

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-845_18.docx	Date of Report:	13-Aug-2012
Number of pages:	80	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 USA Tel +1 858-831-5000 Fax. +1 858 385 1598
FCC listing no.:	533467		
IC recognition no.:	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 C, ANSI C63.4 (2003), DTS procedures KDB 558074, 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:			

Kalle Hannila, Engineer, EMC&SAR

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	27-Jul-2012
Testing completed	12-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\FCC15CWLAN_RM-845_18.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	393213215514010114860670671	-	-	-	16578
AC-Charger	AC-50U	409049215427050147660675620	-	-	-	16562
Headset	WH-902	209E2R	-	-	-	16563
Phone	RM-845	C1A138313	0209	-	1525.0003.8422.9710.12271	16591
Battery	BP-4W	393213215514010106760670671	-	-	-	16547
Headset	WH-902	209E2R	-	-	-	16564
AC-Charger	AC-50U	409049215427050146760675620	-	-	-	16558
Phone	RM-845	352875050016830	0209	-	1525.000308422.9710.12271	16606
Battery	BP-4W	3932132274140100464;0670672	-	-	-	16607
AC-Charger	AC-50U	409049215427050146060675620	-	-	-	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
15.247(b)(1)	A8.4 (4)	Conducted peak output power	PASSED
15.247(d), 15.205(b)	A8.5	Band edge compliance of RF emissions	PASSED
15.247(d)	A8.5	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8.2 (a)	6dB(bandwidth)	PASSED
15.247(e)	A8.2 (b)	Power spectral density	PASSED

2.4 GHz WLAN:

Section in CFR 47	Section in RSS-GEN or RSS-210	Name of the test	Result
15.247(b)(1)	A8.4 (4)	Conducted peak output power	PASSED
15.247(d), 15.205(b)	A8.5	Band edge compliance of RF emissions	PASSED
15.247(d)	A8.5	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8.5	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8.2 (a)	6dB(bandwidth)	PASSED
15.247(e)	A8.2 (b)	Power spectral density	PASSED

PASSED

FAILED

NP

The EUT complies with the essential requirements in the standard.

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

The test was not performed by the TCC Nokia Laboratory.

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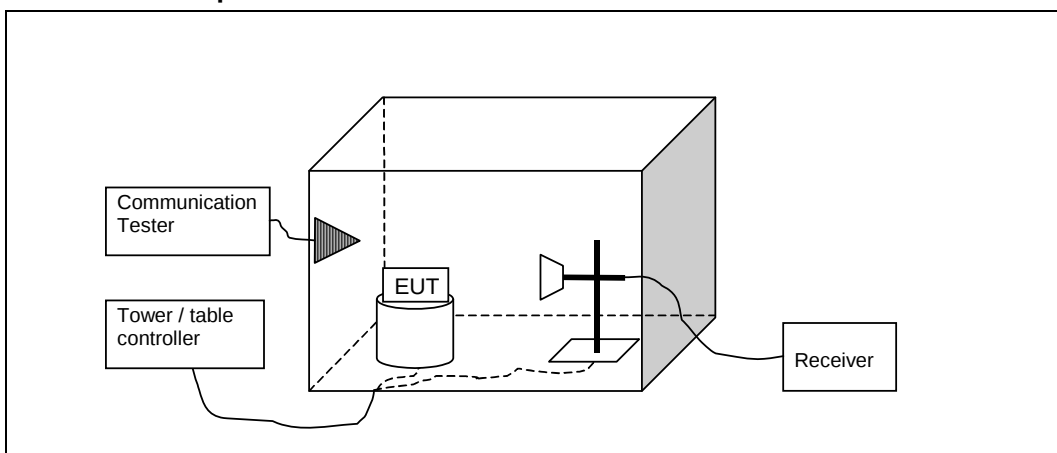
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2. Spurious radiated emissions (FCC §15.247(d), §15.209, RSS-210 A8.5)

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]	21 / 40 / 101.2
Date of measurements	10-Aug-2012
Measured by	Kalle Hannila / Jari Keto

2.1.1 Test setup



2.2. Test method and limit

The measurement is made according to ANSI C63.4 and IC standard RSS-210 as follows:
The measurement is divided into the Preliminary Measurement and the Final Measurement.

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

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

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

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

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

The measurement results are obtained as described below:

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

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)

Frequency range [MHz]	Limit [$\mu V/m$]	Limit [$dB\mu V/m$]	Detector
30 - 88	100	40	Quasi peak
88 – 216	150	43.5	Quasi peak
216 – 960	200	46	Quasi peak
960 – 1000	500	54	Quasi peak
Above 1000	500	54	Average
Above 1000	5000	74	Peak

2.3. 5 GHz RLAN test results

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

Channel 149 / 5745MHz

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
10954.912	52.08	401.745	42.19	9.89	21.9	74	PASSED
11488.3	51.59	379.927	42.56	9.03	22.4	74	PASSED
17235.6	64.66	1709.031	41.33	23.33	60.6	125.2	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	42.43	132.206	46.27	-3.84	3.6	46	PASSED
949.079	42.73	136.962	46.75	-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
10954.912	39.42	93.508	29.53	9.89	14.6	54	PASSED
11488.3	38.78	86.926	29.75	9.03	15.2	54	PASSED
17235.6	51.47	374.498	28.14	23.33	---	---	PASSED

Channel 157 / 5785MHz

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
10410.022	51.06	357.273	42.06	9	17.2	68.2	PASSED
11569.7	51.06	357.067	42.32	8.74	22.9	74	PASSED
17353.1	64.62	1701.375	41.33	23.29	3.6	68.2	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	37.58	75.64	41.42	-3.84	8.4	46	PASSED
949.049	42	125.951	46.02	-4.02	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
10410.022	38.56	84.752	29.56	9	---	---	PASSED
11569.7	38.42	83.387	29.68	8.74	15.6	54	PASSED
17353.1	51.44	373.035	28.15	23.29	---	---	PASSED

Channel 165 / 5825MHz

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
10846.095	52.02	398.841	42.19	9.83	22	74	PASSED
11648.9	51.27	365.974	42.94	8.33	22.7	74	PASSED
17433.9	66.2	2040.563	41.33	24.87	59	125.2	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	40.17	101.988	44.01	-3.84	5.9	46	PASSED
949.049	45.16	181.113	49.18	-4.02	0.9	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
10846.095	39.51	94.547	29.68	9.83	14.5	54	PASSED
11648.9	38.47	83.801	30.14	8.33	15.5	54	PASSED
17433.9	53.29	461.583	28.42	24.87	---	---	PASSED

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

Channel 149 / 5745MHz

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
11111.82	51.49	375.535	42.43	9.06	22.5	74	PASSED
11489.5	51.34	369.02	42.31	9.03	22.6	74	PASSED
17235.8	64.04	1591.659	40.71	23.33	61.2	125.2	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
30.15	27.78	24.502	32.63	-4.85	12.2	40	PASSED
949.079	42.93	140.104	46.95	-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
11111.82	38.68	85.911	29.62	9.06	15.3	54	PASSED
11489.5	38.79	86.996	29.76	9.03	15.2	54	PASSED
17235.8	51.48	374.887	28.15	23.33	---	---	PASSED

Channel 157 / 5785MHz

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
10456.614	51.18	362.243	42.19	8.99	17.1	68.2	PASSED
11568.1	51.43	372.864	42.69	8.74	22.5	74	PASSED
17353.3	64.71	1720.283	41.44	23.27	3.5	68.2	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	24.36	16.516	29.25	-4.89	15.6	40	PASSED
949.049	44.79	173.58	48.81	-4.02	1.2	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
10456.614	38.33	82.547	29.34	8.99	---	---	PASSED
11568.1	38.31	82.3	29.57	8.74	15.7	54	PASSED
17353.3	51.46	373.981	28.19	23.27	---	---	PASSED

Channel 165 / 5825MHz

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
10993.188	51.82	390.077	42.06	9.76	22.2	74	PASSED
11649.7	52.17	405.835	43.85	8.32	21.8	74	PASSED
17436.3	66.64	2147.336	41.82	24.82	58.6	125.2	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
30.09	22.47	13.294	25.26	-2.79	17.5	40	PASSED
948.989	43.11	143.087	47.13	-4.02	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
10993.188	39.09	90.064	29.33	9.76	14.9	54	PASSED
11649.7	39.51	94.547	31.19	8.32	14.5	54	PASSED
17436.3	53.26	460.151	28.44	24.82	---	---	PASSED

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

Channel 149+153 / 5755MHz

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
10861.215	52.1	402.81	42.43	9.67	21.9	74	PASSED
11511.7	51.79	388.374	42.82	8.97	22.2	74	PASSED
17263.6	64.79	1736.601	41.69	23.1	60.4	125.2	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	39.54	94.798	44.54	-5	6.5	46	PASSED
949.059	37.07	71.392	42.12	-5.05	8.9	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
10861.215	39.44	93.778	29.77	9.67	14.5	54	PASSED
11511.7	39	89.115	30.03	8.97	15	54	PASSED
17263.6	51.26	365.595	28.16	23.1	---	---	PASSED

Channel 157+161 / 5795MHz

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
10911.82	51.81	389.404	42.07	9.74	22.2	74	PASSED
11588.6	51.13	360.122	42.44	8.69	22.8	74	PASSED
17382.2	64.53	1684.418	40.83	23.7	60.7	125.2	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	43.27	145.714	47.11	-3.84	2.8	46	PASSED
949.059	43.06	142.2	47.08	-4.02	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
10911.82	39.12	90.323	29.38	9.74	14.9	54	PASSED
11588.6	38.33	82.499	29.64	8.69	15.7	54	PASSED
17382.2	51.73	385.967	28.03	23.7	---	---	PASSED

2.4. 2.4G WLAN test results

2.4.1 B-mode, 20 MHz CBW, QPSK modulation, 11 Mbps data rate.

Channel 6 / 2442 MHz

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
4880.3	39.85	98.231	43.59	-3.74	34.1	74	PASSED
7320.4	45.3	184.035	44.11	1.19	28.7	74	PASSED
10931.863	52.12	403.785	42.19	9.93	21.9	74	PASSED
14661.124	57.25	728.534	43.45	13.8	68	125.2	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
31.23	21.73	12.204	27.17	-5.44	18.3	40	PASSED
949.079	40.88	110.611	43.45	-2.57	5.1	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
4880.3	27.24	23.009	30.98	-3.74	26.7	54	PASSED
7320.4	32.7	43.157	31.51	1.19	21.3	54	PASSED
10931.863	39.45	93.897	29.52	9.93	14.5	54	PASSED
14661.124	43.08	142.577	29.28	13.8	---	---	PASSED

Channel 1 / 2412 MHz

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
4823.5	39.65	95.995	43.59	-3.94	34.3	74	PASSED
7234.4	45.78	194.603	44.76	1.02	79.4	125.2	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
4823.5	26.83	21.953	30.77	-3.94	27.2	54	PASSED
7234.4	32.6	42.658	31.58	1.02	---	---	PASSED

Channel 11 / 2462 MHz

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
4924.4	40.87	110.548	44.5	-3.63	33.1	74	PASSED
7384.8	45.57	189.867	44.11	1.46	28.4	74	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
4924.4	27.59	23.958	31.22	-3.63	26.4	54	PASSED
7384.8	32.88	44.05	31.42	1.46	21.1	54	PASSED

2.4.2 G-mode, 20 MHz CBW, BPSK modulation, 6 Mbps data rate.

Channel 6 / 2442 MHz

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
4881.6	40.24	102.825	43.97	-3.73	33.7	74	PASSED
7319.4	45.6	190.502	44.37	1.23	28.4	74	PASSED
10607.612	51.97	396.872	42.68	9.29	22	74	PASSED
14795.694	55.52	597.173	42.06	13.46	69.7	125.2	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
940.313	41.36	117.004	43.74	-2.38	4.7	46	PASSED
949.049	45.64	191.492	48.21	-2.57	0.4	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
4881.6	27.14	22.74	30.87	-3.73	26.8	54	PASSED
7319.4	32.69	43.082	31.46	1.23	21.3	54	PASSED
10607.612	38.92	88.288	29.63	9.29	15.1	54	PASSED
14795.694	42.79	137.927	29.33	13.46	---	---	PASSED

Channel 1 / 2412 MHz

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
4825.8	39.38	93.154	43.32	-3.94	34.6	74	PASSED
7235.4	45.24	182.768	44.24	1	80	125.2	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
4825.8	26.72	21.685	30.66	-3.94	27.3	54	PASSED
7235.4	32.65	42.899	31.65	1	---	---	PASSED

Channel 11 / 2462 MHz

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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4925.9	41.01	112.318	44.64	-3.63	33	74	PASSED
7385.4	45.69	192.575	44.24	1.45	28.3	74	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
4925.9	27.58	23.925	31.21	-3.63	26.4	54	PASSED
7385.4	32.84	43.868	31.39	1.45	21.1	54	PASSED

2.4.3 N-mode, 20 MHz CBW, BPSK modulation, 6,5 Mbps data rate.

Channel 6 / 2442 MHz

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
4878.4	40.76	109.157	44.5	-3.74	33.2	74	PASSED
7319.5	45.46	187.543	44.24	1.22	28.5	74	PASSED
10732.866	52.93	443.047	43.45	9.48	21	74	PASSED
14617.433	55.76	613.479	42.19	13.57	69.5	125.2	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	37.24	72.803	39.63	-2.39	8.8	46	PASSED
949.079	45.22	182.411	47.79	-2.57	0.8	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
4878.4	27.13	22.72	30.87	-3.74	26.9	54	PASSED
7319.5	32.72	43.226	31.5	1.22	21.3	54	PASSED
10732.866	39.06	89.774	29.58	9.48	14.9	54	PASSED
14617.433	42.88	139.3	29.31	13.57	---	---	PASSED

Channel 1 / 2412 MHz

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
4824.7	39.77	97.432	43.71	-3.94	34.2	74	PASSED
7234	45.66	191.801	44.64	1.02	79.6	125.2	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
4824.7	26.75	21.755	30.69	-3.94	27.2	54	PASSED
7234	32.58	42.57	31.56	1.02	---	---	PASSED

Channel 11 / 2462 MHz

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
4922.9	40.33	103.825	43.98	-3.65	33.7	74	PASSED
7387.8	45.59	190.239	44.11	1.48	28.4	74	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
4922.9	27.58	23.93	31.23	-3.65	26.4	54	PASSED
7387.8	32.82	43.727	31.34	1.48	21.2	54	PASSED

2.4.4 N-mode, 40 MHz CBW, 16-QAM modulation, 54 / 60 Mbps data rate.

Channel 4+8 / 2442 MHz

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
4881.6	40.37	104.4	44.1	-3.73	33.6	74	PASSED
7319.7	45.32	184.565	44.1	1.22	28.7	74	PASSED
11528.053	51.85	391.246	42.81	9.04	22.1	74	PASSED
14553.707	55.35	585.531	41.94	13.41	69.9	125.2	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	40.31	103.574	42.69	-2.38	5.7	46	PASSED
949.079	43.53	150.159	46.1	-2.57	2.5	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
4881.6	27.14	22.74	30.87	-3.73	26.8	54	PASSED
7319.7	32.65	42.894	31.43	1.22	21.3	54	PASSED
11528.053	39.03	89.392	29.99	9.04	15	54	PASSED
14553.707	42.49	133.153	29.08	13.41	---	---	PASSED

Channel 1+5 / 2412 MHz

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
4824.4	40.03	100.392	43.97	-3.94	33.9	74	PASSED
7234.8	45.91	197.447	44.9	1.01	79.3	125.2	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
4824.4	26.76	21.785	30.7	-3.94	27.2	54	PASSED
7234.8	32.56	42.438	31.55	1.01	---	---	PASSED

Channel 7+11 / 2462 MHz

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
4923.4	40.33	103.86	43.98	-3.65	33.6	74	PASSED
7386	46.61	213.993	45.17	1.44	27.4	74	PASSED

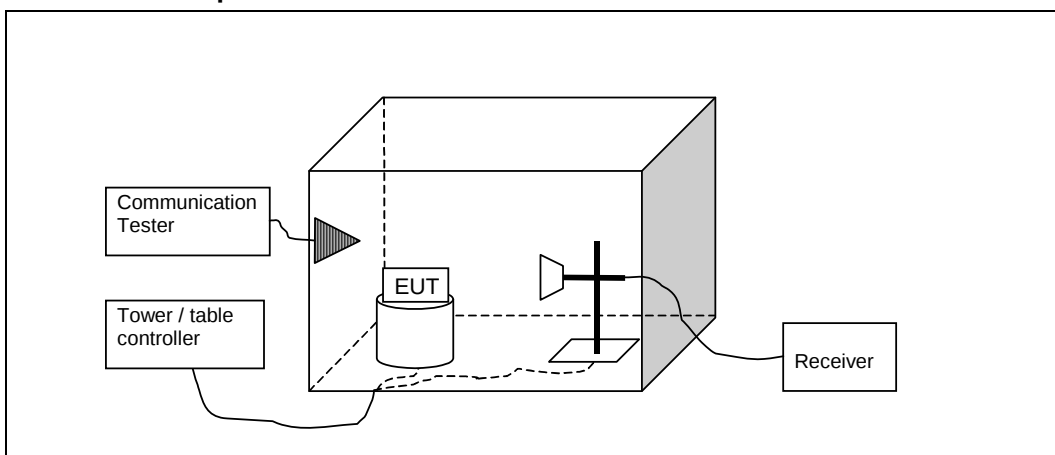
Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Margin	Limit [dBμV/m]	Results
4923.4	27.51	23.752	31.16	-3.65	26.5	54	PASSED
7386	32.78	43.556	31.34	1.44	21.2	54	PASSED

3. Band edge compliance of RF emissions (FCC §15.247(d), 15.205(b), RSS-210 A8.5)

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]	21 / 40 / 101.2
Date of measurements	11-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 KDB558074 and IC standard RSS-210.

The limit for 5 GHz RLAN is -20 dBc.

When the fundamental value in E [dBuV/m] column is at least 20 dB higher than the out of band emission, the result is pass.

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 ($A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$).

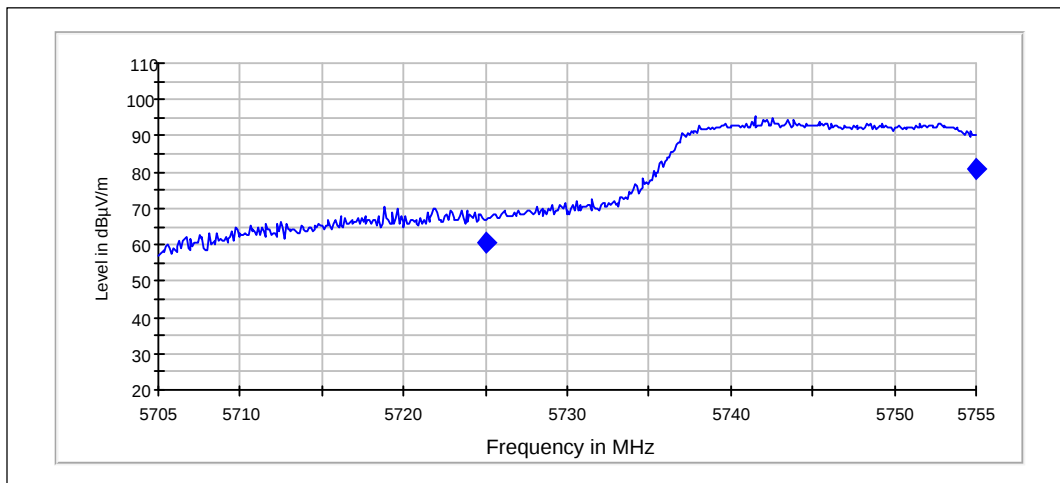
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

Frequency range [MHz]	Limit
Below 2390 and above 2483.5	54 dBuV/m (avg) and 74 dBuV/m (pk)
Below 5725 and above 5825	-20dBc

3.3. 5 GHz RLAN test results

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

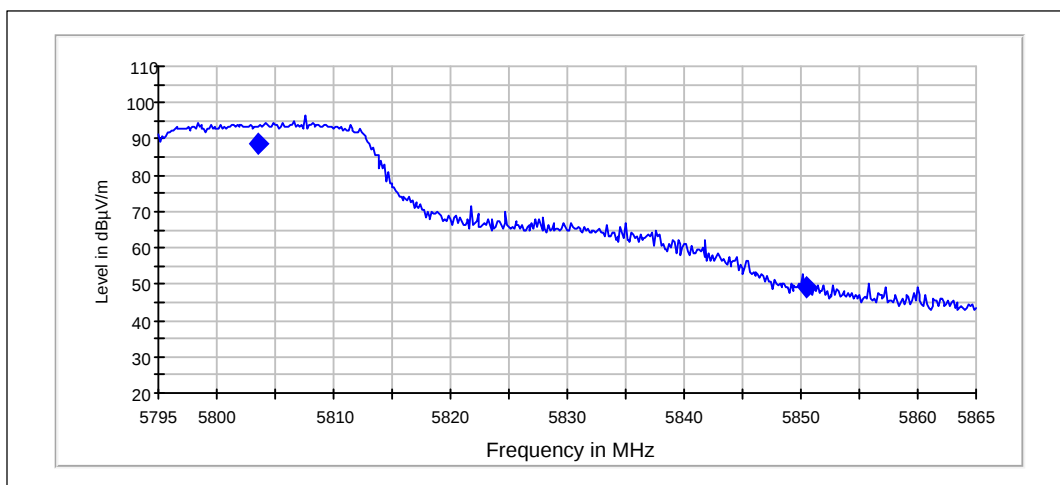
Channel 149+153 / 5755MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5725	60.54	1064.266	64.29	-3.75	PASSED
5755	81.1	11350.108	84.64	-3.54	PASSED

Channel 157+161 / 5795MHz

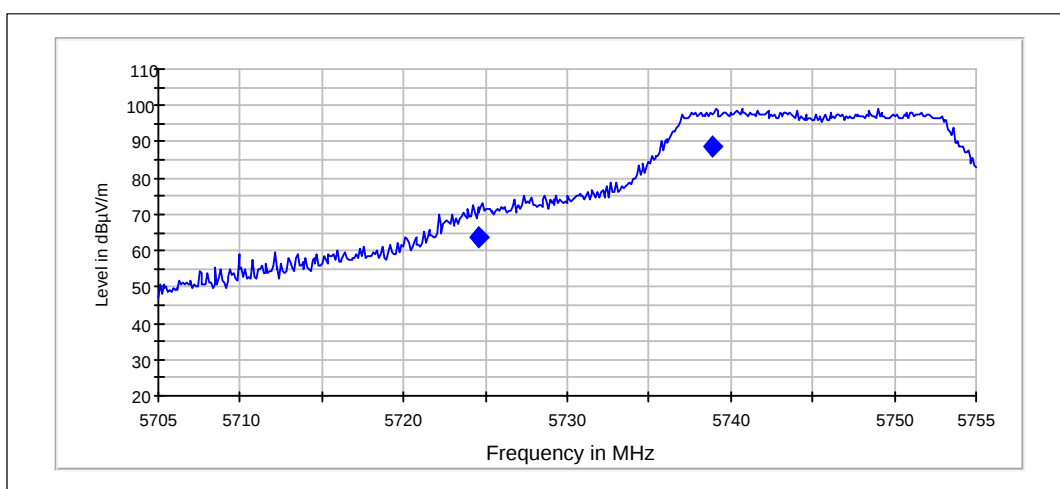


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5803.577	88.64	27027.134	91.88	-3.24	PASSED
5850.481	49.29	291.373	52.56	-3.27	PASSED

3.3.2 N-mode, 20 MHz CBW, 16-QAM modulation, 52 / 57.8 Mbps data rate.

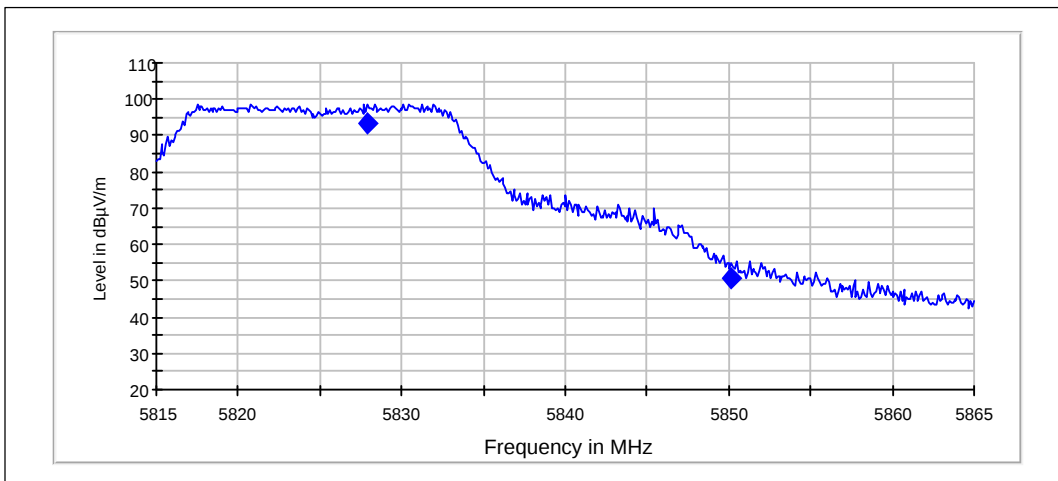
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.639	63.87	1561.529	67.61	-3.74	PASSED
5738.928	88.65	27055.153	92.23	-3.58	PASSED

Channel 165 / 5825MHz

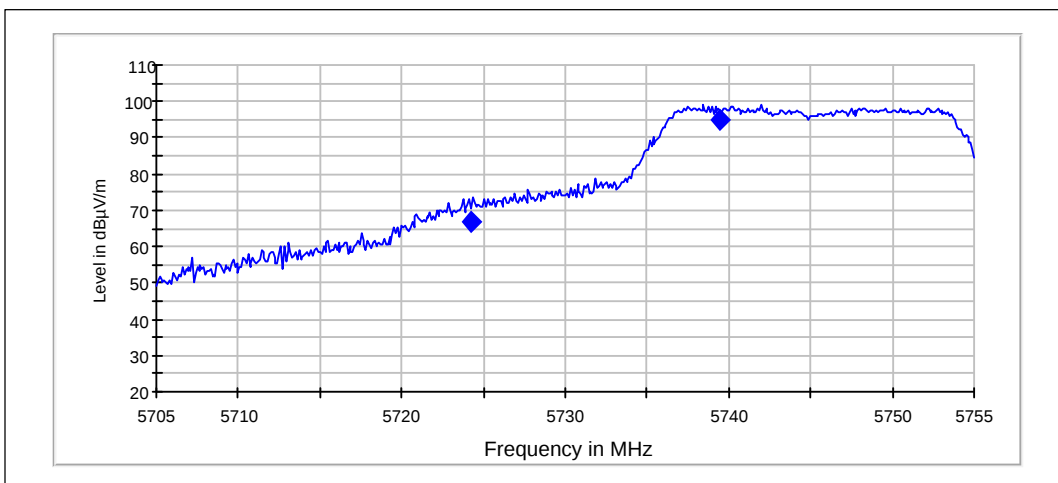


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5827.866	93.37	46612.243	96.62	-3.25	PASSED
5850.18	50.84	348.217	54.11	-3.27	PASSED

3.3.3 N-mode, 20 MHz CBW, 16-QAM modulation, 52 / 57.2 Mbps data rate.

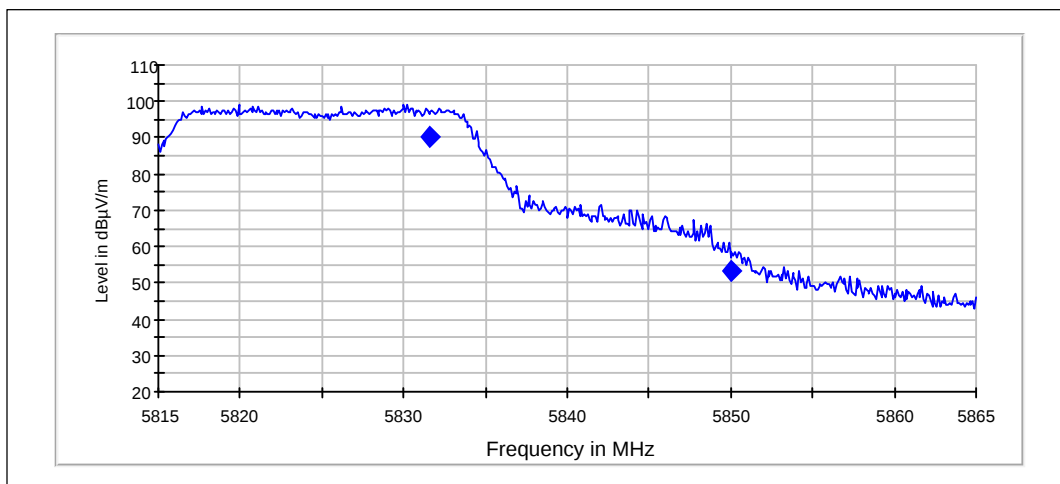
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Results
5724.238	66.6	2136.978	70.34	-3.74	PASSED
5739.449	94.85	55239.533	98.42	-3.57	PASSED

Channel 165 / 5825MHz

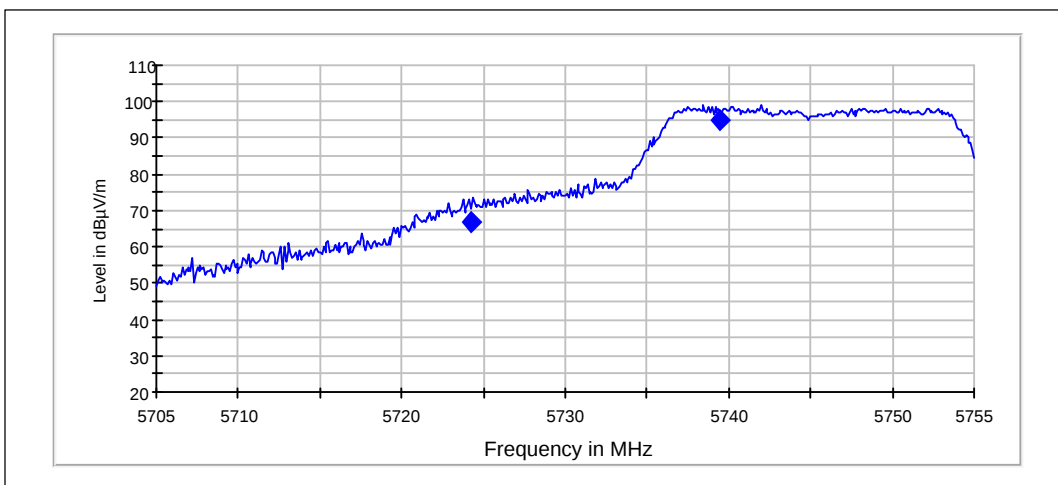


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dB μ V/m]	E [μ V/m]	U _{RX} [dB μ V]	A _{TOT} [dB]	Results
5831.633	90.25	32538.685	93.5	-3.25	PASSED
5850.06	53.44	469.948	56.71	-3.27	PASSED

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

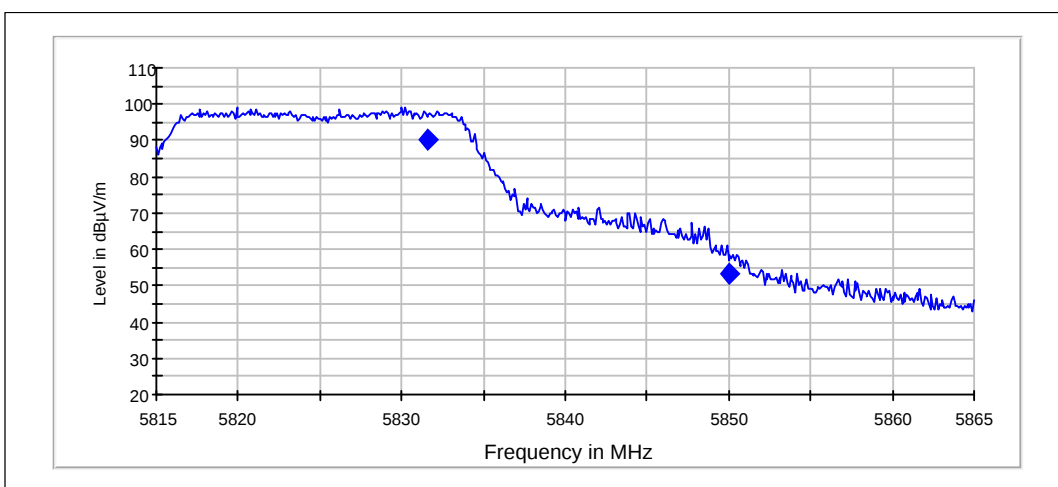
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.238	66.6	2136.978	70.34	-3.74	PASSED
5739.449	94.85	55239.533	98.42	-3.57	PASSED

Channel 165 / 5825MHz



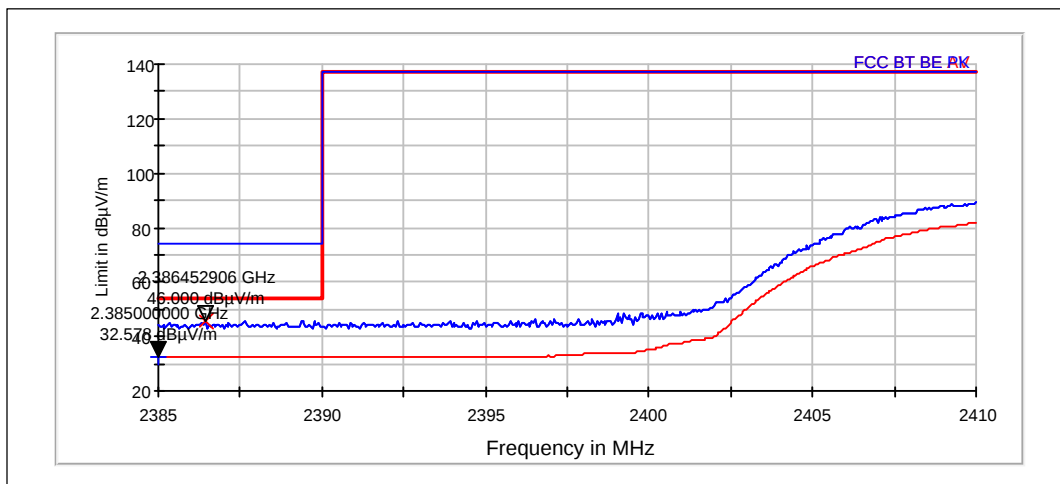
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5831.633	90.25	32538.685	93.5	-3.25	PASSED
5850.06	53.44	469.948	56.71	-3.27	PASSED

3.4. 2.4G WLAN test results

3.4.1 B-mode, 20 MHz CBW, QPSK modulation, 11 Mbps data rate.

Channel 1 / 2412 MHz



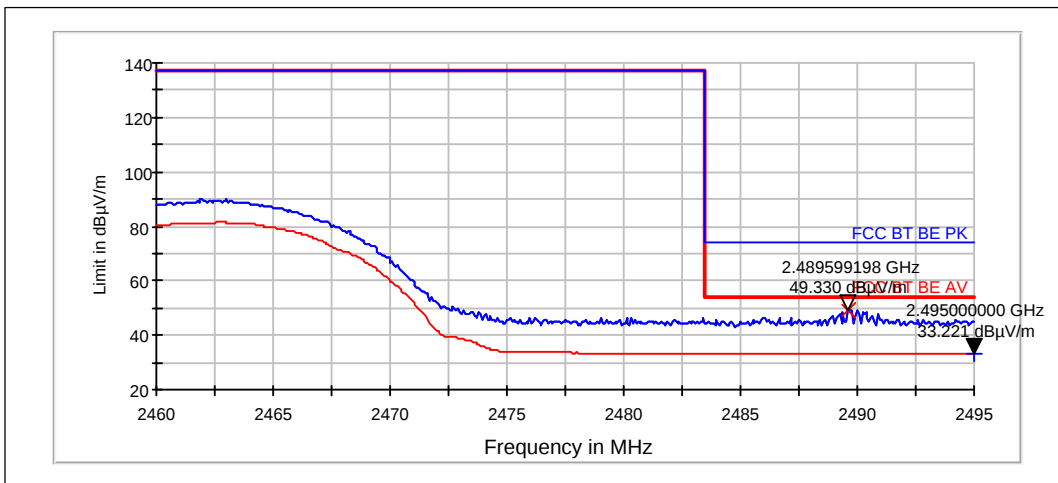
Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2386.453	46	199.526	46.89	-0.89	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2385	32.58	42.55	33.47	-0.89	PASSED

Channel 11 / 2462 MHz



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

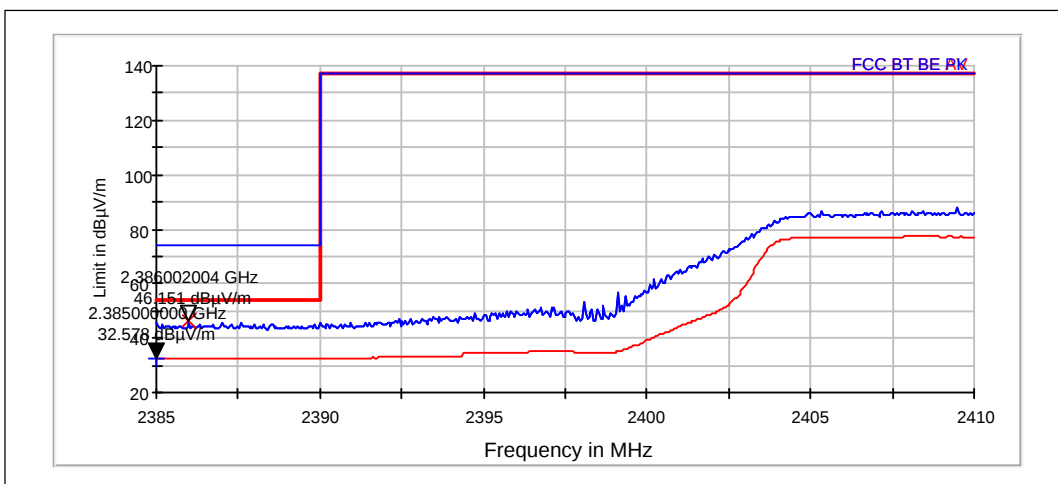
Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2489.599	49.33	292.752	50.3	-0.97	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2495	33.22	45.819	34.19	-0.97	PASSED

3.4.2 G-mode, 20 MHz CBW, BPSK modulation, 6 Mbps data rate.

Channel 1 / 2412 MHz



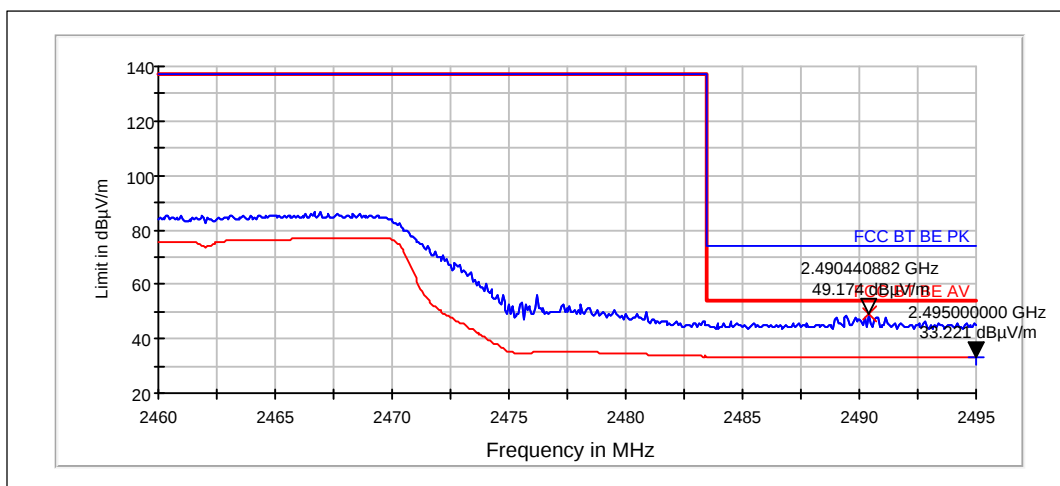
Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2386.002	46.15	203.025	47.04	-0.89	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2385	32.58	42.55	33.47	-0.89	PASSED

Channel 11 / 2462 MHz



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

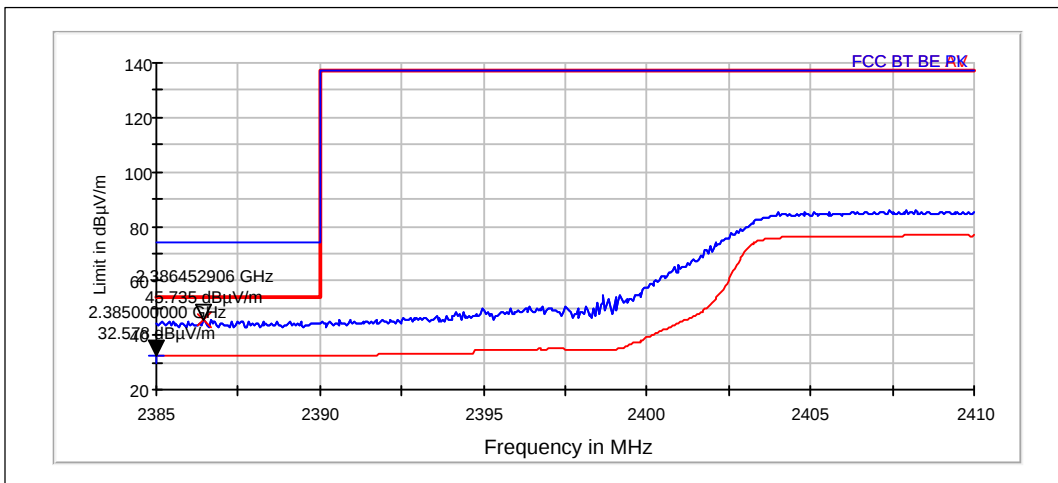
Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2490.441	49.17	287.541	50.14	-0.97	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2495	33.22	45.819	34.19	-0.97	PASSED

3.4.3 N-mode, 20 MHz CBW, BPSK modulation, 6.5 Mbps data rate.

Channel 1 / 2412 MHz



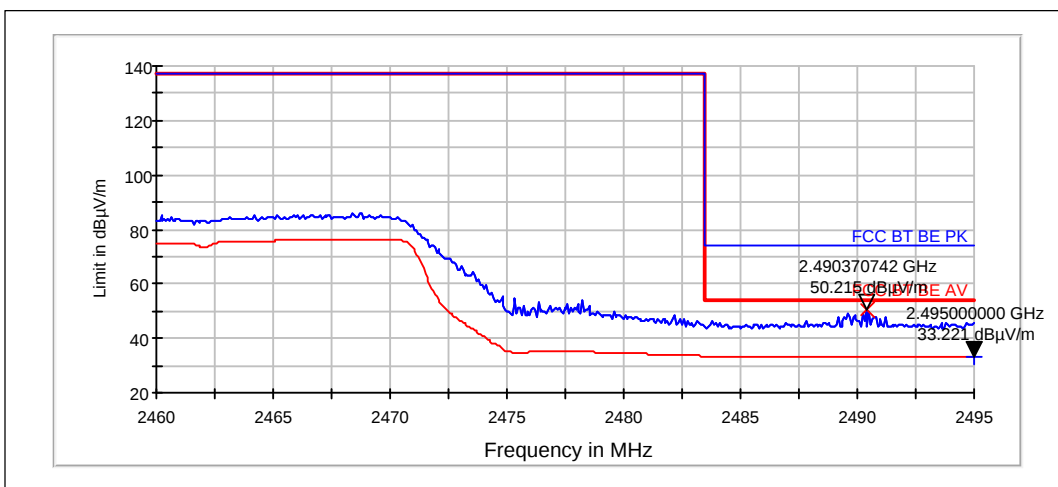
Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2386.453	45.74	193.531	46.63	-0.89	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2385	32.58	42.55	33.47	-0.89	PASSED

Channel 11 / 2462 MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
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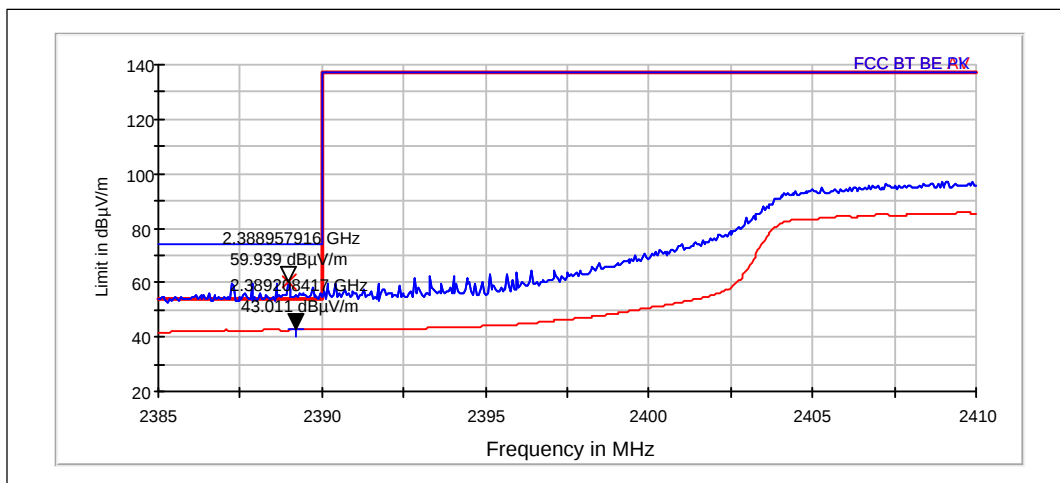
2490.371	50.22	324.153	51.19	-0.97	PASSED
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Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2495	33.22	45.819	34.19	-0.97	PASSED

3.4.4 N-mode, 40 MHz CBW, 16-QAM modulation, 54 / 60 Mbps data rate.

Channel 3 / 2412 MHz



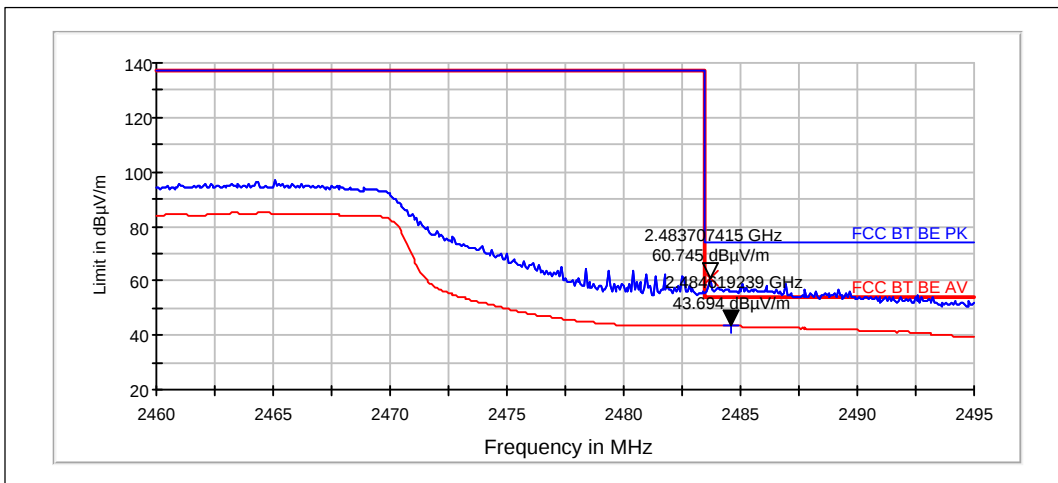
Peak (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2388.958	59.94	993.002	60.83	-0.89	PASSED

Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2389.208	43.01	141.433	43.9	-0.89	PASSED

Channel 9 / 2462 MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2483.707	60.75	1089.557	61.72	-0.97	PASSED

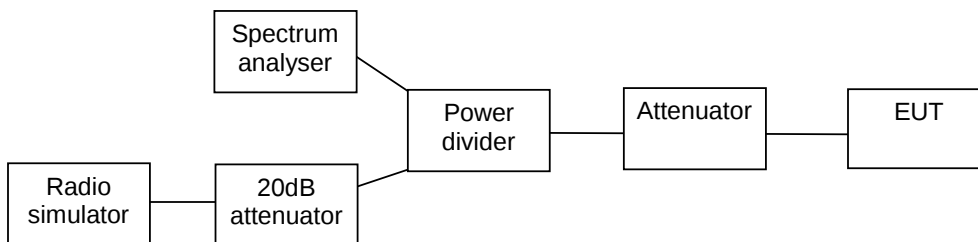
Average (RBW: 1 MHz, VBW: 10 Hz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
2484.619	43.69	153.003	44.66	-0.97	PASSED

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

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	08-Aug-2012
Measured by	Tomi Lipponen

4.1. Test Setup



4.2. Test method and limit

Document1Limits for conducted peak output power measurements

Frequency range [MHz]	Limit [W]	Limit [dBm]
2400 – 2483.5 5725 - 5850	<= 1	<= 30

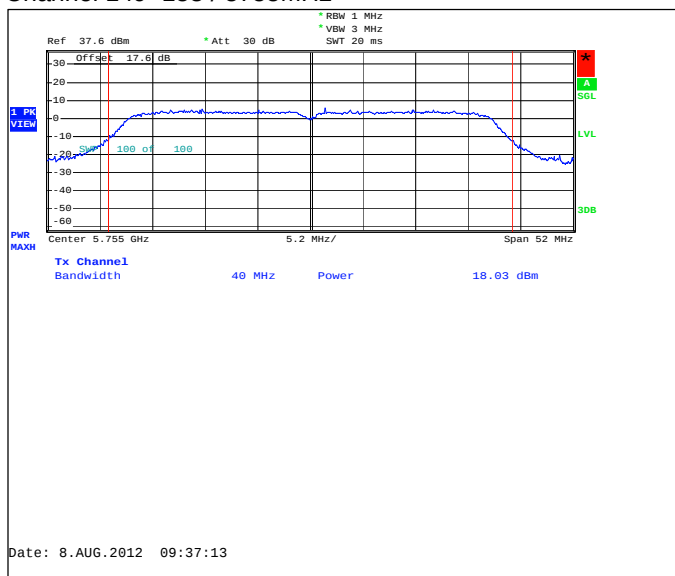
4.3. 5 GHz RLAN Test results

RLAN 5 GHz, peak output power [dBm]	
Mode & data speed	Ch 157
g-mode WLAN OFDM 6 Mbps	20.26
g-mode WLAN OFDM 9 Mbps	20.31
g-mode WLAN OFDM 12 Mbps	20.31
g-mode WLAN OFDM 18 Mbps	20.12
g-mode WLAN OFDM 24 Mbps	20.29
g-mode WLAN OFDM 36 Mbps	<u>20.53</u>
g-mode WLAN OFDM 48 Mbps	20.38
g-mode WLAN OFDM 54 Mbps	20.52
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	20.16
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	20.18
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	20.12
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	20.64
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	20.4
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	<u>20.74</u>
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	20.61
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	20.45
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	17.59
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	17.53
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	17.51
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	17.79
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	<u>18.03</u>
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	17.83
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	17.81
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	17.76

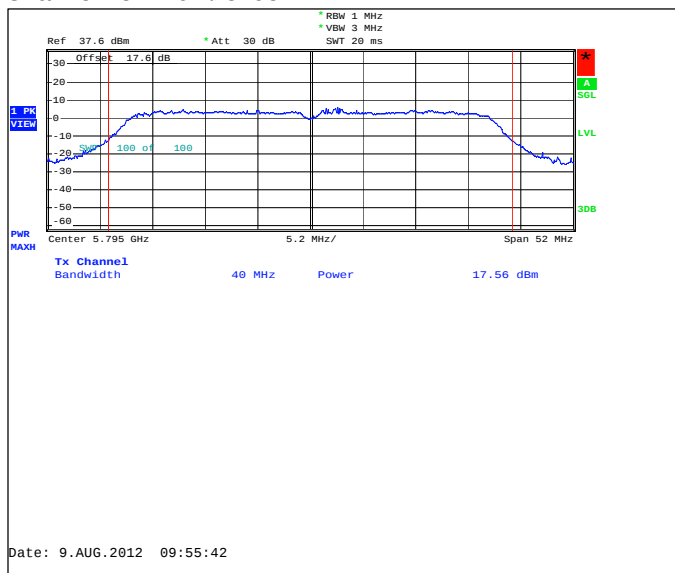
4.3.1 n-mode, 40 MHz CBW mode, 16-QAM modulation, 81.0 / 90.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	18.03	63.533	PASSED
157+161 / 5795	17.56	57.016	PASSED

Channel 149+153 / 5755MHz



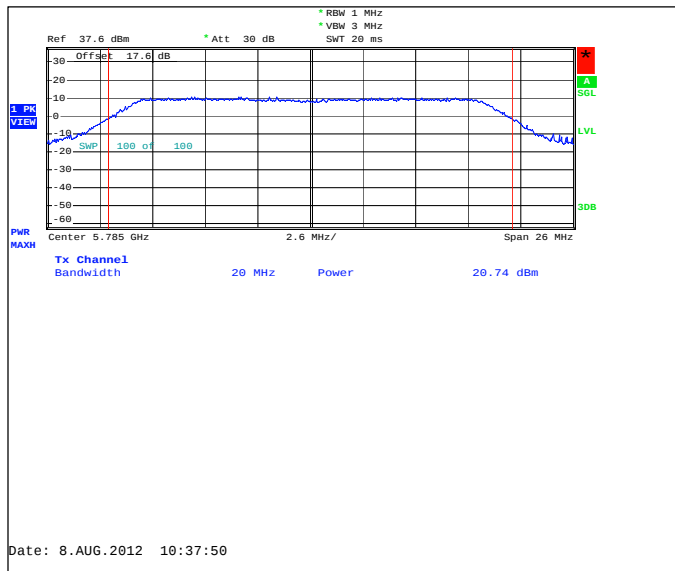
Channel 157+161 / 5795MHz



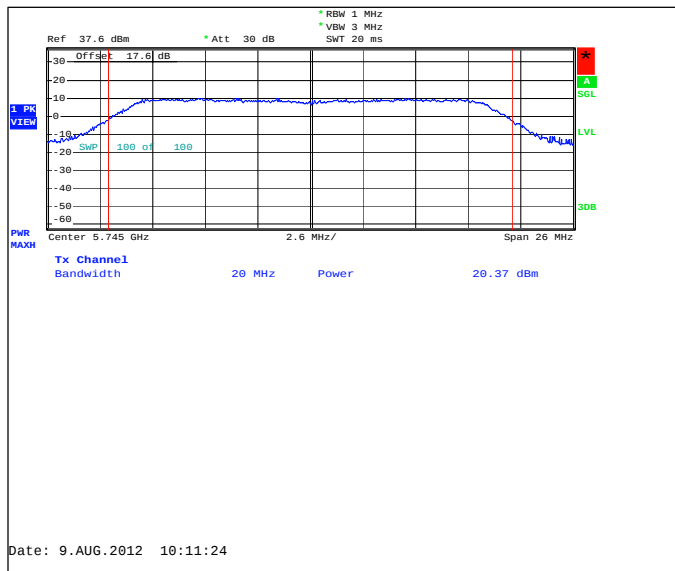
4.3.2 n-mode, 20 MHz CBW mode, 64-QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
157 / 5785	20.74	118.577	PASSED
149 / 5745	20.37	108.893	PASSED
165 / 5825	20.54	113.24	PASSED

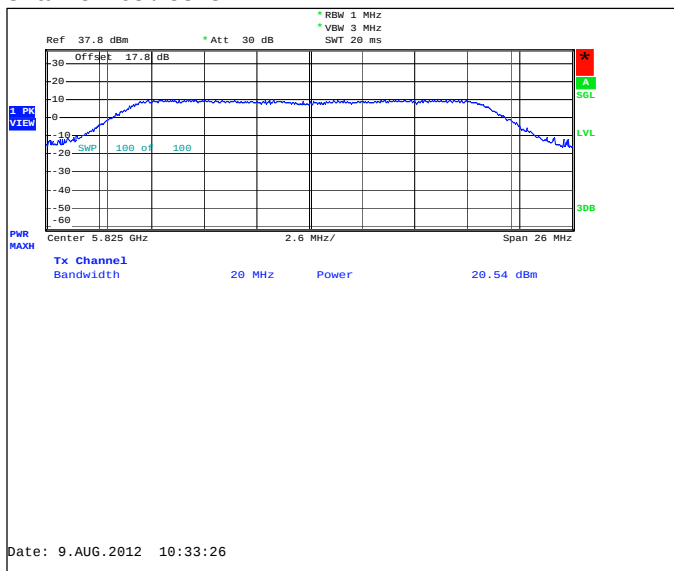
Channel 157 / 5785MHz



Channel 149 / 5745MHz



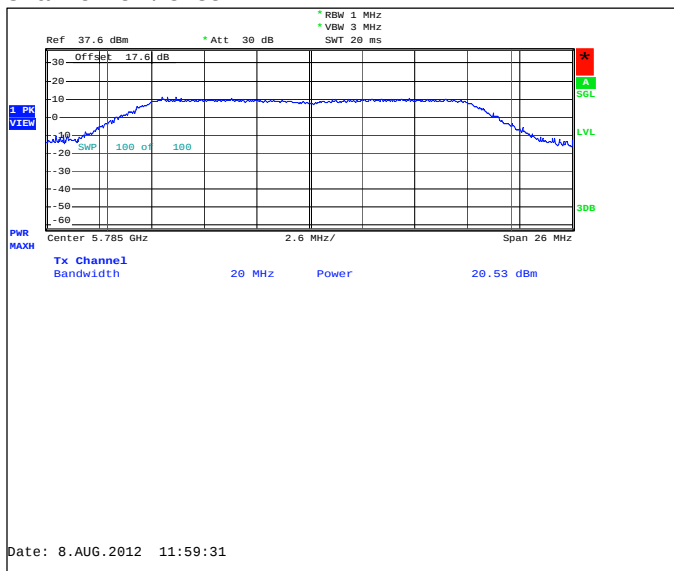
Channel 165 / 5825MHz



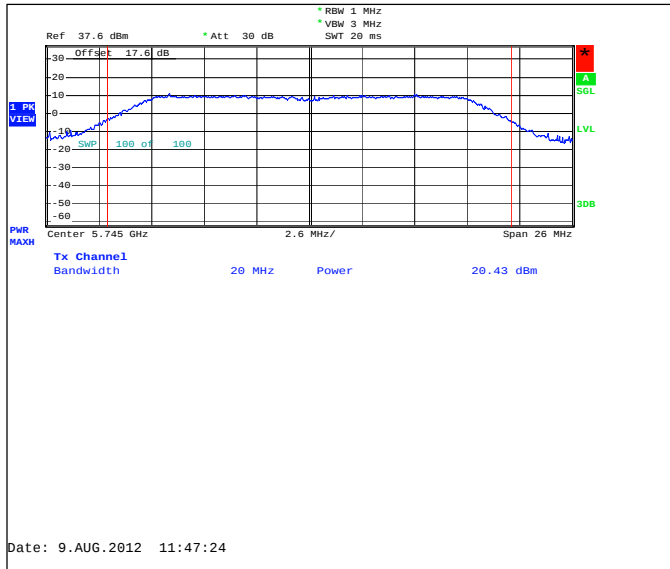
4.3.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
157 / 5785	20.53	112.98	PASSED
149 / 5745	20.43	110.408	PASSED
165 / 5825	20.51	112.46	PASSED

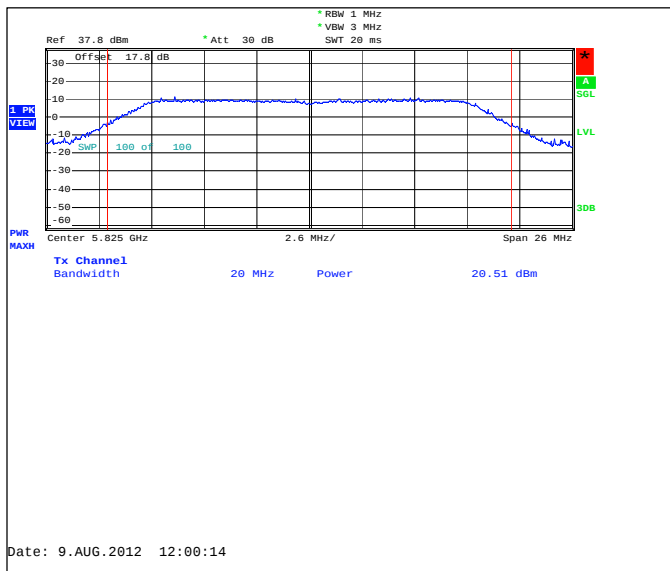
Channel 157 / 5785MHz



Channel 149 / 5745MHz



Channel 165 / 5825MHz



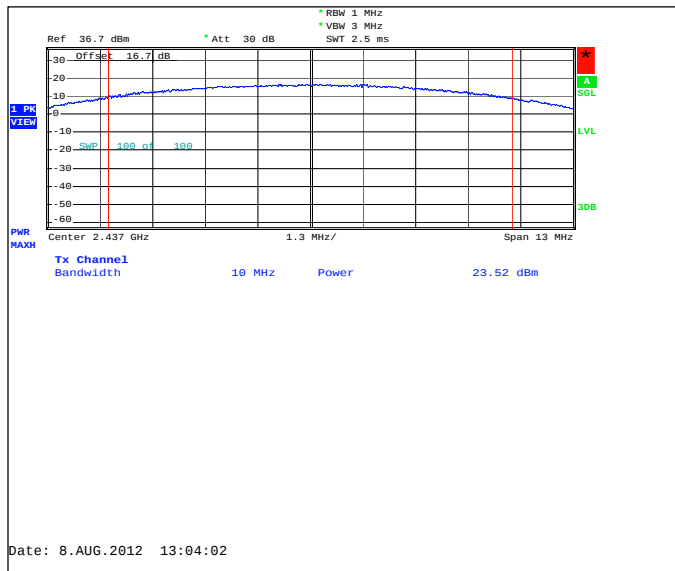
4.4. WLAN Test results

WLAN 2.4 GHz, peak output power [dBm]	
Mode & data speed	Ch 6
b-mode WLAN DSSS 1 Mbps	20.57
b-mode WLAN DSSS 2 Mbps	20.84
b-mode WLAN DSSS 5.5 Mbps	22.41
b-mode WLAN DSSS 11 Mbps	<u>23.52</u>
g-mode WLAN OFDM 6 Mbps	<u>24.06</u>
g-mode WLAN OFDM 9 Mbps	23.97
g-mode WLAN OFDM 12 Mbps	22.67
g-mode WLAN OFDM 18 Mbps	22.83
g-mode WLAN OFDM 24 Mbps	22.1
g-mode WLAN OFDM 36 Mbps	22.05
g-mode WLAN OFDM 48 Mbps	21.32
g-mode WLAN OFDM 54 Mbps	21.34
n-mode MCS 0: OFDM 6.5 / 7.25 Mbps	<u>23.18</u>
n-mode MCS 1: OFDM 13.0 / 14.4 Mbps	22.96
n-mode MCS 2: OFDM 19.5 / 21.7 Mbps	22.93
n-mode MCS 3: OFDM 26.0 / 28.9 Mbps	23.02
n-mode MCS 4: OFDM 39.0 / 43.3 Mbps	21.35
n-mode MCS 5: OFDM 52.0 / 57.8 Mbps	21.42
n-mode MCS 6: OFDM 58.5 / 65.0 Mbps	21.39
n-mode MCS 7: OFDM 65.0 / 72.2 Mbps	21.31
n-mode MCS 0: OFDM 13.5 / 15.0 Mbps	22.71
n-mode MCS 1: OFDM 27.0 / 30.0 Mbps	22.37
n-mode MCS 2: OFDM 40.5 / 45.0 Mbps	22.45
n-mode MCS 3: OFDM 54.0 / 60.0 Mbps	<u>22.77</u>
n-mode MCS 4: OFDM 81.0 / 90.0 Mbps	20.78
n-mode MCS 5: OFDM 108.0 / 120.0 Mbps	20.82
n-mode MCS 6: OFDM 121.5 / 135.0 Mbps	20.8
n-mode MCS 7: OFDM 135.0 / 150.0 Mbps	20.78

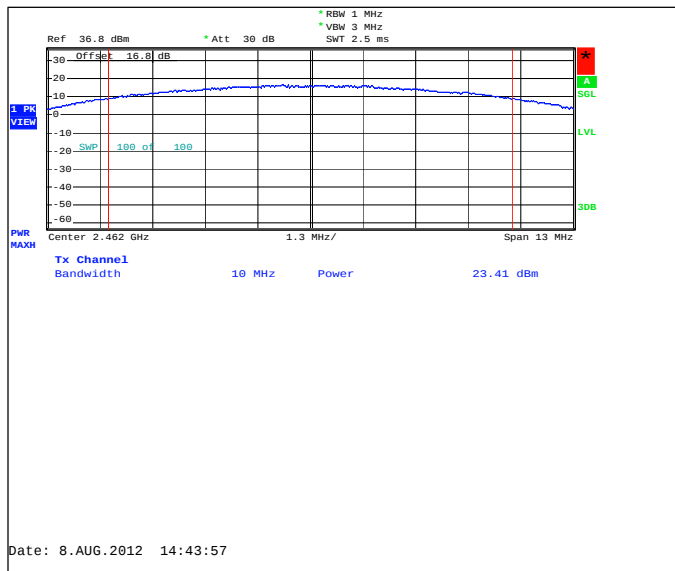
4.4.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f _C [MHz]	P [dBm]	P [mW]	Result
6 / 2437	23.52	224.905	PASSED
1 / 2412	23.29	213.304	PASSED
11 / 2462	23.41	219.28	PASSED

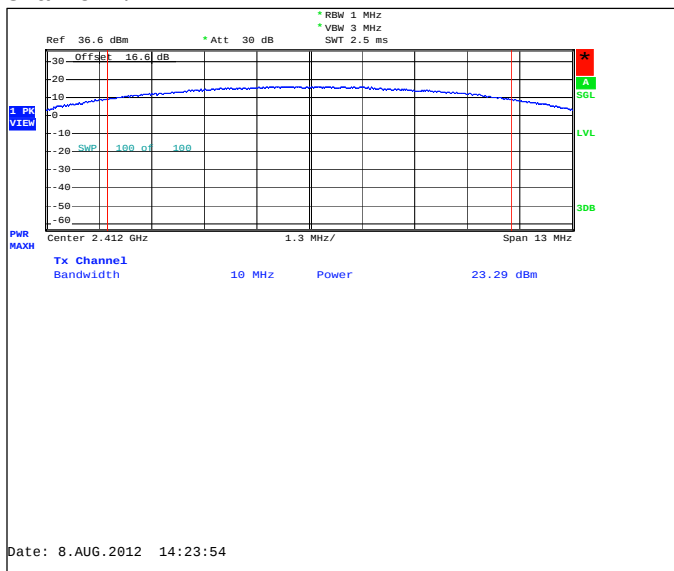
Channel 6 / 2437 MHz



Channel 11 / 2462 MHz



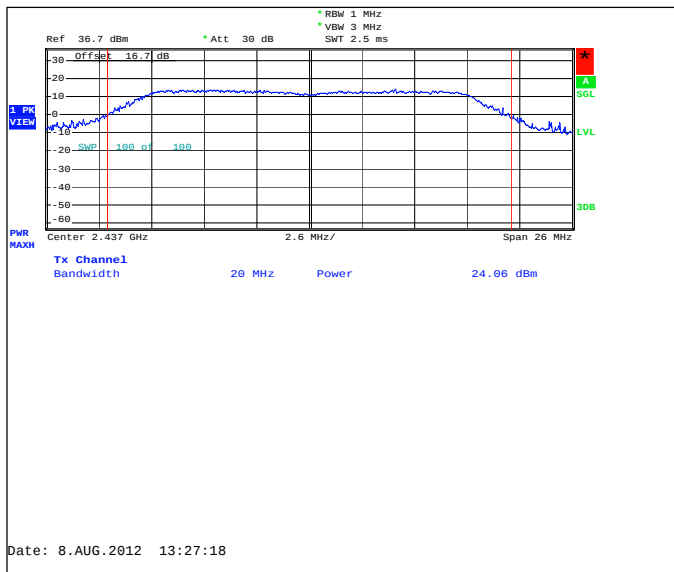
Channel 1 / 2412 MHz



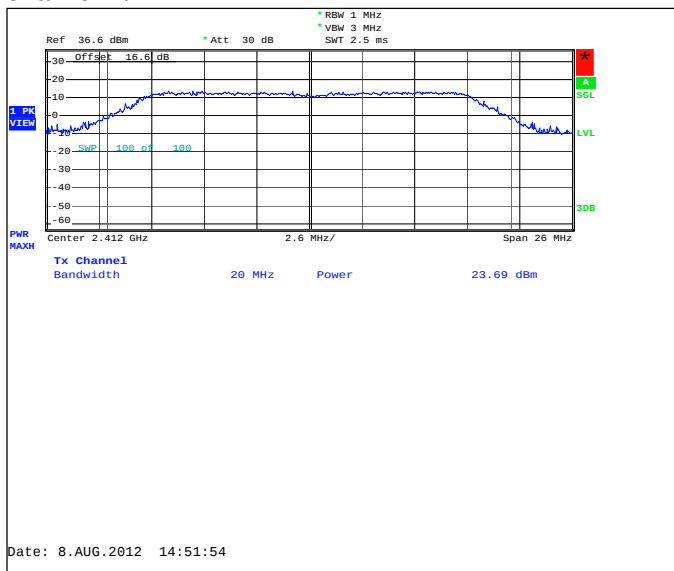
4.4.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
6 / 2437	24.06	254.683	PASSED
1 / 2412	23.69	233.884	PASSED
11 / 2462	23.84	242.103	PASSED

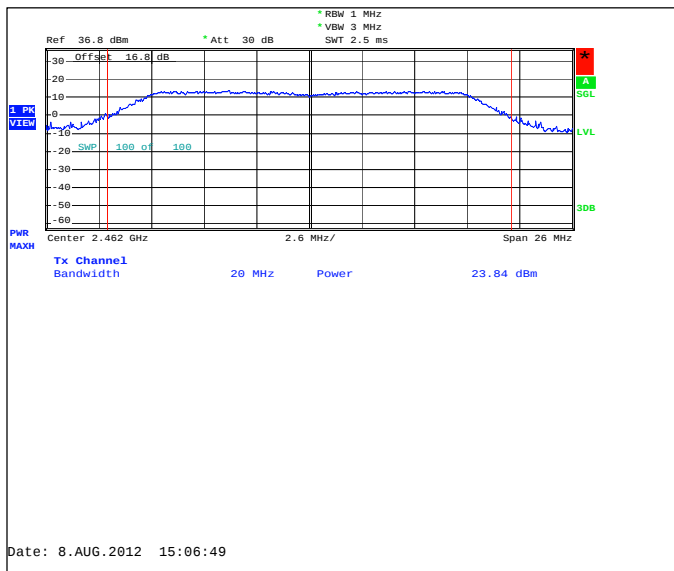
Channel 6 / 2437 MHz



Channel 1 / 2412 MHz

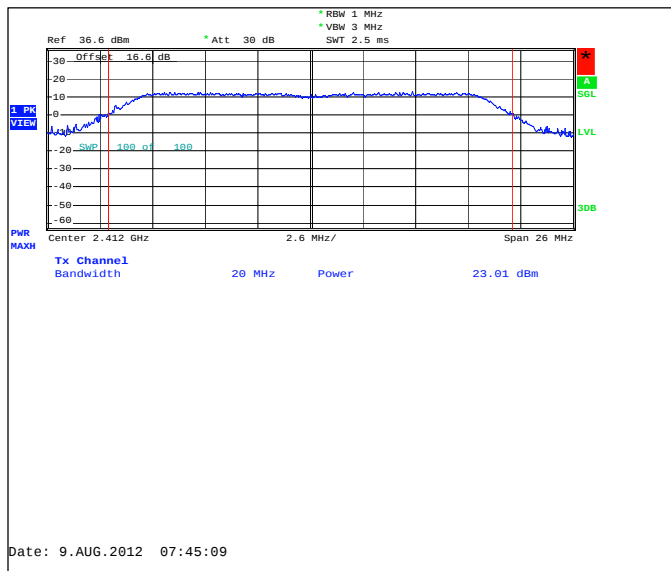
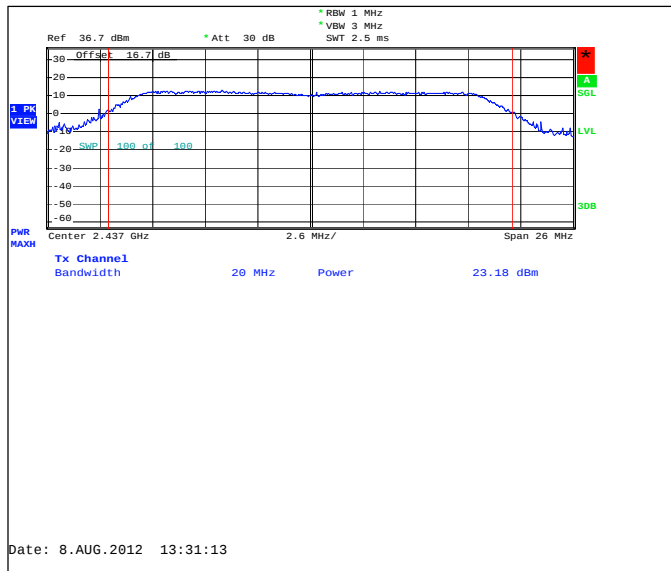


Channel 11 / 2462 MHz

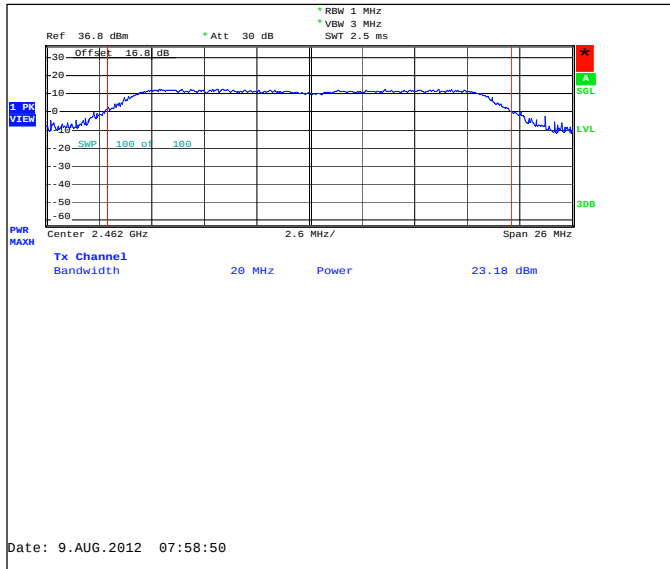


4.4.3 n-mode, 20 MHz CBW mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
6 / 2437	23.18	207.97	PASSED
1 / 2412	23.01	199.986	PASSED
11 / 2462	23.18	207.97	PASSED



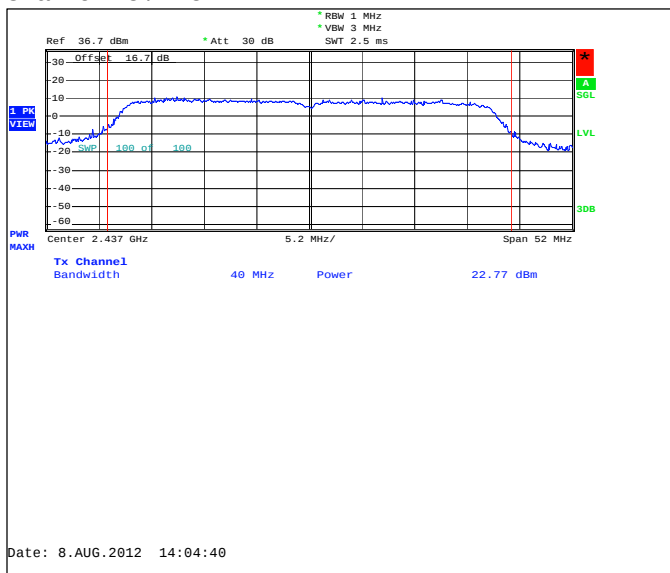
Channel 11 / 2462 MHz



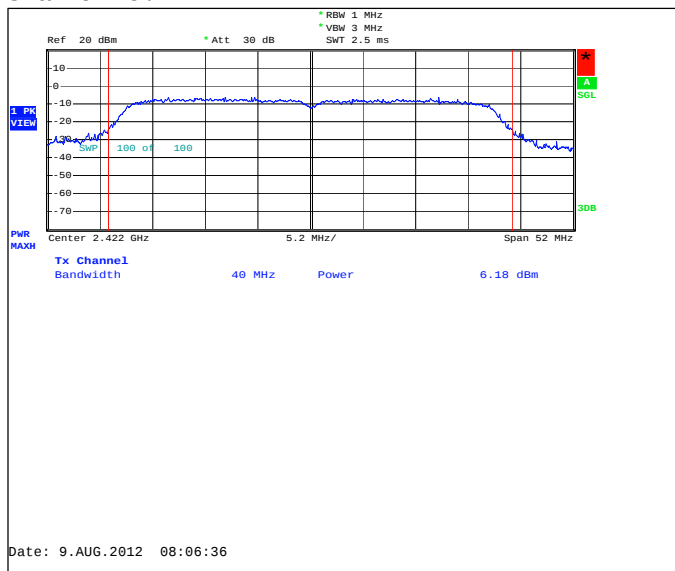
4.4.4 n-mode, 40 MHz CBW mode, 16-QAM modulation, 54.0 / 60.0 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
4-8 / 2437	22.77	189.234	PASSED
1-5 / 2422	6.18	4.15	PASSED
7-11 / 2452	22.69	185.78	PASSED

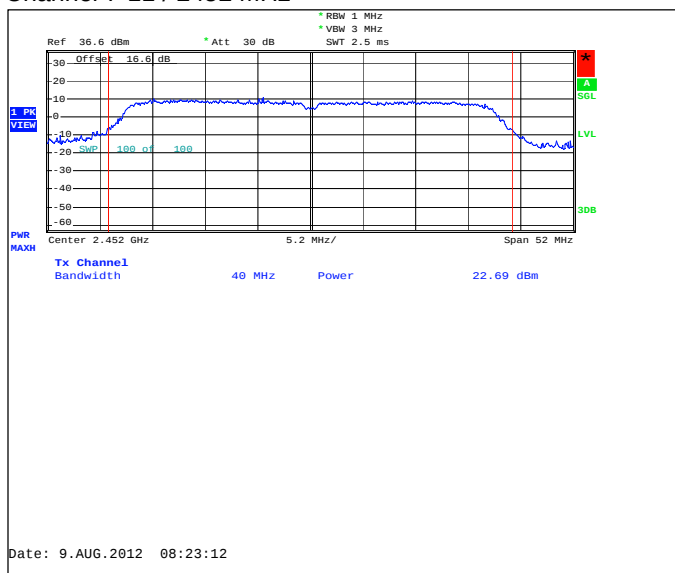
Channel 4-8 / 2437 MHz



Channel 1-5 / 2422 MHz



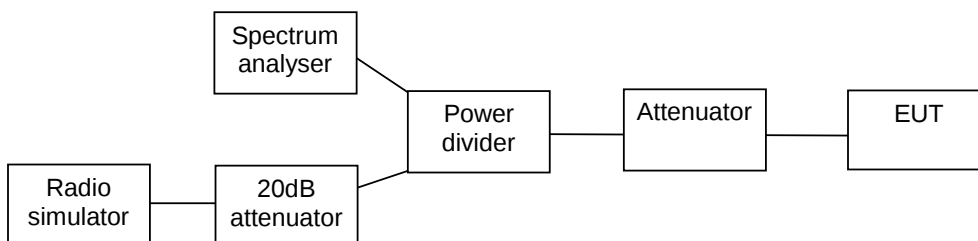
Channel 7-11 / 2452 MHz



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

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	08-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 558 074 and IC standard RSS-210.

The reference level for the -20 dBc measurement was obtained as instructed in section 5.4.1.1 of the KDB 558074, using 5-30 % wider span than the EBW.

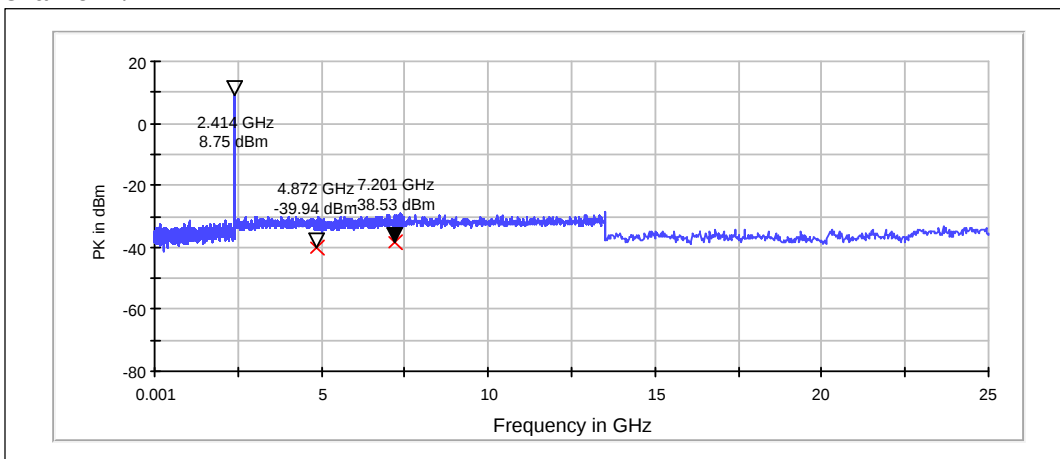
Limits for spurious RF conducted emissions measurements

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

5.3. WLAN Test results

5.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

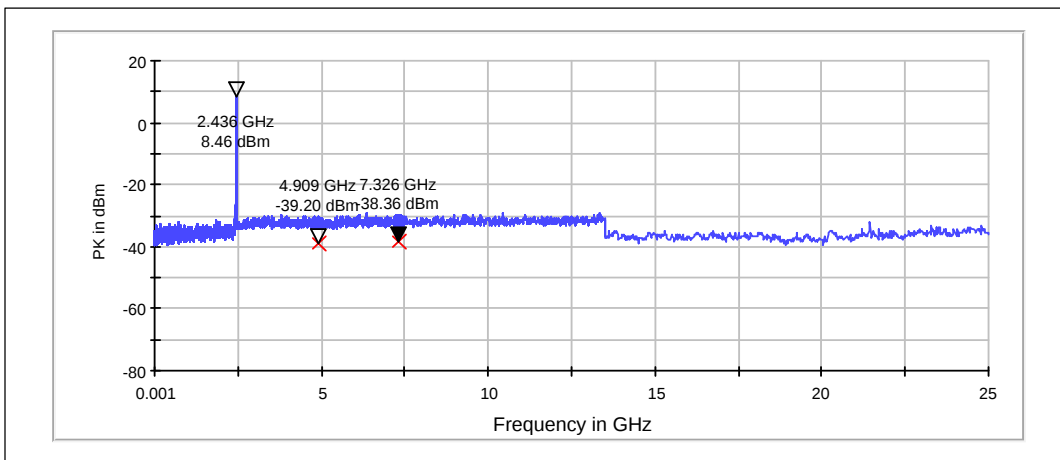
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4872	-39.94	PASSED
7200.6	-38.53	PASSED

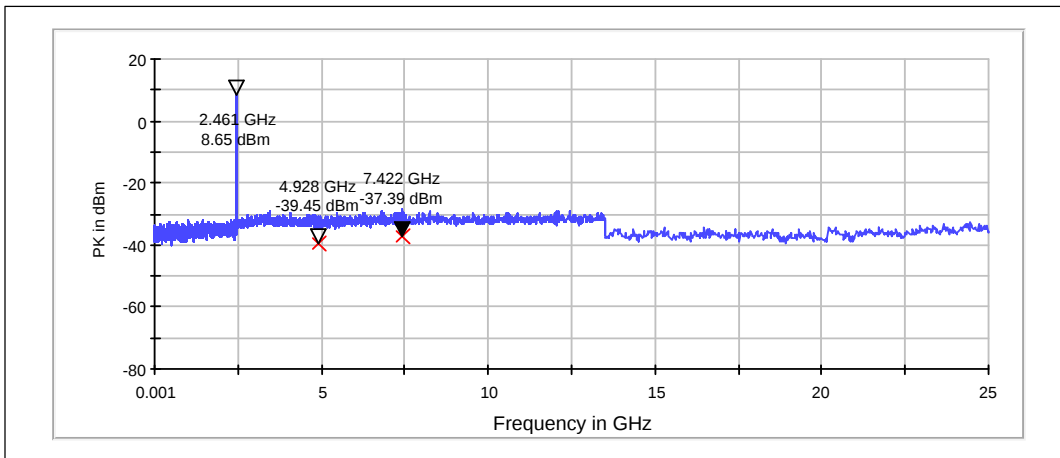
Channel 6 / 2437 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4908.8	-39.2	PASSED
7326	-38.36	PASSED

Channel 11 / 2462 MHz

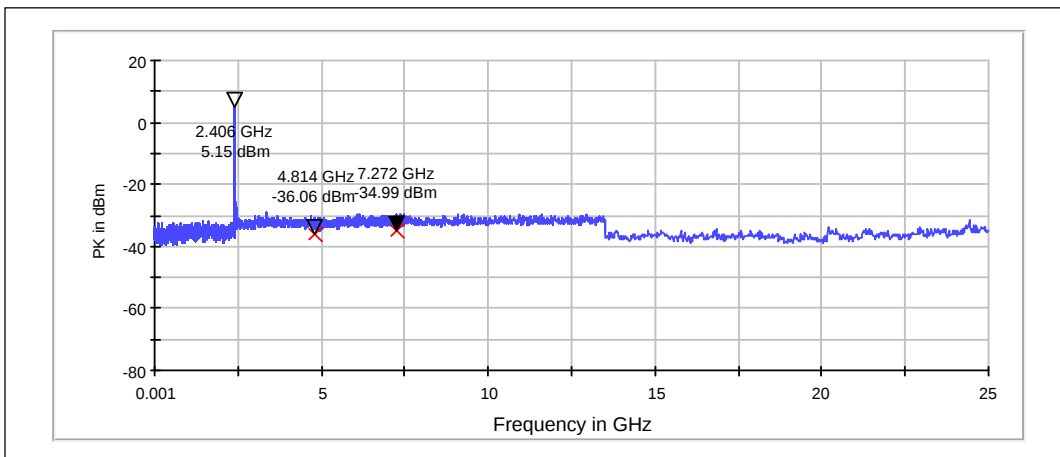


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4928.4	-39.45	PASSED
7422	-37.39	PASSED

5.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

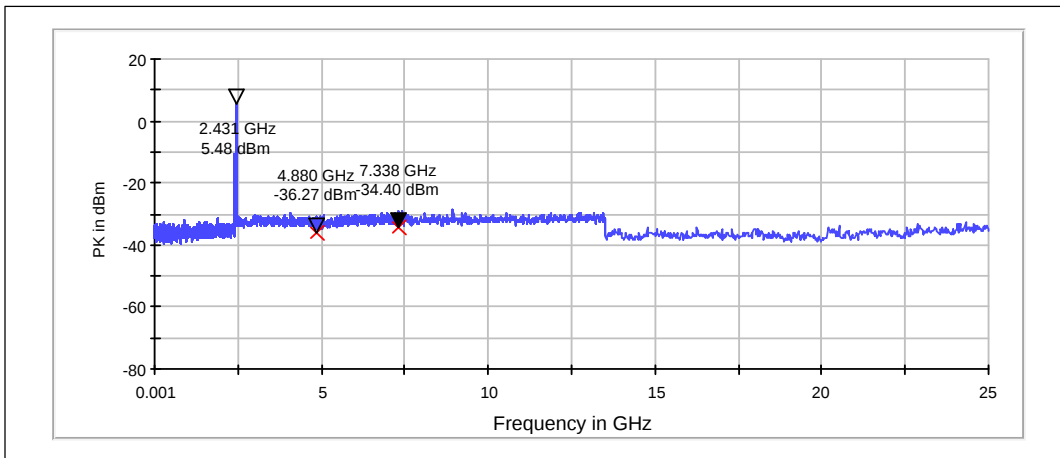
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4813.6	-36.06	PASSED
7272	-34.99	PASSED

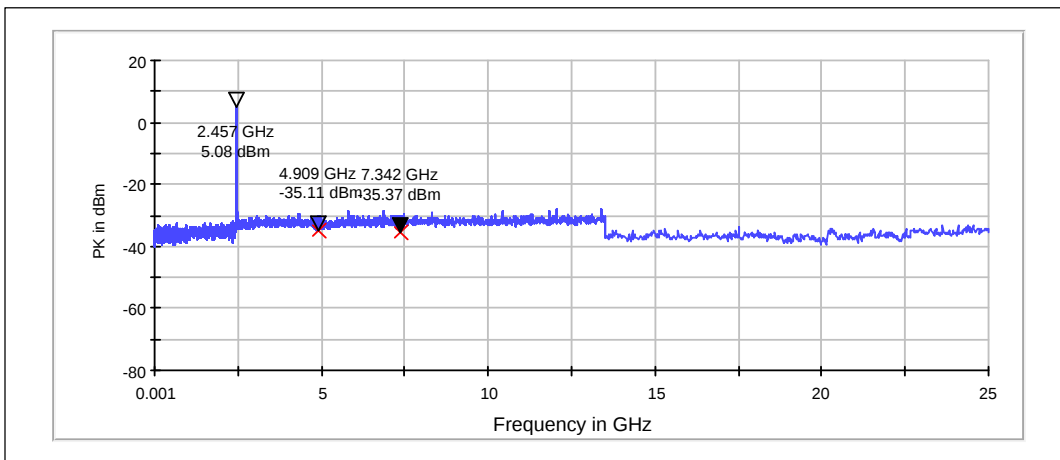
Channel 6 / 2437 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4880	-36.27	PASSED
7338	-34.4	PASSED

Channel 11 / 2462 MHz

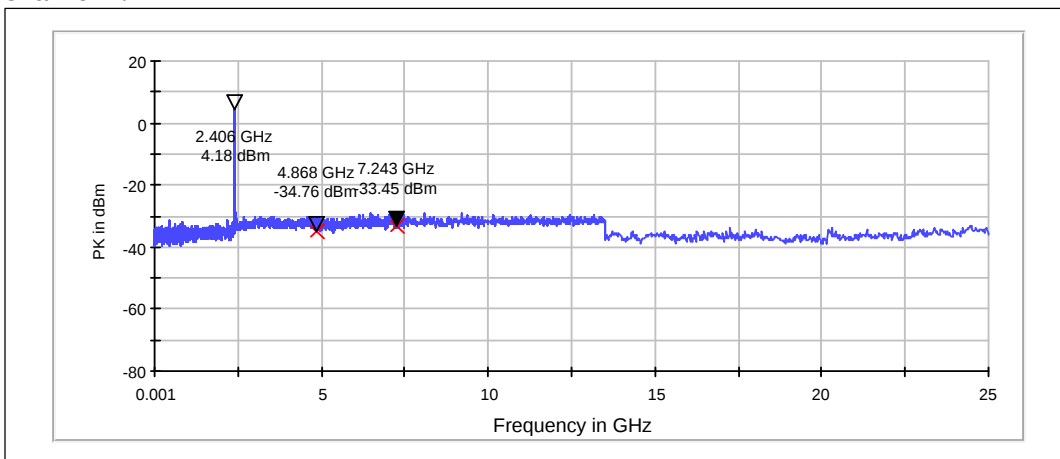


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4908.8	-35.11	PASSED
7342.2	-35.37	PASSED

5.3.3 n-mode, 20 MHz CBW mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

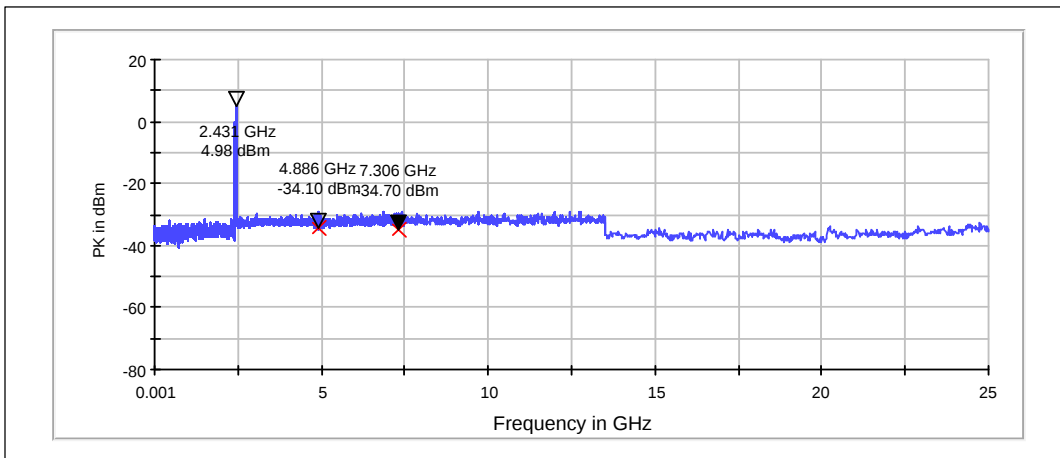
Channel 1 / 2412 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4868	-34.76	PASSED
7243.2	-33.45	PASSED

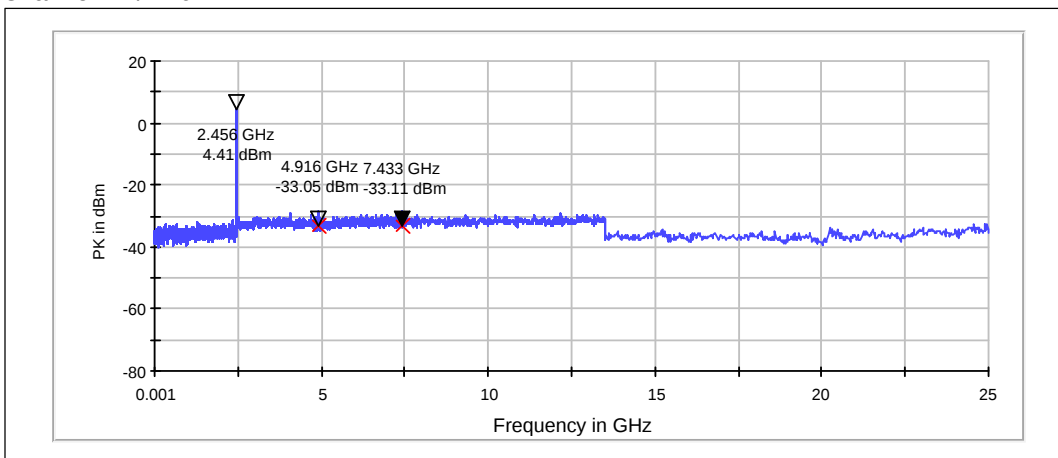
Channel 6 / 2437 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4886.4	-34.1	PASSED
7305.6	-34.7	PASSED

Channel 11 / 2462 MHz

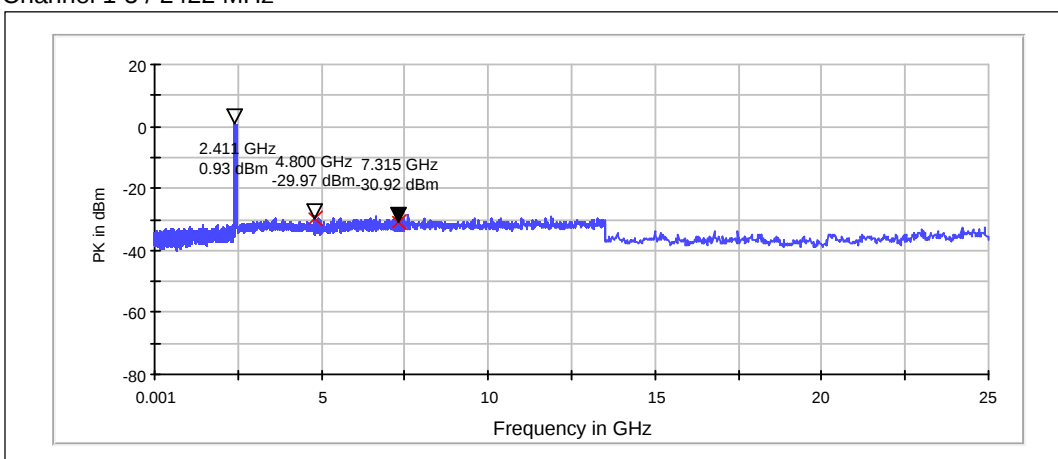


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4916	-33.05	PASSED
7433.4	-33.11	PASSED

5.3.4 n-mode, 40 MHz CBW mode, 16-QAM modulation, 54.0 / 60.0 Mbps data rate

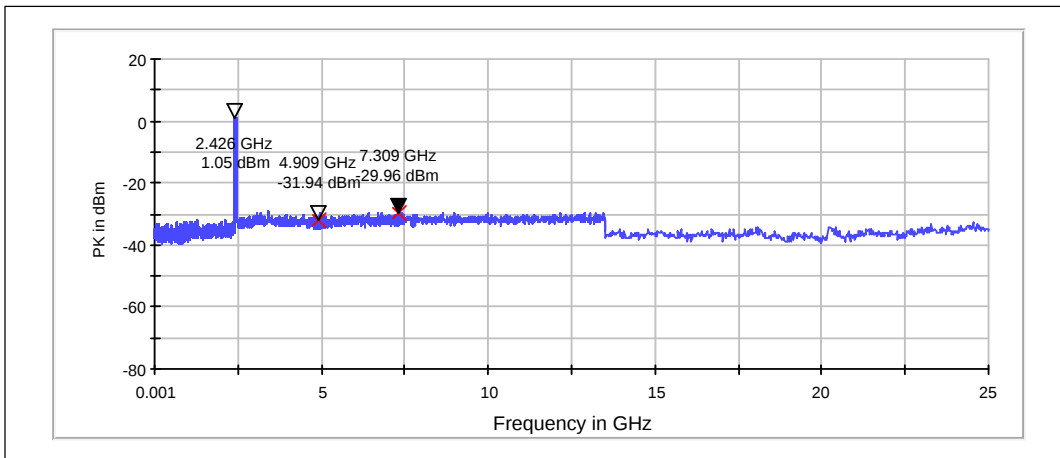
Channel 1-5 / 2422 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4800.4	-29.97	PASSED
7314.6	-30.92	PASSED

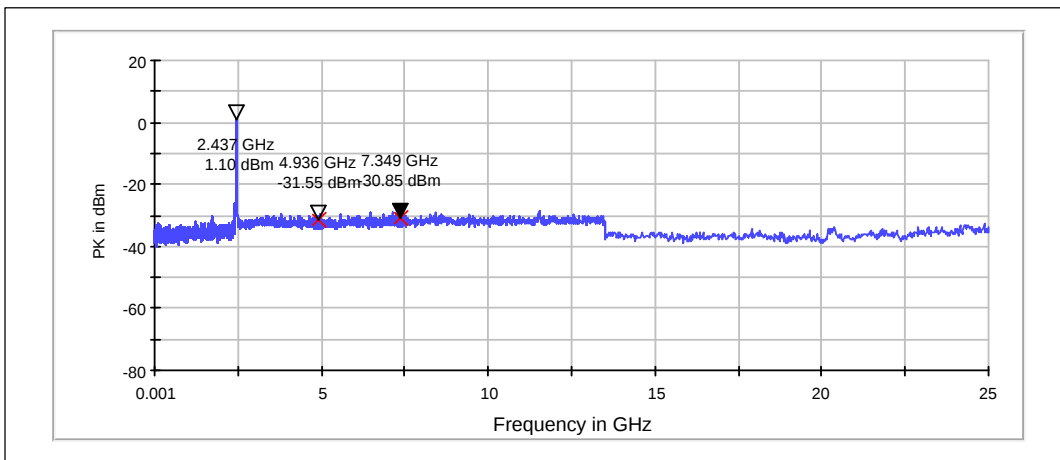
Channel 4-8 / 2437 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4909.2	-31.94	PASSED
7309.2	-29.96	PASSED

Channel 7-11 / 2452 MHz



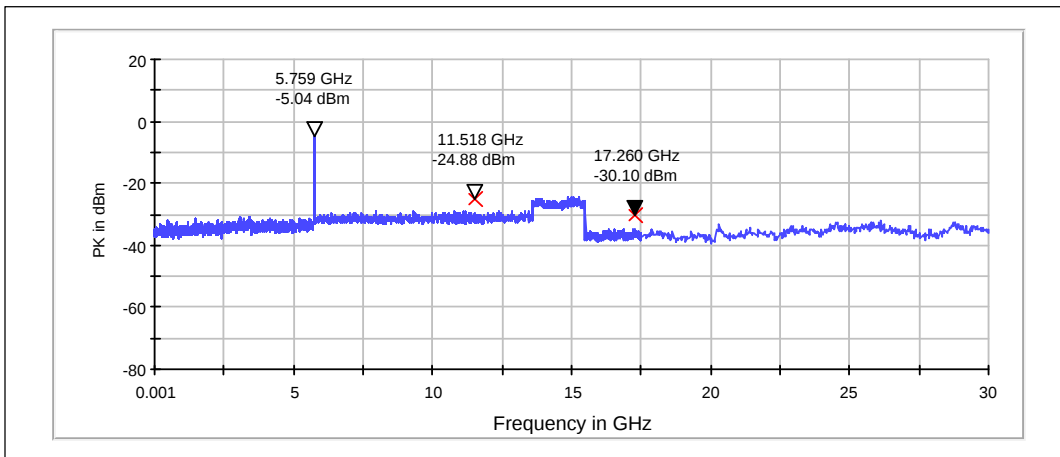
Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
4936.4	-31.55	PASSED
7349.4	-30.85	PASSED

5.4. 5 GHz RLAN Test results

5.4.1 n-mode, 40 MHz CBW mode, 16-QAM modulation, 81.0 / 90.0 Mbps data rate

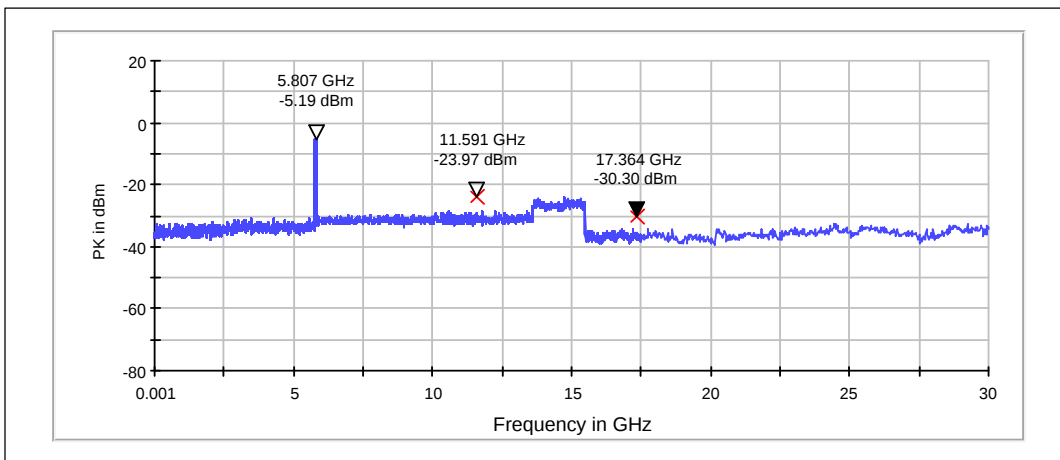
Channel 149+153 / 5755MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11518	-24.88	PASSED
17260	-30.1	PASSED

Channel 157+161 / 5795MHz

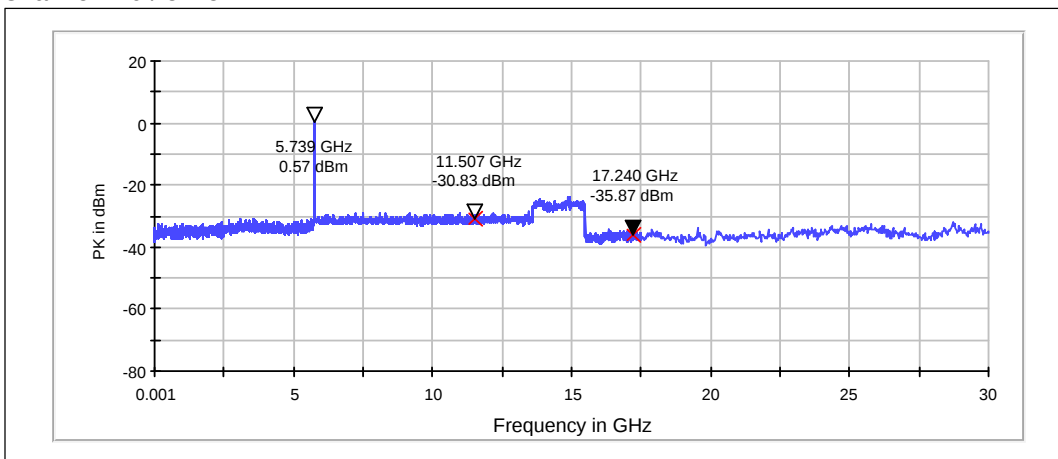


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11590.8	-23.97	PASSED
17364	-30.3	PASSED

5.4.2 n-mode, 20 MHz CBW mode, 64-QAM modulation, 52.0 / 57.8 Mbps data rate

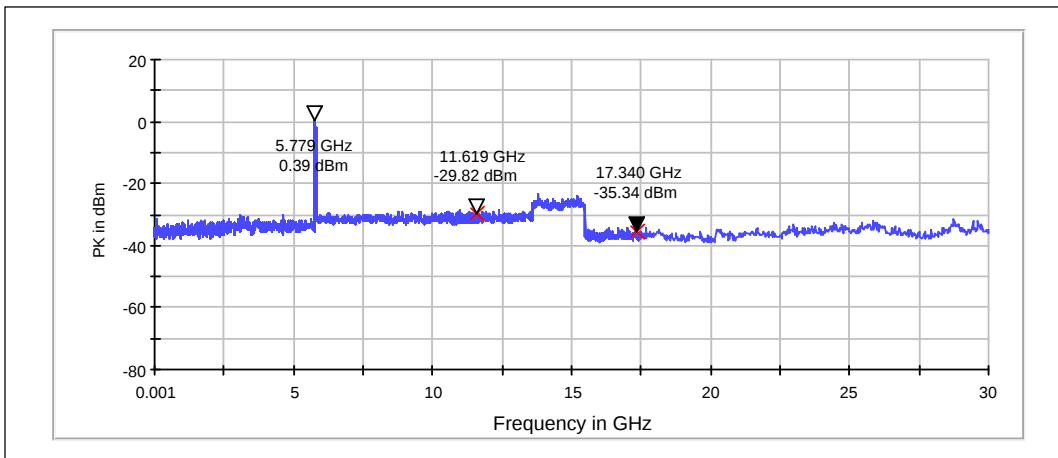
Channel 149 / 5745MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11506.8	-30.83	PASSED
17240	-35.87	PASSED

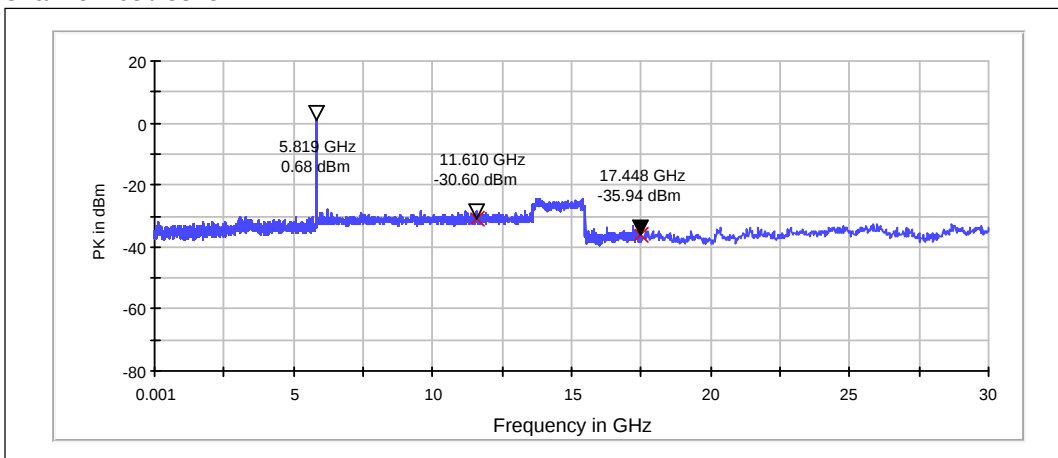
Channel 157 / 5785MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11618.8	-29.82	PASSED
17340	-35.34	PASSED

Channel 165 / 5825MHz

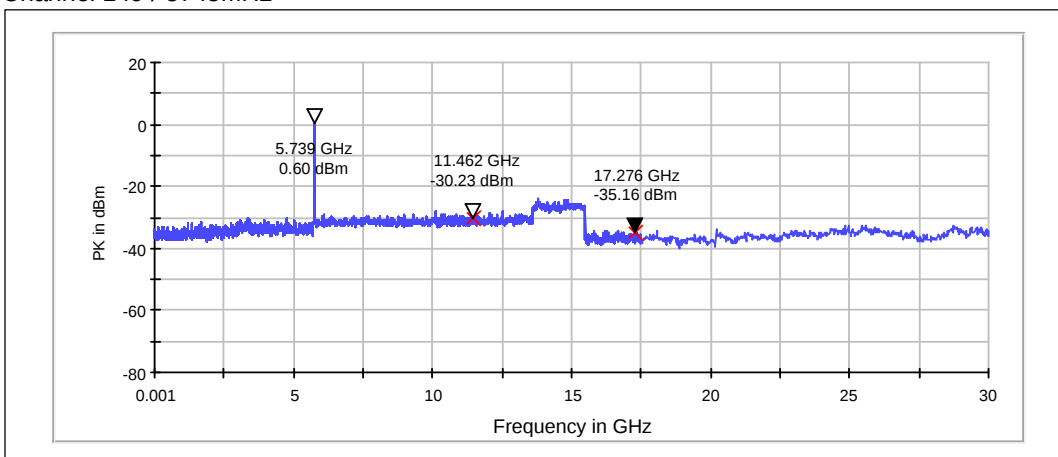


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11610.4	-30.6	PASSED
17448	-35.94	PASSED

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

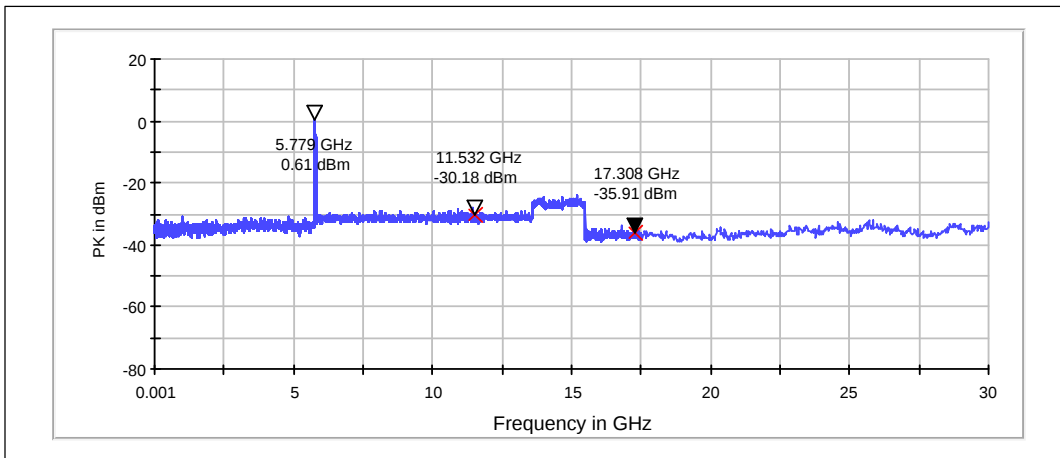
Channel 149 / 5745MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11462	-30.23	PASSED
17276	-35.16	PASSED

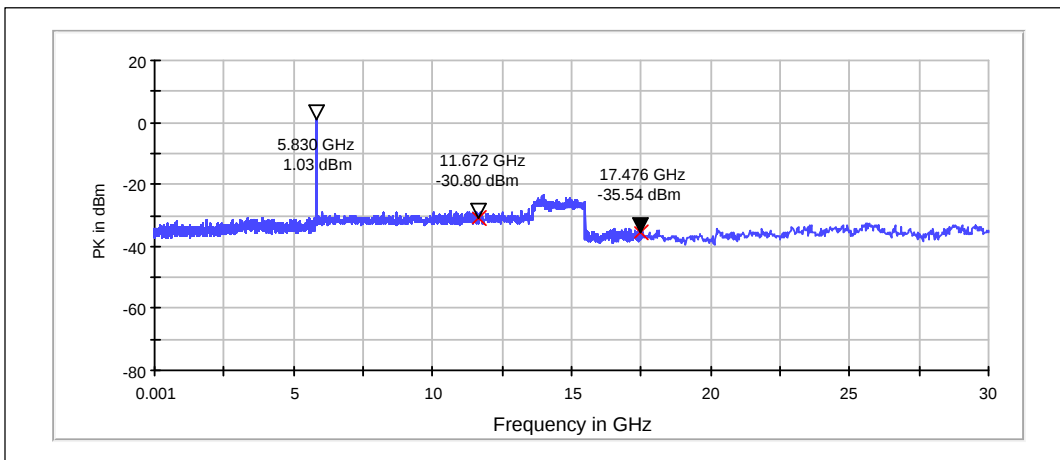
Channel 157 / 5785MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11532	-30.18	PASSED
17308	-35.91	PASSED

Channel 165 / 5825MHz



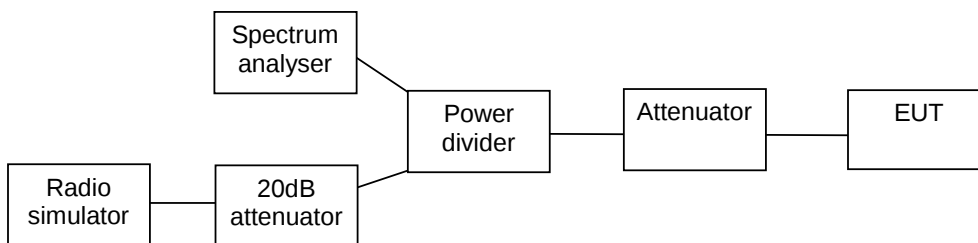
Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11672	-30.8	PASSED
17476	-35.54	PASSED

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

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 DTS procedures KDB 558074 and IC standard RSS-210.

Limits for 6 dB bandwidth measurements

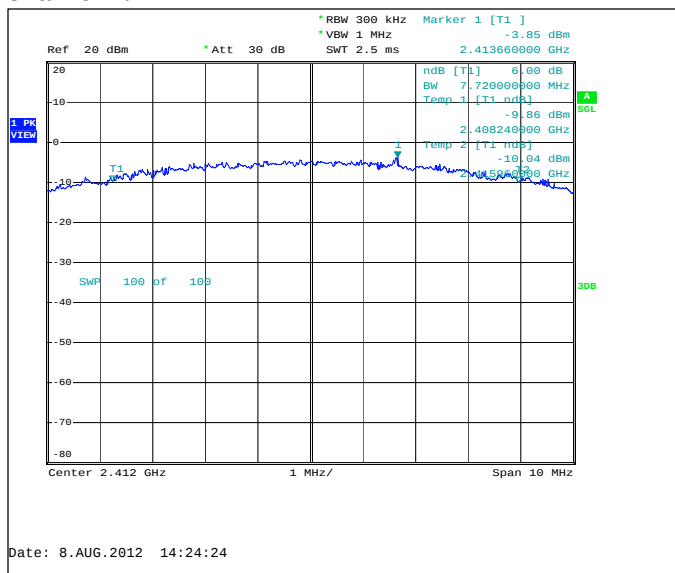
Limit [kHz]
>= 500

6.3. WLAN Test results

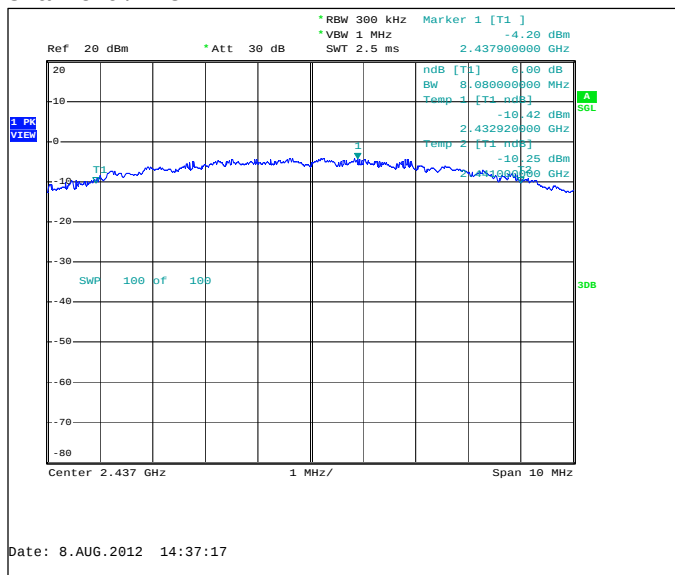
6.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	7720	PASSED
6 / 2437	8080	PASSED
11 / 2462	8200	PASSED

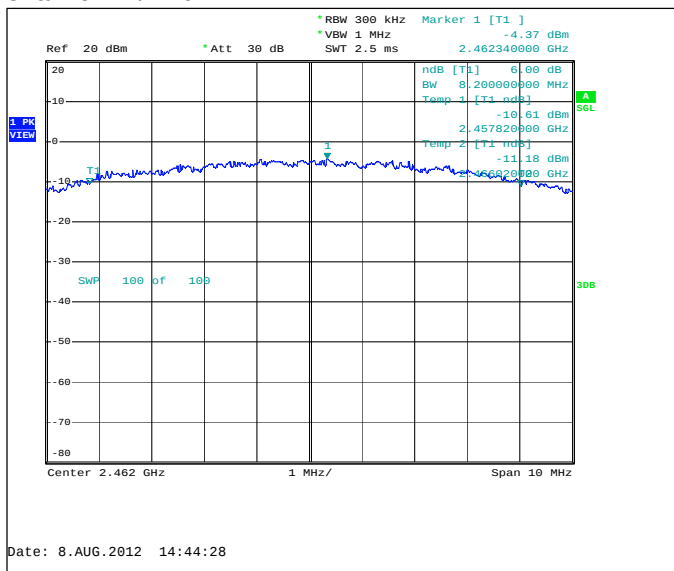
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



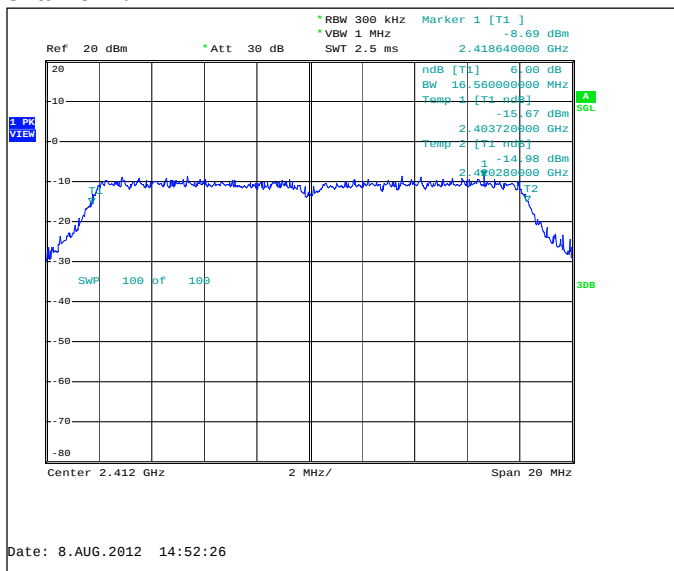
Channel 11 / 2462 MHz



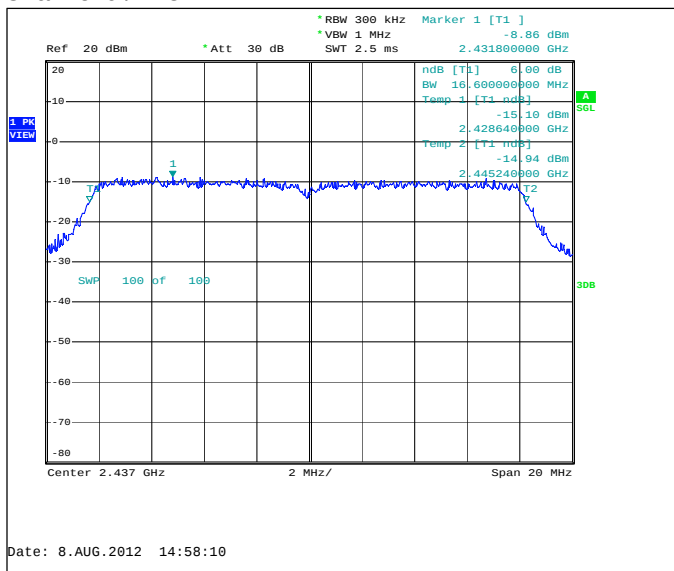
6.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	16560	PASSED
6 / 2437	16600	PASSED
11 / 2462	16600	PASSED

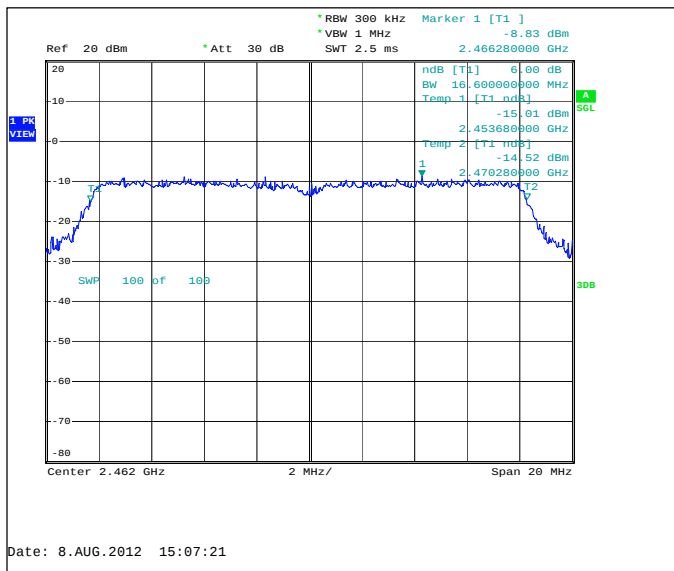
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



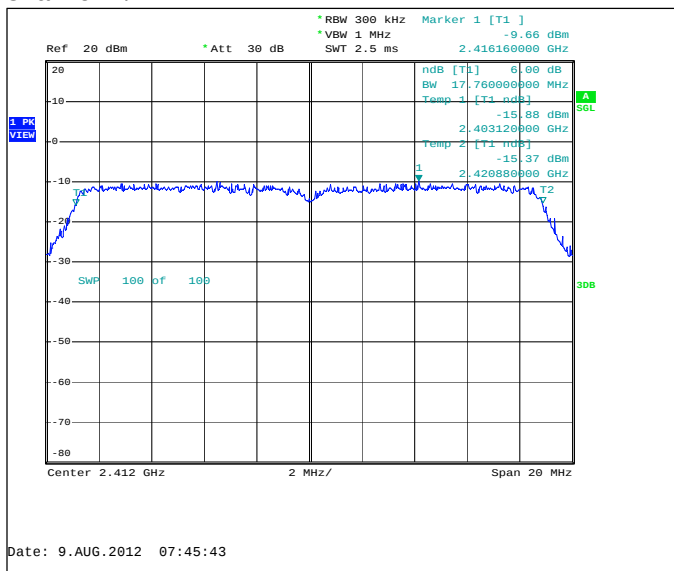
Channel 11 / 2462 MHz



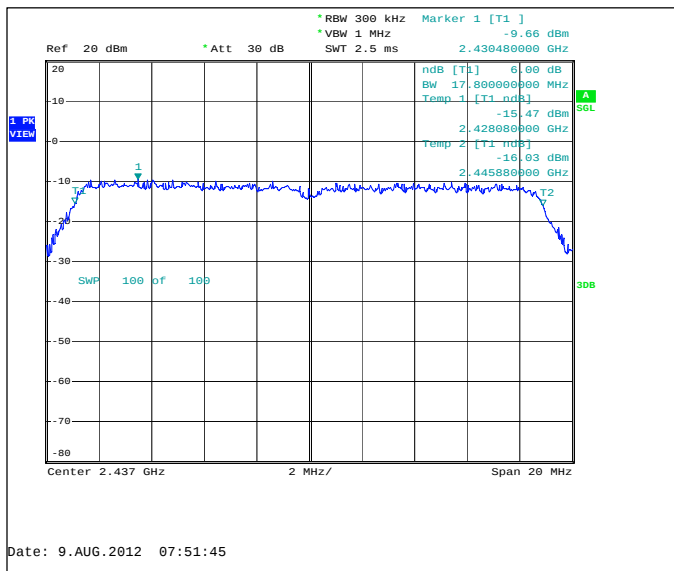
6.3.3 n-mode, 20 MHz CBW mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

Channel / f _c [MHz]	6 dB bandwidth [kHz]	Result
1 / 2412	17760	PASSED
6 / 2437	17800	PASSED
11 / 2462	17800	PASSED

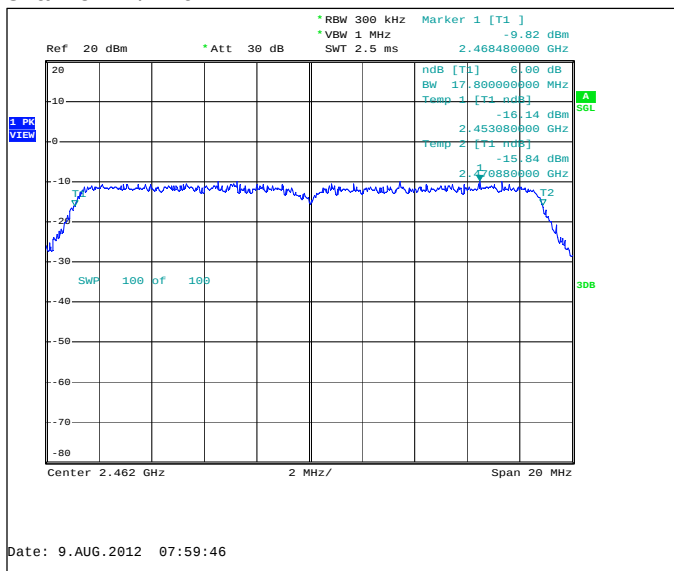
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



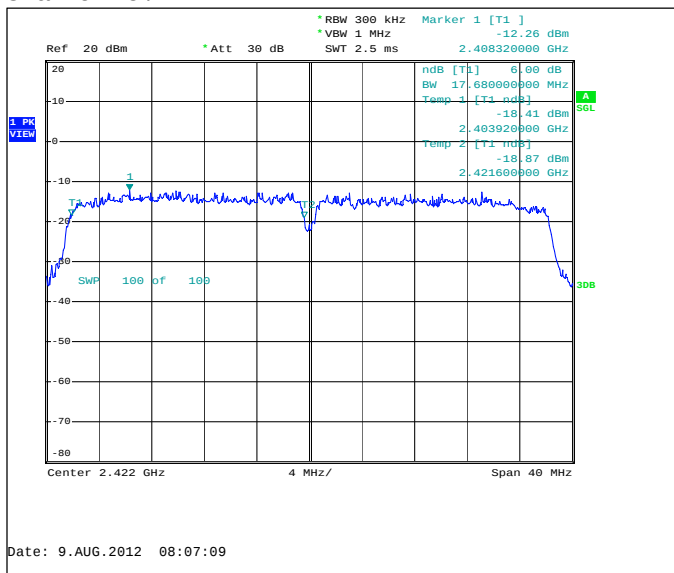
Channel 11 / 2462 MHz



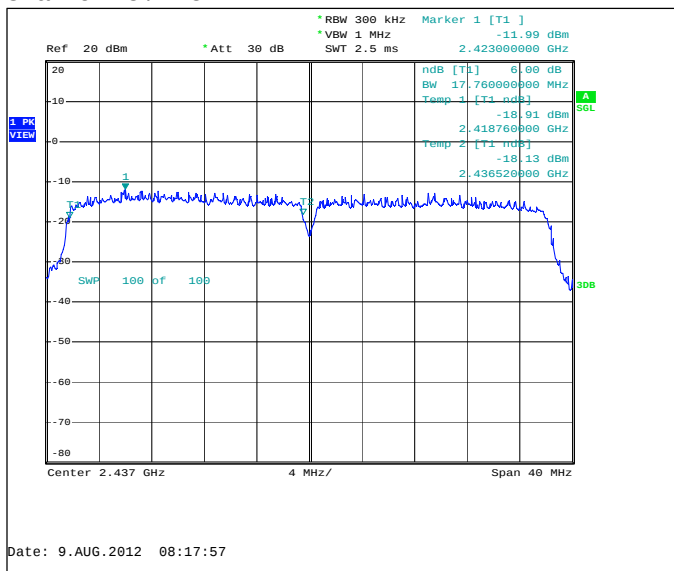
6.3.4 n-mode, 40 MHz CBW mode, 16-QAM modulation, 54.0 / 60.0 Mbps data rate

Channel / f _c [MHz]	6 dB bandwidth [kHz]	Result
1-5 / 2422	17680	PASSED
4-8 / 2437	17760	PASSED
7-11 / 2452	17680	PASSED

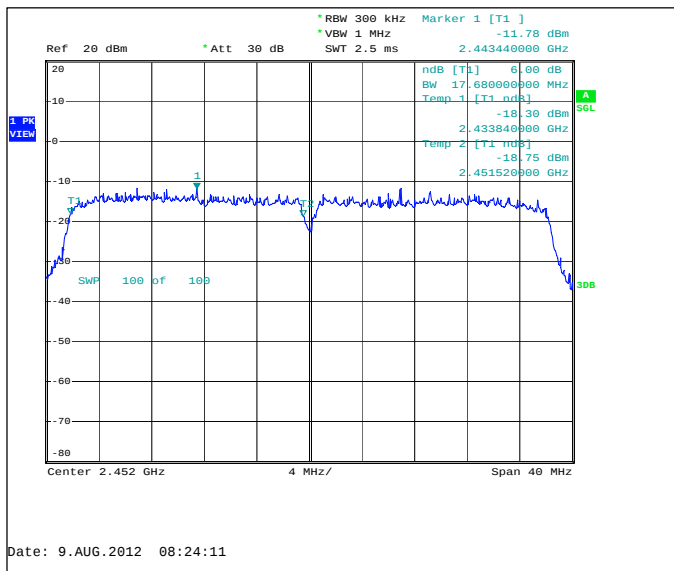
Channel 1-5 / 2422 MHz



Channel 4-8 / 2437 MHz



Channel 7-11 / 2452 MHz

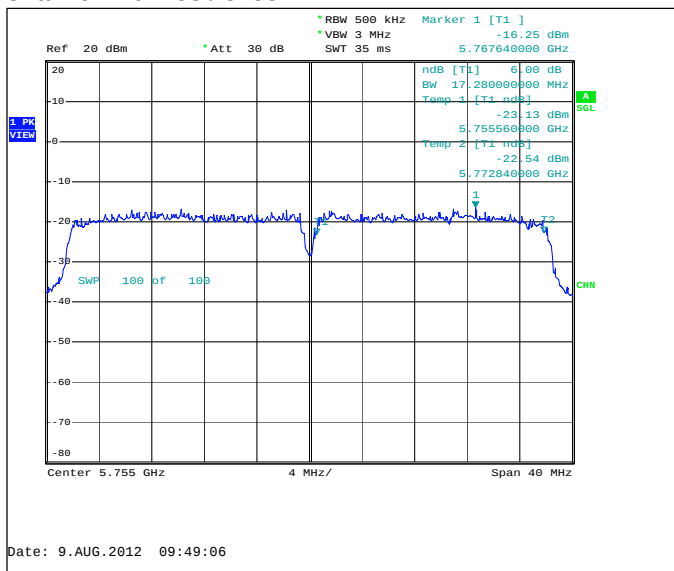


6.4. 5 GHz RLAN Test results

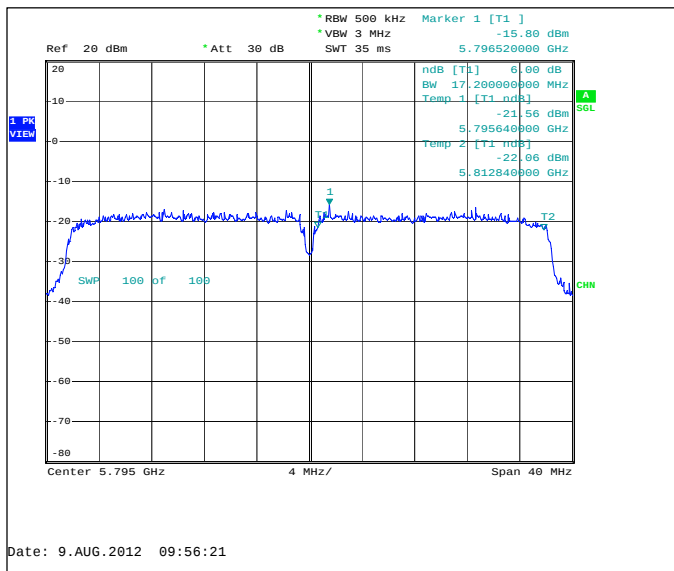
6.4.1 n-mode, 40 MHz CBW mode, 16-QAM modulation, 81.0 / 90.0 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
149+153 / 5755	17280	PASSED
157+161 / 5795	17200	PASSED

Channel 149+153 / 5755MHz



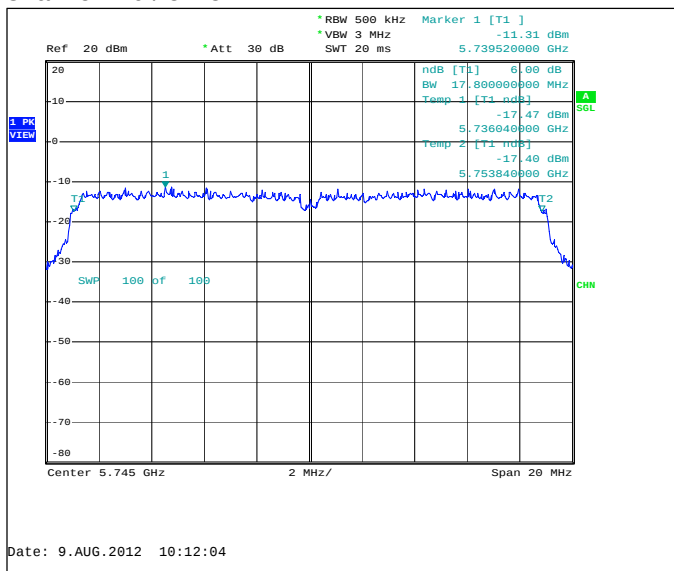
Channel 157+161 / 5795MHz



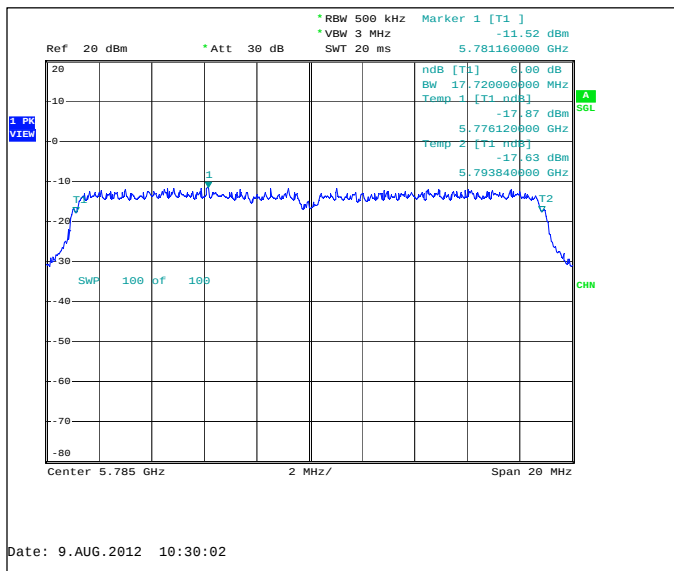
6.4.2 n-mode, 20 MHz CBW mode, 64-QAM modulation, 52.0 / 57.8 Mbps data rate

Channel / f _c [MHz]	6 dB bandwidth [kHz]	Result
149 / 5745	17800	PASSED
157 / 5785	17720	PASSED
165 / 5825	17880	PASSED

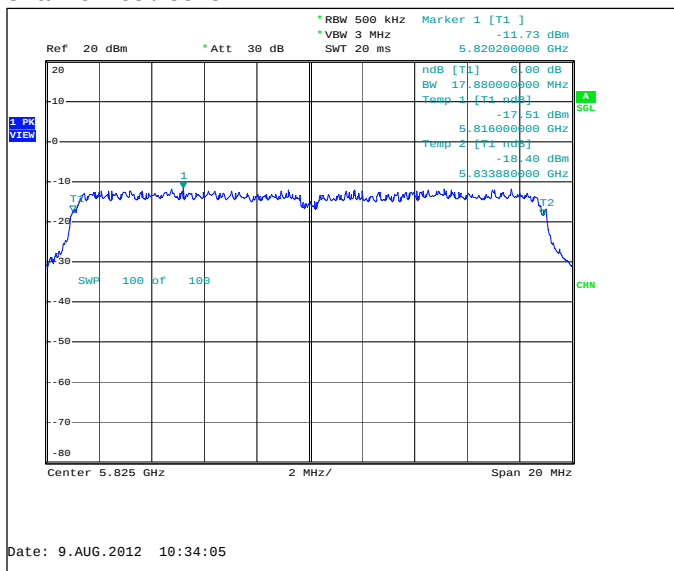
Channel 149 / 5745MHz



Channel 157 / 5785MHz



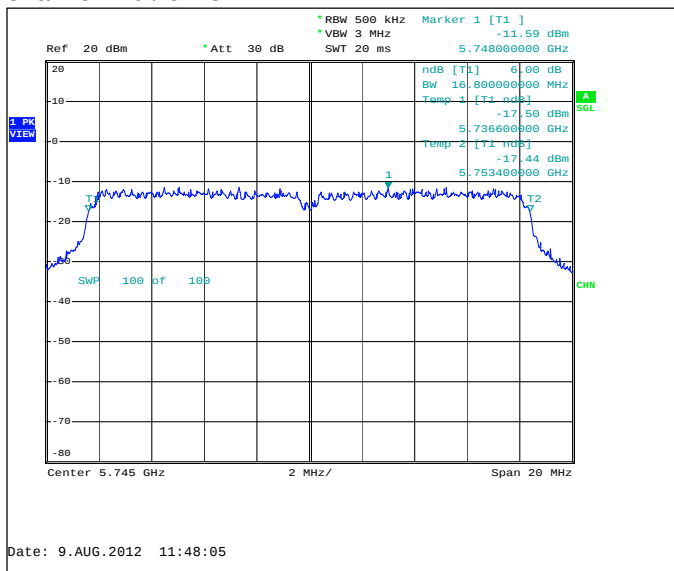
Channel 165 / 5825MHz



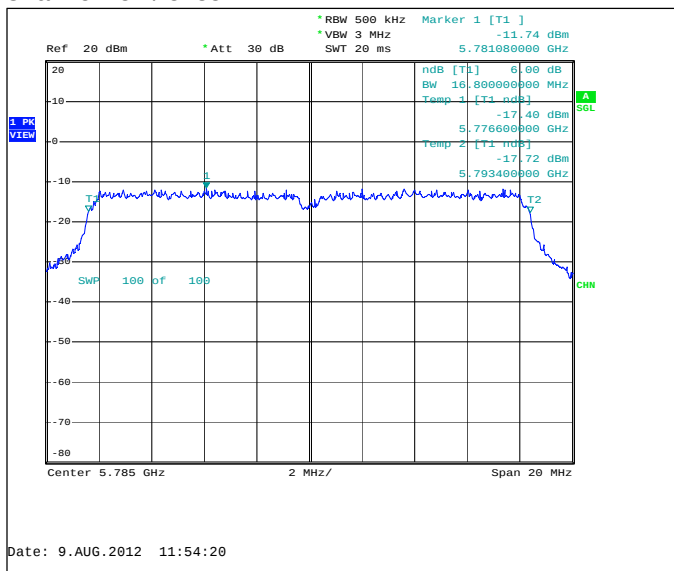
6.4.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
149 / 5745	16800	PASSED
157 / 5785	16800	PASSED
165 / 5825	16800	PASSED

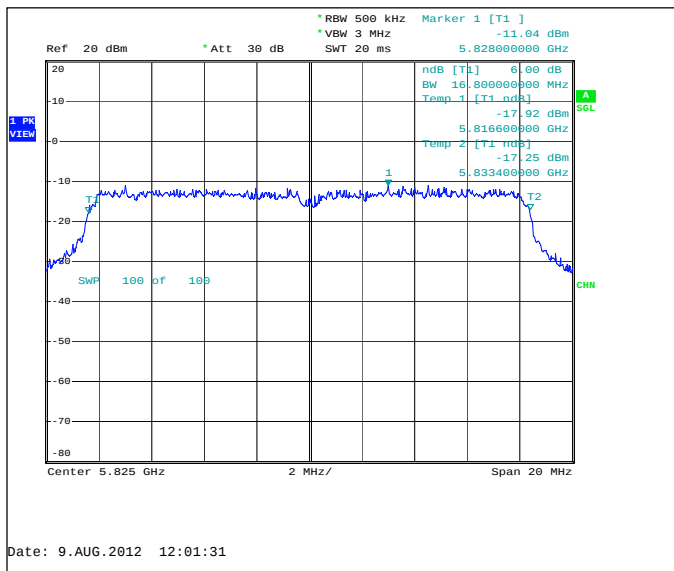
Channel 149 / 5745MHz



Channel 157 / 5785MHz



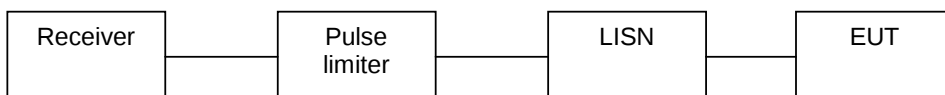
Channel 165 / 5825MHz



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	10-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.

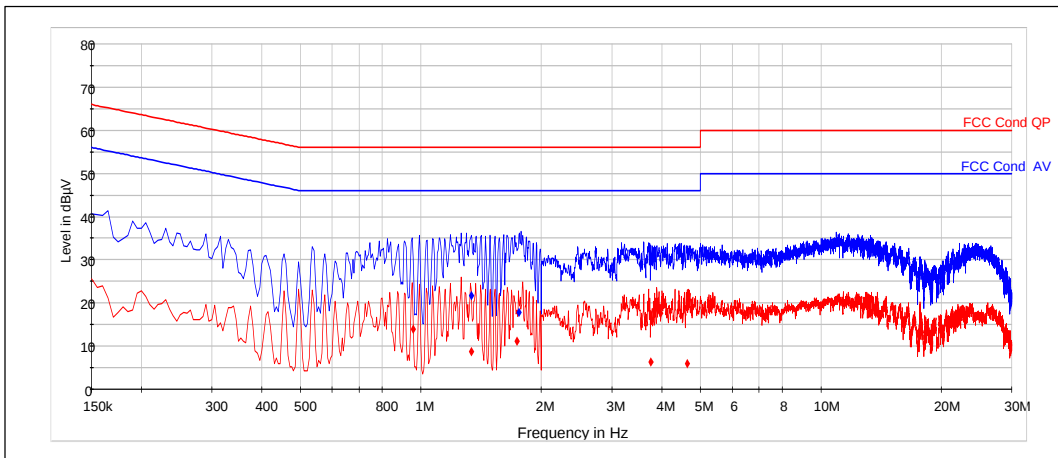
CISPR 22 Class B limits

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

7.3. 5G RLAN Test results

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

Channel 157 / 5785 MHz



QuasiPeak (RBW: 9 kHz)

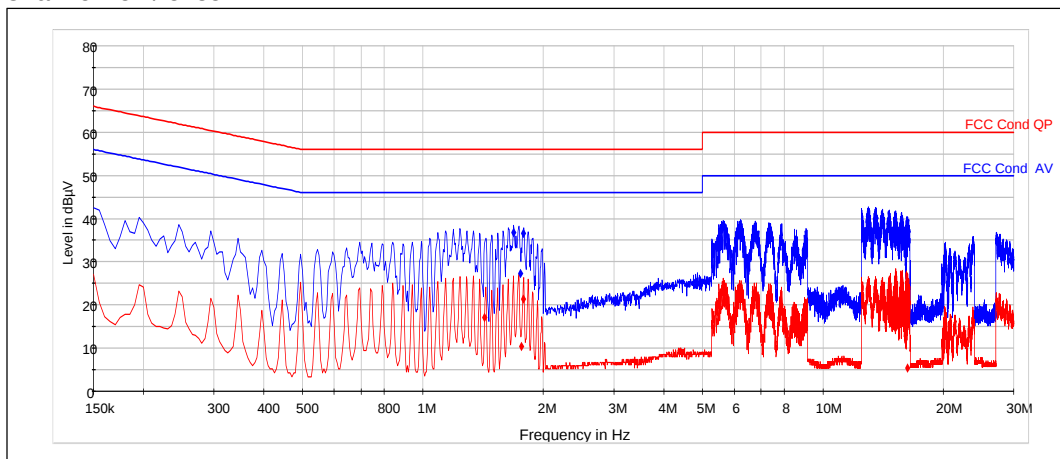
Frequency [MHz]	U [dBμV]	Line	Result
1.335	21.77	L1	PASSED
1.755	17.85	L1	PASSED
3.245	30.71	N	PASSED
3.545	28.94	N	PASSED
3.795	30.34	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.955	13.95	L1	PASSED
1.335	8.81	L1	PASSED
1.735	11.19	N	PASSED
3.76	6.34	L1	PASSED
3.975	17.61	L1	PASSED
4.63	5.92	L1	PASSED

7.3.2 n-mode, 20 MHz CBW mode, 64-QAM modulation, 52.0 / 57.8 Mbps data rate

Channel 157 / 5785 MHz



QuasiPeak (RBW: 9 kHz)

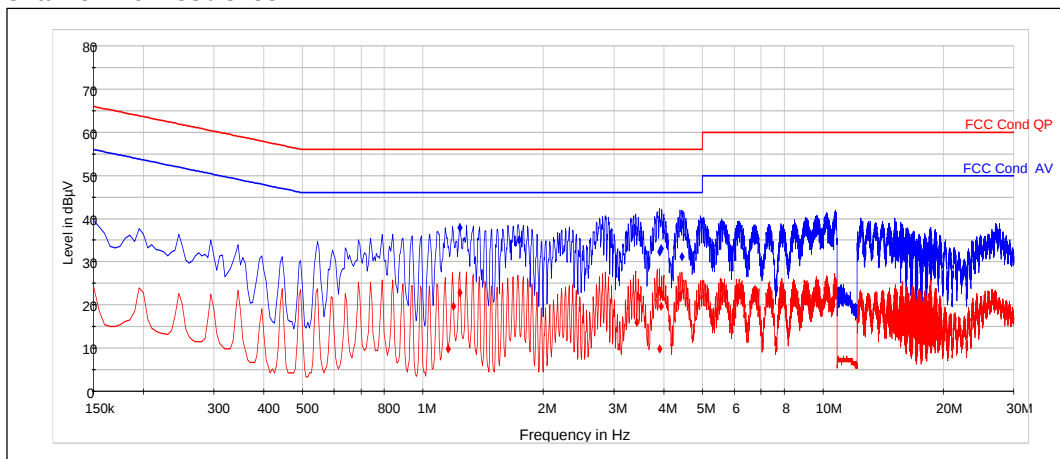
Frequency [MHz]	U [dBμV]	Line	Result
1.685	36.68	N	PASSED
1.75	27.27	N	PASSED
1.78	36.58	N	PASSED
12.99	40.43	N	PASSED
13.48	39.83	N	PASSED
13.575	40.09	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.425	17.13	L1	PASSED
1.76	10.48	N	PASSED
1.78	21.32	N	PASSED
15.185	14.69	L1	PASSED
15.865	19.67	L1	PASSED
16.255	5.37	L1	PASSED

7.3.3 n-mode, 40 MHz CBW mode, 16-QAM modulation, 81.0 / 90.0 Mbps data rate

Channel 149+153 / 5755MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.235	37.81	N	PASSED
1.735	35.11	N	PASSED
3.9	32.36	L1	PASSED
3.94	32.97	L1	PASSED
4.435	31.09	L1	PASSED

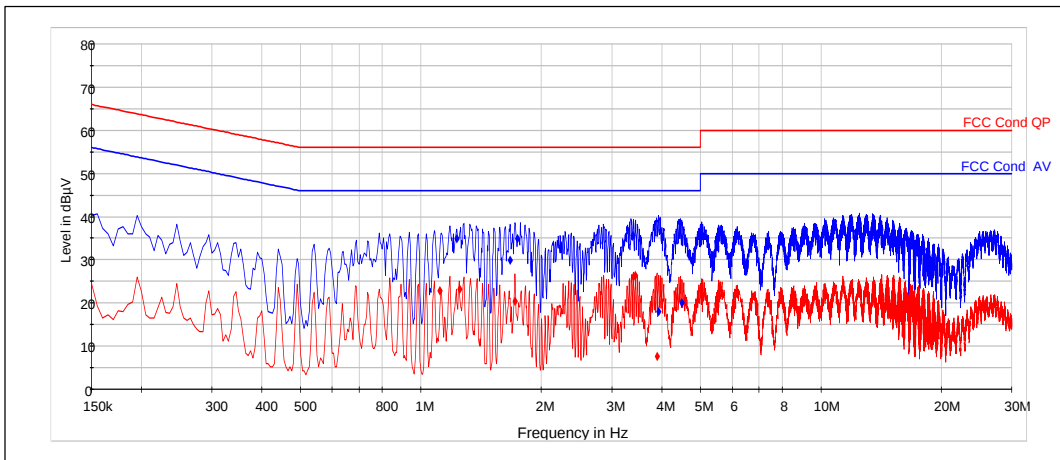
Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.155	9.9	N	PASSED
1.19	19.67	N	PASSED
1.235	22.9	N	PASSED
3.425	15.94	L1	PASSED
3.9	9.8	L1	PASSED
3.94	19.68	L1	PASSED

7.4. WLAN Test results

7.4.1 n-mode, 40 MHz CBW mode, 16-QAM modulation, 54.0 / 60.0 Mbps data rate

Channel 4-8 / 2437 MHz



QuasiPeak (RBW: 9 kHz)

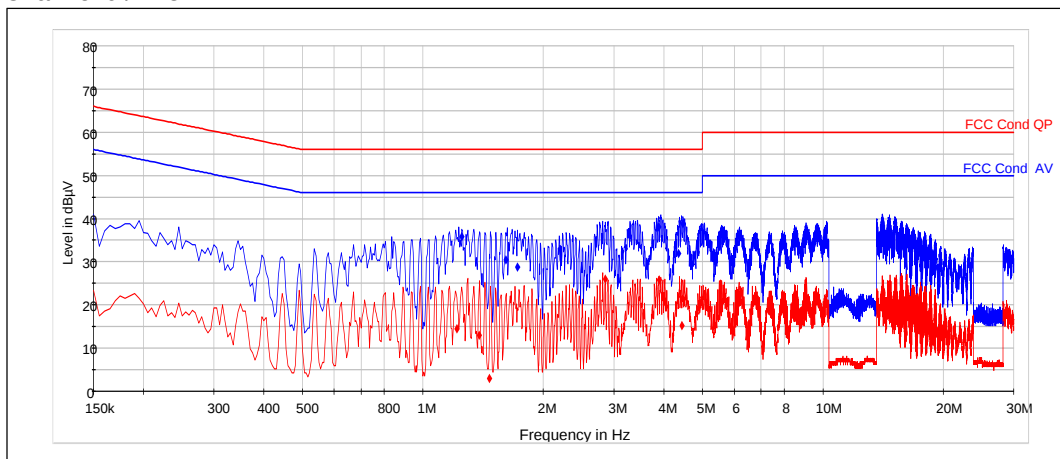
Frequency [MHz]	U [dBμV]	Line	Result
1.23	34.88	N	PASSED
1.67	29.88	N	PASSED
1.74	34.83	N	PASSED
3.39	35.59	N	PASSED
3.93	17.95	N	PASSED
4.495	20.09	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.115	22.87	N	PASSED
1.25	23.22	N	PASSED
1.72	20.49	N	PASSED
3.395	26.01	N	PASSED
3.435	26.32	N	PASSED
3.89	7.7	N	PASSED

7.4.2 DSSS mode, QPSK modulation, 11 Mbps data rate

Channel 6 / 2437 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.25	35.86	N	PASSED
1.61	30.5	N	PASSED
1.725	28.7	L1	PASSED
3.885	38.05	N	PASSED
4.35	31.98	N	PASSED
4.46	38.71	N	PASSED

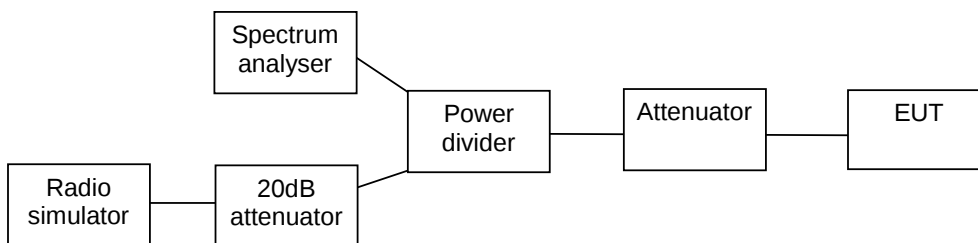
Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
1.215	14.53	L1	PASSED
1.38	12.93	L1	PASSED
1.465	2.99	L1	PASSED
2.86	26.01	N	PASSED
3.89	25.81	N	PASSED
4.44	15.14	N	PASSED

8. Power spectral density (FCC §15.247(e), RSS-210 A8.2 (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	08-Aug-2012
Measured by	Tomi Lipponen

8.1. Test Setup



8.2. Test method and limit

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

Result is corrected by bandwidth correction factor -15.2dB (BWCF = $10\log(3\text{ kHz}/100\text{ kHz}) = -15.2\text{ dB}$).

Limits for power spectral density measurements

Limit [dBm] @ 3 kHz
≤ 8

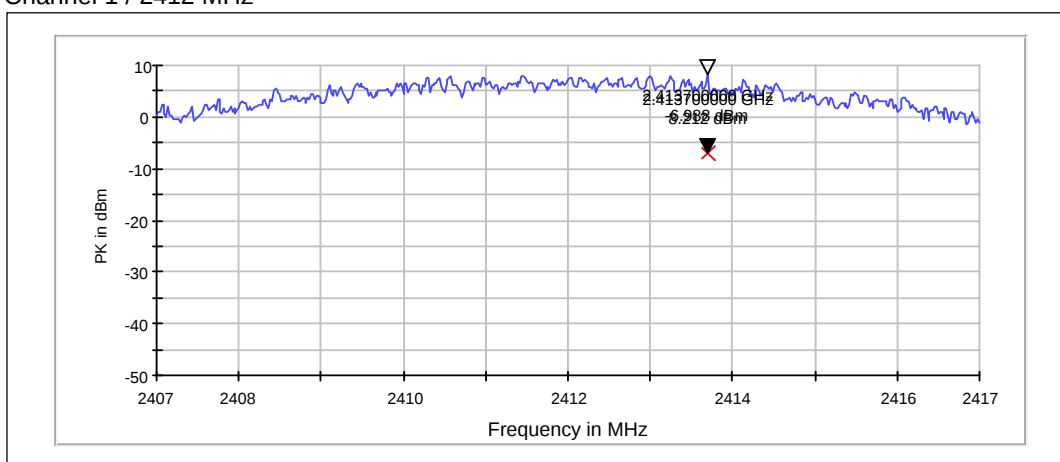
8.3. WLAN Test results

8.3.1 DSSS mode, QPSK modulation, 11 Mbps data rate

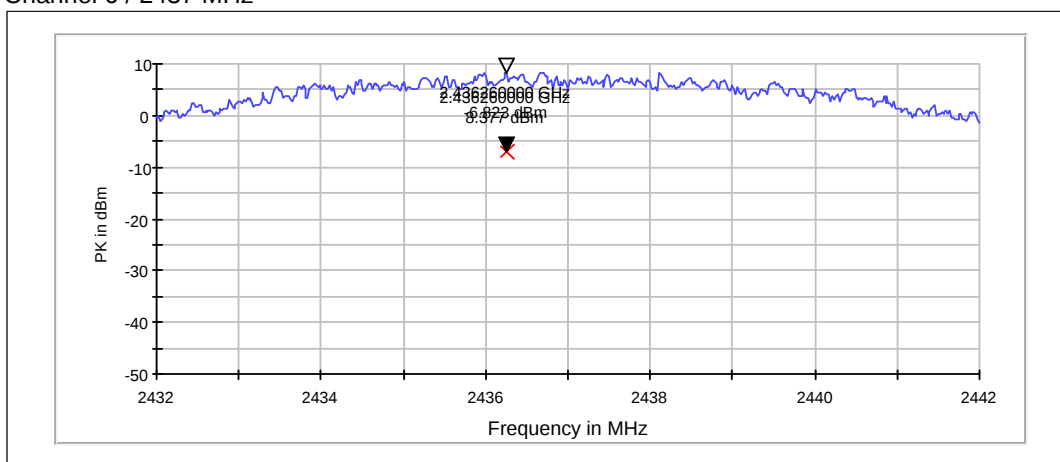
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-6.99	PASSED
6 / 2437	-6.82	PASSED
11 / 2462	-6.6	PASSED

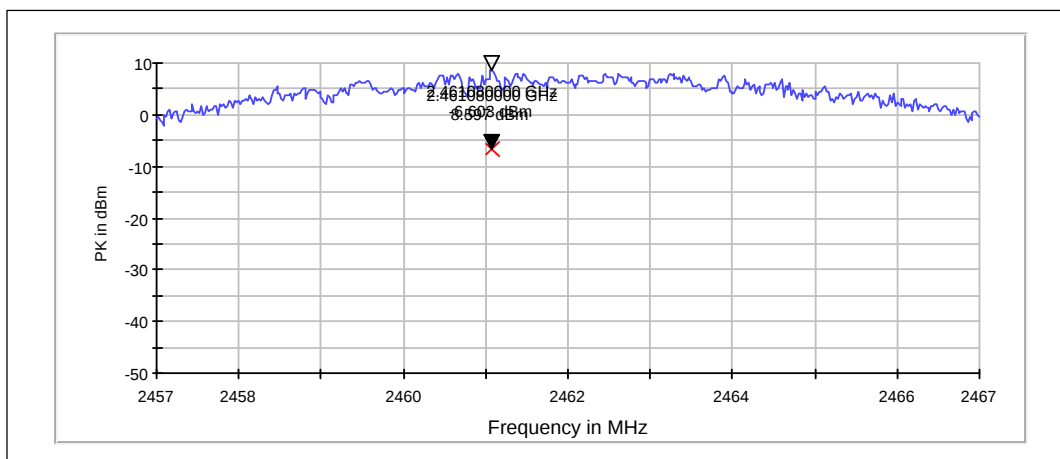
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



Channel 11 / 2462 MHz

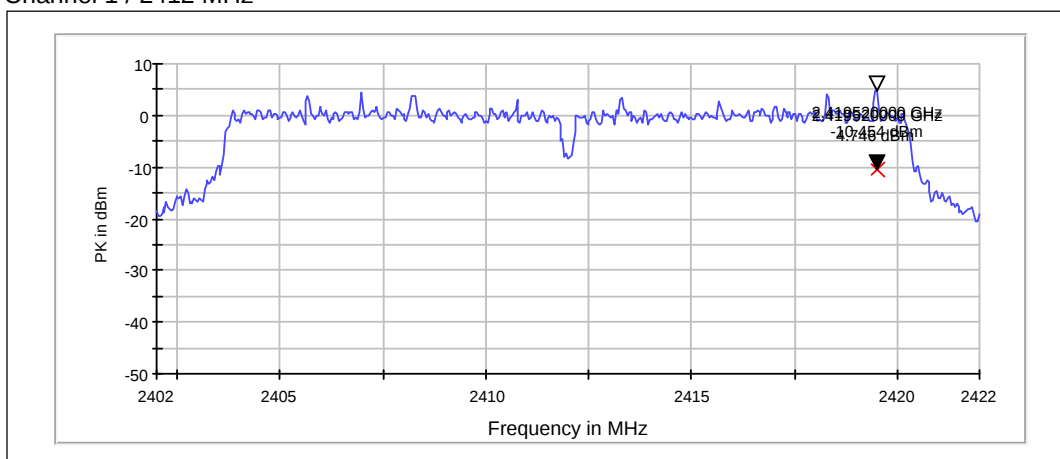


8.3.2 OFDM mode, BPSK modulation, 6 Mbps data rate

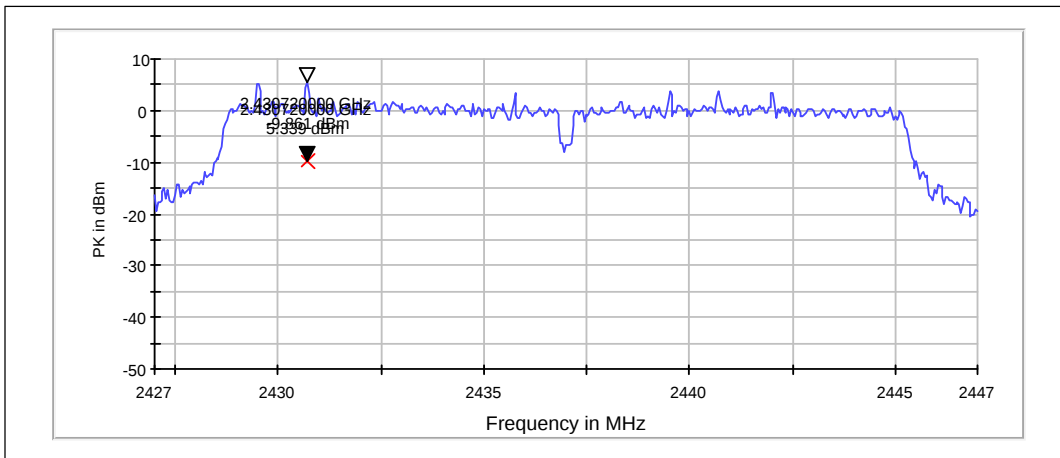
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f_c [MHz]	P [dBm]	Result
1 / 2412	-10.45	PASSED
6 / 2437	-9.86	PASSED
11 / 2462	-10.46	PASSED

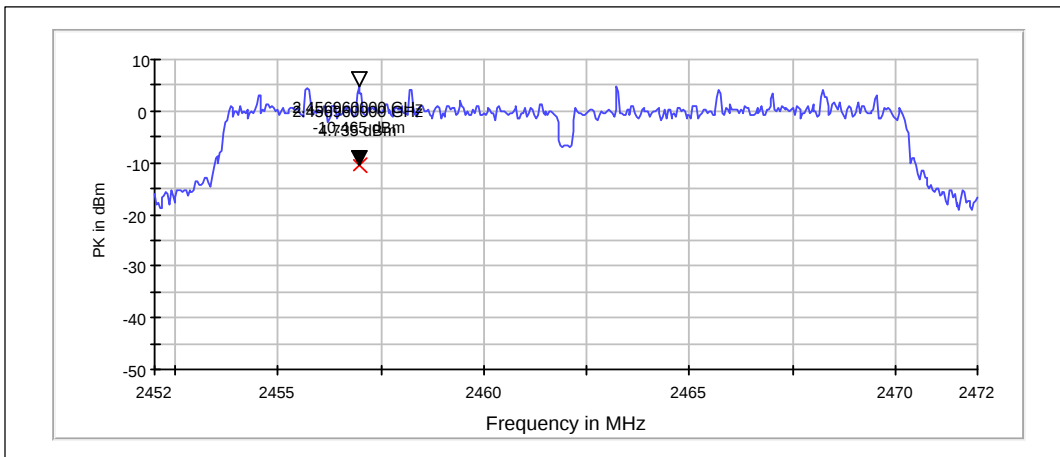
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



Channel 11 / 2462 MHz

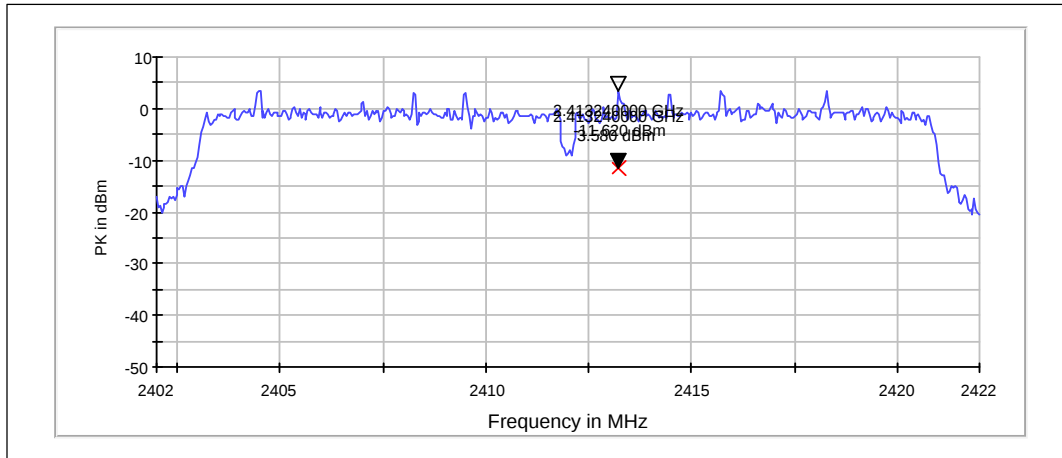


8.3.3 n-mode, 20 MHz CBW mode, BPSK modulation, 6.5 / 7.25 Mbps data rate

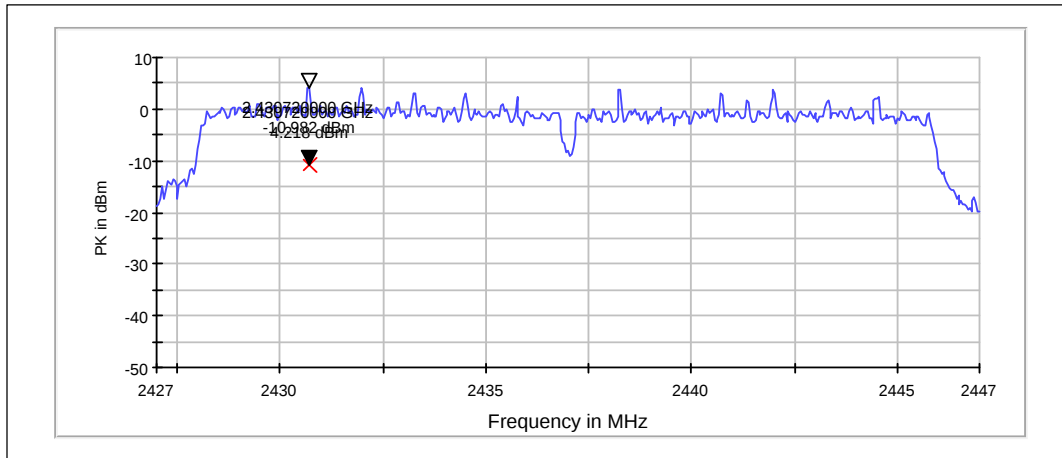
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f _c [MHz]	P [dBm]	Result
1 / 2412	-11.62	PASSED
6 / 2437	-10.98	PASSED
11 / 2462	-12.3	PASSED

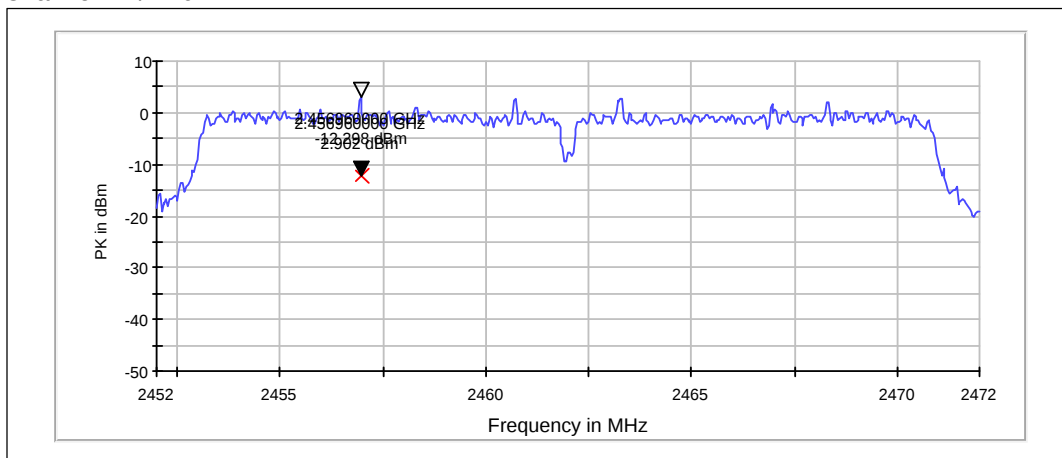
Channel 1 / 2412 MHz



Channel 6 / 2437 MHz



Channel 11 / 2462 MHz

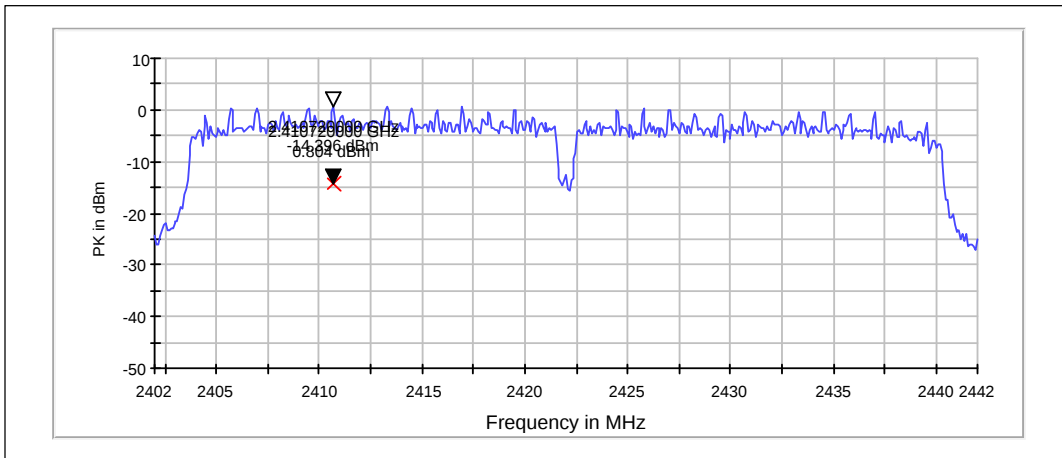


8.3.4 n-mode, 40 MHz CBW mode, 16-QAM modulation, 54.0 / 60.0 Mbps data rate

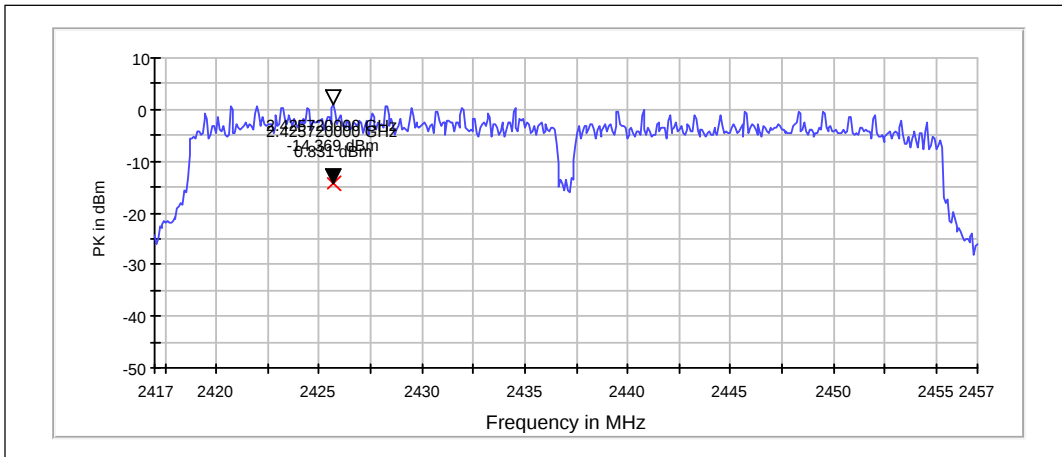
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f _c [MHz]	P [dBm]	Result
1-5 / 2422	-14.4	PASSED
4-8 / 2437	-14.37	PASSED
7-11 / 2452	-14.42	PASSED

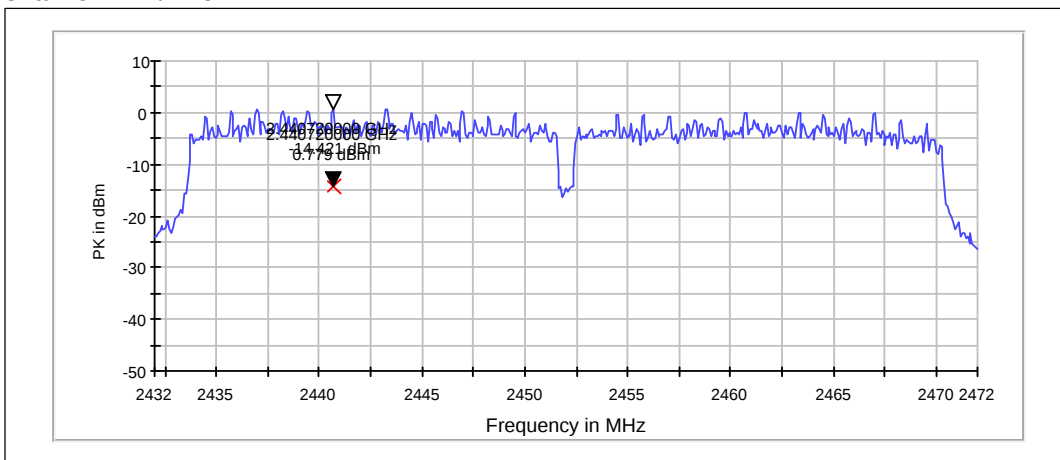
Channel 1-5 / 2422 MHz



Channel 4-8 / 2437 MHz



Channel 7-11 / 2452 MHz



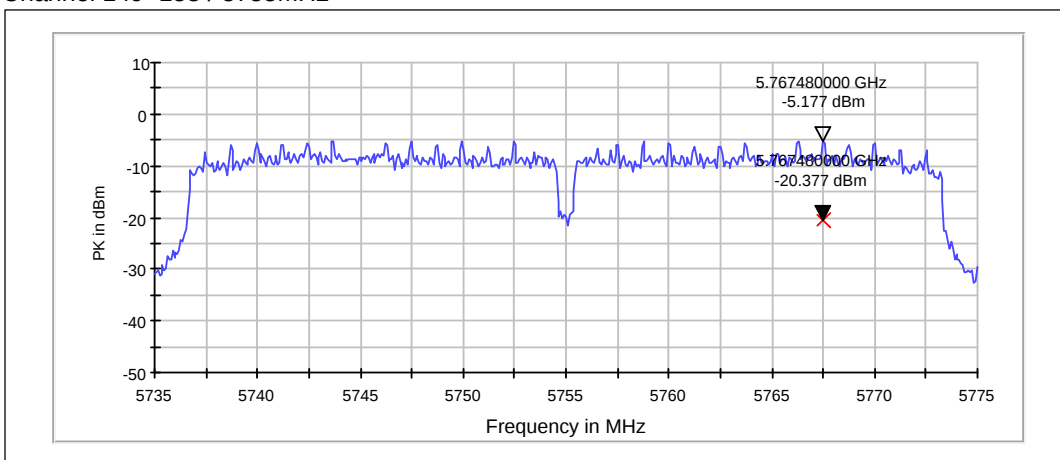
8.4. 5 GHz RLAN Test results

8.4.1 n-mode, 40 MHz CBW mode, 16-QAM modulation, 81.0 / 90.0 Mbps data rate

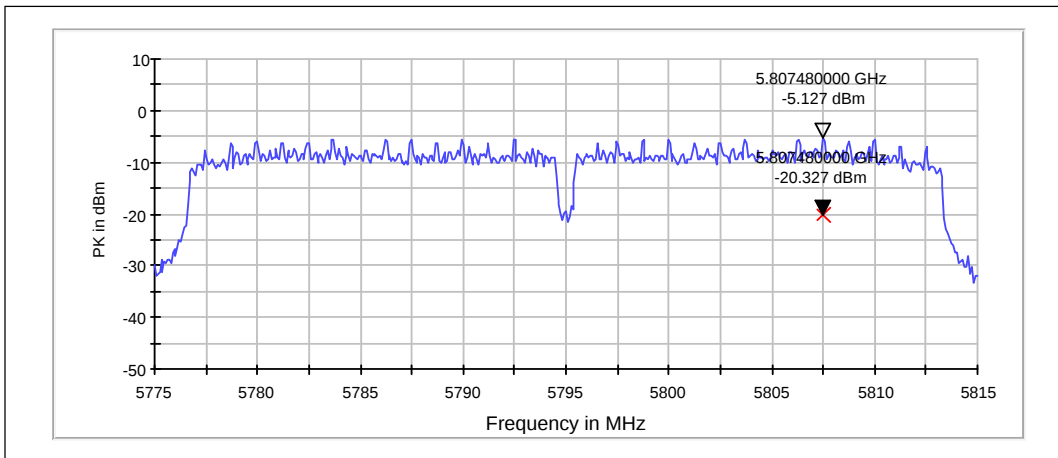
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f _c [MHz]	P [dBm]	Result
149+153 / 5755	-20.38	PASSED
157+161 / 5795	-20.33	PASSED

Channel 149+153 / 5755MHz



Channel 157+161 / 5795MHz

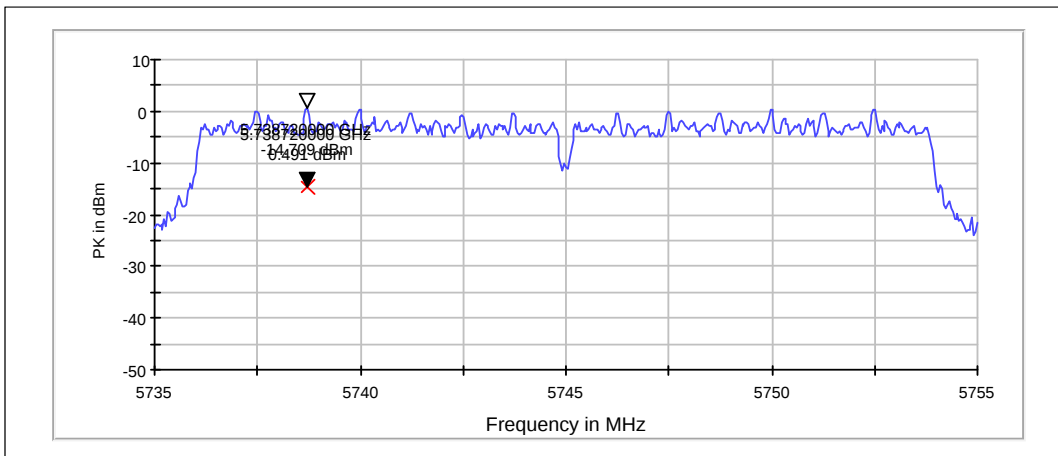


8.4.2 n-mode, 20 MHz CBW mode, 64-QAM modulation, 52.0 / 57.8 Mbps data rate

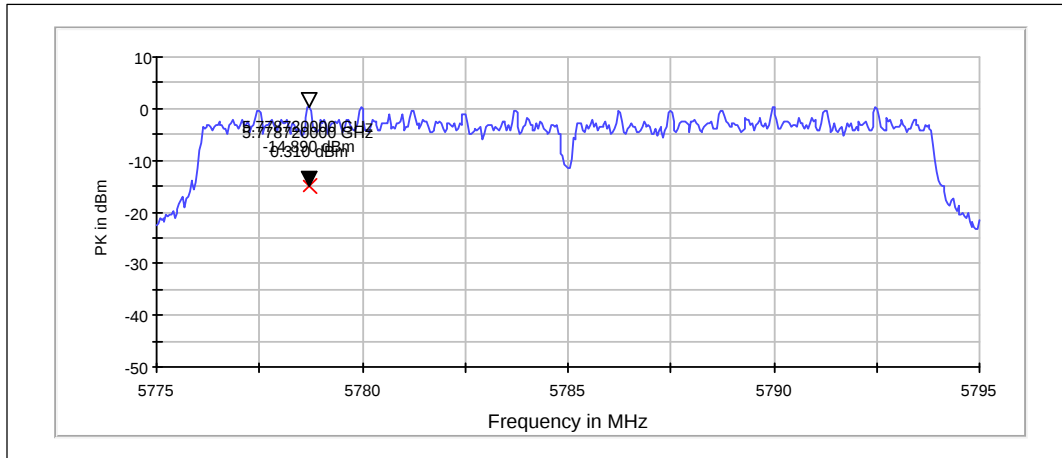
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f_c [MHz]	P [dBm]	Result
149 / 5745	-14.71	PASSED
157 / 5785	-14.89	PASSED
165 / 5825	-14.55	PASSED

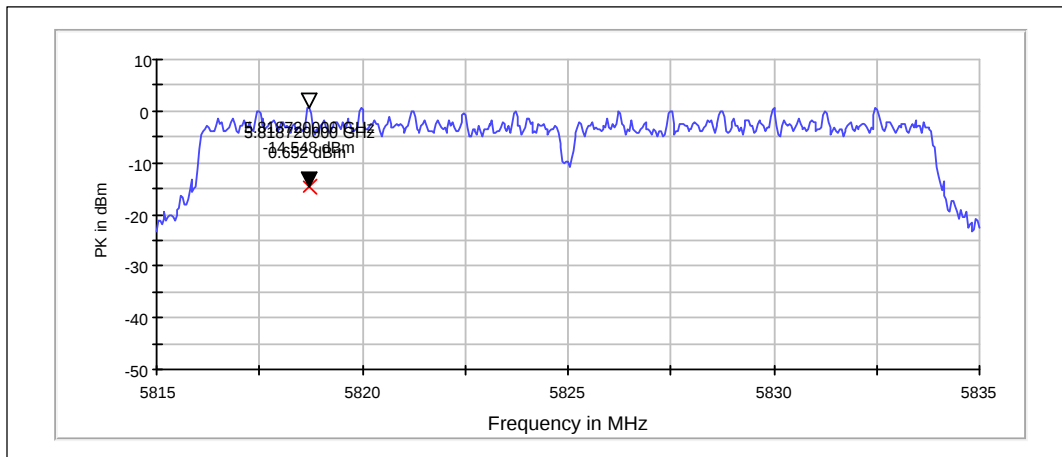
Channel 149 / 5745MHz



Channel 157 / 5785MHz



Channel 165 / 5825MHz

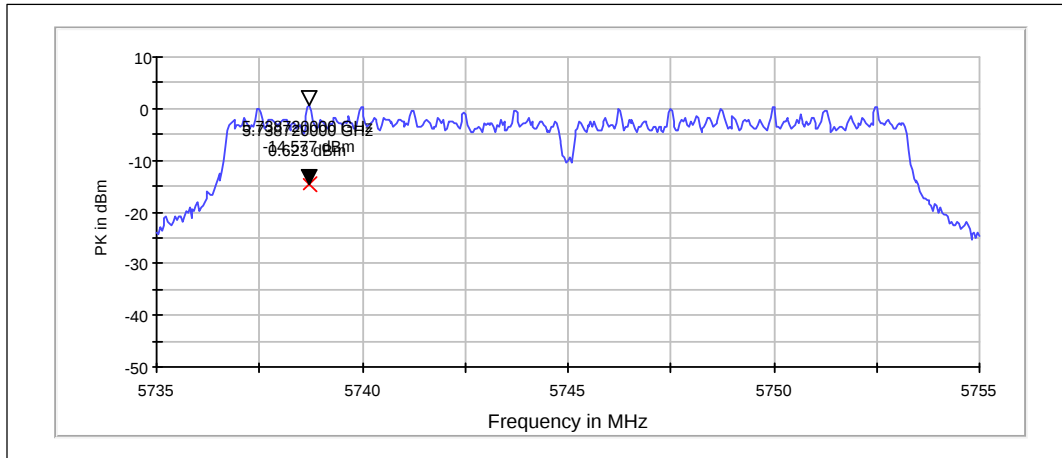


8.4.3 OFDM mode, 16-QAM modulation, 36 Mbps data rate

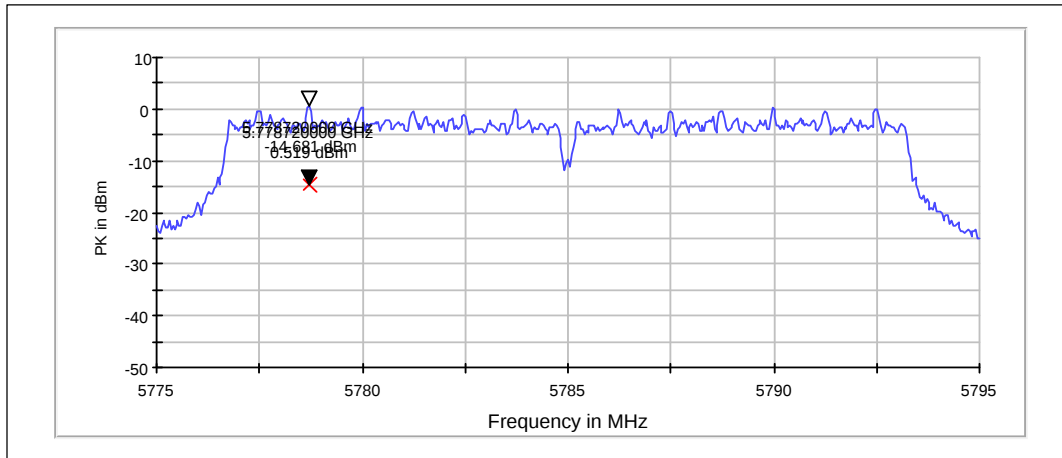
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f _c [MHz]	P [dBm]	Result
149 / 5745	-14.58	PASSED
157 / 5785	-14.68	PASSED
165 / 5825	-14.26	PASSED

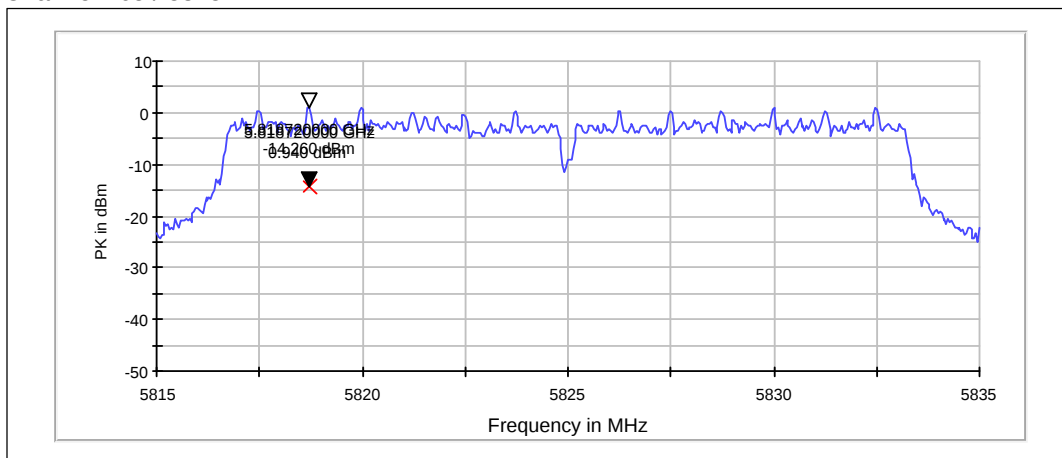
Channel 149 / 5745MHz



Channel 157 / 5785MHz



Channel 165 / 5825MHz



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	-

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	-