FCC Part 15C Compliance Test Report

Test Report no.:	Tre_FCC_0916_11X.doc	**Date of Report:**	15-Dec-2009
Number of pages:	29	**Customer's Contact person:**	Jyrki Juvani
Testing laboratory:	TCC Nokia Tampere Laboratory P.O. Box 68 Sinitaival 5 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880	**Customer:**	Nokia Corporation P.O. Box 50 Elektroniikkatie 10 FIN-90571 OULU, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 (0) 7180 47222
FCC listing no.: **IC recognition no.:**	94436 661AK-1		
Tested devices/ accessories:	**Phone RM-491 / Battery BL-5F, Headset HS-48, AC charger AC-8E**		
FCC ID:	LJPRM-491X	**IC:**	661E-RM491
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), Public Notice DA 00-705, DTS procedures KDB 558074, IC standards RSS-GEN (Issue 2, June 2007) and RSS-210 (Issue 7, June 2007). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".**		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	**The EUT complies with the requirements in respect of all parameters subject to the test.** The test results relate only to devices specified in this document.		
Date and signature for the contents:	Digitally signed by Jari Jantunen Date: 2009.12.15 13:17:10 +02'00'		

Jari Jantunen, Test System Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	16-Apr-2009
Testing completed	21-Apr-2009
The customer's contact person	Jyrki Juvani
Test Plan referred to	T:\Projects\RM-491\TestPlan_RS\RS_testplan_RM-491.xls
Notes	-
Document name	T:\Projects\RM-491\EMC\Results\FCC\Tre_FCC_0916_11.doc

1.1. EUT and Accessory Information

The EUT is a 7-band (GSM850/900/1800/1900 and WCDMA Band I/II(1900)/VIII) mobile phone with GPRS, EGPRS, Bluetooth and WLAN. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-491	004401106472034	0503	-	021.001	41839
Phone	RM-491	004401106472083	0503	-	021.001	41838
Battery	BL-5F	3635638441511301225;0670498	-	-	-	41840
Headset	HS-48	-	-	-	-	41843
AC charger	AC-8E	1103338304100308331;0675387	-	-	-	41842

1.2. Summary of Test Results

WLAN:

Section in CFR 47	Section in *RSS-GEN* or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (4)	Conducted peak output power	PASSED
15.247(d)	A8.5	Band edge compliance of RF emissions	NP
15.247(d)	A8.5	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	*7.2.2*	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8.2 (a)	6 dB bandwidth	PASSED
15.247(e)	A8.2 (b)	Power spectral density	PASSED

PASSED	The EUT complies with the essential requirements in the standard.
FAILED	The EUT does not comply with the essential requirements in the standard.
NP	The test was not performed by the TCC Nokia Tampere Laboratory.

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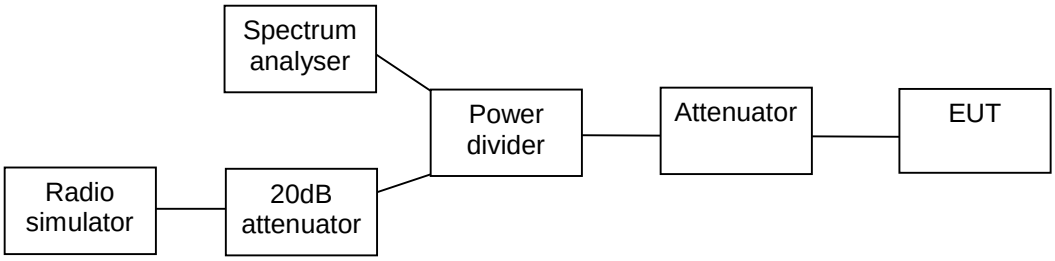
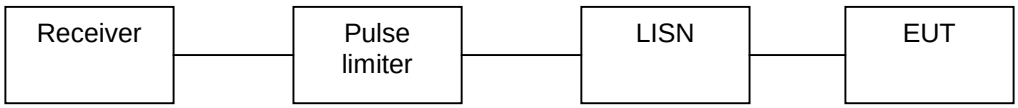
2. Test setups

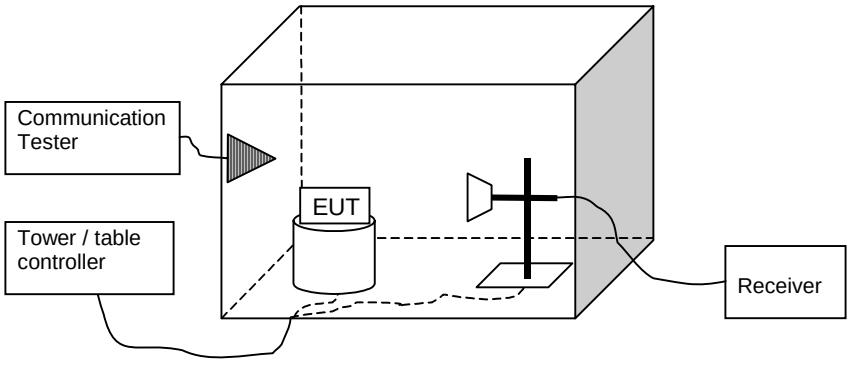
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



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3. Conducted peak output power

(FCC §15.247(b)(1), RSS-210 A8.4 (4))

EUT with DUT number	RM-491 DUT 41839
Accessories with DUT numbers	BL-5F DUT 41840
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 45 / 102.5
Date of measurements	20-Apr-2009
Measured by	Petteri Suni

3.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for conducted peak output power measurements

Frequency range [MHz[	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

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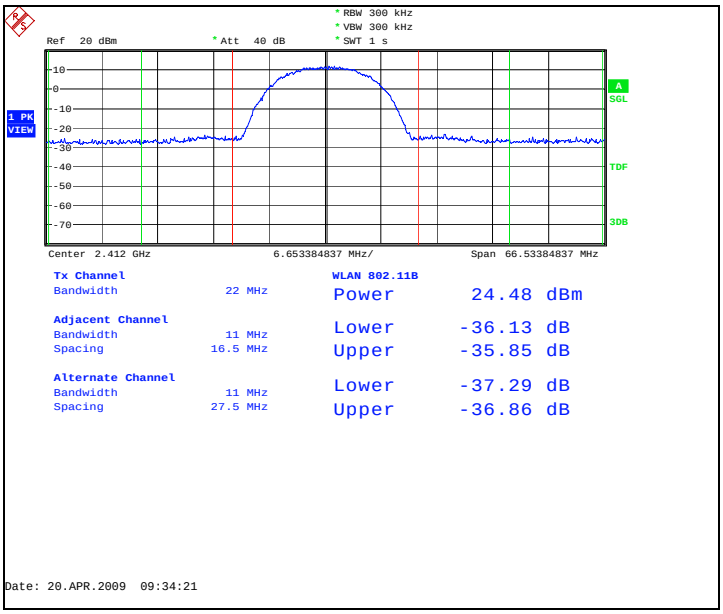
3.2. WLAN Test results

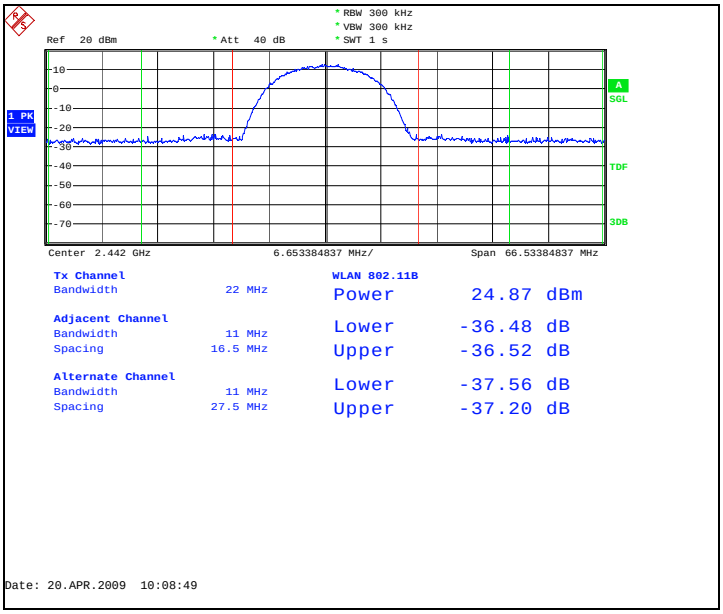
3.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	24.48	0.281	PASSED
7 / 2442	24.87	0.307	PASSED
11 / 2462	25.11	0.324	PASSED

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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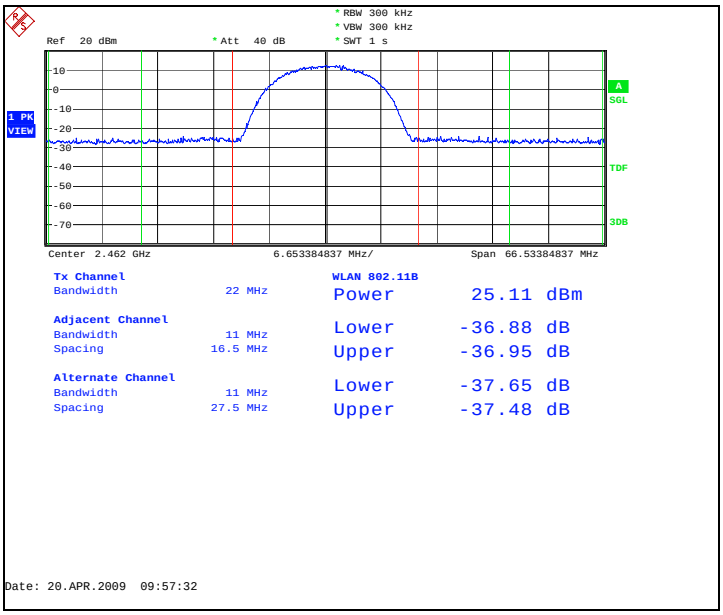
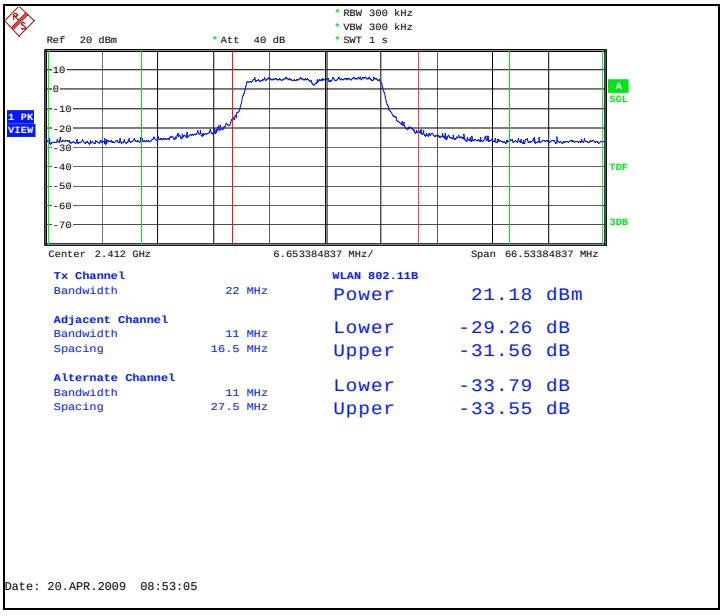
Channel 11 / 2462 MHz



3.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	21.18	0.131	PASSED
7 / 2442	23.60	0.229	PASSED
11 / 2462	21.83	0.152	PASSED

Channel 1 / 2412 MHz



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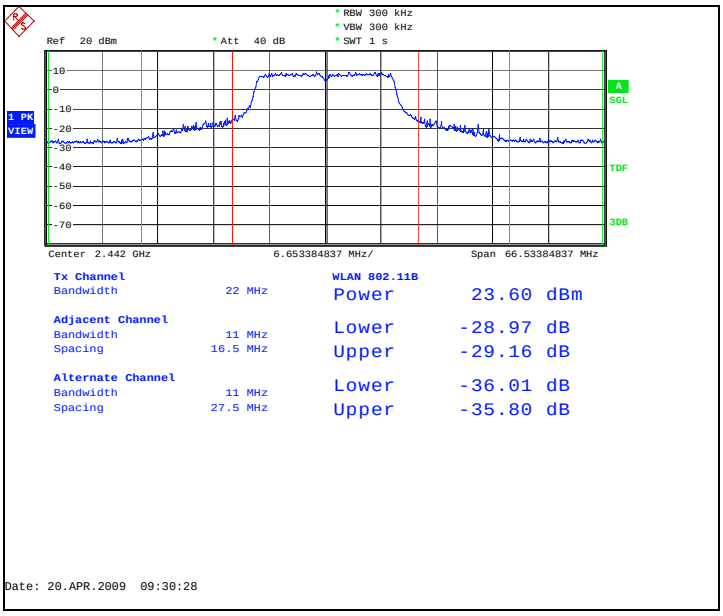
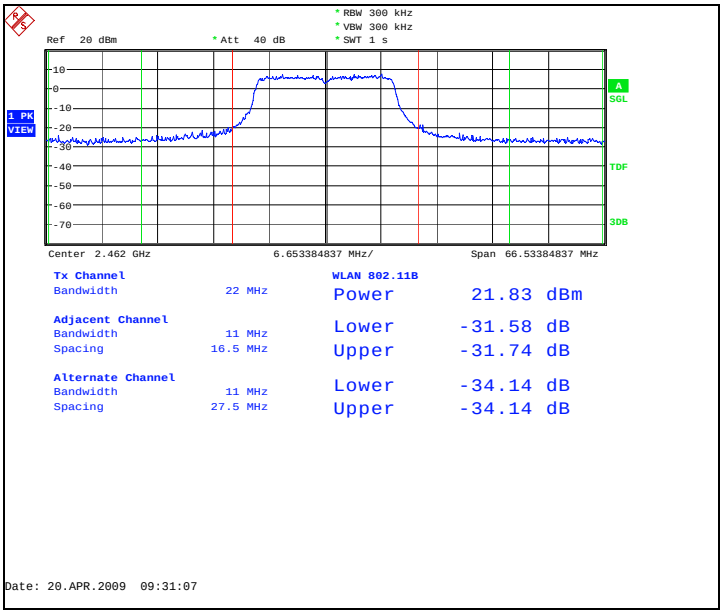
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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4. Spurious RF conducted emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-491 DUT 41839
Accessories with DUT numbers	BL-5F DUT 41840
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 45 / 102.5
Date of measurements	20-Apr-2009
Measured by	Petteri Suni

4.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for spurious RF conducted emissions measurements

Frequency range [MHz]	Limit [dBc]
1 – 25000	≤ -20

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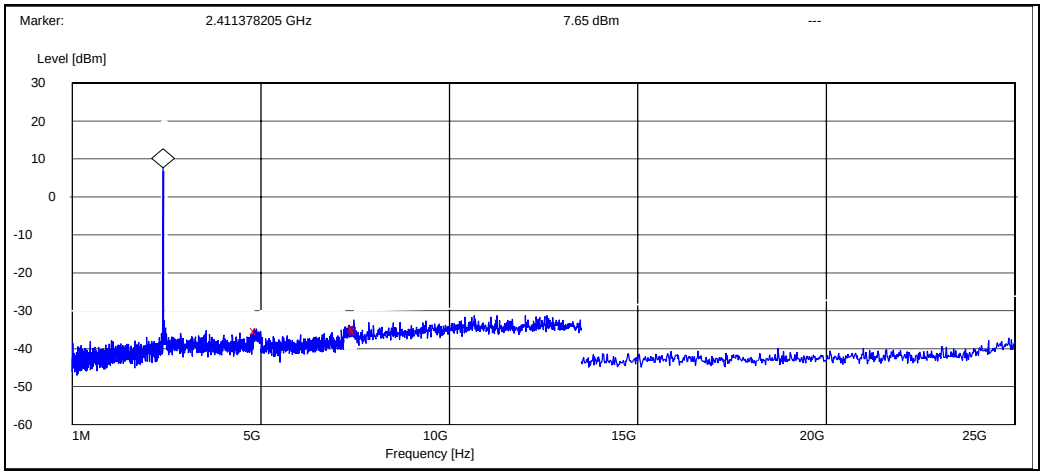
4.2. WLAN Test results

4.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

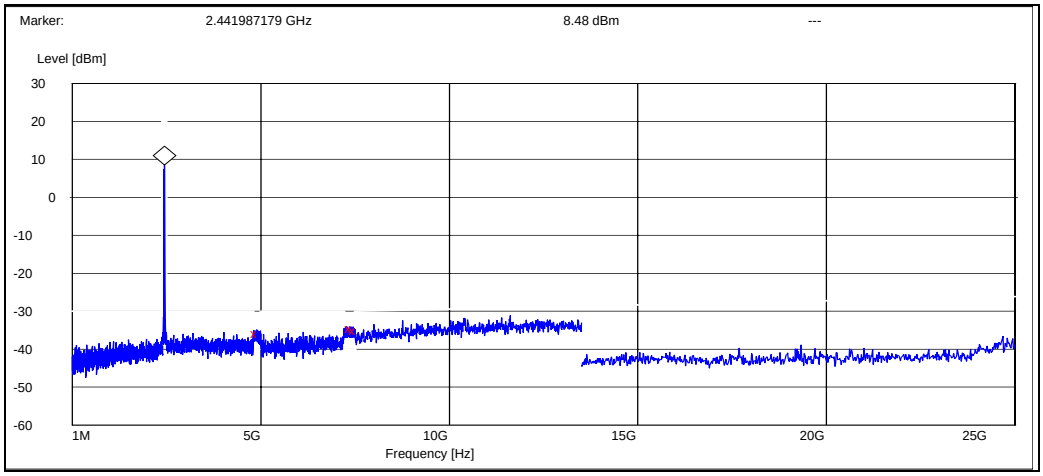
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4886.217949	-42.753394	PASSED
7465.865385	-42.253394	PASSED
7500.000000	-42.753394	PASSED

Channel 7 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4894.230769	-44.380783	PASSED
7392.788462	-42.880783	PASSED
7500.000000	-43.480783	PASSED

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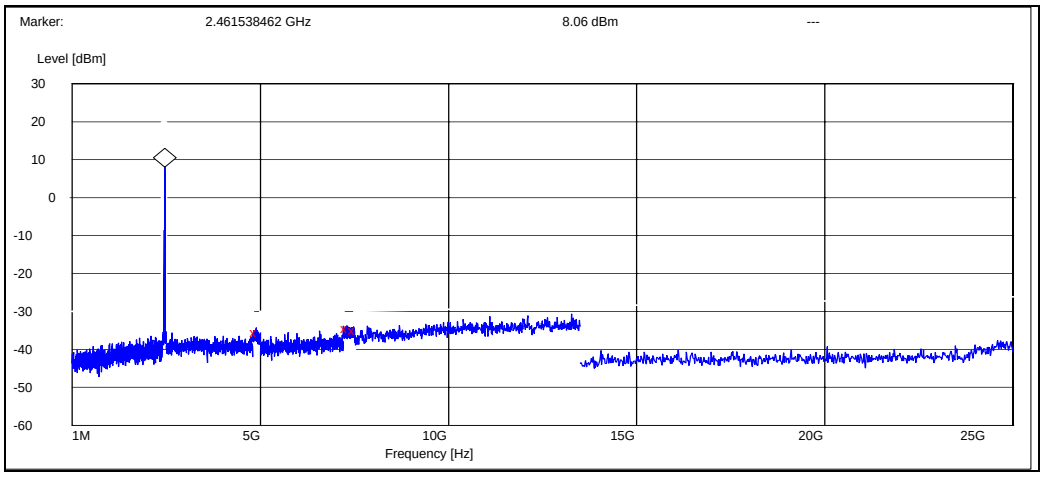
Channel 11 / 2462 MHz

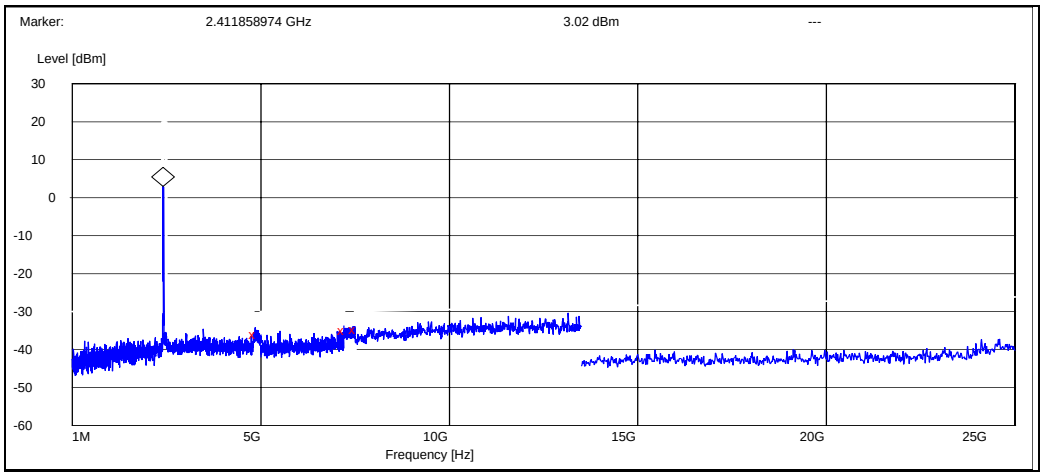


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4891.025641	-43.562331	PASSED
7293.269231	-42.662331	PASSED
7500.000000	-43.162331	PASSED

4.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4849.679487	-38.922420	PASSED
7209.134615	-38.022420	PASSED
7500.000000	-37.822420	PASSED

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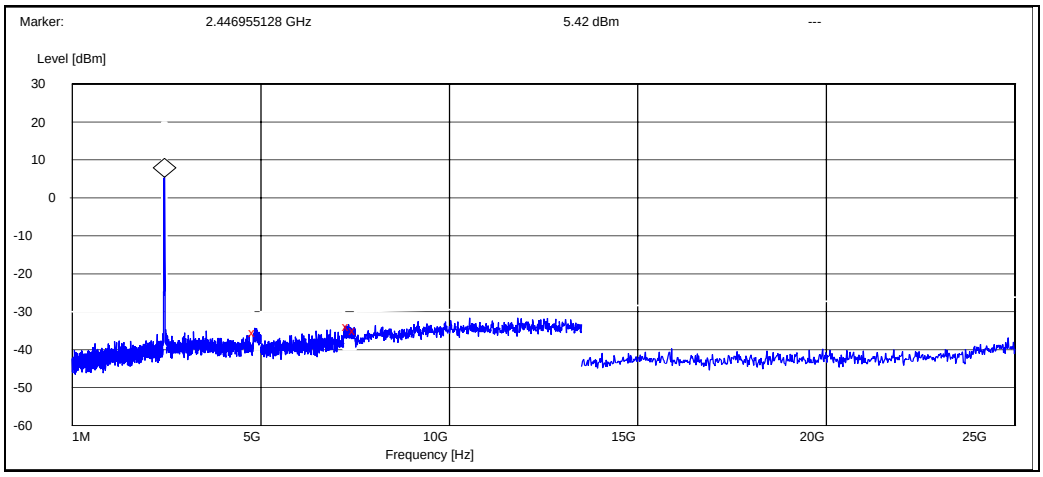
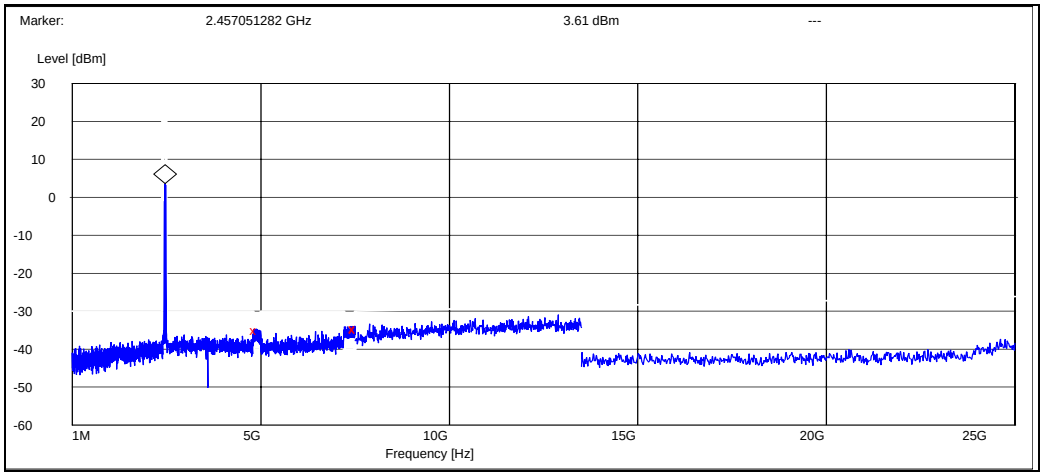
Channel 7 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4837.500000	-40.715050	PASSED
7321.153846	-39.315050	PASSED
7500.000000	-40.315050	PASSED

Channel 11 / 2462 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4883.653846	-38.809351	PASSED
7496.634615	-38.209351	PASSED
7500.000000	-38.409351	PASSED

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5. Spurious radiated emissions

(FCC §15.247(d), §15.209, RSS-210 A8.5)

EUT with DUT number	RM-491 DUT 41838
Accessories with DUT numbers	BL-5F DUT 41840, AC-8E 41842, HS-48 DUT 41843
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Slide open
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20-21 / 48-51 / 100.7-102.3
Date of measurements	17 and 20-Apr-2009
Measured by	Jari Jantunen

5.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210 as follows:

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

The measurement results are obtained as described below:

$$E\ [\mu V/m] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{TOT} = L_{CABLES} + AF - G_{PREAMP}$).

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Limits for spurious radiated emissions measurements (3 m measurement distance)

Frequency range [MHz[	Limit [µV/m]	Limit [dBµV/m]	Detector
30 – 88	100	40	Quasi peak
88 – 216	150	43.5	Quasi peak
216 – 960	200	46	Quasi peak
960 – 1000	500	54	Quasi peak
Above 1000	500	54	Average
Above 1000	5000	74	Peak

5.2. WLAN Test results

5.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	51.80	389.05	53.20	-1.4	HORIZONTAL	PASSED
7236.000000	54.80	549.54	51.70	3.1	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	39.90	98.86	41.30	-1.4	HORIZONTAL	PASSED
7236.000000	43.20	144.54	40.10	3.1	VERTICAL	PASSED

Channel 7 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
37.935872	24.90	17.58	39.00	-14.1	VERTICAL	PASSED

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4883.767535	48.50	266.07	50.00	-1.5	HORIZONTAL	PASSED
7324.151303	62.00	1 258.93	58.70	3.3	VERTICAL	PASSED
17986.977956	53.70	484.17	33.90	19.8	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4883.767535	35.40	58.88	36.90	-1.5	HORIZONTAL	PASSED
7325.651303	50.60	338.84	47.30	3.3	VERTICAL	PASSED
17991.477956	40.90	110.92	21.10	19.8	VERTICAL	PASSED

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Channel 11 / 2462 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	52.00	398.11	53.30	-1.3	HORIZONTAL	PASSED
7386.000000	59.10	901.57	55.60	3.5	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	38.90	88.10	40.20	-1.3	HORIZONTAL	PASSED
7386.000000	47.20	229.09	43.70	3.5	VERTICAL	PASSED

5.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	49.90	312.61	51.30	-1.4	HORIZONTAL	PASSED
7236.000000	58.50	841.40	55.40	3.1	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	36.90	69.98	38.30	-1.4	HORIZONTAL	PASSED
7236.000000	40.50	105.93	37.40	3.1	VERTICAL	PASSED

Channel 7 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
2498.536072	54.30	518.80	52.30	2.0	HORIZONTAL	PASSED
4868.241483	43.10	142.89	44.60	-1.5	HORIZONTAL	PASSED
4871.751503	43.00	141.25	44.50	-1.5	HORIZONTAL	PASSED
7299.101202	65.90	1 972.42	62.40	3.5	VERTICAL	PASSED
7301.597194	66.00	1 995.26	62.50	3.5	VERTICAL	PASSED
17933.373747	53.30	462.38	33.50	19.8	HORIZONTAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
2496.536072	38.00	79.43	36.10	1.9	HORIZONTAL	PASSED
4868.741483	29.50	29.85	31.00	-1.5	HORIZONTAL	PASSED
4875.251503	29.10	28.51	30.60	-1.5	HORIZONTAL	PASSED
7299.601202	50.70	342.77	47.20	3.5	VERTICAL	PASSED
7302.097194	50.70	342.77	47.20	3.5	VERTICAL	PASSED
17934.873747	40.70	108.39	20.90	19.8	HORIZONTAL	PASSED

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Channel 11 / 2462 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	47.60	239.88	48.90	-1.3	HORIZONTAL	PASSED
7386.000000	59.10	901.57	55.60	3.5	VERTICAL	PASSED

Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	33.40	46.77	34.70	-1.3	HORIZONTAL	PASSED
7386.000000	43.70	153.11	40.20	3.5	VERTICAL	PASSED

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6. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-491 DUT 41838
Accessories with DUT numbers	BL-5F DUT 41840, AC-8E 41842, HS-48 DUT 41843
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 48 / 103.0
Date of measurements	21-Apr-2009
Measured by	Jari Jantunen

6.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-GEN as follows:

The EUT is placed on a wooden table 80 cm above the reference groundplane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

$$U\ [dB\mu V] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

CISPR 22 Class B limits

Frequency range [MHz]	Quasi peak limit [dBµV]	Average limit [dBµV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

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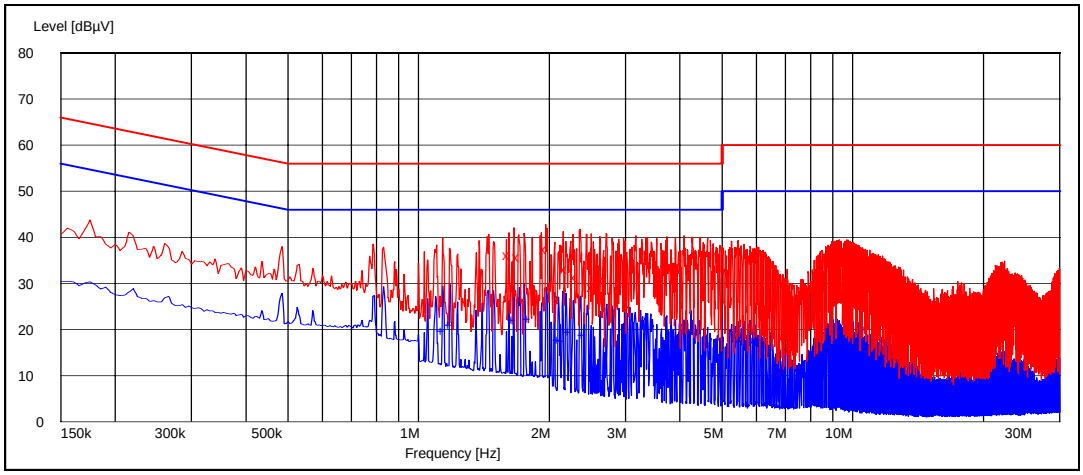
6.2. WLAN Test results

6.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.615000	36.30	L1	PASSED
1.700000	35.80	L1	PASSED
1.965000	37.50	L1	PASSED
2.190000	33.10	N	PASSED
2.310000	31.40	N	PASSED
2.530000	29.20	N	PASSED
2.670000	30.80	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.140000	19.80	L1	PASSED
1.185000	21.00	N	PASSED
1.660000	22.10	L1	PASSED
1.795000	22.20	L1	PASSED
2.105000	17.70	L1	PASSED
2.150000	17.60	L1	PASSED
2.235000	19.40	L1	PASSED
2.410000	18.90	L1	PASSED

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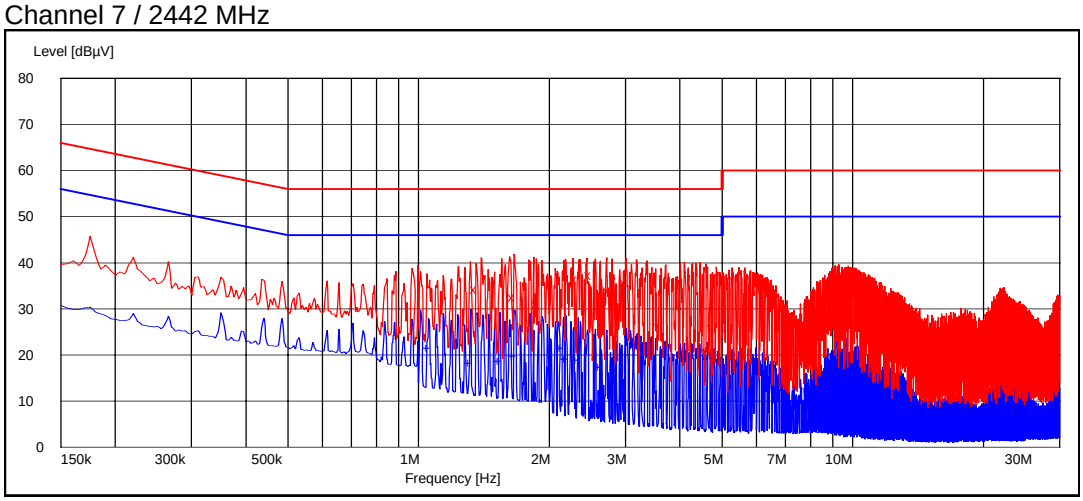
6.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.360000	34.30	L1	PASSED
1.665000	32.60	N	PASSED
1.885000	31.00	N	PASSED
2.315000	36.50	L1	PASSED
2.490000	37.20	L1	PASSED
2.750000	34.10	L1	PASSED
3.015000	35.90	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.055000	21.50	N	PASSED
1.315000	18.30	N	PASSED
1.540000	18.70	N	PASSED
1.665000	19.80	N	PASSED
2.140000	21.50	L1	PASSED
2.195000	19.20	N	PASSED
2.330000	18.90	N	PASSED
2.620000	17.30	L1	PASSED

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7. 6 dB bandwidth

(FCC §15.247(a)(2), RSS-210 A8.2 (a))

EUT with DUT number	RM-491 DUT 41839
Accessories with DUT numbers	BL-5F DUT 41840
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 45 / 102.5
Date of measurements	20-Apr-2009
Measured by	Petteri Suni

7.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for 6 dB bandwidth measurements

Limit [kHz]
≥ 500

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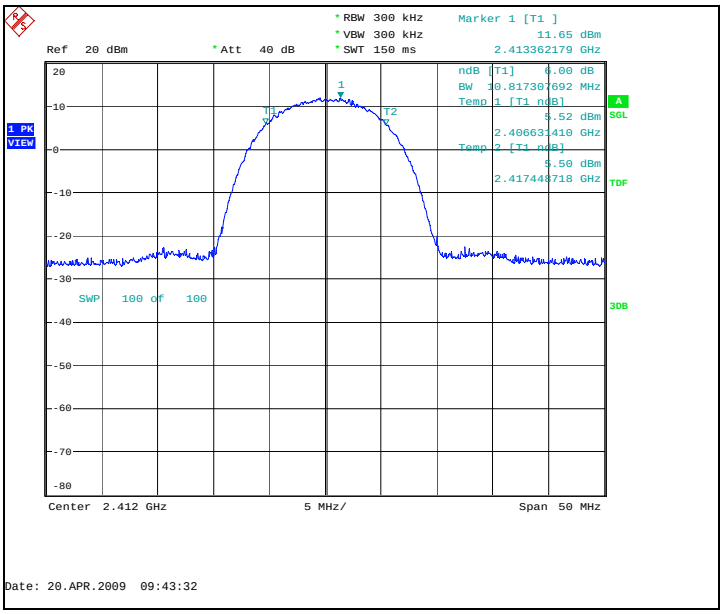
7.2. WLAN test results

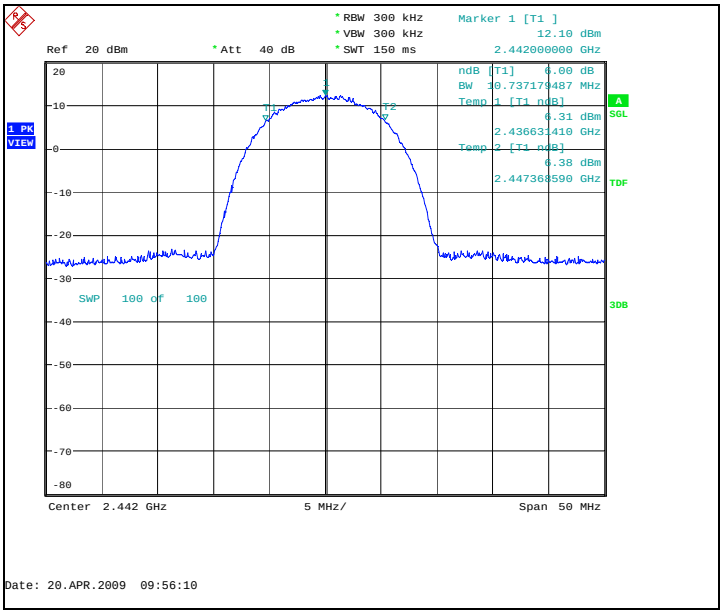
7.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	10817.308	PASSED
7	10737.179	PASSED
11	10737.179	PASSED

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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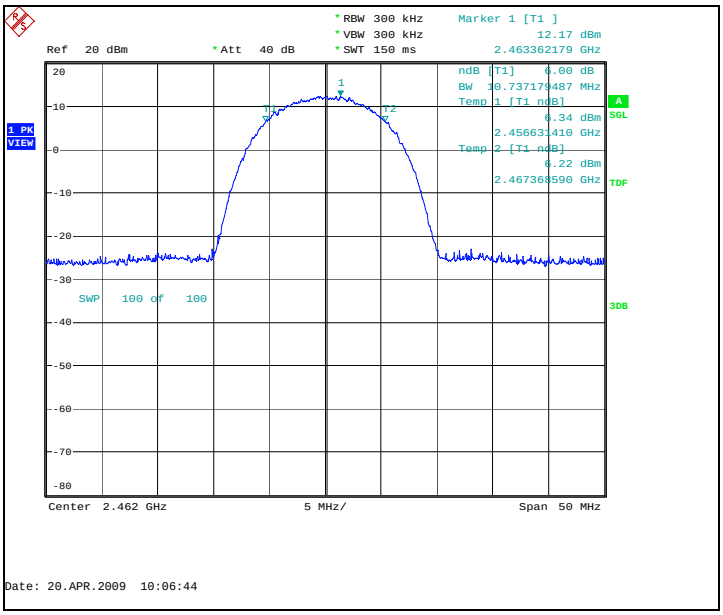
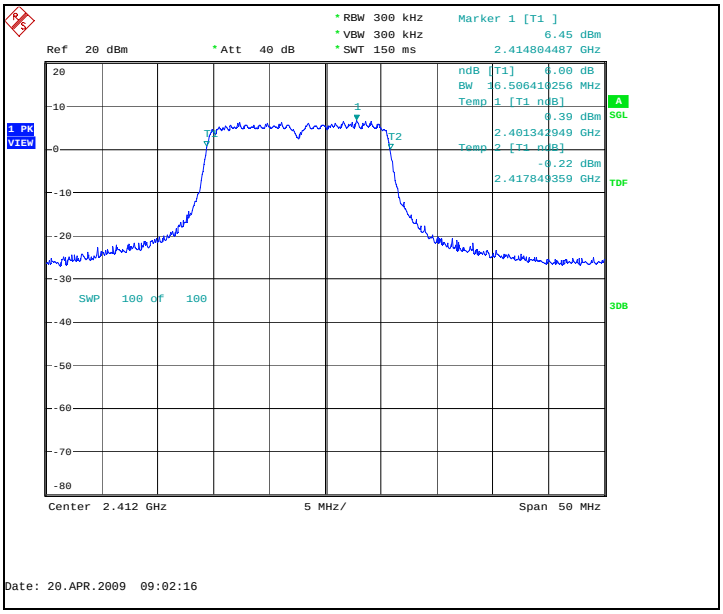
Channel 11 / 2462 MHz



7.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	16506.410	PASSED
7	16426.282	PASSED
11	16506.410	PASSED

Channel 1 / 2412 MHz



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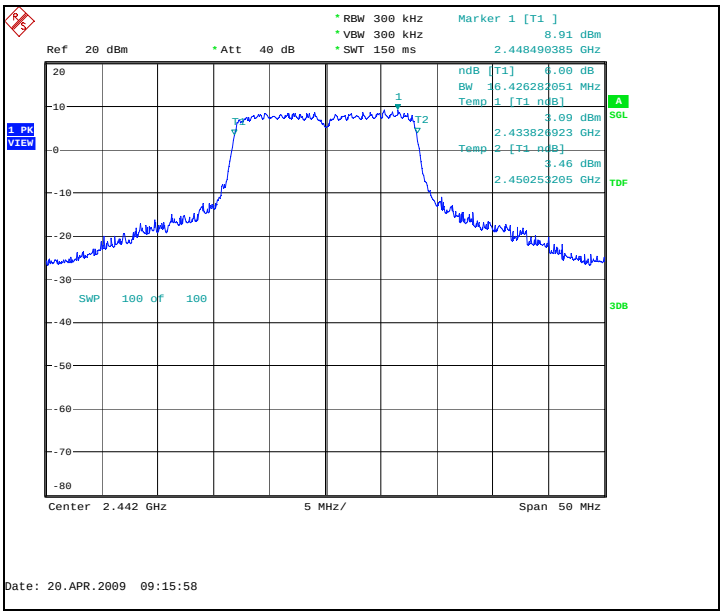
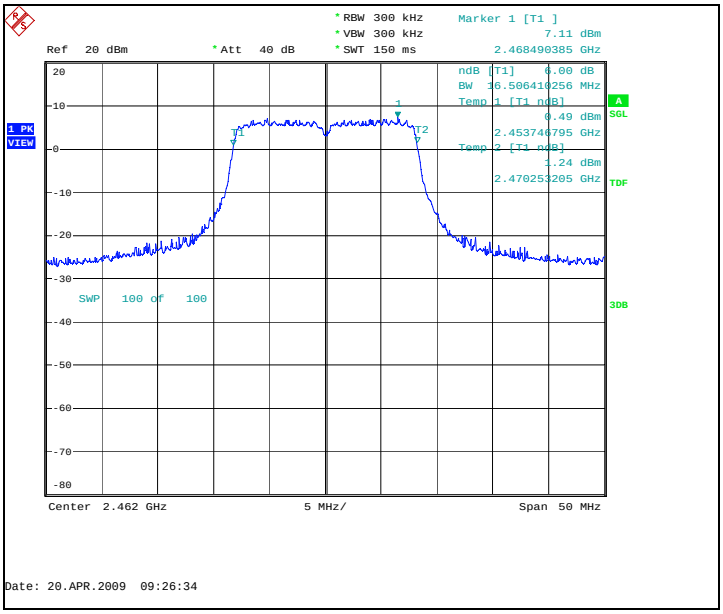
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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8. Power spectral density

(FCC §15.247(e), RSS-210 A8.2 (b))

EUT with DUT number	RM-491 DUT 41839
Accessories with DUT numbers	BL-5F DUT 41840
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 45 / 102.5
Date of measurements	20-Apr-2009
Measured by	Petteri Suni

8.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for power spectral density measurements

Limit [dBm] @ 3 kHz
≤ 8

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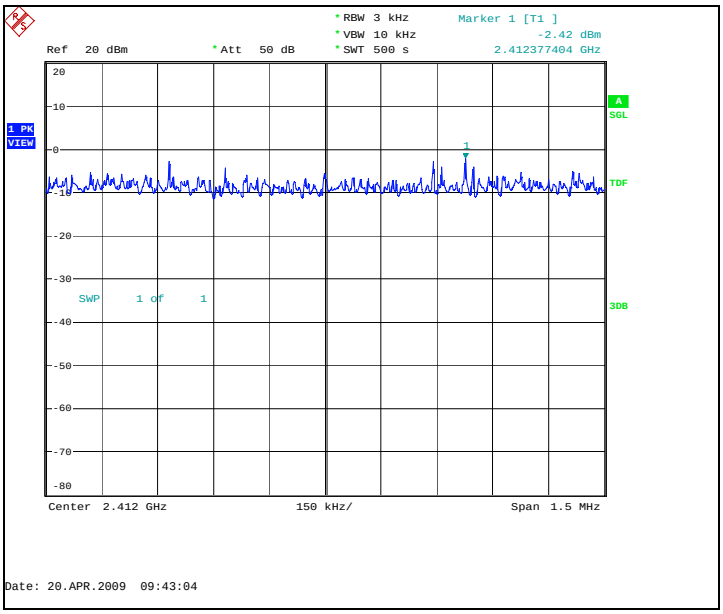
8.2. WLAN test results

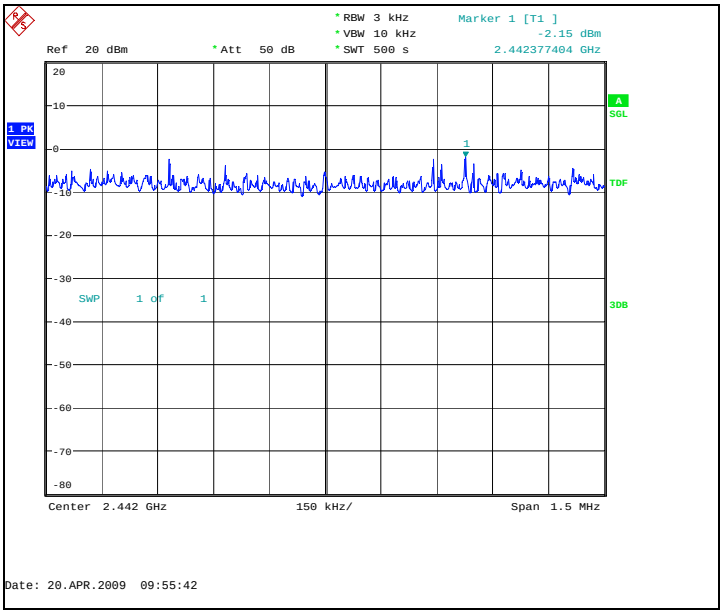
8.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-2.42	PASSED
7 / 2442	-2.15	PASSED
11 / 2462	-1.86	PASSED

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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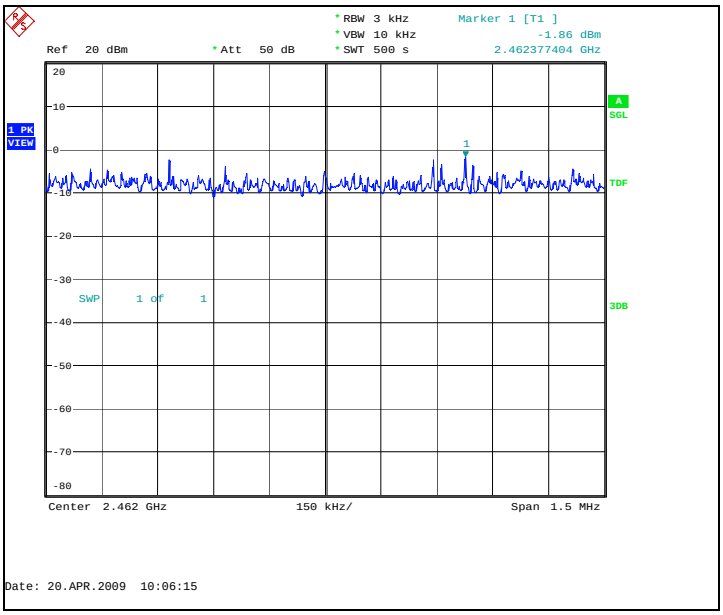
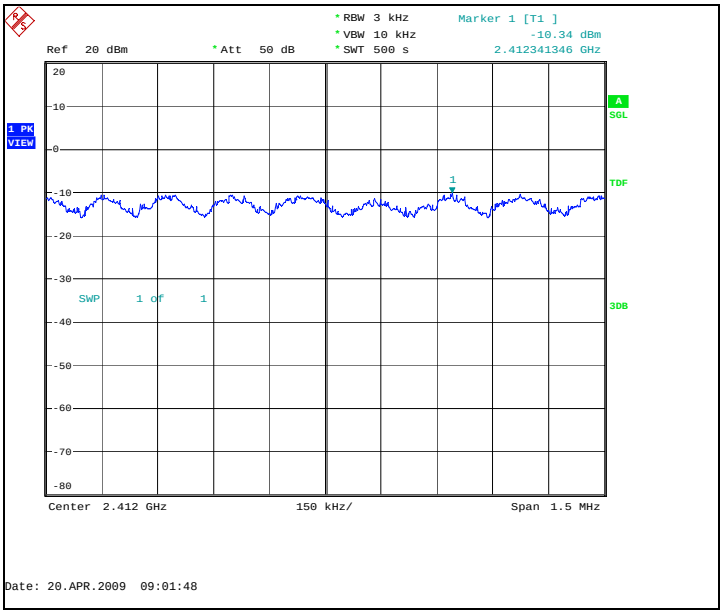
Channel 11 / 2462 MHz



8.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-10.34	PASSED
7 / 2442	-8.67	PASSED
11 / 2462	-10.53	PASSED

Channel 1 / 2412 MHz



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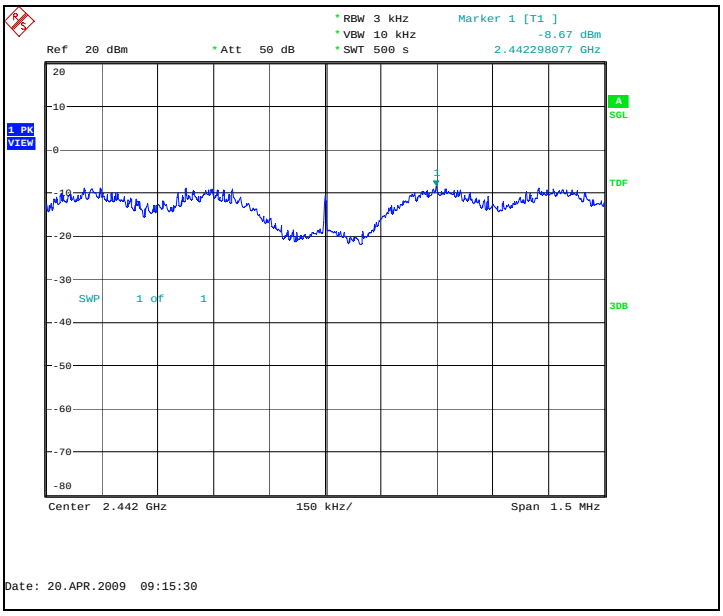
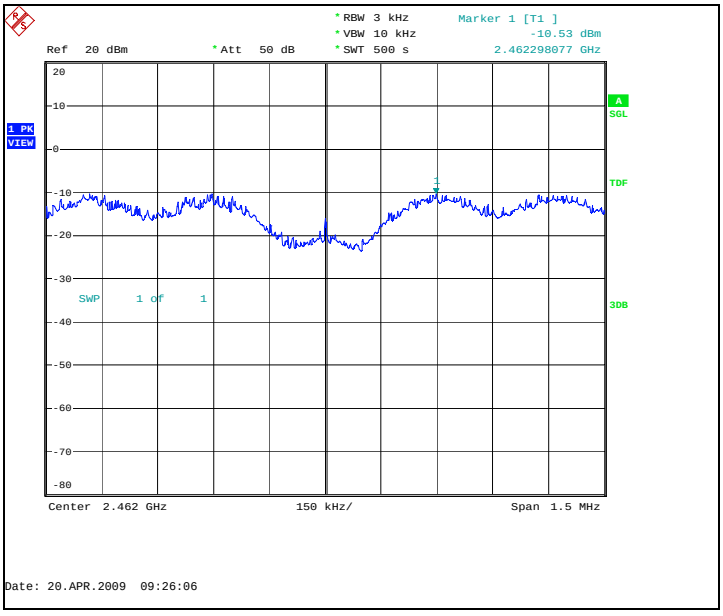
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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9. Test Equipment

9.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM30597	Power splitter	11667A	Agilent	22/24/27, 15C
TM37499	Power splitter	11667A	Agilent	22/24/27, 15C
TM38111	Multimeter	34401A	Agilent	22/24/27, 15C
TM38112	DC power supply	6632A	Agilent	22/24/27, 15C
TM22901	Attenuator	8496A	Agilent	22/24/27, 15C
TM30636	Artificial mains net	L2-16	PMM	15C, 15B
TM37678	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM37773	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM30600	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum analyzer	FSU	R&S	22/24/27, 15C
TM22835	Multimeter	87	Fluke	15C, 15B
TM37500	Microwave switch system	7116-MSW	Keithley	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Transformatic	22/24/27, 15C, 15B
	Temperature chamber	VT4002	Vötsch	22/24/27, 15C
2058	EMI Test receiver	ESPC	R&S	15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B

9.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM30599	3m semi-anechoic chamber		TDK	22/24/27, 15C, 15B
TM38845	EMI receiver	ESI 40	R&S	22/24/27, 15C, 15B
TM37498	Preamplifier	AMF-5D-020180-26-10P	MITEQ	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	MITEQ	22/24/27, 15C, 15B
TM37516	Biconilog antenna	HL562	R&S	22/24/27, 15C, 15B
TM26496	Double ridged waveguide antenna	3115	EMCO	22/24/27, 15C, 15B
TM39158	Horn antenna	3116	EMCO	22/24/27, 15C, 15B
TM26492	Reference dipole set	UHAP/VHAP	Schwarzbeck	22/24/27, 15C, 15B
TM37501	Dipole antenna	3125-870	EMCO	22/24/27
TM37502	Dipole antenna	3125-1880	EMCO	22/24/27
TM37773	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM38631	Signal generator	83640L	Agilent	22/24/27, 15C, 15B
TM38066	High pass filter	4HC3000/18000-3-KK	Trilithic	22/24/27, 15C, 15B
TM26511	Tunable notch filter	WRCA870	Wainwright	22/24/27
TM38215	Tunable notch filter	WRCD1850/1910-0.2/40	Wainwright	22/24/27
TM38214	Band reject filter	WRCT 2402/2480-2400/2483.5-30	Wainwright	15C
TM30642	Mast/Turntable controller	HD-100	Deisel	22/24/27, 15C, 15B
TM26500	Turntable	DS412	Deisel	22/24/27, 15C, 15B
TM38842	Antenna mast controller	2090	EMCO	22/24/27, 15C, 15B
TM38843	Antenna mast	2075	EMCO	22/24/27, 15C, 15B
TM38114	DC power supply	6632A	Agilent	22/24/27, 15C, 15B
TM38323	Preamplifier	PA-02 18-26 GHz	EMC Automation	22/24/27, 15C, 15B
TM37678	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Transformatic	22/24/27, 15C, 15B
TM23892	Yaesu controller	G-1000SDX	Yaesu	22/24/27, 15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B

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Eq. No	Equipment	Type	Manufacturer	Used in
2002	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B

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