TCC
Nokia

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

FCC Part 15C Compliance Test Report

Test Report no.:	Tre_FCC_0622_01.doc	**Date of Report:**	21.6.2006
Number of pages:	35	**Customer's Contact person:**	Jukka Pekkala
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 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-126 hw 0572 / Battery BL-4C, AC charger AC-3, Headset HS-23**		
FCC ID:	PPIRM-126H	**IC:**	661U-RM126
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 Jari Jantunen Date: 2006.06.21 10:01:42 +03'00'		

Jari Jantunen, System Manager

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	31.5.2006
Testing completed	13.6.2006
The customer's contact person	Jukka Pekkala
Test Plan referred to	T:\Projects\RM-126\TestPlan_RS \ RM126_HAC_RS_test_plan.xls
Notes	-
Document name	T:\Projects\RM-126\EMC\Results\FCC\Tre_FCC_0622_01.doc

1.1. EUT and Accessory Information

The EUT is a quadri band (GSM850/900/1800/1900) mobile phone with Bluetooth. Bluetooth is tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
GSM phone	RM-126	004400851723575	0572	-	3.13	40681
GSM phone	RM-126	004400851725026	0572	-	3.13	40686
Battery	BL-4C	-	-	-	-	40682
Battery	BL-4C	-	-	-	-	40693
AC-Charger	AC-3	-	-	-	-	40690
Headset	HS-23	-	-	-	-	40689

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	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.

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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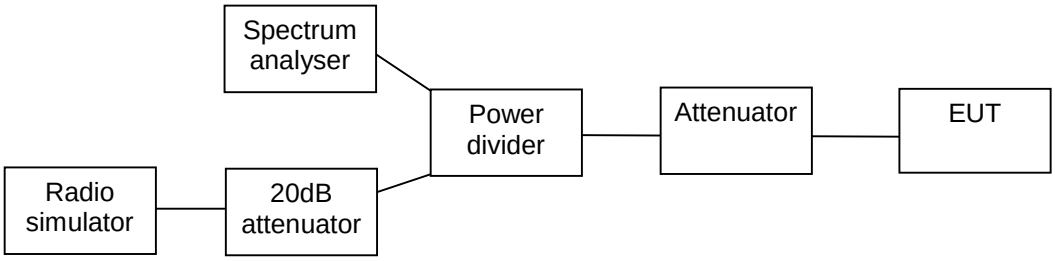
TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

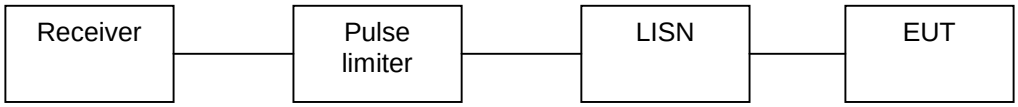
TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

2. Test setups

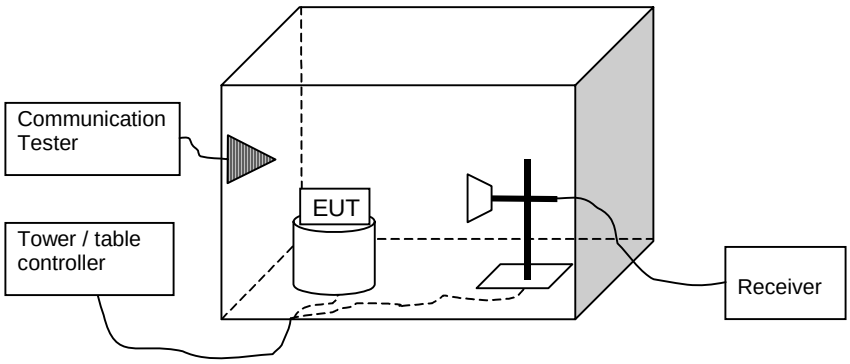
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Spurious radiated emissions test setup



TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

3. Peak output power

(FCC §15.247(b)(1), RSS-210 A8.4 (2))

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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

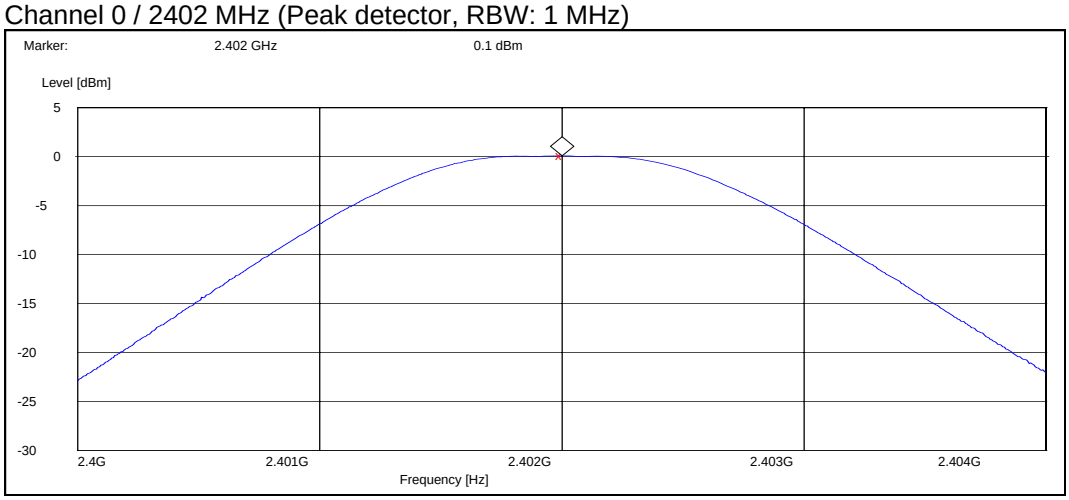
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

3.2.1 GSFK modulation, PRBS packet type

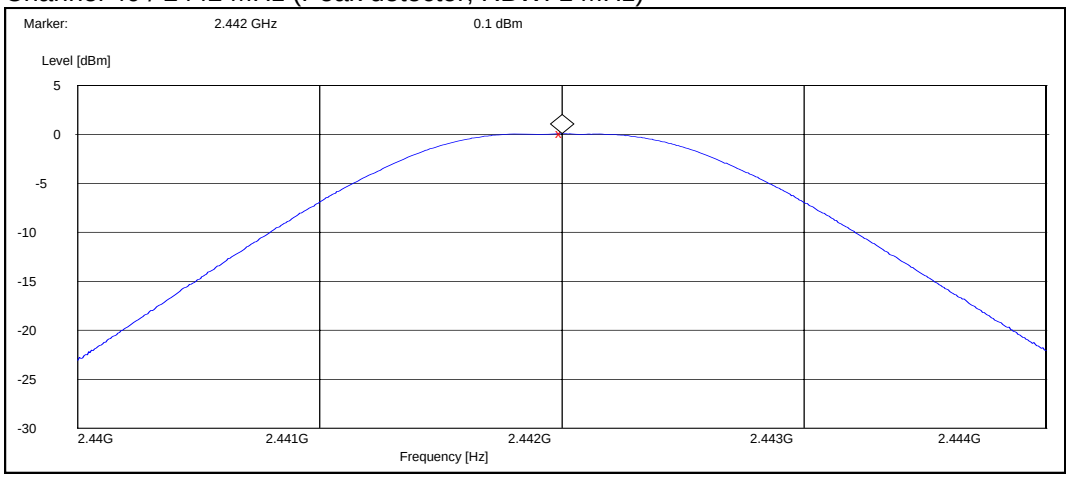
Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	0.10	1.023	Passed
40 / 2442	0.10	1.023	Passed
78 / 2480	0.00	1.000	Passed

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

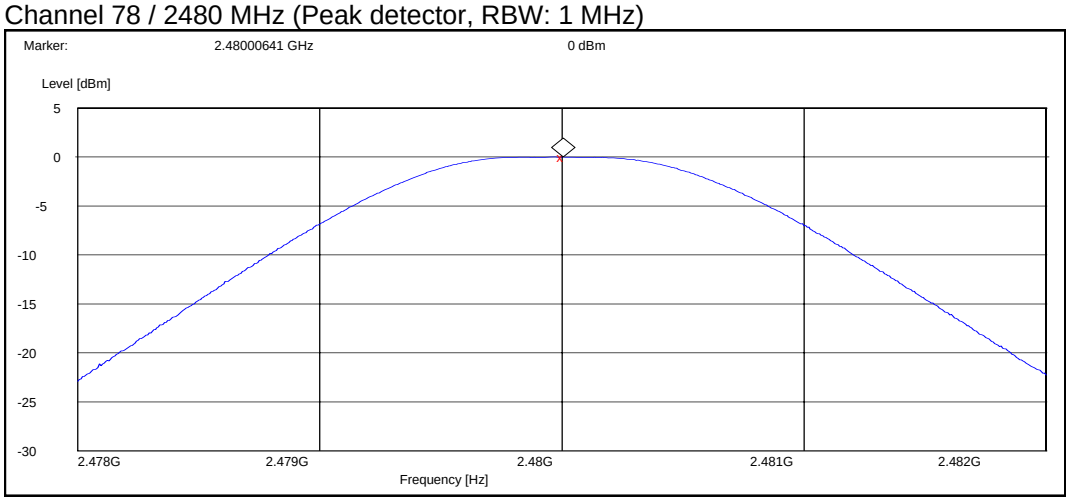


TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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



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

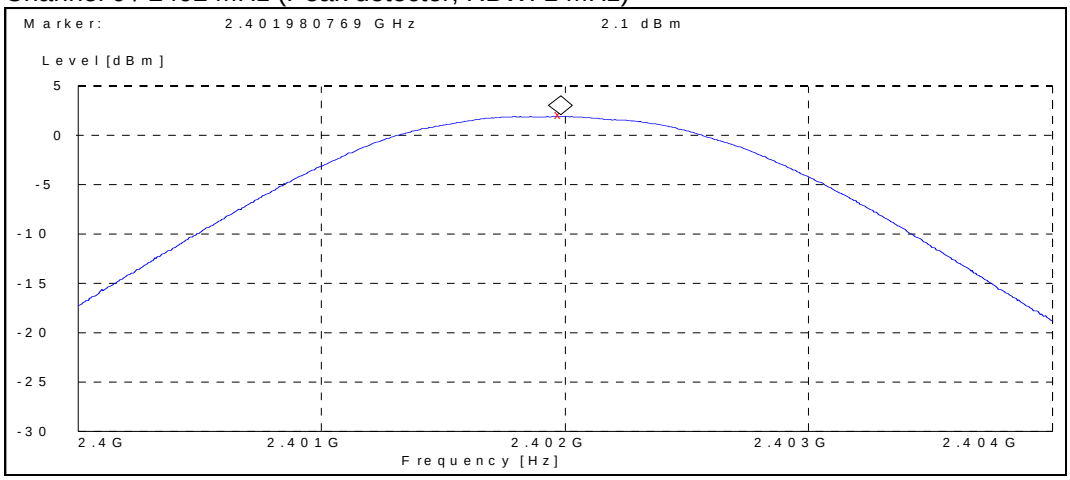


3.2.2 8DPSK modulation, PRBS packet type

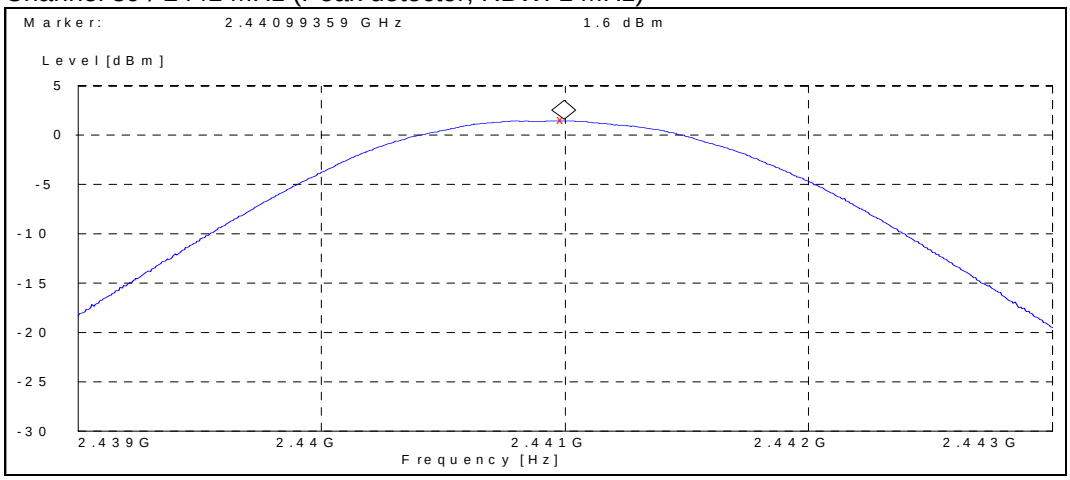
Channel / f_C [MHz]	P [dBm]	P [mW]	Result
0 / 2402	2.10	1.622	Passed
39 / 2441	1.60	1.445	Passed
78 / 2480	1.50	1.413	Passed

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

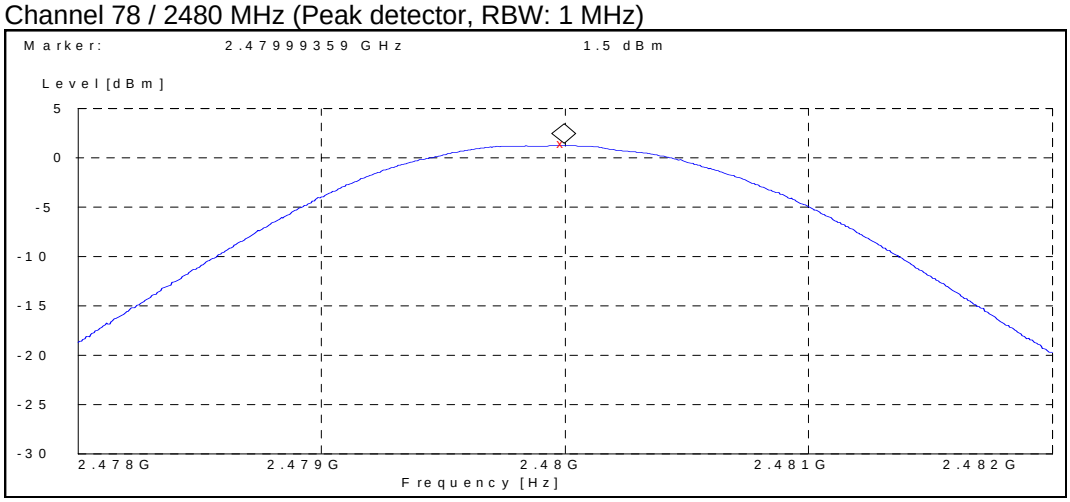
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz)



Channel 39 / 2441 MHz (Peak detector, RBW: 1 MHz)



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



TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

4. Band edge compliance of RF emissions

(FCC §15.247(c), RSS-210 A8.5)

EUT with DUT number	RM-126 DUT 40686
Accessories with DUT numbers	BL-4C DUT 40693, AC-3 DUT 40690, HS-23 DUT 40689
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Flip open
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 47 / 102.2-102.5
Date of measurements	12-13.6.2006
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

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

4.2. Bluetooth Test results

4.2.1 GFSK modulation, PRBS packet type

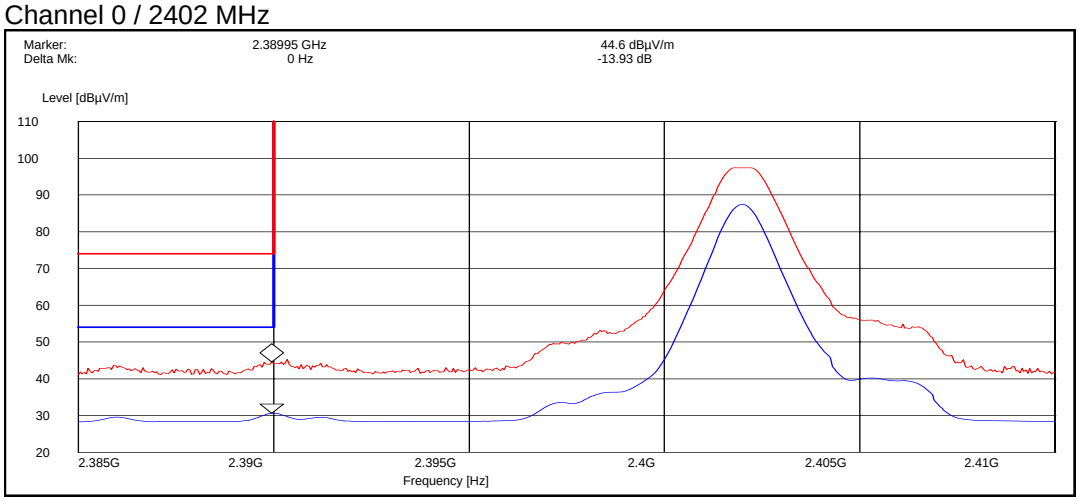
Average (RBW: 1 MHz)

Channel / f_C [MHz]	E [dBµV/m]	Result
0 / 2402	30.67	PASSED
78 / 2480	37.91	PASSED
Hopping on, low end	28.20	PASSED
Hopping on, high end	30.70	PASSED

Peak (RBW: 1 MHz)

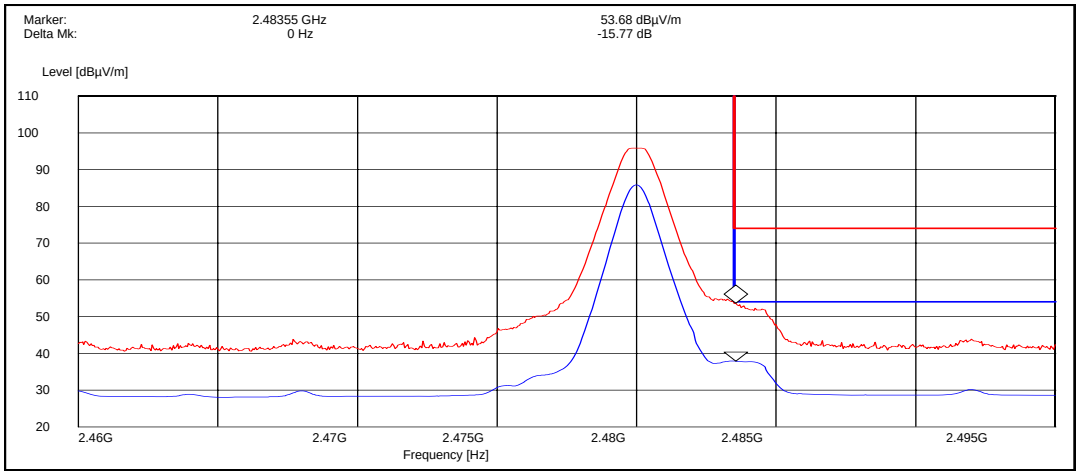
Channel / f_C [MHz]	E [dBµV/m]	Result
0 / 2402	44.60	PASSED
78 / 2480	53.68	PASSED
Hopping on, low end	43.94	PASSED
Hopping on, high end	52.71	PASSED

Channel 0 / 2402 MHz

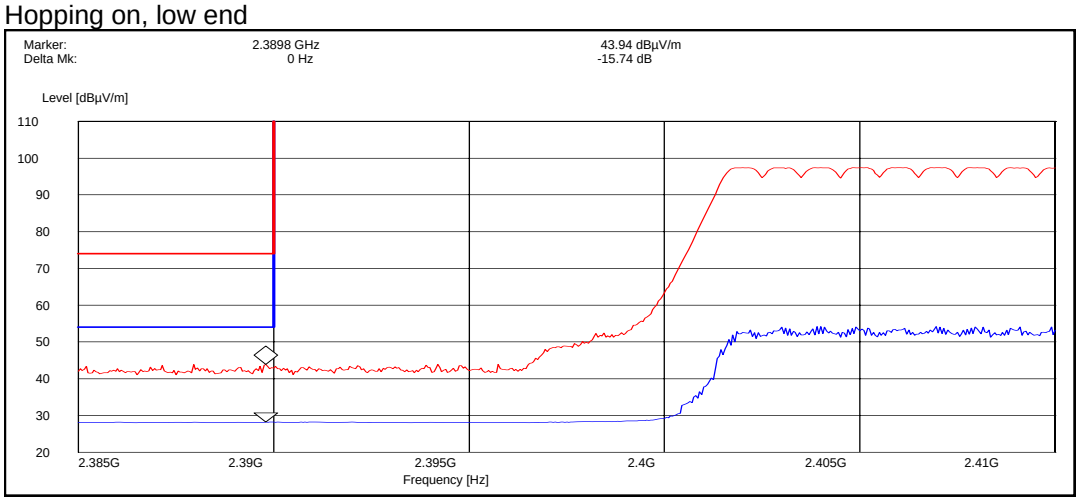


TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

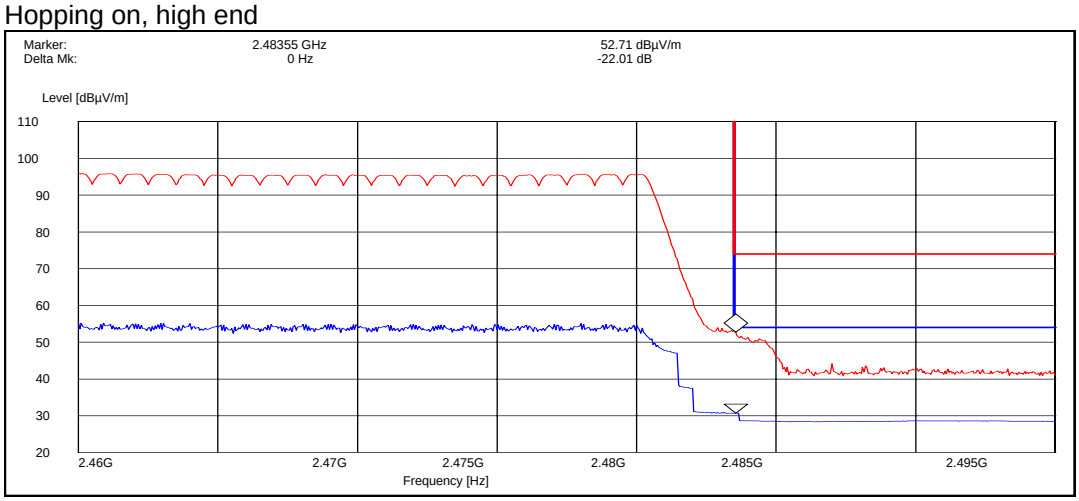
Channel 78 / 2480 MHz



Hopping on, low end



Hopping on, high end



TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

4.2.2 8DPSK modulation, PRBS packet type

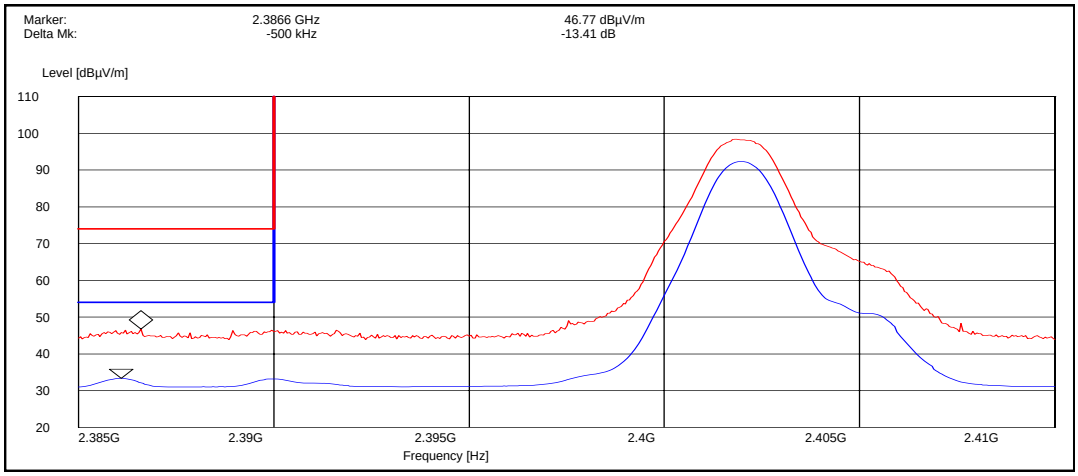
Average (RBW: 1 MHz)

Channel / f_C [MHz]	E [dBµV/m]	Result
0 / 2402	33.36	PASSED
78 / 2480	46.56	PASSED
Hopping on, low end	29.34	PASSED
Hopping on, high end	31.75	PASSED

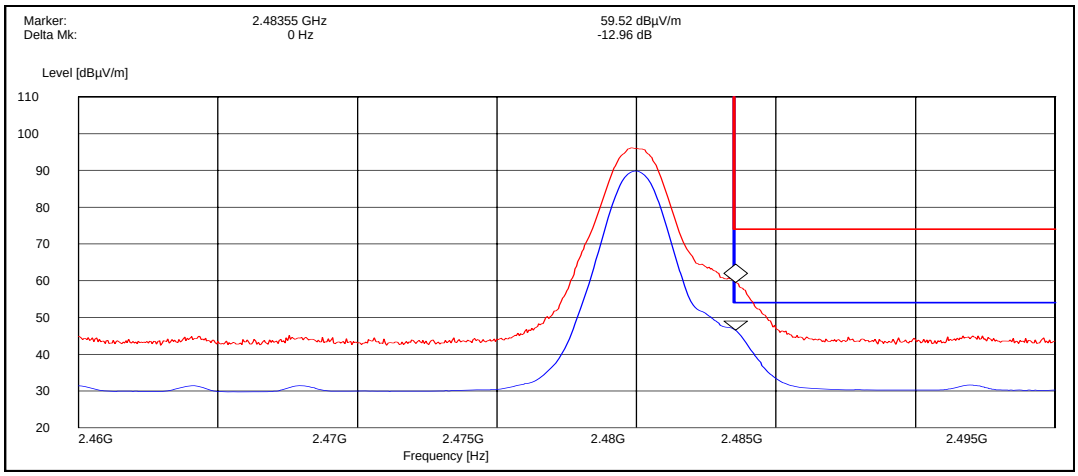
Peak (RBW: 1 MHz)

Channel / f_C [MHz]	E [dBµV/m]	Result
0 / 2402	46.77	PASSED
78 / 2480	59.92	PASSED
Hopping on, low end	46.29	PASSED
Hopping on, high end	60.03	PASSED

Channel 0 / 2402 MHz

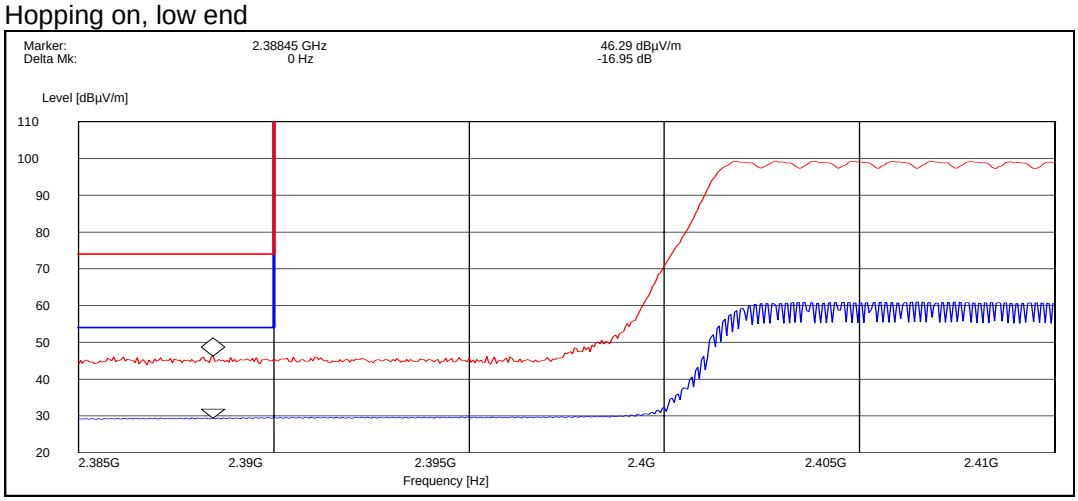


Channel 78 / 2480 MHz

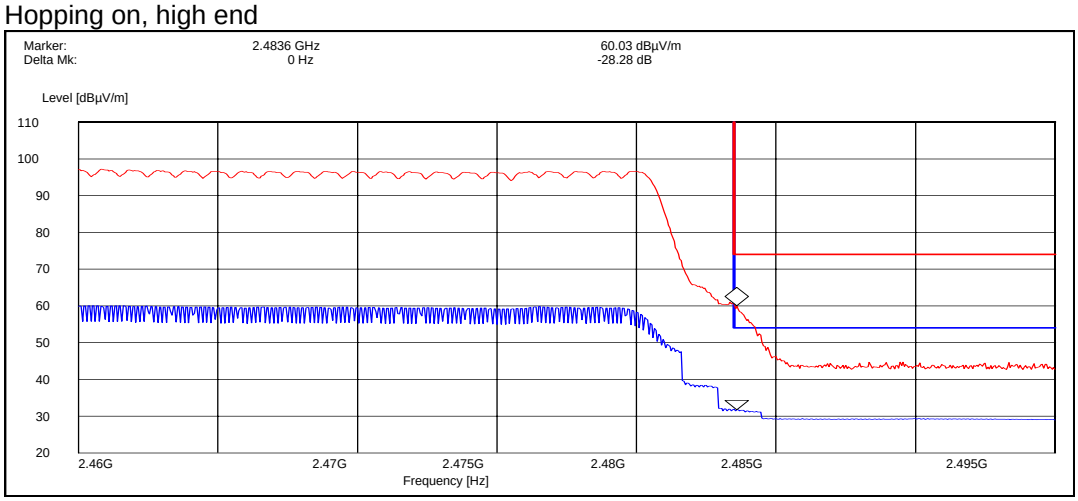


TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

Hopping on, low end



Hopping on, high end



TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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.

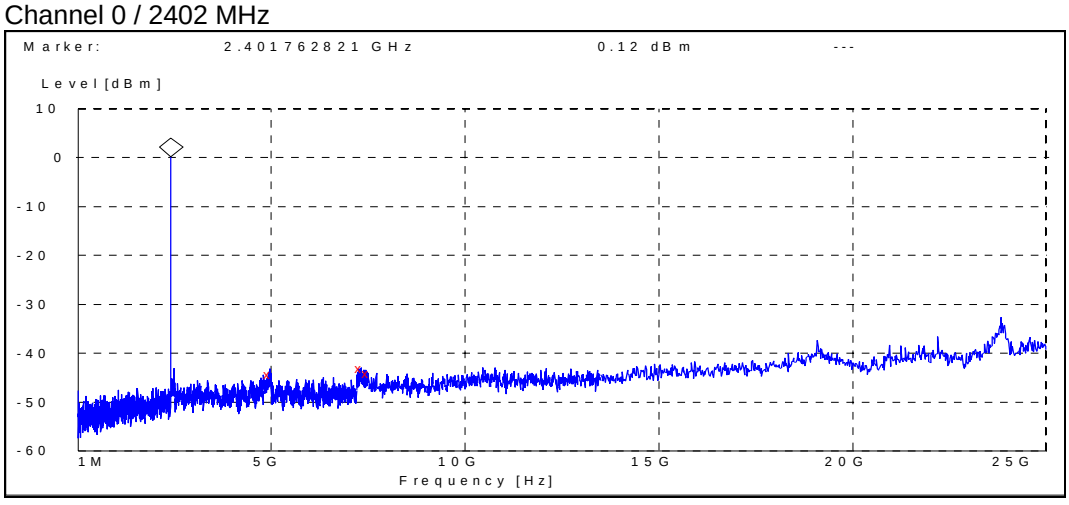
Limits for spurious RF conducted emissions measurements

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

5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

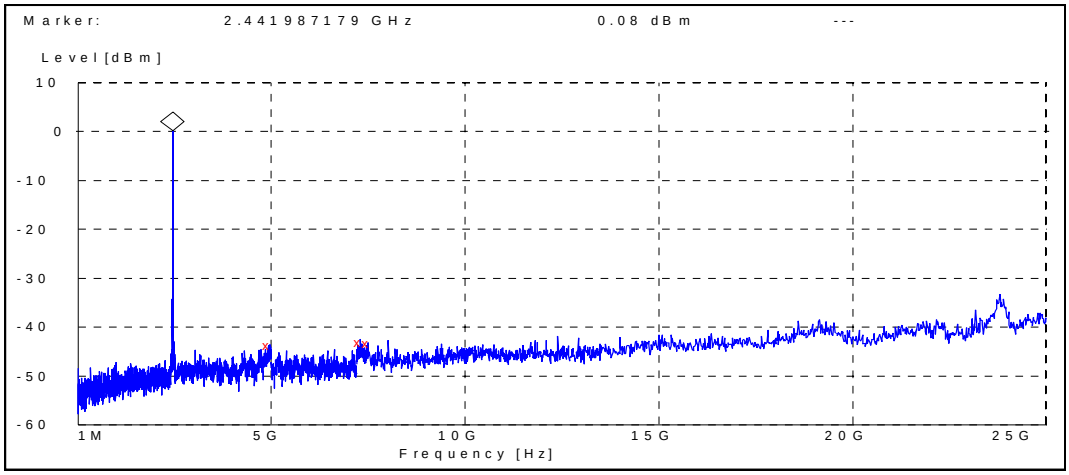
Channel 0 / 2402 MHz



Frequency [MHz]	P [dBc]	Result
4963.141026	-44.418048	Passed
7316.826923	-43.318048	Passed
7500.000000	-44.218048	Passed

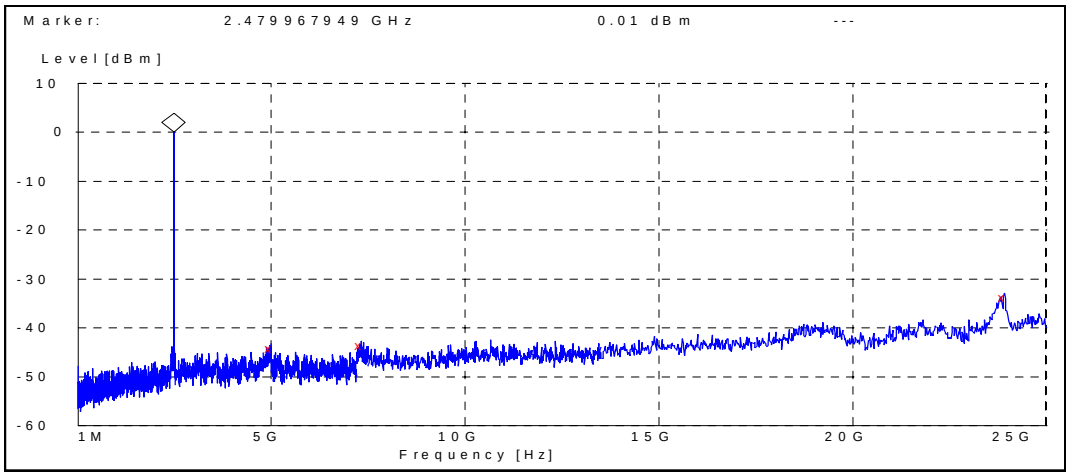
TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

Channel 40 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4955.448718	-43.884931	Passed
7302.403846	-43.184931	Passed
7500.000000	-43.484931	Passed

Channel 78 / 2480 MHz

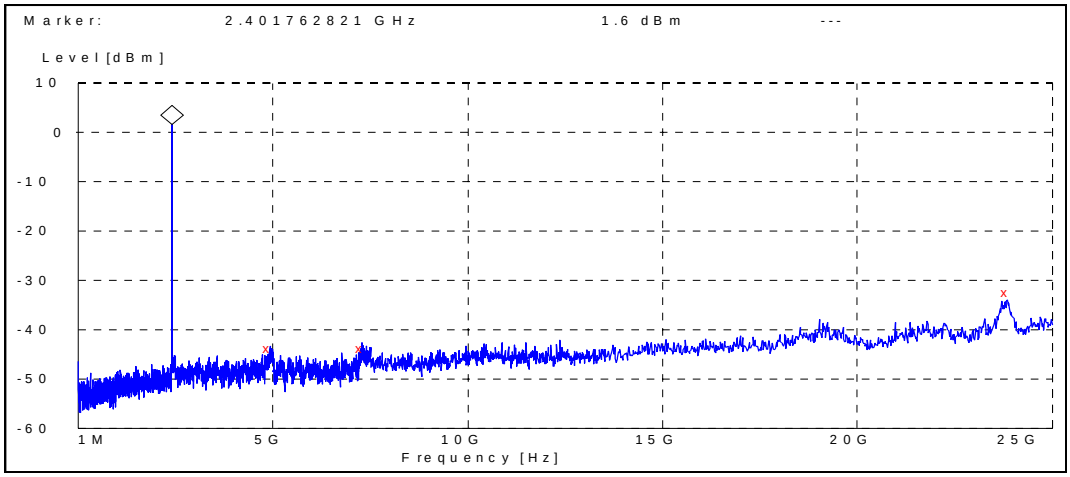


Frequency [MHz]	P [dBc]	Result
4999.679487	-44.213631	Passed
7320.192308	-43.713631	Passed
23931.089744	-33.813631	Passed

5.2.2 8DPSK modulation, PRBS packet type

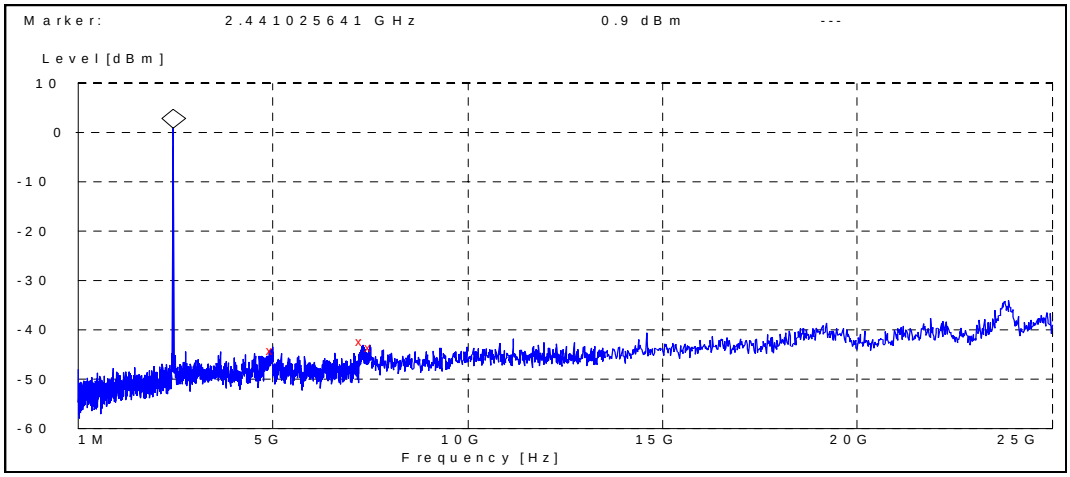
TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

Channel 0 / 2402 MHz



Frequency [MHz]	P [dBc]	Result
4924.358974	-45.396114	Passed
7285.576923	-45.396114	Passed
23857.371795	-33.996114	Passed

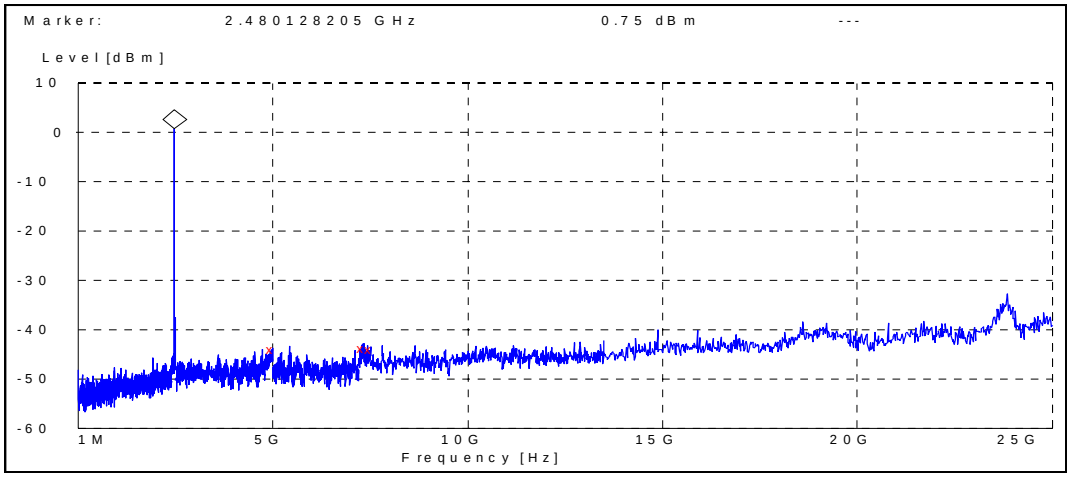
Channel 39 / 2441 MHz



Frequency [MHz]	P [dBc]	Result
4983.653846	-45.098611	Passed
7304.807692	-43.298611	Passed
7500.000000	-44.598611	Passed

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

Channel 78 / 2480 MHz



Frequency [MHz]	P [dBc]	Result
4985.576923	-44.653664	Passed
7332.211538	-44.553664	Passed
7500.000000	-44.853664	Passed

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
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Fax. +358 (0) 7180 46880

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

EUT with DUT number	RM-126 DUT 40686
Accessories with DUT numbers	BL-4C DUT 40693, AC-3 DUT 40690, HS-23 DUT 40689
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Flip open
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 47 / 102.2-102.5
Date of measurements	12-13.6.2006
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 [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

TCC Nokia Tampere Laboratory
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Sinitaival 5
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6.2. Bluetooth Test results

6.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	39.60	95.50	40.90	-1.30	VERTICAL	PASSED
7206.000000	41.80	123.03	39.80	2.00	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	26.80	21.88	28.10	-1.30	HORIZONTAL	PASSED
7206.000000	28.80	27.54	26.80	2.00	HORIZONTAL	PASSED

Channel 40 / 2442 MHz
Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
37.835872	25.80	19.50	38.30	-12.50	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4884.000000	40.10	101.16	41.70	-1.60	HORIZONTAL	PASSED
7314.621242	43.20	144.54	40.50	2.70	VERTICAL	PASSED
7421.337675	43.10	142.89	39.80	3.30	HORIZONTAL	PASSED
17931.363727	55.10	568.85	33.80	21.30	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4884.000000	27.20	22.91	28.80	-1.60	HORIZONTAL	PASSED
7349.191383	29.90	31.26	27.10	2.80	HORIZONTAL	PASSED
7419.337675	30.40	33.11	27.10	3.30	HORIZONTAL	PASSED
17927.863727	42.00	125.89	20.80	21.20	HORIZONTAL	PASSED

Channel 78 / 2480 MHz
Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	41.70	121.62	42.70	-1.00	HORIZONTAL	PASSED
7440.000000	42.80	138.04	39.60	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	28.10	25.41	29.10	-1.00	VERTICAL	PASSED
7440.000000	30.00	31.62	26.80	3.20	HORIZONTAL	PASSED

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

6.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	39.80	97.72	41.10	-1.30	HORIZONTAL	PASSED
7206.000000	41.40	117.49	39.40	2.00	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	26.60	21.38	27.90	-1.30	HORIZONTAL	PASSED
7206.000000	28.80	27.54	26.80	2.00	HORIZONTAL	PASSED

Channel 39 / 2441 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
37.835872	27.80	24.55	40.30	-12.50	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4959.915832	40.90	110.92	41.90	-1.00	VERTICAL	PASSED
7402.307615	42.90	139.64	39.60	3.30	HORIZONTAL	PASSED
17981.455912	54.70	543.25	33.20	21.50	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4957.915832	27.30	23.17	28.30	-1.00	VERTICAL	PASSED
7403.307615	30.30	32.73	27.00	3.30	HORIZONTAL	PASSED
17979.955912	42.40	131.83	20.90	21.50	HORIZONTAL	PASSED

Channel 78 / 2480 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	40.80	109.65	41.80	-1.00	HORIZONTAL	PASSED
7440.000000	42.80	138.04	39.60	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	27.70	24.27	28.70	-1.00	HORIZONTAL	PASSED
7440.000000	30.00	31.62	26.80	3.20	HORIZONTAL	PASSED

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

7. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-126 DUT 40686
Accessories with DUT numbers	BL-4C DUT 40693, AC-3 DUT 40690, HS-23 DUT 40689
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 48 / 102.5
Date of measurements	12.6.2006
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

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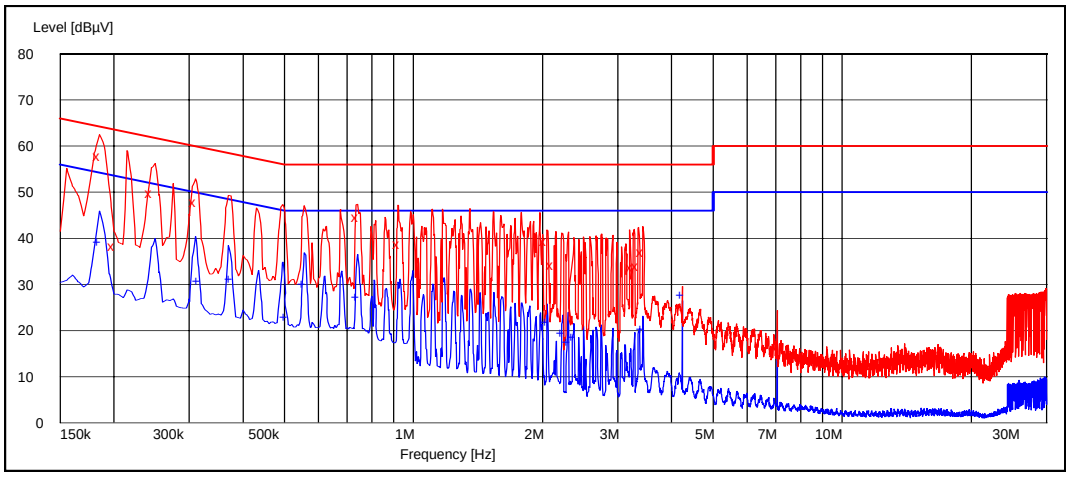
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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
0.185000	57.80	L1	PASSED
0.200000	38.20	N	PASSED
0.245000	49.80	N	PASSED
0.310000	47.80	N	PASSED
0.740000	44.60	L1	PASSED
0.925000	38.70	N	PASSED
2.035000	39.40	L1	PASSED
2.115000	34.30	L1	PASSED
3.235000	33.70	N	PASSED
3.335000	33.90	N	PASSED
3.425000	37.10	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.185000	39.20	N	PASSED
0.315000	30.70	N	PASSED
0.375000	31.20	L1	PASSED
0.505000	23.00	L1	PASSED
0.555000	30.10	L1	PASSED
0.740000	27.20	N	PASSED
2.055000	21.70	N	PASSED
2.230000	19.50	N	PASSED
2.300000	17.60	N	PASSED
2.370000	18.60	N	PASSED
3.430000	20.40	L1	PASSED
4.240000	27.70	L1	PASSED

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P.O. Box 68
Sinitaival 5
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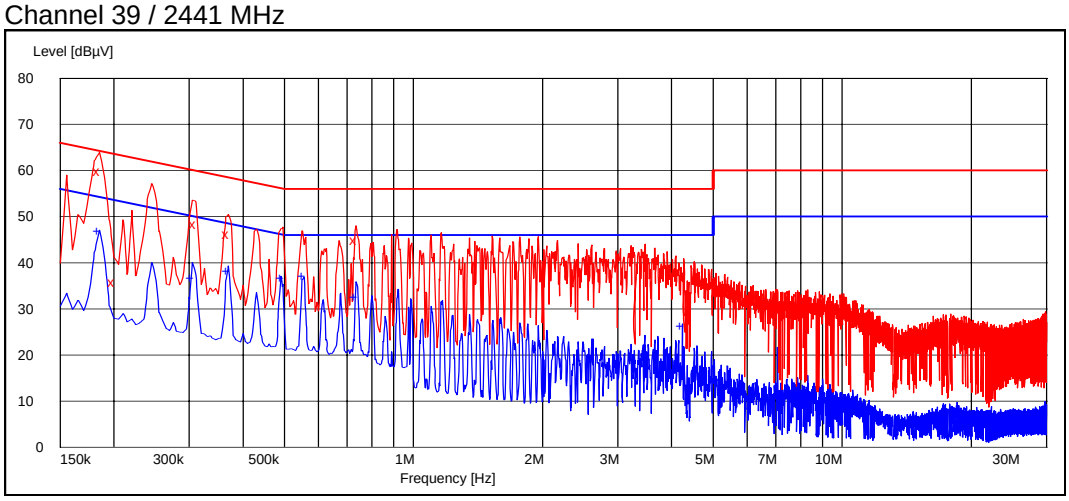
7.2.2 8DPSK modulation, PRBS packet type

Channel 39 / 2441 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.185000	59.80	L1	PASSED
0.200000	35.80	N	PASSED
0.310000	48.30	N	PASSED
0.370000	46.20	L1	PASSED
0.735000	45.00	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.185000	46.80	L1	PASSED
0.305000	36.60	L1	PASSED
0.370000	38.30	L1	PASSED
0.495000	36.60	L1	PASSED
0.555000	37.10	L1	PASSED
0.735000	32.60	L1	PASSED
4.240000	26.30	N	PASSED

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Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

8. 20 dB bandwidth

(FCC §15.247(a)(1), RSS-210 A8.1 (1))

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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

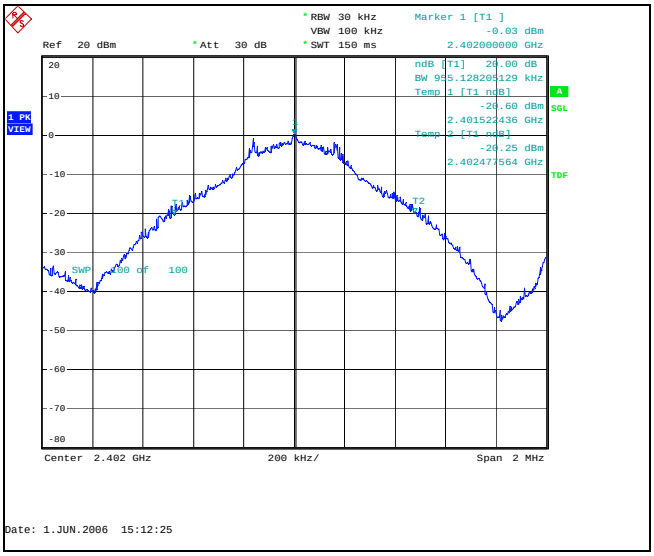
Limit [MHz]
N/A

8.2. Bluetooth Test results

8.2.1 GFSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	955.128	Passed
40 / 2442	964.744	Passed
78 / 2480	971.154	Passed

Channel 0 / 2402 MHz



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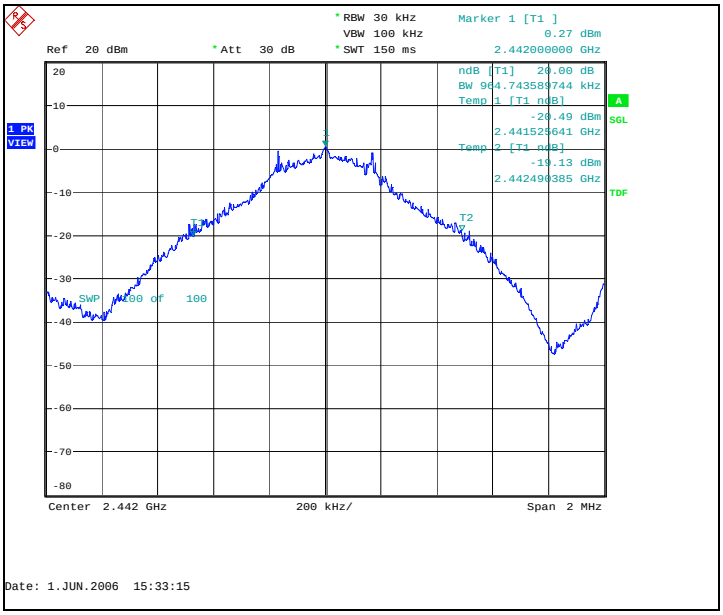
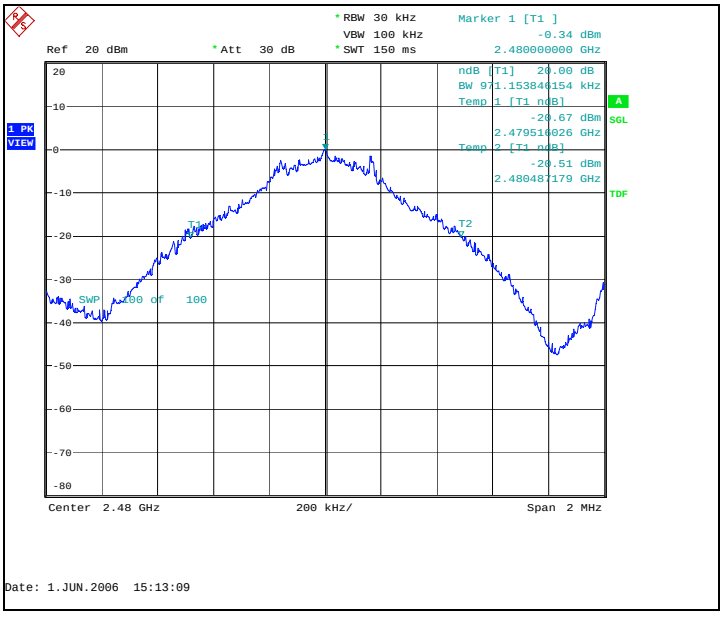
Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



8.2.2 8DPSK modulation, PRBS packet type

Channel / f_C [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1259.615	Passed
39 / 2441	1259.615	Passed
78 / 2480	1262.821	Passed

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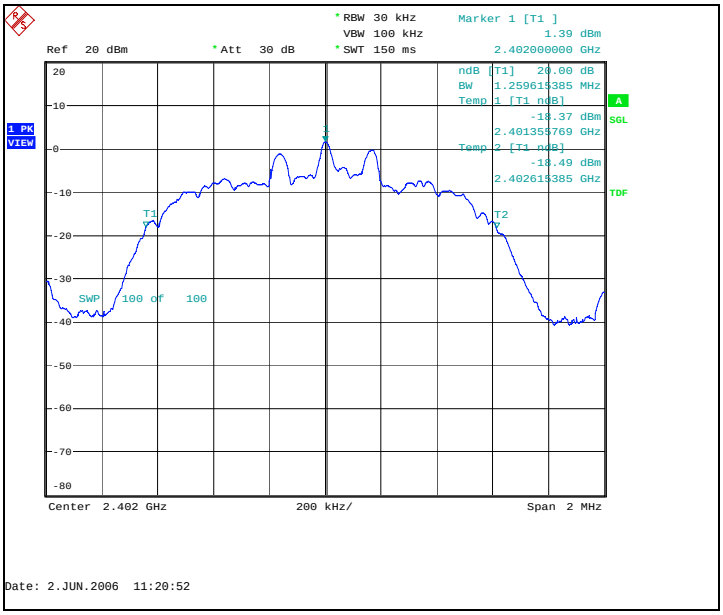
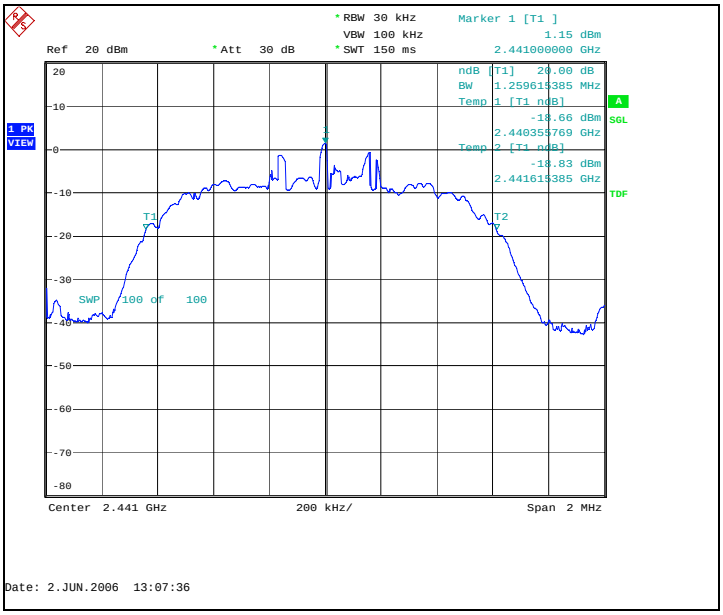
Channel 0 / 2402 MHz



Channel 39 / 2441 MHz



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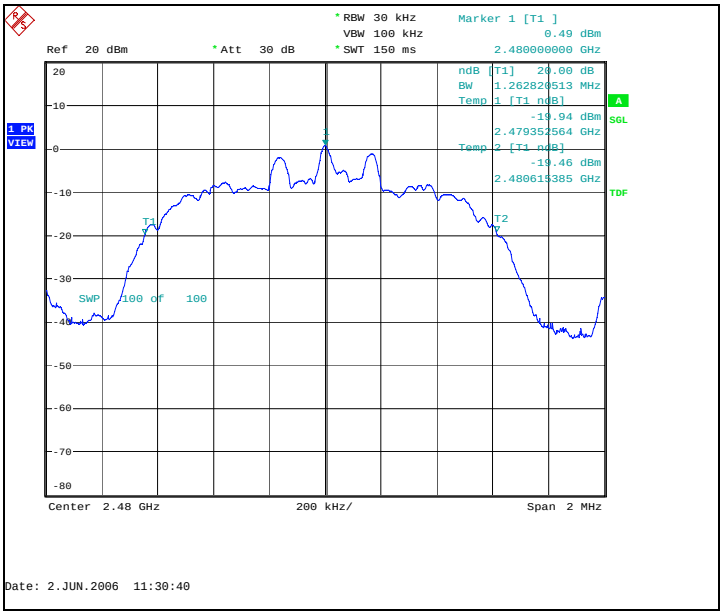
Channel 78 / 2480 MHz



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Sinitaival 5
FIN-33720 TAMPERE, FINLAND
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Fax. +358 (0) 7180 46880

9. Carrier frequency separation

(FCC §15.247(a)(1), RSS-210 A8.1 (2))

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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

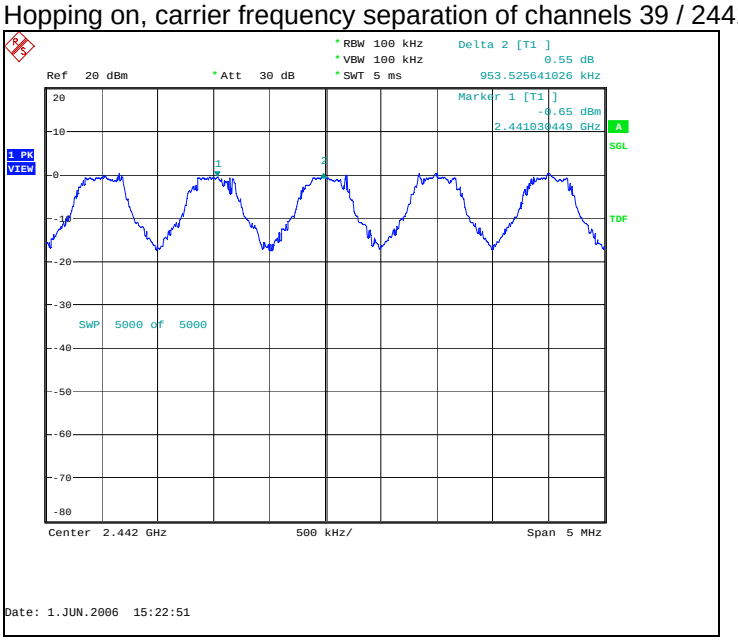
Limit [MHz]
≥ 0.025 or 2/3 of the 20 dB bandwidth

9.2. Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
953.526	Passed

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



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P.O. Box 68
Sinitaival 5
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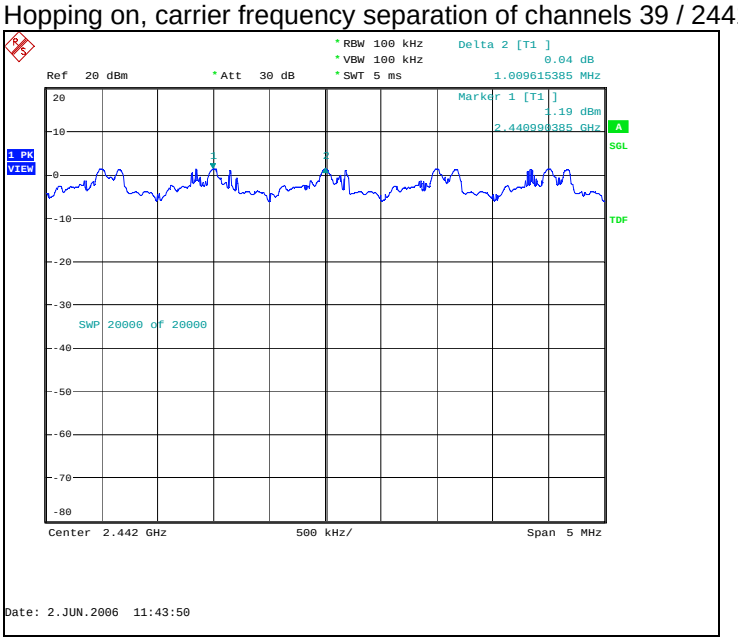
9.2.2 8DPSK modulation, PRBS packet type

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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P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
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Fax. +358 (0) 7180 46880

10. Number of hopping frequencies

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

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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

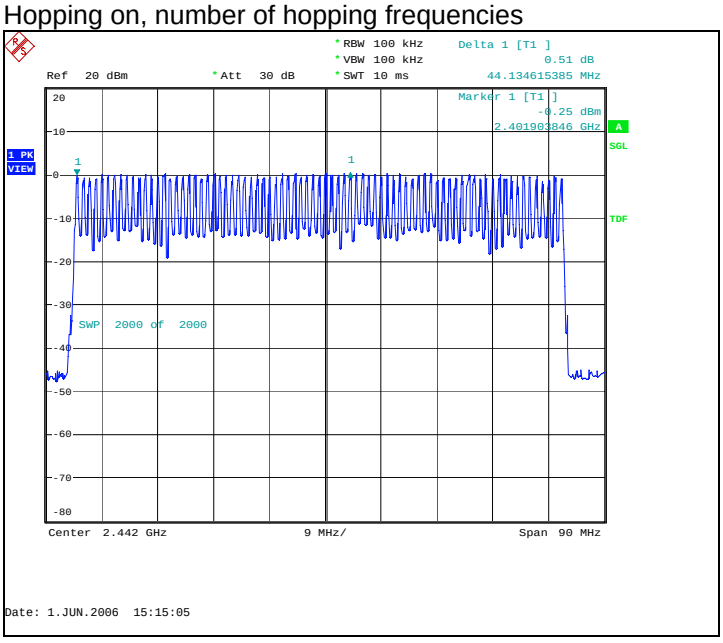
Limit [number]
≥ 15

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79.00	Passed

Hopping on, number of hopping frequencies

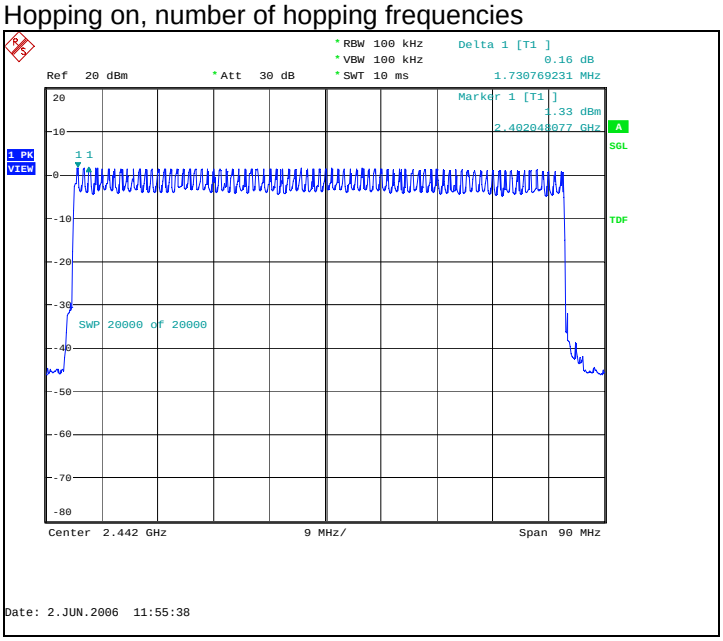


TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

10.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79.00	Passed

Hopping on, number of hopping frequencies



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P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

11. Time of occupancy

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

EUT with DUT number	RM-126: DUT 40681
Accessories with DUT numbers	BL-4C:DUT 40682
Operation Voltage [V] / [Hz]	-
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21/42/100.6-101.5
Date of measurements	1-2.6.2006
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
62.00	2962	0.183615	Passed

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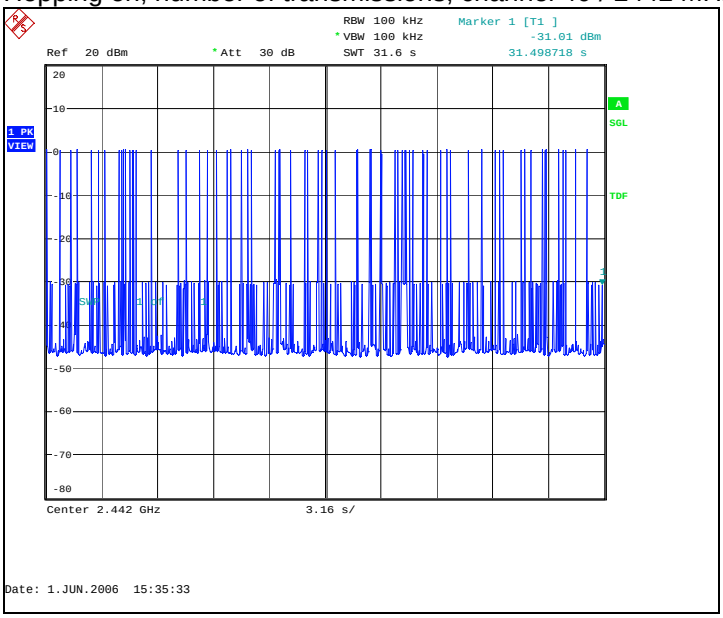
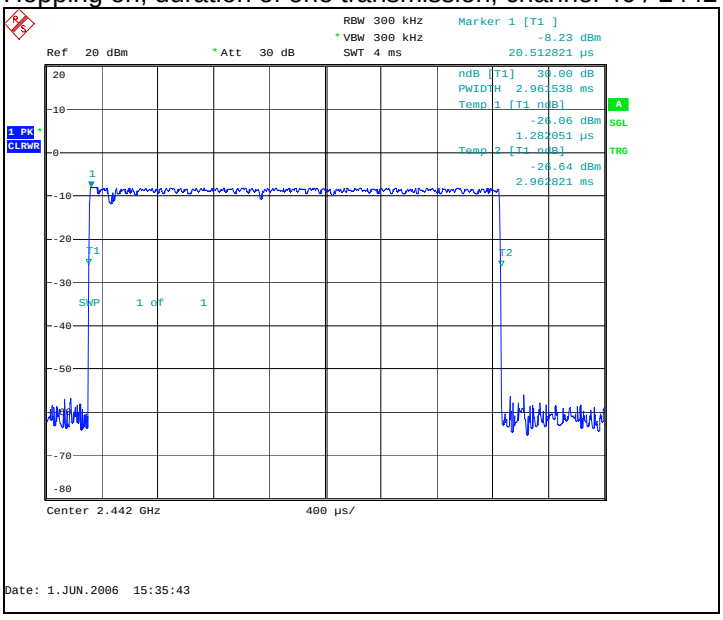
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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 [µs]	Time of occupancy [s]	Result
107.0	2981	0.318942	Passed

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P.O. Box 68
Sinitaival 5
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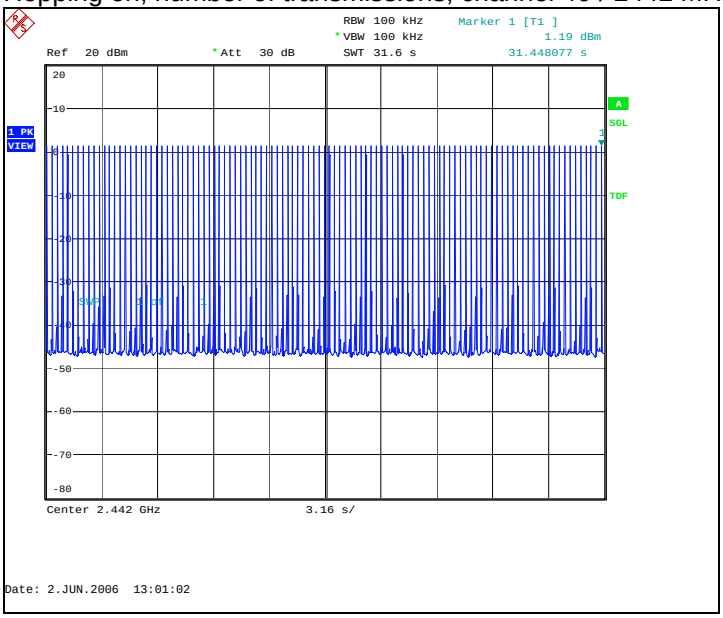
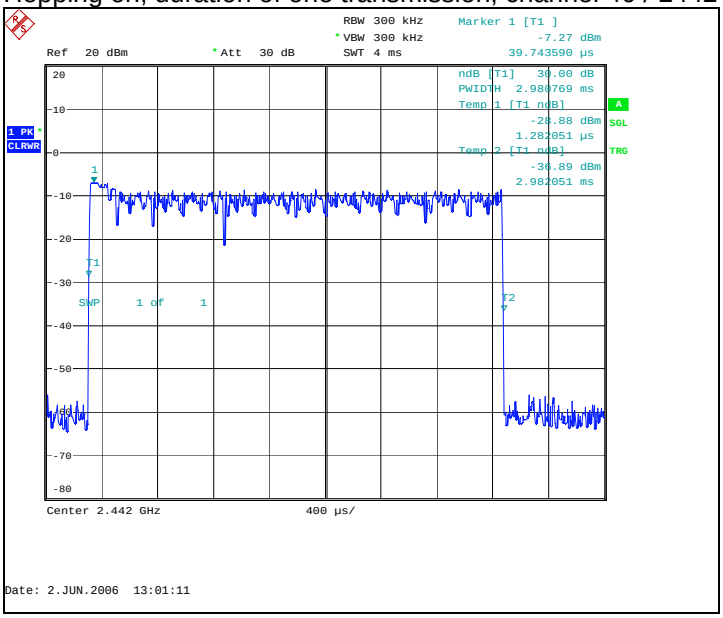
Hopping on, number of transmissions, channel 40 / 2442 MHz



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



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P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880

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

TCC Nokia Tampere Laboratory
P.O. Box 68
Sinitaival 5
FIN-33720 TAMPERE, FINLAND
Tel. +358 (0) 7180 46800
Fax. +358 (0) 7180 46880