

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-877_08.docx	Date of Report:	08-Apr-2013
Number of pages:	20	Customer's Contact person:	Tero Huhtala
Testing laboratory:	TCC Nokia Salo Laboratory P.O.Box(86) Joensuunkatu 7H / Kiila 1B FIN-24101 SALO, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 (0) 7180 45220	Customer:	Nokia Corporation P.O. Box 68 Sinitaival 5 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880
FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Phone RM-877 / Battery BV-5XW / Headset WH-108 / AC-Charger AC-60		
FCC ID:	PDNB	IC:	661R-B
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:			

Kalle Hannila, System Manager, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	14-Feb-2013
Testing completed	21-Mar-2013
The customer's contact person	Tero Huhtala
Test Plan referred to	T:\Projects\RM-877\TestPlan\RS_testplan_RM-877.xlsm
Notes	-
Document name	T:\Projects\RM-877\EMC\FCC15CWLAN_RM-877_08.docx

1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:

GSM/WCDMA/WLAN

The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-877	004402471265060	1000	-	3012.0000.1304.10019	17294
Battery	BV-5XW	-	2.3	-	-	17298
Headset	WH-108	3022D71	-	-	-	17236
AC-Charger	AC-60	409049304758020007400675677	0.3	0.2	-	17295

1.2. Summary of Test Results

5 GHz RLAN:

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	PASSED
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

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.

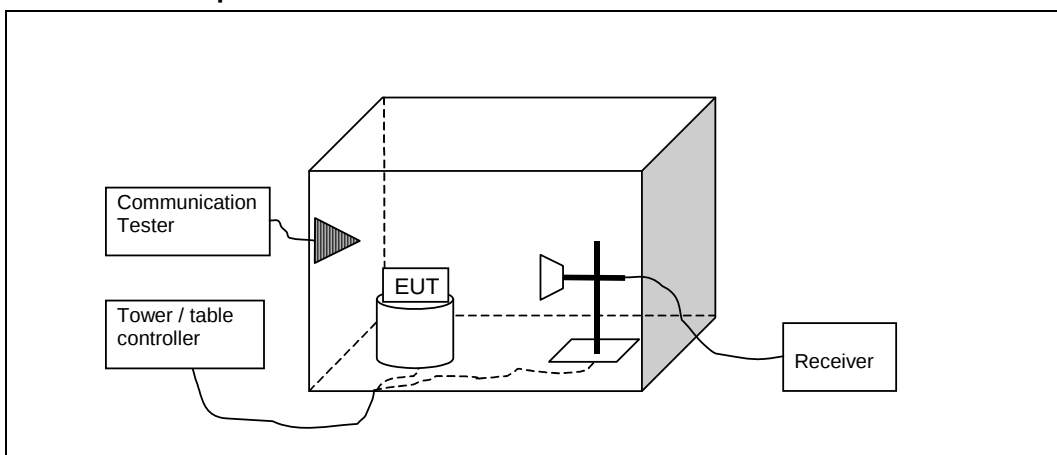
CONTENTS

1. Summary for FCC Part 15C Compliance Test Report.....	2
1.1. EUT and Accessory Information.....	2
1.2. Summary of Test Results.....	2
2. Band edge compliance of RF emissions (FCC §15.247(d), 15.205(b), RSS-210 A8.5).....	4
2.2. Test method and limit.....	4
2.3. 5 GHz RLAN test results	5
3. Spurious radiated emissions (FCC §15.247(d), §15.209, RSS-210 A8.5)	11
3.2. Test method and limit.....	11
3.3. 5 GHz RLAN test results	13
4. Test Equipment.....	19
4.1. Conducted measurements	19
4.2. Radiated measurements	19

2. Band edge compliance of RF emissions (FCC §15.247(d), 15.205(b), RSS-210 A8.5)

EUT with DUT number	RM-877, DUT 17294
Accessories with DUT numbers	BV-5XW, DUT 17298 ; WH-108, DUT 17236 ; AC-60, DUT 17295
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 38 / 101.1
Date of measurements	19-Mar-2013
Measured by	Kalle Hannila

2.1.1 Test setup



2.2. Test method and limit

The measurement is made according to KDB558074 and IC standard RSS-210.

The limit for 5 GHz RLAN is -20 dBc.

When the fundamental value in E [dBuV/m] column is at least 20 dB higher than the out of band emission, the result is pass.

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 ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

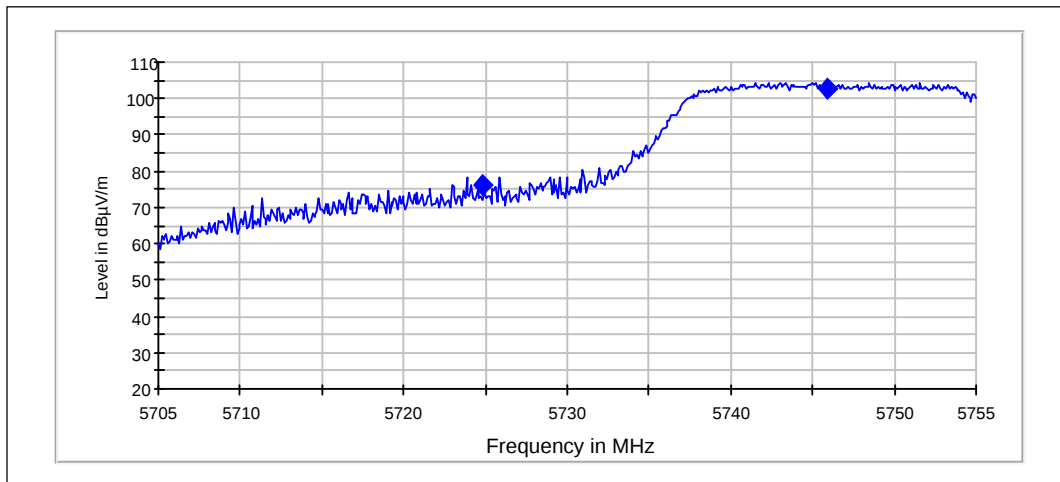
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit
Below 2390 and above 2483.5	54 dBuV/m (avg) and 74 dBuV/m (pk)
Below 5725 and above 5825	-20dBc

2.3. 5 GHz RLAN test results

2.3.1 802.11n, 16QAM modulation, 54.0 / 60.0 Mbps data rate.

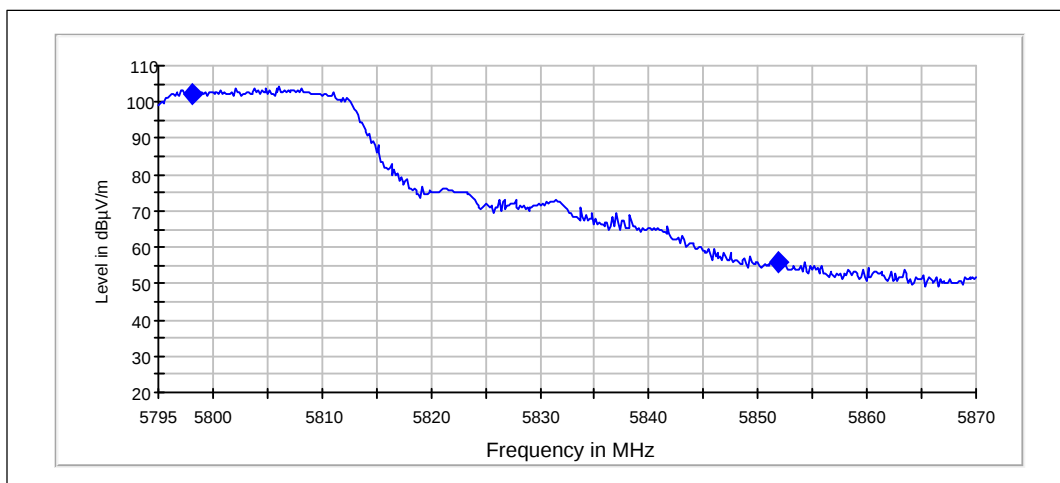
Channel 149+153 / 5755MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.76	76.43	6629.03	72.22	4.21	PASSED
5745.902	102.57	134493.099	98.36	4.21	PASSED

Channel 157+161 / 5795MHz

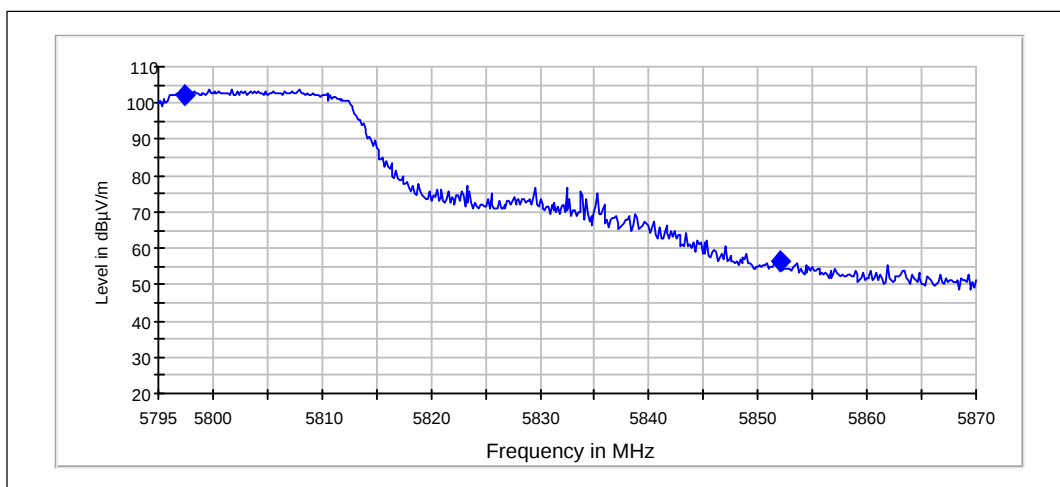


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5798.166	102.21	129032.764	97.76	4.46	PASSED
5851.884	55.76	613.833	50.95	4.82	PASSED

2.3.2 802.11n, BPSK modulation, 13.5 / 15.0 Mbps data rate.

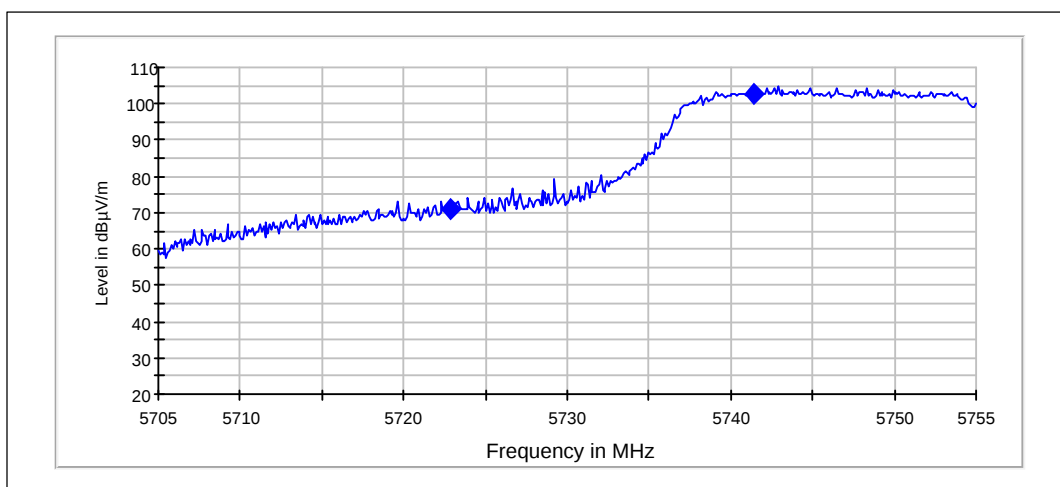
Channel 157+161 / 5795MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5797.405	102.33	130692.3	97.88	4.45	PASSED
5852.004	56.65	679.986	51.84	4.82	PASSED

Channel 149+153 / 5755MHz

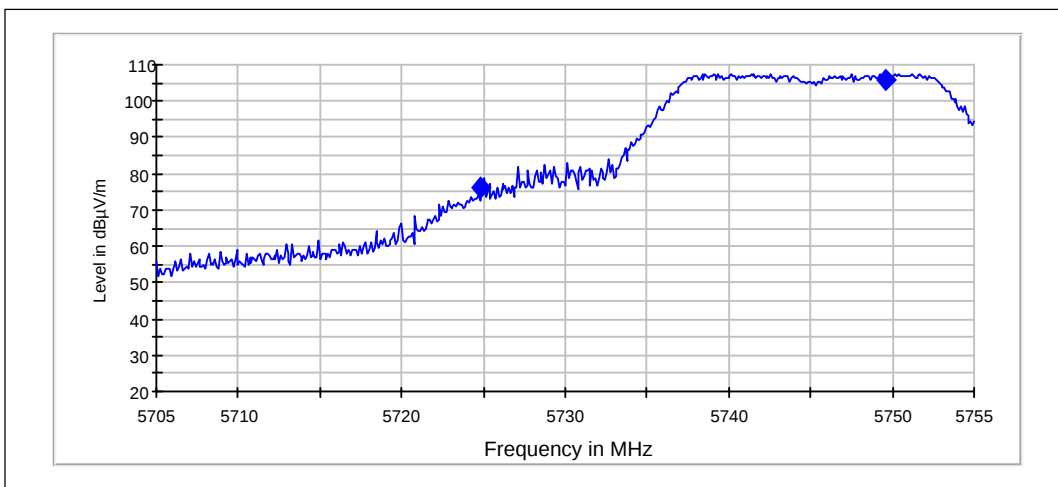


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5722.836	70.91	3510.751	66.71	4.2	PASSED
5741.373	102.49	133198.704	98.27	4.22	PASSED

2.3.3 802.11a, BPSK modulation, 9 Mbps data rate.

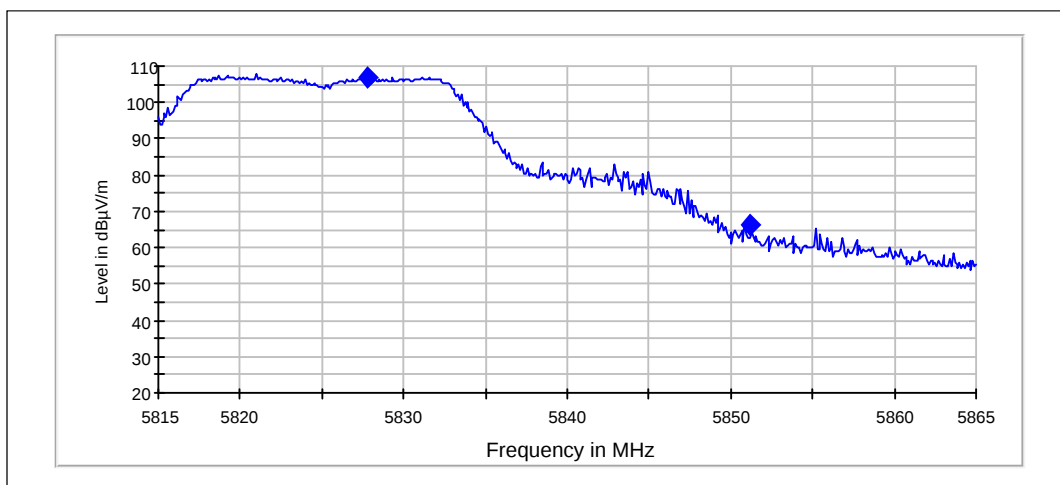
Channel 149 / 5745MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.84	76.25	6494.564	72.04	4.21	PASSED
5749.549	105.98	198998.59	101.78	4.2	PASSED

Channel 165 / 5825MHz

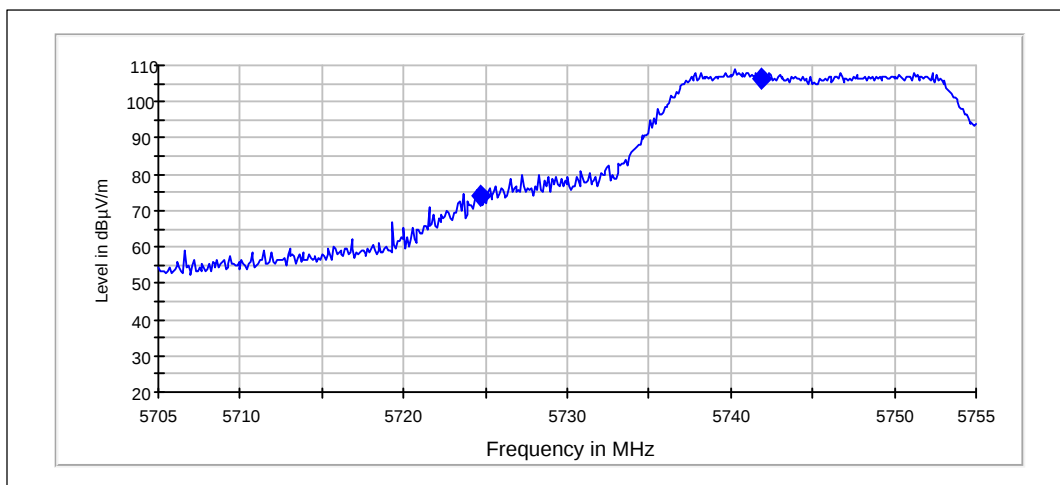


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5827.745	106.79	218448.969	102.13	4.66	PASSED
5851.172	66.27	2058.259	61.46	4.81	PASSED

2.3.4 802.11a, 16QAM modulation, 36 Mbps data rate.

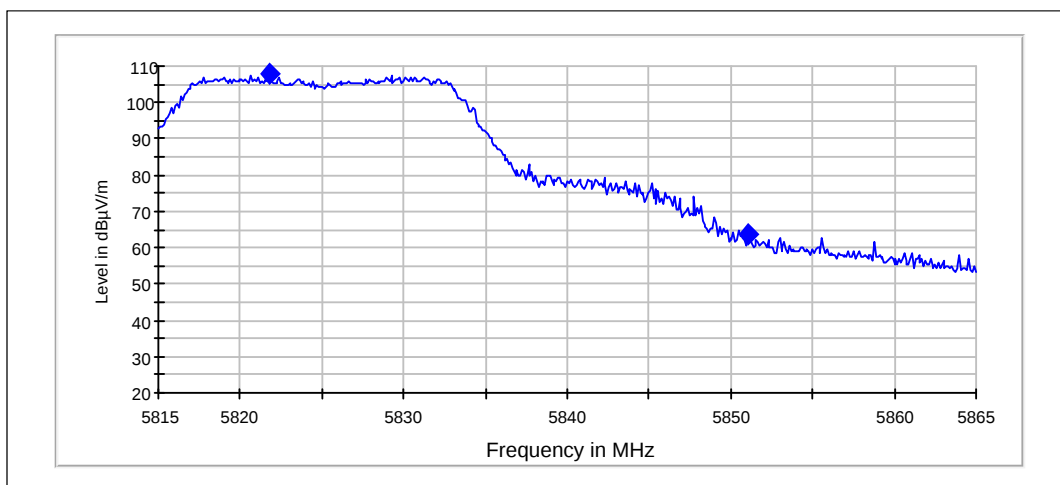
Channel 149 / 5745MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.679	74.28	5173.09	70.07	4.21	PASSED
5741.894	106.41	209266.639	102.19	4.22	PASSED

Channel 165 / 5825MHz



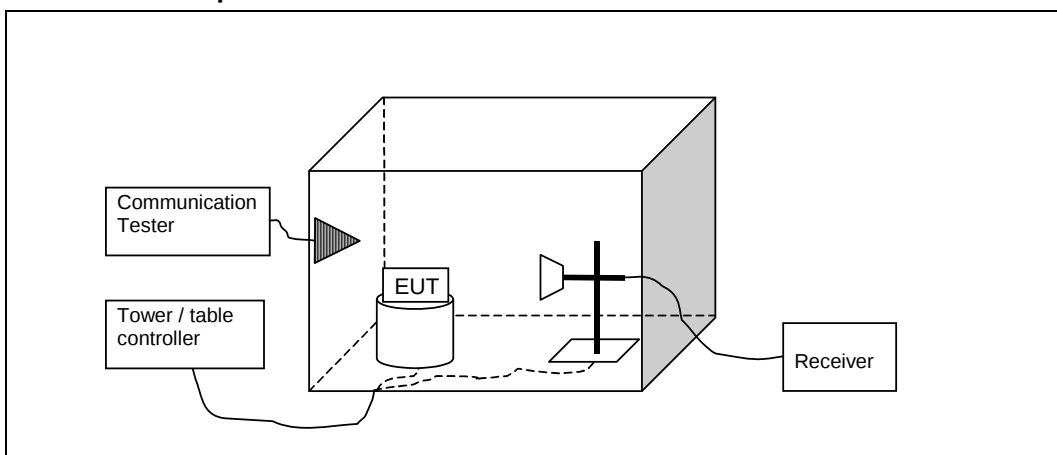
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5821.854	107.72	243220.401	103.07	4.66	PASSED
5851.022	63.52	1499.858	58.71	4.81	PASSED

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

EUT with DUT number	RM-877, DUT 17294
Accessories with DUT numbers	BV-5XW, DUT 17298 ; WH-108, DUT 17236 ; AC-60, DUT 17295
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 38 / 101.1
Date of measurements	19-Mar-2013
Measured by	Kalle Hannila

3.1.1 Test setup



3.2. Test method and limit

The measurement is made according to ANSI C63.4 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 [$\mu V/m$]	Limit [$dB\mu V/m$]	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

3.3. 5 GHz RLAN test results

3.3.1 802.11n, 16QAM modulation, 54.0 / 60.0 Mbps data rate.

Channel 149+153 / 5755MHz

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
11513.6	52.57	425.256	39.62	12.95	21.4	74	PASSED
17268.9	48.7	272.176	38.9	9.8	76.5	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
45.871	25.45	18.733	40.03	-14.58	14.5	40	PASSED
46.705	24.42	16.628	39.6	-15.18	15.6	40	PASSED
48.709	24.32	16.444	40.96	-16.64	15.7	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
11513.6	39.58	95.247	26.63	12.95	14.4	54	PASSED
17268.9	35.85	62.03	26.05	9.8	---	---	PASSED

Channel 157+161 / 5795MHz

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
11589.9	52.55	424.082	40.23	12.32	21.4	74	PASSED
17381.2	48.1	254.039	38.52	9.58	77.1	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
43.051	13.23	4.588	25.87	-12.64	26.8	40	PASSED
45.985	23.95	15.751	38.61	-14.66	16.1	40	PASSED
46.369	24.37	16.535	39.31	-14.94	15.6	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
11589.9	39.56	95.028	27.24	12.32	14.4	54	PASSED
17381.2	35.23	57.723	25.65	9.58	---	---	PASSED

3.3.2 802.11n, BPSK modulation, 13.5 / 15.0 Mbps data rate.

Channel 157+161 / 5795MHz

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
11589.2	52.43	418.312	40.11	12.32	21.5	74	PASSED
17384	48.1	253.951	38.53	9.57	77.1	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
45.025	11.54	3.774	25.5	-13.96	28.5	40	PASSED
49.051	22.08	12.712	38.97	-16.89	17.9	40	PASSED
49.909	21.16	11.433	38.67	-17.51	18.8	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
11589.2	39.17	90.845	26.85	12.32	14.8	54	PASSED
17384	35.2	57.537	25.63	9.57	---	---	PASSED

Channel 149+153 / 5755MHz

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
11510.5	52.8	436.717	39.86	12.94	21.2	74	PASSED
17261	48.62	269.712	38.77	9.85	76.6	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
45.691	10.98	3.538	25.42	-14.44	29	40	PASSED
48.379	26.06	20.082	42.46	-16.4	13.9	40	PASSED
48.415	26.07	20.121	42.49	-16.42	13.9	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
11510.5	39.55	94.94	26.61	12.94	14.4	54	PASSED
17261	35.81	61.723	25.96	9.85	---	---	PASSED

3.3.3 802.11a, BPSK modulation, 9 Mbps data rate.

Channel 149 / 5745MHz

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
11004.716	52.4	417.061	39.74	12.66	21.6	74	PASSED
11493.8	52.38	415.671	39.51	12.87	21.6	74	PASSED
17236.8	49.29	291.441	39.38	9.91	75.9	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
42.645	23.22	14.481	35.59	-12.37	16.8	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
11004.716	39.78	97.544	27.12	12.66	14.2	54	PASSED
11493.8	39.51	94.46	26.64	12.87	14.5	54	PASSED
17236.8	35.91	62.409	26	9.91	---	---	PASSED

Channel 157 / 5785MHz

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
11562.2	51.72	385.523	39.14	12.58	22.3	74	PASSED
17356.9	48.33	260.946	38.9	9.43	76.9	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
52.789	7.45	2.358	27.04	-19.59	32.6	40	PASSED
53.113	24.04	15.929	43.87	-19.83	16	40	PASSED
53.125	23.98	15.811	43.81	-19.83	16	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
11562.2	39.25	91.759	26.67	12.58	14.7	54	PASSED
17356.9	35.35	58.567	25.92	9.43	---	---	PASSED

Channel 165 / 5825MHz

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
11651.4	51.58	379.14	39.51	12.07	22.4	74	PASSED
17435.6	48.89	278.259	39.15	9.74	76.3	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
43.641	25.59	19.024	38.62	-13.03	14.4	40	PASSED
48.615	25.83	19.566	42.4	-16.57	14.2	40	PASSED
52.413	7.05	2.253	26.37	-19.32	32.9	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
11651.4	39.1	90.126	27.03	12.07	14.9	54	PASSED
17435.6	35.54	59.869	25.8	9.74	---	---	PASSED

3.3.4 802.11a, 16QAM modulation, 36 Mbps data rate.

Channel 149 / 5745MHz

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
11486.966	52.45	419.469	39.62	12.83	21.5	74	PASSED
11488.6	52.58	425.745	39.74	12.84	21.4	74	PASSED
17232.3	48.82	275.931	38.9	9.92	76.4	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
44.769	25.9	19.726	39.69	-13.79	14.1	40	PASSED
57.092	17.8	7.76	39.49	-21.69	22.2	40	PASSED
96.984	16.66	6.805	34.15	-17.49	26.9	44	PASSED
108.977	10.62	3.395	27.78	-17.16	32.9	44	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
11486.966	39.69	96.483	26.86	12.83	14.3	54	PASSED
11488.6	39.65	96.017	26.81	12.84	14.3	54	PASSED
17232.3	36	63.103	26.08	9.92	---	---	PASSED

Channel 157 / 5785MHz

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
11563.3	53.05	449.107	40.48	12.57	20.9	74	PASSED
17358.3	48.7	272.396	39.26	9.44	76.5	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
44.173	25.66	19.189	39.05	-13.39	14.3	40	PASSED
49.099	9.31	2.922	26.23	-16.92	30.7	40	PASSED
51.865	23.54	15.033	42.46	-18.92	16.5	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
11563.3	39.35	92.8	26.78	12.57	14.6	54	PASSED
17358.3	35.41	58.925	25.97	9.44	---	---	PASSED

Channel 165 / 5825MHz

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
11648.1	51.83	390.211	39.74	12.09	22.2	74	PASSED
17436.5	48.51	266.287	38.78	9.73	76.7	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
45.537	26.23	20.479	40.56	-14.33	13.8	40	PASSED
47.355	26.48	21.081	42.13	-15.65	13.5	40	PASSED
49.029	26.08	20.142	42.95	-16.87	13.9	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
11648.1	38.9	88.064	26.81	12.09	15.1	54	PASSED
17436.5	35.54	59.82	25.81	9.73	---	---	PASSED

4. Test Equipment

4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
6038	Data Logger	Testo 580	Testo	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
2389	Signal Generator	SMJ 100A	R&S	-
6009	GPS Antenna	SA-700	Chronos	-
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	-
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	-
6015	Receiver	ESI	R&S	-
2059	V-network	ESH3-Z6	R&S	-
6044	V-network	ESH3-Z6	R&S	-
1759	LISN 50 µH	ESH3-Z5	R&S	-
2390	Directional Coupler	DC2600	AR	-
1916	Communication Tester	CMTA84	R&S	-
6012	CDN	CDN USB/c	Teseq	-
2388	Bluetooth Tester	CBT	R&S	-
6046	Attenuator 10dB	8493C	Agilent	-
6047	Attenuator 20dB	8493C	Agilent	-
6036	Data Logger	175-H2	Testo	-
6045	Power Splitter	11667B	Agilent	-
6039	USB Interface	5541765	Testo	-
10479	Communication Tester	CMW500	R&S	-
6094	Communication Tester	CMW500	R&S	-
6096	EMC Analyzer	E7405A	HP	-
6098	Signal Generator	8648C	Agilent	-
6103	Bluetooth tester	CBT	R&S	-
6113	Signal Generator	SMF100A	R&S	-
6120	Thermal Chamber	WT 20/40	Weiss	-
6121	Power Splitter	HP11667B	Agilent	-
6122	Power Splitter	HP11667B	Agilent	-
6134	Attenuator 10dB	BW-S10-2W263+	Mini-Circuits	-
6136	Attenuator 20dB	BW-S20-2W263+	Mini-Circuits	-
2359	Temperature Test Chamber	VT4002	Vötsch	-
2347	Communication Tester	CMU200	R&S	-
2180	Communication Tester	CMU200	R&S	-
2156	Communication Tester	CMU200	R&S	-
1999	Receiver	ESIB26	R&S	-
2352	Spectrum Analyzer	FSP-30	R&S	-
2097	Pulse Limiter	ESH3-Z2	R&S	-
2039	Power Supply	PL330QMD	Thurlby	-
1992	Signal Generator	83630B	Agilent	-
2206	Signal Generator	SMX	R&S	-

4.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
2391	Band Reject Filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
6038	Data Logger	Testo 580	Testo	-
6014	Substitute Calibration Cable	Sucoflex 104PB	Suhner	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
2389	Signal Generator	SMJ 100A	R&S	-
6009	GPS Antenna	SA-700	Chronos	-

Eq. No	Equipment	Type	Manufacturer	Used in
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	-
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	-
-	RF immunity / Emission Software	EMC32	R&S	-
1917	Communication Tester	CMTA84	R&S	-
2388	Bluetooth Tester	CBT	R&S	-
6037	Data Logger	175-H2	Testo	-
6039	USB Interface	5541765	Testo	-
6087	Antenna	BBHA 9120D	Scharzbeck	-
6088	Antenna	VUBA 9117	Scharzbeck	-
6089	Antenna	HFH2-Z2	R&S	-
10479	Communication Tester	CMW500	R&S	-
6094	Communication Tester	CMW500	R&S	-
6103	Bluetooth tester	CBT	R&S	-
6113	Signal Generator	SMF100A	R&S	-
6115	Open switch and control unit	OSP 130	R&S	-
6116	Open switch and control unit	OSP 150	R&S	-
6130	Notch Filter	WRCD1880-1.1.25/50-10SS	Wainwright	-
6131	Notch Filter	WRCT902.4-0.4/40-8SS	Wainwright	-
6135	Notch Filter	WRCJV2531/2539-2523/2547-60/12SS	Wainwright	-
2140	Antenna	EMCO93110B	EMCO	-
2142	Antenna	3146	EMCO	-
2357	Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	-
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	24
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22
2347	Communication Tester	CMU200	R&S	-
2180	Communication Tester	CMU200	R&S	-
2156	Communication Tester	CMU200	R&S	-
2176	CDN	CDN 801-M3	Lüthi	-
2027	CDN	M2 (modified) DC1	MEB	-
2028	CDN	M3 (modified) DC2	MEB	-
1984	Antenna	BBHA 9120 D	Schwarzbeck	-
6017	Antenna	SBA 9113	Schwarzbeck	-
2009	Signal Generator	SMP 22	R&S	-
2029	Power Supply	PL330	Thurlby	-
2361	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	Euroshield	-
2353	Receiver	ESIB26	R&S	-
2135	CDN	CDN 801-M3	Lüthi	-