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Report On

Application for Grant of Equipment Authorization of the
Novatel Wireless Inc.
Enabler HS 3001 CDMA2000 1xRTT Dual-Band Radio Module

FCC CFR 47 Part 2, Part 22 and Part 24: 2014
RSS-132 issue 3: 2013 and RSS-133 issue 6: 2013

Report No. SD72115463-0316

March 2016

FCC ID: MIVCNN0301
IC: 4106A-CNN0301
Report No. SD72115463-0316



REPORT ON	Limited Radio Testing of the Novatel Wireless Inc. Enabler HS 3001 CDMA2000 1xRTT Dual-Band Radio Module
TEST REPORT NUMBER	SD72115463-0316
PREPARED FOR	Novatel Wireless Inc. 9645 Scranton Road, Suite 205 San Diego, CA 92121
CONTACT PERSON	Roman Olmos Sr. Regulatory Engineer (858) 812-3400 rolmos@nvtl.com
PREPARED BY	 Xiaoying Zhang Name Authorized Signatory Title: EMC/Wireless Test Engineer
APPROVED BY	Chip Fleury Name Authorized Signatory Title: West Coast EMC Manager
DATED	March 25, 2016



Revision History

SD72115463-0316 Novatel Wireless Inc. Enabler HS 3001 CDMA2000 1xRTT Dual-Band Radio Module					
DATE	OLD REVISION	NEW REVISION	REASON	PAGES AFFECTED	APPROVED BY
03/25/2016	Initial Release				Chip Fleury



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SECTION 1

REPORT SUMMARY

Radio Testing of the
Novatel Wireless Inc.
Enabler HS 3001 CDMA2000 1xRTT Dual-Band Radio Module



1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Novatel Wireless Inc. Enabler HS 3001 CDMA2000 1xRTT Dual-Band Radio Module to the requirements of the following:

FCC CFR 47 Part 2, Part 22 and Part 24: 2014
 RSS-132 issue 3: 2013 and RSS-133 issue 6: 2013

Objective	To perform Radio Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Applicant	Novatel Wireless Inc.
Manufacturer	Enfora Inc.
Brand Name	Enabler HS 3001
Model Number(s)	CNN0301-10
FCC ID Number	MIVCNN0301
IC Number	4106A-CNN0301
Serial Number(s)	IMEI: A1000013E98F81
Number of Samples Tested	1
Test Specification/Issue/Date	€ FCC CFR 47 Part 2, Part 22 and Part 24: 2014 € RSS-132 issue 3: 2013; (Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz) € RSS-133 issue 6: 2013; (2 GHz Personal Communications Services) € RSS-GEN issue 4 November 2014; (General Requirements for Compliance of Radio Apparatus)
Start of Test	March 17, 2016
Finish of Test	March 20, 2016
Name of Engineer(s)	Xiaoying Zhang
Related Document(s)	€ 971168 D01 Power Meas License Digital Systems v02r02: October 17 2014; (Measurement guidance for certification of licensed digital transmitters) € Test Report No. RFI-RPT-RP86318JD02A V4.0.

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC CFR 47 Part 2, Part 22 and Part 24: 2014 and RSS-132 issue 3: 2013 and RSS-133 issue 6: 2013 standard is shown below.

Section	FCC Part Sections(s)	Industry Canada Sections	Test Description	Result
-	2.1046	RSS-132: 5.4, RSS-133: 6.4	Transmitter Conducted Output Power	N/T*
-	2.1046, 22.913(a)(2)	-	Effective Radiated Power	N/T*
-	2.1046, 24.232(c)	RSS-132: 5.4 RSS-133: 6.4	Equivalent Isotropic Radiated Power	N/T*
-	24.232(d)	RSS-132: 5.4, RSS-133: 6.4	Peak-Average Ratio	N/T*
-	-	RSS-GEN 4.6.1	Occupied Bandwidth	N/T*
2.1	2.1049, 22.917(b), 24.238(b)	-	26dB Bandwidth	Compliant
-	2.1051, 22.917(a), 24.238(a)	RSS-132: 5.5, RSS-133: 6.5	Band Edge	N/T*
-	2.1051, 22.917(a), 24.238(a)	RSS-132: 5.5, RSS-133: 6.5	Conducted Spurious Emissions	N/T*
2.2	2.1053, 22.917(a), 24.238(a)	RSS-132: 5.5, RSS-133: 6.5	Field Strength Of Spurious Radiation	Compliant
-	2.1055, 22.355, 24.235	RSS-132: 5.3, RSS-133: 6.3	Frequency Stability	N/T*

Note *: N/T: Not Test. Test Data for the case refers to testing report No. RFI-RPT-RP86318JD02A V4.0



1.3 PRODUCT INFORMATION

1.3.1 EUT General Description

The Equipment Under Test (EUT) was a Novatel Wireless Inc. CDMA2000 1xRTT Dual-Band Radio Module. The EUT does not support EV-DO.

1.3.2 EUT General Description

EUT Description	CDMA2000 1xRTT Dual-Band Radio Module
Band Name	Enabler HS 3001
Model Number(s)	CNN0301-10
Rated Voltage	3.7VDC
Mode Verified	CDMA2000 Cell Band and PCS Band
Primary Unit (EUT)	☒ Production ☐ Pre-Production ☐ Engineering

Internal Antennas Details

Antenna – CDMA

Antenna Gain:

€	850MHz Band:
	Low Ch = -1.67 dBi
	Mid Ch = -1.42 dBi
	High Ch = -1.36 dBi
€	1900MHz Band:
	Low Ch = -2.37 dBi
	Mid Ch = -2.23 dBi
	High Ch = -2.04 dBi

1.3.3 Transmit Frequency Table

Technology / Mode	Tx Frequency (MHz)	Emission Designator
CDMA2000 – 1xRTT Cell Band (BC0)	824-849	1M31F9W
CDMA2000 – 1xRTT PCS Band (BC1)	1850-1910	1M31F9W



1.4 EUT TEST CONFIGURATION

1.4.1 Test Configuration Description

Test Configuration	Description
Default	The module was tested together with a host with the antenna connector connected to call box and transmit at a max. power

1.4.2 EUT Exercise Software

EUT is controlled by a CMW 500 Wideband Radio Communication Tester. There are no other test software used during verification.

1.4.3 Support Equipment and I/O cables

Manufacturer	Equipment/Cable	Description
CUI INC	Power Supply for the host equipment	Model: 3A-181WP05 IP: 100-240VAC, 50-60Hz, 0.6A OP: 5VDC, 3.2A

1.4.4 Worst Case Configuration

Worst-case configuration used in this test report:

Technology	Band
CDMA 2000 – 1xRTT	Cell (BC0)
CDMA 2000 – 1xRTT	PCS (BC1)

1.4.5 Simplified Test Configuration Diagram



