

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-809_19.docx	Date of Report:	12-Oct-2011
Number of pages:	41	Customer's Contact person:	Abadilla Victoria
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	Customer:	Nokia Corporation 16620 West Bernardo Drive San Diego, CA 92127 USA Tel. +1 858 831 5000 Fax. +1 858 831 6500
FCC listing no.:			
IC recognition no.:			
Tested devices/ accessories:	Phone RM-809 / Battery BP-3L / USB Cable CA-101 / Headset WH-208 / AC Charger AC-10UC		
FCC ID:	QMNRM-809	IC:	661X-RM809
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:			

Christian Andersen, System Specialist, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	08-Sep-2011
Testing completed	30-Sep-2011
The customer's contact person	Abadilla Victoria
Test Plan referred to	T:\Projects\RM-809\TestPlan\RS_testplan_RM-809.xls
Notes	-
Document name	T:\Projects\RM-809\EMC\FCC15CWLAN_RM-809_19.docx

1.1. EUT and Accessory Information

The EUT is a 10-band mobile phone:

GSM850/900/1800/1900/GPRS/EGPRS/Monopole without GND reflector (GSM/WCDMA)

WCDMA I/II(1900)/IV(1700)/V(850)/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-809	004402/13/651115/5	0111	-	1600.2201.7 720.11350	23476
AC Charger	AC-10UC	3997910023090100772;0675474	-	-	-	23458
Phone	RM-809	004402/13/651134/6	0111	-	1600.2201.7 720.11350	23485
Battery	BP-3L	3932131282140100897;0670635	-	-	-	23467
Headset	WH-208	372	-	-	-	23454
USB Cable	CA-101	07306349204X1220633	-	-	-	23452

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	PASSED
15.247(d)	A8(0.5)	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8(0.5)	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8(0.1(1))	6dB(bandwidth)	PASSED
15.247(e)	A8(0.1(2))	Power spectral density	PASSED

PASSED
FAILED
NP

The EUT complies with the essential requirements in the standard.
The EUT does not comply with the essential requirements in the standard.
The test was not performed by the TCC Nokia Laboratory.

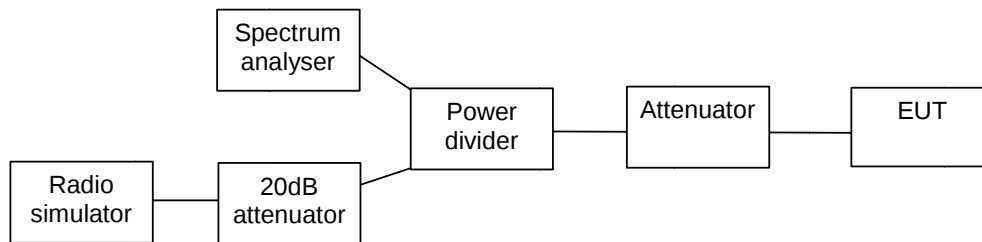
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2. Conducted peak output power (15.247(b)(1), RSS-210 A8.4 (4))

EUT with DUT number	RM-809, DUT 23476
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 47 / 102.1
Date of measurements	23-Sep-2011
Measured by	Ruben Hansen

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

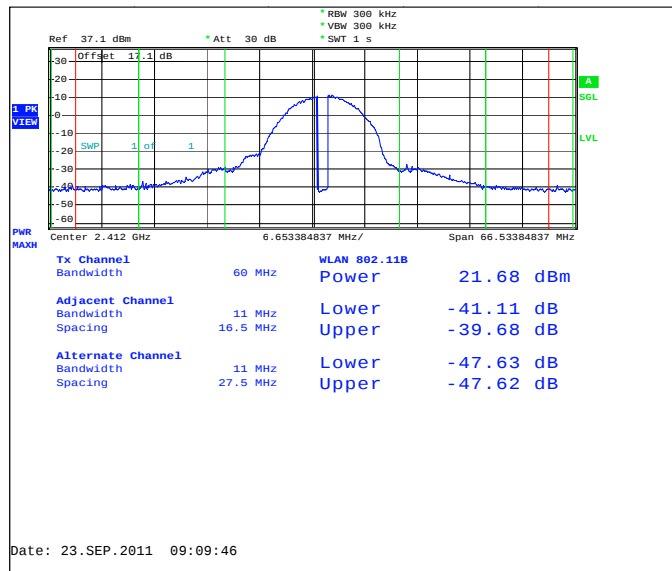
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

2.3. WLAN Test results

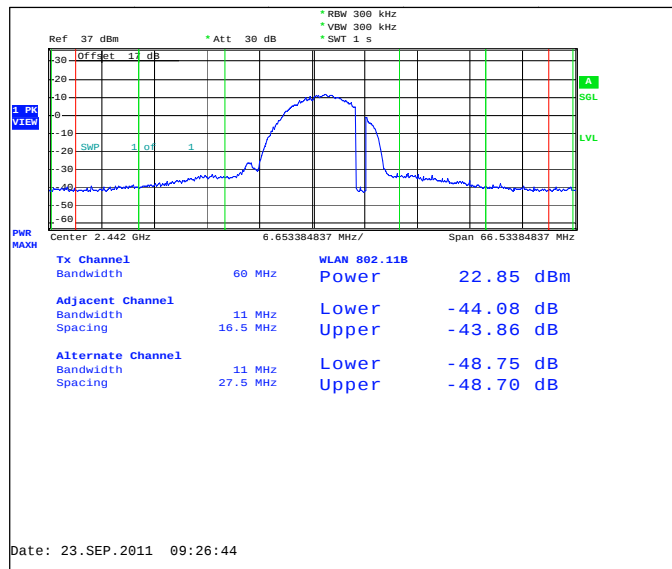
2.3.1 DSSS mode, 11 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
1 / 2412	21.68	147.231	PASSED
7 / 2442	22.85	192.752	PASSED
11 / 2462	23.41	219.28	PASSED

Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Ref 36.9 dBm * Att 30 dB * RBW 300 kHz
* VBW 300 kHz * SWT 1 s

Offset 16.9 dB

1 PK VIEW

SGL

LVL

PWR MAX

Center 2.462 GHz 6.653384837 MHz/ Span 66.53384837 MHz

Channel	Bandwidth	Power
Tx Channel	60 MHz	23.41 dBm
Adjacent Channel	11 MHz	-45.42 dB
Spacing	16.5 MHz	-44.01 dB
Alternate Channel	11 MHz	-49.45 dB
Bandwidth	11 MHz	-49.49 dB
Spacing	27.5 MHz	-49.49 dB

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
1 / 2412	17.73	59.293	PASSED
7 / 2442	22.6	181.97	PASSED
11 / 2462	17.91	61.802	PASSED

Ref 37.1 dBm Att 30 dB RBW 300 kHz VBW 300 kHz SWT 1 s

Offset 12.1 dB

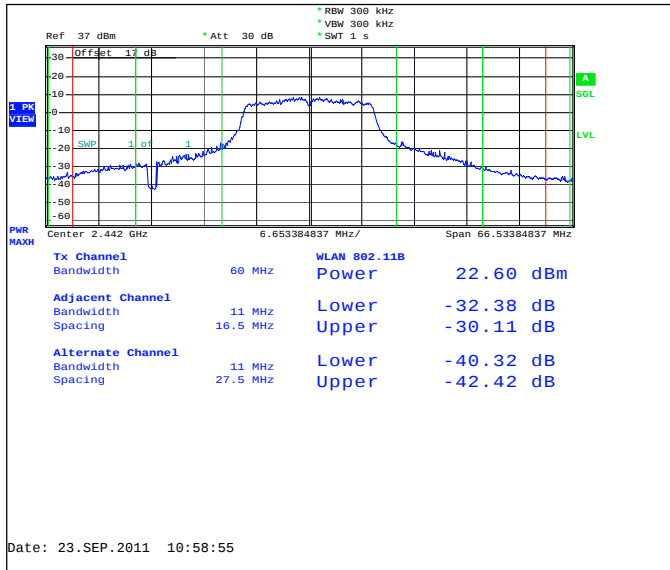
1 PR VIEW

PWR MAXH

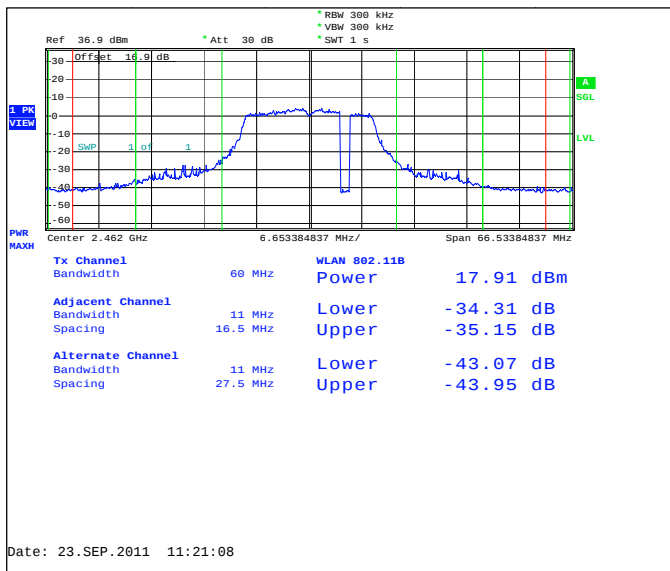
Center 2.412 GHz 6.653384837 MHz/Span 66.53384837 MHz

Tx Channel		WLAN 802.11B	
Bandwidth	60 MHz	Power	-17.73 dBm
Adjacent Channel		Lower	-34.45 dB
Bandwidth	11 MHz	Upper	-33.32 dB
Spacing	16.5 MHz		
Alternate Channel		Lower	-42.66 dB
Bandwidth	11 MHz	Upper	-43.22 dB
Spacing	27.5 MHz		

Channel 7 / 2442 MHz



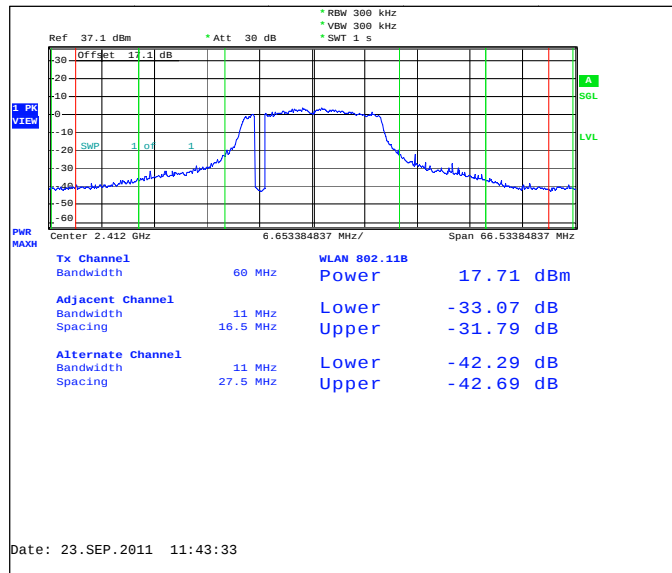
Channel 11 / 2462 MHz



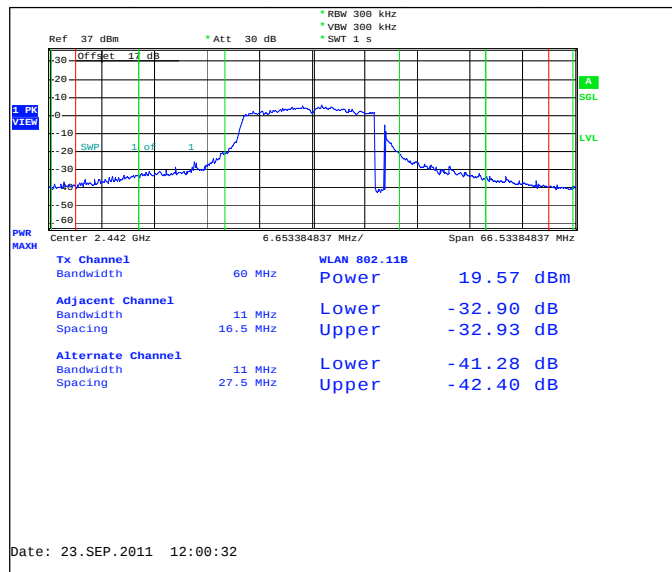
2.3.3 802.11n mode, MSC 0 modulation, 200 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
1 / 2412	17.71	59.02	PASSED
7 / 2442	19.57	90.573	PASSED
11 / 2462	18.17	65.615	PASSED

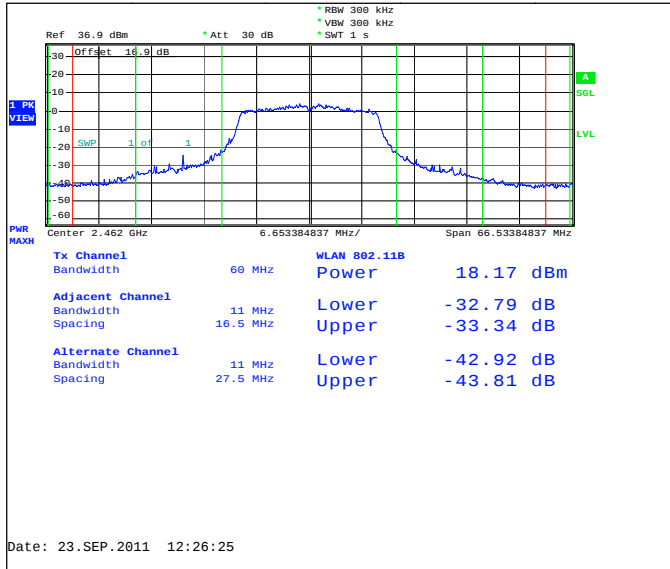
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



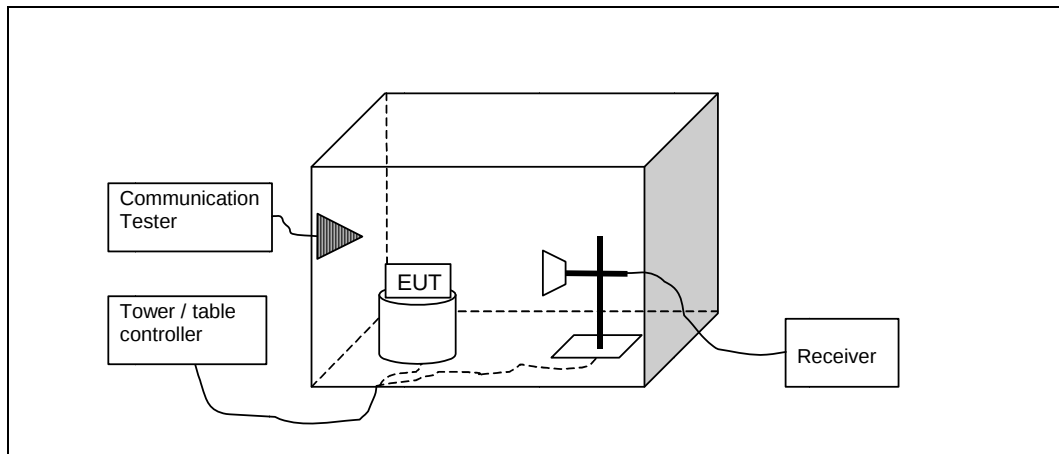
Channel 11 / 2462 MHz



3. Band edge compliance of RF emissions (FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-809, DUT 23485
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 47 / 102.1
Date of measurements	30-Sep-2011
Measured by	Christian Andersen

3.1.1 Test Setup



3.2. Test method and limit

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

Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit Average [dBμV/m]	Limit Peak [dBμV/m]
Below 2390 and above 2483.5	<=54	<=74

3.3. WLANg Test results

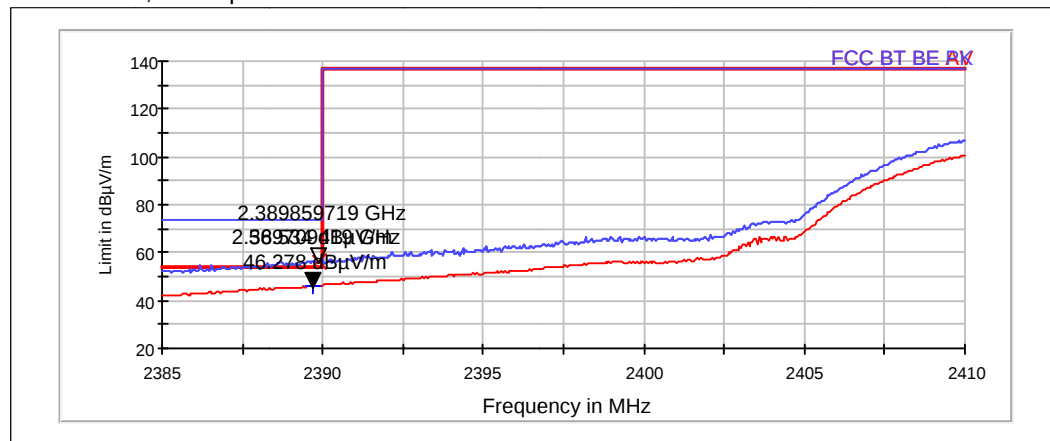
Average (RBW: 1 MHz, VBW: 1 MHz)

Channel / f_c [MHz]	E [dB μ V/m]	Result
1 / 2412 (DSSS)	46.28	PASSED
1 / 2412 (OFDM)	50.59	PASSED
1 / 2412 (802.11n)	51.2	PASSED
11 / 2462 (DSSS)	46.72	PASSED
11 / 2462 (OFDM)	53.29	PASSED
11 / 2462 (802.11n)	53.69	PASSED

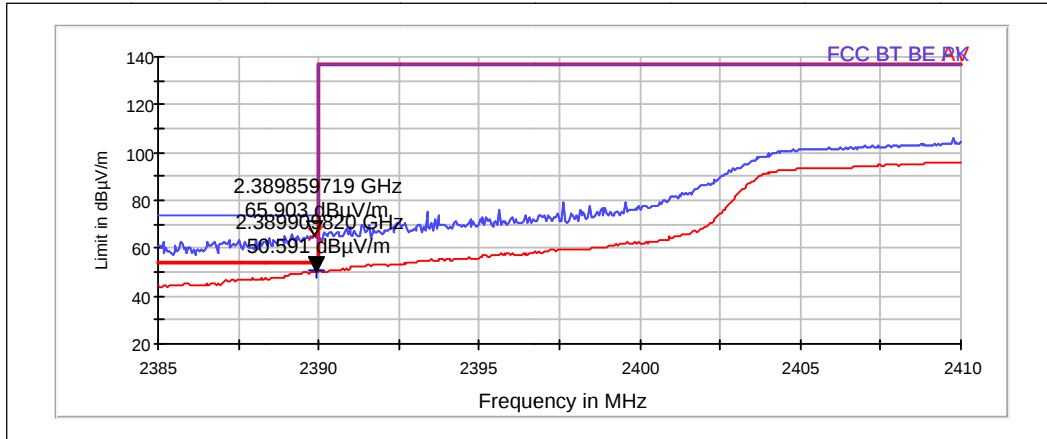
Peak (RBW: 1 MHz, VBW: 1 MHz)

Channel / f_c [MHz]	E [dB μ V/m]	Result
1 / 2412 (DSSS)	56.53	PASSED
1 / 2412 (OFDM)	65.9	PASSED
1 / 2412 (802.11n)	66.56	PASSED
11 / 2462 (DSSS)	57.05	PASSED
11 / 2462 (OFDM)	69.27	PASSED
11 / 2462 (802.11n)	69.93	PASSED

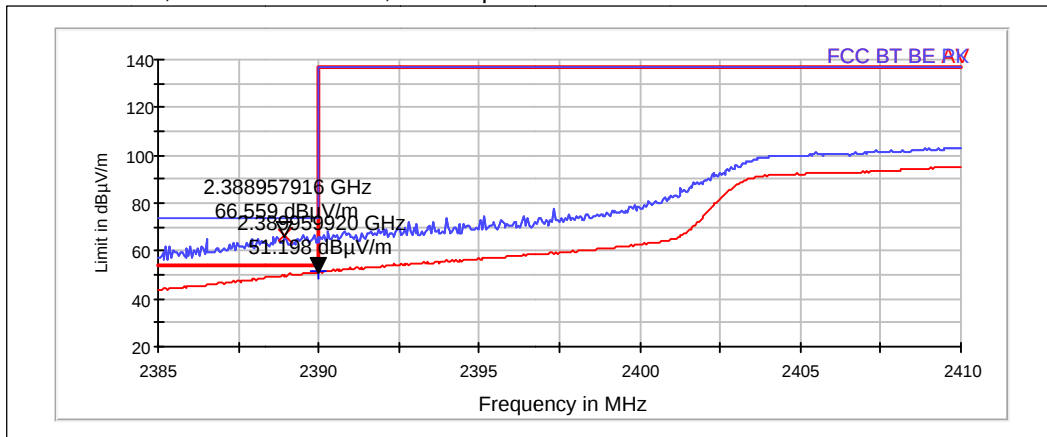
DSSS mode, 11 Mbps data rate. Channel 1 / 2412 MHz



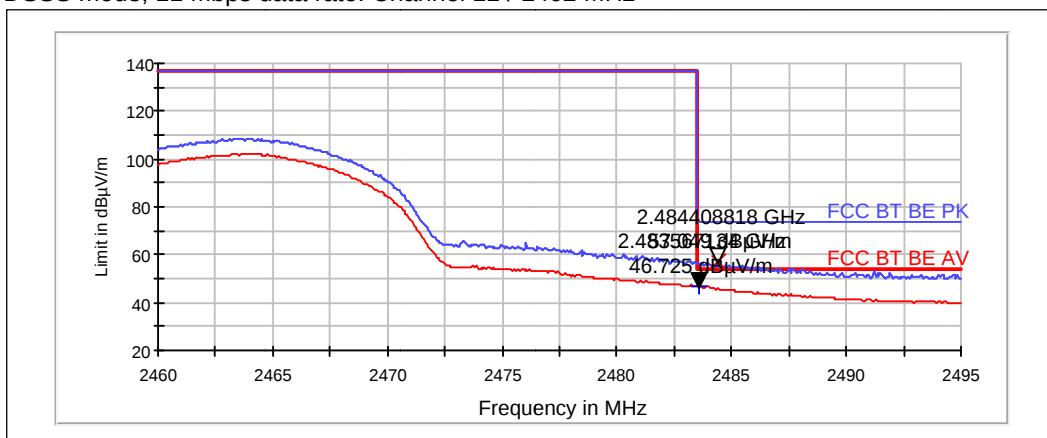
OFDM mode, 6 Mbps data rate. Channel 1 / 2412 MHz



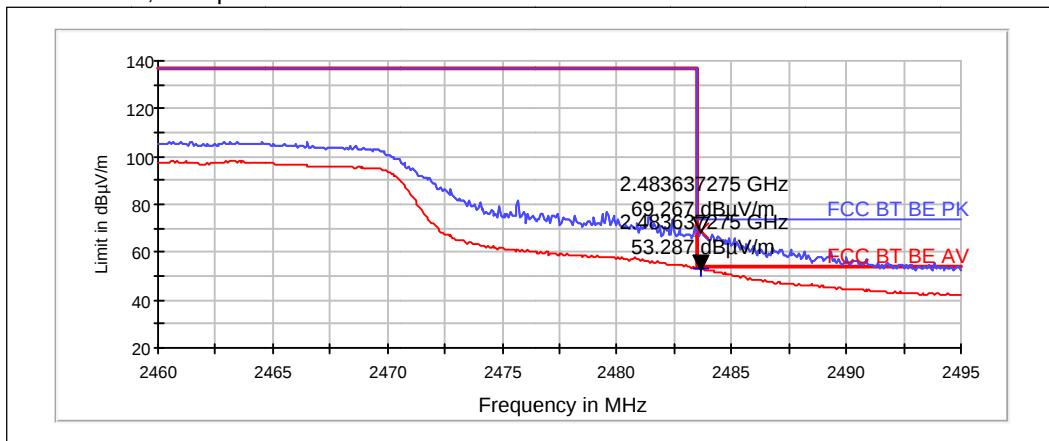
802.11n mode, MSC 0 modulation, 200 Mbps data rate. Channel 1 / 2412 MHz



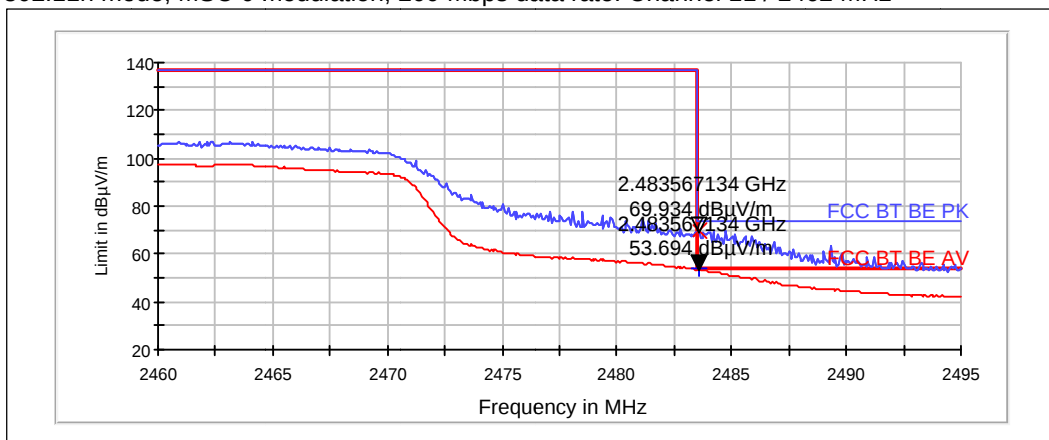
DSSS mode, 11 Mbps data rate. Channel 11 / 2462 MHz



OFDM mode, 6 Mbps data rate. Channel 11 / 2462 MHz



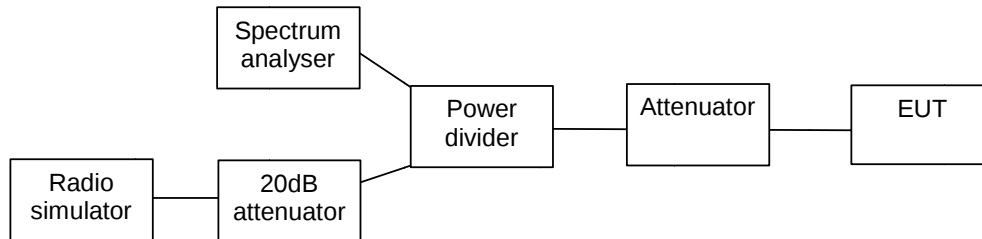
802.11n mode, MSC 0 modulation, 200 Mbps data rate. Channel 11 / 2462 MHz



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

EUT with DUT number	RM-809, DUT 23476
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 47 / 102.1
Date of measurements	23-Sep-2011
Measured by	Ruben Hansen

4.1. Test Setup



4.2. Test method and limit

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

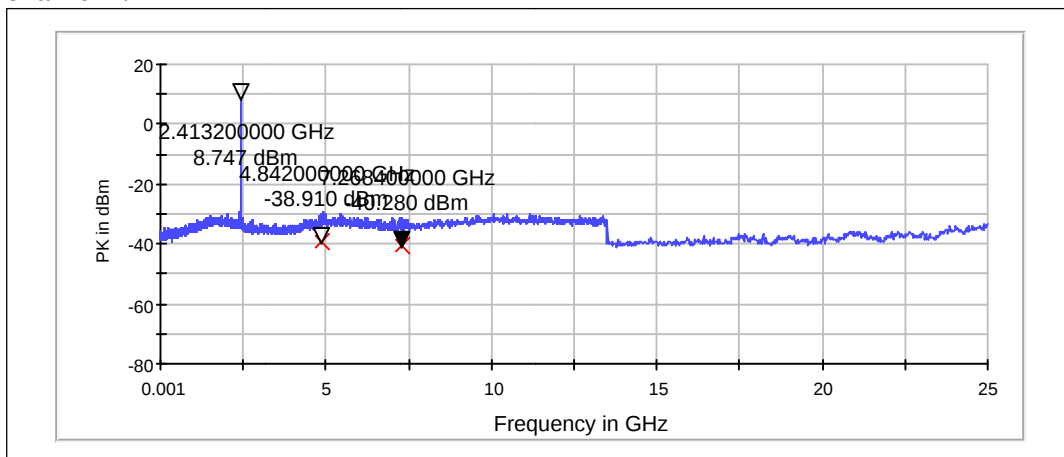
Limits for spurious RF conducted emissions measurements

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

4.3. WLAN Test results

4.3.1 DSSS mode, 11 Mbps data rate

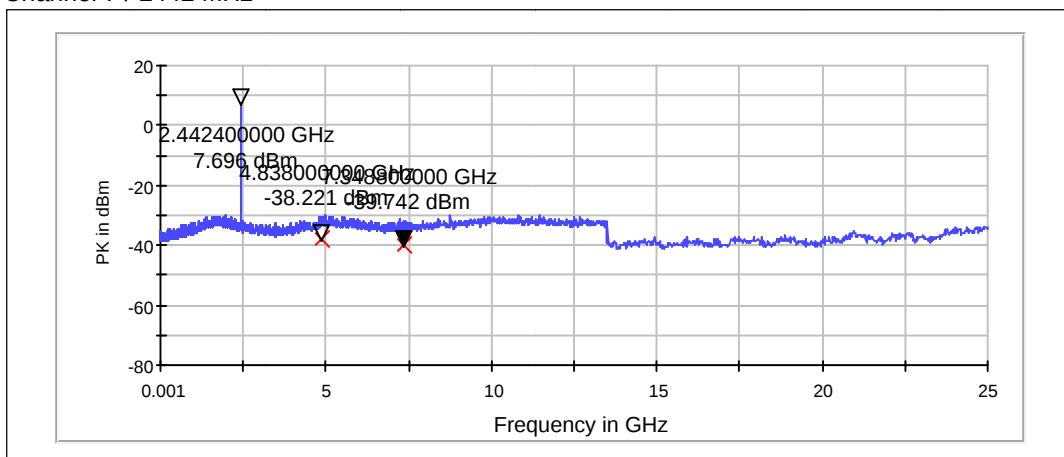
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4842	-38.91	PASSED
7268.4	-40.28	PASSED

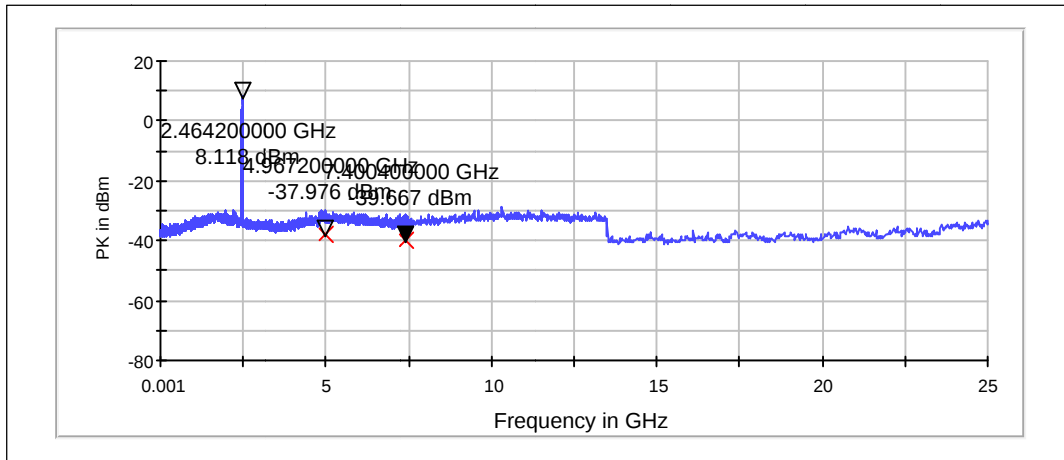
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4838	-38.22	PASSED
7348.8	-39.74	PASSED

Channel 11 / 2462 MHz

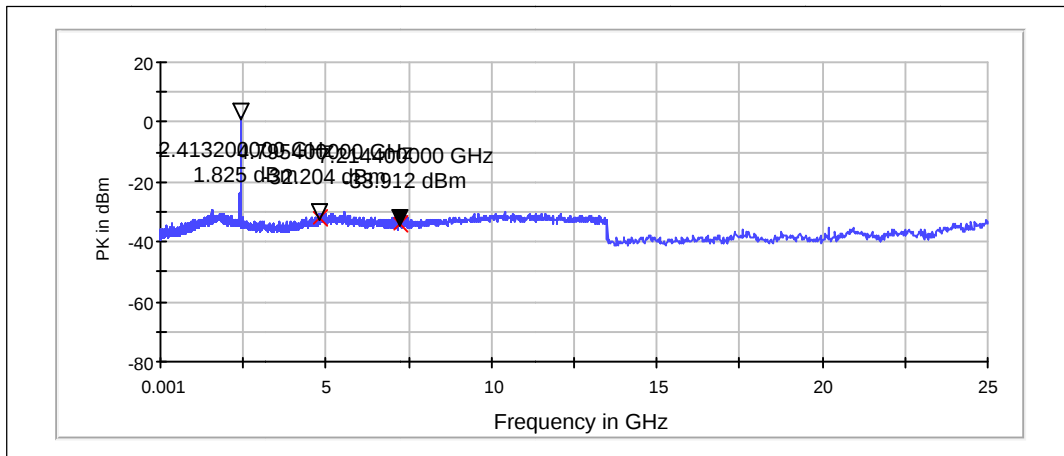


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4967.2	-37.98	PASSED
7400.4	-39.67	PASSED

4.3.2 OFDM mode, 6 Mbps data rate

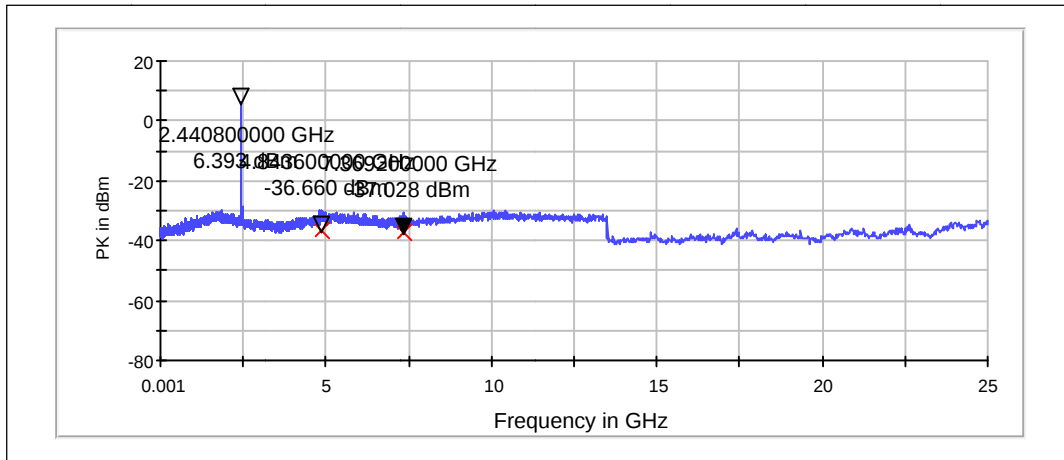
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4795.4	-32.2	PASSED
7214.4	-33.91	PASSED

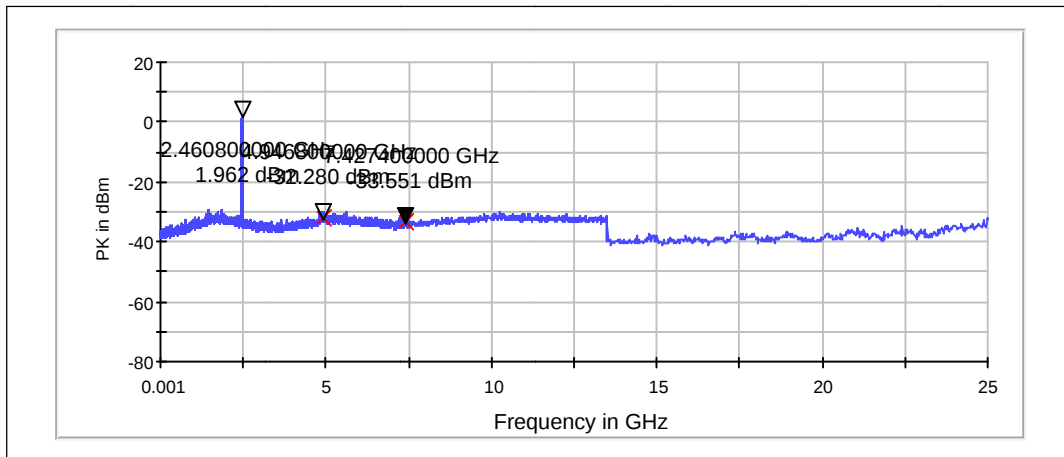
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4843.6	-36.66	PASSED
7369.2	-37.03	PASSED

Channel 11 / 2462 MHz

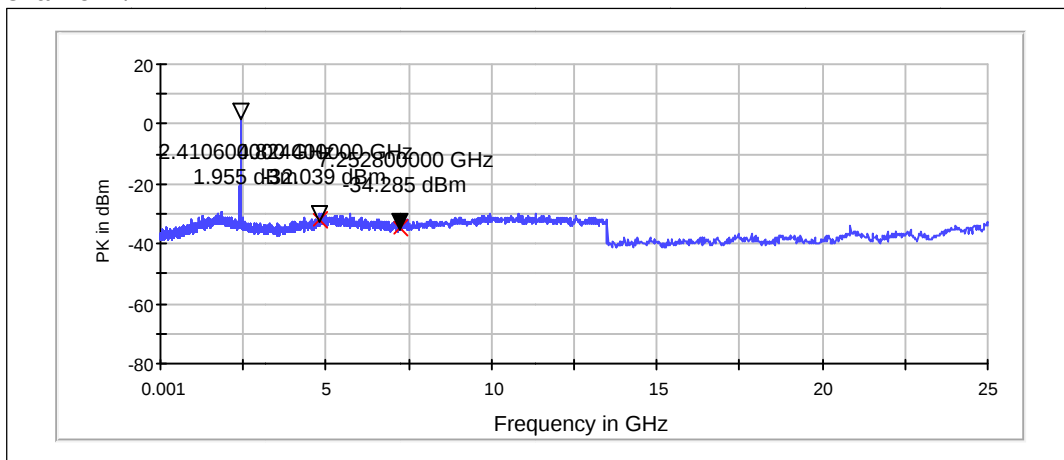


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4946.8	-32.28	PASSED
7427.4	-33.55	PASSED

4.3.3 802.11n mode, MSC 0 modulation, 200 Mbps data rate

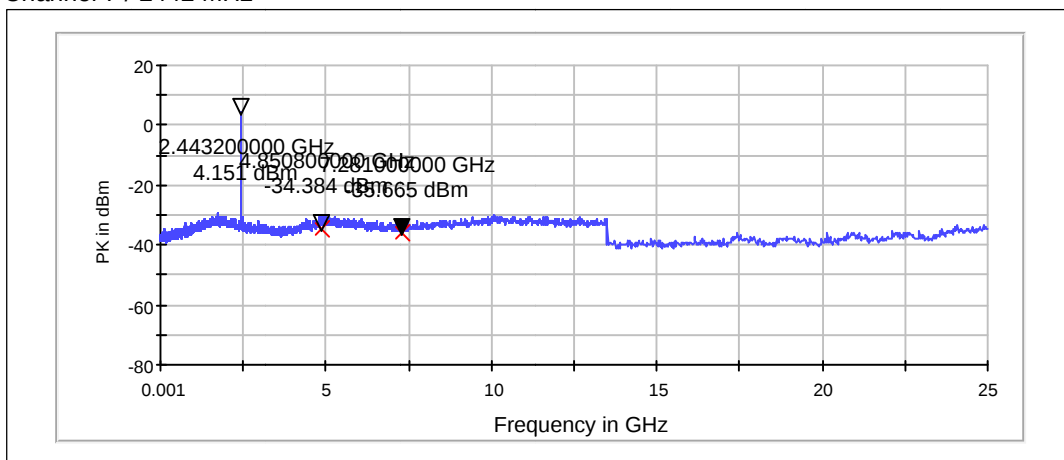
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4824.4	-32.04	PASSED
7252.8	-34.28	PASSED

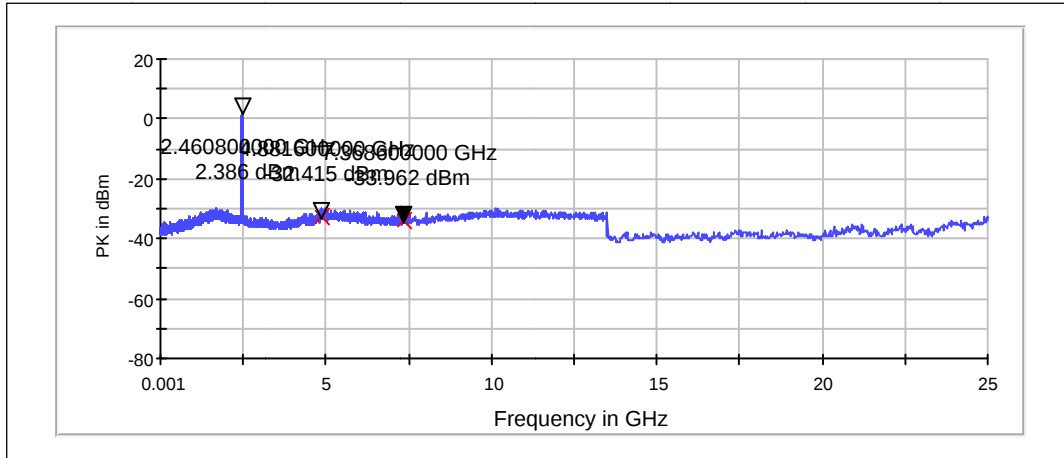
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4850.8	-34.38	PASSED
7281	-35.66	PASSED

Channel 11 / 2462 MHz



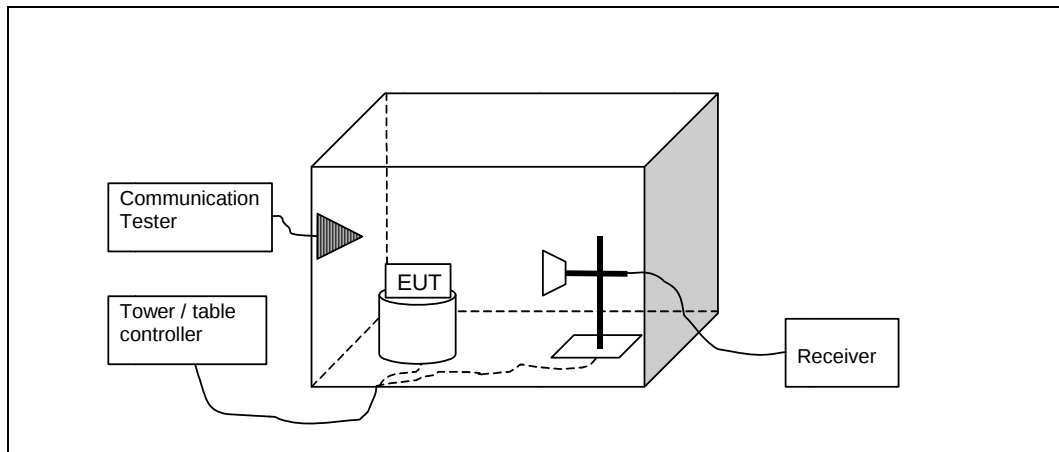
Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4881.6	-32.41	PASSED
7368.6	-33.96	PASSED

5. Spurious radiated emissions (FCC §15.247(d), §15.209, RSS-210 A8.5)

EUT with DUT number	RM-809, DUT 23485
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	23 / 47 / 100.3
Date of measurements	23-Sep-2011
Measured by	Christian Andersen

5.1.1 Test Setup



5.2. Test method and limit

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

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

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

Limits for spurious radiated emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit [$\mu V/m$]	Limit [dB $\mu V/m$]	Detector
30 - 88	100	40	Quasi peak
88 - 216	150	43.5	Quasi peak
216 - 960	200	46	Quasi peak
960 - 1000	500	54	Quasi peak
Above 1000	500	54	Average
Above 1000	5000	74	Peak

5.3. WLAN Test results

5.3.1 DSSS mode, 11 Mbps data rate

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
4822.6	41.94	125.069	40.29	1.65	VERTICAL	Passed
7236.6	47.74	243.781	37.5	10.24	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
4822.6	28.53	26.69	26.88	1.65	VERTICAL	Passed
7236.6	34.84	55.176	24.6	10.24	HORIZONTAL	Passed

Channel 7 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
30.09	21.02	11.249	25.57	-4.55	HORIZONTAL	Passed
30.21	20.94	11.138	25.58	-4.64	HORIZONTAL	Passed
30.24	20.92	11.111	25.58	-4.66	HORIZONTAL	Passed
30.36	20.83	11.001	25.57	-4.74	HORIZONTAL	Passed
68.949	23.74	15.382	45.17	-21.43	VERTICAL	Passed
69.058	23.85	15.583	45.24	-21.39	VERTICAL	Passed
69.108	23.93	15.716	45.3	-21.37	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
3941.179	38.44	83.531	39.55	-1.11	VERTICAL	Passed
4884.068	48.65	270.77	46.83	1.82	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
3941.179	25.93	19.786	27.04	-1.11	VERTICAL	Passed
4884.068	36.67	68.179	34.85	1.82	HORIZONTAL	Passed

Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4924	51.39	371.193	49.24	2.15	HORIZONTAL	Passed
7387.9	48.75	273.747	37.24	11.51	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
4924	39.44	93.767	37.29	2.15	HORIZONTAL	Passed
7387.9	35.69	60.905	24.18	11.51	VERTICAL	Passed

5.3.2 OFDM mode, 6 Mbps data rate

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
4822.6	49.15	286.715	47.5	1.65	HORIZONTAL	Passed
7236.8	48.28	259.269	38.03	10.25	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
4822.6	34.83	55.144	33.18	1.65	HORIZONTAL	Passed
7236.8	35.14	57.174	24.89	10.25	HORIZONTAL	Passed

Channel 7 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
30.57	19.31	9.238	26.64	-7.33	VERTICAL	Passed
30.57	20.6	10.718	25.49	-4.89	HORIZONTAL	Passed
31.89	18.15	8.083	23.99	-5.84	HORIZONTAL	Passed
68.949	23.51	14.973	44.94	-21.43	VERTICAL	Passed
69.008	23.51	14.983	44.91	-21.4	VERTICAL	Passed
69.138	23.68	15.267	45.04	-21.36	VERTICAL	Passed
826.963	22.76	13.734	27.11	-4.35	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
4879.459	52.2	407.333	50.36	1.84	HORIZONTAL	Passed
4883.37	52.45	419.276	50.63	1.82	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
4879.459	37.97	79.132	36.13	1.84	HORIZONTAL	Passed
4883.37	37.84	78.019	36.02	1.82	HORIZONTAL	Passed

Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4922.7	47.21	229.324	45.07	2.14	HORIZONTAL	Passed
7385.4	49.47	297.44	38.03	11.44	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
4922.7	33.61	47.918	31.47	2.14	HORIZONTAL	Passed
7385.4	35.95	62.726	24.51	11.44	HORIZONTAL	Passed

5.3.3 802.11n mode, MSC 0 modulation, 200 Mbps data rate

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
4824.3	48.08	253.513	46.43	1.65	HORIZONTAL	Passed
7236.6	48.79	274.948	38.55	10.24	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
4824.3	34.49	53.046	32.84	1.65	HORIZONTAL	Passed
7236.6	34.95	55.911	24.71	10.24	VERTICAL	Passed

Channel 7 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
30.18	20.96	11.166	25.58	-4.62	HORIZONTAL	Passed
30.27	21.04	11.277	25.72	-4.68	HORIZONTAL	Passed
102.648	27.45	23.572	43.62	-16.17	VERTICAL	Passed
102.787	27.14	22.756	43.28	-16.14	VERTICAL	Passed
103.015	26.89	22.105	42.99	-16.1	VERTICAL	Passed
103.086	27.14	22.738	43.23	-16.09	VERTICAL	Passed
820.98	21.21	11.496	27.17	-5.96	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
3918.54	39.57	95.17	40.68	-1.11	HORIZONTAL	Passed
3933.365	39.2	91.18	40.3	-1.1	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
3918.54	26.21	20.441	27.32	-1.11	HORIZONTAL	Passed
3933.365	26.37	20.823	27.47	-1.1	VERTICAL	Passed

Channel 11 / 2462 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4923.4	46.54	212.349	44.4	2.14	HORIZONTAL	Passed
7384.1	48.71	272.615	37.37	11.34	VERTICAL	Passed

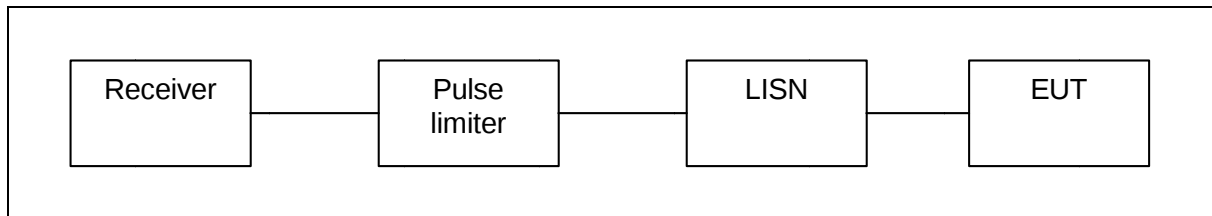
Average(RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4923.4	32.71	43.202	30.57	2.14	HORIZONTAL	Passed
7384.1	35.84	61.944	24.5	11.34	VERTICAL	Passed

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

EUT with DUT number	RM-809, DUT 23485
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 52 / 101.1
Date of measurements	13-Sep-2011
Measured by	Ruben Hansen

6.1.1 Test Setup



6.2. 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.

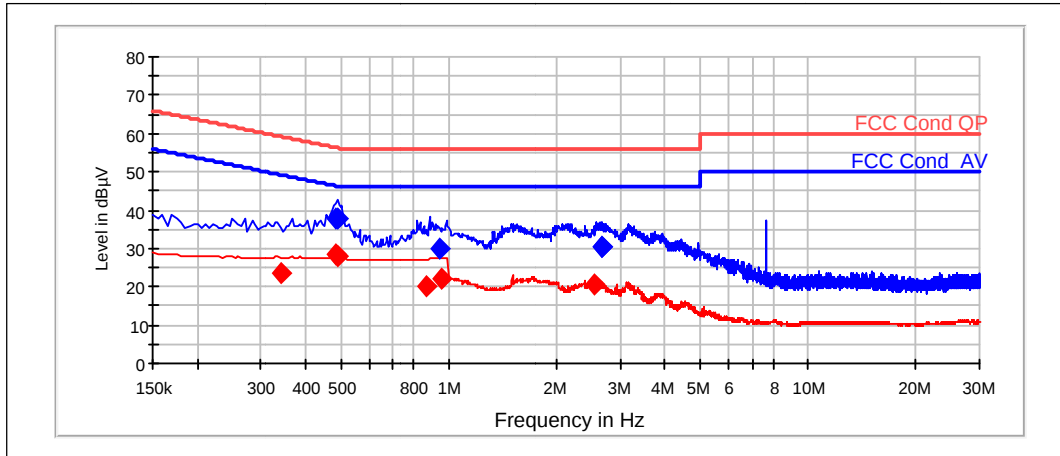
CISPR 22 Class B limits

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

6.3. WLAN Test results

6.3.1 DSSS mode, modulation, 11 Mbps data rate

Channel 40 / 2442 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.485	38.02	N	PASSED
0.49	37.74	N	PASSED
0.94	29.75	N	PASSED
2.66	30.34	N	PASSED
2.68	30.53	N	PASSED

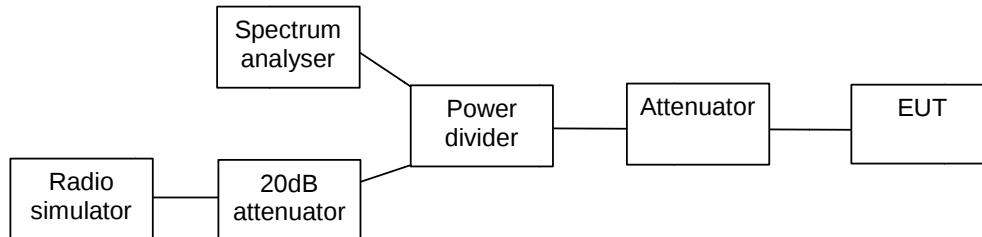
Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.34	23.5	N	PASSED
0.485	28.58	N	PASSED
0.49	27.87	N	PASSED
0.87	20.25	N	PASSED
0.955	21.95	N	PASSED
2.535	20.71	N	PASSED

7. 6 dB bandwidth (FCC §15.247(a)(2), RSS-210 A8.2 (1))

EUT with DUT number	RM-809, DUT 23476
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 47 / 102.1
Date of measurements	23-Sep-2011
Measured by	Ruben Hansen

7.1. Test Setup



7.2. 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

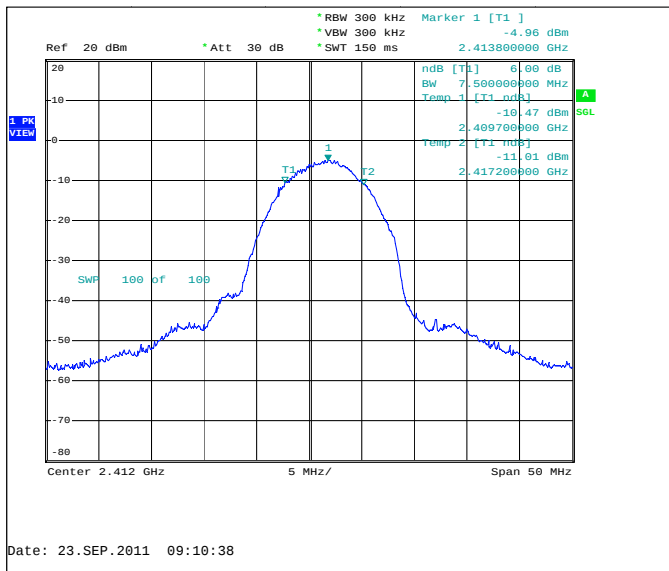
Limit [kHz]
≥ 500

7.3. WLAN Test results

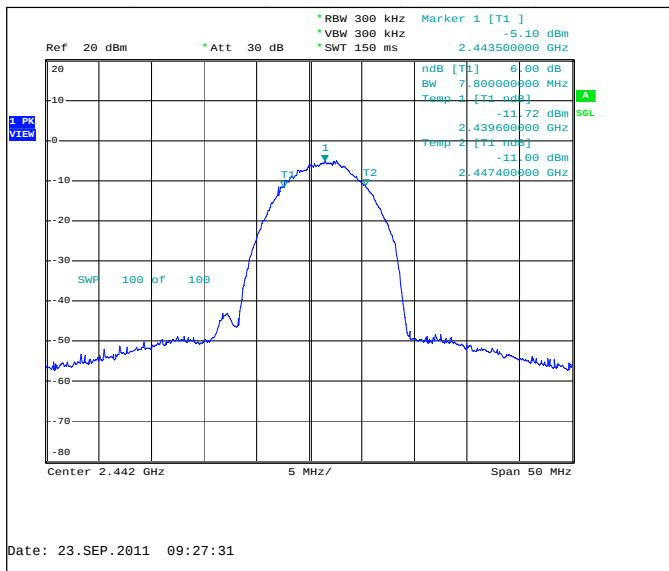
7.3.1 DSSS mode, 11 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	7500	PASSED
7 / 2442	7800	PASSED
11 / 2462	7700	PASSED

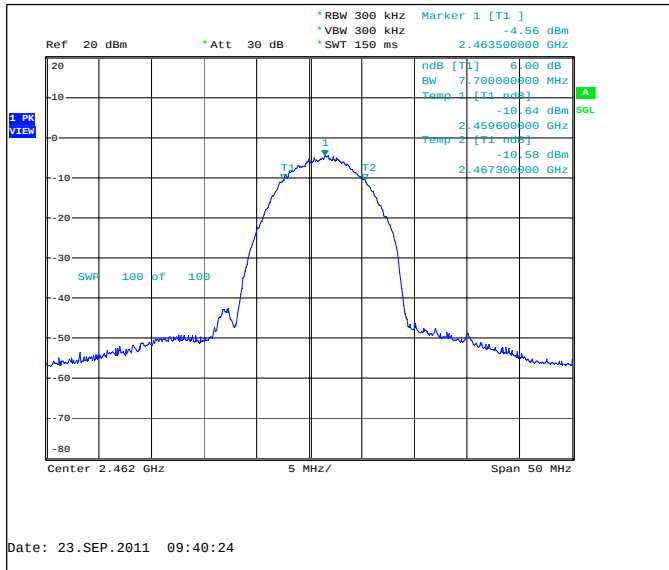
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



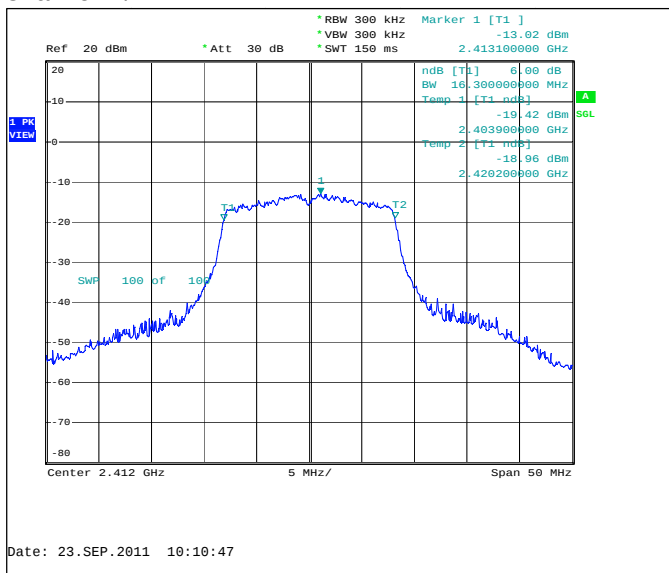
Channel 11 / 2462 MHz



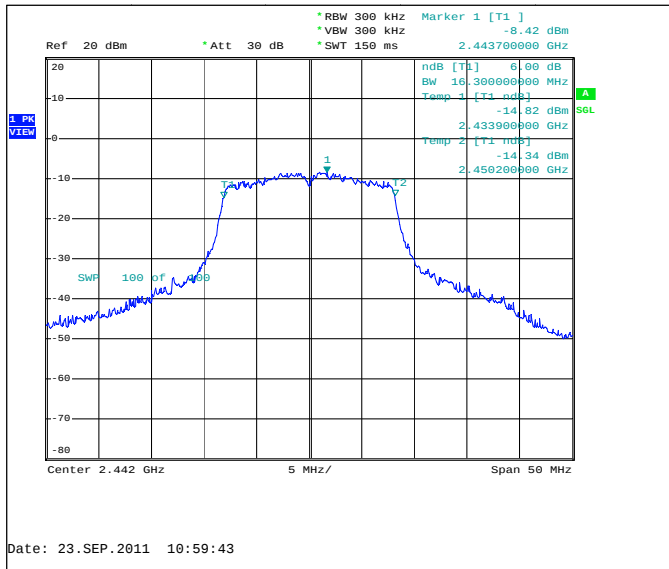
7.3.2 OFDM mode, 6 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	16300	PASSED
7 / 2442	16300	PASSED
11 / 2462	16200	PASSED

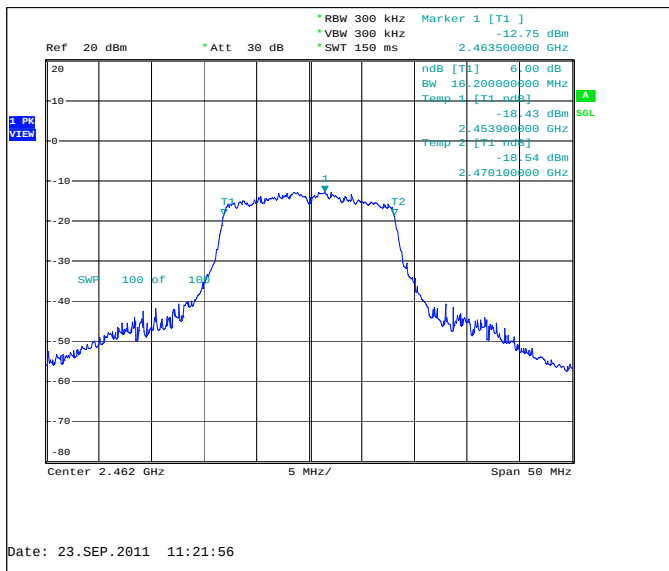
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



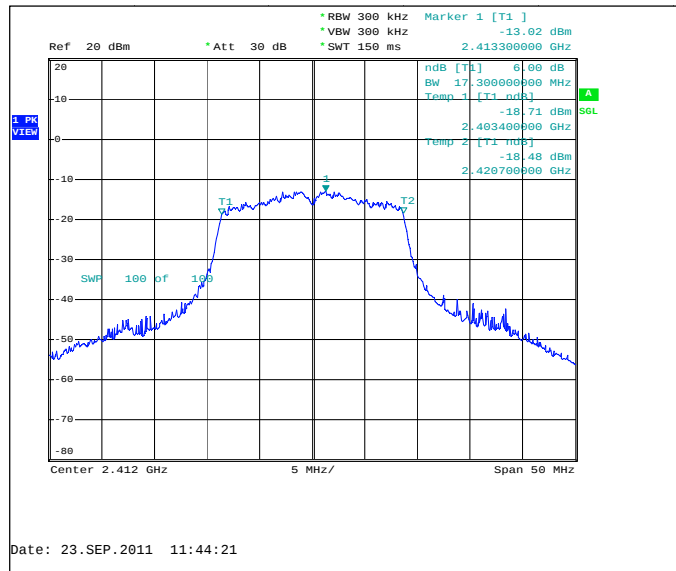
Channel 11 / 2462 MHz



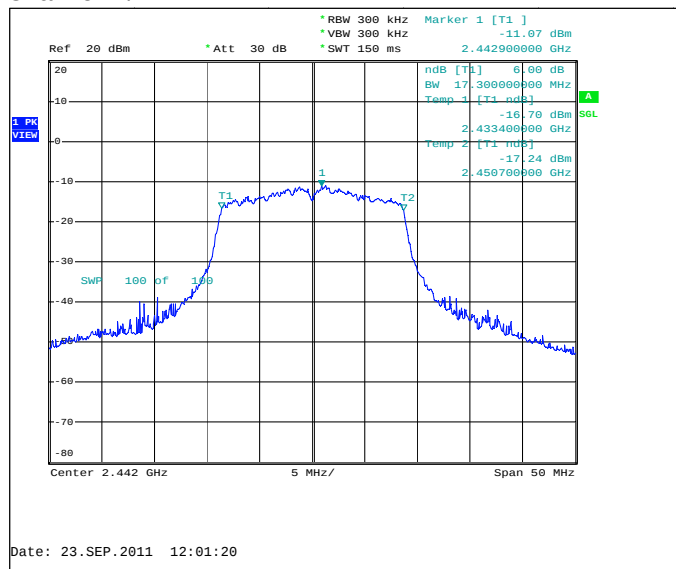
7.3.3 802.11n mode, MSC 0 modulation, 200 Mbps data rate

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

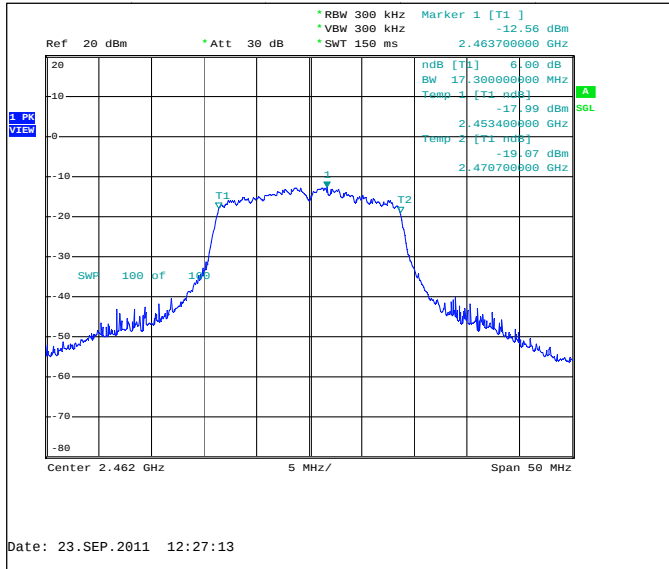
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



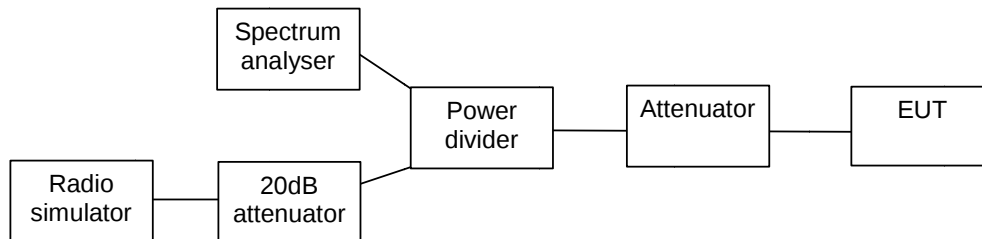
Channel 11 / 2462 MHz



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

EUT with DUT number	RM-809, DUT 23476
Accessories with DUT numbers	BP-3L, DUT 23467 ; CA-101, DUT 23452 ; WH-208, DUT 23454 ; AC-10UC, DUT 23458
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	24 / 47 / 102.1
Date of measurements	23-Sep-2011
Measured by	Ruben Hansen

8.1. Test Setup



8.2. 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

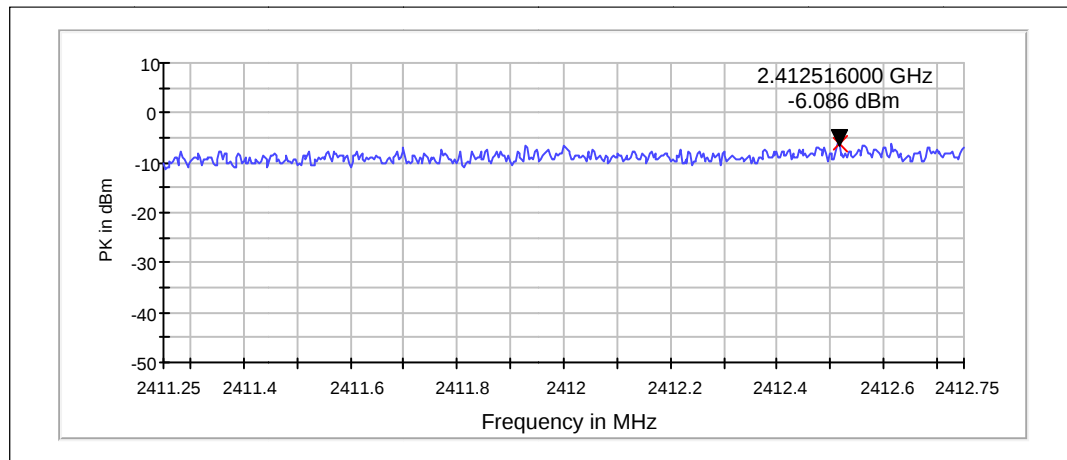
Limit [dBm] @ 3 kHz
<= 8

8.3. WLAN Test results

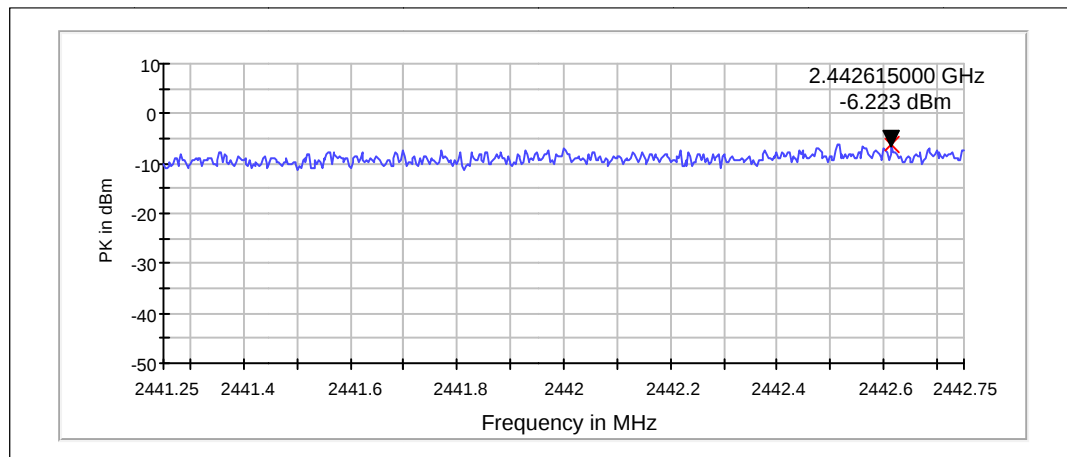
8.3.1 DSSS mode, 11 Mbps data rate

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-6.09	PASSED
7 / 2442	-6.22	PASSED
11 / 2462	-5.76	PASSED

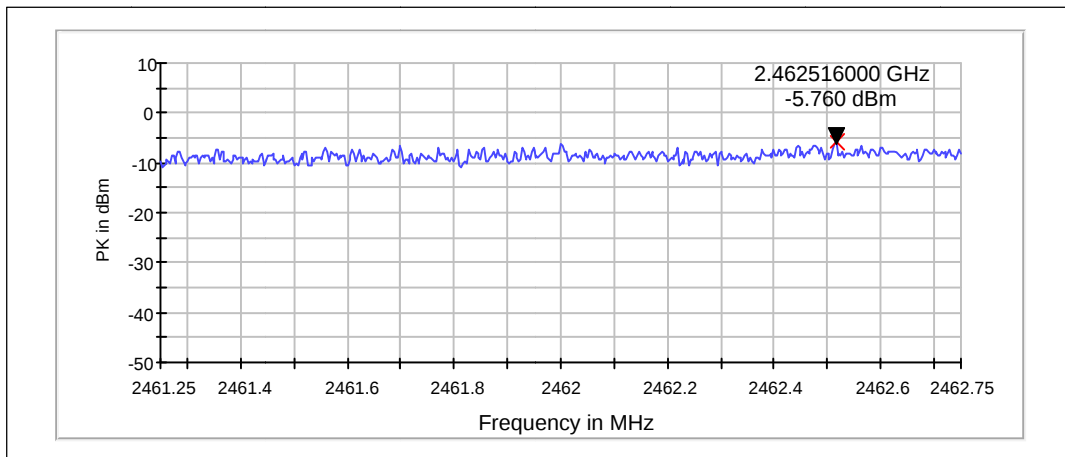
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



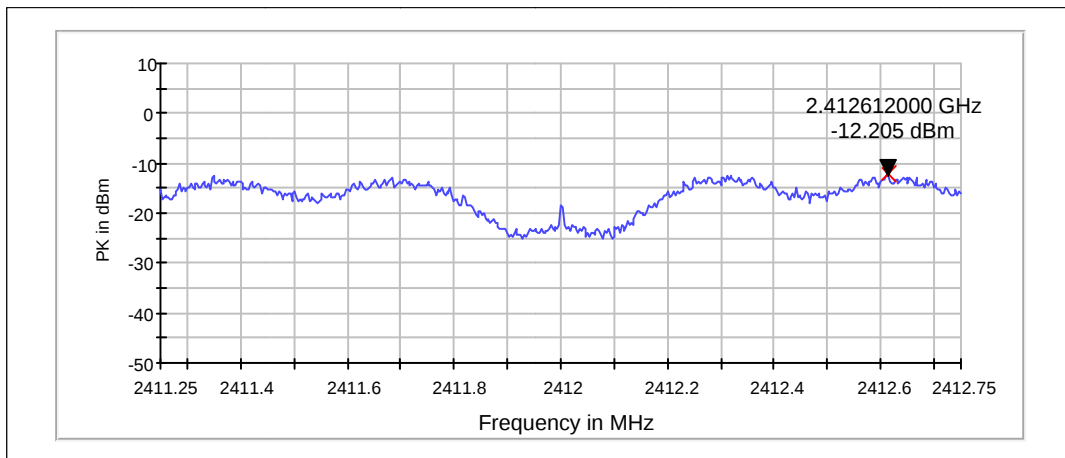
Channel 11 / 2462 MHz



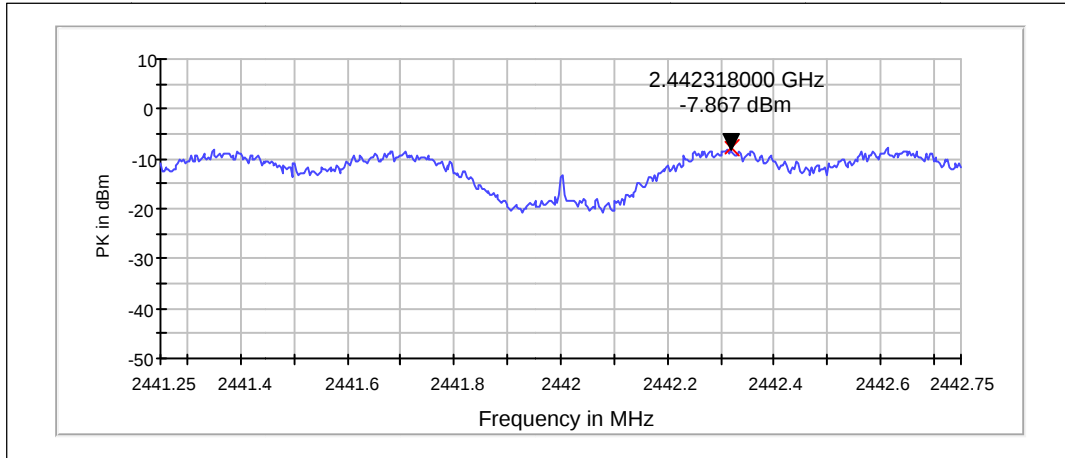
8.3.2 OFDM mode, 6 Mbps data rate

Channel / f _c [MHz]	P [dBm]	Result
1 / 2412	-12.2	PASSED
7 / 2442	-7.87	PASSED
11 / 2462	-11.99	PASSED

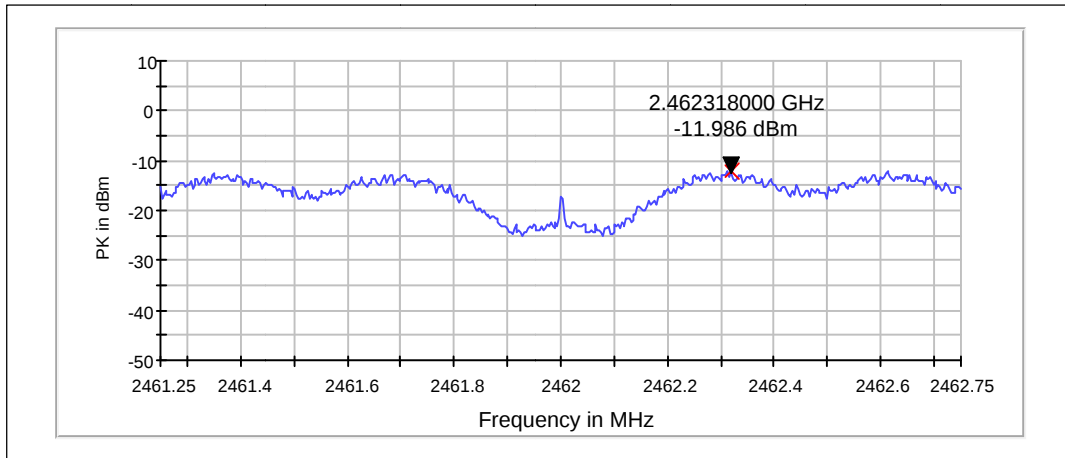
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



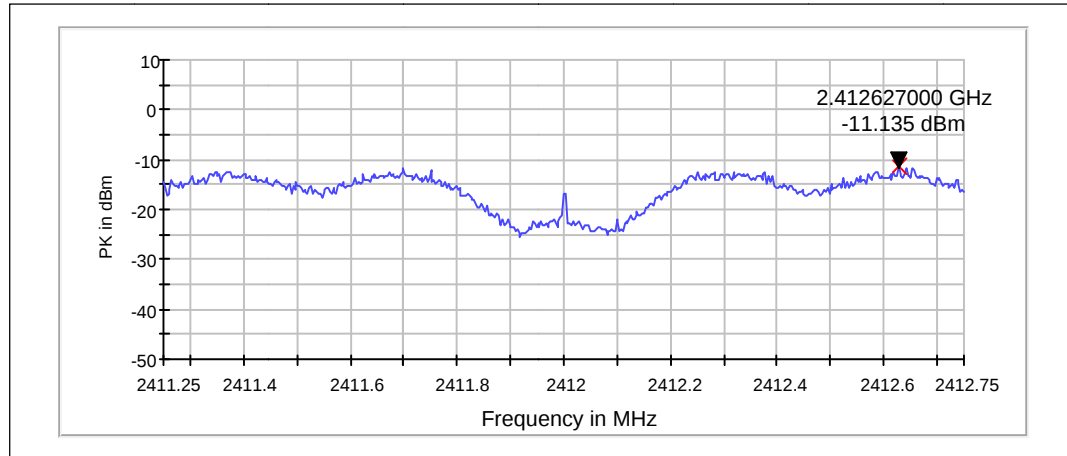
Channel 11 / 2462 MHz



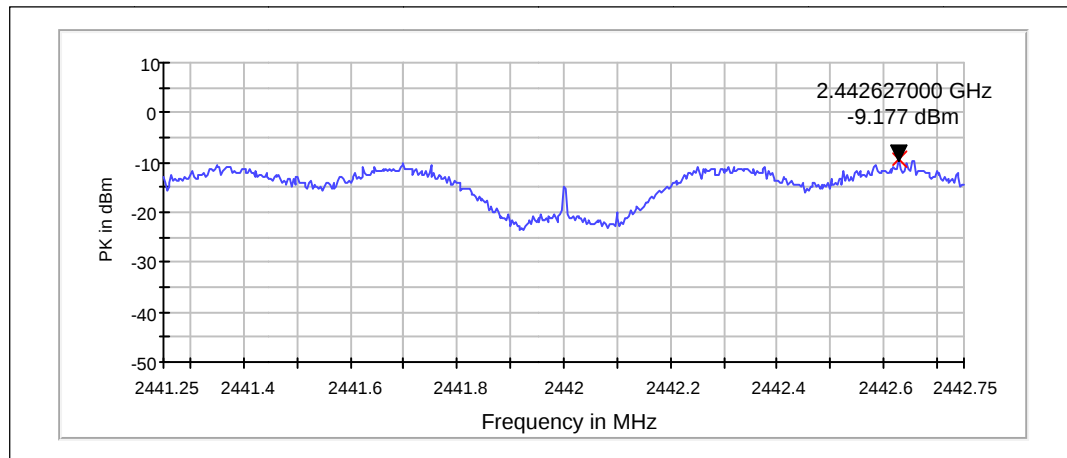
8.3.3 802.11n mode, MSC 0 modulation, 200 Mbps data rate

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-11.13	PASSED
7 / 2442	-9.18	PASSED
11 / 2462	-10.97	PASSED

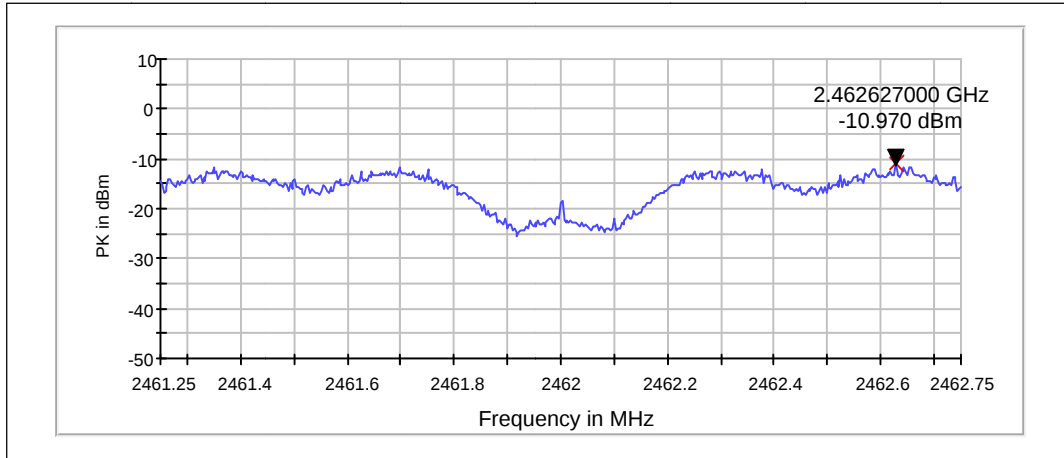
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



9. Test Equipment

9.1. 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

9.2. 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 μ Wave 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

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 μ Wave 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 μ Wave Mux	10-785-522	-	22/24/27, 15C, 15B