

FCC Part 15E Compliance Test Report

Test Report no.:	FCC15E_RX-113_07.docx	Date of Report:	22-Nov-2013
Number of pages:	176	Customer's Contact person:	Jamie Lee
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	Customer:	Nokia, Inc. 16620 West Bernardo Drive San Diego, CA 92127 USA Tel. +1 858 831 5000 Fax. +1 858 385 1598
FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Device RX-113 / Headset WH-208		
FCC ID:	QMNB	IC:	-
Supplement reports:	-		
Testing has been carried out in accordance with:	CFR 47, FCC rules Part 15 Subpart E, ANSI C63.4 (2003), DTS procedures KDB 789033 D01, IC standards. 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:			

Kalle Hannila, System Manager, EMC

1. Summary for FCC Part 15E Compliance Test Report

Date of receipt	06-Aug-2013
Testing completed	10-Sep-2013
The customer's contact person	Jamie Lee
Test Plan referred to	T:\Projects\RX-114\TestPlan\RS_testplan_RX-114.xlsm
Notes	-
Document name	T:\Projects\RX-113\EMC\FCC15E_RX-113_07.docx

1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:

GSM/WCDMA/WLAN/Bluetooth

The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Device	RX-114	004402473515447004402473515447	0108	-	9471 1032 1322 v1.2.2	17629
Headset	WH-208	2332271	-	-	-	17355

1.2. Summary of Test Results

5 GHz RLAN:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.407(a)	A9.2	Conducted peak output power	PASSED
15.407(b)	A9.2	Band edge compliance of RF emissions	-
15.407(a)(6)	A9.2	Peak excursion	PASSED
15.407(b)	A9.2	Spurious radiated emissions	-
15.407(b)(6)	A9.2	AC powerline conducted emissions	-
-	A9.2	26dB(bandwidth)	PASSED
15.407(a)	A9.2	Power spectral density	PASSED

PASSED

The EUT complies with the essential requirements in the standard.

FAILED

The EUT does not comply with the essential requirements in the standard.

NP

The test was not performed by the TCC Nokia Laboratory.

The test results of RX-114 are re-used for certification of the RX-113. Table above indicates the results, which will be re-used.

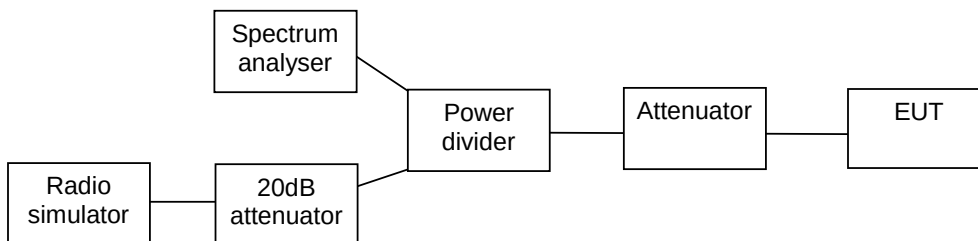
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2. Maximum conducted output power (FCC §15.407 (a), RSS-210 A9.2)

EUT with DUT number	RX-114, DUT 17629
Accessories with DUT numbers	WH-208, DUT 17355
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	18 / 63 / 101.4
Date of measurements	28-Aug-2013
Measured by	Jari Keto

2.1. Test Setup



2.2. Test method and limit

The measurement is made according to Public Notice KDB 789033 D01 and IC standard RSS-210. Combined values have been calculated according to KDB 662911; Section e2ii was used in MIMO mode and section f2ii in SISO mode.

Limits for Maximum conducted output power measurements

Frequency range [MHz]	Limit [mW] / (dBm)	Limit [dBm]	Limit [dBm] for B=20 MHz
5150-5250	50 (17)	4+10 log B	17
5250-5350	250 (24)	11+10 log B	24
5470-5725	250 (24)	11+10 log B	24
5725-5825	1000 (30)	17+10 log B	30

2.3. Power results summary Main Antenna

Channel / fC [MHz]	Mode	Modulation	Data rate	Level [dBm]
36 / 5180	802.11a	BPSK	6 Mbps	8.61
36 / 5180	802.11a	BPSK	9 Mbps	7.62
36 / 5180	802.11a	QPSK	12 Mbps	7.59
36 / 5180	802.11a	QPSK	18 Mbps	7.76
36 / 5180	802.11a	16QAM	24 Mbps	7.83
36 / 5180	802.11a	16QAM	36 Mbps	7.96
36 / 5180	802.11a	64QAM	48 Mbps	7.16
36 / 5180	802.11a	64QAM	54 Mbps	7.06
36 / 5180	802.11n	BPSK	6.5 / 7.25 Mbps	8.32
36 / 5180	802.11n	QPSK	13.0 / 14.4 Mbps	7.44
36 / 5180	802.11n	QPSK	19.5 / 21.7 Mbps	7.57
36 / 5180	802.11n	16QAM	26.0 / 28.9 Mbps	7.76
36 / 5180	802.11n	16QAM	39.0 / 43.3 Mbps	8.04
36 / 5180	802.11n	64QAM	52.0 / 57.8 Mbps	8.13
36 / 5180	802.11n	64QAM	58.5 / 65.0 Mbps	7.2
36 / 5180	802.11n	64QAM	65.0 / 72.2 Mbps	7.2
36+40 / 5190	802.11n	BPSK	13.5 / 15.0 Mbps	7.52
36+40 / 5190	802.11n	QPSK	27.0 / 30.0 Mbps	5.78
36+40 / 5190	802.11n	QPSK	40.5 / 45.0 Mbps	5.81
36+40 / 5190	802.11n	16QAM	54.0 / 60.0 Mbps	4.89
36+40 / 5190	802.11n	16QAM	81.0 / 90.0 Mbps	4.89
36+40 / 5190	802.11n	64QAM	108.0 / 120.0 Mbps	5.11
36+40 / 5190	802.11n	64QAM	121.5 / 135.0 Mbps	3.19
36+40 / 5190	802.11n	64QAM	135.0 / 150.0 Mbps	2.13
40 / 5200	802.11a	BPSK	6 Mbps	9.63
48 / 5240	802.11a	BPSK	6 Mbps	9.51
52 / 5260	802.11a	BPSK	6 Mbps	9.16
60 / 5300	802.11a	BPSK	6 Mbps	8.95
64 / 5320	802.11a	BPSK	6 Mbps	9.04
100 / 5500	802.11a	BPSK	6 Mbps	10.1
116 / 5580	802.11a	BPSK	6 Mbps	10.38
140 / 5700	802.11a	BPSK	6 Mbps	10.39
40 / 5200	802.11n	64QAM	52.0 / 57.8 Mbps	9.24
48 / 5240	802.11n	64QAM	52.0 / 57.8 Mbps	9.13
52 / 5260	802.11n	64QAM	52.0 / 57.8 Mbps	8.87
60 / 5300	802.11n	64QAM	52.0 / 57.8 Mbps	8.63
64 / 5320	802.11n	64QAM	52.0 / 57.8 Mbps	8.66
100 / 5500	802.11n	64QAM	52.0 / 57.8 Mbps	9.89
116 / 5580	802.11n	64QAM	52.0 / 57.8 Mbps	10.14
140 / 5700	802.11n	64QAM	52.0 / 57.8 Mbps	10.15
44+48 / 5230	802.11n	BPSK	13.5 / 15.0 Mbps	8.7
52+56 / 5270	802.11n	BPSK	13.5 / 15.0 Mbps	8.82
60+64 / 5310	802.11n	BPSK	13.5 / 15.0 Mbps	8.69
100+104 / 5510	802.11n	BPSK	13.5 / 15.0 Mbps	9.8
108+112 / 5550	802.11n	BPSK	13.5 / 15.0 Mbps	10.21
132+136 / 5670	802.11n	BPSK	13.5 / 15.0 Mbps	9.94
44+48 / 5230	802.11n	QPSK	40.5 / 45.0 Mbps	6.99
52+56 / 5270	802.11n	QPSK	40.5 / 45.0 Mbps	7.16
60+64 / 5310	802.11n	QPSK	40.5 / 45.0 Mbps	7.03
100+104 / 5510	802.11n	QPSK	40.5 / 45.0 Mbps	8.17
108+112 / 5550	802.11n	QPSK	40.5 / 45.0 Mbps	8.41

132+136 / 5670	802.11n	QPSK	40.5 / 45.0 Mbps	8.13
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2.4. Power results summary, Aux Antenna

Channel / fC [MHz]	Mode	Modulation	Data rate	Level [dBm]
36 / 5180	802.11a	BPSK	6 Mbps	8.22
36 / 5180	802.11a	BPSK	9 Mbps	7.67
36 / 5180	802.11a	QPSK	12 Mbps	7.64
36 / 5180	802.11a	QPSK	18 Mbps	7.84
36 / 5180	802.11a	16QAM	24 Mbps	8.06
36 / 5180	802.11a	16QAM	36 Mbps	8.23
36 / 5180	802.11a	64QAM	48 Mbps	7.37
36 / 5180	802.11a	64QAM	54 Mbps	7.24
36 / 5180	802.11n	BPSK	6.5 / 7.25 Mbps	8.45
36 / 5180	802.11n	QPSK	13.0 / 14.4 Mbps	7.5
36 / 5180	802.11n	QPSK	19.5 / 21.7 Mbps	7.62
36 / 5180	802.11n	16QAM	26.0 / 28.9 Mbps	7.98
36 / 5180	802.11n	16QAM	39.0 / 43.3 Mbps	8.19
36 / 5180	802.11n	64QAM	52.0 / 57.8 Mbps	8.33
36 / 5180	802.11n	64QAM	58.5 / 65.0 Mbps	7.37
36 / 5180	802.11n	64QAM	65.0 / 72.2 Mbps	7.31
36+40 / 5190	802.11n	BPSK	13.5 / 15.0 Mbps	7.91
36+40 / 5190	802.11n	QPSK	27.0 / 30.0 Mbps	6.07
36+40 / 5190	802.11n	QPSK	40.5 / 45.0 Mbps	6.13
36+40 / 5190	802.11n	16QAM	54.0 / 60.0 Mbps	5.12
36+40 / 5190	802.11n	16QAM	81.0 / 90.0 Mbps	5.18
36+40 / 5190	802.11n	64QAM	108.0 / 120.0 Mbps	5.25
36+40 / 5190	802.11n	64QAM	121.5 / 135.0 Mbps	3.37
36+40 / 5190	802.11n	64QAM	135.0 / 150.0 Mbps	2.46
40 / 5200	802.11n	BPSK	6.5 / 7.25 Mbps	8.07
48 / 5240	802.11n	BPSK	6.5 / 7.25 Mbps	8.8
52 / 5260	802.11n	BPSK	6.5 / 7.25 Mbps	8.86
60 / 5300	802.11n	BPSK	6.5 / 7.25 Mbps	8.78
64 / 5320	802.11n	BPSK	6.5 / 7.25 Mbps	8.34
100 / 5500	802.11n	BPSK	6.5 / 7.25 Mbps	10.49
116 / 5580	802.11n	BPSK	6.5 / 7.25 Mbps	9.24
140 / 5700	802.11n	BPSK	6.5 / 7.25 Mbps	7.64
40 / 5200	802.11n	64QAM	52.0 / 57.8 Mbps	7.82
48 / 5240	802.11n	64QAM	52.0 / 57.8 Mbps	8.36
52 / 5260	802.11n	64QAM	52.0 / 57.8 Mbps	8.4
60 / 5300	802.11n	64QAM	52.0 / 57.8 Mbps	8.46
64 / 5320	802.11n	64QAM	52.0 / 57.8 Mbps	8.24
100 / 5500	802.11n	64QAM	52.0 / 57.8 Mbps	10.53
116 / 5580	802.11n	64QAM	52.0 / 57.8 Mbps	8.64
140 / 5700	802.11n	64QAM	52.0 / 57.8 Mbps	7.16
44+48 / 5230	802.11n	BPSK	13.5 / 15.0 Mbps	8.11
52+56 / 5270	802.11n	BPSK	13.5 / 15.0 Mbps	8.56
60+64 / 5310	802.11n	BPSK	13.5 / 15.0 Mbps	7.97
100+104 / 5510	802.11n	BPSK	13.5 / 15.0 Mbps	9.44
108+112 / 5550	802.11n	BPSK	13.5 / 15.0 Mbps	8.9
132+136 / 5670	802.11n	BPSK	13.5 / 15.0 Mbps	7.43
44+48 / 5230	802.11n	QPSK	40.5 / 45.0 Mbps	6.26
52+56 / 5270	802.11n	QPSK	40.5 / 45.0 Mbps	6.64

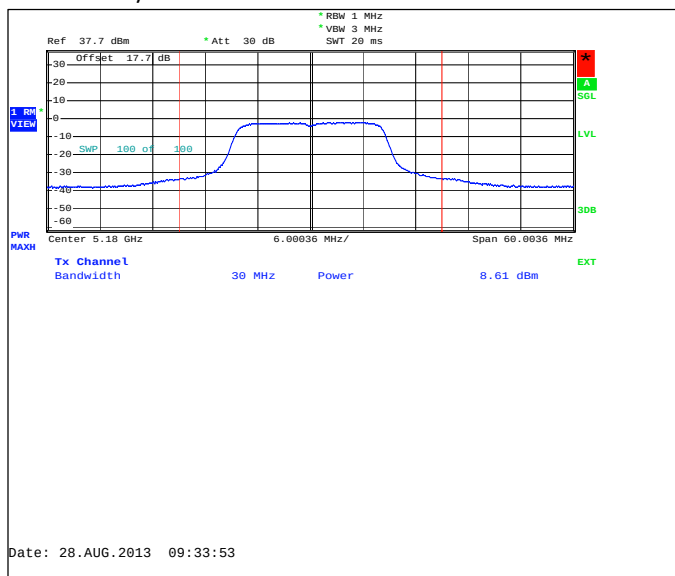
60+64 / 5310	802.11n	QPSK	40.5 / 45.0 Mbps	6.33
100+104 / 5510	802.11n	QPSK	40.5 / 45.0 Mbps	7.67
108+112 / 5550	802.11n	QPSK	40.5 / 45.0 Mbps	6.96
132+136 / 5670	802.11n	QPSK	40.5 / 45.0 Mbps	5.63

2.5. 5 GHz RLAN Test results, Main antenna

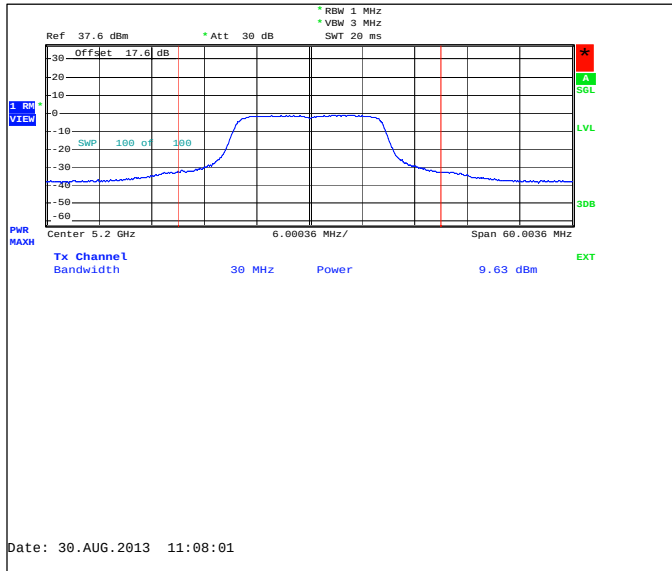
2.5.1 802.11a mode, BPSK modulation, 6 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.61	7.261	PASSED
40 / 5200	9.63	9.183	PASSED
48 / 5240	9.51	8.933	PASSED
52 / 5260	9.16	8.241	PASSED
60 / 5300	8.95	7.852	PASSED
64 / 5320	9.04	8.017	PASSED
100 / 5500	10.1	10.233	PASSED
116 / 5580	10.38	10.914	PASSED
140 / 5700	10.39	10.94	PASSED

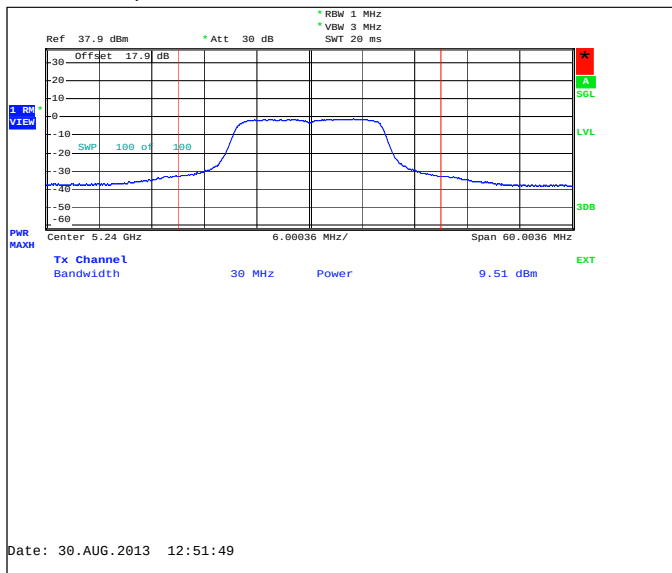
Channel 36 / 5180MHz



Channel 40 / 5200MHz



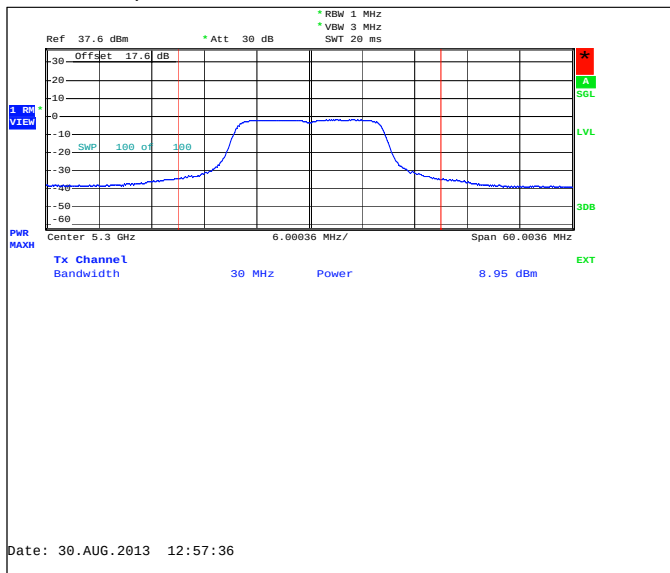
Channel 48 / 5240MHz



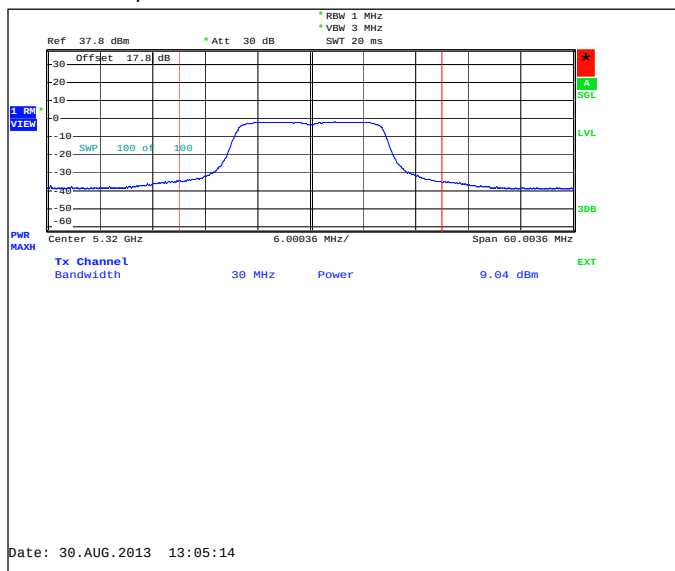
Channel 52 / 5260MHz



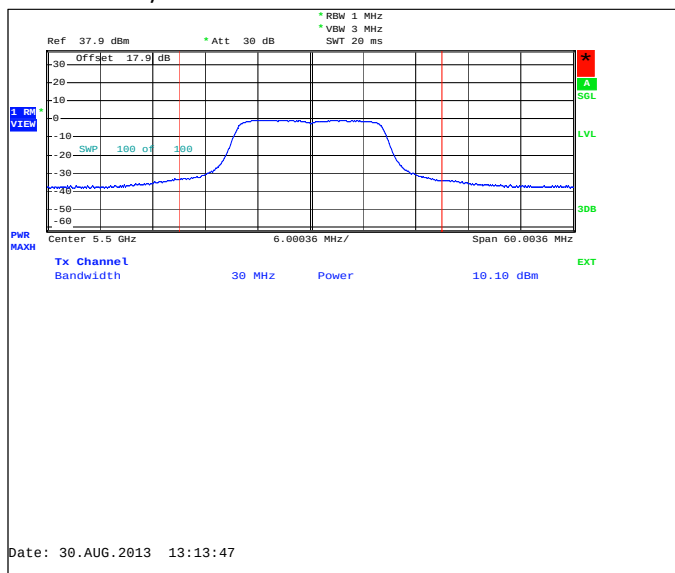
Channel 60 / 5300MHz



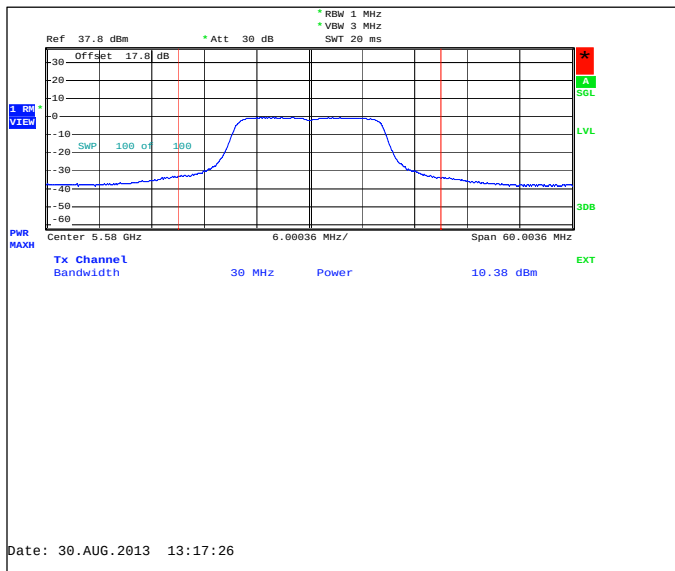
Channel 64 / 5320MHz



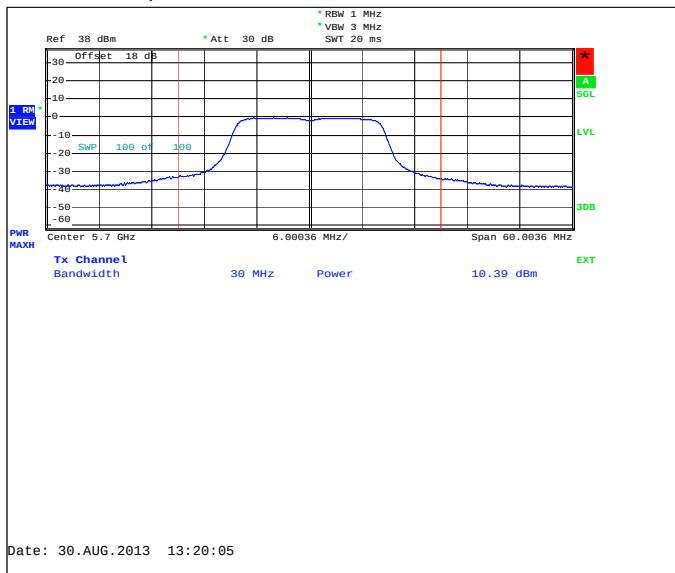
Channel 100 / 5500MHz



Channel 116 / 5580MHz



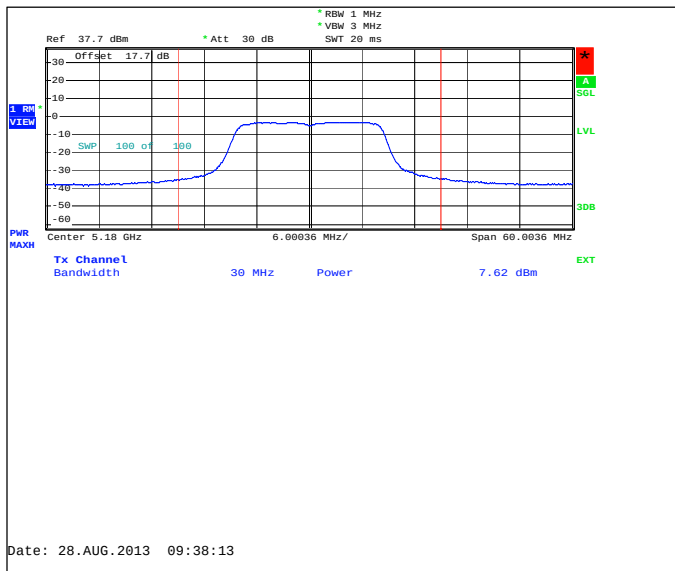
Channel 140 / 5700MHz



2.5.2 802.11a mode, BPSK modulation, 9 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.62	5.781	PASSED

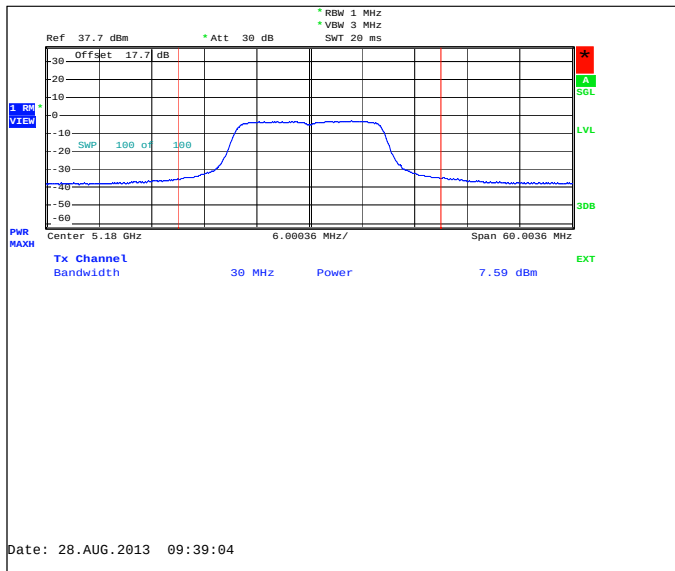
Channel 36 / 5180MHz



2.5.3 802.11a mode, QPSK modulation, 12 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.59	5.741	PASSED

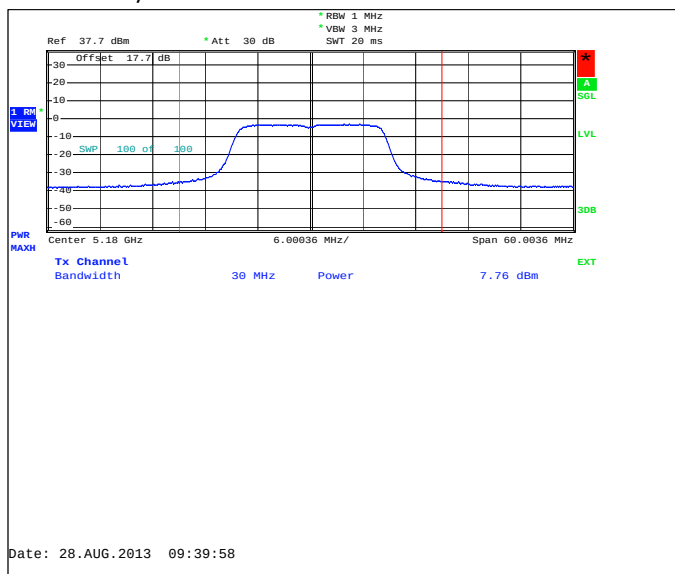
Channel 36 / 5180MHz



2.5.4 802.11a mode, QPSK modulation, 18 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.76	5.97	PASSED

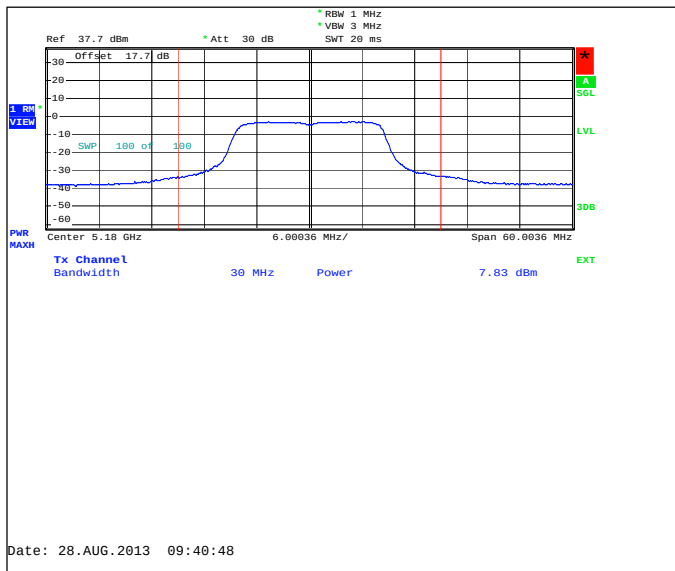
Channel 36 / 5180MHz



2.5.5 802.11a mode, 16QAM modulation, 24 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.83	6.067	PASSED

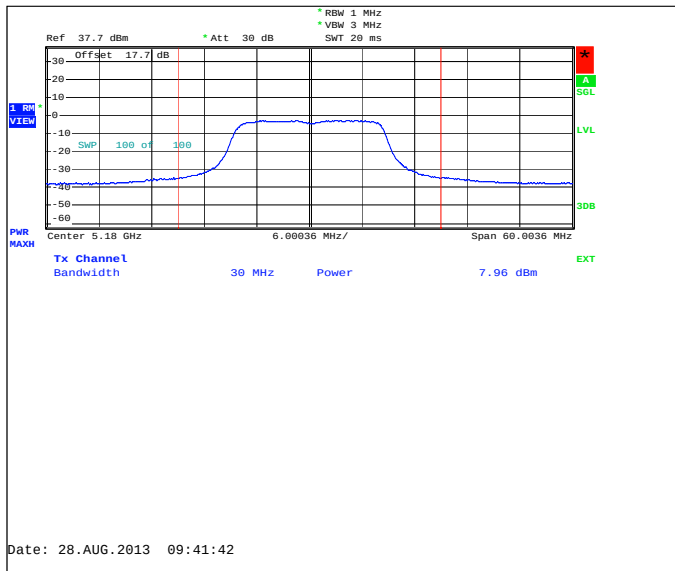
Channel 36 / 5180MHz



2.5.6 802.11a mode, 16QAM modulation, 36 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.96	6.252	PASSED

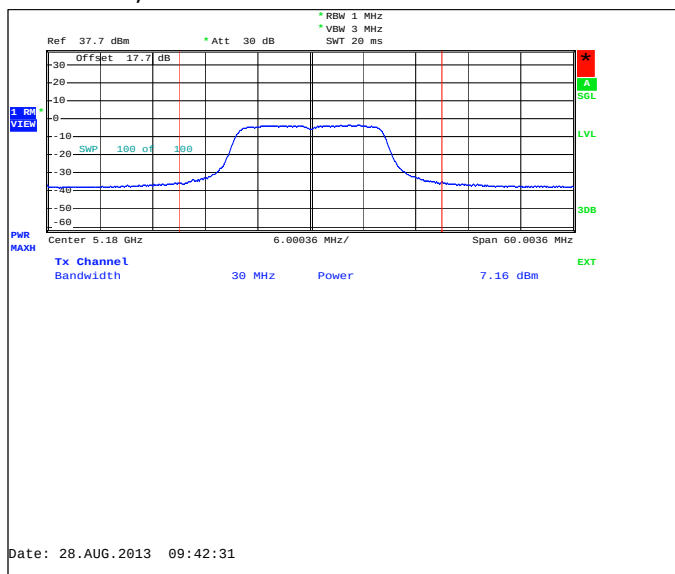
Channel 36 / 5180MHz



2.5.7 802.11a mode, 64QAM modulation, 48 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.16	5.2	PASSED

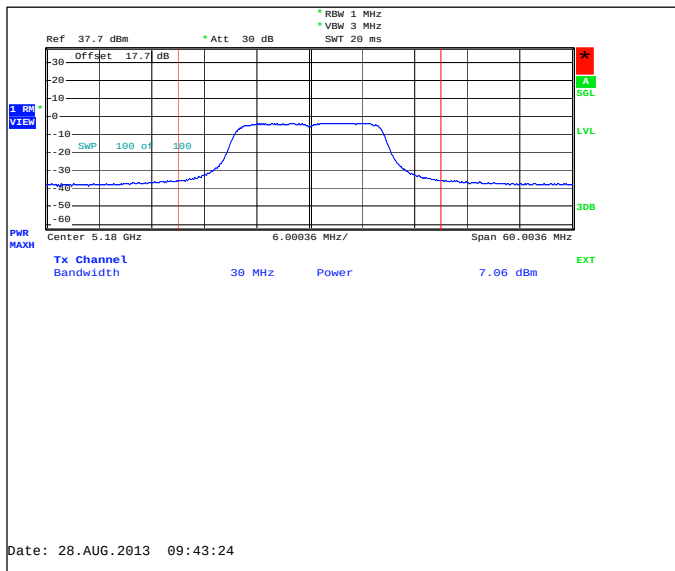
Channel 36 / 5180MHz



2.5.8 802.11a mode, 64QAM modulation, 54 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.06	5.082	PASSED

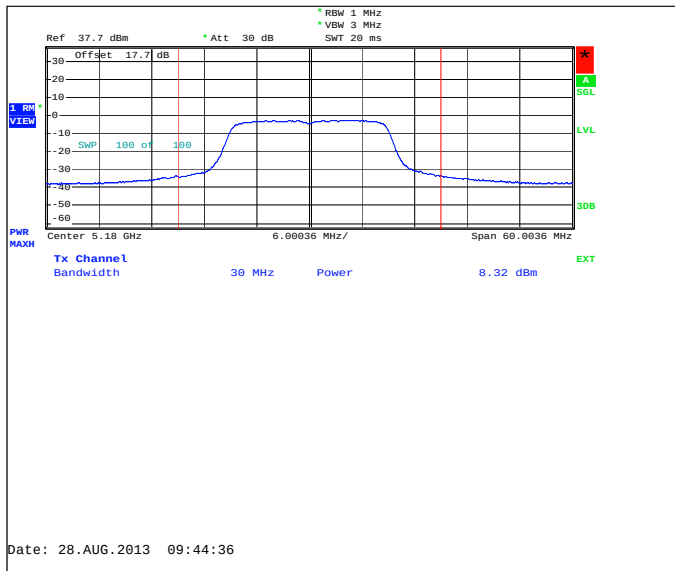
Channel 36 / 5180MHz



2.5.9 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.32	6.792	PASSED

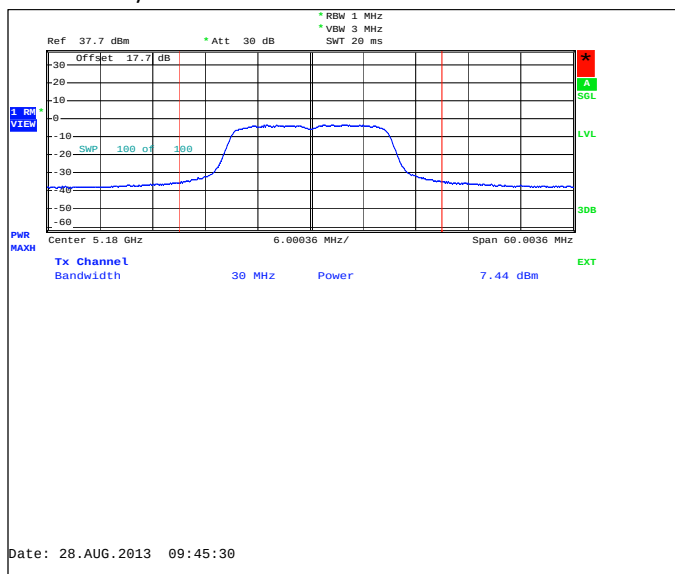
Channel 36 / 5180MHz



2.5.10 802.11n mode, QPSK modulation, 13.0 / 14.4 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.44	5.546	PASSED

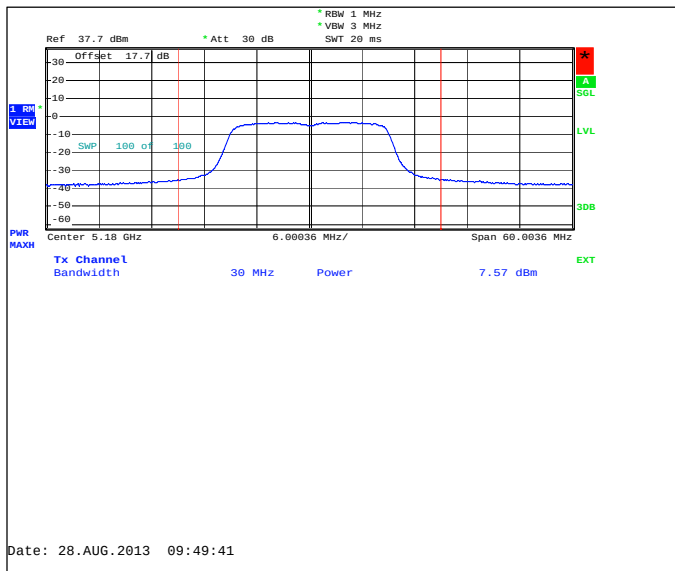
Channel 36 / 5180MHz



2.5.11 802.11n mode, QPSK modulation, 19.5 / 21.7 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.57	5.715	PASSED

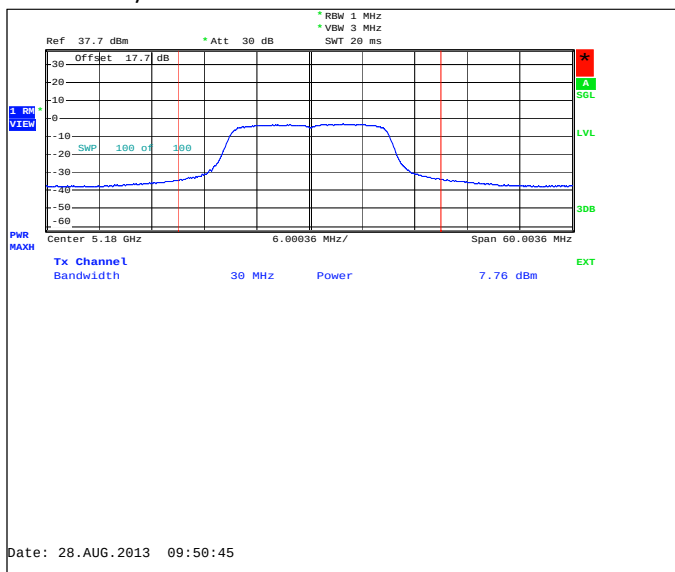
Channel 36 / 5180MHz



2.5.12 802.11n mode, 16QAM modulation, 26.0 / 28.9 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.76	5.97	PASSED

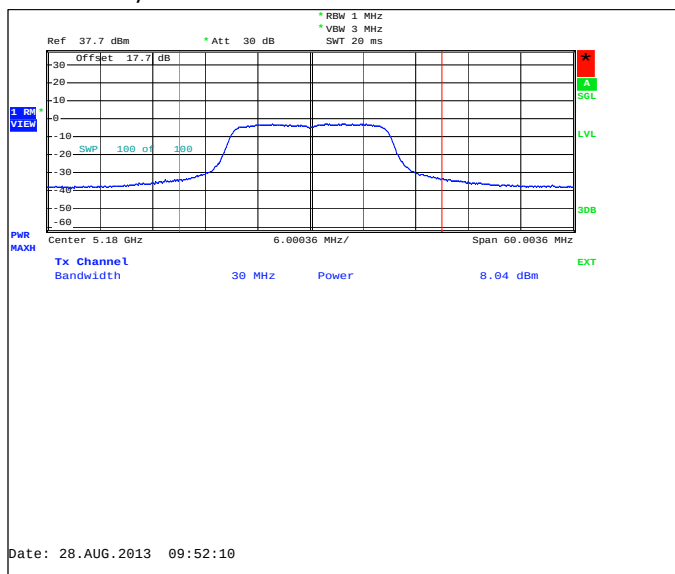
Channel 36 / 5180MHz



2.5.13 802.11n mode, 16QAM modulation, 39.0 / 43.3 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.04	6.368	PASSED

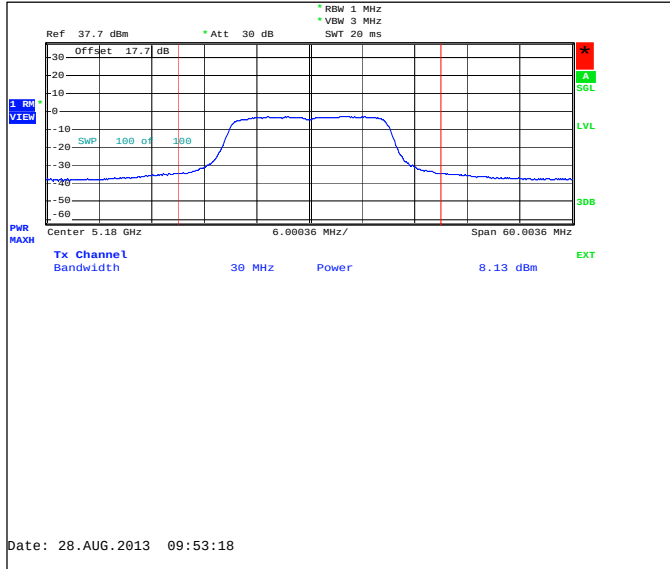
Channel 36 / 5180MHz



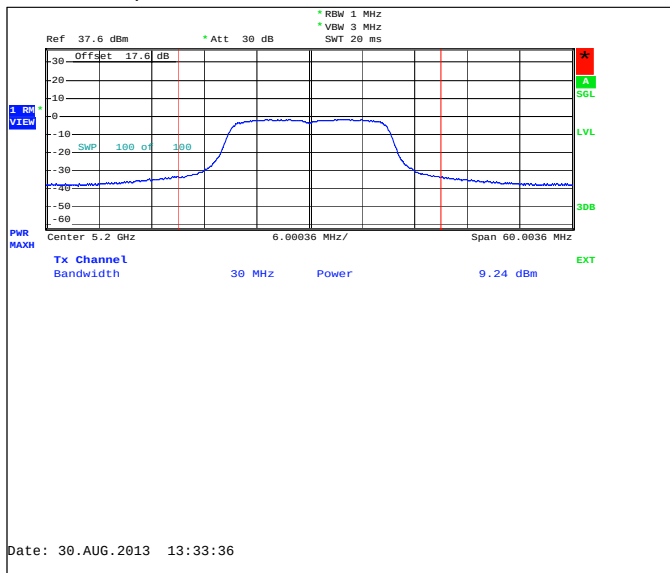
2.5.14 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.13	6.501	PASSED
40 / 5200	9.24	8.395	PASSED
48 / 5240	9.13	8.185	PASSED
52 / 5260	8.87	7.709	PASSED
60 / 5300	8.63	7.295	PASSED
64 / 5320	8.66	7.345	PASSED
100 / 5500	9.89	9.75	PASSED
116 / 5580	10.14	10.328	PASSED
140 / 5700	10.15	10.351	PASSED

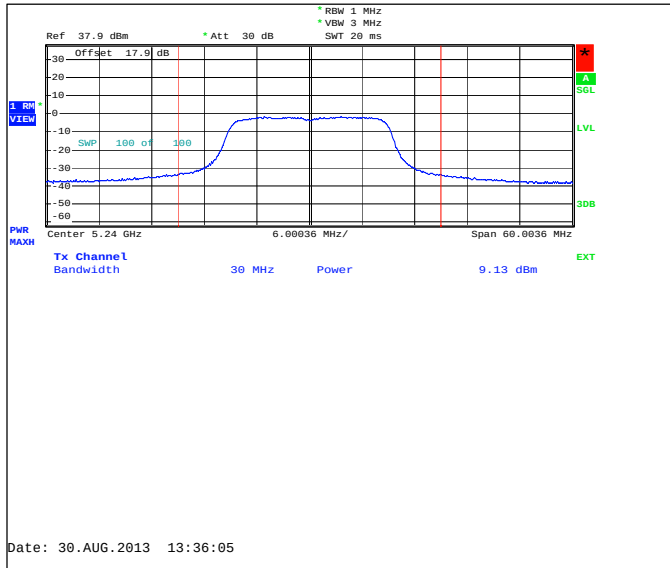
Channel 36 / 5180MHz



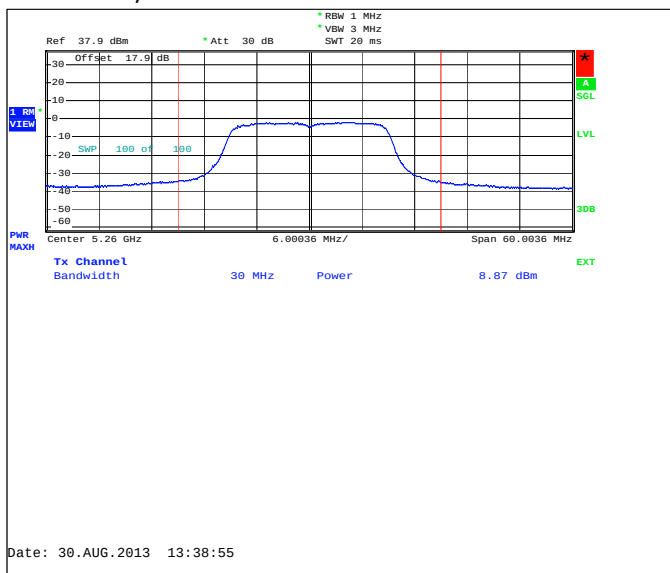
Channel 40 / 5200MHz



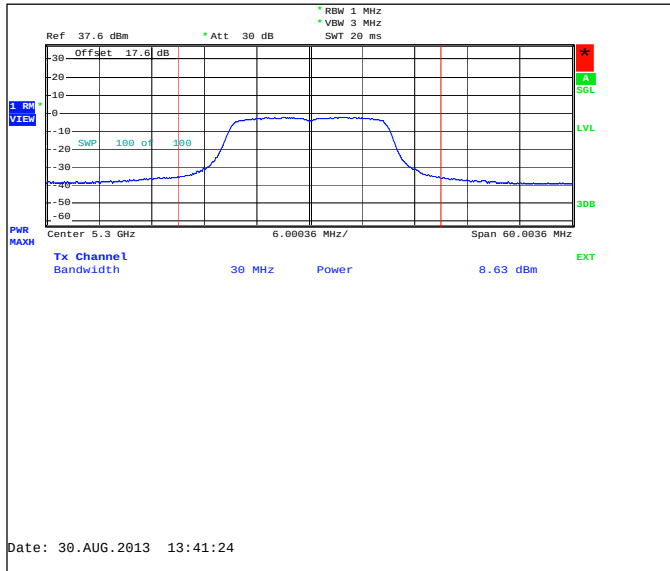
Channel 48 / 5240MHz



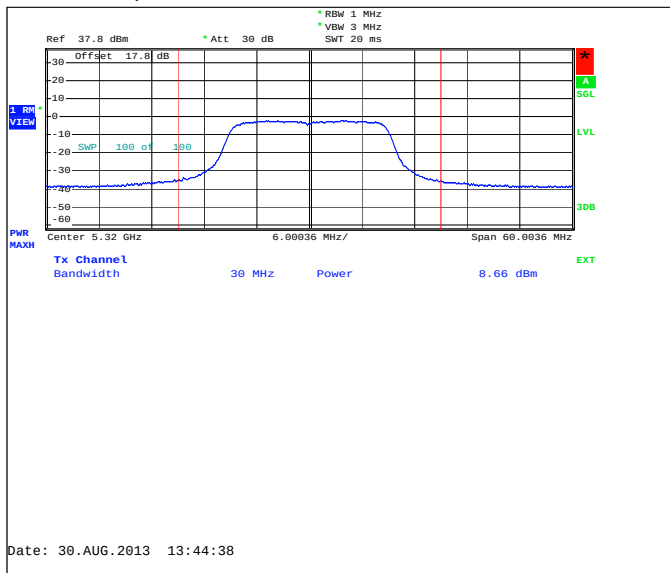
Channel 52 / 5260MHz



Channel 60 / 5300MHz



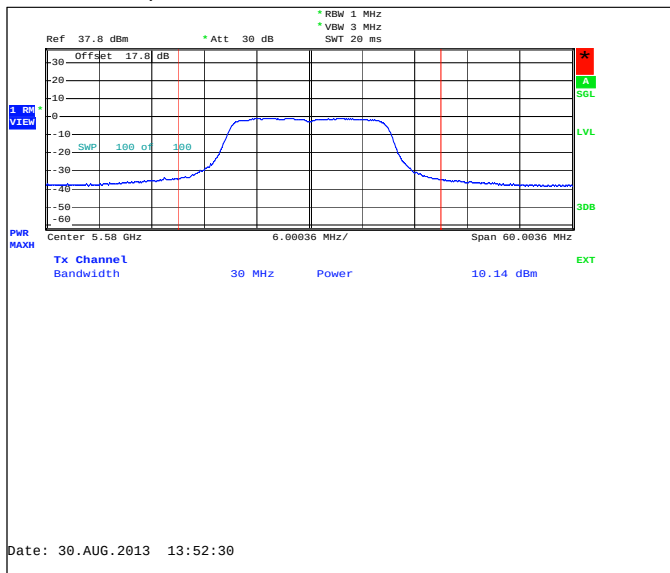
Channel 64 / 5320MHz



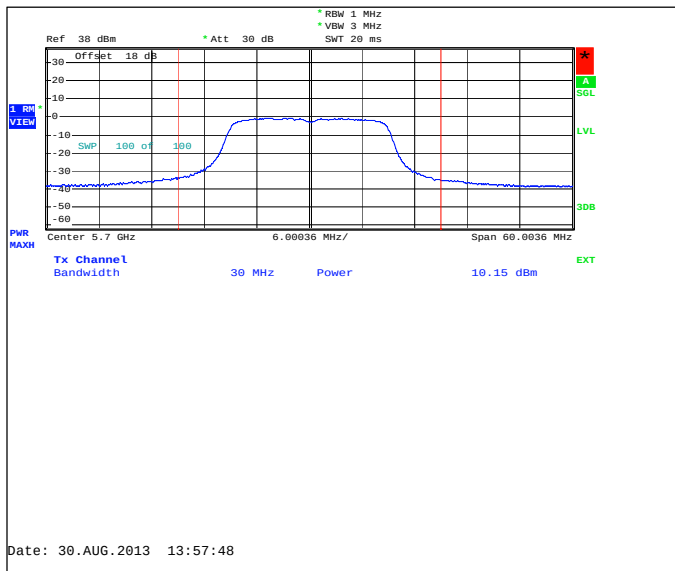
Channel 100 / 5500MHz



Channel 116 / 5580MHz



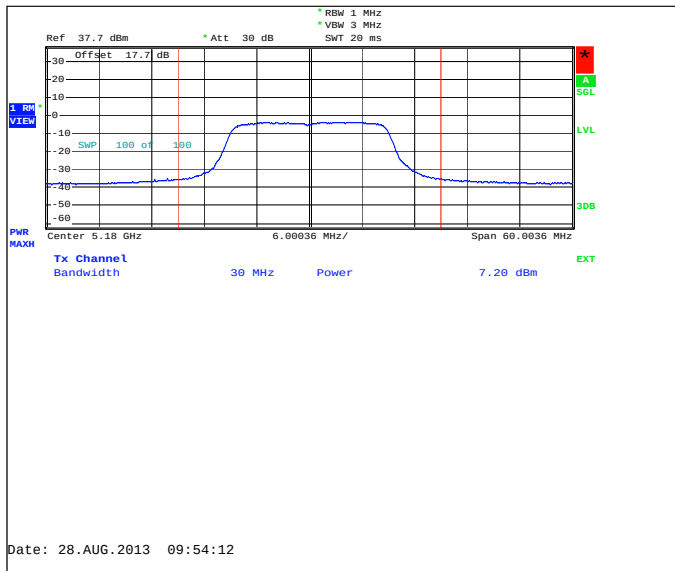
Channel 140 / 5700MHz



2.5.15 802.11n mode, 64QAM modulation, 58.5 / 65.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.2	5.248	PASSED

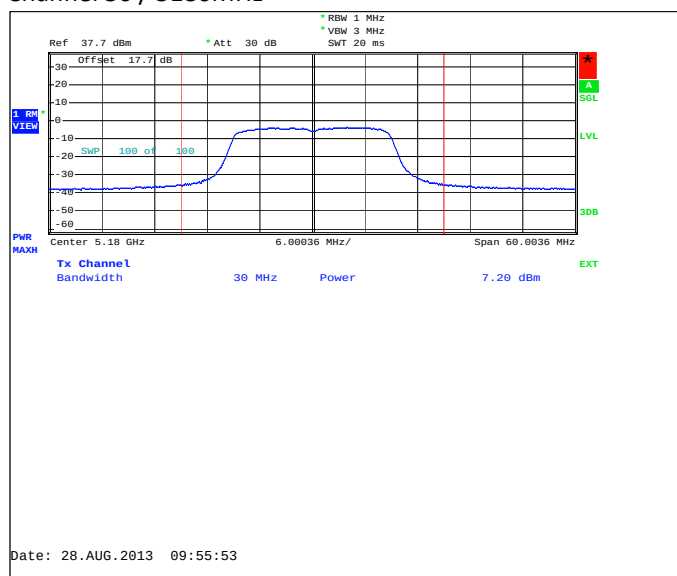
Channel 36 / 5180MHz



2.5.16 802.11n mode, 64QAM modulation, 65.0 / 72.2 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.2	5.248	PASSED

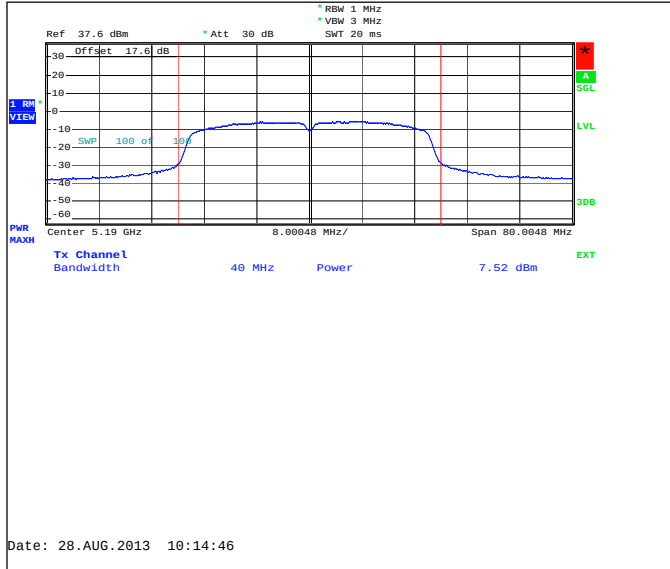
Channel 36 / 5180MHz



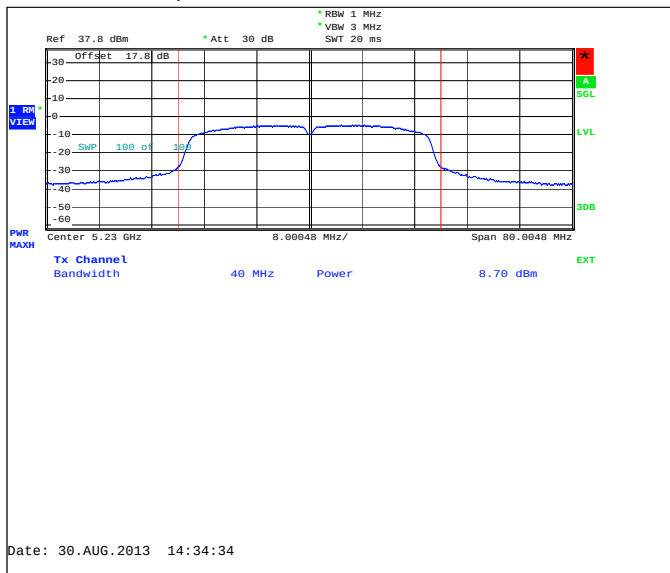
2.5.17 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	7.52	5.649	PASSED
44+48 / 5230	8.7	7.413	PASSED
52+56 / 5270	8.82	7.621	PASSED
60+64 / 5310	8.69	7.396	PASSED
100+104 / 5510	9.8	9.55	PASSED
132+136 / 5670	9.94	9.863	PASSED
108+112 / 5550	10.21	10.495	PASSED

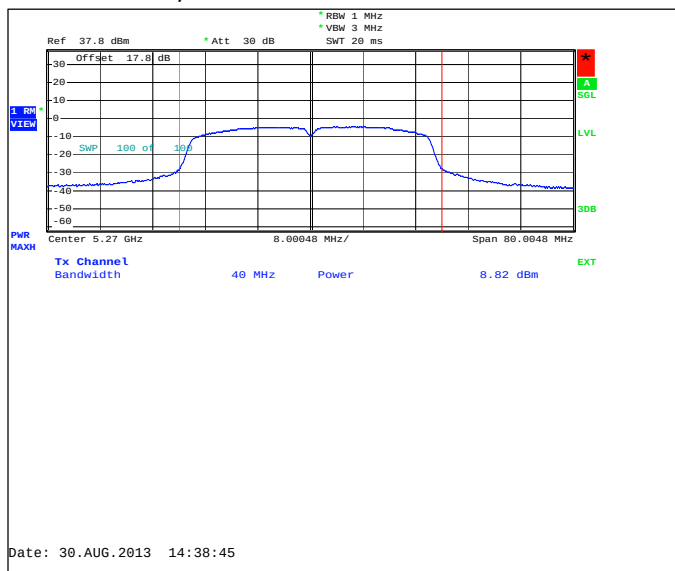
Channel 36+40 / 5190MHz



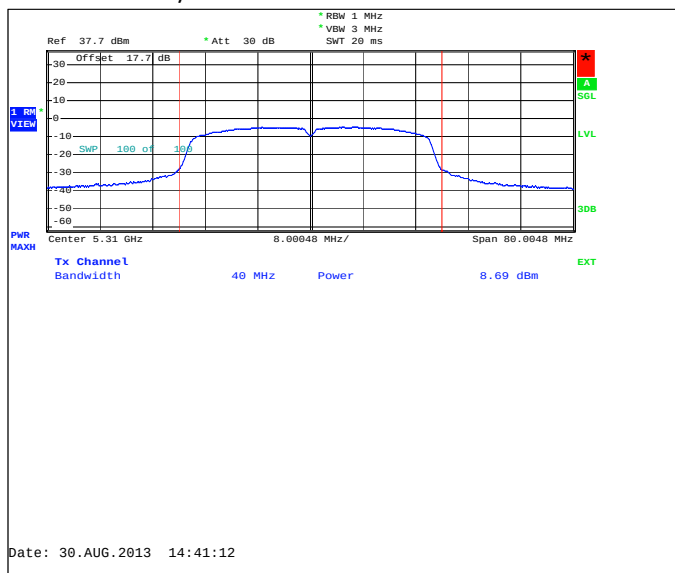
Channel 44+48 / 5230MHz



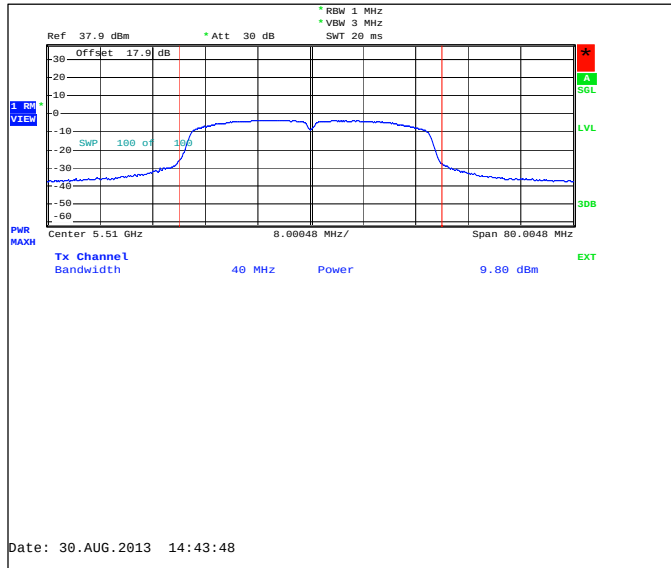
Channel 52+56 / 5270MHz



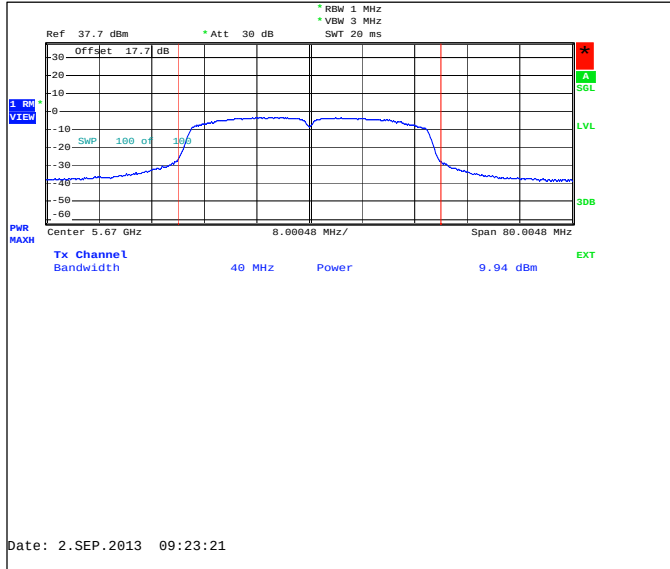
Channel 60+64 / 5310MHz



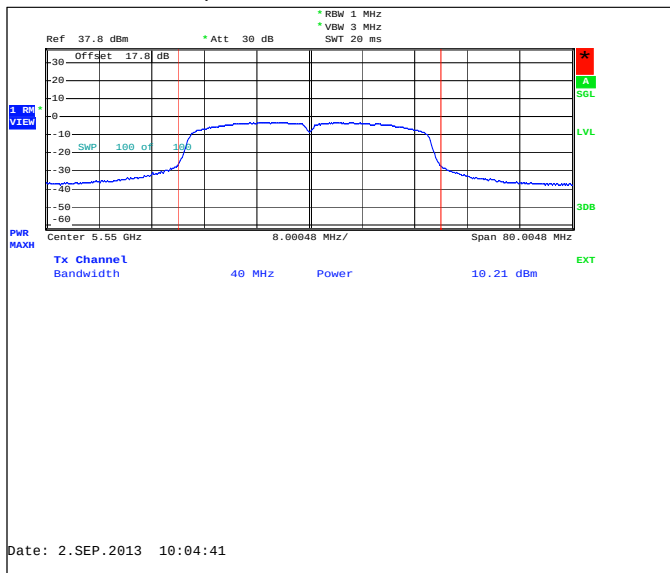
Channel 100+104 / 5510MHz



Channel 132+136 / 5670MHz



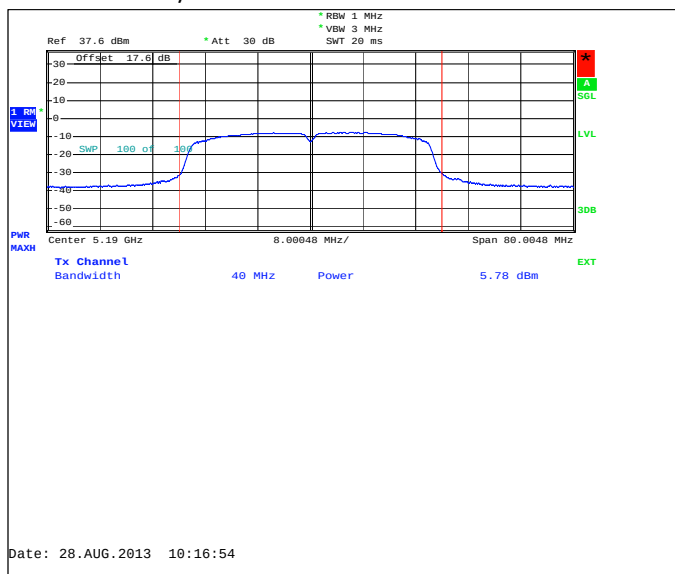
Channel 108+112 / 5550MHz



2.5.18 802.11n mode, QPSK modulation, 27.0 / 30.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.78	3.784	PASSED

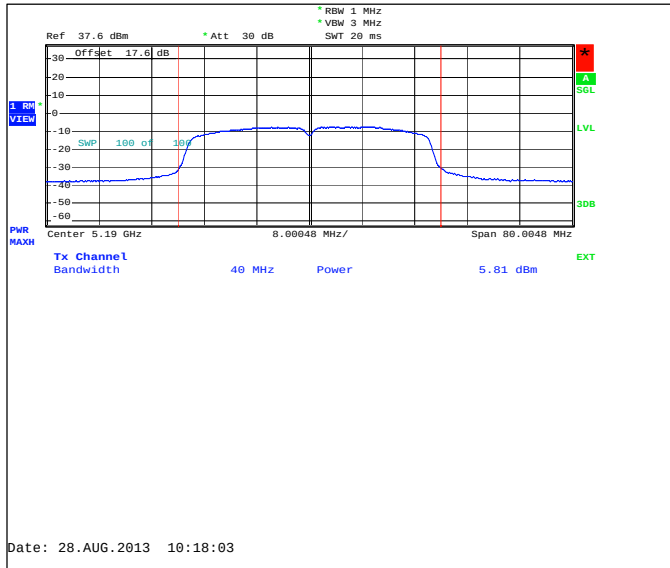
Channel 36+40 / 5190MHz



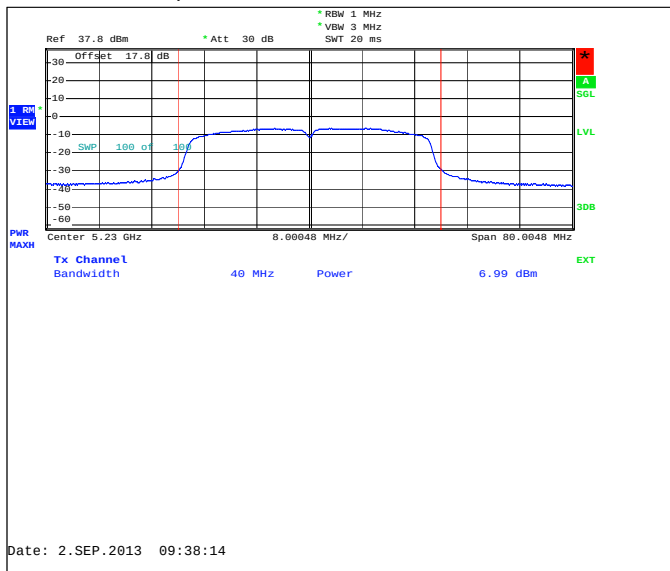
2.5.19 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.81	3.811	PASSED
44+48 / 5230	6.99	5	PASSED
52+56 / 5270	7.16	5.2	PASSED
60+64 / 5310	7.03	5.047	PASSED
100+104 / 5510	8.17	6.561	PASSED
108+112 / 5550	8.41	6.934	PASSED
132+136 / 5670	8.13	6.501	PASSED

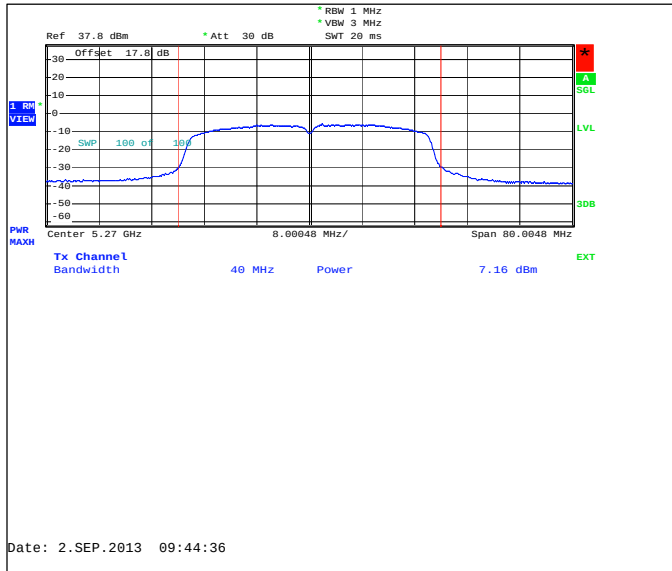
Channel 36+40 / 5190MHz



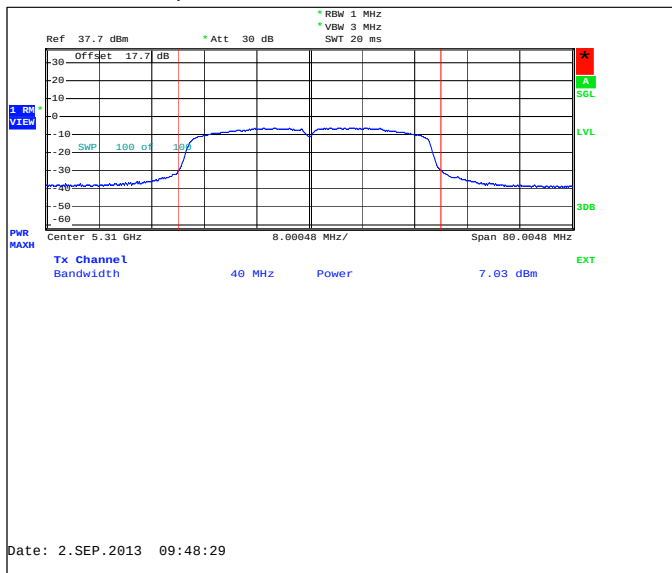
Channel 44+48 / 5230MHz



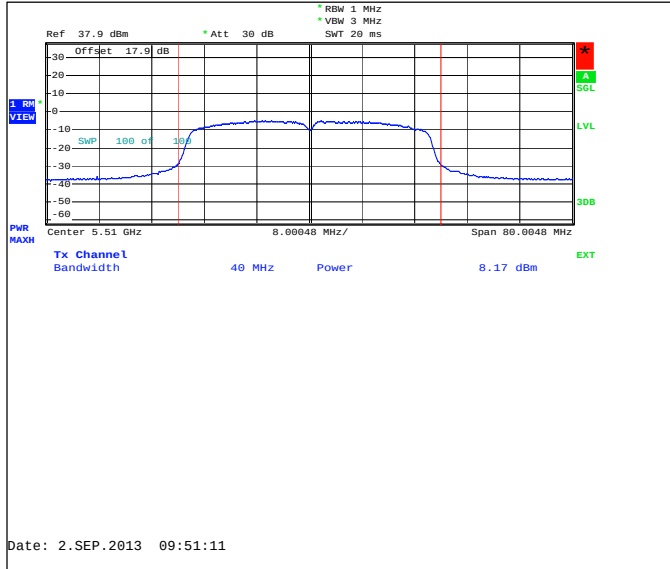
Channel 52+56 / 5270MHz



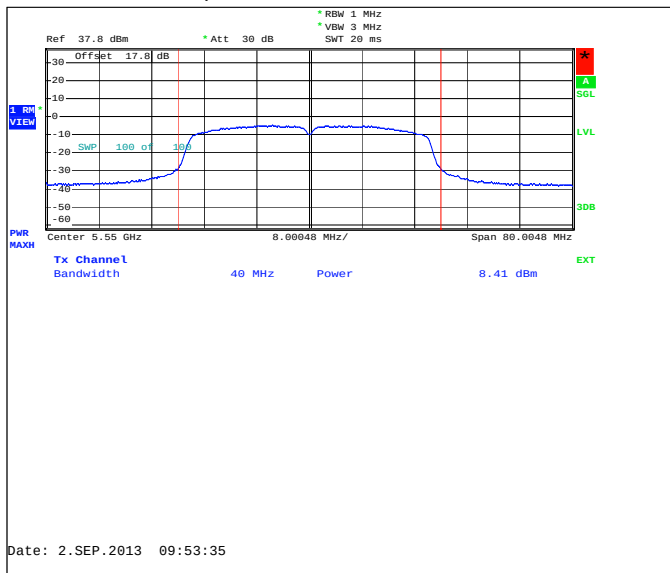
Channel 60+64 / 5310MHz



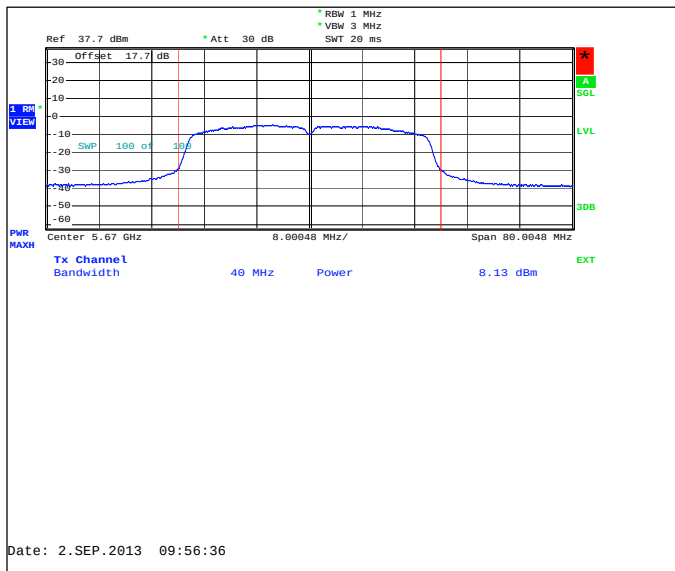
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



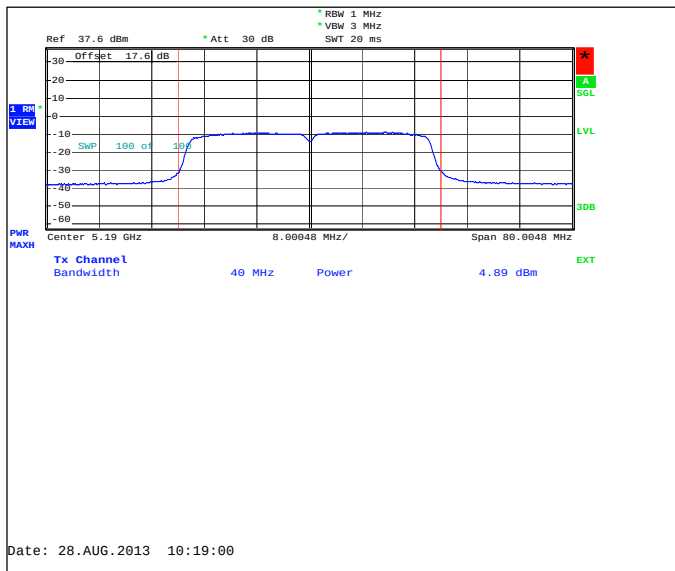
Channel 132+136 / 5670MHz



2.5.20 802.11n mode, 16QAM modulation, 54.0 / 60.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	4.89	3.083	PASSED

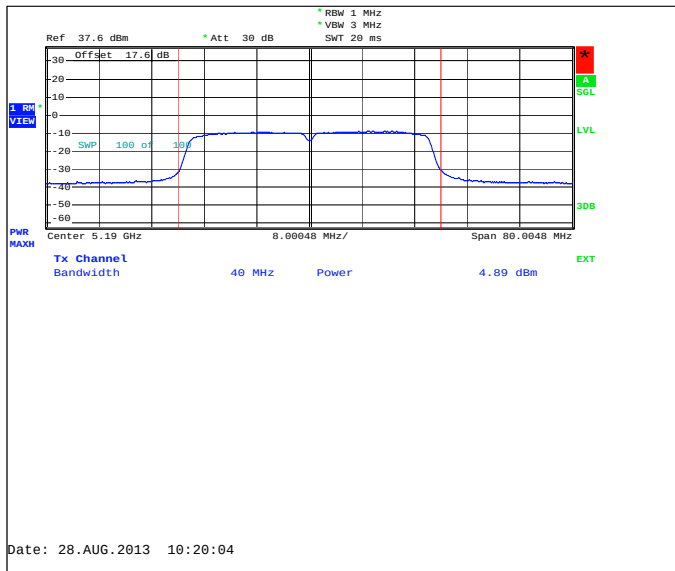
Channel 36+40 / 5190MHz



2.5.21 802.11n mode, 16QAM modulation, 81.0 / 90.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	4.89	3.083	PASSED

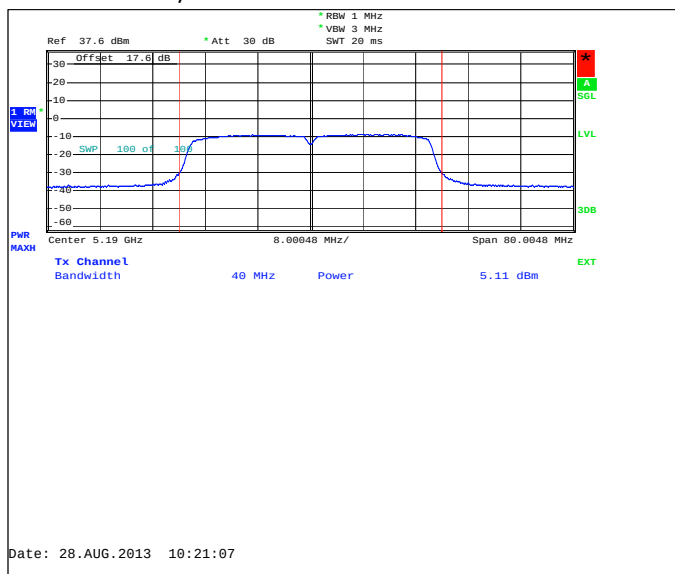
Channel 36+40 / 5190MHz



2.5.22 802.11n mode, 64QAM modulation, 108.0 / 120.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.11	3.243	PASSED

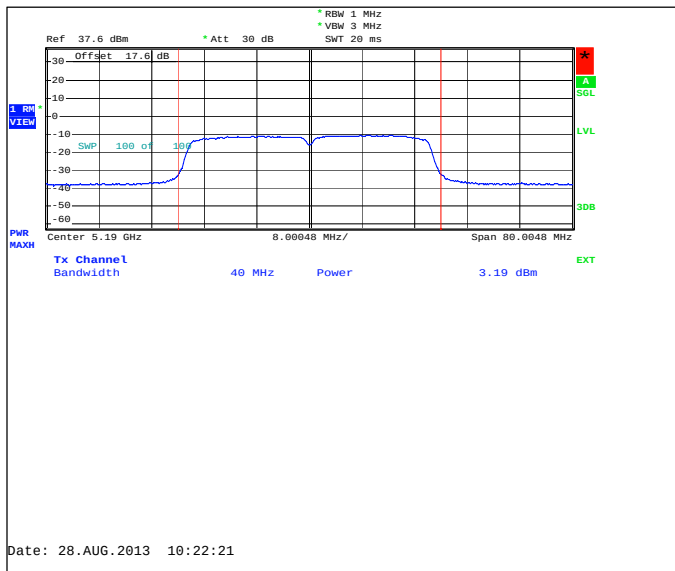
Channel 36+40 / 5190MHz



2.5.23 802.11n mode, 64QAM modulation, 121.5 / 135.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	3.19	2.084	PASSED

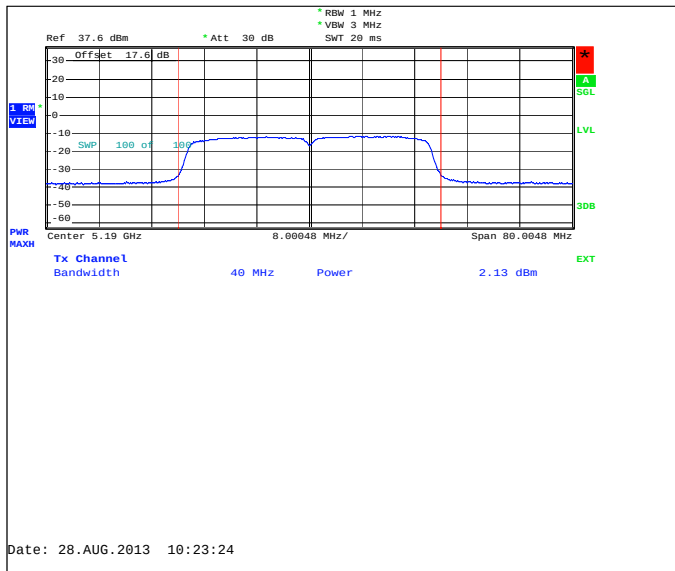
Channel 36+40 / 5190MHz



2.5.24 802.11n mode, 64QAM modulation, 135.0 / 150.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	2.13	1.633	PASSED

Channel 36+40 / 5190MHz

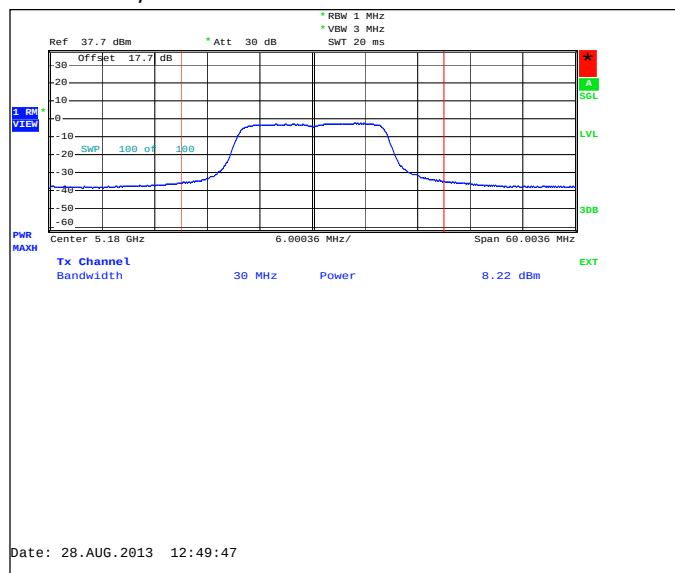


2.6. 5 GHz RLAN Test results, Aux antenna

2.6.1 802.11a mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.22	6.637	PASSED

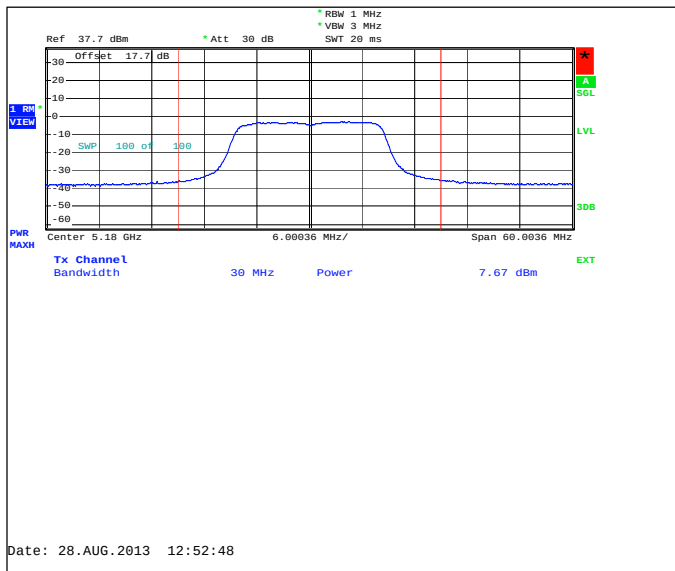
Channel 36 / 5180MHz



2.6.2 802.11a mode, BPSK modulation, 9 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.67	5.848	PASSED

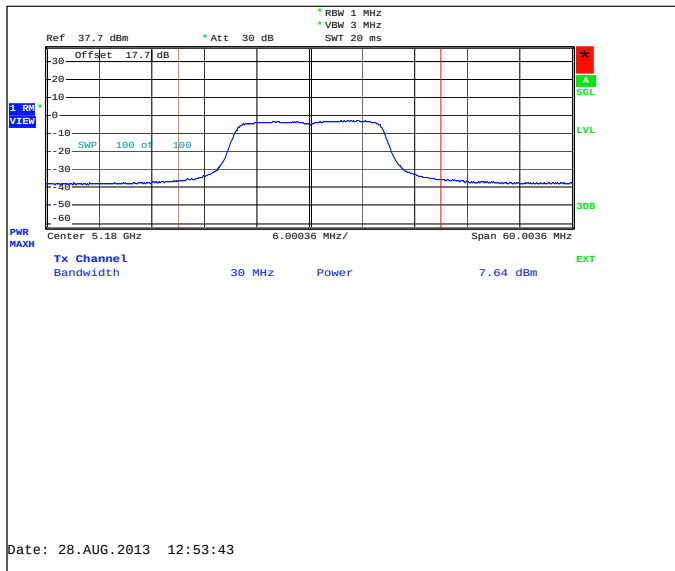
Channel 36 / 5180MHz



2.6.3 802.11a mode, QPSK modulation, 12 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.64	5.808	PASSED

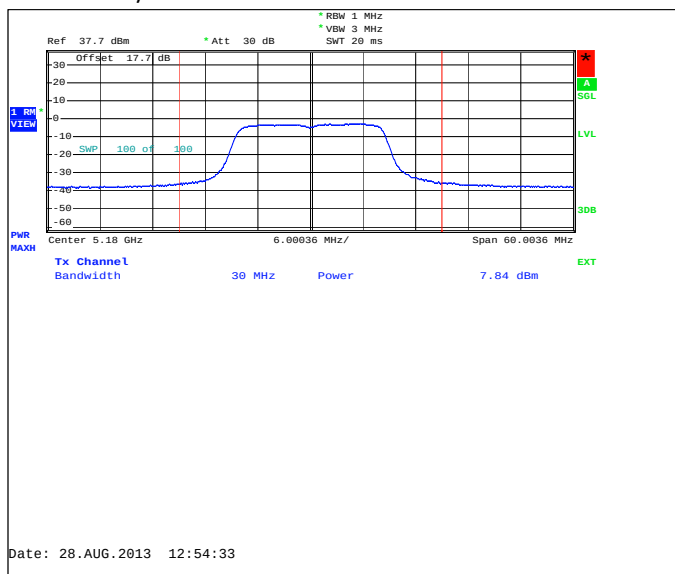
Channel 36 / 5180MHz



2.6.4 802.11a mode, QPSK modulation, 18 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.84	6.081	PASSED

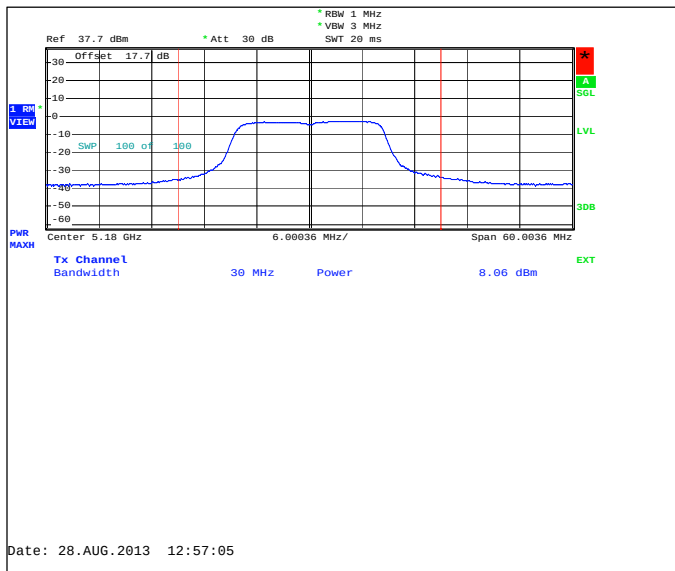
Channel 36 / 5180MHz



2.6.5 802.11a mode, 16QAM modulation, 24 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.06	6.397	PASSED

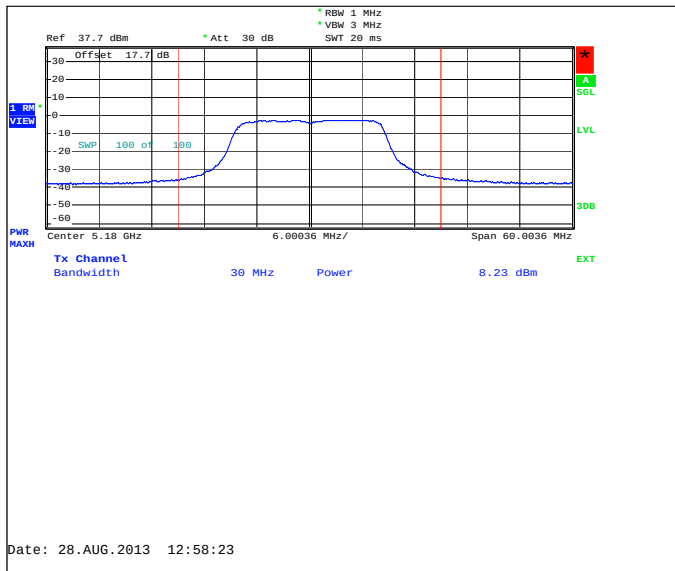
Channel 36 / 5180MHz



2.6.6 802.11a mode, 16QAM modulation, 36 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.23	6.653	PASSED

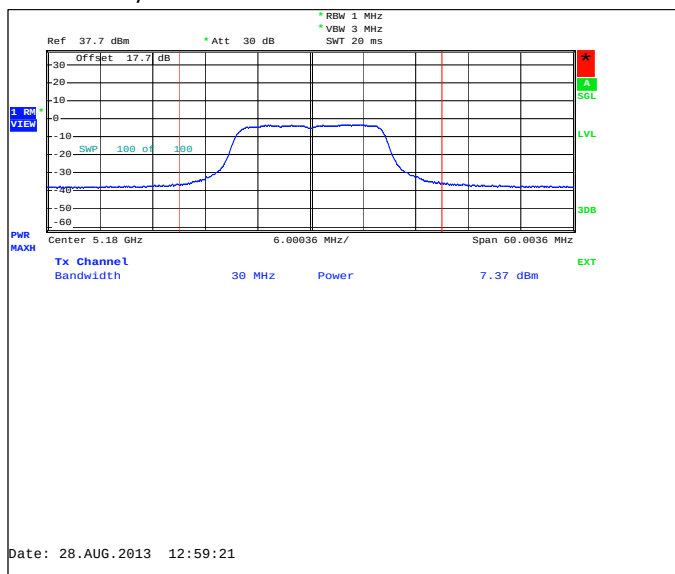
Channel 36 / 5180MHz



2.6.7 802.11a mode, 64QAM modulation, 48 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.37	5.458	PASSED

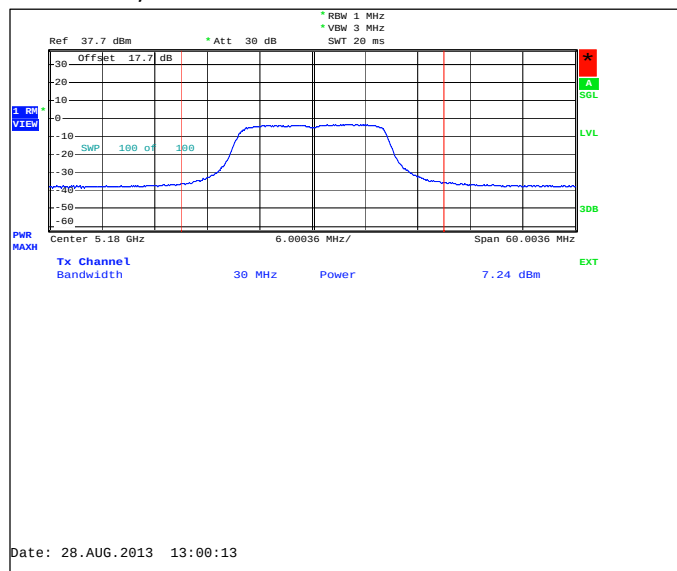
Channel 36 / 5180MHz



2.6.8 802.11a mode, 64QAM modulation, 54 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.24	5.297	PASSED

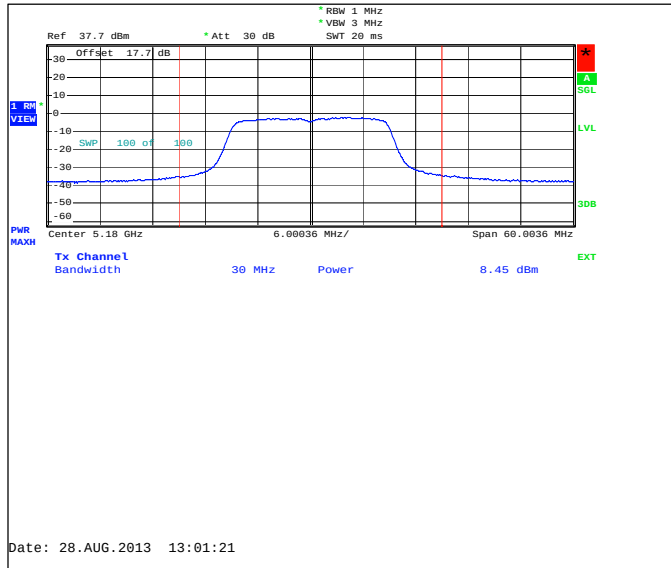
Channel 36 / 5180MHz



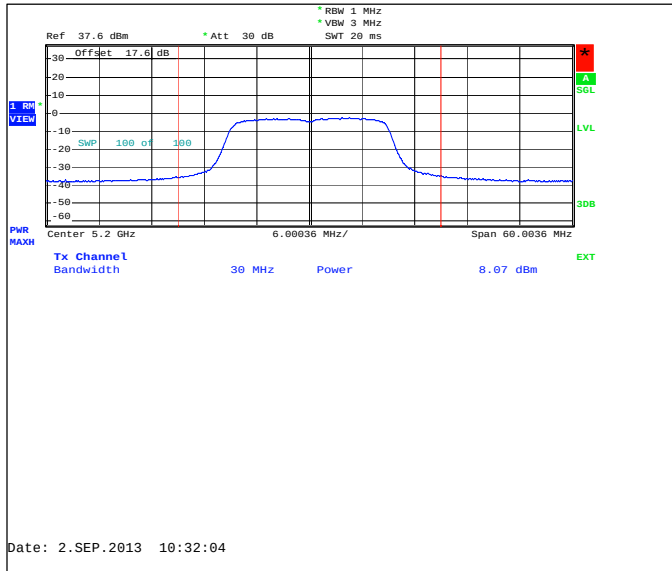
2.6.9 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.45	6.998	PASSED
40 / 5200	8.07	6.412	PASSED
48 / 5240	8.8	7.586	PASSED
52 / 5260	8.86	7.691	PASSED
60 / 5300	8.78	7.551	PASSED
64 / 5320	8.34	6.823	PASSED
100 / 5500	10.49	11.194	PASSED
116 / 5580	9.24	8.395	PASSED
140 / 5700	7.64	5.808	PASSED

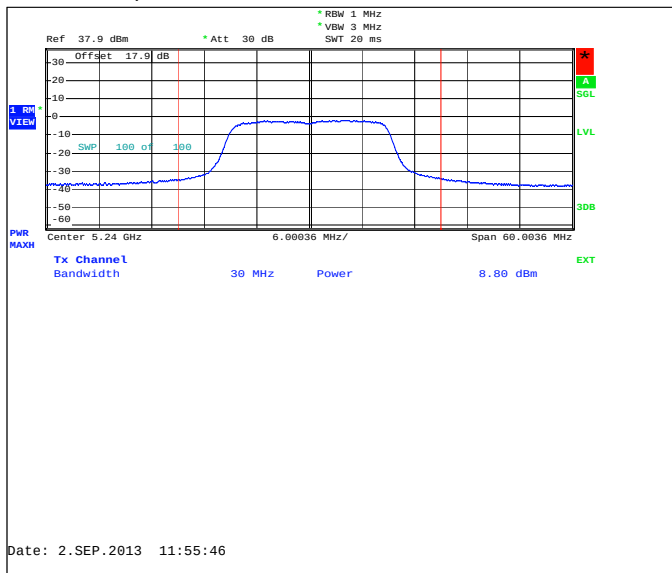
Channel 36 / 5180MHz



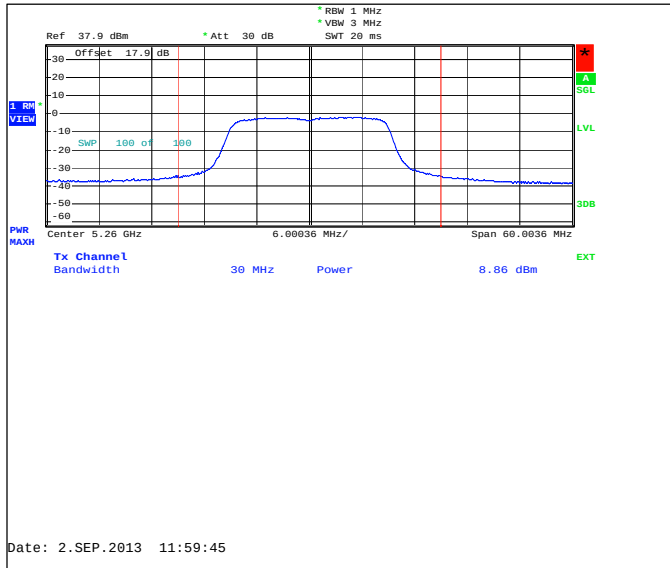
Channel 40 / 5200MHz



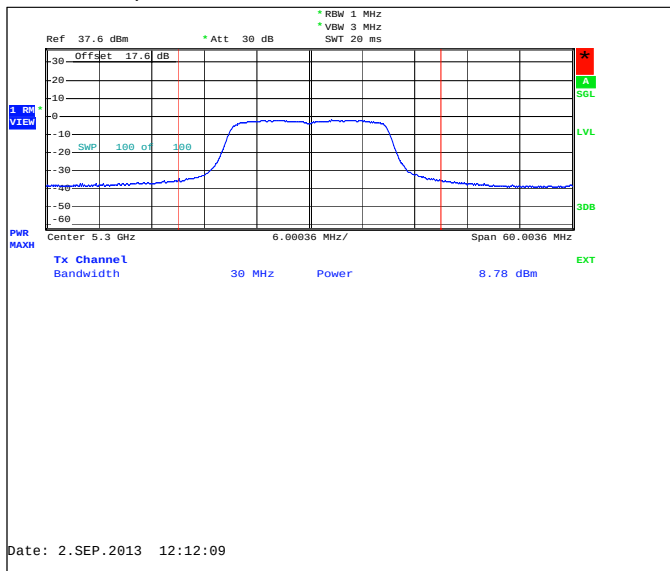
Channel 48 / 5240MHz



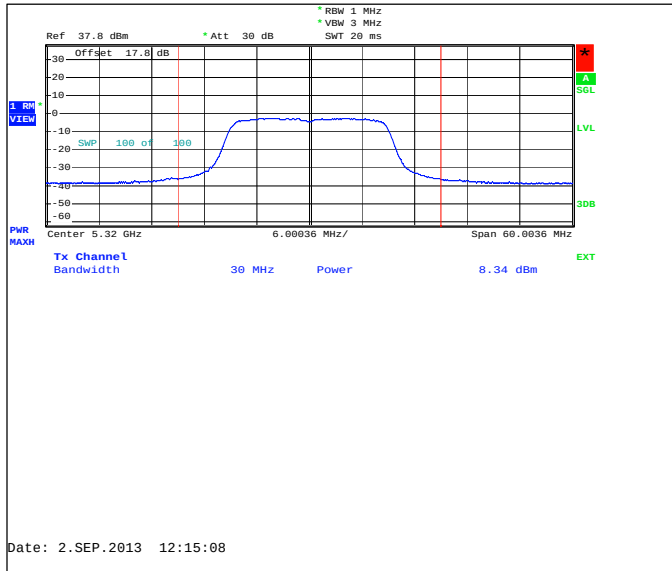
Channel 52 / 5260MHz



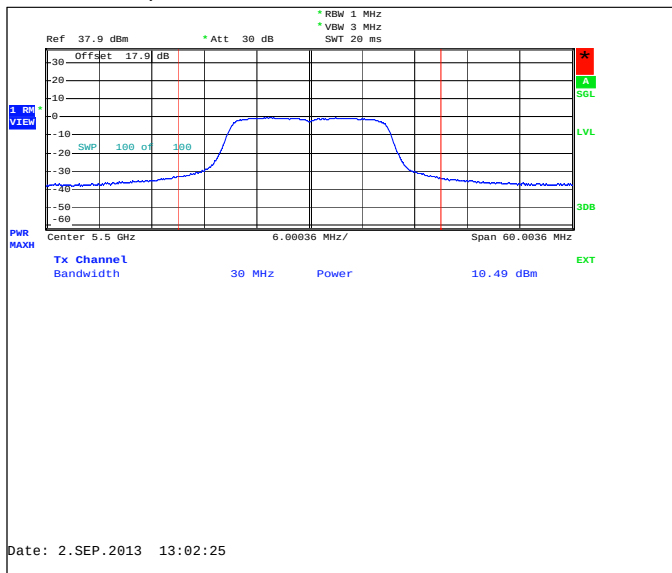
Channel 60 / 5300MHz



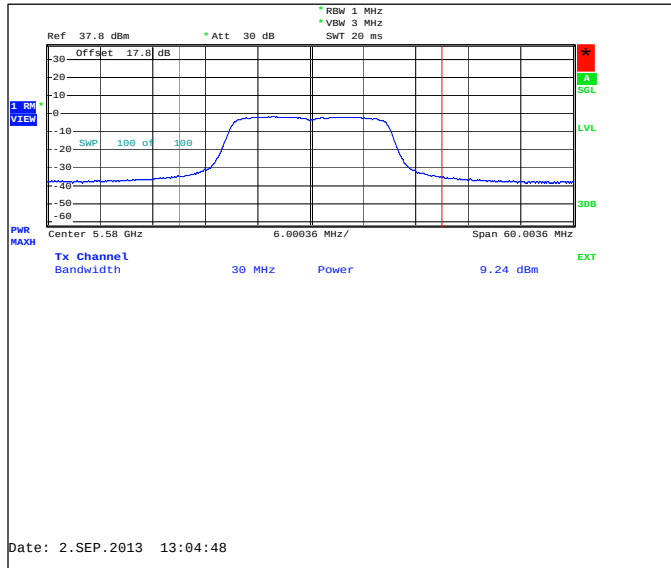
Channel 64 / 5320MHz



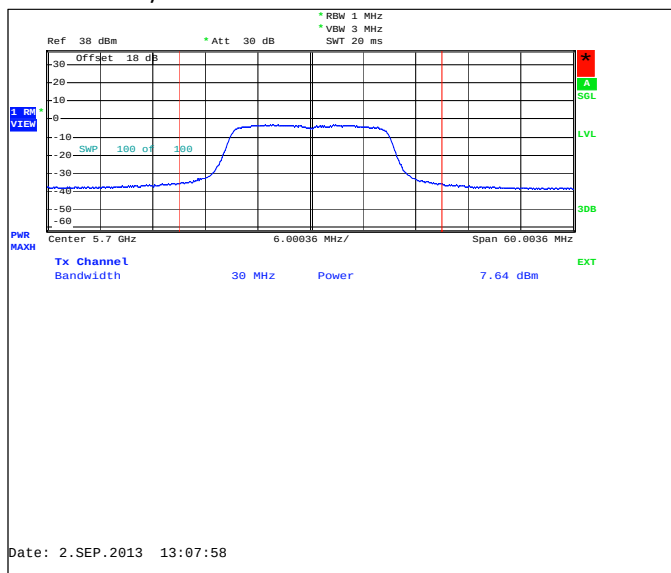
Channel 100 / 5500MHz



Channel 116 / 5580MHz



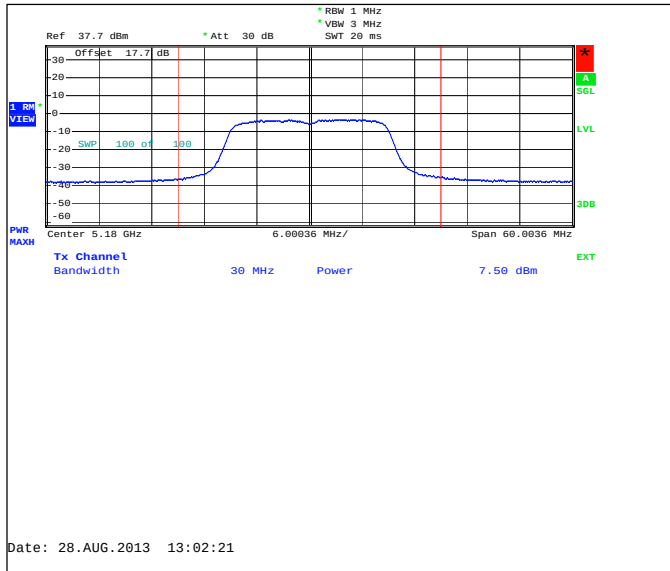
Channel 140 / 5700MHz



2.6.10 802.11n mode, QPSK modulation, 13.0 / 14.4 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.5	5.623	PASSED

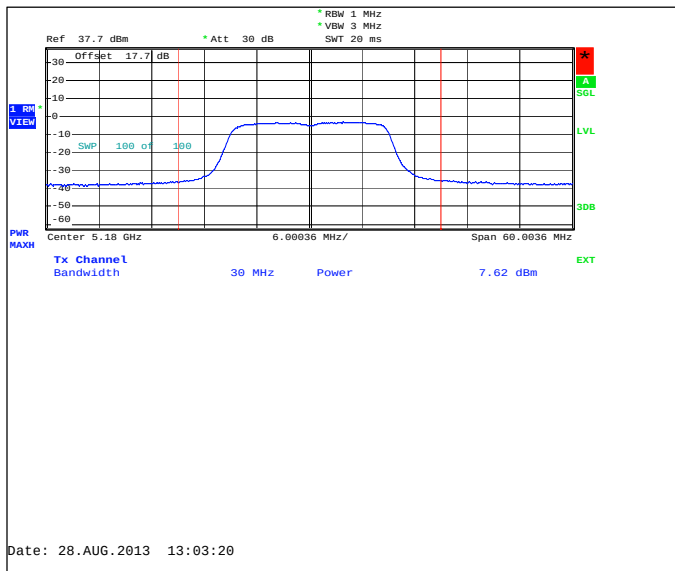
Channel 36 / 5180MHz



2.6.11 802.11n mode, QPSK modulation, 19.5 / 21.7 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.62	5.781	PASSED

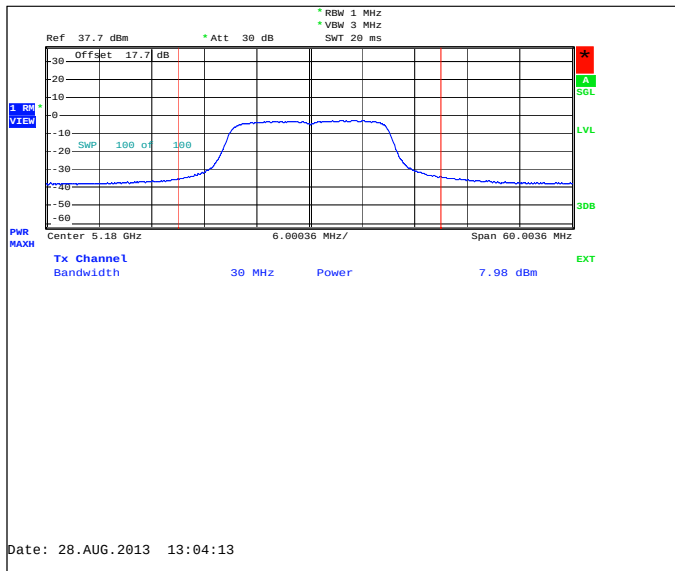
Channel 36 / 5180MHz



2.6.12 802.11n mode, 16QAM modulation, 26.0 / 28.9 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.98	6.281	PASSED

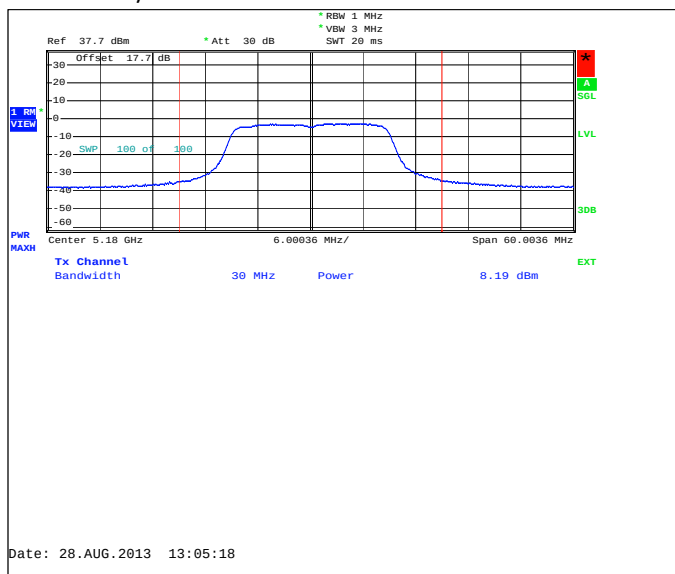
Channel 36 / 5180MHz



2.6.13 802.11n mode, 16QAM modulation, 39.0 / 43.3 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.19	6.592	PASSED

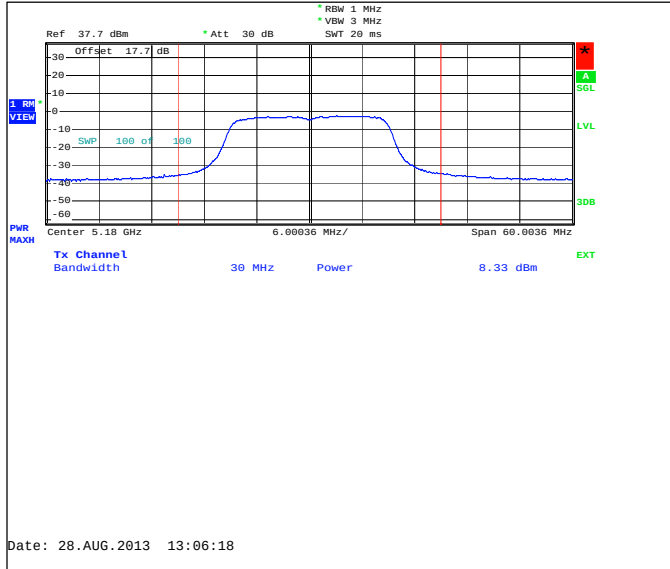
Channel 36 / 5180MHz



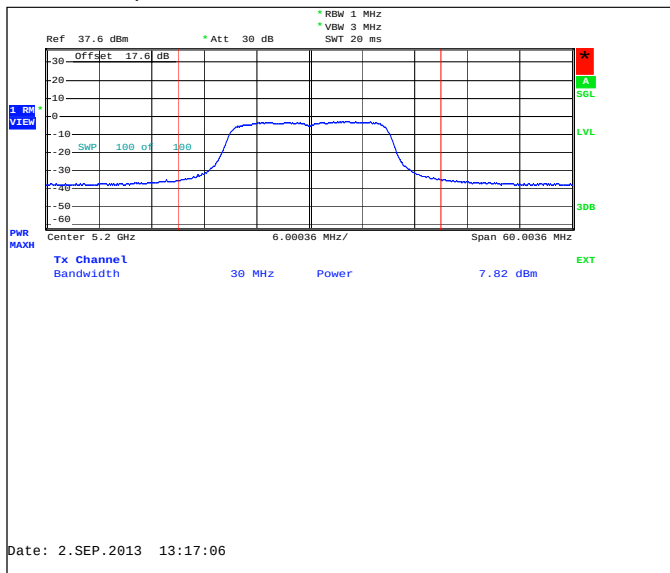
2.6.14 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	8.33	6.808	PASSED
40 / 5200	7.82	6.053	PASSED
48 / 5240	8.36	6.855	PASSED
52 / 5260	8.4	6.918	PASSED
60 / 5300	8.46	7.015	PASSED
64 / 5320	8.24	6.668	PASSED
100 / 5500	10.53	11.298	PASSED
116 / 5580	8.64	7.311	PASSED
140 / 5700	7.16	5.2	PASSED

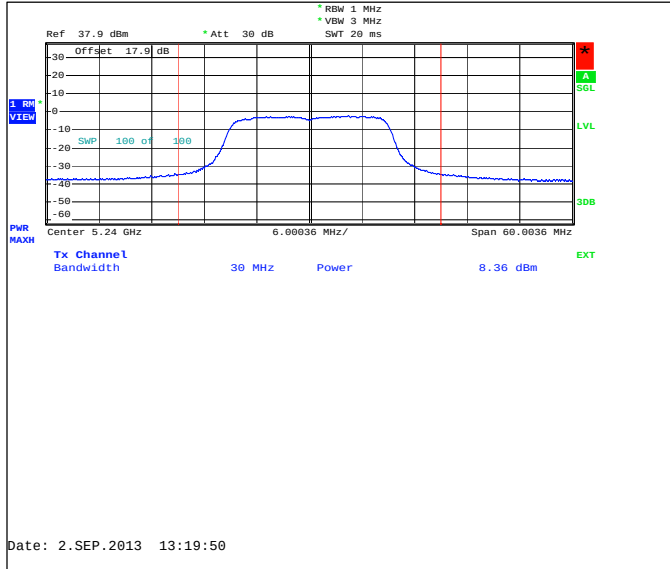
Channel 36 / 5180MHz



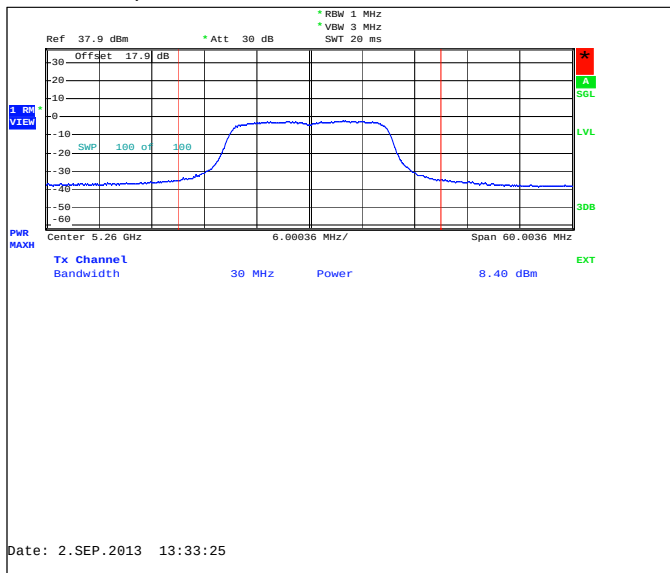
Channel 40 / 5200MHz



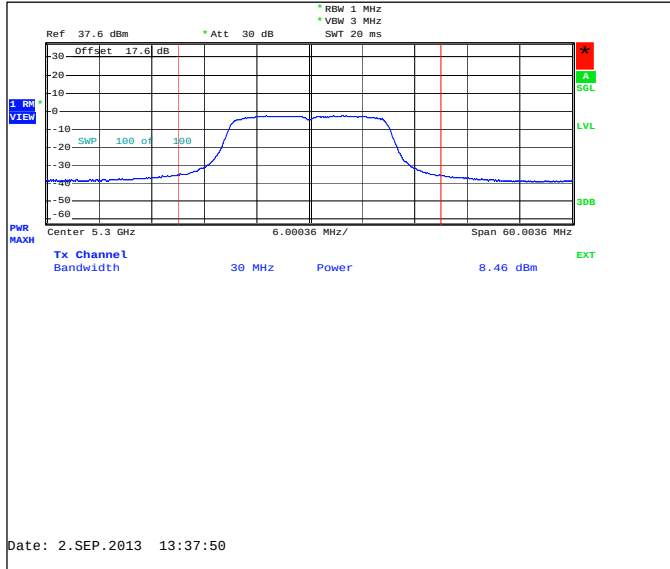
Channel 48 / 5240MHz



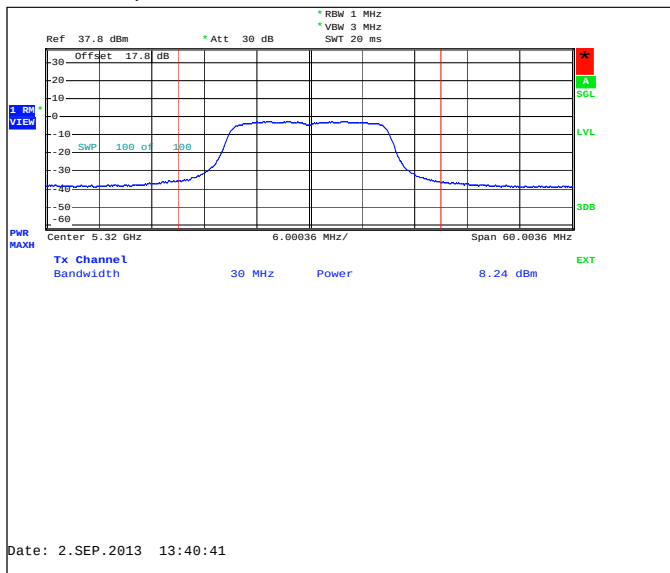
Channel 52 / 5260MHz



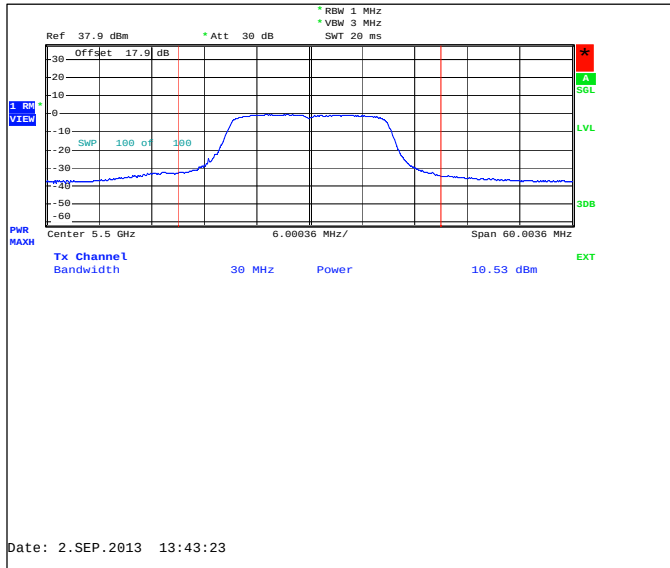
Channel 60 / 5300MHz



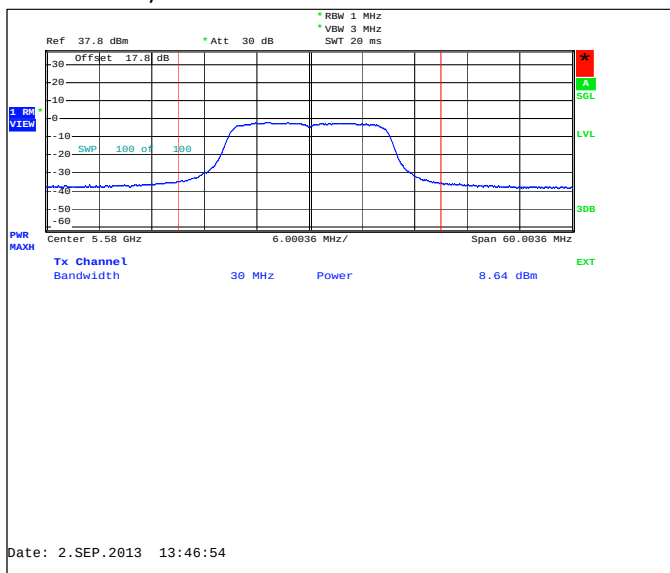
Channel 64 / 5320MHz



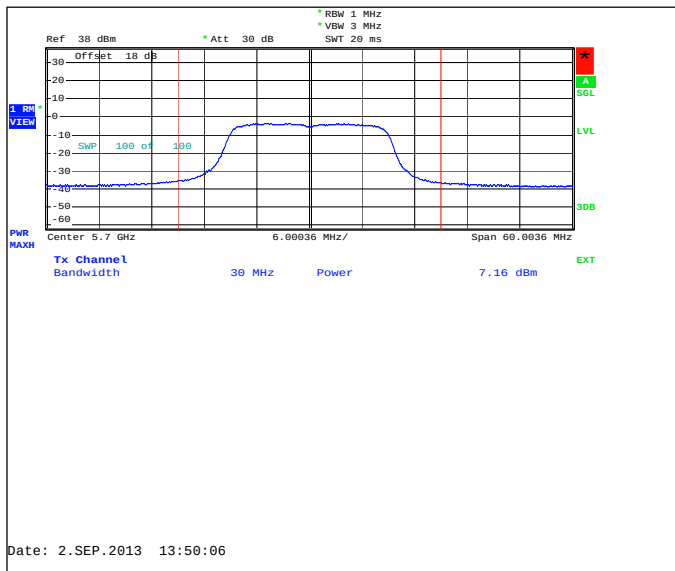
Channel 100 / 5500MHz



Channel 116 / 5580MHz



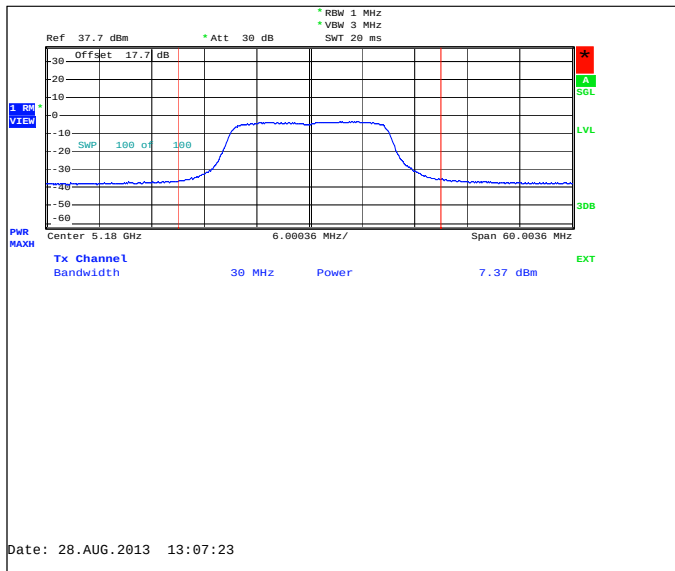
Channel 140 / 5700MHz



2.6.15 802.11n mode, 64QAM modulation, 58.5 / 65.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.37	5.458	PASSED

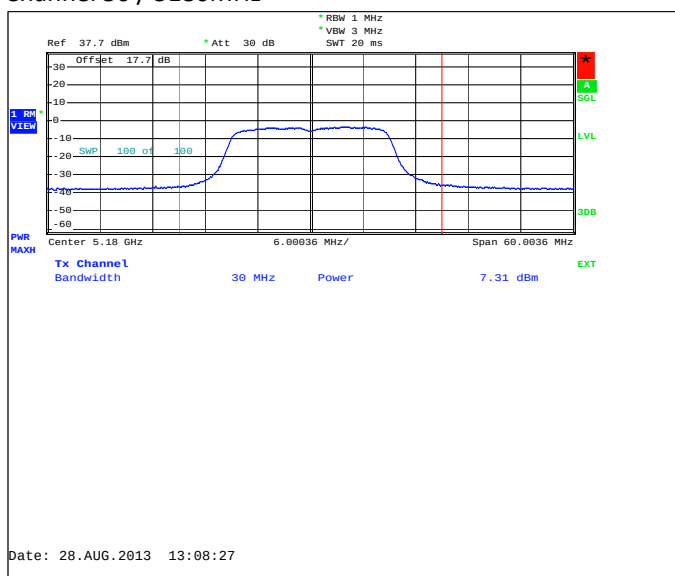
Channel 36 / 5180MHz



2.6.16 802.11n mode, 64QAM modulation, 65.0 / 72.2 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36 / 5180	7.31	5.383	PASSED

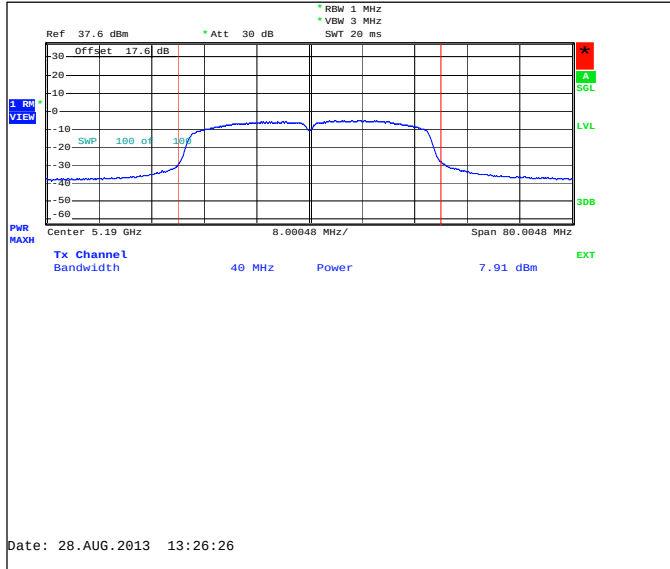
Channel 36 / 5180MHz



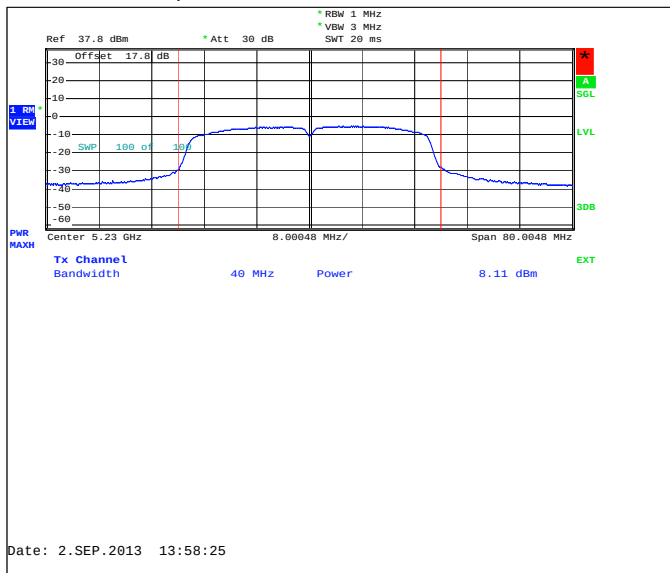
2.6.17 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	7.91	6.18	PASSED
44+48 / 5230	8.11	6.471	PASSED
52+56 / 5270	8.56	7.178	PASSED
60+64 / 5310	7.97	6.266	PASSED
100+104 / 5510	9.44	8.79	PASSED
108+112 / 5550	8.9	7.762	PASSED
132+136 / 5670	7.43	5.534	PASSED

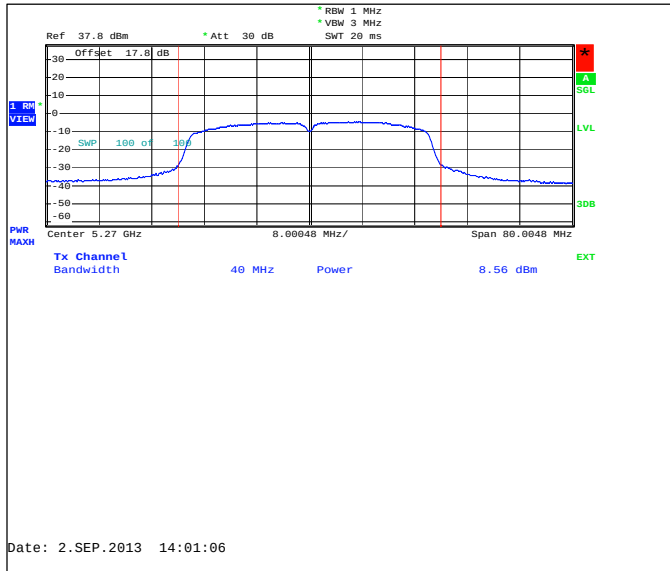
Channel 36+40 / 5190MHz



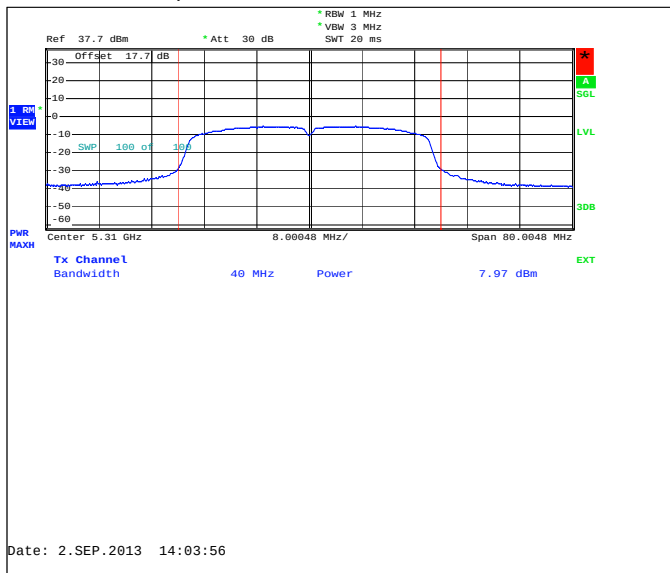
Channel 44+48 / 5230MHz



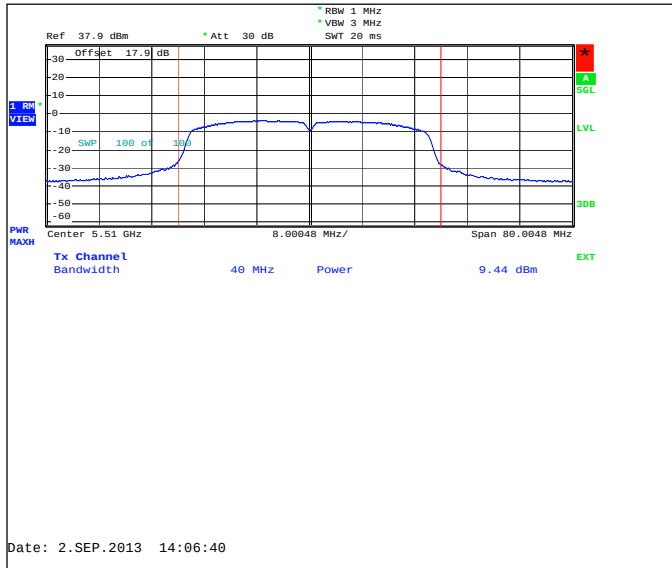
Channel 52+56 / 5270MHz



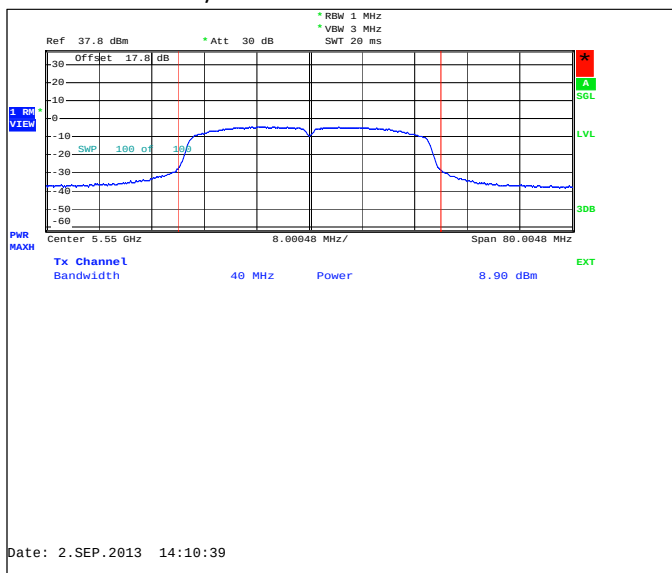
Channel 60+64 / 5310MHz



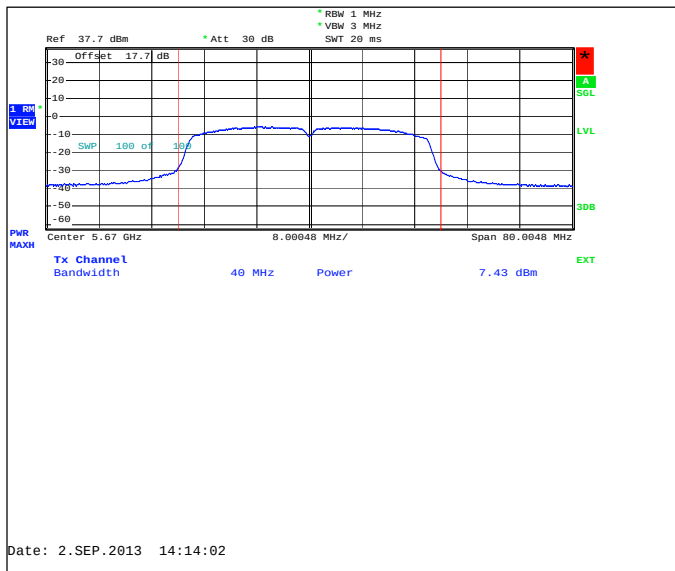
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



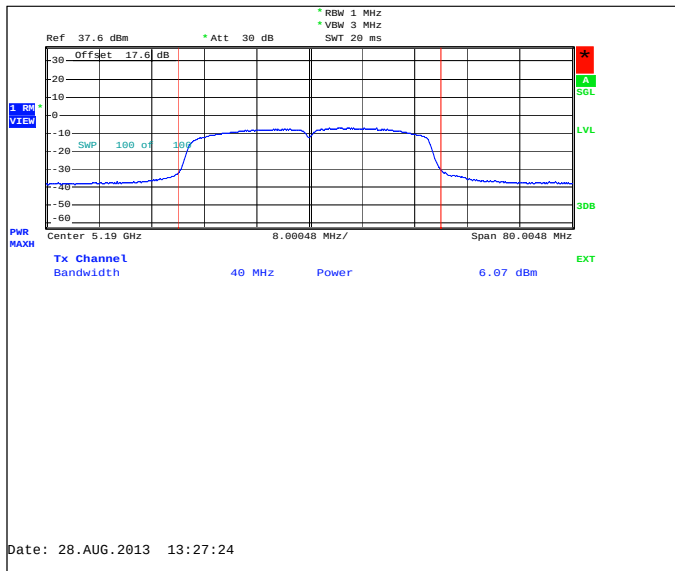
Channel 132+136 / 5670MHz



2.6.18 802.11n mode, QPSK modulation, 27.0 / 30.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	6.07	4.046	PASSED

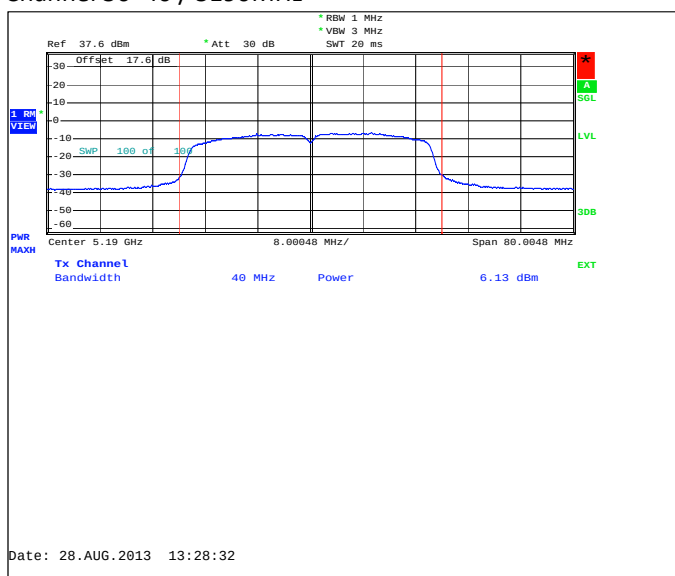
Channel 36+40 / 5190MHz



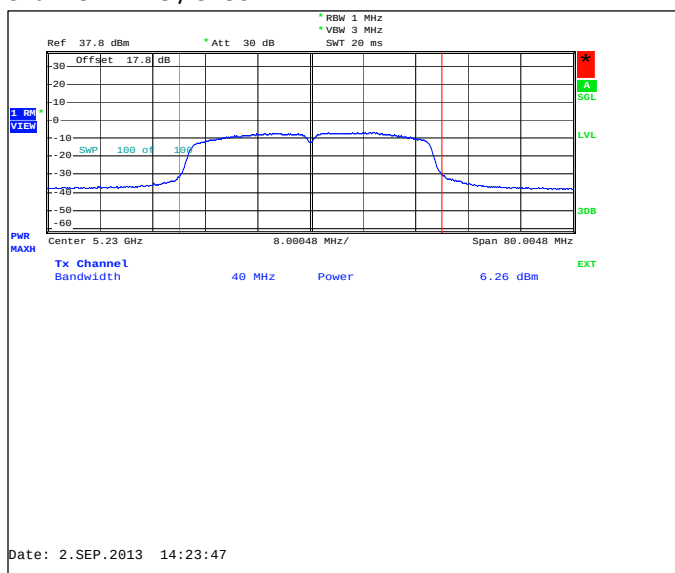
2.6.19 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	6.13	4.102	PASSED
44+48 / 5230	6.26	4.227	PASSED
52+56 / 5270	6.64	4.613	PASSED
60+64 / 5310	6.33	4.295	PASSED
100+104 / 5510	7.67	5.848	PASSED
108+112 / 5550	6.96	4.966	PASSED
132+136 / 5670	5.63	3.656	PASSED

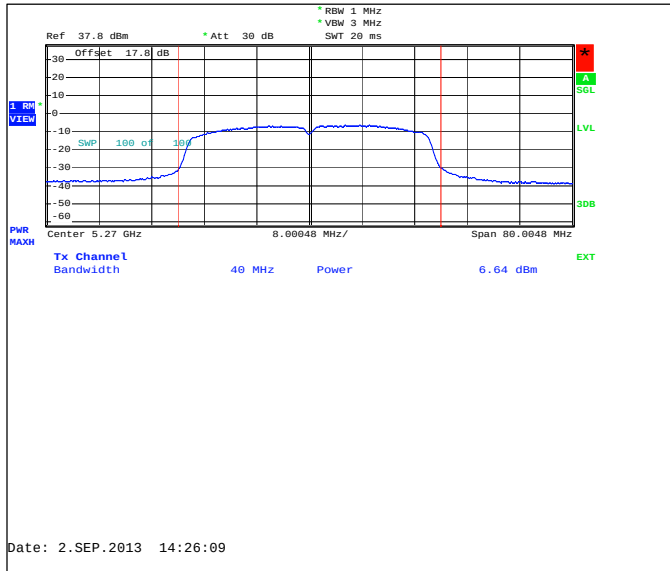
Channel 36+40 / 5190MHz



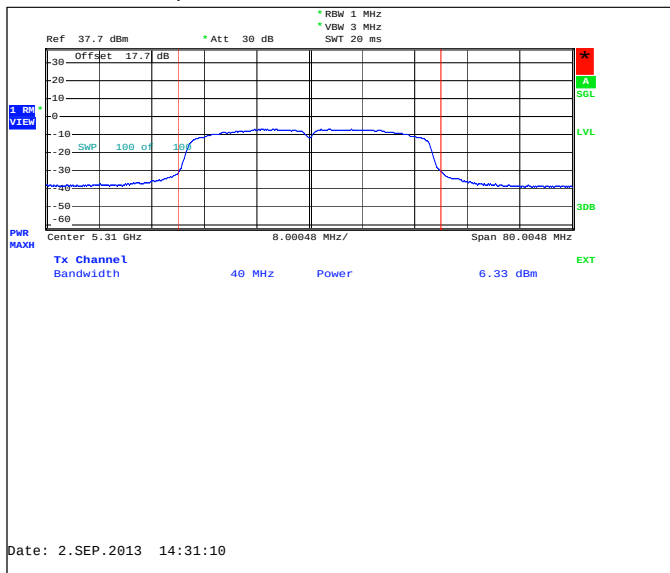
Channel 44+48 / 5230MHz



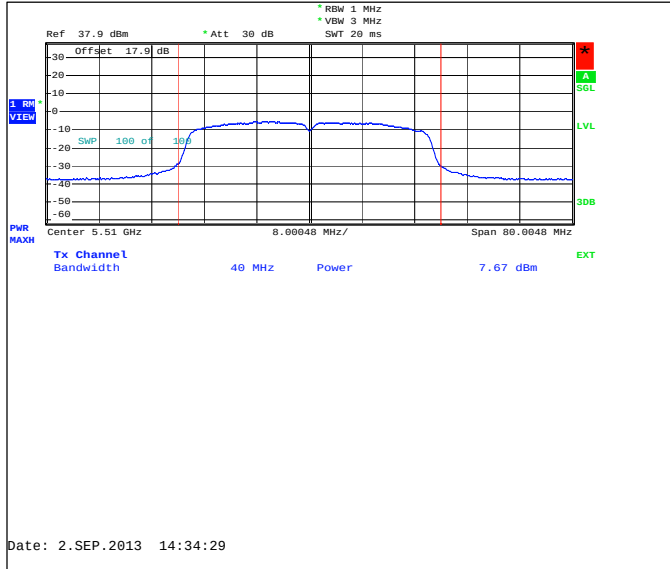
Channel 52+56 / 5270MHz



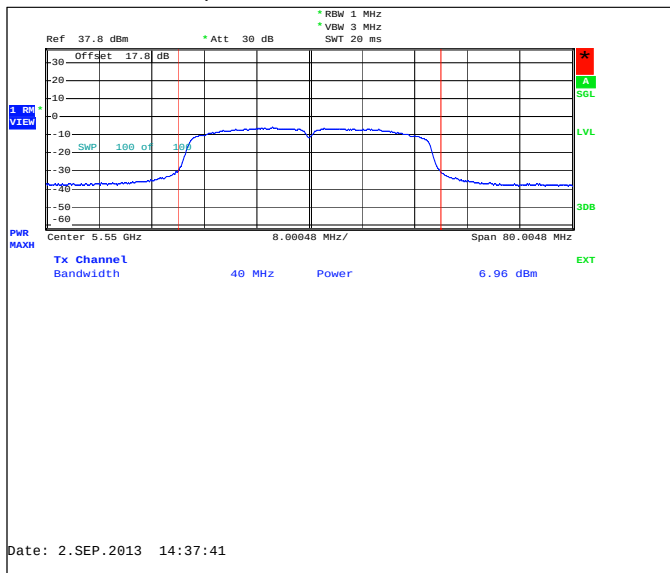
Channel 60+64 / 5310MHz



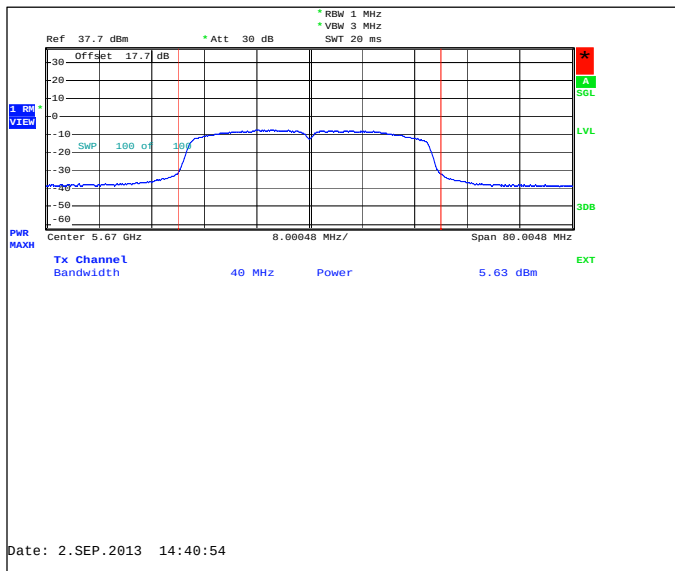
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



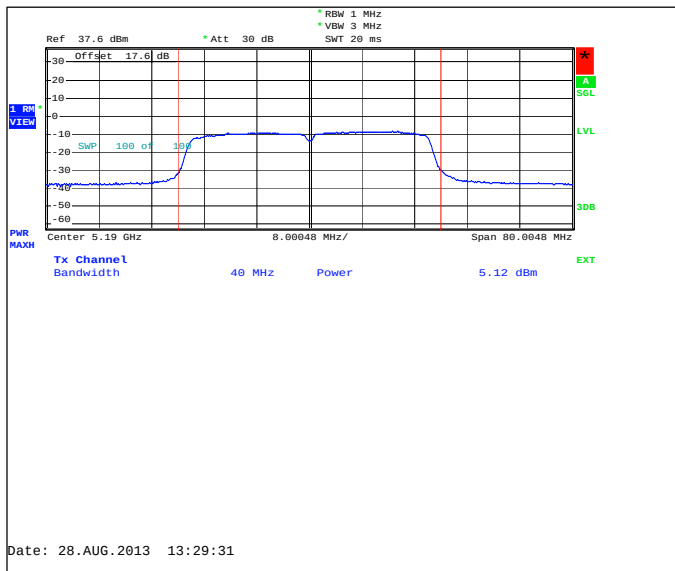
Channel 132+136 / 5670MHz



2.6.20 802.11n mode, 16QAM modulation, 54.0 / 60.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.12	3.251	PASSED

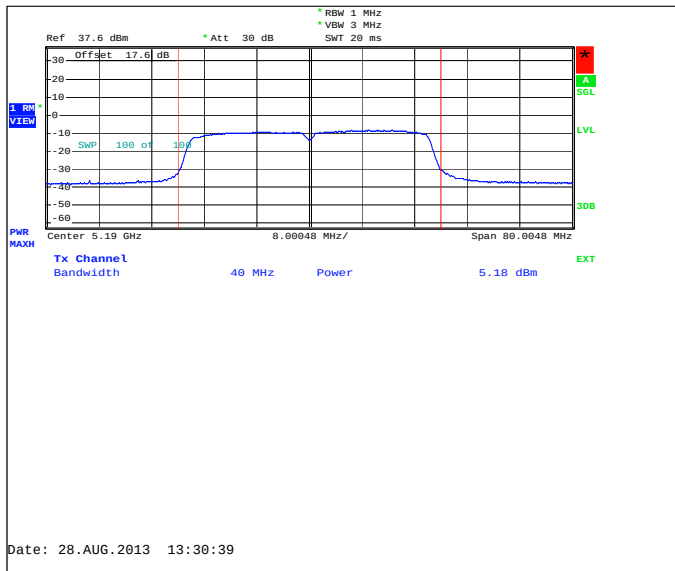
Channel 36+40 / 5190MHz



2.6.21 802.11n mode, 16QAM modulation, 81.0 / 90.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.18	3.296	PASSED

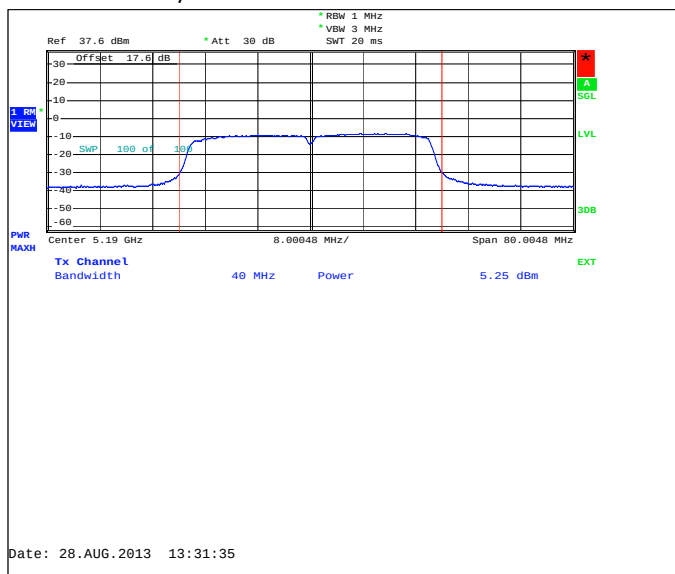
Channel 36+40 / 5190MHz



2.6.22 802.11n mode, 64QAM modulation, 108.0 / 120.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	5.25	3.35	PASSED

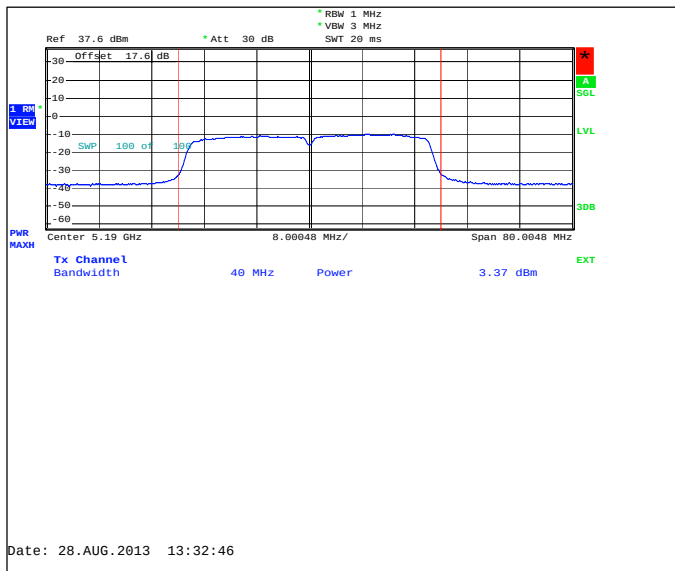
Channel 36+40 / 5190MHz



2.6.23 802.11n mode, 64QAM modulation, 121.5 / 135.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	3.37	2.173	PASSED

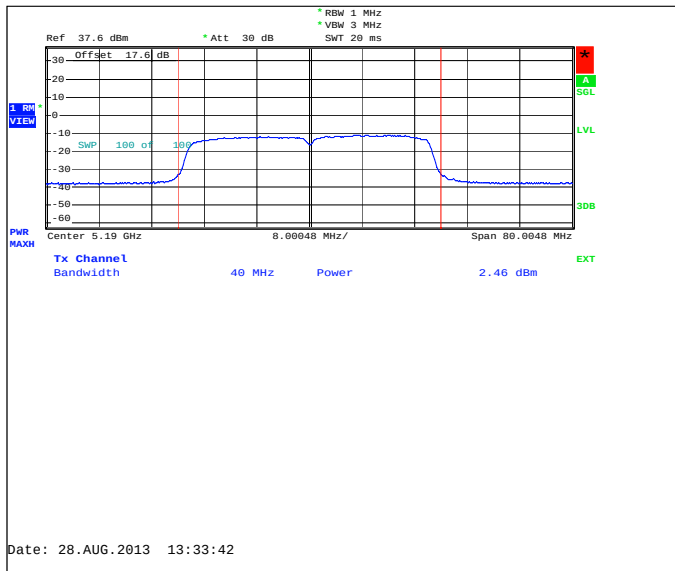
Channel 36+40 / 5190MHz



2.6.24 802.11n mode, 64QAM modulation, 135.0 / 150.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	2.46	1.762	PASSED

Channel 36+40 / 5190MHz



2.7. 5 GHz RLAN Test results, Combined results

2.7.1 802.11a mode, BPSK modulation, 6 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Directional Gain [dBi]	SUM+DIR gain	Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux			
36 / 5180	8.61	7.261	8.24	6.668	11.439	13.92	2.8	2.77	2.8	14.239	PASSED
40 / 5200	9.63	9.183	8.15	6.531	11.962	15.71	2.8	2.77	2.8	14.763	PASSED
48 / 5240	9.51	8.933	8.46	7.015	12.027	15.95	2.8	2.77	2.8	14.827	PASSED
52 / 5260	9.16	8.241	8.52	7.112	11.862	15.35	2.8	2.77	2.8	14.662	PASSED
60 / 5300	8.95	7.852	8.39	6.902	11.689	14.75	2.8	2.77	2.8	14.490	PASSED
64 / 5320	9.04	8.017	8.28	6.73	11.687	14.75	2.8	2.77	2.8	14.487	PASSED
100 / 5500	10.1	10.23	10.37	10.89	13.247	21.12	2.8	2.77	2.8	16.047	PASSED
116 / 5580	10.38	10.91	8.76	7.516	12.655	18.43	2.8	2.77	2.8	15.455	PASSED
140 / 5700	10.39	10.94	7.34	5.42	12.138	16.36	2.8	2.77	2.8	14.938	PASSED

2.7.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Directional Gain [dBi]	SUM+DIR gain	Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux			
36 / 5180	8.13	6.501	8.33	6.808	11.241	13.31	2.8	2.77	2.8	14.041	PASSED
40 / 5200	9.24	8.395	7.82	6.053	11.598	14.45	2.8	2.77	2.8	14.398	PASSED
48 / 5240	9.13	8.185	8.36	6.855	11.772	15.04	2.8	2.77	2.8	14.572	PASSED
52 / 5260	8.87	7.709	8.4	6.918	11.652	14.63	2.8	2.77	2.8	14.452	PASSED
60 / 5300	8.63	7.295	8.46	7.015	11.556	14.31	2.8	2.77	2.8	14.356	PASSED
64 / 5320	8.66	7.345	8.24	6.668	11.465	14.01	2.8	2.77	2.8	14.265	PASSED
100 / 5500	9.89	9.75	10.53	11.298	13.232	21.05	2.8	2.77	2.8	16.032	PASSED
116 / 5580	10.14	10.33	8.64	7.311	12.465	17.64	2.8	2.77	2.8	15.265	PASSED

140 / 5700	10.15	10.35	7.16	5.2	11.918	15.55	2.8	2.77	2.8	14.718	PASSED
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2.7.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Directional Gain [dBi]	SUM+DIR gain	Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux			
36+40 / 5190	7.52	5.649	7.91	6.18	10.729	11.83	2.8	2.77	2.8	13.529	PASSED
44+48 / 5230	8.7	7.413	8.11	6.471	11.425	13.88	2.8	2.77	2.8	14.225	PASSED
52+56 / 5270	8.82	7.621	8.56	7.178	11.702	14.80	2.8	2.77	2.8	14.502	PASSED
60+64 / 5310	8.69	7.396	7.97	6.266	11.355	13.66	2.8	2.77	2.8	14.155	PASSED
100+104 / 5510	9.8	9.55	9.44	8.79	12.634	18.34	2.8	2.77	2.8	15.434	PASSED
132+136 / 5670	9.94	9.863	8.9	7.762	12.461	17.63	2.8	2.77	2.8	15.261	PASSED
108+112 / 5550	10.21	10.50	7.43	5.534	12.049	16.03	2.8	2.77	2.8	14.849	PASSED

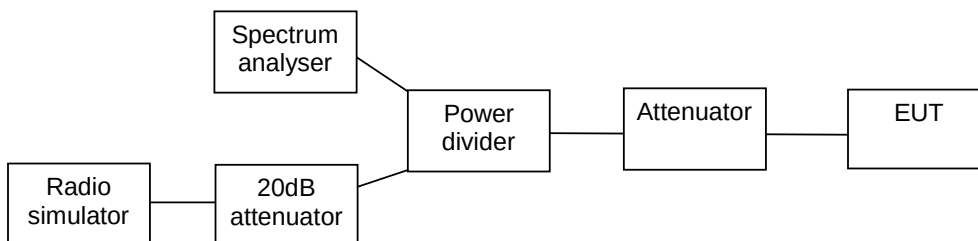
2.7.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Directional Gain [dBi]	SUM+DIR gain	Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux			
36+40 / 5190	5.81	3.811	6.13	4.102	8.983	7.913	2.8	2.77	2.8	11.783	PASSED
44+48 / 5230	6.99	5	6.26	4.227	9.651	9.227	2.8	2.77	2.8	12.451	PASSED
52+56 / 5270	7.16	5.2	6.64	4.613	9.918	9.813	2.8	2.77	2.8	12.718	PASSED
60+64 / 5310	7.03	5.047	6.33	4.295	9.704	9.342	2.8	2.77	2.8	12.504	PASSED
100+104 / 5510	8.17	6.561	7.67	5.848	10.937	12.41	2.8	2.77	2.8	13.737	PASSED
108+112 / 5550	8.41	6.934	6.96	4.966	10.755	11.9	2.8	2.77	2.8	13.555	PASSED
132+136 / 5670	8.13	6.501	5.63	3.656	10.068	10.16	2.8	2.77	2.8	12.868	PASSED

3. Peak excursion (FCC §15.407 (a), RSS-210 A9.2)

EUT with DUT number	RX-114, DUT 17629
Accessories with DUT numbers	WH-208, DUT 17355
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	18 / 63 / 101.4
Date of measurements	30-Aug-2013
Measured by	Jari Keto

3.1. Test Setup



3.2. Test method and limit

The measurement is made according to Public Notice KDB 789033 D01 and IC standard RSS-210.

Limits for peak excursion measurements

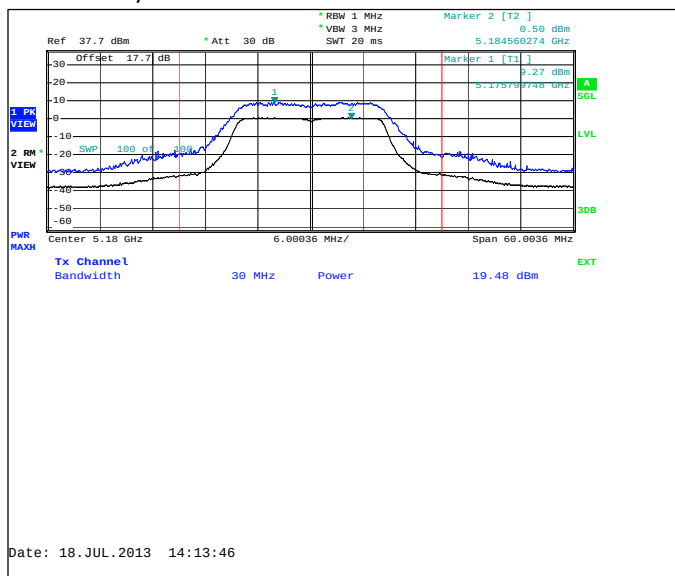
Limit [dB]
<= 13

3.3. 5 GHz RLAN Test results, Main Antenna

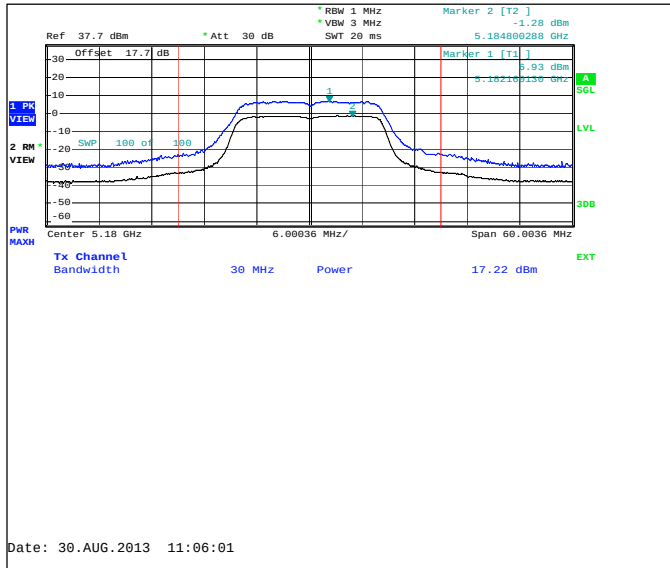
3.3.1 802.11a mode, BPSK modulation, 6 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36 / 5180	8.22	PASSED
40 / 5200	7.86	PASSED
48 / 5240	7.59	PASSED
52 / 5260	7.99	PASSED
60 / 5300	7.93	PASSED
64 / 5320	7.9	PASSED
100 / 5500	8.02	PASSED
116 / 5580	8.14	PASSED
140 / 5700	7.96	PASSED

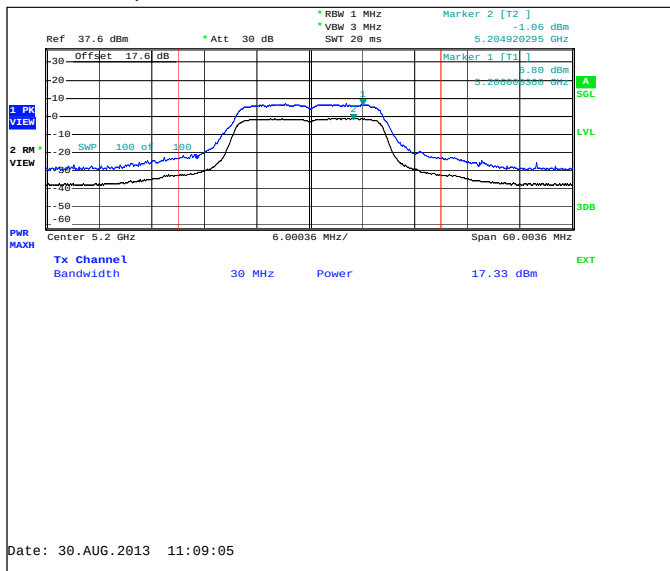
Channel 36 / 5180MHz



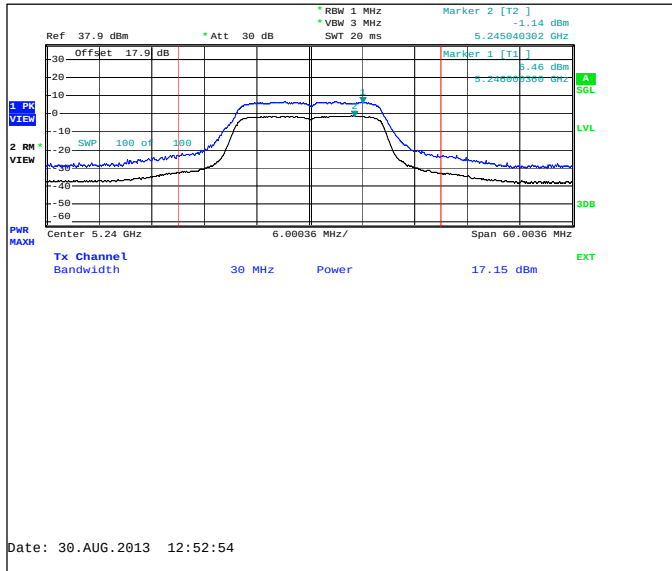
Channel 36 / 5180MHz



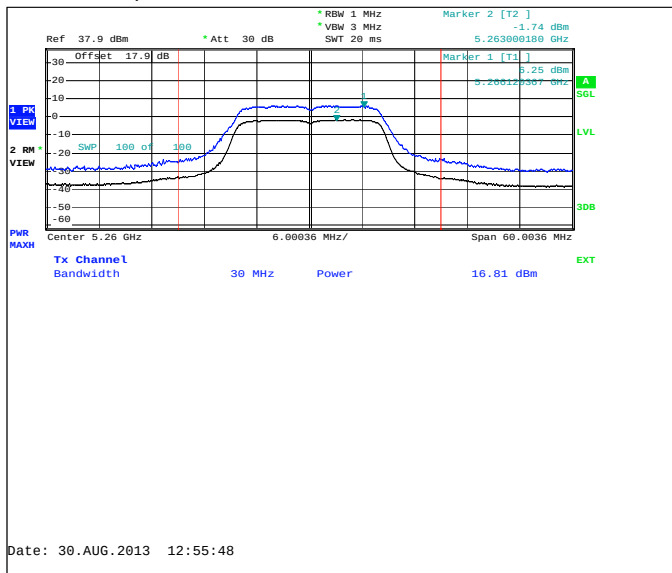
Channel 40 / 5200MHz



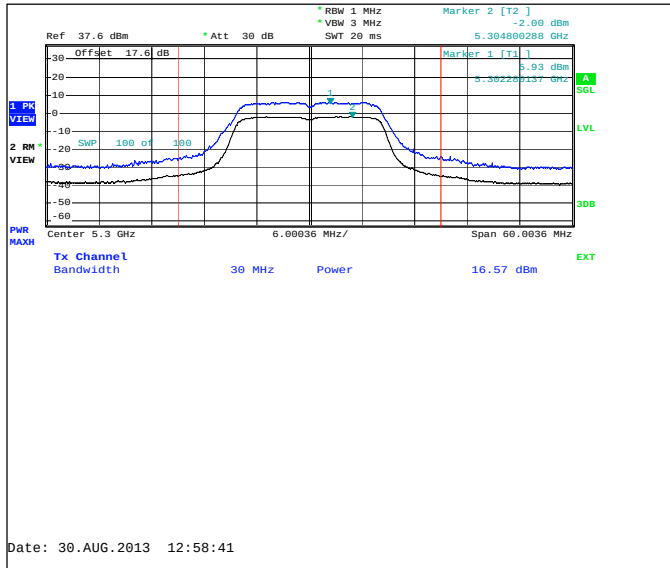
Channel 48 / 5240MHz



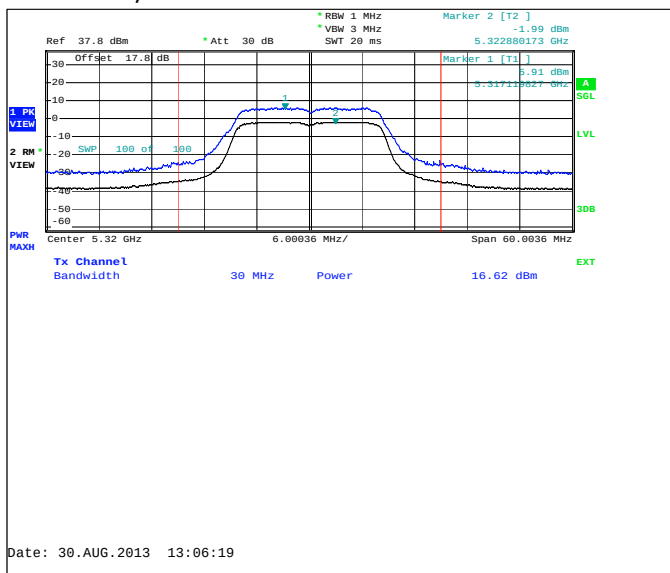
Channel 52 / 5260MHz



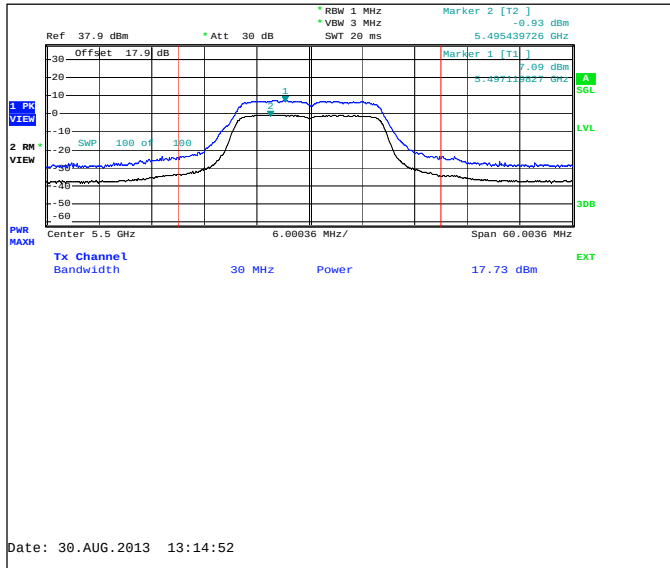
Channel 60 / 5300MHz



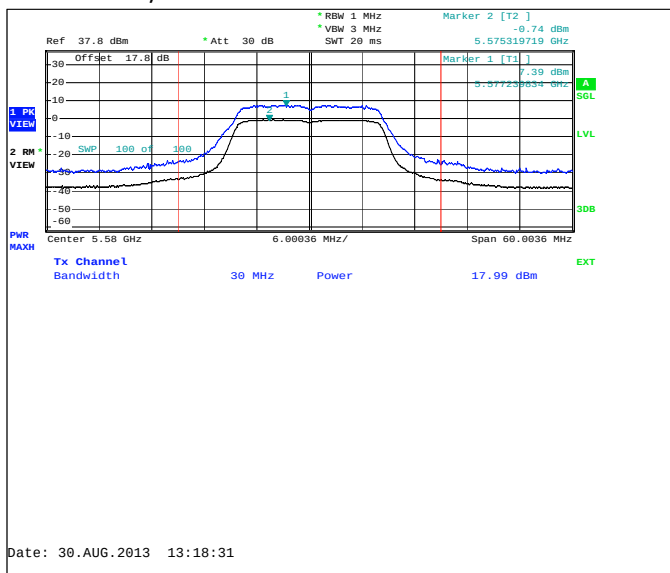
Channel 64 / 5320MHz



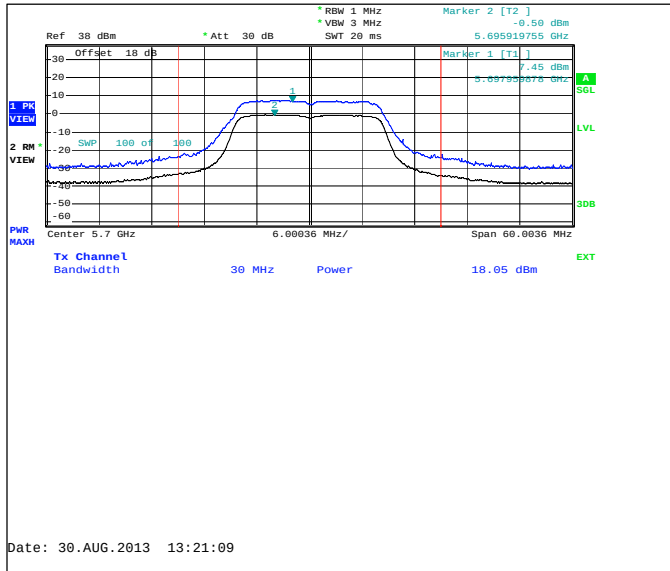
Channel 100 / 5500MHz



Channel 116 / 5580MHz



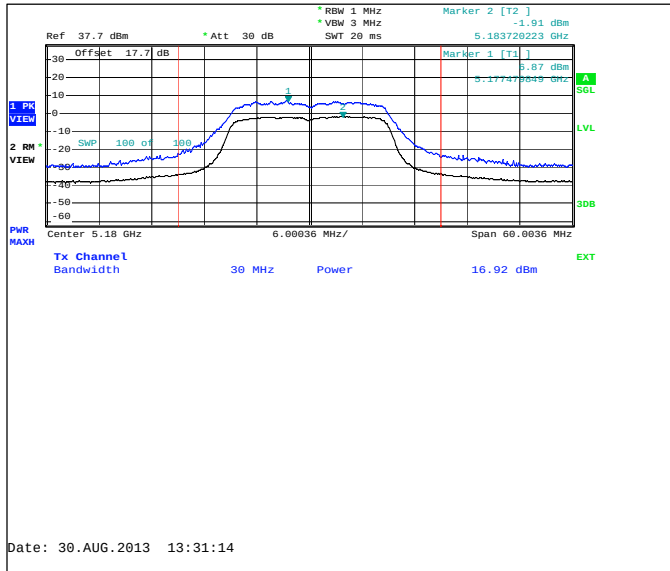
Channel 140 / 5700MHz



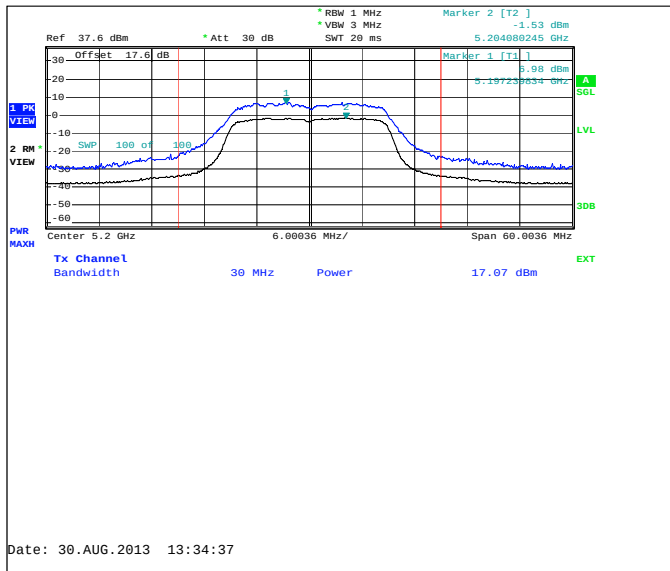
3.3.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36 / 5180	8.78	PASSED
40 / 5200	8.52	PASSED
48 / 5240	8.61	PASSED
52 / 5260	8.45	PASSED
60 / 5300	8.96	PASSED
64 / 5320	8.62	PASSED
100 / 5500	8.79	PASSED
116 / 5580	8.98	PASSED
140 / 5700	8.6	PASSED

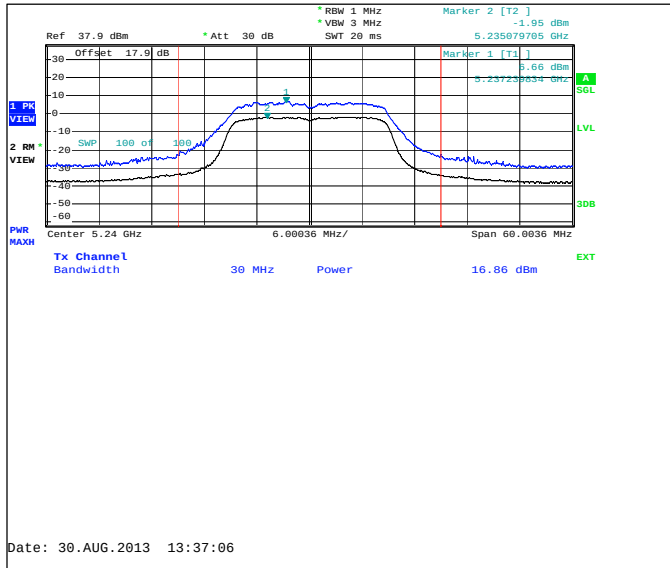
Channel 36 / 5180MHz



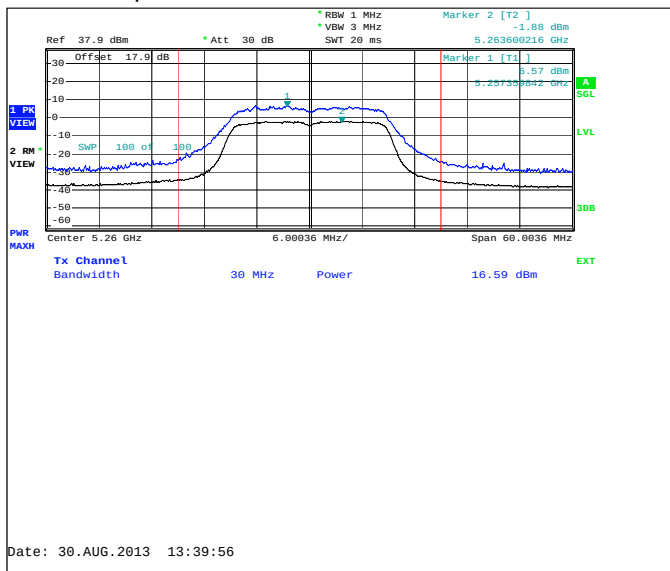
Channel 40 / 5200MHz



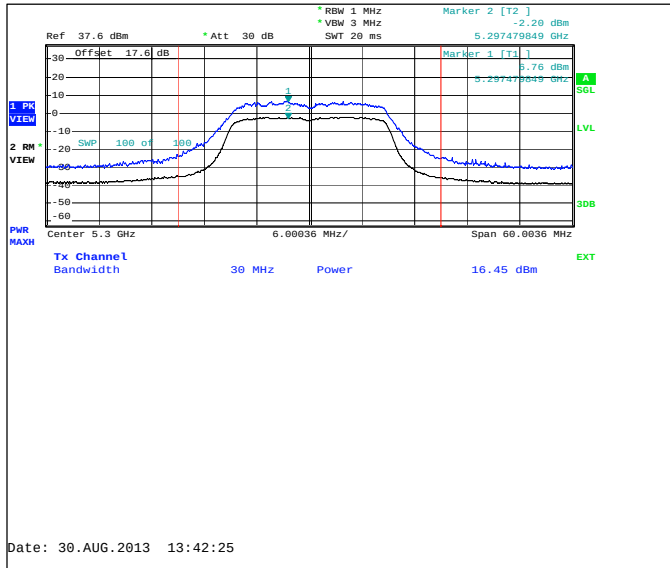
Channel 48 / 5240MHz



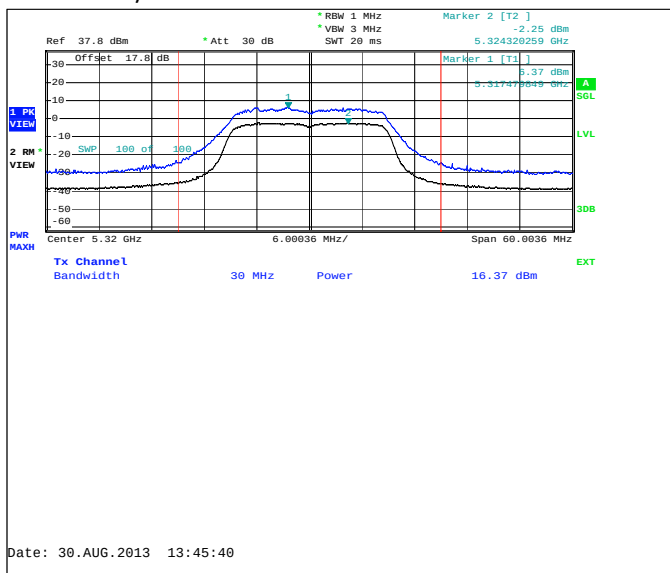
Channel 52 / 5260MHz



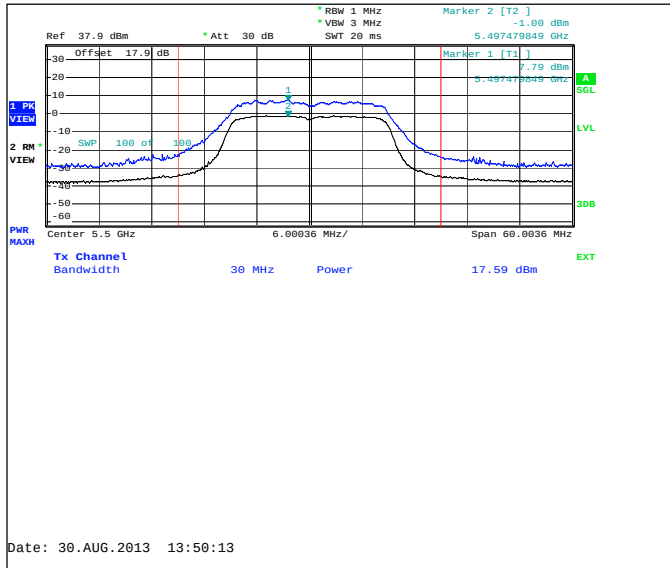
Channel 60 / 5300MHz



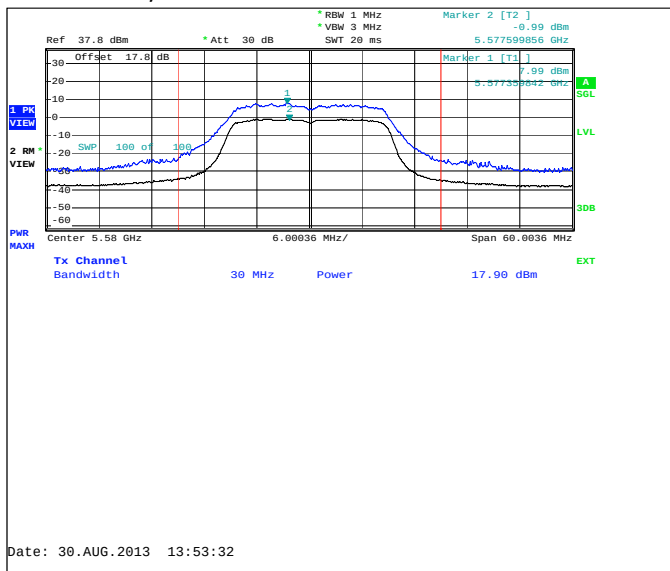
Channel 64 / 5320MHz



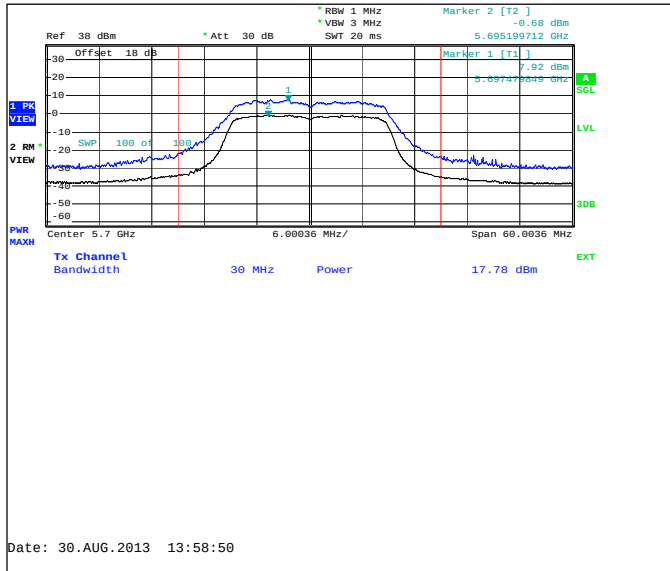
Channel 100 / 5500MHz



Channel 116 / 5580MHz



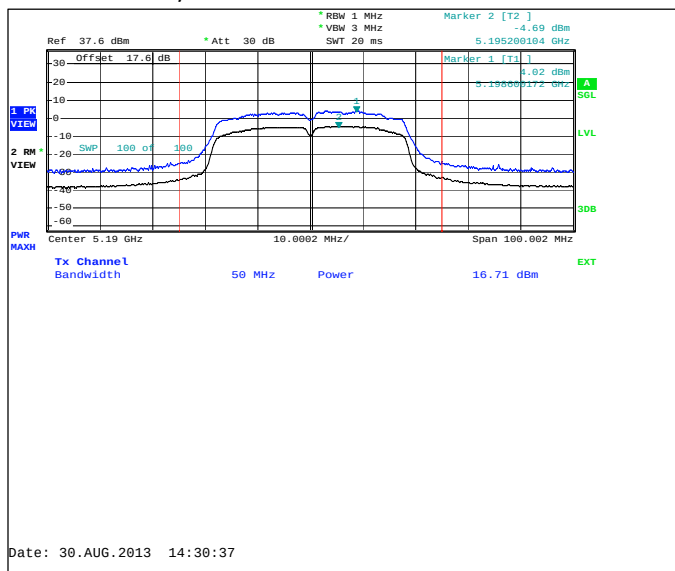
Channel 140 / 5700MHz



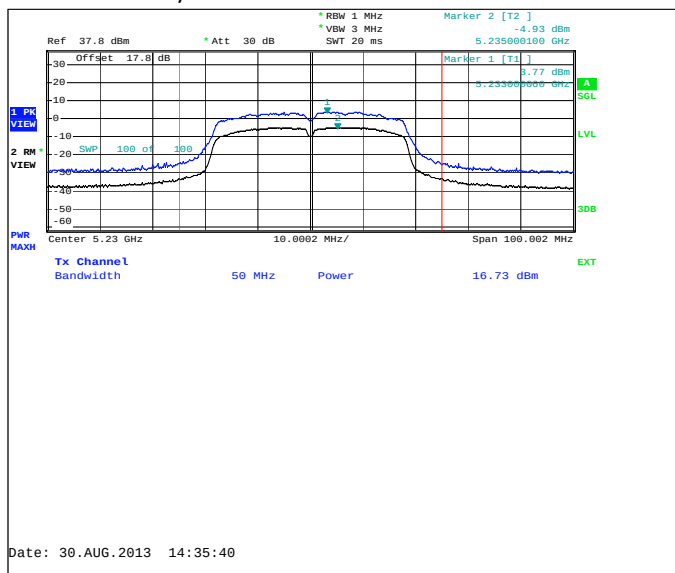
3.3.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36+40 / 5190	8.72	PASSED
44+48 / 5230	8.7	PASSED
52+56 / 5270	8.7	PASSED
60+64 / 5310	8.8	PASSED
100+104 / 5510	8.47	PASSED
132+136 / 5670	8.64	PASSED
108+112 / 5550	8.37	PASSED

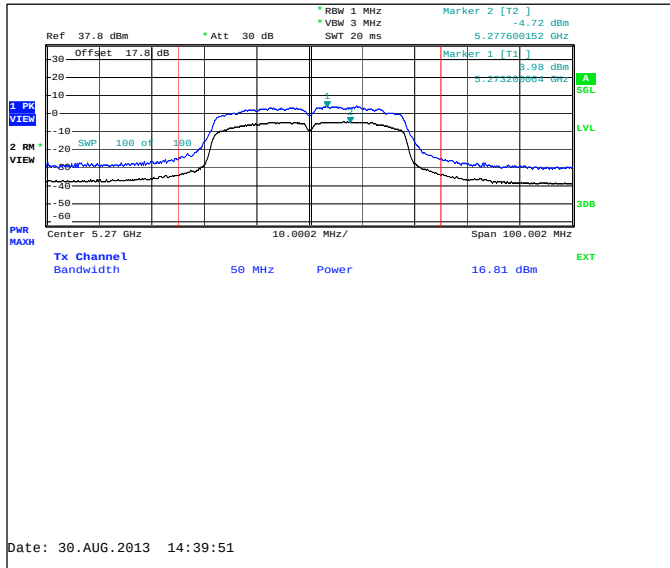
Channel 36+40 / 5190MHz



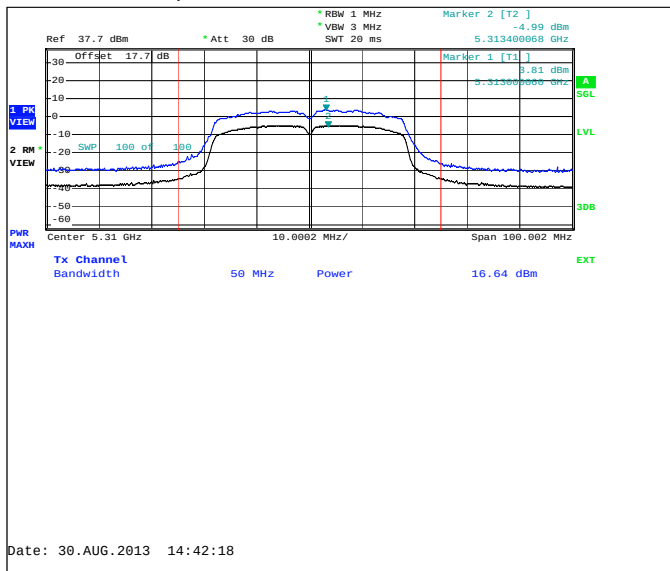
Channel 44+48 / 5230MHz



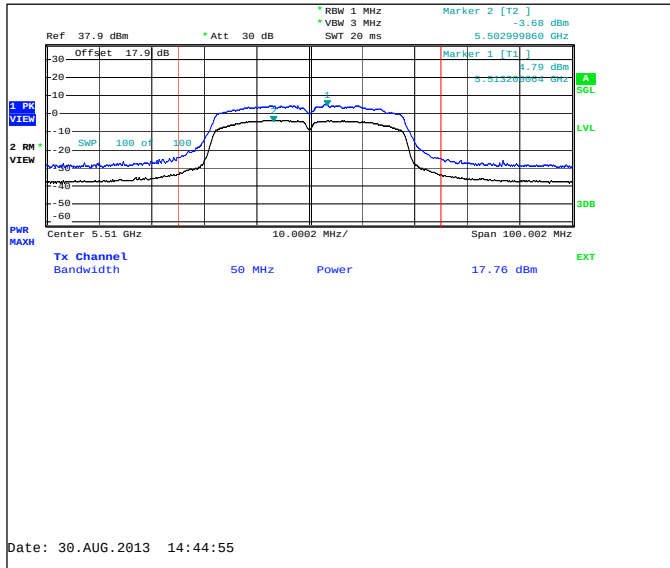
Channel 52+56 / 5270MHz



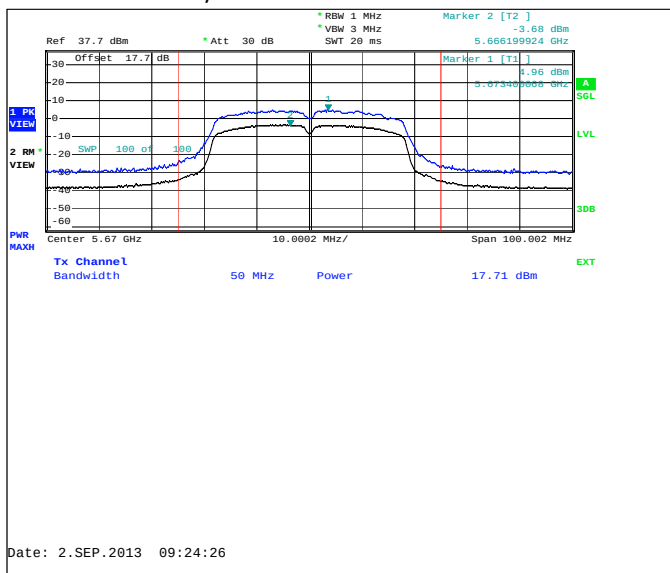
Channel 60+64 / 5310MHz



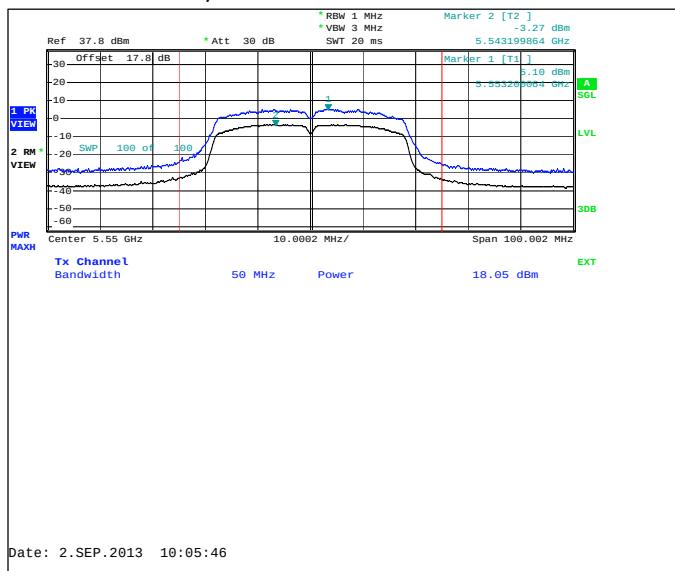
Channel 100+104 / 5510MHz



Channel 132+136 / 5670MHz



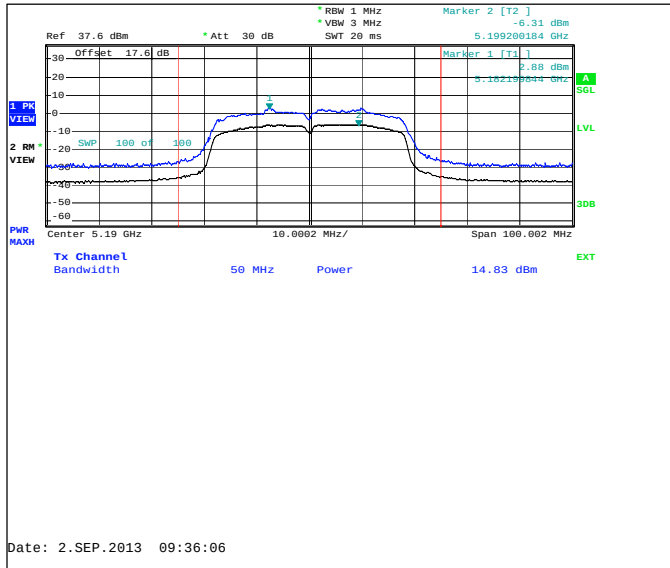
Channel 108+112 / 5550MHz



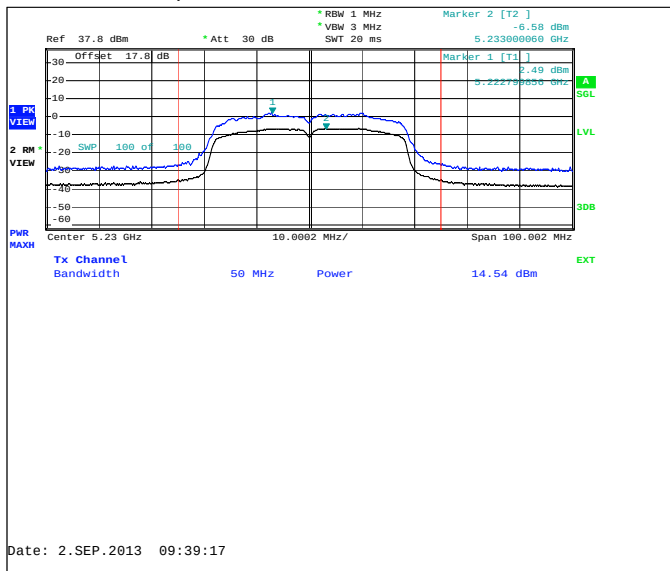
3.3.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36+40 / 5190	9.19	PASSED
44+48 / 5230	9.07	PASSED
52+56 / 5270	9.41	PASSED
60+64 / 5310	9.22	PASSED
100+104 / 5510	9.5	PASSED
108+112 / 5550	9.39	PASSED
132+136 / 5670	9.27	PASSED

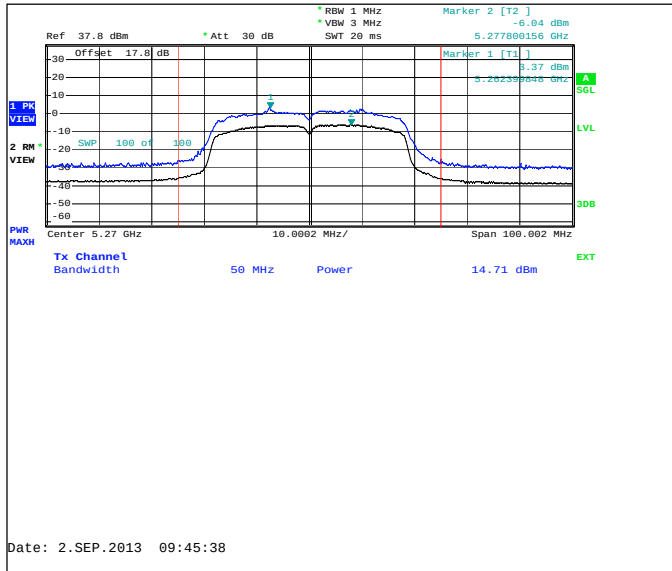
Channel 36+40 / 5190MHz



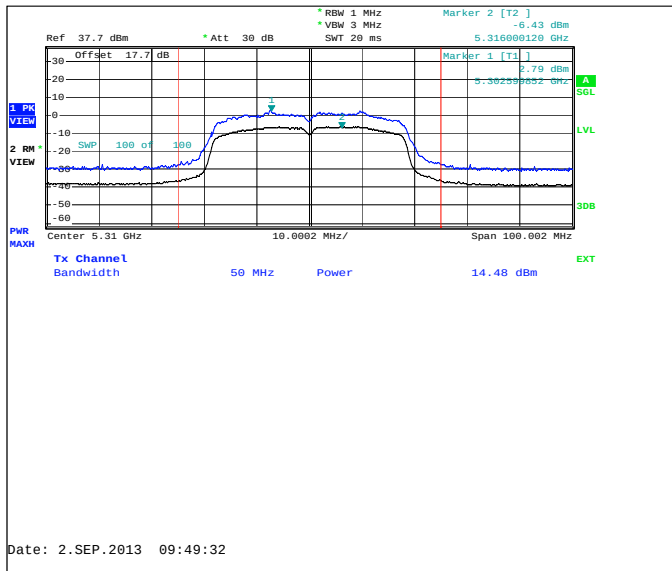
Channel 44+48 / 5230MHz



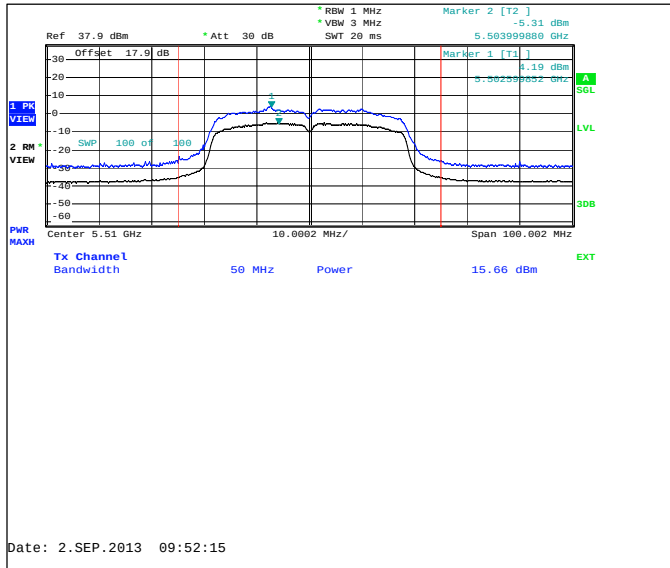
Channel 52+56 / 5270MHz



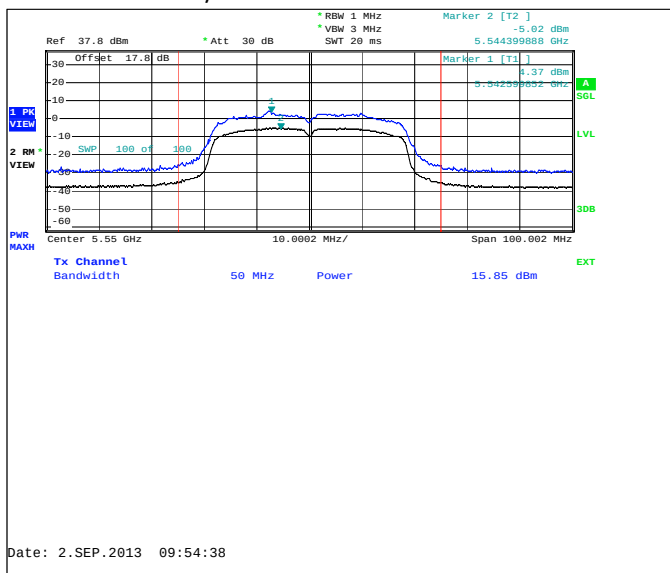
Channel 60+64 / 5310MHz



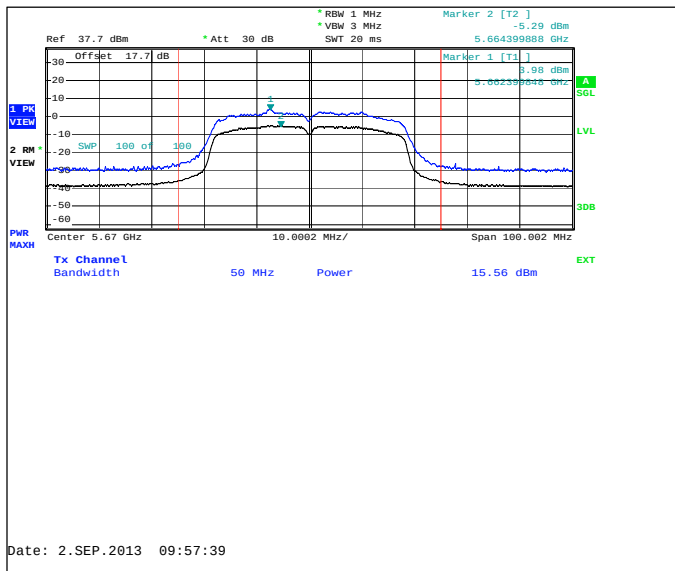
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz

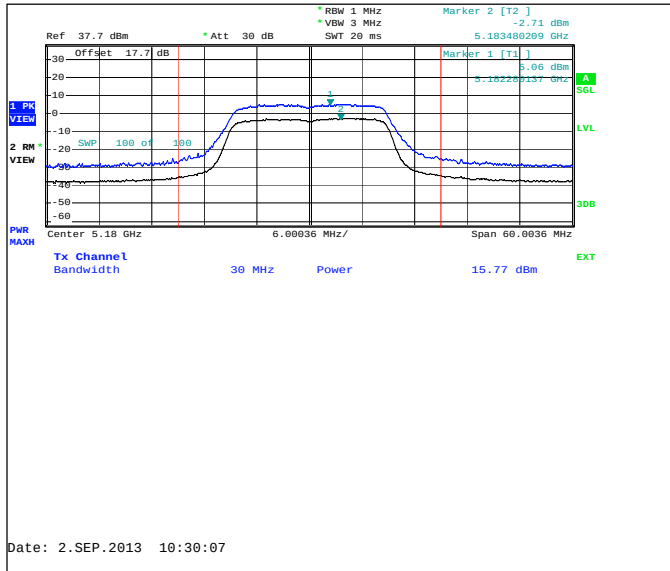


3.4. 5 GHz RLAN Test results, Aux Antenna

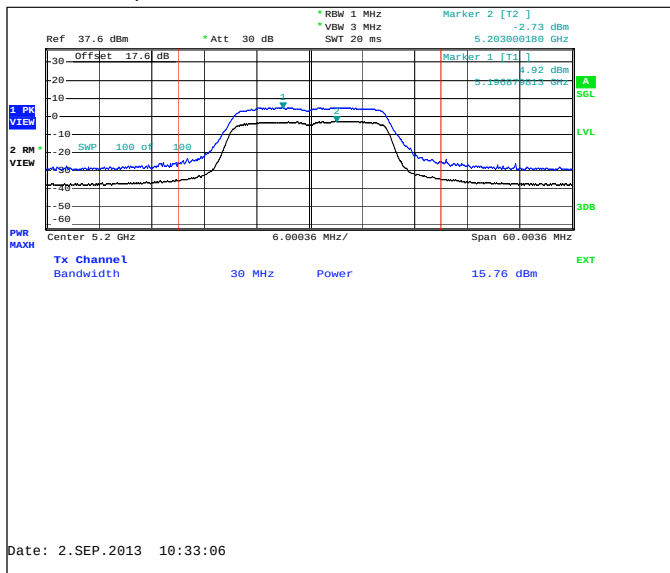
3.4.1 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36 / 5180	7.76	PASSED
40 / 5200	7.64	PASSED
48 / 5240	7.8	PASSED
52 / 5260	7.66	PASSED
60 / 5300	8	PASSED
64 / 5320	7.9	PASSED
100 / 5500	7.94	PASSED
116 / 5580	7.81	PASSED
140 / 5700	7.92	PASSED

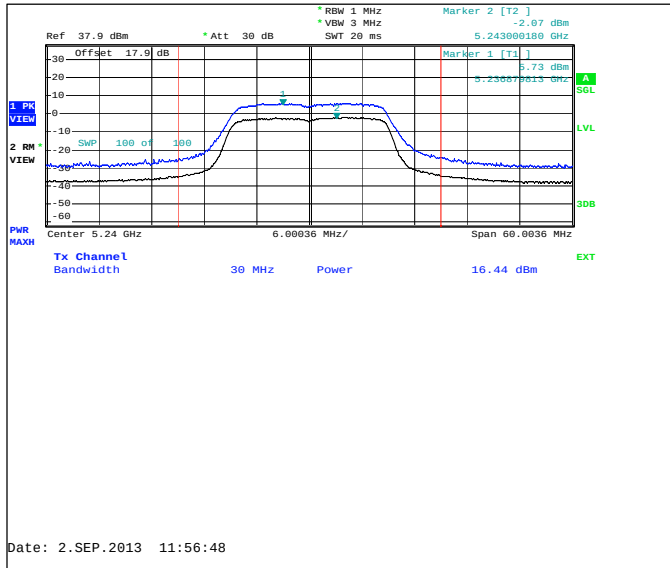
Channel 36 / 5180MHz



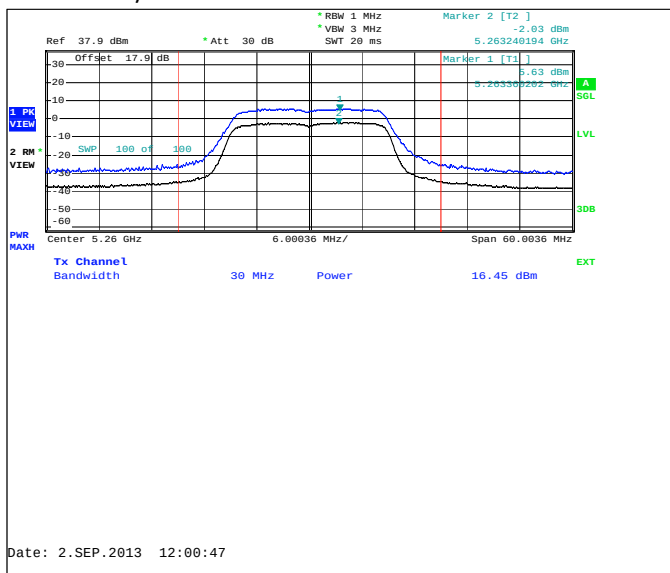
Channel 40 / 5200MHz



Channel 48 / 5240MHz



Channel 52 / 5260MHz



Ref 37.6 dBm Att 30 dB SWT 20 ms Marker 2 [T2] 5.295199712 GHz -2.06 dBm

Marker 1 [T1] 5.295199712 GHz 5.94 dBm

1 PK VIEW 2 RM VIEW

SWP 100.0% 100 100

Center 5.3 GHz 6.00036 MHz/ Span 60.0036 MHz

Tx Channel Bandwidth 30 MHz Power 16.32 dBm

EXT

30dB

LVL

SGL

Ref 37.8 dBm Att 30 dB RBW 1 MHz SWT 20 ms Marker 2 [T2] 5.316039762 GHz -2.66 dBm

Offet 17.8 dB Marker 1 [T1] 5.324 dBm 5.316799660 GHz

1 PK VIEW

2 RM VIEW

SWP 100.0 100.0

Center 5.32 GHz 6.00036 MHz/ Span 60.0036 MHz

Tx Channel Bandwidth 30 MHz Power 15.94 dBm EXT

SGL

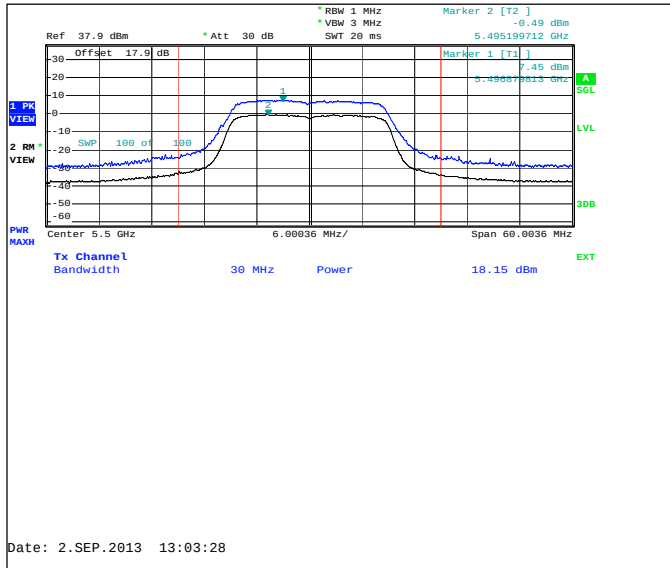
LVL

30dB

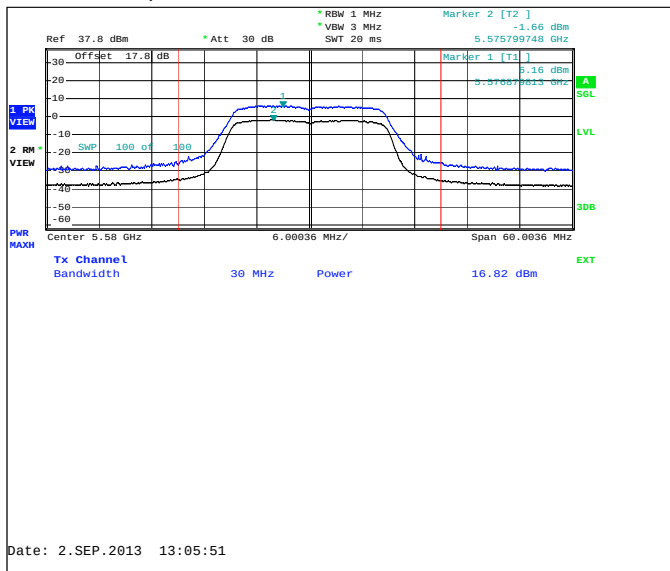
PWR MAX

Date: 2.SEP.2013 12:16:11

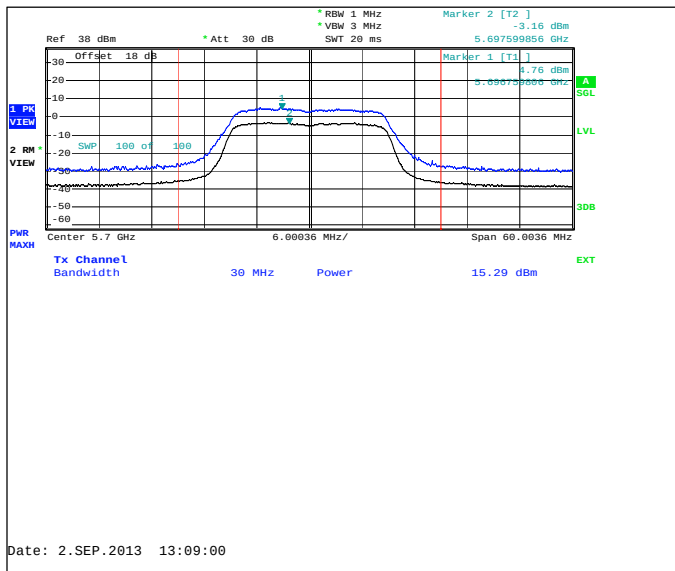
Channel 100 / 5500MHz



Channel 116 / 5580MHz



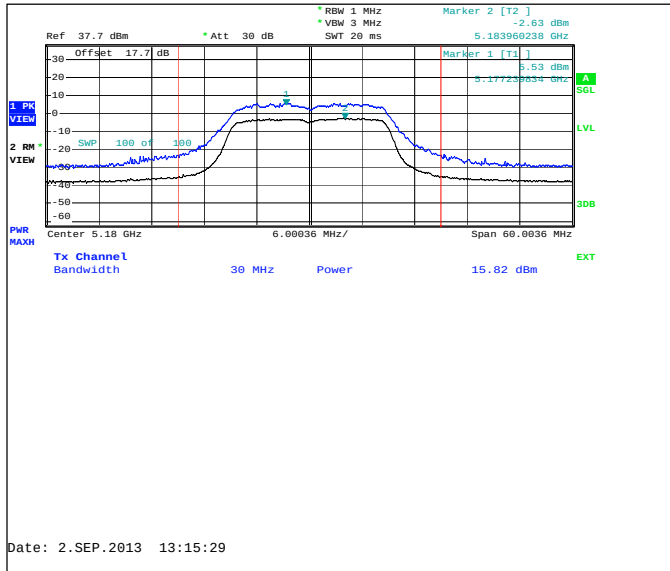
Channel 140 / 5700MHz



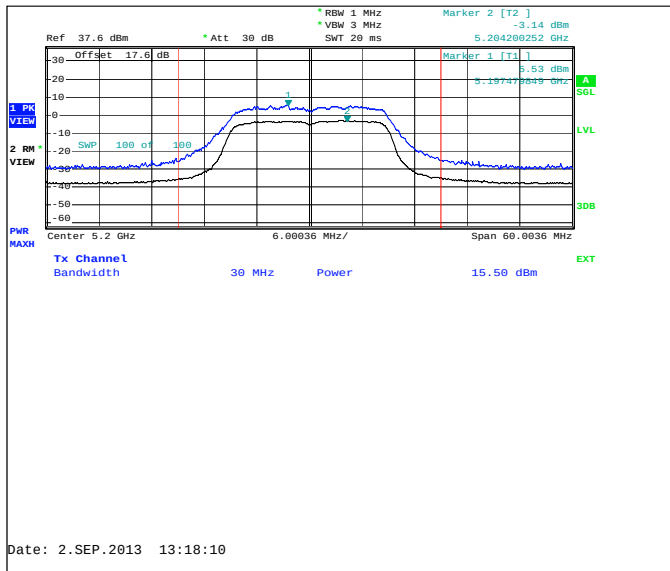
3.4.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36 / 5180	8.16	PASSED
40 / 5200	8.67	PASSED
48 / 5240	8.43	PASSED
52 / 5260	8.59	PASSED
60 / 5300	8.92	PASSED
64 / 5320	8.86	PASSED
100 / 5500	9.12	PASSED
116 / 5580	8.86	PASSED
140 / 5700	8.99	PASSED

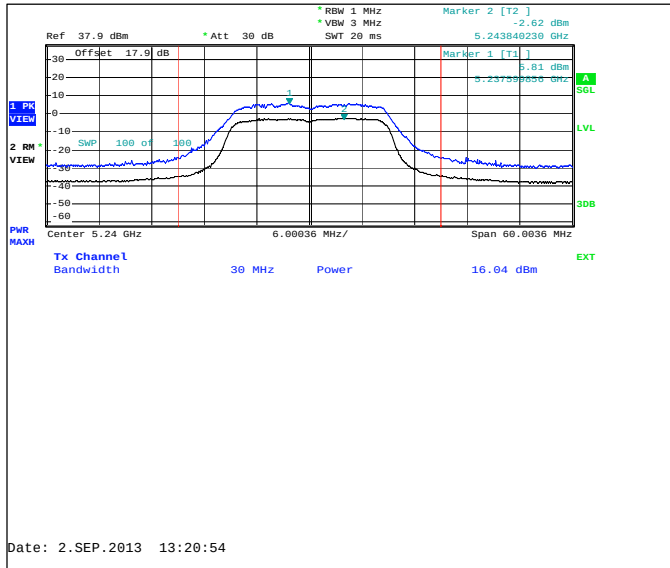
Channel 36 / 5180MHz



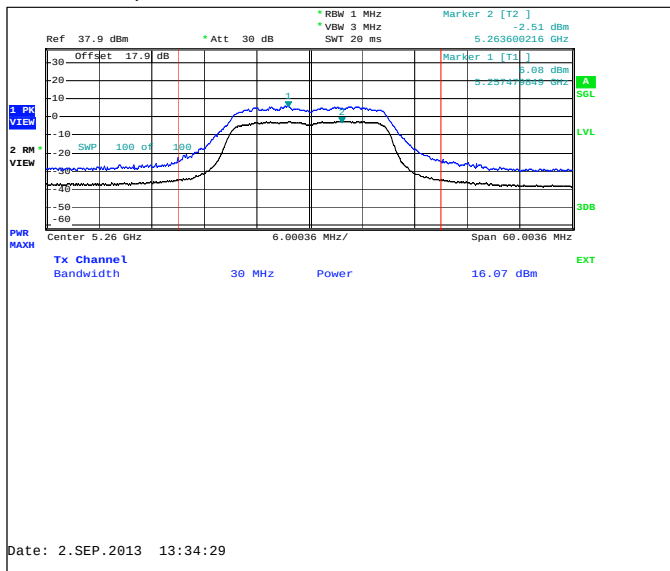
Channel 40 / 5200MHz



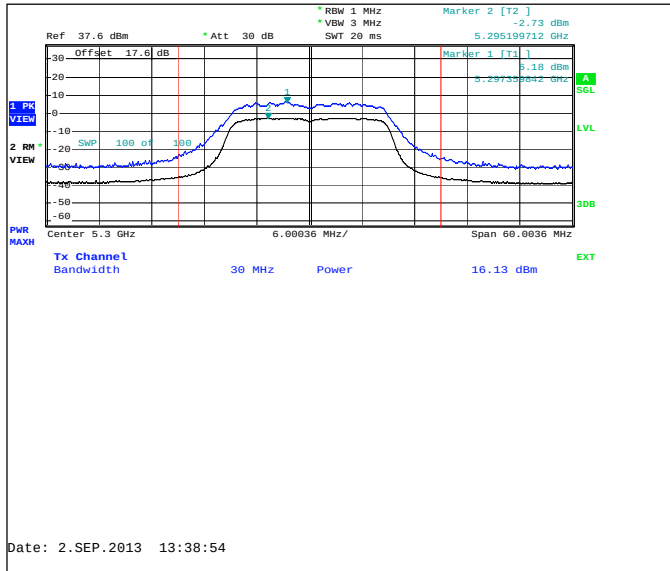
Channel 48 / 5240MHz



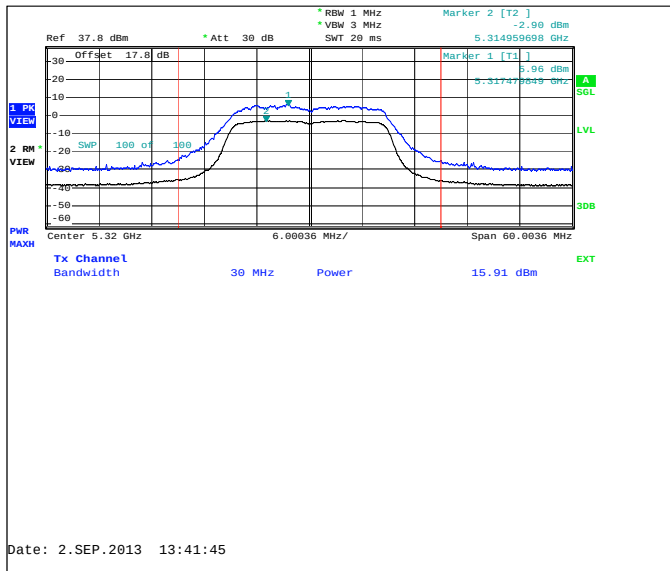
Channel 52 / 5260MHz



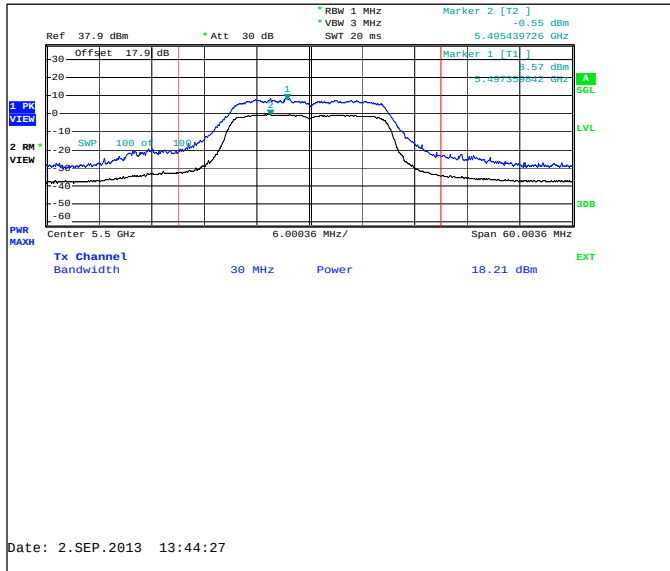
Channel 60 / 5300MHz



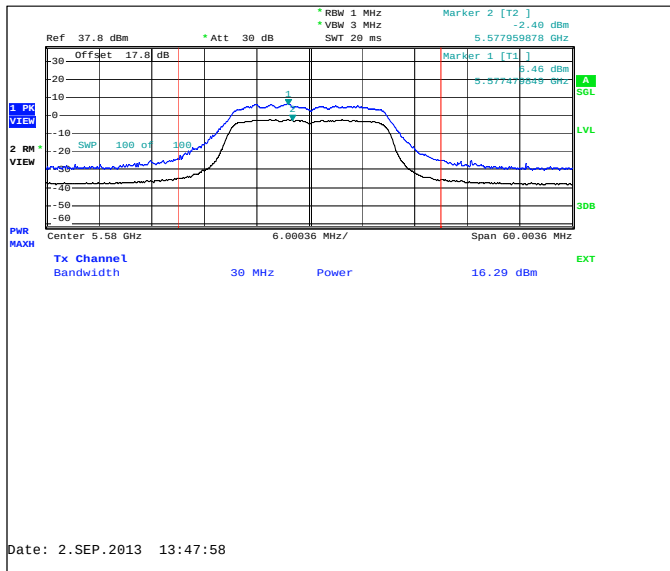
Channel 64 / 5320MHz



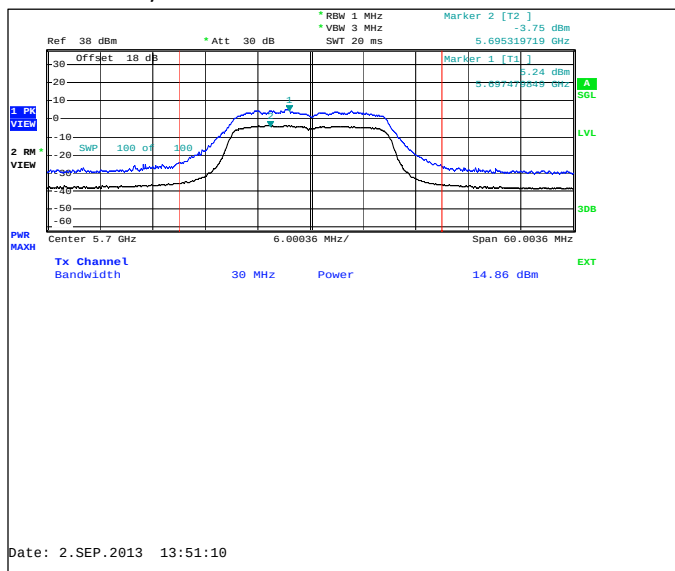
Channel 100 / 5500MHz



Channel 116 / 5580MHz



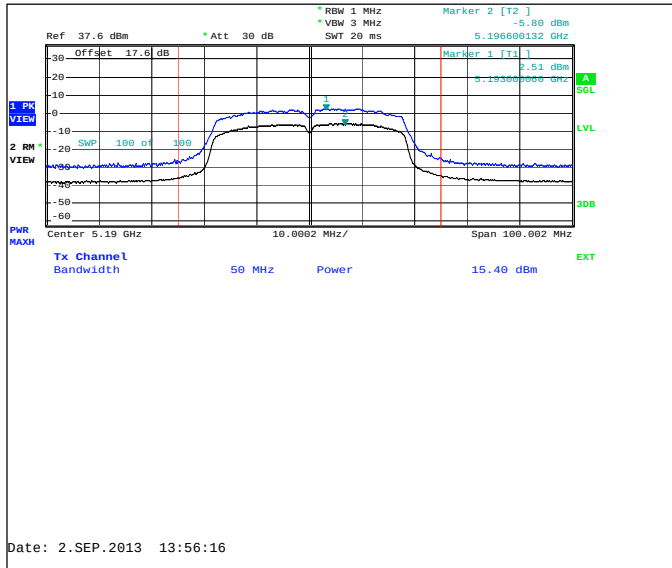
Channel 140 / 5700MHz



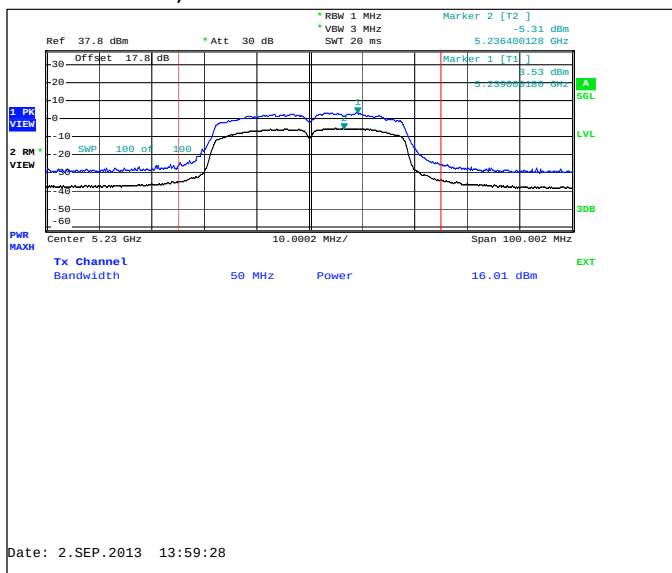
3.4.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36+40 / 5190	8.31	PASSED
44+48 / 5230	8.84	PASSED
52+56 / 5270	8.26	PASSED
60+64 / 5310	8.81	PASSED
100+104 / 5510	8.46	PASSED
108+112 / 5550	8.49	PASSED
132+136 / 5670	8.17	PASSED

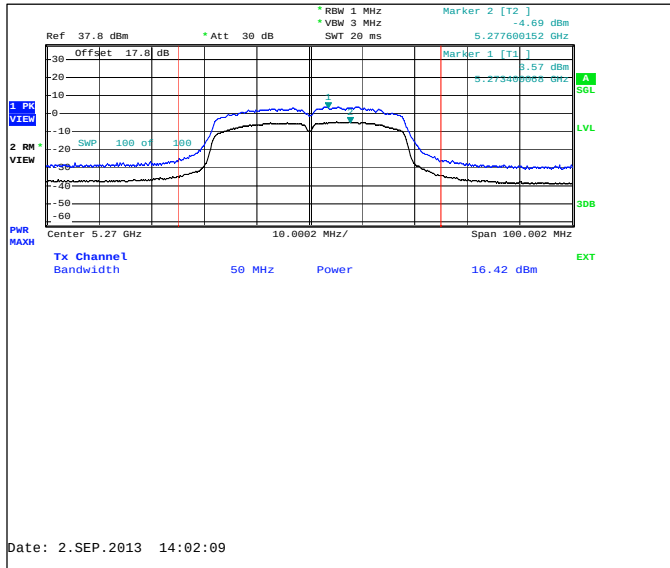
Channel 36+40 / 5190MHz



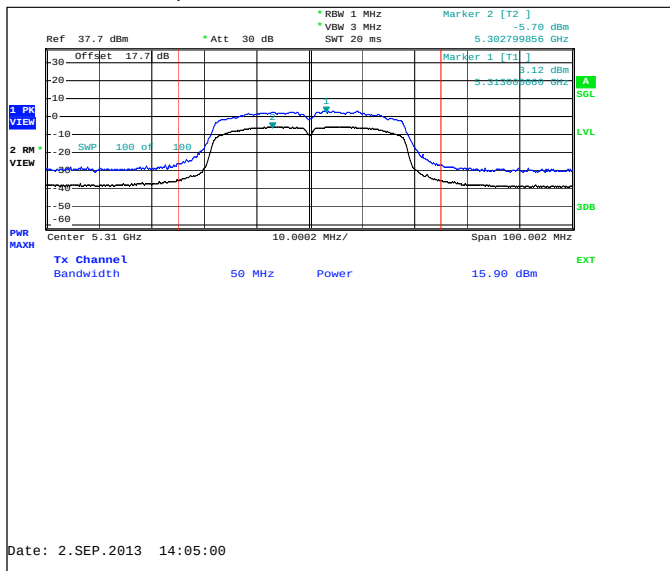
Channel 44+48 / 5230MHz



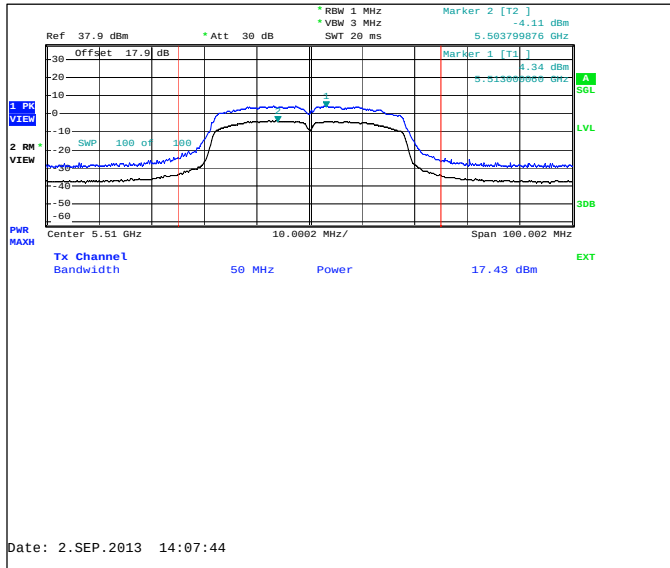
Channel 52+56 / 5270MHz



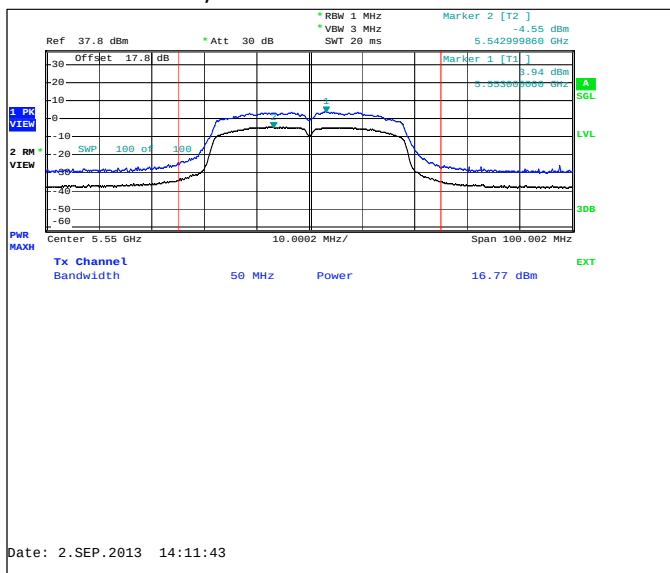
Channel 60+64 / 5310MHz



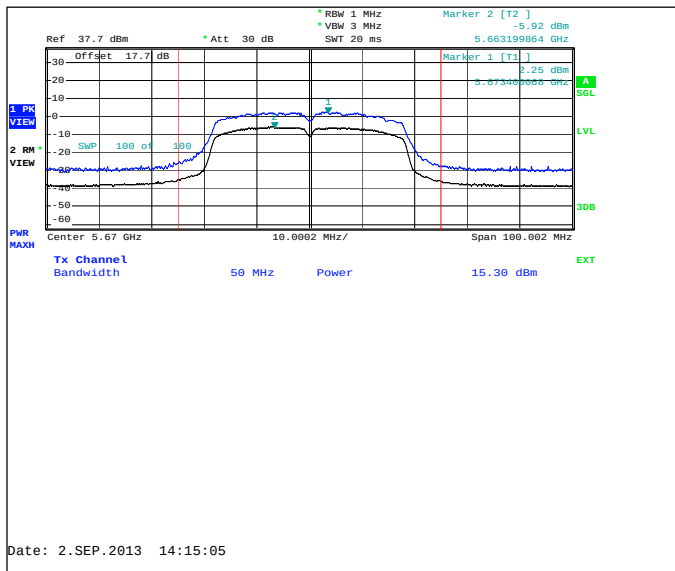
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



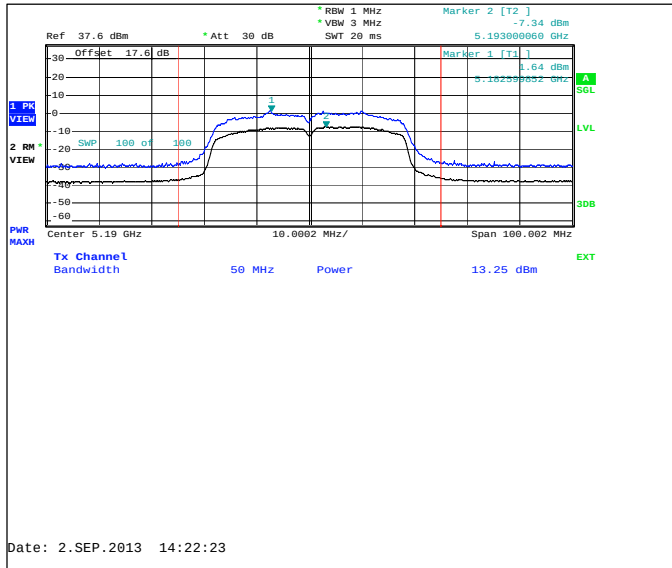
Channel 132+136 / 5670MHz



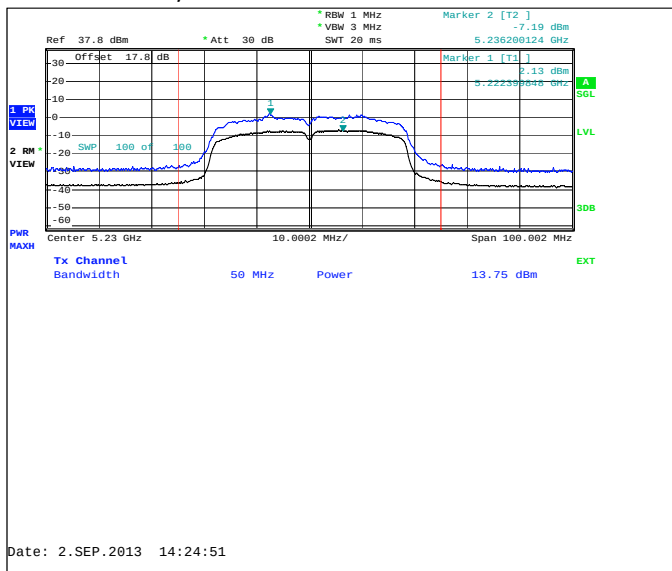
3.4.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	Peak excursion [dB]	Result
36+40 / 5190	8.98	PASSED
44+48 / 5230	9.32	PASSED
52+56 / 5270	8.59	PASSED
60+64 / 5310	9.24	PASSED
100+104 / 5510	9.23	PASSED
108+112 / 5550	9.78	PASSED
132+136 / 5670	9.62	PASSED

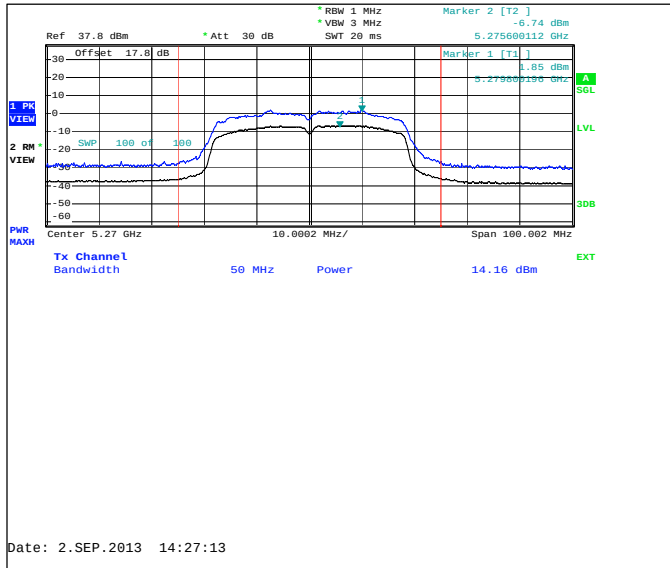
Channel 36+40 / 5190MHz



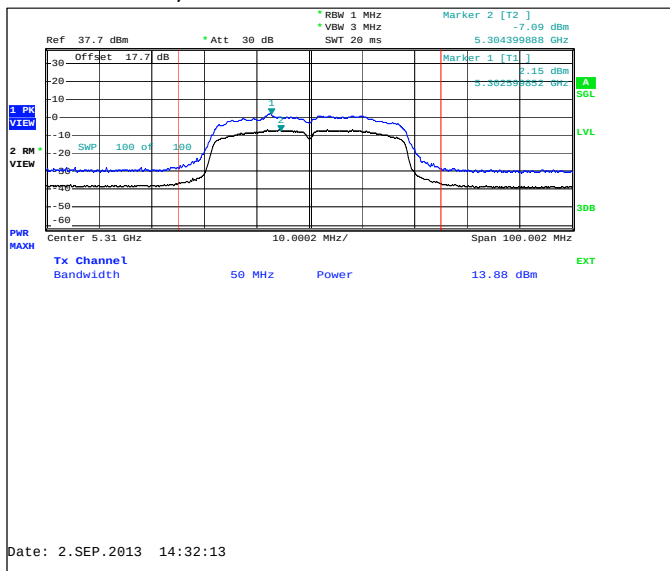
Channel 44+48 / 5230MHz



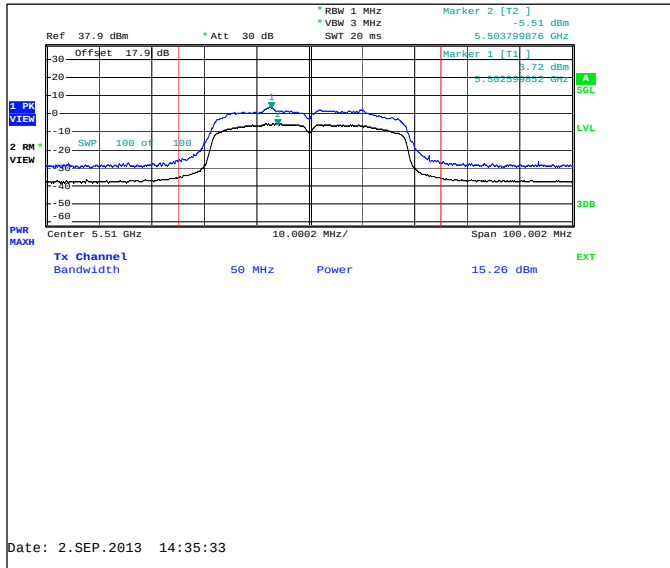
Channel 52+56 / 5270MHz



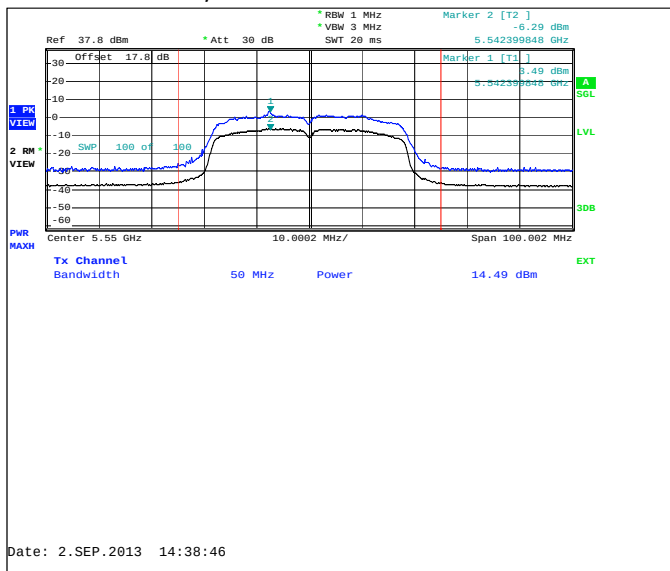
Channel 60+64 / 5310MHz



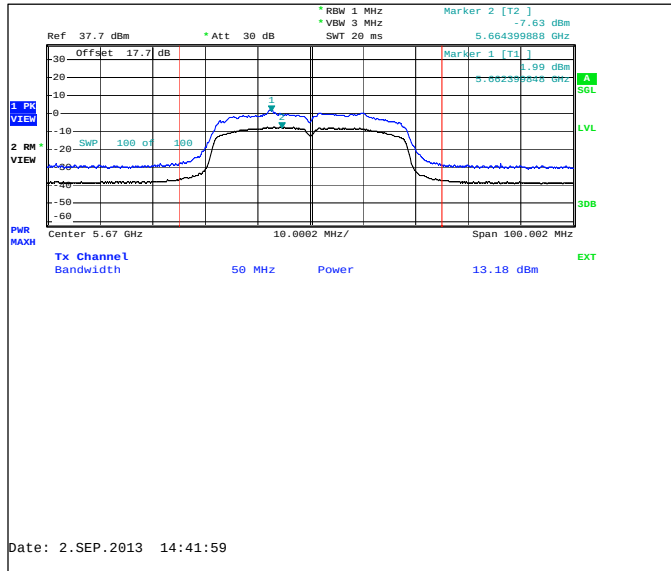
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



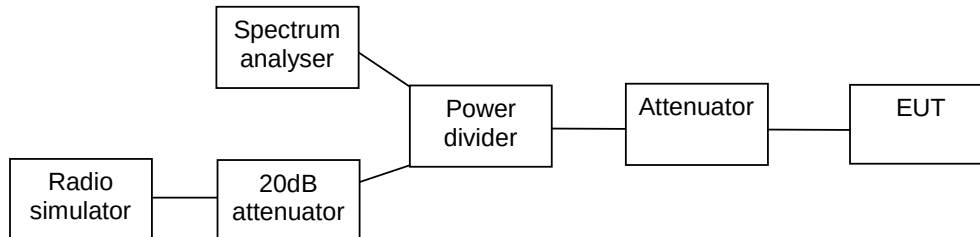
Channel 132+136 / 5670MHz



4. 26 dB bandwidth

EUT with DUT number	RX-114, DUT 17629
Accessories with DUT numbers	WH-208, DUT 17355
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	18 / 63 / 101.4
Date of measurements	30-Aug-2013
Measured by	Jari Keto

4.1. Test Setup



4.2. Test method and limit

The measurement is made according to Public Notice KDB 789033 D01 and IC standard RSS-210.

Limits for 26 dB bandwidth measurements

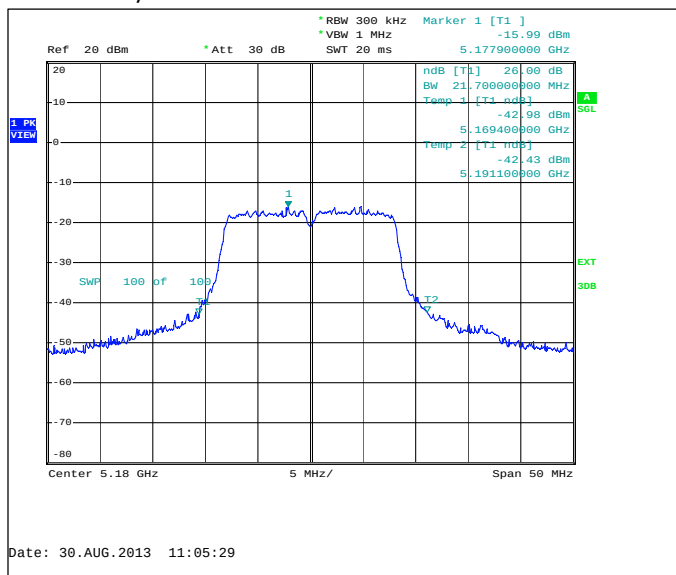
Limit [kHz]
No limit

4.3. 5 GHz RLAN Test results, Main Antenna

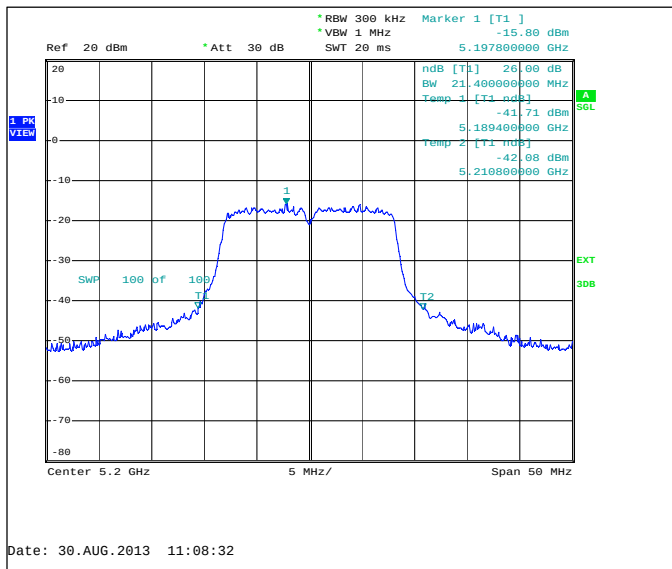
4.3.1 802.11a mode, BPSK modulation, 6 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	21700	PASSED
40 / 5200	21400	PASSED
48 / 5240	21200	PASSED
52 / 5260	21200	PASSED
60 / 5300	20900	PASSED
64 / 5320	21100	PASSED
100 / 5500	21000	PASSED
116 / 5580	21000	PASSED
140 / 5700	20800	PASSED

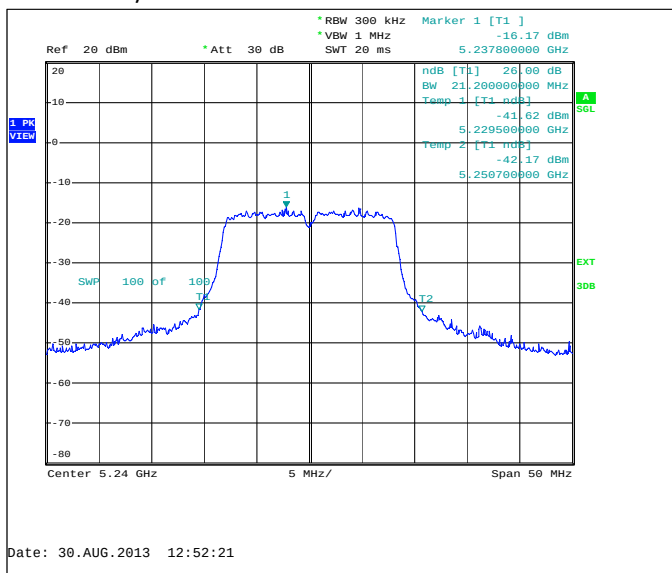
Channel 36 / 5180MHz



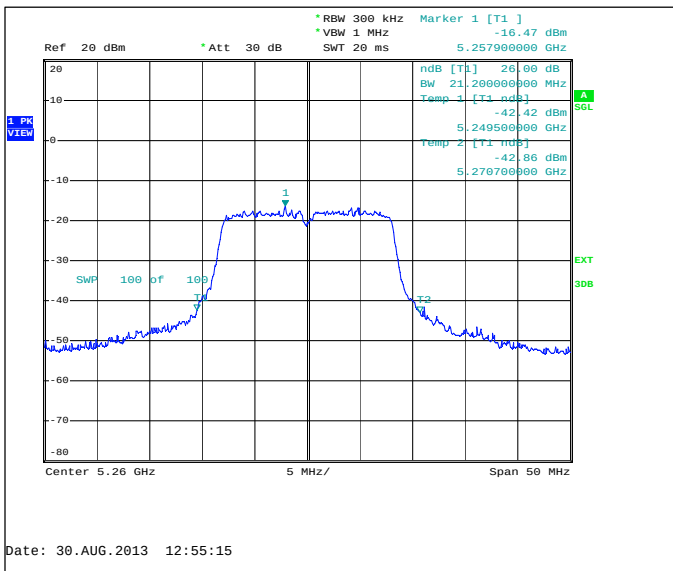
Channel 40 / 5200MHz



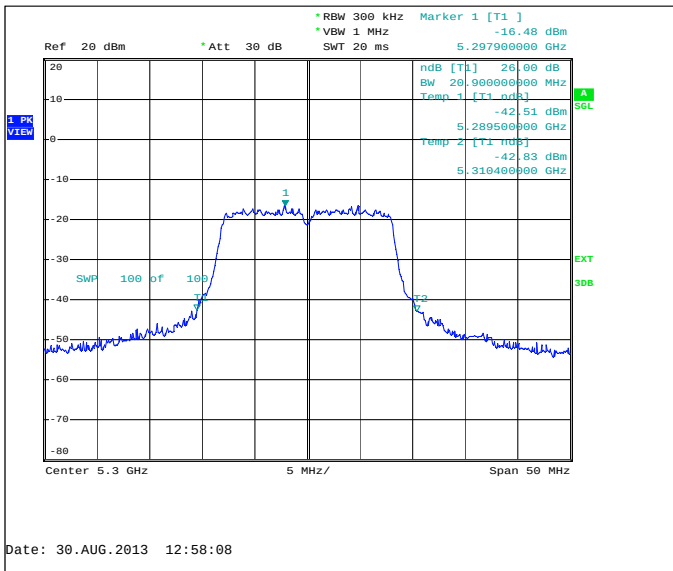
Channel 48 / 5240MHz



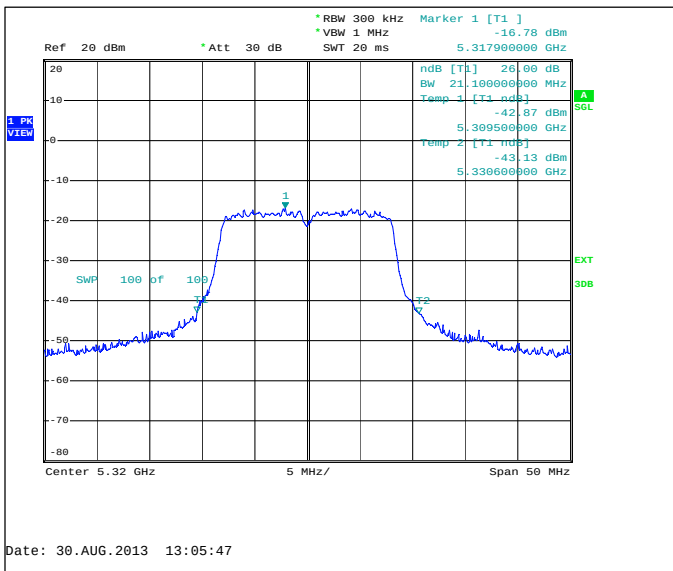
Channel 52 / 5260MHz



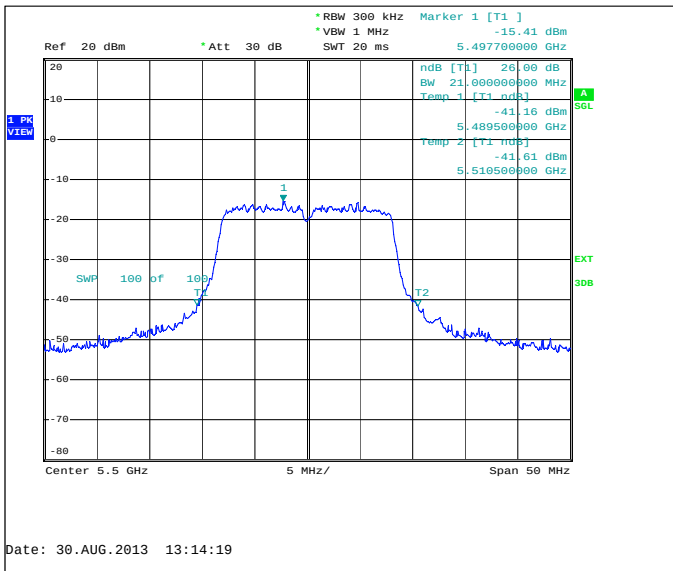
Channel 60 / 5300MHz



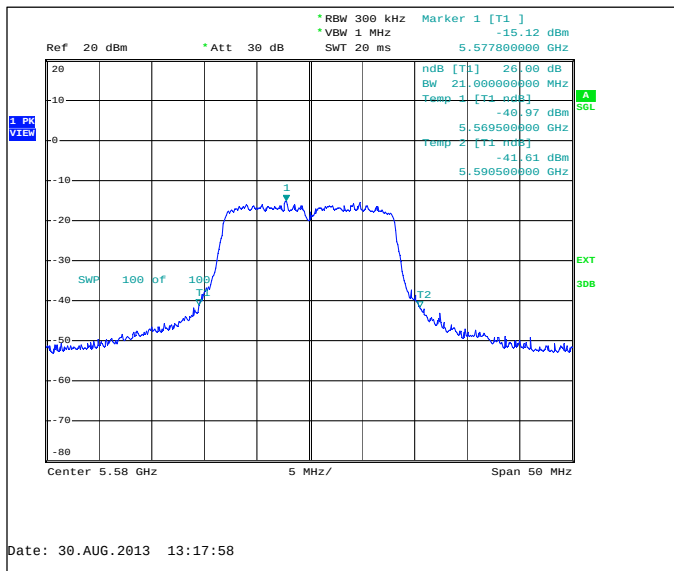
Channel 64 / 5320MHz



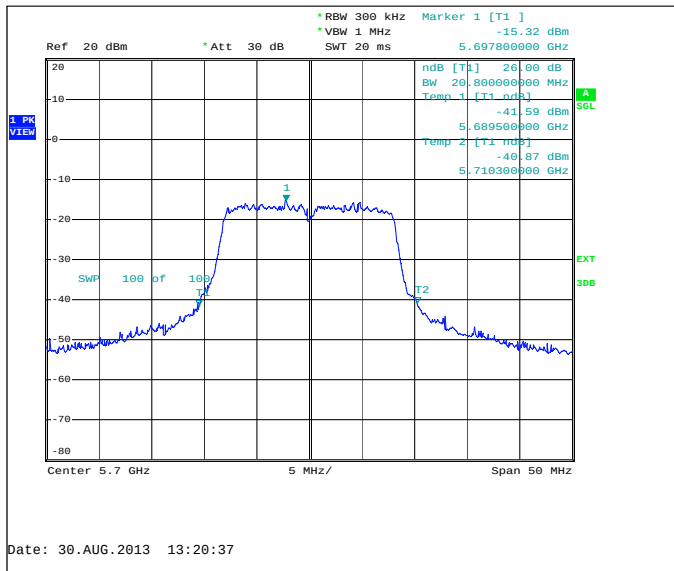
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

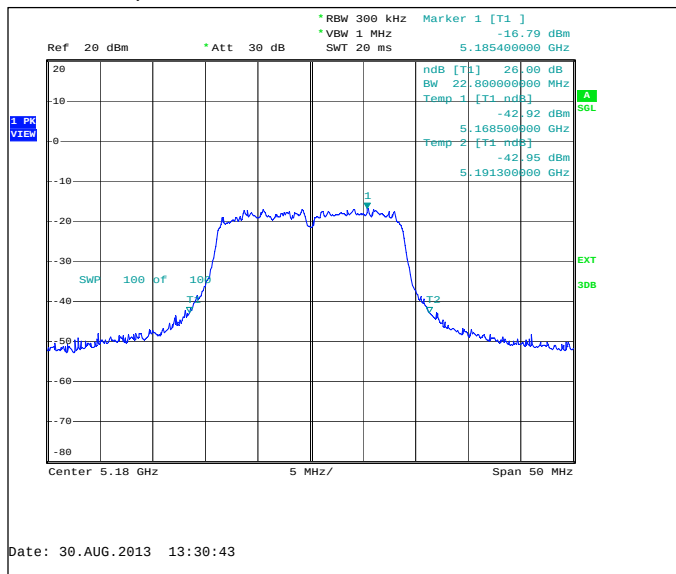


4.3.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

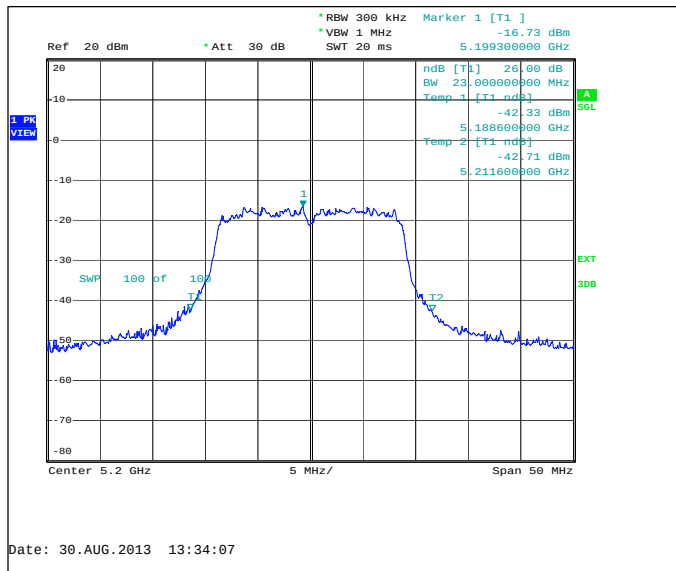
Channel / f_c [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	22800	PASSED
40 / 5200	23000	PASSED

48 / 5240	23000	PASSED
52 / 5260	22900	PASSED
60 / 5300	23200	PASSED
64 / 5320	22900	PASSED
100 / 5500	23100	PASSED
116 / 5580	22800	PASSED
140 / 5700	22800	PASSED

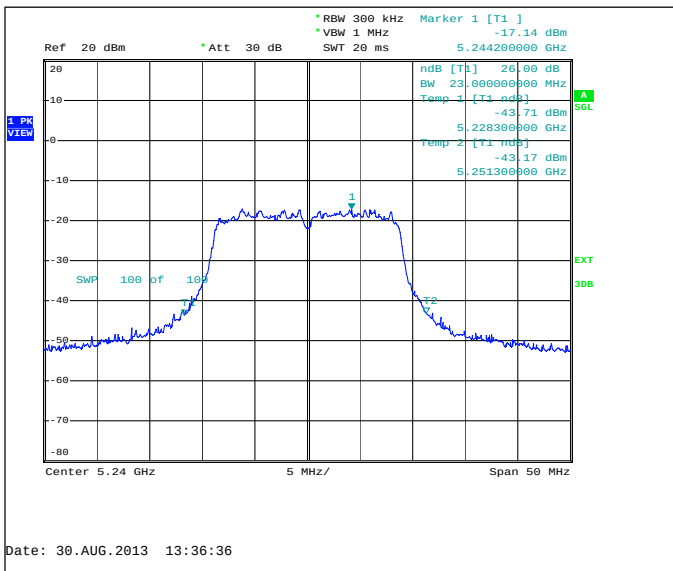
Channel 36 / 5180MHz



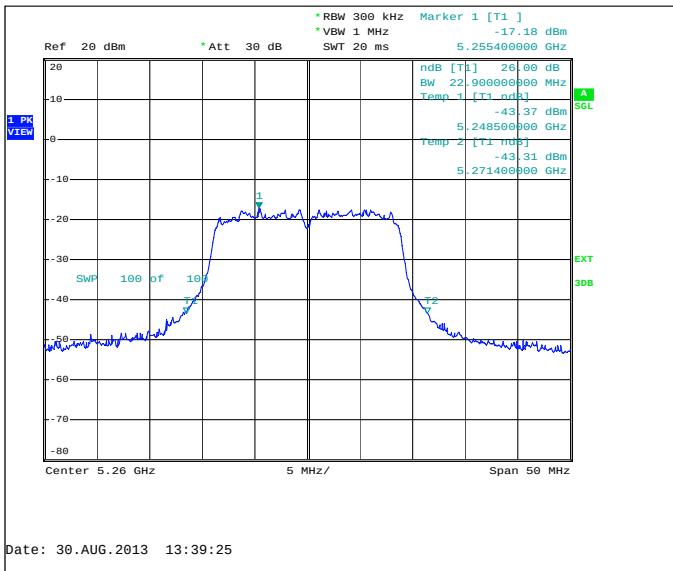
Channel 40 / 5200MHz



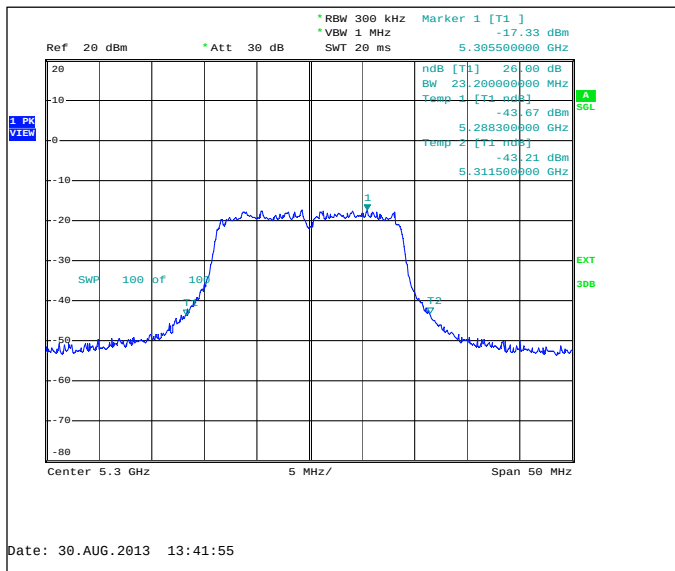
Channel 48 / 5240MHz



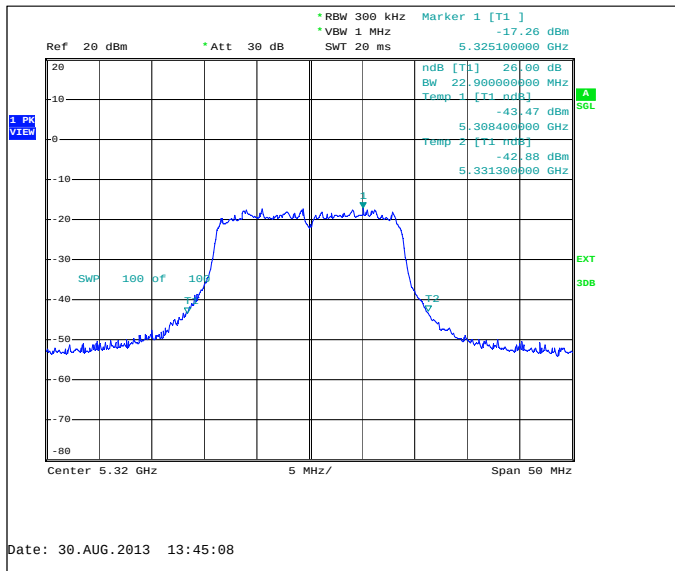
Channel 52 / 5260MHz



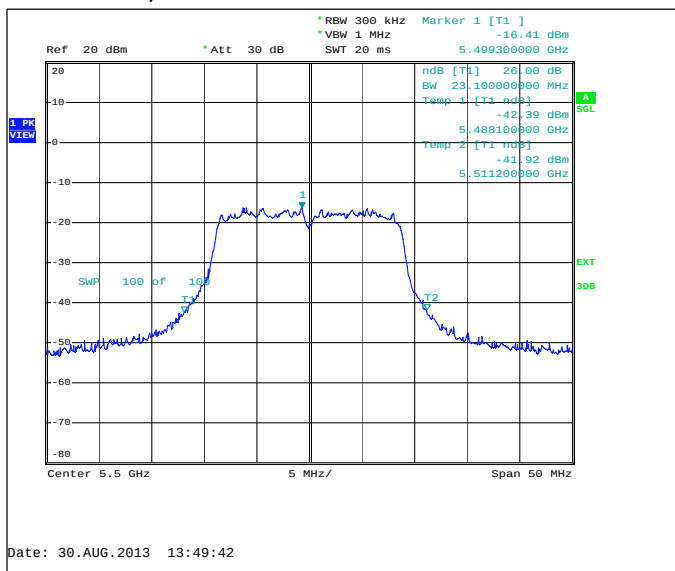
Channel 60 / 5300MHz



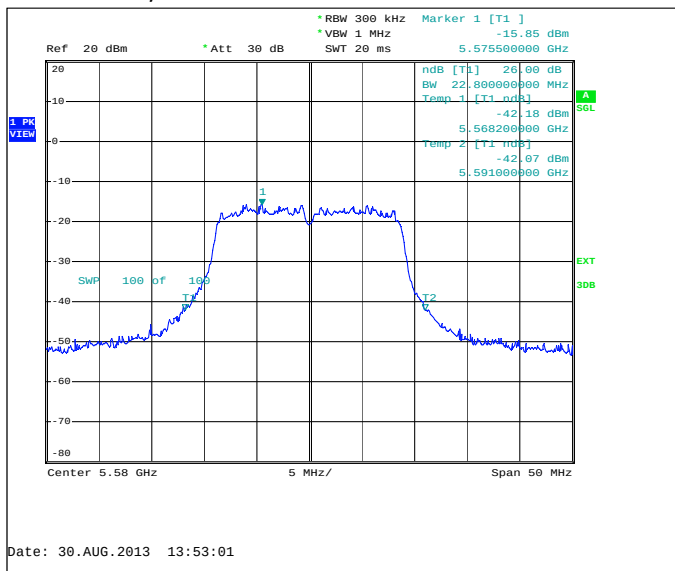
Channel 64 / 5320MHz



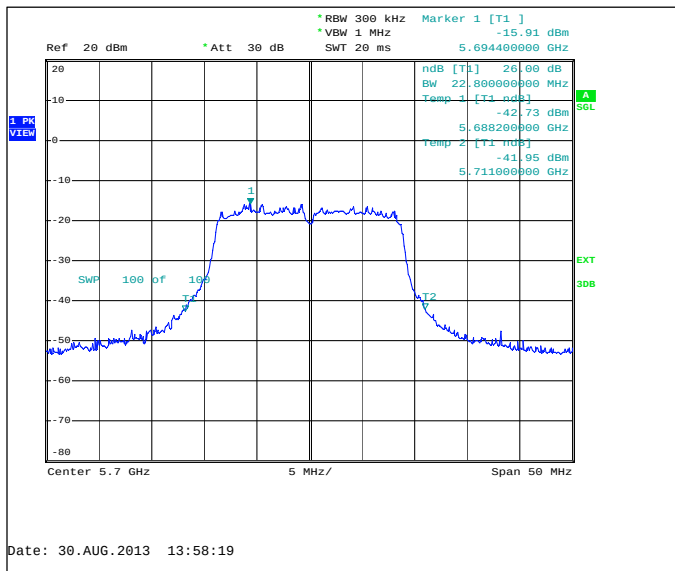
Channel 100 / 5500MHz



Channel 116 / 5580MHz



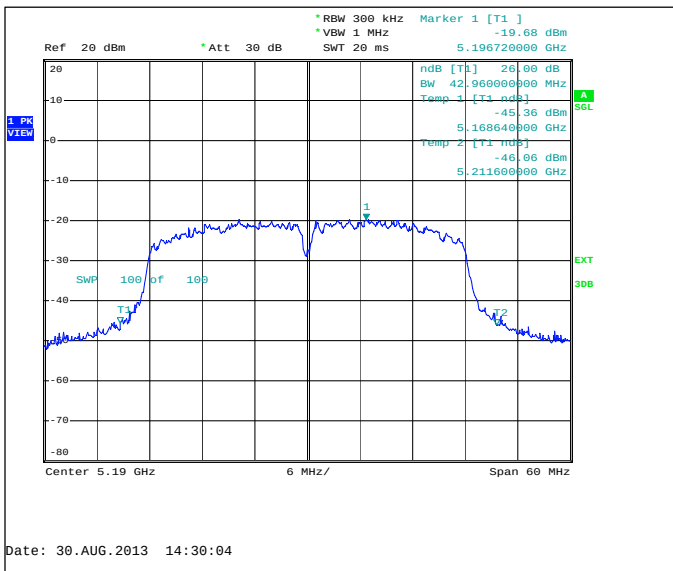
Channel 140 / 5700MHz



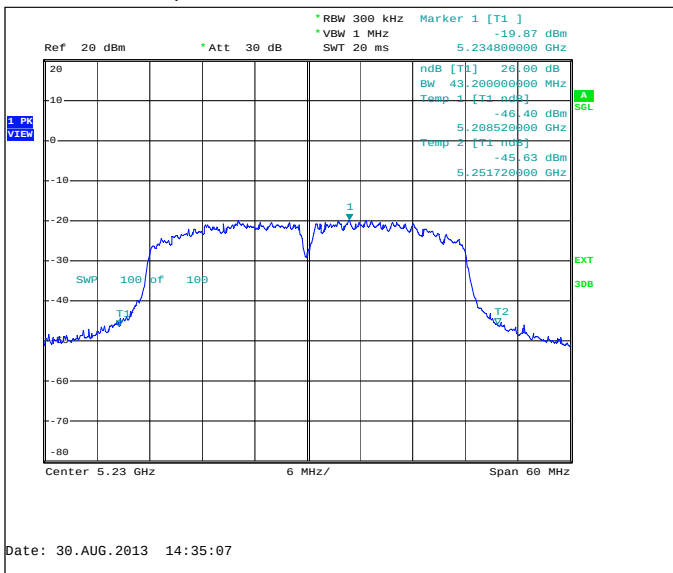
4.3.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36+40 / 5190	42960	PASSED
44+48 / 5230	43200	PASSED
52+56 / 5270	42840	PASSED
60+64 / 5310	42720	PASSED
100+104 / 5510	42840	PASSED
132+136 / 5670	41640	PASSED
108+112 / 5550	41880	PASSED

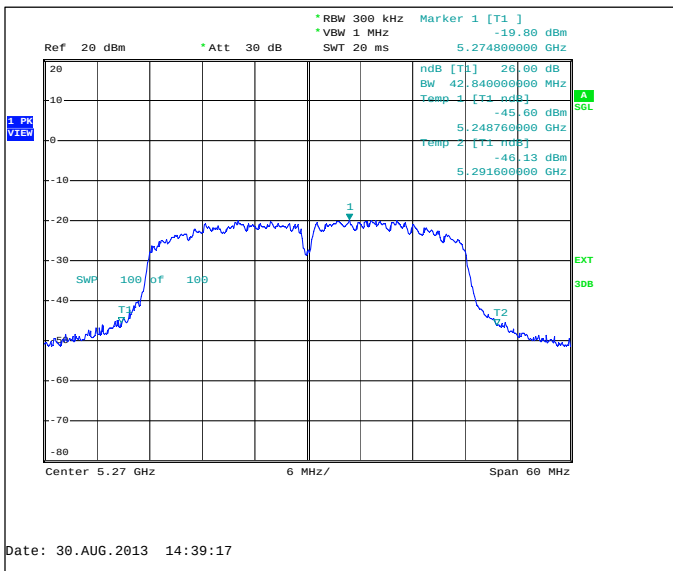
Channel 36+40 / 5190MHz



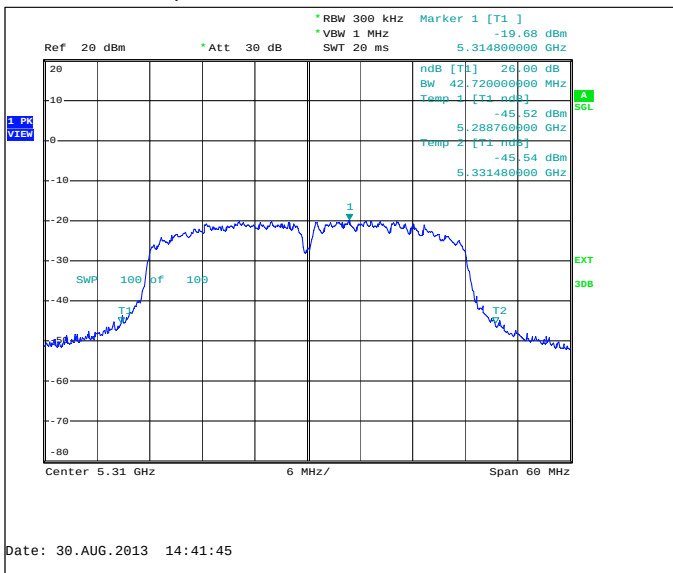
Channel 44+48 / 5230MHz



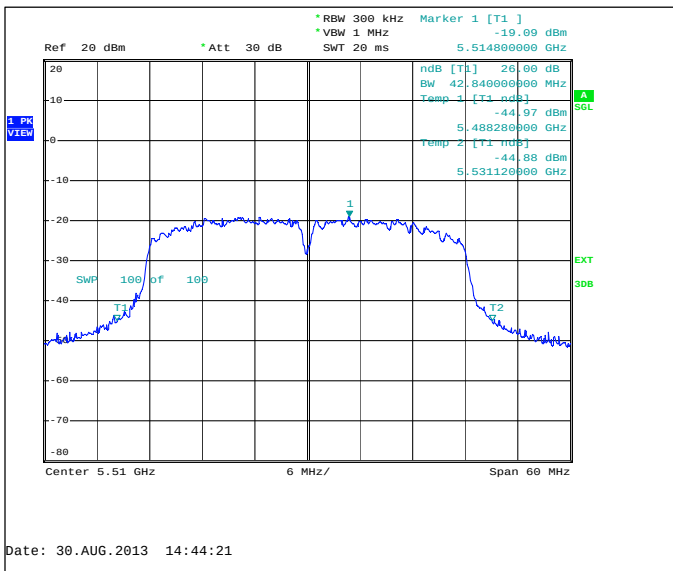
Channel 52+56 / 5270MHz



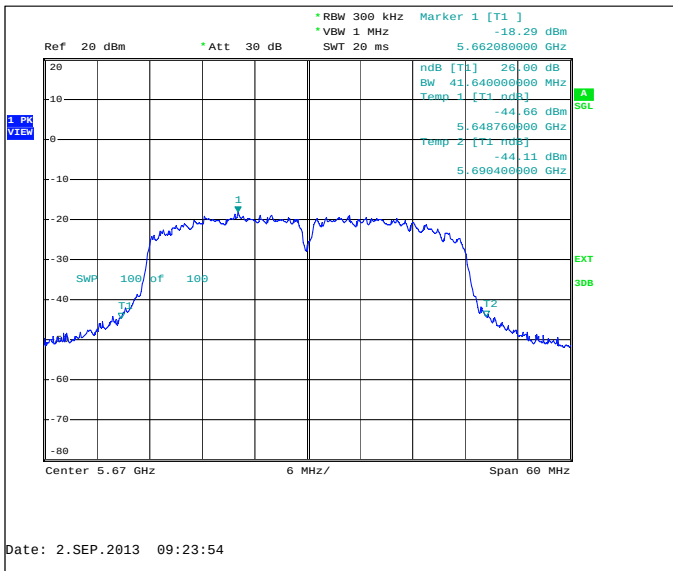
Channel 60+64 / 5310MHz



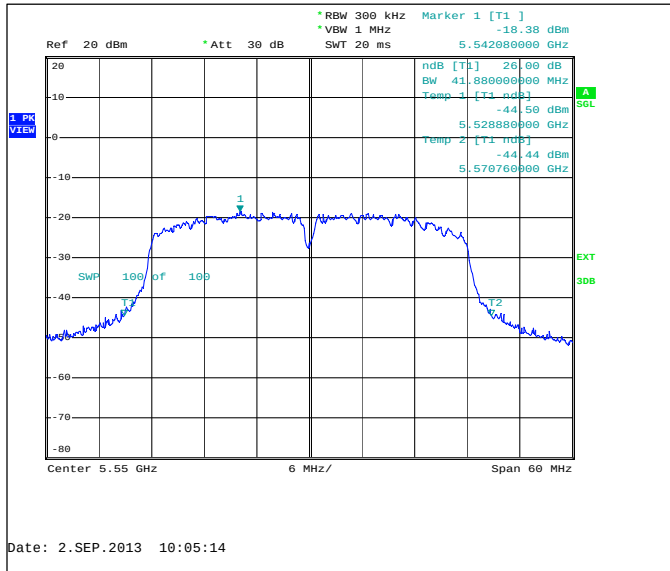
Channel 100+104 / 5510MHz



Channel 132+136 / 5670MHz



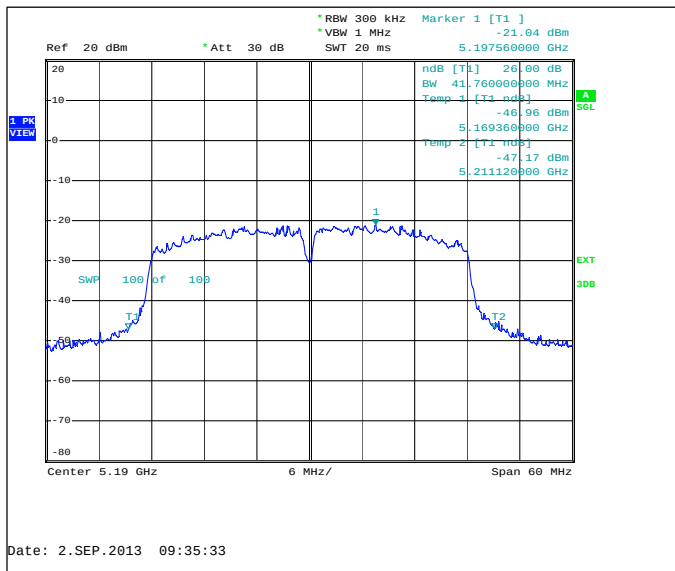
Channel 108+112 / 5550MHz



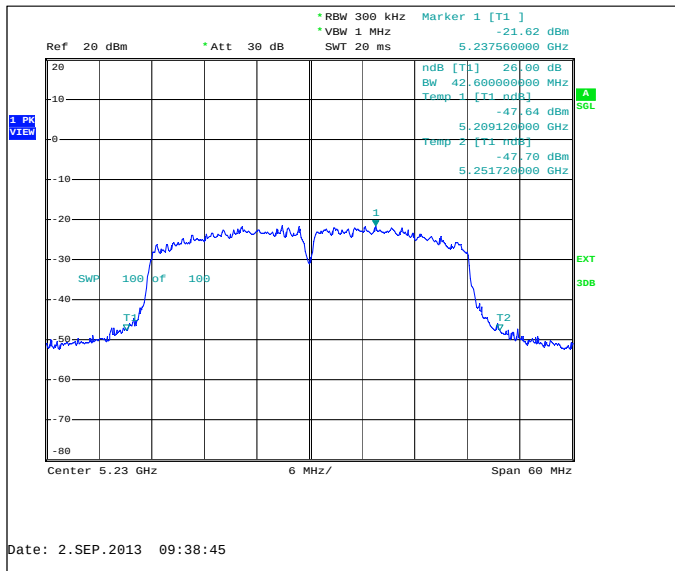
4.3.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36+40 / 5190	41760	PASSED
44+48 / 5230	42600	PASSED
52+56 / 5270	41640	PASSED
60+64 / 5310	41760	PASSED
100+104 / 5510	41640	PASSED
108+112 / 5550	41640	PASSED
132+136 / 5670	41160	PASSED

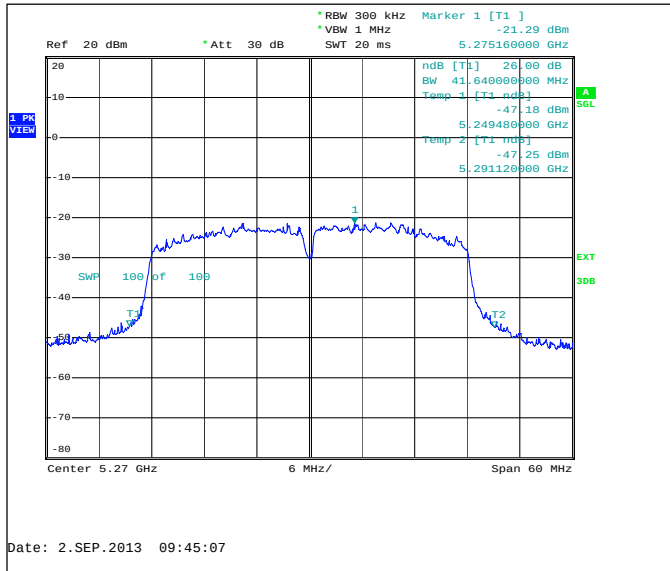
Channel 36+40 / 5190MHz



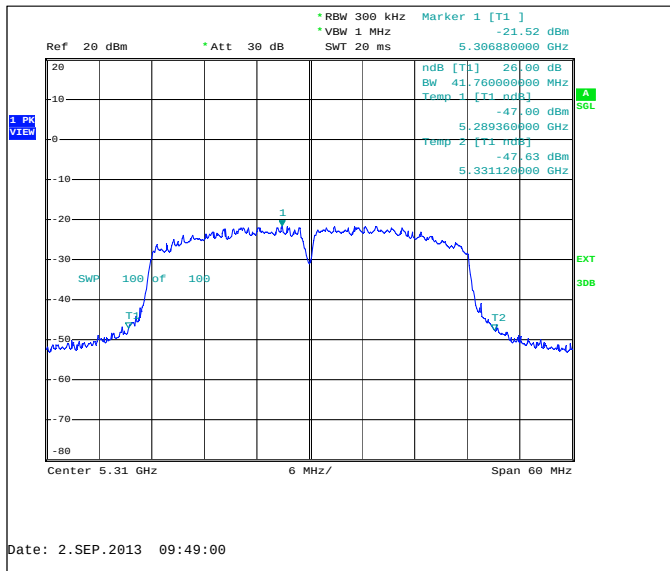
Channel 44+48 / 5230MHz



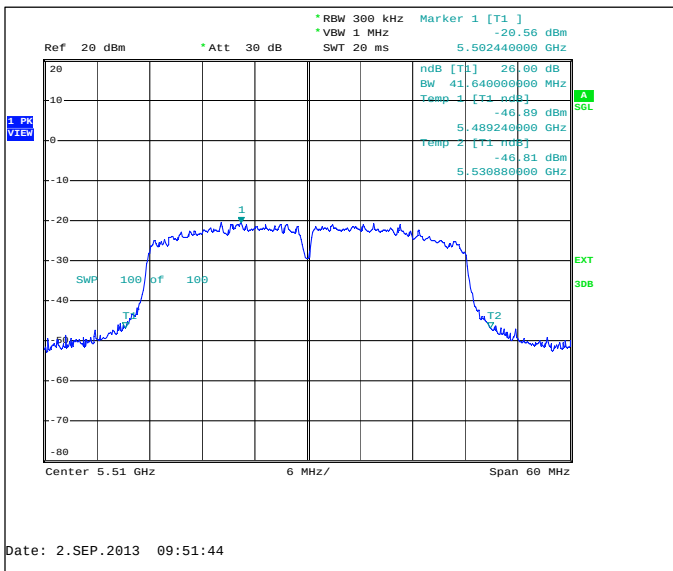
Channel 52+56 / 5270MHz



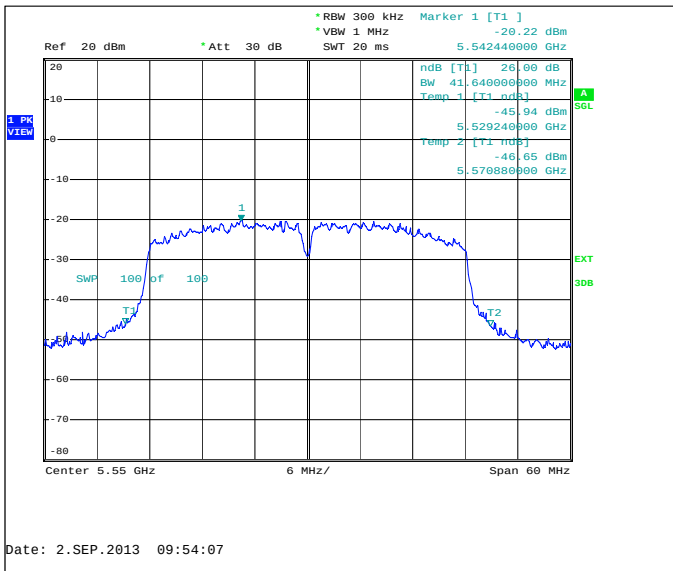
Channel 60+64 / 5310MHz



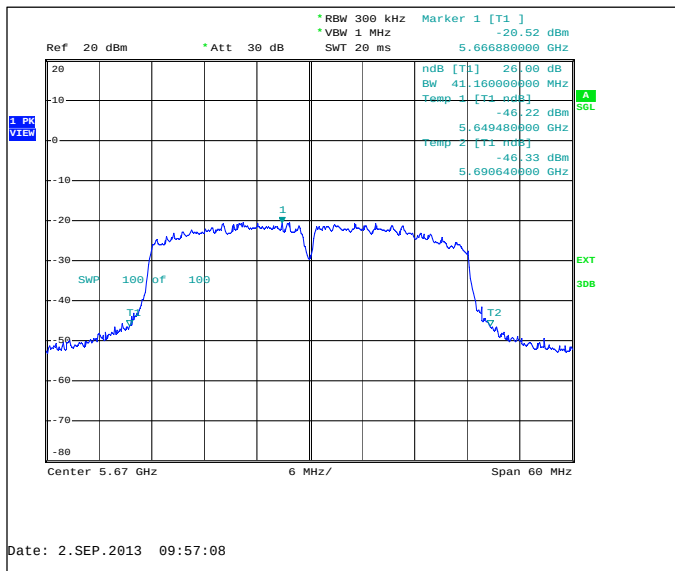
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz

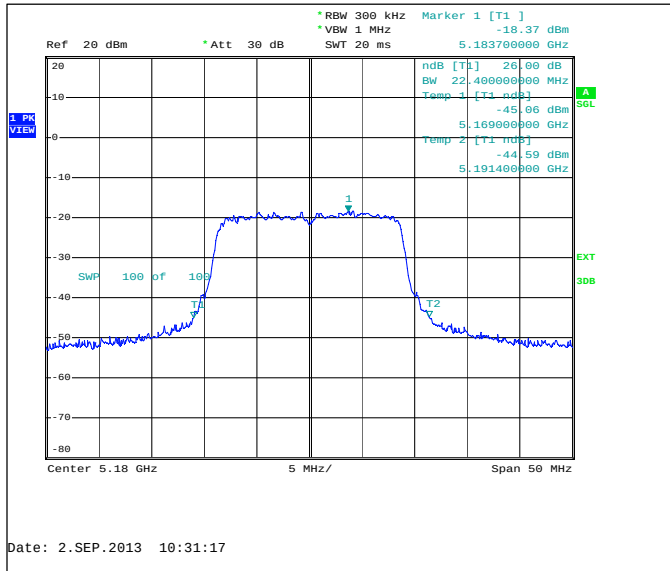


4.4. 5 GHz RLAN Test results, Aux Antenna

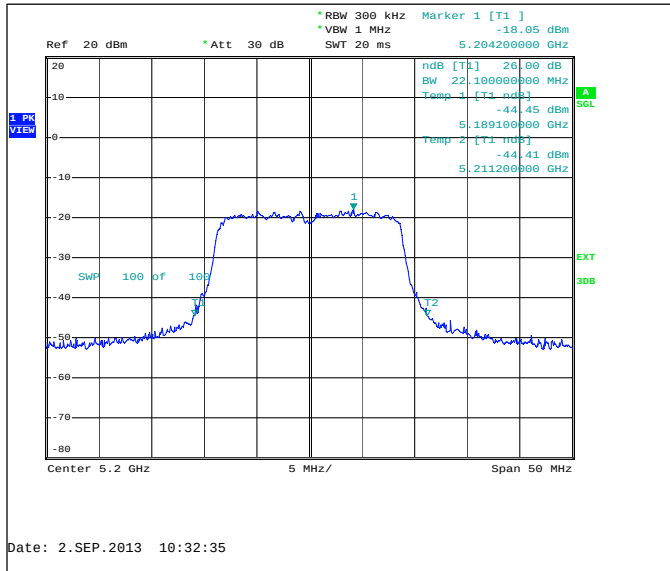
4.4.1 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	22400	PASSED
40 / 5200	22100	PASSED
48 / 5240	22200	PASSED
52 / 5260	22200	PASSED
60 / 5300	22000	PASSED
64 / 5320	21900	PASSED
100 / 5500	21800	PASSED
116 / 5580	21600	PASSED
140 / 5700	21900	PASSED

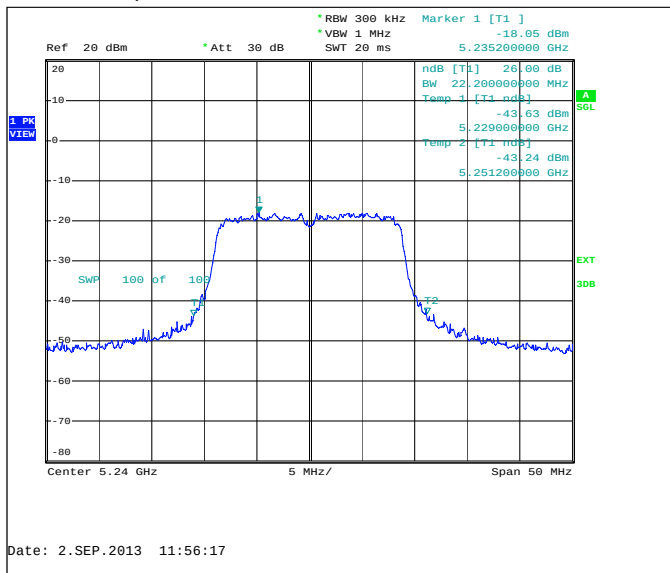
Channel 36 / 5180MHz



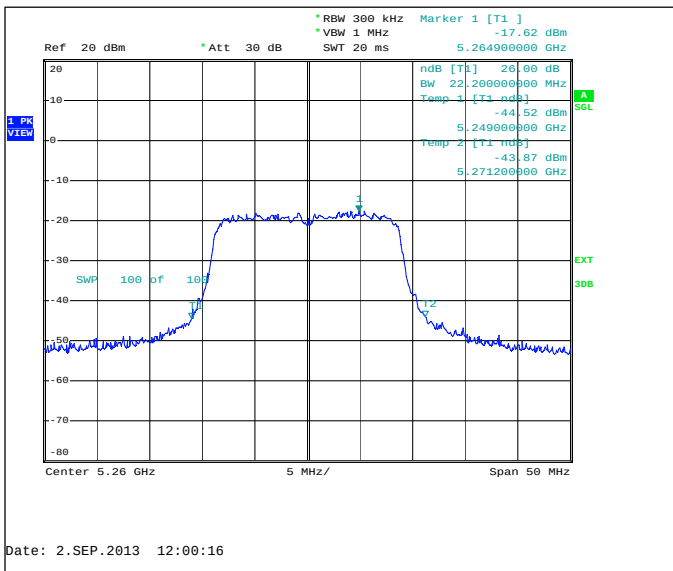
Channel 40 / 5200MHz



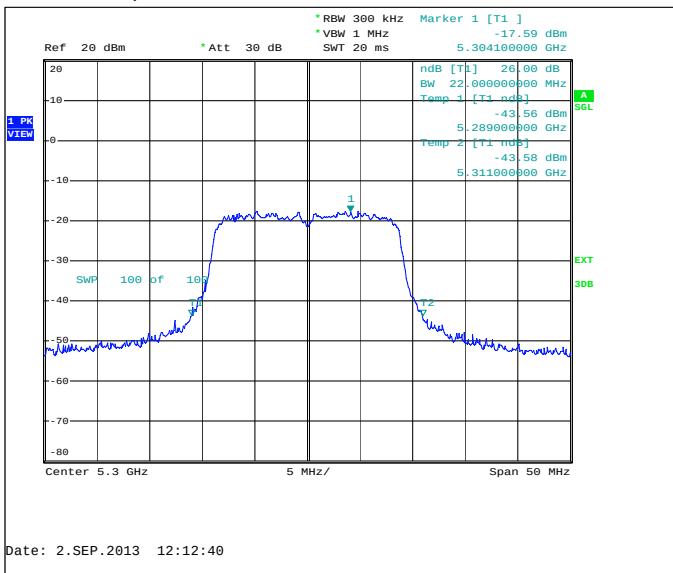
Channel 48 / 5240MHz



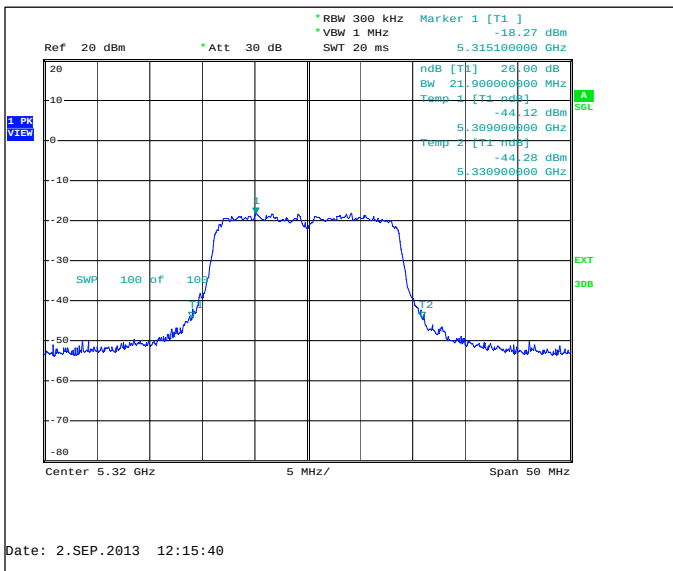
Channel 52 / 5260MHz



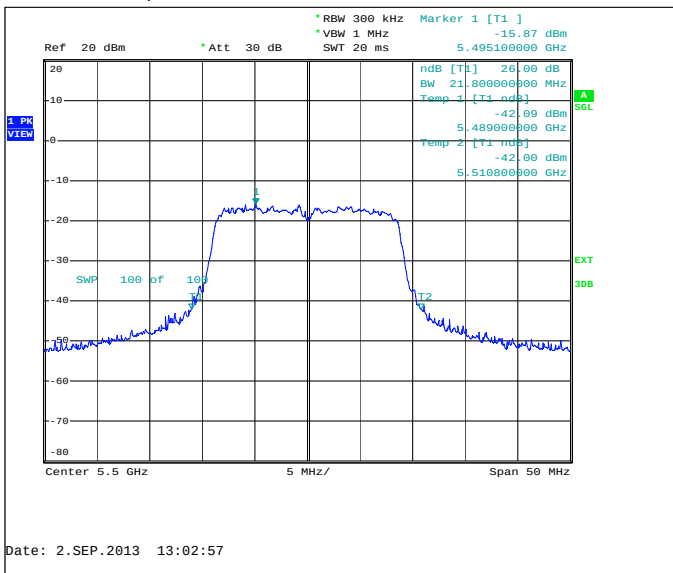
Channel 60 / 5300MHz



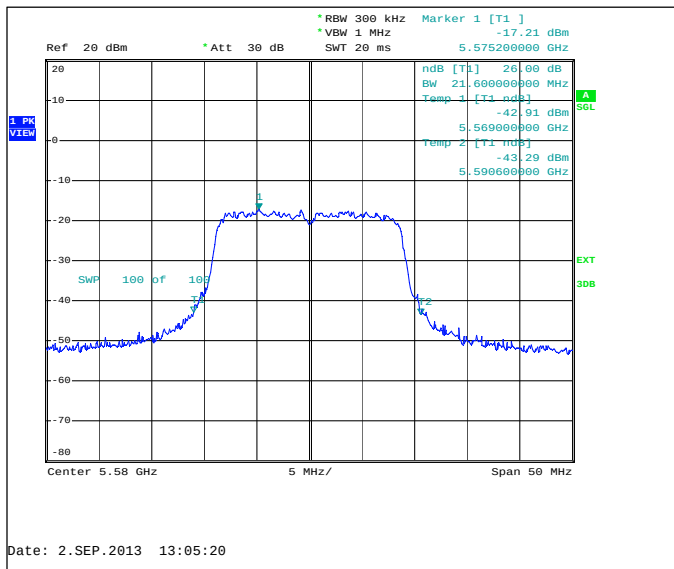
Channel 64 / 5320MHz



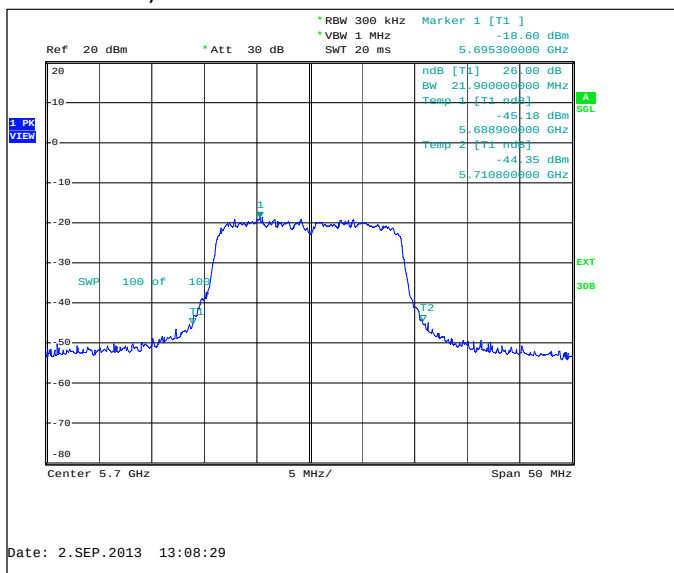
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

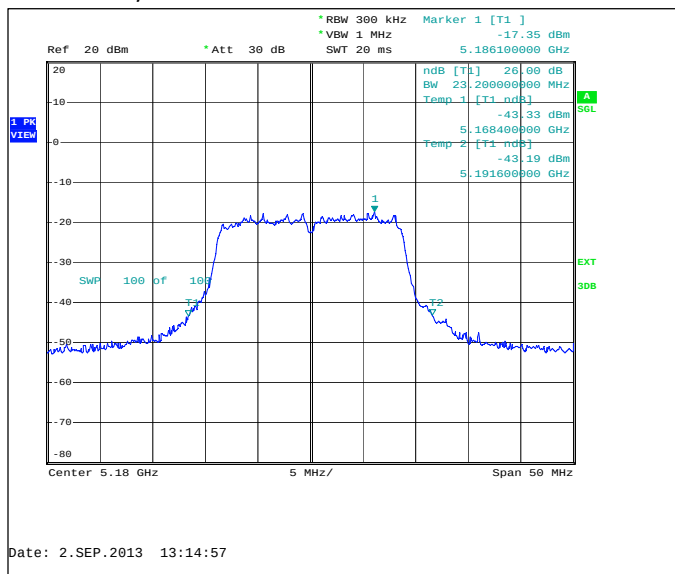


4.4.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

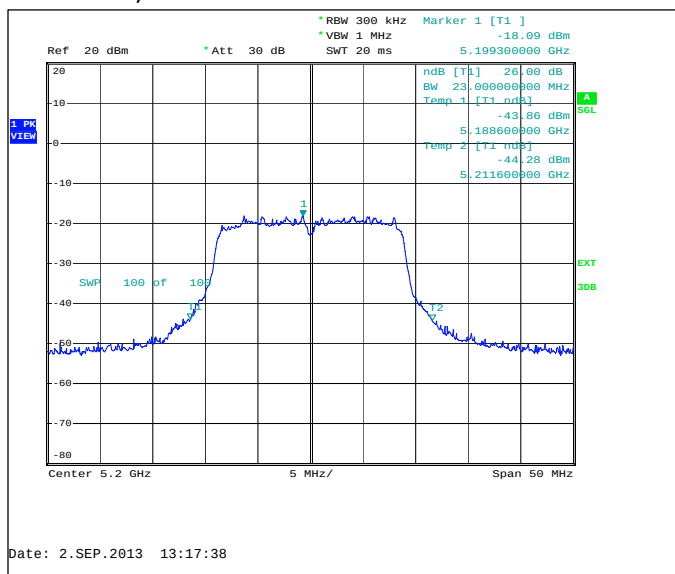
Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	23200	PASSED
40 / 5200	23000	PASSED
48 / 5240	23300	PASSED
52 / 5260	23000	PASSED

60 / 5300	22900	PASSED
64 / 5320	22700	PASSED
100 / 5500	23100	PASSED
116 / 5580	23400	PASSED
140 / 5700	23000	PASSED

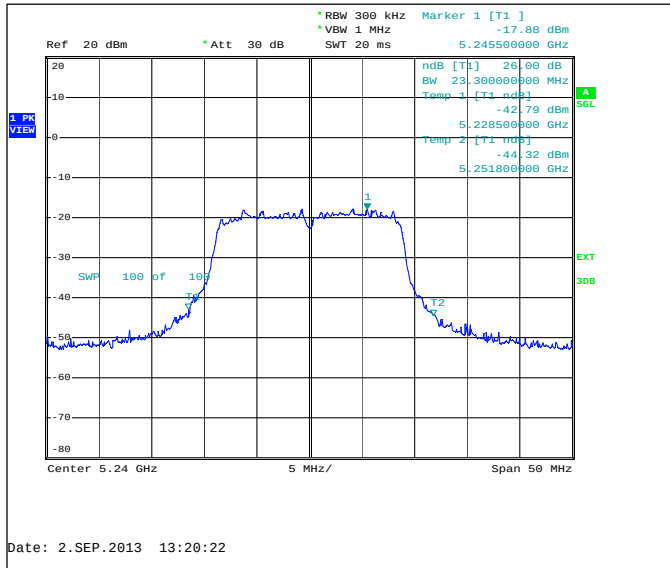
Channel 36 / 5180MHz



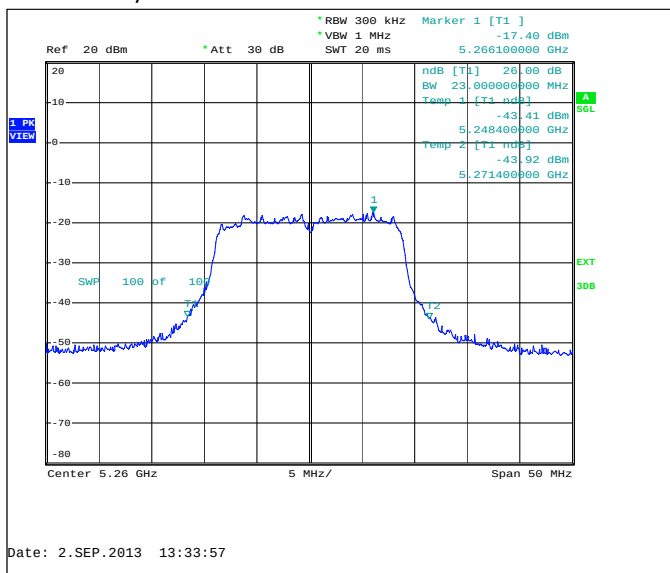
Channel 40 / 5200MHz



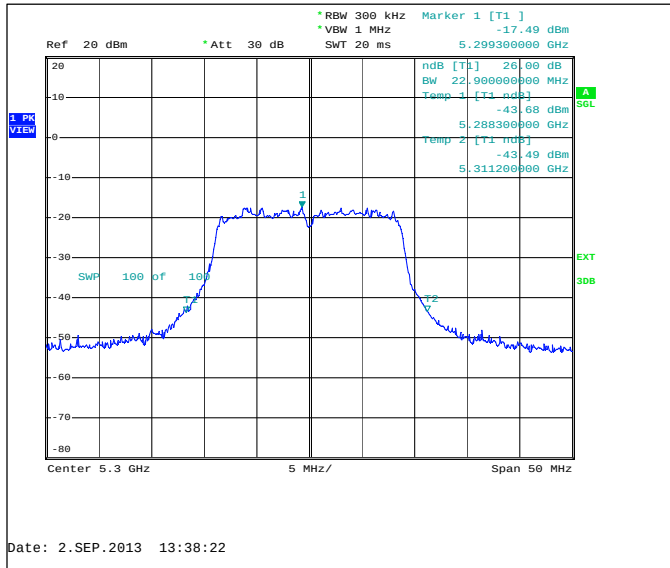
Channel 48 / 5240MHz



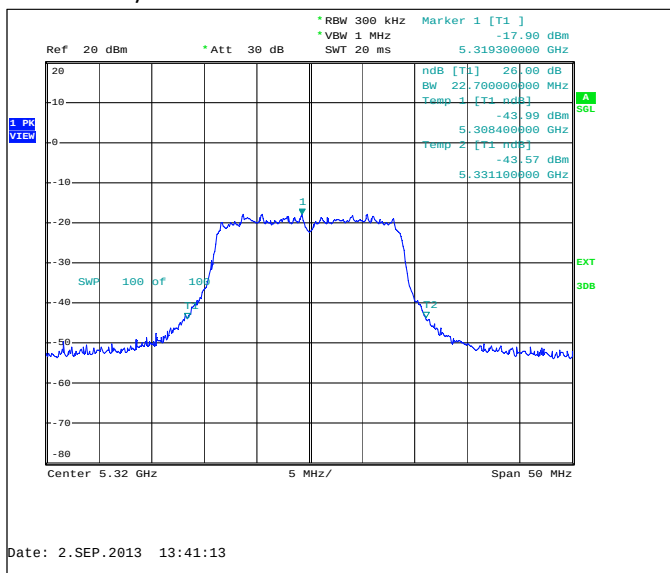
Channel 52 / 5260MHz



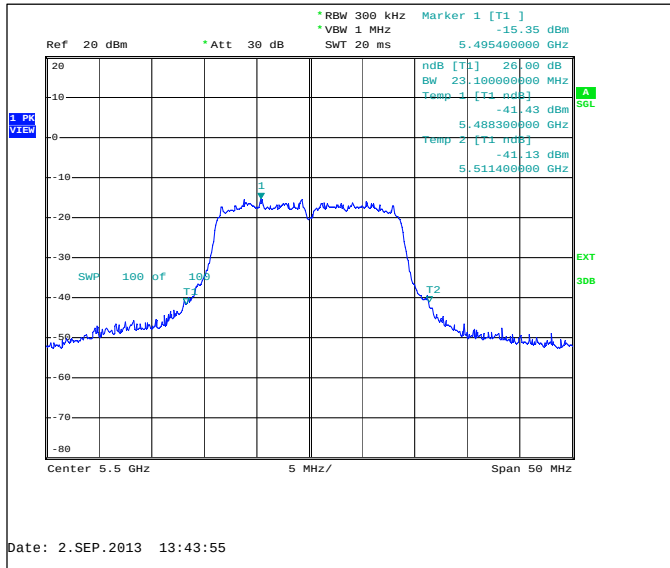
Channel 60 / 5300MHz



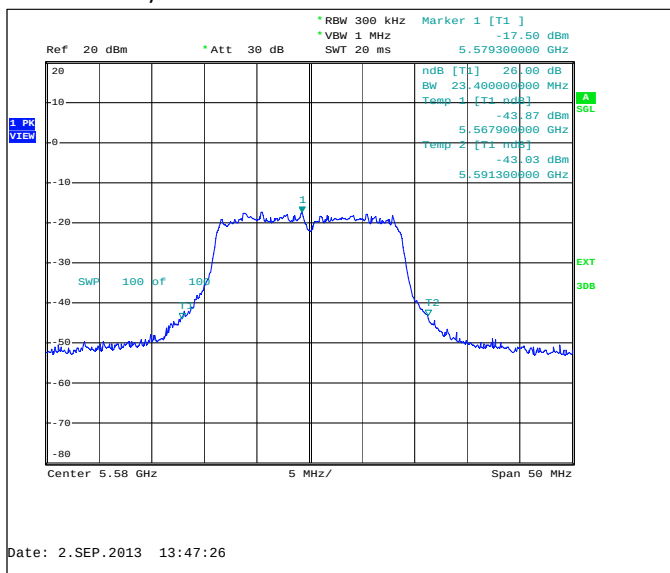
Channel 64 / 5320MHz



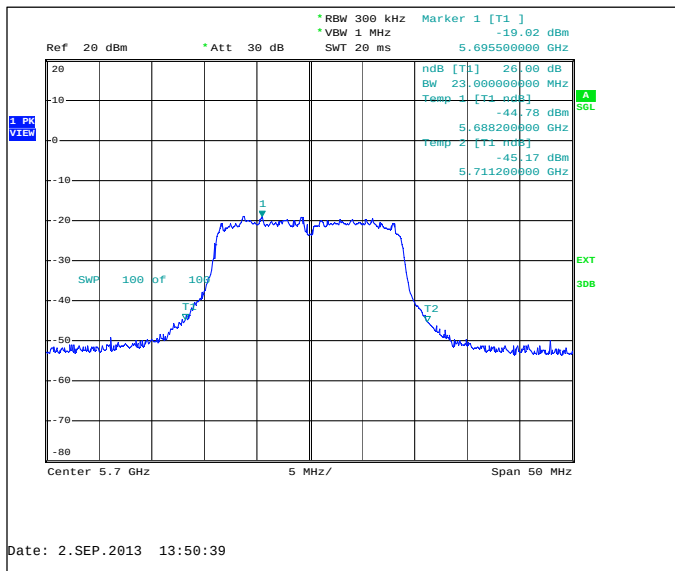
Channel 100 / 5500MHz



Channel 116 / 5580MHz



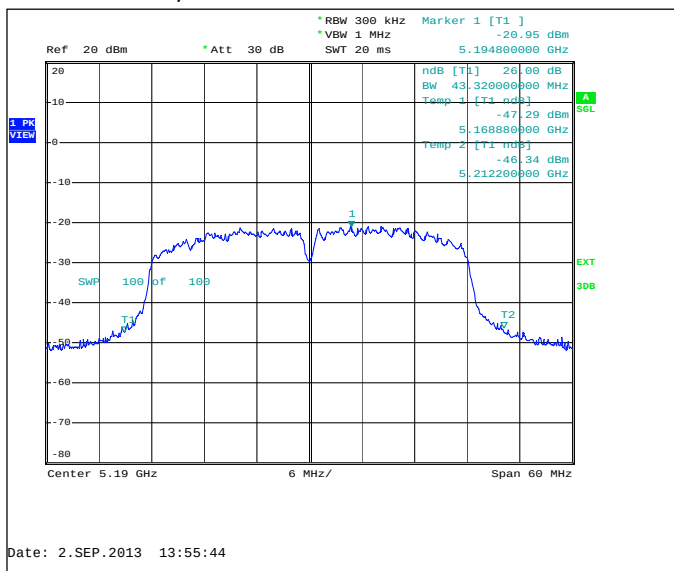
Channel 140 / 5700MHz



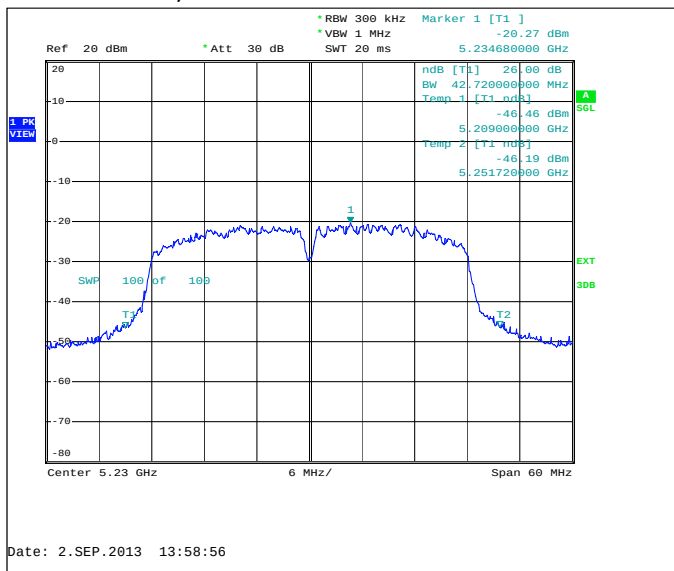
4.4.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36+40 / 5190	43320	PASSED
44+48 / 5230	42720	PASSED
52+56 / 5270	42120	PASSED
60+64 / 5310	42360	PASSED
100+104 / 5510	42360	PASSED
108+112 / 5550	42120	PASSED
132+136 / 5670	43320	PASSED

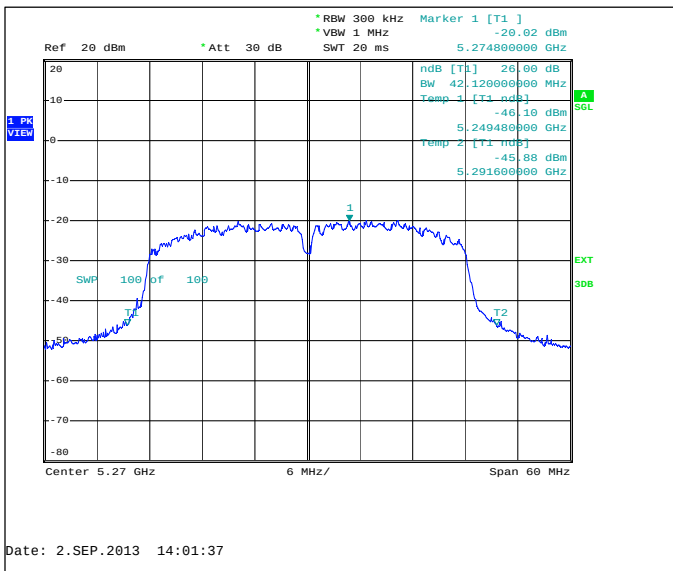
Channel 36+40 / 5190MHz



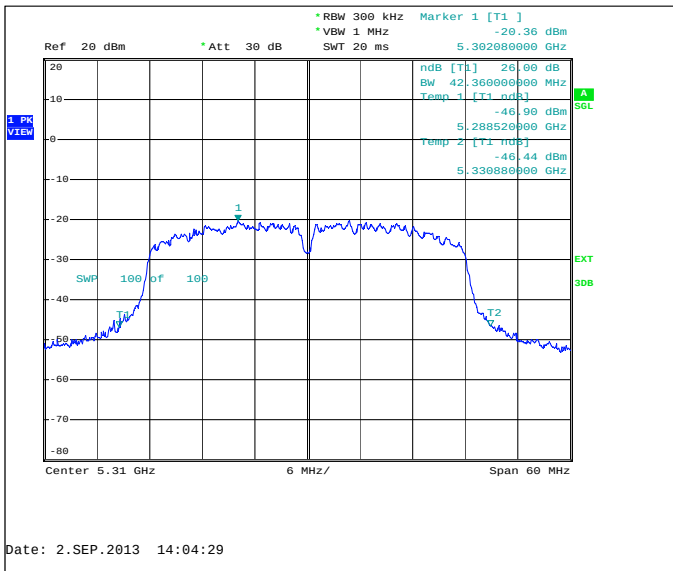
Channel 44+48 / 5230MHz



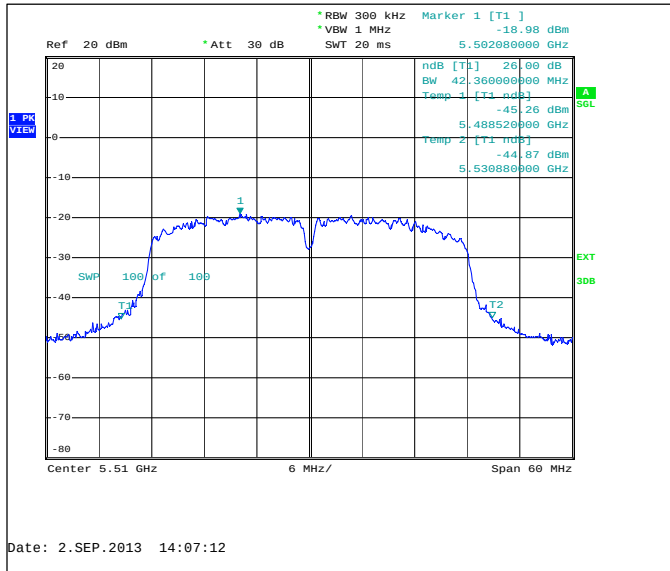
Channel 52+56 / 5270MHz



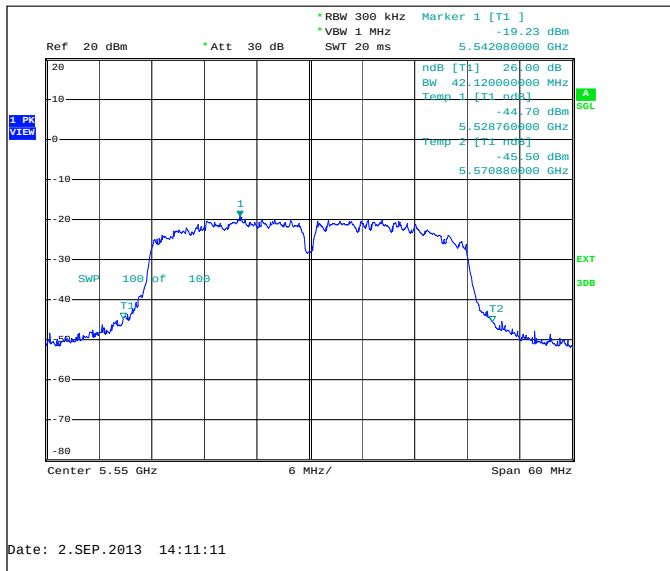
Channel 60+64 / 5310MHz



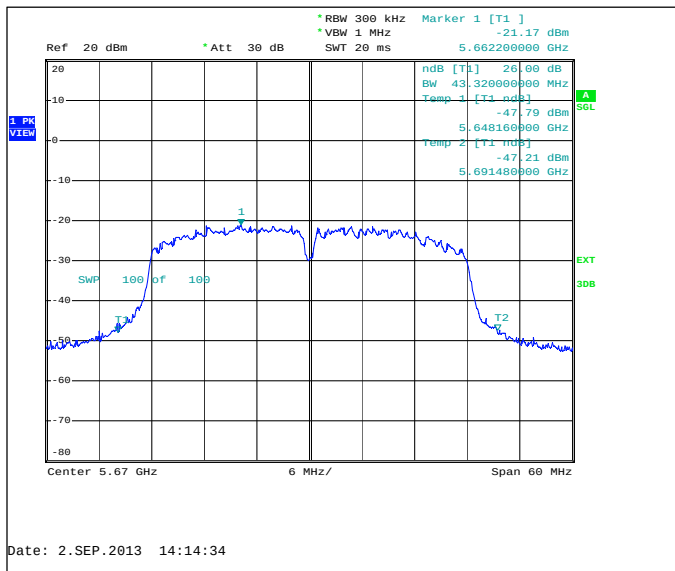
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



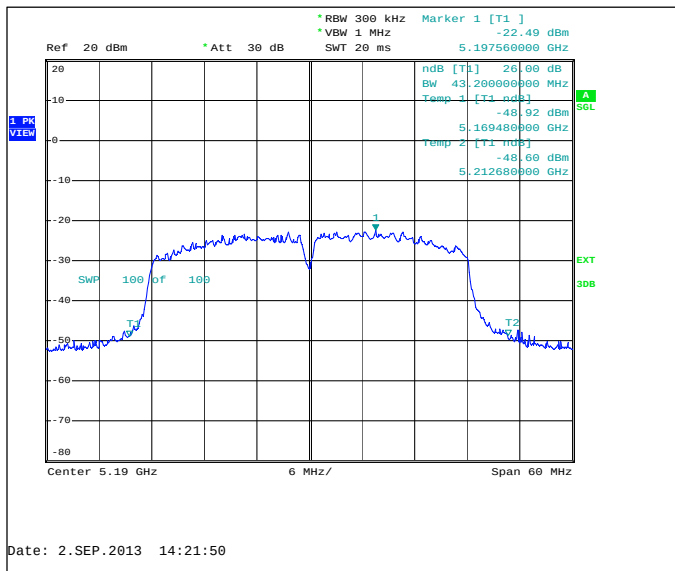
Channel 132+136 / 5670MHz



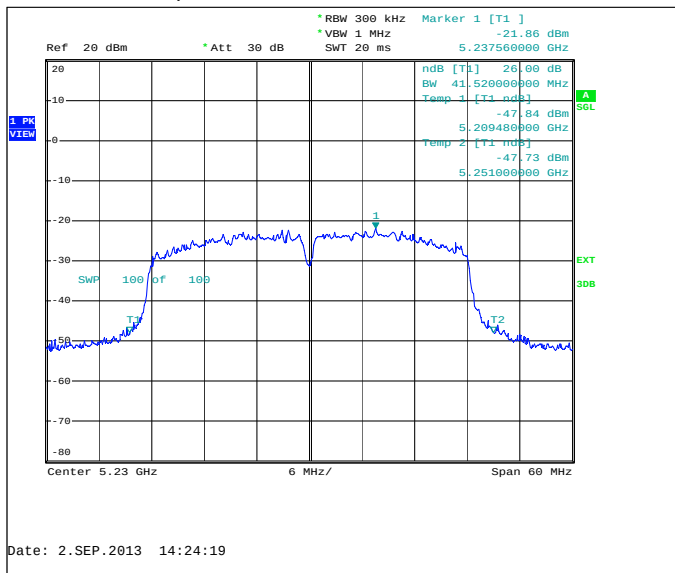
4.4.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f _c [MHz]	26 dB bandwidth [kHz]	Result
36+40 / 5190	43200	PASSED
44+48 / 5230	41520	PASSED
52+56 / 5270	41400	PASSED
60+64 / 5310	42000	PASSED
100+104 / 5510	41760	PASSED
108+112 / 5550	41760	PASSED
132+136 / 5670	41880	PASSED

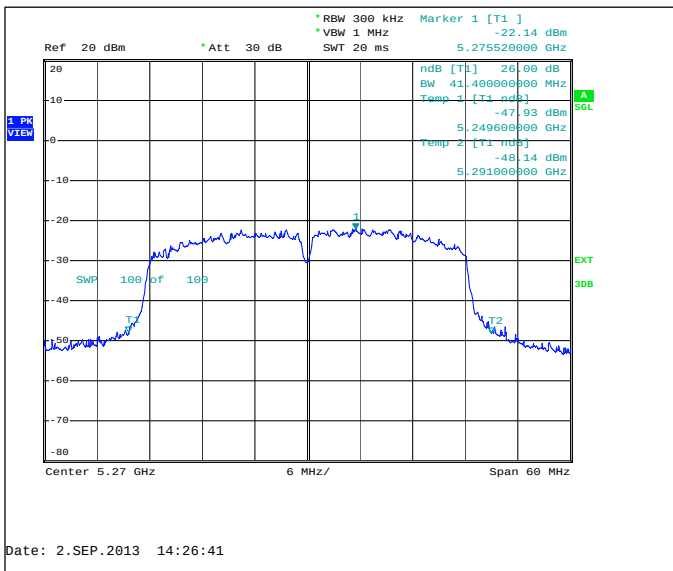
Channel 36+40 / 5190MHz



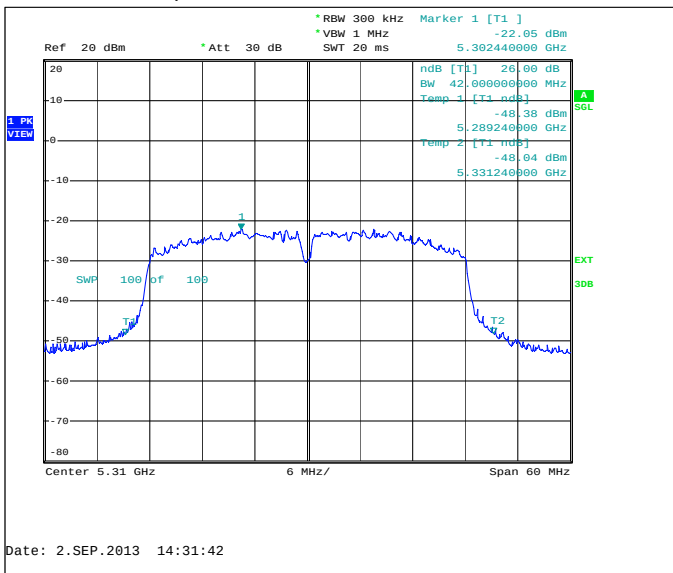
Channel 44+48 / 5230MHz



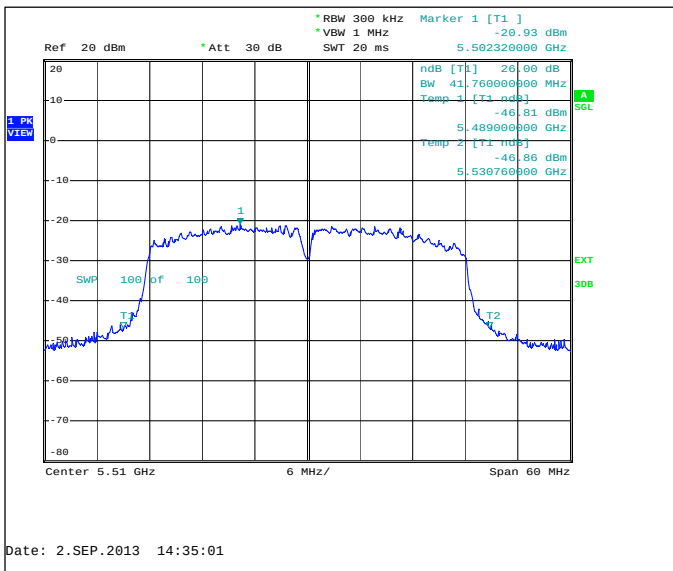
Channel 52+56 / 5270MHz



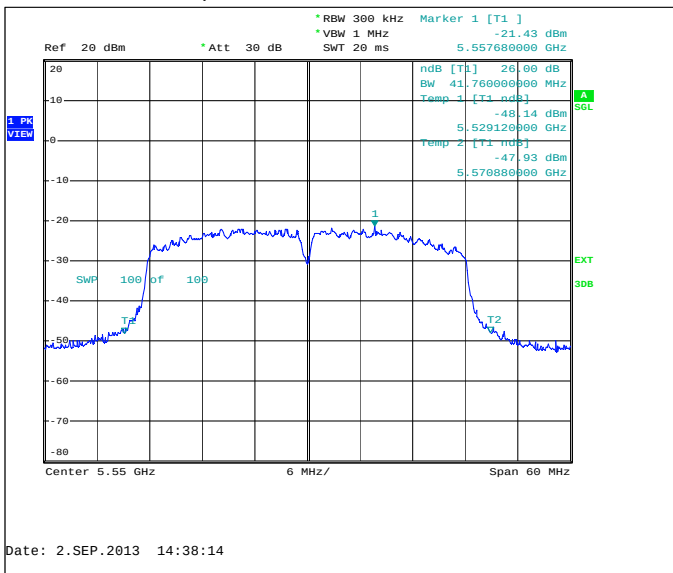
Channel 60+64 / 5310MHz



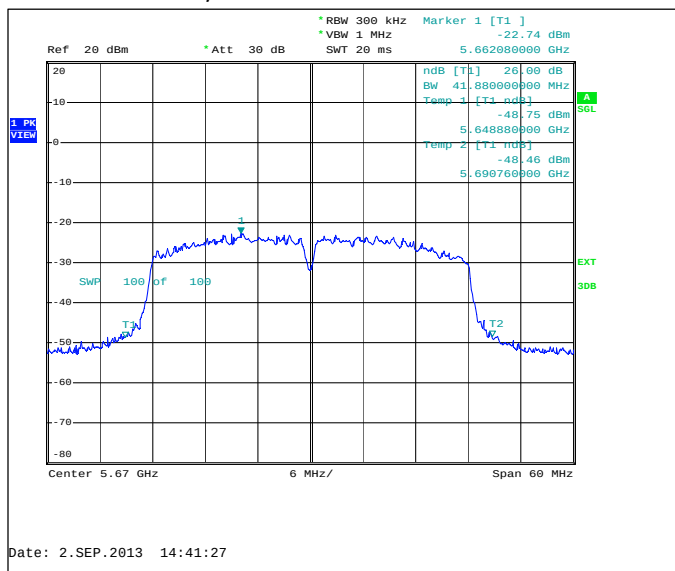
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



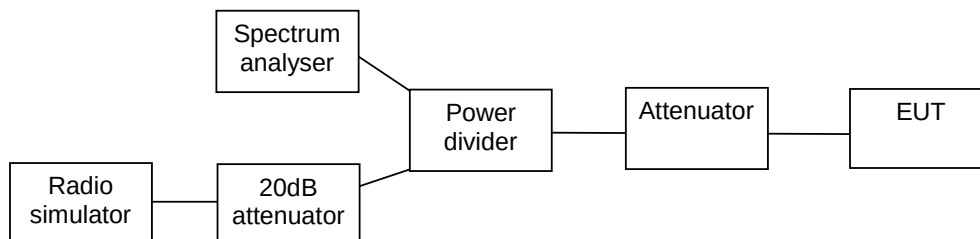
Channel 132+136 / 5670MHz



5. Peak power spectral density (FCC §15.407(a), RSS-210 A9.2)

EUT with DUT number	RX-114, DUT 17629
Accessories with DUT numbers	WH-208, DUT 17355
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	18 / 65 / 101.4
Date of measurements	30-Aug-2013
Measured by	Jari Keto

5.1. Test Setup



5.2. Test method and limit

The measurement is made according to Public Notice KDB 789033 D01 and IC standard RSS-210. Combined values have been calculated according to KDB 662911; Section e2ii was used in MIMO mode and section f2ii in SISO mode.

Limits for power spectral density measurements

Frequency range [MHz]	Limit [dBm]
5150-5250	4
5250-5350	11
5470-5725	11
5725-5825	17

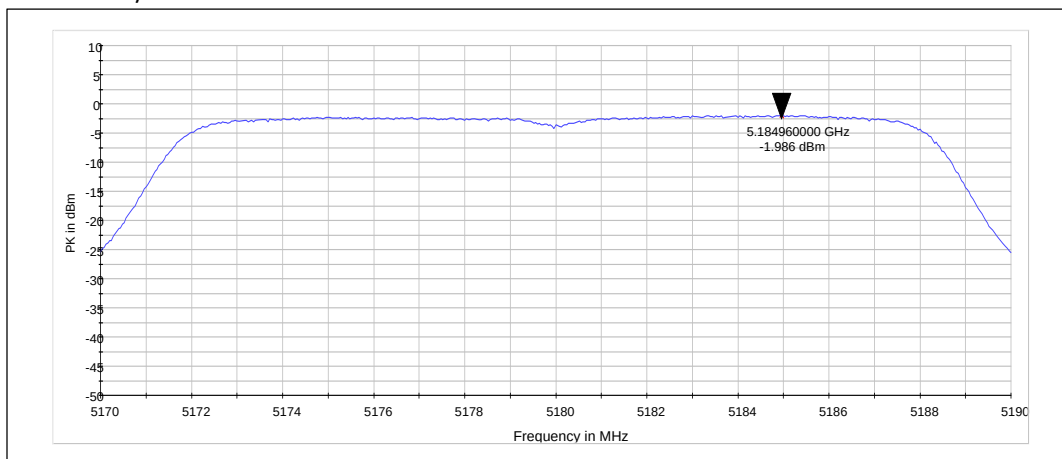
5.3. 5 GHz RLAN Test results, Main Antenna

5.3.1 802.11a mode, BPSK modulation, 6 Mbps data rate

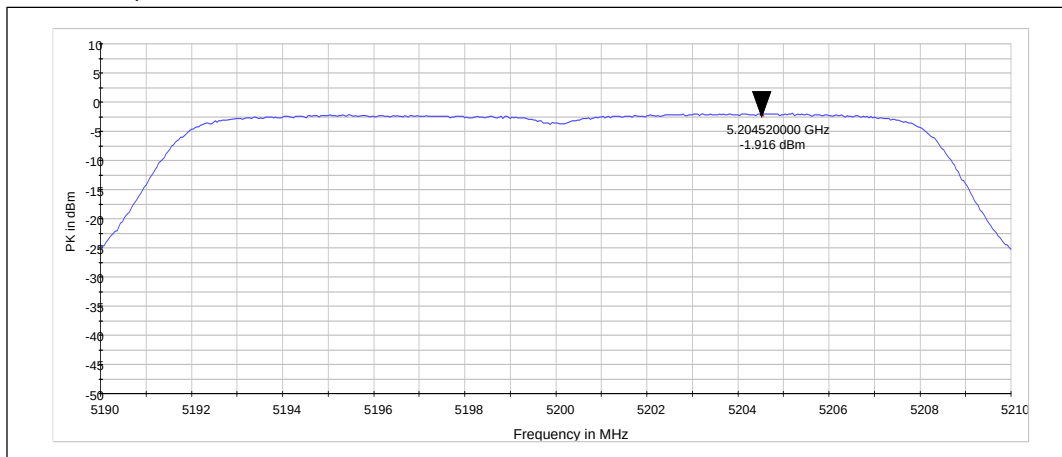
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f _c [MHz]	P [dBm]	Result
36 / 5180	-1.99	PASSED
40 / 5200	-1.92	PASSED
48 / 5240	-2.22	PASSED
52 / 5260	-2.51	PASSED
60 / 5300	-2.69	PASSED
64 / 5320	-2.73	PASSED
100 / 5500	-1.7	PASSED
116 / 5580	-1.44	PASSED
140 / 5700	-1.18	PASSED

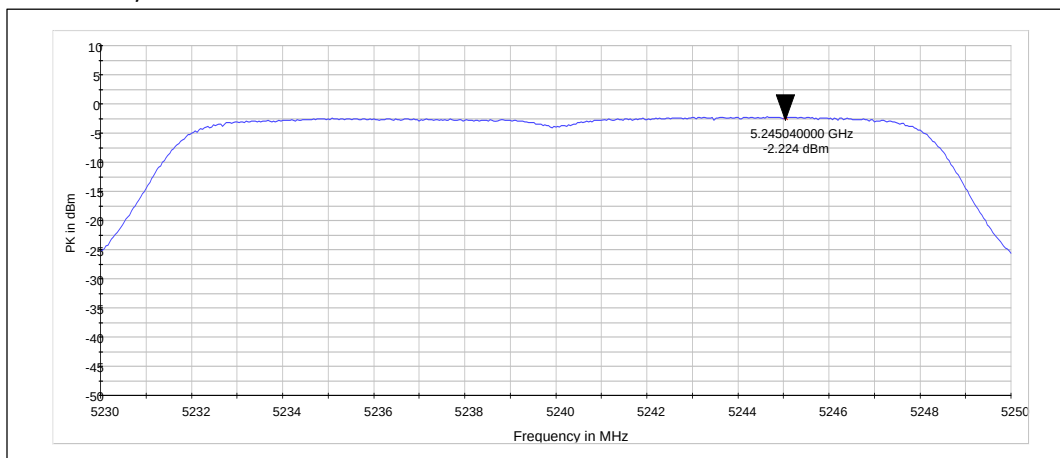
Channel 36 / 5180MHz



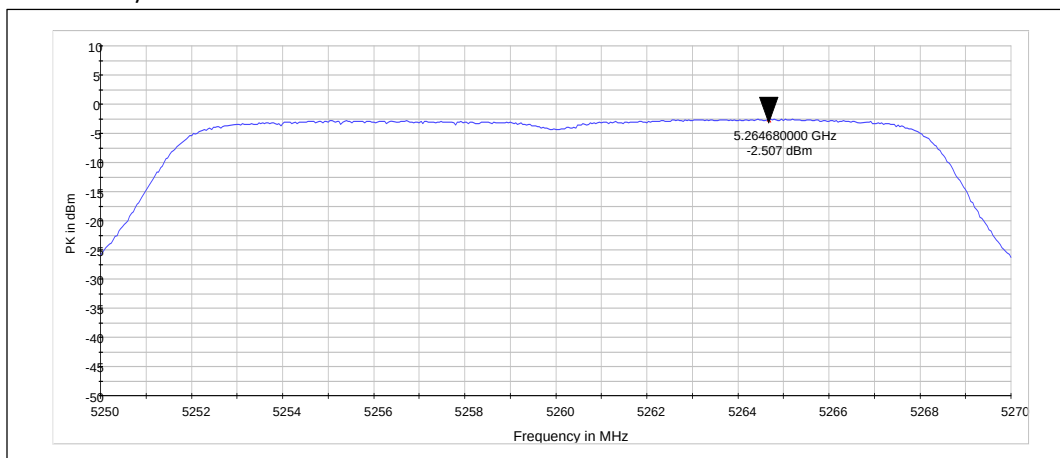
Channel 40 / 5200MHz



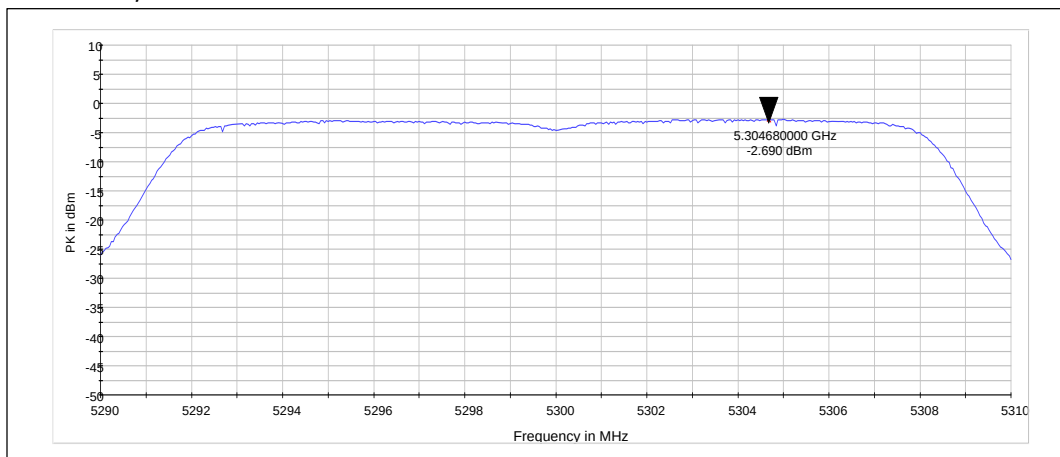
Channel 48 / 5240MHz



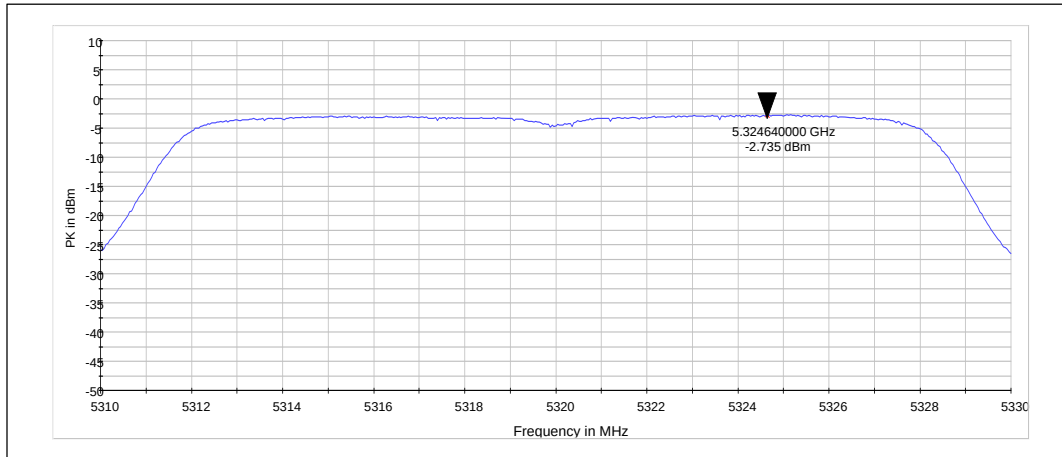
Channel 52 / 5260MHz



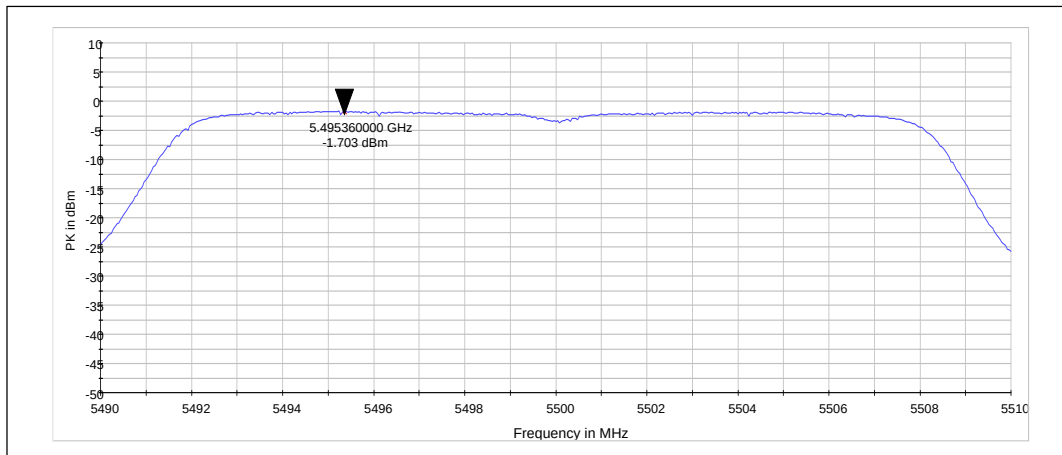
Channel 60 / 5300MHz



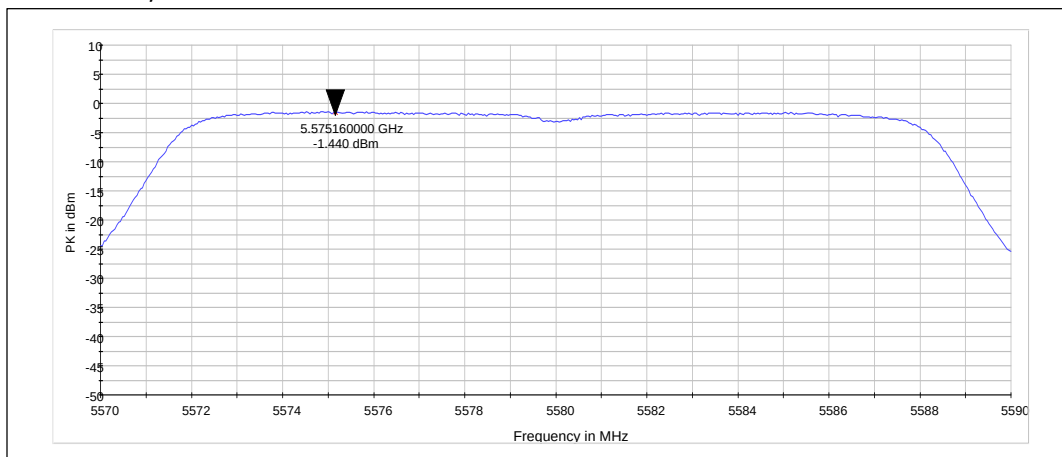
Channel 64 / 5320MHz



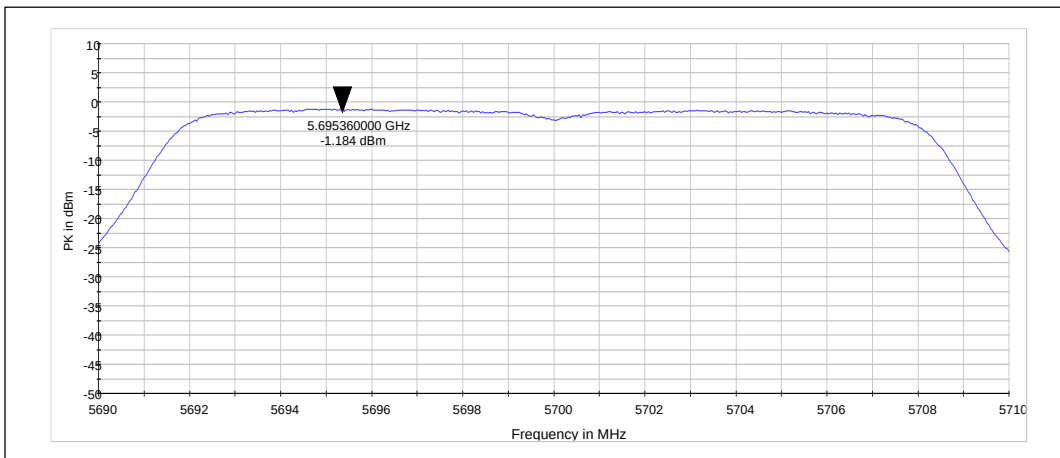
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

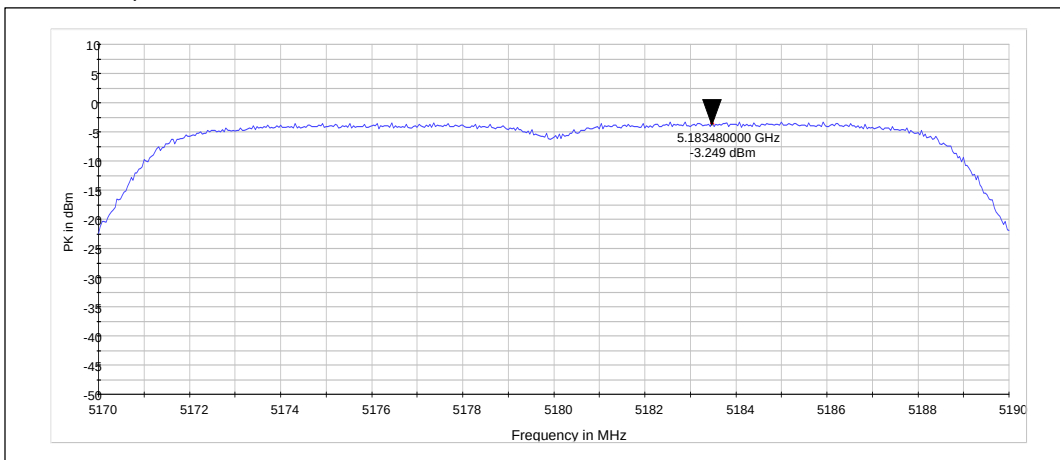


5.3.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

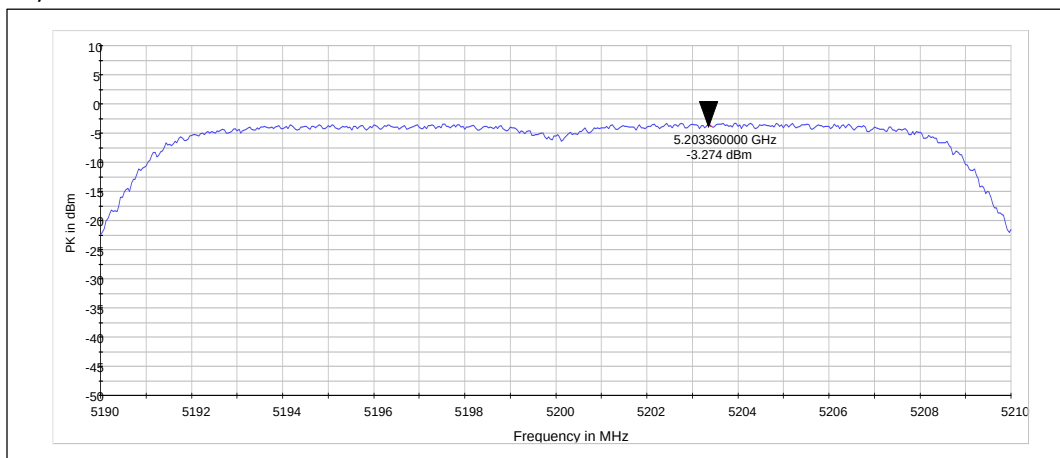
Channel / f_c [MHz]	P [dBm]	Result
36 / 5180	-3.25	PASSED
40 / 5200	-3.27	PASSED
48 / 5240	-3.31	PASSED
52 / 5260	-3.88	PASSED
60 / 5300	-4.06	PASSED
64 / 5320	-4.02	PASSED
100 / 5500	-2.65	PASSED
116 / 5580	-2.4	PASSED
140 / 5700	-2.58	PASSED

Channel 36 / 5180MHz

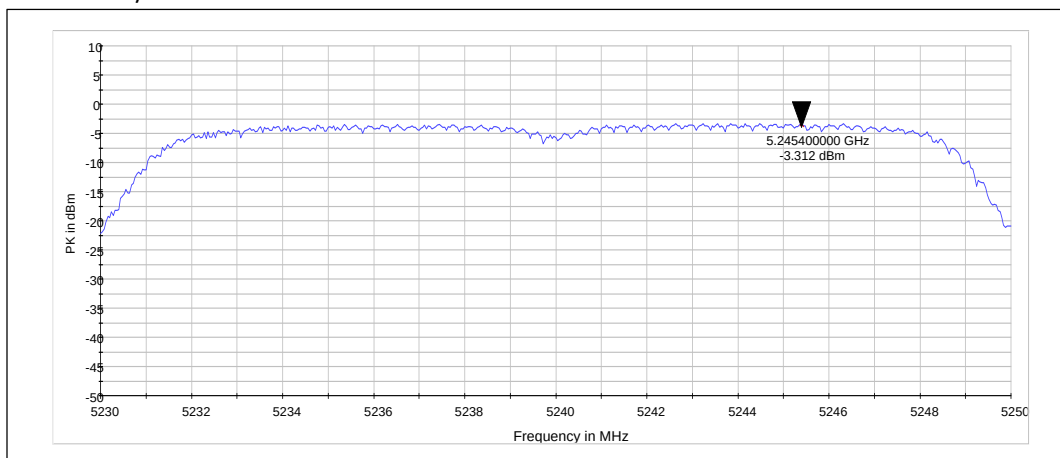


Channel

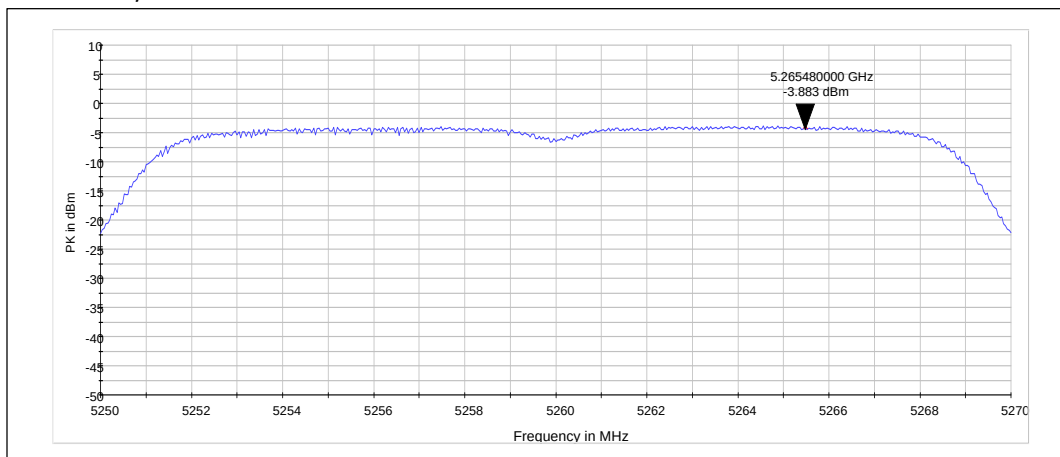
40 / 5200MHz



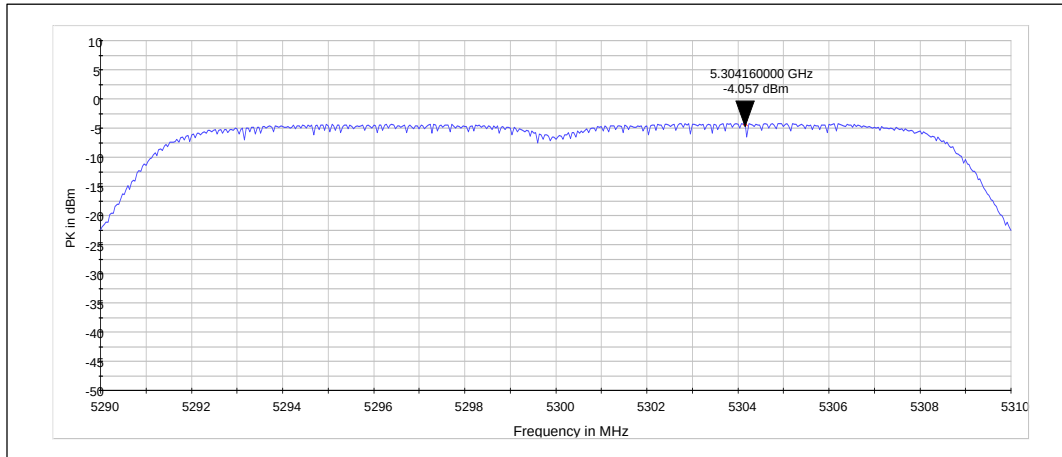
Channel 48 / 5240MHz



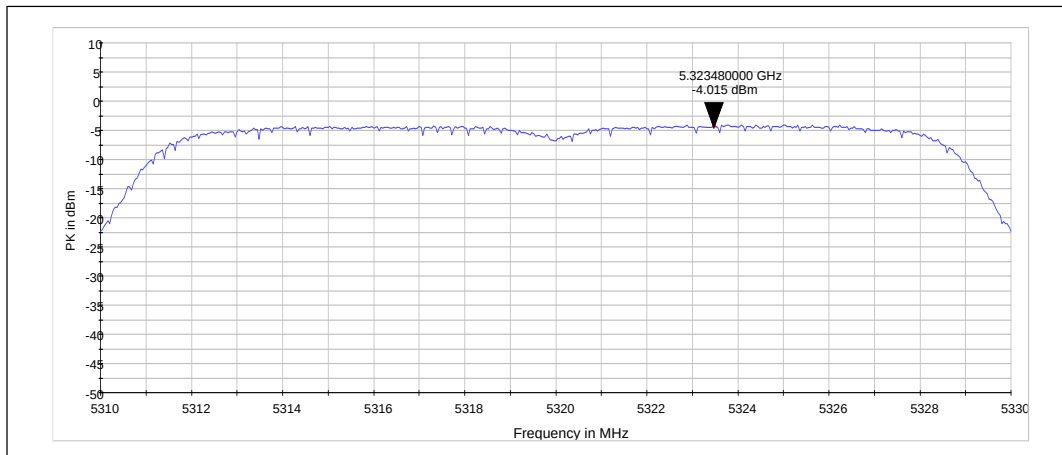
Channel 52 / 5260MHz



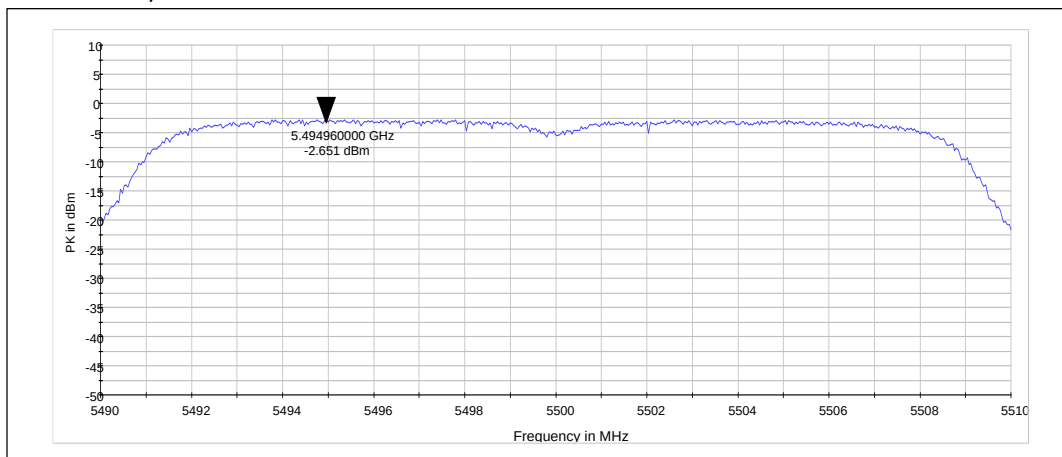
Channel 60 / 5300MHz



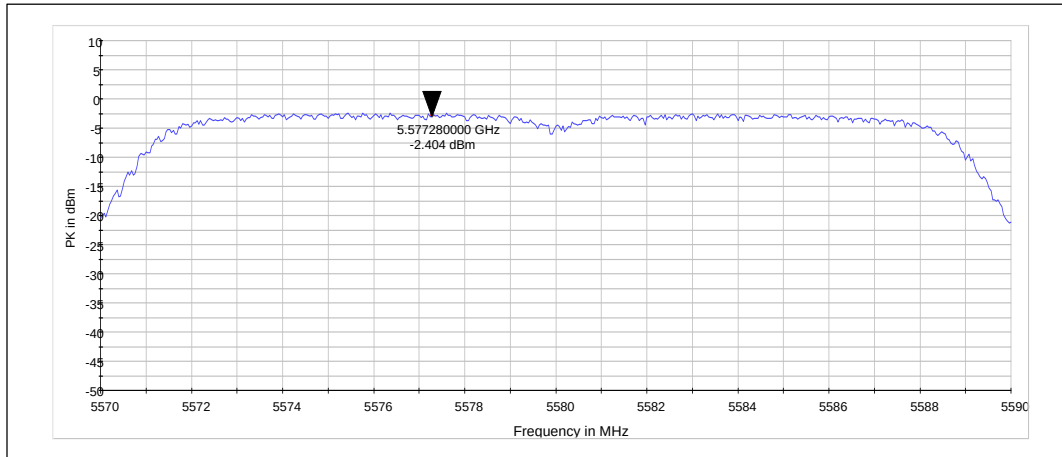
Channel 64 / 5320MHz



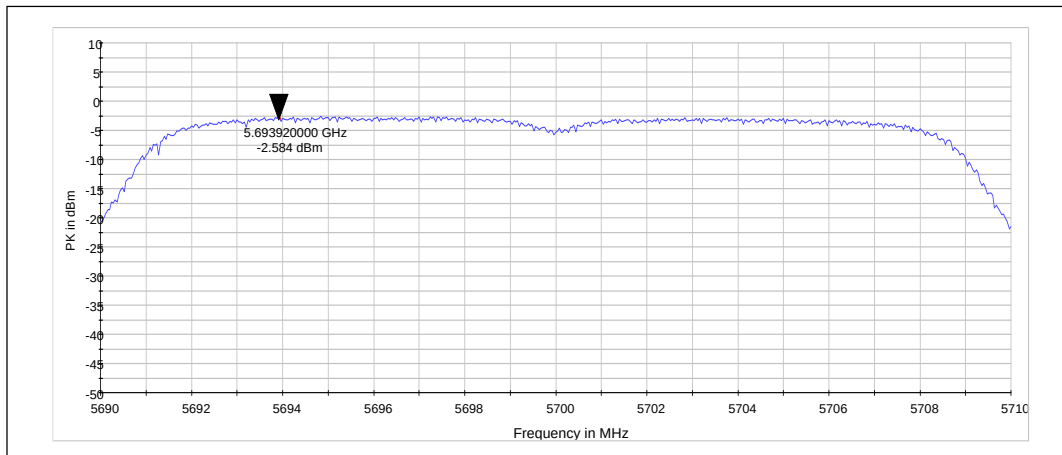
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

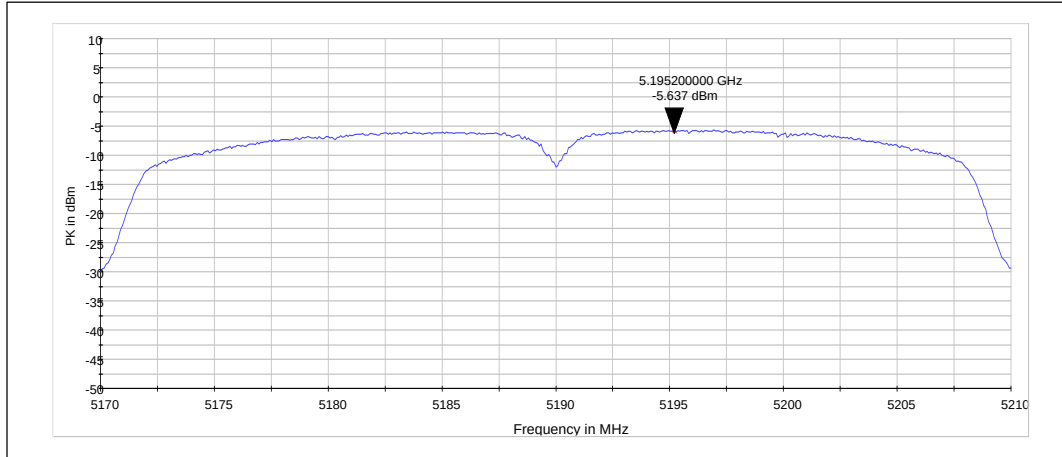


5.3.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

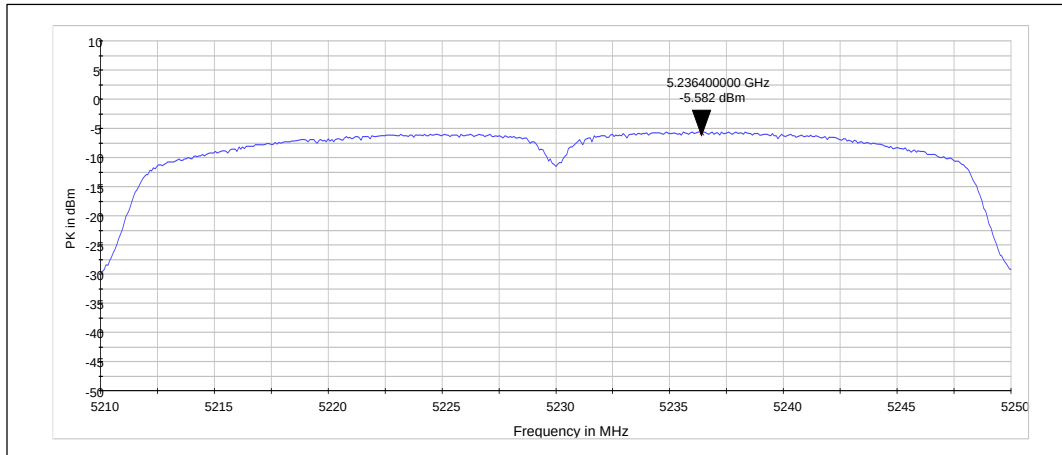
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f_c [MHz]	P [dBm]	Result
36+40 / 5190	-5.64	PASSED
44+48 / 5230	-5.58	PASSED
52+56 / 5270	-5.49	PASSED
60+64 / 5310	-5.48	PASSED
100+104 / 5510	-4.63	PASSED
132+136 / 5670	-4.5	PASSED
108+112 / 5550	-4.34	PASSED

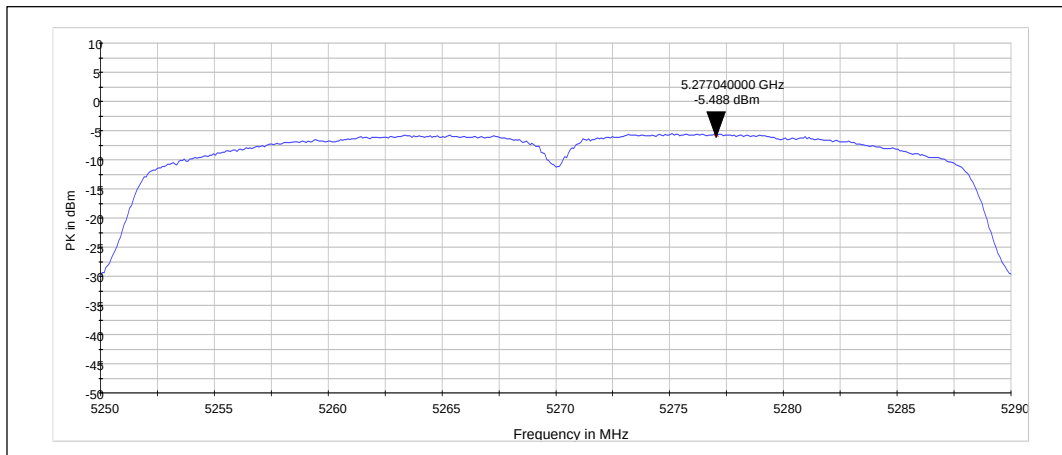
Channel 36+40 / 5190MHz



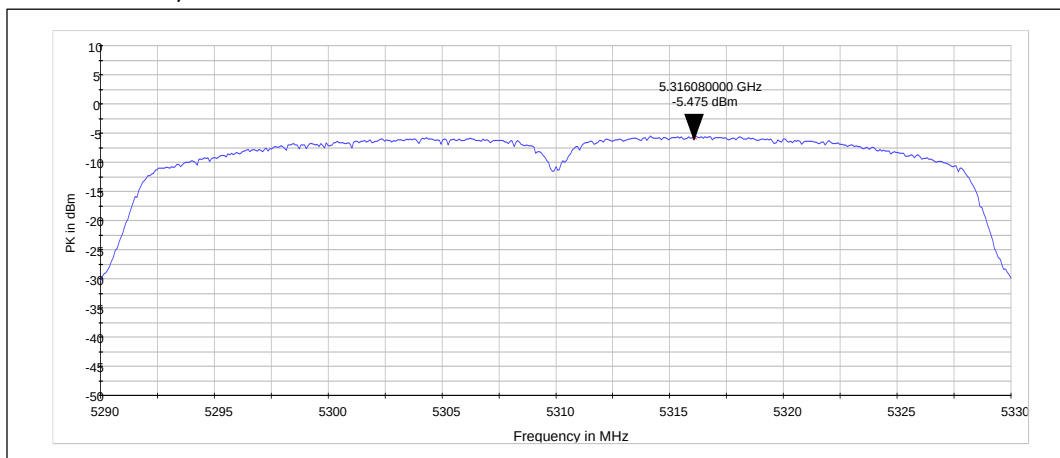
Channel 44+48 / 5230MHz



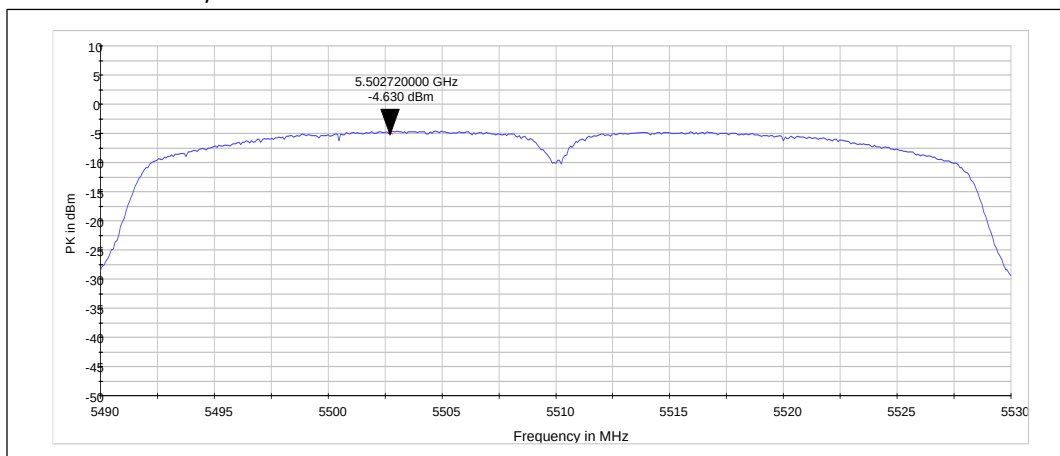
Channel 52+56 / 5270MHz



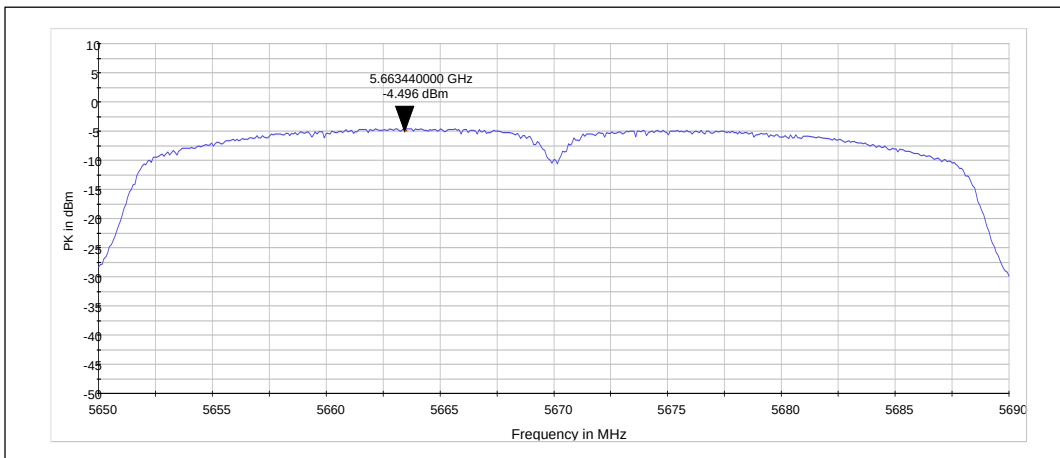
Channel 60+64 / 5310MHz



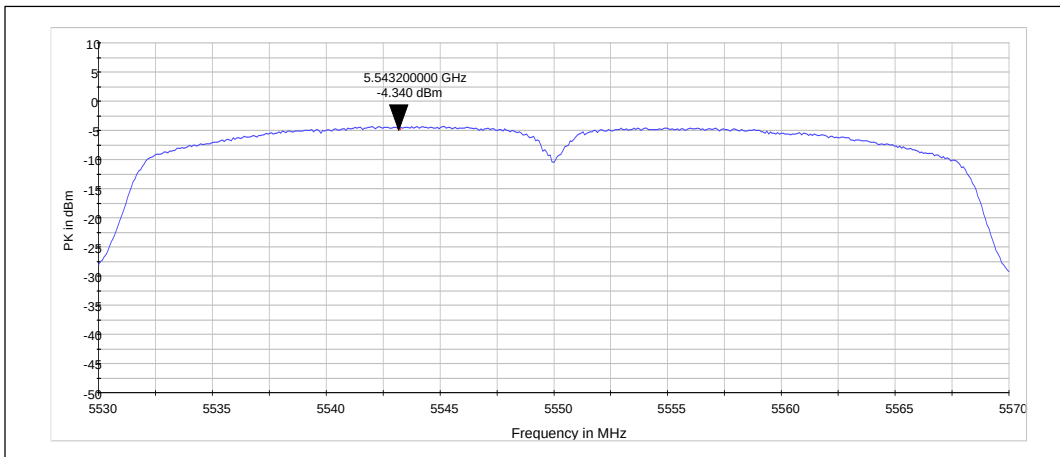
Channel 100+104 / 5510MHz



Channel 132+136 / 5670MHz



Channel 108+112 / 5550MHz

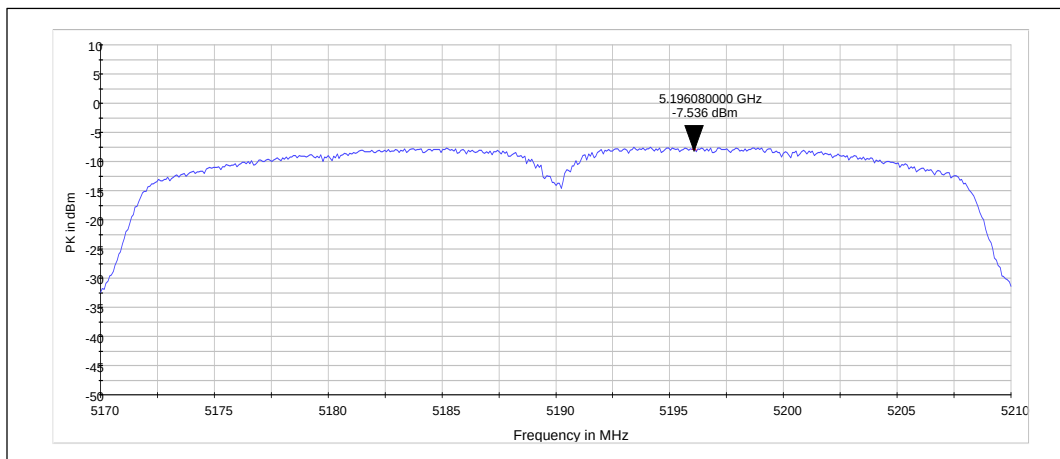


5.3.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

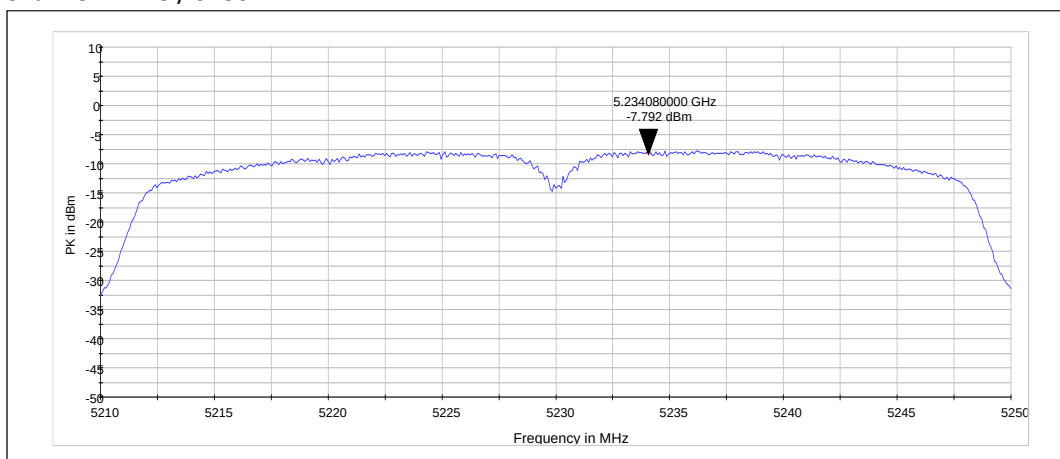
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f _c [MHz]	P [dBm]	Result
36+40 / 5190	-7.54	PASSED
44+48 / 5230	-7.79	PASSED
52+56 / 5270	-7.67	PASSED
60+64 / 5310	-7.6	PASSED
100+104 / 5510	-6.58	PASSED
108+112 / 5550	-6.4	PASSED
132+136 / 5670	-6.32	PASSED

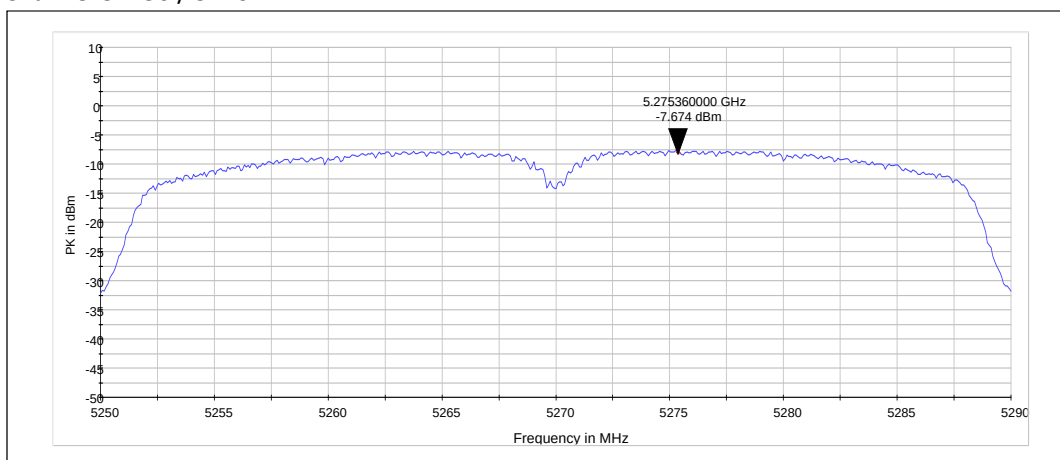
Channel 36+40 / 5190MHz



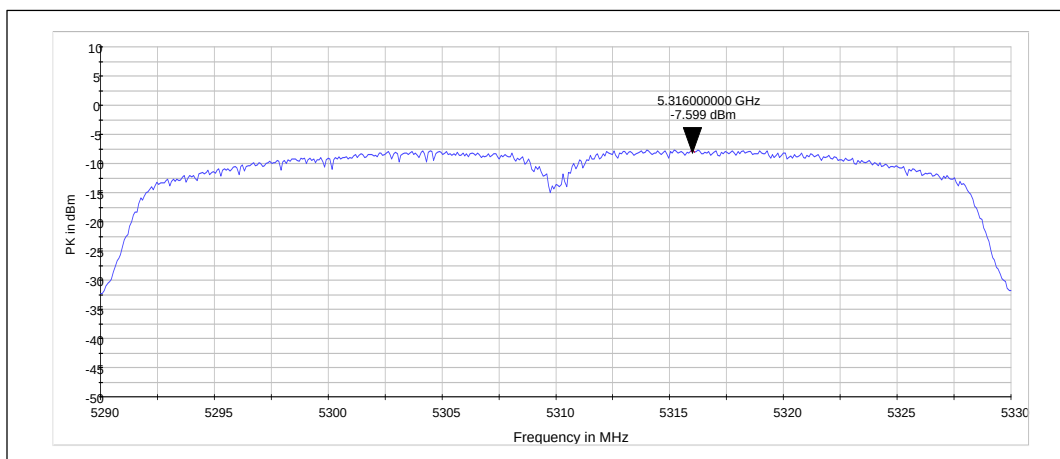
Channel 44+48 / 5230MHz



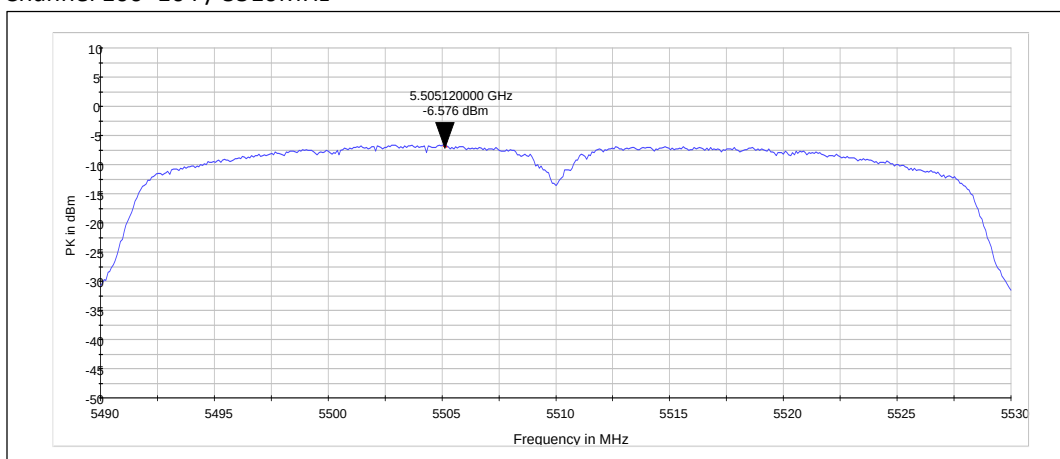
Channel 52+56 / 5270MHz



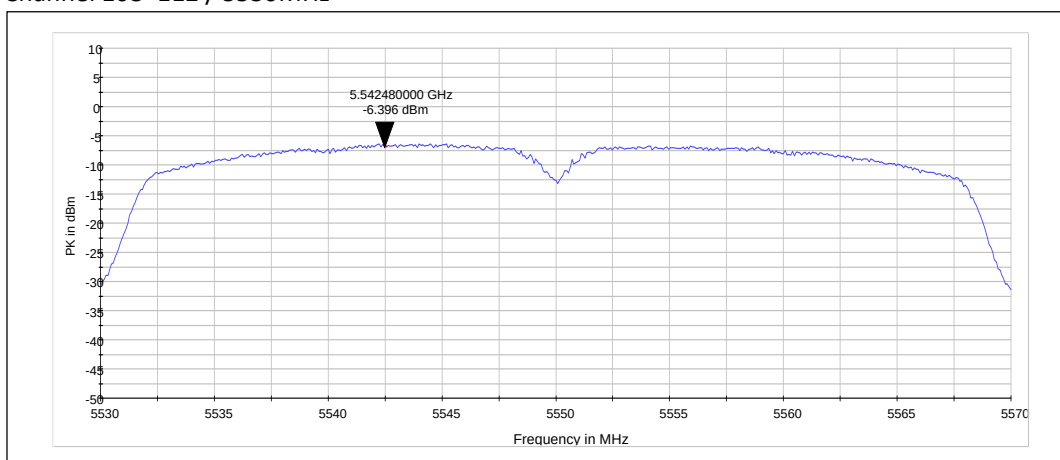
Channel 60+64 / 5310MHz



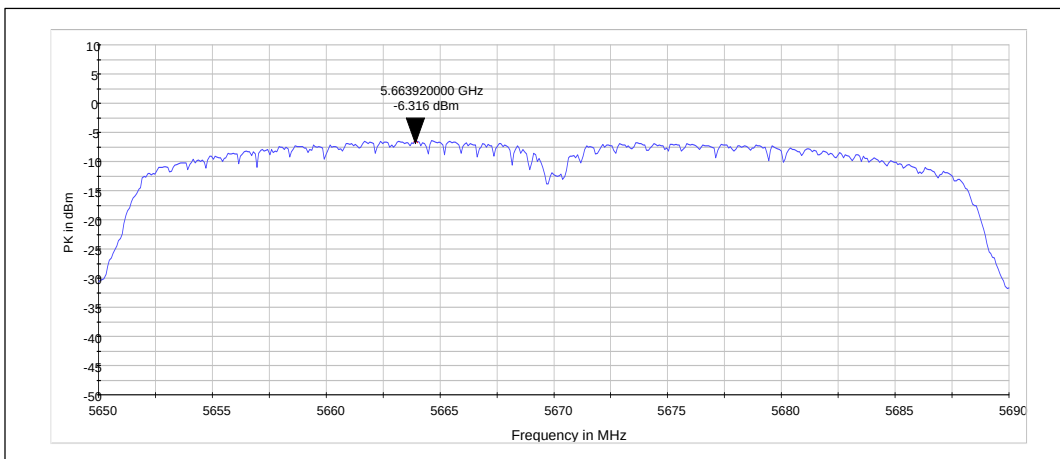
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



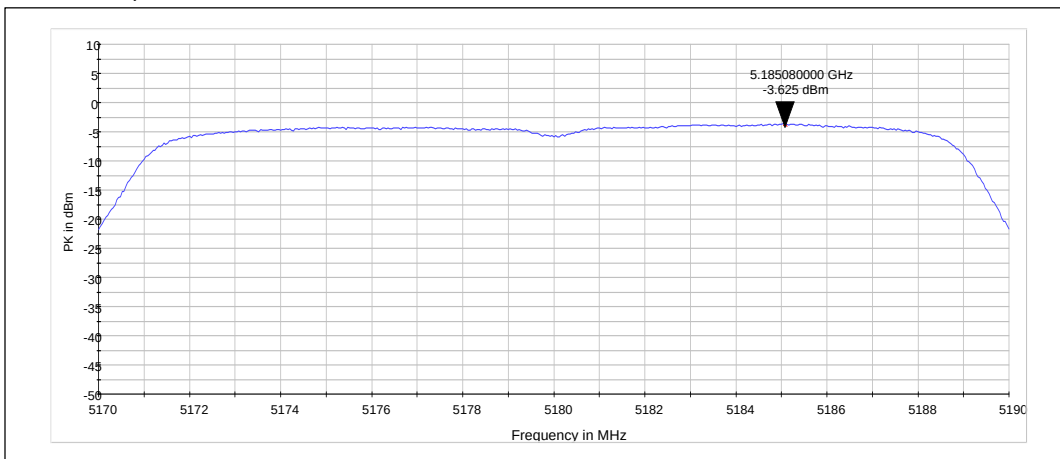
5.4. 5 GHz RLAN Test results, Aux Antenna

5.4.1 802.11n mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

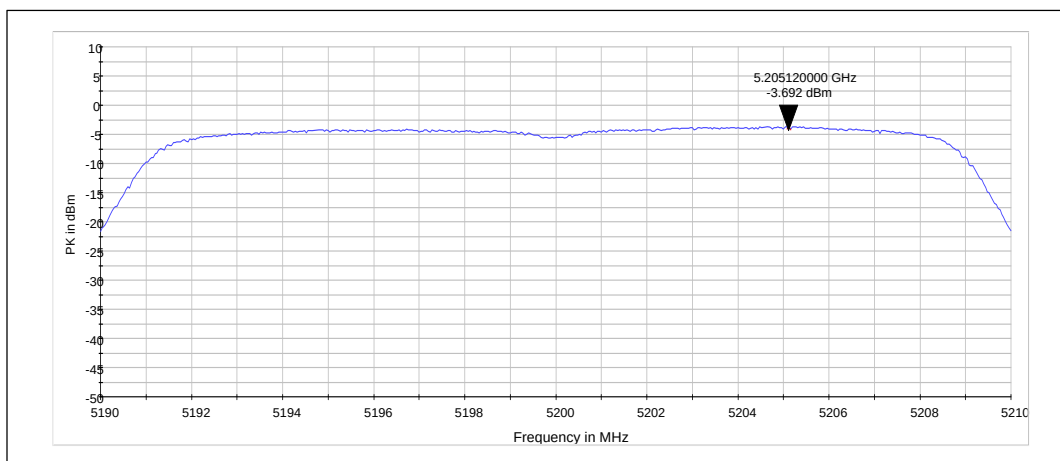
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f_c [MHz]	P [dBm]	Result
36 / 5180	-3.62	PASSED
40 / 5200	-3.69	PASSED
48 / 5240	-3.23	PASSED
52 / 5260	-3.07	PASSED
60 / 5300	-3.29	PASSED
64 / 5320	-3.69	PASSED
100 / 5500	-1.43	PASSED
116 / 5580	-2.87	PASSED
140 / 5700	-4.39	PASSED

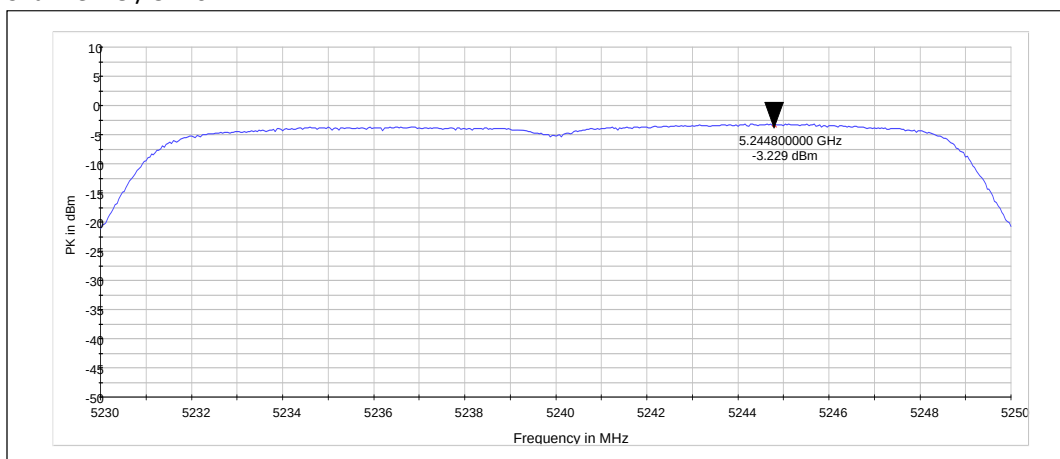
Channel 36 / 5180MHz



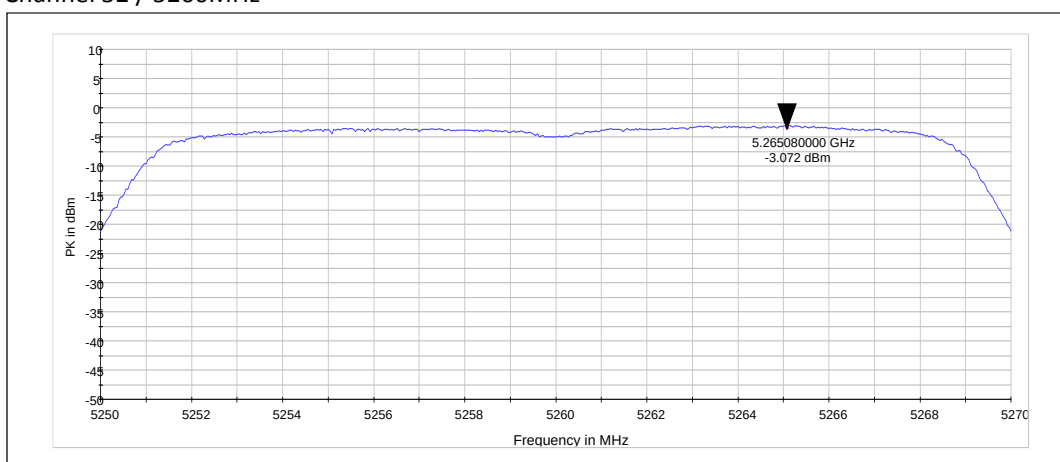
Channel 40 / 5200MHz



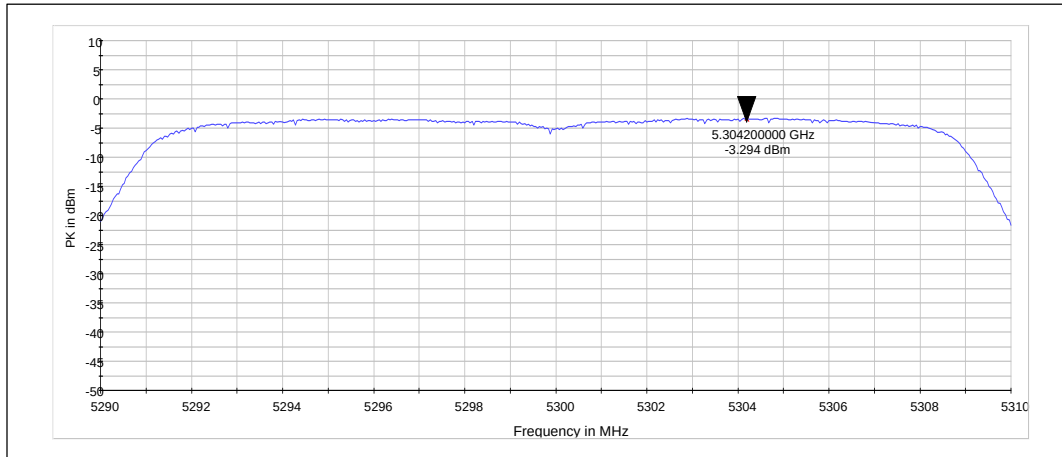
Channel 48 / 5240MHz



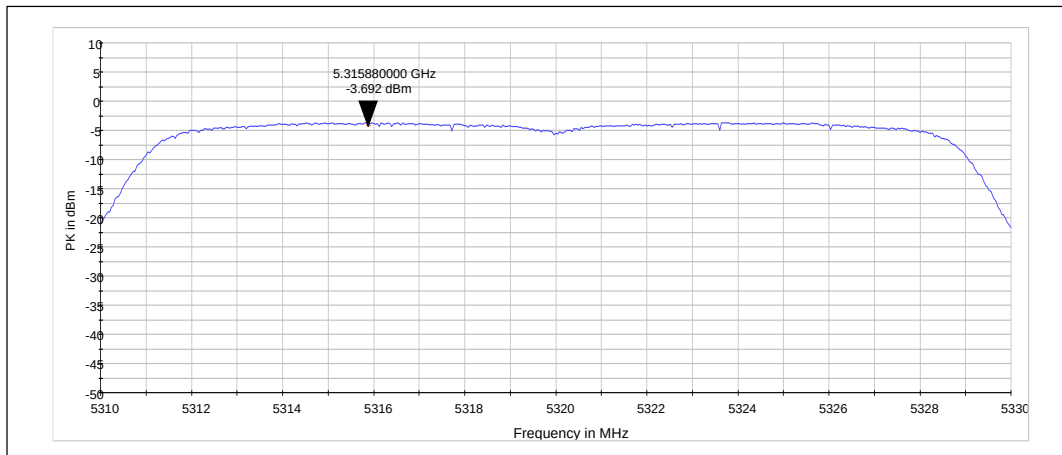
Channel 52 / 5260MHz



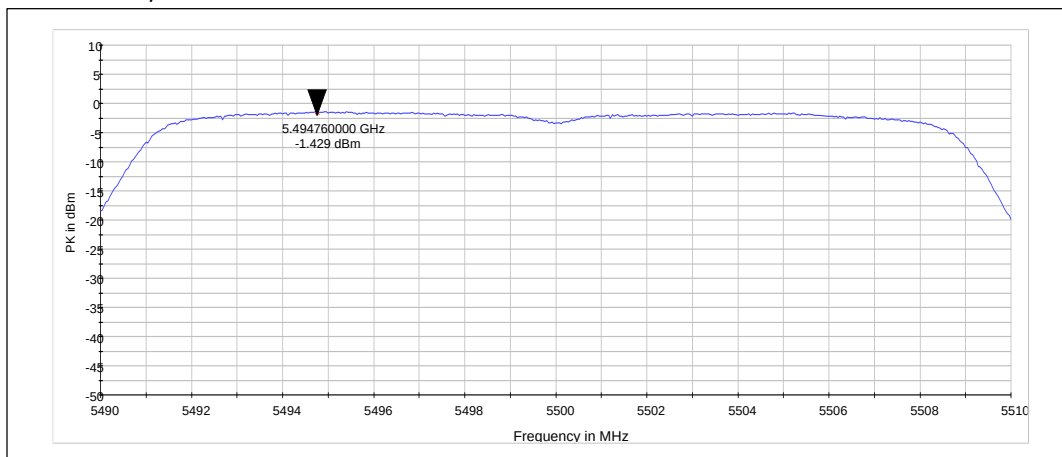
Channel 60 / 5300MHz



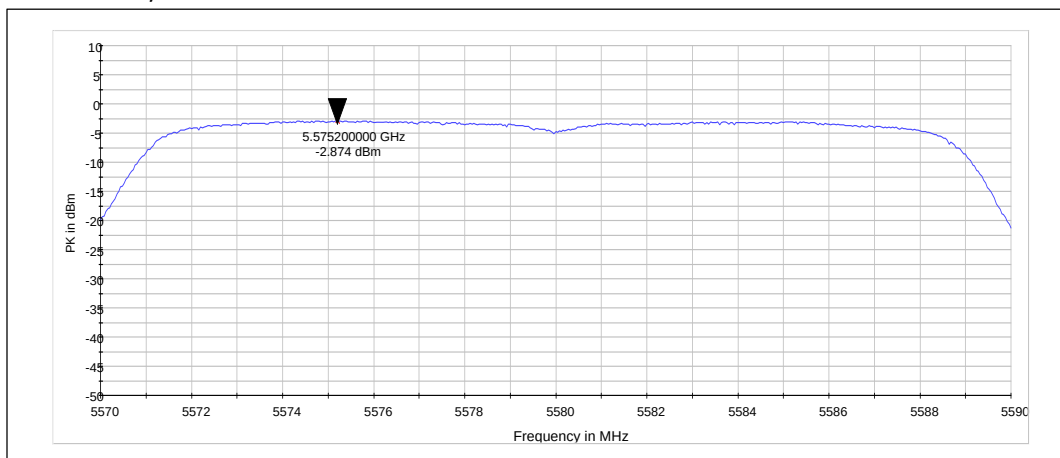
Channel 64 / 5320MHz



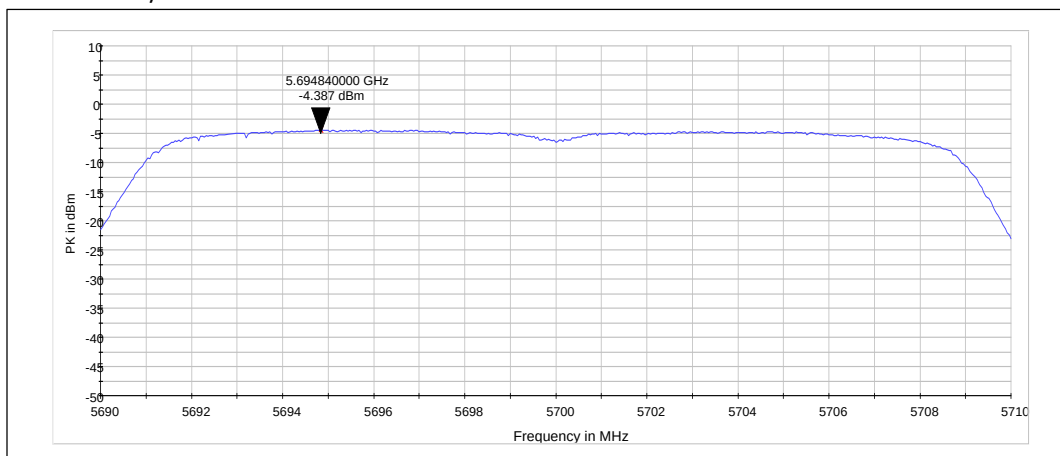
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

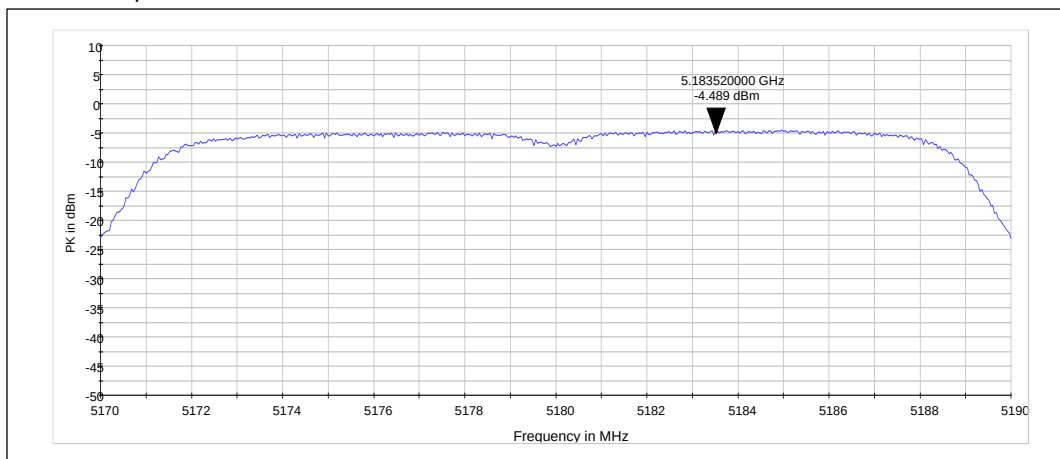


5.4.2 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

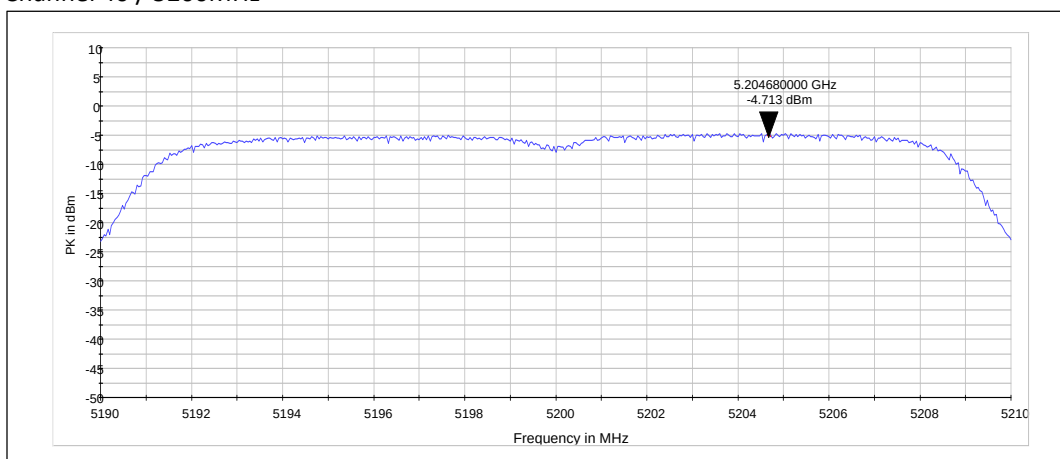
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f_c [MHz]	P [dBm]	Result
36 / 5180	-4.49	PASSED
40 / 5200	-4.71	PASSED
48 / 5240	-4.25	PASSED
52 / 5260	-3.99	PASSED
60 / 5300	-4.21	PASSED
64 / 5320	-4.57	PASSED
100 / 5500	-2.11	PASSED
116 / 5580	-3.98	PASSED
140 / 5700	-5.13	PASSED

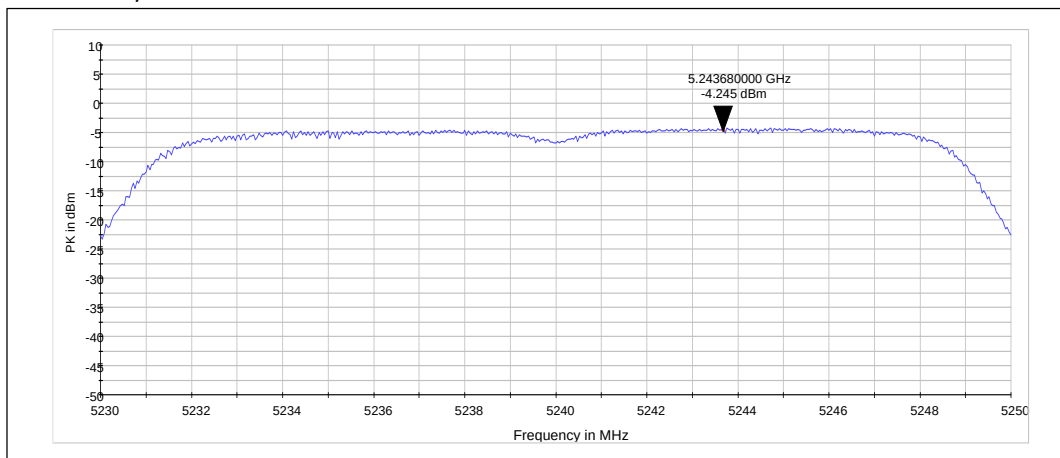
Channel 36 / 5180MHz



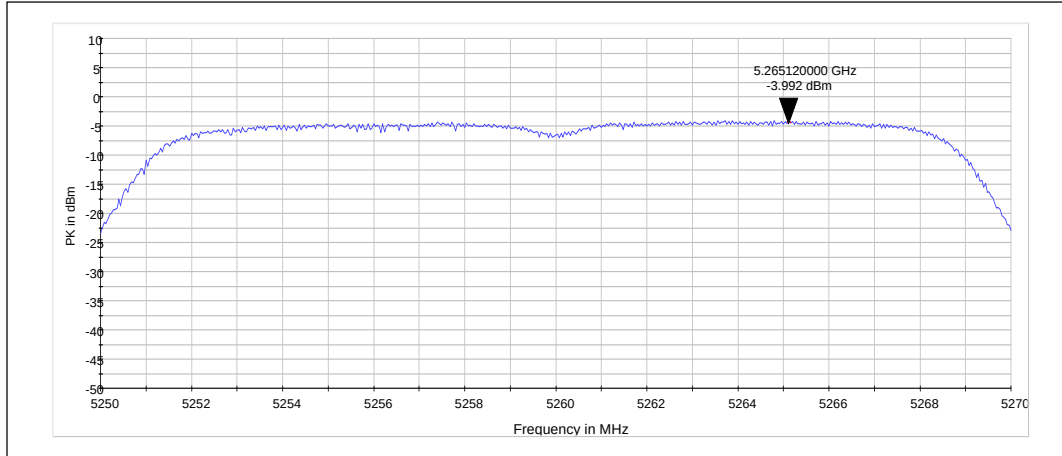
Channel 40 / 5200MHz



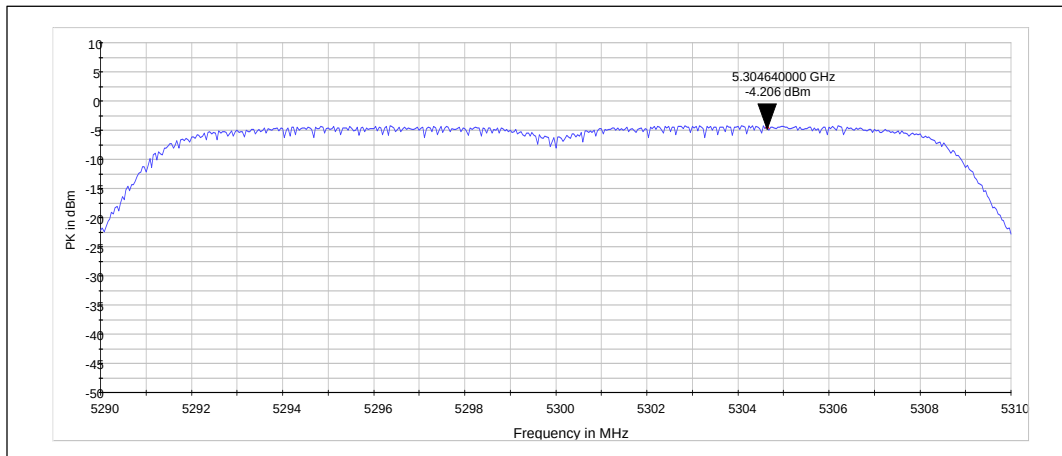
Channel 48 / 5240MHz



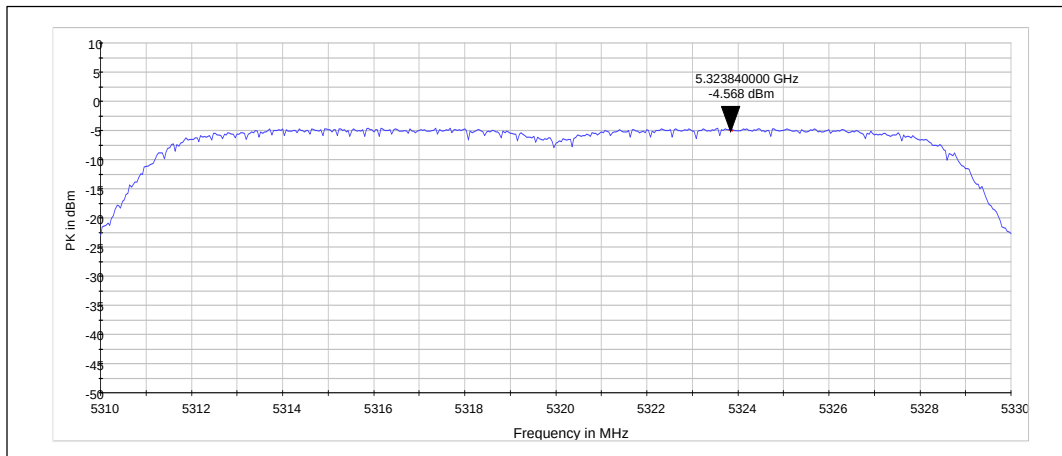
Channel 52 / 5260MHz



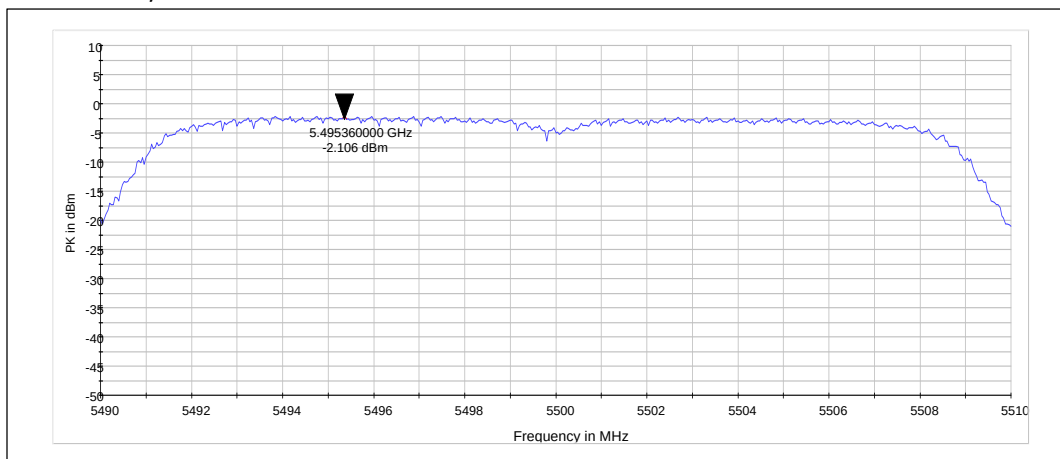
Channel 60 / 5300MHz



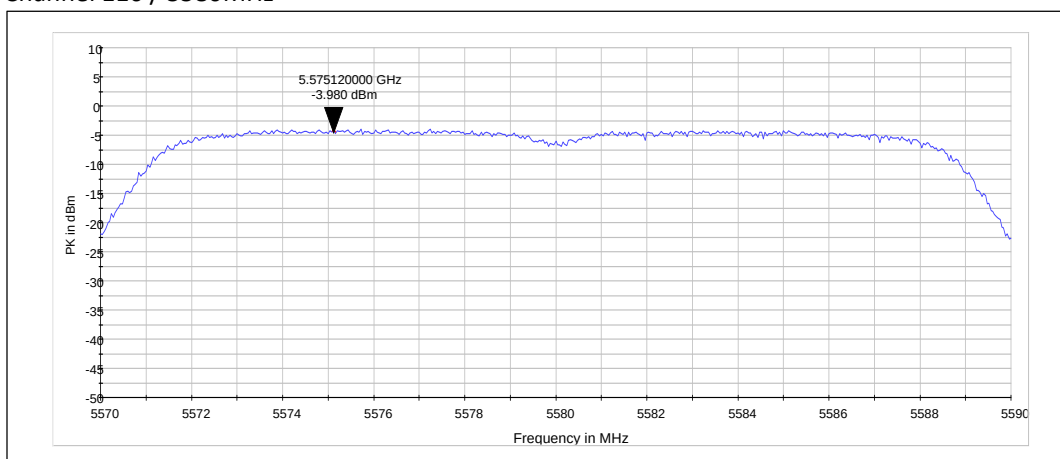
Channel 64 / 5320MHz



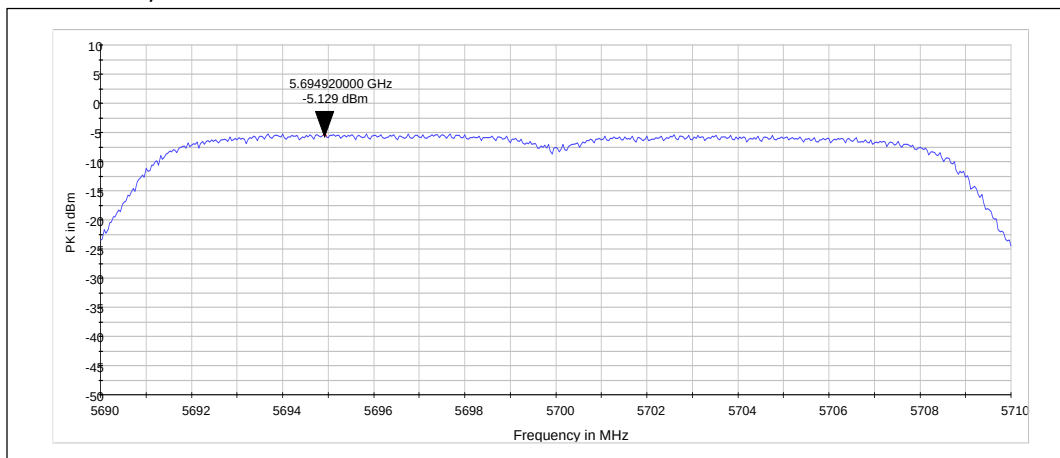
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz

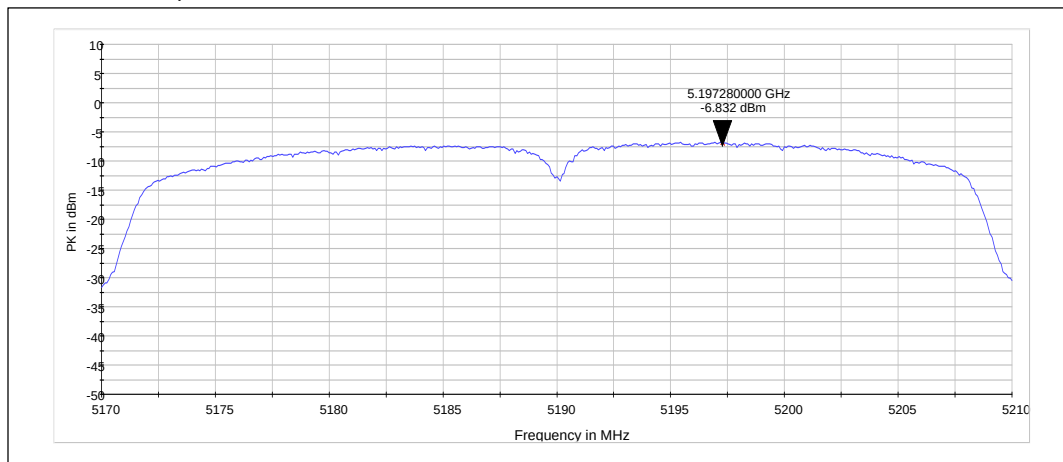


5.4.3 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

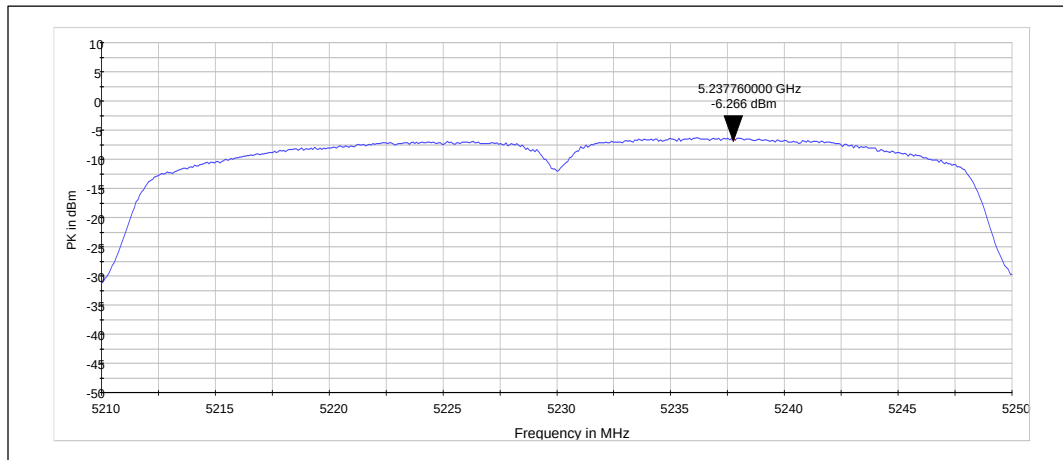
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f_c [MHz]	P [dBm]	Result
36+40 / 5190	-6.83	PASSED
44+48 / 5230	-6.27	PASSED
52+56 / 5270	-5.84	PASSED
60+64 / 5310	-6.35	PASSED
100+104 / 5510	-4.81	PASSED
108+112 / 5550	-5.54	PASSED
132+136 / 5670	-6.92	PASSED

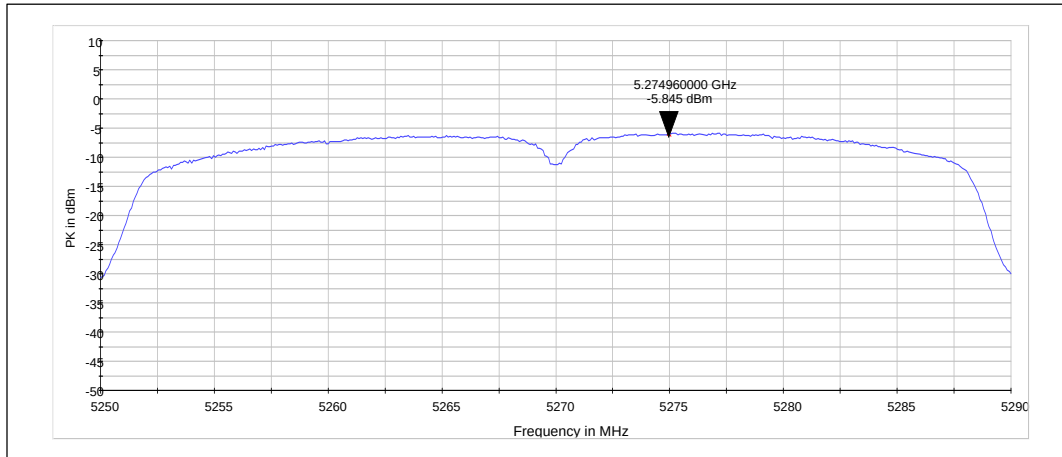
Channel 36+40 / 5190MHz



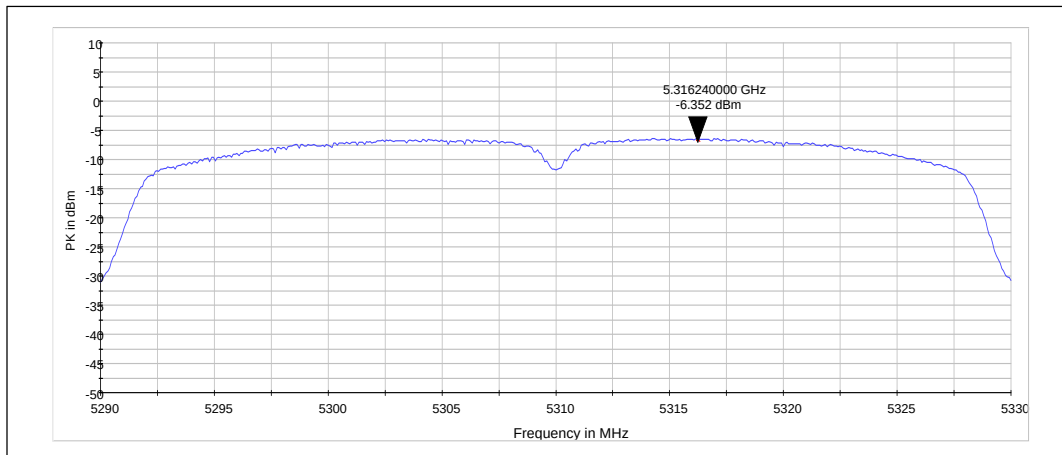
Channel 44+48 / 5230MHz



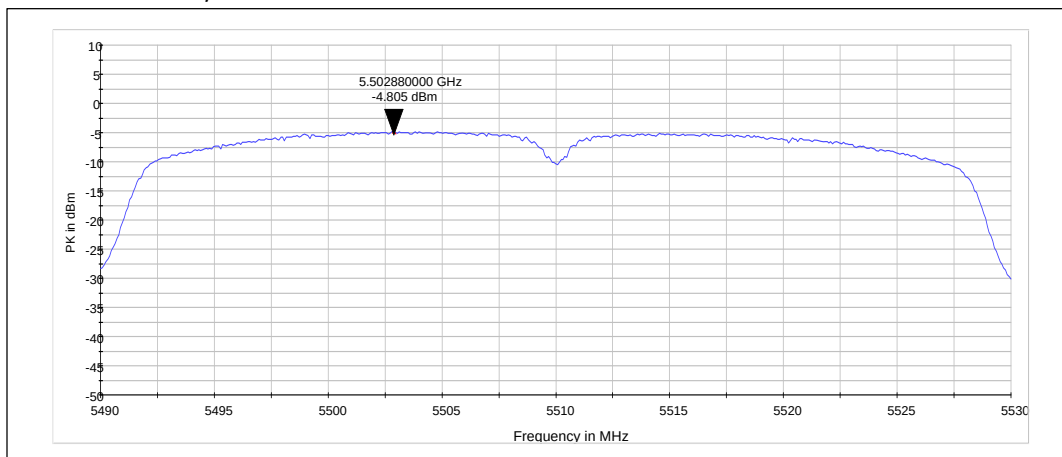
Channel 52+56 / 5270MHz



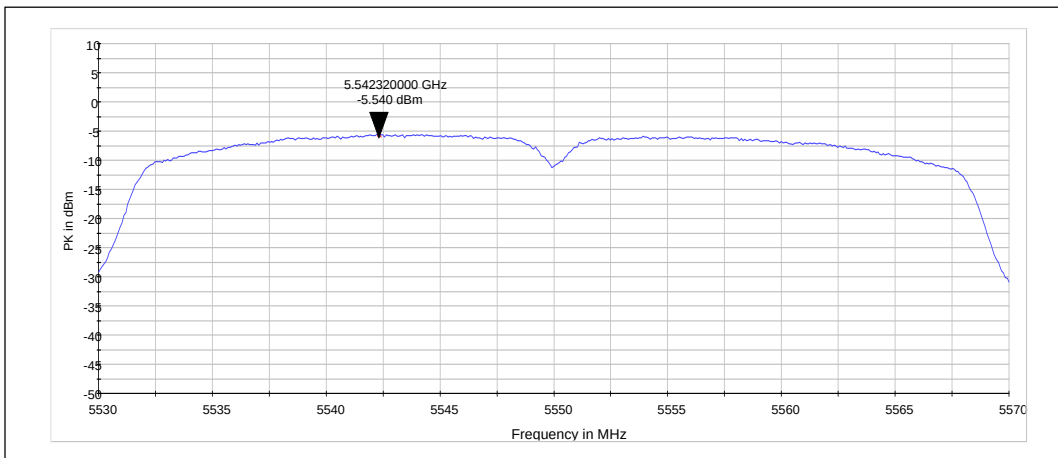
Channel 60+64 / 5310MHz



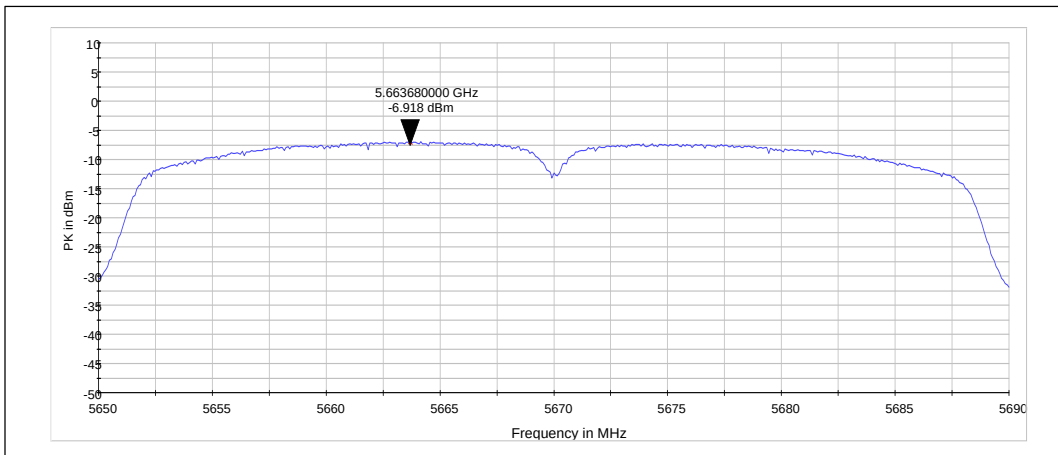
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz

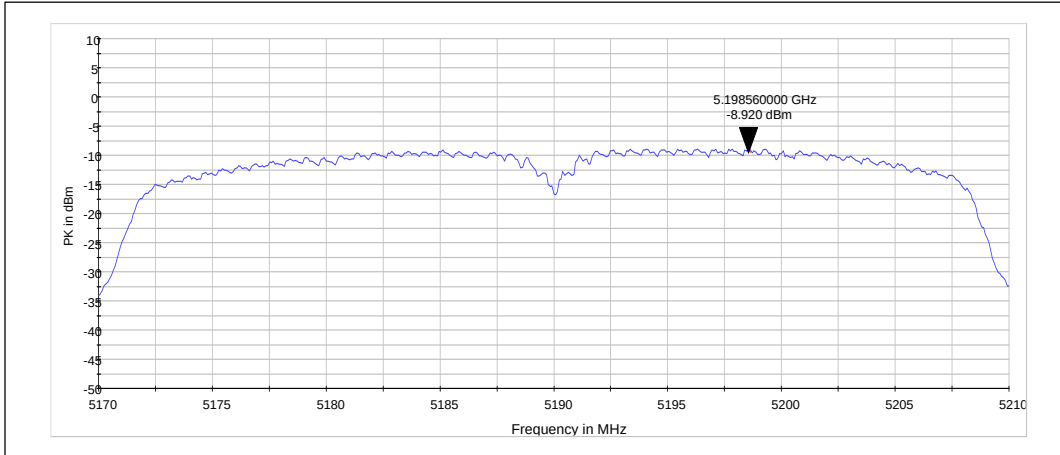


5.4.4 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

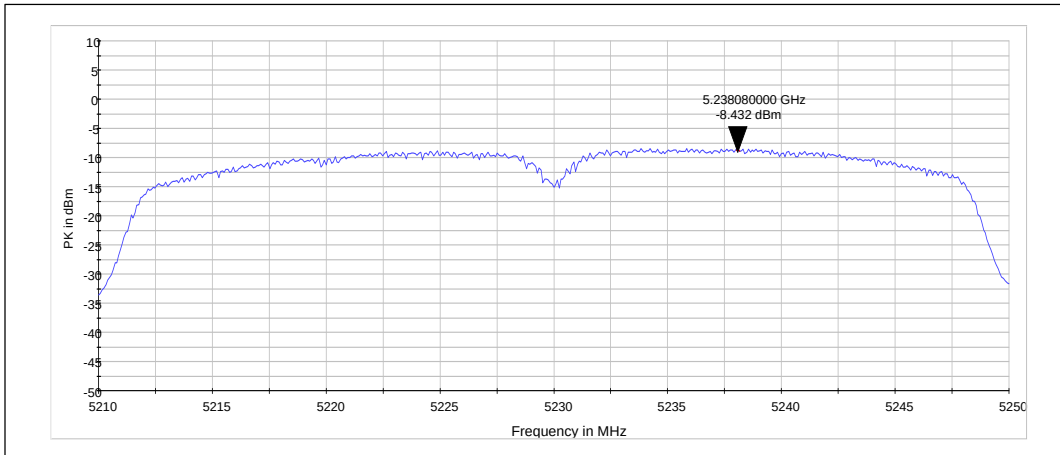
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f _c [MHz]	P [dBm]	Result
36+40 / 5190	-8.92	PASSED
44+48 / 5230	-8.43	PASSED
52+56 / 5270	-8.25	PASSED
60+64 / 5310	-8.35	PASSED
100+104 / 5510	-6.88	PASSED
108+112 / 5550	-7.7	PASSED
132+136 / 5670	-8.87	PASSED

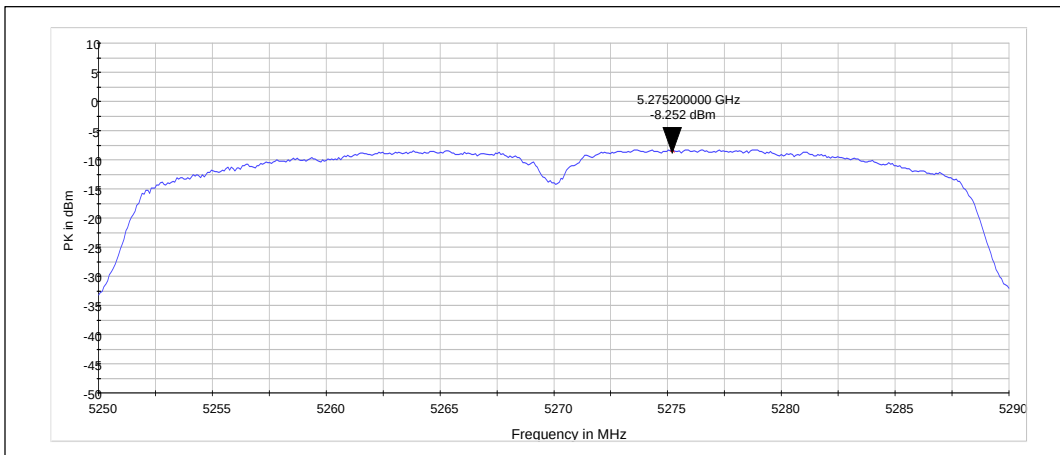
Channel 36+40 / 5190MHz



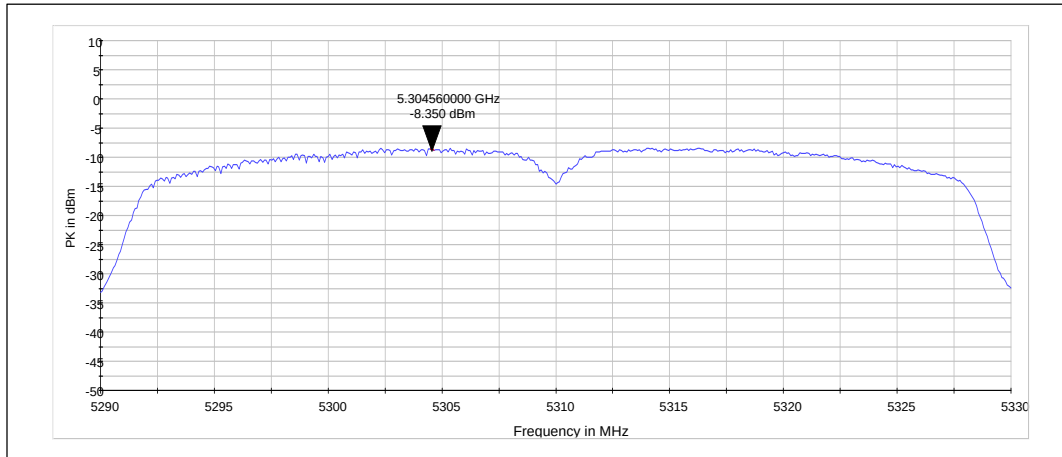
Channel 44+48 / 5230MHz



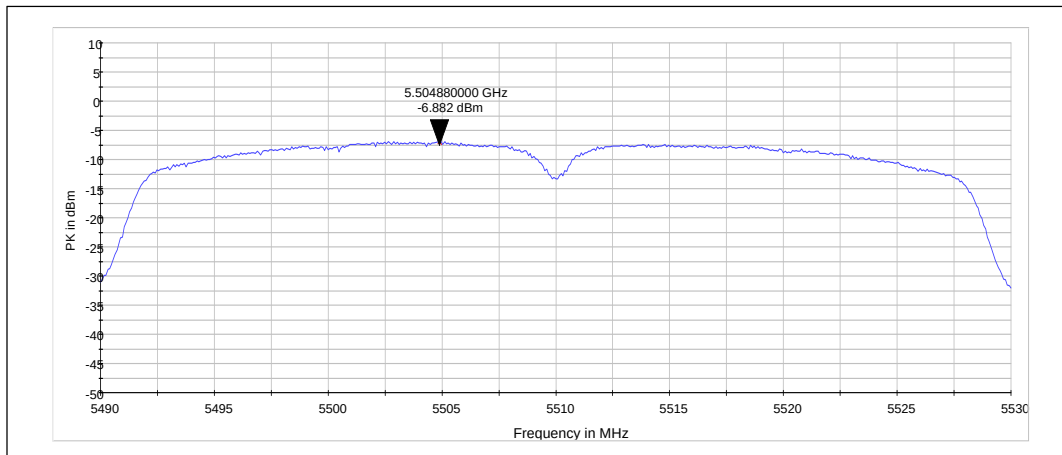
Channel 52+56 / 5270MHz



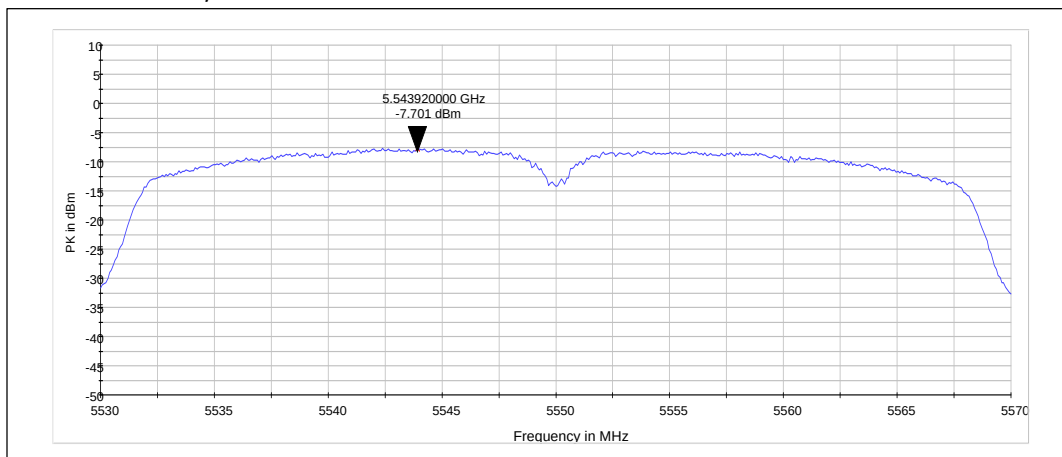
Channel 60+64 / 5310MHz



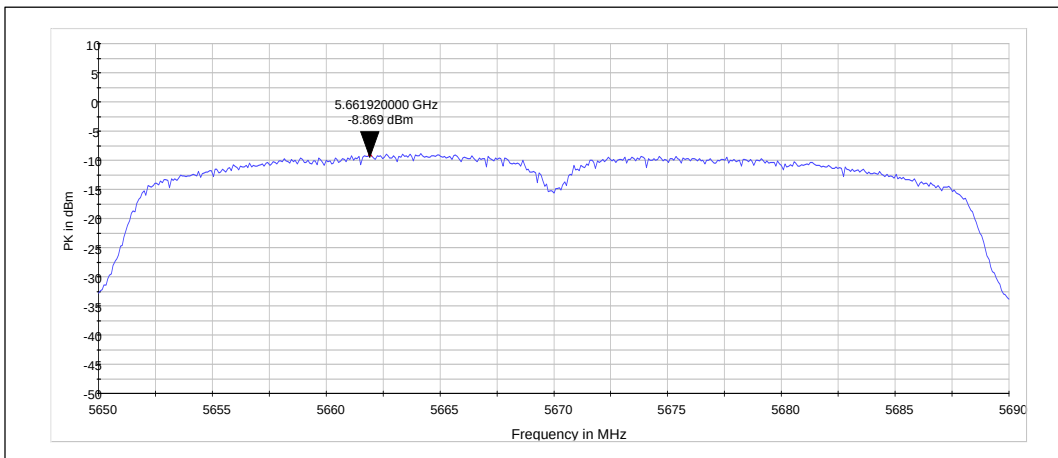
Channel 100+104 / 5510MHz



Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



5.5. 5 GHz RLAN Test results, Combined test results

5.5.1 802.11n mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux	
36+40 / 5190	-5.64	0.273	-6.83	0.207	-3.184	0.480	2.8	2.77	PASSED
44+48 / 5230	-5.58	0.277	-6.27	0.236	-2.901	0.513	2.8	2.77	PASSED
52+56 / 5270	-5.49	0.282	-5.84	0.261	-2.651	0.543	2.8	2.77	PASSED
60+64 / 5310	-5.48	0.283	-6.35	0.232	-2.883	0.515	2.8	2.77	PASSED
100+104 / 5510	-4.63	0.344	-4.81	0.330	-1.709	0.675	2.8	2.77	PASSED
132+136 / 5670	-4.5	0.355	-6.92	0.203	-2.533	0.558	2.8	2.77	PASSED
108+112 / 5550	-4.34	0.368	-5.54	0.279	-1.888	0.647	2.8	2.77	PASSED

5.5.2 802.11n mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux	
36+40 / 5190	-7.54	0.176	-8.92	0.128	-5.165	0.304	2.8	2.77	PASSED
44+48 / 5230	-7.79	0.166	-8.43	0.144	-5.088	0.310	2.8	2.77	PASSED
52+56 / 5270	-7.67	0.171	-8.25	0.150	-4.940	0.321	2.8	2.77	PASSED
60+64 / 5310	-7.6	0.173	-8.35	0.146	-4.949	0.320	2.8	2.77	PASSED
100+104 / 5510	-6.58	0.220	-6.88	0.205	-3.717	0.425	2.8	2.77	PASSED
108+112 / 5550	-6.4	0.229	-7.7	0.170	-3.991	0.399	2.8	2.77	PASSED
132+136 / 5670	-6.32	0.233	-8.87	0.130	-4.400	0.363	2.8	2.77	PASSED

5.5.3 802.11a mode, BPSK modulation, 6 Mbps data rate

	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Directional Gain [dBi]	Results
Channel / f _c [MHz]	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux		
36 / 5180	-1.99	0.632	-3.2	0.479	0.457	1.111	2.8	2.77	5.81	PASSED
40 / 5200	-1.92	0.643	-3.3	0.468	0.455	1.110	2.8	2.77	5.81	PASSED
48 / 5240	-2.22	0.600	-2.98	0.504	0.427	1.103	2.8	2.77	5.81	PASSED
52 / 5260	-2.51	0.561	-2.96	0.506	0.281	1.067	2.8	2.77	5.81	PASSED
60 / 5300	-2.69	0.538	-3.07	0.493	0.134	1.031	2.8	2.77	5.81	PASSED
64 / 5320	-2.73	0.533	-3.49	0.448	-0.083	0.981	2.8	2.77	5.81	PASSED
100 / 5500	-1.7	0.676	-1.37	0.729	1.478	1.405	2.8	2.77	5.81	PASSED
116 / 5580	-1.44	0.718	-2.89	0.514	0.906	1.232	2.8	2.77	5.81	PASSED
140 / 5700	-1.18	0.762	-4.25	0.376	0.561	1.138	2.8	2.77	5.81	PASSED

5.5.4 802.11n mode, 64QAM modulation, 52.0 / 57.8 Mbps data rate

Channel f / f _c [MHz]	Main Antenna		Aux Antenna		Sum		Antenna Gain [dBi]		Results
	P [dBm]	P [mW]	P [dBm]	P [mW]	P [dBm]	P [mW]	Main	Aux	
36 / 5180	-3.25	0.473	-4.49	0.356	-0.816	0.829	2.8	2.77	PASSED
40 / 5200	-3.27	0.471	-4.71	0.338	-0.920	0.809	2.8	2.77	PASSED
48 / 5240	-3.31	0.467	-4.25	0.376	-0.744	0.842	2.8	2.77	PASSED
52 / 5260	-3.88	0.409	-3.99	0.399	-0.924	0.808	2.8	2.77	PASSED
60 / 5300	-4.06	0.392	-4.21	0.379	-1.124	0.772	2.8	2.77	PASSED
64 / 5320	-4.02	0.396	-4.57	0.349	-1.276	0.745	2.8	2.77	PASSED
100 / 5500	-2.65	0.543	-2.11	0.615	0.639	1.158	2.8	2.77	PASSED
116 / 5580	-2.4	0.575	-3.98	0.4000	-0.108	0.975	2.8	2.77	PASSED
140 / 5700	-2.58	0.552	-5.13	0.307	-0.660	0.859	2.8	2.77	PASSED

6. Test Equipment

6.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1759	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
1916	Communication Tester	CMTA84	R&S	15B
1992	Signal Generator	83630B	Agilent	15C, 15B
1999	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
2039	Power Supply	PL330QMD	Thurlby	15C, 15B
2059	V-network	ESH3-Z6	R&S	-
2097	Pulse Limiter	ESH3-Z2	R&S	15C, 15B
2156	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2180	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2206	Signal Generator	SMX	R&S	15C, 15B
2347	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2352	Spectrum Analyzer	FSP-30	R&S	22/24/27, 15C
2359	Temperature Test Chamber	VT4002	Vötsch	22/24/27
2388	Bluetooth Tester	CBT	R&S	15B
2389	Signal Generator	SMJ 100A	R&S	15B
2390	Directional Coupler	DC2600	AR	-
6009	GPS Antenna	SA-700	Chronos	15C
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	15C
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	15C
6012	CDN	CDN USB/c	Teseq	-
6015	Receiver	ESI	R&S	22/24, 15C, 15B
6036	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
6038	Data Logger	Testo 580	Testo	22/24/27, 15C, 15B
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B
6044	V-network	ESH3-Z6	R&S	-
6045	Power splitter	11667B	Agilent	22/24/27, 15C
6046	Attenuator 10dB	8493C	Agilent	22/24/27, 15C
6047	Attenuator 20dB	8493C	Agilent	22/24/27, 15C
6094	Communication Tester	CMW500	R&S	22/24/27, 15C, 15B
6096	EMC Analyzer	E7405A	HP	-
6098	Signal Generator	8648C	Agilent	-
6103	Bluetooth tester	CBT	R&S	15B
6113	Signal Generator	SMF100A	R&S	22/24/27, 15C 15B
6120	Thermal Chamber	WT 20/40	Weiss	22/24/27, 15C 15B
6121	Power Splitter	HP11667B	Agilent	22/24/27, 15C 15B
6122	Power Splitter	HP11667B	Agilent	22/24/27, 15C 15B
6134	Attenuator 10dB	BW-S10-2W263+	Mini-Circuits	22/24/27, 15C
6136	Attenuator 20dB	BW-S20-2W263+	Mini-Circuits	22/24/27, 15C
10479	Communication Tester	CMW500	R&S	22/24/27, 15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B

6.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
1917	Communication Tester	CMTA84	R&S	15B
1984	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C, 15B
2009	Signal Generator	SMP 22	R&S	22/24/27, 15C, 15B
2027	CDN	M2 (modified) DC1	MEB	22/24/27, 15C, 15B
2028	CDN	M3 (modified) DC2	MEB	22/24/27, 15C, 15B
2029	Power Supply	PL330	Thurlby	22/24/27, 15C
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22
2135	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B

Eq. No	Equipment	Type	Manufacturer	Used in
2140	Antenna	EMCO93110B	EMCO	22/24/27, 15C
2142	Antenna	3146	EMCO	22/24/27, 15C
2156	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2176	CDN	CDN 801-M3	Lüthi	22/24/27, 15C, 15B
2180	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2347	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
2353	Receiver	ESIB26	R&S	22/24/27, 15C, 15B
2357	Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	15C
2361	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	Euroshield	22/24/27, 15C, 15B
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	24
2384	Band Reject Filter	WRCG832/838-825/845-40/5SS	Wainwright	22
2388	Bluetooth Tester	CBT	R&S	15B
2389	Signal Generator	SMJ 100A	R&S	15B
2391	Band Reject Filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
6009	GPS Antenna	SA-700	Chronos	15C
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	15C
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	15C
6014	Substitute Calibration Cable	Sucoflex 104PB	Suhner	-
6017	Antenna	SBA 9113	Schwarzbeck	22 / 24 / 27
6037	Data Logger	175-H2	Testo	22/24/27, 15C, 15B
6038	Data Logger	Testo 580	Testo	22/24/27, 15C, 15B
6039	USB Interface	5541765	Testo	22/24/27, 15C, 15B
6087	Antenna	BBHA 9120D	Scharzbeck	22/24/27, 15C
6088	Antenna	VUBA 9117	Scharzbeck	22/24/27, 15C
6089	Antenna	HFH2-Z2	R&S	15C, 15B
6094	Communication Tester	CMW500	R&S	22/24/27, 15C, 15B
6103	Bluetooth tester	CBT	R&S	15B
6113	Signal Generator	SMF100A	R&S	22/24/27, 15C 15B
6115	Open switch and control unit	OSP 130	R&S	22/24/27, 15C 15B
6116	Open switch and control unit	OSP 150	R&S	22/24/27, 15C 15B
6130	Notch Filter	WRCD1880-1.1.25/50-10SS	Wainwright	22/24/27
6131	Notch Filter	WRCT902.4-0.4/40-8SS	Wainwright	-
6135	Notch Filter	WRCJV2531/2539-2523/2547-60/12SS	Wainwright	22/24/27
10479	Communication Tester	CMW500	R&S	22/24/27, 15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	15C, 15B
-	RF immunity / Emission Software	EMC32	R&S	22/24/27, 15C, 15B