

## FCC CFR47 PART 22 SUBPART H FCC CFR47 PART 24 SUBPART E INDUSTRY CANADA RSS-132 ISSUE 2 INDUSTRY CANADA RSS-133 ISSUE 5

**CLASS II PERMISSIVE CHANGE** 

## TEST REPORT FOR

PCI EXPRESS MINI CARD (TESTED INSIDE OF DELL MINI COPPER NOTEBOOK PC, MODEL E4200-2)

MODEL NUMBER: UNDP-1

FCC ID: NBZNRMUNDP-1D IC: 3229A-UNDP1D

REPORT NUMBER: 09U12749-1

**ISSUE DATE: AUGUST 26, 2009** 

Prepared for

NOVATEL WIRELESS 9645 SCRANTON ROAD, SUITE 205 SAN DIEGO, CA 92121

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NVLAP LAB CODE 200065-0

## **Revision History**

Rev.	Issue Date	Revisions	Revised By
	08/26/09	Initial Issue	T. Chan

Page 2 of 30

# TABLE OF CONTENTS

1.	ATT	ESTATION OF TEST RESULTS4
2.	TES	T METHODOLOGY
3.	FAC	ILITIES AND ACCREDITATION
4.	CAL	IBRATION AND UNCERTAINTY
4	4.1.	MEASURING INSTRUMENT CALIBRATION
4	1.2.	SAMPLE CALCULATION
4	4.3.	MEASUREMENT UNCERTAINTY5
5.	EQU	IPMENT UNDER TEST6
5	5.1.	DESCRIPTION OF EUT
5	5.2.	MAXIMUM OUTPUT POWER
5	5.3.	DESCRIPTION OF CLASS II PERMISSIVE CHANGE
5	5.4.	DESCRIPTION OF AVAILABLE ANTENNAS
5	5.5.	SOFTWARE AND FIRMWARE
5	5.6.	DESCRIPTION OF TEST SETUP10
6.	TES	T AND MEASUREMENT EQUIPMENT12
7.	LIMI	TS AND RESULTS13
7	7.1.	MAXIMUM RADIATED OUTPUT POWER13
7	7.2.	RADIATED OUTPUT POWER
7	7.3.	FIELD STRENGTH OF SPURIOUS RADIATION22
8.	SET	UP PHOTOS

Page 3 of 30

## **1. ATTESTATION OF TEST RESULTS**

COMPANY NAME:	NOVATEL WIRELESS
	9645 SCRANTON ROAD, SUITE 205
	SAN DIEGO, CA 92121

**EUT DESCRIPTION:** UNDP-1 PCI E MODEM MODULE EMBEDDED IN NOTEBOOK PERSONAL COMPUTER

MODEL NUMBER: UNDP-1

SERIAL NUMBER: N/A

DATE TESTED: AUGUST 19 TO 24, 2009

APPLICABLE STANDARDS			
STANDARD	TEST RESULTS		
FCC PART 22H and 24E	PASS		
IC RSS-132 ISSUE 2 and RSS-133 ISSUE 5			

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note**: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

THU CHAN EMC MANAGER COMPLIANCE CERTIFICATION SERVICES Tested By:

MENGISTU MEKURIA EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

Page 4 of 30

# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, FCC CFR Part 24, RSS-132 Issue 2, and RSS-133 Issue 5.

# 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://www.ccsemc.com</u>.

# 4. CALIBRATION AND UNCERTAINTY

# 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

# 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

## 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

Page 5 of 30

# 5. EQUIPMENT UNDER TEST

## 5.1. DESCRIPTION OF EUT

The EUT is a mini-PCI E card that installed inside Dell Notebook. The radio module is manufactured by Qualcomm Communications.

## 5.2. MAXIMUM OUTPUT POWER

The test measurement passed within  $\pm$  0.5dBm of the original output power.

## 5.3. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The major change filed under this application is adding Dell mobile notebook.

## 5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two different PIFA antennas, with a maximum gain of -2.84 for Cell band and - 1.92 dBi for PCS band respectively.

Page 6 of 30

## 5.5. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent Communication Test Set.

## PROCEDURE USED TO ESTABLISH TEST SIGNAL

## GSM/GPRS

To reset the Agilent 8960 to default all values > Shift & Preset To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob > RF IN/OUT Amptd Offset > RF IN/OUT Amptd Offset Setup > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e.-35 is greater than -30). Control Operating Mode > Active Cell (GSM) / Active Cell (GPRS) Connection Type > Auto (For Voice Mode) / ETSI Type A (For Data Mode) Call Parms **BCH Parameters** > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA > Cell Band > PCS or GSM850 (US band) TCH Parameters > Timeslot >1 > PCS > Traffic Channel Channel 512 / 661 / 810 Channel 128 / 190 / 251 > GSM850 > MS TX Level > 1 (for both PCS or GSM850) > Timeslot > 1 > Speech Setup > Speech Source > Echo (Default) Press "Originate Call" GPRS ONLY TCH Parameters > Traffic Channel > PCS Channel 512 / 661 / 810 > GSM850 Channel 128 / 190 / 251 > MS TX Level > 3 (33dBm for Cell band); 3 (30dBm for PCS band) PDTCH > Multislot Config > 1 Down, 2 Up > MS TX Level > 5 (33dBm Cell band); 1 (30dBm PCS band) > Coding Scheme > CS-4 After the 8960 attaches to the EUT, then press "Start Data Connection"

## 3G-CDMA2000 1xRTT

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	<u>Rev, License</u>
CDMA2000 Mobil Test	B.10.11, L

<u>1xRTT</u>

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps

> R-SCH Parameters > R-SCH Data Rate > 153.6 kbps

• Cell Info > Cell Parameters > System ID (SID) > 2004

> Network ID (NID) > 65535

Once "Active Cell" show "Connected " then change "Rvs Power Ctrl" from "Active bits" to "All Up bits" to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC3 and Service Option 55.

## UMTS REL99

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 V7.5.0 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7) 12.2kps RMC is used for this testing. Power control set to All bits up. A summary of these settings are illustrated below:

	Mode	Rel99	
	Subtest	-	
	Loopback Mode	Test Mode 1	
	Rel99 RMC	12.2kbps RMC	
	HSDPA FRC	Not Applicable	
	HSUPA Test	Not Applicable	
WCDMA General	Power Control Algorithm	Algorithm2	
Settings	βc	Not Applicable	
Settings	βd	Not Applicable	
	βec	Not Applicable	
	βc/βd	8/15	
	βhs	Not Applicable	
	βed	Not Applicable	

Page 9 of 30

## 5.6. DESCRIPTION OF TEST SETUP

## SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST						
Description	Description Manufacturer Model Serial Number FCC ID					
Laptop	Dell	Latitude E4200	2194408900042	DoC		
AC/DC	Delta Electronics Inc.	LA65NE1-00	CN-0CM164-71615-96U-1ADD-A01	DoC		

## I/O CABLES

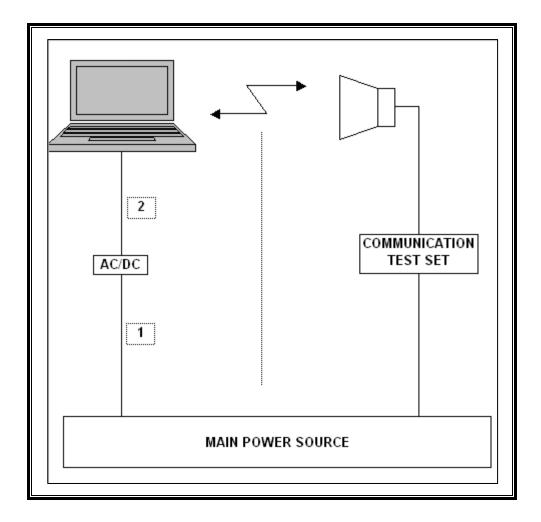
	I/O CABLE LIST							
Cable	Port	# of	Connector	Cable	Cable	Remarks		
No.		Identical	Туре	Туре	Length			
		Ports						
1	AC Input	1	DC	Un-Shielded	1.0 m	N/A		
2	DC Input	1	DC	Un-Shielded	2.0 m	FERRITE AT ONE END		

### TEST SETUP

The EUT is a UNDP-1 PCI E Mini card that installed inside Dell Notebook Laptop. Communications Test Set is used to link the device under test.

Page 10 of 30

## **SETUP DIAGRAM FOR TESTS**



Page 11 of 30

# 6. TEST AND MEASUREMENT EQUIPMENT

TEST EQUIPMENT LIST						
Description	Manufacturer	Model	Asset	Cal Due		
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	02/04/10		
Antenna, Horn, 18 GHz	EMCO	3115	C00943	01/29/10		
Antenna, Horn, 18 GHz	EMCO	3115	C00945	01/29/10		
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	01/14/10		
Dipole	Speag	D900V2	NA	11/16/11		
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689`	CNR		
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR		
Signal Generator	R & S	SMP04	C00953	02/16/11		
Communications Test Set	Agilent / HP	E5515C	C01086	06/16/10		
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01176	08/24/10		

The following test and measurement equipment was utilized for the tests documented in this report:

Page 12 of 30

# 7. LIMITS AND RESULTS

## 7.1. MAXIMUM RADIATED OUTPUT POWER

The transmitter has a maximum ERP & EIRP Peak output powers as follows:

824 to 849 MHz Authorized Band GPRS

Frequency Range Modulation		ERP	ERP	
		Peak Power	Peak Power	
(MHz)		(dBm)	(mW)	
Low CH - 824.2		27.9	616.6	
Mid CH - 836.6	GPRS	27.2	524.8	
High CH - 848.8		27.5	562.3	

#### 1850 to 1910 MHz Authorized Band

Frequency Range Modulation		EIRP	EIRP	
		Peak Power	Peak Power	
(MHz)		(dBm)	(mW)	
Low CH - 1850.20		30.1	1023.3	
Mid CH - 1880.00	GPRS	31.3	1349.0	
High CH - 1909.80		29.3	851.1	

#### 824 to 849 MHz Authorized Band CDMA 2000

Frequency Range	Modulation	ERP	ERP
		Peak Power	Peak Power
(MHz)		(dBm)	(mW)
Low CH - 824.70		24.0	251.2
Mid CH - 836.52	CDMA2000	24.7	295.1
High CH - 848.31		24.2	263.0

#### 1850 to 1910 MHz Authorized Band

Frequency Range	Modulation	EIRP	EIRP
		Peak Power	Peak Power
(MHz)		(dBm)	(mW)
Low CH - 1851.25		29.3	851.1
Mid CH - 1880.00	CDMA2000	27.4	549.5
High CH - 1908.75		26.1	407.4

Page 13 of 30

#### 824 to 849 MHz Authorized Band WCDMA

Frequency Range	Modulation	ERP	ERP
		Peak Power	Peak Power
(MHz)		(dBm)	(mW)
Low CH - 826.4		22.8	190.5
Mid CH - 836.4	WCDMA	22.2	166.0
High CH - 846.6		21.9	154.9

1850 to 1910 MHz Authorized Band

Frequency Range	Modulation	EIRP	EIRP
		Peak Power	Peak Power
(MHz)		(dBm)	(mW)
Low CH - 1852.4		27.5	562.3
Mid CH - 1880.00	WCDMA	26.1	407.4
High CH - 1907.8		25.2	331.1

Page 14 of 30

## 7.2. RADIATED OUTPUT POWER

## LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(b) & RSS133 § 6.4 Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

## TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17, RSS-132, and RSS-133.

## **RESULTS**

Page 15 of 30

## **CELL OUTPUT POWER (ERP)**

## **GPRS MODE**

			uency Subs e Certificatio						
Company	:	NOVATEL WIF	RELESS						
Project #:		09U12749							
Date:		8/22/2009							
est Engi	neer:	MENGISTU MI	EKURIA						
Configura	tion:	EUT EMBEDD	ED ISNIDE DEL	L MINI LAP	ТОР СОМ	PUTER			
/lode:		TX CELL BAN	O GPRS MODE						
leceiving Substituti	g: Sunol T122 on: Dipole S/	N: 00022117	, 6ft SMA Cab	le (SN # 2	08947003	one for testin ) Warehouse. Margin			
	g: Sunol T122	N: 00022117		le (SN # 2	•		• •		
Receiving Substituti f MHz	g: Sunol T122 on: Dipole S/ SA reading (dBm)	N: 00022117 Ant. Pol. (H/V)	, 6ft SMA Cab Path Loss (dBm)	le (SN # 2 ERP (dBm)	08947003 Limit (dBm)	) Warehouse. Margin (dB)	· · ·		
Receiving Substituti f MHz 824.20	g: Sunol T122 on: Dipole S/ SA reading (dBm) -6.9	N: 00022117 Ant. Pol. (H/∨) V	, 6ft SMA Cab Path Loss (dBm) 34.8	le (SN # 2 ERP (dBm) 27.9	08947003 Limit (dBm) 38.5	) Warehouse. Margin (dB) -10.6	· · ·		
Receiving Substituti f MHz	g: Sunol T122 on: Dipole S/ SA reading (dBm)	N: 00022117 Ant. Pol. (H/V)	, 6ft SMA Cab Path Loss (dBm)	le (SN # 2 ERP (dBm)	08947003 Limit (dBm)	) Warehouse. Margin (dB)	· · ·		
Receiving Substituti f MHz 824.20	g: Sunol T122 on: Dipole S/ SA reading (dBm) -6.9	N: 00022117 Ant. Pol. (H/∨) V	, 6ft SMA Cab Path Loss (dBm) 34.8	le (SN # 2 ERP (dBm) 27.9	08947003 Limit (dBm) 38.5	) Warehouse. Margin (dB) -10.6	· · ·		
Receiving Substituti f MHz 824.20 824.20	g: Sunol T122 on: Dipole S/ SA reading (dBm) <u>-6.9</u> -2.8	N: 00022117 Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5	le (SN # 2 ERP (dBm) 27.9 27.8	08947003 Limit (dBm) 38.5 38.5	<ul> <li>Warehouse.</li> <li>Margin (dB)</li> <li>-10.6</li> <li>-10.7</li> </ul>	· · ·		
Receiving Substituti f MHz 824.20 824.20 836.60 836.60	g: Sunol T122 on: Dipole S/ SA reading (dBm) -6.9 -2.8 	N: 00022117 Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5 33.1 31.2	le (SN # 2 ERP (dBm) 27.9 27.8 24.9 27.2	08947003 Limit (dBm) 38.5 38.5 38.5 38.5	) Warehouse. Margin (dB) -10.6 -10.7 -13.5 -11.3	· · ·		
Receiving Substituti f MHz 824.20 824.20 836.60	g: Sunol T122 on: Dipole S/ SA reading (dBm) -6.9 -2.8 -8.2	N: 00022117 Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5 33.1	le (SN # 2 ERP (dBm) 27.9 27.8 24.9	Limit (dBm) 38.5 38.5 38.5	) Warehouse. Margin (dB) -10.6 -10.7 -13.5			

Page 16 of 30

### CDMA MODE

			uency Subs e Certificatio						
Company	:	NOVATEL WIF	RELESS						
roject #:		09U12749							
)ate:		8/22/2009							
est Engi	neer:	MENGISTU ME	EKURIA						
onfigura	ation:	EUT EMBEDD	ED ISNIDE DEL	L MINI LAP	ТОР СОМ	PUTER			
lode:		TX CELL BAND	D CDMA MODE						
eceivin; ubstituti	g: Sunol T122 ion: Dipole S/	N: 00022117,	6ft SMA Cab	le (SN # 2	08947003	one for testir ) Warehouse			
Receiving	g: Sunol T122	N: 00022117,		le (SN # 2	•		• •		
Substituti f MHz	g: Sunol T122 on: Dipole S/ SA reading (dBm)	N: 00022117, Ant. Pol. (H/∨)	, 6ft SMA Cab Path Loss (dBm)	le (SN # 2 ERP (dBm)	08947003 Limit (dBm)	) Warehouse Margin (dB)			
eceiving ubstituti f	g: Sunol T122 on: Dipole S/ SA reading	N: 00022117, Ant. Pol.	6ft SMA Cab Path Loss	le (SN # 2 ERP	08947003 Limit (dBm) 38.5	B) Warehouse Margin (dB) -14.4			
Receiving Substituti f MHz 824.70	g: Sunol T122 ion: Dipole S/ SA reading (dBm) -10.7	N: 00022117, Ant. Pol. (H/V) V	, 6ft SMA Cab Path Loss (dBm) 34.8	le (SN # 2 ERP (dBm) 24.0	08947003 Limit (dBm)	) Warehouse Margin (dB)			
Receiving Substituti f MHz 824.70 824.70 836.52	g: Sunol T122 ion: Dipole S/ SA reading (dBm) -10.7 -7.6 -10.0	N: 00022117, Ant. Pol. (H/V) V H	6ft SMA Cab Path Loss (dBm) 34.8 30.5 33.1	le (SN # 2 ERP (dBm) 24.0 23.0 23.1	08947003 Limit (dBm) 38.5 38.5 38.5	3) Warehouse Margin (dB) -14.4 -15.5 -15.4			
Receiving Substituti f MHz 824.70 824.70	g: Sunol T122 ion: Dipole S/ SA reading (dBm) -10.7 -7.6	N: 00022117, Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5	le (SN # 2 ERP (dBm) 24.0 23.0	08947003 Limit (dBm) 38.5 38.5	3) Warehouse Margin (dB) -14.4 -15.5			
Receiving Substituti f MHz 824.70 824.70 836.52	g: Sunol T122 ion: Dipole S/ SA reading (dBm) -10.7 -7.6 -10.0	N: 00022117, Ant. Pol. (H/V) V H	6ft SMA Cab Path Loss (dBm) 34.8 30.5 33.1	le (SN # 2 ERP (dBm) 24.0 23.0 23.1	08947003 Limit (dBm) 38.5 38.5 38.5	3) Warehouse Margin (dB) -14.4 -15.5 -15.4			

Page 17 of 30

### WCDMA MODE

Company		NOVATEL WIF	RELESS				
roject #:		09U12749					
Date:		8/22/2009					
Test Engi	neer:	MENGISTU M	EKURIA				
Configura	tion:	EUT EMBEDD	ED ISNIDE DEL	L MINI LAP	ТОР СОМ	PUTER	
Vlode:		TX CELL BAND	D WCDMA MOE	)E			
Receiving Substituti	g: Sunol T122 on: Dipole S/	N: 00022117	amber N-type , 6ft SMA Cab Path Loss	le (SN # 2	08947003	) Warehouse	
Receiving	g: Sunol T122	N: 00022117		•	•		• •
Substituti f MHz	y: Sunol T122 on: Dipole S/ SA reading (dBm)	N: 00022117 Ant. Pol. (H/V)	, 6ft SMA Cab Path Loss (dBm)	le (SN # 2 ERP (dBm)	08947003 Limit (dBm)	) Warehouse Margin (dB)	
Receiving Substituti f MHz 826.40	g: Sunol T122 on: Dipole S/ SA reading (dBm) -12.0	N: 00022117, Ant. Pol. (H/∨) V	, 6ft SMA Cab Path Loss (dBm) 34.8	le (SN # 2 ERP (dBm) 22.8	08947003 Limit (dBm) 38.5	) Warehouse Margin (dB) -15.7	
Receiving Substituti f MHz	y: Sunol T122 on: Dipole S/ SA reading (dBm)	N: 00022117 Ant. Pol. (H/V)	, 6ft SMA Cab Path Loss (dBm)	le (SN # 2 ERP (dBm)	08947003 Limit (dBm)	) Warehouse Margin (dB)	
Receiving Substituti f MHz 826.40	g: Sunol T122 on: Dipole S/ SA reading (dBm) -12.0	N: 00022117, Ant. Pol. (H/∨) V	, 6ft SMA Cab Path Loss (dBm) 34.8	le (SN # 2 ERP (dBm) 22.8	08947003 Limit (dBm) 38.5	) Warehouse Margin (dB) -15.7	
Receiving Substituti f MHz 826.40 826.40	g: Sunol T122 on: Dipole S/ SA reading (dBm) -12.0 -9.0	N: 00022117, Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5	le (SN # 2 ERP (dBm) 22.8 21.5	08947003 Limit (dBm) 38.5 38.5	) Warehouse Margin (dB) -15.7 -17.0	
Receiving Substituti f MHz 826.40 826.40 836.40	g: Sunol T122 on: Dipole S/ SA reading (dBm) -12.0 -9.0 -12.5	N: 00022117, Ant. Pol. (H/V) V H	, 6ft SMA Cab Path Loss (dBm) 34.8 30.5 33.1	le (SN # 2 ERP (dBm) 22.8 21.5 20.6	Limit (dBm) 38.5 38.5 38.5	) Warehouse Margin (dB) -15.7 -17.0 -17.8	

Page 18 of 30

## PCS OUTPUT POWER (EIRP)

## **GPRS MODE**

Company	:	NOVATEL WIF	RELESS				
Project #:	:	09U12749					
Date:		8/22/2009					
Test Eng		MENGISTU MI	EKURIA				
Configura	ation:	EUT EMBEDD	ED ISNIDE DELL	. MINI LAPT	OP COMPL	JTER	
Vlode:		TX PCS BAND	GPRS MODE				
Receivin Substitut	g: Horn T73, an ion: Horn T72 S	Substitution,	6ft SMA Cable				Notes
Receivin	g: Horn T73, an	Substitution,		(2089470 EIRP (dBm)	03) Wareh Limit (dBm)	Delta (dB)	Notes
Substitut f GHz	g: Horn T73, an ion: Horn T72 S SA reading (dBm)	Substitution, Ant. Pol. (H/∨)	6ft SMA Cable Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Receivin Substitut f GHz 1.850	g: Horn T73, an ion: Horn T72 S SA reading	Substitution, Ant. Pol. (H/∨) V	6ft SMA Cable Path Loss (dBm) 40.4	EIRP (dBm) 30.1	Limit (dBm) 33.0	Delta (dB) -2.9	Notes
Receivin Substitut f GHz 1.850	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -10.4	Substitution, Ant. Pol. (H/∨)	6ft SMA Cable Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Receiving Substitut f GHz 1.850 1.850 1.880	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -10.4 -15.2 -8.7	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7 39.9	EIRP (dBm) 30.1 24.6 31.3	Limit (dBm) 33.0 33.0 33.0	Delta (dB) -2.9 -8.4 -1.7	Notes
Receiving Substitut f GHz 1.850 1.850	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -10.4 -15.2	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7	EIRP (dBm) 30.1 24.6	Limit (dBm) 33.0 33.0	Delta (dB) -2.9 -8.4	Notes
Receiving Substitut f GHz 1.850 1.850 1.880	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -10.4 -15.2 -8.7	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7 39.9	EIRP (dBm) 30.1 24.6 31.3	Limit (dBm) 33.0 33.0 33.0	Delta (dB) -2.9 -8.4 -1.7	Notes

Page 19 of 30

### CDMA MODE

			uency Funda e Certificatior				
Company	:	NOVATEL WIF	RELESS				
Project #	:	09U12749					
Date:		8/22/2009					
Test Eng	ineer:	MENGISTU MI	EKURIA				
Configura	ation:	EUT EMBEDD	ED ISNIDE DELL	. MINI LAPT	OP COMPL	JTER	
Mode:		TX PCS BAND	CDMA MODE				
Substitut	g: Horn T73, an ion: Horn T72 \$ 	Substitution,	6ft SMA Cable				Notoo
Receivin	g: Horn T73, an	Substitution,		(2089470 EIRP (dBm)	03) Wareh Limit (dBm)	Delta (dB)	Notes
Receivin Substitut f	g: Horn T73, an ion: Horn T72 S SA reading	Substitution, Ant. Pol.	6ft SMA Cable Path Loss	EIRP	Limit	Delta	Notes
Receivin Substitut f GHz	g: Horn T73, an ion: Horn T72 S SA reading (dBm)	Substitution, Ant. Pol. (H/∨)	6ft SMA Cable Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Receivin, Substitut f GHz 1.851 1.851	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -11.1 -16.1	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7	EIRP (dBm) 29.3 23.6	Limit (dBm) 33.0 33.0	Delta (dB) -3.7 -9.4	Notes
Receivin, Substitut f GHz 1.851 1.851 1.880	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -11.1 -16.1 -12.6	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7 39.9	EIRP (dBm) 29.3 23.6 27.4	Limit (dBm) 33.0 33.0 33.0	Delta (dB) -3.7 -9.4 -5.6	Notes
Receivin, Substitut f GHz 1.851 1.851	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -11.1 -16.1	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7	EIRP (dBm) 29.3 23.6	Limit (dBm) 33.0 33.0	Delta (dB) -3.7 -9.4	Notes
Receivin, Substitut f GHz 1.851 1.851 1.880	g: Horn T73, an ion: Horn T72 S SA reading (dBm) -11.1 -16.1 -12.6	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7 39.9	EIRP (dBm) 29.3 23.6 27.4	Limit (dBm) 33.0 33.0 33.0	Delta (dB) -3.7 -9.4 -5.6	Notes

Page 20 of 30

### WCDMA MODE

		Complianc	e Certificatior	n Service	s Chamb	er A	
Company:		NOVATEL WIF	RELESS				
Project #:		09U12749					
Date:		8/22/2009					
Test Engi	neer:	MENGISTU MI	EKURIA				
Configura	tion:	EUT EMBEDD	ED ISNIDE DELL	MINI LAPT	ОР СОМРЦ	JTER	
Mode:		TX PCS BAND	WCDMA MODE				
Substituti	j: Horn T73, an on: Horn T72 S	Substitution,	6ft SMA Cable		-		Notes
Receiving	: Horn T73, an			(2089470 EIRP (dBm)	03) Wareh Limit (dBm)	Delta (dB)	Notes
Receiving Substituti f GHz	): Horn T73, an on: Horn T72 S SA reading (dBm)	Substitution, Ant. Pol. (H/∨)	6ft SMA Cable Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Receiving Substituti f GHz 1.852	y: Horn T73, an on: Horn T72 S SA reading (dBm) -12.9	Substitution, Ant. Pol. (H/∨) V	6ft SMA Cable Path Loss (dBm) 40.4	EIRP (dBm) 27.5	Limit (dBm) 33.0	Delta (dB) -5.5	Notes
Receiving Substituti f GHz	): Horn T73, an on: Horn T72 S SA reading (dBm)	Substitution, Ant. Pol. (H/∨)	6ft SMA Cable Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Receiving Substituti f GHz 1.852	y: Horn T73, an on: Horn T72 S SA reading (dBm) -12.9	Substitution, Ant. Pol. (H/∨) V	6ft SMA Cable Path Loss (dBm) 40.4	EIRP (dBm) 27.5	Limit (dBm) 33.0	Delta (dB) -5.5	Notes
Receiving Substituti f GHz 1.852 1.852	j: Horn T73, an on: Horn T72 S SA reading (dBm) -12.9 -19.2	Substitution, Ant. Pol. (H/V) V H	6ft SMA Cable Path Loss (dBm) 40.4 39.7	EIRP (dBm) 27.5 20.5	Limit (dBm) 33.0 33.0	Delta (dB) -5.5 -12.5	Notes
Receiving Substituti f GHz 1.852 1.852 1.880	j: Horn T73, an on: Horn T72 S SA reading (dBm) -12.9 -19.2 -13.8	Substitution, Ant. Pol. (H/V) V H V	6ft SMA Cable Path Loss (dBm) 40.4 39.7 39.9	EIRP (dBm) 27.5 20.5 26.1	Limit (dBm) 33.0 33.0 33.0	Delta (dB) -5.5 -12.5 -6.9	Notes

Page 21 of 30

## 7.3. FIELD STRENGTH OF SPURIOUS RADIATION

## LIMIT

§22.917 (e) and §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

## TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 3.2.12 & FCC 22.917 (b), FCC 24.238 (b), & FCC 27.53 (g)(1)(2)(3), RSS-132, and RSS-133.

## **RESULTS**

Page 22 of 30

### CELL SPURIOUS & HARMONIC (ERP)

### **GPRS MODE**

roject# )ate: 'est Eng	r: Novatel Wird : 09U12749 8/21/2009 ineer: Ekta B ation: EUT O Tx, Cell Ban	udhbhatti nly		lz High Fre	quency ou	Saturon	measurer	nent		
vioue.	Chambe		P	re-amplifer			Filter			Limit
5r	n Chamber A	<b>•</b>	T144	8449B	-	Filter	1	•	FCC P/	ART 22 🗸
f GHz	SA reading (dBm)	Ant. Pol. (H/∨)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch.	(abiii)	(1.0.1)	(,	(42)	(42)	(42)	(42.11)	(abiii)	(42)	
1.648	49.7	Н	3.0	36.5	38.2	1.0	-50.3	-13.0	-37.3	
2.473	-45.4	Н	3.0	40.0	37.5	1.0	41.9	-13.0	-28.9	
3.300	-62.4	Н	3.0	43.9	37.1	1.0	-54.7	-13.0	41.7	
1.648	45.6	V	3.0	36.8	38.2	1.0	45.9	-13.0	-32.9	
2.473	42.7	V	3.0	41.7	37.5	1.0	-37.5	-13.0	-24.5	
3.300	-62.9	V	3.0	44.0	37.1	1.0	-55.0	-13.0	-42.0	
Mid Ch.										
1.673	-52.8	Н	3.0	36.8	38.1	1.0	-53.1	-13.0	-40.1	
2.510	45.9	Н	3.0	40.1	37.5	1.0	-42.2	-13.0	-29.2	
3.346	-63.3	Н	3.0	44.0	37.1	1.0	-55.4	-13.0	-42.4	
1.673	49.4	V	3.0	37.1	38.1	1.0	49.4	-13.0	-36.4	
2.510	-44.4	V	3.0	41.9	37.5	1.0	-39.0	-13.0	-26.0	
3.346	-63.6	V	3.0	44.1	37.1	1.0	-55.6	-13.0	-42.6	
High Ch.										
1.698	46.6	Н	3.0	37.0	38.1	1.0	-46.6	-13.0	-33.6	
2.546	-44.7	Н	3.0	40.4	37.5	1.0	-40.8	-13.0	-27.8	
3.395	-62.6	Н	3.0	44.1	37.1	1.0	-54.5	-13.0	41.5	
1.698	45.7	V	3.0	37.4	38.1	1.0	-45.4	-13.0	-32.4	
	41.6	V	3.0	42.0	37.5	1.0	-36.1	-13.0	-23.1	
		v	3.0	44.2	37.1	1.0	-54.0	-13.0	-41.0	
2.546 3.395	-62.1			1 1						

Page 23 of 30

### CDMA MODE

Project # Date: Fest Eng	: Novatel Wire : 09U12749 8/21/2009 ineer: Ekta Be ation: EUT O Tx, Cell Ban	udhbhatti nly	Above 1GF							
	Chamber	r	Р	re-amplifer			Filter		Lir	nit
5n	n Chamber A		T144	8449B	-	Filter	1	•	FCC PAR	r 22 🗸
f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch.										
1.649	-53.5	Н	3.0	36.6	38.2	1.0	-54.1	-13.0	41.1	
2.474	-44.9	H	3.0	40.0	37.5	1.0	-41.4	-13.0	-28.4	
3.299	-62.8	H	3.0	43.9	37.1	1.0	-55.1	-13.0	42.1	
1.649 2.474	45.1 43.5	v v	3.0 3.0	36.8 41.7	38.2 37.5	1.0 1.0	_45.4 _38.3	-13.0 -13.0	-32.4 -25.3	
2.474 3.299	-43.5 -63.1	v	3.0 3.0	41.7	37.5 37.1	1.0	-30.3 -55.2	-13.0 -13.0	-23.3 -42.2	
Mid Ch.										
1.673	-51.7	Н	3.0	36.8	38.1	1.0	-52.0	-13.0	-39.0	
2.510	-48.2	H	3.0	40.1	37.5	1.0	-44.5	-13.0	-31.5	
3.346	-62.9	Н	3.0	44.0	37.1	1.0	-55.0	-13.0	-42.0	
1.673	43.7	V	3.0	37.1	38.1	1.0	43.8	-13.0	-30.8	
2.510	47.7	V	3.0	41.8	37.5	1.0	42.3	-13.0	-29.3	
3.346	-63.7	V	3.0	44.1	37.1	1.0	-55.6	-13.0	-42.6	
High Ch.	1						•			
1.697	-50.4	Н	3.0	37.0	38.1	1.0	-50.5	-13.0	-37.5	
2.545	-50.8	Н	3.0	40.3	37.5	1.0	-46.9	-13.0	-33.9	
3.393	-63.2	H	3.0	44.1	37.1	1.0	-55.1	-13.0	42.1	
1.697	-50.0	V	3.0	37.4	38.1	1.0	49.7	-13.0	-36.7	
2.545	-52.9	V	3.0	42.0	37.5	1.0	47.4	-13.0	-34.4	
3.393	-62.4	V	3.0	44.2	37.1	1.0	-54.2	-13.0	-41.2	
Rev. 03.03.	09			1			•			

Page 24 of 30

### WCDMA MODE

			Above 1GH	mpliance C Iz High Free			Measurer	nent		
Company	: Novatel Wir	eless								
• •	: 09U12749									
Date:	8/24/2009									
Test Eng	ineer: Ekta B	udhbhatti								
	ation: EUT O									
Mode:	Tx. Cell Ban									
	,									
	Chambe	r	P	re-amplifer	Filter			Limit		
5m Chamber A		T144 8449B 🗸			Filter 1 🗸			FCC PART 22 🗸		
I		_	1		_			_	1	
f	SA reading	Ant. Pol.	Distance	Path Loss	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/∨)	(m)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch.									Į	
1.653	-53.7	Н	3.0	36.6	38.1	1.0	-54.3	-13.0	-41.3	
2.479	45.2	Н	3.0	40.0	37.5	1.0	41.7	-13.0	-28.7	
3.306	-62.4	Н	3.0	43.9	37.1	1.0	-54.7	-13.0	41.7	
1.653	49.7	V	3.0	36.9	38.1	1.0	-50.0	-13.0	-37.0	
2.479	-44.0	٧	3.0	41.7	37.5	1.0	-38.8	-13.0	-25.8	
3.306	-62.6	V	3.0	44.0	37.1	1.0	-54.7	-13.0	41.7	
Mid Ch.										
1.673	-54.6	Н	3.0	36.8	38.1	1.0	-54.9	-13.0	41.9	
2.509	-55.9	Н	3.0	40.1	37.5	1.0	-52.2	-13.0	-39.2	
3.346	-63.5	Н	3.0	44.0	37.1	1.0	-55.6	-13.0	-42.6	
1.673	-50.5	V	3.0	37.1	38.1	1.0	-50.5	-13.0	-37.5	
2.509	-54.5	V	3.0	41.8	37.5	1.0	49.1	-13.0	-36.1	
3.346	-63.7	٧	3.0	44.1	37.1	1.0	-55.7	-13.0	42.7	
High Ch.										
1.693	-53.7	Н	3.0	37.0	38.1	1.0	-53.8	-13.0	-40.8	
2.540	-58.1	Н	3.0	40.3	37.5	1.0	-54.2	-13.0	-41.2	
3.386	-62.9	Н	3.0	44.1	37.1	1.0	-54.9	-13.0	41.9	
1.693	49.9	V	3.0	37.3	38.1	1.0	49.7	-13.0	-36.7	
2.540	-55.7	V	3.0	41.9	37.5	1.0	-50.2	-13.0	-37.2	
3.386	-63.4	۷	3.0	44.2	37.1	1.0	-55.3	-13.0	-42.3	
			i					l		

Page 25 of 30

## PCS Spurious & Harmonic (EIRP)

### **GPRS MODE**

				2 mgmme	queriey ou	bstitution	Measure	nem		
ompany:	Novatel Wire	less								
roject#:	09U12749									
ate:	8/21/2009									
•	neer: Ekta Bi									
•	tion: EUT O									
lode:	Tx, PCS Ban	d GPRS								
	- · ·		P	re-amplifer			Filter			imit
	Chamber	r i		re-ampirer						
5m Chamber A 🚽		-	T144	Filter 1 🗸			FCC PART 24 🗸			
I			,			,			1	
f	SA reading	Ant. Pol.	Distance	Path Loss	Preamp	Filter	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
ow Ch.	(	()	(,	()	()	()	(	(	( /	
.700	-57.4	Н	3.0	45.0	36.8	1.0	48.3	-13.0	-35.3	
.550	-53.1	H	3.0	49.9	36.3	1.0	-38.5	-13.0	-25.5	
.400	-67.1 -54.1	H V	3.0	52.9	36.6	1.0	49.8	-13.0	-36.8	
.700 .550	-54.1	V	3.0 3.0	44.9 49.3	36.8 36.3	1.0 1.0	_45.0 _43.4	-13.0 -13.0	-32.0 -30.4	
.400	-66.7	v	3.0	45.5 51.8	36.6	1.0	-50.5	-13.0	-37.5	
		_								
lid Ch.										
.760	-58.5	H	3.0	45.2	36.8	1.0	49.1	-13.0	-36.1	
.640 .520	-52.4 -67.6	Н Н	3.0 3.0	50.1 53.1	36.3 36.6	1.0 1.0	-37.6 -50.1	-13.0 -13.0	-24.6 -37.1	
.760	-55.2	v	3.0	45.1	36.8	1.0	-30.1	-13.0	-32.9	
.640	-55.5	v	3.0	49.4	36.3	1.0	41.4	-13.0	-28.4	
.520	-66.6	V	3.0	52.0	36.6	1.0	-50.2	-13.0	-37.2	
ah Ch										
igh Ch. .820	-61.4	Н	3.0	45.3	36.7	1.0	-51.8	-13.0	-38.8	
.730	-52.3		3.0	43.5 50.2	36.3	1.0	-37.3	-13.0	-24.3	
.640	-66.6		3.0	53.2	36.6	1.0	-49.1	-13.0	-36.1	
.820	-57.5	v	3.0	45.2	36.7	1.0	-48.0	-13.0	-35.0	
.730	-54.6	V	3.0	49.5	36.3	1.0	-40.4	-13.0	-27.4	
.640	-66.5	V	3.0	52.1	36.6	1.0	-50.0	-13.0	-37.0	
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Page 26 of 30

### CDMA MODE

Date: 8/21/200 Test Engineer: Ek Configuration: Ek Mode: Tx, PCS Char 5m Chamb f SA read GHz (dBm Low Ch. 3,700 57.6 5,550 53.0	9 9 ta Budhbhatti IT Only Band CDMA nber er A v ing Ant. Pol. ) (H/V)	T144	re-amplifer 8449B Path Loss	<b>v</b>	Filter	Filter 1	-		mit	
Project #: 09U1274 Date: 8/21/200 Test Engineer: Ek Configuration: Ek Mode: Tx, PC9 Char 5m Chamb f SA read GHz (dBm Low Ch. 3,700 5.7.6 5.550 5.3.0	9 9 ta Budhbhatti IT Only Band CDMA nber er A v ing Ant. Pol. ) (H/V)	T144 Distance	8449B Path Loss				-			
Date: 8/21/200 Test Engineer: Ek Configuration: Ek Mode: Tx, PCS Char 5m Chamb f SA read GHz (dBm Low Ch. 3,700 5.7.6 5.550 5.3.0	9 ta Budhbhatti IT Only Band CDMA nber er A v ing Ant. Pol. ) (H/V)	T144 Distance	8449B Path Loss				-			
Test Engineer: Ek Configuration: El Mode: Tx, PC Char 5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5.7.6 5.550 5.3.0	ta Budhbhatti IT Only Band CDMA hber er A v ing Ant. Pol. ) (H/V)	T144 Distance	8449B Path Loss				-			
Configuration: EU Mode: Tx, PC Char 5m Chamb f SA read GHz (dBm Low Ch. 3,700 5-57.6 5.550 5-33.0	IT Only Band CDMA hber er A ▼ ing Ant. Pol. ) (H/∨)	T144 Distance	8449B Path Loss							
Mode: Tx, PC Char 5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5-57.6 5.550 5-33.0	Band CDMA hber er A ▼ ing Ant. Pol. ) (H/∨)	T144 Distance	8449B Path Loss							
Char 5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5.7.6 5.550 5.3.0	nber erA ▼ ing Ant.Pol. ) (H/∨)	T144 Distance	8449B Path Loss				•			
5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5.7.6 5.550 5.3.0	er A ing Ant. Pol. )   (H/∨)	T144 Distance	8449B Path Loss				•			
5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5.7.6 5.550 5.3.0	er A ing Ant. Pol. )   (H/∨)	T144 Distance	8449B Path Loss							
5m Chamb f SA reac GHz (dBm Low Ch. 3.700 5.7.6 5.550 5.3.0	er A ing Ant. Pol. )   (H/∨)	Distance	Path Loss		Filter	1	•	FCC PAP		
f SA reac GHz (dBm Low Ch. 3.700 -57.6 5.550 -53.0	ing Ant. Pol. ) (H/∨)	Distance	Path Loss		riiter		-	FCC PART 24		
GHz (dBm Low Ch. 3.700 -57.6 5.550 -53.0	) (H/∨)		1			Filler 1		FUC PART 24		
GHz (dBm Low Ch. 3.700 -57.6 5.550 -53.0	) (H/∨)		1							
Low Ch. 3.700 .57.6 5.550 .53.0		(m)	(10)	Preamp	Filter	EIRP	Limit	Delta	Notes	
3.700 -57.6 5.550 -53.0			(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)		
5.550 -53.0										
	H	3.0	45.0	36.8	1.0	-48.4	-13.0	-35.4		
7.400 -66.6	H	3.0 3.0	49.9 52.9	36.3 36.6	1.0 1.0	-38.3 -49.3	-13.0 -13.0	-25.3 -36.3		
3.700 -53.1	v v	3.0	44.9	36.8	1.0	49.3	-13.0	-31.0		
5.550 -60.8	v	3.0	49.3	36.3	1.0	46.8	-13.0	-33.8		
7.400 -66.5	V	3.0	51.8	36.6	1.0	-50.2	-13.0	-37.2		
Mid Ch.			45.2	20.0	4.0	25.7	43.0			
3.760 -45.1 5.640 -59.7	H	3.0	45.2 50.1	36.8 36.3	1.0 1.0	-35.7 -44.9	-13.0 -13.0	-22.7 -31.9		
7.520 -66.6	H	3.0	53.1	36.6	1.0	49.1	-13.0	-36.1		
3.760 40.5	v v	3.0	45.1	36.8	1.0	-31.2	-13.0	-18.2		
5.640 -64.7	V	3.0	49.4	36.3	1.0	-50.6	-13.0	-37.6		
7.520 -63.6	V	3.0	52.0	36.6	1.0	-47.2	-13.0	-34.2		
High Ch			-							
High Ch. 3.820 -33.0	Н	3.0	45.3	36.7	1.0	-23.3	-13.0	-10.3		
5.730 -62.4		3.0	43.3 50.2	36.3	1.0	-23.5	-13.0	-34.5		
7.640 -66.3	H	3.0	53.2	36.6	1.0	-48.7	-13.0	-35.7		
3.820 -27.3	V	3.0	45.2	36.7	1.0	-17.9	-13.0	4.9		
5.730 -64.8	V	3.0	49.5	36.3	1.0	-50.6	-13.0	-37.6		
7.640 -61.4	V	3.0	52.1	36.6	1.0	-44.9	-13.0	-31.9		
			-							
	I			İ			ll			

Page 27 of 30

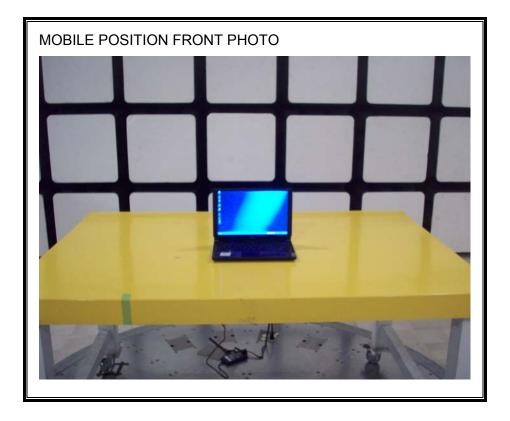
### WCDMA MODE

Test Engine Configuratio Mode:	09U12749 8/24/2009 eer: Ekta Bi on: EUT Of Tx, PCS Ban	udhbhatti nly								
Project #: ( Date: 4 Test Engine Configuratio Mode:	09U12749 8/24/2009 eer: Ekta Bi on: EUT Of Tx, PCS Ban	udhbhatti nly								
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Configuratio	on: EUT O Tx, PCS Ban	nly								
Mode:	Tx, PCS Ban	-								
		d WCDMA								
5m C										
5m C										
5m C										
5m C	Chamber	r 🔤	P	re-amplifer			Filter		Li	mit
	5m Chamber A 🗸			Т144 8449В 🗸			Filter 1		FCC PAR	Т 24 🗸
1			,			,			1	
f S	A reading	Ant. Pol.	Distance	Path Loss	Preamp	Filter	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/∨)	(m)	(dB)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch.	(	(0.0.7)	,	(/	()	( /	(	(	( /	
3.704	-59.0	Н	3.0	45.0	36.8	1.0	49.8	-13.0	-36.8	
5.556	-58.6	Н	3.0	49.9	36.3	1.0	-44.0	-13.0	-31.0	
7.408	-66.0	Н	3.0	52.9	36.6	1.0	-48.7	-13.0	-35.7	
3.704	-53.8	v	3.0	44.9	36.8	1.0	-44.7	-13.0	-31.7	
5.556	-64.1	V	3.0	49.3	36.3	1.0	-50.1	-13.0	-37.1	
7.408	-67.2	V	3.0	51.8	36.6	1.0	-50.9	-13.0	-37.9	
Mid Ch.										
3.760	-48.1	Н	3.0	45.2	36.8	1.0	-38.7	-13.0	-25.7	
5.640	-62.3	Н	3.0	50.1	36.3	1.0	47.6	-13.0	-34.6	
7.520	-66.9	Н	3.0	53.1	36.6	1.0	-49.4	-13.0	-36.4	
3.760	-42.3	V	3.0	45.1	36.8	1.0	-33.0	-13.0	-20.0	
5.640	-63.7	V	3.0	49.4	36.3	1.0	49.6	-13.0	-36.6	
7.520	-65.4	V	3.0	52.0	36.6	1.0	-49.0	-13.0	-36.0	
High Ch.										
3.816	-38.6	Н	3.0	45.3	36.7	1.0	-29.0	-13.0	-16.0	
5.724	-64.9	H	3.0	50.2	36.3	1.0	-50.0	-13.0	-37.0	
7.632	-67.1	Н	3.0	53.2	36.6	1.0	49.5	-13.0	-36.5	
3.816	-31.5	v	3.0	45.2	36.7	1.0	-22.0	-13.0	-9.0	
5.724	-65.9	V	3.0	49.5	36.3	1.0	-51.7	-13.0	-38.7	
7.632	-66.8	V	3.0	52.1	36.6	1.0	-50.3	-13.0	-37.3	
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Page 28 of 30

# 8. SETUP PHOTOS

## RADIATED RF MEASUREMENT SETUP FOR PORTABLE CONFIGURATION



Page 29 of 30



# **END OF REPORT**

Page 30 of 30