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FINAS Finnish Accreditation Service T117 (EN ISO/IEC 17025)

FCC Part 15B Compliance Test Report

Test Report no.:	Cph_FCC_0630_10.doc	**Date of Report:**	11-08-2006
Number of pages:	12	**Customer's Contact person:**	Robert Binder
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	**Customer:**	Nokia Corporation Arco Tower Shimomeguro 1-8-1 Meguro-ku TOKYO 153-0064 JAPAN Tel. +81 3 5759 7001 Fax. +81 3 5740 6858
FCC listing no.: **IC recognition no.:**	99059 4820 and 4820-1		
Tested devices/ accessories:	**Phone; RM-156 (HW 2401) & Battery; BL-5F & AC Charger; AC-4E & Headset; HS-23**		
FCC ID:	QVVRM-156	**IC:**	661AE-RM156
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:	Niels Christian Andersen Digitally signed by Niels Christian Andersen DN: cn=Niels Christian Andersen, c=DK, o=TCC Nokia, ou=EMC, email=christian.n.andersen@nokia.com Date: 2006.08.11 13:23:18 +02'00'		

Niels Christian Andersen, Engineer

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1. Summary for FCC Part 15B Compliance Test Report

Date of receipt	17-07-2006
Testing completed	10-08-2006
The customer's contact person	Robert Binder
Test Plan referred to	\EMC\TESTPLAN\
Notes	None
Document name	\\satcc01nmp\tcc_salo\Projects\RM-156\EMC\Results\FCC\Cph_FCC_0630_10.doc

1.1. EUT and Accessory Information

The EUT is a quadri band (GSM900/1800/1900 and WCDMA2100) mobile phone with GPRS, EGPRS, Bluetooth and WLAN. GSM band is tested in idle mode. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-156	004400/84/161817/4	2401	-	02.0.113	29057
Battery	BL-5F	0670498000000N151140000000	-	-	-	29059
AC-Charger	AC-4E	3943495412070127156;0675384	-	-	-	29065
Headset	HS-23	350741542103	-	-	-	29061

1.2. Summary of Test Results

Bluetooth:

Section in CFR 47	Section in ICES-003	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5	Radiated emissions	Passed

WLAN:

Section in CFR 47	Section in ICES-003	Name of the test	Result
15.107, a	5.3	AC powerline conducted emissions	NP
15.109, a	5.5	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 Copenhagen Laboratory.

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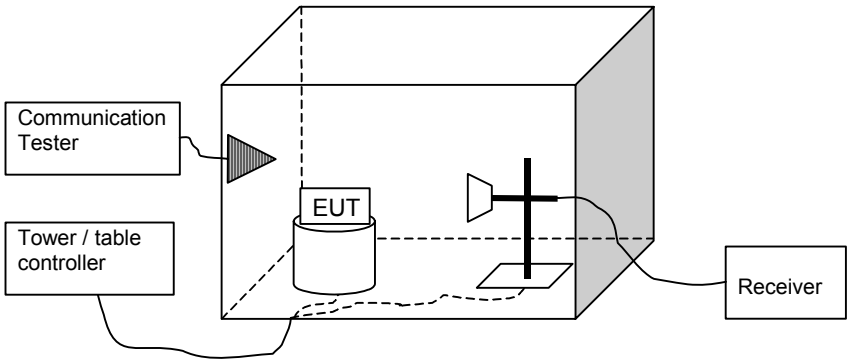
2. Radiated emissions

(FCC §15.109, ICES-003 section 5.5, RSS-132 6.6, RSS-133 9)

EUT with DUT number	RM-156 Dut#29057
Accessories with DUT numbers	BL-5F Dut#29059, AC-4E Dut#29065, HS-23 Dut#29061
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23 / 52 / 1023
Date of measurements	10-08-2006
Measured by	Christian Andersen

2.1. Test setup



2.2. 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.

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

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

2.3. Bluetooth Test results

2.3.1 GFSK modulation

TX mode, channel 0 / 2402 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	53.40	467.74	55.40	-2.00	HORIZONTAL	Passed
7206.000000	48.40	263.03	44.20	4.20	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	44.00	158.49	46.00	-2.00	HORIZONTAL	Passed
7206.000000	37.90	78.52	33.70	4.20	HORIZONTAL	Passed

TX mode, channel 40 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
37.576353	19.70	9.66	37.50	-17.80	VERTICAL	Passed
74.048497	22.70	13.65	49.80	-27.10	HORIZONTAL	Passed
74.269940	20.20	10.23	47.30	-27.10	HORIZONTAL	Passed
97.956112	46.30	206.54	72.30	-26.00	HORIZONTAL	Passed
195.590782	37.20	72.44	64.50	-27.30	VERTICAL	Passed

*98.0 MHz frequency is coming from FM Radio communication and thus ignored.

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Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1947.895792	87.00	22,387.21	89.50	-2.50	VERTICAL	Passed
4884.267535	52.20	407.38	54.10	-1.90	HORIZONTAL	Passed
4884.269539	52.50	421.70	54.40	-1.90	HORIZONTAL	Passed
7325.651303	49.90	312.61	45.70	4.20	HORIZONTAL	Passed
7325.653307	49.90	312.61	45.70	4.20	HORIZONTAL	Passed
17864.223447	58.20	812.83	33.00	25.20	HORIZONTAL	Passed

*1947.8 MHz frequency is coming from communication tester and thus ignored.

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1947.895792	86.70	21,627.19	89.20	-2.50	VERTICAL	Passed
4883.767535	42.30	130.32	44.20	-1.90	HORIZONTAL	Passed
4884.269539	42.40	131.83	44.30	-1.90	HORIZONTAL	Passed
7325.651303	37.40	74.13	33.20	4.20	HORIZONTAL	Passed
7325.653307	37.80	77.62	33.60	4.20	HORIZONTAL	Passed
17865.223447	45.00	177.83	19.80	25.20	HORIZONTAL	Passed

*1947.8 MHz frequency is coming from communication tester and thus ignored.

TX mode, channel 78 / 2480 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	54.90	555.90	56.50	-1.60	HORIZONTAL	Passed
7440.000000	46.20	204.17	41.30	4.90	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	42.90	139.64	44.50	-1.60	HORIZONTAL	Passed
7440.000000	34.50	53.09	29.60	4.90	HORIZONTAL	Passed

2.3.2 8DPSK modulation

TX mode, channel 0 / 2402 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	36.70	68.39	38.70	-2.00	VERTICAL	Passed
7206.000000	40.40	104.71	36.20	4.20	VERTICAL	Passed

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Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4804.000000	24.00	15.85	26.00	-2.00	VERTICAL	Passed
7206.000000	27.00	22.39	22.80	4.20	VERTICAL	Passed

TX mode, channel 40 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
38.176353	22.10	12.74	40.30	-18.20	VERTICAL	Passed
74.086573	16.80	6.92	43.90	-27.10	HORIZONTAL	Passed
74.469940	16.50	6.68	43.50	-27.00	HORIZONTAL	Passed
97.956112	46.30	206.54	72.30	-26.00	HORIZONTAL	Passed

*98.0 MHz frequency is coming from FM Radio communication and thus ignored.

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1947.895792	86.90	22,130.95	89.40	-2.50	VERTICAL	Passed
4881.763527	36.50	66.83	38.50	-2.00	HORIZONTAL	Passed
4881.765531	36.90	69.98	38.90	-2.00	HORIZONTAL	Passed
7319.645291	40.50	105.93	36.30	4.20	HORIZONTAL	Passed
7427.855711	42.60	134.90	37.80	4.80	VERTICAL	Passed
17865.735471	58.20	812.83	33.00	25.20	VERTICAL	Passed

*1947.8 MHz frequency is coming from communication tester and thus ignored.

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
1947.895792	86.80	21,877.62	89.30	-2.50	VERTICAL	Passed
4883.263527	24.20	16.22	26.10	-1.90	HORIZONTAL	Passed
4886.265531	24.20	16.22	26.10	-1.90	HORIZONTAL	Passed
7321.145291	27.90	24.83	23.70	4.20	HORIZONTAL	Passed
7427.355711	28.90	27.86	24.10	4.80	VERTICAL	Passed
17871.735471	45.00	177.83	19.60	25.40	VERTICAL	Passed

*1947.8 MHz frequency is coming from communication tester and thus ignored.

TX mode, channel 78 / 2480 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	37.90	78.52	39.50	-1.60	VERTICAL	Passed
7440.000000	40.90	110.92	36.00	4.90	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4960.000000	25.20	18.20	26.80	-1.60	VERTICAL	Passed
7440.000000	28.30	26.00	23.40	4.90	VERTICAL	Passed

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2.4. WLAN Test results

2.4.1 DSSS mode, BPSK modulation, 1 Mbps data rate

RX mode, channel 1

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	36.40	66.07	38.60	-2.20	HORIZONTAL	Passed
7236.000000	41.70	121.62	37.70	4.00	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	23.90	15.67	26.10	-2.20	VERTICAL	Passed
7236.000000	27.90	24.83	23.90	4.00	VERTICAL	Passed

RX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
30.500000	28.40	26.30	41.80	-13.40	VERTICAL	Passed
37.735872	22.20	12.88	40.10	-17.90	VERTICAL	Passed
74.369940	20.70	10.84	47.80	-27.10	HORIZONTAL	Passed
74.448497	20.80	10.96	47.90	-27.10	HORIZONTAL	Passed
97.956112	43.60	151.36	69.60	-26.00	HORIZONTAL	Passed
195.591383	34.60	53.70	61.90	-27.30	VERTICAL	Passed

*98.0 MHz frequency is coming from FM Radio communication and thus ignored.

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4917.329659	37.90	78.52	39.50	-1.60	VERTICAL	Passed
7313.633267	40.50	105.93	36.20	4.30	HORIZONTAL	Passed
7403.799599	41.30	116.14	35.90	5.40	HORIZONTAL	Passed
7422.339679	41.60	120.23	36.70	4.90	VERTICAL	Passed
17856.707415	57.60	758.58	32.60	25.00	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4917.829659	24.70	17.18	26.30	-1.60	VERTICAL	Passed
7315.133267	27.70	24.27	23.40	4.30	HORIZONTAL	Passed
7398.799599	27.90	24.83	22.40	5.50	HORIZONTAL	Passed
7418.839679	29.00	28.18	24.00	5.00	VERTICAL	Passed
17854.207415	44.50	167.88	19.50	25.00	VERTICAL	Passed

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RX mode, channel 11

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	37.60	75.86	39.00	-1.40	VERTICAL	Passed
7386.000000	40.50	105.93	35.50	5.00	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	24.60	16.98	26.00	-1.40	VERTICAL	Passed
7386.000000	27.80	24.55	22.80	5.00	VERTICAL	Passed

2.4.2 OFDM mode, BPSK modulation, 6 Mbps data rate

RX mode, channel 1

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	37.40	74.13	39.60	-2.20	VERTICAL	Passed
7236.000000	41.20	114.82	37.20	4.00	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4824.000000	24.40	16.60	26.60	-2.20	VERTICAL	Passed
7236.000000	28.30	26.00	24.30	4.00	VERTICAL	Passed

RX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
34.788176	20.80	10.96	36.80	-16.00	VERTICAL	Passed
38.176353	22.20	12.88	40.40	-18.20	VERTICAL	Passed
74.469940	17.20	7.24	44.20	-27.00	HORIZONTAL	Passed
74.488978	15.30	5.82	42.30	-27.00	HORIZONTAL	Passed
97.956112	43.50	149.62	69.50	-26.00	HORIZONTAL	Passed
195.590782	35.00	56.23	62.30	-27.30	VERTICAL	Passed

*98.0 MHz frequency is coming from FM Radio communication and thus ignored.

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4907.821643	37.60	75.86	39.40	-1.80	VERTICAL	Passed
4962.417836	37.60	75.86	39.20	-1.60	VERTICAL	Passed
7319.637275	40.60	107.15	36.40	4.20	VERTICAL	Passed
7417.843687	42.00	125.89	37.00	5.00	VERTICAL	Passed
7418.839679	42.10	127.35	37.10	5.00	VERTICAL	Passed
17874.245491	58.00	794.33	32.50	25.50	VERTICAL	Passed

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Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4914.321643	24.70	17.18	26.30	-1.60	VERTICAL	Passed
4955.417836	24.90	17.58	26.60	-1.70	VERTICAL	Passed
7316.137275	28.10	25.41	23.80	4.30	VERTICAL	Passed
7416.839679	29.10	28.51	24.10	5.00	VERTICAL	Passed
7417.843687	29.10	28.51	24.10	5.00	VERTICAL	Passed
17874.245491	44.90	175.79	19.40	25.50	VERTICAL	Passed

RX mode, channel 11

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	38.50	84.14	39.90	-1.40	VERTICAL	Passed
7386.000000	40.40	104.71	35.40	5.00	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Polarisation	Result
4924.000000	24.90	17.58	26.30	-1.40	VERTICAL	Passed
7386.000000	28.00	25.12	23.00	5.00	VERTICAL	Passed

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Test Equipment

2.5. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
13037	Power Supply 0-15V 10A	EA3012	LP Instruments	15B,15C
13513	Pulse Limiter 9KHz-30MHz	ESH3Z2	Rohde&Schwarz	15B,15C
13666	EMI Test Reciever 9KHz-2,5GHz	ESPC	Rohde&Schwarz	15B,15C
13935	Two Lines Artificial Mains Network	ESH3-Z5	Rohde&Schwarz	15B,15C
16995	Directional Coupler 20dB 0,5-2,0 GHz SMA Conn.	1538RA-20	Weinschel	15B,15C
18772	Shielded Chamber	RFD-100	ETS-Lindgren	15B,15C
19171	Universal Radio Communication Tester	CMU200	Rohde&Schwarz	15B,15C
11386	System DC Power Supply	HP6632A	Hewlett Packard	22.24
11487	Network analyzer 300KHz-3,0GHz	HP8753A	Hewlett Packard	22.24
11584	Spectrum analyzer 50Hz-6,5GHz	HP8561B	Hewlett Packard	22.24
13134	Tracking generator	HP85645A	Hewlett Packard	22.24
13302	Spectrum Analyzer 9KHz-12.8GHz	HP8596E	Hewlett Packard	22.24
13371	Temperature Chamber	S-1,2C	Thermotron	22.24
13524	Digital Radiocomm. Tester	CMD55	Rohde&Schwarz	22.24
14807	S - Parameter Test Set 300KHz-6GHz	HP85047A	Hewlett Packard	22.24
15859	Digital Radio Communication Test Set	4201S	Wavetek	22.24
17277	Multimeter Digital 6 1/2 Digit	AT34401A	Agilent Technologies	22.24
17796	Radio Communication Test Set	4400M	Wavetek	22.24
19374	Resonant Dipole Antenna 850MHz SMA m Conn.	-	NMP Cph	22.24
19375	Resonant Dipole Antenna 1900MHz SMA m Conn.	-	NMP Cph	22.24
13037	Power Supply 0-15V 10A	EA3012	LP Instruments	15B,15C

2.6. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
14020	Programmable Relay Switching System	-	Pickering	15B,15C,22,24
18792	Multi Device Controller	2090	ETS-EMCO	15B,15C,22,24
13829	Turntable Controller	4630-100	Comtest	15B,15C,22,24
14963	RF Preamplifier 100MHz-4GHz (Metal Chassis)	AFS3-00100400	Miteq/NMP Cph	15B,15C,22,24
13668	BiLog Antenna 30-2000MHz	BiLog-CBL6112A	Chase	15B,15C,22,24
18861	EMI Test Receiver 20Hz-26,5GHz	ESI	Rohde&Schwarz	15B,15C,22,24
12679	Dual Log Periodic Antenna 1-18 GHz	HL025	Rohde&Schwarz	15B,15C,22,24
18860	Ultra Broadband Antenna Ultralog 30-3000MHz	HL562	Rohde&Schwarz	15B,15C,22,24
18773	Shielded Chamber	RFD-100	ETS-Lindgren	15B,15C,22,24

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Eq. No	Equipment	Type	Manufacturer	Used in
18774	Shielded Chamber	RFSD-F/A-100	ETS-Lindgren	15B,15C,22,24
18324	High Pass Filter 3GHz SMA f Conn	WHJS3000-10SS	Wainwright	15B,15C,22,24
14114	Highpass Filter 1000MHz-4500MHz	WHK1000-12SS	Wainwright	15B,15C,22,24
13918	Highpass Filter 2000-4000MHz 50OHM SMA Conn	WHKS2000-10SS	Wainwright Instruments	15B,15C,22,24
13937	Ultra Stable Notch Filter 902,4MHz	WRCA902.4-0.2/40-6SS	Wainwright Instruments	15B,15C,22,24
13936	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright Instruments	15B,15C,22,24
13917	Highpass Filter 1000-3000MHz 50OHM SMA Conn	WHKS1000-10SS	Wainwright Instruments	15B,15C,22,24
14188	Ultra Stable Notch Filter 902,4MHz	WRCA902.4-0.2/40-6SS	Wainwright	15B,15C,22,24
14187	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright	15B,15C,22,24
16633	Ultra Stable Notch Filter 1880,0MHz	WRCD1880.0-0.2/40-10SS	Wainwright	15B,15C,22,24
18323	Band reject filter 1947-1953MHz 40dB	WRCG1947/1953-1940/1960-40/6SS	Wainwright	15B,15C,22,24
15190	Infra Red Remote Control Unit	4630	Emco	22,24,15B,15C
14993	EMI Test Receiver 9KHz-2750MHz	ESCS30	Rohde&Schwarz	22,24,15B,15C
15191	Turntable Contoller Unit	G-800SDX	YAESU	22,24,15B,15C
14900	Antenna Controller	HD100	HD GmbH	22,24,15B,15C

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