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Compliance test report ID **193668-2TRFWL**

Date of issue
February 3, 2012

FCC 47 CFR Part 15 Subpart C, §15.247

Operation in the 902–928 MHz, 2400–2483.5 MHz, 5725–5850 MHz.

Applicant	Murata Manufacturing Co., Ltd
Product	LBWA1ZZVK7
Model	LBWA1ZZVK7
FCC ID	VPYLBVK

Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada. The tests included in this report are within the scope of this accreditation

SCC Accredited LAB
LAB Accrédité CCN

Test location

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Test site FCC ID: 176392 (3 m semi anechoic chamber)

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Tested by Kevin Rose, Wireless/EMC Specialist

Reviewed by Andrey Adelberg, Senior Wireless/EMC Specialist

February 3, 2012
Date

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

Copyright notification

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Section 1 Report summary

1.1 Applicant and manufacturer

Murata Manufacturing Co., Ltd
10-1 Higashikotari 1-chome
Nagaokakyo-shi, Kyoto
Japan, 617-8555

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C, Chapter 15.247

Operation in the 902–928 MHz, 2400–2483.5 MHz, 5725–5850 MHz.

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

1.4 Exclusions

None

1.5 Test report revision history

Revision #	Details of changes made to test report
TRF	Original report issued

Section 2 Summary of test results

2.1 FCC Part 15 Subpart C – general requirements, test results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Pass
§15.31(e)	Variation of power source	Pass[1]
§15.31(m)	Number of operating frequencies	Pass[2]
§15.203	Antenna requirement	Pass

Notes:
[1] Measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, was performed with the supply voltage varied between 85 % and 115 % of the nominal rated supply voltage. No noticeable output power variation was observed
[1] For battery-operated equipment, the equipment tests shall be performed using a new battery.
[2] Since the frequency band was wider than 10 MHz, three channels (1 near top, 1 near middle and 1 near bottom) were selected for the testing.

2.2 FCC Part 15 Subpart C – Intentional Radiators, test results

Part	Test description	Verdict
§15.247(a)(1)(i)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
§15.247(a)(1)(ii)	Frequency hopping systems operating in the 5725–5850 MHz band	Not applicable
§15.247(a)(1)(iii)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
§15.247(a)(2)	Minimum 6 dB bandwidth for systems using digital modulation techniques	Pass
§15.247(b)(1)	Maximum peak output power of frequency hopping systems operating in the 2400–2483.5 MHz band and 5725–5850 MHz band	Not applicable
§15.247(b)(2)	Maximum peak output power of Frequency hopping systems operating in the 902–928 MHz band	Not applicable
§15.247(b)(3)	Maximum peak output power of systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands	Pass
§15.247(b)(4)	Maximum peak output power	Pass
§15.247(c)(1)	Fixed point-to-point operation with directional antenna gains greater than 6 dBi	Not applicable
§15.247(c)(2)	Transmitters operating in the 2400–2483.5 MHz band that emit multiple directional beams	Not applicable
§15.247(d)	Spurious emissions	Pass
§15.247(e)	Power spectral density for digitally modulated devices	Pass
§15.247(f)	Time of occupancy for hybrid systems	Not applicable

Section 3 Equipment under test (EUT) details

3.1 Sample information

Receipt date	December 14, 2011
Nemko sample ID number	1

3.2 EUT information

Product name	CC3000 Wireless module
Model	LBWA1ZZVK7
Serial number	1
Part number	LBWA1ZZVK7

3.3 Technical information

Operating band		2400–2483.5 MHz
Operating frequency		2412–2462 MHz
Modulation type		802.11b, 802.11g
Occupied bandwidth 99%		9.125 MHz 802.11b; 16.335 MHz 802.11g
Emission designator		16M3W7D
Power requirements		3.6 Vdc for primary power, 1.8 Vdc for data interface
Antenna information	**Type:**	Mono Pole chip antenna
	Gain:	0.8 dBi
	Model:	LDA312G7313F
	Manufacturer:	Murata
		The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

3.4 Product description and theory of operation

IEEE 802.11 b/g wireless LAN functions for client applications in handheld devices. Chipset compliant to wireless standards. WLAN host interface SPI.

3.5 EUT exercise details

EUT may be operated while operated within an embedded microprocessor platform in infrastructure mode. RF sensing of the 2.4 GHz ISM band utilizing test equipment such as spectrum analyzer.

3.6 EUT setup diagram

This specification is applied to the IEEE802.11 b/g WLAN module.

Host Interface
- W-LAN : SPI

IC/Firmware
- W-LAN BB/MAC : CC3000
- FEM for CC3000 : TriQuint TQM679002A (E2.6)

Reference Clock : 26MHz Reference Clock is integrated.
Sleep Clock : 32.768kHz oscillator is integrated.
Weight : T.B.D (mg)
MSL : Level3
RoHS Compliant

Part Number	LBWA1ZZVK7-539

Block Diagram

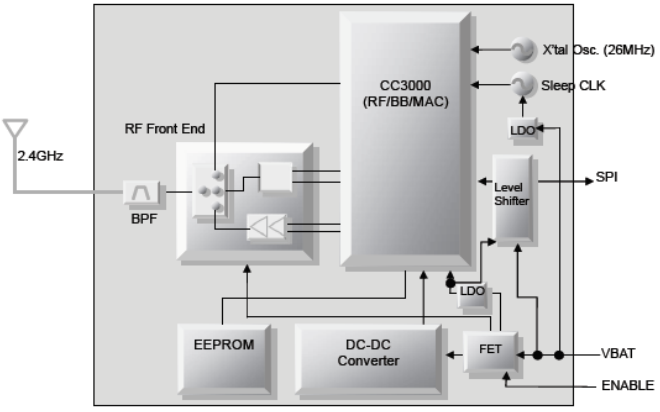


Diagram 3.6-1: Setup diagram

3.7 EUT sub assemblies

Description	Brand name	Model/Part number	Serial number	Rev.
Module on Daughter card	Murata	None	1	1
Mother board	Murata	None	None	None

Section 4 Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5 Test conditions

5.1 Atmospheric conditions

Temperature: 15–30 °C
Relative humidity: 20–75 %
Air pressure: 86–106 kPa

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6 Measurement uncertainty

6.1 Uncertainty of measurement

Nemko Canada Inc. has calculated measurement uncertainty and is documented in EMC/MUC/001 “Uncertainty in EMC measurements.” Measurement uncertainty was calculated using the methods described in CISPR 16-4 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC measurements; as well as described in UKAS LAB34: The expression of Uncertainty in EMC Testing. Measurement uncertainty calculations assume a coverage factor of K=2 with 95% certainty.

Section 7 Test equipment

7.1 Test equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Mar. 09/12
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
LISN	Rohde & Schwarz	ENV216	FA002023	1 year	Nov. 18/12
Antenna mast	Sunol	TLT2	FA002061	—	NCR
Power supply	California Inst.	3001I	FA001021	1 year	Jan. 26/12
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	April 27/12
Bilog antenna	Sunol	JB3	FA002108	1 year	Jan. 31/12
Horn antenna #2	EMCO	3115	FA000825	1 year	Feb. 04/12
1–18 GHz pre-amplifier	JCA	JCA118-503	FA002091	1 year	Aug. 15/12
Horn antenna 18–26.5 GHz	Electro-metrics	SH-50/60-1	FA000479	—	VOU
18–26 GHz pre-amplifier	Narda	BBS-1826N612	FA001550	—	VOU
Multimeter	Fluke	16	FA001831	1 year	Jan. 26/12
Note: NCR - no calibration required, VOU - verify on use					

Section 8 Testing data

8.1 Clause 15.207(a) Conducted limits

8.1.1 Definitions and limits

Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Table 8.1-1: Conducted emissions limit

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50
* - Decreases with the logarithm of the frequency.		

8.1.2 Test summary

Test date	February 3, 2012	**Test engineer**	Kevin Rose	**Verdict**	Pass
Temperature	22 °C	**Air pressure**	1003 mbar	**Relative humidity**	30 %

8.1.3 Observations/special notes

The EUT was set up as tabletop configuration.

The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

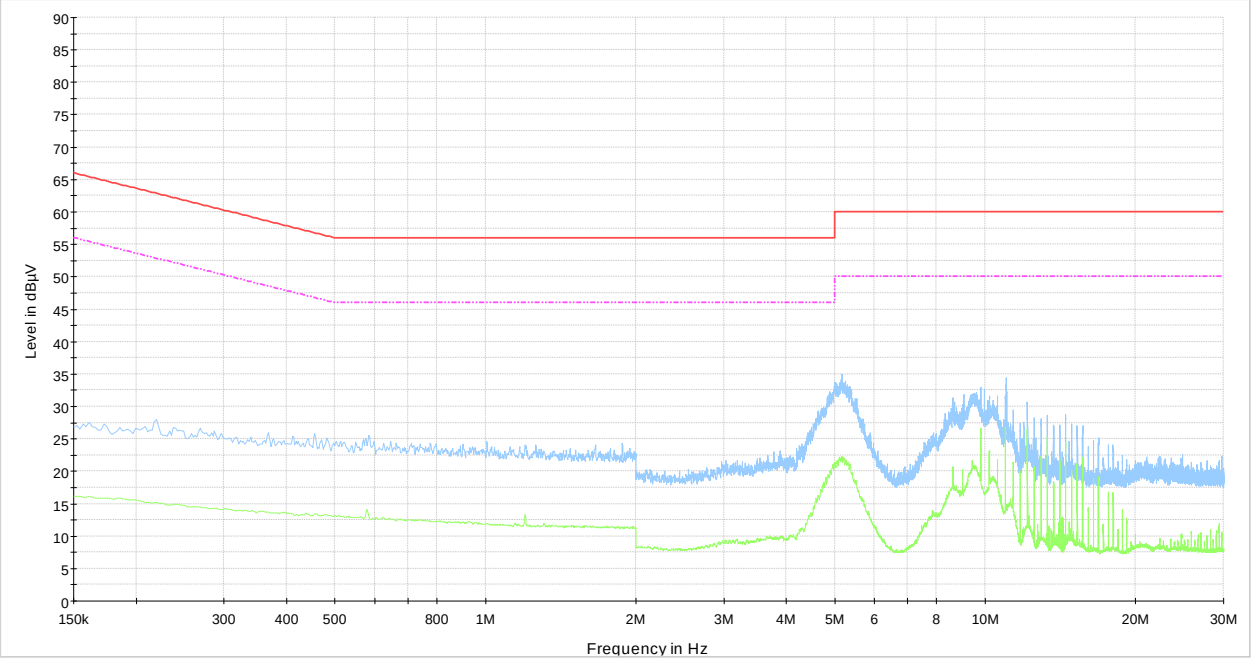
Receiver/spectrum analyzer settings

Preview measurements – Receiver:
Peak and Average detector (Max hold), RBW = 9 kHz, VBW = 30 kHz, Measurement time = 100 ms
Final measurements – Receiver:
Q-Peak and Average detector, RBW = 9 kHz, VBW = 30 kHz, Measurement time = 100 ms

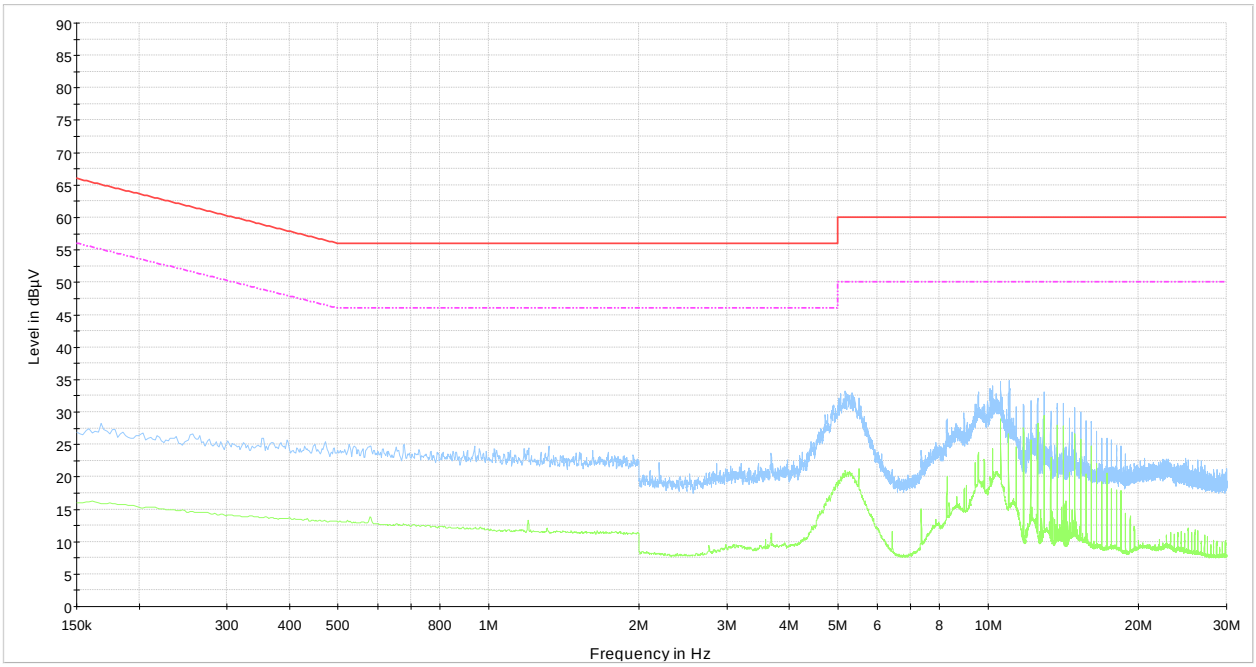
Measurement details

A preview measurement was generated with the receiver in continuous scan mode. Emissions detected within 6 dB or above limit were re-measured with the appropriate detector against the correlating limit and recorded as the final measurement. The spectral scan has been corrected with transducer factors (i.e. cable loss, LISN factors, and attenuators) for determination of compliance.

8.1.4 Test data



Plot 8.1-1: Conducted emissions on phase line



Plot 8.1-2: Conducted emissions on neutral line

8.2 Clause 15.247(a)(2) Minimum 6 dB bandwidth for systems using digital modulation techniques

8.2.1 Definitions and limits

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

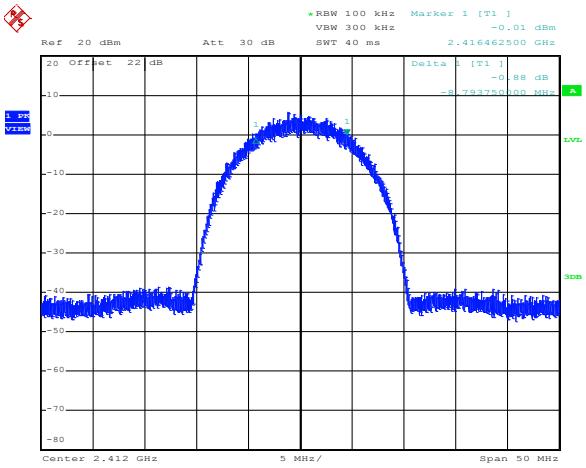
8.2.2 Test summary

Test date	December 19, 2011	**Test engineer**	Kevin Rose	**Verdict**	Pass
Temperature	23 °C	**Air pressure**	1004 mbar	**Relative humidity**	28 %

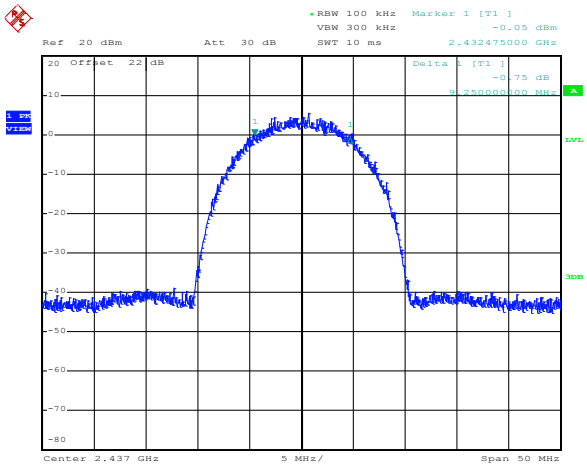
8.2.3 Observations/special notes

Measurements were performed with peak detector using 100 kHz RBW. VBW was set wider than RBW.

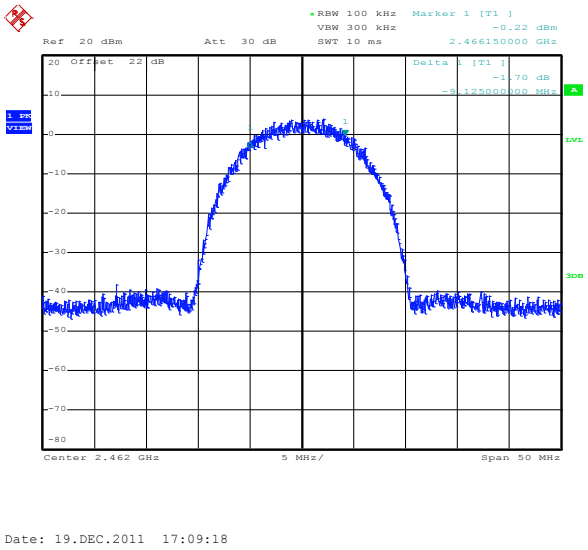
8.2.4 Test data



Plot 8.2-1: 802.11b 6 dB bandwidth – Low channel



Plot 8.2-2: 802.11b 6 dB bandwidth – Mid channel

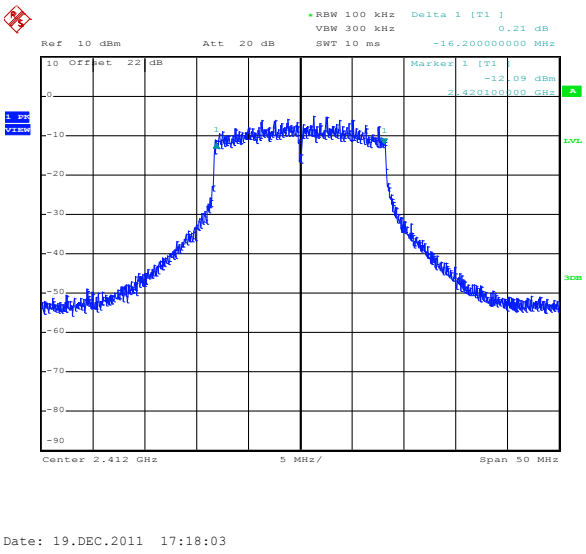


Plot 8.2-3: 802.11b 6 dB bandwidth – High channel

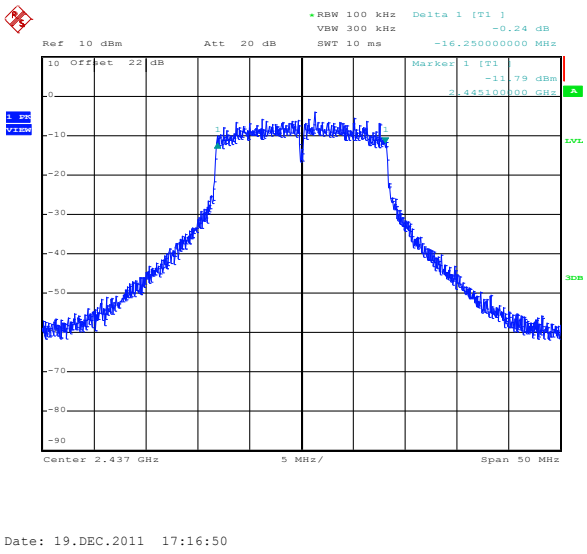
Table 8.2-1: 802.11b 6 dB bandwidth results

Frequency (GHz)	6 dB bandwidth (MHz)	Limit (MHz)
2.412	8.793	> 0.5
2.437	9.250	> 0.5
2.462	9.125	> 0.5

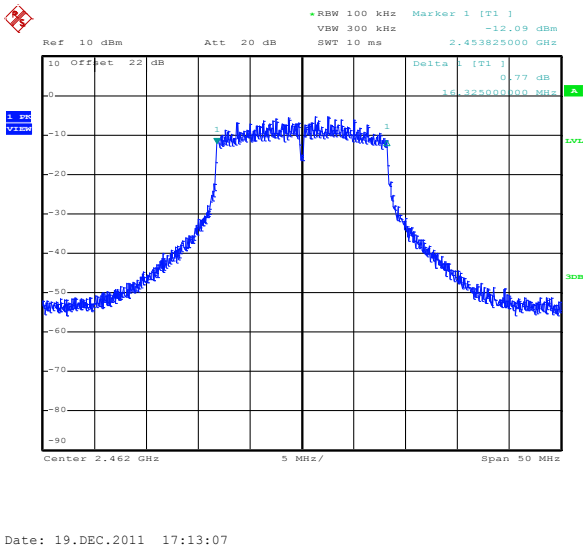
8.2.4 Test data, continued



Plot 8.2-4: 802.11g 6 dB bandwidth – Low channel



Plot 8.2-5: 802.11g 6 dB bandwidth –Mid **c**hannel



Plot 8.2-6: 802.11g 6 dB bandwidth – High channel

Table 8.2-2: 802.11g 6 dB bandwidth results

Frequency (GHz)	6 dB bandwidth (MHz)	Limit (MHz)
2.412	16.200	> 0.5
2.437	16.250	> 0.5
2.462	16.335	> 0.5

8.3 Clause 15.247(b) Maximum peak conducted output power

8.3.1 Definitions and limits

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:

(1) For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

(2) For frequency hopping systems operating in the 902–928 MHz band: 1 watt for systems employing at least 50 hopping channels; and, 0.25 watts for systems employing less than 50 hopping channels, but at least 25 hopping channels, as permitted under paragraph (a)(1)(i) of this section.

(3) For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(i) Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

(ii) Systems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

Fixed, point-to-point operation, as used in paragraphs (b)(3)(i) and (b)(3)(ii) of this section, excludes the use of point-to-multipoint systems, omnidirectional applications, and multiple co-located intentional radiators transmitting the same information. The operator of the spread spectrum intentional radiator or, if the equipment is professionally installed, the installer is responsible for ensuring that the system is used exclusively for fixed, point-to-point operations. The instruction manual furnished with the intentional radiator shall contain language in the installation instructions informing the operator and the installer of this responsibility.

8.3.2 Test summary

Test date	December 19, 2011	**Test engineer**	Kevin Rose	**Verdict**	Pass
Temperature	23 °C	**Air pressure**	1004 mbar	**Relative humidity**	28 %

8.3.3 Observations/special notes

The peak detector was used with RBW wider that 20 dB bandwidth.
Peak measurements were made.
The span was wider than RBW.

8.3.4 Test data

Table 8.3-1: 802.11b Conducted output power results

Frequency (GHz)	Conducted output power (dBm)	Limit (dBm)	Margin (dB)
2.412	17.26	30	12.74
2.437	17.39	30	12.61
2.462	17.30	30	12.70

Table 8.3-2: 802.11b EIRP calculation results

Frequency (GHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2.412	18.06	36	17.94
2.437	18.19	36	17.81
2.462	18.10	36	17.90

Table 8.3-3: 802.11g Conducted output power results

Frequency (GHz)	Conducted output power (dBm)	Limit (dBm)	Margin (dB)
2.412	14.24	30	15.76
2.437	14.63	30	15.37
2.462	13.94	30	16.06

Table 8.3-4: 802.11g EIRP calculation results

Frequency (GHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2.412	15.04	36	20.96
2.437	15.43	36	20.57
2.462	14.74	36	21.26

EIRP = Conducted output power [dBm] + antenna gain [dBi]
Antenna gain = 0.8 dBi

Maximum output power = 17.39 dBm Limit = 30 dBm
Maximum EIRP = 18.19 dBm Limit = 36 dBm

8.4 Clause 15.247(d) Spurious emissions

8.4.1 Definitions and limits

15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

8.4.2 Test summary

Test date	December 19, 2011	**Test engineer**	Kevin Rose	**Verdict**	Pass
Temperature	23 °C	**Air pressure**	1004 mbar	**Relative humidity**	28 %

8.4.3 Observations/special notes

Table 8.4-1: §15.209 – Radiated emission limits

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009–0.490	2400/F	$67.6-20\times\log_{10}(F)$	300
0.490–1.705	24000/F	$87.6-20\times\log_{10}(F)$	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

- The spectrum was searched from 30 MHz to the 10th harmonic.
- The EUT was measured on three orthogonal axis.
- All measurements were performed at a distance of 3 m.
- All measurements were performed:
- below 30 MHz: using a quasi-peak detector with 9 kHz/30 kHz RBW/VBW,
- within 30–1000 MHz range: using a peak detector with 100 kHz/300 kHz RBW/VBW,
- above 1 GHz: using peak detector with 1 MHz/3 MHz RBW/VBW for peak results
- and using peak detector with 1 MHz/10 Hz RBW/VBW for average results.

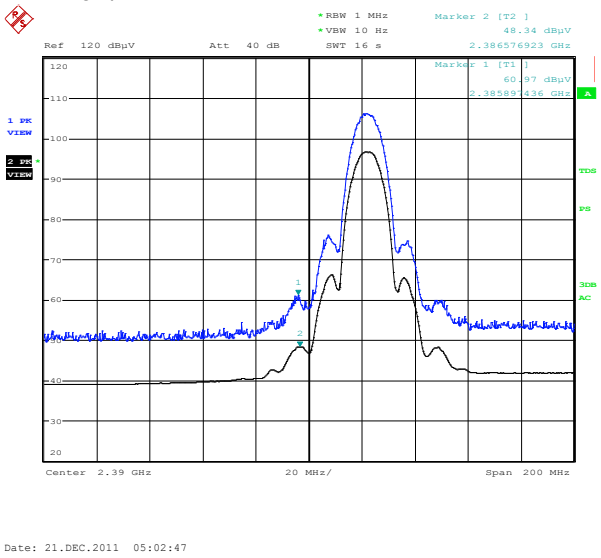
8.4.4 Test data

Table 8.4-2: Restricted bands of operation

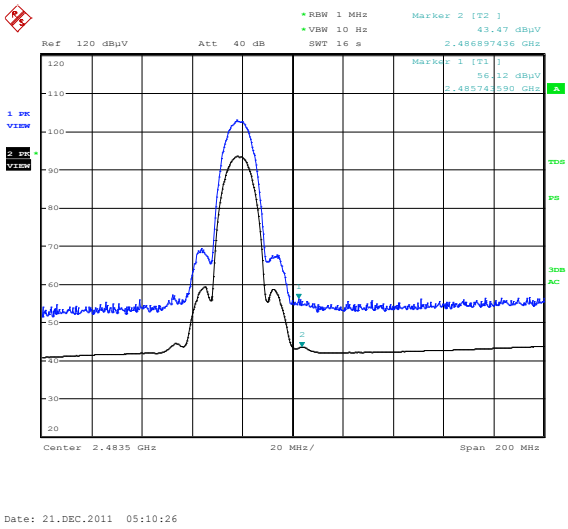
MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
0.495–0.505	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2690–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	Above 38.6
13.36–13.41			

8.4.4 Test data, continued

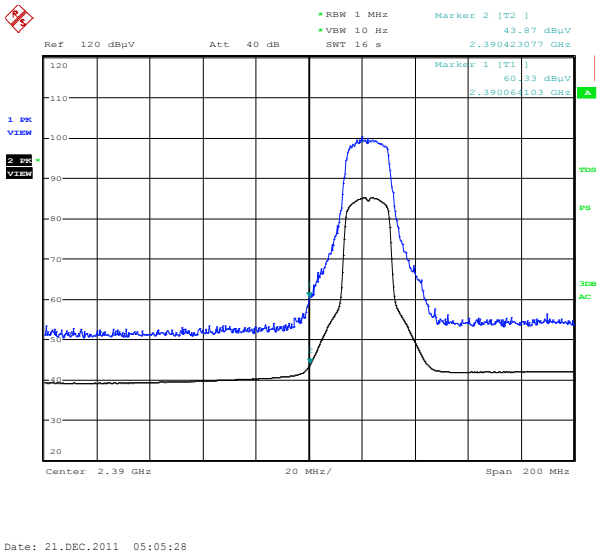
Band edge plots



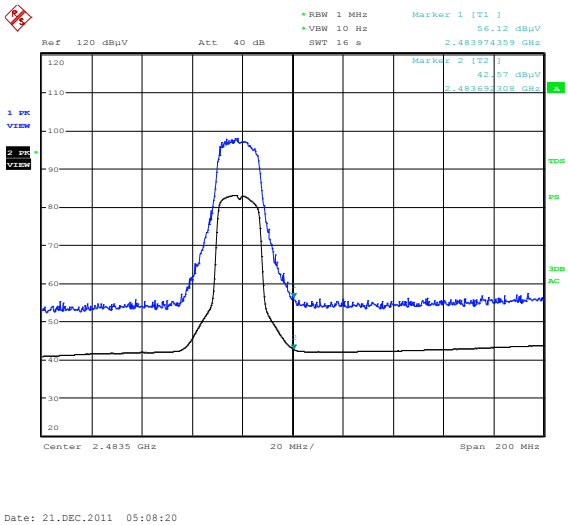
Plot 8.4-1: Lower band edge 802.11b



Plot 8.4-2: Upper band edge 802.11b



Plot 8.4-3: Lower band edge 802.11g

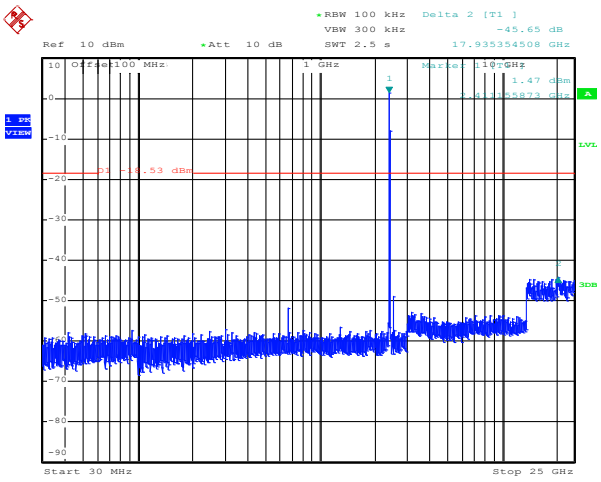


Plot 8.4-4: Upper band edge 802.11g

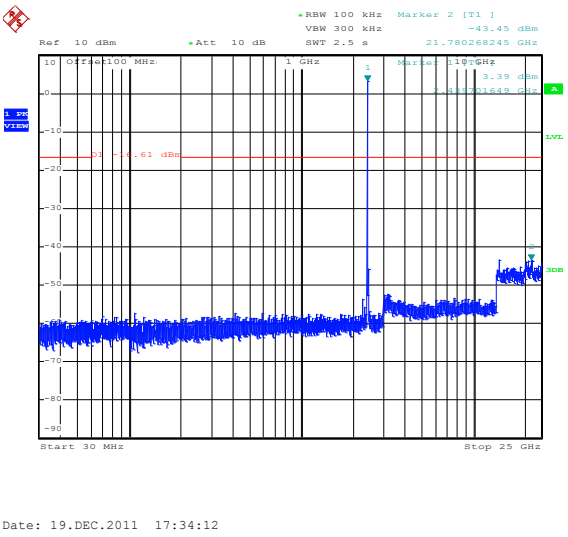
Note: The Peak (blue trace) uses 1 MHz RBW and 1 MHz VBW; The Average (black trace) uses 1 MHz RBW and 10 Hz VBW

8.4.4 Test data, continued

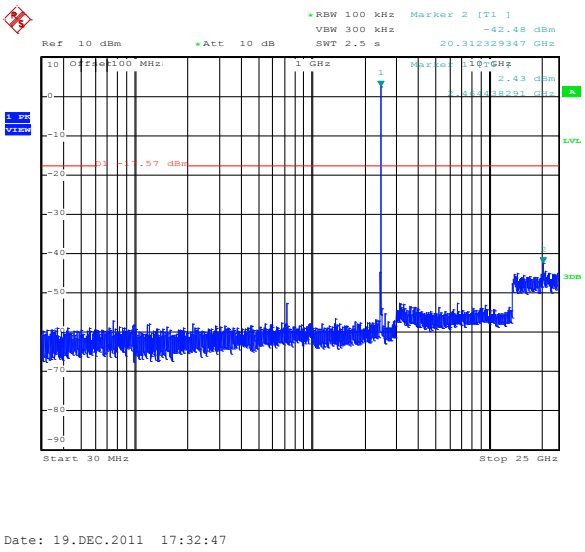
Conducted measurement 802.11b



Plot 8.4-5: Conducted spurious emissions on low channel



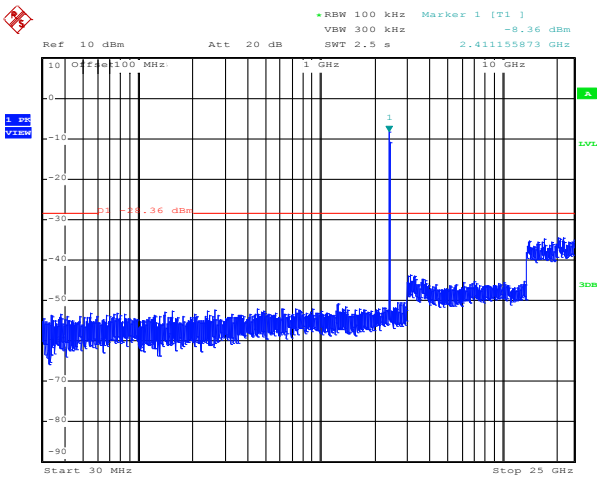
Plot 8.4-6: Conducted spurious emissions on mid channel

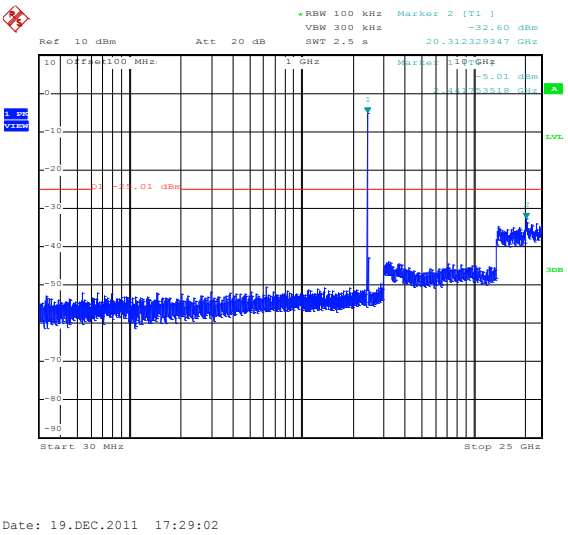


Plot 8.4-7: Conducted spurious emissions on high channel

8.4.5 Test data, continued

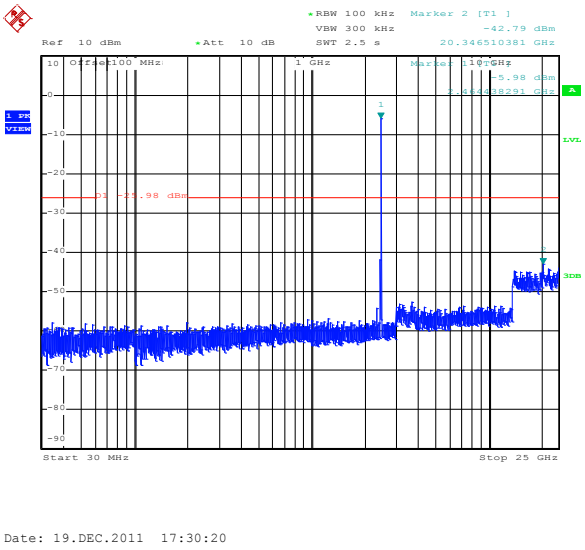
Conducted measurement 802.11g





Plot 8.4-8: Conducted spurious emissions on low channel

Plot 8.4-9: Conducted spurious emissions on mid channel



Plot 8.4-10: Conducted spurious emissions on high channel

Radiated measurement

No emissions were detected within 10 dB of limit inside the 15.205 Restricted bands.

- All measurements were performed at a distance of 3 m.
- All measurements performed:
  - within 30–1000 MHz range: using a peak detector with 100 kHz/300 kHz RBW/VBW,
  - above 1 GHz: using peak detector with 1 MHz/3 MHz RBW/VBW for peak results
  - and using average detector with 1 MHz/3 MHz RBW/VBW for average results

8.5 Clause 15.247(e) Power spectral density for digitally modulated devices

8.5.1 Definitions and limits

§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

- The test was performed using guidelines of ANSI C63.10-2009, Clause 6.11.2.

- PSD option 1 was used since output power option 1 was used.
- Emission peak was located and zoomed in. RBW was set to 3 kHz, VBW was set > RBW. Sweep time was set to Span/3 kHz. Peak level was measured.
- PSD option 2 was used since output power option 2 was used.
- Emission peak was located and zoomed in. RBW was set to 3 kHz, VBW was set to ≥9 kHz. Sweep time was set to automatic. (Sample detector was used due to bin width < 0.5 RBW and transmission pulse remained at maximum transmit power throughout 100 sweeps of averaging.) Peak detector was used. Average tracing over 100 sweeps in power averaging mode.

8.5.2 Test summary

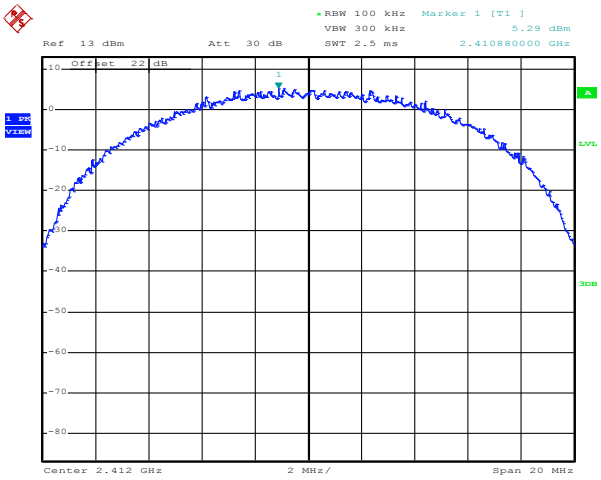
Test date	December 19, 2011	**Test engineer**	Kevin Rose	**Verdict**	Pass
Temperature	23 °C	**Air pressure**	1004 mbar	**Relative humidity**	28 %

8.5.3 Observations/special notes

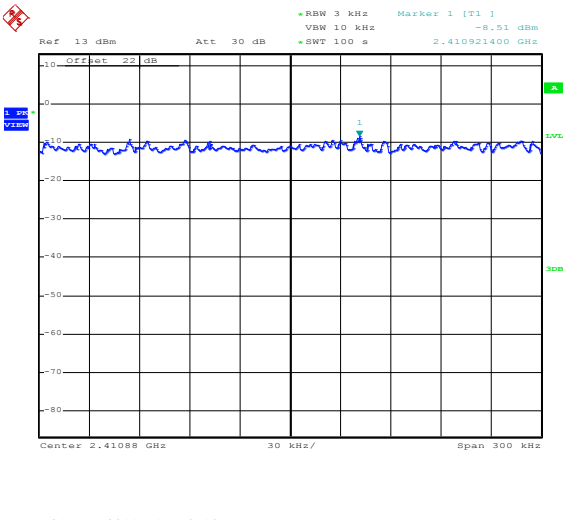
Sweep time was set to value of Span / RBW. Sweep time was set to 100 s (300 kHz / 3 kHz)

8.5.4 Test data

Conducted measurement 802.11b

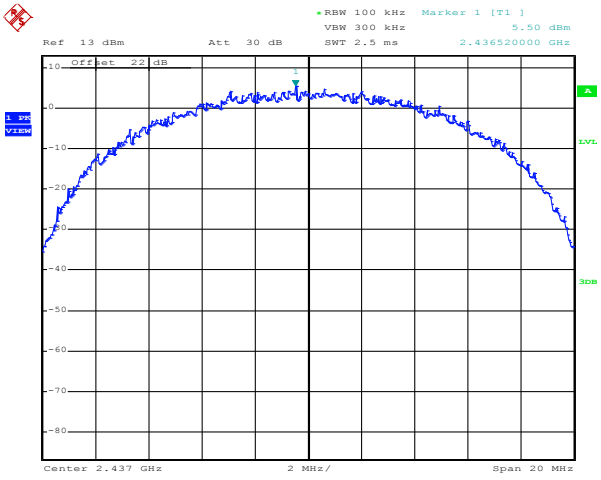


Plot 8.5-1: PSD low channel

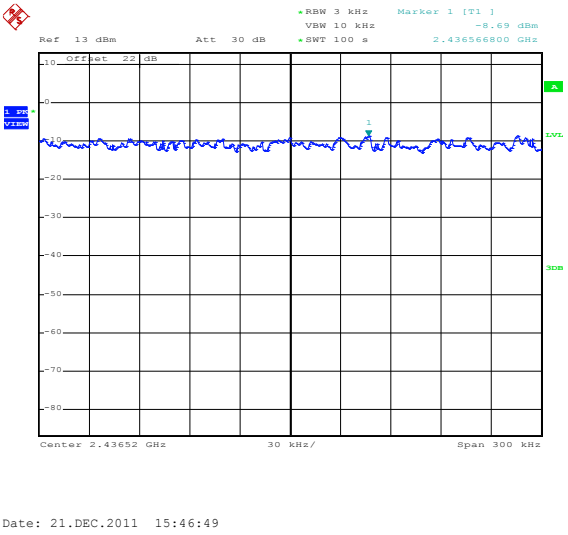


Plot 8.5-2: PSD low channel

Conducted measurement 802.11b



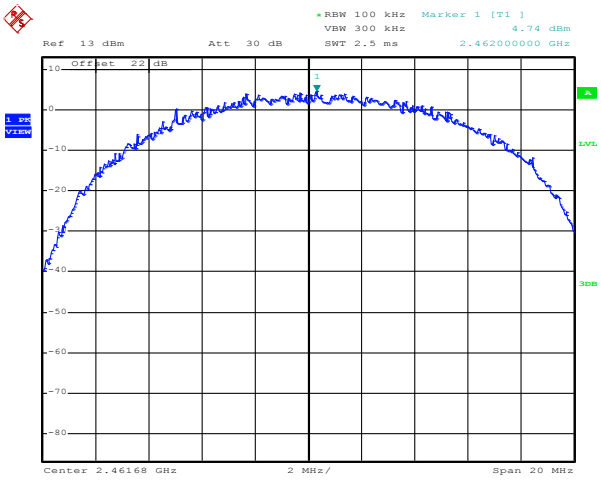
Plot 8.5-3: PSD mid channel



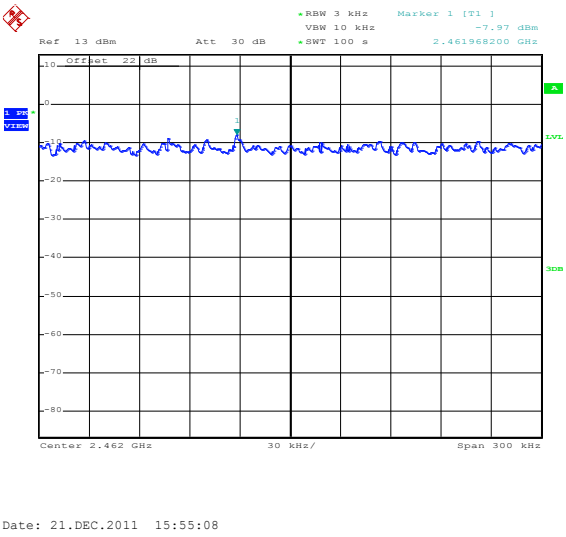
Plot 8.5-4: PSD mid channel

8.5.4 Test data, continued

Conducted measurement 802.11b



Plot 8.5-5: PSD High channel



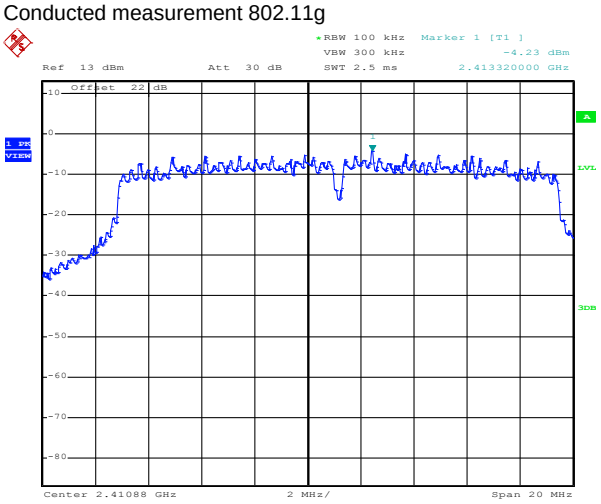
Plot 8.5-6: PSD High channel

Table 8.5-1: PSD results

Frequency (GHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)
2.412	-8.51	8.0	16.51
2.437	-8.61	8.0	16.61
2.462	-7.97	8.0	15.97

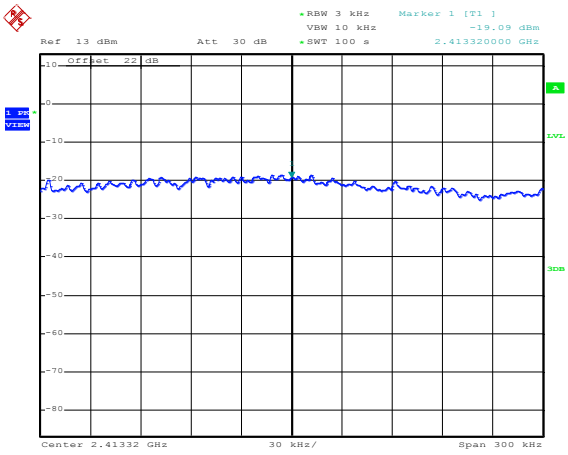
8.5.4 Test data, continued

Conducted measurement 802.11g



Date: 21.DEC.2011 15:41:09

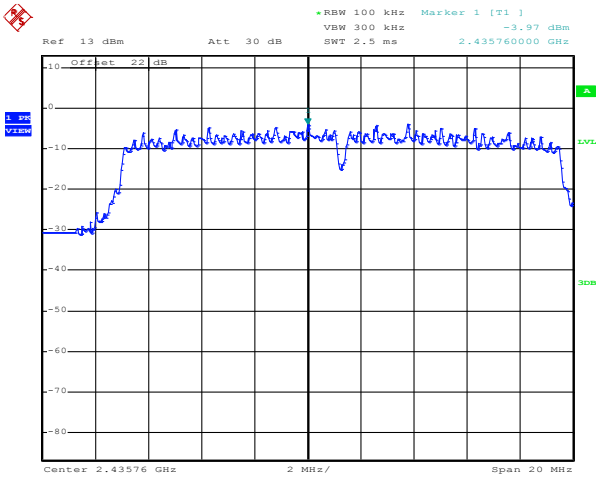
Plot 8.5-7: PSD low channel



Date: 21.DEC.2011 15:43:31

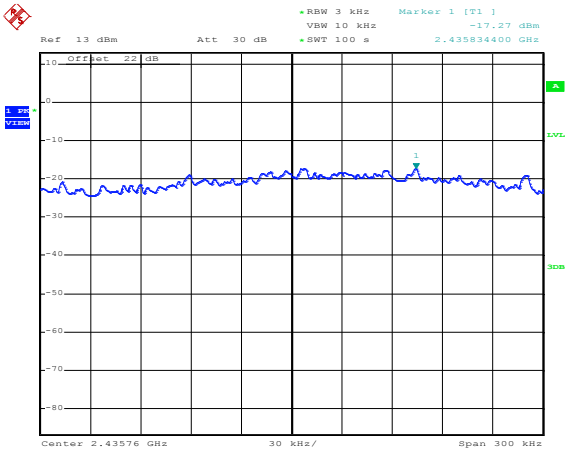
Plot 8.5-8: PSD low channel

Conducted measurement 802.11g



Date: 21.DEC.2011 15:47:55

Plot 8.5-9: PSD mid channel

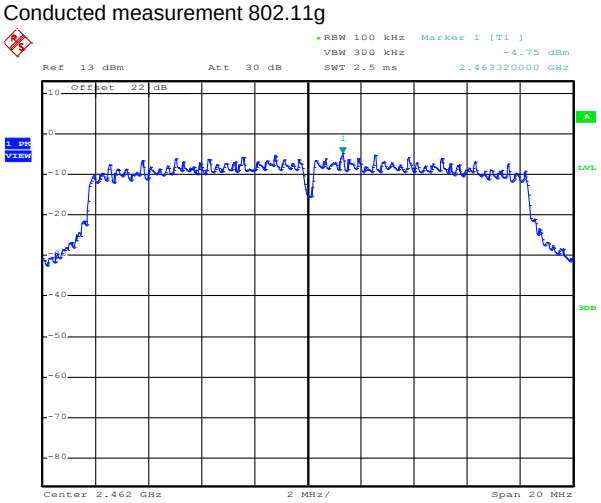


Date: 21.DEC.2011 15:50:49

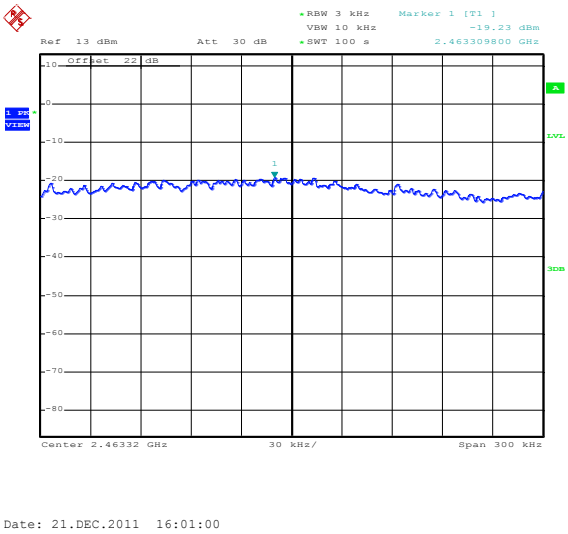
Plot 8.5-10: PSD mid channel

8.5.4 Test data, continued

Conducted measurement 802.11g



Plot 8.5-11: PSD High channel



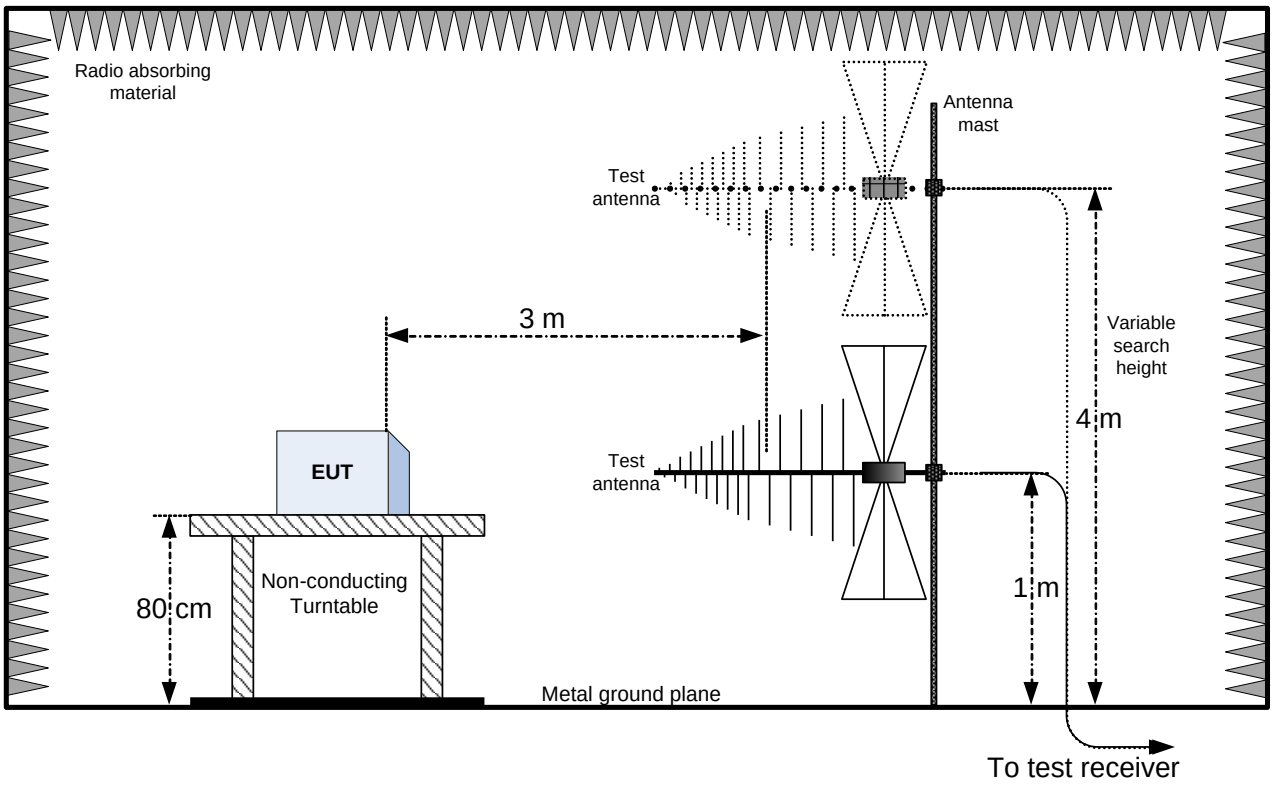
Plot 8.5-12: PSD High channel

Table 8.5-2: PSD results

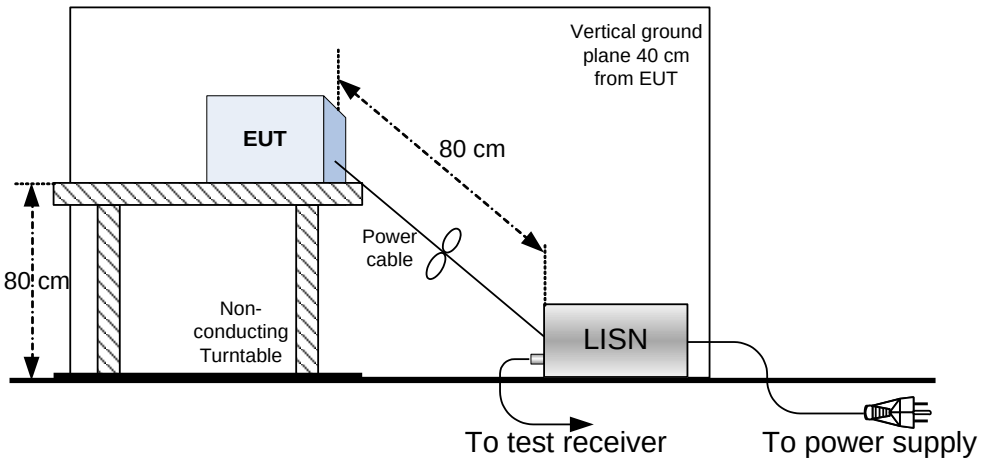
Frequency (GHz)	PSD (dBm/3 kHz)	Limit (dBm/3 kHz)	Margin (dB)
2.412	-19.09	8	27.09
2.437	-17.27	8	25.27
2.462	-19.23	8	27.23

Section 9 Block diagrams of test set-ups

9.1 Radiated emissions set-up



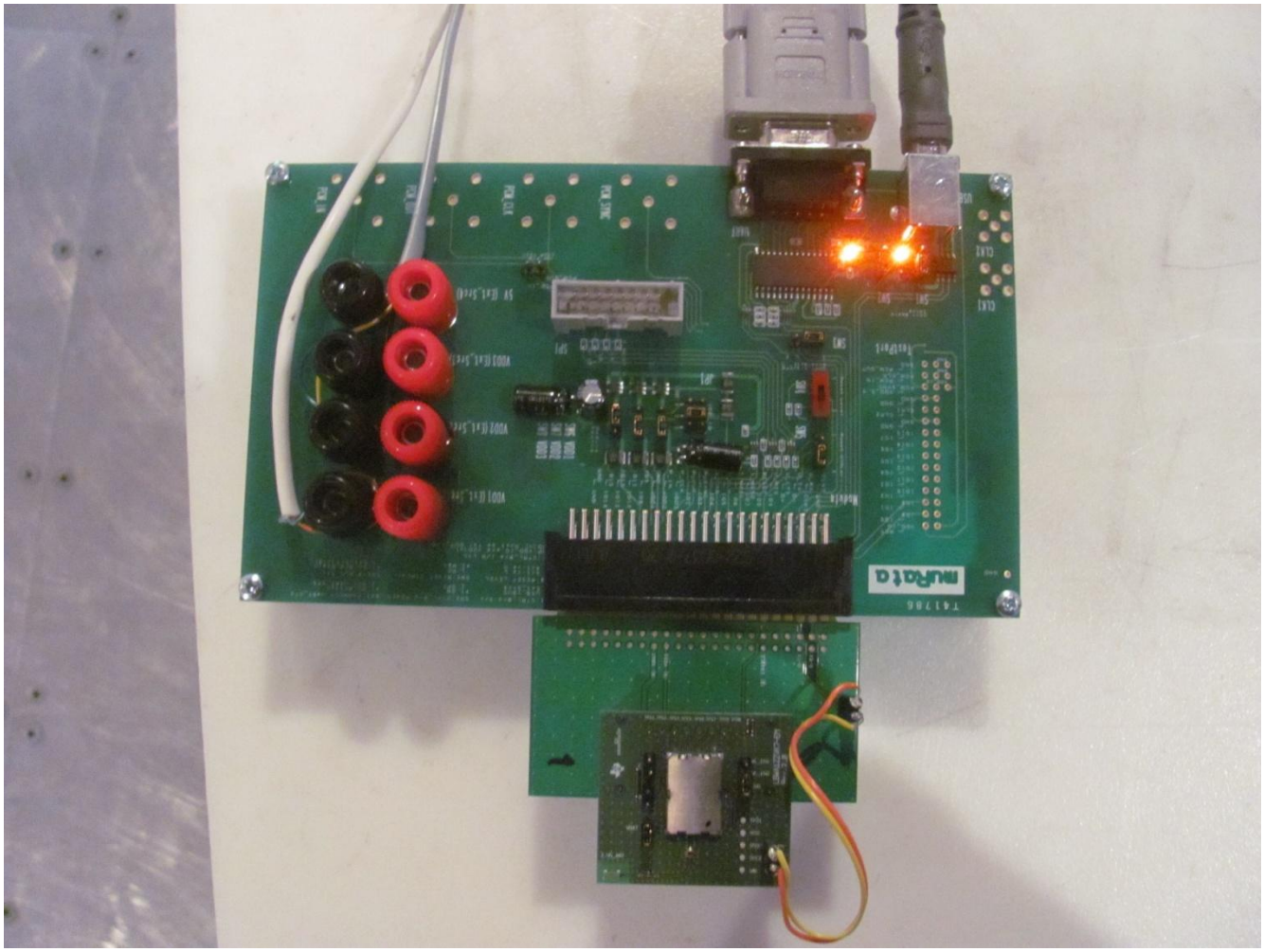
9.2 Conducted emissions set-up



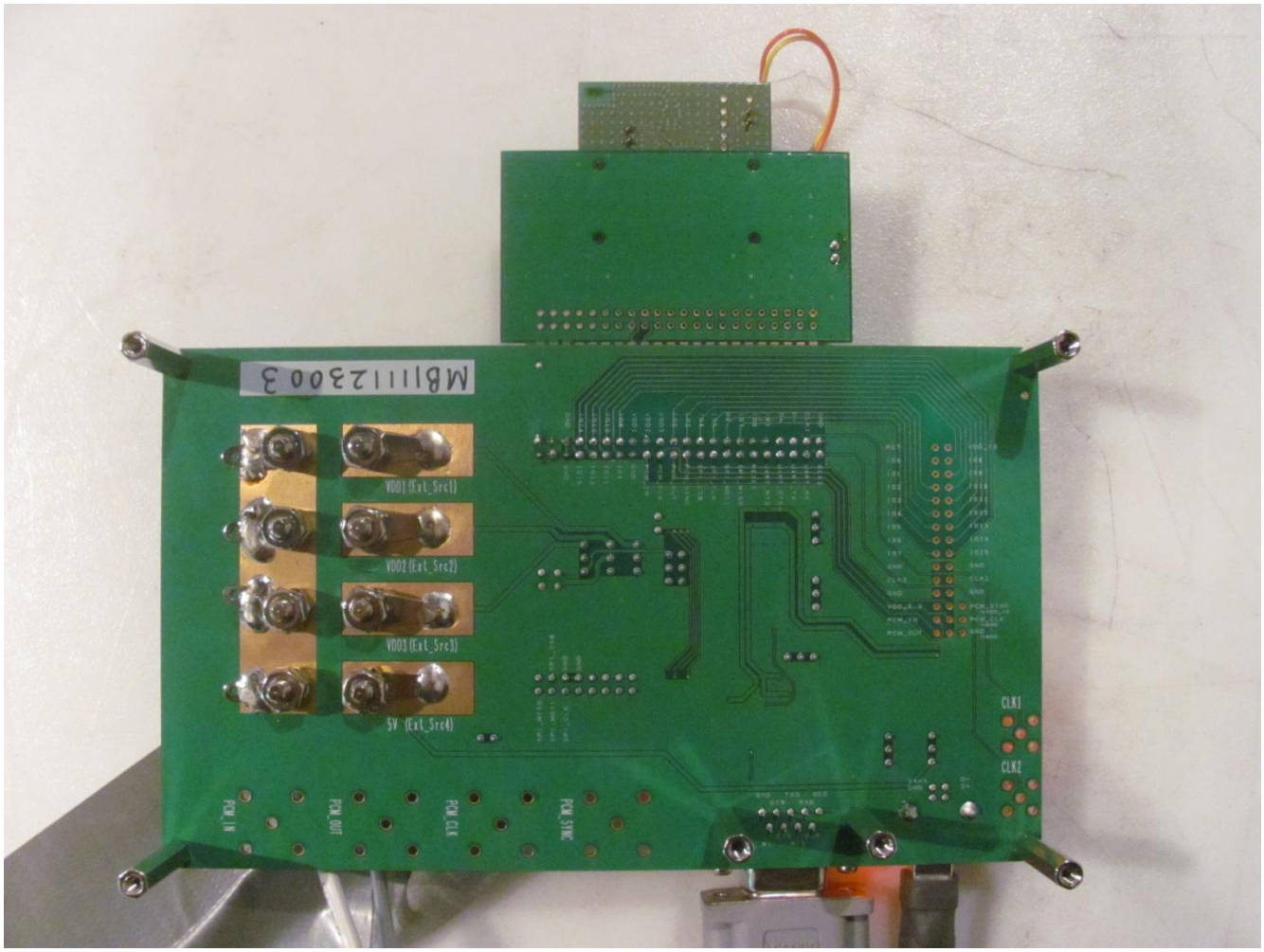
Section 10 EUT photos

10.1 External photos

Front view



Rear view



Side view