

## FCC Part 15C Compliance Test Report

<b>Test Report no.:</b>	FCC15C_RM-596_39.doc	<b>Date of Report:</b>	21-Jun-2010
<b>Number of pages:</b>	39	<b>Customer's Contact person:</b>	Tuomo Pursiheimo

<b>Testing laboratory:</b>	TCC Nokia Tampere Laboratory P.O. Box 68 Sinitaival 5 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880	<b>Customer:</b>	Nokia Corporation P.O. Box 68 Sinitaival 5 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880
<b>FCC listing no.:</b>	94436		
<b>IC recognition no.:</b>	661AK-1		

**Tested devices/ accessories:** **Phone RM-596 / Phone RM-596 / AC charger AC-15E / Headset WH-701**

<b>FCC ID:</b>	PDNRM-596	<b>IC:</b>	661R-RM596
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**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-GEN (Issue 2, June 2007) and RSS-210 (Issue 7, June 2007). 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:**

**Hannu Söderholm, Senior Engineer, EMC**

## 1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	16-Jun-2010
Testing completed	18-Jun-2010
The customer's contact person	Tuomo Pursiheimo
Test Plan referred to	T:\TCC_Salo\Projects\RM-596\TestPlan\RS_testplan_RM-596_CR_HW4400.xls
Notes	-
Document name	FCC15C_RM-596_39.doc

### 1.1. EUT and Accessory Information

The EUT is a 9-band (GSM850/900/1800/1900 and WCDMA Band I/II(1900)/IV(1700)/V(850)/VIII) mobile phone with GPRS, EGPRS, Bluetooth and WLAN. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-596	004402130866407	4400	-	010.021	42282
Phone	RM-596	004402130803368	4400	-	010.021	42283
AC charger	AC-15E	4090499512230700974;0675463	-	-	-	42191
Headset	WH-701	06944289501G2R01954	-	-	-	42192

### 1.2. Summary of Test Results

#### WLAN:

Section in CFR 47	Section in <i>RSS-GEN</i> or <i>RSS-210</i>	Name of the test	Result
15.247(b)(1)	A8.4 (4)	Conducted peak output power	PASSED
15.247(d)	A8.5	Band edge compliance of RF emissions	PASSED
15.247(d)	A8.5	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	NP
15.247(a)(2)	A8.2 (a)	6 dB bandwidth	PASSED
15.247(e)	A8.2 (b)	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

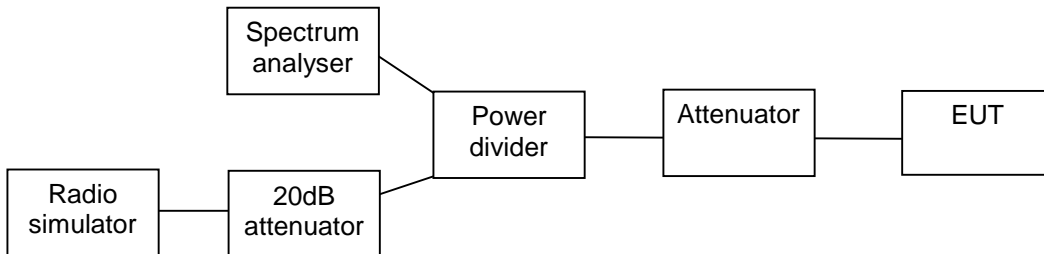
The test was not performed by the TCC Nokia Tampere Laboratory.

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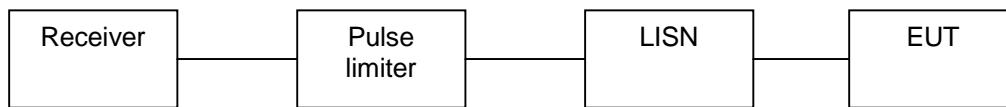
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## 2. Test setups

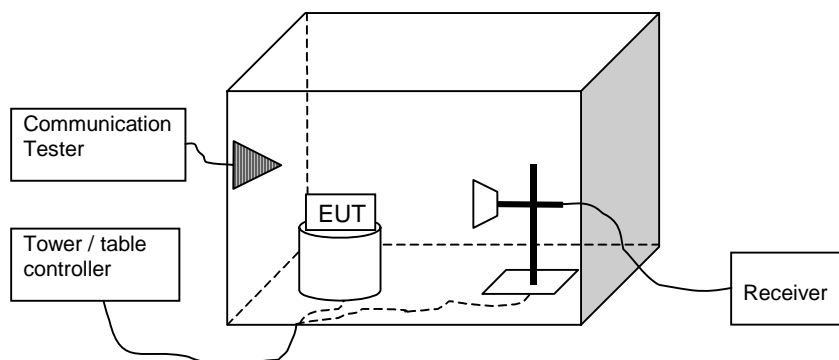
### 2.1. Conducted RF test setup



### 2.2. AC powerline conducted emissions test setup



### 2.3. Radiated test setup



### 3. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4 (4))

<b>EUT with DUT number</b>	RM-596 DUT 42283
<b>Accessories with DUT numbers</b>	-
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	21 / 49 / 99.8
<b>Date of measurements</b>	16-Jun-2010
<b>Measured by</b>	Jari Jantunen

#### 3.1. 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

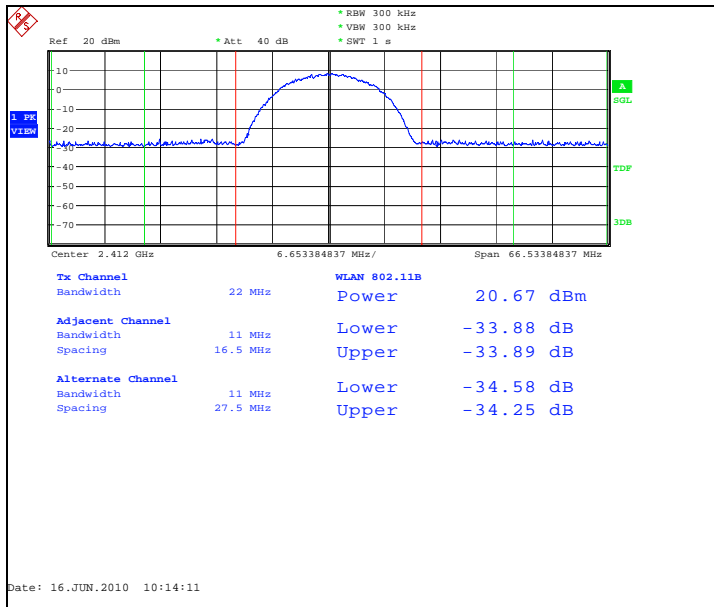
<b>Frequency range [MHz]</b>	<b>Limit [W]</b>	<b>Limit [dBm]</b>
2400 – 2483.5	≤ 1	≤ 30

### 3.2. WLAN Test results

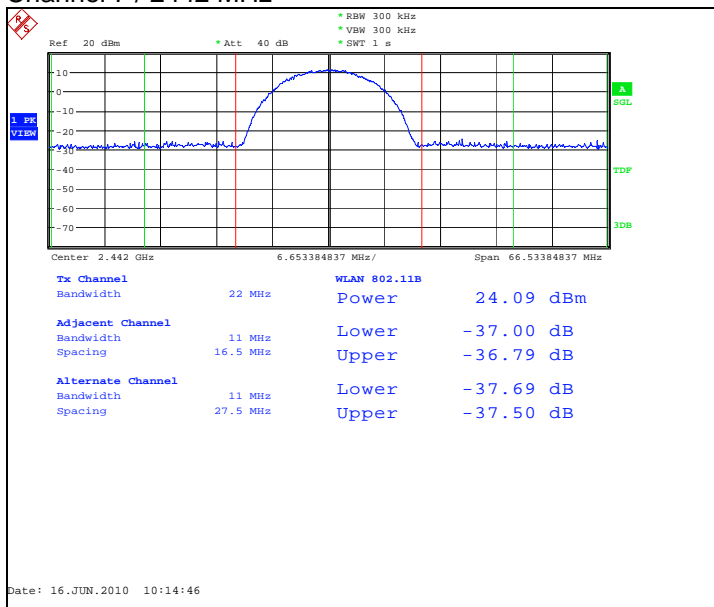
#### 3.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / $f_c$ [MHz]	P [dBm]	P [W]	Result
1 / 2412	20.67	0.117	PASSED
7 / 2442	24.09	0.256	PASSED
11 / 2462	20.98	0.125	PASSED

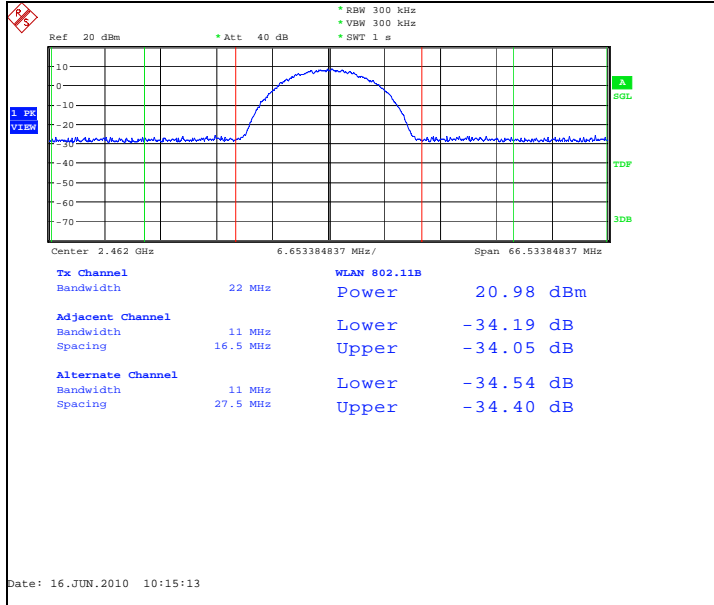
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



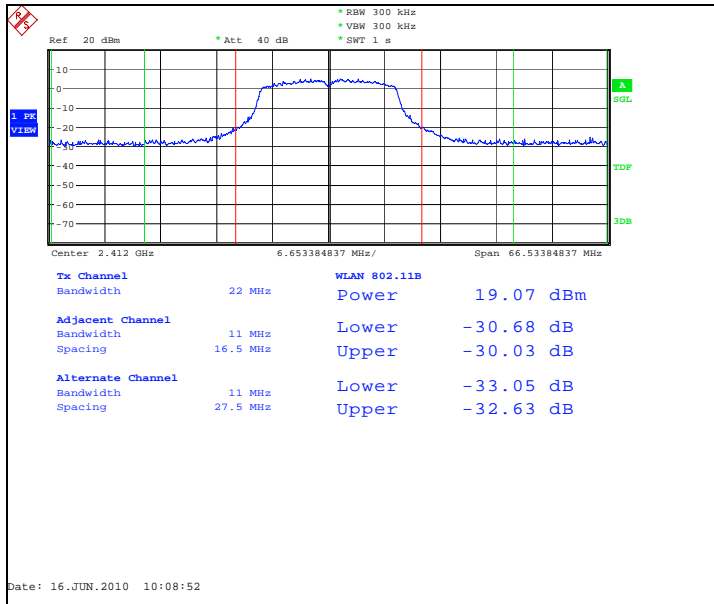
Channel 11 / 2462 MHz



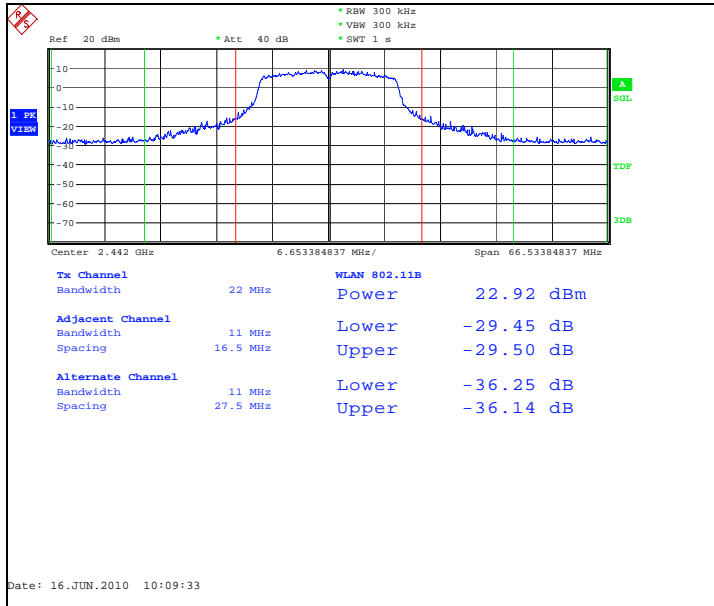
3.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / $f_c$ [MHz]	P [dBm]	P [W]	Result
1 / 2412	19.07	0.081	PASSED
7 / 2442	22.92	0.196	PASSED
11 / 2462	19.84	0.096	PASSED

Channel 1 / 2412 MHz

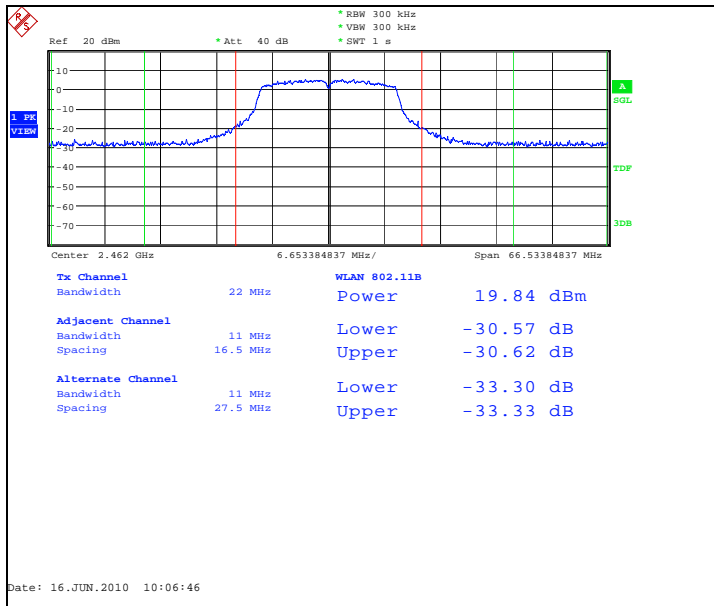


Channel 7 / 2442 MHz



<insert\_screen\_shot\_here>

Channel 11 / 2462 MHz

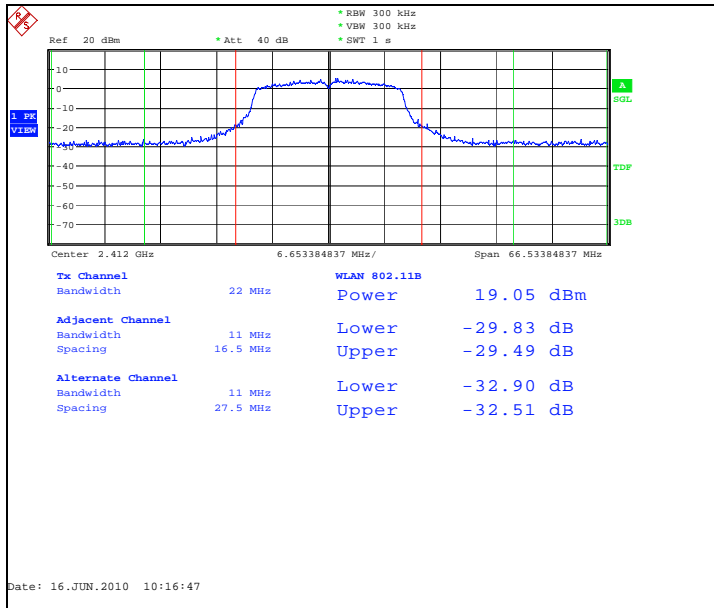




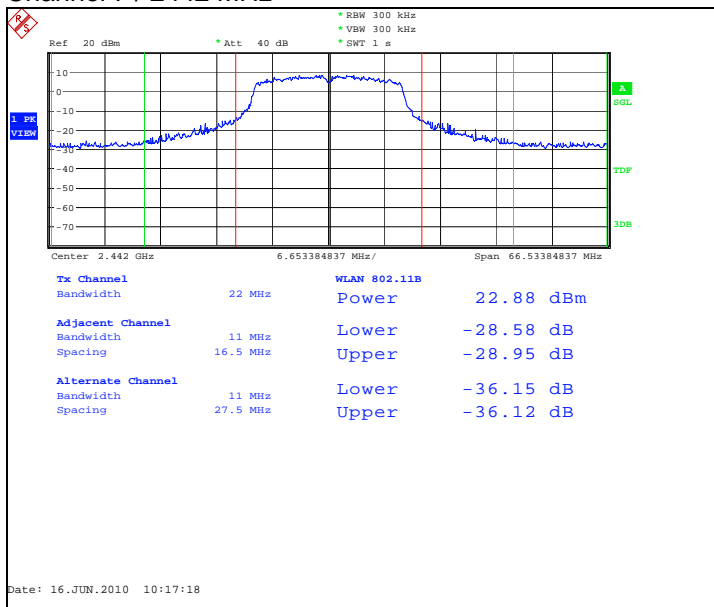
**3.2.3 802.11n HT20 MCS 0**

Channel / f <sub>c</sub> [MHz]	P [dBm]	P [W]	Result
1 / 2412	19.05	0.080	PASSED
7 / 2442	22.88	0.194	PASSED
11 / 2462	19.77	0.095	PASSED

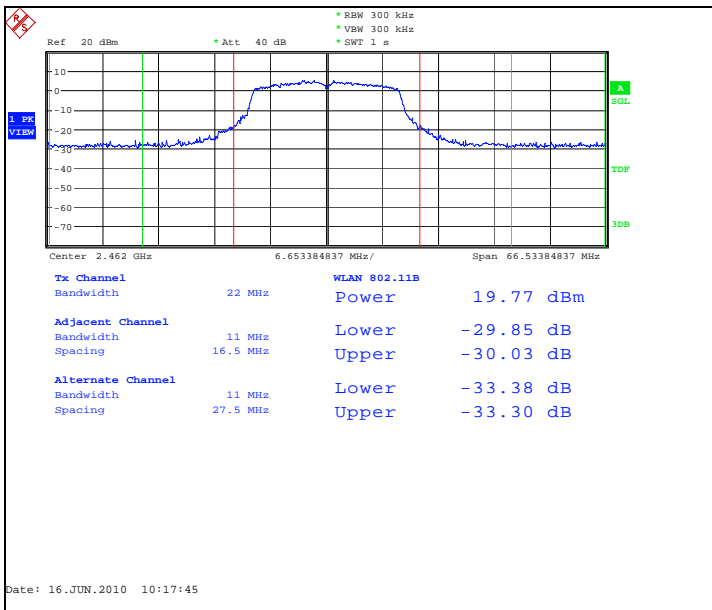
**Channel 1 / 2412 MHz**



**Channel 7 / 2442 MHz**



**Channel 11 / 2462 MHz**



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

<b>EUT with DUT number</b>	RM-596 DUT 42282
<b>Accessories with DUT numbers</b>	AC-15E DUT42191, WH-701 DUT42192
<b>Operation Voltage [V] / [Hz]</b>	115 / 60
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	23 / 44 / 101
<b>Date of measurements</b>	17-Jun-2010 and 18-Jun-2010
<b>Measured by</b>	Hannu Söderholm

##### 4.1. Test method and limit

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

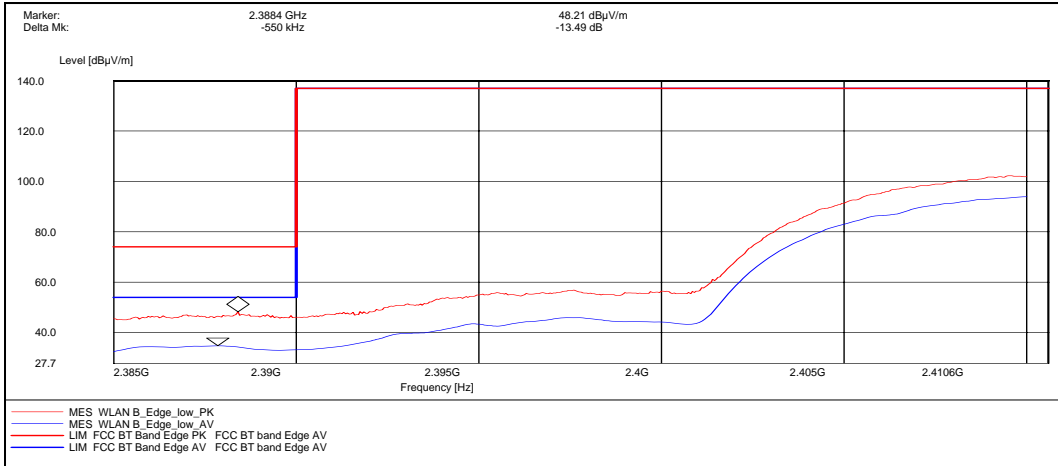
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

<b>Frequency range [MHz]</b>	<b>Limit Average [dB<math>\mu</math>V/m]</b>	<b>Limit Peak [dB<math>\mu</math>V/m]</b>
Below 2390 and above 2483.5	$\leq 54$	$\leq 74$

## 4.2. WLAN Test results

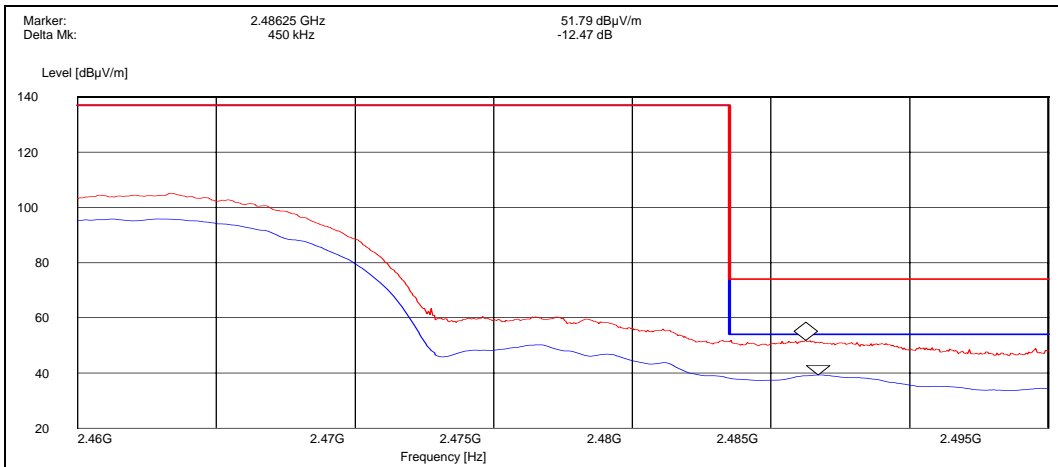
### 4.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	48.20	PASSED
Average	34.70	PASSED

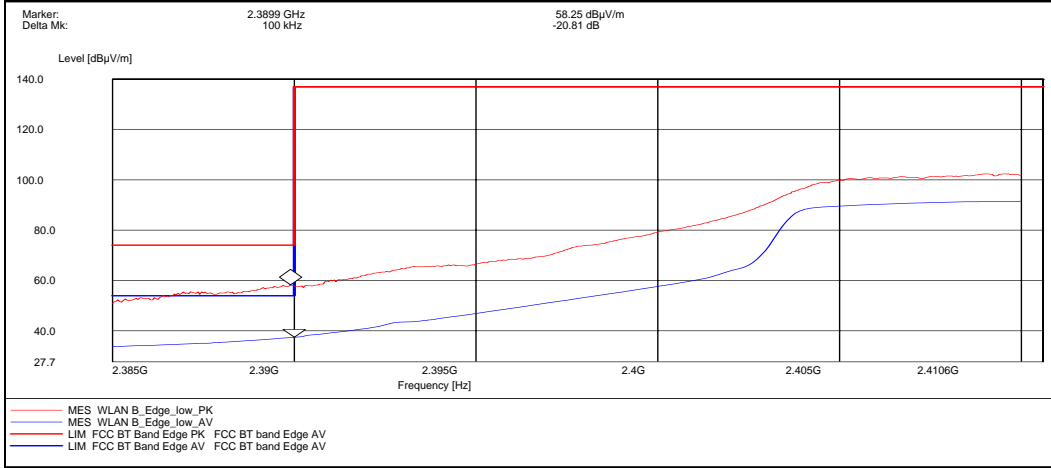
Channel 11 / 2462 MHz



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	51.80	PASSED
Average	39.30	PASSED

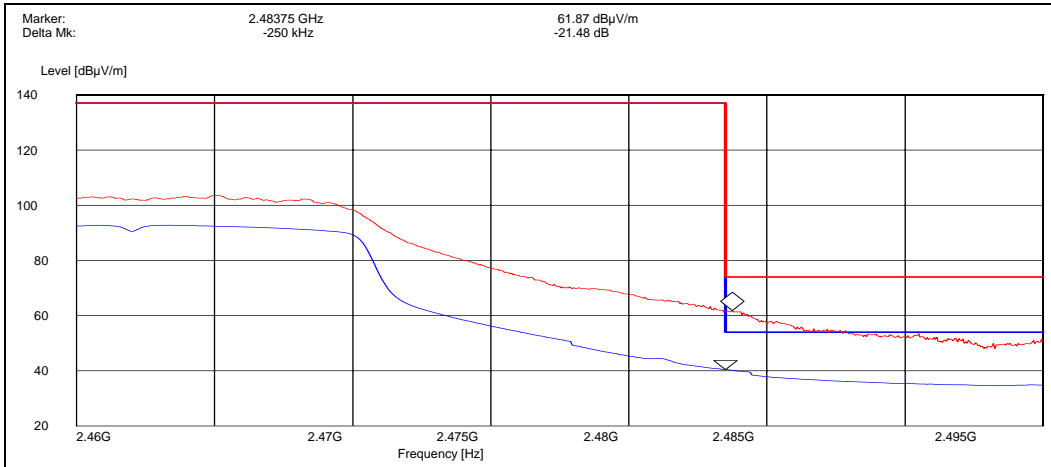
**4.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate**

**Channel 1 / 2412 MHz**



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	58.30	PASSED
Average	37.40	PASSED

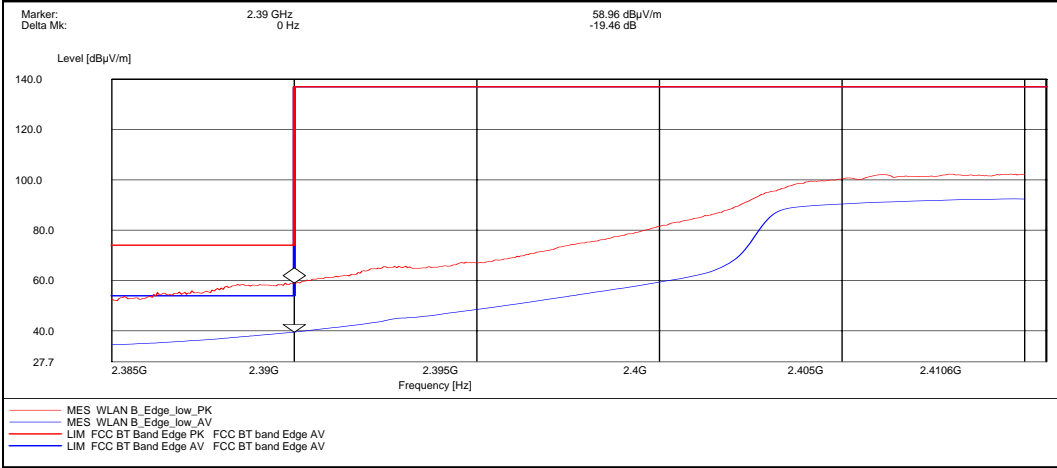
**Channel 11 / 2462 MHz**



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	61.90	PASSED
Average	40.40	PASSED

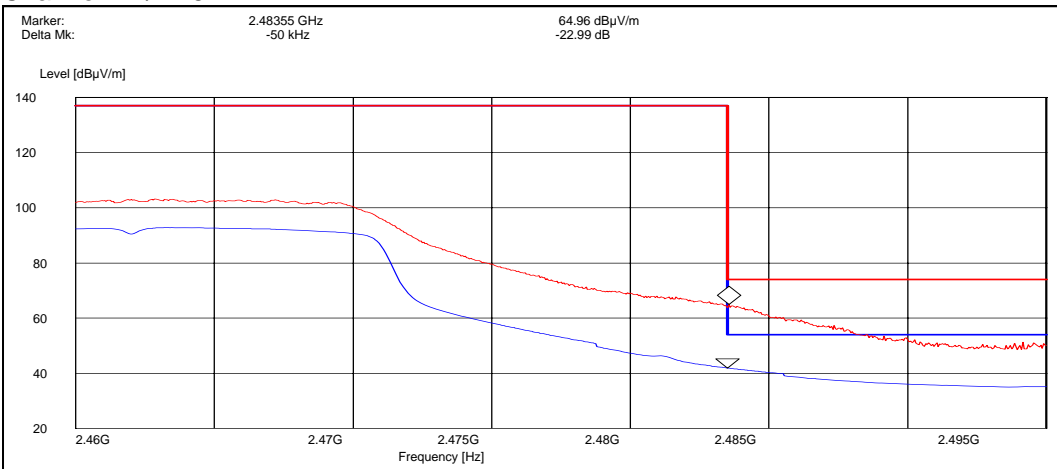
**4.2.3 802.11n HT20 MCS 0**

**Channel 1 / 2412 MHz**



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	59.00	PASSED
Average	39.50	PASSED

**Channel 11 / 2462 MHz**



Detector (RBW: 1 MHz)	E [dBµV/m]	Result
Peak	65.00	PASSED
Average	42.00	PASSED

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

<b>EUT with DUT number</b>	RM-596 DUT 42283
<b>Accessories with DUT numbers</b>	-
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	21 / 49 / 99.8
<b>Date of measurements</b>	16-Jun-2010
<b>Measured by</b>	Jari Jantunen

**5.1. Test method and limit**

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

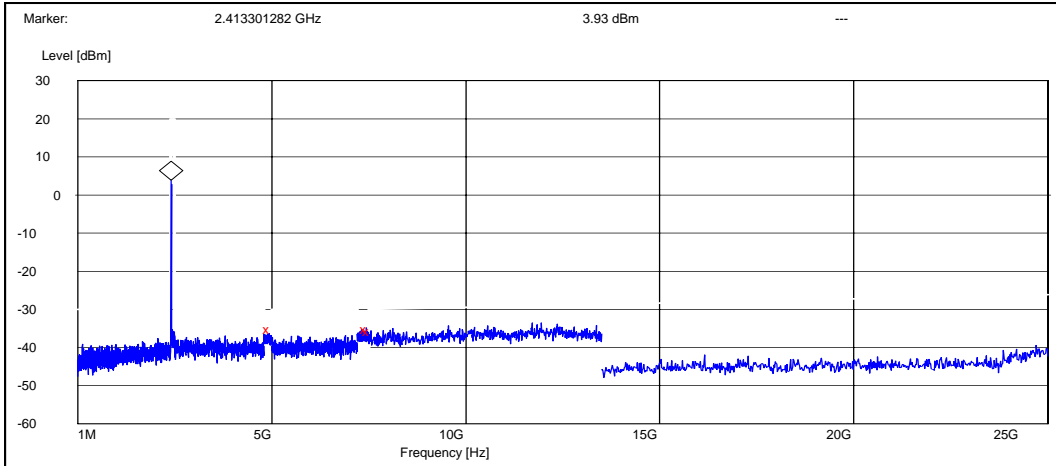
Limits for spurious RF conducted emissions measurements

<b>Frequency range [MHz]</b>	<b>Limit [dBc]</b>
1 – 25000	≤ -20

## 5.2. WLAN Test results

### 5.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

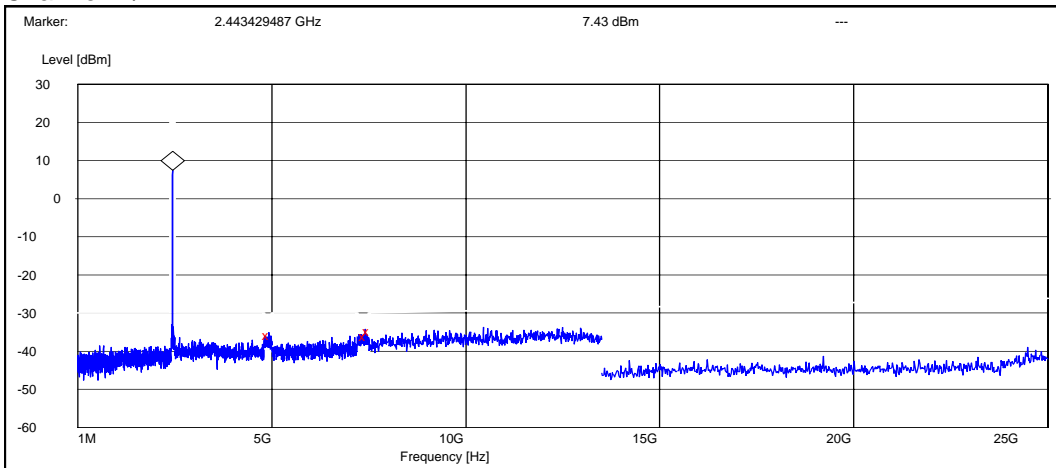
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4939.102564	-39.127189	PASSED
7440.865385	-39.127189	PASSED
7500.000000	-39.627189	PASSED

Channel 7 / 2442 MHz

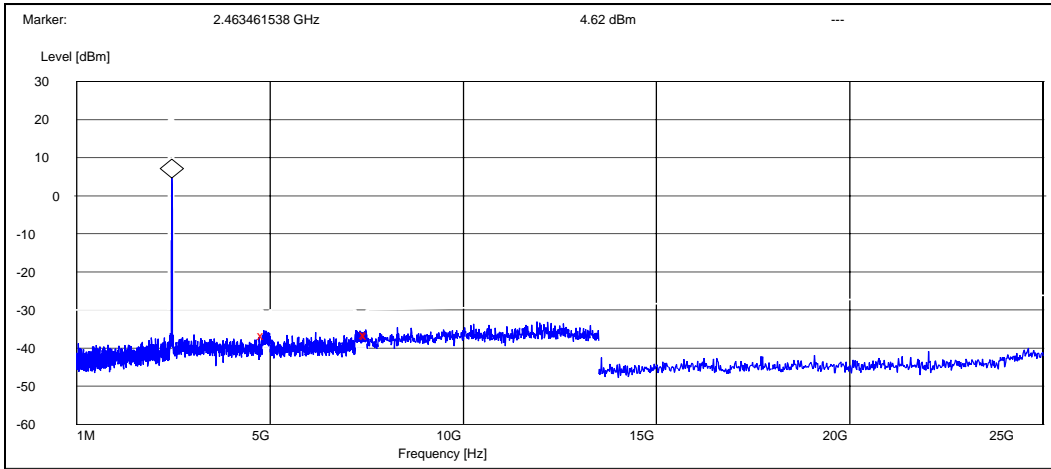


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4927.884615	-43.334885	PASSED
7415.384615	-43.534885	PASSED
7500.000000	-42.134885	PASSED



Channel 11 / 2462 MHz

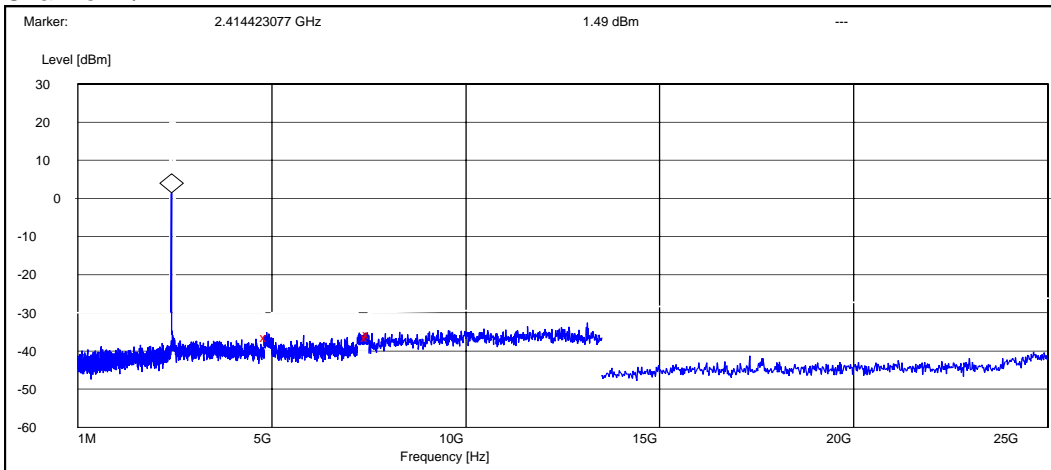


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4845.192308	-41.423474	PASSED
7470.673077	-40.923474	PASSED
7500.000000	-41.223474	PASSED

5.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

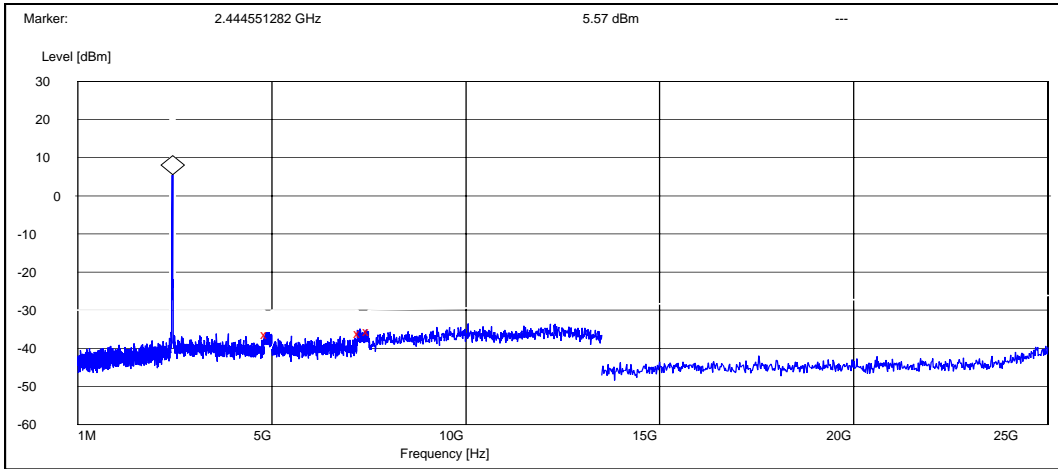
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4866.987179	-37.790710	PASSED
7458.653846	-37.790710	PASSED
7500.000000	-37.190710	PASSED

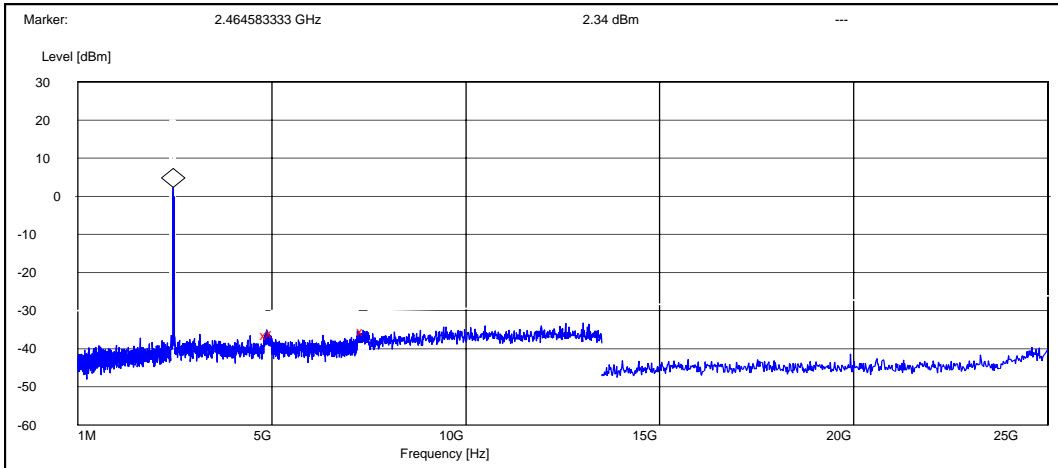
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4884.294872	-41.868014	PASSED
7271.153846	-41.468014	PASSED
7500.000000	-41.068014	PASSED

Channel 11 / 2462 MHz

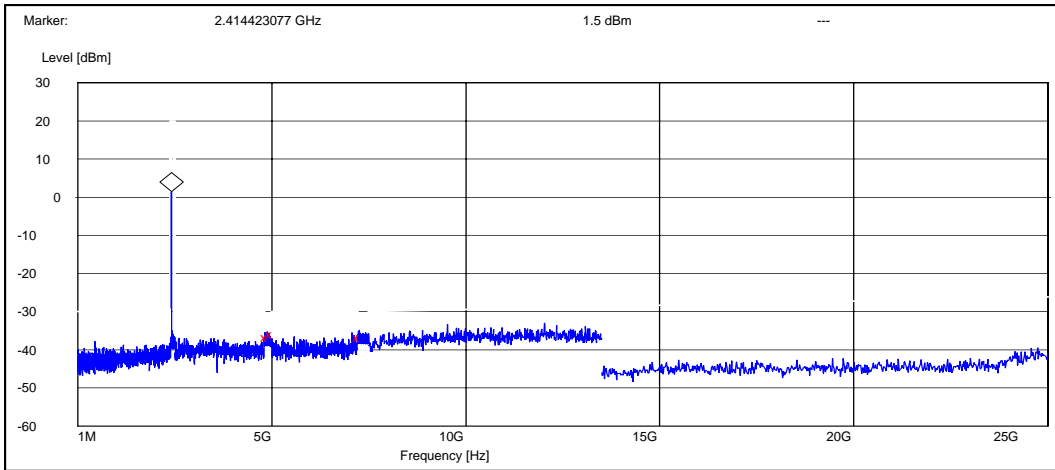


Peak (RBW: 100 kHz, VBW: 100 kHz)

Frequency [MHz]	P [dBc]	Result
4863.141026	-38.844498	PASSED
5000.000000	-38.244498	PASSED
7350.961538	-37.744498	PASSED

### 5.2.3 802.11n HT20 MCS 0

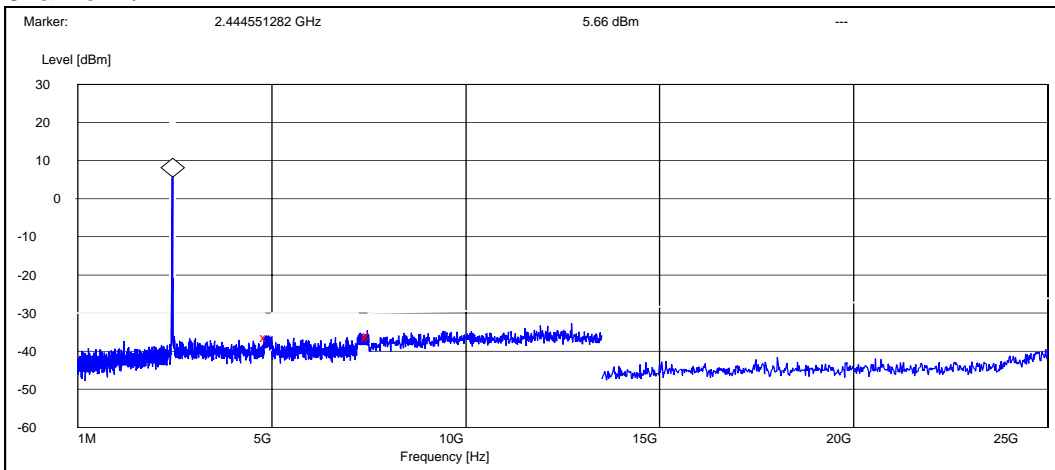
Channel 1 / 2412 MHz



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

Frequency [MHz]	P [dBc]	Result
4877.243590	-38.195272	PASSED
5000.000000	-37.495272	PASSED
7259.615385	-38.095272	PASSED

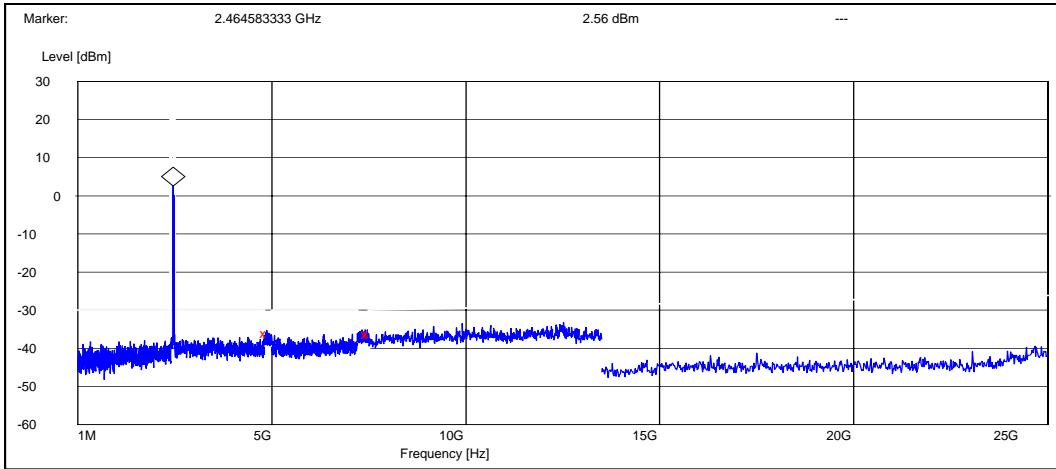
Channel 7 / 2442 MHz



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

Frequency [MHz]	P [dBc]	Result
4869.551282	-42.160864	PASSED
7469.230769	-41.860864	PASSED
7500.000000	-41.560864	PASSED

Channel 11 / 2462 MHz



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

Frequency [MHz]	P [dBc]	Result
4863.461538	-38.459532	PASSED
7458.653846	-38.759532	PASSED
7500.000000	-38.459532	PASSED

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

<b>EUT with DUT number</b>	RM-596 DUT 42282
<b>Accessories with DUT numbers</b>	AC-15E DUT42191, WH-701 DUT42192
<b>Operation Voltage [V] / [Hz]</b>	115 / 60
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	23 / 44 / 101
<b>Date of measurements</b>	17-Jun-2010 and 18-Jun-2010
<b>Measured by</b>	Hannu Söderholm

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

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

## 6.2. WLAN Test results

### 6.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

TX mode, channel 1 / 2412 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	40.70	108.39	41.80	-1.1	VERTICAL	PASSED
7236.000000	42.40	131.83	39.80	2.6	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	27.90	24.83	29.00	-1.1	VERTICAL	PASSED
7236.000000	30.10	31.99	27.50	2.6	HORIZONTAL	PASSED

TX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
31.100000	16.60	6.76	26.20	-9.6	HORIZONTAL	PASSED
38.076353	12.10	4.03	26.20	-14.1	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
2522.824649	61.80	1 230.27	59.60	2.2	HORIZONTAL	PASSED
2562.805611	58.40	831.76	56.10	2.3	HORIZONTAL	PASSED
2600.286573	61.90	1 244.51	59.10	2.8	HORIZONTAL	PASSED
4884.269539	46.80	218.78	48.00	-1.2	VERTICAL	PASSED
7250.003006	42.90	139.64	40.30	2.6	HORIZONTAL	PASSED
7326.155311	43.80	154.88	40.90	2.9	HORIZONTAL	PASSED
17489.975952	52.60	426.58	33.80	18.8	VERTICAL	PASSED
17788.573146	55.20	575.44	34.30	20.9	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
2521.324649	34.80	54.95	32.60	2.2	HORIZONTAL	PASSED
2562.805611	32.10	40.27	29.80	2.3	HORIZONTAL	PASSED
2600.286573	32.10	40.27	29.30	2.8	HORIZONTAL	PASSED
4884.269539	36.80	69.18	38.00	-1.2	VERTICAL	PASSED
7249.003006	30.00	31.62	27.40	2.6	HORIZONTAL	PASSED
7327.655311	30.90	35.08	28.00	2.9	HORIZONTAL	PASSED
17483.975952	39.50	94.41	20.80	18.7	VERTICAL	PASSED
17788.573146	42.10	127.35	21.20	20.9	VERTICAL	PASSED

TX mode, channel 11 / 2462 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	45.60	190.55	46.70	-1.1	HORIZONTAL	PASSED
7386.000000	42.90	139.64	39.70	3.2	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	33.60	47.86	34.70	-1.1	VERTICAL	PASSED
7386.000000	30.00	31.62	26.80	3.2	VERTICAL	PASSED

## 6.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

TX mode, channel 1 / 2412 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	40.60	107.15	41.70	-1.1	HORIZONTAL	PASSED
7236.000000	42.80	138.04	40.20	2.6	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	27.40	23.44	28.50	-1.1	HORIZONTAL	PASSED
7236.000000	30.20	32.36	27.60	2.6	VERTICAL	PASSED

TX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
30.400000	15.60	6.03	24.70	-9.1	HORIZONTAL	PASSED
38.135872	19.50	9.44	33.70	-14.2	VERTICAL	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
2524.348697	61.60	1 202.26	59.50	2.1	HORIZONTAL	PASSED
2564.281563	58.90	881.05	56.40	2.5	HORIZONTAL	PASSED
2598.214429	55.20	575.44	52.50	2.7	HORIZONTAL	PASSED
2607.834669	59.40	933.25	56.70	2.7	VERTICAL	PASSED
4886.775551	47.20	229.09	48.40	-1.2	HORIZONTAL	PASSED
4887.273547	47.20	229.09	48.40	-1.2	HORIZONTAL	PASSED
7317.627255	43.30	146.22	40.20	3.1	HORIZONTAL	PASSED
7328.657315	43.60	151.36	40.70	2.9	HORIZONTAL	PASSED
17461.415832	52.60	426.58	33.90	18.7	HORIZONTAL	PASSED
17842.687375	55.30	582.10	34.60	20.7	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
2524.348697	34.70	54.33	32.60	2.1	HORIZONTAL	PASSED
2561.281563	31.90	39.36	29.80	2.1	HORIZONTAL	PASSED
2598.214429	32.10	40.27	29.40	2.7	HORIZONTAL	PASSED
2607.834669	31.90	39.36	29.20	2.7	VERTICAL	PASSED
4886.773547	32.90	44.16	34.10	-1.2	HORIZONTAL	PASSED
4886.775551	32.40	41.69	33.60	-1.2	HORIZONTAL	PASSED
7313.127255	30.30	32.73	27.30	3.0	HORIZONTAL	PASSED
7328.657315	30.90	35.08	28.00	2.9	HORIZONTAL	PASSED
17459.915832	39.50	94.41	20.80	18.7	HORIZONTAL	PASSED
17844.687375	42.20	128.82	21.50	20.7	HORIZONTAL	PASSED

TX mode, channel 11 / 2462 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	43.50	149.62	44.60	-1.1	HORIZONTAL	PASSED
7386.000000	43.30	146.22	40.10	3.2	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu$ V/m]	E [ $\mu$ V/m]	U <sub>RX</sub> [dB $\mu$ V]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	31.30	36.73	32.40	-1.1	HORIZONTAL	PASSED
7386.000000	30.10	31.99	26.90	3.2	VERTICAL	PASSED



### 6.2.3 802.11n HT20 MCS 0

TX mode, channel 1 / 2412 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	40.60	107.15	41.70	-1.1	HORIZONTAL	PASSED
7236.000000	42.80	138.04	40.20	2.6	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4824.000000	27.40	23.44	28.50	-1.1	HORIZONTAL	PASSED
7236.000000	30.10	31.99	27.50	2.6	HORIZONTAL	PASSED

TX mode, channel 7 / 2442 MHz

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
38.035872	12.50	4.22	26.60	-14.1	VERTICAL	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
2524.348697	59.90	988.55	57.80	2.1	HORIZONTAL	PASSED
2557.269539	57.00	707.95	55.20	1.8	HORIZONTAL	PASSED
2607.846693	59.00	891.25	56.30	2.7	HORIZONTAL	PASSED
4881.771543	47.10	226.46	48.30	-1.2	HORIZONTAL	PASSED
4882.773547	43.80	154.88	45.00	-1.2	HORIZONTAL	PASSED
7279.065130	43.00	141.25	40.20	2.8	VERTICAL	PASSED
7327.151303	43.80	154.88	40.90	2.9	HORIZONTAL	PASSED
17457.913828	52.30	412.10	33.60	18.7	VERTICAL	PASSED
17757.511022	55.10	568.85	34.20	20.9	HORIZONTAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
2524.348697	34.20	51.29	32.10	2.1	HORIZONTAL	PASSED
2557.269539	31.90	39.36	30.10	1.8	HORIZONTAL	PASSED
2607.846693	31.90	39.36	29.20	2.7	HORIZONTAL	PASSED
4882.771543	33.20	45.71	34.40	-1.2	HORIZONTAL	PASSED
4882.773547	32.70	43.15	33.90	-1.2	HORIZONTAL	PASSED
7286.565130	30.10	31.99	27.30	2.8	VERTICAL	PASSED
7327.151303	30.20	32.36	27.30	2.9	HORIZONTAL	PASSED
17458.413828	39.50	94.41	20.80	18.7	VERTICAL	PASSED
17753.511022	42.00	125.89	21.10	20.9	HORIZONTAL	PASSED

TX mode, channel 11 / 2462 MHz

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	45.30	184.08	46.40	-1.1	HORIZONTAL	PASSED
7386.000000	43.00	141.25	39.80	3.2	VERTICAL	PASSED

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U <sub>RX</sub> [dBµV]	A <sub>TOT</sub> [dB]	Polarisation	Result
4924.000000	30.00	31.62	31.10	-1.1	HORIZONTAL	PASSED
7386.000000	30.00	31.62	26.80	3.2	HORIZONTAL	PASSED

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

<b>EUT with DUT number</b>	RM-596 DUT 42283
<b>Accessories with DUT numbers</b>	-
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	21 / 49 / 99.8
<b>Date of measurements</b>	16-Jun-2010
<b>Measured by</b>	Jari Jantunen

**7.1. 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

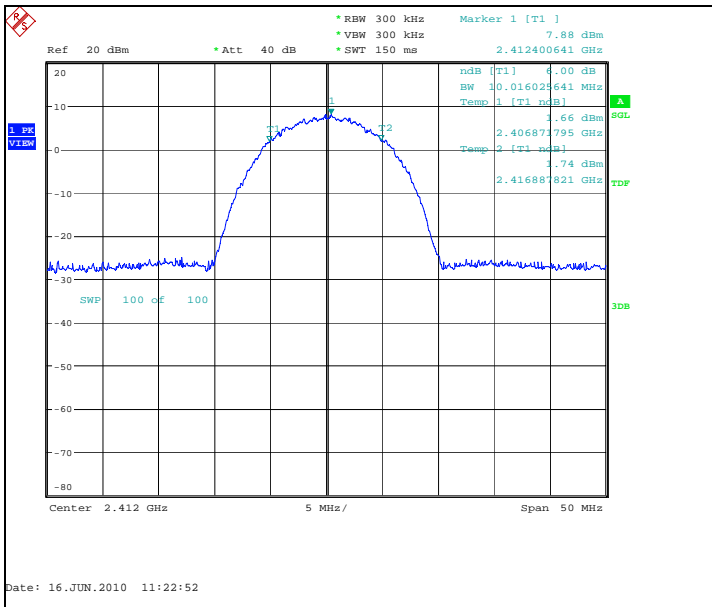
Limit [kHz]
≥ 500

## 7.2. WLAN test results

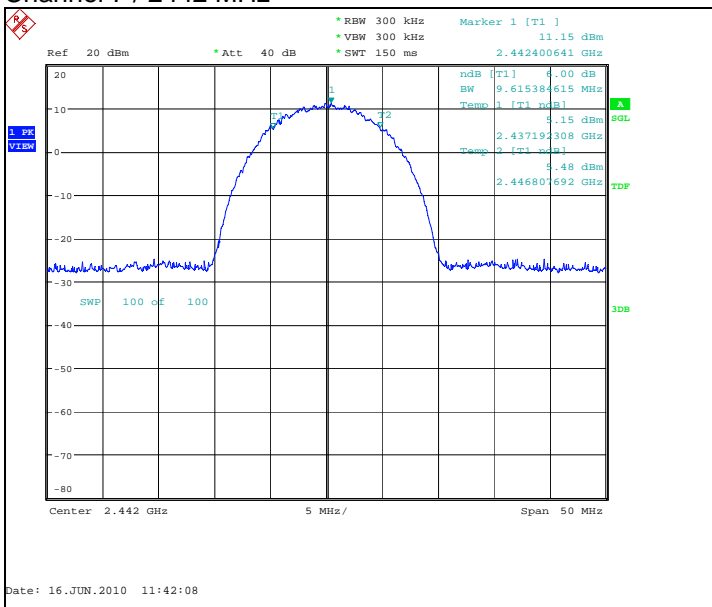
### 7.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / $f_c$ [MHz]	6 dB bandwidth [kHz]	Result
1	10016.026	PASSED
7	9615.385	PASSED
11	10016.026	PASSED

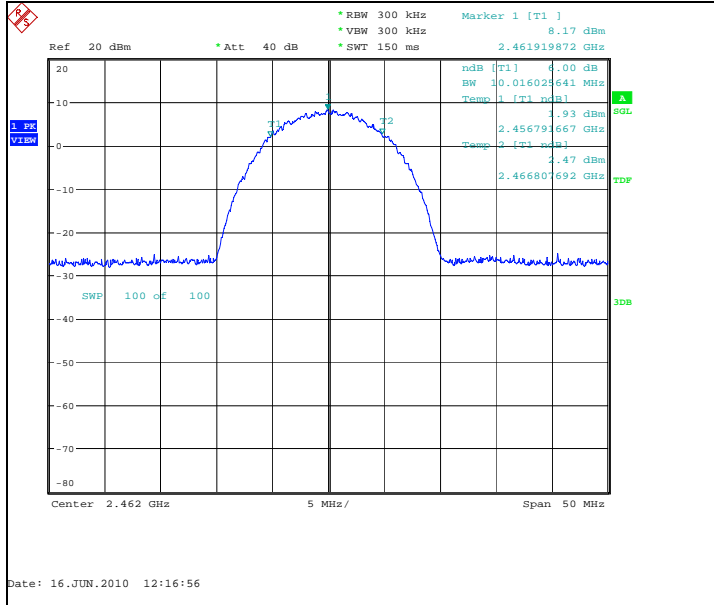
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



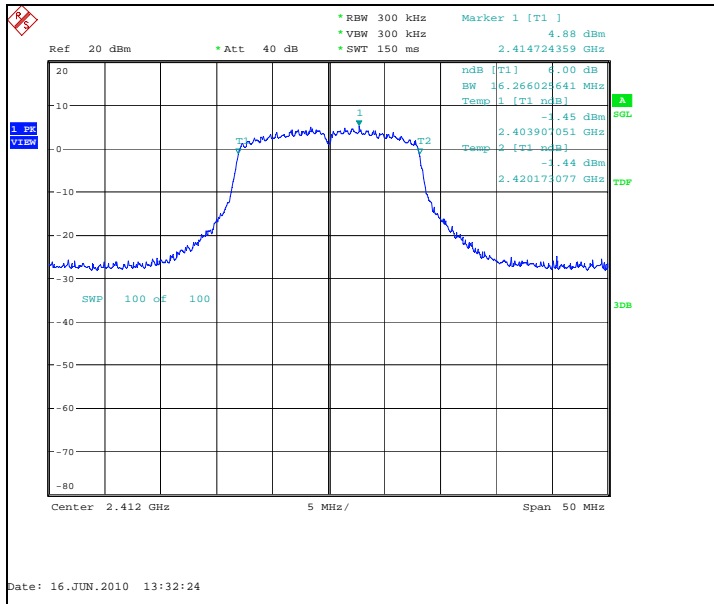
Channel 11 / 2462 MHz



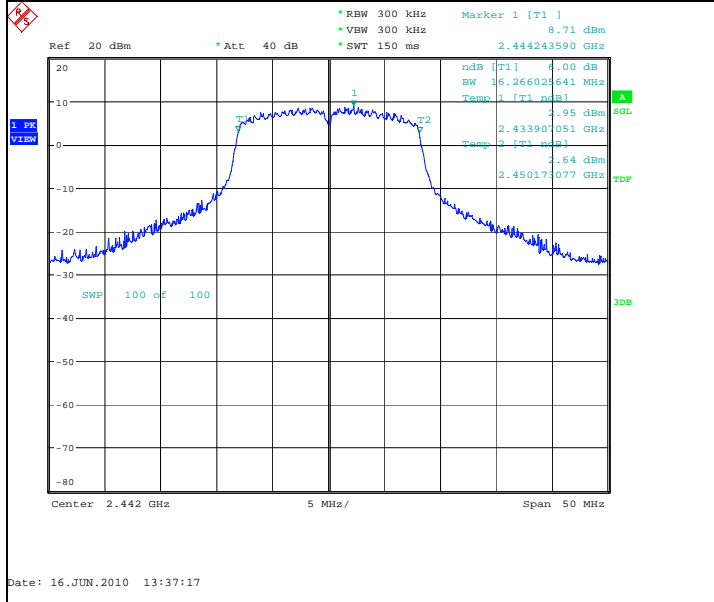
7.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / $f_c$ [MHz]	6 dB bandwidth [kHz]	Result
1	16266.026	PASSED
7	16266.026	PASSED
11	16185.897	PASSED

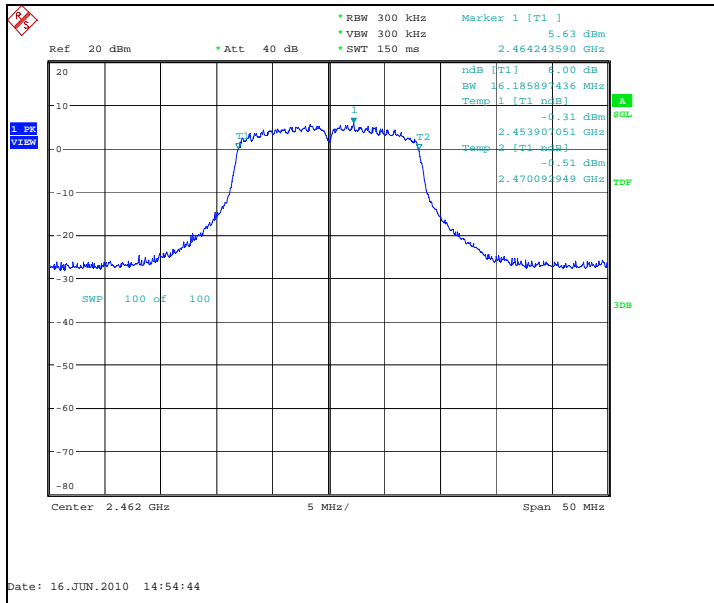
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



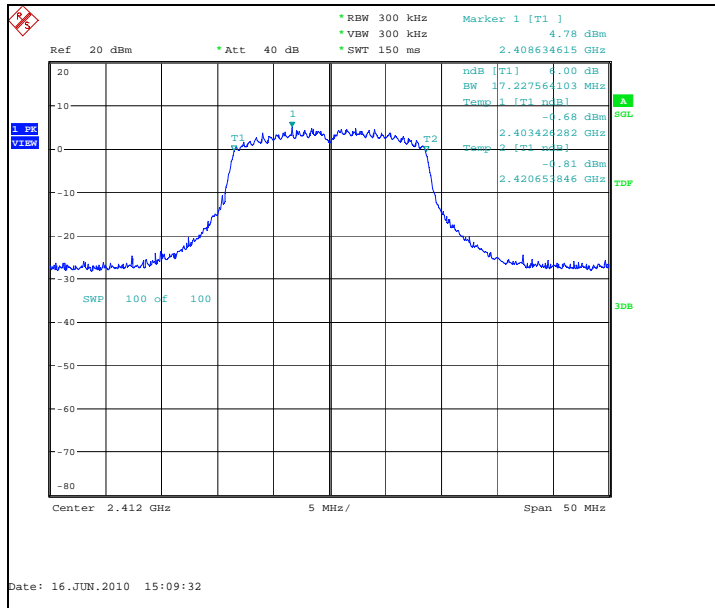
Channel 11 / 2462 MHz



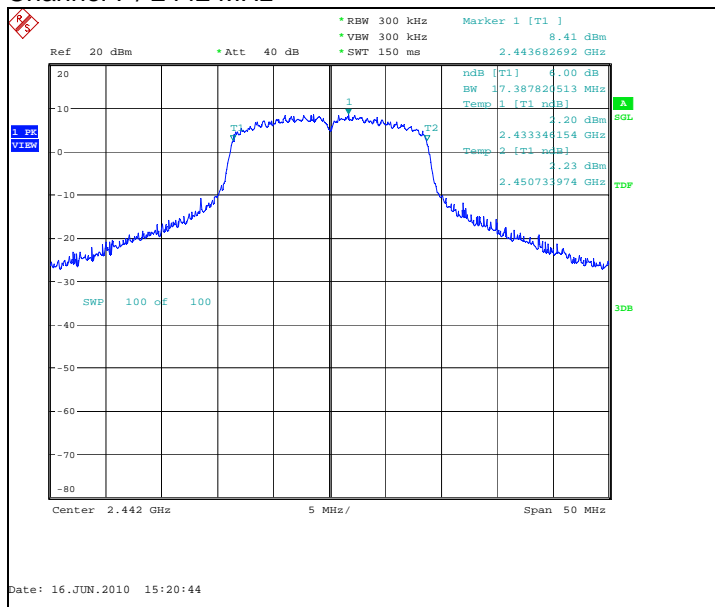
**7.2.3 802.11n HT20 MCS 0**

Channel / f <sub>c</sub> [MHz]	6 dB bandwidth [kHz]	Result
1	17227.564	PASSED
7	17387.821	PASSED
11	17307.692	PASSED

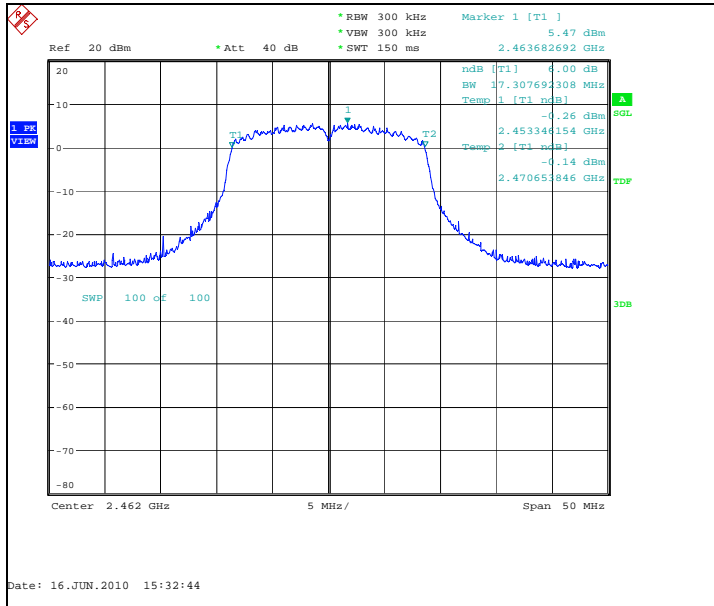
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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

<b>EUT with DUT number</b>	RM-596 DUT 42283
<b>Accessories with DUT numbers</b>	-
<b>Operation Voltage [V] / [Hz]</b>	Nominal
<b>Result</b>	PASSED
<b>Remarks</b>	-
<b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b>	21 / 49 / 99.8
<b>Date of measurements</b>	16-Jun-2010
<b>Measured by</b>	Jari Jantunen

**8.1. 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

<b>Limit [dBm] @ 3 kHz</b>
≤ 8

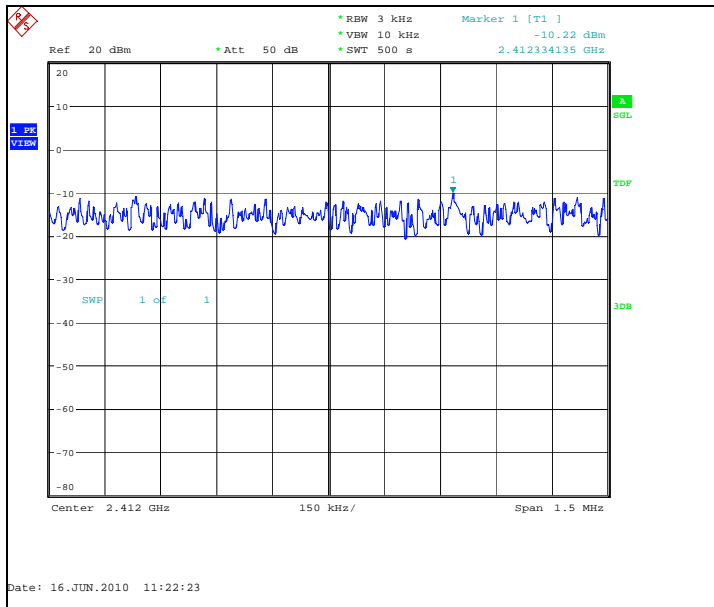


## 8.2. WLAN test results

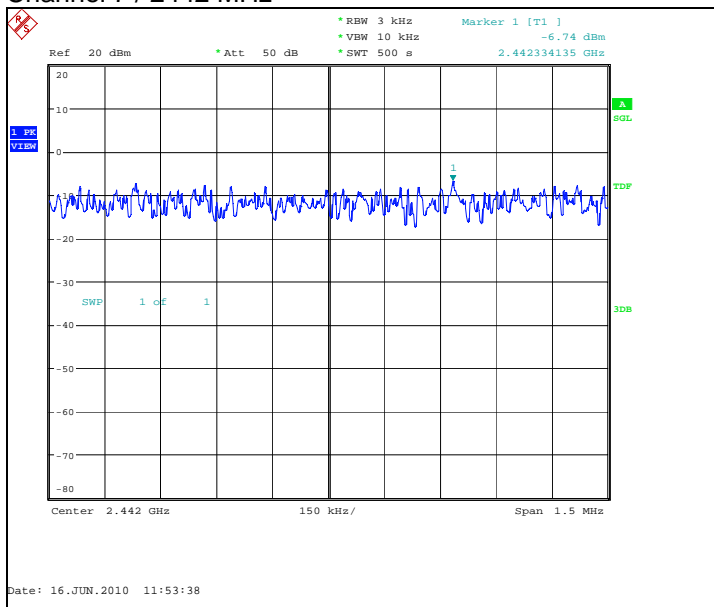
### 8.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / $f_c$ [MHz]	P [dBm]	Result
1 / 2412	-10.22	PASSED
7 / 2442	-6.74	PASSED
11 / 2462	-9.70	PASSED

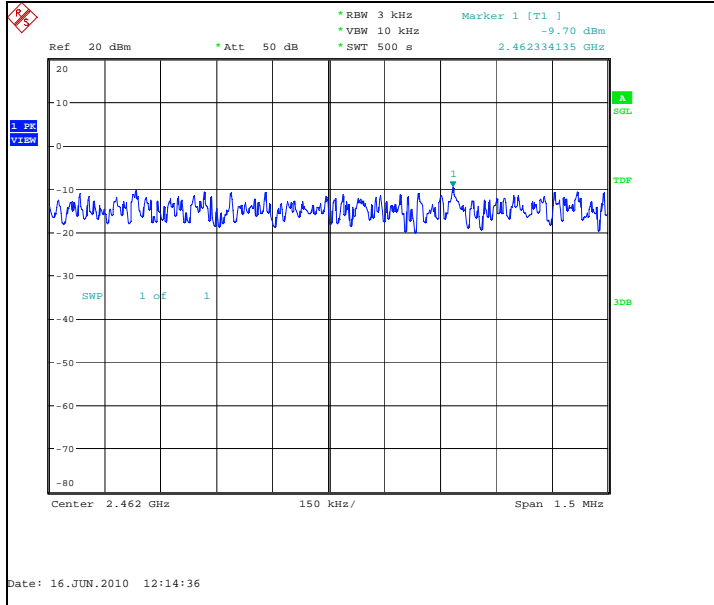
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



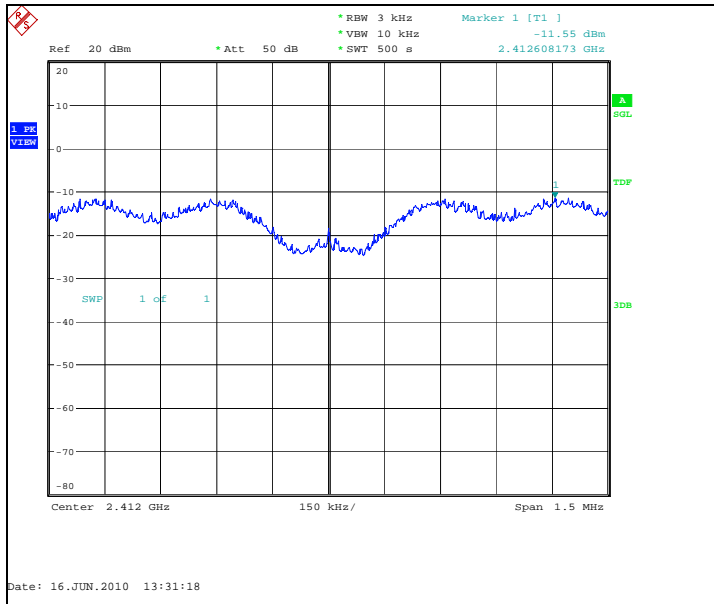
Channel 11 / 2462 MHz



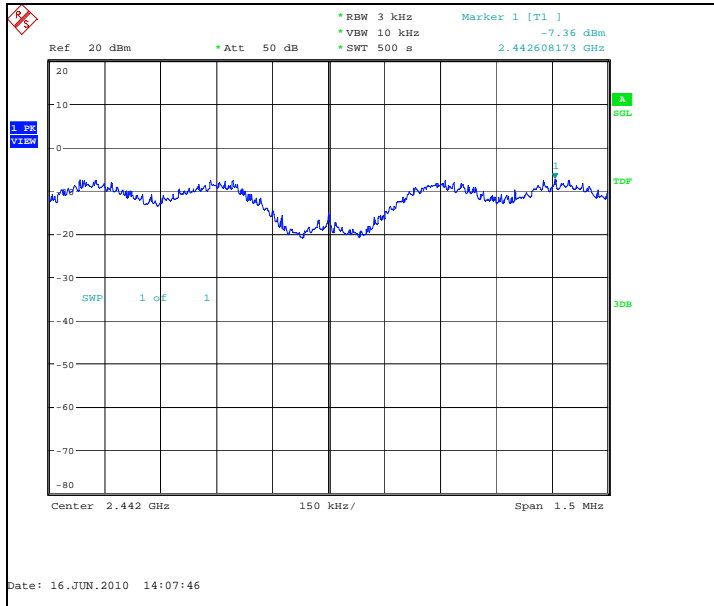
8.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / $f_c$ [MHz]	P [dBm]	Result
1 / 2412	-11.55	PASSED
7 / 2442	-7.36	PASSED
11 / 2462	-10.68	PASSED

Channel 1 / 2412 MHz

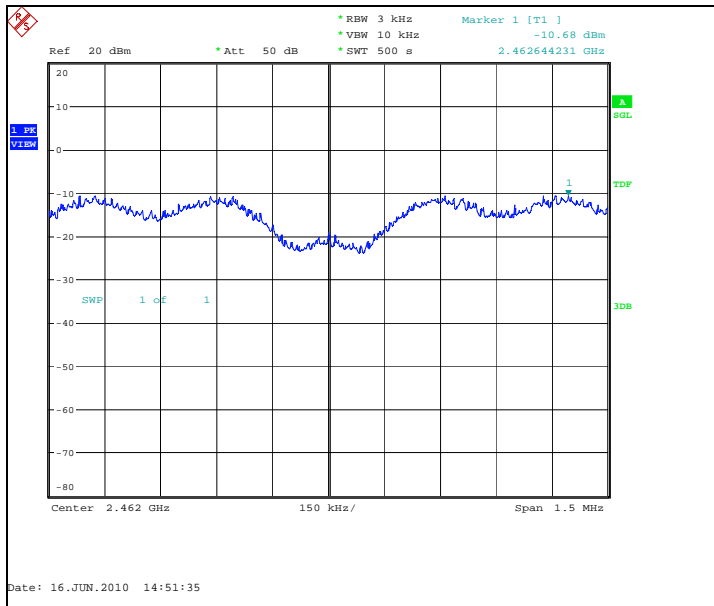


Channel 7 / 2442 MHz



<insert\_screen\_shot\_here>

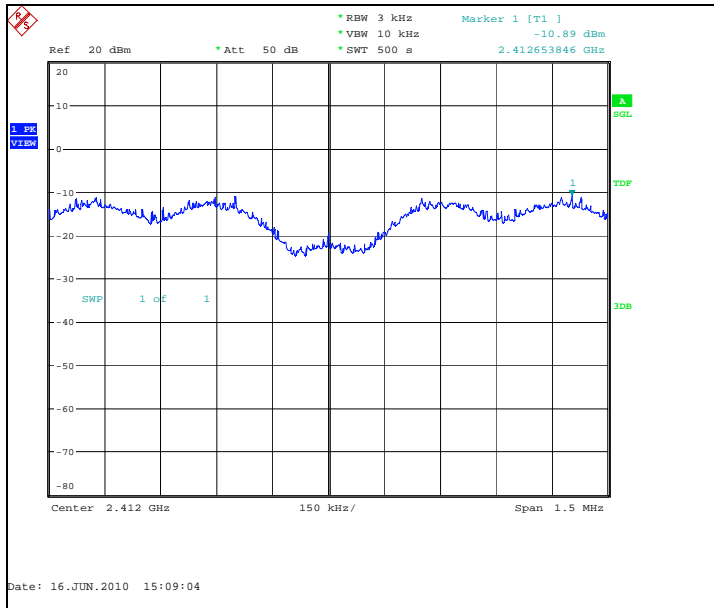
Channel 11 / 2462 MHz



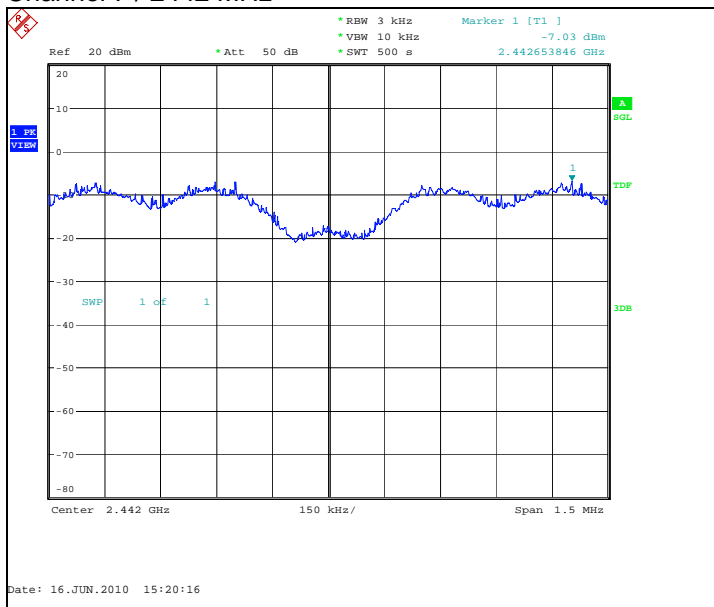
**8.2.3 802.11n HT20 MCS 0**

Channel / $f_c$ [MHz]	P [dBm]	Result
1 / 2412	-10.89	PASSED
7 / 2442	-7.03	PASSED
11 / 2462	-9.99	PASSED

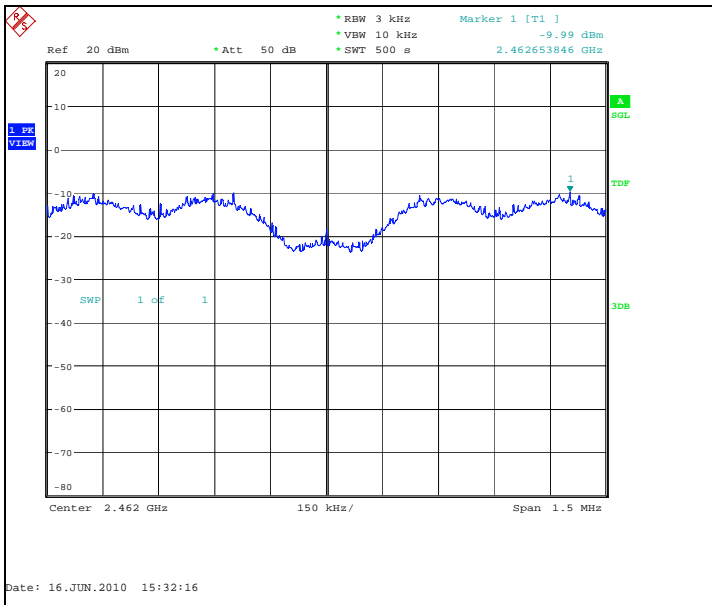
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



## 9. Test Equipment

### 9.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38112	Power supply	6632A	Agilent	22/24/27, 15C
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
OM0631 2	Signal Generator	E4422B	Agilent	22/24
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM30600	Impulse limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM26491	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum Analyzer	FSU26	R&S	22/24/27, 15C
TM22806	Battery	BAT 20/E	Fiskars	15C, 15B
TM22805	UPS	PS 20/1.2	Fiskars	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
-	Temperature test chamber	VT 4002	Vötsch	22/24
2058	Receiver	ESPC	R&S	15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Communication Tester	CMU200	R&S	22/24/27
2009	LISN 50 µH	ENV216	R&S	15C, 15B
2010	LISN 50 µH	ENV216	R&S	15C, 15B
2012	Power splitter	11667B	Agilent	22/24/27, 15C
2013	Attenuator	8493C	Agilent	22/24/27, 15C
2014	Attenuator	8493C	Agilent	22/24/27, 15C

### 9.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38114	Power supply	6632A	Agilent	22/24/27, 15C, 15B
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
TM38323	Preamplifier	PA-02 18-26 GHz	EMC Automation	22/24/27, 15C, 15B
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM26497	Antenna	3115	Emco	22/24/27, 15C, 15B
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM38845	Receiver	ESIB 26	R&S	22/24/27, 15C, 15B
-	Antenna	HL562	R&S	22/24/27, 15C, 15B
TM26500	Turntable	DS412	Deisel	22/24/27, 15C, 15B
TM30642	Mast/turntable controller	HD-100	Deisel	22/24/27, 15C, 15B
TM38990	Remote switching module	RSM1	EMC Automation	22/24/27, 15C, 15B
TM38341	System interface	SI-300	EMC Automation	22/24/27, 15C, 15B
-	Mini mast	2075-2	ETS Lindgren	22/24/27, 15C, 15B
TM38843	Mini mast	2075	Emco	22/24/27, 15C, 15B
TM38842	Controller	2090	Emco	22/24/27, 15C, 15B
TM39158	Antenna	3116	Emco	22/24/27, 15C, 15B
TM30643	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
TM30644	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
TM39180	Laser distance meter	Disto Pro	Leica	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	Miteq	22/24/27, 15C, 15B
-	Preamplifier	AFS4-00100300-20-23P6	Miteq	15C
TM37498	Preamplifier	AMF-5D-020180-26-10P	Miteq	22/24/27, 15C, 15B
TM30599	Semi anechoic chambre	UNKNOWN	TDK	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Torqueleader	22/24/27, 15C, 15B
TM38066	High pass filter	4HC3000/18000-3-KK	Trilithic	22/24/27, 15C, 15B
TM26511	Tunable notch filter	WRCA870/	Wainwright	27
TM38215	Band reject filter	WRCD 1920/1980-1918/1982-40/20	Wainwright UMTS	27
TM38214	Band reject filter	WRCT 2402/2480-2400/2483.5-30/	Wainwright ISM	15C
-	Band reject filter	WRCG1877/1883-1870/1890-40/6EE	Wainwright	27
-	Band reject filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
-	Band reject filter	WRCG832/838-825/848-40/5SS	Wainwright	27
TM23892	Controller	G-1000SDX	Yaesu	22/24/27
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
-	Antenna	SBA 9113	Schwarzbeck	22/24/27
6023	Antenna	VUBA 9117	Schwarzbeck	22/24/27, 15C