TCC
Nokia

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FCC Part 15C Compliance Test Report

Test Report no.:	Cph_FCC_0832_04.doc	**Date of Report:**	08-Aug-2008
Number of pages:	19	**Customer's Contact person:**	Porttila Markku
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 Nokia House Summit Avenue, Southwood FARNBOROUGH HAMPSHIRE GU14 0NG UK Tel. +44 1252 866000 Fax. +44 1252 866001
FCC listing no.: **IC recognition no.:**	975940 661AH-1		

Tested devices/ accessories: **Phone RM-350 / Battery BL-6F, AC-charger AC-5E, Headset HS-45, Audio adapter AD-54**

FCC ID:	QFXRM-350	**IC:**	661Z-RM350

Supplement reports: This report is based on report: Bej_FCC_0827_10

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:

Digitally signed by Niels Christian Andersen
DN: cn=Niels Christian Andersen, c=DK, o=TCC Nokia, ou=EMC, email=christian.n.andersen@nokia.com
Date: 2008.08.08 13:39:30 +02'00'

Christian Andersen, Test Engineer

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	01-Jul-2008
Testing completed	10-Jul-2008
The customer's contact person	Porttila Markku
Test Plan referred to	T:\Projects\RM-350\TestPlan_RS\RS_Testplan_RM-350.xls
Notes	Test results in this report are based on measurements results from report Bej_FCC_0827_10.
Document name	\\satcc01nmp\TCC_salo\Projects\RM-350\EMC\Results\FCC\Cph_FCC_0832_04.doc

1.1. EUT and Accessory Information

The EUT is a 6-band (GSM850/900/1800/1900 and WCDMA Band II/V) mobile phone with GPRS, EGPRS, Bluetooth, WLAN and FM transmitter. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-348	004401/10/096089/3	4001	-	0.70	50969
Battery	BL-6F	3820668142152344761;0670523	-	-	-	50971
AC-charger	AC-5E	3943497405080632681;0675540	-	-	-	50859
Audio adapter	AD-54	0750838720102100096	0.5	1.7	0.1	50853
Headset	HS-45	0694644741701904821	-	-	-	50854

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	NP
15.247(d)	A8.5	Band edge compliance of RF emissions	NP
15.247(d)	A8.5	Spurious RF conducted emissions	NP
15.247(d), 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	NP
15.247(a)(1)	A8.1 (2)	Carrier frequency separation	NP
15.247(a)(1)(iii)	A8.1 (4)	Number of hopping frequencies	NP
15.247(a)(1)(iii)	A8.1 (4)	Time of occupancy	NP

WLAN:

Section in CFR 47	Section in *RSS-GEN* or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (4)	Conducted peak output power	NP
15.247(d)	A8.5	Band edge compliance of RF emissions	NP
15.247(d)	A8.5	Spurious RF conducted emissions	NP
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	*7.2.2*	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8.2 (1)	6 dB bandwidth	NP
15.247(e)	A8.2 (2)	Power spectral density	NP

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 Beijing 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

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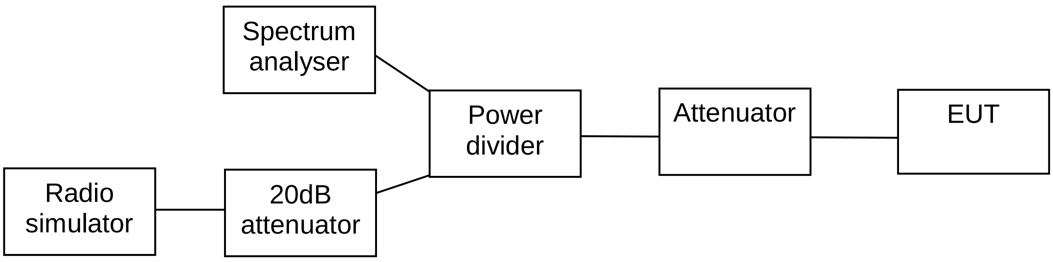
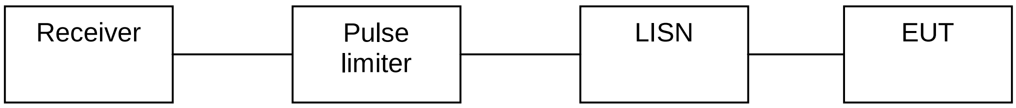
TCC Nokia Beijing Laboratory
Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
Tel. +86 10 8711 8888
Fax. +86 10 8711 4550

2. Test setups

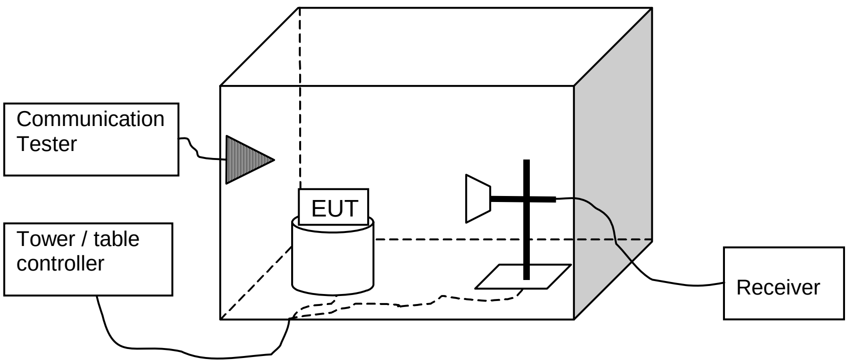
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



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

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

EUT with DUT number	RM-348 DUT 50969
Accessories with DUT numbers	BL-6F DUT 50971, AC-5 DUT 50859, HS-45 DUT 50854, AD-54 DUT 50853
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	18.5 / 75.5 / 100.3
Date of measurements	07-Jul-2008
Measured by	Yin Hongpeng

3.1. 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:

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

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

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

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

3.2. Bluetooth Test results

3.2.1 GFSK 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	42.10	127.35	42.20	-0.1	HORIZONTAL	PASSED
7206.000000	43.90	156.68	39.60	4.3	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	28.90	27.86	29.00	-0.1	VERTICAL	PASSED
7206.000000	31.80	38.90	27.50	4.3	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
37.695391	8.10	2.54	33.70	-25.6	VERTICAL	PASSED
37.773948	8.00	2.51	33.70	-25.7	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
2874.496994	50.10	319.89	46.70	3.4	HORIZONTAL	PASSED
7343.189379	45.00	177.83	40.40	4.6	HORIZONTAL	PASSED
7386.273547	44.70	171.79	40.10	4.6	VERTICAL	PASSED
17484.967936	53.10	451.86	36.00	17.1	VERTICAL	PASSED
17997.000000	56.30	653.13	36.00	20.3	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
2874.496994	37.50	74.99	34.10	3.4	HORIZONTAL	PASSED
7348.689379	31.40	37.15	26.70	4.7	HORIZONTAL	PASSED
7382.773547	31.60	38.02	27.00	4.6	VERTICAL	PASSED
17487.967936	40.20	102.33	23.10	17.1	VERTICAL	PASSED
17998.500000	43.20	144.54	22.90	20.3	VERTICAL	PASSED

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

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	41.60	120.23	41.40	0.2	VERTICAL	PASSED
7440.000000	45.20	181.97	40.90	4.3	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	29.20	28.84	29.00	0.2	HORIZONTAL	PASSED
7440.000000	31.40	37.15	27.10	4.3	VERTICAL	PASSED

3.2.2 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	42.10	127.35	42.20	-0.1	VERTICAL	PASSED
7206.000000	44.50	167.88	40.20	4.3	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
4804.000000	29.60	30.20	29.70	-0.1	HORIZONTAL	PASSED
7206.000000	32.60	42.66	28.30	4.3	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
30.100000	13.00	4.47	33.60	-20.6	VERTICAL	PASSED
37.835872	8.00	2.51	33.70	-25.7	VERTICAL	PASSED
233.567735	23.50	14.96	58.10	-34.6	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
2803.191383	50.50	334.97	47.40	3.1	VERTICAL	PASSED
4962.419840	43.10	142.89	42.90	0.2	HORIZONTAL	PASSED
7290.073146	44.10	160.32	39.70	4.4	HORIZONTAL	PASSED
7399.797595	45.80	194.98	41.30	4.5	VERTICAL	PASSED
7404.301603	44.70	171.79	40.20	4.5	VERTICAL	PASSED
17486.965932	53.30	462.38	36.20	17.1	VERTICAL	PASSED
17976.959920	55.60	602.56	35.70	19.9	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

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2806.691383	37.50	74.99	34.20	3.3	VERTICAL	PASSED
4961.419840	29.20	28.84	29.00	0.2	HORIZONTAL	PASSED
7288.073146	31.30	36.73	26.90	4.4	HORIZONTAL	PASSED
7394.797595	31.80	38.90	27.30	4.5	VERTICAL	PASSED
7402.801603	31.70	38.46	27.20	4.5	VERTICAL	PASSED
17484.965932	40.30	103.51	23.20	17.1	VERTICAL	PASSED
17983.459920	43.10	142.89	23.10	20.0	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	41.50	118.85	41.30	0.2	VERTICAL	PASSED
7440.000000	44.10	160.32	39.80	4.3	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	29.40	29.51	29.20	0.2	HORIZONTAL	PASSED
7440.000000	31.60	38.02	27.30	4.3	VERTICAL	PASSED

TCC Nokia Beijing Laboratory
Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
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4. Spurious radiated emissions
(FCC §15.247(d), §15.209, RSS-210 A8.5)

EUT with DUT number	RM-348 DUT 50969
Accessories with DUT numbers	BL-6F DUT 50971, AC-5 DUT 50859, HS-45 DUT 50854, AD-54 DUT 50853
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 78 / 100.4 – 26 / 76 / 100.4
Date of measurements	08-09-Jul-2008
Measured by	Yin Hongpeng

4.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 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 ($A_{TOT} = L_{CABLES} + AF - G_{PREAMP}$).

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PRC China 100176
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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

4.2. WLAN Test results

4.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	43.70	153.11	44.10	-0.4	HORIZONTAL	PASSED
7236.000000	53.40	467.74	49.10	4.3	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
4824.000000	30.50	33.50	30.90	-0.4	HORIZONTAL	PASSED
7236.000000	40.20	102.33	35.90	4.3	VERTICAL	PASSED

Channel 7 / 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
37.635872	10.30	3.27	35.90	-25.6	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
2383.728457	54.30	518.80	55.20	-0.9	HORIZONTAL	PASSED
2494.500000	57.00	707.95	56.50	0.5	VERTICAL	PASSED
2495.048096	55.90	623.73	55.40	0.5	VERTICAL	PASSED
4885.269539	42.30	130.32	42.20	0.1	HORIZONTAL	PASSED
7324.649299	51.50	375.84	46.90	4.6	VERTICAL	PASSED
7326.155311	51.50	375.84	46.90	4.6	VERTICAL	PASSED
17463.927856	52.80	436.52	35.80	17.0	HORIZONTAL	PASSED
17976.951904	55.90	623.73	36.00	19.9	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
2385.728457	41.40	117.49	42.30	-0.9	HORIZONTAL	PASSED
2491.500000	43.10	142.89	42.70	0.4	VERTICAL	PASSED
2495.548096	43.30	146.22	42.80	0.5	VERTICAL	PASSED

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PRC China 100176
Tel. +86 10 8711 8888
Fax. +86 10 8711 4550

4887.269539	29.30	29.17	29.10	0.2	HORIZONTAL	PASSED
7324.149299	39.10	90.16	34.50	4.6	VERTICAL	PASSED
7325.655311	39.00	89.13	34.40	4.6	VERTICAL	PASSED
17467.927856	40.10	101.16	23.10	17.0	HORIZONTAL	PASSED
17972.951904	42.90	139.64	23.00	19.9	VERTICAL	PASSED

Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	44.70	171.79	44.30	0.4	VERTICAL	PASSED
7386.000000	53.20	457.09	48.60	4.6	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
4924.000000	30.50	33.50	30.10	0.4	HORIZONTAL	PASSED
7386.000000	41.00	112.20	36.40	4.6	VERTICAL	PASSED

4.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	41.20	114.82	41.60	-0.4	VERTICAL	PASSED
7236.000000	50.30	327.34	46.00	4.3	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
4824.000000	28.20	25.70	28.60	-0.4	VERTICAL	PASSED
7236.000000	36.80	69.18	32.50	4.3	VERTICAL	PASSED

Channel 7 / 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	15.80	6.17	41.60	-25.8	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
2389.000000	53.30	462.38	54.10	-0.8	HORIZONTAL	PASSED
2492.512024	59.00	891.25	58.60	0.4	HORIZONTAL	PASSED
2495.048096	58.60	851.14	58.10	0.5	HORIZONTAL	PASSED
4884.769539	42.10	127.35	42.00	0.1	HORIZONTAL	PASSED
7319.139279	55.20	575.44	50.60	4.6	VERTICAL	PASSED

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No.5 Donghuan Zhonglu
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PRC China 100176
Tel. +86 10 8711 8888
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7324.149299	54.80	549.54	50.20	4.6	VERTICAL	PASSED
17480.957916	52.50	421.70	35.40	17.1	HORIZONTAL	PASSED
17967.433868	55.40	588.84	35.50	19.9	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
2389.000000	39.90	98.86	40.70	-0.8	HORIZONTAL	PASSED
2492.512024	42.50	133.35	42.10	0.4	HORIZONTAL	PASSED
2495.048096	41.70	121.62	41.20	0.5	HORIZONTAL	PASSED
4885.769539	29.10	28.51	29.00	0.1	HORIZONTAL	PASSED
7318.639279	40.20	102.33	35.60	4.6	VERTICAL	PASSED
7321.149299	40.40	104.71	35.80	4.6	VERTICAL	PASSED
17480.457916	40.10	101.16	23.00	17.1	HORIZONTAL	PASSED
17970.433868	42.70	136.46	22.80	19.9	HORIZONTAL	PASSED

Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	42.30	130.32	41.90	0.4	HORIZONTAL	PASSED
7386.000000	45.20	181.97	40.60	4.6	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
4924.000000	28.40	26.30	28.00	0.4	VERTICAL	PASSED
7386.000000	31.30	36.73	26.70	4.6	VERTICAL	PASSED

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

5. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-348 DUT 50969
Accessories with DUT numbers	BL-6F DUT 50971, AC-5 DUT 50859, HS-45 DUT 50854, AD-54 DUT 50853
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	75 / 21 / 994.6
Date of measurements	03-Jul-2008
Measured by	Yin Hongpeng

5.1. 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

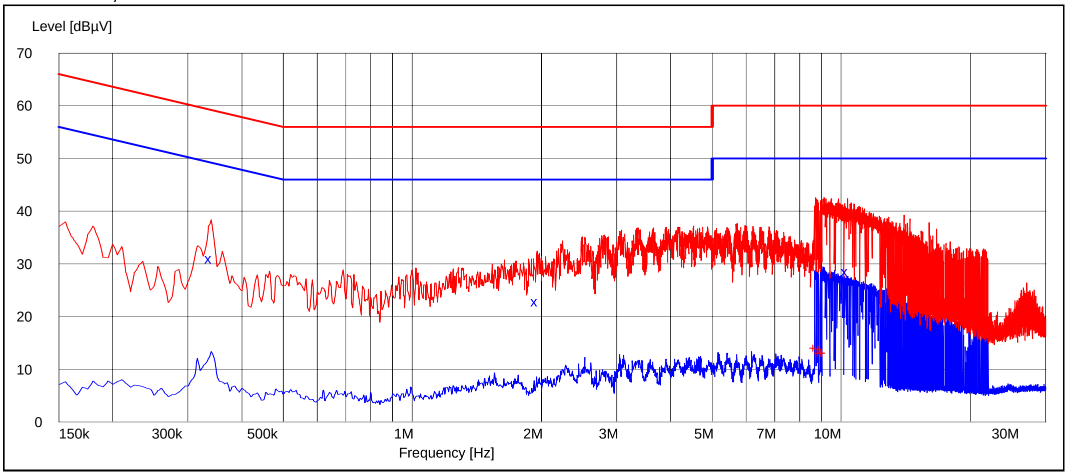
Frequency range [MHz]	Quasi peak limit [dBµV]	Average limit [dBµV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

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

5.2. Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

TX mode, channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.340000	31.00	N	PASSED
1.955000	22.80	N	PASSED
10.340000	28.50	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
8.710000	14.00	N	PASSED
8.910000	13.00	N	PASSED
8.960000	13.80	N	PASSED
9.095000	13.00	N	PASSED
9.155000	13.00	N	PASSED

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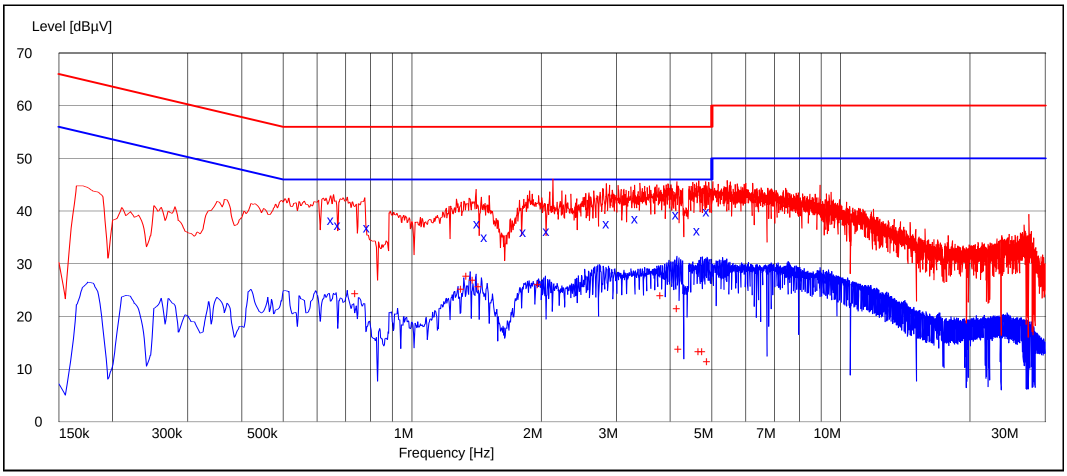
Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
Tel. +86 10 8711 8888
Fax. +86 10 8711 4550

5.2.2 8DPSK modulation, PRBS packet type

Channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.655000	38.30	N	PASSED
0.680000	37.40	N	PASSED
0.795000	36.90	N	PASSED
1.440000	37.60	N	PASSED
1.495000	35.10	N	PASSED
1.840000	36.00	N	PASSED
2.090000	36.20	N	PASSED
2.880000	37.60	N	PASSED
3.360000	38.60	N	PASSED
4.185000	39.30	N	PASSED
4.690000	36.30	N	PASSED
4.930000	39.90	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.745000	24.30	N	PASSED
1.315000	25.20	N	PASSED
1.355000	27.70	N	PASSED
1.400000	26.90	N	PASSED
1.445000	25.70	N	PASSED
1.990000	26.00	N	PASSED
3.840000	24.00	N	PASSED
4.190000	21.50	N	PASSED
4.235000	13.80	N	PASSED
4.715000	13.30	N	PASSED
4.805000	13.30	N	PASSED
4.940000	11.40	N	PASSED

TCC Nokia Beijing Laboratory
Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
Tel. +86 10 8711 8888
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6. AC powerline conducted emissions
(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-348 DUT 50969
Accessories with DUT numbers	BL-6F DUT 50971, AC-5 DUT 50859, HS-45 DUT 50854, AD-54 DUT 50853
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	75 / 21 / 994.6
Date of measurements	03-Jul-2008
Measured by	Yin Hongpeng

6.1. Test method and limit

The measurement is made according to DTS procedures KDB 558074 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

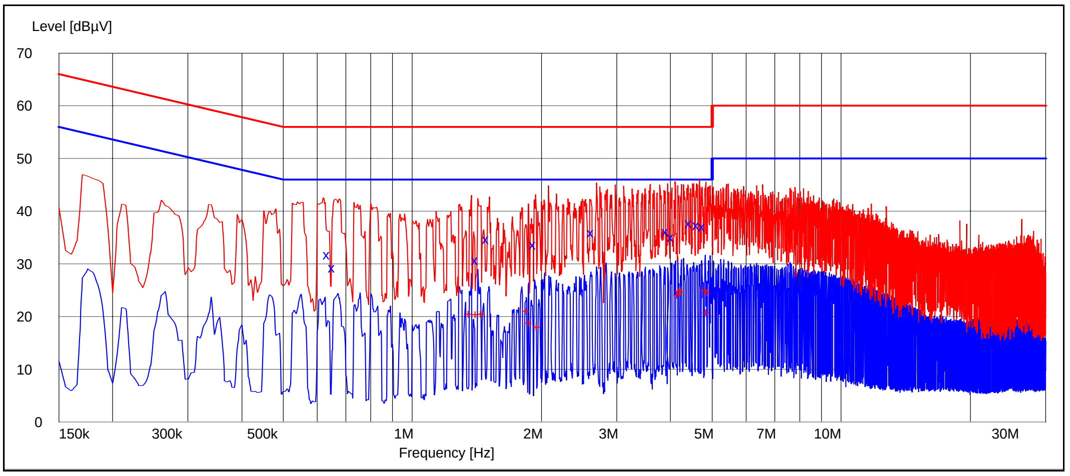
Frequency range [MHz]	Quasi peak limit [dBµV]	Average limit [dBµV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

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

6.2. WLAN Test results

6.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.640000	31.80	L1	PASSED
0.660000	29.30	L1	PASSED
1.420000	30.70	L1	PASSED
1.505000	34.70	N	PASSED
1.940000	33.70	N	PASSED
2.645000	35.90	N	PASSED
3.955000	36.10	N	PASSED
4.060000	35.10	L1	PASSED
4.475000	37.70	N	PASSED
4.655000	37.40	N	PASSED
4.815000	37.10	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.370000	20.50	N	PASSED
1.420000	20.40	N	PASSED
1.465000	20.50	N	PASSED
1.865000	21.00	N	PASSED
1.890000	18.80	N	PASSED
1.970000	18.00	N	PASSED
4.190000	24.10	N	PASSED
4.235000	24.80	N	PASSED
4.280000	24.70	N	PASSED
4.860000	25.00	N	PASSED
4.900000	20.80	L1	PASSED
4.940000	24.50	N	PASSED

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Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
Tel. +86 10 8711 8888
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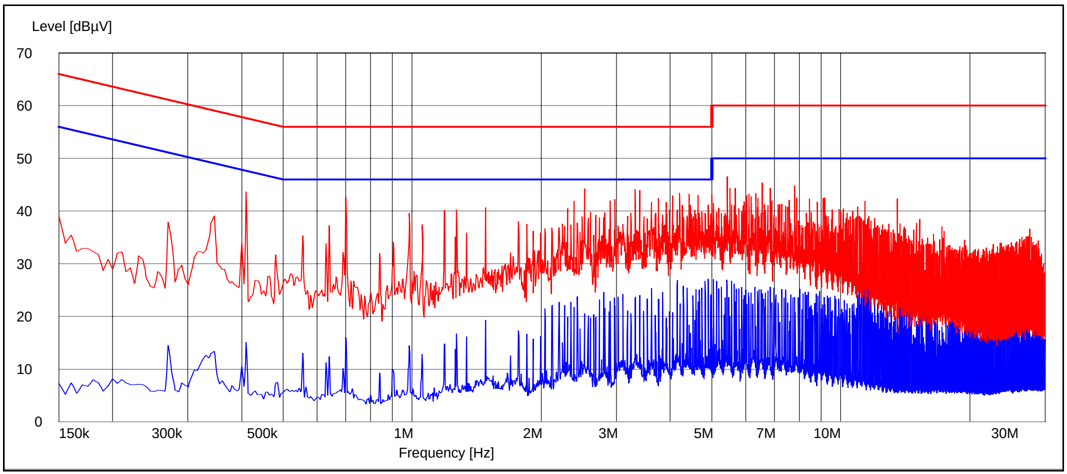
6.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.425000	25.10	N	PASSED
0.735000	23.80	N	PASSED
0.940000	22.70	N	PASSED
1.170000	18.60	L1	PASSED
1.310000	24.90	N	PASSED
1.480000	26.40	N	PASSED
2.525000	32.20	N	PASSED
3.290000	32.90	N	PASSED
3.405000	33.40	N	PASSED
4.210000	32.20	N	PASSED
4.380000	34.90	N	PASSED
4.690000	36.10	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
4.200000	19.70	N	PASSED
4.340000	18.50	N	PASSED
4.415000	20.10	N	PASSED
4.780000	19.40	N	PASSED
4.945000	20.80	N	PASSED

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Beijing Economic and
Technological Development Area
No.5 Donghuan Zhonglu
Beijing
PRC China 100176
Tel. +86 10 8711 8888
Fax. +86 10 8711 4550

7. Test Equipment

7.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0039	LISN	ESH3-Z5	BJPCPT0039	15C, 15B
BJPCPT0040	TEST RECEIVER	ESCS30	BJPCPT0040	15C, 15B
BJPCPT0069	LISN	ESH3-Z5	BJPCPT0069	15C, 15B
BJPCPT0079	LISN	ESH3-Z5	BJPCPT0079	15C, 15B
BJPCPT0191	PULSE LIMITER	ESH3-Z2	BJPCPT0191	15C, 15B

7.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0129	Relay Unit	TS-RSP	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0130	Relay Unit	TS-RSP	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0080	Device Controller	EMCO2090	ETS-EMCO	22/24/27, 15C, 15B
BJPCTC0048	RF Preamplifier 10MHz-3GHz (Metal chassis)	AFS4-00100300-10-10P-4	MITEQ	22/24/27, 15C, 15B
BJPCTC0007	Ultra Broadband Antenna 30MHz-3000MHz	HL562	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0162	Horn Antenna 1GHz-18GHz	HF906	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0029	Horn Antenna 1GHz-18GHz	HF906	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0049	RF preamplifier 3GHz-18GHz	BLMA-0118-1A-BT	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0072	3m anechoic chamber	-	ETS-Lindgren	22/24/27, 15C, 15B
BJPCTC0075	Turntable	Model 2088	ETS-EMCO	22/24/27, 15C, 15B
BJPCPT0072	EMI Test Receiver 20Hz-26.5GHz	ESIB26	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0150	High Pass filter	WHKS 1200-10SS	Wainwright instruments	22/24/27, 15C, 15B
BJPCTC0034	Notch Filter	WRCT800/880-0.2/40-5SSK	Wainwright instruments	22, 15B
BJPCPT0151	Notch Filter	WRCD1800/2000-0.2/40-5SSK	Wainwright instruments	24, 15B
BJPCTC0017	Radio Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0154	Filter	WRCT2402/2480-2400/2483.5-30-20SS	Wainwright instruments	15C, 15B
BJPCTC0058	Bluetooth tester	CBT	Rohde&Schwarz	15C, 15B
BJPCTC0064	WCDMA II FILTER	WRCG1877/1883-1870/1890-40/6SS	Wainwright instruments	24, 15B
BJPCTC0065	WCDMA V FILTER	WRCG832/838-825/845-40/5SS	Wainwright instruments	22, 15B

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