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Date:	March 22.	2007

Applicant: Novatel Wireless Technologies Ltd.

Suite 325, 6715 8th Street NE

Calgary, AB T2E7H7

Mailing: 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

NBZNRM-EU860D Colocated with QDS-BRCM1019 802.11.a,b,g Equipment:

FCC ID: NBZNRM-EU860D

FCC Rules: Radio Frequency Radiation Exposure Limits

47 CFR 1.1310

MPE - Mobiles Fixed Based Station

#### Gentlemen:

Enclosed please find your copy of the Supplemental Test Data Report, the whole for Environmental Assessment (MPE) of the referenced equipment as shown.

Please allow from 8-12 weeks to hear from the Commission, who may request additional data or information, and even a sample for pre-grant audit testing.

Should you need any clarification, just fax or phone. Thank you again for this order - it has been a pleasure to be of service.

Sincerely yours,

Hoosamuddin S. Bandukwala, Lab Director

enclosure(s) HSB/jhe

http://www.flomlabs.com

Date: March 22, 2007

Federal Communications Commission

Via: Electronic Filing

Authorization & Evaluation Division Attention:

Applicant: Novatel Wireless Technologies Ltd.

NBZNRM-EU860D Colocated with QDS-BRCM1019 802.11.a,b,g Equipment:

FCC ID: NBZNRM-EU860D

FCC Rules: Radio Frequency Radiation Exposure Limits

47 CFR 1.1310

MPE - Mobiles 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



http://www.flomlabs.com

### **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: March 22, 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/IEC Guide 25-1990, paragraph 13.2:

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: d0730052

d) Client: Novatel Wireless Technologies Ltd.

Suite 325, 6715 8th Street NE

Calgary, AB T2E7H7

e) Identification: NBZNRM-EU860D

FCC ID: NBZNRM-EU860D

Description: Laptop with GSM and 80211.a,b,g

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

g) Report Date: March 22, 2007

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

i) Sampling method: No sampling procedure used.

I) 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:	Laptop with GSM and 80211.a,b,g				
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:  Switchable	0.79 VariableX N/A				
Modulation:	AMPS TDMA X GSM X OTHER				
Antenna:	Helical Monopole Whip X Other				
Note: For RF Safety test antenna gain to set to highest nominal power across all ch	aken at the upper range of expected gain (i.e. 0 dBd) and RF Powe annels.				



## 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 <a href="www.a2la.org">www.a2la.org</a> 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

47 CFR 1.1310 Table 1, (B)  $\begin{array}{lll} \text{0.3-1.234 MHz:} & \text{Limit } [\text{mW/cm}^2] = 100 \\ \text{1.34-30 MHz:} & \text{Limit } [\text{mW/cm}^2] = (180/\text{f}^2) \\ \text{30-300 MHz:} & \text{Limit } [\text{mW/cm}^2] = 0.2 \\ \text{300-1500 MHz} & \text{Limit } [\text{mW/cm}^2] = \text{f/1500} \\ \text{1500-100,000 MHz:} & \text{Limit } [\text{mW/cm}^2] = 1.0 \\ \end{array}$ 

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 (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

## QDS-BRCM1019 802.11.a,b,g

802.11 a,b,g Frequency MHz	TX Power (mW)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	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	802.11.a,b,g	GSM	802.11.a,b,g	Total	Limit	Result
MHz	Frequency	Power	Power	Power	(mW/cm <sup>2</sup> )	
	MHz	Density	Density	Density		
		(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )		
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