FCC Part 15E Compliance Test Report

Test Report no.:	FCC15E_RM-845_17.docx	**Date of Report:**	13-Aug-2012
Number of pages:	79	**Customer's Contact person:**	Victoria Abadilla
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 Corporation 16620 W Bernardo Drive San Diego, CA 92127 Tel +1 858-831-5000 Fax. +1 858 385 1598
FCC listing no.: **IC recognition no.:**	533467 661V-1		
Tested devices/ accessories:	**Phone RM-845 / Battery BP-4W / AC-Charger AC-50U / Headset WH-902**		
FCC ID:	QMNRM-845	**IC:**	661X-RM845
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, RSS-210 (Issue 8, December 2010). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".**		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	**The EUT complies with the requirements in respect of all parameters subject to the test.** The test results relate only to devices specified in this document		
Date and signature for the contents:	Digitally signed by Kalle Hannila DN: cn=Kalle Hannila, o=DRD/DQD/DCO/CMCL, ou=TCC Nokia, email=EXT-kalle.t.hannila@nokia.com, c=FI Date: 2012.08.14 09:24:24 +03'00'		

Kalle Hannila, Engineer, EMC&SAR

1. Summary for FCC Part 15E Compliance Test Report

Date of receipt	27-Jul-2012
Testing completed	13-Aug-2012
The customer's contact person	Victoria Abadilla
Test Plan referred to	T:\Projects\RM-845\TestPlan\RS_testplan_RM-845.xlsm
Notes	-
Document name	T:\Projects\RM-845\EMC\FCC15E_RM-845_17.docx

1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:
GSM/CDMA/WCDMA/Bluetooth
The EUT is tested with maximum rated TX power.

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-845	352875050016897	0209		1521.0003.8422.9710.12271	16577
Battery	BP-4W	393213215514010114848ö0670671	-	-	-	16578
AC-Charger	AC-50U	4090492154270501476ö0675620	-	-	-	16562
Headset	WH-902	209E2R	-	-	-	16563
Phone	RM-845	C1A138313	0209	-	1525.0003.8422.9710.12271	16591
Battery	BP-4W	393213215514010106 7ö0670671	-	-	-	16547
Headset	WH-902	209E2R	-	-	-	16564
AC-Charger	AC-50U	4090492154270501467ö0675620	-	-	-	16558
Phone	RM-845	352875050016830	0209	-	1525.000308422.9710.12271	16606
Battery	BP-4W	39321322741401004 64;0670672	-	-	-	16607
AC-Charger	AC-50U	4090492154270501460ö0675620	-	-	-	16555

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	PASSED
15.407(a)(6)	A9.2	Peak excursion	PASSED
15.407(b)	A9.2	Spurious radiated emissions	PASSED
15.407(b)(6)	A9.2	AC powerline conducted emissions	PASSED
15.407(a)	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.

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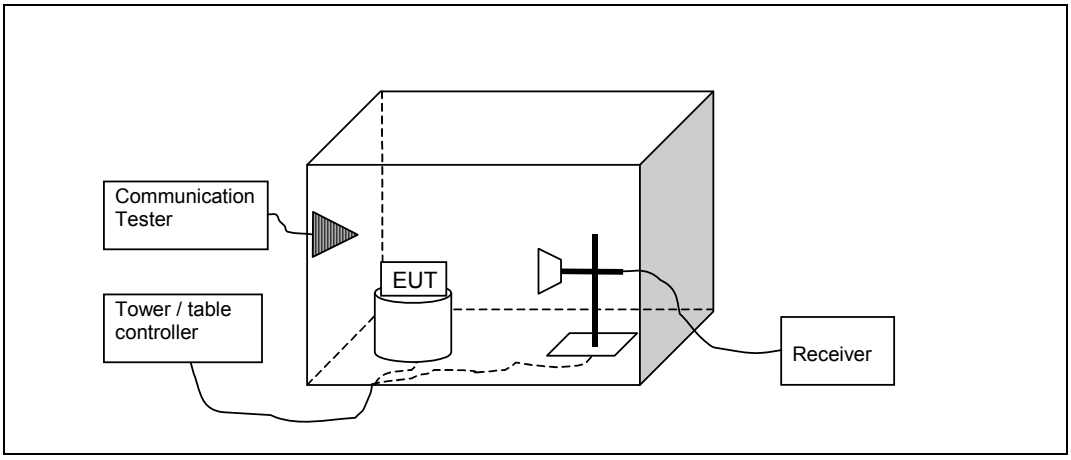
2. Spurious radiated emissions
(FCC §15.407 (b), RSS-210 A9.2)

EUT with DUT number	RM-845, DUT 16577
Accessories with DUT numbers	BP-4W, DUT 16578 ; AC-50U, DUT 16562 ; WH-902, DUT 16563
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 40 / 101.2
Date of measurements	09-Aug-2012
Measured by	Kalle Hannila / Jari Keto

2.1.1 Test setup



2.2. Test method and limit

The measurement is made the following way:

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

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

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

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

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

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The measurement results are obtained as described below:

$E\ [dB\mu V/m] = U_{RX} + A_{TOT}$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

Limits for spurious radiated emissions measurements (3 m measurement distance) There are 2 sets of limit lines. Part 15.209 limits apply below 1 GHz and on restricted bands above 1GHz. The other limits are described in the table below.

Frequency range [MHz]	Limit [dBm / MHz]
5150 - 5250	1 GHz – 5.15 GHz, 5.35 GHz – 40 GHz: -27
5250 - 5350	1 GHz – 5.25 GHz, 5.35 GHz – 40 GHz: -27
5470 - 5725	1 GHz – 5.47 GHz, 5.725 GHz – 40 GHz: -27
5725 - 5825	1 GHz – 5.715 GHz, 5.835 GHz – 40 GHz: -27 5.715 GHz – 5.725 GHz, 5.825 GHz – 5.835 GHz: -17

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2.3. 5 GHz RLAN test results

2.3.1 A-mode, 20 MHz CBW, 16-QAM modulation, 36 Mbps data rate.

Channel 36 / 5180MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10361.8	50.56	337.171	41.82	8.74	27.6	78.2	PASSED
10735.575	52.03	399.669	42.56	9.47	26.2	78.2	PASSED
15541.9	63.85	1558.296	42.31	21.54	14.3	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	39.16	90.751	43	-3.84	6.8	46	PASSED
949.079	39.35	92.811	43.37	-4.02	6.6	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10361.8	37.98	79.205	29.24	8.74	---	---	PASSED
10735.575	39.01	89.217	29.54	9.47	15	54	PASSED
15541.9	50.41	331.513	28.87	21.54	3.6	54	PASSED

Channel 48 / 5124MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10478.6	51.01	355.181	41.82	9.19	27.2	78.2	PASSED
10958.52	52.42	418.023	42.56	9.86	25.8	78.2	PASSED
15719.3	62.08	1270.867	41.57	20.51	16.1	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	38.24	81.639	42.08	-3.84	7.8	46	PASSED
949.079	40.39	104.556	44.41	-4.02	5.6	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10478.6	38.53	84.45	29.34	9.19	---	---	PASSED
10958.52	39.44	93.745	29.58	9.86	14.6	54	PASSED
15719.3	49.25	290.035	28.74	20.51	4.8	54	PASSED

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Channel 64 / 5320MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10541.182	51.07	357.643	42.07	9	27.1	78.2	PASSED
10640.2	52.23	408.79	43.19	9.04	26	78.2	PASSED
15959.6	61.33	1165.735	40.83	20.5	16.9	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	32.94	44.356	36.78	-3.84	13.1	46	PASSED
949.049	42.71	136.663	46.73	-4.02	3.3	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10541.182	38.79	86.996	29.79	9	---	---	PASSED
10640.2	39.77	97.42	30.73	9.04	14.2	54	PASSED
15959.6	48.58	268.442	28.08	20.5	5.4	54	PASSED

Channel 100 / 5500MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10843.687	52.11	403.227	42.31	9.8	26.1	78.2	PASSED
10999.2	51.72	385.612	41.94	9.78	26.5	78.2	PASSED
16498.9	63.01	1413.514	40.83	22.18	15.2	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	38.02	79.607	41.86	-3.84	8	46	PASSED
949.079	42.54	133.921	46.56	-4.02	3.5	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10843.687	39.5	94.428	29.7	9.8	14.5	54	PASSED
10999.2	39.05	89.609	29.27	9.78	15	54	PASSED
16498.9	50.15	321.662	27.97	22.18	---	---	PASSED

Channel 116 / 5580MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10639.883	52.36	415.002	43.32	9.04	25.8	78.2	PASSED
11161.1	51.43	372.992	42.19	9.25	26.8	78.2	PASSED
16739	63.77	1542.766	41.57	22.2	14.4	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.403	40.43	105.099	44.27	-3.84	5.6	46	PASSED
948.989	39.75	97.14	43.77	-4.02	6.3	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10639.883	39.85	98.265	30.81	9.04	14.2	54	PASSED
11161.1	38.91	88.156	29.67	9.25	15.1	54	PASSED
16739	50.64	340.33	28.44	22.2	---	---	PASSED

Channel 140 / 5700MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10835.775	52.51	422.28	42.81	9.7	25.7	78.2	PASSED
11401.3	52.41	417.446	43.19	9.22	25.8	78.2	PASSED
17099.8	63.46	1489.876	40.45	23.01	14.7	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.403	40.41	104.773	44.25	-3.84	5.6	46	PASSED
949.079	37.29	73.198	41.31	-4.02	8.7	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10835.775	39.28	92.087	29.58	9.7	14.7	54	PASSED
11401.3	39.07	89.888	29.85	9.22	14.9	54	PASSED
17099.8	50.8	346.657	27.79	23.01	---	---	PASSED

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2.3.2 N-mode, 20 MHz CBW, 64-QAM modulation, 52 / 57.8 Mbps data rate.

Channel 36 / 5180MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10361.4	50.8	346.697	42.07	8.74	27.4	78.2	PASSED
10641.783	51.47	374.455	42.44	9.03	26.7	78.2	PASSED
15538	63.16	1438.136	41.58	21.59	15	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	36.5	66.857	40.34	-3.84	9.5	46	PASSED
948.989	40.14	101.648	44.16	-4.02	5.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10361.4	37.98	79.25	29.25	8.74	---	---	PASSED
10641.783	38.64	85.507	29.61	9.03	15.4	54	PASSED
15538	50.59	338.259	29.01	21.59	3.4	54	PASSED

Channel 48 / 5124MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10479	51.26	365.679	42.06	9.2	26.9	78.2	PASSED
11527.554	51.84	390.616	42.82	9.02	26.4	78.2	PASSED
15718.3	62.1	1273.21	41.57	20.53	16.1	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	38.74	86.467	42.58	-3.84	7.3	46	PASSED
949.079	41.29	115.985	45.31	-4.02	4.7	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10479	38.47	83.83	29.27	9.2	---	---	PASSED
11527.554	38.95	88.573	29.93	9.02	15.1	54	PASSED
15718.3	49.27	290.871	28.74	20.53	4.7	54	PASSED

Channel 64 / 5320MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results

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10422.346	51.13	360.164	42.19	8.94	27.1	78.2	PASSED
10640	52.62	427.612	43.58	9.04	25.6	78.2	PASSED
15959.8	61.33	1165.87	40.83	20.51	16.9	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	39.39	93.218	43.23	-3.84	6.6	46	PASSED
949.079	41.61	120.393	45.63	-4.02	4.4	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10422.346	38.43	83.416	29.49	8.94	---	---	PASSED
10640	41.92	124.781	32.88	9.04	12.1	54	PASSED
15959.8	48.6	269.277	28.1	20.51	5.4	54	PASSED

Channel 100 / 5500MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10491.286	51.62	380.847	42.32	9.3	26.6	78.2	PASSED
10998.1	51.72	385.434	41.94	9.78	26.5	78.2	PASSED
16498	62.85	1388.993	40.7	22.15	15.3	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.343	36.18	64.395	40.02	-3.84	9.8	46	PASSED
949.049	41.11	113.684	45.13	-4.02	4.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10491.286	38.66	85.733	29.36	9.3	---	---	PASSED
10998.1	39.15	90.657	29.37	9.78	14.9	54	PASSED
16498	50.14	321.255	27.99	22.15	---	---	PASSED

Channel 116 / 5580MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11045.688	52.25	409.591	42.69	9.56	26	78.2	PASSED
11160.5	52.06	401.051	42.81	9.25	26.1	78.2	PASSED
16740.2	64.28	1637.193	42.06	22.22	13.9	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
30.27	26.74	21.737	31.67	-4.93	13.3	40	PASSED

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949.049	42.1	127.321	46.12	-4.02	3.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11045.688	39.12	90.396	29.56	9.56	14.9	54	PASSED
11160.5	39.01	89.238	29.76	9.25	15	54	PASSED
16740.2	50.65	340.722	28.43	22.22	---	---	PASSED

Channel 140 / 5700MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10945.996	52.11	402.949	42.19	9.92	26.1	78.2	PASSED
11399.9	52.05	400.267	42.81	9.24	26.2	78.2	PASSED
17099.6	64.82	1741.005	41.82	23	13.4	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
30.21	25.3	18.414	30.19	-4.89	14.7	40	PASSED
948.929	42.94	140.281	46.96	-4.02	3.1	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10945.996	39.31	92.321	29.39	9.92	14.7	54	PASSED
11399.9	38.95	88.573	29.71	9.24	15.1	54	PASSED
17099.6	50.9	350.792	27.9	23	---	---	PASSED

2.3.3 N-mode, 20 MHz CBW, 64-QAM modulation, 52 / 57.8 Mbps data rate

Channel 36+40 / 5190MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10379.8	51.57	378.748	42.69	8.88	26.6	78.2	PASSED
10850.203	52.18	406.397	42.31	9.87	26	78.2	PASSED
15566.2	62.99	1411.4	41.69	21.3	15.2	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
30.27	27.19	22.869	32.12	-4.93	12.8	40	PASSED
948.999	43.86	155.883	47.88	-4.02	2.1	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results

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10379.8	38.09	80.288	29.21	8.88	---	---	PASSED
10850.203	39.54	94.787	29.67	9.87	14.5	54	PASSED
15566.2	50.11	320.295	28.81	21.3	3.9	54	PASSED

Channel 44+48 / 5230MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10456.7	51.43	372.778	42.44	8.99	26.8	78.2	PASSED
10747.287	51.19	362.786	41.94	9.25	27	78.2	PASSED
15570.9	62.95	1403.783	41.7	21.25	15.3	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.323	41.69	121.507	45.53	-3.84	4.3	46	PASSED
949.059	44.22	162.461	49.27	-5.05	1.8	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10456.7	38.41	83.243	29.42	8.99	---	---	PASSED
10747.287	38.77	86.826	29.52	9.25	15.2	54	PASSED
15570.9	50.09	319.669	28.84	21.25	3.9	54	PASSED

Channel 52+56 / 5270MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10542.7	51.93	394.684	42.94	8.99	26.3	78.2	PASSED
10848.291	52.92	442.334	43.07	9.85	25.3	78.2	PASSED
15812	61.98	1256.175	41.2	20.78	16.2	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.383	37.59	75.744	41.43	-3.84	8.4	46	PASSED
949.059	44.43	166.456	49.48	-5.05	1.6	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10542.7	38.77	86.756	29.78	8.99	---	---	PASSED
10848.291	39.56	95.082	29.71	9.85	14.4	54	PASSED
15812	49.24	289.801	28.46	20.78	4.8	54	PASSED

Channel 60+64 / 5310MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

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Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10622.6	51.95	395.64	42.82	9.14	26.3	78.2	PASSED
10858.719	53.12	452.793	43.45	9.67	25.1	78.2	PASSED
15927.1	61.5	1188.502	41.32	20.18	16.7	78.2	PASSED
17923.548	72.92	4423.846	41.21	31.72	5.3	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.323	42.18	128.573	46.02	-3.84	3.8	46	PASSED
949.059	43.09	142.791	48.14	-5.05	2.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10622.6	38.71	86.149	29.58	9.14	15.3	54	PASSED
10858.719	39.44	93.799	29.77	9.67	14.6	54	PASSED
15927.1	48.46	264.82	28.28	20.18	5.5	54	PASSED

Channel 100+104 / 5510MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10940.28	52.86	439.491	42.94	9.92	25.3	78.2	PASSED
11017.7	52.16	405.555	42.56	9.6	26	78.2	PASSED
16530.2	62.17	1283.217	40.58	21.59	16	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
940.323	41.24	115.398	45.08	-3.84	4.8	46	PASSED
949.059	41.07	113.162	45.09	-4.02	4.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
10940.28	39.41	93.454	29.49	9.92	14.6	54	PASSED
11017.7	38.73	86.397	29.13	9.6	15.3	54	PASSED
16530.2	49.41	295.461	27.82	21.59	---	---	PASSED

Channel 108+112 / 5550MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11101.6	50.96	353.305	41.94	9.02	27.2	78.2	PASSED
11500.694	51.3	367.325	42.31	8.99	26.9	78.2	PASSED
16646	63.16	1439.13	41.32	21.84	15	78.2	PASSED

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

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Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
830.944	23.87	15.619	28.83	-4.96	22.1	46	PASSED
949.059	44.07	159.717	48.09	-4.02	1.9	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11101.6	38.51	84.275	29.49	9.02	15.5	54	PASSED
11500.694	38.86	87.67	29.87	8.99	15.1	54	PASSED
16646	50.18	322.998	28.34	21.84	---	---	PASSED

Channel 132+136 / 5670MHz

Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11064.932	51.52	376.877	42.06	9.46	26.7	78.2	PASSED
11336.2	51.39	370.937	42.57	8.83	26.8	78.2	PASSED
17013.5	64.72	1721.274	41.82	22.9	13.5	78.2	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
30	27.03	22.459	31.78	-4.75	13	40	PASSED
940.413	39.99	99.85	43.83	-3.84	6	46	PASSED

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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
11064.932	39.23	91.496	29.77	9.46	14.8	54	PASSED
11336.2	38.52	84.353	29.7	8.83	15.5	54	PASSED
17013.5	50.84	348.177	27.94	22.9	---	---	PASSED

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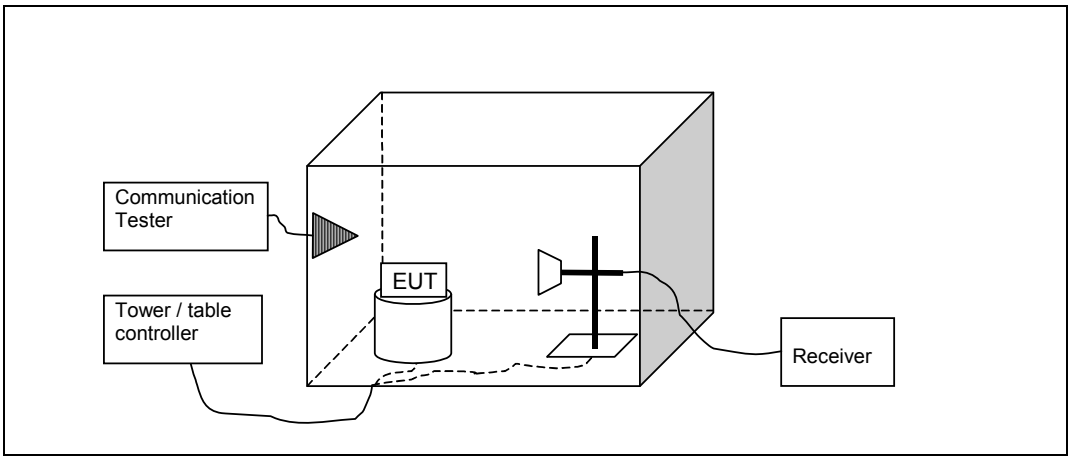
3. Band edge compliance of RF emissions
(FCC §15.407 (b), RSS-210 A9.2)

EUT with DUT number	RM-845, DUT 16577
Accessories with DUT numbers	BP-4W, DUT 16578 ; AC-50U, DUT 16562 ; WH-902, DUT 16563
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 40 / 101.2
Date of measurements	10-Aug-2012
Measured by	Kalle Hannila / Jari Keto

3.1.1 Test setup



3.2. Test method and limit

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

The measurement results are obtained as described below:

$E\ [dB\mu V/m] = U_{RX} + A_{TOT}$

Where U_{RX} is receiver reading and A_{TOT} is total correction factor including cable loss, antenna factor and preamplifier gain ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

The limits in the table below are listed for the 100 MHz span around the band edges.

P [W] = (10 to power (P [dBm / 10)) / 1000.
E [dBuV/m] = 20 * LOG ((square root (30 * P [W]) / 3 m) * 1000000)

Frequency range [MHz]	Limit [dBm / MHz]	Limit dBuV/m @ 3m
5150 - 5250	≤ 5.150 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk)	68.23
5250 - 5350	≥ 5.350 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk)	68.23
5470 - 5725	≤ 5.460 GHz: 54 dBuV/m (avg), 74 dBuV/m (pk) 5.460 – 5.470 GHz: -27 dBm/MHz (pk)	68.23
5725 - 5825	5.825 – 5.835 GHz: -17 dBm/MHz (pk) ≥ 5.835 GHz: -27 dBm/MHz (pk)	68.23 78.23

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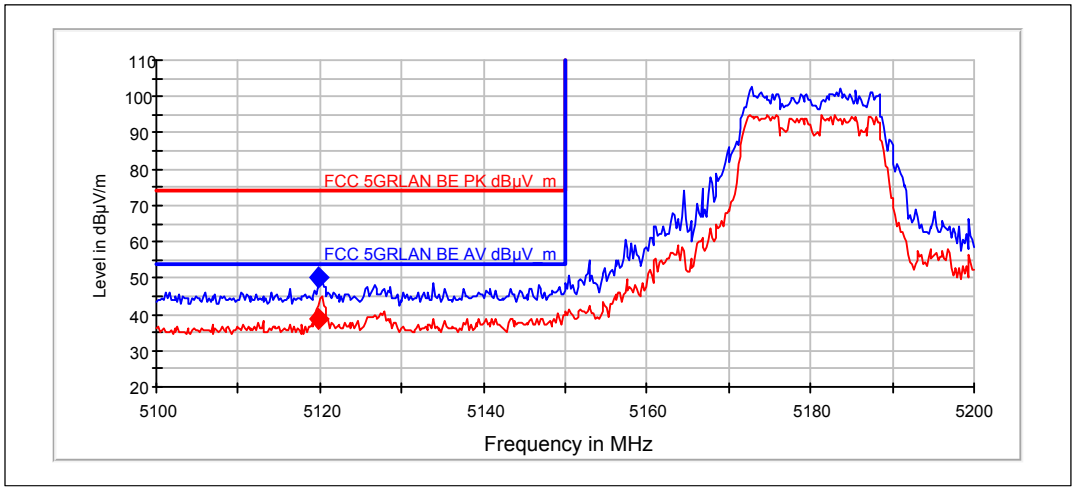
3.3. 5 GHz RLAN test results

3.3.1 A-mode, 20 MHz CBW, 16-QAM modulation, 36 Mbps data rate.

Channel 36 / 5180MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5119.84	50.19	323.035	53.59	-3.4	23.8	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5119.739	38.55	84.664	41.95	-3.4	15.4	54	PASSED

Channel 48 / 5124MHz

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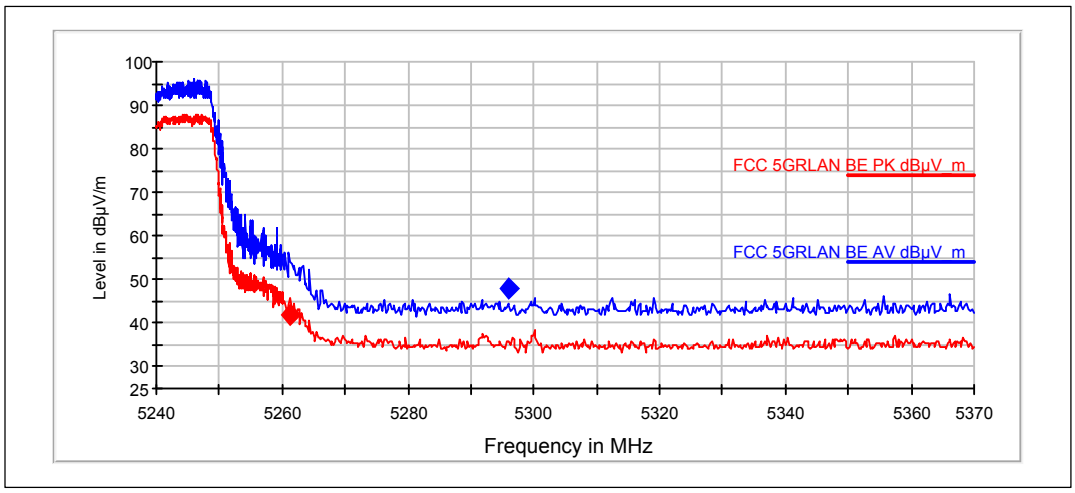


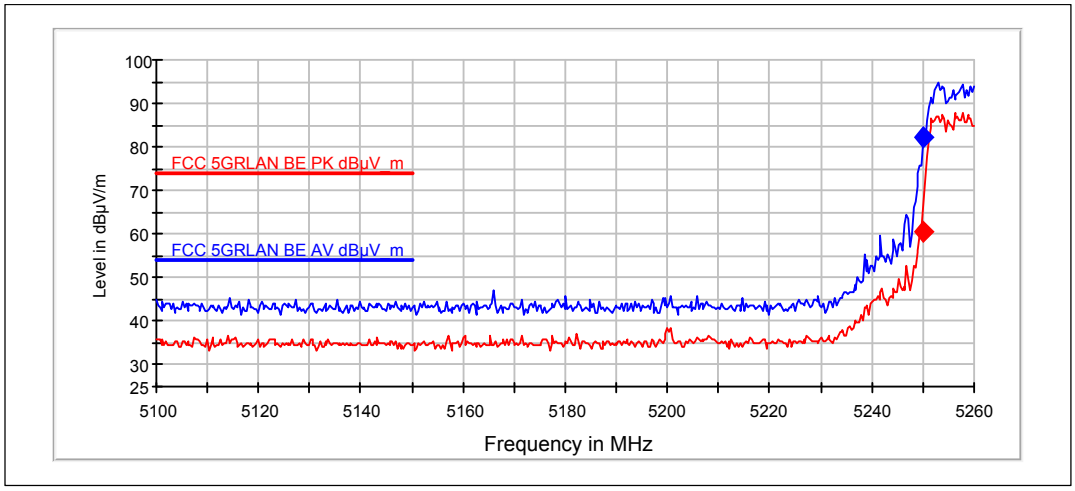
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5295.952	48.04	252.377	51.94	-3.9	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5261.323	42	125.893	45.88	-3.88	---	---	PASSED

Channel 52 / 5260MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5250	82.07	12685.278	85.94	-3.87	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

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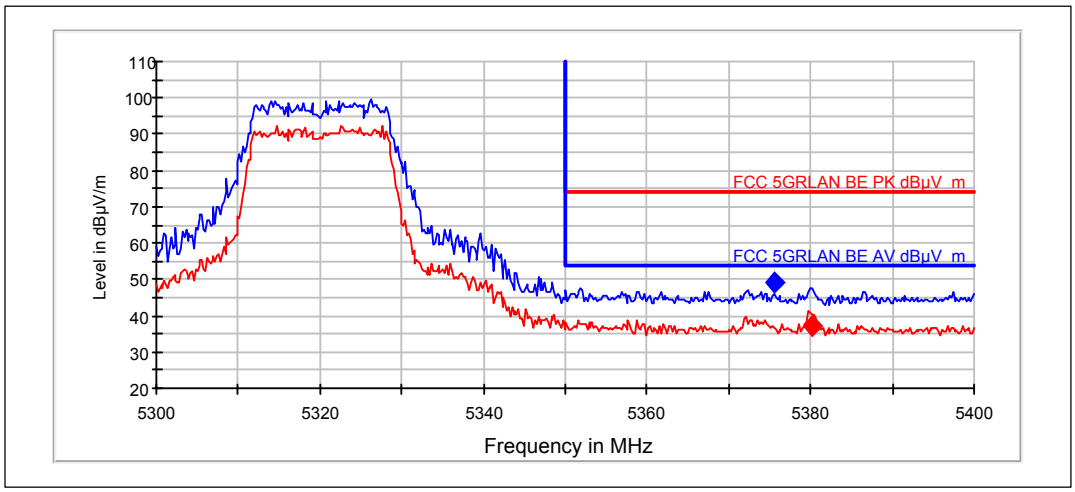
Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5250	60.61	1072.63	64.48	-3.87	---	---	PASSED

Channel 64 / 5320MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5375.651	48.99	281.546	52.81	-3.82	25	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5380.261	37.23	72.728	41.06	-3.83	16.8	54	PASSED

Channel 100 / 5500MHz

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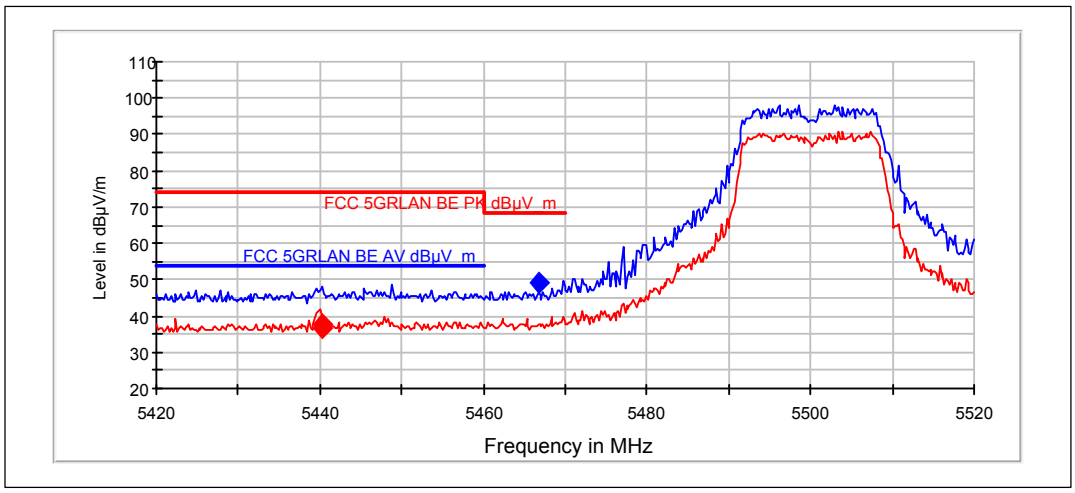


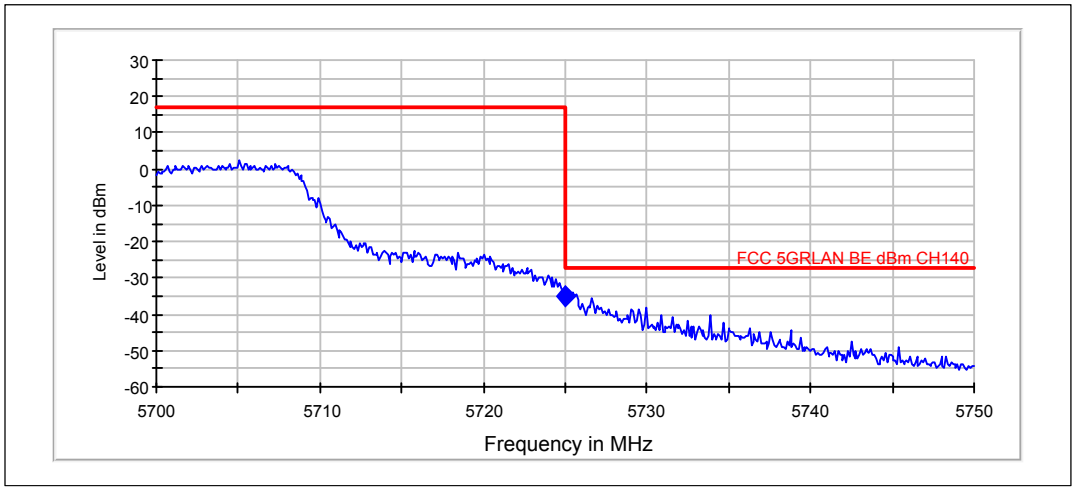
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5466.693	48.94	280.027	52.68	-3.74	19.3	68.2	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5440.218	37.49	74.912	41.17	-3.68	16.5	54	PASSED
5440.341	36.9	69.96	40.58	-3.68	17.1	54	PASSED

Channel 140 / 5700MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	P [dBm]	P [µW]	P_{MEAS} [dBm]	A_{TOT} [dB]	Margin	Limit [dBm]	Results
5725.054	-35.03	0.31427	-40.97	5.94	8	-27	PASSED

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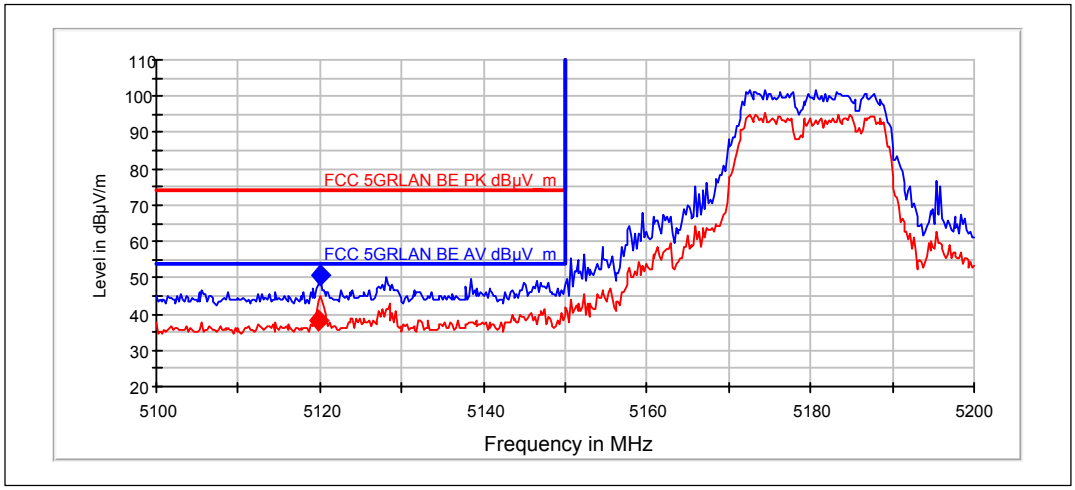
3.3.2 N-mode, 20 MHz CBW, 64-QAM modulation, 52 / 57.8 Mbps data rate.

Channel 36 / 5180MHz



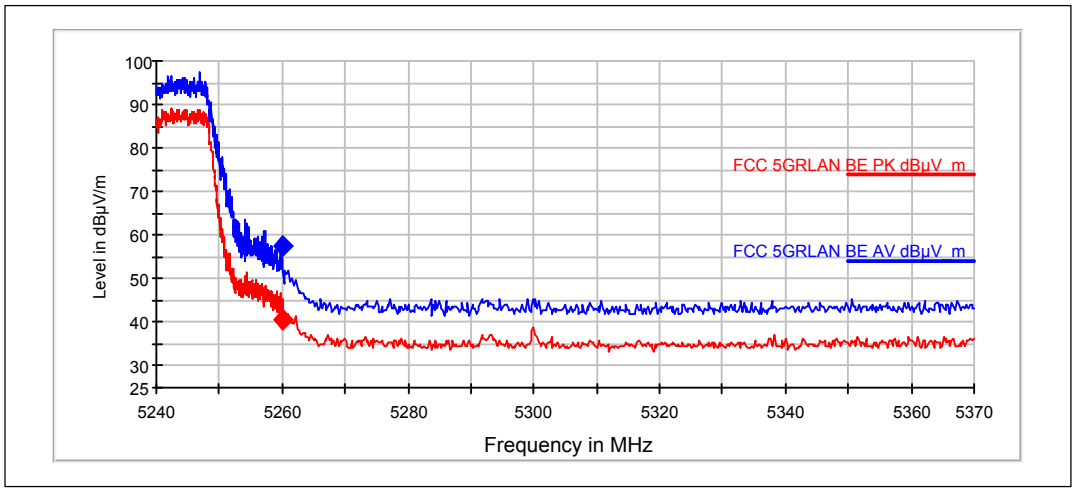
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5120.04	50.58	337.909	53.98	-3.4	23.4	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5119.84	38.44	83.599	41.84	-3.4	15.6	54	PASSED

Channel 48 / 5124MHz



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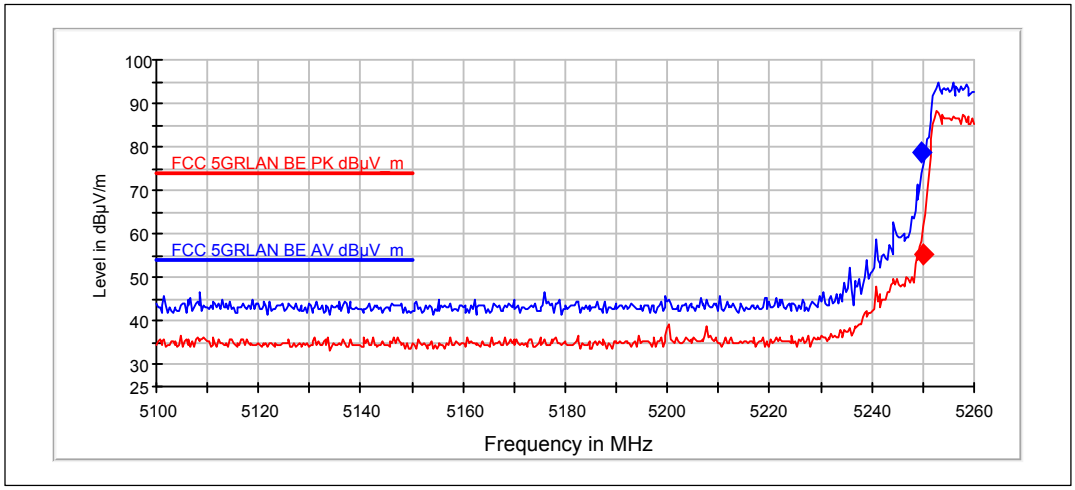
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5260.12	57.61	759.801	61.5	-3.89	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5260	40.56	106.709	44.45	-3.89	---	---	PASSED

Channel 52 / 5260MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5249.86	78.76	8666.625	82.63	-3.87	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5250	55.45	592.039	59.32	-3.87	---	---	PASSED

Channel 64 / 5320MHz

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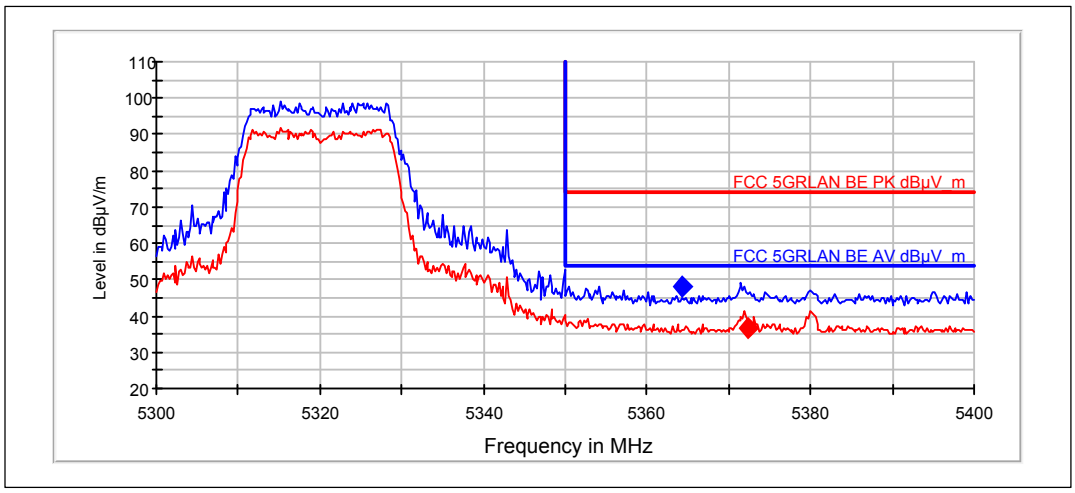


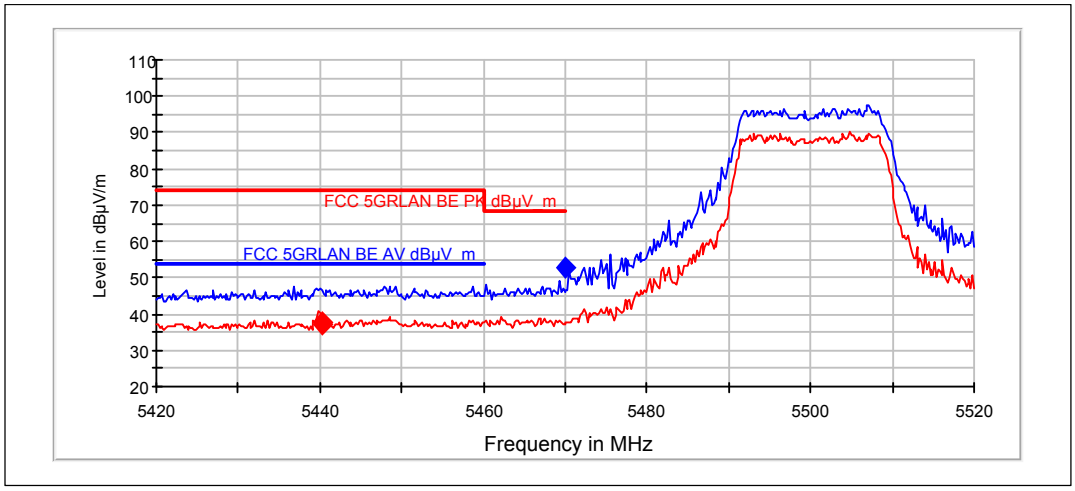
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5364.329	47.89	247.999	51.7	-3.81	26.1	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5372.445	36.8	69.151	40.61	-3.81	17.2	54	PASSED

Channel 100 / 5500MHz



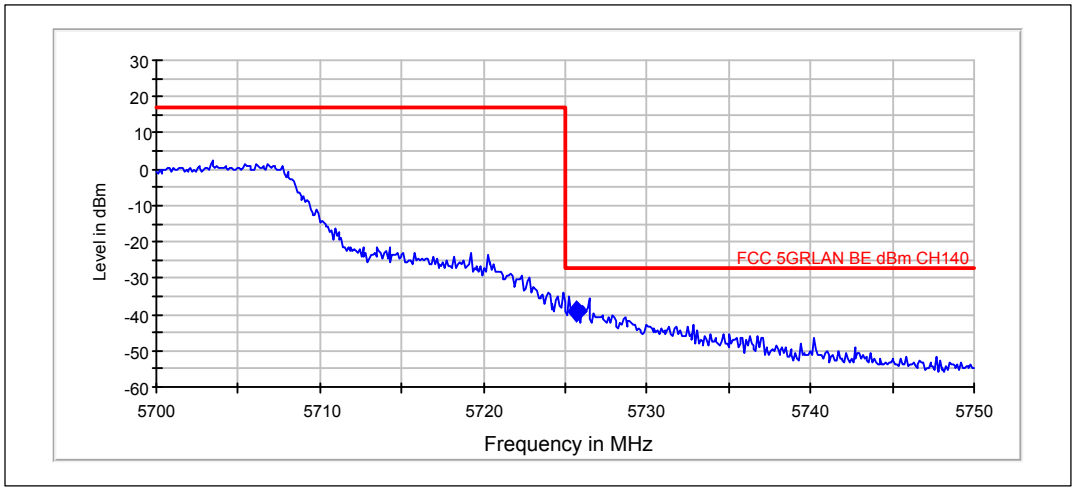
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5469.9	52.57	425.011	56.33	-3.76	15.6	68.2	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5440.218	37.87	78.235	41.55	-3.68	16.1	54	PASSED
5440.341	37.16	72.119	40.84	-3.68	16.8	54	PASSED

Channel 140 / 5700MHz

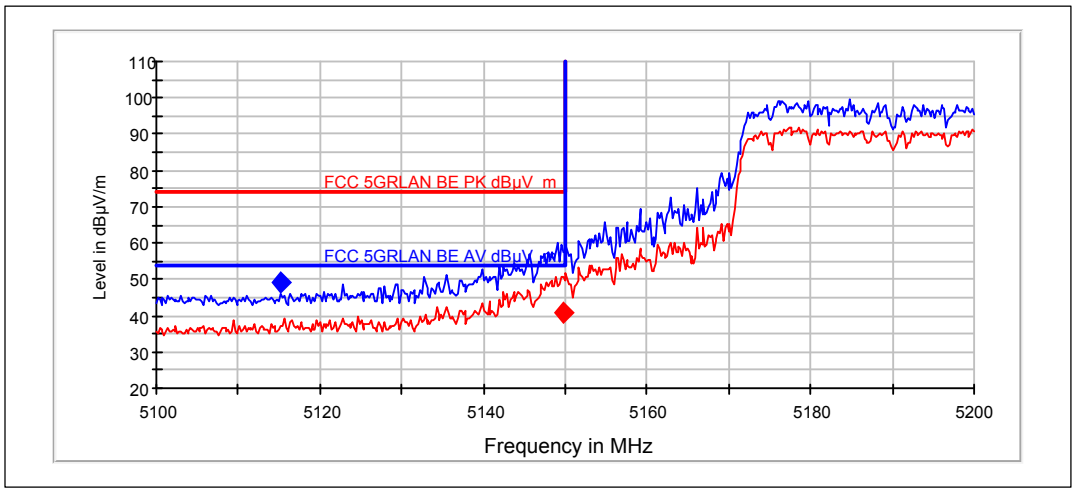


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	P [dBm]	P [µW]	P_{MEAS} [dBm]	A_{TOT} [dB]	Margin	Limit [dBm]	Results
5725.705	-39.37	0.11572	-45.35	5.98	12.4	-27	PASSED

3.3.3 N-mode, 40 MHz CBW, 16-QAM modulation, 81 / 90 Mbps data rate.

Channel 36+40 / 5190MHz



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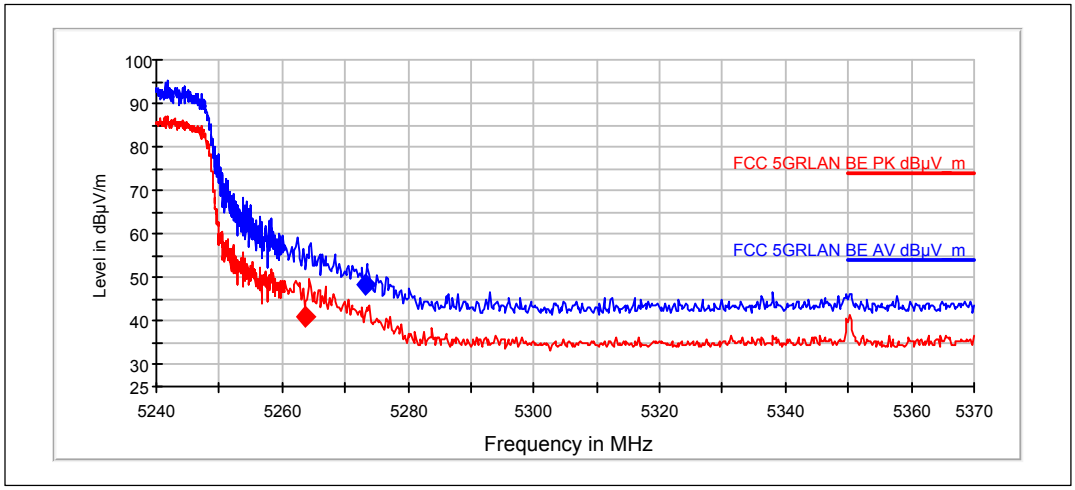
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5115.13	49.07	284.217	52.43	-3.36	24.9	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5149.699	40.88	110.637	44.4	-3.52	13.1	54	PASSED

Channel 44+48 / 5230MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5273.347	48.47	265.277	52.31	-3.84	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5263.607	40.97	111.751	44.84	-3.87	---	---	PASSED

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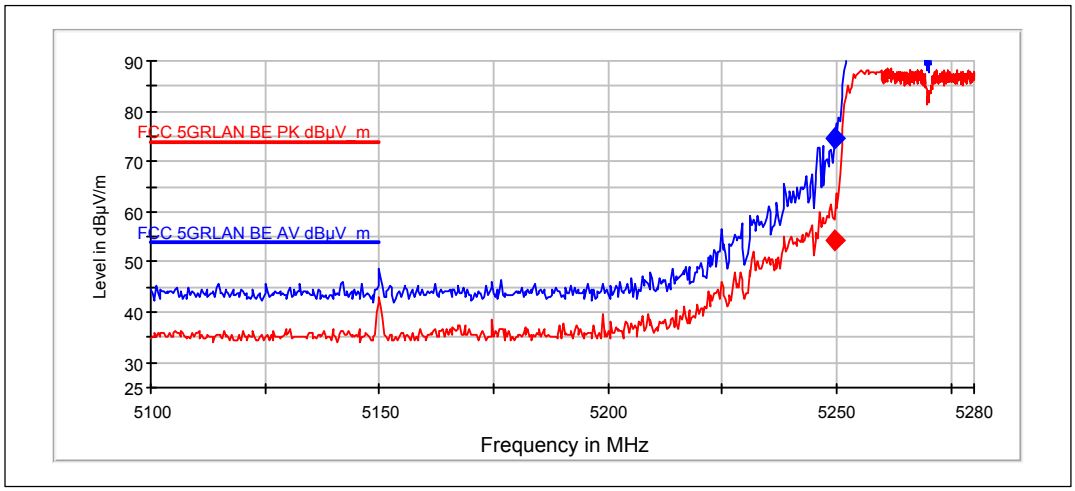
Channel 52+56 / 5270MHz



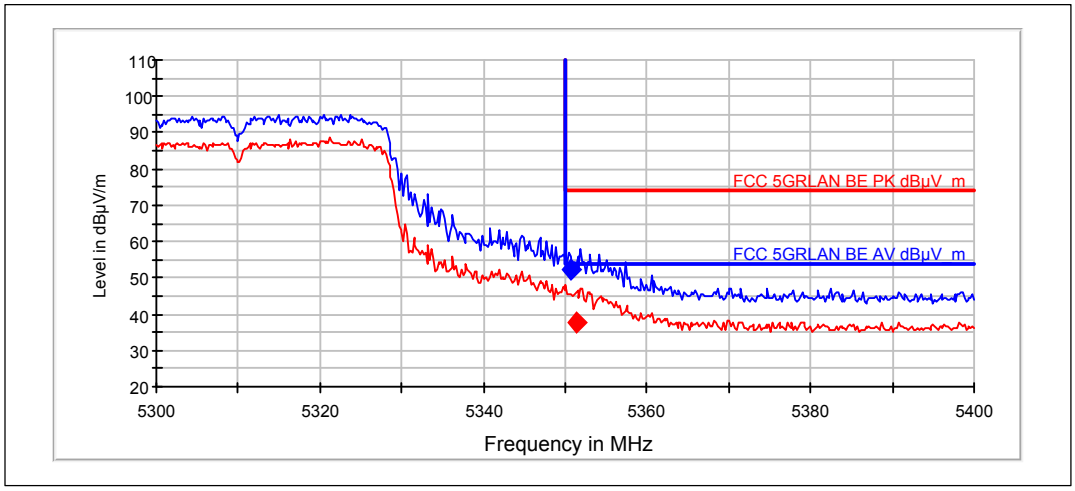
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5249.719	74.72	5447.535	78.59	-3.87	---	---	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5249.719	54.37	522.878	58.24	-3.87	---	---	PASSED

Channel 60+64 / 5310MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results

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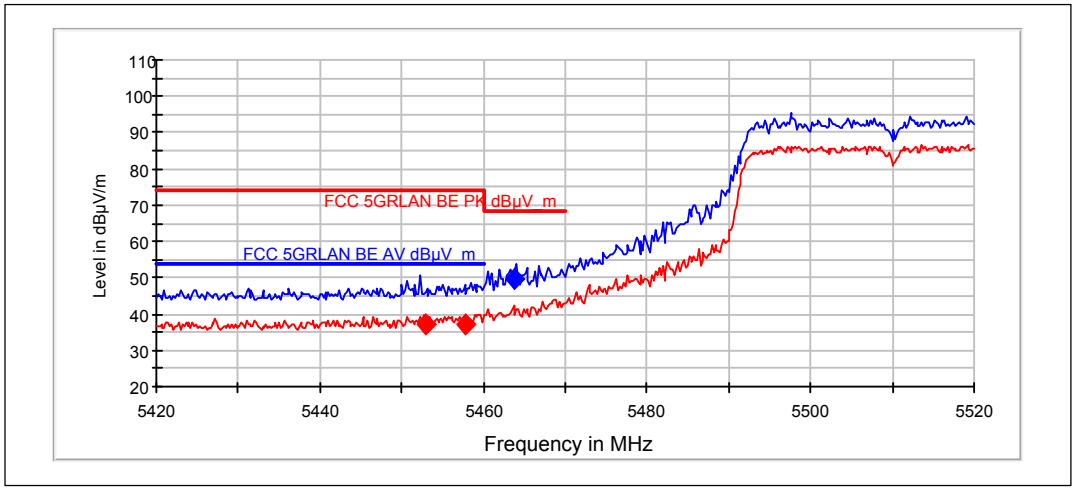
5350.601	52.13	404.017	55.95	-3.82	21.9	74	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5351.303	37.73	77.002	41.55	-3.82	16.3	54	PASSED

Channel 100+104 / 5510MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5463.888	49.46	297.303	53.19	-3.73	18.7	68.2	PASSED

Average (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U_{RX} [dBµV]	A_{TOT} [dB]	Margin	Limit [dBµV/m]	Results
5452.966	37.03	71.015	40.69	-3.66	17	54	PASSED
5457.725	37.01	70.86	40.7	-3.69	17	54	PASSED

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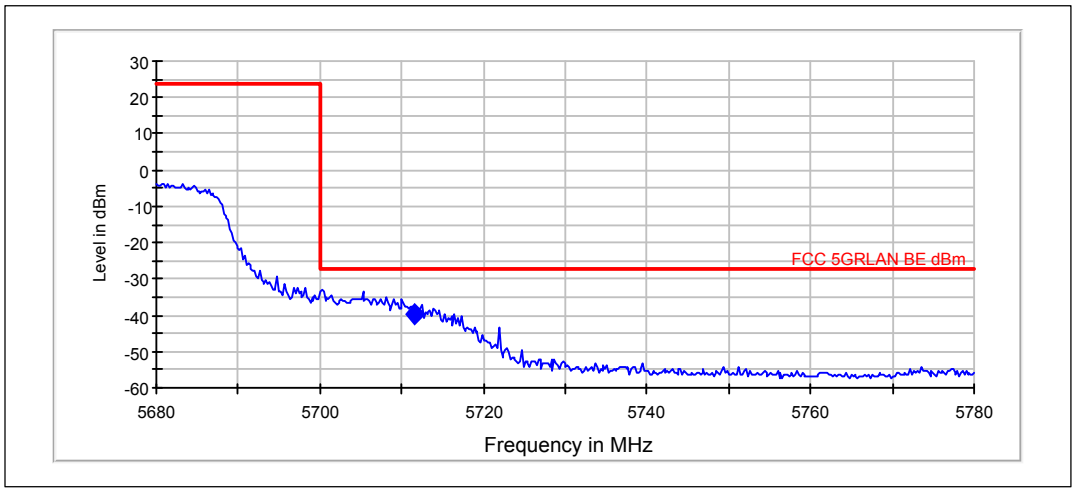
Channel 132+136 / 5670MHz



Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	P [dBm]	P [µW]	P_{MEAS} [dBm]	A_{TOT} [dB]	Margin	Limit [dBm]	Results
5711.637	-39.56	0.11076	-45.7	6.14	12.6	-27	PASSED

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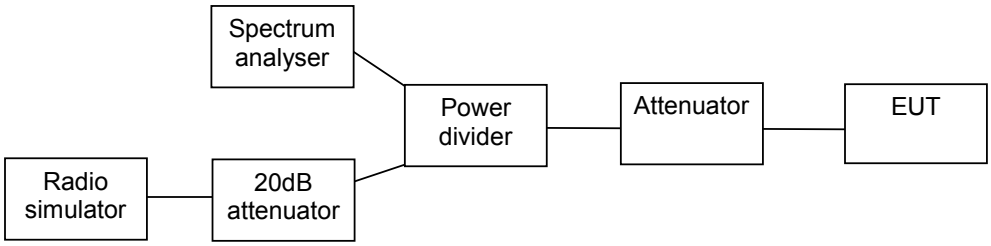
4. Maximum conducted output power
(FCC §15.407 (a), RSS-210 A9.2)

EUT with DUT number	RM-845, DUT 16591
Accessories with DUT numbers	BP-4W, DUT 16547 ; WH-902, DUT 16564 ; AC-50U, DUT 16558
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101
Date of measurements	07-Aug-2012
Measured by	Tomi Lipponen

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 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

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4.3. 5 GHz RLAN Test results

RLAN 5 GHz, RMS output power [dBm]	
Mode & data speed	Ch 36
g-mode WLAN OFDM 6 Mbps	9.71
g-mode WLAN OFDM 9 Mbps	9.67
g-mode WLAN OFDM 12 Mbps	9.69
g-mode WLAN OFDM 18 Mbps	9.69
g-mode WLAN OFDM 24 Mbps	9.97
g-mode WLAN OFDM 36 Mbps	10.14
g-mode WLAN OFDM 48 Mbps	10.01
g-mode WLAN OFDM 54 Mbps	10.08
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	9.87
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	9.8
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	9.86
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	10.17
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	10.08
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	10.14
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	10.13
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	10.15
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	7.4
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	7.52
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	7.71
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	7.66
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	7.6
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	7.32
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	7.18
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	7.11

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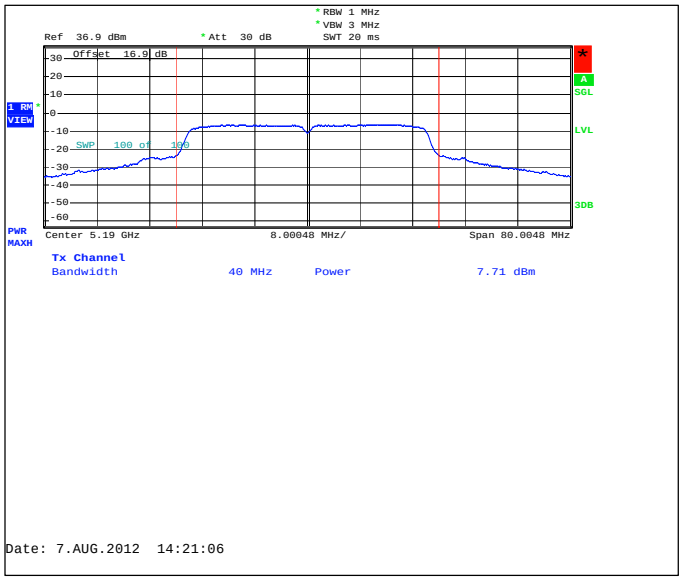
4.3.1 n-mode, 40 MHz CBW mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
36+40 / 5190	7.71	5.902	PASSED
44+48 / 5230	6.95	4.955	PASSED
52+56 / 5270	7.04	5.058	PASSED
60+64 / 5310	7.24	5.297	PASSED
100+104 / 5510	8.32	6.792	PASSED
108+112 / 5550	8.43	6.966	PASSED
132+136 / 5670	8.79	7.568	PASSED

Channel 36+40 / 5190MHz



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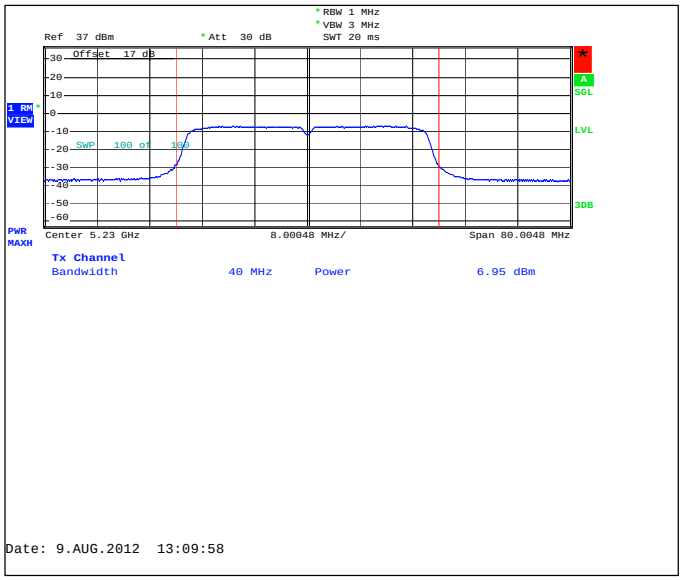
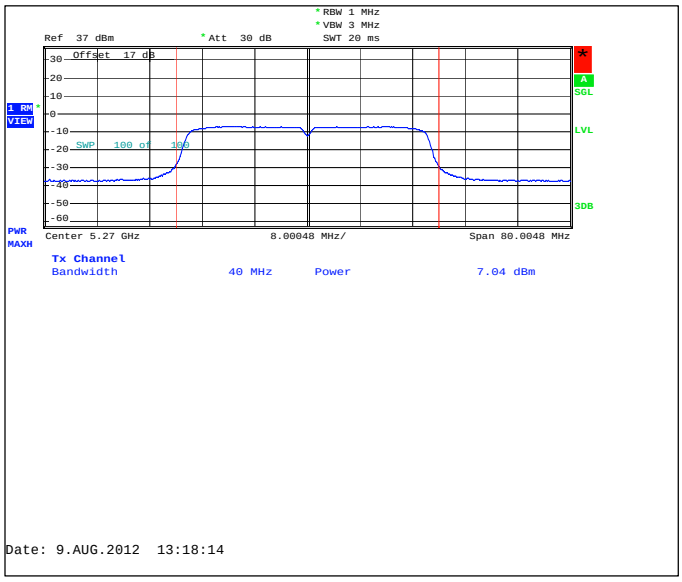
Channel 44+48 / 5230MHz



Channel 52+56 / 5270MHz



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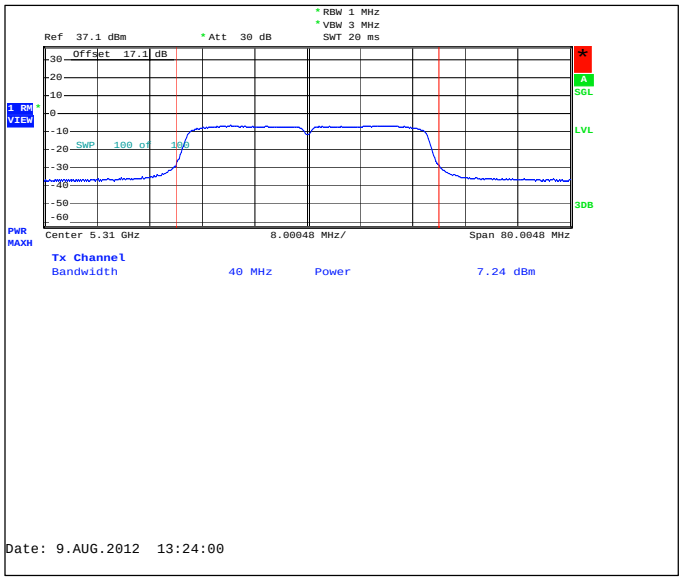
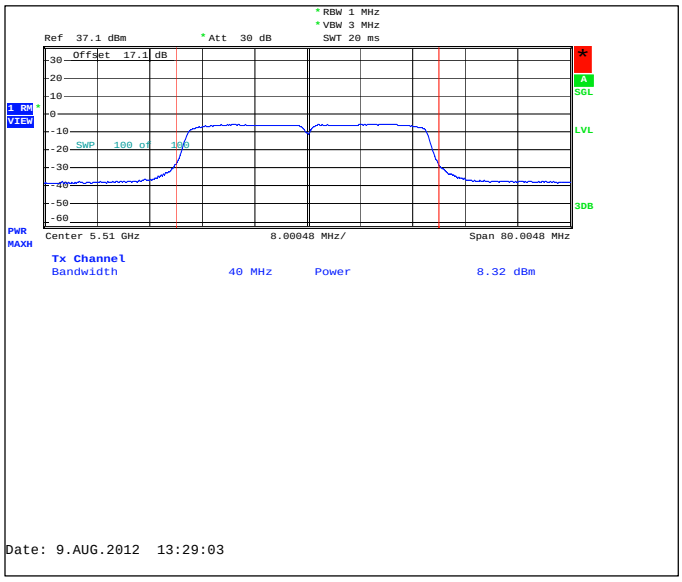
Channel 60+64 / 5310MHz



Channel 100+104 / 5510MHz



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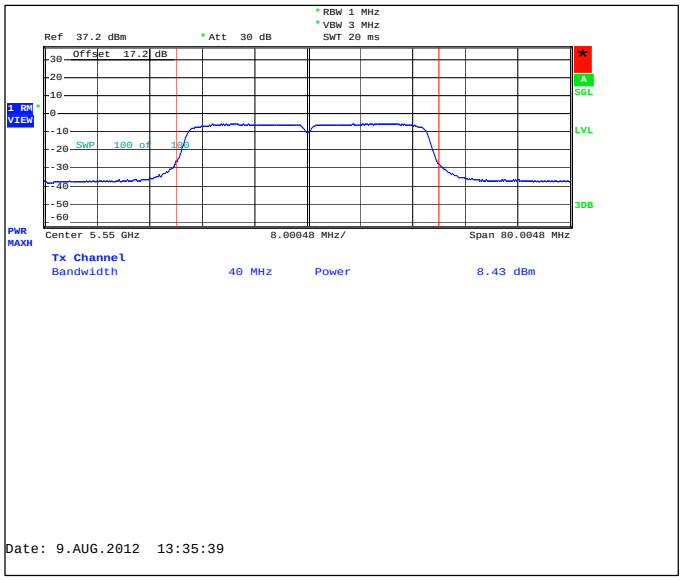
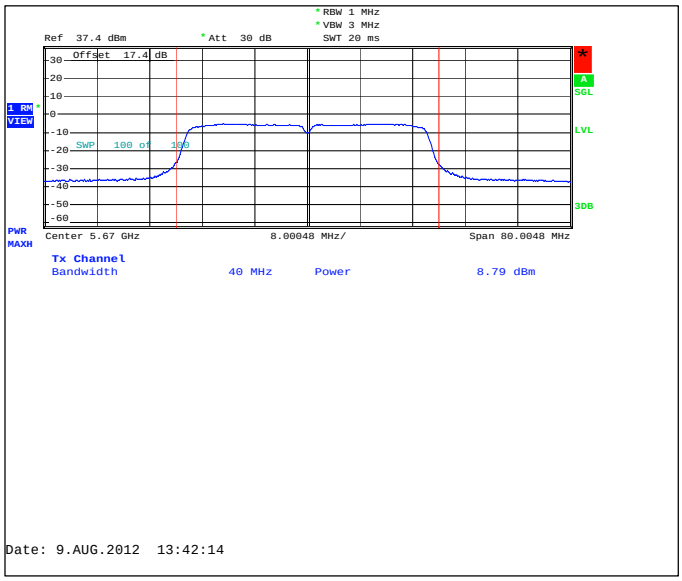
Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



4.3.2 n-mode, 20 MHz CBW mode, 16-QAM modulation, 26.0 / 28.9 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
36 / 5180	10.17	10.399	PASSED
48 / 5240	10.09	10.209	PASSED
52 / 5260	9.98	9.954	PASSED
64 / 5320	10.24	10.568	PASSED
100 / 5500	11.32	13.552	PASSED
116 / 5580	11.7	14.791	PASSED
140 / 5700	12.02	15.922	PASSED

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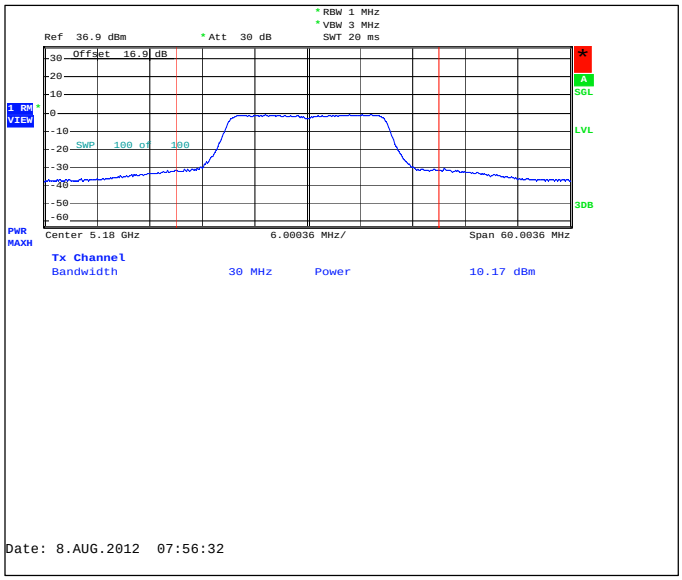
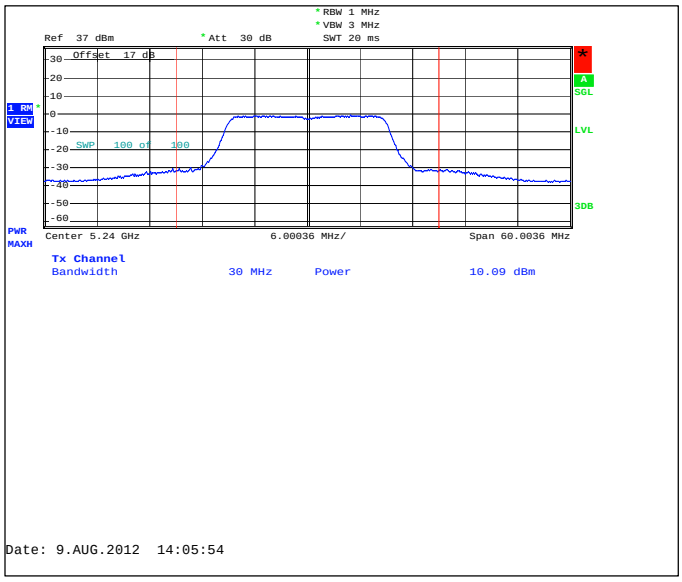
Channel 36 / 5180MHz



Channel 48 / 5240MHz



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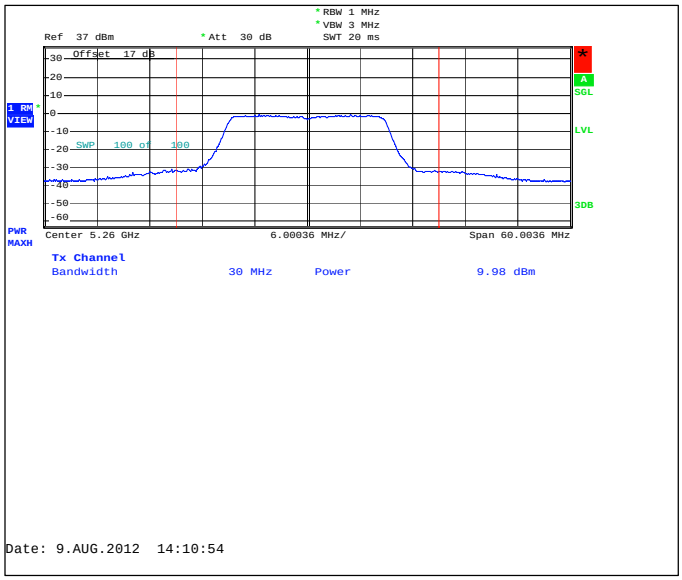
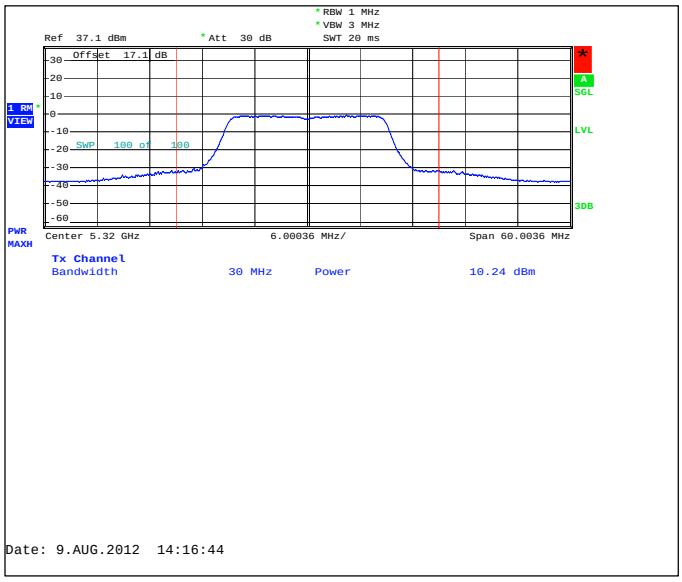
Channel 52 / 5260MHz



Channel 64 / 5320MHz



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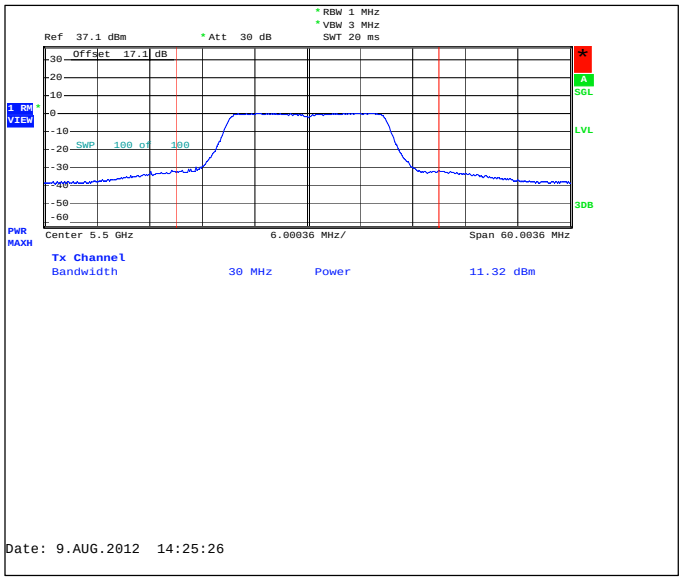
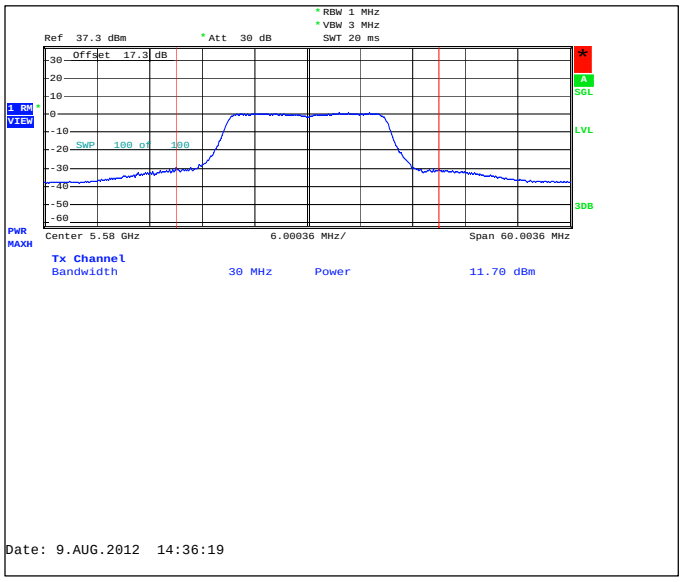
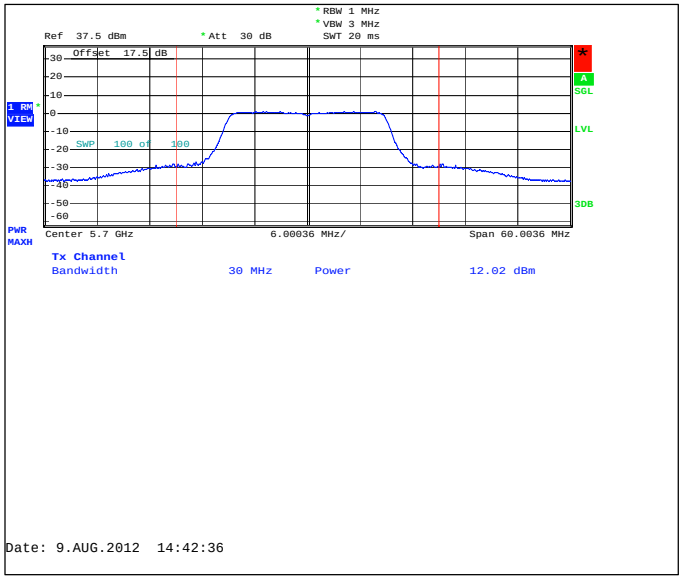
Channel 100 / 5500MHz



Channel 116 / 5580MHz



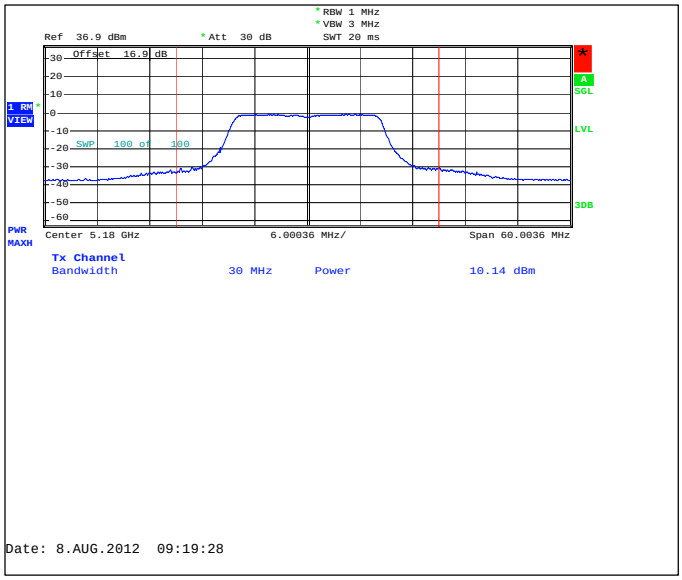
Channel 140 / 5700MHz



4.3.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
36 / 5180	10.14	10.328	PASSED
48 / 5240	10.09	10.209	PASSED
52 / 5260	9.97	9.931	PASSED
64 / 5320	10.29	10.691	PASSED
100 / 5500	11.25	13.335	PASSED
116 / 5580	11.75	14.962	PASSED
140 / 5700	12.02	15.922	PASSED

Channel 36 / 5180MHz



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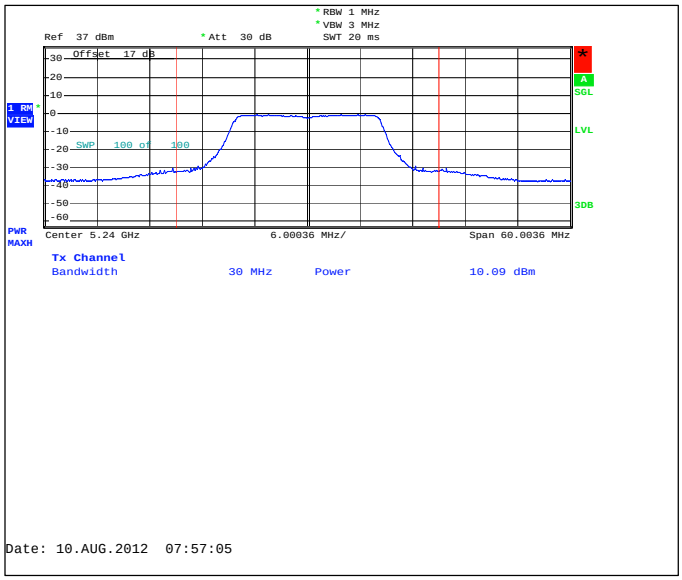
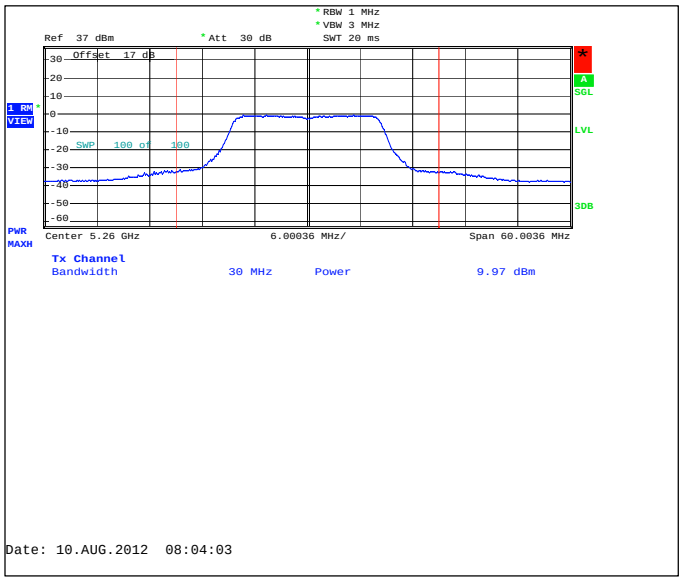
Channel 48 / 5240MHz



Channel 52 / 5260MHz



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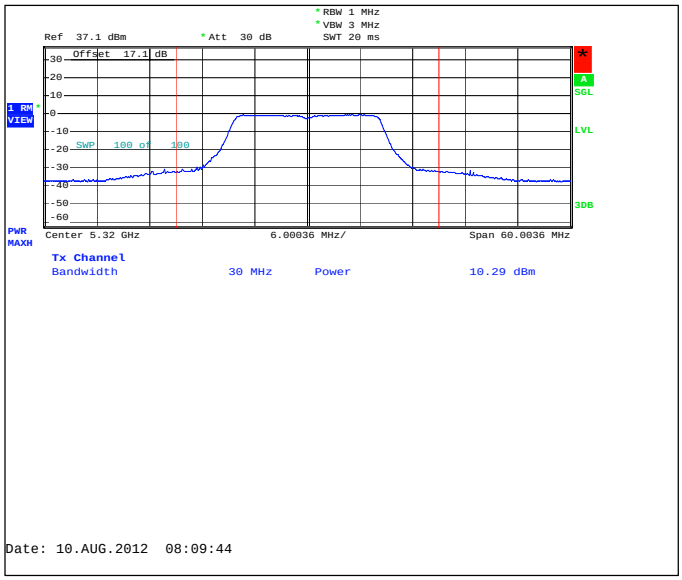
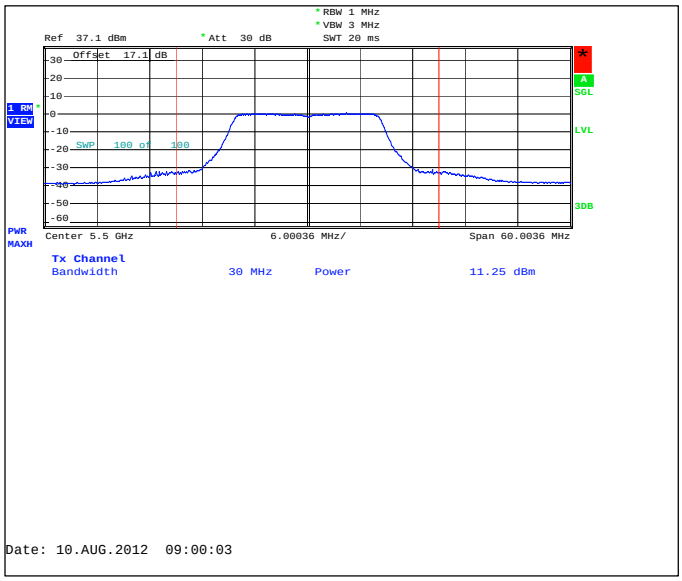
Channel 64 / 5320MHz



Channel 100 / 5500MHz



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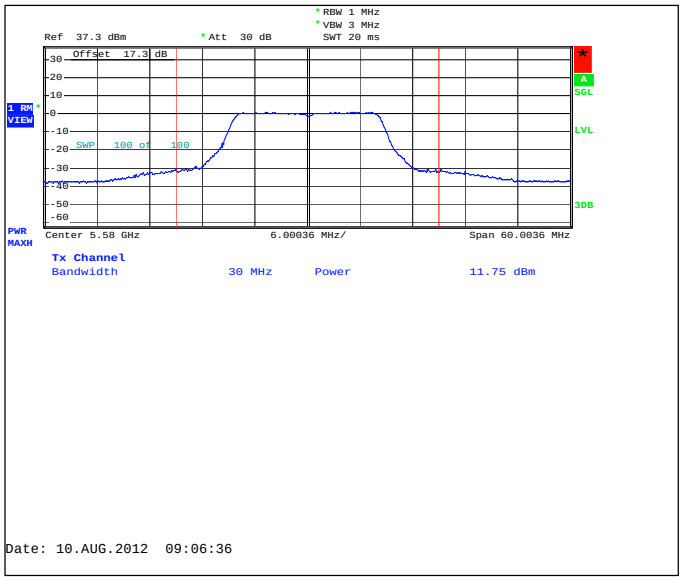
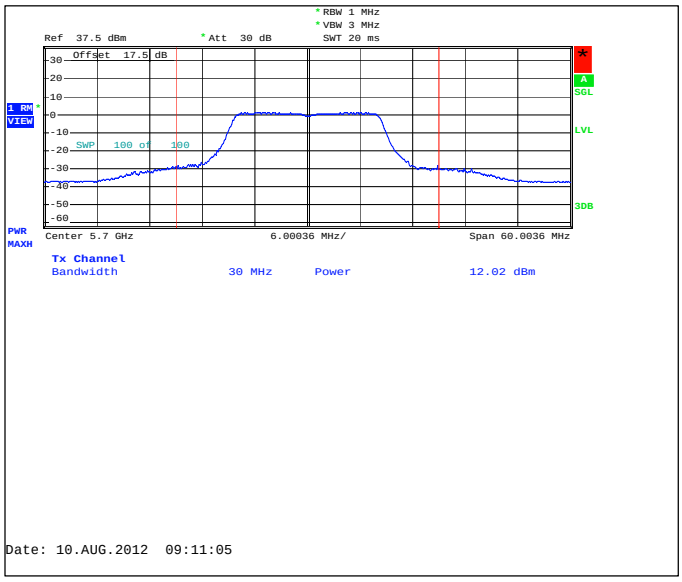
Channel 116 / 5580MHz



Channel 140 / 5700MHz



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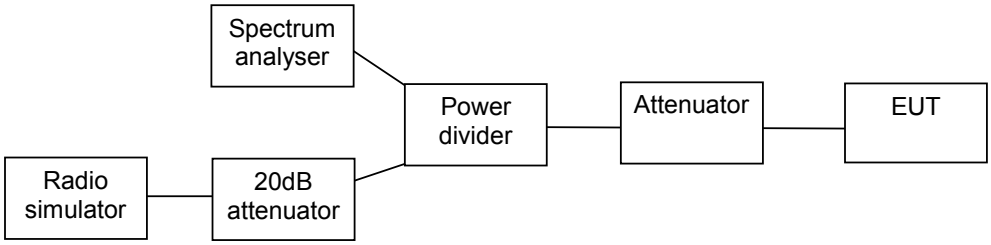
5. Peak excursion

(FCC §15.407 (a), RSS-210 A9.2)

EUT with DUT number	RM-845, DUT 16591
Accessories with DUT numbers	BP-4W, DUT 16547 ; WH-902, DUT 16564 ; AC-50U, DUT 16558
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101
Date of measurements	09-Aug-2012
Measured by	Tomi Lipponen

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.

Limits for peak excursion measurements

Limit [dB]
<= 13

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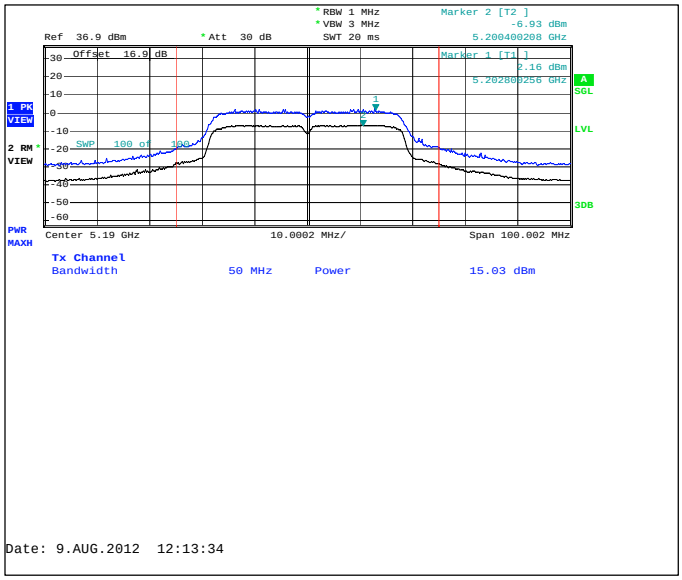
5.3. 5 GHz RLAN Test results

5.3.1 n-mode, 40 MHz CBW mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f_C [MHz]	Peak excursion [dB]	Result
36+40 / 5190	9.09	PASSED
44+48 / 5230	9.06	PASSED
52+56 / 5270	9.44	PASSED
60+64 / 5310	9.18	PASSED
100+104 / 5510	9.25	PASSED
108+112 / 5550	9.41	PASSED
132+136 / 5670	9.64	PASSED

Channel 36+40 / 5190MHz



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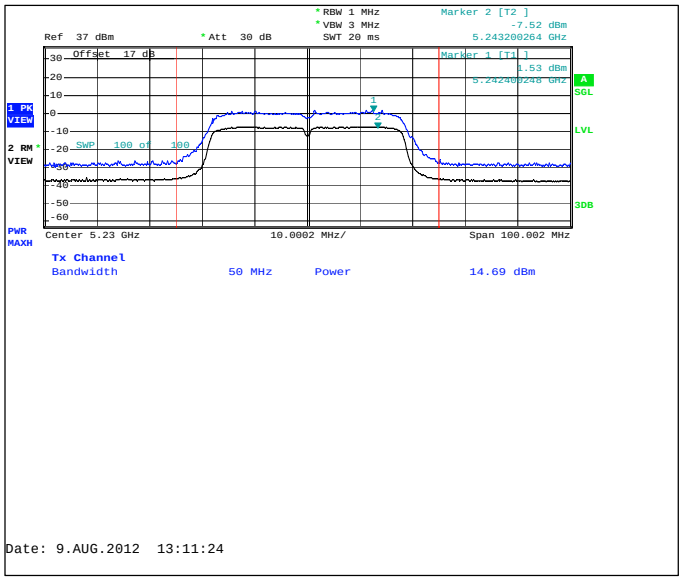
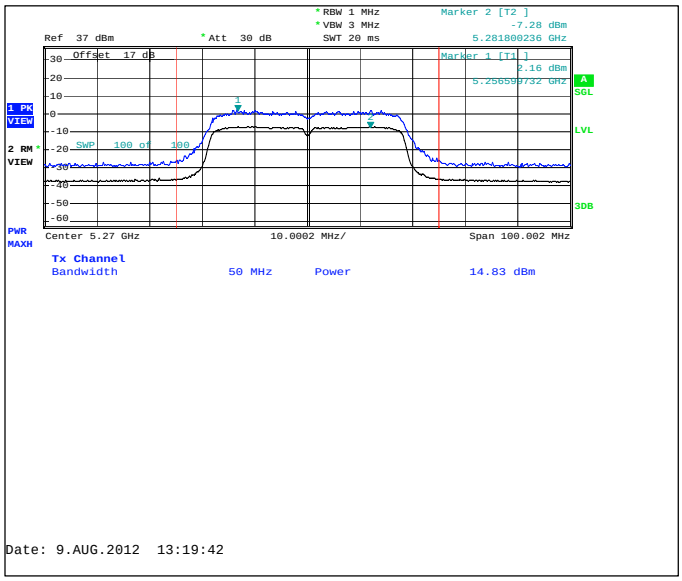
Channel 44+48 / 5230MHz



Channel 52+56 / 5270MHz



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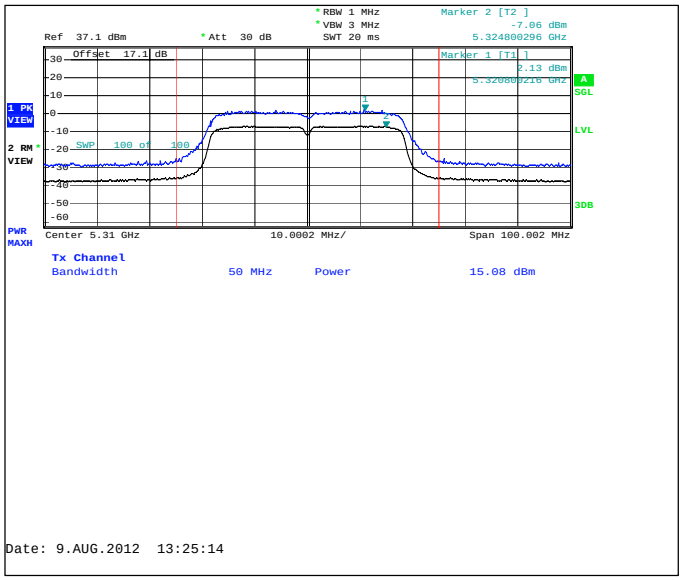
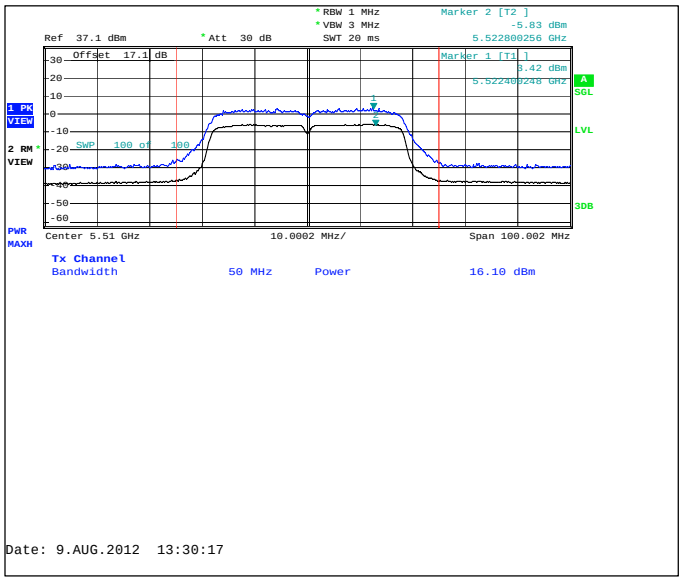
Channel 60+64 / 5310MHz



Channel 100+104 / 5510MHz



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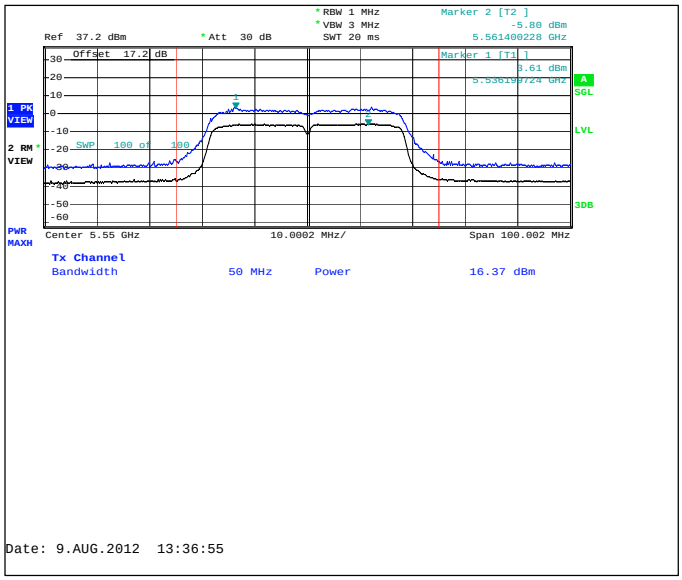
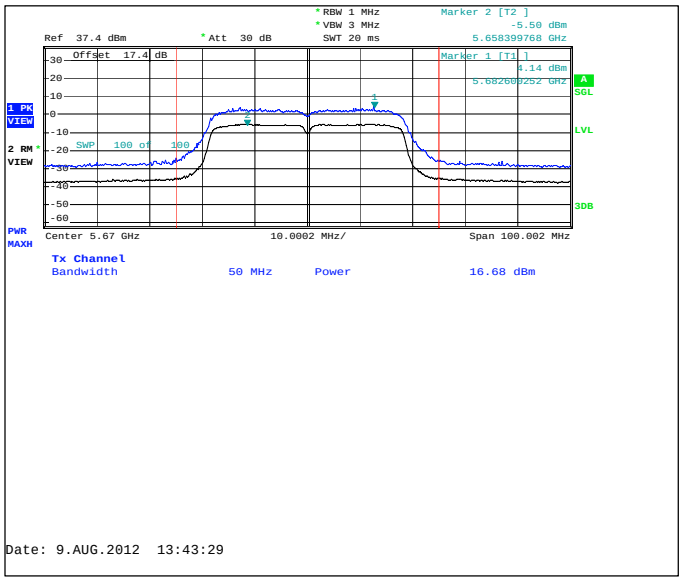
Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



5.3.2 n-mode, 20 MHz CBW mode, 16-QAM modulation, 26.0 / 28.9 Mbps data rate

Channel / f_C [MHz]	Peak excursion [dB]	Result
36 / 5180	8.23	PASSED
48 / 5240	8.58	PASSED
52 / 5260	8.73	PASSED
64 / 5320	8.05	PASSED
100 / 5500	8.58	PASSED
116 / 5580	8.39	PASSED
140 / 5700	8.98	PASSED

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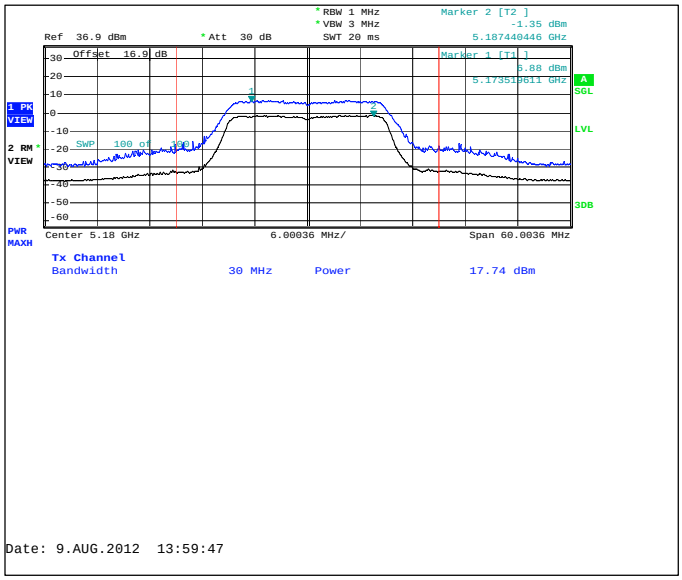
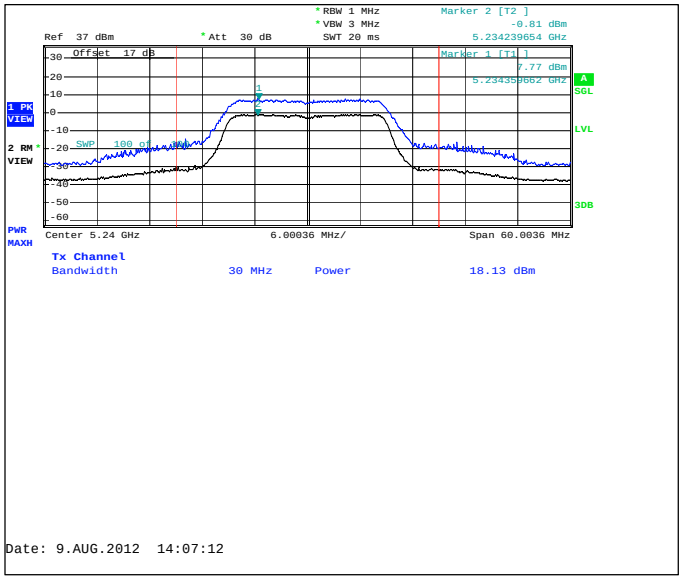
Channel 36 / 5180MHz



Channel 48 / 5240MHz



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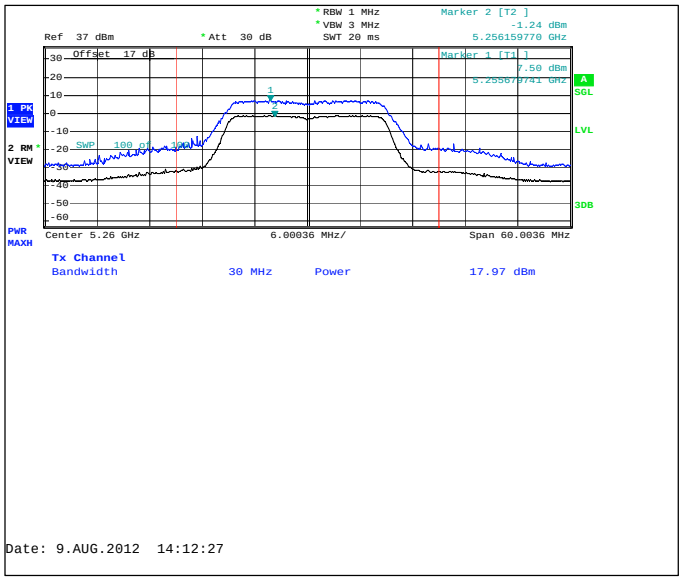
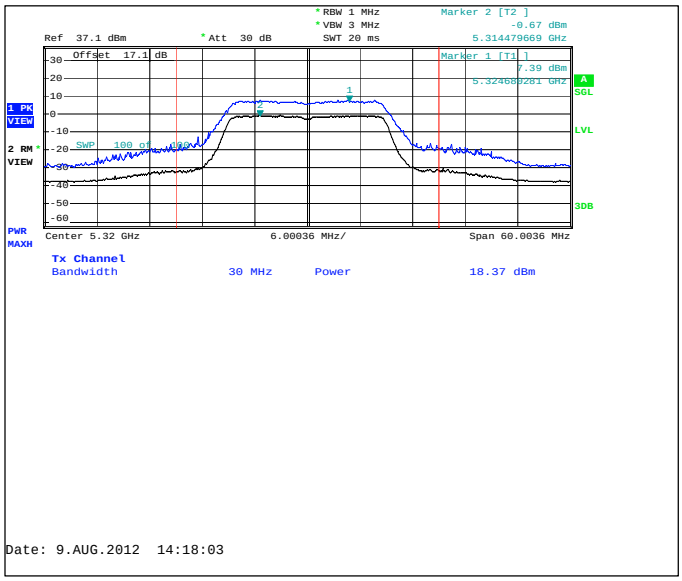
Channel 52 / 5260MHz



Channel 64 / 5320MHz



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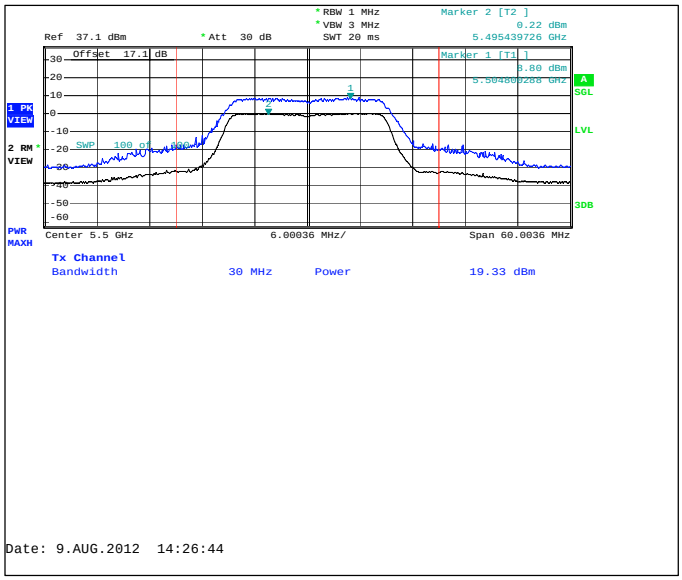
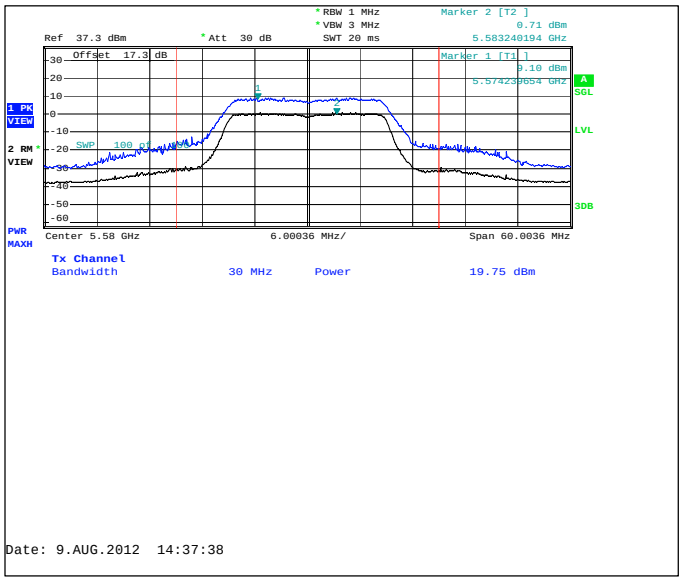
Channel 100 / 5500MHz



Channel 116 / 5580MHz



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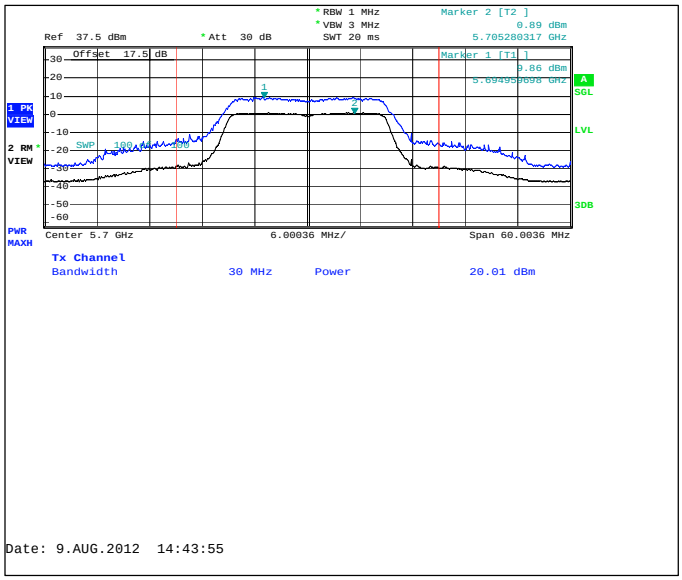
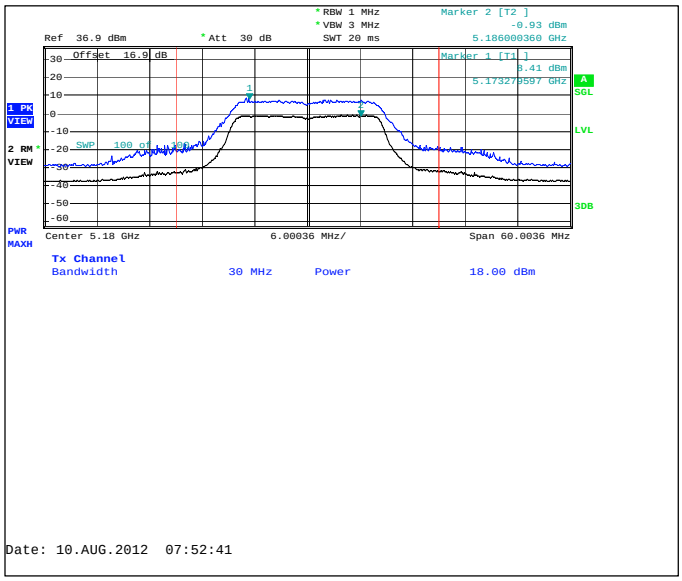
Channel 140 / 5700MHz



5.3.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel / f_C [MHz]	Peak excursion [dB]	Result
36 / 5180	9.34	PASSED
48 / 5240	9.08	PASSED
52 / 5260	9.24	PASSED
64 / 5320	9.72	PASSED
100 / 5500	9.25	PASSED
116 / 5580	8.78	PASSED
140 / 5700	9.32	PASSED

Channel 36 / 5180MHz



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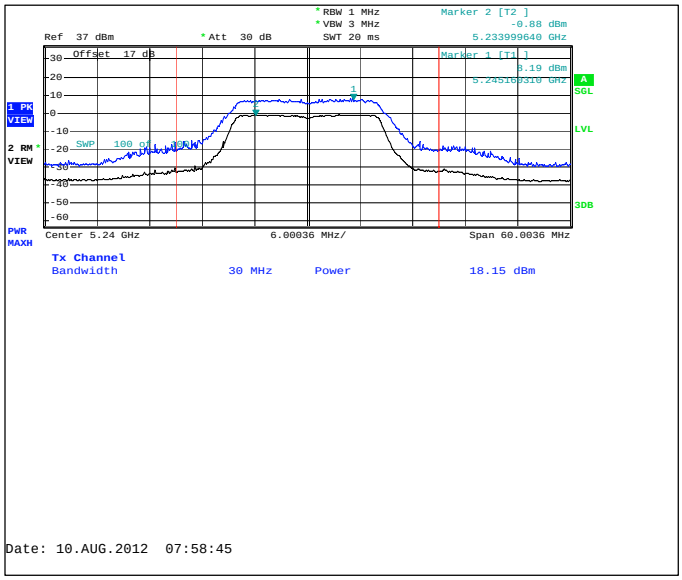
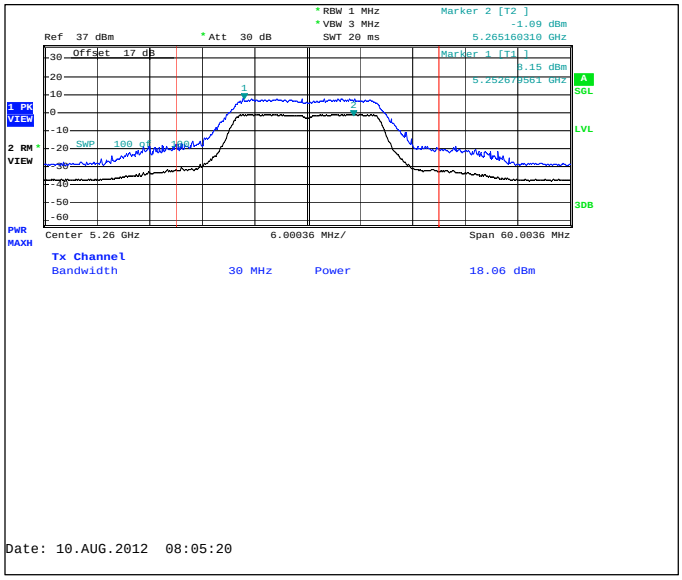
Channel 48 / 5240MHz



Channel 52 / 5260MHz



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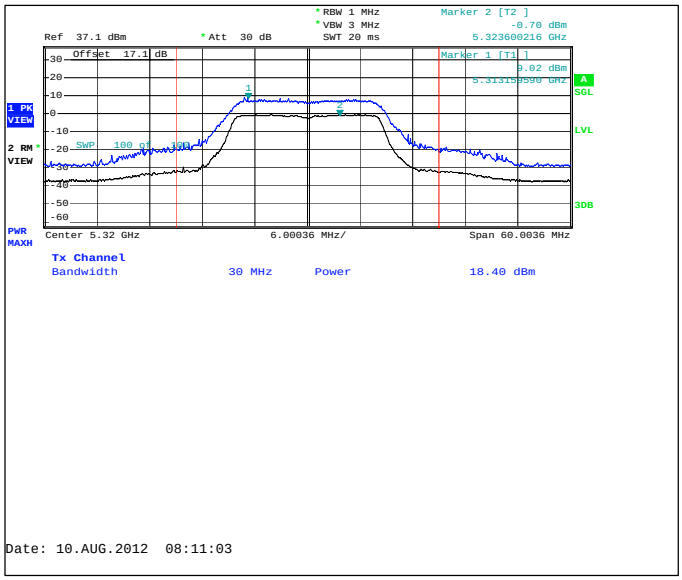
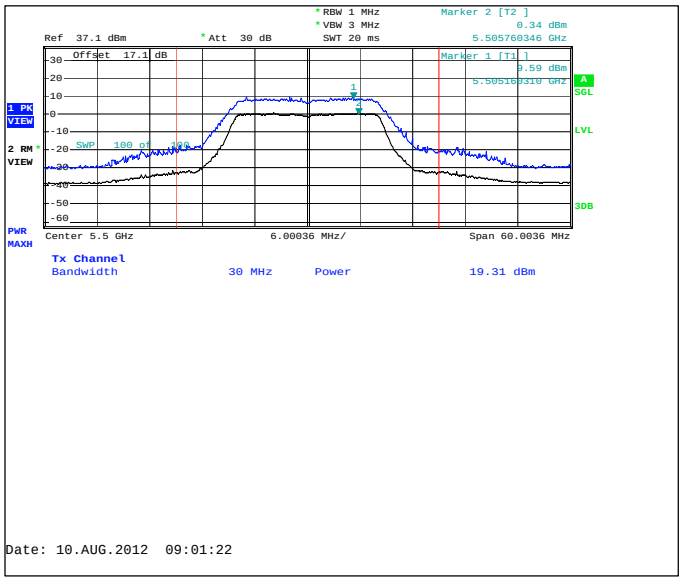
Channel 64 / 5320MHz



Channel 100 / 5500MHz



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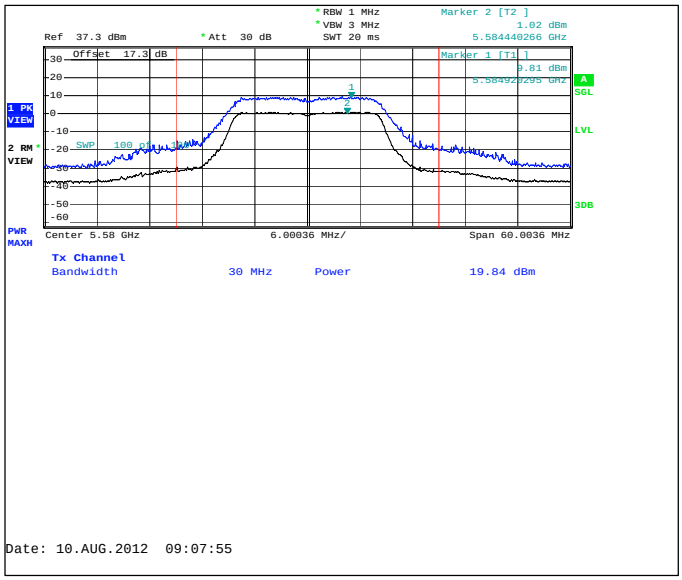
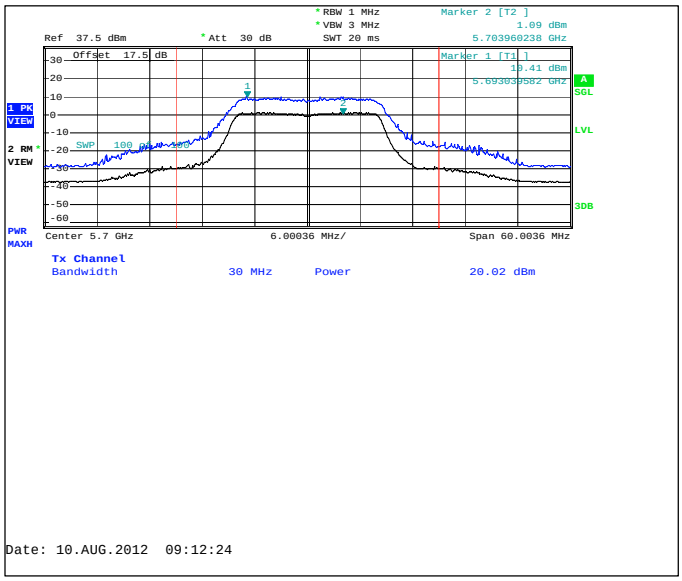
Channel 116 / 5580MHz



Channel 140 / 5700MHz



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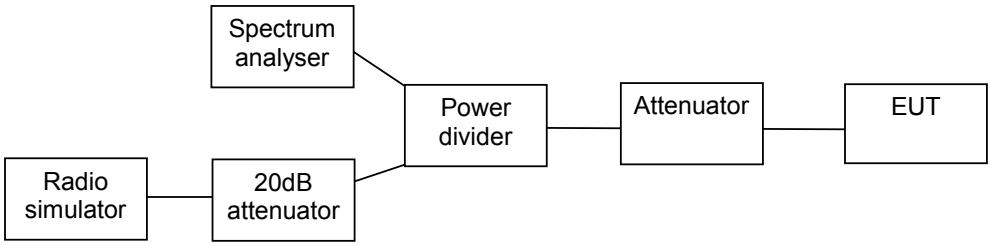
6. 26 dB bandwidth

EUT with DUT number	RM-845, DUT 16591
Accessories with DUT numbers	BP-4W, DUT 16547 ; WH-902, DUT 16564 ; AC-50U, DUT 16558
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101
Date of measurements	07-Aug-2012
Measured by	Tomi Lipponen

6.1. Test Setup



6.2. 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

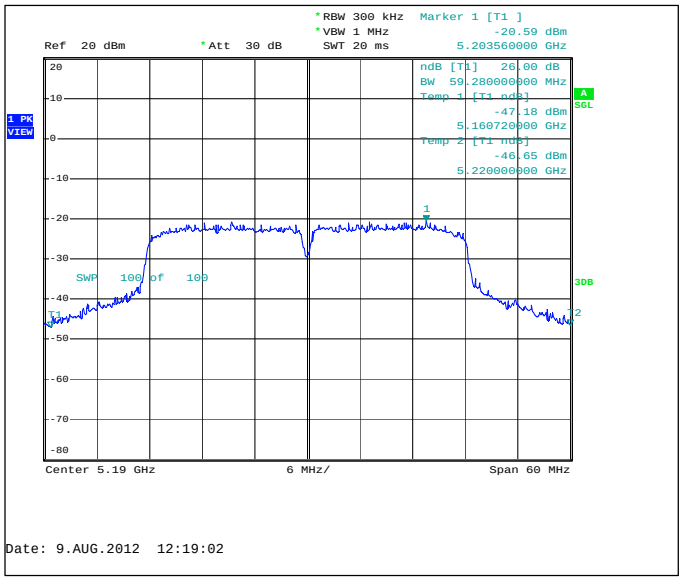
Limit [kHz]
No limit

6.3. 5 GHz RLAN Test results

6.3.1 n-mode, 40 MHz CBW mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel / f_C [MHz]	26 dB bandwidth [kHz]	Result
36+40 / 5190	59280	PASSED
44+48 / 5230	43680	PASSED
52+56 / 5270	43080	PASSED
60+64 / 5310	43200	PASSED
100+104 / 5510	42960	PASSED
108+112 / 5550	43200	PASSED
132+136 / 5670	43440	PASSED

Channel 36+40 / 5190MHz



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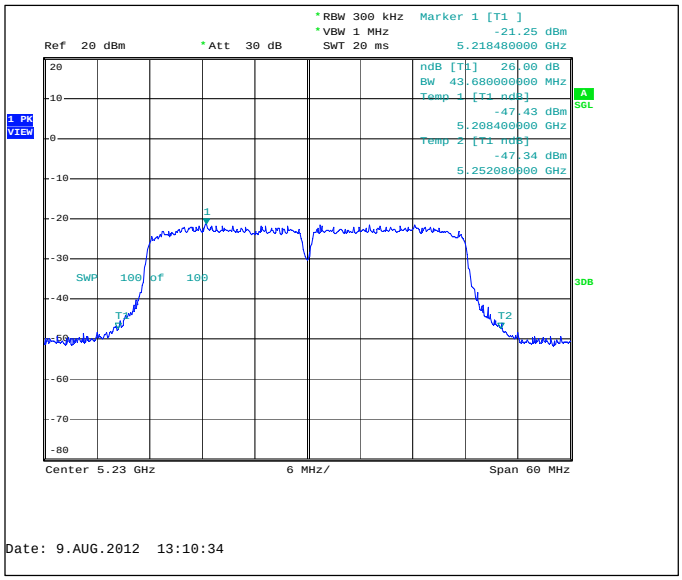
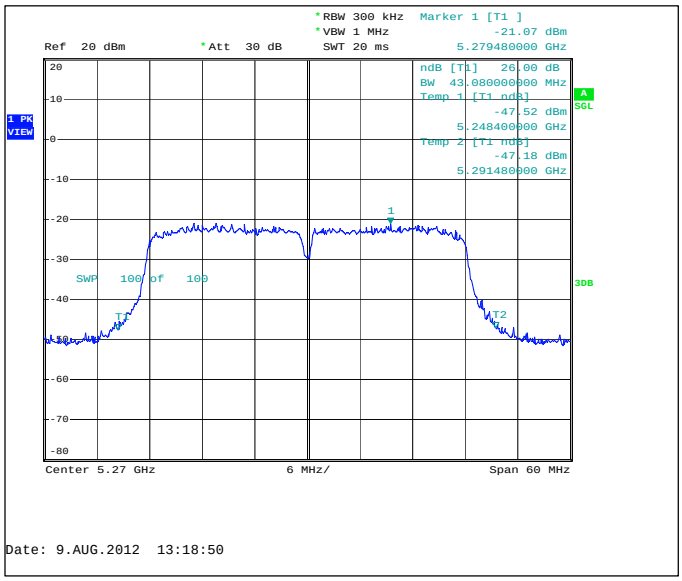
Channel 44+48 / 5230MHz



Channel 52+56 / 5270MHz



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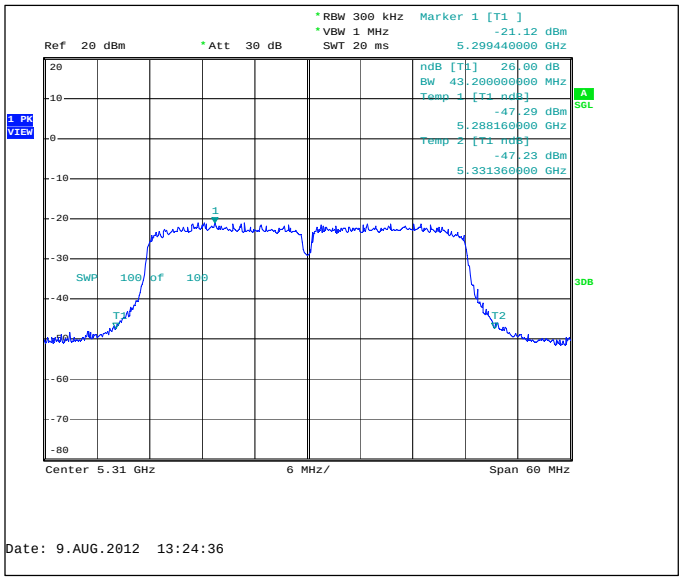
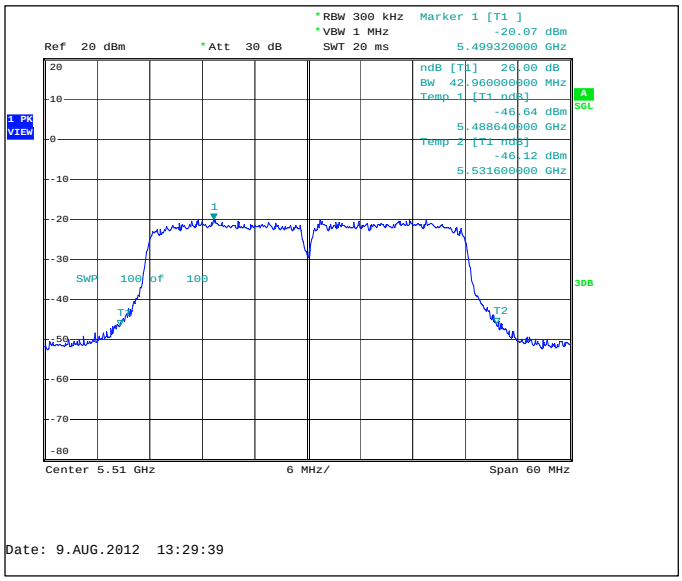
Channel 60+64 / 5310MHz



Channel 100+104 / 5510MHz



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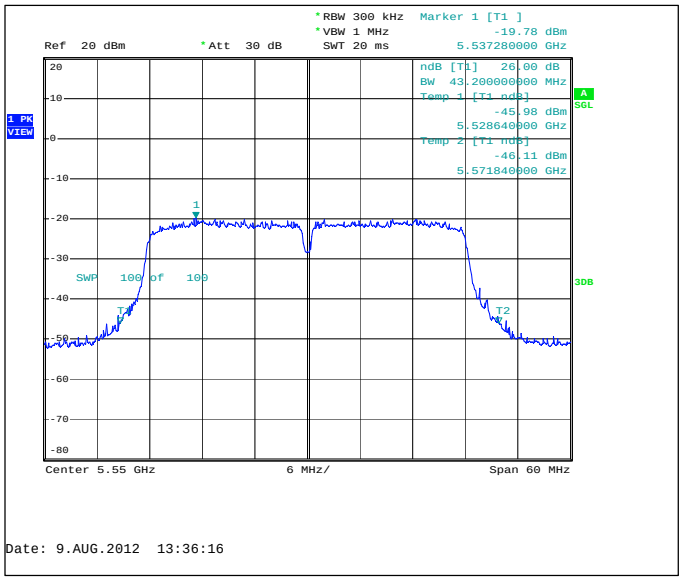
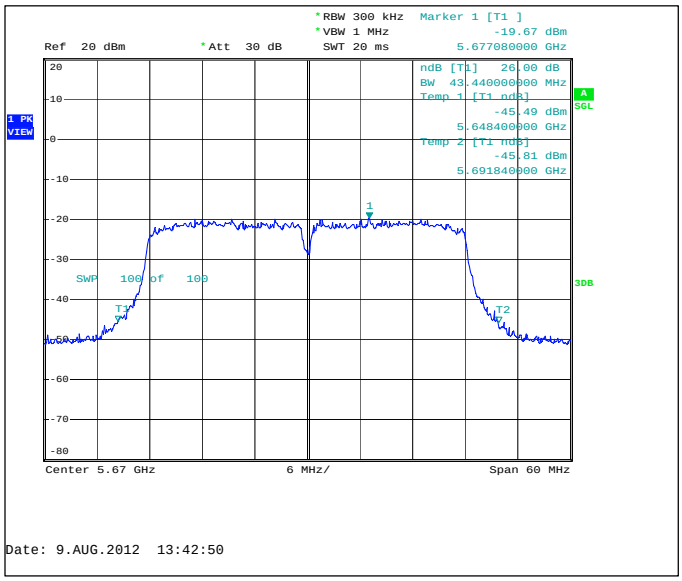
Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



6.3.2 n-mode, 20 MHz CBW mode, 16-QAM modulation, 26.0 / 28.9 Mbps data rate

Channel / f_C [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	22800	PASSED
48 / 5240	22800	PASSED
52 / 5260	22500	PASSED
64 / 5320	22600	PASSED
100 / 5500	22500	PASSED
116 / 5580	22900	PASSED
140 / 5700	23100	PASSED

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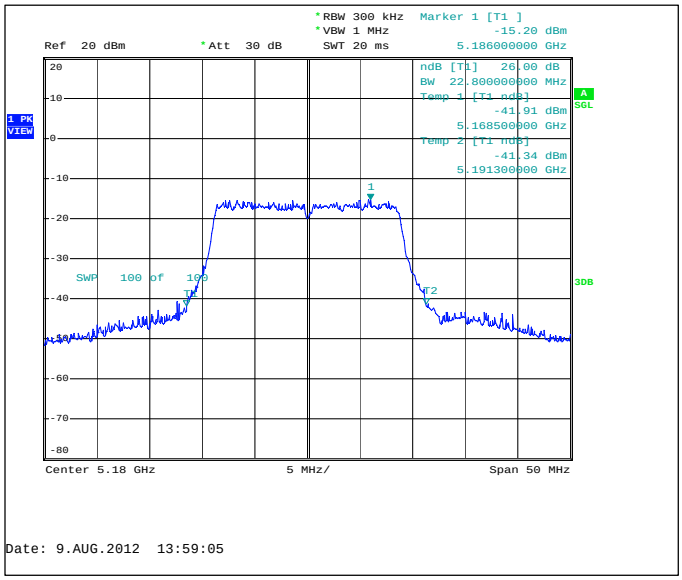
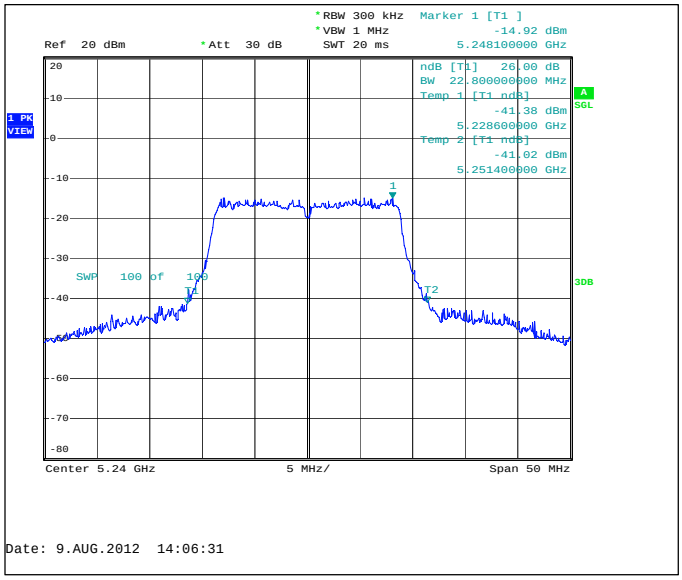
Channel 36 / 5180MHz



Channel 48 / 5240MHz



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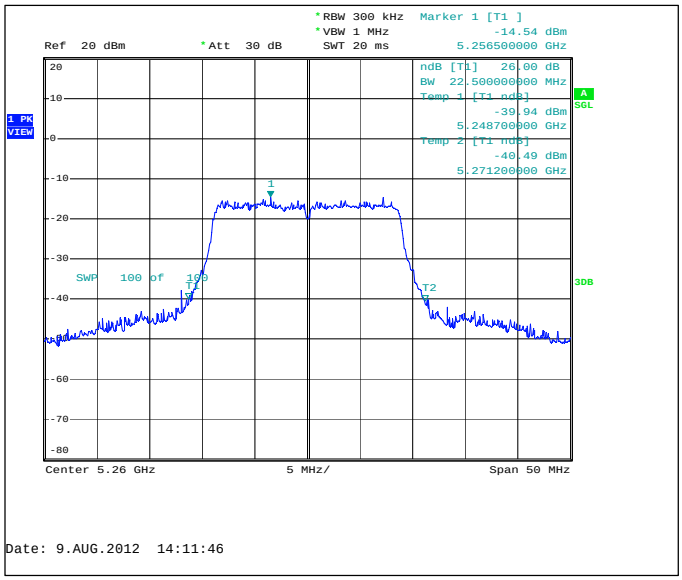
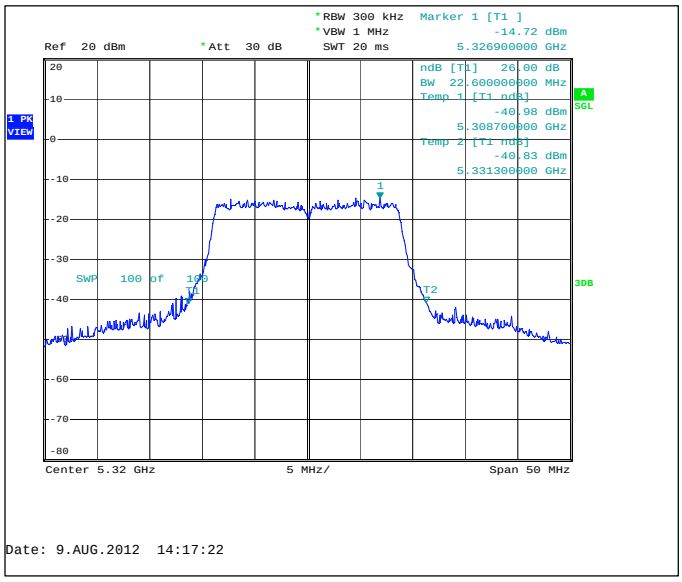
Channel 52 / 5260MHz



Channel 64 / 5320MHz



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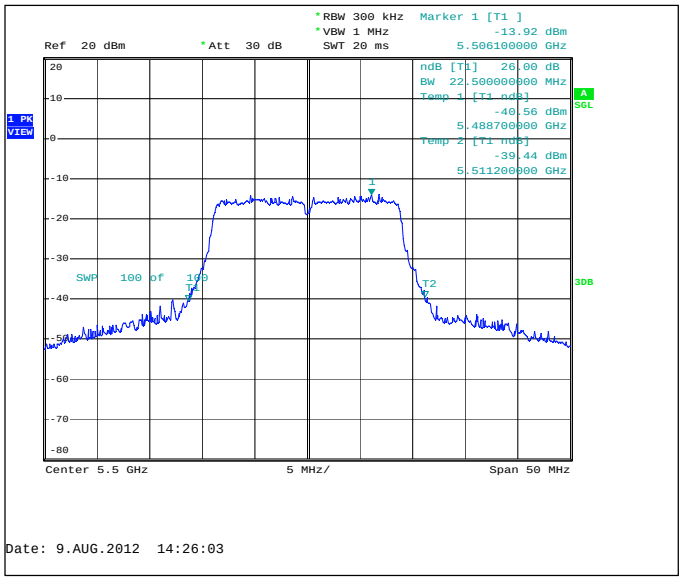
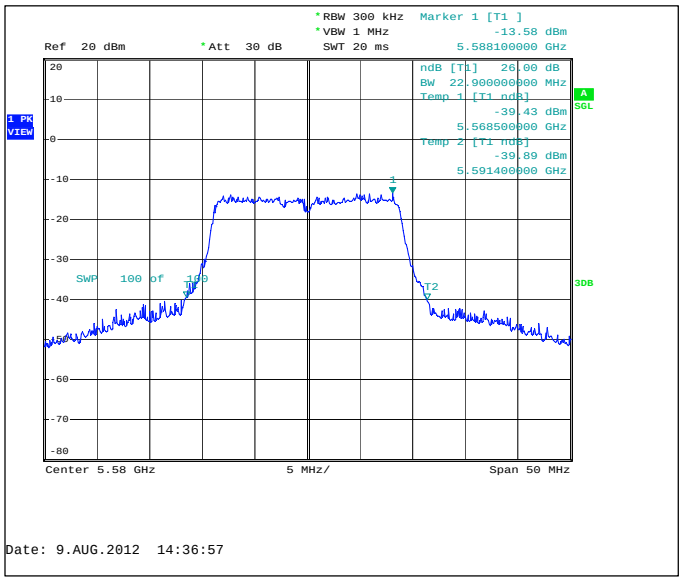
Channel 100 / 5500MHz



Channel 116 / 5580MHz



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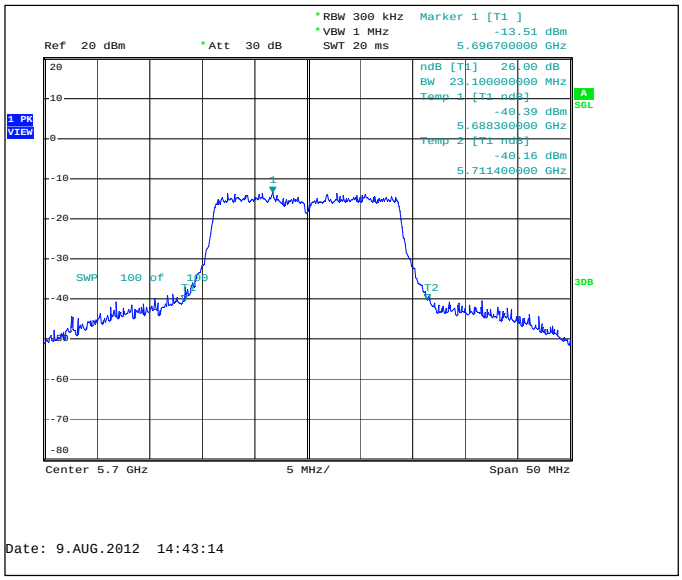
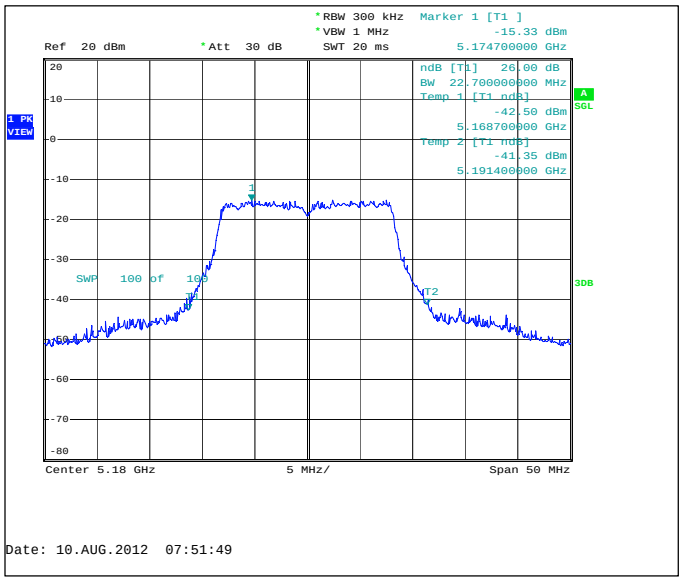
Channel 140 / 5700MHz



6.3.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel / f_C [MHz]	26 dB bandwidth [kHz]	Result
36 / 5180	22700	PASSED
48 / 5240	22500	PASSED
52 / 5260	22800	PASSED
64 / 5320	22400	PASSED
100 / 5500	22200	PASSED
116 / 5580	22500	PASSED
140 / 5700	22600	PASSED

Channel 36 / 5180MHz



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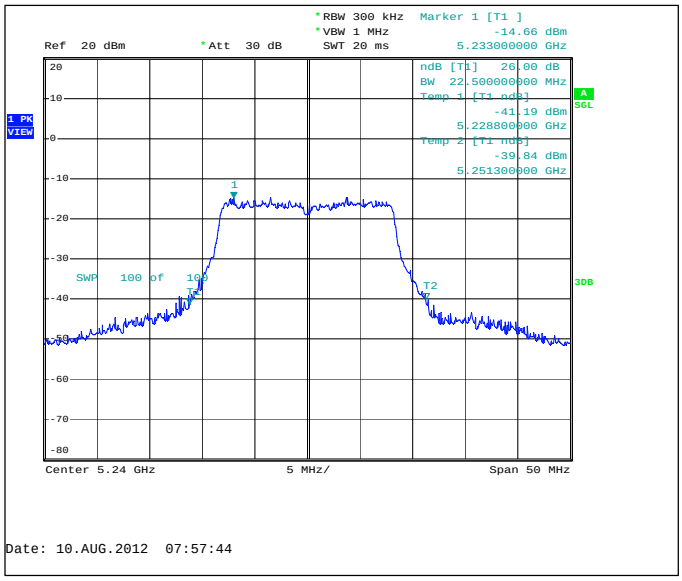
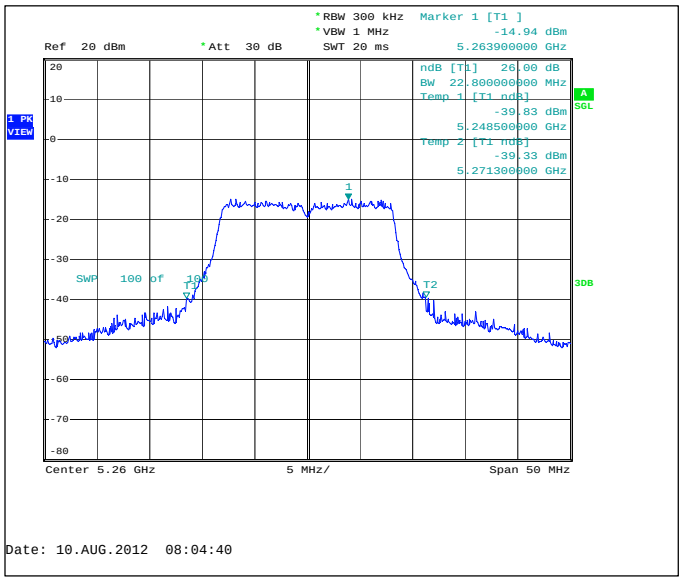
Channel 48 / 5240MHz



Channel 52 / 5260MHz



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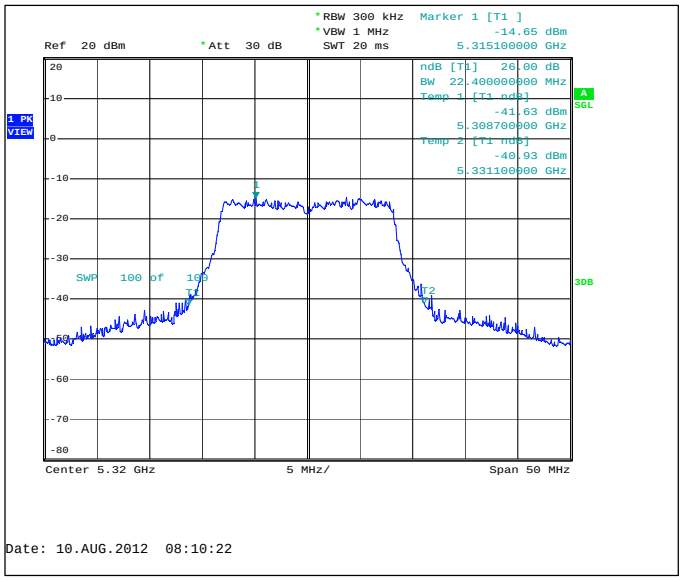
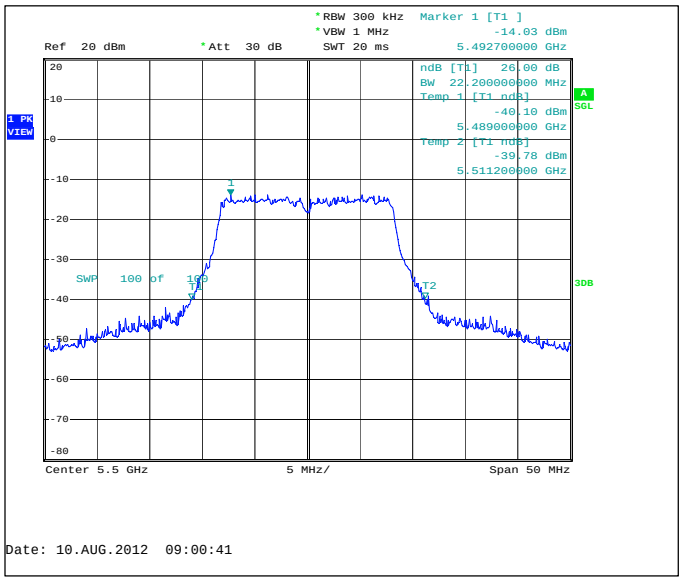
Channel 64 / 5320MHz



Channel 100 / 5500MHz



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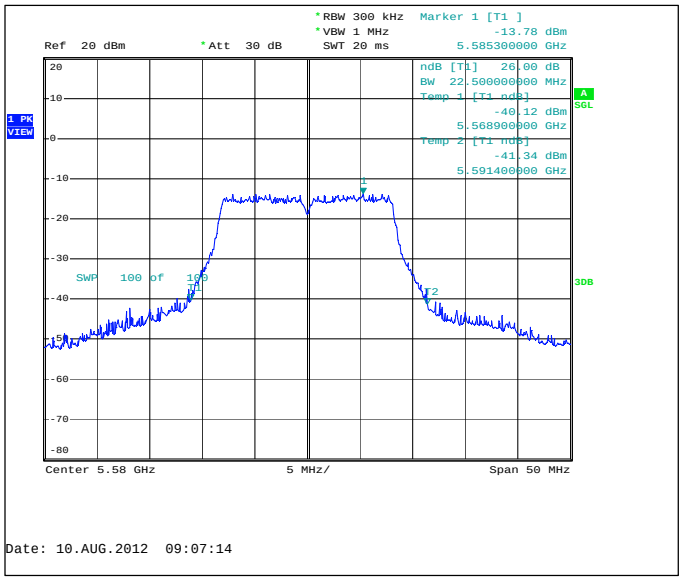
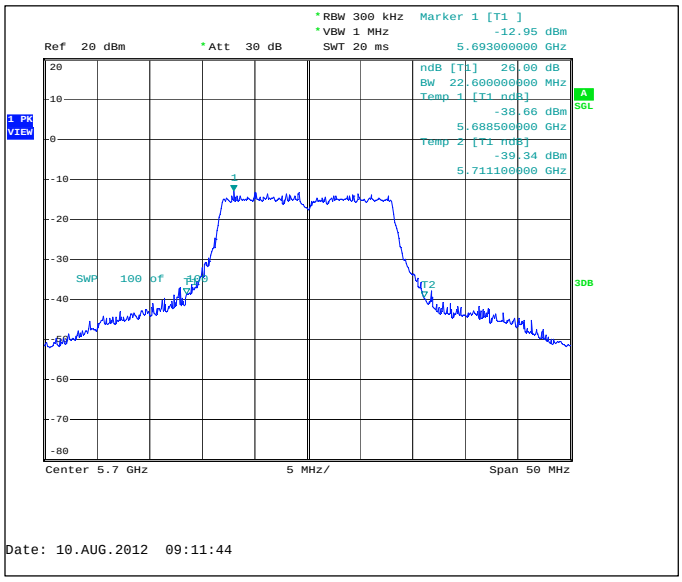
Channel 116 / 5580MHz



Channel 140 / 5700MHz



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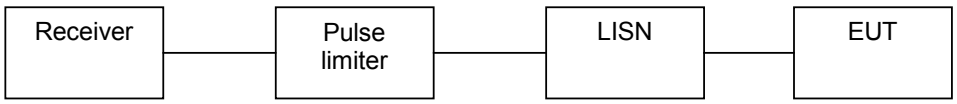
7. AC powerline conducted emissions

(FCC §15.207, RSS-GEN 7.2.2)

EUT with DUT number	RM-845, DUT 16606
Accessories with DUT numbers	BP-4W, DUT 16607 ; AC-50U, DUT 16555 ; WH-902, DUT 16564
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101
Date of measurements	07-Aug-2012
Measured by	Sami Lehtonen

7.1. Test Setup



7.2. Test method and limit

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

The EUT is placed on a wooden table 80 cm above the reference groundplane.

The EUT is connected via LISN to a test power supply.

The measurement results are obtained as described below:

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

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

CISPR 22 Class B limits

Frequency range [MHz]	Quasi peak limit [dBµV]	Average limit [dBµV]
0.15 - 0.5	66 - 56	56 - 46
0.5 - 5	56	46
5 - 30	60	50

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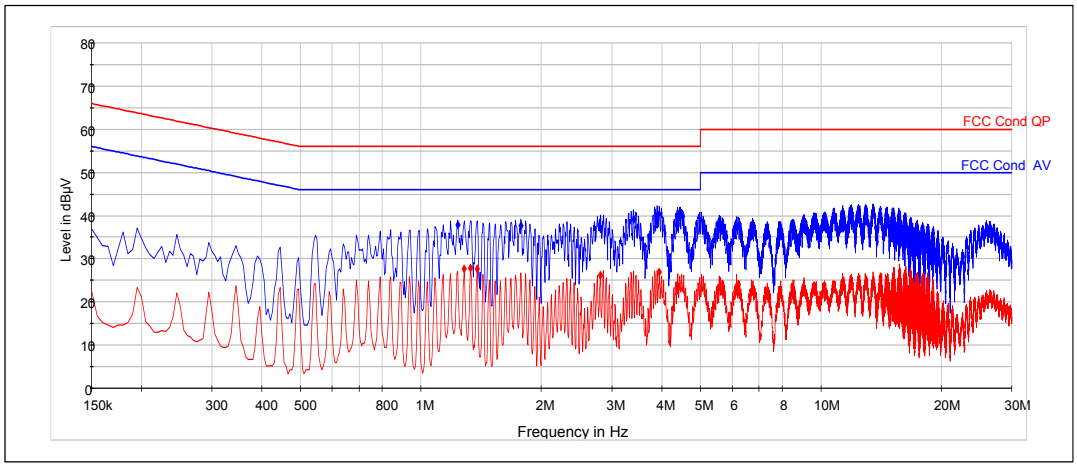
7.3. 5G RLAN Test results

7.3.1 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel 116 / 5580 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.235	37.92	N	PASSED
1.775	37.72	N	PASSED
3.405	39.23	N	PASSED
3.9	40.36	N	PASSED
4.435	39.78	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.28	27.71	N	PASSED
1.33	27.81	N	PASSED
1.38	27.63	N	PASSED
2.805	26.2	N	PASSED
3.94	26.92	N	PASSED

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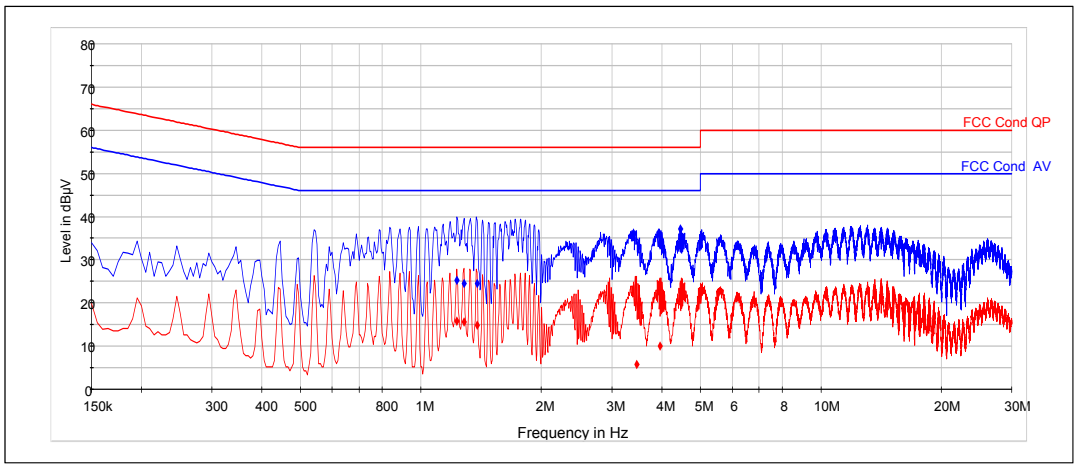
7.3.2 n-mode, 20 MHz CBW mode, 16-QAM modulation, 26.0 / 28.9 Mbps data rate

Channel 116 / 5580 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.23	25.29	L1	PASSED
1.28	24.55	L1	PASSED
1.38	24.47	L1	PASSED
3.405	35.99	N	PASSED
3.925	36.21	N	PASSED
4.45	37.11	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
1.23	15.78	L1	PASSED
1.28	15.65	L1	PASSED
1.38	14.79	L1	PASSED
3.46	5.77	N	PASSED
3.955	10.07	N	PASSED

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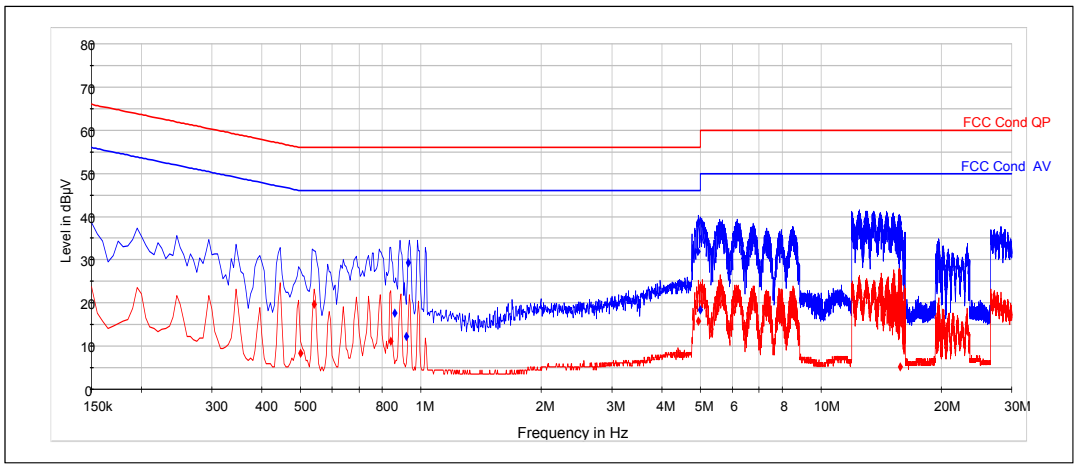
7.3.3 n-mode, 40 MHz CBW mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

Channel 108+112 / 5550 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.86	17.62	L1	PASSED
0.92	12.33	L1	PASSED
0.93	29.38	L1	PASSED
4.93	31.84	N	PASSED
4.94	38.53	N	PASSED
4.99	18.34	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBµV]	Line	Result
0.5	8.29	L1	PASSED
0.54	19.6	L1	PASSED
0.84	11.21	N	PASSED
4.94	15.73	L1	PASSED
15.705	15.21	L1	PASSED
15.76	5.28	L1	PASSED

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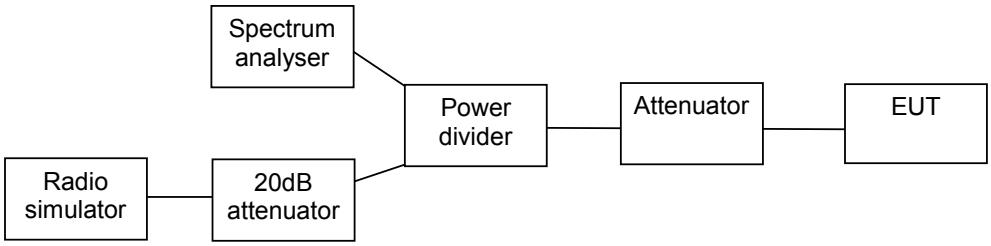
8. Peak power spectral density
(FCC §15.407(a), RSS-210 A9.2)

EUT with DUT number	RM-845, DUT 16591
Accessories with DUT numbers	BP-4W, DUT 16547 ; WH-902, DUT 16564 ; AC-50U, DUT 16558
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 50 / 101
Date of measurements	07-Aug-2012
Measured by	Tomi Lipponen

8.1. Test Setup



8.2. Test method and limit

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

Limits for power spectral density measurements

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

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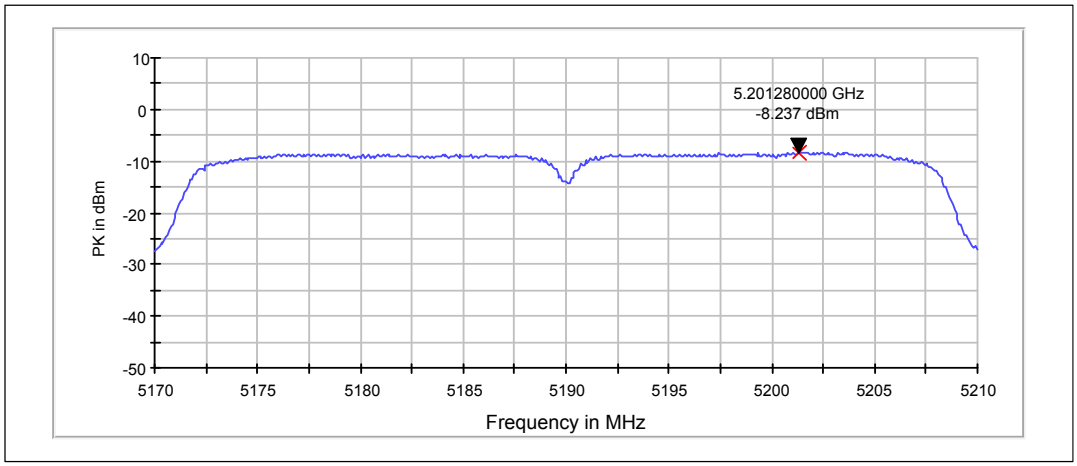
8.3. 5 GHz RLAN Test results

8.3.1 n-mode, 40 MHz CBW mode, QPSK modulation, 40.5 / 45.0 Mbps data rate

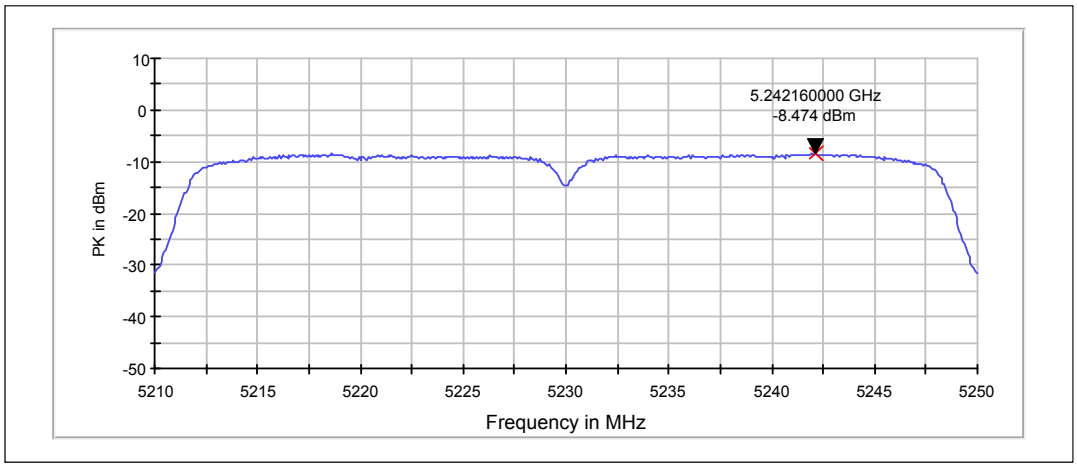
RMS detector (RBW: 1 MHz, VBW: 3 MHz, Video averaging)

Channel / f_C [MHz]	P [dBm]	Result
36+40 / 5190	-8.24	PASSED
44+48 / 5230	-8.47	PASSED
52+56 / 5270	-8.52	PASSED
60+64 / 5310	-8.17	PASSED
100+104 / 5510	-6.97	PASSED
108+112 / 5550	-6.75	PASSED
132+136 / 5670	-6.56	PASSED

Channel 36+40 / 5190MHz



Channel 44+48 / 5230MHz



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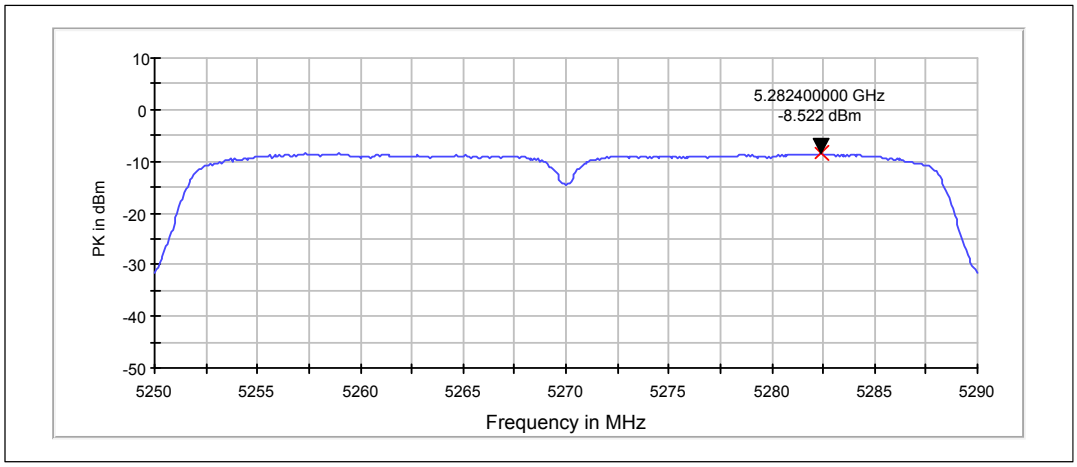
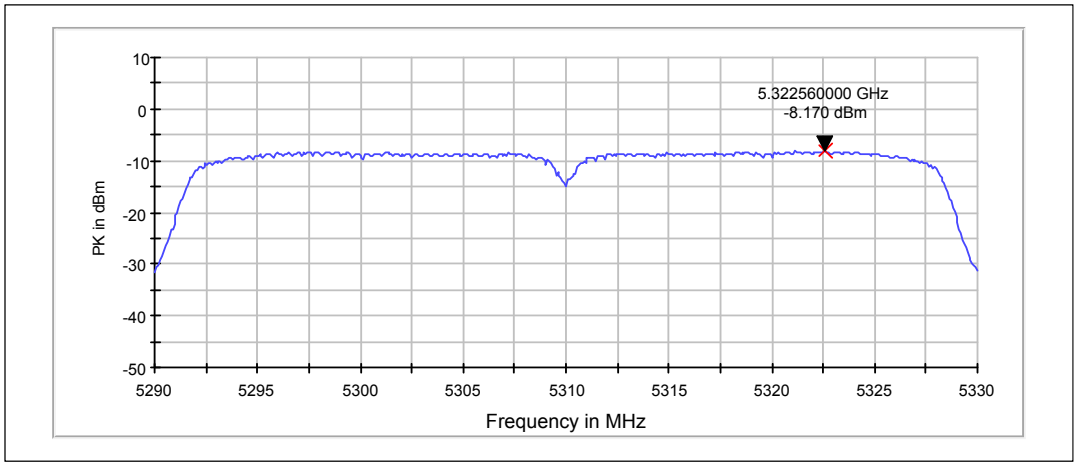
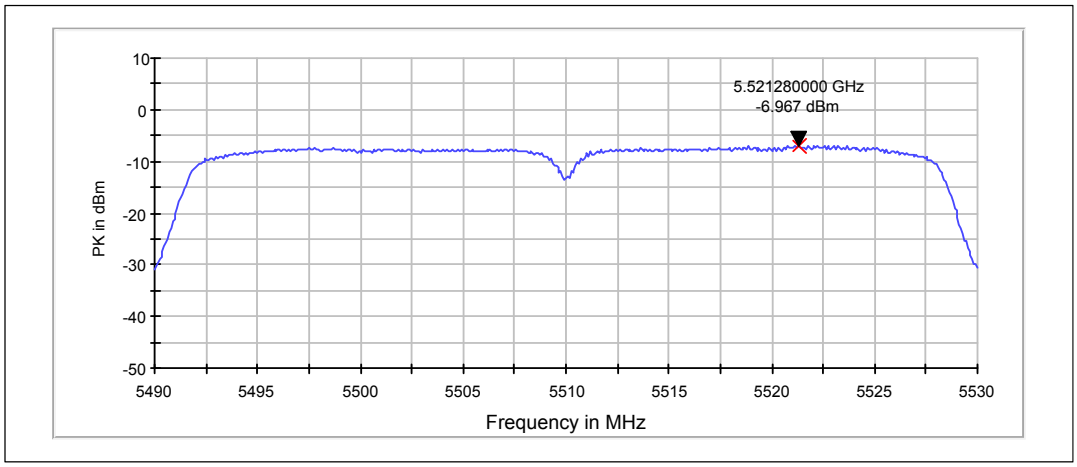
Channel 52+56 / 5270MHz



Channel 60+64 / 5310MHz



Channel 100+104 / 5510MHz



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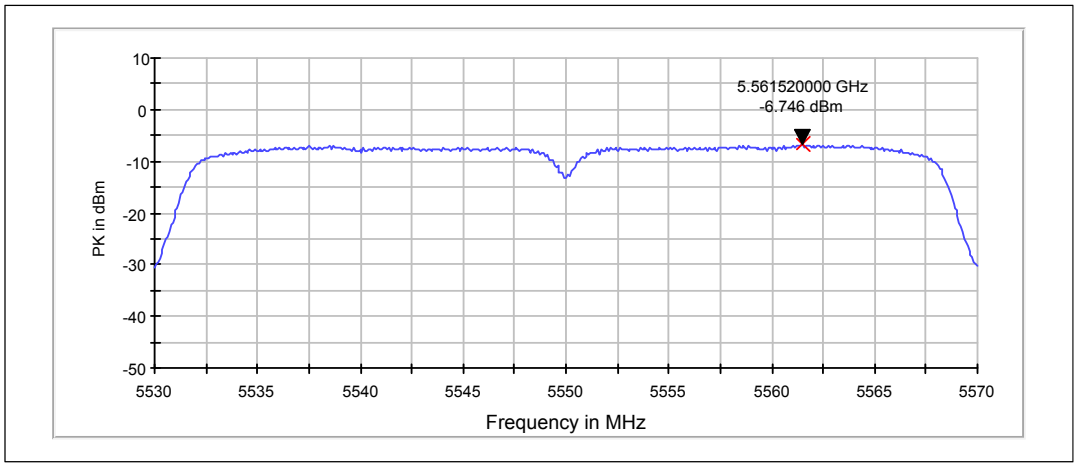
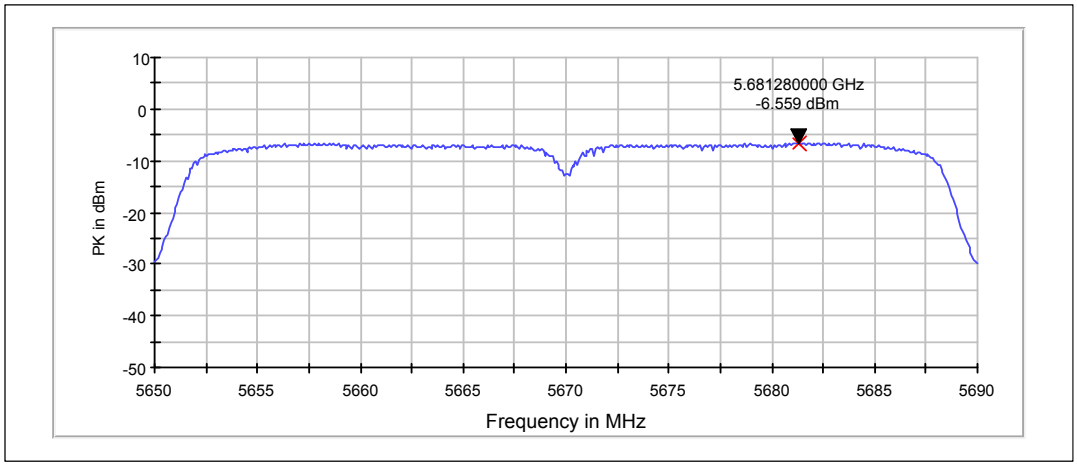
Channel 108+112 / 5550MHz



Channel 132+136 / 5670MHz



8.3.2 n-mode, 20 MHz CBW mode, 16-QAM modulation, 26.0 / 28.9 Mbps data rate

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

Channel / f_C [MHz]	P [dBm]	Result
36 / 5180	-3.57	PASSED
48 / 5240	-3.1	PASSED
52 / 5260	-3.37	PASSED
64 / 5320	-3.04	PASSED
100 / 5500	-1.91	PASSED
116 / 5580	-1.19	PASSED
140 / 5700	-1.02	PASSED

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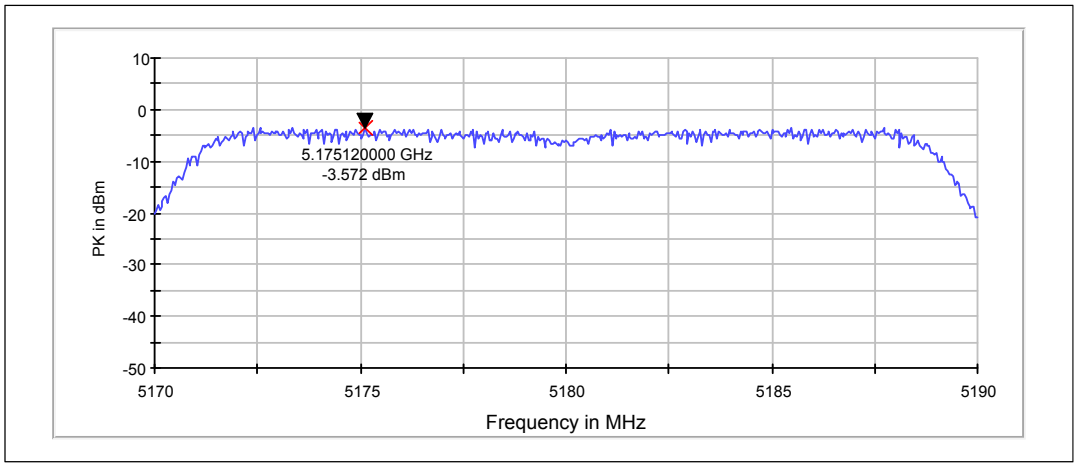
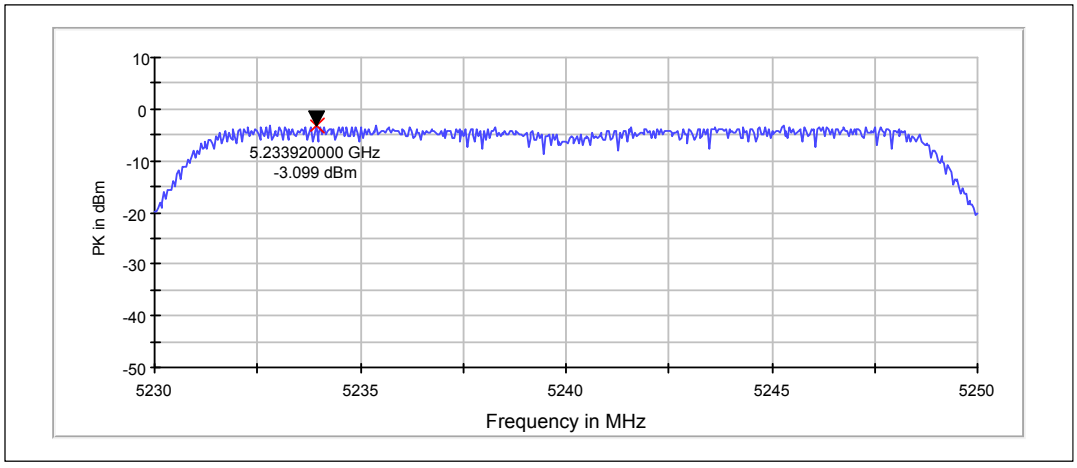
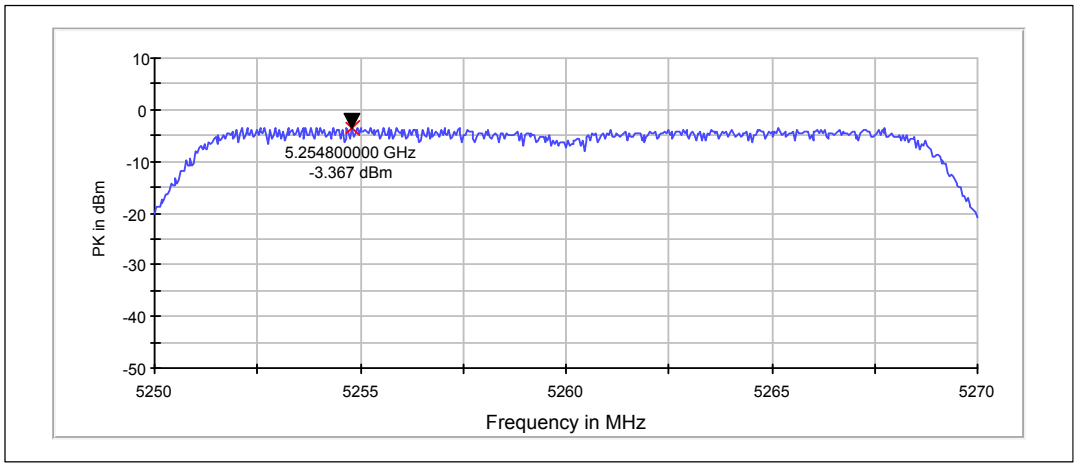
Channel 36 / 5180MHz



Channel 48 / 5240MHz



Channel 52 / 5260MHz



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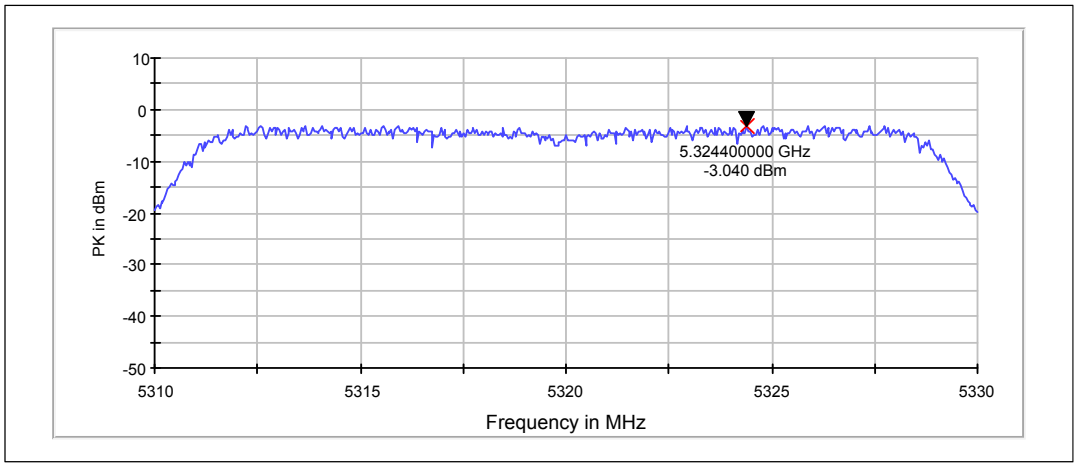
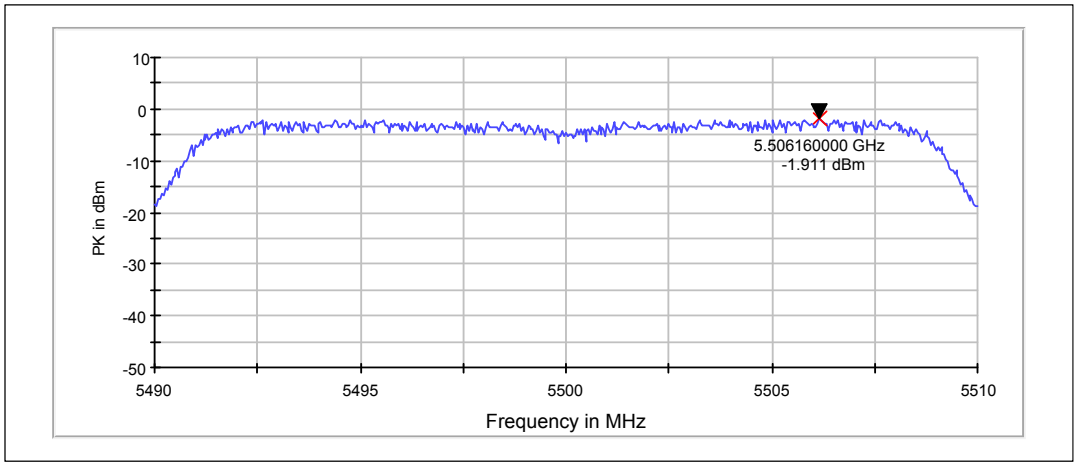
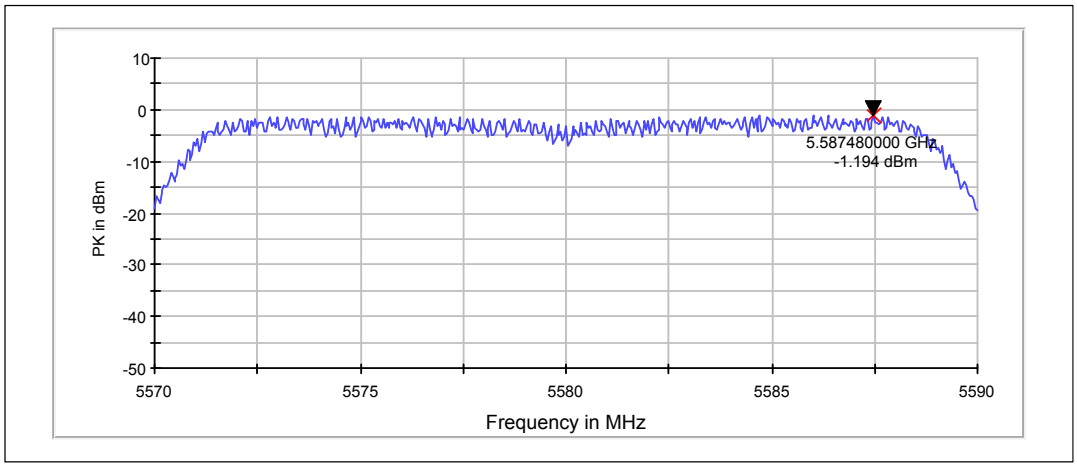
Channel 64 / 5320MHz



Channel 100 / 5500MHz



Channel 116 / 5580MHz



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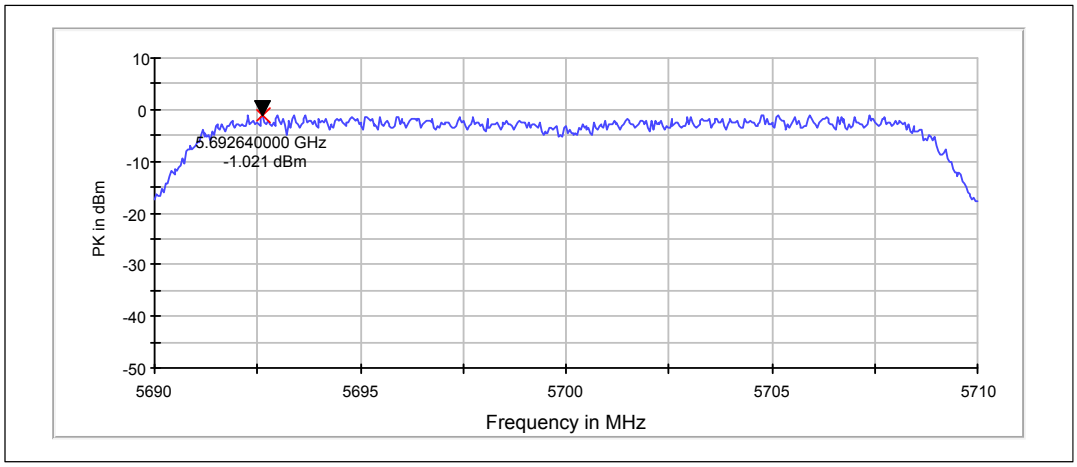
Channel 140 / 5700MHz

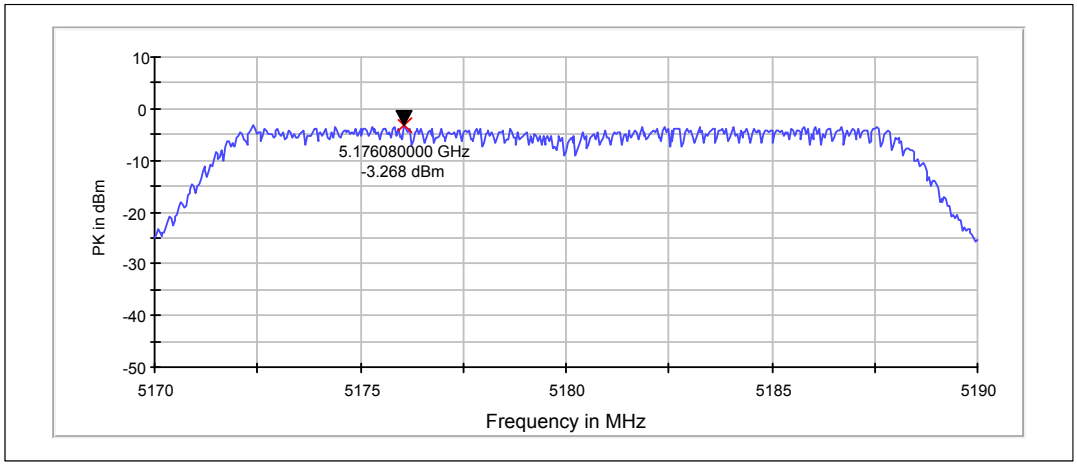


8.3.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

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

Channel / f_C [MHz]	P [dBm]	Result
36 / 5180	-3.27	PASSED
48 / 5240	-3.02	PASSED
52 / 5260	-3.31	PASSED
64 / 5320	-3.12	PASSED
100 / 5500	-1.72	PASSED
116 / 5580	-1.53	PASSED
140 / 5700	-1.11	PASSED

Channel 36 / 5180MHz



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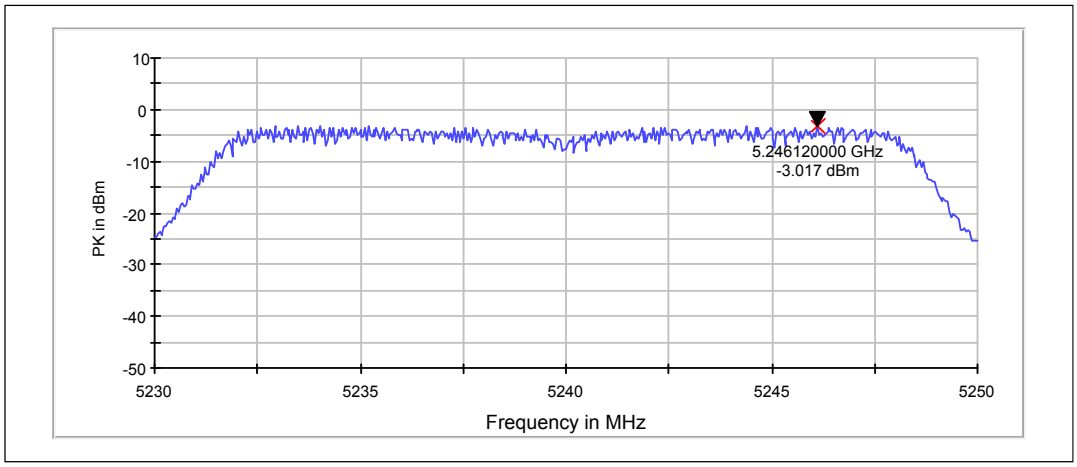
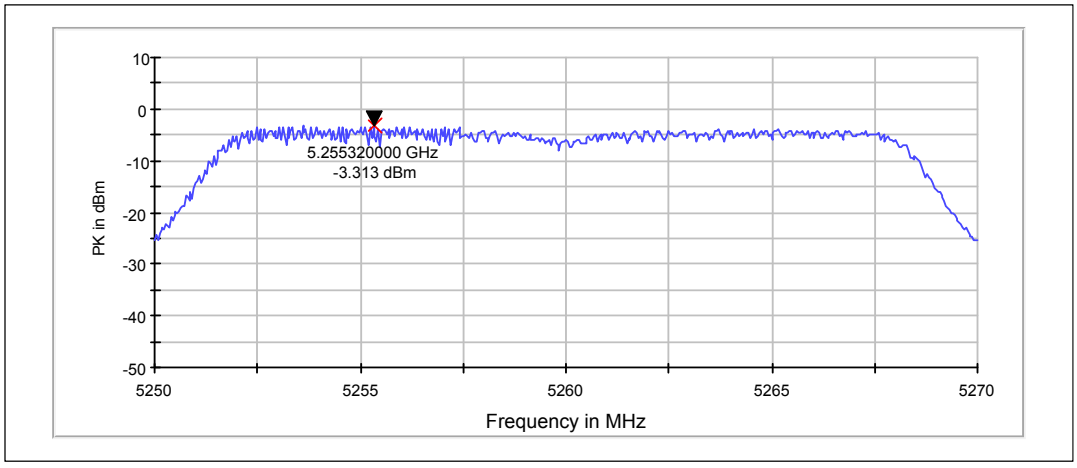
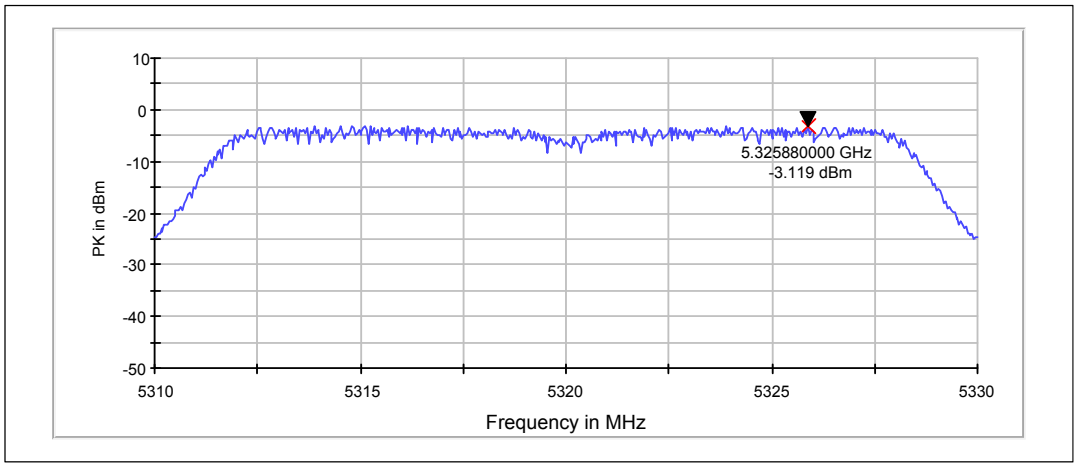
Channel 48 / 5240MHz



Channel 52 / 5260MHz



Channel 64 / 5320MHz



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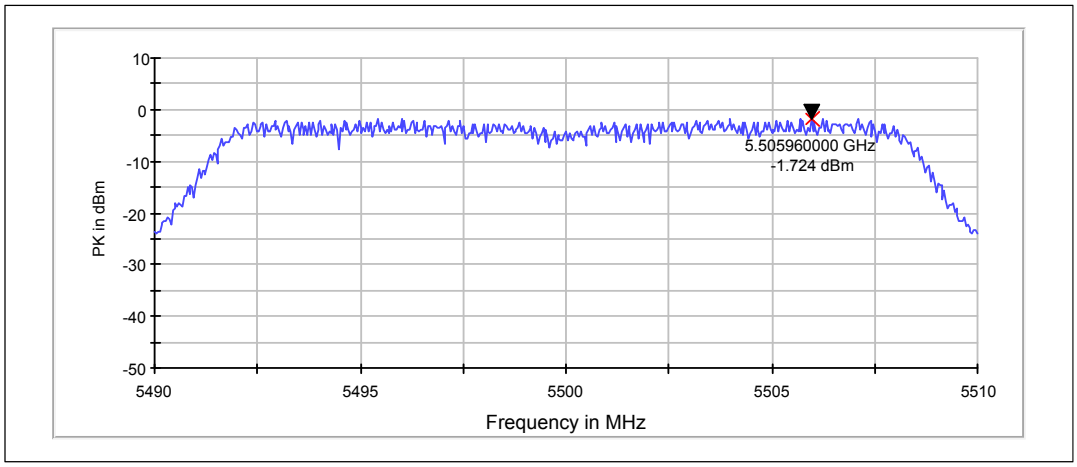
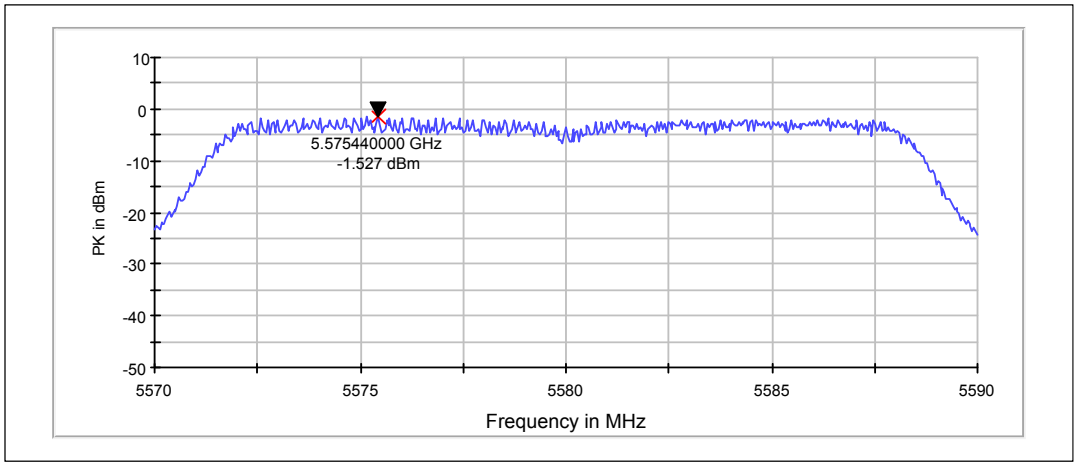
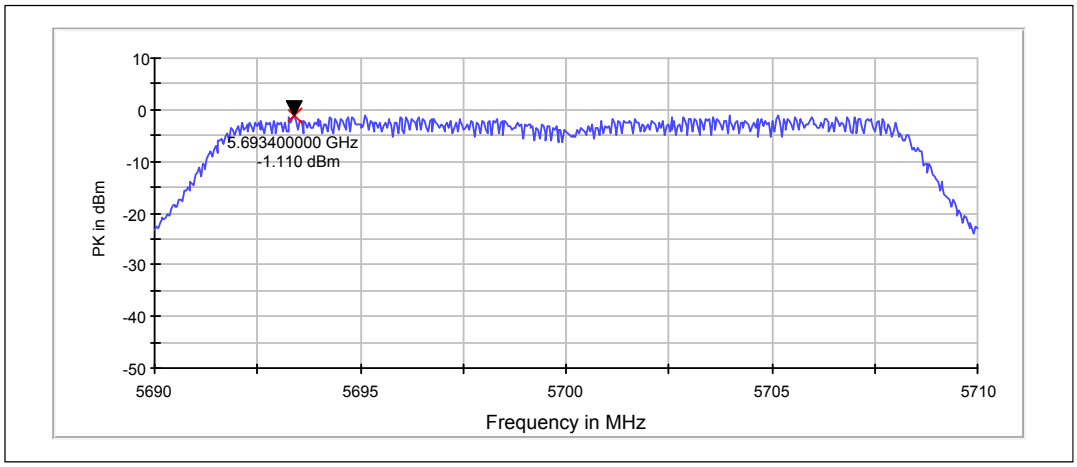
Channel 100 / 5500MHz



Channel 116 / 5580MHz



Channel 140 / 5700MHz



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9. Test Equipment

9.1. Conducted measurements

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

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9.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
2391	Band Reject Filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
6038	Data Logger	Testo 580	Testo	-
6014	Substitute Calibration Cable	Sucoflex 104PB	Suhner	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
-	BT / WLAN Antenna	SPA 2400/75/9/0/V	Huber-Suhner	-
2389	Signal Generator	SMJ 100A	R&S	-
6009	GPS Antenna	SA-700	Chronos	-
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	-
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	-
1988	Antenna	HL562	R&S	-
-	RF immunity / Emission Software	EMC32	R&S	-
1917	Communication Tester	CMTA84	R&S	-
2388	Bluetooth Tester	CBT	R&S	-
6037	Data Logger	175-H2	Testo	-
6039	USB Interface	5541765	Testo	-
6087	Antenna	BBHA 9120D	Scharzbeck	-
6088	Antenna	VUBA 9117	Scharzbeck	-
6089	Antenna	HFH2-Z2	R&S	-
10479	Communication Tester	CMW500	R&S	-
6094	Communication Tester	CMW500	R&S	-
6103	Bluetooth tester	CBT	R&S	-
6113	Signal Generator	SMF100A	R&S	-
6115	Open switch and control unit	OSP 130	R&S	-
6116	Open switch and control unit	OSP 150	R&S	-
6130	Notch Filter	WRCD1880-1.1.25/50-10SS	Wainwright	-
6131	Notch Filter	WRCT902.4-0.4/40-8SS	Wainwright	-
6135	Notch Filter	WRCJV2531/2539-2523/2547-60/12SS	Wainwright	-
2140	Antenna	EMCO93110B	EMCO	-
2142	Antenna	3146	EMCO	-
2357	Band Reject Filter	WRCG2400/2483-2390/2493-35/10SS	Wainwright	-
2364	Band Reject Filter	WRCG1877/1883 - 1870/1890-40/6SS	Wainwright	24
2043	Band Reject Filter	WRCA824/849-0,2-6SS	Wainwright	22
2347	Communication Tester	CMU200	R&S	-
2180	Communication Tester	CMU200	R&S	-
2156	Communication Tester	CMU200	R&S	-
2176	CDN	CDN 801-M3	Lüthi	-
2027	CDN	M2 (modified) DC1	MEB	-
2028	CDN	M3 (modified) DC2	MEB	-
1984	Antenna	BBHA 9120 D	Schwarzbeck	-
6017	Antenna	SBA 9113	Schwarzbeck	-
2009	Signal Generator	SMP 22	R&S	-
2029	Power Supply	PL330	Thurlby	-
2361	Anechoic Chamber	3 m Semi / Full Anechoic Chamber	Euroshield	-
2353	Receiver	ESIB26	R&S	-
2135	CDN	CDN 801-M3	Lüthi	-

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