

FCC Part 15C Compliance Test Report

Test Report no.:	Tre_FCC_0805_05.doc	Date of Report:	1.2.2008
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FCC listing no.:	94436		
IC recognition no.:	3608		
Tested devices/ accessories:	GSM-phone RM-420 / AC-Charger AC-5E / Battery BL-4U / Headset HS-47		
FCC ID:	PYARM-420	IC:	661V-RM420
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:			

Jari Jantunen, System Manager

1 Summary for FCC Part 15C Compliance Test Report

Date of receipt	09.01.2008
Testing completed	22.1.2008
The customer's contact person	Tia Melava
Test Plan referred to	T:\Projects\RM-343\TestPlan_RS
Notes	-
Document name	T:\Projects\RM-343\EMC\Results\FCC\Tre_FCC_0802_03.doc

1.1 EUT and Accessory Information

The EUT is a 6-band (GSM850/900/1800/1900 and WCDMA Band I and V) 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
GSM-Phone	RM-343	004401014369942	0303	-	07.45.3	41358
GSM-Phone	RM-343	004401014372565	0303	-	07.45.3	41357
Battery	BL-4U	-	-	-	-	41364
Battery	BL-4U	-	-	-	-	27213
Headset	HS-47	-	-	-	-	41367
Headset	HS-47	-	-	-	-	41215
AC-Charger	AC-5E	-	-	-	-	41365
AC-Charger	AC-5E	-	-	-	-	41334

1.2 Summary of Test Results

Bluetooth:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (2)	Conducted peak output power	PASSED
15.247(d)	A8.5	Band edge compliance of RF emissions	NP
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	PASSED
15.247(a)(1)	A8.1 (1)	20 dB bandwidth	PASSED
15.247(a)(1)	A8.1 (2)	Carrier frequency separation	PASSED
15.247(a)(1)(iii)	A8.1 (4)	Number of hopping frequencies	PASSED
15.247(a)(1)(iii)	A8.1 (4)	Time of occupancy	PASSED

WLAN:

Section in CFR 47	Section in RSS-210	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	NP
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	PASSED
15.247(a)(2)	A8.2 (1)	6 dB bandwidth	PASSED
15.247(e)	A8.2 (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 Tampere Laboratory.

The test results of PYARM-343 are re-used for certification of the PYARM-420. The table above indicates the results, which will be re-used.

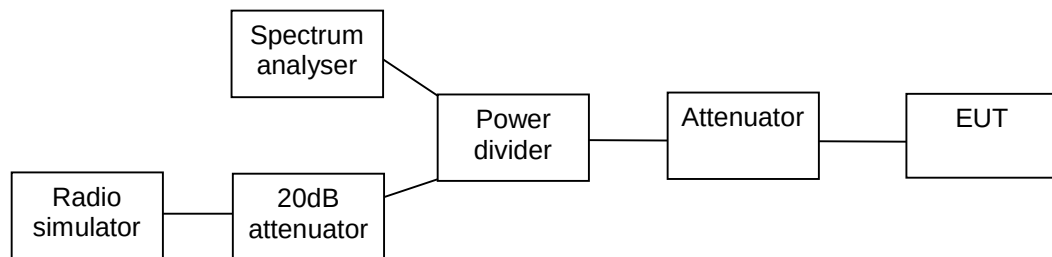
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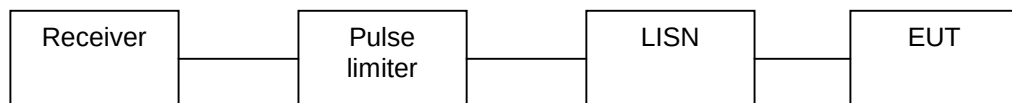
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2 Test setups

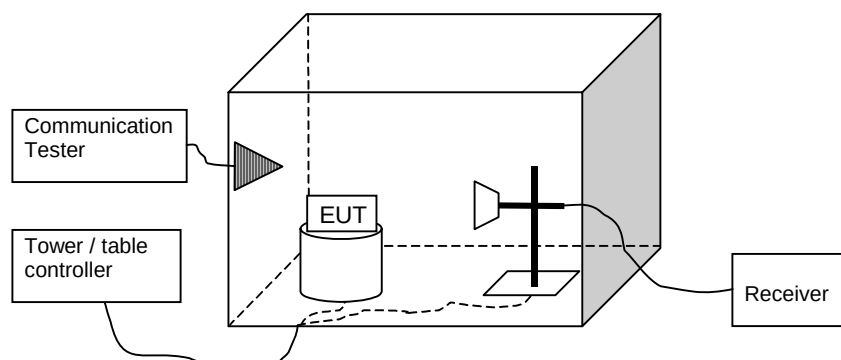
2.1 Conducted RF test setup



2.2 AC powerline conducted emissions test setup



2.3 Spurious radiated emissions test setup



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

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

3.1 Test method and limit

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

Limits for conducted peak output power measurements

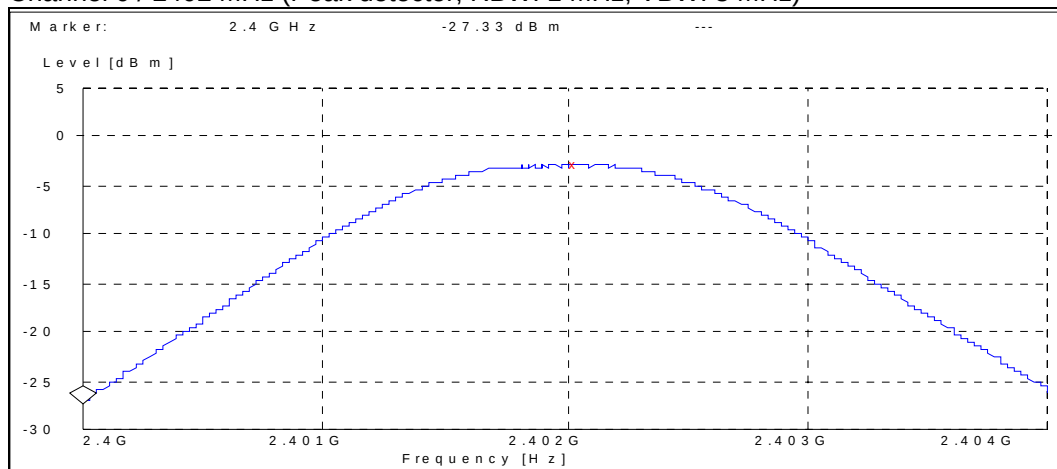
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2 Bluetooth Test results

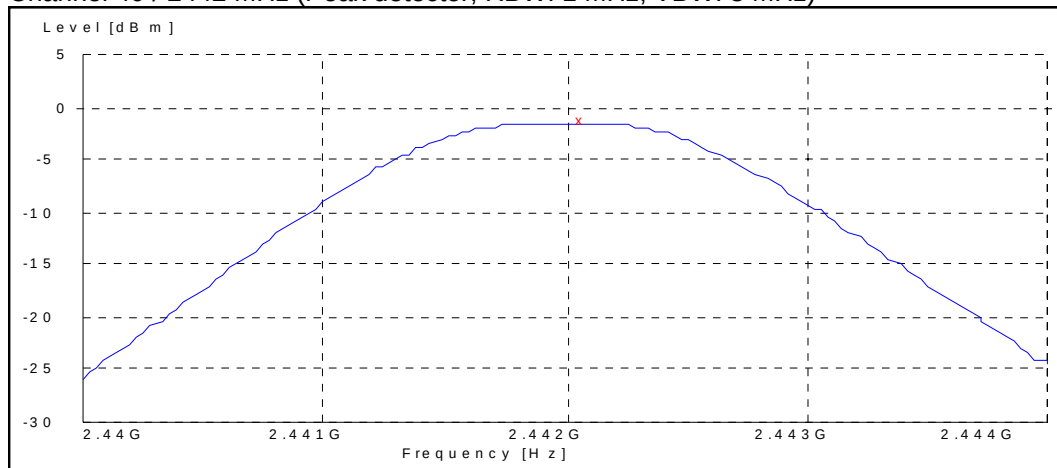
3.2.1 GFSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-2.90	0.513	PASSED
40 / 2442	-1.40	0.724	PASSED
78 / 2480	-0.70	0.851	PASSED

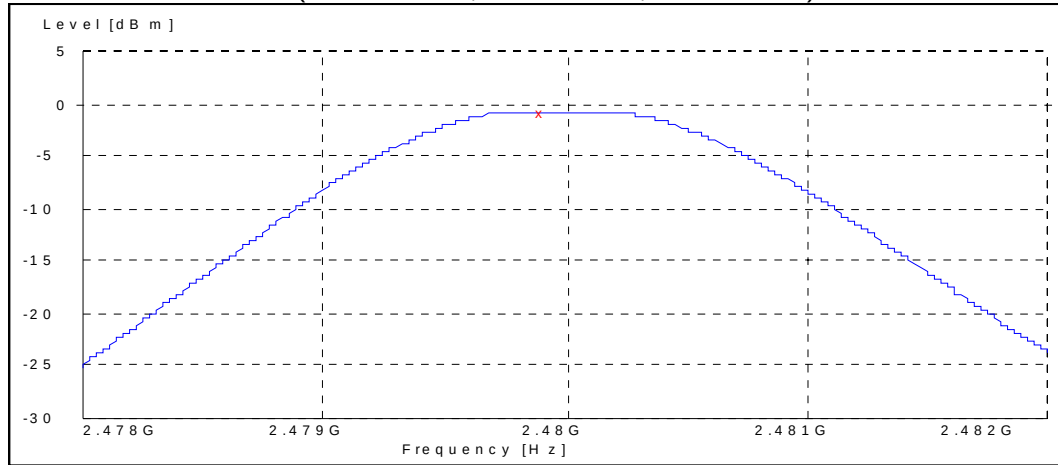
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



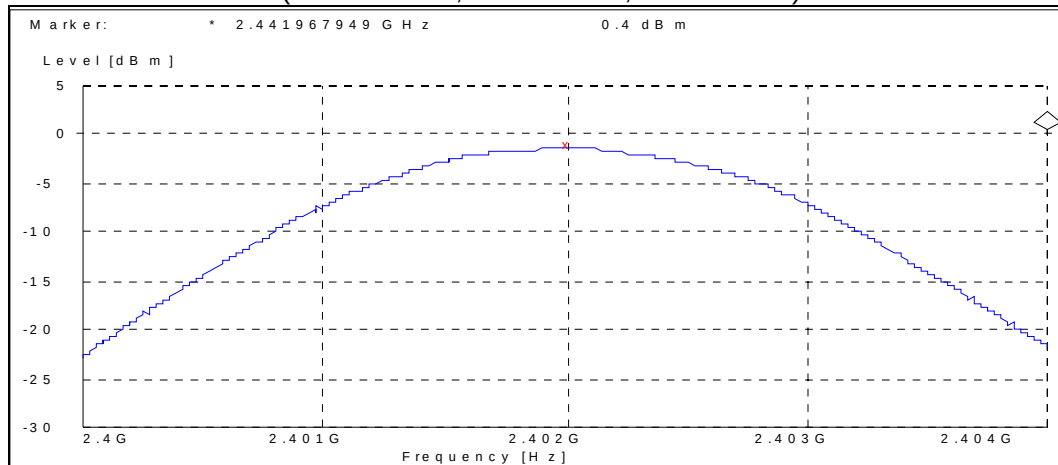
Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



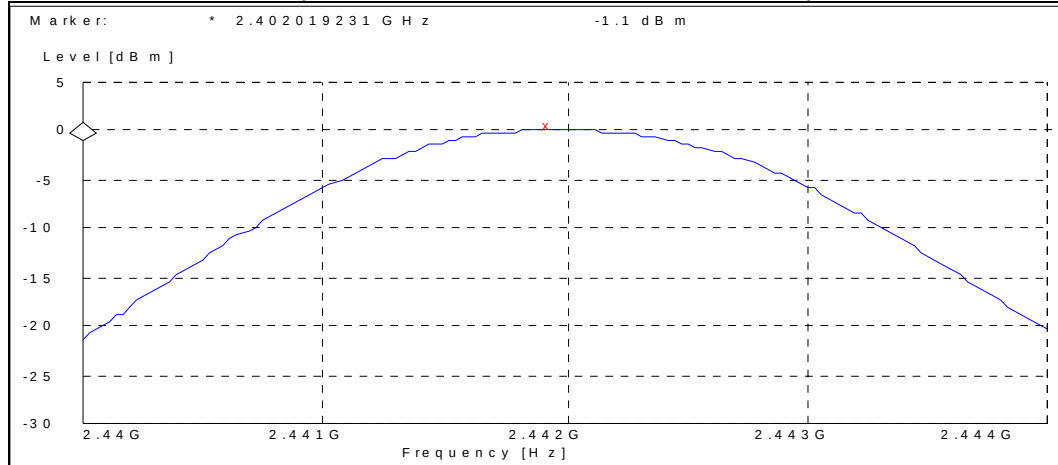
3.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
0 / 2402	-1.10	0.776	PASSED
40 / 2442	0.50	1.122	PASSED
78 / 2480	1.20	1.318	PASSED

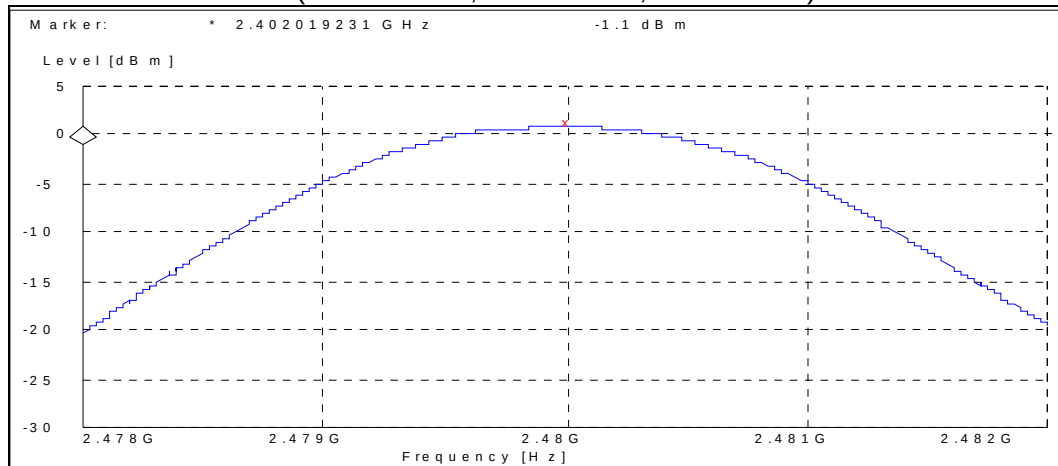
Channel 0 / 2402 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 40 / 2442 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



Channel 78 / 2480 MHz (Peak detector, RBW: 1 MHz, VBW: 3 MHz)



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

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

4.1 Test method and limit

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

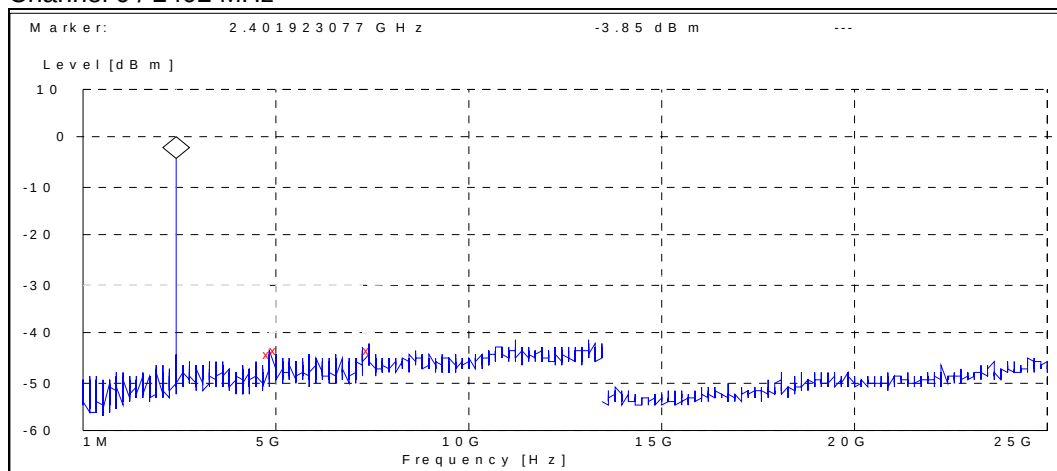
Limits for spurious RF conducted emissions measurements

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

4.2 Bluetooth Test results

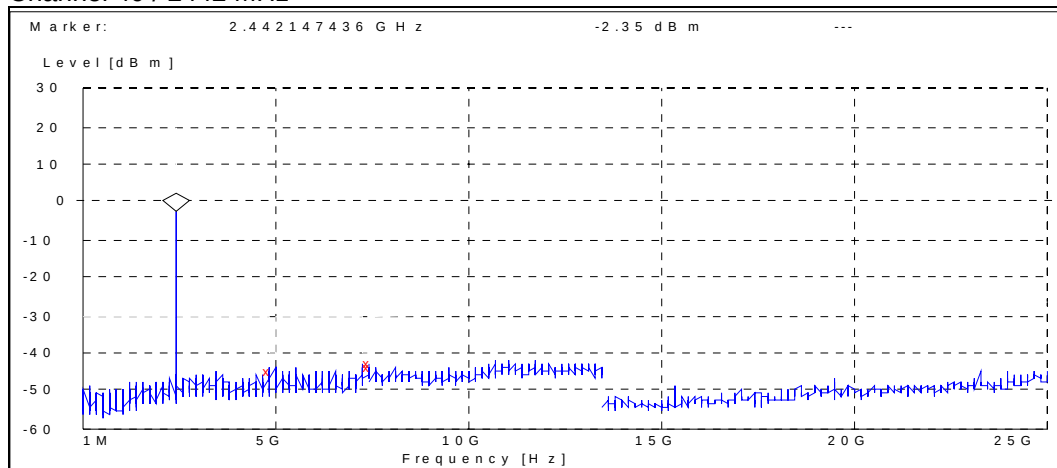
4.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz



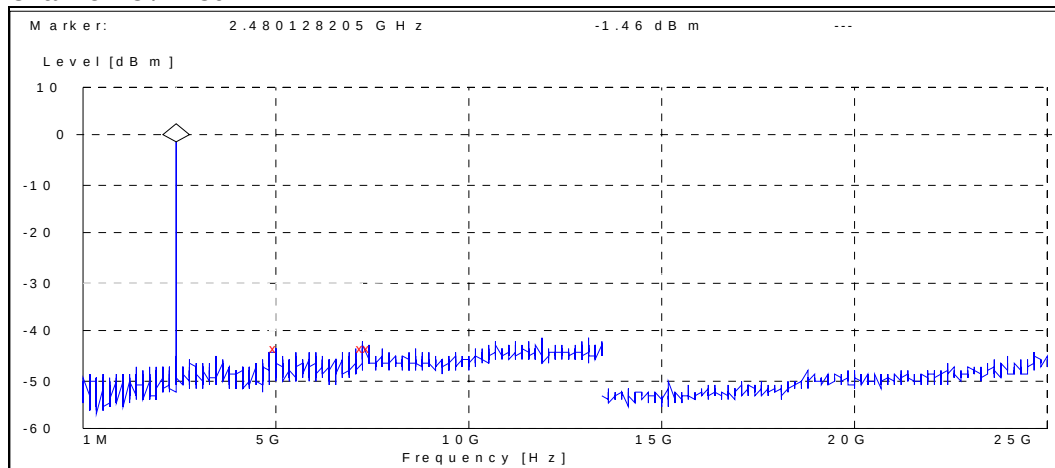
Frequency [MHz]	P [dBc]	Result
4824.038462	-40.650981	PASSED
5000.000000	-39.950981	PASSED
7491.346154	-39.950981	PASSED

Channel 40 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4820.192308	-42.447754	PASSED
7499.519231	-40.347754	PASSED
7500.000000	-40.947754	PASSED

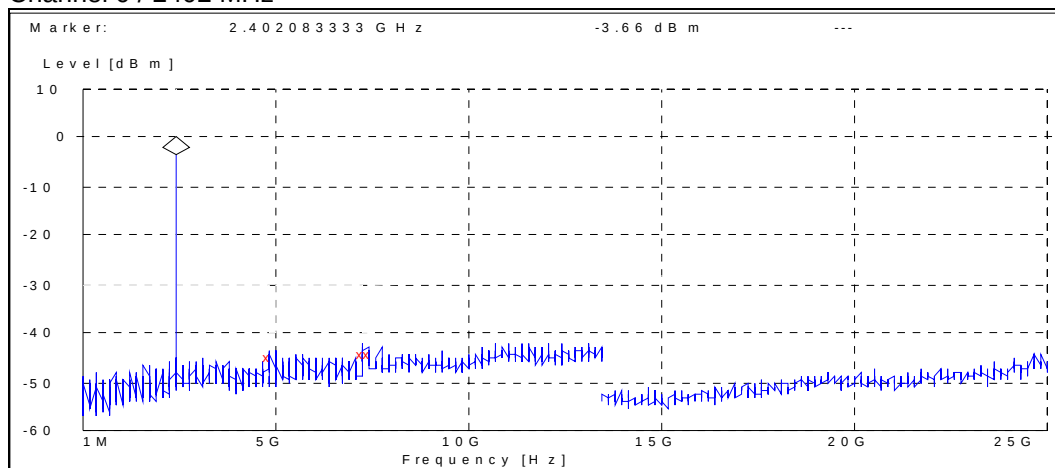
Channel 78 / 2480 MHz



Frequency [MHz]	P [dBc]	Result
4966.987179	-42.440890	PASSED
7306.250000	-42.340890	PASSED
7500.000000	-42.440890	PASSED

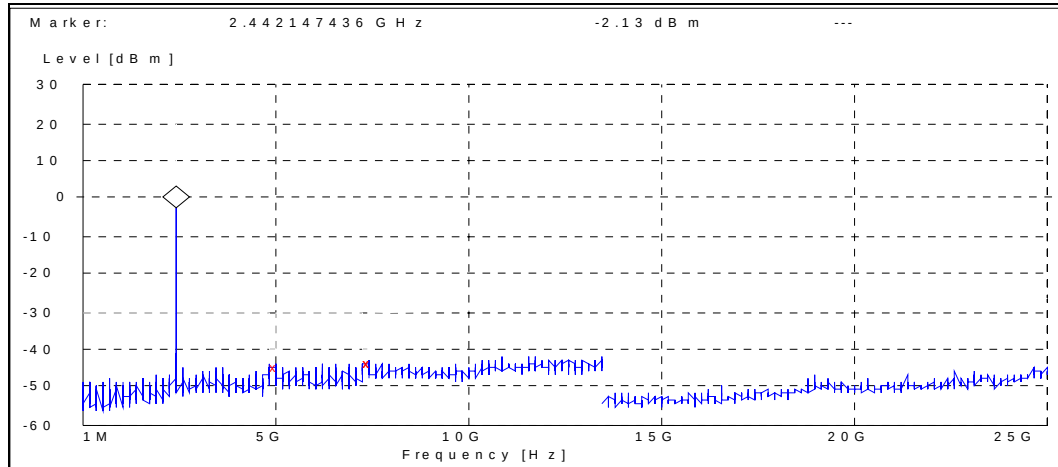
4.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz



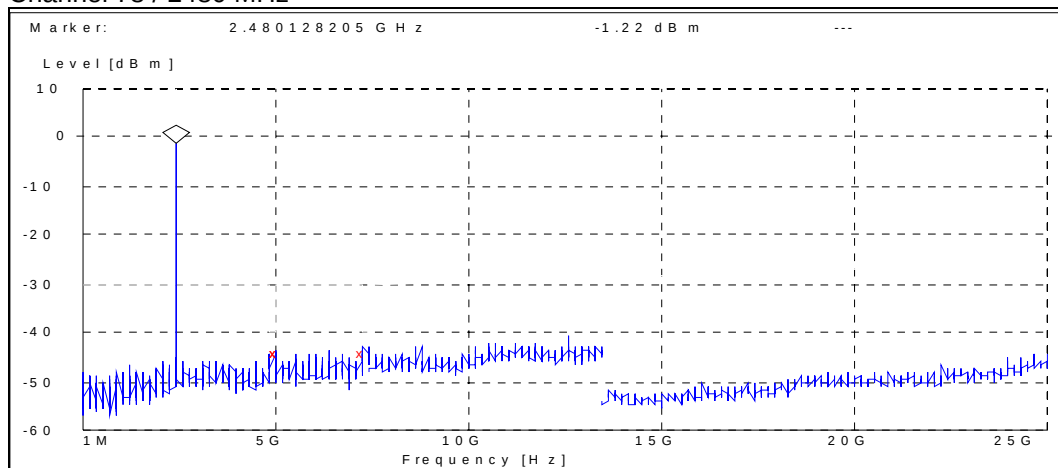
Frequency [MHz]	P [dBc]	Result
4825.961538	-41.635205	PASSED
7200.480769	-40.935205	PASSED
7500.000000	-40.735205	PASSED

Channel 40 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4973.717949	-42.465970	PASSED
7413.942308	-41.265970	PASSED
7500.000000	-41.465970	PASSED

Channel 78 / 2480 MHz



Frequency [MHz]	P [dBc]	Result
4985.576923	-43.177721	PASSED
5000.000000	-42.977721	PASSED
7306.730769	-42.877721	PASSED

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

EUT with DUT number	RM-343 DUT 41357
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 48 / 100.0
Date of measurements	16.1.2008
Measured by	Jari Jantunen

5.1 Test method and limit

The measurement is made according to Public notice DA 00-705 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 [$\mu\text{V/m}$]	Limit [dB $\mu\text{V/m}$]	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

5.2 Bluetooth Test results

5.2.1 GFSK modulation, PRBS packet type

Channel 0 / 2402 MHz

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	39.50	94.41	41.30	-1.8	HORIZONTAL	PASSED
7206.000000	41.70	121.62	39.10	2.6	VERTICAL	PASSED

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	25.90	19.72	27.70	-1.8	HORIZONTAL	PASSED
7206.000000	29.30	29.17	26.70	2.6	VERTICAL	PASSED

Channel 40 / 2442 MHz

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
33.066733	30.30	32.73	41.80	-11.5	VERTICAL	PASSED
37.576353	20.10	10.12	34.70	-14.6	VERTICAL	PASSED
63.307816	19.80	9.77	46.60	-26.8	VERTICAL	PASSED
73.386573	22.20	12.88	47.80	-25.6	HORIZONTAL	PASSED
74.169940	19.30	9.23	44.80	-25.5	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4946.395792	39.90	98.86	41.40	-1.5	HORIZONTAL	PASSED
7280.067134	43.10	142.89	40.10	3.0	VERTICAL	PASSED
7313.129259	43.40	147.91	40.40	3.0	HORIZONTAL	PASSED
7410.815631	44.10	160.32	40.40	3.7	VERTICAL	PASSED
7423.351703	44.00	158.49	40.30	3.7	VERTICAL	PASSED
17967.433868	53.10	451.86	33.60	19.5	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
4949.395792	26.90	22.13	28.30	-1.4	HORIZONTAL	PASSED
4967.435872	27.20	22.91	28.40	-1.2	VERTICAL	PASSED
7282.567134	30.40	33.11	27.40	3.0	VERTICAL	PASSED
7316.629259	30.00	31.62	27.00	3.0	HORIZONTAL	PASSED
7407.315631	30.80	34.67	27.10	3.7	VERTICAL	PASSED
7428.351703	30.60	33.88	27.00	3.6	VERTICAL	PASSED
17964.433868	40.40	104.71	20.90	19.5	HORIZONTAL	PASSED

Channel 78 / 2480 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	40.30	103.51	41.60	-1.3	HORIZONTAL	PASSED
7440.000000	43.00	141.25	39.40	3.6	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
4960.000000	27.00	22.39	28.30	-1.3	HORIZONTAL	PASSED
7440.000000	30.50	33.50	26.90	3.6	VERTICAL	PASSED

5.2.2 8DPSK modulation, PRBS packet type

Channel 0 / 2402 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4804.000000	39.20	91.20	41.00	-1.8	HORIZONTAL	PASSED
7206.000000	42.30	130.32	39.70	2.6	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
4804.000000	26.00	19.95	27.80	-1.8	VERTICAL	PASSED
7206.000000	29.30	29.17	26.70	2.6	VERTICAL	PASSED

Channel 40 / 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
33.066733	22.80	13.80	34.30	-11.5	VERTICAL	PASSED
38.176353	22.70	13.65	37.70	-15.0	VERTICAL	PASSED
73.386573	15.00	5.62	40.60	-25.6	HORIZONTAL	PASSED
74.369940	14.10	5.07	39.60	-25.5	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
4963.931864	40.10	101.16	41.40	-1.3	HORIZONTAL	PASSED
7282.065130	43.80	154.88	40.80	3.0	HORIZONTAL	PASSED
7292.587174	43.10	142.89	40.10	3.0	HORIZONTAL	PASSED
7421.837675	43.70	153.11	40.00	3.7	VERTICAL	PASSED
7421.847695	43.30	146.22	39.60	3.7	HORIZONTAL	PASSED
17873.753507	52.70	431.52	33.50	19.2	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
4964.931864	27.10	22.65	28.40	-1.3	HORIZONTAL	PASSED
7285.565130	30.40	33.11	27.40	3.0	HORIZONTAL	PASSED
7292.087174	30.10	31.99	27.10	3.0	HORIZONTAL	PASSED
7420.837675	30.90	35.08	27.20	3.7	VERTICAL	PASSED
7424.847695	30.70	34.28	27.10	3.6	HORIZONTAL	PASSED
17874.753507	40.10	101.16	20.90	19.2	HORIZONTAL	PASSED

Channel 78 / 2480 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4960.000000	39.70	96.61	41.00	-1.3	VERTICAL	PASSED
7440.000000	43.50	149.62	39.90	3.6	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
4960.000000	27.00	22.39	28.30	-1.3	HORIZONTAL	PASSED
7440.000000	30.50	33.50	26.90	3.6	VERTICAL	PASSED

6 AC powerline conducted emissions (FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-343 DUT41357
Accessories with DUT numbers	BL-4U DUT27213;AC-5E DUT41334;HS-47 DUT41215
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 102
Date of measurements	22.01.2008
Measured by	Zou Ming

6.1 Test method and limit

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

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

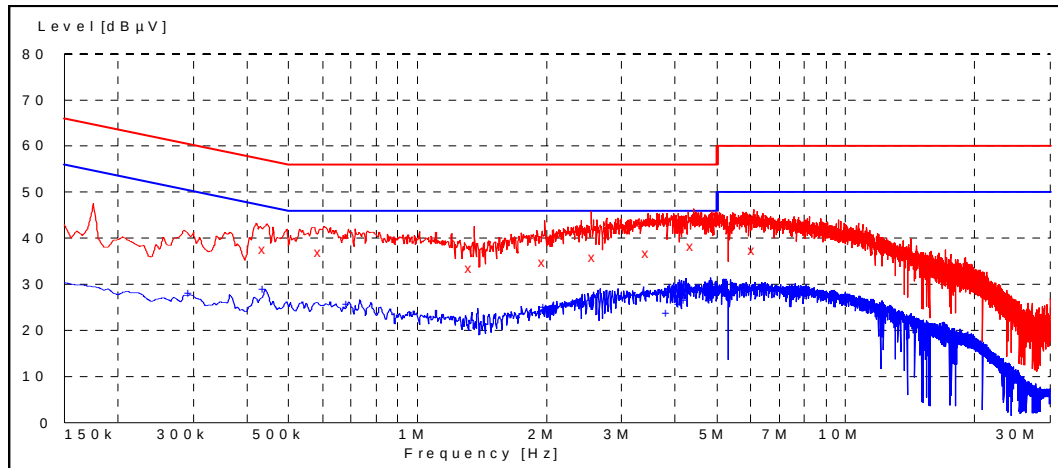
CISPR 22 Class B limits

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

6.2 Bluetooth Test results

6.2.1 GFSK modulation, PRBS packet type

channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

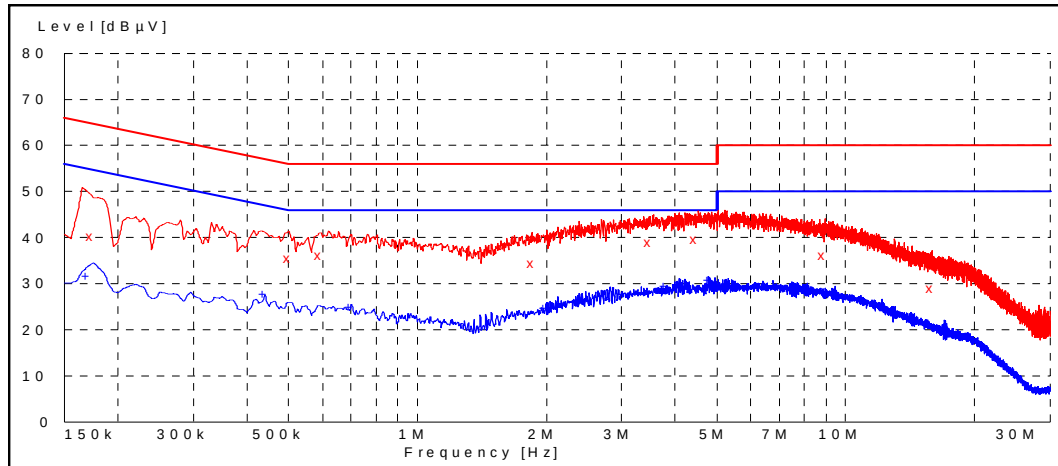
Frequency [MHz]	U [dBμV]	Line	Result
0.440000	37.70	L1	PASSED
0.595000	36.90	L1	PASSED
1.335000	33.40	L1	PASSED
1.980000	34.70	L1	PASSED
2.590000	35.90	L1	PASSED
3.465000	36.70	L1	PASSED
4.400000	38.30	L1	PASSED
6.105000	37.50	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.295000	28.10	L1	PASSED
0.440000	29.00	L1	PASSED
0.690000	25.60	L1	PASSED
1.990000	25.00	L1	PASSED
3.865000	23.80	N	PASSED
4.120000	25.60	N	PASSED
4.255000	26.70	L1	PASSED
4.865000	26.50	L1	PASSED

6.2.2 8DPSK modulation, PRBS packet type

channel 40 / 2442 MHz



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.175000	40.40	L1	PASSED
0.505000	35.60	L1	PASSED
0.595000	36.10	L1	PASSED
1.865000	34.40	L1	PASSED
3.510000	38.90	L1	PASSED
4.480000	39.70	L1	PASSED
8.930000	36.10	L1	PASSED
15.915000	29.10	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.170000	31.60	N	PASSED
0.440000	27.80	L1	PASSED
0.700000	25.00	L1	PASSED
1.990000	24.60	L1	PASSED
3.810000	29.50	L1	PASSED
4.805000	30.80	L1	PASSED
8.120000	29.40	L1	PASSED

7 20 dB bandwidth

(FCC §15.247(a)(1), RSS-210 A8.1 (1))

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

7.1 Test method and limit

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

Limits for 20 dB bandwidth measurements

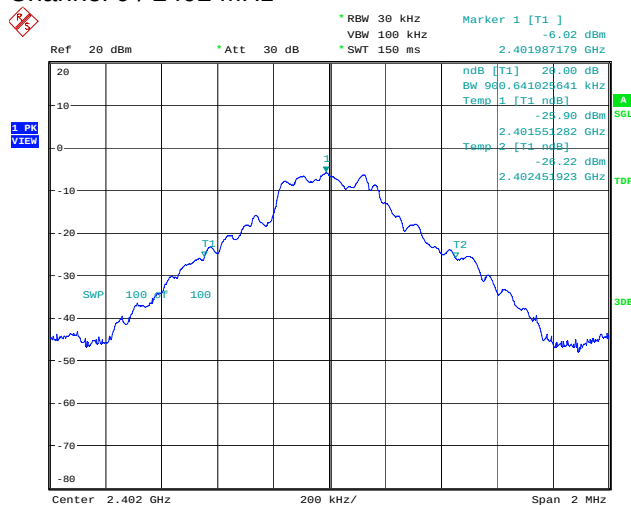
Limit [MHz]
N/A

7.2 Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

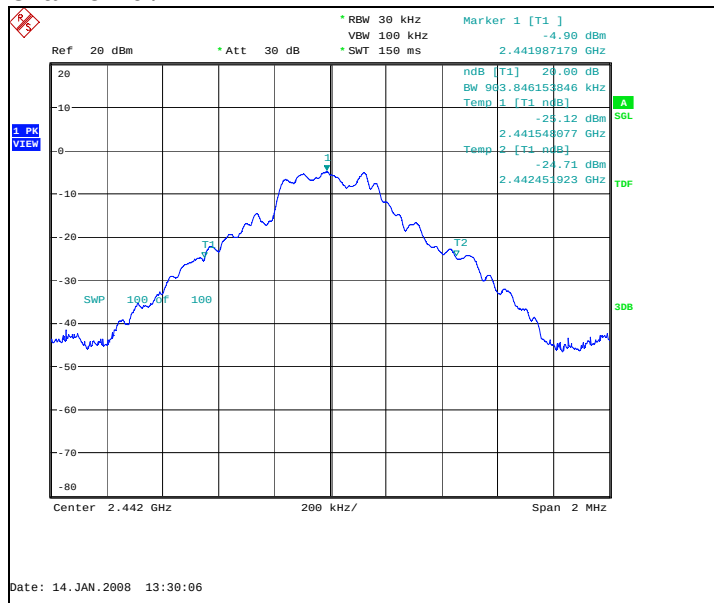
Channel / f _c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	900.641	PASSED
40 / 2442	903.846	PASSED
78 / 2480	903.846	PASSED

Channel 0 / 2402 MHz

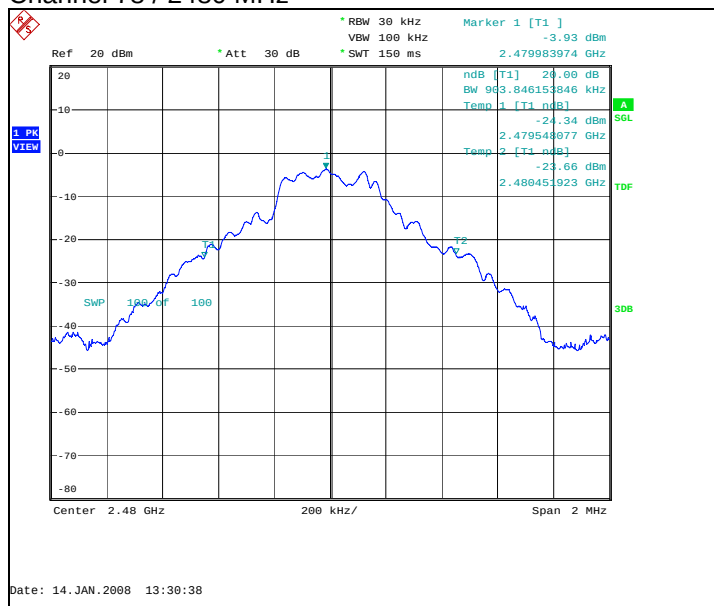


Date: 14. JAN. 2008 14:47:00

Channel 40 / 2442 MHz



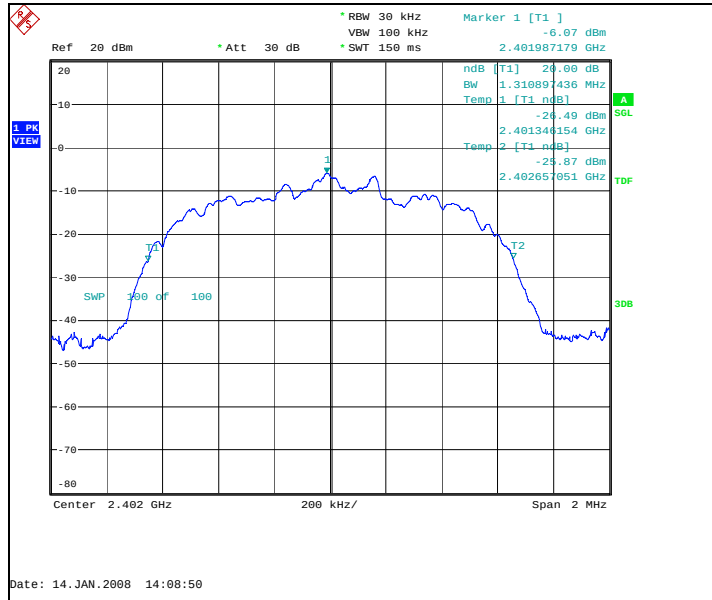
Channel 78 / 2480 MHz



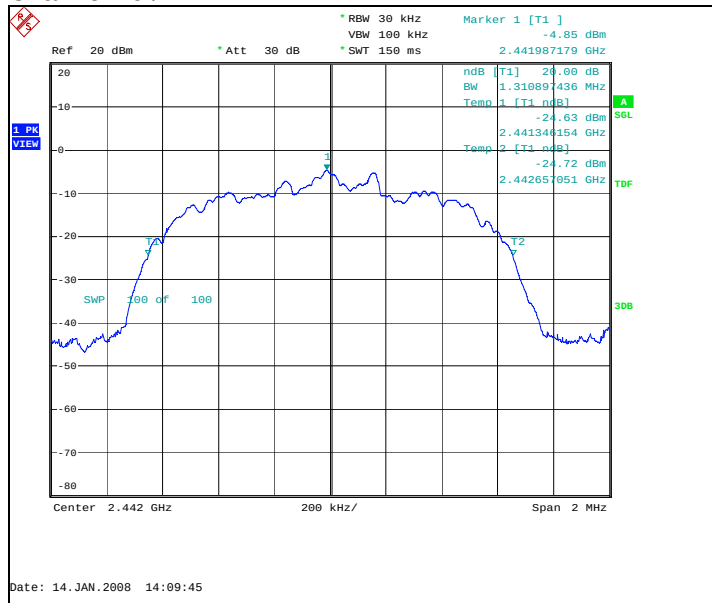
7.2.2 8DPSK modulation, PRBS packet type

Channel / f_c [MHz]	20 dB bandwidth [kHz]	Result
0 / 2402	1310.897	PASSED
40 / 2442	1310.897	PASSED
78 / 2480	1307.692	PASSED

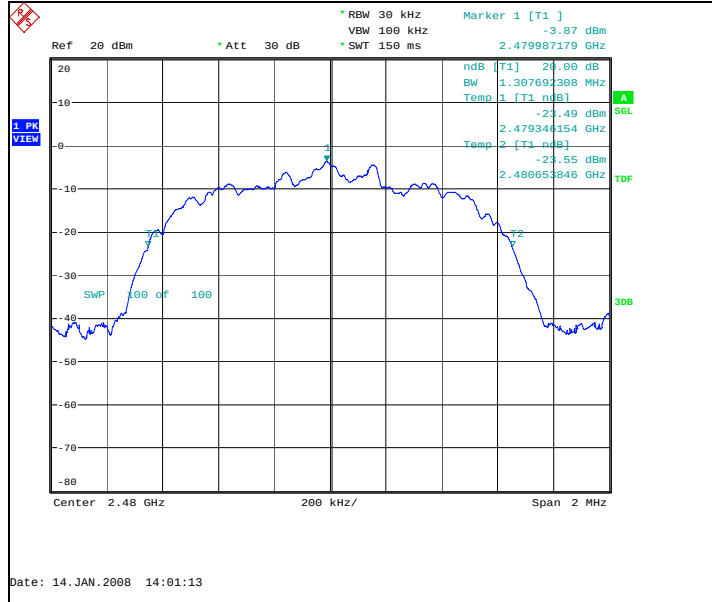
Channel 0 / 2402 MHz



Channel 40 / 2442 MHz



Channel 78 / 2480 MHz



8 Carrier frequency separation (FCC §15.247(a)(1), RSS-210 A8.1 (2))

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

8.1 Test method and limit

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

Limits for carrier frequency separation measurements

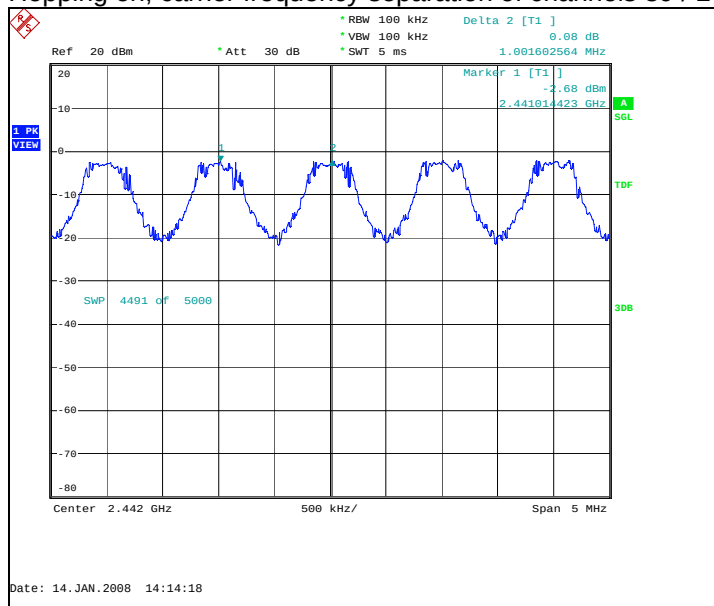
Limit [MHz]
≥ 0.025 or $2/3$ of the 20 dB bandwidth

8.2 Bluetooth Test results

8.2.1 GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1001.603	PASSED

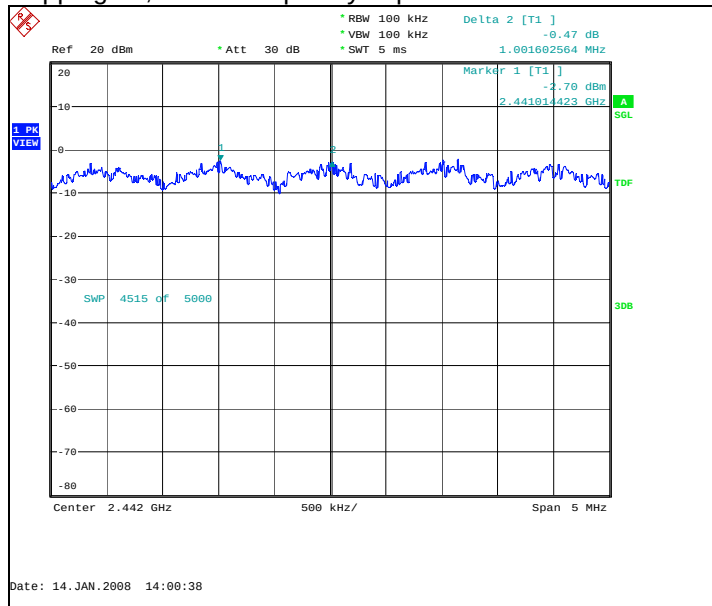
Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



8.2.2 8DPSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1001.603	PASSED

Hopping on, carrier frequency separation of channels 39 / 2441 MHz and 40 / 2442 MHz



9 Number of hopping frequencies (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

9.1 Test method and limit

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

Limits for number of hopping frequencies measurements

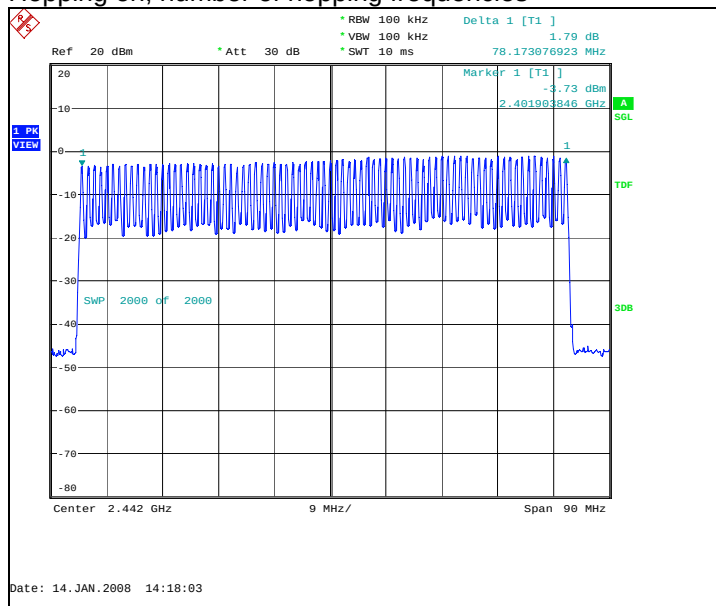
Limit [number]
≥ 15

9.2 Bluetooth Test results

9.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	PASSED

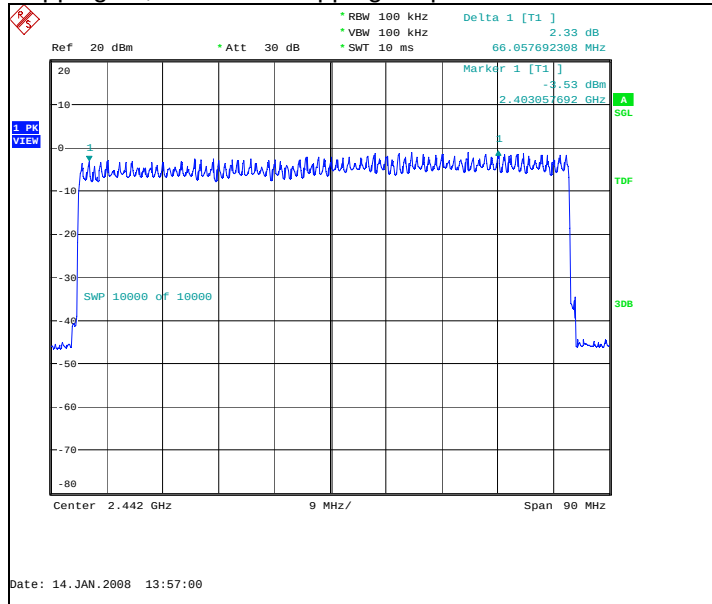
Hopping on, number of hopping frequencies



9.2.2 8DPSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
76	PASSED

Hopping on, number of hopping frequencies



10 Time of occupancy

(FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

10.1 Test method and limit

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

The total time of occupancy is get by multiplying the measured number of transmissions occurred during 31.6 second period with the duration of one transmission.

Limits for time of occupancy measurements

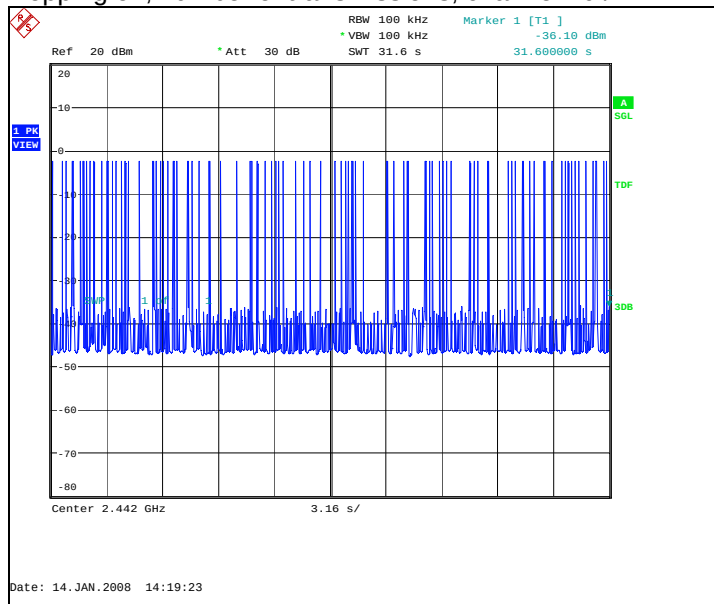
Limit [s]
≤ 0.4

10.2 Bluetooth test results

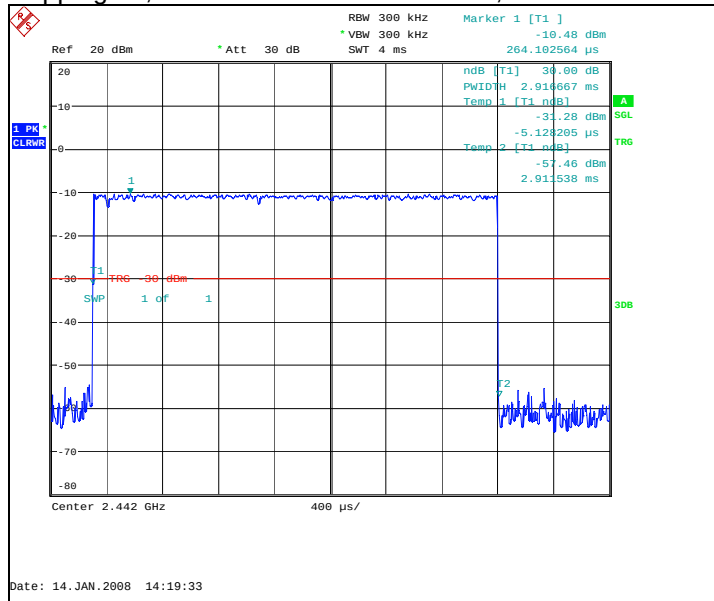
10.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
83	2,917	0.242083	PASSED

Hopping on, number of transmissions, channel 40 / 2442 MHz



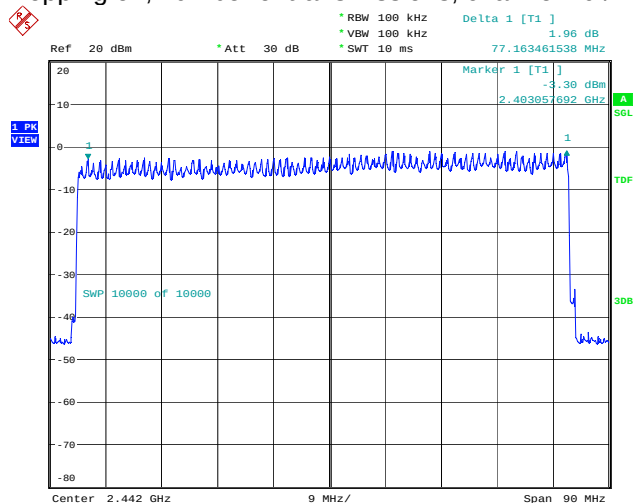
Hopping on, duration of one transmission, channel 40 / 2442 MHz



10.2.2 8DPSK modulation, PRBS packet type

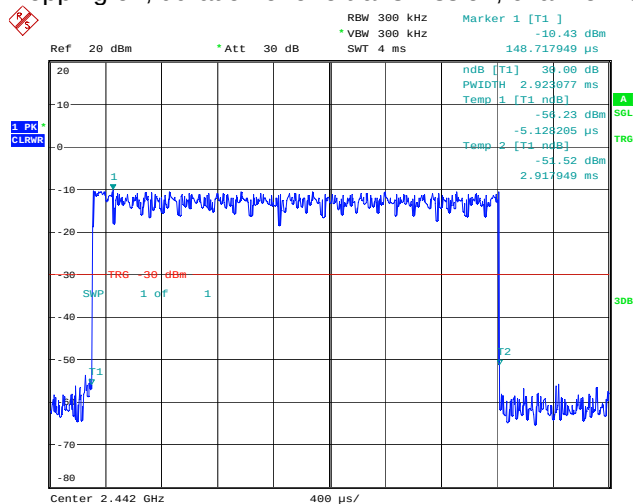
Measured number of transmissions	Duration of one transmission [μs]	Time of occupancy [s]	Result
93	2,923	0.271846	PASSED

Hopping on, number of transmissions, channel 40 / 2442 MHz



Date: 14. JAN.2008 14:58:57

Hopping on, duration of one transmission, channel 40 / 2442 MHz



Date: 14. JAN.2008 13:58:30

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

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

11.1 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

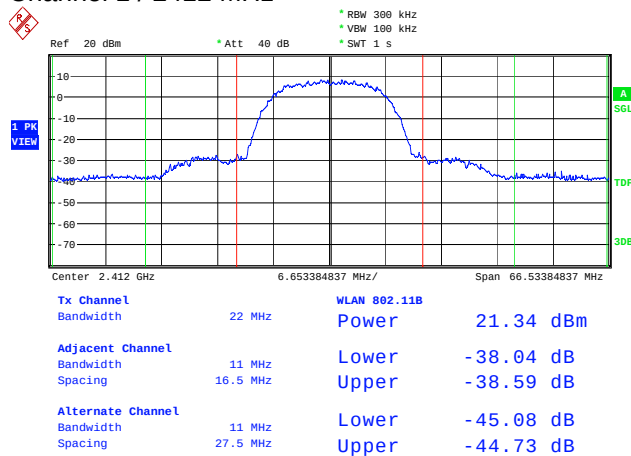
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

11.2 WLAN Test results

11.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

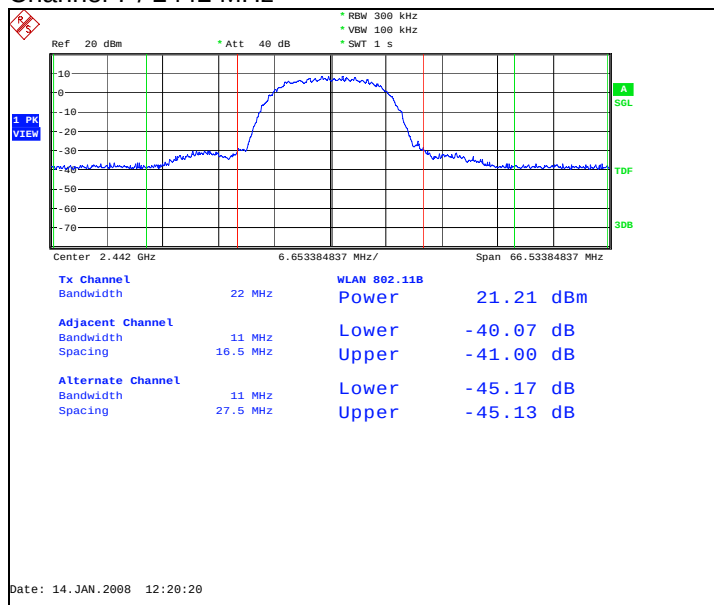
Channel / f _c [MHz]	P [dBm]	P [W]	Result
1 / 2412	21.34	0.136	PASSED
7 / 2442	21.21	0.130	PASSED
11 / 2462	21.49	0.139	PASSED

Channel 1 / 2412 MHz

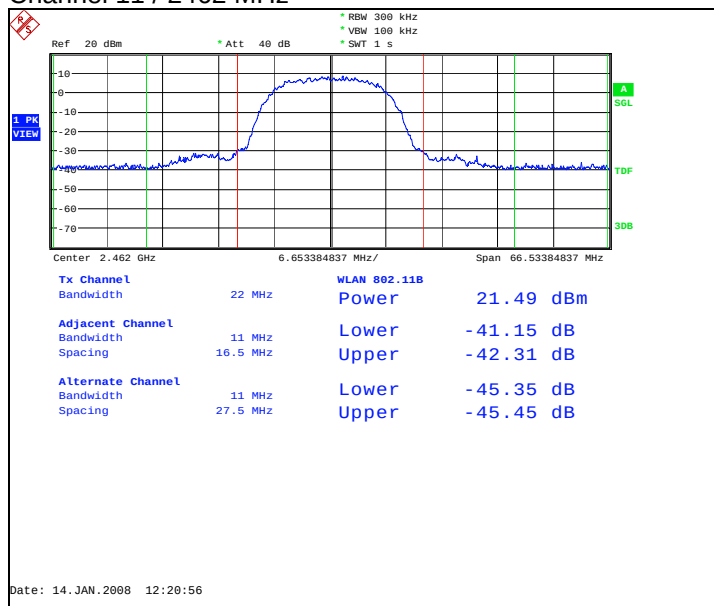


Date: 14.JAN.2008 13:02:53

Channel 7 / 2442 MHz



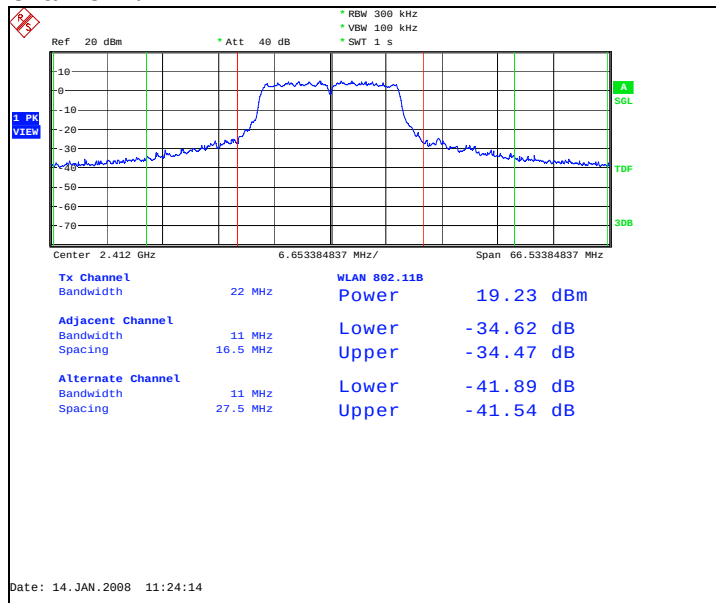
Channel 11 / 2462 MHz



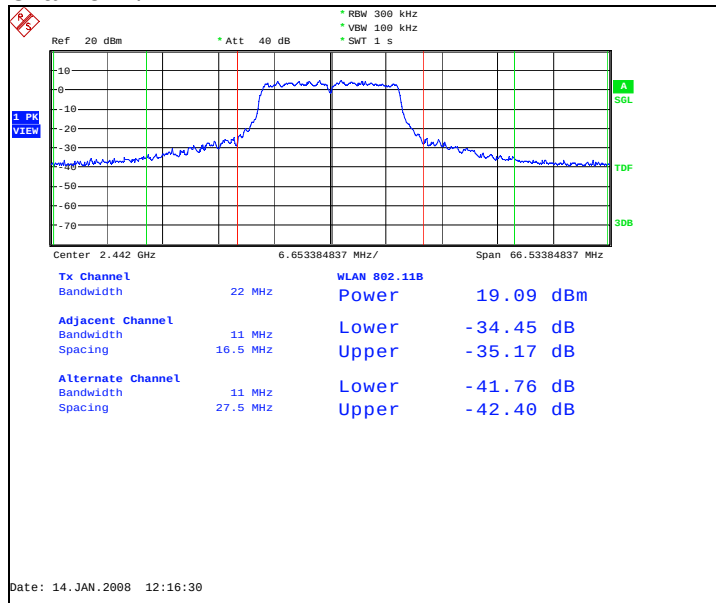
11.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [W]	Result
1 / 2412	19.23	0.086	PASSED
7 / 2442	19.09	0.081	PASSED
11 / 2462	19.51	0.089	PASSED

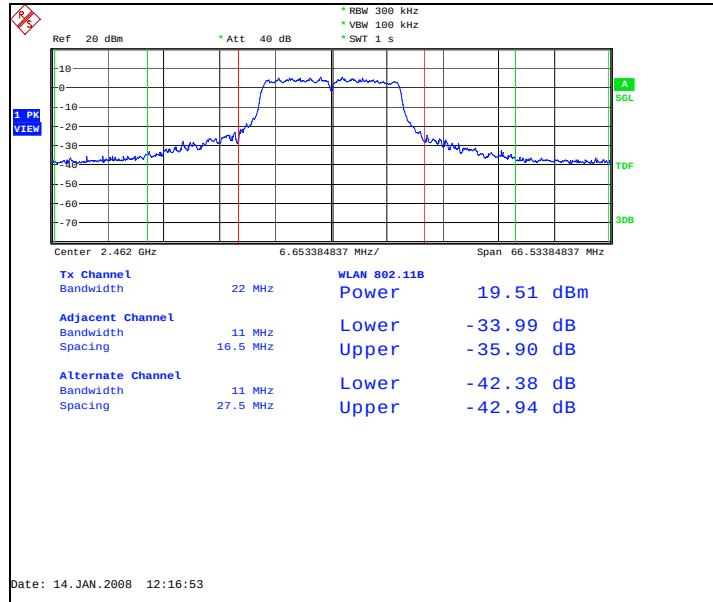
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



12 Spurious RF conducted emissions

(FCC §15.247(d), RSS-210 A8.5)

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

12.1 Test method and limit

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

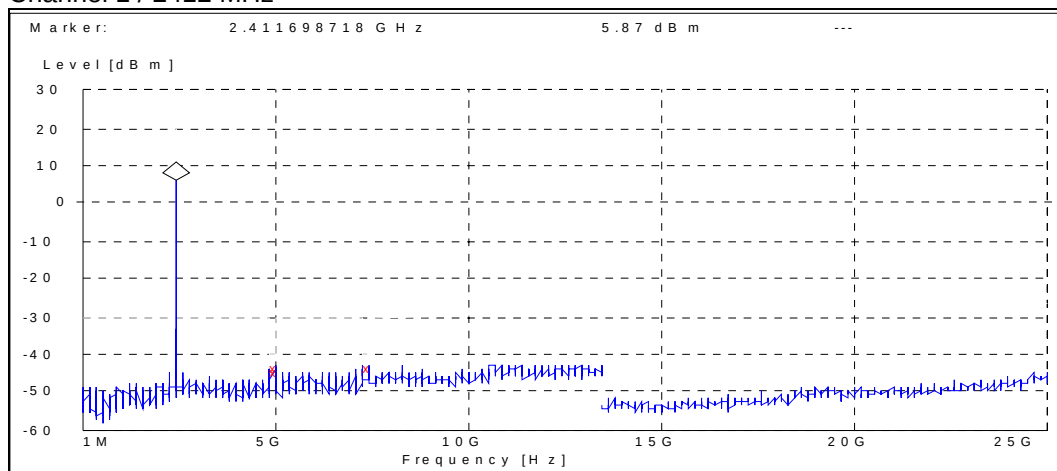
Limits for spurious RF conducted emissions measurements

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

12.2 WLAN Test results

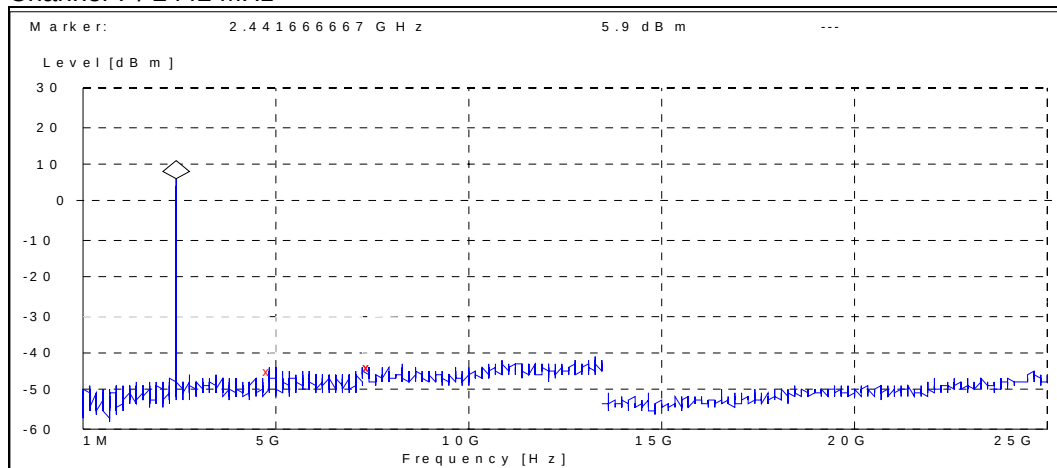
12.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz



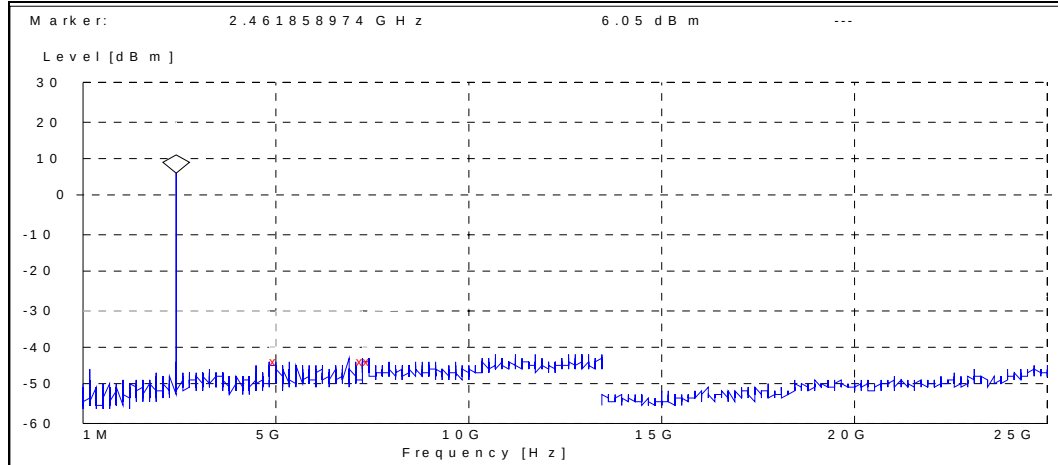
Frequency [MHz]	P [dBc]	Result
4987.179487	-50.467767	PASSED
5000.000000	-49.667767	PASSED
7402.403846	-49.567767	PASSED

Channel 7 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4831.089744	-50.496117	PASSED
7462.019231	-49.596117	PASSED
7500.000000	-49.796117	PASSED

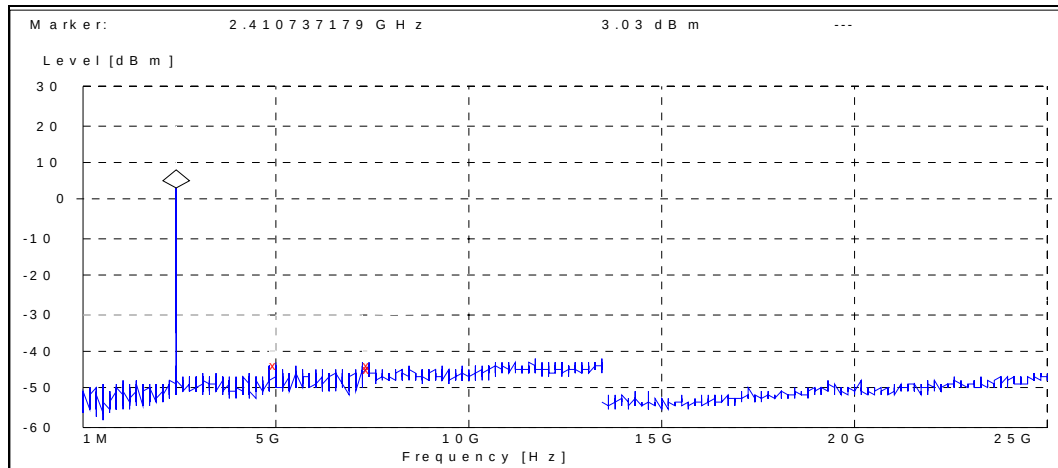
Channel 11 / 2462 MHz



Frequency [MHz]	P [dBc]	Result
4965.705128	-50.151064	PASSED
7254.326923	-49.451064	PASSED
7500.000000	-50.251064	PASSED

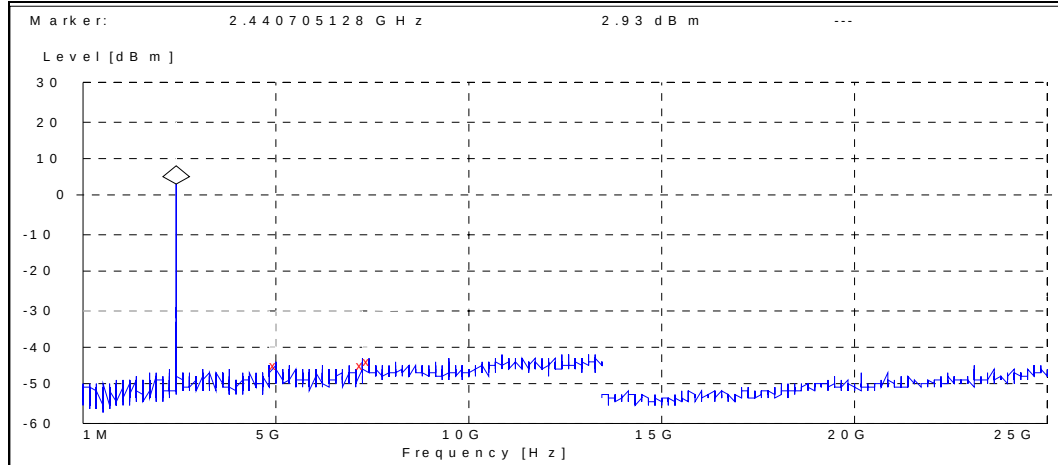
12.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel 1 / 2412 MHz



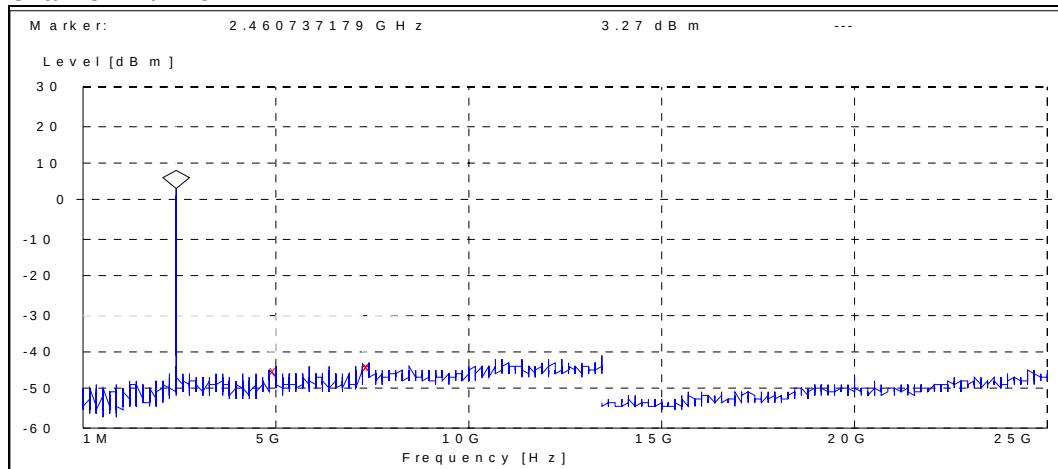
Frequency [MHz]	P [dBc]	Result
4999.358974	-46.828061	PASSED
7404.807692	-46.628061	PASSED
7500.000000	-47.528061	PASSED

Channel 7 / 2442 MHz



Frequency [MHz]	P [dBc]	Result
4954.166667	-47.429837	PASSED
7208.173077	-47.429837	PASSED
7500.000000	-46.829837	PASSED

Channel 11 / 2462 MHz



Frequency [MHz]	P [dBc]	Result
4965.705128	-47.968340	PASSED
7399.038462	-47.268340	PASSED
7500.000000	-47.468340	PASSED

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

EUT with DUT number	RM-343 DUT 41357
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 49 / 100.8
Date of measurements	17.1.2008
Measured by	Jari Jantunen

13.1 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 [$\mu\text{V/m}$]	Limit [dB $\mu\text{V/m}$]	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

13.2 WLAN Test results

13.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 1 / 2412 MHz

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4824.000000	40.40	104.71	42.10	-1.7	VERTICAL	PASSED
7236.000000	42.70	136.46	40.10	2.6	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4824.000000	27.50	23.71	29.20	-1.7	VERTICAL	PASSED
7236.000000	29.70	30.55	27.10	2.6	VERTICAL	PASSED

Channel 7 / 2442 MHz

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
33.185772	30.20	32.36	41.80	-11.6	VERTICAL	PASSED
38.176353	23.00	14.13	38.00	-15.0	VERTICAL	PASSED
63.688778	21.00	11.22	47.80	-26.8	VERTICAL	PASSED
73.346092	17.50	7.50	43.10	-25.6	HORIZONTAL	PASSED

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

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
4883.767535	41.10	113.50	42.90	-1.8	HORIZONTAL	PASSED
7284.563126	43.60	151.36	40.60	3.0	VERTICAL	PASSED
7343.191383	42.80	138.04	39.60	3.2	VERTICAL	PASSED
7385.775551	43.80	154.88	40.30	3.5	VERTICAL	PASSED
7404.813627	43.50	149.62	39.80	3.7	HORIZONTAL	PASSED
17900.299599	54.10	506.99	34.40	19.7	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
4883.267535	27.10	22.65	28.90	-1.8	HORIZONTAL	PASSED
7285.563126	30.40	33.11	27.40	3.0	VERTICAL	PASSED
7341.691383	30.30	32.73	27.20	3.1	VERTICAL	PASSED
7385.275551	30.60	33.88	27.10	3.5	VERTICAL	PASSED
7404.313627	30.70	34.28	27.00	3.7	HORIZONTAL	PASSED
17900.299599	40.70	108.39	21.00	19.7	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
4924.000000	39.30	92.26	41.10	-1.8	VERTICAL	PASSED
7386.000000	43.50	149.62	40.00	3.5	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
4924.000000	26.60	21.38	28.40	-1.8	VERTICAL	PASSED
7386.000000	30.60	33.88	27.10	3.5	HORIZONTAL	PASSED

13.2.2 OFDM mode, BPSK modulation, 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
4824.000000	39.40	93.33	41.10	-1.7	HORIZONTAL	PASSED
7236.000000	42.50	133.35	39.90	2.6	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
4824.000000	27.00	22.39	28.70	-1.7	VERTICAL	PASSED
7236.000000	29.70	30.55	27.10	2.6	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
33.285772	30.30	32.73	42.00	-11.7	VERTICAL	PASSED
38.076353	22.80	13.80	37.70	-14.9	VERTICAL	PASSED
63.326854	21.90	12.45	48.70	-26.8	VERTICAL	PASSED
73.086573	18.00	7.94	43.60	-25.6	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
4884.269539	39.40	93.33	41.20	-1.8	HORIZONTAL	PASSED
7286.065130	43.40	147.91	40.40	3.0	VERTICAL	PASSED
7293.585170	42.80	138.04	39.80	3.0	HORIZONTAL	PASSED
7422.339679	44.10	160.32	40.40	3.7	VERTICAL	PASSED
7422.341683	43.60	151.36	39.90	3.7	HORIZONTAL	PASSED
17946.389780	53.00	446.68	33.40	19.6	HORIZONTAL	PASSED

I 11 / 2462 MHz

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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
4887.769539	26.70	21.63	28.50	-1.8	HORIZONTAL	PASSED
7282.565130	30.40	33.11	27.40	3.0	VERTICAL	PASSED
7295.585170	30.20	32.36	27.10	3.1	HORIZONTAL	PASSED
7415.839679	30.70	34.28	27.00	3.7	VERTICAL	PASSED
7422.841683	30.70	34.28	27.00	3.7	HORIZONTAL	PASSED
17946.389780	40.40	104.71	20.80	19.6	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
4924.000000	40.60	107.15	42.40	-1.8	VERTICAL	PASSED
7386.000000	43.80	154.88	40.30	3.5	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
4924.000000	29.70	30.55	31.50	-1.8	VERTICAL	PASSED
7386.000000	30.80	34.67	27.30	3.5	HORIZONTAL	PASSED

14 AC powerline conducted emissions (FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-343 DUT41357
Accessories with DUT numbers	BL-4U DUT27213;AC-5E DUT41334;HS-47 DUT41215
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 102
Date of measurements	22.01.2008
Measured by	Zou Ming

14.1 Test method and limit

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

$$U [dB\mu V] = U_{RX} + A_{TOT}$$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable and pulse limiter attenuations.

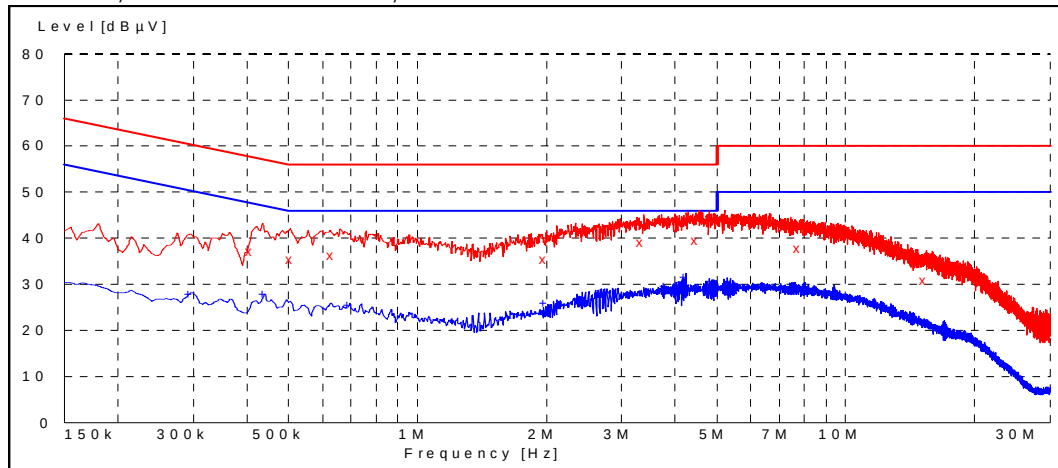
CISPR 22 Class B limits

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

14.2 WLAN Test results

14.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

TX mode, channel 7 / 2442 MHz, DSSS



Quasi peak (RBW: 9 kHz)

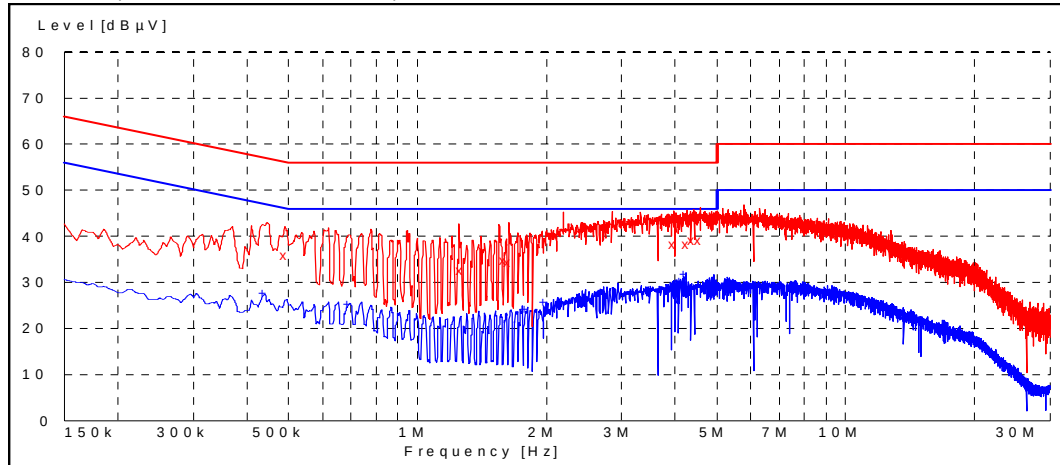
Frequency [MHz]	U [dBμV]	Line	Result
0.410000	37.20	L1	PASSED
0.510000	35.50	L1	PASSED
0.635000	36.20	L1	PASSED
2.000000	35.40	L1	PASSED
3.365000	39.00	L1	PASSED
4.515000	39.70	L1	PASSED
7.835000	37.90	L1	PASSED
15.360000	30.90	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.295000	27.90	L1	PASSED
0.440000	27.90	L1	PASSED
0.695000	25.50	L1	PASSED
1.995000	25.90	L1	PASSED
3.805000	29.50	L1	PASSED
4.240000	31.60	L1	PASSED
8.060000	29.40	L1	PASSED

14.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

TX mode, channel 7 / 2442 MHz, OFDM



Quasi peak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.495000	36.00	L1	PASSED
1.275000	32.70	L1	PASSED
1.605000	34.90	L1	PASSED
1.650000	34.50	L1	PASSED
3.990000	38.20	L1	PASSED
4.300000	38.20	L1	PASSED
4.410000	39.10	L1	PASSED
4.580000	39.00	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.440000	27.70	L1	PASSED
0.695000	25.30	L1	PASSED
1.800000	24.30	L1	PASSED
1.995000	25.60	L1	PASSED
4.065000	29.70	L1	PASSED
4.150000	30.40	L1	PASSED
4.240000	31.70	L1	PASSED
4.890000	29.80	L1	PASSED

15 6 dB bandwidth

(FCC §15.247(a)(2), RSS-210 A8.2 (1))

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

15.1 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

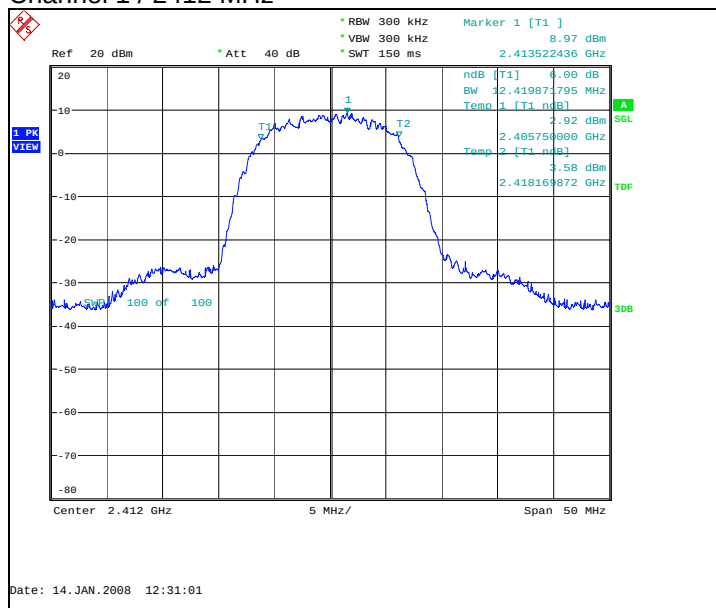
Limit [kHz]
≥ 500

15.2 WLAN test results

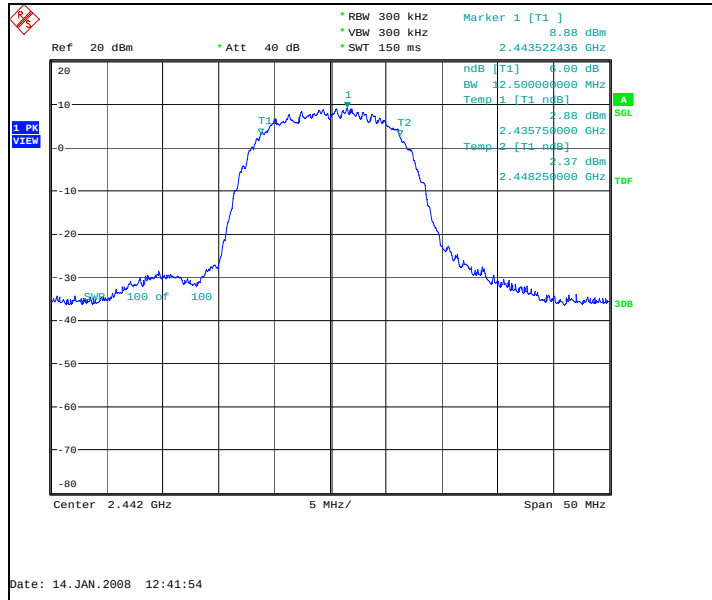
15.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f _c [MHz]	6 dB bandwidth [kHz]	Result
1	12419.872	PASSED
7	12500.000	PASSED
11	12419.872	PASSED

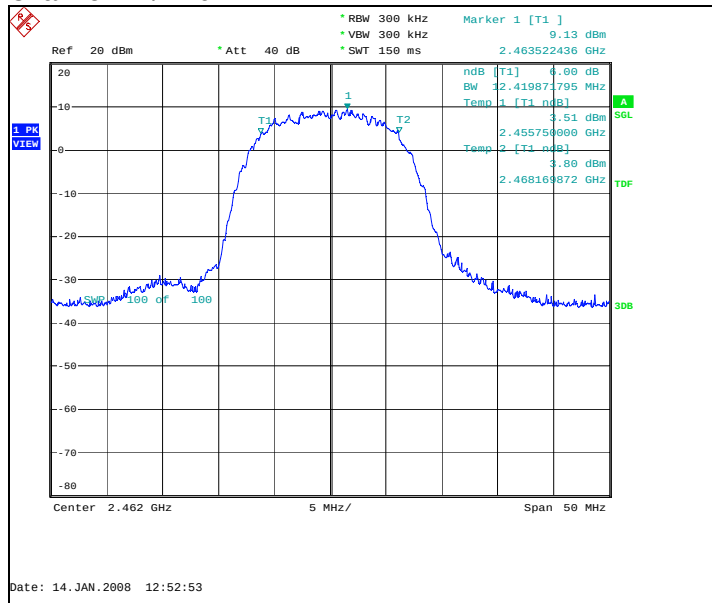
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



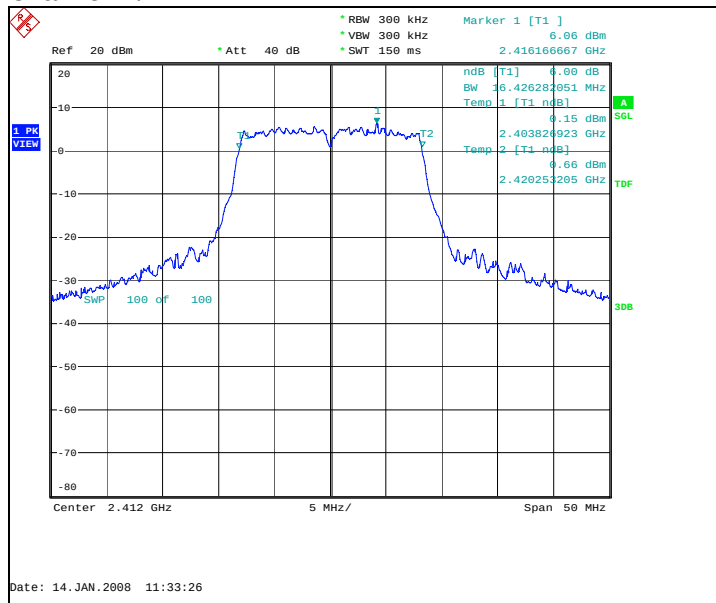
Channel 11 / 2462 MHz



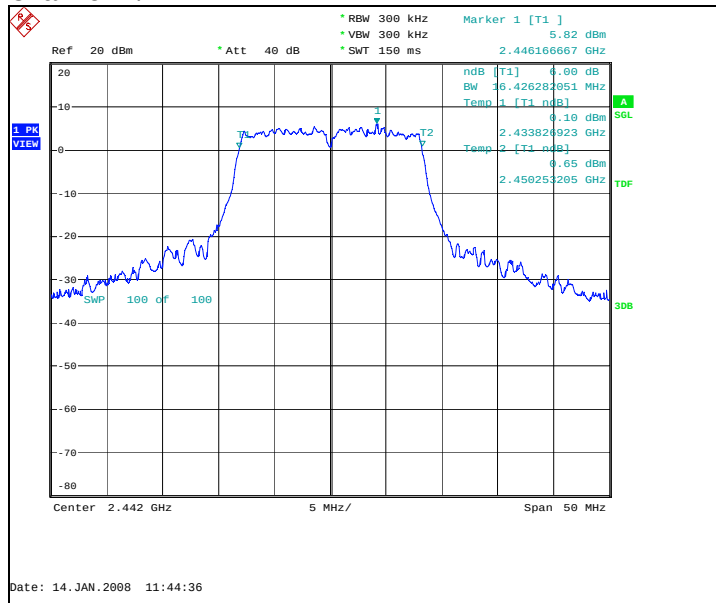
15.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
1	16426.282	PASSED
7	16426.282	PASSED
11	16506.410	PASSED

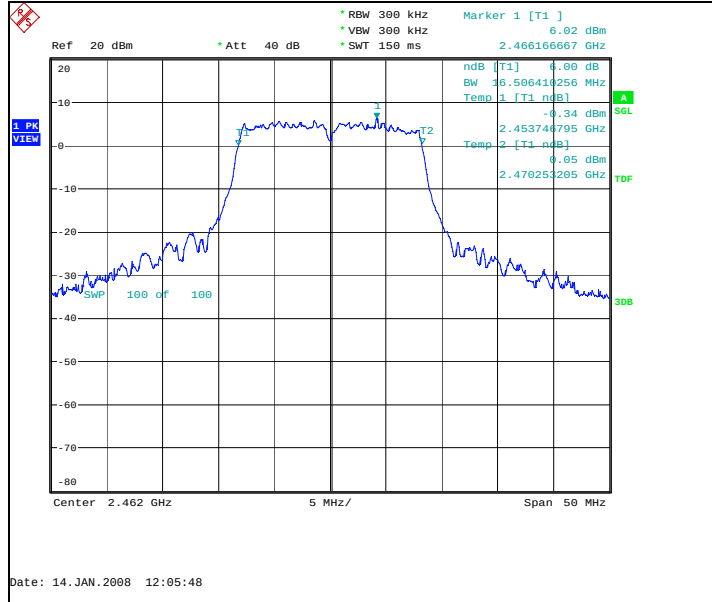
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



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

EUT with DUT number	RM-343 DUT 41358
Accessories with DUT numbers	AC-5E DUT 41365 / BL-4U DUT 41364 / HS-47 DUT 41367
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 100.9
Date of measurements	14.01.2008
Measured by	Petteri Suni

16.1 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

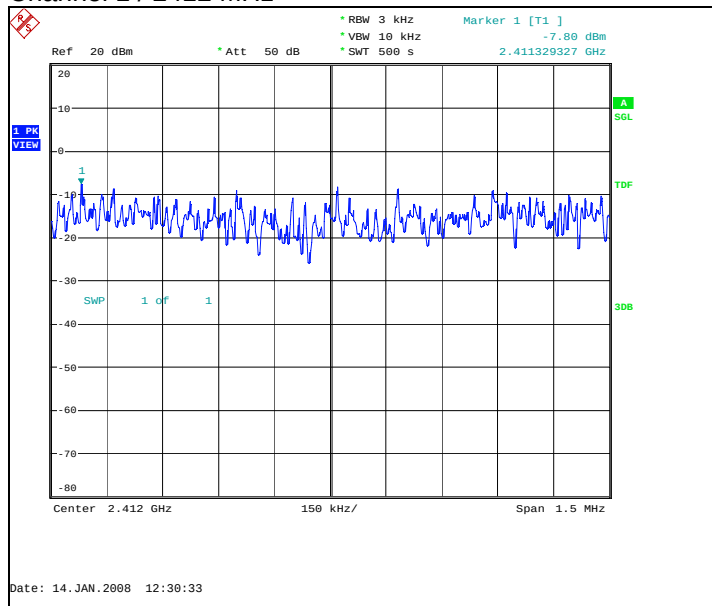
Limit [dBm] @ 3 kHz
≤ 8

16.2 WLAN test results

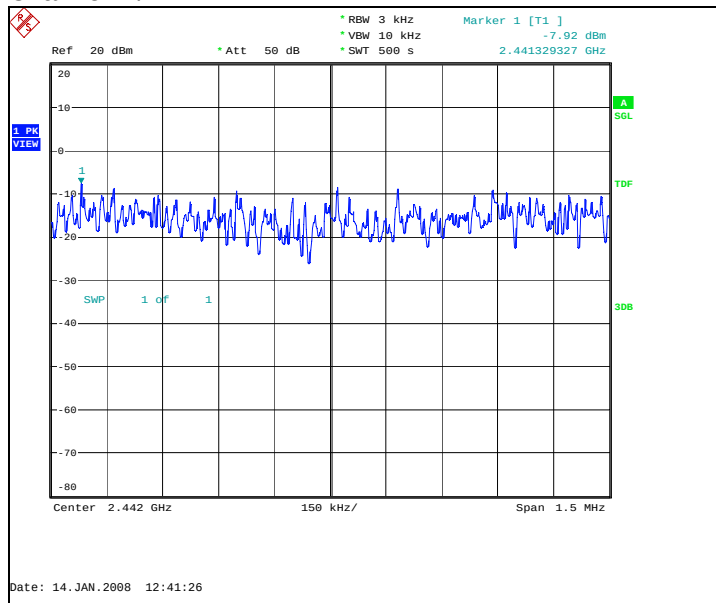
16.2.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-7.80	PASSED
7 / 2442	-7.92	PASSED
11 / 2462	-7.56	PASSED

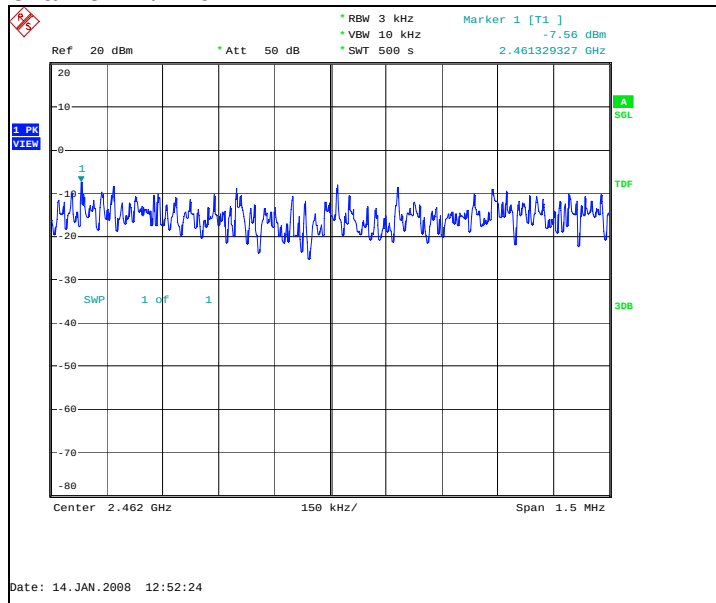
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



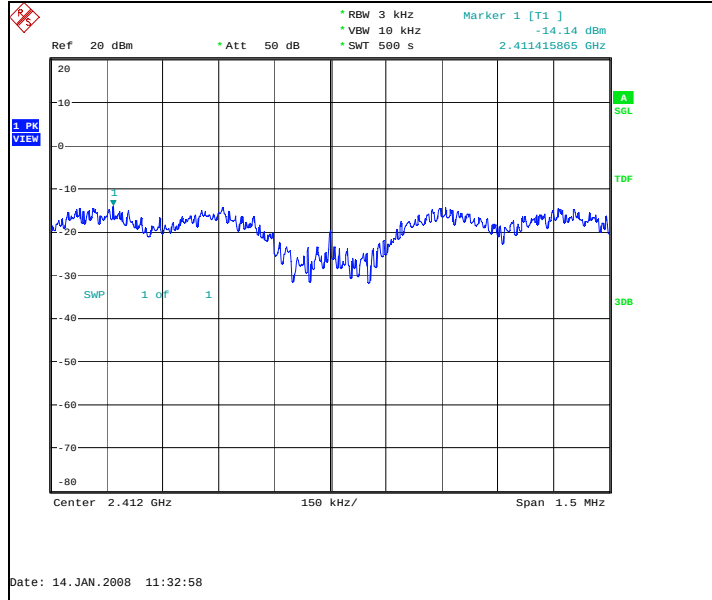
Channel 11 / 2462 MHz



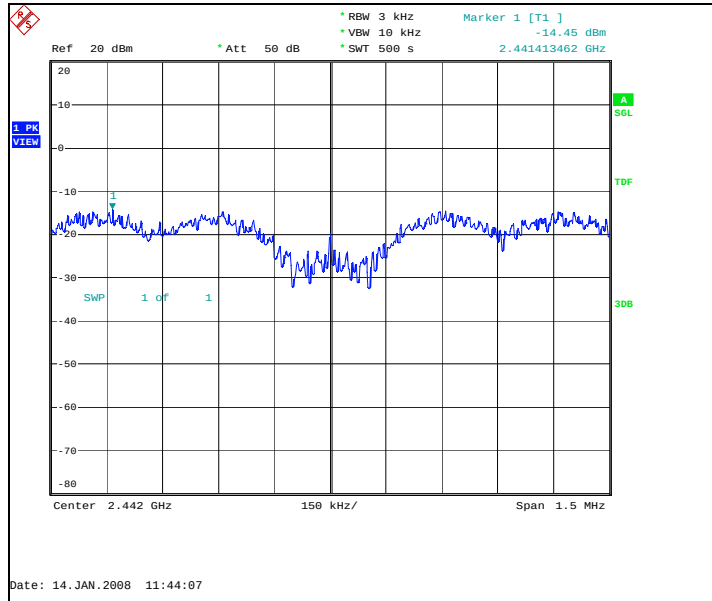
16.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-14.14	PASSED
7 / 2442	-14.45	PASSED
11 / 2462	-13.92	PASSED

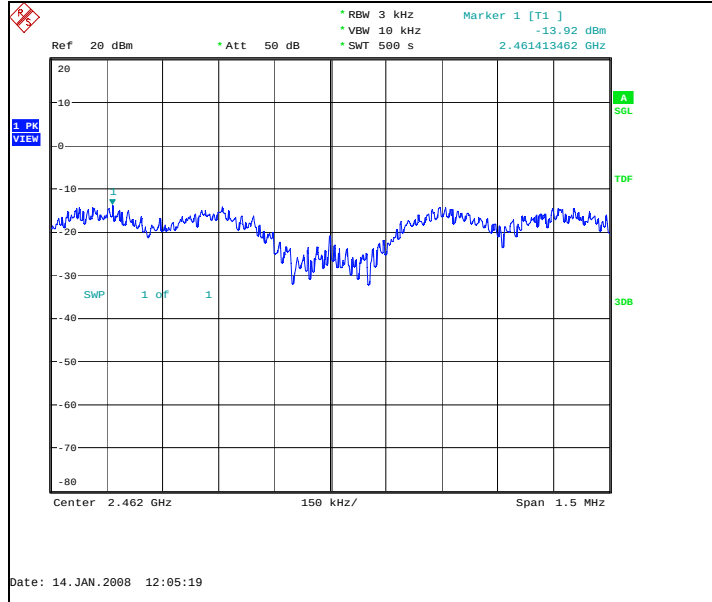
Channel 1 / 2412 MHz



Channel 7 / 2442 MHz



Channel 11 / 2462 MHz



17 Test Equipment

17.1 Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM30597	Power splitter	11667A	Agilent	22/24/27, 15C
TM37499	Power splitter	11667A	Agilent	22/24/27, 15C
TM38111	Multimeter	34401A	Agilent	22/24/27, 15C
TM38112	DC power supply	6632A	Agilent	22/24/27, 15C
TM22901	Attenuator	8496A	Agilent	22/24/27, 15C
TM30636	Artificial mains net	L2-16	PMM	15C, 15B
TM37678	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM37773	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM30600	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum analyzer	FSU	R&S	22/24/27, 15C
TM22835	Multimeter	87	Fluke	15C, 15B
TM37500	Microwave switch system	7116-MSW	Keithley	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Transmatic	22/24/27, 15C, 15B
	Temperature chamber	VT4002	Vötsch	22/24/27, 15C
2058	EMI Test receiver	ESPC	R&S	15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B

17.2 Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM30599	3m semi-anechoic chamber		TDK	22/24/27, 15C, 15B
TM38845	EMI receiver	ESI 40	R&S	22/24/27, 15C, 15B
TM37498	Preamplifier	AMF-5D-020180-26-10P	MITEQ	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	MITEQ	22/24/27, 15C, 15B
TM37516	Biconilog antenna	HL562	R&S	22/24/27, 15C, 15B
TM26496	Double ridged waveguide antenna	3115	EMCO	22/24/27, 15C, 15B
TM39158	Horn antenna	3116	EMCO	22/24/27, 15C, 15B
TM26492	Reference dipole set	UHAP/VHAP	Schwarzbeck	22/24/27, 15C, 15B
TM37501	Dipole antenna	3125-870	EMCO	22/24/27
TM37502	Dipole antenna	3125-1880	EMCO	22/24/27
TM37773	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM38631	Signal generator	83640L	Agilent	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	22/24/27
TM38215	Tunable notch filter	WRCD1850/1910-0.2/40	Wainwright	22/24/27
TM38214	Band reject filter	WRCT 2402/2480-2400/2483.5-30	Wainwright	15C
TM30642	Mast/Turntable controller	HD-100	Deisel	22/24/27, 15C, 15B
TM26500	Turntable	DS412	Deisel	22/24/27, 15C, 15B
TM38842	Antenna mast controller	2090	EMCO	22/24/27, 15C, 15B
TM38843	Antenna mast	2075	EMCO	22/24/27, 15C, 15B
TM38114	DC power supply	6632A	Agilent	22/24/27, 15C, 15B
TM38323	Preamplifier	PA-02 18-26 GHz	EMC Automation	22/24/27, 15C, 15B
TM37678	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Transmatic	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
TM23892	Yaesu controller	G-1000SDX	Yaesu	22/24/27, 15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Radio communication tester	CMU-200	R&S	22/24/27, 15C, 15B