Nemko Test Report:	5L0526RUS1
Applicant:	Nokia, Inc.
Equipment Under Test: (E.U.T.)	6165i
In Accordance With:	**FCC Part 22, Subpart H** Cellular Band Subscriber Services and **FCC Part 24, Subpart E** Broadband PCS Subscriber Station
Tested By:	Nemko USA Inc. 802 N. Kealy Lewisville, TX 75057-3136
Authorized By:	Tom Tidwell, Frontline Manager
Date:	21 October, 2005

NVLAP LAB CODE: 100426-0
Accreditation valid 1/1/05 to 12/31/05

Table of Contents

Section 1. Summary of Test Results

Manufacturer: Nokia, Inc.

Model No.: 6165i

Serial No.: 033/10858381

Type: RM-125

General: **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.

☒ New Submission ☐ Production Unit

☐ Class II Permissive Change ☒ Pre-Production Unit

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

Summary Of Test Data

Part 22

NAME OF TEST	PARA. NO.	RESULT
RF Power Output	22.913(a)(2)	Not tested
Audio Frequency Response	2.1047	Not tested
Audio Low Pass Filter Response	2.1047	Not tested
Modulation Limiting	2.1047	Not tested
Occupied Bandwidth	2.1049	Not tested
Spurious Emissions at Antenna Terminals	22.917(a)	Not tested
Field Strength of Spurious Emissions	22.917(a)	Complies
Frequency Stability	22.355	Not tested

Part 24

NAME OF TEST	PARA. NO.	RESULT
RF Power Output	24.232	Not tested
Occupied Bandwidth	24.238	Not tested
Spurious Emissions at Antenna Terminals	24.238(a)	Not tested
Field Strength of Spurious Emissions	24.238(a)	Complies
Frequency Stability	24.235	Not tested

Footnotes:

Tests not performed are being carried out by Nokia.

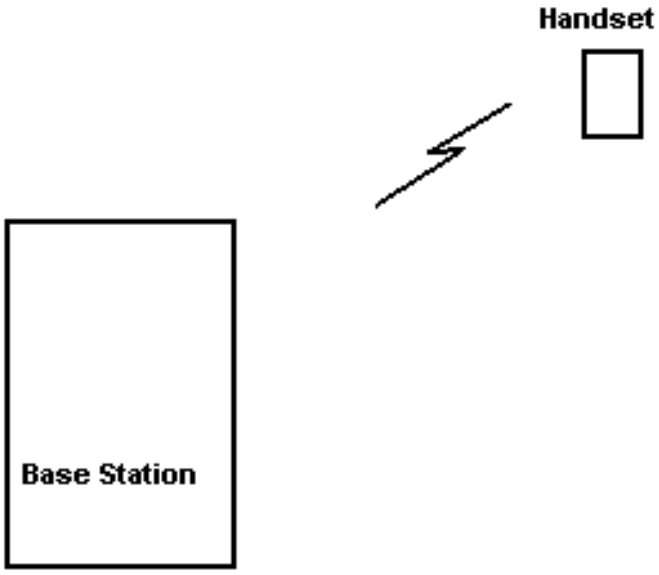
Section 2. General Equipment Specification

Frequency Bands:	824.04 to 848.97 MHz AMPS 824.70 to 847.31 CDMA 800 1851.25 to 1908.75 MHz PCS
Type of Modulation and Designator:	**CDMA (F9W)** ☒ **AMPS (F8W)** ☒ **NADC (DXW)** ☐
Necessary Bandwidth:	40 kHz AMPS 1.25 MHz CDMA
Emission designator(s):	40KF8W 1M25F9W
Output Impedance:	50 ohms

Operational Description

This handset is tri-mode device operating at 800 MHz AMPS, CDMA 800 and CDMA 1900 modes.

System Diagram



Section 3. Field Strength of Spurious

NAME OF TEST: Field Strength of Spurious(800 MHz band)	PARA. NO.: 22.917(a)
TESTED BY: David Light	DATE: 10 October 2005

Test Results: Complies.

800 MHz band: The worst-case emission is –24.7 dBm at 1673.04 MHz. This emission was detected with the phone operating in CDMA 800 mode at 836.52 MHz.

Test Data: See attached table.

Orientation of device under test: The device under test was tested on three orthogonal axis in order to determine worst-case orientation. The worst-case orientation was found to be in the upright position.

Test Data - Radiated Emissions

Field Strength of Spurious Emissions

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Job No.: 5L0526 Date: 10/10/2005 Preliminary

Specification: Part 22 Temperature(°C): 20

Tested By: David Light Relative Humidity(%) 45

E.U.T.: Tri-mode handset

Configuration: AMPS

Sample No: 1

Location: AC 3 RBW: 1 MHz Measurement

Detector Type: Peak VBW: 1 MHz Distance: 3 m

Test Equipment Used

Antenna: 993 Directional Coupler:

Pre-Amp: 1016 Cable #1: 1484

Filter: 1481 Cable #2: 1485

Receiver: 1464 Cable #3:

Attenuator #1 Cable #4:

Attenuator #2: Mixer:

Additional equipment used: 760 791 1311 HP8924 (Nokia)

Measurement Uncertainty: +/-1.7 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)		ERP (dBm)	ERP (mW)	Polarity	Comments
										Tx at 836.52 MHz
1673.04	-63.0	31.1		0	6.2		-25.7	0.0027	V	
2509.56	-58.8	36.9		32.8	7.1		-47.6	0.0000	V	
5019.12	-61.8	42.0		32.6	8.5		-43.9	0.0000	V	
1673.04	-71.0	33.5		0	4.0		-33.5	0.0004	H	
2509.56	-59.3	33.6		32.8	4.9		-53.6	0.0000	H	
										Tx at 824.04 MHz
2472.12	-64.0	36.8		32.8	4.9		-55.1	0.0000	H	
1648.08	-61.6	31.1		0	4.0		-26.5	0.0022	V	
2472.12	-59.3	34.9		32.8	4.9		-52.3	0.0000	V	
										Tx at 848.97 MHz
1697.94	-64.9	31.1		0	4.0		-29.8	0.0010	V	

Notes: Spectrum searched from 30 MHz to 9 GHz. All emissions are reported.

Test Data - Radiated Emissions

Field Strength of Spurious Emissions

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Job No.: 5L0526 Date: 10/10/2005 Preliminary

Specification: Part 22 Temperature(°C): 20

Tested By: David Light Relative Humidity(%) 45

E.U.T.: Tri-mode handset

Configuration: CDMA 800

Sample No: 1

Location: AC 3 RBW: 1 MHz Measurement

Detector Type: Peak VBW: 1 MHz Distance: 3 m

Test Equipment Used

Antenna: 993 Directional Coupler:

Pre-Amp: 983 Cable #1: 1484

Filter: 1481 Cable #2: 1485

Receiver: 1464 Cable #3:

Attenuator #1 Cable #4:

Attenuator #2: Mixer:

Additional equipment used: 760 791 1311 HP8924 (Nokia)

Measurement Uncertainty: +/-1.7 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBd)		ERP (dBm)	ERP (mW)	Polarity	Comments
										Tx at 836.52 MHz
1673.04	-62.0	31.1		0	6.2		-24.7	0.0034	V	
2509.56	-59.0	36.9		32.8	7.1		-47.8	0.0000	V	
5019.12	-59.5	42.0		32.6	8.5		-41.6	0.0001	V	
										Tx at 824.70 MHz
1649.4	-64.0	31.1		0	4.0		-28.9	0.0013	V	Noise floor
2474.1	-58.5	34.9		32.8	4.9		-51.5	0.0000	V	
										Tx at 848.31 MHz
1696.62	-64.9	31.1		0	4.0		-29.8	0.0010	V	Noise floor
2544.62	-60.5	36.9		32.8	4.9		-51.5	0.0000	V	
4240.71	-62.0	45.8		32.3	5.7		-42.8	0.0001	V	
5088.81	-55.0	42.0		32.6	6.2		-39.4	0.0001	V	
5088.81	-62.0	38.1		32.6	6.2		-50.3	0.0000	H	

Notes: Spectrum searched from 30 MHz to 9 GHz. All emissions are reported.

NAME OF TEST: Field Strength of Spurious Emissions (PCS 1900 Band)	PARA. NO.: 24.238(a)
TESTED BY: David Light	DATE: 14 October 2005

Test Results: Complies.

PCS 1900 Band: The worst-case emission is –29.3 dBm at 3702.5 MHz. This emission was detected with the phone operating in PCS 1900 mode at 1851.25 MHz.

Measurement Data: **Refer to attached data**

Orientation of device under test: The device under test was tested on three orthogonal axis in order to determine worst-case orientation. The worst-case orientation was found to be in the upright position.

Test Data - Radiated Emissions

Field Strength of Spurious Emissions

Page 1 of 1 Complete X

Job No.: 5L0526 Date: 10/14/2005 Preliminary

Specification: Part 24 Temperature(°C): 22

Tested By: David Light Relative Humidity(%) 50

E.U.T.: Tri-mode hanset

Configuration: Tx CDMA 1900

Sample No: 1

Location: AC 3 RBW: 1 MHz Measurement

Detector Type: Peak VBW: 1 MHz Distance: 3 m

Test Equipment Used

Antenna: 993 Directional Coupler:

Pre-Amp: 1016 Cable #1: 1484

Filter: 1482 Cable #2: 1485

Receiver: 1036 Cable #3:

Attenuator #1 Cable #4:

Attenuator #2: Mixer:

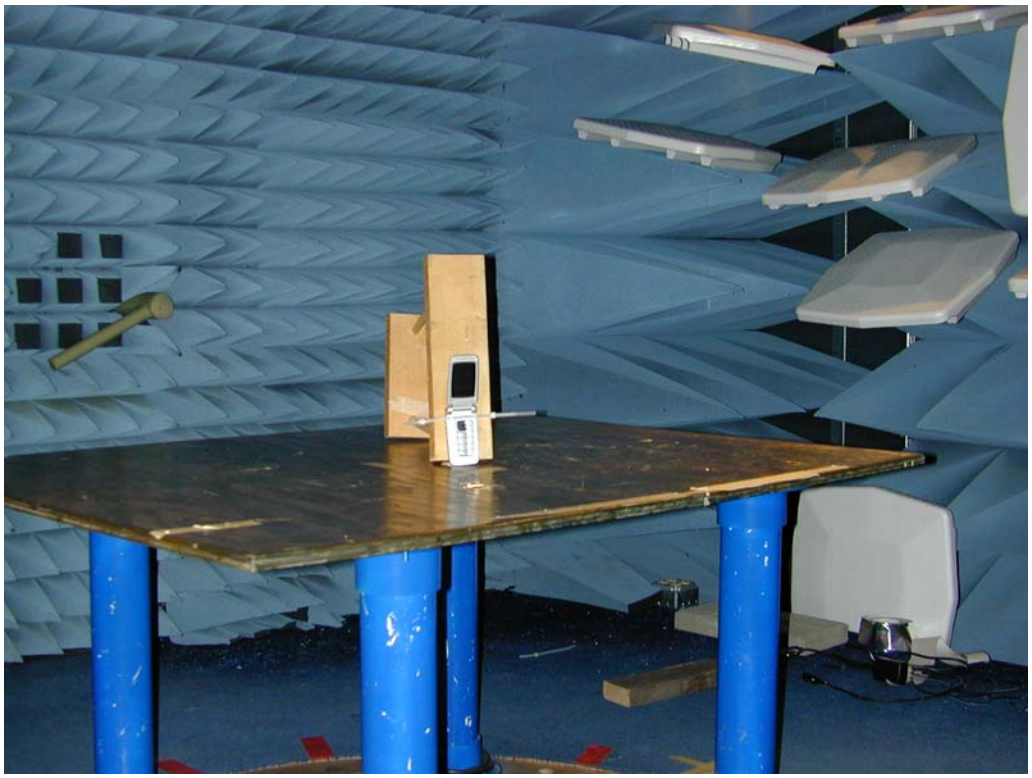
Additional equipment used: HP8924 (Nokia) 791 1311 760 HP89235B (Nokia)

Measurement Uncertainty: +/-1.7 dB

Frequency (MHz)	Meter Reading (dBm)	Correction Factor (dB)		Pre-Amp Gain (dB)	Substitution Antenna Gain (dBi)		EIRP (dBm)	EIRP (mW)	Polarity	Comments
										Tx at 1880 MHz
5640	-52.0	36.6		31.9	10.6		-36.7	0.0002	H	
7520	-63.0	40.4		32.6	11.2		-44.0	0.0000	H	
5640	-51.0	40.4		31.9	10.6		-31.9	0.0006	V	
										Tx at 1908.75 MHz
3817.5	-81.0	42.5		0	10.2		-28.4	0.0015	V	Noise floor
5726.25	-52.0	40.4		31.9	10.6		-32.9	0.0005	V	
5726.25	-55.7	36.6		31.9	10.6		-40.4	0.0001	H	
7635	-61.0	40.4		32.6	11.2		-42.0	0.0001	H	
										Tx at 1851.25
3702.5	-82.0	33.9		0	10.2		-37.9	0.0002	H	
5553.75	-58.2	36.6		31.9	10.6		-42.9	0.0001	H	
3702.5	-82.0	42.5		0	10.2		-29.3	0.0012	V	
5553.75	-51.0	40.4		31.9	10.6		-31.9	0.0006	V	

Notes:

Photographs of Test Setup



Section 4. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
760	Antenna biconical	Electro Metrics MFC-25	477	08/04/05	08/04/06
791	PREAMP, 25dB	ICC LNA25	398	11/12/04	11/12/05
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	11/12/04	11/12/05
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	CBU	N/A
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	CBU	N/A
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/01/05	08/02/07
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	03/22/04	03/23/06
1311	ANTENNA, LOG PERIODIC	EMCO 3146	1753	08/02/05	08/02/06
	CDMA Mobile Station Test Set	HP 8924C	US38283285	07/05/05	07/05/07
	PCS Interface	HP 83236B	3711J04715	07/05/05	07/05/07

ANNEX A - TEST METHODOLOGIES

NAME OF TEST: Field Strength of Spurious Radiation	**PARA. NO.: 2.1053**

Minimum Standard: Para. No.24.238(a). On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power by at least 43 + 10 log (P) dB. *This level equates to –13 dBm absolute power.*

Test Method: TIA/EIA-603-1992, Section 2.2.12

The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The spurious emissions were measured at a distance of 3 meters. The EUT was then replaced with a reference substitution antenna with a known gain referenced to a dipole. This antenna was fed with a signal at the spurious frequency. The level of the signal was adjusted to repeat the previously measured level. The resulting eirp is the signal level fed to the reference antenna corrected for gain referenced to an isotropic radiator. ERP is the uncorrected value.

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ANNEX B - TEST DIAGRAMS

Para. No. 2.993 - Field Strength of Spurious Radiation