FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-885_CC-3064_25.docx	**Date of Report:**	15-Mar-2013
Number of pages:	8	**Customer's Contact person:**	Li Criag.K
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.: **IC recognition no.:**	975940 661AH-1		
Tested devices/ accessories:	**Phone RM-885 / Battery BP-4GWA / Wireless charger cover CC-3064 / Wireless charger AC-301E / Wireless charger pad DT-910**		
FCC ID:	QTLA	**IC:**	
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), DTS procedures KDB 558074, IC standards. 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 Zou Ming DN: CN = Zou Ming, C = CN, O = NOKIA, OU = PSCL Date: 2013.03.21 15:41:04 +08'00'		

Zou Ming, Engineer, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	19-Feb-2013
Testing completed	15-Mar-2013
The customer's contact person	Li Criag.K
Test Plan referred to	T:\Projects\RM-885\TestPlan\RS_testplan_RM-885_CC-3064.xlsm
Notes	-
Document name	FCC15CWLAN_RM-885_CC-3064_25.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	004402472084957	0203	-	1030.6407.1307.0000	53257
Battery	BP-4GWA	-	2.0	-	-	53258
Wireless charger cover	CC-3064	000174	B1.5	-	-	53256
Wireless charger	AC-301E	409049252260030929 4;0675638	-	-	-	53260
Wireless charger pad	DT-910	0677098250486803429	-	-	-	53263

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), 15.205(b)	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	NP
15.247(a)(2)	A8.2 (a)	6dB(bandwidth)	NP
15.247(e)	A8.2 (b)	Power spectral density	NP

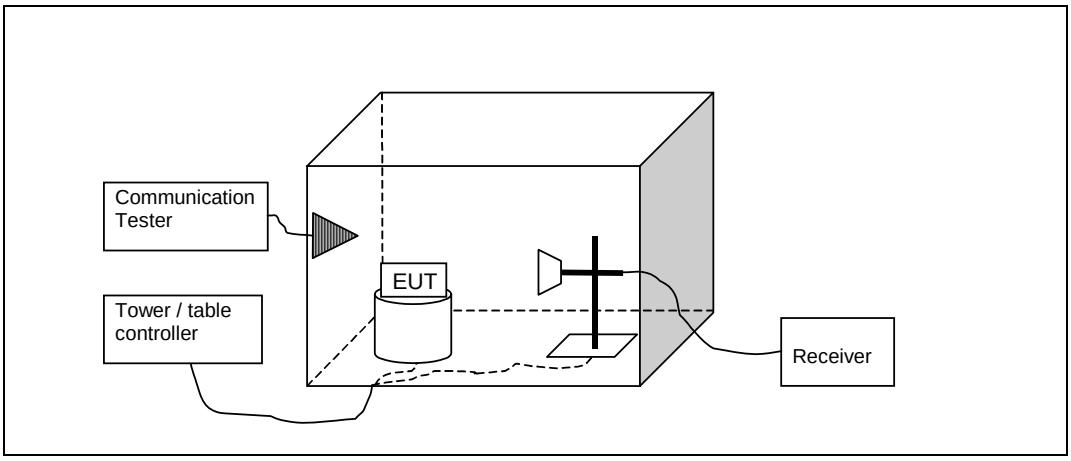
PASSED	The EUT complies with the essential requirements in the standard.
FAILED	The EUT does not comply with the essential requirements in the standard.
NP	The test was not performed by the TCC Nokia Laboratory.

CONTENTS

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

EUT with DUT number	RM-885, DUT 53257
Accessories with DUT numbers	BP-4GWA, DUT 53258 ; CC-3064, DUT 53256 ; AC-301E, DUT 53260 ; DT-910, DUT 53263
Operation Voltage [V] / [Hz]	Norminal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 31 / 101
Date of measurements	12-Mar-2013
Measured by	Zou Ming

2.1.1 Test setup



2.2. 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:

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

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

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

2.3. WLAN test results

2.3.1 DSSS, QPSK modulation, 11 Mbps data rate.

Channel 1 / 2412 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4823.9	49.46	297.167	49.38	0.08	24.5	74	PASSED
7235.3	47.36	233.212	42.14	5.22	77.9	125	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4823.9	35.33	58.439	35.25	0.08	18.6	54	PASSED
7235.3	34.05	50.385	28.83	5.22	---	---	PASSED

Channel 7 / 2442 MHz
Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4880.9	46.44	209.991	46.1	0.34	27.5	74	PASSED
7253.808	47.65	241.351	42.4	5.25	26.3	74	PASSED
7318.5	47.62	240.298	42.27	5.35	26.4	74	PASSED
14254.612	53.71	484.898	40.83	12.88	71.5	125	PASSED

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
31.98	35.72	61.073	39.36	-3.64	4.3	40	PASSED
32.22	34.79	54.859	38.59	-3.8	5.2	40	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4880.9	33.46	47.114	33.12	0.34	20.5	54	PASSED
7253.808	34.34	52.089	29.09	5.25	19.6	54	PASSED
7318.5	34.4	52.451	29.05	5.35	19.6	54	PASSED
14254.612	40.81	109.761	27.93	12.88	---	---	PASSED

Channel 11 / 2462 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4924.1	47.99	250.871	47.61	0.38	26	74	PASSED
7387.2	46.83	219.584	41.61	5.22	27.1	74	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4924.1	34.52	53.199	34.14	0.38	19.5	54	PASSED
7387.2	33.87	49.374	28.65	5.22	20.1	54	PASSED

2.3.2 OFDM, BPSK modulation, 6 Mbps data rate.

Channel 1 / 2412 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4822.3	46.33	207.253	46.25	0.08	27.6	74	PASSED
7237.8	47.51	237.356	42.27	5.24	77.7	125	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4822.3	33.1	45.18	33.02	0.08	20.9	54	PASSED
7237.8	34.17	51.08	28.93	5.24	---	---	PASSED

Channel 7 / 2442 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4881.5	45.9	197.174	45.56	0.34	28.1	74	PASSED
7278.958	47.49	236.755	42.27	5.22	26.5	74	PASSED
7319.3	47.08	225.97	41.74	5.34	26.9	74	PASSED
14321.647	53.84	492.096	40.96	12.88	71.4	125	PASSED

QuasiPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
31.95	35.628	61.073	39.27	-3.64	4.4	40	PASSED
31.95	34.938	54.859	38.58	-3.64	5.1	40	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4881.5	32.97	44.489	32.63	0.34	21	54	PASSED
7278.958	34.49	53.052	29.27	5.22	19.5	54	PASSED
7319.3	34.27	51.677	28.93	5.34	19.7	54	PASSED
14321.647	40.9	110.93	28.02	12.88	---	---	PASSED

Channel 11 / 2462 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4925.2	45.65	191.536	45.29	0.36	28.3	74	PASSED
7384.5	46.59	213.575	41.35	5.24	27.4	74	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4925.2	33.26	46.047	32.9	0.36	20.7	54	PASSED
7384.5	34	50.113	28.76	5.24	20	54	PASSED

2.3.3 n-mode, 20 MHz CBW, BPSK modulation, 6.5 / 7.25 Mbps data rate.

Channel 1 / 2412 MHz
MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4823.1	45.64	191.315	45.56	0.08	28.3	74	PASSED
7237.9	47.24	230.012	42	5.24	78	125	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4823.1	32.57	42.506	32.49	0.08	21.4	54	PASSED
7237.9	34.3	51.874	29.06	5.24	---	---	PASSED

Channel 7 / 2442 MHz

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4879.3	45.75	193.888	45.42	0.33	28.2	74	PASSED
7250.901	47.12	227.039	41.87	5.25	26.9	74	PASSED
7319.9	47.21	229.298	41.87	5.34	26.8	74	PASSED
14261.321	54.36	522.156	41.48	12.88	70.9	125	PASSED

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
31.92	35.16	57.293	38.75	-3.59	4.8	40	PASSED
907.303	28.24	25.817	30.46	-2.22	17.8	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4879.3	32.93	44.32	32.6	0.33	21	54	PASSED
7250.901	34.26	51.665	29.01	5.25	19.7	54	PASSED
7319.9	34.24	51.523	28.9	5.34	19.7	54	PASSED
14261.321	40.85	110.217	27.97	12.88	---	---	PASSED

Channel 11 / 2462 MHz

MaxPeak

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4925.1	47.04	224.931	46.68	0.36	26.9	74	PASSED
7384.8	47.23	229.959	41.99	5.24	26.7	74	PASSED

Average

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
4925.1	33.31	46.265	32.95	0.36	20.7	54	PASSED
7384.8	34.05	50.385	28.81	5.24	19.9	54	PASSED