



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

toll-free: (866) 311-3268  
fax: (480) 926-3598  
<http://www.flomlabs.com>  
[info@flomlabs.com](mailto:info@flomlabs.com)

Date: May 2, 2007

Federal Communications Commission  
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Novatel Wireless Technologies Ltd.  
Equipment: NBZNRM -EU860D Collocated with E2KWM3945ABG 802.11.a  
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

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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 Frequency 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](mailto: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: d0750002

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.

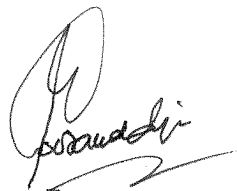
g) Report Date: May 2, 2007

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)

|                                       |                                                                                           |                                   |                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------|
| <b>Name and Address of Applicant:</b> | Novatel Wireless Technologies Ltd.<br>Suite 325, 6715 8th Street NE<br>Calgary, AB T2E7H7 |                                   |                                         |
| <b>Manufacturer:</b>                  | Novatel Wireless Technologies Ltd.<br>Suite 325, 6715 8th Street NE<br>Calgary, AB T2E7H7 |                                   |                                         |
| <b>FCC ID:</b>                        | NBZNRM-EU860D                                                                             |                                   |                                         |
| <b>Model Number:</b>                  | NBZNRM-EU860D                                                                             |                                   |                                         |
| <b>Description:</b>                   | Dell laptop models Inspiron 1520, Inspiron 1521 and Vostro 1500                           |                                   |                                         |
| <b>Type of Emission:</b>              | GSM and 802.11.a                                                                          |                                   |                                         |
| <b>Frequency Range, MHz:</b>          | GSM 824 - 848 and 1850 - 1909<br>802.11.a 5180 – 5240 and 5260 - 5320                     |                                   |                                         |
| <b>Power Rating, Watts:</b>           | 0.79                                                                                      |                                   |                                         |
|                                       | <input type="checkbox"/> Switchable                                                       | <input type="checkbox"/> Variable | <input checked="" type="checkbox"/> N/A |
| <b>Modulation:</b>                    |                                                                                           |                                   |                                         |
|                                       | <input type="checkbox"/>                                                                  | AMPS                              |                                         |
|                                       | <input type="checkbox"/>                                                                  | TDMA                              |                                         |
|                                       | <input checked="" type="checkbox"/>                                                       | GSM                               |                                         |
|                                       | <input checked="" type="checkbox"/>                                                       | OTHER                             |                                         |
| <b>Antenna:</b>                       |                                                                                           |                                   |                                         |
|                                       | <input type="checkbox"/>                                                                  | Helical                           |                                         |
|                                       | <input type="checkbox"/>                                                                  | Monopole                          |                                         |
|                                       | <input type="checkbox"/>                                                                  | Whip                              |                                         |
|                                       | <input checked="" type="checkbox"/>                                                       | 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](http://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

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

Limit Calculations  $\text{Limit}_{[\text{mW/cm}^2]} = 0.549$

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

Limit Calculations  $\text{Limit}_{[\text{mW/cm}^2]} = 1.0$



### NBZNRM-EU860D GSM

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

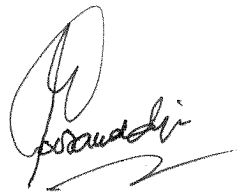
### E2KWM3945ABG 802.11.a

| 802.11 a Frequency MHz | TX Power (mW) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|------------------------|---------------|-------------------------------------|-----------------------------|--------|
| 5180 - 5240            | 45            | 0.018                               | 1.0                         | Pass   |
| 5260 - 5320            | 69            | 0.027                               | 1.0                         | Pass   |

### NBZNRM-EU860D GSM Collocated with E2KWM3945ABG 802.11.a

| GSM Frequency MHz | 802.11.a Frequency MHz | GSM Power Density (mW/cm <sup>2</sup> ) | 802.11.a Power Density (mW/cm <sup>2</sup> ) | Total Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|-------------------|------------------------|-----------------------------------------|----------------------------------------------|-------------------------------------------|-----------------------------|--------|
| 824 – 848         | 5180 - 5240            | 0.314                                   | 0.018                                        | 0.332                                     | 0.549                       | Pass   |
| 824 – 848         | 5260 - 5320            | 0.314                                   | 0.027                                        | 0.341                                     | 0.549                       | Pass   |
| 1851 - 1908       | 5180 - 5240            | 0.302                                   | 0.018                                        | 0.320                                     | 1.0                         | Pass   |
| 1851 - 1908       | 5260 - 5320            | 0.302                                   | 0.027                                        | 0.329                                     | 1.0                         | Pass   |

End of Test Report



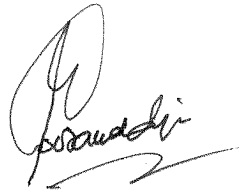
Supervised By:

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