TECHNICAL REPORT

卓時檢測 TIMEWAY TESTING LABORATORY

ISO/IEC17025Accredited Lab.

Report No: FCC 0701044
File reference No: 2007-02-08

Applicant: Eastman Kodak Company

Product: Digital Picture Frame

Model No: EX1011

Trademark: Kodak

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 C63.4&FCC Part 15 Subpart C, Paragraph 15.247 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung
Manager

Dated: Feb 08,2007

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

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

Tel (755) 83448688 Fax (755) 83442996

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.: IC5205

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.: 5205.

Test Report Conclusion

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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.

Telephone: (755) 83448688

Fax: (755) 83442996

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: 5205

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: Eastman Kodak Company

Address: 343 State Street Rochester, NY 14650

Telephone: 585-781-9807

Fax: 585-781-9255

1.3 Description of EUT

Product:	Digital Picture Frame
Manufacturer:	Wanlida Group Co., Ltd
Brand Name:	Kodak
Model Number:	EX1011
Additional Model Name	N/A
Additional Trade Name	N/A
Rating:	Input: DC 12V; 18W
Power Supply:	Model: MPA-630, Input: 100-240V~, 1A，50/60Hz; Output: DC12V, 2A
Type of Modulation	DBPSK、DQPSK、CCK、OFDM
Frequency range	2412-2462MHz
Number of Channel	11
Air Data Rate	54、48、36、24、18、12、9、6Mbps at 802.11g mode; 11、5.5、2、1Mbps at 802.11b mode
Frequency Selection	By software
Antenna type	Printed antenna on PCB

1.4 Submitted Sample

1 Sample

1.5 Test Duration

2006-12-14 to 2007-02-08

1.6 Test Uncertainty

Conducted Emissions Uncertainty =±2.4dB

Radiated Emissions Uncertainty =±4.2dB

1.7 Test Engineer

The sample tested by Terry Tang

Print Name: Terry Tang

2.0	Test Equipments				
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2006-12-06	2007-12-05
Absorbing Clamp	ROHDE&SCHWARZ	MDS-21	100126	2006-12-06	2007-12-05
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2006-12-06	2007-12-05
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2006-12-06	2007-12-05
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2006-12-06	2007-12-05
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2006-03-31	2007-03-30
4-WIRE ISN	ROHDE&SCHWARZ	ENY 41	830663/044	2006-02-20	2007-02-19
GG ENY22 Double 2-Wire ISN	ROHDE&SCHWARZ	ENY22	83066/016	2006-02-20	2007-02-19
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2006-02-20	2007-02-19
System Controller	CT	SC100	-	-	-
Printer	EPSON	PHOTO EX3	CFNH234850	2006-02-20	2007-02-19
FM-AM Signal Generator	JUNGJIN	SG-150M	389911177	2006-02-20	2007-02-19
Color TV Pattern Generator	PHILIPS	PM5418	LO621747	2006-02-20	2007-02-19

Computer	IBM	8434	1S8434KCE99BLXLO*	-	-
Oscillator	KENWOOD	AG-203D	3070002	2006-02-24	2007-02-23
Spectrum Analyzer	HAMEG	HM5012	-	-	-
Power Supply	LW	APS1502	-	-	-
5K VA AC Power Source	California Instruments	5001iX	56060	2006-02-20	2007-02-19
CDN	EM TEST	CDN M2/M3	-	2006-02-20	2007-02-19
Attenuation	EM TEST	ATT6/75	-	2006-02-20	2007-02-19
Resistance	EM TEST	R100	-	2006-02-20	2007-02-19
Electromagnetic Injection Clamp	LITTHI	EM101	35708	2006-02-20	2007-02-19
Inductive Components	EM TEST	MC2630	-	2006-02-20	2007-02-19
Antenna	EM TEST	MS100	-	2006-02-20	2007-02-19
Signal Generator	ROHDE&SCHWARZ	SMT03	100029	2006-02-06	2007-02-05
Power Amplifier	AR	150W1000	300999	2006-02-06	2007-02-05
Field probe	Holaday	HI-6005	105152	2006-02-06	2007-02-05
Bilog Antenna	Chase	CBL6111C	2576	2006-02-06	2007-02-05
Loop Antenna	EMCO	6502	00042960	2006-02-06	2007-02-05
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2006-02-06	2007-02-05
3m OATS	--	--	N/A	2006-02-06	2007-02-05

3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications:

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

3.2 Test Standards

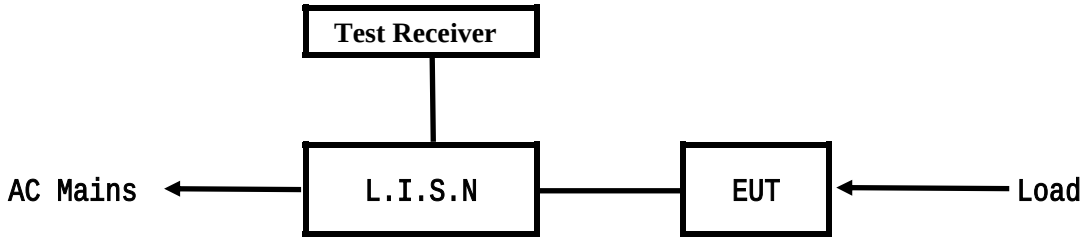
FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co.,Ltd

5. Power Line Conducted Emission Test

5.1 Schematics of the test

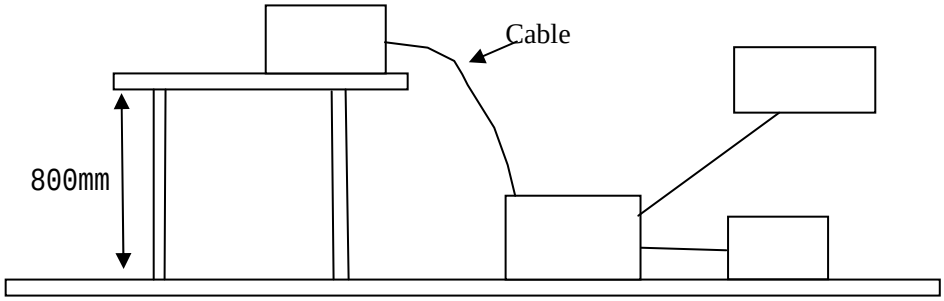


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2001.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 –2001.

Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2001. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

Two channels are provided to the EUT

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	--	--

A. EUT

Device	Manufacturer	Model	FCC ID
Digital Picture Frame	Wanlida Group Co., Ltd	EX811	PA3952C

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
N/A				

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2001.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency (MHz)	Class A Limits (dB μ V)		Class B Limits (dB μ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ～ 0.50	79.0	66.0	66.0～56.0*	56.0～46.0*
0.50 ～ 5.00	73.0	60.0	56.0	46.0
5.00 ～ 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

5.6 Test Results

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

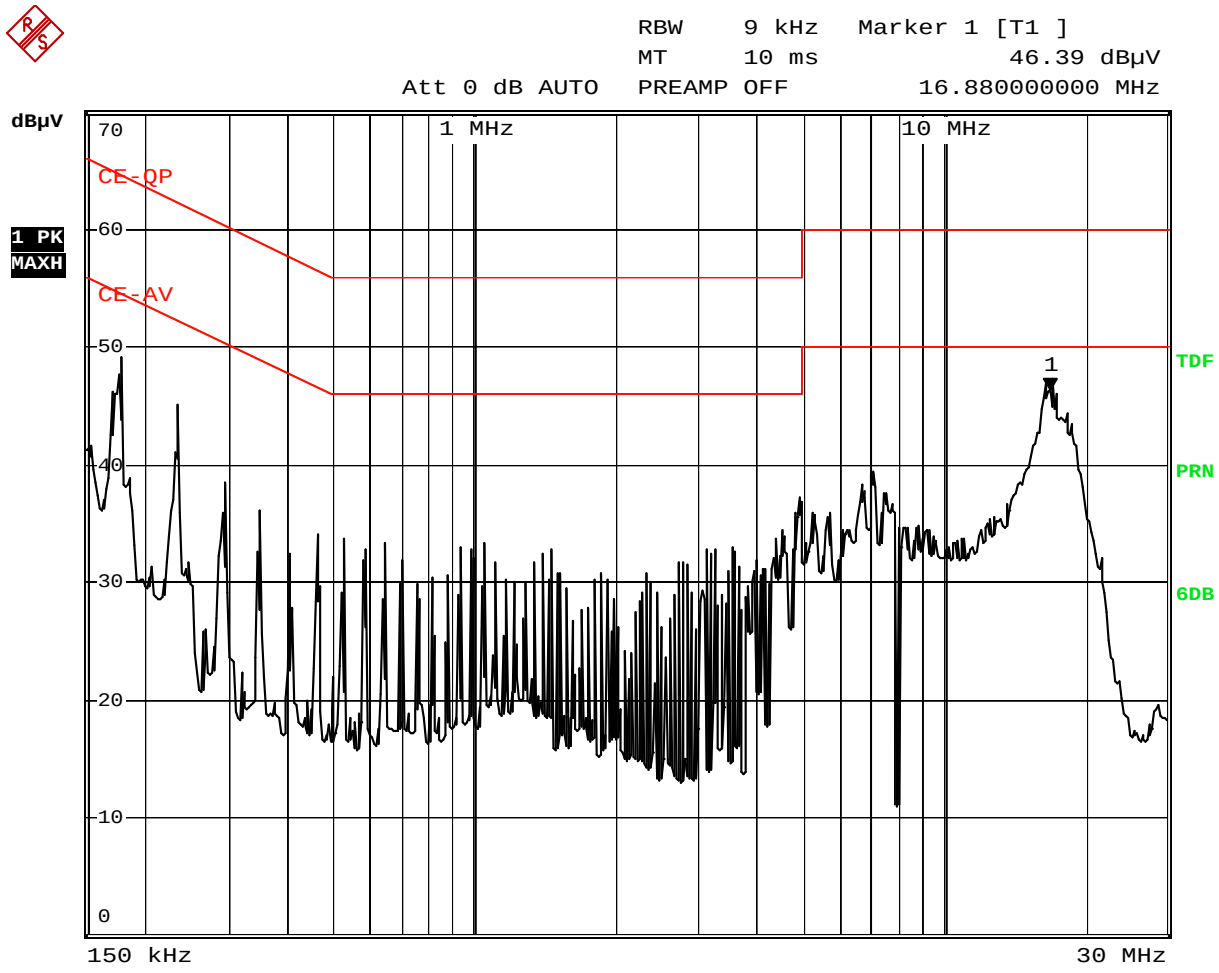
Note: the worse cases was selected to conducted the test

A Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Transmitting at channel 1 under 802.11g mode at 6Mbps

Results: **Pass**

Please refer to following diagram for individual



Date: 8.FEB.2007 12:51:57

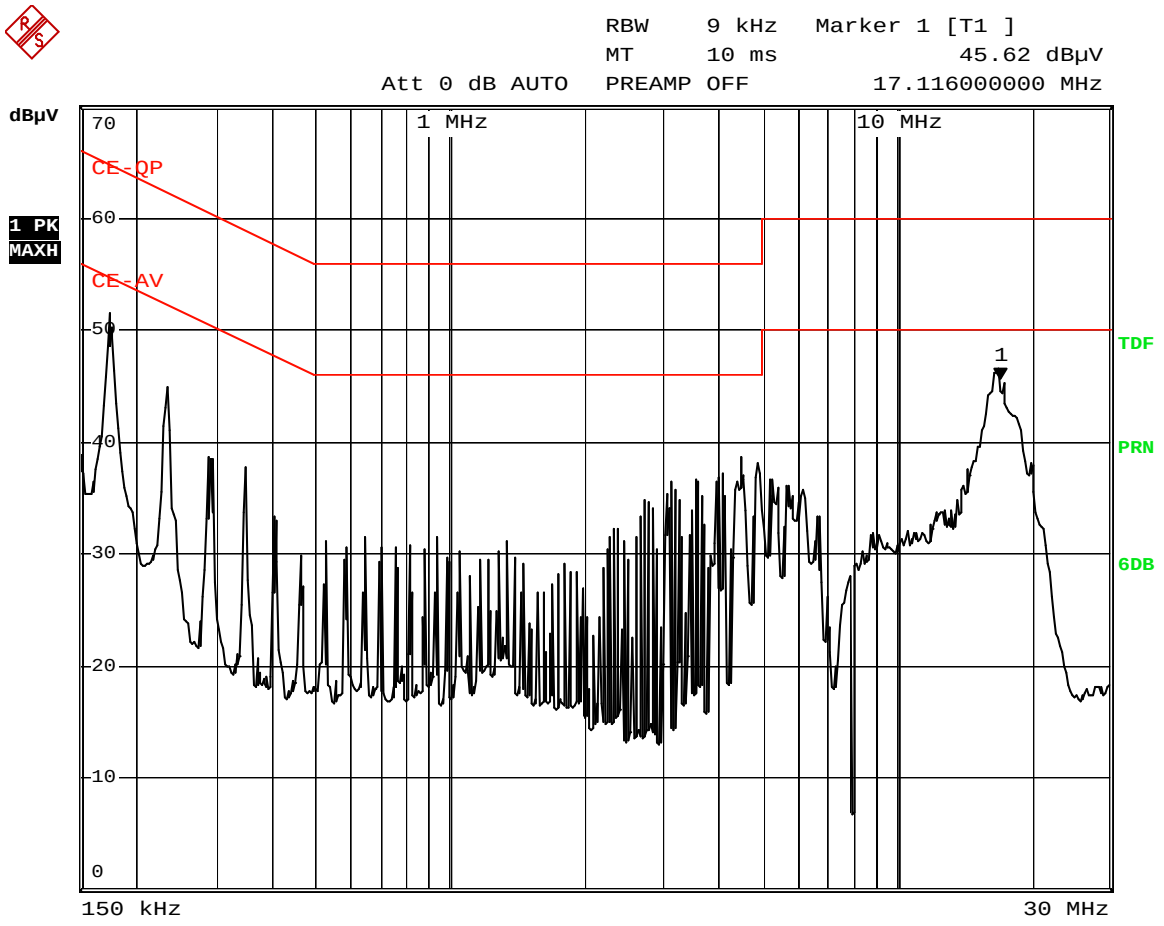
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Line		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.178	47.72	36.44	--	--	64.60	54.60
0.234	43.66	33.10	--	--	62.30	52.30
0.294	36.02	29.70	--	--	60.40	50.40
17.056	45.03	38.15	--	--	60.00	50.00

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

EUT set Condition: Transmitting at channel 1 under 802.11g mode at 6Mbps

Results: **Pass**

Please refer to following diagram for individual



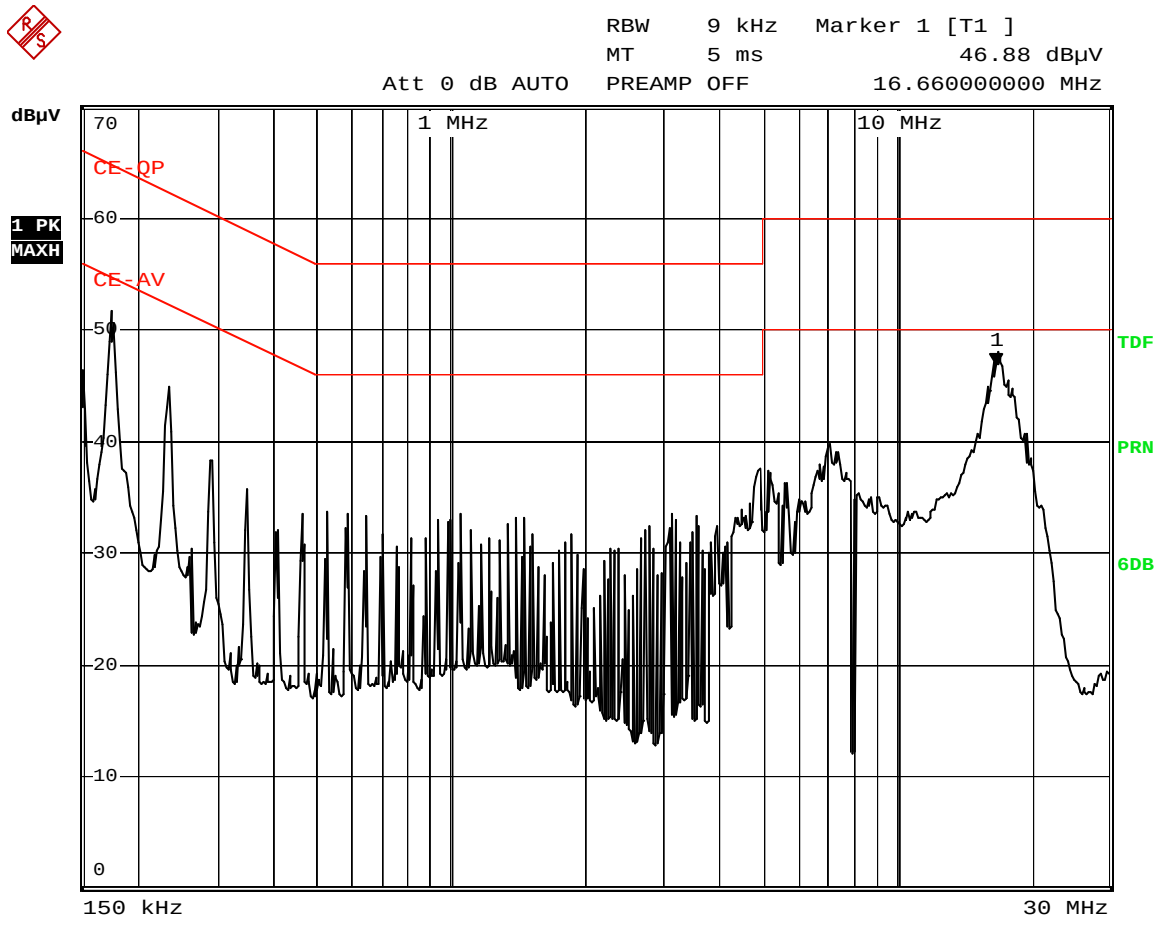
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	--	--	50.24	40.76	64.80	54.80
0.234	--	--	43.38	36.03	62.30	52.30
0.350	--	--	35.92	32.43	59.00	49.00
16.884	--	--	45.01	42.87	60.00	50.00

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

EUT set Condition: Transmitting at channel 11 under 802.11g mode at 6Mbps

Results: **Pass**

Please refer to following diagram for individual



Date: 8.FEB.2007 13:05:06

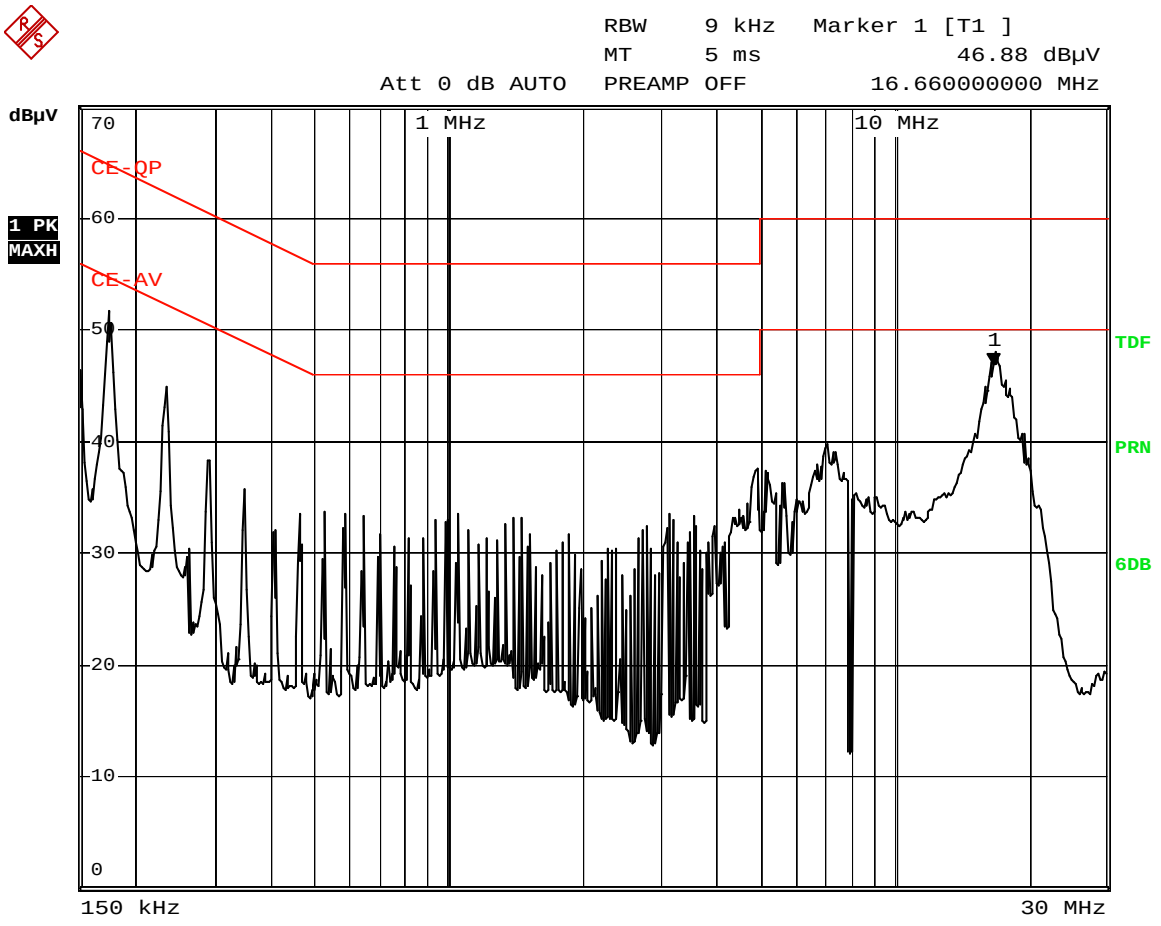
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	--	--	50.15	40.75	64.80	54.80
0.234	--	--	43.36	36.14	62.30	52.30
0.350	--	--	35.69	32.05	59.60	49.60
16.828	--	--	45.11	39.48	60.00	50.00

D **Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)**

EUT set Condition: Transmitting at channel 11 under 802.11g mode at 6Mbps

Results: **Pass**

Please refer to following diagram for individual



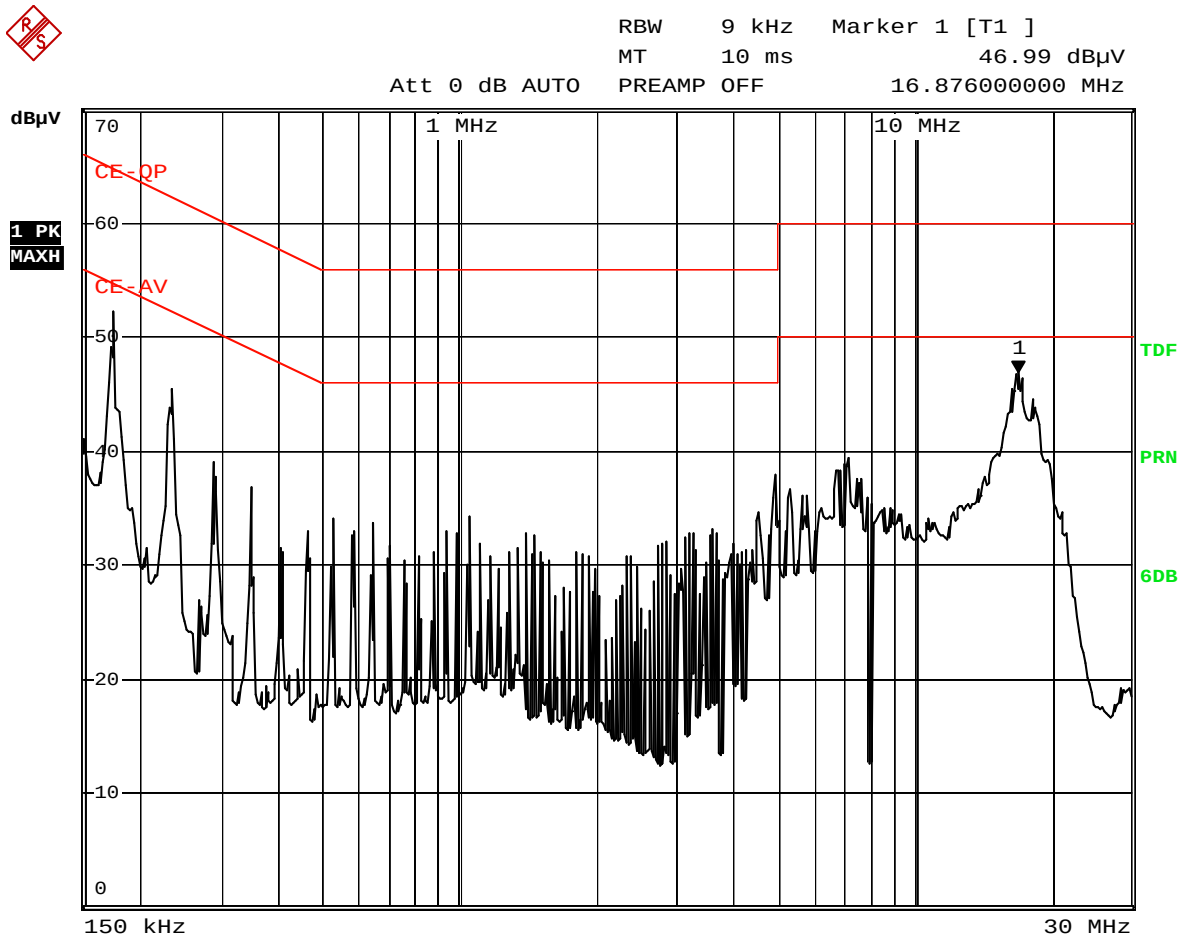
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Line		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	50.56	39.44	--	--	64.80	54.80
0.234	43.46	33.07	--	--	62.30	52.30
0.294	35.68	29.65	--	--	60.40	50.40
16.892	44.18	40.33	--	--	60.00	50.00

E **Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)**

EUT set Condition: Transmitting at channel 11 under 802.11b mode at 1Mbps

Results: **Pass**

Please refer to following diagram for individual



Date: 8.FEB.2007 12:48:07

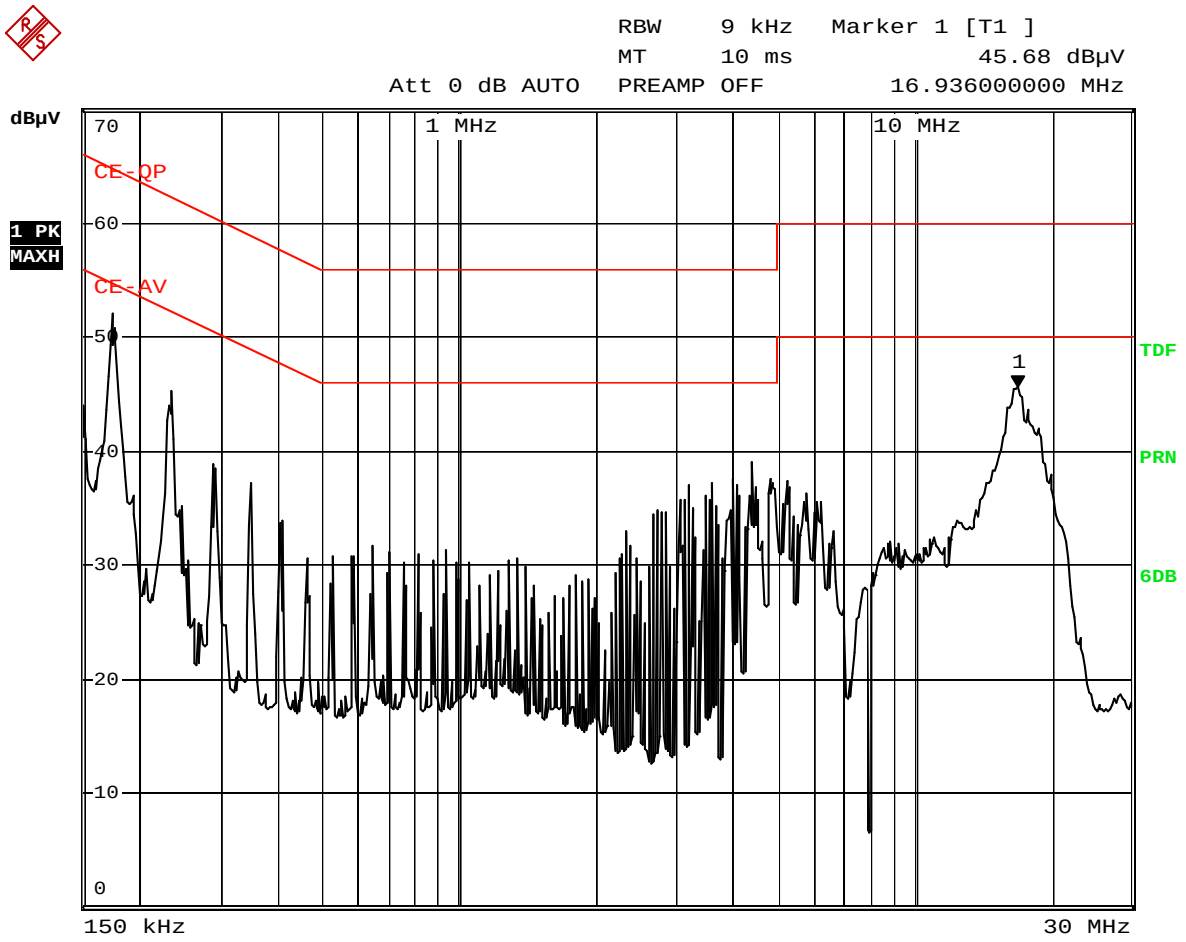
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Line		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	51.17	39.58	--	--	64.80	54.80
0.234	44.04	33.24	--	--	62.30	52.30
0.290	38.05	31.83			60.50	50.50
0.350	34.89	29.59	--	--	59.00	49.00
16.876	4162	35.83			60.00	50.00

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

EUT set Condition: Transmitting at channel 11 under 802.11b mode at 1Mbps

Results: **Pass**

Please refer to following diagram for individual



Date: 8.FEB.2007 12:45:42

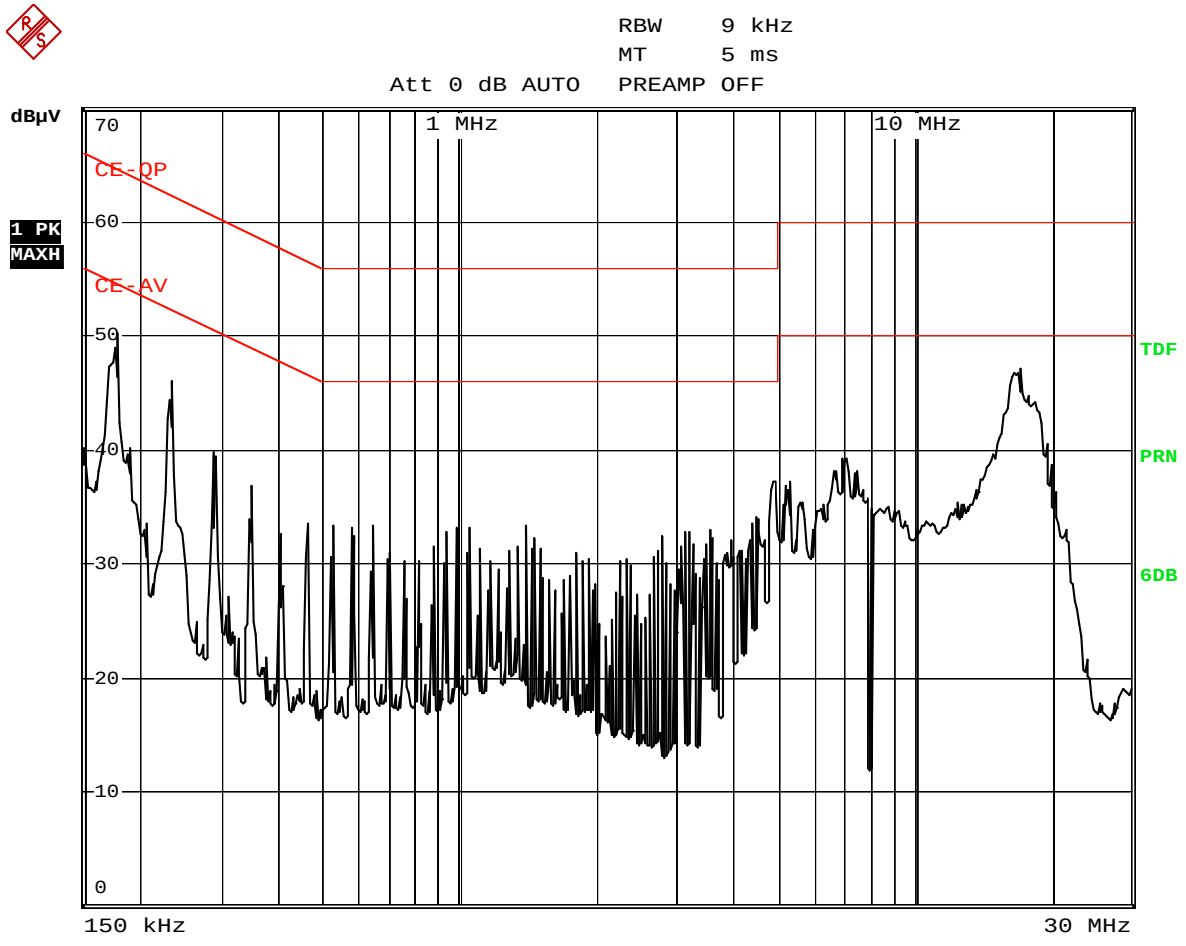
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	--	--	50.78	40.91	64.80	54.80
0.234	--	--	43.86	36.12	62.30	52.30
0.350	--	--	35.88	31.83	59.00	49.00
4.420	--	--	36.44	32.77	56.00	46.00
16.936	--	--	43.40	40.15	60.00	50.00

G Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

EUT set Condition: Transmitting at channel 1 under 802.11b mode at 1Mbps

Results: **Pass**

Please refer to following diagram for individual



Date: 8.FEB.2007 12:40:08

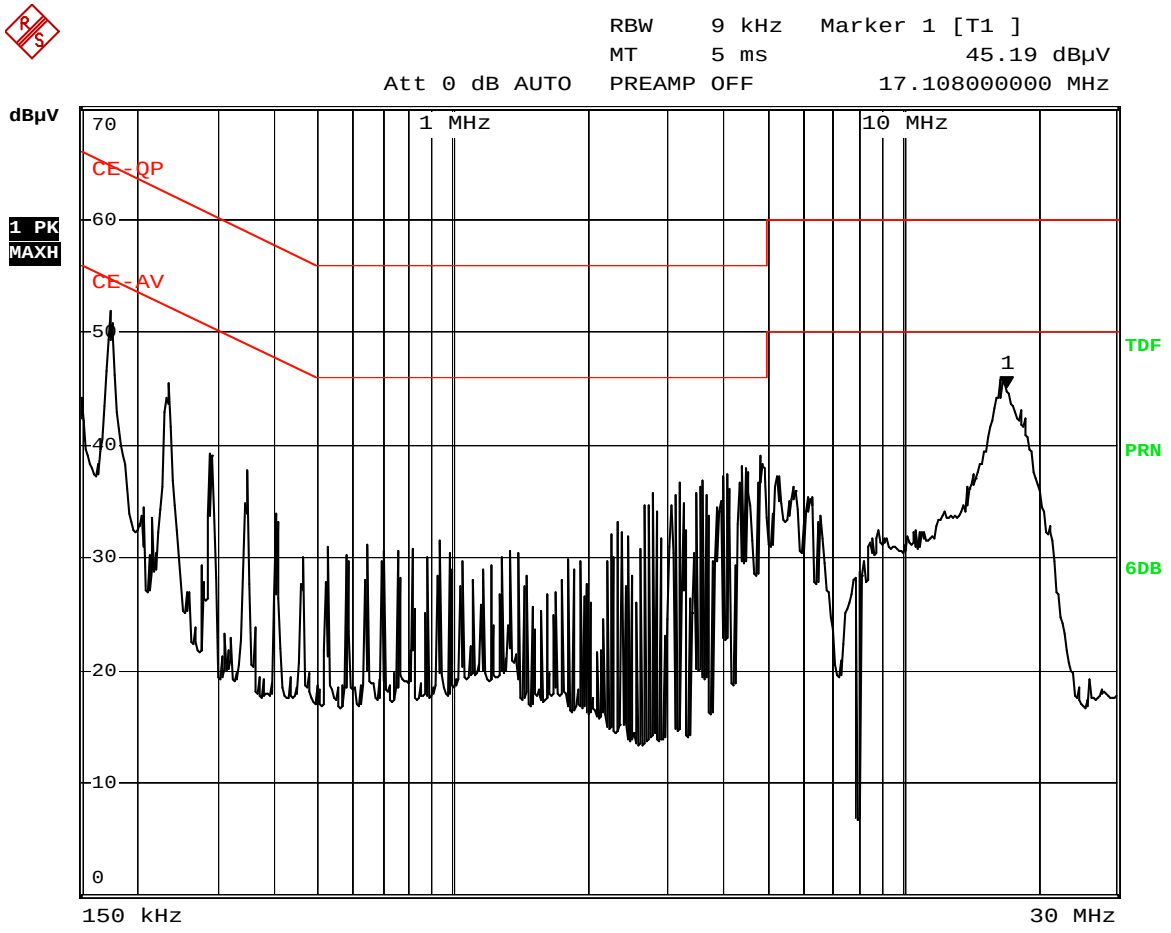
Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Line		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.178	48.17	36.59	--	--	64.60	54.60
0.234	44.13	33.26	--	--	62.30	52.30
0.290	38.81	32.13	--	--	60.50	50.50
17.044	43.75	38.75	--	--	60.00	50.00

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

EUT set Condition: Transmitting at channel 1 under 802.11b mode at 1Mbps

Results: **Pass**

Please refer to following diagram for individual



Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Live		Neutral			
	Quasi-peak	Average	Quasi-peak	Average	Quasi-peak	Average
0.174	--	--	50.82	40.87	64.80	54.80
0.234	--	--	43.87	36.06	62.30	52.30
0.350	--	--	36.07	32.16	59.00	49.00
16.876	--	--	44.13	40.25	60.00	50.00

6 Radiated Emission Test

6.1 Test Method and test Procedure:

(1) The EUT was tested according to ANSI C63.4 –2001. 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 C63.4-2001.

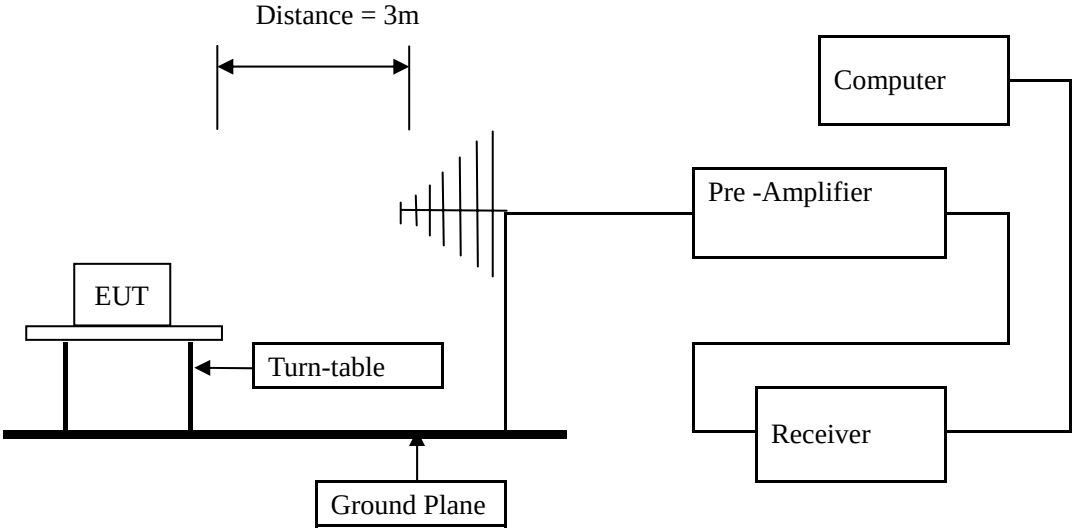
(3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.

(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



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.

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.

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

Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

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

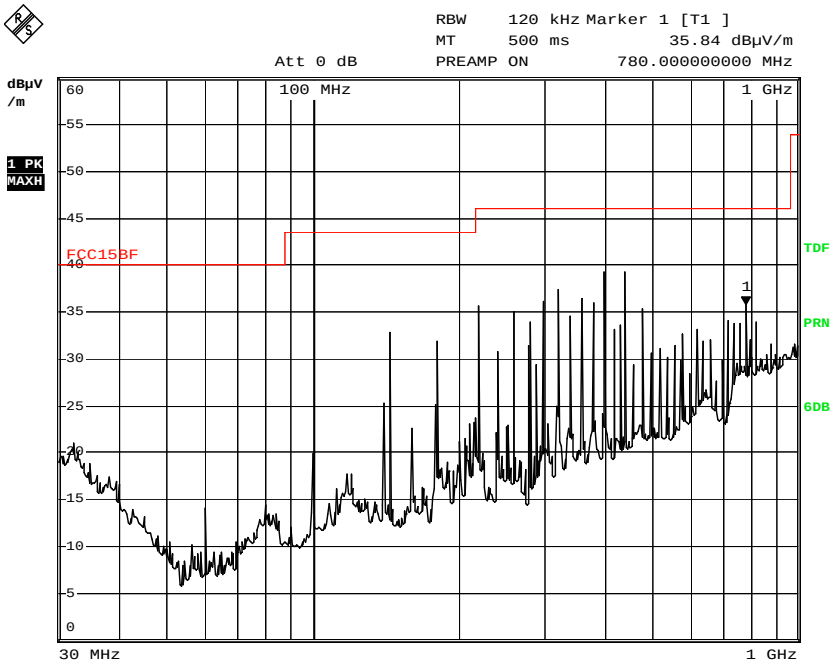
EUT set Condition: Wireless 802.11g mode under CH11 at 6Mbps

Results: **Pass**

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
440.00	37.29	H	46.00
400.00	38.86	H	46.00
320.00	38.89	H	46.00
220.00	34.16	H	46.00
144.00	30.53	H	43.50
440.00	41.52	V	46.00
420.00	40.89	V	46.00
340.04	38.76	V	46.00
320.00	39.08	V	46.00
260.04	33.72	V	46.00
60.00	35.27	V	46.00

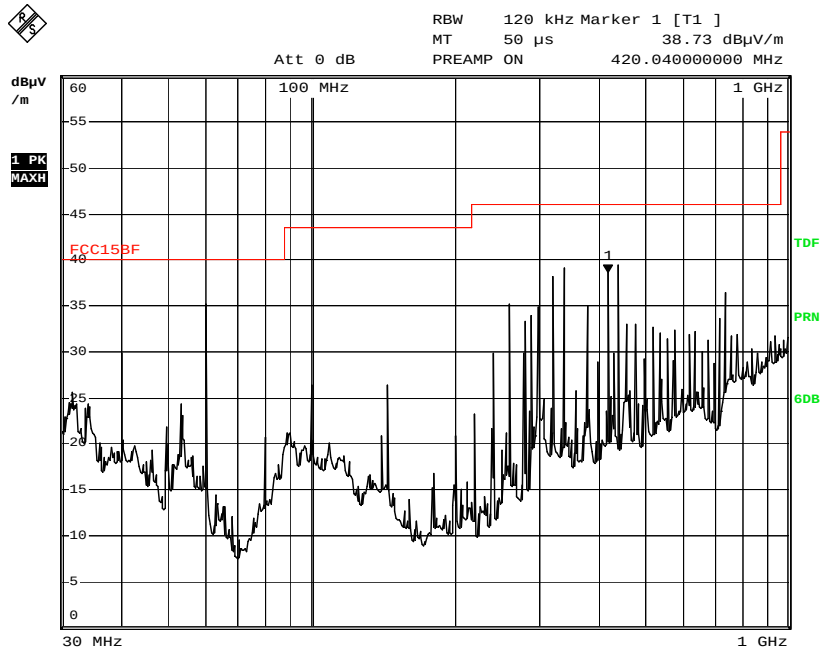
Test Figure: CH11 at 6Mbps

H



Date: 7.FEB.2007 22:44:29

V



Date: 8.FEB.2007 14:10:40

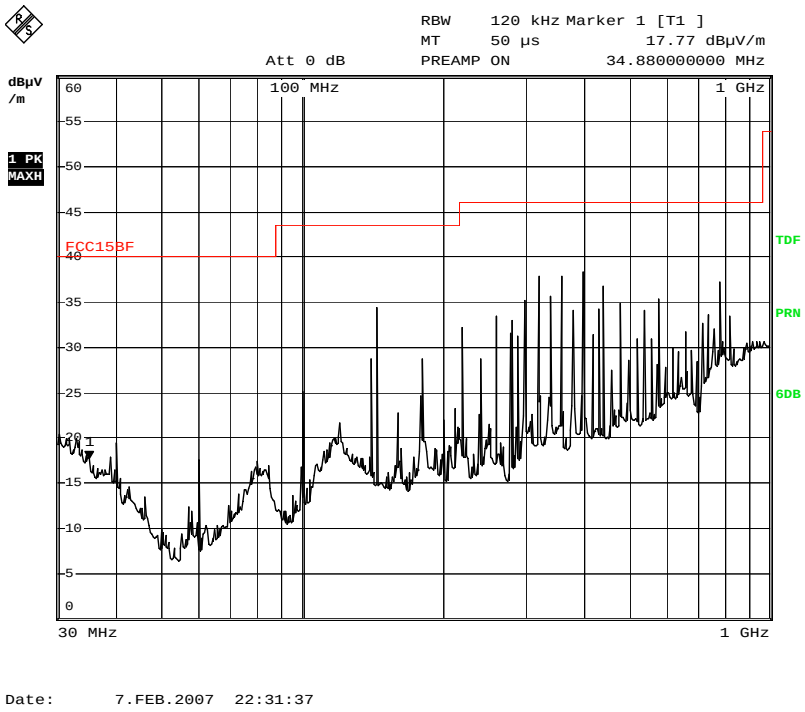
EUT set Condition: **Wireless 802.11b mode under CH11 at 1Mbps**

Results: **Pass**

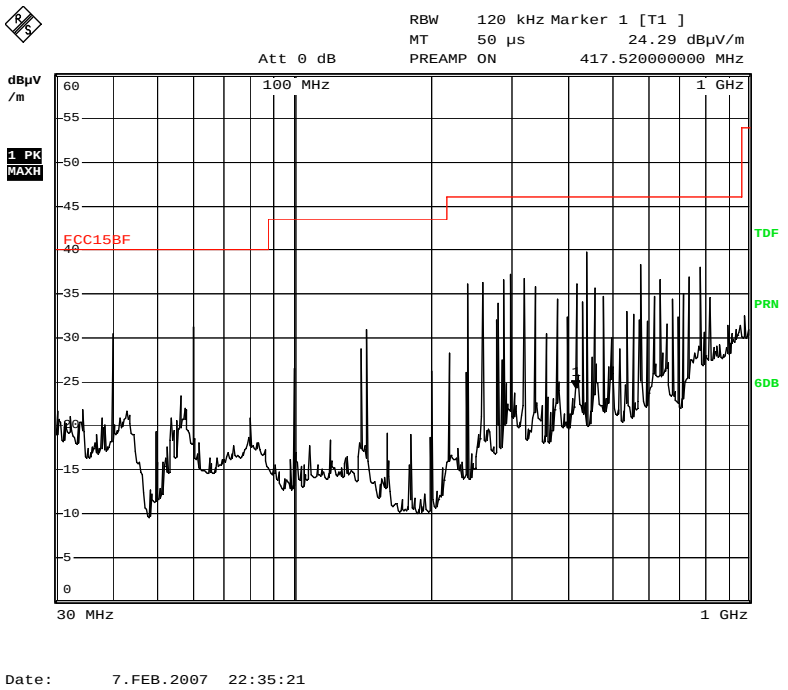
Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
144.00	36.08	H	43.50
260.00	35.18	H	46.00
320.00	40.15	H	46.00
360.00	39.38	H	46.00
400.00	40.21	H	46.00
40.00	31.96	V	46.00
60.00	34.05	V	40.00
144.00	32.43	V	43.50
240.04	36.11	V	46.00
320.00	38.59	V	46.00
440.00	41.29	V	46.00
580.00	39.71	V	46.00

Test Figure: CH11 at 1Mbps

H



V



Note: 1. Emission level (dBµV/m) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBµV).

2. According to technical experiences, all spurious emission at channel 1,6,11 are almost the same below 1GHz,so that the channel 11 was chosen as representation for the test.

Operation Mode: Transmitting & Receiving under CH01 at 6Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2412.00	79.0（PK）/70.4（AV）	H	Fundamental Frequency
2412.00	79.9PK）/71.3（AV）	V	
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)

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

Operation Mode: Transmitting & Receiving under CH06 at 6Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2437.00	79.7（PK）/71.4（AV）	H	Fundamental Frequency
2437.00	82.3（PK）/73.8（AV）	V	
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)

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

Operation Mode: Transmitting & Receiving under CH11 at 6Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2462.00	79.7（PK）/71.6（AV）	H	Fundamental Frequency
2462.00	83.1（PK）/75.2（AV）	V	
4924	53.2 (Peak)/ 42.0 (AV)	V	74(Peak)/ 54(AV)
4824	--	H/V	74(Peak)/ 54(AV)
7368	--	H	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)

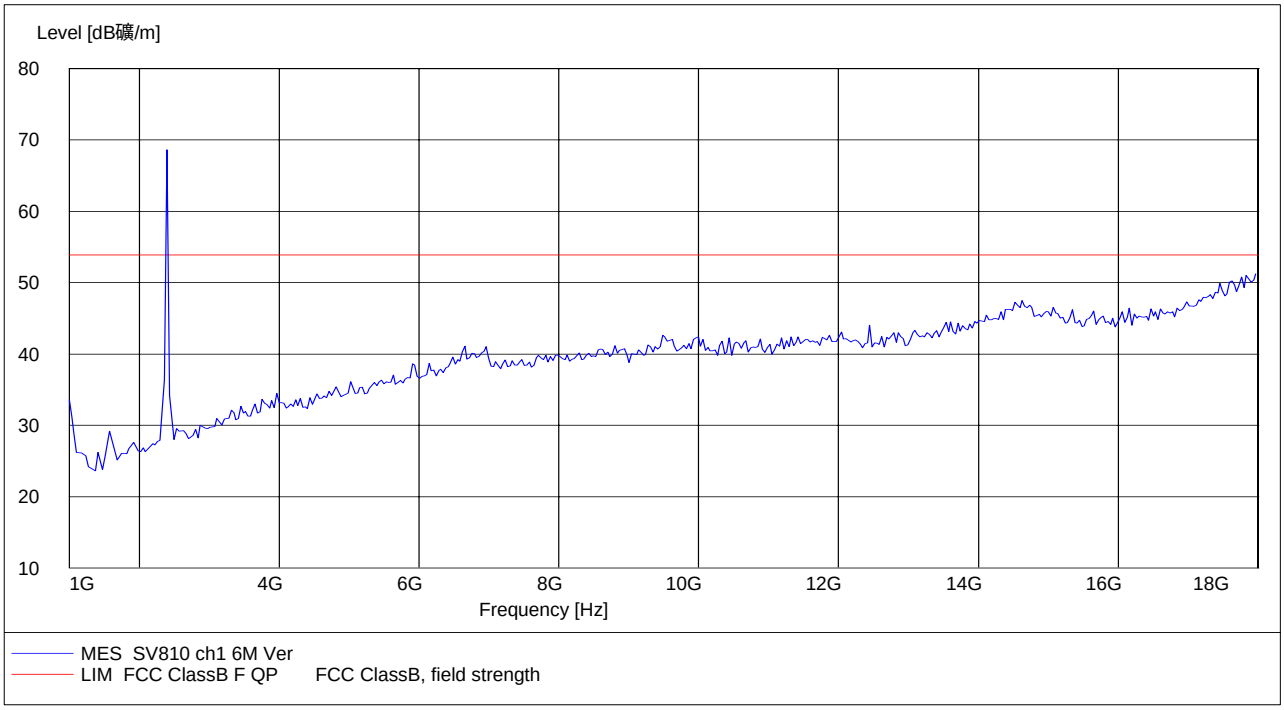
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

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

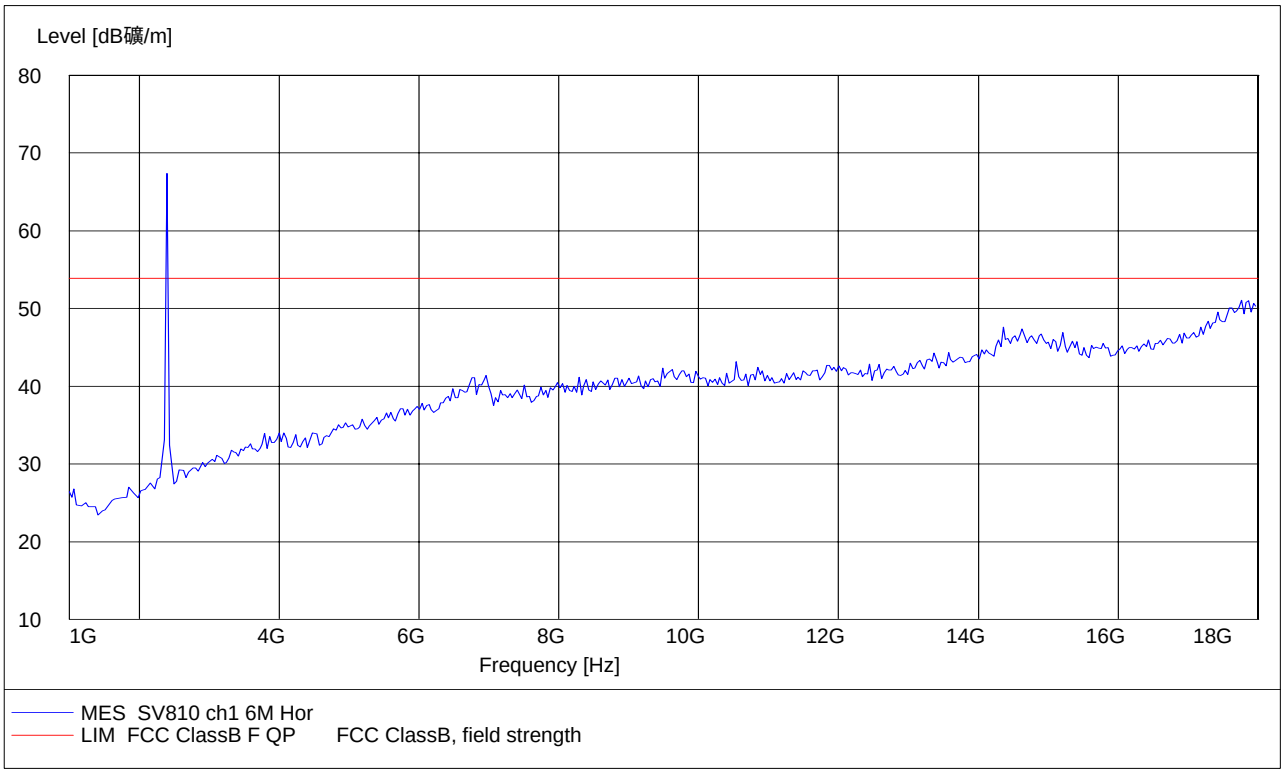
3. For 802.11g mode at 6Mbps

Please refer to the following test plots for details:

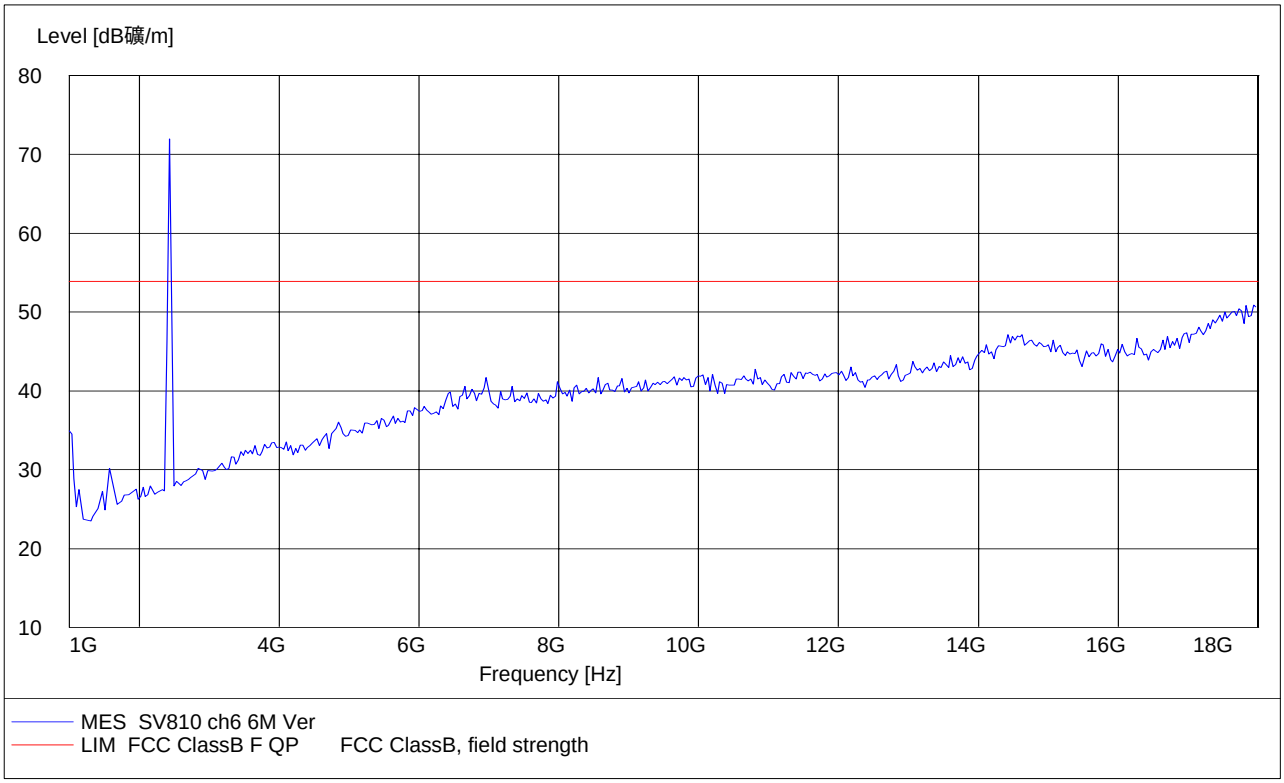
CH01 at 6Mbps: Vertical



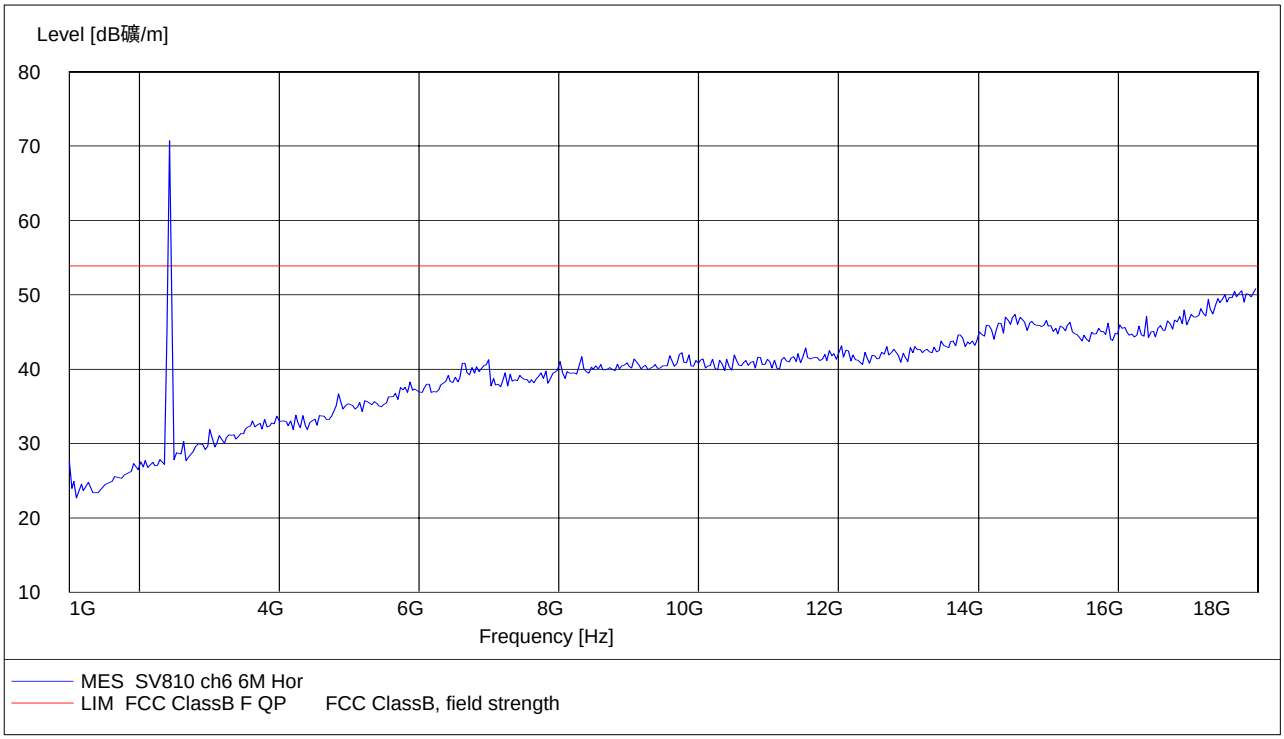
CH01 at 6Mbps: Horizontal



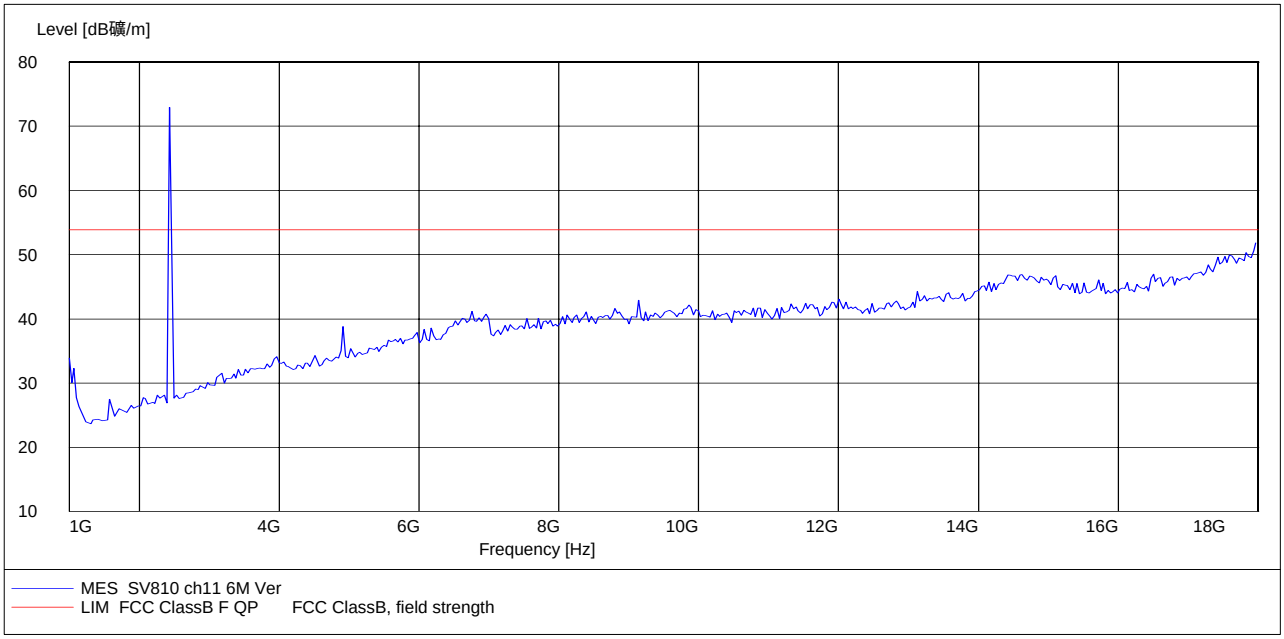
CH06 at 6Mbps: Vertical



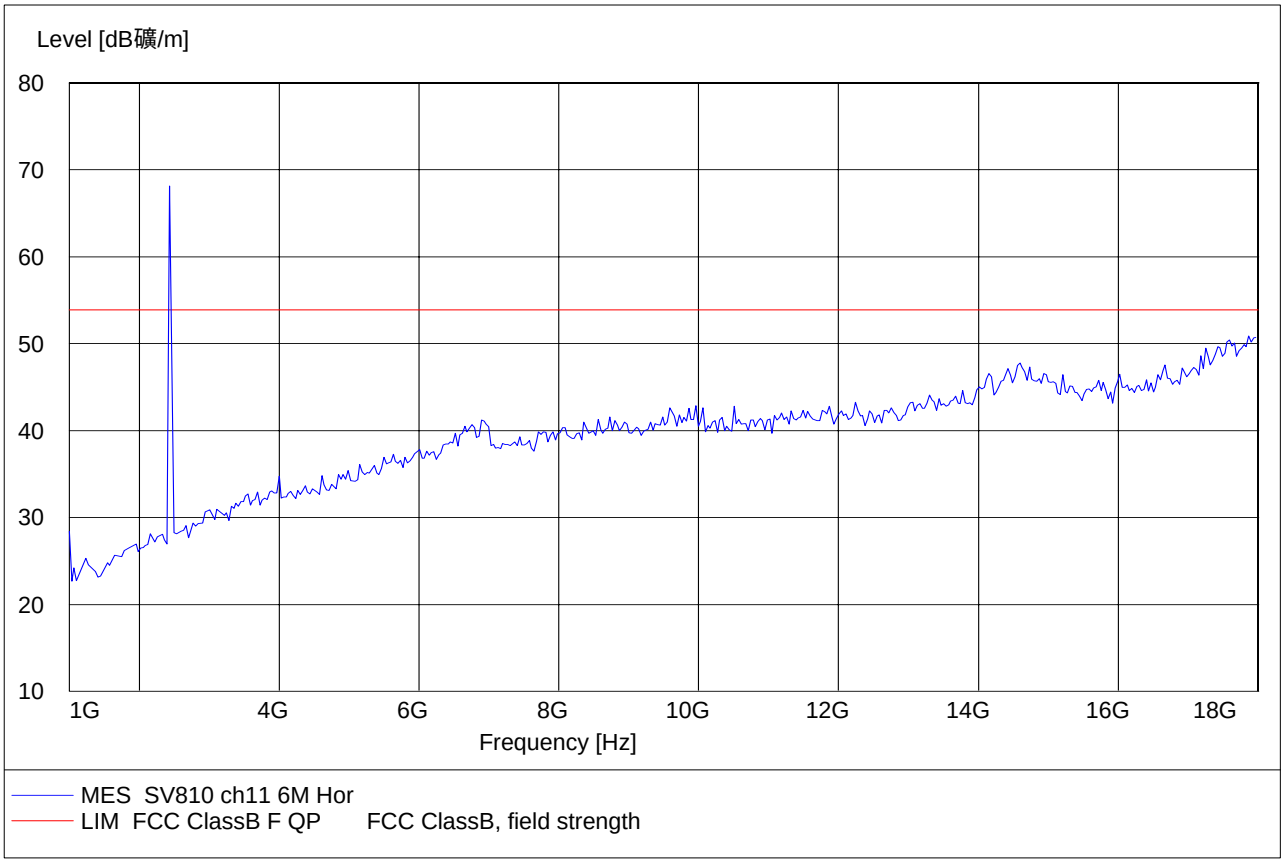
CH06 at 6Mbps: Horizontal



CH11 at 6Mbps: Vertical



CH11at 6Mbps: Horizontal



Operation Mode: Transmitting & Receiving under CH01 at 11Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2412.00	79.1 (PK)/ 72.1(AV)	H	Fundamental Frequency
2412.00	80.1 (PK)/73.0 (AV)	V	
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)

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

Operation Mode: Transmitting & Receiving under CH06 at 11Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2437.00	80.3 (PK)/ 73.3（AV）	H	Fundamental Frequency
2437.00	83.1(PK)/ 75.4 (AV)	V	
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)

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

Operation Mode: Transmitting & Receiving under CH11 at 11Mbps

Frequency (MHz)	Level@3m (dB μ V/m)	Antenna Polarity	Limit@3m (dB μ V/m)
2462.00	82.7（PK）/75.3AV）	H	Fundamental Frequency
2462.00	87.2（PK）/79.5（AV）	V	
4924	52.9 (Peak)/ 39.6(AV)	V	74(Peak)/ 54(AV)
4924	--	H	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)

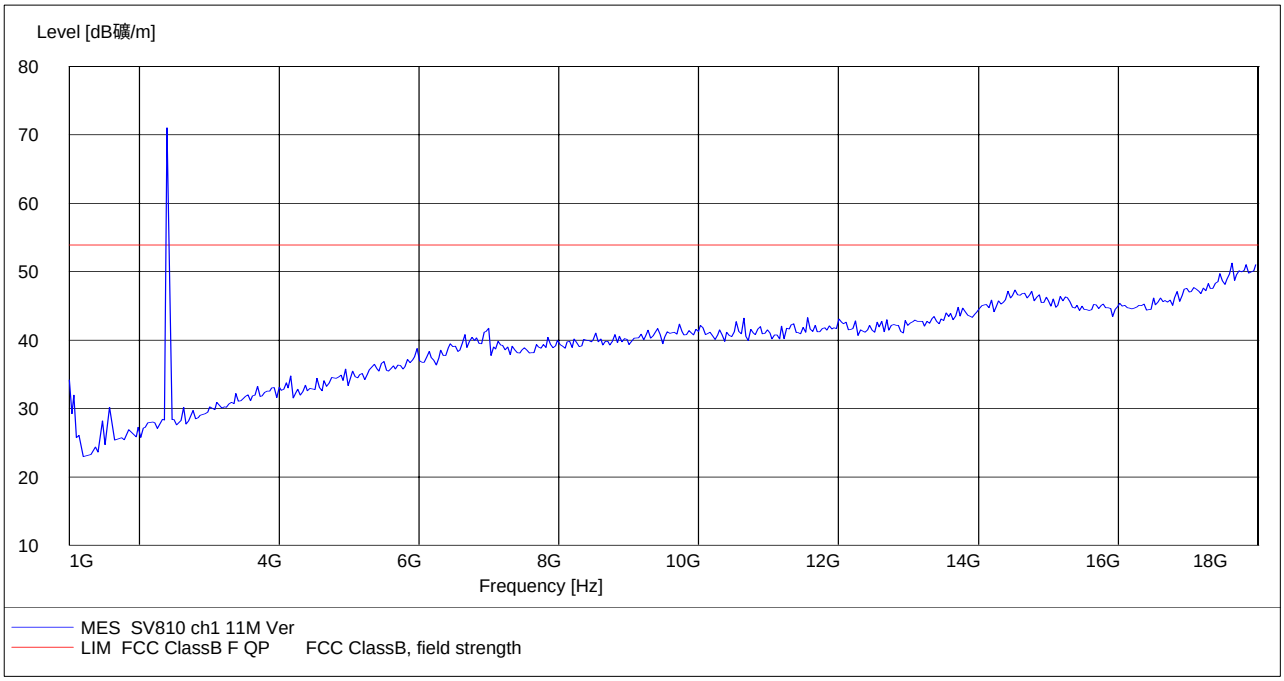
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

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

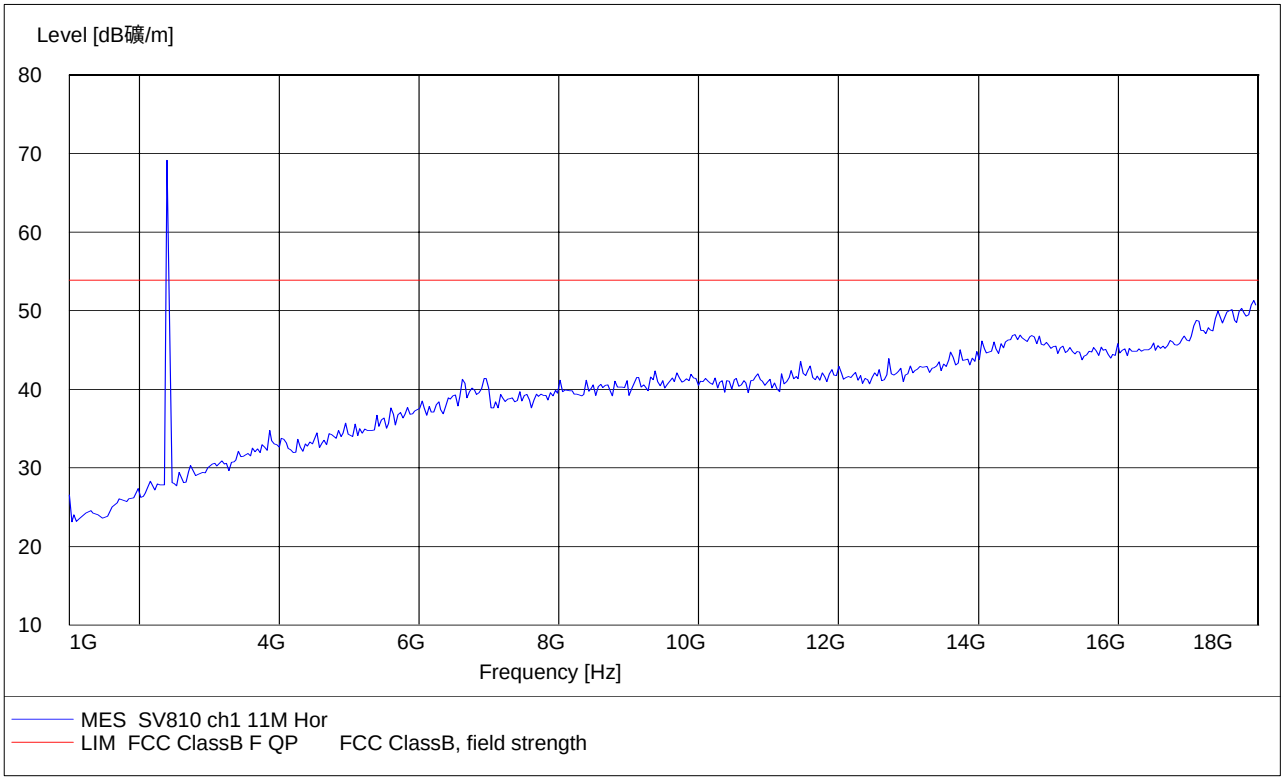
3. For 802.11b mode at 11Mbps

Please refer to the following test plots for details:

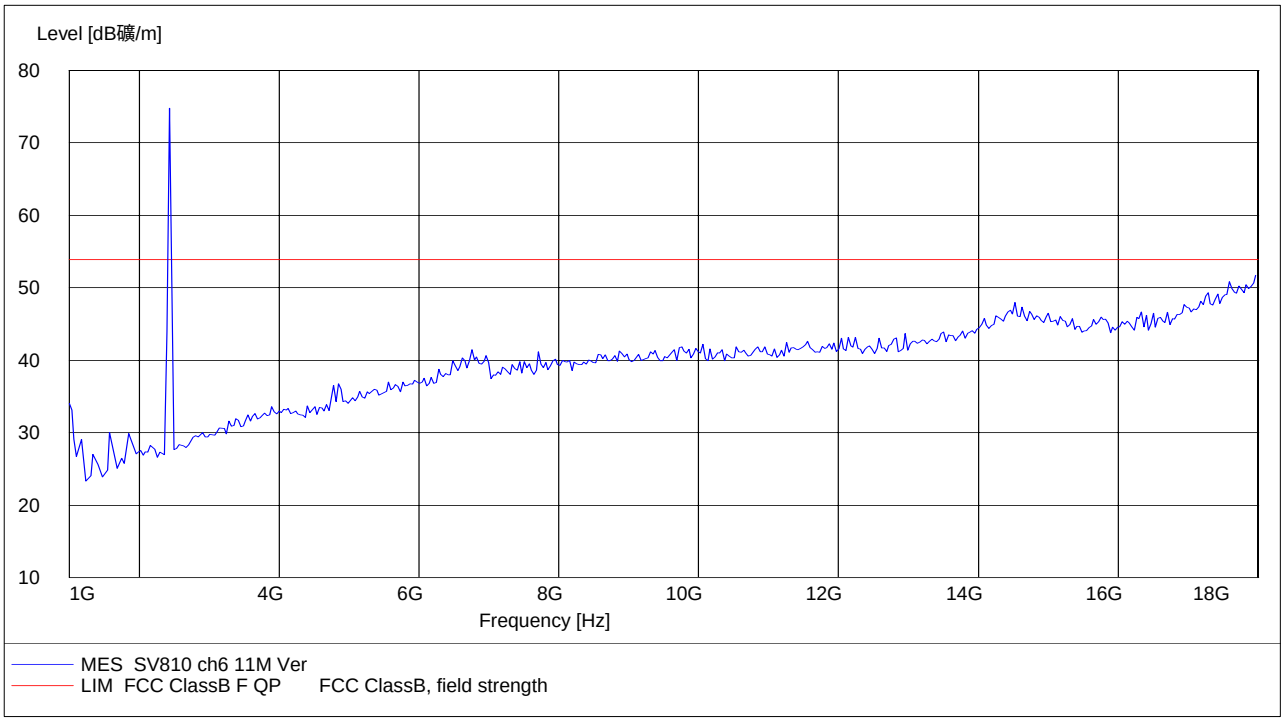
CH01 at 11Mbps: Vertical



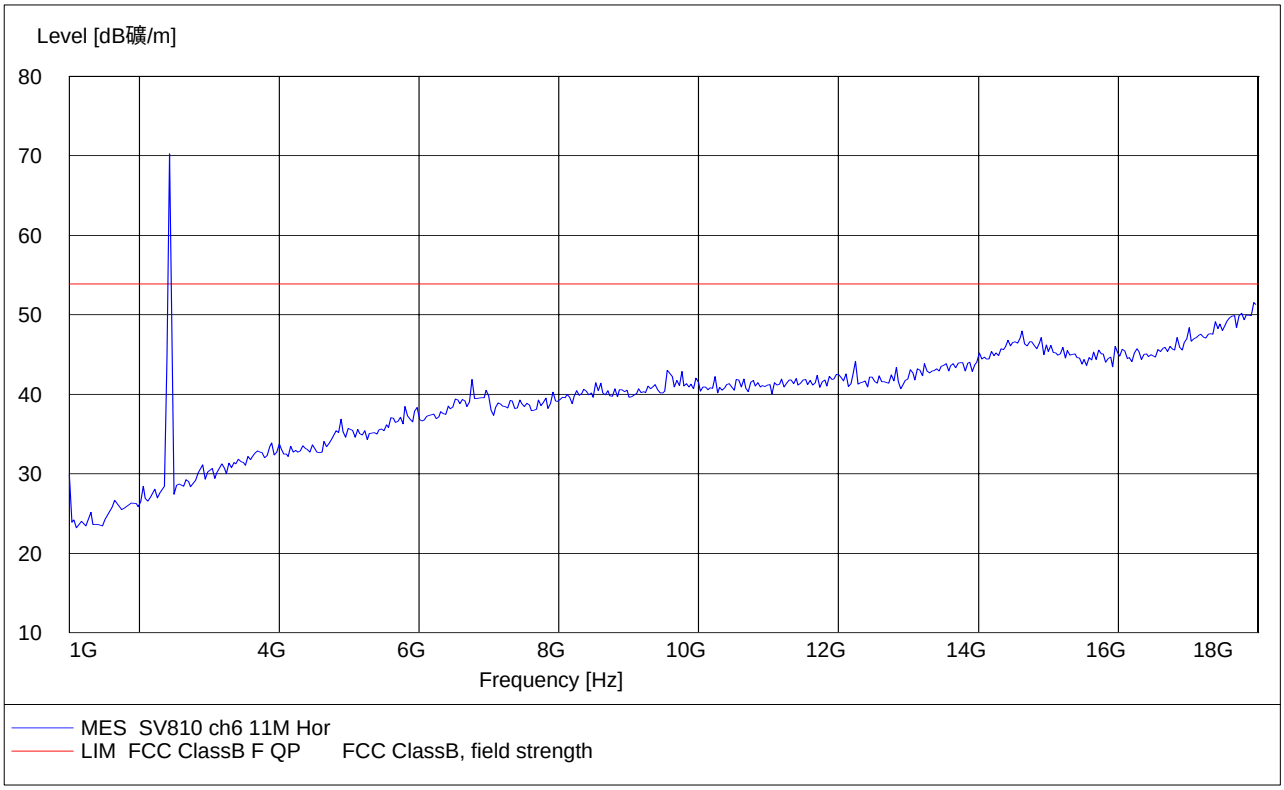
CH01 at 1Mbps: Horizontal



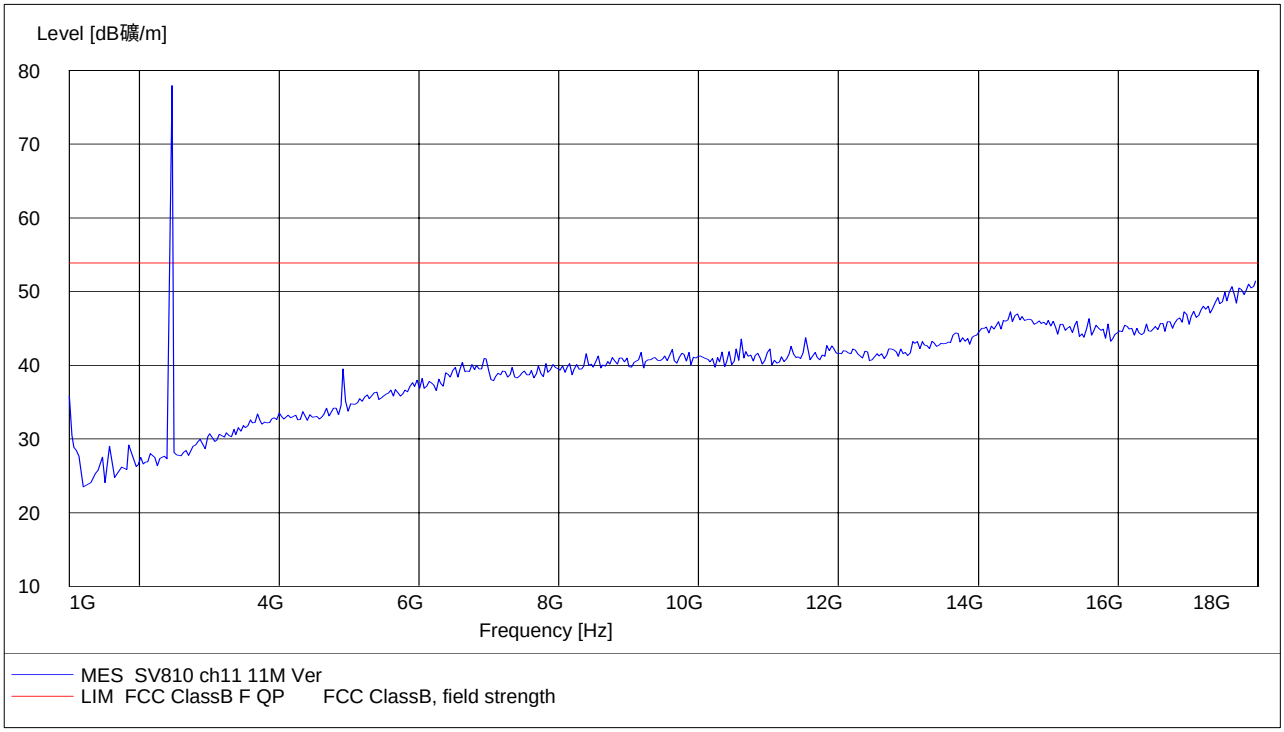
CH06 at 11Mbps: Vertical



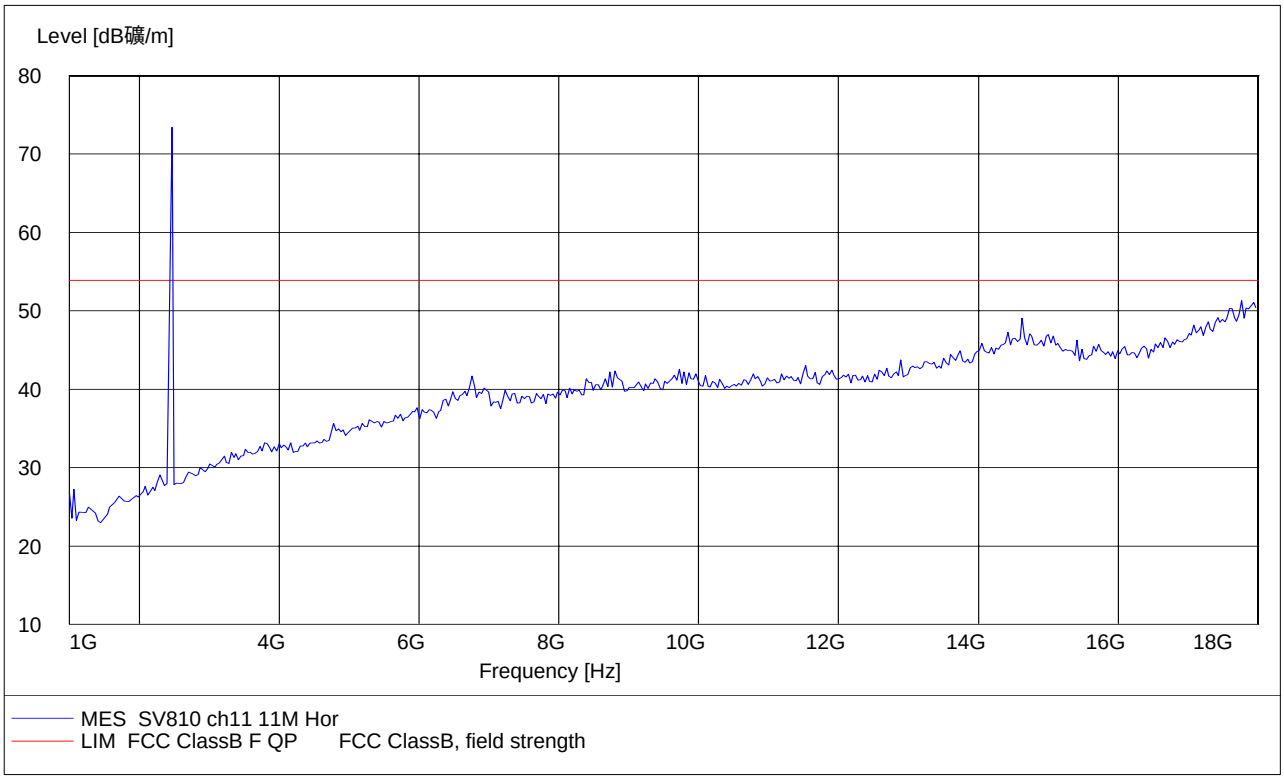
CH06 at 11Mbps: Horizontal



CH11 at 11Mbps: Vertical

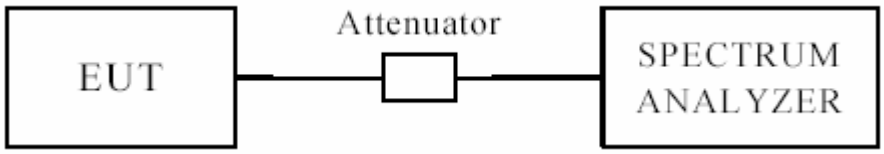


CH11 at 11Mbps: Horizontal



7.0 6dB Bandwidth Measurement

7.1 Test Setup



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.

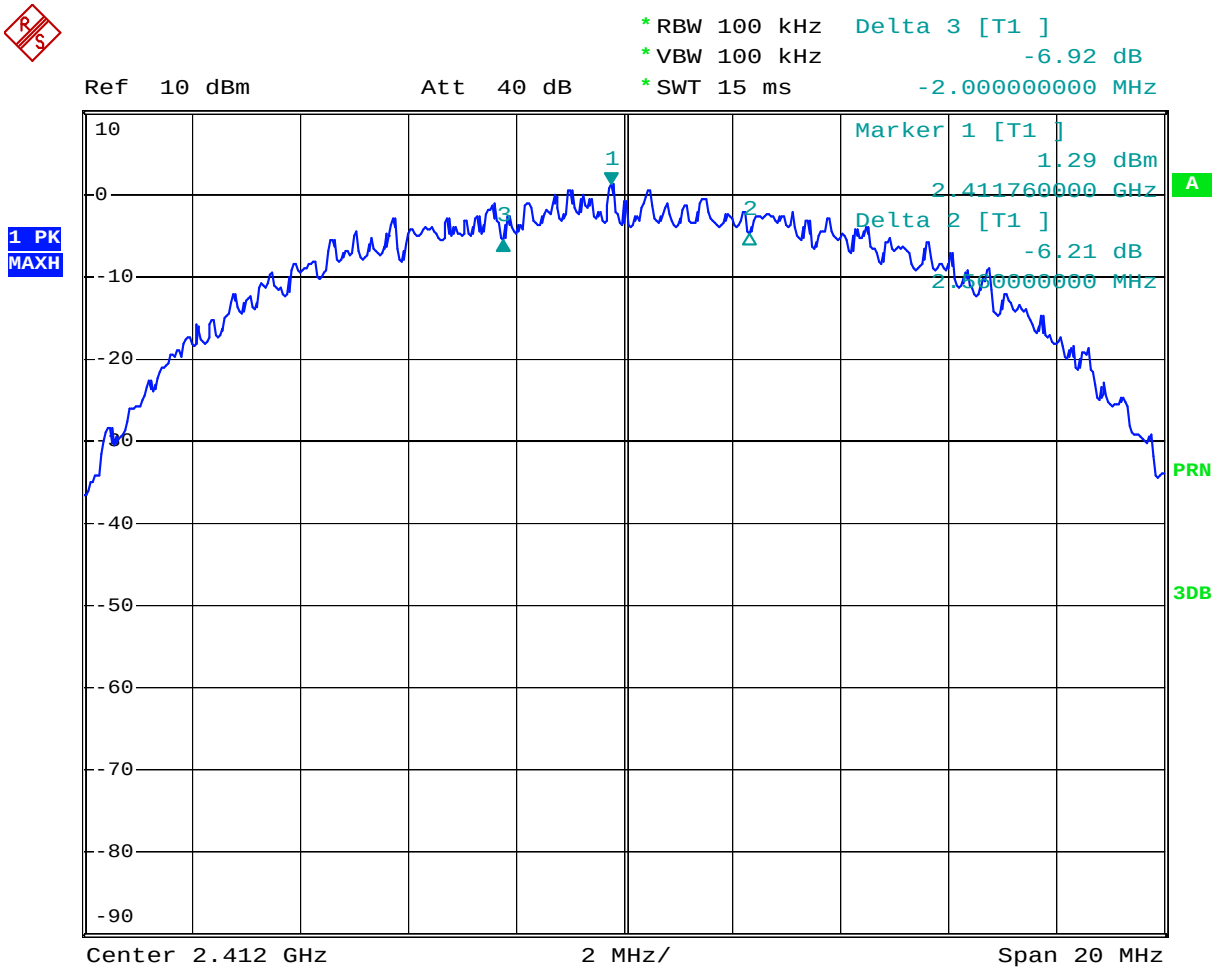
7.4 Test Result

EUT	Digital Picture Frame	Model	EX1011
Mode	802.11b	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
1	2412	1	8.28	0.5	Pass
		11	4.56		
6	2437	1	8.32	0.5	Pass
		11	4.60		
11	2462	1	8.28	0.5	Pass
		11	4.56		

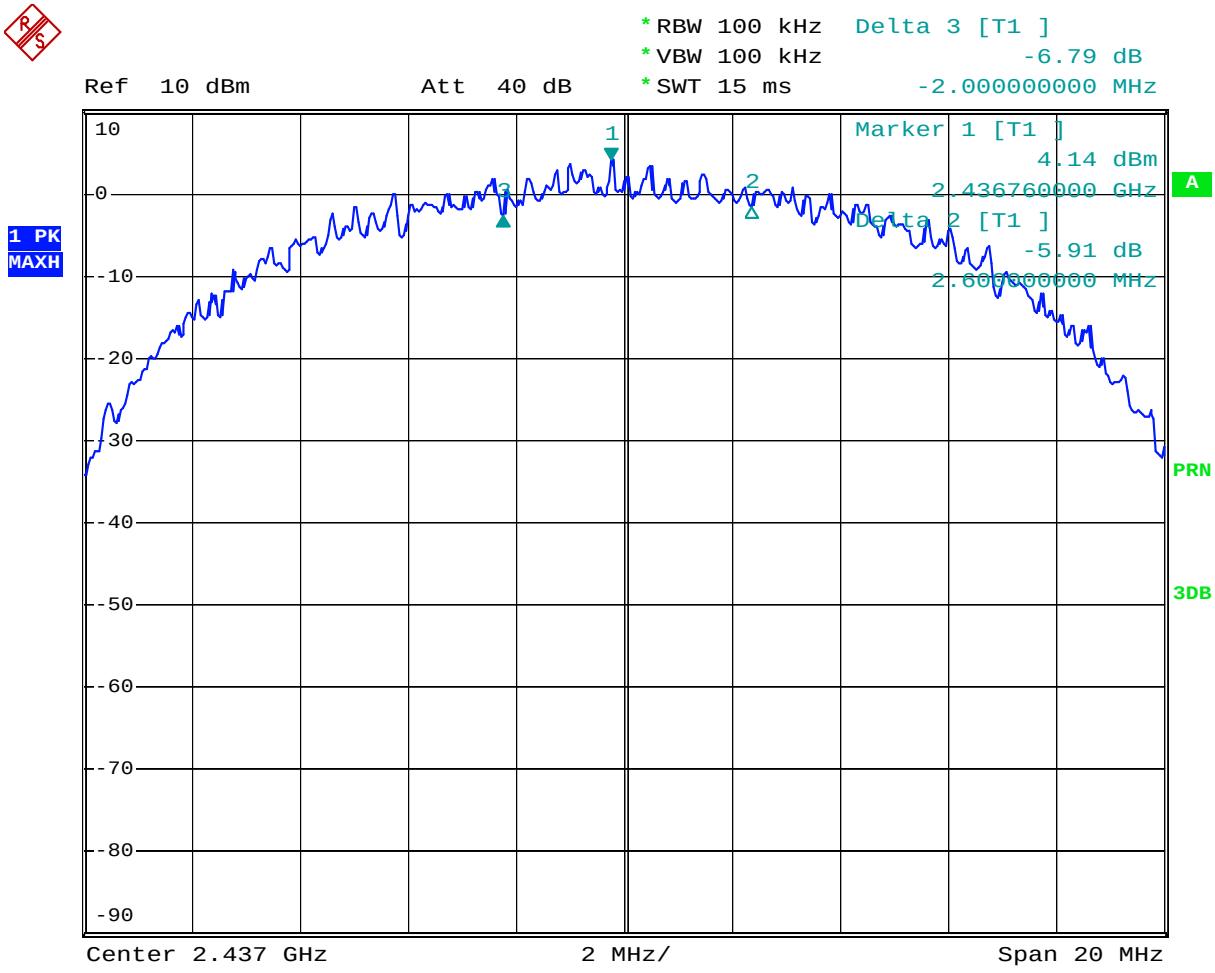
Test Figure:

1. Condition: 802.11b at 11Mbps of CH01



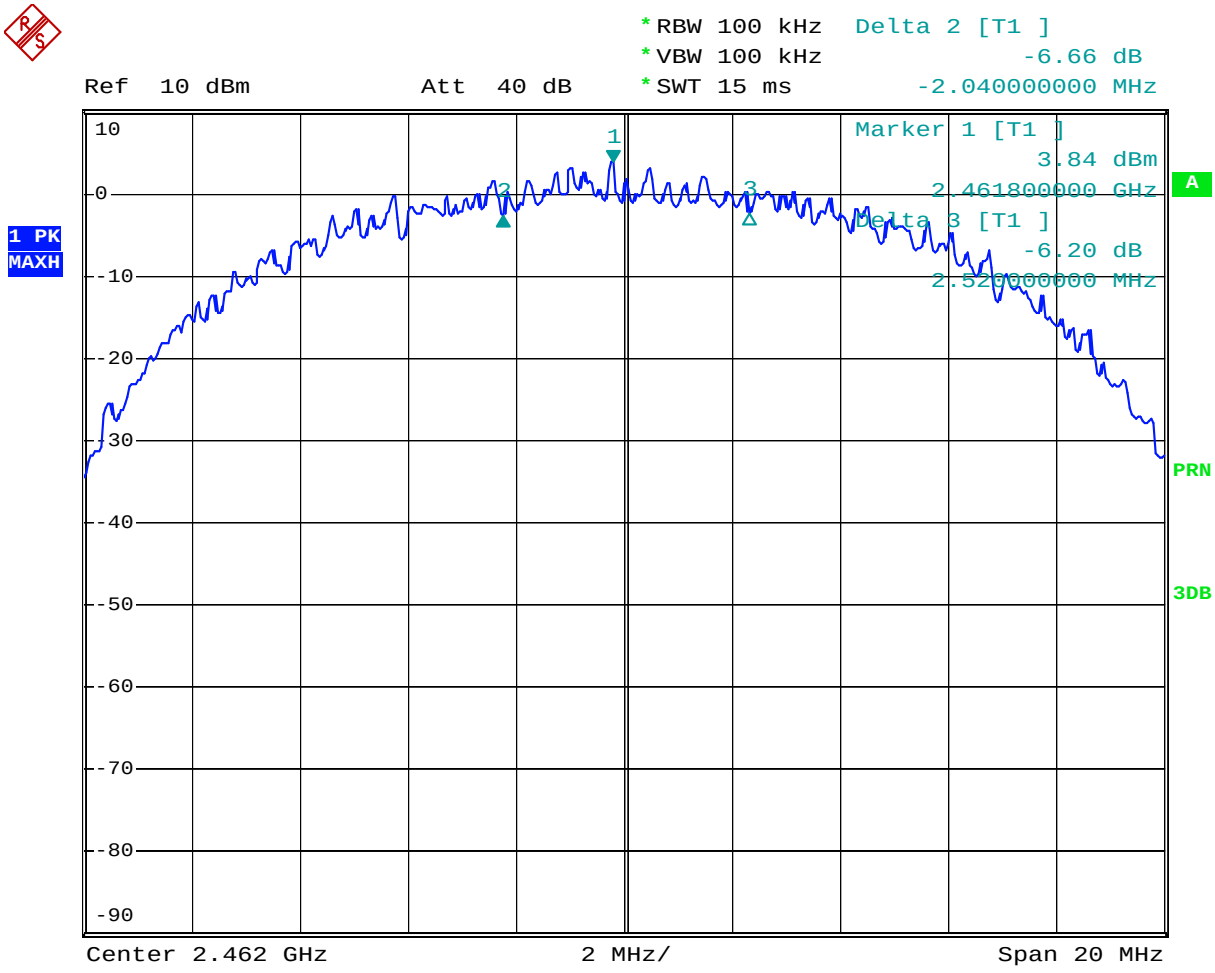
Date: 1.FEB.2007 16:28:19

2. Condition: 802.11b at 11Mbps of CH06



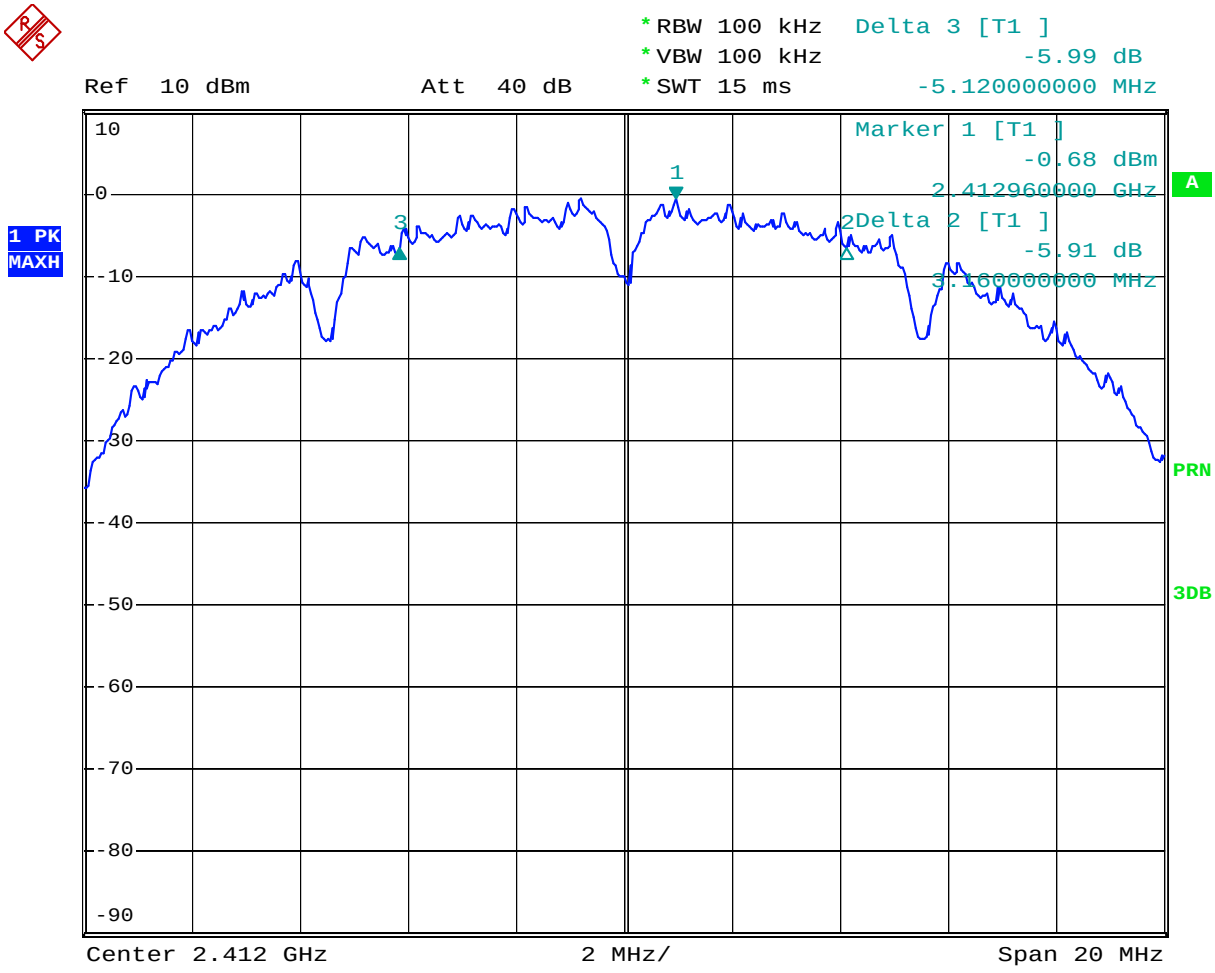
Date: 1.FEB.2007 16:35:04

3. 802.11b at 11Mbps of CH11



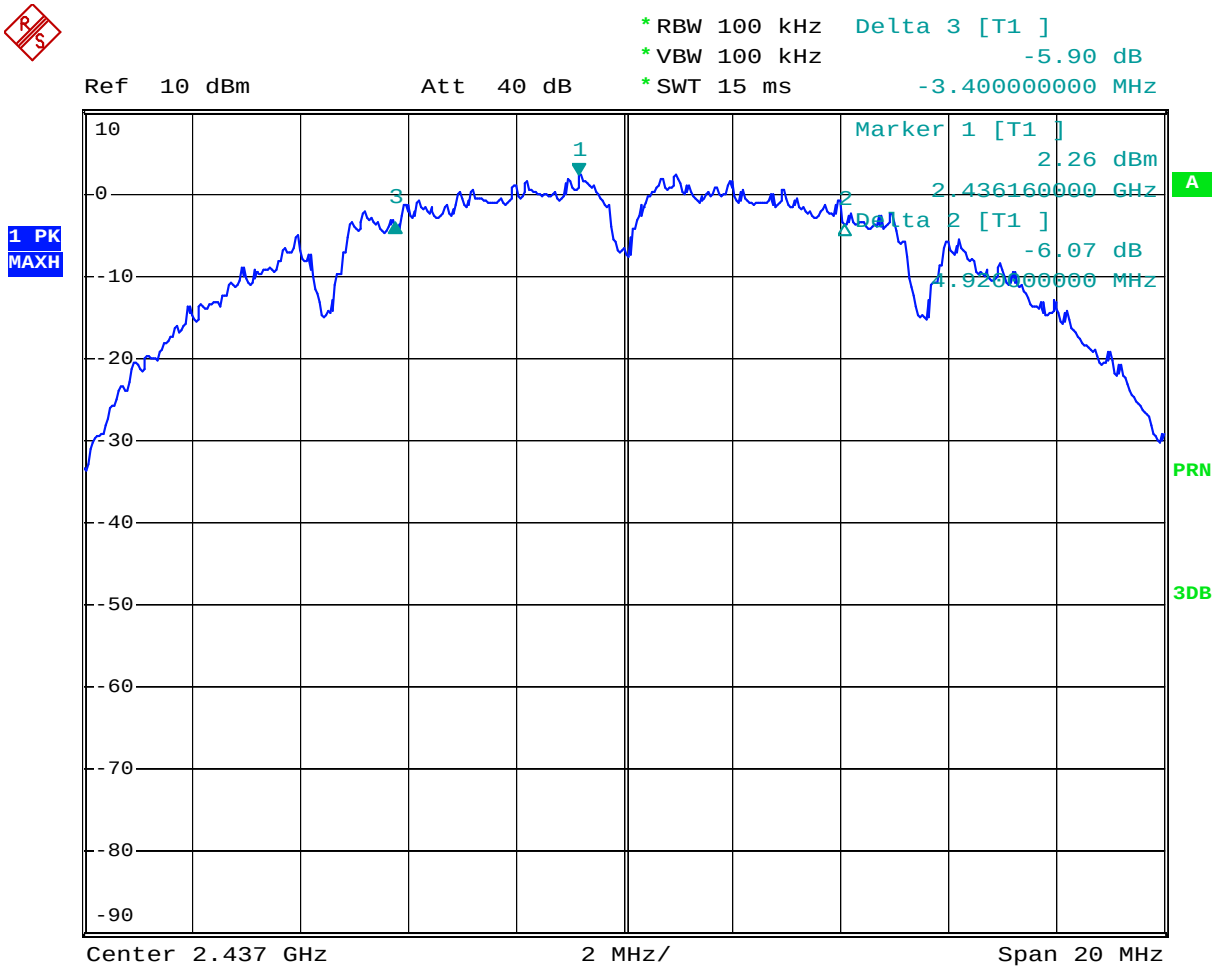
Date: 1.FEB.2007 16:37:05

4. 802.11b at 1Mbps of CH01



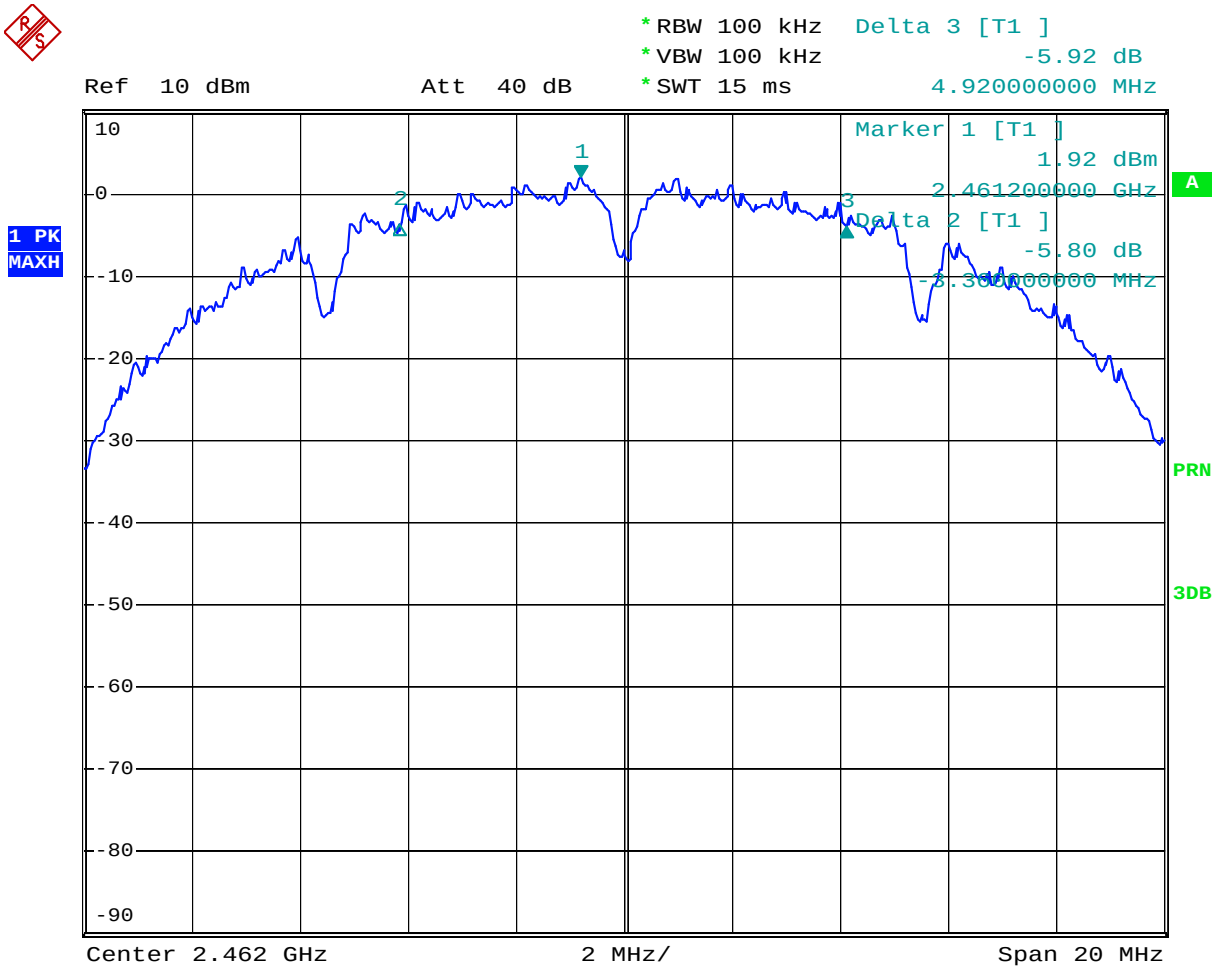
Date: 1.FEB.2007 16:30:22

5. 802.11b at 1Mbps of CH06



Date: 1.FEB.2007 16:33:13

6. 802.11b at 1Mbps of CH11



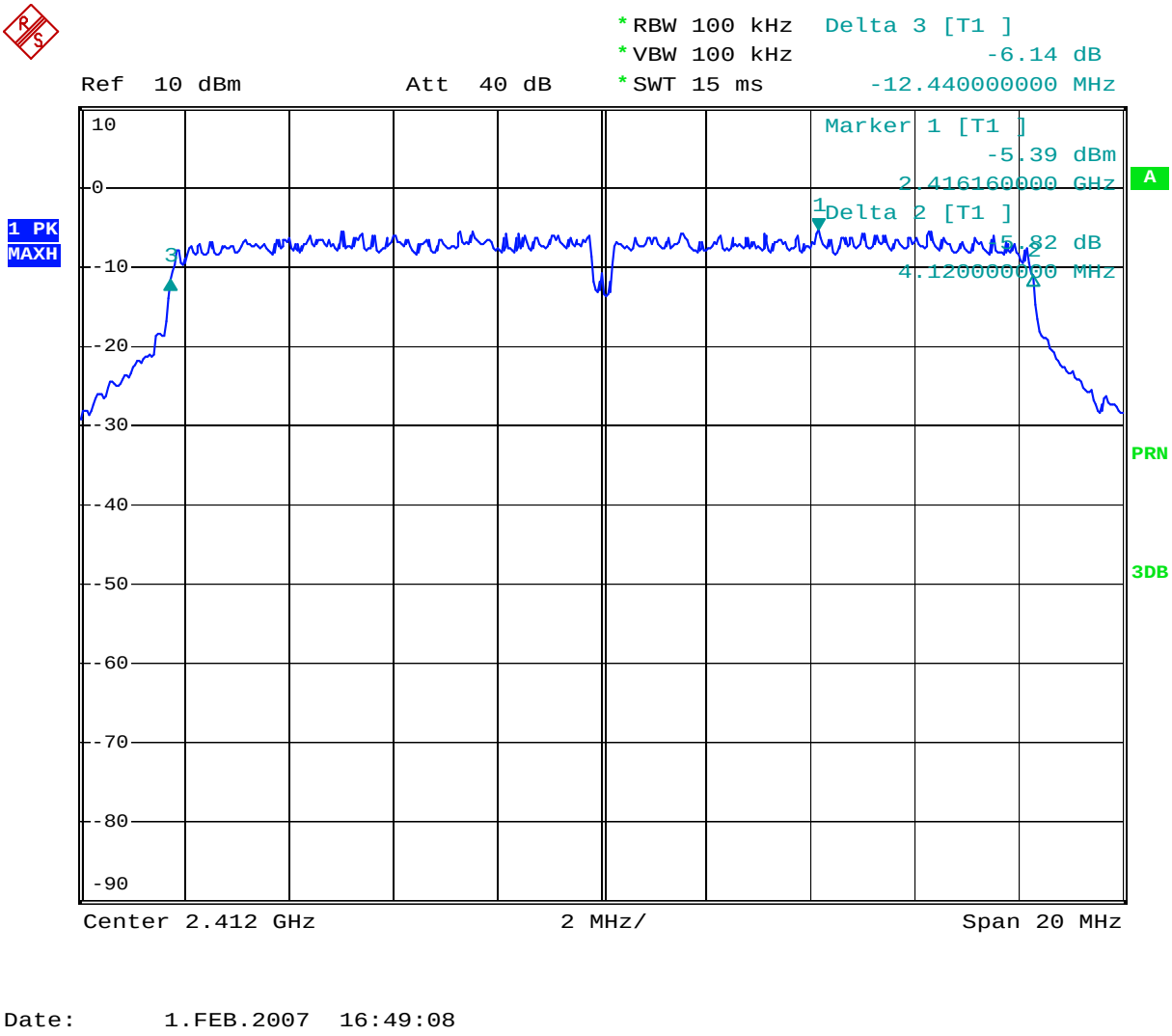
Date: 1.FEB.2007 16:38:27

EUT	Digital Picture Frame	Model	EX811
Mode	802.11g	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

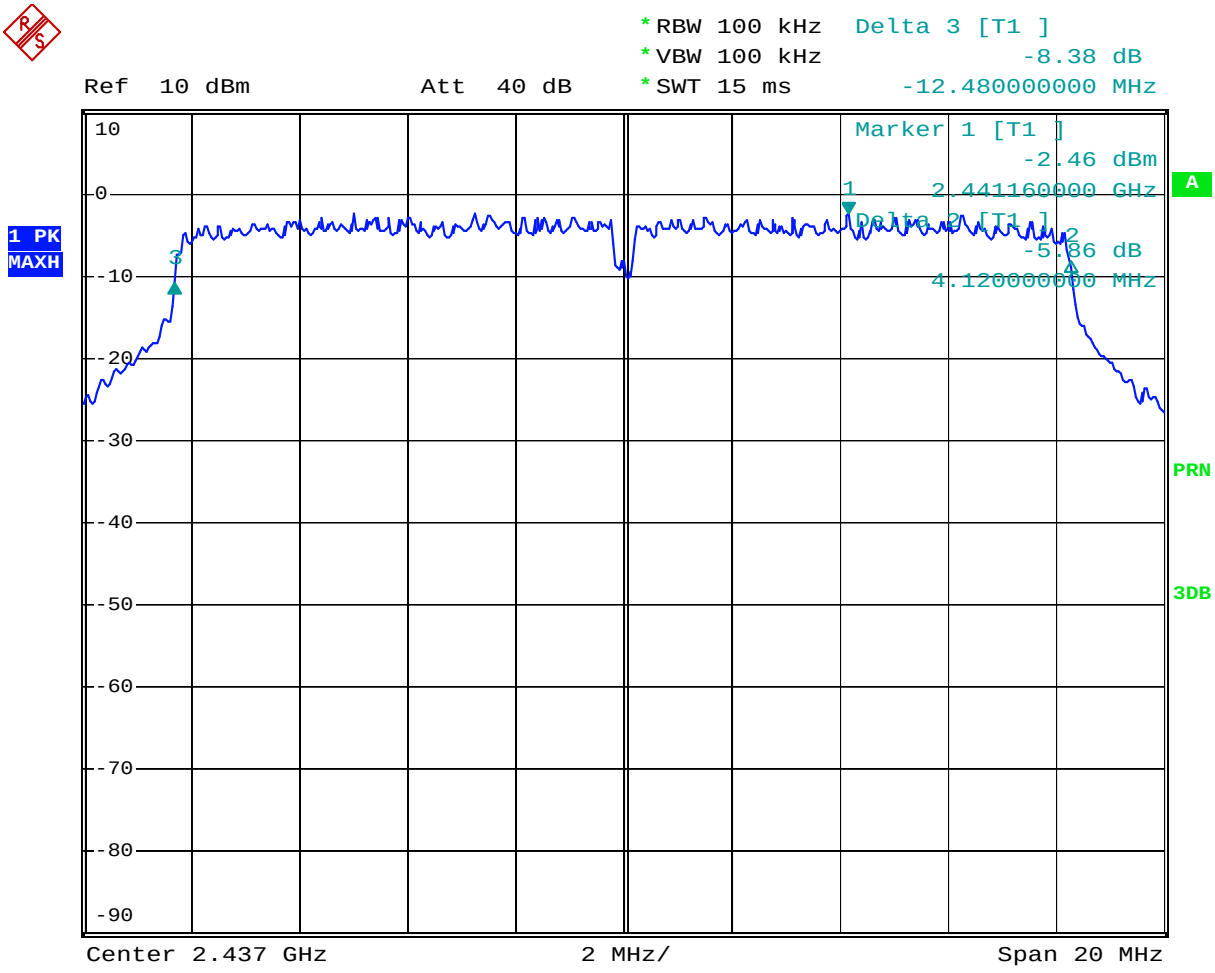
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
1	2412	6	16.56	0.5	Pass
		54	16.60		
6	2437	6	16.60	0.5	Pass
		54	16.60		
11	2462	6	16.56	0.5	Pass
		54	16.52		

Test Plots:

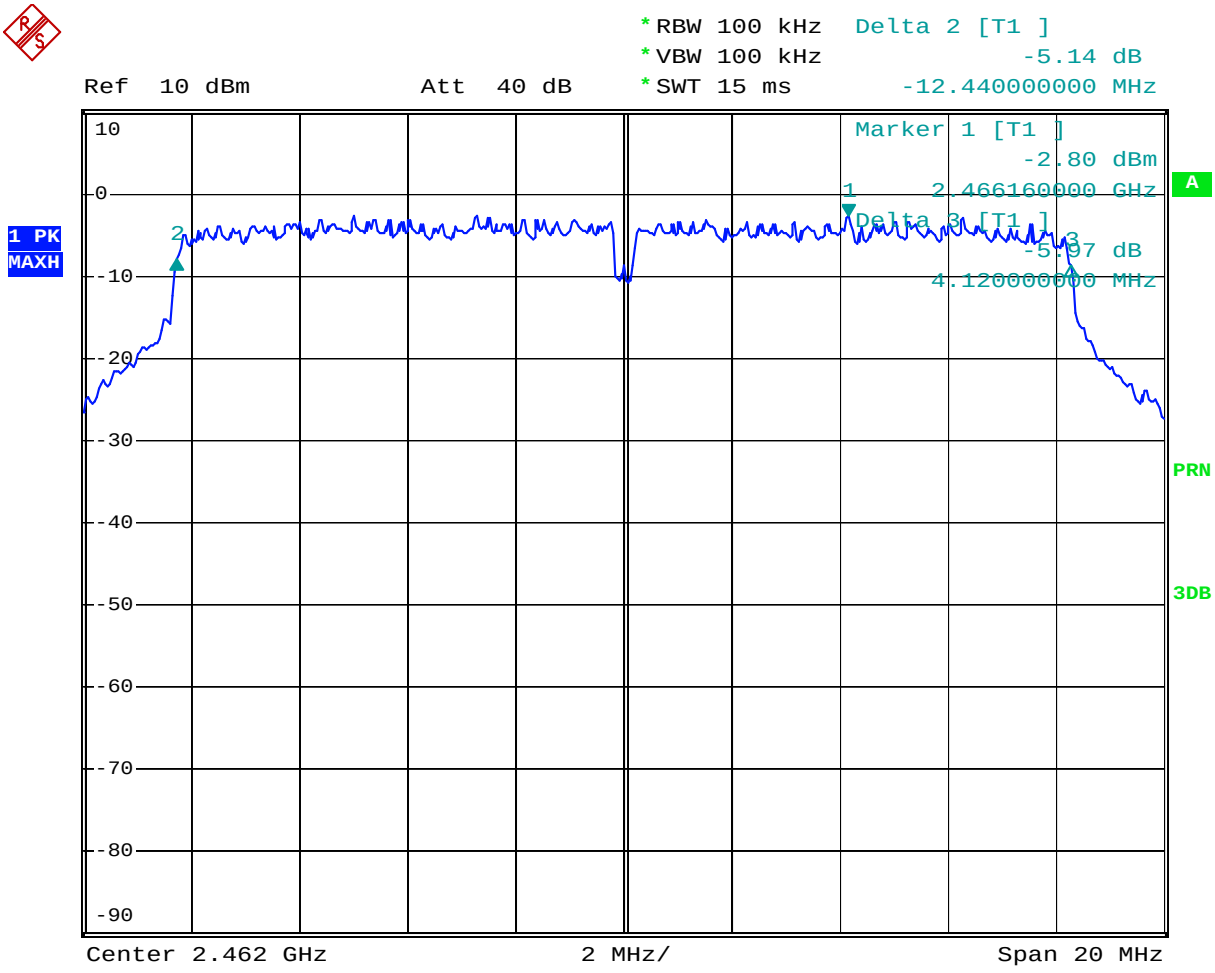
1. 802.11g at 6Mbps of CH01



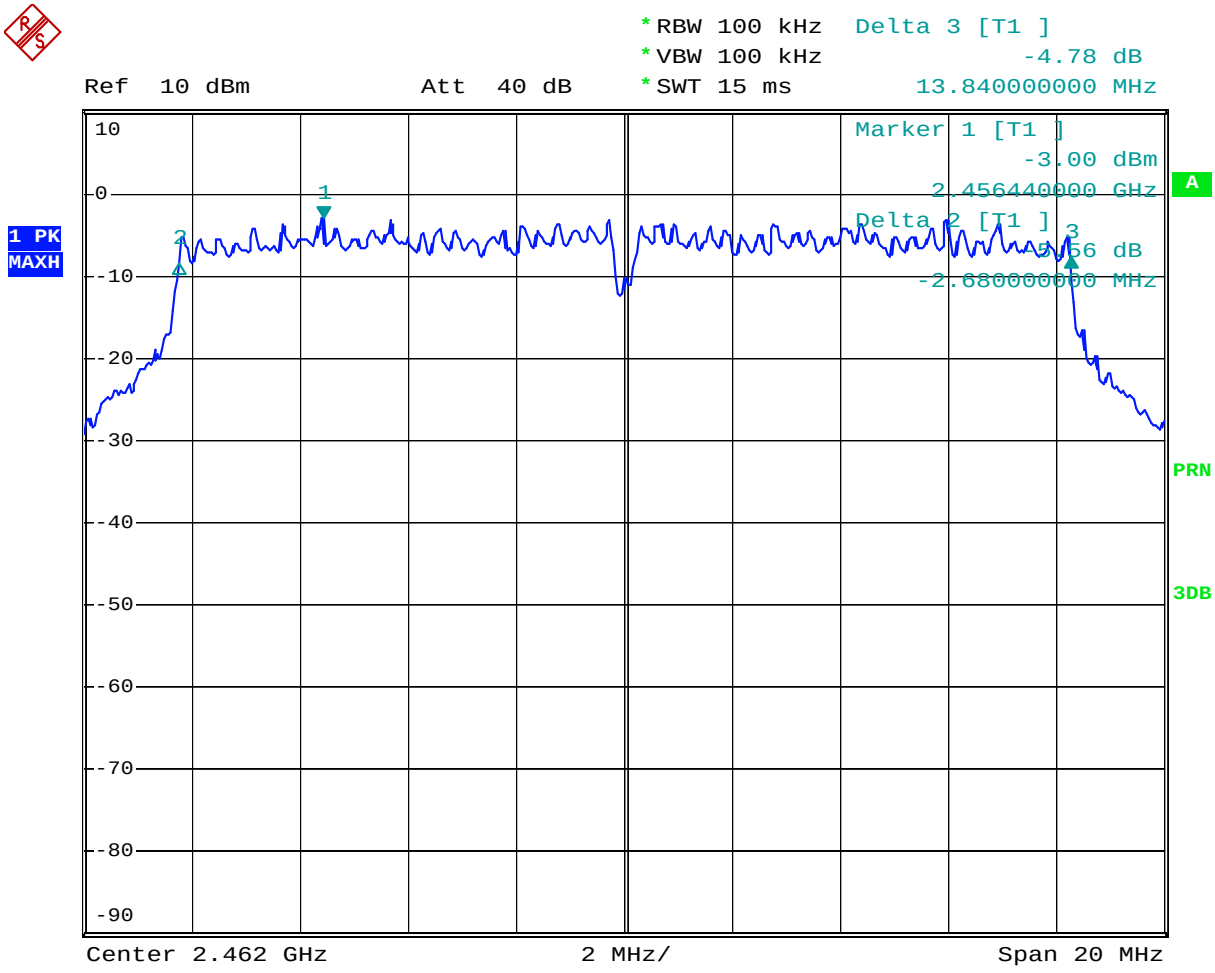
2. 802.11g at 6Mbps of CH06



3. 802.11g at 6Mbps of CH11

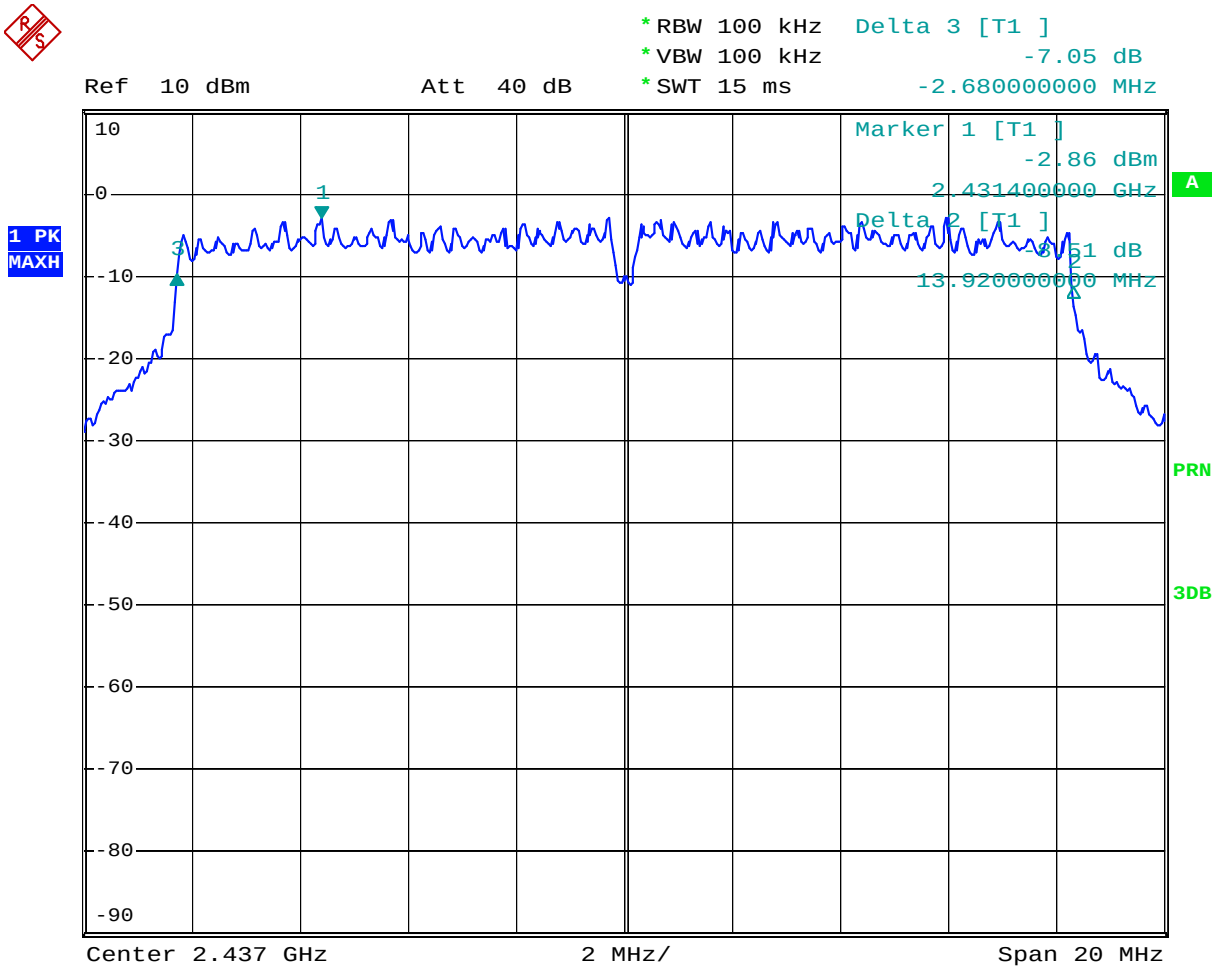


4. 802.11g at 54Mbps of CH11



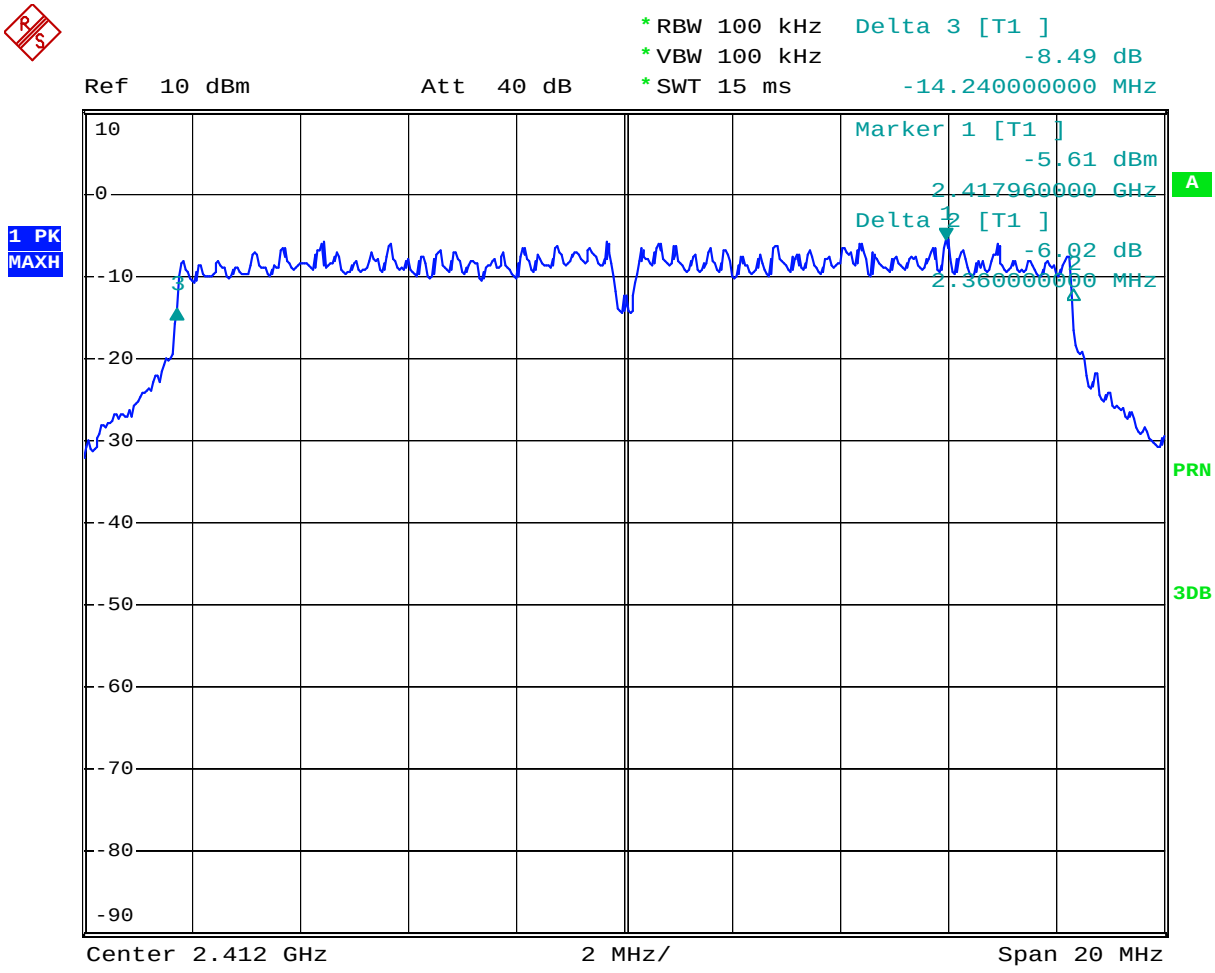
Date: 1.FEB.2007 16:42:13

5. 802.11g at 54Mbps of CH06



Date: 1.FEB.2007 16:45:30

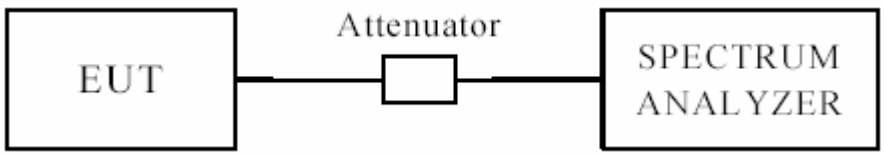
6. 802.11g at 54Mbps of CH01



Date: 1.FEB.2007 16:54:18

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.

8.4Test Results

EUT	Digital Picture Frame	Model	EX1011
Mode	802.11b	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass/ Fail
1	2412	11.56	30	Pass
6	2437	16.98	30	Pass
11	2462	16.53	30	Pass

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

2. The result basic equation calculation as follow:

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

EUT	Digital Picture Frame	Model	EX1011
Mode	802.11g	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass/ Fail
1	2412	14.02	30	Pass
6	2437	19.86	30	Pass
11	2462	19.16	30	Pass

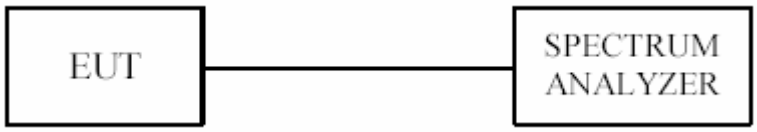
Note: 1. At finial test to get the worst-case emission at 9Mbps for CH06 and CH11; 24Mbps for CH01

2. The result basic equation calculation as follow:

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

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=100000.00ms

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.

9.4Test Result

EUT	Digital Picture Frame	Model	EX1011
Mode	802.11b	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Final RF Power Level in 3kHz BW (dBm)	Maximum Limit (dBm)	Pass/ Fail
1	2412	-13.03	8	Pass
6	2437	-9.62	8	Pass
11	2462	-10.12	8	Pass

Note: For 802.11b mode at finial test to get the worst-case emission at 1Mbps for CH11，CH06 and CH01

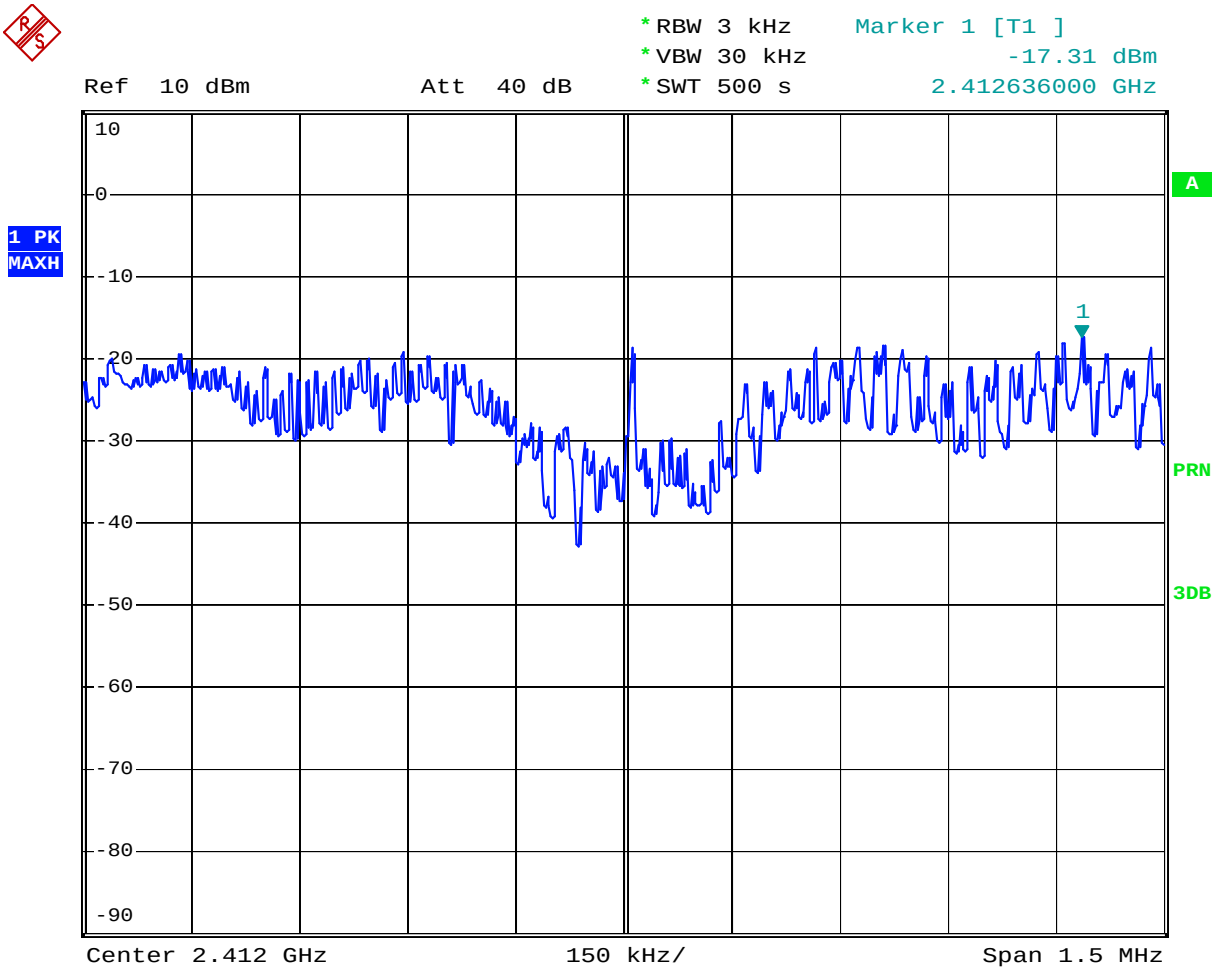
EUT	Digital Picture Frame	Model	EX1011
Mode	802.11g	Input Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Final RF Power Level in 3kHz BW (dBm)	Maximum Limit (dBm)	Pass/ Fail
1	2412	-17.31	8	Pass
6	2437	-13.94	8	Pass
11	2462	-14.46	8	Pass

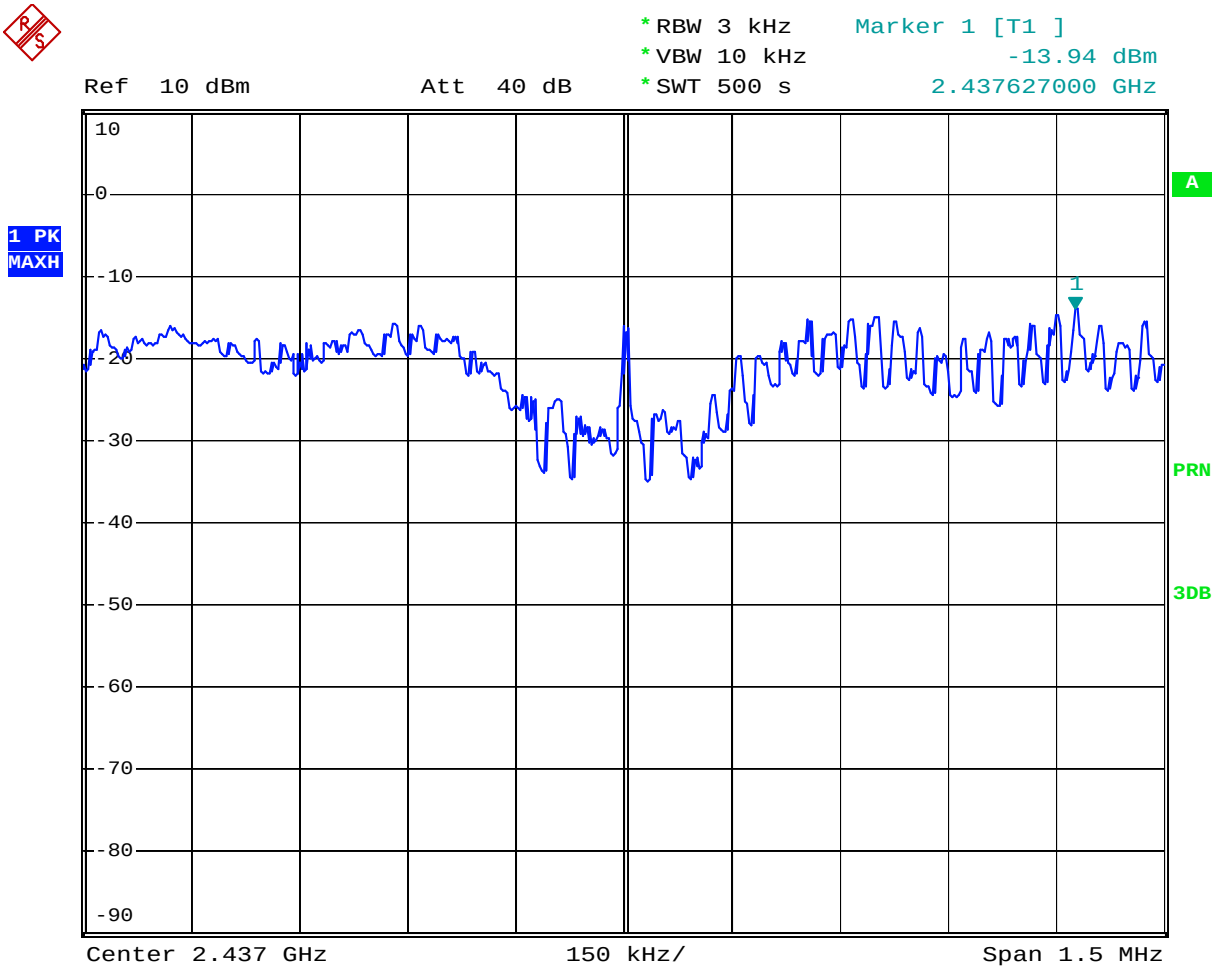
Note: For 802.11g mode at finial test to get the worst-case emission at 24Mbps for CH11，CH06 and CH01

9.5Photo of Power Spectral Density Measurement

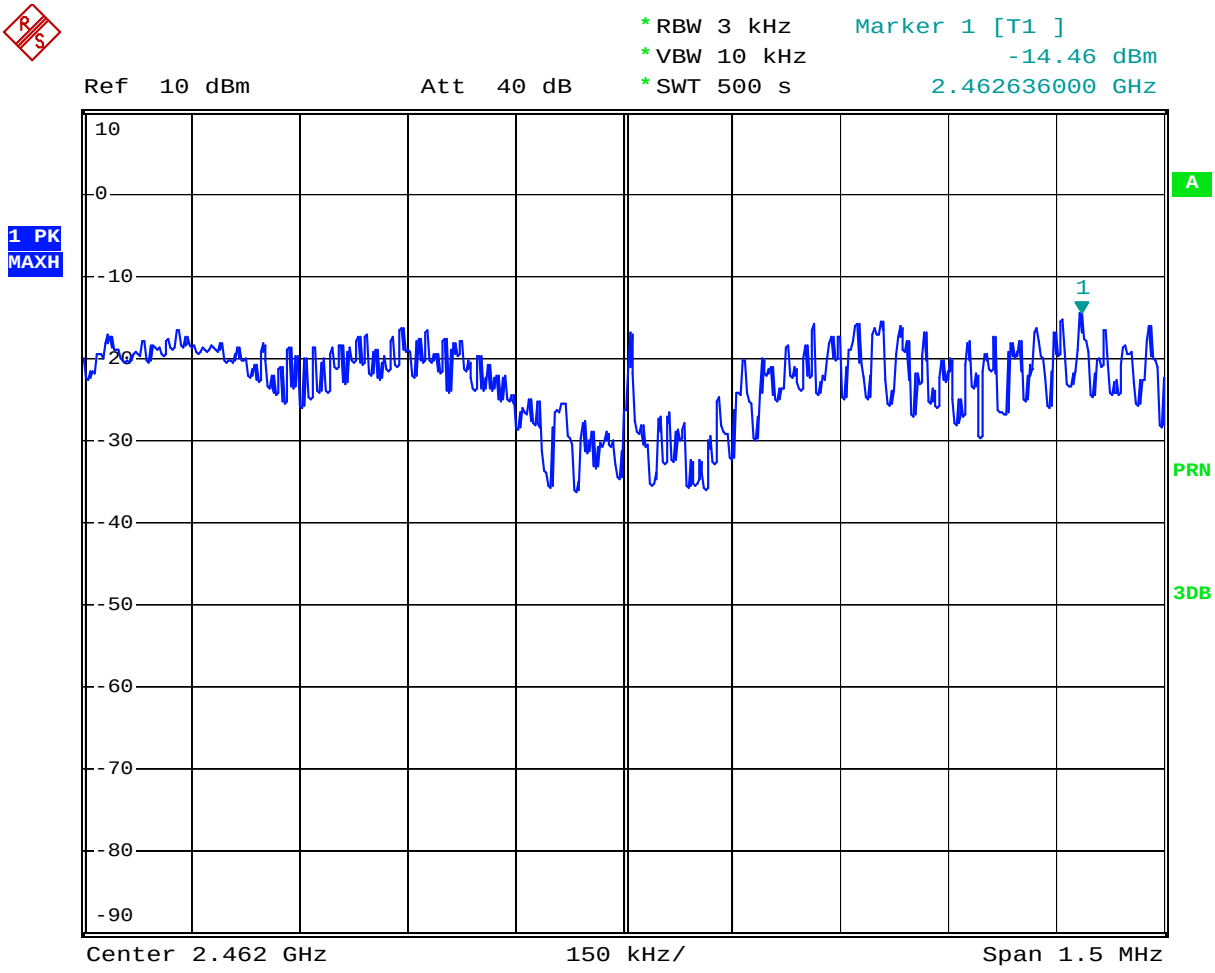
1.802.11g at 24Mbps of CH01



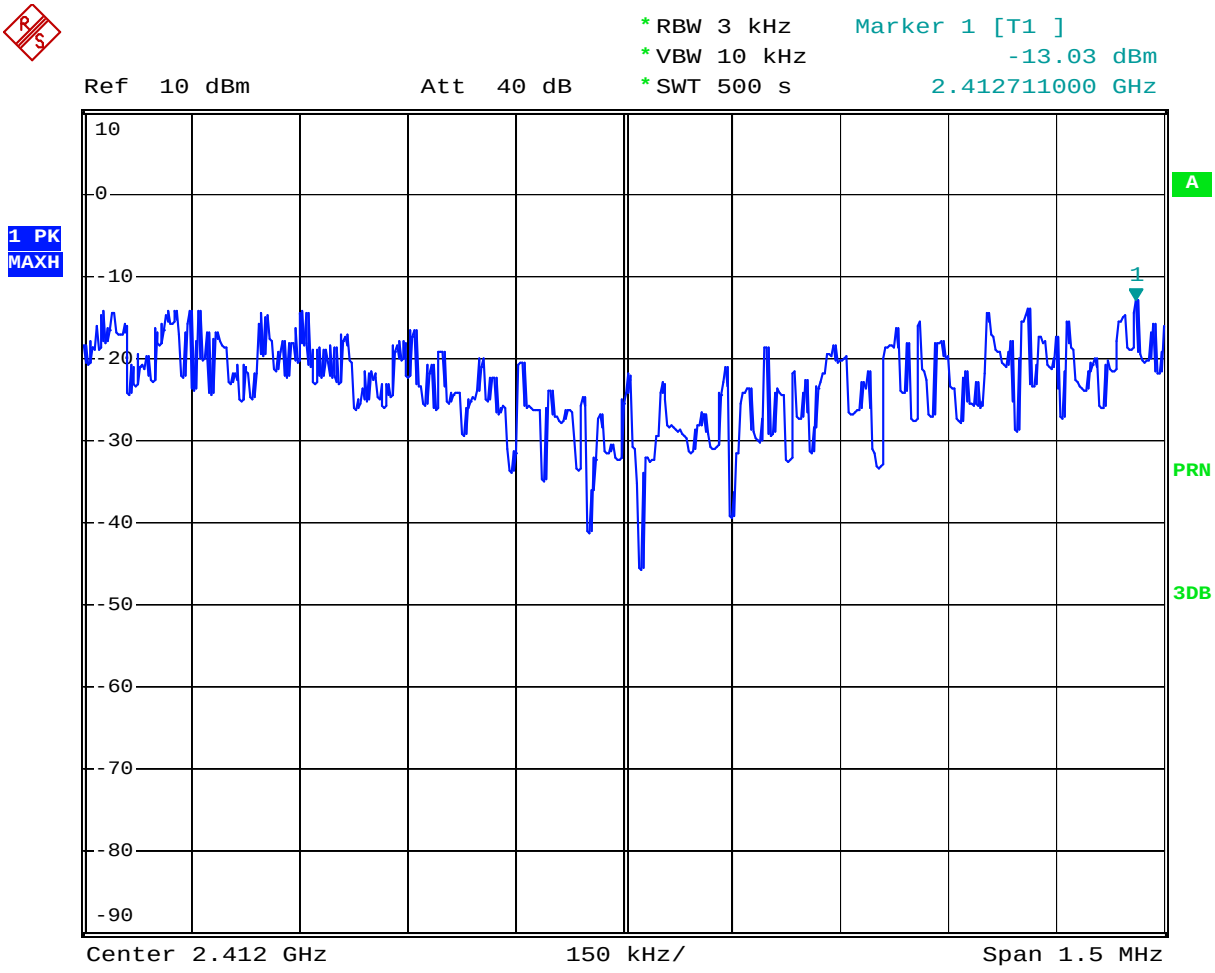
2. 802.11g at 24Mbps at CH06



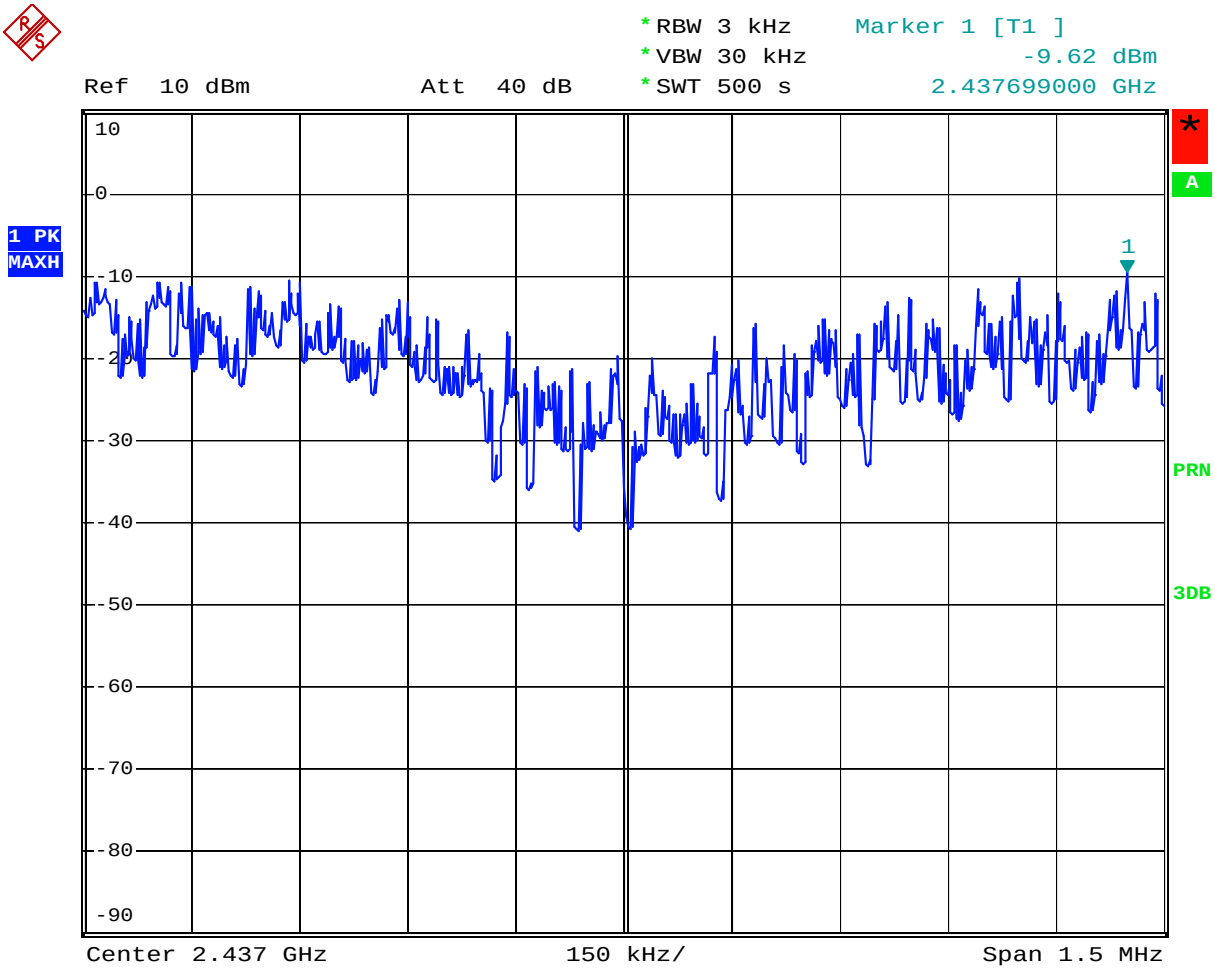
3. 802.11g at 24Mbps of CH11



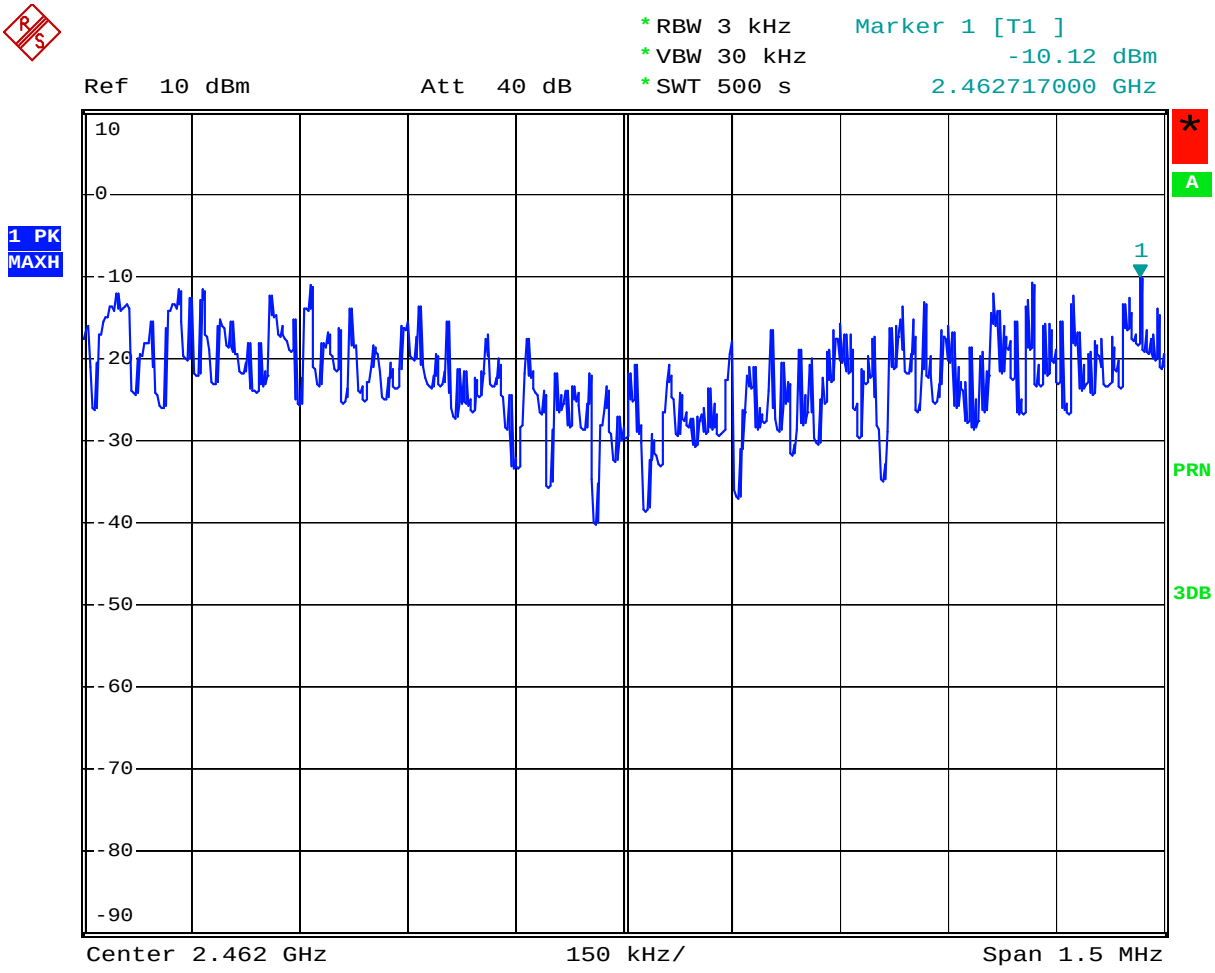
4. 802.11b at 1Mbps of CH01



5. 802.11b at 1Mbps of CH06

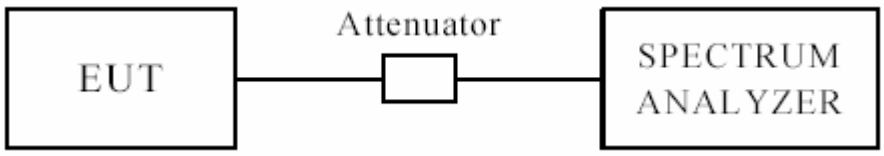


6. 802.11b at 1Mbps of CH11



10 Out of Band Measurement

10.1 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 the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

10.4Test Result

For 802.11b mode

CH01 at 11Mbps

Note (Peak)

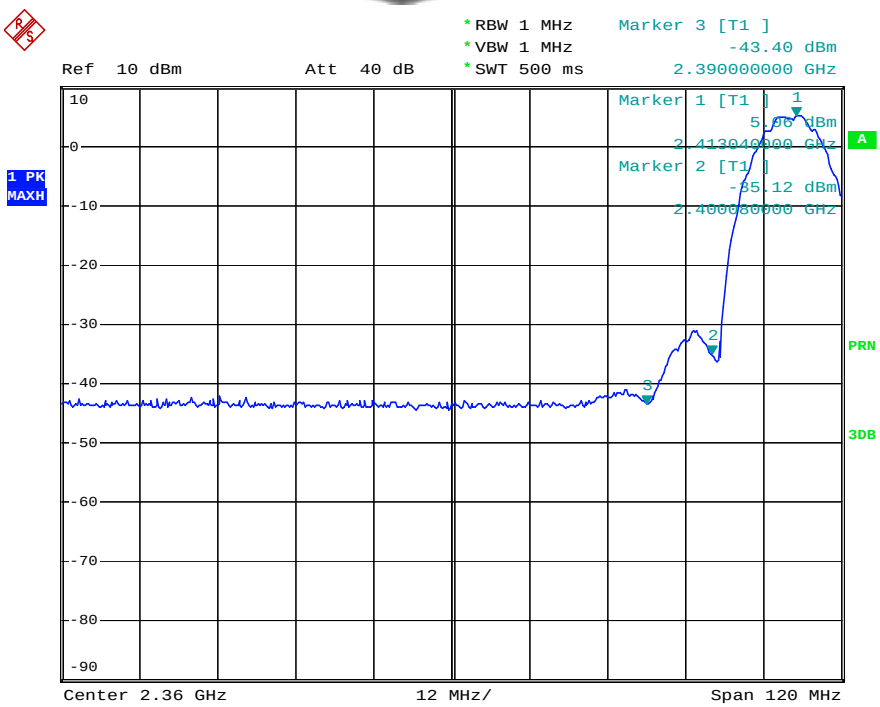
The band edge emission plot on the following first page shows 40.18dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 80.1dBuV/m (Peak), so the maximum field strength in restrict band is 80.1-40.18=39.92dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the following first page shows44.02dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 80.1dBuV/m (Peak), so the maximum field strength in restrict band is 80.1-44.02=36.08dBuV/m which is under 74dBuV/m limit.

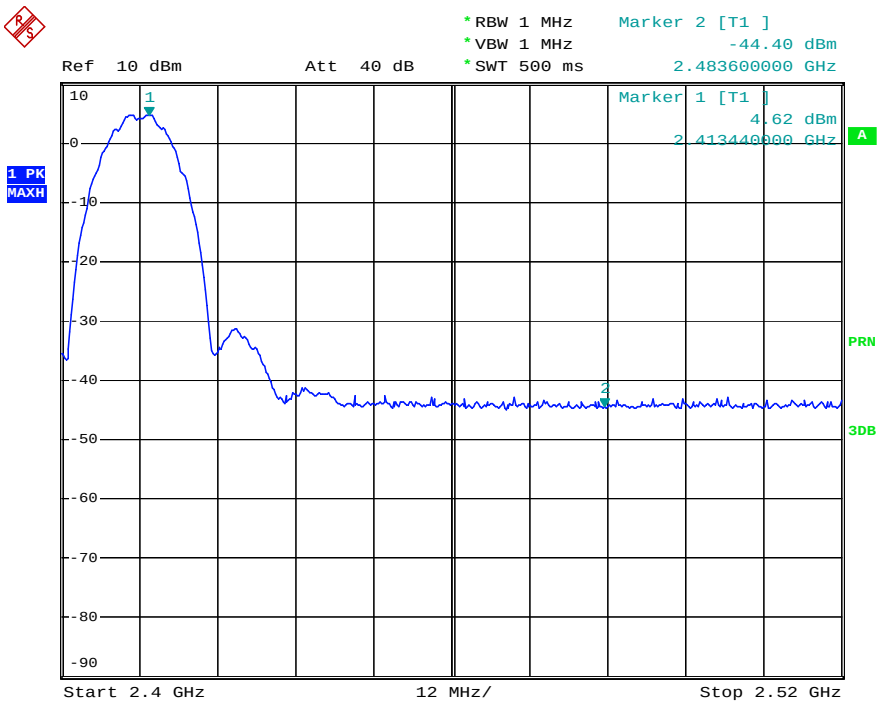
Note (Average):

The band edge emission plot on the following second page shows 42.8dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 73.0dBuV/m (Average), so the maximum field strength in restrict band is 73.0-42.8=30.2dBuV/m which is under 54dBuV/m limit.

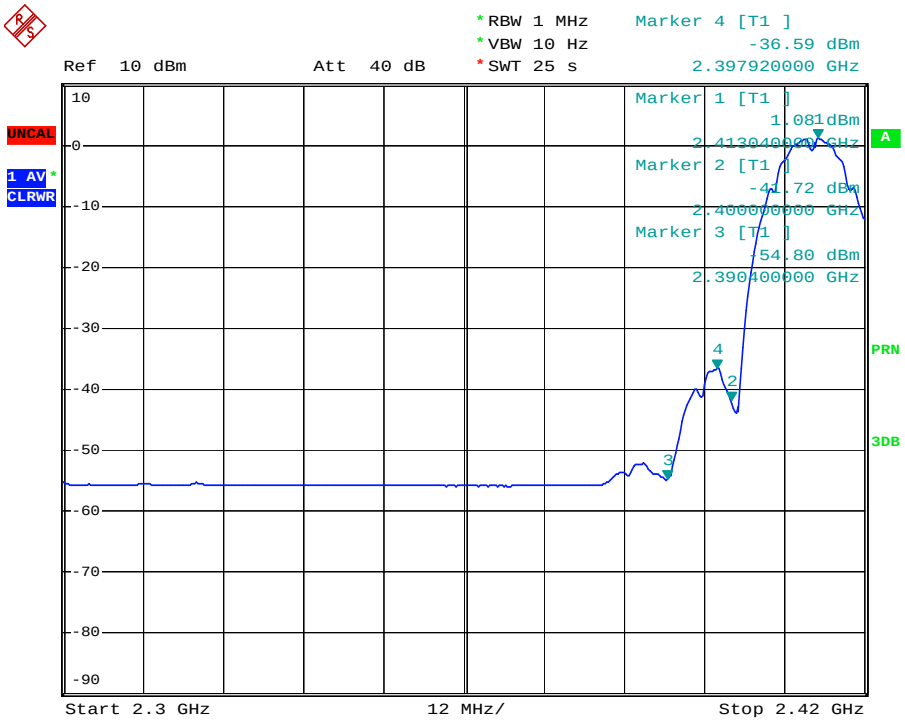
The band edge emission plot on the following second page shows 57.17dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 73.0dBuV/m (Average), so the maximum field strength in restrict band is 73.0-57.17=15.83dBuV/m which is under 54dBuV/m limit.



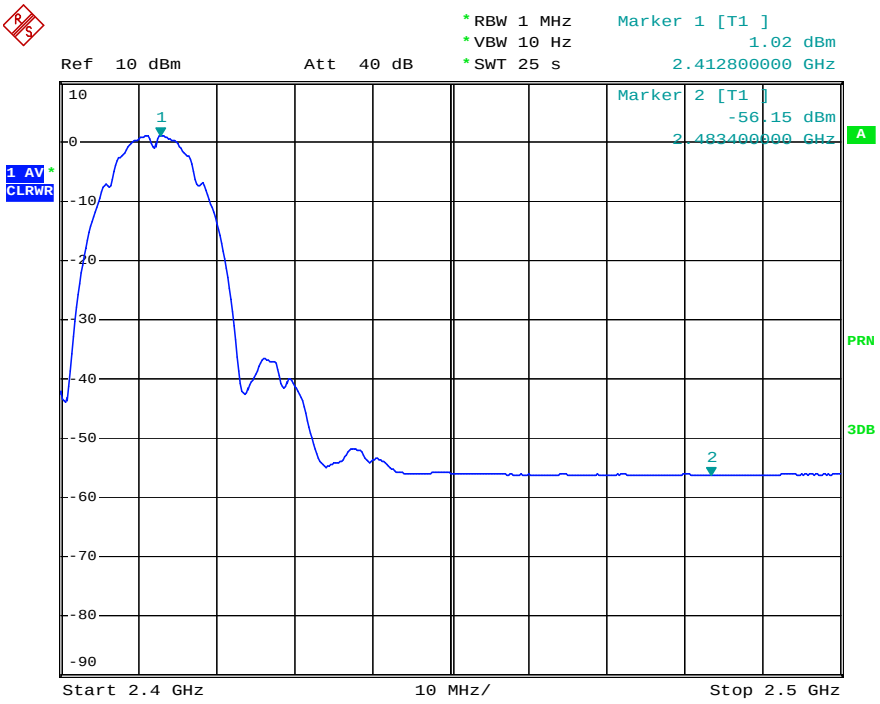
Date: 2.FEB.2007 17:02:52



Date: 2.FEB.2007 17:06:58



Date: 2.FEB.2007 18:54:46



Date: 2.FEB.2007 18:56:27

For 802.11b mode

CH11 at 11Mbps

Note (Peak)

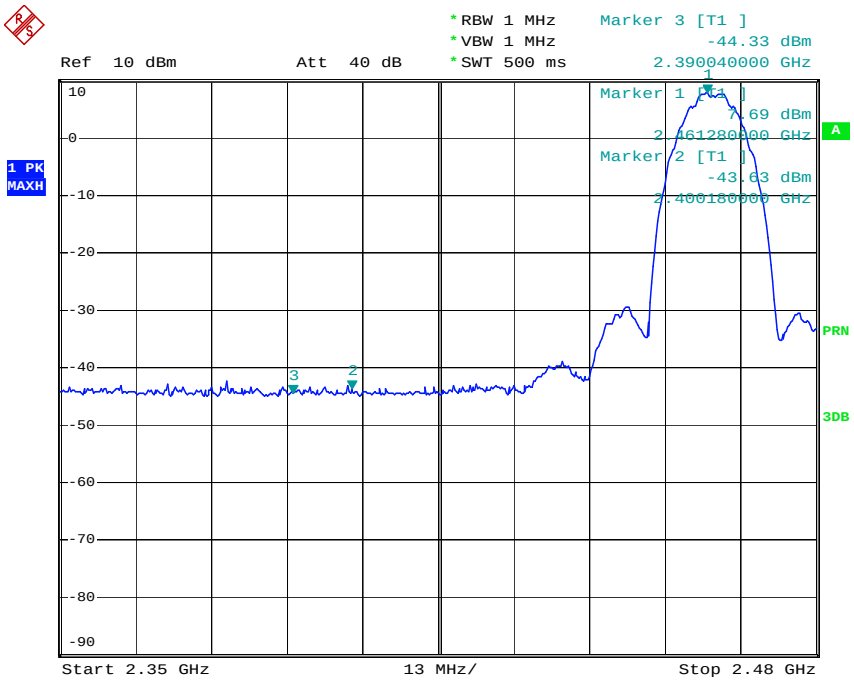
The band edge emission plot on the following first page shows 52.02dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 11 is 87.2dBuV/m (Peak), so the maximum field strength in restrict band is 87.2-52.02=35.18dBuV/m which is under 74dBuV/m limit.

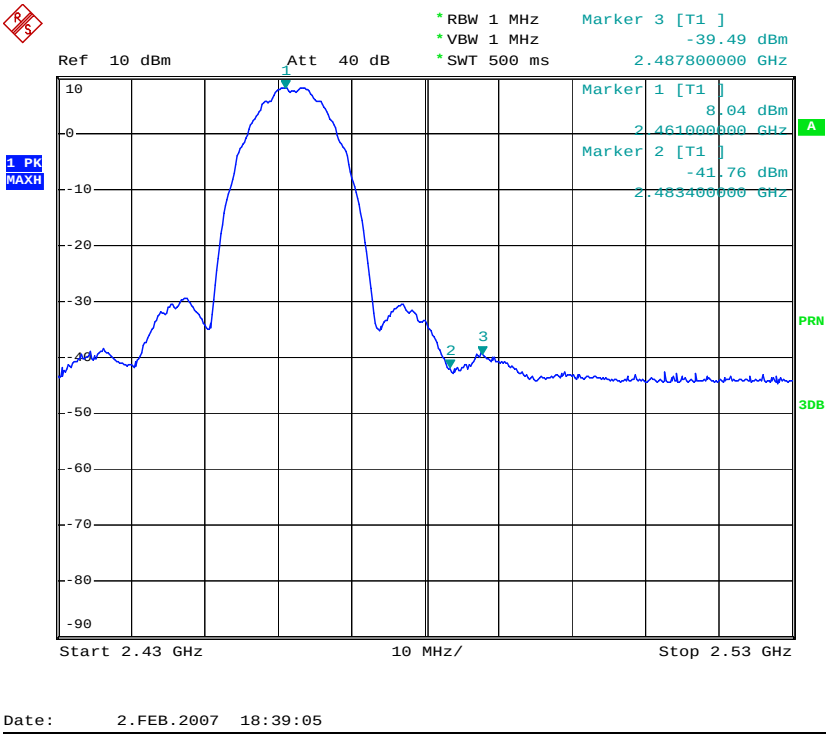
The band edge emission plot on the following first page shows 49.8dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 11 is 87.2dBuV/m (Peak), so the maximum field strength in restrict band is 87.2-49.8=37.4dBuV/m which is under 74dBuV/m limit.

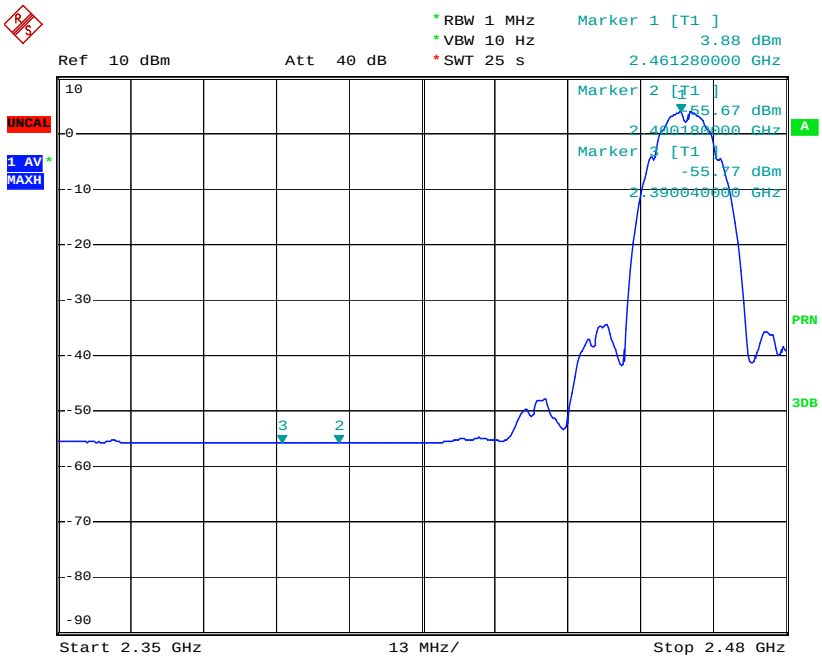
Note (Average):

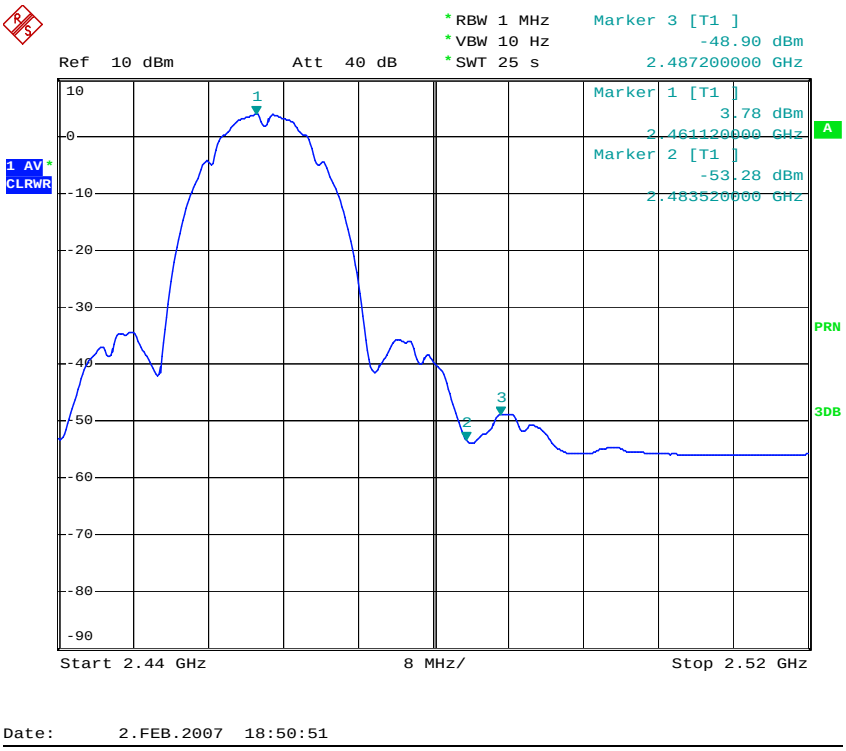
The band edge emission plot on the following second page shows 59.55dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 11 is 79.5dBuV/m (Average), so the maximum field strength in restrict band is 79.5-59.55=19.95dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following second page shows 51.87dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 11 is 79.5dBuV/m (Average), so the maximum field strength in restrict band is 79.5-57.06=22.14dBuV/m which is under 54dBuV/m limit.









For 802.11g mode

CH11 at 6Mbps

Note (Peak)

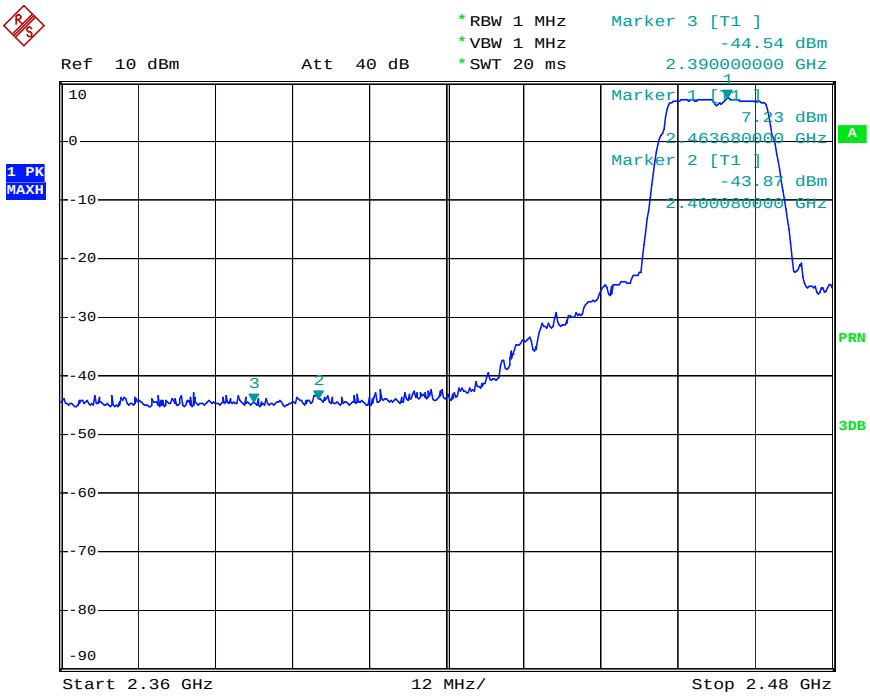
The band edge emission plot on the following first page shows 51.1dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 83.1dBuV/m (Peak), so the maximum field strength in restrict band is 83.1-51.1=32.0dBuV/m which is under 74dBuV/m limit.

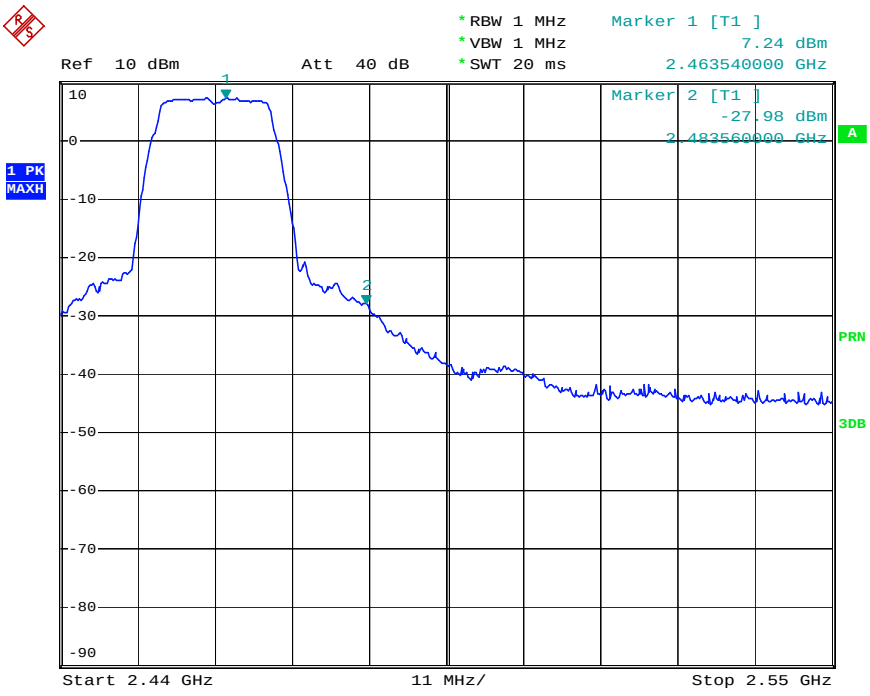
The band edge emission plot on the following first page shows 35.22dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 83.1dBuV/m (Peak), so the maximum field strength in restrict band is 83.1-35.22=47.88dBuV/m which is under 74dBuV/m limit.

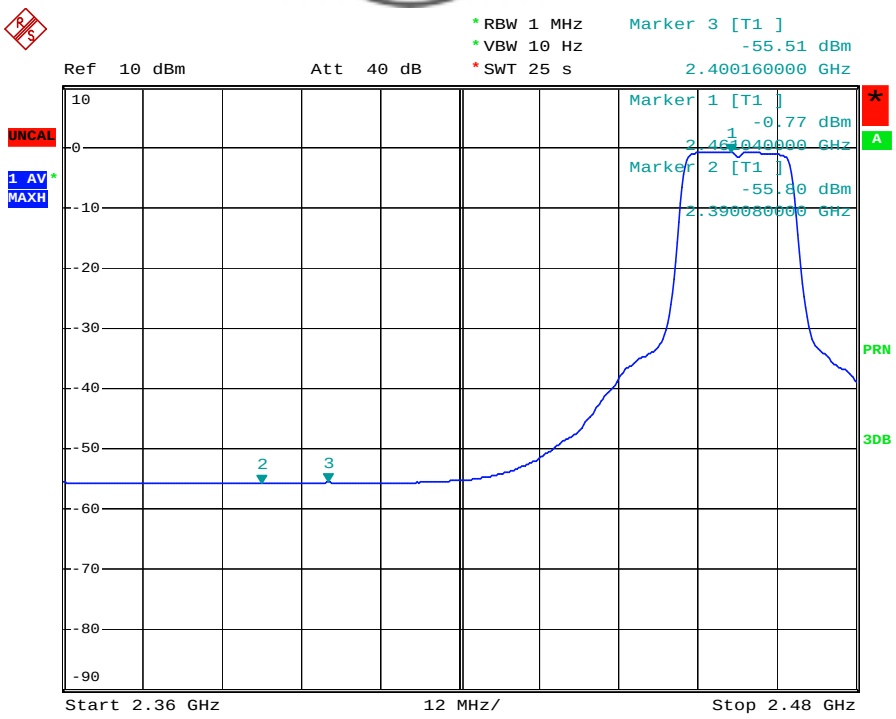
Note (Average):

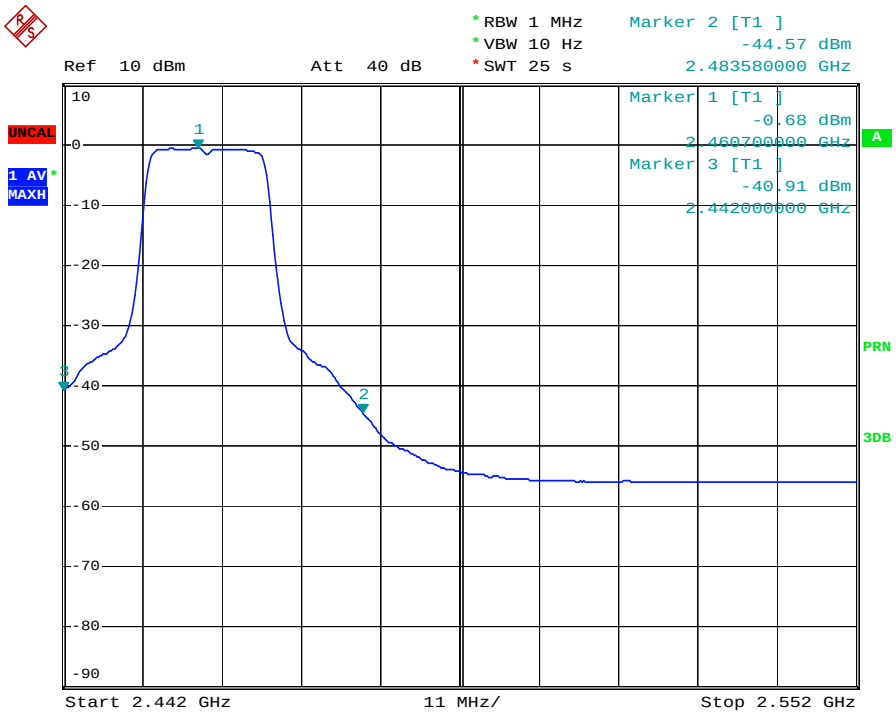
The band edge emission plot on the following second page shows 54.74dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 75.2dBuV/m (Average), so the maximum field strength in restrict band is 75.2-54.74=20.46dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following second page shows 43.89dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 75.2dBuV/m (Average), so the maximum field strength in restrict band is 75.2-43.89=31.31dBuV/m which is under 54dBuV/m limit.









For 802.11g mode

CH01 at 6Mbps

Note (Peak)

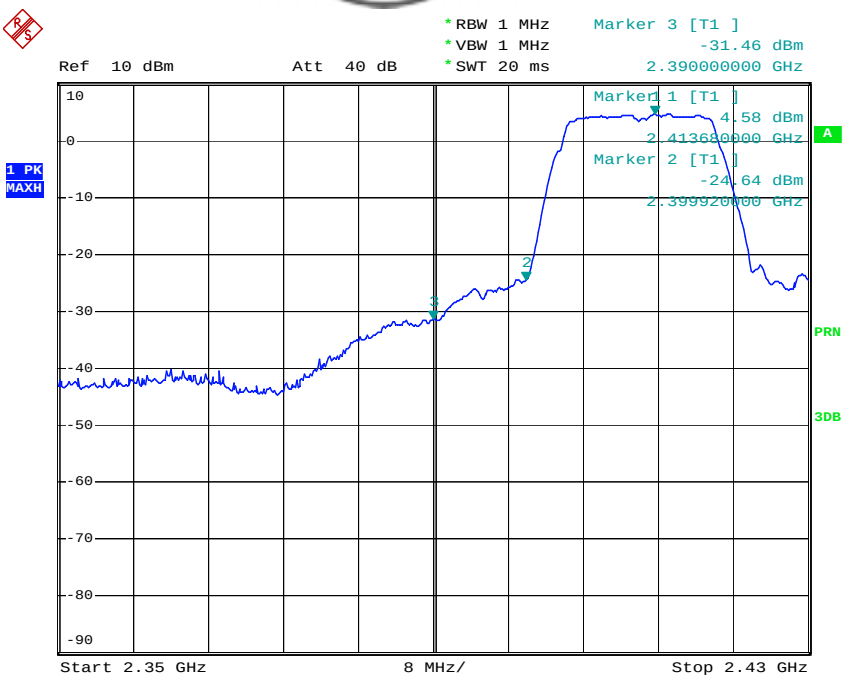
The band edge emission plot on the following first page shows 29.22dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 79.9dBuV/m (Peak), so the maximum field strength in restrict band is 79.9-29.22=50.68dBuV/m which is under 74dBuV/m limit.

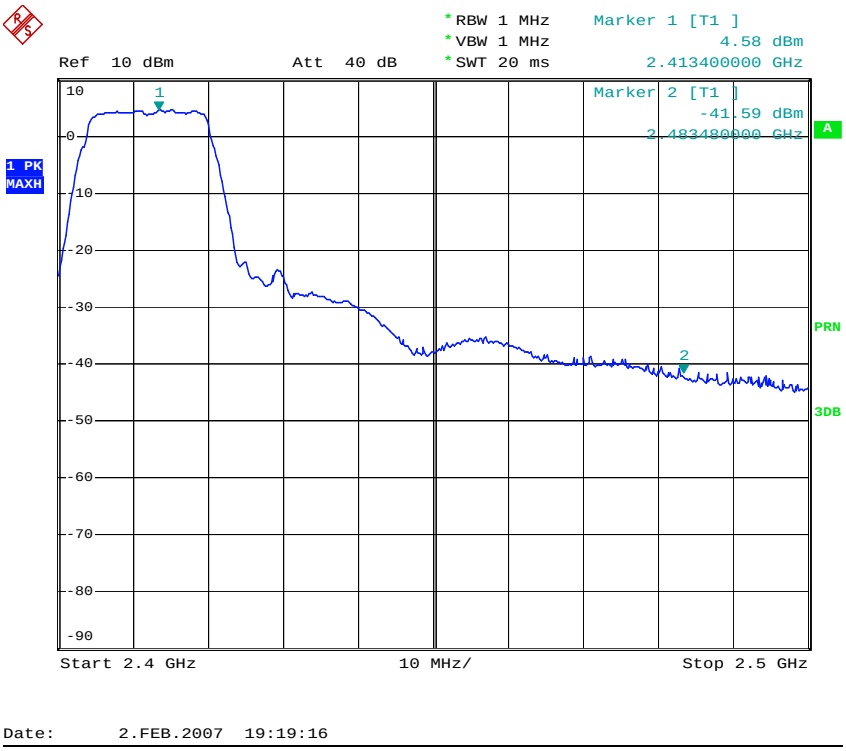
The band edge emission plot on the following first page shows 46.17dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 79.9dBuV/m (Peak), so the maximum field strength in restrict band is 79.9-46.17=33.73dBuV/m which is under 74dBuV/m limit.

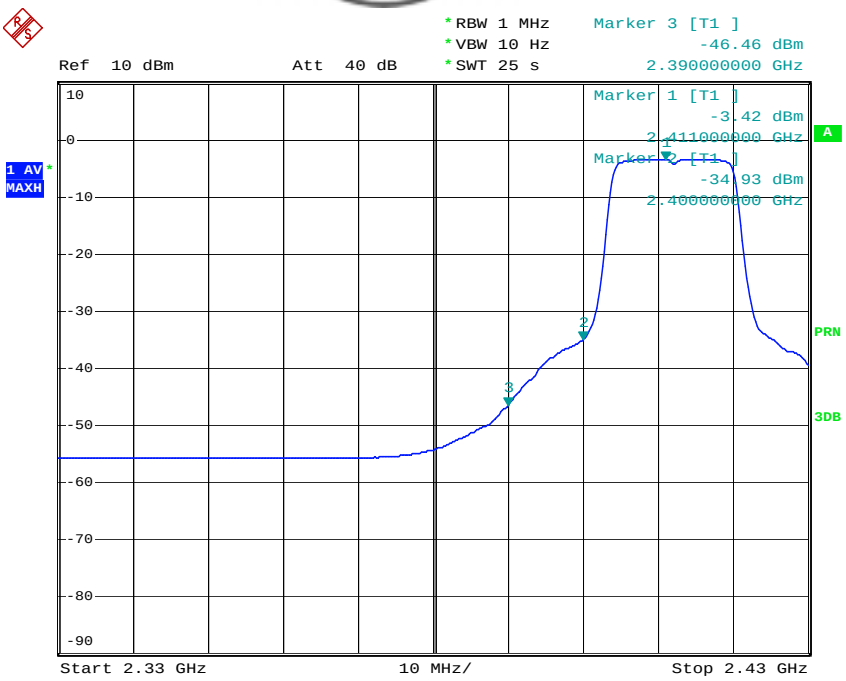
Note (Average):

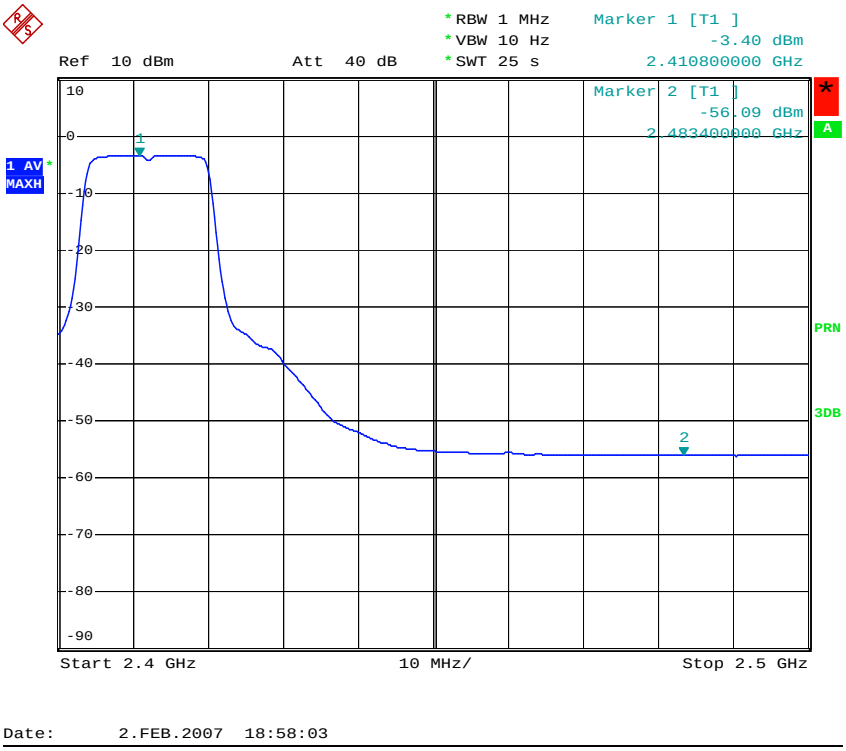
The band edge emission plot on the following second page shows 31.51dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 71.3dBuV/m (Average), so the maximum field strength in restrict band is 71.3-31.51=39.79BuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following second page shows 52.69dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 71.3dBuV/m (Average), so the maximum field strength in restrict band is71.3-52.69=18.61dBuV/m which is under 54dBuV/m limit.









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

An RF cable connected the IPX connector with the antenna board. The maximum Gain of this antenna is 0.8897dBi.

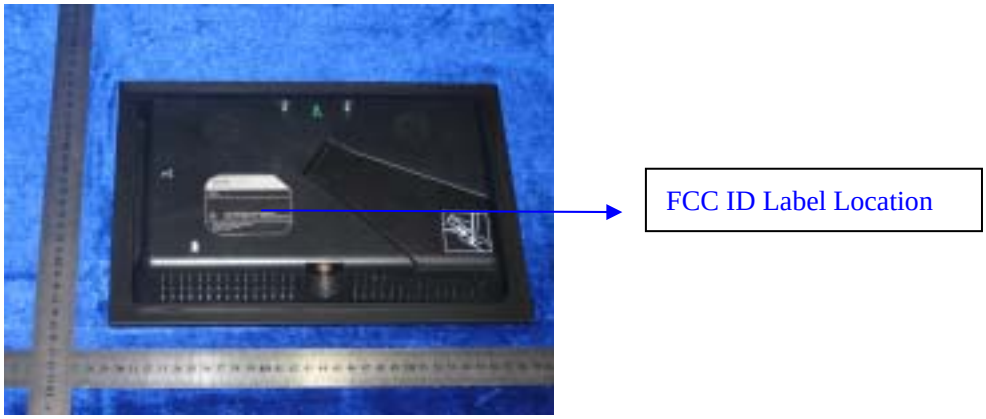
12.0 FCC ID Label

FCC ID:PA4 3952C

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:



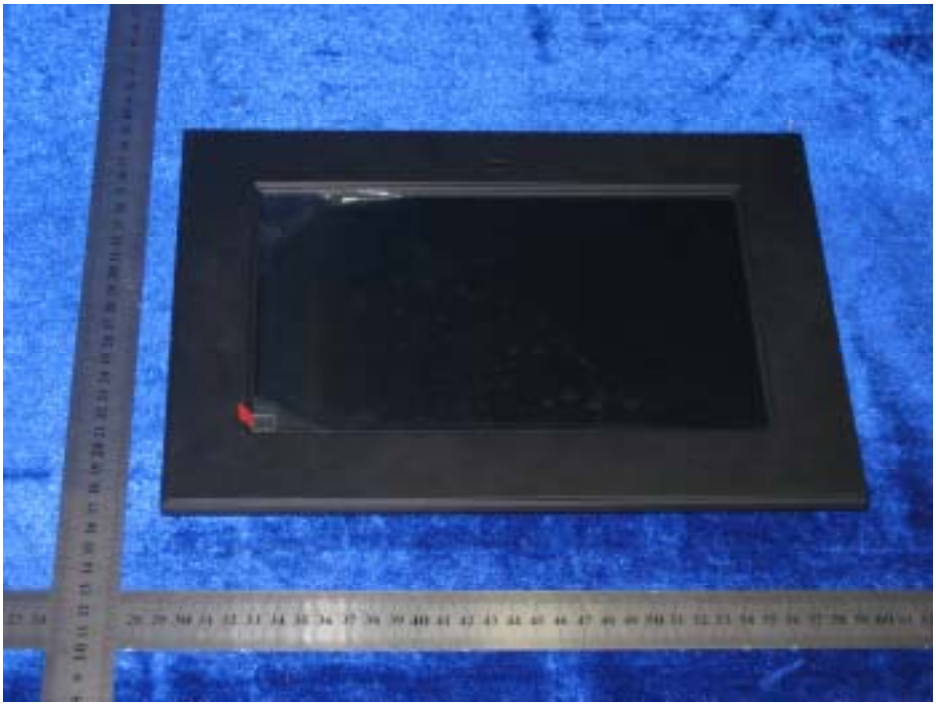
13.0 Photo of testing

13.1 Conducted test View--

13.2 Emission Radiated test View--

13.3 Photo for the EUT

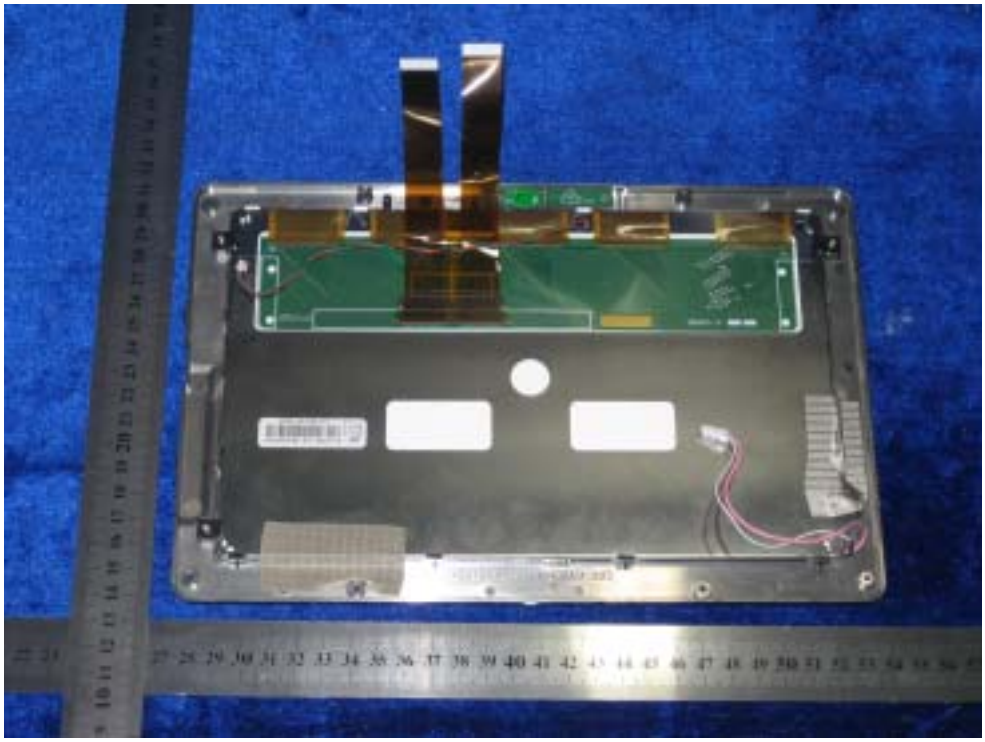
Outside View



13.3 Photo for the EUT

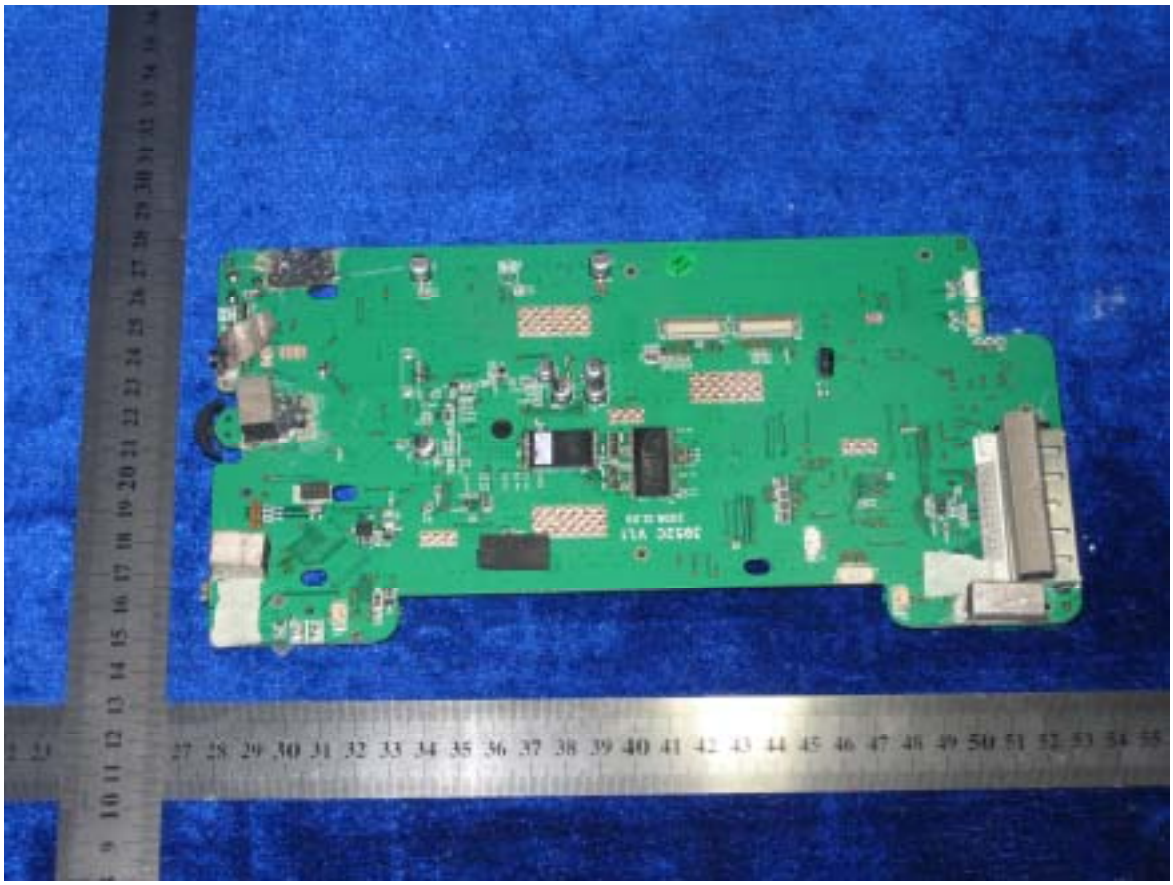
Outside View

Interior View

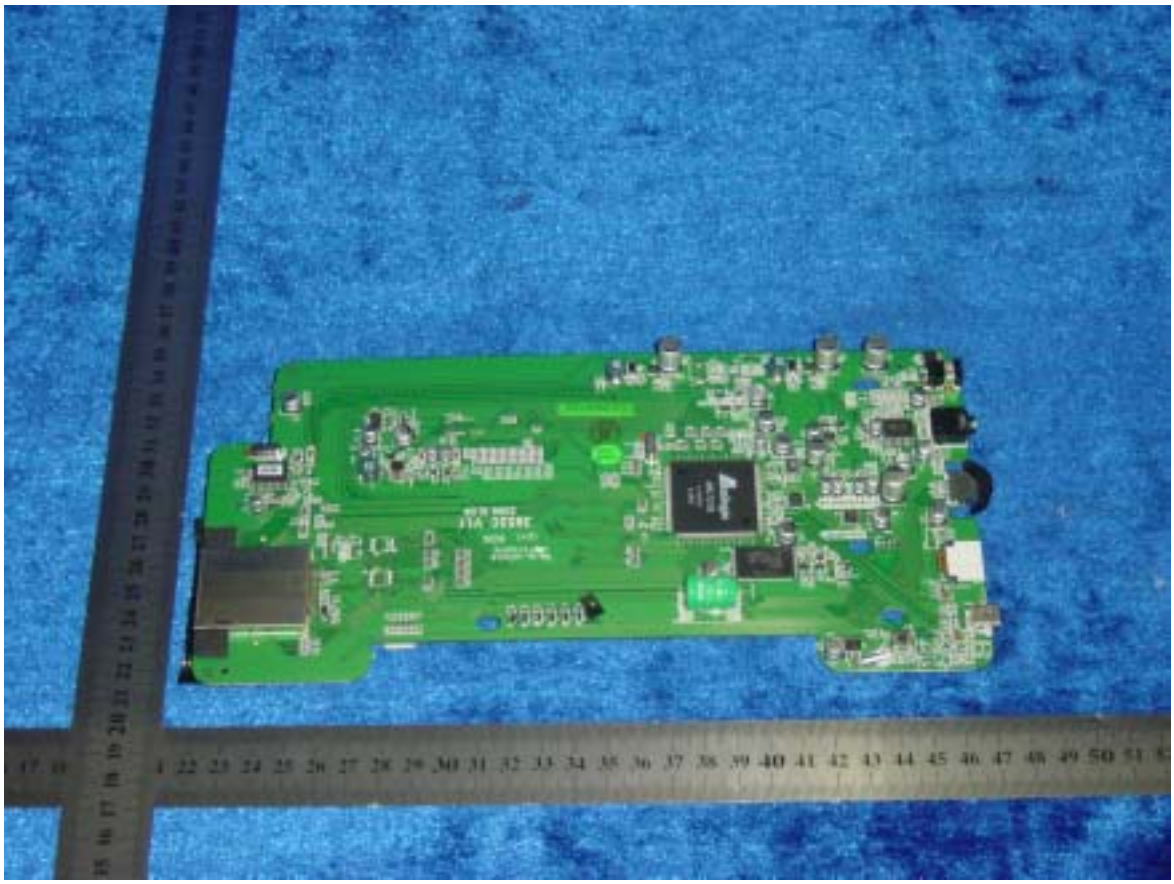


Interior View

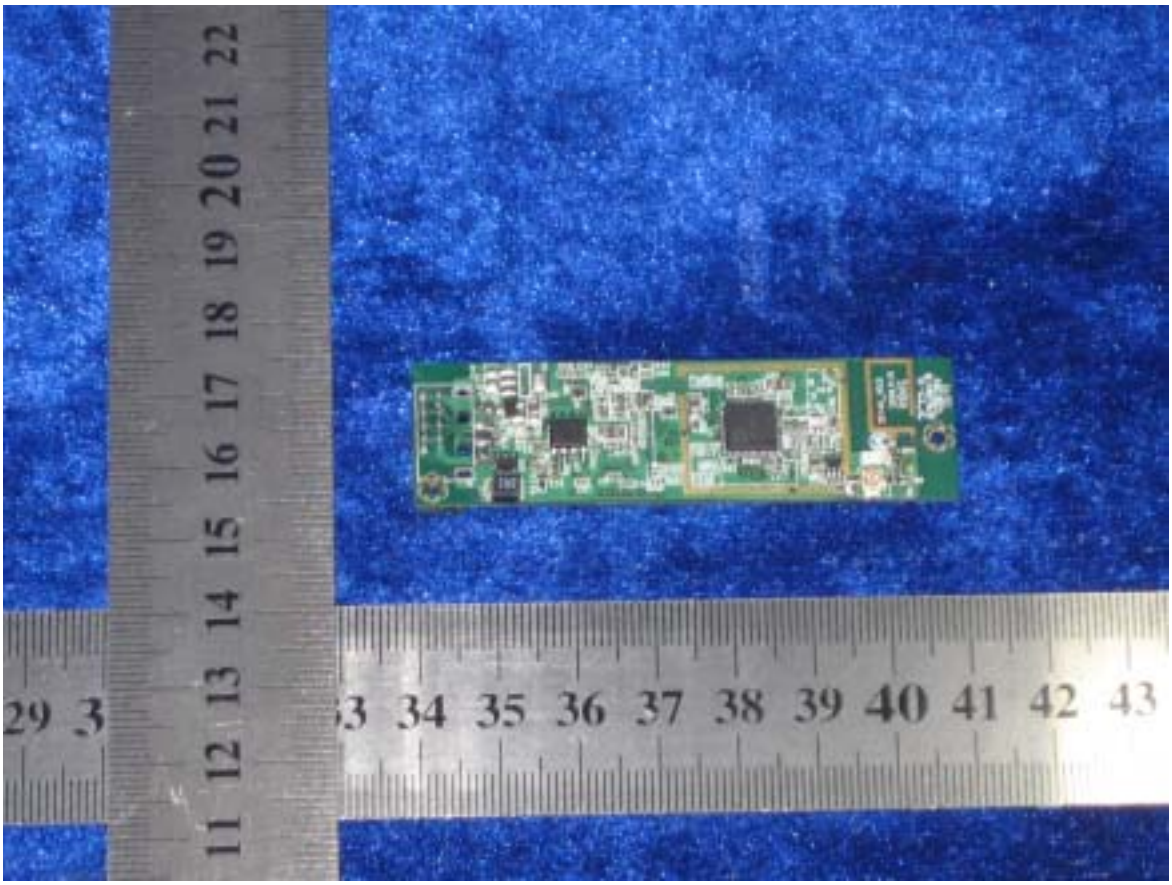
Interior View



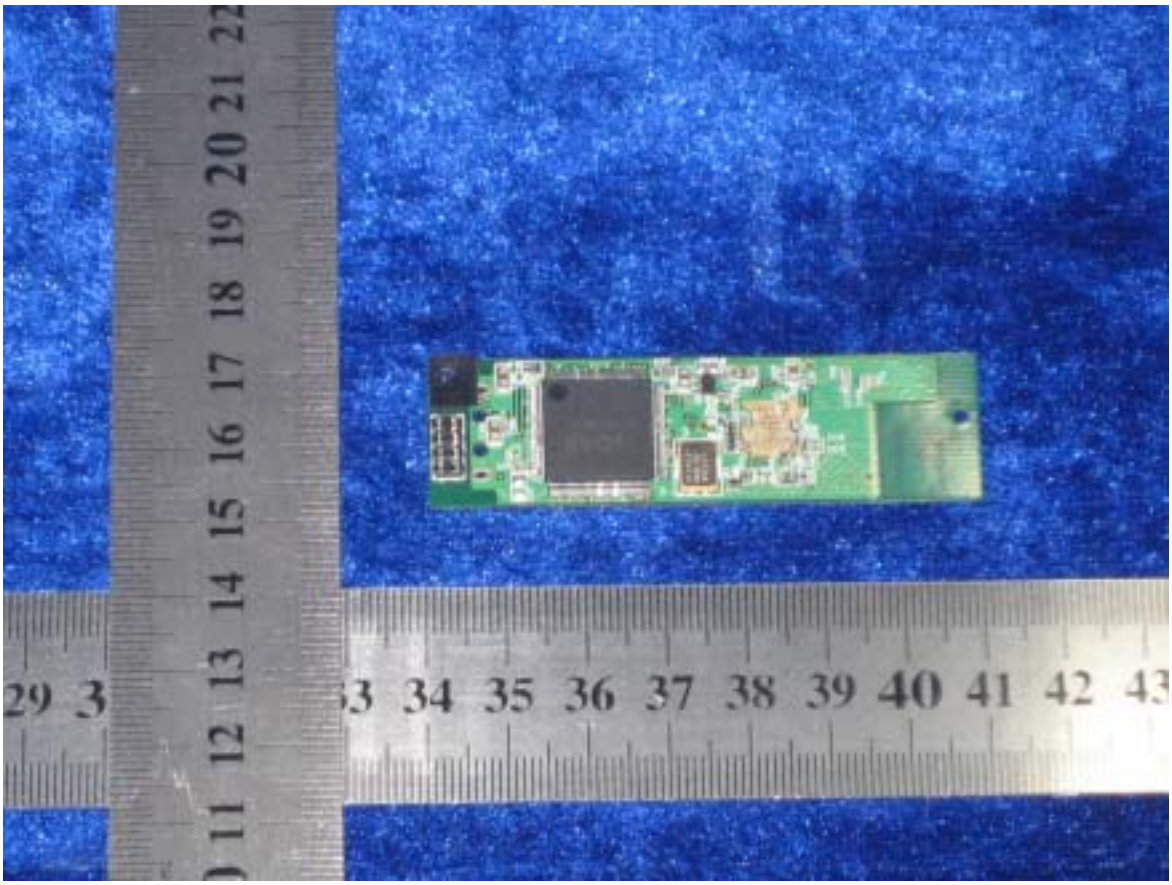
Interior View



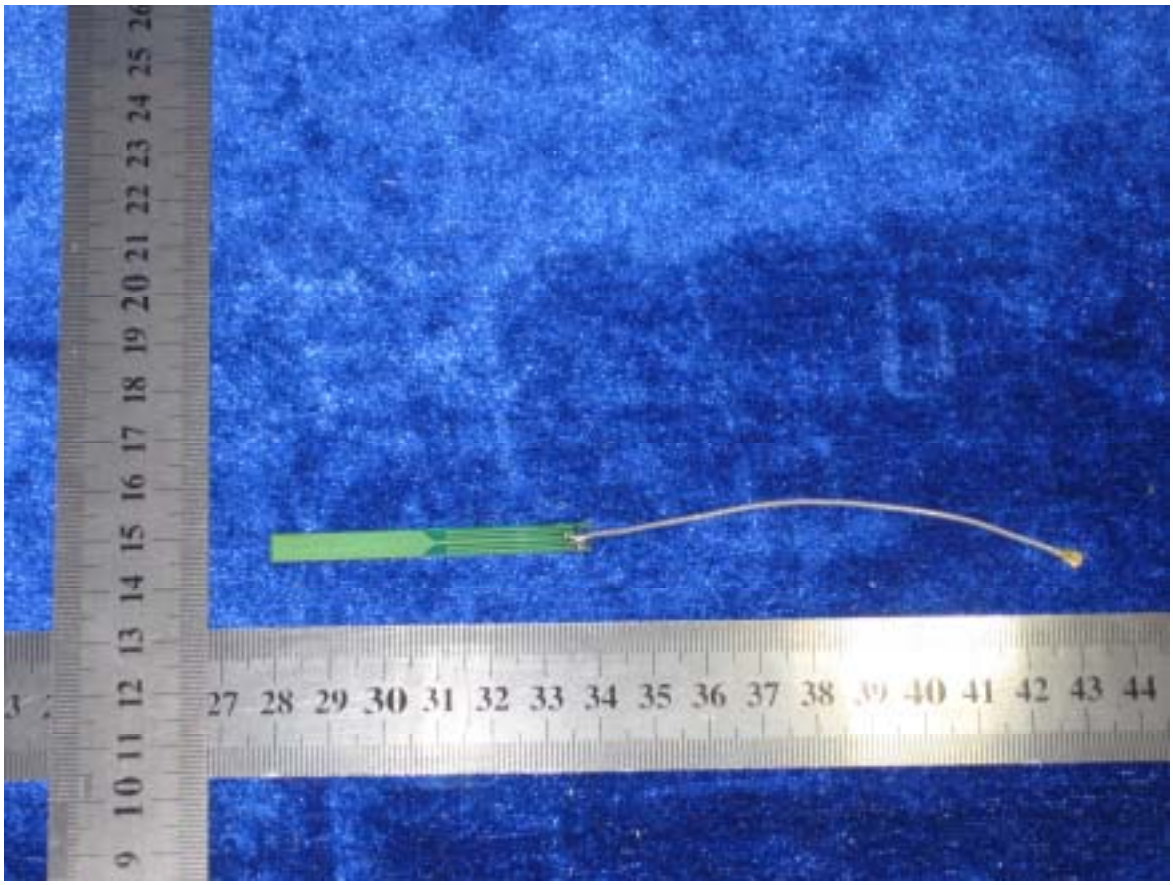
WLAN Card



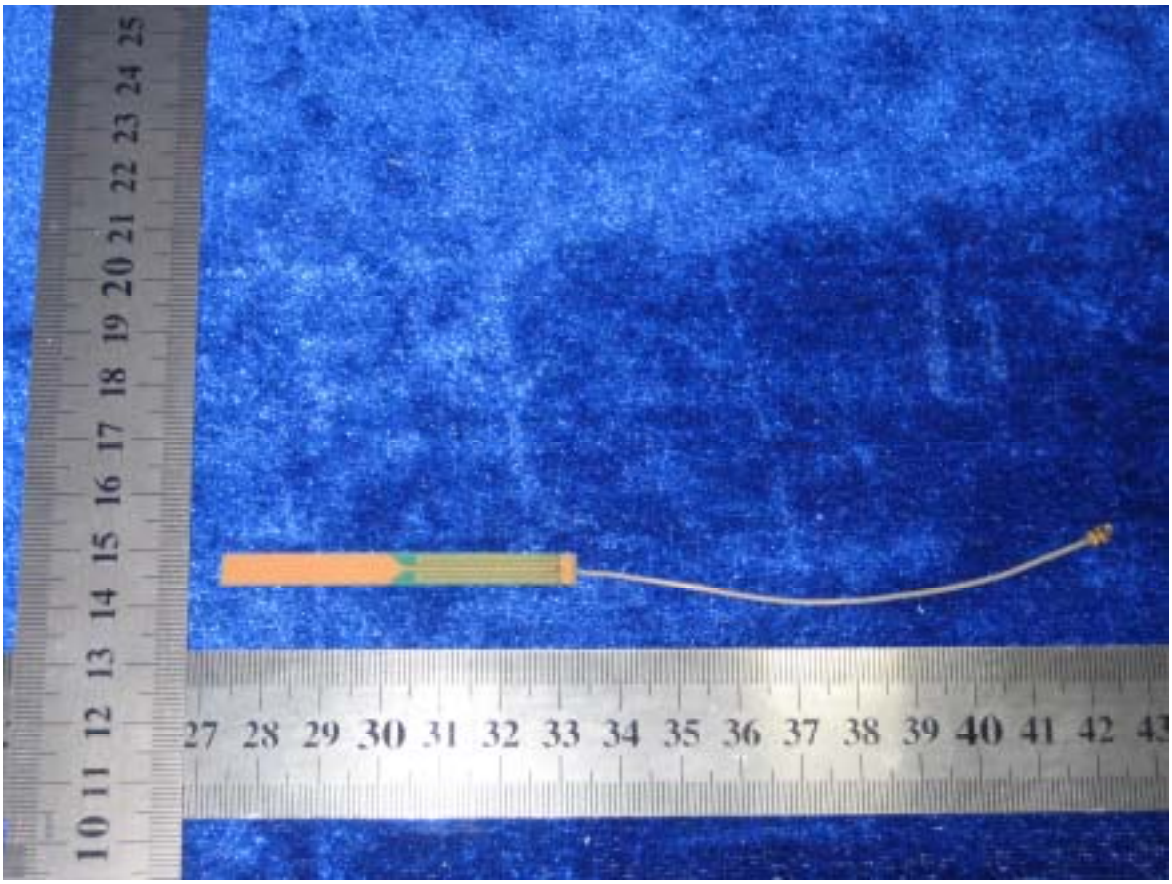
WLAN Card



Antenna



Antenna



Interior View

End of the report