FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-763_18.docx	**Date of Report:**	25-Aug-2011
Number of pages:	29	**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.:**	99059 661AL-1		
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 Part 15 Subpart C, ANSI C63.4 (2003), Public Notice DA 00-705, 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:	Digitally signed by Niels Christian Andersen DN: cn=Niels Christian Andersen, o=D RD P POP TMA Europe GTS Lab DK, ou=D R&D, email=christian.n.andersen@nokia.com, c=DK Date: 2011.09.16 14:12:02 +02'00'		

Christian Andersen EMC, System Specialist

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	1-Aug-2011
Testing completed	18-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\FCC15CWLAN_RM-763_18.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

WLAN:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.247(b)(1)	A8(0.4(4))	Conducted peak output power	Passed
15.247(d)	A8(0.5)	Band edge compliance of RF emissions	NP
15.247(d)	A8(0.5)	Spurious RF conducted emissions	Passed
15.247(d), 15.209	A8(0.5)	Spurious radiated emissions	NP
15.207	7.2.2	AC powerline conducted emissions	NP
15.247(a)(2)	A8(0.1(1))	6dB(bandwidth)	Passed
15.247(e)	A8(0.1(2))	Power spectral density	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.

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

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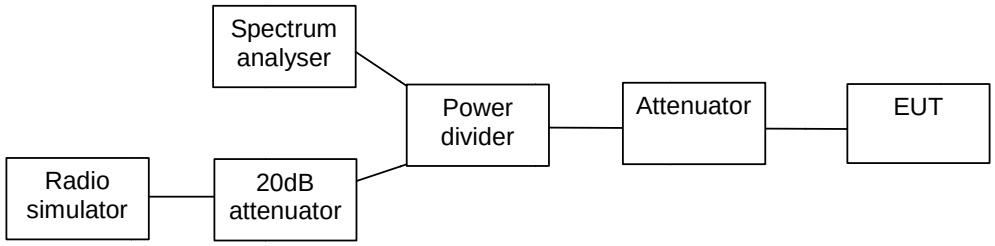
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

2. Conducted peak output power
(15.247(b)(1), RSS-210 A8.4 (4))

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]	22 / 41 / 101
Date of measurements	18-Aug-2011
Measured by	Christian Andersen

2.1. Test Setup



2.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for conducted peak output power measurements

Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	<= 1	<= 30

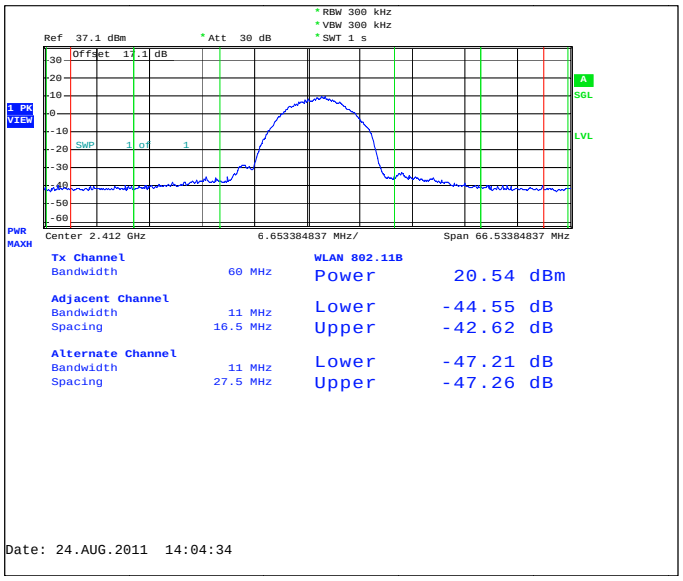
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

2.3. WLAN Test results

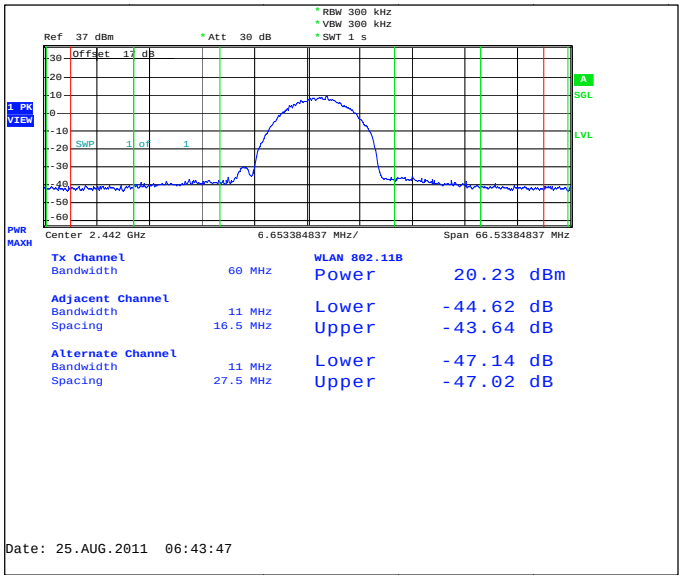
2.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
1 / 2412	20.54	113.24	PASSED
7 / 2442	20.23	105.439	PASSED
11 / 2462	20.67	116.681	PASSED

Channel 1 / 2412 MHz

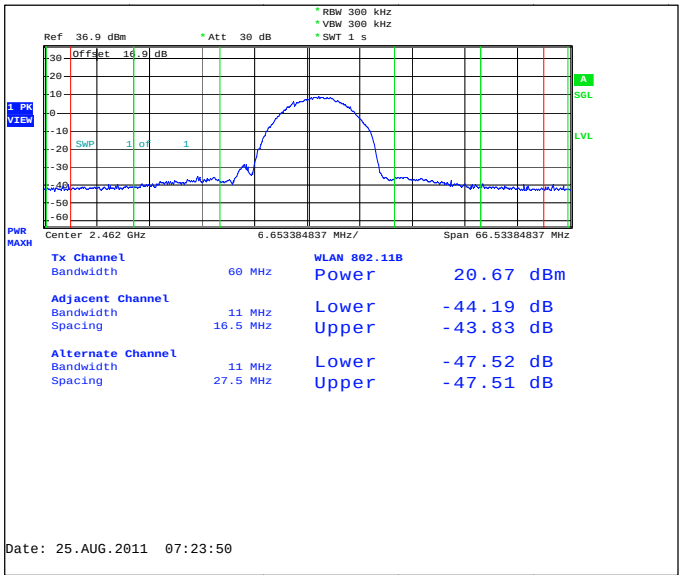


Channel 7 / 2442 MHz



TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

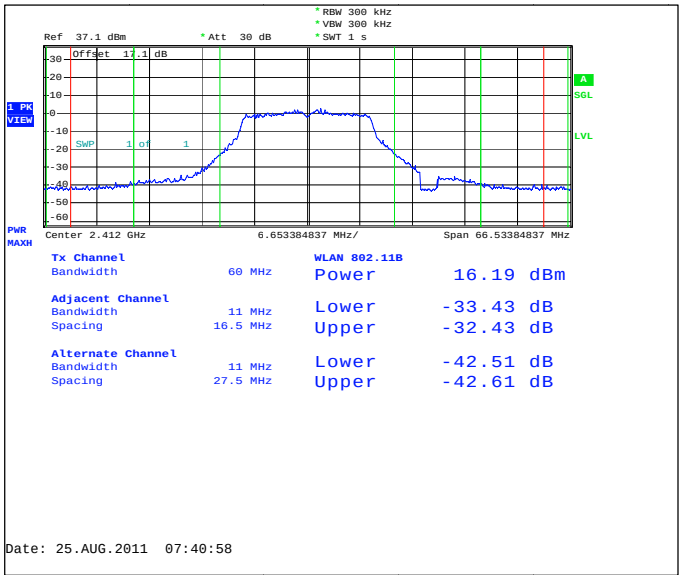
Channel 11 / 2462 MHz



2.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

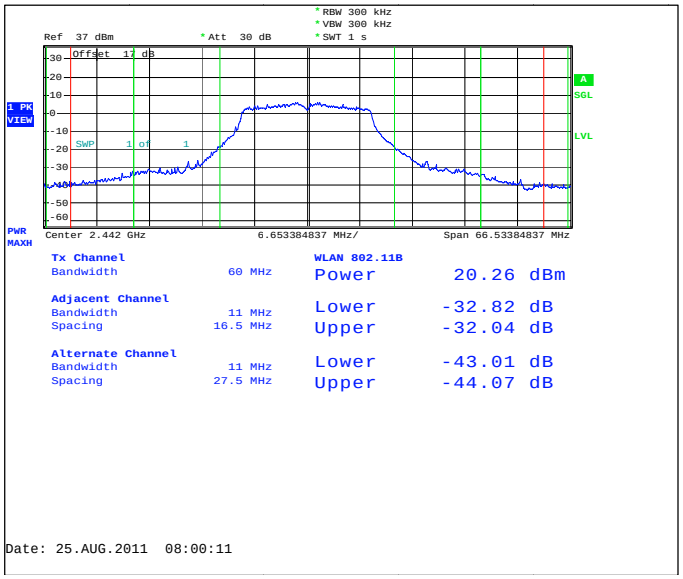
Channel / f_C [MHz]	P [dBm]	P [mW]	Result
1 / 2412	16.19	41.591	PASSED
7 / 2442	20.26	106.17	PASSED
11 / 2462	16.54	45.082	PASSED

Channel 1 / 2412 MHz

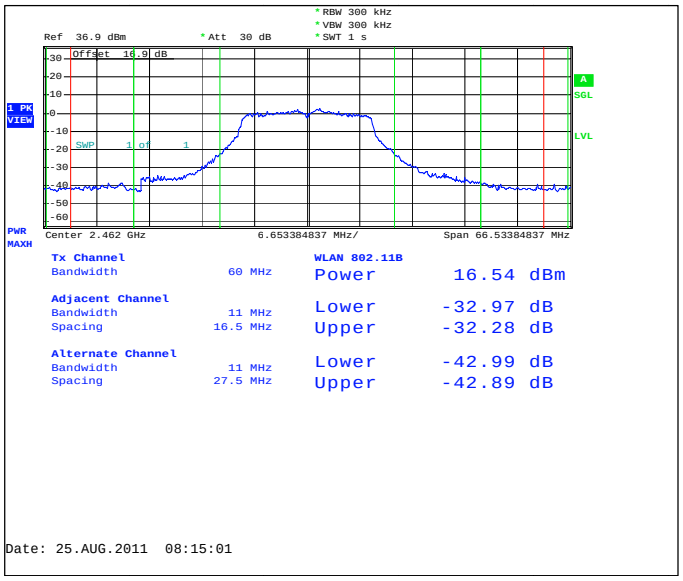


TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 7 / 2442 MHz



Channel 11 / 2462 MHz

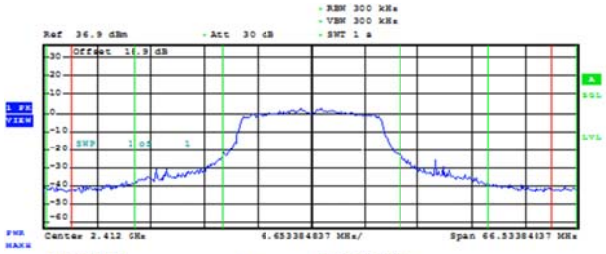


2.3.3 802.11n HT20 MCS 0

	P [dBm]	P [mW]	Result
1 / 2412	17.02	50.35	PASSED
7 / 2442	17.91	61.802	PASSED
11 / 2462	17.44	55.463	PASSED

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 1 / 2412 MHz



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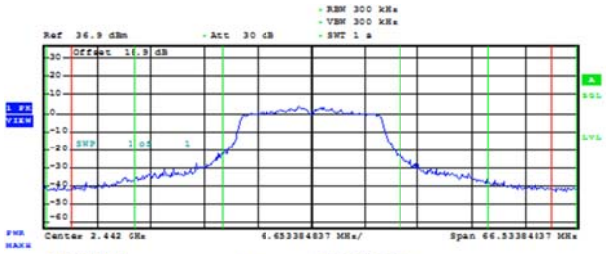
Channel 7 / 2442 MHz



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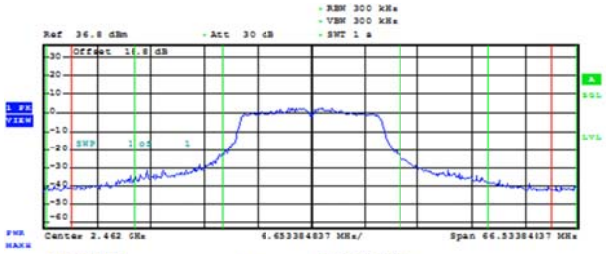
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 11 / 2462 MHz



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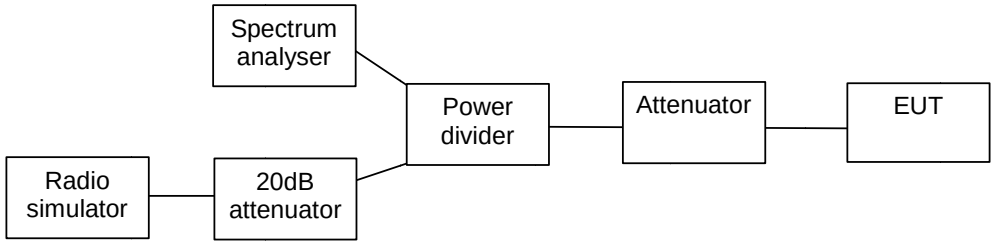
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

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

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]	22 / 41 / 101
Date of measurements	18-Aug-2011
Measured by	Christian Andersen

3.1. Test Setup



3.2. Test method and limit

The measurement is made according to Public notice DA 00-705 and IC standard RSS-210.

Limits for spurious RF conducted emissions measurements

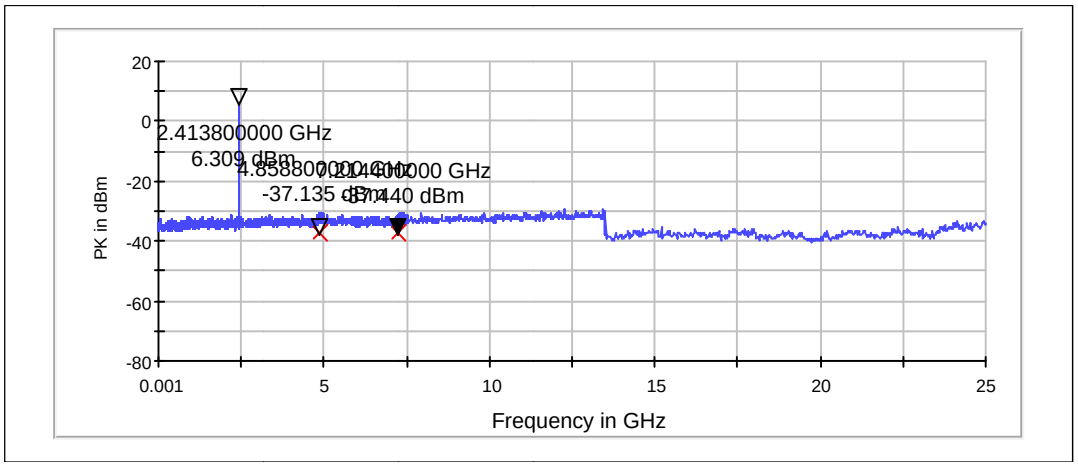
Frequency range [MHz]	Limit [dBc]
1 – 25000	<= -20

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

3.3. WLAN Test results

3.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

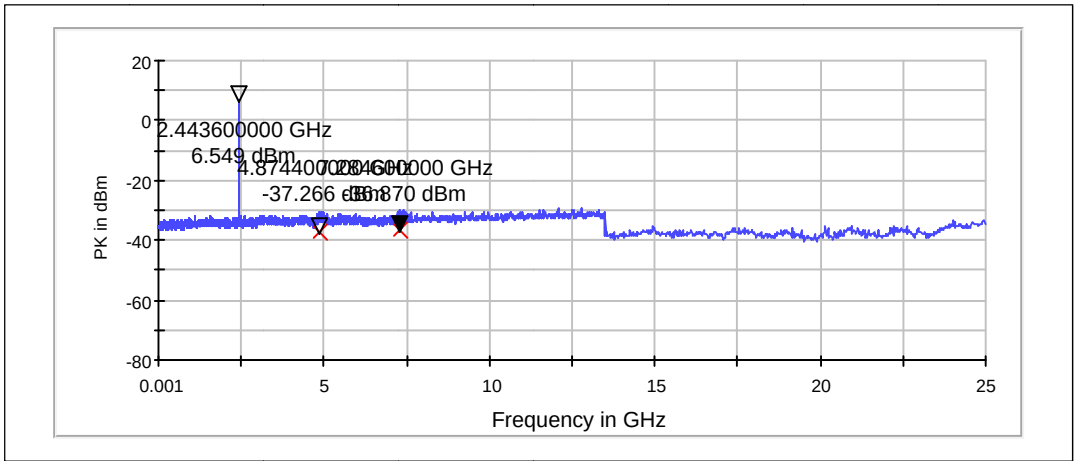
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4858.8	-37.14	PASSED
7214.4	-37.44	PASSED

Channel 7 / 2442 MHz

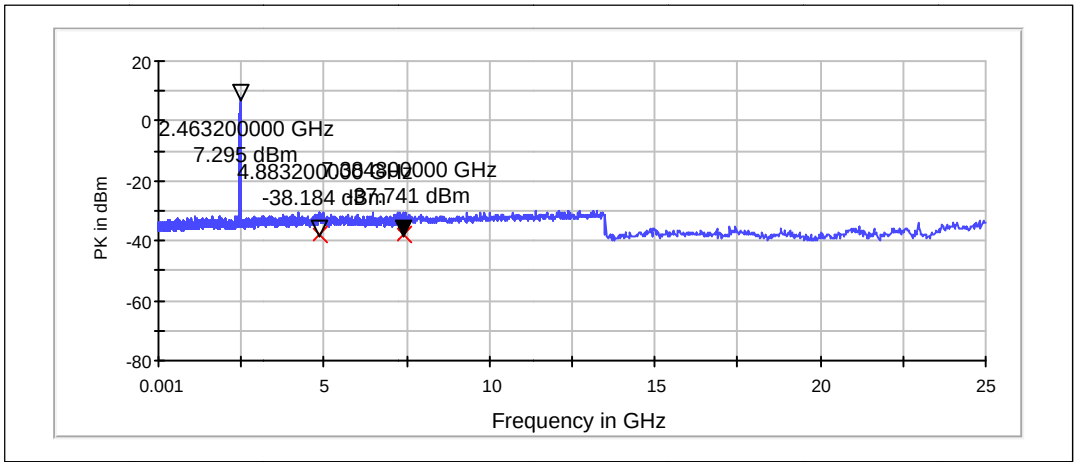


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4874.4	-37.27	PASSED
7284.6	-36.87	PASSED

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 11 / 2462 MHz

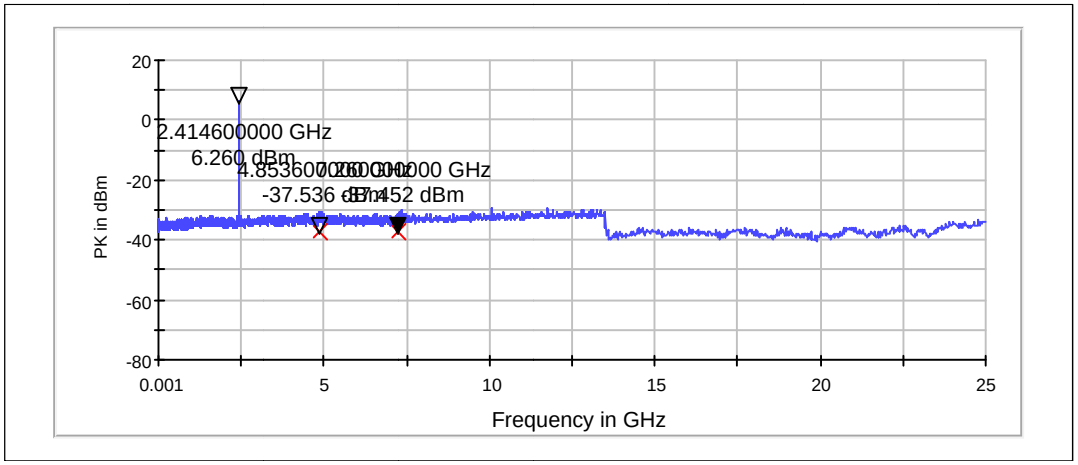


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4883.2	-38.18	PASSED
7384.8	-37.74	PASSED

3.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz

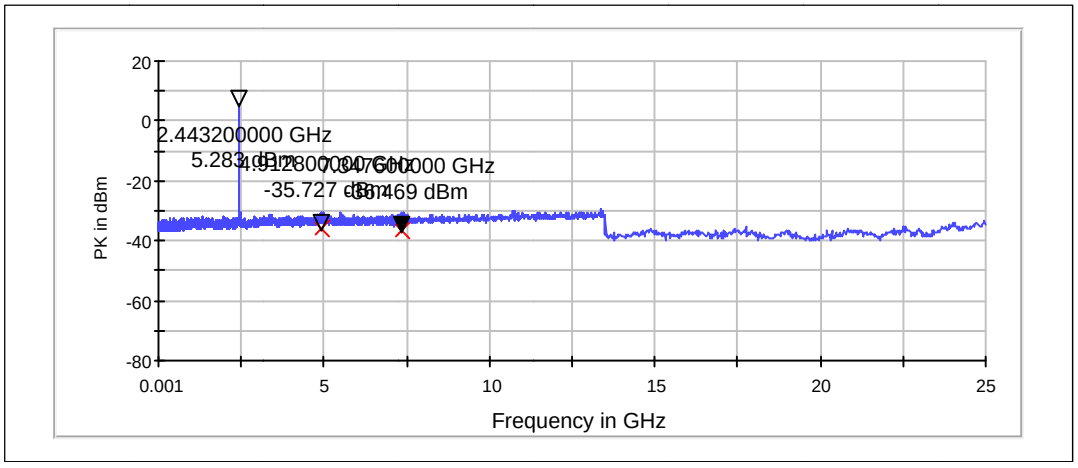


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4853.6	-37.54	PASSED
7260	-37.45	PASSED

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

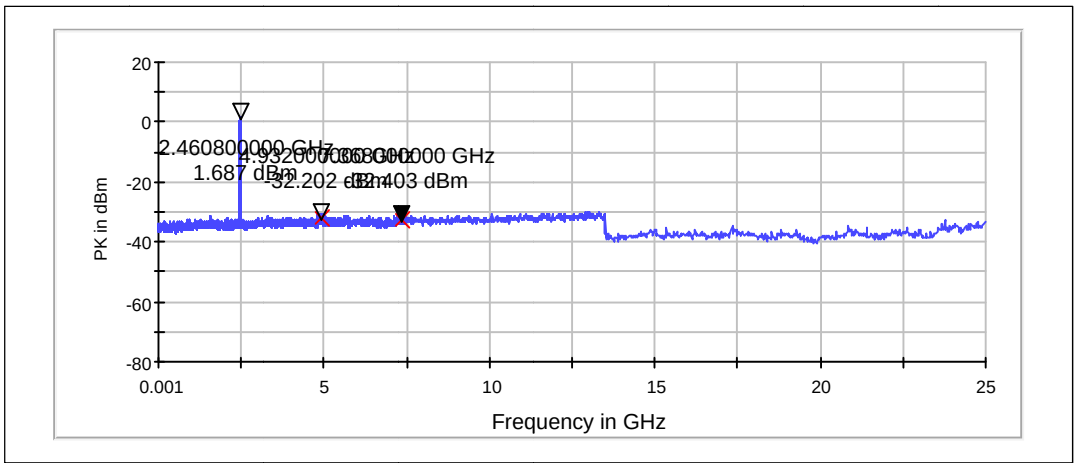
Channel 7 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4912.8	-35.73	PASSED
7347.6	-36.47	PASSED

Channel 11 / 2462 MHz



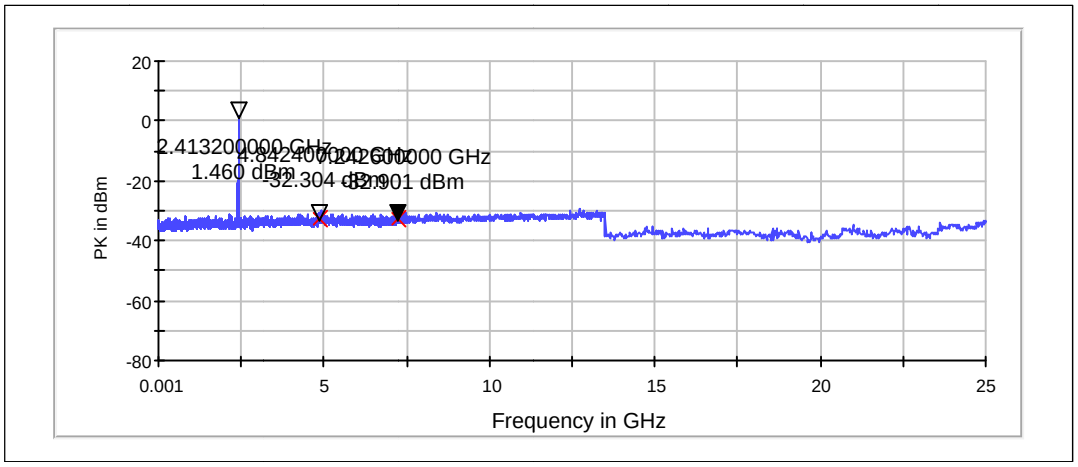
Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4932	-32.2	PASSED
7368	-32.4	PASSED

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

3.3.3 802.11n HT20 MCS 0

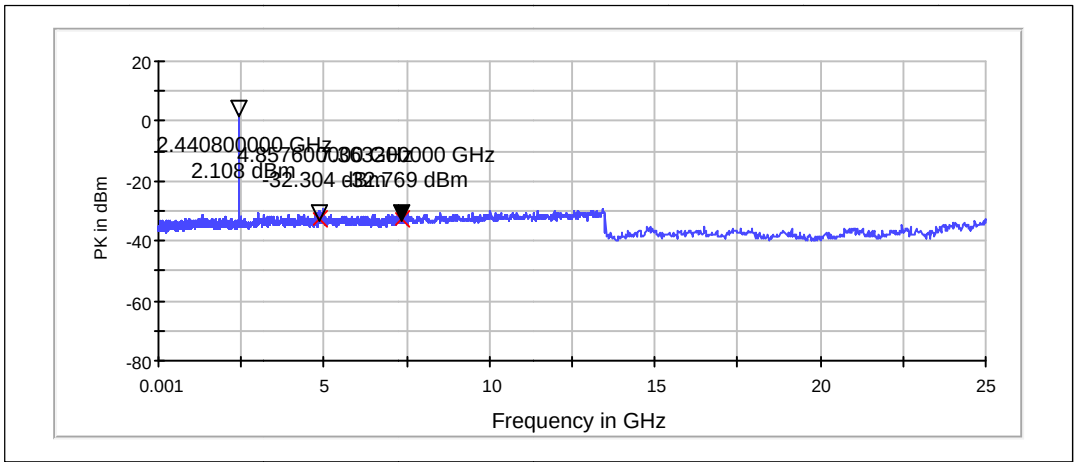
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4842.4	-32.3	PASSED
7242.6	-32.9	PASSED

Channel 7 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4857.6	-32.3	PASSED
7363.2	-32.77	PASSED

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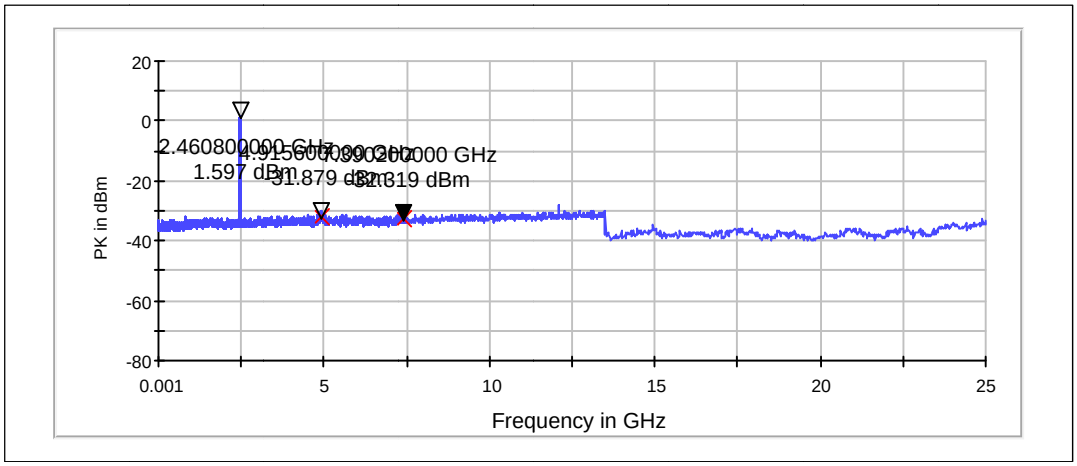
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 11 / 2462 MHz



Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4915.6	-31.88	PASSED
7390.2	-32.32	PASSED

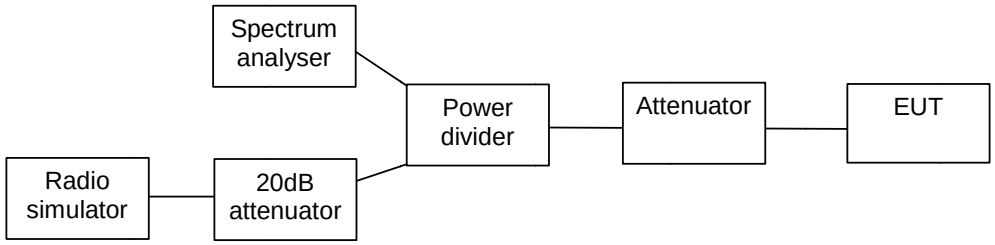
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

4. 6 dB bandwidth

(FCC §15.247(a)(2), RSS-210 A8.2 (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]	22 / 41 / 101
Date of measurements	18-Aug-2011
Measured by	Christian Andersen

4.1. Test Setup



4.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for 6 dB bandwidth measurements

Limit [kHz]
>= 500

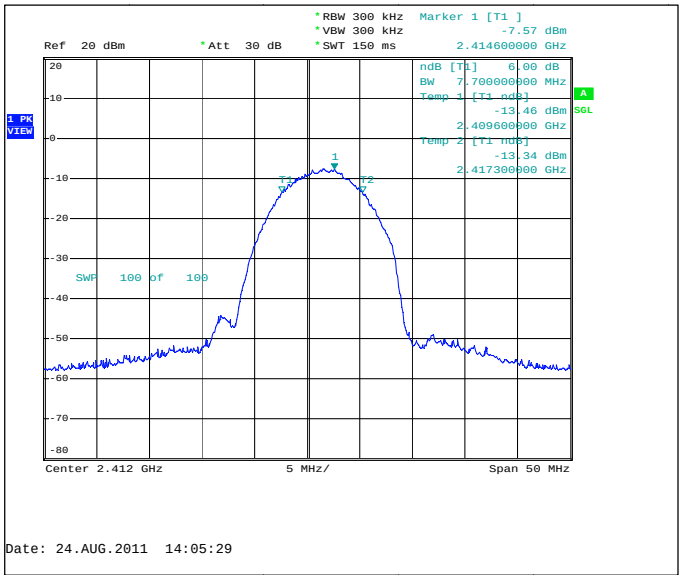
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

4.3. WLAN Test results

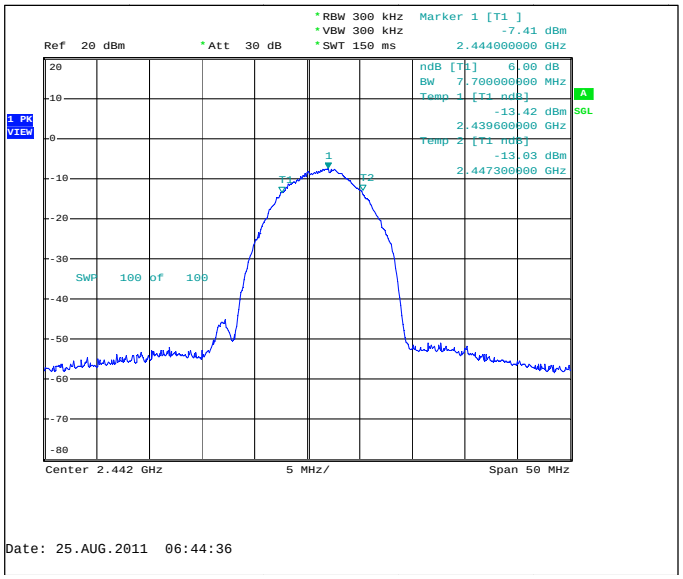
4.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	7700	PASSED
7 / 2442	7700	PASSED
11 / 2462	7500	PASSED

Channel 1 / 2412 MHz

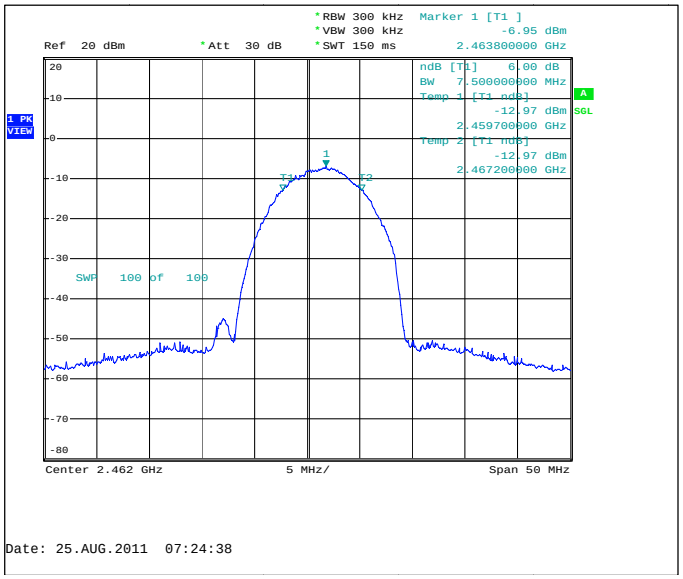


Channel 7 / 2442 MHz



TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

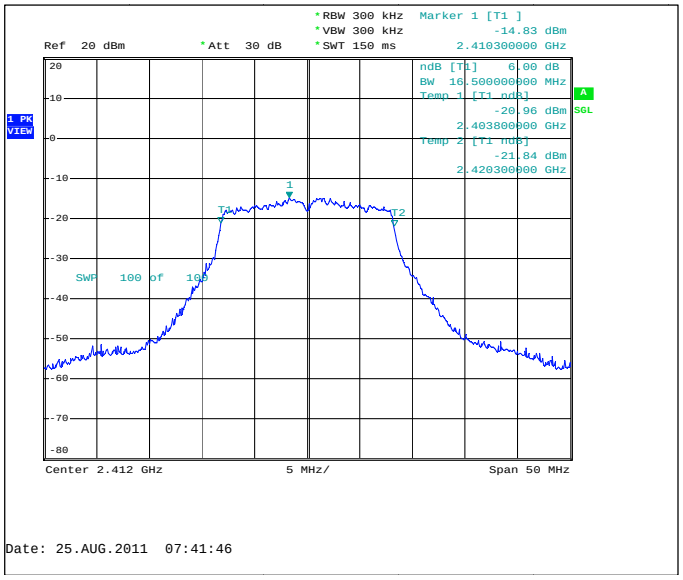
Channel 11 / 2462 MHz



4.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

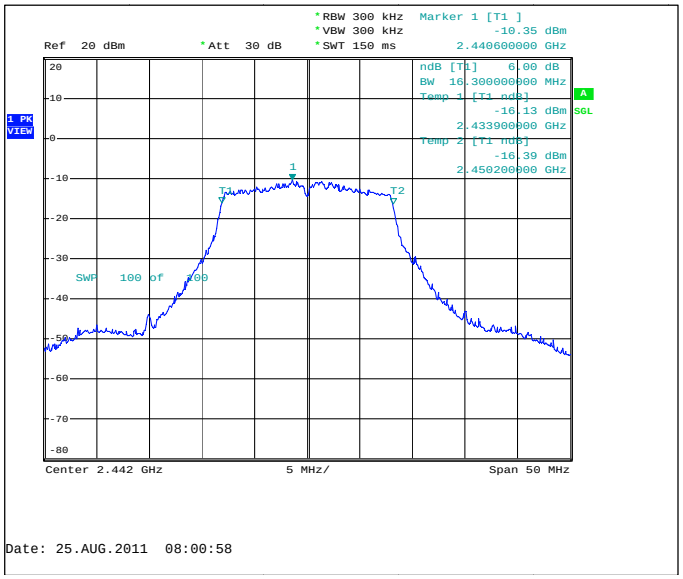
Channel / f_C [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	16500	PASSED
7 / 2442	16300	PASSED
11 / 2462	16400	PASSED

Channel 1 / 2412 MHz

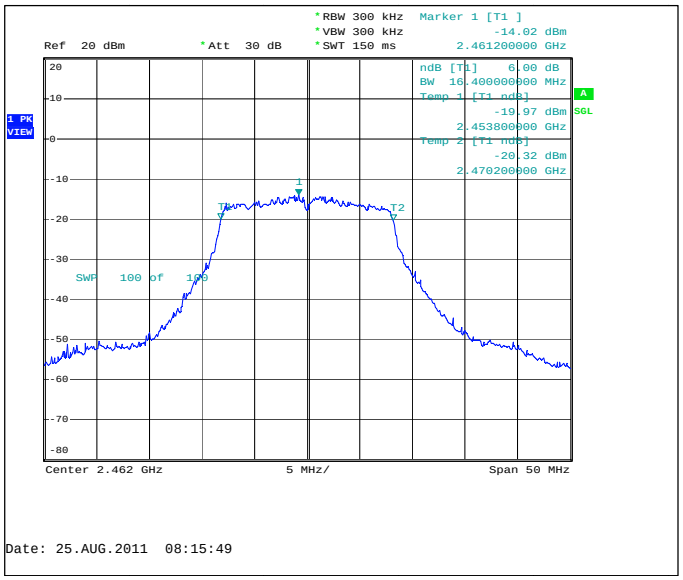


TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 7 / 2442 MHz



Channel 11 / 2462 MHz

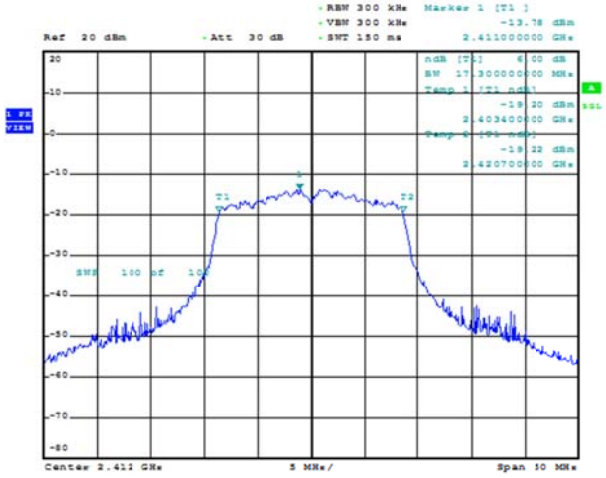


4.3.3 802.11n HT20 MCS 0

	6 dB bandwidth [kHz]	Result
1 / 2412	17300	PASSED
7 / 2442	17400	PASSED
11 / 2462	17300	PASSED

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 1 / 2412 MHz



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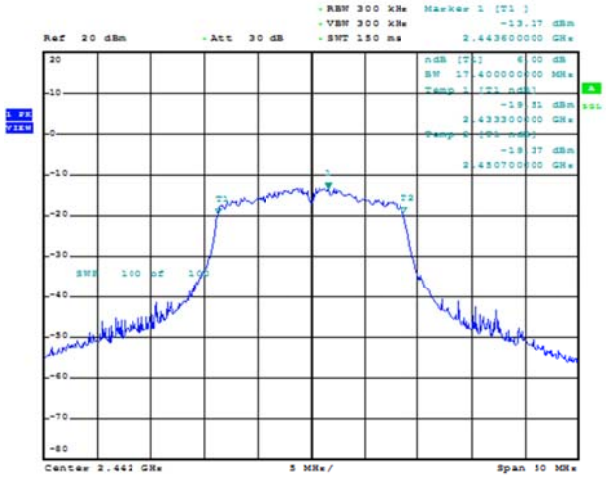
Channel 7 / 2442 MHz



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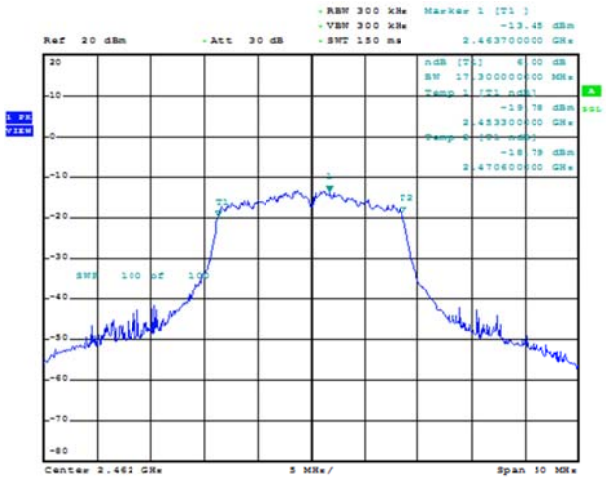
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 11 / 2462 MHz



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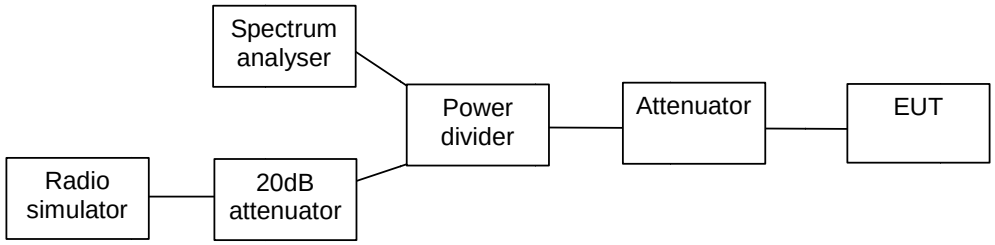
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

5. Power spectral density
(FCC §15.247(e), RSS-210 A8.2 (2))

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]	22 / 41 /101
Date of measurements	18-Aug-2011
Measured by	Christian Andersen

5.1. Test Setup



5.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for power spectral density measurements

Limit [dBm] @ 3 kHz
<= 8

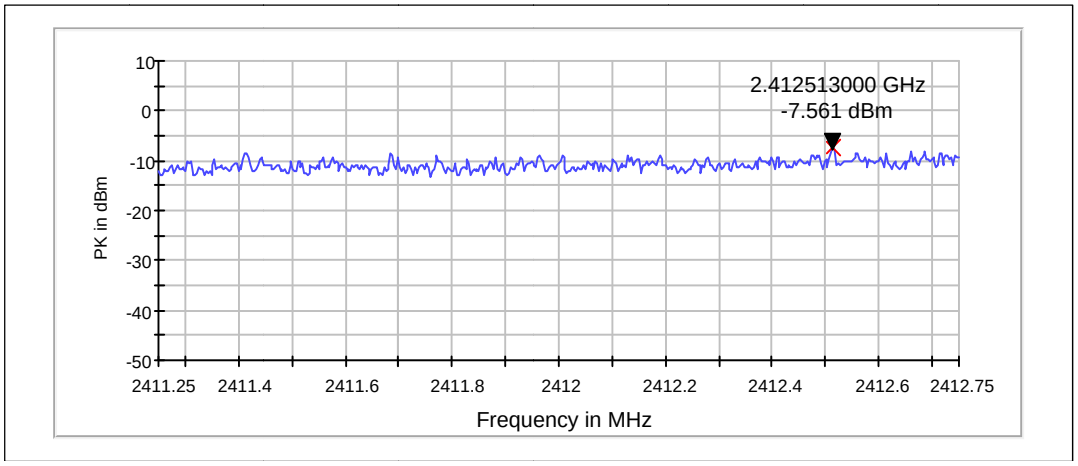
TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

5.3. WLAN Test results

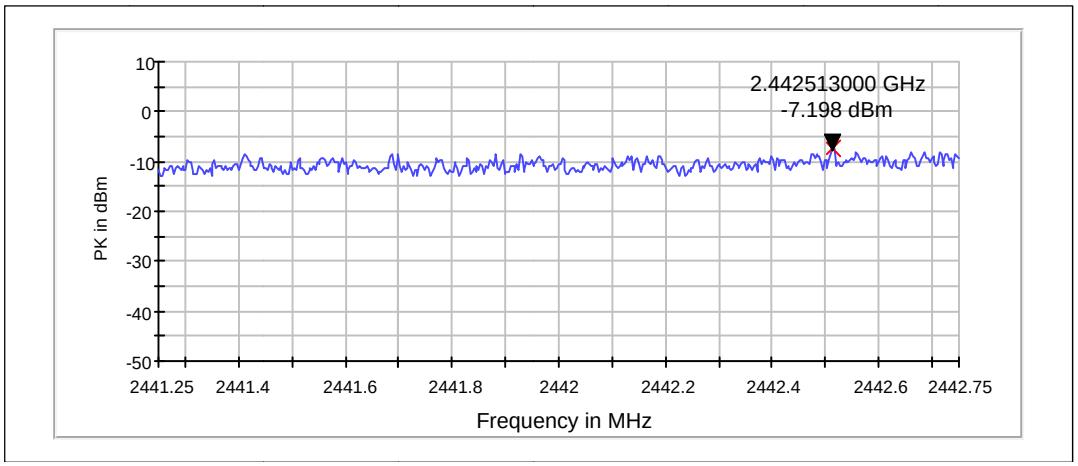
5.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-7.56	PASSED
7 / 2442	-7.2	PASSED
11 / 2462	-7.29	PASSED

Channel 1 / 2412 MHz

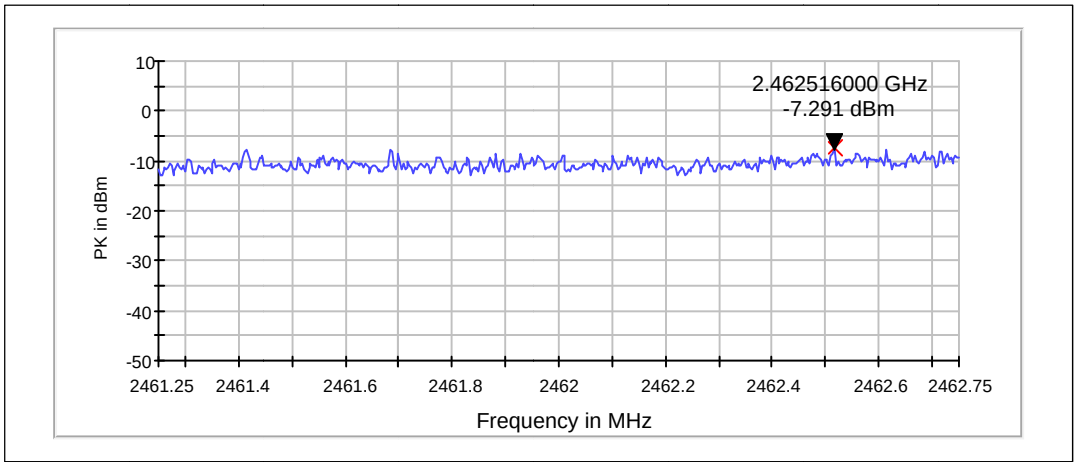


Channel 7 / 2442 MHz



TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

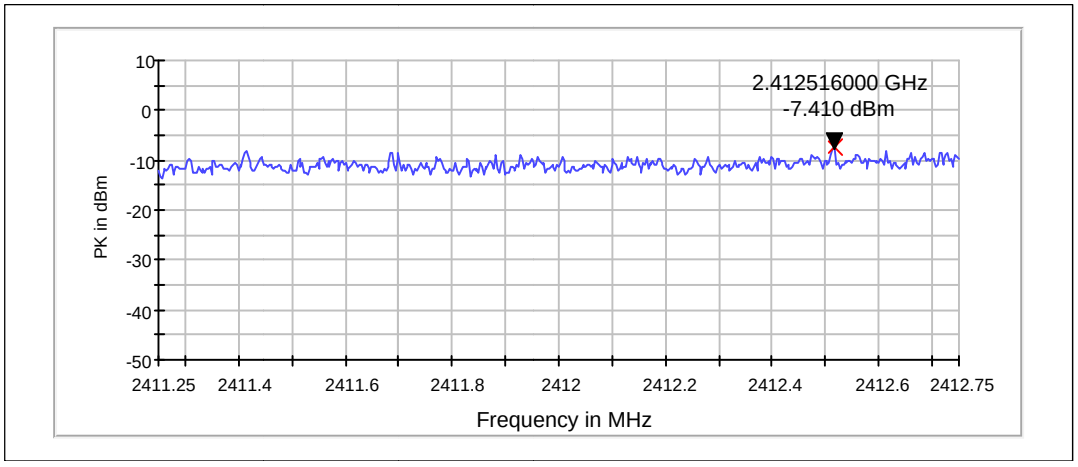
Channel 11 / 2462 MHz



5.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

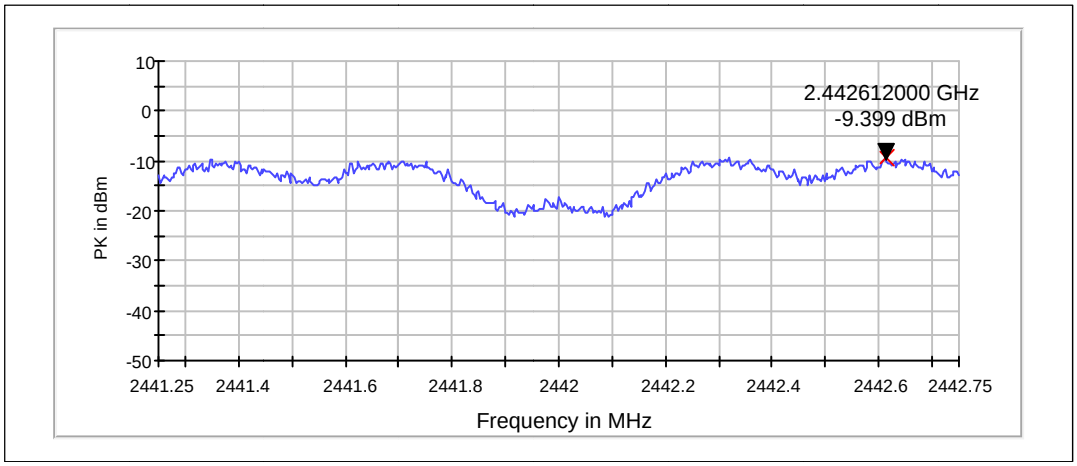
Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-7.41	PASSED
7 / 2442	-9.4	PASSED
11 / 2462	-13.09	PASSED

Channel 1 / 2412 MHz

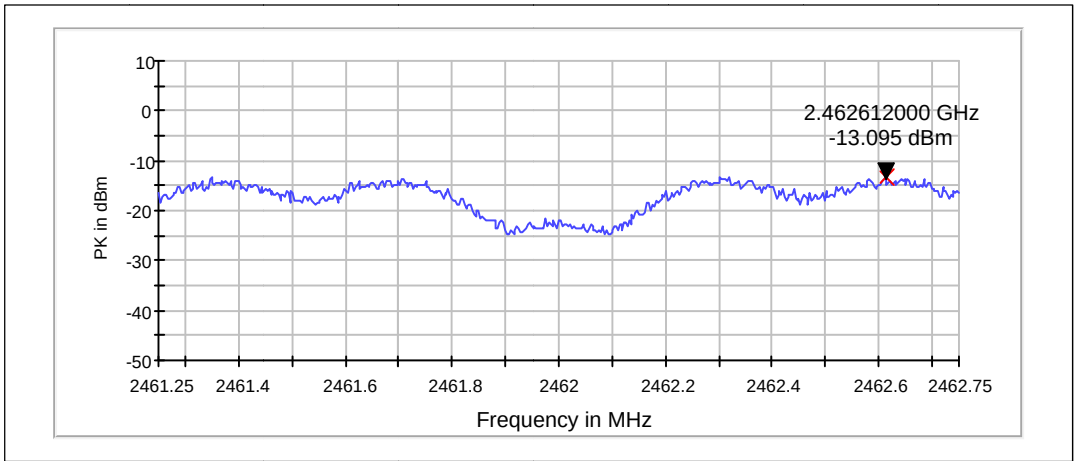


TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 7 / 2442 MHz



Channel 11 / 2462 MHz

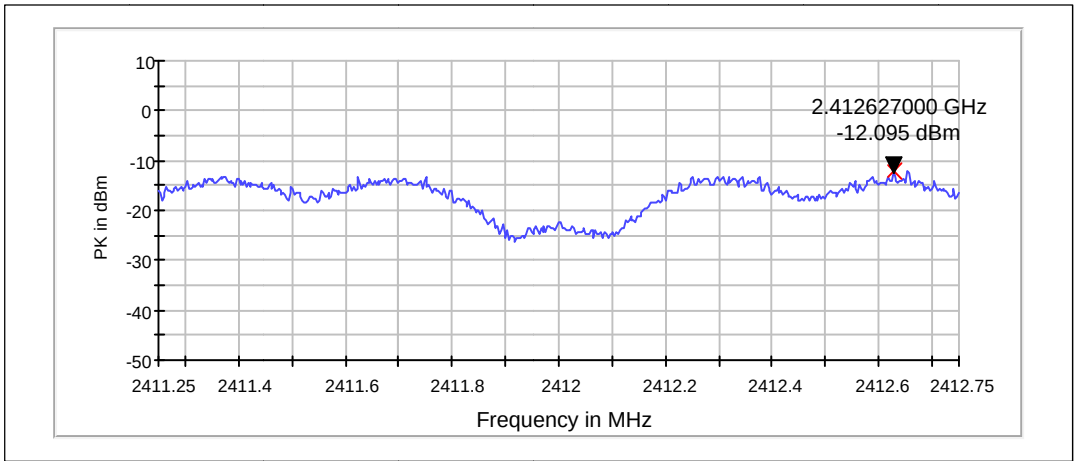


TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

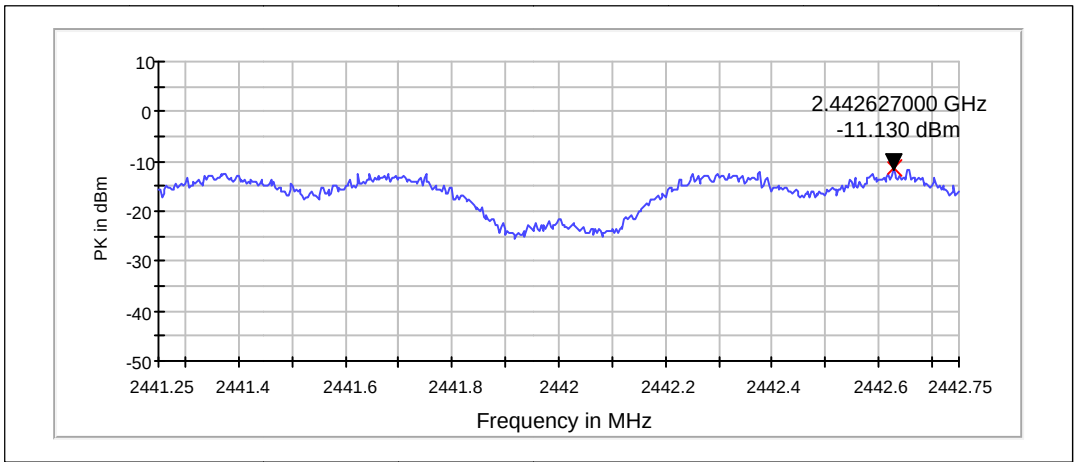
5.3.3 802.11n HT20 MCS 0

Channel / f_C [MHz]	P [dBm]	Result
1 / 2412	-12.1	PASSED
7 / 2442	-11.13	PASSED
11 / 2462	-11.77	PASSED

Channel 1 / 2412 MHz

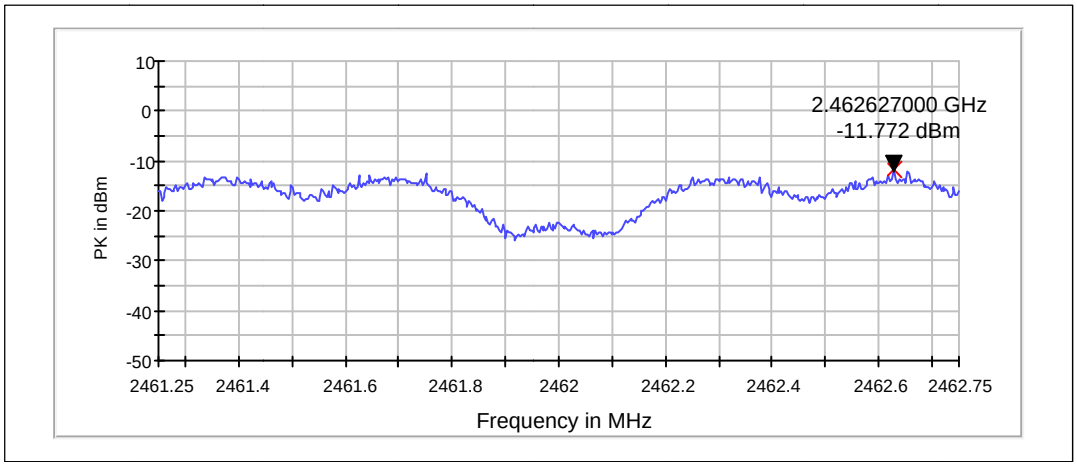


Channel 7 / 2442 MHz



TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

Channel 11 / 2462 MHz



TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

6. Test Equipment

6.1. 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

6.2. 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

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934

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

TCC Nokia Copenhagen Laboratory
Frederikskaj
1790 COPENHAGEN V
DENMARK
Tel. +45 33 292929
Fax. +45 33 292934