FCC CFR47 PART 15 SUBPART C
CERTIFICATION
TEST REPORT

FOR

NOTEBOOK PC

MODEL NUMBER: NP-Q1b, NP-Q1-C*

FCC ID: A3L-NP-Q1-C

REPORT NUMBER: 06I10286-1, REVISION B

ISSUE DATE: JULY 10, 2006

Prepared for
SAMSUNG ELECTRONICS CO., LTD.
416 MAETAN 3-DONG, YEONGTONG-GU, SUWON-CITY
GYEONGGI-DO, 443-742 KOREA

Prepared by
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*Details of specific model(s) tested and model differences are identified in body of report

LAB CODE:200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	6/28/06	Initial Issue	Thu
B	7/10/06	Update sections 5.1, 5.3, 5.6, 7.2.2	Thu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
416 MAETAN 3-DONG, YEONGTONG-GU, SUWON-CITY
GYEONGGI-DO, 443-742 KOREA

EUT DESCRIPTION: NOTEBOOK PC

MODEL TESTED: NP-Q1b

SERIAL NUMBER: 141H93AL400074T (w/ KAE ANTENNA) &
142H93AL400072V (w/ FOXCONN ANTENNA)

DATE TESTED: MAY 15 - JUNE 22, 2006

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:

VIEN TRAN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a notebook PC with 802.11b/g transceiver and BT module installed.

The WLAN radio module is manufactured by Askey, the Bluetooth radio module is manufactured by Broadcom and it has been granted by FCC under FCC ID: QDS-BRCM1018.

Model NP-Q1-C is identical to the EUT model NP-Q1b, two model names are used for marketing purpose only.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

2400 to 2483.5 MHz Authorized Band

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	16.52	44.87
2412 - 2462	802.11g	19.61	91.41

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes the following antennas:

1) PIFA Antenna (KAE):
Manufacturer: Amphenol KAE Co., Ltd.
P/N: SS-03-03-076
Peak gain with cable loss: 1.71dBi (2400-2500 MHz)

2) PIFA Antenna (Foxconn):
Manufacturer: HON HAI Precision Ind. Co., Ltd.
P/N: WDAN-S1SAT001-DF
Peak gain with cable loss: 1.67dBi (2400-2500 MHz)

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5.4. SOFTWARE AND FIRMWARE

The EUT driver software installed in the host support equipment during testing was ART_Version5_3_b11

The test utility software used during testing was Atheros AR5002 Anwi Diagnostic Kernel Driver, dated 1/6/2002.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power, based on the radio test reports for this product. The highest measured output power was at 2462 MHz in 11b mode & 2437MHz in 11g mode.

The worst-case data rate for this channel is determined to be 1Mb/s for b mode and 6Mb/s for g mode, based on previous experience with Atheros 802.11 product design architectures.

Thus all emissions below 1 GHz tests were made in the 802.11 @ 1Mb/s for b mode and 6Mb/s for g mode

Preliminary test was done at three orthogonal positions, the EUT @ X position for KAE antenna or Y position for Foxconn antenna was determined as the worst-case mode.

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5.6. DESCRIPTION OF TEST SETUP

COMPONENTS OF SYSTEM UNDER TEST

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC/DC Adapter	AcBel	API1AD02	CNBA4400162ABJ6F6371536	DoC
Laptop Computer	Samsung	NP-Q1-C	141H93AL400074T	DoC

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	AC	Unshielded	1.8m	N/A
2	DC	1	DC	Unshielded	1.8m	Ferrite on EUT side

TEST SETUP

The EUT was tested stand-alone. Test software exercised the EUT.

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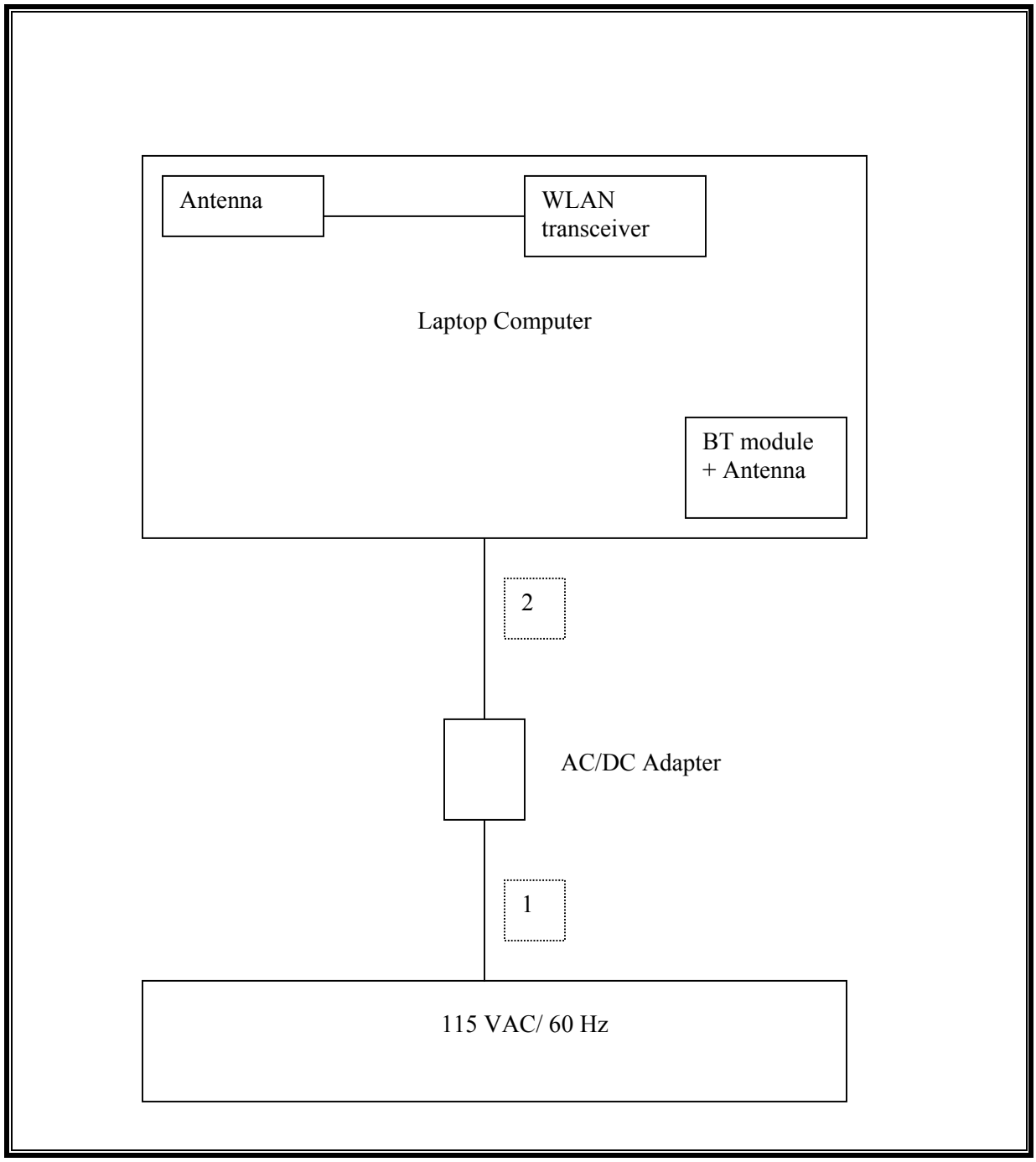
SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**Cal Due**
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42510266	10/19/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	04/22/07
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42070220	07/29/06
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	MY45300064	12/19/06
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	2/4/2007
RF Filter Section	HP	85420E	3705A00256	2/4/2007
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	9/3/2006
EMI Test Receiver	R & S	ESHS 20	827129/006	11/03/06
LISN, 10 kHz - 30 MHz	FCC	LISN50/250-25-2	2023	08/30/06
Peak Power Meter	Agilent / HP	E4416A	GB41291160	12/02/07
Peak / Average Power Sensor	Agilent	E9327A	US40440755	12/02/07
Antenna, Horn 1 ~ 18 GHz	ETS	3117	35234	04/22/07
4.0 Highpass Filter	Micro-Tronics	HPM13351	3	CNR
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-SP	924342	09/02/06
Power Meter	Agilent / HP	438A	3513U04320	01/12/07
Power Sensor	Agilent / HP	8481A	2237A31744	01/11/07
(2.4-2.5) GHz Band Reject Filter	MicroTronics	BRM50702	001	C.N.R

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7. LIMITS AND RESULTS

7.1. CHANNEL TESTS FOR THE 2400 TO 2483.5 MHz BAND

7.1.1. 6 dB BANDWIDTH

LIMIT

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

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

No non-compliance noted:

802.11b Mode

Channel	Frequency (MHz)	6 dB Bandwidth (kHz)	Minimum Limit (kHz)	Margin (kHz)
Low	2412	12080	500	11580
Middle	2437	11920	500	11420
High	2462	12170	500	11670

802.11g Mode

Channel	Frequency (MHz)	6 dB Bandwidth (kHz)	Minimum Limit (kHz)	Margin (kHz)
Low	2412	16670	500	16170
Middle	2437	16670	500	16170
High	2462	16670	500	16170

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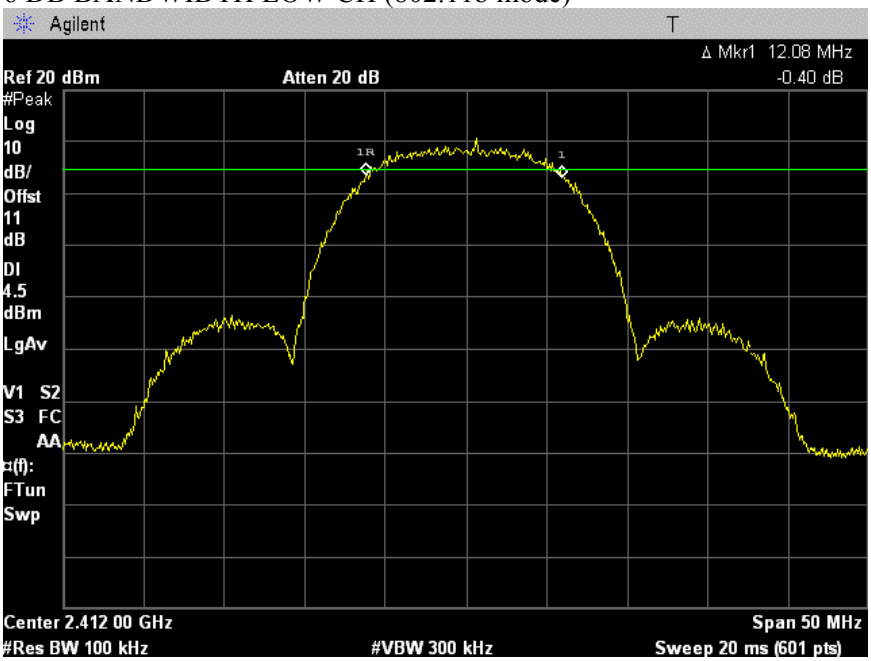
6 DB BANDWIDTH (802.11b MODE)

6 DB BANDWIDTH LOW CH (802.11b mode)



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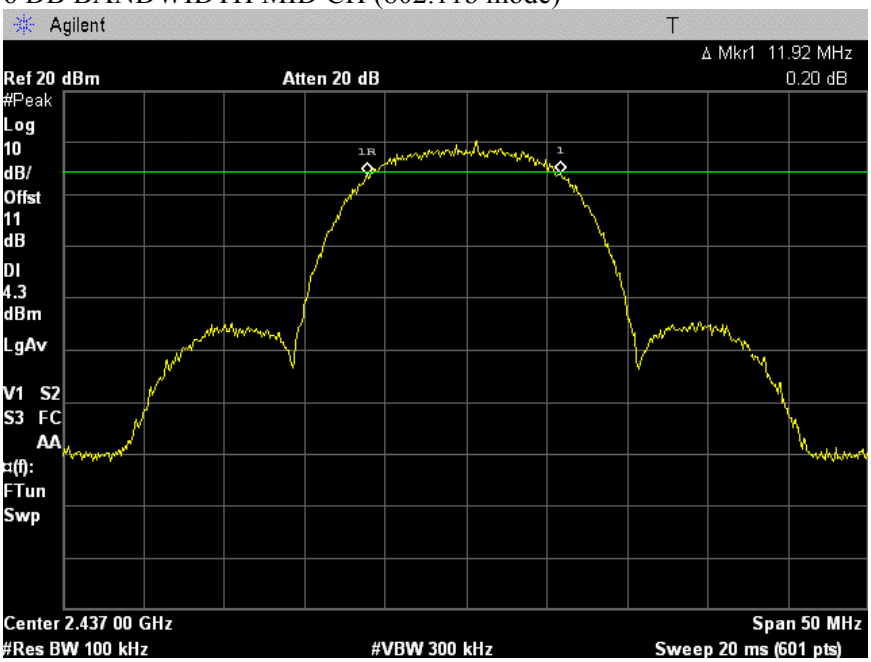
6 DB BANDWIDTH MID CH (802.11b mode)



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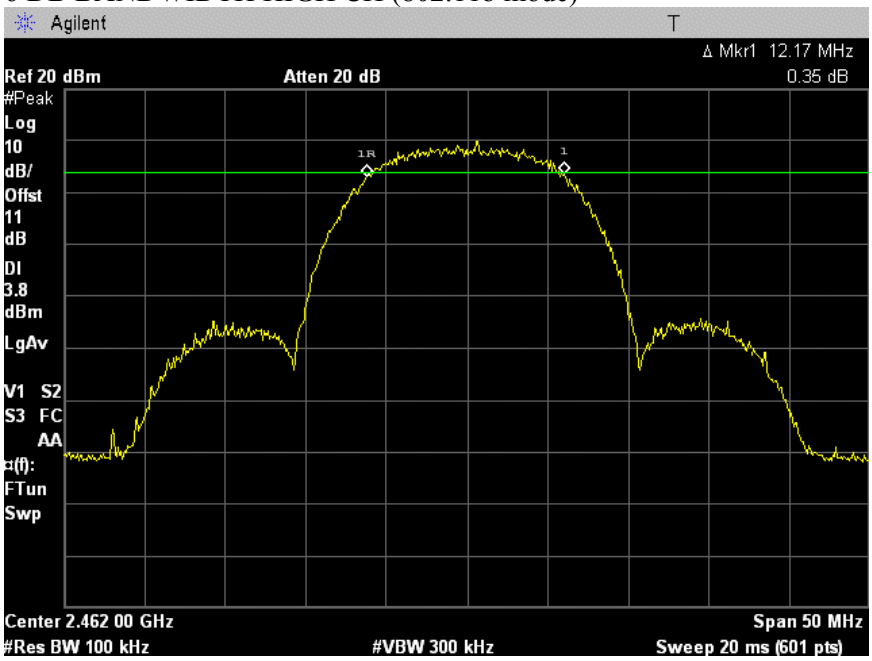
6 DB BANDWIDTH HIGH CH (802.11b mode)



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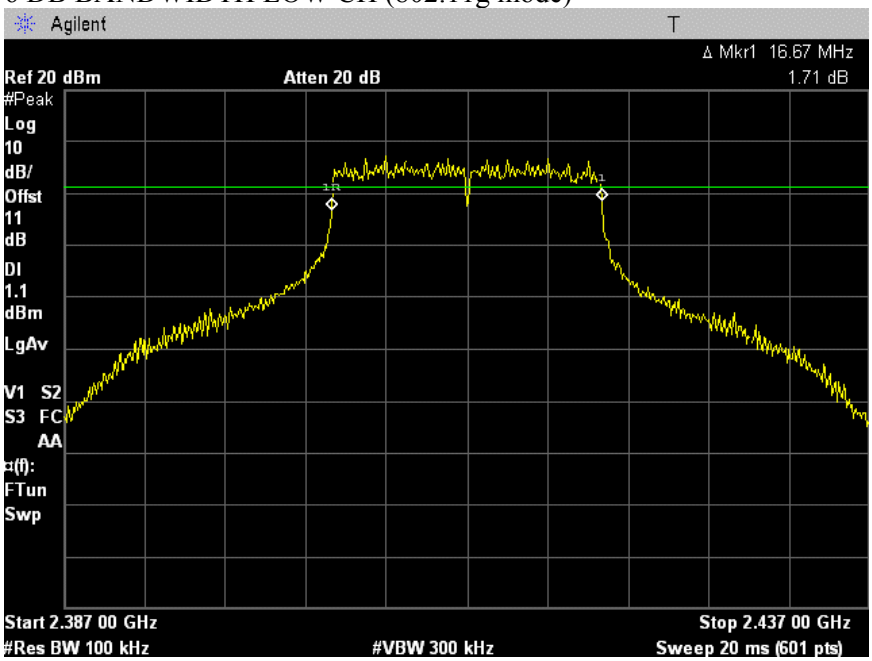
6 DB BANDWIDTH (802.11g MODE)

6 DB BANDWIDTH LOW CH (802.11g mode)



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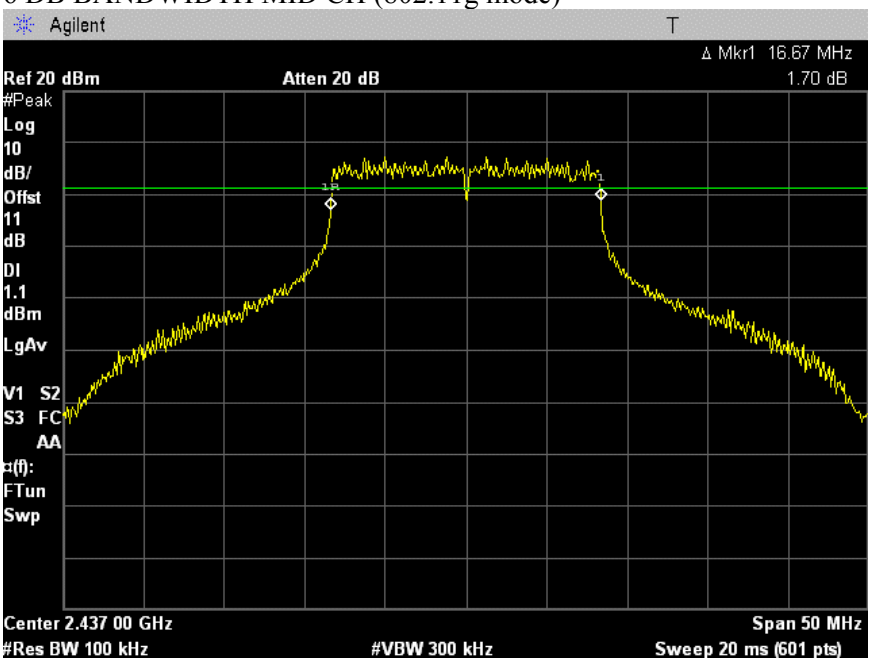
6 DB BANDWIDTH MID CH (802.11g mode)



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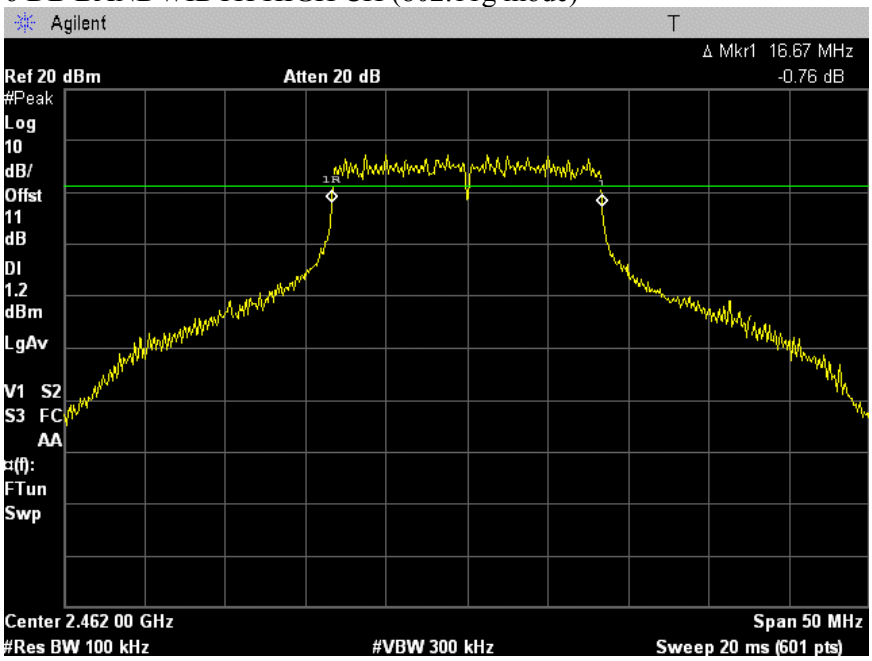
6 DB BANDWIDTH HIGH CH (802.11g mode)



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7.1.2. 99% BANDWIDTH

LIMIT

None: for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

No non-compliance noted:

802.11b Mode

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	15.6886
Middle	2437	15.4604
High	2462	15.6611

802.11g Mode

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.6824
Middle	2437	16.5718
High	2462	16.4935

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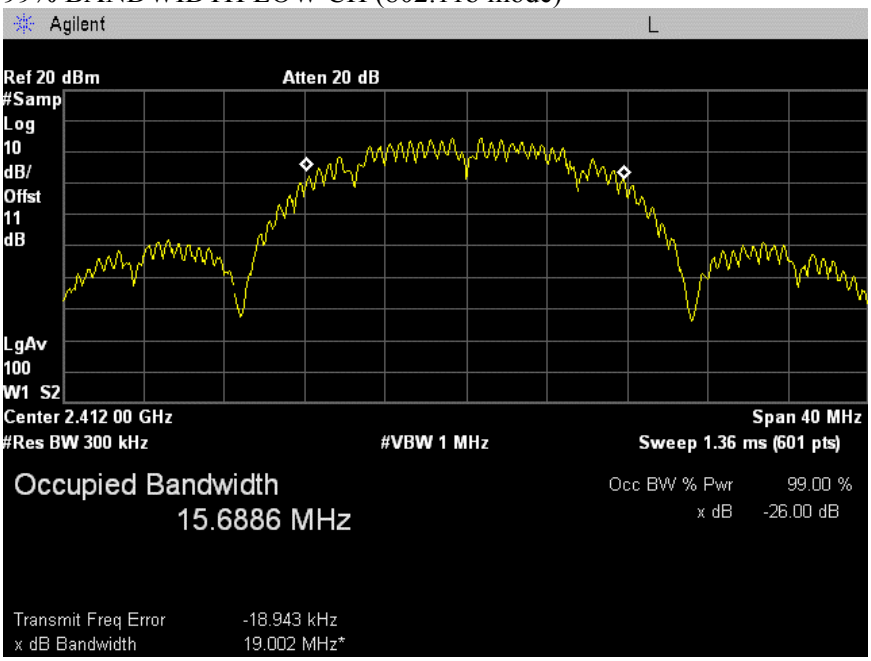
99% BANDWIDTH (802.11b MODE)

99% BANDWIDTH LOW CH (802.11b mode)



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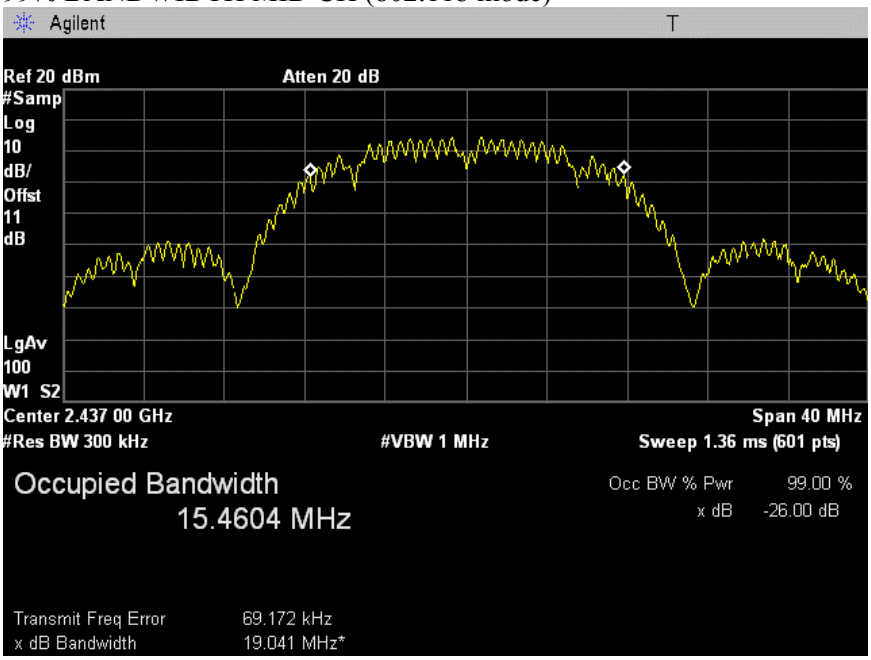
99% BANDWIDTH MID CH (802.11b mode)



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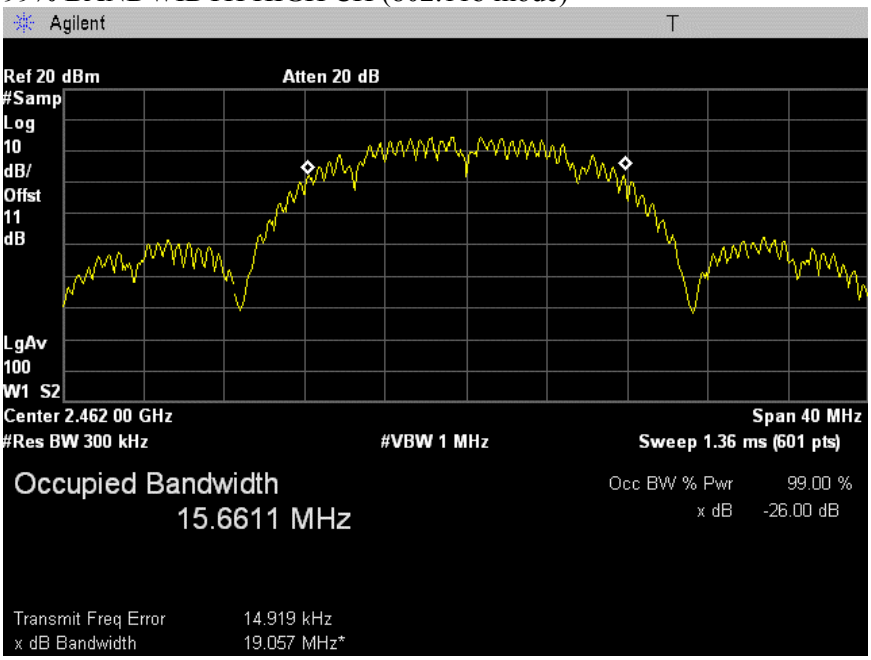
99% BANDWIDTH HIGH CH (802.11b mode)



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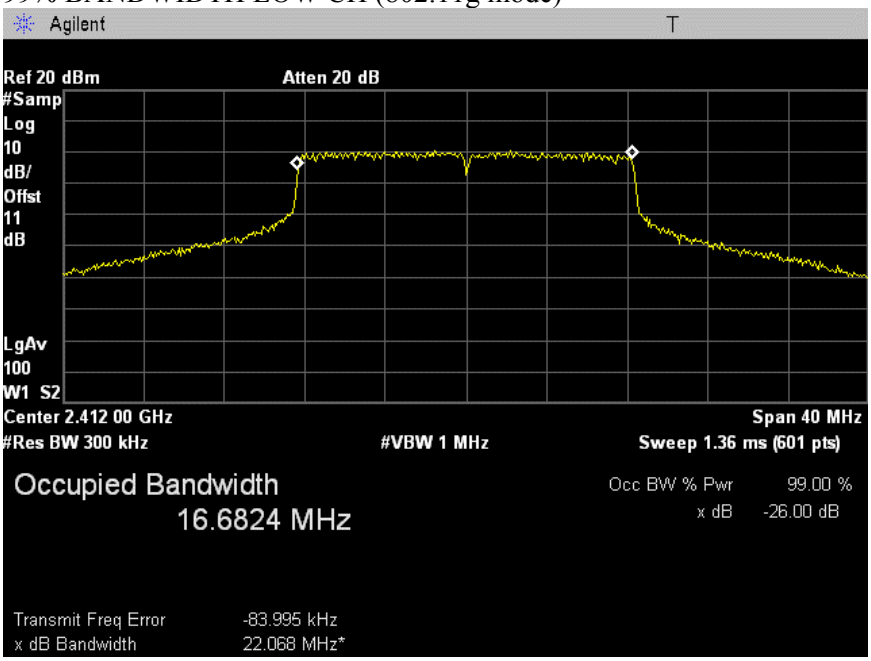
99% BANDWIDTH (802.11g MODE)

99% BANDWIDTH LOW CH (802.11g mode)



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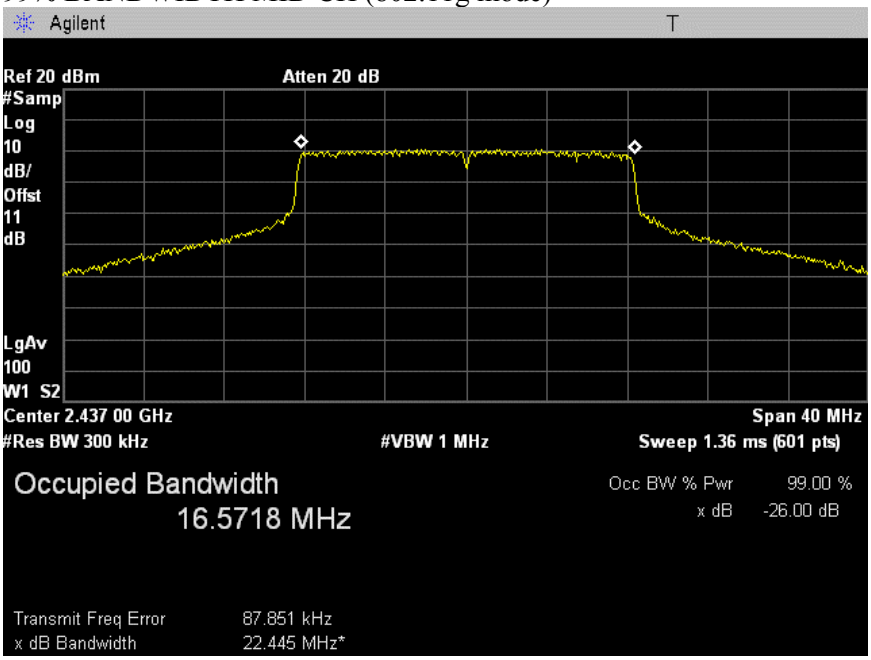
99% BANDWIDTH MID CH (802.11g mode)



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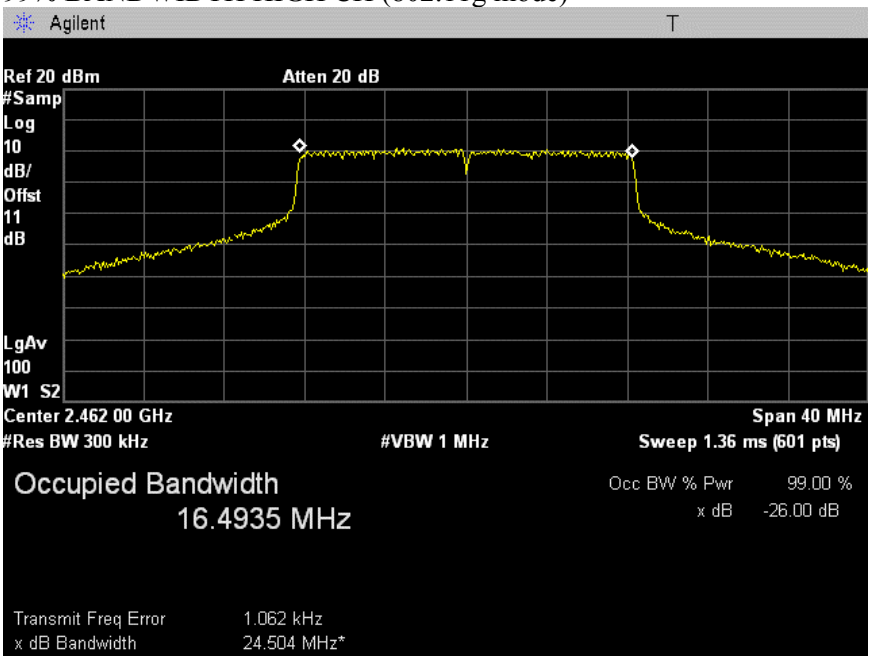
99% BANDWIDTH HIGH CH (802.11g mode)



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7.1.3. PEAK OUTPUT POWER

PEAK POWER LIMIT

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz , and 5725-5850 MHz bands: 1 watt.

§15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz , and 5725-5850 MHz bands: 1 watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

§15.247 (b) (4) (i) Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.

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RESULTS

The maximum antenna gain is 1.71 dBi for other than fixed, point-to-point operations; therefore the limit is 30 dBm.

No non-compliance noted:

802.11b Mode

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	15.99	30	-14.01
Middle	2437	16.37	30	-13.63
High	2462	16.52	30	-13.48

802.11g Mode

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	17.95	30	-12.05
Middle	2437	19.61	30	-10.39
High	2462	19.53	30	-10.47

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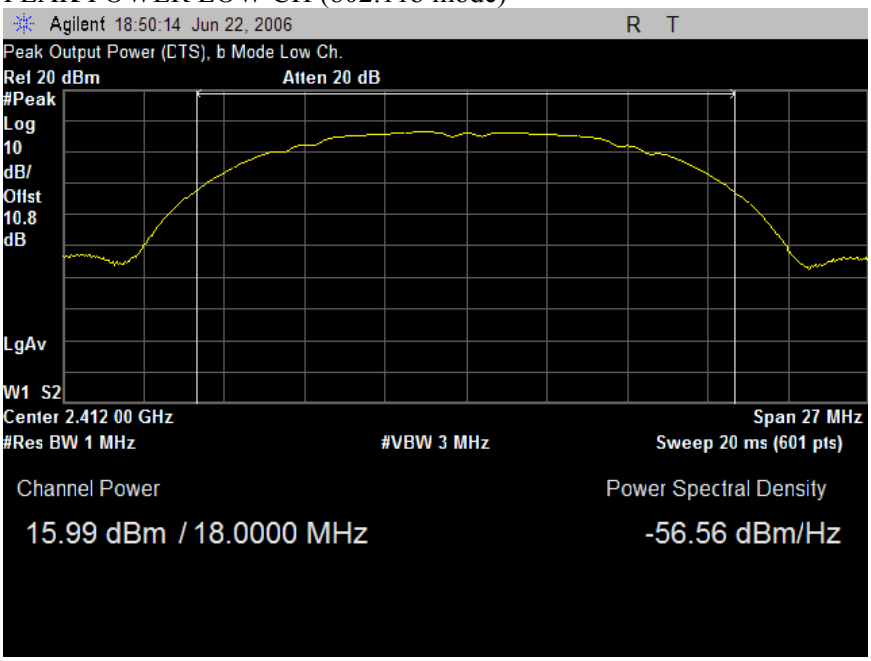
OUTPUT POWER (802.11b MODE)

PEAK POWER LOW CH (802.11b mode)



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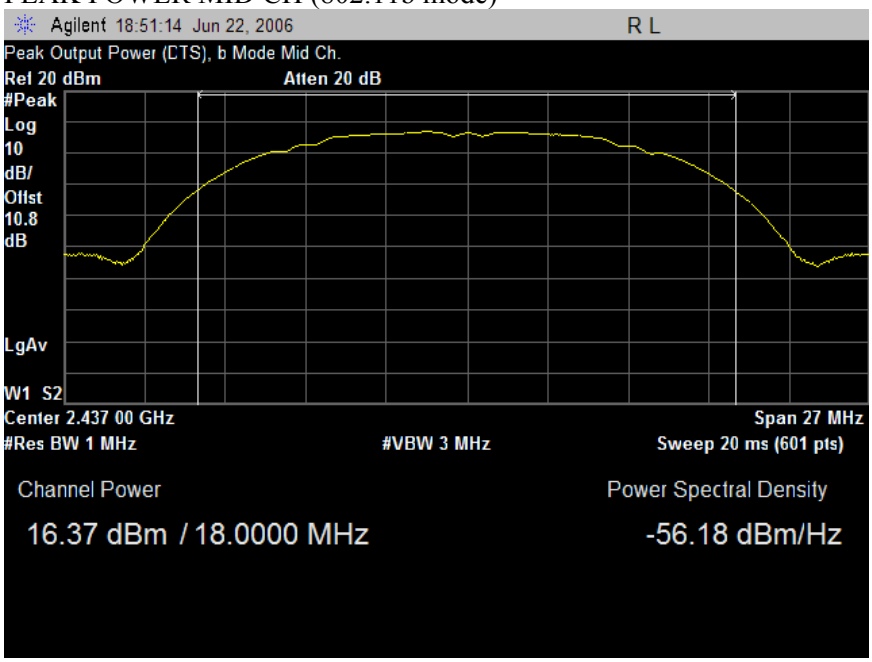
PEAK POWER MID CH (802.11b mode)



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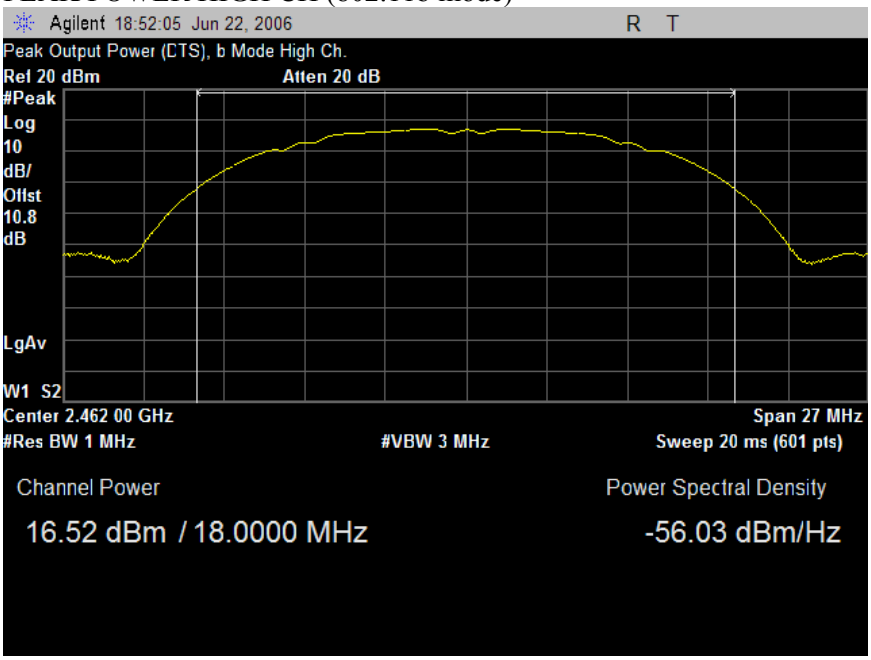
PEAK POWER HIGH CH (802.11b mode)



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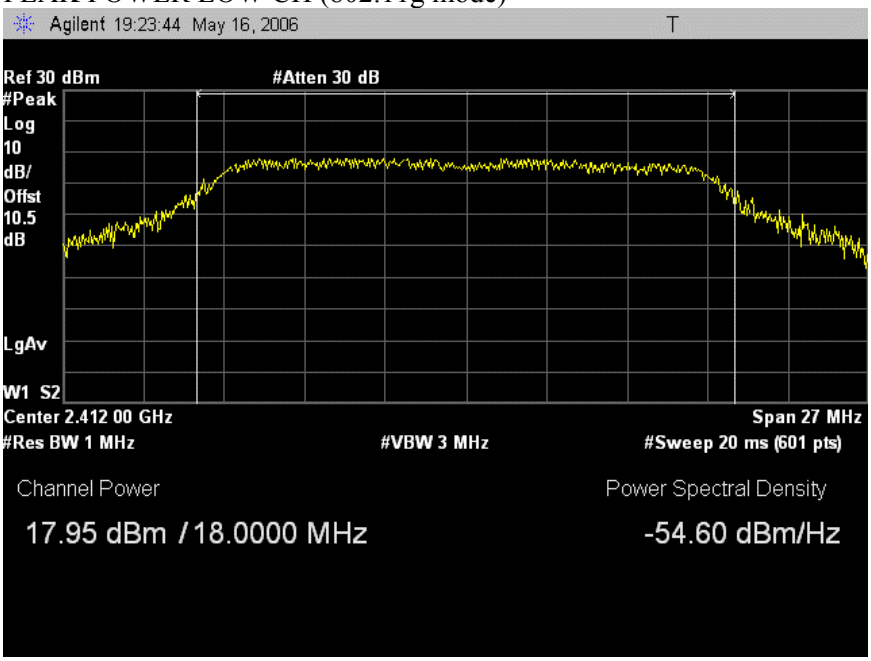
OUTPUT POWER (802.11g MODE)

PEAK POWER LOW CH (802.11g mode)



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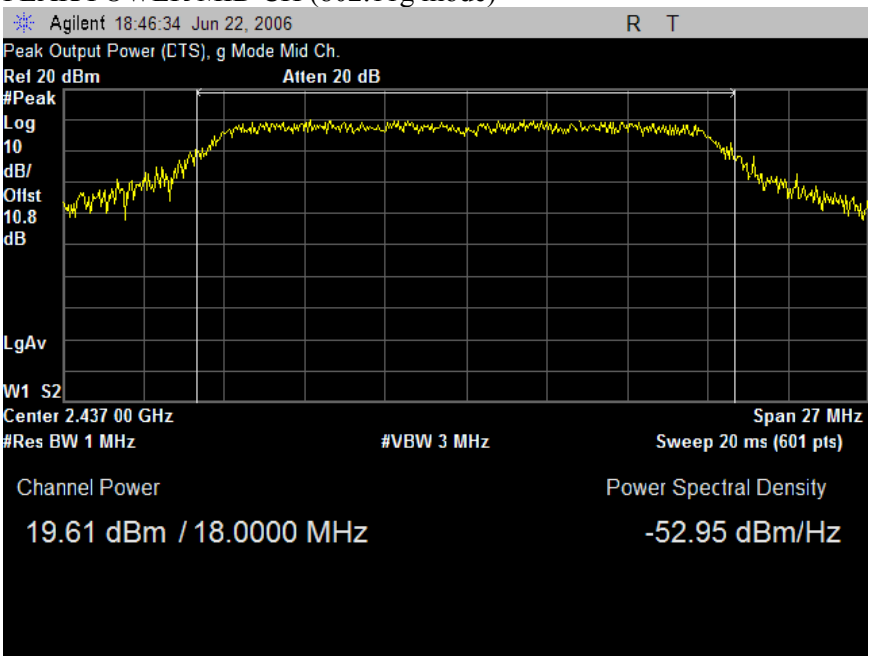
PEAK POWER MID CH (802.11g mode)



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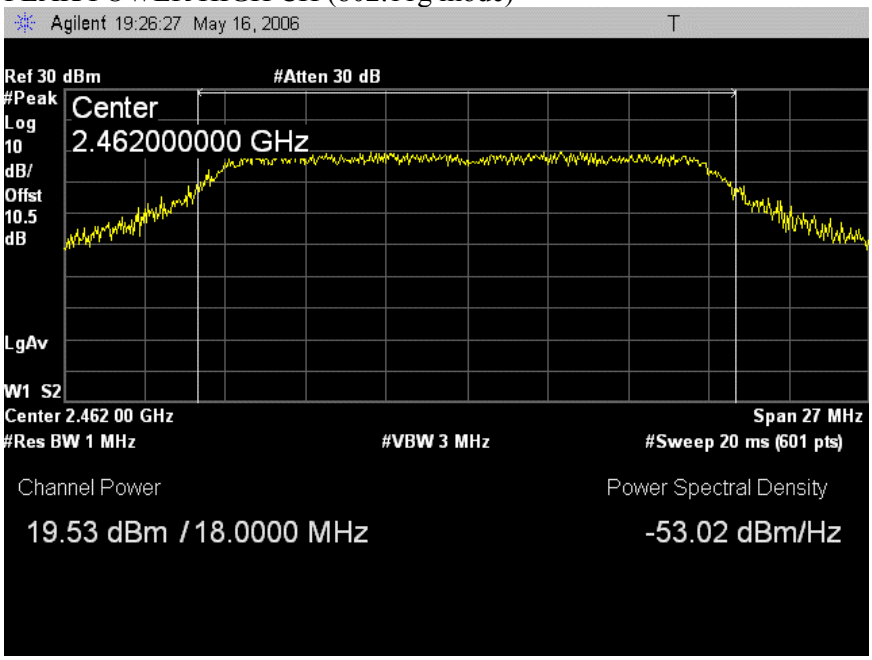
PEAK POWER HIGH CH (802.11g mode)



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7.1.4. AVERAGE POWER

AVERAGE POWER LIMIT

None: for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

No non-compliance noted:

The cable assembly insertion loss of 10.8 dB (including 10 dB pad and .8 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

802.11b Mode

Channel	Frequency (MHz)	Power (dBm)
Low	2412	13.40
Middle	2437	13.77
High	2462	13.65

802.11g Mode

Channel	Frequency (MHz)	Power (dBm)
Low	2412	11.50
Middle	2437	13.45
High	2462	13.20

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7.1.5. PEAK POWER SPECTRAL DENSITY

LIMIT

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

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer, the maximum level in a 3 kHz bandwidth is measured with the spectrum analyzer using RBW = 3 kHz and VBW > 3 kHz, sweep time = span / 3 kHz, and video averaging is turned off. The PPSD is the highest level found across the emission in any 3 kHz band.

RESULTS

No non-compliance noted:

802.11b Mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-3.78	8	-11.78
Middle	2437	-5.37	8	-13.37
High	2462	-4.96	8	-12.96

802.11g Mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	1.36	8	-6.64
Middle	2437	-0.30	8	-8.30
High	2462	-3.69	8	-11.69

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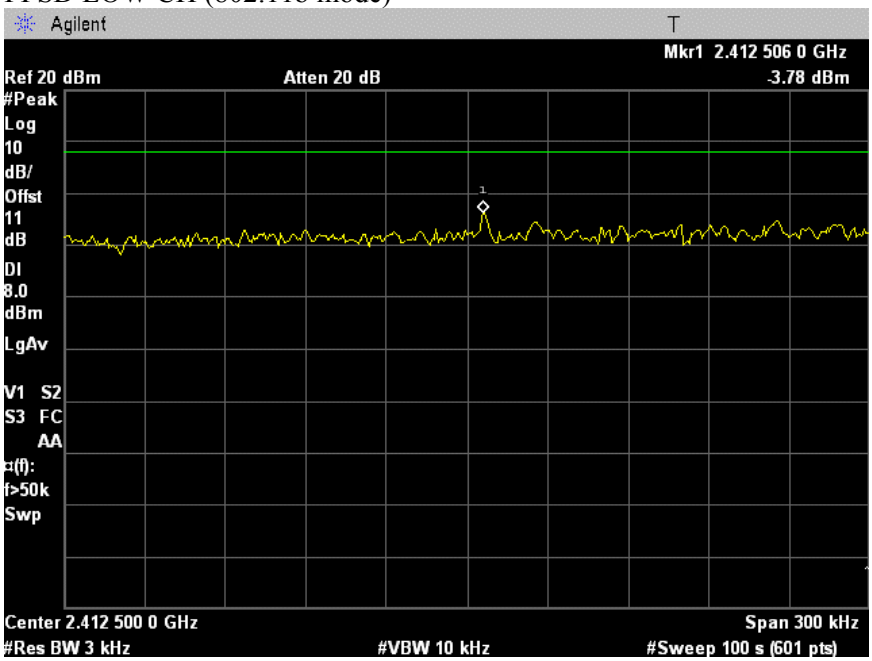
PEAK POWER SPECTRAL DENSITY (802.11b MODE)

PPSD LOW CH (802.11b mode)



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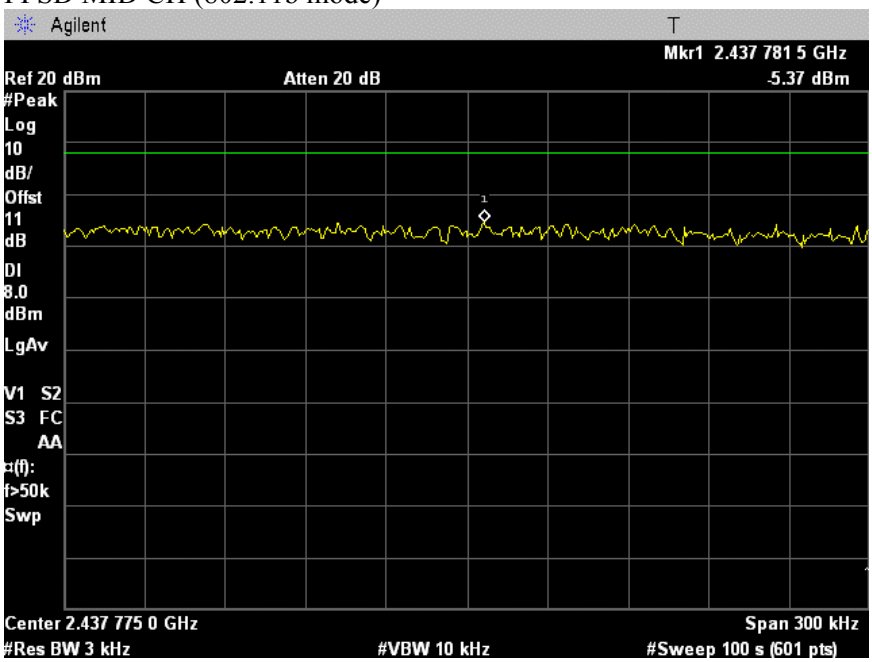
PPSD MID CH (802.11b mode)



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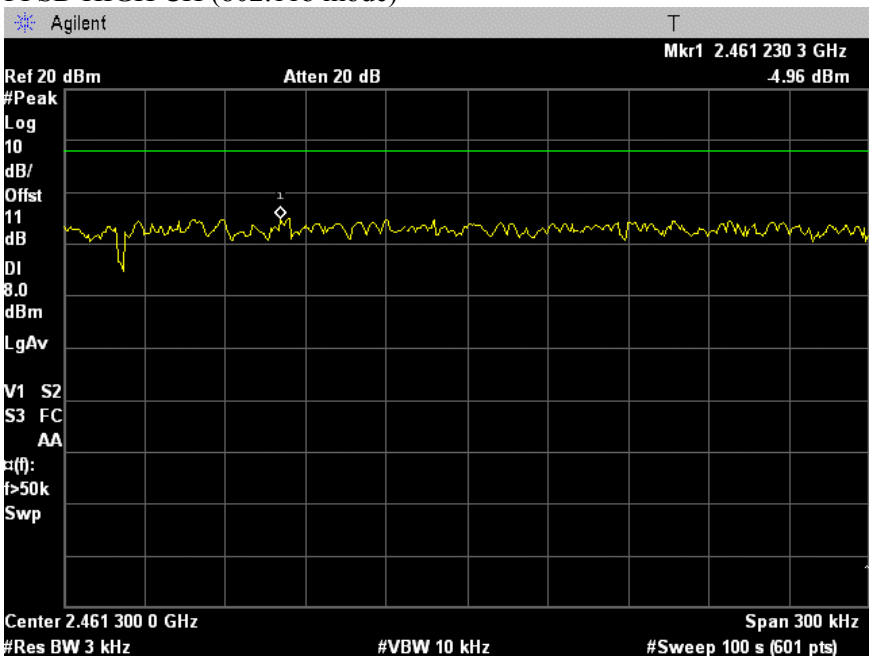
PPSD HIGH CH (802.11b mode)



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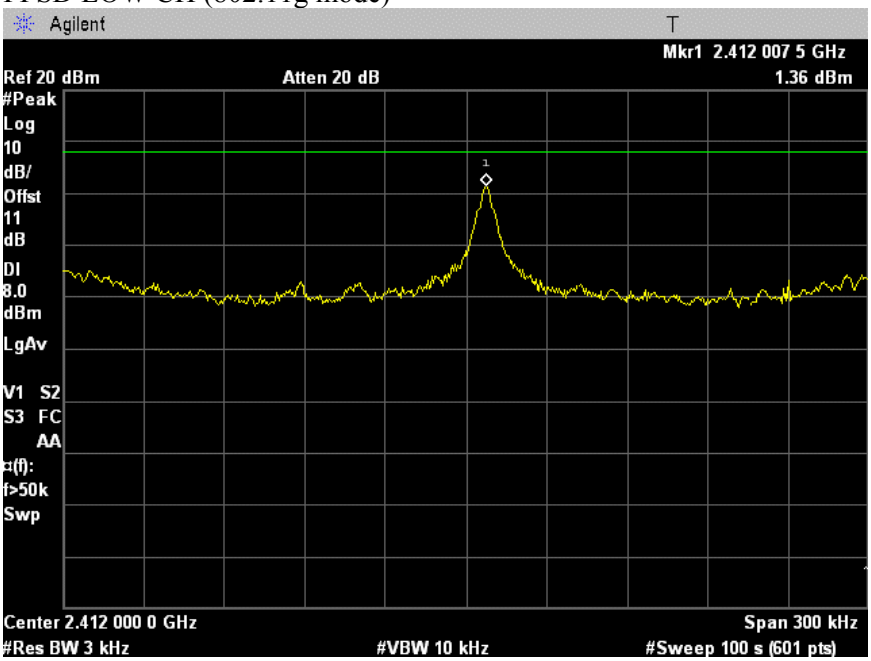
PEAK POWER SPECTRAL DENSITY (802.11g MODE)

PPSD LOW CH (802.11g mode)



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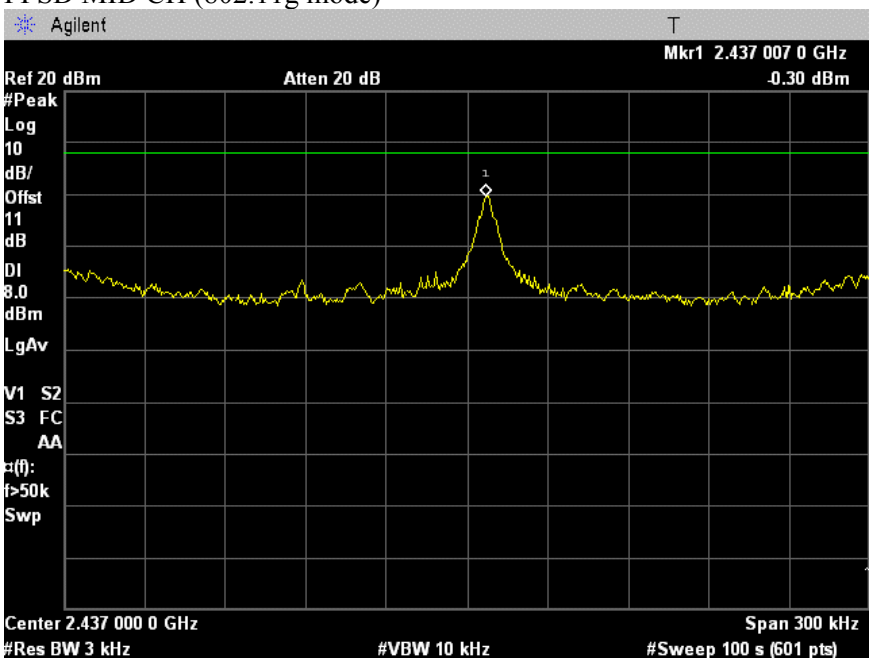
PPSD MID CH (802.11g mode)



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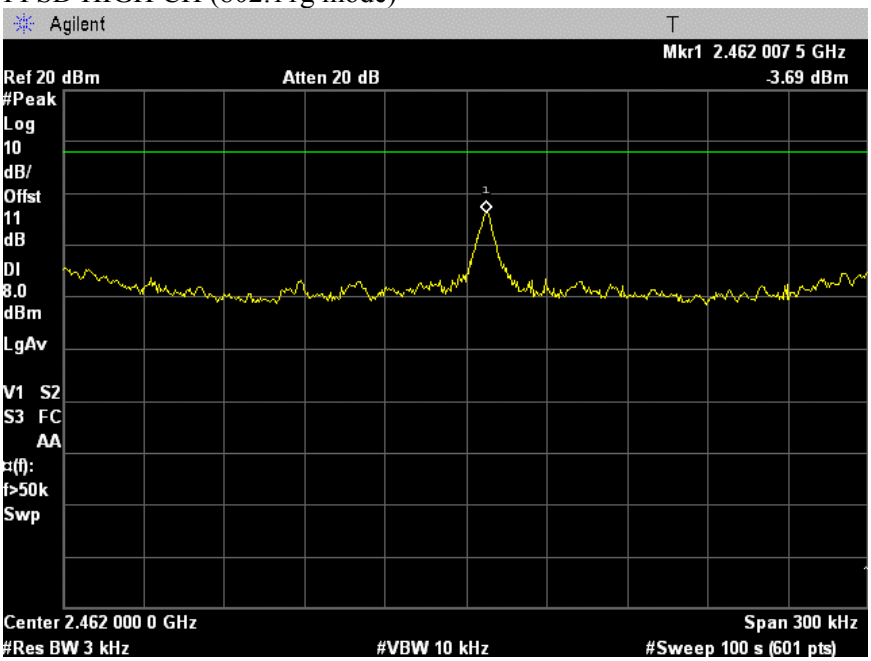
PPSD HIGH CH (802.11g mode)



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7.1.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

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

Conducted power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

TEST PROCEDURE

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

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

RESULTS

No non-compliance noted:

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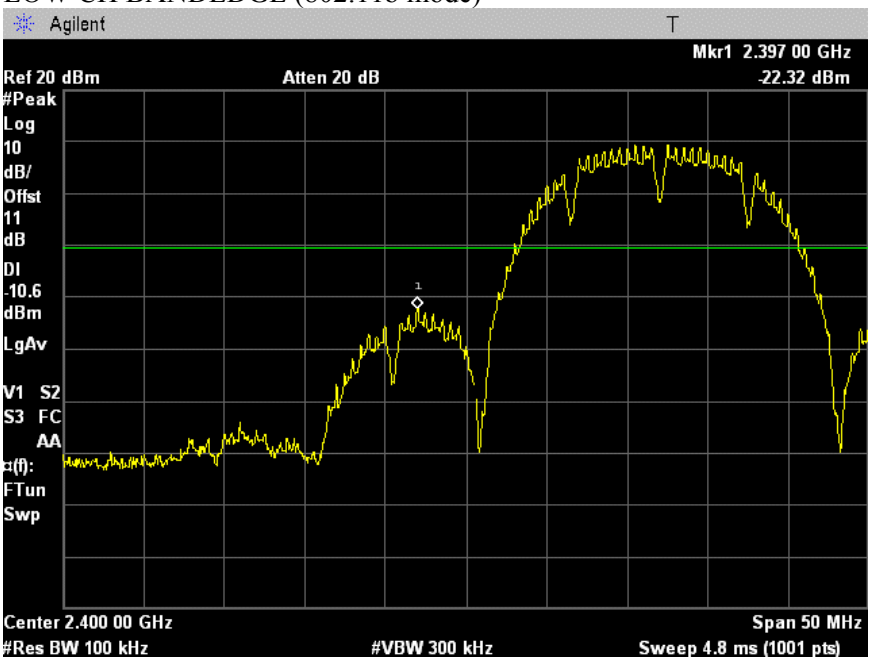
SPURIOUS EMISSIONS, LOW CHANNEL (802.11b MODE)

LOW CH BANDEDGE (802.11b mode)



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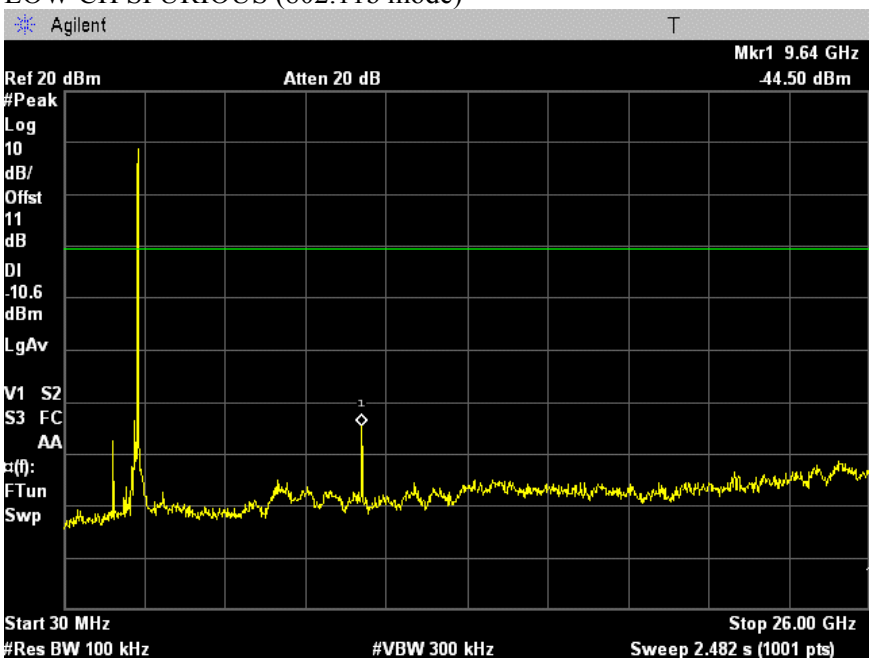
LOW CH SPURIOUS (802.11b mode)



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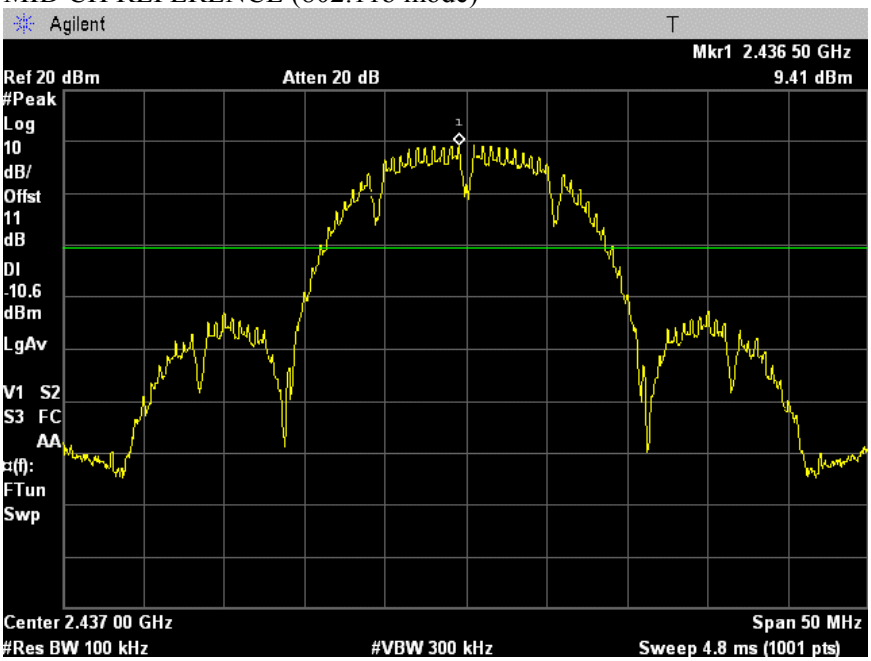
SPURIOUS EMISSIONS, MID CHANNEL (802.11b MODE)

MID CH REFERENCE (802.11b mode)



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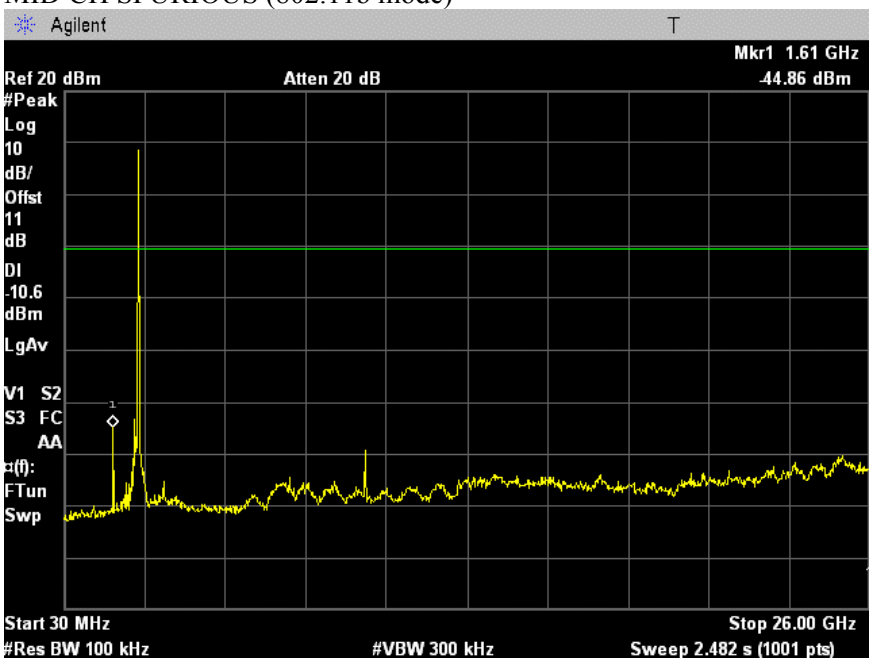
MID CH SPURIOUS (802.11b mode)



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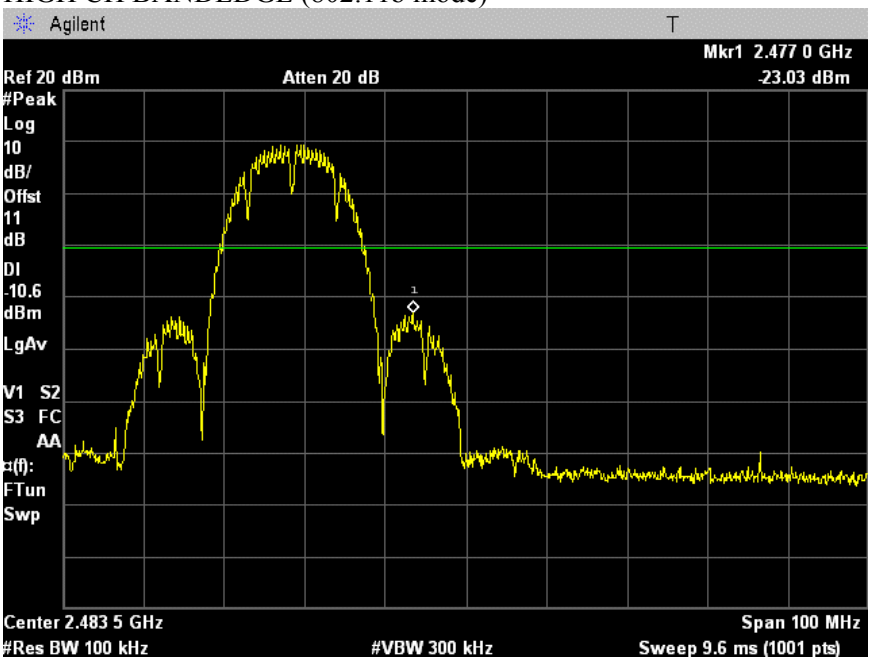
SPURIOUS EMISSIONS, HIGH CHANNEL (802.11b MODE)

HIGH CH BANDEDGE (802.11b mode)



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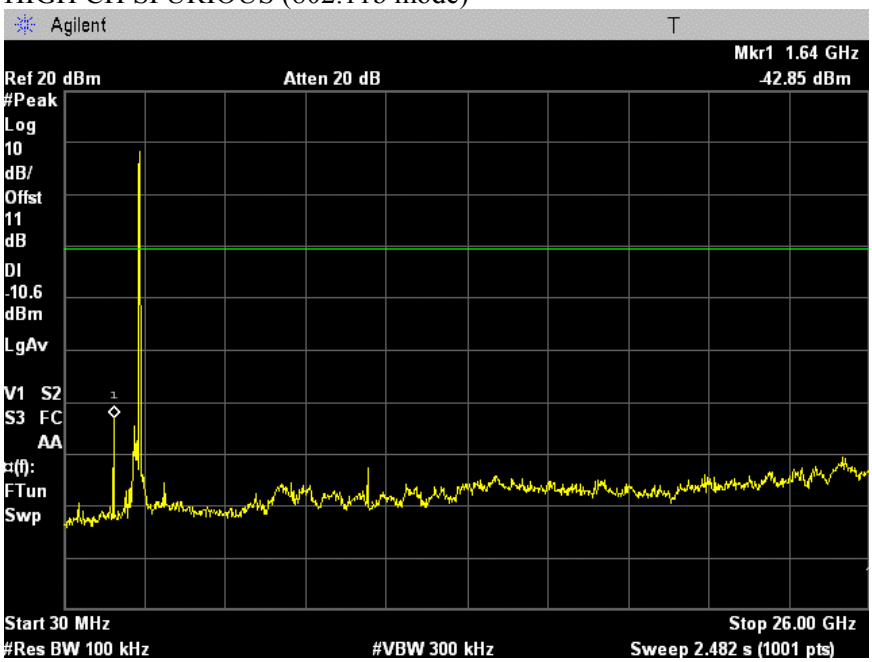
HIGH CH SPURIOUS (802.11b mode)



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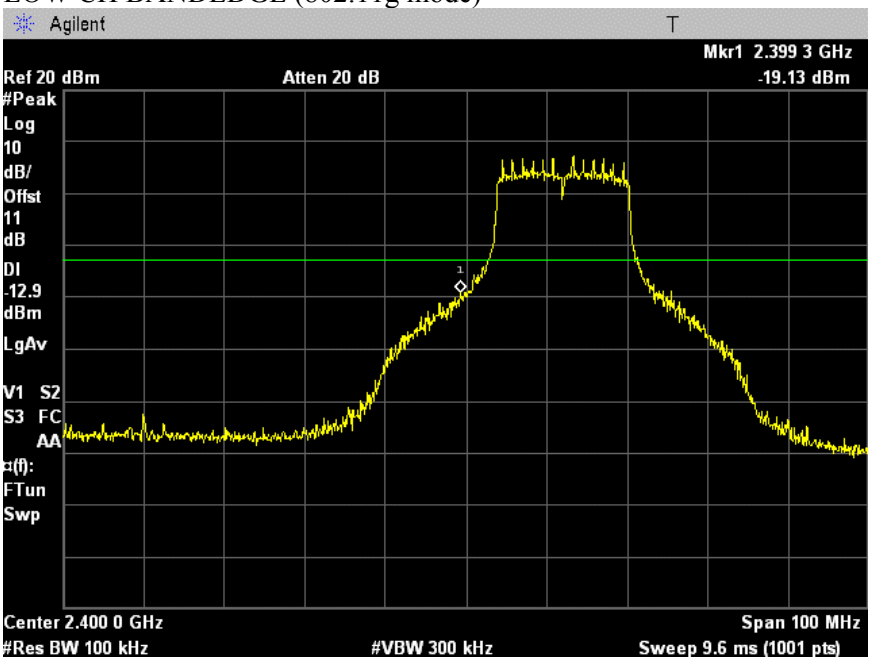
SPURIOUS EMISSIONS, LOW CHANNEL (802.11g MODE)

LOW CH BANDEDGE (802.11g mode)



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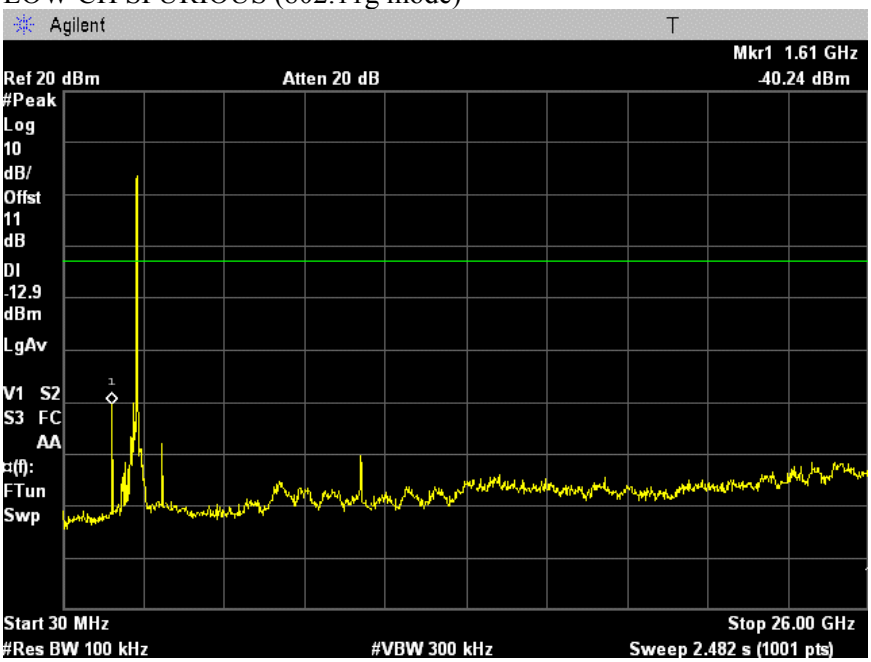
LOW CH SPURIOUS (802.11g mode)



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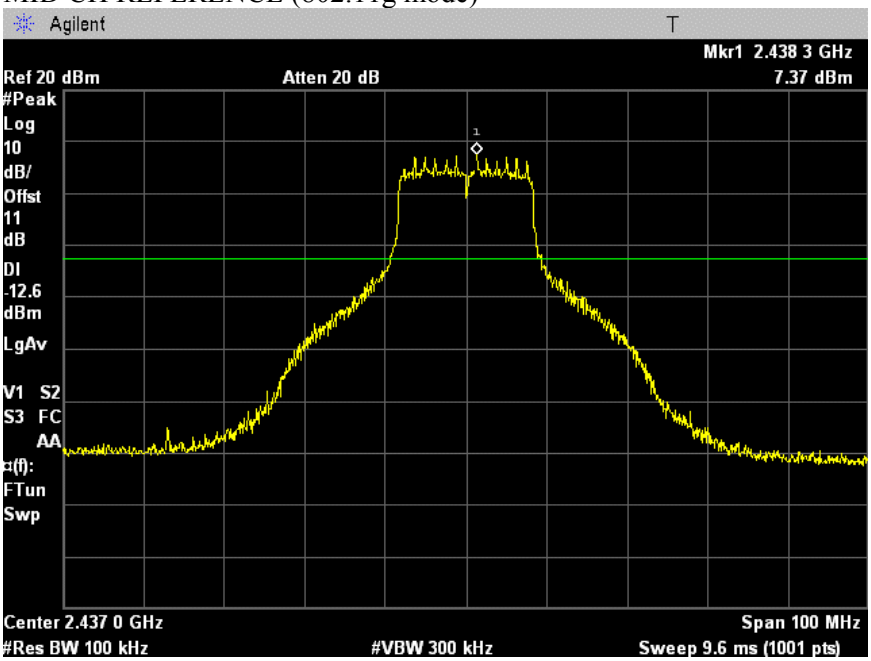
SPURIOUS EMISSIONS, MID CHANNEL (802.11g MODE)

MID CH REFERENCE (802.11g mode)



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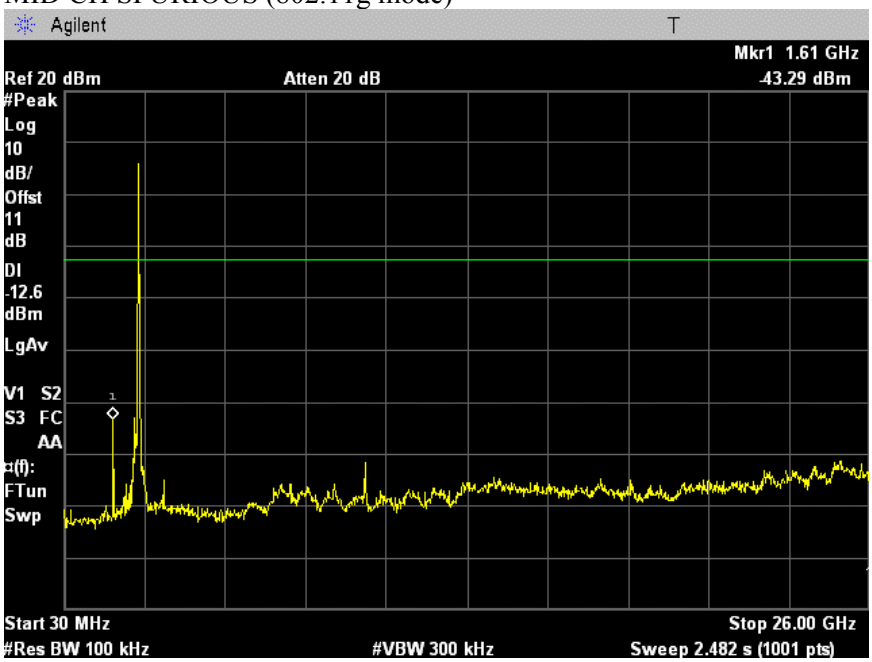
MID CH SPURIOUS (802.11g mode)



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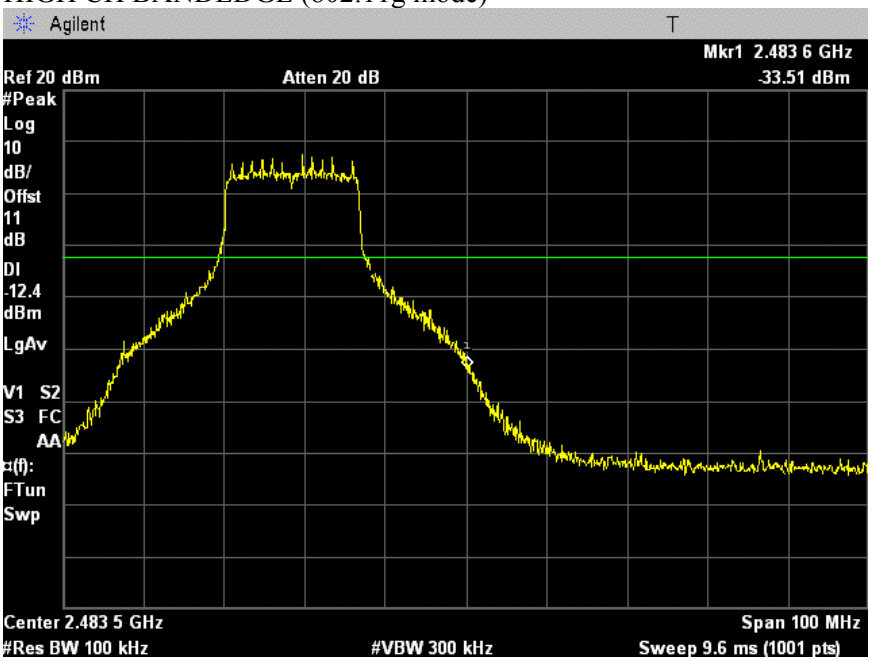
SPURIOUS EMISSIONS, HIGH CHANNEL (802.11g MODE)

HIGH CH BANDEDGE (802.11g mode)



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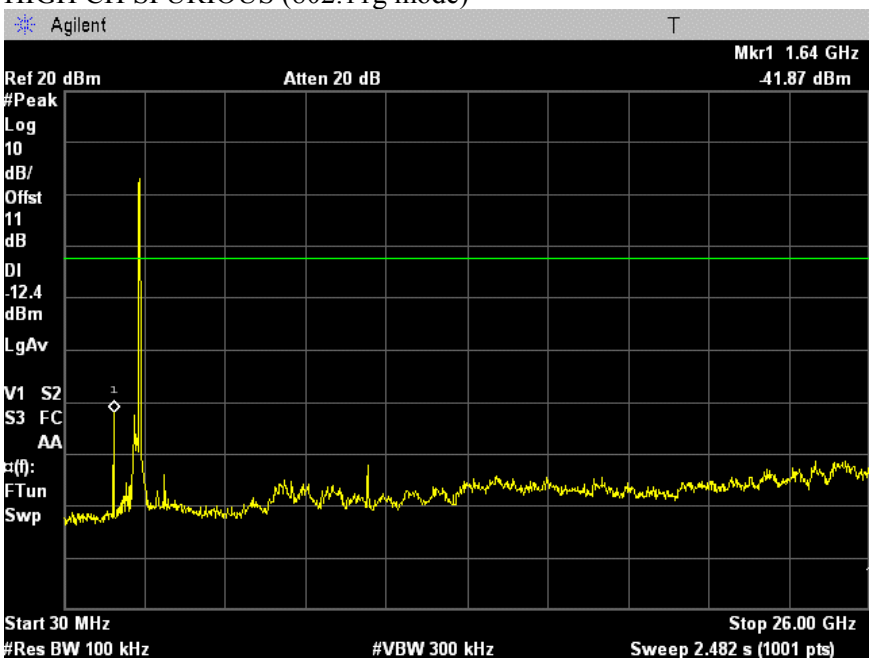
HIGH CH SPURIOUS (802.11g mode)



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7.2. RADIATED EMISSIONS

7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

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TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

SUPPLEMENTAL TEST PROCEDURE FOR CO-LOCATED TRANSMITTERS

The dominant transmitter is set to the worst case channel. The spurious emissions performance of the dominant transmitter is investigated as the settings of the non-dominant transmitter are varied. The spectrum is searched for intermodulation products. Worst-case results are reported.

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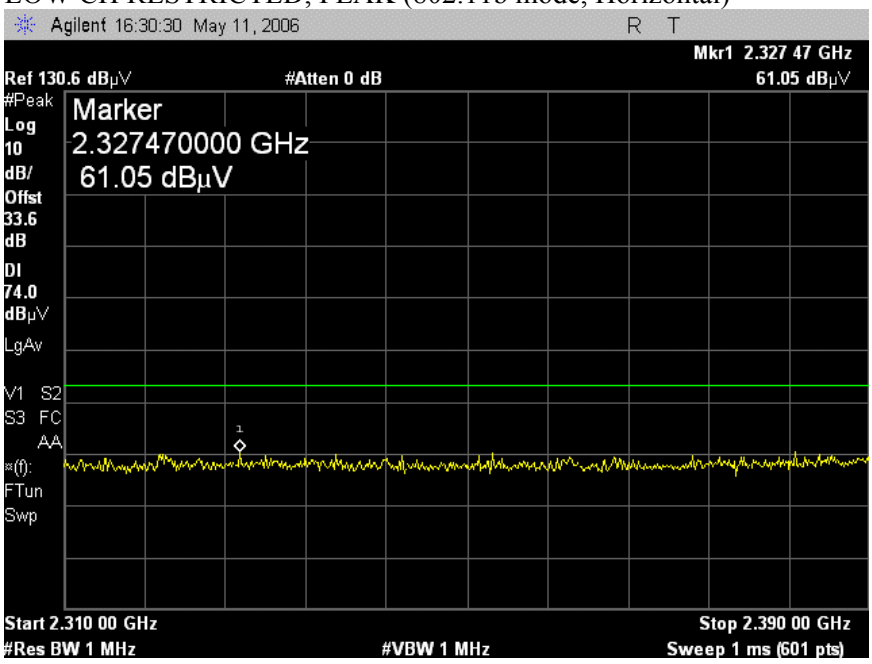
7.2.2. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BAND

EUT with Foxconn Antenna

RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (802.11b mode, Horizontal)



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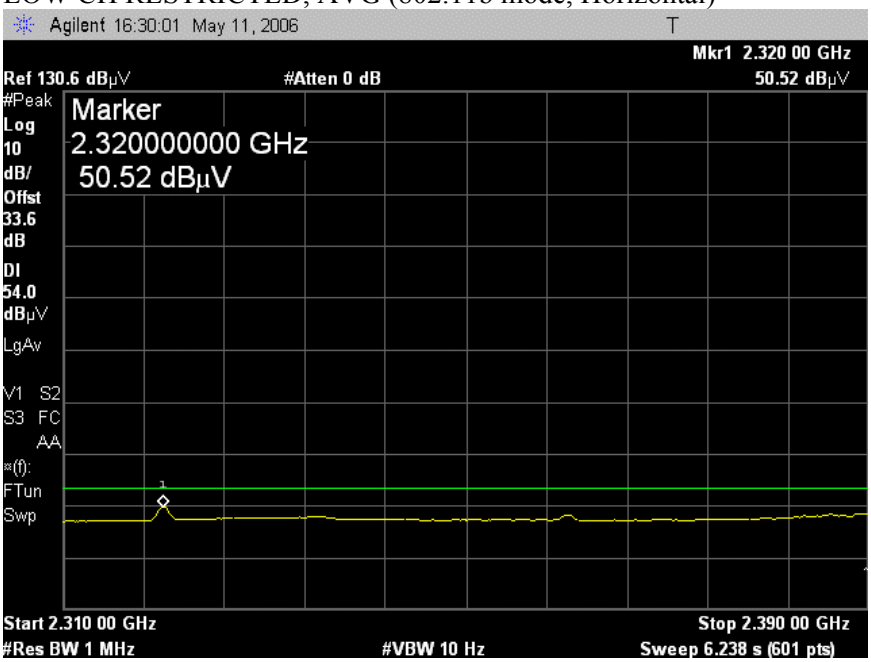
LOW CH RESTRICTED, AVG (802.11b mode, Horizontal)



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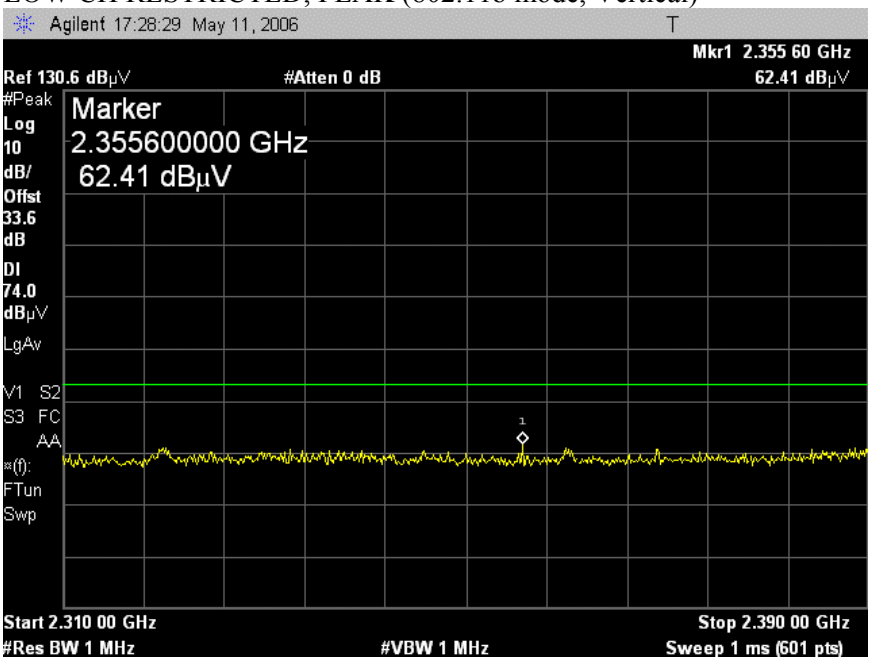
RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)

LOW CH RESTRICTED, PEAK (802.11b mode, Vertical)



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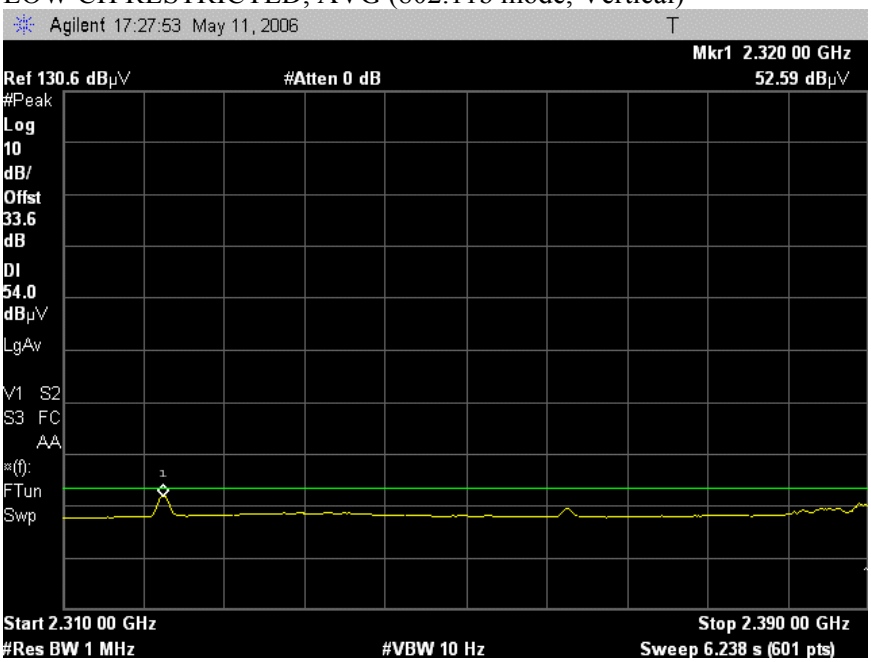
LOW CH RESTRICTED, AVG (802.11b mode, Vertical)



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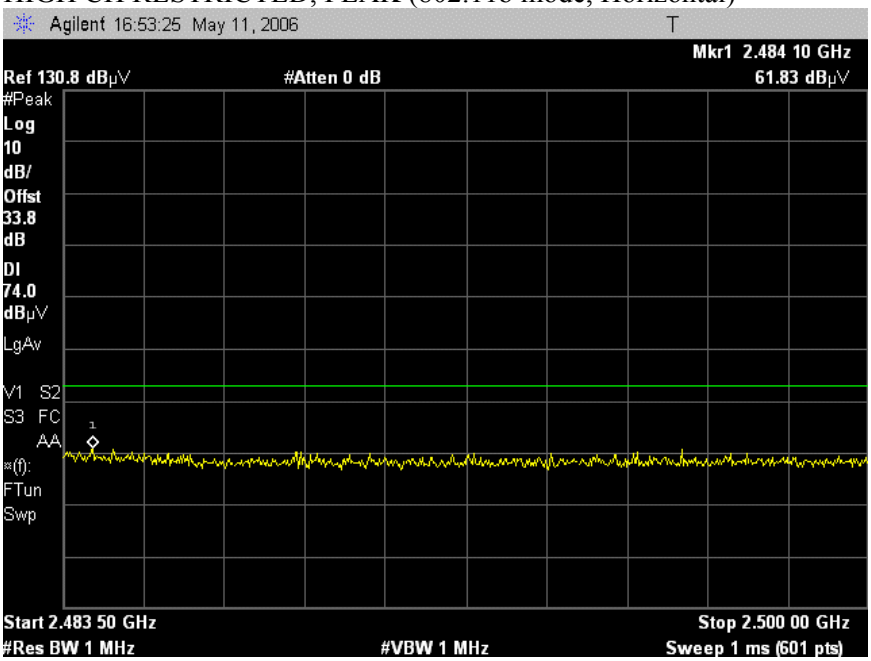
RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (802.11b mode, Horizontal)



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HIGH CH RESTRICTED, AVG (802.11b mode, Horizontal)

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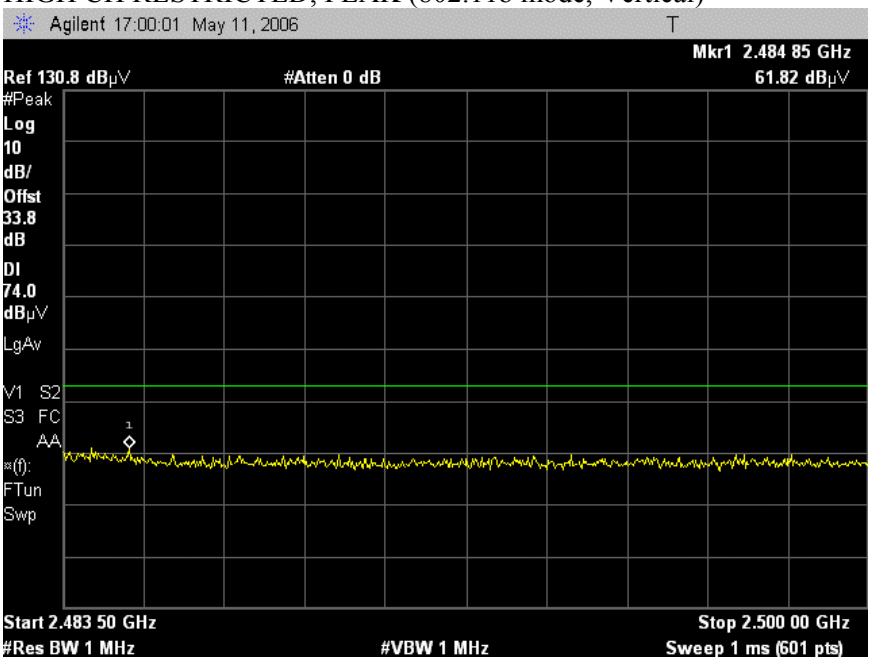
RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (802.11b mode, Vertical)



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HIGH CH RESTRICTED, AVG (802.11b mode, Vertical)

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HARMONICS AND SPURIOUS EMISSIONS (b MODE) – WITH FOXCONN ANTENNA

05/11/06 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer: Frank Ibrahim
Project #: 06I10286
Company: Samsung Electronics Co. Ltd.
Configuration: Notebook PC with Foxconn Antenna
EUT S/N: 142H93AL400072V
Mode Of Operation: TX ON in 11b mode, 1Mbps

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T136; M/N: 3117 @3m	T87 Miteq 924342			FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
	Frank 177080001	Frank 187209001	HPF_4.0GHz	

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Channel (2412 MHz)															
4.820	3.0	54.0	45.4	33.7	4.0	-45.3	0.0	0.6	47.0	38.4	74	54	-27.0	-15.6	V
4.820	3.0	58.6	55.6	33.7	4.0	-45.3	0.0	0.6	51.5	48.6	74	54	-22.5	-5.4	H
Mid Channel (2437 MHz)															
4.874	3.0	53.5	45.4	33.7	4.0	-45.3	0.0	0.6	46.5	38.4	74	54	-27.5	-15.6	V
7.311	3.0	55.6	48.8	35.2	4.6	-43.2	0.0	0.6	52.9	46.0	74	54	-21.1	-8.0	V
4.874	3.0	56.4	51.1	33.7	4.0	-45.3	0.0	0.6	49.5	44.1	74	54	-24.5	-9.9	H
7.311	3.0	60.4	56.0	35.2	4.6	-43.2	0.0	0.6	57.7	53.3	74	54	-16.3	-0.7	H
High Channel (2462 MHz)															
4.924	3.0	54.2	46.4	33.8	4.0	-45.4	0.0	0.6	47.3	39.4	74	54	-26.7	-14.6	V
7.386	3.0	58.7	52.4	35.3	4.6	-43.1	0.0	0.6	56.1	49.8	74	54	-17.9	-4.2	V
4.924	3.0	56.4	51.3	33.8	4.0	-45.4	0.0	0.6	49.4	44.4	74	54	-24.6	-9.6	H
7.386	3.0	59.3	55.0	35.3	4.6	-43.1	0.0	0.6	56.7	52.4	74	54	-17.3	-1.6	H

EUT was scanned from 1 GHz to 18 GHz, no other emissions from EUT were detected above the system noise floor.

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

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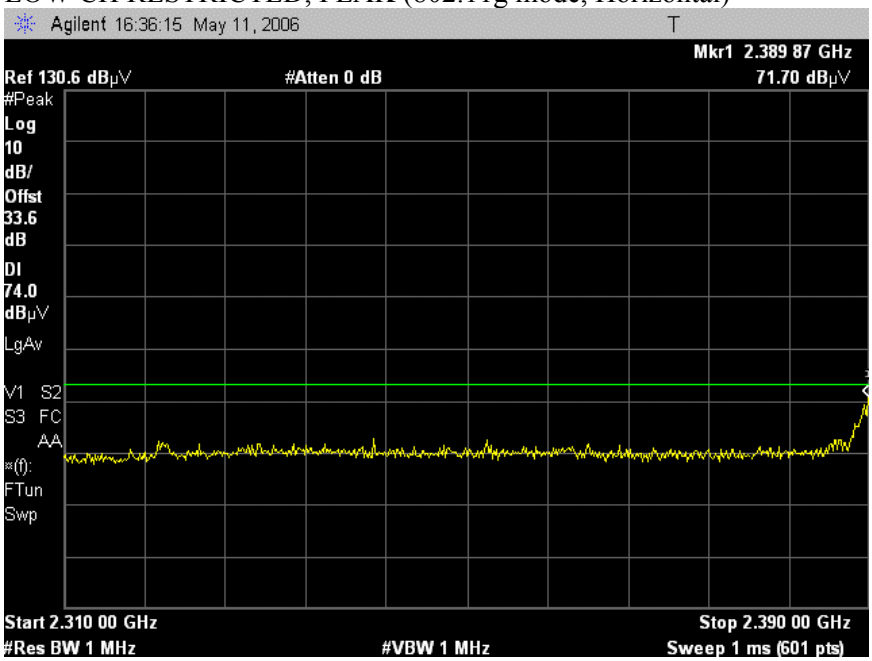
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (802.11g mode, Horizontal)



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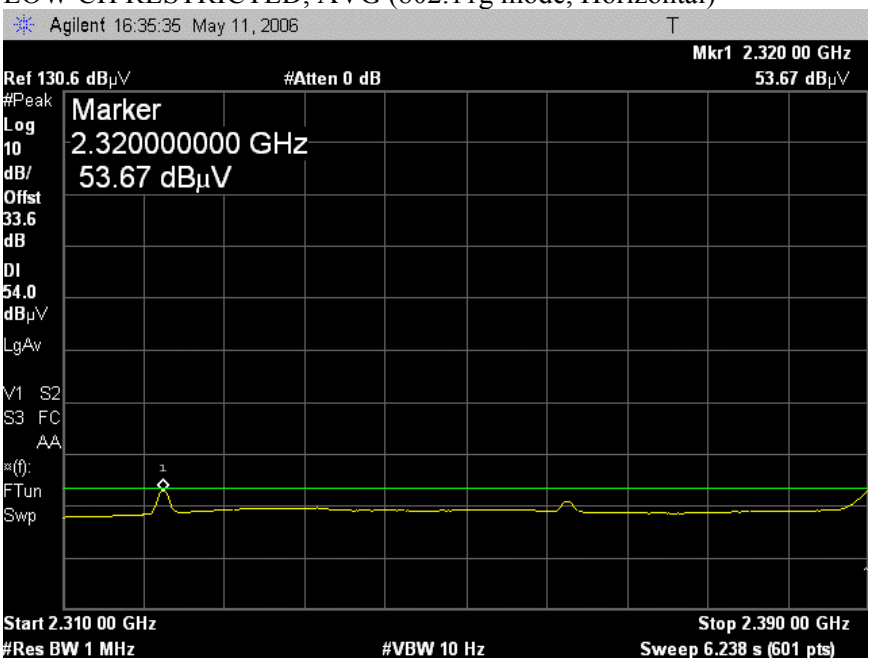
LOW CH RESTRICTED, AVG (802.11g mode, Horizontal)



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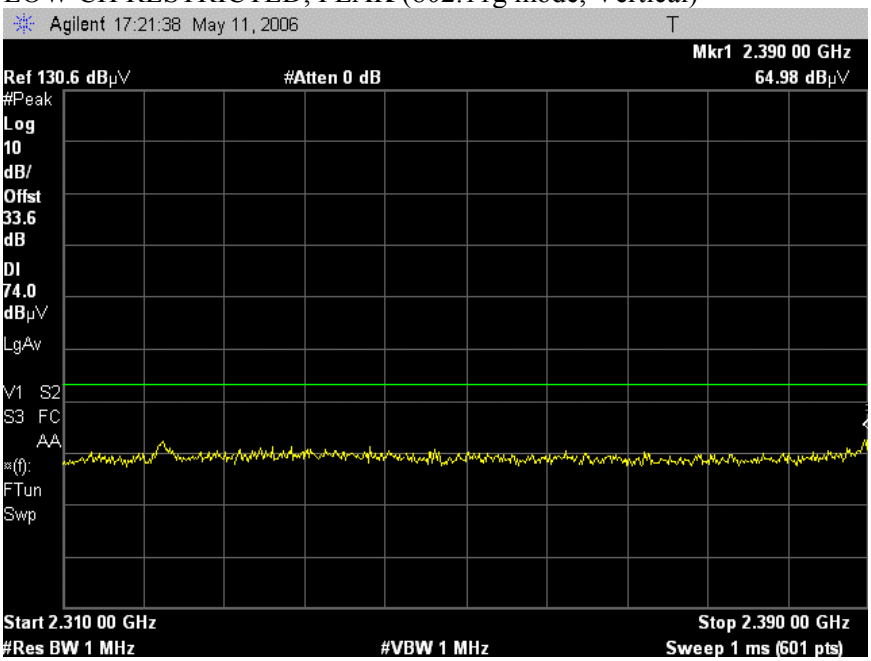
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)

LOW CH RESTRICTED, PEAK (802.11g mode, Vertical)



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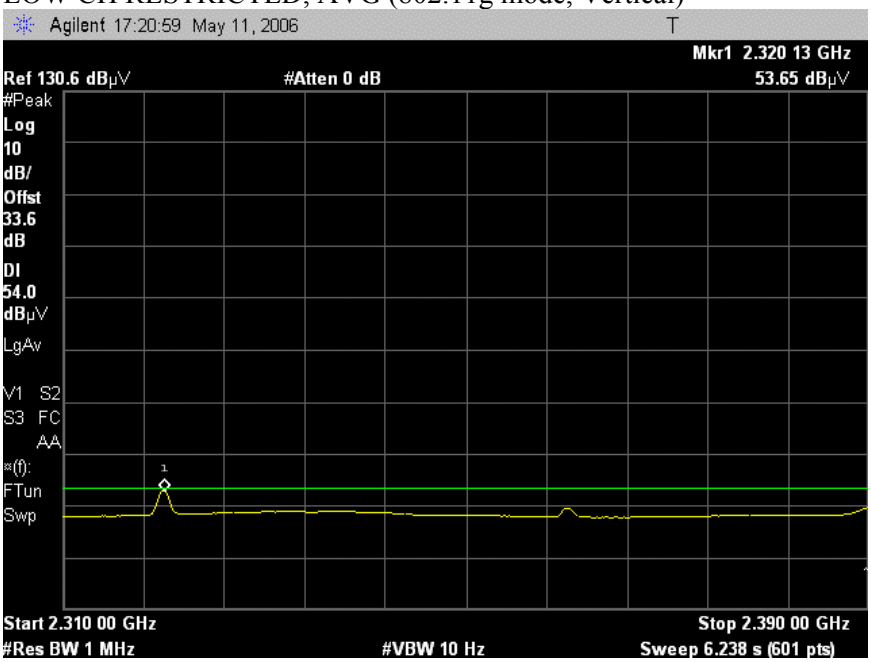
LOW CH RESTRICTED, AVG (802.11g mode, Vertical)



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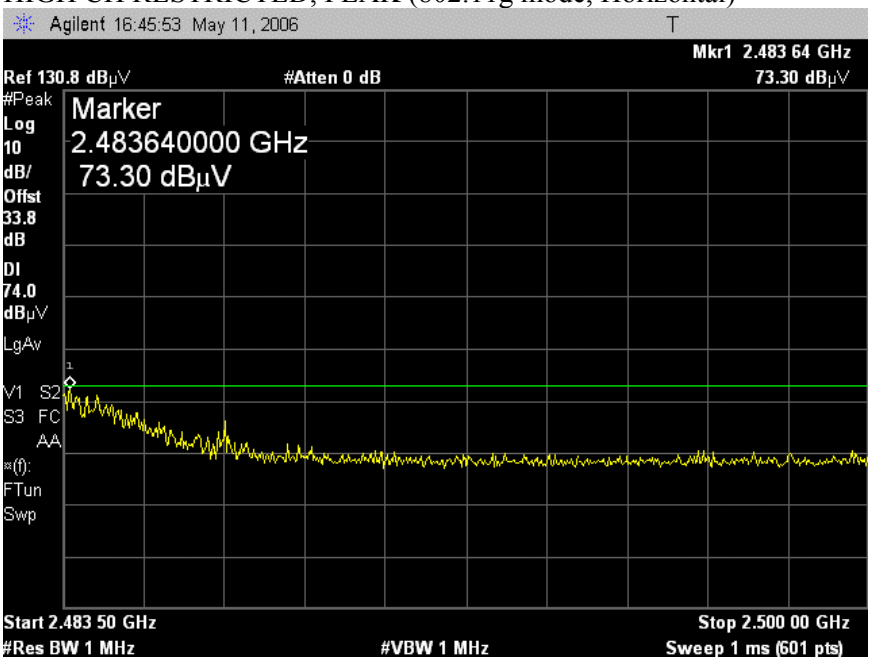
RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (802.11g mode, Horizontal)



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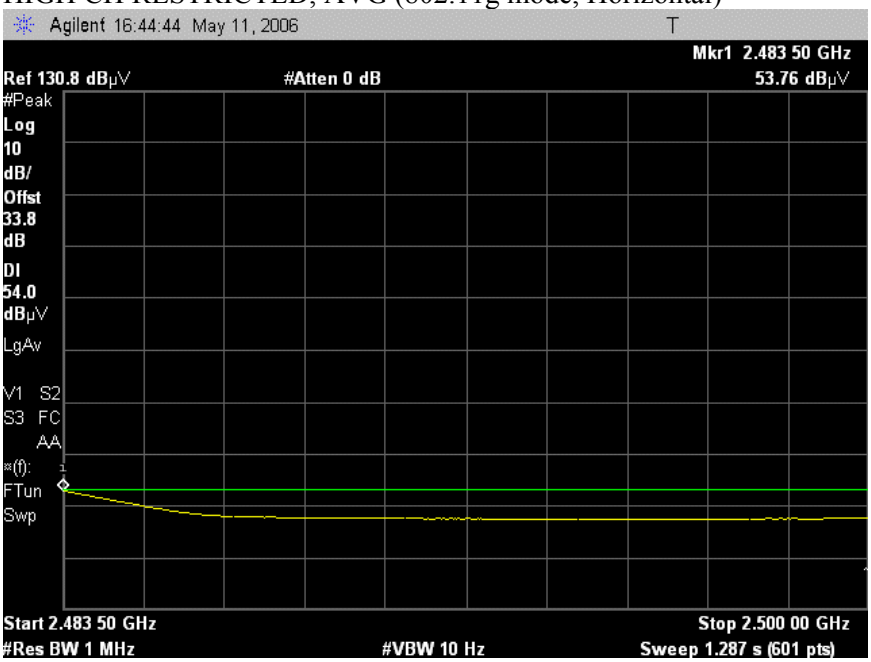
HIGH CH RESTRICTED, AVG (802.11g mode, Horizontal)



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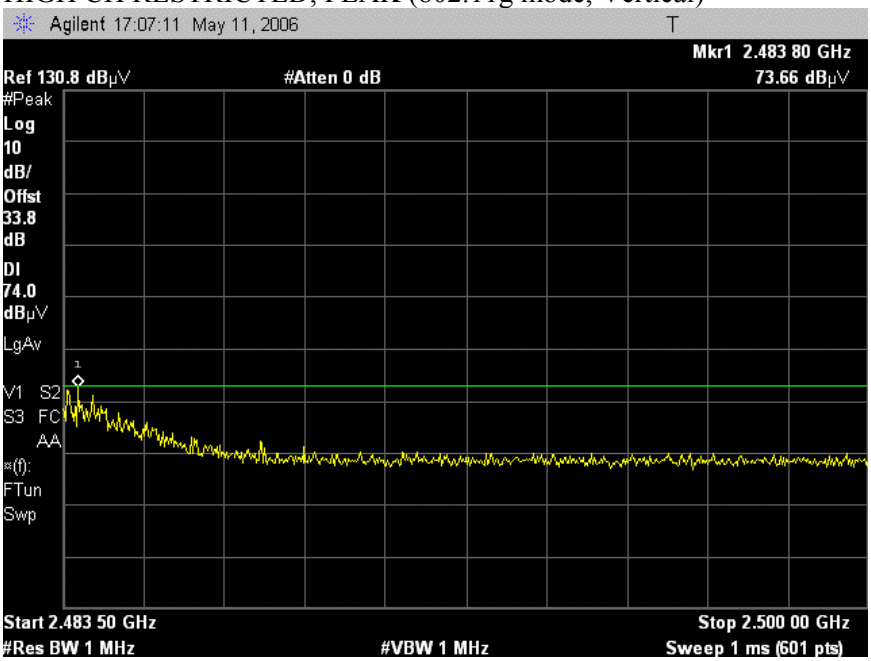
RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (802.11g mode, Vertical)



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HIGH CH RESTRICTED, AVG (802.11g mode, Vertical)

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HARMONICS AND SPURIOUS EMISSIONS (g MODE) – WITH FOXCONN ANTENNA

05/12/06 **High Frequency Measurement**

Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer:	Frank Ibrahim
Project #:	06I10286
Company:	Samsung Electronics Co. Ltd.
Configuration:	Notebook PC with Foxconn Antenna
EUT S/N:	142H93AL400072V
Mode Of Operation:	TX ON in 11g mode, 6Mbps

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
	Frank 177080001	Frank 187209001		R_001

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Channel (2412 MHz)															
1.002	3.0	55.3	41.6	23.8	2.1	-39.5	0.0	0.0	41.7	28.0	74	54	-32.3	-26.0	V
1.133	3.0	54.7	42.9	24.3	2.1	-39.3	0.0	0.0	41.8	30.0	74	54	-32.2	-24.0	V
1.331	3.0	60.9	42.7	25.0	2.3	-39.0	0.0	0.0	49.1	30.9	74	54	-24.9	-23.1	V
4.820	3.0	44.7	31.6	33.3	4.0	-36.5	0.0	0.0	45.5	32.4	74	54	-28.5	-21.6	V
1.133	3.0	58.9	46.3	24.3	2.1	-39.3	0.0	0.0	46.0	33.5	74	54	-28.0	-20.5	H
4.820	3.0	44.5	31.7	33.3	4.0	-36.5	0.0	0.0	45.3	32.5	74	54	-28.7	-21.5	H
Mid Channel (2437 MHz)															
4.874	3.0	47.4	33.4	33.4	4.0	-36.5	0.0	0.0	48.3	34.3	74	54	-25.7	-19.7	V
7.311	3.0	53.7	40.5	35.0	4.6	-36.2	0.0	0.0	57.0	43.9	74	54	-17.0	-10.1	V
4.874	3.0	44.7	31.5	33.4	4.0	-36.5	0.0	0.0	45.6	32.4	74	54	-28.4	-21.6	H
7.311	3.0	57.9	43.4	35.0	4.6	-36.2	0.0	0.0	61.3	46.7	74	54	-12.7	-7.3	H
High Channel (2462 MHz)															
4.924	3.0	43.8	30.6	33.4	4.0	-36.5	0.0	0.0	44.8	31.6	74	54	-29.2	-22.4	V
7.386	3.0	45.0	31.7	35.0	4.6	-36.2	0.0	0.0	48.4	35.1	74	54	-25.6	-18.9	V
4.924	3.0	44.6	31.5	33.4	4.0	-36.5	0.0	0.0	45.6	32.5	74	54	-28.4	-21.5	H
7.386	3.0	51.9	36.0	35.0	4.6	-36.2	0.0	0.0	55.4	39.4	74	54	-18.6	-14.6	H

EUT was scanned from 1 GHz to 18 GHz, no other emissions from EUT were detected above the system noise floor.

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

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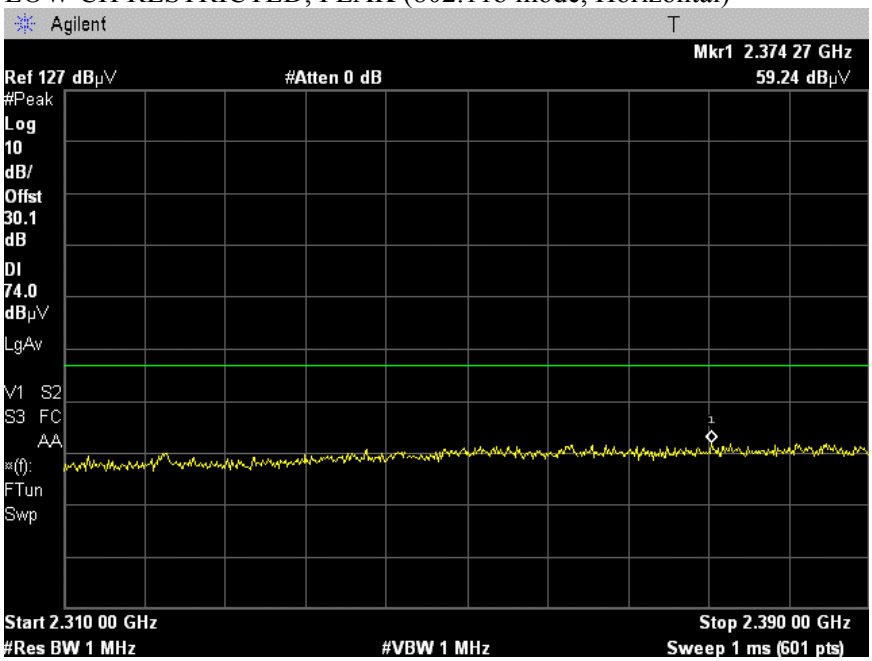
EUT with KAE Antenna

RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (802.11b mode, Horizontal)



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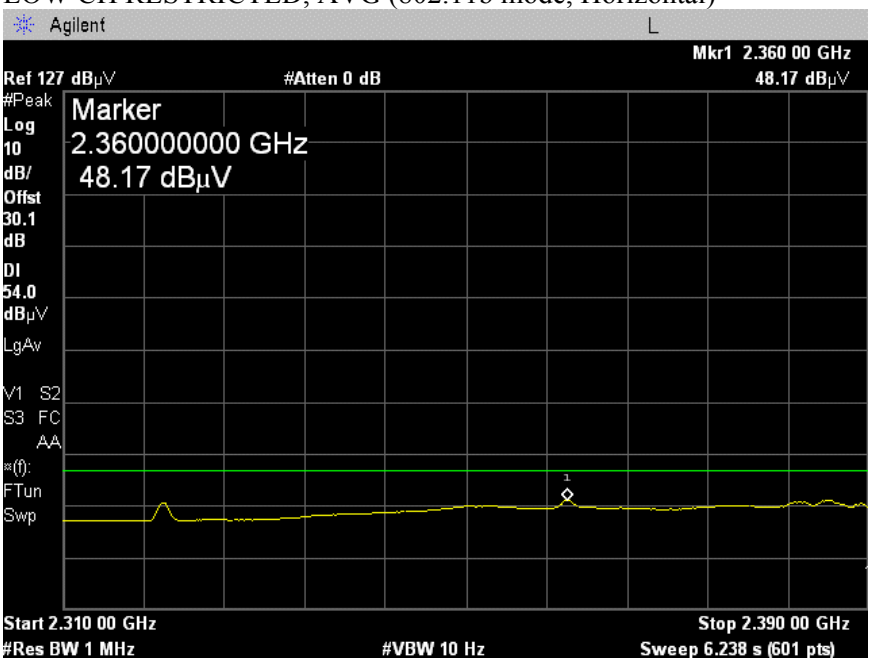
LOW CH RESTRICTED, AVG (802.11b mode, Horizontal)



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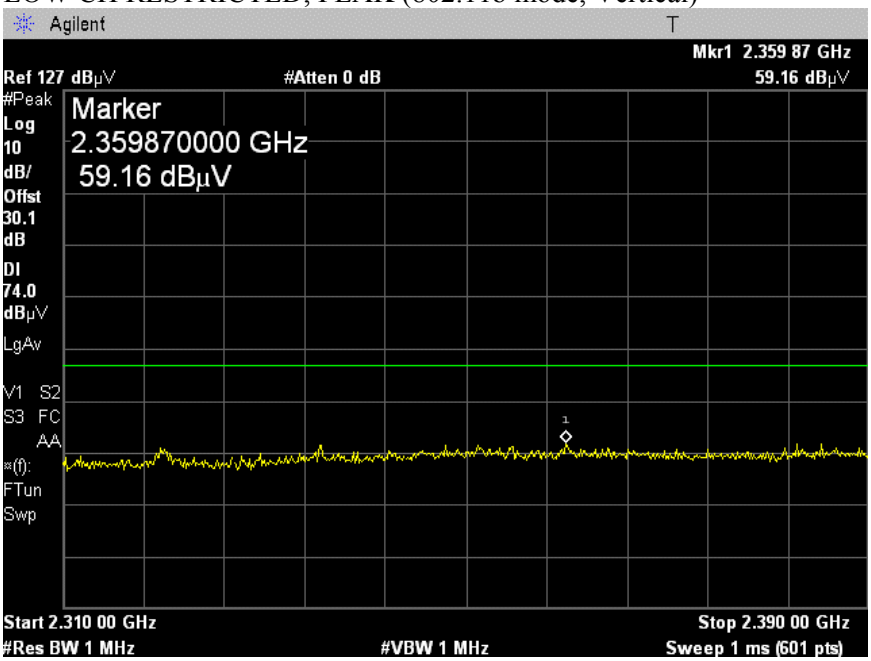
RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)

LOW CH RESTRICTED, PEAK (802.11b mode, Vertical)



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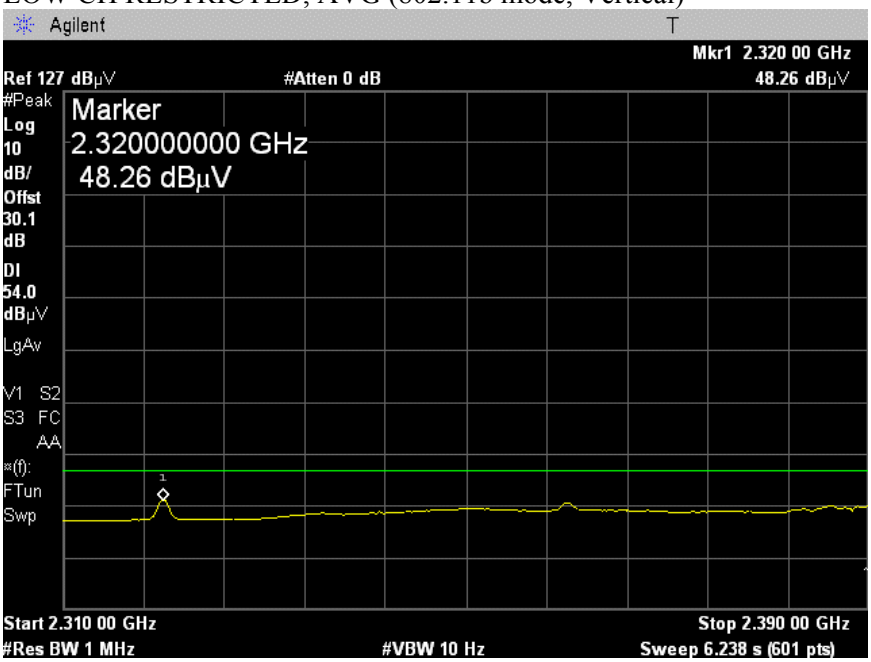
LOW CH RESTRICTED, AVG (802.11b mode, Vertical)



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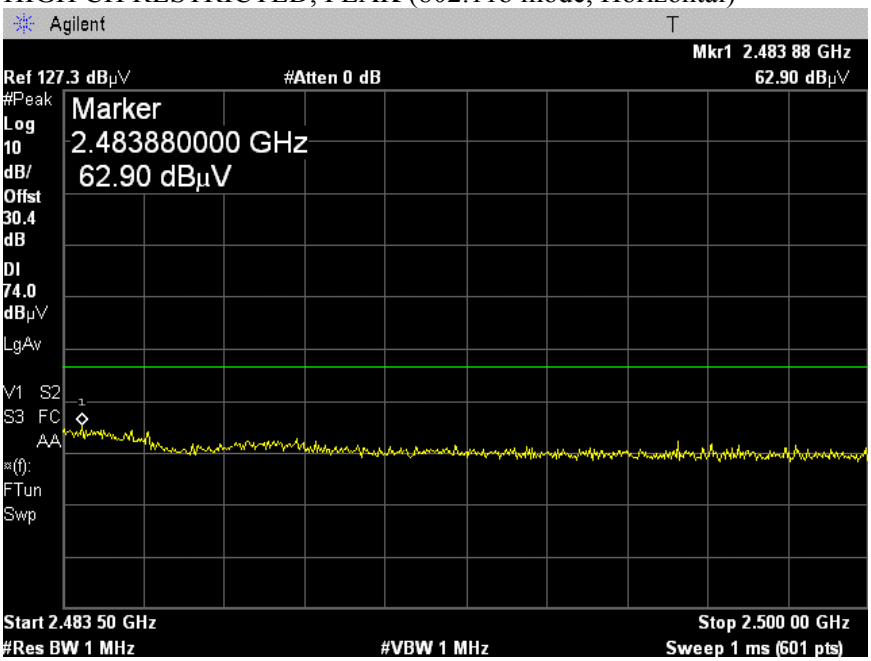
RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (802.11b mode, Horizontal)



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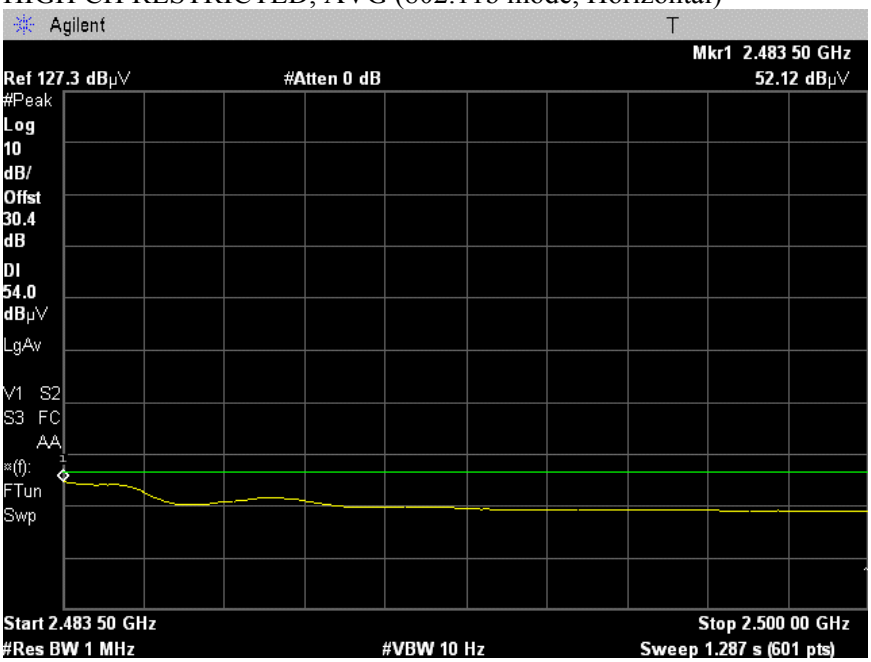
HIGH CH RESTRICTED, AVG (802.11b mode, Horizontal)



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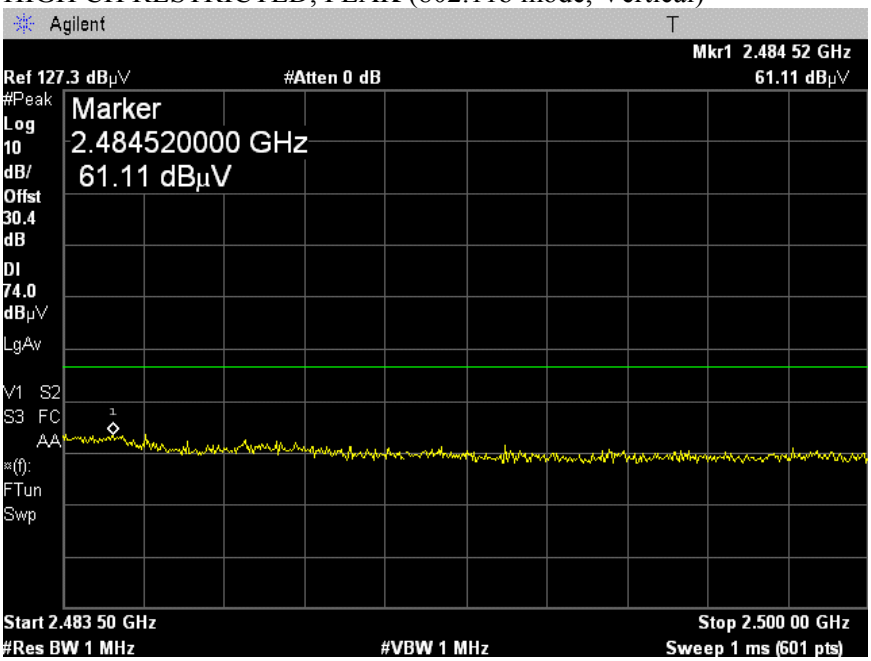
RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (802.11b mode, Vertical)



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HIGH CH RESTRICTED, AVG (802.11b mode, Vertical)

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HARMONICS AND SPURIOUS EMISSIONS (b MODE) – WITH KAE ANTENNA

05/12/06 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer: Frank Ibrahim
Project #: 06I10286
Company: Samsung Electronics Co. Ltd.
Configuration: Notebook PC with KAE Antenna
EUT S/N: 141H93AL400074T
Mode Of Operation: TX ON in 11b mode, 1Mbps

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
	Frank 177080001	Frank 187209001		R_001

Peak Measurements RBW=VBW=1MHz
Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Channel (2412 MHz)															
4.820	3.0	45.4	35.3	33.3	4.0	-36.5	0.0	0.0	46.2	36.1	74	54	-27.8	-17.9	V
4.820	3.0	48.9	44.5	33.3	4.0	-36.5	0.0	0.0	49.7	45.3	74	54	-24.3	-8.7	H
Mid Channel (2437 MHz)															
4.874	3.0	46.0	39.4	33.4	4.0	-36.5	0.0	0.0	46.9	40.3	74	54	-27.1	-13.7	V
7.311	3.0	49.5	43.2	35.0	4.6	-36.2	0.0	0.0	52.9	46.6	74	54	-21.1	-7.4	V
4.874	3.0	47.9	42.6	33.4	4.0	-36.5	0.0	0.0	48.8	43.5	74	54	-25.2	-10.5	H
7.311	3.0	51.6	46.5	35.0	4.6	-36.2	0.0	0.0	55.0	49.8	74	54	-19.0	-4.2	H
High Channel (2462 MHz)															
4.924	3.0	47.3	40.5	33.4	4.0	-36.5	0.0	0.0	48.3	41.4	74	54	-25.7	-12.6	V
7.386	3.0	50.1	42.4	35.0	4.6	-36.2	0.0	0.0	53.5	45.8	74	54	-20.5	-8.2	V
4.924	3.0	47.8	40.3	33.4	4.0	-36.5	0.0	0.0	48.7	41.3	74	54	-25.3	-12.7	H
7.386	3.0	51.3	45.9	35.0	4.6	-36.2	0.0	0.0	54.7	49.3	74	54	-19.3	-4.7	H

EUT was scanned from 1 GHz to 18 GHz, no other emissions from EUT were detected above the system noise floor.

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

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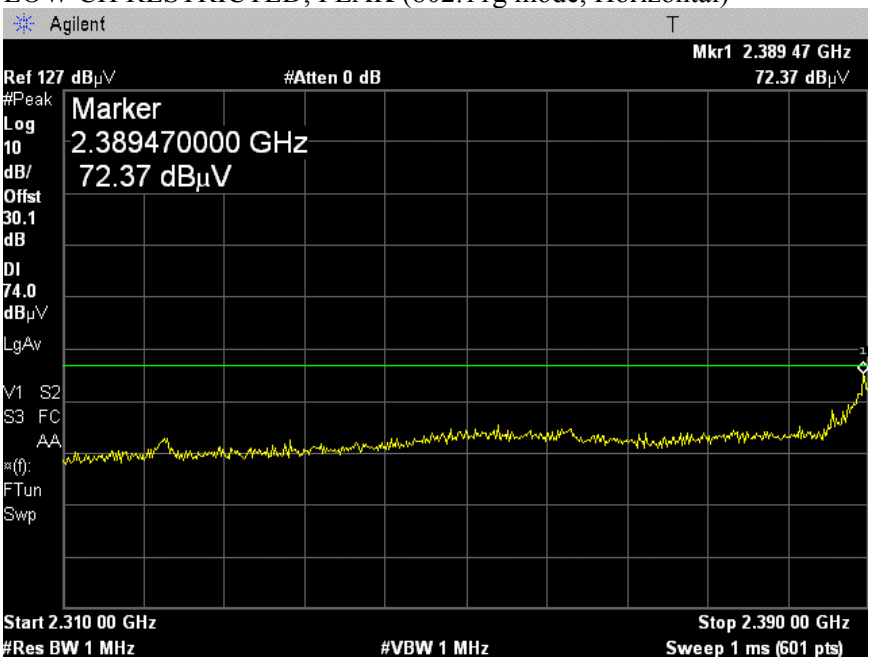
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (802.11g mode, Horizontal)



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LOW CH RESTRICTED, AVG (802.11g mode, Horizontal)

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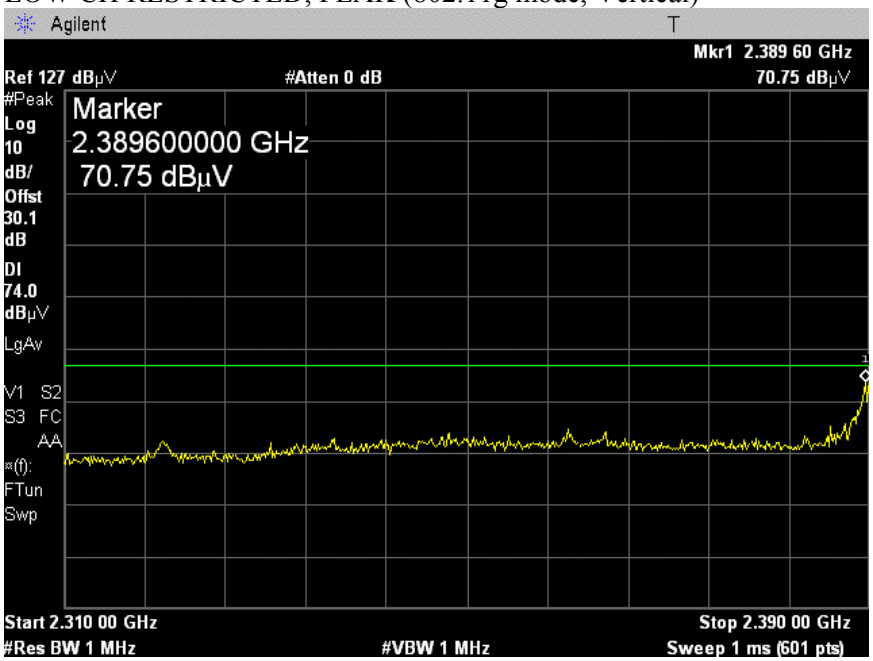
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)

LOW CH RESTRICTED, PEAK (802.11g mode, Vertical)



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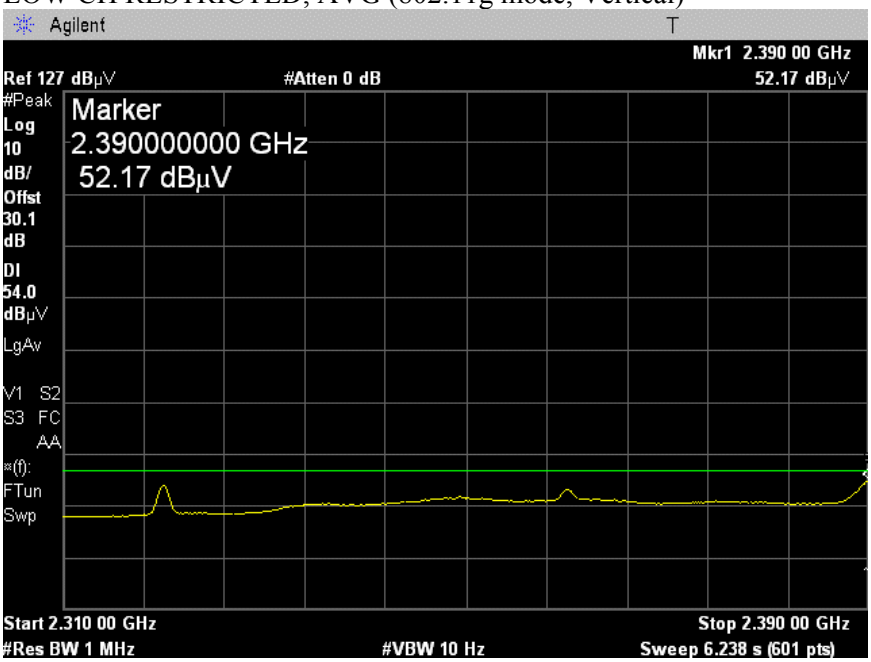
LOW CH RESTRICTED, AVG (802.11g mode, Vertical)



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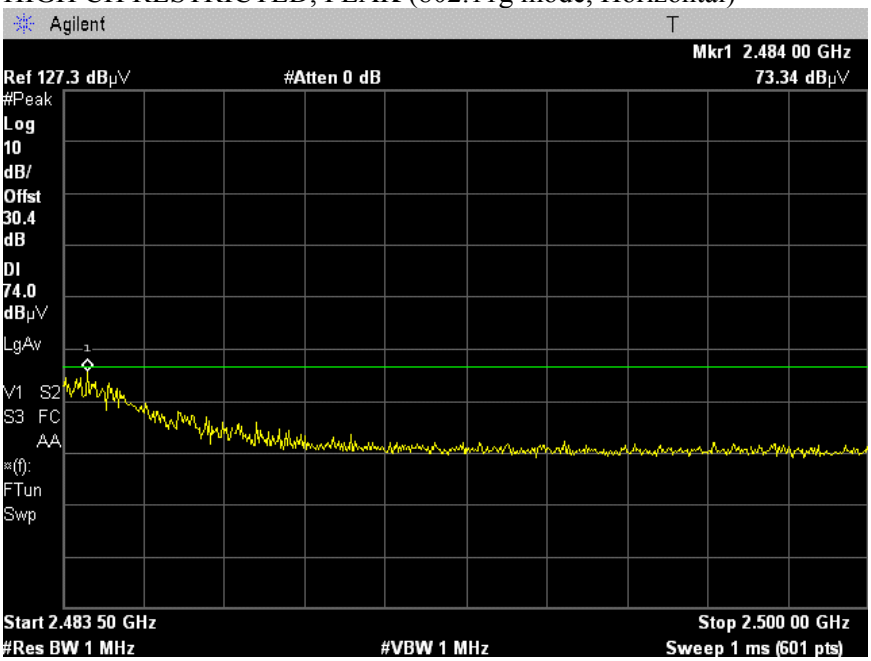
RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (802.11g mode, Horizontal)



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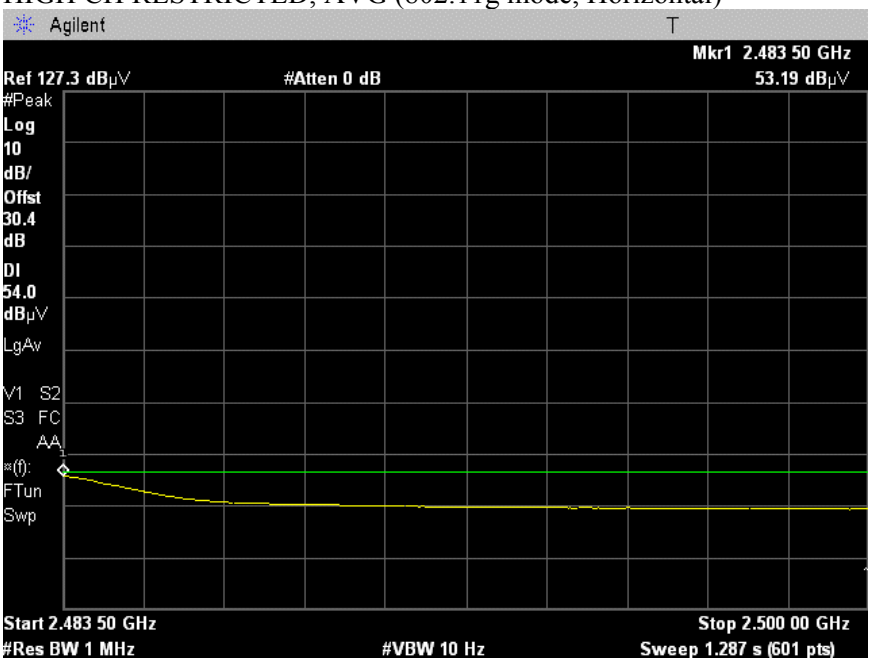
HIGH CH RESTRICTED, AVG (802.11g mode, Horizontal)



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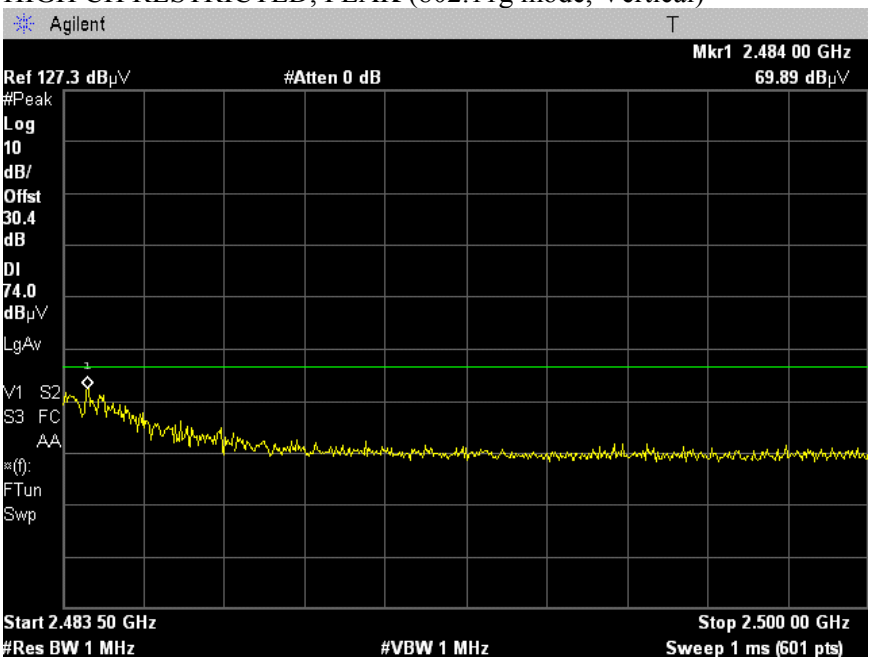
RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (802.11g mode, Vertical)



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HIGH CH RESTRICTED, AVG (802.11g mode, Vertical)

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HARMONICS AND SPURIOUS EMISSIONS (g MODE) – WITH KAE ANTENNA

05/12/06 **High Frequency Measurement**

Compliance Certification Services, Morgan Hill Open Field Site

Test Engineer:	Frank Ibrahim
Project #:	06I10286
Company:	Samsung Electronics Co. Ltd.
Configuration:	Notebook PC with KAE Antenna
EUT S/N:	141H93AL400074T
Mode Of Operation:	TX ON in 11g mode, 6Mbps

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
	Frank 177080001	Frank 187209001		R_001

Peak Measurements
RBW=VBW=1MHz
Average Measurements
RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Channel (2412 MHz)															
4.820	3.0	44.3	31.4	33.3	4.0	-36.5	0.0	0.0	45.1	32.2	74	54	-28.9	-21.8	V
4.820	3.0	44.4	31.6	33.3	4.0	-36.5	0.0	0.0	45.2	32.4	74	54	-28.8	-21.6	H
Mid Channel (2437 MHz)															
4.874	3.0	47.0	33.0	33.4	4.0	-36.5	0.0	0.0	47.9	33.9	74	54	-26.1	-20.1	V
7.311	3.0	51.9	38.6	35.0	4.6	-36.2	0.0	0.0	55.3	42.0	74	54	-18.7	-12.0	V
4.874	3.0	48.5	34.1	33.4	4.0	-36.5	0.0	0.0	49.4	35.0	74	54	-24.6	-19.0	H
7.311	3.0	57.7	41.8	35.0	4.6	-36.2	0.0	0.0	61.1	45.2	74	54	-12.9	-8.8	H
High Channel (2462 MHz)															
4.924	3.0	44.6	31.4	33.4	4.0	-36.5	0.0	0.0	45.6	32.4	74	54	-28.4	-21.6	V
7.386	3.0	46.2	31.9	35.0	4.6	-36.2	0.0	0.0	49.7	35.3	74	54	-24.3	-18.7	V
4.924	3.0	44.0	30.8	33.4	4.0	-36.5	0.0	0.0	44.9	31.8	74	54	-29.1	-22.2	H
7.386	3.0	47.2	33.5	35.0	4.6	-36.2	0.0	0.0	50.6	36.9	74	54	-23.4	-17.1	H

EUT was scanned from 1 GHz to 18 GHz, no other emissions from EUT were detected above the system noise floor.

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

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7.2.3. CO-LOCATED TRANSMITTER RADIATED EMISSIONS

RESULTS

No non-compliance noted:

EUT was activated at mid channel in WLAN 11b mode (2437 MHz), and at mid channel in BT mode (2441 MHz). A pre-scan was performed to investigate whether there is any inter-modulation signal, all the signals that were detected were harmonics of individual transmitters, non of the inter-modulation signals were found in the frequency range of 1 to 25 GHz.

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7.2.4. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

WITH KAE ANTENNA

HORIZONTAL

COMPLIANCE Engineering Services, Inc.
561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 2 File#: rad0517.EMI Date: 05-17-2006 Time: 19:11:17
Audix ATC

Condition: FCC CLASS-B HORIZONTAL
Test Operator: : Frank Ibrahim
Company: : Samsung
Project #: : 06I10286
EUT Description: : Notebook PC with KAE Antenna
Model No: : NP-Q1-C
S/N: : 141H93AL400074T
Configuration: : Stand Alone EUT, Y orientation
Mode of Operation: TX ON in 11b mode, Low Channel, ART=19
Test Target: : FCC Class B

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	196.840	16.46	14.00	30.46	43.50	-13.04	Peak
2	274.440	18.36	14.76	33.12	46.00	-12.88	Peak
3	387.930	17.25	17.77	35.02	46.00	-10.98	Peak
4	775.930	15.13	24.26	39.39	46.00	-6.61	Peak
5	807.940	15.71	24.69	40.40	46.00	-5.60	Peak
6	841.890	17.18	25.11	42.29	46.00	-3.71	Peak

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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 9 File#: rad0517.EMI Date: 06-22-2006 Time: 11:53:51
Audix ATC

Condition: FCC CLASS-B VERTICAL
Test Operator: : Frank Ibrahim
Company: : Samsung
Project #: : 06I10286
EUT Description: : Notebook PC with KAE Antenna
Model No: : NP-Q1-C
S/N: : 141H93AL400074T
Configuration: : Stand Alone EUT, Y orientation
Mode of Operation: TX ON in 11b mode, Low Channel, ART=19
Test Target: : FCC Class B

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.000	12.31	20.45	32.76	40.00	-7.24	Peak
2	61.040	20.48	8.78	29.26	40.00	-10.74	Peak
3	160.950	16.62	13.81	30.43	43.50	-13.07	Peak
4	313.240	16.93	16.05	32.98	46.00	-13.02	Peak
5	332.640	16.39	16.47	32.86	46.00	-13.14	Peak
6	609.090	18.40	21.66	40.06	46.00	-5.94	Peak

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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

WITH FOXCONN ANTENNA

HORIZONTAL

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 8 File#: rad0517.EMI Date: 05-17-2006 Time: 20:15:02
Audix ATC

Condition: FCC CLASS-B HORIZONTAL
Test Operator: : Frank Ibrahim
Company: : Samsung
Project #: : 06I10286
EUT Description: : Notebook PC with Foxconn Antenna
Model No: : NP-Q1-C
S/N: : 142H93AL400072V
Configuration: : Stand Alone EUT, Y orientation
Mode of Operation: TX ON in 11b mode, Low Channel, ART=19
Test Target: : FCC Class B

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	31.940	10.72	19.94	30.66	40.00	-9.34	Peak
2	196.840	17.80	14.00	31.80	43.50	-11.70	Peak
3	274.440	19.53	14.76	34.29	46.00	-11.71	Peak
4	352.040	19.57	16.92	36.49	46.00	-9.51	Peak
5	575.140	15.88	21.20	37.08	46.00	-8.92	Peak
6	775.930	17.33	24.26	41.59	46.00	-4.41	Peak

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SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL

561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0888
Fax: (408) 463-0885

Data#: 10 File#: rad0517.EMI Date: 06-22-2006 Time: 11:56:51
Audix ATC

Condition: FCC CLASS-B VERTICAL
Test Operator: : Frank Ibrahim
Company: : Samsung
Project #: : 06I10286
EUT Description: : Notebook PC with Foxconn Antenna
Model No: : NP-Q1-C
S/N: : 142H93AL400072V
Configuration: : Stand Alone EUT, Y orientation
Mode of Operation: TX ON in 11b mode, Low Channel, ART=19
Test Target: : FCC Class B

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.970	9.04	20.45	29.49	40.00	-10.51	Peak
2	61.040	18.39	8.78	27.17	40.00	-12.83	Peak
3	119.240	16.26	15.05	31.31	43.50	-12.19	Peak
4	196.840	18.80	14.00	32.80	43.50	-10.70	Peak
5	351.070	17.18	16.91	34.09	46.00	-11.91	Peak
6	468.440	17.40	19.61	37.01	46.00	-8.99	Peak
7	546.040	16.04	20.80	36.84	46.00	-9.16	Peak
8	609.090	18.59	21.66	40.25	46.00	-5.75	Peak

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7.3. POWERLINE CONDUCTED EMISSIONS

LIMIT

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

The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

No non-compliance noted:

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6 WORST EMISSIONS WITH FOXCONN ANTENNA

CONDUCTED EMISSIONS DATA (115VAC 60Hz)

Freq.	Reading			Closs	Limit	FCC_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.19	52.16	--	41.40	0.00	64.04	54.04	-11.88	-12.64	L1
0.49	41.98	--	34.00	0.00	56.12	46.12	-14.14	-12.12	L1
0.57	39.50	--	25.60	0.00	56.00	46.00	-16.50	-20.40	L1
0.19	49.18	--	43.00	0.00	64.04	54.04	-14.86	-11.04	L2
0.49	42.18	--	39.10	0.00	56.12	46.12	-13.94	-7.02	L2
0.57	38.64	--	27.30	0.00	56.00	46.00	-17.36	-18.70	L2
6 Worst Data									

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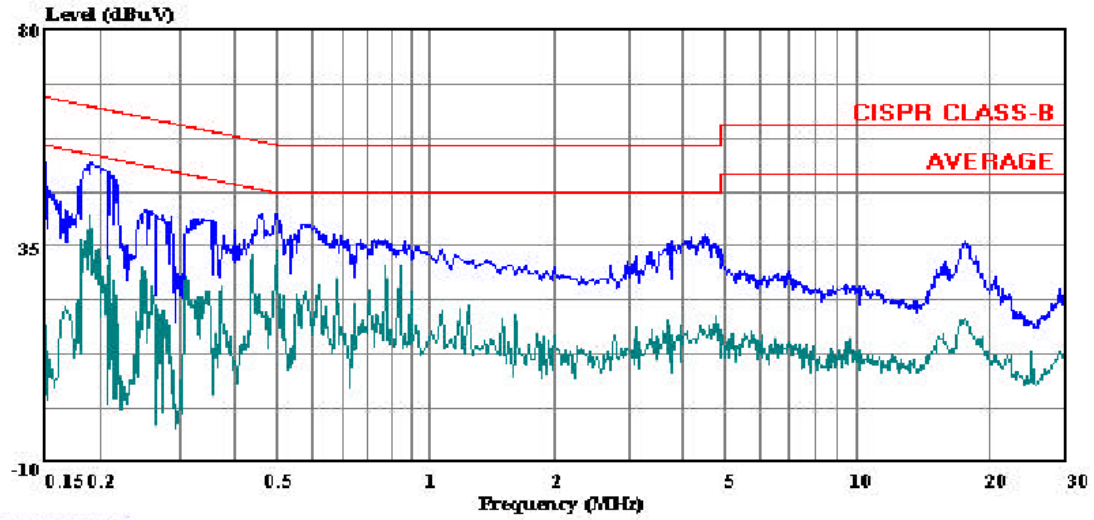
LINE 1 RESULTS

Compliance Certification Services
561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0885
Fax: (408) 463-0888

Data#: 7 File#: 115.EMI Date: 06-22-2006 Time: 10:14:06



Trace: 5 Ref Trace:

Condition: CISPR CLASS-B
Test Operator : Vien Tran
Project # : 06I10286
Company : Samsung
EUT configuration: Notebook PC with Foxconn antenna
EUT mode : Continous Tx worst case
Power Source : 115 VAC, 60 Hz
: Line 1: Peak:(Black), Average:(Green)

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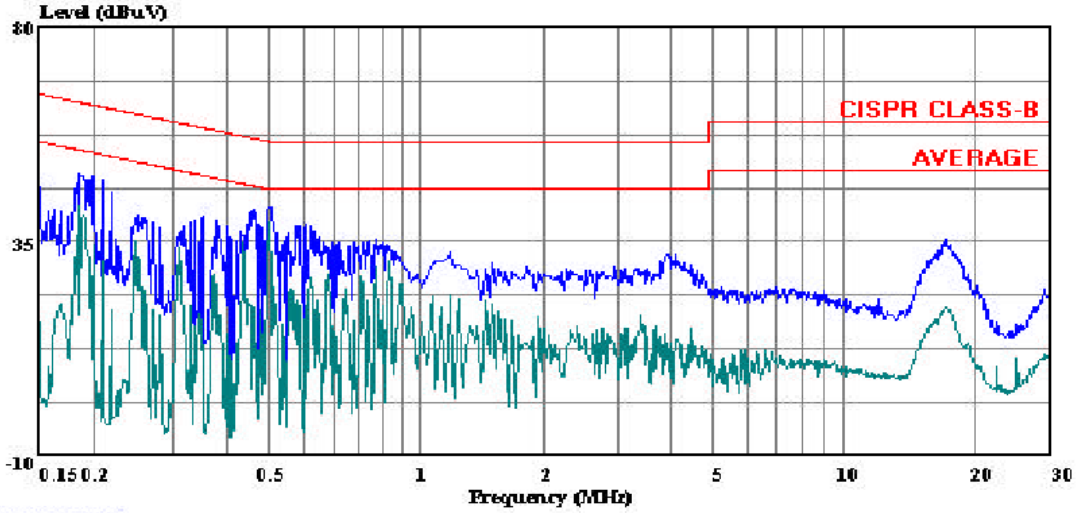
LINE 2 RESULTS

Compliance Certification Services
561F Monterey Road
Morgan Hill, CA 95037
Tel: (408) 463-0885
Fax: (408) 463-0888

Data#: 14 File#: 115.EMI Date: 06-22-2006 Time: 10:35:43



Trace: 12 Ref Trace:

Condition: CISPR CLASS-B
Test Operator : Vien Tran
Project # : 06I10286
Company : Samsung
EUT configuration: Notebook PC with Foxconn antenna
EUT mode : Continous Tx worst case
Power Source : 115 VAC, 60 Hz
: Line 2: Peak:(Black), Average:(Green)

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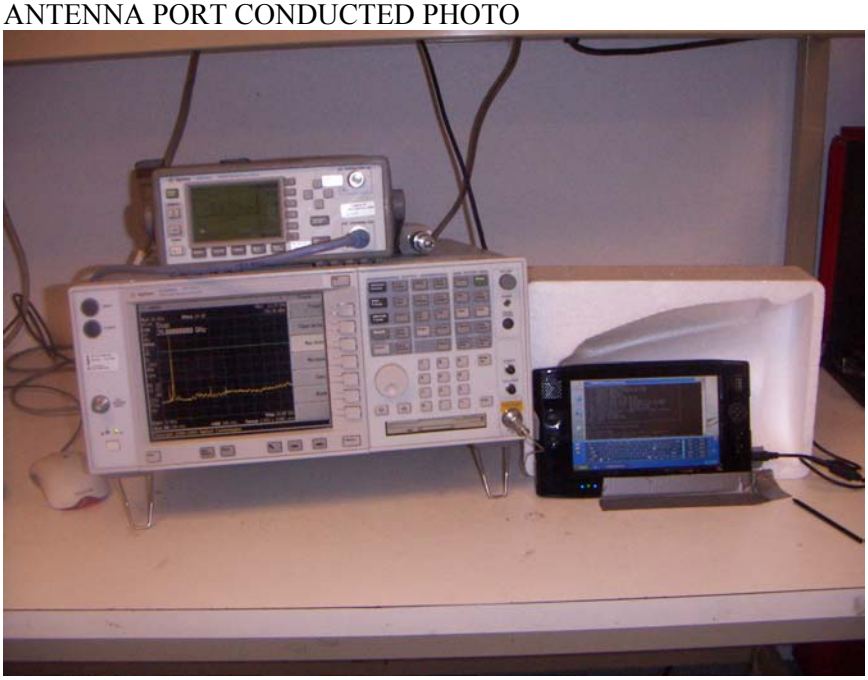
8. SETUP PHOTOS

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

ANTENNA PORT CONDUCTED PHOTO



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RADIATED RF MEASUREMENT SETUP FOR PORTABLE CONFIGURATION

X-AXIS FRONT PHOTO

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Y-AXIS FRONT PHOTO

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Z-AXIS FRONT PHOTO

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POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP

LINE CONDUCTED FRONT PHOTO

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LINE CONDUCTED BACK PHOTO

END OF REPORT

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