



**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:** February 26, 2009

**Applicant:** Novatel Wireless Inc.  
9645 Scranton Rd, Suite 205  
San Diego, CA 92121

**Attention of:** John Spall, Project Manager  
Ph: 858-812-0697  
Fax: 858-450-7183  
email: [jspall@nvtl.com](mailto:jspall@nvtl.com)

**Equipment:** PKRNVWE760D co located with E2K512ANHMMW

**FCC ID:** PKRNVWE760D

**FCC Rules:** Radio Frequency Radiation Exposure Limits  
47 CFR 1.1310

MPE - Mobiles     X     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.

Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

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

p0920011, d0920044 Rev 1.0



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**Date:** February 26, 2009

Federal Communications Commission  
Via: Electronic Filing

**Attention:** Authorization & Evaluation Division

**Applicant:** Novatel Wireless Inc.  
**Equipment:** PKRNVWE760D co located with E2K512ANHMW  
**FCC ID:** PKRNVWE760D  
**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.

Supervised By:

Hoosamuddin S. Bandukwala, Lab Director



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p0920011, d0920044 Rev 1.0

# Environmental Assessment

for

**Mobiles**

for

**FCC ID:**

**Model:** PKRNVWE760D co located with E2K512ANHMW

to

**Federal Communications Commission**

**47 CFR 1.1310**

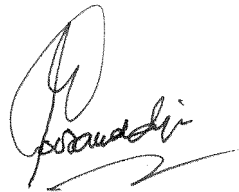
Radio Frequency Radiation Exposure Limits

**Date Of Report:** February 26, 2009

**On the Behalf of the Applicant:** Novatel Wireless Inc.

**At the Request of:** Novatel Wireless Inc.  
9645 Scranton Rd, Suite 205  
San Diego, CA 92121

**Attention of:** John Spall, Project Manager  
Ph: 858-812-0697  
Fax: 858-450-7183  
email: jspall@nvtl.com



Supervised By:

Hoosamuddin S. Bandukwala, Lab Director

### Revision History

Revision	Date	Revised By	Reason for revision
1.0	February 26, 2009	H Bandukwala	Original Document

## Table of Contents

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	Test Report	1
	Identification of the Equipment Under Test	2
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1.1310	Environmental Assessment	5

Required information per ISO 17025-2005, paragraph 5.10:

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: d0920044

d) Client: Novatel Wireless Inc.  
9645 Scranton Rd, Suite 205  
San Diego, CA 92121

e) Identification: PKRNVWE760D co located with E2K512ANHMW  
Description: Laptop Computer Hanks M (Studio 1555)

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

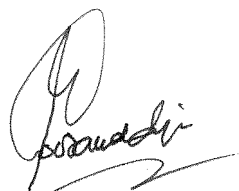
g) Report Date: February 26, 2009

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

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with FTL 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 Inc. 9645 Scranton Rd, Suite 205 San Diego, CA 92121		
<b>Manufacturer:</b>	Novatel Wireless Inc. 9645 Scranton Rd, Suite 205 San Diego, CA 92121		
<b>FCC ID:</b>	PKRNVWE760D		
<b>Model Number:</b>	Hanks M (Studio 1555)		
<b>Description:</b>	Class II Permissive		
<b>Type of Emission:</b>	CDMA		
<b>Frequency Range, MHz:</b>	824.7 – 848.31, 1851.25 – 1908.75		
<b>Power Rating, Watts:</b>	0.877		
	<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"/>	CDMA	
	<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 C63.4-2004 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.

<b>Name of Test:</b>	Environmental Assessment	
<b>Specification:</b>	FCC: 47 CFR 1.1310	
<b>Measurement Guide:</b>	ANSI/IEEE C95.1 1992	
<b>Name of Test:</b>	R.F. Radiation Exposure	
<b>FCC Rules:</b>	1.1307, 1.1310, 1.1311, 2.1091	
<b>Limits: Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)</b>	0.3-1.234 MHz:	Limit [mW/cm <sup>2</sup> ] = 100
	1.34-30 MHz:	Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> )
	30-300 MHz:	Limit [mW/cm <sup>2</sup> ] = 0.2
	300-1500 MHz:	Limit [mW/cm <sup>2</sup> ] = f/1500
	1500-100,000 MHz:	Limit [mW/cm <sup>2</sup> ] = 1.0
<b>Test Frequencies, MHz</b>	824 – 848	
<b>Power, Conducted, mW</b>	= 877	
<b>Antenna Gain</b>	= 3 dBi	
<b>Antenna Model</b>	Planer Inverted F Antenna	
<b>Distance cm</b>	20	
<b>Limit Calculations</b>	Limit <sub>[mW/cm<sup>2</sup>]</sub> = 0.549	
<b>Test Frequencies, MHz</b>	1851 - 1908	
<b>Power, Conducted, mW</b>	= 628	
<b>Antenna Gain</b>	= 3 dBi	
<b>Antenna Model</b>	Planer Inverted F Antenna	
<b>Distance cm</b>	20	
<b>Limit Calculations</b>	Limit <sub>[mW/cm<sup>2</sup>]</sub> = 1.0	

**PKRNVWE760D CDMA**

CDMA Frequency MHz	TX Power (m)W	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
824 – 848	877	0.348	0.549	Pass
1851 - 1908	628	0.249	1.0	Pass

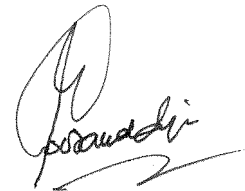
**E2K512ANHWW 802.11**

802.11 Frequency MHz	TX Power (mW)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
2412 - 2462	72	0.0286	1.0	Pass
5180 - 5320	45	0.0179	1.0	Pass
5500 - 5700	71	0.0282	1.0	Pass
5745 - 5825	62	0.0246	1.0	Pass

**PKRNVWE760D CDMA Collocated with QDS-BRCM1031 802.11**

CDMA Frequency MHz	802.11 Frequency MHz	CDMA Power Density (mW/cm <sup>2</sup> )	802.11 Power Density (mW/cm <sup>2</sup> )	Total Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
824 – 848	2412 - 2462	0.348	0.0286	0.3766	0.549	Pass
824 – 848	5180 - 5320	0.348	0.0179	0.3659	0.549	Pass
824 – 848	5500 - 5700	0.348	0.0282	0.3762	0.549	Pass
824 – 848	5745 - 5825	0.348	0.0246	0.3726	0.549	Pass
1851 - 1908	2412 - 2462	0.249	0.0286	0.2776	1.0	Pass
1851 - 1908	5180 - 5320	0.249	0.0179	0.2669	1.0	Pass
1851 - 1908	5500 - 5700	0.249	0.0282	0.2772	1.0	Pass
1851 - 1908	5745 - 5825	0.249	0.0246	0.2736	1.0	Pass

Supervised By:

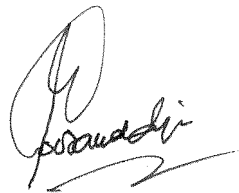


Hoosamuddin S. Bandukwala, Lab Director

**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.



Supervised By:

Hoosamuddin S. Bandukwala, Lab Director