

FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-608_07.docx	Date of Report:	02-Aug-2010
Number of pages:	11	Customer's Contact person:	Hu Dongji
Testing laboratory:	TCC Nokia Beijing Laboratory Beijing Economic and Technological Development Area No.5 Donghuan Zhonglu Beijing PRC China 100176 Tel. +86 10 8711 8888 Fax. +86 10 8711 4550	Customer:	Nokia Corporation Beijing Economic and Technological Development Area No.5 Donghuan Zhonglu Beijing PRC China 100176 Tel. +86 10 8711 8888 Fax. +86 10 8711 4550
FCC listing no.:	975940		
IC recognition no.:	661AH-1		
Tested devices/ accessories:	Phone RM-608 / Battery BL-5CB / AC-charger AC-3E /USB data cable CA-101 / Laptop IBM T40		
FCC ID:	QTLRM-608	IC:	661AB-RM608
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. 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:			

Jia Dongsheng, System Manager

1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	26-Jul-2010
Testing completed	02-Aug-2010
The customer's contact person	Hu Dongji
Test Plan referred to	T:\Projects\RM-608\TestPlan\RS_testplan_RM-608.xls
Notes	-
Document name	FCC15B_RM-608_07.docx

1.1. EUT and Accessory Information

The EUT is a 2-band (GSM850/1900) mobile phone with GPRS and Bluetooth.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-608	001004003991065	0302	-	arc101_10w27_1	51776
Battery	BL-5CB	0670619382066Q531070419113	-	-	-	51782
AC-charger	AC-3E	3943499381081101443;0675370	-	-	-	51784
USB Data Cable	CA-101	07306349242Q1205244	-	-	-	51788
Laptop	IBM T40	99FMPGT	-	-	-	51044

1.2. Summary of Test Results

GSM850:

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

GSM1900:

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

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.

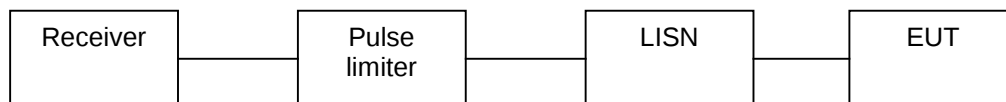
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2. AC powerline conducted emissions (FCC §15.107, ICES-003 section 5.3)

EUT with DUT number	RM-608, DUT 51776
Accessories with DUT numbers	BL-5CB, DUT 51782 ; AC-3E, DUT 51784 ; CA-101, DUT 51788; IBM T40, DUT 51044
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	Data was transferring between PC and mobile phone during the test.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 61 / 99.4
Date of measurements	30-Jul-2010
Measured by	Zou Ming

2.1. Test setup



2.2. Test method and limit

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

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

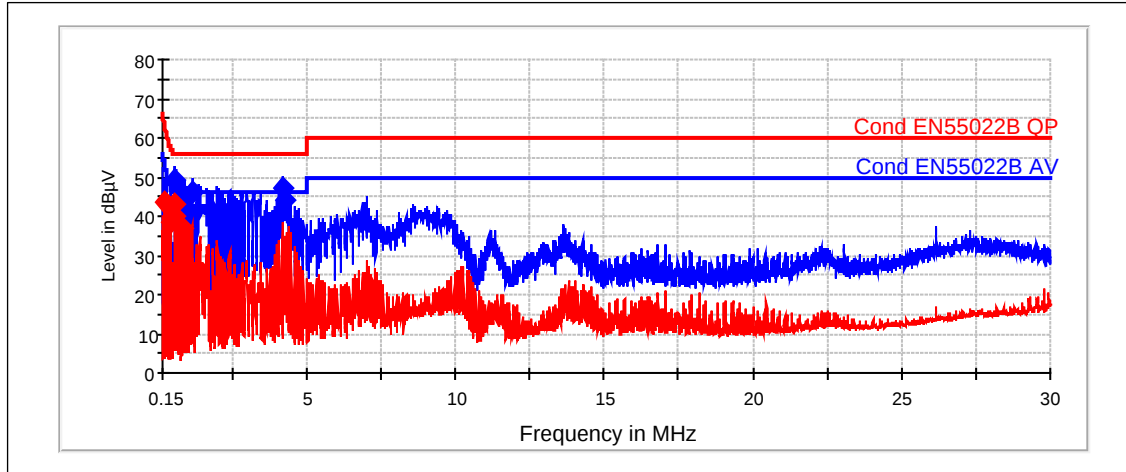
Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

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

2.3. GSM850 Test results

RX mode, channel 190 / 881.6 MHz, measured from mobile AC charger



Quasi peak

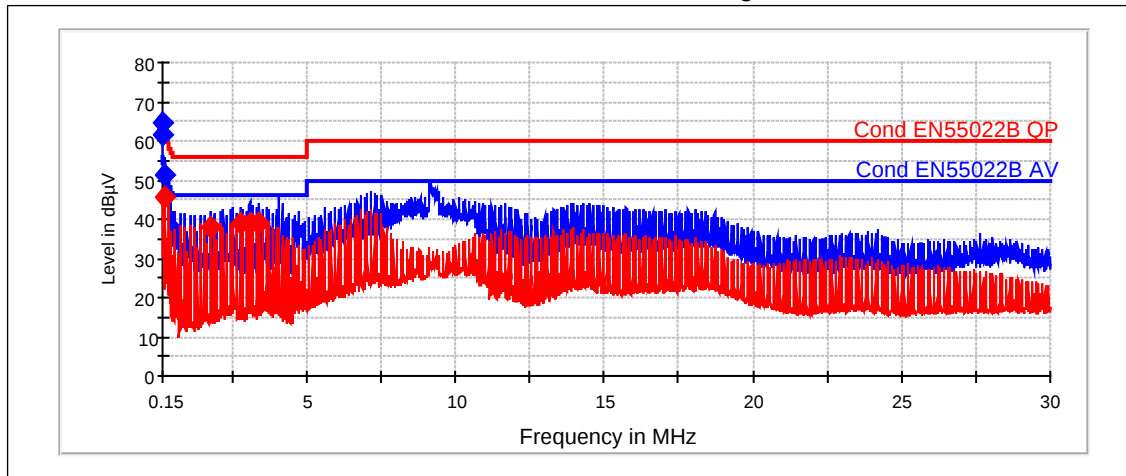
Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.57	49.44	9	N	6.6	PASSED
0.85	45.64	9	L1	10.4	PASSED
1.13	46.38	9	L1	9.6	PASSED
4.165	47.27	9	L1	8.7	PASSED
4.245	44.13	9	L1	11.9	PASSED

Average

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.245	43.63	9	N	8.32	PASSED
0.425	38.57	9	L1	8.75	PASSED
0.56	39.97	9	N	6	PASSED
0.565	43.01	9	N	3	PASSED
0.855	36.74	9	L1	9.3	PASSED

2.4. GSM1900 Test results

RX mode, channel 661 / 1960.0 MHz, measured from PC charger



Quasi peak

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.15	64.83	9	L1	1.2	PASSED
0.155	61.42	9	N	4.33	PASSED
0.245	51.34	9	N	10.62	PASSED

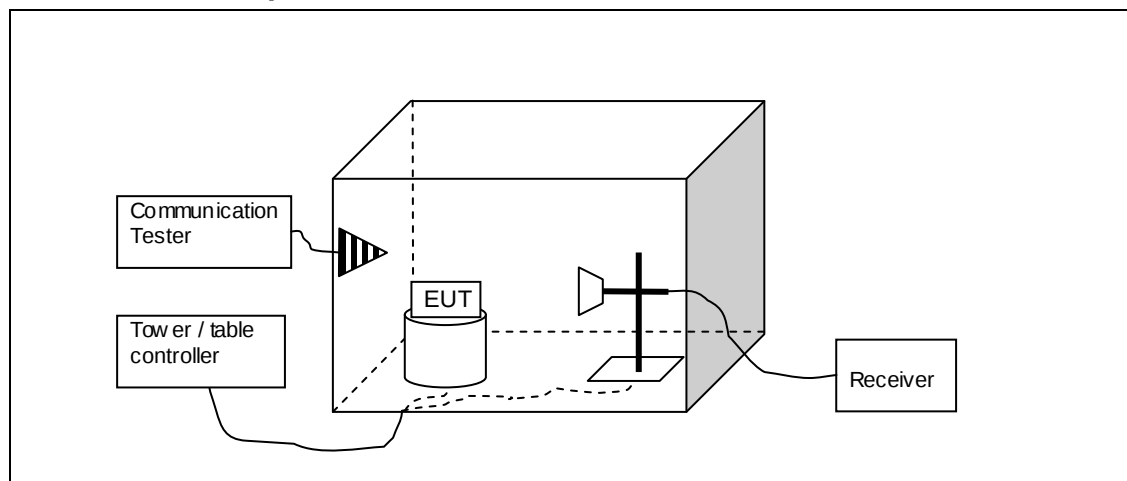
Average

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.245	45.86	9	N	6.02	PASSED
1.76	37.95	9	N	8	PASSED
2.75	38.82	9	N	7.2	PASSED
3.085	38.89	9	N	7.1	PASSED
3.415	38.92	9	L1	7.1	PASSED

3. Radiated emissions (FCC §15.109, ICES-003 section 5.5)

EUT with DUT number	RM-608, DUT 51776
Accessories with DUT numbers	BL-5CB, DUT 51782 ; AC-3E, DUT 51784 ; CA-101, DUT 51788; IBM T40, DUT 51044
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	Data was transferring between PC and mobile phone during the test.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 64 / 99.4
Date of measurements	30-Jul-2010
Measured by	Jia Dongsheng

3.1. Test Setup



3.2. 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

3.3. GSM850 Test results

RX mode, channel 128 / 869.2 MHz

Average(RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3476.8	29.44	29.655	31.96	-2.52	VERTICAL	PASSED
6951.9	38.55	84.654	33.84	4.71	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3476.8	44.09	160.122	46.61	-2.52	VERTICAL	PASSED
6951.9	51.46	374.154	46.75	4.71	VERTICAL	PASSED

RX mode, channel 190 / 881.6 MHz

Average(RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3916.031	28.73	27.318	30.14	-1.41	VERTICAL	PASSED
7054.012	33.39	46.736	28.49	4.9	HORIZONTAL	PASSED

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
133.005	33.3	46.217	56.61	-23.31	VERTICAL	PASSED
177.444	26.16	20.333	50.17	-24.01	HORIZONTAL	PASSED
177.625	26.02	20.008	50.03	-24.01	HORIZONTAL	PASSED
196.603	35.56	59.979	60.1	-24.54	VERTICAL	PASSED
266.65	22.6	13.493	44.35	-21.75	HORIZONTAL	PASSED
399.817	37.8	77.58	55.47	-17.67	VERTICAL	PASSED
399.896	33.15	45.467	50.82	-17.67	VERTICAL	PASSED
400.501	44.65	170.883	62.31	-17.66	VERTICAL	PASSED
529.852	26.27	20.573	41.69	-15.42	HORIZONTAL	PASSED
666.643	34.53	53.254	47.1	-12.57	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3916.031	41.59	120.06	43	-1.41	VERTICAL	PASSED
7054.012	46.7	216.272	41.8	4.9	HORIZONTAL	PASSED

RX mode, channel 251 / 893.8 MHz

Average(RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3575.3	29.62	30.273	32.41	-2.79	HORIZONTAL	PASSED
7150.6	33.48	47.201	28.51	4.97	VERTICAL	PASSED

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3575.3	43.96	157.779	46.75	-2.79	HORIZONTAL	PASSED
7150.6	46.39	208.569	41.42	4.97	VERTICAL	PASSED

4. Test Equipment

4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCWH0020	DC Power supply	Hp6632B	HP	22/24/27, 15C
BJPCPT0040	Receiver	ESCS30	R&S	15C,15B
BJPCPT0073	Signal Generator	SMR 20	R&S	22/24/27, 15C, 15B
BJPCPT0079	LISN 50 µH	ESH3-Z5	R&S	15C,15B
BJPCPT0131	Communication Tester	CMU200	R&S	15C,15B
BJPCPT0191	Pulse Limiter	ESH3-Z2	R&S	15C,15B
BJPCTC0017	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0067	Bluetooth Tester	CBT	R&S	22/24/27, 15C
BJPCTC0089	Temperature Test chamber	VT4002	Votsch industrietechnik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0094	GPIO-RS232 convertor	GPIO-RS232	NI	22/24/27, 15C
BJPCTC0112	Power Splitter	11667B	Agilent	22/24/27, 15C
BJPCTC0114	Signal Generator	E8357C	Agilent	22/24/27, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	22/24/27, 15B, 15C

4.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCPT0072	Receiver	ESI B26	R&S	22/24/27, 15C, 15B
BJPCPT0130	Relay Switch Unit	TS-RSP	R&S	22/24/27, 15C, 15B
BJPCPT0150	High Pass Filter	WHKS1200-10SS	Wainwright	22/24/27, 15C, 15B
BJPCPT0151	Band Reject Filter	WRCD1880/2000-0.2/40-5SSK	Wainwright	24, 15B
BJPCPT0154	Band Reject Filter	WRCT2402/2480-2400/2483.5-30-20SS	Wainwright	15C, 15B
BJPCPT0162	Antenna	HF906	R&S	22/24/27, 15C, 15B
BJPCTC0007	Antenna	HL562	R&S	22/24/27, 15C, 15B
BJPCTC0029	Antenna	HF906	R&S	22/24/27, 15C, 15B
BJPCTC0034	Band Reject Filter	WRCT 800/880-0.2/40-5SSK	Wainwright	22, 15B
BJPCTC0049	Preamplifier	Blma 0118-1A-Bt	Bonn	22/24/27, 15C, 15B
BJPCTC0055	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0058	Bluetooth Tester	CBT	R&S	15C, 15B
BJPCTC0064	Band Reject Filter	WRCG1877/1883-1870/1890-40/6SS	Wainwright	24, 15B
BJPCTC0065	Band Reject Filter	WRCG832/838-825/845-40/5SS	Wainwright	27, 15B
BJPCTC0071	Multi-Device Controller	2090	EMCO	22/24/27, 15C, 15B
BJPCTC0072	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	ETS	22/24/27, 15C, 15B
BJPCTC0073	MAST	Model-TR/POL	ETS	22/24/27, 15C, 15B
BJPCTC0074	MAST	Model 2070-2	ETS	22/24/27, 15C, 15B
BJPCTC0075	Turntable	Model 2188	ETS-EMCO	22/24/27, 15C, 15B
BJPCTC0096	Preamplifier	AFS4-00100300-20-23P-6	Miteq	22/24/27, 15C, 15B
BJPCTC0113	Receiver	ESI B26	R&S	22/24/27, 15B, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	22/24/27, 15B, 15C