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‡ = Exhibit filed under separate cover.

\* = Exhibit filed confidentially with the FCC

## EXHIBIT 1

### GENERAL INFORMATION FOR CERTIFICATION

The information provided in this exhibit is submitted in response to the requirements of § 2.1033 Application for a certification grant of equipment authorization.

#### General Description of Equipment (Informative)

The Omnipoint Technologies, Inc. (OTI) Redhawk 2000 DTSA (Data Terminal Shielded Assembly), Model Number RED20001991, FCC ID: **OIRED20001991**, is a compact wireless modem which operates under the authority of Part 24, Subpart E—Broadband PCS. The DTSA allows an application to access the Global System for Mobility, or GSM, network, and ultimately the Public Switched Telephone Network (PSTN) or the internet. As a GSM terminal, the DTSA complies with applicable national (PCS-1900) and international (GSM-900) standards including, for example, J-STD-007, PCS Air Interface Specification, and the family of international standards for GSM equipment.

Initially intended for fixed uses, the DTSA may be used to transmit and receive both data and voice, enabling a variety of applications from Automated Meter Reading (AMR) to wireless alarms, e-mail and internet access. These types of PCS applications were made possible by the FCC's adoption in June 1996 of rules permitting flexible service offerings in the commercial mobile radio services (WT Docket No. 96-6, FCC 96-83, "Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Radio Services, First Report and Order and Further Notice of Proposed Rulemaking," released August 1, 1996, ¶ 29). The Commission's ruling in this proceeding concluded that fixed services, such as those made possible by the DTSA, are permissible service offerings on spectrum allocated for broadband PCS.

An overview of DTSA deployment in a GSM network is shown in Figure E1.1. Functional capabilities of the DTSA include speech, circuit switched data up to 9.6 kbps, as well as other GSM services for transmitting and receiving data (Short Message Service—SMS, and Unstructured Supplementary Service Data—USSD).

The DTSA has been designed to operate over an industrial temperature range (-20°C to +60°C) and a wide DC input voltage range (+7 VDC to +14 VDC). Communication between the host application and the DTSA is via an RS-232 interface using the GSM AT command set. Physically, the DTSA consists of a single printed circuit board (PCB) of approximate dimensions 6.25" x 3.25". Major components include power conditioning, RS-232 interface, GSM radio, and Subscriber Identity Module (SIM). The GSM radio is implemented as a separately shielded PCB module, permanently mounted to the main DTSA PCB and housed under an additional RF shield.

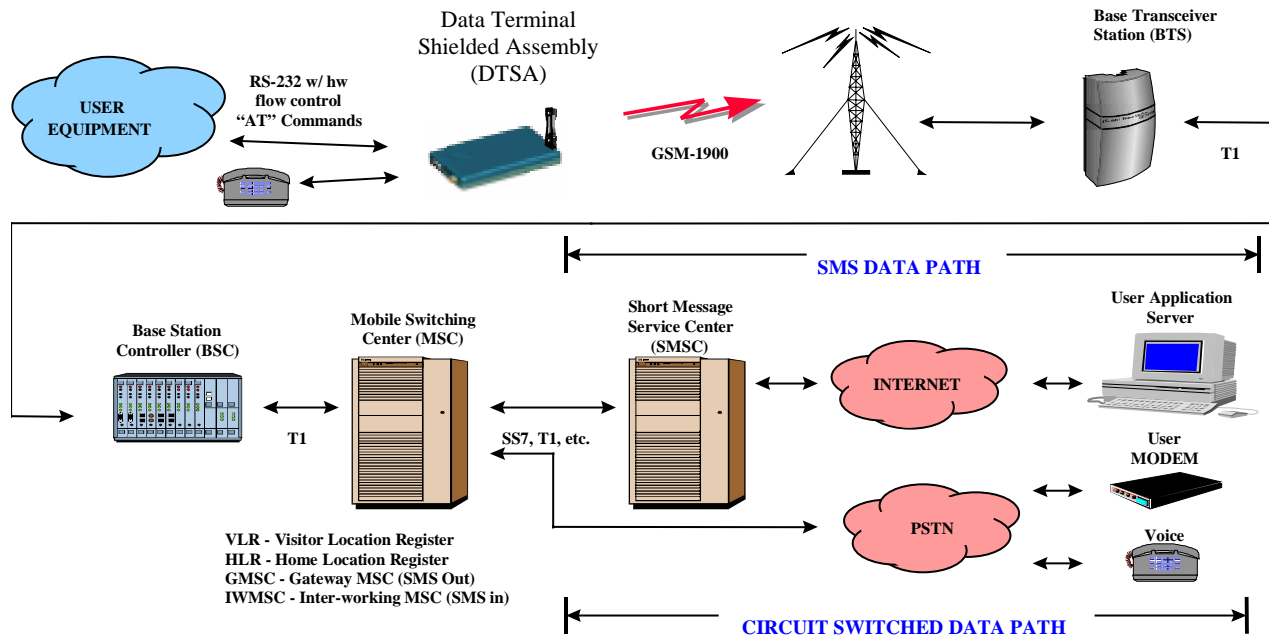


Figure E1.1. DTSA Deployment in a GSM Network.

## Section 2.1033(a) Application for certification

A completed FCC Form 731 "Application for Equipment Authorization" accompanies this document, both of which have been filed electronically.

## Section 2.1033(c)(1) Name of Applicant

Applicant: Omnipoint Technologies, Inc.  
1365 Garden of the Gods Road  
Colorado Springs, CO 80907

Manufacturer: SCI Systems, Inc.  
5525 Astrozon Blvd  
Colorado Springs, CO 80916

SCI is a contract manufacturer and will be the final manufacturer of the equipment described in this application for Omnipoint Technologies, Inc.

## Section 2.1033(c)(2) Equipment Identification and FCC Identifier

Applicant: Omnipoint Technologies, Inc.,

Product Name(s): Redhawk 2000 DTSA (Data Terminal Shielded Assembly)  
Redhawk 2000 DTM (Data Terminal Module)

Model Number(s): DTSA: RED20001991  
DTM: RED20001990

FCC ID: **OIRED20001991**

The Redhawk 2000 DTSA and DTM are electrically identical equipment (DTM signifies a DTSA supplied with optional plastic housing) and authorization of both models is sought in this application. This is permitted by § 2.924 Marketing of electrically identical equipment having multiple trade names and models or type numbers under the same FCC Identifier. Both models will be properly labeled with the single FCC ID: OIRED20001991. Throughout this filing, all references to the DTSA apply equally to both products.

**Section 2.1033(c)(3)                      Installation and Instruction Manual Furnished to the User**

Refer to Exhibit 2. Included is a statement affirming that the DTSA complies with current FCC requirements for human exposure to radiofrequency radiation, pursuant to the requirements of § 24.52.

**Section 2.1033(c)(4)                      Type of Emission (Emissions Designator)**

Emissions Designator:                      **250KGXW**

The maximum measured occupied bandwidth of the DTSA transmission is 250 kHz and thus the sequence 250K was chosen as the first four characters of the emissions designator.

The emissions classification of GXW was determined using the guidance presented in § 2.201. The DTSA transmits a Gaussian Minimal Shift Keying (GMSK) modulated carrier, a type of phase modulation. Per § 2.201(c), the first symbol of the emission classification, type of modulation of the main carrier, is therefore G.

The second symbol describes the nature of the signal modulating the main carrier. In the DTSA, a digital signal representing sampled, quantized voice or other audio information, or subscriber and control data, is used to modulate the main carrier. Time Division Multiple Access (TDMA) techniques are used to increase capacity. Per § 2.201(d), the symbol X is appropriate.

Information transmitted by the DTSA is a combination of telephony (digitized voice) and other digital data (subscriber and control). The third symbol of the emissions classification, which describes the type of information to be transmitted, is thus W as listed in § 2.201(e).

**Section 2.1033(c)(5)                      Frequency Range**

The DTSA operates within the combined 1850–1910 MHz and 1930–1990 MHz frequency bands under the authority of Part 24, Subpart E—Broadband PCS. By established convention, broadband PCS terminals transmit in the lower and receive in the upper of the broadband PCS frequency block pairs defined in § 24.229. These blocks and the corresponding DTSA transmit and receive frequency ranges are listed in Table E1.1.

Table E1.1. Broadband PCS blocks / DTSA frequencies of operation.

PCS Block	DTSA Transmit Frequency Range	DTSA Receive Frequency Range
A	1850 – 1865 MHz	1930 – 1945 MHz
B	1870 – 1885 MHz	1950 – 1965 MHz
C	1895 – 1910 MHz	1975 – 1990 MHz
D	1865 – 1870 MHz	1945 – 1950 MHz
E	1885 – 1890 MHz	1965 – 1970 MHz
F	1890 – 1895 MHz	1970 – 1975 MHz

### Section 2.1033(c)(6) Range of Operating Powers

The range of DTSA transmit power levels, measured at the unit's RF output connector, and the corresponding nominal output power levels, are as follows:

Measured Maximum Output Power:	28.67 dBm (0.74 W)
Nominal Maximum Output Power:	30.0 dBm (1.0 W)
Measured Minimum Output Power:	-3.17 dBm (0.48 mW)
Nominal Minimum Output Power:	0.0 dBm (1.0 mW)

Maximum DTSA RF output power is set during transmitter tune-up at the factory (refer to Exhibit 4 for a description of the tune-up procedure) and cannot be changed during equipment installation or operation.

The RF output power level of each transmitted burst can be adjusted over a 30 dB (15 steps of 2 dB each) range. The RF output power level selected by the DTSA (a PCS-1900 terminal) for each transmitted burst is determined by and under the control of the PCS-1900 network, specifically the Base Transceiver Station (BTS). Terminal RF power control is employed by the GSM network to minimize the transmit power required while maintaining the quality of the radio link.

### Section 2.1033(c)(7) Maximum Power Rating

Per §24.232(a) of the FCC Rules and Regulations, in no case may the peak output power of a broadband PCS base station or fixed terminal exceed 100 W (50 dBm), nor may peak e.i.r.p. exceed 1640 W. Mobile/portable stations are limited to 2 W e.i.r.p. peak power in accordance with the requirements of § 24.232(b). In all applications, the output power of the DTSA is under control of the GSM network and is kept at the minimum level necessary to ensure successful communications. Furthermore, the DTSA complies with the RF hazard requirements applicable to licensed PCS equipment for both fixed and mobile uses as specified in § 24.52.

**Section 2.1033(c)(8) DC Voltages Applied to and Currents into Final Amplifying Devices**

Refer to Exhibit 3.

**Section 2.1033(c)(9) Tune-up Procedure**

Refer to Exhibit 4. This exhibit will be provided under separate cover by the manufacturer of the GSM radio module.

**Section 2.1033(c)(10) Schematic Diagram**

Refer to Exhibit 5. Note that this exhibit has been filed confidentially with the FCC and that the schematics for the GSM radio module will be provided under separate cover by Wavecom Incorporated, U.S.A., the manufacturer of the module.

**Section 2.1033(c)(10) Means for Determining and Stabilizing Frequency, Suppression of Spurious Radiation, Limiting Modulation, and Power**

Refer to Exhibit 6.

**Section 2.1033(c)(11) FCC Labeling Information**

Refer to Exhibit 7.

**Section 2.983(g) Equipment Photographs**

Refer to Exhibit 8.

**Section 2.1033(c)(13) Detailed Description of Modulation System**

Refer to Exhibit 9.

**Section 1.033(c)(14) Measurement Data**

Measurement data, as required by § 2.1033(c)(14) and described in §§ 2.1046 through 2.1057, inclusive, are contained in separate exhibits as detailed in Table E1.2. A general description of the equipment used to make the required measurements, overall configuration and amplitude calibration is presented in Exhibit 10.

Table E1.2. Measurements required, corresponding exhibits, and summary of results.

Exhibit	47 CFR §	Description	Result
11	2.1046 / 24.232(a)	RF Output Power	COMPLIES
12	2.1049	Occupied Bandwidth	250 kHz
13	2.1051 / 24.238(a)	Conducted Spurious	COMPLIES
14	2.1053	Radiated Spurious	COMPLIES
15	2.1055 / 24.235	Frequency Stability	COMPLIES

**Section 2.1033(c)(15)-(17)**

The requirements of these sections are not applicable.