



Flom Test Labs
EMI, EMC, RF Testing Experts Since 1963

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Date: May 2, 2007

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Novatel Wireless Technologies Ltd.
Equipment: NBZNRM-EU860D Colocated with QDS-BRCM1019 802.11.a,b,g
FCC ID: NBZNRM-EU860D
FCC Rules: Radio Frequency Radiation Exposure Limits
47 CFR 1.1310
MPE - Mobiles X Fixed Based Station

Gentlemen:

On behalf of the Applicant, enclosed please find the Supplemental Test Data Report, the whole for Environmental Assessment (MPE) of the referenced equipment as shown.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

Hoosamuddin S. Bandukwala, Lab Director

enclosure(s)
cc: Applicant
HSB/jhe

Flom Test Labs
3356 N. San Marcos Place, Suite 107
Chandler, Arizona 85225-7176
(866) 311-3268 phone, (480) 926-3598 fax

p0740019, d0750005



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Environmental Assessment

for

Mobiles

for

FCC ID: FCC ID: NBZNRM-EU860D

Model:NBZNRM-EU860D

to

Federal Communications Commission

47 CFR 1.1310 (MPE)

Radio Rrequency Radiation Exposure Limits

Date Of Report: May 2, 2007

**On the Behalf of the
Applicant:**

Novatel Wireless Technologies Ltd.

At the Request of:

Novatel Wireless Technologies Ltd.
Suite 325, 6715 8th Street NE
Calgary, AB T2E7H7

Attention of:

Shaun Gray, Certification Technologist
403-295-4822
E-mail: sgray@nvtl.com

Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

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Required information per ISO 17025-2005, paragraph 5.0:

a) **Test Report (Supplemental)**

b) Laboratory: Flom Test Labs
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044) Chandler, AZ 85225

c) Report Number: d0750005

d) Client: Novatel Wireless Technologies Ltd.
Suite 325, 6715 8th Street NE
Calgary, AB T2E7H7

e) Identification: NBZNRM-EU860D
FCC ID: NBZNRM-EU860D
Description: Dell laptop models Inspiron 1520, Inspiron 1521 and Vostro 1500

f) EUT Condition: Not required unless specified in individual tests.

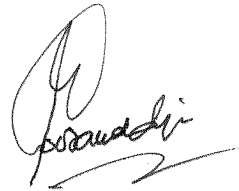
g) Report Date: May 2, 2007

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with MFA internal quality manual.

m) Supervised by:



Hoosamuddin S. Bandukwala, Lab Director

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

Identification of the Equipment Under Test (EUT)

Name and Address of Applicant:	Novatel Wireless Technologies Ltd. Suite 325, 6715 8th Street NE Calgary, AB T2E7H7		
Manufacturer:	Novatel Wireless Technologies Ltd. Suite 325, 6715 8th Street NE Calgary, AB T2E7H7		
FCC ID:	NBZNRM-EU860D		
Model Number:	NBZNRM-EU860D		
Description:	Dell laptop models Inspiron 1520, Inspiron 1521 and Vostro 1500		
Type of Emission:	GSM and 80211.a,b,g		
Frequency Range, MHz:	GSM 824 - 848 and 1850 - 1909 802.11 a,b,g 2412 – 2472 and 5745 - 5825		
Power Rating, Watts:	0.79		
	☐ Switchable	☐ Variable	☒ N/A
Modulation:	☐	AMPS	
	☐	TDMA	
	☒	GSM	
	☒	OTHER	
Antenna:	☐	Helical	
	☐	Monopole	
	☐	Whip	
	☒	Other	

Note: For RF Safety test antenna gain taken at the upper range of expected gain (i.e. 0 dBd) and RF Power set to highest nominal power across all channels.

A2LA

"A2LA has accredited Flom Test Labs, Inc. Chandler, AZ for technical competence in the field of Electrical testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Please refer to www.a2la.org for current scope of accreditation.

Certificate number: 2152.01



Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992/2000, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

Name of Test: Environmental Assessment

Specification: FCC: 47 CFR 1.1310

Measurement Guide: ANSI/IEEE C95.1 1992

Name of Test: R.F. Radiation Exposure

FCC Rules: 1.1307, 1.1310, 1.1311, 2.1091
 Description, EUT: See page 2 of Test Report

Limits: Uncontrolled Exposure	0.3-1.234 MHz:	Limit [mW/cm ²] = 100
47 CFR 1.1310	1.34-30 MHz:	Limit [mW/cm ²] = (180/f ²)
Table 1, (B)	30-300 MHz:	Limit [mW/cm ²] = 0.2
	300-1500 MHz	Limit [mW/cm ²] = f/1500
	1500-100,000 MHz:	Limit [mW/cm ²] = 1.0

Test Frequencies, MHz	824 – 848
Power, Conducted, mW	= 790
Antenna Gain	= 3 dBi
Antenna Model	Planer Inverted F Antenna
Distance cm	20

Limit Calculations Limit_[mW/cm²] = 0.549

Test Frequencies, MHz	1851 - 1908
Power, Conducted, mW	= 790
Antenna Gain	= 3 dBi
Antenna Model	Planer Inverted F Antenna
Distance cm	20

Limit Calculations Limit_[mW/cm²] = 1.0

NBZNRM-EU860D GSM

GSM Frequency MHz	TX Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
824 – 848	790	0.314	0.549	Pass
1851 - 1908	760	0.302	1.0	Pass

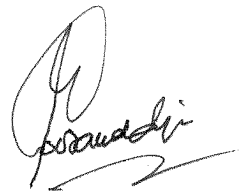
QDS-BRCM1019 802.11.a,b,g

802.11 a,b,g Frequency MHz	TX Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2412 - 2472	433	0.172	1.0	Pass
5745 - 5825	233	0.093	1.0	Pass

EU860 GSM Collocated QDS-BRCM1019 802.11.a,b,g

GSM Frequency MHz	802.11.a,b,g Frequency MHz	GSM Power Density (mW/cm ²)	802.11.a,b,g Power Density (mW/cm ²)	Total Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
824 – 848	2412 – 2472	0.314	0.172	0.486	0.549	Pass
824 – 848	5745 - 5825	0.314	0.093	0.407	0.549	Pass
1851 - 1908	2412 – 2472	0.302	0.172	0.474	1.0	Pass
1851 - 1908	5745 - 5825	0.302	0.093	0.395	1.0	Pass

End of Test Report



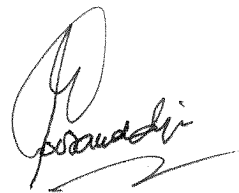
Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

**Testimonial
and
Statement of Certification**

This is to certify that:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.



Certifying Engineer:

Hoosamuddin S. Bandukwala, Lab Director