

FCC Part 15C Compliance Test Report

Test Report no.:	Salo_FCC_0548_01.doc	Date of Report:	30.11.2005
Number of pages:	8	Customer's Contact person:	Stefan Emery
Testing laboratory:	TCC Nokia Salo Laboratory P.O. Box 86 Joensuunkatu 7H / Kiila 1B FIN-24101 SALO, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 (0) 7180 45220	Client:	Nokia Corporation Nokia House Summit Avenue, Southwood FARNBOROUGH HAMPSHIRE GU14 0NG UK Tel. +44 1252 866000 Fax. +44 1252 866001
FCC listing no.:	533467		
IC recognition no.:	5385		
Tested devices/ accessories:	Phone RM-92 / Battery BL-5B, AC-Charger AC-4E and Headset HS-23		
FCC ID:	QFXRM-92	IC:	661Z-RM92
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), IC standards RSS-GEN and RSS-210. Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	The EUT complies with the requirements in respect of all parameters subject to the test. The test results relate only to devices specified in this document.		
Date and signature for the contents:	 Digitally signed by Tomi Lipponen DN: CN = Tomi Lipponen, C = FI, O = Nokia, OU = CertMT Date: 2005.11.30 09:05:29 +02'00'		
	Tomi Lipponen, System Manager		

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	25.11.2005
Testing completed	28.11.2005
The customer's contact person	Stefan Emery
Test Plan referred to	T:\Projects\RM-92\TestPlan_RS\ RM-92_RS_EMC testplan.xls
Notes	-
Document name	T:\Projects\RM-92\EMC\Results\FCC\Salo_FCC_0548_01.doc

1.1. EUT and Accessory Information

The EUT is a quadri band (GSM900/1800/1900 and WCDMA2100) mobile phone with Bluetooth and WLAN. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-92	004400/68/165234/1	5020	-	1.0540.0.4	10838
Battery	BL-5B	0670455363807M183422202506	-	-	-	10835
AC-Charger	AC-4E	3997915157121100122;0675384	-	-	-	10764
Headset	HS-23	GM2750741D	-	-	-	10765

1.2. Summary of Test Results

WLAN:

Section in CFR 47	Section in RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (4)	Peak output power	NP
15.247(b)(1)	6.2.2(o)(b)	Peak output power, Radiated	PASSED
15.247(c)	A8.5	Band edge compliance of RF emissions	NP
15.247(c)	A8.5	Spurious RF conducted emissions	NP
15.247(c), 15.209	A8.5	Spurious radiated emissions	NP
15.207	7.2.2	AC powerline conducted emissions	NP
15.247(a)(2)	A8.2 (1)	6 dB bandwidth	NP
15.247(e)	A8.2 (2)	Power spectral density	NP

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.

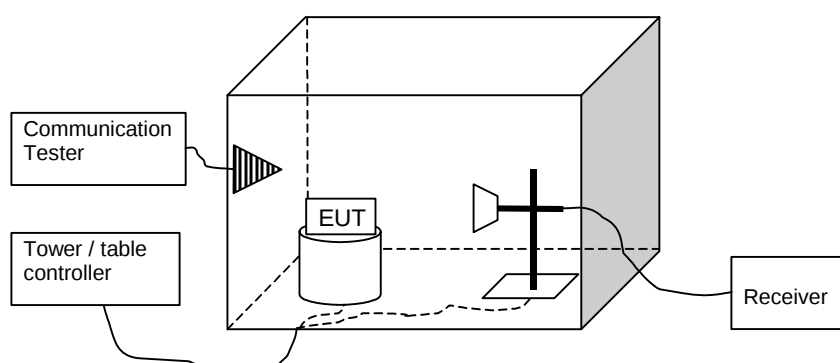
The test was not performed by the TCC Nokia Salo Laboratory.

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2. Test setups

2.1. Spurious radiated emissions test setup



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

EUT with DUT number	RM-92, DUT 10838
Accessories with DUT numbers	BL-5B, DUT 10835; AC-4E, DUT 10764; HS-23, DUT 10765
Operation Voltage [V] / [Hz]	115 / 60
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	20 / 50 / 101
Date of measurements	28.11.2005
Measured by	Tomi Lipponen

3.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

The measurement is performed in the Anechoic Chamber with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system. The turntable is rotated 360 degrees and this is repeated for both horizontal and vertical receive antenna polarizations.

The EUT is placed on a nonconductive plate at 170 cm height.

The substitution method is used. Substitution values at each frequencies are measured beforehand and saved to the test software.

The substitution corrections are obtained as described below:

$$A_{SUBST} = P_{SUBST_TX} - P_{SUBST_RX} - L_{SUBST_CABLES} + G_{SUBST_TX_ANT}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain. P_{SUBST_TX} is signal generator level, P_{SUBST_RX} is receiver level, L_{SUBST_CABLES} is cable losses including both TX and RX cables and $G_{SUBST_TX_ANT}$ is substitution antenna gain.

The measurement results are obtained as described below:

$$P [dBm] = P_{MEAS} + A_{TOT}$$

Where P_{MEAS} is receiver reading in dBm and A_{TOT} is total correction factor including cable loss and substitution correction ($A_{TOT} = L_{CABLES} + A_{SUBST}$).

Limits for peak output power measurements

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

3.2. WLAN Test results

3.2.1 DSSS mode, BPSK modulation, 1 Mbps data rate

Flip Open:

Channel	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	A _{TOT} [dB]	Polarisation	Result
1	18.50	0.071	-28.90	47.40	VERTICAL	PASSED
7	19.10	0.081	-28.40	47.50	VERTICAL	PASSED
11	18.60	0.072	-28.90	47.50	VERTICAL	PASSED

Flip closed

Channel	EIRP [dBm]	EIRP [W]	P _{MEAS} [dBm]	A _{TOT} [dB]	Polarisation	Result
1	16.60	0.046	-30.8	47.40	HORIZONTAL	PASSED
7	17.50	0.056	-30.0	47.50	HORIZONTAL	PASSED
11	17.20	0.052	-30.3	47.50	HORIZONTAL	PASSED

4. Test Equipment

4.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1742	EMI Test Receiver	ESMI	R&S	15C, 15B
1759	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
1872	Thermo- Hygrograph	00.02520.150700	Lambrecht	15C, 15B
1916	Radio Communication tester	CMTA84	R&S	15C, 15B
2039	Power Supply	PL330QMD	THURLBY	15C, 15B
2060	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
2068	CDN-Antenna line	S1	NMP	15C, 15B
2097	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
2111	Multimeter	TX3	Tektronix	15C, 15B
2156	Digital Radio Communication Tester	CMU200	R&S	15C, 15B
2206	Signal generator	SMX	R&S	15C, 15B
2335	GPIB Switch 2 to 1	-	National Instruments	15C, 15B
2347	Digital Radio Communication Tester	CMU200	R&S	22/24, 15C, 15B
2352	Spectrum Analyzer	FSP	R&S	22/24, 15C
2359	Temperature Test system	VT4002	Vötsch Industrietechnik	22/24
2360	Serial Bus Converter	Serial 488A	IO Tech	22/24
2362	Power Supply	NGPX 70/5	R&S	22/24
-	RF Emission Software	ES-K1 v.1.60	R&S	15C, 15B

4.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1748	Log. per. Antenna	HL025	R&S	22/24, 15C
1749	Log. per. Antenna	HL025	R&S	22/24, 15C
1875	Thermo- Hygrograph	00.02520.150700	Lambrecht	22/24, 15C, 15B
1917	Radio Communication tester	CMTA84	R&S	22/24, 15C, 15B
1933	Precision half-wave dipole antennas	HZ-13	R&S	22/24, 15C
1938	Precision half-wave dipole antennas	HZ-12	R&S	22/24, 15C
2004	Relay Switch Unit	RSU	R&S	22/24, 15C, 15B
2006	Radiation Reference Source	VSQ	MEB	22/24, 15C, 15B
2009	Signal generator	SMP 22	R&S	22/24, 15C, 15B
2019	Multimeter	34401A	HP	22/24, 15C, 15B
2027	Coupling and Decoupling Network	M2 (modified) DC1	MEB	22/24, 15C, 15B
2028	Coupling and Decoupling Network	M3 (modified) DC2	MEB	22/24, 15C, 15B
2029	Power Supply	PL330	THURLBY	22/24, 15C
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22/24, 15C, 15B
2047	Band Reject Filter	WRCC1800/2000-0,2-10SS	Wainwright	22/24, 15C, 15B
2051	High Pass Filter	4HC1700-1-KK	R&S	22/24, 15C
2057	Log. per. Antenna	HL025	R&S	22/24, 15C

Eq. No	Equipment	Type	Manufacturer	Used in
2109	Power Supply	PL330QMD	THURLBY	22/24, 15C, 15B
2110	Multimeter	34401A	HP	22/24, 15C, 15B
2112	Multimeter	TX3	Tektronix	22/24, 15C, 15B
2116	Controller	EMCO MODEL 2090	ETS	22/24, 15C, 15B
2133	Power Meter	NRVS	R&S	22/24, 15C
2134	Power Sensor	NRV-Z32	R&S	22/24, 15C
2135	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24, 15C, 15B
2138	Ultra Broadband Antenna	HL562	R&S	22/24, 15C, 15B
2140	Biconical Antenna	EMCO93110B	EMCO	22/24, 15C
2142	Log.-per.-dipol Antenna	3146	EMCO	22/24, 15C
2144	Attenuator	6803.17B	Huber-Suhner	22/24, 15C, 15B
2150	High Pass Filter	F-15041	RLC ELECTRONICS	22/24, 15C
2176	Coupling and Decoupling Network	CDN 801-M3	LÜTHI	22/24, 15C, 15B
2180	Digital Radio Communication Tester	CMU200	R&S	22/24, 15C, 15B
2188	Preamplifier	AFS4-00100300-20-23P-6	MITEQ	22/24, 15C, 15B
2330	EMI Test receiver	ESIB26	R&S	22/24, 15C, 15B
2334	GPIO Switch 2 to 1	-	National Instruments	22/24, 15C, 15B
2348	Yaesu controller	G-1000DXC	YAESU	22/24, 15C, 15B
2349	Computer controller (Yaesu)	GS-232B	YAESU	22/24, 15C, 15B
2350	Preamplifier	AMF-6D-020180-29-20P	MITEQ	22/24, 15C
2361	Anechoic chamber	3 meter semi/full anechoic chamber	Euroshield	22/24, 15C, 15B
2398	Horn antenna	HF906	R&S	22/24, 15C
-	RF Emission Software	ES-K1 v.1.71	R&S	22/24, 15C, 15B

FCC Part 15C Compliance Test Report

Test Report no.:	Cph_FCC_0544_07.doc	Date of Report:	22.11.2005
Number of pages:	107	Customer's Contact person:	Stefan Emery
Testing laboratory:	TCC Nokia Copenhagen Laboratory Frederikskaj 1790 COPENHAGEN V DENMARK Tel. +45 33 292929 Fax. +45 33 292934	Client:	Nokia Corporation Nokia House Summit Avenue, Southwood FARNBOROUGH HAMPSHIRE GU14 0NG UK Tel. +44 1252 866000 Fax. +44 1252 866001
FCC listing no.:	99059		
IC recognition no.:	4820 and 4820-1		
Tested devices/ accessories:	Phone; RM-92 (HW: 5020), Battery; BL-5B, AC-Charger; AC-4E, Headset; HS-23		
FCC ID:	QFXRM-92	IC:	661Z-RM92
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), IC standards RSS-GEN and RSS-210. Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	The EUT complies with the requirements in respect of all parameters subject to the test. The test results relate only to devices specified in this document.		
Date and signature for the contents:	 Digitally signed by Juho Tuohino DN: cn=Juho Tuohino, c=FI, ou=TCC Date: 2005.11.23 11:06:51 +01'00'		
Juho Tuohino, System Manager			

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	03-11-2005
Testing completed	22.11.2005
The customer's contact person	Stefan Emery
Test Plan referred to	\\EMC\\TESTPLAN\\
Notes	-
Document name	T:\\Projects\\RM-92\\EMC\\Results\\FCC\\Cph_FCC_0544_07.doc

1.1. EUT and Accessory Information

The EUT is a five band (GSM850/900/1800/1900 and WCDMA2100) 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-92	004400/68/165247/3	5020	-	1.0540.0.4	28319
Phone	RM-92	004400/68/165227/5	5020	-	1.0540.0.4	28308
Phone	RM-92	004400/68/165245/7	5020	-	1.0540.0.4	29009
Battery	BL-5B	0670455363807M183422202535	-	-	-	28315
Battery	BL-5B	0670455363807 M183422202567	-	-	-	28309
Battery	BL-5B	0670455363807M183422202677	-	-	-	29010
AC-Charger	AC-4E	399791515712110078;0675384	1.1	-	-	28312
AC-Charger	AC-4	0675384409049L261R1 0001709	1.3	0.3	-	28944
AC-Charger	AC-4E	3997915157121100129;0675384	-	-	-	28405
Headset	HS-23	GM2750741A	0.6	1.2	0.2	28314
Headset	HS-23	HM3450741D	-	-	-	28340
Headset	HS-23	GM2750741A	0.6	1.2	0.2	29011

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)	Peak output power	Passed
15.247(c)	A8.5	Band edge compliance of RF emissions	Passed
15.247(c)	A8.5	Spurious RF conducted emissions	Passed
15.247(c), 15.209	A8.5	Spurious radiated emissions	-
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)	Peak output power	Passed
15.247(c)	A8.5	Band edge compliance of RF emissions	Passed
15.247(c)	A8.5	Spurious RF conducted emissions	Passed
15.247(c), 15.209	A8.5	Spurious radiated emissions	-
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

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 Copenhagen Laboratory.

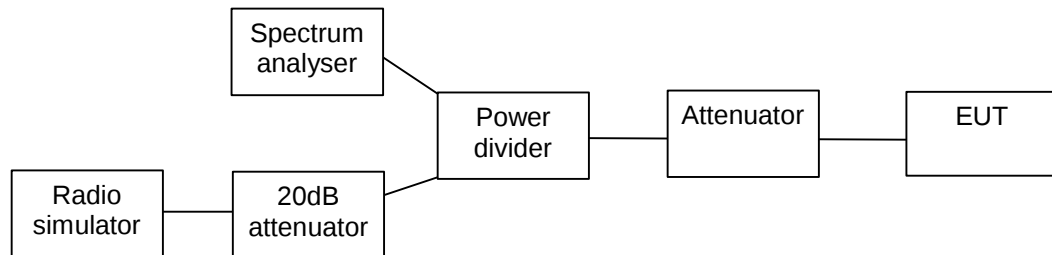
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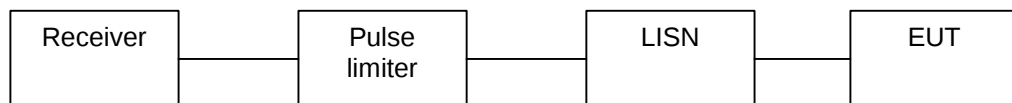
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2. Test setups

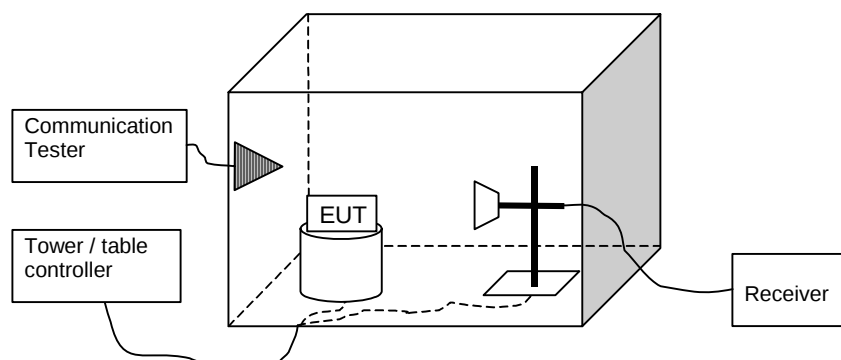
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Spurious radiated emissions test setup



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

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

3.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for peak output power measurements

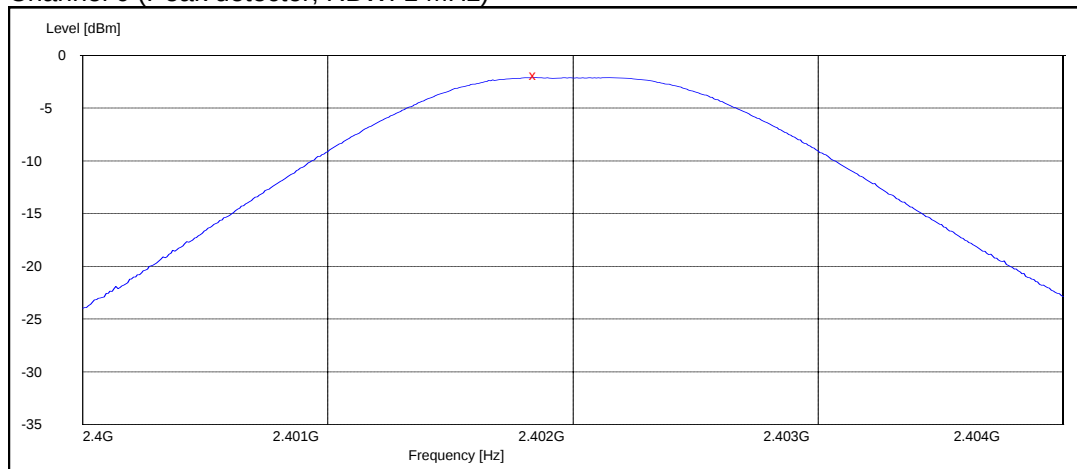
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

3.2. Bluetooth Test results

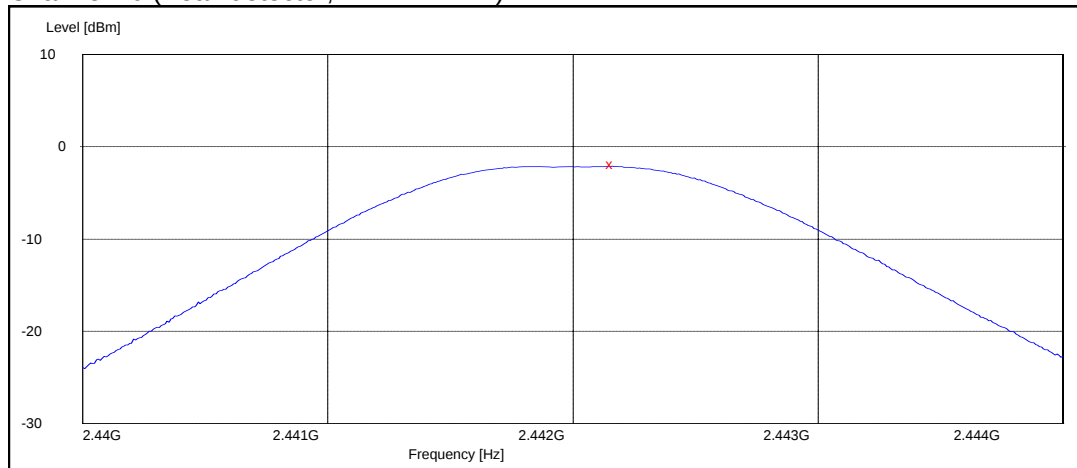
3.2.1 GSKF modulation, PRBS packet type

Channel	P [dBm]	P [mW]	Result
0	-1.90	0.646	Pass
40	-1.90	0.646	Pass
78	-1.90	0.646	Pass

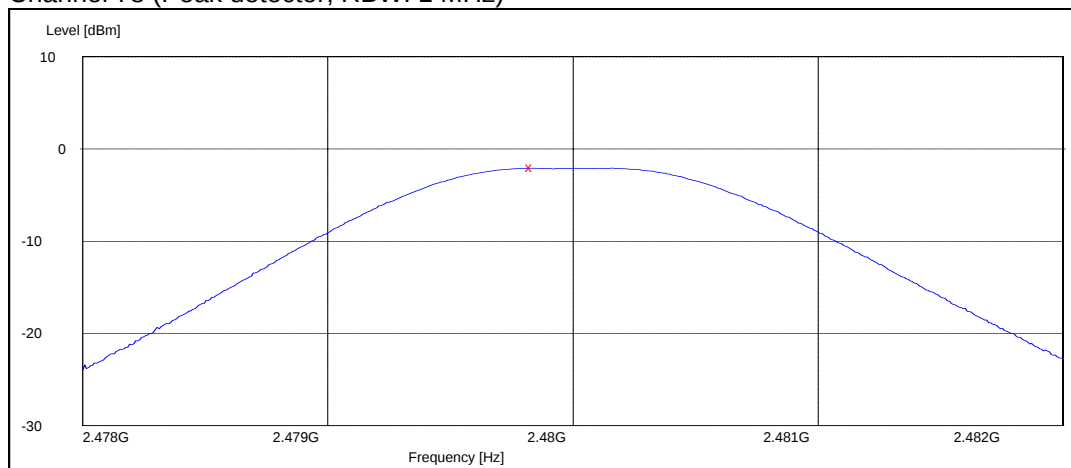
Channel 0 (Peak detector, RBW: 1 MHz)



Channel 40 (Peak detector, RBW: 1 MHz)



Channel 78 (Peak detector, RBW: 1 MHz)



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

EUT with DUT number	RM-92 #29009
Accessories with DUT numbers	BL-5B #29010, HS-23 #29011, AC-4E #28405
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.0 / 43.0 / 1013
Date of measurements	21.11.2005
Measured by	Juho Tuohino

4.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

4.2. Bluetooth Test results

4.2.1 GFSK modulation, PRBS packet type, Flip Open

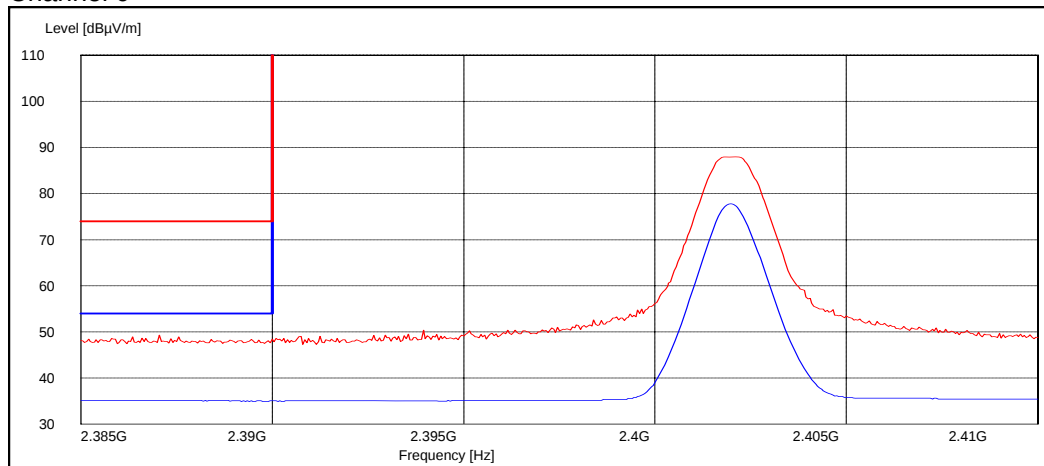
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
0	35.18	Passed
78	36.46	Passed
Hopping on, low end	35.18	Passed
Hopping on, high end	36.65	Passed

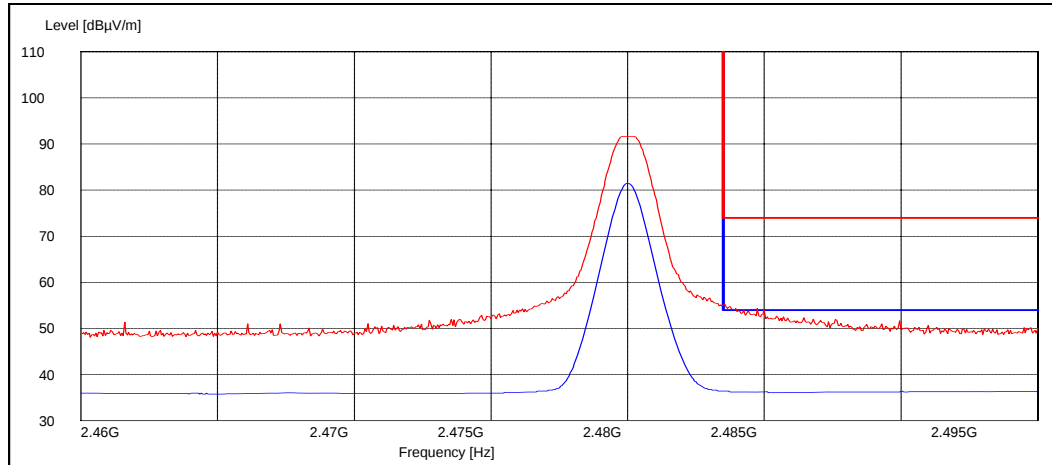
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
0	49.31	Passed
78	54.76	Passed
Hopping on, low end	52.48	Passed
Hopping on, high end	62.81	Passed

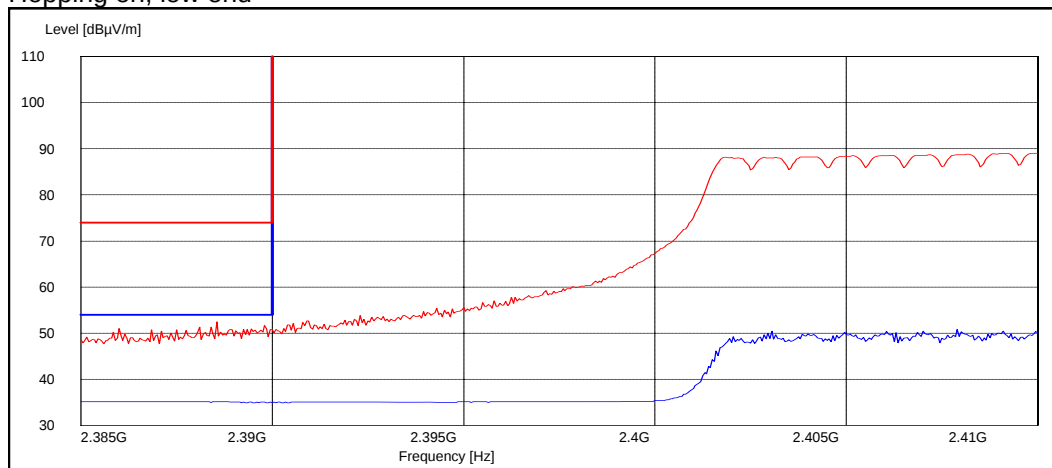
Channel 0



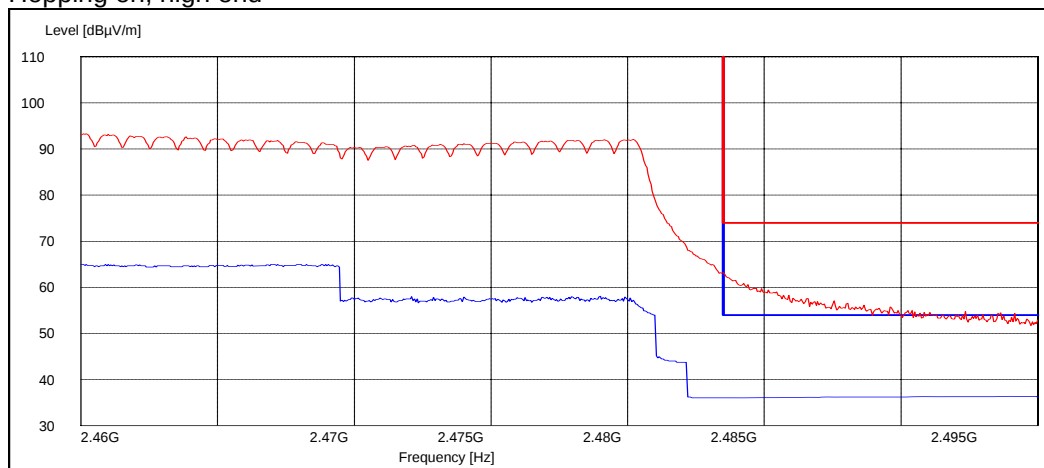
Channel 78



Hopping on, low end



Hopping on, high end



4.2.2 GFSK modulation, PRBS packet type, Flip Closed

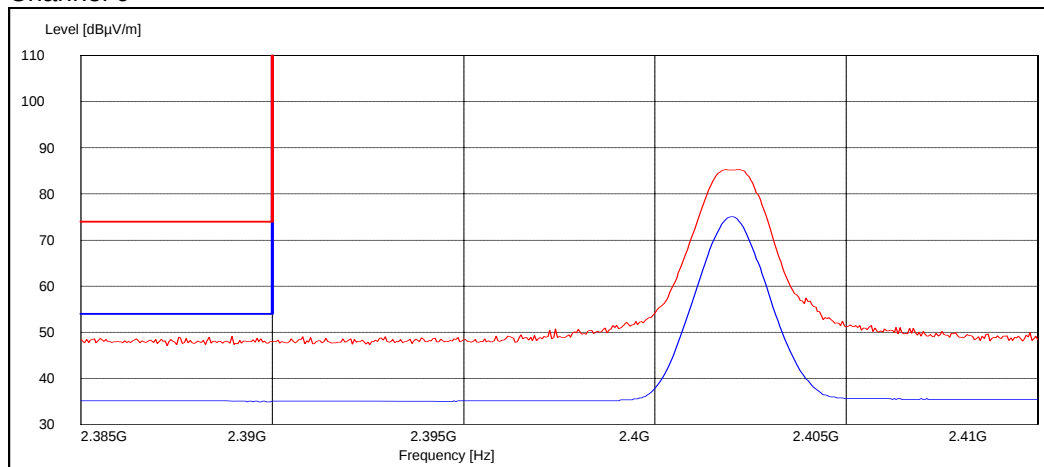
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
0	35.18	Passed
78	36.34	Passed
Hopping on, low end	35.18	Passed
Hopping on, high end	36.35	Passed

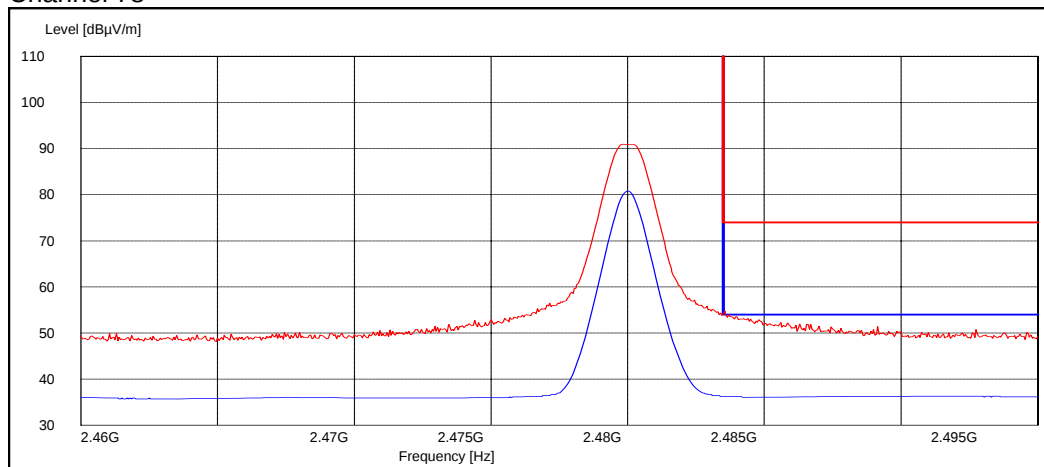
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
0	49.11	Passed
78	54.75	Passed
Hopping on, low end	52.84	Passed
Hopping on, high end	54.22	Passed

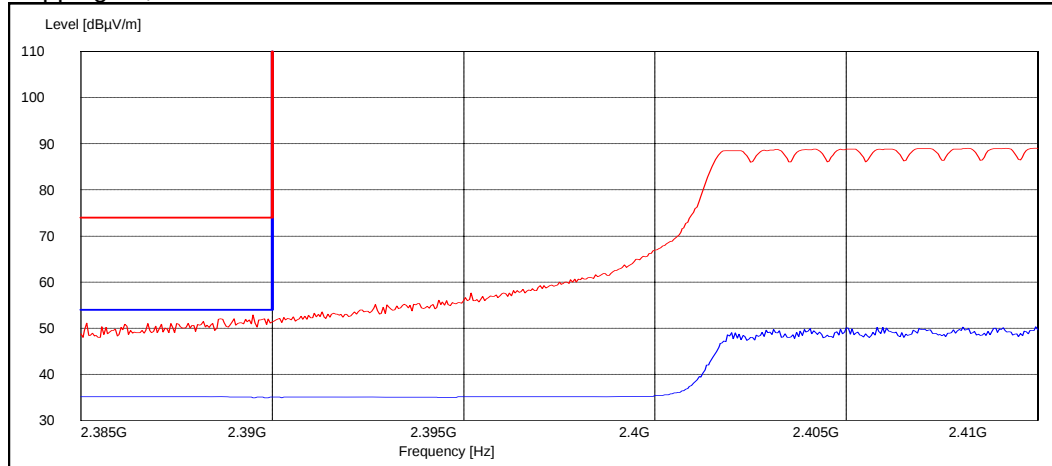
Channel 0



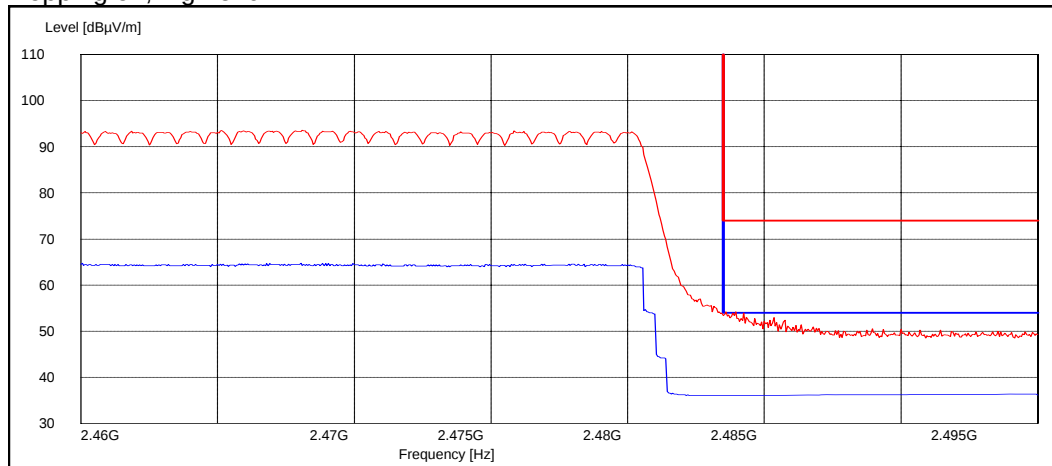
Channel 78



Hopping on, low end



Hopping on, high end



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

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

5.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

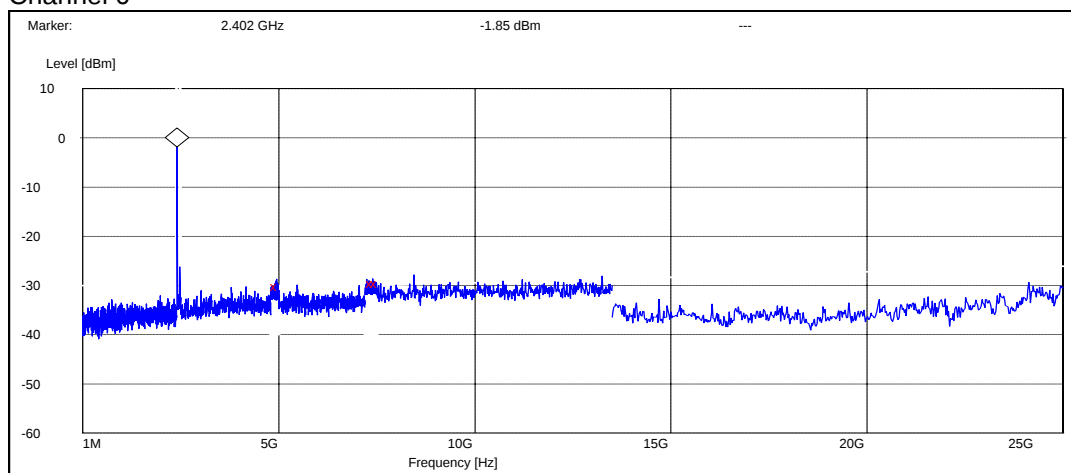
Limits for spurious RF conducted emissions measurements

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

5.2. Bluetooth Test results

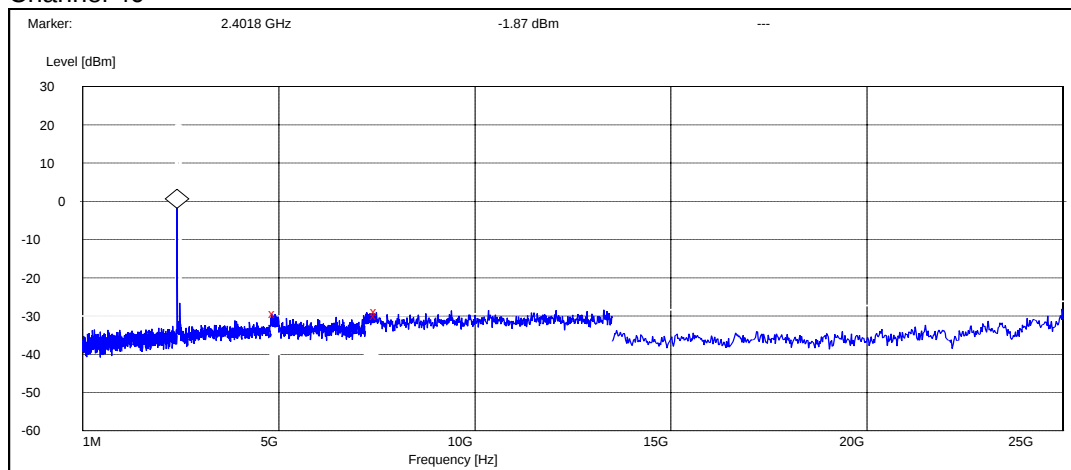
5.2.1 GFSK modulation, PRBS packet type, slide closed

Channel 0



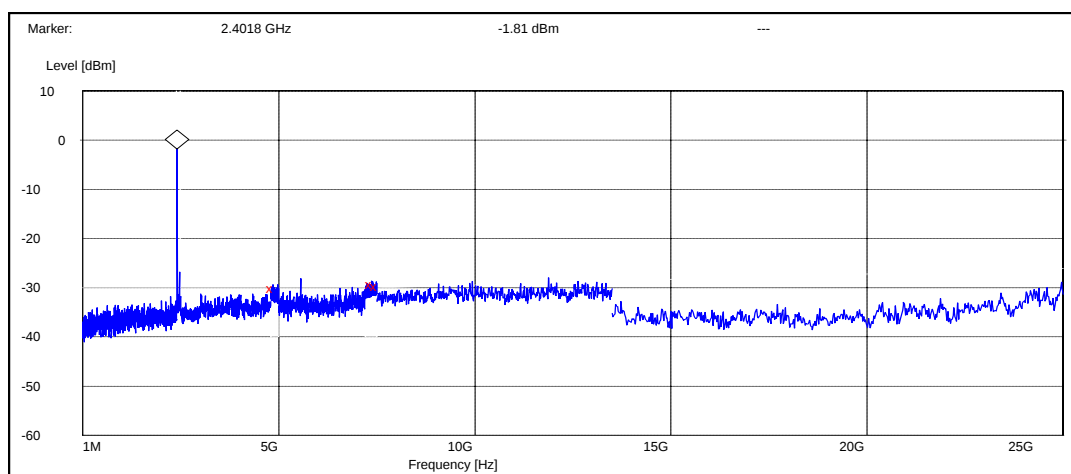
Frequency [MHz]	P [dBc]	Result
4950.000000	-28.250213	Pass
7400.400000	-27.650213	Pass
7500.000000	-27.650213	Pass

Channel 40



Frequency [MHz]	P [dBc]	Result
4901.600000	-27.532993	Pass
7492.800000	-28.032993	Pass
7500.000000	-27.032993	Pass

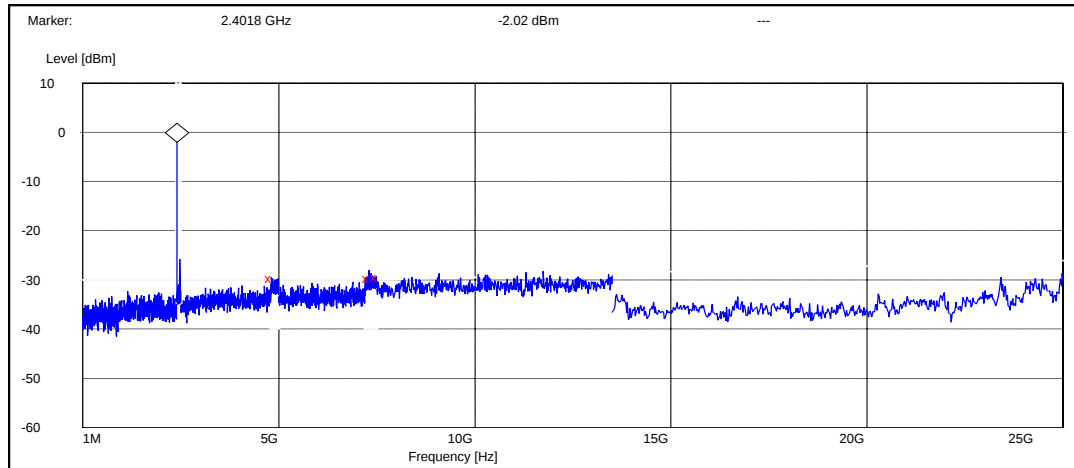
Channel 78



Frequency [MHz]	P [dBc]	Result
4852.000000	-28.285391	Pass
7372.800000	-27.485391	Pass
7500.000000	-27.885391	Pass

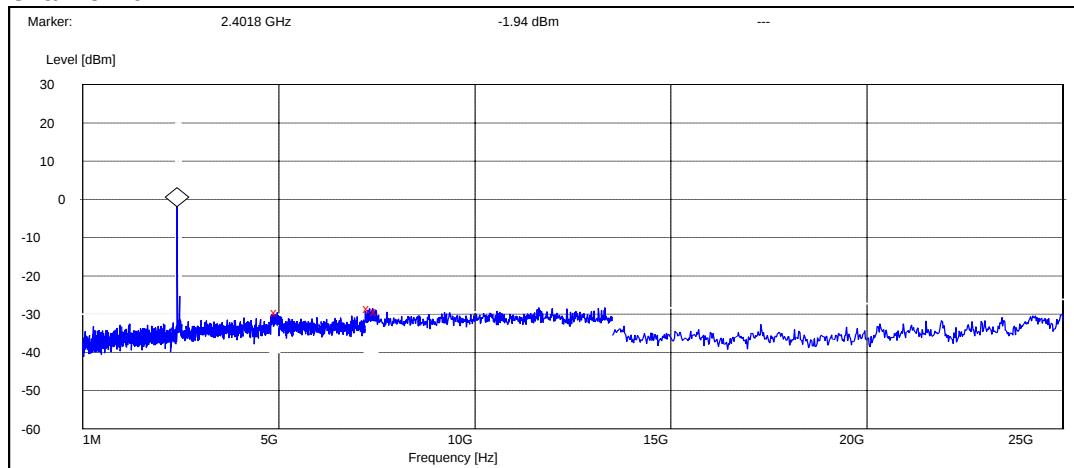
5.2.2 GFSK modulation, PRBS packet type, slide open

Channel 0



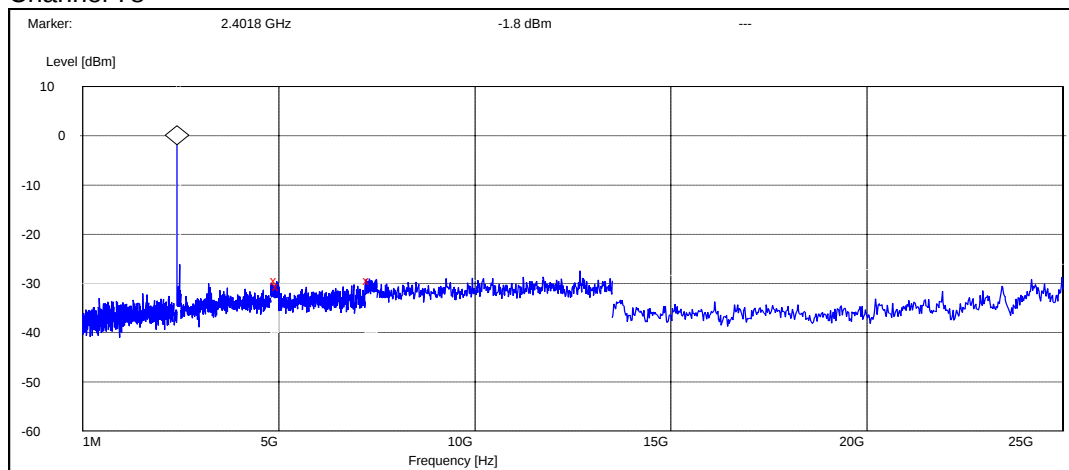
Frequency [MHz]	P [dBc]	Result
4812.000000	-27.682869	Pass
7294.200000	-27.582869	Pass
7500.000000	-27.482869	Pass

Channel 40



Frequency [MHz]	P [dBc]	Result
4956.800000	-27.564145	Pass
7315.200000	-26.664145	Pass
7500.000000	-27.364145	Pass

Channel 78



Frequency [MHz]	P [dBc]	Result
4948.400000	-27.495668	Pass
5000.000000	-28.795668	Pass
7316.400000	-27.595668	Pass

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

EUT with DUT number	RM-92 #29009
Accessories with DUT numbers	BL-5B #29010, HS-23 #29011, AC-4E #28405
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.0 / 45.0 / 1023
Date of measurements	18.11.2005
Measured by	Juho Tuohino

6.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

6.2. Bluetooth Test results

6.2.1 GFSK modulation, PRBS packet type

Channel 0

Peak (RBW: 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	35.94	62.66	28.04	7.90	VERTICAL	Passed
7206.000000	39.34	92.68	26.84	12.50	HORIZONTAL	Passed

Average (RBW: 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	23.04	14.19	15.14	7.90	VERTICAL	Passed
7206.000000	26.24	20.51	13.74	12.50	VERTICAL	Passed

Channel 40

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
37.595391	25.40	18.62	41.00	-15.60	VERTICAL	Passed
45.209820	25.90	19.72	46.30	-20.40	VERTICAL	Passed
73.767535	19.40	9.33	43.40	-24.00	HORIZONTAL	Passed
74.169940	19.80	9.77	43.70	-23.90	HORIZONTAL	Passed
110.080160	14.60	5.37	36.80	-22.20	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2494.583166	49.00	281.84	40.00	9.00	VERTICAL	Passed
2893.791583	50.80	346.74	39.20	11.60	HORIZONTAL	Passed
2905.809619	52.10	402.72	40.00	12.10	HORIZONTAL	Passed
4946.393788	38.14	80.72	29.84	8.30	VERTICAL	Passed
17878.751503	54.34	521.19	25.64	28.70	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
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2899.291583	38.70	86.10	26.80	11.90	HORIZONTAL	Passed
2903.809619	39.10	90.16	27.00	12.10	HORIZONTAL	Passed
4946.393788	24.64	17.06	16.34	8.30	VERTICAL	Passed
17873.251503	41.64	120.78	13.04	28.60	HORIZONTAL	Passed

Channel 78

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4960.000000	36.84	69.50	28.54	8.30	HORIZONTAL	Passed
7440.000000	39.24	91.62	26.34	12.90	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
4960.000000	24.34	16.48	16.04	8.30	HORIZONTAL	Passed
7440.000000	26.74	21.73	13.84	12.90	VERTICAL	Passed

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

EUT with DUT number	RM-92 Dut # 28319
Accessories with DUT numbers	BL-5B Dut # 28315 + AC-4E Dut # 28312 + HS-23 Dut # 28314
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.9 / 41.0 1028
Date of measurements	08-11-2005
Measured by	Allan F. Henriksen

7.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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.

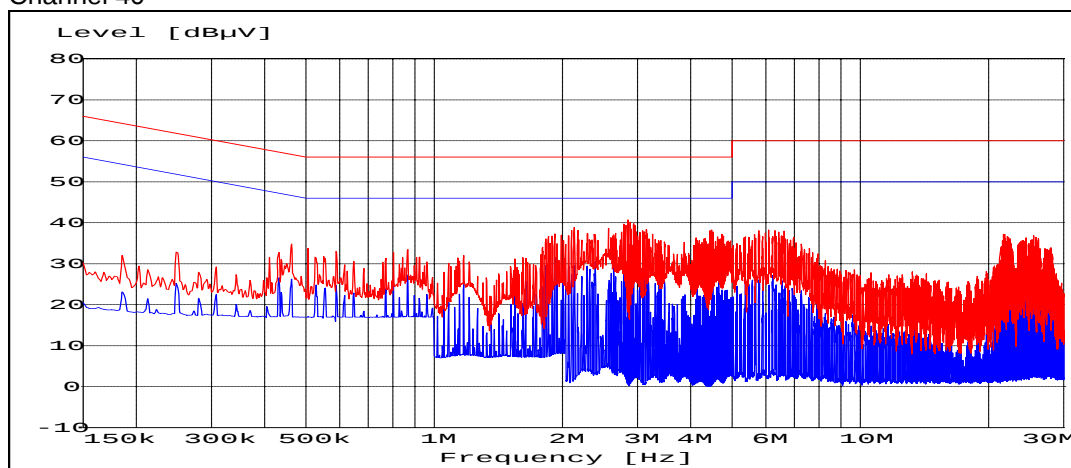
CISPR 22 Class B limits

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

7.2. Bluetooth Test results

7.2.1 GFSK modulation, PRBS packet type

Channel 40



8. 20 dB bandwidth (FCC §15.247(a)(1), RSS-210 6.2.2(o)(a3))

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

8.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for 20 dB bandwidth measurements

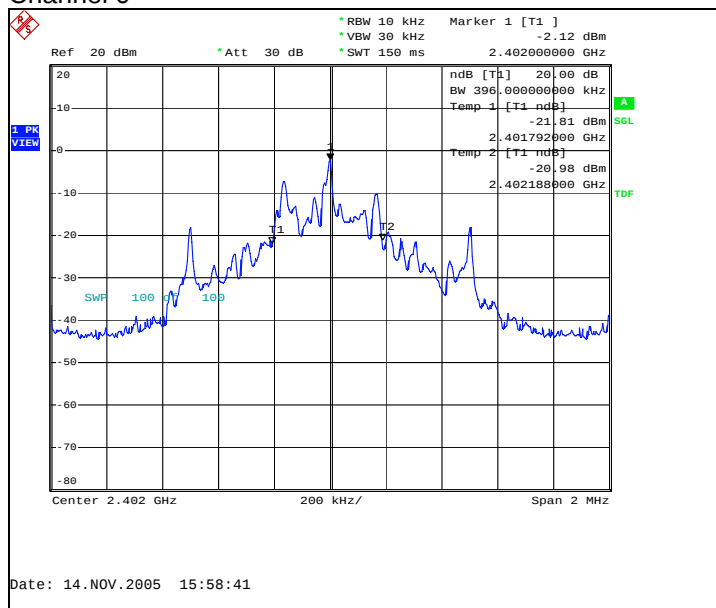
Limit [MHz]
≤ 1

8.2. Bluetooth Test results

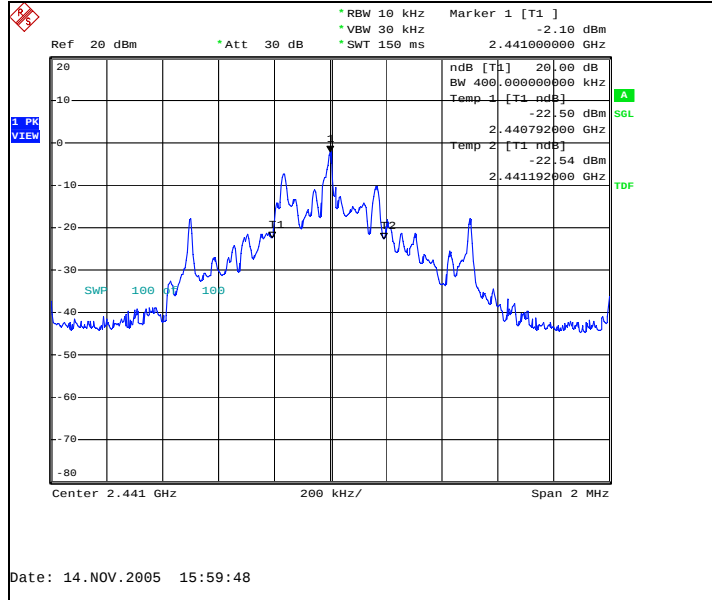
8.2.1 GFSK modulation, PRBS packet type

Channel	20 dB bandwidth [kHz]	Result
0	396.000	Pass
40	400.000	Pass
78	400.000	Pass

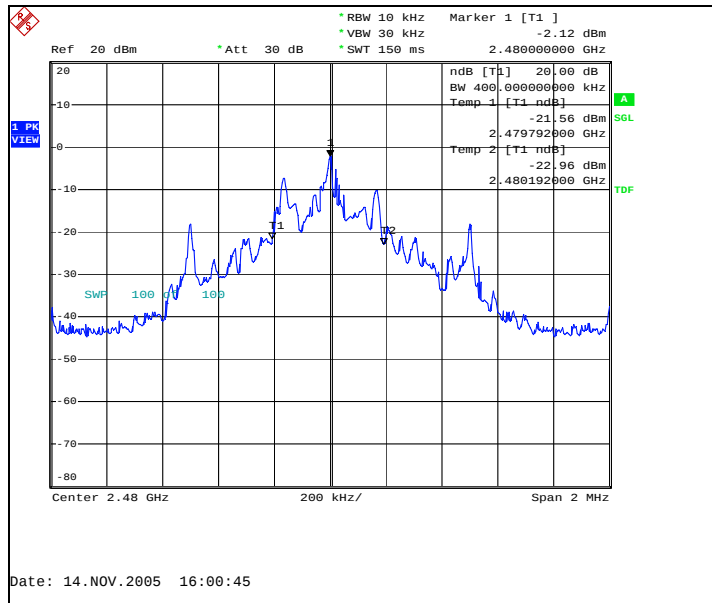
Channel 0



Channel 40



Channel 78



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

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

9.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for carrier frequency separation measurements

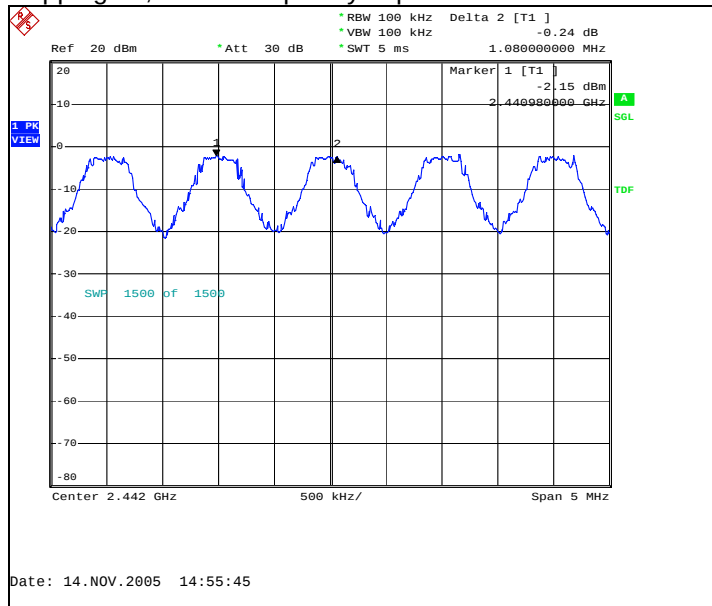
Limit [MHz]
≥ 0.025 or $2/3$ of the 20 dB bandwidth

9.2. Bluetooth Test results

GFSK modulation, PRBS packet type

Carrier frequency separation [kHz]	Result
1080	Pass

Hopping on, carrier frequency separation of channels 39 and 40



10. Number of hopping frequencies (FCC §15.247(a)(1)(iii), RSS-210 Amend I(ii))

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

10.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for number of hopping frequencies measurements

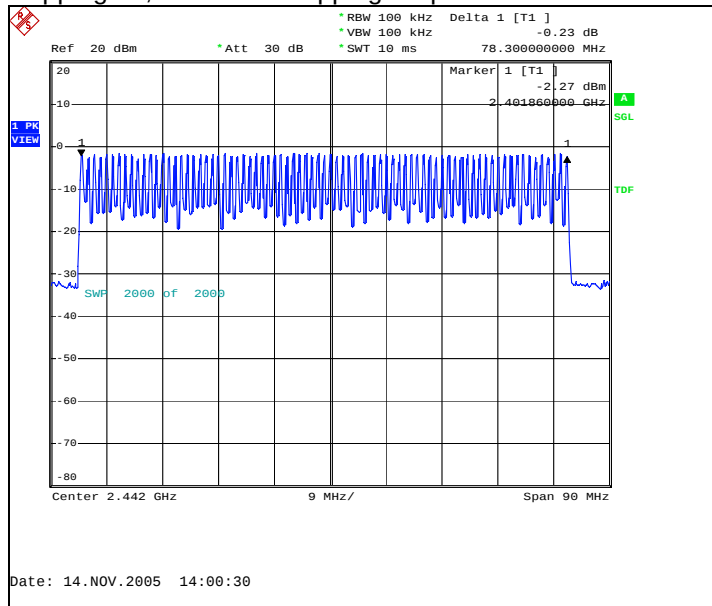
Limit [number]
≥ 75

10.2. Bluetooth Test results

10.2.1 GFSK modulation, PRBS packet type

Measured number of hopping frequencies	Result
79	Pass

Hopping on, number of hopping frequencies



11. Time of occupancy (FCC §15.247(a)(1)(iii), RSS-210 A8.1 (4))

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	None
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

11.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

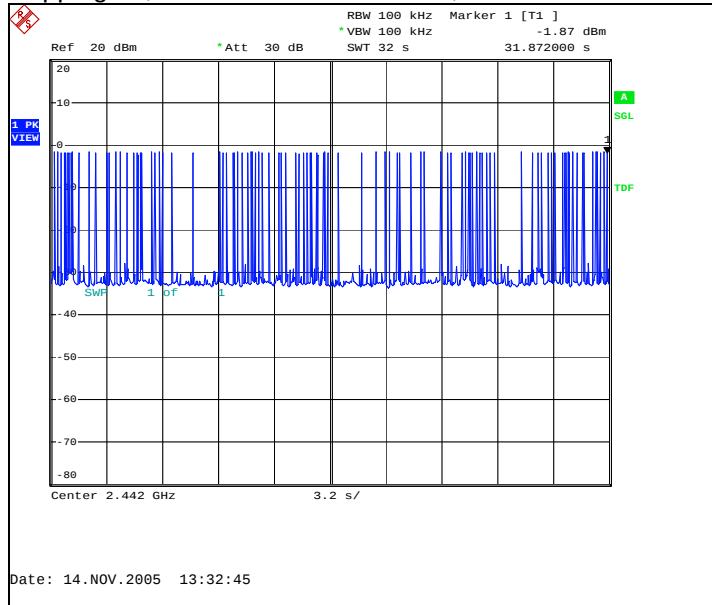
Limit [s]
≤ 0.4

11.2. Bluetooth test results

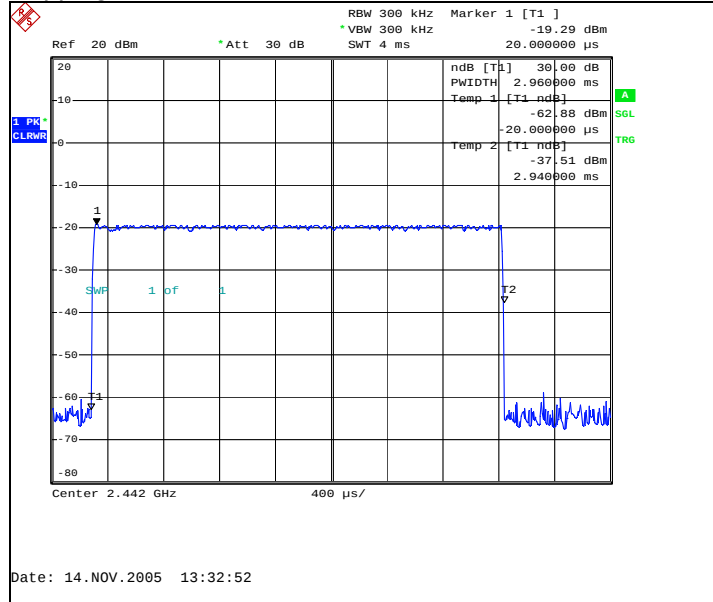
11.2.1 GFSK modulation, PRBS packet type

Measured number of transmissions	Duration of one transmission [μ s]	Time of occupancy [s]	Result
88	2960.000	0.260480	Pass

Hopping on, number of transmissions, channel 40



Hopping on, duration of one transmission, channel 40



12. Peak output power (FCC §15.247(b)(1), RSS-210 A8.4 (4))

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	Power measured with slide closed except for 5.5Mbps which is measured with slide both closed and open.
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	23.8 / 36.5 1023.2
Date of measurements	10-11-2005
Measured by	Jan Engelbrechtsen

12.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for peak output power measurements

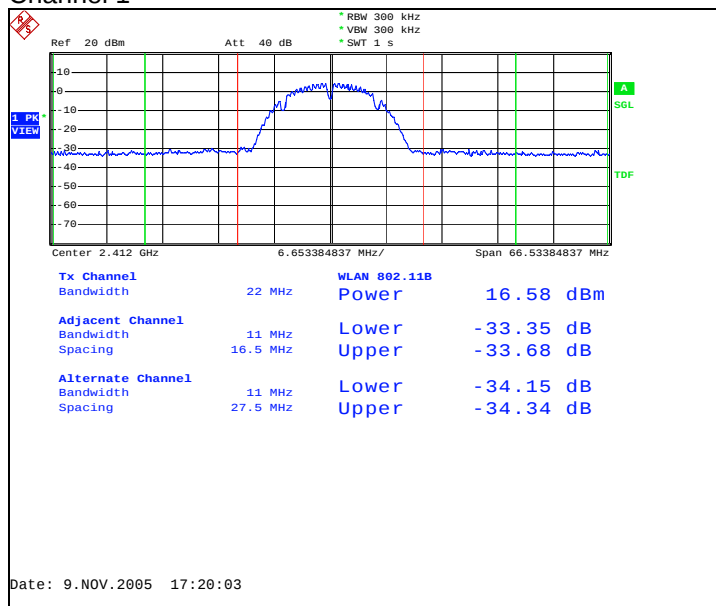
Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5	≤ 1	≤ 30

12.2. WLAN Test results

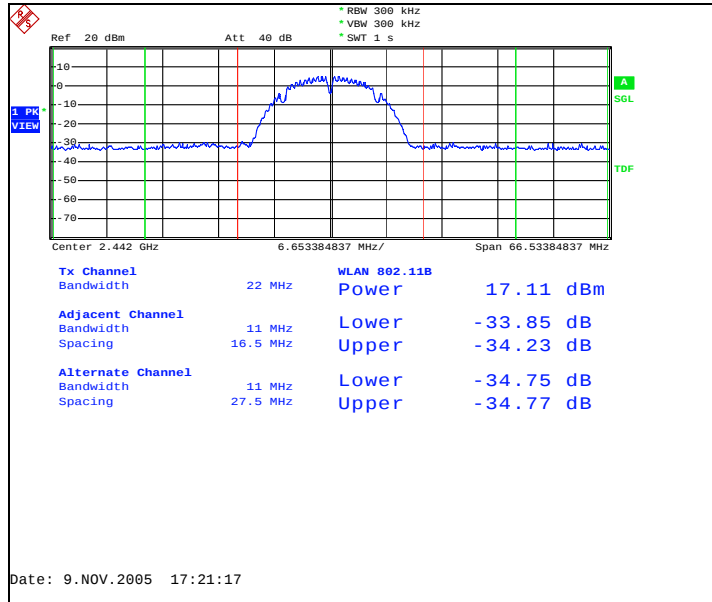
12.2.1 DSSS mode, BPSK modulation, 1 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	16.58	0.045	Pass
7	17.11	0.051	Pass
11	16.98	0.050	Pass

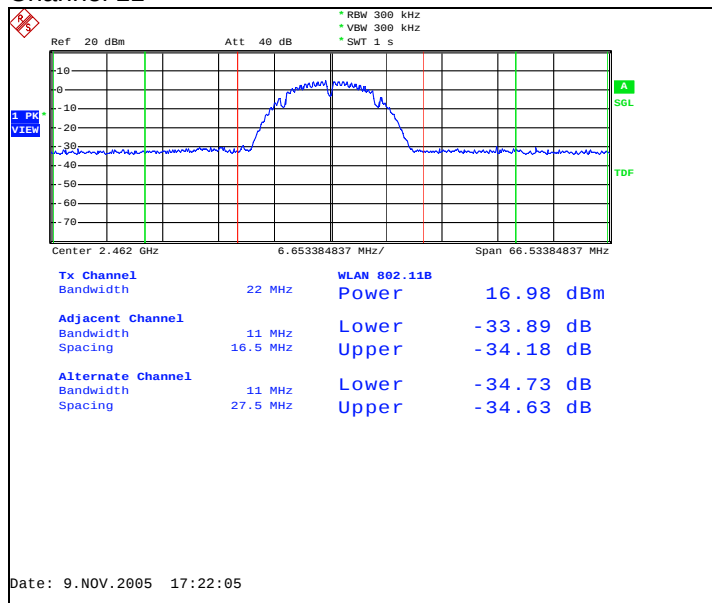
Channel 1



Channel 7



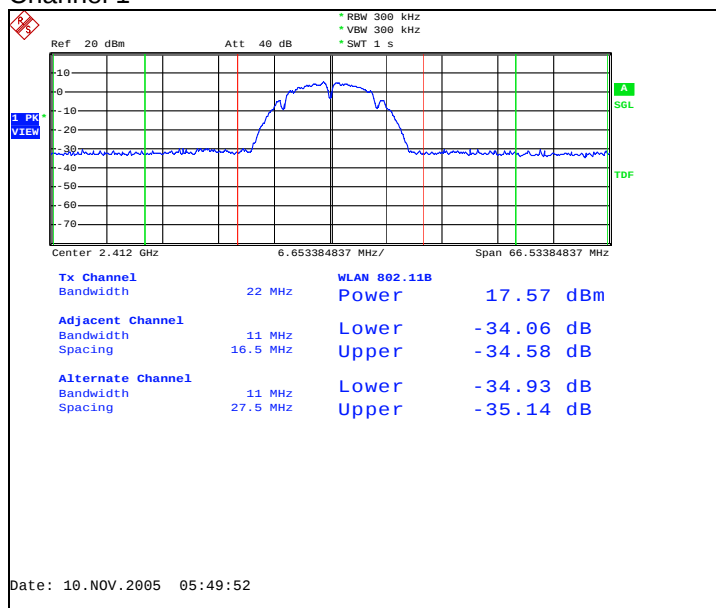
Channel 11



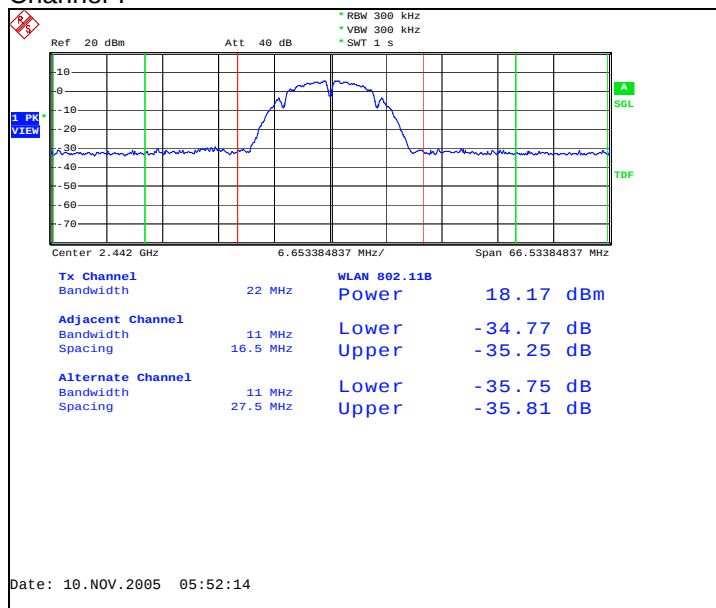
12.2.2 DSSS mode, QPSK modulation, 2 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.57	0.057	Pass
7	18.17	0.066	Pass
11	17.90	0.062	Pass

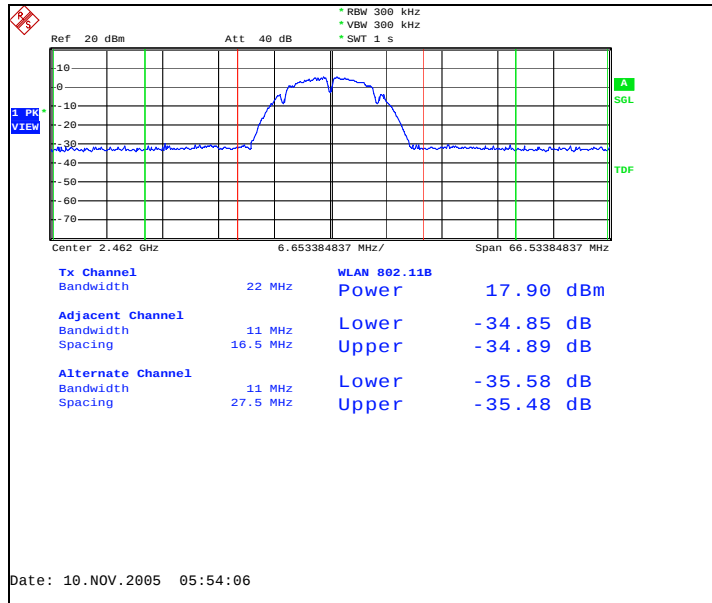
Channel 1



Channel 7



Channel 11



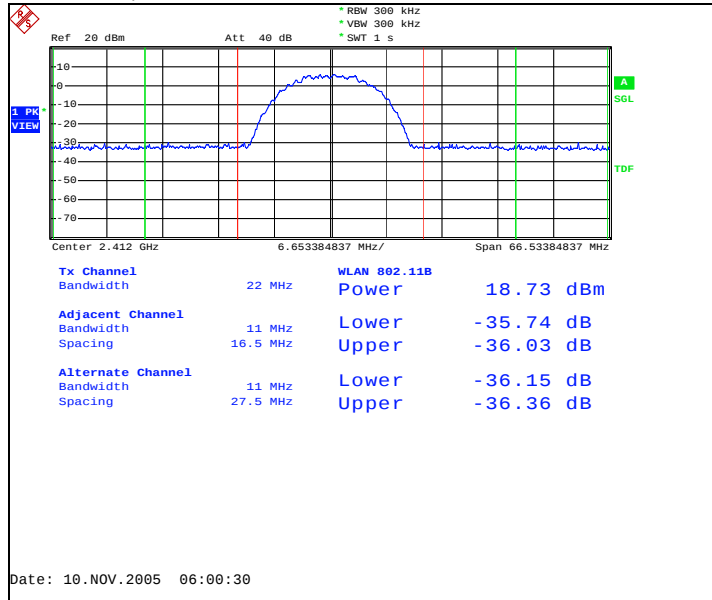
12.2.3 DSSS mode, QPSK modulation, 5.5 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	18.73	0.075	Pass
7	19.78	0.095	Pass
11	19.09	0.081	Pass

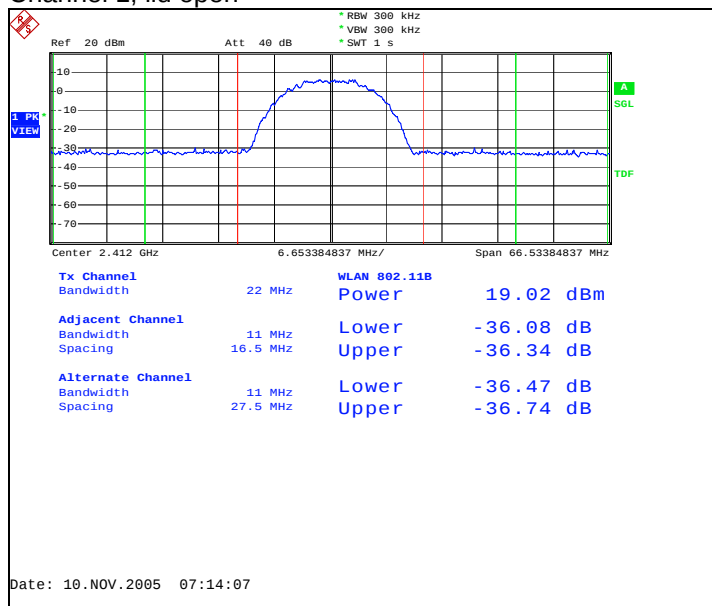
Lid Open

Channel	P [dBm]	P [W]	Result
1	19.02	0.080	Pass
7	19.68	0.093	Pass
11	19.05	0.080	Pass

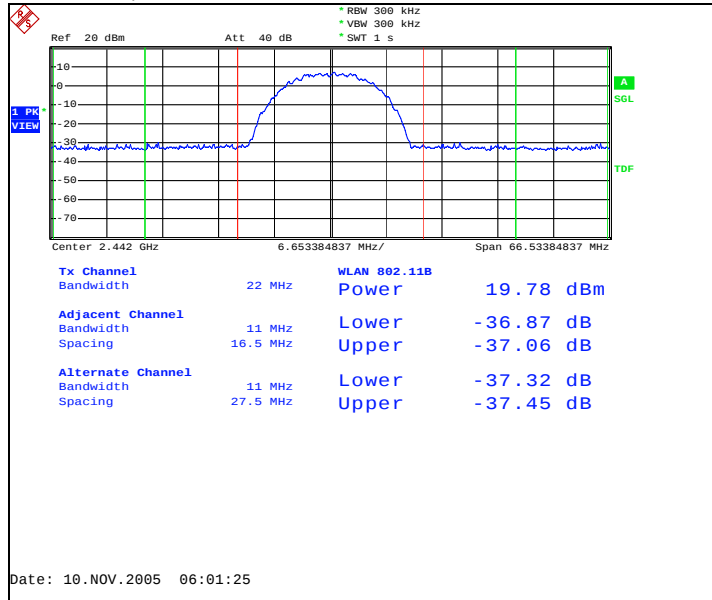
Channel 1, lid closed



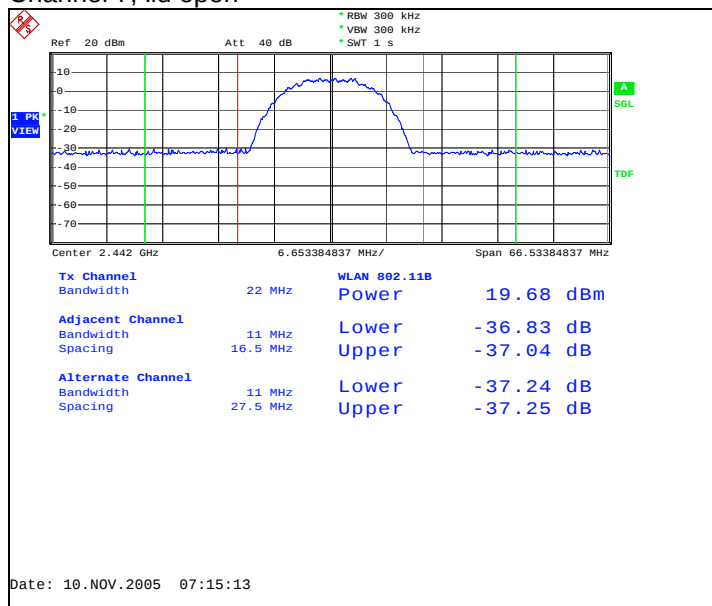
Channel 1, lid open



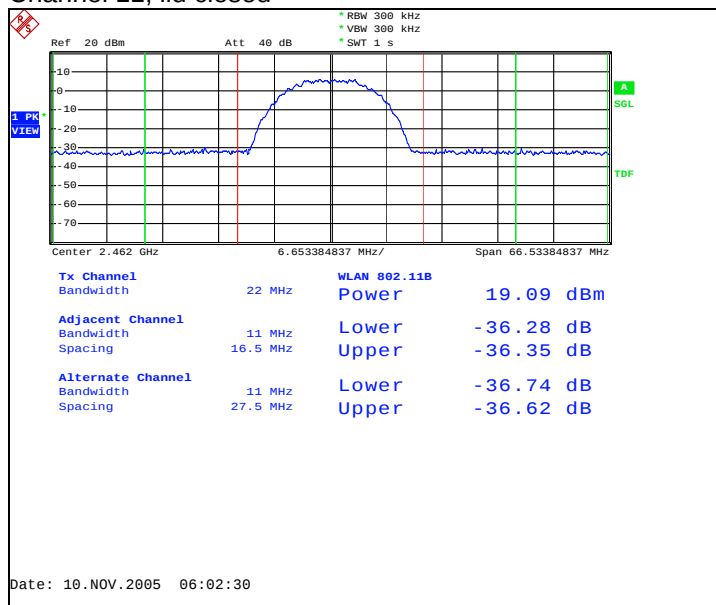
Channel 7, lid closed



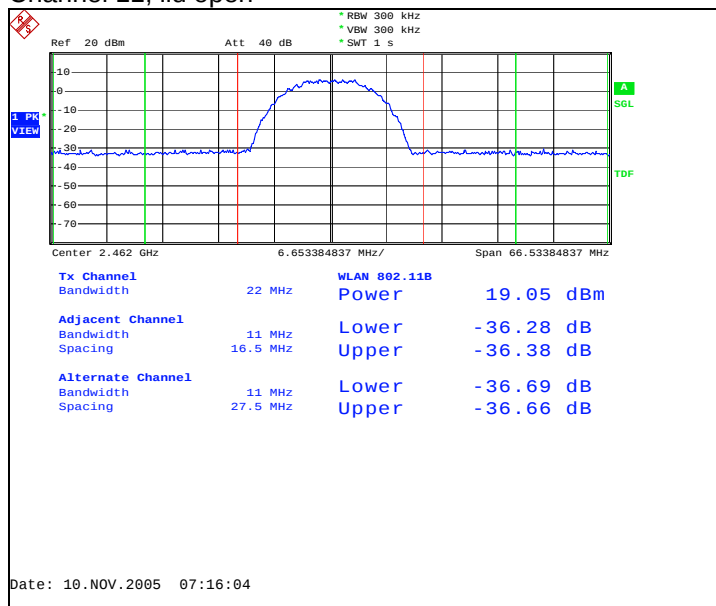
Channel 7, lid open



Channel 11, lid closed



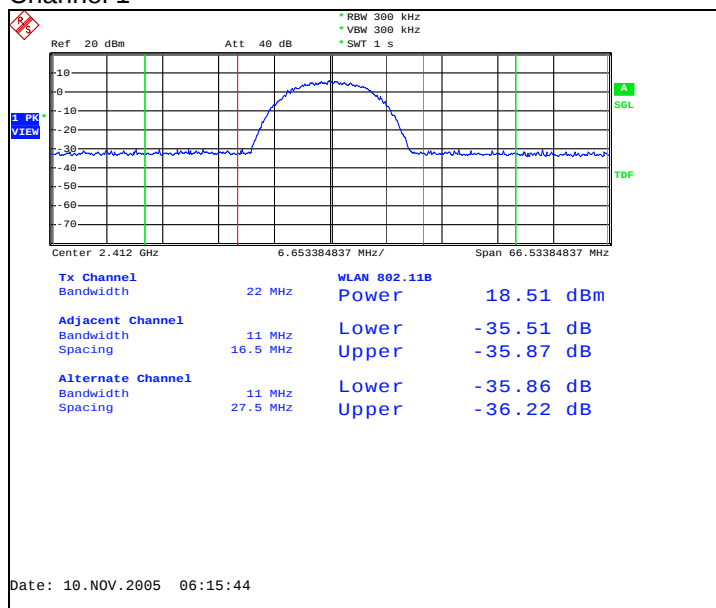
Channel 11, lid open



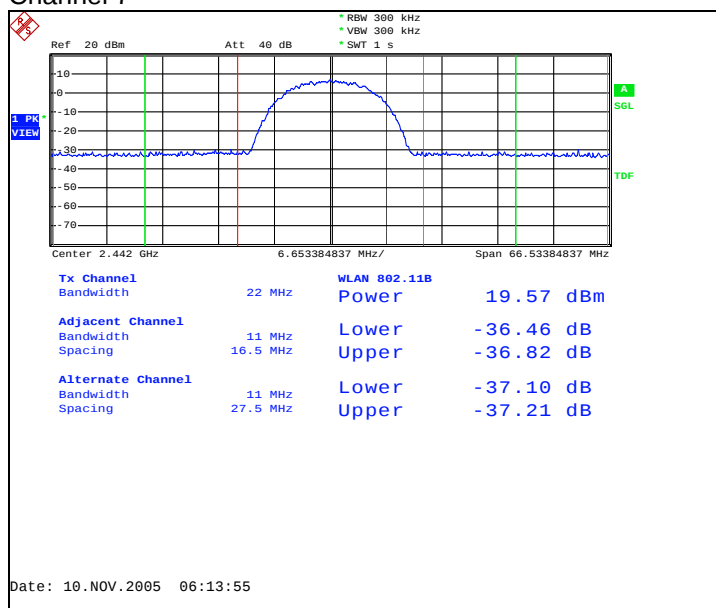
12.2.4 DSSS mode, QPSK modulation, 11 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	18.51	0.071	Pass
7	19.57	0.091	Pass
11	19.45	0.088	Pass

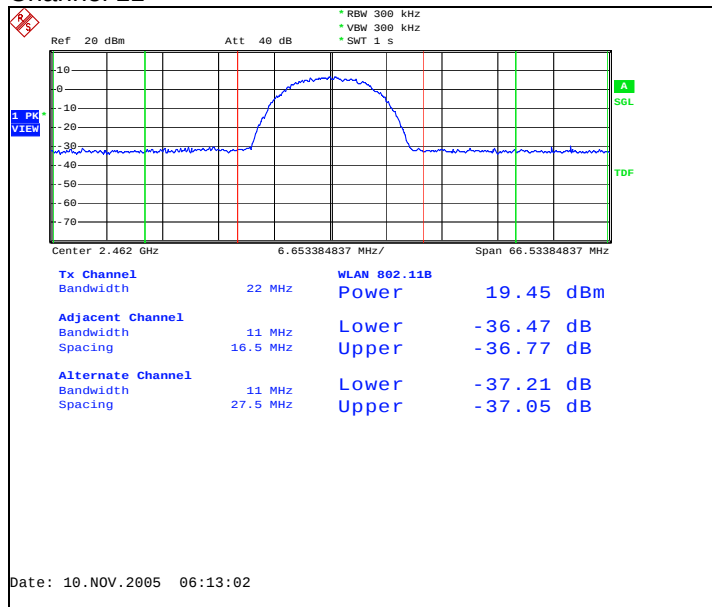
Channel 1



Channel 7



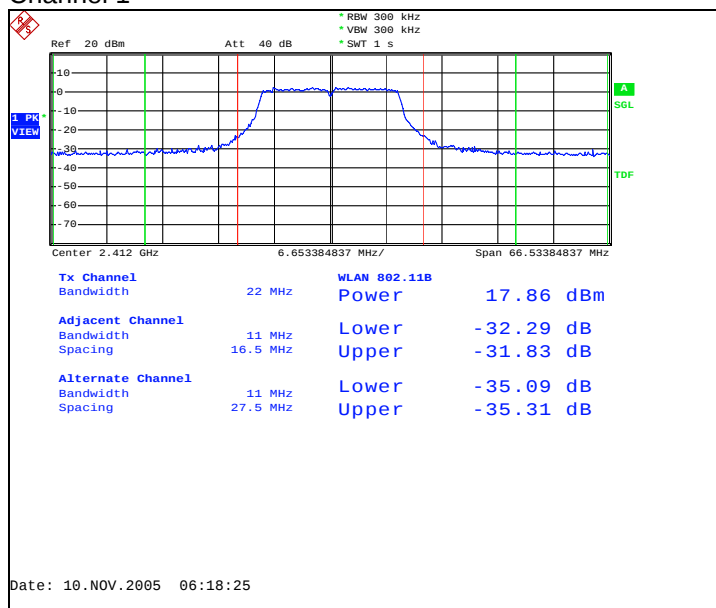
Channel 11



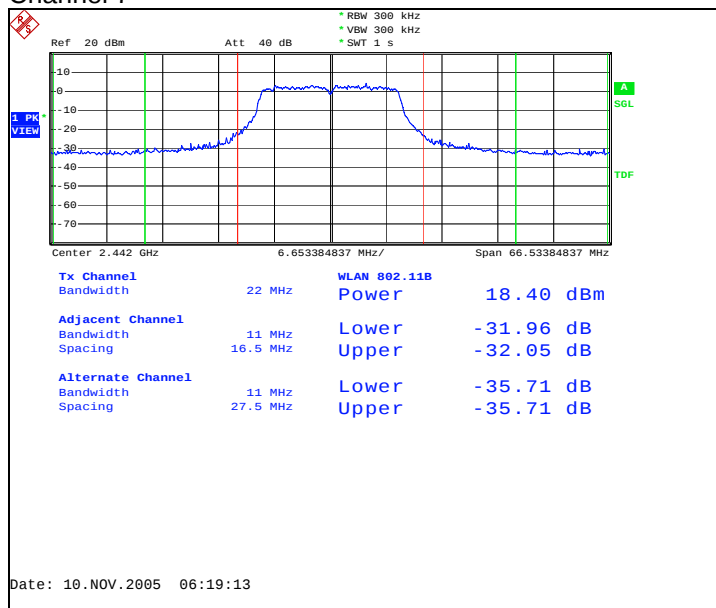
12.2.5 OFDM mode, BPSK modulation, 6 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.86	0.061	Pass
7	18.40	0.069	Pass
11	18.13	0.065	Pass

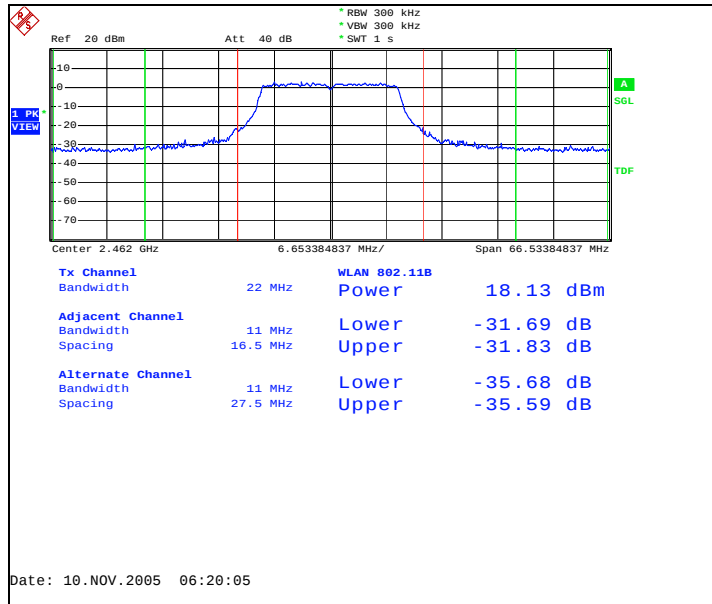
Channel 1



Channel 7



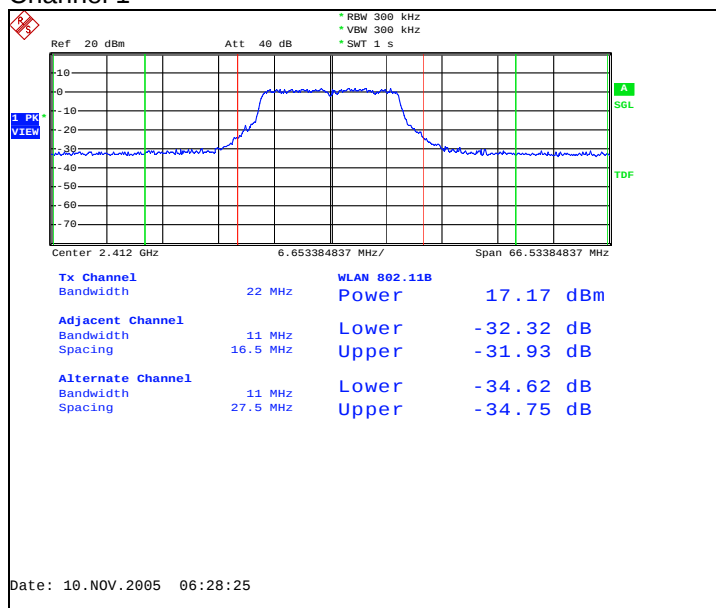
Channel 11



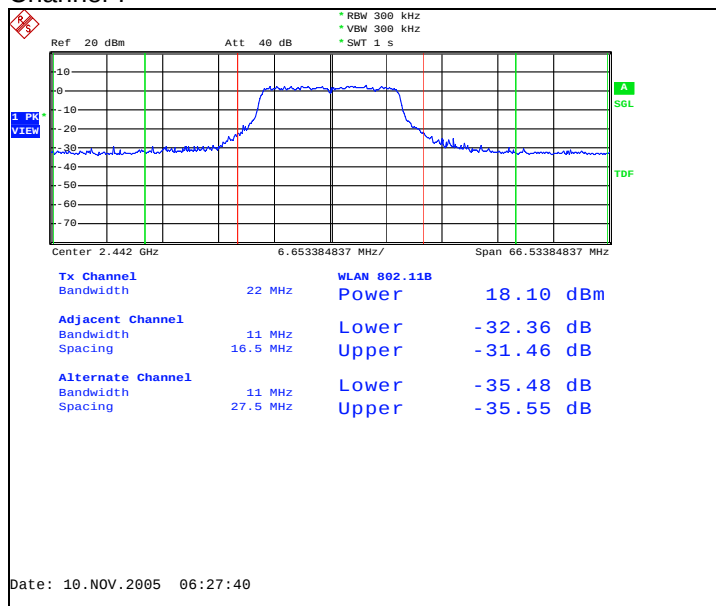
12.2.6 OFDM mode, BPSK modulation, 9 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.17	0.052	Pass
7	18.10	0.065	Pass
11	18.42	0.070	Pass

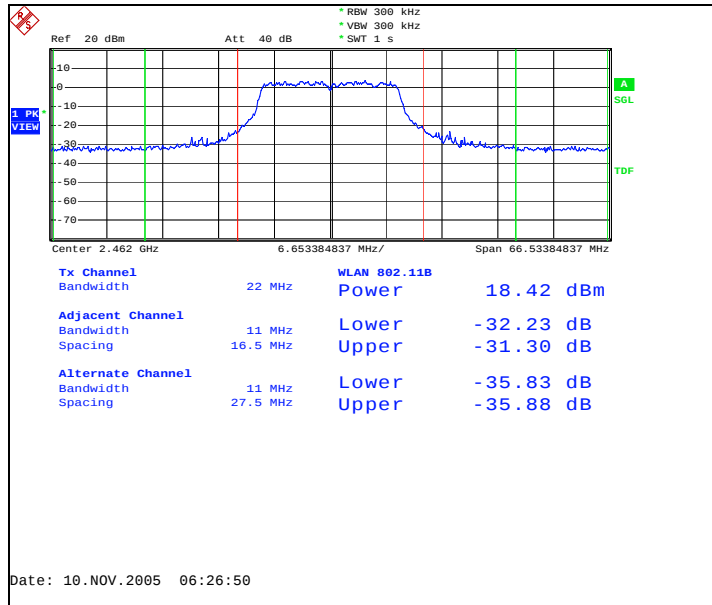
Channel 1



Channel 7



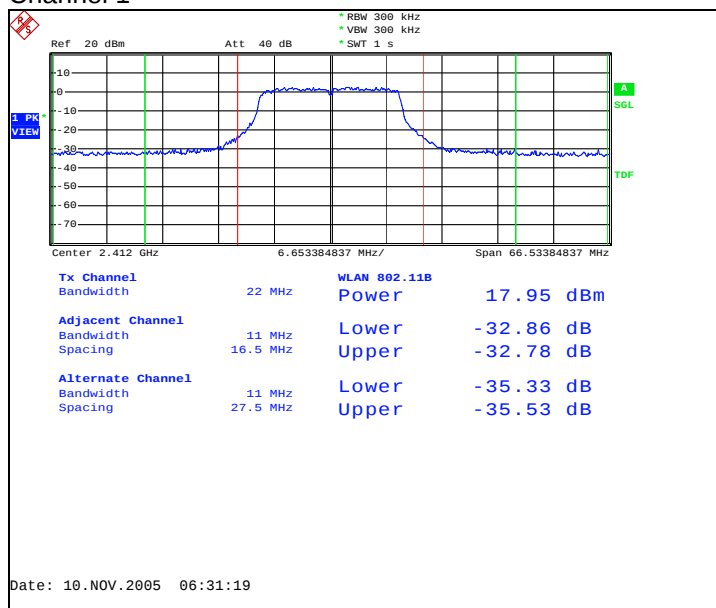
Channel 11



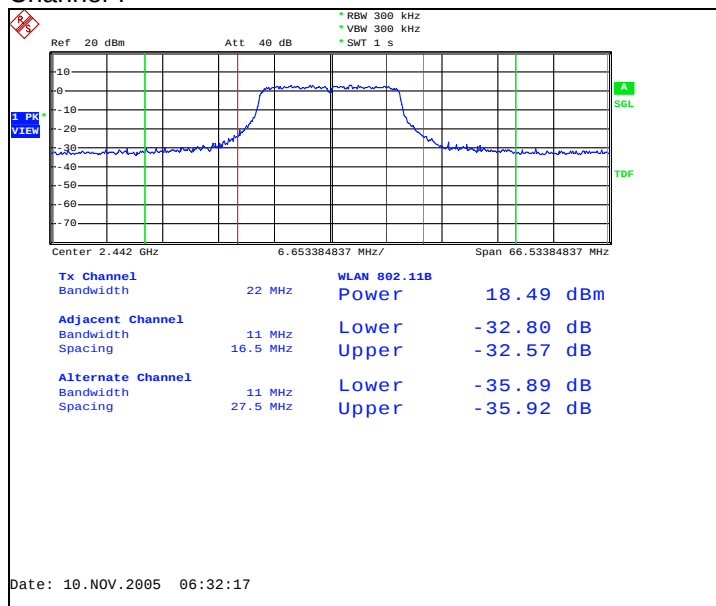
12.2.7 OFDM mode, QPSK modulation, 12 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.95	0.062	Pass
7	18.49	0.071	Pass
11	18.02	0.063	Pass

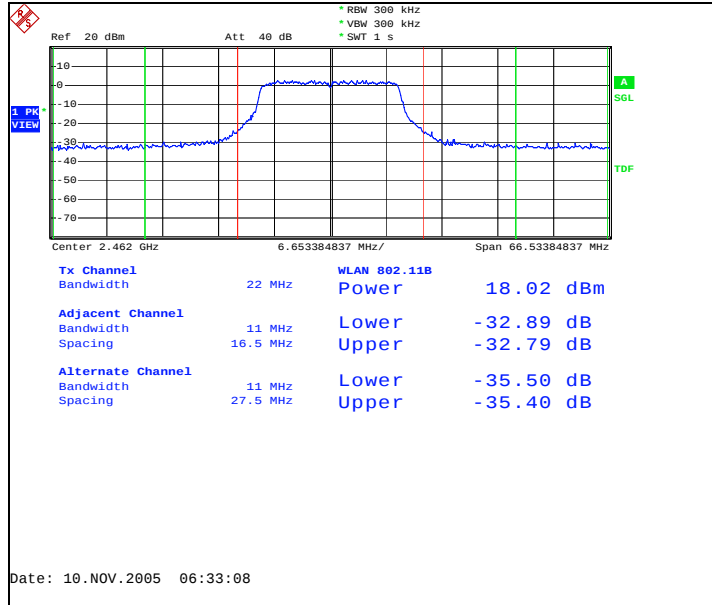
Channel 1



Channel 7



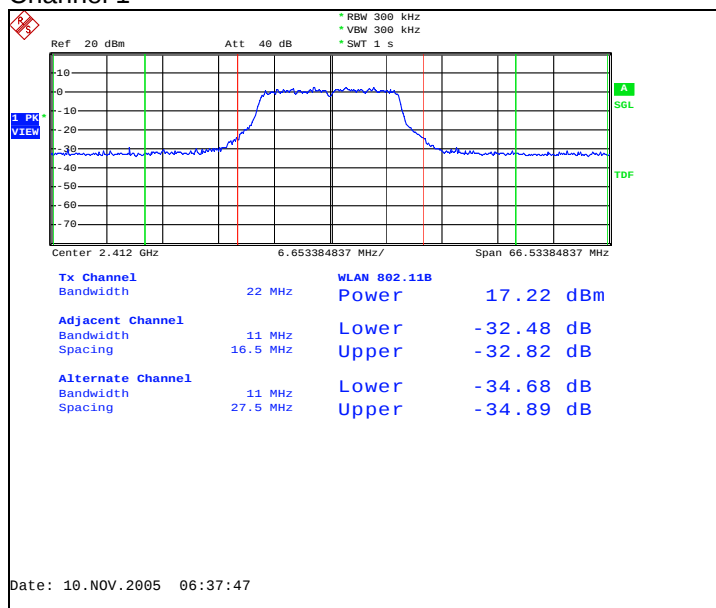
Channel 11



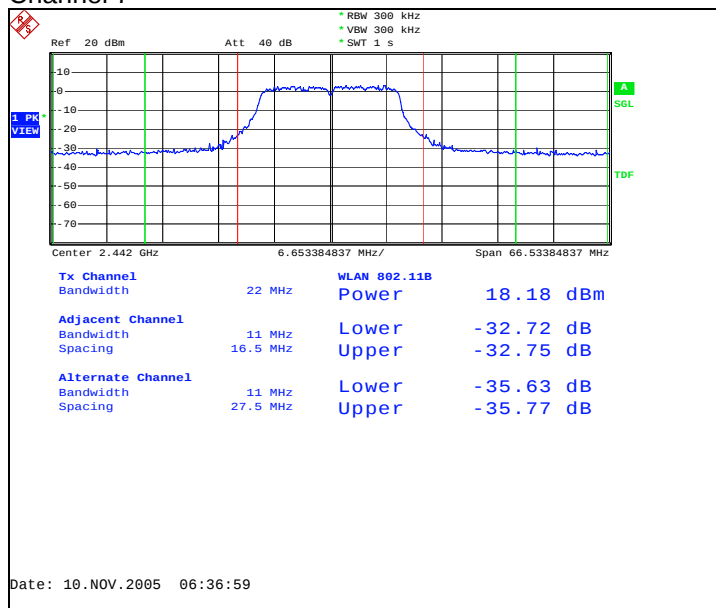
12.2.8 OFDM mode, QPSK modulation, 18 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.22	0.053	Pass
7	18.18	0.066	Pass
11	18.12	0.065	Pass

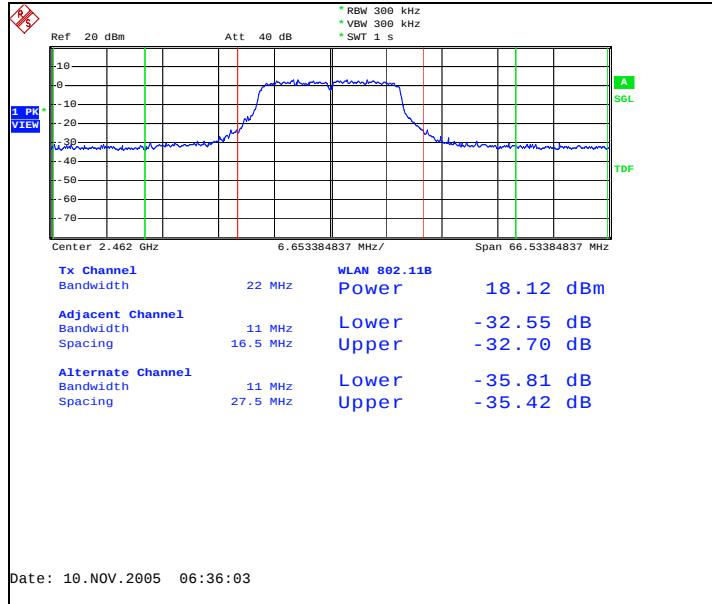
Channel 1



Channel 7



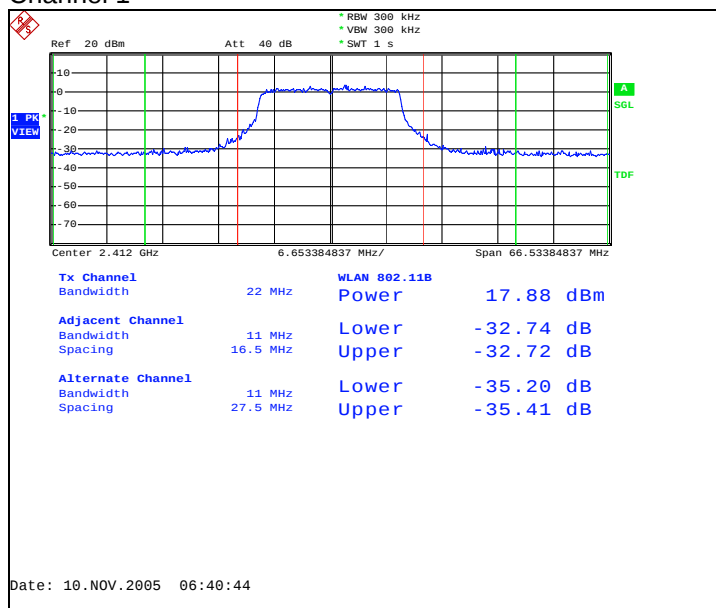
Channel 11



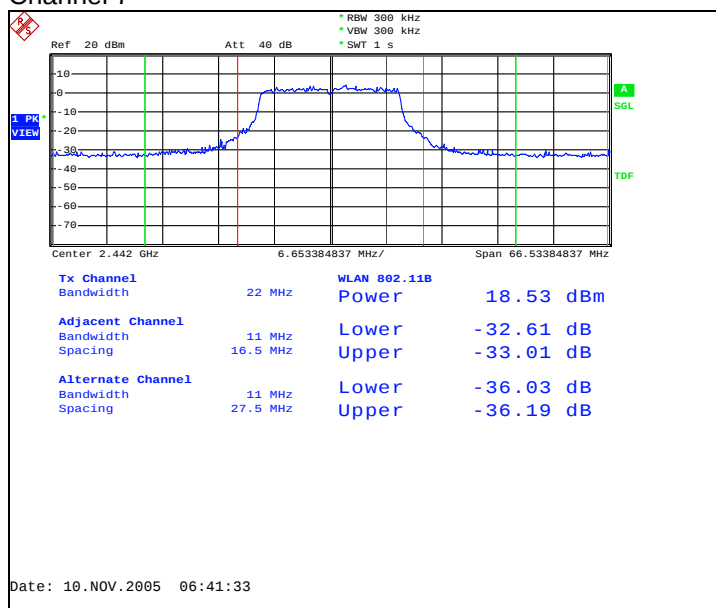
12.2.9 OFDM mode, 16QAM modulation, 24 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.88	0.061	Pass
7	18.53	0.071	Pass
11	18.06	0.064	Pass

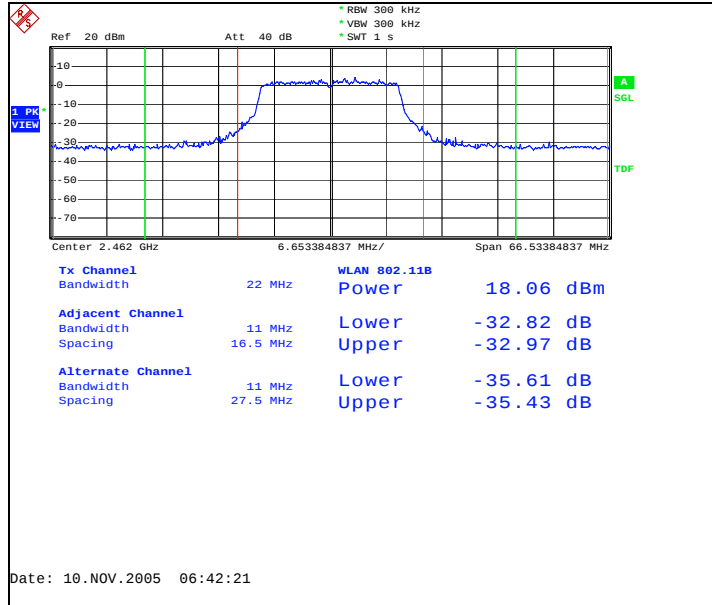
Channel 1



Channel 7



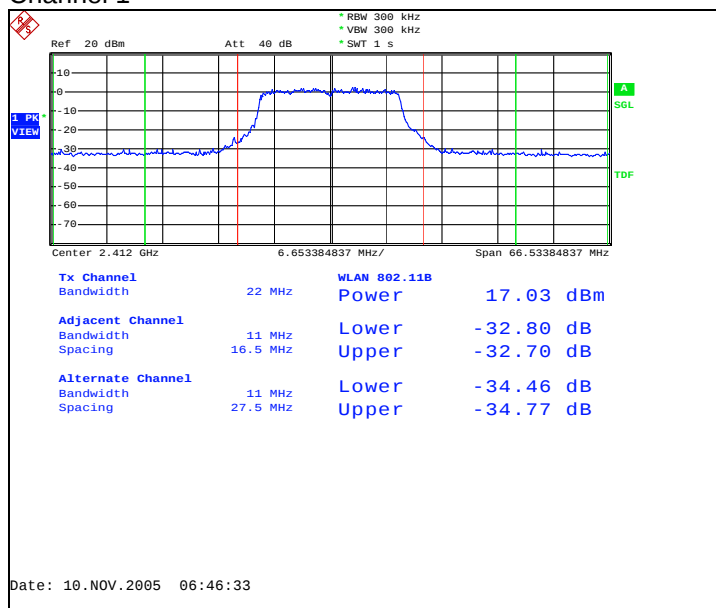
Channel 11



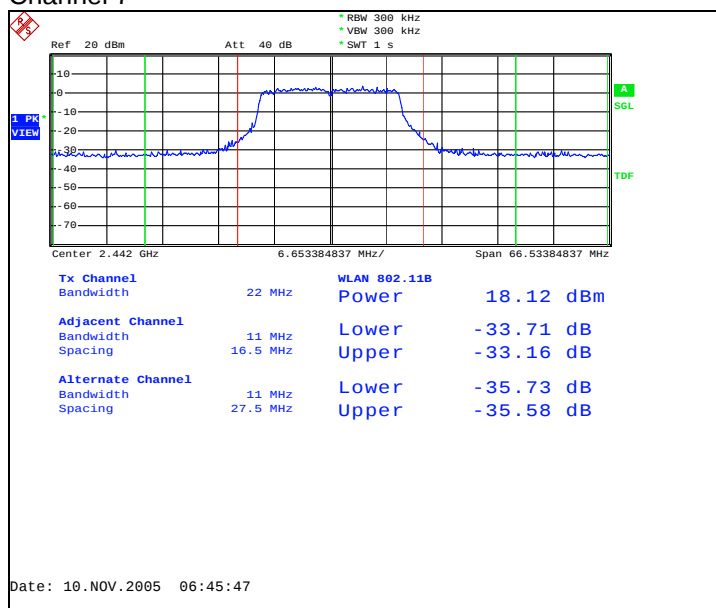
12.2.10 OFDM mode, 16QAM modulation, 36 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	17.03	0.050	Pass
7	18.12	0.065	Pass
11	18.07	0.064	Pass

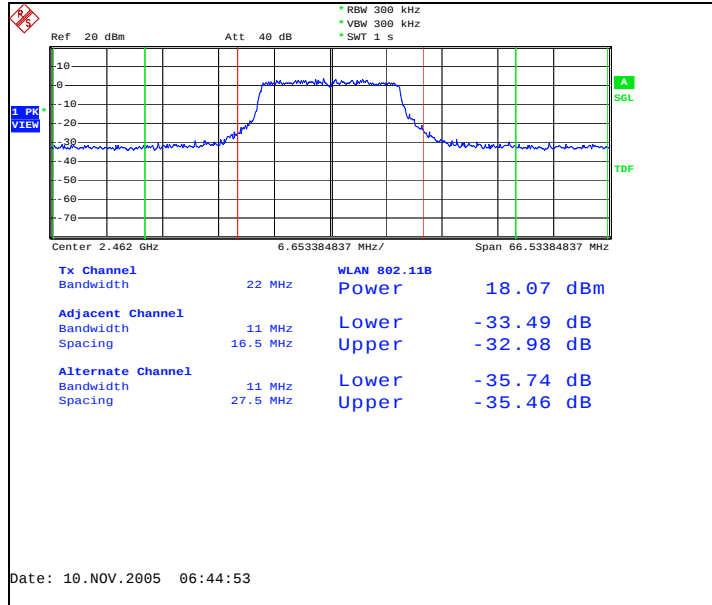
Channel 1



Channel 7



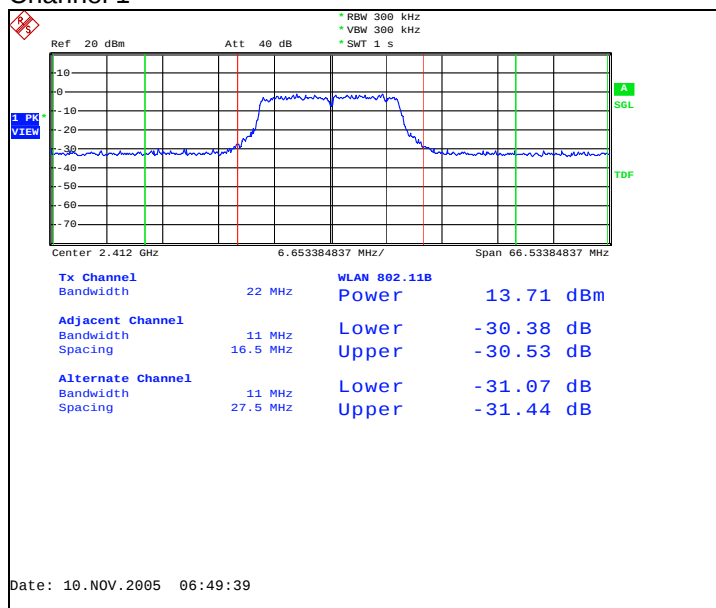
Channel 11



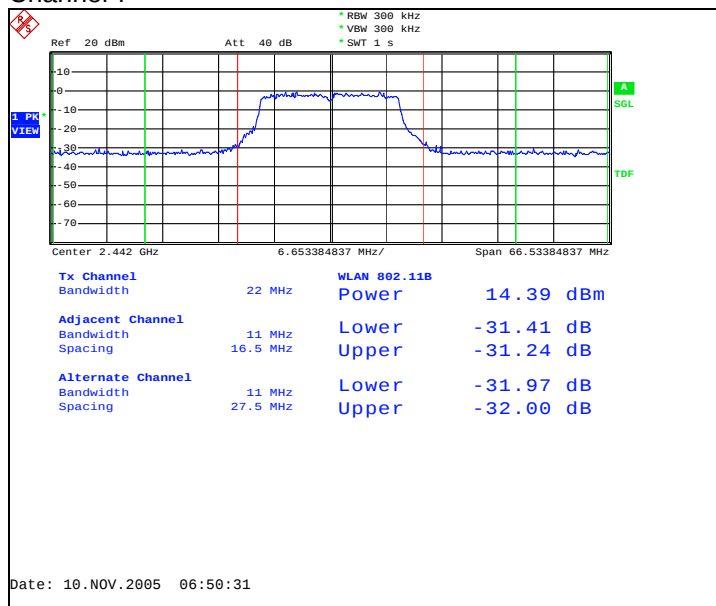
12.2.11 OFDM mode, 64QAM modulation, 48 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	13.71	0.023	Pass
7	14.39	0.027	Pass
11	13.74	0.024	Pass

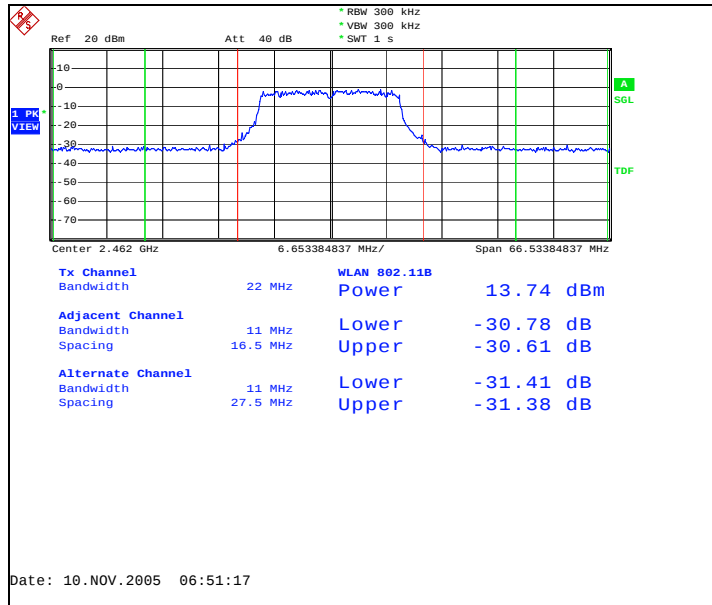
Channel 1



Channel 7



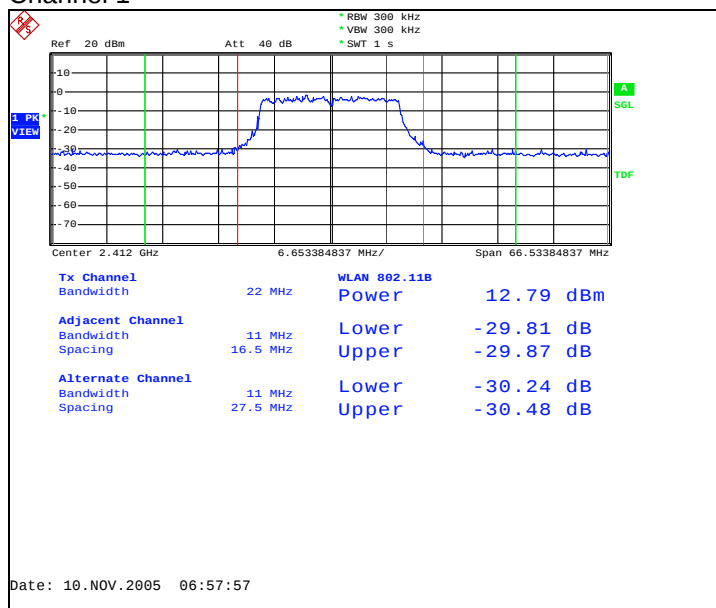
Channel 11



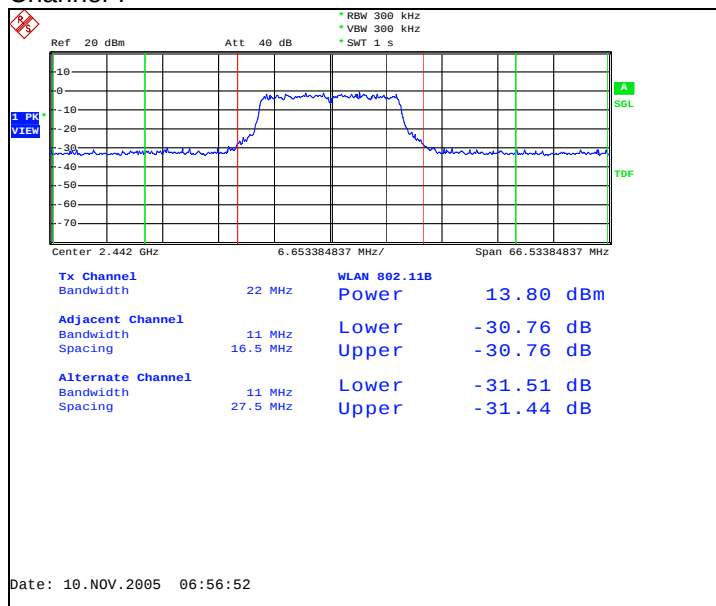
12.2.12 OFDM mode, 64QAM modulation, 54 Mbps data rate, lid closed

Channel	P [dBm]	P [W]	Result
1	12.79	0.019	Pass
7	13.80	0.024	Pass
11	14.27	0.027	Pass

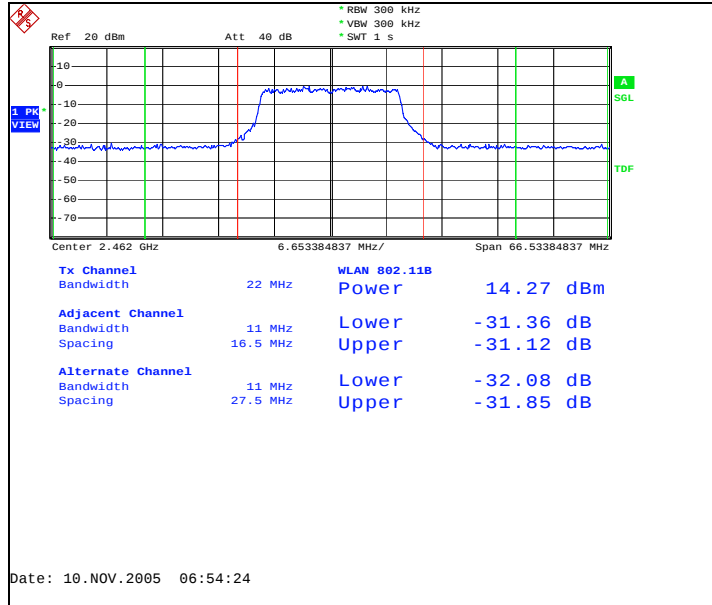
Channel 1



Channel 7



Channel 11



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

EUT with DUT number	RM-92 #29009
Accessories with DUT numbers	BL-5B #29010, HS-23 #29011, AC-4E #28405
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	Measured at worst-case modulation in DSSS and OFDM mode
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.0 / 39.0 / 1018
Date of measurements	22.11.2005
Measured by	Juho Tuohino

13.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

13.2. WLAN Test results

13.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate, Flip Open

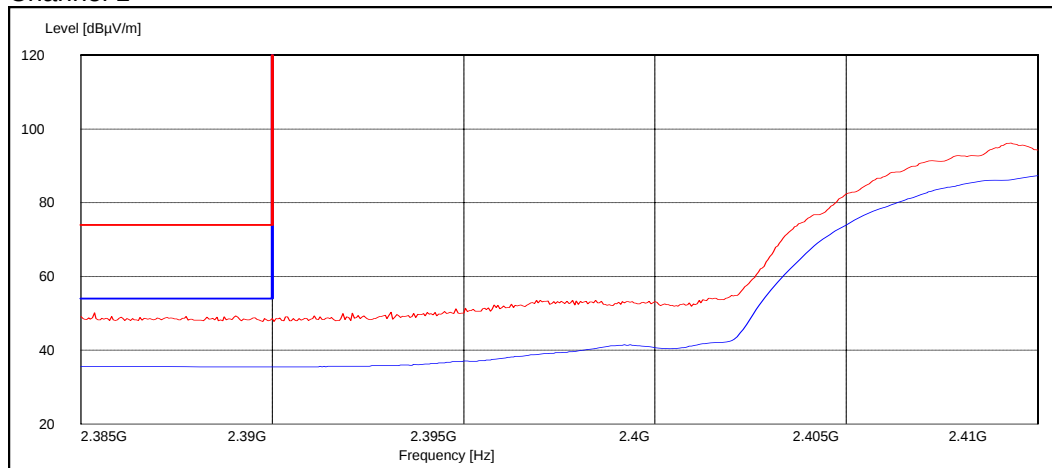
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	35.57	Passed
11	37.46	Passed

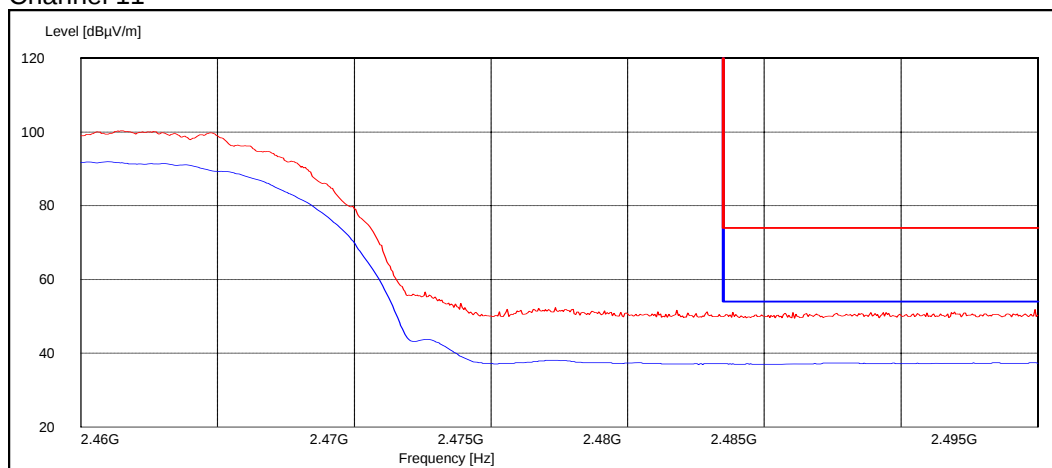
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	50.20	Passed
11	51.88	Passed

Channel 1



Channel 11



13.2.2 DSSS mode, QPSK modulation, 5.5 Mbps data rate, Flip Closed

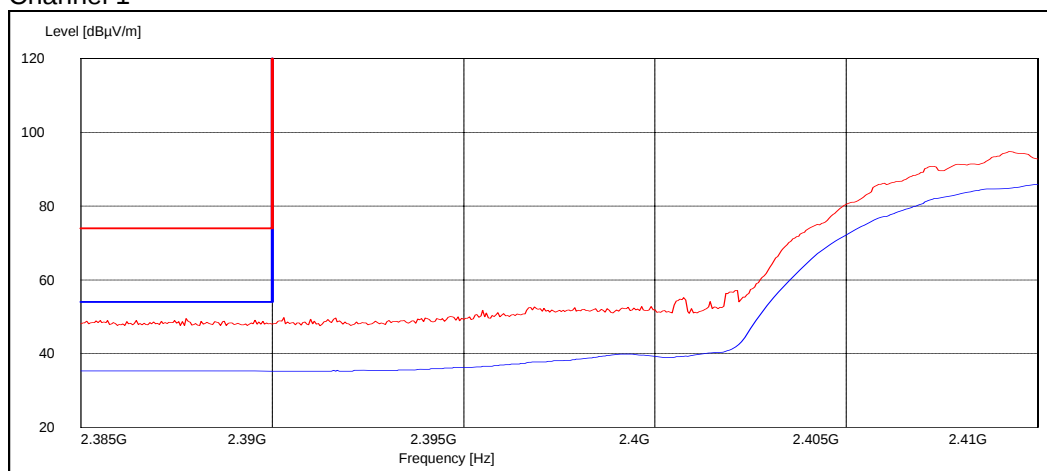
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	35.38	Passed
11	38.17	Passed

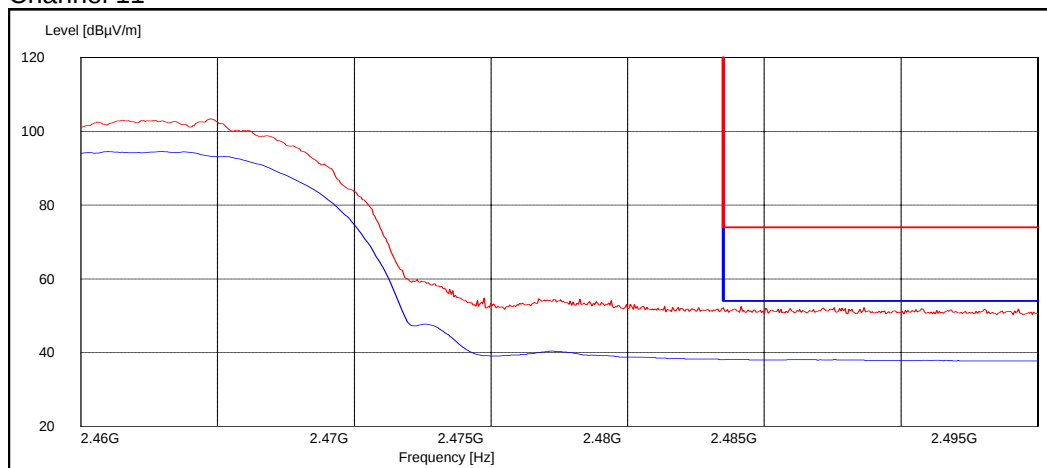
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	49.53	Passed
11	52.50	Passed

Channel 1



Channel 11



13.2.3 OFDM mode, 16QAM modulation, 24 Mbps data rate, Flip Open

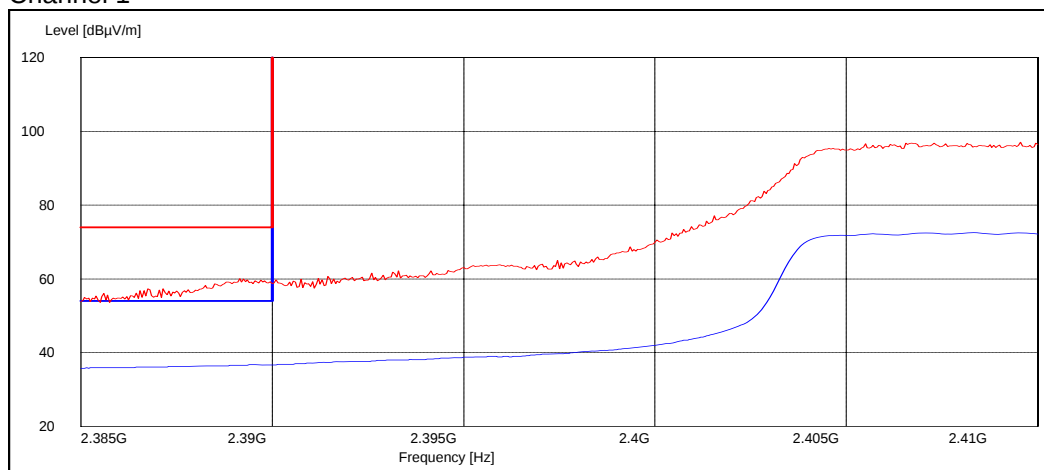
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	36.73	Passed
11	40.21	Passed

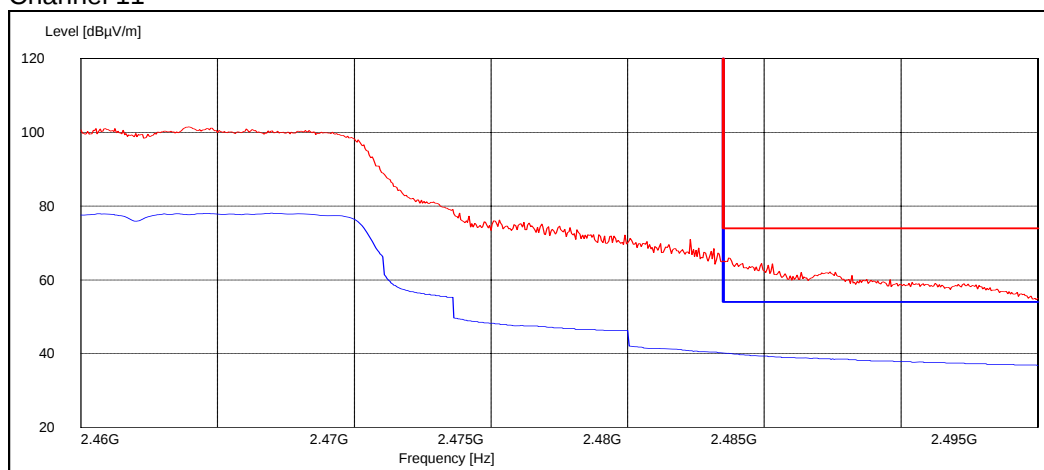
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	60.03	Passed
11	65.97	Passed

Channel 1



Channel 11



13.2.4 OFDM mode, 16QAM modulation, 24 Mbps data rate, Flip Closed

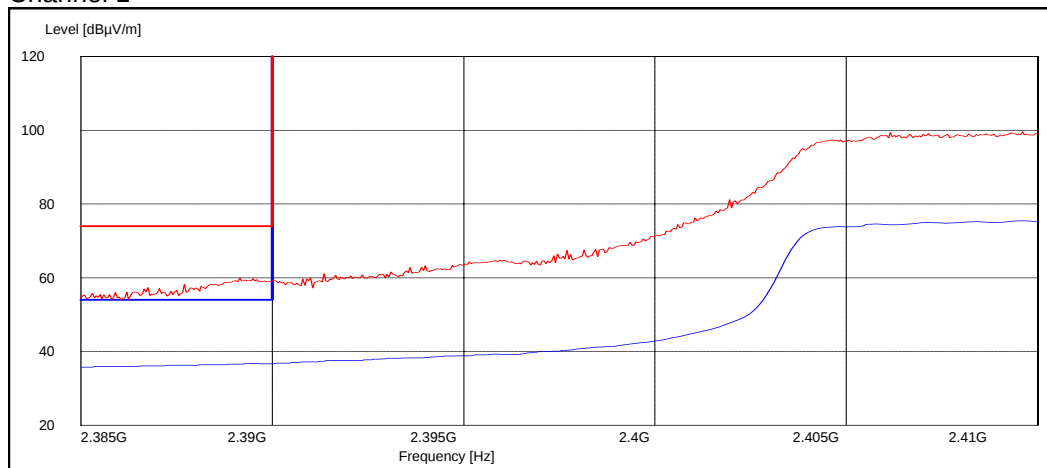
Average (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	36.73	Passed
11	40.33	Passed

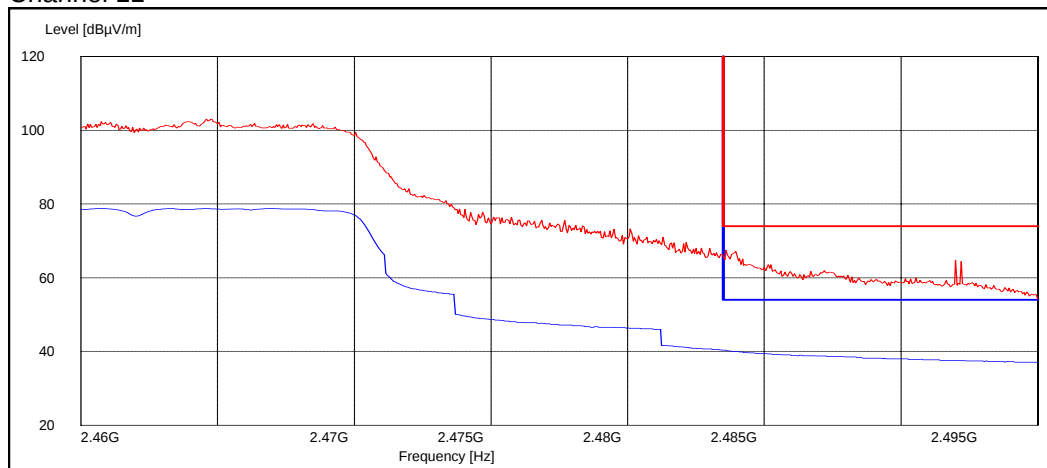
Peak (RBW: 1 MHz)

Channel	E [dB μ V/m]	Result
1	59.89	Passed
11	67.54	Passed

Channel 1



Channel 11



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

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	Measured at worst-case modulation in DSSS and OFDM mode
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	22.9 / 41.5 1024.1
Date of measurements	14-11-2005
Measured by	Jan Engelbrechtsen

14.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

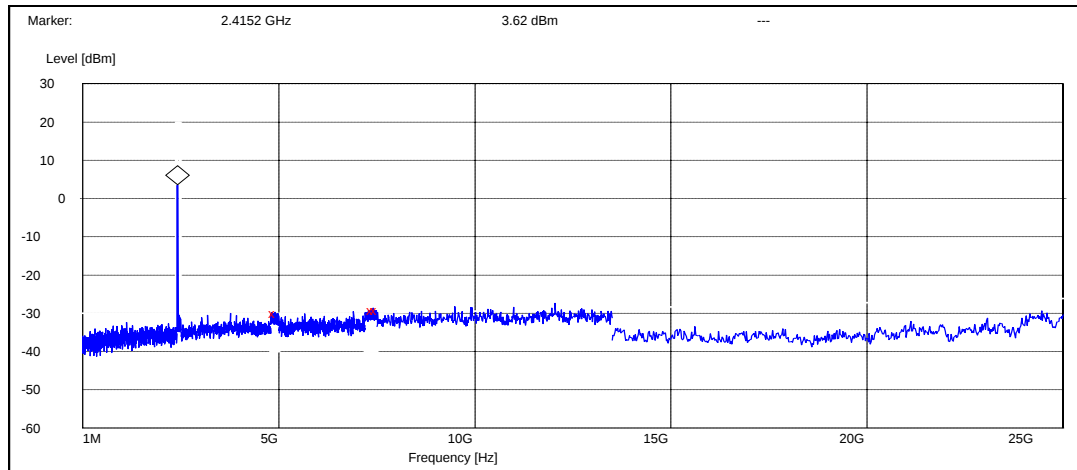
Limits for spurious RF conducted emissions measurements

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

14.2. WLAN Test results

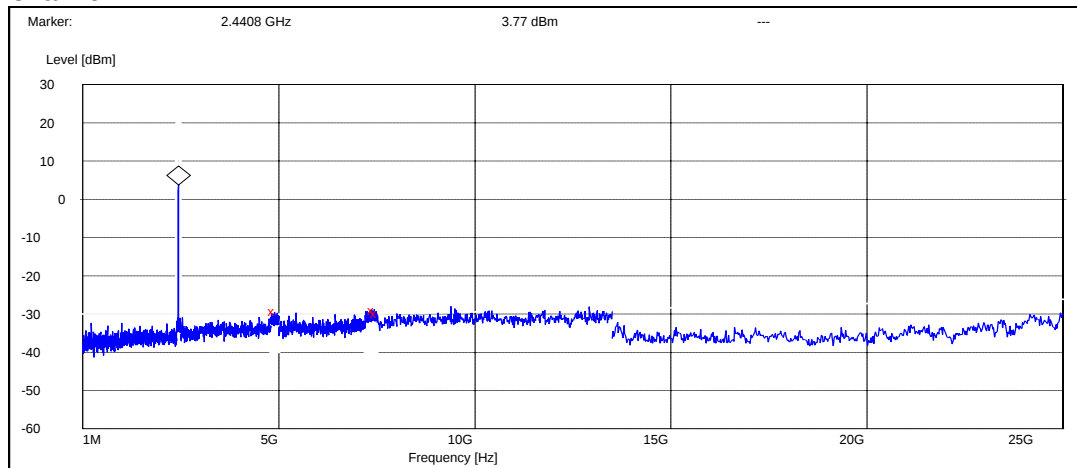
14.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide closed

Channel 1



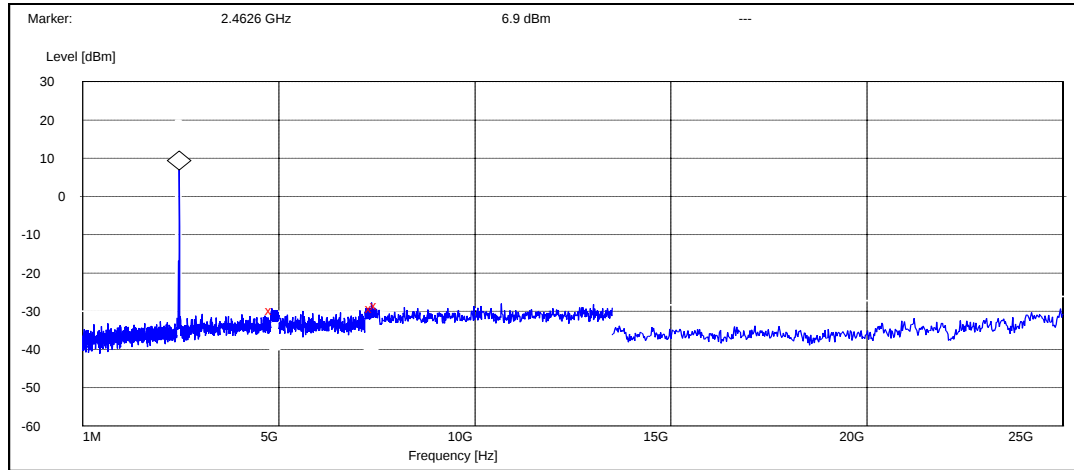
Frequency [MHz]	P [dBc]	Result
4902.800000	-33.721243	Passed
7404.600000	-33.021243	Passed
7500.000000	-32.921243	Passed

Channel 7



Frequency [MHz]	P [dBc]	Result
4897.600000	-33.067137	Passed
7435.200000	-32.867137	Passed
7500.000000	-33.567137	Passed

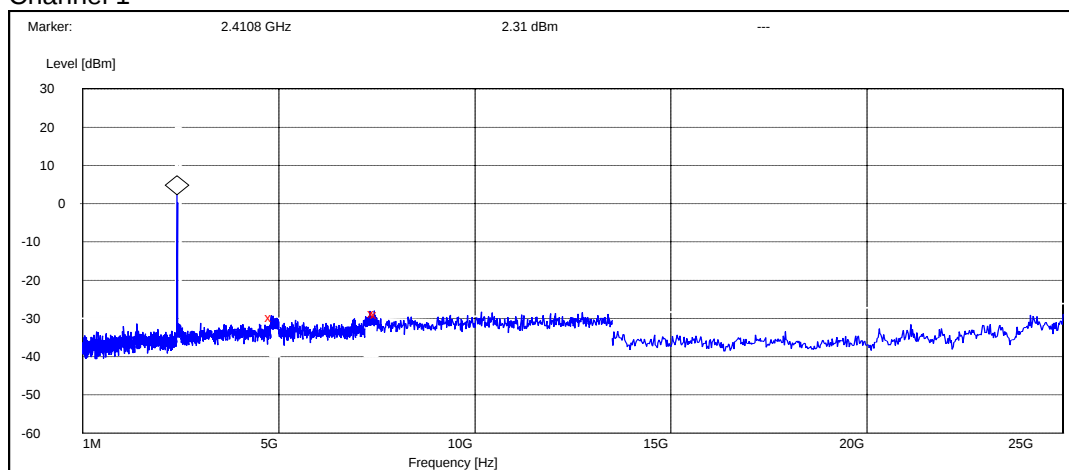
Channel 11



Frequency [MHz]	P [dBc]	Result
4826.400000	-36.695208	Passed
7369.200000	-36.095208	Passed
7500.000000	-35.395208	Passed

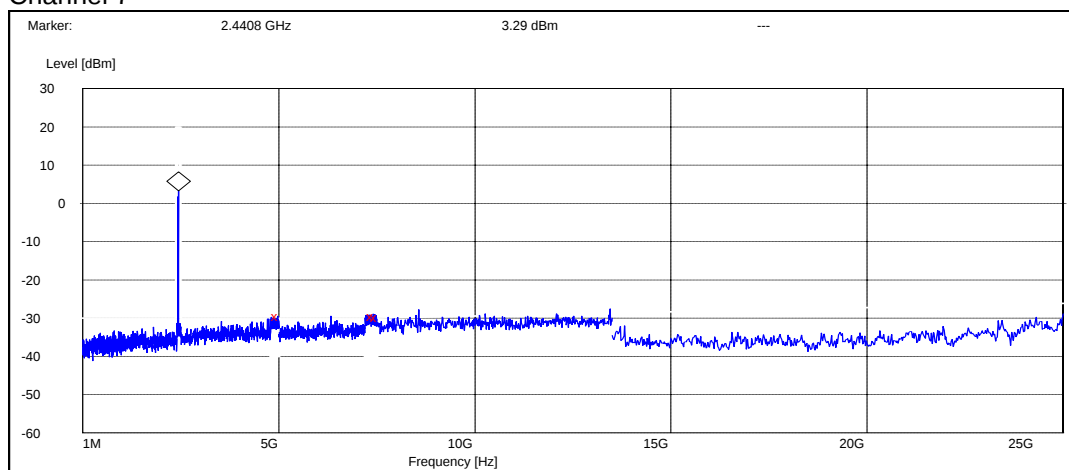
14.2.2 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide open

Channel 1



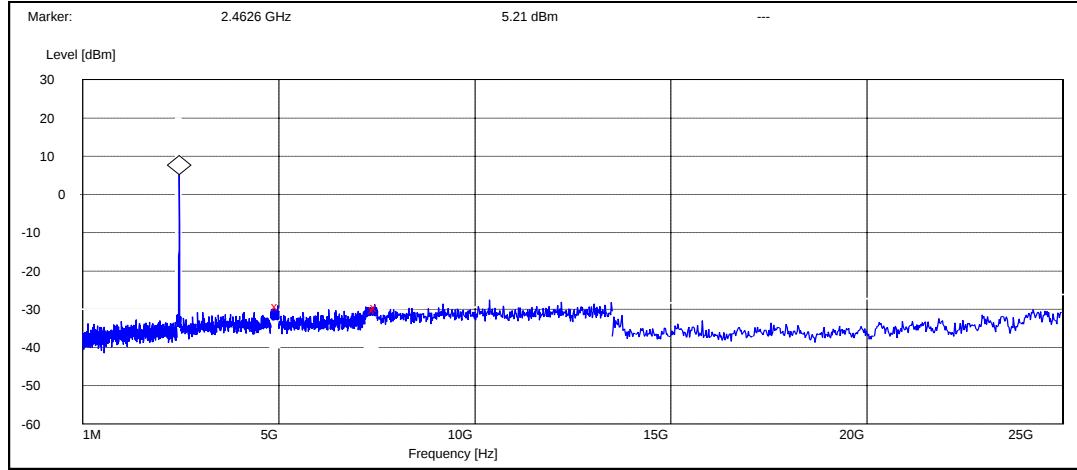
Frequency [MHz]	P [dBc]	Result
4811.200000	-32.105039	Passed
7432.800000	-30.905039	Passed
7500.000000	-31.205039	Passed

Channel 7



Frequency [MHz]	P [dBc]	Result
4971.200000	-32.790857	Passed
7404.000000	-32.990857	Passed
7500.000000	-33.090857	Passed

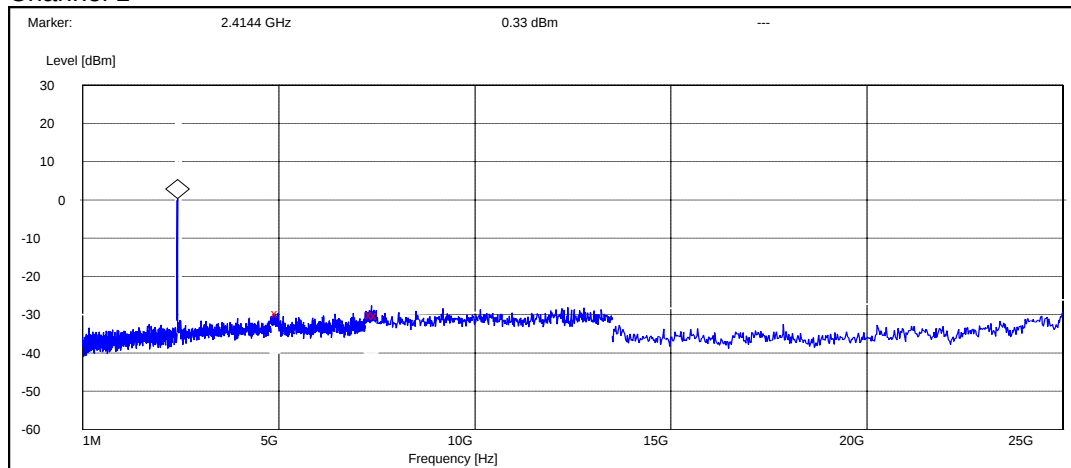
Channel 11



Frequency [MHz]	P [dBc]	Result
4975.600000	-34.506724	Passed
7447.800000	-35.306724	Passed
7500.000000	-34.706724	Passed

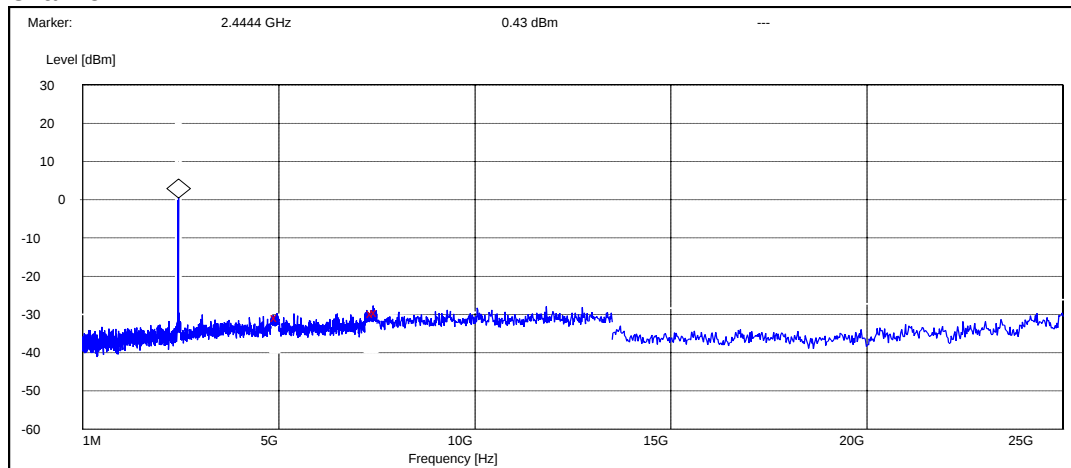
14.2.3 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide closed

Channel 1



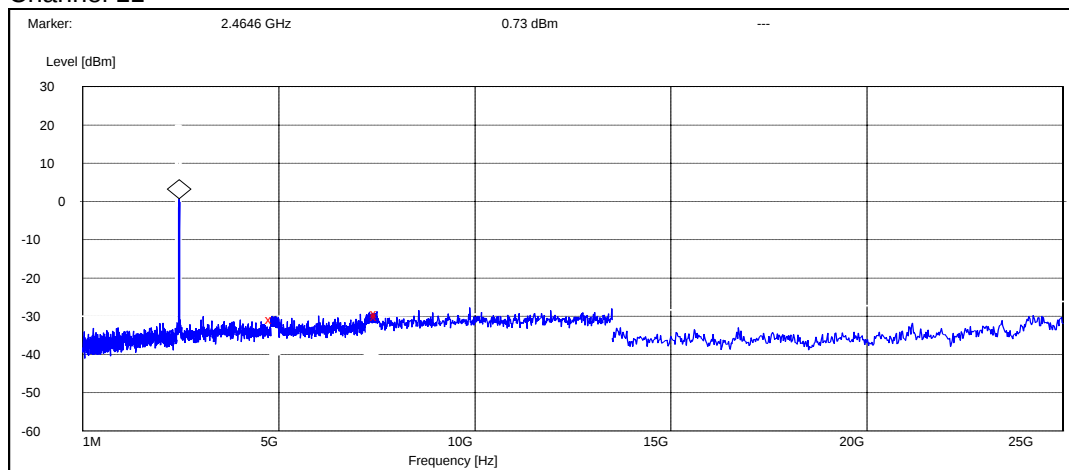
Frequency [MHz]	P [dBc]	Result
4970.800000	-29.931417	Passed
7365.000000	-30.231417	Passed
7500.000000	-30.431417	Passed

Channel 7



Frequency [MHz]	P [dBc]	Result
4967.200000	-31.226742	Passed
7413.600000	-30.026742	Passed
7500.000000	-29.926742	Passed

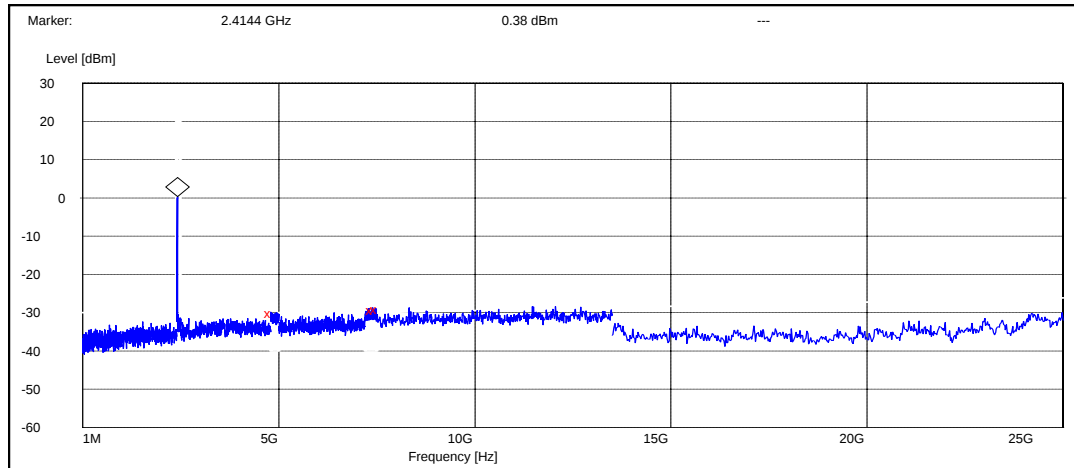
Channel 11



Frequency [MHz]	P [dBc]	Result
4829.200000	-31.626171	Passed
7500.000000	-29.926171	Passed
7500.000000	-30.626171	Passed

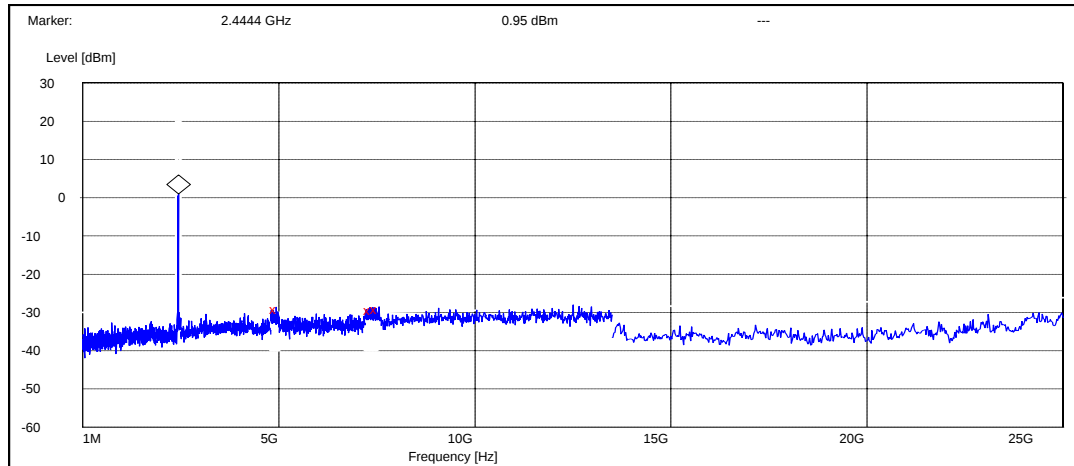
14.2.4 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide open

Channel 1



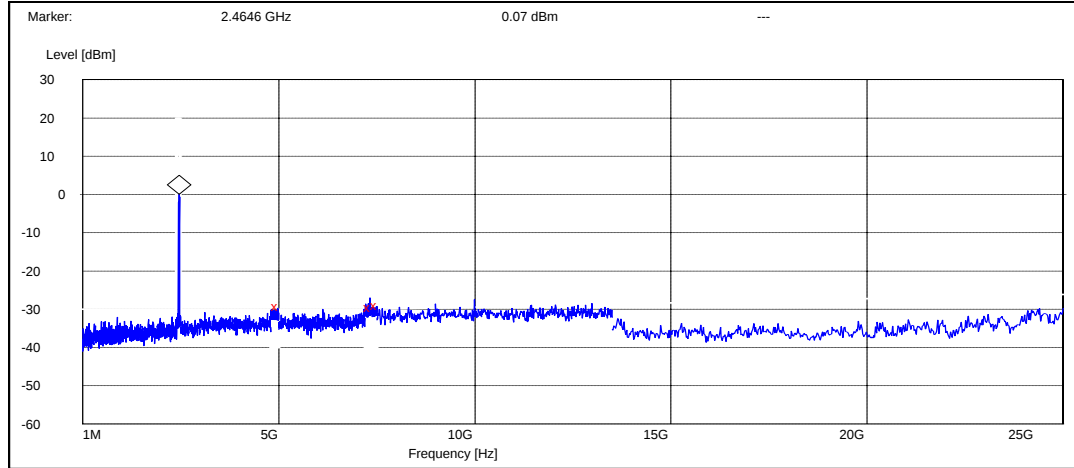
Frequency [MHz]	P [dBc]	Result
4800.400000	-30.479497	Passed
7399.800000	-29.679497	Passed
7500.000000	-29.479497	Passed

Channel 7



Frequency [MHz]	P [dBc]	Result
4942.000000	-30.053628	Passed
7322.400000	-30.453628	Passed
7500.000000	-30.253628	Passed

Channel 11



Frequency [MHz]	P [dBc]	Result
4976.000000	-29.367602	Passed
7330.800000	-29.667602	Passed
7500.000000	-29.167602	Passed

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

EUT with DUT number	RM-92 #29009
Accessories with DUT numbers	BL-5B #29010, HS-23 #29011, AC-4E #28405
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	The Phone was only measured with the bit rate in each of the modes (DSSS & OFDM) that gave the highest measured Peak Output Power.
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	21.0 / 45.0 / 1023
Date of measurements	21.11.2005
Measured by	Juho Tuohino

15.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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

15.2. WLAN Test results

15.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate, Flip Open

Channel 1

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2494.896794	49.50	298.54	40.50	9.00	HORIZONTAL	Passed
2903.811623	51.60	380.19	39.50	12.10	VERTICAL	Passed
4829.659319	38.94	88.51	30.74	8.20	HORIZONTAL	Passed
7422.345691	40.24	102.80	27.44	12.80	VERTICAL	Passed
12388.773547	44.44	166.72	25.34	19.10	VERTICAL	Passed
17904.811623	54.34	521.19	25.74	28.60	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2907.811623	38.90	88.10	26.90	12.00	VERTICAL	Passed
4829.159319	26.34	20.75	18.14	8.20	HORIZONTAL	Passed
7426.345691	26.74	21.73	13.84	12.90	VERTICAL	Passed
17907.811623	41.04	112.72	12.54	28.50	HORIZONTAL	Passed

Channel 7

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
37.595391	26.40	20.89	42.00	-15.60	VERTICAL	Passed
73.767535	21.30	11.61	45.30	-24.00	HORIZONTAL	Passed
74.169940	19.20	9.12	43.10	-23.90	HORIZONTAL	Passed
114.487375	16.00	6.31	38.00	-22.00	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB $\mu\text{V/m}$]	E [$\mu\text{V/m}$]	U _{RX} [dB μV]	A _{TOT} [dB]	Polarisation	Result
2794.581162	51.60	380.19	40.20	11.40	VERTICAL	Passed
2900.809619	51.50	375.84	39.50	12.00	HORIZONTAL	Passed
4889.779559	37.84	77.98	29.64	8.20	HORIZONTAL	Passed
12388.777555	44.84	174.58	25.74	19.10	HORIZONTAL	Passed
17841.689379	54.04	503.50	25.84	28.20	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2790.081162	38.10	80.35	26.80	11.30	VERTICAL	Passed
2901.809619	38.80	87.10	26.80	12.00	HORIZONTAL	Passed
4889.279559	26.84	21.98	18.64	8.20	HORIZONTAL	Passed
11797.589178	30.84	34.83	12.34	18.50	HORIZONTAL	Passed
12387.277555	31.44	37.33	12.44	19.00	HORIZONTAL	Passed
17845.689379	41.24	115.35	13.14	28.10	VERTICAL	Passed

Channel 11

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
32.566733	21.80	12.30	34.50	-12.70	VERTICAL	Passed
37.595391	26.40	20.89	42.00	-15.60	VERTICAL	Passed
74.327054	19.10	9.02	43.00	-23.90	HORIZONTAL	Passed
74.569940	19.10	9.02	42.90	-23.80	HORIZONTAL	Passed
113.868337	-1.60	0.83	20.40	-22.00	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2882.757515	50.80	346.74	39.20	11.60	HORIZONTAL	Passed
2904.809619	52.40	416.87	40.20	12.20	VERTICAL	Passed
4929.359719	39.74	97.05	31.34	8.40	HORIZONTAL	Passed
7390.789579	39.14	90.57	26.64	12.50	HORIZONTAL	Passed
11218.934870	43.54	150.31	25.24	18.30	VERTICAL	Passed
17860.225451	54.44	527.23	26.14	28.30	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2494.182365	36.10	63.83	27.10	9.00	VERTICAL	Passed
2878.757515	37.70	76.74	26.20	11.50	HORIZONTAL	Passed
2908.309619	38.90	88.10	26.90	12.00	VERTICAL	Passed
4929.359719	28.54	26.73	20.14	8.40	HORIZONTAL	Passed
7391.789579	26.44	20.99	13.94	12.50	HORIZONTAL	Passed
12445.883768	31.34	36.90	12.34	19.00	HORIZONTAL	Passed
17864.725451	41.54	119.40	13.14	28.40	VERTICAL	Passed

15.2.2 DSSS mode, QPSK modulation, 5.5 Mbps data rate, Flip Closed

Channel 1

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.795391	26.00	19.95	41.70	-15.70	VERTICAL	Passed
73.846092	20.70	10.84	44.70	-24.00	HORIZONTAL	Passed
114.268337	12.70	4.32	34.70	-22.00	VERTICAL	Passed
249.599599	31.20	36.31	52.80	-21.60	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2789.079158	51.70	384.59	40.50	11.20	VERTICAL	Passed
2903.811623	51.60	380.19	39.50	12.10	VERTICAL	Passed
4829.659319	38.34	82.60	30.14	8.20	HORIZONTAL	Passed
7422.847695	39.94	99.31	27.14	12.80	HORIZONTAL	Passed
11226.960922	44.14	161.06	25.64	18.50	HORIZONTAL	Passed
12406.809619	44.34	164.82	25.04	19.30	HORIZONTAL	Passed
17877.247495	54.74	545.76	26.04	28.70	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2502.500000	36.10	63.83	27.10	9.00	VERTICAL	Passed
2791.079158	38.00	79.43	26.70	11.30	VERTICAL	Passed
2908.811623	38.80	87.10	26.90	11.90	VERTICAL	Passed
4829.659319	27.44	23.55	19.24	8.20	HORIZONTAL	Passed
7420.847695	26.84	21.98	14.04	12.80	HORIZONTAL	Passed
12401.809619	31.74	38.64	12.34	19.40	HORIZONTAL	Passed
17873.747495	41.64	120.78	13.04	28.60	VERTICAL	Passed

Channel 7

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.595391	26.90	22.13	42.50	-15.60	VERTICAL	Passed
73.667535	20.40	10.47	44.40	-24.00	HORIZONTAL	Passed
74.169940	21.00	11.22	44.90	-23.90	HORIZONTAL	Passed
113.787375	16.30	6.53	38.30	-22.00	VERTICAL	Passed
249.599599	30.20	32.36	51.80	-21.60	HORIZONTAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2819.131263	49.60	302.00	38.30	11.30	VERTICAL	Passed
2906.309619	52.00	398.11	39.90	12.10	VERTICAL	Passed
4889.279559	39.44	93.76	31.24	8.20	HORIZONTAL	Passed

7421.349699	39.54	94.84	26.74	12.80	VERTICAL	Passed
12427.347695	43.84	155.60	24.94	18.90	VERTICAL	Passed
17887.267535	53.94	497.74	25.24	28.70	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
2812.631263	38.10	80.35	26.70	11.40	VERTICAL	Passed
2905.309619	39.00	89.13	26.80	12.20	VERTICAL	Passed
4889.779559	27.84	24.66	19.64	8.20	HORIZONTAL	Passed
7424.849699	26.94	22.23	14.04	12.90	VERTICAL	Passed
17879.767535	41.54	119.40	12.84	28.70	HORIZONTAL	Passed

Channel 11

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
37.595391	26.30	20.65	41.90	-15.60	VERTICAL	Passed
41.905010	24.50	16.79	42.70	-18.20	VERTICAL	Passed
45.552705	27.30	23.17	47.90	-20.60	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
2902.811623	51.80	389.05	39.70	12.10	VERTICAL	Passed
4929.359719	40.04	100.46	31.64	8.40	HORIZONTAL	Passed
7440.889780	39.94	99.31	27.04	12.90	HORIZONTAL	Passed
12446.387776	44.34	164.82	25.34	19.00	VERTICAL	Passed
17851.705411	54.04	503.50	25.94	28.10	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Polarisation	Result
2909.311623	38.90	88.10	27.00	11.90	VERTICAL	Passed
4929.359719	28.54	26.73	20.14	8.40	HORIZONTAL	Passed
7444.889780	26.84	21.98	13.94	12.90	HORIZONTAL	Passed
17856.205411	41.54	119.40	13.34	28.20	VERTICAL	Passed

15.2.3 OFDM mode, 16QAM modulation, 24 Mbps data rate, Flip Open

Channel 1

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
240.781563	6.00	2.00	27.80	-21.80	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2809.117234	51.30	367.28	39.90	11.40	HORIZONTAL	Passed
2900.809619	51.80	389.05	39.80	12.00	HORIZONTAL	Passed
4924.849699	37.74	77.09	29.34	8.40	HORIZONTAL	Passed
11618.744489	44.34	164.82	25.94	18.40	HORIZONTAL	Passed
12474.453908	43.74	153.82	24.74	19.00	HORIZONTAL	Passed
17882.765531	54.14	509.33	25.44	28.70	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2812.117234	38.00	79.43	26.60	11.40	HORIZONTAL	Passed
2905.809619	39.10	90.16	27.00	12.10	HORIZONTAL	Passed
4923.849699	23.94	15.74	15.54	8.40	HORIZONTAL	Passed
12473.453908	31.14	36.06	12.14	19.00	HORIZONTAL	Passed
17879.765531	41.44	118.03	12.74	28.70	HORIZONTAL	Passed

Channel 7

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2800.103206	51.30	367.28	39.70	11.60	VERTICAL	Passed
2901.809619	51.80	389.05	39.80	12.00	VERTICAL	Passed
4893.281563	36.74	68.71	28.54	8.20	HORIZONTAL	Passed
7429.859719	39.24	91.62	26.34	12.90	HORIZONTAL	Passed
11797.099198	44.04	159.22	25.54	18.50	VERTICAL	Passed
17872.743487	54.74	545.76	26.14	28.60	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2798.603206	38.30	82.22	26.70	11.60	VERTICAL	Passed
2904.309619	39.10	90.16	27.00	12.10	VERTICAL	Passed
4890.781563	23.64	15.21	15.44	8.20	HORIZONTAL	Passed
7433.859719	26.74	21.73	13.84	12.90	HORIZONTAL	Passed
12446.885772	31.44	37.33	12.44	19.00	VERTICAL	Passed
17872.243487	41.64	120.78	13.04	28.60	VERTICAL	Passed

Channel 11

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.595391	23.90	15.67	39.50	-15.60	VERTICAL	Passed
73.748497	15.70	6.10	39.70	-24.00	HORIZONTAL	Passed
74.369940	15.70	6.10	39.60	-23.90	HORIZONTAL	Passed
114.049299	11.10	3.59	33.10	-22.00	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2493.894790	52.90	441.57	43.90	9.00	HORIZONTAL	Passed
2802.601202	51.00	354.81	39.50	11.50	VERTICAL	Passed
2905.311623	51.60	380.19	39.40	12.20	VERTICAL	Passed
4924.849699	36.64	67.92	28.24	8.40	HORIZONTAL	Passed
7348.699399	39.84	98.17	27.14	12.70	HORIZONTAL	Passed
12403.799599	44.94	176.60	25.64	19.30	HORIZONTAL	Passed
17863.719439	55.24	578.10	26.84	28.40	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2493.894790	36.30	65.31	27.30	9.00	HORIZONTAL	Passed
2800.601202	38.30	82.22	26.70	11.60	VERTICAL	Passed
2906.811623	39.00	89.13	26.90	12.10	VERTICAL	Passed
4926.849699	23.74	15.38	15.34	8.40	HORIZONTAL	Passed
7346.199399	26.64	21.48	13.94	12.70	HORIZONTAL	Passed
12402.799599	31.64	38.19	12.34	19.30	HORIZONTAL	Passed
17863.719439	41.54	119.40	13.14	28.40	VERTICAL	Passed

15.2.4 OFDM mode, 16QAM modulation, 24 Mbps data rate, Flip Closed

Channel 1

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.895391	24.70	17.18	40.50	-15.80	VERTICAL	Passed
73.708016	22.10	12.74	46.10	-24.00	HORIZONTAL	Passed
74.269940	21.80	12.30	45.70	-23.90	HORIZONTAL	Passed
116.411222	15.80	6.17	37.70	-21.90	VERTICAL	Passed
249.599599	29.40	29.51	51.00	-21.60	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2898.297595	51.40	371.54	39.60	11.80	VERTICAL	Passed
2905.309619	51.90	393.55	39.70	12.20	HORIZONTAL	Passed
4824.153307	36.84	69.50	28.64	8.20	HORIZONTAL	Passed
10615.728457	43.54	150.31	25.64	17.90	HORIZONTAL	Passed
12400.809619	44.34	164.82	24.94	19.40	HORIZONTAL	Passed
17895.293587	54.54	533.33	25.84	28.70	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2899.797595	38.70	86.10	26.80	11.90	VERTICAL	Passed
2905.809619	39.00	89.13	26.90	12.10	HORIZONTAL	Passed
4825.153307	23.24	14.52	15.04	8.20	HORIZONTAL	Passed
10613.228457	30.84	34.83	12.94	17.90	HORIZONTAL	Passed
12403.809619	31.64	38.19	12.34	19.30	HORIZONTAL	Passed
17900.293587	41.24	115.35	12.54	28.70	VERTICAL	Passed

Channel 7

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.595391	27.30	23.17	42.90	-15.60	VERTICAL	Passed
73.888978	22.40	13.18	46.30	-23.90	HORIZONTAL	Passed
74.269940	21.70	12.16	45.60	-23.90	HORIZONTAL	Passed
172.845691	23.80	15.49	47.70	-23.90	VERTICAL	Passed
249.599599	28.10	25.41	49.70	-21.60	HORIZONTAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2795.583166	51.90	393.55	40.40	11.50	VERTICAL	Passed
2907.809619	52.10	402.72	40.10	12.00	VERTICAL	Passed
4889.271543	37.64	76.21	29.44	8.20	HORIZONTAL	Passed
12410.317635	44.14	161.06	24.94	19.20	HORIZONTAL	Passed
17833.669339	54.54	533.33	26.24	28.30	VERTICAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2795.083166	38.30	82.22	26.80	11.50	VERTICAL	Passed
2907.309619	38.90	88.10	26.90	12.00	VERTICAL	Passed
4889.771543	23.84	15.56	15.64	8.20	HORIZONTAL	Passed
10620.738477	30.74	34.43	12.94	17.80	HORIZONTAL	Passed
11797.591182	30.84	34.83	12.34	18.50	VERTICAL	Passed
12406.317635	31.64	38.19	12.34	19.30	HORIZONTAL	Passed
17837.169339	41.14	114.02	12.94	28.20	VERTICAL	Passed

Channel 11

Quasi peak (RBW: 120 kHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
37.595391	26.80	21.88	42.40	-15.60	VERTICAL	Passed
249.597796	30.80	34.67	52.40	-21.60	VERTICAL	Passed

Peak (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2484.577154	60.90	1109.17	52.10	8.80	HORIZONTAL	Passed
2807.613226	50.90	350.75	39.50	11.40	HORIZONTAL	Passed
2906.309619	51.60	380.19	39.50	12.10	VERTICAL	Passed
4926.849699	37.34	73.62	28.94	8.40	VERTICAL	Passed
12410.313627	44.34	164.82	25.14	19.20	VERTICAL	Passed
17857.211423	54.84	552.08	26.64	28.20	HORIZONTAL	Passed

Average (RBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Polarisation	Result
2487.077154	37.30	73.28	28.40	8.90	HORIZONTAL	Passed
2806.113226	38.20	81.28	26.80	11.40	HORIZONTAL	Passed
2905.309619	39.10	90.16	26.90	12.20	VERTICAL	Passed
4926.349699	23.94	15.74	15.54	8.40	VERTICAL	Passed
11227.962926	30.84	34.83	12.34	18.50	HORIZONTAL	Passed
12409.813627	31.54	37.76	12.34	19.20	VERTICAL	Passed
17856.711423	41.44	118.03	13.24	28.20	HORIZONTAL	Passed

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

EUT with DUT number	RM-92 Dut # 28319
Accessories with DUT numbers	BL-5B Dut # 28315 + AC-4E Dut # 28312 + HS-23 Dut # 28314
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	The Phone was only measured with the bit rate in each of the modes (DSSS & OFDM) that gave the highest measured Peak Output Power.
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21.9 / 40.5 1029.5
Date of measurements	10-11-2005
Measured by	Allan F. Henriksen

16.1. Test method and limit

The measurement is made according to FCC rules part 15.247 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.

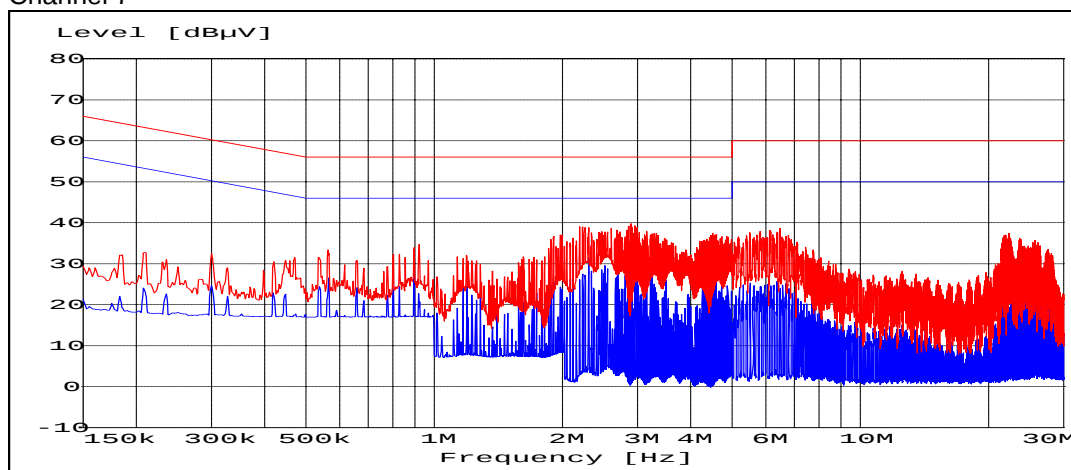
CISPR 22 Class B limits

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

16.2. WLAN Test results

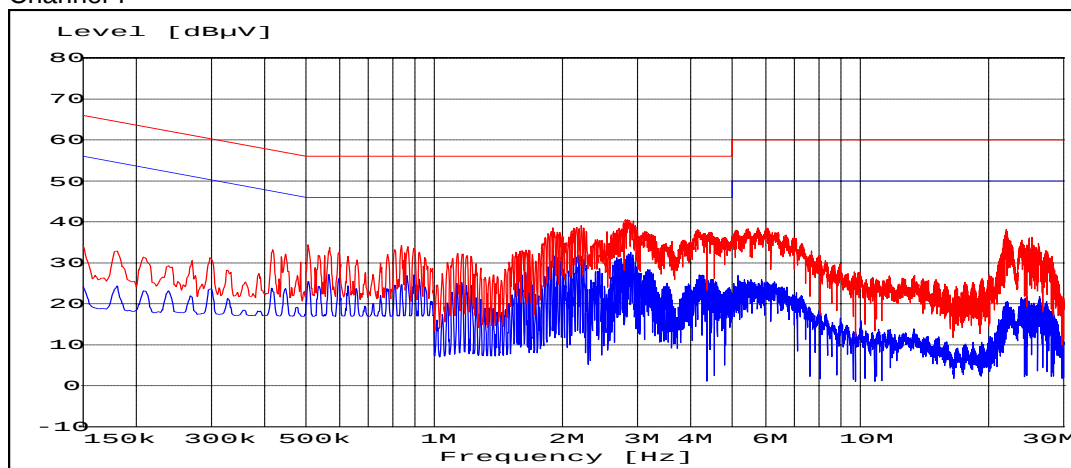
16.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate. Slide Closed.

Channel 7



16.2.2 OFDM mode, 16QAM modulation, 24 Mbps data rate. Slide Closed.

Channel 7



17. 6 dB bandwidth (FCC §15.247(a)(2), RSS-210 A8.2 (1))

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	Measured at worst-case modulation in DSSS and OFDM mode
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	23.8 / 36.5 1023.2
Date of measurements	10-11-2005
Measured by	Jan Engelbrechtsen

17.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for 6 dB bandwidth measurements

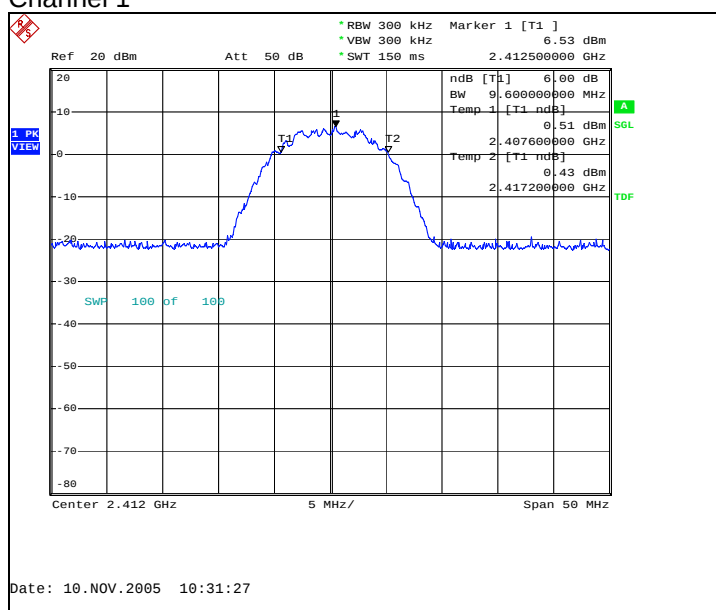
Limit [kHz]
≥ 500

17.2. WLAN test results

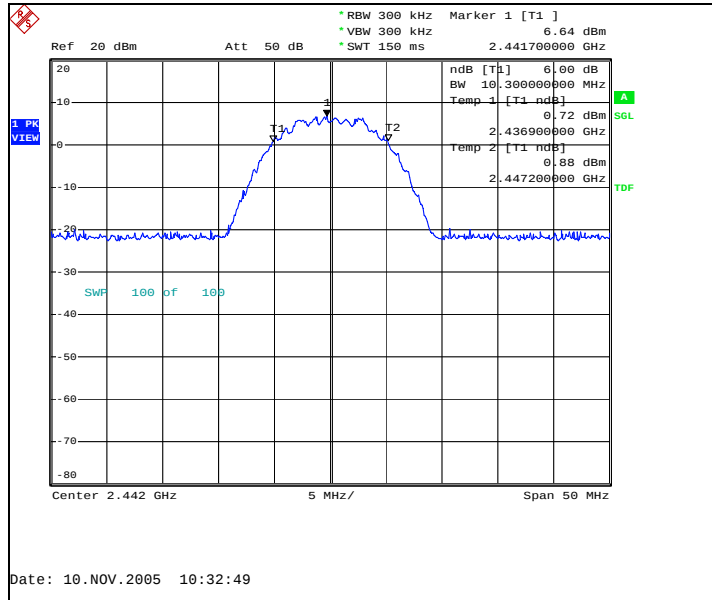
17.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide closed

Channel	6 dB bandwidth [kHz]	Result
1	9600.000	Pass
7	10300.000	Pass
11	9000.000	Pass

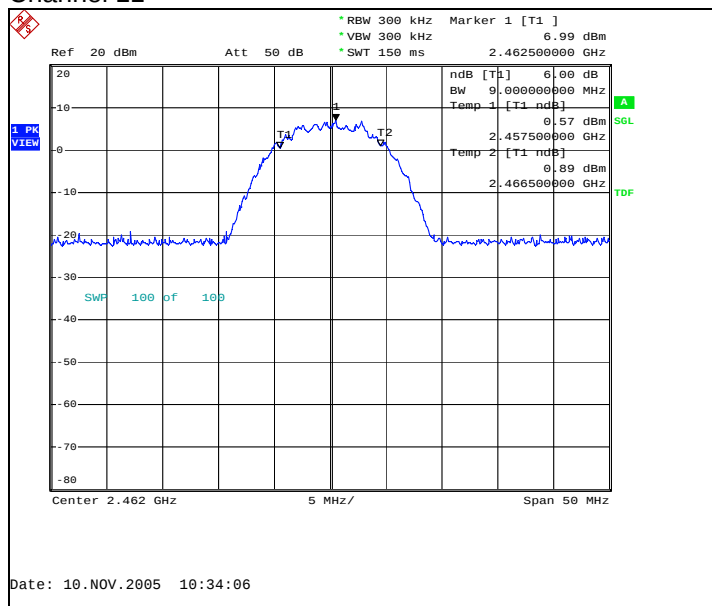
Channel 1



Channel 7



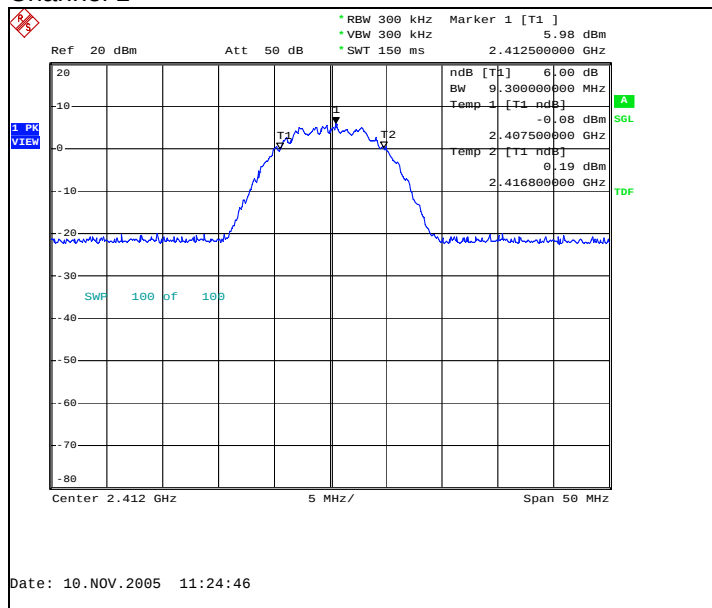
Channel 11



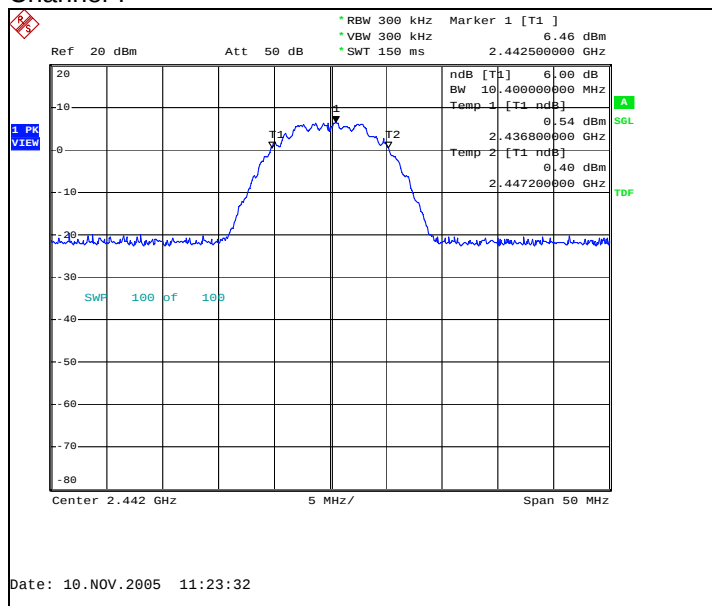
17.2.2 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide open

Channel	6 dB bandwidth [kHz]	Result
1	9300.000	Pass
7	10400.000	Pass
11	9600.000	Pass

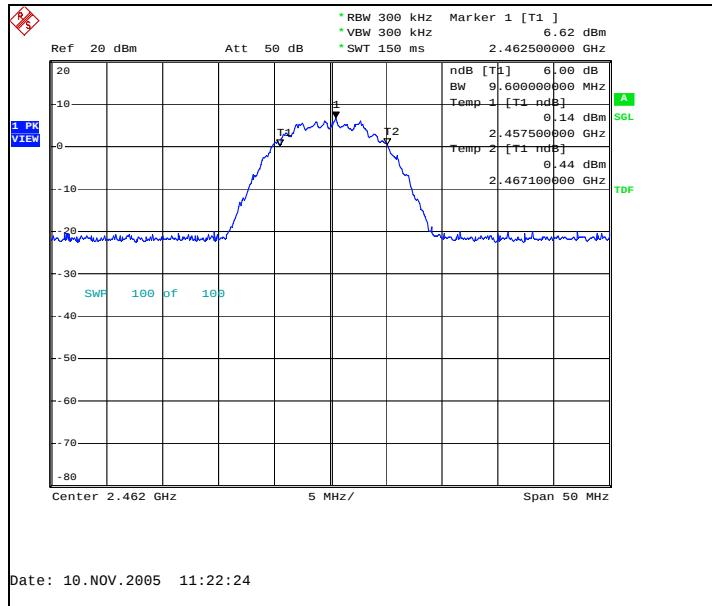
Channel 1



Channel 7



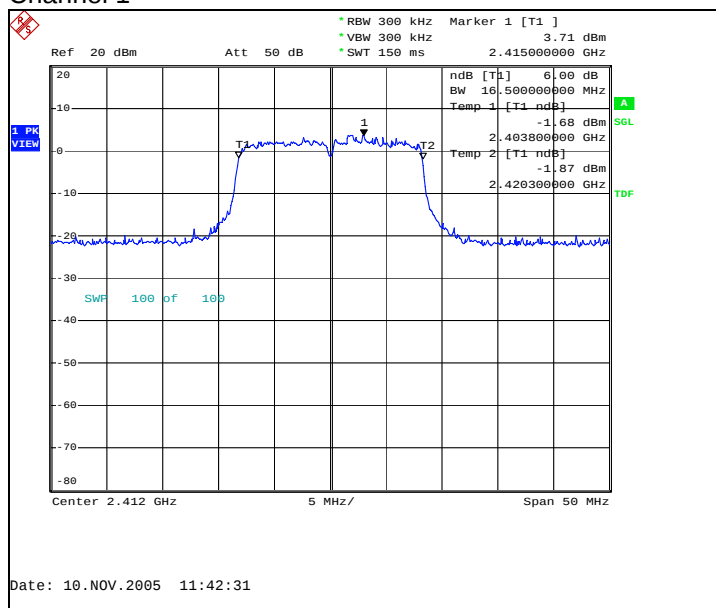
Channel 11



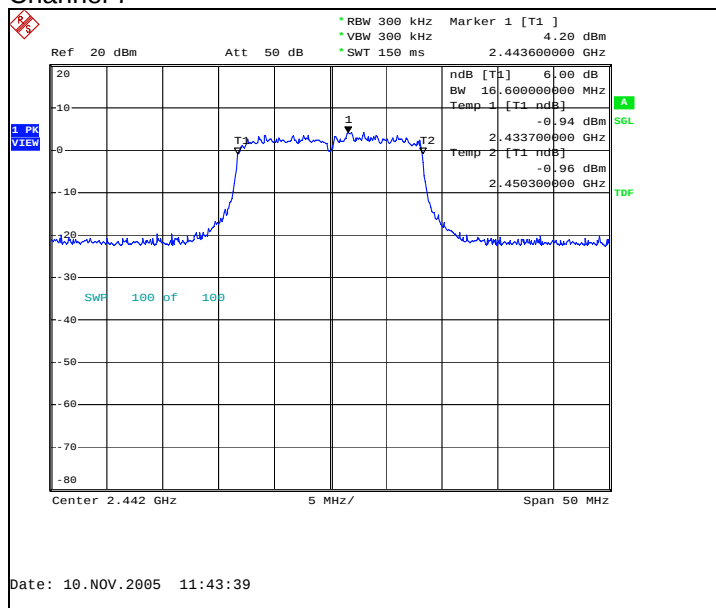
17.2.3 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide closed

Channel	6 dB bandwidth [kHz]	Result
1	16500.000	Pass
7	16600.000	Pass
11	16600.000	Pass

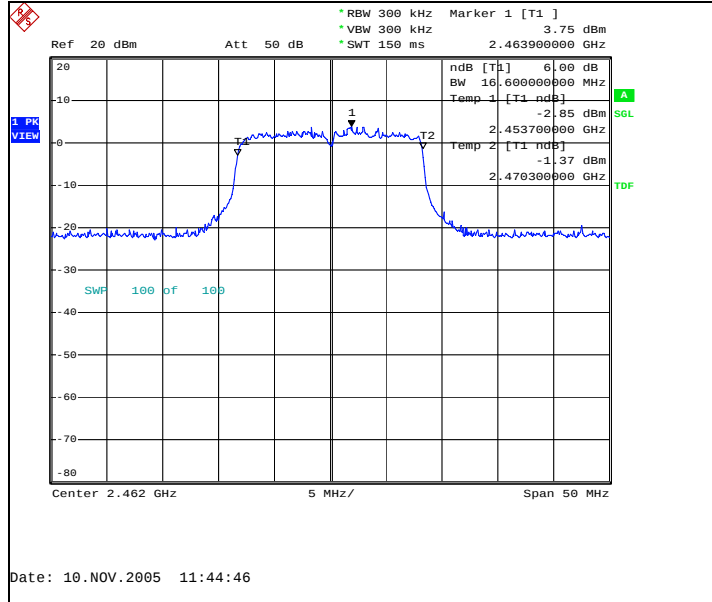
Channel 1



Channel 7



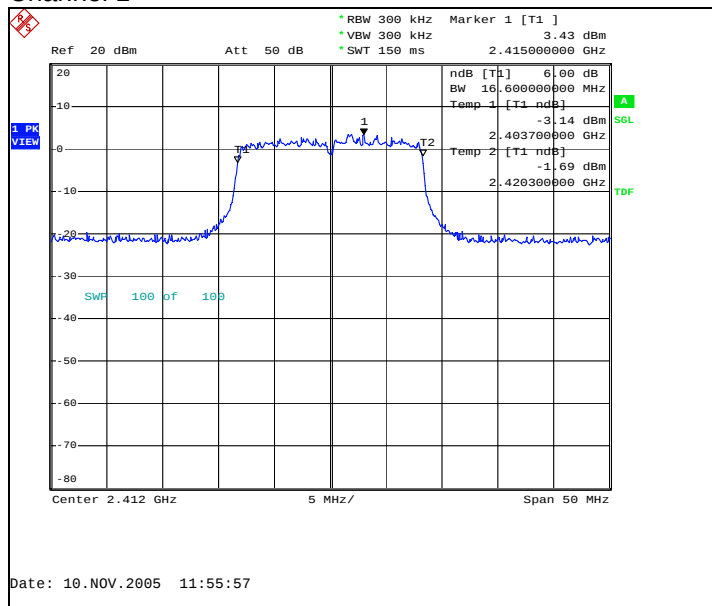
Channel 11



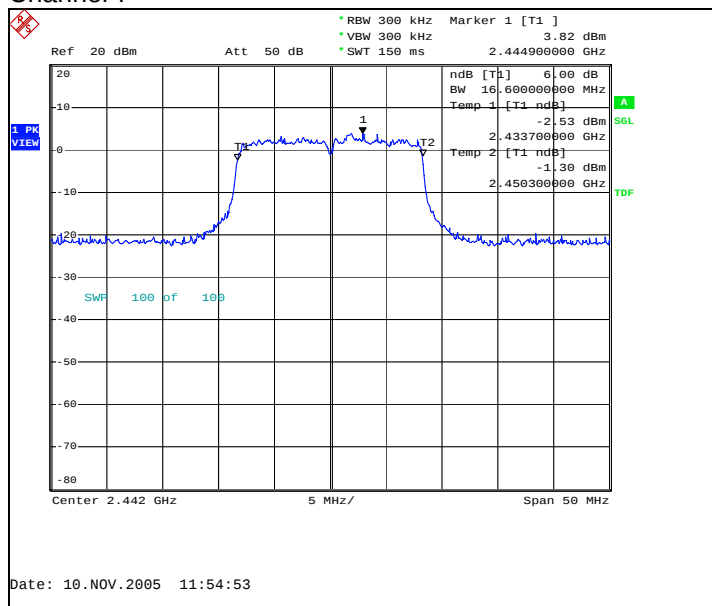
17.2.4 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide open

Channel	6 dB bandwidth [kHz]	Result
1	16600.000	Pass
7	16600.000	Pass
11	16500.000	Pass

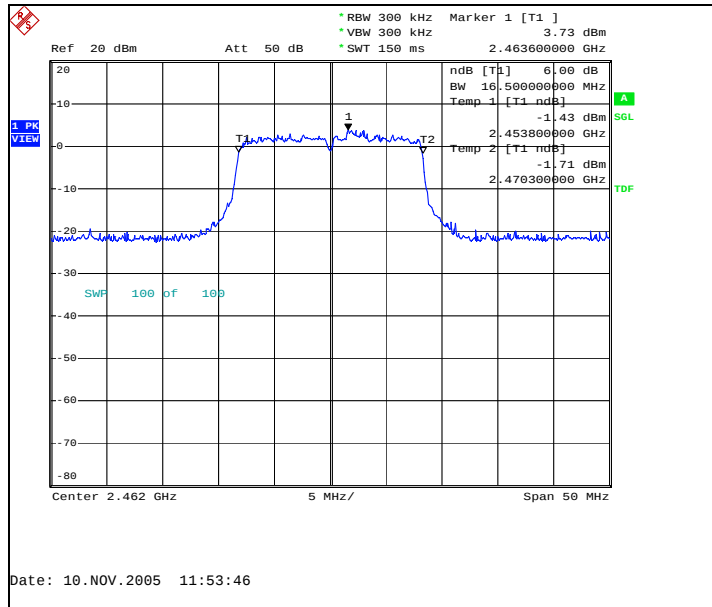
Channel 1



Channel 7



Channel 11



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

EUT with DUT number	RM-92 dut 28308, BL-5B dut 28309
Accessories with DUT numbers	AC-4E dut 28944, HS-23 dut 28340
Operation Voltage [V] / [Hz]	230 / 50
Result	Passed
Remarks	Measured at worst-case modulation in DSSS and OFDM mode
Temp [°C] / Humidity [%RH] / Air Pressure [mBar]	23.8 / 36.5 1023.2
Date of measurements	10-11-2005
Measured by	Jan Engelbrechtsen

18.1. Test method and limit

The measurement is made according to FCC rules part 15.247 and IC standard RSS-210.

Limits for power spectral density measurements

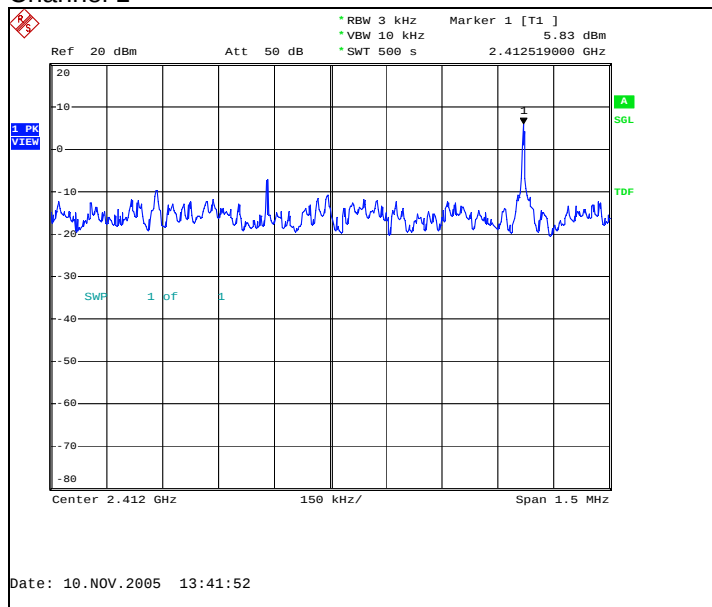
Limit [dBm] @ 3 kHz
≤ 8

18.2. WLAN test results

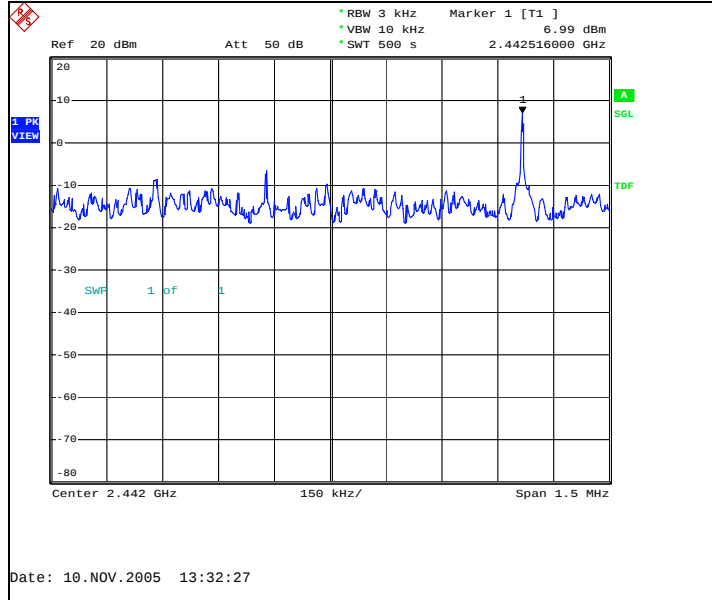
18.2.1 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide closed

Channel	P [dBm]	Result
1	5.83	Pass
7	6.99	Pass
11	6.68	Pass

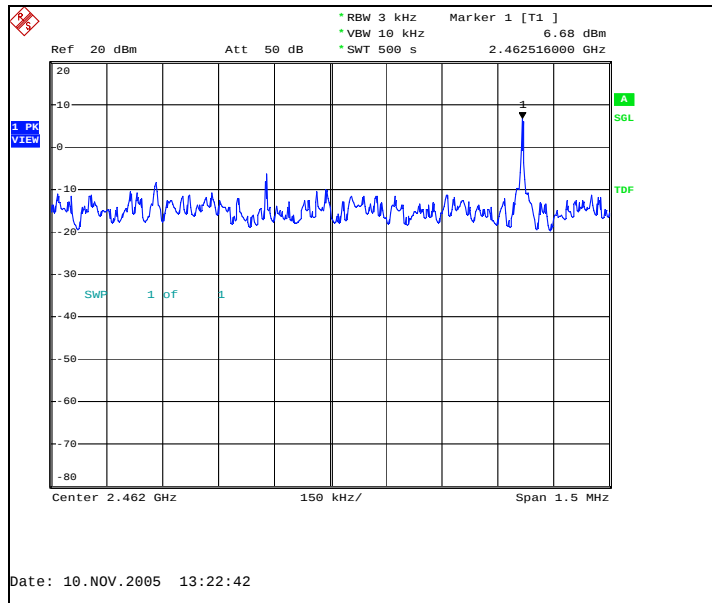
Channel 1



Channel 7



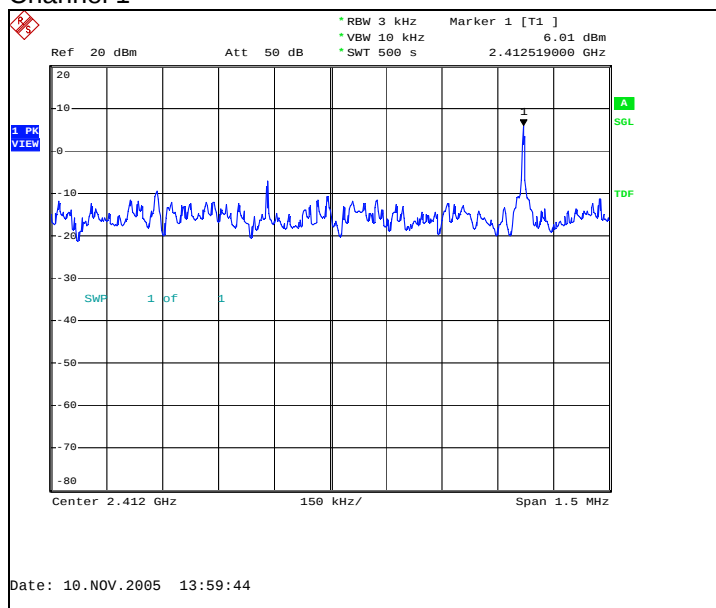
Channel 11



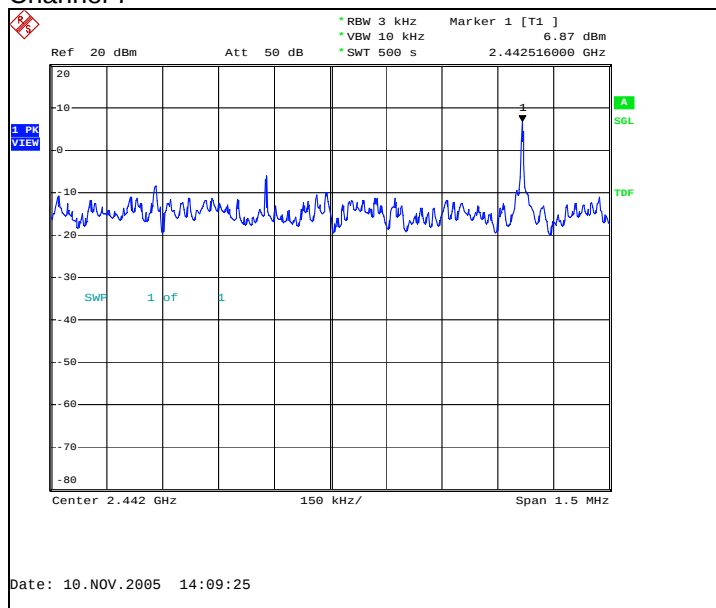
18.2.2 DSSS mode, QPSK modulation, 5.5 Mbps data rate, slide open

Channel	P [dBm]	Result
1	6.01	Pass
7	6.87	Pass
11	6.61	Pass

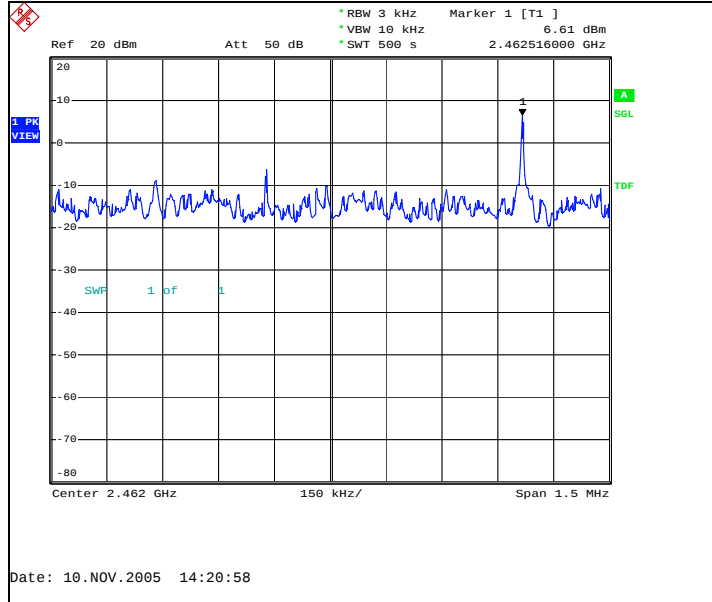
Channel 1



Channel 7



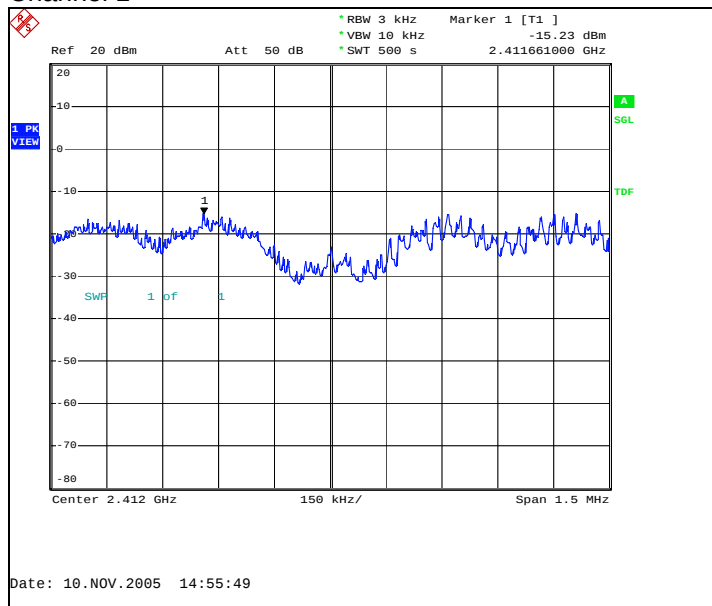
Channel 11



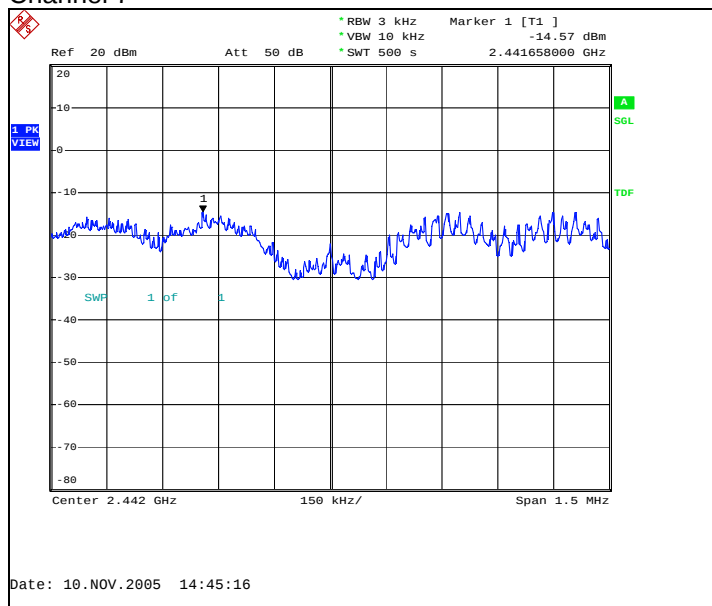
18.2.3 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide closed

Channel	P [dBm]	Result
1	-15.23	
7	-14.57	
11	-14.30	

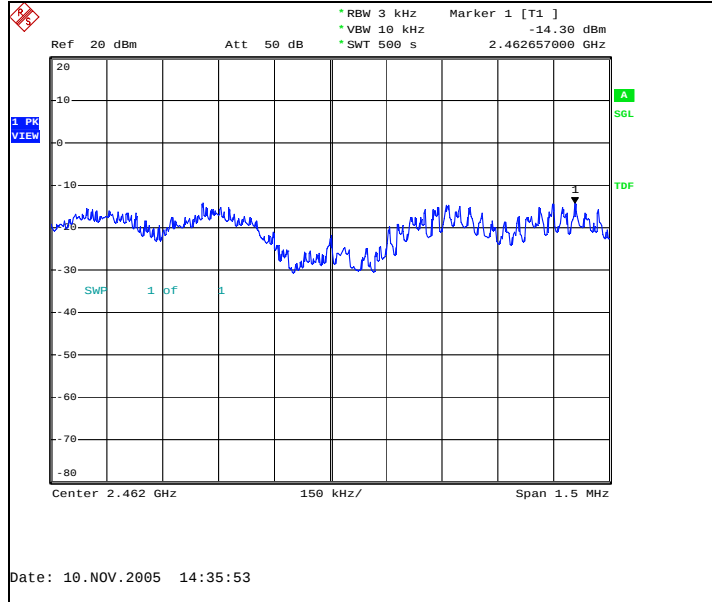
Channel 1



Channel 7



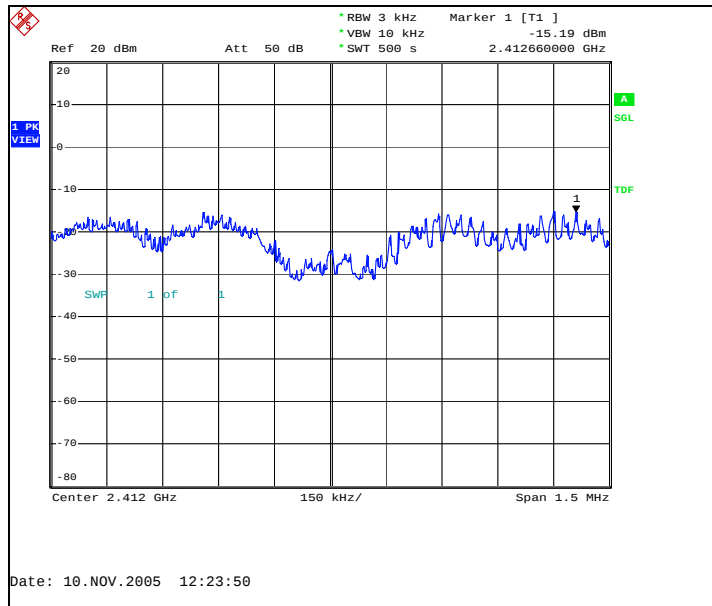
Channel 11



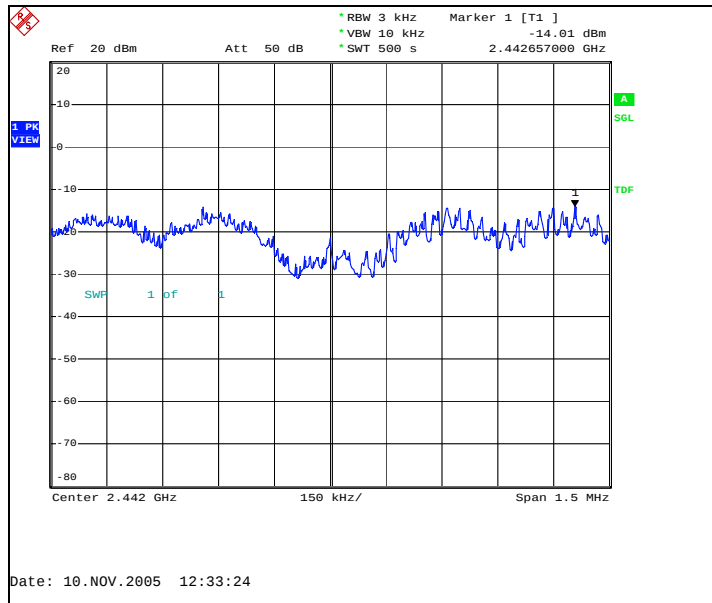
18.2.4 OFDM mode, 16QAM modulation, 24 Mbps data rate, slide open

Channel	P [dBm]	Result
1	-15.19	Pass
7	-14.01	Pass
11	-14.51	Pass

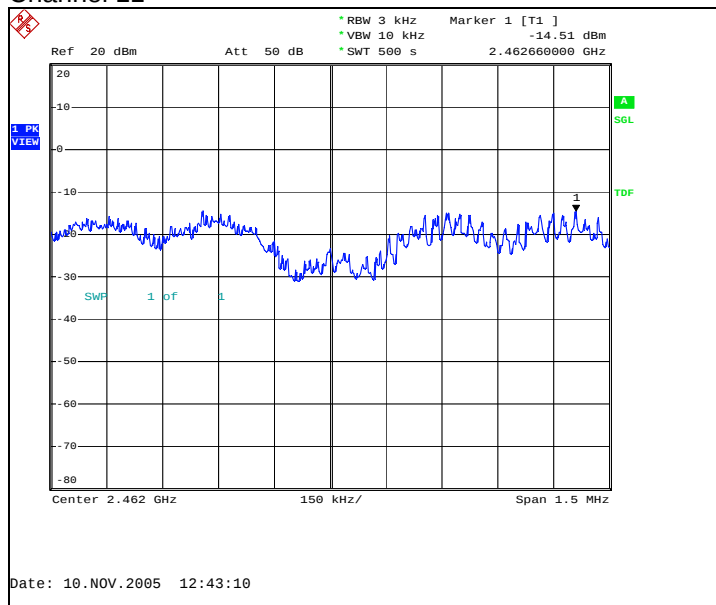
Channel 1



Channel 7



Channel 11



19. Test Equipment

19.1. Conducted measurements

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

19.2. Radiated measurements

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

Eq. No	Equipment	Type	Manufacturer	Used in
	Ultralog 30-3000MHz			
18773	Shielded Chamber	RFD-100	ETS-Lindgren	15B,15C,22,24
18774	Shielded Chamber	RFSD-F/A-100	ETS-Lindgren	15B,15C,22,24
18324	High Pass Filter 3GHz SMA f Conn	WHJS3000-10SS	Wainwright	15B,15C,22,24
14114	Highpass Filter 1000MHz-4500MHz	WHK1000-12SS	Wainwright	15B,15C,22,24
13918	Highpass Filter 2000-4000MHz 50OHM SMA Conn	WHKS2000-10SS	Wainwright Instruments	15B,15C,22,24
13937	Ultra Stable Notch Filter 902,4MHz	WRCA902.4-0.2/40-6SS	Wainwright Instruments	15B,15C,22,24
13936	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright Instruments	15B,15C,22,24
13917	Highpass Filter 1000-3000MHz 50OHM SMA Conn	WHKS1000-10SS	Wainwright Instruments	15B,15C,22,24
14188	Ultra Stable Notch Filter 902,4MHz	WRCA902.4-0.2/40-6SS	Wainwright	15B,15C,22,24
14187	Ultra Stable Notch Filter 1747,5MHz	WRCD1747.5-0.2/40-10SS	Wainwright	15B,15C,22,24
16633	Ultra Stable Notch Filter 1880,0MHz	WRCD1880.0-0.2/40-10SS	Wainwright	15B,15C,22,24
18323	Band reject filter 1947-1953MHz 40dB	WRCG1947/1953-1940/1960-40/6SS	Wainwright	15B,15C,22,24
15190	Infra Red Remote Control Unit	4630	Emco	22,24,15B,15C
14993	EMI Test Receiver 9KHz-2750MHz	ESCS30	Rohde&Schwarz	22,24,15B,15C
15191	Turntable Contoller Unit	G-800SDX	YAESU	22,24,15B,15C
14900	Antenna Controller	HD100	HD GmbH	22,24,15B,15C