

inseego

Skyus™ 3G

Quick Start Guide

Verizon



Preface

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Intended Use

Use this product only for the purpose it was designed for; refer to the datasheet and user documentation. For the latest product information, visit us online at www.inseego.com.

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Contents

| | |
|--|----|
| Overview..... | 3 |
| Intended Audience | 3 |
| Scope..... | 3 |
| Environmental Specifications | 3 |
| Power Consumption | 3 |
| LED States | 4 |
| Installation Steps | 4 |
| Packing List: Package Contents | 4 |
| Operating Systems..... | 4 |
| Installation of Sierra Wireless Driver..... | 5 |
| Connecting the Antenna | 6 |
| Connecting to Computer or Router | 6 |
| Activation | 7 |
| Provisioning..... | 7 |
| Provisioning Using the Sierra Wireless Connection Utility..... | 7 |
| Connection Manager..... | 10 |
| Skyus Watcher Utility | 10 |
| Sierra Wireless Skylight..... | 11 |
| Contacting Inseego..... | 11 |
| Online Library | 11 |
| Return and Warranty..... | 11 |
| Further Specifications | 11 |
| FCC Compliance..... | 12 |

Overview

The Skyus platform is a rugged, low-cost, self-contained modem kit. The Skyus platform simplifies the integration efforts of adding mobile connectivity in M2M solutions and accelerates time-to-market for creating connected devices. In contrast to standalone radio modules, the Skyus uses a standard USB connection interface, making it readily compatible with the largest choice of host devices.

Integration of the Skyus 3G into a Windows based system requires at a minimum two high level components, the **driver** and a mechanism to provide **connection management**. This document is intended to guide you through the process of connecting the hardware and setting up these two components.

Intended Audience

This document is intended for users responsible for the initial set-up of the Skyus and assumes the installer possesses a basic working knowledge of computer networking, wireless routing and network administration.

Scope

This Quick Start Guide focuses on the installation and configuration of the Skyus.

Inseego recommends initial set-up of the Skyus should be performed on a bench with a computer to gain some familiarity with the hardware and software of your system.

Environmental Specifications

The Skyus 3G is designed to operate in a minimum ambient environment of -30 °C or -22 °F.

The Skyus 3G is designed to operate in maximum ambient environment of 60 °C or 140 °F.

Power Consumption

The Skyus 3G power consumption is specified as: 500 mA at 5 VDC typical, 1 A peak.



Figure 1: Skyus Top View

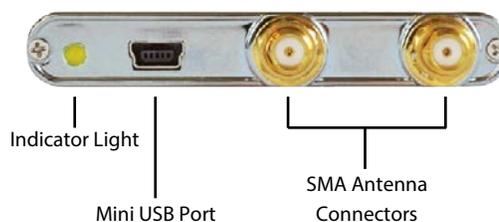


Figure 2: Skyus Ports

LED States

| State | Indicates |
|------------|---|
| Off | Module is not powered. |
| On | Module is powered and connected, but not transmitting or receiving. |
| Slow Blink | Module is powered and searching for a connection. |
| Fast Blink | Module is transmitting or receiving |

Note: MC572x modules support customer-defined LED controls.

Installation Steps

- Inspect the package contents and compare against the packing list.
- Install the Sierra Wireless Driver.
- Connect the antenna.
- Connect the Skyus to a computer or router.
- Verify activation.
- Install the connection manager.
- Verify a connection to the Internet.

Packing List: Package Contents

| Item | Description |
|-------|------------------------------------|
| Skyus | Skyus 3G Device |
| Cable | USB 2.0 Type A Male to Mini B Male |

If, during inspection of package contents, you determined that you are missing an item, please contact your Inseego Service Representative.

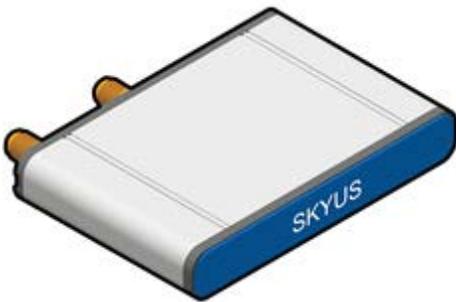


Figure 3: Package Contents: Skyus 3G

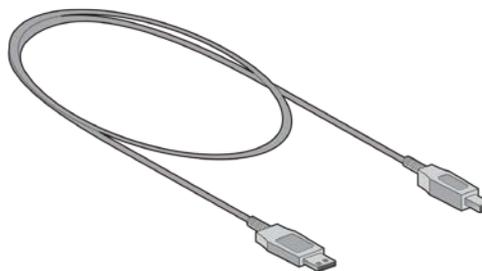


Figure 4: Package Contents: USB 2.0 Type A Male to Mini B Male

Operating Systems

The information contained in this guide is focused on operating your device in a Windows environment. If your system is operating with a non-Windows application, please contact Inseego for guidance that is specific to your environment.

Installation of Sierra Wireless Driver

The Skyus 3G utilizes an internal Sierra Wireless radio module. Drivers for Windows based platforms are provided in binary form by Sierra Wireless and are available for download on the Inseego website. For quick connection, download the driver-only package directly from Inseego. This package is available here:

www.inseego.com/downloads

Under 'Skyus 3G Drivers' click the 'Download Files' button to begin downloading the driver file for installation.

If you are working on the device you intend to use the Skyus with, proceed with installation on the local drive.

If you are working on a separate device from the one you intend to use the Skyus with, save the file to a portable media device and install the drivers on the target device.

Begin the installation of the Sierra Wireless drivers by clicking on the executable driver installation file.



Figure 5: Sierra Wireless Driver Installation

Follow the necessary steps to finish the installation until the screenshot matches the image shown in Figure 6.

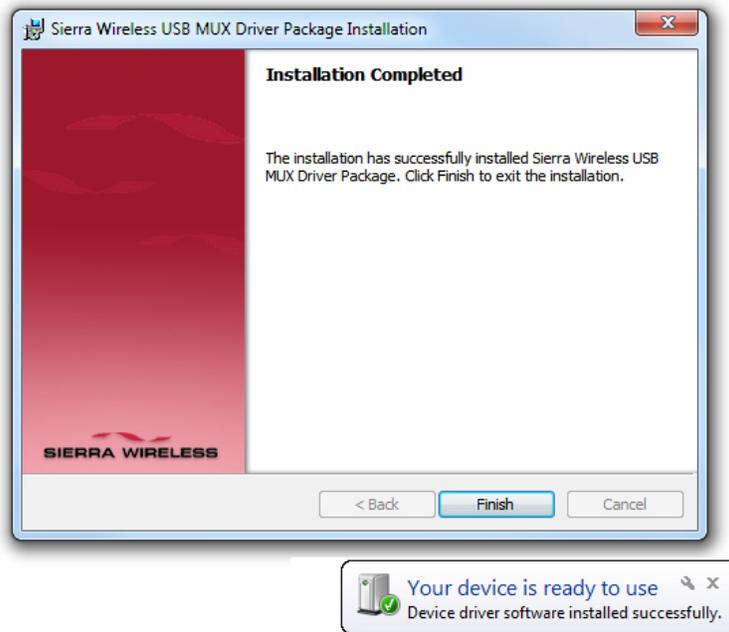


Figure 6: Sierra Wireless Installation Completed

Connecting the Antenna

To ensure that you are using the appropriate cellular antenna, please contact your Insee^{go} representative to provide the proper service to your installation.

Band: CDMA 1xRTT/EV-DO RevA 850/1900 MHz

Connect the cellular antenna to the outermost antenna connection of the Skyus, as shown in Figure 7. The innermost antenna connection is primarily used for 4G devices. It is used to receive diversity and is optional.



Figure 7: 3G Antenna Connection

Connecting to Computer or Router

Connect the Type A Male side of the enclosed USB cable to your computer or alternate host device.

Connect the Mini B Male side of the enclosed USB cable to the Skyus.



Figure 8: Type A Male USB



Figure 9: Type Mini B Male USB

Power is provided by the USB cable. Once connected, your Skyus will power up and attempt to register to the carrier.

Activation

Your device is ready to be activated only after the cellular carrier sets up an account and provides a phone number and/or IP address for your device. Once you have an account associated with your device, activation will be performed when connecting to the cellular network for the first time. If you are not sure if your device has an account, contact your sales representative or Inseego technical support.

Provisioning

Once your device is activated by Verizon and you are attempting to connect to Verizon's network for the first time, your device will perform over-the-air provisioning.

The provisioning process varies depending on which connection manager you are using. Inseego Skyus Watcher will initiate provisioning automatically within 15 minutes of connecting the Skyus 3G Verizon, if the device has not yet been provisioned.

NOTE: Inseego offers a provisioning service for this model Skyus. Check with your Inseego sales or support representative to see if this provisioning process has already been performed on your Skyus device if you are unsure.

If you are not using a connection manager, this process can be performed using the `at+cdv*22899` AT command via a terminal program. Contact Inseego support for additional information on this process.

The instructions below describe the provisioning process using Sierra Wireless Watcher (or Skylight). If the Sierra Wireless Connection Utility has not been installed, please refer to the Connection Manager section of this document for instructions.

Provisioning Using the Sierra Wireless Connection Utility

After verifying that the Sierra Wireless drivers and Connection Utility (Watcher) have been installed, connect the Skyus to a laptop via the USB cable. Ensure that an antenna is connected to the outermost port on the Skyus.

The system will install the appropriate drivers when the Skyus is connected, and the Sierra Wireless Watcher should auto-launch. If the Sierra Wireless Watcher does not launch, start it manually under *Program Files > Sierra Wireless > Watcher*.

The Watcher utility should detect the Skyus and may prompt to activate the device.



Figure 10: Activation Wizard Automated Activation

If prompted, select "Automated Activation" and click **Next**. The activation service dialog box appears.



Figure 11: Activation Wizard Automated Activation Service

Keep the *22899 selected default option and click **Next**. The activation process will begin.

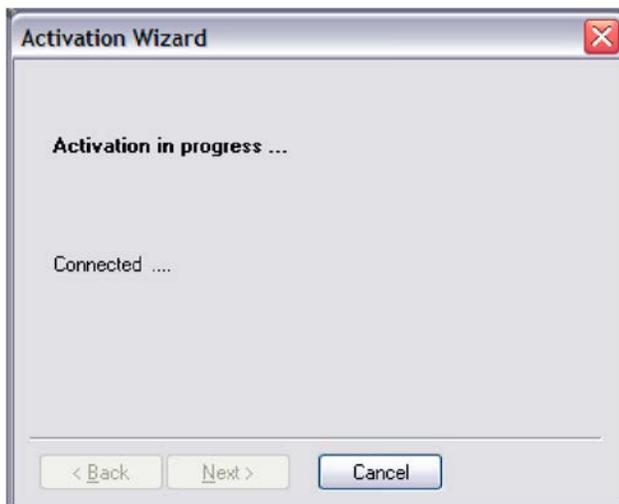


Figure 12: Activation Wizard Connected

You will be notified if the activation failed or succeeded.

After the "Activation is Successful" message, you will now be able to test the connection.

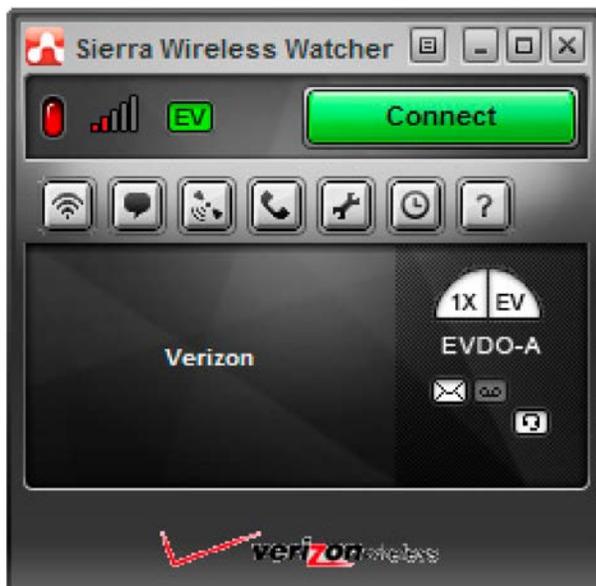


Figure 13: Sierra Wireless Watcher Test Connection

Click the green **Connect** button.

The connection process will be started.



Figure 14: Sierra Wireless Watcher Connection to Internet

Connection Manager

There are multiple options for connection management. The following sections will provide a brief description of relevant connection managers. Please contact InseeGo Support for guidance regarding the correct manager for your installation.

Skyus Watcher Utility

InseeGo Skyus Watcher is designed to manage the connection to the cellular network and provides connection watchdog, connection status reporting, and logging functionality appropriate for M2M applications where 24x7 connectivity is desired.



Figure 15: Skyus Watcher Utility – User Interface

Skyus Watcher is available after signing an End User Licensing Agreement (EULA) with Inseego. Skyus Watcher can be downloaded from the Inseego website. The Skyus Watcher installation package is available at:

www.inseego.com/downloads

For information on the installation of the Skyus Watcher application, please refer to the "Skyus Watcher User Guide."

Sierra Wireless Skylight

Sierra Wireless provides a connection utility compatible with Skyus devices that can manage connections and display network coverage indication. For more information on Sierra Wireless Skylight go to www.sierrawireless.com or contact your Inseego sales representative.

Contacting Inseego

For help with installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided.

If you still have questions, contact us during business hours:

Monday through Friday, excluding holidays, between 8 a.m. and 5 p.m. Pacific Time.

| | |
|-----------------|---------------------------------|
| Support E-mail | support@inseego.com |
| Telephone | (800) 683-4818 |
| Website | www.inseego.com |
| Mailing Address | P.O. Box 2549, Eugene, OR 97402 |

When contacting technical support, please have the following information on-hand:

1. Serial Number
2. Date that you received your device
3. Brief description of the problem

Online Library

For other documentation, see our online document library at: www.inseego.com/documents

Return and Warranty

Inseego offers a standard one-year warranty on all hardware. For returns or warranty information, call our toll free number: 800-683-4818.

Further Specifications

For more specifications please see the Skyus Technical Specifications sheet at www.inseego.com/documents.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Inseego does not guarantee that interference will not occur in a particular installation.

Operation is subject to the following conditions:

- a. This device may not cause harmful interference.
- b. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- a. Reorient or relocate the receiving antenna.
- b. Increase the distance between the equipment and the receiver.
- c. Connect the equipment to outlet on a circuit different from that to which the receiver is connected.
- d. Consult the dealer or an experienced radio/TV technician for help.

Exposure to RF radiation - To comply with FCC RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. Do not collocate or operate this device in conjunction with any other antenna or transmitter.

Contains TX module FCC ID: N7N-MC5728