

FCC Part 15B Compliance Test Report

Test Report no.:	FCC15B_RM-779_03.docx	Date of Report:	05-Aug-2011
Number of pages:	20	Customer's Contact person:	Timo Peltola
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FCC listing no.:	94436		
IC recognition no.:	661AK-1		
Tested devices/ accessories:	Phone RM-779 / Battery BP-3L / AC charger AC-10E / Headset WH-207 / Data cable CA-179 / Laptop IBM Thinkpad T40 / AC adapter 02K6543 / Printer HP deskjet 1600CC3540A / Parallel cable for printer		
FCC ID:	LJPRM-779	IC:	661E-RM779
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart B, ANSI C63.4 (2003), ICES-003, CISPR 22. 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 Jantunen, System Manager, EMC

1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	27-Jul-2011
Testing completed	dd-mmm-yyyy
The customer's contact person	Timo Peltola
Test Plan referred to	T:\Projects\RM-779\TestPlan\RS_TestPlan_RM-779.xls
Notes	-
Document name	T:\Projects\RM-779\EMC\FCC15B_RM-779_03.docx

1.1. EUT and Accessory Information

The EUT is a 4-band mobile phone:

GSM900/1800/GPRS/Monopole without GND reflector (GSM/WCDMA)

WCDMA Monopole without GND reflector (GSM/WCDMA)

Bluetooth

The EUT is tested with maximum rated TX power, modulated with pseudo random bit sequence (PRBS9).

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-779	004402135684722	0503	-	111.010.070 5	42634
Battery	BP-3L	3932131235140111404;0670635	-	-	-	42636
AC charger	AC-10E	3997910432062201323;0675408	-	-	-	42637
Headset	WH-207	06949371106A1R12943	-	-	-	42638
Data cable	CA-179	-	-	-	-	42639
Laptop	IBM Thinkpad T40	99ARTGD	-	-	-	41868
AC Adapter	02K6543	-	-	-	-	40202
Printer	HP deskjet 1600CC3540A	USB8302546	-	-	-	40077
Parallel cable for printer	-	-	-	-	-	40087

1.2. Summary of Test Results

GSM850:

Section in CFR 47	Section in ICES-003 (RSS-132)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (4.6)	Radiated emissions	PASSED

GSM 1900

Section in CFR 47	Section in ICES-003 (RSS-133)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WCDMA 1700 (Band IV):

Section in CFR 47	Section in ICES-003 (RSS-133)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

Bluetooth:

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

WLAN:

Section in CFR 47	Section in ICES-003 (RSS-139)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	
15.109, a	5.5 (6.6)	Radiated emissions	PASSED

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.

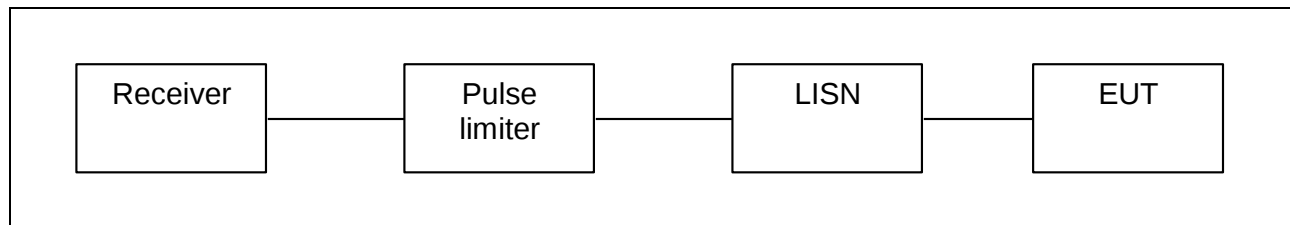
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2. AC powerline conducted emissions (FCC §15.107, ICES-003 section 5.3)

EUT with DUT number	RM-779, DUT 42634
Accessories with DUT numbers	BP-3L, DUT 42636 ; CA-179 DUT 42639 ; WH-207, DUT 42638 ; IBM Thinkpad T40 DUT 41868, 02K6543 DUT 40202, HP deskjet 1600CC3540A DUT 40077, Parallel cable for printer DUT 40087
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	Continuos data transfer active between phone and computer. Emissions measured from laptop's AC charger.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 54 / 99.9
Date of measurements	09-Aug-2011
Measured by	Jari Jantunen

2.1.1 Test Setup



2.2. Test method and limit

The measurement is made according to ANSI C63.4-2003 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:

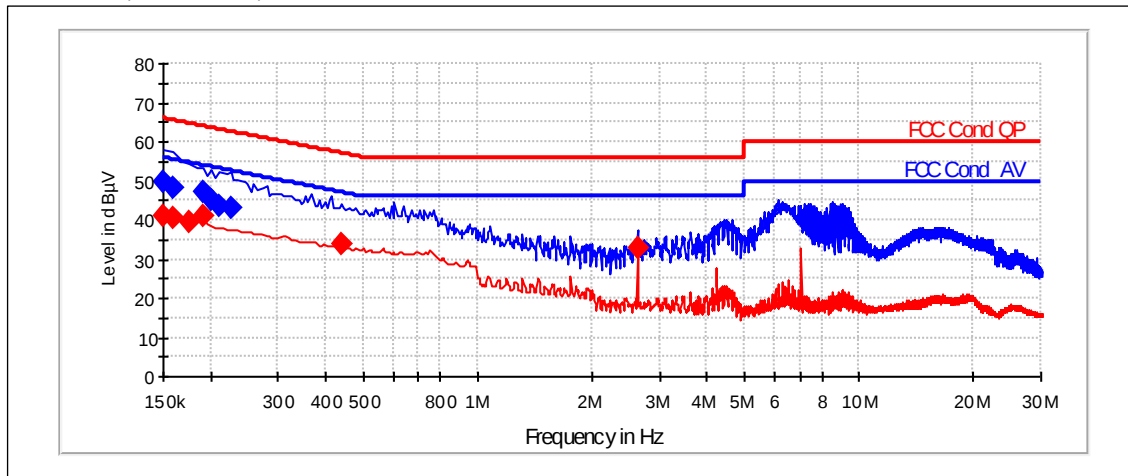
$$U [dB\mu V/m] = U_{RX} + A_{TOT}$$

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

WLAN RX, channel 7, 2442 MHz



Quasi peak

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.15	49.56	10	L1	16.4	PASSED
0.16	48.33	10	L1	17.16	PASSED
0.19	47.11	10	L1	16.94	PASSED
0.2	44.9	10	L1	18.71	PASSED
0.21	43.69	10	N	19.51	PASSED
0.225	42.98	10	N	19.63	PASSED

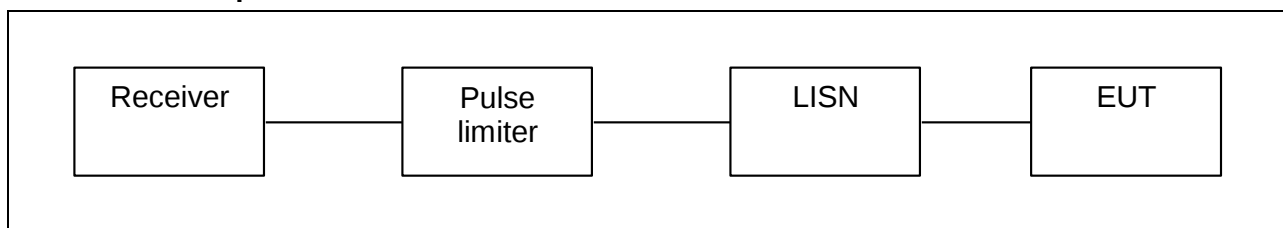
Average

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.15	41.12	10	N	14.9	PASSED
0.16	40.62	10	L1	14.86	PASSED
0.175	39.63	10	L1	15.12	PASSED
0.19	41.05	10	L1	13.04	PASSED
0.44	33.96	10	L1	13.06	PASSED
2.625	32.73	10	N	13.3	PASSED

3. AC powerline conducted emissions (FCC §15.107, ICES-003 section 5.3)

EUT with DUT number	RM-779, DUT 42634
Accessories with DUT numbers	BP-3L, DUT 42636 ; AC-10E, DUT 42637 ; WH-207, DUT 42638
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 54 / 99.9
Date of measurements	09-Aug-2011
Measured by	Jari Jantunen

3.1.1 Test Setup



3.2. Test method and limit

The measurement is made according to ANSI C63.4-2003 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:

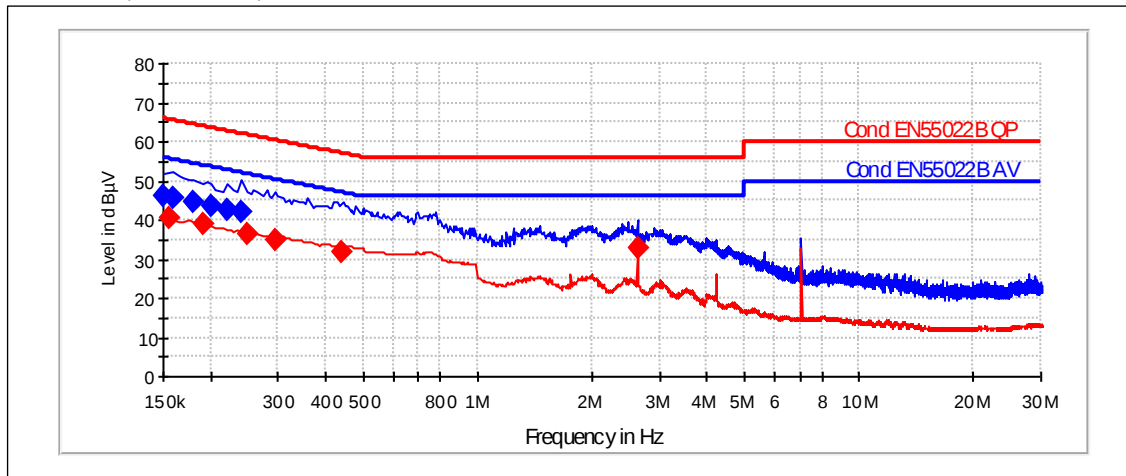
$$U [\text{dB}\mu\text{V}/\text{m}] = U_{RX} + A_{TOT}$$

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

WLAN RX, channel 7, 2442 MHz



Quasi peak

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.15	46.29	10	L1	19.7	PASSED
0.16	45.61	10	L1	19.86	PASSED
0.18	44.41	10	N	20.09	PASSED
0.2	43.47	10	N	20.11	PASSED
0.22	42.74	10	N	20.12	PASSED
0.24	42.18	10	N	19.9	PASSED

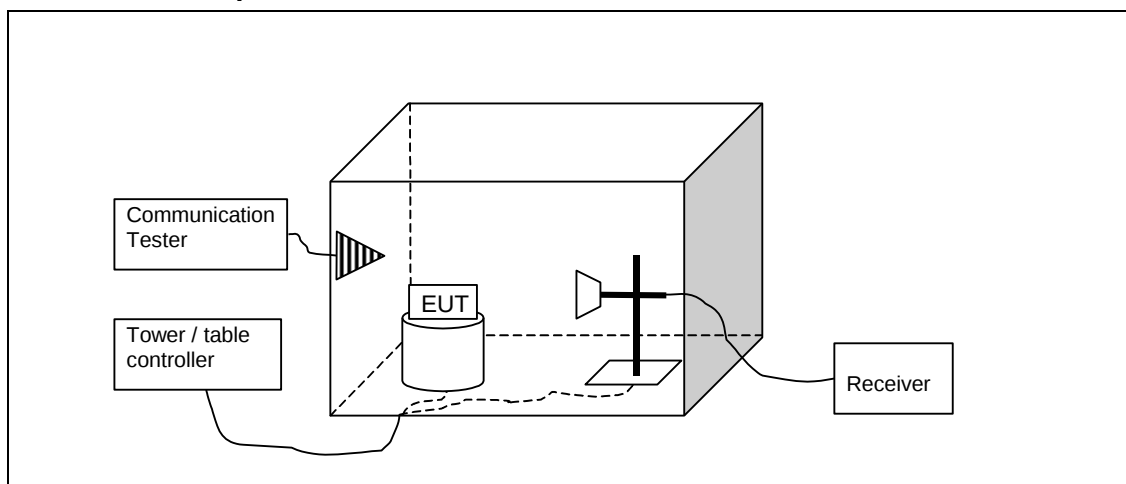
Average

Frequency [MHz]	Level [dBμV]	IF-BW[kHz]	Line	Margin	Result
0.155	40.56	10	L1	15.13	PASSED
0.19	38.99	10	N	15.04	PASSED
0.25	36.25	10	L1	15.46	PASSED
0.295	34.91	10	L1	15.48	PASSED
0.44	31.77	10	L1	15.26	PASSED
2.625	32.64	10	N	13.4	PASSED

4. Radiated emissions (FCC §15.109, ICES-003 section 5.5)

EUT with DUT number	RM-779, DUT 42634
Accessories with DUT numbers	BP-3L, DUT 42636 ; AC-10E, DUT 42637 ; WH-207, DUT 42638
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21-23 / 45-50 / 99.1-99.9
Date of measurements	29-Jul.. 02-Aug-2011
Measured by	Jari Jantunen

4.1.1 Test Setup



4.2. Test method and limit

The measurement is made according to ANSI C63.4-2003as follows:

The measurement is performed in the Semi-Anechoic Chamber with conducting metal floor.

The measurement distance is 3 m.

The EUT is placed on a nonconductive plate at 80 cm height.

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:

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

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

CISPR 22 and FCC Part 15 Class B limits (3 m measurement distance)

Frequency range [MHz]	Quasi peak limit [dBμV/m]	Average limit [dBμV/m]	Peak limit [dBμV/m]
30 - 230	40	-	-
230 – 1000	47	-	-
Above 1000	-	54	74

4.3. Bluetooth Test results, GPS receiver active

4.3.1 GFSK modulation, PRBS packet type

TX mode, Channel 0 / 2402 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.9	40.73	108.793	43.47	-2.74	VERTICAL	PASSED
7203.9	43.12	143.285	42.3	0.82	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.9	27.48	23.659	30.22	-2.74	VERTICAL	PASSED
7203.9	30.66	34.127	29.84	0.82	VERTICAL	PASSED

TX mode, Channel 40 / 2442 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
30.93	10.43	3.324	38.18	-27.75	VERTICAL	PASSED
37.855	19.02	8.936	49.53	-30.51	VERTICAL	PASSED
113.385	22.4	13.175	55.62	-33.22	VERTICAL	PASSED
945.952	34.86	55.36	55.31	-20.45	HORIZONTAL	PASSED
947.557	16.38	6.591	37.91	-21.53	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1850.101	50.49	334.734	61.73	-11.24	HORIZONTAL	PASSED
2498.667	54.05	504.023	60.94	-6.89	VERTICAL	PASSED
7419.537	55.11	569.705	53.62	1.49	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1850.101	45.96	198.541	57.2	-11.24	HORIZONTAL	PASSED
2498.667	30.78	34.59	37.67	-6.89	VERTICAL	PASSED
7419.537	39.22	91.38	37.73	1.49	VERTICAL	PASSED

TX mode, Channel 78 / 2480 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4962.2	42.43	132.251	44.14	-1.71	VERTICAL	PASSED
7439.7	43.38	147.571	41.92	1.46	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4962.2	29.27	29.057	30.98	-1.71	VERTICAL	PASSED
7439.7	30.69	34.222	29.23	1.46	VERTICAL	PASSED

4.4. GSM850 Test results, FM radio on

RX mode, channel 128 / 869.2 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3477	38.88	87.933	44.54	-5.66	HORIZONTAL	PASSED
6955.1	47.15	227.851	47.06	0.09	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3477	25.86	19.629	31.52	-5.66	HORIZONTAL	PASSED
6955.1	34.2	51.31	34.11	0.09	VERTICAL	PASSED

RX mode, channel 190 / 881.6 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.455	17.25	7.285	47.64	-30.39	VERTICAL	PASSED
112.723	13.65	4.812	47.11	-33.46	VERTICAL	PASSED
115.063	4.53	1.685	37.73	-33.2	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1671.044	38.16	80.928	52.86	-14.7	HORIZONTAL	PASSED
1674.247	38.19	81.171	52.87	-14.68	HORIZONTAL	PASSED
7827.451	45.32	184.544	43.08	2.24	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
1671.044	25.46	18.743	40.16	-14.7	HORIZONTAL	PASSED
1674.247	25.43	18.694	40.11	-14.68	HORIZONTAL	PASSED
7827.451	31.81	38.958	29.57	2.24	VERTICAL	PASSED

RX mode, channel 251 / 893.8 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
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3575.3	38.42	83.407	43.74	-5.32	HORIZONTAL	PASSED
7152.4	43.71	153.303	43.08	0.63	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3575.3	25.79	19.483	31.11	-5.32	HORIZONTAL	PASSED
7152.4	30.29	32.693	29.66	0.63	HORIZONTAL	PASSED

4.5. GSM1900 Test results, FM radio on

RX mode, channel 512 / 1930.2 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3860.1	40.54	106.365	42.95	-2.41	HORIZONTAL	PASSED
7719.7	44.16	161.343	42.31	1.85	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3860.1	27.71	24.291	30.12	-2.41	HORIZONTAL	PASSED
7719.7	31.27	36.618	29.42	1.85	HORIZONTAL	PASSED

RX mode, channel 661 / 1960.0 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.575	17.72	7.69	48.16	-30.44	VERTICAL	PASSED
114.184	4.75	1.728	38.04	-33.29	VERTICAL	PASSED
117.111	8.36	2.617	41.55	-33.19	VERTICAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3927.86	40.94	111.417	43.61	-2.67	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3927.86	27.63	24.06	30.3	-2.67	HORIZONTAL	PASSED

RX mode, channel 810 / 1989.8 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3981	40.41	104.882	43.34	-2.93	HORIZONTAL	PASSED
7961.7	44.73	172.346	42.31	2.42	VERTICAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3981	27.61	24.019	30.54	-2.93	HORIZONTAL	PASSED
7961.7	32.1	40.286	29.68	2.42	VERTICAL	PASSED

4.6. WCDMA 1700 (Band IV) Test results, FM radio on

RX mode, channel 1537 / 2112.4 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4223.1	39.98	99.759	43.61	-3.63	HORIZONTAL	PASSED
6338.7	44.94	176.685	46.31	-1.37	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4223.1	27.18	22.856	30.81	-3.63	HORIZONTAL	PASSED
6338.7	31.73	38.592	33.1	-1.37	HORIZONTAL	PASSED

RX mode, channel 1637 / 2132.4 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
33.016	17.96	7.902	46.57	-28.61	VERTICAL	PASSED
83.267	1.35	1.168	38.24	-36.89	HORIZONTAL	PASSED
114.508	2.55	1.34	36.72	-34.17	HORIZONTAL	PASSED
173.675	3.82	1.552	39.32	-35.5	HORIZONTAL	PASSED

RX mode, channel 1738 / 2152.6 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4305.7	39.24	91.601	43.21	-3.97	VERTICAL	PASSED
6459.4	45.26	183.147	46.69	-1.43	VERTICAL	PASSED

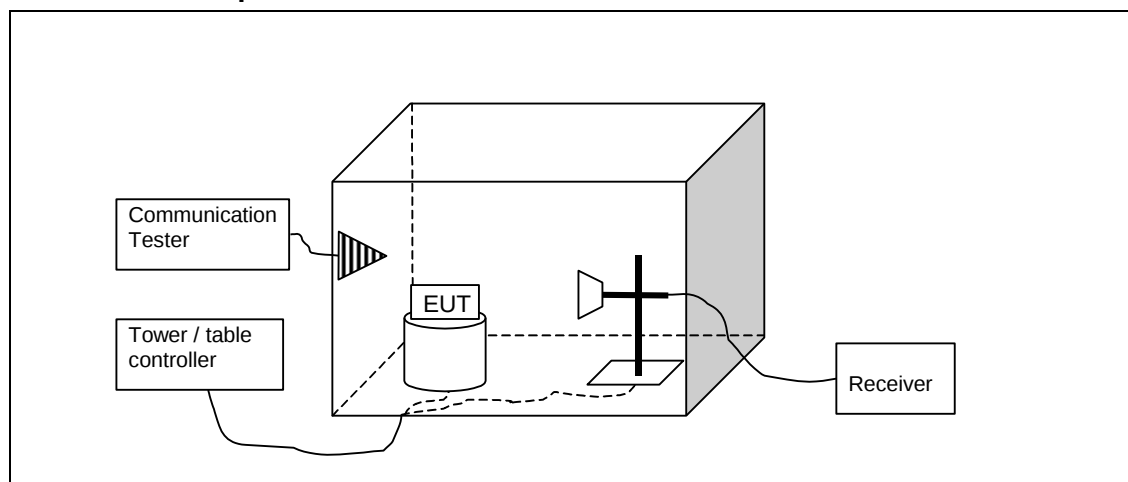
Average(RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4305.7	26.51	21.152	30.48	-3.97	VERTICAL	PASSED
6459.4	32.47	42.029	33.9	-1.43	VERTICAL	PASSED

5. Radiated emissions (FCC §15.109, ICES-003 section 5.5)

EUT with DUT number	RM-779, DUT 42634
Accessories with DUT numbers	BP-3L, DUT 42636 ; CA-179 DUT 42639 ; WH-207, DUT 42638 ; IBM Thinkpad T40 DUT 41868, 02K6543 DUT 40202, HP deskjet 1600CC3540A DUT 40077, Parallel cable for printer DUT 40087
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	Continuos data transfer active between phone and computer
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23 / 48 / 99.8
Date of measurements	29-Jul-2011
Measured by	Jari Jantunen

5.1.1 Test Setup



5.2. Test method and limit

The measurement is made according to ANSI C63.4-2003as follows:

The measurement is performed in the Semi-Anechoic Chamber with conducting metal floor.

The measurement distance is 3 m.

The EUT is placed on a nonconductive plate at 80 cm height.

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:

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

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

CISPR 22 and FCC Part 15 Class B limits (3 m measurement distance)

Frequency range [MHz]	Quasi peak limit [dBμV/m]	Average limit [dBμV/m]	Peak limit [dBμV/m]
30 - 230	40	-	-
230 - 1000	47	-	-
Above 1000	-	54	74

5.3. WLAN Test results

RX mode, channel 1 / 2412 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4823.5	40.72	108.668	43.34	-2.62	VERTICAL	PASSED
7234.1	43.57	150.869	42.43	1.14	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4823.5	27.16	22.803	29.78	-2.62	VERTICAL	PASSED
7234.1	30.66	34.131	29.52	1.14	HORIZONTAL	PASSED

RX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz, VBW: 300 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
88.545	34.11	50.781	70.42	-36.31	HORIZONTAL	PASSED
114.529	30.43	33.228	63.68	-33.25	VERTICAL	PASSED
257.062	39.88	98.628	73.53	-33.65	HORIZONTAL	PASSED
257.063	39.35	92.8	73	-33.65	HORIZONTAL	PASSED
265.21	25.98	19.907	59.55	-33.57	HORIZONTAL	PASSED
393.217	36.63	67.811	67.24	-30.61	VERTICAL	PASSED
700.581	36.03	63.292	59.84	-23.81	HORIZONTAL	PASSED
747.104	37.23	72.678	60.18	-22.95	HORIZONTAL	PASSED
786.433	41.19	114.696	63.96	-22.77	HORIZONTAL	PASSED
900.761	36.16	64.269	57.52	-21.36	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
3535.271	39.2	91.201	44.67	-5.47	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
3535.271	25.67	19.204	31.14	-5.47	HORIZONTAL	PASSED

RX mode, channel 11 / 2462 MHz

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4924.5	41.96	125.343	43.87	-1.91	VERTICAL	PASSED
7385.4	43.32	146.589	41.79	1.53	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4924.5	28.86	27.74	30.77	-1.91	VERTICAL	PASSED
7385.4	30.93	35.176	29.4	1.53	HORIZONTAL	PASSED

6. Test Equipment

6.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38112	Power supply	6632A	Agilent	22/24/27, 15C
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
OM06312	Signal Generator	E4422B	Agilent	22/24
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM30600	Impulse limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 μ H	ESH3-Z5	R&S	15C, 15B
TM26491	LISN 50 μ H	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum Analyzer	FSU26	R&S	22/24/27, 15C
TM22806	Battery	BAT 20/E	Fiskars	15C, 15B
TM22805	UPS	PS 20/1.2	Fiskars	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
-	Temperature test chamber	VT 4002	Vötsch	22/24
2058	Receiver	ESPC	R&S	15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Communication Tester	CMU200	R&S	22/24/27
2009	LISN 50 μ H	ENV216	R&S	15C, 15B
2010	LISN 50 μ H	ENV216	R&S	15C, 15B
2012	Power splitter	11667B	Agilent	22/24/27, 15C
2013	Attenuator	8493C	Agilent	22/24/27, 15C
2014	Attenuator	8493C	Agilent	22/24/27, 15C
2019	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E
2020	Power splitter	ZN2PD-9G-S+	Mini-Circuits	15E

6.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38114	Power supply	6632A	Agilent	22/24/27, 15C, 15B
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
TM38323	Preamplifier	PA-02 18-26 GHz	EMC Automation	22/24/27, 15C, 15B
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM26497	Antenna	3115	Emco	22/24/27, 15C, 15B
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM38845	Receiver	ESIB 26	R&S	22/24/27, 15C, 15B
-	Antenna	HL562	R&S	22/24/27, 15C, 15B
-	Turntable	2188	EMCO	22/24/27, 15C, 15B
-	Turntable controller	2090	EMCO	22/24/27, 15C, 15B
-	RF system panel	TS-RSP	R&S	22/24/27, 15C, 15B
-	RF system panel	TS-RSP	R&S	22/24/27, 15C, 15B
-	Mini mast	2075-2	ETS Lindgren	22/24/27, 15C, 15B
TM38843	Mini mast	2075	Emco	22/24/27, 15C, 15B
TM38842	Antenna mast controller	2090	Emco	22/24/27, 15C, 15B
TM30643	LISN 50 μ H	LISN-5-20-2	FCC	22/24/27, 15C, 15B
TM30644	LISN 50 μ H	LISN-5-20-2	FCC	22/24/27, 15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
TM39180	Laser distance meter	Disto Pro	Leica	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	Miteq	22/24/27, 15C, 15B
TM37498	Preamplifier	AMF-5D-020180-26-10P	Miteq	22/24/27, 15C, 15B
TM30599	Semi anechoic chambre	UNKNOWN	TDK	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	-	22/24/27, 15C, 15B
TM38066	High pass filter	4HC3000/18000-3-KK	Trilithic	22/24/27, 15C, 15B
-	High pass filter	WHKX 1.6/15G-12SS	Wainwright	22/24/27, 15C, 15B
TM37545	Tunable notch filter	800.0/960.0-0.2/40-8SSK	Wainwright	22
TM26512	Tunable notch filter	WRCD1850/1910-0.2/40-10SSK	Wainwright	24
-	Band reject filter	WRCG1877/1883-1870/1890-40/6EE	Wainwright	24
-	Band reject filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
-	Band reject filter	WRCG832/838-825/848-40/5SS	Wainwright	22
TM23892	Controller	G-1000SDX	Yaesu	22/24/27
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
6023	Antenna	VUBA 9117	Schwarzbeck	22/24/27, 15C