FCC Part 22/24/27 Compliance Test Report

Test Report no.:	FCC22&24&27_RM-763_22.docx	**Date of Report:**	24-Aug-2011
Number of pages:	14	**Customer's Contact person:**	Ramelli Bruno
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	**Customer:**	Nokia Corporation Lise Meitner Strasse 10 89081 ULM GERMANY Tel. +49 731 1754 0 Fax. +49 731 1754 6800
FCC listing no.: **IC recognition no.:**			
Tested devices/ accessories:	**Phone RM-763 / AC-Charger AC-8E / Battery BP-3L / Headset WH-102**		
FCC ID:	PPIRM-763	**IC:**	661U-RM763
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Parts 22/24/27 , TIA-603-C-2004 and IC standards, RSS-GEN (Issue 3, December 2010), RSS-132 (Issue 2, September 2005), RSS-133 (Issue 5, February 2009), RSS-139 (Issue 2, February 2009). 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:	R Hansen Digitally signed by Ruben Hansen DN: cn=Ruben Hansen, o=TCC NOKIA, ou=EMC, email=ruben.hansen@nokia.com, c=DK Date: 2011.09.16 10:43:09 +02'00'		

Ruben Hansen, System Manager, EMC

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1. Summary for FCC Part 22/24/27 Compliance Test Report

Date of receipt	08-Jan-2011
Testing completed	22-Aug-2011
The customer's contact person	Ramelli Bruno
Test Plan referred to	T:\Projects\RM-763\TestPlan\RS_testplan_RM-763.xls
Notes	-
Document name	T:\Projects\RM-763\EMC\FCC22&24&27_RM-763_22.docx

1.1. EUT and Accessory Information

The EUT is a 11-band mobile phone:
GSM850/900/1800/1900/GPRS/EGPRS/Monopole without GND reflector (GSM/WCDMA)
WCDMA I/II(1900)/IV(1700)/V(850)/VIII/HSDPA/HSUPA/Monopole without GND reflector (GSM/WCDMA)
WLAN/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-763	004402136210782	0200		Vp ch104_11w28_1	25946
AC-Charger	AC-8E	409049842593040160 4;0675387	-	-	-	23727
Battery	BP-3L	393213115414010077 2;0670635	-	-	-	23546
Headset	WH-102	06943231106m1R61563	-	-	-	23579

1.2. Summary of Test Results

GSM850:

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	PASSED
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

WCDMA 850 (Band V):

Section in CFR 47	Section in RSS-GEN or RSS-132	Name of the test	Result
§2.1046(a), 22.913(a)	4.4	Conducted RF output power	NP
§22.913(a)	4.4	Radiated RF output power	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§22.917(a)	4.5	Band edge compliance	NP
§22.917(a), §2.1051	4.5	Spurious emissions at antenna terminals	NP
§22.917(a), §2.1053	4.5	Spurious radiated emissions	NP
§2.1055(a)	4.3	Frequency stability, temperature variation	NP
§2.1055(d)	4.3	Frequency stability, voltage variation	NP

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GSM1900:

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(b)	6.4	Radiated RF output power	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	PASSED
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

WCDMA 1900 (Band II):

Section in CFR 47	Section in RSS-GEN or RSS-133	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§24.232(b)	6.4	Radiated RF output power	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§24.238(a)	6.5	Band edge compliance	NP
§24.238(a), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	NP
§2.1055(d)	6.3	Frequency stability, voltage variation	NP

WCDMA 1700 (Band IV):

Section in CFR 47	Section in RSS-GEN or RSS-139	Name of the test	Result
§2.1046(a)	6.4	Conducted RF output power	NP
§27.50(d)(2)	6.4	Radiated RF output power	NP
§2.1049(h)	4.6.1	99 % occupied bandwidth	PASSED
§27.53(g)	6.5	Band edge compliance	NP
§27.53(g), §2.1051	6.5	Spurious emissions at antenna terminals	NP
§24.238(a), §2.1053	6.5	Spurious radiated emissions	NP
§2.1055(a)	6.3	Frequency stability, temperature variation	PASSED
§2.1055(d)	6.3	Frequency stability, voltage variation	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.

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CONTENTS

1. Summary for FCC Part 22/24/27 Compliance Test Report....2

1.1. EUT and Accessory Information 2
1.2. Summary of Test Results....2

2. 99% occupied bandwidth (FCC §2.1049(h), RSS-GEN 4.6.1)....5

2.1. Test Setup....5
2.2. Test method and limit....5
2.3. GSM 1900 Test results 6
2.4. GSM 850 Test results 7
2.5. WCDMA 1900 Test results....8
2.6. WCDMA 1700 Test results....9
2.7. WCDMA 850 Test results....10

3. Frequency stability, temperature variation (FCC §2.1055(a), §2.1055(a), §2.1055(a), RSS-132 4.3, RSS-133 6.3, RSS-139 6.3) 11

3.1. Test Setup....11
3.2. Test method and limit....11
3.3. GSM 1900 Test results 12
3.4. GSM 850 Test results 12
3.5. WCDMA 1700 Test results....12

4. Test Equipment 13

4.1. Conducted measurements....13
4.2. Radiated measurements....13

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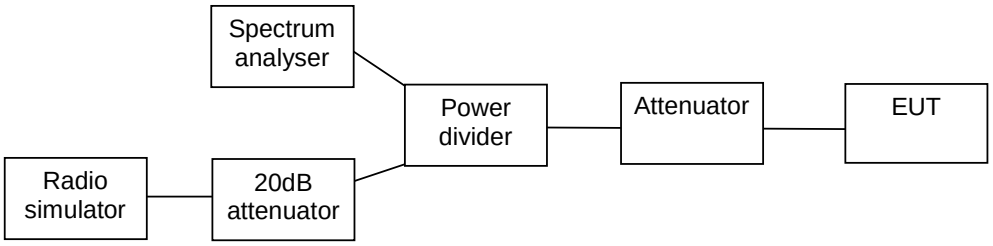
2. 99% occupied bandwidth

(FCC §2.1049(h), RSS-GEN 4.6.1)

EUT with DUT number	RM-763, DUT 25946
Accessories with DUT numbers	AC-8E, DUT 23727 ; BP-3L, DUT 23546 ; WH-102, DUT 23579
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	25 / 45 / 101.6
Date of measurements	22-Aug-2011
Measured by	Ruben Hansen

2.1. Test Setup



2.2. Test method and limit

The measurement is made according to FCC rules parts 22, 24, 27 and IC standard RSS-GEN.

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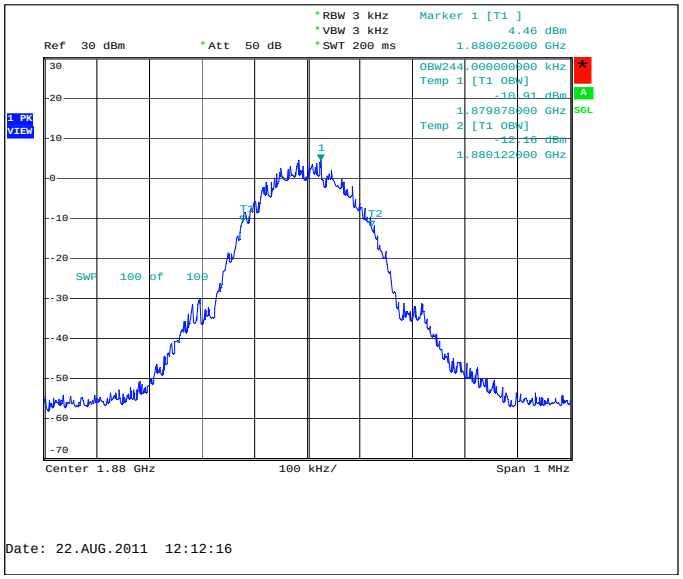
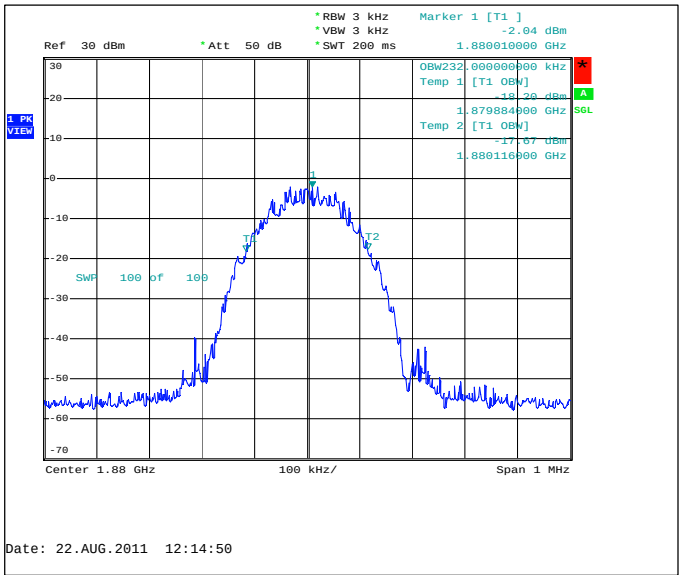
2.3. GSM 1900 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
GSM	244
GSM-E	232

GSM mode, channel 661 / 1880.0 MHz



GSM-E mode, channel 661 / 1880.0 MHz



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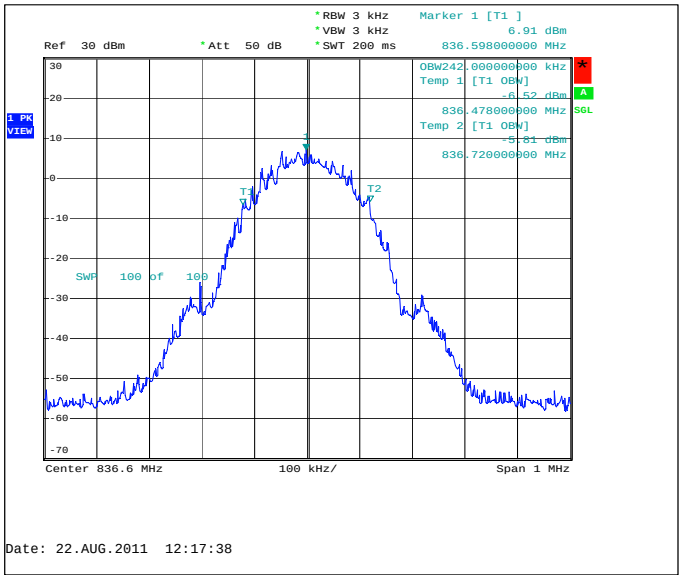
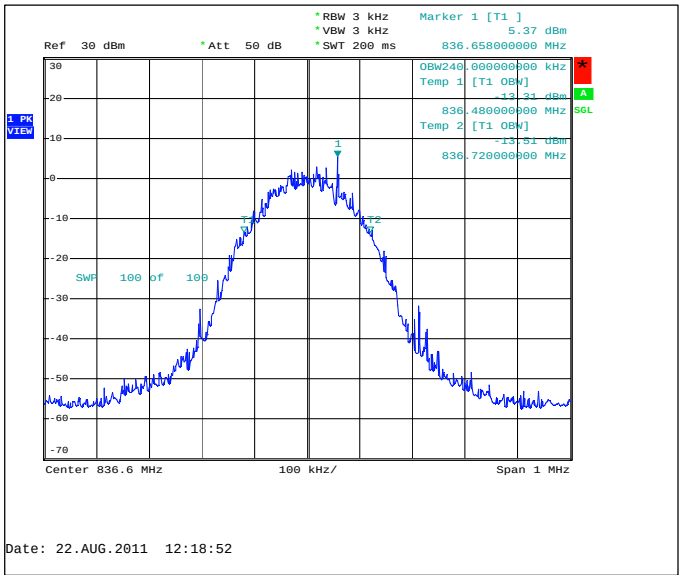
2.4. GSM 850 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
GSM	242
GSM-E	240

GSM mode, channel 190 / 836.6 MHz



GSM-E mode, channel 190 / 836.6 MHz



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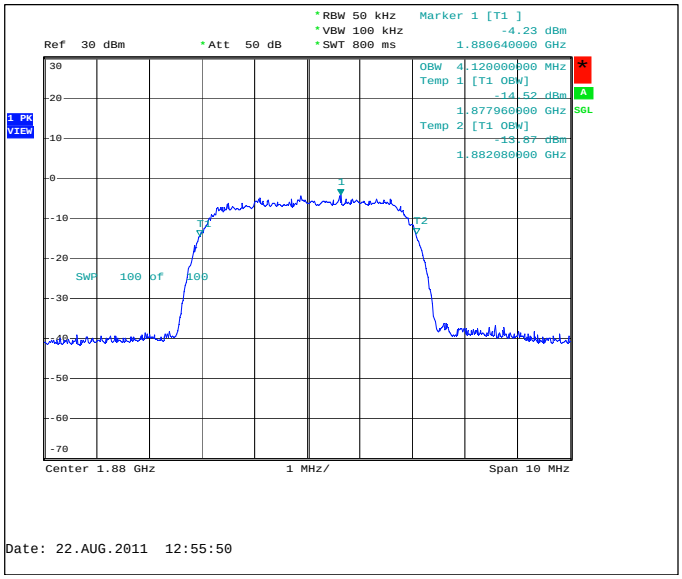
2.5. WCDMA 1900 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
FDD	4120

FDD mode, Channel 9400 / 1880.0 MHz



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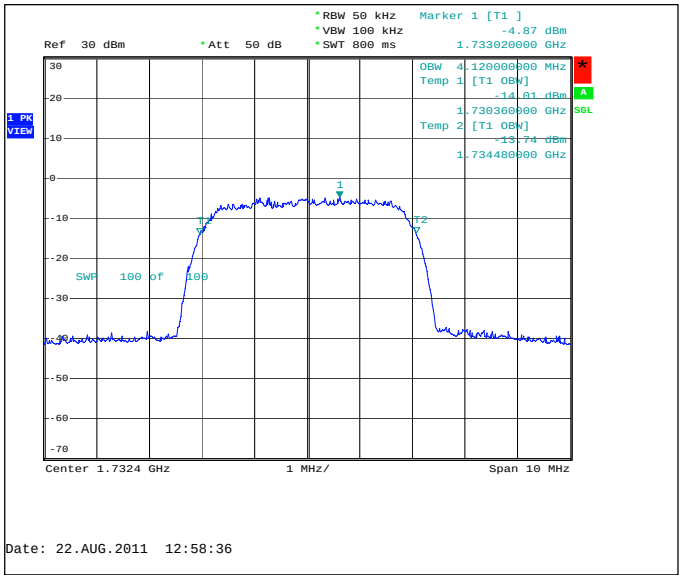
2.6. WCDMA 1700 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
FDD	4120

FDD mode, Channel 1412 / 1732.4 MHz



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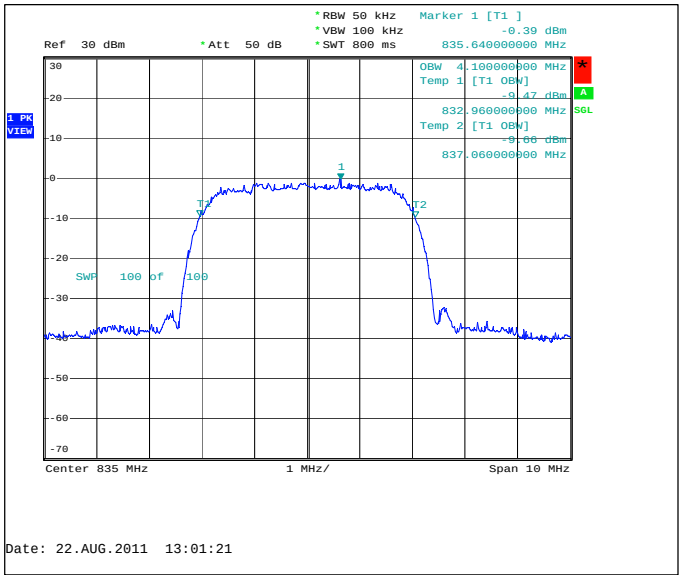
2.7. WCDMA 850 Test results

Operation mode (TX on)	99% Occupied bandwidth [kHz]
FDD	4100

FDD mode, Channel 4175 / 835.0 MHz



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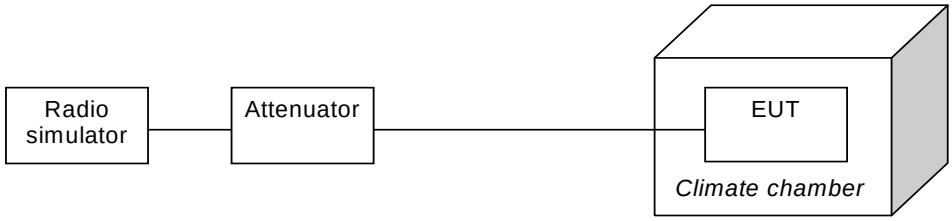
3. Frequency stability, temperature variation

(FCC §2.1055(a), §2.1055(a), §2.1055(a), RSS-132 4.3, RSS-133 6.3, RSS-139 6.3)

EUT with DUT number	RM-763, DUT 25946
Accessories with DUT numbers	AC-8E, DUT 23727 ; BP-3L, DUT 23546 ; WH-102, DUT 23579
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	25 / 45 / 101.6
Date of measurements	22-Aug-2011
Measured by	Ruben Hansen

3.1. Test Setup



3.2. Test method and limit

The measurement is made according to FCC rules parts 22, 24, 27 and IC standard RSS-132, RSS-133 and RSS-139
as follows:

The climate chamber temperature is set to the maximum value and the temperature is allowed to stabilize.
The EUT is placed in the chamber.
The EUT is set in idle mode for 15 minutes.
The EUT is set to transmit.
The transmit frequency error was measured immediately.
The steps c - e were repeated for each temperature.Limits for frequency stability, temperature variation measurements

Frequency deviation [ppm]
+\- 2.5

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3.3. GSM 1900 Test results

GSM mode, channel 661 / 1880.0 MHz

Temperature [°C]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
50	1880	-20.21	-0.0108	PASSED
40	1880	-15.05	-0.008	PASSED
30	1880	-11.11	-0.0059	PASSED
20	1880	-12.14	-0.0065	PASSED
10	1880	-21.31	-0.0113	PASSED
0	1880	-17.76	-0.0094	PASSED
-10	1880	-8.85	-0.0047	PASSED
-20	1880	-10.78	-0.0057	PASSED
-30	1880			EUT OFF

3.4. GSM 850 Test results

GSM mode, channel 190 / 836.6 MHz

Temperature [°C]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
50	836.6	-4.07	-0.0049	PASSED
40	836.6	-13.88	-0.0166	PASSED
30	836.6	-2.32	-0.0028	PASSED
20	836.6	-5.04	-0.006	PASSED
10	836.6	-6.33	-0.0076	PASSED
0	836.6	-8.91	-0.0107	PASSED
-10	836.6	-7.04	-0.0084	PASSED
-20	836.6	-5.94	-0.0071	PASSED
-30	836.6			EUT OFF

3.5. WCDMA 1700 Test results

FDD mode, Channel 1412 / 1732.4 MHz

Temperature [°C]	Frequency [MHz]	Deviation [Hz]	Deviation [ppm]	Result
50	1732.4	-3.93677	-0.0023	PASSED
40	1732.4	-9.23157	-0.0053	PASSED
30	1732.4	3.78418	0.0022	PASSED
20	1732.4	2.91443	0.0017	PASSED
10	1732.4	7.04956	0.0041	PASSED
0	1732.4	-3.14331	-0.0018	PASSED
-10	1732.4	2.83814	0.0016	PASSED
-20	1732.4	-1	-0.0006	PASSED
-30	1732.4			EUT OFF

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4. Test Equipment

4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13037	Power Supply 0-15V 10A	EA3012	LP Instruments	15C, 15B
13357	Signal Generator	SMP02	Rohde&Schwarz	22/24/27, 15C, 15B
13513	Pulse Limiter	ESH3Z2	Rohde&Schwarz	15C, 15B
13666	Receiver	ESPC	Rohde&Schwarz	15C, 15B
13935	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
20682	LISN	ESH3-Z5	Rohde&Schwarz	15C, 15B
16601	Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
16995	Directional Coupler 20dB 0,5-2,0 GHz SMA Conn.	1538RA-20	Weinschel	15C, 15B
18772	Shielded Chamber	RFD-100	ETS-Lindgren	15C, 15B
18772	Shielded Chamber	RFD-100	ETS-Lindgren	15C, 15B
19116	Power splitter	-	various	22/24/27, 15C, 15B
19171	Communication Tester	CMU200	Rohde&Schwarz	15C, 15B
19625	Climatic Chamber	VT4002EMC	Vötsch	22/24/27, 15C, 15B
19678	Spectrum Analyzer	FSP	Rohde&Schwarz	22/24/27, 15C, 15B
20168	Bluetooth Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B
20543	UPS. 700V/A 490W	PW 9120 700i	Powerware	22/24/27, 15C, 15B
20544	Transformer. 230/115V	-	Nokia	22/24/27, 15C, 15B
20739	Communication Tester	CMU200	Rohde&Schwarz	15C, 15B

4.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13077	Power Supply	EA-3016	-	22/24/27, 15C, 15B
13799	Signal Generator	SMP02	Rohde&Schwarz	22/24/27, 15C, 15B
13936	Band reject filter	WRCD1747.5-0.2/40-10SS	Wainwright Instruments	22/24/27, 15C, 15B
13937	Band reject filter	WRCA902.4-0.2/40-6SS	Wainwright Instruments	22/24/27, 15C, 15B
14021	Relay Dual 6 Chnl µWave Mux	10-785-522	-	22/24/27, 15C, 15B
14114	Highpass Filter	WHK1000-12SS	Wainwright Instruments	22/24/27, 15C, 15B
14187	Band reject filter	WRCD1747.5-0.2/40-10SS	Wainwright	22/24/27, 15C, 15B
14188	Band reject filter	WRCA902.4-0.2/40-6SS	Wainwright	22/24/27, 15C, 15B
14900	Antenna Controller	HD100	HD GmbH	22/24/27, 15C, 15B
15191	Turntable Contoller Unit	G-800SDX	YAESU	22/24/27, 15C, 15B
15742	Programmable Relay Switching System	----------	Pickering	22/24/27, 15C, 15B
16633	Band reject filter	WRCD1880.0-0.2/40-10SS	Wainwright	22/24/27, 15C, 15B
16948	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
16949	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
17644	Dual 6 Channel MUX Microwave Relay SMA 50 Ohm	10-785-522	Pickering	22/24/27, 15C, 15B
18416	Communication Tester	CMU200	Rohde&Schwarz	22/24/27, 15C, 15B
18773	Anechoic chamber	RFD-100	ETS-Lindgren	22/24/27, 15C, 15B
18774	Anechoic chamber	RFSD-F/A-100	ETS-Lindgren	22/24/27, 15C, 15B

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Eq. No	Equipment	Type	Manufacturer	Used in
18792	Mast/turntable controller	2090	ETS-EMCO	22/24/27, 15C, 15B
18860	Antenna	HL562	Rohde&Schwarz	22/24/27, 15C, 15B
19151	High Pass Filter	WHJS3000-10SS	Wainwright	22/24/27, 15C, 15B
19587	Band reject filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	22/24/27, 15C, 15B
19966	Antenna	HFH2-Z2	Rohde&Schwarz	15C, 15B
20078	Relay 2x6 Chnl µWave Mux	10-785B-522	Pickering	22/24/27, 15C, 15B
20114	Band reject filter	WRCG1737/1743-1733/1747-40/6SS	Wainwright	22/24/27, 15C, 15B
20115	Band reject filter	-	Wainwright	22/24/27, 15C, 15B
20116	Band reject filter	WRCG832/83/-825/845-40/5SS	Wainwright	22/24/27, 15C, 15B
20168	Bluetooth Tester	CBT	Rohde&Schwarz	22/24/27, 15C, 15B
20543	UPS. 700V/A 490W	PW 9120 700i	Powerware	22/24/27, 15C, 15B
20544	Transformer. 230/115V	-	Nokia	22/24/27, 15C, 15B
20698	Antenna	BBHA 9120 D	SCHWARZBECK	22/24/27, 15C, 15B
-	Relay Dual 6 Chnl µWave Mux	10-785-522	-	22/24/27, 15C, 15B

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