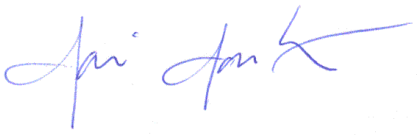
TCC Nokia

FINAS Finnish Accreditation Service T117 (EN ISO/IEC 17025)

FCC Part 15C Compliance Test Report

Test Report no.:	Tre_FCC_0750_03.doc	**Date of Report:**	14.1.2008
Number of pages:	66	**Customer's Contact person:**	Bruno Ramelli
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 Lise Meitner Strasse 10 89081 ULM GERMANY Tel. +49 731 1754 0 Fax. +49 731 1754 6800
FCC listing no.: **IC recognition no.:**	94436 3608		
Tested devices/ accessories:	**GSM phone RM-323 / Battery BL-4C, Headset HS-47, AC-Charger AC-5E**		
FCC ID:	PPIRM-323	**IC:**	661U-RM323
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: 2008.01.14 07:50:31 +02'00'		

Jari Jantunen, System Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	10.12.2007
Testing completed	8.1.2008
The customer's contact person	Bruno Ramelli
Test Plan referred to	T:\Projects\RM-323\TestPlan_RS\RS_Testplan_RM-323.xls
Notes	-
Document name	T:\Projects\RM-323\EMC\Results\FCC\Tre_FCC_0750_03.doc

1.1. EUT and Accessory Information

The EUT is a 3-band (GSM850/1800/1900) 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
GSM-Phone	RM-323	004401016554996	0303	-	Vp prt5.50	41343
GSM-Phone	RM-323	004401016554483	0303	-	Vp prt5.50	41356
GSM-Phone	RM-323	004401016554392	0303	-	Vp prt5.50	41371
Battery	BL-4C	-	-	-	-	41342
Headset	HS-47	-	-	-	-	41181
AC-Charger	AC-5E	-	-	-	-	41096

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 powerline 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-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 (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 Tampere Laboratory.

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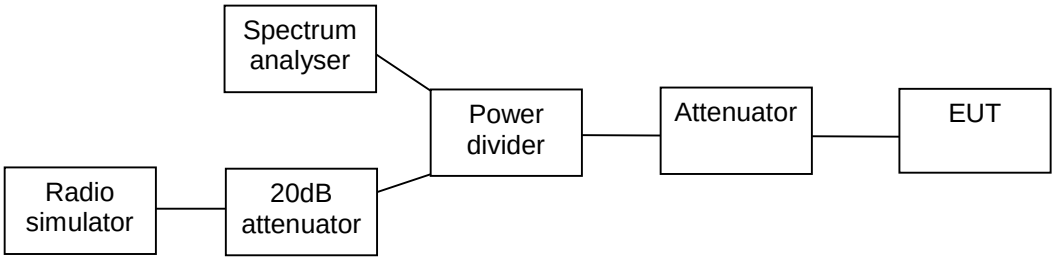
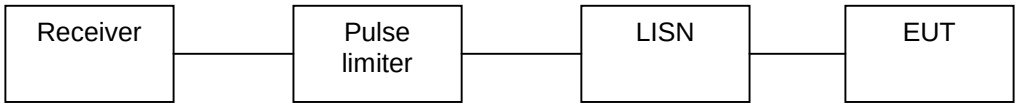
2. Test setups

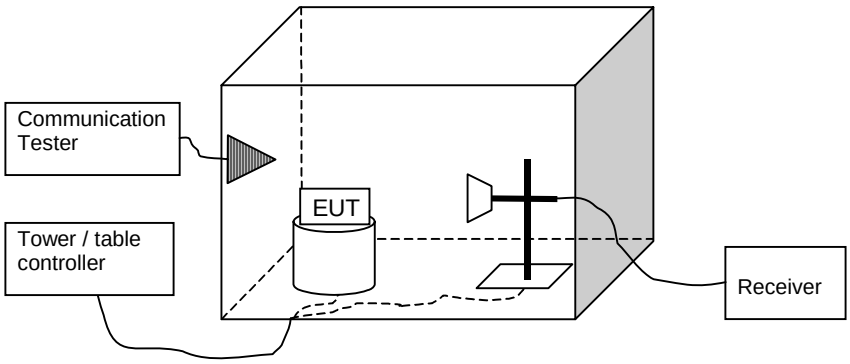
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Spurious radiated emissions 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-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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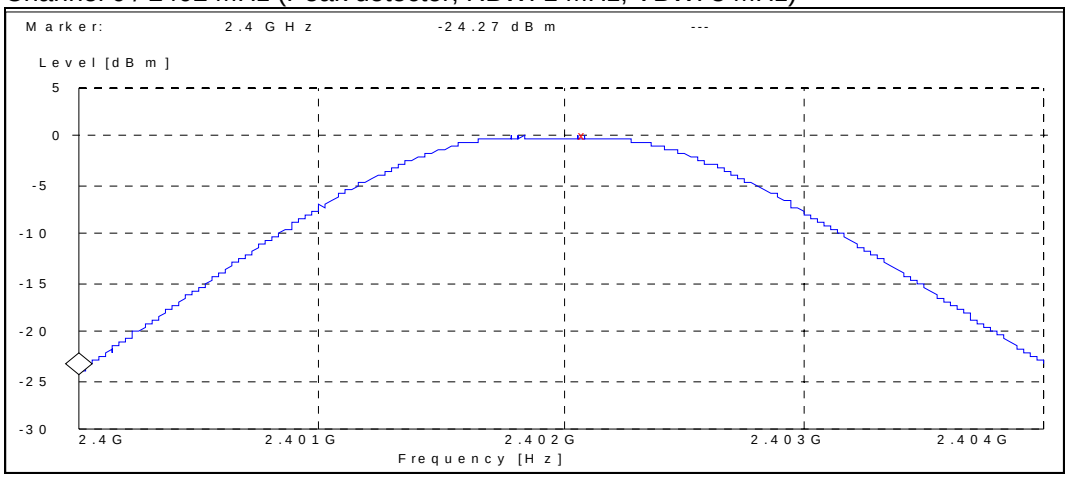
3.2. Bluetooth Test results

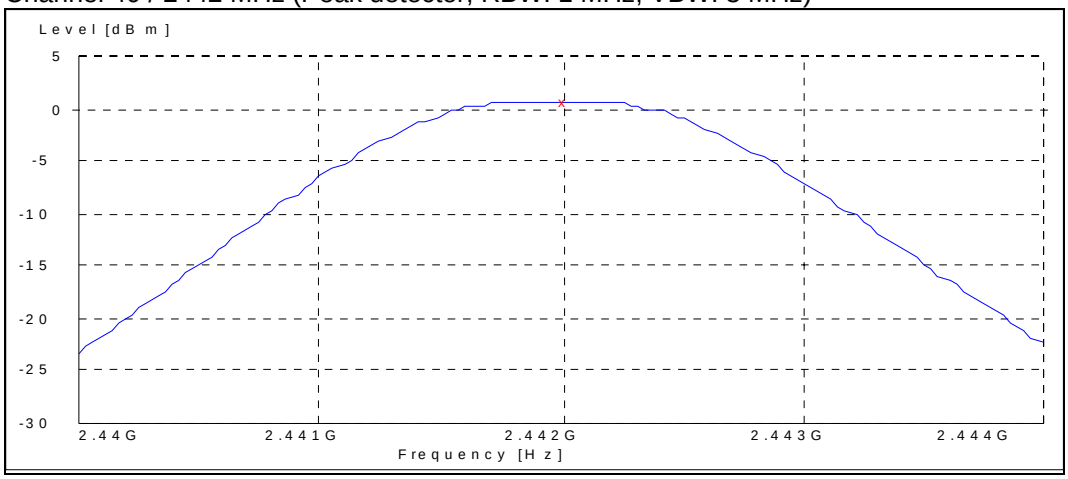
3.2.1 GFSK modulation, PRBS packet type

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	0.10	1.023	PASSED
40 / 2442	0.70	1.175	PASSED
78 / 2480	0.90	1.230	PASSED

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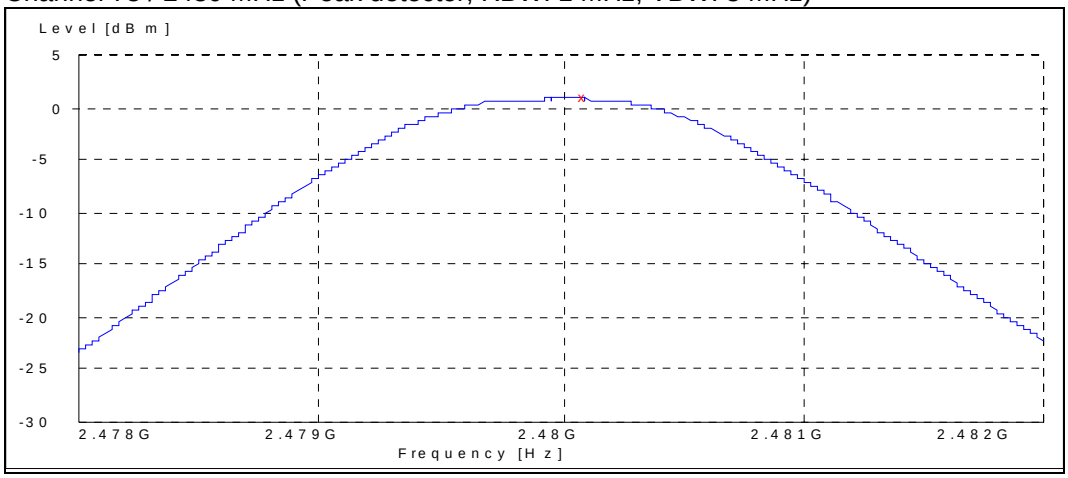
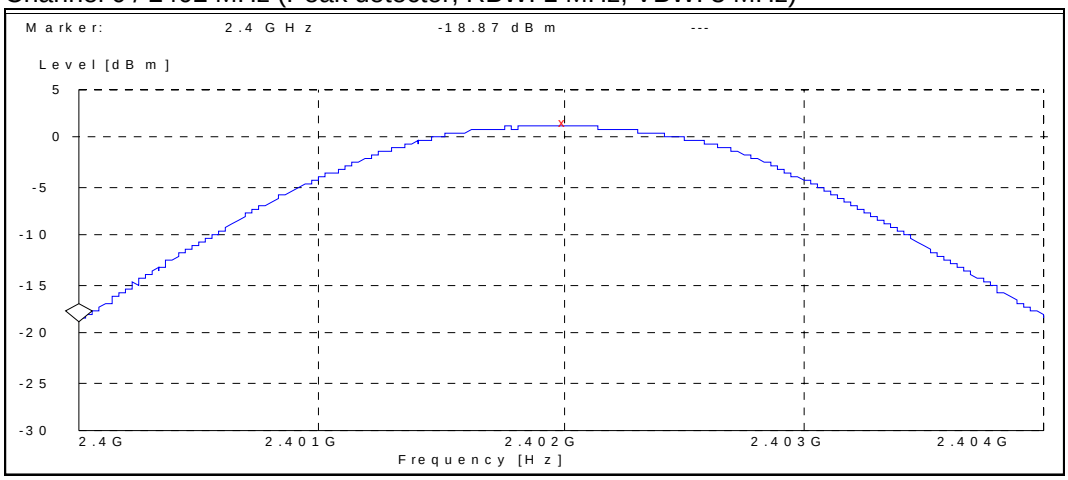
Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



3.2.2 8DPSK modulation, PRBS packet type

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	1.50	1.413	PASSED
40 / 2442	1.90	1.549	PASSED
78 / 2480	1.90	1.549	PASSED

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



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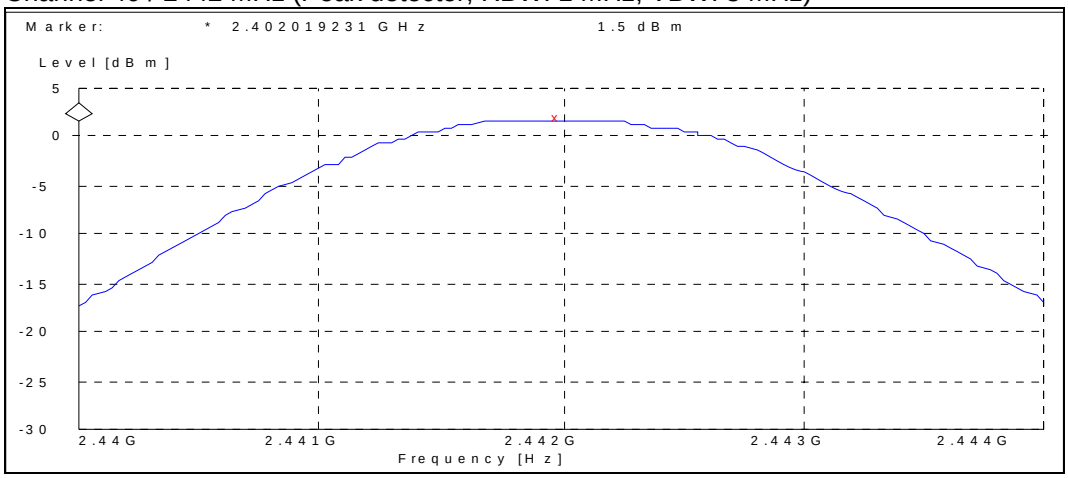
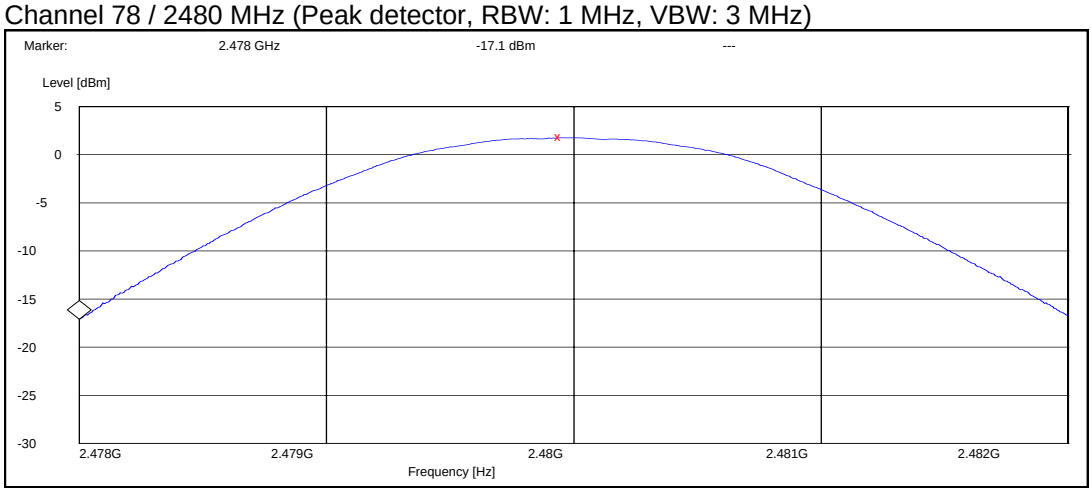
Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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



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4. Band edge compliance of RF emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-323 DUT 41371
Accessories with DUT numbers	BL-4C DUT 41342, HS-47 DUT 41181, AC-5E DUT 41096
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 49 / 103.3
Date of measurements	12.12.2007
Measured by	Jari Jantunen

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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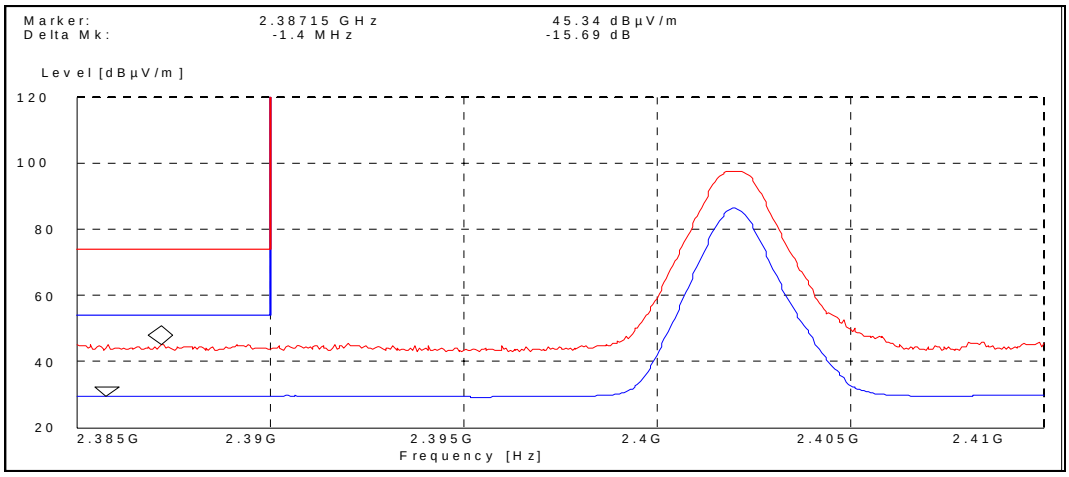
4.2. Bluetooth Test results

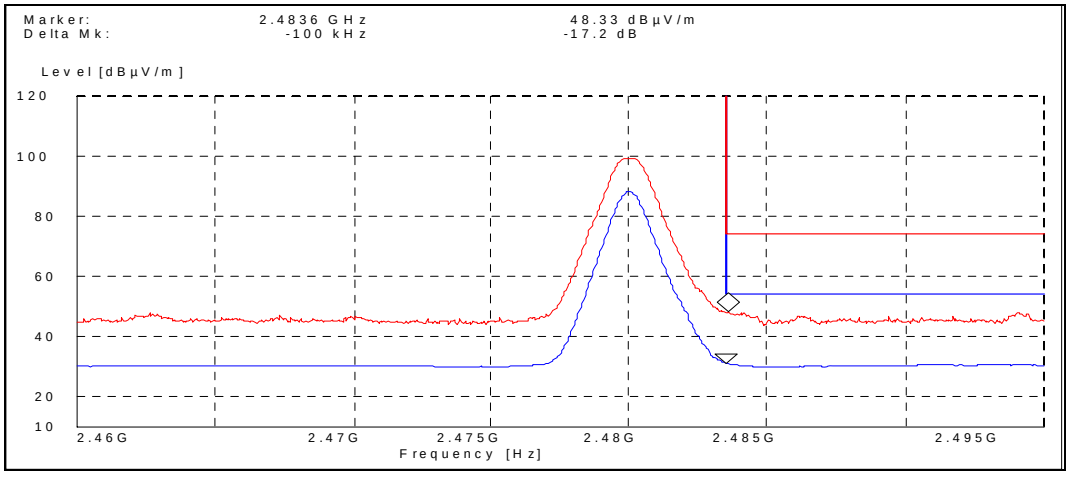
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	45.30	PASSED
Average	29.70	PASSED

Channel 78 / 2480 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	48.30	PASSED
Average	31.10	PASSED

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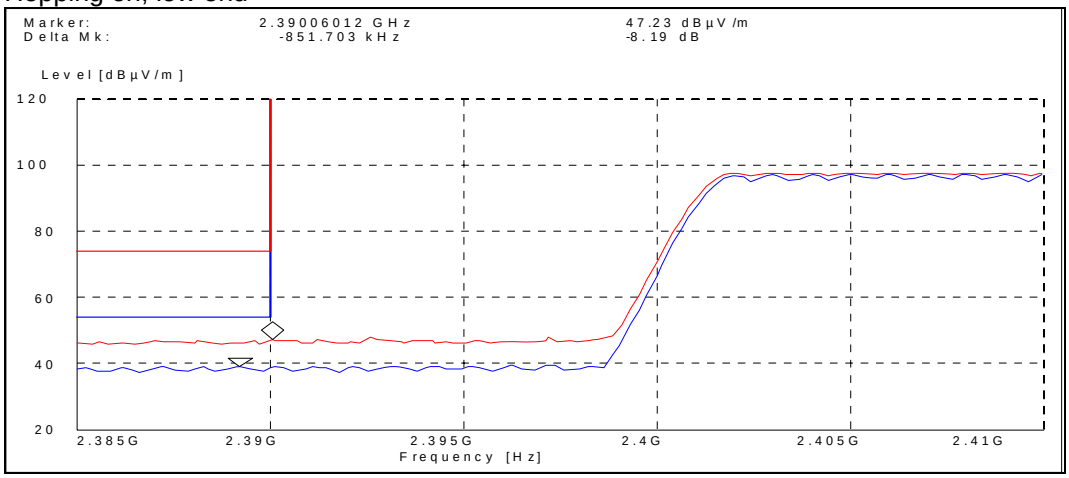
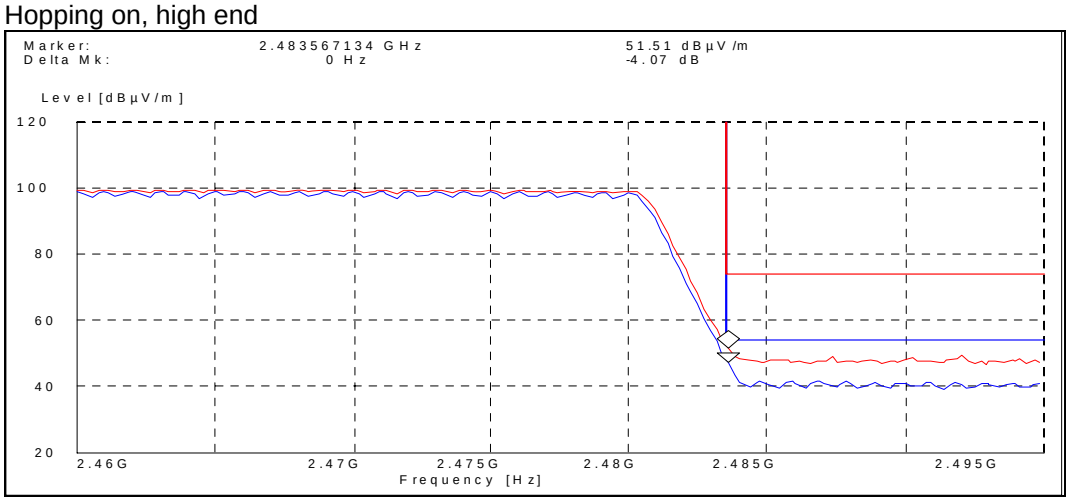
Hopping on, low end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	47.20	PASSED
Average	39.00	PASSED

Hopping on, high end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	51.50	PASSED
Average	47.40	PASSED

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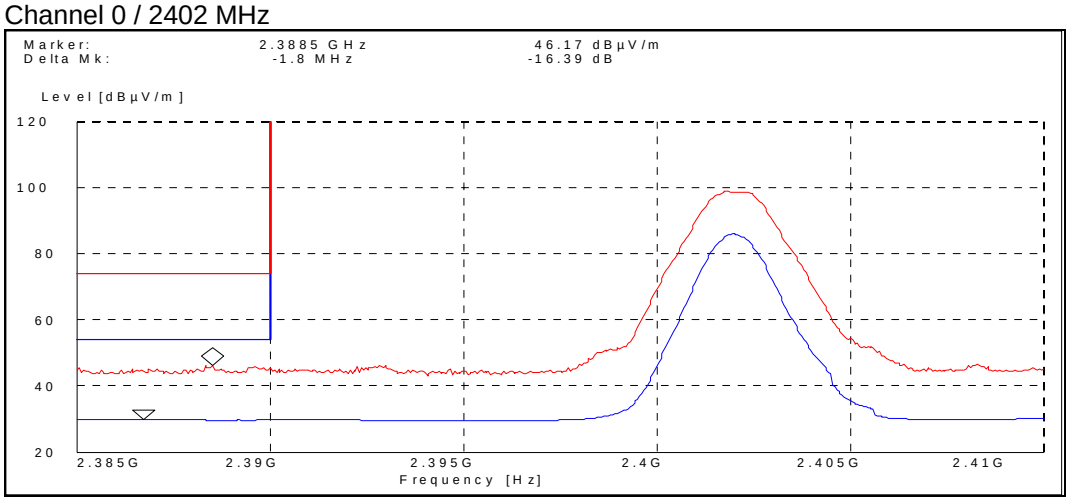
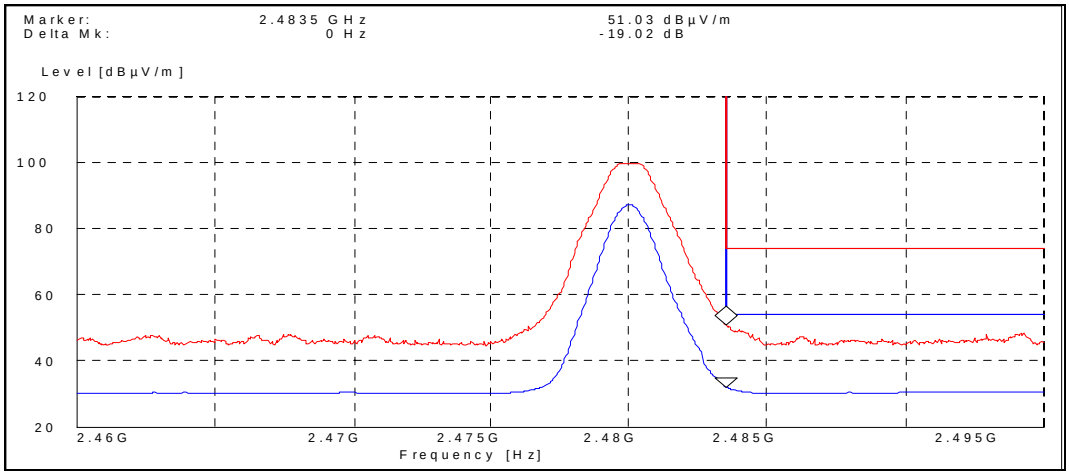
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	46.20	PASSED
Average	29.80	PASSED

Channel 78 / 2480 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	51.00	PASSED
Average	32.00	PASSED

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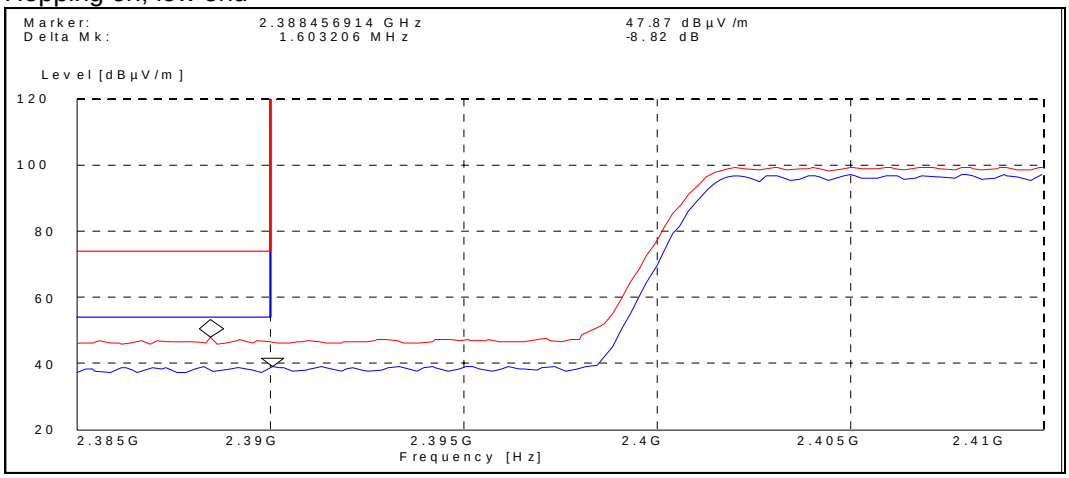
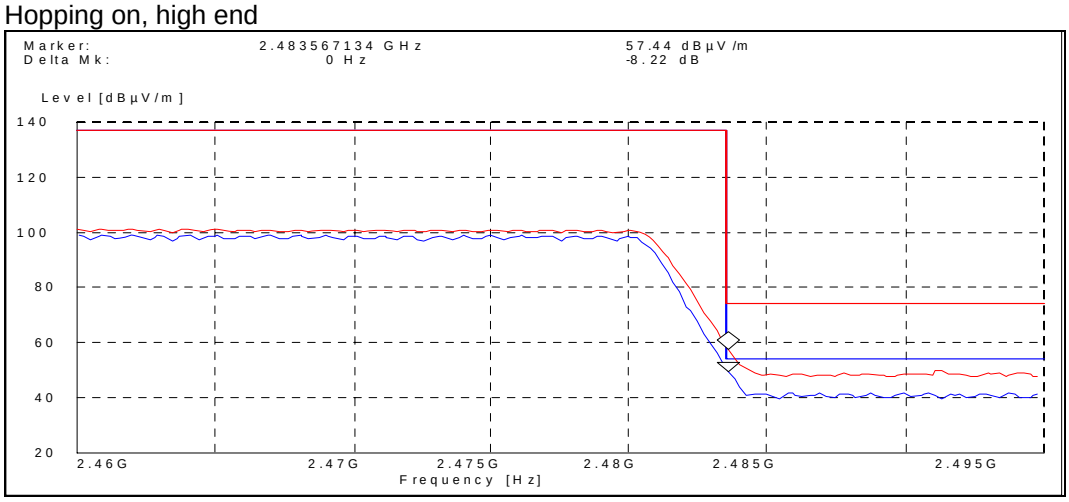
Hopping on, low end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	47.90	PASSED
Average	39.10	PASSED

Hopping on, high end



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	57.40	PASSED
Average	49.20	PASSED

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5. Spurious RF conducted emissions

(FCC §15.247(d), RSS-A8.5)

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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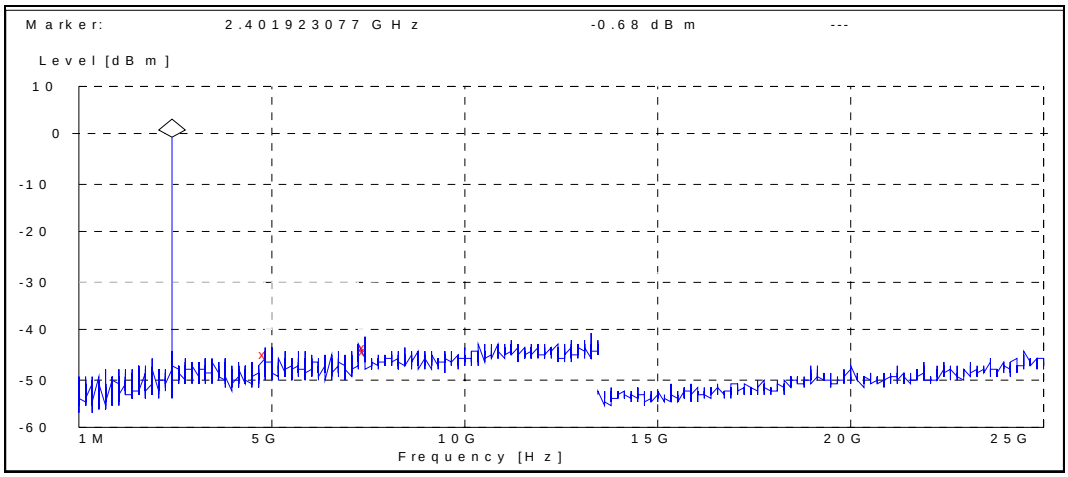
5.2. Bluetooth Test results

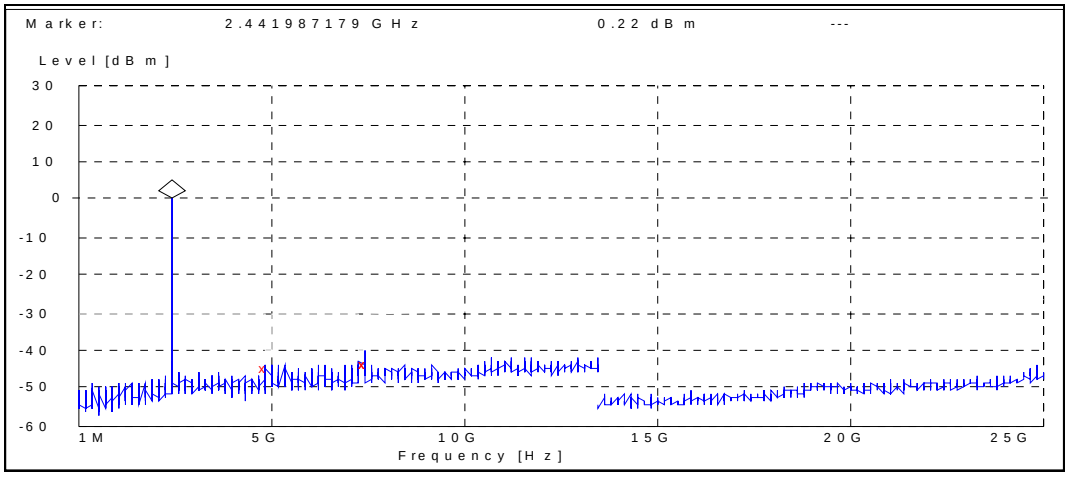
5.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Frequency [MHz]	P [dBc]	Result
4828.525641	-44.519499	PASSED
7423.076923	-43.219499	PASSED
7500.000000	-43.419499	PASSED

Channel 40 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4857.371795	-45.222193	PASSED
7423.076923	-43.622193	PASSED
7500.000000	-43.722193	PASSED

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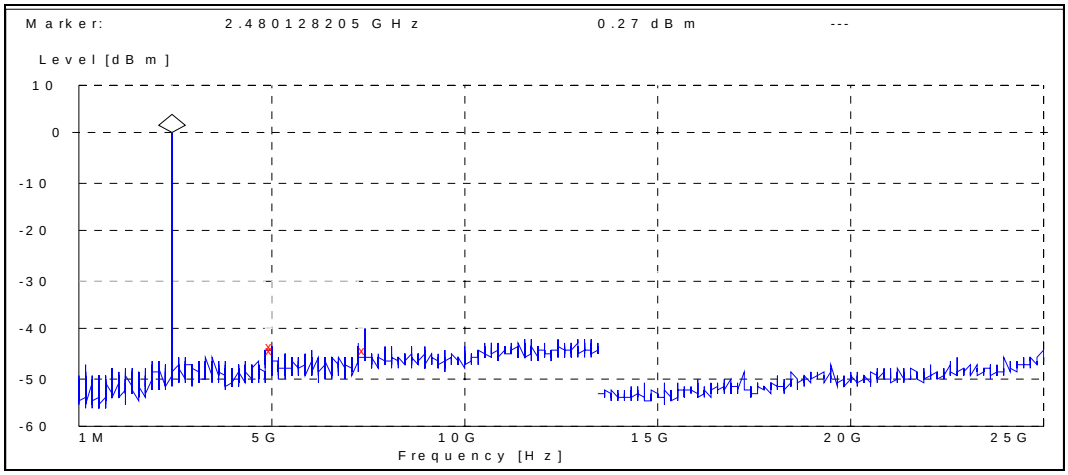
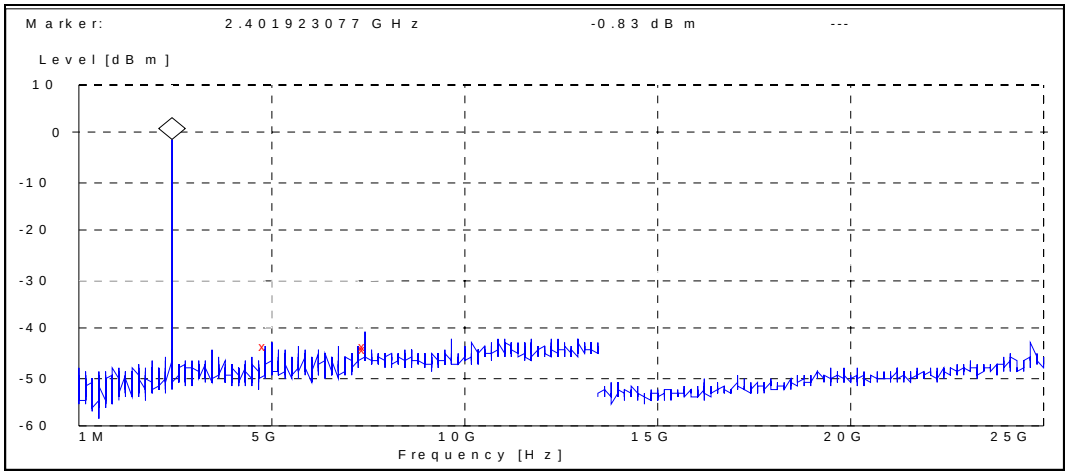
Channel 78 / 2480 MHz



Frequency [MHz]	P [dBc]	Result
4983.974359	-44.267368	PASSED
5000.000000	-44.567368	PASSED
7423.076923	-44.367368	PASSED

5.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



Frequency [MHz]	P [dBc]	Result
4940.064103	-42.571344	PASSED
7423.076923	-42.871344	PASSED
7500.000000	-43.371344	PASSED

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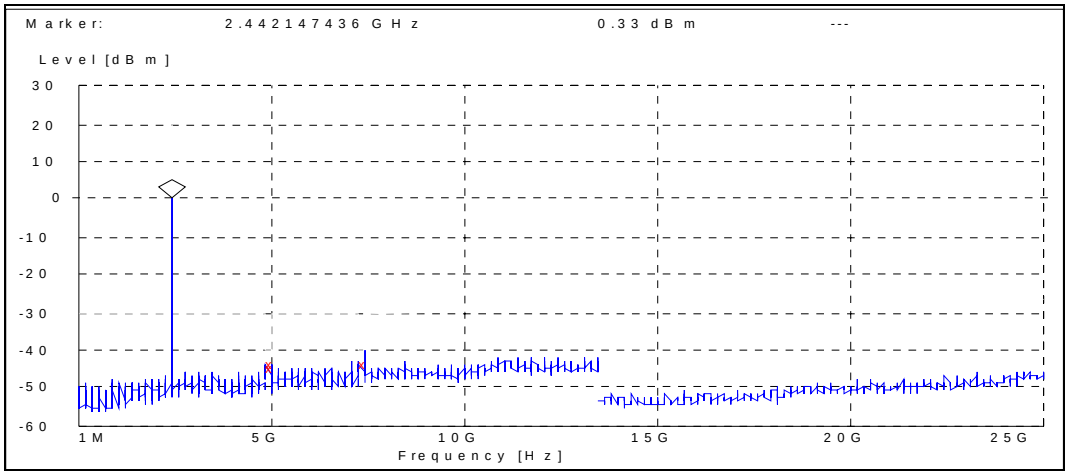
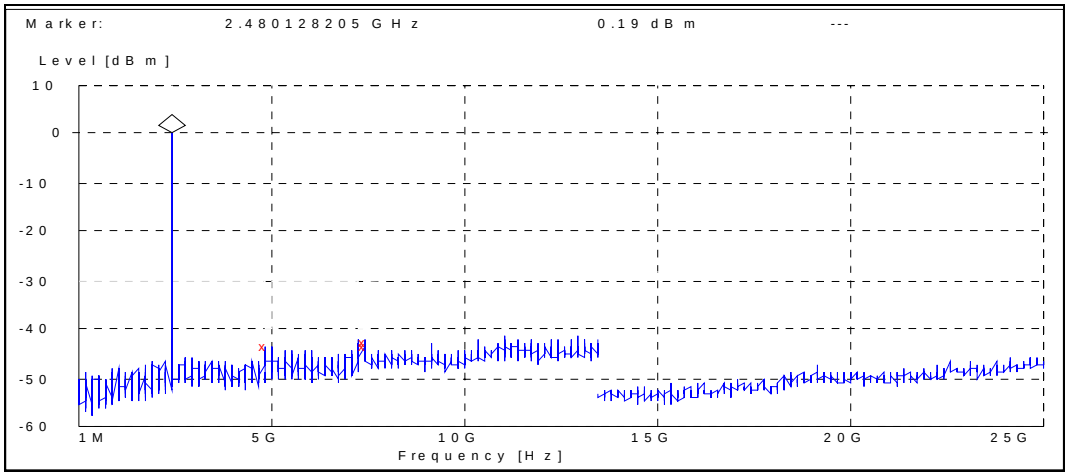
Channel 40 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4955.769231	-45.029928	PASSED
5000.000000	-44.529928	PASSED
7423.076923	-43.729928	PASSED

Channel 78 / 2480 MHz



Frequency [MHz]	P [dBc]	Result
4928.205128	-43.790487	PASSED
7423.076923	-43.290487	PASSED
7500.000000	-44.190487	PASSED

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6. Spurious radiated emissions
(FCC §15.247(d), §15.209, RSS-210 A8.5)

EUT with DUT number	RM-323 DUT 41371
Accessories with DUT numbers	BL-4C DUT 41342, HS-47 DUT 41181, AC-5E DUT 41096
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 49 / 103.3
Date of measurements	12.12.2007
Measured by	Jari Jantunen

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	39.40	93.33	41.20	-1.8	HORIZONTAL	PASSED
7206.000000	43.30	146.22	40.70	2.6	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	26.60	21.38	28.40	-1.8	HORIZONTAL	PASSED
7206.000000	29.50	29.85	26.90	2.6	HORIZONTAL	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
30.300000	26.50	21.13	36.20	-9.7	VERTICAL	PASSED
37.576353	22.80	13.80	37.40	-14.6	VERTICAL	PASSED
73.046092	19.30	9.23	44.90	-25.6	HORIZONTAL	PASSED
74.269940	17.90	7.85	43.40	-25.5	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
4835.673347	39.80	97.72	41.60	-1.8	HORIZONTAL	PASSED
4953.909820	40.50	105.93	41.90	-1.4	HORIZONTAL	PASSED
7298.597194	44.10	160.32	41.00	3.1	VERTICAL	PASSED
7344.191383	43.30	146.22	40.10	3.2	VERTICAL	PASSED
7417.829659	44.30	164.06	40.60	3.7	HORIZONTAL	PASSED
17996.987976	53.10	451.86	33.80	19.3	VERTICAL	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
4833.673347	26.70	21.63	28.50	-1.8	HORIZONTAL	PASSED
4956.409820	27.60	23.99	28.90	-1.3	HORIZONTAL	PASSED
7297.097194	30.40	33.11	27.30	3.1	VERTICAL	PASSED
7345.691383	30.40	33.11	27.20	3.2	VERTICAL	PASSED
7417.829659	30.90	35.08	27.20	3.7	HORIZONTAL	PASSED
17991.487976	40.50	105.93	21.10	19.4	VERTICAL	PASSED

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	40.60	107.15	41.90	-1.3	VERTICAL	PASSED
7440.000000	44.00	158.49	40.40	3.6	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
4960.000000	27.40	23.44	28.70	-1.3	HORIZONTAL	PASSED
7440.000000	30.60	33.88	27.00	3.6	HORIZONTAL	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	39.20	91.20	41.00	-1.8	HORIZONTAL	PASSED
7206.000000	42.00	125.89	39.40	2.6	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	26.20	20.42	28.00	-1.8	HORIZONTAL	PASSED
7206.000000	29.50	29.85	26.90	2.6	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
38.195391	21.30	11.61	36.30	-15.0	VERTICAL	PASSED
73.346092	16.30	6.53	41.90	-25.6	HORIZONTAL	PASSED
74.469940	14.30	5.19	39.80	-25.5	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
4965.429860	40.20	102.33	41.40	-1.2	HORIZONTAL	PASSED
7320.645291	42.90	139.64	39.90	3.0	VERTICAL	PASSED
17906.817635	53.30	462.38	33.70	19.6	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
4964.429860	27.40	23.44	28.70	-1.3	HORIZONTAL	PASSED
7320.145291	30.00	31.62	27.00	3.0	VERTICAL	PASSED
17910.317635	40.60	107.15	21.00	19.6	VERTICAL	PASSED

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	41.00	112.20	42.30	-1.3	HORIZONTAL	PASSED
7440.000000	43.30	146.22	39.70	3.6	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
4960.000000	27.20	22.91	28.50	-1.3	HORIZONTAL	PASSED
7440.000000	30.50	33.50	26.90	3.6	VERTICAL	PASSED

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7. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-323 DUT 41371
Accessories with DUT numbers	BL-4C DUT 41342, HS-47 DUT 41181, AC-5E DUT 41096
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	19 / 50 / 103.0
Date of measurements	18.12.2007
Measured by	Jari Jantunen

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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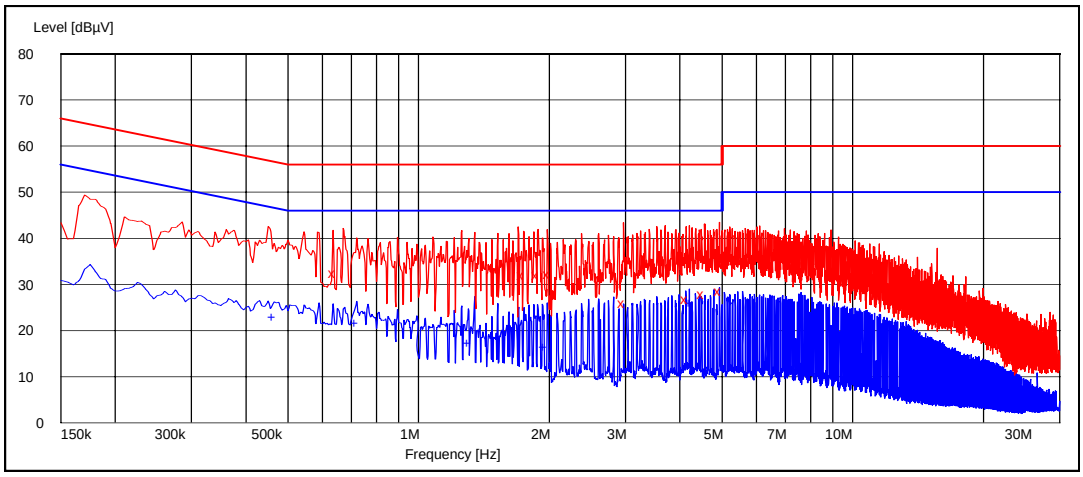
7.2. Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.640000	32.40	L1	PASSED
1.745000	32.10	L1	PASSED
1.885000	32.10	L1	PASSED
2.000000	32.20	L1	PASSED
2.970000	26.00	L1	PASSED
4.160000	26.90	L1	PASSED
4.535000	27.80	L1	PASSED
4.960000	28.60	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.465000	23.00	L1	PASSED
0.720000	21.60	L1	PASSED
1.310000	17.30	L1	PASSED
1.960000	16.40	L1	PASSED
4.240000	25.90	L1	PASSED

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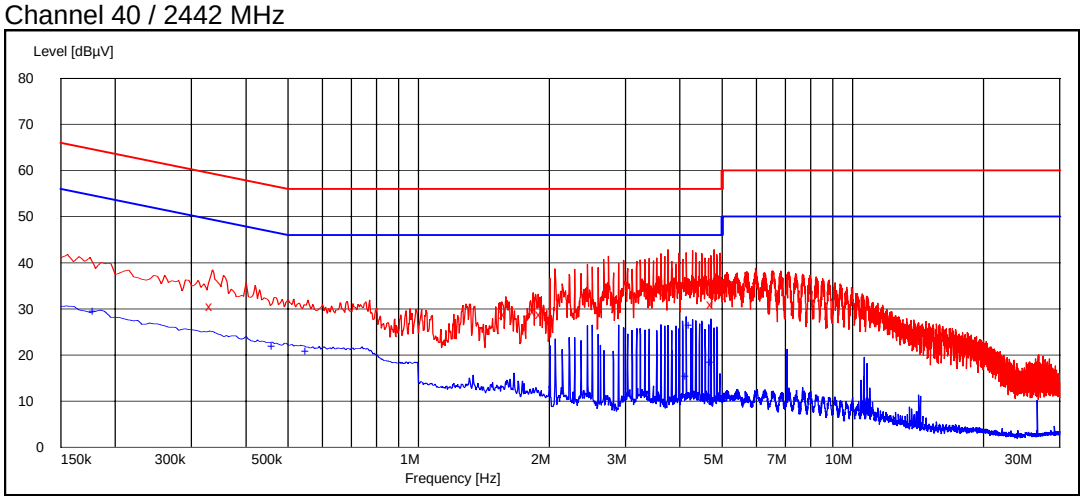
7.2.2 8DPSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.335000	30.60	N	PASSED
1.590000	28.90	L1	PASSED
1.860000	29.60	L1	PASSED
1.925000	28.80	L1	PASSED
3.745000	33.70	L1	PASSED
4.260000	33.90	L1	PASSED
4.350000	34.60	L1	PASSED
4.765000	31.10	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.180000	29.50	N	PASSED
0.465000	21.90	L1	PASSED
0.555000	20.80	L1	PASSED
4.175000	15.40	N	PASSED
4.240000	26.50	L1	PASSED
4.760000	18.40	L1	PASSED

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8. 20 dB bandwidth

(FCC §15.247(a)(1), RSS-210 A8.1 (1))

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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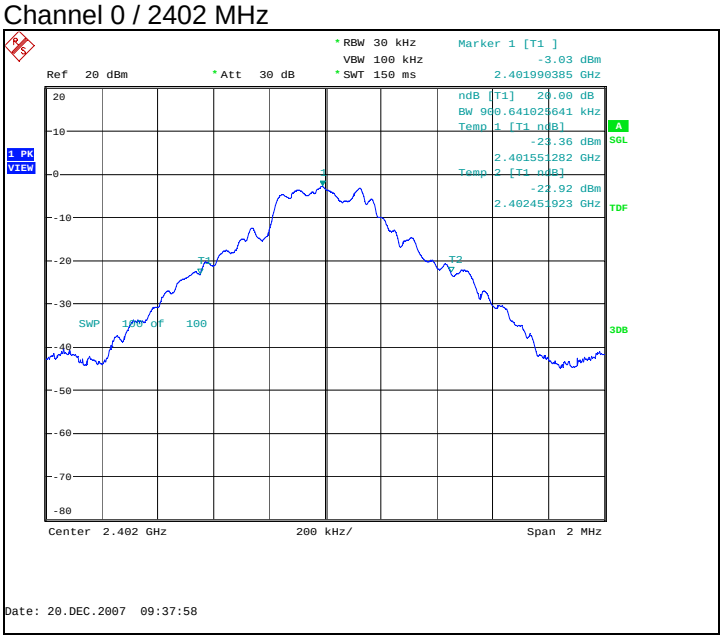
8.2. Bluetooth Test results

8.2.1 GFSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	900.641	PASSED
40 / 2442	897.436	PASSED
78 / 2480	900.641	PASSED

Channel 0 / 2402 MHz



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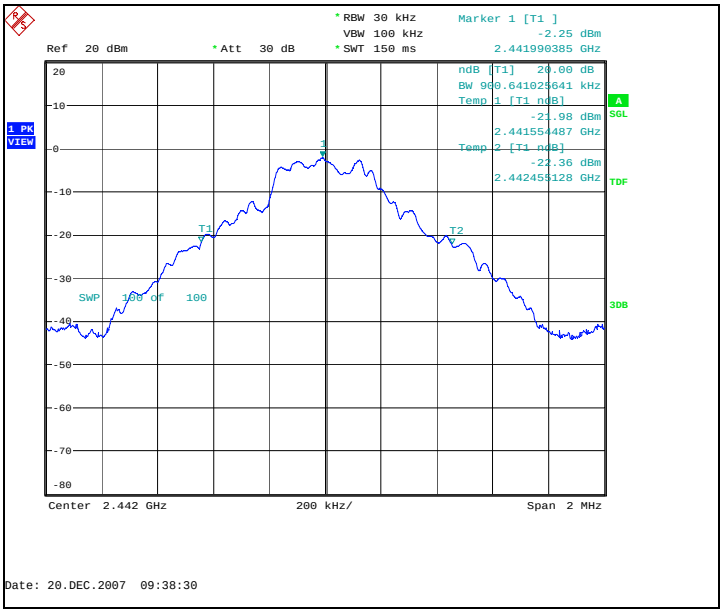
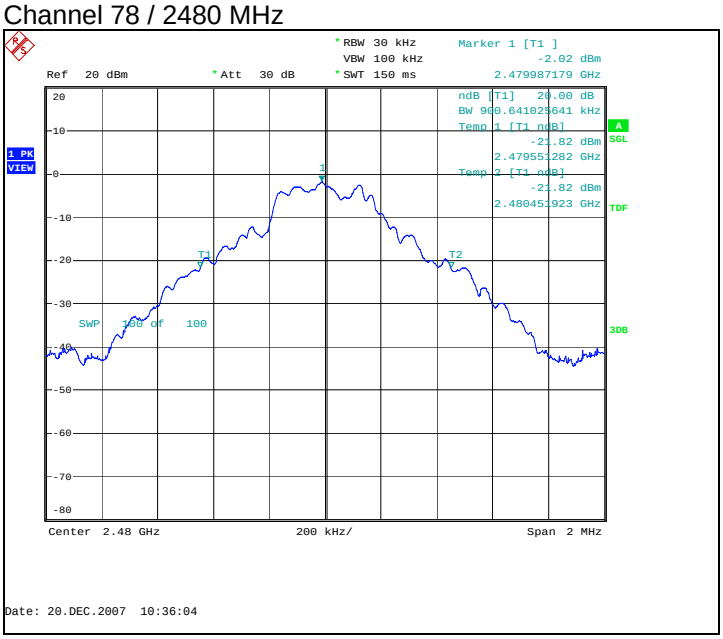
Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



8.2.2 8DPSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1317.308	PASSED
40 / 2442	1323.718	PASSED
78 / 2480	1320.513	PASSED

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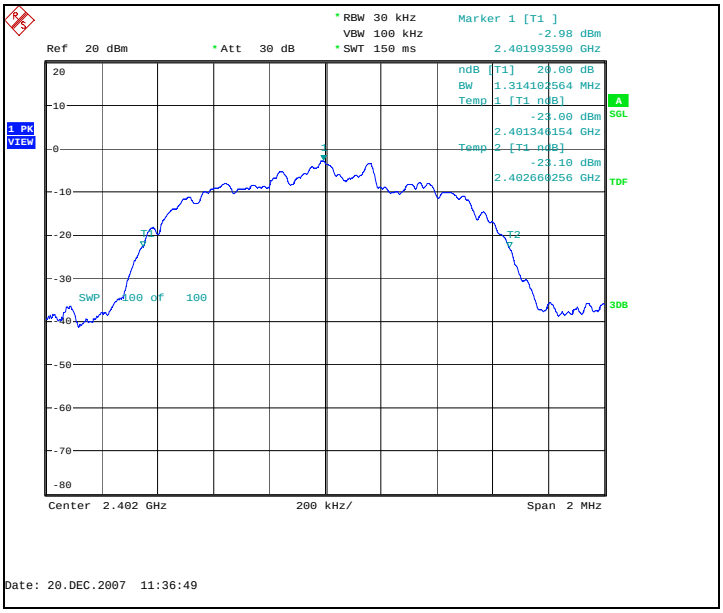
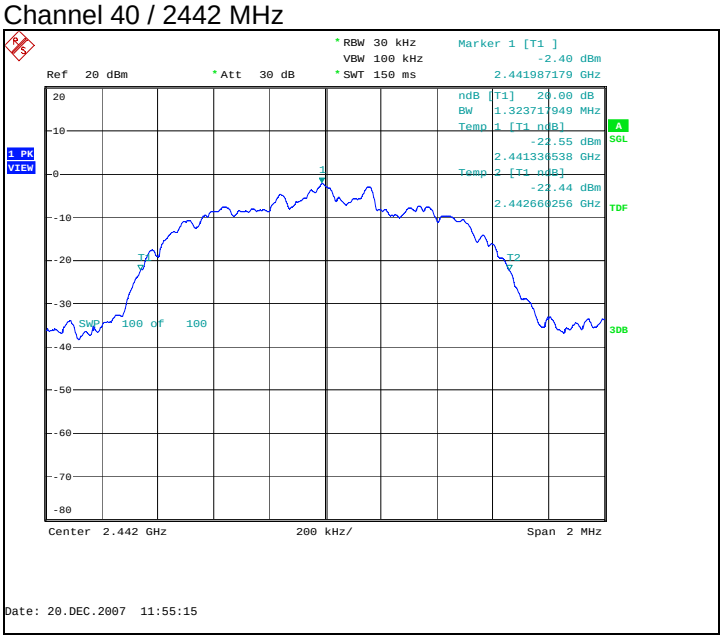
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



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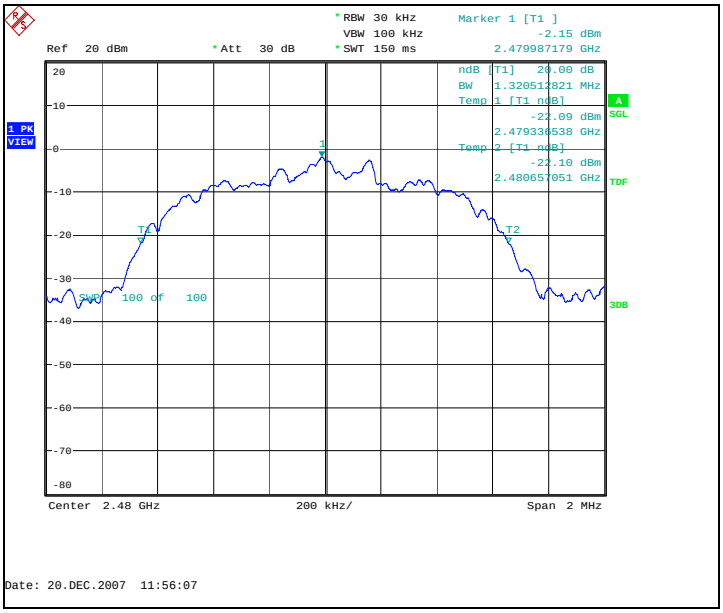
Channel 78 / 2480 MHz



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9. Carrier frequency separation

(FCC §15.247(a)(1), RSS-210 A8.1 (2))

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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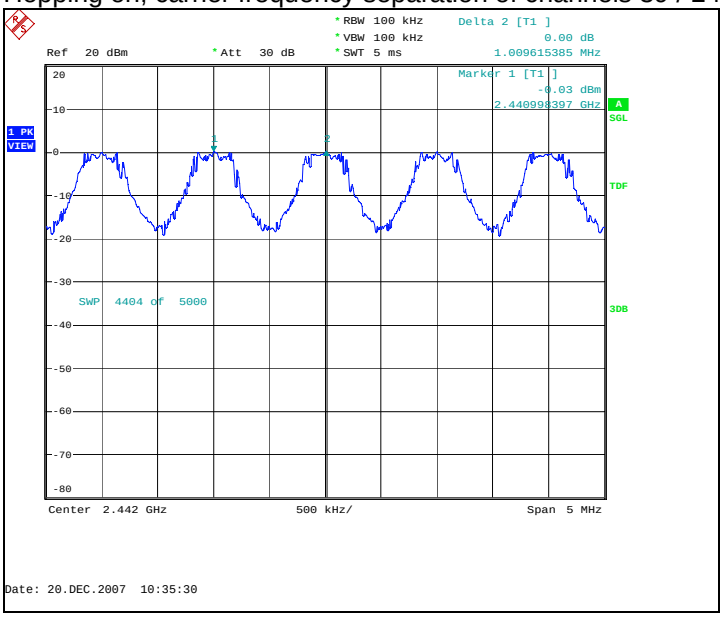
9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1009.615	PASSED

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



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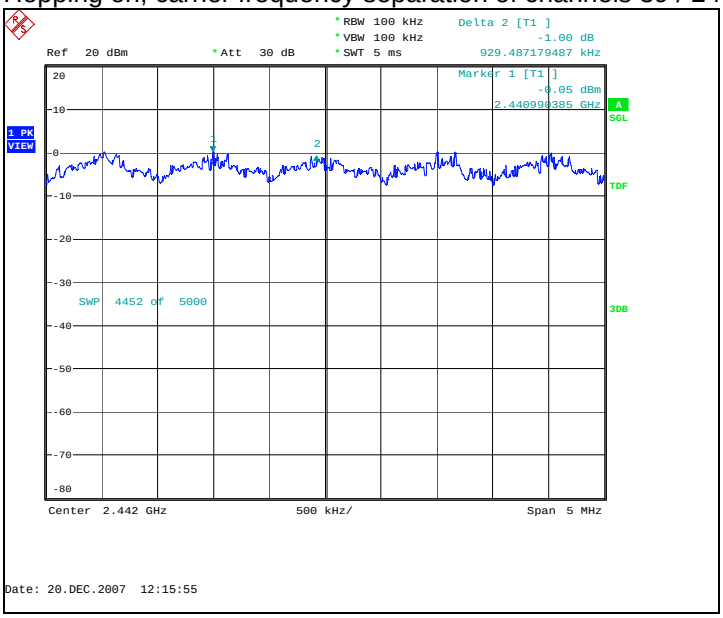
9.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
929.487	PASSED

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-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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

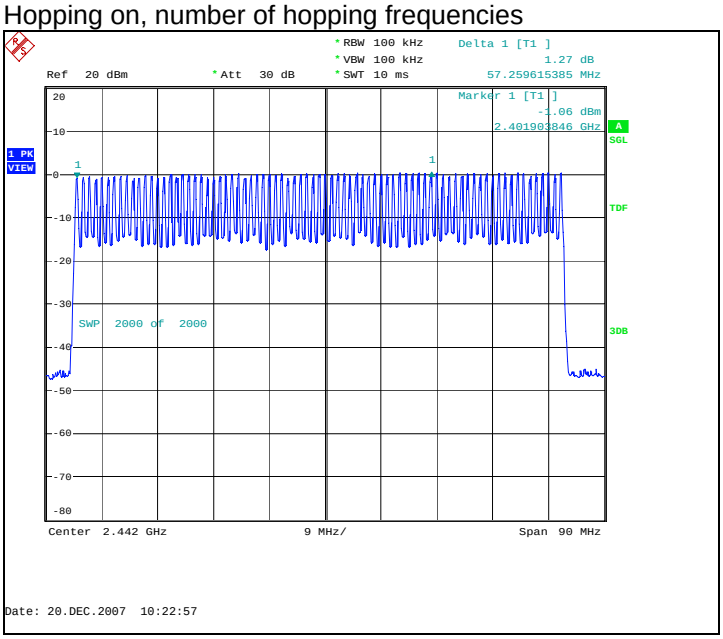
Limit [number]
≥ 15

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	PASSED

Hopping on, number of hopping frequencies



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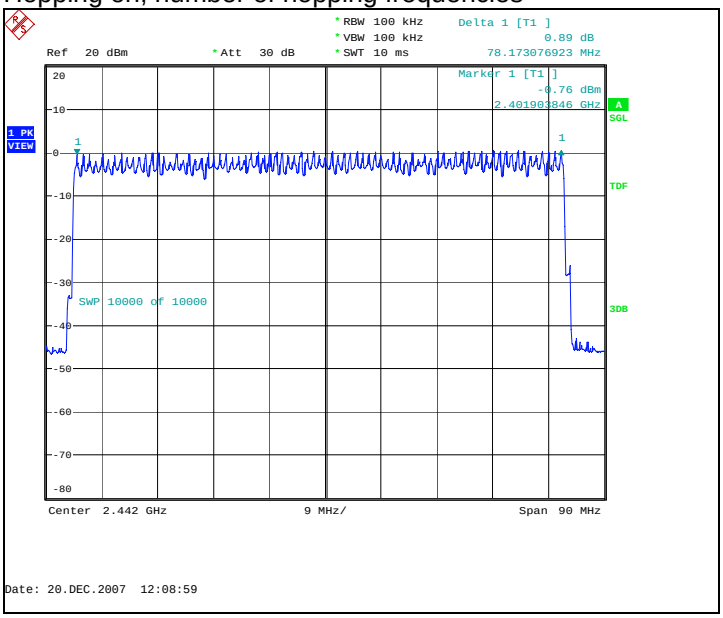
10.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
73	PASSED

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-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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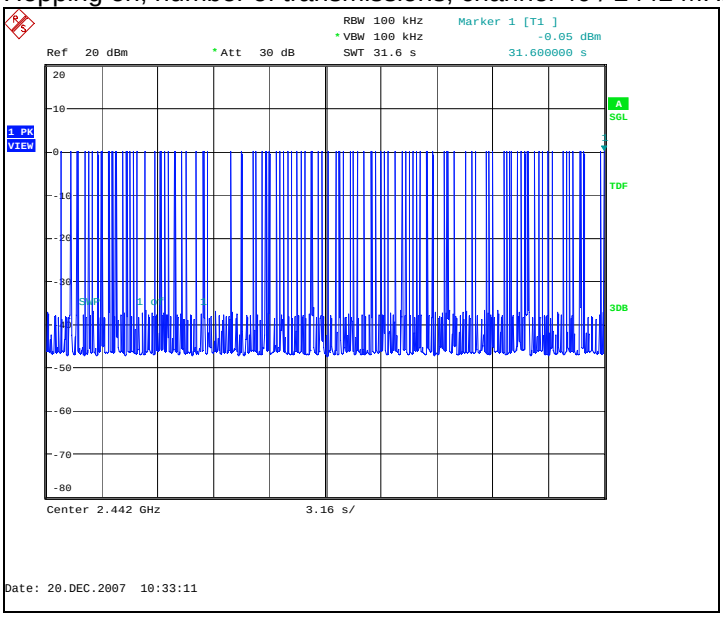
11.2. Bluetooth test results

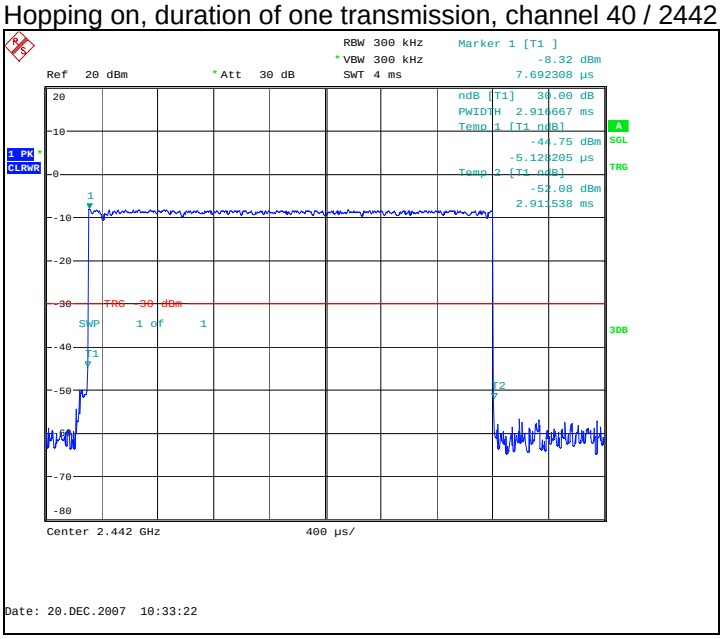
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [µs]	Time of occupancy [s]	Result
98	2,917	0.285833	PASSED

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



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



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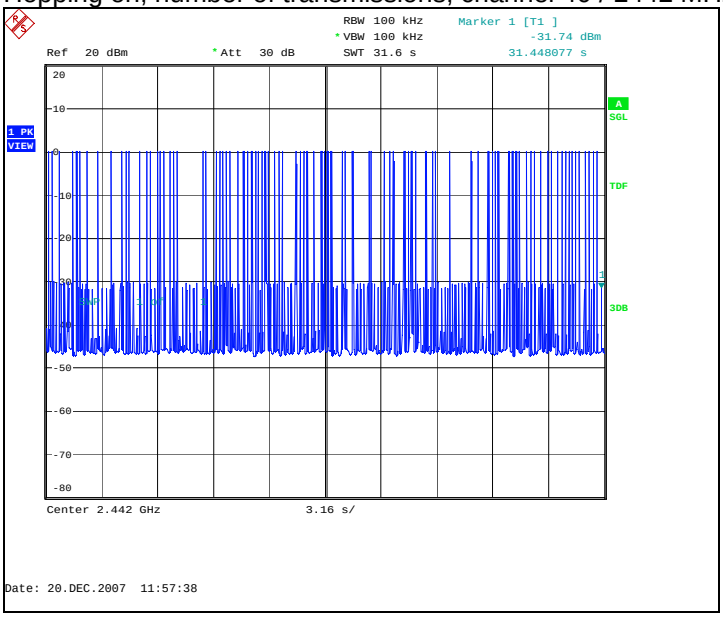
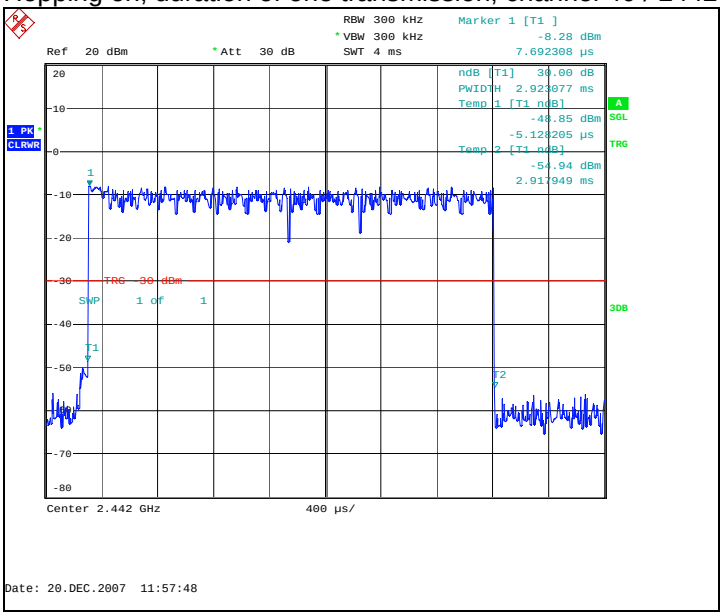
11.2.2 8DPSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [µs]	Time of occupancy [s]	Result
92	2,923	0.268923	PASSED

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-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

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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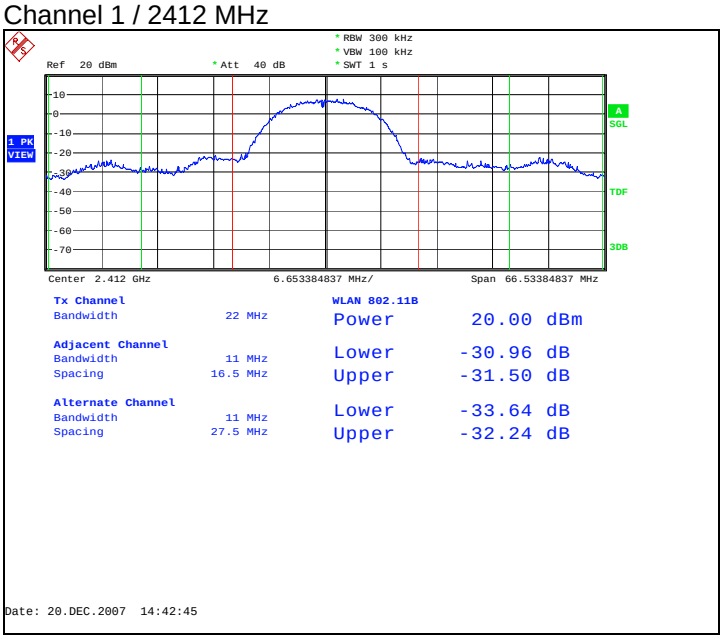
12.2. WLAN Test results

12.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	20.00	0.100	PASSED
7 / 2442	20.04	0.101	PASSED
11 / 2462	20.72	0.118	PASSED

Channel 1 / 2412 MHz



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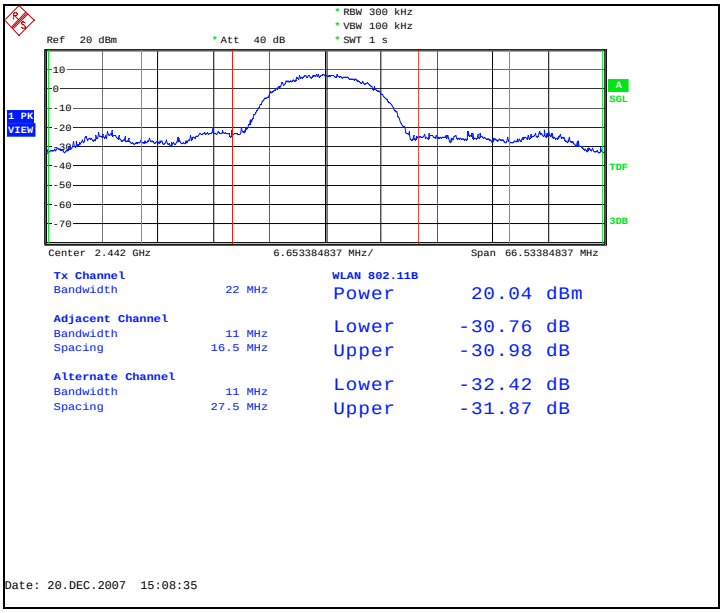
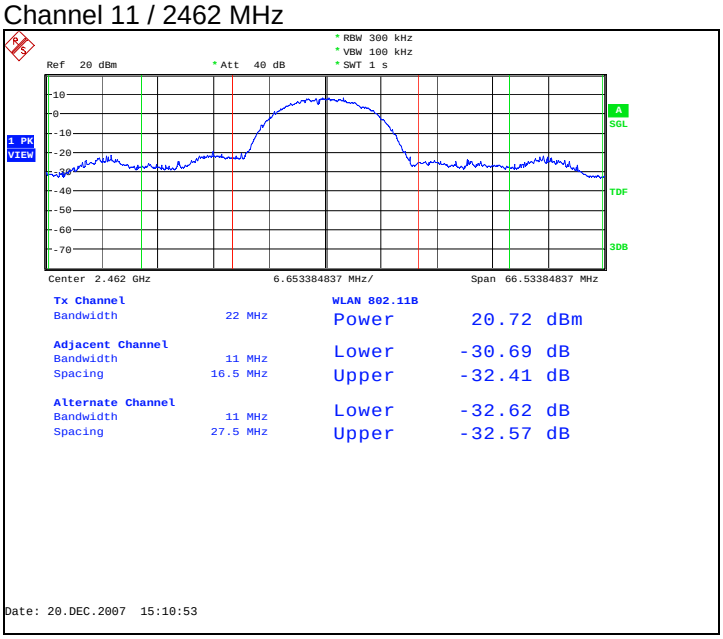
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [W]	Result
1 / 2412	16.89	0.049	PASSED
7 / 2442	18.44	0.070	PASSED
11 / 2462	17.70	0.059	PASSED

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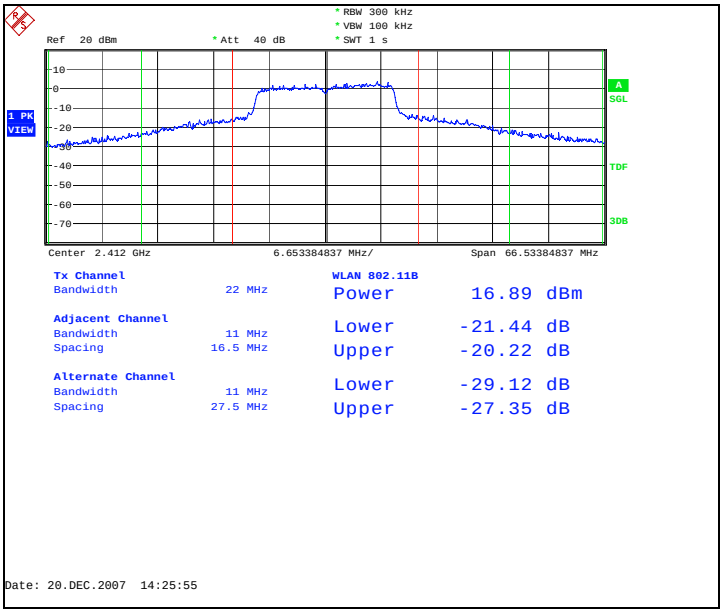
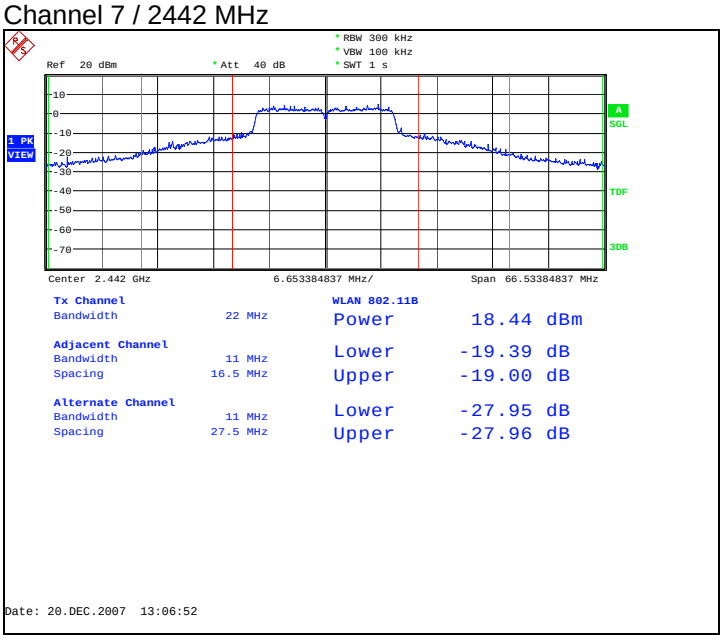
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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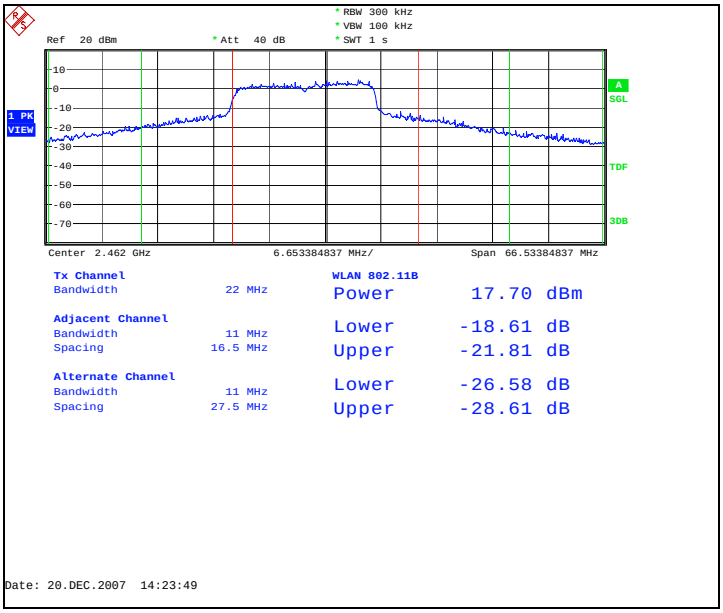
Channel 11 / 2462 MHz



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13. Spurious RF conducted emissions
(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

13.1. 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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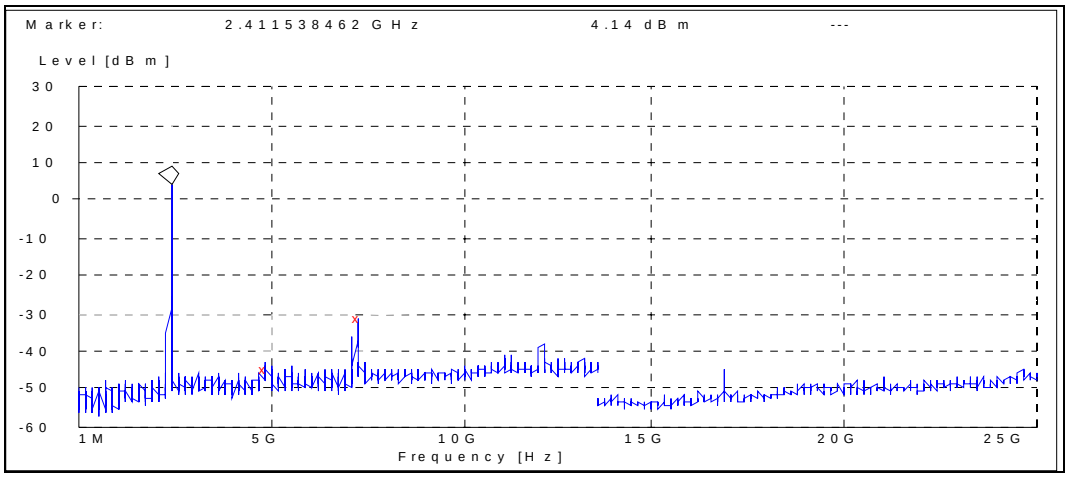
13.2. WLAN Test results

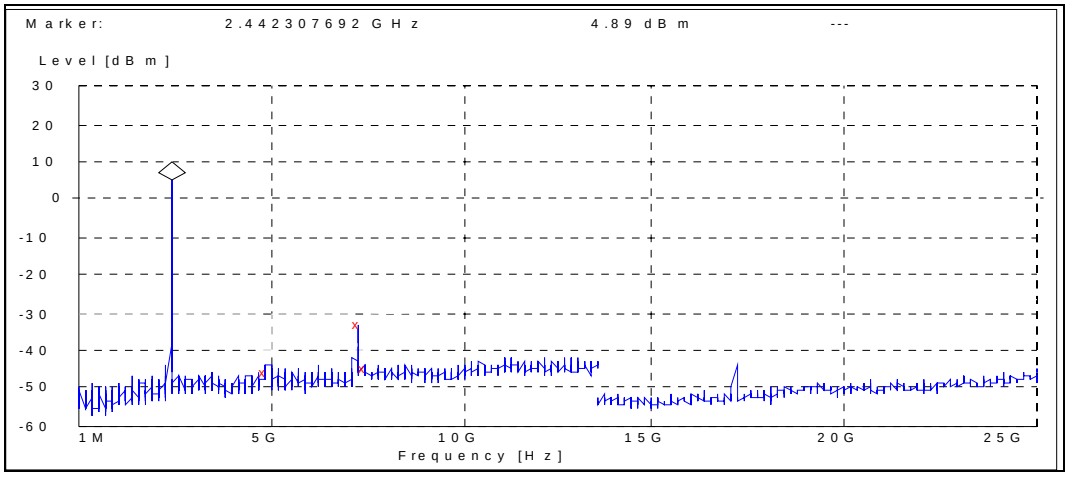
13.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz



Frequency [MHz]	P [dBc]	Result
4935.256410	-48.542258	PASSED
7241.826923	-35.742258	PASSED

Channel 7 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4897.756410	-50.387333	PASSED
7334.134615	-38.087333	PASSED
7500.000000	-49.287333	PASSED

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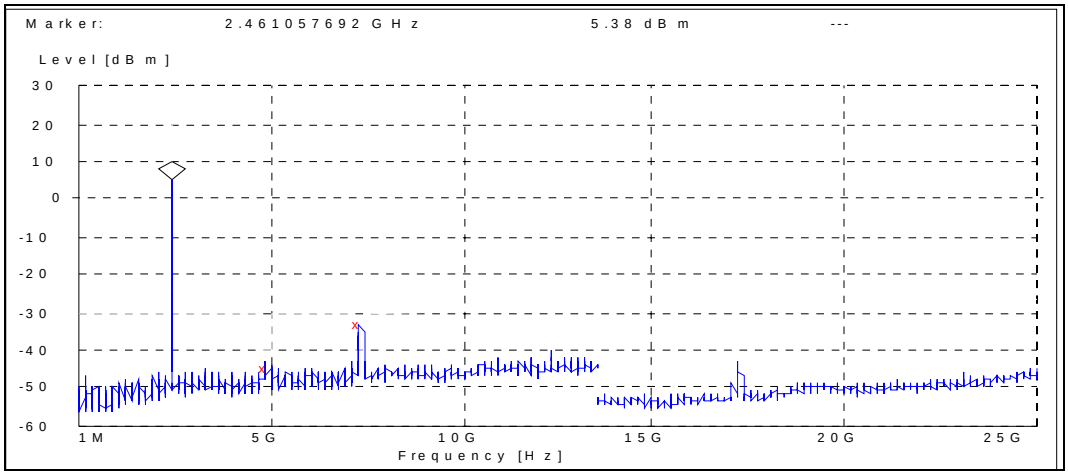
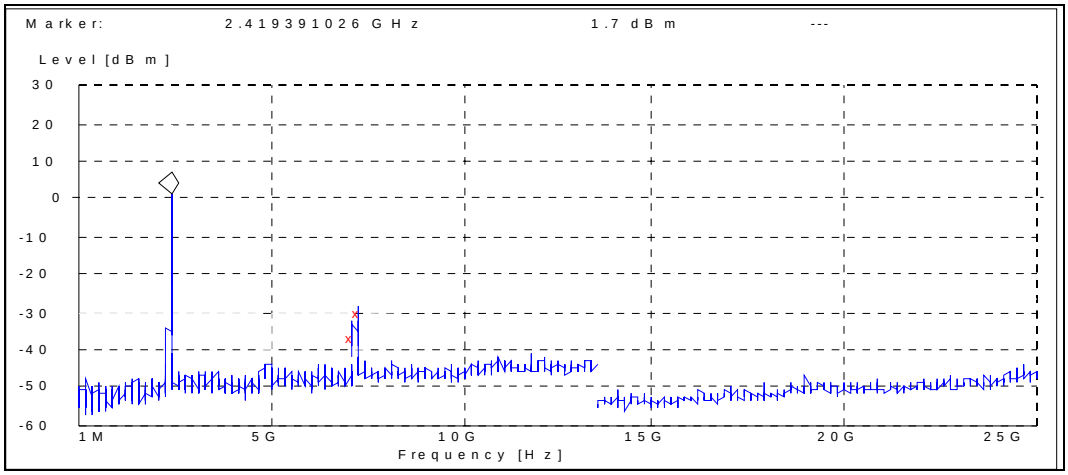
Channel 11 / 2462 MHz



Frequency [MHz]	P [dBc]	Result
4923.397436	-49.983601	PASSED
7393.269231	-38.183601	PASSED

13.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz



Frequency [MHz]	P [dBc]	Result
7208.173077	-39.100207	PASSED
7233.173077	-31.700207	PASSED

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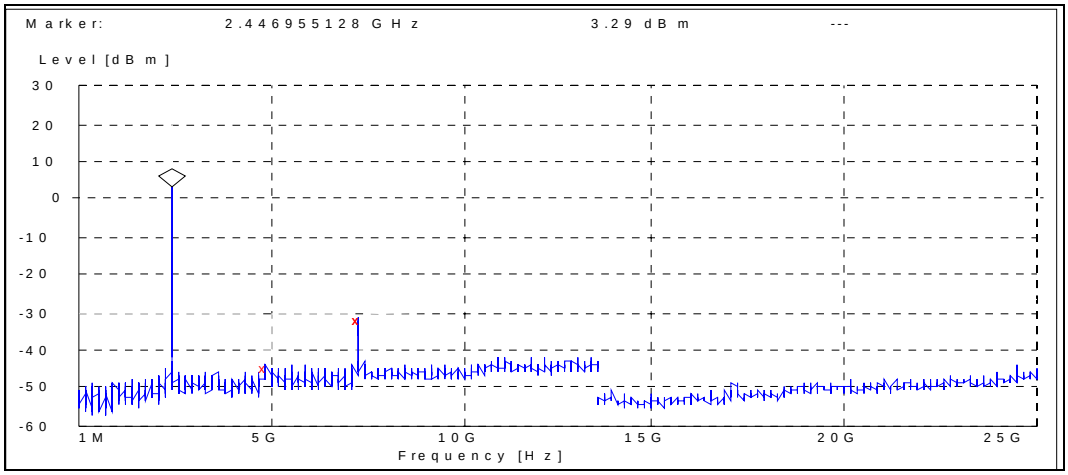
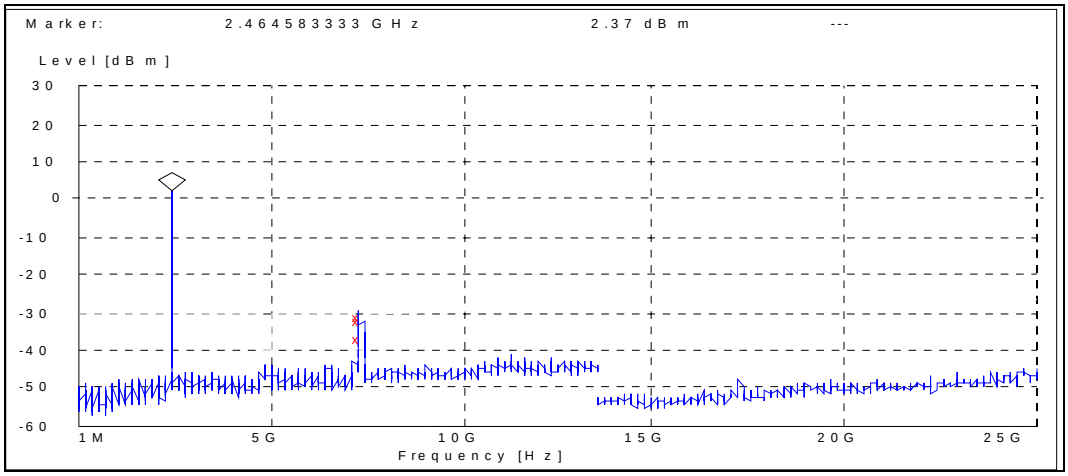
Channel 7 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4941.346154	-47.794042	PASSED
7298.557692	-35.094042	PASSED
7336.538462	-35.294042	PASSED

Channel 11 / 2462 MHz



Frequency [MHz]	P [dBc]	Result
7357.211538	-33.665944	PASSED
7358.653846	-39.765944	PASSED
7383.653846	-34.665944	PASSED

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14. Spurious radiated emissions

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

EUT with DUT number	RM-323 DUT 41356 and DUT 41371
Accessories with DUT numbers	BL-4C DUT 41342, HS-47 DUT 41181, AC-5E DUT 41096
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 47 / 101.6
Date of measurements	7-8.1.2008
Measured by	Jari Jantunen

14.1. 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

14.2. WLAN Test results

14.2.1 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	45.10	179.89	46.80	-1.7	HORIZONTAL	PASSED
7236.000000	59.10	901.57	56.50	2.6	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	33.70	48.42	35.40	-1.7	VERTICAL	PASSED
7236.000000	49.10	285.10	46.50	2.6	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
33.245291	26.60	21.38	38.20	-11.6	VERTICAL	PASSED
37.576353	20.50	10.59	35.10	-14.6	VERTICAL	PASSED
59.238677	20.30	10.35	46.90	-26.6	HORIZONTAL	PASSED
73.046092	16.00	6.31	41.60	-25.6	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
4875.251503	45.80	194.98	47.60	-1.8	HORIZONTAL	PASSED
7304.609218	61.10	1 135.01	58.10	3.0	VERTICAL	PASSED
7304.611222	61.20	1 148.15	58.20	3.0	VERTICAL	PASSED
7321.141283	61.20	1 148.15	58.20	3.0	VERTICAL	PASSED
7321.143287	61.20	1 148.15	58.20	3.0	VERTICAL	PASSED
7360.721443	48.30	260.02	45.00	3.3	VERTICAL	PASSED
12185.374749	53.60	478.63	43.60	10.0	HORIZONTAL	PASSED
17061.124248	56.40	660.69	40.90	15.5	VERTICAL	PASSED
17914.327655	53.60	478.63	34.00	19.6	VERTICAL	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
4875.251503	32.30	41.21	34.10	-1.8	HORIZONTAL	PASSED
7304.609218	51.90	393.55	48.90	3.0	VERTICAL	PASSED
7304.611222	52.20	407.38	49.20	3.0	VERTICAL	PASSED
7320.143287	52.30	412.10	49.30	3.0	VERTICAL	PASSED
7320.641283	52.30	412.10	49.30	3.0	VERTICAL	PASSED
7360.721443	35.90	62.37	32.60	3.3	VERTICAL	PASSED
12185.874749	43.50	149.62	33.50	10.0	HORIZONTAL	PASSED
17063.124248	53.30	462.38	37.80	15.5	VERTICAL	PASSED
17916.327655	40.60	107.15	21.00	19.6	VERTICAL	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	48.10	254.10	49.90	-1.8	HORIZONTAL	PASSED
7386.000000	48.90	278.61	45.40	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	35.20	57.54	37.00	-1.8	HORIZONTAL	PASSED
7386.000000	36.30	65.31	32.80	3.5	VERTICAL	PASSED

14.2.2 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	41.90	124.45	43.60	-1.7	HORIZONTAL	PASSED
7236.000000	67.10	2 264.64	64.50	2.6	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	29.40	29.51	31.10	-1.7	HORIZONTAL	PASSED
7236.000000	53.70	484.17	51.10	2.6	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
38.076353	22.90	13.96	37.80	-14.9	VERTICAL	PASSED
58.898196	21.30	11.61	47.80	-26.5	HORIZONTAL	PASSED
73.286573	15.30	5.82	40.90	-25.6	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
4882.271543	40.80	109.65	42.60	-1.8	VERTICAL	PASSED
4882.773547	41.40	117.49	43.20	-1.8	VERTICAL	PASSED
7327.651303	66.70	2 162.72	63.70	3.0	VERTICAL	PASSED
7327.663327	67.10	2 264.64	64.10	3.0	VERTICAL	PASSED
7347.197395	65.90	1 972.42	62.70	3.2	VERTICAL	PASSED
7347.201403	65.90	1 972.42	62.70	3.2	VERTICAL	PASSED
12213.428858	54.80	549.54	44.90	9.9	HORIZONTAL	PASSED
17098.700401	62.50	1 333.52	46.90	15.6	VERTICAL	PASSED
17909.821643	53.20	457.09	33.60	19.6	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
4882.771543	28.40	26.30	30.20	-1.8	VERTICAL	PASSED
4884.273547	27.90	24.83	29.70	-1.8	VERTICAL	PASSED
7327.651303	51.70	384.59	48.70	3.0	VERTICAL	PASSED
7332.663327	51.50	375.84	48.50	3.0	VERTICAL	PASSED
7347.201403	48.50	266.07	45.30	3.2	VERTICAL	PASSED
7347.697395	49.00	281.84	45.80	3.2	VERTICAL	PASSED
12214.928858	41.60	120.23	31.70	9.9	HORIZONTAL	PASSED
17098.700401	47.70	242.66	32.10	15.6	VERTICAL	PASSED
17910.321643	40.60	107.15	21.00	19.6	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	44.40	165.96	46.20	-1.8	VERTICAL	PASSED
7386.000000	51.60	380.19	48.10	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	29.90	31.26	31.70	-1.8	VERTICAL	PASSED
7386.000000	35.20	57.54	31.70	3.5	VERTICAL	PASSED

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15. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-323 DUT 41371
Accessories with DUT numbers	BL-4C DUT 41342, HS-47 DUT 41181, AC-5E DUT 41096
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 41 / 101.6
Date of measurements	7.1.2008
Measured by	Jari Jantunen

15.1. 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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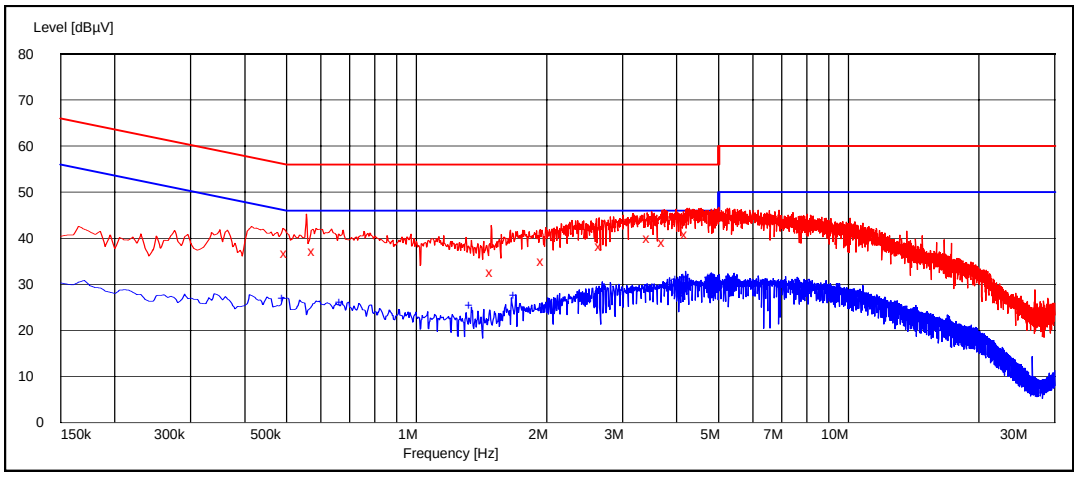
15.2. WLAN Test results

15.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.500000	36.70	L1	PASSED
0.580000	37.10	L1	PASSED
1.495000	32.70	L1	PASSED
1.965000	35.00	L1	PASSED
2.675000	38.20	L1	PASSED
3.455000	39.90	L1	PASSED
3.745000	39.20	L1	PASSED
4.235000	40.80	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.495000	27.00	L1	PASSED
0.670000	26.10	L1	PASSED
1.340000	25.50	L1	PASSED
1.695000	27.60	L1	PASSED
4.015000	31.20	L1	PASSED
4.195000	31.60	L1	PASSED
4.795000	31.60	L1	PASSED
4.845000	31.60	L1	PASSED

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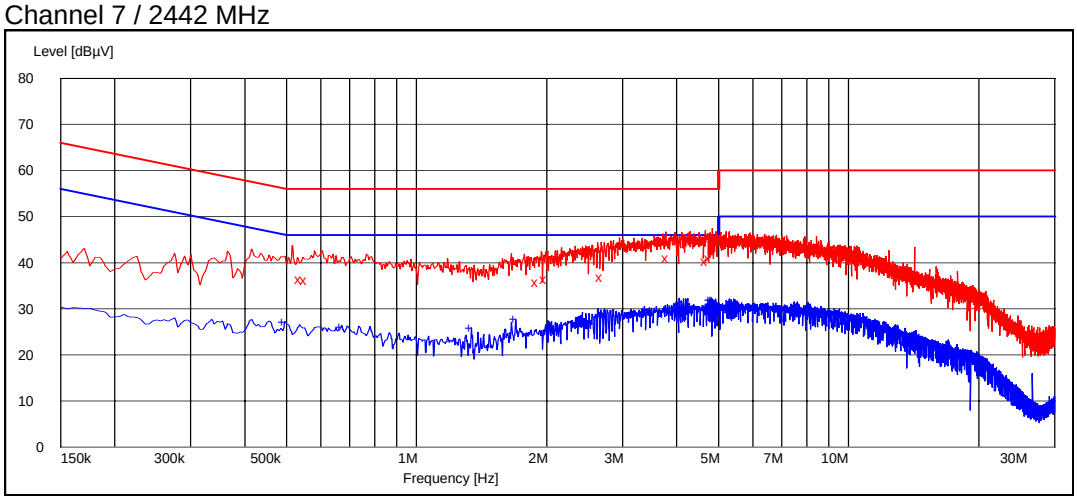
15.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.540000	36.40	L1	PASSED
0.555000	36.10	L1	PASSED
1.905000	35.80	L1	PASSED
1.995000	36.40	L1	PASSED
2.690000	36.80	L1	PASSED
3.820000	40.90	L1	PASSED
4.700000	40.30	L1	PASSED
4.790000	40.90	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.495000	27.10	L1	PASSED
0.670000	26.00	L1	PASSED
1.340000	25.90	L1	PASSED
1.695000	27.70	L1	PASSED
4.095000	31.40	L1	PASSED
4.790000	31.80	L1	PASSED
4.835000	31.90	L1	PASSED
4.880000	31.90	L1	PASSED

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16. 6 dB bandwidth

(FCC §15.247(a)(2), RSS-210 A8.2 (1))

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

16.1. 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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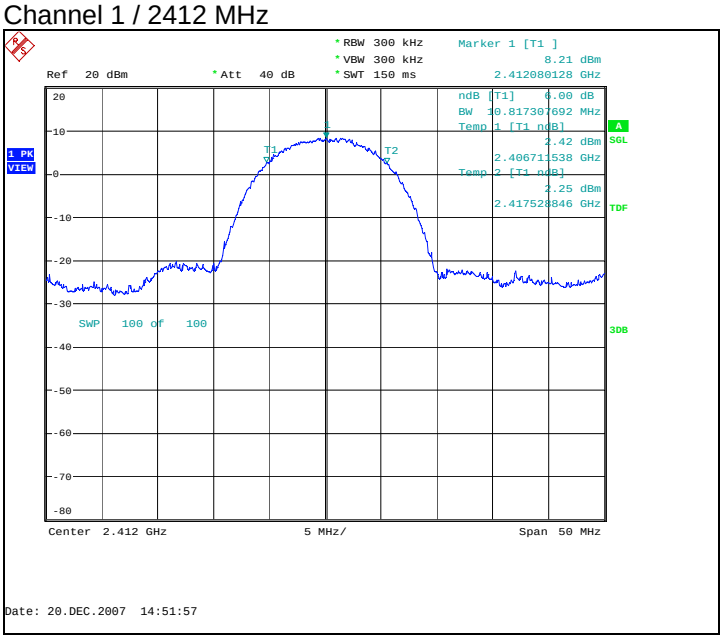
16.2. WLAN test results

16.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	10817.308	PASSED
7	10897.436	PASSED
11	10817.308	PASSED

Channel 1 / 2412 MHz



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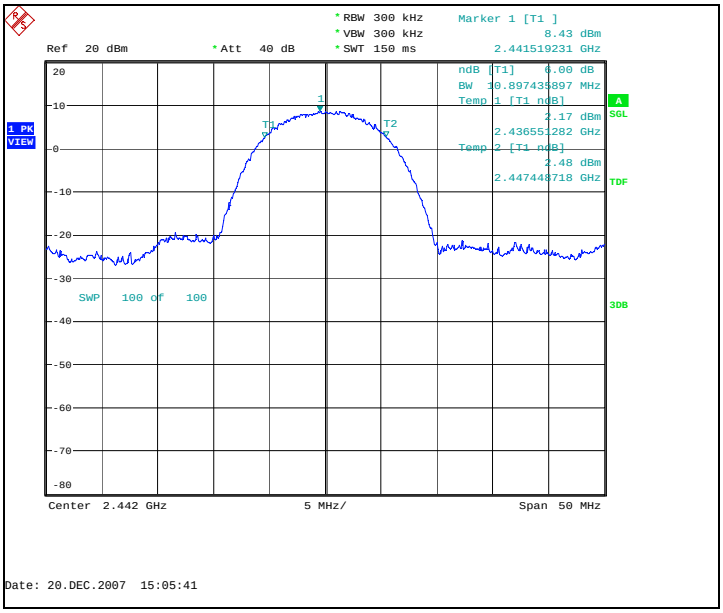
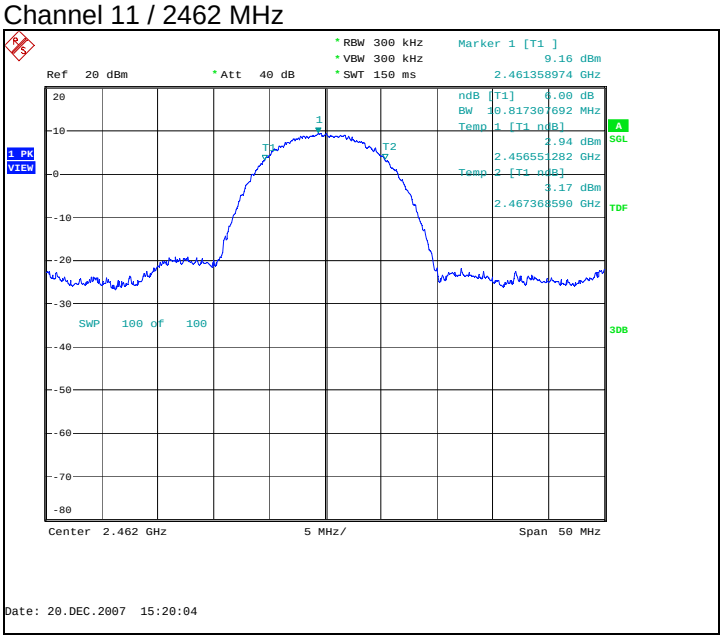
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



16.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1	16586.538	PASSED
7	16666.667	PASSED
11	16666.667	PASSED

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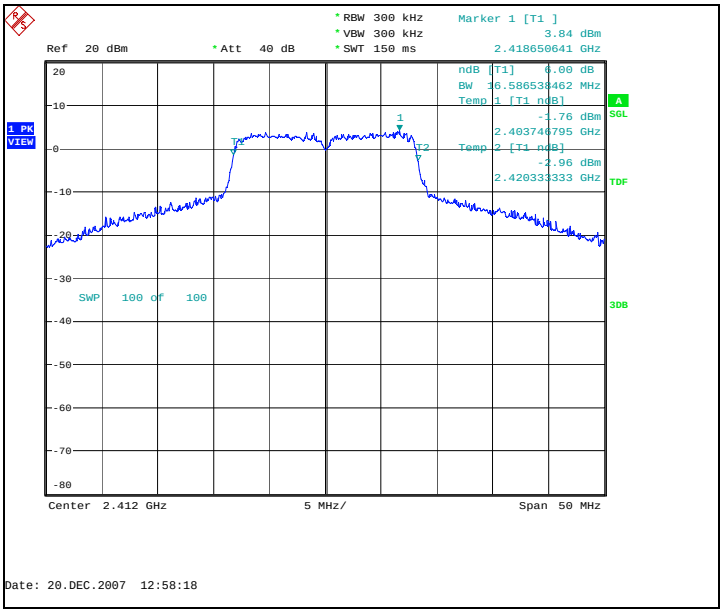
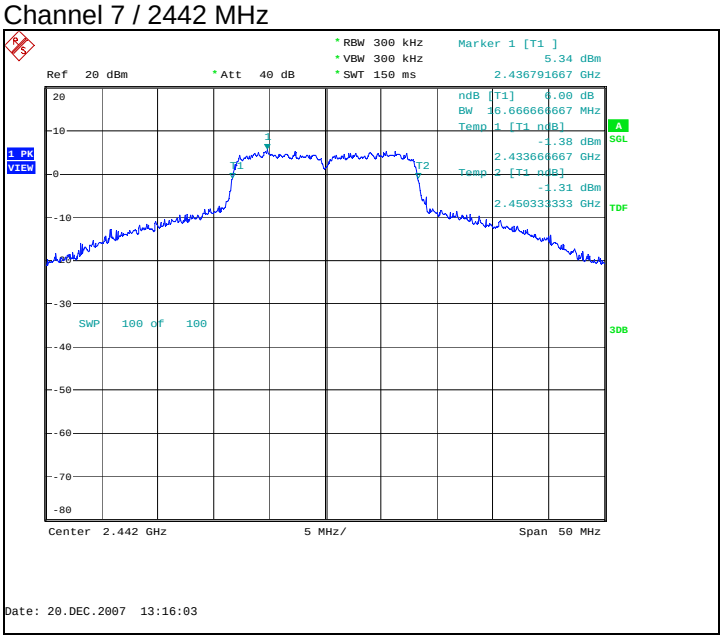
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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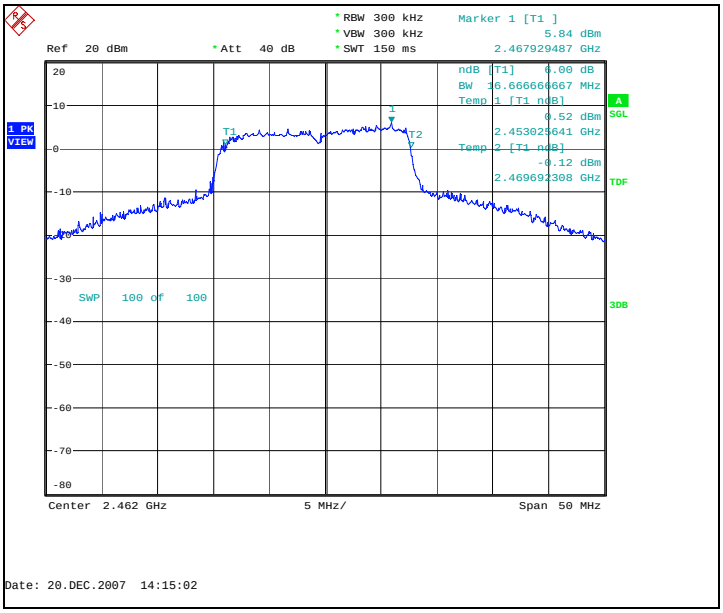
Channel 11 / 2462 MHz



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17. Power spectral density
(FCC §15.247(e), RSS-210 A8.2 (2))

EUT with DUT number	RM-323 DUT 41343
Accessories with DUT numbers	BL-4C DUT 41342
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101.7
Date of measurements	20.12.2007
Measured by	Jari Jantunen

17.1. 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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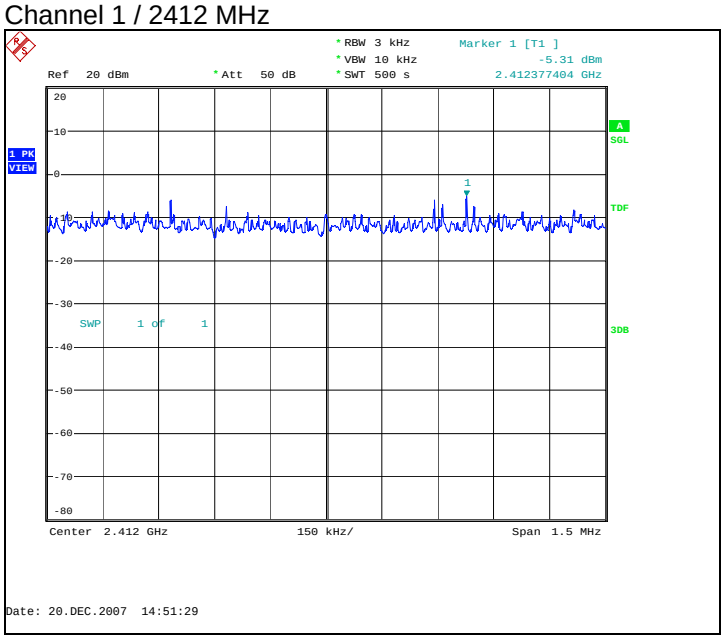
17.2. WLAN test results

17.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-5.31	PASSED
7 / 2442	-5.03	PASSED
11 / 2462	-4.50	PASSED

Channel 1 / 2412 MHz



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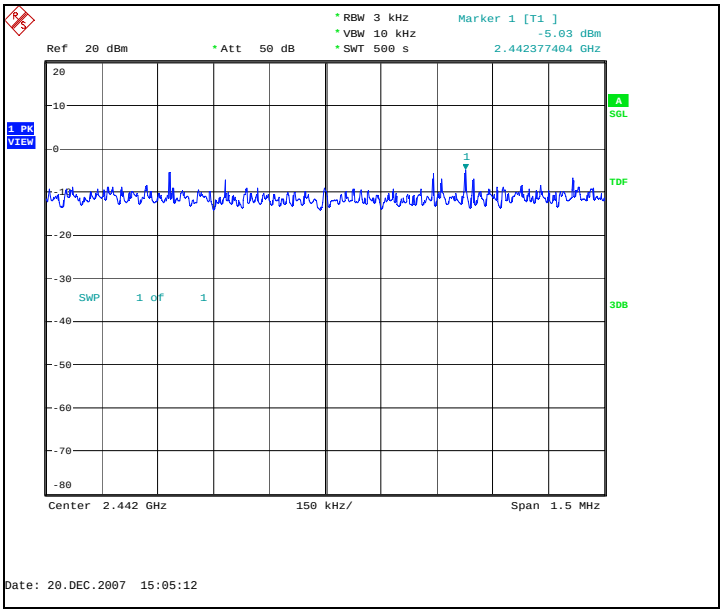
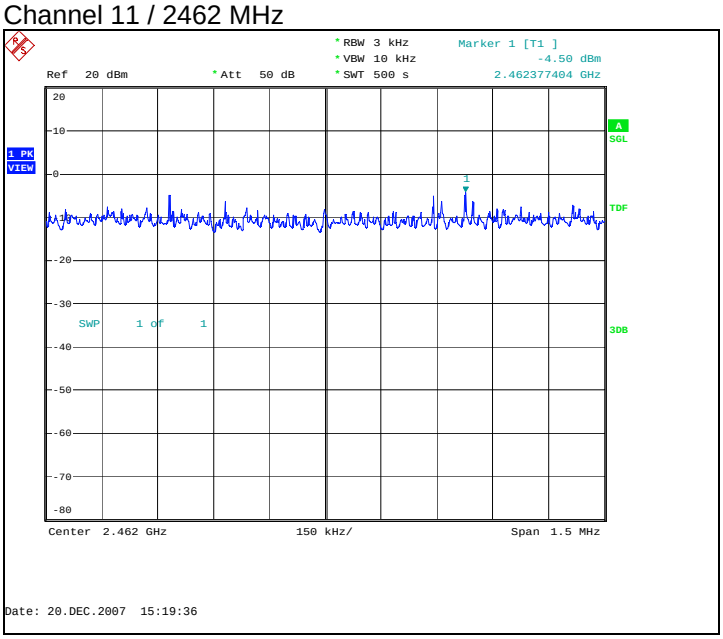
Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



17.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-13.05	PASSED
7 / 2442	-12.46	PASSED
11 / 2462	-11.89	PASSED

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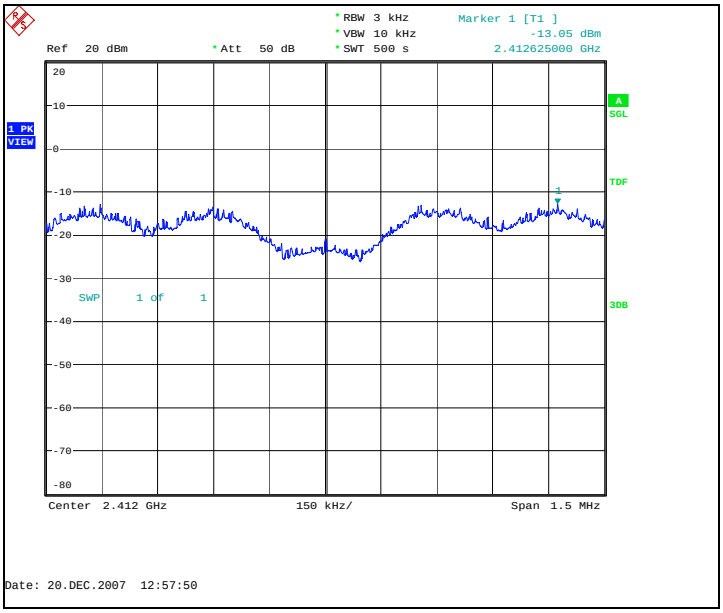
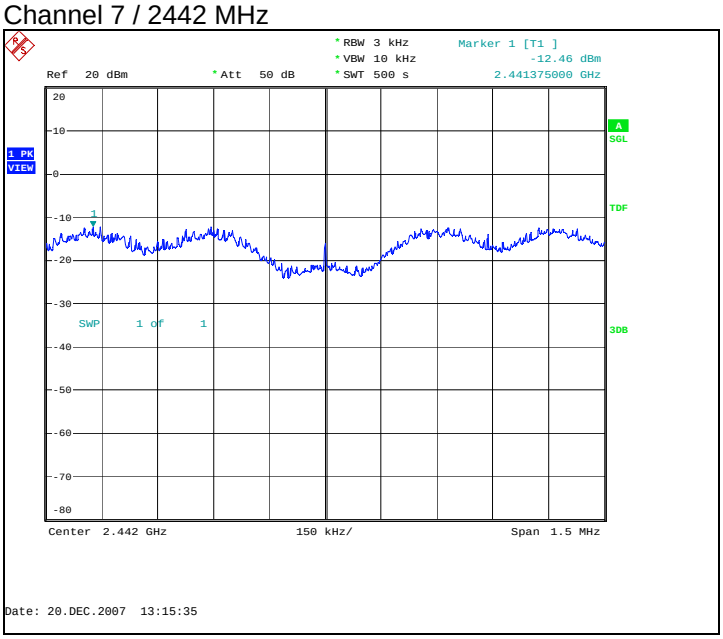
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



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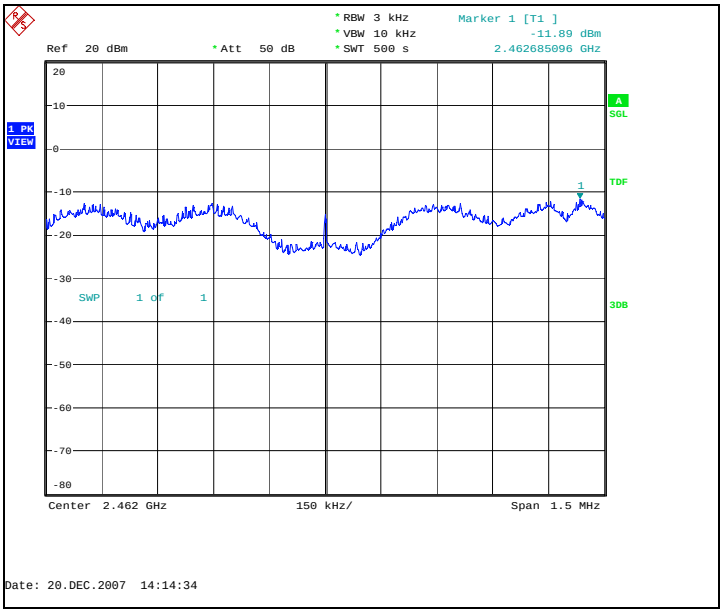
Channel 11 / 2462 MHz



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18. Test Equipment

18.1. 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

18.2. 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

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Eq. No	Equipment	Type	Manufacturer	Used in
TM23892	Yaesu controller	G-1000SDX	Yaesu	22/24/27, 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

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