

FCC Part 15B Compliance Test Report

Test Report no.:	Salo_FCC_0739_10.doc	Date of Report:	03.10.2007
Number of pages:	7	Customer's Contact person:	Robert Binder
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FCC listing no.:	533467		
IC recognition no.:	5385		
Tested devices/ accessories:	Phone RM-313 / Battery BP-6MT, Headset HS-43 and AC-Charger AC-5E		
FCC ID:	QVVRM-314	IC:	661AE-RM314
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 and IC standards RSS-132, RSS-133 and RSS-210. 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:			

Anni Manninen, System Manager

1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	10.09.2007
Testing completed	17.09.2007
The customer's contact person	Robert Binder
Test Plan referred to	T:\Projects\RM-313\TestPlan_RS\RS_test_plan_RM-313.xls
Notes	-
Document name	T:\Projects\RM-314\EMC\Results\FCC\Salo_FCC_0739_10.doc

1.1. EUT and Accessory Information

The EUT is a 5-band (GSM850/900/1800/1900 and WCDMA Band I) mobile phone with GPRS, EGPRS and Bluetooth. GSM bands are tested in idle mode. Bluetooth is tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-313	004401/01/318144/7	3001	-	10.0.005	12226
Headset	HS-43	0694540716602607027	-	-	-	12190
Battery	BP-6MT	3932137191110107116;0670551	-	-	-	12189
AC-Charger	AC-5E	3943496473040602898;0675540	-	-	-	11998

1.2. Summary of Test Results

GSM 850:

Section in CFR 47	Section in ICES-003 (RSS-132)	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	PASSED
15.109, a	5.5 (6.6)	Radiated emissions	-

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 Salo Laboratory.

The test results of QVVRM-313 are re-used for certification of the QVVRM-314. The table above indicates the results, which will be re-used.

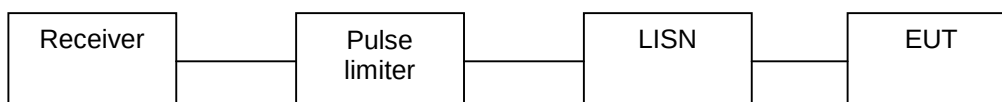
CONTENTS

1. Summary for FCC Part 15B Compliance Test Report.....	2
1.1. EUT and Accessory Information	2
1.2. Summary of Test Results.....	2
2. AC powerline conducted emissions (FCC §15.107, ICES-003 section 5.3).....	4
2.1. Test setup	4
2.2. Test method and limit.....	4
2.3. GSM 850 Test results	5
3. Test Equipment.....	6
3.1. Conducted measurements	6
3.2. Radiated measurements	6

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

EUT with DUT number	RM-313, DUT 12226
Accessories with DUT numbers	BP-6MT, DUT 12189, HS-43, DUT 12190; AC-5E, DUT 11998
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	FM-radio was on. Continuous data transfer was active during the test between phone and laptop.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 42 / 100
Date of measurements	17.09.2007
Measured by	Jani Koskinen

2.1. 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:

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

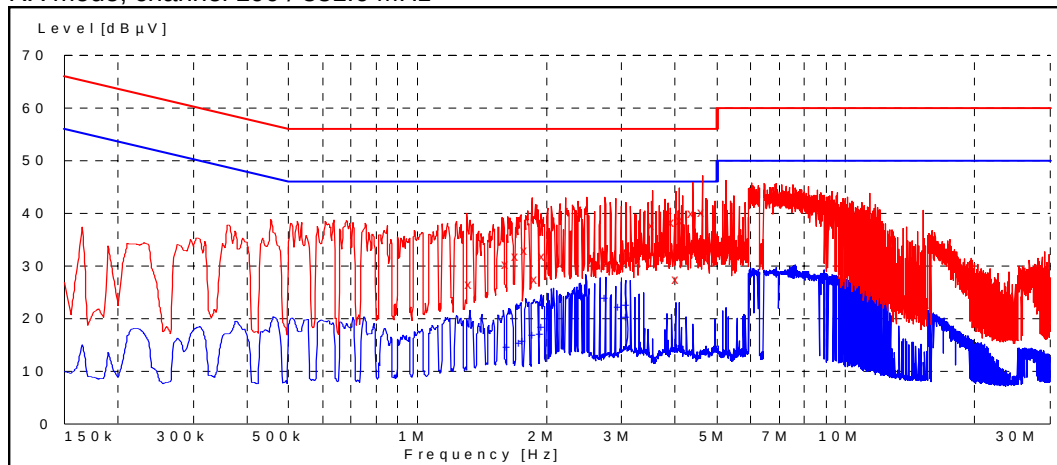
Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

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

2.3. GSM 850 Test results

RX mode, channel 190 / 881.6 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.340000	26.50	L1	PASSED
1.630000	30.20	N	PASSED
1.720000	31.80	N	PASSED
1.800000	33.00	N	PASSED
1.900000	27.50	N	PASSED
1.980000	31.80	N	PASSED
3.555000	37.60	N	PASSED
3.960000	38.30	N	PASSED
4.070000	27.40	L1	PASSED
4.160000	38.70	N	PASSED
4.415000	40.00	N	PASSED
4.680000	40.10	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.635000	14.60	N	PASSED
1.745000	15.30	N	PASSED
1.785000	15.60	N	PASSED
1.880000	16.70	N	PASSED
1.960000	17.00	N	PASSED
1.970000	18.30	N	PASSED
2.455000	24.20	L1	PASSED
2.765000	24.00	L1	PASSED
2.985000	22.20	L1	PASSED
3.100000	22.60	N	PASSED
3.105000	20.20	N	PASSED

3. Test Equipment

3.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1742	EMI Test Receiver	ESMI	R&S	15C, 15B
1759	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
1872	Thermo- Hygrograph	00.02520.150700	Lambrecht	15C, 15B
1916	Radio Communication tester	CMTA84	R&S	15C, 15B
2039	Power Supply	PL330QMD	THURLBY	15C, 15B
2060	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
2068	CDN-Antenna line	S1	NMP	15C, 15B
2097	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
2111	Multimeter	TX3	Tektronix	15C, 15B
2156	Digital Radio Communication Tester	CMU200	R&S	15C, 15B
2206	Signal generator	SMX	R&S	15C, 15B
2335	GPIB Switch 2 to 1	-	National Instruments	15C, 15B
2347	Digital Radio Communication Tester	CMU200	R&S	22/24, 15C, 15B
2352	Spectrum Analyzer	FSP	R&S	22/24, 15C
2359	Temperature Test system	VT4002	Vötsch Industrietechnik	22/24
2360	Serial Bus Converter	Serial 488A	IO Tech	22/24
2362	Power Supply	NGPX 70/5	R&S	22/24
2388	Bluetooth Tester	CBT	R&S	15C, 15B
-	RF Emission Software	ES-K1 v.1.71	R&S	22/24, 15C, 15B

3.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1748	Log. per. Antenna	HL025	R&S	22/24, 15C
1749	Log. per. Antenna	HL025	R&S	22/24, 15C
1875	Thermo- Hygrograph	00.02520.150700	Lambrecht	22/24, 15C, 15B
1917	Radio Communication tester	CMTA84	R&S	22/24, 15C, 15B
1933	Precision half-wave dipole antennas	HZ-13	R&S	22/24, 15C
1938	Precision half-wave dipole antennas	HZ-12	R&S	22/24, 15C
2006	Radiation Reference Source	VSQ	MEB	22/24, 15C, 15B
2009	Signal generator	SMP 22	R&S	22/24, 15C, 15B
2019	Multimeter	34401A	HP	22/24, 15C, 15B
2027	Coupling and Decoupling Network	M2 (modified) DC1	MEB	22/24, 15C, 15B
2028	Coupling and Decoupling Network	M3 (modified) DC2	MEB	22/24, 15C, 15B
2029	Power Supply	PL330	THURLBY	22/24, 15C, 15B
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22/24, 15C, 15B
2047	Band Reject Filter	WRCC1800/2000-0,2-10SS	Wainwright	22/24, 15C, 15B
2051	High Pass Filter	4HC1700-1-KK	R&S	22/24, 15C
2057	Log. per. Antenna	HL025	R&S	22/24, 15C

Eq. No	Equipment	Type	Manufacturer	Used in
2109	Power Supply	PL330QMD	THURLBY	22/24, 15C, 15B
2110	Multimeter	34401A	HP	22/24, 15C, 15B
2112	Multimeter	TX3	Tektronix	22/24, 15C, 15B
2116	Controller	EMCO MODEL 2090	ETS	22/24, 15C, 15B
2133	Power Meter	NRVS	R&S	22/24, 15C
2134	Power Sensor	NRV-Z32	R&S	22/24, 15C
2135	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24, 15C, 15B
2138	Ultra Broadband Antenna	HL562	R&S	22/24, 15C, 15B
2140	Biconical Antenna	EMCO93110B	EMCO	22/24, 15C
2142	Log.-per.-dipol Antenna	3146	EMCO	22/24, 15C
2144	Attenuator	6803.17B	Huber-Suhner	22/24, 15C, 15B
2150	High Pass Filter	F-15041	RLC ELECTRONICS	22/24, 15C
2176	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24, 15C, 15B
2180	Digital Radio Communication Tester	CMU200	R&S	22/24, 15C, 15B
2188	Preamplifier	AFS4-00100300-20-23P-6	MITEQ	22/24, 15C, 15B
2330	EMI Test receiver	ESIB26	R&S	22/24, 15C, 15B
2334	GPIB Switch 2 to 1	-	National Instruments	22/24, 15C, 15B
2348	Yaesu controller	G-1000DXC	YAESU	22/24, 15C, 15B
2349	Computer controller (Yaesu)	GS-232B	YAESU	22/24, 15C, 15B
2350	Preamplifier	AMF-6D-020180-29-20P	MITEQ	22/24, 15C
2361	Anechoic chamber	3 meter semi/full anechoic chamber	Euroshield	22/24, 15C, 15B
2398	Horn antenna	HF906	R&S	22/24, 15C
2363	Band Reject Filter	WRCG 832/838-825/845/5SS	Wainwright	22/24
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	22/24
2365	Relay Switch Unit	TS-RSP	R&S	22/24, 15C, 15B
2366	Relay Switch Unit	TS-RSP	R&S	22/24, 15C, 15B
2384	Band Reject Filter	WRCG832/838-825/845-40/5SS	Wainwright	22/24
2388	Bluetooth Tester	CBT	R&S	15C, 15B
-	RF Emission Software	ES-K1 v.1.71	R&S	22/24, 15C, 15B