FCC Part 15C Compliance Test Report

Test Report no.:	Cph_FCC_0834_02.doc	**Date of Report:**	04-Sep-2008
Number of pages:	81	**Customer's Contact person:**	Sonja Lankinen
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	**Customer:**	Nokia Corporation 12278 Scripps Summit Drive SAN DIEGO CA. 92131 USA Tel. +1 858 831 5000 Fax. +1 858 831 6500
FCC listing no.: **IC recognition no.:**	99059 661AD-1		
Tested devices/ accessories:	**Phone; RM462(HW: 0202), Battery; BP-4L, Headset; HS-9, AC Charger; AC-4U,**		
FCC ID:	QMNRM-462	**IC:**	661X-RM462
Supplement reports:	None		
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:	Test Engineer Digitally signed by Allan Franch Henriksen DN: cn=Allan Franch Henriksen, c=DK, o=Nokia, ou=CertMT, email=allan.f.henriksen@nokia.com Date: 2008.09.16 09:32:30 +02'00'		

Allan F. Henriksen, Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	04-Aug-2008
Testing completed	28-Aug-2008
The customer's contact person	Sonja Lankinen
Test Plan referred to	T:\Projects\RM-462\TestPlan_RS\RS_Testplan_RM-462_2nd.xls
Notes	None
Document name	T:\Projects\RM-462\EMC\Results\FCC\Cph_FCC_0834_02.doc

1.1. EUT and Accessory Information

The EUT is a 6-band (GSM850/900/1800/1900 and WCDMA Band II(1900)/V(850)) 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-462	004401/10/116520/3	0202	-	Vr 03.01	26954
Battery	BP-4L	393213820111077490 3;0670520	-	-	-	26955
Headset	HS-9	-	-	-	-	26949
AC Charger	AC-4U	409049640456010032 1;0675379	-	-	-	26948
Phone	RM-462	004401/10/116336/4	0202	-	03.01	30552
Battery	BP-4L	393213820112077875 7;0670520	-	-	-	29346
Headset	HS-9	-	-	-	-	29347
AC Charger	AC-4U	409049606596010322 0;0675379	-	-	-	29348

1.2. Summary of Test Results

Bluetooth:

Section in CFR 47	Section in *RSS-GEN* or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (2)	Conducted peak output power	Passed
15.247(d)	A8.5	Band edge compliance of RF emissions	Passed
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 power line conducted emissions	Passed
15.247(a)(1)	A8.1 (1)	20 dB bandwidth	Passed
15.247(a)(1)	A8.1 (2)	Carrier frequency separation	Passed
15.247(a)(1)(iii)	A8.1 (4)	Number of hopping frequencies	Passed
15.247(a)(1)(iii)	A8.1 (4)	Time of occupancy	Passed

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	Passed
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 power line conducted emissions	Passed
15.247(a)(2)	A8.2 (1)	6 dB bandwidth	Passed
15.247(e)	A8.2 (2)	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 Copenhagen Laboratory.

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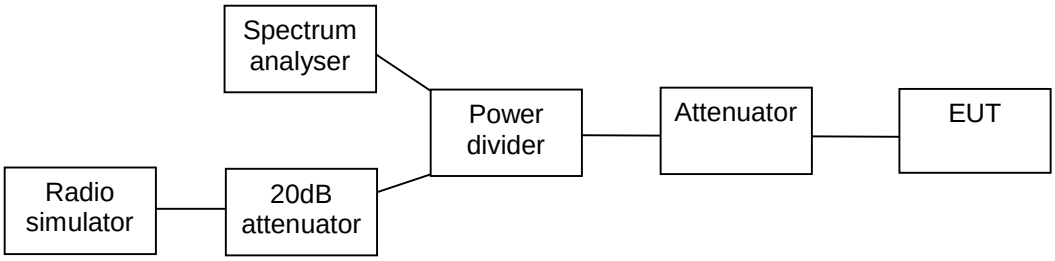
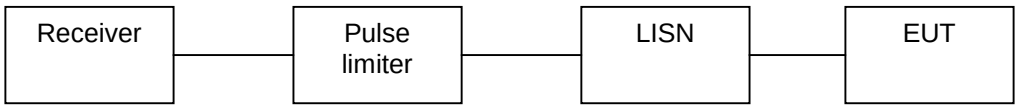
2. Test setups

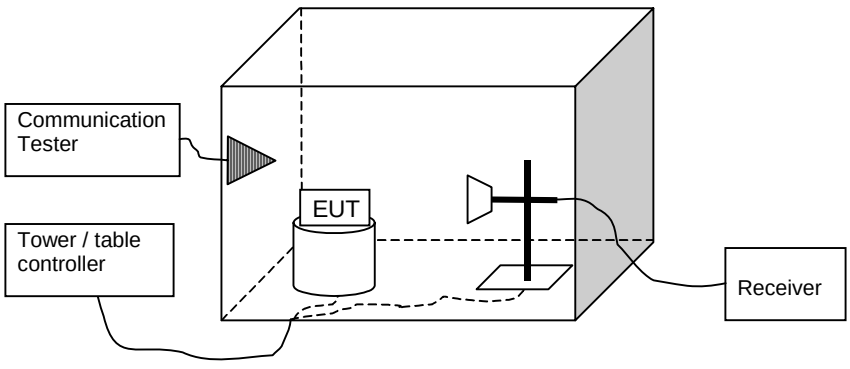
2.1. Conducted RF test setup



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 (2))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

3.1. Test method and limit

The measurement is made according to Public notice DA 00-705 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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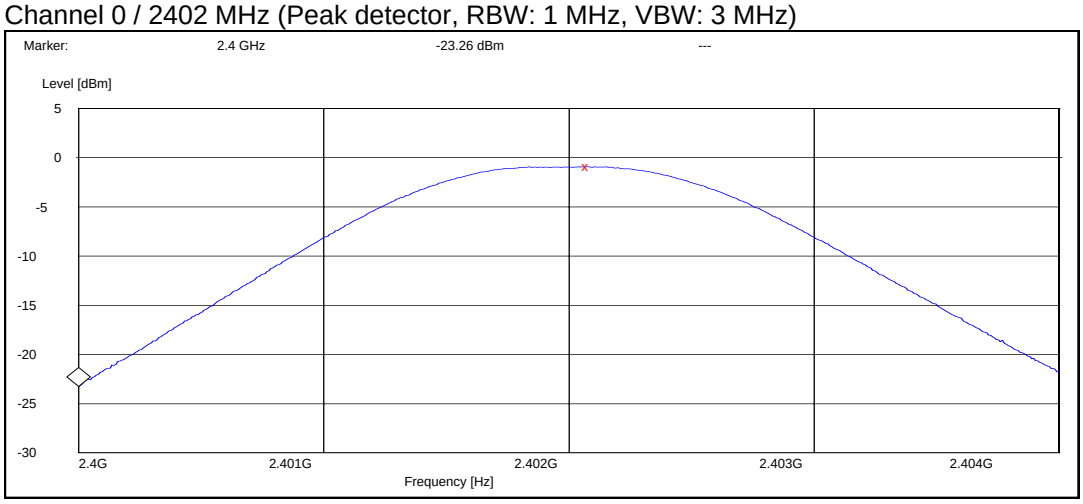
3.2. Bluetooth Test results

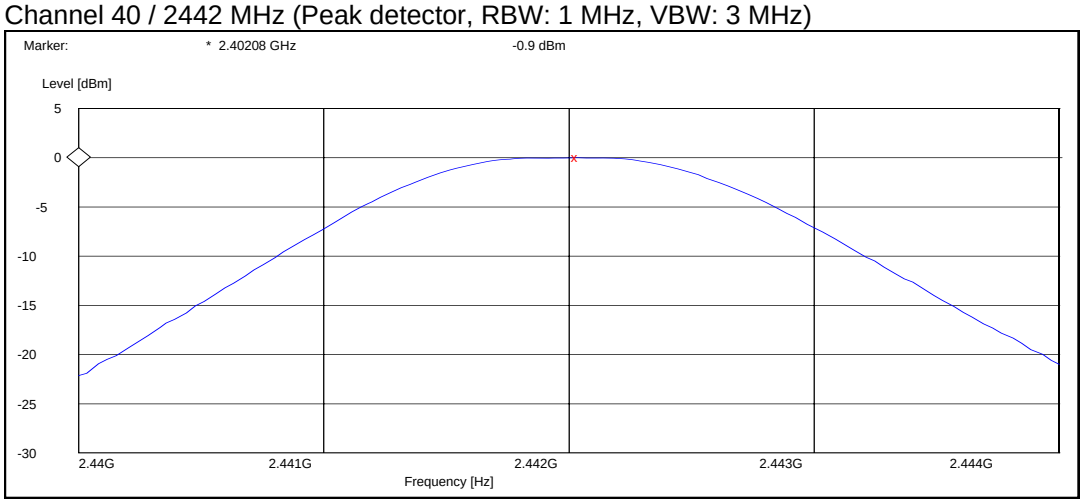
3.2.1 GFSK modulation, PRBS packet type

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-0.90	0.813	Pass
40 / 2442	0.00	1.000	Pass
78 / 2480	0.10	1.023	Pass

Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)

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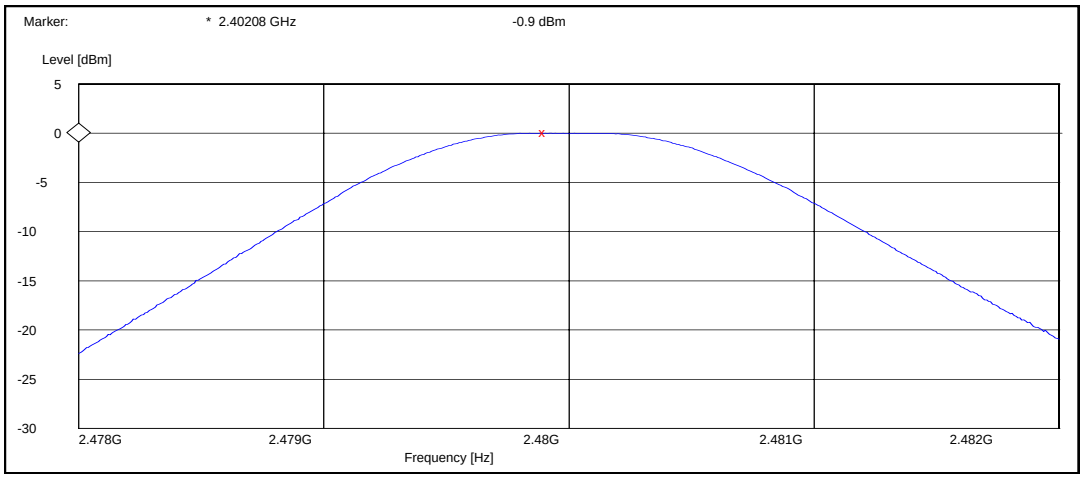
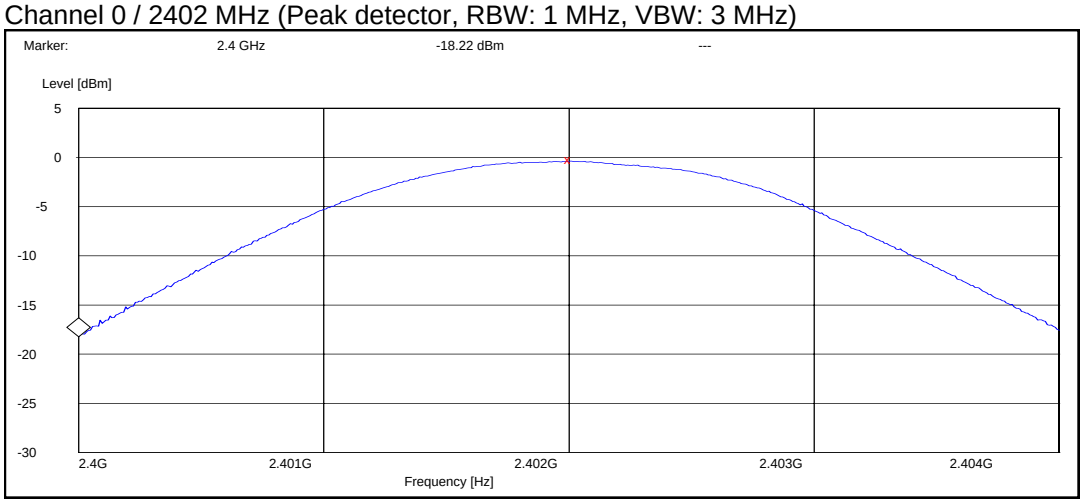


3.2.2 8DPSK modulation, PRBS packet type

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-0.20	0.955	Pass
40 / 2442	0.90	1.230	Pass
78 / 2480	1.20	1.318	Pass

Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)

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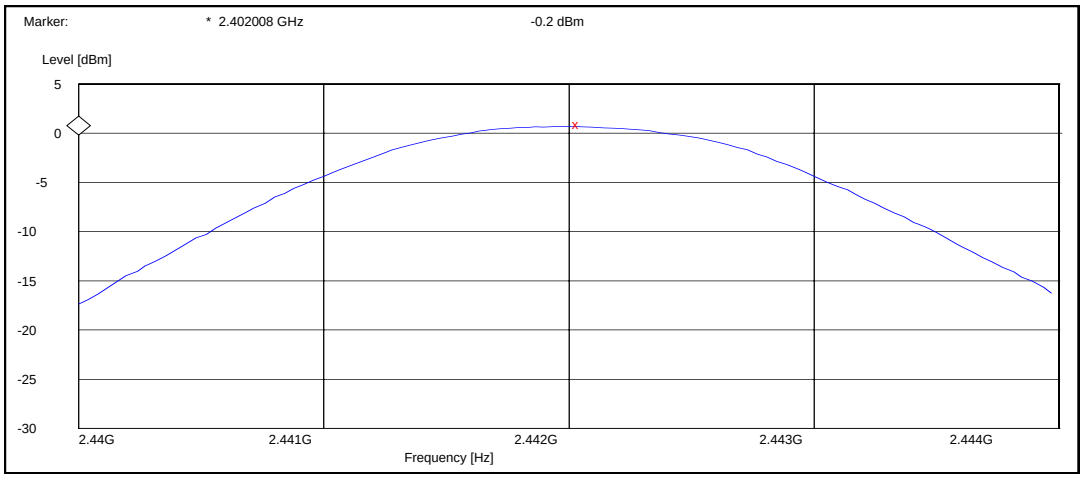
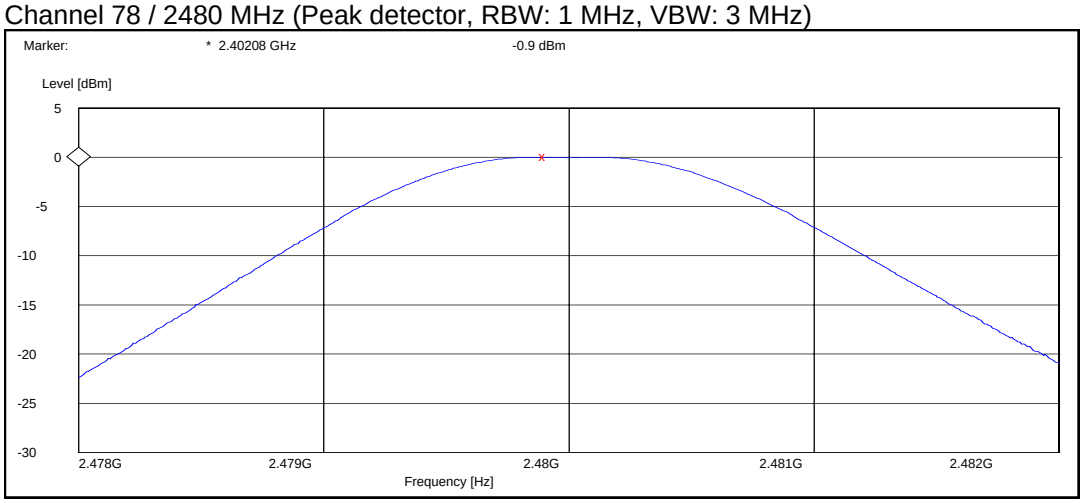


Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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4. Band edge compliance of RF emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-462 DUT 30552
Accessories with DUT numbers	BP-4L DUT 29346, HS-9 DUT 29347, AC-4U DUT 29348
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 59 / 101.3
Date of measurements	28-Aug-2008
Measured by	Christian Andersen

4.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit Average [dBµV/m]	Limit Peak [dBµV/m]
Below 2390 and above 2483.5	≤ 54	≤ 74

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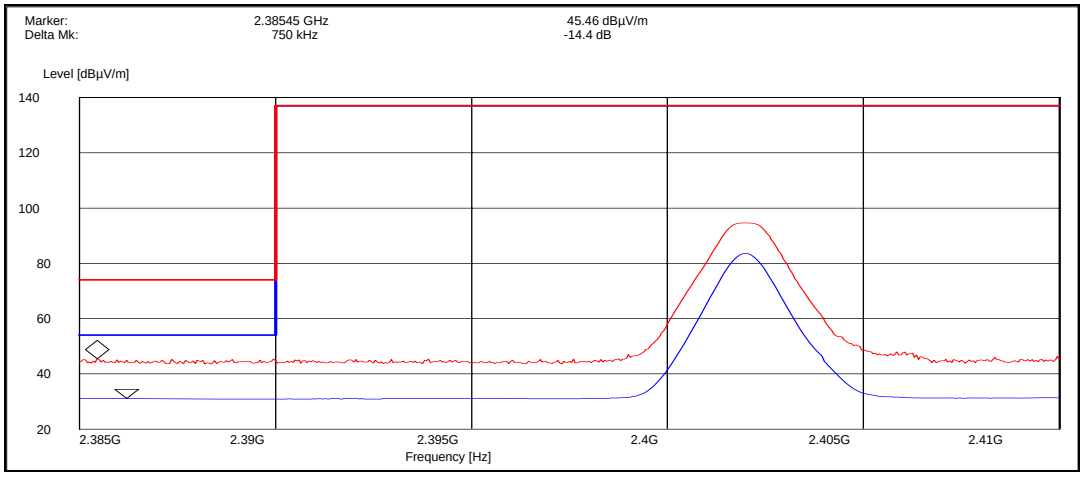
4.2. Bluetooth Test results

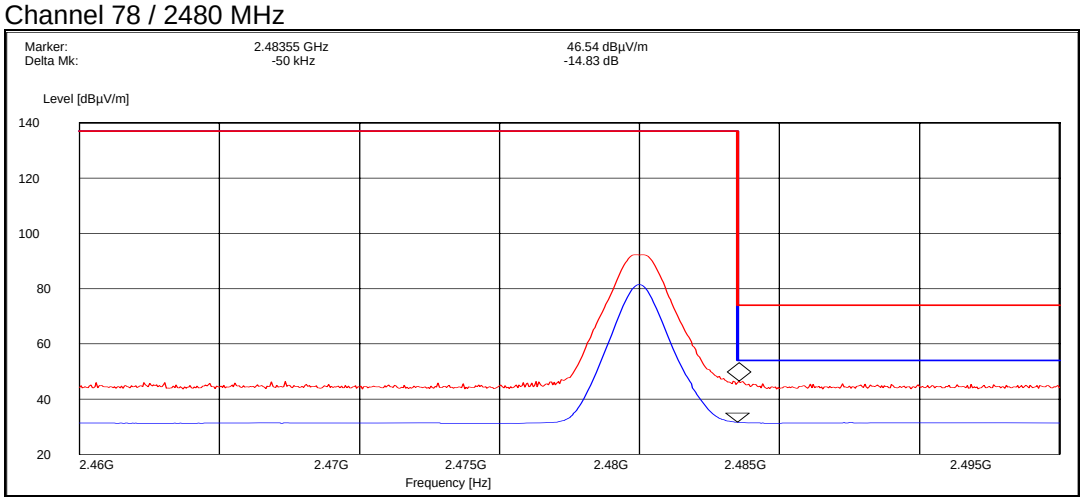
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	45.50	Passed
Average	31.10	Passed

Channel 78 / 2480 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	46.50	Passed
Average	31.70	Passed

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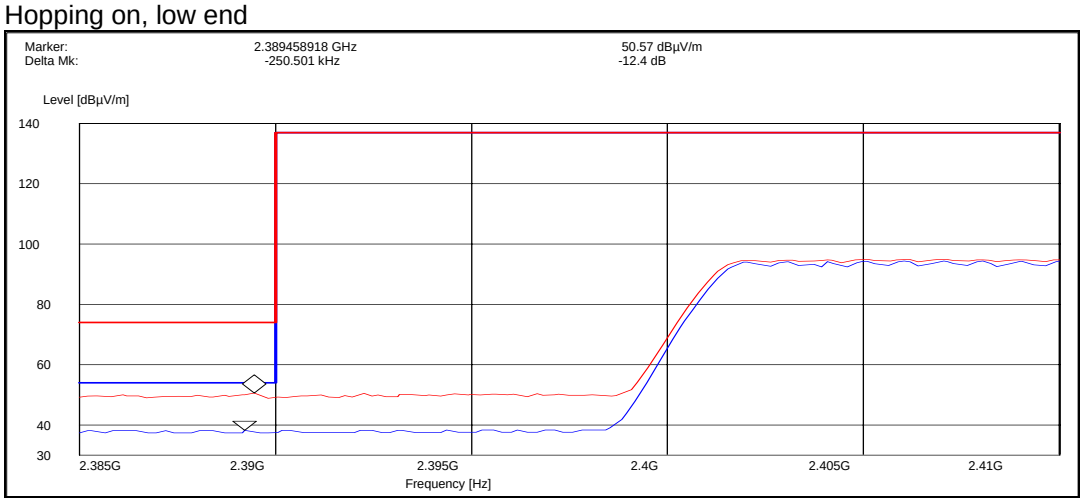
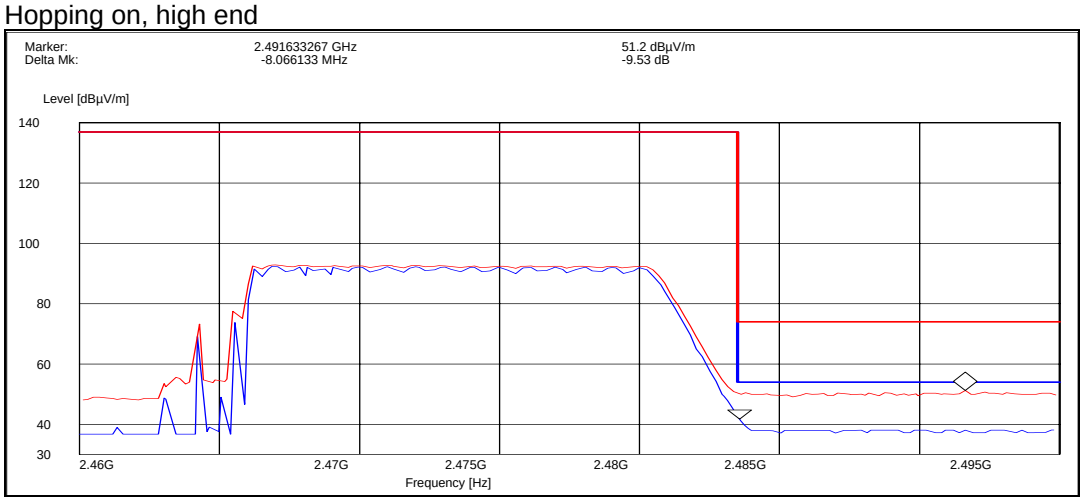
Hopping on, low end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	50.60	Passed
Average	38.20	Passed

Hopping on, high end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	51.20	Passed
Average	41.70	Passed

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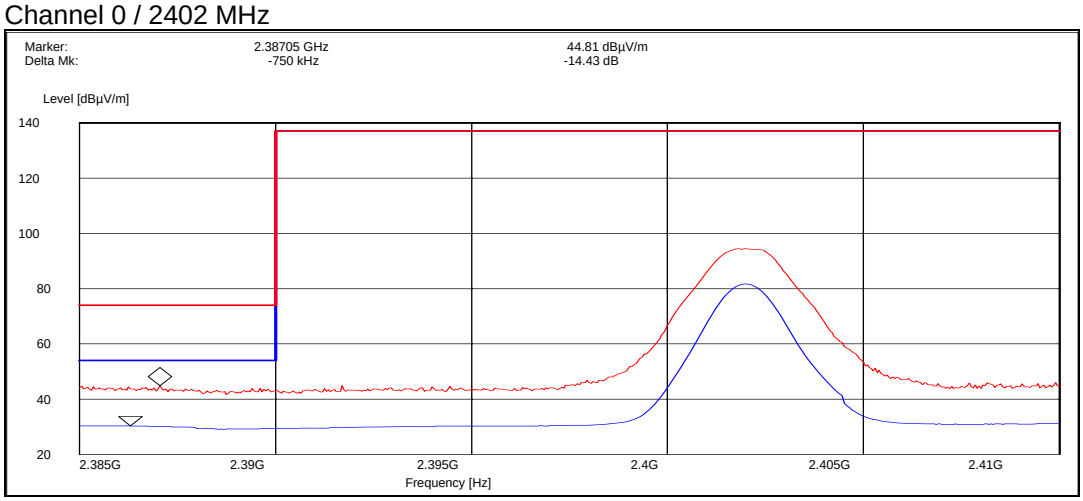
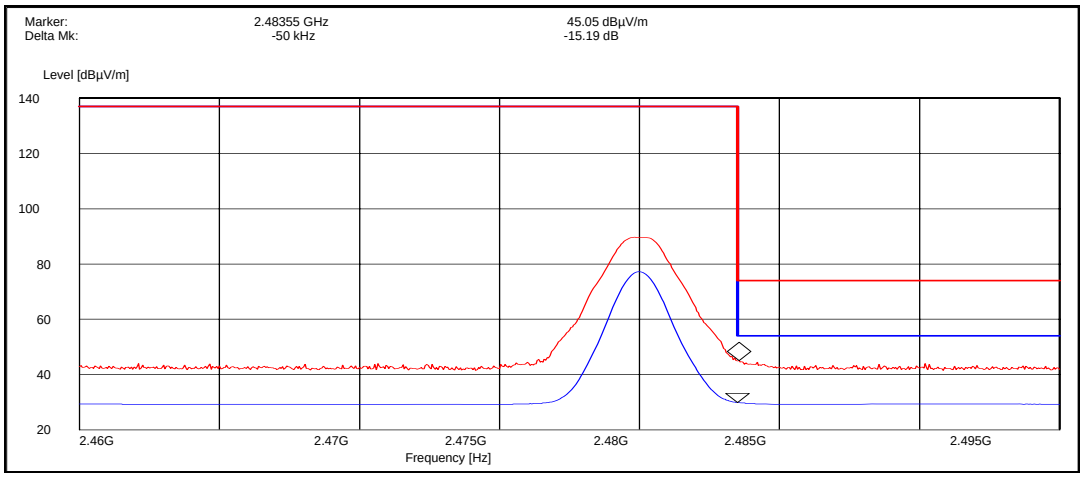
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	44.80	Passed
Average	30.40	Passed

Channel 78 / 2480 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	45.10	Passed
Average	29.90	Passed

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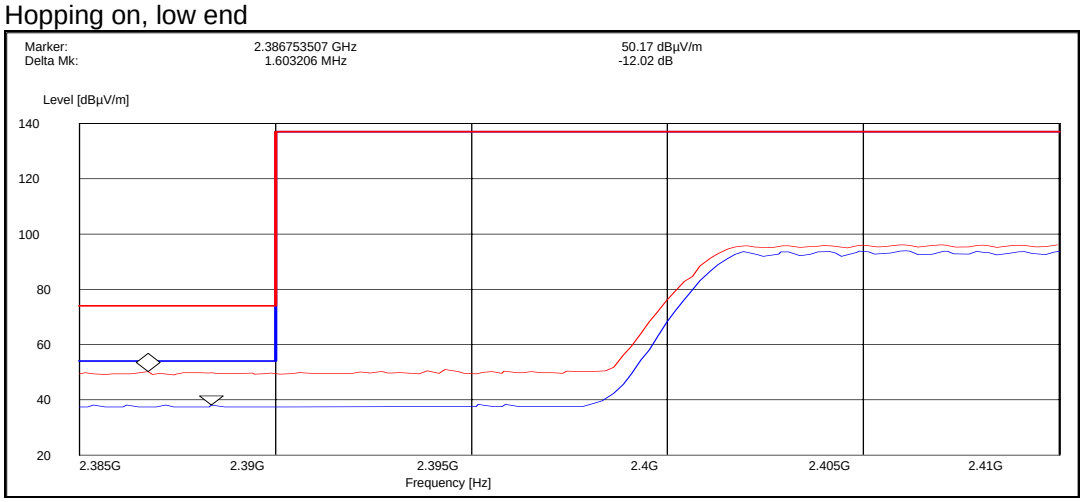
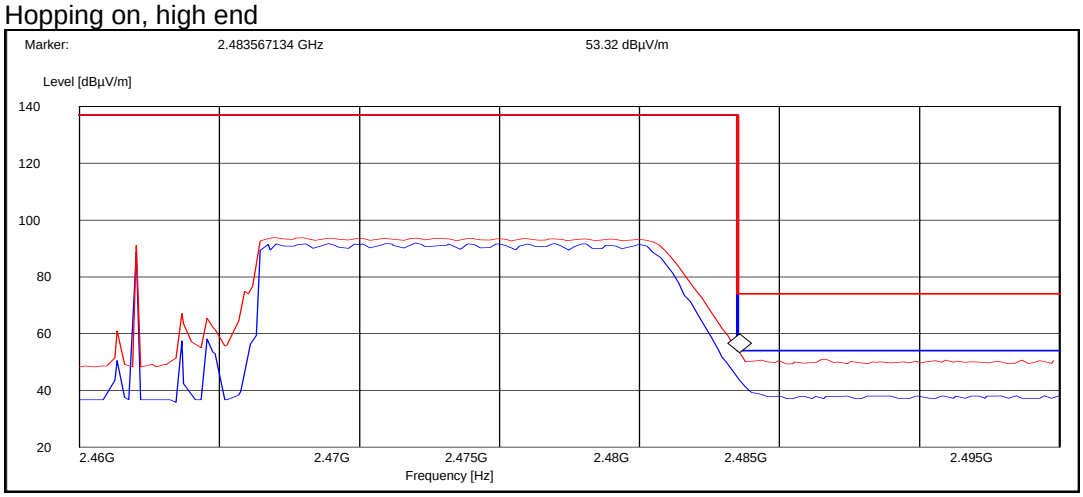
Hopping on, low end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	50.20	Passed
Average	38.20	Passed

Hopping on, high end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	53.30	Passed
Average	43.50	Passed

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5. Spurious RF conducted emissions

(FCC §15.247(d), RSS-A8.5)

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

5.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for spurious RF conducted emissions measurements

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

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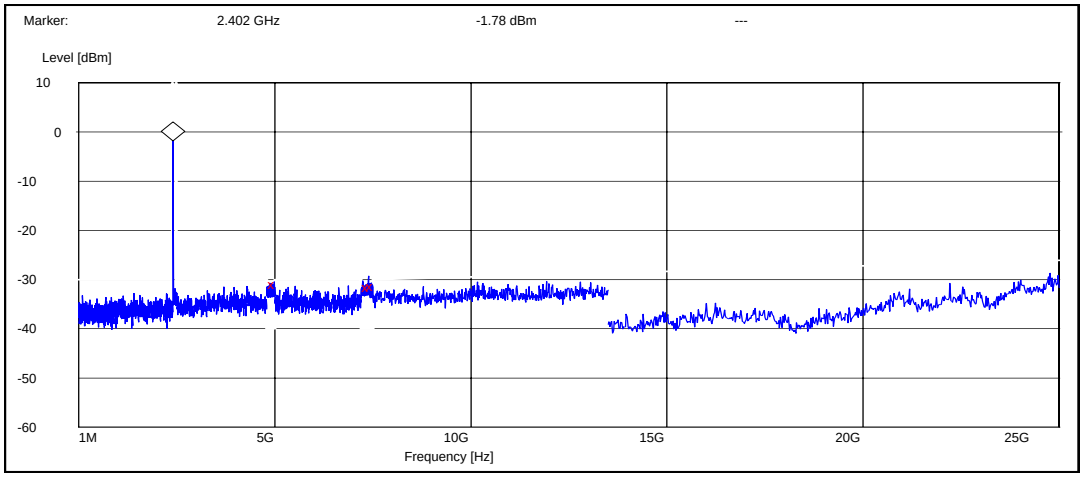
5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

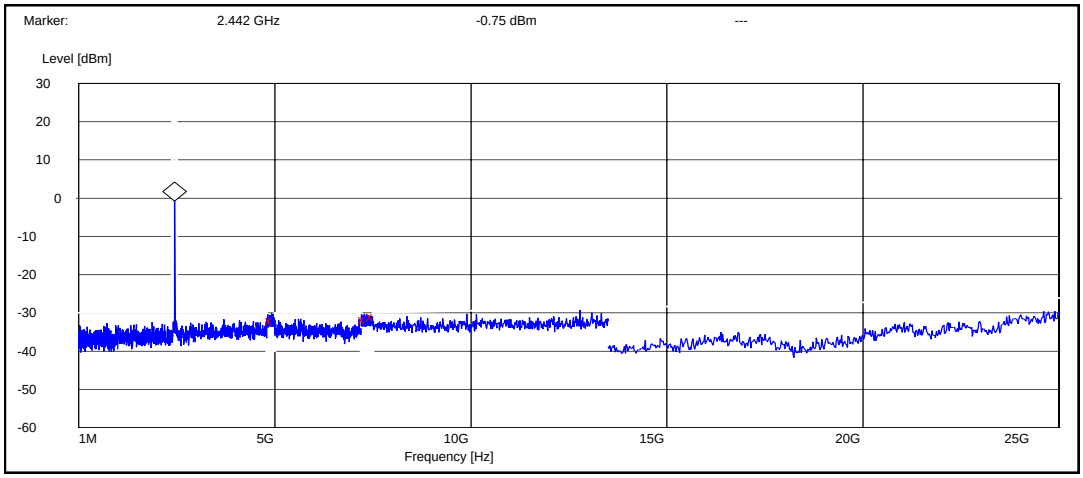
Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
4989.600000	-29.319518	Pass
7398.600000	-29.719518	Pass
7500.000000	-29.619518	Pass

Channel 40 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4928.000000	-31.153049	Pass
7286.400000	-31.053049	Pass
7500.000000	-30.053049	Pass

Channel 78 / 2480 MHz

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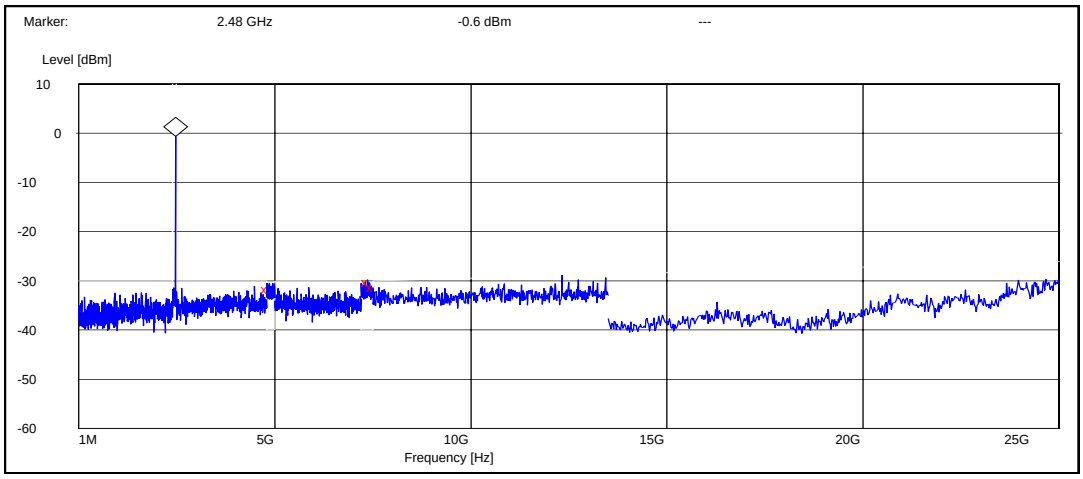
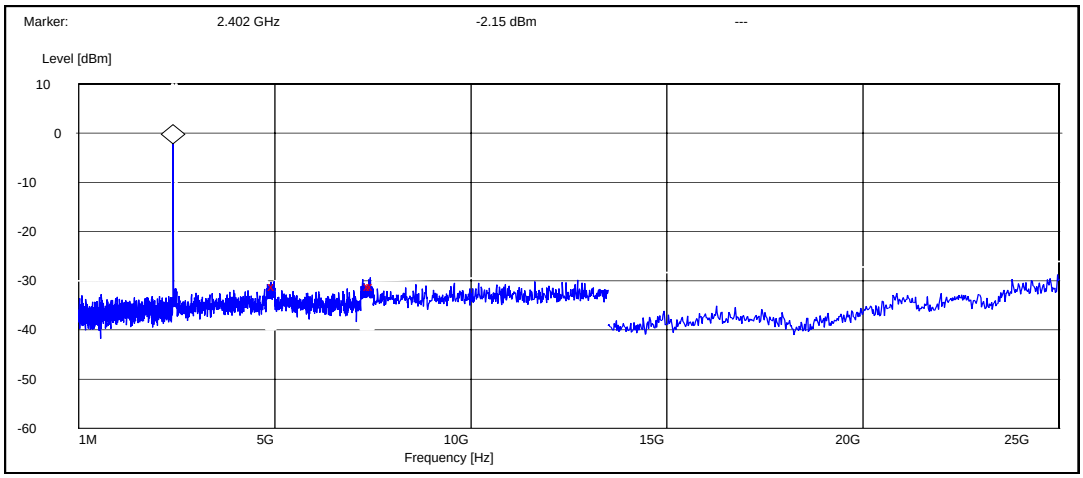


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4807.600000	-31.104057	Pass
7363.200000	-29.704057	Pass
7500.000000	-30.804057	Pass

5.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
4983.200000	-29.051910	Pass
7438.200000	-28.951910	Pass
7500.000000	-29.051910	Pass

Channel 40 / 2442 MHz

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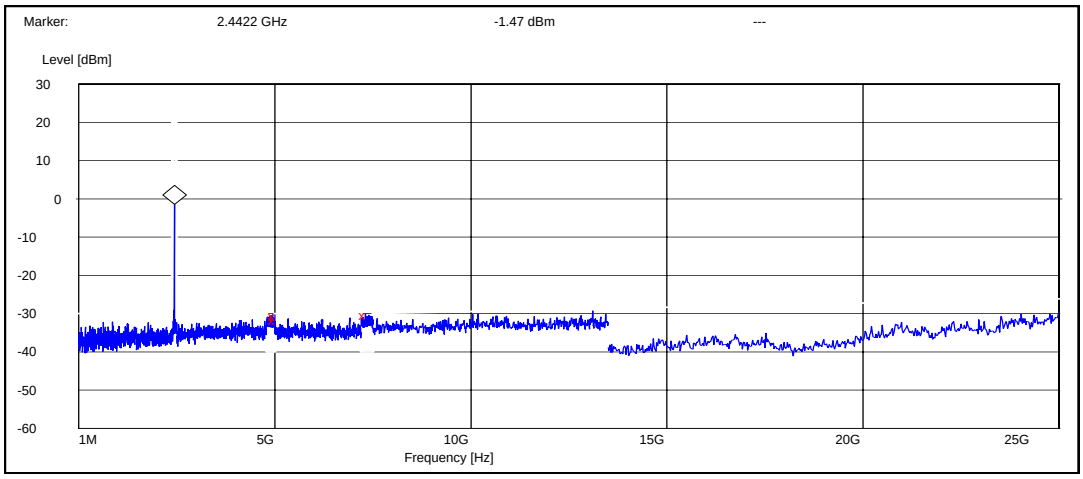
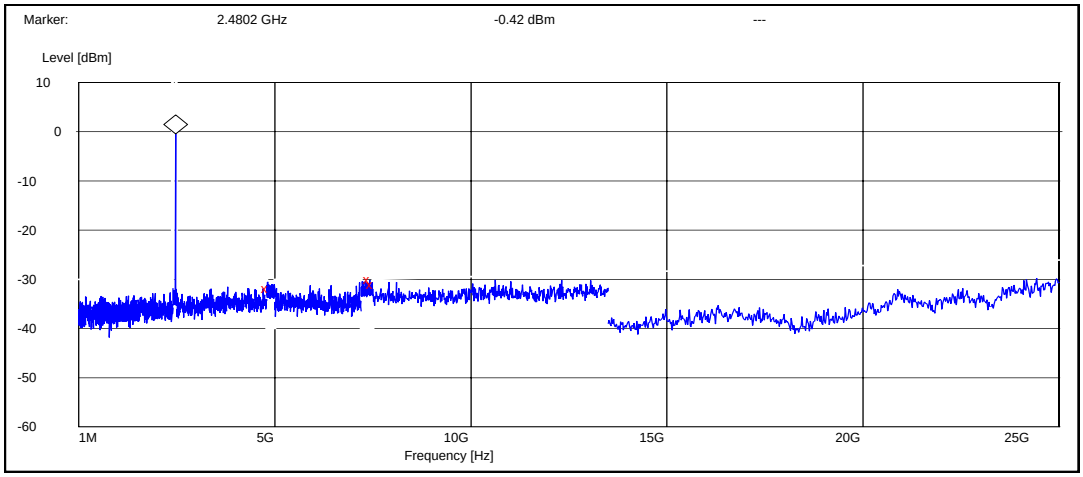


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4998.800000	-29.333101	Pass
5000.000000	-30.233101	Pass
7318.200000	-28.933101	Pass

Channel 78 / 2480 MHz



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

Frequency [MHz]	P [dBc]	Result
4832.000000	-31.481364	Pass
7420.200000	-29.581364	Pass
7500.000000	-30.681364	Pass

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6. Spurious radiated emissions

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

EUT with DUT number	RM-462 DUT 30552
Accessories with DUT numbers	BP-4L DUT 29346, HS-9 DUT 29347, AC-4U DUT 29348
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 59 / 101.3
Date of measurements	28-Aug-2008
Measured by	Christian Andersen

6.1. Test method and limit

The measurement is made according to Public notice DA 00-705 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

6.2. Bluetooth Test results

6.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	35.40	58.88	35.30	0.1	VERTICAL	Passed
7206.000000	42.10	127.35	33.20	8.9	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
4804.000000	22.90	13.96	22.80	0.1	HORIZONTAL	Passed
7206.000000	28.80	27.54	19.90	8.9	VERTICAL	Passed

Channel 40 / 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
30.900000	27.90	24.83	41.00	-13.1	VERTICAL	Passed
38.076353	22.00	12.59	39.90	-17.9	VERTICAL	Passed
75.088978	13.10	4.52	39.80	-26.7	HORIZONTAL	Passed
75.169940	17.90	7.85	44.60	-26.7	HORIZONTAL	Passed

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1959.921844	61.40	1174.90	63.70	-2.3	VERTICAL	Passed
4957.919840	36.80	69.18	36.50	0.3	HORIZONTAL	Passed
7301.595190	43.00	141.25	33.50	9.5	HORIZONTAL	Passed
7418.839679	42.70	136.46	33.40	9.3	VERTICAL	Passed
7423.853707	43.00	141.25	33.60	9.4	VERTICAL	Passed
17393.283567	51.50	375.84	29.30	22.2	HORIZONTAL	Passed
17902.299599	58.70	860.99	29.80	28.9	VERTICAL	Passed

*1960.0 MHz frequency is coming from communication tester and thus ignored.

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1959.921844	46.80	218.78	49.10	-2.3	VERTICAL	Passed
4959.919840	23.90	15.67	23.60	0.3	HORIZONTAL	Passed
7297.095190	29.70	30.55	20.30	9.4	HORIZONTAL	Passed
7421.839679	29.90	31.26	20.60	9.3	VERTICAL	Passed
7424.353707	30.20	32.36	20.80	9.4	VERTICAL	Passed
17395.283567	38.70	86.10	16.50	22.2	HORIZONTAL	Passed
17897.799599	45.50	188.36	16.60	28.9	VERTICAL	Passed

*1960.0 MHz frequency is coming from communication tester and thus ignored.

Channel 78 / 2480 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	36.40	66.07	36.10	0.3	VERTICAL	Passed
7440.000000	43.30	146.22	33.80	9.5	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
4960.000000	23.80	15.49	23.50	0.3	HORIZONTAL	Passed
7440.000000	29.80	30.90	20.30	9.5	VERTICAL	Passed

6.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	36.10	63.83	36.00	0.1	HORIZONTAL	Passed
7206.000000	42.30	130.32	33.40	8.9	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
4804.000000	23.20	14.45	23.10	0.1	HORIZONTAL	Passed
7206.000000	28.70	27.23	19.80	8.9	VERTICAL	Passed

Channel 40 / 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
37.695391	8.80	2.75	26.40	-17.6	VERTICAL	Passed

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1959.923848	61.50	1188.50	63.80	-2.3	VERTICAL	Passed
7306.111222	42.80	138.04	33.40	9.4	HORIZONTAL	Passed
7428.351703	42.80	138.04	33.40	9.4	VERTICAL	Passed
17412.327655	52.00	398.11	29.60	22.4	VERTICAL	Passed
17900.301603	58.40	831.76	29.40	29.0	HORIZONTAL	Passed

*1960.0 MHz frequency is coming from communication tester and thus ignored.

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1959.923848	47.20	229.09	49.50	-2.3	VERTICAL	Passed
7308.611222	29.80	30.90	20.50	9.3	HORIZONTAL	Passed
7428.851703	29.90	31.26	20.50	9.4	VERTICAL	Passed
17409.827655	38.70	86.10	16.30	22.4	VERTICAL	Passed
17904.301603	45.50	188.36	16.60	28.9	HORIZONTAL	Passed

*1960.0 MHz frequency is coming from communication tester and thus ignored.

Channel 78 / 2480 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	36.40	66.07	36.10	0.3	VERTICAL	Passed
7440.000000	42.10	127.35	32.60	9.5	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
4960.000000	24.00	15.85	23.70	0.3	HORIZONTAL	Passed
7440.000000	29.90	31.26	20.40	9.5	HORIZONTAL	Passed

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7. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

7.1. Test method and limit

The measurement is made according to Public notice DA 00-705 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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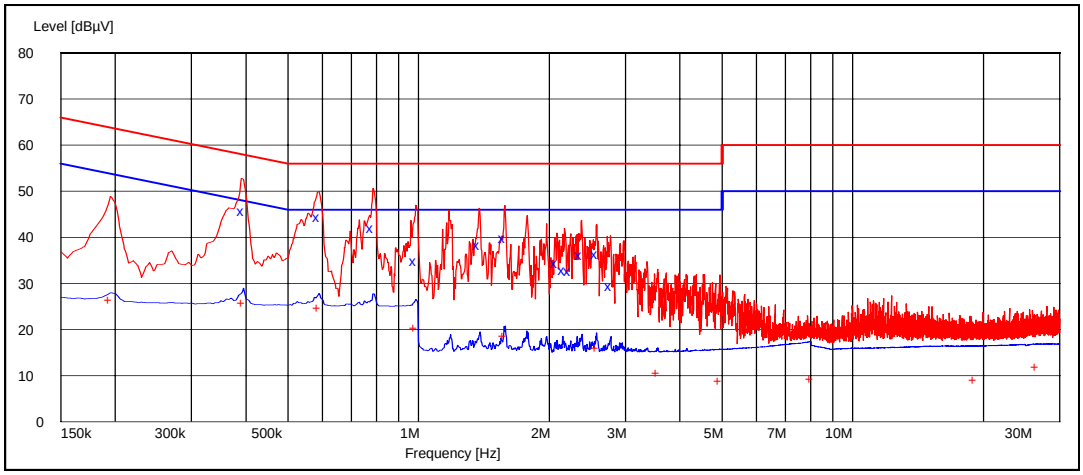
7.2. Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.395000	45.70	N	Pass
0.590000	44.40	N	Pass
0.785000	42.00	N	Pass
0.985000	34.80	L1	Pass
1.380000	38.20	N	Pass
1.580000	39.80	N	Pass
2.085000	34.50	N	Pass
2.170000	32.90	N	Pass
2.235000	32.70	N	Pass
2.375000	36.30	N	Pass
2.580000	36.50	N	Pass
2.775000	29.40	L1	Pass

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.195000	26.30	N	Pass
0.395000	25.80	N	Pass
0.590000	24.70	N	Pass
0.985000	20.40	N	Pass
1.580000	18.70	N	Pass
2.580000	15.90	N	Pass
3.565000	10.60	N	Pass
4.955000	8.90	N	Pass
8.060000	9.30	N	Pass
19.125000	9.10	L1	Pass
26.655000	11.90	N	Pass

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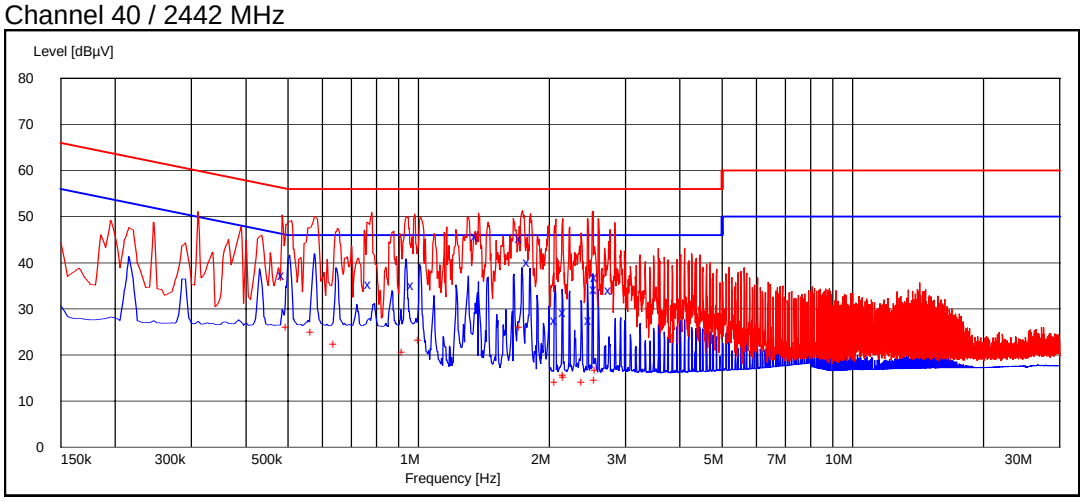
7.2.2 8DPSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.490000	37.40	N	Pass
0.775000	35.40	L1	Pass
0.975000	35.20	L1	Pass
1.365000	45.90	N	Pass
1.730000	45.40	N	Pass
1.800000	40.20	L1	Pass
2.080000	27.60	L1	Pass
2.180000	29.30	L1	Pass
2.500000	27.50	L1	Pass
2.570000	34.20	N	Pass
2.580000	36.80	N	Pass
2.780000	34.10	N	Pass

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.500000	26.10	L1	Pass
0.570000	25.00	L1	Pass
0.645000	22.40	L1	Pass
0.925000	20.70	L1	Pass
1.010000	23.30	N	Pass
1.725000	26.00	N	Pass
2.080000	14.00	N	Pass
2.175000	15.70	N	Pass
2.180000	15.30	N	Pass
2.400000	14.10	N	Pass
2.570000	14.60	N	Pass
2.575000	16.80	N	Pass

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8. 20 dB bandwidth

(FCC §15.247(a)(1), RSS-210 A8.1 (1))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

8.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for 20 dB bandwidth measurements

Limit [MHz]
N/A

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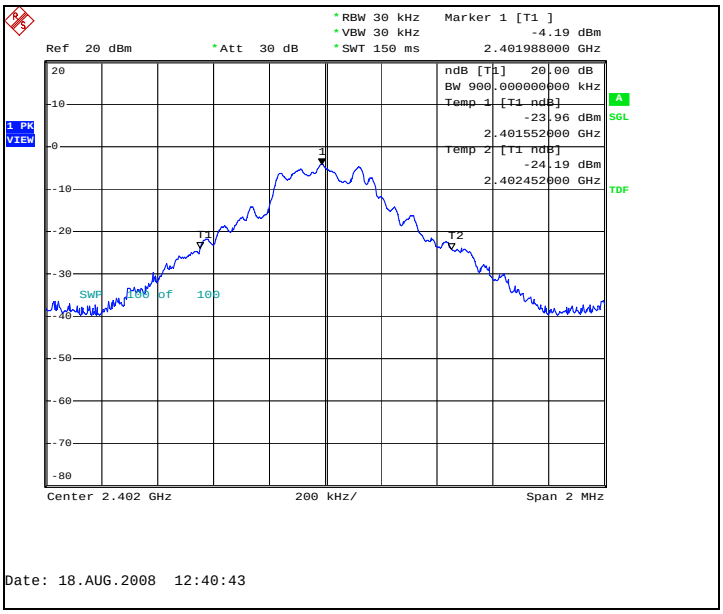
8.2. Bluetooth Test results

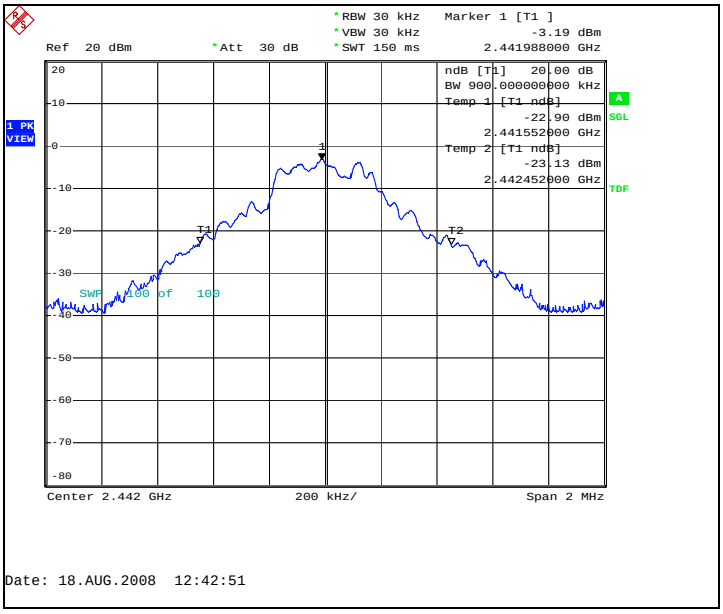
8.2.1 GFSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	900.000	Pass
40 / 2442	900.000	Pass
78 / 2480	904.000	Pass

Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



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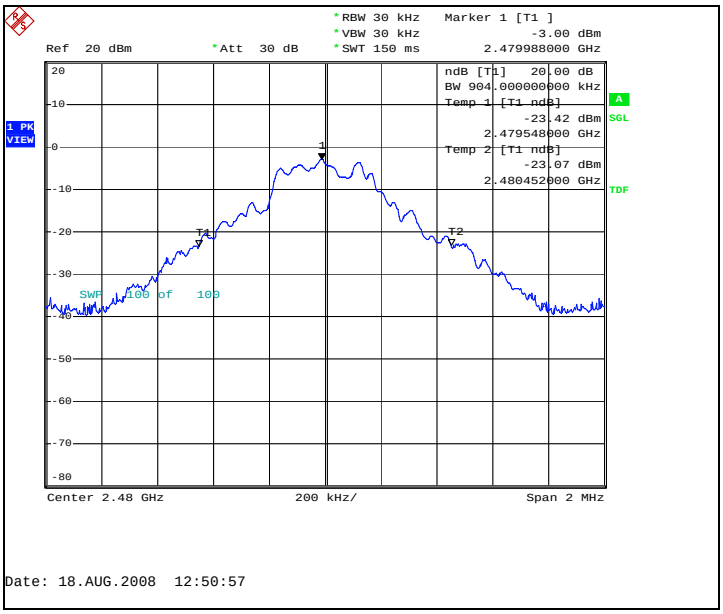
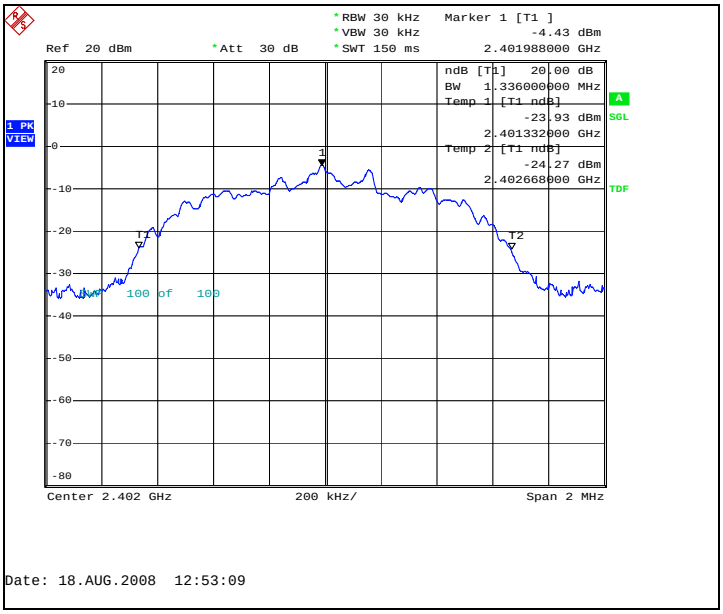
Channel 78 / 2480 MHz



8.2.2 8DPSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1336.000	Pass
40 / 2442	1328.000	Pass
78 / 2480	1332.000	Pass

Channel 0 / 2402 MHz



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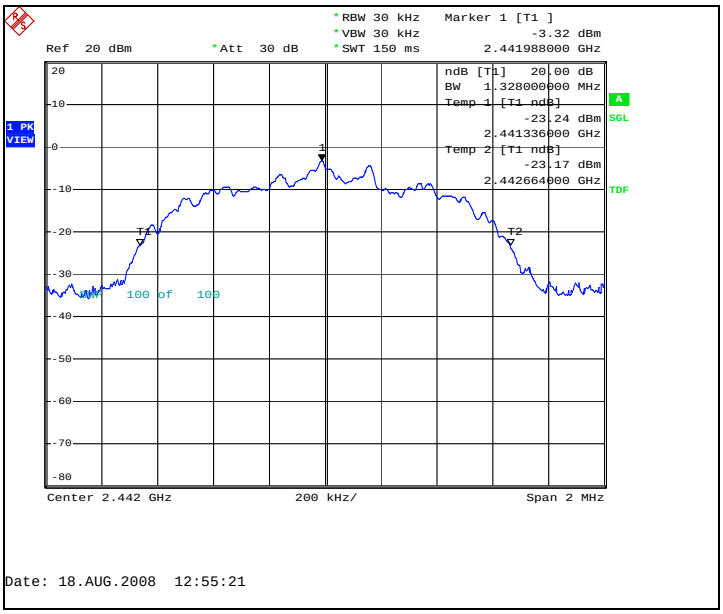
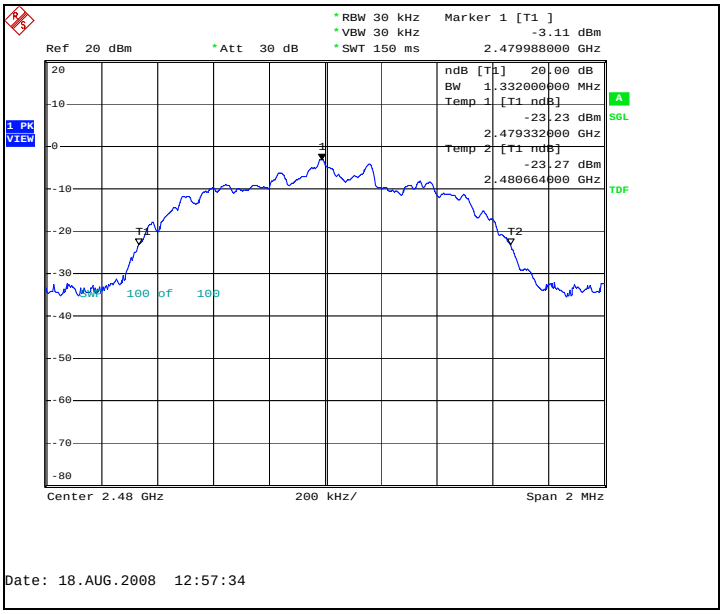
Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



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9. Carrier frequency separation

(FCC §15.247(a)(1), RSS-210 A8.1 (2))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

9.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for carrier frequency separation measurements

Limit [MHz]
≥ 0.025 or 2/3 of the 20 dB bandwidth

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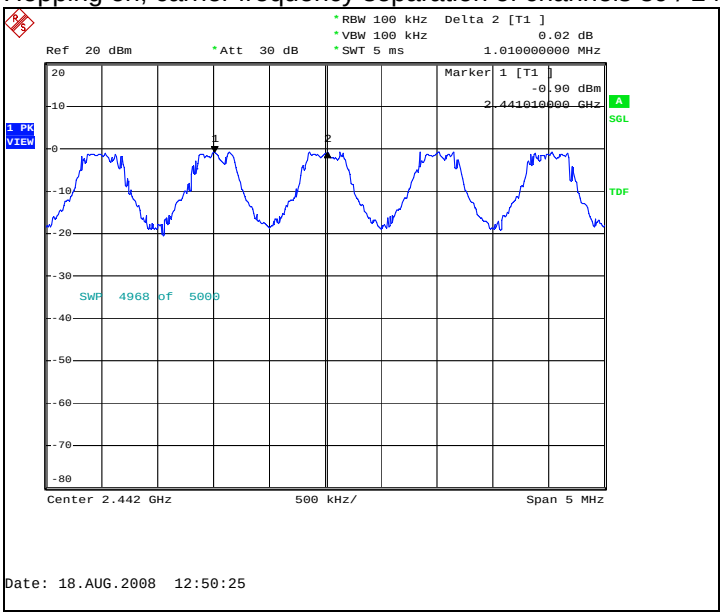
9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1010	Pass

Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



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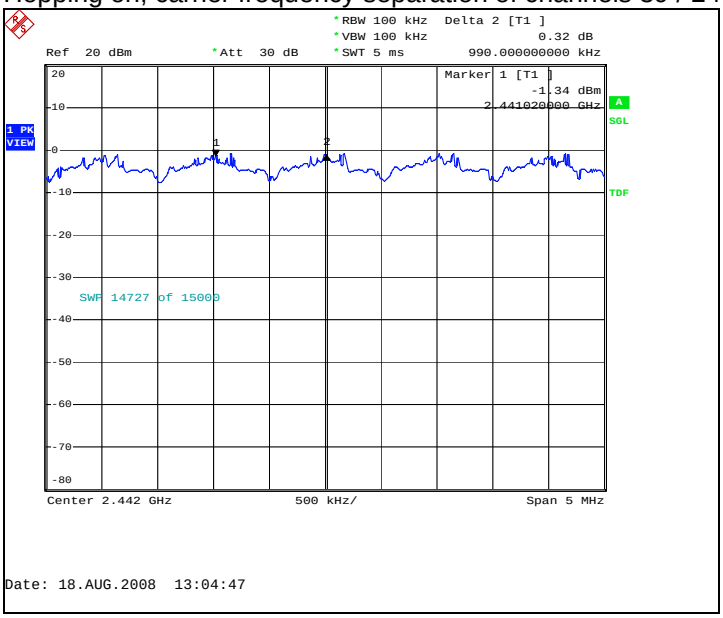
9.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
990	Pass

Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



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10. Number of hopping frequencies

(FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

10.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for number of hopping frequencies measurements

Limit [number]
≥ 15

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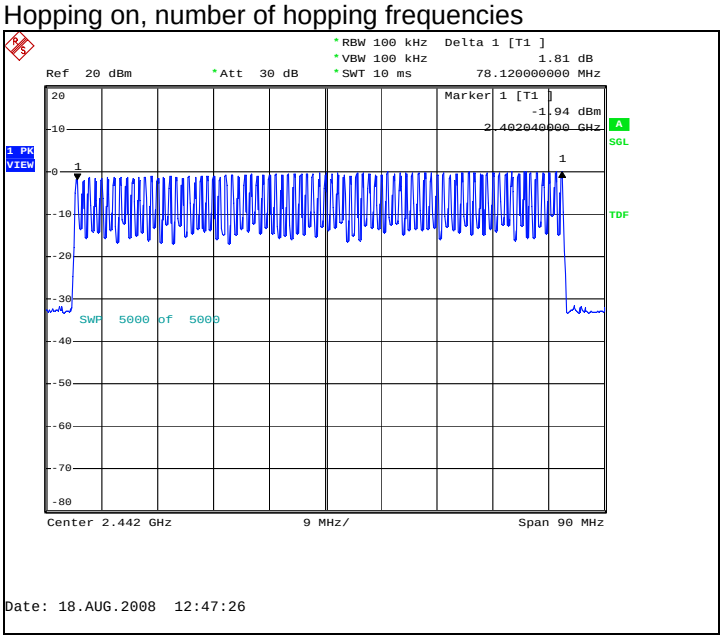
10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Pass

Hopping on, number of hopping frequencies



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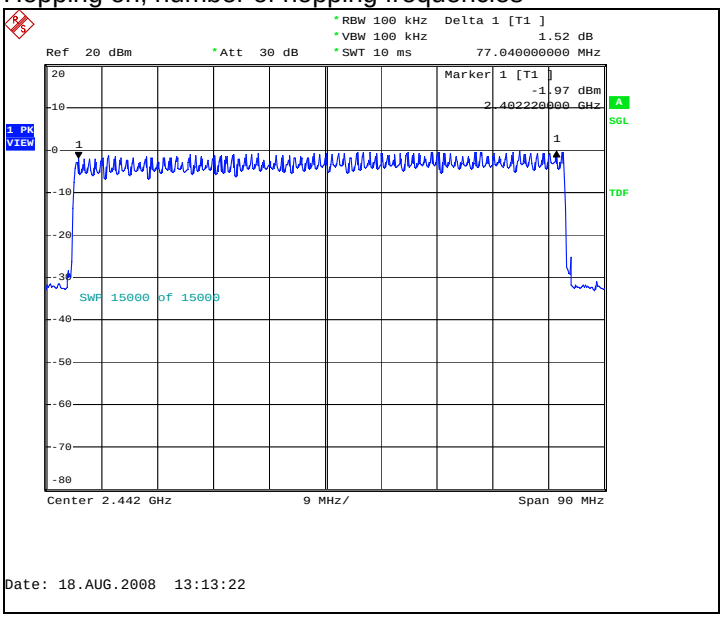
10.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Pass

Hopping on, number of hopping frequencies



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11. Time of occupancy

(FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

11.1. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210 as follows:

The total time of occupancy is get by multiplying the measured number of transmissions occurred during 31.6 second period with the duration of one transmission.

Limits for time of occupancy measurements

Limit [s]
≤ 0.4

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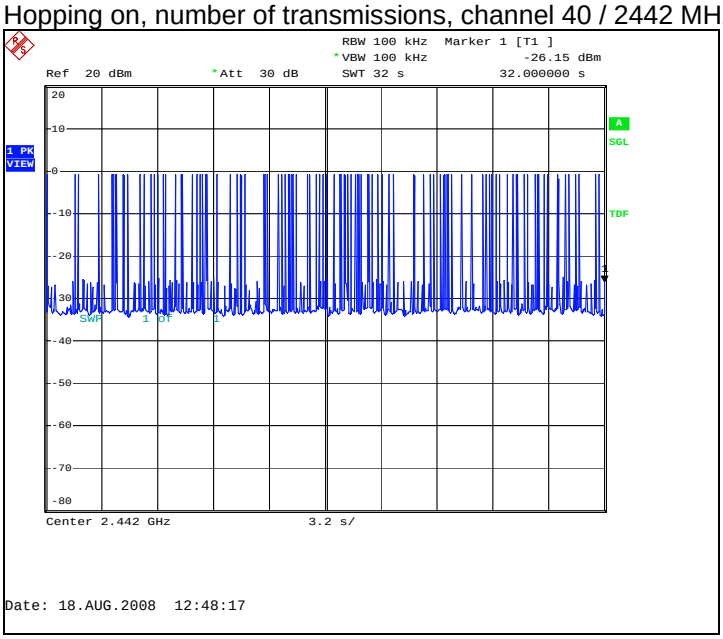
11.2. Bluetooth test results

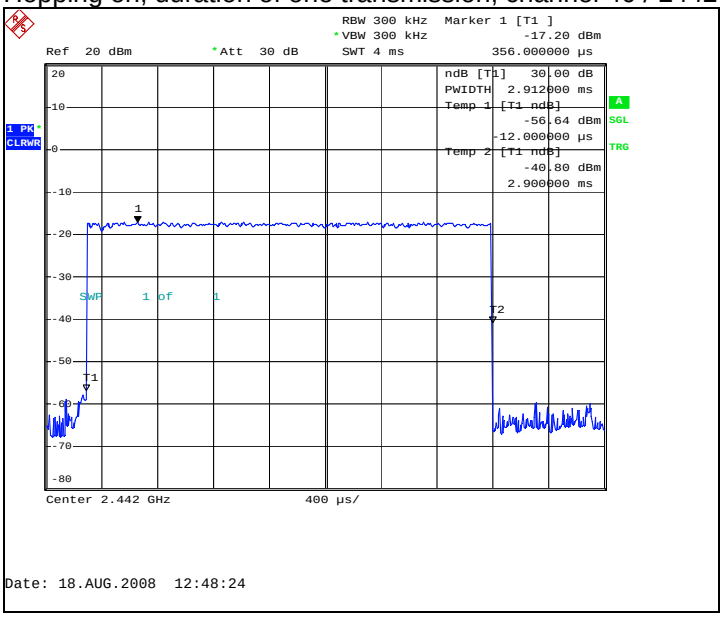
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [µs]	Time of occupancy [s]	Result
87	2,912	0.253344	Pass

Hopping on, number of transmissions, channel 40 / 2442 MHz



Hopping on, duration of one transmission, channel 40 / 2442 MHz



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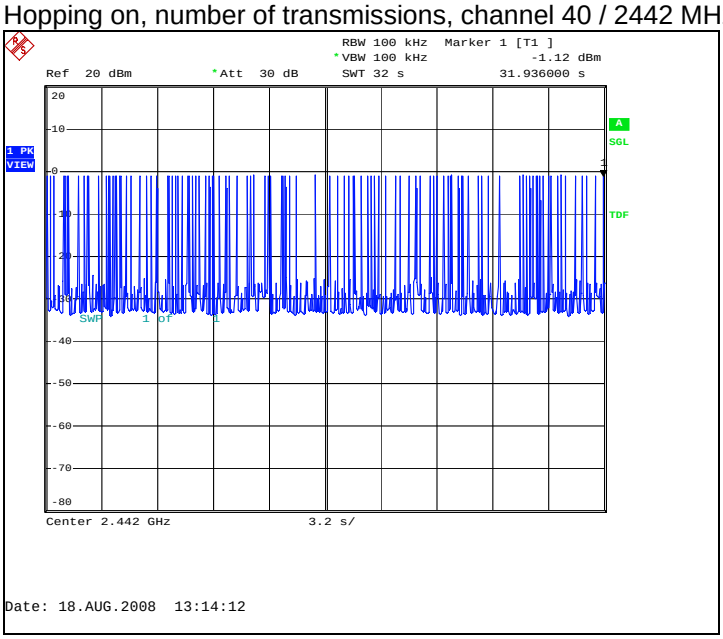
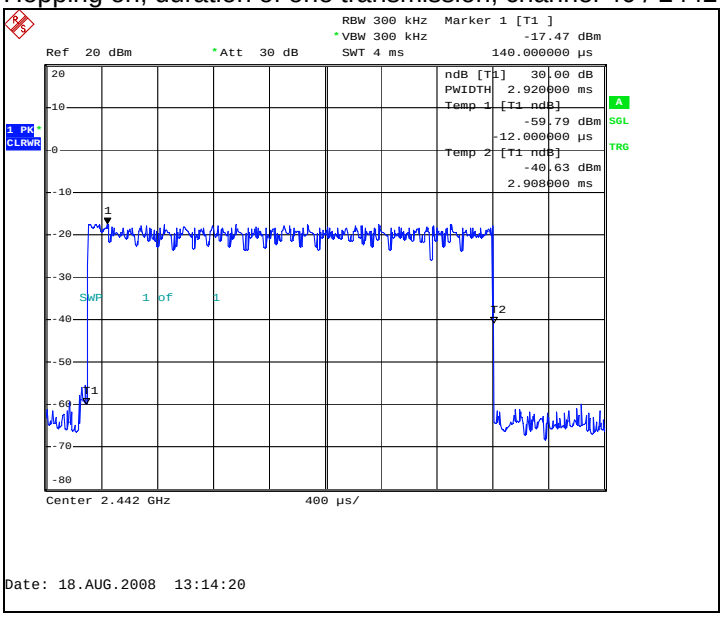
11.2.2 8DPSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [µs]	Time of occupancy [s]	Result
95	2,920	0.277400	Pass

Hopping on, number of transmissions, channel 40 / 2442 MHz



Hopping on, duration of one transmission, channel 40 / 2442 MHz



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12. Conducted peak output power

(FCC §15.247(b)(1), RSS-210 A8.4 (4))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.5 / 48 101.3
Date of measurements	19-Aug-2008
Measured by	Jan Engelbrechtsen

12.1. 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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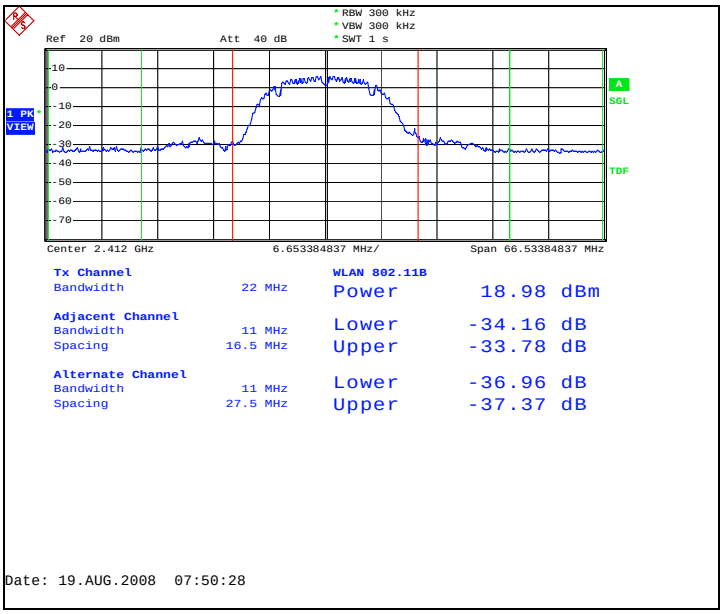
12.2. WLAN Test results

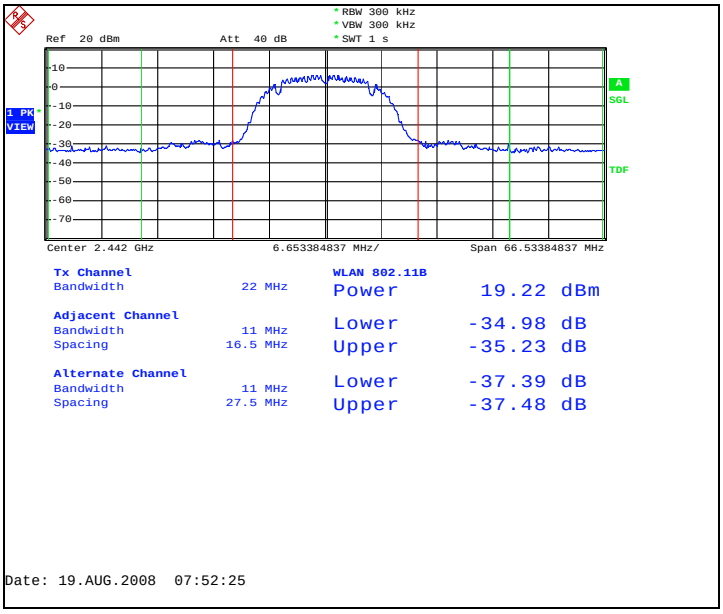
12.2.1 DSSS mode, BPSK modulation, 1 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	18.98	0.079	Pass
7 / 2442	19.22	0.084	Pass
11 / 2462	19.23	0.084	Pass

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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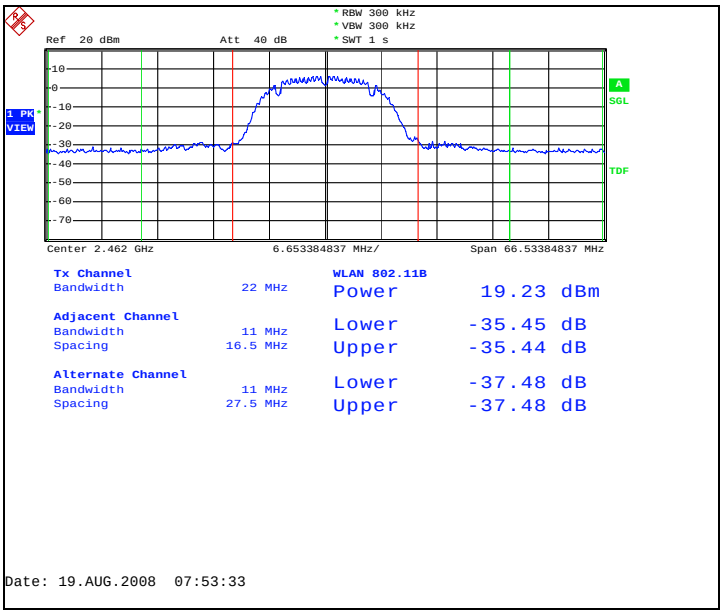
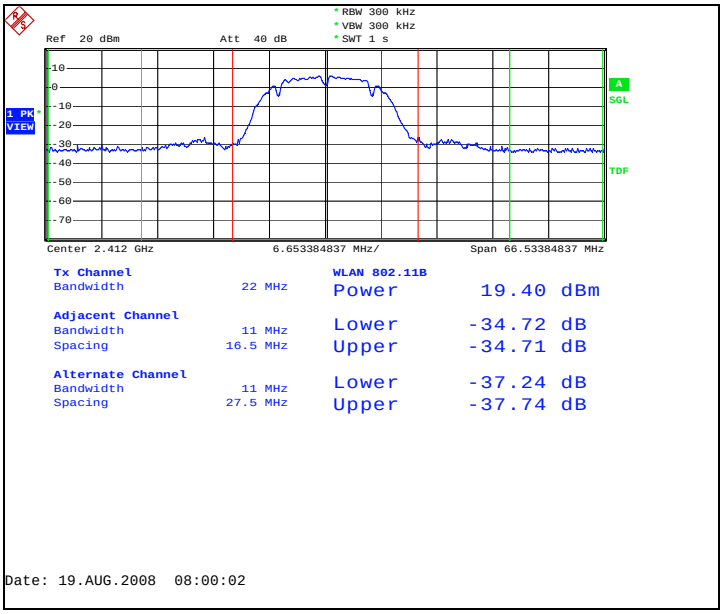
Channel 11 / 2462 MHz



12.2.2 DSSS mode, QPSK modulation, 2 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	19.40	0.087	Pass
7 / 2442	19.70	0.093	Pass
11 / 2462	19.68	0.093	Pass

Channel 1 / 2412 MHz



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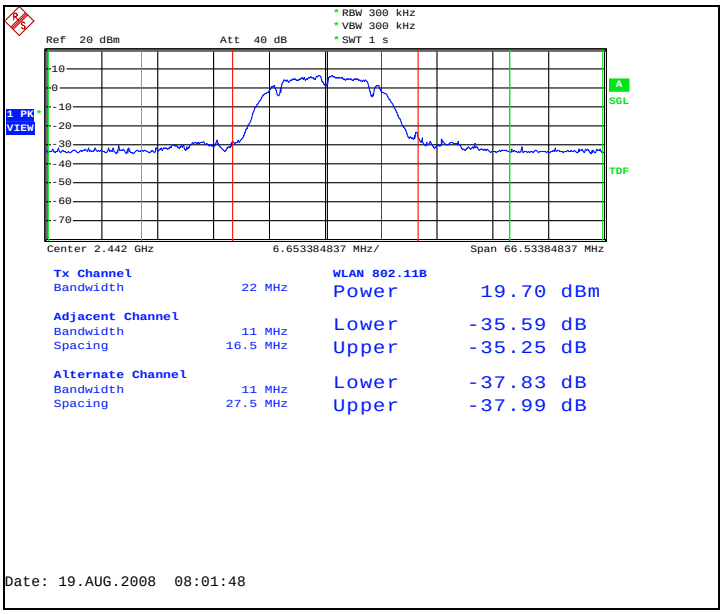
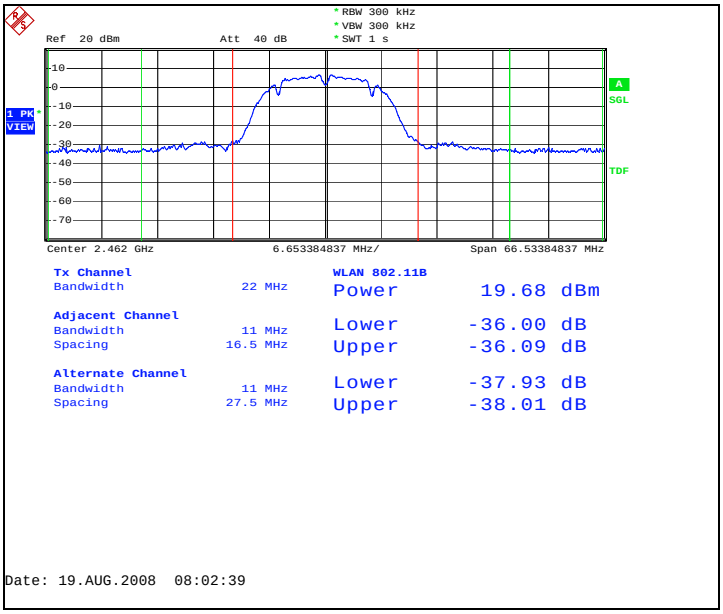
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.3 DSSS mode, QPSK modulation, 5.5 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	21.04	0.127	Pass
7 / 2442	21.31	0.135	Pass
11 / 2462	21.37	0.137	Pass

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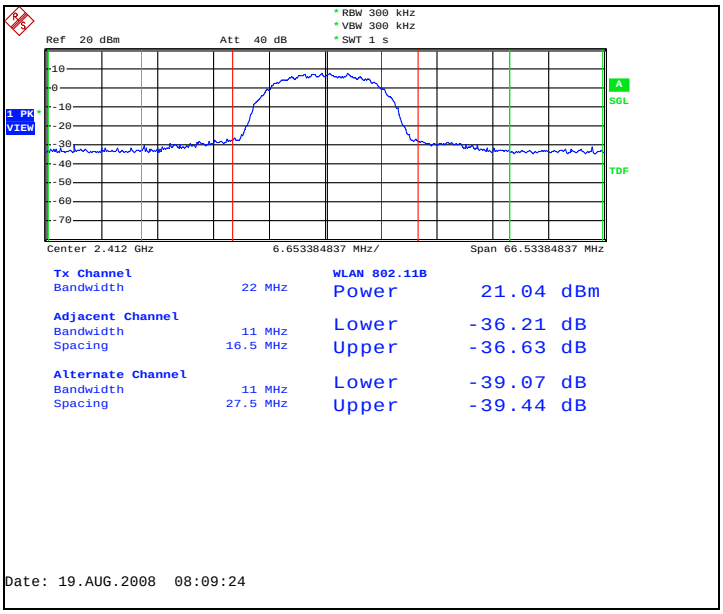
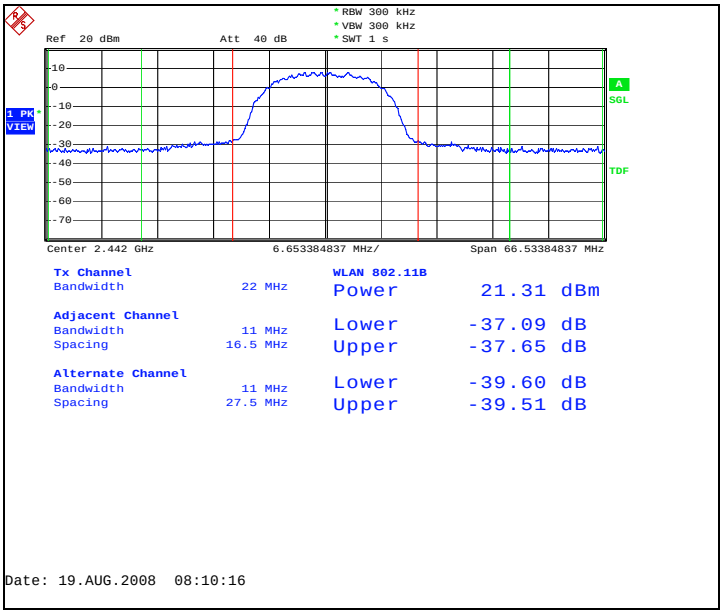
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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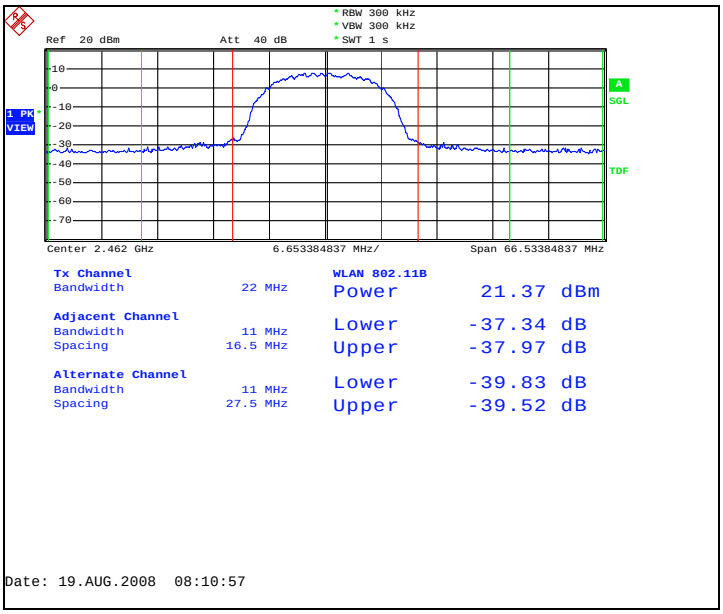
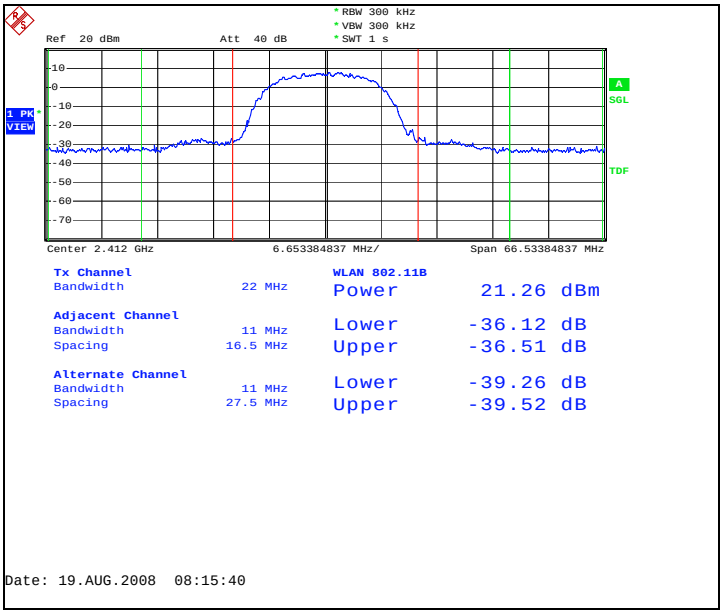
Channel 11 / 2462 MHz



12.2.4 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	21.26	0.134	Pass
7 / 2442	21.53	0.142	Pass
11 / 2462	21.51	0.142	Pass

Channel 1 / 2412 MHz



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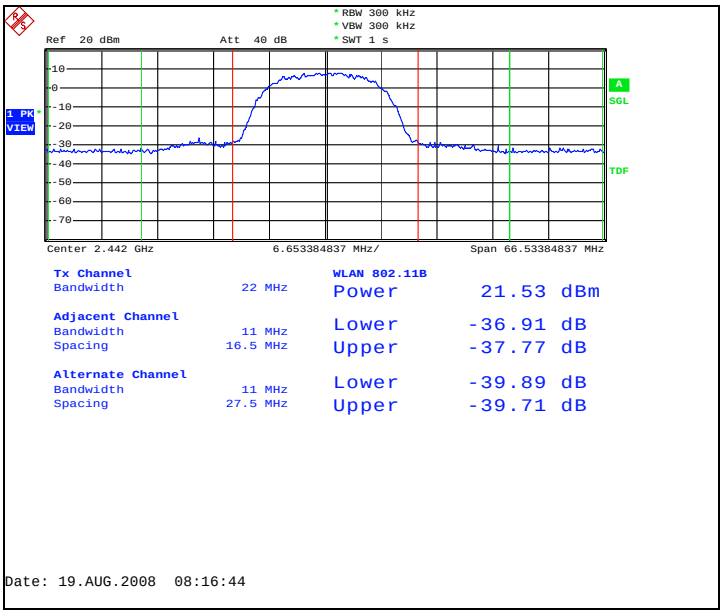
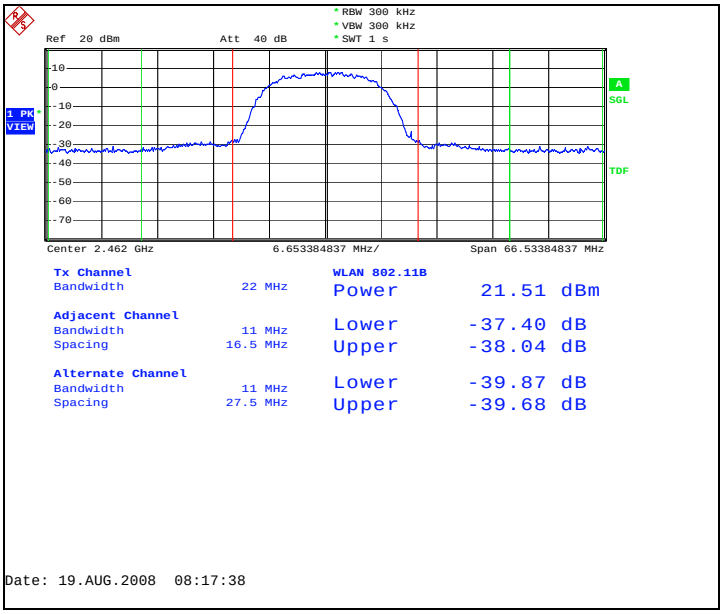
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.5 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	18.98	0.079	Pass
7 / 2442	19.30	0.085	Pass
11 / 2462	19.36	0.086	Pass

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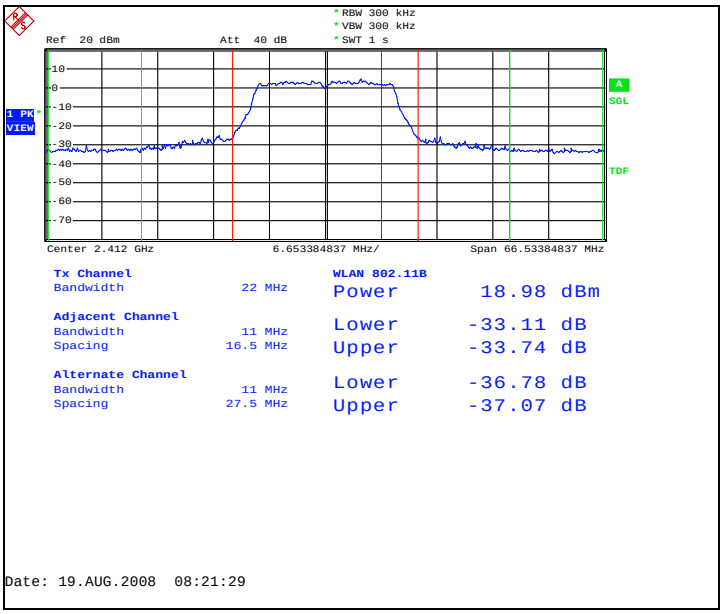
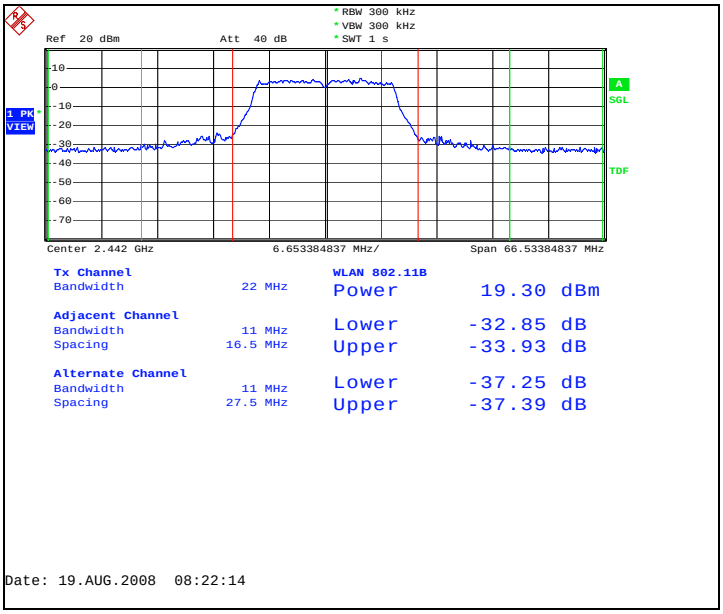
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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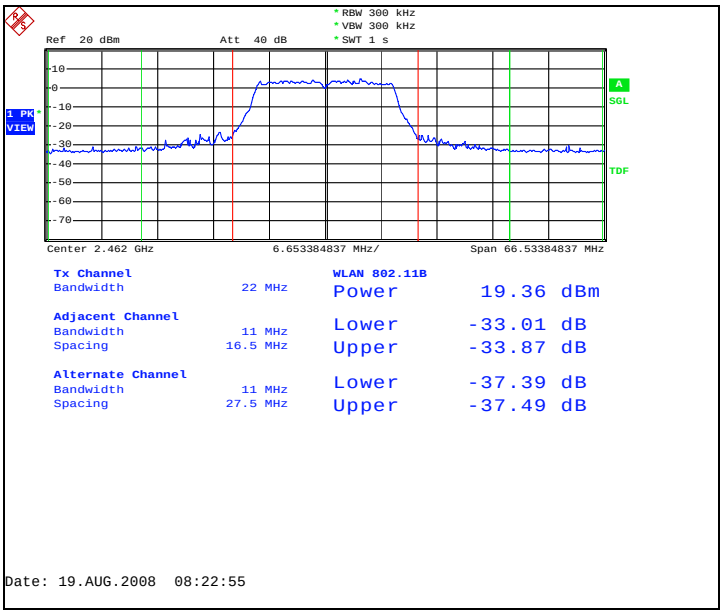
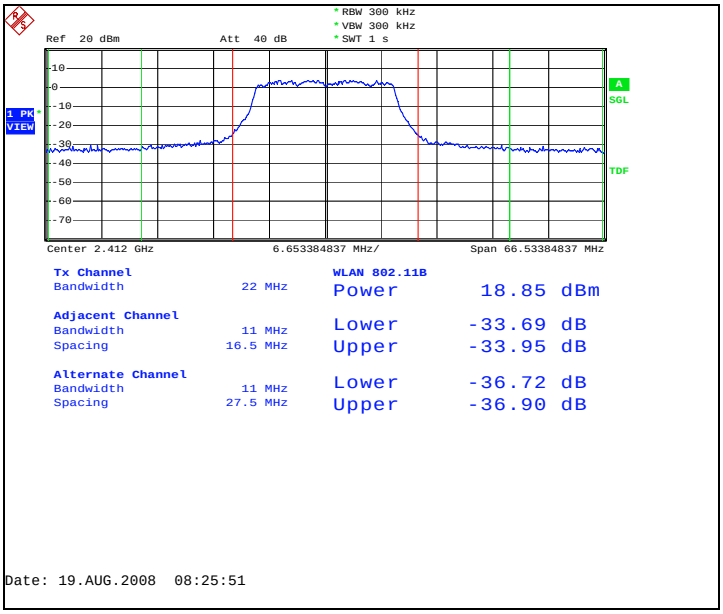
Channel 11 / 2462 MHz



12.2.6 OFDM mode, BPSK modulation, 9 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	18.85	0.077	Pass
7 / 2442	19.15	0.082	Pass
11 / 2462	19.19	0.083	Pass

Channel 1 / 2412 MHz



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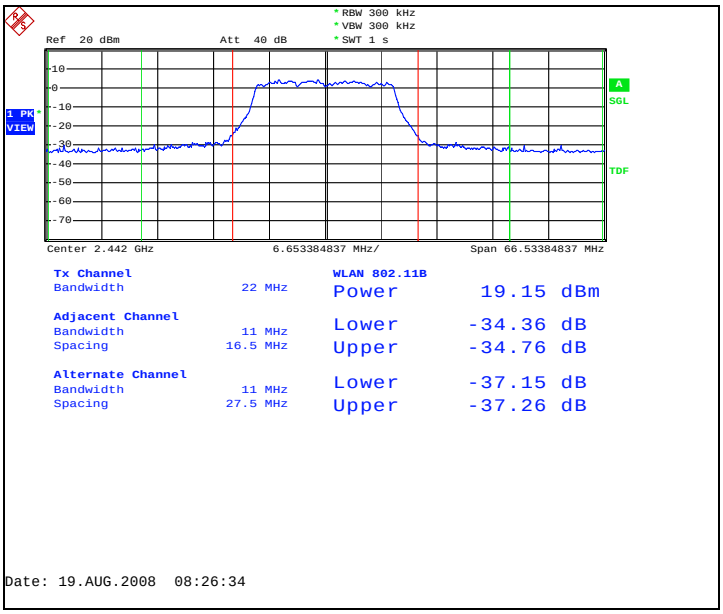
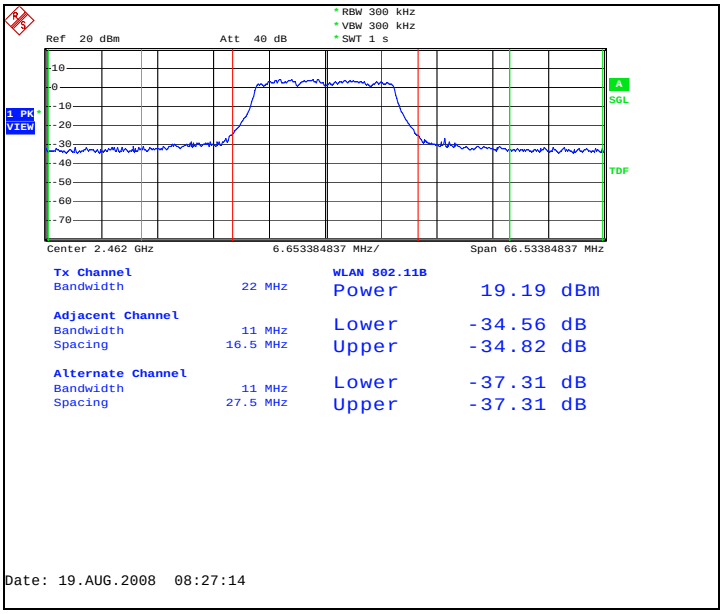
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.7 OFDM mode, QPSK modulation, 12 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	18.67	0.074	Pass
7 / 2442	18.94	0.078	Pass
11 / 2462	19.02	0.080	Pass

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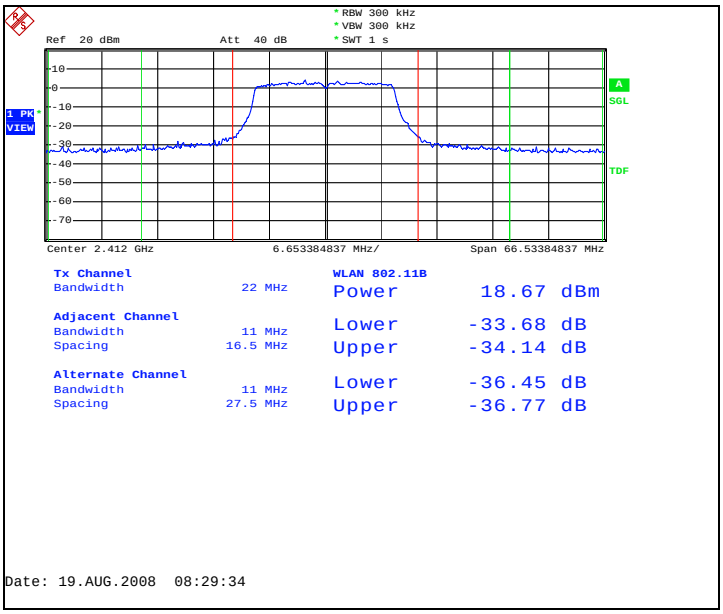
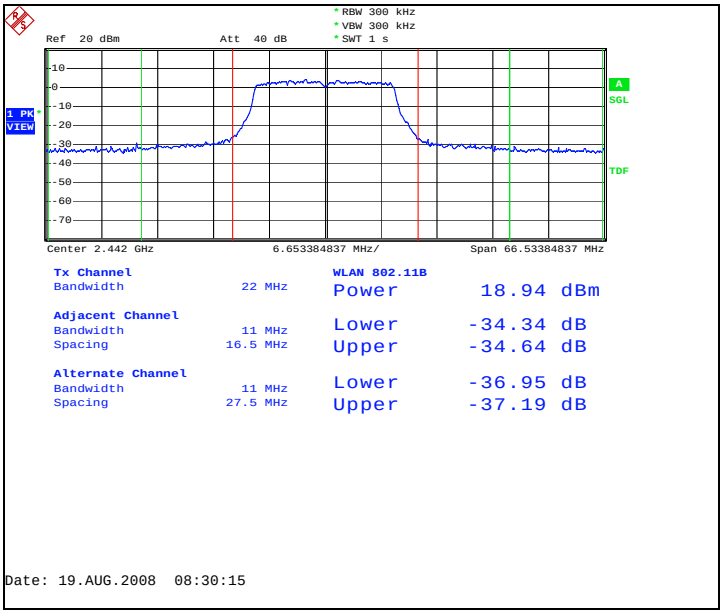
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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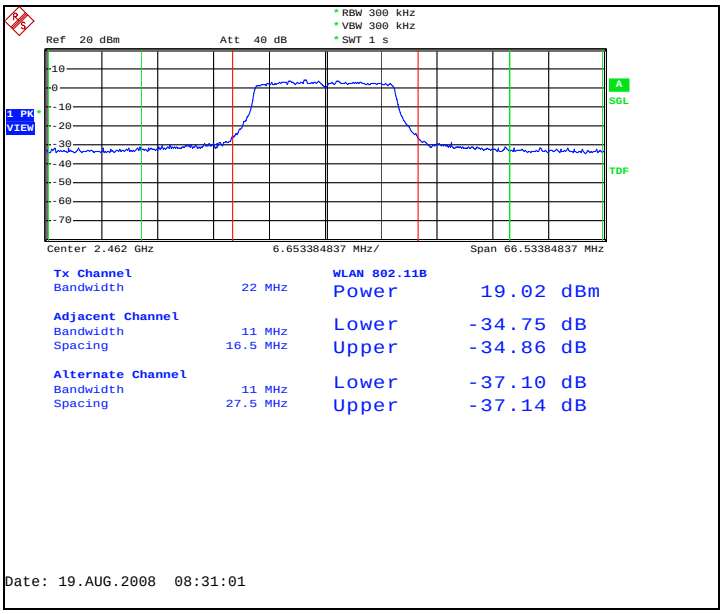
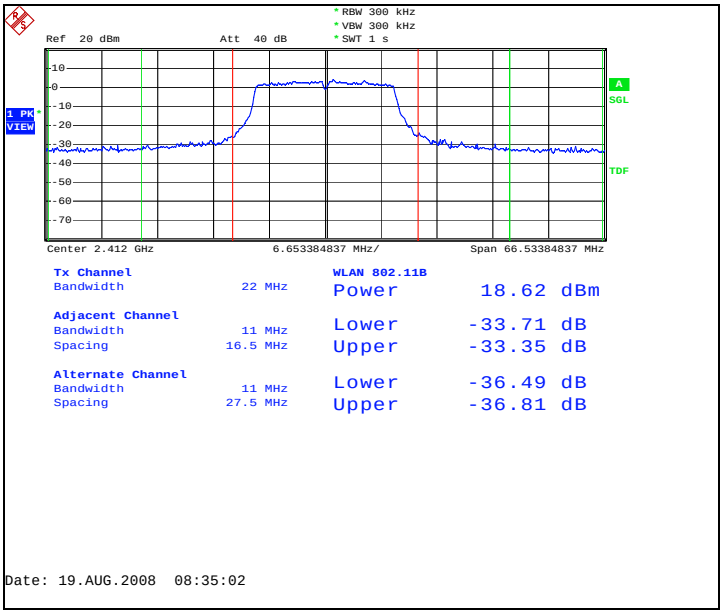
Channel 11 / 2462 MHz



12.2.8 OFDM mode, QPSK modulation, 18 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	18.62	0.073	Pass
7 / 2442	18.93	0.078	Pass
11 / 2462	18.96	0.079	Pass

Channel 1 / 2412 MHz



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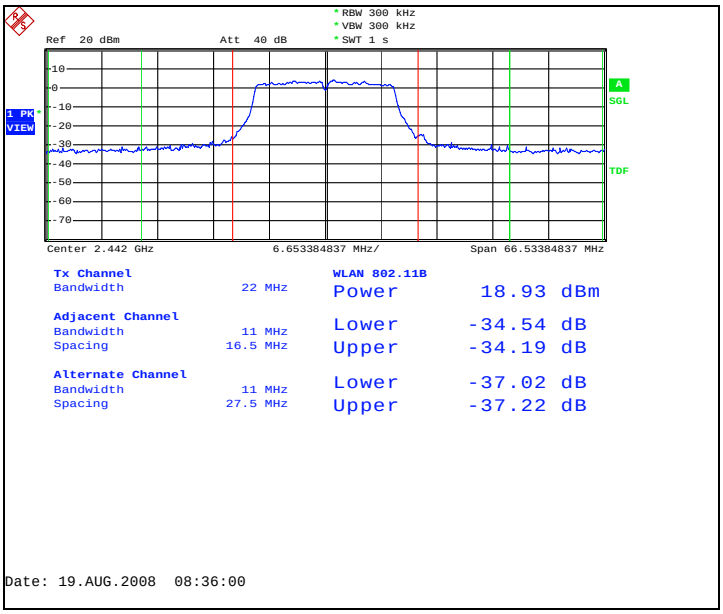
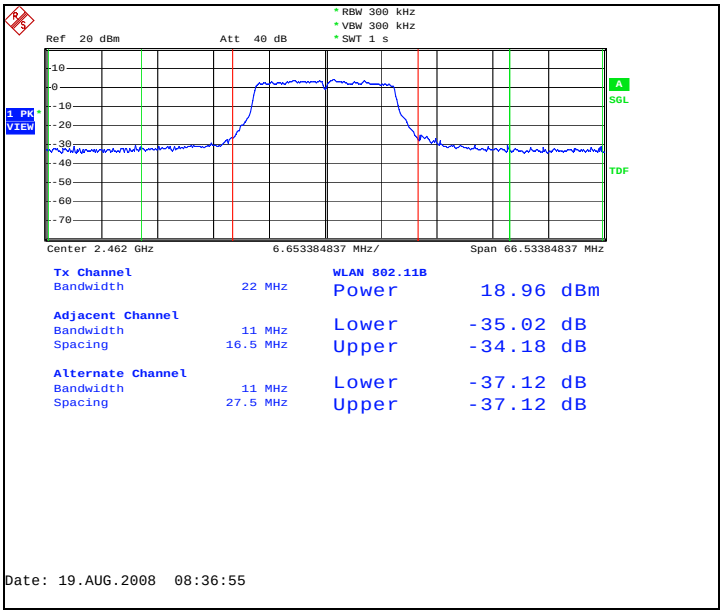
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.9 OFDM mode, 16QAM modulation, 24 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	17.05	0.051	Pass
7 / 2442	17.39	0.055	Pass
11 / 2462	17.49	0.056	Pass

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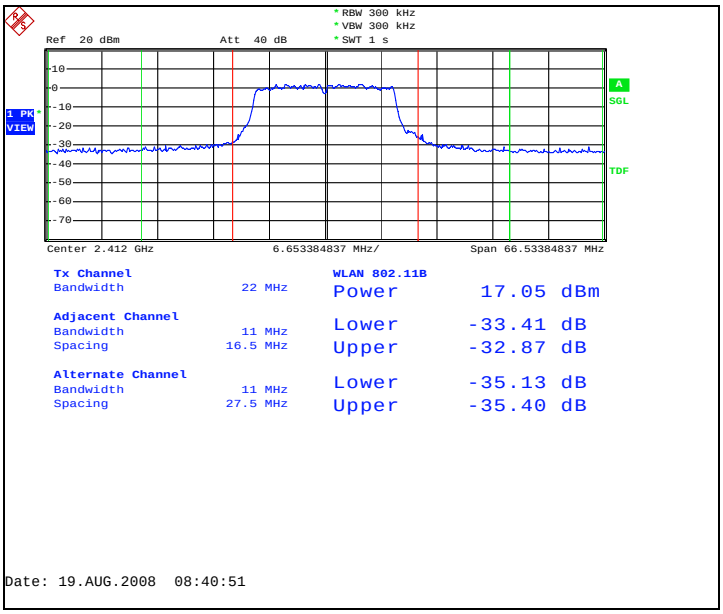
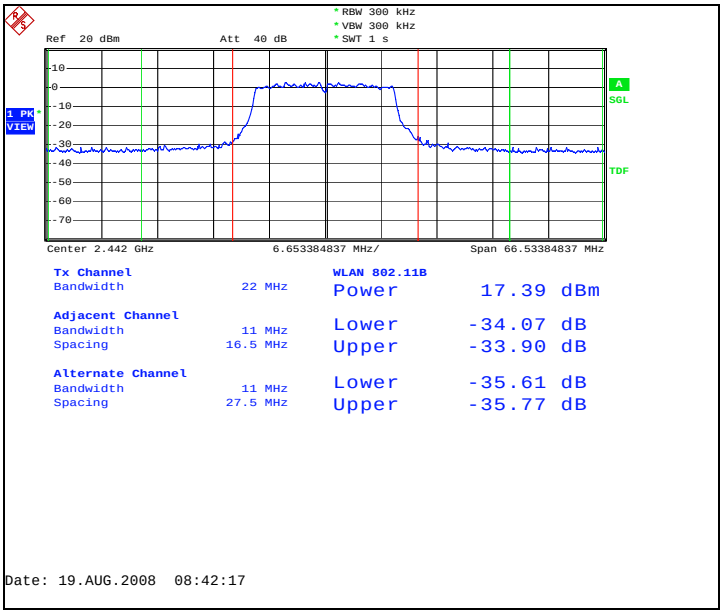
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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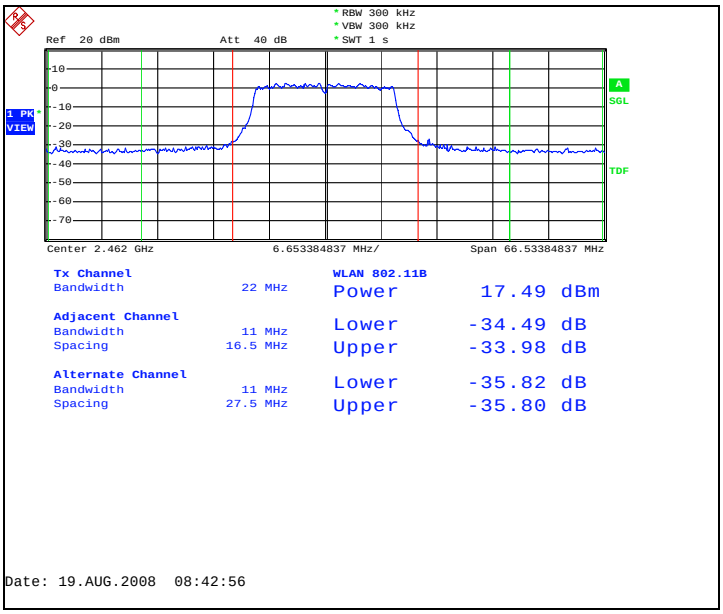
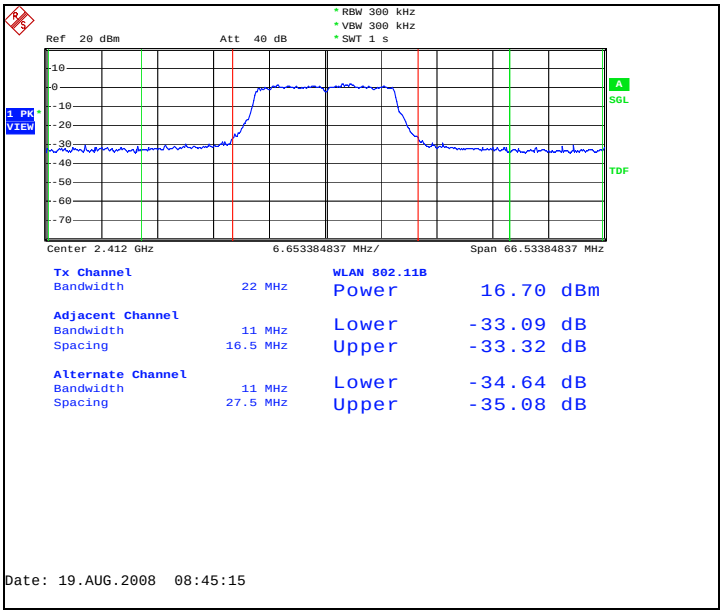
Channel 11 / 2462 MHz



12.2.10 OFDM mode, 16QAM modulation, 36 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	16.70	0.047	Pass
7 / 2442	17.08	0.051	Pass
11 / 2462	17.11	0.051	Pass

Channel 1 / 2412 MHz



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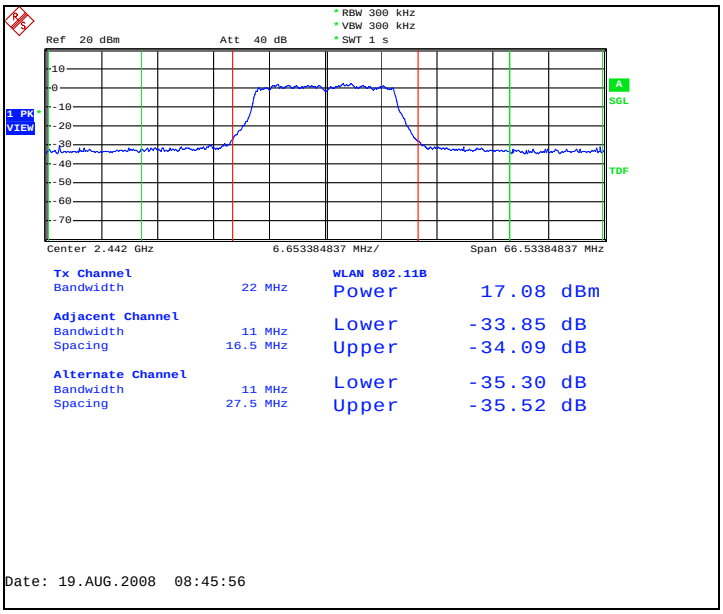
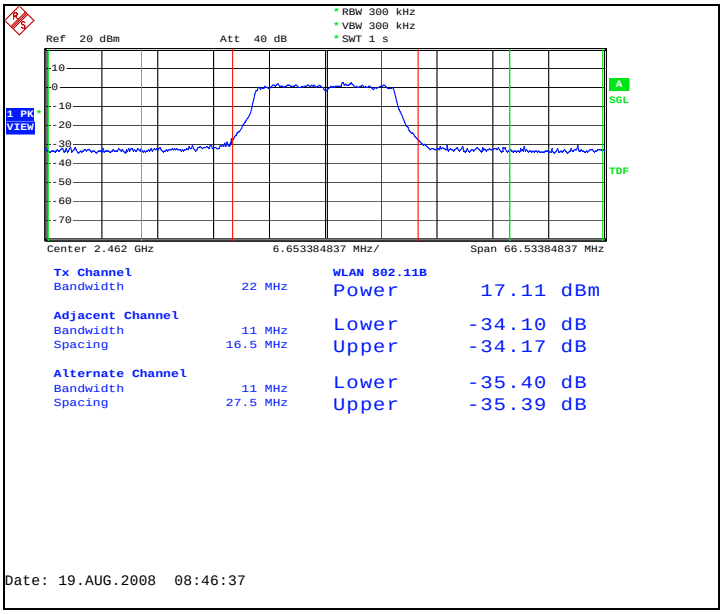
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.11 OFDM mode, 64QAM modulation, 48 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	16.89	0.049	Pass
7 / 2442	17.20	0.052	Pass
11 / 2462	17.26	0.053	Pass

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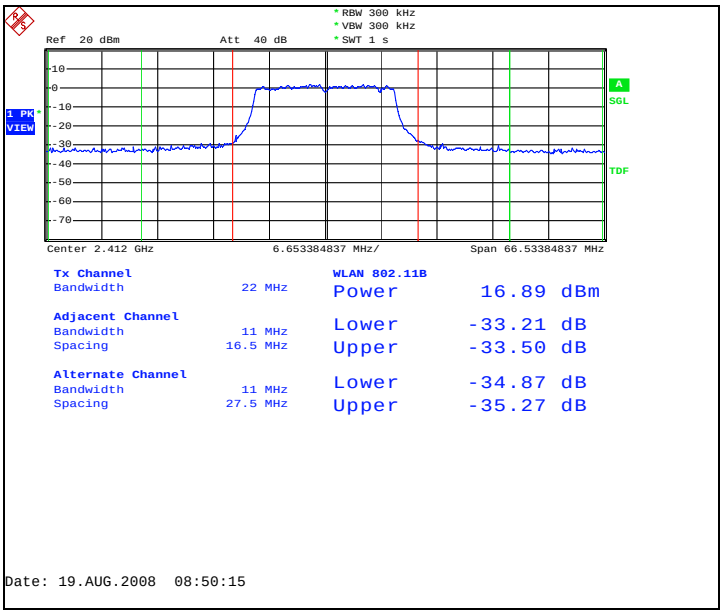
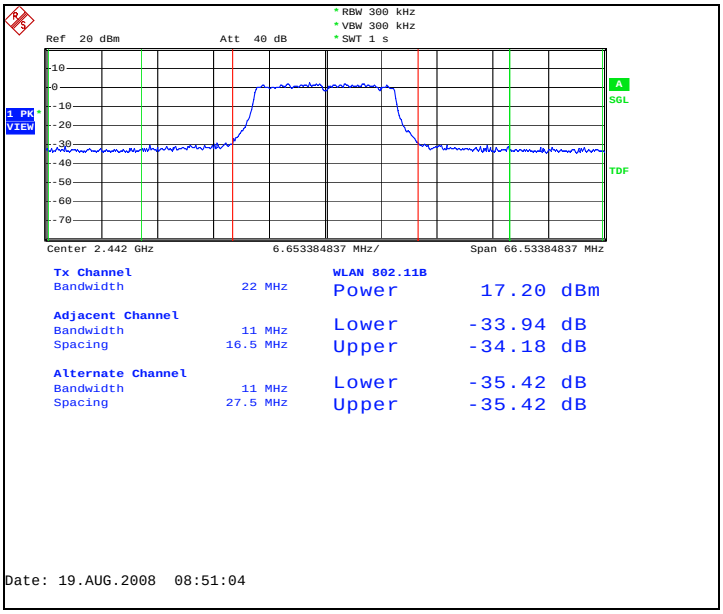
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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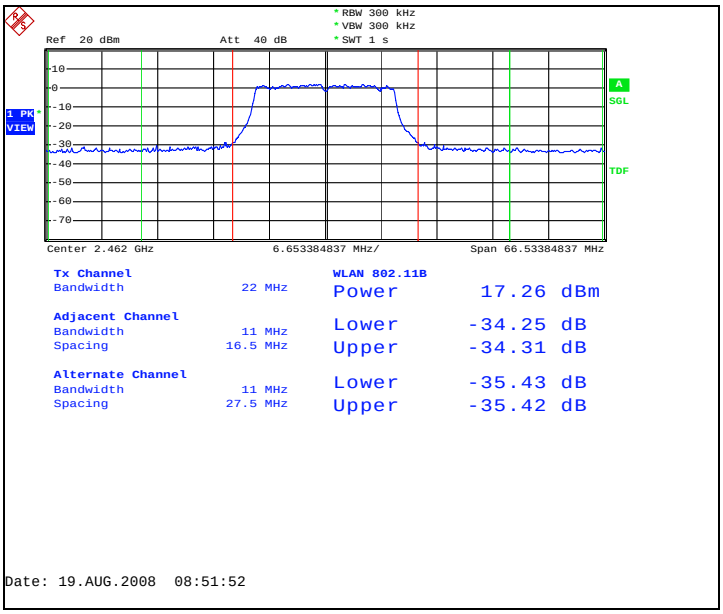
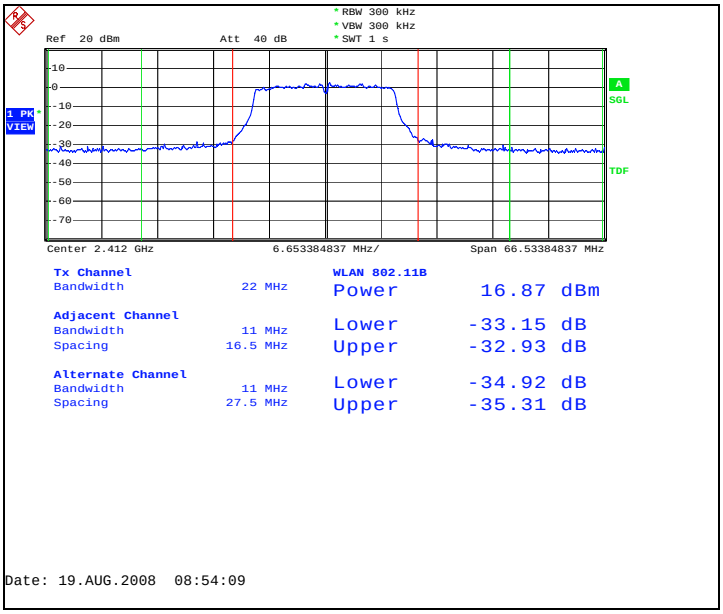
Channel 11 / 2462 MHz



12.2.12 OFDM mode, 64QAM modulation, 54 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	16.87	0.049	Pass
7 / 2442	17.23	0.053	Pass
11 / 2462	17.31	0.054	Pass

Channel 1 / 2412 MHz



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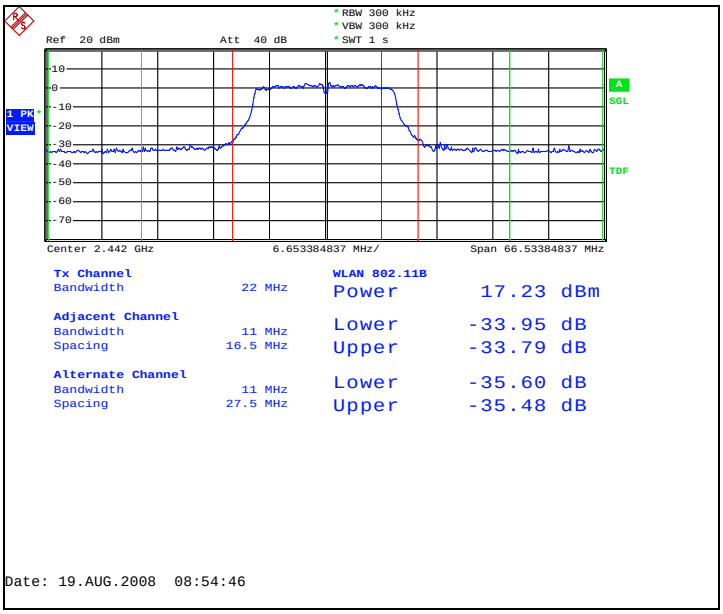
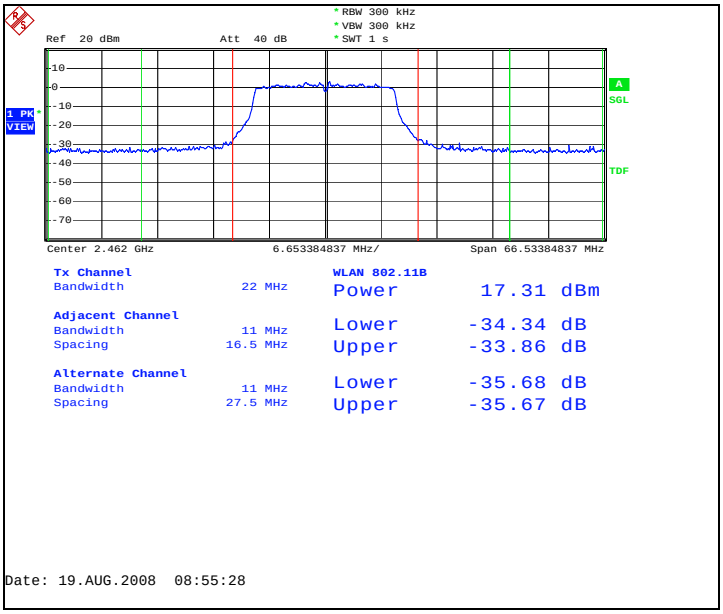
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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13. Band edge compliance of RF emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-462 DUT 30552
Accessories with DUT numbers	BP-4L DUT 29346, HS-9 DUT 29347, AC-4U DUT 29348
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 57 / 101.3
Date of measurements	27-Aug-2008
Measured by	Christian Andersen

13.1. Test method and limit

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

Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit Average [dBµV/m]	Limit Peak [dBµV/m]
Below 2390 and above 2483.5	≤ 54	≤ 74

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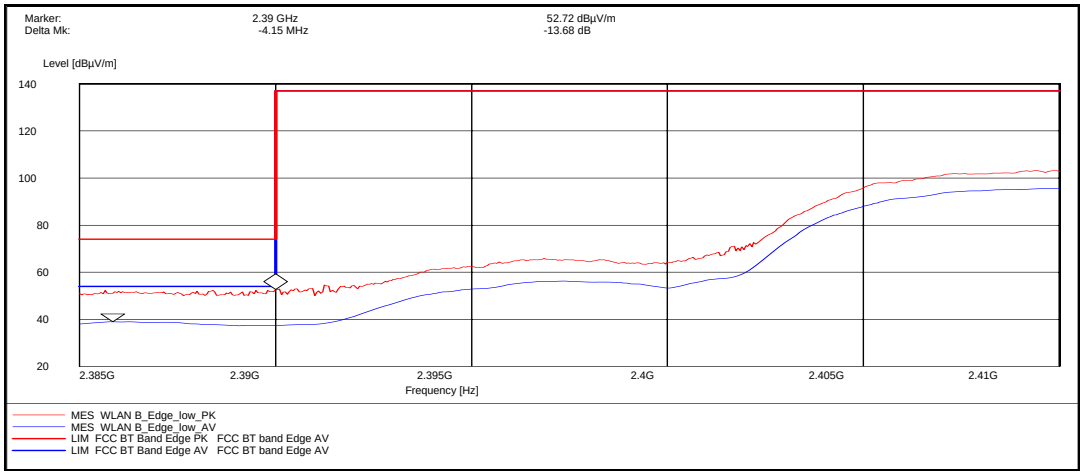
13.2. WLAN Test results

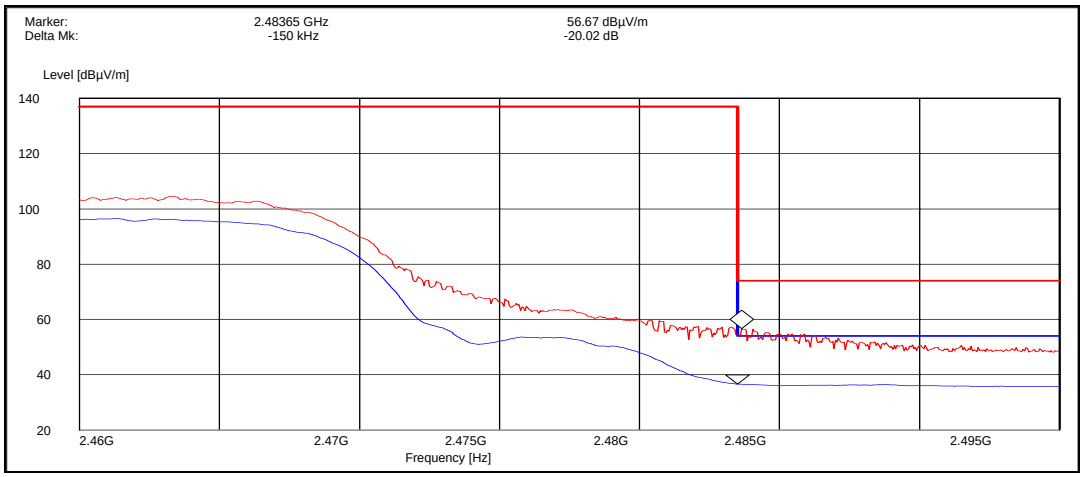
13.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	52.70	Passed
Average	39.00	Passed

Channel 11 / 2462 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	56.70	Passed
Average	36.60	Passed

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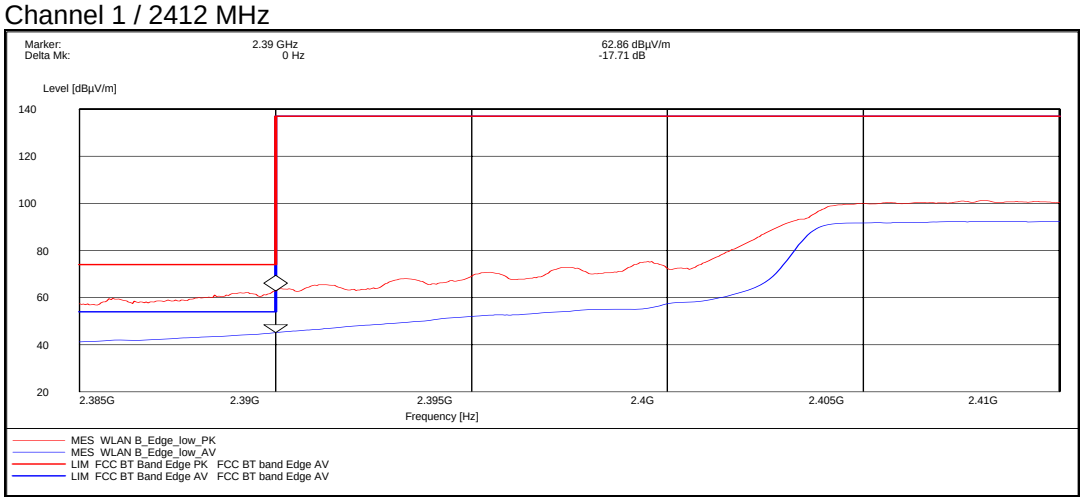
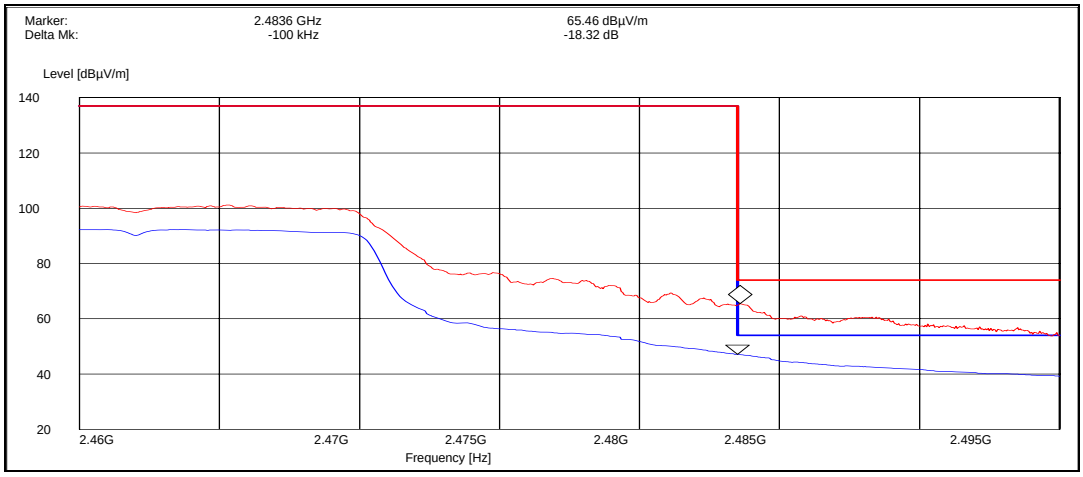
13.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	62.90	Passed
Average	45.10	Passed

Channel 11 / 2462 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	65.50	Passed
Average	47.10	Passed

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14. Spurious RF conducted emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.5 / 48 101.3
Date of measurements	19-Aug-2008
Measured by	Jan Engelbrechtsen

14.1. 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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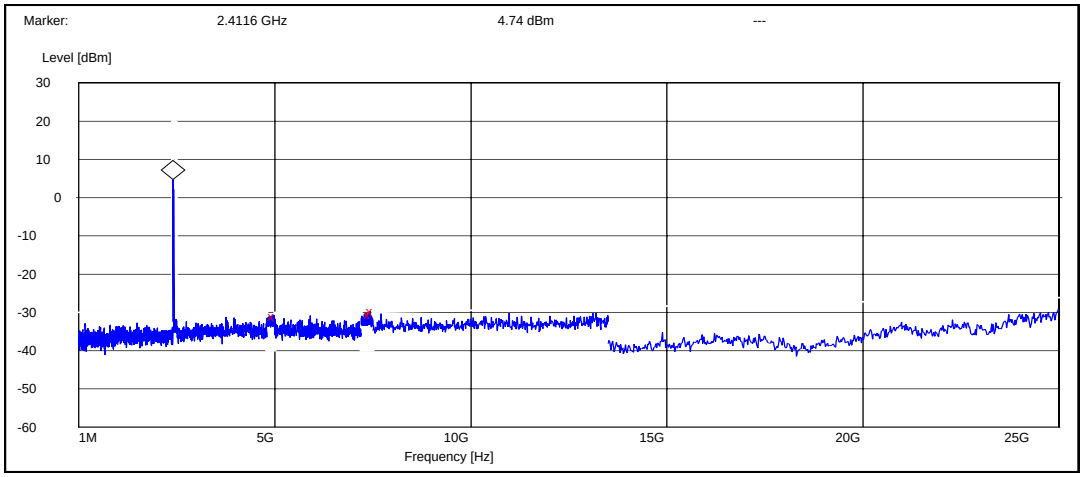
14.2. WLAN Test results

14.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

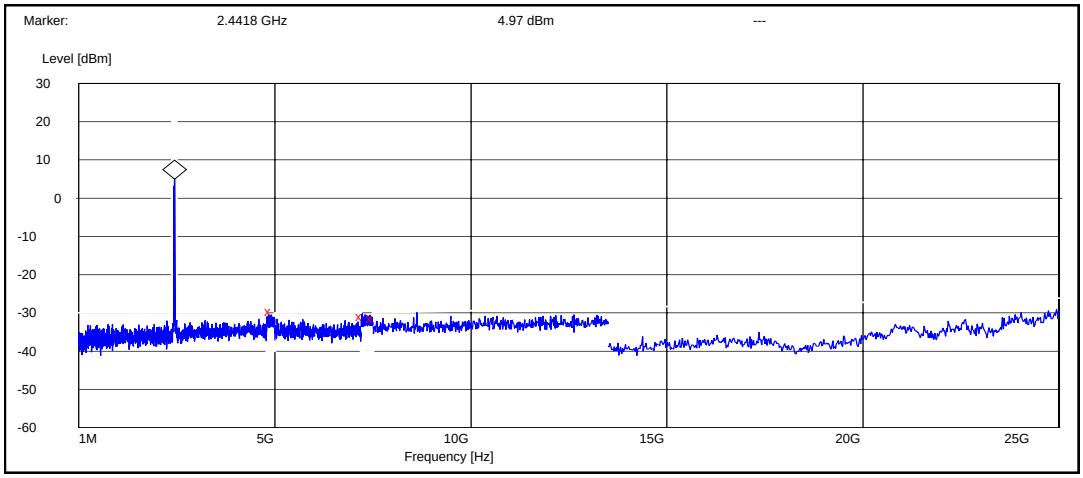
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4991.600000	-35.840178	Pass
7431.000000	-35.140178	Pass
7500.000000	-34.440178	Pass

Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4907.200000	-34.671883	Pass
7237.800000	-35.971883	Pass
7500.000000	-36.371883	Pass

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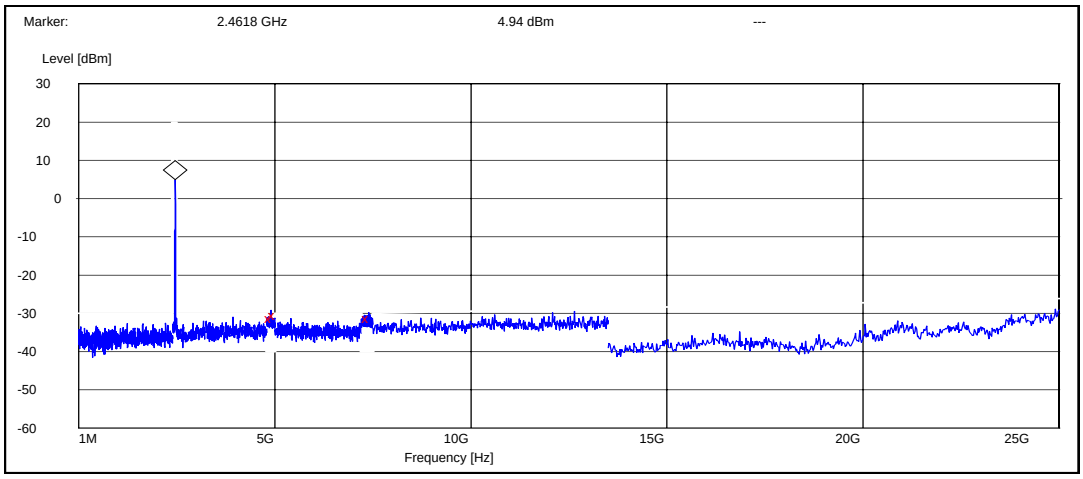
Channel 11 / 2462 MHz

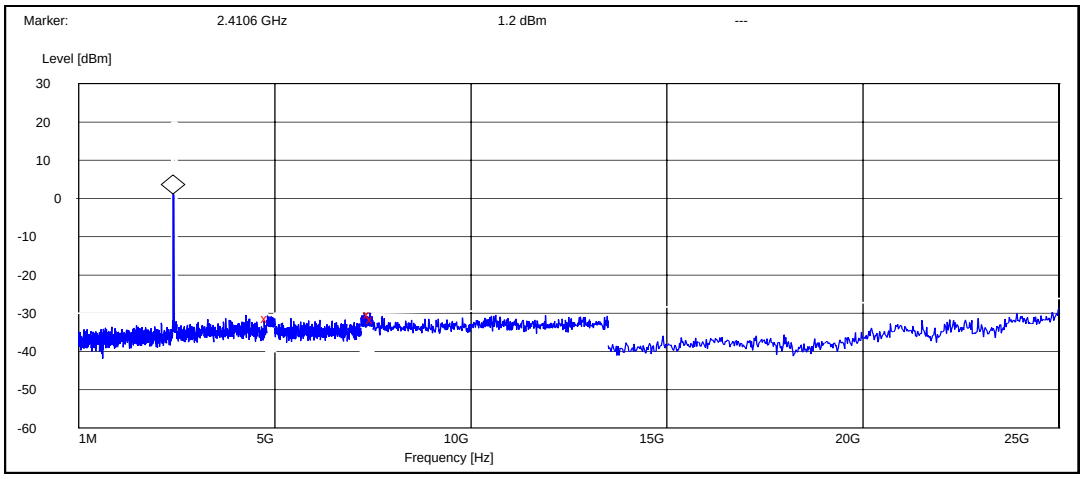


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4912.000000	-36.336711	Pass
5000.000000	-35.536711	Pass
7396.200000	-36.236711	Pass

14.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4808.800000	-32.504938	Pass
7429.200000	-31.604938	Pass
7500.000000	-32.904938	Pass

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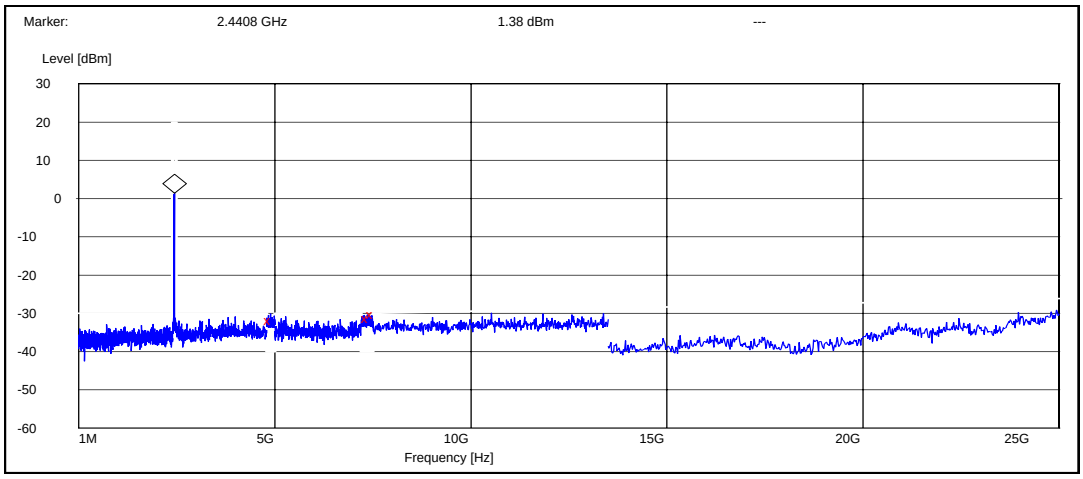
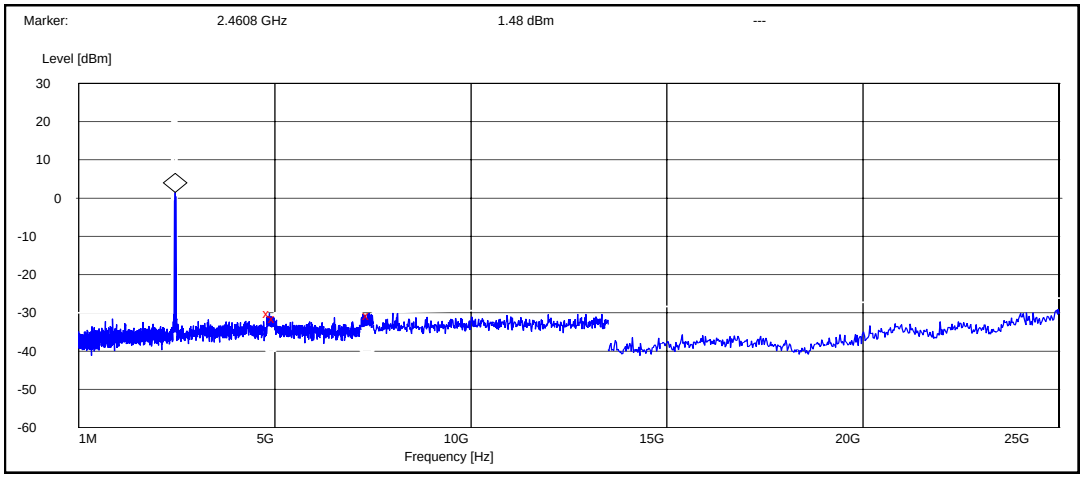
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4895.200000	-33.082947	Pass
7363.200000	-32.782947	Pass
7500.000000	-31.582947	Pass

Channel 11 / 2462 MHz



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

Frequency [MHz]	P [dBc]	Result
4870.400000	-31.679062	Pass
5000.000000	-32.879062	Pass
7412.400000	-32.279062	Pass

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15. Spurious radiated emissions

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

EUT with DUT number	RM-462 DUT 30552
Accessories with DUT numbers	BP-4L DUT 29346, HS-9 DUT 29347, AC-4U DUT 29348
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 59 / 101.3
Date of measurements	27-Aug-2008
Measured by	Christian Andersen

15.1. 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

15.2. WLAN Test results

15.2.1 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	37.00	70.79	37.00	0.0	VERTICAL	Passed
7236.000000	43.40	147.91	34.40	9.0	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	23.80	15.49	23.80	0.0	VERTICAL	Passed
7236.000000	30.30	32.73	21.30	9.0	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
38.176353	2.50	1.33	20.40	-17.9	VERTICAL	Passed
74.508016	16.90	7.00	43.70	-26.8	HORIZONTAL	Passed
74.969940	17.20	7.24	43.90	-26.7	HORIZONTAL	Passed

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
2364.582164	51.70	384.59	50.50	1.2	HORIZONTAL	Passed
4940.381764	37.30	73.28	37.10	0.2	HORIZONTAL	Passed
7264.021042	42.50	133.35	33.80	8.7	HORIZONTAL	Passed
7303.099198	43.30	146.22	33.90	9.4	VERTICAL	Passed
7423.349699	43.40	147.91	34.00	9.4	VERTICAL	Passed
7423.845691	43.80	154.88	34.40	9.4	HORIZONTAL	Passed
17357.209419	51.70	384.59	29.60	22.1	VERTICAL	Passed
17895.291583	58.20	812.83	29.50	28.7	HORIZONTAL	Passed

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
2361.582164	38.30	82.22	37.10	1.2	HORIZONTAL	Passed
4942.881764	23.70	15.31	23.50	0.2	HORIZONTAL	Passed
7257.521042	29.50	29.85	20.70	8.8	HORIZONTAL	Passed
7299.099198	30.10	31.99	20.60	9.5	VERTICAL	Passed
7421.845691	30.50	33.50	21.20	9.3	HORIZONTAL	Passed
7425.349699	30.40	33.11	21.00	9.4	VERTICAL	Passed
17355.209419	38.70	86.10	16.60	22.1	VERTICAL	Passed
17899.791583	45.80	194.98	16.80	29.0	HORIZONTAL	Passed

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	36.80	69.18	36.50	0.3	HORIZONTAL	Passed
7386.000000	42.50	133.35	33.00	9.5	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
4924.000000	24.10	16.03	23.80	0.3	VERTICAL	Passed
7386.000000	29.80	30.90	20.30	9.5	VERTICAL	Passed

15.2.2 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	35.40	58.88	35.40	0.0	VERTICAL	Passed
7236.000000	42.70	136.46	33.70	9.0	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	23.10	14.29	23.10	0.0	VERTICAL	Passed
7236.000000	30.10	31.99	21.10	9.0	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
38.135872	22.00	12.59	39.90	-17.9	VERTICAL	Passed
44.247896	20.40	10.47	42.20	-21.8	VERTICAL	Passed
73.546092	16.90	7.00	43.90	-27.0	HORIZONTAL	Passed
74.269940	17.20	7.24	44.00	-26.8	HORIZONTAL	Passed

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
2376.013026	52.20	407.38	50.80	1.4	HORIZONTAL	Passed
7299.601202	42.90	139.64	33.40	9.5	VERTICAL	Passed
7430.357715	43.40	147.91	34.00	9.4	VERTICAL	Passed
17365.735471	51.60	380.19	29.50	22.1	VERTICAL	Passed
17976.959920	58.60	851.14	29.40	29.2	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
2374.013026	38.00	79.43	36.60	1.4	HORIZONTAL	Passed
7297.101202	30.20	32.36	20.80	9.4	VERTICAL	Passed
7425.357715	30.70	34.28	21.30	9.4	VERTICAL	Passed
17369.235471	38.60	85.11	16.40	22.2	VERTICAL	Passed
17983.959920	45.20	181.97	15.90	29.3	HORIZONTAL	Passed

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	36.70	68.39	36.40	0.3	HORIZONTAL	Passed
7386.000000	42.50	133.35	33.00	9.5	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
4924.000000	23.70	15.31	23.40	0.3	VERTICAL	Passed
7386.000000	29.70	30.55	20.20	9.5	VERTICAL	Passed

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16. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.1 / 57.5 101.44
Date of measurements	18-Aug-2008
Measured by	Jan Engelbrechtsen

16.1. 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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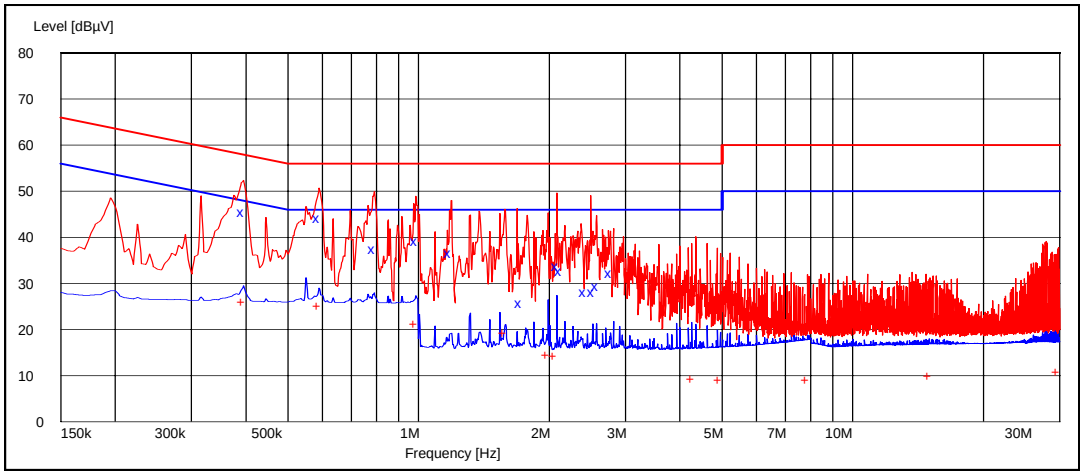
16.2. WLAN Test results

16.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.395000	45.40	N	Pass
0.590000	44.20	N	Pass
0.790000	37.40	L1	Pass
0.990000	39.30	N	Pass
1.185000	36.60	N	Pass
1.720000	25.80	L1	Pass
2.095000	33.80	N	Pass
2.130000	32.70	N	Pass
2.420000	28.00	L1	Pass
2.535000	28.10	L1	Pass
2.585000	29.50	N	Pass
2.780000	32.20	N	Pass

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.395000	26.00	N	Pass
0.590000	25.10	N	Pass
0.985000	21.10	N	Pass
1.580000	19.30	N	Pass
1.985000	14.50	N	Pass
2.065000	14.30	N	Pass
4.275000	9.40	N	Pass
4.955000	9.00	N	Pass
7.865000	9.00	L1	Pass
15.065000	9.90	N	Pass
29.720000	10.80	L1	Pass

16.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 7 / 2442 MHz

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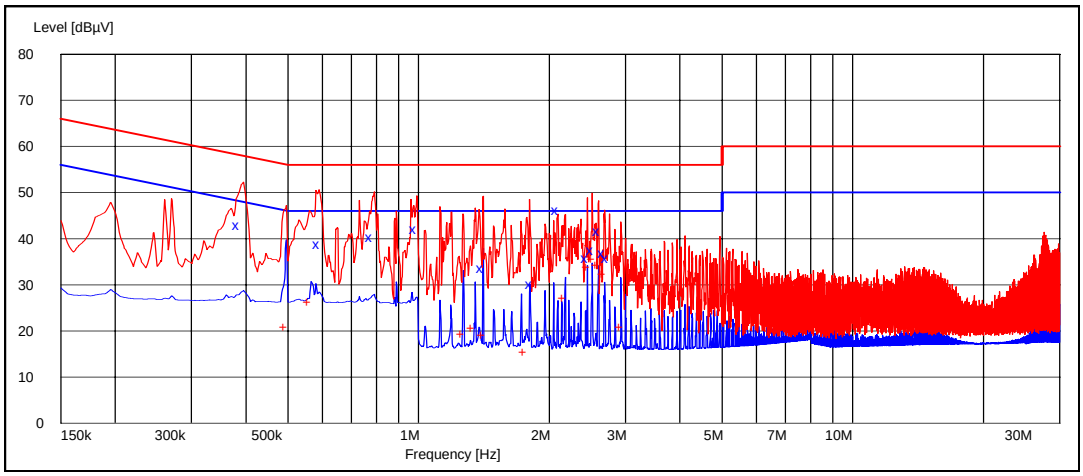

Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.385000	42.90	N	Pass
0.590000	38.80	L1	Pass
0.780000	40.40	N	Pass
0.985000	42.20	N	Pass
1.405000	33.50	L1	Pass
1.820000	30.20	L1	Pass
2.095000	46.20	N	Pass
2.450000	35.90	L1	Pass
2.520000	37.50	L1	Pass
2.605000	41.70	L1	Pass
2.675000	36.80	L1	Pass
2.730000	35.90	N	Pass

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.495000	20.70	L1	Pass
0.560000	26.30	N	Pass
1.265000	19.40	N	Pass
1.335000	20.50	N	Pass
1.410000	19.10	N	Pass
1.760000	15.40	L1	Pass
2.170000	27.00	L1	Pass
2.460000	33.80	N	Pass
2.525000	35.50	N	Pass
2.585000	34.30	N	Pass
2.675000	32.40	N	Pass
2.930000	20.80	L1	Pass

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17. 6 dB bandwidth

(FCC §15.247(a)(2), RSS-210 A8.2 (1))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.5 / 48 101.3
Date of measurements	19-Aug-2008
Measured by	Jan Engelbrechtsen

17.1. 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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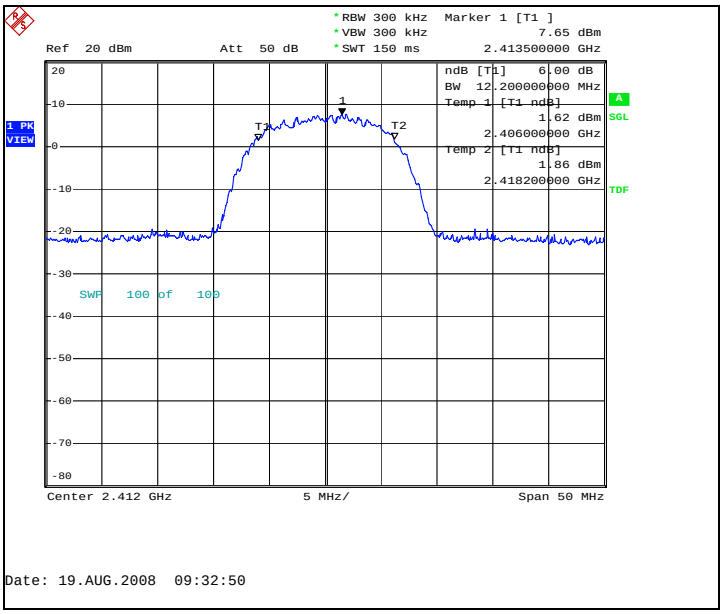
17.2. WLAN test results

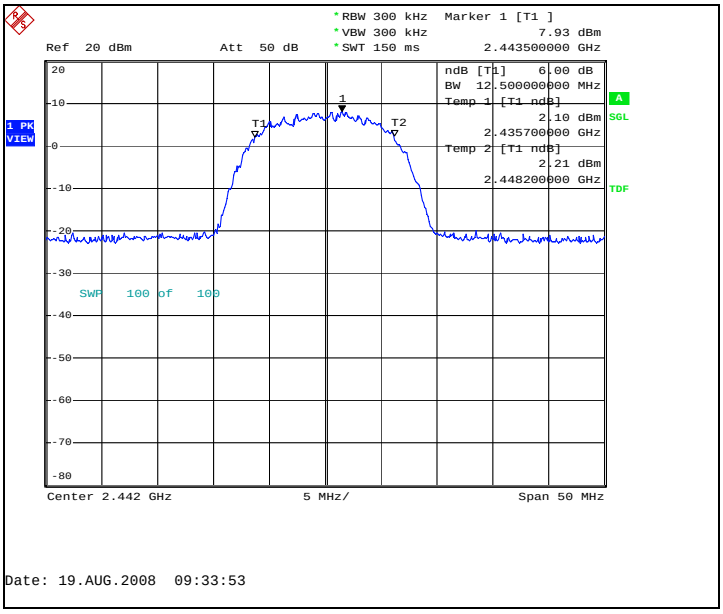
17.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	12200.000	Pass
7	12500.000	Pass
11	12500.000	Pass

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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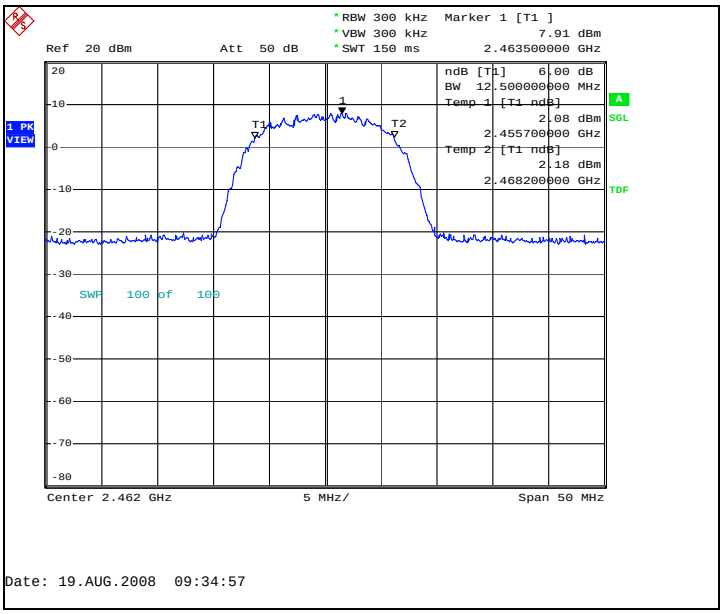
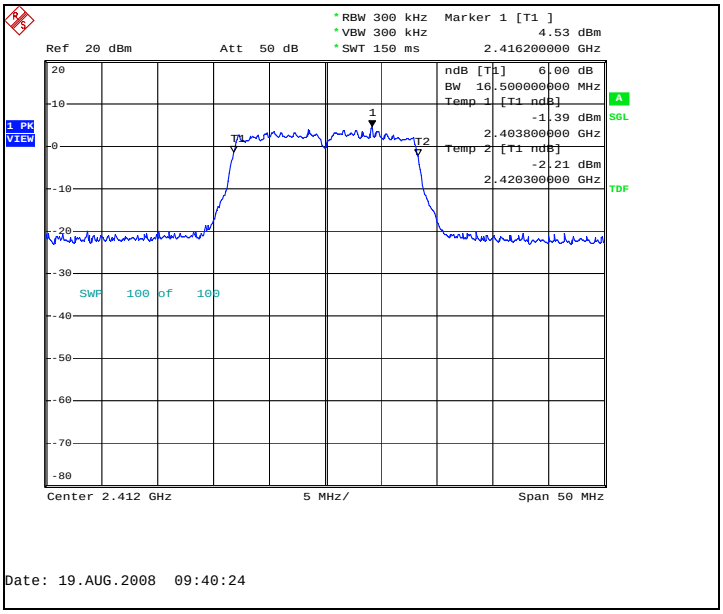
Channel 11 / 2462 MHz



17.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	16500.000	
7	16500.000	
11	16500.000	

Channel 1 / 2412 MHz



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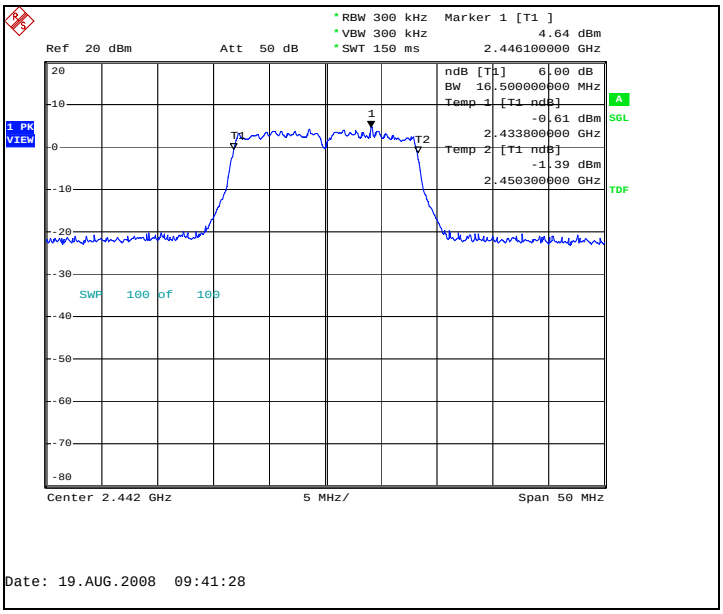
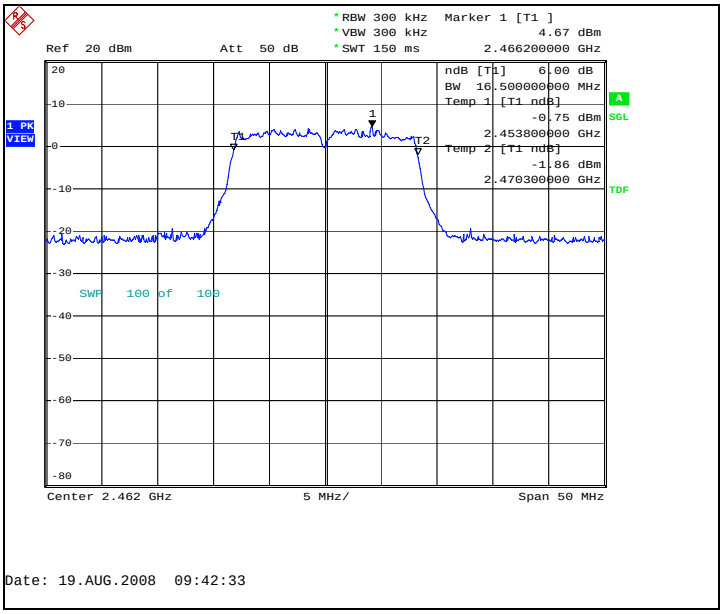
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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18. Power spectral density

(FCC §15.247(e), RSS-210 A8.2 (2))

EUT with DUT number	RM-462 dut 26954, BP-4L dut 26955
Accessories with DUT numbers	HS-9 dut 26949, AC-4U dut 26948
Operation Voltage [V] / [Hz]	Nominal
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.5 / 48 101.3
Date of measurements	19-Aug-2008
Measured by	Jan Engelbrechtsen

18.1. 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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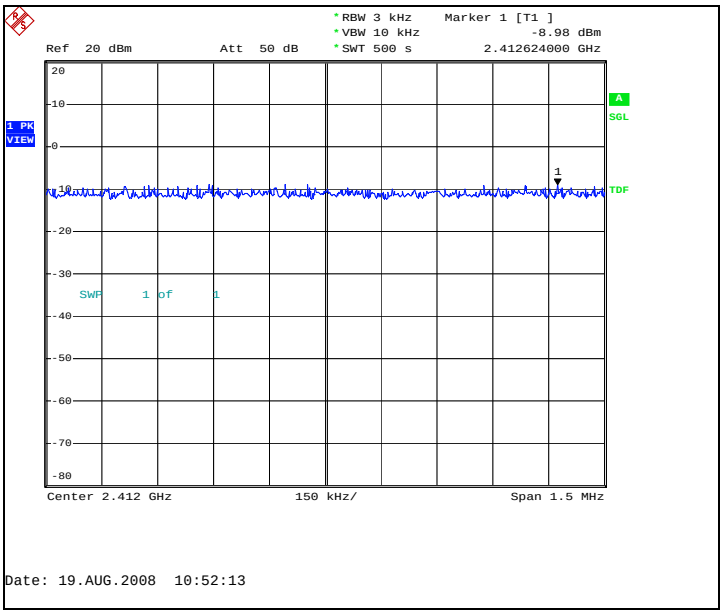
18.2. WLAN test results

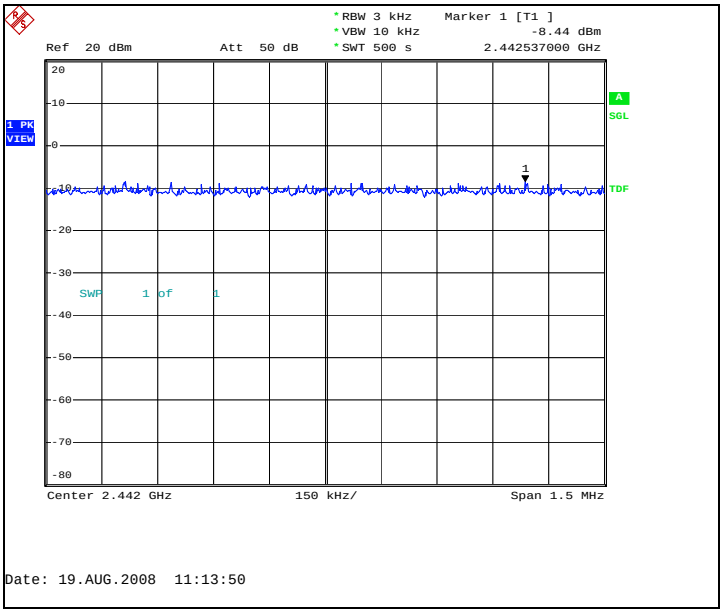
18.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-8.98	Pass
7 / 2442	-8.44	Pass
11 / 2462	-7.84	Pass

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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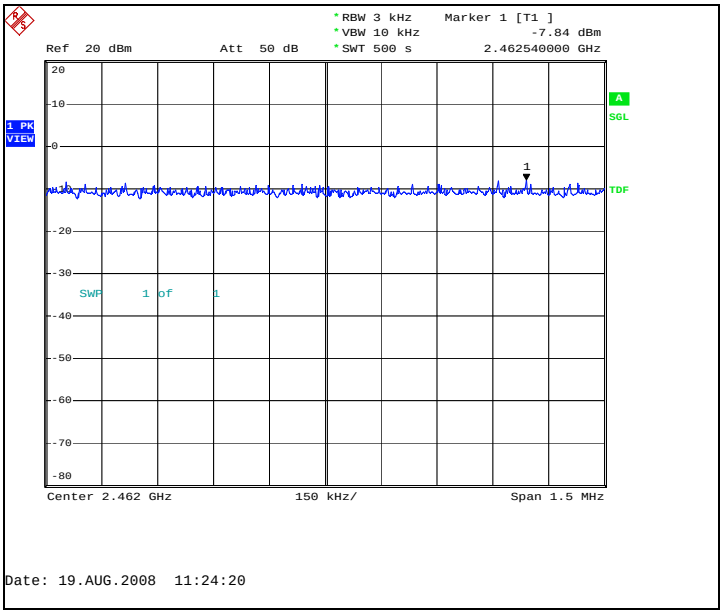
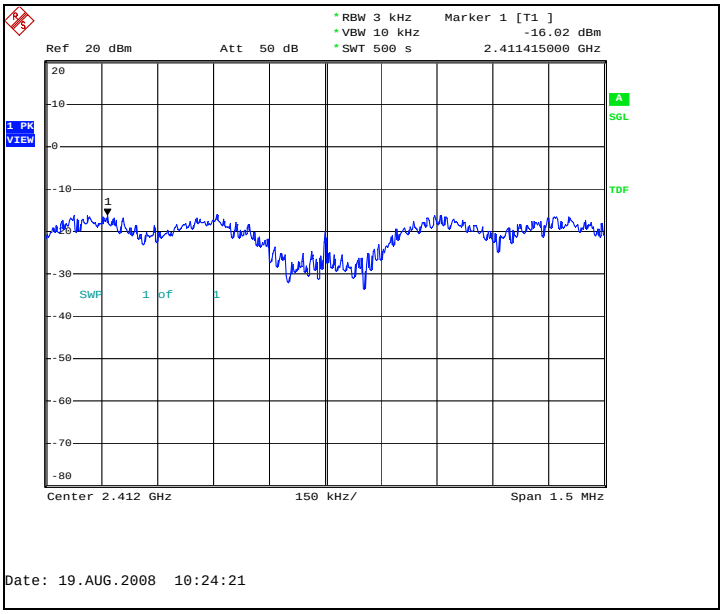
Channel 11 / 2462 MHz



18.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-16.02	Pass
7 / 2442	-15.60	Pass
11 / 2462	-15.71	Pass

Channel 1 / 2412 MHz



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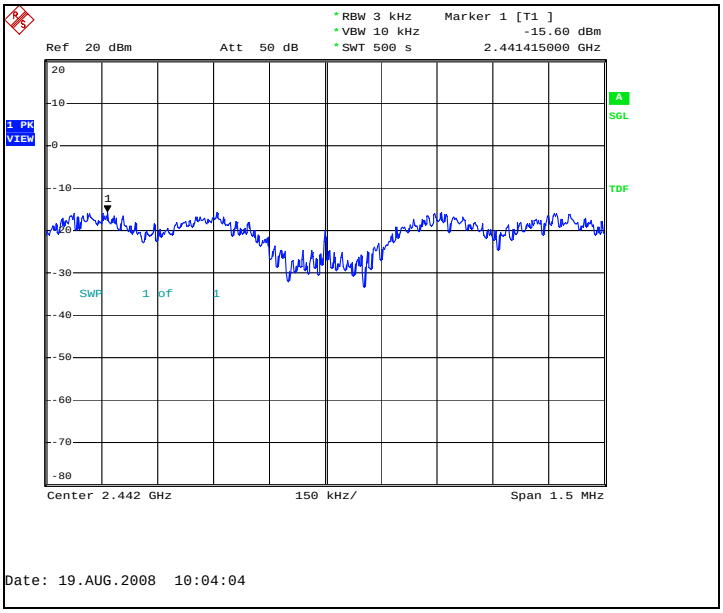
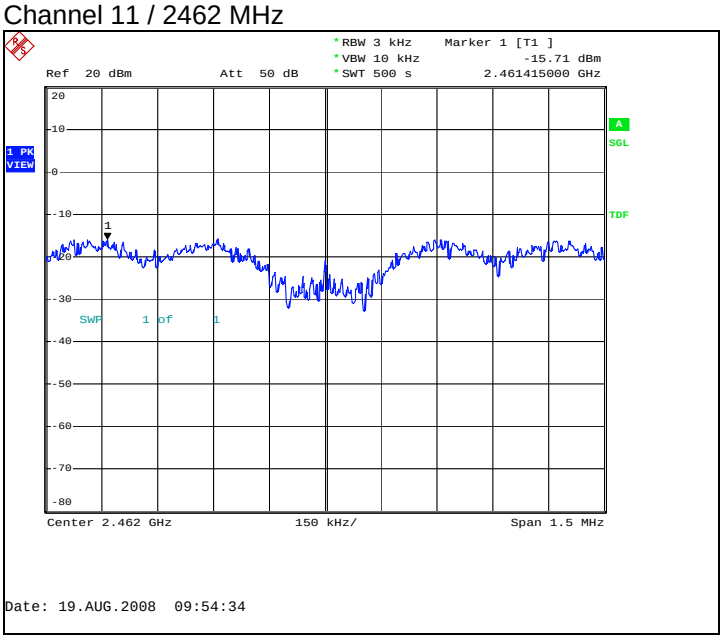
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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19. Test Equipment

19.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13037	Power Supply 0-15V 10A	EA3012	LP Instruments	15C, 15B
13513	Pulse Limiter 9KHz-30MHz	ESH3Z2	Rohde&Schwarz	15C, 15B
13666	EMI Test Reciever 9KHz-2,5GHz	ESPC	Rohde&Schwarz	15C, 15B
13935	Two Lines Artificial Mains Network	ESH3-Z5	Rohde&Schwarz	15C, 15B
16995	Directional Coupler 20dB 0,5-2,0 GHz SMA Conn.	1538RA-20	Weinschel	15C, 15B
18772	Shielded Chamber	RFD-100	ETS-Lindgren	15C, 15B
19171	Universal Radio Communication Tester	CMU200	Rohde&Schwarz	15C, 15B
11386	System DC Power Supply	HP6632A	Hewlett Packard	22/24/27, 15C, 15B
19678	Spectrum Analyzer 26 GHz	FSP	Rohde&Schwarz	22/24/27, 15C, 15B
16601	Universal Radio Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
19625	Vötsch Climatic Chamber	VT4002EMC	Vötsch	22/24/27, 15C, 15B
13357	Rohde & Schwartz Signal Generator	SMP02	Rohde&Schwarz	22/24/27, 15C, 15B
20168	Bluetooth EDR Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B

19.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
18416	Universal Radio Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
	Programmable Relay Switching System	----------	Pickering	22/24/27, 15C, 15B
15742	Programmable Relay Switching System	----------	Pickering	22/24/27, 15C, 15B
14020	Power Supply Module Relay Switching System 45W	10-910-002	Pickering	22/24/27, 15C, 15B
15743	Power Supply Module Relay Switching System 50W	10-910L-001	Pickering	22/24/27, 15C, 15B
16490	RS-232/IEEE-488.2 Interface	10-921-001	Pickering	22/24/27, 15C, 15B
	RS-232/IEEE-488.2 Interface	10-921-001	Pickering	22/24/27, 15C, 15B
20078	Relay 2x6 Chnl µWave Mux	10-785B-522	Pickering	22/24/27, 15C, 15B
14021	Relay Dual 6 Chnl µWave Mux	10-785-522		22/24/27, 15C, 15B
	Relay Dual 6 Chnl µWave Mux	10-785-522		22/24/27, 15C, 15B
17644	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
16948	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
16949	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
18792	Multi Device Controller	2090	ETS-EMCO	22/24/27, 15C, 15B
14963	RF Preamplifier 100MHz-4GHz (Metal Chassis)	AFS3-00100400	Miteq/NMP Cph	22/24/27, 15C, 15B
18861	EMI Test Receiver 20Hz-26,5GHz	ESI	Rohde&Schwarz	22/24/27, 15C, 15B
20335	Ultra Broadband Antenna Ultralog 30-3000MHz	HL562	Rohde&Schwarz	22/24/27, 15C, 15B
18773	Shielded Chamber	RFD-100	ETS-Lindgren	22/24/27, 15C, 15B
18774	Shielded Chamber	RFSD-F/A-100	ETS-Lindgren	22/24/27, 15C, 15B
19151	High Pass Filter 3GHz	WHJS3000-10SS	Wainwright	22/24/27, 15C, 15B

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Eq. No	Equipment	Type	Manufacturer	Used in
	WHK3.0/18G-10ss			
13937	Ultra Stable Notch Filter 850MHz	WRCA902.4-0.2/40-6SS	Wainwright Instruments	22/24/27, 15C, 15B
13936	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright Instruments	22/24/27, 15C, 15B
14114	Highpass filter	WHK1000-12SS	Wainwright Instruments	22/24/27, 15C, 15B
14188	Ultra Stable Notch Filter 902,4MHz	WRCA902.4-0.2/40-6SS	Wainwright	22/24/27, 15C, 15B
14187	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright	22/24/27, 15C, 15B
16633	Ultra Stable Notch Filter 1880,0MHz	WRCD1880.0-0.2/40-10SS	Wainwright	22/24/27, 15C, 15B
19587	BT/WLAN Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	22/24/27, 15C, 15B
20115	WDCMA Band 2 filter		Wainwright	24, 15C, 15B
20114	WDCMA Band 4 filter	WRCG1737/1743-1733/1747-40/6SS	Wainwright	27, 15C, 15B
20116	WDCMA Band 5&6 filter	WRCG832/83/-825/845-40/5SS	Wainwright	22, 15C, 15B
18323	Band reject filter 1947-1953MHz 40dB	WRCG1947/1953-1940/1960-40/6SS	Wainwright	22/24/27, 15C, 15B
20031	Double Ridged Broadband Horn	BBHA 9120 D	SCHWARZBECK	22/24/27, 15C, 15B
19966	Magnetic Loop Antenna 9 kHz - 30 MHz	HFH2-Z2	Rohde&Schwarz	15C, 15B
14993	EMI Test Receiver 9KHz-2750MHz	ESCS30	Rohde&Schwarz	22/24/27, 15C, 15B
15191	Turntable Contoller Unit	G-800SDX	YAESU	22/24/27, 15C, 15B
14900	Antenna Controller	HD100	HD GmbH	22/24/27, 15C, 15B
19374	Resonant Dipole Antenna 850MHz SMA m Conn.	---------	NMP Cph	22/24/27, 15C, 15B
19375	Resonant Dipole Antenna 1900MHz SMA m Conn.	----------	NMP Cph	22/24/27, 15C, 15B
20168	Bluetooth EDR Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B

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