

FCC Part 15C Compliance Test Report

Test Report no.:	FCC15CWLAN_RM-860_07.docx	Date of Report:	25-Jan-2013
Number of pages:	66	Customer's Contact person:	Thomas Mary
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FCC listing no.:	533467		
IC recognition no.:	661V-1		
Tested devices/ accessories:	Phone RM-860 / Headset WH-902 / AC-Charger AC-50		
FCC ID:	QMNRM-860	IC:	661X-RM860
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. 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:			

Sami Lehtonen, System Specialist, EMC

1. Summary for FCC Part 15C Compliance Test Report

Date of receipt	10-Dec-2012
Testing completed	27-Dec-2012
The customer's contact person	Thomas Mary
Test Plan referred to	T:\Projects\RM-860\TestPlan\RS_testplan_RM-860_EMC_FCC_SAR_HAC.xlsm
Notes	-
Document name	T:\Projects\RM-860\EMC\FCC15CWLAN_RM-860_07.docx

1.1. EUT and Accessory Information

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

Devices under tests

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-860	354106050003398	0102	-	1532.5701.9200.10205.56	16892
Phone	RM-860	354106050009015	0103	-	1532.5701.9200.10205.56	17007
Phone	RM-860	354106050008520	0103	-	1532.5951.1249.0000	17028
Headset	WH-902	0694972	-	-	-	17008
AC-Charger	AC-50U	409049215427050147000675620	860	-	-	17009
Headset	WH-902	06949721245B2R	-	-	-	17006
AC-Charger	AC-50U	409049215427050145100675620	860	-	-	17005

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(0.4(4))	Conducted peak output power	PASSED
15.247(d), 15.205(b)	A8(0.5)	Band edge compliance of RF emissions	PASSED
15.247(d)	A8(0.5)	Spurious RF conducted emissions	PASSED
15.247(d), 15.209	A8(0.5)	Spurious radiated emissions	PASSED
15.207	7.2.2	AC powerline conducted emissions	PASSED
15.247(a)(2)	A8(0.1(1))	6dB(bandwidth)	PASSED
15.247(e)	A8(0.1(2))	Power spectral density	PASSED

PASSED
FAILED
NP

The EUT complies with the essential requirements in the standard.
The EUT does not comply with the essential requirements in the standard.
The test was not performed by the TCC Nokia Laboratory.

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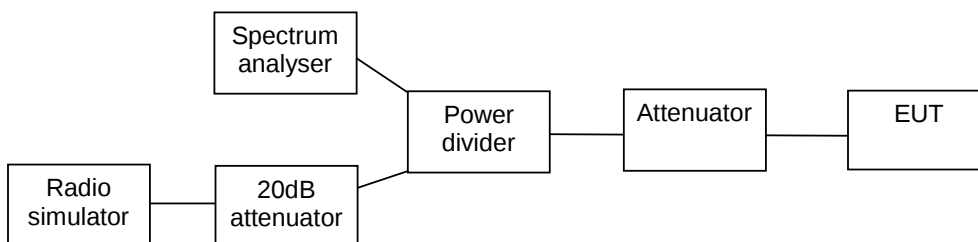
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2. Conducted peak output power (15.247(b)(1), RSS-210 A8.4 (4))

EUT with DUT number	RM-860, DUT 16892
Accessories with DUT numbers	WH-902, DUT 17006
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 44 / 100.9
Date of measurements	03-Dec-2012
Measured by	Sami Lehtonen

2.1. Test Setup



2.2. Test method and limit

FCC15CWLAN_RM-860_07.docx Limits for conducted peak output power measurements

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

2.3. Power results summary

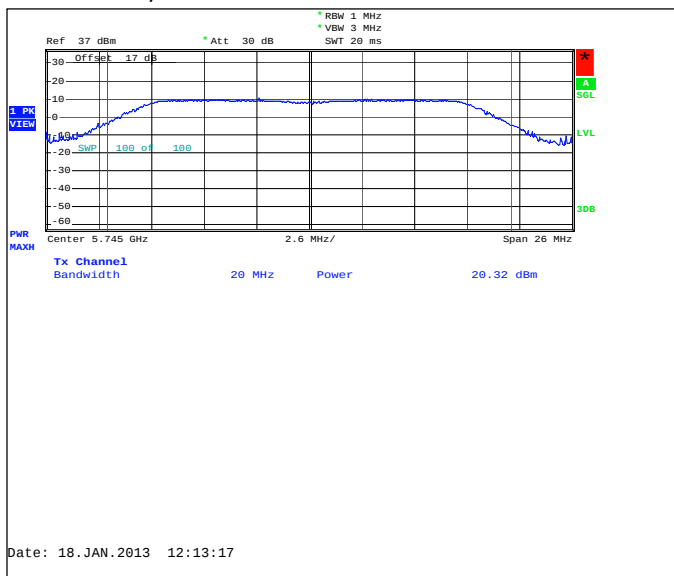
Channel / f_c [MHz]	Mode	Modulation	Data rate	Level [dBm]
149 / 5745	OFDM	BPSK	6 Mbps	20.32
149 / 5745	OFDM	BPSK	9 Mbps	20.24
149 / 5745	OFDM	QPSK	12 Mbps	20.3
149 / 5745	OFDM	QPSK	18 Mbps	20.24
149 / 5745	OFDM	16-QAM	24 Mbps	20.51
149 / 5745	OFDM	16-QAM	36 Mbps	20.69
149 / 5745	OFDM	64-QAM	48 Mbps	20.79
149 / 5745	OFDM	64-QAM	54 Mbps	20.79
149 / 5745	n-mode, 20 MHz CBW	BPSK	6.5 / 7.25 Mbps	20.66
149 / 5745	n-mode, 20 MHz CBW	QPSK	13.0 / 14.4 Mbps	20.41
149 / 5745	n-mode, 20 MHz CBW	QPSK	19.5 / 21.7 Mbps	20.31
149 / 5745	n-mode, 20 MHz CBW	16-QAM	26.0 / 28.9 Mbps	20.68
149 / 5745	n-mode, 20 MHz CBW	16-QAM	39.0 / 43.3 Mbps	20.58
149 / 5745	n-mode, 20 MHz CBW	64-QAM	52.0 / 57.8 Mbps	20.56
149 / 5745	n-mode, 20 MHz CBW	64-QAM	58.5 / 65.0 Mbps	20.52
149 / 5745	n-mode, 20 MHz CBW	64-QAM	65.0 / 72.2 Mbps	20.51
149+153 / 5755	n-mode, 40 MHz CBW	BPSK	13.5 / 15.0 Mbps	17.92
149+153 / 5755	n-mode, 40 MHz CBW	QPSK	27.0 / 30.0 Mbps	17.2
149+153 / 5755	n-mode, 40 MHz CBW	QPSK	40.5 / 45.0 Mbps	17.3
149+153 / 5755	n-mode, 40 MHz CBW	16-QAM	54.0 / 60.0 Mbps	17.62
149+153 / 5755	n-mode, 40 MHz CBW	16-QAM	81.0 / 90.0 Mbps	17.61
149+153 / 5755	n-mode, 40 MHz CBW	64-QAM	108.0 / 120.0 Mbps	17.56
149+153 / 5755	n-mode, 40 MHz CBW	64-QAM	121.5 / 135.0 Mbps	17.77
149+153 / 5755	n-mode, 40 MHz CBW	64-QAM	135.0 / 150.0 Mbps	17.66
157 / 5785	OFDM	BPSK	6 Mbps	19.97
165 / 5825	OFDM	BPSK	6 Mbps	19.9
149 / 5745	OFDM	64-QAM	48 Mbps	-18.41
149 / 5745	OFDM	64-QAM	48 Mbps	20.51
157 / 5785	OFDM	64-QAM	48 Mbps	20.28
165 / 5825	OFDM	64-QAM	48 Mbps	20.17
149+153 / 5755	n-mode, 40 MHz CBW	BPSK	13.5 / 15.0 Mbps	17.69
157+161 / 5795	n-mode, 40 MHz CBW	BPSK	13.5 / 15.0 Mbps	17.56

2.4. 5 GHz RLAN Test results

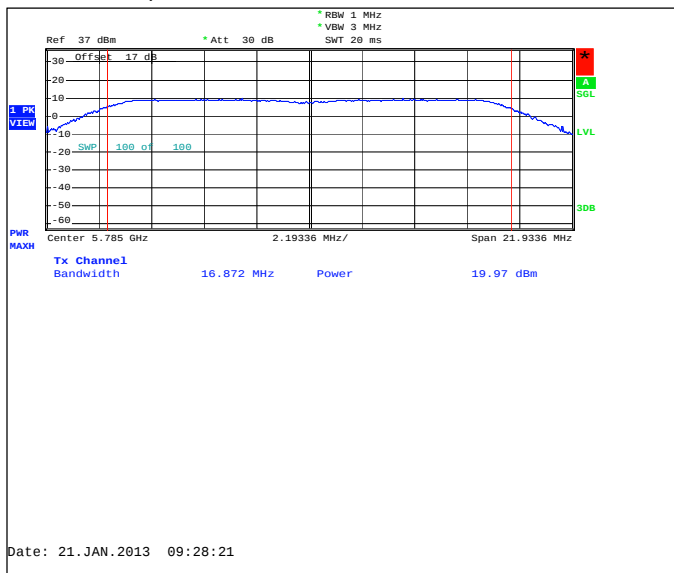
2.4.1 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.32	107.647	PASSED
157 / 5785	19.97	99.312	PASSED
165 / 5825	19.9	97.724	PASSED

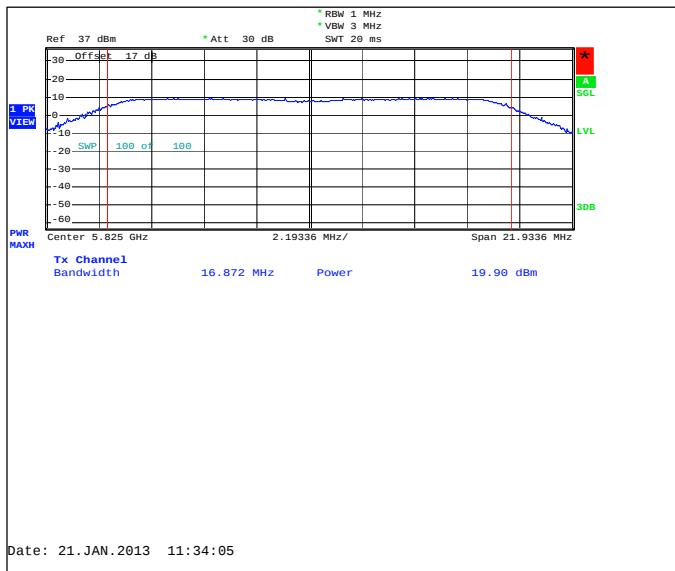
Channel 149 / 5745MHz



Channel 157 / 5785MHz



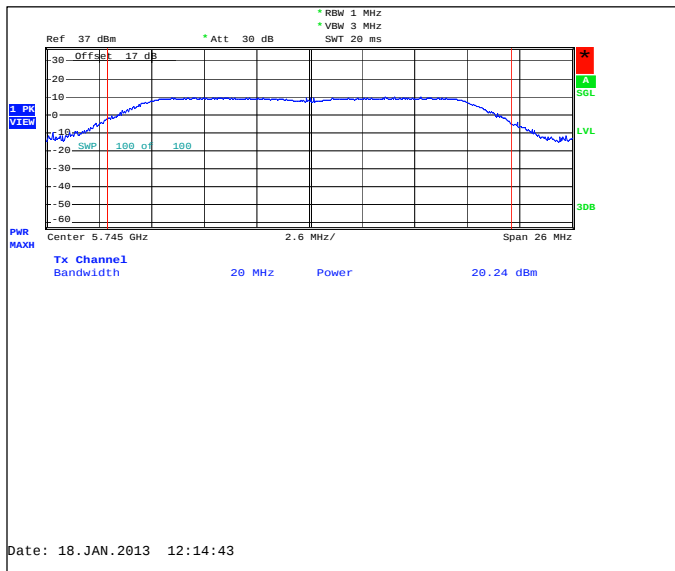
Channel 165 / 5825MHz



2.4.2 OFDM mode, BPSK modulation, 9 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.24	105.682	PASSED

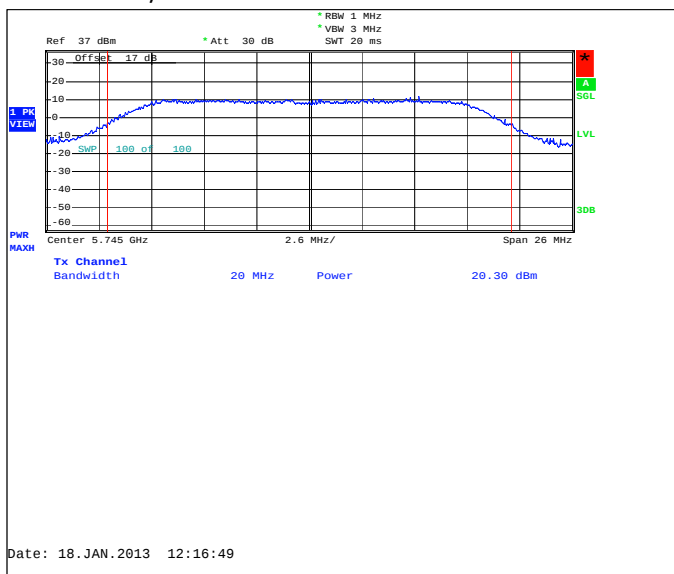
Channel 149 / 5745MHz



2.4.3 OFDM mode, QPSK modulation, 12 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.3	107.152	PASSED

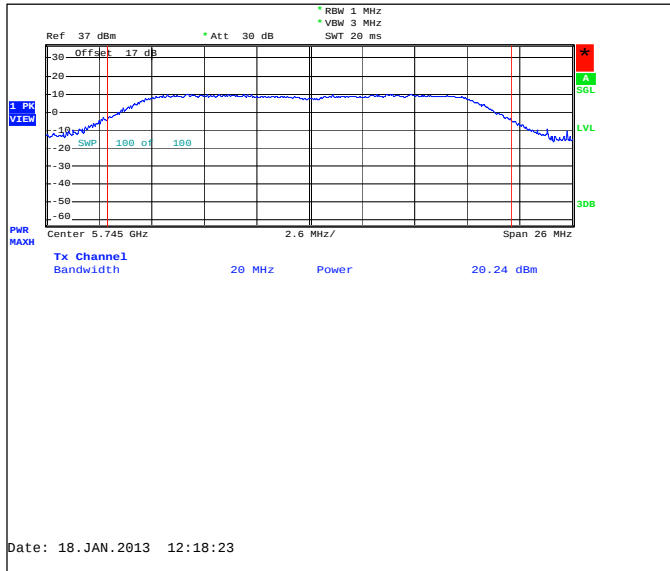
Channel 149 / 5745MHz



2.4.4 OFDM mode, QPSK modulation, 18 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.24	105.682	PASSED

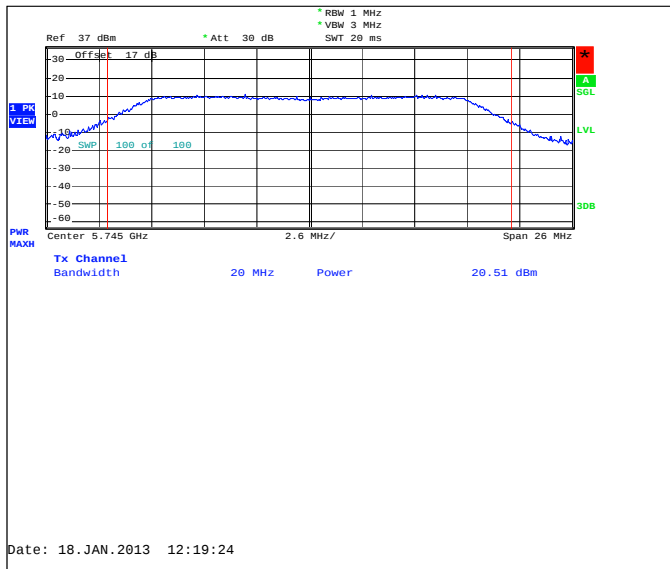
Channel 149 / 5745MHz



2.4.5 OFDM mode, 16-QAM modulation, 24 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.51	112.46	PASSED

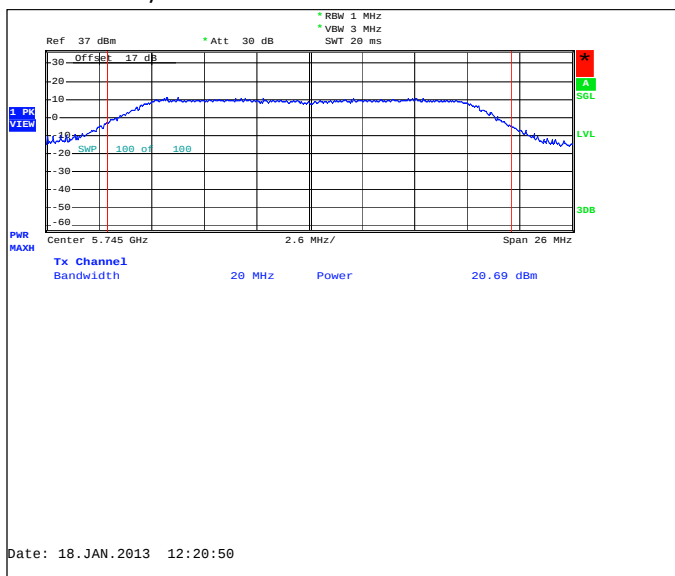
Channel 149 / 5745MHz



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

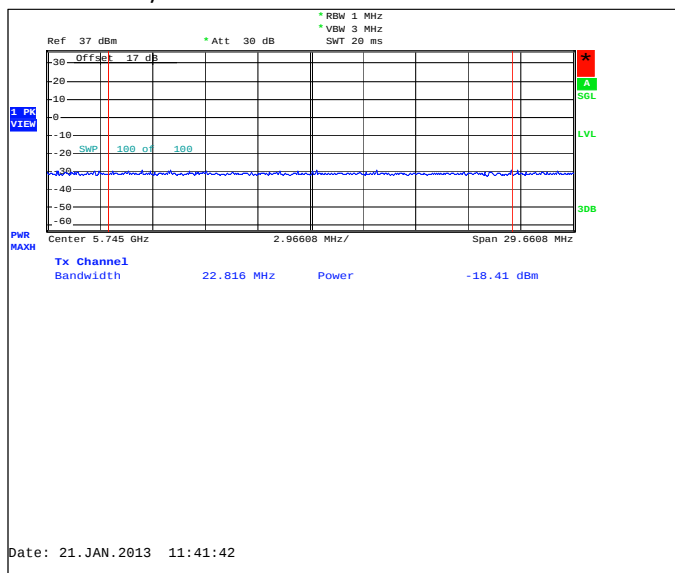
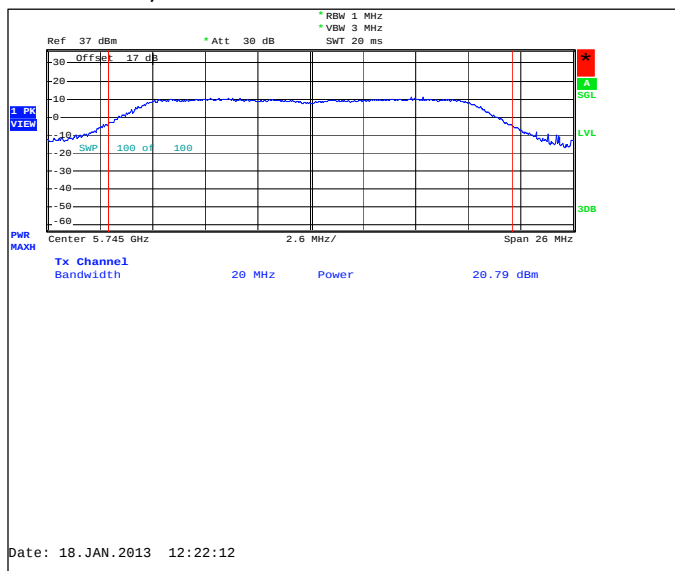
Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.69	117.22	PASSED

Channel 149 / 5745MHz



2.4.7 OFDM mode, 64-QAM modulation, 48 Mbps data rate

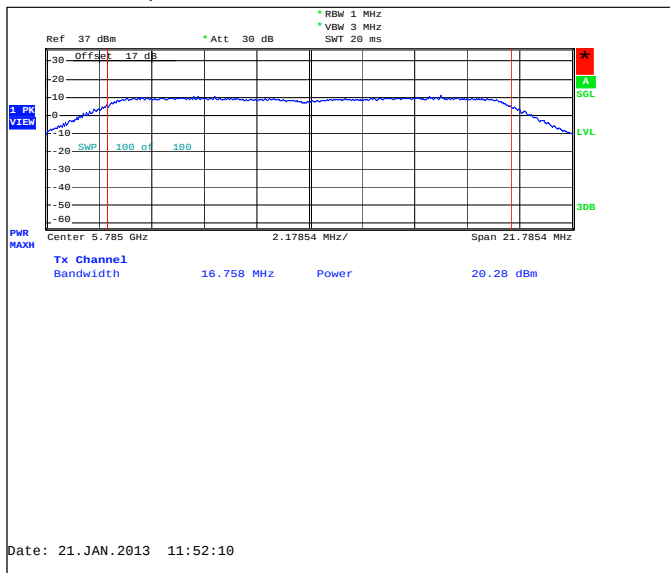
Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.79	119.95	PASSED
149 / 5745	20.51	112.46	PASSED
157 / 5785	20.28	106.66	PASSED
165 / 5825	20.17	103.992	PASSED



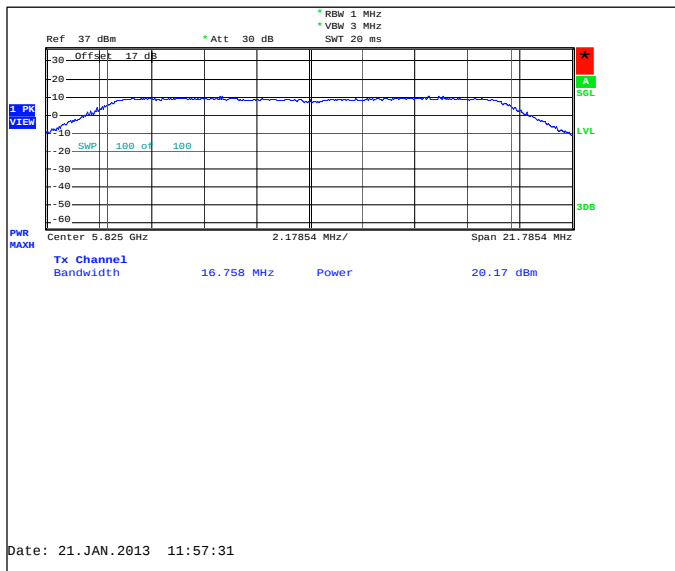
Channel 149 / 5745MHz



Channel 157 / 5785MHz



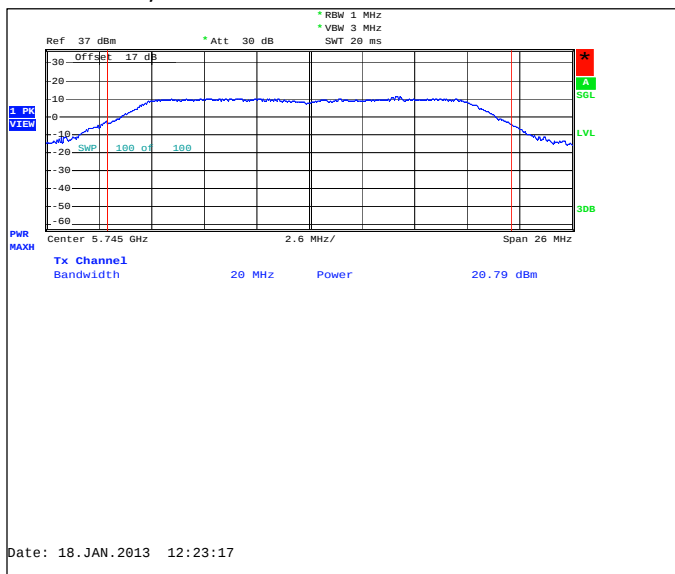
Channel 165 / 5825MHz



2.4.8 OFDM mode, 64-QAM modulation, 54 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.79	119.95	PASSED

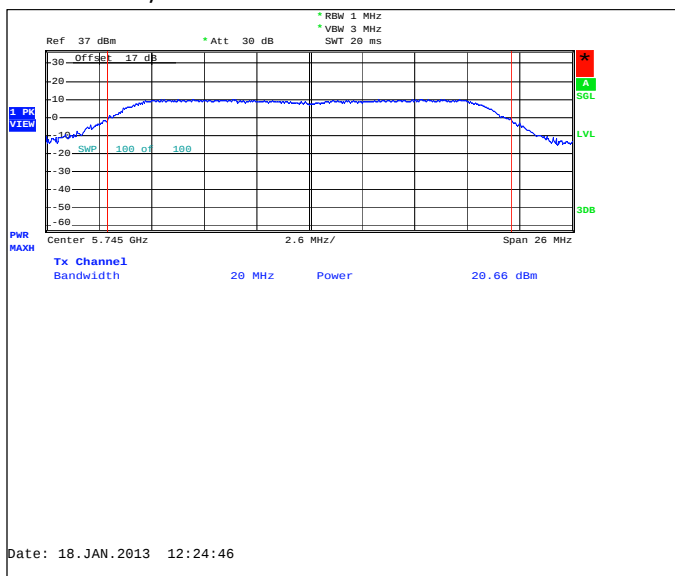
Channel 149 / 5745MHz



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

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.66	116.413	PASSED

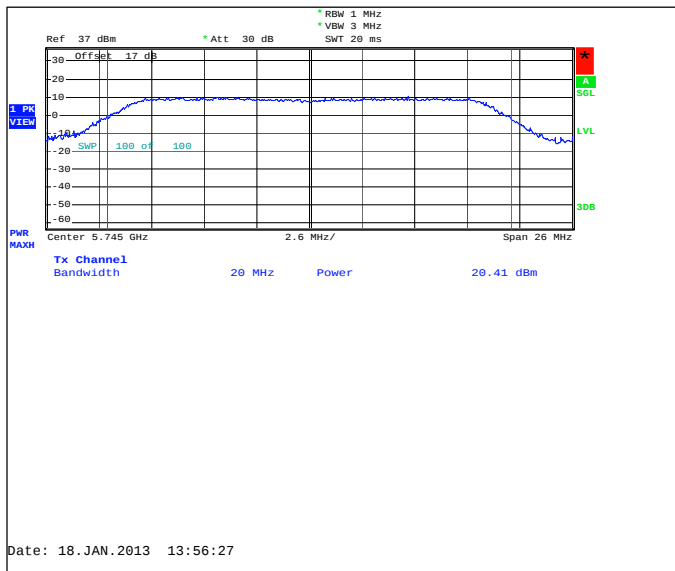
Channel 149 / 5745MHz



2.4.10 n-mode, 20 MHz CBW mode, QPSK modulation, 13.0 / 14.4 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.41	109.901	PASSED

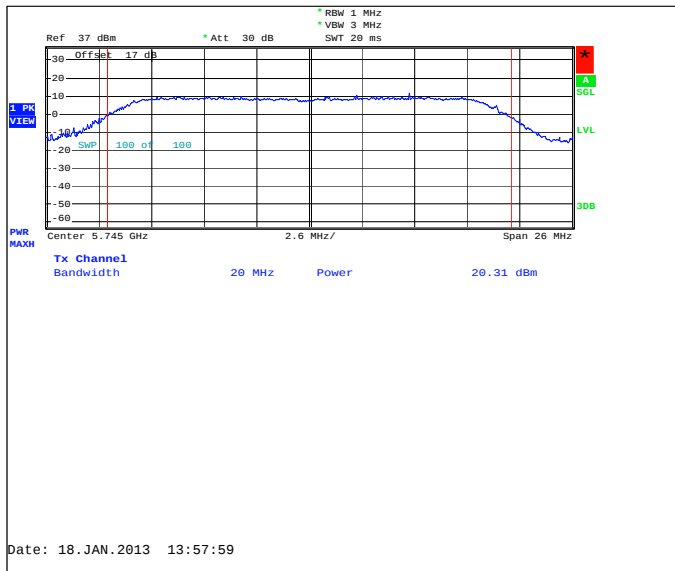
Channel 149 / 5745MHz



2.4.11 n-mode, 20 MHz CBW mode, QPSK modulation, 19.5 / 21.7 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.31	107.399	PASSED

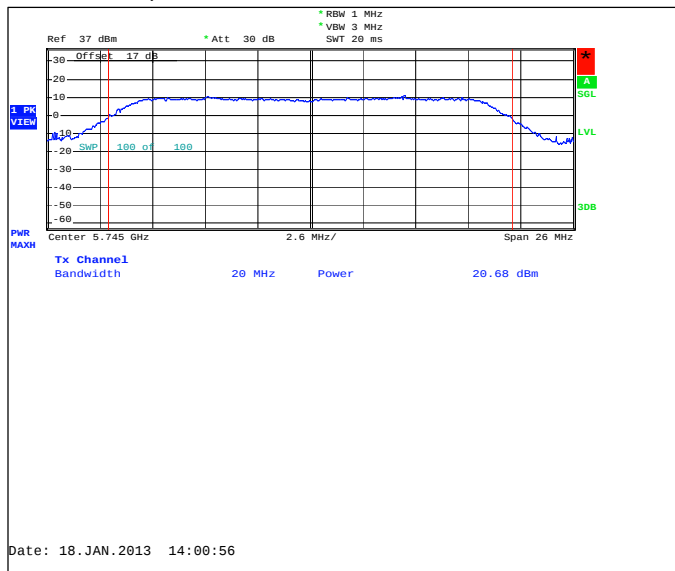
Channel 149 / 5745MHz



2.4.12 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
149 / 5745	20.68	116.95	PASSED

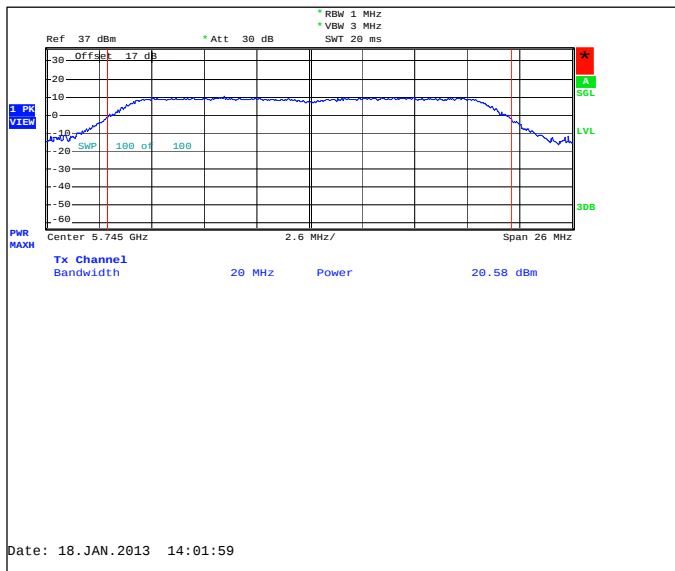
Channel 149 / 5745MHz



2.4.13 n-mode, 20 MHz CBW mode, 16-QAM modulation, 39.0 / 43.3 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.58	114.288	PASSED

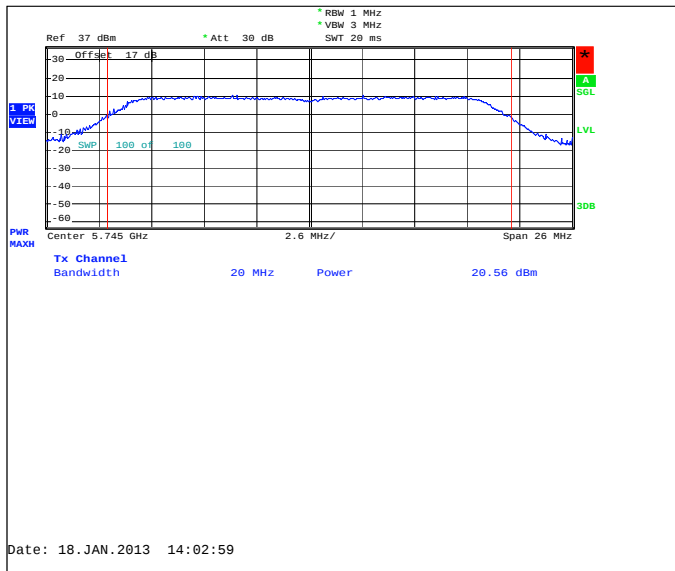
Channel 149 / 5745MHz



2.4.14 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
149 / 5745	20.56	113.763	PASSED

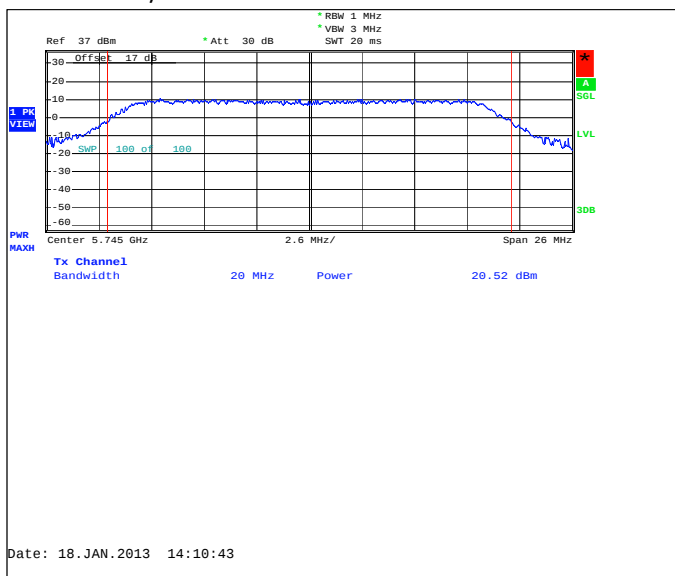
Channel 149 / 5745MHz



2.4.15 n-mode, 20 MHz CBW mode, 64-QAM modulation, 58.5 / 65.0 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.52	112.72	PASSED

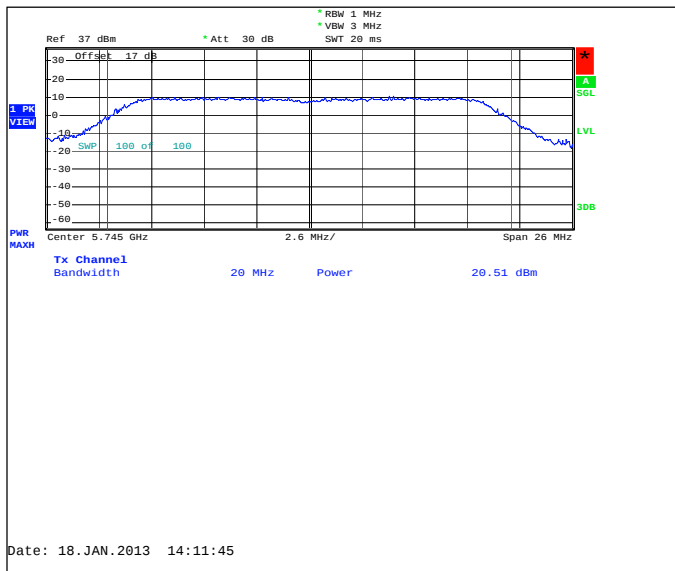
Channel 149 / 5745MHz



2.4.16 n-mode, 20 MHz CBW mode, 64-QAM modulation, 65.0 / 72.2 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149 / 5745	20.51	112.46	PASSED

Channel 149 / 5745MHz



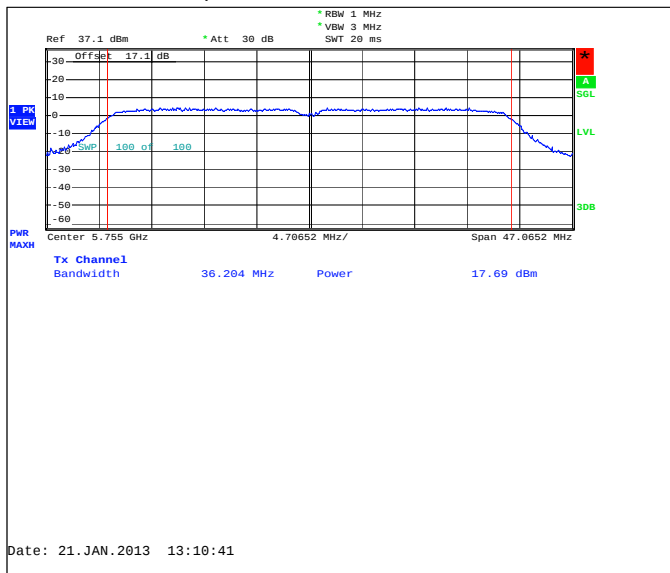
2.4.17 n-mode, 40 MHz CBW mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	17.92	61.944	PASSED
149+153 / 5755	17.69	58.749	PASSED
157+161 / 5795	17.56	57.016	PASSED

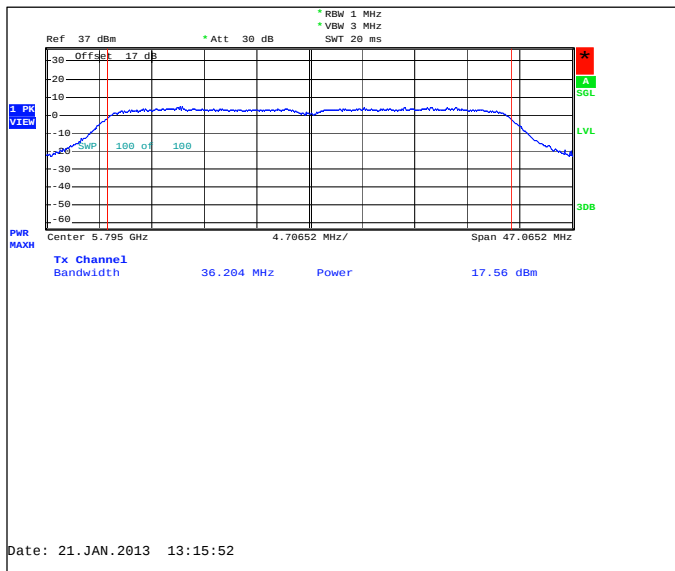
Channel 149+153 / 5755MHz



Channel 149+153 / 5755MHz



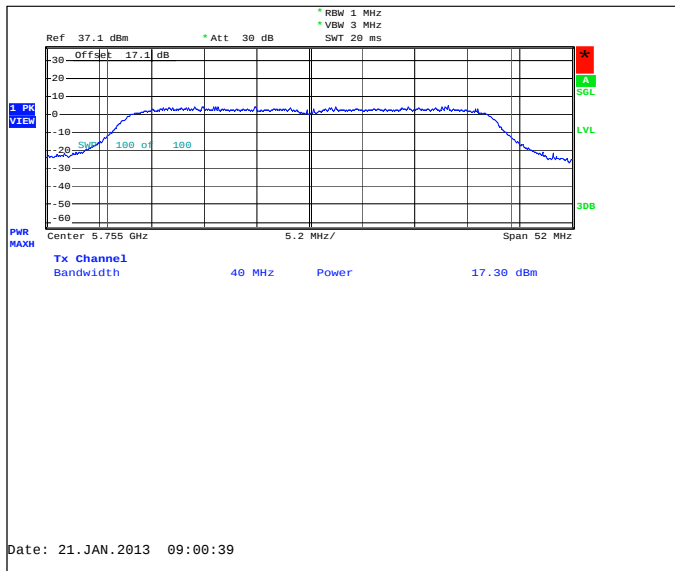
Channel 157+161 / 5795MHz



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

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	17.3	53.703	PASSED

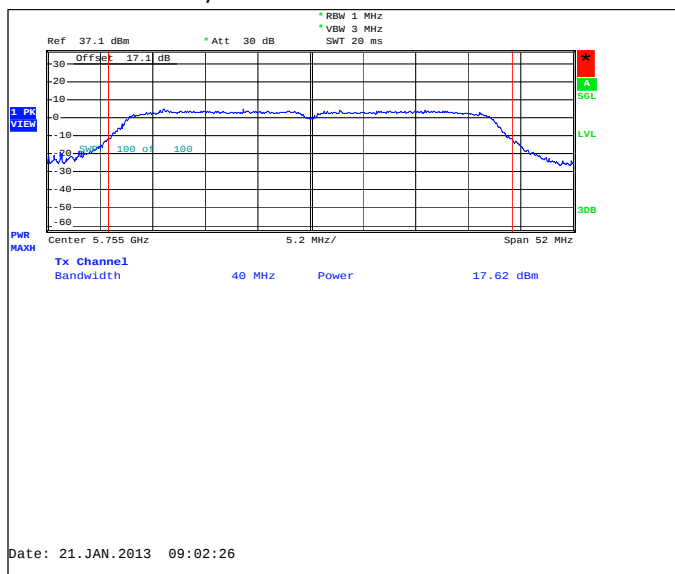
Channel 149+153 / 5755MHz



2.4.19 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
149+153 / 5755	17.62	57.81	PASSED

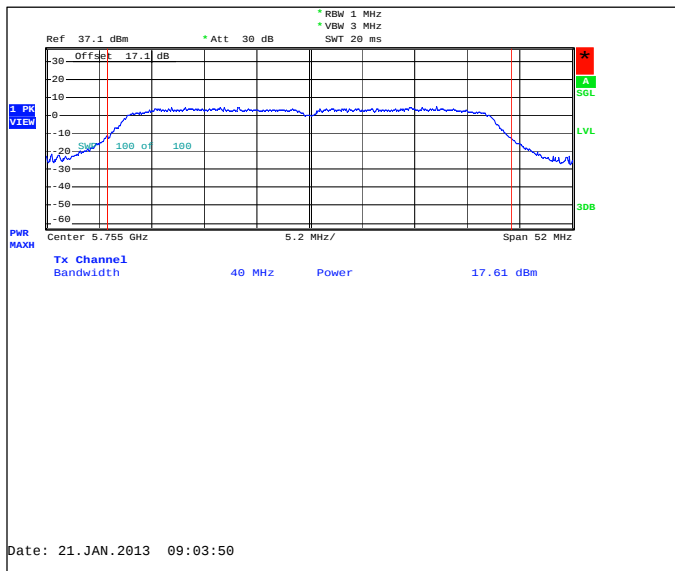
Channel 149+153 / 5755MHz



2.4.20 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	17.61	57.677	PASSED

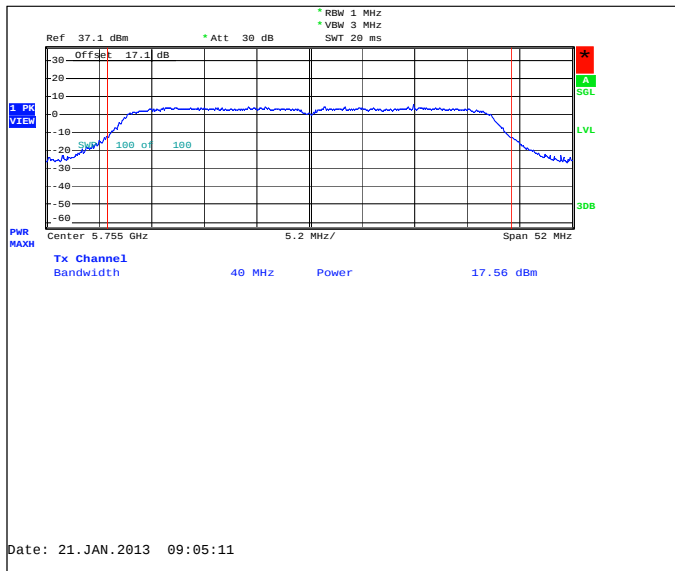
Channel 149+153 / 5755MHz



2.4.21 n-mode, 40 MHz CBW mode, 64-QAM modulation, 108.0 / 120.0 Mbps data rate

Channel / f _c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	17.56	57.016	PASSED

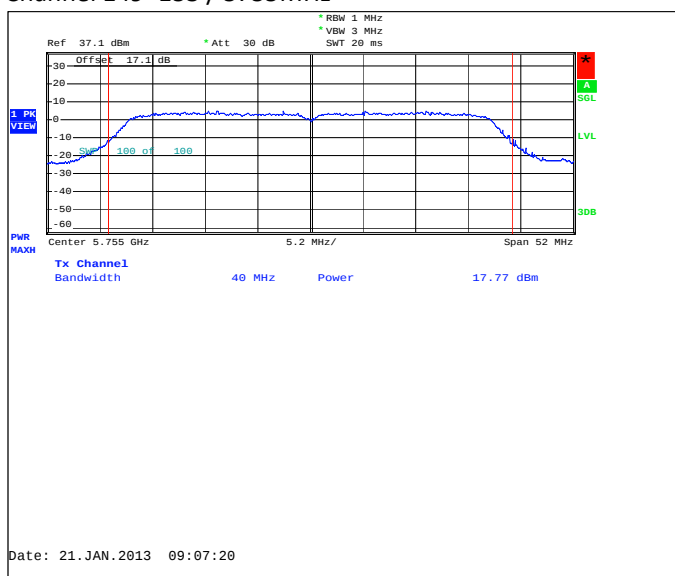
Channel 149+153 / 5755MHz



2.4.22 n-mode, 40 MHz CBW mode, 64-QAM modulation, 121.5 / 135.0 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	17.77	59.841	PASSED

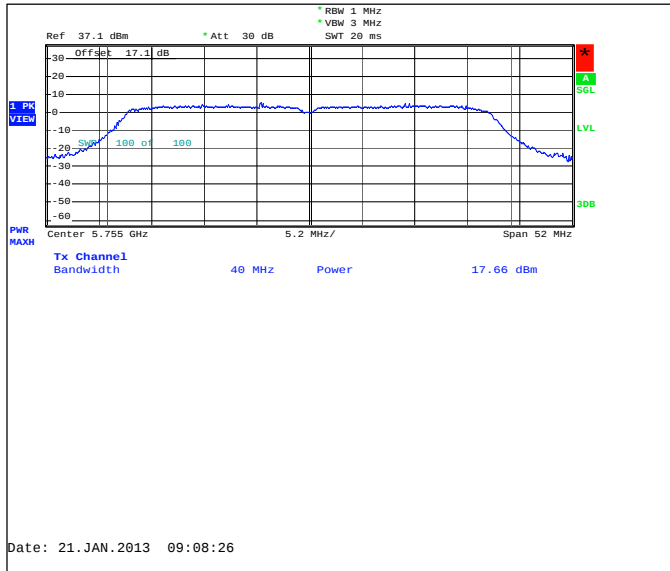
Channel 149+153 / 5755MHz



2.4.23 n-mode, 40 MHz CBW mode, 64-QAM modulation, 135.0 / 150.0 Mbps data rate

Channel / f_c [MHz]	P [dBm]	P [mW]	Result
149+153 / 5755	17.66	58.345	PASSED

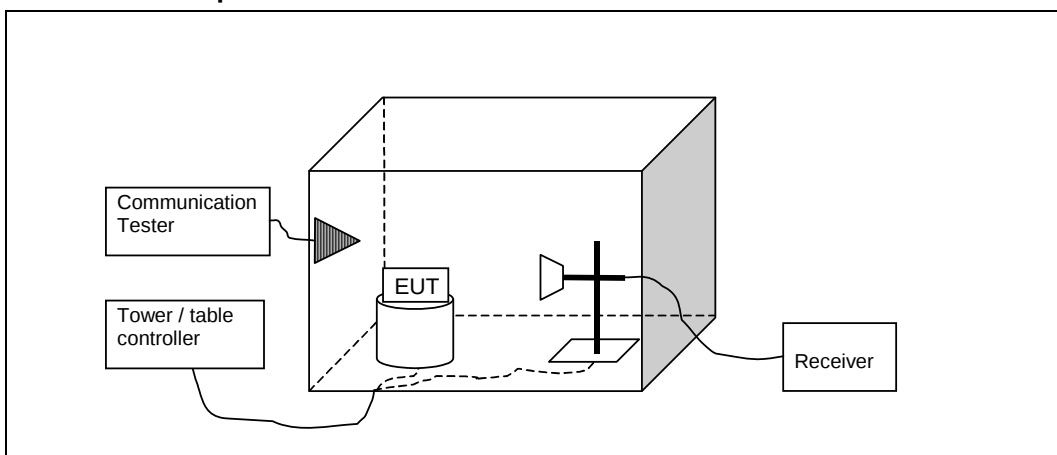
Channel 149+153 / 5755MHz



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

EUT with DUT number	RM-860, DUT 17007
Accessories with DUT numbers	WH-902, DUT 17006 ; AC-50U, DUT 17005
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 41 / 101.4
Date of measurements	18-Dec-2012
Measured by	Kalle Hannila

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

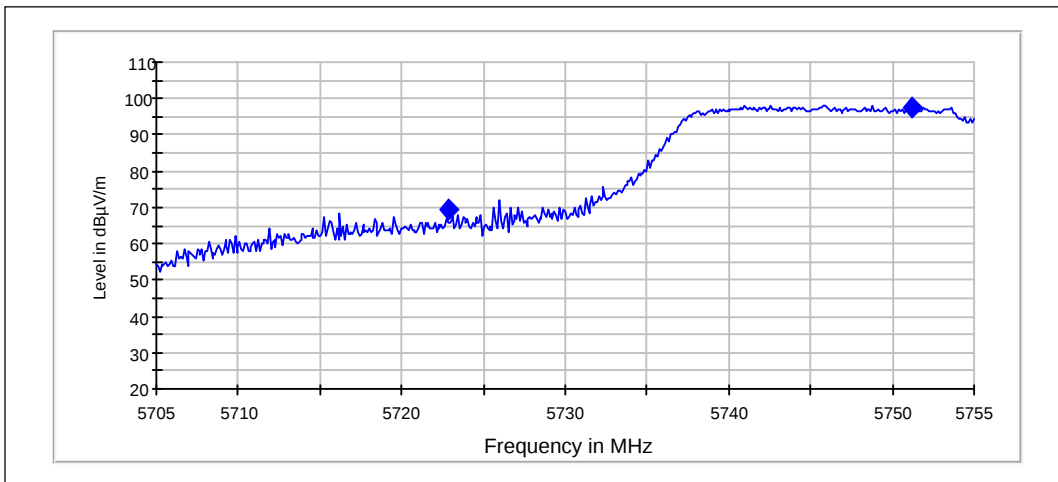
Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

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, BPSK modulation, 13.5 / 15.0 Mbps data rate.

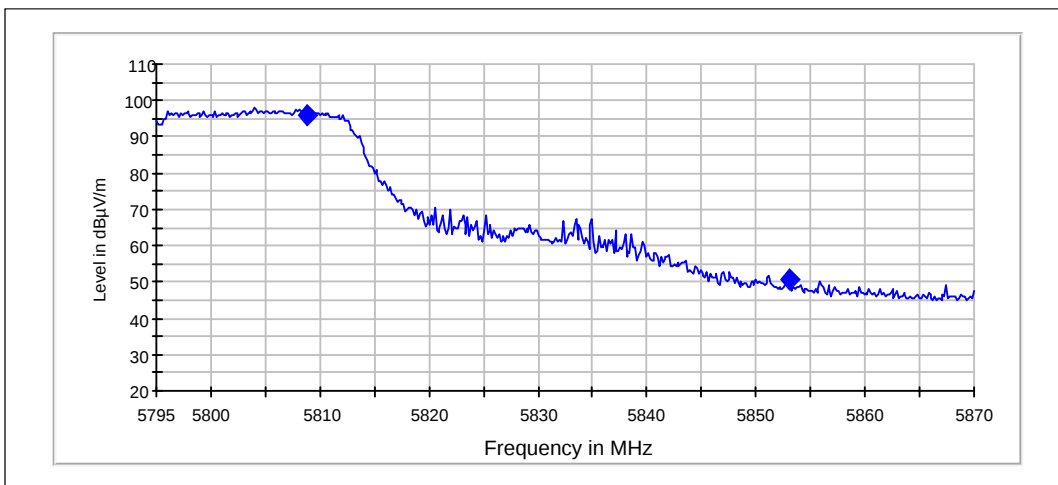
Channel 149+153 / 5755MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5722.836	69.61	3023.431	65.91	3.7	PASSED
5751.152	97.26	72962.549	93.38	3.88	PASSED

Channel 157+161 / 5795MHz

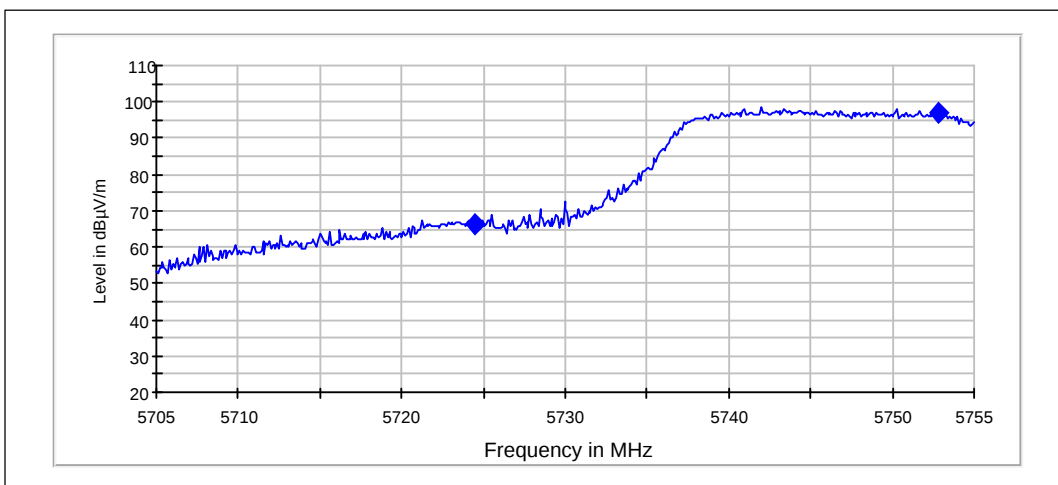


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5808.747	96.21	64647.242	92.16	4.05	PASSED
5853.086	50.69	342.216	46.51	4.18	PASSED

3.3.2 n-mode, 40 MHz CBW, QPSK modulation, 27.0 / 30.0 Mbps data rate.

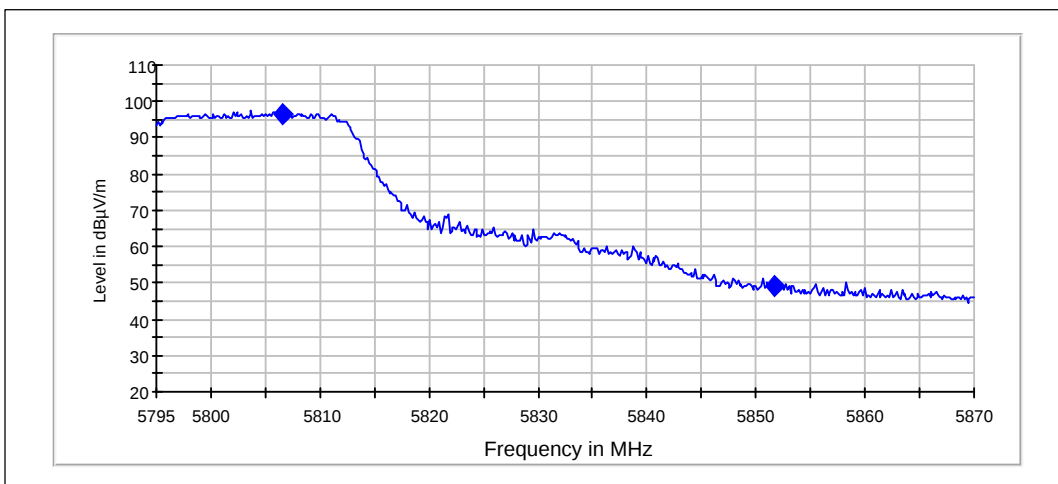
Channel 149+153 / 5755MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.519	66.46	2102.568	62.8	3.66	PASSED
5752.796	97.17	72227.07	93.31	3.87	PASSED

Channel 157+161 / 5795MHz

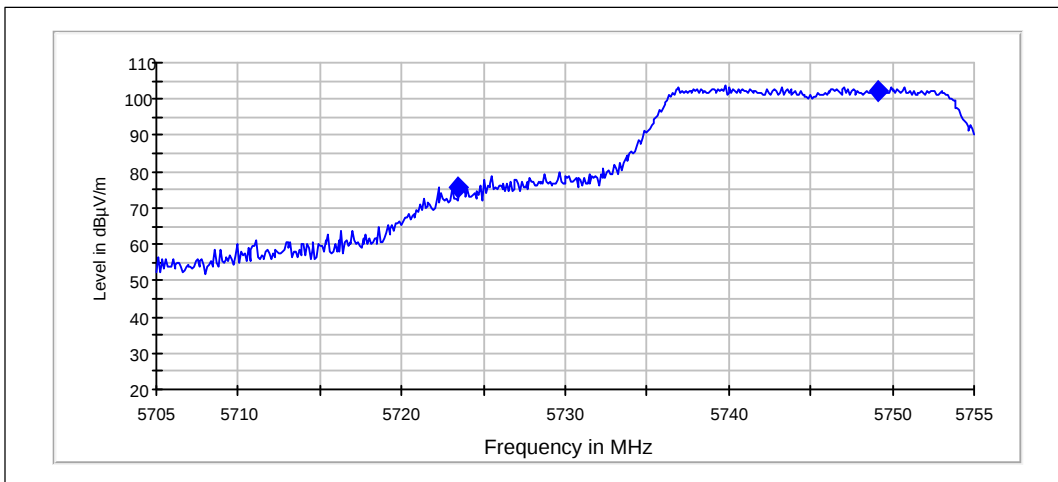


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5806.663	96.34	65644.75	92.29	4.05	PASSED
5851.764	49.21	288.769	45	4.21	PASSED

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

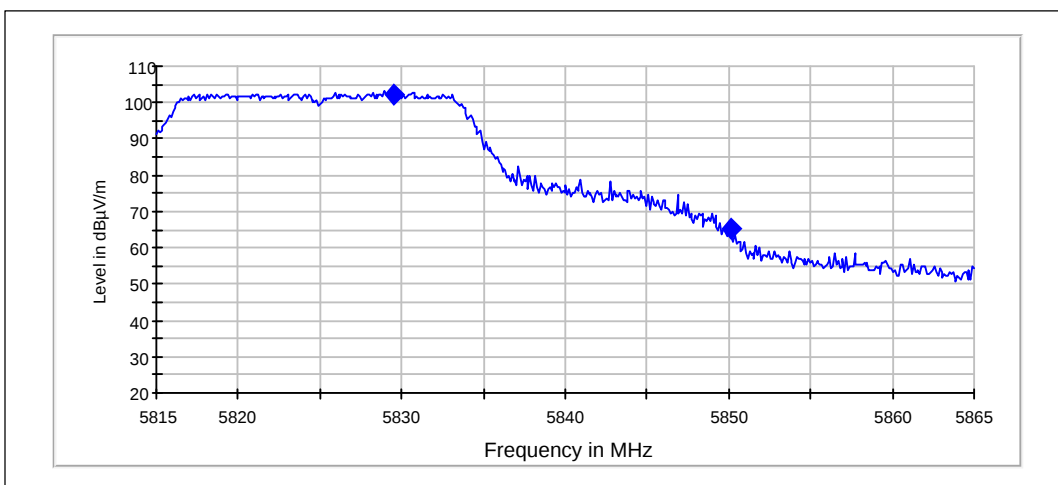
Channel 149 / 5745MHz



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

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U _{RX} [dBµV]	A _{TOT} [dB]	Results
5723.397	75.51	5962.797	71.82	3.69	PASSED
5749.148	102.45	132540.926	98.56	3.89	PASSED

Channel 165 / 5825MHz

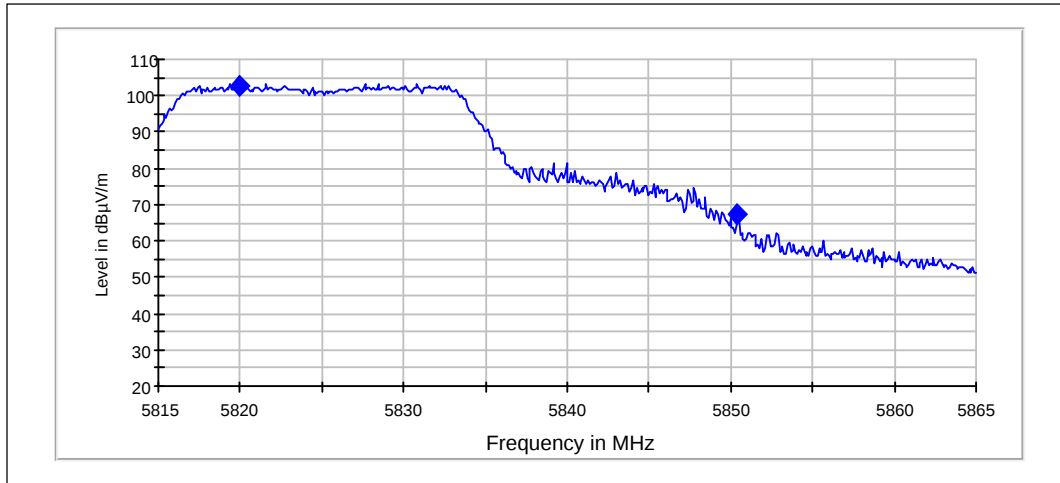


Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBµV/m]	E [µV/m]	U _{RX} [dBµV]	A _{TOT} [dB]	Results
5829.469	102.1	127320.988	97.99	4.11	PASSED
5850.18	65.24	1827.679	61	4.24	PASSED

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

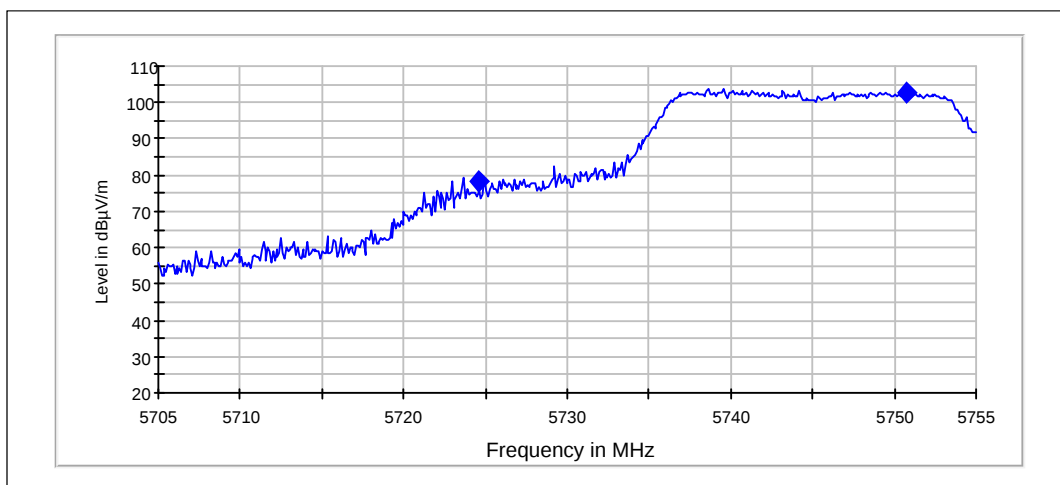
Channel 165 / 5825MHz



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

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5819.97	102.46	132708.885	98.4	4.06	PASSED
5850.331	67.53	2380.4	63.29	4.24	PASSED

Channel 149 / 5745MHz



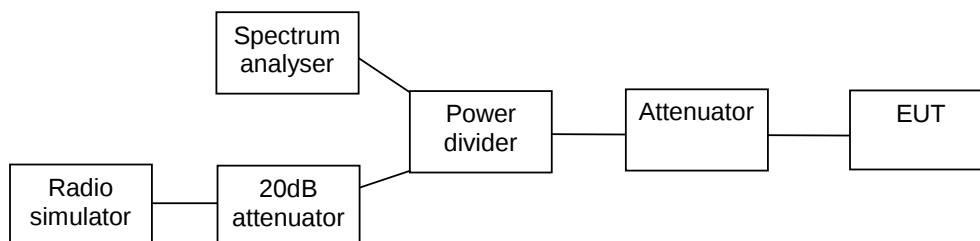
Peak (RBW: 1 MHz, VBW: 3 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Results
5724.599	78.18	8105.877	74.52	3.66	PASSED
5750.752	102.55	134091.114	98.66	3.89	PASSED

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

EUT with DUT number	RM-860, DUT 16892
Accessories with DUT numbers	WH-902, DUT 17006
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 44 / 100.9
Date of measurements	03-Dec-2012
Measured by	Sami Lehtonen

4.1. Test Setup



4.2. Test method and limit

FCC15CWLAN_RM-860_07.docx Limits for spurious RF conducted emissions measurements

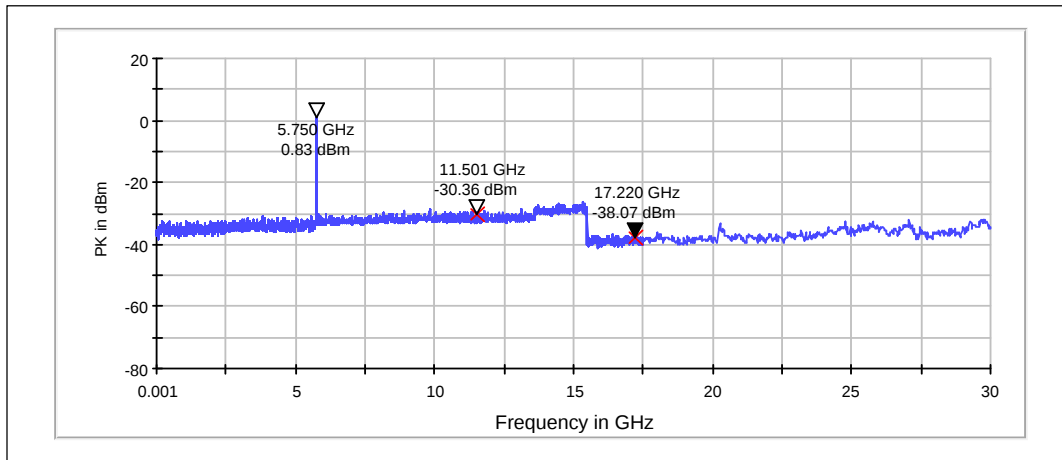
Frequency range [MHz]	Limit [dBc]
1 – 30000	<= -20

4.3. 5 GHz RLAN Test results

4.4. 5 GHz RLAN Test results

4.4.1 OFDM mode, 64-QAM modulation, 48 Mbps data rate

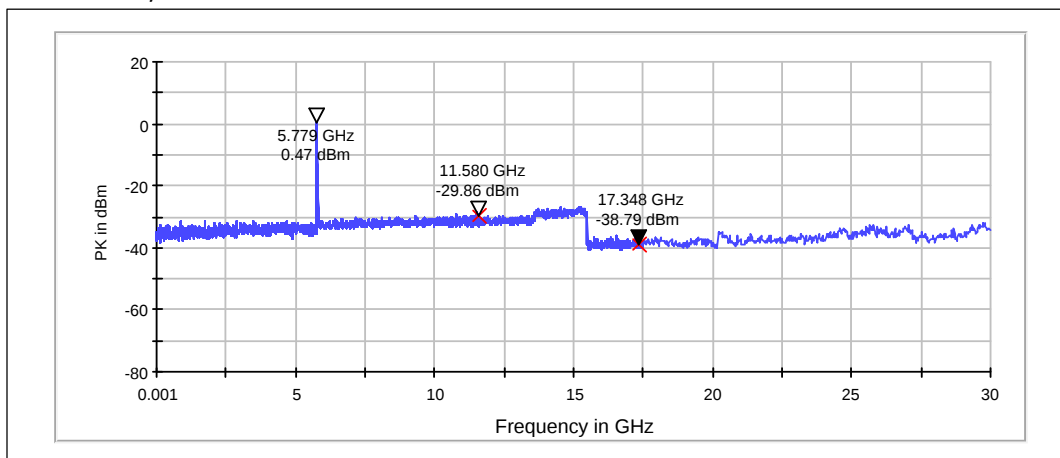
Channel 149 / 5745MHz



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

Frequency [MHz]	P [dBc]	Result
11501.200	-30.36	PASSED
17220.000	-38.07	PASSED

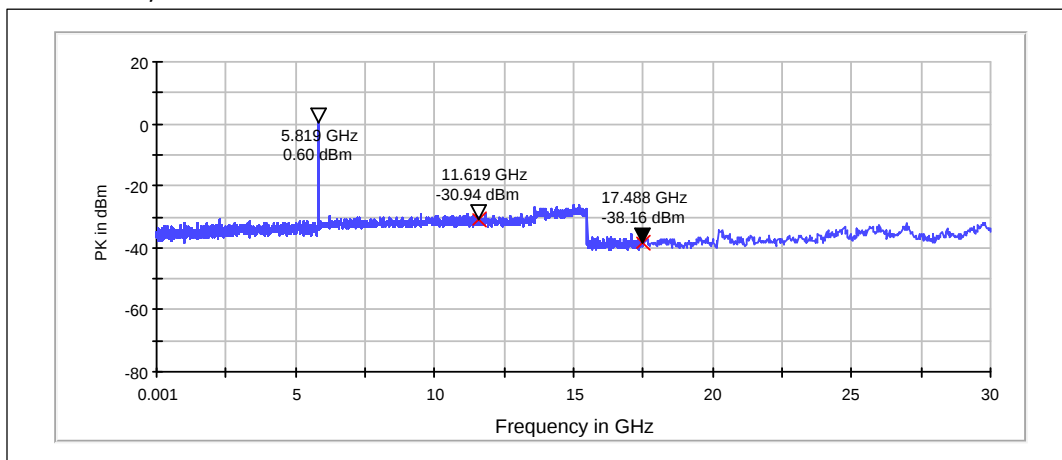
Channel 157 / 5785MHz



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

Frequency [MHz]	P [dBc]	Result
11579.600	-29.86	PASSED
17348.000	-38.79	PASSED

Channel 165 / 5825MHz

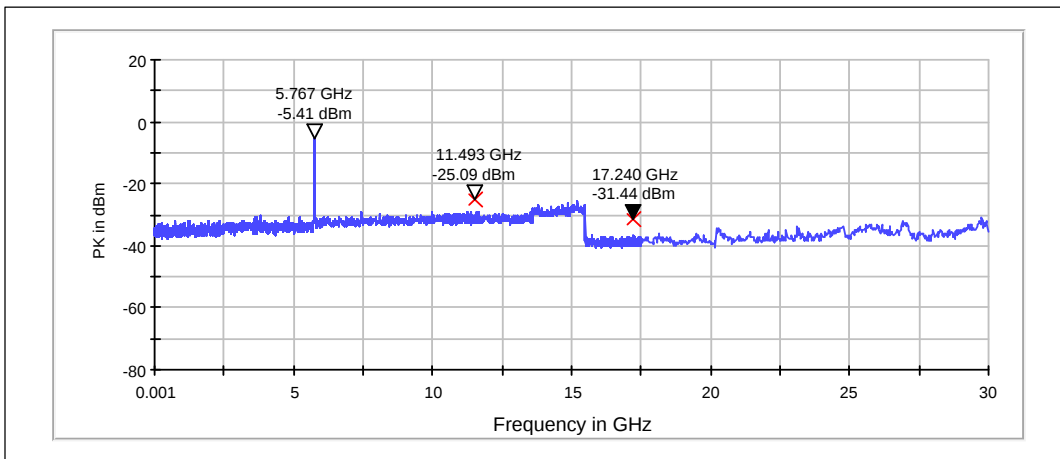


Peak (RBW: 100 kHz, VBW: 300 kHz)

Frequency [MHz]	P [dBc]	Result
11618.800	-30.94	PASSED
17488.000	-38.16	PASSED

4.4.2 n-mode, 40 MHz CBW mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

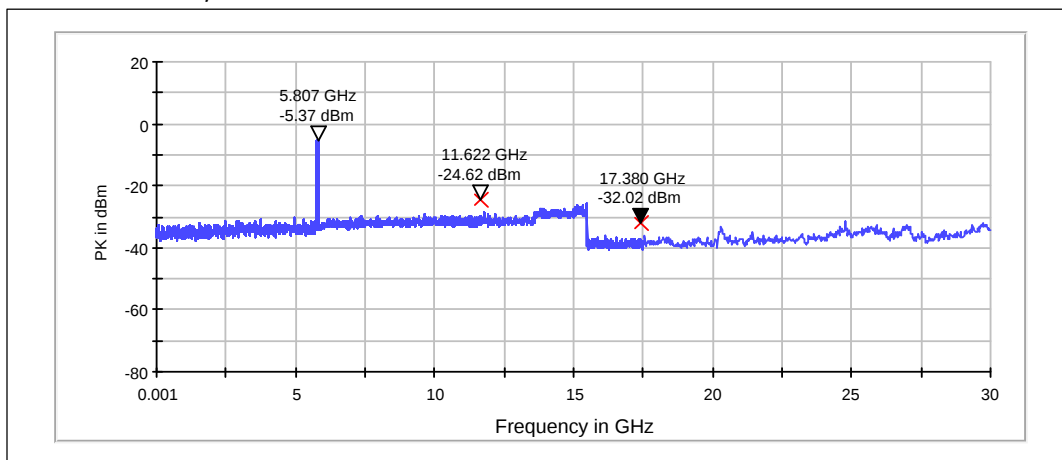
Channel 149+153 / 5755MHz



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

Frequency [MHz]	P [dBc]	Result
11492.800	-25.09	PASSED
17240.000	-31.44	PASSED

Channel 157+161 / 5795MHz



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

Frequency [MHz]	P [dBc]	Result
11621.600	-24.62	PASSED
17380.000	-32.02	PASSED

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

EUT with DUT number	RM-860, DUT 17028
Accessories with DUT numbers	WH-902, DUT 17008 ; AC-50U, DUT 17009
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 43 / 98.5
Date of measurements	27-Dec-2012
Measured by	Jari Keto

5.1. Test Setup



5.2. Test method and limit

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.

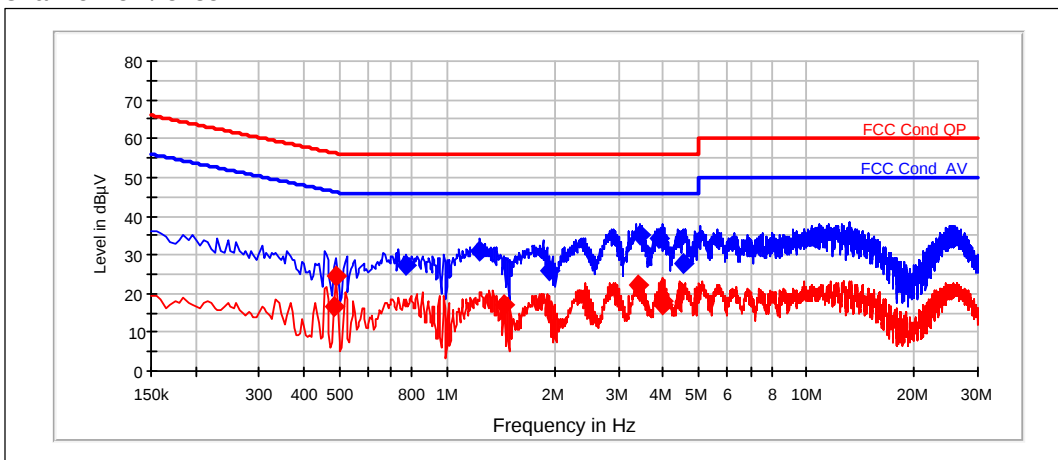
CISPR 22 Class B limits

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

5.3. 5 GHz RLAN Test results

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

Channel 157 / 5785 MHz



QuasiPeak (RBW: 9 kHz)

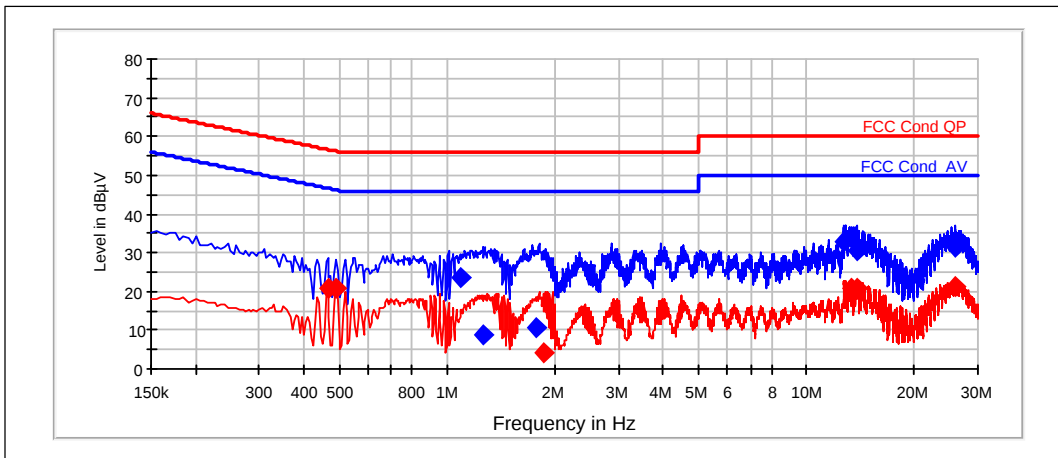
Frequency [MHz]	U [dBμV]	Line	Result
0.765	27.32	L1	PASSED
1.23	30.97	L1	PASSED
1.92	25.74	L1	PASSED
3.44	34.96	L1	PASSED
3.9	34.41	L1	PASSED
4.545	27.65	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.485	16.72	L1	PASSED
0.49	24.35	L1	PASSED
1.435	16.99	L1	PASSED
3.405	22.16	L1	PASSED
3.97	17.29	L1	PASSED
4	18.18	L1	PASSED

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

Channel 157 / 5785 MHz



QuasiPeak (RBW: 9 kHz)

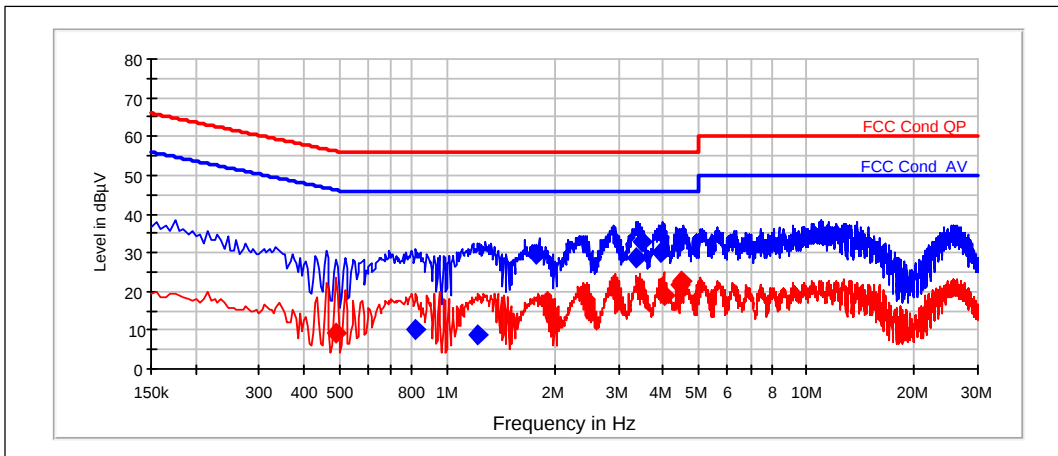
Frequency [MHz]	U [dBμV]	Line	Result
1.095	23.63	L1	PASSED
1.255	8.97	L1	PASSED
1.775	10.83	L1	PASSED
12.765	32.62	L1	PASSED
13.755	30.54	L1	PASSED
25.89	31.24	L1	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.465	20.76	L1	PASSED
0.49	20.98	L1	PASSED
1.865	4.25	L1	PASSED
13.3	20.59	L1	PASSED
13.865	20.77	L1	PASSED
25.82	21.26	L1	PASSED

5.3.3 n-mode, 40 MHz CBW mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel 149+153 / 5755 MHz



QuasiPeak (RBW: 9 kHz)

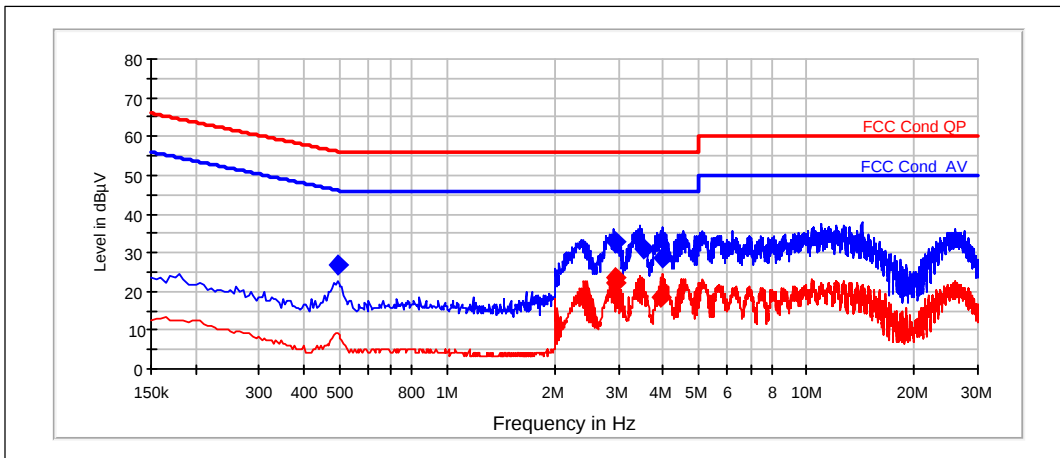
Frequency [MHz]	U [dBμV]	Line	Result
0.82	10.36	L1	PASSED
1.21	8.97	L1	PASSED
1.77	29.49	L1	PASSED
3.375	28.55	N	PASSED
3.47	32.84	L1	PASSED
3.955	29.86	N	PASSED

Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.49	9.46	L1	PASSED
4.045	18.78	L1	PASSED
4.455	21.94	L1	PASSED
4.49	22.73	L1	PASSED

5.3.4 n-mode, 40 MHz CBW mode, QPSK modulation, 27.0 / 30.0 Mbps data rate

Channel 149+153 / 5755 MHz



QuasiPeak (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
0.495	26.8	L1	PASSED
2.95	32.65	L1	PASSED
3.54	30.81	L1	PASSED
3.98	28.87	L1	PASSED

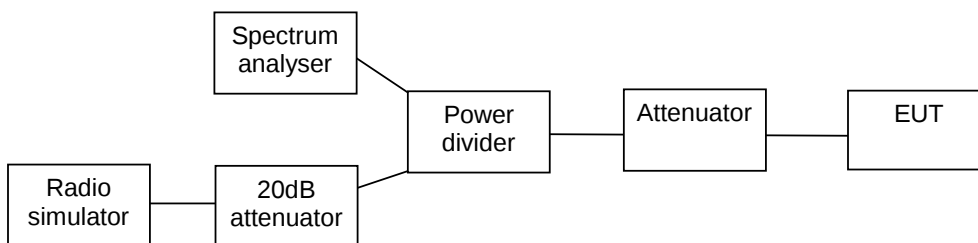
Average (RBW: 9 kHz)

Frequency [MHz]	U [dBμV]	Line	Result
2.925	23.59	L1	PASSED
2.955	22.32	L1	PASSED
3.945	18.42	L1	PASSED

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

EUT with DUT number	RM-860, DUT 16892
Accessories with DUT numbers	WH-902, DUT 17006
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 44 / 100.9
Date of measurements	03-Dec-2012
Measured by	Sami Lehtonen

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

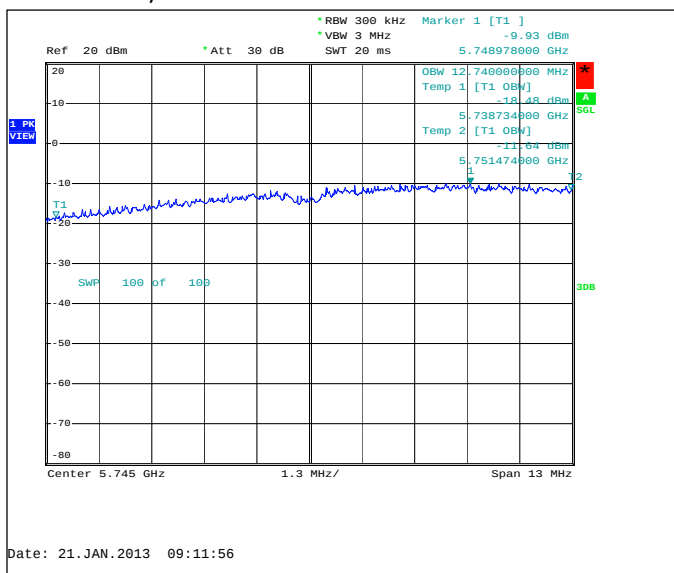
Limit [kHz]
>= 500

6.3. 5 GHz RLAN Test results

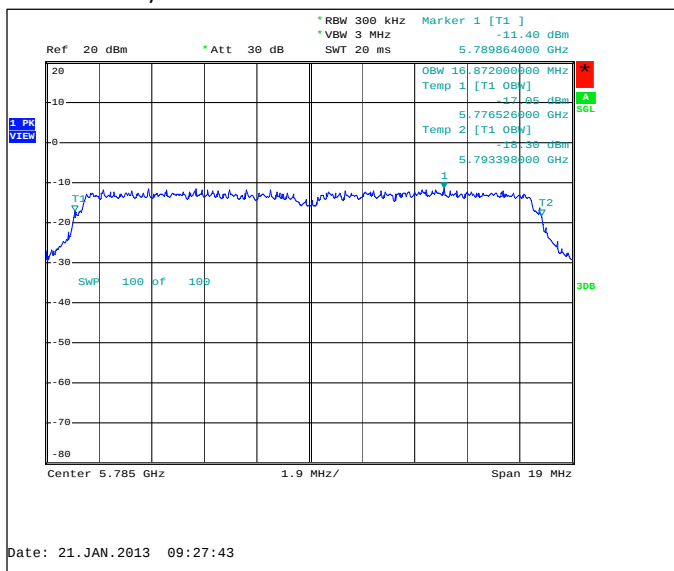
6.3.1 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
149 / 5745	12740	PASSED
157 / 5785	16872	PASSED
165 / 5825	16872	PASSED

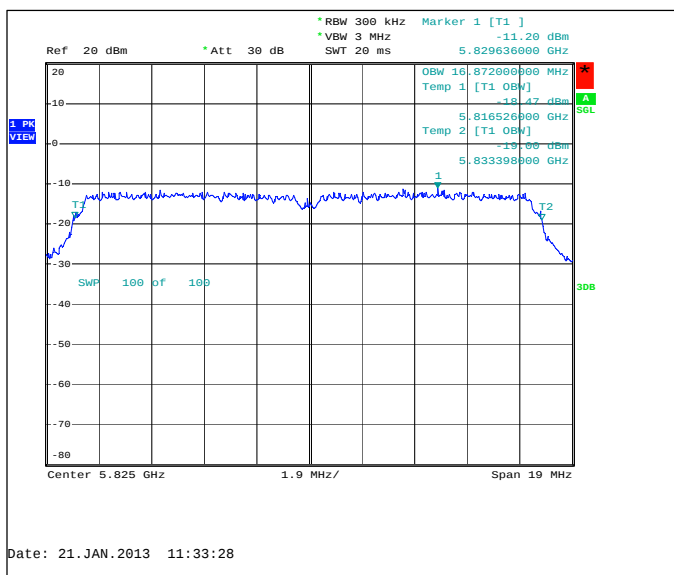
Channel 149 / 5745MHz



Channel 157 / 5785MHz



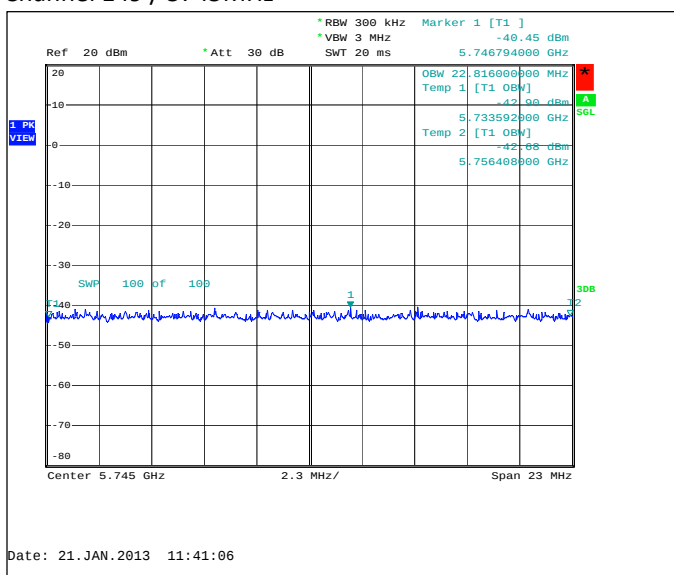
Channel 165 / 5825MHz



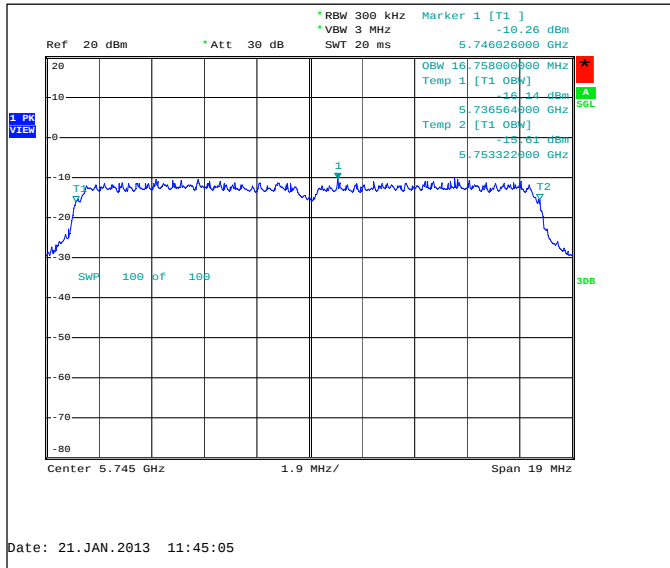
6.3.2 OFDM mode, 64-QAM modulation, 48 Mbps data rate

Channel / f_c [MHz]	6 dB bandwidth [kHz]	Result
149 / 5745	22816	PASSED
149 / 5745	16758	PASSED
157 / 5785	16758	PASSED
165 / 5825	16758	PASSED

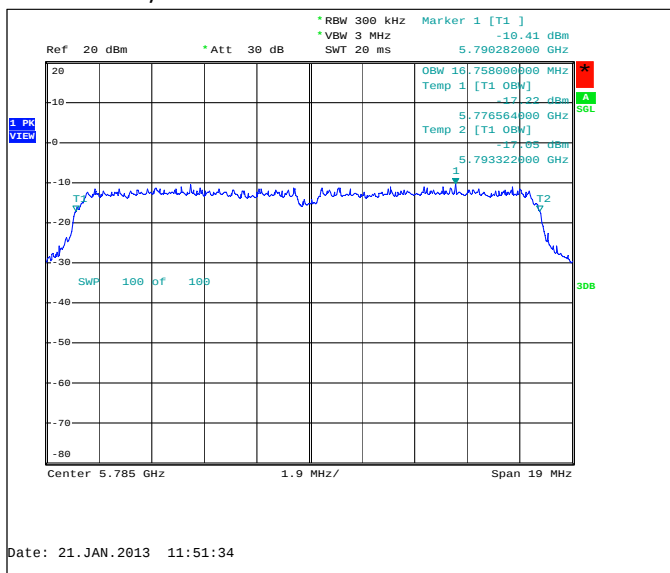
Channel 149 / 5745MHz



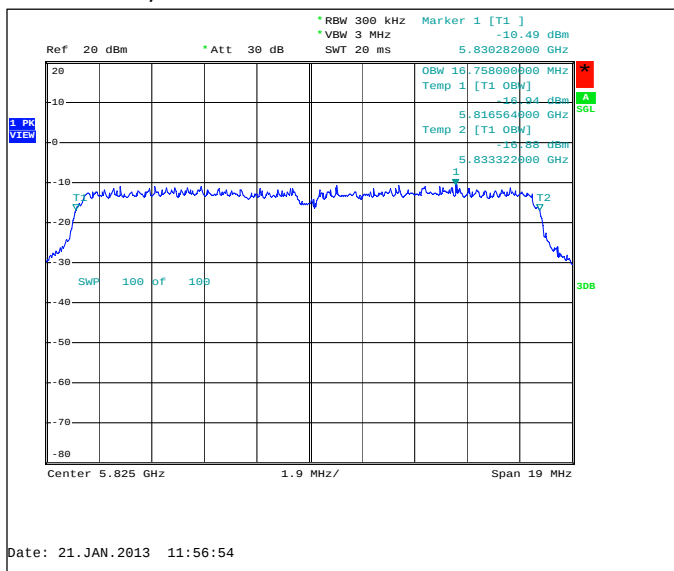
Channel 149 / 5745MHz



Channel 157 / 5785MHz



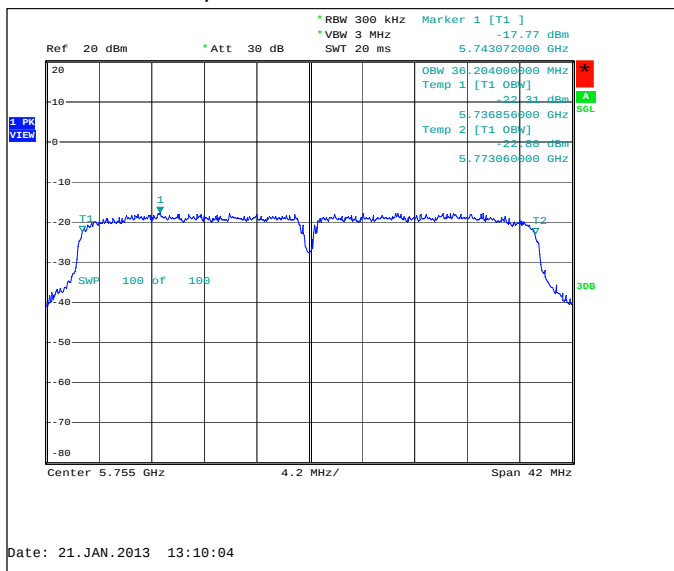
Channel 165 / 5825MHz



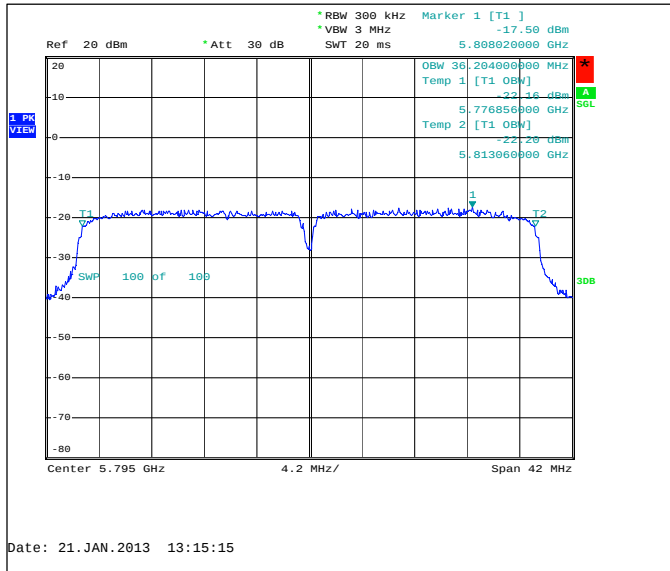
6.3.3 n-mode, 40 MHz CBW mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

Channel / f _c [MHz]	6 dB bandwidth [kHz]	Result
149+153 / 5755	36204	PASSED
157+161 / 5795	36204	PASSED

Channel 149+153 / 5755MHz



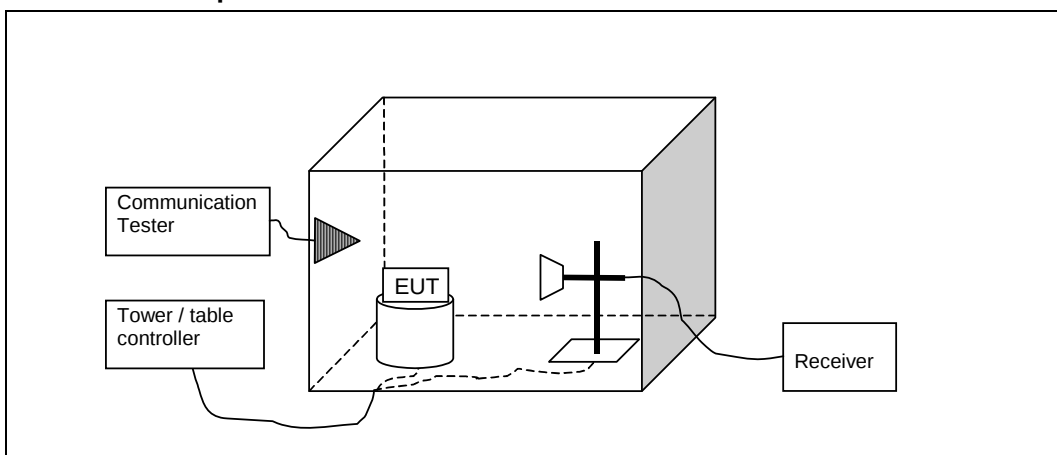
Channel 157+161 / 5795MHz



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

EUT with DUT number	RM-860, DUT 17007
Accessories with DUT numbers	WH-902, DUT 17006 ; AC-50U, DUT 17005
Operation Voltage [V] / [Hz]	115 / 60
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 41 / 101.4
Date of measurements	15-Dec-2012
Measured by	Kalle Hannila

7.1.1 Test setup



7.2. 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

7.3. 5 GHz RLAN test results

7.3.1 n-mode, 20 MHz CBW, BPSK modulation, 6.5 / 7.25 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
5714.2	60.64	1075.846	56.87	3.77	64.6	125	PASSED
11490.5	58.49	840.621	41.89	16.6	15.5	74	PASSED
11936.376	57.19	723.686	41.29	15.9	16.8	74	PASSED
17234.5	51.59	379.752	39.91	11.68	73.6	125	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
31.11	25.22	18.235	29.97	-4.75	14.8	40	PASSED
37.936	18.37	8.285	27.61	-9.24	21.6	40	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
5714.2	38.59	84.996	34.82	3.77	---	---	PASSED
11490.5	44.63	170.432	28.03	16.6	9.3	54	PASSED
11936.376	44.34	164.835	28.44	15.9	9.6	54	PASSED
17234.5	38.87	87.811	27.19	11.68	---	---	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
11569.1	57.05	712.197	40.16	16.89	16.9	74	PASSED
17353.2	52.84	438.278	40.93	11.91	72.4	125	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
31.14	25.56	18.965	30.33	-4.77	14.4	40	PASSED
37.876	16.3	6.531	25.5	-9.2	23.7	40	PASSED
237.946	25.36	18.529	42.47	-17.11	20.7	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
11569.1	44.57	169.219	27.68	16.89	9.4	54	PASSED
17353.2	39.38	93.068	27.47	11.91	---	---	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
11650.7	58.22	814.892	41.65	16.57	15.8	74	PASSED
17435.5	52.93	443.149	40.54	12.39	72.3	125	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
31.14	25.78	19.445	30.55	-4.77	14.2	40	PASSED
237.94	25	17.785	42.11	-17.11	21	46	PASSED
239.656	24.27	16.357	41.31	-17.04	21.7	46	PASSED

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

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
1195.393	33.16	45.488	40.55	-7.39	40.8	74	PASSED
11649.7	58.48	839.17	41.9	16.58	15.5	74	PASSED
17436.2	53.06	449.832	40.67	12.39	72.2	125	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
31.08	23.9	15.666	28.63	-4.73	16.1	40	PASSED
35.836	21.6	12.02	29.45	-7.85	18.4	40	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
1199.993	52.19	407.052	59.66	-7.47	21.8	74	PASSED
11577.9	57.3	733.078	40.54	16.76	16.7	74	PASSED
17348	52.17	405.976	40.29	11.88	73.1	125	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
31.11	25.8	19.489	30.55	-4.75	14.2	40	PASSED
31.14	20.96	11.167	25.73	-4.77	19	40	PASSED

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
1199.993	52.33	413.714	59.8	-7.47	21.6	74	PASSED
8093.384	52.55	424.229	40.92	11.63	21.4	74	PASSED
9191.781	52.46	419.662	40.42	12.04	21.5	74	PASSED
9409.322	53.58	477.584	40.16	13.42	20.4	74	PASSED
10904.92	57.74	770.637	41.54	16.21	16.2	74	PASSED
11485.5	57.39	740.628	40.79	16.6	16.6	74	PASSED
17239.6	52	398.291	40.41	11.59	73.2	125	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
30.3	25.03	17.844	29.25	-4.22	15	40	PASSED
230.248	25.32	18.44	42.7	-17.38	20.7	46	PASSED

7.3.3 n-mode, 40 MHz CBW, BPSK modulation, 13.5 / 15.0 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
5692.907	49.09	284.905	45.23	3.86	76.1	125	PASSED
11509.2	57.9	784.784	41.17	16.73	16.1	74	PASSED
11641.283	57.92	786.774	41.29	16.63	16.1	74	PASSED
17268.4	51.74	386.367	40.29	11.45	73.5	125	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
231.974	25.37	18.555	42.69	-17.32	20.7	46	PASSED
233.228	25.16	18.115	42.44	-17.28	20.9	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
5692.907	35.38	58.762	31.52	3.86	---	---	PASSED
11509.2	44.9	175.711	28.17	16.73	9.1	54	PASSED
11641.283	44.93	176.401	28.3	16.63	9	54	PASSED
17268.4	38.73	86.427	27.28	11.45	---	---	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
5736.527	49.02	282.553	45.25	3.77	76.2	125	PASSED
11127.048	57.52	751.883	41.31	16.22	16.5	74	PASSED
11587.5	57.4	741.652	40.68	16.72	16.6	74	PASSED
17388.2	52.6	426.432	40.31	12.29	72.6	125	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	22.52	13.363	26.72	-4.2	17.5	40	PASSED
230.264	25.17	18.126	42.54	-17.37	20.9	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
5736.527	34.93	55.77	31.16	3.77	---	---	PASSED
11127.048	44.34	164.797	28.13	16.22	9.6	54	PASSED
11587.5	44.52	168.229	27.8	16.72	9.5	54	PASSED
17388.2	39.73	96.95	27.44	12.29	---	---	PASSED

7.3.4 n-mode, 40 MHz CBW, QPSK modulation, 27.0 / 30.0 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
7982.964	54.01	501.534	40.44	13.57	71.2	125	PASSED
10880.86	57.56	755.092	41.31	16.25	16.4	74	PASSED
11512.5	57.96	790.77	41.18	16.78	16	74	PASSED
17267.1	51.75	386.946	40.31	11.44	73.5	125	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
31.11	25.17	18.138	29.92	-4.75	14.8	40	PASSED
37.436	16.82	6.933	25.73	-8.91	23.2	40	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
7982.964	40.42	104.99	26.85	13.57	---	---	PASSED
10880.86	44.41	166.226	28.16	16.25	9.6	54	PASSED
11512.5	44.95	176.746	28.17	16.78	9	54	PASSED
17267.1	38.75	86.596	27.31	11.44	---	---	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
7998	53.68	482.836	39.81	13.88	71.6	125	PASSED
11124.848	57.29	732.234	41.06	16.23	16.7	74	PASSED
11586	57.41	742.164	40.69	16.73	16.6	74	PASSED
17387.1	52.71	432.215	40.43	12.28	72.5	125	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
31.11	25.17	18.138	29.92	-4.75	14.8	40	PASSED
37.946	18.83	8.739	28.07	-9.24	21.2	40	PASSED

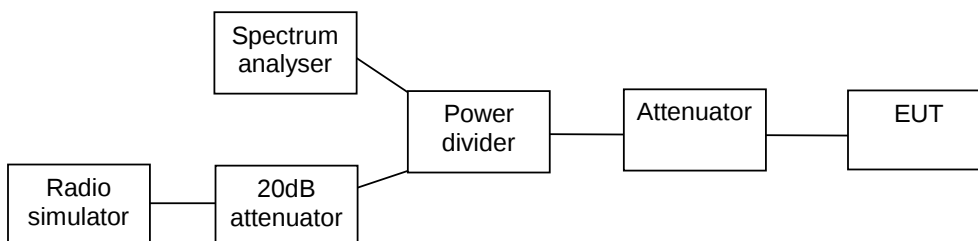
Average (RBW: 1 MHz, VBW: 1 MHz)

Frequency [MHz]	E [dBμV/m]	E [μV/m]	U _{RX} [dBμV]	A _{TOT} [dB]	Margin	Limit [dBμV/m]	Results
7998	40.49	105.791	26.62	13.88	---	---	PASSED
11124.848	44.37	165.444	28.14	16.23	9.6	54	PASSED
11586	44.48	167.398	27.76	16.73	9.5	54	PASSED
17387.1	39.71	96.728	27.43	12.28	---	---	PASSED

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

EUT with DUT number	RM-860, DUT 16892
Accessories with DUT numbers	WH-902, DUT 17006
Operation Voltage [V] / [Hz]	Nominal
Results	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	21 / 44 / 100.9
Date of measurements	03-Dec-2012
Measured by	Sami Lehtonen

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

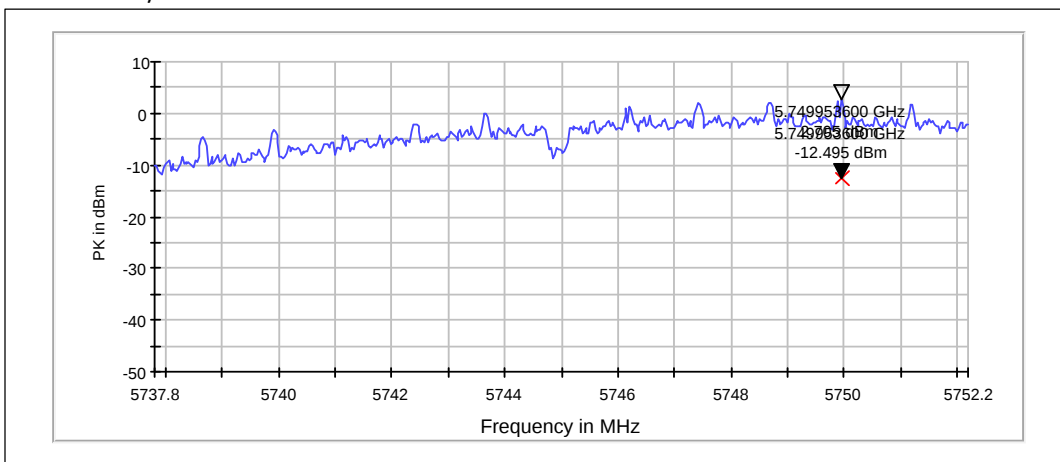
8.3. 5 GHz RLAN Test results

8.3.1 OFDM mode, BPSK modulation, 6 Mbps data rate

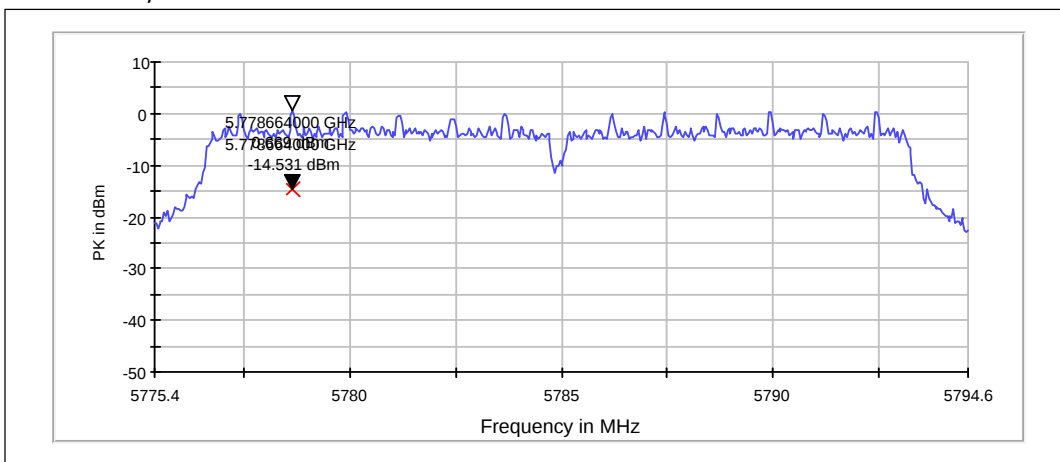
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f_c [MHz]	P [dBm]	Result
149 / 5745	-12.5	PASSED
157 / 5785	-14.53	PASSED
165 / 5825	-14.68	PASSED

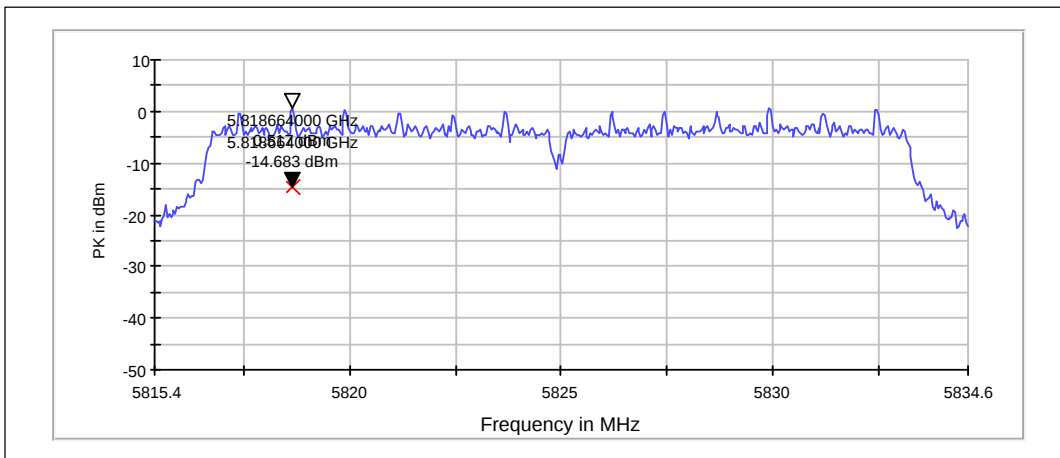
Channel 149 / 5745MHz



Channel 157 / 5785MHz



Channel 165 / 5825MHz

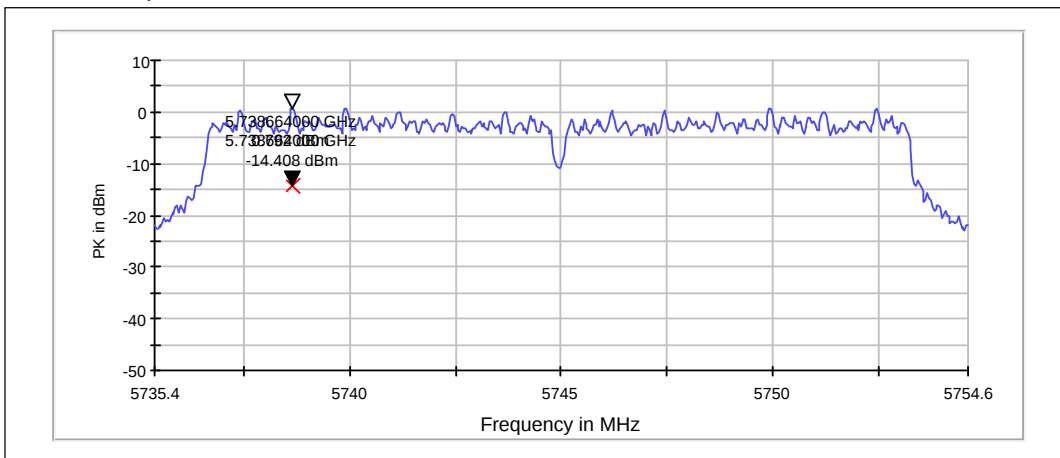


8.3.2 OFDM mode, 64-QAM modulation, 48 Mbps data rate

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

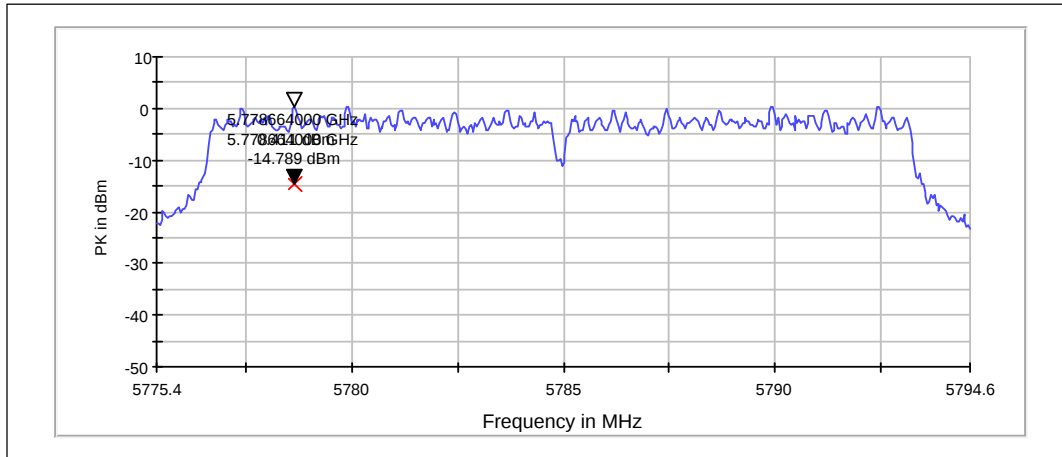
Channel / f_c [MHz]	P [dBm]	Result
149 / 5745	-14.41	PASSED
157 / 5785	-14.79	PASSED
165 / 5825	-14.71	PASSED

Channel 149 / 5745MHz

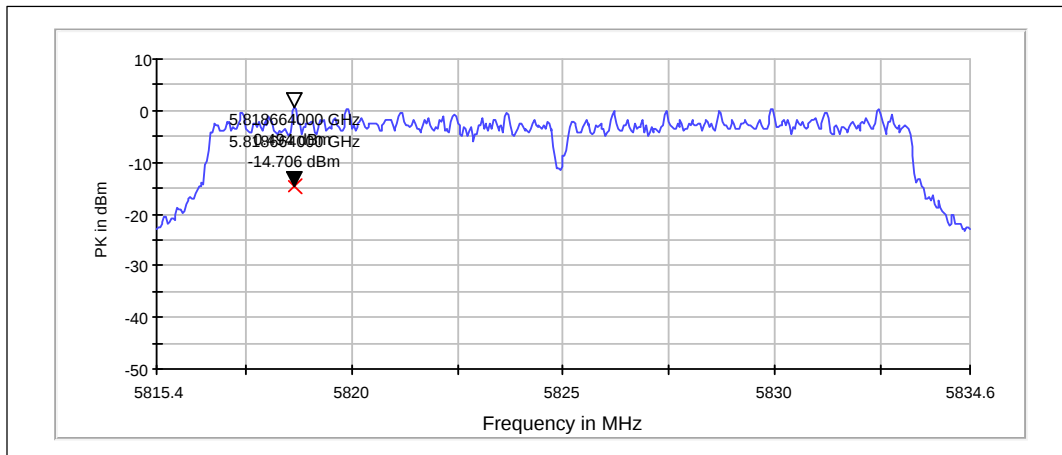


Channel

157 / 5785MHz



Channel 165 / 5825MHz

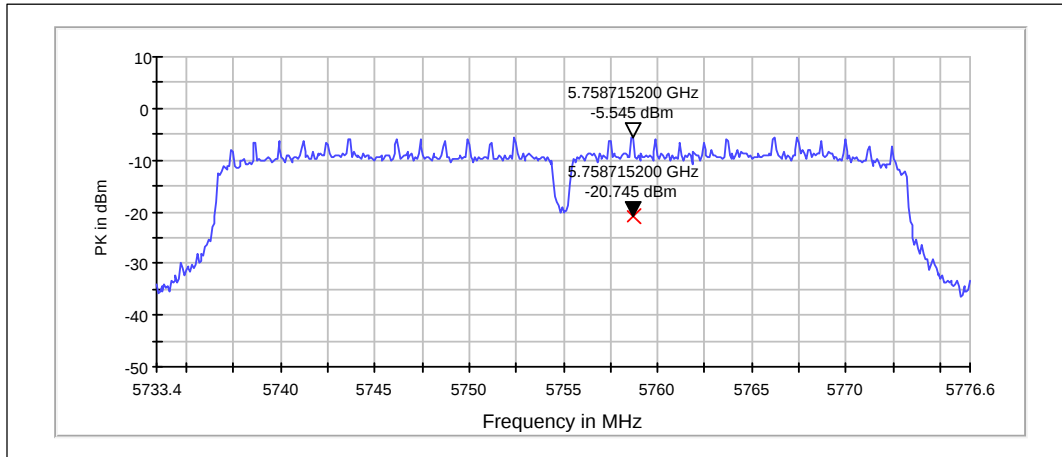


8.3.3 n-mode, 40 MHz CBW mode, BPSK modulation, 13.5 / 15.0 Mbps data rate

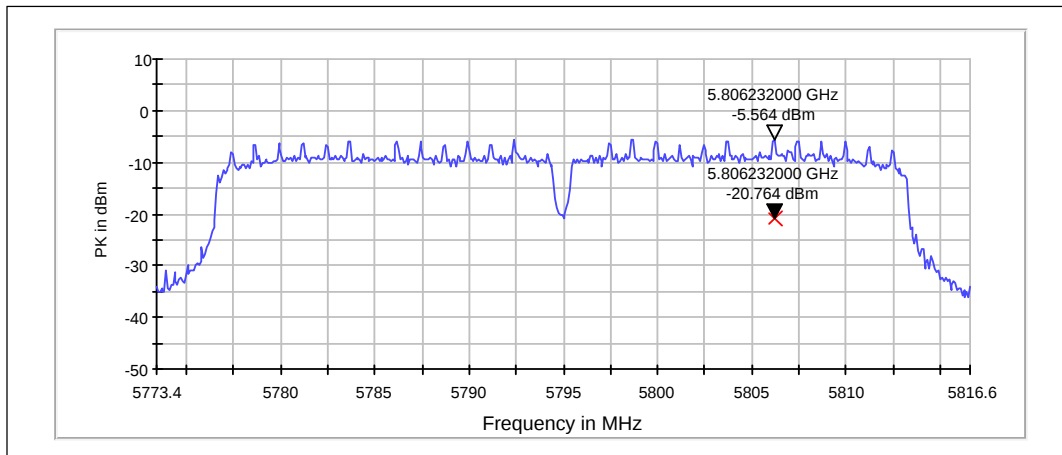
Peak (RBW: 100 kHz, VBW: 300 kHz, Max hold)

Channel / f _c [MHz]	P [dBm]	Result
149+153 / 5755	-20.75	PASSED
157+161 / 5795	-20.76	PASSED

Channel 149+153 / 5755MHz



Channel 157+161 / 5795MHz



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	-

Eq. No	Equipment	Type	Manufacturer	Used in
6010	GPS Network amplifier	NLA20FPDC	GPS Networking, Inc	-
6011	GPS signal Splitter	LDCBS1x4	GPS Networking, Inc	-
-	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	-