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\* = 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) Eagle One 1900MHz Radio Module, Model Number 1000-1000, FCC ID: **OIIRM1900-1**, is a Radio Module which operates under the authority of Part 24, Subpart E—Broadband PCS. The Radio Module allows a customer designed 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 radio module, the RM 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 RM may be used to wirelessly transmit and receive data, 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 RM, are permissible service offerings on spectrum allocated for broadband PCS.

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

The RM has been designed to operate over an industrial temperature range (-20°C to +60° C) and a fixed DC input voltage of +5 VDC. Communication between the host application and the RM is via a sixty pin molded connector using TTL voltage levels. Physically, the RM consists of a single printed circuit board (PCB) of approximate dimensions 4.25" x 2.5". Major components include a system controller, GSM radio, and a Subscriber Identity Module (SIM). The equipment described in this application is functionally equivalent to the GSM radio portion of the DTSA module previously authorized under FCC ID: **OIIDTSA1900-2**, encompassing model number 2000-1001.

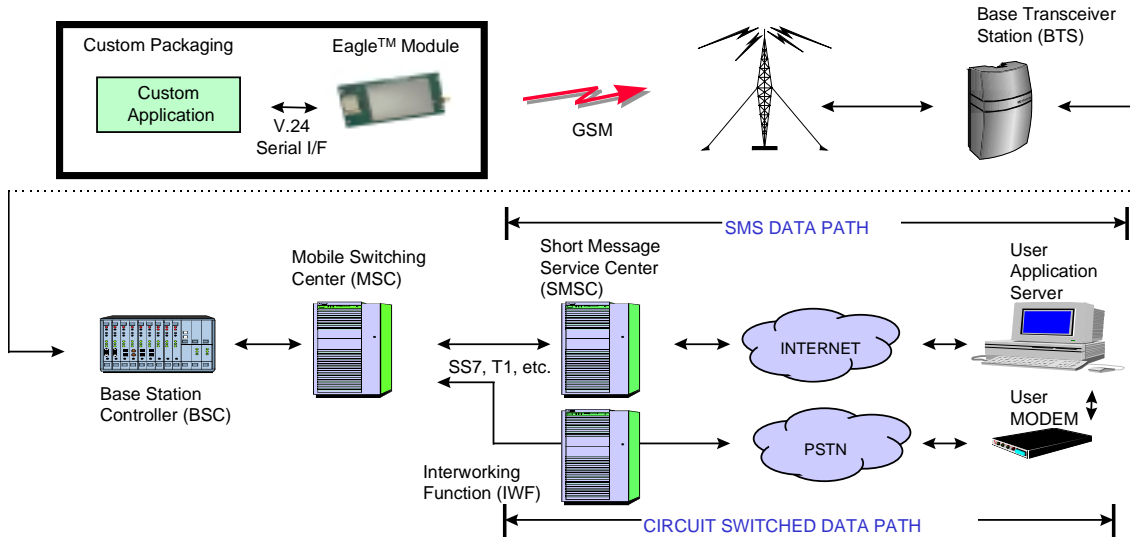


Figure E1.1. RM Deployment in a GSM Network.

The "Eagle One" product line is a family of wireless (GSM) radio products, of which the RM is the first offering, as well as the core module on which all other products are based. As described in the technical specification, the "Eagle One" product line currently consists of the following models:

- 1000-1000 RM OEM version of a GSM radio implemented on a single PCB and the subject of this filing (FCC ID: **OIIRM1900-1**). Functionally equivalent to the radio portion of the Redhawk Model 2000-1001 (FCC ID: **OIIDTSA1900-2**), the subject of a previous authorization application. Using an MMCX type connector for the RF output.
- 1010-1000 RM OEM version of a GSM radio implemented on a single PCB. Identical to model number 1000-1000 using an SMA type connector for the RF output.

**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: Siemens Energy & Automation, INC.  
3000 Bill Garland Road  
Johnson City, TN 37601

Siemens 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: Eagle One 1900MHz RM (Radio Module)

Model Number: RM: 1000-1000

FCC ID: OIIRM1900-1

**Section 2.1033(c)(3) Eagle One Technical Specification**

Refer to Exhibit 2. Included is a statement affirming that the RM 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 RM 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 RM 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 RM, 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 RM is a combination of subscriber and control data. 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 RM 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 RM transmit and receive frequency ranges are listed in Table E1.1.

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

PCS Block	RM Transmit Frequency Range	RM 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 RM 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:	30.5 dBm (1.12 W)
Nominal Maximum Output Power:	30.0 dBm (1.0 W)
Measured Minimum Output Power:	0.5 dBm (1.12 mW)
Nominal Minimum Output Power:	0.0 dBm (1.0 mW)

Maximum RM 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 (16 steps of 2 dB each) range. The RF output power level selected by the RM (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 RM is under control of the GSM network and is kept at the minimum level necessary to ensure successful communications. Furthermore, the RM complies with the RF hazard requirements applicable to licensed PCS equipment for both fixed and mobile uses as specified in § 24.52 and a statement affirming compliance with these requirements is contained in the Eagle Technical Specification (refer to Exhibit 2).

**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. Note that this exhibit has been filed confidentially with the FCC.

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

Refer to Exhibit 5. Note that this exhibit has been filed confidentially with the FCC.

**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 description of the equipment used to make the required measurements, the general

measurement configuration, and the amplitude calibration of the set-up 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.