FCC Part 15E Compliance Test Report

Test Report no.:	FCC15E_RM-696_42.doc	**Date of Report:**	26-Jul-2011
Number of pages:	18	**Customer's Contact person:**	Timo Peltola
Testing laboratory:	TCC Nokia Tampere Laboratory P.O. Box 68 Sinitaival 5 FIN-33720 TAMPERE, FINLAND Tel. +358 (0) 7180 46800 Fax. +358 (0) 7180 46880	**Customer:**	Nokia Corporation P.O. Box 50 Elektroniikkatie 10 FIN-90571 OULU, FINLAND Tel. +358 (0) 7180 08000 Fax. +358 (0) 7180 47222
FCC listing no.: **IC recognition no.:**	94436 661AK-1		
Tested devices/ accessories:	**Phone RM-696 / Battery BV-5JW**		
FCC ID:	LJPK	**IC:**	-
Supplement reports:	-		
Testing has been carried out in accordance with:	**CFR 47, FCC rules Part 15 Subpart E, ANSI C63.4 (2003), Public Notice DA-02-2138A1, IC standards RSS-GEN (Issue 3, December 2010) and RSS-210 (Issue 8, December 2010). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".**		
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test Results:	**The EUT complies with the requirements in respect of all parameters subject to the test.** The test results relate only to devices specified in this document.		
Date and signature for the contents:	 Digitally signed by Jari Jantunen Date: 2011.07.26 09:10:37 +03'00'		

Jari Jantunen, System Manager, EMC

1. Summary for FCC Part 15E Compliance Test Report

Date of receipt	27-May-2011
Testing completed	27-Jul-2011
The customer's contact person	Timo Peltola
Test Plan referred to	T:\Projects\RM-696\TestPlan\RS_testplan_RM-696.xls
Notes	-
Document name	FCC15E_RM-696_42.doc

1.1. EUT and Accessory Information

The EUT is a 9-band (GSM850/900/1800/1900 and WCDMA Band I/II(1900)/IV(1700)/V(850)/VIII) mobile phone with GPRS, EGPRS, Bluetooth and WLAN. Bluetooth and WLAN are tested with maximum rated TX power.

Product	Type	SN	HW	MV	SW	DUT
Phone	RM-696	004402135480402	1501	-	V 0.2011.21-5_TA_RM680	42578
Battery	BV-5JW	-	00-04A	-	-	-

1.2. Summary of Test Results

RLAN 5 GHz:

Section in CFR 47	Section in *RSS-GEN* or RSS-210	Name of the test	Result
15.407 (a)	A9.2	Peak output power	PASSED
15.407 (a) (6)	A9.2	Peak excursion	PASSED
15.407 (b) (6)	A9.2	AC power line conducted emissions	NP
-	-	26 dB bandwidth	PASSED
15.407 (a)	A9.2	Peak power spectral density	PASSED

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

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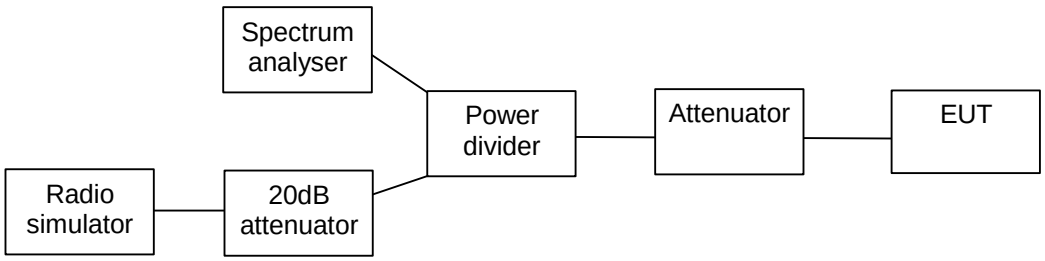
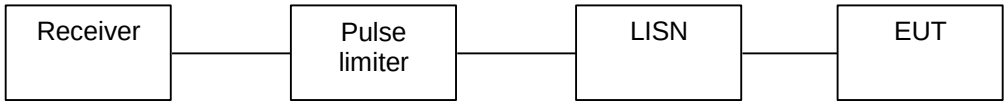
2. Test setups

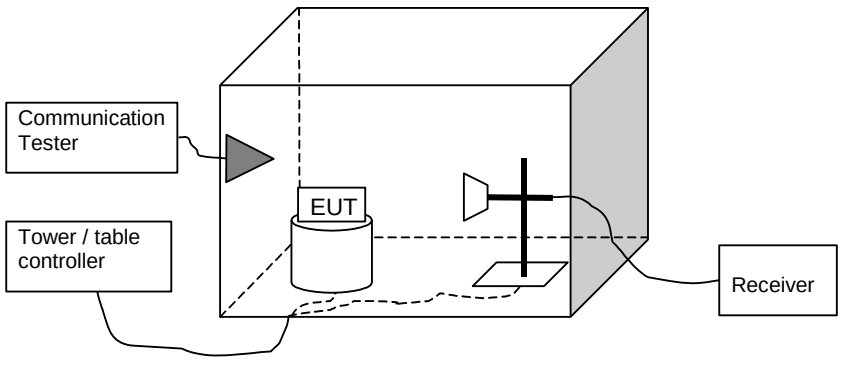
2.1. Conducted RF test setup



2.2. AC powerline conducted emissions test setup



2.3. Radiated test setup



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3. Peak output power

(FCC §15.407 (a), RSS-210 A9.2)

EUT with DUT number	RM-696 DUT 42578
Accessories with DUT numbers	BV-5JW DUT-
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 51 / 99.6
Date of measurements	27-Jul-2011
Measured by	Jari Jantunen

3.1. Test method and limit

The measurement is made according to Public Notice DA-02-2138A1 and IC standard RSS-210.

Limits for peak output power measurements

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

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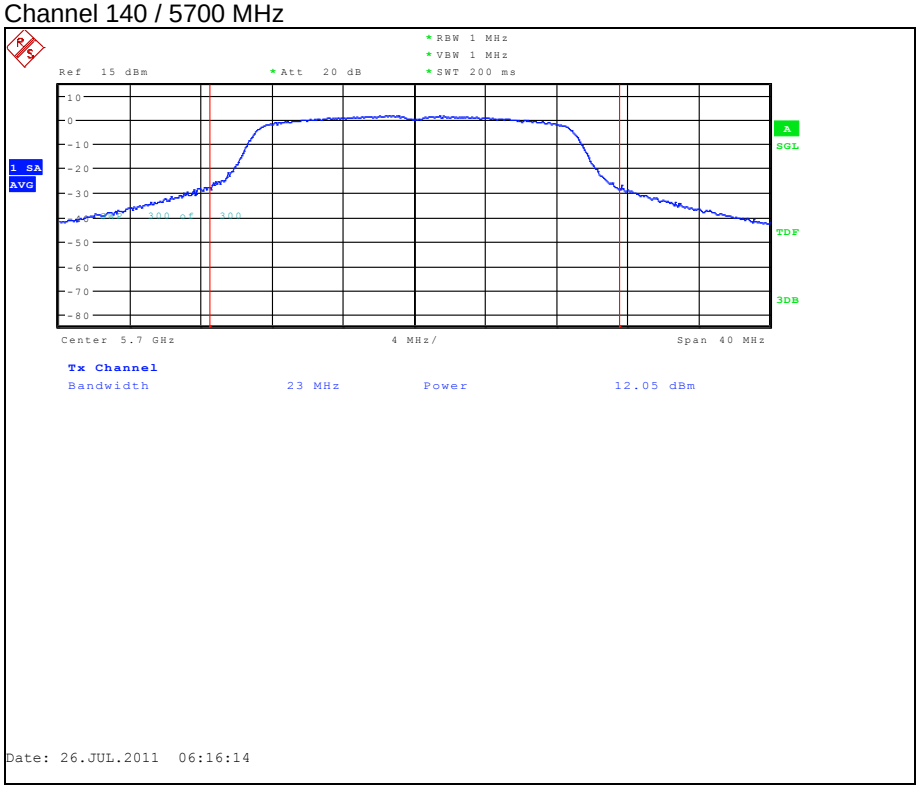
3.2. RLAN 5 GHz Test results

3.2.1 OFDM mode, BPSK modulation, n-6.5 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
140 / 5700	12.05	16.03	PASSED

Channel 140 / 5700 MHz



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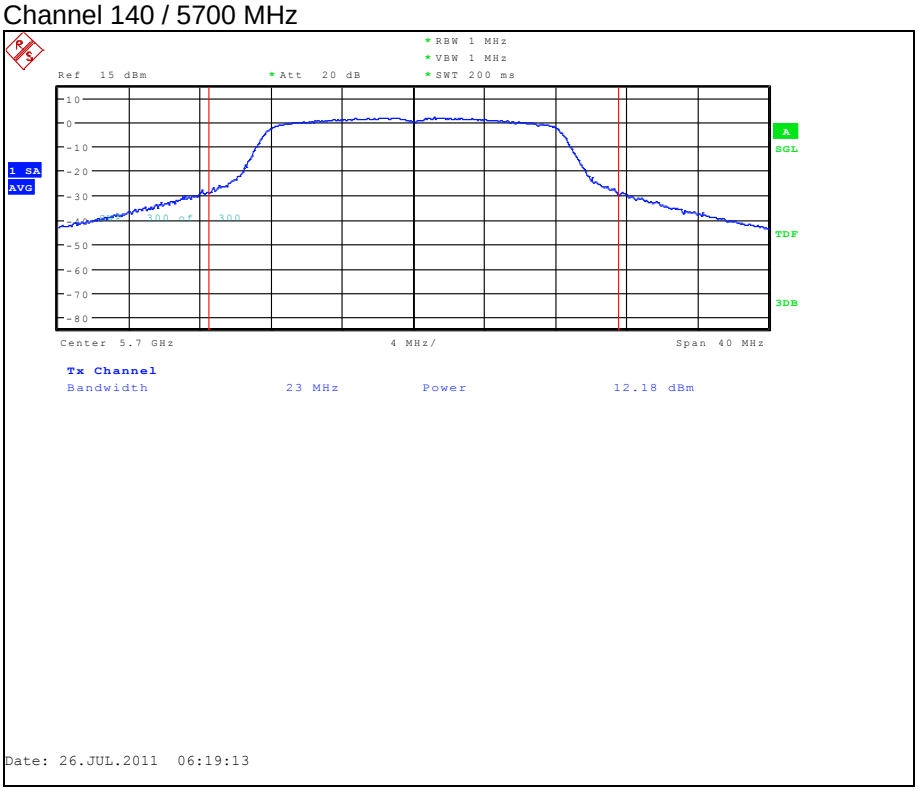
3.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	P [dBm]	P [mW]	Result
140 / 5700	12.18	16.52	PASSED

Channel 140 / 5700 MHz



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4. Peak excursion

(FCC §15.407(a) (6), RSS-210 A9.2)

EUT with DUT number	RM-696 DUT 42578
Accessories with DUT numbers	BV-5JW DUT-
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 51 / 99.6
Date of measurements	27-Jul-2011
Measured by	Jari Jantunen

4.1. Test method and limit

The measurement is made according to Public Notice DA-02-2138A1 and IC standard RSS-210.

Limits for peak excursion measurements

Limit [dB]
≤ 13

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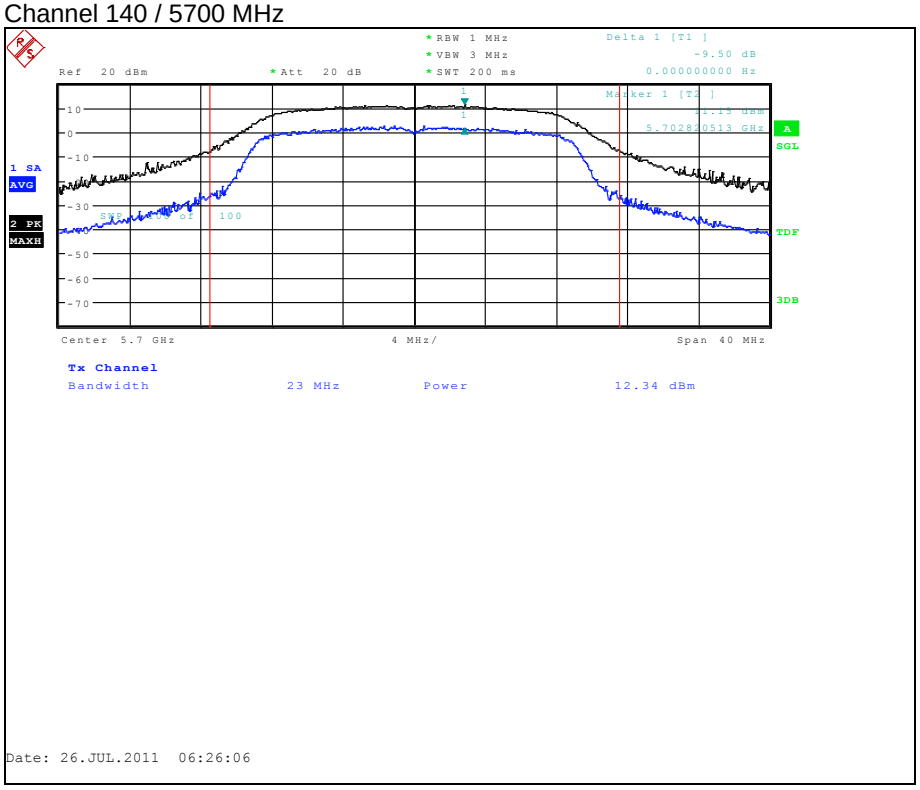
4.2. RLAN 5 GHz Test results

4.2.1 OFDM mode, BPSK modulation, n-6.5 Mbps data rate

Channel / f_C [MHz]	Peak excursion [dB]	Result
140 / 5700	9.50	PASSED

Channel 140 / 5700 MHz



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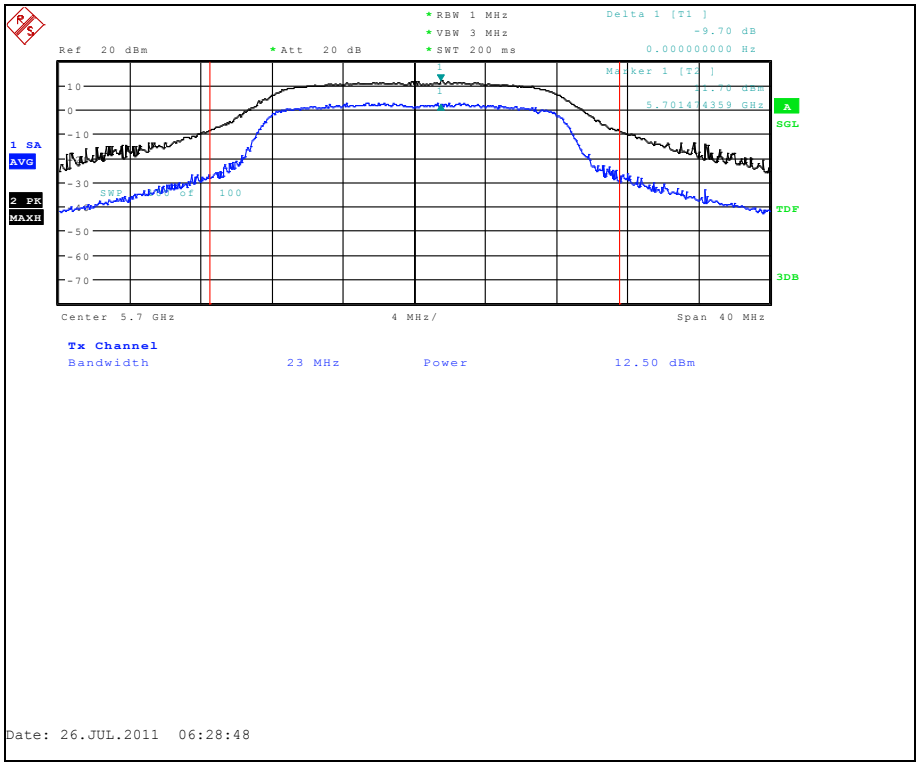
4.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	Peak excursion [dB]	Result
140 / 5700	9.70	PASSED

Channel 140 / 5700 MHz



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5. 26 dB bandwidth

EUT with DUT number	RM-696 DUT 42578
Accessories with DUT numbers	BV-5JW DUT-
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 51 / 99.6
Date of measurements	27-Jul-2011
Measured by	Jari Jantunen

5.1. Test method and limit

The measurement is made according to Public Notice DA-02-2138A1 and IC standard RSS-210.

Limits for 26 dB bandwidth measurements

Limit [kHz]
No limit

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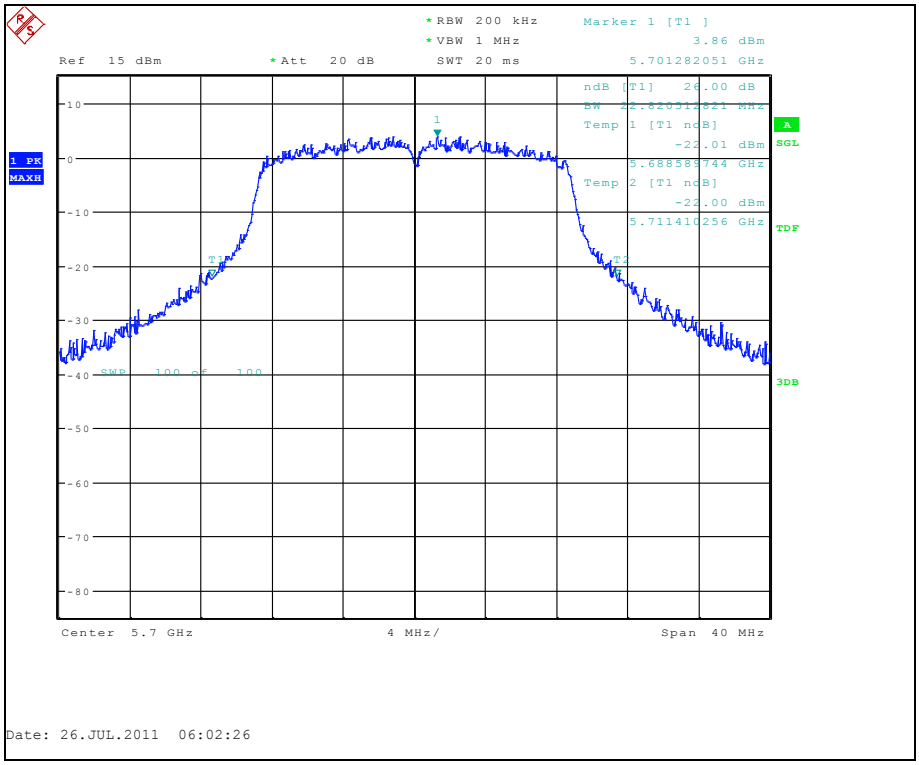
5.2. RLAN 5 GHz test results

5.2.1 OFDM mode, BPSK modulation, n-6.5 Mbps data rate

Channel / f_C [MHz]	26 dB bandwidth [kHz]	Result
140 / 5700	22821	PASSED

Channel 140 / 5700 MHz



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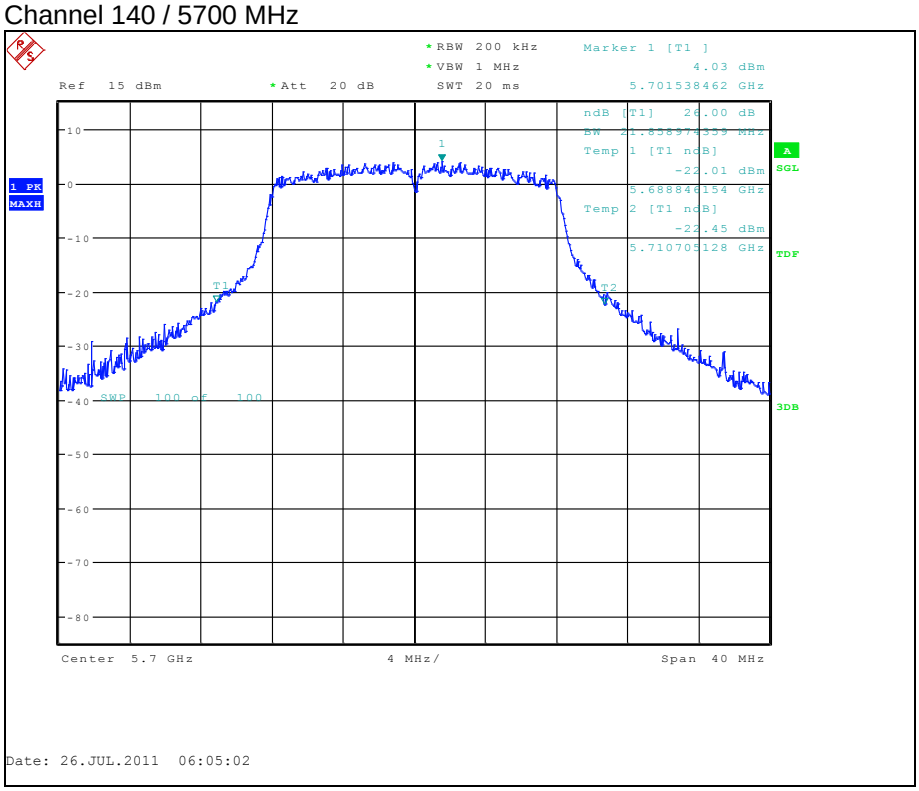
5.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	26 dB bandwidth [kHz]	Result
140 / 5700	21859	PASSED

Channel 140 / 5700 MHz



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6. Peak power spectral density

(FCC §15.407(a), RSS-210 A9.2)

EUT with DUT number	RM-696 DUT 42578
Accessories with DUT numbers	BV-5JW DUT-
Operation Voltage [V] / [Hz]	Nominal
Result	PASSED
Remarks	-
Temp [°C] / Humidity [%RH] / Air Pressure [kPa]	22 / 51 / 99.6
Date of measurements	27-Jul-2011
Measured by	Jari Jantunen

6.1. Test method and limit

The measurement is made according to Public Notice DA-02-2138A1 and IC standard RSS-210.

Limits for power spectral density measurements

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

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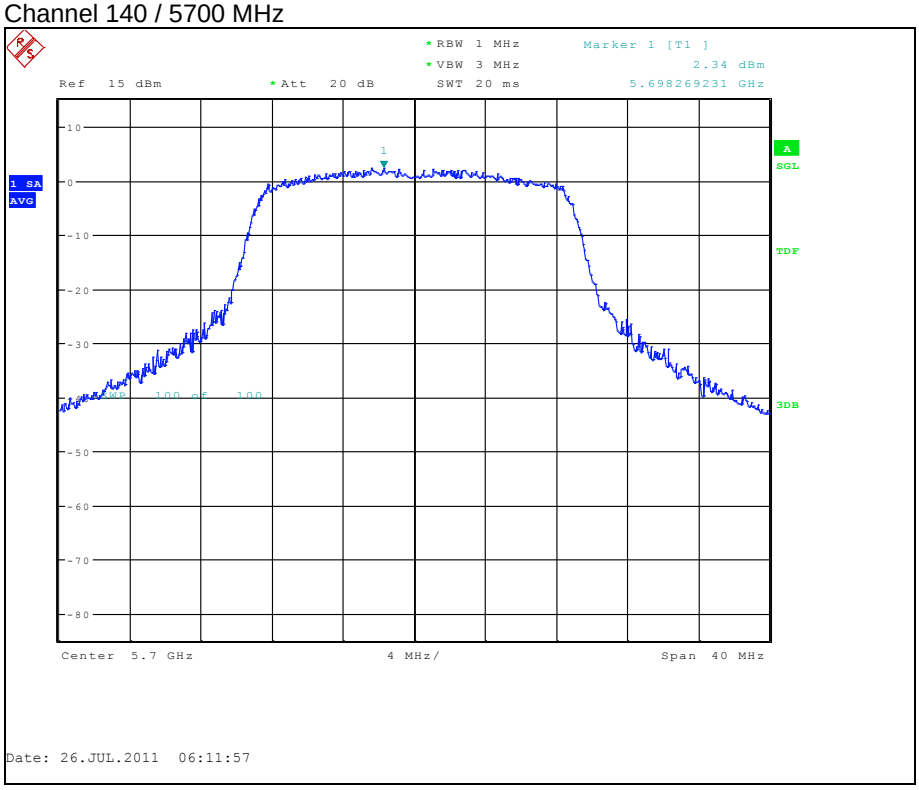
6.2. RLAN 5 GHz test results

6.2.1 OFDM mode, BPSK modulation, n-6.5 Mbps data rate

Channel / f_C [MHz]	Peak power spectral density [dBm]	Result
140 / 5700	2.34	PASSED

Channel 140 / 5700 MHz



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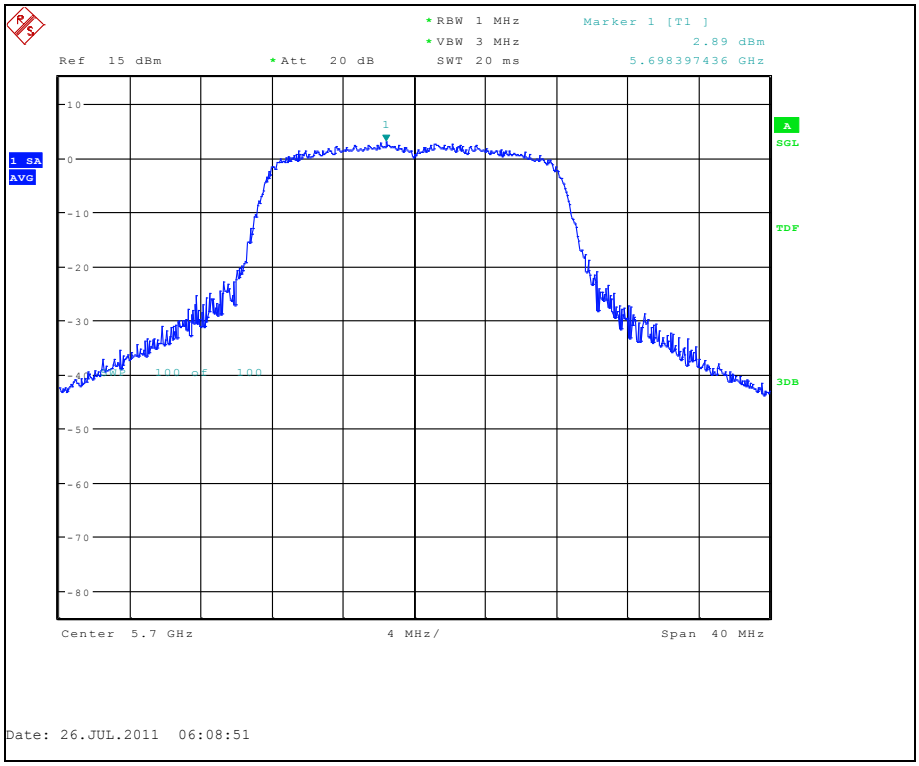
6.2.2 OFDM mode, BPSK modulation, 6 Mbps data rate

Channel / f_C [MHz]	Peak power spectral density [dBm]	Result
140 / 5700	2.89	PASSED

Channel 140 / 5700 MHz



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7. Test Equipment

7.1. Conducted measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38112	Power supply	6632A	Agilent	22/24/27, 15C
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
OM06312	Signal Generator	E4422B	Agilent	22/24
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM30600	Impulse limiter	ESH3-Z2	R&S	15C, 15B
TM26490	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM26491	LISN 50 µH	ESH3-Z5	R&S	15C, 15B
TM37610	Spectrum Analyzer	FSU26	R&S	22/24/27, 15C
TM22806	Battery	BAT 20/E	Fiskars	15C, 15B
TM22805	UPS	PS 20/1.2	Fiskars	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
-	Temperature test chamber	VT 4002	Vötsch	22/24
2058	Receiver	ESPC	R&S	15C, 15B
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
2002	Communication Tester	CMU200	R&S	22/24/27
2009	LISN 50 µH	ENV216	R&S	15C, 15B
2010	LISN 50 µH	ENV216	R&S	15C, 15B
2012	Power splitter	11667B	Agilent	22/24/27, 15C
2013	Attenuator	8493C	Agilent	22/24/27, 15C
2014	Attenuator	8493C	Agilent	22/24/27, 15C

7.2. Radiated measurements

Eq. No	Equipment	Type	Manufacturer	Used in
TM38114	Power supply	6632A	Agilent	22/24/27, 15C, 15B
TM38631	Signal Generator	83640L	Agilent	22/24/27, 15C, 15B
TM38323	Preamplifier	PA-02 18-26 GHz	EMC Automation	22/24/27, 15C, 15B
-	Antenna	BBHA 9120 D	Schwarzbeck	22/24/27, 15C
TM26497	Antenna	3115	Emco	22/24/27, 15C, 15B
TM37678	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM37773	Communication Tester	CMU200	R&S	22/24/27, 15C, 15B
TM38845	Receiver	ESIB 26	R&S	22/24/27, 15C, 15B
-	Antenna	HL562	R&S	22/24/27, 15C, 15B
TM26500	Turntable	DS412	Deisel	22/24/27, 15C, 15B
TM30642	Mast/turntable controller	HD-100	Deisel	22/24/27, 15C, 15B
TM38990	Remote switching module	RSM1	EMC Automation	22/24/27, 15C, 15B
TM38341	System interface	SI-300	EMC Automation	22/24/27, 15C, 15B
-	Mini mast	2075-2	ETS Lindgren	22/24/27, 15C, 15B
TM38843	Mini mast	2075	Emco	22/24/27, 15C, 15B
TM38842	Controller	2090	Emco	22/24/27, 15C, 15B
TM39158	Antenna	3116	Emco	22/24/27, 15C, 15B
TM30643	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
TM30644	LISN 50 µH	LISN-5-20-2	FCC	22/24/27, 15C, 15B
-	Temperature and humidity logger	175-H2	Testo	22/24/27, 15C, 15B
-	Air pressure and temperature logger	635-2	Testo	22/24/27, 15C, 15B

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Eq. No	Equipment	Type	Manufacturer	Used in
-	Air pressure sensor	0638-1835	Testo	22/24/27, 15C, 15B
TM39180	Laser distance meter	Disto Pro	Leica	22/24/27, 15C, 15B
TM37523	Preamplifier	AMF-4D-10M-3G-25-20P	Miteq	22/24/27, 15C, 15B
-	Preamplifier	AFS4-00100300-20-23P6	Miteq	15C
TM37498	Preamplifier	AMF-5D-020180-26-10P	Miteq	22/24/27, 15C, 15B
TM30599	Semi anechoic chambre	UNKNOWN	TDK	22/24/27, 15C, 15B
TM22638	Power supply	OL63743-901	Torqueleader	22/24/27, 15C, 15B
TM38066	High pass filter	4HC3000/18000-3-KK	Trilithic	22/24/27, 15C, 15B
TM26511	Tunable notch filter	WRCA870/	Wainwright	27
TM38215	Band reject filter	WRCD 1920/1980-1918/1982-40/20	Wainwright UMTS	27
TM38214	Band reject filter	WRCT 2402/2480-2400/2483.5-30/	Wainwright ISM	15C
-	Band reject filter	WRCG1877/1883-1870/1890-40/6EE	Wainwright	27
-	Band reject filter	WRCG1729.4/1735.4-1722.4/1742.4-40/6SS	Wainwright	27
-	Band reject filter	WRCG832/838-825/848-40/5SS	Wainwright	27
TM23892	Controller	G-1000SDX	Yaesu	22/24/27
2001	Bluetooth tester	CBT	R&S	22/24/27, 15C, 15B
-	Antenna	SBA 9113	Schwarzbeck	22/24/27
6023	Antenna	VUBA 9117	Schwarzbeck	22/24/27, 15C

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