

CFR 47 FCC Part 15.247

TEST REPORT

E.U.T. : **NoteBook PC**

Trade Name : MTC ; GETAC

Model Number : 8212X

FCC ID : MAU8212A

Prepared for

MiTAC Technology Corp.

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Prepared by

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Statement of Compliance

Applicant: MiTAC Technology Corp.
Manufacturer: Getac Technology (Kunshan) Co., Ltd.
EUT Description: NoteBook PC
Model No.: 8212X
Serial No.: N/A
Tested Power Supply: 120Vac; 60Hz
Date of Final Test: Nov. 28, 2007

Configuration of Measurements and Standards Used :

FCC Rules and Regulations Part 15 Subpart C

I HEREBY CERTIFY THAT: 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, 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: 2007/12/18

Test Engineer: 
Anya Lee

Checked: 
Danny Tang

Approved: 
Jerry Liu

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1 General Information

1.1 Description of Equipment Under Test

Equipment Under Test : NoteBook PC

Model Number : 8212X

Serial Number : N/A

Type of Sample Tested : Proto-type Pre-Production Mass Production

Applicant : **MiTAC Technology Corp.**
9th Fl., No. 75, Ming Sheng East Road, Sec. 3, Taipei, Taiwan, R.O.C.

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

Power Adapter : Manufacturer: Delta, M/N: ADP-45AD A, S/N: 86W0731000118
Input: 100~240Vac, 50~60Hz, 1.2A
Power cord: Non-shielded Detachable, 1.8 m w/o core
Output: 15Vdc, 3A
Power cable: Non-shielded Un-detachable, 1.8m w/o core

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

Channel Number : Refer to section 1.3 page 7.

Type of Modulation : DSSS ; OFDM

Antenna description : This device uses PCB Printed antenna.

Antenna Gain	:	1.43dBi for 2.4GHz 1.61dBi for 5.7GHz
Connector type	:	U.FL

Sample Receive date : Nov. 12, 2007

Date of Test : Nov. 26~28, 2007

1.2 Technical Specifications

Key parts	SKU B
Memory	Samsung 1Gbit DDR
CPU	Intel McCaslin - Stealey, 800MHz
LCD Monitor	Toshiba, PI-LTD121EW6S
Bluetooth	BTM-203B EDRV2.0 ver1.2
HDD	Toshiba, (40GB, 1.8", PATA), Model: MK4009GAL
ODD	TEAK, (DVDSuper-multi) DVW28ECPUBA
Modem	Billionton, Model :RD002-D330
Wireless LAN	Askey, (802.11abg, Mini PCI-E) Model : WLL4080-D12
3G	None
AC/DC Adapter	Delta, ADP-45ADA
Battery (LITHIUM)	SANYO, 3CELLS, 11.1V/2.6AH

RF Modular Information

Host Interface	PCI Express
Chipset	Atheros AR5424
Network Standard	IEEE 802.11a/b/g
Modulation Techniques	BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	OFDM, CCK, DSSS
Media Access Technology	CSMA/CA
Supported Data Rates	IEEE802.11a/b/g Stand Mode: 1-54Mbps

1.3 Table for Carrier Frequencies

802.11b/g

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

802.11a

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

1.4 Test Facility

- Site Description** : OATS 2 Conduction 1
- 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
 - National Voluntary Laboratory Accreditation Program
(NVLAP) - USA
NVLAP LAB CODE 200458
 - Nemko AS
Authorization No.: ELA 181A
Authorization No.: ELA 181B
 - Taiwan Accreditation Foundation (TAF)
Accrditation No.: 1113



1.5 Test Equipment

Instrument	Manufacturer	Model	Serial No.	Last Calibration
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100135	2007/08/03
L.I.S.N.	Schwarzbeck	NNLK8121	8121417	2007/07/17
L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100176	2007/02/14
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	843602/02	2007/09/10
RF Cable	HARBOUR	RG400	CBL04	2007/08/09
Spectrum Analyzer	Agilent	8564EC	4046A00331	2007/03/29
Spectrum Analyzer	R&S	FSQ	200406	2007/03/29
Biconical Antenna	Schwarzbeck	VHA 9103	2484	2007/09/06
Log Antenna	Schwarzbeck	UHALP 9108	A 0765	2007/09/06
Pre-Amplifier	HP	8447D	2944A10321	2007/07/17
Preamplifier	Agilent	8449B	3008A01434	2007/04/03
RF Cable	Ultra Link	CBL02	CBL02	2007/05/04
Cable	IETC	CBL07	CBL07	2007/05/08
Power Meter	Anritsu	ML2495A	0736010	2007/10/29
Wide Bandwidth Sensor	Anritsu	MA2491A	0728133	2007/10/29

Note: All instrument upon which need to be calibrated are within calibration period of 1 year.

Instrument	Manufacturer	Model	Serial No.	Last Calibration
Horn Antenna	COM-POWER	AH-118	10081	2006/05/16
Horn Antenna	SCHWARZBECK	BBHA9120	9120D-583	2006/12/18

Note: All instrument upon which need to be calibrated are within calibration period of 2 year.

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

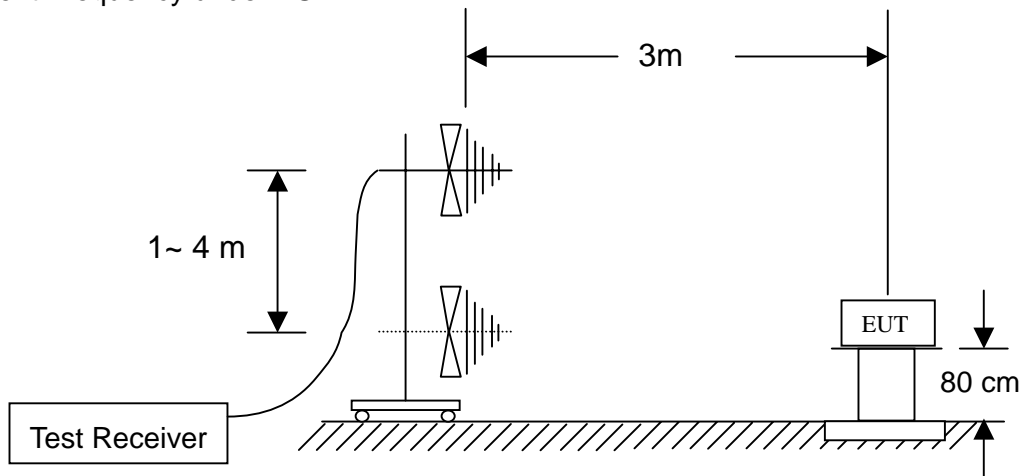
For intentional radiator, the radiated emission shall comply with §15.209(a).

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)

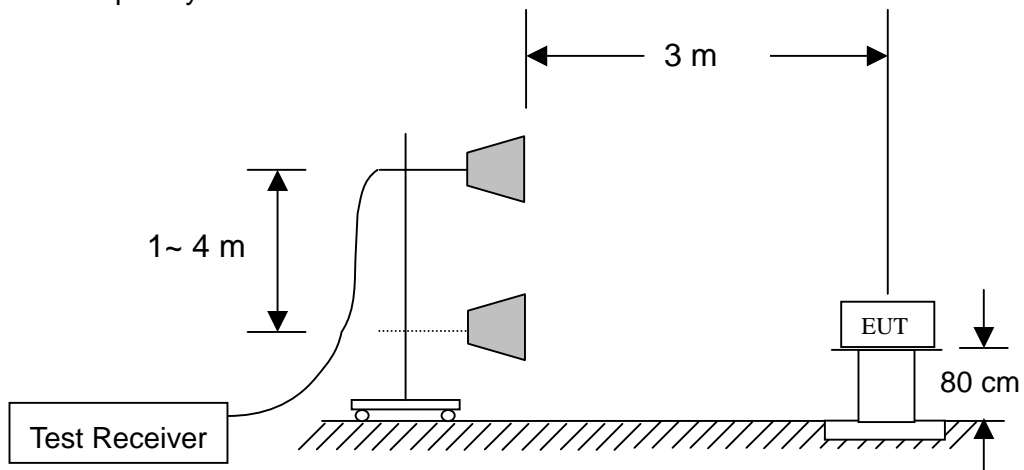
Frequency (MHz)	Field strength dB(μ V/m)	Measurement distance (meters)
1.705~30.0	29.5	30
30 ~ 88	40	3
88~216	43.5	3
216~960	46	3
Above 960	54	3

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, and set 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 : 26.3°C

Relative humidity : 67%

2.4G (Radiated Emission below 1GHz)								
802.11b Mode CH06								
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
109.629	H	47.26	29.57	12.41	30.10	43.50	-13.40	QP
216.050	H	50.11	29.56	11.13	31.68	46.00	-14.32	QP
240.001	H	49.80	29.55	13.35	33.60	46.00	-12.40	QP
458.966	H	43.40	29.66	21.35	35.09	46.00	-10.91	QP
913.113	H	39.42	29.10	29.50	39.82	46.00	-6.18	QP
60.211	V	54.83	29.64	7.11	32.30	40.00	-7.70	QP
192.020	V	53.30	29.54	10.54	34.30	43.50	-9.20	QP
458.993	V	48.12	29.66	21.66	40.12	46.00	-5.88	QP
674.990	V	38.30	29.21	25.52	34.61	46.00	-11.39	QP
913.780	V	38.40	29.10	29.52	38.82	46.00	-7.18	QP

5G (Radiated Emission below 1GHz)								
802.11a Mode 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
192.010	H	48.50	29.54	10.48	29.44	43.50	-14.06	QP
240.000	H	55.50	29.55	13.35	39.30	46.00	-6.70	QP
305.456	H	49.90	29.58	15.98	36.30	46.00	-9.70	QP
566.993	H	43.30	29.46	24.80	38.64	46.00	-7.36	QP
914.438	H	40.40	29.10	29.57	40.87	46.00	-5.13	QP
120.013	V	52.30	29.54	12.54	35.30	43.50	-8.20	QP
239.998	V	53.70	29.55	13.50	37.65	46.00	-8.35	QP
512.995	V	43.10	29.57	22.57	36.10	46.00	-9.90	QP
566.995	V	41.80	29.46	24.93	37.27	46.00	-8.73	QP
914.430	V	39.70	29.10	29.56	40.16	46.00	-5.84	QP

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

Radiated spurious emission

Radiated Emission above 1GHz

Worst case : 802.11b

2.4G								
802.11b CH01								
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	42.99	26.01	39.97	56.95	74	-17.05	PK
4824.00	H	38.81	26.01	39.97	52.77	54	-1.23	AV
4824.00	V	44.13	26.01	39.97	58.09	74	-15.91	PK
4824.00	V	39.97	26.01	39.97	53.93	54	-0.07	AV

802.11b CH06								
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
4874.15	H	40.51	25.99	40.01	54.53	74	-19.47	PK
4873.90	H	35.24	25.99	40.01	49.26	54	-4.74	AV
4874.00	V	41.79	25.99	40.01	55.81	74	-18.19	PK
4874.00	V	37.21	25.99	40.01	51.23	54	-2.77	AV

802.11b 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
4924.07	H	43.50	25.98	40.04	57.56	74	-16.44	PK
4924.07	H	39.51	25.98	40.04	53.57	54	-0.43	AV
4924.00	V	42.37	25.98	40.04	56.43	74	-17.57	PK
4924.00	V	37.17	25.98	40.04	51.23	54	-2.77	AV

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

802.11g CH01								
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	39.99	26.01	39.97	53.95	74	-20.05	PK
4824.00	H	26.95	26.01	39.97	40.91	54	-13.09	AV
4824.00	V	40.87	26.01	39.97	54.83	74	-19.17	PK
4824.00	V	27.32	26.01	39.97	41.28	54	-12.72	AV

802.11g CH06								
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
4876.00	H	39.19	25.99	40.01	53.21	74	-20.79	PK
4876.00	H	25.66	25.99	40.01	39.68	54	-14.32	AV
4872.00	V	37.37	25.99	40.01	51.39	74	-22.61	PK
4872.00	V	25.10	25.99	40.01	39.12	54	-14.88	AV

802.11g 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	40.49	25.98	40.04	54.55	74	-19.45	PK
4924.00	H	27.03	25.98	40.04	41.09	54	-12.91	AV
4924.00	V	38.64	25.98	40.04	52.70	74	-21.30	PK
4924.00	V	26.06	25.98	40.04	40.12	54	-13.88	AV

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

5G								
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	36.25	25.03	49.61	60.83	74	-13.17	PK
11490.00	H	24.31	25.03	49.61	48.89	54	-5.11	AV
11490.00	V	38.03	25.03	49.61	62.61	74	-11.39	PK
11490.00	V	25.02	25.03	49.61	49.60	54	-4.40	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	37.48	25.10	49.83	62.21	74	-1.79	PK
11570.00	H	24.94	25.10	49.83	49.67	54	-4.33	AV
11570.00	V	36.23	25.10	49.83	60.96	74	-13.04	PK
11570.00	V	23.96	25.10	49.83	48.69	54	-5.31	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	37.58	25.20	50.03	62.41	74	-11.59	PK
11650.00	H	24.54	25.20	50.03	49.37	54	-4.63	AV
11650.00	V	35.71	25.20	50.03	60.54	74	-13.46	PK
11650.00	V	24.32	25.20	50.03	49.15	54	-4.85	AV

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

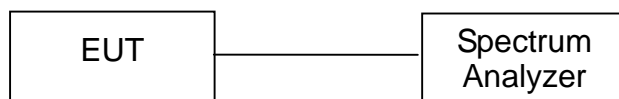
3 RF Conducted spurious emission

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 limits for each channel.

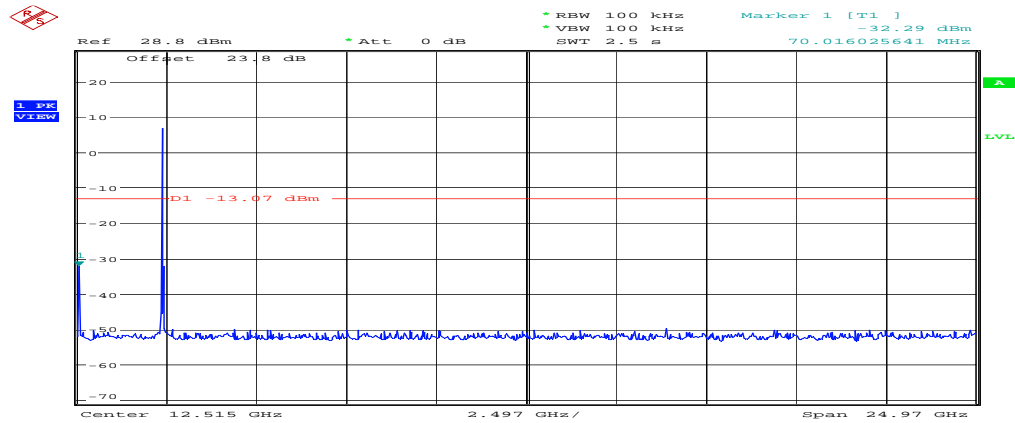
3.4 Test Result

PASS.

The final test data is shown on as following pages.

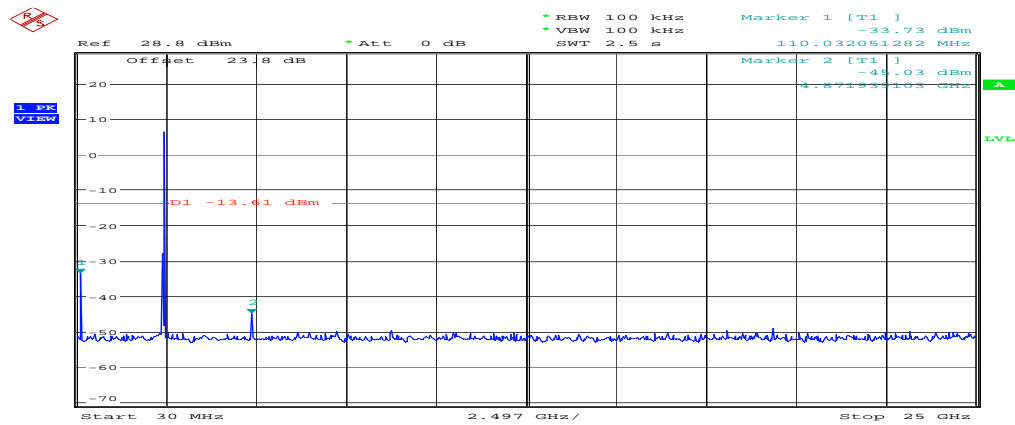
2.4G Conducted spurious emission

802.11 b CH01 2412MHz



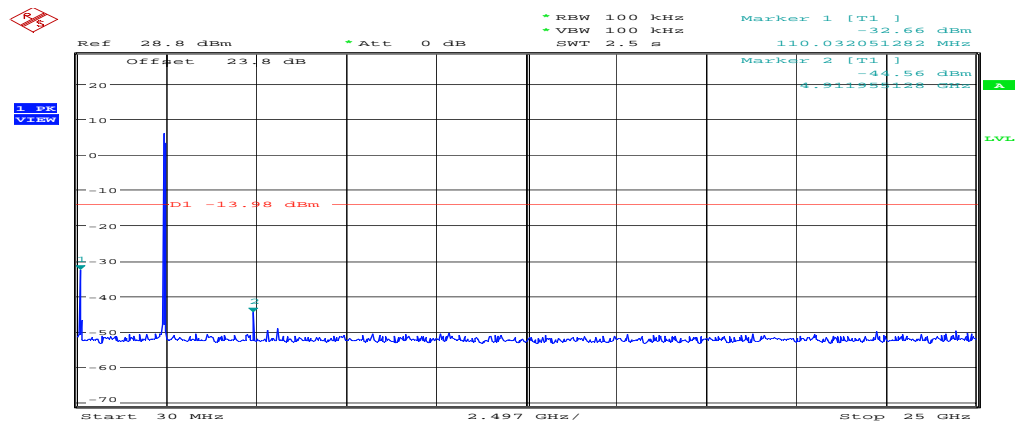
Conducted Spurious
802.11b CH01
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802.11 b CH06 2437MHz



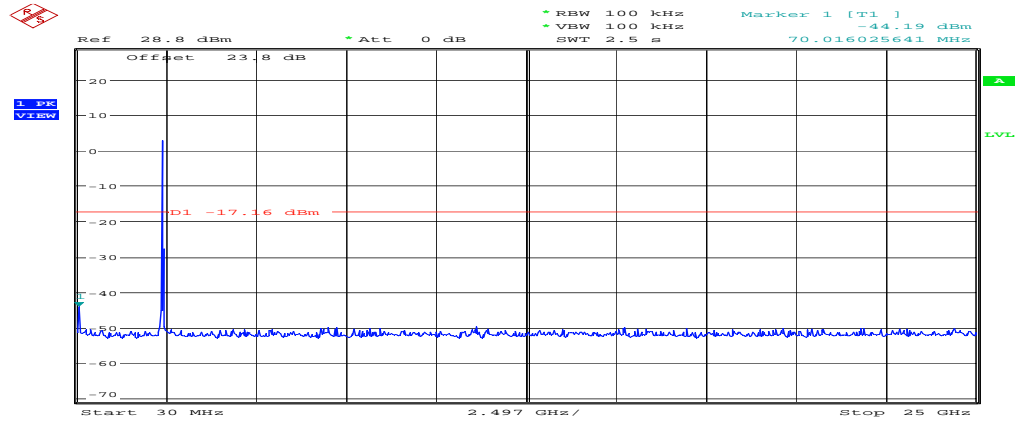
Conducted Spurious
802.11b CH06
Date: 15.NOV.2007 15:27:27

802.11 b CH11 2462MHz



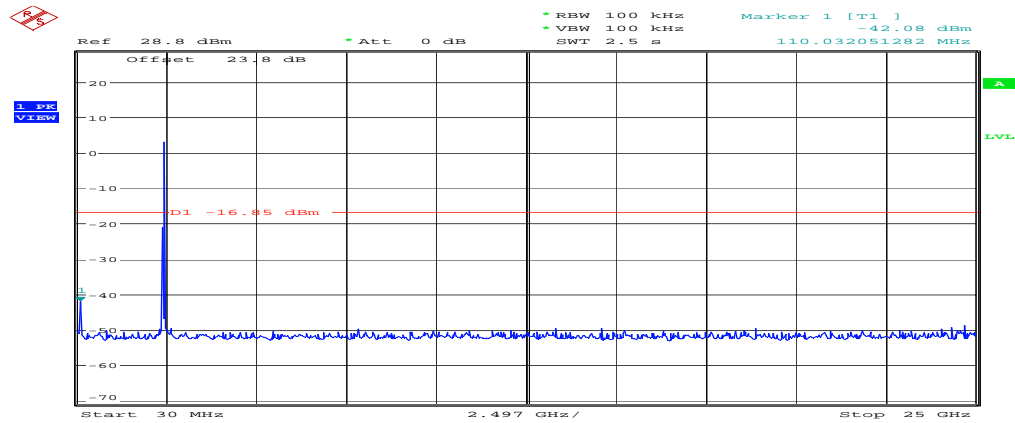
Conducted Spurious
802.11b CH11
Date: 15.NOV.2007 15:30:20

802.11 g CH01 2412MHz



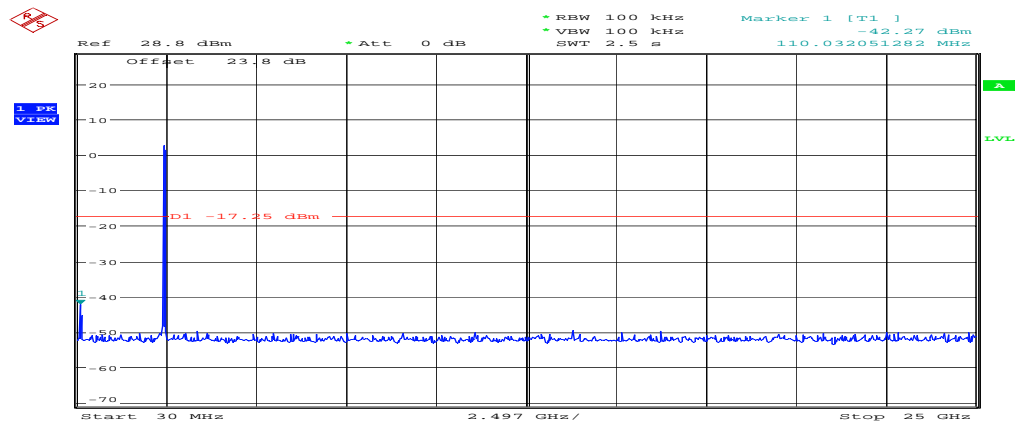
Conducted Spurious
802.11g CH01
Date: 15.NOV.2007 15:35:03

802.11 g CH06 2437MHz



Conducted Spurious
802.11g CH06
Date: 15.NOV.2007 15:33:40

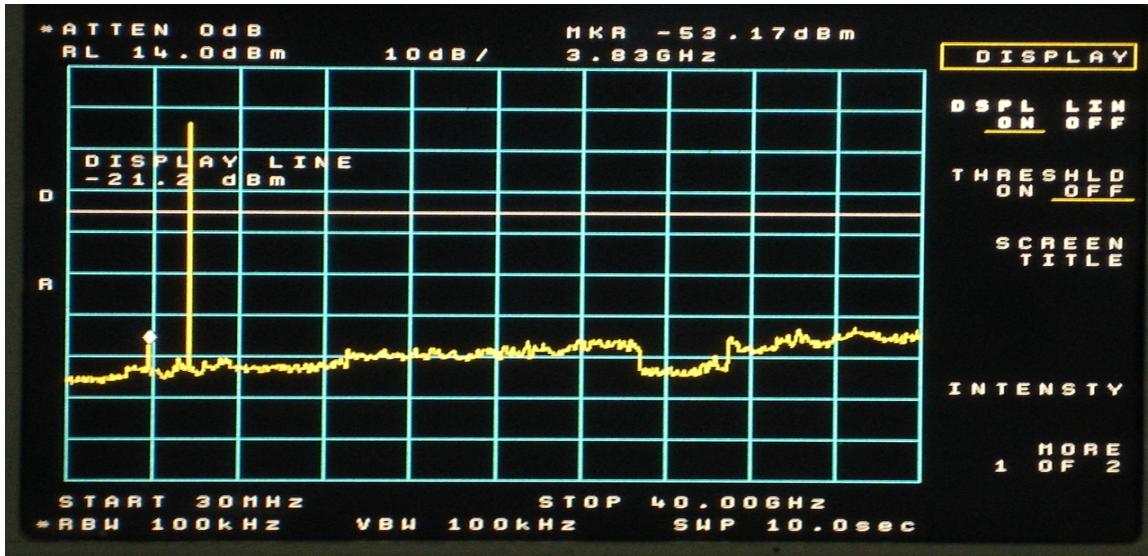
802.11 g CH11 2462MHz



Conducted Spurious
802.11g CH11
Date: 15.NOV.2007 15:32:13

5G Conducted spurious

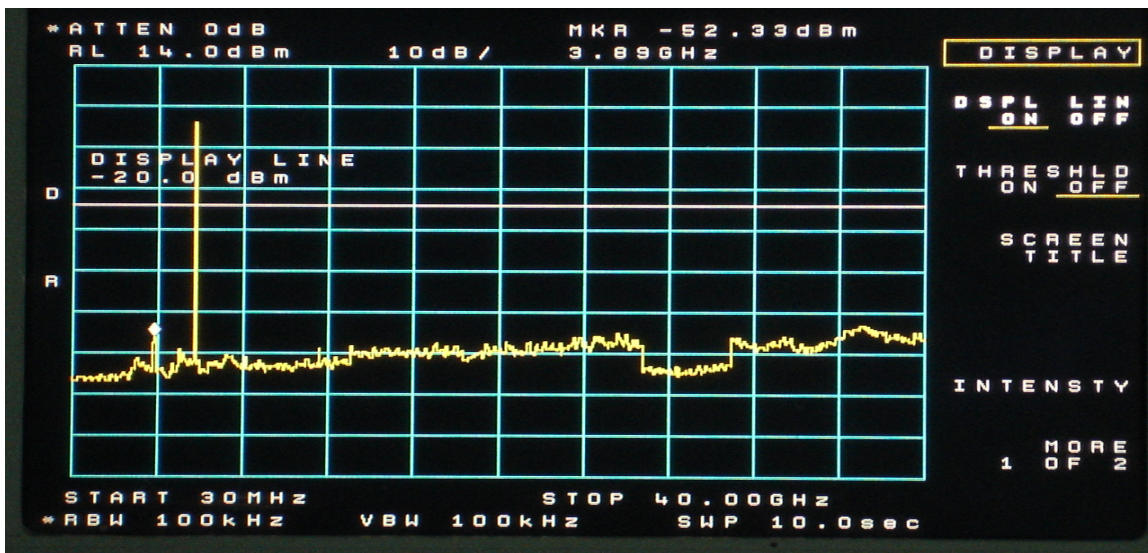
802.11a CH149 5745MHz



802.11a CH157 5785MHz



802.11a CH165 5825MHz



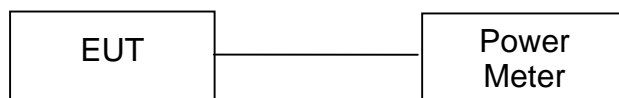
4 Maximum Peak output power test

4.1 Limit

According to FCC Part15.247 (b)(3) requirement :

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: The maximum conducted output power shall be less than 1Watt.

4.2 Configuration of Measurement



4.3 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.

For FCC §15.247(b) the power output was measured on the EUT using a 50 ohm SMA cable connected to peak power meter via power sensor. Peak output power was read directly from power meter. The test was performed at 3 channels (lowest, middle and highest).

4.4 Test Result

PASS.

The final test data is shown on as following pages.

Maximum output power

2.4G					
Mode : 802.11 b					
CH	Frq. MHz	Maximum transmit power (dBm)		Limit (dBm)	Margin (dB)
		AV	PK		
1	2412	19.05	21.37	30	-8.63
6	2437	18.24	20.58	30	-9.42
11	2462	18.31	20.65	30	-9.35

Mode : 802.11 g					
CH	Frq. MHz	Maximum transmit power (dBm)		Limit (dBm)	Margin (dB)
		AV	PK		
1	2412	17.54	24.80	30	-5.20
6	2437	18.02	25.02	30	-4.98
11	2462	17.91	24.80	30	-5.20

5G					
Mode : 802.11 a					
CH	Frq. MHz	Maximum transmit power (dBm)		Limit (dBm)	Margin (dB)
		AV	PK		
149	5745	16.96	22.04	30	-7.96
157	5785	16.55	22.01	30	-7.99
165	5825	16.42	21.48	30	-8.52

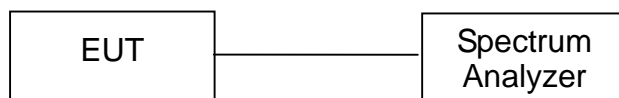
5 6dB Bandwidth

5.1 Limit

According to FCC Part15.247 (a)(2) requirement :

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

5.2 Configuration of Measurement



5.3 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 minimum 6dB bandwidth was measured using a 50 ohm spectrum analyzer with resolutions bandwidth set at 100kHz, video bandwidth set \geq RBW, and SPAN>>RBW. The test was performed at 3 channels (lowest, middle and highest).

5.4 Test Result

PASS.

The final test data is shown on as following pages.

6dB bandwidth

2.4G			
Test Mode : 802.11b			
Test CH		6dB Bandwidth (MHz)	Limit (kHz)
CH No.	Freq. (MHz)		
1	2412	12.12	>500
6	2437	12.15	>500
11	2462	11.15	>500

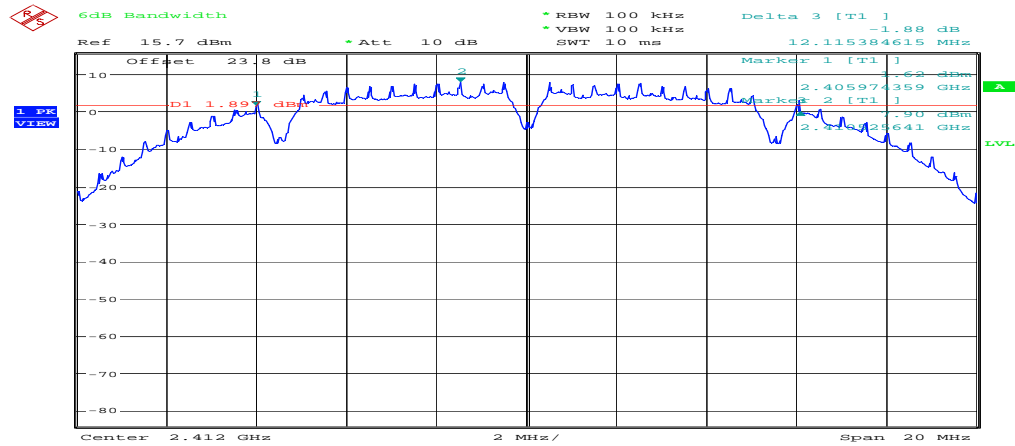
Test Mode : 802.11g			
Test CH		6dB Bandwidth (MHz)	Limit (kHz)
CH No.	Freq. (MHz)		
1	2412	16.44	>500
6	2437	16.41	>500
11	2462	16.41	>500

5G			
Test Mode : 802.11a			
Test CH		6dB Bandwidth (MHz)	Limit (kHz)
CH No.	Freq. (MHz)		
149	5745	16.44	>500
157	5785	16.44	>500
165	5825	16.44	>500

6dB Bandwidth

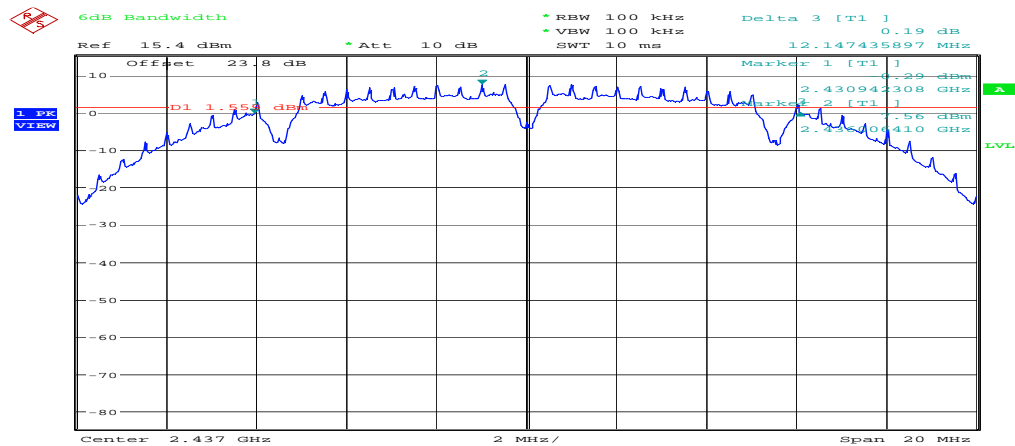
2.4G

802.11b CH01 2412MHz



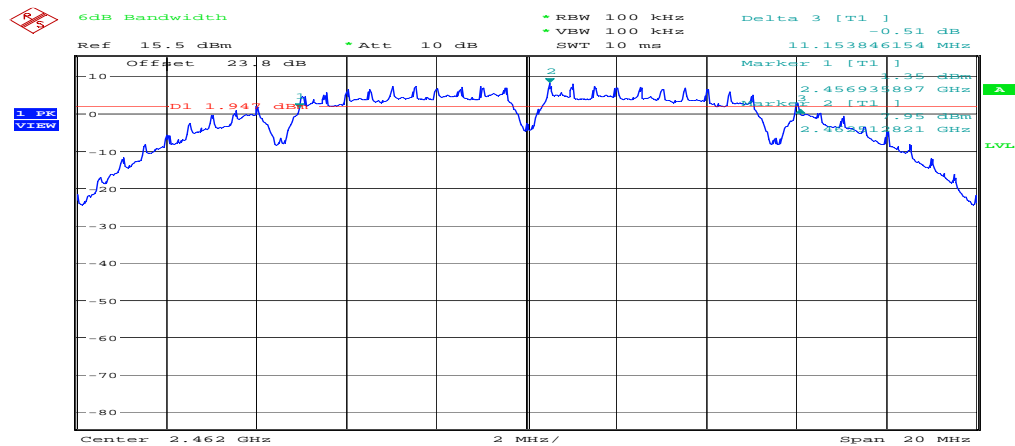
802.11b 2412MHz
Date: 15.NOV.2007 19:23:38

802.11b CH06 2437MHz



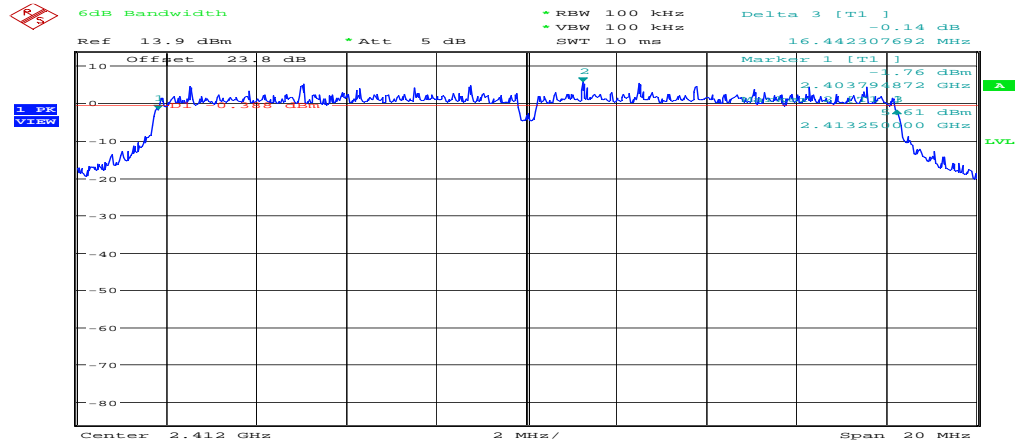
802.11b 2437MHz
Date: 15.NOV.2007 19:27:35

802.11b CH11 2462MHz



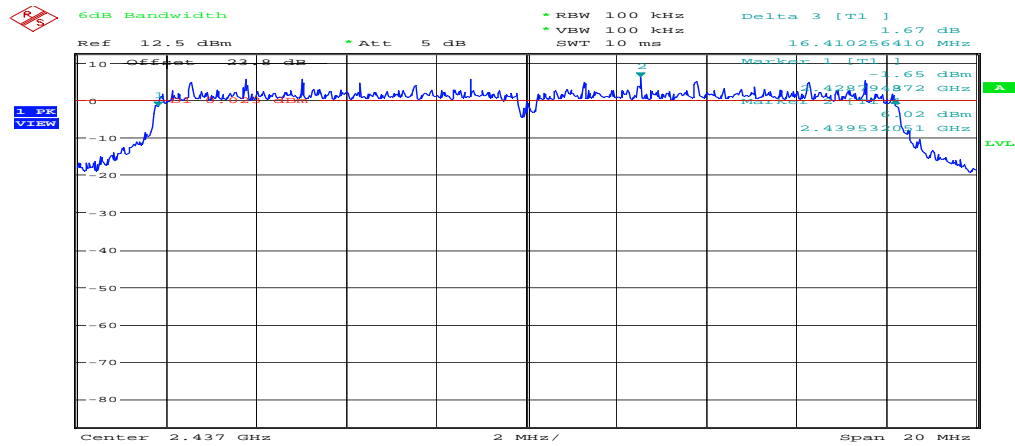
802.11b 2462MHz
Date: 15.NOV.2007 19:40:56

802.11g CH01 2412MHz



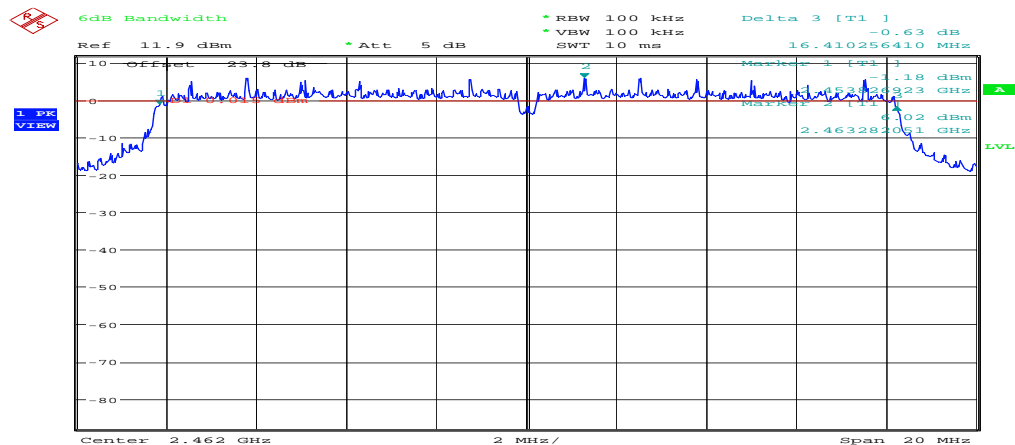
802.11g 2412MHz
Date: 15.NOV.2007 19:53:08

802.11g CH06 2437MHz



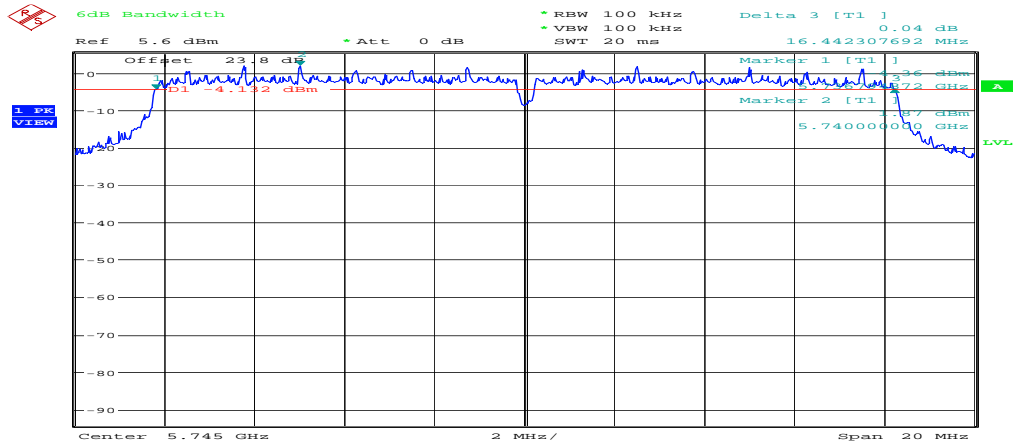
802.11g 2437MHz
Date: 15.NOV.2007 19:50:25

802.11g CH11 2462MHz



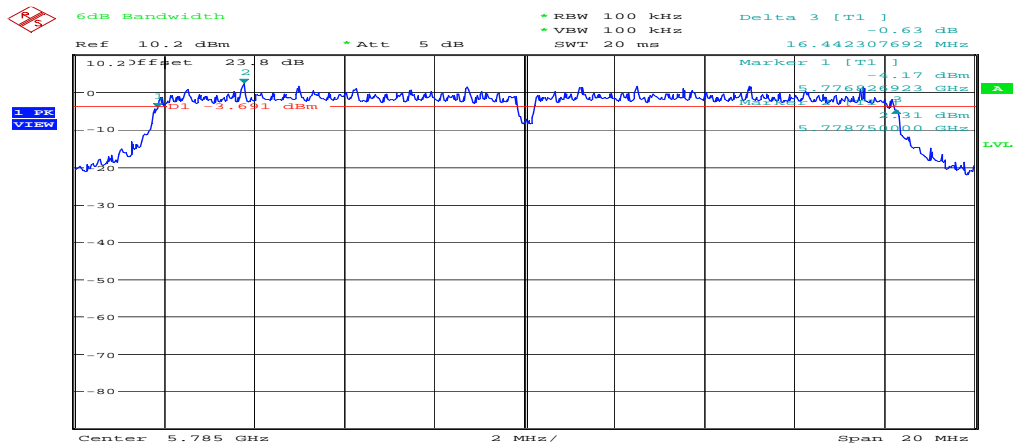
802.11g 2462MHz
Date: 15.NOV.2007 19:44:10

6dB Bandwidth 5G 802.11a CH149 5745MHz



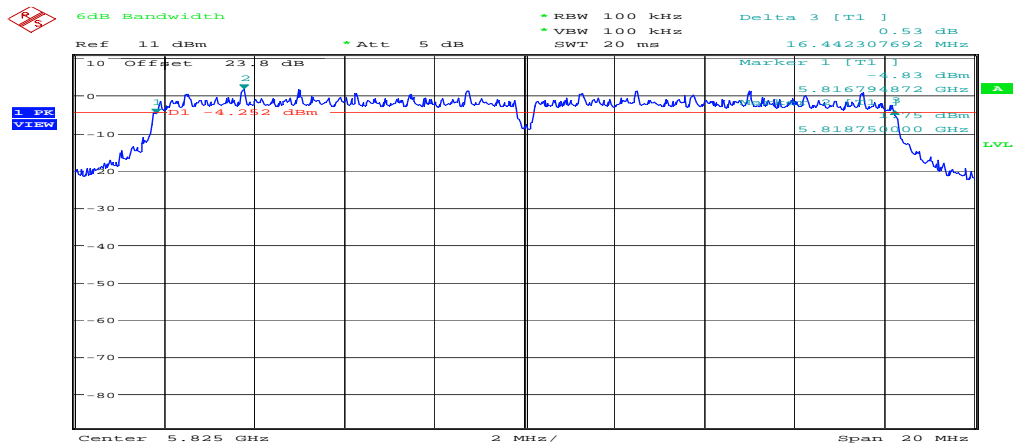
802.11a 5745MHz
Date: 15.NOV.2007 18:54:46

802.11a CH157 5785MHz



802.11a 5785MHz
Date: 15.NOV.2007 18:57:19

802.11a CH165 5825MHz



802.11a 5825MHz
Date: 15.NOV.2007 18:58:30

99%Occupied bandwidth

2.4G		
Test Mode : 802.11b		
Test CH		Occupied Bandwidth (MHz)
CH No.	Freq. (MHz)	
1	2412	15.58
6	2437	15.51
11	2462	15.54

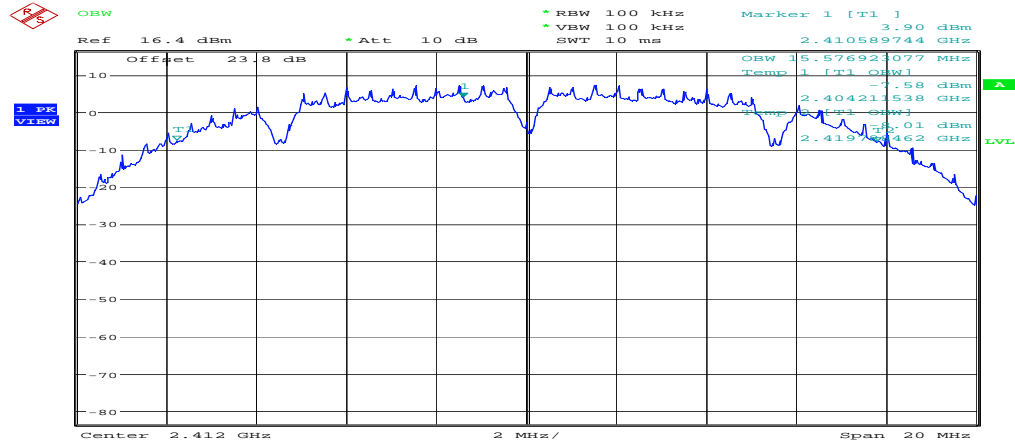
Test Mode : 802.11g		
Test CH		Occupied Bandwidth (MHz)
CH No.	Freq. (MHz)	
1	2412	16.51
6	2437	16.1
11	2462	16.51

5G		
Test Mode : 802.11a		
Test CH		Occupied Bandwidth (MHz)
CH No.	Freq. (MHz)	
149	5745	16.51
157	5785	16.51
165	5825	16.51

99%Occupied bandwidth

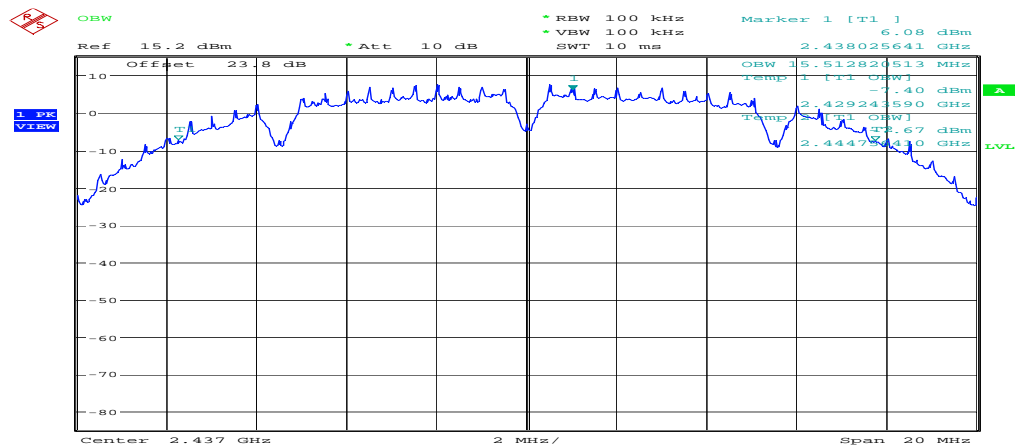
2.4G

802.11b CH01 2412MHz



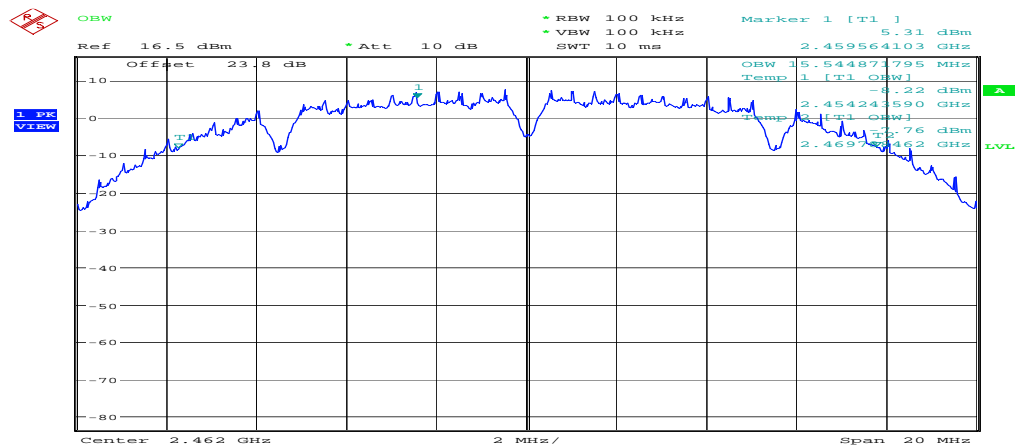
802.11b 2412MHz
Date: 15.NOV.2007 19:39:10

802.11b CH06 2437MHz



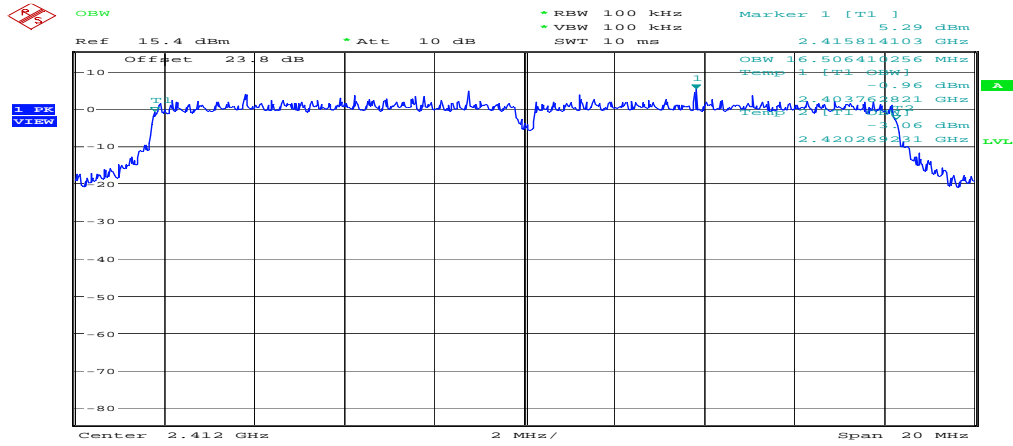
802.11b 2437MHz
Date: 15.NOV.2007 19:40:13

802.11b CH11 2462MHz



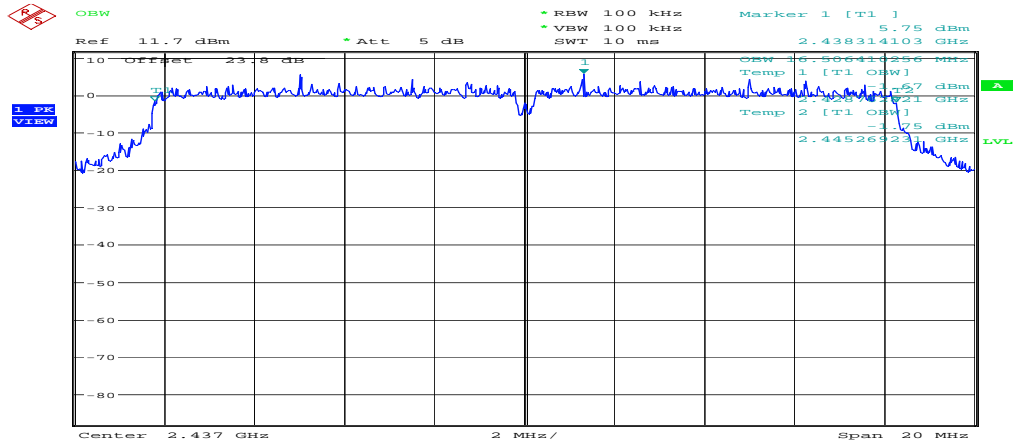
802.11b 2462MHz
Date: 15.NOV.2007 19:42:20

802.11g CH01 2412MHz



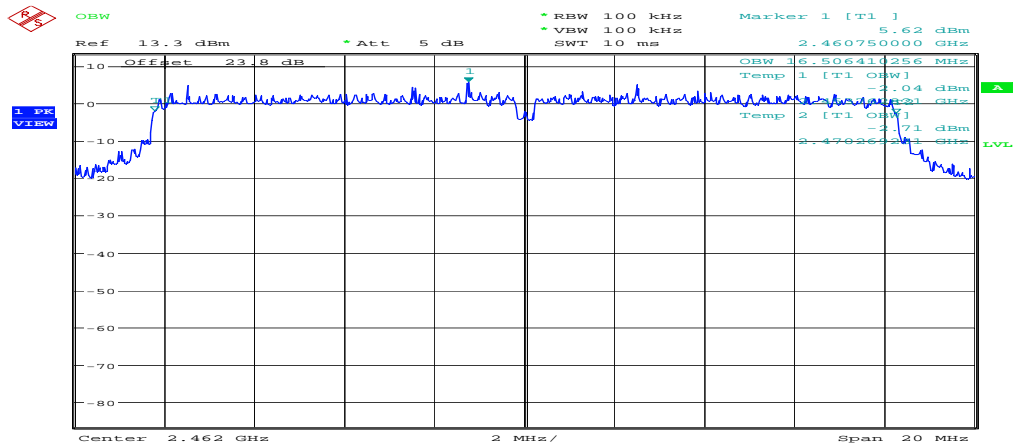
802.11g 2412MHz
Date: 15.NOV.2007 19:56:02

802.11g CH06 2437MHz



802.11g 2437MHz
Date: 15.NOV.2007 19:51:41

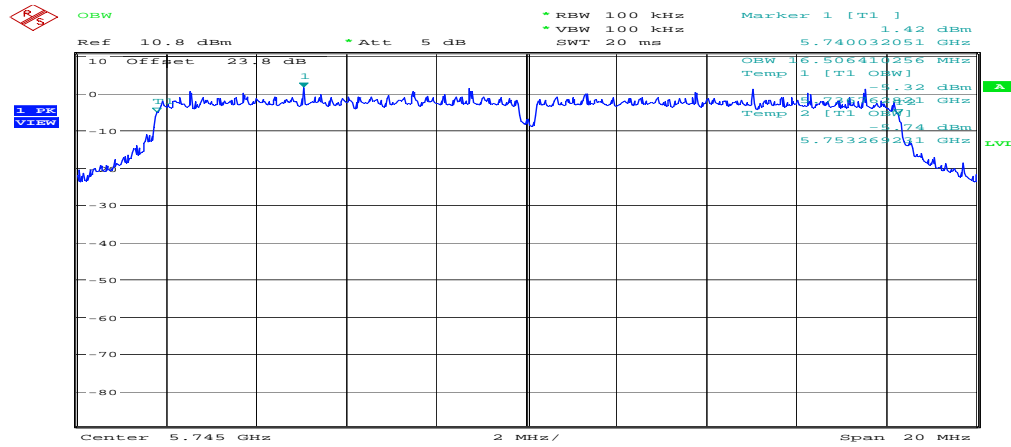
802.11g CH11 2462MHz



802.11g 2462MHz
Date: 15.NOV.2007 19:45:26

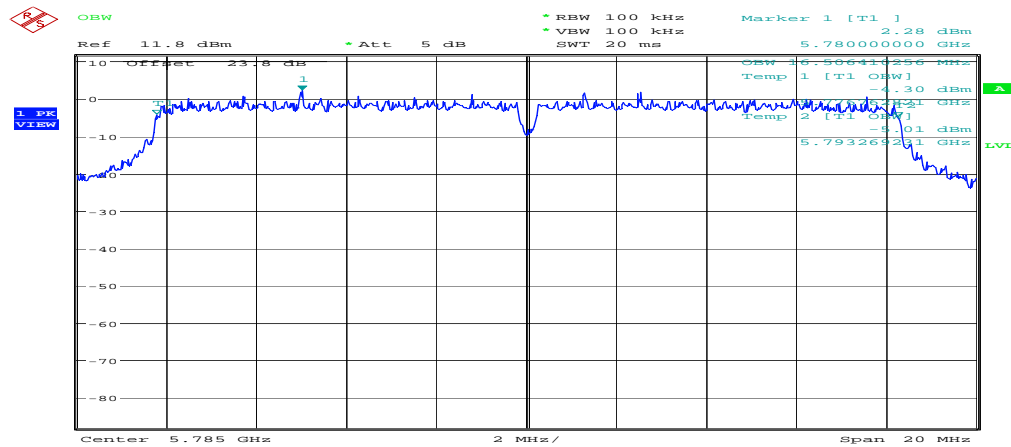
5G

802.11a CH149 5745MHz



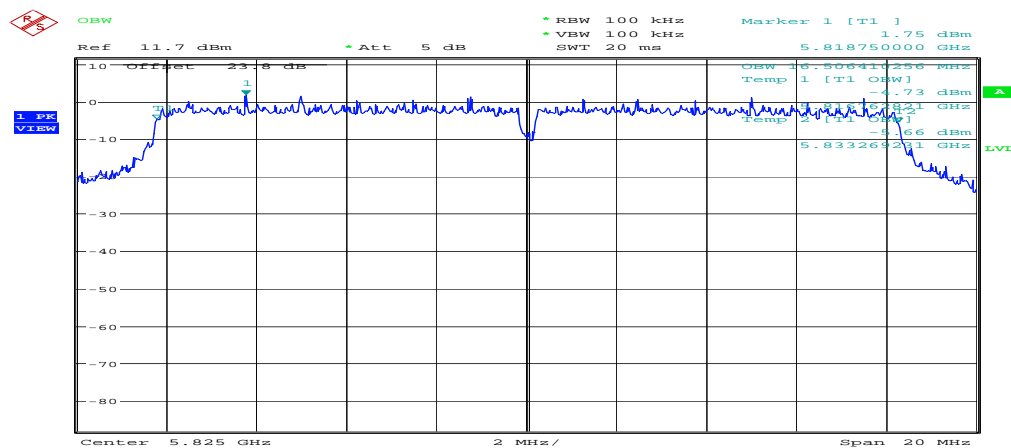
802.11a 5745MHz
Date: 15.NOV.2007 19:57:44

802.11a CH157 5785MHz



802.11a 5785MHz
Date: 15.NOV.2007 19:58:32

802.11a CH165 5825MHz



802.11a 5825MHz
Date: 15.NOV.2007 19:59:15

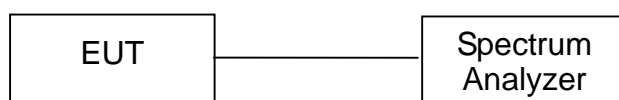
6 Power spectral density

6.1 Limit

According to FCC Part15.247 (e) requirement :

For digitally modulated systems, the 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.

6.2 Configuration of Measurement



6.3 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 power spectrum density was measured from the antenna port of the EUT using a 50ohm spectrum analyzer with the resolution bandwidth set at 3kHz, video bandwidth set at 10kHz, span of 1.5MHz, and sweep time set at 500 seconds. Power Density was read directly correction was added to the reading to obtain power at the EUT antenna terminals. The test was performed at 3 channels (lowest, middle and highest).

6.4 Test Result

PASS.

The final test data is shown on as following pages.

Power spectral density

2.4G				
802.11b				
CH	Freq. (MHz)	Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
1	2412	-5.24	8	-13.24
6	2437	-5.66	8	-13.66
11	2462	-5.07	8	-13.07

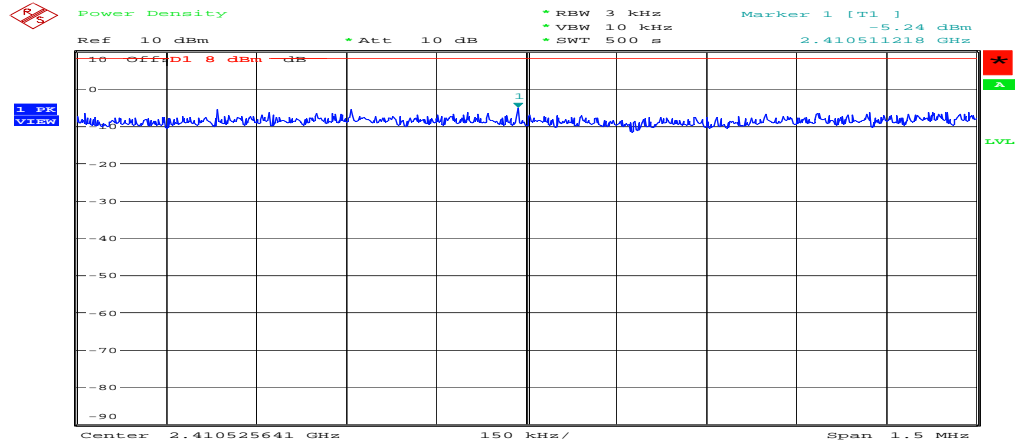
802.11g				
CH	Freq. (MHz)	Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
1	2412	-7.47	8	-15.47
6	2437	-7.13	8	-15.13
11	2462	-7.24	8	-15.24

5G				
802.11a				
CH	Freq. (MHz)	Power Spectral Density (dBm)	Limit (dBm)	Margin (dB)
149	5745	-10.52	8	-18.52
157	5785	-9.70	8	-17.70
165	5825	-11.08	8	-19.08

Power spectral density

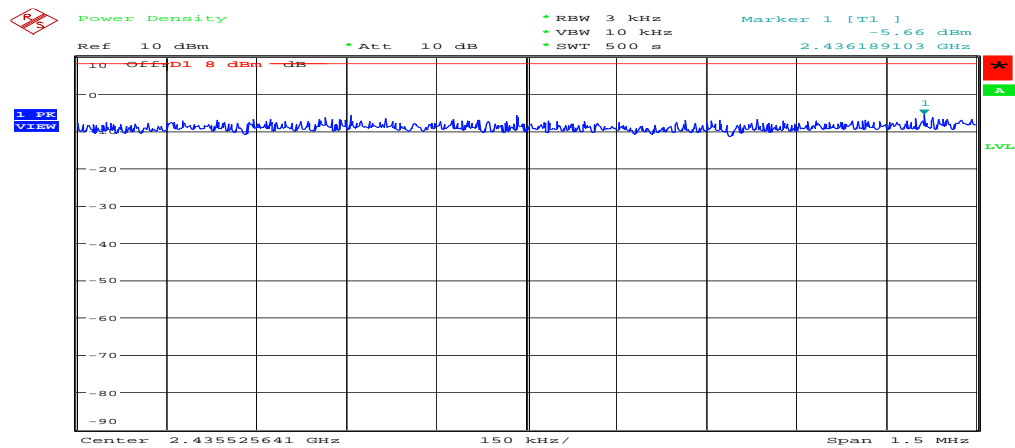
2.4G

802.11b CH01 2412MHz



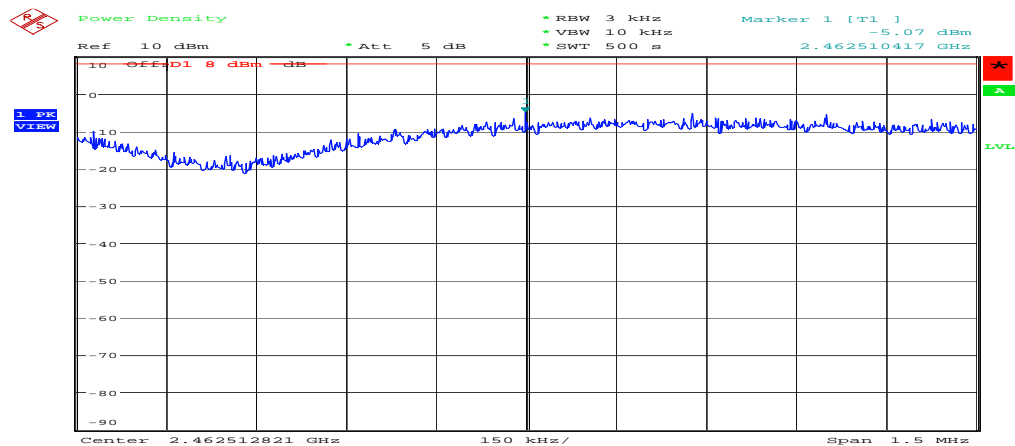
802.11b 2412MHz
Date: 15.NOV.2007 19:24:32

802.11b CH06 2437MHz



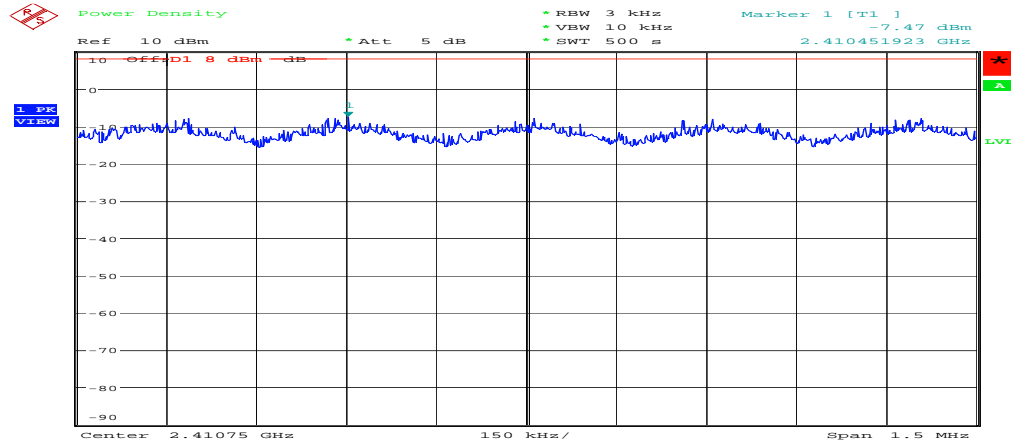
802.11b 2437MHz
Date: 15.NOV.2007 19:28:35

802.11b CH11 2462MHz



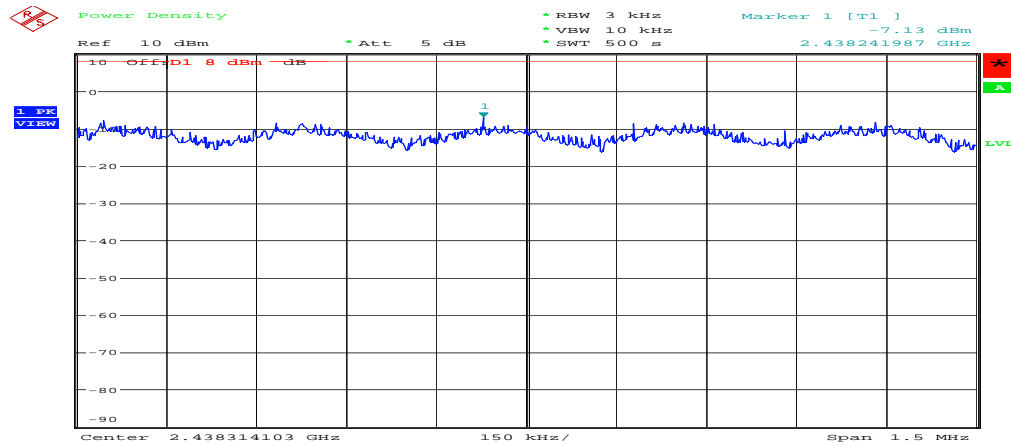
802.11b 2462MHz
Date: 15.NOV.2007 19:41:50

802.11g CH01 2412MHz



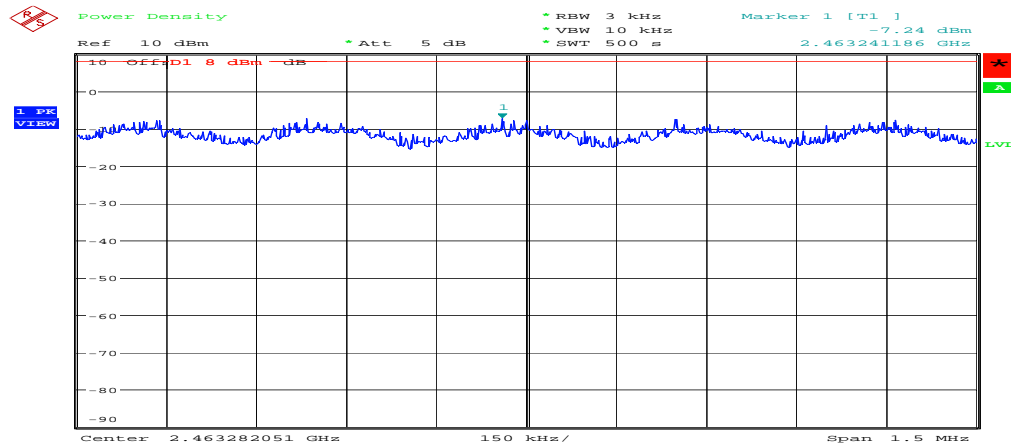
802.11g 2412MHz
Date: 15.NOV.2007 19:54:03

802.11g CH06 2437MHz



802.11g 2437MHz
Date: 15.NOV.2007 19:51:23

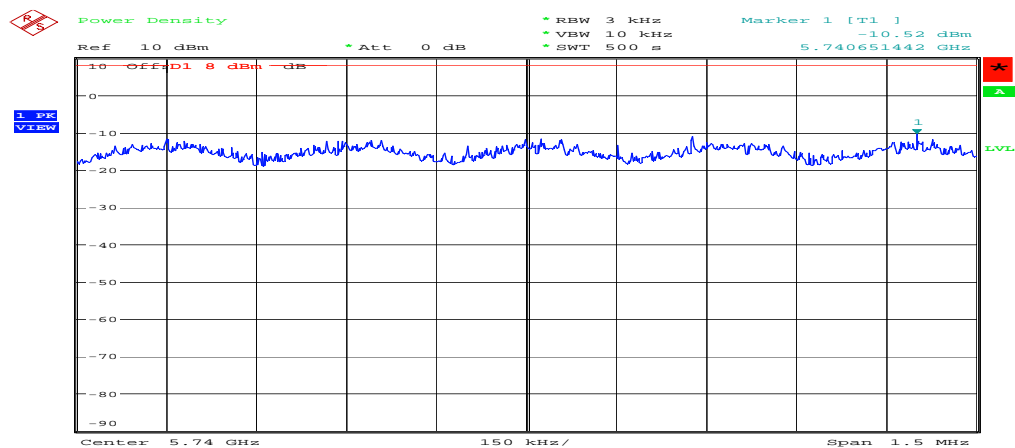
802.11g CH11 2462MHz



802.11g 2462MHz
Date: 15.NOV.2007 19:45:03

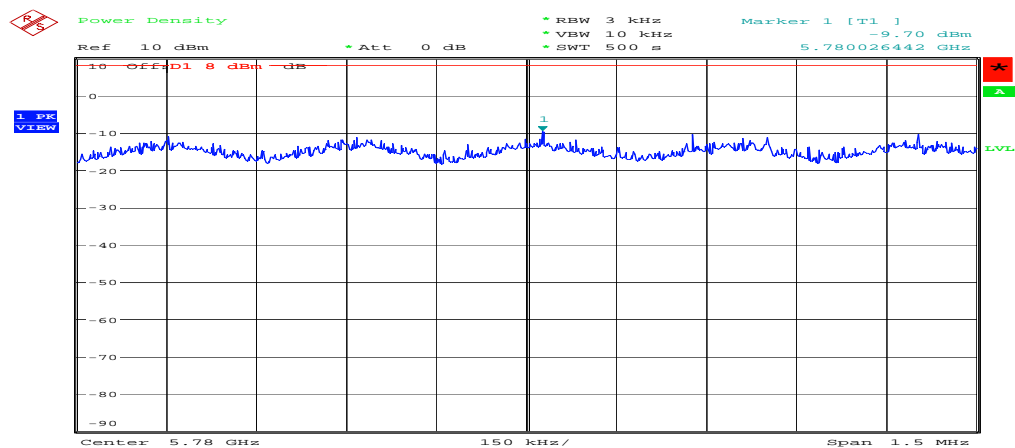
5G

802.11a CH149 5745MHz



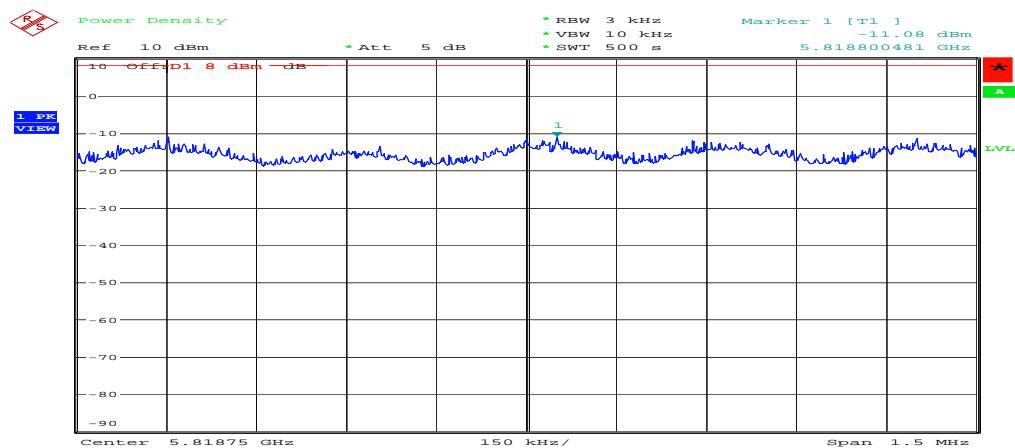
802.11a 5745MHz
Date: 15.NOV.2007 19:06:04

802.11a CH157 5785MHz



802.11a 5785MHz
Date: 15.NOV.2007 19:07:21

802.11a CH165 5825MHz



802.11a 5825MHz
Date: 15.NOV.2007 19:08:26