

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-846_27.docx	Date of Report:	09-Nov-2012
Number of pages:	19	Customer's Contact person:	Paukku Juha Kalervo
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FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Phone RM-846 / Battery BL-4J / Headset WH-108 / AC-charger AC-50C		
FCC ID:	PDNRM-846	IC:	661R-RM846
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, RSS-210 (Issue 8, December 2010). 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:			

Jari Keto, Engineer, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	24-Oct-2012
Testing completed	09-Nov-2012
The customer's contact person	Paukku Juha Kalervo
Test Plan referred to	T:\Projects\RM-846\TestPlan\RS_testplan_RM-846.xlsm
Notes	-
Document name	T:\Projects\RM-846\EMC\FCC15CWLAN_RM-846_27.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-846	ZSA047376	1640	-	1030.1801.9200.9900.133	16830
Battery	BL-4J	49554022630A010591460670616	-	-	-	16831
Headset	WH-108	-				16804
AC-charger	AC-50C	409049236358060010960675622	-	-	-	16789
Phone	RM-846	004402471069868	1640		1030.51.9200.9903.145	16816

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.

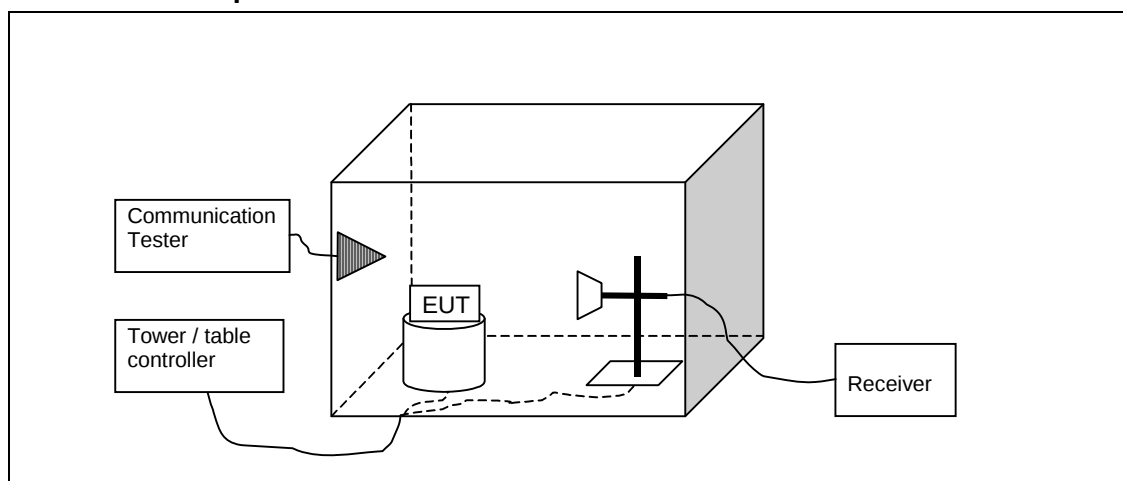
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2. Band edge compliance of RF emissions (FCC §15.247(d), 15.205(b), RSS-210 A8.5)

EUT with DUT number	RM-846, DUT 16830; DUT16816
Accessories with DUT numbers	BL-4J, DUT 16831 ; WH-108, DUT 16804 ; AC-50C, DUT 16789
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 38 / 100
Date of measurements	06-Nov-2012
Measured by	Jari Keto / 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 ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

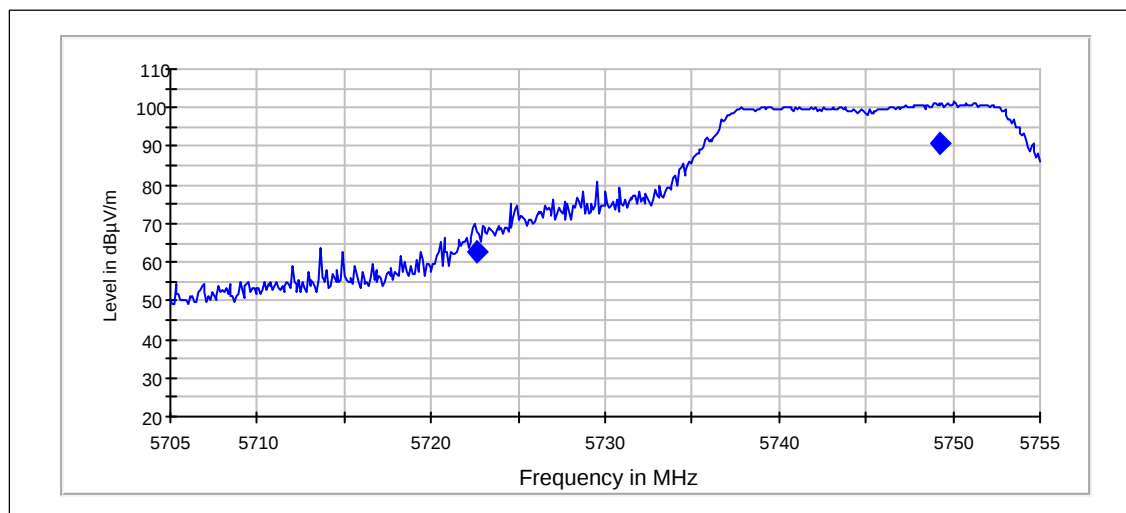
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

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 A-mode, 20 MHz CBW, BPSK modulation, 9 Mbps data rate.

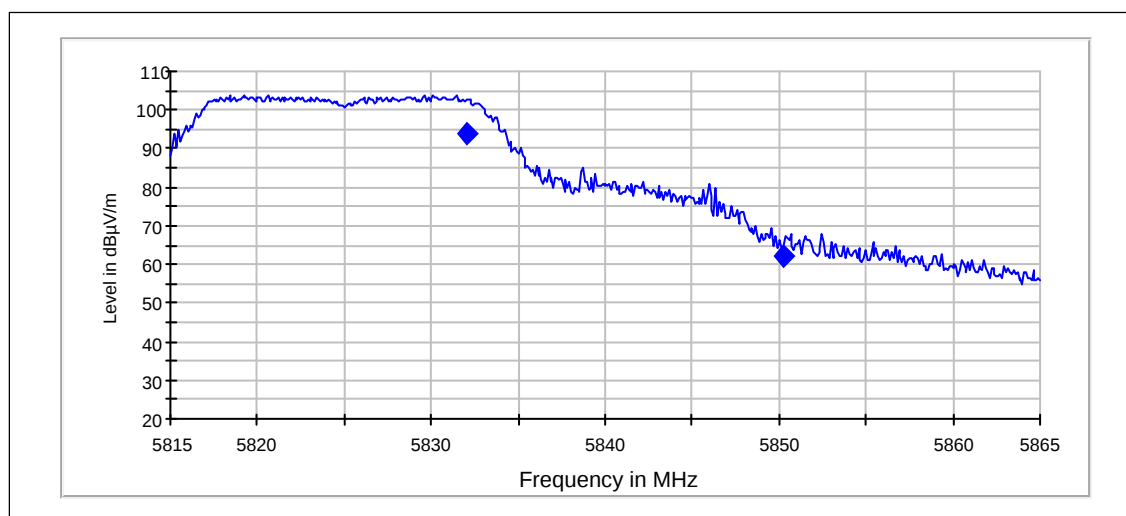
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5722.635	62.49	1331.987	61.4	1.09	PASSED
5749.228	90.77	34550.155	89.46	1.31	PASSED

Channel 165 / 5825MHz

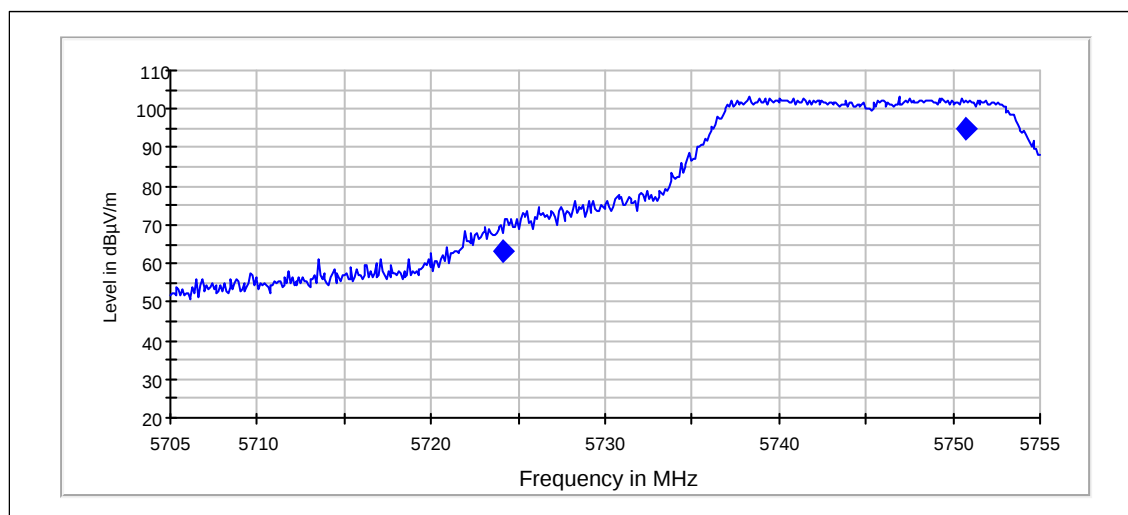


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5832.074	93.9	49562.134	92.49	1.41	PASSED
5850.24	62.34	1309.182	60.67	1.67	PASSED

2.3.2 A-mode, 20 MHz CBW, 16QAM modulation, 24 Mbps data rate.

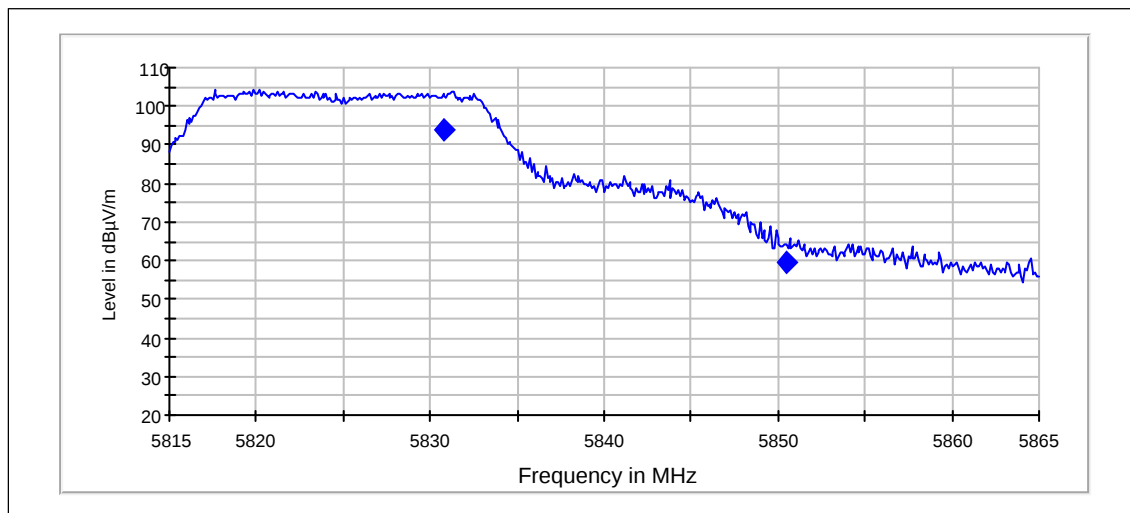
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.078	62.98	1409.289	61.93	1.05	PASSED
5750.752	94.8	54954.087	93.48	1.32	PASSED

Channel 165 / 5825MHz

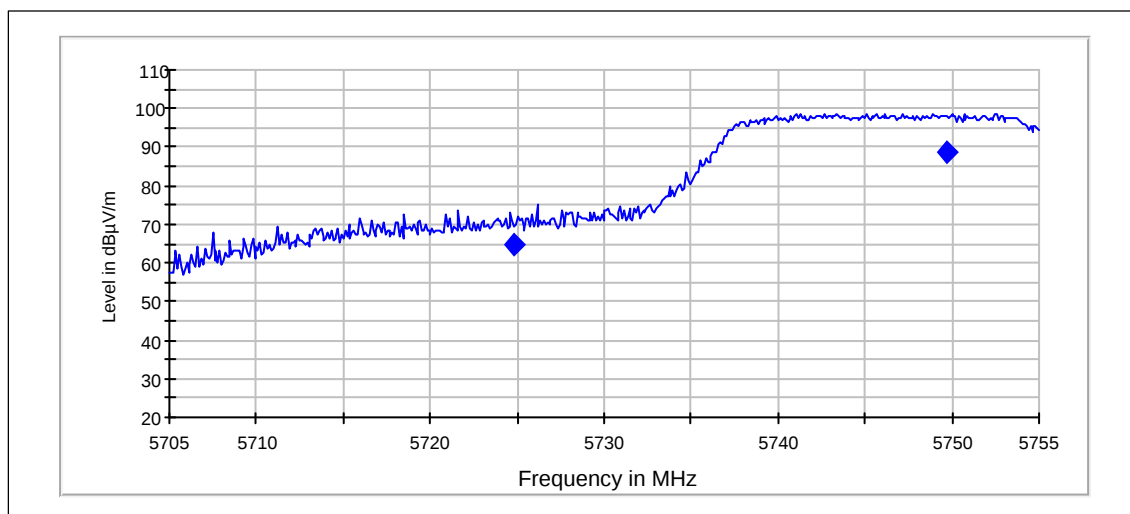


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5830.832	93.89	49459.532	92.5	1.4	PASSED
5850.481	59.3	922.253	57.64	1.66	PASSED

2.3.3 N-mode, 40 MHz CBW, BPSK modulation, 13,5/15 Mbps data rate.

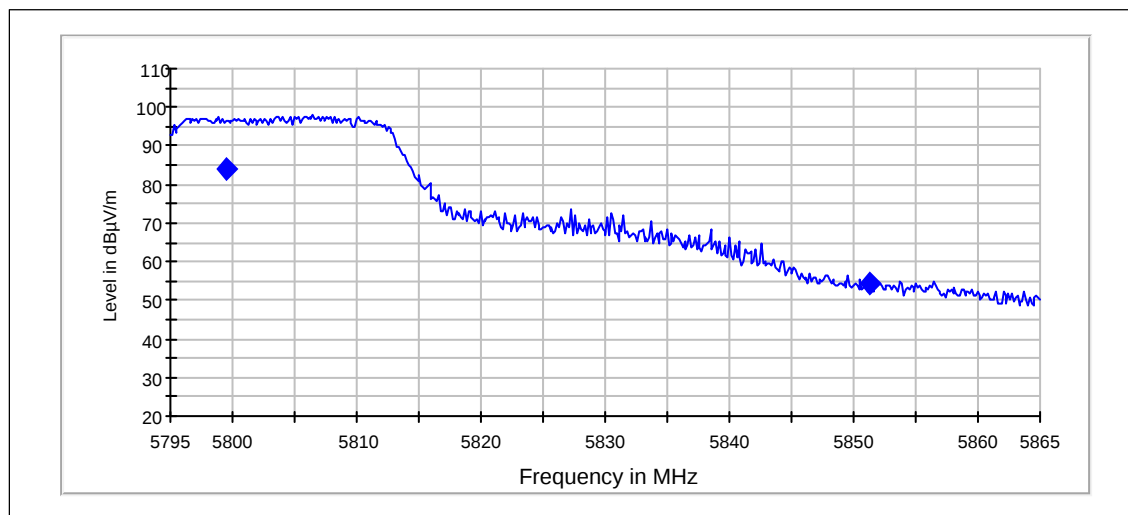
Channel 149+153 / 5755MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.84	64.67	1712.379	63.64	1.03	PASSED
5749.669	88.44	26421.046	87.12	1.32	PASSED

Channel 157+161 / 5795MHz

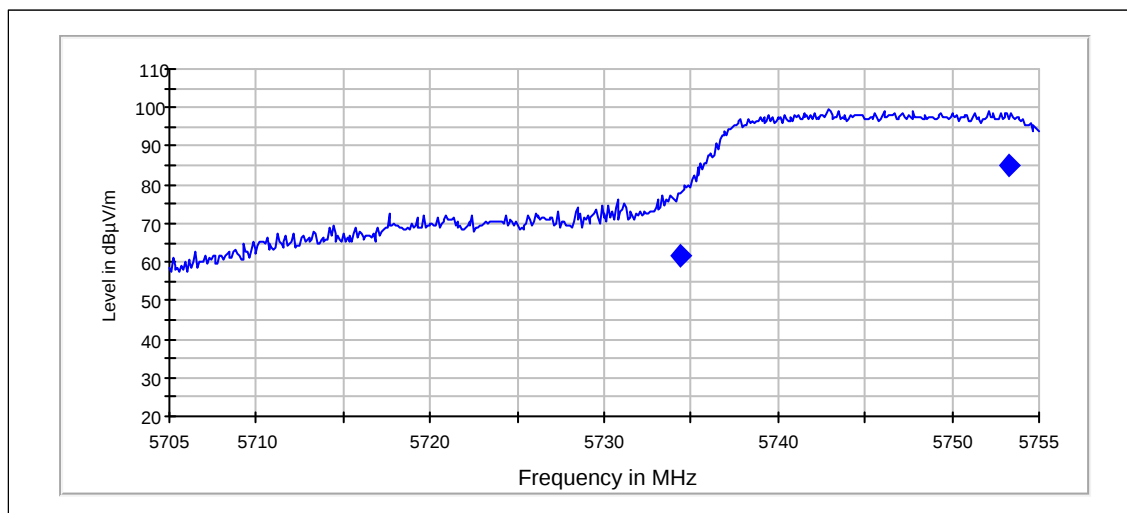


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5799.449	84.14	16097.187	82.9	1.25	PASSED
5851.353	54.17	510.799	52.52	1.65	PASSED

2.3.4 N-mode, 40 MHz CBW, 16QAM modulation, 54/60 Mbps data rate.

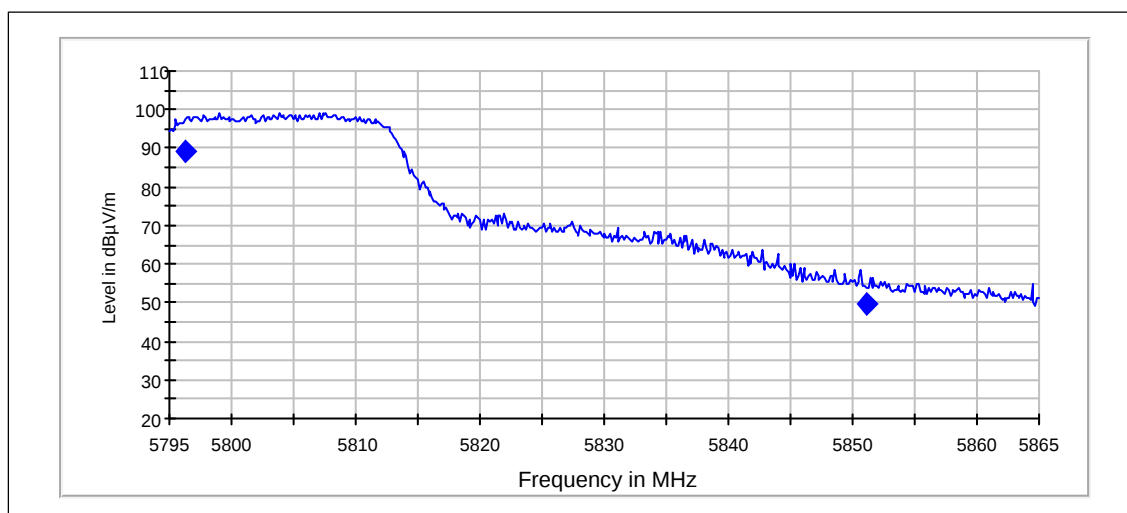
Channel 149+153 / 5755MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5734.359	61.65	1208.648	60.57	1.08	PASSED
5753.277	85.11	18001.14	83.82	1.29	PASSED

Channel 157+161 / 5795MHz



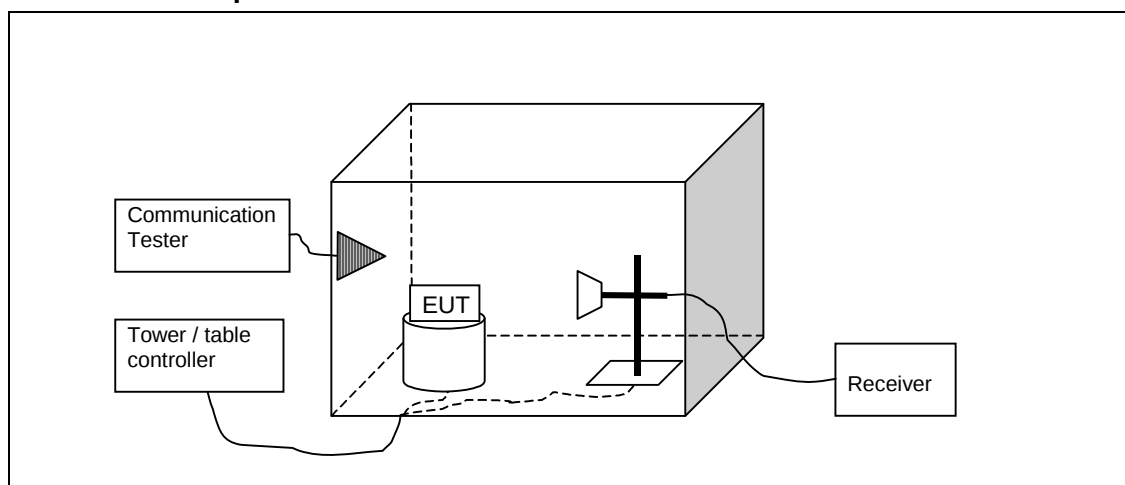
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5796.363	89.02	28232.543	87.78	1.24	PASSED
5851.202	49.42	295.937	47.77	1.66	PASSED

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

EUT with DUT number	RM-846, DUT 16830; DUT 16816
Accessories with DUT numbers	BL-4J, DUT 16831 ; WH-108, DUT 16804 ; AC-50C, DUT 16789
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 38 / 100
Date of measurements	06-Nov-2012
Measured by	Jari Keto / 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 A-mode, 20 MHz CBW, BPSK modulation, 9 Mbps data rate.

Channel 149 / 5745MHz

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

Frequency [MHz]	E [dB $\mu V/m$]	E [$\mu V/m$]	U_{RX} [dB μV]	A_{TOT} [dB]	Margin	Limit [dB $\mu V/m$]	Results
11491.3	59.43	936.052	43.48	15.95	14.6	74	PASSED
11491.586	62.8	1380.384	46.85	15.95	11.2	74	PASSED
17234.6	53	446.581	40.12	12.88	72.2	125.2	PASSED

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

Frequency [MHz]	E [dB $\mu V/m$]	E [$\mu V/m$]	U_{RX} [dB μV]	A_{TOT} [dB]	Margin	Limit [dB $\mu V/m$]	Results
900.362	22.98	14.085	27.17	-4.19	23	46	PASSED
929.85	23.5	14.959	27.23	-3.73	22.5	46	PASSED

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

Frequency [MHz]	E [dB $\mu V/m$]	E [$\mu V/m$]	U_{RX} [dB μV]	A_{TOT} [dB]	Margin	Limit [dB $\mu V/m$]	Results
11491.3	45.85	196.178	29.9	15.95	8.1	54	PASSED
11491.586	48.54	267.362	32.59	15.95	5.4	54	PASSED
17234.6	40.12	101.368	27.24	12.88	---	---	PASSED

Channel 157 / 5785MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Margin	Limit [dBμV/m]	Results
11568.8	64.03	1590.743	47.88	16.15	9.9	74	PASSED
11570.338	63.14	1435.324	47.01	16.13	10.8	74	PASSED
17356.7	54.14	509.096	40.77	13.37	14.1	68.2	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
240.7	25.09	17.962	42.09	-17	20.9	46	PASSED
933.408	23.44	14.854	27.24	-3.8	22.6	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
11568.8	48.85	276.853	32.7	16.15	5.2	54	PASSED
11570.338	48.77	274.41	32.64	16.13	5.2	54	PASSED
17356.7	40.75	109.056	27.38	13.37	---	---	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]	Margin	Limit [dBμV/m]	Results
11648.695	66.1	2019.064	50.3	15.8	7.9	74	PASSED
11650.3	61.79	1229.136	46	15.79	12.2	74	PASSED
17435	54.3	518.86	40.64	13.66	70.9	125.2	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
951.557	23.32	14.652	27.3	-3.98	22.7	46	PASSED
957.478	23.43	14.841	27.36	-3.93	22.6	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
11648.695	51.26	365.426	35.46	15.8	2.7	54	PASSED
11650.3	48.16	255.947	32.37	15.79	5.8	54	PASSED
17435	41.39	117.355	27.73	13.66	---	---	PASSED

3.3.2 A-mode, 20 MHz CBW, 16QAM modulation, 24 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]	Margin	Limit [dBμV/m]	Results
11487.878	60.9	1108.792	44.96	15.95	13.1	74	PASSED
11489.3	61.16	1143.01	45.21	15.95	12.8	74	PASSED
17236.4	52.75	434.21	39.89	12.87	72.5	125.2	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
898.514	23.02	14.155	27.23	-4.21	23	46	PASSED
934.458	23.42	14.822	27.23	-3.81	22.6	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
11487.878	47.66	241.63	31.72	15.95	6.3	54	PASSED
11489.3	48.03	252.174	32.08	15.95	5.9	54	PASSED
17236.4	40.01	100.081	27.15	12.87	---	---	PASSED

Channel 157 / 5785MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Margin	Limit [dBμV/m]	Results
11568.8	64.28	1637.382	48.13	16.15	9.7	74	PASSED
11572.942	63.95	1575.615	47.88	16.07	10	74	PASSED
17354.3	54.01	501.765	40.64	13.37	14.2	68.2	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
887.085	22.82	13.836	27.23	-4.41	23.2	46	PASSED
951.449	23.26	14.546	27.24	-3.98	22.8	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
11568.8	50.67	341.389	34.52	16.15	3.3	54	PASSED
11572.942	49.35	293.393	33.28	16.07	4.7	54	PASSED
17354.3	40.83	110.04	27.46	13.37	---	---	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]	Margin	Limit [dBμV/m]	Results
11650.8	64.54	1686.359	48.76	15.78	9.4	74	PASSED
11652.503	62.27	1298.225	46.51	15.76	11.7	74	PASSED
17435.8	54.19	512.094	40.52	13.67	71	125.2	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
917.503	23.27	14.57	27.17	-3.9	22.8	46	PASSED
930.204	23.49	14.952	27.23	-3.74	22.5	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
11650.8	49.94	314.087	34.16	15.78	4	54	PASSED
11652.503	48.06	252.872	32.3	15.76	5.9	54	PASSED
17435.8	41.44	117.991	27.77	13.67	---	---	PASSED

3.3.3 N-mode, 40 MHz CBW, BPSK modulation, 13,5/15 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]	Margin	Limit [dBμV/m]	Results
11509.2	58.05	798.638	41.99	16.06	15.9	74	PASSED
11513.422	57.85	780.908	41.75	16.1	16.1	74	PASSED
17267.2	52.86	439.44	40.14	12.72	72.4	125.2	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
927.538	23.64	15.2	27.36	-3.72	22.4	46	PASSED
935.788	23.45	14.882	27.29	-3.84	22.6	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
11509.2	44.79	173.56	28.73	16.06	9.2	54	PASSED
11513.422	44.72	172.207	28.62	16.1	9.3	54	PASSED
17267.2	39.92	99.038	27.2	12.72	---	---	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]	Margin	Limit [dBμV/m]	Results
11586.978	57.73	770.016	41.77	15.96	16.2	74	PASSED
11592.8	57.46	746.191	41.53	15.93	16.5	74	PASSED
17387.2	53.68	483.114	40.15	13.53	71.5	125.2	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
935.644	23.27	14.566	27.11	-3.84	22.8	46	PASSED
957.608	23.31	14.632	27.24	-3.93	22.7	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
11586.978	44.67	171.258	28.71	15.96	9.3	54	PASSED
11592.8	44.07	159.68	28.14	15.93	9.9	54	PASSED
17387.2	40.86	110.421	27.33	13.53	---	---	PASSED

3.3.4 N-mode, 40 MHz CBW, 16QAM modulation, 54/60 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]	Margin	Limit [dBμV/m]	Results
11508.322	57.94	788.86	41.89	16.05	16	74	PASSED
11509.9	58.58	848.79	42.52	16.06	15.4	74	PASSED
17261.8	52.36	415.097	39.64	12.72	72.9	125.2	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
922.084	23.32	14.65	27.11	-3.79	22.7	46	PASSED
927.646	23.51	14.981	27.23	-3.72	22.5	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
11508.322	45.21	182.138	29.16	16.05	8.8	54	PASSED
11509.9	45.32	184.438	29.26	16.06	8.7	54	PASSED
17261.8	39.94	99.312	27.22	12.72	---	---	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]	Margin	Limit [dBμV/m]	Results
11592.5	60.16	1018.122	44.23	15.93	13.8	74	PASSED
11594.582	60.96	1117.12	45.04	15.92	13	74	PASSED
17389	55.24	578.296	41.71	13.53	70	125.2	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
928.804	23.44	14.861	27.17	-3.73	22.6	46	PASSED
931.09	23.42	14.817	27.17	-3.75	22.6	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
11592.5	46.81	219.079	30.88	15.93	7.2	54	PASSED
11594.582	47.21	229.271	31.29	15.92	6.8	54	PASSED
17389	42.05	126.605	28.52	13.53	---	---	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 μ H	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	-