CFR 47 FCC Part 15.247

TEST REPORT

Product： **NoteBook PC**

Trade Name： MTC; Getac

Model Number： 9213XY (X=0~9, Y=A~Z)

FCC ID： MAU9213H

Prepared for

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Remark：

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The test results in the report only to the tested sample.

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Statement of Compliance

Applicant: MiTAC Technology Corp.

Manufacturer: Getac Technology (Kunshan) Co., Ltd.

Product: NoteBook PC

Model No.: 9213XY (X=0~9, Y=A~Z)

Tested Power Supply: 120Vac, 60Hz

Date of Final Test: Sep. 19, 2008

Configuration of Measurements and Standards Used :

FCC Rules and Regulations Part 15 Subpart C

I HEREBY CERTIFY THAT: The data shown in this report were made in accordance with the procedures given in ANSI C63.4, and the energy emitted by the device was founded to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The result of the testing report relate only to the item tested.

2. The testing report shall not be reproduced expect in full, without the written approval of IETC

Report Issued: 2008/09/25

Project Engineer: Anya Lee
Anya Lee

Approved: Jerry Liu
Jerry Liu

1 General Information

1.1 Description of Equipment Under Test

Product : NoteBook PC

Model Number : 9213XY (X=0~9, Y=A~Z)

Applicant : **MiTAC Technology Corp.**
4F, No.1, R&D Road 2, Hsinchu Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.

Manufacturer : **Getac Technology (Kunshan) Co., Ltd.**
Kunshan Export Processing Zone, 215300 Jiangsu, P.R.China

Power Supply : Manufacturer: Delta, M/N: SADP-65KB BBVF
Input: 100-240Vac, 50-60Hz, 1.5A
Power cord: ☒Non-shielded ☒Detachable, 1.8 m ☒w/o core
Output: 19Vdc, 3.42A
Power cable: ☒Non-shielded ☒Un-detachable, 1.8m ☒with core

Operating Frequency : 2412MHz ~ 2462MHz; 5745MHz ~ 5825MHz

Channel Number : Refer to section 1.3

Type of Modulation : DSSS; OFDM

Antenna description : This device uses PIFA antenna.

Antenna Gain		2.4GHz	5GHz
Chain A	:	1.79 dBi	0.01 dBi
Chain B	:	2.17 dBi	0.78 dBi
Chain C	:	-0.41 dBi	0.39dBi
Connector type	:	U.FL	U.FL

Sample Receive date : Aug. 28, 2008

Date of Test : Aug. 28 ~ Sep. 19, 2008

Additional Description : 1) The EUT is **NoteBook PC.**
2) All model included in this report, the difference is for different market; the rest parts are identical.
3) The Model Number "**9213XY**" is representative selected in the test and included in this report.

1.2 Technical Specifications

Key parts	SKU A
CPU	Intel, U9400, 1.4G
Memory	QIMONDA, HYS64T256020EDL-2.5-C2, 2GB
DDR2 on Board	Hynix, HYSPS1G831C FP-S6*8, 1G
LCD Monitor	Toshiba, PI-LTD133EWDA (LED)-V02
HDD	SATA, Fujitsu, MHZ2160BH, 160GB
ODD	Panasonic, Ultra light, UJ-862A
Bluetooth	AW-BT252, 2.1VERSION
Wireless LAN	Intel® Wi-Fi Link 5300 Minicard 533AN MMW
3G	Sierra 8790
Webcam	Azurewave w/z Mic Arry
AC/DC Adapter	Delta, SADP-65KB BBVF
Battery	6 cell

WIRELESS Module Information (Intel Wi-Fi Link 5300 Minicard 533AN MMW)

- Design based on the PCI Express MiniCard Electromechanical Rev. 1.1 Specification
- Form Factors: PCIe Half Mini Card (double sided) / PCIe Mini Card v1.1 (single sided)
- MIMO (Multiple Input, Multiple Output) Support 802.11n with 3x3 MIMO and 1x2 MIMO
- Dual-Band/Quad-Mode support (IEEE 802.11a/b/g/n), compatible with IEEE 802.11d /e (Quality of Service [QoS]), 802.11h, and European Telecommunication Standards Institute [ETSI] specifications), and IEEE 802.11i (pre-authentication)
- Support for new standards IEEE 802.11 k and 802.11r[1]
- Reduced Power consumption in idle associated (10-15mW)
- Intel® AMT v4.0 for enterprise networks in S0/H0 and S0/Hx modes (requires MCH9/ICH9)
- EIT v4.0 support
- Uses the 5.170 to 5.825-GHz Industrial, Scientific, and Medical (ISM) frequency band as defined by the IEEE 802.11a specification
- Intel® WiFi Link 5100/5300 can operate on a 40MHz wide channel
- Uses the 2.412- to 2.497-GHz ISM frequency band defined by the IEEE 802.11b/g specifications
- Supports data rates 1, 2, 5.5, and 11 Mbps in CCK mode
- Supports data rates 6, 9, 12, 18, 24, 36, 48, and 54 in OFDM mode
- Supports the 1x2,2x2 and 3x3 combinations of GI, MCS and BW defined in 802.11n (see section 6 Rates)
- Supports channels 34,36, 38, 40, 42, 44, 46, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165 (IEEE 802.11a specification); channel support is regulatory Stock-Keeping Unit (SKU)-dependent and subject to change
- Supports channels 1 through 13 (IEEE 802.11b/g specifications); channel support is regulatory SKU-dependent and subject to change
- Intel® WiFi Link 5100/5300 shall Support 40MHz channels of the .11n spec:
    - (1,1) (5,-1); (2,1) (6,-1); (3,1) (7,-1); (4,1) (8,-1); (5,1) (9,-1); (6,1) (10,-1); (7,1) (11,-1)
    - (36,1) (40,-1); (44,1) (48,-1); (52,1) (56,-1); (60,1) (64,-1); (100,1) (104,-1); (108,1) (112,-1); (116,1) (120,-1); (124,1) (128,-1); (132,1) (136,-1); (149,1) (153,-1); (157,1) (161,-1)
- Provides 128- and 64-bit WEP encryption, hardware AES (support for key sizes of 128 bits, 192 bits, and 256 bits)
- Hardware capability to support Cisco* Compatible Extensions v1/2/3/4/5
- Supports IEEE 802.11 Power Save Protocol (PSP)
- Supports Basic Service Set (BSS) (AP) and Independent Basic Service Set (IBSS) (peer-to-peer) modes
- Supports Intel® Wireless Coexistence System (WCS) Phase II for Bluetooth devices
- Supports WiFi-WiMAX coordination
- Supports Radio On/Off control by hardware and/or software
- Supports product SKUs to support regulatory variations in different geographical regions. Support is subject to change.
- Automatic switching between the two bands (2.4 GHz and 5.0 GHz)
- Wake on WLAN (WoWLAN) support
- Supports Cliffside (Dual MAC Peer-to-Peer Wi-Fi)

1.3 Table for Carrier Frequencies

802.11b/ 802.11g / 802.11n (HT20)

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

802.11n (HT40)

CH No.	3	4	5	6	7	8	9
CF (MHz)	2422	2427	2432	2437	2442	2447	2452

802.11a / 802.11n (HT20)

CH No.	149	153	157	161	165
CF (MHz)	5745	5765	5785	5805	5825

802.11n (HT40)

CH No.	151	159
CF (MHz)	5755	5795

1.4 Test Facility

Site Description	:	☒RF Test Room ☒OATS 2
Name of Firm	:	Interocean EMC Technology Corp.
Company web	:	http://www.ietc.com.tw
Site 1, 2 Location	:	No.5-2, Lin 1, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site 3, 4 Location	:	No. 12, Ruei-Shu Valley, Ruei-Ping Tsun, Lin-Kou Hsiang, Taipei County, Taiwan, R.O.C.
Site Filing	:	● Federal Communication Commissions – USA Registration No.: 96399 (OATS 1 & 2) Registration No.: 518958 (OATS 3 & 4) ● Voluntary Control Council for Interference by Information Technology Equipment (VCCI) – Japan Registration No. (Conducted Room): C-1094 Registration No. (Conducted Room): T-271 Registration No. (OATS 1): R-1040 Registration No. (OATS 2): R-1041 ● Industry Canada (IC) Submission: 113543 ● Japan Electrical Safety & Environment Technology Laboratories (JET) Registration No.: 04S03-01
Site Accreditation	:	● Bureau of Standards and Metrology and Inspection (BSMI) – Taiwan, R.O.C. Accreditation No.: SL2-IN-E-0026 for CNS13438 / CISPR22 SL2-R1-E-0026 for CNS13439 / CISPR13 SL2-R2-E-0026 for CNS13439 / CISPR13 SL2-A1-E-0026 for CNS13783-1 / CISPR14-1 ● TüV NORD Certificate No: TNTW0801R ● Taiwan Accreditation Foundation (TAF) Accrditation No.: 1113

1.5 Test Equipment

Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSP30	100002	2008/12/14
Spectrum Analyzer	Agilent	8564EC	4046A00331	2009/04/11
Preamplifier	Agilent	8449B	3008A01434	2009/03/31
Preamplifier	SCHAFFNER	CA30100	2	2008/10/21
Horn Antenna	COM-POWER	AH-118	10081	2010/05/12
Horn Antenna	Schwarzbeck	BBHA 9120	9120D-583	2008/12/17
Horn Antenna	Schwarzbeck	BBHA 9170	213	2010/06/08
Wide Bandwidth Sensor	Anritsu	MA2491A	728133	2008/10/18
Power Meter	Anritsu	ML2495A	736010	2008/10/28
Temp & Humidity chamber	GIAN FORCE	GTH-150-40-2P-U	MAA0305-012	2009/05/14
Signal Generator	Agilent	E8254A	US41140164	2009/05/21

Note: The above equipments are within the valid calibration period.

1.6 Summary of Measurement

Report Clause	Test Parameter	Reference Document CFR47 Part15	Results
2	RF Radiated spurious emission test	§15.205, 15.209	Pass
3	RF Conducted spurious emission	§15.247	Pass
4	Maximum Peak output power test	§15.247(b)	Pass
5	6dB Bandwidth	§15.247(a)(2)	Pass
6	Power spectral density	§15.247(e)	Pass
7	Emission on the Band Edge	§15.247(d)	Pass
8	AC Power Line Conducted Emission test	§15.247(b)	Pass

1.7 Justification

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of the frequency band were all arrive limit requirement, thus we evaluate the EUT pass the specified test.

2 RF Radiated spurious emission test

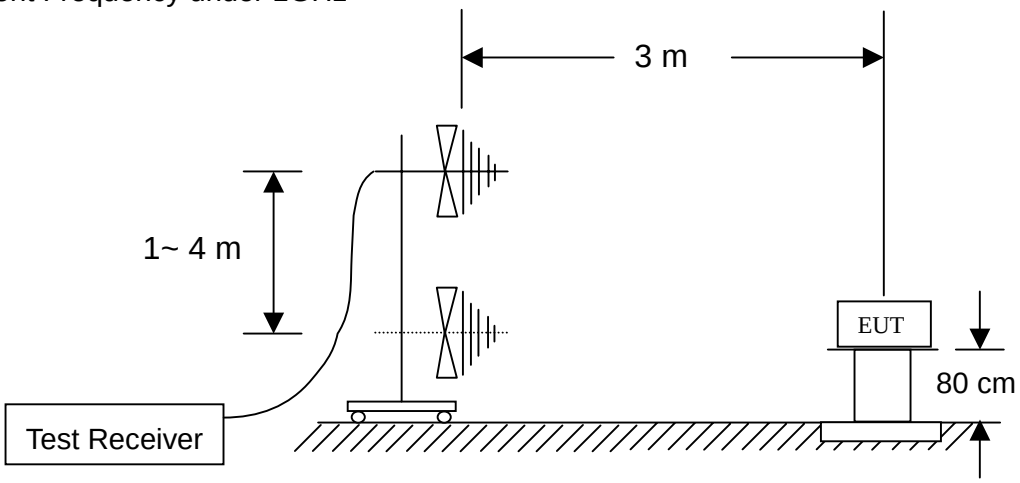
2.1 Limit

For intentional radiator, the radiated emission shall comply with §15.209(a).
For intentional radiators, according to §15.247 (a), operation under this provision is limited to frequency hopping and direct sequence spread spectrum, and the out band emission shall be comply with §15.247 (c)

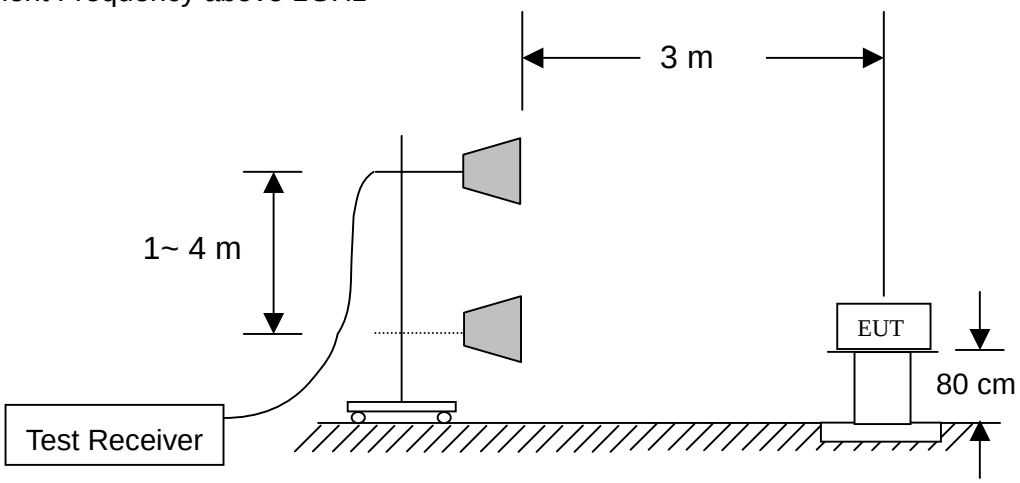
Frequency (MHz)	Field strength dB(μV/m)	Measurement distance (meters)
1.705~30.0	29.5	30
30 ~ 88	40	3
88~216	43.5	3
216~960	46	3
Above 960	54	3

2.2 Configuration of Measurement

Measurement Frequency under 1GHz



Measurement Frequency above 1GHz



2.3 Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Radiated emission measurements were performed from 30MHz to 40GHz. Spectrum Analyzer Resolution Bandwidth is 100kHz or greater for frequencies 30MHz to 1GHz, 1MHz for frequencies above 1GHz.
The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meter and down to 1 meter.

2.4 Test Result

PASS.
The final test data is shown on as following pages.

Radiated spurious emission

Test Environment

Ambient temperature ： 25.0℃

Relative humidity ： 54%

Radiated Emission below 1GHz

After verifying Single Tx & Dual Tx & Triple Tx, the worse case determine by Dual Tx Mode (802.11n (HT20) Chain BC CH11), the data will present on report.

2.4G								
Worst case: 802.11n HT20 Chain BC CH11								
Frequency (MHz)	Antenna Polarization	Reading (dB μV)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μV/m)	Limits (dB μV/m)	Margin (dB)	Det. Mode
240.000	H	39.30	28.84	14.64	25.10	46.00	-20.90	QP
651.300	H	29.60	28.52	25.49	26.57	46.00	-19.43	QP
720.150	H	28.64	28.25	29.22	29.61	46.00	-16.39	QP
814.360	H	24.50	28.10	29.56	25.96	46.00	-20.04	QP
240.000	V	34.60	28.84	14.79	20.55	46.00	-25.45	QP
720.153	V	25.80	28.25	28.85	26.40	46.00	-19.60	QP
747.760	V	26.80	28.13	29.43	28.10	46.00	-17.90	QP
763.630	V	26.50	28.03	29.52	27.99	46.00	-18.01	QP

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

After verifying Single Tx & Dual Tx & Triple Tx, the worse case determine by Triple Tx Mode (802.11n (HT20) Chain ABC CH157), the data will present on report.

5G								
Worst case: 802.11n HT20 Chain ABC CH157								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
240.050	H	44.25	28.84	14.65	30.06	46.00	-15.94	QP
600.130	H	34.20	28.52	25.49	31.17	46.00	-14.83	QP
720.100	H	28.50	28.25	29.22	29.47	46.00	-16.53	QP
960.020	H	25.10	28.36	33.16	29.90	46.00	-16.10	QP
240.000	V	44.30	28.25	14.79	30.84	46.00	-15.16	QP
720.100	V	26.01	28.13	28.85	26.73	46.00	-19.27	QP
747.700	V	26.90	28.03	29.44	28.31	46.00	-17.69	QP
763.500	V	26.50	29.10	29.52	26.92	46.00	-19.08	QP

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Radiated spurious emission

Radiated Emission above 1GHz

Single Tx

2.4GHz

After verifying Single Tx 802.11b Chain A / B / C & 802.11g Chain A / B / C & 802.11n HT20 / HT40 Chain A / B / C, the worse case determine by 802.11b Chain A, the data will present on report.

802.11b Chain A CH1								
Frequency (MHz)	Antenna Polarization	Reading (dB μV)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μV/m)	Limits (dB μV/m)	Margin (dB)	Det. Mode
4824.00	H	46.37	36.50	36.98	46.85	54	-7.15	PK
4824.00	V	46.87	36.50	36.98	47.35	54	-6.65	PK

802.11b Chain A CH6								
Frequency (MHz)	Antenna Polarization	Reading (dB μV)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μV/m)	Limits (dB μV/m)	Margin (dB)	Det. Mode
4874.00	H	46.03	36.50	37.10	46.63	54	-7.37	PK
4874.00	V	44.70	36.50	37.10	45.30	54	-8.70	PK

802.11b Chain A CH11								
Frequency (MHz)	Antenna Polarization	Reading (dB μV)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μV/m)	Limits (dB μV/m)	Margin (dB)	Det. Mode
4924.07	H	45.70	36.50	37.21	46.41	54	-7.59	PK
4924.00	V	44.39	36.50	37.21	45.10	54	-8.90	PK

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Dual Tx

2.4GHz

After verifying Dual Tx Chain AB Chain BC Chain AC, the worse case determine by Dual Tx 802.11n HT20 & 802.11n HT40 Chain BC, the data will present on report.

802.11n HT20 CH1								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4824.00	H	45.20	36.50	36.90	45.60	54	-8.40	PK
4824.00	V	44.36	36.50	36.90	44.76	54	-9.24	PK

802.11n HT20 CH6								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4874.00	H	46.36	36.50	37.00	46.86	54	-7.14	PK
4874.00	V	45.96	36.50	37.00	46.46	54	-7.54	PK

802.11n HT20 CH11								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4924.00	H	44.53	36.50	37.21	45.24	54	-8.76	PK
4924.00	V	43.65	36.50	37.21	44.36	54	-9.64	PK

802.11n HT40 CH3								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4844.00	H	46.08	36.50	37.03	46.61	54	-7.39	PK
4844.00	V	45.87	36.50	37.03	46.40	54	-7.60	PK

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

802.11n HT40 CH6								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4874.00	H	45.70	36.50	37.10	46.30	54	-7.70	PK
4874.00	V	44.39	36.50	37.10	44.99	54	-9.01	PK

802.11n HT40 CH9								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4904.00	H	46.57	36.50	37.17	47.24	54	-6.76	PK
4904.00	V	46.39	36.50	37.17	47.06	54	-6.94	PK

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Triple Tx

2.4GHz

802.11n HT20 CH1								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4824.00	H	46.03	36.50	36.98	46.51	54	-7.49	PK
4824.00	V	45.95	36.50	36.98	46.43	54	-7.57	PK

802.11n HT20 CH6								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4874.00	H	46.83	36.50	37.10	47.43	54	-6.57	PK
4874.00	V	46.51	36.50	37.10	47.11	54	-6.89	PK

802.11n HT20 CH11								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4824.00	H	45.03	36.50	37.21	45.74	54	-8.26	PK
4824.00	V	44.65	36.50	37.21	45.36	54	-8.64	PK

802.11n HT40 CH3								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4844.00	H	45.61	36.50	37.03	46.14	54	-7.86	PK
4844.00	V	45.87	36.50	37.03	46.40	54	-7.60	PK

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

802.11n HT40 CH6								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4874.00	H	46.32	36.50	37.10	46.92	54	-7.08	PK
4874.00	V	44.74	36.50	37.10	45.34	54	-8.66	PK

802.11n HT40 CH9								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
4904.00	H	46.51	36.50	37.17	47.18	54	-6.82	PK
4904.00	V	44.95	36.50	37.17	45.62	54	-8.38	PK

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Single Tx

5GHz

After verifying Single Tx 802.11a Chain A / B / C & 802.11n (HT20) / (HT40) Chain A / B / C, the worse case determine by 802.11a Chain C, the data will present on report.

802.11a CH149								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11490.00	H	46.87	36.40	48.30	58.77	74	-15.23	PK
11490.00	H	32.87	36.40	48.30	44.77	54	-9.23	AV
11490.00	V	46.70	36.40	48.30	58.60	74	-15.40	PK
11490.00	V	33.87	36.40	48.30	45.77	54	-8.23	AV

802.11a CH157								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11570.00	H	45.70	36.43	48.27	57.54	74	-16.46	PK
11570.00	H	33.53	36.43	48.27	45.37	54	-8.63	AV
11570.00	V	46.87	36.43	48.27	58.71	74	-15.29	PK
11570.00	V	33.87	36.43	48.27	45.71	54	-8.29	AV

802.11a CH165								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11650.00	H	46.20	36.46	48.23	57.97	74	-16.03	PK
11650.00	H	33.37	36.46	48.23	45.14	54	-8.86	AV
11650.00	V	46.03	36.46	48.23	57.80	74	-16.20	PK
11650.00	V	33.37	36.46	48.23	45.14	54	-8.86	AV

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Dual Tx

5GHz

After verifying Dual Tx Chain AB Chain BC Chain AC, the worse case determine by Dual Tx 802.11n HT20 BC & 802.11n HT40 Chain AB, the data will present on report.

802.11n (HT20) CH149								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11490.00	H	48.37	36.40	48.30	60.27	74	-13.73	PK
11490.00	H	35.20	36.40	48.30	47.10	54	-6.90	AV
11490.00	V	46.20	36.40	48.30	58.10	74	-15.90	PK
11490.00	V	32.87	36.40	48.30	44.77	54	-9.23	AV

802.11n (HT20) CH157								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11570.00	H	48.53	36.43	48.27	60.37	74	-13.63	PK
11570.00	H	34.53	36.43	48.27	46.37	54	-7.63	AV
11570.00	V	47.37	36.43	48.27	59.21	74	-14.79	PK
11570.00	V	34.37	36.43	48.27	46.21	54	-7.79	AV

802.11n (HT20) CH165								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11650.00	H	47.40	36.46	48.23	59.17	74	-14.83	PK
11650.00	H	33.28	36.46	48.23	45.05	54	-8.95	AV
11650.00	V	46.53	36.46	48.23	58.30	74	-15.70	PK
11650.00	V	32.87	36.46	48.23	44.64	54	-9.36	AV

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

802.11n (HT40) CH151								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11510.00	H	46.70	36.40	48.29	58.59	74	-15.41	PK
11510.00	H	32.87	36.40	48.29	44.76	54	-9.24	AV
11510.00	V	46.53	36.40	48.29	58.42	74	-15.58	PK
11510.00	V	32.87	36.40	48.29	44.76	54	-9.24	AV

802.11n (HT40) CH159								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11590.00	H	46.37	36.44	48.26	58.19	74	-15.81	PK
11590.00	H	32.84	36.44	48.26	44.66	54	-9.34	AV
11590.00	V	46.09	36.44	48.26	57.91	74	-16.09	PK
11590.00	V	33.03	36.44	48.26	44.85	54	-9.15	AV

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

Triple Tx

5GHz

802.11n (HT20) CH149								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11490.00	H	46.53	36.40	48.30	58.43	74	-15.57	PK
11490.00	H	33.87	36.40	48.30	45.77	54	-8.23	AV
11490.00	V	48.03	36.40	48.30	59.93	74	-14.07	PK
11490.00	V	35.03	36.40	48.30	46.93	54	-7.07	AV

802.11n (HT20) CH157								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11570.00	H	48.20	36.43	48.27	60.04	74	-13.96	PK
11570.00	H	34.87	36.43	48.27	46.71	54	-7.29	AV
11570.00	V	47.70	36.43	48.27	59.54	74	-14.46	PK
11570.00	V	34.70	36.43	48.27	46.54	54	-7.46	AV

802.11n (HT20) CH165								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11650.00	H	47.53	36.46	48.23	59.30	74	-14.70	PK
11650.00	H	34.87	36.46	48.23	46.64	54	-7.36	AV
11650.00	V	47.20	36.46	48.23	58.97	74	-15.03	PK
11650.00	V	34.87	36.46	48.23	46.64	54	-7.36	AV

Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

802.11n (HT40) CH151								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11510.00	H	47.95	36.40	48.29	59.84	74	-14.16	PK
11510.00	H	34.60	36.40	48.29	46.49	54	-7.51	AV
11510.00	V	46.53	36.40	48.29	58.42	74	-15.58	PK
11510.00	V	33.37	36.40	48.29	45.26	54	-8.74	AV

802.11n (HT40) CH159								
Frequency (MHz)	Antenna Polarization	Reading (dB μ V)	Preamp (dB)	Correction Factor (dB/m)	Corrected Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Det. Mode
11590.00	H	46.35	36.44	48.26	58.17	74	-15.83	PK
11590.00	H	33.68	36.44	48.26	45.50	54	-8.50	AV
11590.00	V	46.53	36.44	48.26	58.35	74	-15.65	PK
11590.00	V	32.50	36.44	48.26	44.32	54	-9.68	AV

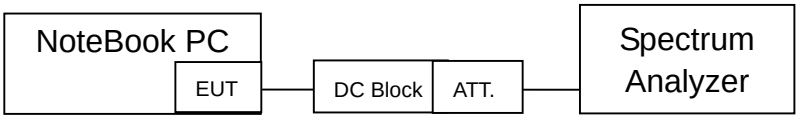
Remark ： Corrected Level = Reading + Correction Factor – Preamp
Correction Factor = Antenna Factor + Cable Loss

3 RF Conducted spurious emission

3.1 Limit

According to 15.247(d) requirement：
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

3.2 Configuration of Measurement



3.3 Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The measurements were performed from 30MHz to 40GHz RF antenna conducted per FCC 15.247 (c) was measured from the EUT antenna port using a 50ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at 100 kHz.
Harmonics and spurious noise must be at least 20dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. The table below is the results from the highest emission for each channel within the authorized band. This table was used to determine the spurious limit for each channel.

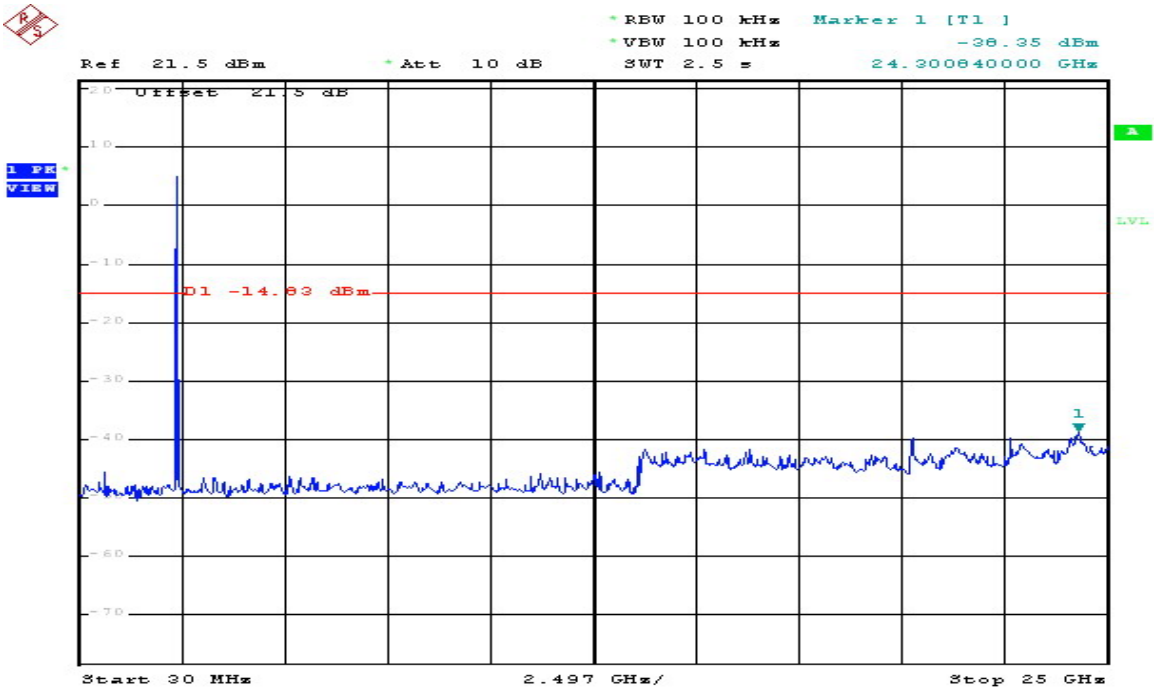
3.4 Test Result

PASS.
The final test data is shown on as following pages.

Conducted spurious emission

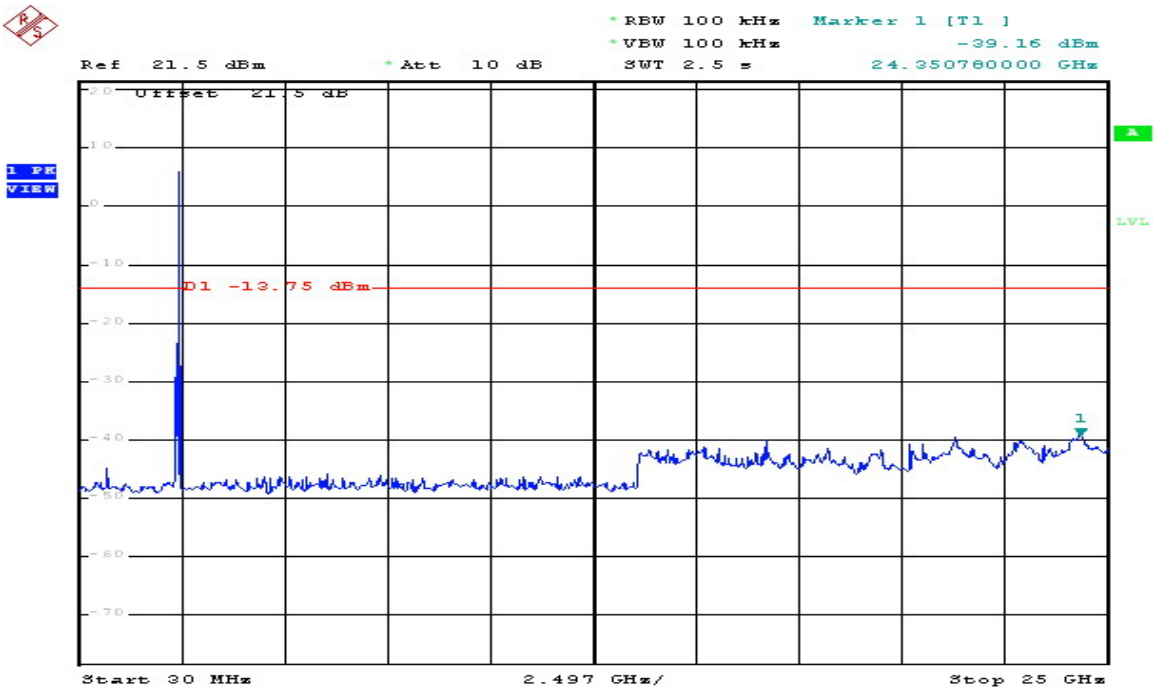
2.4GHz

802.11 b CH1 2412MHz Chain A



Comment: Conducted spurious
Comment: 802.11b Chain A CH1
Date: 2.SEP.2008 16:35:08

802.11 b CH6 2437MHz Chain A



Comment: Conducted spurious
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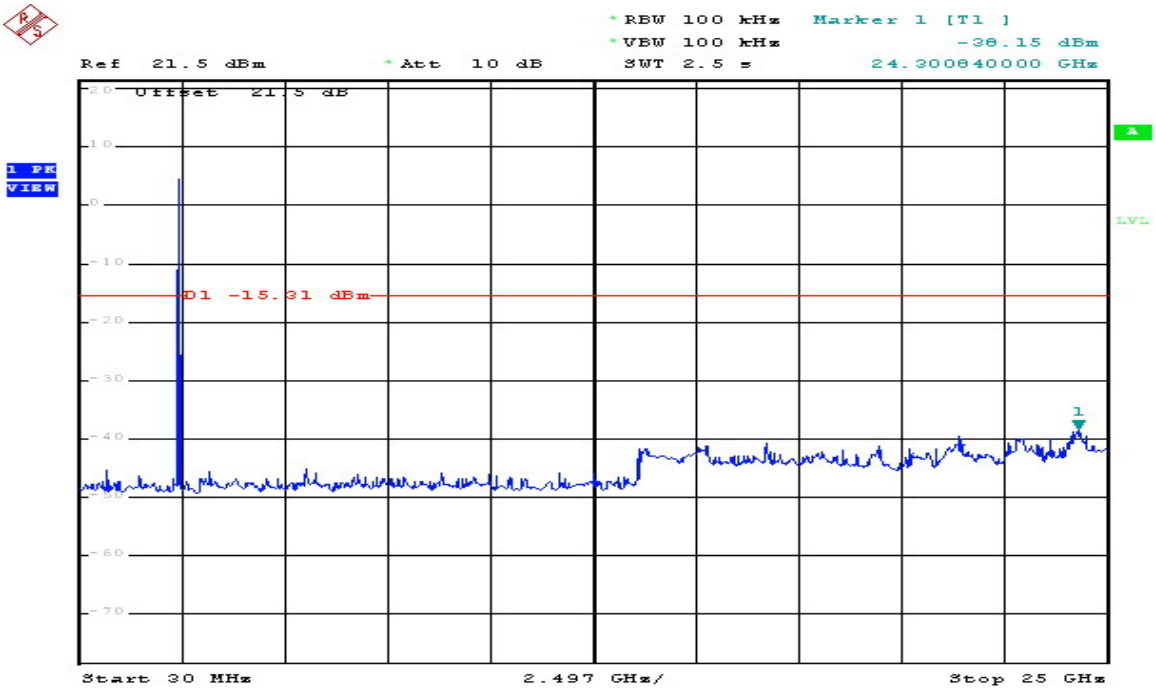
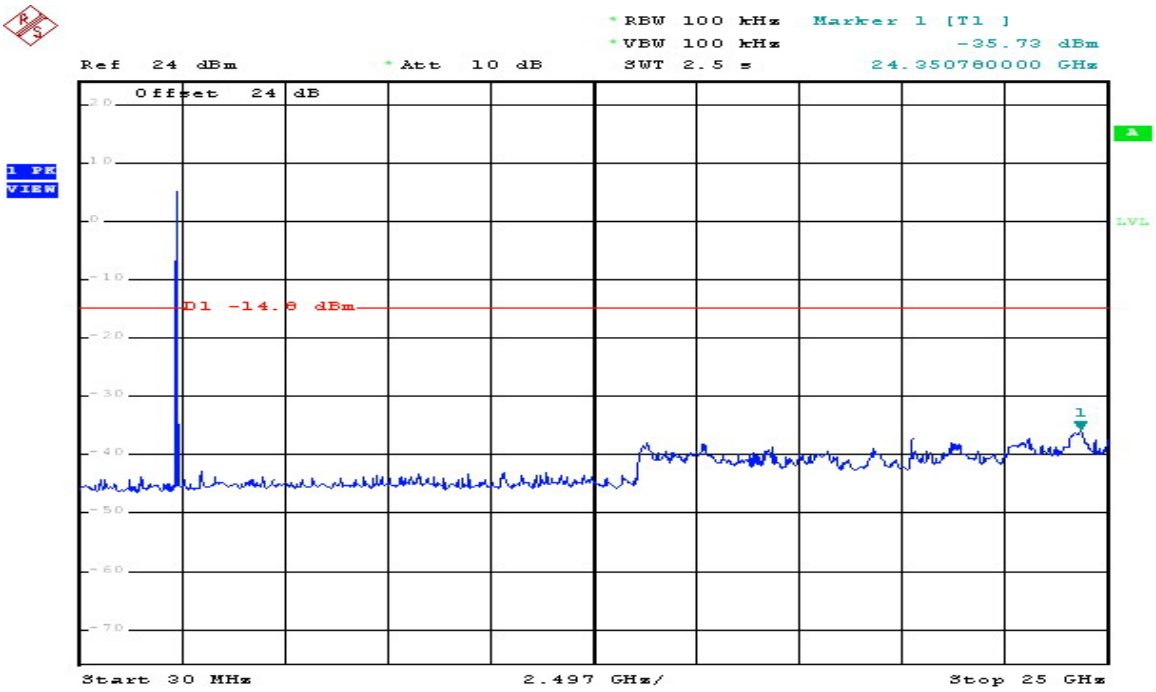
Date: 2.SEP.2008 16:35:58

802.11 b CH11 2462MHz Chain A



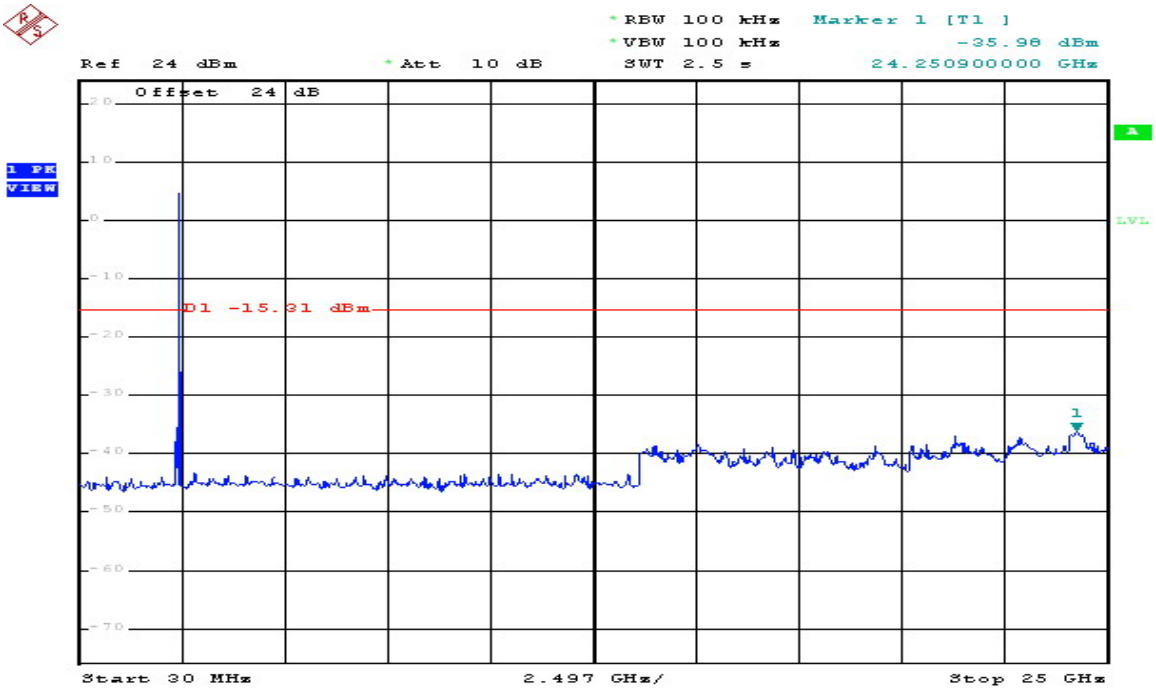
Comment: Conducted spurious
Comment: 802.11b Chain A CH11
Date: 2.SEP.2008 16:36:51

802.11 b CH1 2412MHz Chain B



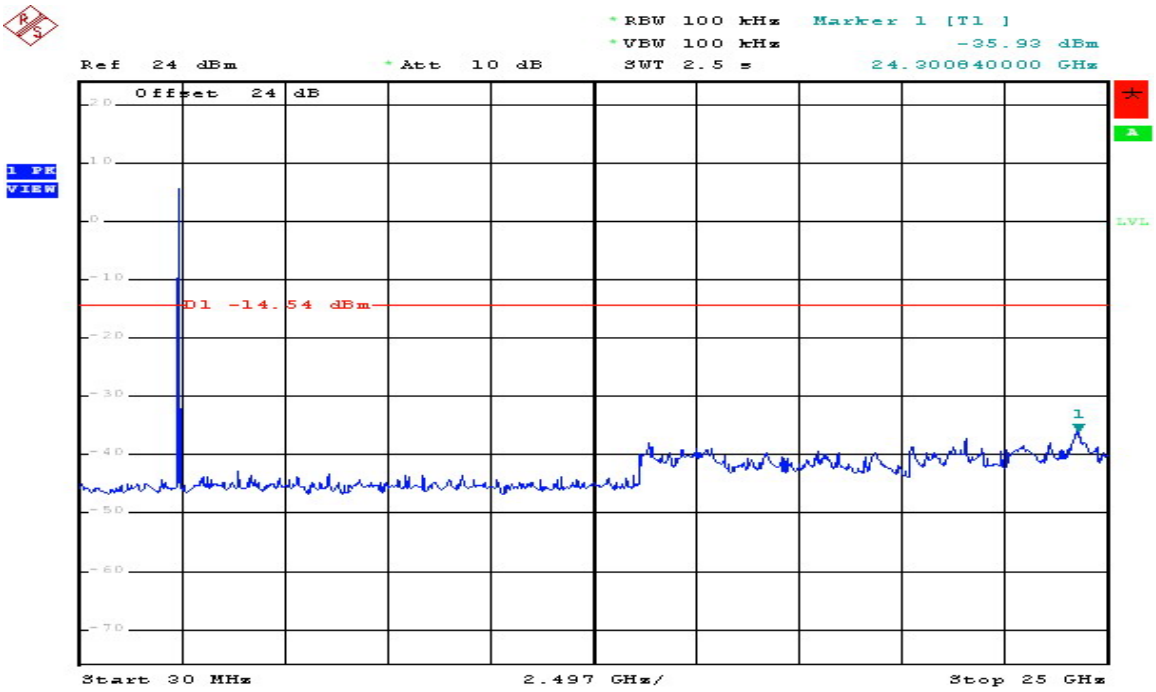
Comment: Conducted spurious
Comment: 802.11b Chain B CH1
Date: 2.SEP.2008 16:37:51

802.11 b CH6 2437MHz Chain B



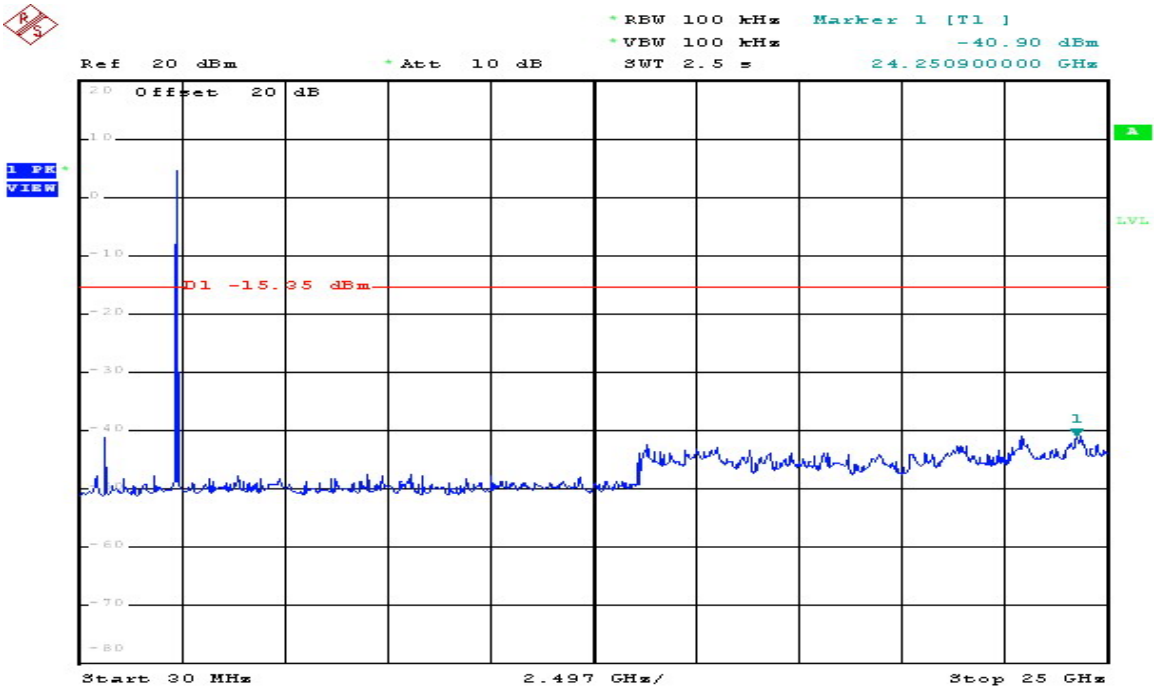
Comment: Conducted spurious
Comment: 802.11b Chain B CH6
Date: 2.SEP.2008 16:38:59

802.11 b CH11 2462MHz Chain B



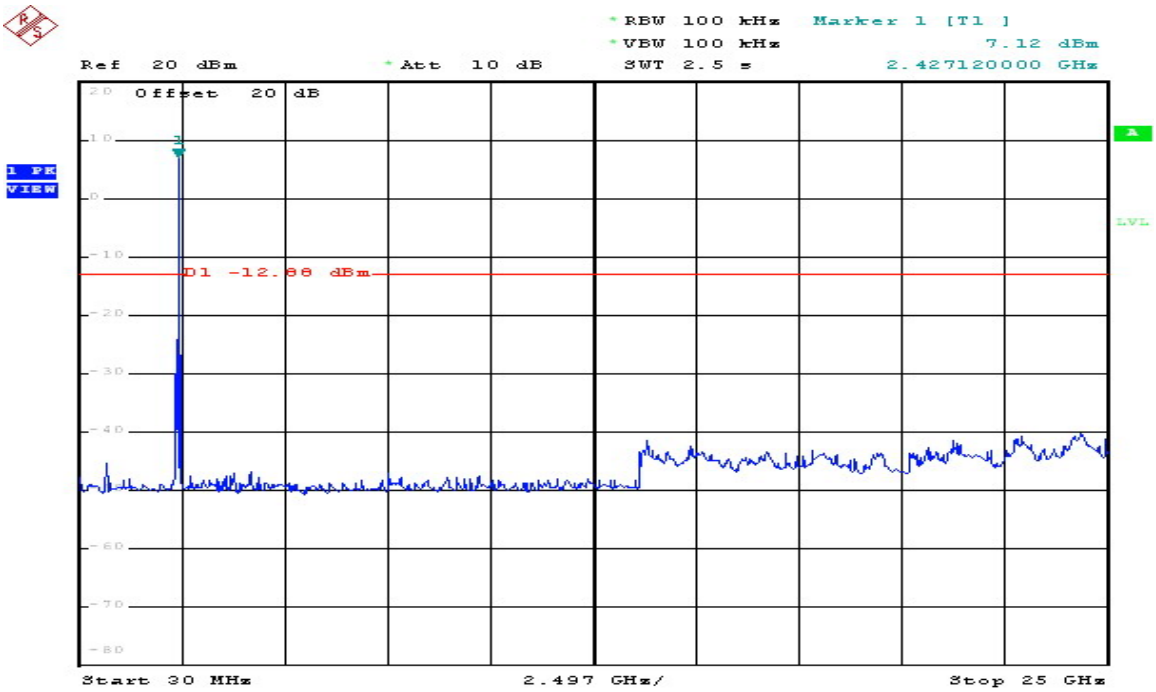
Comment: Conducted spurious
Comment: 802.11b Chain B CH11
Date: 2.SEP.2008 16:39:49

802.11 b CH1 2412MHz Chain C



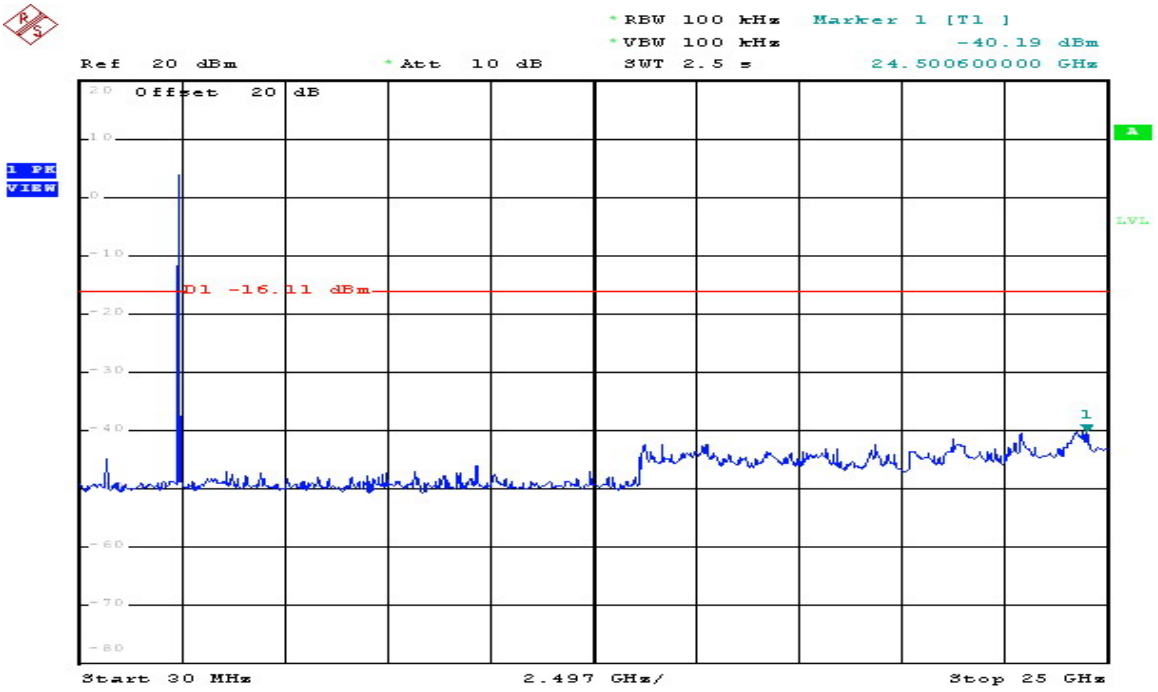
Comment: Conducted spurious
Comment: 802.11b Chain C CH1
Date: 2.SEP.2008 16:42:44

802.11 b CH6 2437MHz Chain C



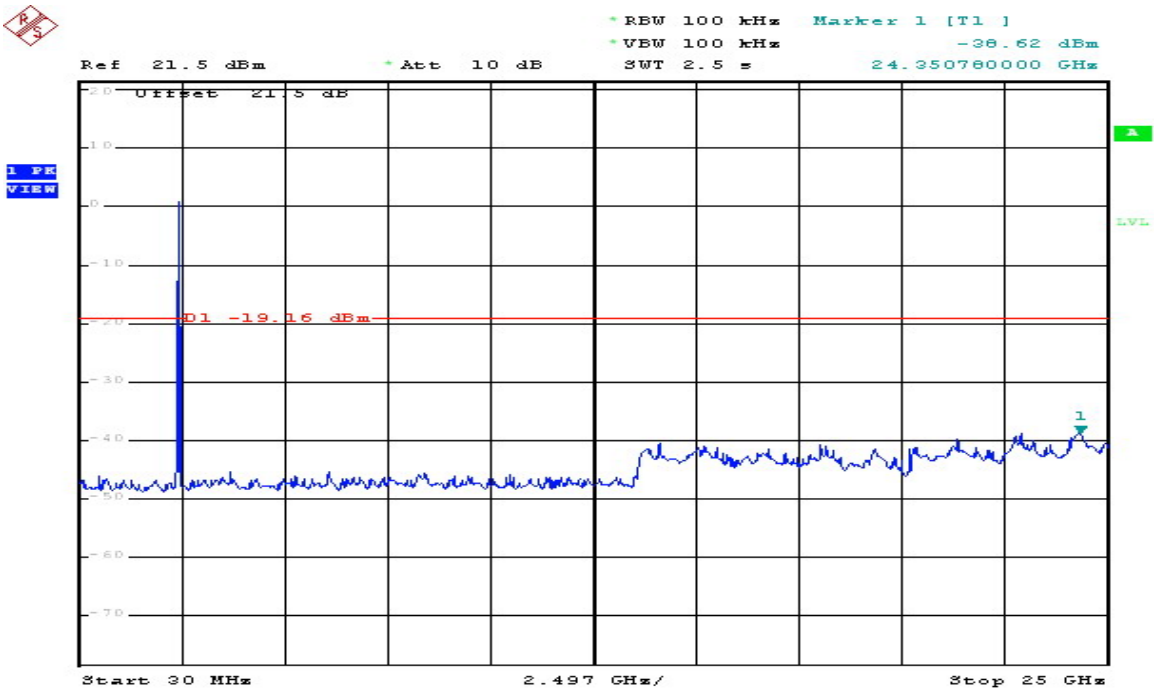
Comment: Conducted spurious
Comment: 802.11b Chain C CH6
Date: 2.SEP.2008 16:43:37

802.11 b CH11 2462MHz Chain C



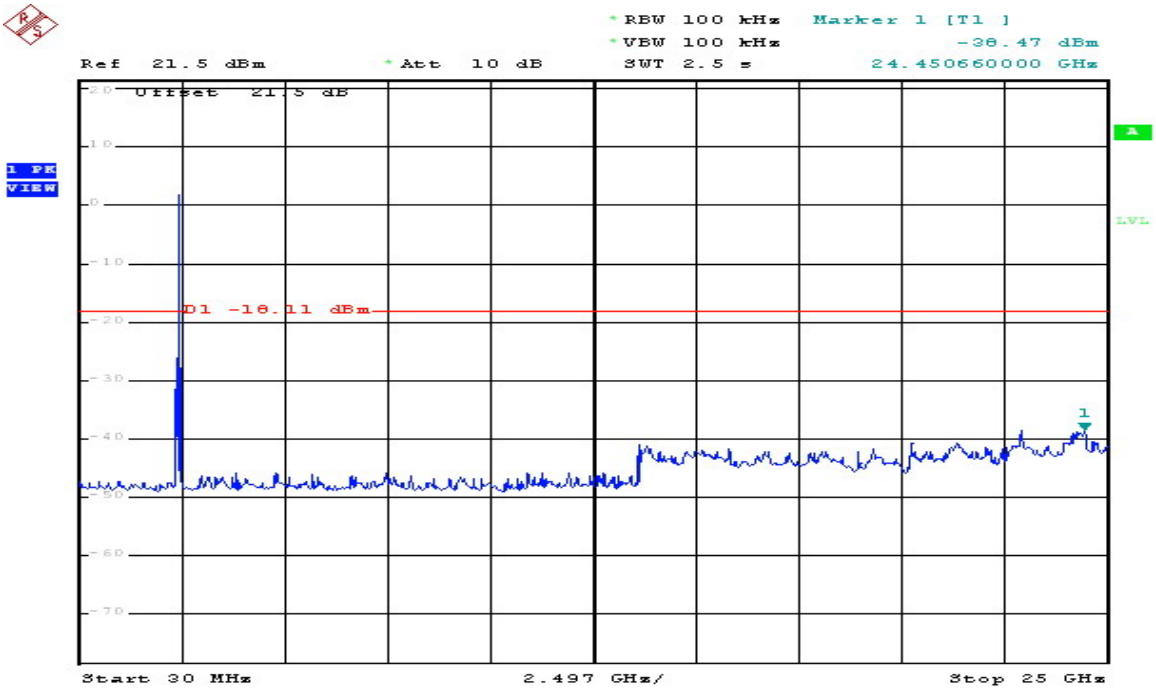
Comment: Conducted spurious
Comment: 802.11b Chain C CH11
Date: 2.SEP.2008 16:44:33

802.11 g CH1 2412MHz Chain A



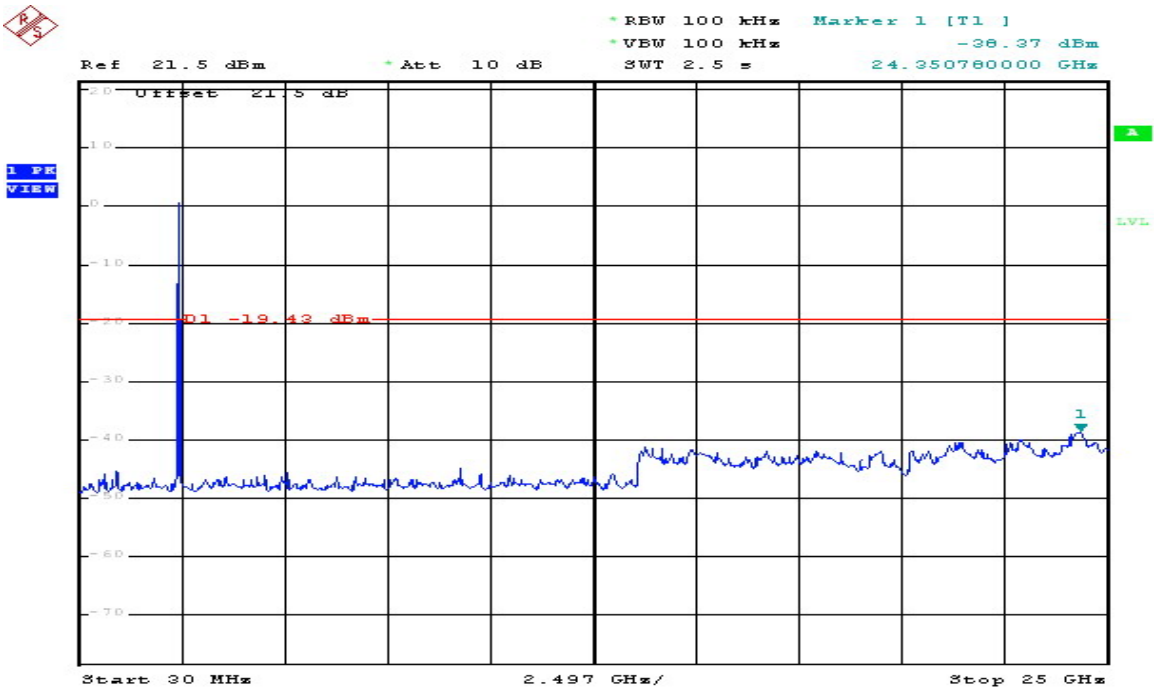
Comment: Conducted spurious
Comment: 802.11g Chain A CH1
Date: 2.SEP.2008 16:51:41

802.11 g CH6 2437MHz Chain A



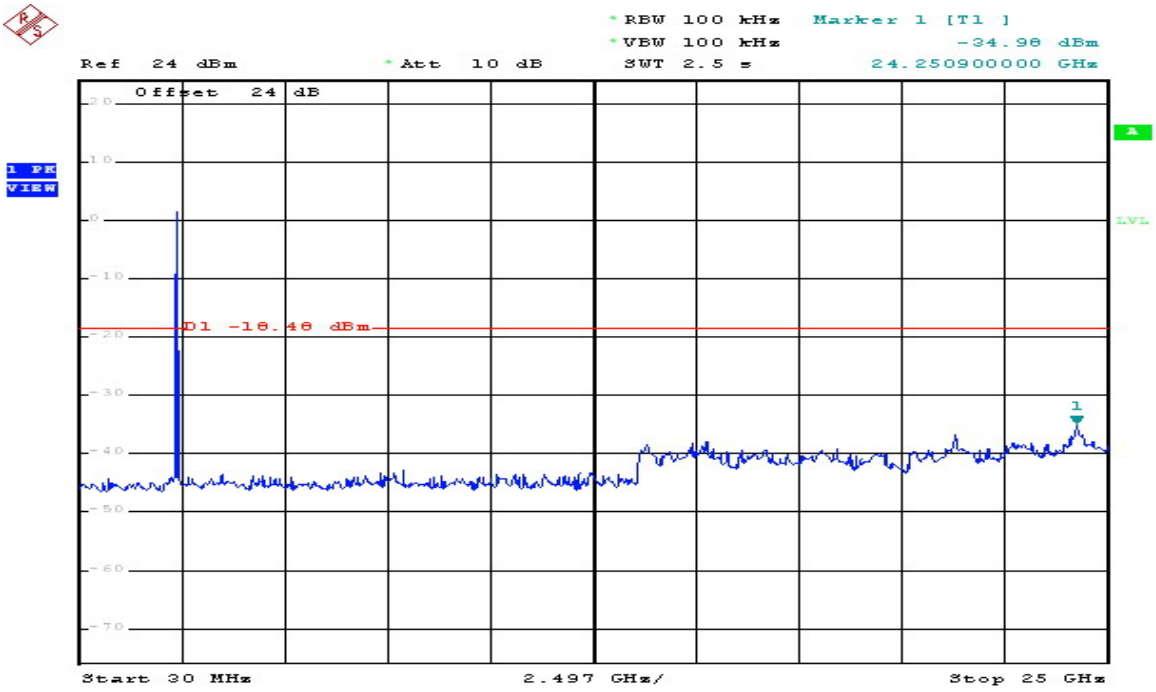
Comment: Conducted spurious
Comment: 802.11g Chain A CH6
Date: 2.SEP.2008 16:52:42

802.11 g CH11 2462MHz Chain A



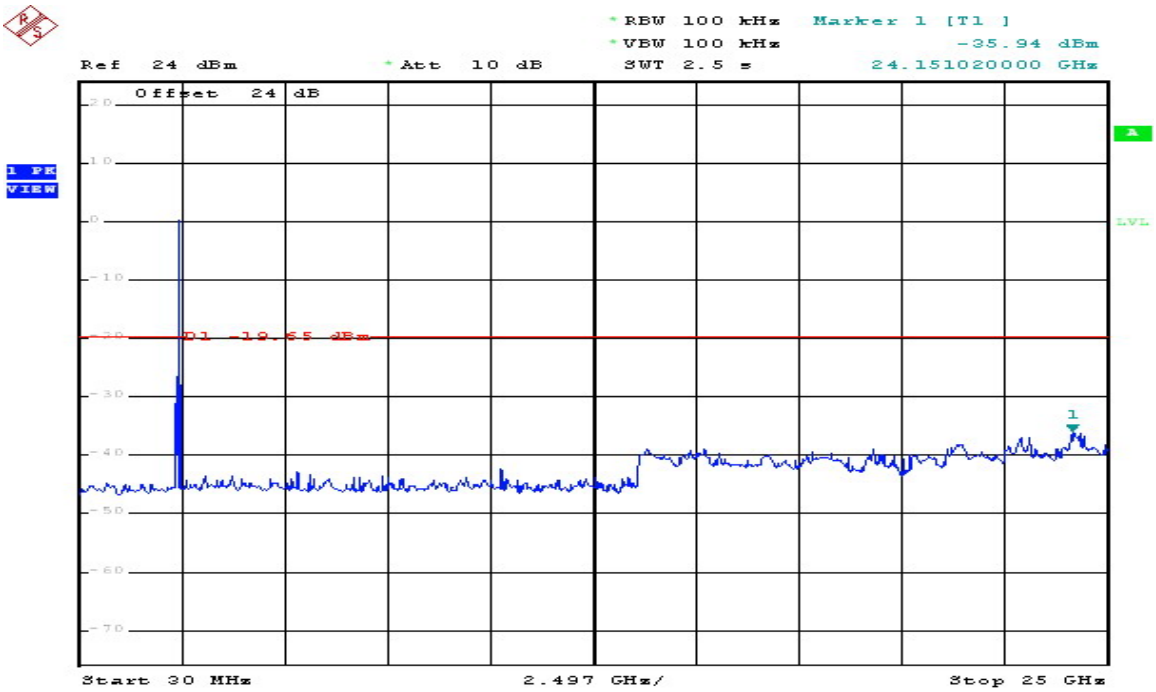
Comment: Conducted spurious
Comment: 802.11g Chain A CH11
Date: 2.SEP.2008 16:53:27

802.11 g CH1 2412MHz Chain B



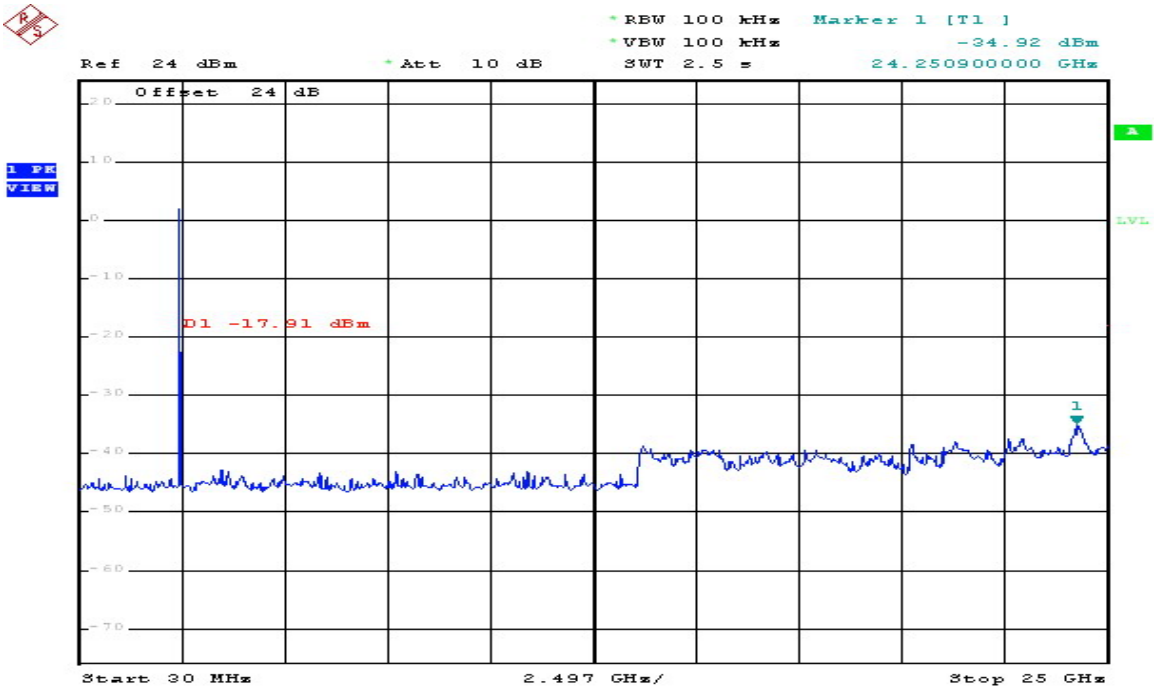
Comment: Conducted spurious
Comment: 802.11g Chain B CH1
Date: 2.SEP.2008 16:48:41

802.11 g CH6 2437MHz Chain B



Comment: Conducted spurious
Comment: 802.11g Chain B CH6
Date: 2.SEP.2008 16:49:39

802.11 g CH11 2462MHz Chain B



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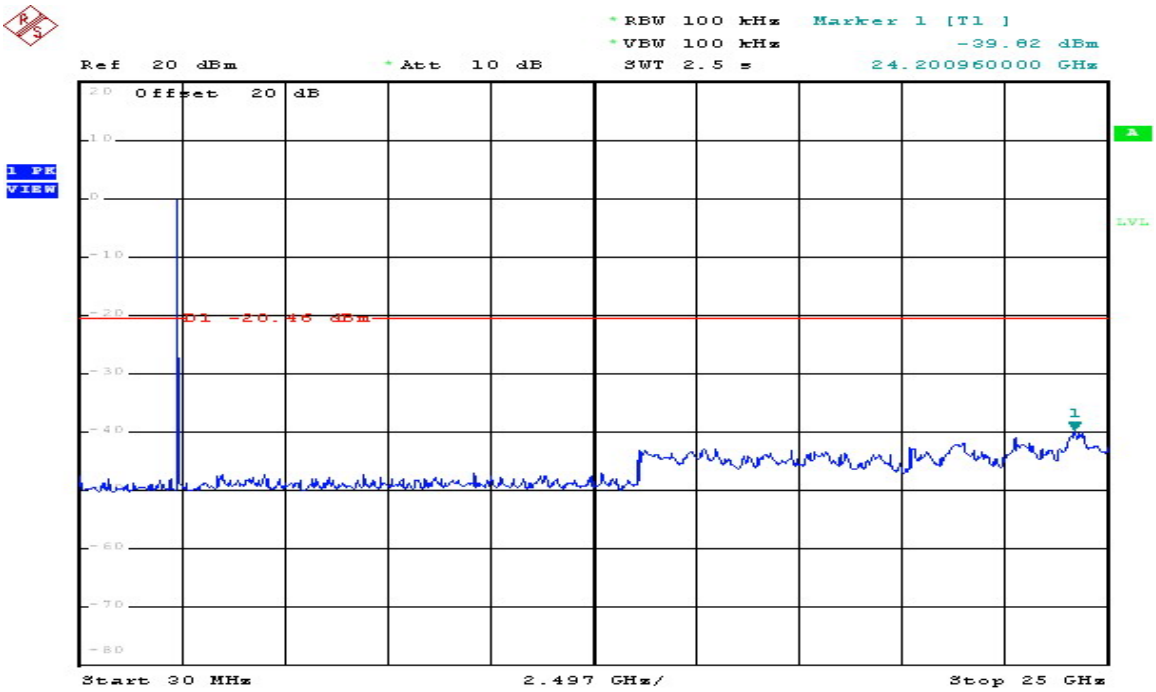
Comment: 802.11g Chain B CH11
Date: 2.SEP.2008 16:50:23

802.11 g CH1 2412MHz Chain C



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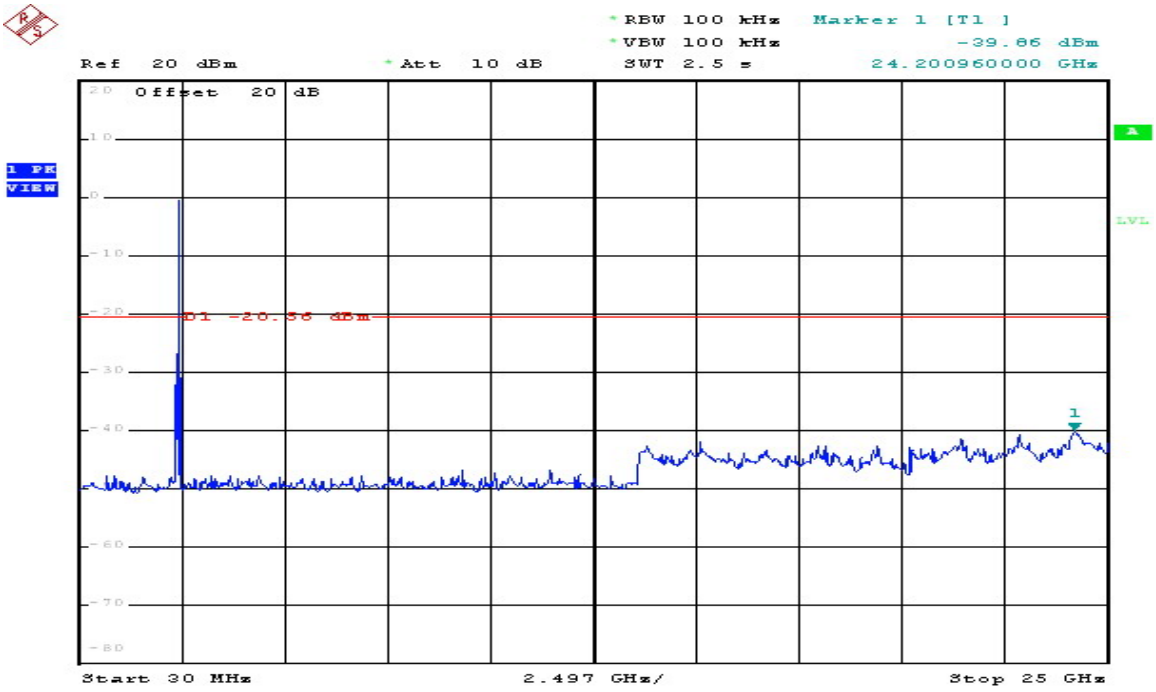
Date: 2.SEP.2008 16:45:53

802.11 g CH6 2437MHz Chain C



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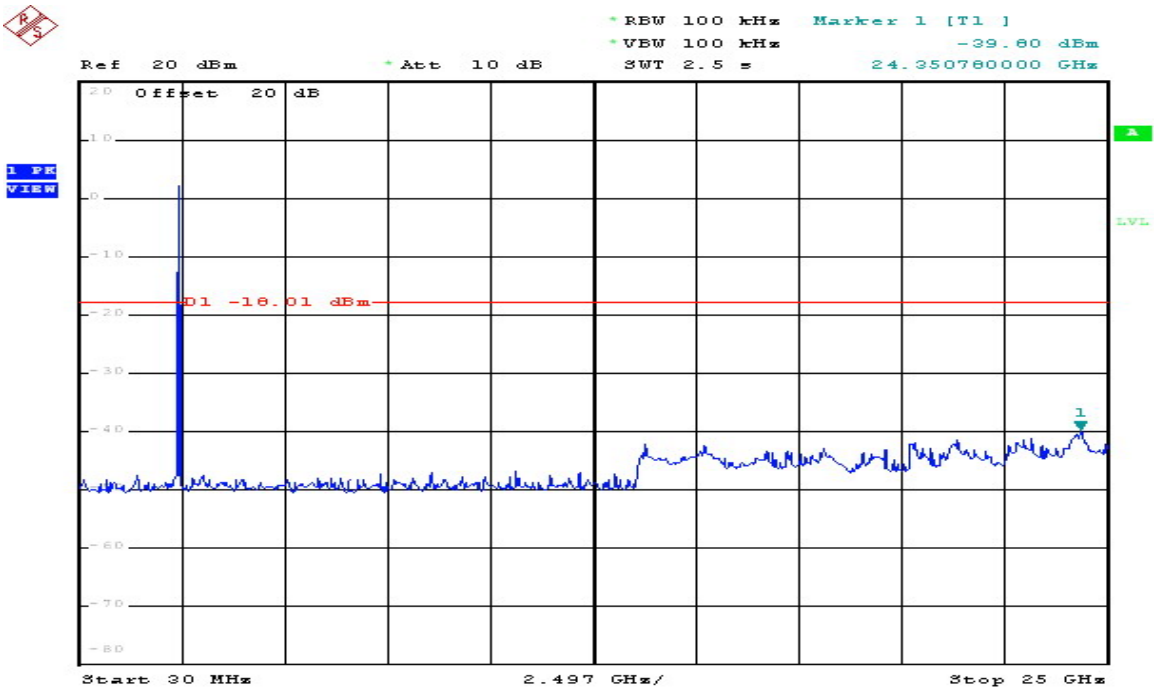
Comment: 802.11g Chain C CH6
Date: 2.SEP.2008 16:46:36

802.11 g CH11 2462MHz Chain C



Comment: Conducted spurious
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Date: 2.SEP.2008 16:47:28