

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15C_RM-485_17.doc	Date of Report:	06-Nov-2009
Number of pages:	7	Customer's Contact person:	Asko Pasanen
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FCC listing no.:	975940		
IC recognition no.:	661AH-1		
Tested devices/ accessories:	Phone RM-485 / Battery BL-5K / AC-charger AC-10E / Audio adapter AD-54 / Headset HS-44		
FCC ID:	QURRM-485X	IC:	661AC-RM485
Supplement reports:	-		
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:			

Sami Lehtonen, System Specialist, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	24-Mar-2009
Testing completed	29-May-2009
The customer's contact person	Asko Pasanen
Test Plan referred to	T:\Projects\RM-484\TestPlan_RS\RS_testplan_RM-484.xls
Notes	-
Document name	T:\Projects\RM-485\EMC\FCC15C_RM-485_17.doc

1.1. EUT and Accessory Information

The EUT is a 7-band (GSM850/900/1800/1900 and WCDMA Band I/II(1900)/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-484	004401105659169	0800	-	0.527	51253
Battery	BL-5K	4620408441L10102994;0670580	-	-	-	51256
AC-charger	AC-10E	3997918305050506222;0675408	-	-	-	51247
Audio adapter	AD-54	0751156841581R20931	-	-	-	51257
Headset	HS-44	0694557744218606791	-	-	-	51258

1.2. Summary of Test Results

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	NP
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8.2 (a)	6 dB bandwidth	NP
15.247(e)	A8.2 (b)	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.

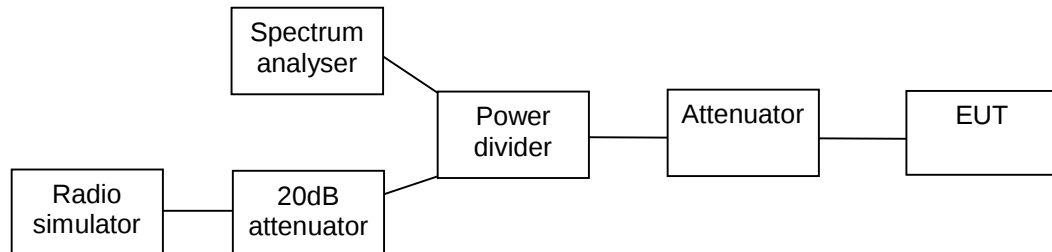
The test results of QURRM-484 are re-used for certification of the QURRM-485X. The table above indicates the results, which will be re-used.

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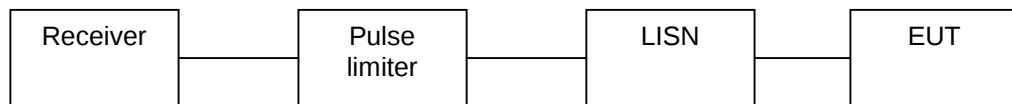
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2. Test setups

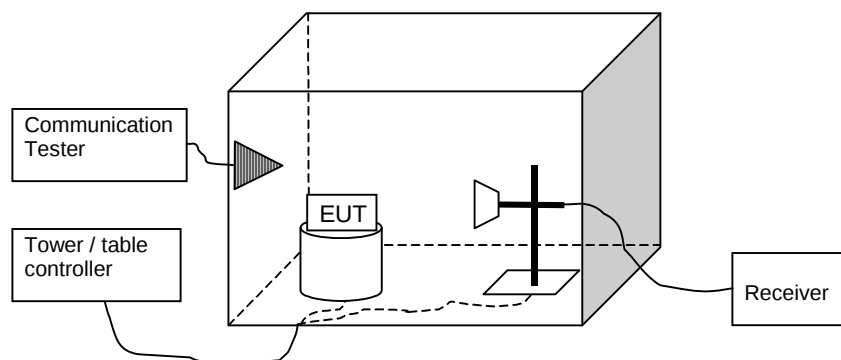
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



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

EUT with DUT number	RM-484, DUT51253
Accessories with DUT numbers	BL-5K, DUT51256; AC-10E, DUT51247; AD-54, DUT51257; HS-44, DUT51258
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 30 / 100
Date of measurements	21-Apr-2009
Measured by	Zou Ming

3.1. 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.

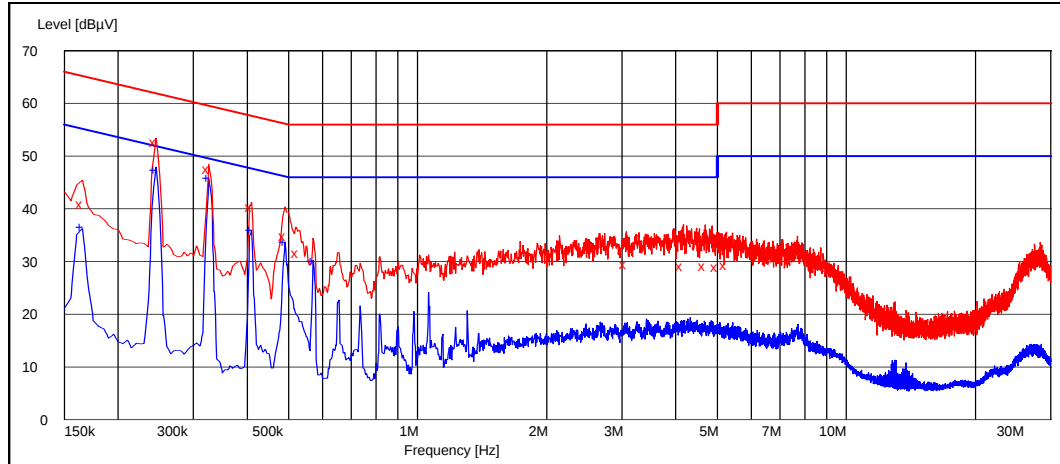
CISPR 22 Class B limits

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

3.2. WLAN Test results

3.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 7 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.165000	40.90	L1	PASSED
0.245000	52.60	N	PASSED
0.325000	47.60	N	PASSED
0.410000	40.30	N	PASSED
0.490000	34.90	L1	PASSED
0.525000	31.60	N	PASSED
3.060000	29.60	L1	PASSED
4.140000	29.20	L1	PASSED
4.675000	29.20	L1	PASSED
4.985000	28.90	L1	PASSED
5.245000	29.30	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.165000	36.50	N	PASSED
0.245000	47.30	N	PASSED
0.325000	45.80	N	PASSED
0.410000	35.90	N	PASSED
0.490000	33.60	N	PASSED
0.570000	30.10	N	PASSED

4. Test Equipment

4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
BJPCPT0073	SIGNAL GENERATOR	SMR 20	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCTC0055	RADIO COMMUNICATION TESTER	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
BJPCPT0039	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0040	TEST RECEIVER	ESCS30	Rohde&Schwarz	15C, 15B
BJPCPT0069	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0079	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
BJPCPT0191	PULSE LIMITER	ESH3-Z2	Rohde&Schwarz	15C, 15B
BJPCPT0131	RADIO COMMUNICATION TESTER	CMU200	ROHDE&SCHWARZ	15C, 15B
BJPCTC0089	Temperature Test chamber	VT4002	Vötsch Industrietechnik	22/24/27, 15C
BJPCTC0090	FSP spectrum analyzer	FSP30	R&S	22/24/27, 15C
BJPCTC0067	BLUETOOTH TESTER	CBT	R&S	22/24/27, 15C
BJPCHW0020	Dc Power supply	Hp6632B	HP	22/24/27, 15C
BJPCTC0094	GPB-RS232 convertor	GPB-RS232	National Instruments	22/24/27, 15C

4.2. 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
BJPCTC0066	ANTENNA	SBA9113	SWARZBECK	22/24/27
BJPCTC0096	RF Preamplifier 100MHz-3GHz	AFS4-00100300-20-23P-6	MITEQ	22/24/27, 15C, 15B