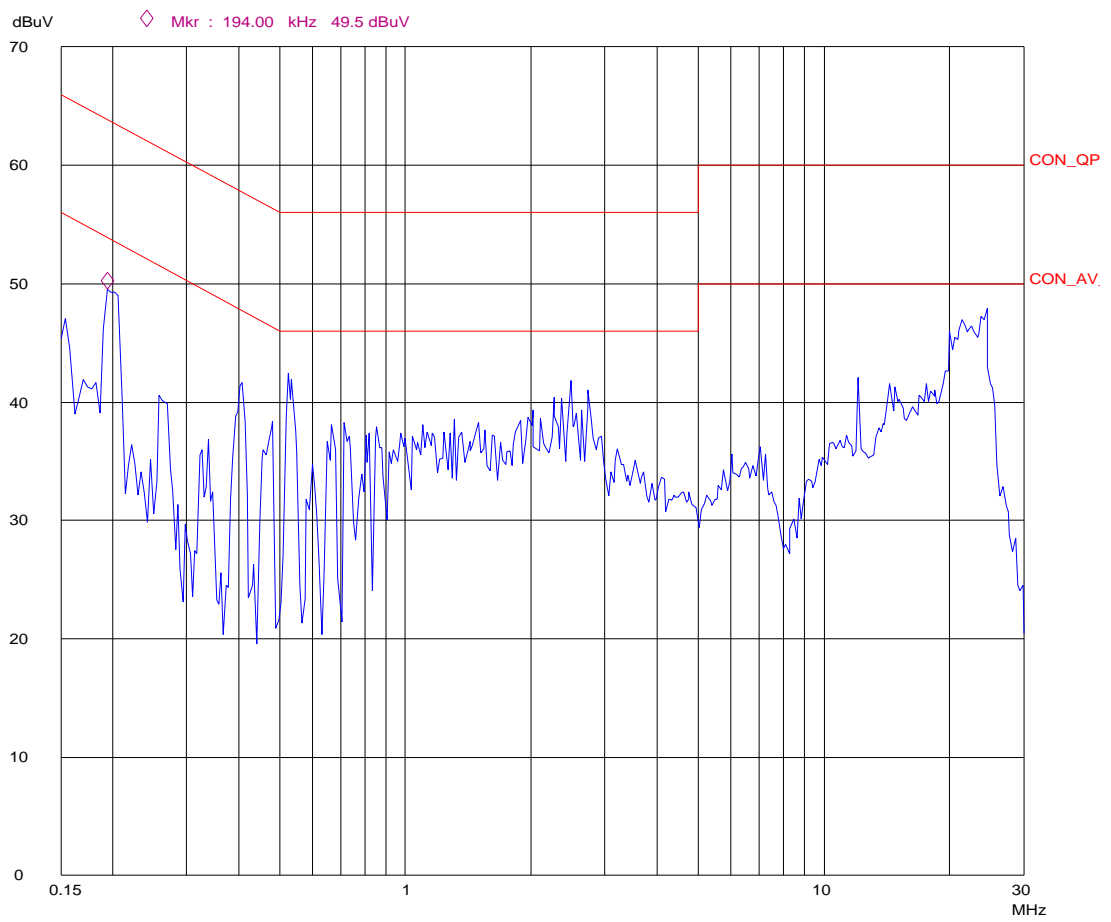
# Conducted Disturbance

EUT: M/N:A86  
Op Cond: Run test program  
Test Spec: N  
Comment: AC 120V/60Hz



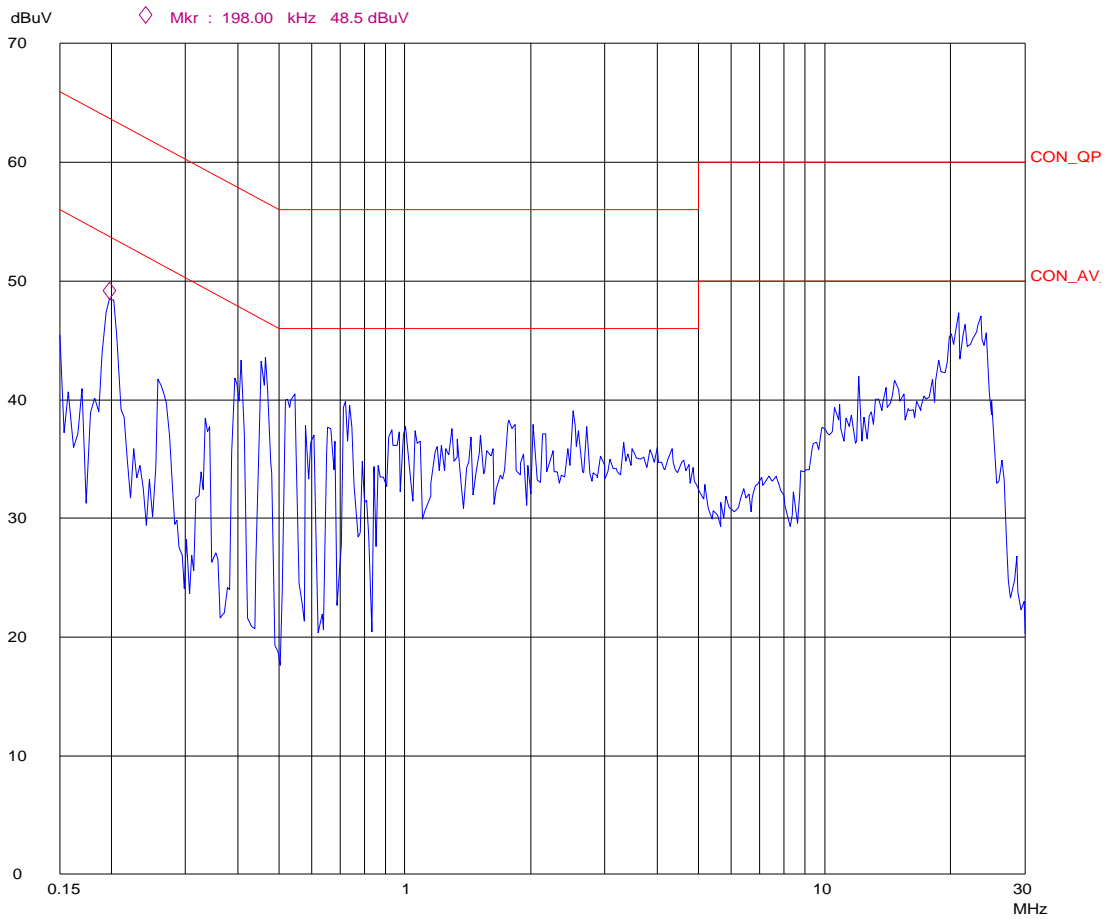
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11b Tx/Rx  
Test Spec: L  
Comment: AC 120V/60Hz



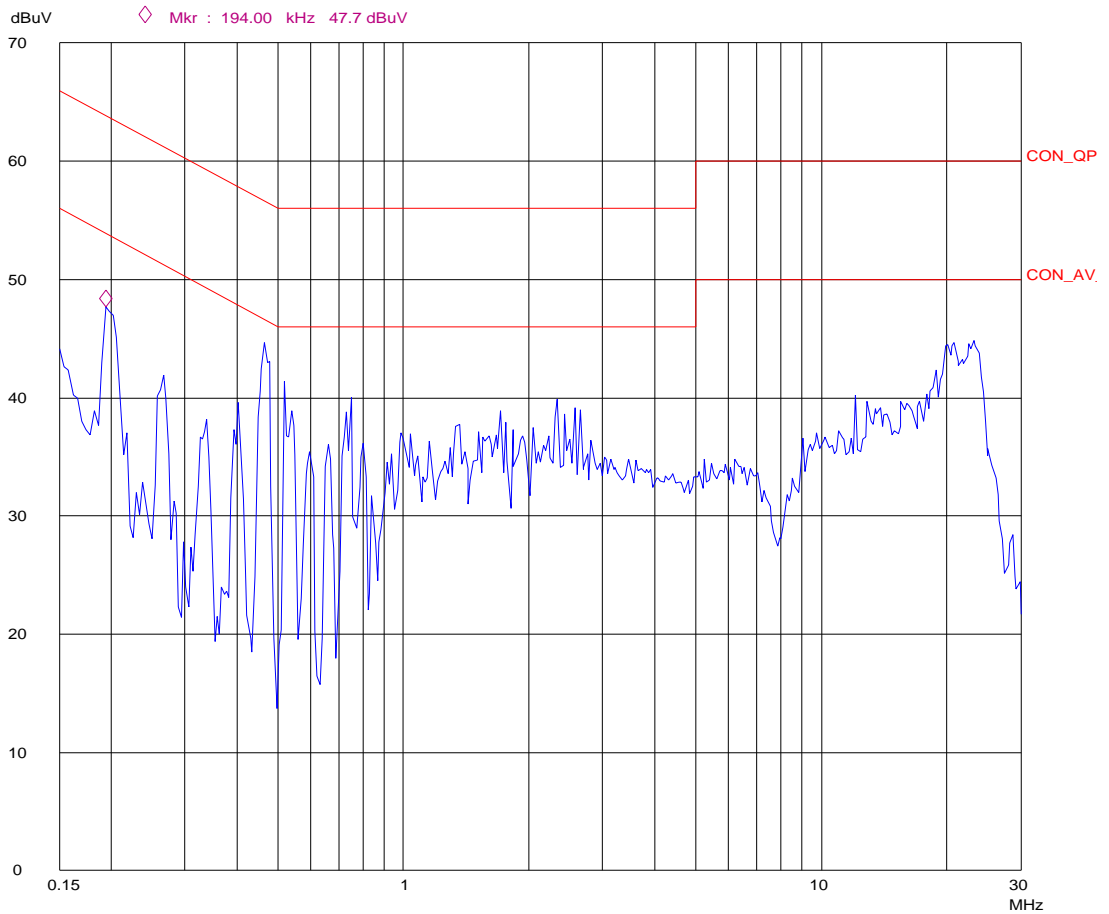
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11b Tx/Rx  
Test Spec: N  
Comment: AC 120V/60Hz



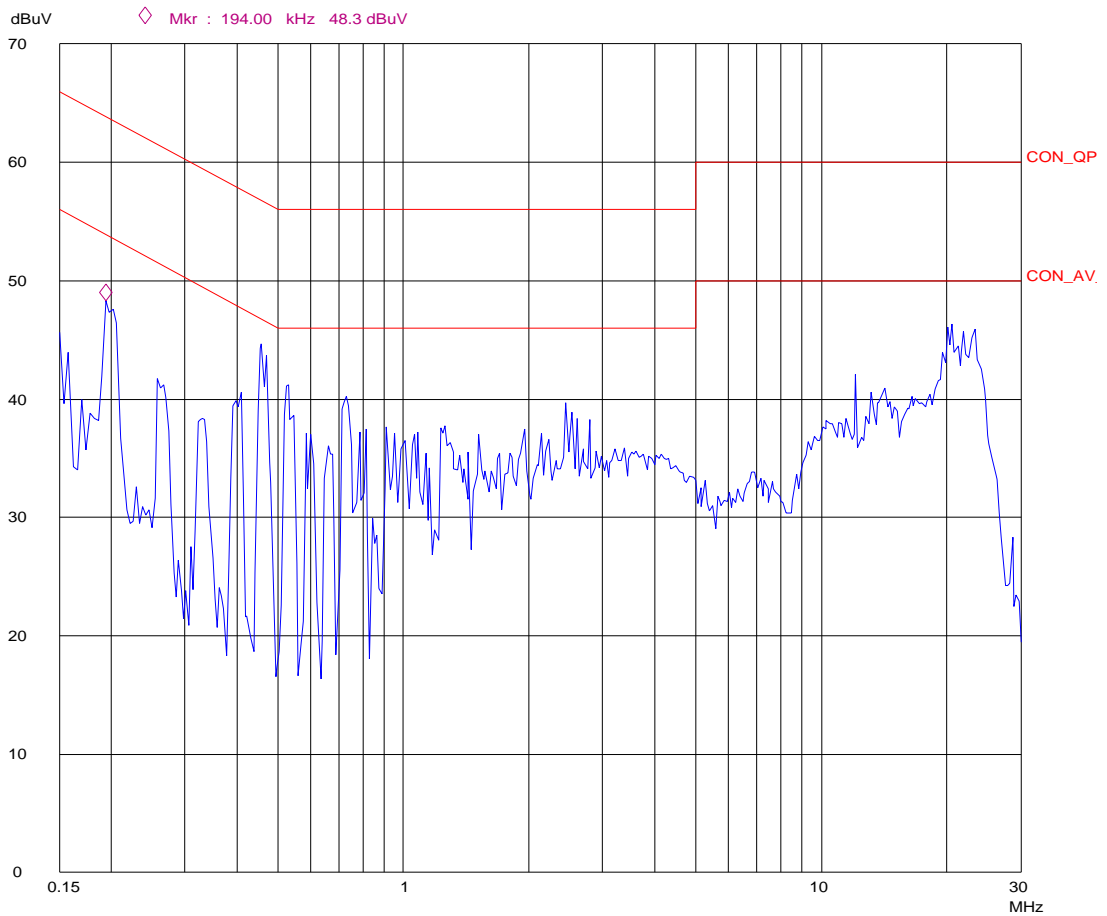
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11g Tx/Rx  
Test Spec: L  
Comment: AC 120V/60Hz



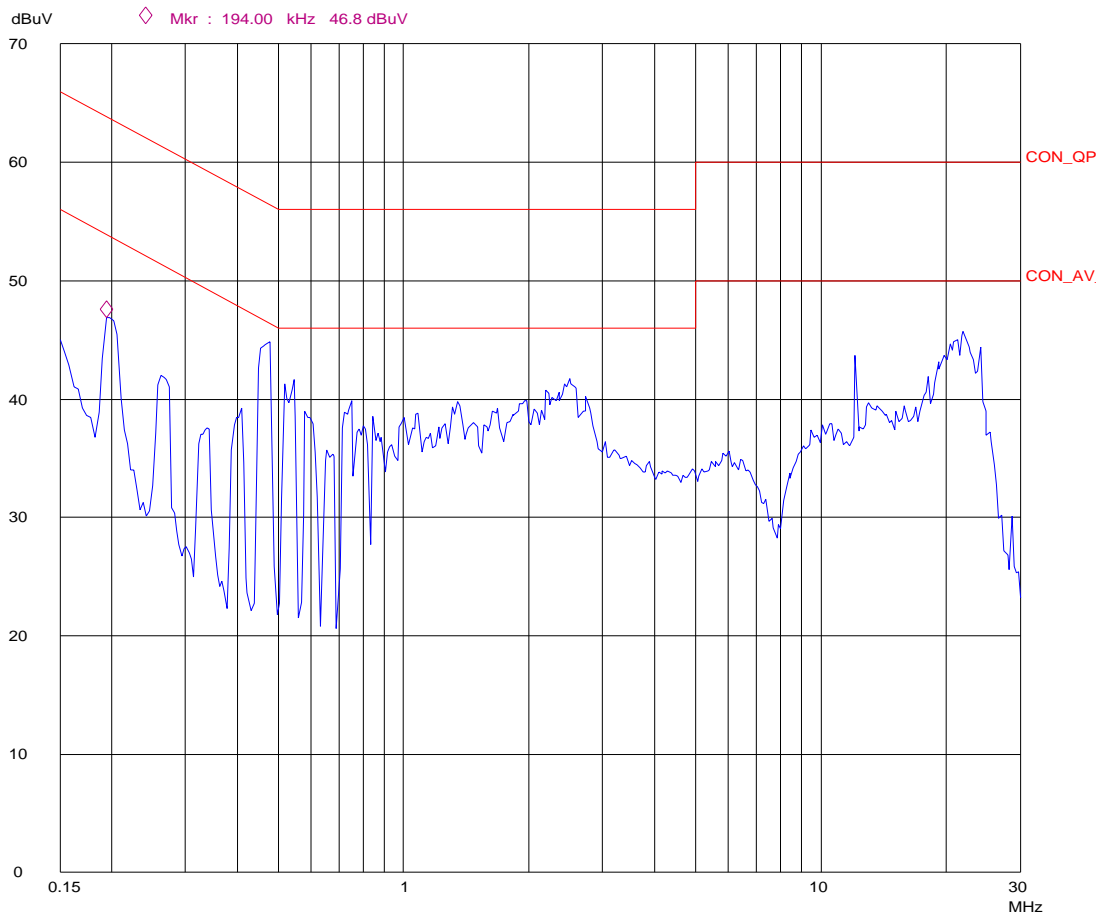
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11g Tx/Rx  
Test Spec: N  
Comment: AC 120V/60Hz



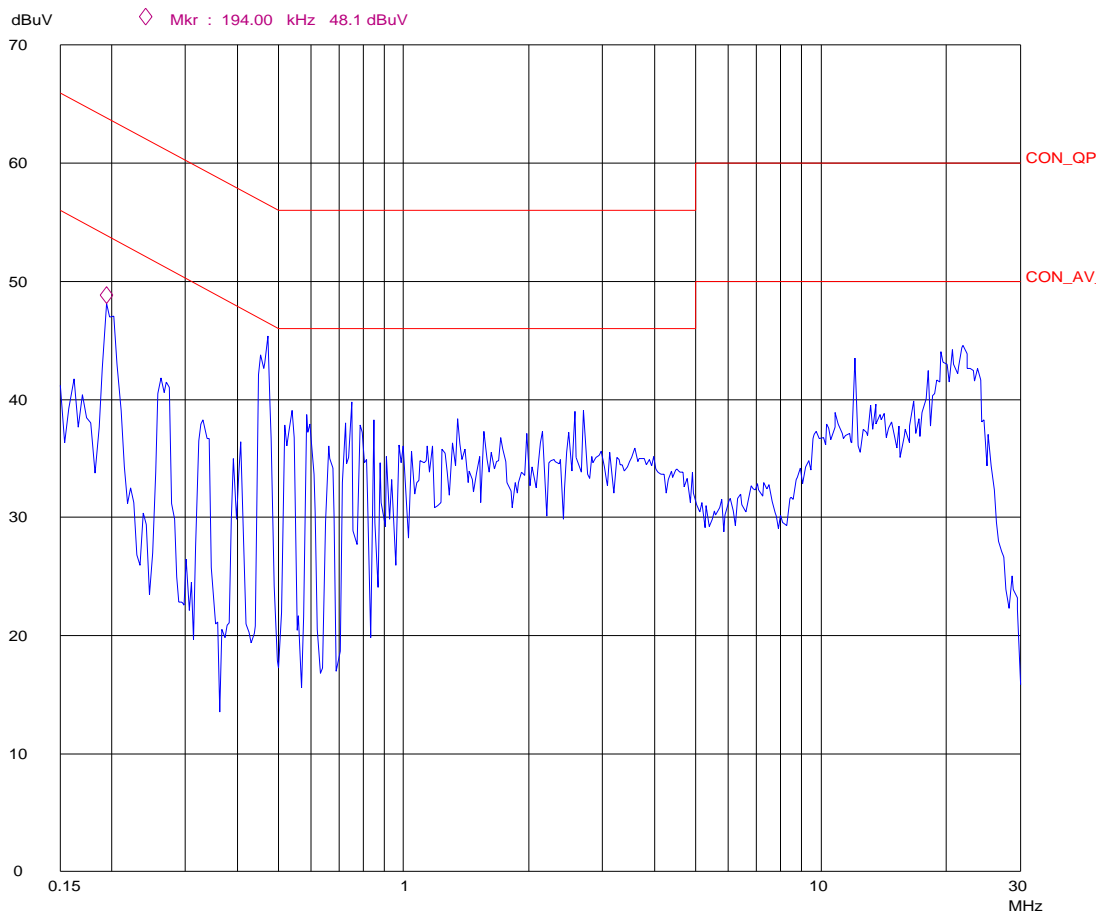
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11n(20MHz) Tx/Rx  
Test Spec: L  
Comment: AC 120V/60Hz



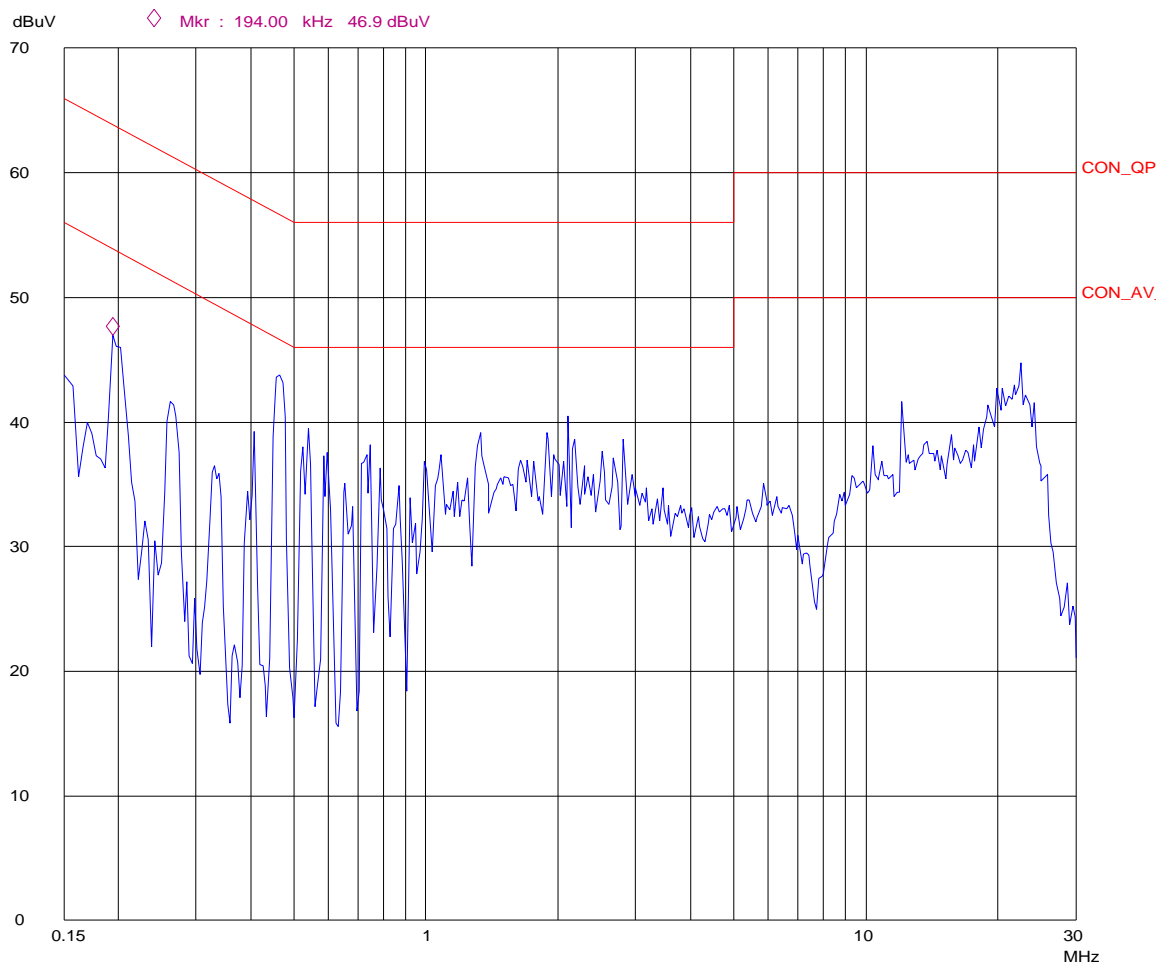
# Conducted Disturbance

EUT: A86  
Op Cond: 802.11n(20MHz) Tx/Rx  
Test Spec: N  
Comment: AC 120V/60Hz



# Conducted Disturbance

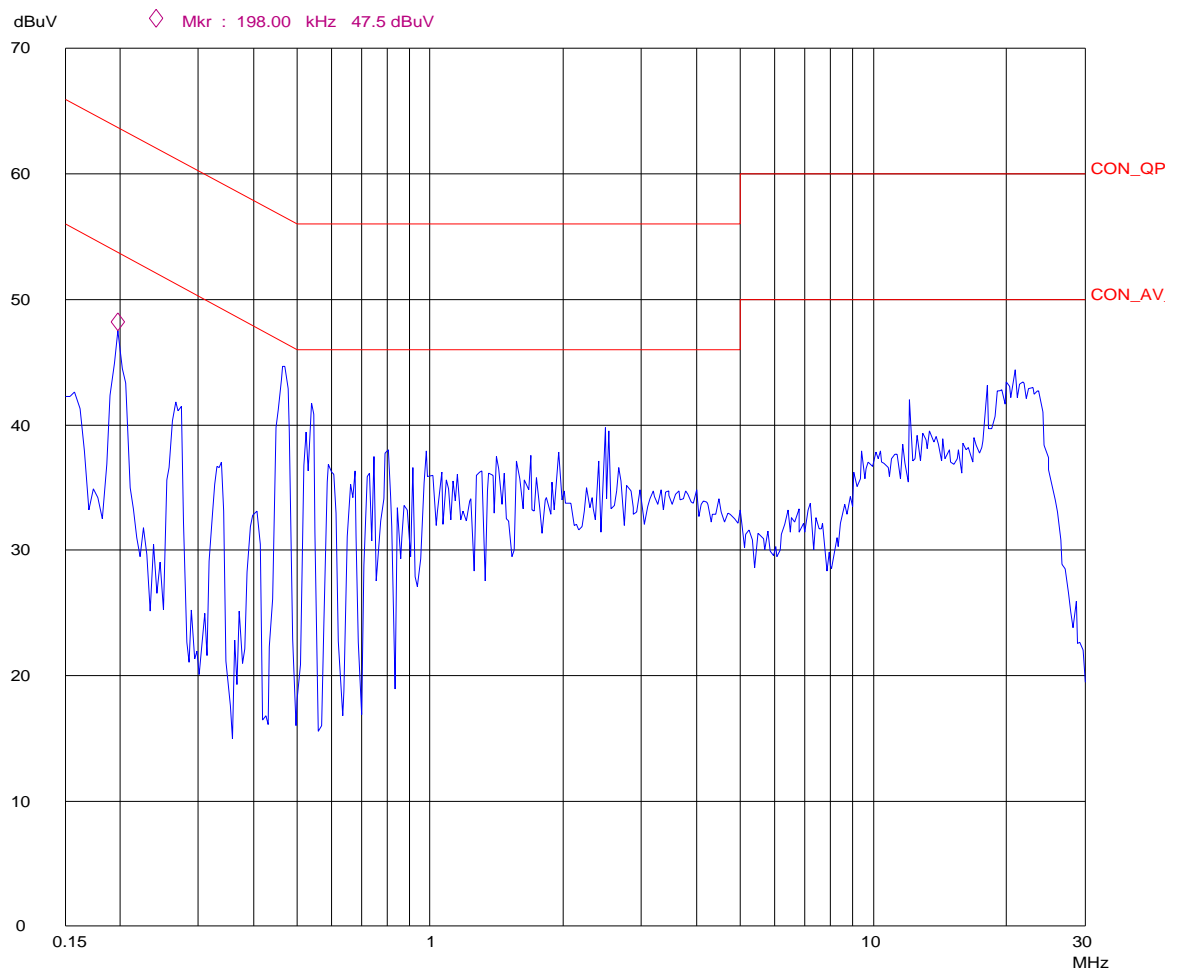
EUT: A86  
Op Cond: 802.11n(40MHz) Tx/Rx  
Test Spec: L  
Comment: AC 120V/60Hz





# Conducted Disturbance

EUT: A86  
Op Cond: 802.11n(40MHz) Tx/Rx  
Test Spec: N  
Comment: AC 120V/60Hz



## 8. RADIATED EMISSIONS AND BAND EDGES

### 8.1. Test Standard and Limit

#### 8.1.1. Test Standard

FCC Part 15, §15.247 (d), §15.205, §15.109, §15.209

#### 8.1.2. Test Limit

According to FCC §15.247 (d);

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. 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)).

Table 14 Restricted Band Radiated Emission Data

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
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	
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	
6.31175 - 6.31225	123 - 138	2200 - 2300	
8.291 - 8.294	149.9 - 150.05	2310 - 2390	
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	
12.29 - 12.293	167.72 - 173.2	3332 - 3339	
12.51975 - 12.52025	240 - 285	3345.8 - 3358	
12.57675 - 12.57725	322 - 335.4	3600 - 4400	
13.36 - 13.41			

Except as shown in table 9 to table 15, all other emission of the above band were less than the limit 20dB.

## 8.2. Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is  $\pm 4.6$  dB.

## 8.3. Test Procedure

The EUT is placed on a turntable, which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower.

The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

### **Test Setup**

Channel Setup: Execute this AW-NU706 software, selecting every operating mode (802.11b, 802.11g, 802.11n-20MHz, 802.11n-40MHz), related Channel, BW, rate, and the maximum RF power, etc.

Software: ATE\_test\_tool\_SOP\_TXRX\_\_for\_AW-NU706

### **Set the spectrum analyzer in the following setting**

Radiated emission below 1GHz: RBW=100 kHz/VBW=300 kHz, Sweep=AUTO

Radiated emission above 1GHz: PEAK;

RBW=1MHz, VBW=1MHz, Sweep=AUTO

Radiated emission above 1GHz: AVERAGE;

RBW=1MHz, VBW=10Hz, Sweep=AUTO

Repeat above procedures until the measurements for all frequencies are complete.

## **8.4. Test Arrangement**

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application. The detailed information refers to test picture.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle. The spacing between the peripherals was 10 cm.

The EUT was connected to a 120 VAC/60 Hz power source.

## 8.5. Test Data

**Radiated Emissions:** PASS

**Band edges:** PASS

This EUT is a Notebook Computer, installed with one 802.11b/g/n (20/40MHz) wireless USB mini card, AW-NU706 inside;

The radiated emission tests were performed in accordance with the ANSI C63.4-2003. The specification used was the FCC 15.109, FCC 15.209 and FCC 15.247 limits.

Note: Emissions don't show below are too low against the limits.

Table 15 Radiated Emission Test Data (Below 1GHz)

<b>Test Date</b>	November 17, 2009				<b>Temperature</b>		22	°C	
					<b>Humidity</b>		47	%	
<b>Test Result</b>	Pass				<b>Atmosphere Pressure</b>		100.7	kPa	
					<b>Test Port</b>		Enclosure		
<b>Test mode</b>	Run test program				<b>Category</b>		Class A <input type="checkbox"/>	Class B	
							<input checked="" type="checkbox"/>	<input type="checkbox"/>	
							10m <input type="checkbox"/>	3m	
							<input checked="" type="checkbox"/>		
<b>Freq.</b>	<b>Cable Loss</b>	<b>Antenna Factor</b>	<b>Readings</b>	<b>Level</b>	<b>Polarity</b>	<b>Turntable Angle</b>	<b>Antenna Height</b>	<b>Limits</b>	<b>Margin</b>
(MHz)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(H/V)	(deg)	(m)	(dBµV/m)	(dB)
106.311	1.6	12.7	16.4	30.7	V	101	1.2	43.5	12.8
131.972	1.9	12.3	19.0	33.2	V	61	1.0	43.5	10.3
168.097	2.2	10.6	21.4	34.2	V	147	1.3	43.5	9.3
307.210	2.9	13.8	23.3	40.0	V	265	1.1	46.0	6.0
440.275	3.4	16.9	16.4	36.7	V	133	1.0	46.0	9.3
528.975	3.8	17.7	13.7	35.2	V	5	1.0	46.0	10.8
95.759	1.6	11.5	17.1	30.2	H	224	1.6	43.5	13.3
106.112	1.6	12.7	19.4	33.7	H	345	1.6	43.5	9.8
274.597	2.8	13.3	16.8	32.9	H	230	1.2	46.0	13.1
307.210	2.9	13.8	22.2	38.9	H	291	1.1	46.0	7.1
395.010	3.2	16.5	15.5	35.2	H	312	1.0	46.0	10.8
799.509	4.8	20.1	12.6	37.5	H	209	1.0	46.0	8.5

REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 16 Radiated Emission Test Data (Above 1GHz)

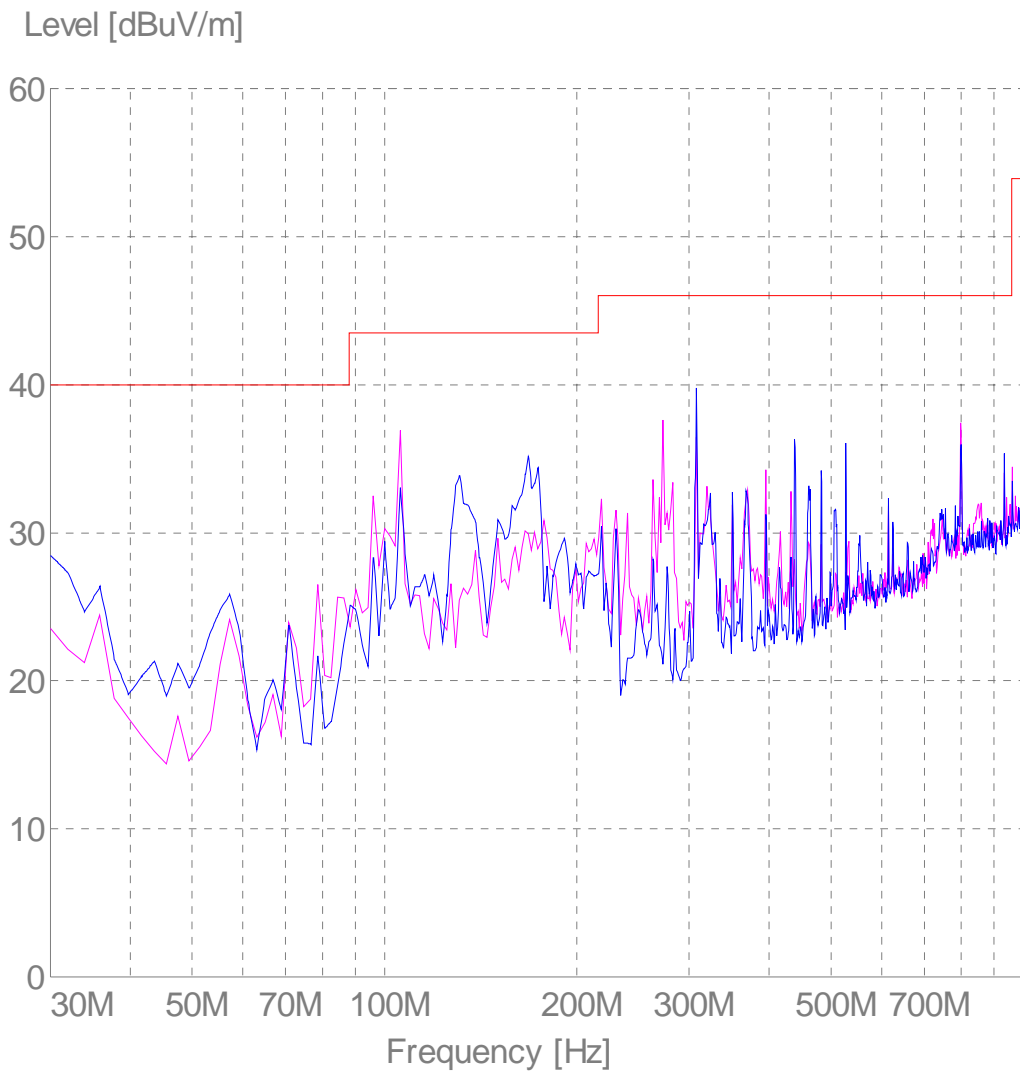
<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	Run test program		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dB $\mu$ V@3m)	(dB $\mu$ V@3m)	
1500.010	PK	V	46.3	74	Pass
1500.010	AV	V	42.8	54	Pass
1500.010	PK	H	46.3	74	Pass
1500.010	AV	H	41.9	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

REMARKS:

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dB $\mu$ V/m) =Read Value (dB $\mu$ V) + Correction Factor (dB/m)
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, or would be lesser with “ N/A ” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: Run test program  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz

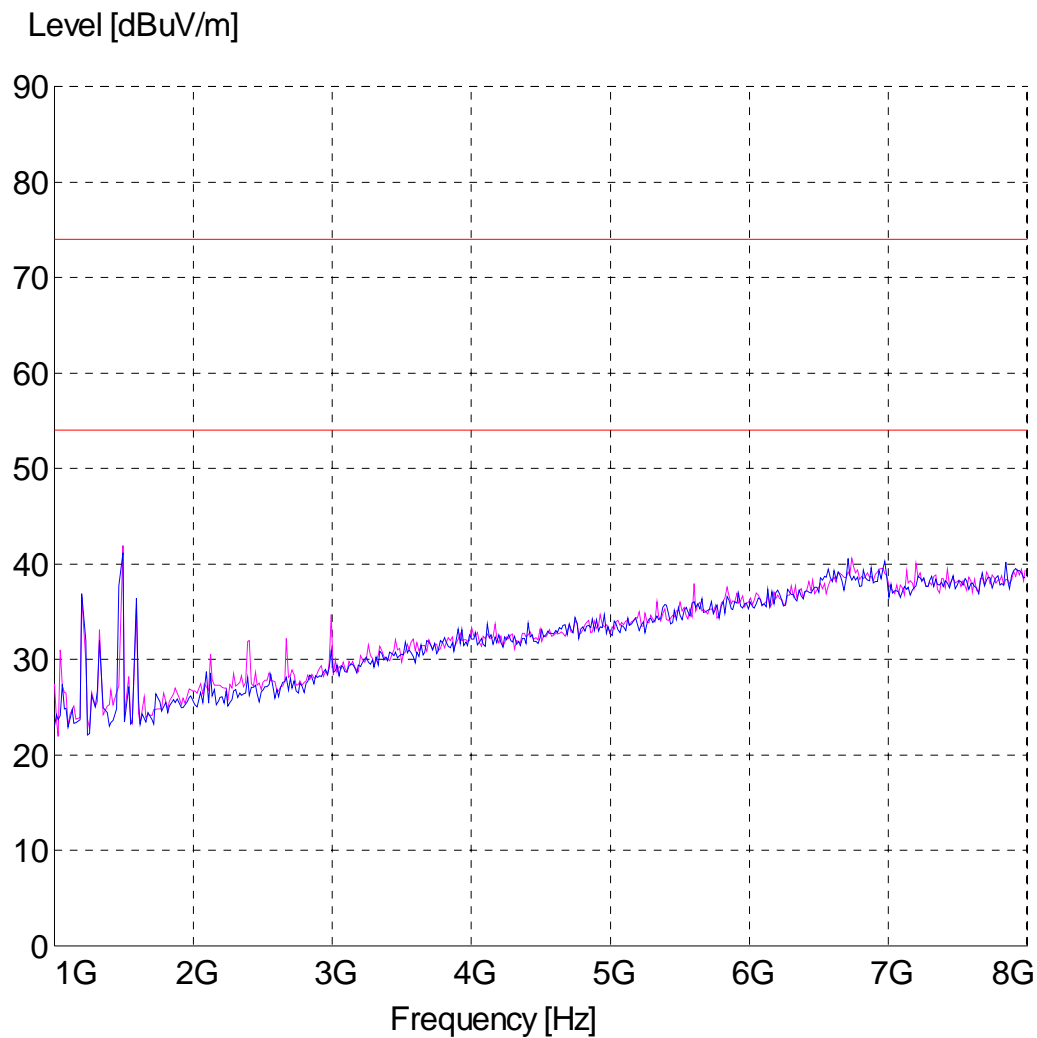


— MES A86 LV  
— MES A86 LH  
— LIM FCC ClassB F QP      FCC ClassB, field strength



**Radiated Emission** (above 1GHz)

EUT: Notebook Computer  
M/N: A86  
Operating Condition: Run test program  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



- MES A86 HH
- MES A86 HV
- LIM FCC ClassB PK      FCC ClassB, field strength
- LIM FCC class B AV      FCC ClassB, field strength

Table 17 Radiated Emission Test Data (Below 1GHz)

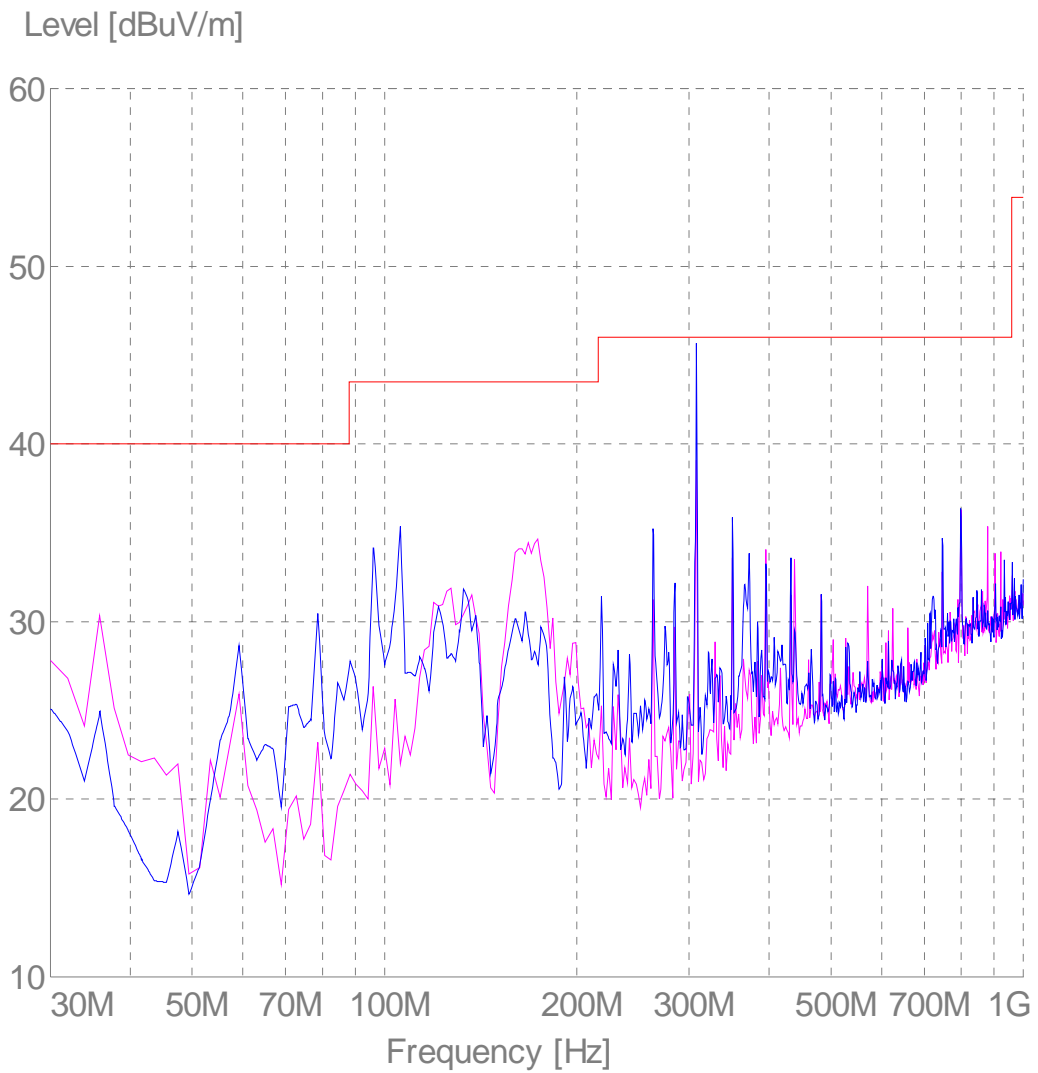
<b>Test Date</b>	November 6, 2009		<b>Temperature</b>		24	°C			
			<b>Humidity</b>		60	%			
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>		101.4	kPa			
			<b>Test Port</b>		<b>Enclosure</b>				
<b>Test mode</b>	802.11b Tx		<b>Category</b>		Class A <input type="checkbox"/>	Class B			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
					10m <input checked="" type="checkbox"/>	3m			
<b>Freq.</b>	<b>Cable Loss</b>	<b>Antenna Factor</b>	<b>Readings</b>	<b>Level</b>	<b>Polarity</b>	<b>Turntable Angle</b>	<b>Antenna Height</b>	<b>Limits</b>	<b>Margin</b>
(MHz)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(H/V)	(deg)	(m)	(dBμV/m)	(dB)
36.172	1.2	15.3	13.1	29.6	V	45	1.0	40.0	10.4
125.246	1.9	12.6	13.2	27.6	V	311	1.3	43.5	15.9
175.595	2.2	10.1	18.6	30.9	V	84	1.1	43.5	12.6
307.188	2.9	13.8	23.9	40.6	V	272	1.0	46.0	5.4
395.010	3.2	16.5	11.9	31.6	V	231	1.3	46.0	14.4
800.010	4.8	20.2	4.3	29.3	V	29	1.2	46.0	16.7
60.312	1.4	5.9	18.4	25.7	H	354	1.8	40.0	14.3
78.410	1.4	9.0	18.5	28.9	H	181	1.7	40.0	11.1
105.911	1.6	12.7	18.2	32.5	H	244	1.6	43.5	11.0
263.310	2.8	13.7	20.4	36.9	H	331	1.2	46.0	9.1
307.208	2.9	13.8	27.3	44.0	H	162	1.1	46.0	2.0
351.092	3.2	15.9	18.3	37.4	H	88	1.1	46.0	8.6

REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBμV/m) =Read Value (dBμV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: TX 802.11b  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



- MES A86 11b TX LH
- MES A86 11b TX LV
- LIM FCC ClassB F QP FCC ClassB, field strength

**Table 18 Radiated Emission Test Data (Above 1GHz)**

<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	802.11b Tx		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dBµ V@3m)	(dBµV@3m)	
<b>Lower CH (2412 MHz)</b>					
4824	PK	V	53.2	74	Pass
4824	AV	V	49.4	54	Pass
4824	PK	H	49.6	74	Pass
4824	AV	H	42.6	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Middle CH (2437 MHz)</b>					
4874	PK	V	53.8	74	Pass
4874	AV	V	50.0	54	Pass
4874	PK	H	50.0	74	Pass
4874	AV	H	43.2	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Higher CH (2462 MHz)</b>					
4924	PK	V	48.9	74	Pass
4924	AV	V	39.6	54	Pass
4924	PK	H	47.2	74	Pass
4924	AV	H	34.8	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

**REMARKS:**

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
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, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 19 Radiated Emission Test Data (Below 1GHz)

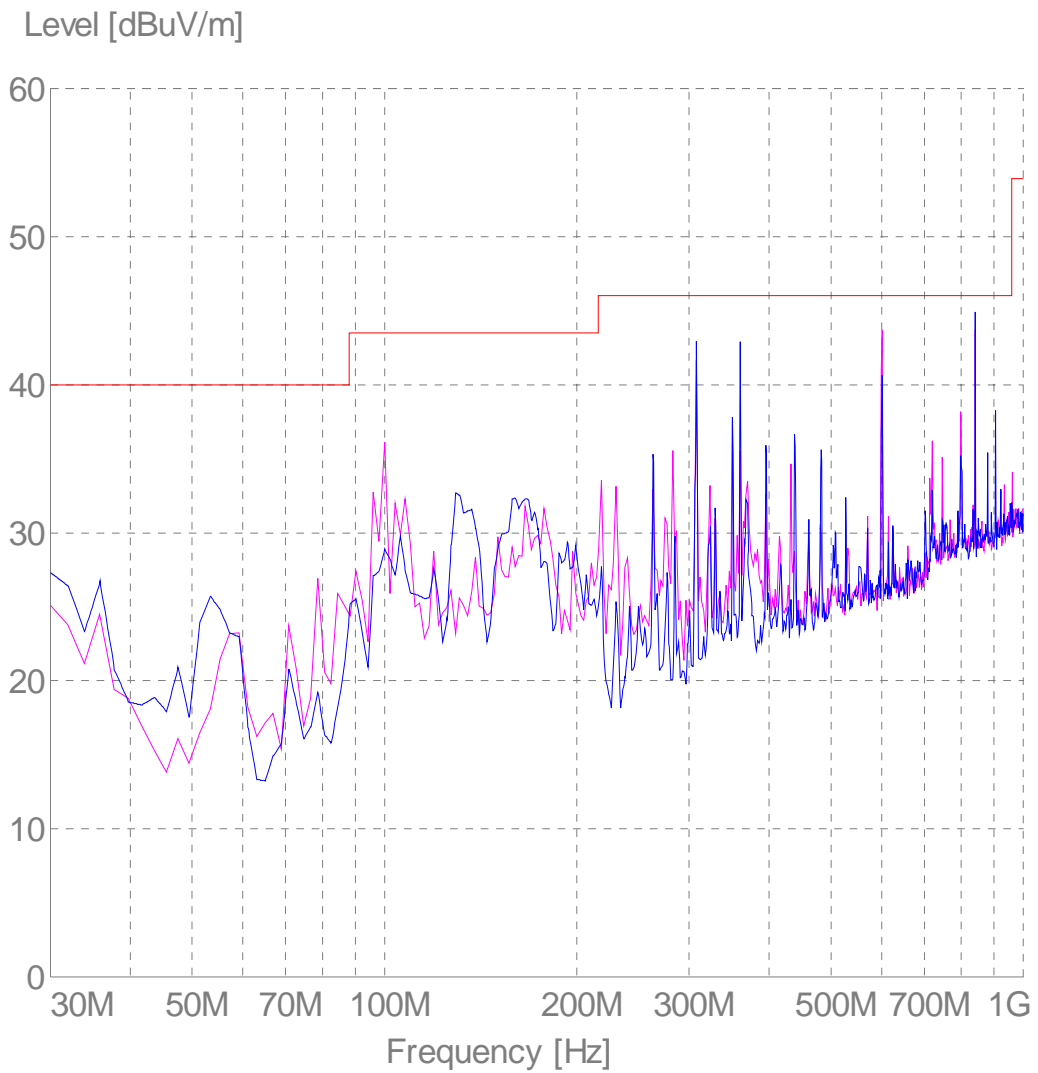
<b>Test Date</b>	November 6, 2009		<b>Temperature</b>		24	°C			
			<b>Humidity</b>		60	%			
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>		101.4	kPa			
			<b>Test Port</b>		Enclosure				
<b>Test mode</b>	802.11g Tx		<b>Category</b>		Class A <input type="checkbox"/>	Class B			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
					10m <input checked="" type="checkbox"/>	3m			
<b>Freq.</b>	<b>Cable Loss</b>	<b>Antenna Factor</b>	<b>Readings</b>	<b>Level</b>	<b>Polarity</b>	<b>Turntable Angle</b>	<b>Antenna Height</b>	<b>Limits</b>	<b>Margin</b>
(MHz)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(H/V)	(deg)	(m)	(dBµV/m)	(dB)
130.831	1.9	12.3	15.3	29.5	V	255	1.0	43.5	14.0
263.330	2.8	13.7	16.7	33.2	V	334	1.2	46.0	12.8
307.210	2.9	13.8	25.7	42.4	V	77	1.2	46.0	3.6
360.030	3.2	15.9	21.1	40.2	V	307	1.2	46.0	5.8
600.010	4.1	18.8	17.1	40.0	V	294	1.3	46.0	6.0
840.010	5.0	20.5	17.8	43.2	V	137	1.2	46.0	2.8
100.010	1.6	12.3	19.6	33.5	H	142	1.6	43.5	10.0
282.291	2.8	13.4	16.5	32.7	H	212	1.2	46.0	13.3
307.188	2.9	13.8	26.0	42.7	H	324	1.1	46.0	3.3
351.092	3.2	15.9	17.7	36.8	H	226	1.1	46.0	9.2
600.010	4.1	18.8	22.4	45.3	H	177	1.0	46.0	0.7
840.030	5.0	20.5	19.9	45.3	H	318	1.0	46.0	0.7

REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBµV/m) = Read Value (dBµV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: TX 802.11g  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



- MES A86 11g TX LV
- MES A86 11g TX LH
- LIM FCC ClassB F QP FCC ClassB, field strength

Table 20 Radiated Emission Test Data (Above 1GHz)

<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	802.11g Tx		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dBµ V@3m)	(dBµV@3m)	
<b>Lower CH (2412 MHz)</b>					
4824	PK	V	50.2	74	Pass
4824	AV	V	36.5	54	Pass
4824	PK	H	47.1	74	Pass
4824	AV	H	33.8	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Middle CH (2437 MHz)</b>					
4874	PK	V	52.0	74	Pass
4874	AV	V	38.3	54	Pass
4874	PK	H	47.0	74	Pass
4874	AV	H	34.3	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Higher CH (2462 MHz)</b>					
4924	PK	V	47.1	74	Pass
4924	AV	V	33.7	54	Pass
4924	PK	H	46.7	74	Pass
4924	AV	H	33.2	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

REMARKS:

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
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, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 21 Radiated Emission Test Data (Below 1GHz)

<b>Test Date</b>	November 6, 2009		<b>Temperature</b>		24	°C			
			<b>Humidity</b>		60	%			
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>		101.4	kPa			
			<b>Test Port</b>		<b>Enclosure</b>				
<b>Test mode</b>	802.11 n (20MHz) Tx		<b>Category</b>		Class A <input type="checkbox"/>	Class B			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
					10m	3m			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Freq.	Cable Loss	Antenna Factor	Readings	Level	Polarity	Turntable Angle	Antenna Height	Limits	Margin
(MHz)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(H/V)	(deg)	(m)	(dBµV/m)	(dB)
105.275	1.6	12.7	18.4	32.7	V	231	1.1	43.5	10.8
167.609	2.2	10.6	21.7	34.5	V	359	1.3	43.5	9.0
307.208	2.9	13.8	27.3	44.0	V	111	1.1	46.0	2.0
360.010	3.2	15.9	23.2	42.3	V	232	1.2	46.0	3.7
600.008	4.1	18.8	19.1	42.0	V	260	1.1	46.0	4.0
840.000	5.0	20.5	18.3	43.7	V	57	1.3	46.0	2.3
103.975	1.6	12.3	18.6	32.5	H	259	1.6	43.5	11.0
263.330	2.8	13.7	17.2	33.7	H	271	1.2	46.0	12.3
307.210	2.9	13.8	26.2	42.9	H	261	1.1	46.0	3.1
360.010	3.2	15.9	22.7	41.8	H	2	1.0	46.0	4.2
600.010	4.1	18.8	22.7	45.6	H	251	1.0	46.0	0.4
840.010	5.0	20.5	19.3	44.7	H	117	1.0	46.0	1.3

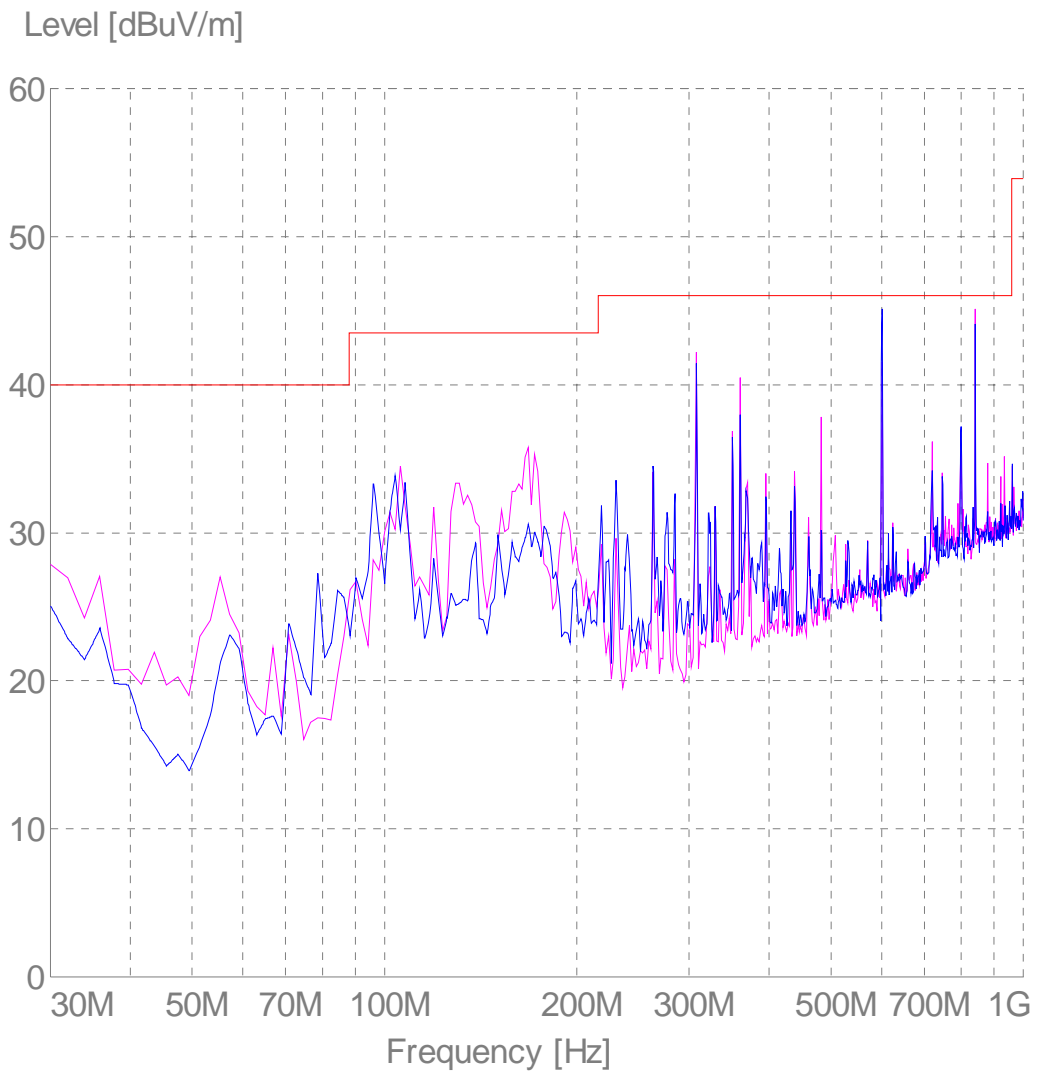
REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.



**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: TX 802.11 n (20M)  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



- MES A86 11n(20M) TX LH
- MES A86 11n(20M) TX LV
- LIM FCC ClassB F QP FCC ClassB, field strength

Table 22 Radiated Emission Test Data (Above 1GHz)

<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	802.11 n (20MHz) Tx		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dBμ V@3m)	(dBμV@3m)	
<b>Lower CH (2412 MHz)</b>					
4824	PK	V	49.2	74	Pass
4824	AV	V	34.9	54	Pass
4824	PK	H	46.3	74	Pass
4824	AV	H	33.1	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Middle CH (2437 MHz)</b>					
4874	PK	V	49.1	74	Pass
4874	AV	V	36.2	54	Pass
4874	PK	H	47.7	74	Pass
4874	AV	H	33.7	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Higher CH (2462 MHz)</b>					
4924	PK	V	46.0	74	Pass
4924	AV	V	32.8	54	Pass
4924	PK	H	46.5	74	Pass
4924	AV	H	32.7	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

REMARKS:

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dBμV/m) =Read Value (dBμV) + Correction Factor (dB/m)
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, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 23 Radiated Emission Test Data (Below 1GHz)

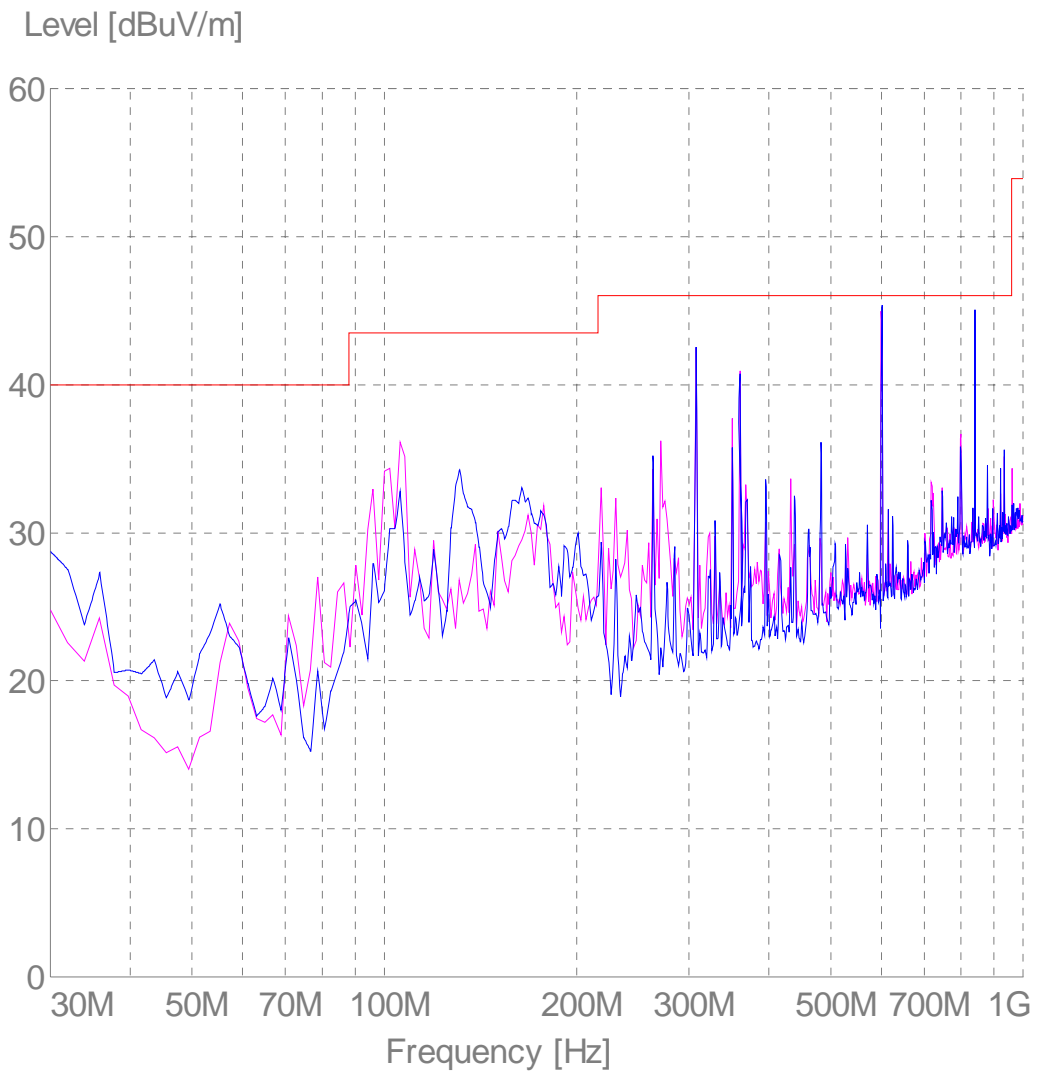
<b>Test Date</b>	November 6, 2009			<b>Temperature</b>		24	°C		
				<b>Humidity</b>		60	%		
<b>Test Result</b>	Pass			<b>Atmosphere Pressure</b>		101.4	kPa		
				<b>Test Port</b>		Enclosure			
<b>Test mode</b>	802.11 n (40MHz) Tx			<b>Category</b>		Class A <input type="checkbox"/>	Class B		
						<input checked="" type="checkbox"/>	<input type="checkbox"/>		
						10m <input type="checkbox"/>	3m		
						<input checked="" type="checkbox"/>			
<b>Freq.</b>	<b>Cable Loss</b>	<b>Antenna Factor</b>	<b>Readings</b>	<b>Level</b>	<b>Polarity</b>	<b>Turntable Angle</b>	<b>Antenna Height</b>	<b>Limits</b>	<b>Margin</b>
(MHz)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(H/V)	(deg)	(m)	(dBµV/m)	(dB)
130.487	1.9	12.3	17.0	31.2	V	13	1.6	43.5	12.3
267.291	2.8	13.2	17.7	33.7	V	255	1.2	46.0	12.3
307.210	2.9	13.8	27.0	43.7	V	13	1.1	46.0	2.3
360.010	3.2	15.9	23.9	43.0	V	312	1.0	46.0	3.0
600.010	4.1	18.8	20.1	43.0	V	153	1.0	46.0	3.0
840.010	5.0	20.5	19.7	45.1	V	351	1.0	46.0	0.9
105.831	1.6	12.7	16.9	31.2	H	83	1.0	43.5	12.3
273.274	2.8	13.3	19.6	35.7	H	224	1.2	46.0	10.3
307.210	2.9	13.8	26.5	43.2	H	195	1.3	46.0	2.8
360.010	3.2	15.9	23.8	42.9	H	57	1.0	46.0	3.1
600.030	4.1	18.8	23.0	45.9	H	43	1.1	46.0	0.1
840.030	5.0	20.5	19.7	45.1	H	168	1.1	46.0	0.9

REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: TX 802.11 n (40M)  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



- MES A86 11n(40M) TX LV
- MES A86 11n(40M) TX LH
- LIM FCC ClassB F QP FCC ClassB, field strength

Table 24 Radiated Emission Test Data (Above 1GHz)

<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	802.11 n (40MHz) Tx		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dBµ V@3m)	(dBµV@3m)	
<b>Lower CH (2422 MHz)</b>					
4844	PK	V	47.1	74	Pass
4844	AV	V	33.5	54	Pass
4844	PK	H	47.2	74	Pass
4844	AV	H	33.1	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Middle CH (2437 MHz)</b>					
4874	PK	V	47.7	74	Pass
4874	AV	V	33.9	54	Pass
4874	PK	H	46.9	74	Pass
4874	AV	H	33.0	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/
<b>Higher CH (2452 MHz)</b>					
4904	PK	V	45.8	74	Pass
4904	AV	V	32.4	54	Pass
4904	PK	H	46.2	74	Pass
4904	AV	H	32.3	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

REMARKS:

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
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, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 25 Radiated Emission Test Data (Below 1GHz)

<b>Test Date</b>	November 6, 2009		<b>Temperature</b>		24	°C			
			<b>Humidity</b>		60	%			
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>		101.4	kPa			
			<b>Test Port</b>		<b>Enclosure</b>				
<b>Test mode</b>	802.11b/g/n Rx		<b>Category</b>		Class A <input type="checkbox"/>	Class B			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
					10m	3m			
					<input checked="" type="checkbox"/>	<input type="checkbox"/>			
<b>Freq.</b>	<b>Cable Loss</b>	<b>Antenna Factor</b>	<b>Readings</b>	<b>Level</b>	<b>Polarity</b>	<b>Turntable Angle</b>	<b>Antenna Height</b>	<b>Limits</b>	<b>Margin</b>
(MHz)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(H/V)	(deg)	(m)	(dBµV/m)	(dB)
131.492	1.9	12.3	16.5	30.7	V	131	1.6	43.5	12.8
168.711	2.2	10.6	18.4	31.2	V	13	1.2	43.5	12.3
263.310	2.8	13.7	16.4	32.9	V	65	1.1	46.0	13.1
307.230	2.9	13.8	24.4	41.1	V	96	1.1	46.0	4.9
351.092	3.2	15.9	17.6	36.7	V	29	1.2	46.0	9.3
482.731	3.6	17.6	12.6	33.8	V	332	1.0	46.0	12.2
95.975	1.6	11.5	19.0	32.1	H	289	1.0	43.5	11.4
263.310	2.8	13.7	19.2	35.7	H	222	1.1	46.0	10.3
307.190	2.9	13.8	24.4	41.1	H	139	1.2	46.0	4.9
351.072	3.2	15.9	22.1	41.2	H	76	1.1	46.0	4.8
273.326	2.8	13.3	16.6	32.7	H	9	1.0	46.0	13.3
799.529	4.8	20.1	13.6	38.5	H	252	1.1	46.0	7.5

REMARKS:

1. Radiated emissions measured in frequency range from 30MHz to 1000MHz were made with an instrument using quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
3. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
4. Measurements above show only up to 6 maximum emissions, or would be lesser with “ N/A” remark, if no specific emissions from the EUT are recorded( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

Table 26 Radiated Emission Test Data (Above 1GHz)

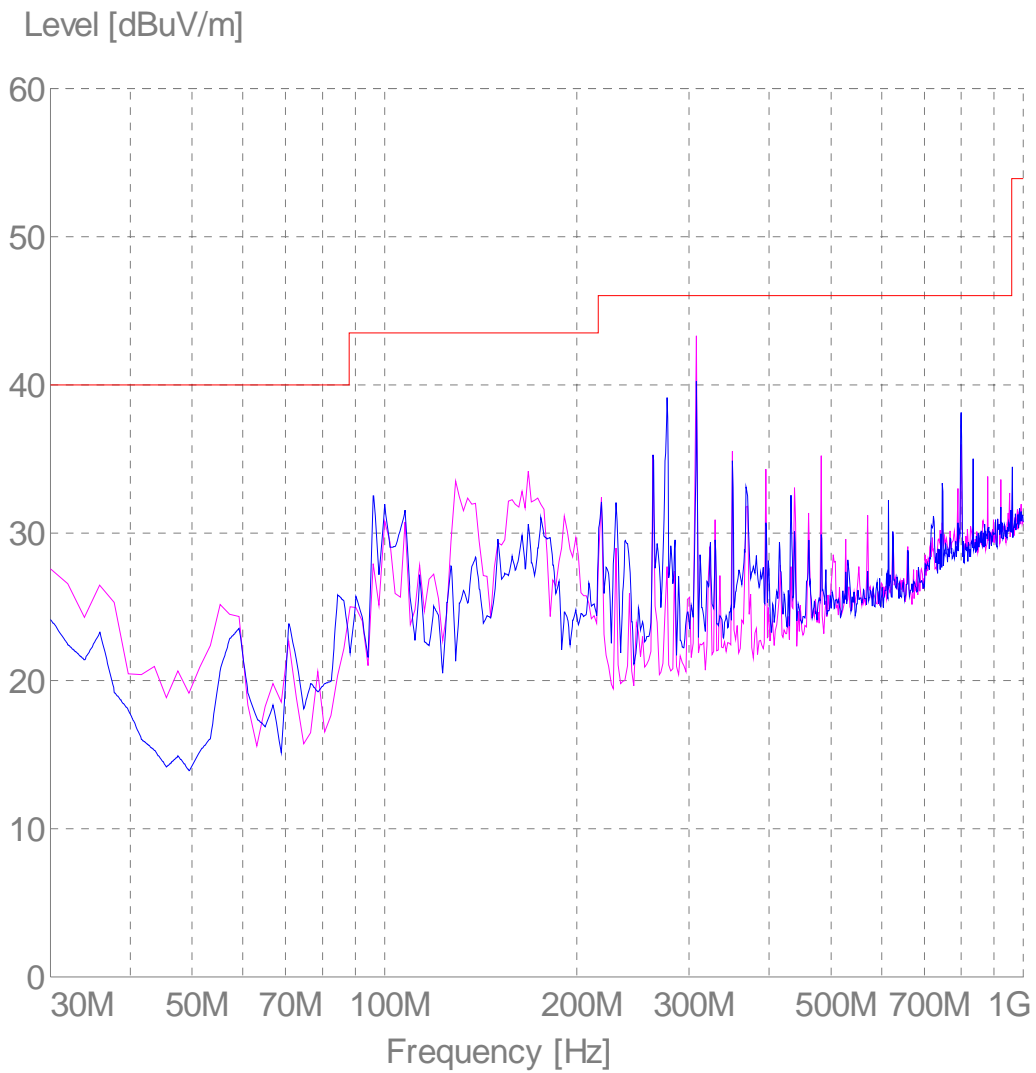
<b>Test Date</b>	November 17, 2009		<b>Temperature</b>	22	°C
			<b>Humidity</b>	47	%
<b>Test Result</b>	Pass		<b>Atmosphere Pressure</b>	100.7	kPa
			<b>Test Port</b>	Enclosure	
<b>Test mode</b>	802.11b/g/n Rx		<b>Category</b>	Class A <input type="checkbox"/>	Class B <input checked="" type="checkbox"/>
				10m <input type="checkbox"/>	3m <input checked="" type="checkbox"/>
<b>Frequency</b>	<b>Measuring Type</b>	<b>Receiver Antenna Polarity</b>	<b>Field Strength</b>	<b>Limits</b>	<b>Test Result</b>
(MHz)	(PK/AV)	(H/V)	(dBµ V@3m)	(dBµV@3m)	
1500.010	PK	V	46.7	74	Pass
1500.010	AV	V	42.9	54	Pass
1500.010	PK	H	46.2	74	Pass
1500.010	AV	H	41.9	54	Pass
/	/	/	/	/	/
/	/	/	/	/	/

REMARKS:

1. Radiated emissions measured in frequency above 1000MHz up to 10<sup>th</sup> harmonic were made with an instrument using peak/quasi-peak detector mode.
2. Emission level (dBµV/m) =Read Value (dBµV) + Correction Factor (dB/m)
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, or would be lesser with “ N/A ” remark, if no specific emissions from the EUT are recorded ( i.e. margin >20dB from the applicable limit) and considered that is already beyond the background noise floor.

**Radiated Emission (below 1GHz)**

EUT: Notebook Computer  
M/N: A86  
Operating Condition: TX 802.11 b/g/n RX  
Test Site: SMQ EMC Lab. SAC  
Test Specification: Horizontal & Vertical  
Comment: AC 120V/60Hz



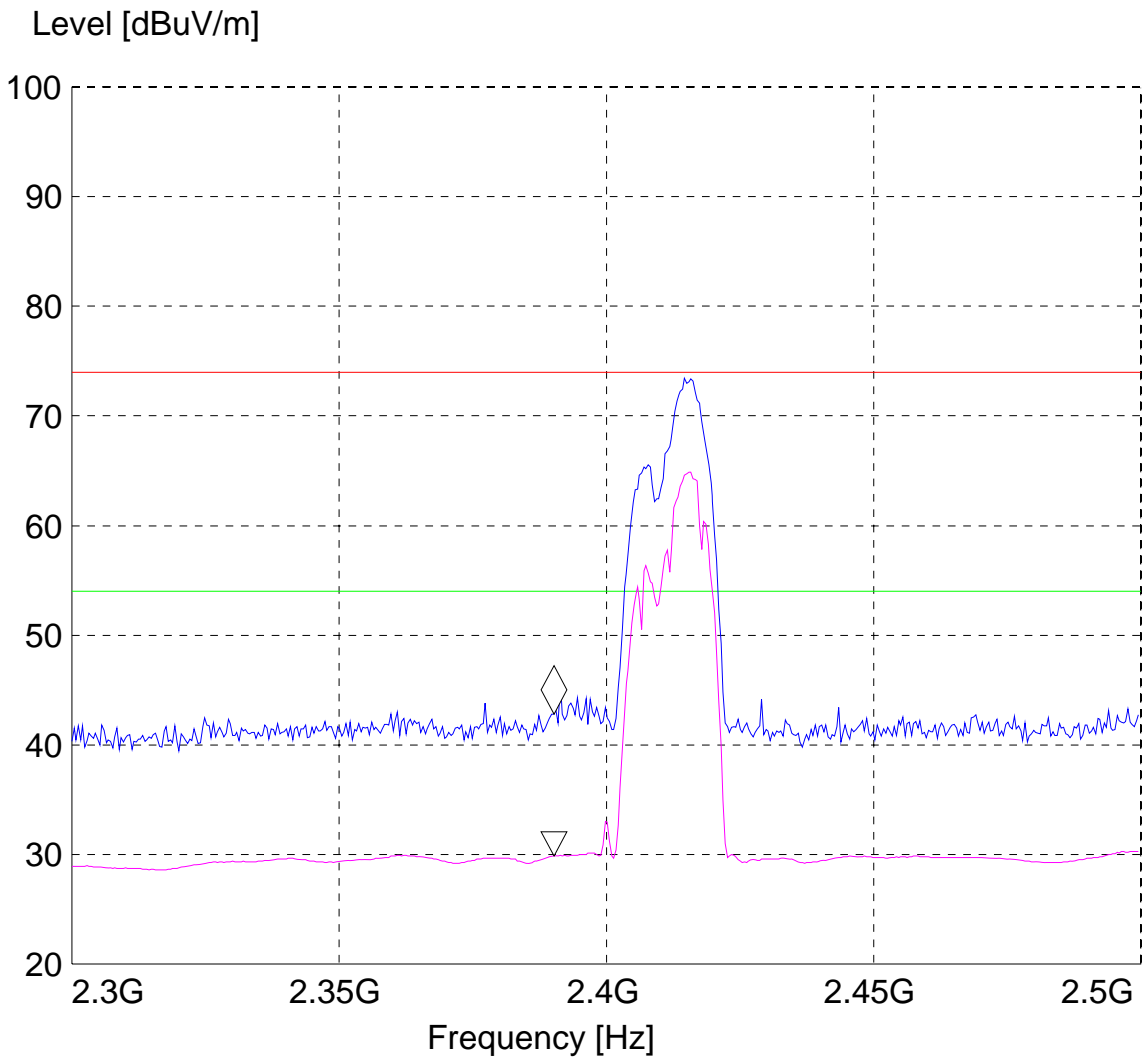
- MES A86 RX LH
- MES A86 RX LV
- LIM FCC ClassB F QP      FCC ClassB, field strength



### Band Edges (IEEE 802.11b mode, Low CH)

Peak & Average; Vertical Polarity;

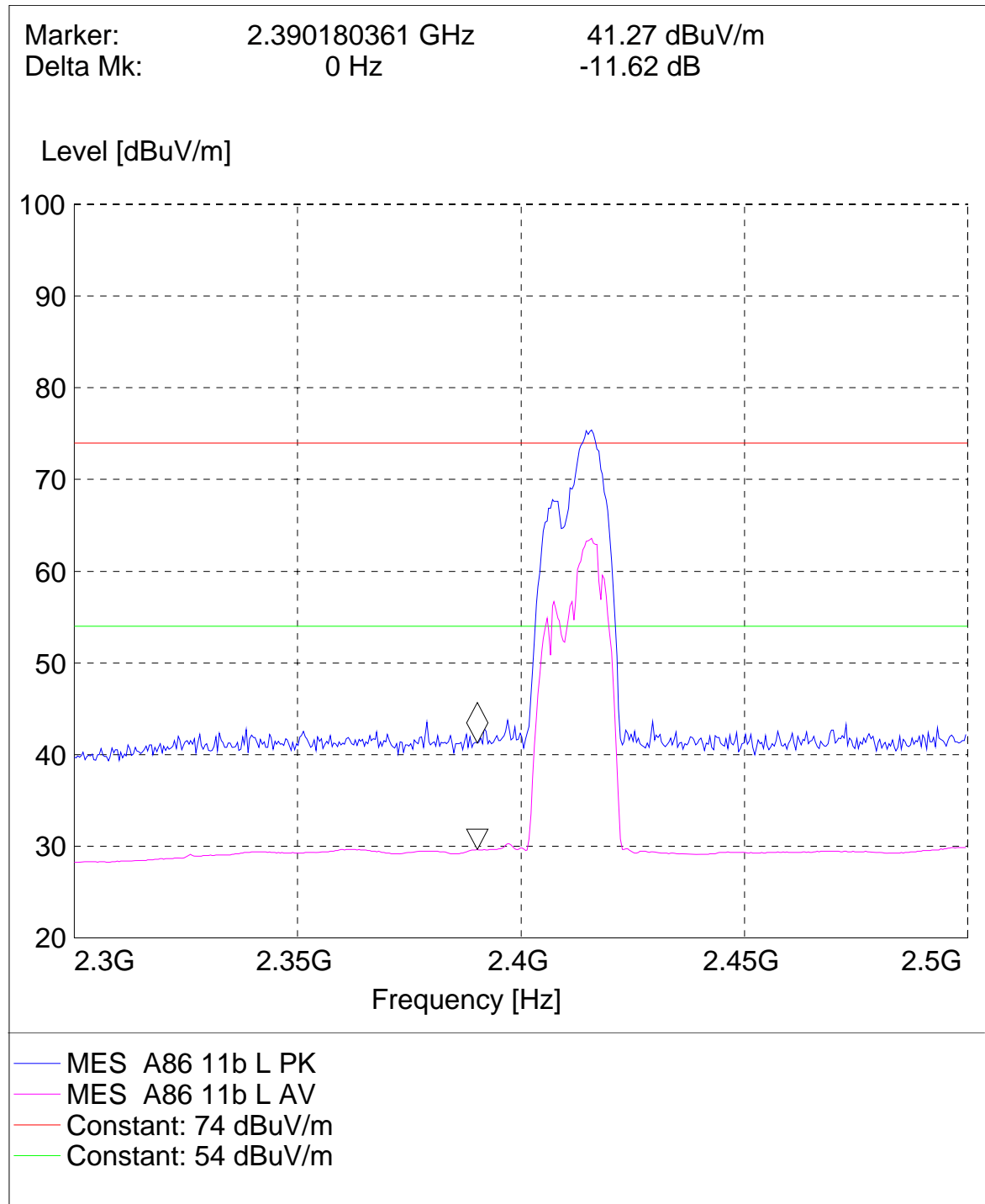
Marker: 2.390180361 GHz 42.77 dBuV/m  
Delta Mk: 0 Hz -12.91 dB



- MES A86 11b L PK V
- MES A86 11b L AV V
- Constant: 74 dBuV/m
- Constant: 54 dBuV/m

### Band Edges (IEEE 802.11b mode, Low CH)

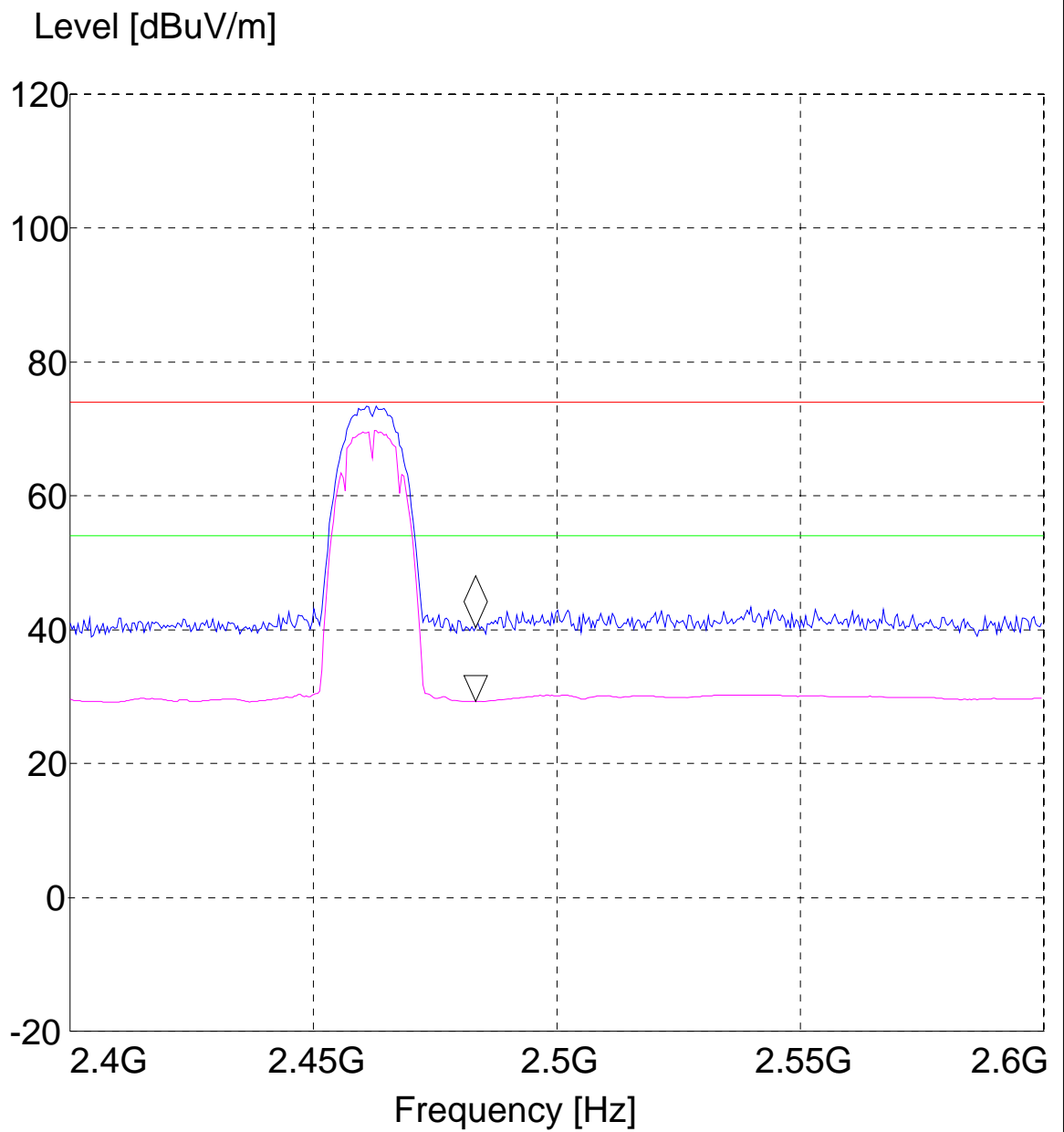
Peak & Average; Horizontal Polarity;



### Band Edges (IEEE 802.11b mode, High CH)

Peak & Average; Vertical Polarity;

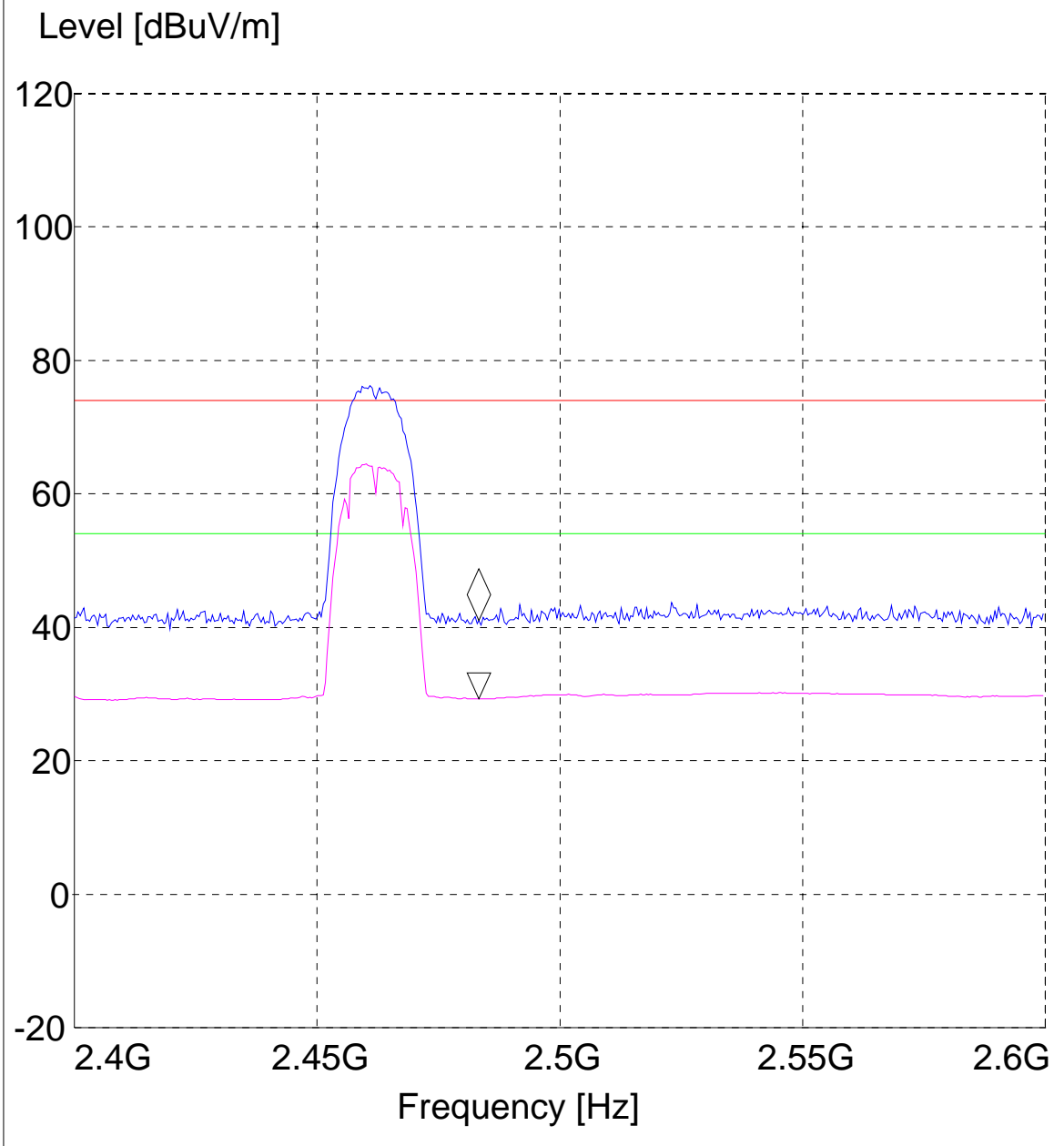
Marker:            2.4835 GHz            40.32 dBuV/m  
Delta Mk:            0 Hz            -11.07 dB



### Band Edges (IEEE 802.11b mode, High CH)

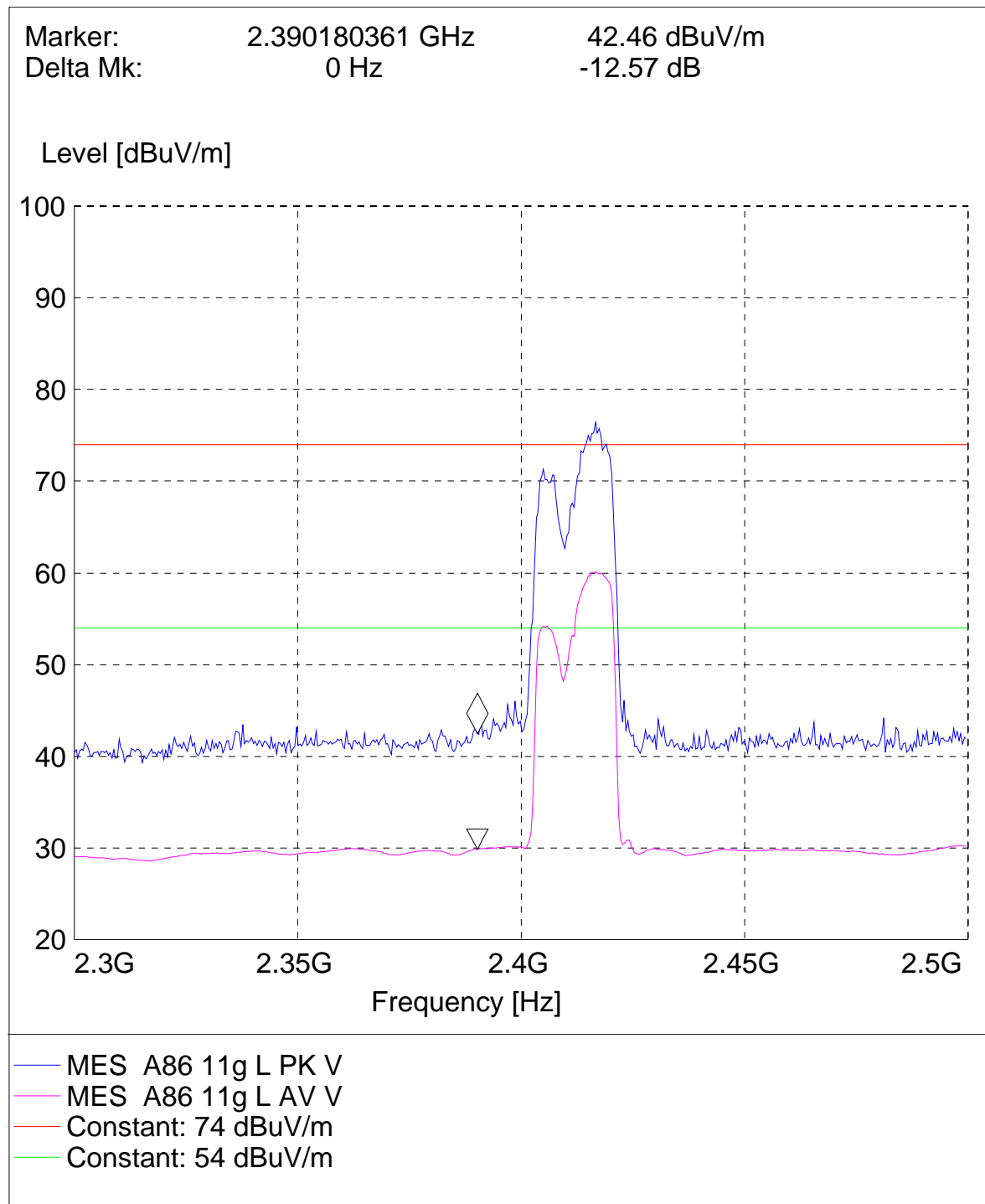
Peak & Average; Horizontal Polarity;

Marker: 2.4835 GHz 41.07 dBuV/m  
Delta Mk: 0 Hz -11.83 dB



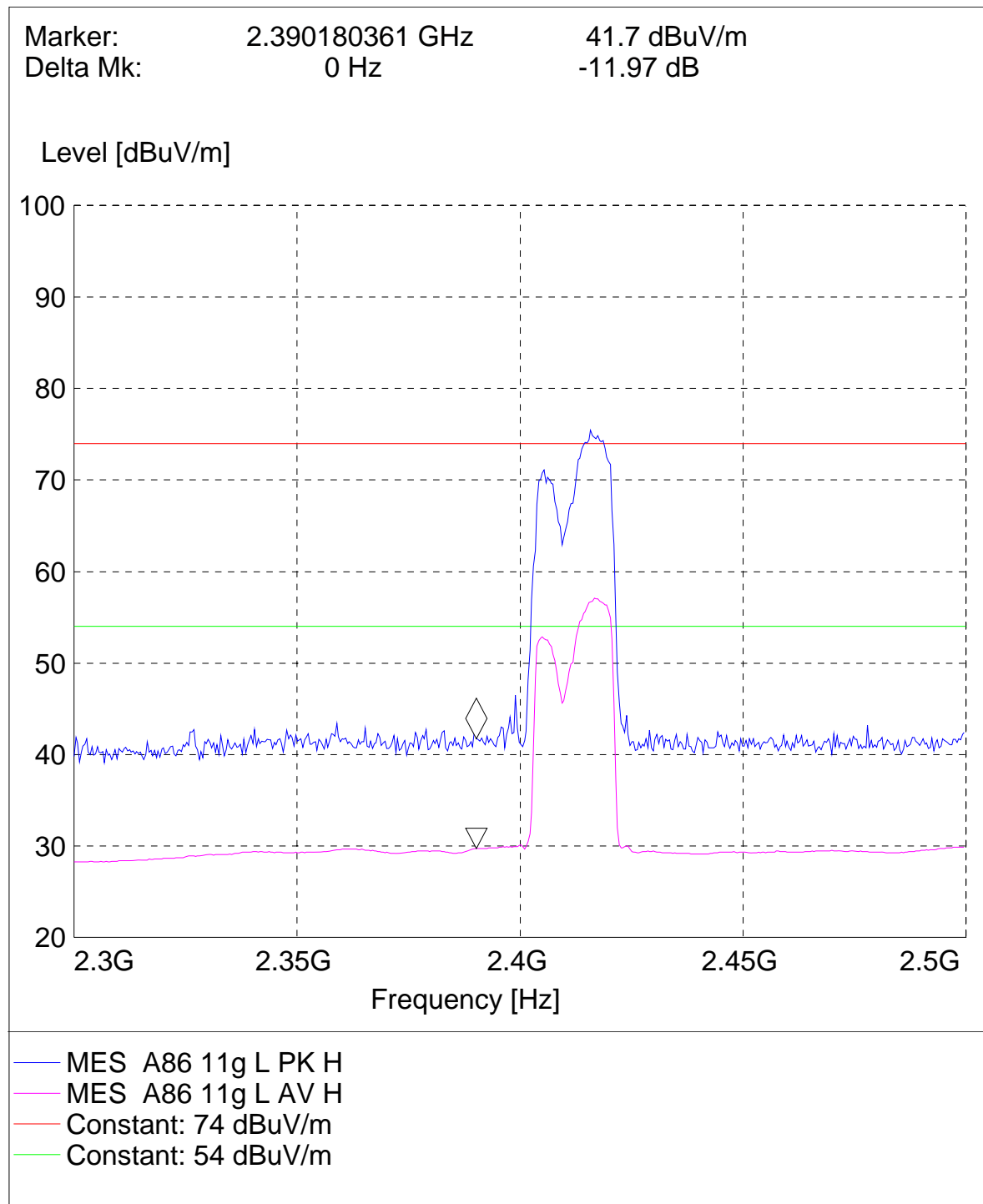
### Band Edges (IEEE 802.11g mode, Low CH)

Peak & Average; Vertical Polarity;



### Band Edges (IEEE 802.11g mode, Low CH)

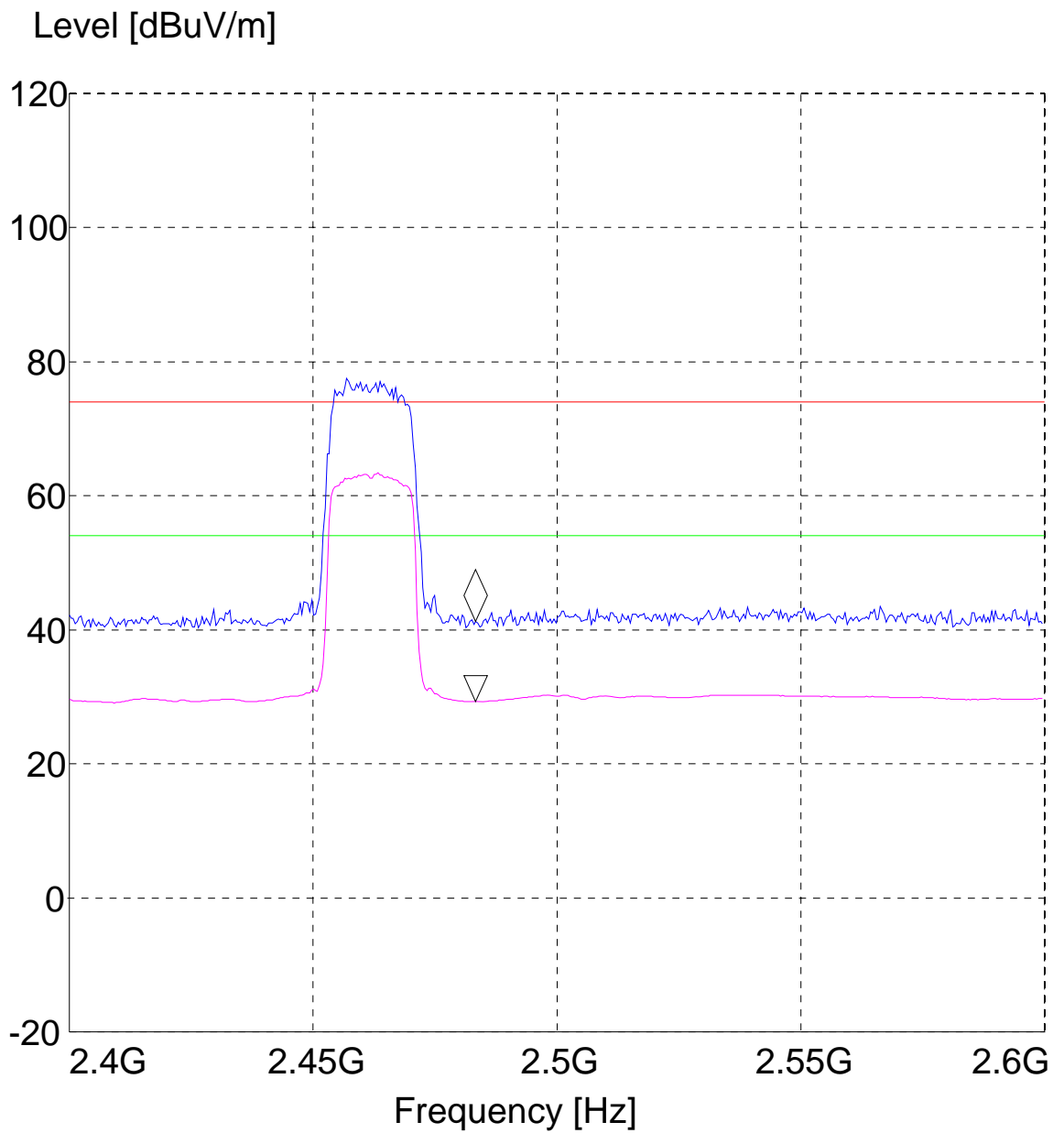
Peak & Average; Horizontal Polarity;



### Band Edges (IEEE 802.11g mode, High CH)

Peak & Average; Vertical Polarity;

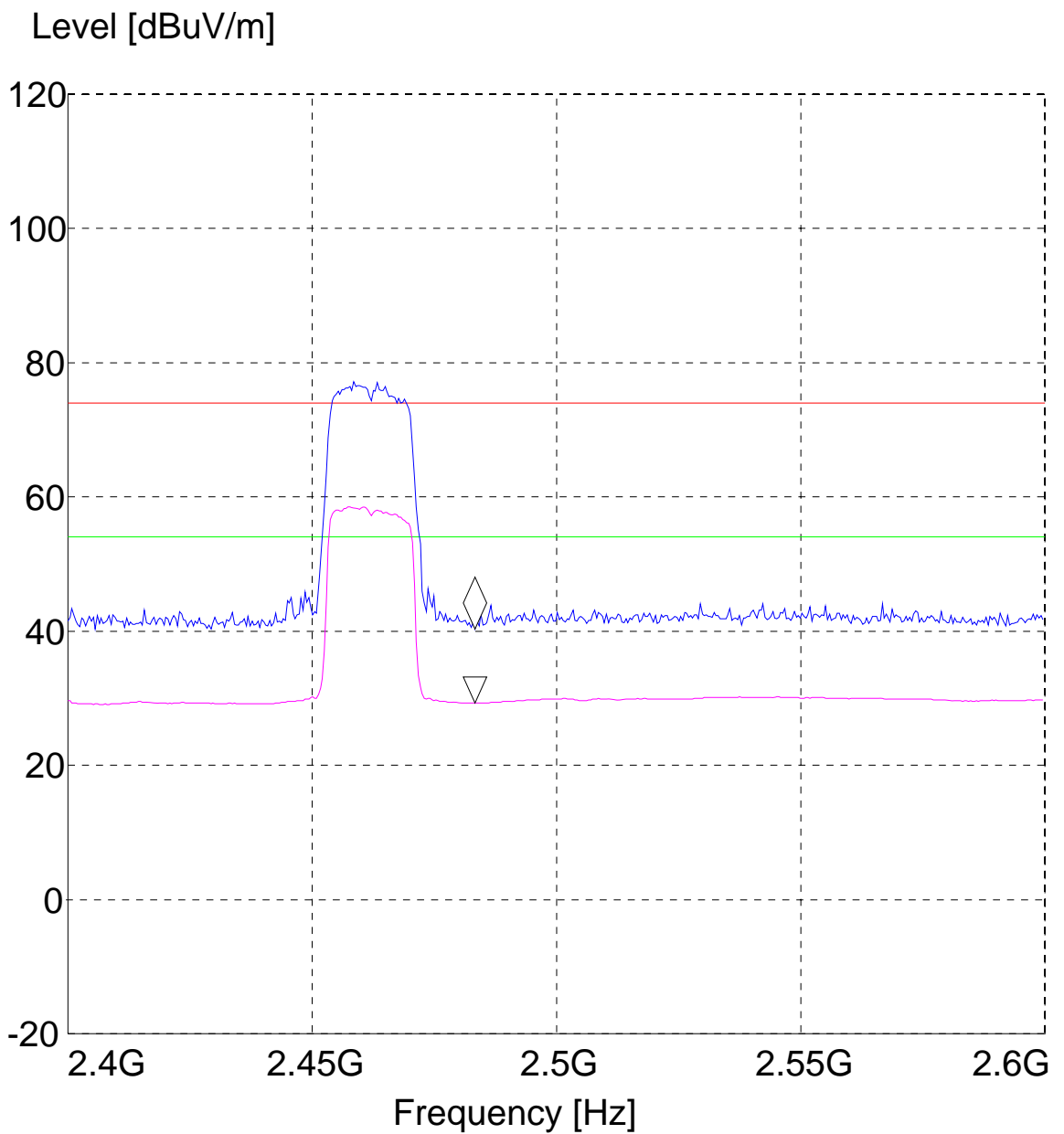
Marker:	2.4835 GHz	41.27 dBuV/m
Delta Mk:	0 Hz	-12.01 dB



### Band Edges (IEEE 802.11g mode, High CH)

Peak & Average; Horizontal Polarity;

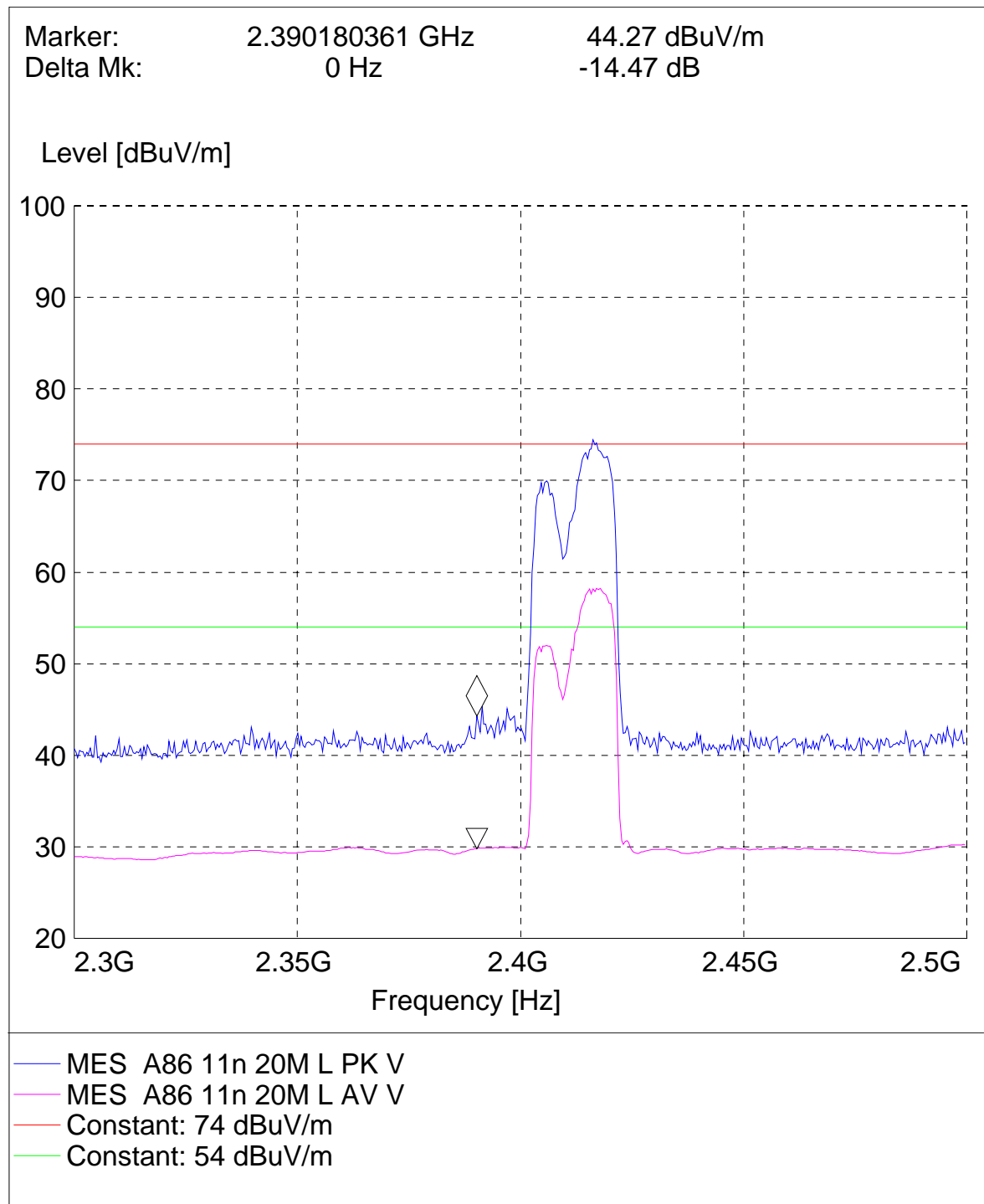
Marker: 2.4835 GHz 40.36 dBuV/m  
Delta Mk: 0 Hz -11.07 dB





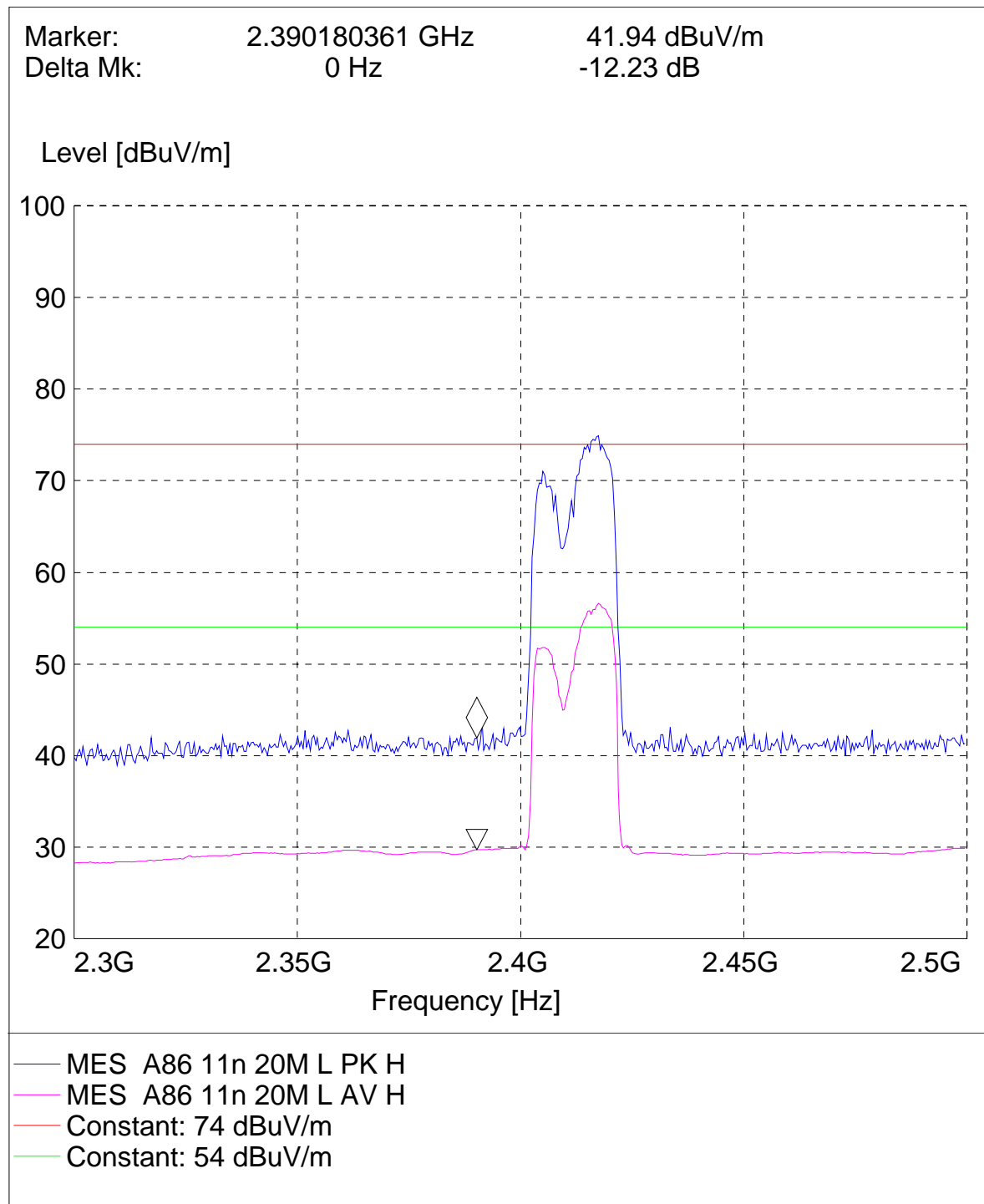
### Band Edges (IEEE 802.11n (20MHz) mode, Low CH)

Peak & Average; Vertical Polarity;



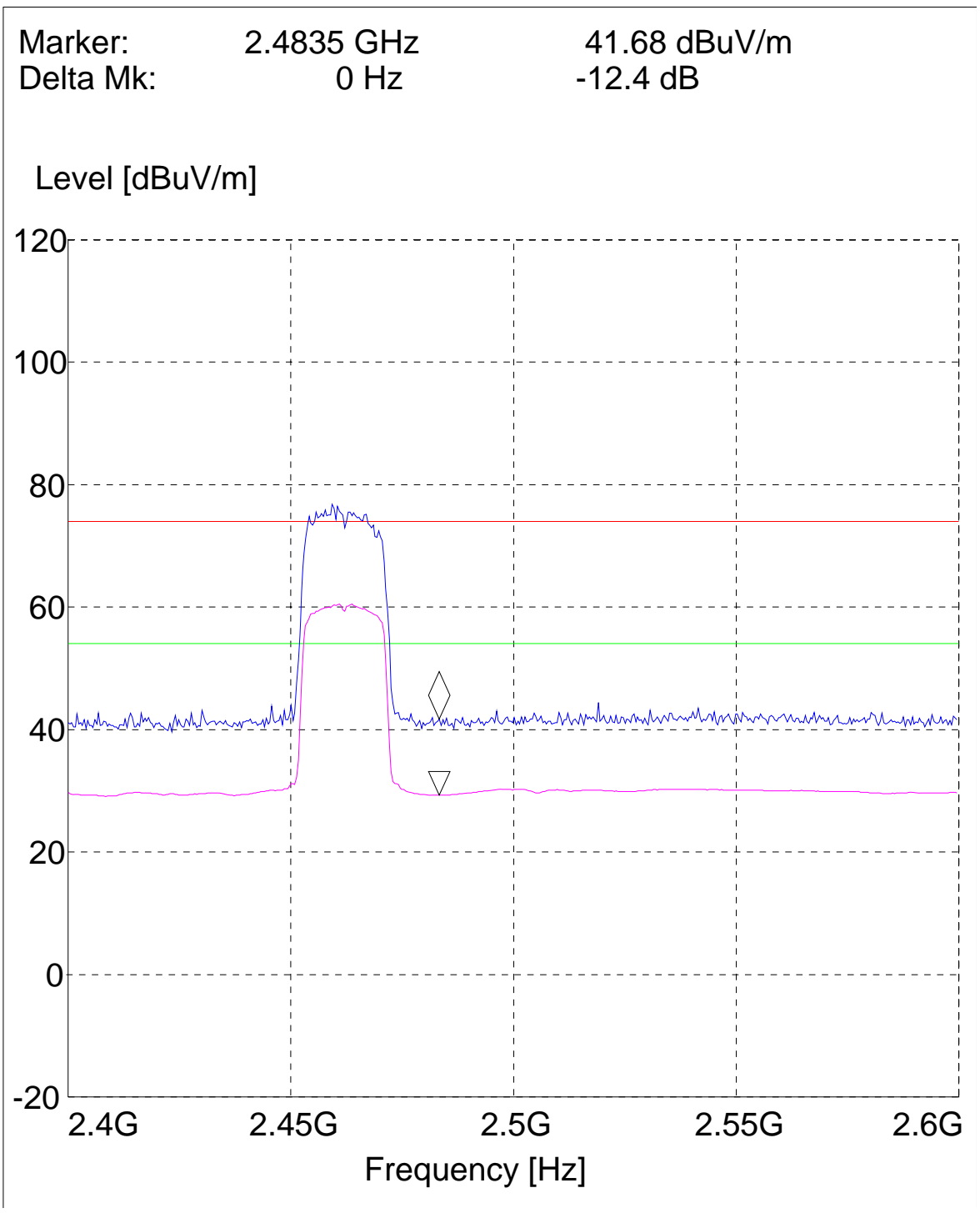
### Band Edges (IEEE 802.11n (20MHz) mode, Low CH)

Peak & Average; Horizontal Polarity;



### Band Edges (IEEE 802.11(20MHz) mode, High CH)

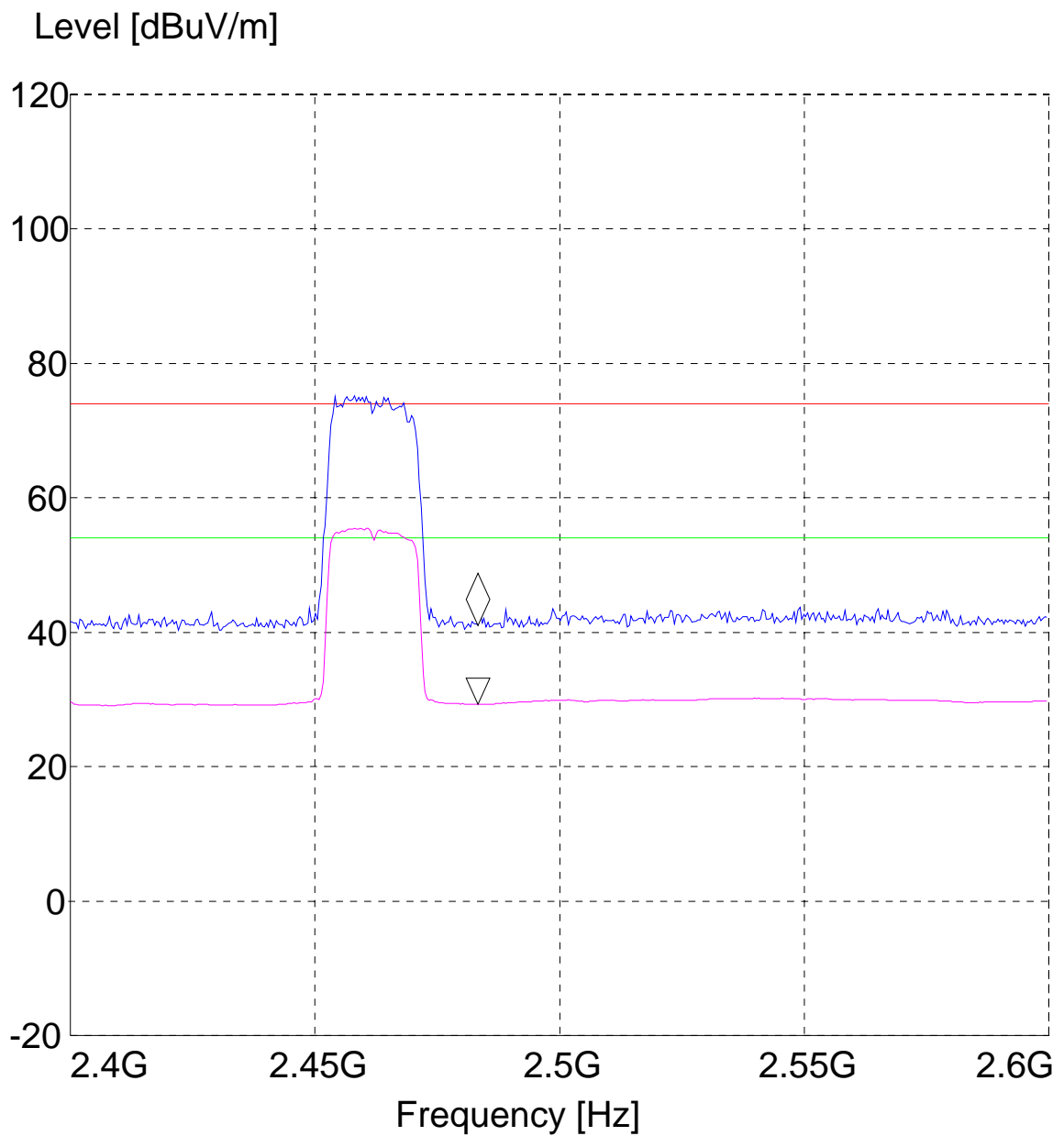
Peak & Average; Vertical Polarity;



### Band Edges (IEEE 802.11(20MHz) mode, High CH)

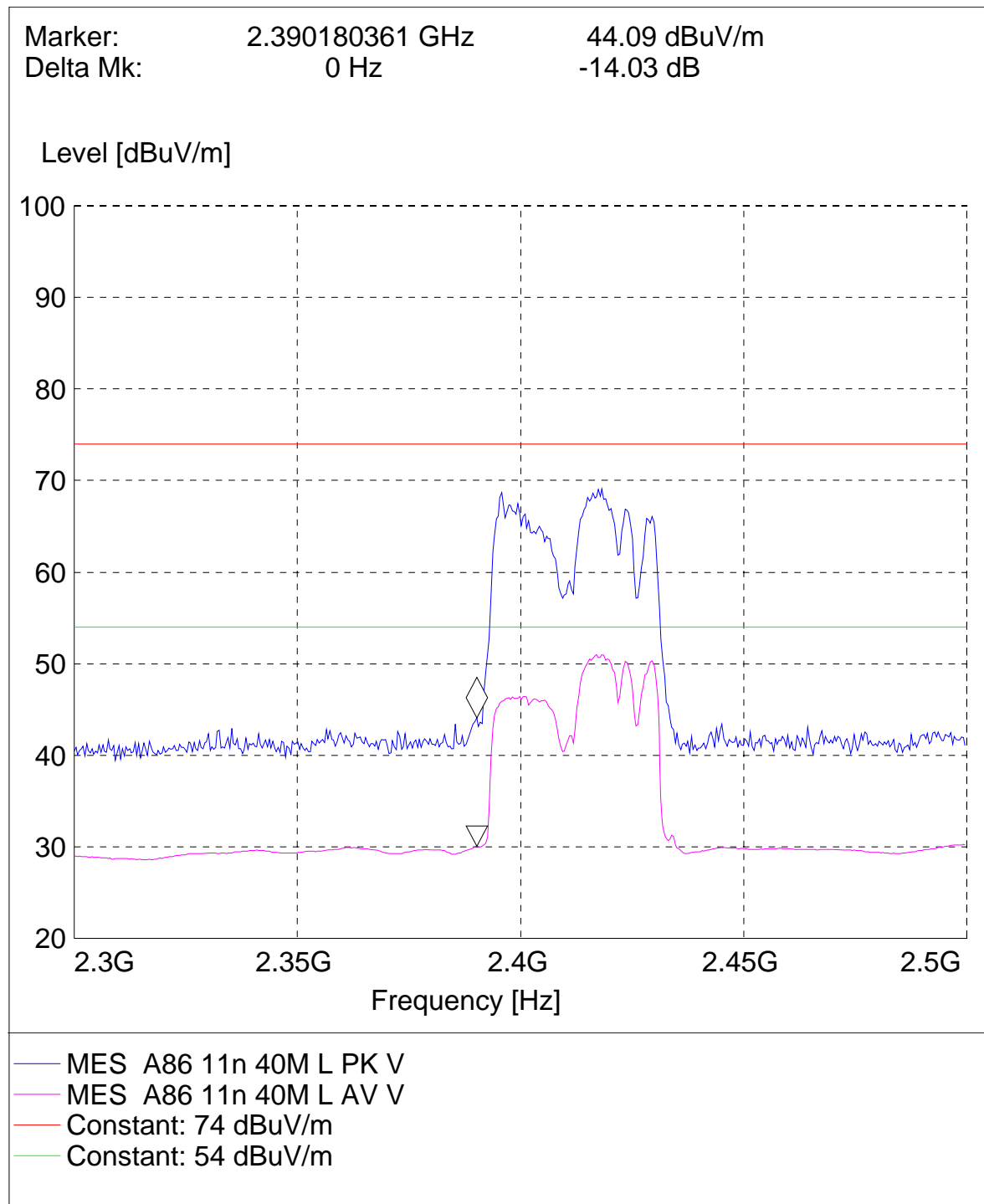
Peak & Average; Horizontal Polarity;

Marker: 2.4835 GHz 41.03 dBuV/m  
Delta Mk: 0 Hz -11.74 dB



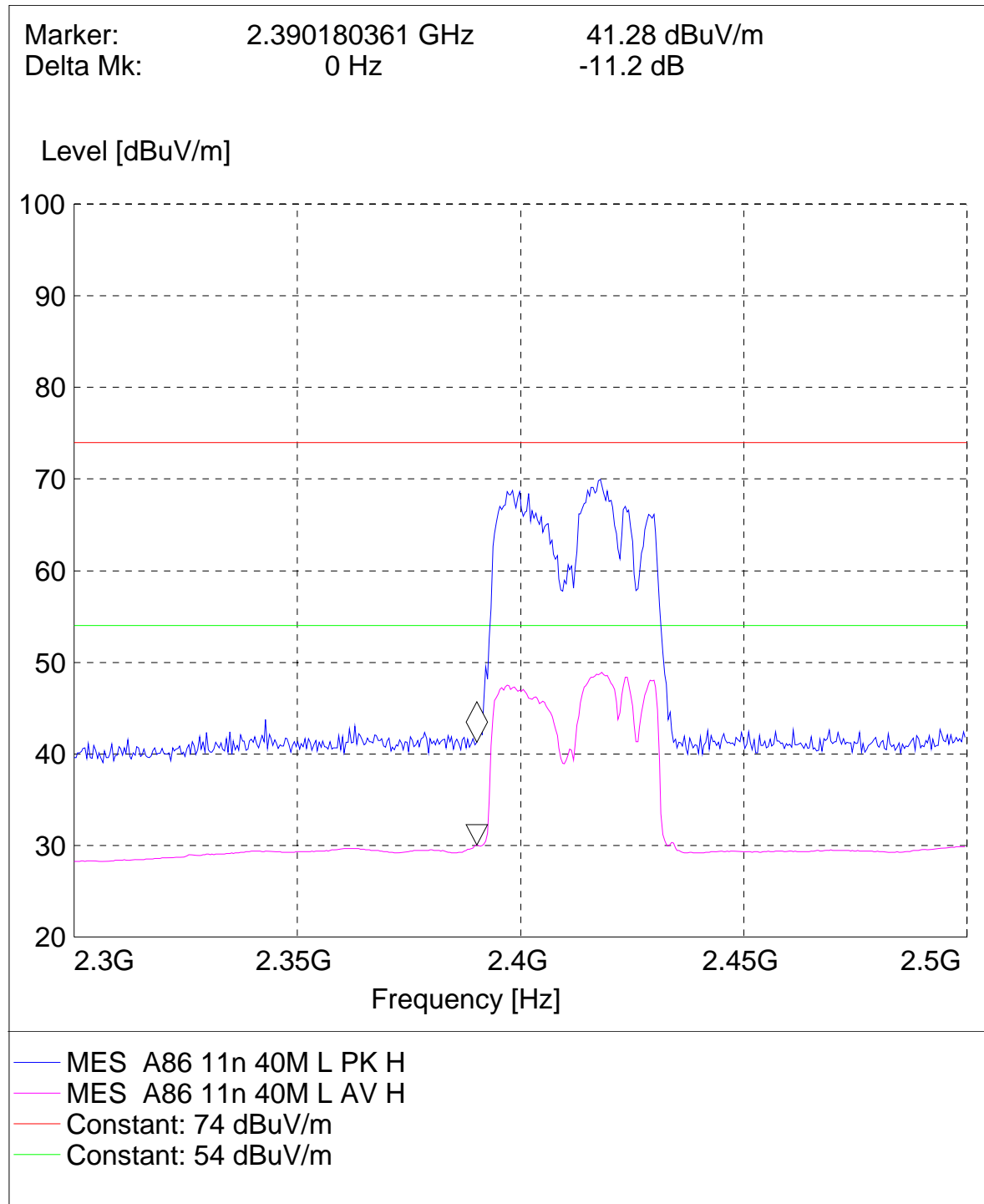
### Band Edges (IEEE 802.11n (40MHz) mode, Low CH)

Peak & Average; Vertical Polarity;



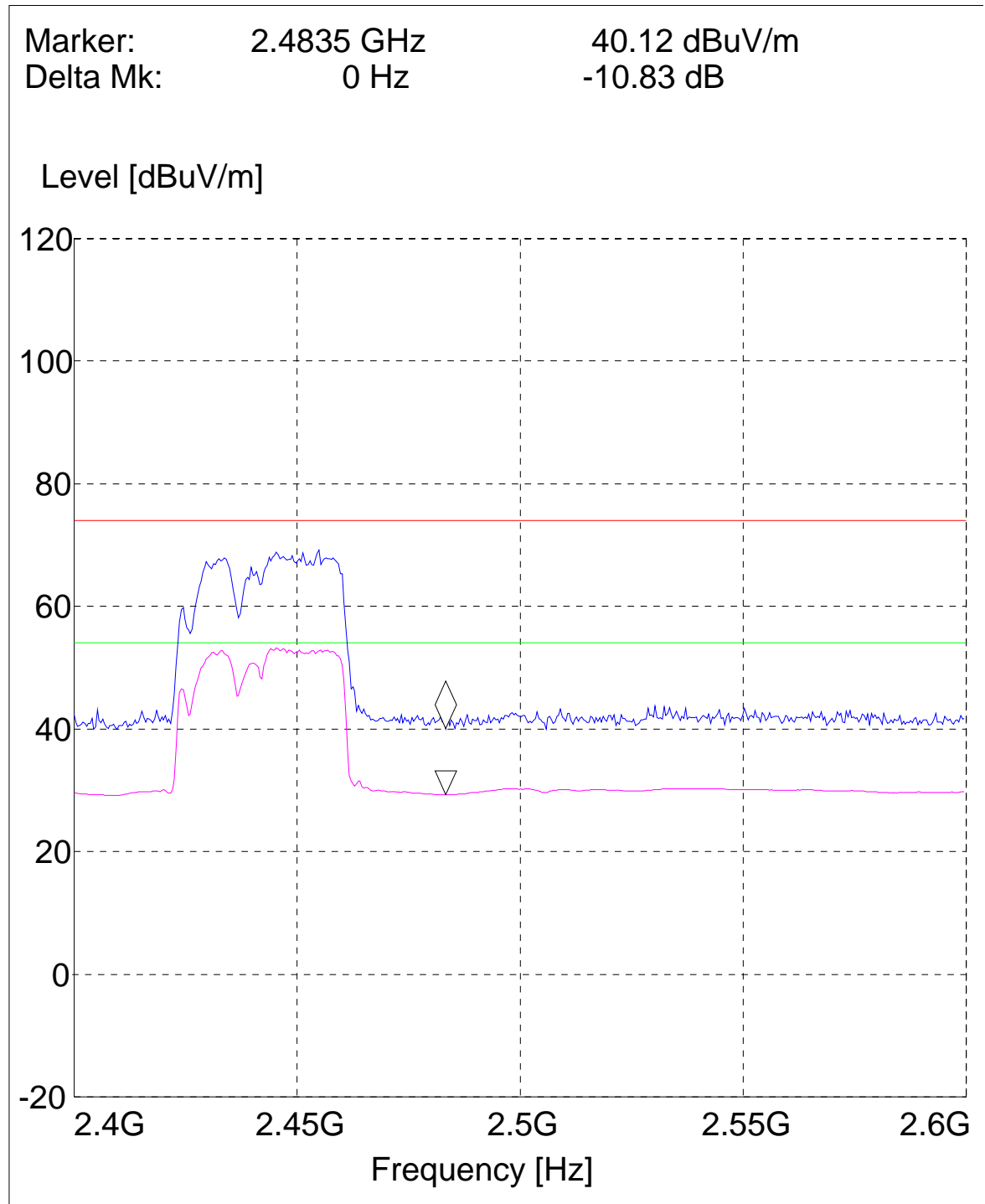
# Band Edges (IEEE 802.11n (40MHz) mode, Low CH)

Peak & Average; Horizontal Polarity;



### Band Edges (IEEE 802.11(40MHz) mode, High CH)

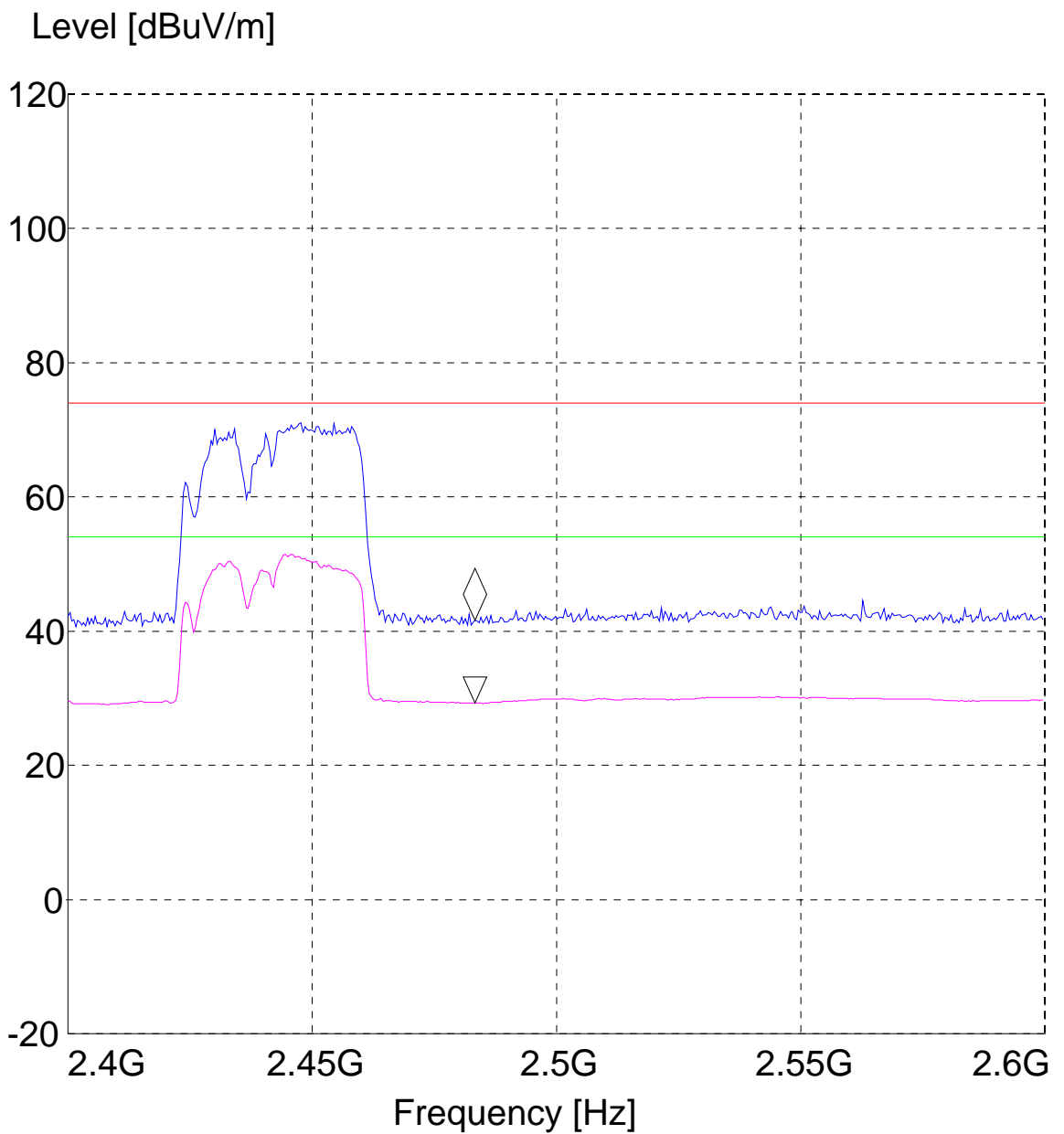
Peak & Average; Vertical Polarity;



### Band Edges (IEEE 802.11(40MHz) mode, High CH)

Peak & Average; Horizontal Polarity;

Marker: 2.4835 GHz 41.6 dBuV/m  
Delta Mk: 0 Hz -12.35 dB





## **9. 6DB BANDWIDTH**

### **9.1. Test Standard and Limit**

#### **9.1.1. Test Standard**

FCC Part 15.247 (a) (2)

#### **9.1.2. Limits**

Systems using digital modulation techniques may operate in the 902– 928 MHz, 2400– 2483.5 MHz, and 5725– 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### **9.2. Test Procedure**

Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.

Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.

Repeat above procedures until all frequencies measured were completed.

### **9.3. Result**

Compliance

This EUT is a Notebook Computer, installed with one 802.11b/g/n(20/40MHz) wireless USB mini card, AW-NU706 inside; please refer to 80815201-RP1 report, FCC ID: TLZ-NU706, i.e., 47 CFR FCC Part 15 Subpart C § 15.247.

## **10. MAXIMUM PEAK CONDUCTED OUTPUT POWER**

### **10.1. Test Standard and Limit**

#### **10.1.1. Test Standard**

FCC Part 15.247 (b) (3)

#### **10.1.2. Limit**

According to §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. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

### **10.2. Test Procedure**

Place the EUT on a bench and set it in transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI Test Receiver.

Add a correction factor to the display. Measure the Peak Output Power of the EUT at Lower, middle and higher channels of each band at a data rate which are the maximum power level.

### 10.3.Result

#### Compliance

This EUT is a Notebook Computer, installed with one 802.11b/g/n(20/40MHz) wireless USB mini card, AW-NU706 inside; please refer to 80815201-RP1 report, FCC ID: TLZ-NU706, i.e., 47 CFR FCC Part 15 Subpart C § 15.247.

## **11. POWER SPECTRAL DENSITY**

### **11.1. Test Standard and Limit**

#### 11.1.1. Test Standard

FCC Part 15.247(e)

#### 11.1.2. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

### **11.2. Test Procedure**

Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.

### **11.3. Result**

#### Compliance

This EUT is a Notebook Computer, installed with one 802.11b/g/n(20/40MHz) wireless USB mini card, AW-NU706 inside; please refer to 80815201-RP1 report, FCC ID: TLZ-NU706, i.e., 47 CFR FCC Part 15 Subpart C § 15.247.