

FCC Part 15C Compliance Test Report

Test Report no.:	Cph_FCC_0822_23.doc	Date of Report:	16-Jun-2008
Number of pages:	40	Customer's Contact person:	Bill Griffin
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FCC listing no.:	99059		
IC recognition no.:	661AD-1		
Tested devices/ accessories:	Phone: RM-429 (HW: 0110), Battery: BL-5C, Headset: HS-47 AC charger: AC-3U		
FCC ID:	QMNRM-429	IC:	661X-RM429
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:			

Jan Engelbrechtsen, Test System Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	19-May-2008
Testing completed	10-Jun-2008
The customer's contact person	Bill Griffin
Test Plan referred to	T:\Projects\RM-429\TestPlan_RS\RS_Testplan_RM-429.xls
Notes	None
Document name	T:\Projects\RM-429\EMC\Results\FCC\Cph_FCC_0822_23.doc

1.1. EUT and Accessory Information

The EUT is a 4-band (GSM850/900/1800/1900) mobile phone with GPRS, EGPRS and Bluetooth. Bluetooth is tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-429	004401/10/063975/2	0110	-	V03.46	26990
Phone	RM-429	004401/10/063980/2	0110	-	V03.46	25372
Battery	BL-5C	06703984620400195F20831720	-	-	-	26992
Battery	BL-5C	06703984620400195F20832127	-	-	-	25371
Headset	HS-47	0694579713322602339	-	-	-	26081
Headset	HS-47	0694579703512118436	-	-	-	25369
AC charger	AC-3U	4090495245921004835;0675372	-	-	-	26994
AC-Charger	AC-3U	3943497473100523564;0675372	-	-	-	25370

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

PASSED

FAILED

NP

The EUT complies with the essential requirements in the standard.

The EUT does not comply with the essential requirements in the standard.

The test was not performed by the TCC Nokia Copenhagen Laboratory.

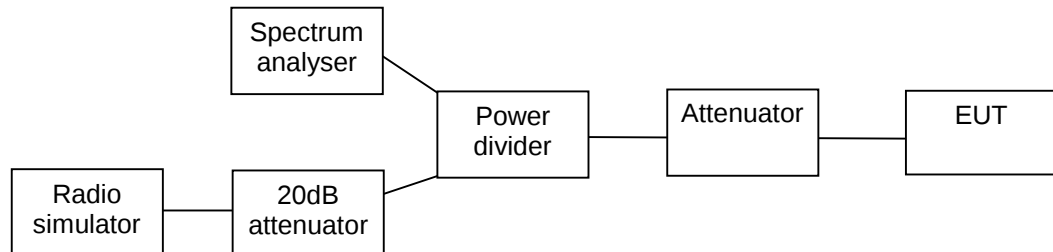
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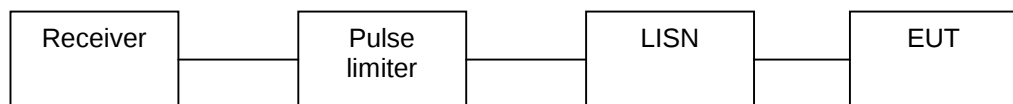
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2. Test setups

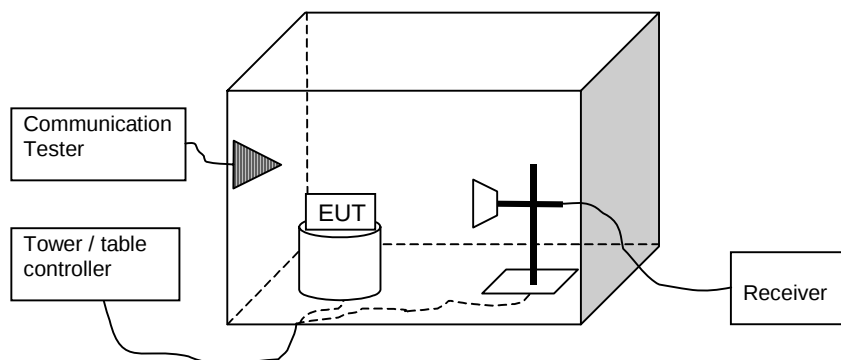
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



3. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4 (2))

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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

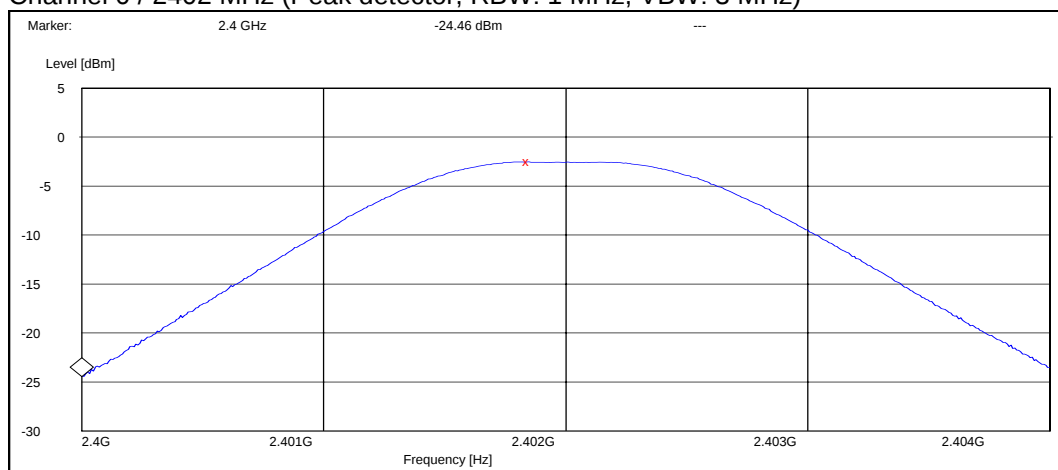
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

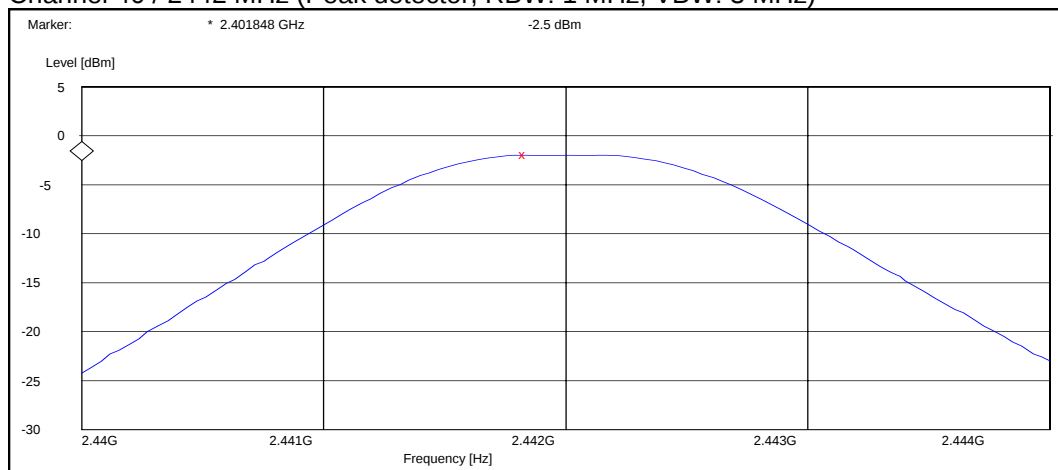
3.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-2.50	0.562	Pass
40 / 2442	-1.90	0.646	Pass
78 / 2480	-1.70	0.676	Pass

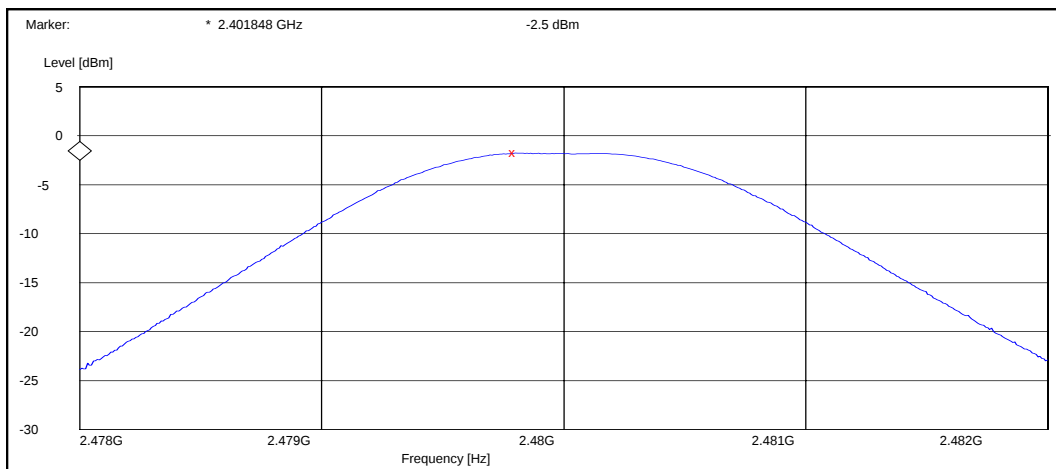
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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



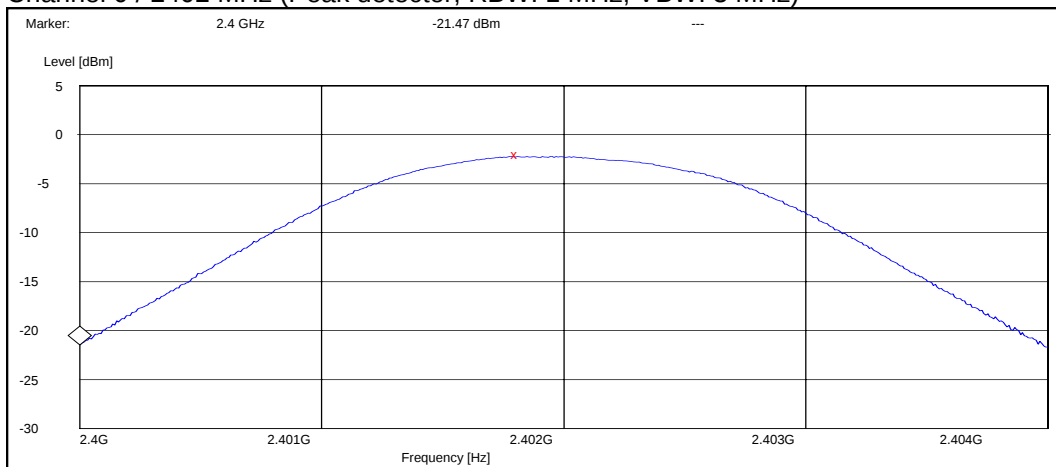
Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



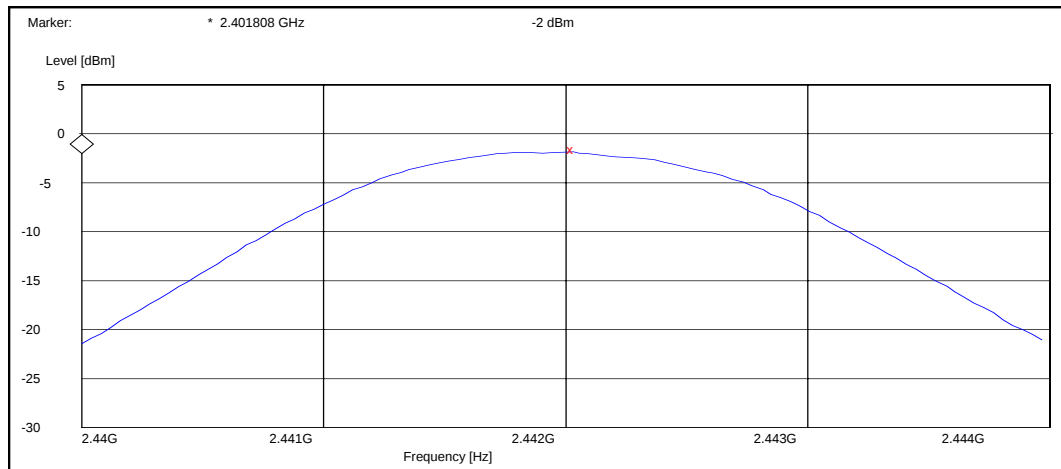
3.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-2.00	0.631	Pass
40 / 2442	-1.60	0.692	Pass
78 / 2480	-1.40	0.724	Pass

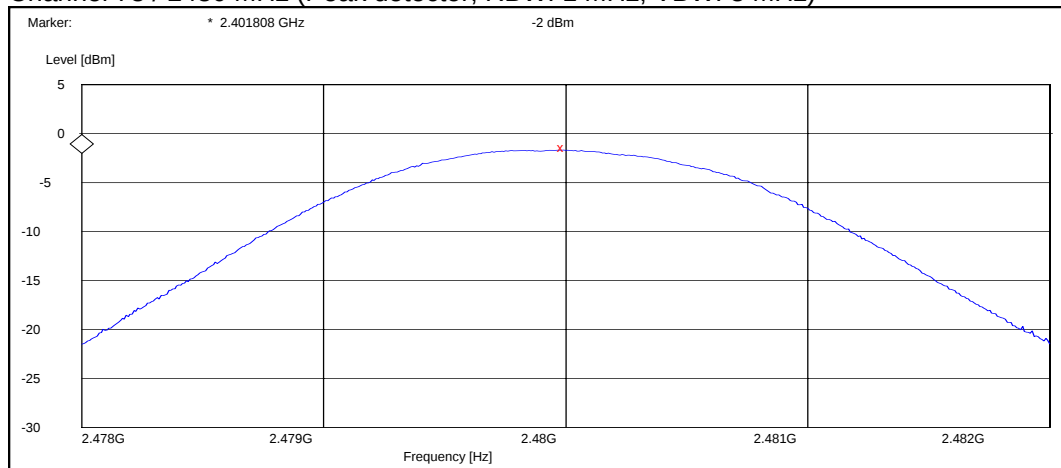
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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



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



4. Band edge compliance of RF emissions (FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-429 DUT 25423
Accessories with DUT numbers	BL-5C DUT 25426, AC-3U DUT 29306, HS-47 DUT 29287
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	Phone tested in flip open mode.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23.5 / 37.0 / 100.6
Date of measurements	10-Jun-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.

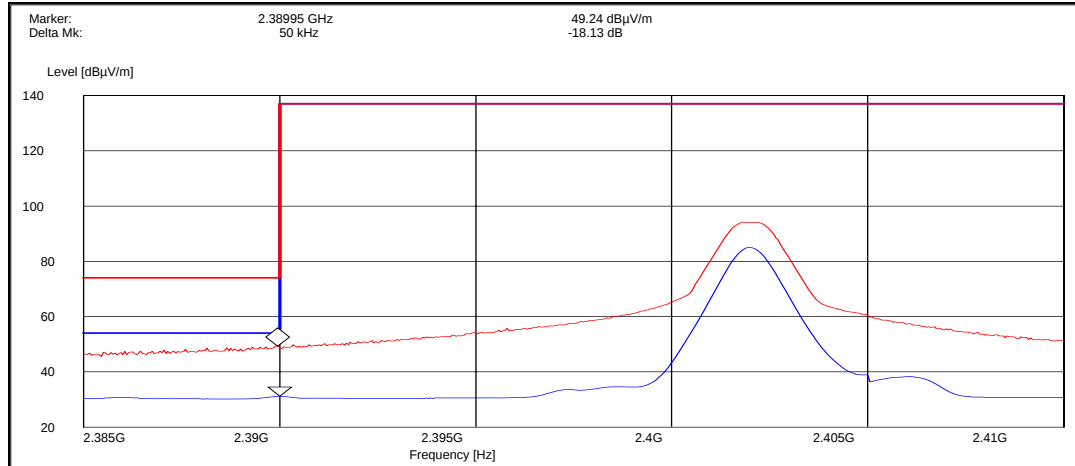
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

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

4.2. Bluetooth Test results

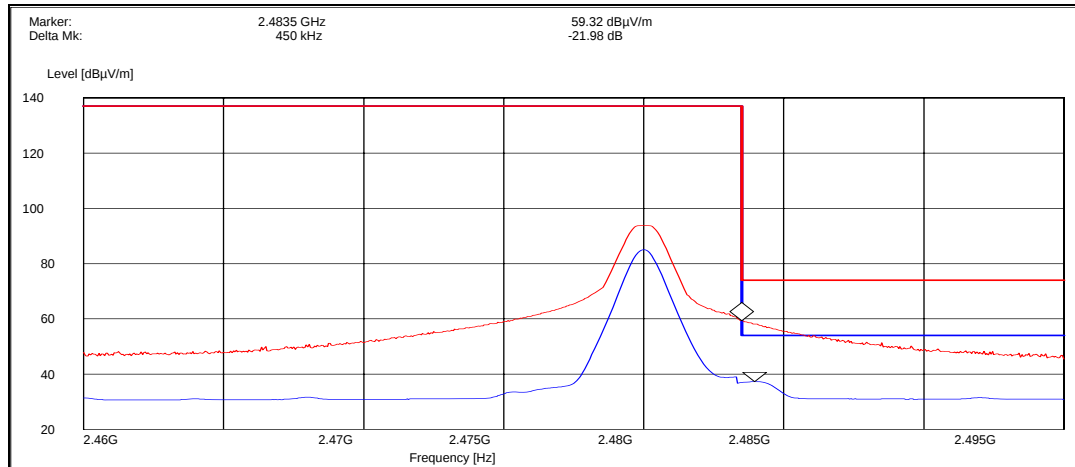
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



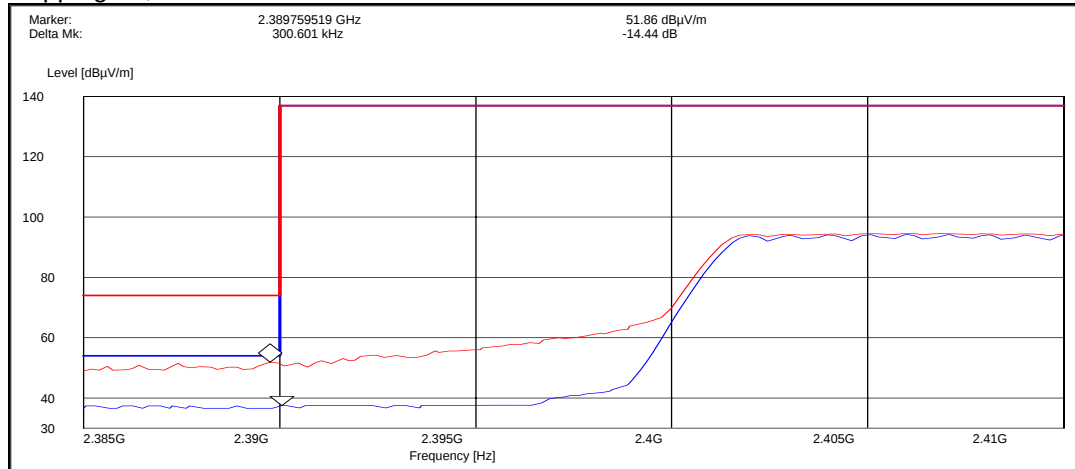
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	49.20	Passed
Average	31.10	Passed

Channel 78 / 2480 MHz



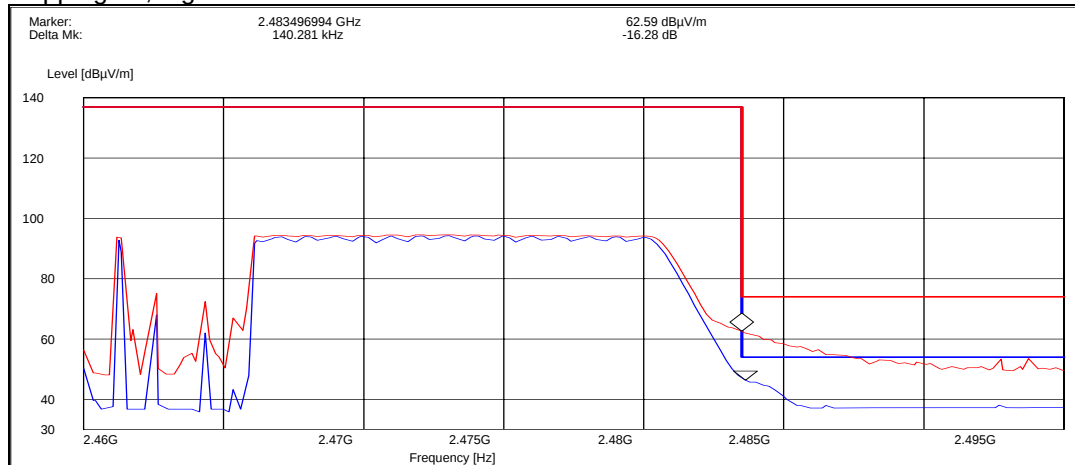
Detector (RBW: 1 MHz)	E [dBμV/m]	Result
Peak	59.30	Passed
Average	37.30	Passed

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	51.90	Passed
Average	37.40	Passed

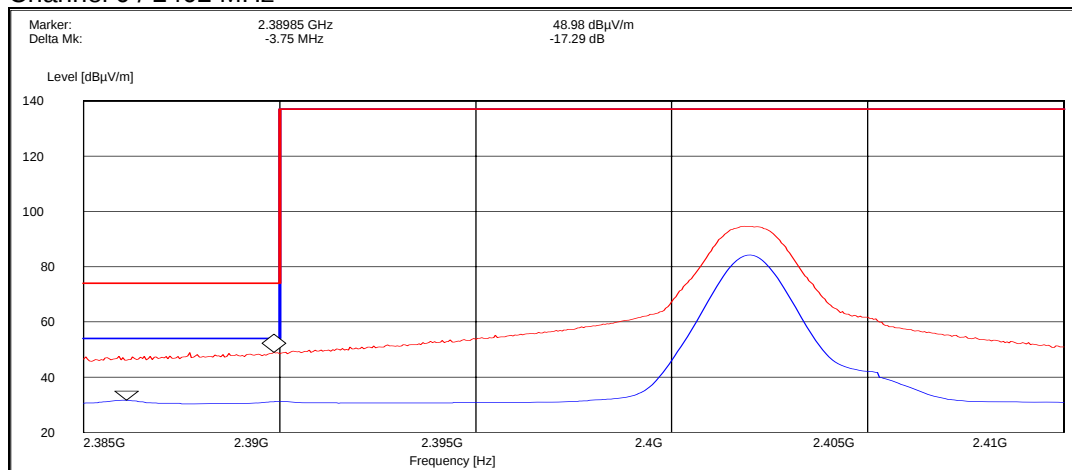
Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	62.60	Passed
Average	46.30	Passed

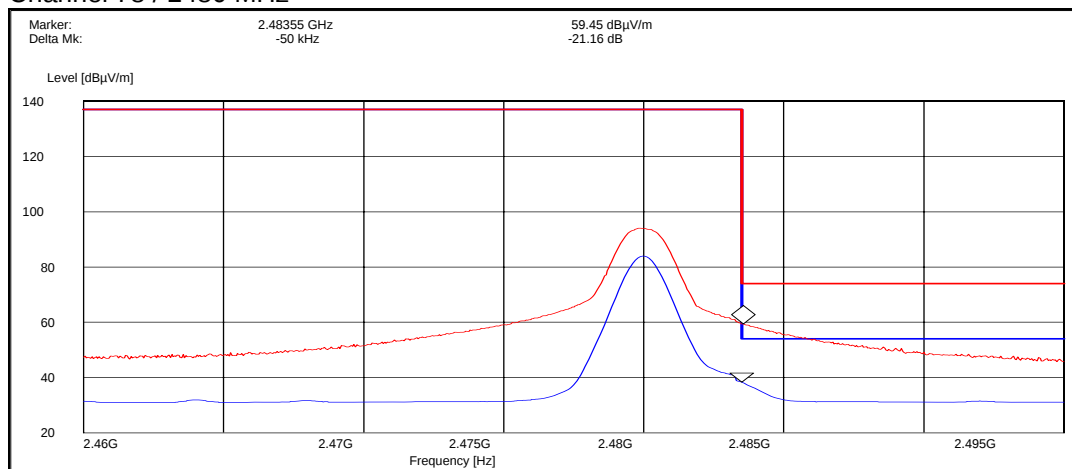
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



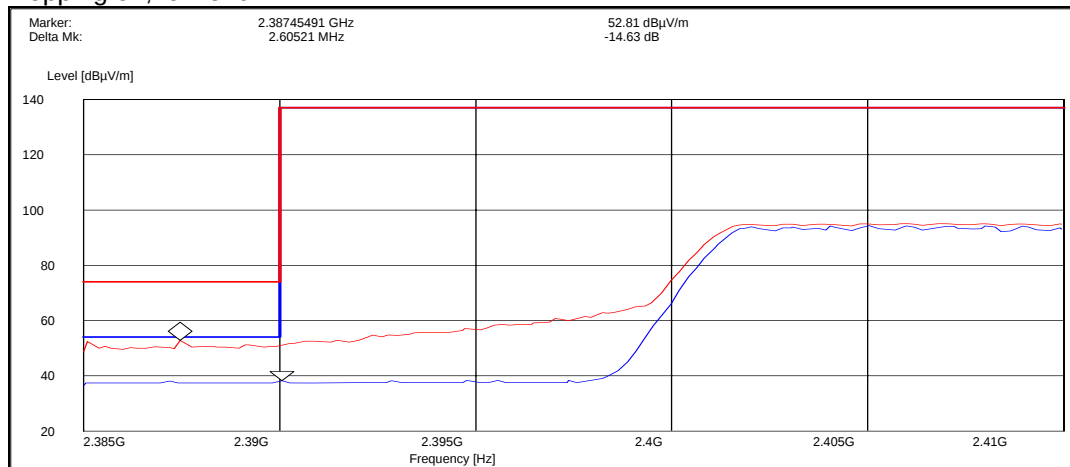
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	49.00	Passed
Average	31.70	Passed

Channel 78 / 2480 MHz



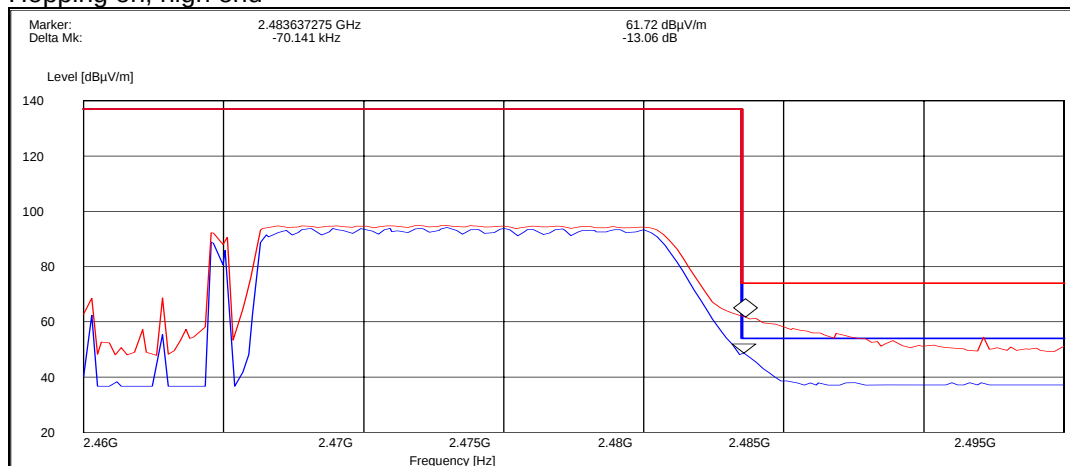
Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	59.50	Passed
Average	38.30	Passed

Hopping on, low end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	52.80	Passed
Average	38.20	Passed

Hopping on, high end



Detector (RBW: 1 MHz)	E [dB μ V/m]	Result
Peak	61.70	Passed
Average	48.70	Passed

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

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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.

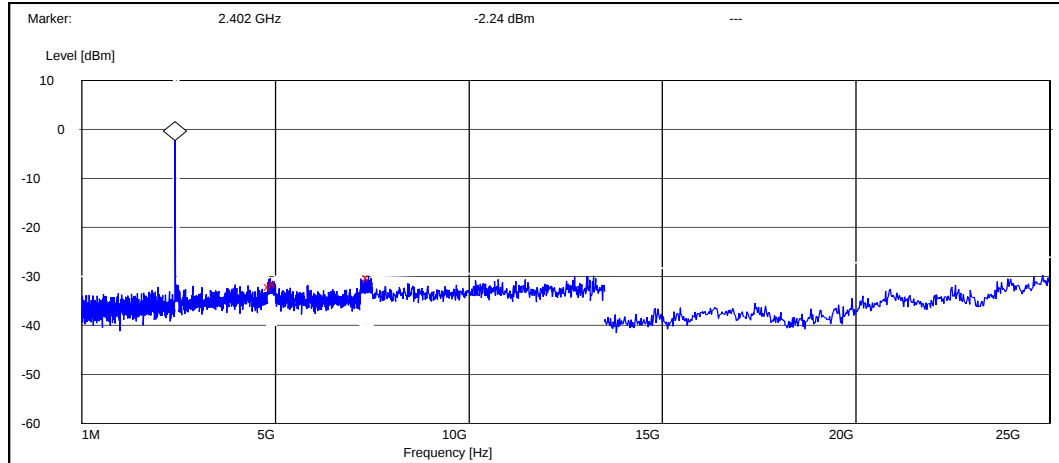
Limits for spurious RF conducted emissions measurements

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

5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

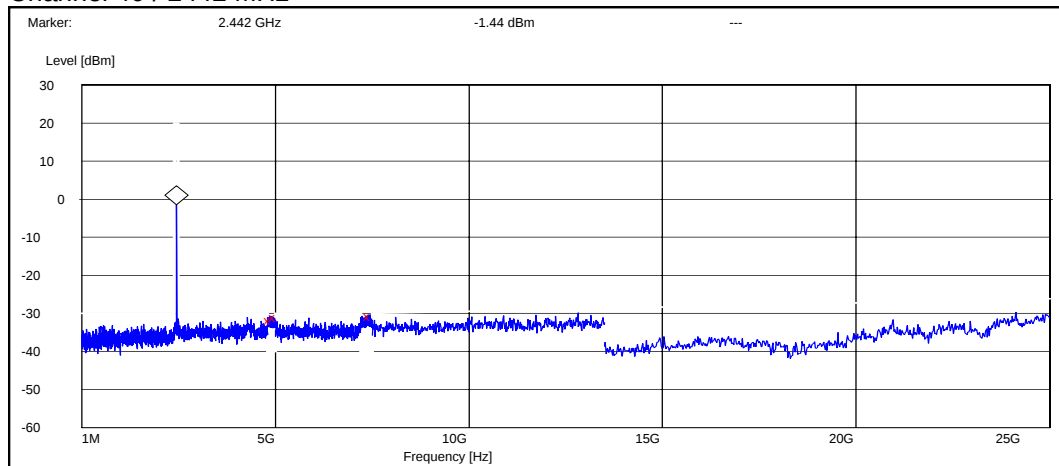
Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
4867.600000	-29.763768	Pass
5000.000000	-29.263768	Pass
7405.200000	-27.963768	Pass

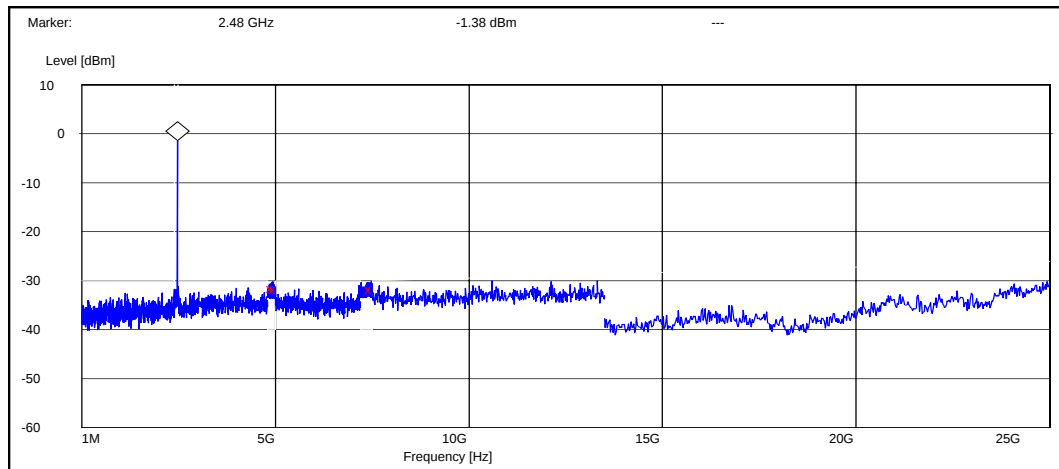
Channel 40 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4869.600000	-30.356805	Pass
5000.000000	-29.656805	Pass
7445.400000	-29.456805	Pass

Channel 78 / 2480 MHz

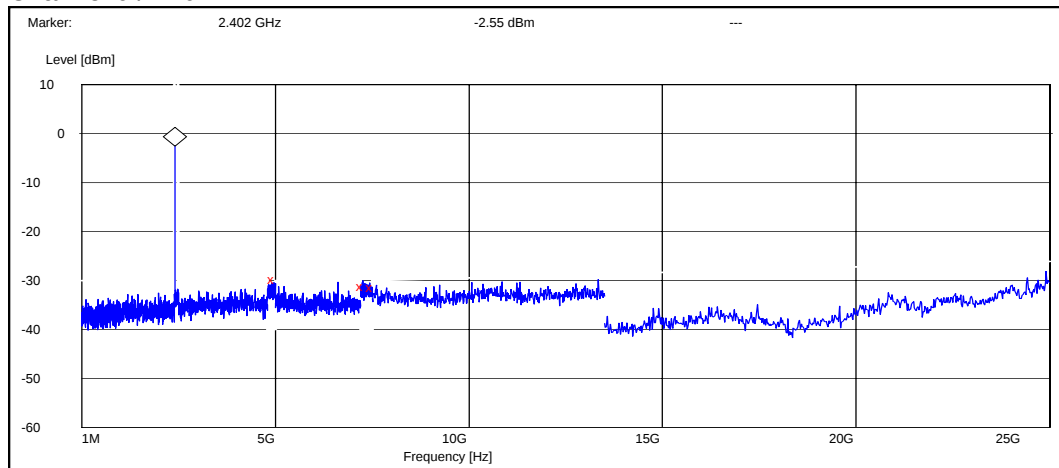


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4929.600000	-30.118115	Pass
5000.000000	-30.318115	Pass
7477.200000	-30.318115	Pass

5.2.2 8DPSK modulation, PRBS packet type

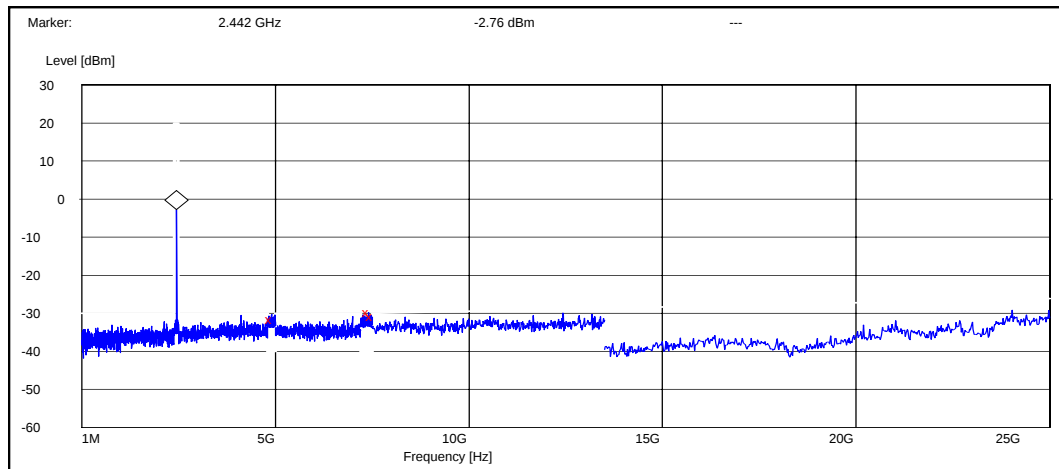
Channel 0 / 2402 MHz



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

Frequency [MHz]	P [dBc]	Result
4962.000000	-27.152435	Pass
7261.800000	-28.652435	Pass
7500.000000	-28.952435	Pass

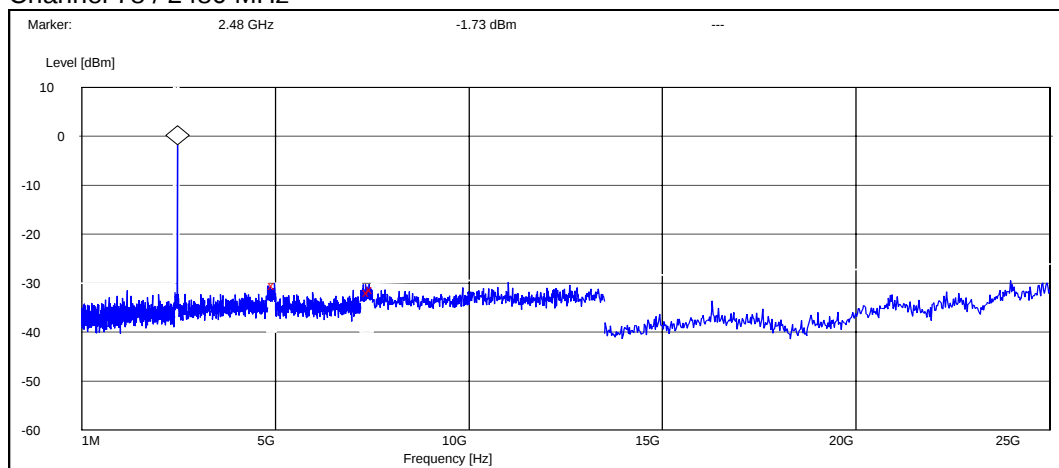
Channel 40 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4906.800000	-28.940262	Pass
7404.600000	-26.940262	Pass
7500.000000	-27.940262	Pass

Channel 78 / 2480 MHz



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

Frequency [MHz]	P [dBc]	Result
4970.000000	-28.673251	Pass
7426.800000	-30.173251	Pass
7500.000000	-29.573251	Pass

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

EUT with DUT number	RM-429 DUT 25423
Accessories with DUT numbers	BL-5C DUT 25426, AC-3U DUT 29306, HS-47 DUT 29287
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	Phone tested in flip open mode.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23.5 / 37.0 / 100.6
Date of measurements	10-Jun-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:

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

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

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

Frequency range [MHz]	Limit [$\mu\text{V/m}$]	Limit [dB $\mu\text{V/m}$]	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 [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	36.20	64.57	36.10	0.1	HORIZONTAL	Passed
7206.000000	41.40	117.49	32.50	8.9	VERTICAL	Passed

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	23.40	14.79	23.30	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 [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
37.595391	25.80	19.50	43.40	-17.6	VERTICAL	Passed
893.787575	60.10	1011.58	70.80	-10.7	VERTICAL	Passed

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

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
7299.599198	42.40	131.83	32.90	9.5	VERTICAL	Passed
7311.115230	44.20	162.18	34.90	9.3	VERTICAL	Passed
7428.357715	43.40	147.91	34.00	9.4	VERTICAL	Passed
7432.365731	42.90	139.64	33.50	9.4	VERTICAL	Passed
17399.791583	51.70	384.59	29.50	22.2	VERTICAL	Passed
17975.959920	58.80	870.96	29.60	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
7299.599198	30.00	31.62	20.50	9.5	VERTICAL	Passed
7308.115230	29.90	31.26	20.60	9.3	VERTICAL	Passed
7424.857715	30.40	33.11	21.00	9.4	VERTICAL	Passed
7429.865731	30.20	32.36	20.80	9.4	VERTICAL	Passed
17393.291583	38.80	87.10	16.60	22.2	VERTICAL	Passed
17977.959920	45.30	184.08	16.10	29.2	HORIZONTAL	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	37.60	75.86	37.30	0.3	VERTICAL	Passed
7440.000000	42.40	131.83	32.90	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	24.40	16.60	24.10	0.3	HORIZONTAL	Passed
7440.000000	29.90	31.26	20.40	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	35.80	61.66	35.70	0.1	VERTICAL	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	22.70	13.65	22.60	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
37.895391	25.20	18.20	43.00	-17.8	VERTICAL	Passed
893.787575	60.10	1011.58	70.80	-10.7	VERTICAL	Passed

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

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7314.629259	42.80	138.04	33.60	9.2	VERTICAL	Passed
7328.163327	42.80	138.04	33.80	9.0	VERTICAL	Passed
7424.355711	43.30	146.22	33.90	9.4	VERTICAL	Passed
17459.425852	51.80	389.05	29.30	22.5	HORIZONTAL	Passed
17960.929860	57.90	785.24	28.80	29.1	VERTICAL	Passed

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7312.629259	29.70	30.55	20.50	9.2	VERTICAL	Passed
7334.163327	29.90	31.26	20.80	9.1	VERTICAL	Passed
7425.355711	30.30	32.73	20.90	9.4	VERTICAL	Passed
17465.425852	38.90	88.10	16.20	22.7	HORIZONTAL	Passed
17967.429860	45.30	184.08	16.20	29.1	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	37.50	74.99	37.20	0.3	HORIZONTAL	Passed
7440.000000	42.40	131.83	32.90	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
4960.000000	23.70	15.31	23.40	0.3	HORIZONTAL	Passed
7440.000000	29.80	30.90	20.30	9.5	VERTICAL	Passed

7. AC powerline conducted emissions (FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-429 Dut 25372
Accessories with DUT numbers	BL-5C Dut 25371, AC-3U Dut 25370, HS-47 Dut 25369
Operation Voltage [V] / [Hz]	115 / 60
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23.5 / 48.0 102.0
Date of measurements	10-Jun-2008
Measured by	Allan F. Henriksen

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.

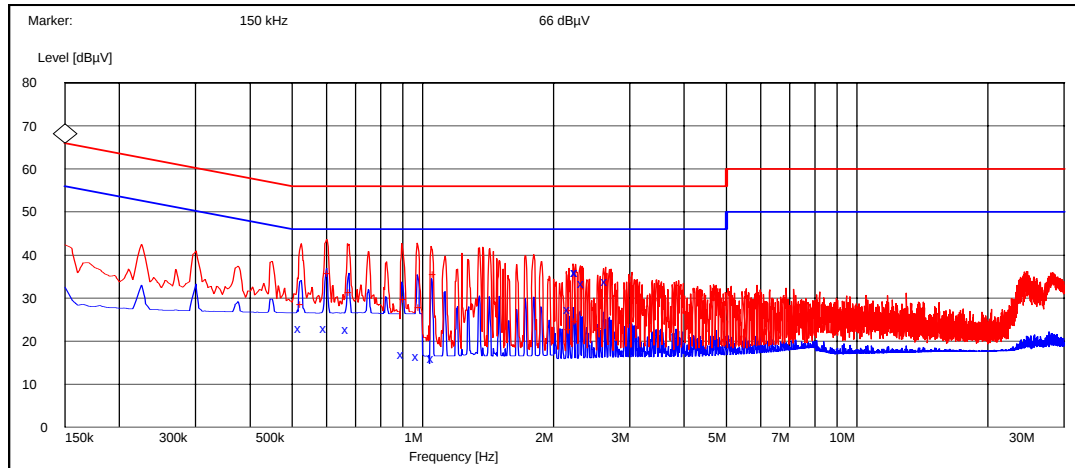
CISPR 22 Class B limits

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

7.2. Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

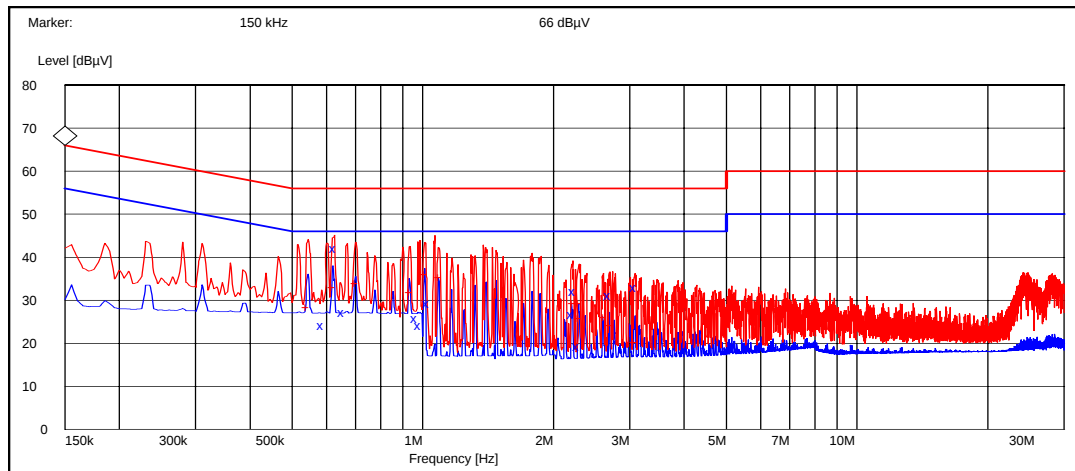
Frequency [MHz]	U [dBμV]	Line	Result
0.525000	23.00	N	Passed
0.600000	22.90	L1	Passed
0.675000	22.80	L1	Passed
0.905000	16.80	L1	Passed
0.980000	16.40	L1	Passed
1.060000	15.90	N	Passed
2.185000	27.40	L1	Passed
2.270000	36.00	L1	Passed
2.275000	36.00	L1	Passed
2.355000	33.30	N	Passed
2.660000	33.80	L1	Passed

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.530000	28.60	N	Passed
0.610000	35.80	N	Passed
0.685000	31.40	N	Passed
0.915000	29.80	N	Passed
0.990000	27.90	N	Passed
1.070000	35.60	N	Passed
2.190000	22.70	L1	Passed
2.195000	27.20	N	Passed
2.270000	24.60	N	Passed
2.585000	23.10	N	Passed

7.2.2 8DPSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.590000	24.30	L1	Passed
0.630000	42.00	L1	Passed
0.660000	27.30	L1	Passed
0.970000	25.80	N	Passed
0.990000	24.10	N	Passed
1.035000	29.40	L1	Passed
2.225000	26.80	L1	Passed
2.245000	32.10	N	Passed
2.295000	19.40	N	Passed
2.705000	31.20	L1	Passed
3.105000	32.90	L1	Passed

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.545000	28.20	N	Passed
0.625000	33.10	N	Passed
0.705000	34.00	N	Passed
0.940000	31.80	N	Passed
1.020000	36.10	N	Passed
1.100000	35.40	N	Passed
2.235000	29.40	N	Passed
2.310000	25.80	N	Passed
2.315000	29.20	N	Passed
2.635000	26.10	N	Passed
2.710000	24.30	N	Passed
3.105000	20.10	L1	Passed

8. 20 dB bandwidth (FCC §15.247(a)(1), RSS-210 A8.1 (1))

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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

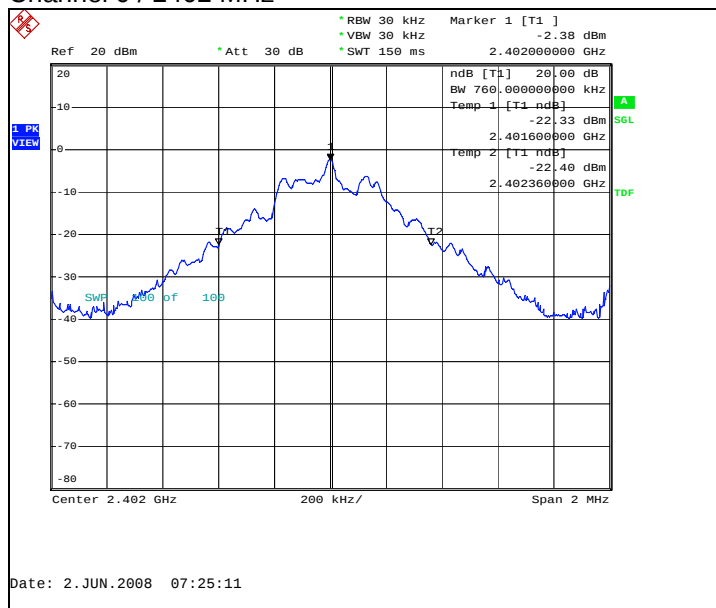
Limit [MHz]
N/A

8.2. Bluetooth Test results

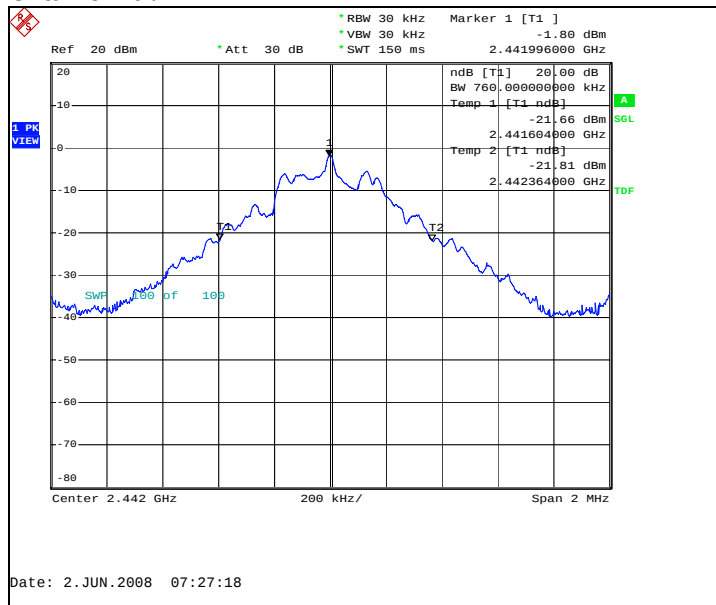
8.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	760.000	Pass
40 / 2442	760.000	Pass
78 / 2480	768.000	Pass

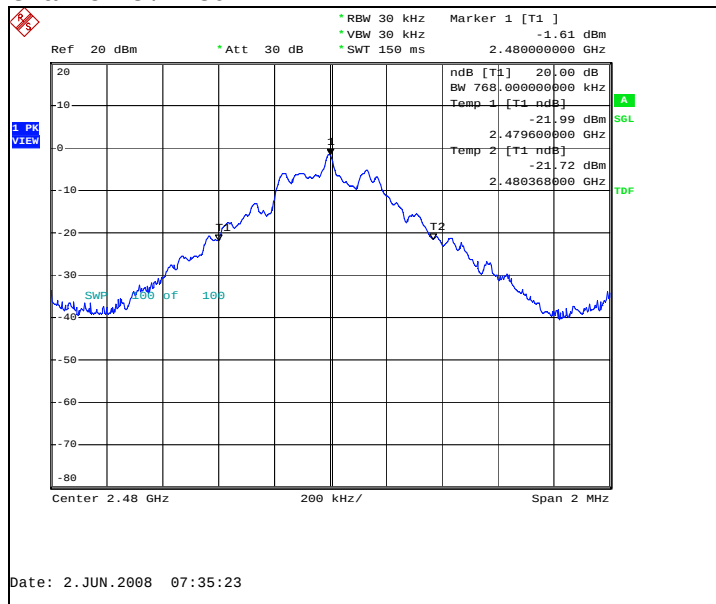
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



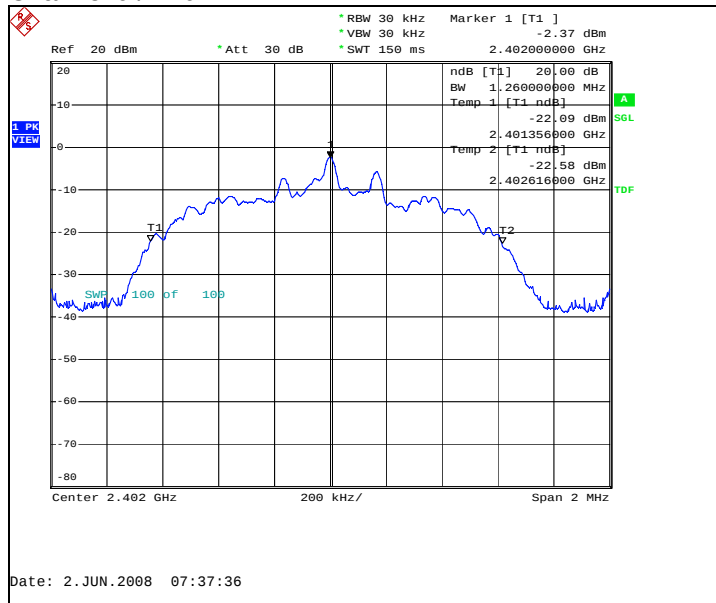
Channel 78 / 2480 MHz



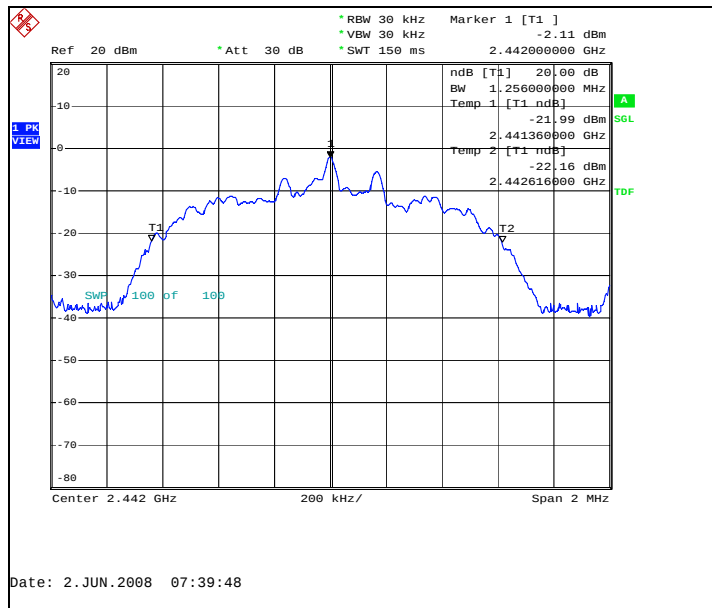
8.2.2 8DPSK modulation, PRBS packet type

Channel / f _c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1260.000	Pass
40 / 2442	1256.000	Pass
78 / 2480	1256.000	Pass

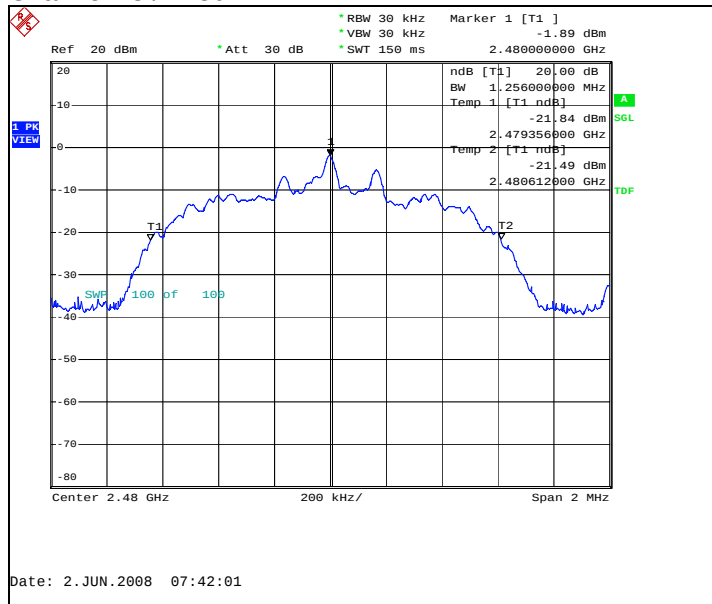
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



9. Carrier frequency separation (FCC §15.247(a)(1), RSS-210 A8.1 (2))

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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

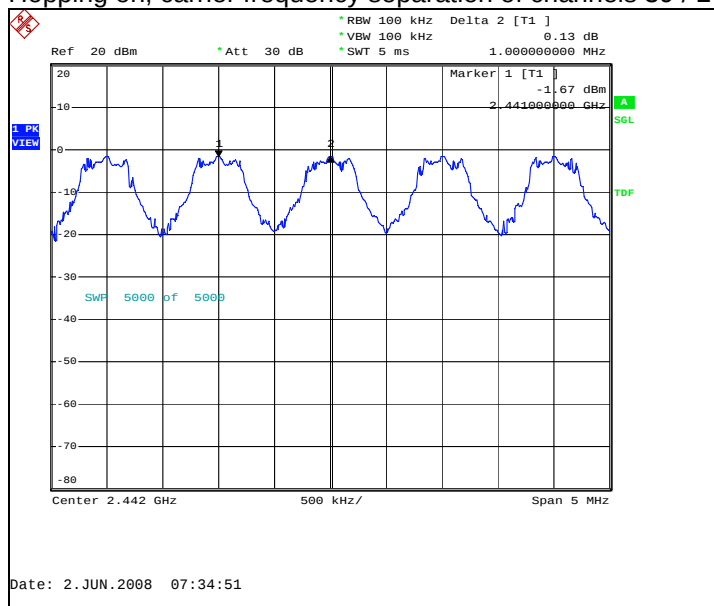
Limit [MHz]
≥ 0.025 or 2/3 of the 20 dB bandwidth

9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1000	Passed

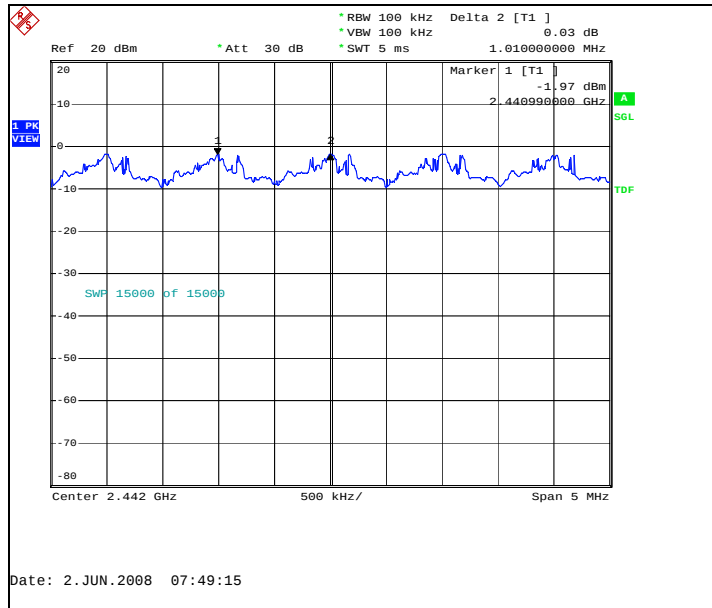
Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



9.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1010	Passed

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



10. Number of hopping frequencies (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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

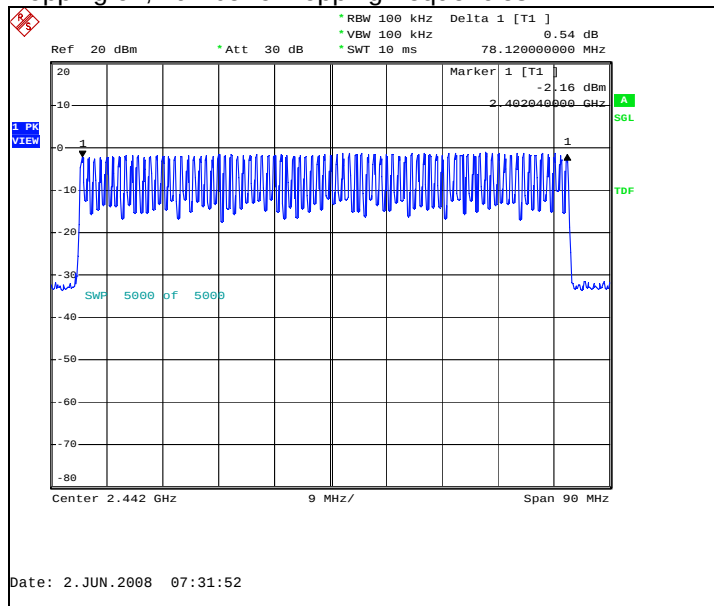
Limit [number]
≥ 15

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Passed

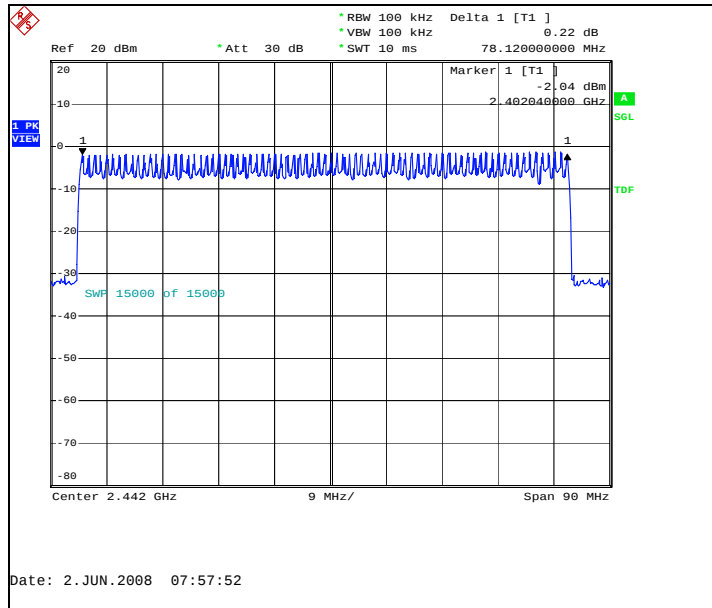
Hopping on, number of hopping frequencies



10.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Passed

Hopping on, number of hopping frequencies



11. Time of occupancy (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-429 dut 26690, BL-5C dut 26992
Accessories with DUT numbers	HS-47 dut 26081, AC-3U dut 26994
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.7 / 43.0 102.39
Date of measurements	02-Jun-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

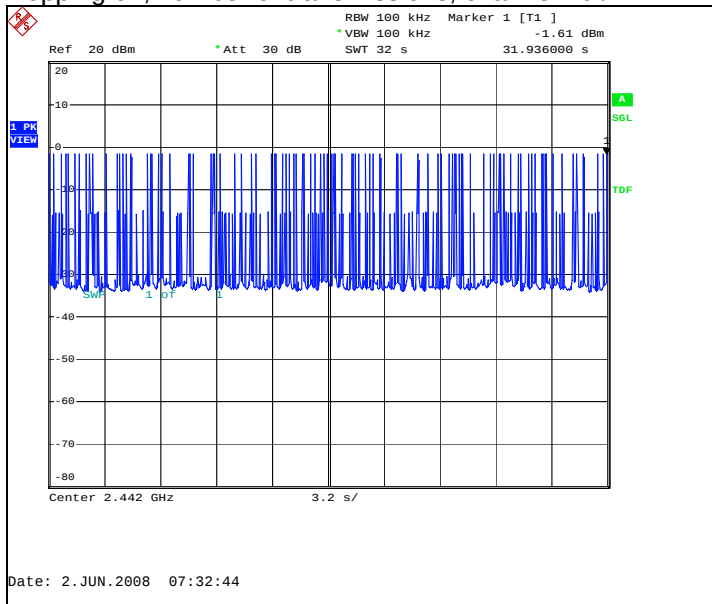
Limit [s]
≤ 0.4

11.2. Bluetooth test results

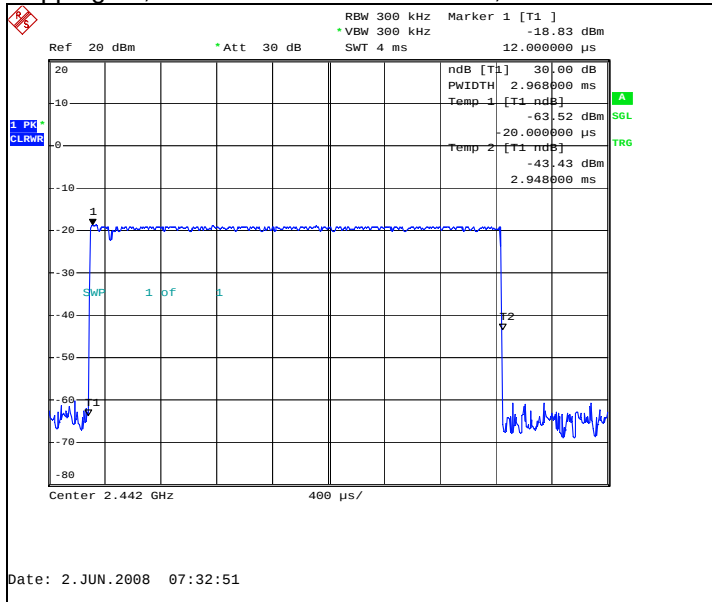
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
86	2,968	0.255248	Passed

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



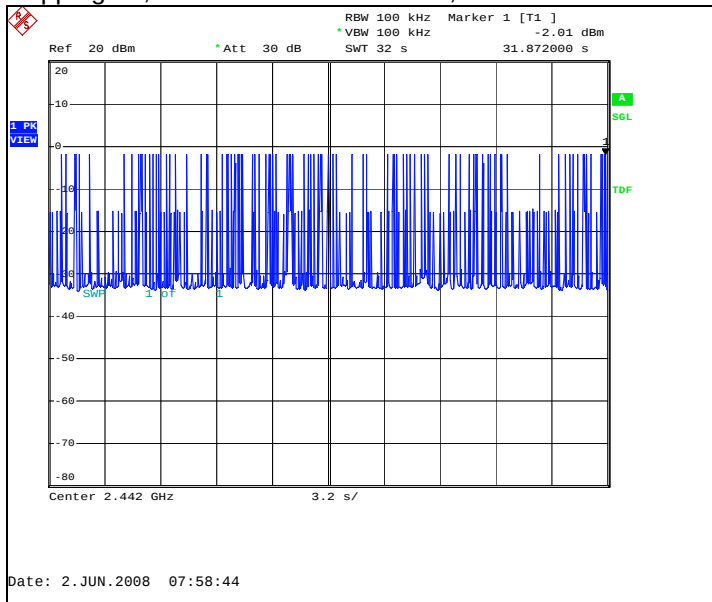
Hopping on, duration of one transmission, channel 40 / 2442 MHz



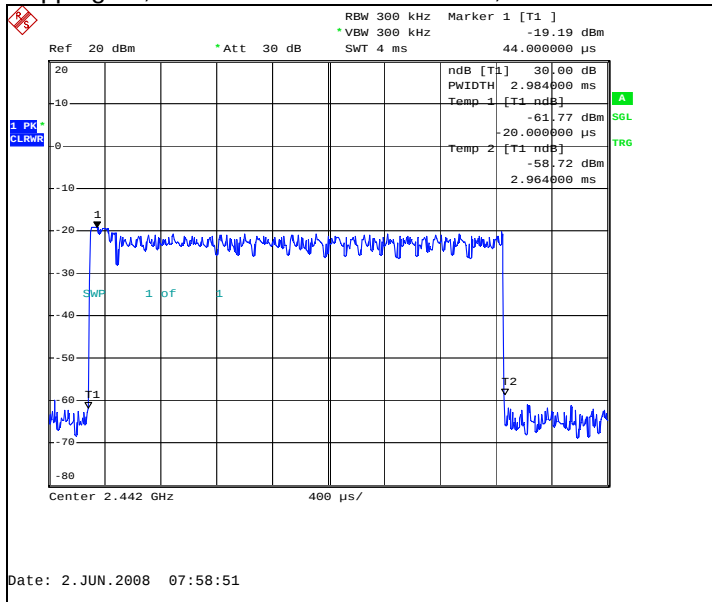
11.2.2 8DPSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
82	2,984	0.244688	Passed

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



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



12. Test Equipment

12.1. 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 Receiver 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

12.2. 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 μ Wave Mux	10-785B-522	Pickering	22/24/27, 15C, 15B
14021	Relay Dual 6 Chnl μ Wave Mux	10-785-522		22/24/27, 15C, 15B
	Relay Dual 6 Chnl μ Wave 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

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