



UNDP-1 Industry Canada Radiated Test Report

80-VH271-3 Rev. A

March 31, 2008

**Submit technical questions to:
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March 31, 2008

UNDP-1 Industry Canada Radiated Test Report
80-VH271-3 Rev. A



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Test Report: 2007 106556 UNDP-1 FCC Rev. 1

Project number: 6556-1

Applicant: Qualcomm
5775 Morehouse Drive
San Diego, CA 92121-1714

Equipment Under Test (EUT): Universal Data Modem Platform


Model: UNDP-1

FCC ID: J9CUNDP-1

In Accordance With: FCC Part 22, Subpart H
RSS-Gen, Issue 2
Industry Canada RSS-132, Issue 2

FCC Part 24, Subpart E
Industry Canada RSS-133, Issue 3

Tested By: Nemko USA Inc.
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Authorized By: 
Michael T. Krumweide, EMC Supervisor

Date: OCT. 30, 2007

Total Number of Pages: 42

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Specification: FCC Part 22 Subpart H, Part 24 Subpart E

FCC ID: J9CUNDP-1

Report Summary

All measurements are traceable to national standards. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 22, Subpart H and FCC Part 24, Subpart E.

The assessment summary is as follows:

Apparatus Assessed: Universal Data Modem Platform Model UNDP-1

Specification: FCC Part 15 Subpart C, 15.247
Industry Canada RSS-Gen, Issue 2
Industry Canada RSS-132, Issue 2
FCC Part 22, Subpart H
FCC Part 24, Subpart E
Industry Canada RSS-133, Issue 3

Compliance Status: Complies

Exclusions: None

Non-compliances: None

Report Release History:

REVISION	DATE	COMMENTS
-	Oct. 30, 2007	Prepared By: Ferdinand Custodio
-	Oct. 30, 2007	Initial Release: Mike T. Krumweide
Rev 1*	Nov. 16, 2007	Revised By: Ferdinand Custodio

*Added Section 2 Test Methodology.

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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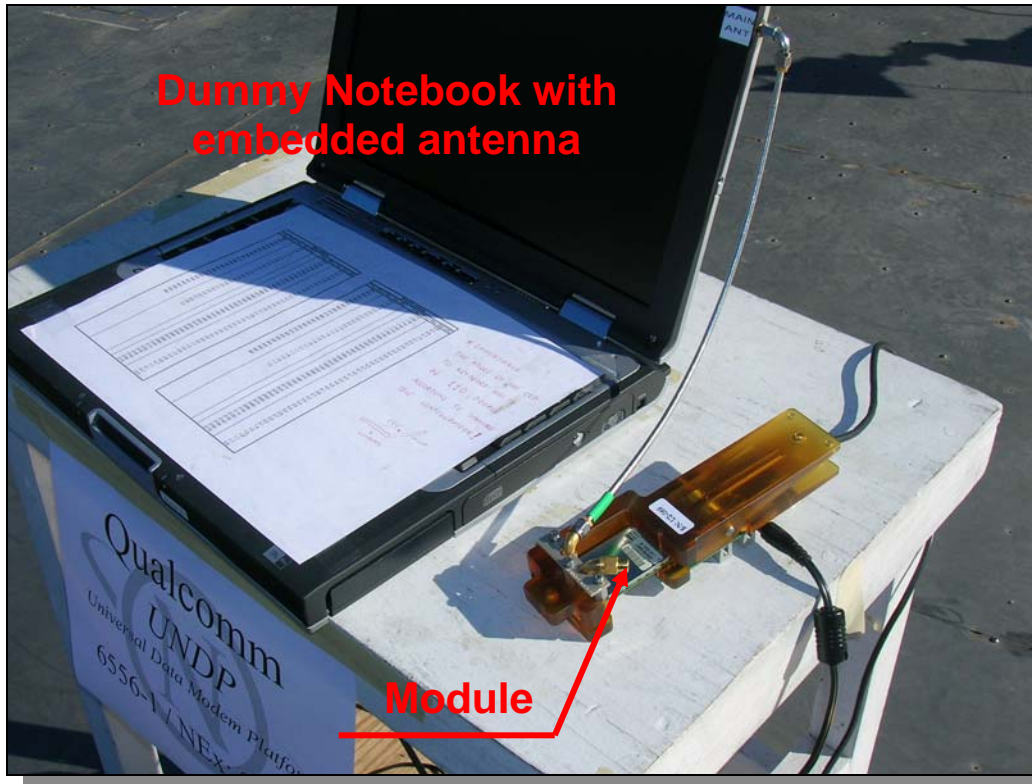
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Specification: FCC Part 22 Subpart H, Part 24 Subpart E

Section 1: Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:

Qualcomm UNDP-1 with Serial Number: N10DGGVRD



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1.2 Theory of Operation

The UNDP-1 platform includes a universal embedded-data-connectivity modem in the form of a PCI Express Mini Card, plus the associated software suit for notebook PC applications. The data I/O and power interface to the UNDP-1 card is provided via the PCI Express mini-card connector built into the notebook computer.

The main on-board Qualcomm chipsets include:

- **Baseband:** MDM1000™
- **RF:** RFR6500™, RTR6285™
- **Power Management:** PM6653™

Key connectivity support includes:

- USB 2.0 high-speed
- Universal integrated circuit card (UICC) for RUIM/USIM
- Primary and secondary antenna connectors
- Status LED driver output
- DC power supply input and enable/disable control

Two Hirose antenna connectors are provided: 1) the primary connector supports transmission and reception by the active CDMA, UMTA, or GSM transceiver; and 2) the secondary connector supports diversity reception by the active CDMA or UMTS link plus GPS reception. The antenna elements are typically integrated into the notebook computer and connected to the UNDP-1 module via flexible RF coaxial cables.

The MDM1000 device provides all the digital baseband processing, including modem functions for all the supported airlinks. Integrated MSM1000 functions include the ARM1136-J™ and ARM926EJ-S™ processor cores; two low-power, high-performance digital signal processor (DSP) cores; and 32 MB stacked DDR SDRAM memory.

During the radiated testing, the RF primary output of UNDP-1 was connected to the input of integrated antenna built in a dummy notebook (see the setup pictures), and the secondary antenna was terminated with a 50ohm load.

Qualcomm internal test software, QRCT, was used to set the UNDP-1 at the maximum output power settings for GSM, EGPRS, CDMA1x and WCDMA Rel99 operational mode, respectively. QRCT simulates an equivalent waveform as compared to an actual signal with the properly configured physical channels and is appropriate for radiated power and spurs measurements. The measurement results shown in the later sections of the report correlate to the theoretically calculated power values under a reasonable measurement tolerance.

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Specification: FCC Part 22 Subpart H, Part 24 Subpart E**1.3 Technical Specifications of the EUT****Manufacturer: Qualcomm****Operating Frequency:**

Operating band	Tx frequency range	Rx frequency range
CDMA		
□ Cell (BC0)	824 to 849 MHz	869 to 894 MHz
□ PCS (BC1)	1850 to 1910 MHz	1930 to 1990 MHz
UMTS (WCDMA)		
□ Cell (band V)	824 to 849 MHz	869 to 894 MHz
□ PCS (band II)	1850 to 1910 MHz	1930 to 1990 MHz
□ IMT (band I)	1920 to 1980 MHz	2110 to 2170 MHz
GSM		
□ GSM850	824 to 849 MHz	869 to 894 MHz
□ GSM900	880 to 915 MHz	925 to 960 MHz
□ GSM1800	1710 to 1785 MHz	1805 to 1880 MHz
□ GSM1900	1850 to 1910 MHz	1930 to 1990 MHz
GPS position location	---	1574.42 to 1576.42 MHz
Note, only cellular band (824 - 894 MHz) and PCS band (1850 - 1990 MHz) are applicable bands in US and Canada. The tests in this report will be limited to the cellular and PCS bands.		

Peak Output Power:**2.26W ERP in cell; 1.7W EIRP in PCS****Emission Designator:**

Mode		Tx Frequency Range (MHz)	Emission Designator
GSM \GPRS \EDGE	GMSK	824.2 – 848.8	248KGXW
		1850.2 – 1909.8	250KG7W
	8PSK	824.2 – 848.8	248KGXW
		1850.2 – 1909.8	245KG7W
WCDMA		826.4 – 846.6	4M18F9W
		1852.4 – 1907.5	4M19F9W
CDMA		824.7 – 848.31	1M28F9W
		1851.25 – 1908.75	1M28F9W

Modulation:GSM – GMSK, 8PSK
CDMA 1X-BPSK
WCDMA Release 99 – BPSK (UL)

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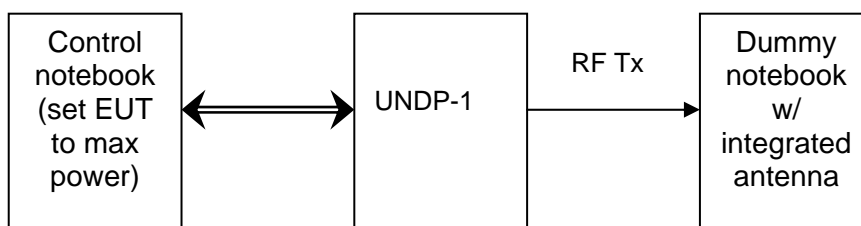
Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E

Antenna Data: Prototype: Cellular band +2.7dBi
 PCS band +4dBi

Antenna Connector: U.FL-R-SMT (Hirose)

Power Source: 3.3Vdc

1.4 Block Diagram of the EUT Setup



1.5 Summary of Test Results

Maximum Radiated Output Power

Mode	Max Power in Cell band (ERP)	Max Power in PCS band (EIRP)
GSM (GMSK)	2.26W / 33.54dBm	1.7W / 32.30dBm
EDGE (8PSK)	0.84W / 29.25dBm	0.84W / 29.25dBm
CDMA 1x	0.3W / 24.77dBm	0.44W / 26.41dBm
WCDMA Rel99	0.275W / 24.40 dBm	0.48W / 26.78 dBm

Field Strength of Spurious

Mode	Frequency (MHz)	Total Power (dBm)	Spec (dBm)	Margin (dBm)
EDGE 850	1648.40	-32.30 (ERP)	-13	-19.3
	1697.60	-32.82 (ERP)	-13	-19.8
	2509.80	-33.78 (ERP)	-13	-20.8
	2546.40	-30.83 (ERP)	-13	-17.8
GSM 850	1673.20	-32.46 (ERP)	-13	-19.5
	2509.80	-32.78 (ERP)	-13	-19.8
	2546.40	-32.33 (ERP)	-13	-19.3
WCDMA Rel99, Band II	3760.00	-28.82 (EIRP)	-13	-15.8
	3815.20	-29.02 (EIRP)	-13	-16.0

Note the table only lists the spurious which are within 20dB of the limits.

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Section 2: Test Methodology

2.1 Test Standards

The tests documented in this report were performed in accordance with:

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- FCC CFR 47 Part 22, Subpart H Cellular Radiotelephone Service
- FCC CFR 47 Part 24, Subpart E Broadband PCS
- Industry Canada, RSS-GEN (Issue 2)
- Industry Canada, RSS-132, Issue 2 (Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz)
- Industry Canada, RSS-133, Issue 3 (2 GHz Personal Communications Services)
- TIA/EIA 603C (2004)
- ANSI C63.4 (2003)

2.2 Antenna Substitution Method

1) Methodology Used: TIA/EIA-603 Clause 2.2.17

2) The Substitution Method is used for fundamental power levels and spurious emissions when RF emission signals are measured within 20 dB of the limit.

3) Formula Used to calculate the values:

- a) Measured value + antenna factor + cable loss - preamplifier = Max Level
- b) Margin = Max level - Limit
- c) Signal Generator power level - cable loss + antenna gain = ERP Part 22 or EIRP Part 24
- d) Substituted Margin = ERP (or EIRP) - Limit

Note: gain for dipole = 0; antenna factor is not the same as antenna gain

Note: The signal generator power level is the power required when transmitting into the substituting antenna to duplicate the Measured Value. Substituted margin is reported in 731 forms pertaining to certification grants and Class II Permissive Changes when a direct conducted power reading cannot be performed.

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Section 3: Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

- FCC Part 22, Subpart H Cellular Radiotelephone Service
- FCC Part 24, Subpart E Broadband PCS
- Industry Canada, RSS-GEN Issue 2
- Industry Canada, RSS-132, Issue 2 (Cellular Telephones Employing New Technologies Operating in the Bands 824-849 MHz and 869-894 MHz)
- Industry Canada, RSS-133, Issue 3 (2 GHz Personal Communications Services)

3.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

3.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	:	13 – 26 °C
Humidity range	:	67 - 83 %
Pressure range	:	86 - 106 kPa

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3.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
110	Antenna, LPA	Electrometrics	LPA-25	1217	12/18/2006	12/18/07
529	Antenna, DRWG	EMCO	3115	2505	8/27/2007	08/27/08
835	Spectrum Analyzer	Rohde & Schwarz	RHDFSEK	829058/005	6/20/2007	06/20/08
317	Preamplifier	HP	8449A	2749A00167	2/9/2007	02/09/08
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	7/10/2007	07/10/08

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Section 4: Observations

4.1 Modifications Performed During Assessment

No modifications were performed during assessment.

4.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

4.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

4.4 Test Deleted

No Tests were deleted from this assessment.

4.5 Additional Observations

There were no additional observations made during this assessment.

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Specification: FCC Part 22 Subpart H, Part 24 Subpart E**Section 5: Results Summary**

The results contained in this section are representative of the operation of the apparatus as originally submitted.

Name of Test	Para. No.	Result
RF Power Output	2.1046	COMPLIES
Audio Low Pass Filter Response	2.1047	NA ¹
Audio Frequency Response	2.1047	NA ¹
Modulation Limiting	2.1047	NA ¹
Occupied Bandwidth (WB Data)	2.1049	NA ²
Spurious Emissions at antenna Terminals	2.1051	NA ²
Field Strength of Spurious Emissions	2.1053	COMPLIES
Frequency Stability	2.1055	NA ²

Footnotes for N/A's:¹Digital Modulation²Test methodology and results will be provided by the client

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Appendix A: Test Results

Para. No. : 2.1046 RF Power Output

§ 22.913 Effective radiated power limits.

The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

(a) *Maximum ERP.* In general, the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. However, for those systems operating in areas more than 72 km (45 miles) from international borders that:

(1) Are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or,

(2) Extend coverage on a secondary basis into cellular unserved areas, as those areas are defined in §22.949, the ERP of base transmitters and cellular repeaters of such systems must not exceed 1000 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

§ 24.232 Power and antenna height limits.

(c) Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

(d) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

Test Procedure: ANSI C63.4 (2003) Clause 8**Test Conditions:**

Sample Number:	N10DGGVRD	Temperature:	13-26°C
Date:	Oct. 3, 2007	Humidity:	67-83 %
Modification State:		Tester:	Ferdinand Custodio
		Laboratory:	Nemko SOATS

Test Results:

Complies, see tables in the following pages

Additional Observations:

- Emissions within 20 dB of the limit were substituted by a signal generator and matching antenna and were shown to comply. Please see Field Strength of Spurious Emissions test for substitution data.

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Measurement Data:



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Radiated Power Data

Job # : 6556-1 Test # : 2
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Client Name :	<u>Qualcomm</u>		
EUT Name :	<u>Modem Platform</u>		
EUT Model # :	<u>UNDP-1</u>		
EUT Part # :	<u></u>		
EUT Serial # :	<u></u>		
EUT Config. :	<u>GSM 850 TX - GMSK</u>		
Specification :	<u>FCC Part 22</u>		
Rod. Ant. # :	<u>NA</u>	Temp. (°C) :	<u>26</u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>81</u>
Log Ant.#:	<u>110</u>	EUT Voltage :	<u></u>
DRG Ant. # :	<u>529</u>	EUT Frequency :	<u>NA</u>
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>
Cable#:	<u>SOATS</u>	Location:	<u>RN#: 329550-01</u>
Preamp#:	<u>NA</u>	Distance:	<u>3m</u>
Spec An.#:	<u>835</u>	ERP conversion factor	<u>7</u>
QP #:	<u>NA</u>		
PreSelect#:	<u>NA</u>		
		Reference :	
		Date :	<u>10/3/07</u>
		Time :	<u>8:00AM</u>
		Staff :	<u>FCustodio</u>
		Photo ID:	<u></u>
		Peak Bandwidth:	<u>1 MHz</u>
		Video Bandwidth:	<u>1 MHz</u>

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
824.20	105.7	H	27.4	35.9	38.5	-2.6	B/L	1.0	Pass	
836.60	105.2	H	26.5	34.4	38.5	-4.1	B	1.0	Pass	
848.80	106.4	H	26.8	35.9	38.5	-2.6	B/L	1.0	Pass	

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Radiated Power Data

Job #: 6556-1 Test #: 3
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Client Name : Qual
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : GSM PCS Tx - GMSK

Specification : FCC Part 24 Reference : _____
 Rod. Ant. #: NA Temp. (°C) : 18 Date : 10/4/07
 Bicon Ant.#: NA Humidity (%) : 67 Time : 8:00AM
 Log Ant.#: 110 EUT Voltage : _____ Staff : FCustodio
 DRG Ant. # 529 EUT Frequency : NA Photo ID: _____
 Dipole Ant.#: NA Phase: NA Peak Bandwidth: 1 MHz
 Cable#: 40ft Location: RN#: 329550-01 Video Bandwidth 1 MHz
 Preamp#: NA Distance: 3m
 Spec An.#: 835 EIRP conversion factor 5.5
 QP #: NA
 PreSelect#: NA

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
1850.20	95.1	H	31.2	31.1	33.0	-1.9	B	1.0	Pass	
1880.00	95.6	H	31.2	31.6	33.0	-1.4	B	1.0	Pass	
1909.80	95.6	H	31.3	31.7	33.0	-1.3	B	1.0	Pass	

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Radiated Power Data

Job # : 6556-1 Test # : 2
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : EDGE 850 TX - 8PSK Modulation

Specification : FCC Part 22 Reference : _____
 Rod. Ant. # : NA Temp. (°C) : 26 Date : 10/3/07
 Bicon Ant.#: NA Humidity (%) : 81 Time : 8:00AM
 Log Ant.#: 110 EUT Voltage : _____ Staff : FCustodio
 DRG Ant. # : 529 EUT Frequency : NA Photo ID: _____
 Dipole Ant.#: NA Phase: NA Peak Bandwidth: 1 MHz
 Cable#: SOATS Location: RN#: 329550-01 Video Bandwidth 1 MHz
 Preamp#: NA Distance: 3m
 Spec An.#: 835 ERP conversion factor 7
 QP #: NA
 PreSelect#: NA

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
824.20	101.0	H	27.4	31.2	38.5	-7.3	B/L	1.0	Pass	
836.60	101.8	H	26.5	31.0	38.5	-7.5	B	1.0	Pass	
848.80	101.1	H	26.8	30.7	38.5	-7.8	B/L	1.0	Pass	

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



NEMKO USA, Inc.

San Diego Headquarters:

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Radiated Power Data

Job # : 6556-1 Test # : 3
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : EDGE PCS Tx - 8PSK Modulation

Specification : FCC Part 24 Reference : _____
 Rod. Ant. # : NA Temp. (°C) : 18 Date : 10/4/07
 Bicon Ant.#: NA Humidity (%) : 67 Time : 8:00AM
 Log Ant.#: 110 EUT Voltage : _____ Staff : FCustodio
 DRG Ant. # : 529 EUT Frequency : NA Photo ID: _____
 Dipole Ant.#: NA Phase: NA Peak Bandwidth: 1 MHz
 Cable#: 40ft Location: RN#: 329550-01 Video Bandwidth 1 MHz
 Preamp#: NA Distance: 3m
 Spec An.#: 835 EIRP conversion factor 5.5
 QP #: NA
 PreSelect#: NA

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
1850.20	92.4	H	31.2	28.4	33.0	-4.6	B	1.0	Pass	
1880.00	93.6	H	31.2	29.6	33.0	-3.4	B	1.0	Pass	
1909.80	92.4	H	31.3	28.4	33.0	-4.6	B	1.0	Pass	

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Radiated Power Data

Job #: 6556-1 Test #: 2
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config : CDMA 1X -BC0

Specification : FCC Part 22 Reference : _____

Rod. Ant. #:	<u>NA</u>	Temp. (°C) :	<u>26</u>	Date :	<u>10/4/07</u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>81</u>	Time :	<u>8:00AM</u>
Log Ant.#:	<u>110</u>	EUT Voltage :	_____	Staff :	<u>FCustodio</u>
DRG Ant. #	<u>529</u>	EUT Frequency :	<u>NA</u>	Photo ID:	_____
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>	Peak Bandwidth:	<u>30 kHz*</u>
Cable#:	<u>SOATS</u>	Location:	<u>RN#: 329550-01</u>	Video Bandwidth	<u>300 kHz*</u>
Preamp#:	<u>NA</u>	Distance:	<u>3m</u>	*Utilized RS FSEK 30 Channel Power measurement capability (CDMA standard) average detector for channel power	
Spec An.#:	<u>835</u>	ERP conversion factor	<u>7</u>		
QP #:	<u>NA</u>				
PreSelect#:	<u>NA</u>				

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
824.70	96.1	H	27.4	26.2	38.5	-12.2	B	1.0	Pass	
836.52	96.0	H	26.5	25.2	38.5	-13.2	B	1.0	Pass	
848.31	96.0	H	26.8	25.5	38.5	-12.9	B	1.0	Pass	

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Radiated Power Data

Job # : 6556-1 Test # : 3
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : CDMA 1X PCS BC1

Specification :	<u>FCC Part 24</u>		Reference :	_____
Rod. Ant. #:	<u>NA</u>	Temp. (°C) :	<u>18</u>	Date : <u>10/4/07</u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>67</u>	Time : <u>8:00AM</u>
Log Ant.#:	<u>110</u>	EUT Voltage :	_____	Staff : <u>FCustodio</u>
DRG Ant. #	<u>877</u>	EUT Frequency :	<u>NA</u>	Photo ID: _____
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>	Peak Bandwidth: <u>30 kHz*</u>
Cable#:	<u>40ft</u>	Location:	<u>RN#: 329550-01</u>	Video Bandwidth <u>300 kHz*</u>
Preamp#:	<u>NA</u>	Distance:	<u>3m</u>	*Utilized RS FSEK 30 Channel Power
Spec An.#:	<u>835</u>	EIRP conversion factor	<u>5.5</u>	measurement capability (CDMA standard)
QP #:	<u>NA</u>			average detector for channel power
PreSelect#:	<u>NA</u>			

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
1851.25	90.3	H	31.1	26.2	33.0	-6.8	B	1.0	Pass	
1880.00	90.3	H	31.1	26.1	33.0	-6.9	B	1.0	Pass	
1908.75	89.6	H	31.9	26.3	33.0	-6.7	B	1.0	Pass	

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Radiated Power Data

Job # : 6556-1 Test # : 2
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : WCDMA Release 99 TX, Band V

Specification :	<u>FCC Part 22</u>	Reference :	_____
Rod. Ant. #:	<u>NA</u>	Temp. (°C) :	<u>13</u>
Bicon Ant.#:	<u>NA</u>	Humidity (%) :	<u>83</u>
Log Ant.#:	<u>110</u>	EUT Voltage :	_____
DRG Ant. #	<u>877</u>	EUT Frequency :	<u>NA</u>
Dipole Ant.#:	<u>NA</u>	Phase:	<u>NA</u>
Cable#:	<u>SOATS</u>	Location:	<u>RN#: 329550-01</u>
Preamp#:	<u>NA</u>	Distance:	<u>3m</u>
Spec An.#:	<u>835</u>	ERP conversion factor	<u>7</u>
QP #:	<u>NA</u>		
PreSelect#:	<u>NA</u>		

Date : 10/25/07
 Time : 8:00AM
 Staff : JGarcia
 Photo ID: _____
 Peak Bandwidth: 30 kHz*
 Video Bandwidth 300 kHz*
 *Utilized RS FSEK 30 Channel Power measurement capability (WCDMA standard) average detector for channel power

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
826.40	94.2	H	27.4	24.3	38.5	-14.1	B	1.0	Pass	
836.40	95.1	H	26.5	24.3	38.5	-14.1	B	1.0	Pass	
846.60	94.8	H	26.8	24.3	38.5	-14.2	B	1.0	Pass	

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Radiated Power Data

Job #: 6556-1 Test #: 3
Page 1 of 1

Client Name :	Qualcomm		
EUT Name :	Modem Platform		
EUT Model # :	UNDP-1		
EUT Part # :			
EUT Serial # :			
EUT Config. :	<u>WCDMA Release 99 TX, Band II</u>		
Specification :	FCC Part 24		Reference :
Rod. Ant. # :	<u>NA</u>	Temp. (°C) :	<u>18</u> Date : <u>10/25/07</u>
Bicon Ant. # :	<u>NA</u>	Humidity (%) :	<u>67</u> Time : <u>8:00AM</u>
Log Ant. # :	<u>110</u>	EUT Voltage :	<u>4.2VDC</u> Staff : <u>JGarcia</u>
DRG Ant. # :	<u>877</u>	EUT Frequency :	<u>NA</u> Photo ID: _____
Dipole Ant. # :	<u>NA</u>	Phase :	<u>NA</u> Peak Bandwidth: <u>30 kHz*</u>
Cable# :	<u>40ft</u>	Location: RN#:	<u>329550-01</u> Video Bandwidth <u>300 kHz*</u>
Preamp# :	<u>NA</u>	Distance :	<u>3m</u>
Spec An. # :	<u>835</u>	EIRP conversion factor :	<u>5.5</u> *Utilized RS FSEK 30 Channel Power measurement capability (WCDMA standard) average detector for channel power
QP # :	<u>NA</u>		
PreSelect# :	<u>NA</u>		

Meas. Freq. (MHz)	Meas. (dBuV) pk	Ant Orientation	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	COMMENT
1852.40	89.5	H	31.1	25.4	33.0	-7.6	B	1.0	Pass	
1880.00	89.4	H	31.1	25.3	33.0	-7.7	B	1.0	Pass	
1907.60	89.1	H	31.9	25.8	33.0	-7.2	B	1.0	Pass	

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 Specification: FCC Part 22 Subpart H, Part 24 Subpart E

Para. No.:2.1053 Field Strength of Spurious

§ 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

(a) *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.

(b) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

§ 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

(a) *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.

(b) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test Procedure: ANSI C63.4 (2003) Clause 8

Test Conditions:

Sample Number:	N10DGGVRD	Temperature:	13-29°C
Date:	Oct. 10, 2007	Humidity:	7-83 %
Modification State:		Tester:	Ferdinand Custodio
		Laboratory:	Nemko SOATS

Test Results: See attached Tables

Additional Observations:

- The Spectrum was searched up to the 10th Harmonic. Emissions within 20 dB of the limit were substituted by a signal generator and matching antenna and were shown to comply.

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Radiated Emissions Data

Job #: 6556-1 Test #: 1
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model #: UNDP-1
 EUT Serial #: _____
 EUT Config. : GSM 850, GMSK, TX

Specification : FCC Part 22 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant. #: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant. #: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant. #: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An. #: 835 ERP conversion factor 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1648.40	66.0	62.8	-3.5	-34.7	-13.0	-21.7	B	1.0	Pass	*
2472.60	59.4	57.4	1.8	-36.0	-13.0	-23.0	B	1.0	Pass	*
3296.80	54.5	53.2	2.8	-40.0	-13.0	-27.0	B	1.0	Pass	*
4121.00	48.5	48.5	4.4	-44.3	-13.0	-31.3			Pass	NF
4945.20			6.8		-13.0					NF
5769.40			9.2		-13.0					NF
6593.60			12.6		-13.0					NF
7417.80			15.6		-13.0					NF
8242.00			17.1		-13.0					NF
9066.20			18.5		-13.0					NF
1673.20	68.5	66.1	-3.5	-32.3	-13.0	-19.3	B	1.0	Pass	*
2509.80	62.2	59.0	2.7	-32.3	-13.0	-19.3	B	1.0	Pass	*
3346.40	53.4	54.9	3.1	-39.4	-13.0	-26.4	B	1.0	Pass	*
4183.00	48.5	48.5	4.4	-44.3	-13.0	-31.3			Pass	NF
5019.60			8.2		-13.0					NF
5856.20			9.4		-13.0					NF
6692.80			13.0		-13.0					NF
7529.40			15.3		-13.0					NF
8366.00			17.0		-13.0					NF
9202.60			19.5		-13.0					NF
1697.60	63.0	63.5	-3.5	-37.3	-13.0	-24.3	B	1.0	Pass	*
2546.40	61.0	62.5	2.7	-32.0	-13.0	-19.0	B	1.0	Pass	*
3395.20	52.8	52.9	3.1	-41.3	-13.0	-28.3	B	1.0	Pass	*
4244.00	48.5	48.5	4.1	-44.7	-13.0	-31.7			Pass	NF
5092.80			8.2		-13.0					NF
5941.60			10.0		-13.0					NF
6790.40			13.4		-13.0					NF
7639.20			15.7		-13.0					NF
8488.00			17.3		-13.0					NF
9336.80			19.2		-13.0					NF

* = Signal Measured NF = Noise Floor, no signal observed, even at lower RBW.

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FCC ID: J9CUNDP-1

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Radiated Emissions Data

Job #: 6556-1 Test #: 6
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model #: UNDP-1
 EUT Serial #: _____
 EUT Config. : GSM PCS, GMSK, TX

Specification : FCC Part 24 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 EIRP conversion factor 5.5

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
3700.40	55.93	50.76	2.3	-37.1	-13.0	-24.1	B	1.0	Pass	*
5550.60	53.36	50.70	8.8	-33.1	-13.0	-20.1	B	1.0	Pass	*
7400.80	45.36	45.36	15.6	-34.3	-13.0	-21.3		1.0	Pass	NF
9251.00			19.5		-13.0					NF
11101.20			24.5		-13.0					NF
12951.40			26.5		-13.0					NF
14801.60			34.3		-13.0					NF
16651.80			43.0		-13.0					NF
18502.00			58.9		-13.0					NF
20352.2			70.6		-13.0					NF
3760.00	52.59	51.24	2.3	-40.4	-13.0	-27.4	B	1.0	Pass	*
5640.00	50.59	49.19	9.0	-35.7	-13.0	-22.7	B	1.0	Pass	*
7520.00	45.36	45.36	15.3	-34.6	-13.0	-21.6		1.0	Pass	NF
9400.00			19.2		-13.0					NF
11280.00			24.4		-13.0					NF
13160.00			26.8		-13.0					NF
15040.00			36.0		-13.0					NF
16920.00			43.5		-13.0					NF
18800.00			59.0		-13.0					NF
20680			71.8		-13.0					NF
3819.60	55.91	54.16	2.7	-36.6	-13.0	-23.6		1.0	Pass	*
5729.40	49.01	49.30	9.2	-36.8	-13.0	-23.8		1.0	Pass	*
7639.20	45.36	45.36	15.7	-34.2	-13.0	-21.2		1.0	Pass	NF
9549.00			19.4		-13.0					NF
11458.80			24.3		-13.0					NF
13368.60			26.3		-13.0					NF
15278.40			34.4		-13.0					NF
17188.20			47.3		-13.0					NF
19098.00			61.5		-13.0					NF
21007.80			72.3		-13.0					NF

* = Signal Measured NF = Noise Floor, no signal observed, even at lower RBW.

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Radiated Emissions Data

Job #: 6556-1 Test #: 1
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model #: UNDP-1
 EUT Serial #: _____
 EUT Config. : EDGE 850, 8PSK, TX

Specification : FCC Part 22 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant. #: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant. #: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant. #: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An. #: 835 ERP conversion factor 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1648.40	65.4	69.9	-3.5	-30.9	-13.0	-17.9	B	1.0	Pass	*
2472.60	58.7	59.7	1.8	-35.7	-13.0	-22.7	B	1.0	Pass	*
3296.80	51.2	50.5	2.8	-43.3	-13.0	-30.3	B	1.0	Pass	*
4121.00	48.5	48.5	4.4	-44.3	-13.0	-31.3			Pass	NF
4945.20			6.8		-13.0					NF
5769.40			9.2		-13.0					NF
6593.60			12.6		-13.0					NF
7417.80			15.6		-13.0					NF
8242.00			17.1		-13.0					NF
9066.20			18.5		-13.0					NF
1673.20	66.7	67.6	-3.5	-33.2	-13.0	-20.2	B	1.0	Pass	*
2509.80	63.0	60.7	2.7	-31.5	-13.0	-18.5	B	1.0	Pass	*
3346.40	53.1	51.3	3.1	-41.1	-13.0	-28.1	B	1.0	Pass	*
4183.00	48.5	48.5	4.4	-44.3	-13.0	-31.3			Pass	NF
5019.60			8.2		-13.0					NF
5856.20			9.4		-13.0					NF
6692.80			13.0		-13.0					NF
7529.40			15.3		-13.0					NF
8366.00			17.0		-13.0					NF
9202.60			19.5		-13.0					NF
1697.60	68.5	67.0	-3.5	-32.3	-13.0	-19.3	B	1.0	Pass	*
2546.40	64.6	58.2	2.7	-29.9	-13.0	-16.9	B	1.0	Pass	*
3395.20	51.4	49.8	3.1	-42.8	-13.0	-29.8	B	1.0	Pass	*
4244.00	48.5	48.5	4.1	-44.7	-13.0	-31.7			Pass	NF
5092.80			8.2		-13.0					NF
5941.60			10.0		-13.0					NF
6790.40			13.4		-13.0					NF
7639.20			15.7		-13.0					NF
8488.00			17.3		-13.0					NF
9336.80			19.2		-13.0					NF

* = Signal Measured NF = Noise Floor, no signal observed, even at lower RBW.

Nemko USA, Inc.

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Radiated Emissions Data

Job #: 6556-1 Test #: 6
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model #: UNDP-1
 EUT Serial #: _____
 EUT Config. : EDGE PCS, 8PSK, TX

Specification : FCC Part 24 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 EIRP conversion factor 5.5

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
3700.40	57.19	55.37	2.3	-35.8	-13.0	-22.8	B	1.0	Pass	*
5550.60	50.90	50.63	8.8	-35.6	-13.0	-22.6	B	1.0	Pass	*
7400.80	45.36	45.36	15.6	-34.3	-13.0	-21.3		1.0	Pass	NF
9251.00			19.5		-13.0					NF
11101.20			24.5		-13.0					NF
12951.40			26.5		-13.0					NF
14801.60			34.3		-13.0					NF
16651.80			43.0		-13.0					NF
18502.00			58.9		-13.0					NF
20352.2			70.6		-13.0					NF
3760.00	52.59	50.91	2.3	-40.4	-13.0	-27.4	B	1.0	Pass	*
5640.00	49.32	49.07	9.0	-36.9	-13.0	-23.9	B	1.0	Pass	*
7520.00	45.36	45.36	15.3	-34.6	-13.0	-21.6		1.0	Pass	NF
9400.00			19.2		-13.0					NF
11280.00			24.4		-13.0					NF
13160.00			26.8		-13.0					NF
15040.00			36.0		-13.0					NF
16920.00			43.5		-13.0					NF
18800.00			59.0		-13.0					NF
20680			71.8		-13.0					NF
3819.60	55.03	54.78	2.7	-37.5	-13.0	-24.5		1.0	Pass	*
5729.40	50.93	49.00	9.2	-35.2	-13.0	-22.2		1.0	Pass	*
7639.20	45.36	45.36	15.7	-34.2	-13.0	-21.2		1.0	Pass	NF
9549.00			19.4		-13.0					NF
11458.80			24.3		-13.0					NF
13368.60			26.3		-13.0					NF
15278.40			34.4		-13.0					NF
17188.20			47.3		-13.0					NF
19098.00			61.5		-13.0					NF
21007.80			72.3		-13.0					NF

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Radiated Emissions Data

Job #: 6556-1 Test #: 1
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model #: UNDP-1
 EUT Serial #: _____
 EUT Config. : CDMA 1X , BCO

Specification : FCC Part 22 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 ERP conversion factor 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1649.40	52.9	51.8	-3.5	-47.9	-13.0	-34.9	B	1.0	Pass	*
2474.10	50.0	50.1	1.8	-45.3	-13.0	-32.3	B	1.0	Pass	*
3298.80	47.1	47.1	2.8	-47.4	-13.0	-34.4			Pass	NF
4123.50			4.4		-13.0					NF
4948.20			6.8		-13.0					NF
5772.90			9.2		-13.0					NF
6597.60			12.6		-13.0					NF
7422.30			15.6		-13.0					NF
8247.00			17.1		-13.0					NF
9071.70			18.5		-13.0					NF
1673.04	56.5	50.4	-3.5	-44.3	-13.0	-31.3	B	1.0	Pass	*
2509.56	50.0	48.9	2.7	-44.5	-13.0	-31.5	B	1.0	Pass	*
3346.08	47.1	47.1	3.1	-47.1	-13.0	-34.1			Pass	NF
4182.60			4.4		-13.0					NF
5019.12			8.2		-13.0					NF
5855.64			9.4		-13.0					NF
6692.16			13.0		-13.0					NF
7528.68			15.3		-13.0					NF
8365.20			17.0		-13.0					NF
9201.72			19.5		-13.0					NF
1696.62	56.0	51.4	-3.5	-44.8	-13.0	-31.8	B	1.0	Pass	*
2544.93	49.3	49.3	2.7	-45.2	-13.0	-32.2	B	1.0	Pass	*
3393.24	47.1	47.1	3.1	-47.1	-13.0	-34.1			Pass	NF
4241.55			4.1		-13.0					NF
5089.86			8.2		-13.0					NF
5938.17			10.0		-13.0					NF
6786.48			13.4		-13.0					NF
7634.79			15.7		-13.0					NF
8483.10			17.3		-13.0					NF
9331.41			19.2		-13.0					NF

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Radiated Emissions Data

Job #: 6556-1 Test #: 6
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Serial # : _____
 EUT Config. : CDMA 1X , BC1, TX

Specification : FCC Part 24 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 EIRP conversion 5.5

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
3702.50	56.40	53.98	2.3	-36.6	-13.0	-23.6	B	1.0	Pass	*
5553.75	44.80	44.80	8.8	-41.7	-13.0	-28.7			Pass	NF
7405.00			15.6		-13.0					NF
9256.25			19.5		-13.0					NF
11107.50			24.5		-13.0					NF
12958.75			26.5		-13.0					NF
14810.00			34.3		-13.0					NF
16661.25			43.0		-13.0					NF
18512.50			58.9		-13.0					NF
20363.75			70.6		-13.0					NF
3760.00	54.90	54.75	2.3	-38.1	-13.0	-25.1	B	1.0	Pass	*
5640.00	45.40	45.40	9.0	-40.8	-13.0	-27.8		1.0	Pass	NF
7520.00			15.3		-13.0					NF
9400.00			19.2		-13.0					NF
11280.00			24.4		-13.0					NF
13160.00			26.8		-13.0					NF
15040.00			36.0		-13.0					NF
16920.00			43.5		-13.0					NF
18800.00			59.0		-13.0					NF
20680			71.8		-13.0					NF
3817.50	55.91	56.59	2.7	-35.9	-13.0	-22.9	B	1.0	Pass	*
5726.25	45.00	45.00	9.2	-41.1	-13.0	-28.1		1.0	Pass	NF
7635.00			15.7		-13.0					NF
9543.75			19.4		-13.0					NF
11452.50			24.3		-13.0					NF
13361.25			26.3		-13.0					NF
15270.00			34.4		-13.0					NF
17178.75			47.3		-13.0					NF
19087.50			61.5		-13.0					NF
20996.25			72.3		-13.0					NF

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Radiated Emissions Data

Job #: 6556-1 Test #: 2
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Serial # : _____
 EUT Config. : WCDMA Release 99 TX Band V, TX

Specification : FCC Part 22 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/15/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 ERP conversion 7

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1652.80	54.8	54.4	-3.5	-46.0	-13.0	-33.0	F	1.0	Pass	*
2479.20	48.2	48.2	1.8	-47.2	-13.0	-34.2			Pass	NF
3305.60			2.8		-13.0					NF
4132.00			4.4		-13.0					NF
4958.40			6.8		-13.0					NF
5784.80			9.2		-13.0					NF
6611.20			12.6		-13.0					NF
7437.60			15.6		-13.0					NF
8264.00			17.1		-13.0					NF
9090.40			18.5		-13.0					NF
1672.80	52.6	53.9	-3.5	-46.9	-13.0	-33.9	L	1.0	Pass	*
2509.20	48.2	48.2	2.7	-46.3	-13.0	-33.3			Pass	NF
3345.60			3.1		-13.0					NF
4182.00			4.4		-13.0					NF
5018.40			8.2		-13.0					NF
5854.80			9.4		-13.0					NF
6691.20			13.0		-13.0					NF
7527.60			15.3		-13.0					NF
8364.00			17.0		-13.0					NF
9200.40			19.5		-13.0					NF
1693.20	56.3	54.9	-3.5	-44.4	-13.0	-31.4	F	1.0	Pass	*
2539.80	48.2	48.2	2.7	-46.3	-13.0	-33.3			Pass	NF
3386.40			3.1		-13.0					NF
4233.00			4.1		-13.0					NF
5079.60			8.2		-13.0					NF
5926.20			10.0		-13.0					NF
6772.80			13.4		-13.0					NF
7619.40			15.7		-13.0					NF
8466.00			17.3		-13.0					NF
9312.60			19.2		-13.0					NF

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Radiated Emissions Data

Job #: 6556-1 Test #: 6
 Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Serial # : _____
 EUT Config. : WCDMA Release 99, Band II, TX

Specification : FCC Part 24 Reference : _____
 Rod. Ant. #: _____ Temp. (°C) : 16 Date : 10/05/07
 Bicon Ant.#: _____ Humidity (%) : 70 Staff : Ferdinand Custodio
 Log Ant.#: 110 EUT Voltage : NA Peak Bandwidth: 1 MHz
 DRG Ant. # 877 EUT Frequency : NA Video Bandwidth 1 MHz
 Dipole Ant.#: _____ Phase: NA
 Cable#: 40ft Location: RN # 329550-01
 Preamp#: 317 Distance: 3m
 Spec An.#: 835 EIRP conversion factor 5.5

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERIP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
3704.80	56.27	55.96	2.3	-36.7	-13.0	-23.7	B	1.0	Pass	*
5557.20	52.17	50.70	8.8	-34.3	-13.0	-21.3	B	1.0	Pass	*
7409.60	44.50	44.50	15.6	-35.1	-13.0	-22.1			Pass	NF
9262.00			19.5		-13.0					NF
11114.40			24.5		-13.0					NF
12966.80			26.5		-13.0					NF
14819.20			34.3		-13.0					NF
16671.60			43.0		-13.0					NF
18524.00			58.9		-13.0					NF
20376.40			70.6		-13.0					NF
3760.00	65.38	65.32	2.3	-27.6	-13.0	-14.6	B	1.0	Pass	*
5640.00	47.16	48.51	9.0	-37.7	-13.0	-24.7	B	1.0	Pass	NF
7520.00	44.80	44.80	15.3	-35.1	-13.0	-22.1			Pass	NF
9400.00			19.2		-13.0					NF
11280.00			24.4		-13.0					NF
13160.00			26.8		-13.0					NF
15040.00			36.0		-13.0					NF
16920.00			43.5		-13.0					NF
18800.00			59.0		-13.0					NF
20680			71.8		-13.0					NF
3815.20	62.08	64.18	2.7	-28.4	-13.0	-15.4		1.0	Pass	*
5722.80	48.07	47.43	9.2	-38.0	-13.0	-25.0		1.0	Pass	*
7630.40	44.60	44.60	15.7	-34.9	-13.0	-21.9		1.0	Pass	NF
9538.00			19.4		-13.0					NF
11445.60			24.3		-13.0					NF
13353.20			26.3		-13.0					NF
15260.80			34.4		-13.0					NF
17168.40			47.3		-13.0					NF
19076.00			61.5		-13.0					NF
20983.60			72.3		-13.0					NF

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FCC ID: J9CUNDP-1

Report Number: 2007 106556 UNDP-1 FCC Rev. 1
 Specification: FCC Part 22 Subpart H, Part 24 Subpart E

Test Procedure: TIA/EIA 603 Clause 2.2.17

Para. No.:2.1053 Field Strength of Spurious (Substitution Method including Fundamental)



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Substitution Method For Radiated Emissions			
Complete <u> X </u>	Job # : <u>6556-1</u>	Test # : <u> 1 </u>	
Preliminary <u> </u>	Page <u> 1 </u>	of <u> 1 </u>	
Client Name : <u>Qualcomm</u>			
EUT Name : <u>Modem Platform</u>			
EUT Model # : <u>UNDP-1</u>			
EUT Part # : <u> </u>			
EUT Serial # : <u> </u>			
EUT Config. : <u>EDGE PCS, 8PSK</u>			
Specification : <u>FCC Part 24</u>			
Rod. Ant. # : <u> NA </u>	Temp. (deg. C) : <u> 29 </u>	Reference : <u> </u>	
Bicon Ant.# : <u> NA </u>	Humidity (%) : <u> 7 </u>	Date : <u>10/8/2007</u>	
Log Ant.# : <u> NA </u>	EUT Voltage : <u> NA </u>	Time : <u> </u>	
DRG Ant. # : <u>529/877</u>	EUT Frequency : <u> NA </u>	Staff : <u>FSCustodio</u>	
Dipole Ant.# : <u> NA </u>	Phase : <u> NA </u>	Photo ID : <u> </u>	
Cable# : <u> 60ft </u>	Location : <u>RN# 329550-01</u>	Peak Bandwidth : <u>RBW-1MHz, VBW-1MHz</u>	
Preamp# : <u> NA </u>	Distance : <u> 3m </u>		
Spec An.# : <u> 835 </u>			
QP # : <u> 835 </u>			
PreSelect# : <u> NA </u>			

Part 24 Substitution

Frequency MHz	Target	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
	Level dBuV/m						
1850.20	92.4	8.16	7.48	28.04	28.72	33	-4.3
1880.00	93.6	8.21	7.48	28.52	29.25	33	-3.7
1909.80	92.4	8.26	7.83	28.63	29.06	33	-3.9

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Substitution Method For Radiated Emissions

Complete X
 Preliminary

Job #: 6556-1
 Page 1

Test #: 1
 of 1

Client Name : Qualcomm

EUT Name : Modem Platform

EUT Model # : UNDP-1

EUT Part # :

EUT Serial # :

EUT Config. : EDGE 850, 8PSK

Specification : FCC Part 22

Reference :

Rod. Ant. #: NA Temp. (deg. C) : 29

Date : 10/8/2007

Bicon Ant. #: NA Humidity (%) : 7

Time :

Log Ant. #: NA EUT Voltage : NA

Staff : FSCustodio

DRG Ant. # 529/877 EUT Frequency : NA

Photo ID:

Dipole Ant. #: NA Phase: NA

Peak Bandwidth: RBW-1MHz, VBW-1MHz

Cable#: 60ft Location: RN# 329550-01

Preamp#: NA Distance: 3m

Spec An. #: 835

QP #: 835

PreSelect#: NA

Part 22 Substitution (Fundamental)

Frequency MHz	Target		dipole	Cable loss dB	Signal Generator dBm	Total (ERP) dBm	Spec dBm	Margin dBm
	Level dBuV/m							
824.20	101.0			4.90	33.08	28.18	38.45	-10.3
836.60	101.8			5.00	34.25	29.25	38.45	-9.2
848.80	101.1			5.00	33.47	28.47	38.45	-10.0

Part 22 Substitution (Harmonics)

Frequency MHz	Target		Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (ERP) dBm	Spec dBm	Margin dBm
	Level dBuV/m							
1648.40	69.9		7.84	7.04	-33.1	-32.30	-13	-19.3
1697.60	68.5		7.92	7.04	-33.7	-32.82	-13	-19.8
2509.80	63.0		9.1	8.79	-34.1	-33.78	-13	-20.8
2546.40	64.6		9.16	8.79	-31.2	-30.83	-13	-17.8

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 Specification: FCC Part 22 Subpart H, Part 24 Subpart E



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Substitution Method For Radiated Emissions

Complete X Job #: 6556-1 Test #: 1
 Preliminary _____ Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # : _____
 EUT Serial # : _____
 EUT Config. : GSM 850, GMSK

Specification : FCC Part 22 Reference : _____
 Rod. Ant. #: NA Temp. (deg. C) : 29 Date : 10/8/2007
 Bicon Ant. #: NA Humidity (%) : 7 Time : _____
 Log Ant. #: NA EUT Voltage : NA Staff : FSCustodio
 DRG Ant. # : 529/877 EUT Frequency : NA Photo ID : _____
 Dipole Ant. #: NA Phase: NA Peak Bandwidth: RBW-1MHz, VBW-1MHz
 Cable#: 60ft Location: RN# 329550-01
 Preamp#: NA Distance: 3m
 Spec An. #: 835
 QP #: 835
 PreSelect#: NA

Part 22 Substitution (Fundamental)

Target Frequency MHz	Target Level dBuV/m	dipole	Cable loss dB	Signal Generator dBm	Total (ERP) dBm	Spec dBm	Margin dBm
824.20	105.7		4.90	38.01	33.11	38.45	-5.3
836.60	105.2		5.00	37.99	32.99	38.45	-5.5
848.80	106.4		5.00	38.54	33.54	38.45	-4.9

Part 22 Substitution (Harmonics)

Target Frequency MHz	Target Level dBuV/m	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
1673.20	68.5	7.88	7.04	-33.3	-32.46	-13	-19.5
2509.80	62.2	9.11	8.79	-33.1	-32.78	-13	-19.8
2546.40	62.5	9.16	8.79	-32.7	-32.33	-13	-19.3

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Substitution Method For Radiated Emissions

Complete X Job #: 6556-1 Test #: 1
 Preliminary Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # :
 EUT Serial # :
 EUT Config. : GSM PCS, GMSK

Specification : FCC Part 24 Reference :
 Rod. Ant. #: NA Temp. (deg. C) : 29 Date : 10/8/2007
 Bicon Ant.#: NA Humidity (%) : 7 Time :
 Log Ant.#: NA EUT Voltage : NA Staff : FSCustodio
 DRG Ant. # 529/877 EUT Frequency : NA Photo ID:
 Dipole Ant.#: NA Phase: NA Peak Bandwidth: RBW-1MHz, VBW-1MHz
 Cable#: 60ft Location: RN# 329550-01
 Preamp#: NA Distance: 3m
 Spec An.#: 835
 QP #: 835
 PreSelect#: NA

Part 24 Substitution

Target Frequency MHz	Target Level dBuV/m	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
1850.20	95.1	8.16	7.48	30.41	31.09	33	-1.9
1880.00	95.6	8.21	7.48	30.58	31.31	33	-1.7
1909.80	95.6	8.26	7.83	31.87	32.30	33	-0.7

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Substitution Method For Radiated Emissions

Complete X
 Preliminary

Job #: 6556-1
 Page 1

Test #: 1
 of 1

Client Name : <u>Qualcomm</u>	
EUT Name : <u>Modem Platform</u>	
EUT Model # : <u>UNDP-1</u>	
EUT Part # : <u> </u>	
EUT Serial # : <u> </u>	
EUT Config. : <u>CDMA 1X , BC0</u>	
Specification : <u>FCC Part 22</u>	
Rod. Ant. # : <u>NA</u>	Temp. (deg. C) : <u>13</u>
Bicon Ant.#: <u>NA</u>	Humidity (%) : <u>83</u>
Log Ant.#: <u>NA</u>	EUT Voltage : <u>NA</u>
DRG Ant. # <u>529/877</u>	EUT Frequency : <u>NA</u>
Dipole Ant.#: <u>NA</u>	Phase: <u>NA</u>
Cable#: <u>60ft</u>	Location: <u>RN# 329550-01</u>
Preamp#: <u>NA</u>	Distance: <u>3m</u>
Spec An.#: <u>835</u>	
QP #: <u>835</u>	
PreSelect#: <u>NA</u>	
Reference : <u> </u>	
Date : <u>10/16/2007</u>	
Time : <u> </u>	
Staff : <u>FSCustodio</u>	
Photo ID: <u> </u>	
Peak Bandwidth: <u>RBW-1MHz, VBW-1MHz</u>	

Part 22 Substitution (Fundamental)

Target Frequency MHz	Target Level dBuV/m	dipole	Cable loss dB	Signal Generator dBm	Total (ERP) dBm	Spec dBm	Margin dBm
824.70	96.1		4.90	29.67	24.77	38.45	-13.7
836.52	96.0		5.00	29.24	24.24	38.45	-14.2
848.31	96.0		5.00	29.43	24.43	38.45	-14.0

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Substitution Method For Radiated Emissions			
Complete <u> X </u>	Job # : <u>6556-1</u>	Test # : <u> 1 </u>	
Preliminary <u> </u>	Page <u> 1 </u>	of <u> 1 </u>	
Client Name : <u>Qualcomm</u>			
EUT Name : <u>Modem Platform</u>			
EUT Model # : <u>UNDP-1</u>			
EUT Part # : <u> </u>			
EUT Serial # : <u> </u>			
EUT Config. : <u>CDMA 1X , BC1</u>			
Specification : <u>FCC Part 24</u>		Reference : <u> </u>	
Rod. Ant. # : <u> NA </u>	Temp. (deg. C) : <u> 29 </u>	Date : <u>10/8/2007</u>	
Bicon Ant.# : <u> NA </u>	Humidity (%) : <u> 7 </u>	Time : <u> </u>	
Log Ant.# : <u> NA </u>	EUT Voltage : <u> NA </u>	Staff : <u>FSCustodio</u>	
DRG Ant. # : <u>529/877</u>	EUT Frequency : <u> NA </u>	Photo ID : <u> </u>	
Dipole Ant.# : <u> NA </u>	Phase : <u> NA </u>	Peak Bandwidth : <u>RBW-1MHz, VBW-1MHz</u>	
Cable# : <u> 60ft </u>	Location : <u>RN# 329550-01</u>		
Preamp# : <u> NA </u>	Distance : <u> 3m </u>		
Spec An.# : <u> 835 </u>			
QP # : <u> 835 </u>			
PreSelect# : <u> NA </u>			

Part 24 Substitution

Target Frequency MHz	Target Level dBuV/m	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
1851.25	90.3	8.16	7.48	25.28	25.96	33	-7.0
1880.00	90.3	8.21	7.48	25.25	25.98	33	-7.0
1908.75	89.6	8.25	7.83	25.99	26.41	33	-6.6

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Substitution Method For Radiated Emissions			
Complete	<u> X </u>	Job # : <u>6556-1</u>	Test # : <u> 1 </u>
Preliminary	<u> </u>	Page <u> 1 </u>	of <u> 1 </u>
Client Name : <u>Qualcomm</u>			
EUT Name : <u>Modem Platform</u>			
EUT Model # : <u>UNDP-1</u>			
EUT Part # : <u> </u>			
EUT Serial # : <u> </u>			
EUT Config. : <u>WCDMA Release 99 TX Band V</u>			
Specification : <u>FCC Part 22</u>		Reference : <u> </u>	
Rod. Ant. #:	<u>NA</u>	Temp. (deg. C) :	<u>13</u>
Bicon Ant. #:	<u>NA</u>	Humidity (%) :	<u>83</u>
Log Ant. #:	<u>NA</u>	EUT Voltage :	<u>NA</u>
DRG Ant. #	<u>529/877</u>	EUT Frequency :	<u>NA</u>
Dipole Ant. #:	<u>NA</u>	Phase:	<u>NA</u>
Cable#:	<u>60ft</u>	Location:	<u>RN# 329550-01</u>
Preamp#:	<u>NA</u>	Distance:	<u>3m</u>
Spec An. #:	<u>835</u>	Photo ID:	<u> </u>
QP #:	<u>835</u>	Peak Bandwidth:	<u>RBW-1MHz, VBW-1MHz</u>
PreSelect#:	<u>NA</u>		

Part 22 Substitution (Fundamental)

Target Frequency	Target Level	dipole	Cable loss	Signal Generator	Total (ERP)	Spec	Margin
MHz	dBuV/m		dB	dBm	dBm	dBm	dBm
826.40	94.2		4.90	29.3	24.40	38.45	-14.1
836.40	95.1		5.00	29.2	24.20	38.45	-14.3
846.60	94.8		5.00	29.3	24.30	38.45	-14.2

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Substitution Method For Radiated Emissions

Complete X Job #: 6556-1 Test #: 1
 Preliminary Page 1 of 1

Client Name : Qualcomm
 EUT Name : Modem Platform
 EUT Model # : UNDP-1
 EUT Part # :
 EUT Serial # :
 EUT Config. : WCDMA Release 99, Band II

Specification : FCC Part 24 Reference :
 Rod. Ant. #: NA Temp. (deg. C) : 13 Date : 10/26/2007
 Bicon Ant.#: NA Humidity (%) : 83 Time :
 Log Ant.#: NA EUT Voltage : NA Staff : JGarcia
 DRG Ant. # : 529/877 EUT Frequency : NA Photo ID:
 Dipole Ant.#: NA Phase: NA Peak Bandwidth: RBW-1MHz, VBW-1MHz
 Cable#: 60ft Location: RN# 329550-01
 Preamp#: NA Distance: 3m
 Spec An.#: 835
 QP #: 835
 PreSelect#: NA

Part 24 Substitution (Fundamental)

Target Frequency MHz	Target Level dBuV/m	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
1852.40	89.5	8.16	7.48	26.1	26.78	33	-6.2
1880.00	89.4	8.21	7.48	25.5	26.23	33	-6.8
1907.60	89.1	8.25	7.83	26.1	26.52	33	-6.5

Part 24 Substitution (Harmonics)

Target Frequency MHz	Target Level dBuV/m	Horn Gain dBi	Cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
3760.00	65.4	9.88	11.20	-27.5	-28.82	-13	-15.8
3815.20	64.2	9.88	11.50	-27.4	-29.02	-13	-16.0

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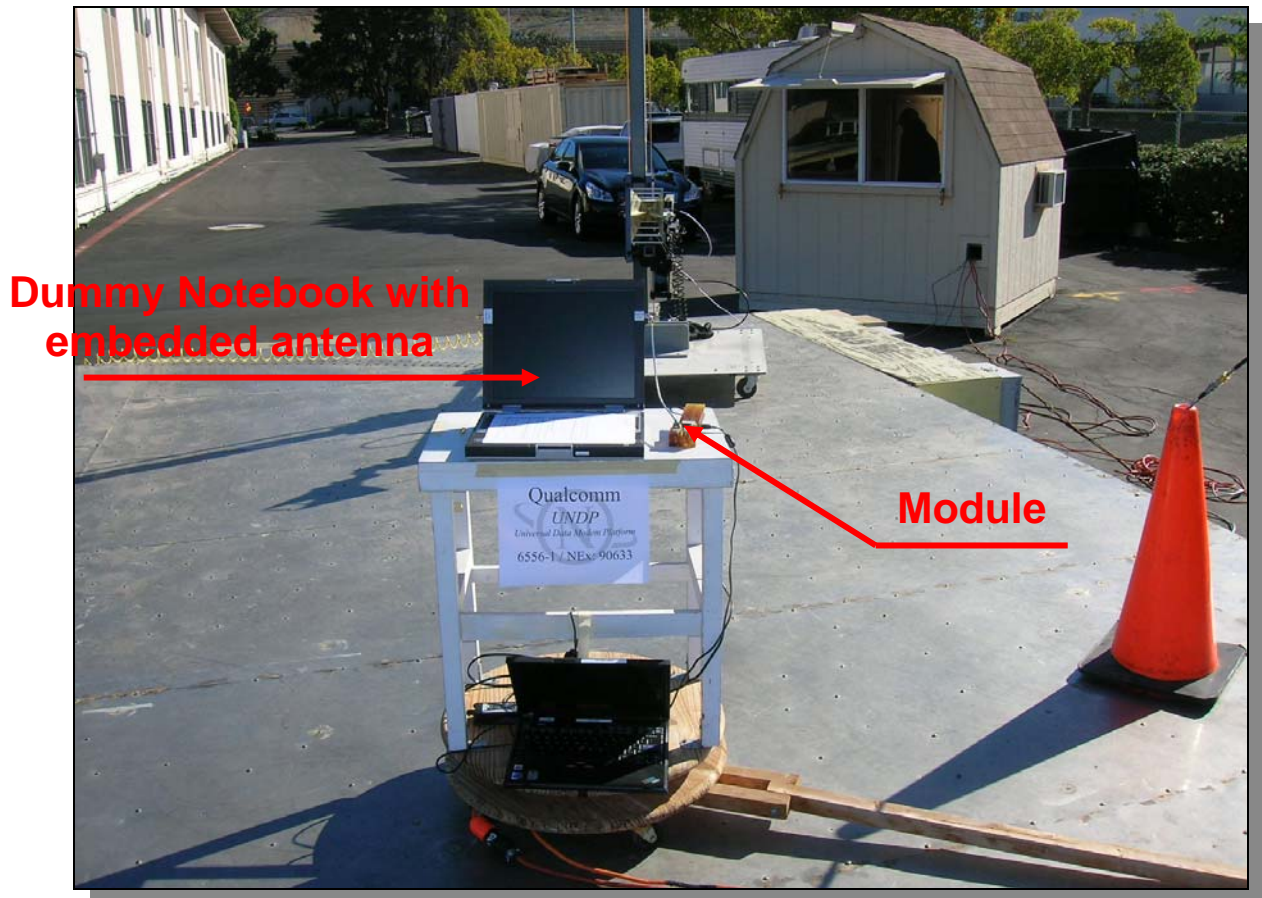
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Appendix B : Setup Photographs

1. Spurious Emissions Setup:

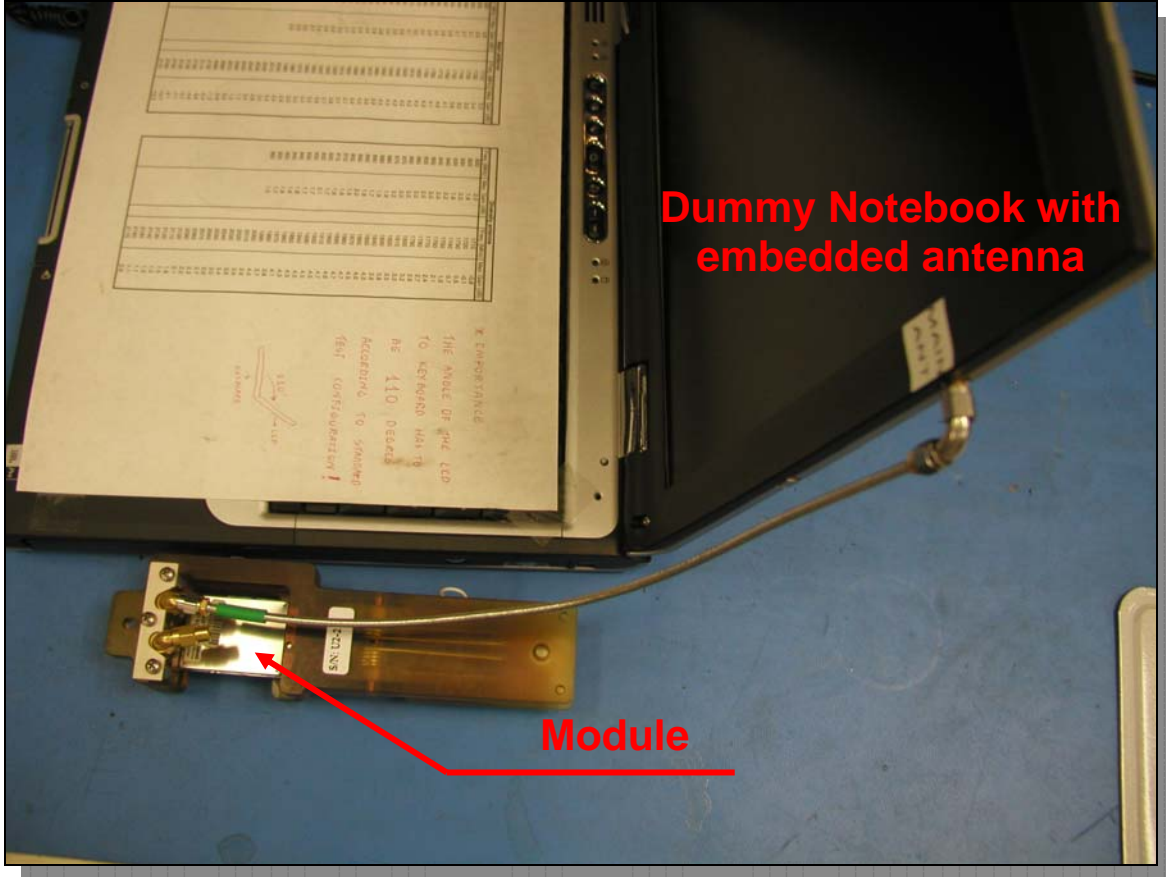


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Appendix C : Block Diagram of Test Setups

Test Site For Radiated Emissions

