

FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-750_14.docx	Date of Report:	15-Jul-2011
Number of pages:	12	Customer's Contact person:	Rasmussen Jan
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	Customer:	Nokia Corporation Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934
FCC listing no.:	99059		
IC recognition no.:	661AL-1		
Tested devices/ accessories:	Phone RM-750 / Battery BL-4U / AC Charger AC-8E / Headset WH-102		
FCC ID:	QTKRM-750	IC:	661AD-RM750
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2003), ICES-003, CISPR 22, RSS-132 (Issue 2, September 2005), RSS-133 (Issue 5, February 2009), RSS-139 (Issue 2, February 2009), RSS-210 (Issue 8, December 2010). 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:			
	Ruben Hansen		

1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	15-Jun-2011
Testing completed	11-Jul-2011
The customer's contact person	Rasmussen Jan
Test Plan referred to	T:\Projects\RM-750\TestPlan\RS_testplan_RM-750.xls
Notes	-
Document name	T:\Projects\RM-750\EMC\FCC15B_RM-750_14.docx

1.1. EUT and Accessory Information

The EUT is a 9-band (GSM850/900/1800/1900) and WCDMA Band (I/II(1900)/IV(1700)/V(850)/VIII/) mobile phone with GPRS, EGPRS, HSDPA, HSUPA and WLAN and Bluetooth.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-750	004402/13/520171/7	0200	-	000.094	23578
Battery	BL-4U	4181571074000001467;0670560	-	-	-	23565
AC Charger	AC-8E	1103338312100301180;0675387	-	-	-	23568
Headset	WH-102	06943231106m1R61563	-	-	-	23579

1.2. Summary of Test Results

GSM850:

Section in CFR 47	Section in ICES-003 (RSS-132)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (4.6)	Radiated emissions	PASSED

GSM1900:

Section in CFR 47	Section in ICES-003 (RSS-133)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WCDMA 1700 (Band IV):

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	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 Laboratory.

CONTENTS

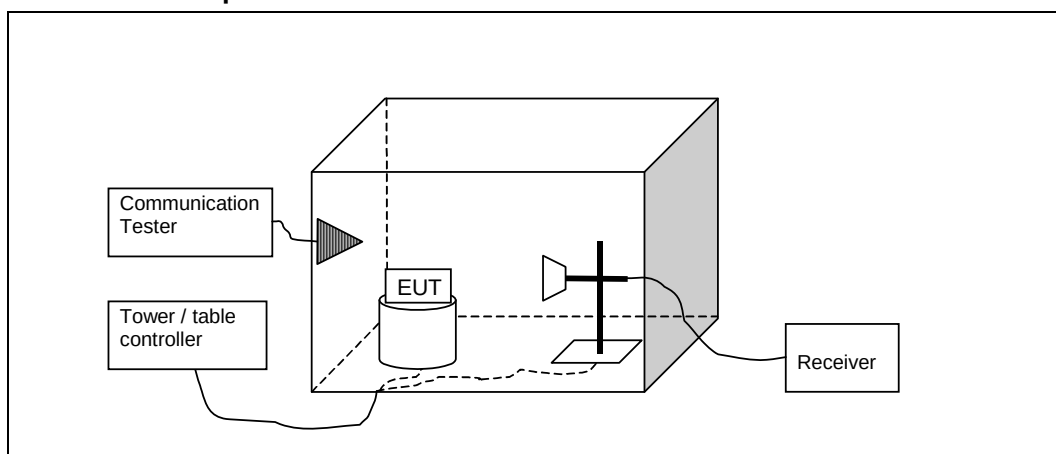
1. Summary for FCC Part 15B Compliance Test Report	2
1.1. EUT and Accessory Information	2
1.2. Summary of Test Results	2
2. Radiated emissions	
(FCC §15.109, ICES-003 section 5.5, RSS-132 4.6, RSS-133 6.6, RSS-139 6.6)	4
2.2. Test method and limit	4
2.3. GSM850 Test results	6
2.4. GSM1900 Test results	8
2.5. WCDMA 1700 (Band IV) Test results	9
3. Test Equipment	11
3.1. Conducted measurements	11
3.2. Radiated measurements	11

2. Radiated emissions

(FCC §15.109, ICES-003 section 5.5, RSS-132 4.6, RSS-133 6.6, RSS-139 6.6)

EUT with DUT number	RM-750, DUT 23578
Accessories with DUT numbers	BL-4U, DUT 23565 ; AC-8E, DUT 23568 ; WH-102, DUT 23579
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 48 / 101.9
Date of measurements	11-Jul-2011
Measured by	Ruben Hansen

2.1.1 Test Setup



2.2. Test method and limit

The measurement is made according to ANSI C63.4-2003as follows:

The measurement is performed in the Semi-Anechoic Chamber with conducting metal floor.

The measurement distance is 3 m.

The EUT is placed on a nonconductive plate at 80 cm height.

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 ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

CISPR 22 and FCC Part 15 Class B limits (3 m measurement distance)

Frequency range [MHz]	Quasi peak limit [dBμV/m]	Average limit [dBμV/m]	Peak limit [dBμV/m]
30 - 230	40	-	-
230 – 1000	47	-	-
Above 1000	-	54	74

2.3. GSM850 Test results

RX mode, channel 128 / 869.2 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3477.1	36.93	70.243	39.86	-2.93	HORIZONTAL	PASSED
6952.2	55.87	621.37	46.78	9.09	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
3477.1	24.29	16.387	27.22	-2.93	HORIZONTAL	PASSED
6952.2	42.89	139.412	33.8	9.09	HORIZONTAL	PASSED

RX mode, channel 190 / 881.6 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
33.647	16.57	6.734	31.82	-15.25	VERTICAL	PASSED
37.396	13.95	4.985	31.47	-17.52	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3000	49.8	309.065	41.98	7.82	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
3000	36.5	66.857	28.68	7.82	HORIZONTAL	PASSED

RX mode, channel 190 / 881.6 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7825.154	49.7	305.316	37.45	12.25	VERTICAL	PASSED
7835.071	50.04	317.724	37.84	12.2	HORIZONTAL	PASSED
7839.479	49.88	311.961	37.71	12.17	HORIZONTAL	PASSED
7846.195	50.24	325.2	38.1	12.14	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
7825.154	36.32	65.464	24.07	12.25	VERTICAL	PASSED
7835.071	36.56	67.298	24.36	12.2	HORIZONTAL	PASSED

7839.479	36.57	67.36	24.4	12.17	HORIZONTAL	PASSED
7846.195	36.5	66.804	24.36	12.14	HORIZONTAL	PASSED

RX mode, channel 251 / 893.8 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3574.8	37.71	76.78	39.87	-2.16	VERTICAL	PASSED
7151.1	48.33	260.825	37.71	10.62	VERTICAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3574.8	23.9	15.662	26.06	-2.16	VERTICAL	PASSED
7151.1	35.09	56.839	24.47	10.62	VERTICAL	PASSED

2.4. GSM1900 Test results

RX mode, channel 512 / 1930.2 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3860.3	38.83	87.347	39.74	-0.91	HORIZONTAL	PASSED
7719	48.48	265.399	37.04	11.44	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
3860.3	25.78	19.46	26.69	-0.91	HORIZONTAL	PASSED
7719	35.41	58.918	23.97	11.44	HORIZONTAL	PASSED

RX mode, channel 661 / 1960.0 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
33.096	22.39	13.164	37.33	-14.94	VERTICAL	PASSED
37.275	19.33	9.252	36.78	-17.45	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1960.119	58.63	853.591	59.99	-1.36	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
1960.119	57.17	722.188	58.53	-1.36	HORIZONTAL	PASSED

RX mode, channel 661 / 1960.0 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
7832.967	50.05	318.127	37.84	12.21	HORIZONTAL	PASSED
7844.491	49.45	296.961	37.3	12.15	VERTICAL	PASSED
7845.087	50.25	325.462	38.11	12.14	HORIZONTAL	PASSED
7858.316	49.67	304.369	37.44	12.23	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
7832.967	36.5	66.865	24.29	12.21	HORIZONTAL	PASSED
7844.491	36.4	66.092	24.25	12.15	VERTICAL	PASSED
7845.087	36.49	66.757	24.35	12.14	HORIZONTAL	PASSED
7858.316	36.39	65.955	24.16	12.23	HORIZONTAL	PASSED

RX mode, channel 810 / 1989.8 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3981.2	38.32	82.395	39.37	-1.05	HORIZONTAL	PASSED
7958.6	50.39	330.75	37.44	12.95	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
3981.2	25.44	18.7	26.49	-1.05	HORIZONTAL	PASSED
7958.6	37.03	71.064	24.08	12.95	HORIZONTAL	PASSED

2.5. WCDMA 1700 (Band IV) Test results

RX mode, channel 1537 / 2112.4 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4226.4	37.79	77.509	38.24	-0.45	HORIZONTAL	PASSED
6337.9	49.72	306.02	43.95	5.77	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
4226.4	25.15	18.088	25.6	-0.45	HORIZONTAL	PASSED
6337.9	36.41	66.138	30.64	5.77	HORIZONTAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
33.497	15.71	6.104	30.88	-15.17	VERTICAL	PASSED
37.425	15.06	5.66	32.6	-17.54	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2133.467	51.19	362.535	51.33	-0.14	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
2133.467	36.33	65.569	36.47	-0.14	HORIZONTAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
7837.672	50.55	336.705	38.37	12.18	VERTICAL	PASSED
7838.48	50.16	321.959	37.98	12.18	VERTICAL	PASSED
7845.694	49.18	287.674	37.04	12.14	HORIZONTAL	PASSED
7862.023	49.18	287.872	36.9	12.28	VERTICAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
7837.672	36.42	66.245	24.24	12.18	VERTICAL	PASSED
7838.48	36.41	66.153	24.23	12.18	VERTICAL	PASSED
7845.694	36.45	66.443	24.31	12.14	HORIZONTAL	PASSED
7862.023	36.3	65.343	24.02	12.28	VERTICAL	PASSED

RX mode, channel 1738 / 2152.6 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4306.2	39.3	92.289	39	0.3	HORIZONTAL	PASSED
6456.2	51.49	375.405	45.01	6.48	VERTICAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4306.2	25.75	19.387	25.45	0.3	HORIZONTAL	PASSED
6456.2	38.61	85.212	32.13	6.48	VERTICAL	PASSED

3. Test Equipment

3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13037	Power Supply 0-15V 10A	EA3012	LP Instruments	15C, 15B
13357	Signal Generator	SMP02	Rohde&Schwarz	22/24/27, 15C, 15B
13513	Pulse Limiter	ESH3Z2	Rohde&Schwarz	15C, 15B
13666	Receiver	ESPC	Rohde&Schwarz	15C, 15B
13935	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
20682	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
16601	Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 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
18772	Shielded Chamber	RFD-100	ETS-Lindgren	15C, 15B
19116	Power splitter	-	various	22/24/27, 15C, 15B
19171	Communication Tester	CMU200	Rohde&Schwarz	15C, 15B
19625	Climatic Chamber	VT4002EMC	Vötsch	22/24/27, 15C, 15B
19678	Spectrum Analyzer	FSP	Rohde&Schwarz	22/24/27, 15C, 15B
20168	Bluetooth Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B
20543	UPS. 700V/A 490W	PW 9120 700i	Powerware	22/24/27, 15C, 15B
20544	Transformer. 230/115V	-	Nokia	22/24/27, 15C, 15B
20739	Communication Tester	CMU200	Rohde&Schwarz	15C, 15B

3.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13077	Power Supply	EA-3016	-	22/24/27, 15C, 15B
13799	Signal Generator	SMP02	Rohde&Schwarz	22/24/27, 15C, 15B
13936	Band reject filter	WRCD1747.5-0.2/40-10SS	Wainwright Instruments	22/24/27, 15C, 15B
13937	Band reject filter	WRCA902.4-0.2/40-6SS	Wainwright Instruments	22/24/27, 15C, 15B
14021	Relay Dual 6 Chnl μ Wave Mux	10-785-522	-	22/24/27, 15C, 15B
14114	Highpass Filter	WHK1000-12SS	Wainwright Instruments	22/24/27, 15C, 15B
14187	Band reject filter	WRCD1747.5-0.2/40-10SS	Wainwright	22/24/27, 15C, 15B
14188	Band reject filter	WRCA902.4-0.2/40-6SS	Wainwright	22/24/27, 15C, 15B
14900	Antenna Controller	HD100	HD GmbH	22/24/27, 15C, 15B
15191	Turntable Contoller Unit	G-800SDX	YAESU	22/24/27, 15C, 15B
15742	Programmable Relay Switching System	-----	Pickering	22/24/27, 15C, 15B
16633	Band reject filter	WRCD1880.0-0.2/40-10SS	Wainwright	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
17644	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
18416	Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
18773	Anechoic chamber	RFD-100	ETS-Lindgren	22/24/27, 15C, 15B
18774	Anechoic chamber	RFSD-F/A-100	ETS-Lindgren	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
18792	Mast/turntable controller	2090	ETS-EMCO	22/24/27, 15C, 15B
18860	Antenna	HL562	Rohde&Schwarz	22/24/27, 15C, 15B
19151	High Pass Filter	WHJS3000-10SS	Wainwright	22/24/27, 15C, 15B
19587	Band reject filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	22/24/27, 15C, 15B
19966	Antenna	HFH2-Z2	Rohde&Schwarz	15C, 15B
20078	Relay 2x6 Chnl μ Wave Mux	10-785B-522	Pickering	22/24/27, 15C, 15B
20114	Band reject filter	WRCG1737/1743-1733/1747-40/6SS	Wainwright	22/24/27, 15C, 15B
20115	Band reject filter	-	Wainwright	22/24/27, 15C, 15B
20116	Band reject filter	WRCG832/83/-825/845-40/5SS	Wainwright	22/24/27, 15C, 15B
20168	Bluetooth Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B
20543	UPS. 700V/A 490W	PW 9120 700i	Powerware	22/24/27, 15C, 15B
20544	Transformer. 230/115V	-	Nokia	22/24/27, 15C, 15B
20698	Antenna	BBHA 9120 D	SCHWARZBECK	22/24/27, 15C, 15B
-	Relay Dual 6 Chnl μ Wave Mux	10-785-522	-	22/24/27, 15C, 15B