





#### ISO/IEC17025Accredited Lab.

Report No: FCC 0807244
File reference No: 2008-09-01

Applicant: SHENZHEN TENDA TECHNOLOGY CO., LTD

Product: 300M Wireless Notebook Adapter

Model No: W302C

Trademark: Tenda

Test Standards: FCC Part 15 Subpart C, Paragraph 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.4FCC Part 15 Subpart C, Paragraph 15.247 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung Manager

Dated: Sep 01,2008

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

#### SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

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# **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

#### **CNAL-LAB Code: L2292**

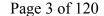
The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

# FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

#### IC-Registration No.: IC5205A-01

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-01.



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#### 1.0 General Details

#### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

Address: 5/F,Block 4, Anhua Industrial Zone.,No.8 TaiRan Rd.CheGongMiao,FuTian District,

Shenzhen, CHINA.

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Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-01

For 3m & 10 m OATS

#### 1.2 Applicant Details

Applicant: SHENZHEN TENDA TECHNOLOGY CO., LTD

Address: 3F, Moso Technology Park, Xili Town, Nanshan District, Shenzhen 518108, China

Telephone: +86-755-27657068 Fax: +86-755-27657178

## 1.3 Description of EUT

Product: 300M Wireless Notebook Adapter

Manufacturer: SHENZHEN TENDA TECHNOLOGY CO., LTD

Brand Name: Tenda
Model Number: W302C
Additional Model Name N/A
Additional Trade Name N/A

Power Source Powered by notebook

Type of Modulation IEEE 802.11b : DSSS (CCK, DQPSK, DBPSK)

IEEE 802.11g: OFDM (64QAM, 16AQM, QPSK, BPSK)

IEEE 802.11n HT20/40: OFDM (64QAM, 16QAM, QPSK, BPSK

Frequency range IEEE 802.11b/g, 802.11n HT20: 2412-2462MHz

IEEE 802.11n HT40: 2422MHz-2452MHz

Channel Spacing IEEE 802.11b/g ,802.11n HT20/HT40 : 5MHz

Air 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: 130, 117, 104, 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6 Mbps IEEE 802.11n HT40: 130, 117, 104, 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6 Mbps

Frequency Selection By software

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Channel Number

IEEE 802.116/g ,802.11n HF20 : 11 Channels

IEEE 802.11n HT40: 7 Channels

1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2008-08-05 to 2008-08-15

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB Radiated Emissions Uncertainty = 4.7dB

1.7 Test Engineer

Terry Tang

The sample tested by

Print Name: Terry Tang

1								
2.0	2.0 Test Equipments							
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date			
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2007-12-05	2008-12-04			
Absorbing Clamp	ROHDE&SCHWARZ	MDS-21	100126	2007-12-05	2008-12-04			
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2007-12-05	2008-12-04			
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2007-12-05	2008-12-04			
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2007-12-05	2008-12-04			
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2008-04-26	2009-04-25			
4-WIRE ISN	ROHDE&SCHWARZ	ENY 41	830663/044	2008-02-18	2009-02-17			
GG ENY22 Double 2-Wire ISN	ROHDE&SCHWARZ	ENY22	83066/016	2008-02-18	2009-02-17			
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2008-02-18	2009-02-17			
System Controller		SC100	-	2008-02-18	2009-02-17			
Printer	EPSON	РНОТО ЕХЗ	CFNH234850	2008-02-18	2009-02-17			

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		4	S/		
FM-AM Signal Generator	JUNG.JIN	SG-150M	389911177	2008-02-18	2009-02-17
Color TV Pattern Generator	PHILIPS	PM5418	LO621747	2008-02-18	2009-02-17
Computer	IBM	8434	1S8434KCE99BLX LO*	-	-
Oscillator	KENWOOD	AG-203D	3070002	2008-02-18	2009-02-17
Power meter	Anritsu	ML2487A	6K00003613	2008-02-18	2009-02-17
Power sensor	Anritsu	MA2491A	32263	2008-02-18	2009-02-17
Spectrum Analyzer	HAMEG	HM5012	-	2008-04-26	2009-04-25
Power Supply	LW	APS1502	-	-	-
5K VA AC Power Source	California Instruments	5001iX	56060	2008-02-18	2009-02-17
CDN	EM TEST	CDN M2/M3	-	2008-02-18	2009-02-17
Attenuation	EM TEST	ATT6/75	-	2008-02-18	2009-02-17
Resistance	EM TEST	R100	-	2008-02-18	2009-02-17
Electromagnetic Injection Clamp	LITTHI	EM101	35708	2008-02-18	2009-02-17
Signal Generator	ROHDE&SCHWARZ	SMT03	100029	2008-02-18	2009-02-17
Power Amplifier	AR	150W1000	300999	2008-02-18	2009-02-17
Field probe	Holaday	HI-6005	105152	2008-02-18	2009-02-17
Bilog Antenna	Chase	CBL6111C	2576	2008-02-18	2009-02-17
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2008-02-18	2009-02-17
3m OATS			N/A	2008-02-18	2009-02-17
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170265	2007-08-16	2008-08-15
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-631	2008-04-26	2009-04-25

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#### 4. DESCRIPTION OF TEST MODES

The EUT is an 802.11n MISO transceiver in Mini PCI Adapter form factor. It has one transmitter chains and two receive chains ( $1 \times 2$  configurations). The  $1 \times 2$  configuration is implemented with only one outside chains (Chain 0). 11b/g mode, only examines Chain 0, because only Chain 0 is functional according to the user driver of Ralink. The power is transmitted from TX0 only at 11b/g normal mode in Ralink solution. The RF chipset is manufactured by Ralink Technology, Corp. The antenna peak gain 1.8dBi (highest gain) were chosen for full testing.

#### 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: 11Mbps 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: 130Mbps data rate (worst case) was chosen for full testing except for power density.

#### 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: 6Mbps data rate (worst case) was chosen for full testing except for power density.

The worst-case data rates are determined according to the description above, based on the investigations by measuring the PSD and average power across all the data rates, bandwidths, modulations and spatial stream modes.

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 2437 MHz.

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#### 4.0 Technical Details

#### 4.1 Summary of test results

The EUT has bee	n tested accord	ing to the followi	ng specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.107	<b>Conducted Emission Test</b>	PASS	Complies
& 15.207			
	Spectrum bandwidth of a		Complies
FCC Part 15 Subpart C	Orthogonal Frequency		
Paragraph 15.247(a)(2) Limit	<b>Division Multiplex System</b>	PASS	
1 aragraph 13.247(a)(2) Emit	Limit: 6dB		
	bandwidth>500kHz		
FCC Part 15, Paragraph	Maximum peak output		
15.247(b)	power	PASS	Complies
13.247(0)	Limit: max. 30dBm		
FCC Part 15, Paragraph	Transmitter Radiated	PASS	Complies
15.109,15.205 & 15.209	Emission		
	Limit: Table 15.209		
FCC Part 15, Paragraph	<b>Power Spectral Density</b>	PASS	Complies
15.247(d)	Limit: max. 8dBm		
FCC Part 15, Paragraph	Out of Band Emission and	PASS	Complies
15.247(c)	<b>Restricted Band</b>		
	Radiation		
	Limit: 20dB less than		
	peak value of fundamental		
	frequency		
	Restricted band limit:		
	<b>Table 15.209</b>		

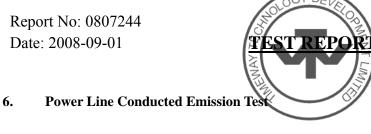
#### 4.2 Test Standards

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

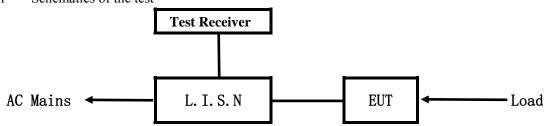
#### 5.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

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#### 6.1 Schematics of the test

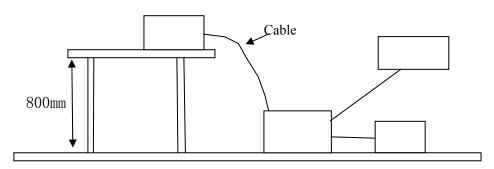


**EUT: Equipment Under Test** 

#### 6.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 -2003.

#### Block diagram of Test setup



#### 6.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

#### **EUT** A.

Device	Manufacturer	Model	FCC ID
300M Wireless	SHENZHEN TENDA TECHNOLOGY	W302C	V7TW302C
Notebook	CO., LTD		
Adapter			

#### В. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

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#### C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
N/A				

#### 6.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

6.5 Power line conducted Emission Limit according to Paragraph 15.207 and 15.107

Frequency	Class A Lin	nits (dB $\mu$ V)	Class B Limits (dB $\mu$ V)		
(MHz)	Quasi-peak Level Average Level		Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*	
$0.50 \sim 5.00$	73.0	60.0	56.0	46.0	
$5.00 \sim 30.00$	73.0	60.0	60.0	50.0	

Notes:

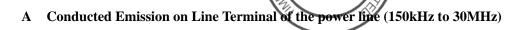
- 1. \*Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

#### 6.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Note: the worse cases was selected to conducted the test

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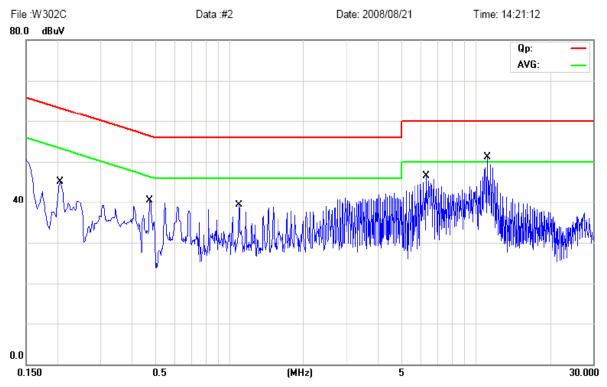


EUT set Condition: Normal

**Results:** Pass

Please refer to following diagram for individual

#### **Conducted Emission Measurement**



Eraguanav	Reading(dB μ V)				Limit	
Frequency (MHz)	Line		Neutral		(dB µ V)	
(IVIIIZ)	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.2055	42.86	40.19			63.39	53.39
0.4764	29.65	23.35			56.40	46.40
1.0964	34.24	33.04			56.00	46.00
6.3228	40.64	35.64			60.00	50.00
11.2015	32.48	26.18			60.00	50.00

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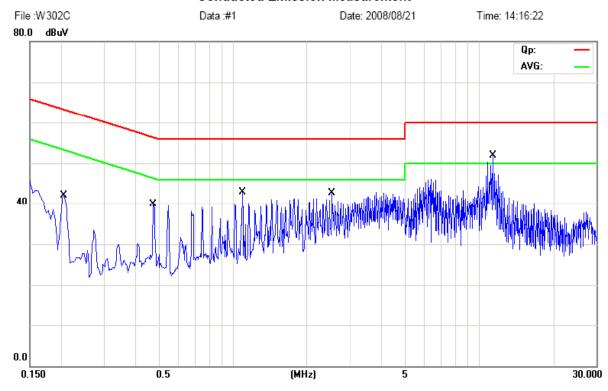
# B Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Normal

**Results:** Pass

Please refer to following diagram for individual

## **Conducted Emission Measurement**



Eraguanay		Reading(dB µ V)			t	
Frequency (MHz)	Live		Neutral		$(dB \mu V)$	
(IVIIIZ)	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.2060			40.06	38.22	63.37	53.37
0.4770			36.95	36.85	56.39	46.39
1.0941	-	-	35.34	33.94	56.00	46.00
2.5328	-	-	30.71	22.01	56.00	46.00
11.4601	-		46.97	44.37	60.00	50.00

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#### 6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Timeway Laboratory. This site is on file with the FCC laboratory division, Registration No.899988
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

# Block diagram of Test setup Distance = 3m Computer Pre -Amplifier EUT Turn-table Receiver

- 6.2 Configuration of The EUT

  Same as section 5.3 of this report
- 6.3 EUT Operating Condition
  Same as section 5.4 of this report.

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#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

#### Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109

Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

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#### Test result

#### General Radiated Emission Data and Harmonics Radiated Emission Data

#### Radiated Emission In Horizontal (30MHz----1000MHz)

**EUT set Condition: Normal Operation** 

**Results: Pass** 

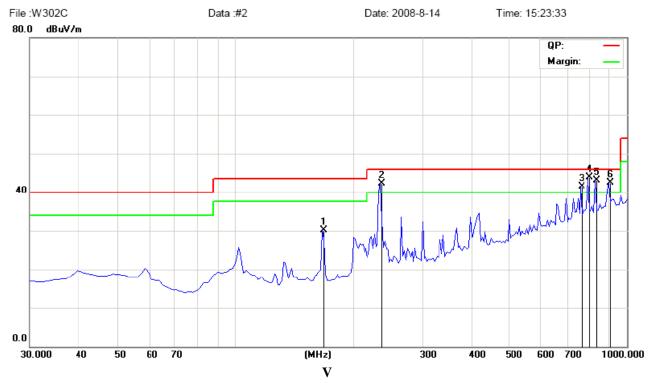
Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB \u03b4 V/m)
168.225	30.20	Н	43.50
236.125	42.28	Н	46.00
767.200	41.55	Н	46.00
801.150	43.83	Н	46.00
832.675	43.19	Н	46.00
900.575	42.45	Н	46.00
168.225	28.46	V	43.50
236.125	30.28	V	46.00
599.875	38.29	V	46.00
667.775	39.07	V	46.00
801.150	42.92	V	46.00

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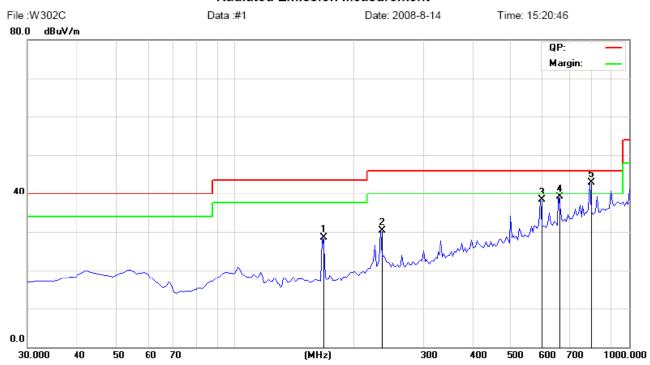


Test Figure:

#### Radiated Emission Measurement



#### Radiated Emission Measurement



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Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \( \mu \)V/m)		
2412.00	95.0(PK) /78.8 (AV)	Н	Fundamental Frequency		
2412.00	98.2(PK) /79.4 (AV)	V	Fundamental Frequency		
4824.00		H/V	74(Peak)/ 54(AV)		
7236.00		H/V	74(Peak)/ 54(AV)		
9648.00		H/V	74(Peak)/ 54(AV)		
12060		H/V	74(Peak)/ 54(AV)		
14472		H/V	74(Peak)/ 54(AV)		
16684		H/V	74(Peak)/ 54(AV)		
19296		H/V	74(Peak)/ 54(AV)		
21708		H/V	74(Peak)/ 54(AV)		
24120		H/V	74(Peak)/ 54(AV)		
3216	50.4(PK) /49.4 (AV)	V	74(Peak)/ 54(AV)		

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode 6Mbps
- 4. Test results are for the worst case condition

### Operation Mode: Transmitting & Receiving under CH06 at 6Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \( \mu \)V/m)	
2437.00	100.3 (PK) /82.4 (AV)	V	Fundamental Frequency	
2437.00	96.5 (PK) /80.6 (AV)	Н	Fundamental Frequency	
4874.00		H/V	74(Peak)/ 54(AV)	
7311.00		H/V	74(Peak)/ 54(AV)	
9748.00		H/V	74(Peak)/ 54(AV)	
12185		H/V	74(Peak)/ 54(AV)	
14622		H/V	74(Peak)/ 54(AV)	
17059		H/V	74(Peak)/ 54(AV)	
19496		H/V	74(Peak)/ 54(AV)	
21933		H/V	74(Peak)/ 54(AV)	
24370		H/V	74(Peak)/ 54(AV)	
3216	47.2 (PK) /45.9 (AV)	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode 6Mbps
- 4. Test results are for the worst case condition

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Operation Mode: Transmitting & Receiving under CH11 at 6Mbps

	0 0	<u>i</u>		
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB µ V/m)	
2462.00	93.2 (PK) /76.3 (AV)	Н	Fundamental Frequency	
2462.00	95.4 (PK) /79.8 (AV)	V	Fundamental Frequency	
4824	46.3 (PK) /38.7 (AV)	V	74(Peak)/ 54(AV)	
4824		Н	74(Peak)/ 54(AV)	
7368		H/V	74(Peak)/ 54(AV)	
9848		H/V	74(Peak)/ 54(AV)	
12310		H/V	74(Peak)/ 54(AV)	
14772		H/V	74(Peak)/ 54(AV)	
17234		H/V	74(Peak)/ 54(AV)	
19696		H/V	74(Peak)/ 54(AV)	
22158		H/V	74(Peak)/ 54(AV)	
24650		H/V	74(Peak)/ 54(AV)	
3216	46.3 (PK) /38.7 (AV)	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

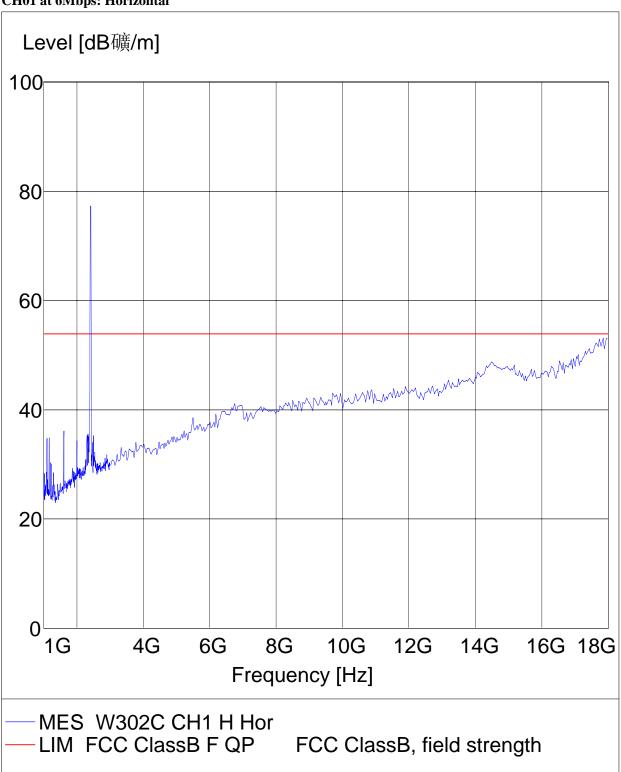
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11g mode at 6Mbps
- 4. Test results are for the worst case condition

Report No: 0807244 Date: 2008-09-01



Please refer to the following test plots for details

CH01 at 6Mbps: Horizontal



The report refers only to the sample tested and does not apply to the bulk.

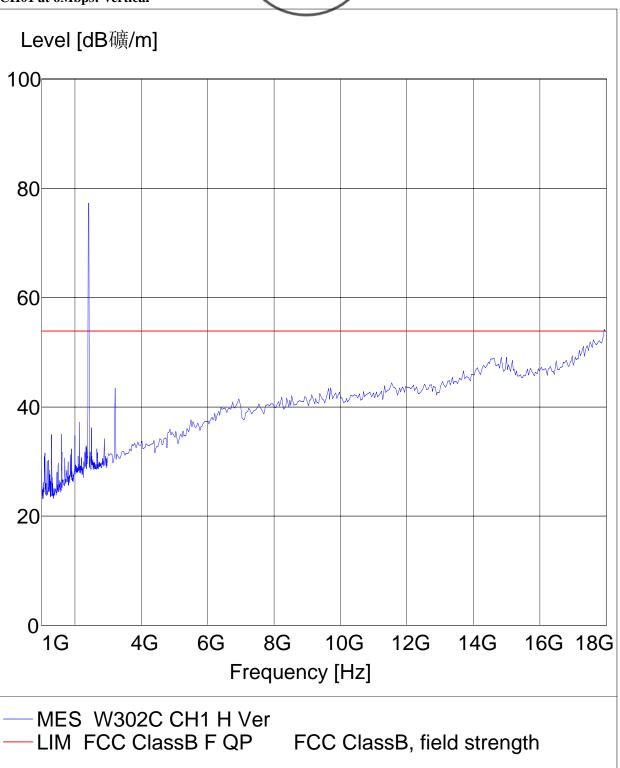
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CH01 at 6Mbps: Vertical



The report refers only to the sample tested and does not apply to the bulk.

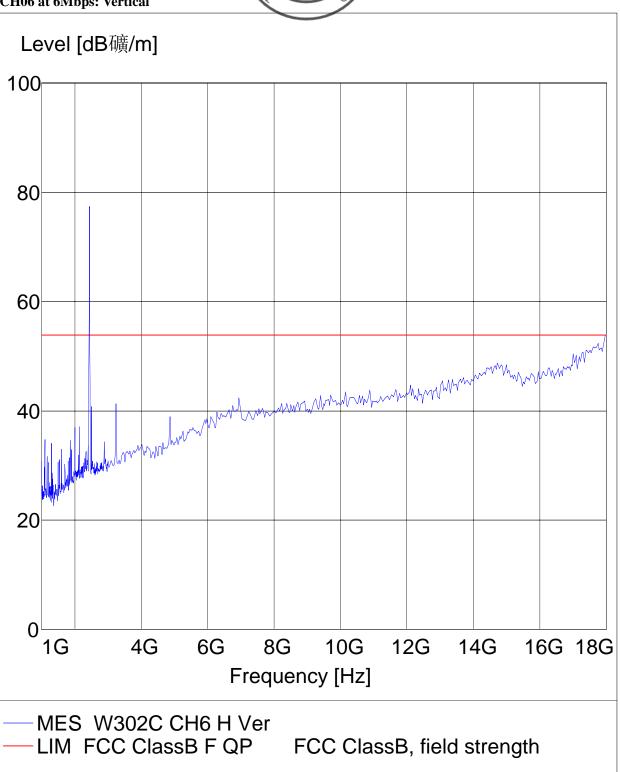
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CH06 at 6Mbps: Vertical

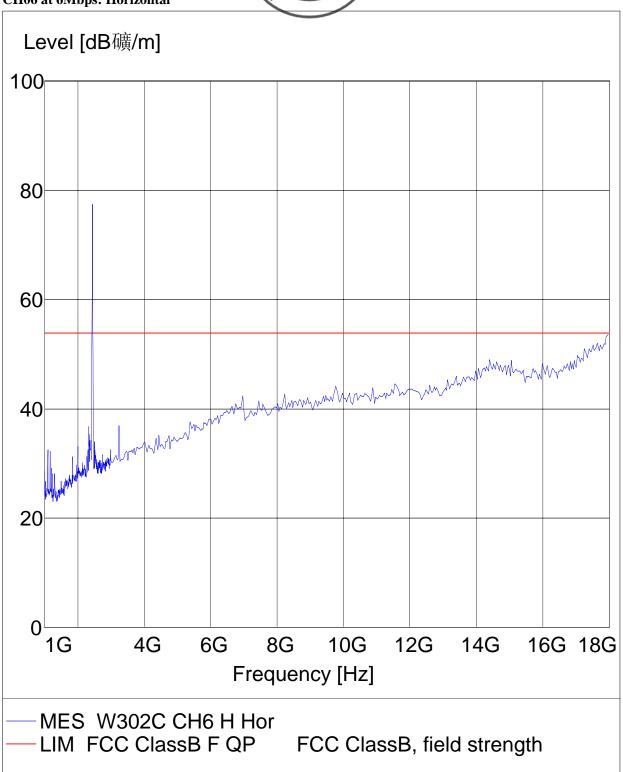


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CH06 at 6Mbps: Horizontal



The report refers only to the sample tested and does not apply to the bulk.

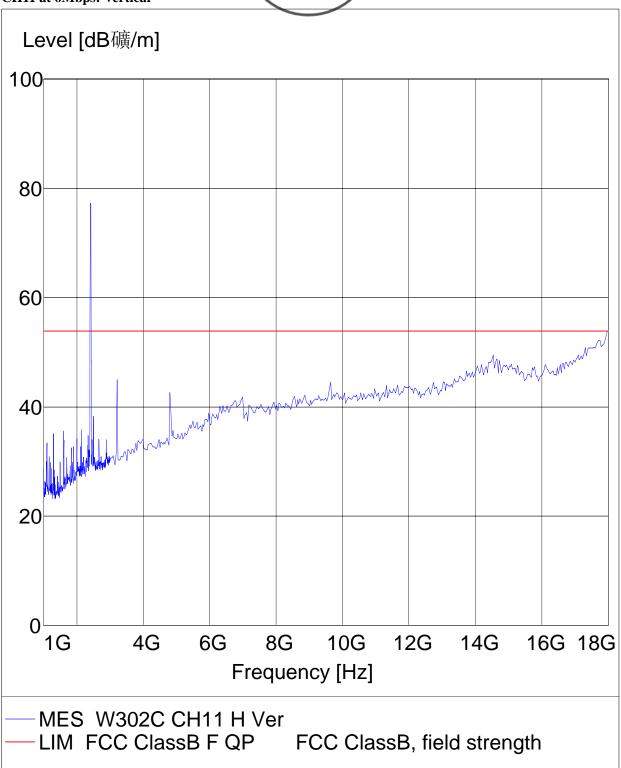
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CH11 at 6Mbps: Vertical

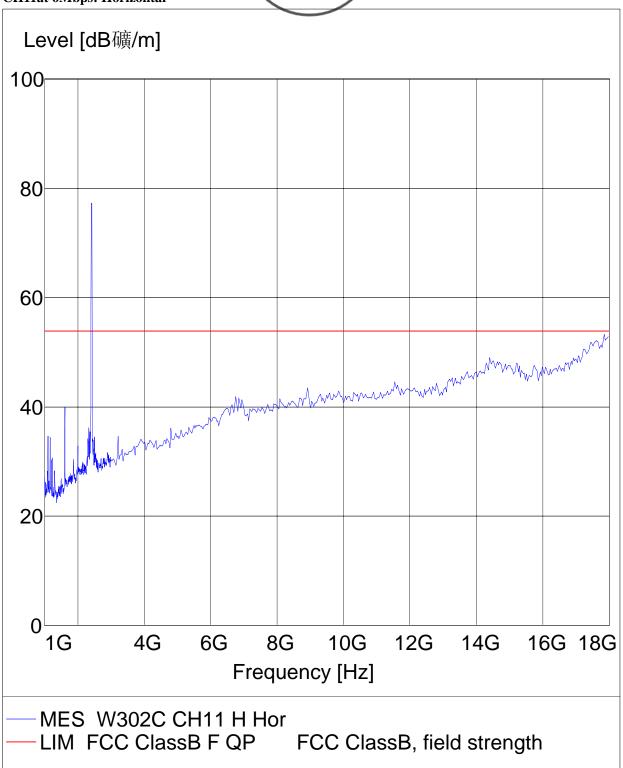


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CH11at 6Mbps: Horizontal

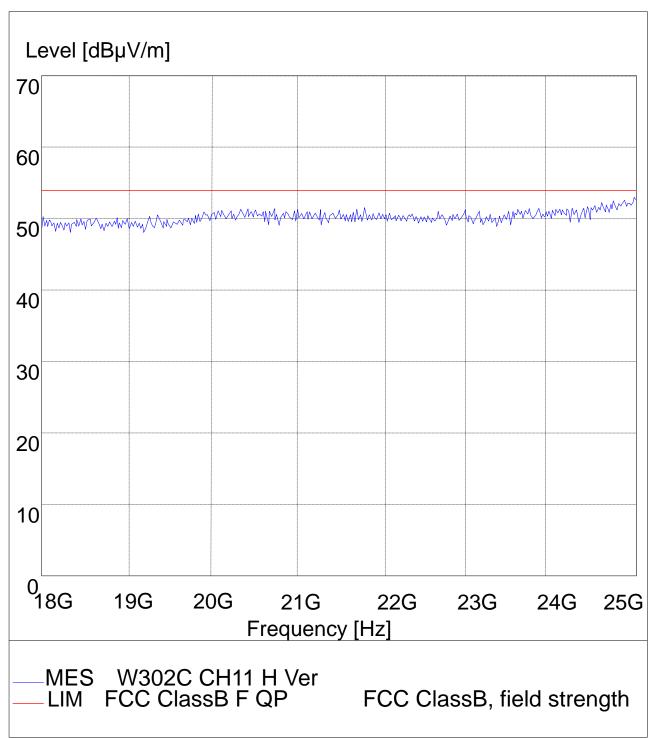


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18-25G CH11 6M Horizontal

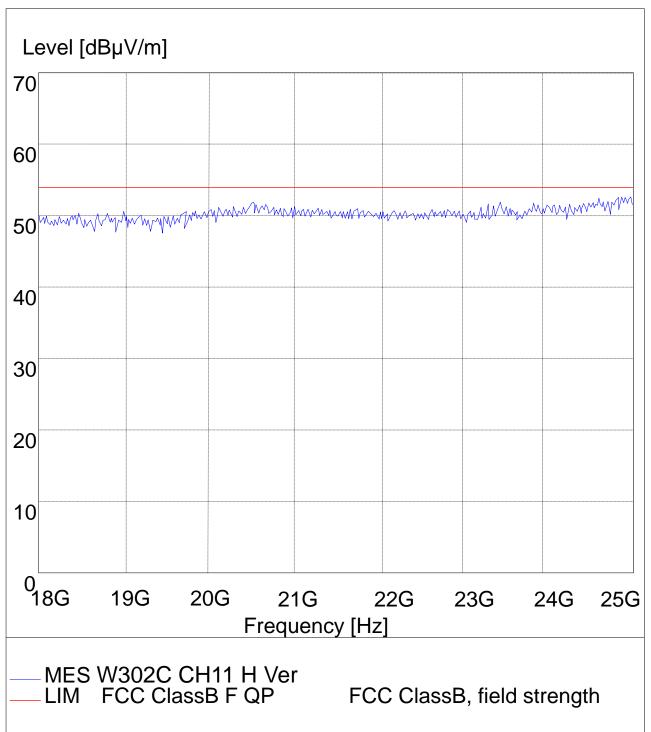


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18-25G CH11 6M Vertical



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Operation Mode: Transmitting & Receiving under CH01 at 11Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)	
2412.00	94.8 (PK)/ 78.6(AV)	Н	Fundamental Frequency	
2412.00	98.0 (PK)/79.2 (AV)	V	Fundamental Frequency	
4824.00	53.3 (PK)/ 40.2(AV)	Н	74(Peak)/ 54(AV)	
4824.00	56.1 (PK)/ 43.4(AV)	V	74(Peak)/ 54(AV)	
7236.00		H/V	74(Peak)/ 54(AV)	
9648.00		H/V	74(Peak)/ 54(AV)	
12060		H/V	74(Peak)/ 54(AV)	
14472		H/V	74(Peak)/ 54(AV)	
16684		H/V	74(Peak)/ 54(AV)	
19296		H/V	74(Peak)/ 54(AV)	
21708		H/V	74(Peak)/ 54(AV)	
24120		H/V	74(Peak)/ 54(AV)	
3216	52.1 (PK)/ 50.5(AV)	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode 11Mbps
- 4. Test results are for the worst case condition

#### Operation Mode: Transmitting & Receiving under CH06 at 1Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \( \mu \) V/m)	
2437.00	97.3(PK)/ 80.5AV)	Н	Fundamental Frequency	
2437.00	99.7(PK)/81.2 (AV)	V	rundamentai Frequency	
4874.00	57.8(PK)/45.2 (AV)	V	74(Peak)/ 54(AV)	
4874.00	55.1(PK)/42.1 (AV)	Н	74(Peak)/ 54(AV)	
7311.00		H/V	74(Peak)/ 54(AV)	
9748.00		H/V	74(Peak)/ 54(AV)	
12185		H/V	74(Peak)/ 54(AV)	
14622		H/V	74(Peak)/ 54(AV)	
17059		H/V	74(Peak)/ 54(AV)	
19496		H/V	74(Peak)/ 54(AV)	
21933		H/V	74(Peak)/ 54(AV)	
24370		H/V	74(Peak)/ 54(AV)	
3216	48.3(PK)/47.1 (AV)	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

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- 3. For 802.11b mode 11Mbps
- 4. test results are for the worst case condition

## Operation Mode: Transmitting & Receiving under CH11 at 11Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \( \mu \)V/m)	
2462.00	98.6(PK/80.1AV)	Н	Fundamental Frequency	
2462.00	102.3(PK)/83.6AV)	V	rundamentai riequency	
4924	1	H/V	74(Peak)/ 54(AV)	
7368	1	H/V	74(Peak)/ 54(AV)	
9848	1	H/V	74(Peak)/ 54(AV)	
12310		H/V	74(Peak)/ 54(AV)	
14772	1	H/V	74(Peak)/ 54(AV)	
17234	1	H/V	74(Peak)/ 54(AV)	
19696	-	H/V	74(Peak)/ 54(AV)	
22158		H/V	74(Peak)/ 54(AV)	
24650	-	H/V	74(Peak)/ 54(AV)	
3216	47.2/46.3	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

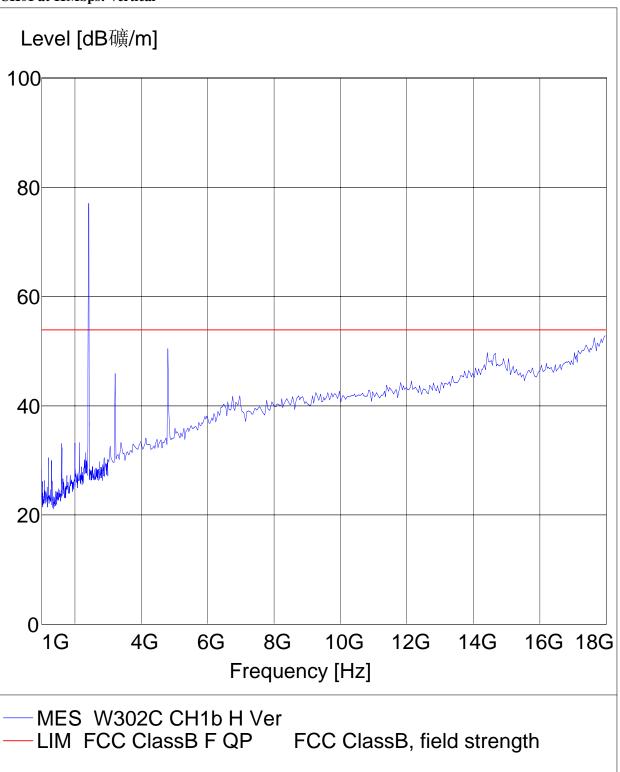
- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11b mode at 11Mbps
- 4. Test results are for the worst case condition

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Please refer to the following test plots for details

CH01 at 11Mbps: Vertical



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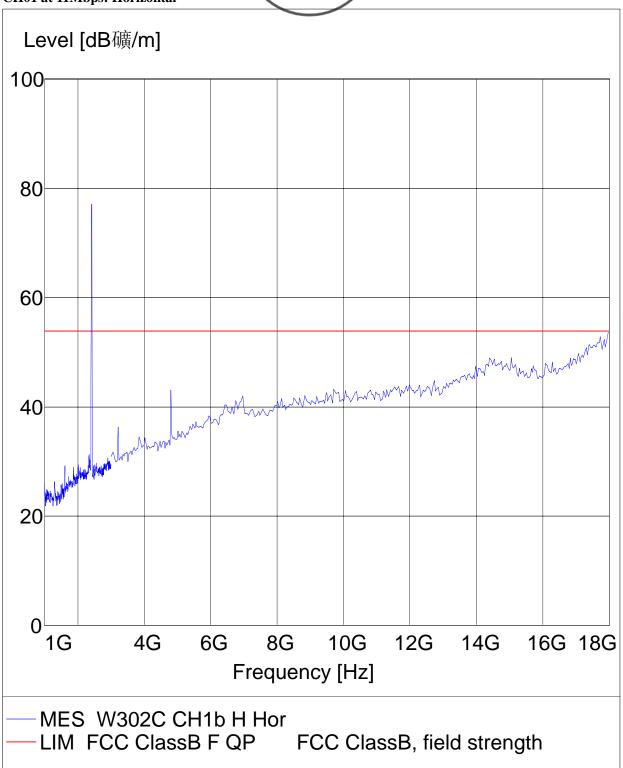
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# CH01 at 11Mbps: Horizontal



The report refers only to the sample tested and does not apply to the bulk.

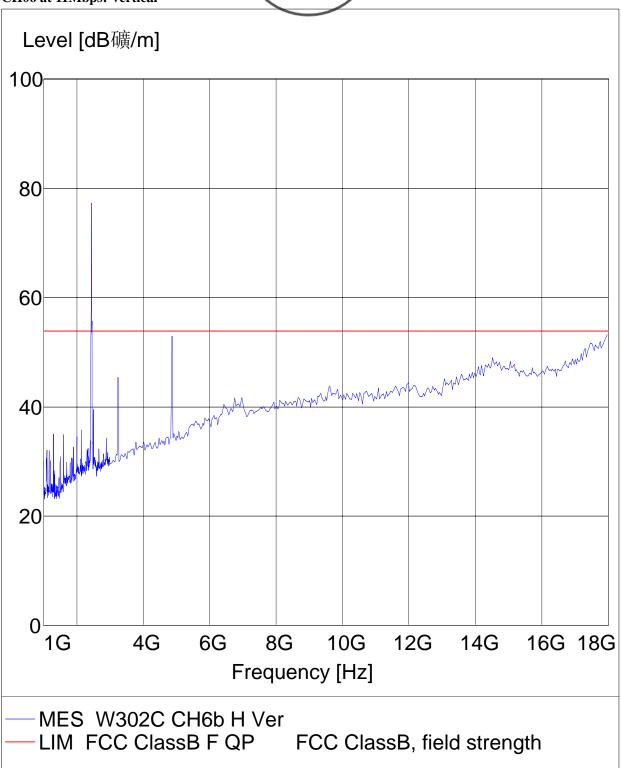
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CH06 at 11Mbps: Vertical

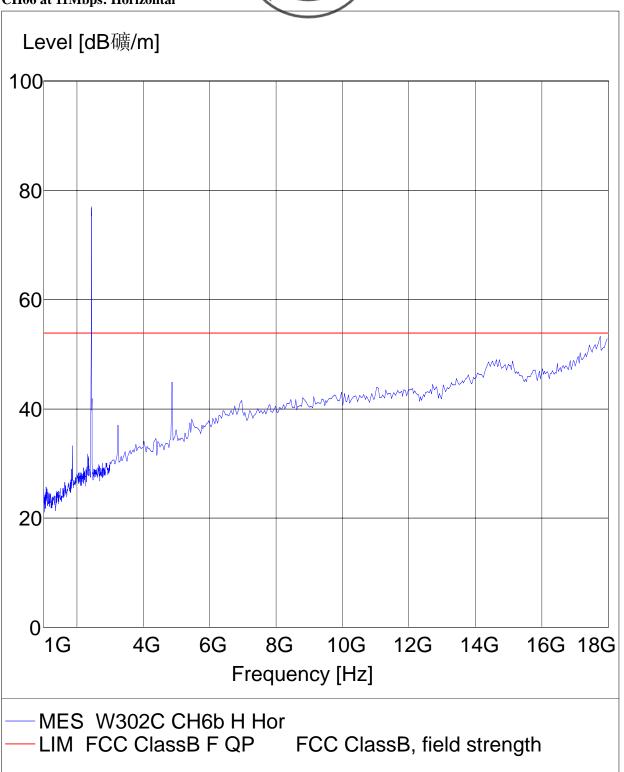


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## CH06 at 11Mbps: Horizontal

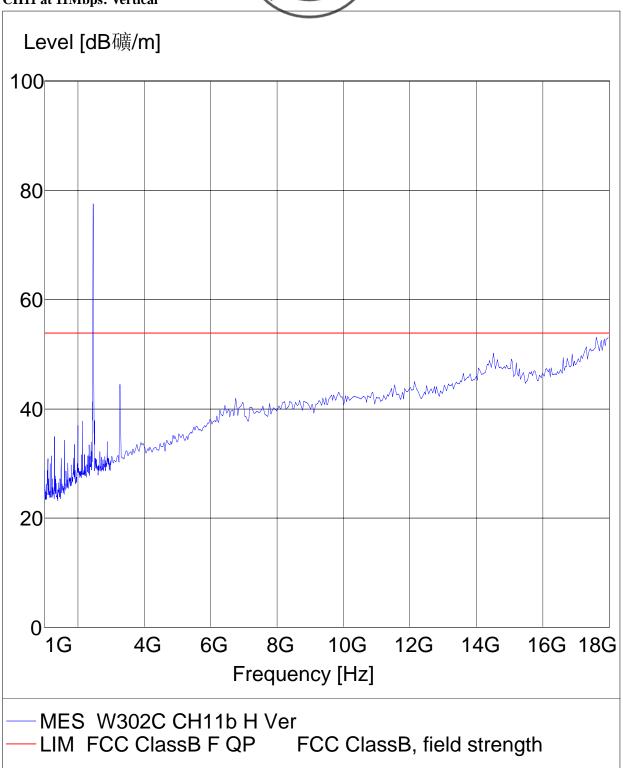


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CH11 at 11Mbps: Vertical

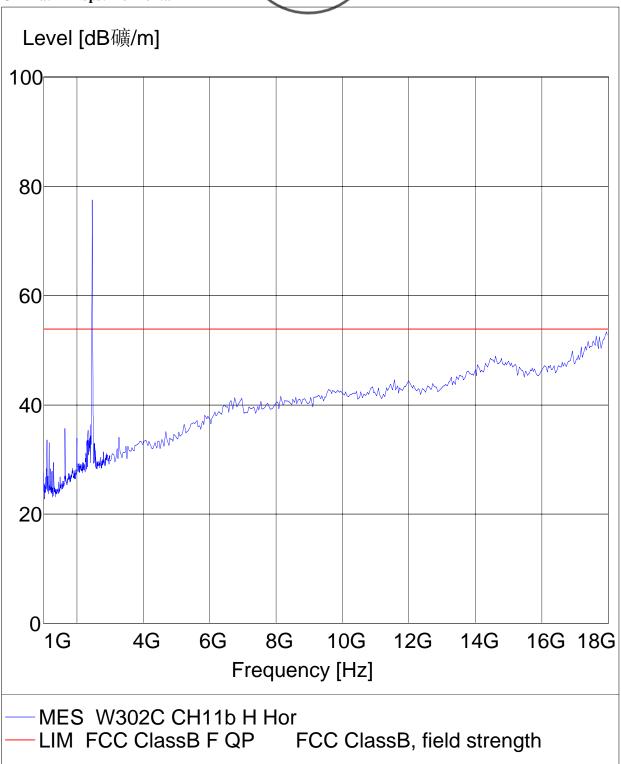


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# CH11 at 11Mbps: Horizontal

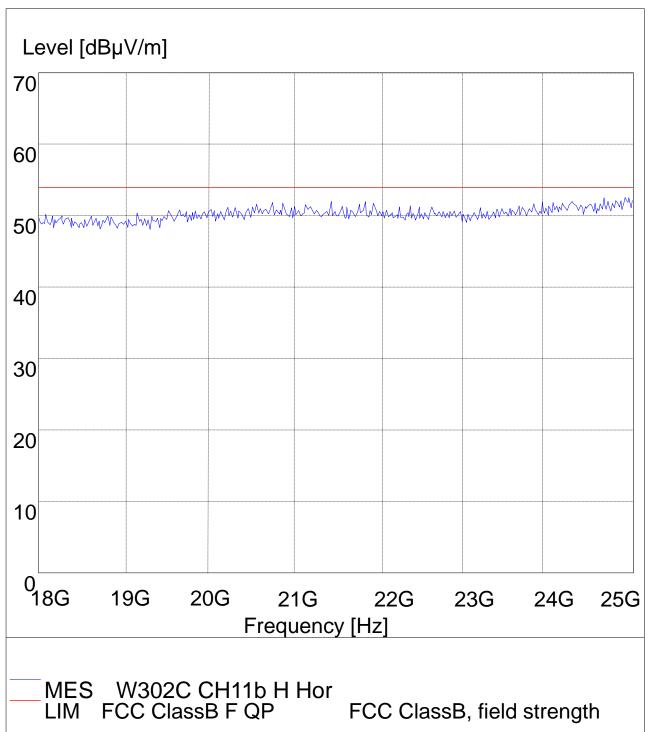


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18-25G CH11 11M Horizontal

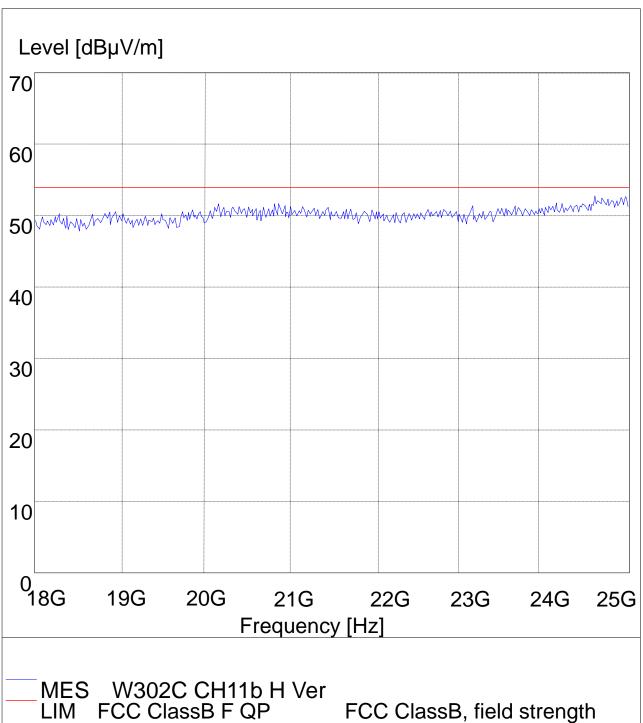


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18-25G CH11 11M Vertical



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Operation Mode: Transmitting & Receiving under CH01 at 130Mbps

	0 0		<u> </u>
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
2412.00	92.8 (PK)/ 76.6(AV)	Н	Fundamental Frequency
2412.00	96.2(PK)/77.6 (AV)	V	Fundamental Frequency
4824.00	46.6(PK)/ 34.2(AV)	Н	74(Peak)/ 54(AV)
4824.00	53.1 (PK)/ 39.2(AV)	V	74(Peak)/ 54(AV)
7236.00		H/V	74(Peak)/ 54(AV)
9648.00		H/V	74(Peak)/ 54(AV)
12060		H/V	74(Peak)/ 54(AV)
14472		H/V	74(Peak)/ 54(AV)
16684		H/V	74(Peak)/ 54(AV)
19296		H/V	74(Peak)/ 54(AV)
21708		H/V	74(Peak)/ 54(AV)
24120		H/V	74(Peak)/ 54(AV)
3216	52.1 (PK)/ 50.5(AV)	V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n HT20 mode 130Mbps
- 4. Test results are for the worst case condition

#### Operation Mode: Transmitting & Receiving under CH06 at 130Mbps

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \( \mu \)V/m)	
2437.00	97.6(PK)/ 82.6(AV)	Н	F 1 1 F	
2437.00	100.2(PK)/83.3 (AV)	V	Fundamental Frequency	
4874.00	52.4(PK)/40.1 (AV)	V	74(Peak)/ 54(AV)	
4874.00	47.3(PK)/38.5 (AV)	Н	74(Peak)/ 54(AV)	
7311.00		H/V	74(Peak)/ 54(AV)	
9748.00		H/V	74(Peak)/ 54(AV)	
12185		H/V	74(Peak)/ 54(AV)	
14622		H/V	74(Peak)/ 54(AV)	
17059		H/V	74(Peak)/ 54(AV)	
19496		H/V	74(Peak)/ 54(AV)	
21933		H/V	74(Peak)/ 54(AV)	
24370		H/V	74(Peak)/ 54(AV)	
3216	48.2(PK)/46.7 (AV)	V	74(Peak)/ 54(AV)	

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

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- 3. For 802.11n HT20 mode 130Mbps
- 4. test results are for the worst case condition

## Operation Mode: Transmitting & Receiving under CH11 at 130Mbps

Frequency (MHz)	Level@3m (dB \u03ba V/m)	Antenna Polarity	Limit@3m (dB \u03b4 V/m)
2462.00	100.3(PK/82.1AV)	Н	Fundamental Frequency
2462.00	103.6(PK)/84.9(AV)	V	rundamentai riequency
4924	1	H/V	74(Peak)/ 54(AV)
7368	1	H/V	74(Peak)/ 54(AV)
9848	1	H/V	74(Peak)/ 54(AV)
12310		H/V	74(Peak)/ 54(AV)
14772	1	H/V	74(Peak)/ 54(AV)
17234	1	H/V	74(Peak)/ 54(AV)
19696	-	H/V	74(Peak)/ 54(AV)
22158		H/V	74(Peak)/ 54(AV)
24620		H/V	74(Peak)/ 54(AV)
3216	48.5/46.8	V	74(Peak)/ 54(AV)

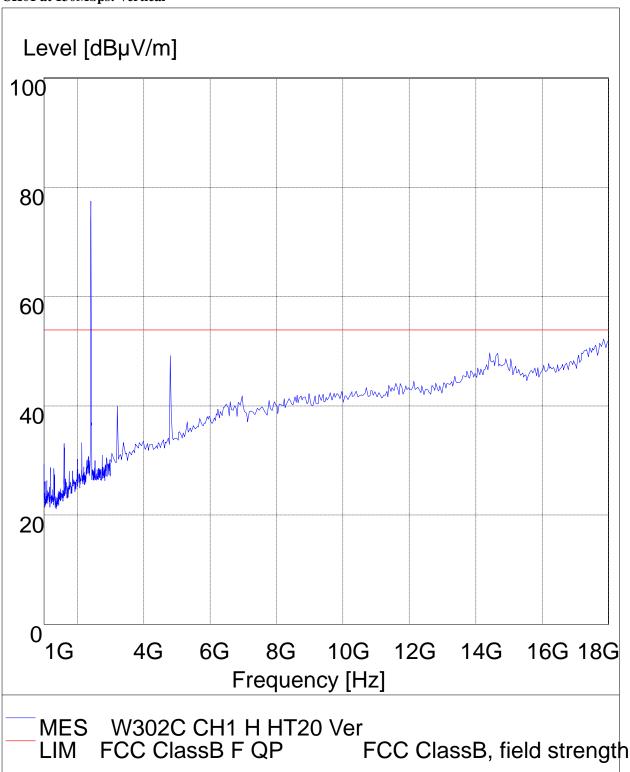
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n HT20mode at 130Mbps
- 4. Test results are for the worst case condition



Please refer to the following test plots for details

CH01 at 130Mbps: Vertical



The report refers only to the sample tested and does not apply to the bulk.

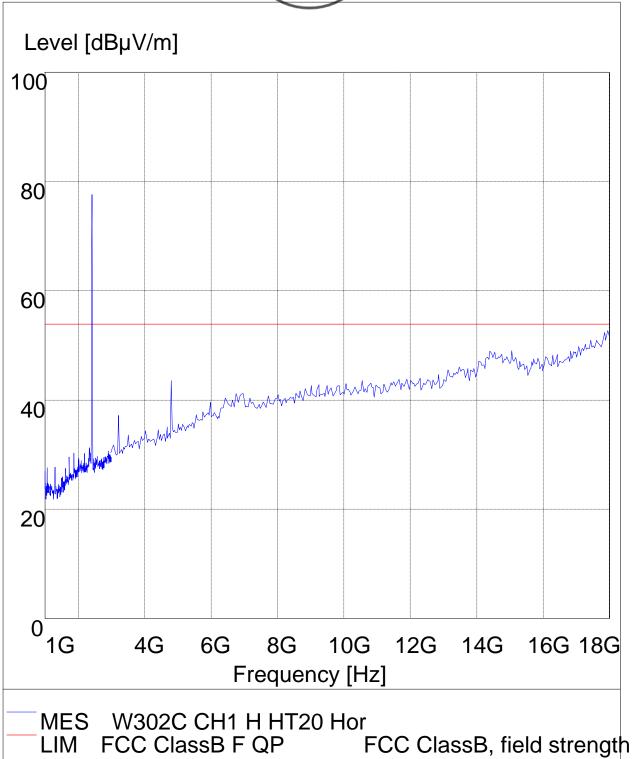
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CH01 at 130Mbps: Horizontal



The report refers only to the sample tested and does not apply to the bulk.

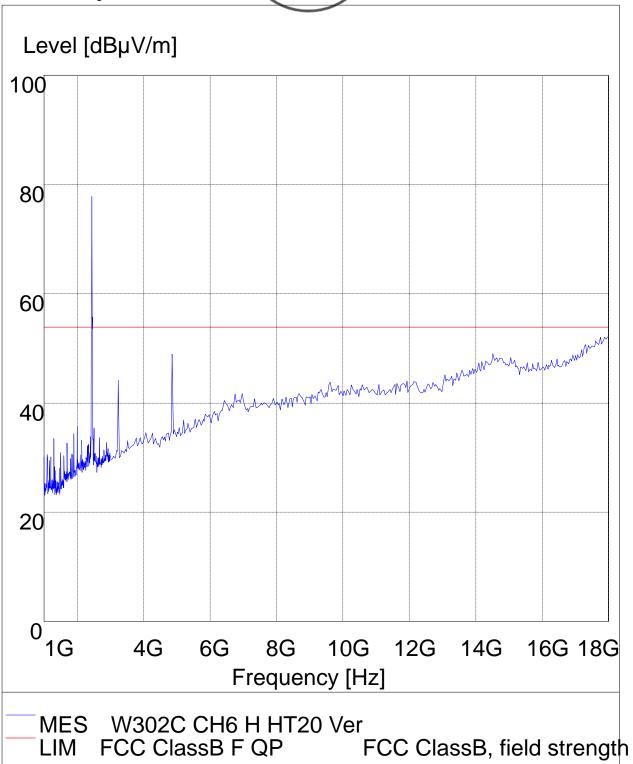
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CH06 at 130Mbps: Vertical

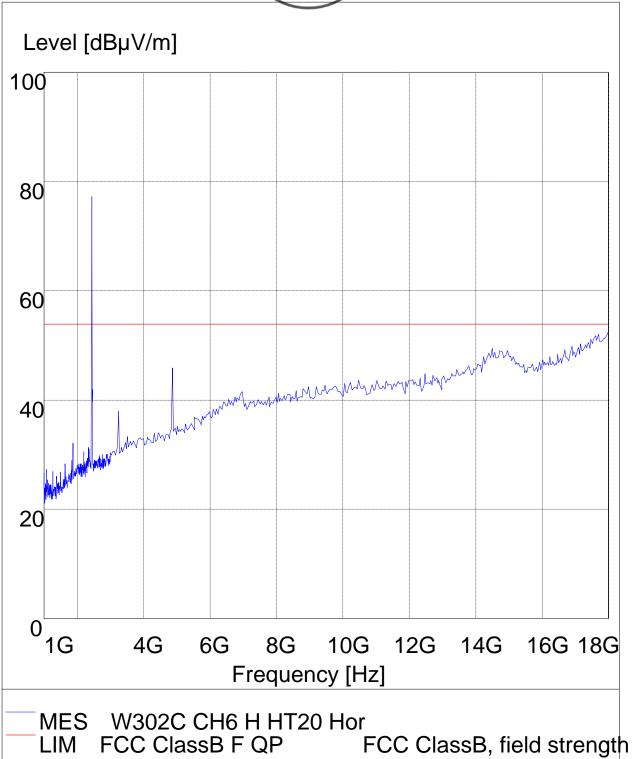


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CH06 at 130Mbps: Horizontal



The report refers only to the sample tested and does not apply to the bulk.

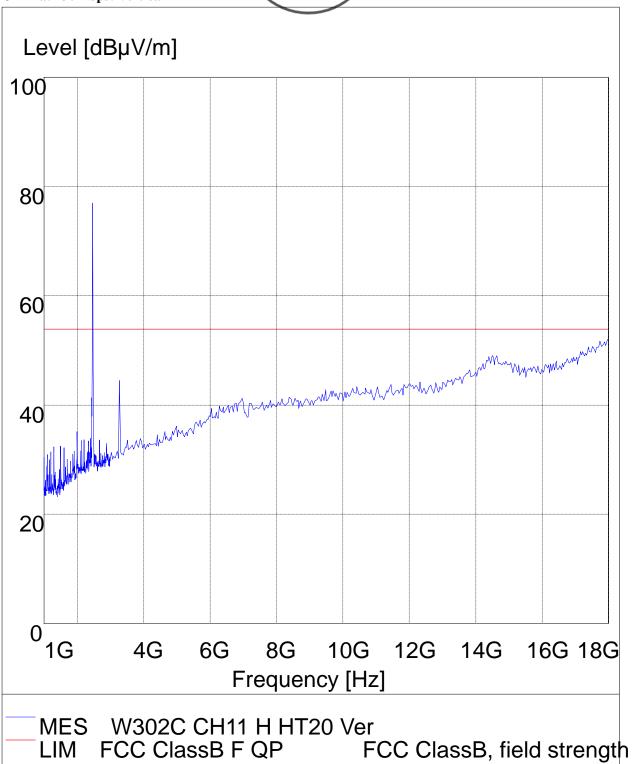
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CH11 at 130Mbps: Vertical

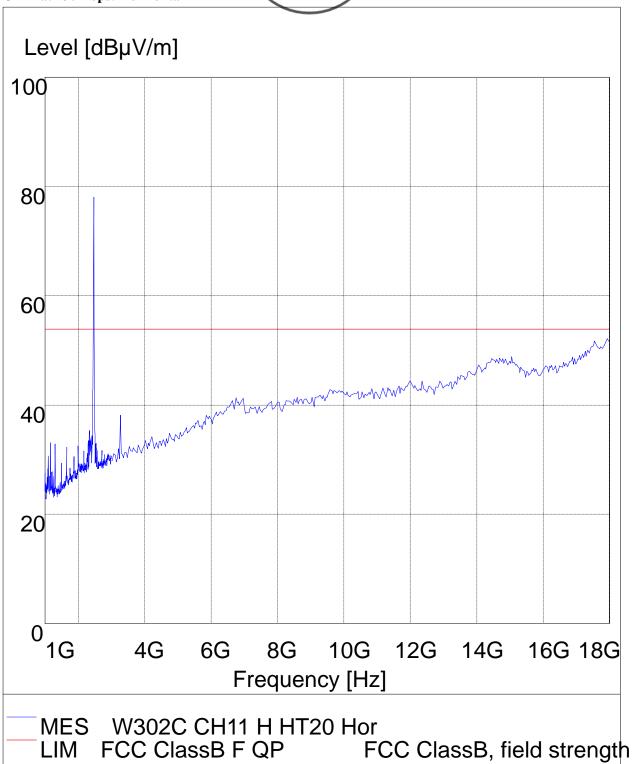


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CH11 at 130Mbps: Horizontal

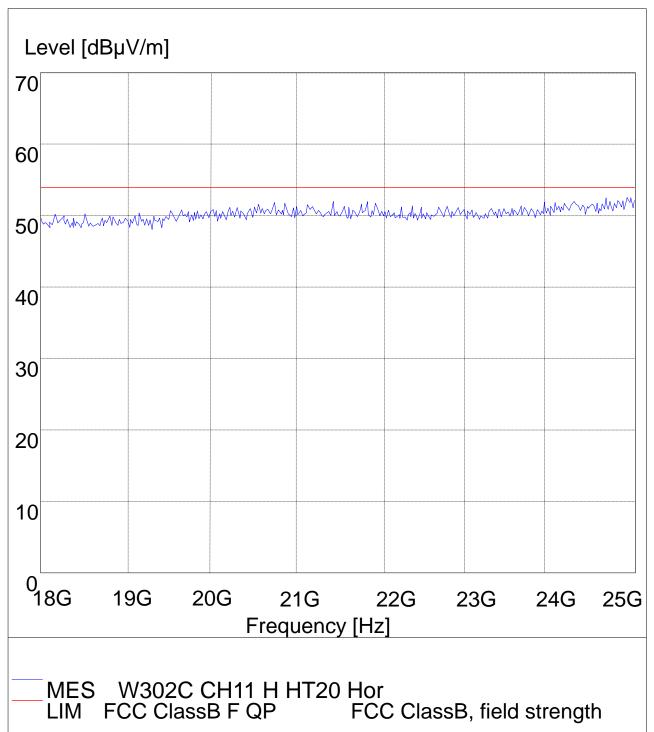


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18-25G CH11 130M Horizontal

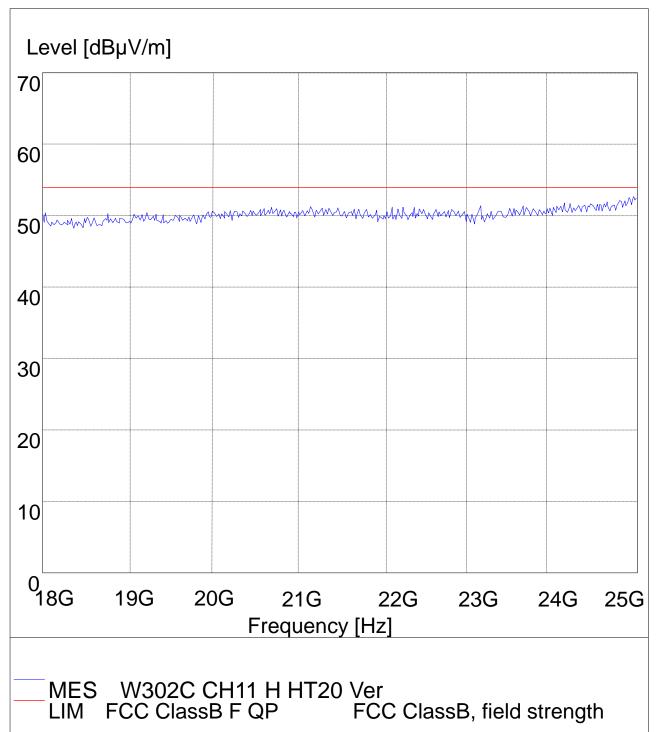


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18-25G CH11 6M Vertical



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Frequency (MHz)	Level@3m (dB\u00fc V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)				
2422.00	94.6(PK) /77.3 (AV)	Н	Even dominantal Englavior av				
2422.00	97.8(PK) /78.2 (AV)	V	Fundamental Frequency				
4844.00		H/V	74(Peak)/ 54(AV)				
7266.00		H/V	74(Peak)/ 54(AV)				
9688.00		H/V	74(Peak)/ 54(AV)				
12110		H/V	74(Peak)/ 54(AV)				
14532		H/V	74(Peak)/ 54(AV)				
16954		H/V	74(Peak)/ 54(AV)				
19376		H/V	74(Peak)/ 54(AV)				
21798		H/V	74(Peak)/ 54(AV)				
24220		H/V	74(Peak)/ 54(AV)				
3216	46.2(PK) /44.8 (AV)	V	74(Peak)/ 54(AV)				

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n HT40 mode 130Mbps
- 4. Test results are for the worst case condition

### Operation Mode: Transmitting & Receiving under CH04 at 130Mbps

Frequency (MHz)	Level@3m (dB \u03ba V/m)	Antenna Polarity	Limit@3m (dB \u03b4 V/m)
2437.00	102.5 (PK) /83.2 (AV)	V	Fundamental Frequency
2437.00	99.3 (PK) /81.8 (AV)	Н	Fundamental Frequency
4874.00	44.3 (PK) /35.2 (AV)	V	74(Peak)/ 54(AV)
4874.00		Н	74(Peak)/ 54(AV)
7311.00	-	H/V	74(Peak)/ 54(AV)
9748.00		H/V	74(Peak)/ 54(AV)
12185	-	H/V	74(Peak)/ 54(AV)
14622	-	H/V	74(Peak)/ 54(AV)
17059		H/V	74(Peak)/ 54(AV)
19496		H/V	74(Peak)/ 54(AV)
21933		H/V	74(Peak)/ 54(AV)
24370		H/V	74(Peak)/ 54(AV)
3216	45.4 (PK) /44.1 (AV)	V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n HT40 mode 130Mbps
- 4. Test results are for the worst case condition

The report refers only to the sample tested and does not apply to the bulk.

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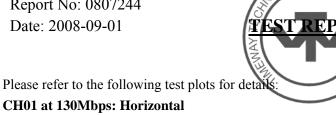
<b>Operation Mode:</b>	<b>Transmitting</b>	& Receiving under	CH07 at 130Mbps
------------------------	---------------------	-------------------	-----------------

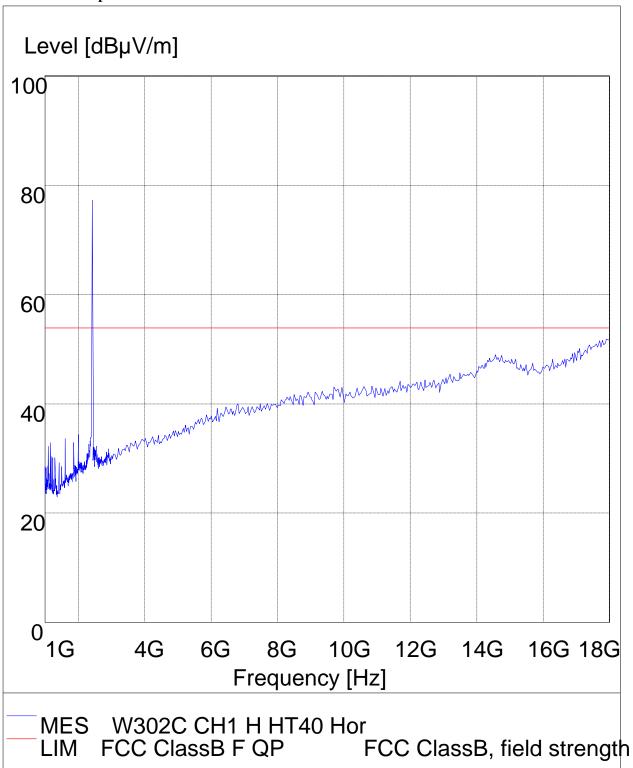
	0 0		<u>-</u>
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \mu V/m)
2452.00	96.5 (PK) /77.2 (AV)	Н	Fundamental Frequency
2452.00	98.3 (PK) /79.8 (AV)	V	Fundamental Frequency
4904	45.2 (PK) /34.6 (AV)	V	74(Peak)/ 54(AV)
4904		Н	74(Peak)/ 54(AV)
7356		H/V	74(Peak)/ 54(AV)
9808		H/V	74(Peak)/ 54(AV)
12260		H/V	74(Peak)/ 54(AV)
14712		H/V	74(Peak)/ 54(AV)
17164		H/V	74(Peak)/ 54(AV)
19616		H/V	74(Peak)/ 54(AV)
22068		H/V	74(Peak)/ 54(AV)
24520		H/V	74(Peak)/ 54(AV)
3216	46.6 (PK) /45.3 (AV)	V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

- 2. Remark "---" means that the emissions level is too low to be measured
- 3. For 802.11n HT40 mode 130Mbps
- 4. Test results are for the worst case condition

Report No: 0807244





The report refers only to the sample tested and does not apply to the bulk.

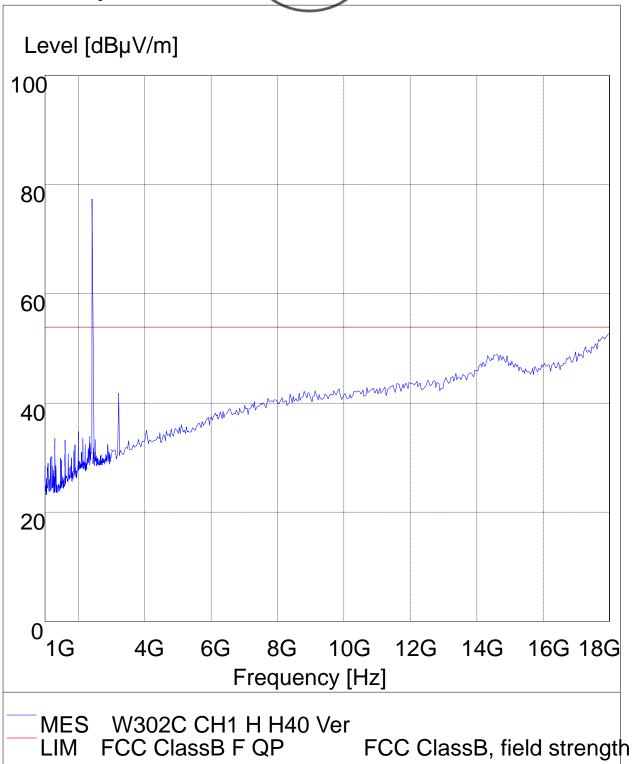
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CH01 at 130Mbps: Vertical



The report refers only to the sample tested and does not apply to the bulk.

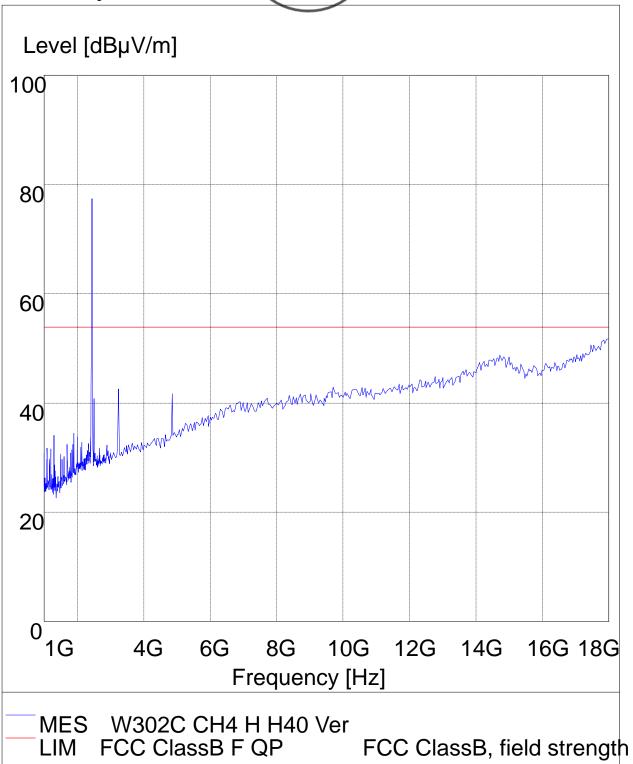
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CH04 at 130Mbps: Vertical

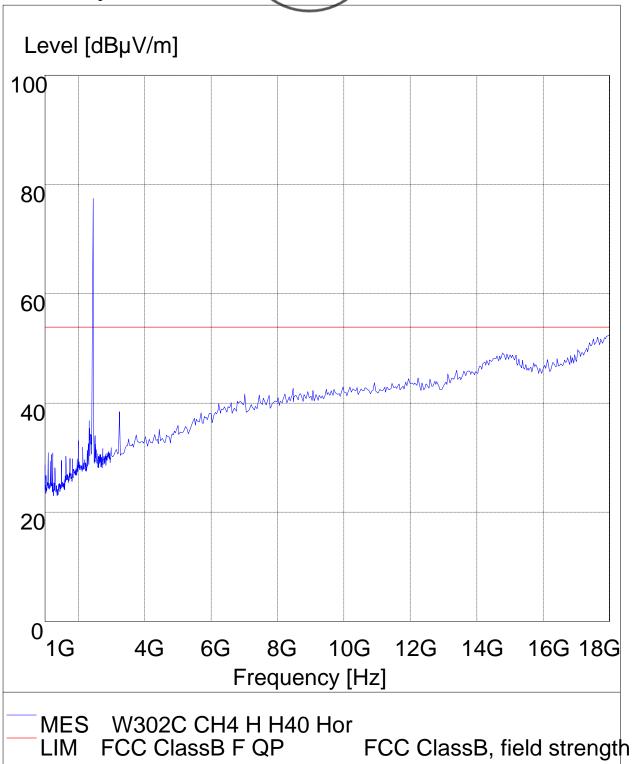


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CH04 at 130Mbps: Horizontal

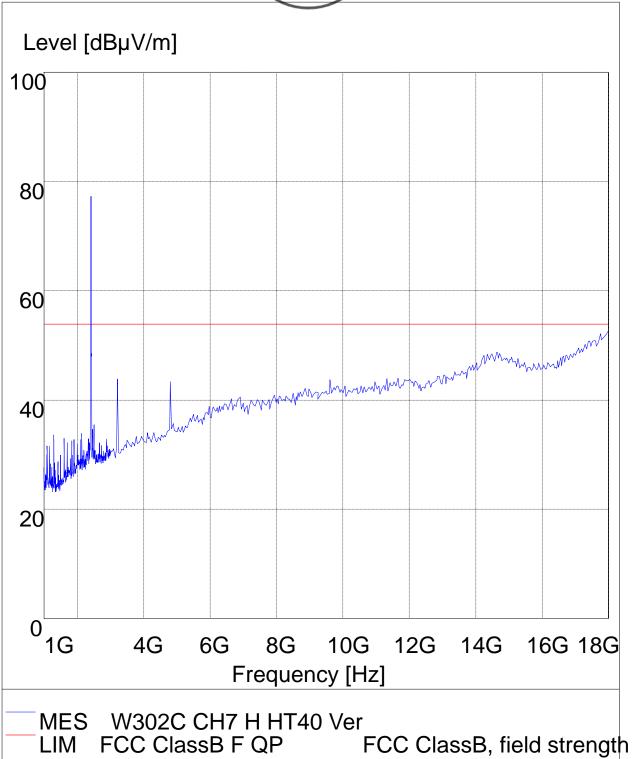


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CH07 at 130Mbps: Vertical

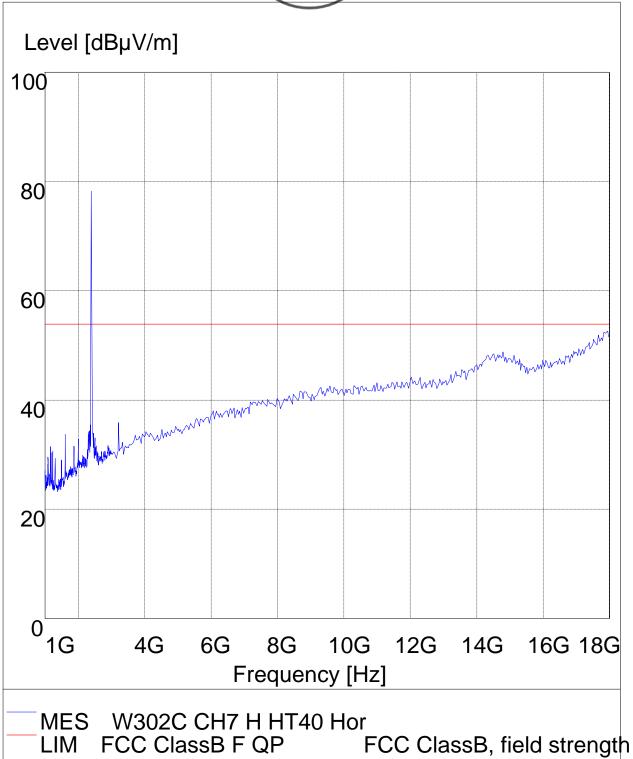


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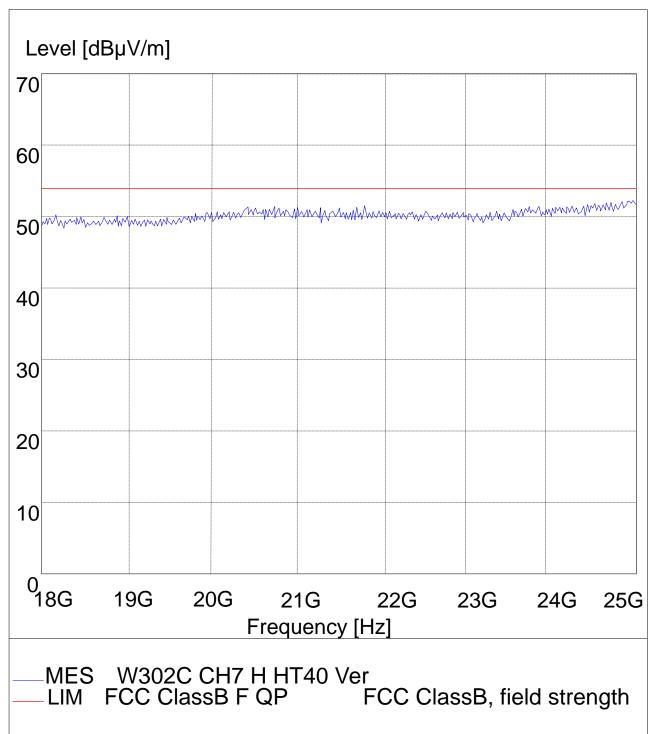


CH07 at 130Mbps: Horizontal





18-25G CH11 130M Horizontal

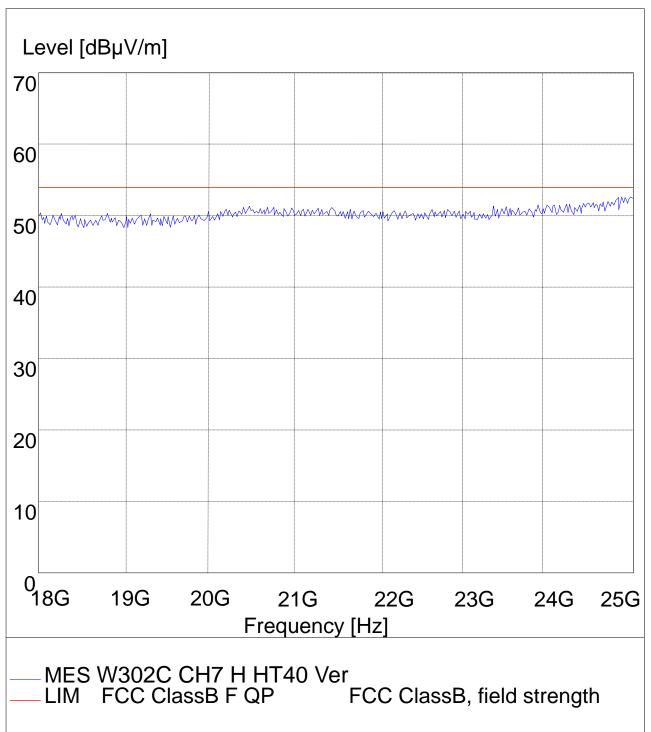


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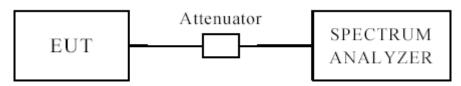
Report No: 0807244 Date: 2008-09-01



18-25G CH7 6M Vertical







#### 7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500kHz

#### 7.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator.

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

#### 7.4 Test Result

EUT		300M Wireless Notebook		Model		W302C		
		I	Adapter					
Mode		8	302.11b		Input Vol	tage	Powere	d by
							Noteb	ook
Temperat	ure	24	4 deg. C,		Humidity		56% 1	RH
		1	Data					
Channel	Channel Frequency		Transfer	6 dB Ba	6 dB Bandwidth		Minimum Limit	
Chamilei	,	(MHz)	Rate	(MHz)		(MHz)		Fail
			(Mbps)					
1		2412	1	11	.42		0.5	Pass
1		2412	11	13.03				
6		2437 11		11	.54		0.5	Pass
				13	.11			
11 2462		2462	1		11.30		0.5	Pass
11		Z40Z	11	13	.07			

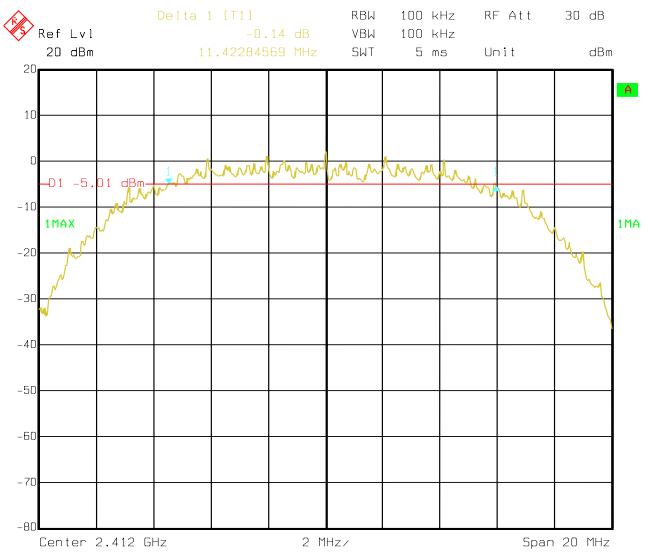
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## Test Figure:

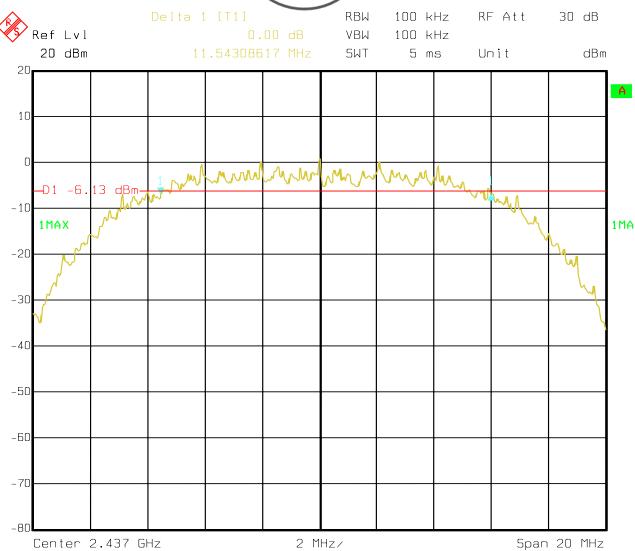
### 1. Condition: 802.11b at 11Mbps of CH01



Date: 06.AUG.2008 11:13:39



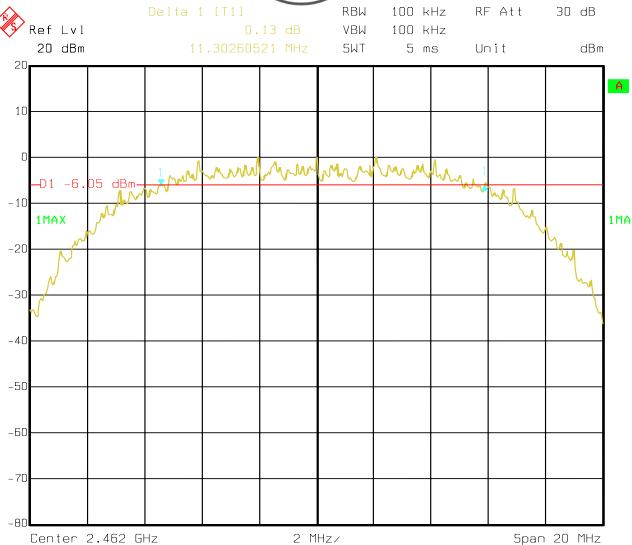
# 2. Condition: 802.11b at 11Mbps of CH06



Date: 06.AUG.2008 11:12:19



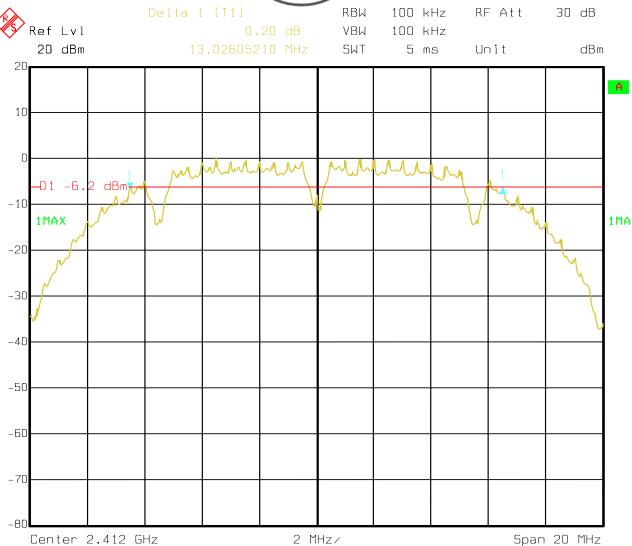
## 3. 802.11b at 11Mbps of CH11



Date: 06.AUG.2008 11:10:47



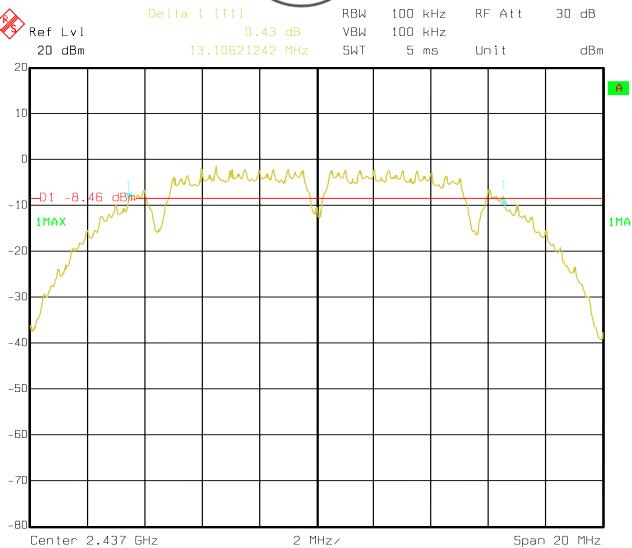
### 4. 802.11b at 1Mbps of CH01



Date: 06.AUG.2008 11:07:01



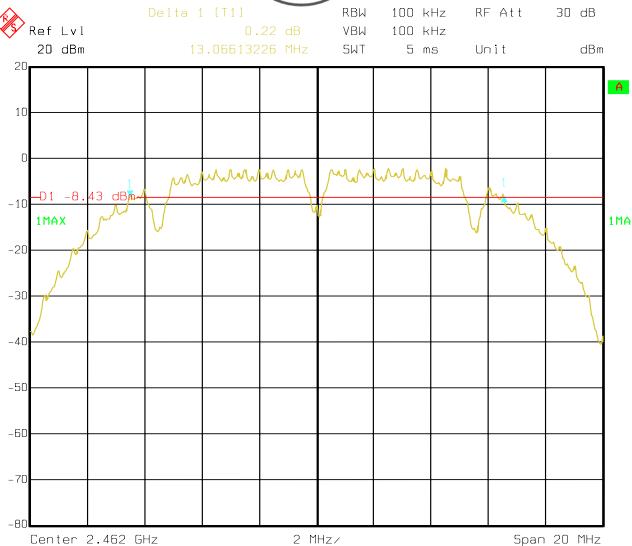
## 5. 802.11b at 1Mbps of CH06



Date: 06.AUG.2008 11:08:17



## 6. 802.11b at 1Mbps of CH11



Date: 06.AUG.2008 11:09:26

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EUT		300M Wireless Notebook		Model		W302C		
		1	Adapter					
Mode		8	302.11g		Input Volta		Powere	ed by
							Noteb	ook
Temperat	ure	24	4 deg. C,		Humidity		56% ]	RH
			Data			•		
Channel	Chann	el Frequency	Transfer	6 dB Ba	ındwidth	Minir	num Limit	Pass/
Chamici		(MHz)	Rate	(MHz)		(MHz)		Fail
			(Mbps)					
1		2412	6	16	.55		0.5	Pass
		2412	54	16	5.55			
6		2427	6	16.55			0.5	Pass
		2437	54	16	16.55			
11		2462	6	16	.43		0.5	Pass
		2462	54	16	.59			

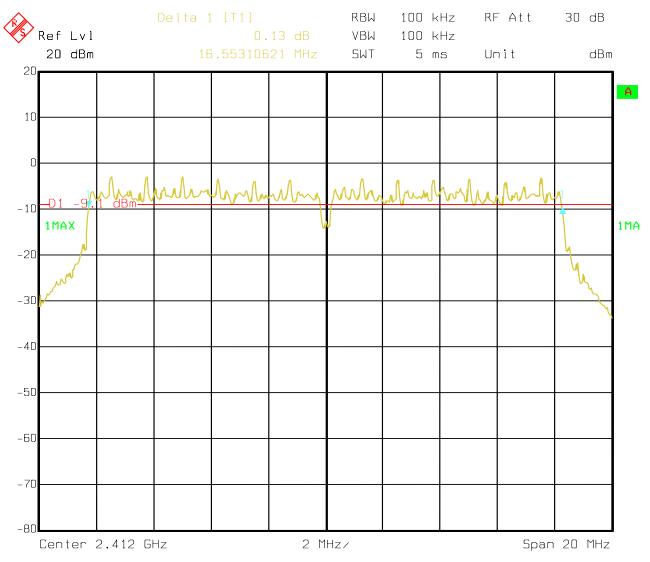
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#### **Test Plots:**

### 1. 802.11g at 6Mbps of CH01



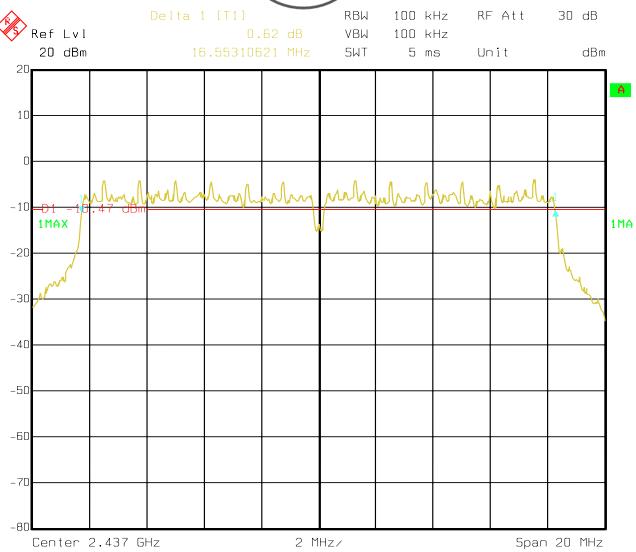
Date: 06.AUG.2008 11:23:14

Date: 2008-09-01

Report No: 0807244



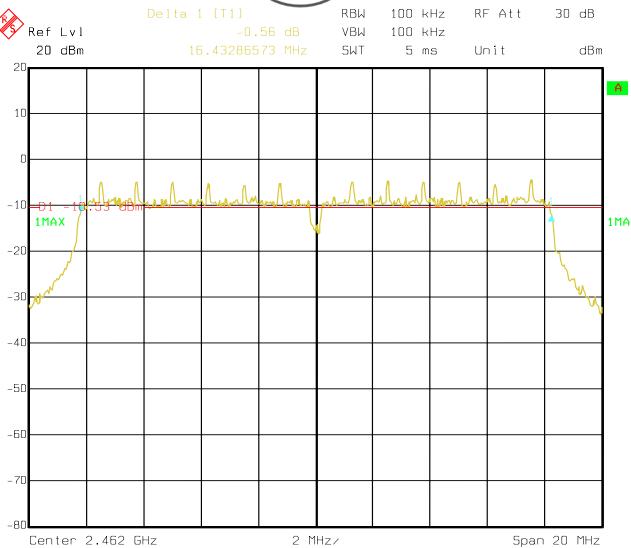
## 2. 802.11g at 6Mbps of CH06



Date: 06.AUG.2008 11:22:05



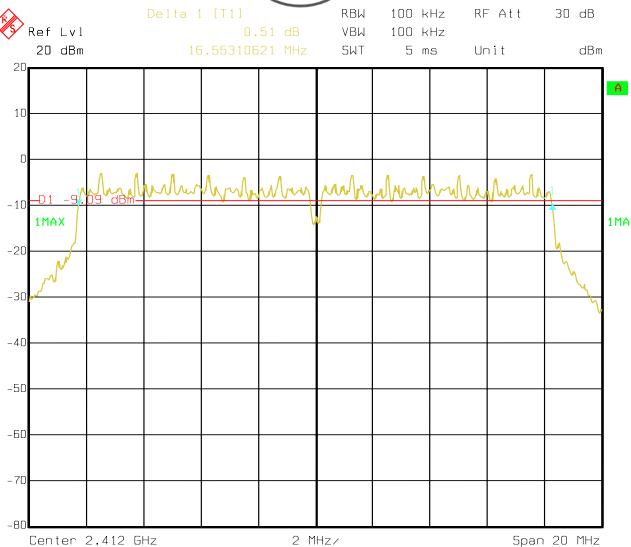
# 3. 802.11g at 6Mbps of CH11



Date: 06.AUG.2008 11:20:44



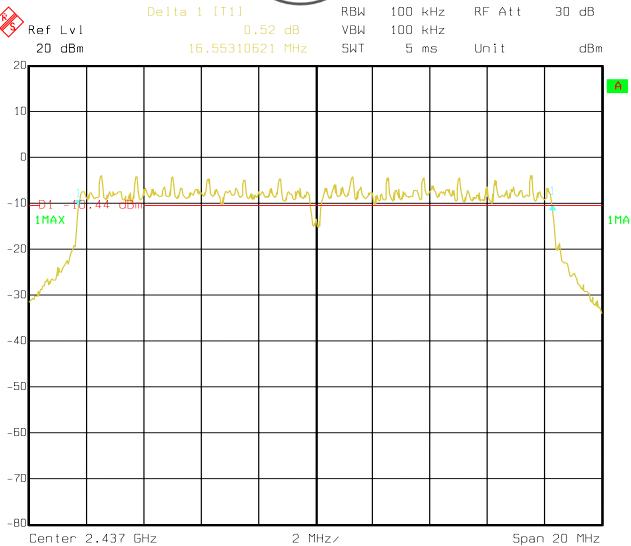
## 4. 802.11g at 54Mbps of CH01



Date: 06.AUG.2008 11:15:14



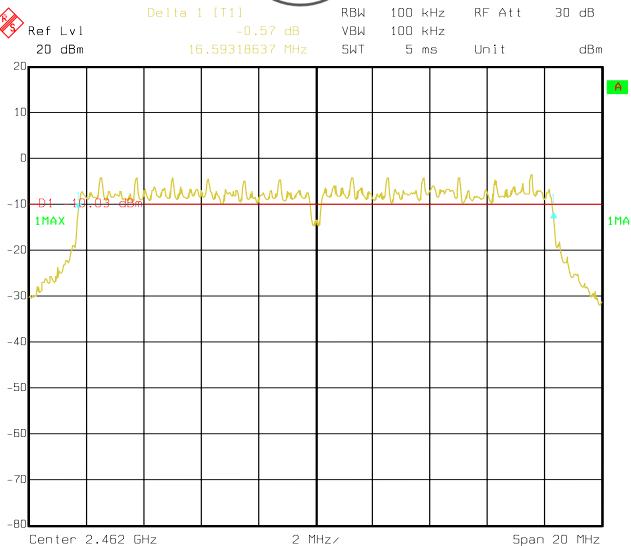
## 5. 802.11g at 54Mbps of CH06



Date: 06.AUG.2008 11:16:46



### 6. 802.11g at 54Mbps of CH11



Date: 06.AUG.2008 11:18:25

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Report No: 0807244 Date: 2008-09-01

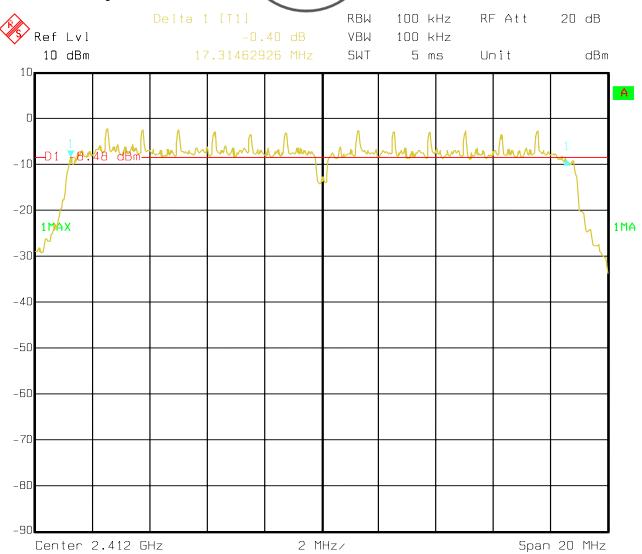


EUT		300M Wireless Notebook Mo		Model		W302C		
			Adapter					
Mode		IEEE 802	.11n HT20	mode	Input Voltage		Powere	ed by
		(0	one TX)				Noteb	ook
Temperat	ure	24	4 deg. C,		Humidity		56%	RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)	(M	andwidth Hz)		Minimum Limit (MHz)	
1		2412	130		17.31 17.39		0.5	Pass
6				17.31		0.5	Pass	
		2437	130	17.72				
11		2462	6	17	.23		0.5	Pass
		2462	130	17	.68			

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Date: 2008-09-01

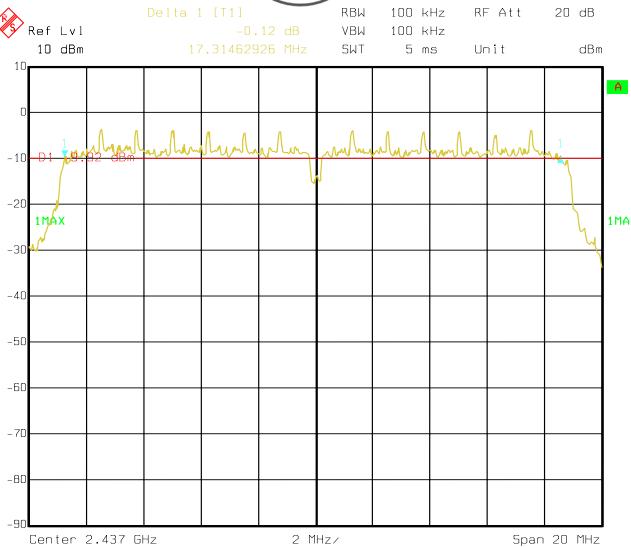
# 1. 802.11n at 6Mbps of CH1



Date: 07.AUG.2008 10:36:28



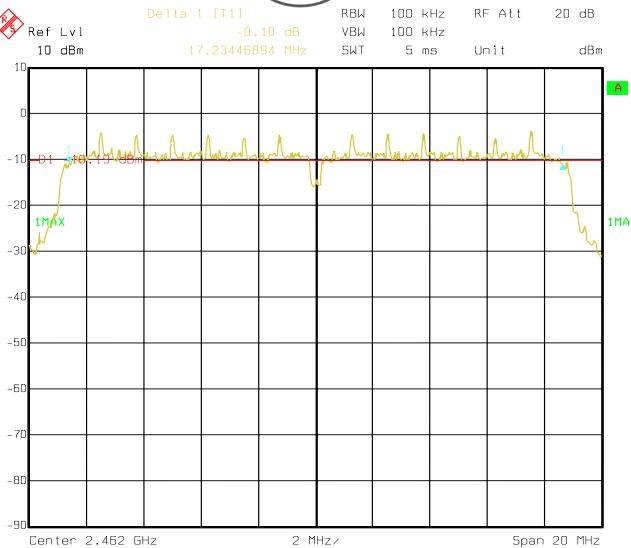
# 2. 802.11n at 6Mbps of CH6



Date: 07.AUG.2008 10:41:17



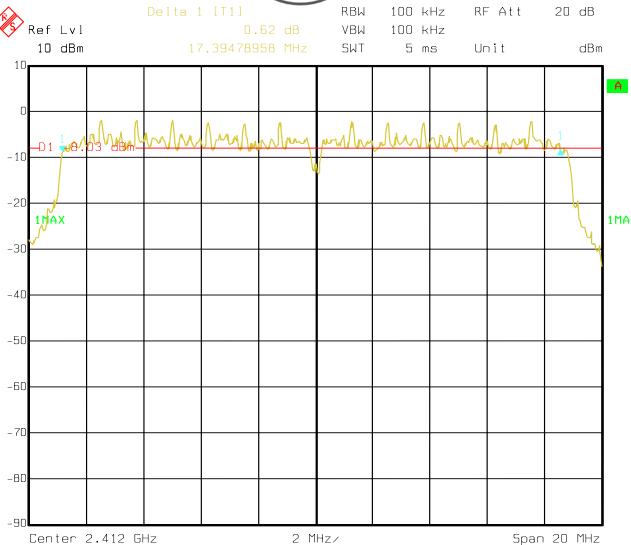
## 3. 802.11n at 6Mbps of CH11



Date: 07.AUG.2008 10:43:32



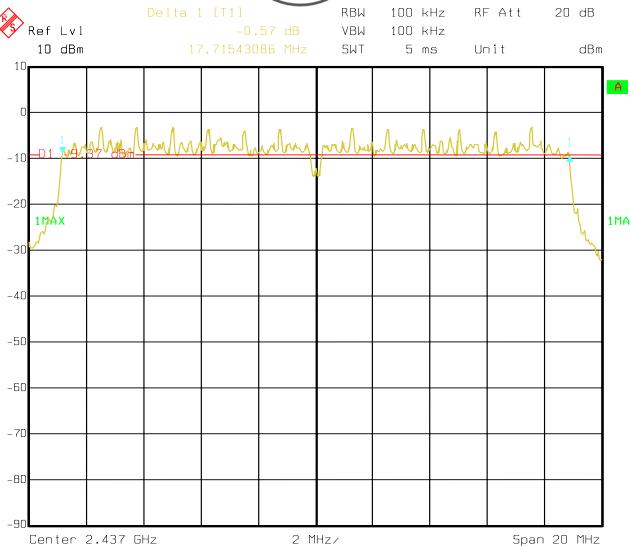
## 4. 802.11n at 130Mbps of CH1



Date: 07.AUG.2008 10:50:14



# 5. 802.11n at 130Mbps of CH6



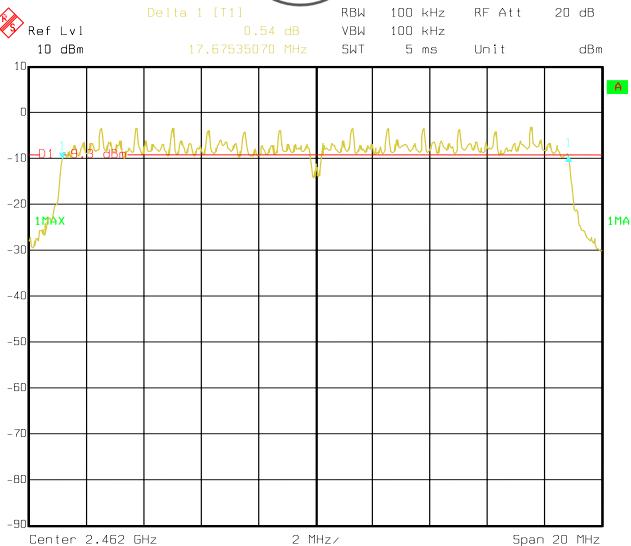
Date: 07.AUG.2008 10:48:06

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Report No: 0807244 Date: 2008-09-01



# 6. 802.11n at 130Mbps of CH11



Date: 07.AUG.2008 10:46:06

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Report No: 0807244 Date: 2008-09-01



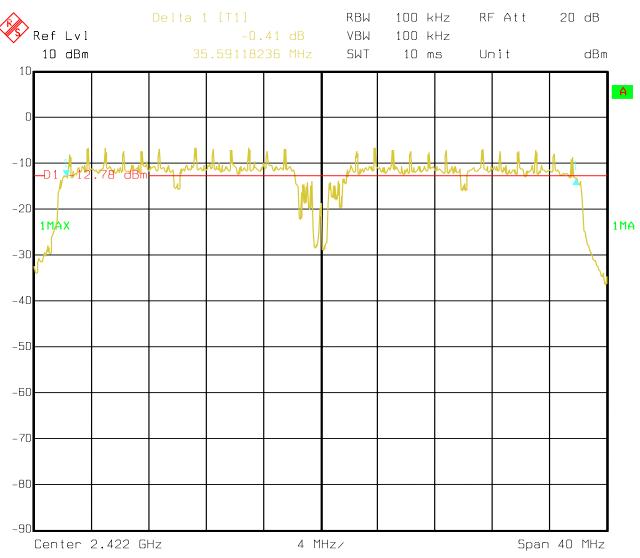
EUT		300M Wi	reless Note	book	Model		W30	2C
		1	Adapter					
Mode		IEEE 802.11n HT40 mode			Input Voltage		Powered by	
		(	(one TX)				Noteb	ook
Temperat	ure	24	4 deg. C,		Humidity		56% RH	
Channel		nel Frequency (MHz)	Data Transfer Rate		andwidth Hz)		num Limit MHz)	Pass/ Fail
			(Mbps)					
1		2422	6	35	35.59		0.5	Pass
		2422	130	35.83				
4		0.427	6	35	.67		0.5	Pass
	2437		130	35.59				
7		0.450	6	35	.99		0.5	Pass
		2452	130	35	.67			

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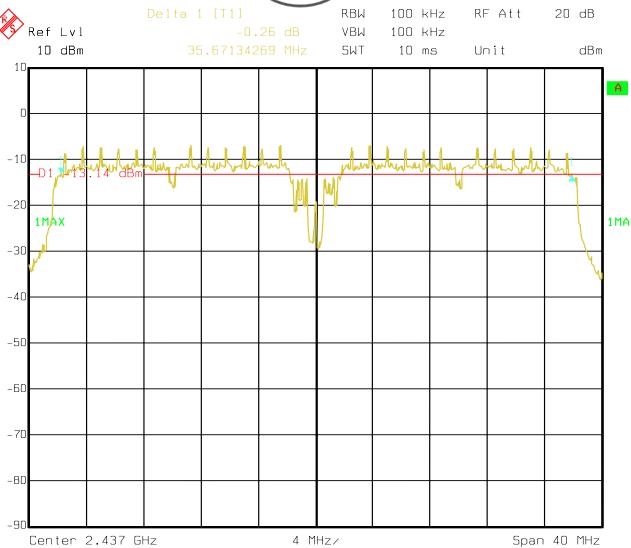
# 1. 802.11n at 6Mbps of CH1



Date: 07.AUG.2008 12:14:13



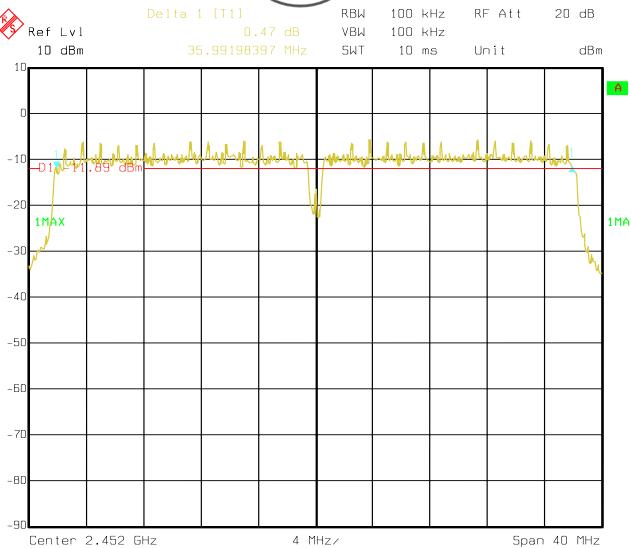
## 2. 802.11n at 6Mbps of CH4



Date: 07.AUG.2008 12:12:48



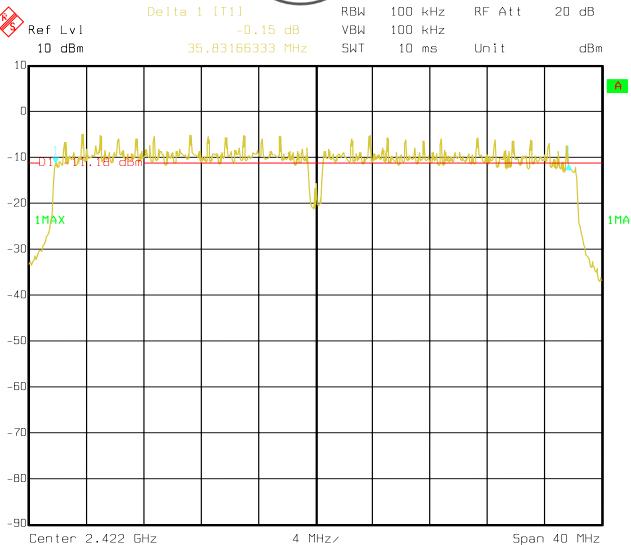
# 3. 802.11n at 6Mbps of CH7



Date: 07.AUG.2008 12:10:22



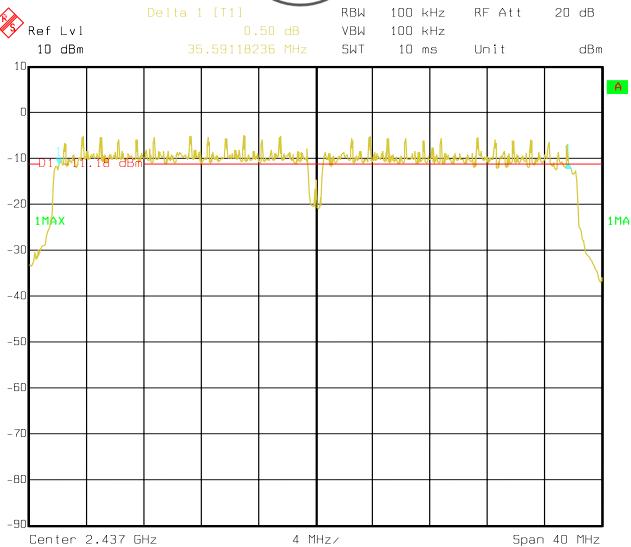
## 4. 802.11n at 130Mbps of CH1



Date: 07.AUG.2008 10:55:04



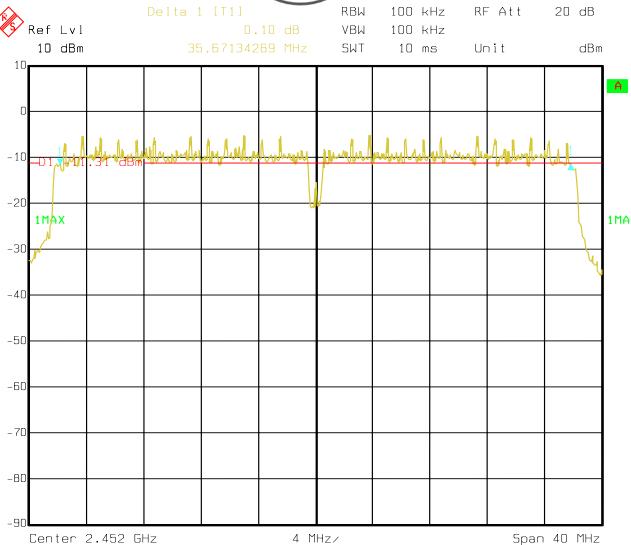
# 5. 802.11n at 130Mbps of CH4



Date: 07.AUG.2008 10:57:54



## 6. 802.11n at 130Mbps of CH7



Date: 07.AUG.2008 11:05:48

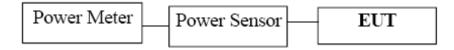
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# 8. Maximum Peak Output Power

8.1 Test Setup



## 8.2 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

#### 8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: the peak power was measured

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#### **8.4Test Results**

EUT		300M W	ireless	Model		W302C	
		Notebook	Notebook Adapter				
Mode		802.1	1b	Input	Voltage	Pov	wered by
						No	otebook
Temperati	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Peak Power Output (dBm)		Peak Power Limit (dBm)		Pass/ Fail
1		2412	11.86		30		Pass
6		2437	12.63		30		Pass
11		2462	13.46		30		Pass

Note: 1. At finial test to get the worst-case emission at 11Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

EUT		300M Wireless		M	odel	W302C	
		Notebook	Adapter				
Mode		802.1	lg Input V		Voltage	Pov	wered by
						No	otebook
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Peak Power C (dBm)	Output	Peak P Lin (dB	nit	Pass/ Fail
1		2412	11.91		30		Pass
6		2437	13.13		30		Pass
11		2462	10.37		30		Pass

Note: 1. At finial test to get the worst-case emission at 6Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

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Pass

Pass

Pass

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1

6

11

EUT	300M Wireless		Model		W302C			
		Notebook Adapter						
Mode	Mode 802.11n HT20		Input Voltage		Powered by			
						No	otebook	
Temperati	ure	24 deg	g. C,	Hur	nidity	56% RH		
Channel	Ch	annel Frequency (MHz)	ncy Peak Power O		Peak P  Output  Lim  (dB)		Pass/ Fail	

10.60

11.62

13.36

30

30

30

Note: 1. At finial test to get the worst-case emission at 130Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

2412

2437

2462

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

EUT		300M W	ireless	M	odel	W302C	
		Notebook	Adapter				
Mode		802.11n	HT40	Input Voltage		Pov	wered by
						No	otebook
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Peak Power (dBm)	Output	Peak P Lin (dB:	nit	Pass/ Fail
1		2422	10.54		30		Pass
4		2437	12.44		30		Pass
7		2452	10.31		30	)	Pass

Note: 1. At finial test to get the worst-case emission at 130Mbps for CH01, CH04 and CH07

2. The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

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# 9. Power Spectral Density Measurement

9.1 Test Setup



#### 9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

#### 9.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3KHz RBW and 10kHz VBW, set sweep time=100s, **PK detector.** 

The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span / 3KHz for a full response of the mixer in the spectrum analyzer.

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#### 9.4Test Result

EUT		300M W	ireless	M	odel	W	V302C
		Notebook	Adapter				
Mode	Mode 802.1		1b	Input	Voltage	Pov	vered by
						no	otebook
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Final RF Po Level in 3kH (dBm)		Maximur (dB	-	Pass/ Fail
1		2412	1.75		8		Pass
6		2437	0.63		8		Pass
11		2462	0.71		8		Pass

Note: For 802.11b mode at finial test to get the worst-case emission at 11Mbps for CH11, CH06 and CH01

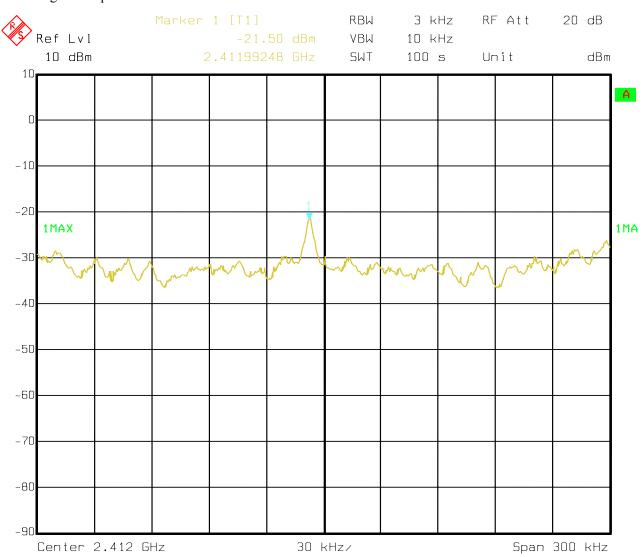
EUT		300M Wireless		M	odel	W302C	
		Notebook	Notebook Adapter				
Mode	Mode 802.11		.1g	Input Vo		Pov	wered by
						nc	otebook
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Final RF Po Level in 3kH (dBm)		Maximum Limi		Pass/ Fail
1		2412 -21.50			8		Pass
6		2437	-22.78		8		Pass
11		2462	-22.80		8		Pass

Note: For 802.11g mode at finial test to get the worst-case emission at 6Mbps for CH11, CH06 and CH01



# 9.5Photo of Power Spectral Density Measurement

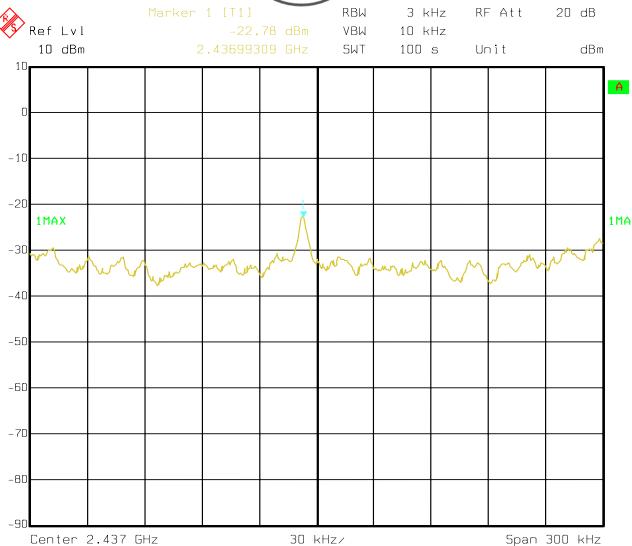
# 1.802.11g at 6Mbps of CH01



Date: 06.AUG.2008 12:36:44



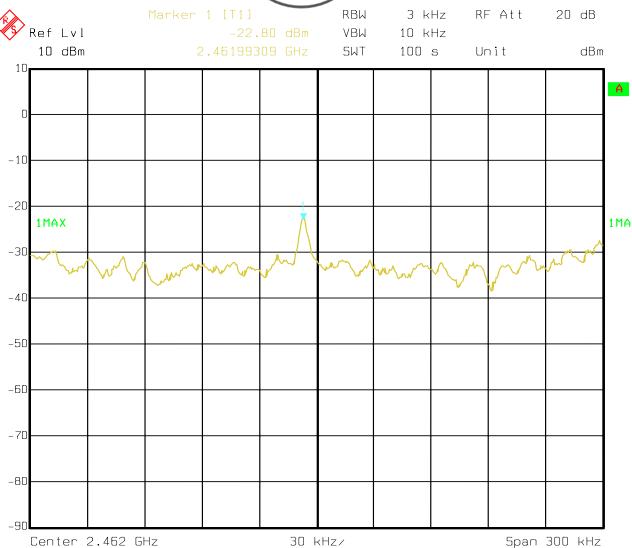
## 2. 802.11g at 6Mbps at CH06



Date: 06.AUG.2008 12:34:25



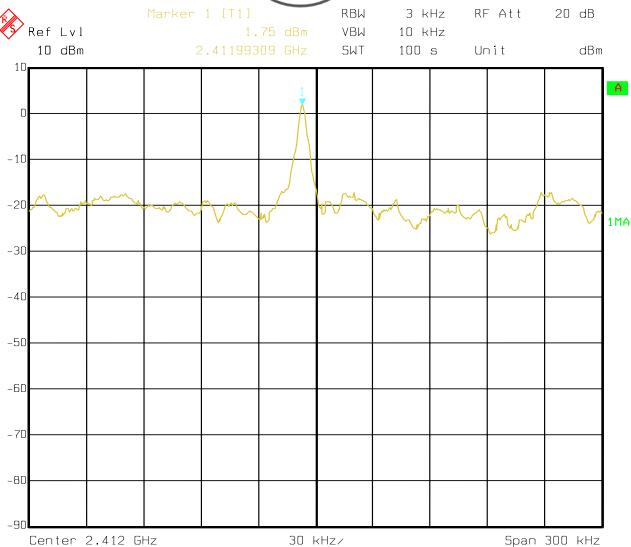
## 3. 802.11g at 6Mbps of CH11



Date: 06.AUG.2008 12:32:12



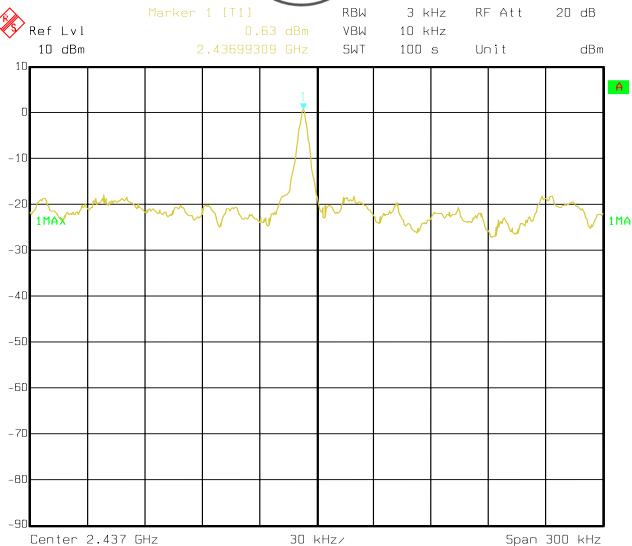
# 4. 802.11b at 11Mbps of CH01



Date: 06.AUG.2008 11:53:56



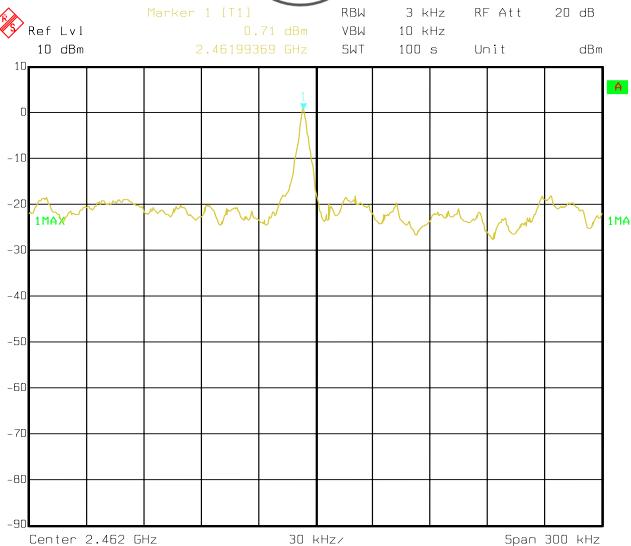
## 5. 802.11b at 11Mbps of CH06



Date: 06.AUG.2008 11:56:59



## 6. 802.11b at 11Mbps of CH11



Date: 06.AUG.2008 12:01:39

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EUT		300M W	ireless	M	odel	V	V302C
		Notebook	Adapter				
Mode	Mode 802.11n		HT20	Input	Voltage	Pov	vered by
						nc	otebook
Temperati	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Final RF Po Level in 3kH: (dBm)		Maximum Limit (dBm)		Pass/ Fail
1		2412	2412 -22.99		8		Pass
6		2437 -22.50		8		Pass	
11		2462	-24.07	8			Pass

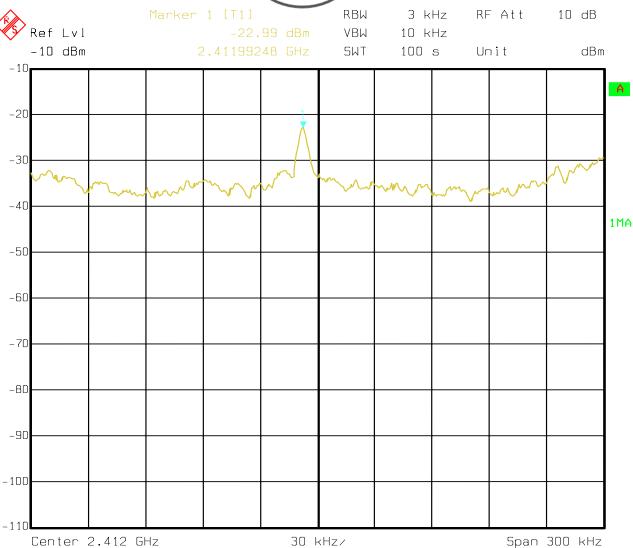
Note: For 802.11n HT20 mode at finial test to get the worst-case emission at 6Mbps for CH11, CH06 and CH01

EUT		300M W	ireless	M	odel	V	V302C
		Notebook	tebook Adapter				
Mode	Mode 802.11n HT		HT40	Input Voltage		Pov	wered by
						nc	otebook
Temperat	ure	24 deg	g. C,	Humidity		56% RH	
Channel	Ch	annel Frequency (MHz)	Final RF Po Level in 3kH (dBm)		Maximum Limit		Pass/ Fail
1		2412 -27.51		8			Pass
4		2437 -22.35			8		Pass
7		2462	-26.06		8		Pass

Note: For 802.11n HT40 mode at finial test to get the worst-case emission at 6Mbps for CH07, CH04 and CH01



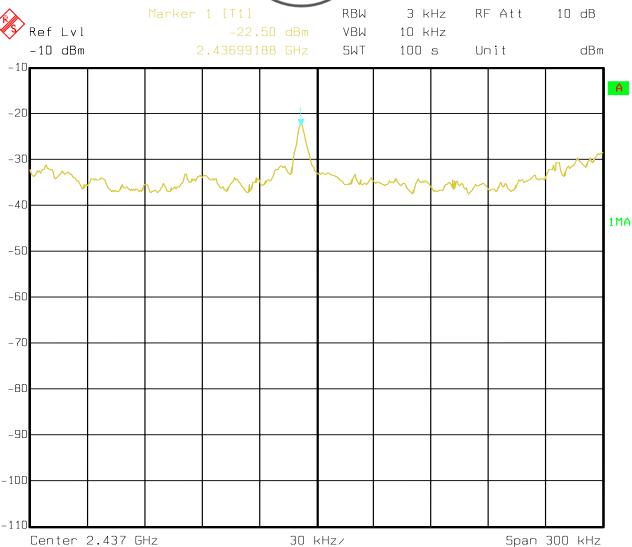
## 1. 802.11n HT20 at 6Mbps of CH01



Date: 20.AUG.2008 15:13:44



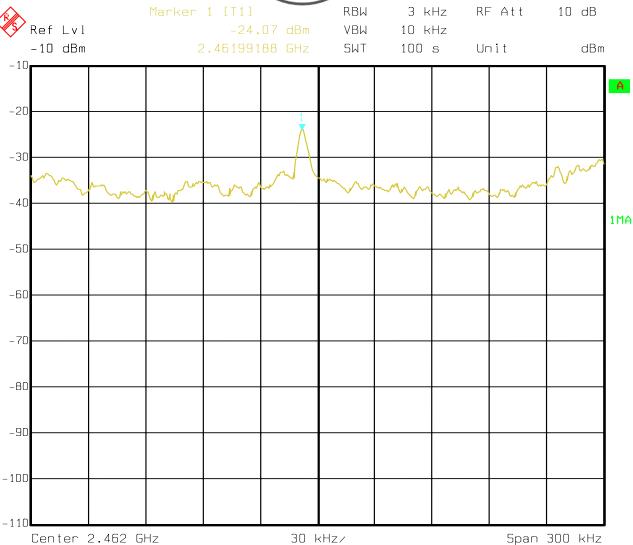
## 2. 802.11n HT20 at 6Mbps of CH06



Date: 20.AUG.2008 15:16:27



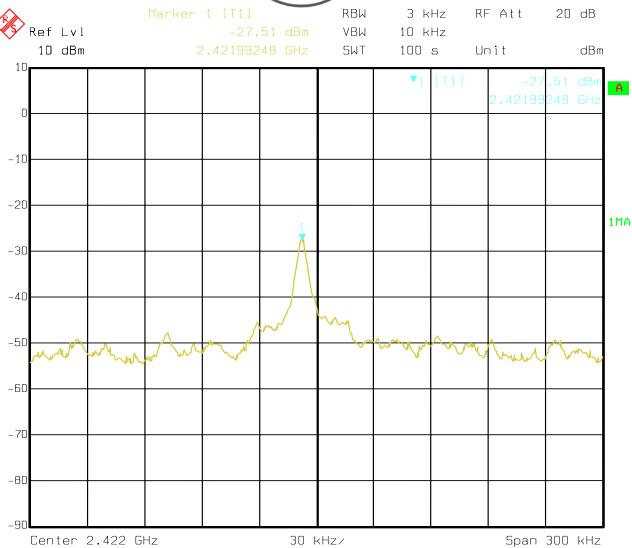
## 3. 802.11n HT20 at 6Mbps of CH011



Date: 20.AUG.2008 15:21:36



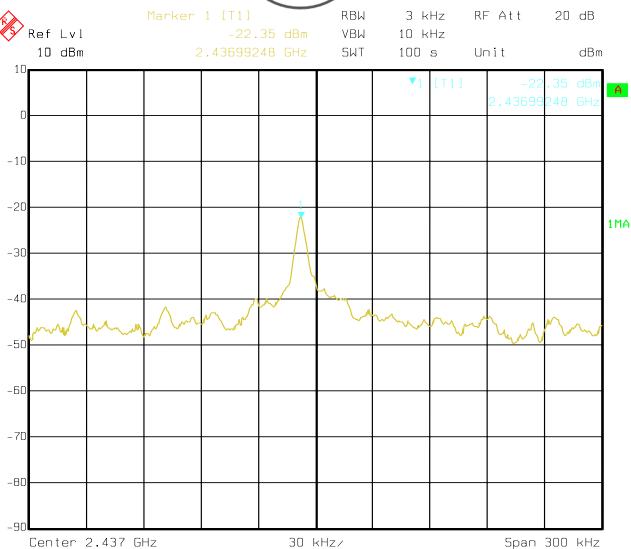
## 4. 802.11n HT40 at 6Mbps of CH01



Date: 07.AUG.2008 16:13:02



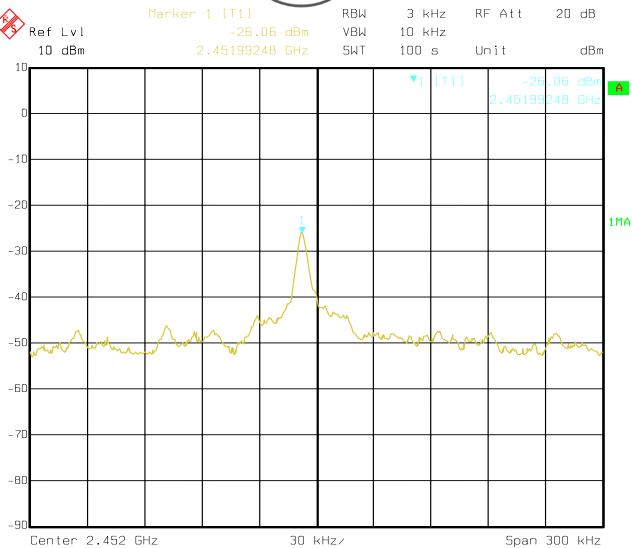
## 4. 802.11n HT40 at 6Mbps of CH04



Date: 07.AUG.2008 16:10:07



## 6. 802.11n HT40 at 6Mbps of CH07



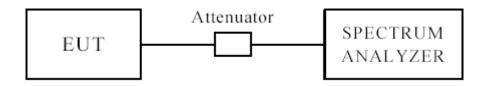
Date: 07.AUG.2008 16:05:02

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# 10 Out of Band Measurement 10.1 Test Setup for bandedge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

#### 10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

#### 10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. RBW=VBW=1MHz

For bandage test, the spectrum set as follows: RBW=VBW=100 kHz. A conducted measurement used

#### 10.4Test Result

Please see next pages



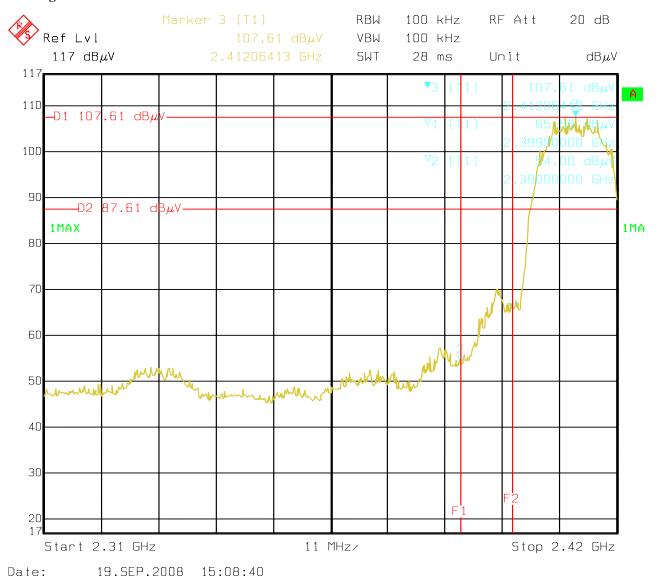
# For 802.11b mode

CH01 at 11Mbps

#### **10.4** Restricted band and bandedge Measurement

Product:	300M Wireless N	otebook Adapter	Test Mode:	CH1
Mode	Keeping Tr	ansmitting	Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pa	SS	Detector	PK
The Max. FS in	PK (dBμV/m)	54.3(V)/51.1(H)	T ::4	74(dBμV/m)
Restrict Band	AV ( $dB\mu V/m$ )	41.6(V)/39.1(H)	Limit	$54(dB\mu V/m)$

## **Test Figure:**



#### Note: The Max. FS in Restrict Band are measured in conventional method.

The report refers only to the sample tested and does not apply to the bulk.

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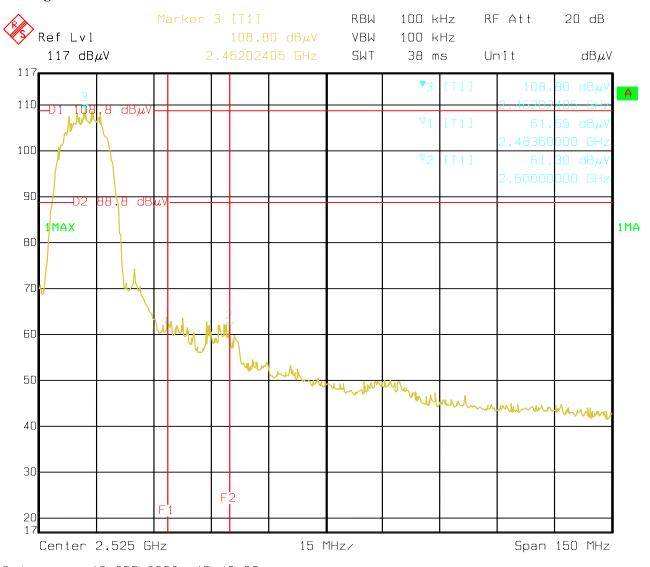


## CH11 at 11Mbps

#### **10.4** Restricted band and bandedge Measurement

Product:	Notel	book	Test Mode:	CH11
Mode	Keeping Tr	ansmitting	Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pa	SS	Detector	PK
The Max. FS in	PK ( $dB\mu V/m$ )	54.3(V)/52.9(H)	T ::4	$74(dB\mu V/m)$
Restrict Band	AV (dBμV/m)	43.2(V)/40.6(H)	Limit	54(dBμV/m)

## **Test Figure:**



Date: 19.SEP.2008 15:40:36

Note: The Max. FS in Restrict Band are measured in conventional method.

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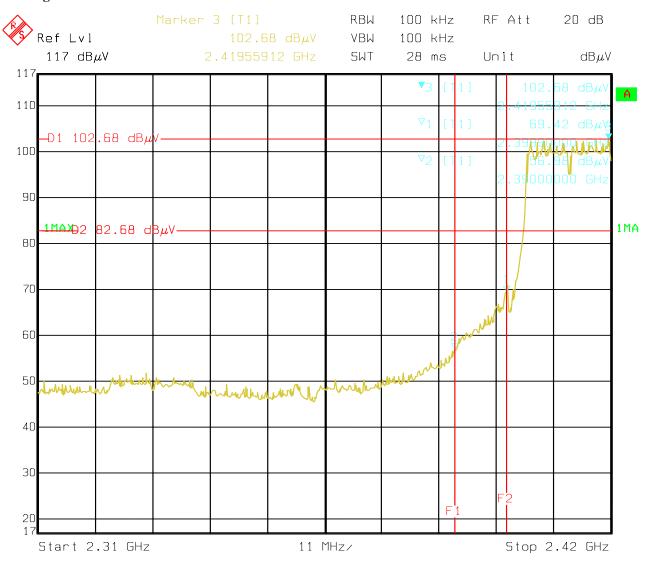
# For 802.11g mode

CH01 at 6Mbps

# Restricted band and bandedge Measurement

Product:	300M Wireless N	otebook Adapter	Test Mode:	CH1
Mode	Keeping Tr	ansmitting	Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pas	SS	Detector	PK
The Max. FS in	PK (dBμV/m)	54.3(V)/51.3(H)	T ::4	$74(dB\mu V/m)$
Restrict Band	AV (dBμV/m)	43.8(V)/39.4(H)	Limit	$74(dB\mu V/m)$

#### **Test Figure:**



19.SEP.2008

#### Note: The Max. FS in Restrict Band are measured in conventional method.

15:06:40

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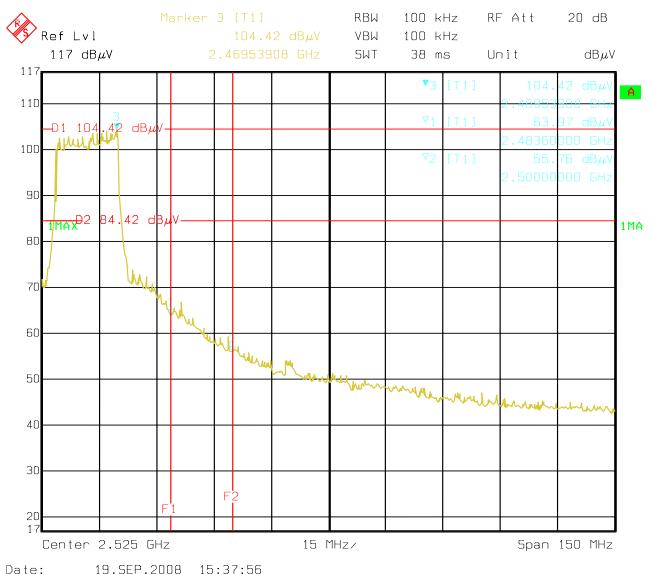


## CH11 at 6Mbps

#### **10.4** Restricted band and bandedge Measurement

Product:	300M Wireless Notebook Adapter		Test Mode:	CH11
Mode	Keeping Tr	ansmitting	Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBμV/m)	49.6(V)/47.6(H)	Limit	$74(dB\mu V/m)$
Restrict Band	AV ( $dB\mu V/m$ )	38.6(V)/37.7(H)		$54(dB\mu V/m)$

# **Test Figure:**



#### Note: The Max. FS in Restrict Band are measured in conventional method.

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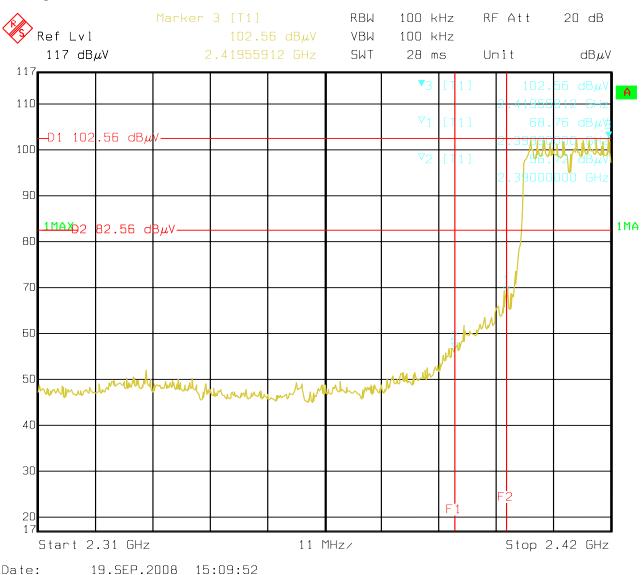


## CH1 at HT20 130Mbps

#### **10.4** Restricted band and bandedge Measurement

Product:	Notebook		Test Mode:	CH1
Mode	Keeping Transmitting		Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK ( $dB\mu V/m$ )	48.6(V)/46.9(H)	Limit	$74(dB\mu V/m)$
Restrict Band	PK ( $dB\mu V/m$ )	37.8(V)/36.5(H)		$54(dB\mu V/m)$

## **Test Figure:**



Note: The Max. FS in Restrict Band are measured in conventional method.

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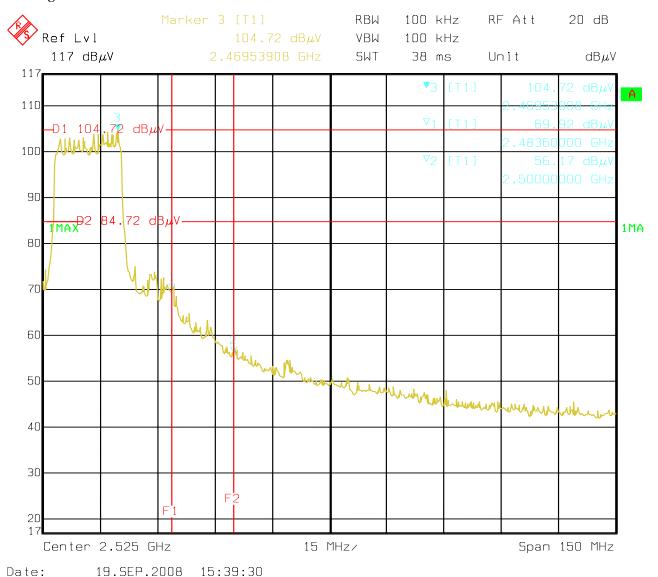
802.11n

CH11 at HT20 130Mbps

# **10.4** Restricted band and bandedge Measurement

Product:	Notebook		Test Mode:	CH11
Mode	Keeping Transmitting		Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK ( $dB\mu V/m$ )	55.6(V)/53.4(H)	Limit	$74(dB\mu V/m)$
Restrict Band	AV ( $dB\mu V/m$ )	42.5(V)/41.6(H)		$54(dB\mu V/m)$

# **Test Figure:**



# Note: The Max. FS in Restrict Band are measured in conventional method.

The report refers only to the sample tested and does not apply to the bulk.

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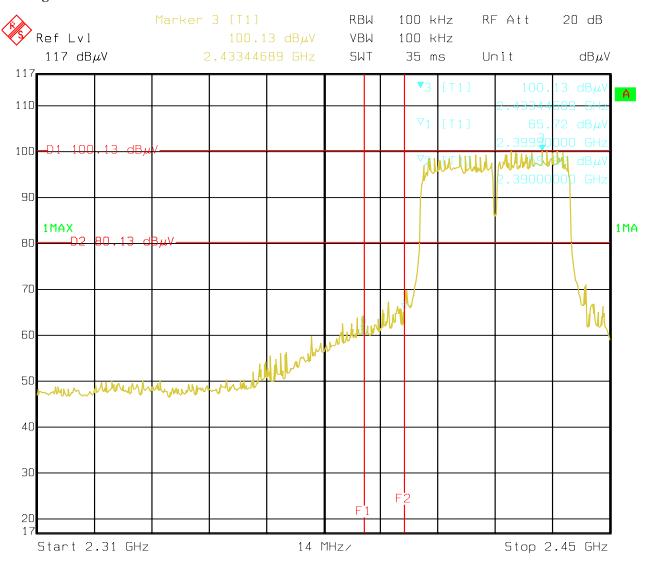
802.11n

CH1 at HT40 130Mbps

# 10.4 Out of Band Test Result

Product:	Notebook		Test Mode:	CH1
Mode	Keeping Transmitting		Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBμV/m)	53.6(V)/48.9(H)	Limit	$74(dB\mu V/m)$
Restrict Band	AV (dBμV/m)	41.2(V)/37.2(H)		$54(dB\mu V/m)$

# **Test Figure:**



19.SEP.2008

# Note: The Max. FS in Restrict Band are measured in conventional method.

15:12:05

The report refers only to the sample tested and does not apply to the bulk.

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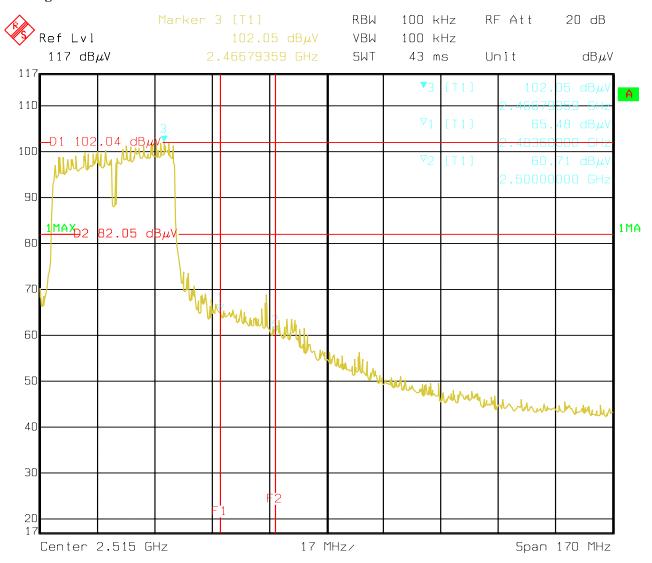
802.11n

CH07 at HT40 130Mbps

# 10.4 Out of Band Test Result

Product:	300M Wireless Notebook Adapter		Test Mode:	CH11
Mode	Keeping Transmitting		Input Voltage	Powered by notebook
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBμV/m)	51.2(V)/47.8(H)	Limit	$74(dB\mu V/m)$
Restrict Band	AV (dBμV/m)	41.3(V)/37.7(H)		$54(dB\mu V/m)$

# **Test Figure:**



Date: 19.SEP.2008 15:42:27

# Note: The Max. FS in Restrict Band are measured in conventional method.

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# 11.0 Antenna Requirement 11.1 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 transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

# 11.2 Antenna Connected construction

There are two printed PCB antennas used in the device.. The maximum Gain of both antennas is 1.8dBi.

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# 12.0 Maximum Permissible Exposure Applicable Standard

Applicable Standard According to §1.1307(b)(5), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline. **KDB616217** was used as the guidance.

According to §1.1310 and §2.1093 RF exposure is calculated.

Measurement Result This is a 300M Wireless Notebook Adapter and the conducted output power is 13.46dBm (22.182mW), which is lower than low threshold 60/fGHz mW (60/2.462GHz= 24.37mW), and the antenna is 1.8dBi which is less than 6dBi.

# The SAR measurement is not necessary

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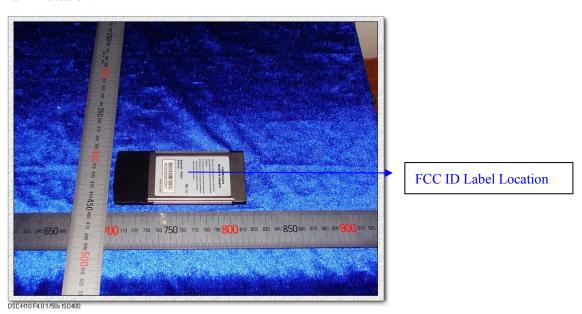


# 13.0 FCC ID Label

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

# Mark Location:



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# 14.0 Photo of testing

# 14.1 Conducted test View--



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# 14.2 Emission Radiated test View--





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## 14.3 Photo for the EUT



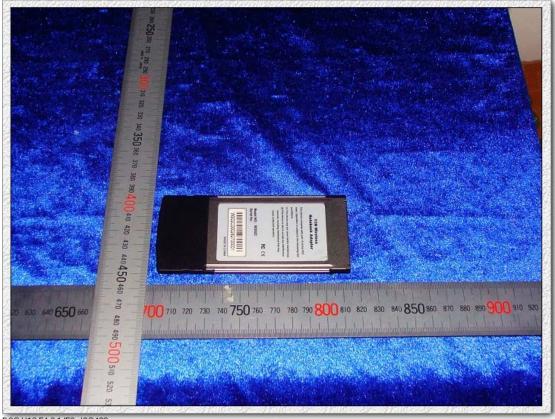
DSC-H10 F4.0 1/50s ISO 250

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# Outside View

## 14.4 Photo for the EUT

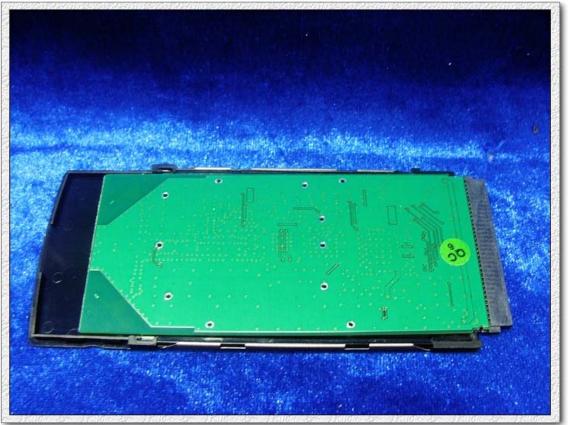


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**End of the report**