



683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080

Tel: +82-31-321-2664 Fax: +82-31-321-1664

<http://www.digitalemc.com>**CERTIFICATE OF COMPLIANCE**  
**FCC Part 22 Certification**Dates of Tests: August 23 ~ 30, 2004  
Test Report S/N:DR50110409B  
Test Site : DIGITAL EMC CO., LTD.

Model No.

**R2NSXP-800T**

APPLICANT

**SUNGIL TELECOM CO., LTD.**

**Classification** : **Licensed Non-Broadcast Station Transmitter (TNB)**  
**FCC Rule Part(s)** : **§22(H), §15, §2**  
**EUT Type** : **CDMA 1x WLL Phone WLL Phone**  
**Model name** : **SXP-800T**  
**Serial number** : **ST800Q064**  
**TX Frequency Range** : **824.70 ~848.31 MHz (CDMA)**  
**RX Frequency Range** : **869.70 ~893.31 MHz (CDMA)**  
**Max. RF Output Power** : **0.337W ERP CDMA (25.28 dBm) - With Battery**  
**0.356W ERP CDMA (25.51dBm) - With Charger**  
**Max. SAR Measurement** : **0.931W/kg CDMA Body SAR - With the Battery**  
**1.120W/kg CDMA Body SAR - With Charger**  
**Emission Designators:** : **1M25F9W**  
**Date of Issue** : **September 01, 2004**

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



NVLAP LAB CODE 200559-0

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## MEASUREMENT REPORT

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

### §2.1033 General Information

**Applicant:** SUNGIL TELECOM CO., LTD.

**Address:** SEONIL TECHNOPIA #1209, 440, SANGDAEWON-DONG, JUNGWON-GU,  
SEONGNAMCITY, GYUNGGI, KOREA

**Attention:** Sean Chi (Product Manager)

- FCC ID: R2NSXP-800T
- Quantity: Quantity production is planned
- Emission Designators: 1M25F9W (CDMA)
- Tx Freq. Range: 824.70 ~848.31 MHz (CDMA)
- Rx Freq. Range: 869.70 - 893.31 MHz (CDMA)
- Max. Power Rating: 0.337W ERP CDMA (25.28 dBm) - With Battery  
0.356W ERP CDMA (25.51dBm) - With Charger
- FCC Classification(s): Licensed Non-Broadcast Station Transmitter (TNB)
- Equipment (EUT) Type: CDMA 1x WLL Phone
- Modulation(s): CDMA
- Frequency Tolerance:  $\pm 0.00025$  % (2.5ppm)
- FCC Rule Part(s): §22(H), §15, §2
- Dates of Tests: August 23 ~ 30, 2004
- Place of Tests: DIGITAL EMC
- Test Report S/N: DR50110409B

## 2.1. General information's

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

Address : 683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080

<http://www.digitalemc.com> E-mail : demc@unitel.co.kr

Tel: +82-31-321-2664 Fax: +82-31-321-1664

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".  
This laboratory is accredited by NVLAP for NVLAP Lab. Code : 200559-0.

**Test operator: engineer**

September 01, 2004

Kyung-Taek LEE



Data

Name

Signature

**Report Reviewed By: manager**

September 01, 2004

Dong -Min JUNG



Data

Name

Signature

Ordering party:

Company name : SUNGIL TELECOM CO., LTD.  
Address : SEONIL TECHNOPIA #1209, 440, SANGDAEWON-DONG,  
Zipcode : 462-807  
City/town : JUNGWON-GU, SEONGNAM-CITY, GYUNGGI  
Country : KOREA  
Date of order : August 22, 2004

### 3.1 INSERTS

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#### **Function of Active Devices (Confidential)**

The Function of active devices are shown in Attachment K.

#### **Block & Schematic Diagrams (Confidential)**

The block diagrams are shown in Attachment I, and the schematic diagrams are shown in Attachment J.

#### **Operating Instructions**

The instruction manual is shown in Attachment M.

#### **Parts List & Tune-Up Procedure (Confidential)**

The parts list & tune-up procedure is shown in Attachment L.

#### **Description of Freq. Stabilization Circuit (Confidential)**

The description of frequency stabilization circuit is shown in Attachment K.

#### **Description for Suppression of Spurious Radiation, for Limiting Modulation, and Harmonic Suppresion Circuits (Confidential)**

The description of suppression stabilization circuits is shown in Attachment K.

## **4.1 DESCRIPTION OF TESTS**

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### **4.2 Occupied Bandwidth Emission Limits**

- (a) On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB.
- (b) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
- (c) The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

### **4.3 Occupied Bandwidth**

The 99% power bandwidth was measured with a calibrated spectrum analyzer.

### **4.4 Spurious and Harmonic Emissions at Antenna Terminal**

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to 10 GHz.

At the input terminals of the spectrum analyzer, an isolator(RF circulator with on port terminated with 50ohms) and an 870 MHz to 890 MHz bandpass filter is connected between the test transceiver(for conducted tests)or the receive antenna(for radiated tests) and the analyzer . The rejection of the bandpass filter to signals in the 825-845 MHz range is adequate to limit the transmit energy from the test transceiver which appears to a level which will allow the analyzer to measure signals less than-90dBm. Calibration of the test receiver is performed in the 870-890 MHz range to insure accuracy to allow variation in the bandpass filter insertion loss to be calibrated.

### **4.5 Frequencies**

At the input terminals of the spectrum analyzer, an isolator (RF pad) and a high-pass filter are connected between the test transceiver (for conducted tests) or the receive antenna (for radiated tests) and the analyzer. The high-pass filter (signals below 1.6 GHz) is to limit the fundamental frequency from interfering with the measurement of low-level spurious and harmonic emissions and to ensure that the preamplifier is not saturated.

### **4.6 Radiation Spurious and Harmonic Emissions**

Radiation and harmonic emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

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## 4.1 DESCRIPTION OF TESTS (CONTINUED)

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### 4.7 Frequency Stability/Temperature Variation.

The frequency stability of the transmitter is measured by:

- a) **Temperature** :The temperature is varied from  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  using an environmental chamber.
- b) **Primary Supply Voltage** :The primary supply voltage is varied from 85% to 115% of the voltage Normally at the input to the device or at the power supply terminals if cables are not normally supplied.

Specification –The minimum frequency stability shall be  $\pm 0.00025\%$  at any time during normal operation.

Specification — The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025 (\pm 2.5\text{ppm})$  of the center frequency.

#### Time Period and Procedure:

1. The carrier frequency of the transmitter and the individual oscillators is measured at room temperature ( $25^{\circ}\text{C}$  to  $27^{\circ}\text{C}$  to provide a reference)
2. The equipment is subjected to an overnight “soak” at  $-30^{\circ}\text{C}$  without any power applied.
3. After the overnight ”soak” at  $30^{\circ}\text{C}$ (usually 14-16 hours),the equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency to the transmitter and the individual oscillators is made within a three minute interval after applying power to the transmitter.
4. Frequency measurements is made at  $10^{\circ}\text{C}$  interval up to room temperature. At least a period of one and one half hour is provided to allow stabilization of the equipment at each temperature level.
5. Again the transmitter carrier frequency and the individual oscillators is measured at room temperature to begin measurement of the upper temperature levels.
6. Frequency were made at 10intervals starting at  $30^{\circ}\text{C}$  up to  $+50^{\circ}\text{C}$  allowing at least two hours at each temperature for stabilization. In all measurements the frequency is measured within three minutes after applying power to the transmitter.
7. The artificial load is mounted external to the temperature chamber.

**NOTE : The EUT is tested down to the battery endpoint.**

## **4.1 DESCRIPTION OF TESTS (CONTINUED)**

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### **4.8 Radiated Emission**

Final test was performed according to ANSI C63.4-2001 at the open field test site. There are no deviations from the standard.

The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 3meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

These tests were performed at 120kHz of 6dB bandwidth.

### **4.9 Conducted Emission**

The power line conducted interference measurements were performed according to ANSI C63.4-2001 in a shielded enclosure with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded enclosure wall. There are no deviations from the standard.

The EUT was plugged into the LISN and the frequency range of interest scanned.

Reported are maximized emission levels.

These tests were performed at 9kHz of 6dB bandwidth.

## 5.1 TEST DATA

### 5.2 Effective Radiated Power Output

#### A. POWER: High (CDMA Mode)

| Freq. Tuned<br>(MHz) | REF.<br>LEVEL<br>(dBm) | POL<br>(H/V) | ERP<br>(W) | ERP<br>(dBm) | Supplied<br>Power |
|----------------------|------------------------|--------------|------------|--------------|-------------------|
| 824.70               | -10.12                 | V            | 0.337      | <b>25.28</b> | Battery           |
| 836.52               | -10.48                 | V            | 0.324      | 25.10        | Battery           |
| 848.31               | -10.93                 | V            | 0.284      | 24.53        | Battery           |

Note: battery is options for this phone.

#### **NOTES:**

Effective Radiated Power Output Measurements by Substitution Method  
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

## 5.1 TEST DATA (CONTINUED)

### 5.3 Effective Radiated Power Output

#### A. POWER: High

| Freq. Tuned<br>(MHz) | REF.<br>LEVEL<br>(dBm) | POL<br>(H/V) | ERP<br>(W) | ERP<br>(dBm) | Supplied<br>Power |
|----------------------|------------------------|--------------|------------|--------------|-------------------|
| 824.70               | -9.97                  | V            | 0.356      | <b>25.51</b> | With Charger      |
| 836.52               | -10.23                 | V            | 0.337      | 25.27        | With Charger      |
| 848.31               | -10.75                 | V            | 0.301      | 24.78        | With Charger      |

Note: Charger is options for this phone.

#### NOTES:

Effective Radiated Power Output Measurements by Substitution Method  
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

## 6.1 TEST DATA

### 6.2 CDMA Radiated Measurements

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 824.7 MHz  
 CHANNEL : 1013(Low)  
 MEASURED OUTPUT POWER : 25.51 dBm = 0.356 W  
 MODULATION SIGNAL : CDMA (Internal)  
 DISTANCE : 3 meters  
 LIMIT :  $43 + 10 \log_{10} (W) =$  38.51 dBc

| Freq.<br>(MHz) | LEVEL@<br>ANTENNA<br>TERMINALS<br>(dBm) | SUBSTITUTE<br>ANTENNA<br>GAIN<br>(dBd) | CORRECT<br>GENERATOR<br>LEVEL<br>(dBm) | POL<br>(H/V) | (dBc) |
|----------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------|-------|
| 1649.4         | -44.47                                  | 6.3                                    | -38.17                                 | V            | 63.68 |
| 2474.1         | -52.52                                  | 9.1                                    | -43.42                                 | V            | 68.93 |
| 3298.8         | -59.05                                  | 9                                      | -50.05                                 | V            | 75.56 |
| -              | -                                       | -                                      | -                                      | -            | -     |

#### **NOTE**

Radiated Spurious Emission Measurements by Substitution Method  
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

## 6.1 TEST DATA (CONTINUED)

### 6.3 CDMA Radiated Measurements

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 836.52 MHz  
 CHANNEL : 0384(Mid)  
 MEASURED OUTPUT POWER : 25.51 dBm = 0.356 W  
 MODULATION SIGNAL : CDMA (Internal)  
 DISTANCE : 3 meters  
 LIMIT :  $43 + 10 \log_{10} (W) =$  38.51 dBc

| Freq.<br>(MHz) | LEVEL@<br>ANTENNA<br>TERMINALS<br>(dBm) | SUBSTITUTE<br>ANTENNA<br>GAIN<br>(dBd) | CORRECT<br>GENERATOR<br>LEVEL<br>(dBm) | POL<br>(H/V) | (dBc) |
|----------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------|-------|
| 1673.04        | -46.33                                  | 6.3                                    | -40.03                                 | V            | 65.54 |
| 2509.56        | -55.48                                  | 9.1                                    | -46.38                                 | V            | 71.89 |
| 3346.08        | -61.30                                  | 9.0                                    | -52.3.0                                | V            | 77.81 |
| 4182.60        | -67.33                                  | 9.5                                    | -57.83                                 | V            | 83.34 |
| -              | -                                       | -                                      | -                                      | -            | -     |

#### **NOTE**

Radiated Spurious Emission Measurements by Substitution Method  
 according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

## 6.1 TEST DATA (CONTINUED)

### 6.4 CDMA Radiated Measurements

#### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY : 848.31 MHz  
 CHANNEL : 0777(High)  
 MEASURED OUTPUT POWER : 25.51 dBm = 0.356 W  
 MODULATION SIGNAL : CDMA (Internal)  
 DISTANCE : 3 meters  
 LIMIT :  $43 + 10 \log_{10} (W) = 38.51$  dBc

| Freq.<br>(MHz) | LEVEL@<br>ANTENNA<br>TERMINALS<br>(dBm) | SUBSTITUTE<br>ANTENNA<br>GAIN<br>(dBd) | CORRECT<br>GENERATOR<br>LEVEL<br>(dBm) | POL<br>(H/V) | (dBc) |
|----------------|-----------------------------------------|----------------------------------------|----------------------------------------|--------------|-------|
| 1696.62        | -48.29                                  | 6.3                                    | -41.99                                 | V            | 67.50 |
| 2544.93        | -56.38                                  | 9.1                                    | -47.28                                 | V            | 72.79 |
| 3393.24        | -63.27                                  | 9.0                                    | -54.27                                 | V            | 79.78 |
| 4241.55        | -68.30                                  | 9.5                                    | -58.80                                 | V            | 84.31 |
| -              | -                                       | -                                      | -                                      | -            | -     |

#### NOTE

Radiated Spurious Emission Measurements by Substitution Method  
according to ANSI/TIA/EIA-603-A-2001, Aug. 15, 2001:

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

## 7.1 TEST DATA

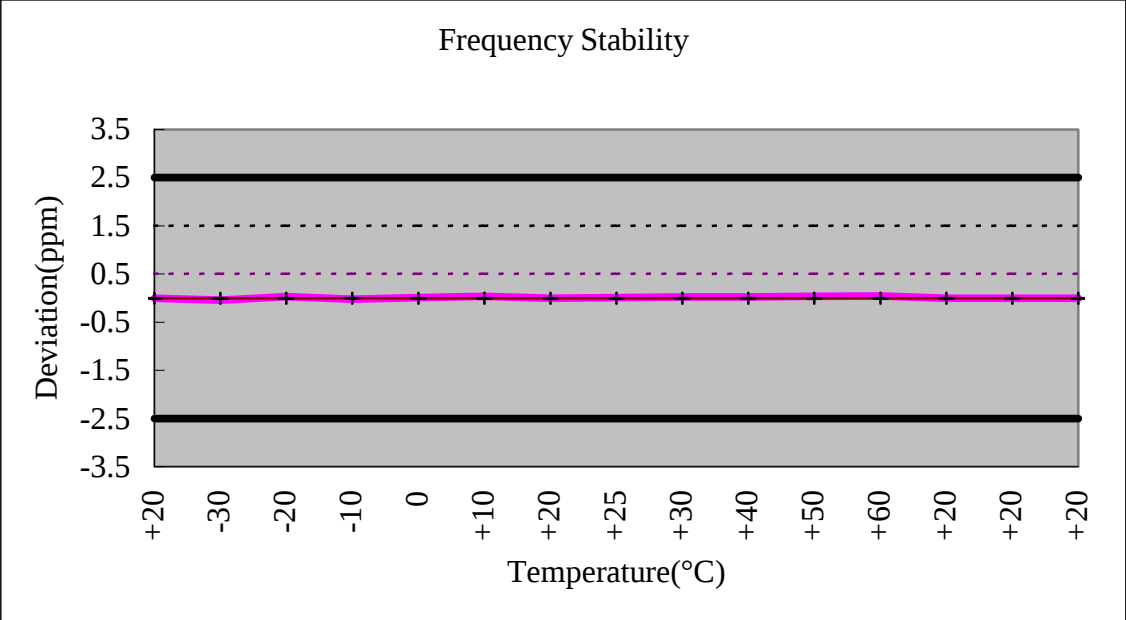
### 7.2 Frequency Stability (CDMA)

OPERATING FREQUENCY : 836,520,080 Hz  
 CHANNEL : 0384(Mid)  
 REFERENCE VOLTAGE : 120 VAC  
 DEVIATION LIMIT : ± 0.00025 % or 2.5 ppm

| VOLTAGE<br>(%) | POWER<br>(VAC) | TEMP<br>(dB) | FREQ<br>(Hz) | Deviation<br>(%) |
|----------------|----------------|--------------|--------------|------------------|
| 100%           | 120            | +20(Ref)     | 836,520,080  | 0.000000         |
| 100%           |                | -30          | 836,520,117  | 0.000004         |
| 100%           |                | -20          | 836,520,054  | -0.000003        |
| 100%           |                | -10          | 836,520,098  | 0.000002         |
| 100%           |                | 0            | 836,520,069  | -0.000001        |
| 100%           |                | +10          | 836,520,051  | -0.000003        |
| 100%           |                | +20          | 836,520,080  | 0.000000         |
| 100%           |                | +25          | 836,520,071  | -0.000001        |
| 100%           |                | +30          | 836,520,061  | -0.000002        |
| 100%           |                | +40          | 836,520,061  | -0.000002        |
| 100%           |                | +50          | 836,520,048  | -0.000004        |
| 100%           |                | +60          | 836,520,044  | -0.000004        |
| 85%            | 102            | +20          | 836,520,080  | 0.000000         |
| 115%           | 138            | +20          | 836,520,080  | 0.000000         |
| BATT.ENDPOINT  | N/A            | +20          | N/A          | N/A              |

7.1 TEST DATA (CONTINUED)

7.3 Frequency Stability (CDMA)



## 8.1 EMISSION TEST DATA

### 8.2 Radiated Emission

Distance: 3m

| Frequency<br>[MHz] | ANT<br>Pol.                                                          | Reading<br>[dB $\mu$ V] | T.F<br>[dB] | Results<br>[dB $\mu$ V/m] | Limits<br>[dB $\mu$ V/m] | Margin<br>[dB] |
|--------------------|----------------------------------------------------------------------|-------------------------|-------------|---------------------------|--------------------------|----------------|
|                    |                                                                      |                         |             |                           |                          |                |
|                    |                                                                      |                         |             |                           |                          |                |
|                    | No emissions were detected at a level greater than 10dB below limit. |                         |             |                           |                          |                |
|                    |                                                                      |                         |             |                           |                          |                |
|                    |                                                                      |                         |             |                           |                          |                |
|                    |                                                                      |                         |             |                           |                          |                |

#### NOTE

1. There is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated.
2. Measurements above 1GHz is performed using a minimum resolution bandwidth of 1MHz. The EUT was tested up to the 10GHz and no significant emission was found.

## **8.1 EMISSION TEST DATA (CONTINUED)**

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### **8.3 Conducted Emission**

(SEE ATTACHMENT D)

## **9.1 PLOT(S) OF EMISSIONS**

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(SEE ATTACHMENT D)

## 10.1 TEST EQUIPMENT

|    | Type                         | Manufacturer               | Model    | Cal.Due.Date<br>(dd/mm/yy) | S/N           |
|----|------------------------------|----------------------------|----------|----------------------------|---------------|
| 01 | Spectrum Analyzer            | Agilent                    | E4404B   | 22/11/04                   | US41061134    |
| 02 | Spectrum Analyzer            | H.P                        | 8563E    | 25/09/04                   | 3551A04634    |
| 03 | Power Meter                  | H.P                        | EPM-442A | 15/07/05                   | GB37170413    |
| 04 | Power Sensor                 | H.P                        | 8481A    | 15/07/05                   | 3318A96332    |
| 05 | Frequency Counter            | H.P                        | 5342A    | 26/09/04                   | 2119A04450    |
| 06 | Multifunction Synthesizer    | H.P                        | 8904A    | 15/10/04                   | 3633A08404    |
| 07 | Signal Generator             | H.P                        | 8673D    | 26/09/04                   | 2844A00753    |
| 08 | Signal Generator             | H.P                        | E4421A   | 29/04/05                   | US37230529    |
| 09 | Signal Generator             | H.P                        | 8657A    | 05/06/05                   | 3430U02049    |
| 10 | Audio Analyzer               | H.P                        | 8903B    | 18/04/05                   | 3011A0944B    |
| 11 | Modulation Analyzer          | H.P                        | 8901B    | 21/04/05                   | 3028A03029    |
| 12 | Sensor Module                | H.P                        | 11722A   | 21/04/05                   | 3111A04665    |
| 13 | Oscilloscope                 | LeCroy                     | 9314A    | 27/08/04                   | 93144390      |
| 14 | CDMA Mobile Station Test Set | H.P                        | 8924C    | 09/09/04                   | US35360688    |
| 15 | Power Splitter               | WEINSCHEL                  | 1593     | 23/04/05                   | 332           |
| 16 | BAND Reject Filter           | Microwave<br>circuits INC. | NO308372 | 22/12/04                   | 3125-01DC0312 |
| 17 | BAND Reject Filter           | Wainwright                 | WRCG1750 | 19/08/04                   | SN2           |
| 18 | AC Power supply              | DAEKWANG                   | 5KVA     | 03/04/05                   | N/A           |
| 19 | DC Power Supply              | H.P                        | 6622A    | 24/03/05                   | 465487        |
| 20 | Attenuator (30dB)            | H.P                        | 8498A    | 23/05/05                   | 50101         |
| 21 | Attenuator (10dB)            | WEINSCHEL                  | 23-10-34 | 15/10/04                   | BP4387        |
| 22 | HORN ANT                     | EMCO                       | 3115     | 04/04/05                   | 6419          |
| 23 | HORN ANT                     | EMCO                       | 3115     | 10/01/05                   | 21097         |
| 24 | HORN ANT                     | A.H.Systems                | SAS-574  | 27/11/04                   | 154           |
| 25 | HORN ANT                     | A.H.Systems                | SAS-574  | 14/11/04                   | 155           |
| 26 | Dipole Antenna               | Schwarzbeck                | VHA9103  | 04/10/04                   | 2116          |

## 10.1 TEST EQUIPMENT (CONTINUED)

|    | Type                            | Manufacturer  | Model       | Cal.Due.Date<br>(dd/mm/yy) | S/N            |
|----|---------------------------------|---------------|-------------|----------------------------|----------------|
| 27 | Dipole Antenna                  | Schwarzbeck   | VHA9103     | 04/10/04                   | 2117           |
| 28 | Dipole Antenna                  | Schwarzbeck   | UHA9105     | 04/10/04                   | 2261           |
| 29 | Dipole Antenna                  | Schwarzbeck   | UHA9105     | 04/10/04                   | 2262           |
| 30 | RFI/FIELD Intensity Meter       | Kyorits       | KNM-504D    | 07/07/05                   | SN-161-4       |
| 31 | Frequency Converter             | Kyorits       | KCV-604C    | 07/07/05                   | 4-230-3        |
| 32 | TEMP & HUMIDITY Chamber         | JISCO         | J-RHC2      | 14/09/04                   | 021031         |
| 33 | Log Periodic Antenna            | Schwarzbeck   | UHALP9108A1 | 23/10/04                   | 1098           |
| 34 | Biconical Antenna               | Schwarzbeck   | VHA9103     | 23/10/04                   | VHA91031946    |
| 35 | Digital Multimeter              | H.P           | 34401A      | 07/04/05                   | 3146A13475     |
| 36 | Attenuator (10dB)               | WEINSCHEL     | 23-10-34    | 15/10/04                   | BP4386         |
| 37 | High-Pass Filter                | ANRITSU       | MP526       | 12/05/05                   | M27756         |
| 38 | Attenuator (3dB)                | Agilent       | 8491B       | 15/10/04                   | 58177          |
| 39 | Wireless communication test set | Agilent       | 8960        | 10/11/04                   | GB41321167     |
| 40 | RFI/FIELD Intensity Meter       | Kyorits       | KNW-2402    | 07/07/05                   | 4N-170-3       |
| 41 | LISN                            | Kyorits       | KNW-407     | 16/08/05                   | 8-317-8        |
| 42 | LISN                            | Kyorits       | KNW-242     | 16/08/05                   | 8-654-15       |
| 43 | Spectrum Analyzer               | H.P           | 8591E       | 23/05/05                   | 3649A05889     |
| 44 | Software                        | ToYo EMI      | EP5/CE      | N/A                        | Ver 2.0.801    |
| 45 | CVCF                            | NF Electronic | 4400        | N/A                        | 344536 4420064 |

## 11.1 SAMPLE CALCULATIONS

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### A. Emission Designator

Emission Designator = 1M25F9W

CDMA BW = 1.25 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

(Measured at the 99.75% power bandwidth)

## 12.1 CONCLUSION

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The data collected shows that the **SUNGIL TELECOM** CDMA 1x WLL Phone **FCC ID: R2NSXP-800T** complies with all the requirements of Parts 2, 15 and 22 of the FCC rules.