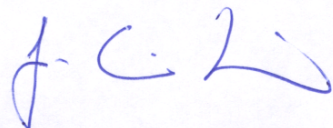


FCC Part 15C Compliance Test Report

Test Report no.:	Document1	Date of Report:	15.03.2006
Number of pages:	36	Customer's Contact person:	Ernest Mayer
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	Client:	Nokia Corporation Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934
FCC listing no.:	94436		
IC recognition no.:	3608		
Tested devices/ accessories:	GSM phone RM-123 / Battery BP-6M, AC charger AC-4, Headset HS-23, Memory card MU-25		
FCC ID:	QTKRM-123	IC:	661AD-RM123
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), IC standards RSS-GEN and RSS-210. 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 Jan-Erik Lilja DN: CN = Jan-Erik Lilja, C = FI, O = TCC nokia, OU = TCC Nokia Tampere Location: Tampere Date: 2006.03.15 11:06:31 +02'00'		

Jan-Erik Lilja, System Manager

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	13.3.2006
Testing completed	14.3.2006
The customer's contact person	Ernest Mayer
Test Plan referred to	\\EMC\TESTPLAN\
Notes	-
Document name	Document1

1.1. EUT and Accessory Information

The EUT is a quadri band (GSM900/1800/1900 and WCDMA2100) mobile phone with GPRS, EGPRS and Bluetooth. Bluetooth is tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
GSM phone	RM-123	004400751776103	0411	-	03.09	40548
GSM phone	RM-123	004400751775949	0411	-	03.09	40567
Battery	BP-6M	-	-	-	-	40542
Battery	BP-6M	-	-	-	-	40543
AC charger	AC-4	-	-	-	-	40555
Headset	HS-23	-	-	-	-	40488
Dummy Battery	UMT 01V	-	-	-	-	40544
Data cable	CA-53	-	-	4.0	-	40545
Memory Card	MU-25	-	-	-	-	40546

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)	Peak output power	PASSED
15.247(c)	A8.5	Band edge compliance of RF emissions	PASSED
15.247(c)	A8.5	Spurious RF conducted emissions	PASSED
15.247(c), 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

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 Tampere Laboratory.

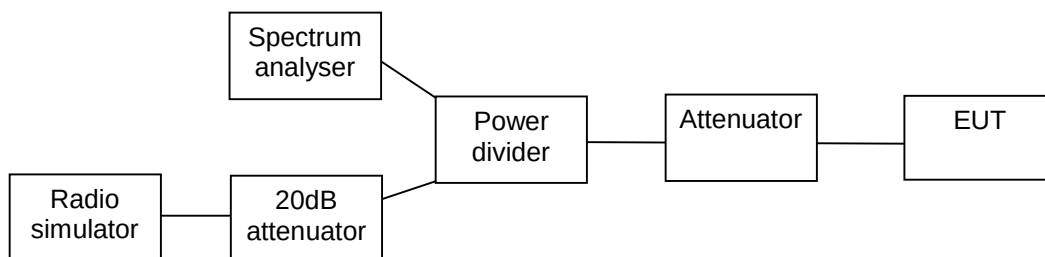
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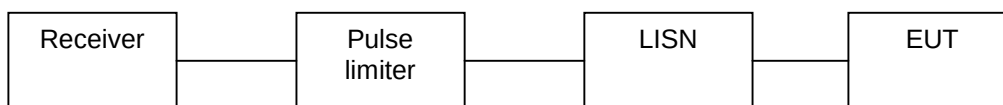
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2. Test setups

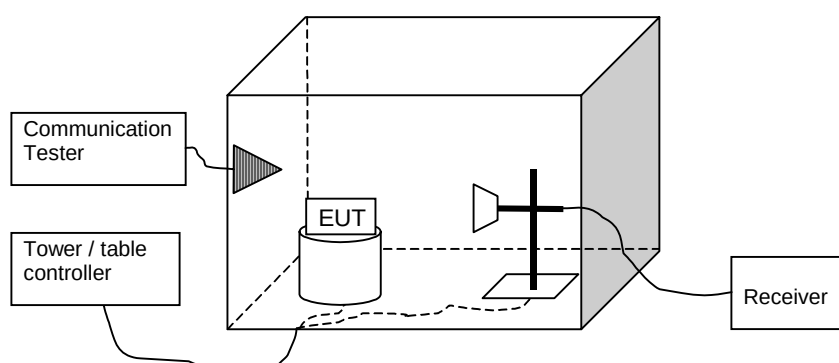
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Spurious radiated emissions test setup



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

EUT with DUT number	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

3.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for peak output power measurements

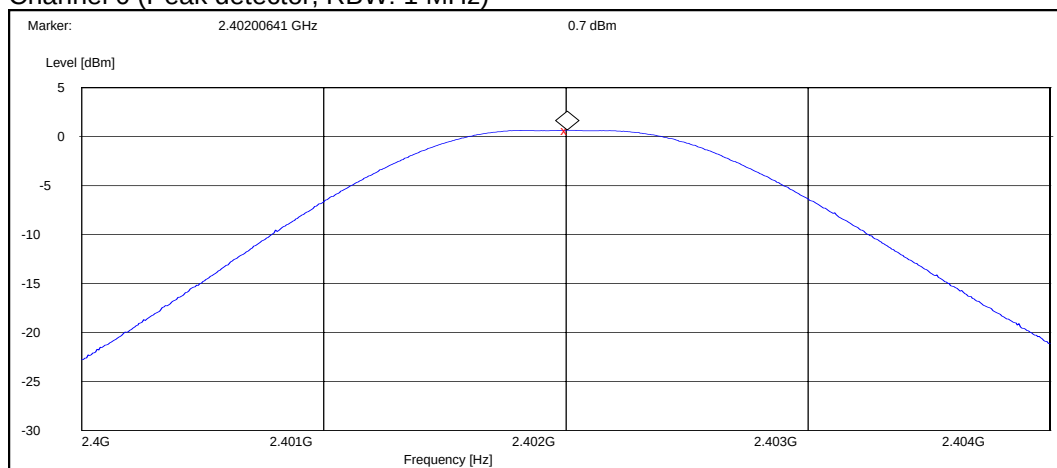
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

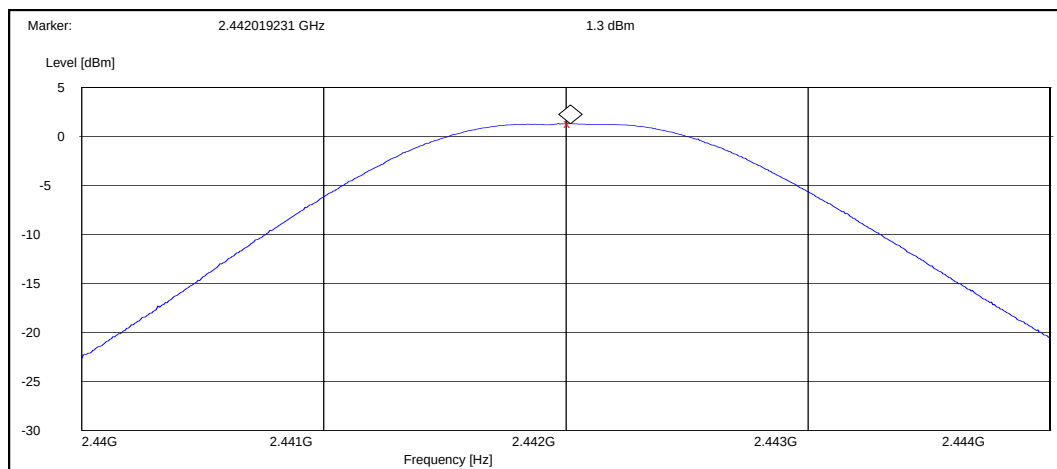
3.2.1 GSKF modulation, PRBS packet type

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	0.70	1.175	Passed
40 / 2442	1.30	1.349	Passed
78 / 2480	0.90	1.230	Passed

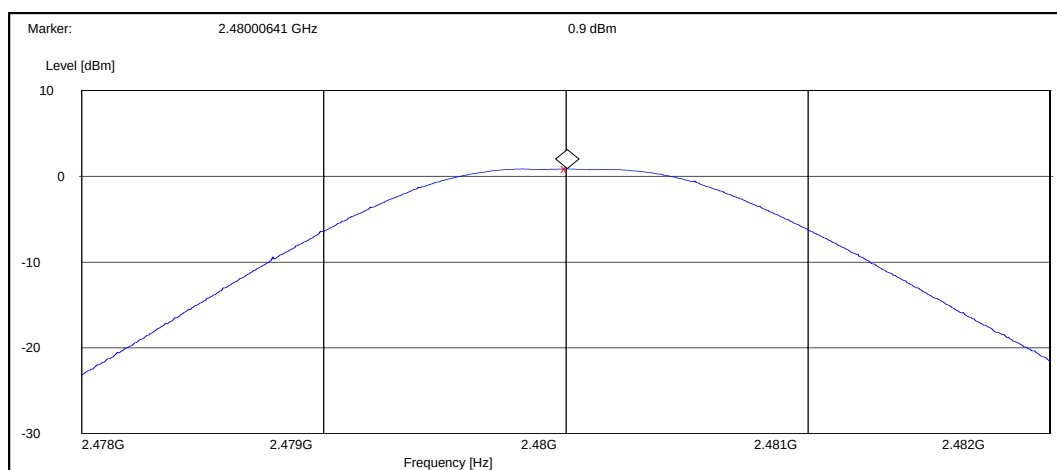
Channel 0 (Peak detector, RBW: 1 MHz)



Channel 40 (Peak detector, RBW: 1 MHz)



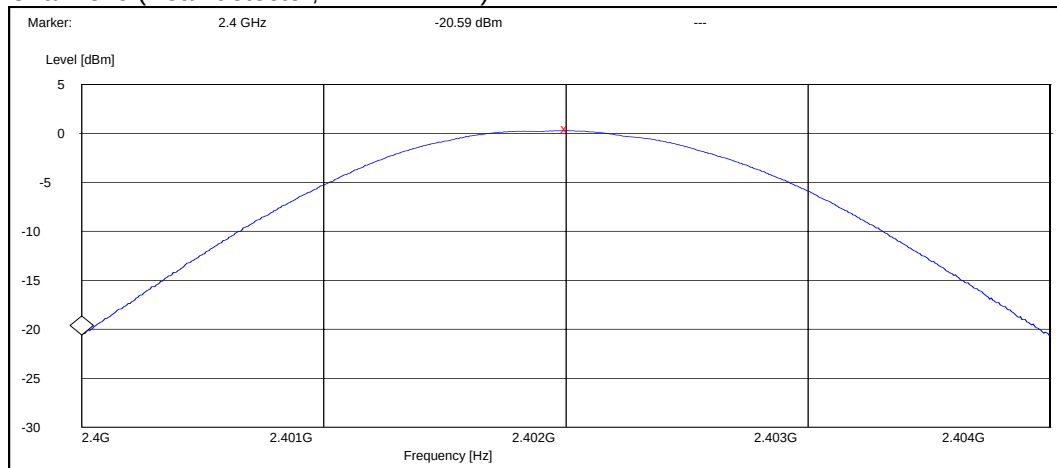
Channel 78 (Peak detector, RBW: 1 MHz)



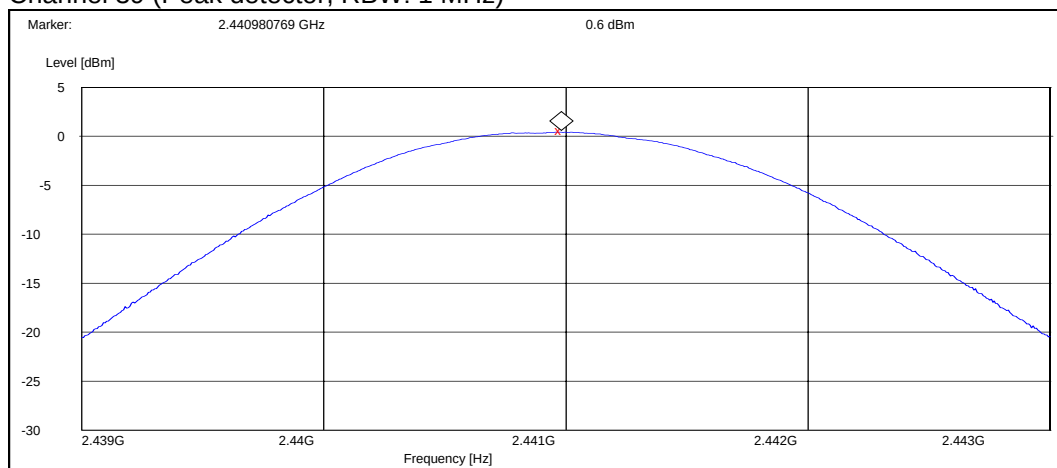
3.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	0.50	1.122	Passed
39 / 2441	0.60	1.148	Passed
78 / 2480	0.00	1.000	Passed

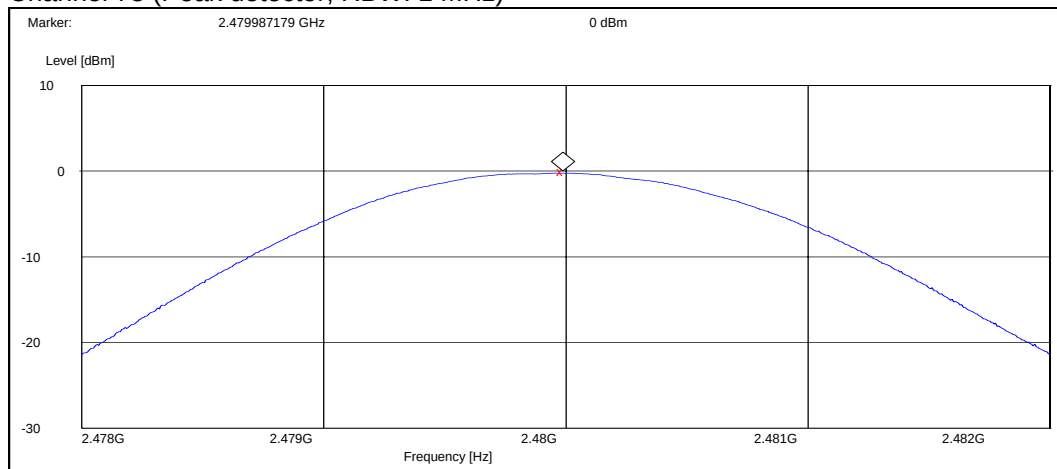
Channel 0 (Peak detector, RBW: 1 MHz)



Channel 39 (Peak detector, RBW: 1 MHz)



Channel 78 (Peak detector, RBW: 1 MHz)



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

EUT with DUT number	RM-123 DUT 40548
Accessories with DUT numbers	BP-6M DUT 40542, AC-4 DUT 40555, HS-23 DUT 40488, MU-25 DUT 40546
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22-23 / 43-45 / 103.1
Date of measurements	24-27.2.2006
Measured by	Jari Jantunen

4.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

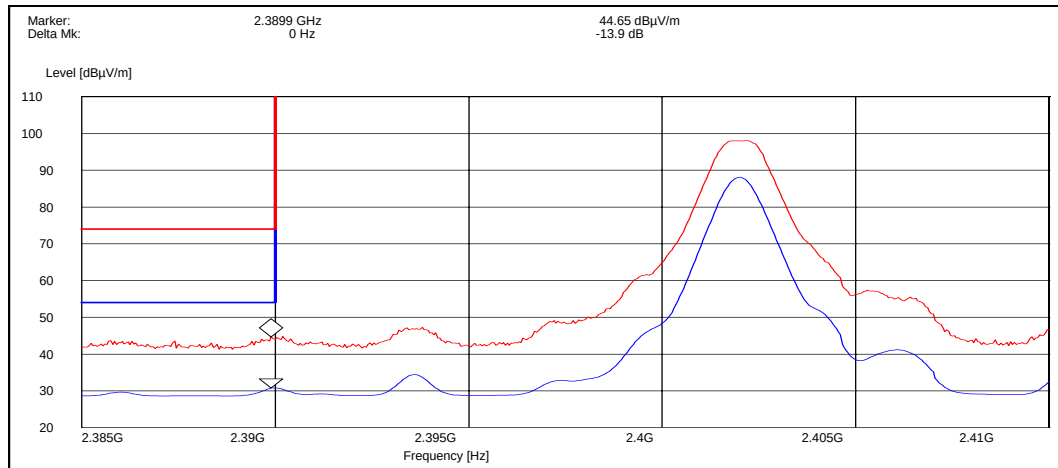
Average (RBW: 1 MHz)

Channel	E [dBμV/m]	Result
0	30.75	PASSED
78	38.88	PASSED
Hopping on, low end	28.52	PASSED
Hopping on, high end	31.01	PASSED

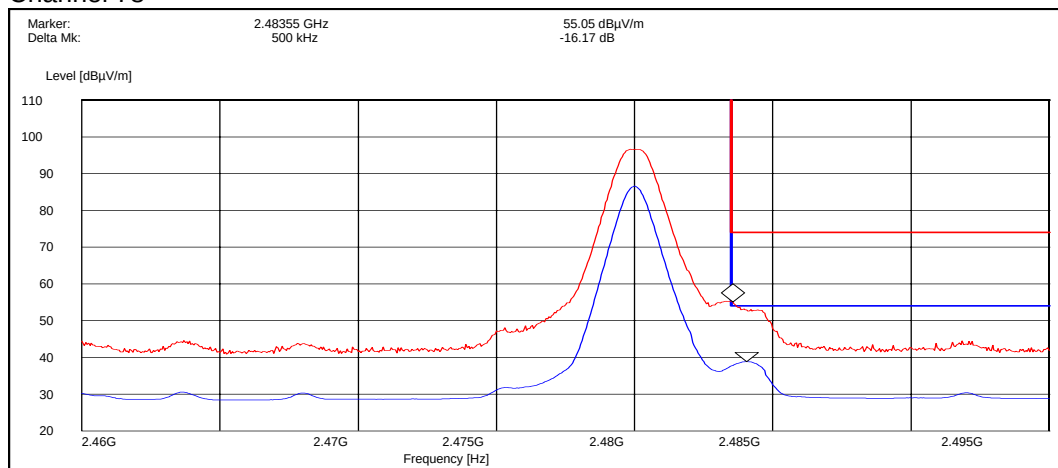
Peak (RBW: 1 MHz)

Channel	E [dBμV/m]	Result
0	44.65	PASSED
78	55.05	PASSED
Hopping on, low end	43.92	PASSED
Hopping on, high end	54.00	PASSED

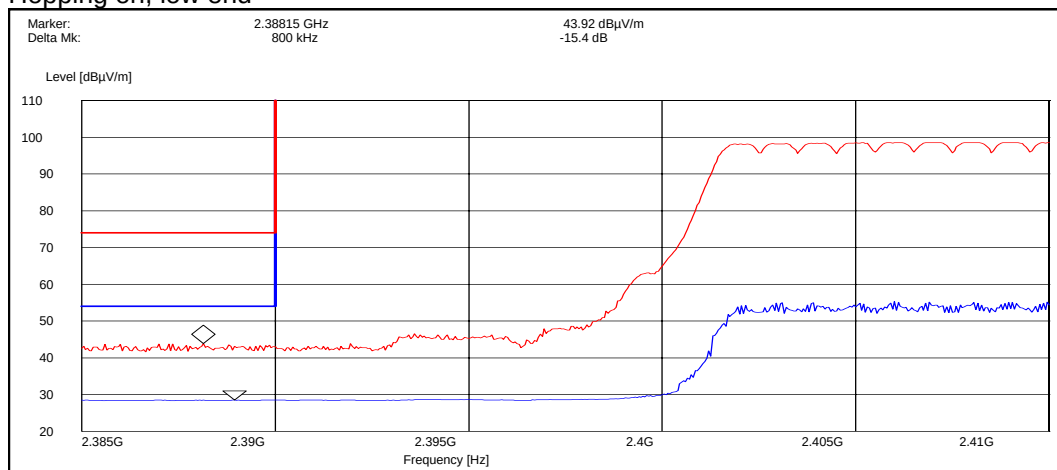
Channel 0



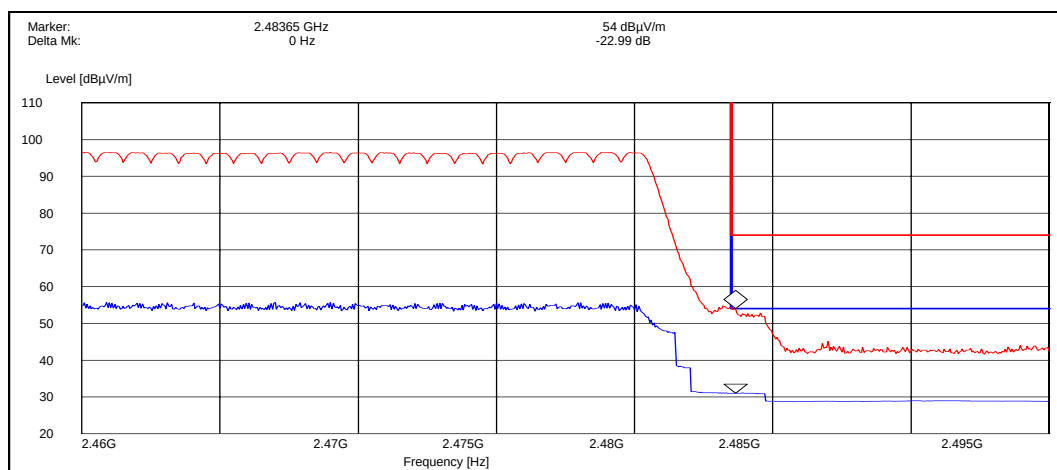
Channel 78



Hopping on, low end



Hopping on, high end



4.2.2 8DPSK modulation, PRBS packet type

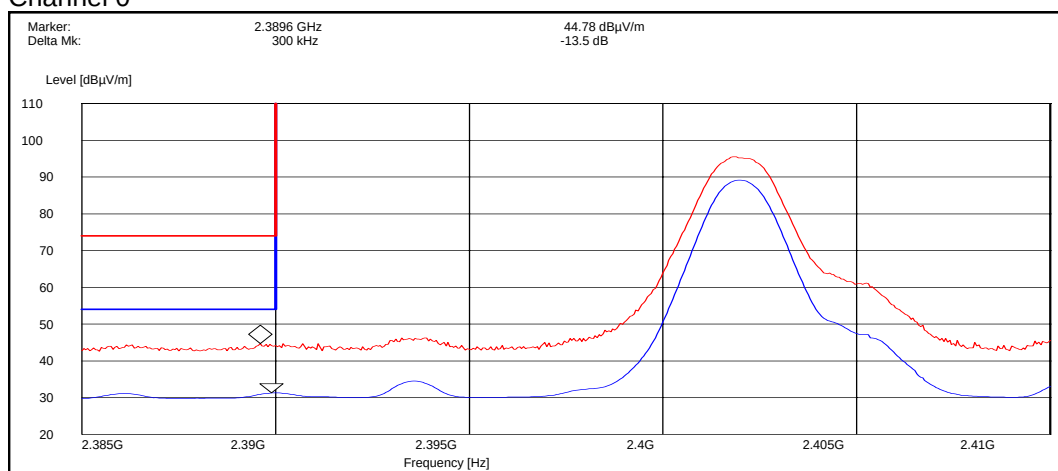
Average (RBW: 1 MHz)

Channel	E [dBμV/m]	Result
0	31.28	PASSED
78	48.11	PASSED
Hopping on, low end	28.78	PASSED
Hopping on, high end	32.02	PASSED

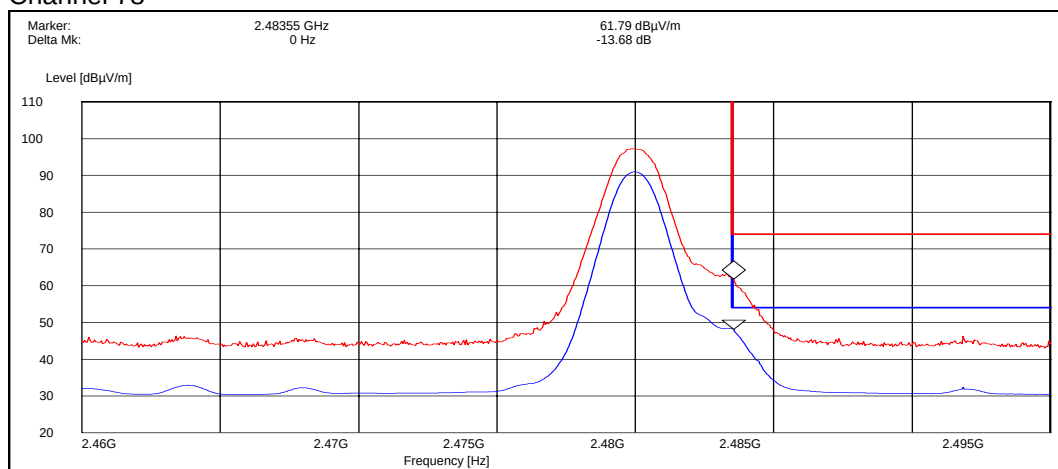
Peak (RBW: 1 MHz)

Channel	E [dBμV/m]	Result
0	44.78	PASSED
78	61.79	PASSED
Hopping on, low end	43.72	PASSED
Hopping on, high end	59.32	PASSED

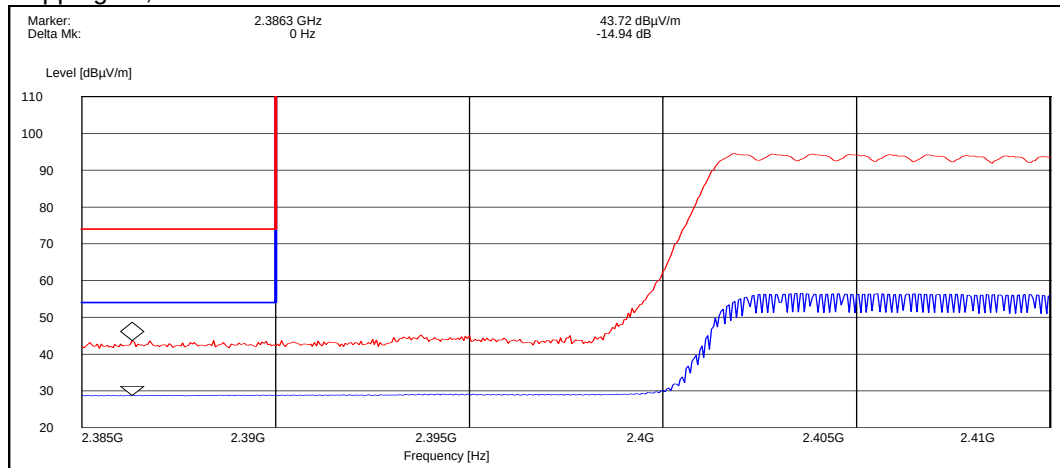
Channel 0



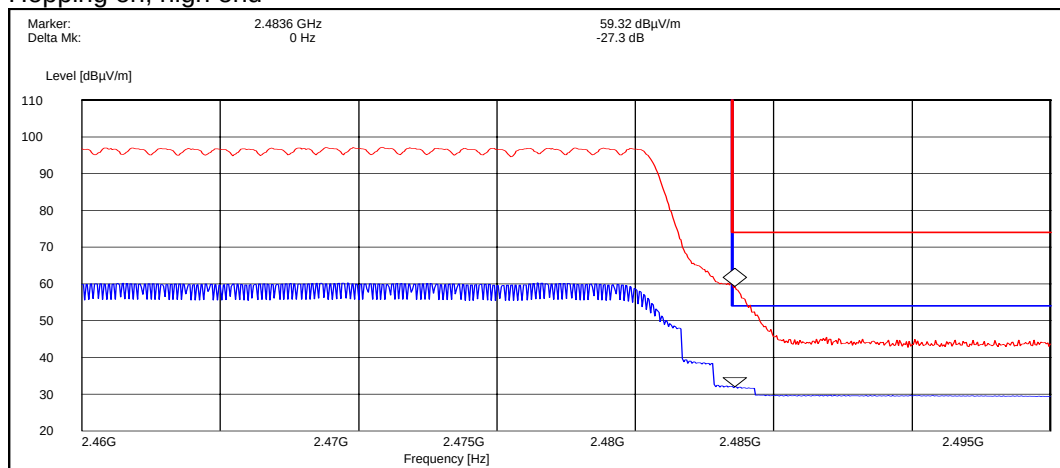
Channel 78



Hopping on, low end



Hopping on, high end



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

EUT with DUT number	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

5.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

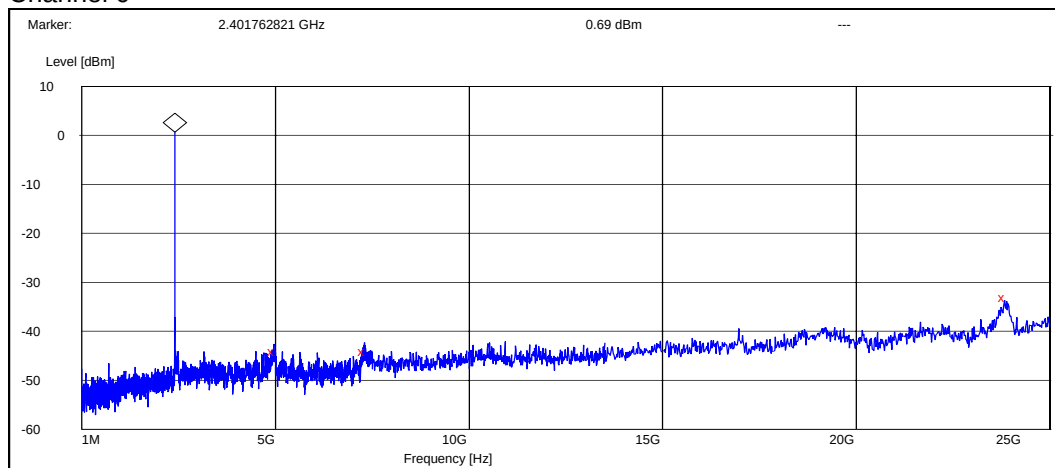
Limits for spurious RF conducted emissions measurements

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

5.2. Bluetooth Test results

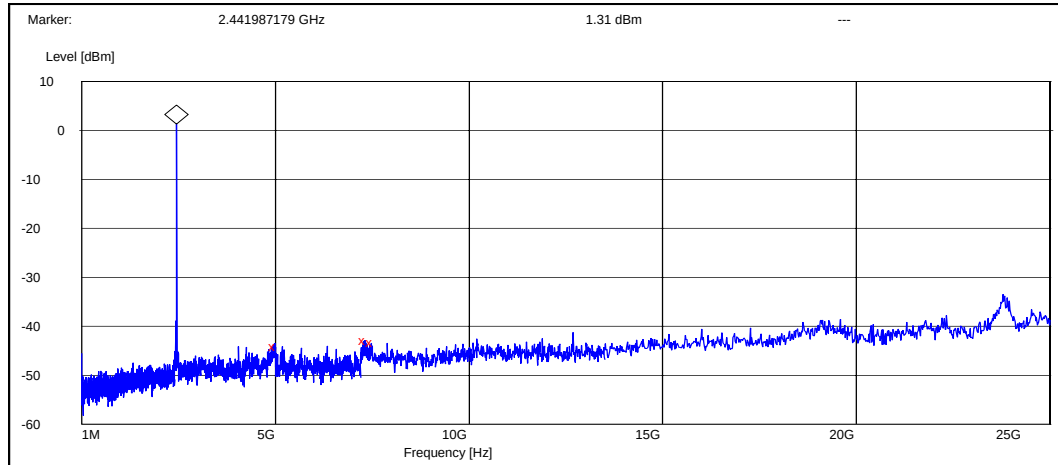
5.2.1 GFSK modulation, PRBS packet type

Channel 0



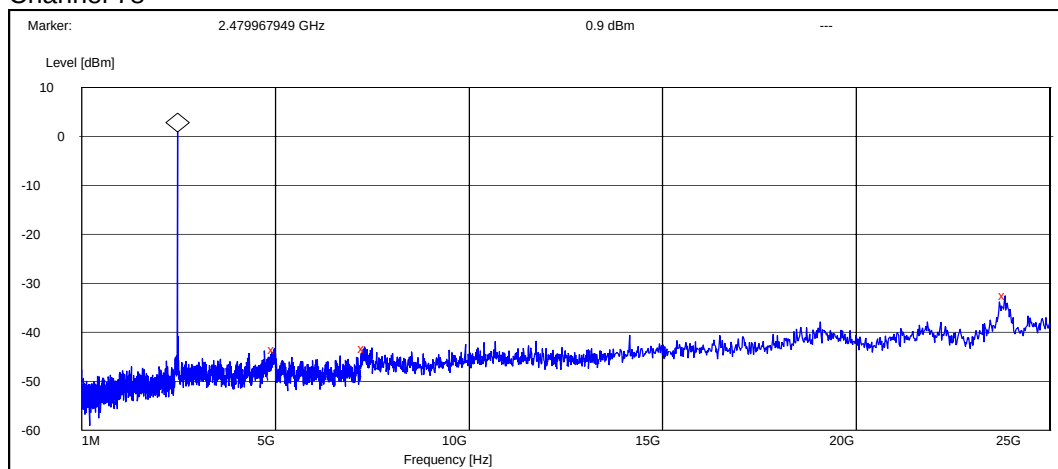
Frequency [MHz]	P [dBc]	Result
4966.666667	-44.787979	Passed
7298.076923	-44.787979	Passed
23820.512821	-33.687979	Passed

Channel 40



Frequency [MHz]	P [dBc]	Result
4986.538462	-45.413401	Passed
7310.096154	-44.213401	Passed
7500.000000	-44.613401	Passed

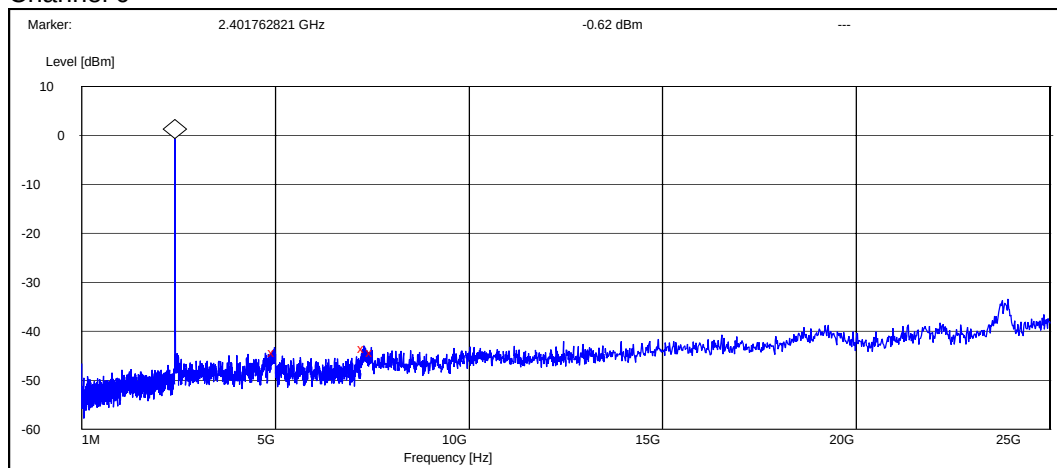
Channel 78



Frequency [MHz]	P [dBc]	Result
4976.282051	-44.298832	Passed
7299.519231	-44.098832	Passed
23838.942308	-33.398832	Passed

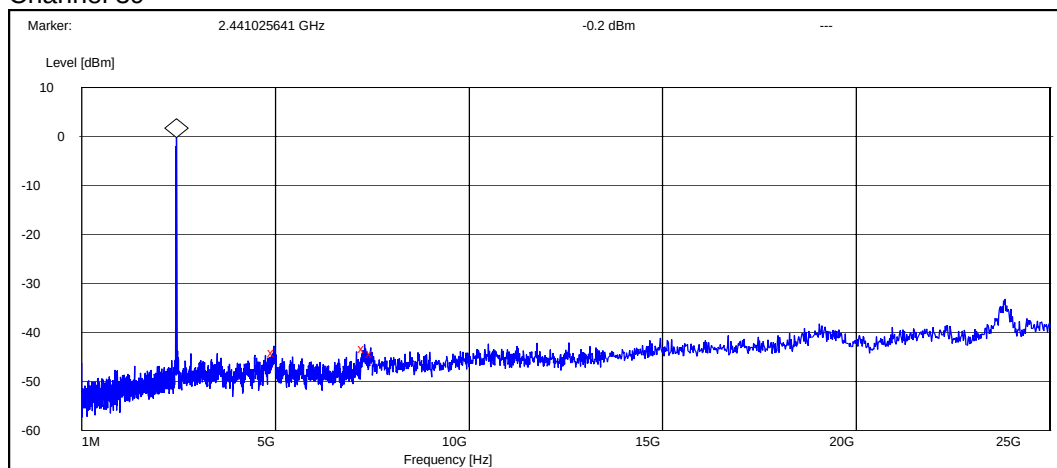
5.2.2 8DPSK modulation, PRBS packet type

Channel 0



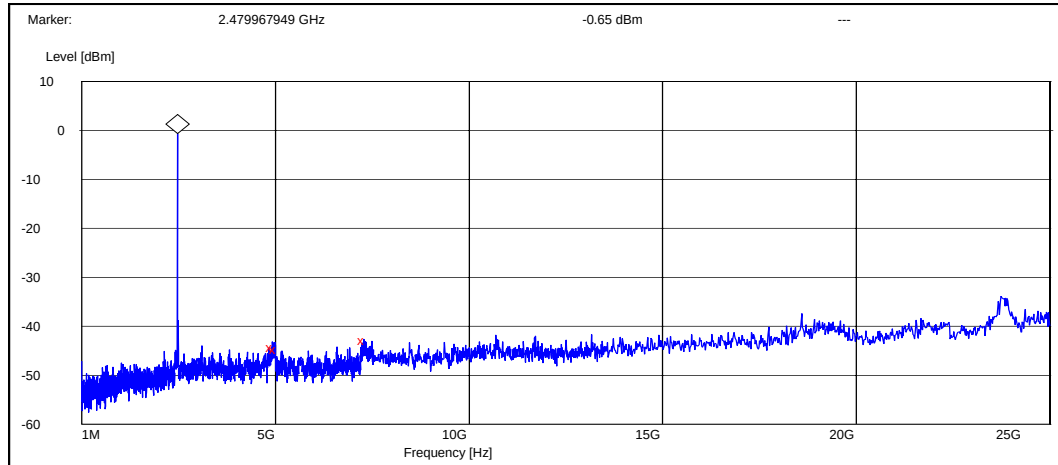
Frequency [MHz]	P [dBc]	Result
4982.051282	-43.575853	Passed
7289.903846	-42.775853	Passed
7500.000000	-43.675853	Passed

Channel 39



Frequency [MHz]	P [dBc]	Result
4961.217949	-43.901771	Passed
7302.403846	-43.101771	Passed
7500.000000	-44.101771	Passed

Channel 78



Frequency [MHz]	P [dBc]	Result
4924.358974	-43.551461	Passed
5000.000000	-44.051461	Passed
7281.730769	-42.351461	Passed

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

EUT with DUT number	RM-123 DUT 40548
Accessories with DUT numbers	BP-6M DUT 40542, AC-4 DUT 40555, HS-23 DUT 40488, MU-25 DUT 40546
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23 / 45 / 103.1
Date of measurements	24.2.2006
Measured by	Jari Jantunen

6.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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 ($A_{TOT} = L_{CABLES} + AF - G_{PREAMP}$).

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

Peak (RBW: 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	49.60	302.00	50.90	-1.30	HORIZONTAL	PASSED
7206.000000	50.50	334.97	48.50	2.00	HORIZONTAL	PASSED

Average (RBW: 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	43.10	142.89	44.40	-1.30	HORIZONTAL	PASSED
7206.000000	39.30	92.26	37.30	2.00	HORIZONTAL	PASSED

Channel 40

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
117.675551	35.30	58.21	58.70	-23.40	VERTICAL	PASSED
124.809018	29.60	30.20	53.90	-24.30	VERTICAL	PASSED
133.004409	24.60	16.98	49.80	-25.20	VERTICAL	PASSED
137.394990	22.20	12.88	47.80	-25.60	VERTICAL	PASSED
172.545090	25.10	17.99	51.40	-26.30	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4883.769539	54.90	555.90	56.50	-1.60	HORIZONTAL	PASSED
7325.651303	51.00	354.81	48.30	2.70	HORIZONTAL	PASSED
7325.653307	50.70	342.77	48.00	2.70	HORIZONTAL	PASSED
17995.491984	55.50	595.66	34.00	21.50	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4883.769539	44.50	167.88	46.10	-1.60	HORIZONTAL	PASSED
7325.651303	38.10	80.35	35.40	2.70	HORIZONTAL	PASSED
7325.653307	38.10	80.35	35.40	2.70	HORIZONTAL	PASSED
17998.991984	42.80	138.04	21.30	21.50	VERTICAL	PASSED

Channel 78

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	56.30	653.13	57.30	-1.00	HORIZONTAL	PASSED
7440.000000	48.80	275.42	45.60	3.20	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	45.90	197.24	46.90	-1.00	HORIZONTAL	PASSED
7440.000000	36.70	68.39	33.50	3.20	HORIZONTAL	PASSED

6.2.2 8DPSK modulation, PRBS packet type

Channel 0

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	45.30	184.08	46.60	-1.30	VERTICAL	PASSED
7206.000000	45.70	192.75	43.70	2.00	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	30.60	33.88	31.90	-1.30	VERTICAL	PASSED
7206.000000	31.30	36.73	29.30	2.00	HORIZONTAL	PASSED

Channel 39

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
117.635070	36.30	65.31	59.70	-23.40	HORIZONTAL	PASSED
124.149499	28.80	27.54	52.90	-24.10	VERTICAL	PASSED
133.306814	23.40	14.79	48.60	-25.20	HORIZONTAL	PASSED
137.394990	19.60	9.55	45.20	-25.60	VERTICAL	PASSED
172.444489	22.10	12.74	48.40	-26.30	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4882.000000	41.30	116.14	42.90	-1.60	HORIZONTAL	PASSED
7323.000000	43.80	154.88	41.10	2.70	HORIZONTAL	

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4882.000000	27.70	24.27	29.30	-1.60	HORIZONTAL	PASSED
7323.000000	30.30	32.73	27.60	2.70	HORIZONTAL	PASSED

Channel 78

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4924.000000	49.00	281.84	50.50	-1.50	VERTICAL	PASSED
7386.000000	44.50	167.88	41.40	3.10	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	31.80	38.90	32.80	-1.00	HORIZONTAL	PASSED
7440.000000	31.70	38.46	28.50	3.20	HORIZONTAL	PASSED

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

EUT with DUT number	RM-123 DUT 40548
Accessories with DUT numbers	BP-6M DUT 40542, AC-4 DUT 40555, HS-23 DUT 40488, MU-25 DUT 40546
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23 / 45 / 103.1
Date of measurements	24.2.2006
Measured by	Jari Jantunen

7.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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.

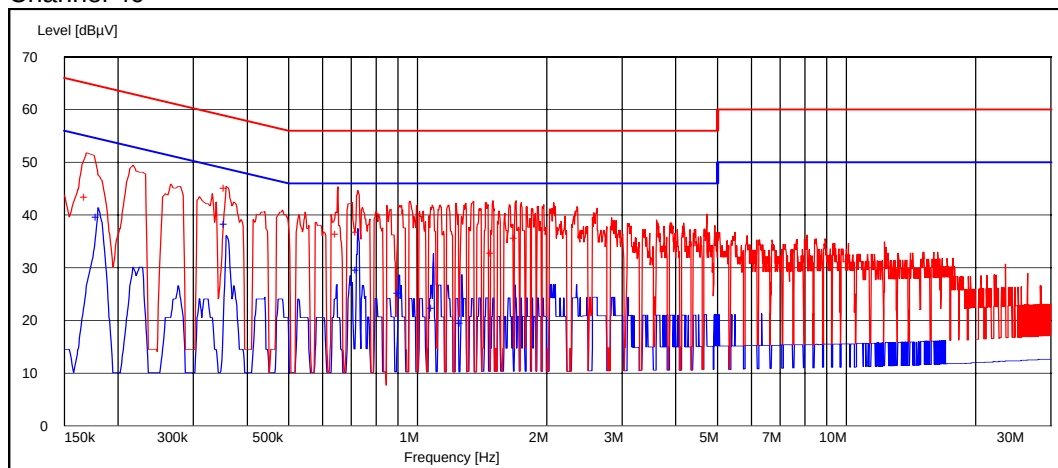
CISPR 22 Class B limits

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



Quasi peak (RBW: 9 kHz)

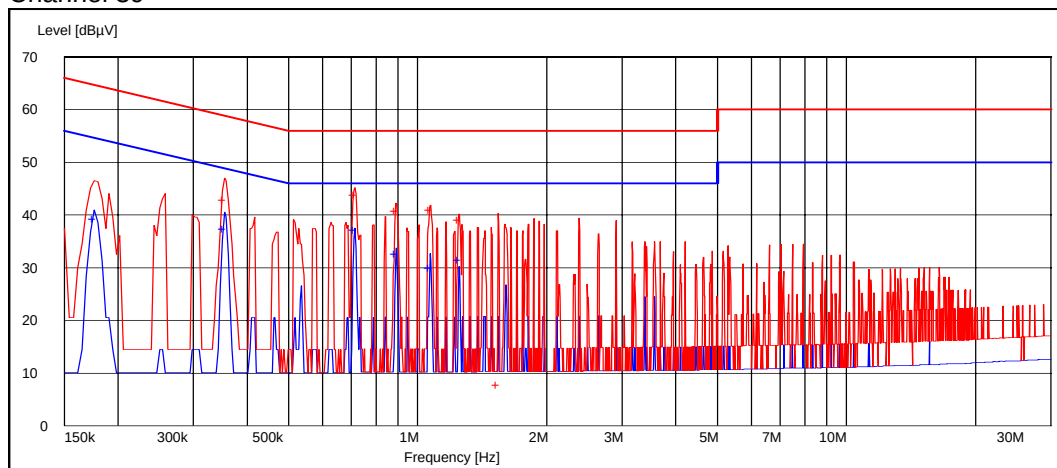
Frequency [MHz]	U [dBμV]	Line	Result
0.168537	43.40	N	PASSED
0.357615	45.00	L1	PASSED
0.650501	36.30	L1	PASSED
0.724649	36.80	L1	PASSED
1.495792	32.70	L1	PASSED
1.695992	35.70	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.179659	39.60	L1	PASSED
0.357615	38.20	L1	PASSED
0.724649	29.60	L1	PASSED
0.906313	25.10	L1	PASSED
1.087976	22.40	L1	PASSED
1.269639	19.50	L1	PASSED

7.2.2 8DPSK modulation, PRBS packet type

Channel 39



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.353908	42.80	L1	PASSED
0.713527	43.80	L1	PASSED
0.891483	40.80	L1	PASSED
1.073146	41.00	L1	PASSED
1.251102	39.10	L1	PASSED
1.540281	7.70	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.175952	39.20	L1	PASSED
0.353908	37.30	L1	PASSED
0.713527	37.20	L1	PASSED
0.891483	32.60	L1	PASSED
1.069439	29.90	L1	PASSED
1.251102	31.50	L1	PASSED

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

EUT with DUT number	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

8.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

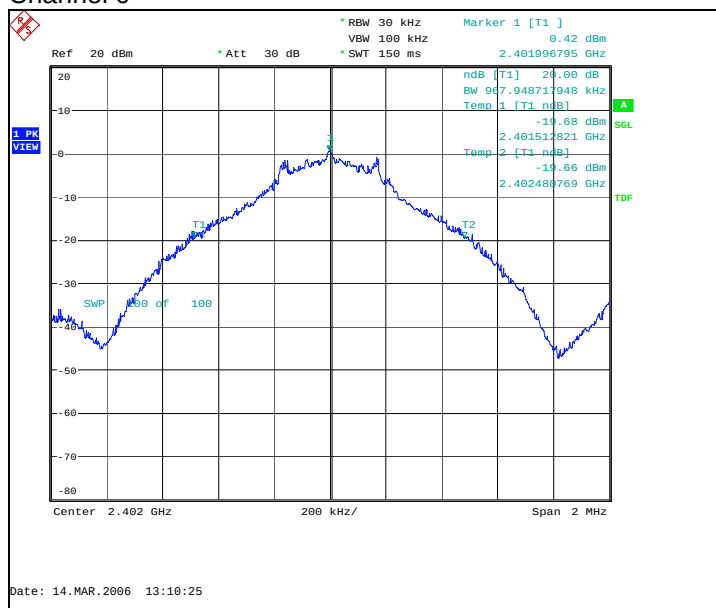
Channel / f _c [MHz]	20 dB bandwidth [kHz]
--------------------------------	-----------------------

0 / 2402 967.949

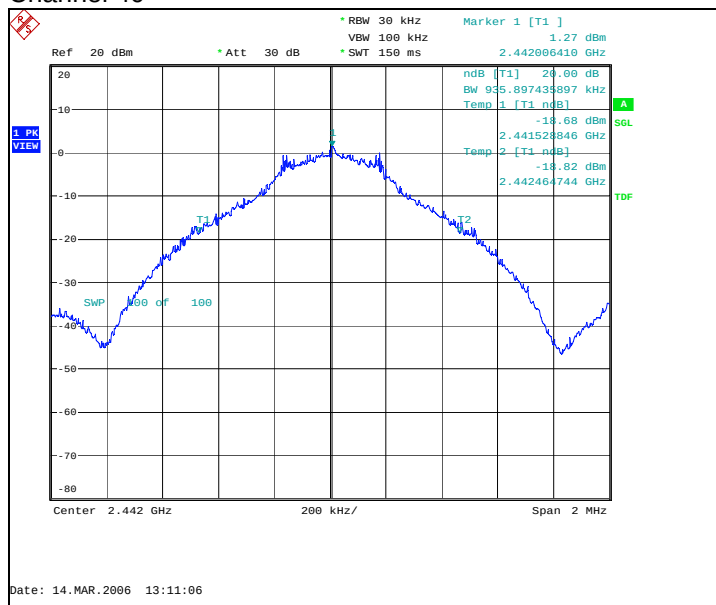
40 / 2442 935.897

78 / 2480 948.718

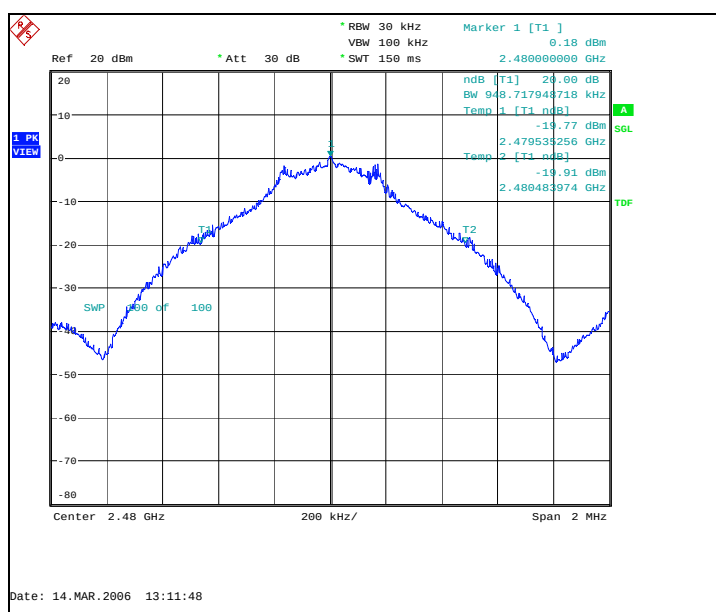
Channel 0



Channel 40



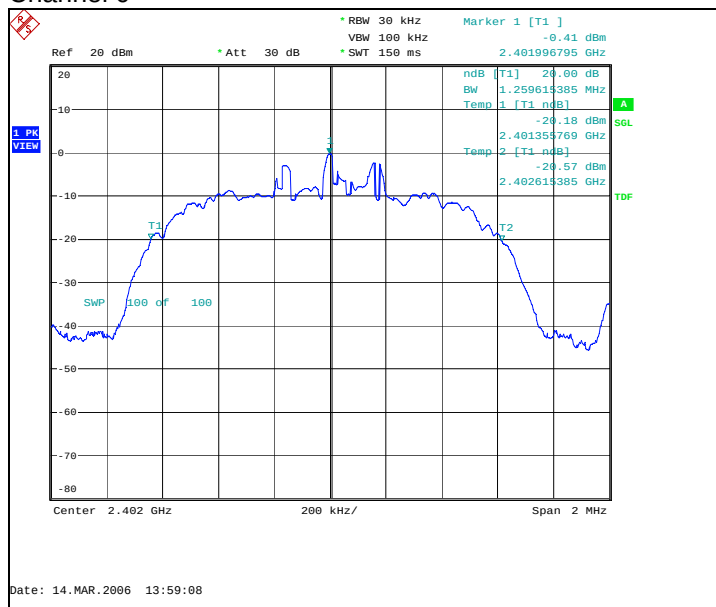
Channel 78



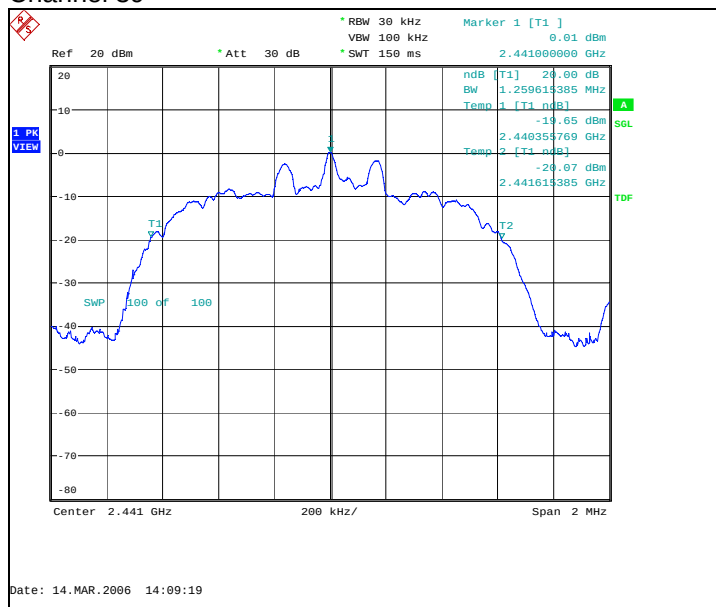
8.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	20 dB bandwidth [kHz]
0 / 2402	1259.615
39 / 2441	1259.615
78 / 2480	1259.615

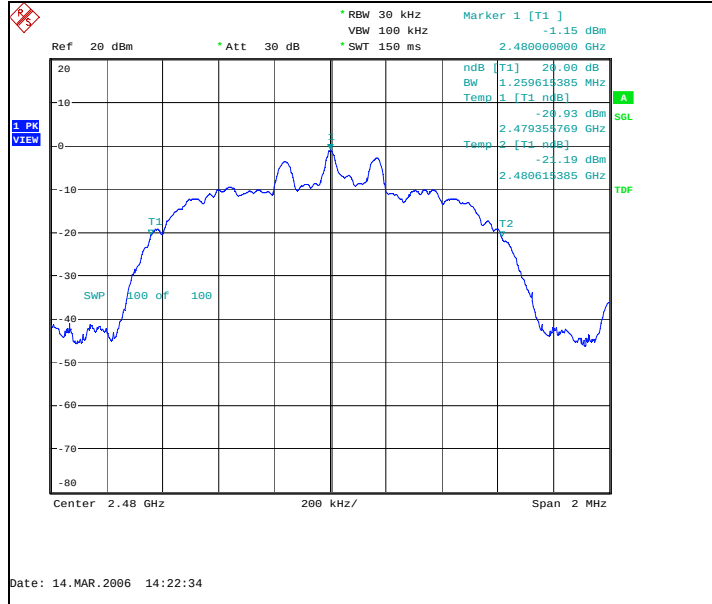
Channel 0



Channel 39



Channel 78



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

EUT with DUT number	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

9.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for carrier frequency separation measurements

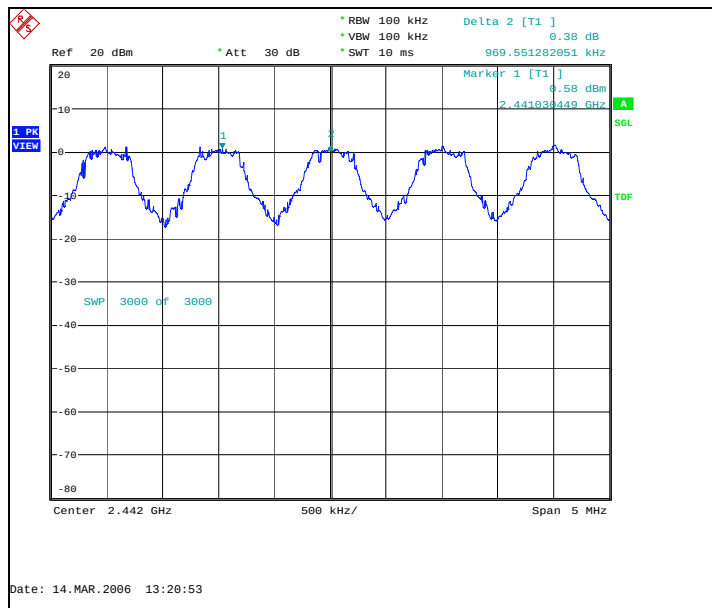
Limit [MHz]
≥ 0.025 or $2/3$ of the 20 dB bandwidth

9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
969.551	Passed

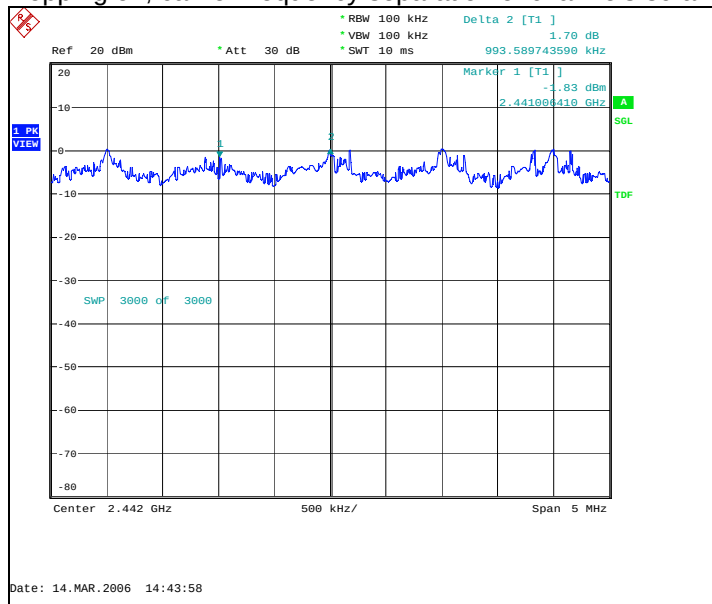
Hopping on, carrier frequency separation of channels 39 and 40



9.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
969.551	Passed

Hopping on, carrier frequency separation of channels 39 and 40



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

EUT with DUT number	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

10.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for number of hopping frequencies measurements

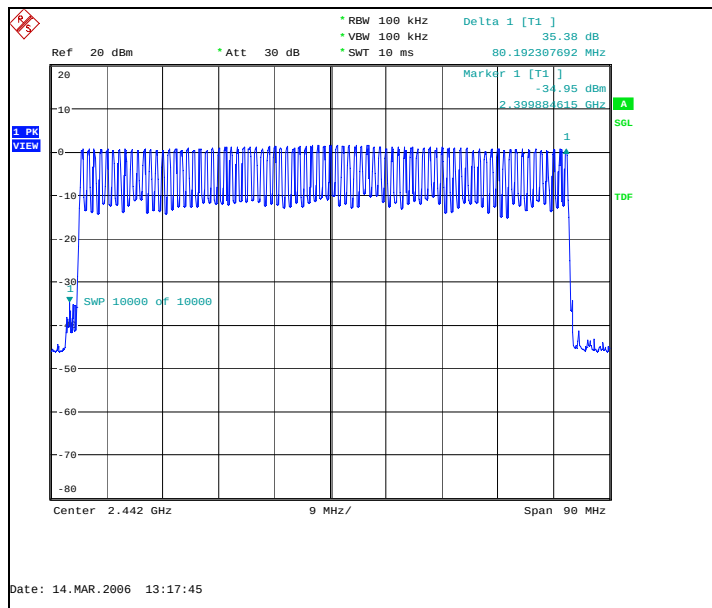
Limit [number]
≥ 15

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Passed

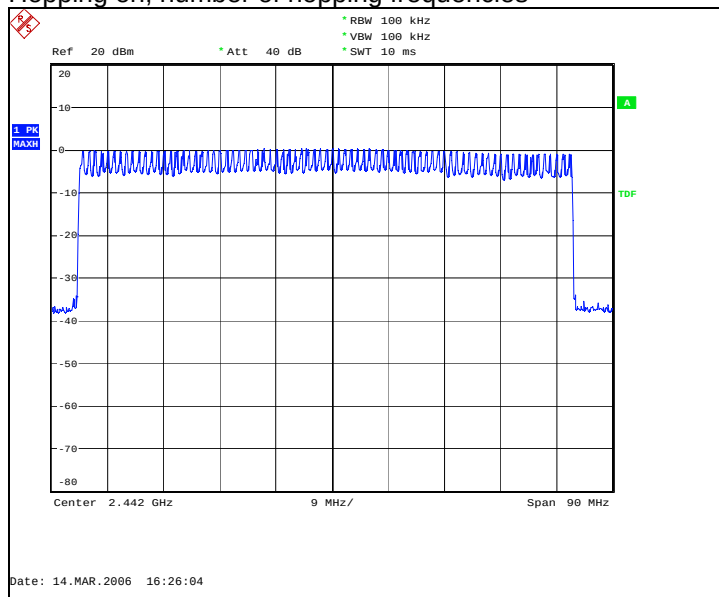
Hopping on, number of hopping frequencies



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	Phone: DUT 40567
Accessories with DUT numbers	Battery: DUT 40511
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23/45/104.1
Date of measurements	14.3.2006
Measured by	Jan-Erik Lilja

11.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

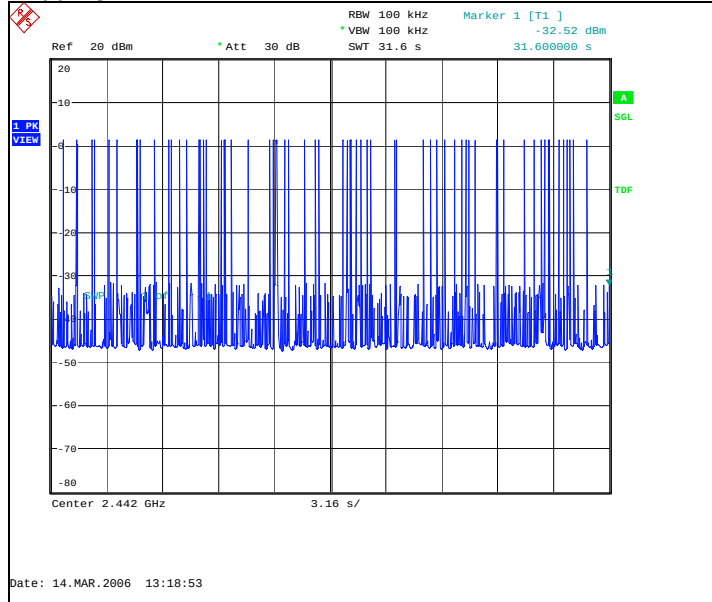
Limit [s]
≤ 0.4

11.2. Bluetooth test results

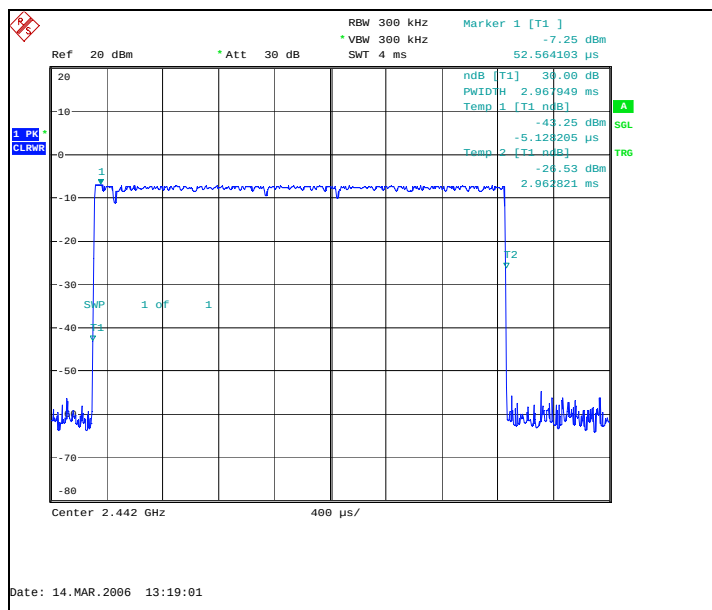
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μs]	Time of occupancy [s]	Result
59	2967.949	0.175109	Passed

Hopping on, number of transmissions, channel 40



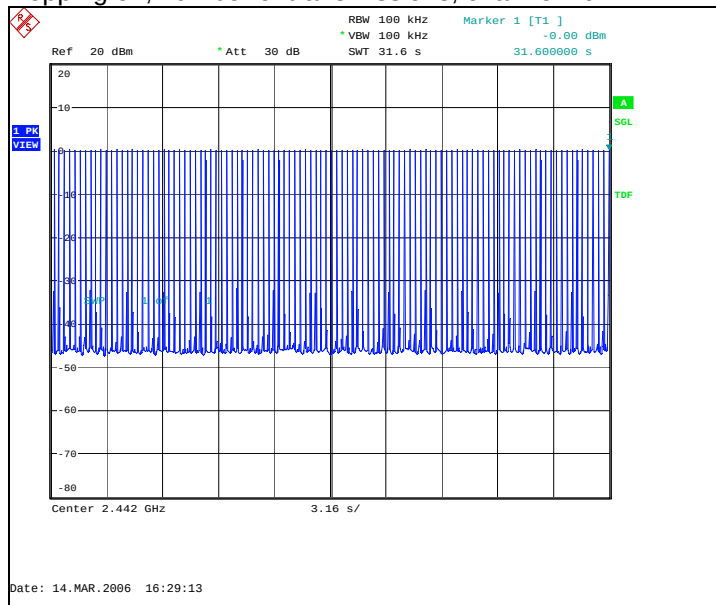
Hopping on, duration of one transmission, channel 40



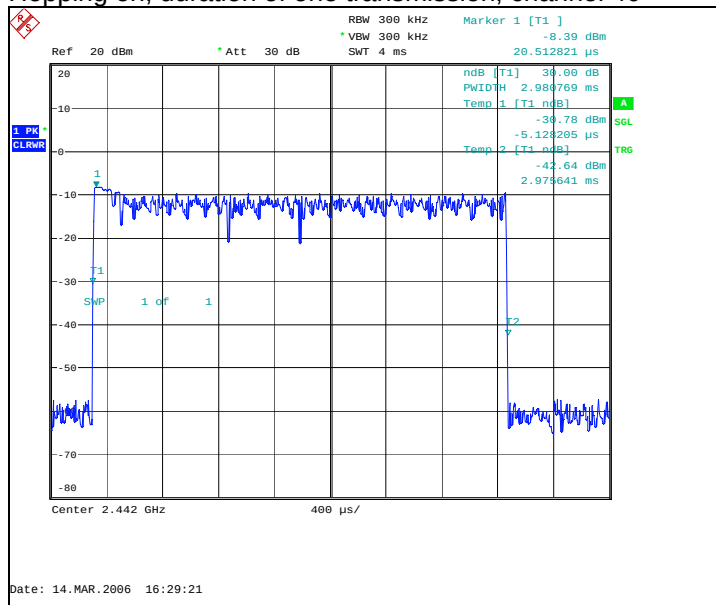
11.2.2 8DPSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μs]	Time of occupancy [s]	Result
108	2980.769	0.321923	Passed

Hopping on, number of transmissions, channel 40



Hopping on, duration of one transmission, channel 40



12. Test Equipment

12.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM37610	Spectrum analyzer	FSU	R&S	15C,22/24
TM37678	Radio communication tester	CMU-200	R&S	15C,22/24
	Attenuator 10 dB	6251.17.A	Huber+Suhner AG	15C,22/24
TM22901	Step attenuator 110dB	8496A	Agilent	15C,22/24
TM37499	Power splitter	11667A	Agilent	15C,22/24
	Temperature chamber	VT4002	Vötsch	15C,22/24
TM38112	DC power supply	6632A	Agilent	15C,22/24
TM38111	Multimeter	34401A	Agilent	15C,22/24
TM38845	EMI receiver	ESI 40	R&S	15B,15C
TM37773	Radio communication tester	CMU-200	R&S	15B,15C
TM38631	Signal generator	83640L	Agilent	15B,15C
TM38114	DC power supply	6632A	Agilent	15B,15C
TM22835	Multimeter	87	Fluke	15B,15C
TM30600	Pulse Limiter	ESH3-Z2	R&S	15B,15C
TM26490	LISN 50 µH	ESH3-Z5/	R&S	15B,15C
TM30636	LISN 50 µH	L2-16/	PMM	15B,15C

12.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM30599	3m semi-anechoic chamber		TDK	15B,15C, 22/24
TM38845	EMI receiver	ESI 40	R&S	15B,15C, 22/24
TM37498	Preamplifier	AMF-5D-020180-26-10P	MITEQ	15B,15C, 22/24
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	MITEQ	15B,15C, 22/24
TM37516	Biconilog antenna	HL562	R&S	15B,15C, 22/24
TM26496	Double ridged waveguide antenna	3115	EMCO	15B,15C, 22/24
TM39158	Horn antenna	3116	EMCO	15B,15C, 22/24
TM26492	Reference dipole set	UHAP/VHAP	Schwarzbeck	15B,15C, 22/24
TM37501	Dipole antenna	3125-870	EMCO	22/24
TM37502	Dipole antenna	3125-1880	EMCO	22/24
TM37773	Radio communication tester	CMU-200	R&S	15B,15C, 22/24
TM38631	Signal generator	83640L	Agilent	15B,15C, 22/24
TM38066	High pass filter	4HC3000/18000-3-KK	Trilithic	15B,15C, 22/24
	High pass filter	WHK2010-10SS	Trilithic	15B,15C, 22/24
	Low pass filter	WLK1750-10SS	Trilithic	15B,15C, 22/24
TM26511	Tunable notch filter	WRCA870	Wainwright	22/24
TM38215	Tunable notch filter	WRCD1850/1910-0.2/40	Wainwright	22/24
TM38214	Band reject filter	WRCT 2402/2480-2400/2483.5-30	Wainwright	15C
TM30642	Turntable controller	HD-100	Deisel	15B,15C, 22/24
TM26500	Turntable	DS412	Deisel	15B,15C, 22/24
TM38842	Antenna mast controller	2090	EMCO	15B,15C, 22/24
TM38843	Antenna mast	2075	EMCO	15B,15C, 22/24
TM38114	DC power supply	6632A	Agilent	15B,15C, 22/24
TM22835	Multimeter	87	Fluke	15B,15C, 22/24