

FCC Part 22/24 Compliance Test Report

Test Report no.:	FCC22&24_RM-885_10.docx	Date of Report:	27-Feb-2013
Number of pages:	8	Customer's Contact person:	Li Craig.K
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FCC listing no.:	975940		
IC recognition no.:	661AH-1		
Tested devices/ accessories:	Phone RM-885 / Battery BP-4GWA		
FCC ID:	QTLA	IC:	
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Parts 22/24 , TIA-603-C-2004 and IC standards, RSS-GEN (Issue 3, December 2010), RSS-132 (Issue 2, September 2005), RSS-133 (Issue 5, February 2009). 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:			

Zou Ming, Engineer, EMC

1. Summary for FCC Part 22/24 Compliance Test Report

Date of receipt	29-Jan-2013
Testing completed	17-Feb-2013
The customer's contact person	Li Craig.K
Test Plan referred to	T:\Projects\RM-885\TestPlan\RS_testplan_RM-885_EMC_FCC.xlsm
Notes	-
Document name	FCC22&24_RM-885_10.docx

1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:
GSM/WCDMA/WLAN/Bluetooth
The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-885	004402472084890	0203	-	1030.6300.1302.10055	53118
Battery	BP-4GWA	-	2.0	-	-	53125

1.2. Summary of Test Results

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 Laboratory.

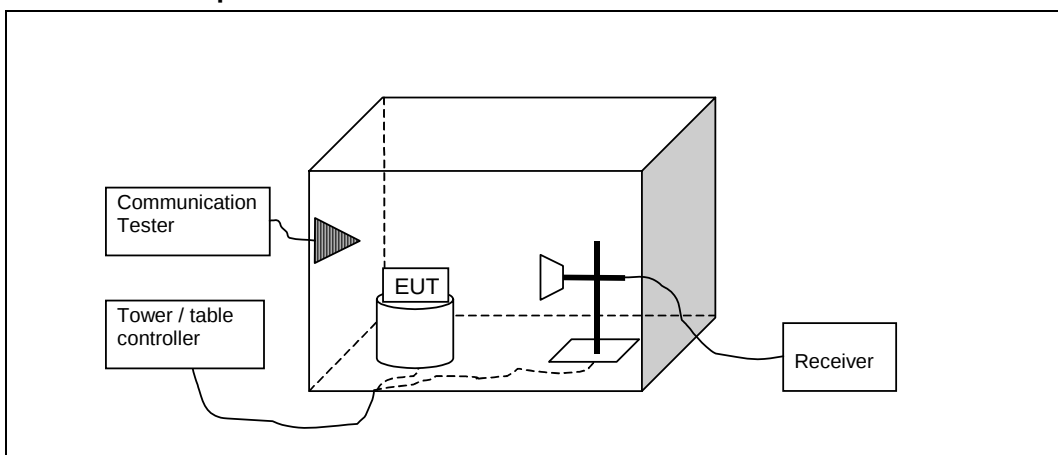
CONTENTS

1. Summary for FCC Part 22/24 Compliance Test Report	2
1.1. EUT and Accessory Information.....	2
1.2. Summary of Test Results.....	2
2. Radiated RF output power (FCC §22.913(a), §24.232(b), RSS-132 4.4, RSS-133 6.4).....	4
2.2. Test method and limit.....	4
2.3. GSM850 TX test results	5
2.4. GSM850-E1 TX test results.....	5
2.5. GSM1900 TX test results	5
2.6. GSM1900-E1 TX test results.....	5
2.7. WCDMA 1900 (Band II) test results	6
2.8. WCDMA 850 (Band V) test results.....	6
3. Test Equipment.....	7
3.1. Conducted measurements	7
3.2. Radiated measurements	7

2. Radiated RF output power (FCC §22.913(a), §24.232(b), RSS-132 4.4, RSS-133 6.4)

EUT with DUT number	RM-914, DUT 53091
Accessories with DUT numbers	BL-5J, DUT 53013
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20/26/103.3
Date of measurements	17-Feb-2013
Measured by	Zou Ming

2.1.1 Test setup



2.2. Test method and limit

The measurement is made according to TIA-603-C-2004 as follows:

The measurement is performed in the Anechoic Chamber with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system. The turntable is rotated 360 degrees and this is repeated for both horizontal and vertical receive antenna polarizations.

The EUT is placed on a nonconductive plate at 170 cm height.

The substitution method is used. The measurement results are obtained as described below:

$$P[\text{dBm}] = P_{\text{SUBST TX}} + P_{\text{MEAS}} - P_{\text{SUBST RX}} - L_{\text{SUBST CABLES}} + G_{\text{SUBST TX ANT}}$$

Where $P_{\text{SUBST TX}}$ is signal generator level. P_{MEAS} is measured power level from the EUT. $P_{\text{SUBST RX}}$ is measured power level in substitute measurement. $L_{\text{SUBST CABLE}}$ is the loss of the cable between the signal generator and the substitution antenna and $G_{\text{SUBST TX ANT}}$ is substitution antenna gain.

Limits for radiated RF output power measurements

Frequency range [MHz]	Limit [W]	Limit [dBm]
824 - 849	7 ERP	38.5
1850 - 1910	2 EIRP	33

2.3. GSM850 TX test results

GSM mode

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
128 / 824.2	25.83	0.383	-8.44	+10	-30.46	-2.9	3.29	HORIZONTAL	PASSED
190 / 836.6	25.77	0.378	-7.38	+10	-29.4	-2.82	3.43	HORIZONTAL	PASSED
251 / 848.8	25.91	0.390	-6.6	+10	-28.61	-2.7	3.4	VERTICAL	PASSED

2.4. GSM850-E1 TX test results

EGPRS mode, 1 TX Slot

Channel / f _c [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
128 / 824.2	21.34	0.136	-12.93	+10	-30.46	-2.9	3.29	HORIZONTAL	PASSED
190 / 836.6	23.4	0.219	-9.75	+10	-29.4	-2.82	3.43	HORIZONTAL	PASSED
251 / 848.8	23.46	0.222	-9.05	+10	-28.61	-2.7	3.4	VERTICAL	PASSED

2.5. GSM1900 TX test results

GSM mode

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
512 / 1850.2	29.48	0.887	-14.39	+10	-30.79	8.12	5.04	VERTICAL	PASSED
661 / 1880	30.07	1.016	-13.61	+10	-30.68	8.06	5.06	VERTICAL	PASSED
810 / 1909.8	29.39	0.869	-14.59	+10	-30.79	8.3	5.11	VERTICAL	PASSED

2.6. GSM1900-E1 TX test results

EGPRS mode, 1 TX Slot

Channel / f _c [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
512 / 1850.2	26.27	0.424	-17.6	+10	-30.79	8.12	5.04	VERTICAL	PASSED
661 / 1880	26.94	0.494	-16.74	+10	-30.68	8.06	5.06	VERTICAL	PASSED
810 / 1909.8	26.64	0.461	-17.34	+10	-30.79	8.3	5.11	VERTICAL	PASSED

2.7. WCDMA 1900 (Band II) test results

Peak Detector

Channel / f _C [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
9262 / 1852.4	24.73	0.297	-18.9	+10	-30.53	8.11	5.01	VERTICAL	PASSED
9400 / 1880	25.58	0.361	-18.08	+10	-30.66	8.06	5.06	VERTICAL	PASSED
9538 / 1907.6	24.62	0.290	-20.03	+10	-31.42	8.29	5.06	HORIZONTAL	PASSED

RMS Detector

Channel / f _C [MHz]	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBi]	L _{SUBST CABLE} [dB]	Polarisation	Result
9262 / 1852.4	21.1	0.129	-22.53	+10	-22.53	8.11	5.01	VERTICAL	PASSED
9400 / 1880	21.96	0.157	-21.7	+10	-21.7	8.06	5.06	VERTICAL	PASSED
9538 / 1907.6	21.18	0.131	-23.47	+10	-23.47	8.29	5.06	HORIZONTAL	PASSED

2.8. WCDMA 850 (Band V) test results

Peak Detector

Channel / f _C [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
4132 / 826.4	20.65	0.116	-11.97	+10	-28.82	-2.88	3.32	VERTICAL	PASSED
4183 / 836.6	20.6	0.115	-10.83	+10	-27.68	-2.82	3.43	VERTICAL	PASSED
4233 / 846.6	20.64	0.116	-11.95	+10	-28.68	-2.7	3.39	VERTICAL	PASSED

RMS Detector

Channel / f _C [MHz]	ERP [dBm]	ERP [W]	P _{MEAS} [dBm]	P _{SUBST TX} [dBm]	P _{SUBST RX} [dBm]	G _{SUBST TX} ANT [dBd]	L _{SUBST CABLE} [dB]	Polarisation	Result
4132 / 826.4	17	0.050	-15.62	+10	-15.62	-2.88	3.32	VERTICAL	PASSED
4183 / 836.6	16.92	0.049	-14.51	+10	-14.51	-2.82	3.43	VERTICAL	PASSED
4233 / 846.6	16.72	0.047	-15.87	+10	-15.87	-2.7	3.39	VERTICAL	PASSED

3. Test Equipment

3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
-	RF Emission Software	EMC32 Test Software	R&S	22/24/27, 15C, 15B
BJPCHW0020	DC Power supply	HP6632B	HP	22/24/27, 15C
BJPCPT0040	Receiver	ESCS30	R&S	15C, 15B
BJPCPT0069	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
BJPCPT0073	Signal Generator	SMR 20	R&S	22/24/27, 15C, 15B
BJPCPT0191	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
BJPCPT0208	UPS	PULSAR RX10	Merlin gerin	15C, 15B
BJPCTC0001	DIGITAL CAMERA	PC1015	CANON	15C, 15R
BJPCTC0017	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
BJPCTC0062	AC Power source	6812B	Hp	15C, 15B
BJPCTC0067	Bluetooth Tester	CBT	R&S	22/24/27, 15C
BJPCTC0082	Humidity and Temperature Sensor	175-H2	Testo	15B, 15C
BJPCTC0088	Absolut pressure meter	testo 511	Testo	22/24/27, 15B, 15C
BJPCTC0089	Tempreture 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	E8257C	Agilent	22/24/27, 15C
BJPCTC0115	Communication Tester	CMU200	R&S	22/24/27, 15B, 15C
BJPCTC0127	AC Power source	SOYI-500VA	SOYI	15B 15C
BJPCTC0128	Communication antenna	JXTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0129	Communication antenna	JXTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0131	Communication tester	CMW500	R&S	22/24/27 15B 15C
BJPCTC0136	Communication antenna	JXTXLB-880-NF	A-INFOMW	15B 15C

3.2. 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
BJPCPT0208	UPS	PULSAR RX10	Merlin gerin	15C, 15B
BJPCTC0001	DIGITAL CAMERA	PC1015	CANON	15C, 15R
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
BJPCTC0062	AC Power source	6812B	Hp	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

Eq. No	Equipment	Type	Manufacturer	Used in
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
BJPCTC0081	Humidity and Temperature Sensor	175-H2	Testo	15B, 15C
BJPCTC0088	Absolut pressure meter	testo 511	Testo	22/24/27, 15B, 15C
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
BJPCTC0124	Attenuator	SA18N200W-40	Fairview Microwave	-
BJPCTC0125	Loop Antenna	HFH2-Z2	R&S	15C
BJPCTC0126	Tripod	FHU-Z	R&S	15C
BJPCTC0128	Communication antenna	JXTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0129	Communication antenna	JXTXLB-10180	A-INFOMW	22/24/27 15B 15C
BJPCTC0131	Communication tester	CMW500	R&S	22/24/27 15B 15C
BJPCTC0133	Open Swith and contril unit	OSP 150	R&S	15B, 15C
BJPCTC0134	Open Swith and contril unit	OSP 150	R&S	15B, 15C
BJPCTC0135	Open Swith and contril unit	OSP 130	R&S	15B, 15C
BJPCTC0136	Communication antenna	JXTXLB-880-NF	A-INFOMW	15B 15C