

Configuration Guide for setting up embedded GPS on Cellular Modules

Configuring the Sierra Wireless module for GPS functionality

Prerequisite: Digi Connect Product with active Cellular Service, 1 Passive GPS Antenna and 2.8.x firmware or later

The Sierra Wireless MC5725/5727 modules are capable of using the secondary antenna port (or AUX port) to be used with the built-in GPS receiver on the module. This functionality can be used on the Digi Connect products with these modules installed by using the following instructions:

- 1) Connect the Passive GPS antenna to the secondary (or AUX) antenna spot on the Digi Connect product.

http://www.mobilegpsonline.com/mgpsstore/index.php?main_page=product_info&cPath=6_96&products_id=119&zenid=a5f1d3d0f98db20acea02cc2e490774f

- 2) Log into the WebUI of the device, and navigate to **Configuration > Mobile > GPS Settings**.

3) Enable the feature, and set the parameters you wish to use. Make sure to **Apply** your changes to take effect. An example of what has been used in the past is shown in the screenshot below:

The screenshot displays the 'Mobile Configuration' web interface. On the left is a navigation menu with categories: Configuration (Network, Mobile, Serial Ports, Camera, Alarms, System, Remote Management, Security, Position), Applications (Python, RealPort), Management (Serial Ports, Connections, Event Logging, Network Services), and Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot). The main content area is titled 'Mobile Configuration' and contains a tree view with 'Mobile Settings' expanded to show 'GPS Settings'. The 'GPS Settings' section includes: 'Integrated GPS receiver is:' with radio buttons for 'Disabled', 'Always enabled' (selected), and 'Enabled only while mobile is connected'; 'Position determination method:' with radio buttons for 'Standalone (no network assistance)' (selected), 'Mobile-based (network assisted)', and 'Mobile-assisted (network calculated)'; 'Number of position fixes:' with radio buttons for 'Continuously determine position' (selected) and 'Stop after' followed by a text input '1' and 'fixes (1-999)'; 'Time allowed per fix:' with a text input '255' and 'seconds (1-255)'; 'Interval between fixes:' with a text input '2' and 'seconds (1-65535)'; and 'Desired accuracy of fix:' with a text input '50' and 'meters (1-65535)'. At the bottom of the settings are 'Apply' and 'Set to Defaults' buttons. Below the settings are three expandable sections: 'Advanced Settings', 'SureLink Settings', and 'Update PRL'.

NOTE: After making this change you will want to reboot the unit. When the device dials to the carrier's network, it will build an initial table of GPS information that is needed for this feature to work properly. This information is downloaded when the module connects to the network.

4) You can then view your GPS position information on the **Administration > System Information > Position** section, shown in the screenshot below:

The screenshot displays a web interface for system information. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, Serial Ports, Camera, Alarms, System, Remote Management, Security, Position), Applications (Python, RealPort), Management (Serial Ports, Connections, Event Logging, Network Services), Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot), and Logout. The main content area is titled 'System Information' and has a tree view with 'Position' selected. Below this, a text block states: 'The following position information has been gathered from attached NMEA-0183 compliant GPS receivers, or statically configured position parameters.' A table shows data for a 'Sierra Wireless MC5725/MC5727 Integrated GPS Receiver':

Latitude:	44.898987
Longitude:	-93.416901
Altitude:	163.500000 meters
Speed:	0.000000 knots
Track Angle:	194.699997
Fix Time:	19:33:41.20
Fix Date:	03/15/10
Satellites in View:	6
Fix Quality:	GPS Fix
HDOP:	2.1

Below the table is a 'Refresh' button and a 'Diagnostics' link. At the bottom of the page, a copyright notice reads: 'Copyright © 1996-2010 Digi International Inc. All rights reserved. www.digi.com'.

Configuring the Ericsson module for GPS functionality

Prerequisite: Digi Connect Product with active Cellular Service, 1 Passive GPS Antenna and 2.8.x firmware or later

The Ericsson F3507g module is capable of using the secondary antenna port (or AUX port) to be used with the built-in GPS receiver on the module. This functionality can be used on the Digi Connect products with these modules installed by using the following instructions:

- 1) Connect the Passive GPS antenna to the secondary (or AUX) antenna spot on the Digi Connect product.
- 2) Log into the WebUI of the device, and navigate to **Configuration > Mobile > GPS Settings**.
- 3) Enable the feature, and set the parameters you wish to use. Make sure to **Apply** your changes to take effect. An example of what has been used in the past is shown in the screenshot below:



The screenshot displays the Digi Connect WebUI interface. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, Serial Ports, Camera, Alarms, System, Remote Management, Security, Position), Applications (Python, RealPort), Management (Serial Ports, Connections, Event Logging, Network Services), and Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot). The main content area is titled "Mobile Configuration" and contains several expandable sections: Mobile Settings, GPS Settings (expanded), Advanced Settings, SureLink Settings, and Short Message Service (SMS) Settings. The "GPS Settings" section includes the following options:

- Integrated GPS receiver is:
 - Disabled
 - Always enabled
 - Enabled only while mobile is connected
- Interval between fixes: seconds (1-60)

At the bottom of the "GPS Settings" section are two buttons: "Apply" and "Set to Defaults".

NOTE: After making this change you will want to reboot the unit. When the device dials to the carrier's network, it will build an initial table of GPS information that is needed for this feature to work properly. This information is downloaded when the module connects to the network.

4) You can then view your GPS position information on the **Administration > System Information > Position** section, shown in the screenshot below:

The screenshot displays the 'System Information' page with the 'Position' section expanded. The left sidebar contains navigation menus for Configuration, Applications, Management, Administration, and Logout. The main content area shows the following information:

System Information

- ▶ General
- ▶ Serial
- ▶ Network
- ▶ Mobile
- ▶ IP Network Failover
- ▼ **Position**

The following position information has been gathered from attached NMEA-0183 compliant GPS receivers, or statically configured position parameters.

Ericsson F3507g Integrated GPS Receiver

Latitude:	44.898544
Longitude:	-93.416634
Altitude:	261.000000 meters
Speed:	0.000000 knots
Track Angle:	0.000000
Fix Time:	20:19:16.00
Fix Date:	03/15/10
Satellites in View:	3
Fix Quality:	GPS Fix
HDOP:	0.5

▶ Diagnostics

Configuring the Qualcomm Gobi module for GPS functionality

Prerequisite: Digi Connect Product with active Cellular Service, 1 Passive GPS Antenna and 2.8.x firmware or later

The Qualcomm Gobi 2000 modules are capable of using the secondary antenna port (or AUX port) to be used with the built-in GPS receiver on the module. This functionality can be used on the Digi Connect products with these modules installed by using the following instructions:

- 1) Connect the Passive GPS antenna to the secondary (or AUX) antenna spot on the Digi Connect product.
- 2) Log into the WebUI of the device, and navigate to **Configuration > Mobile > GPS Settings**.
- 3) Enable the feature, and set the parameters you wish to use. Make sure to **Apply** your changes to take effect. An example of what has been used in the past is shown in the screenshot below:

The screenshot displays the 'Mobile Configuration' web interface. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, Serial Ports, Camera, Alarms, System, Remote Management, Security, Position), Applications (Python, RealPort), Management (Serial Ports, Connections, Event Logging, Network Services), and Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot, Logout). The main content area is titled 'Mobile Configuration' and contains several expandable sections: 'Mobile Settings', 'GPS Settings' (expanded), 'Advanced Settings', 'SureLink Settings', and 'Update PRL'. The 'GPS Settings' section includes: 'Integrated GPS receiver is:' with radio buttons for 'Disabled', 'Always enabled' (selected), and 'Enabled only while mobile is connected'; 'Position determination method:' with radio buttons for 'Standalone (no network assistance)' (selected), 'Mobile-based (network assisted)', and 'Mobile-assisted (network calculated)'; 'Number of position fixes:' with radio buttons for 'Continuously determine position' (selected) and 'Stop after 1 fixes (1-999)'; 'Time allowed per fix:' set to 255 seconds (1-255); 'Interval between fixes:' set to 2 seconds (1-65535); and 'Desired accuracy of fix:' set to 50 meters (1-65535). At the bottom of the settings are 'Apply' and 'Set to Defaults' buttons.

NOTE: After making this change you will want to reboot the unit. When the device dials to the carrier's network, it will build an initial table of GPS information that is needed for this feature to work properly. This information is downloaded when the module connects to the network.

4) You can then view your GPS position information on the **Administration > System Information > Position** section, shown in the screenshot below:

The screenshot shows a web interface with a left-hand navigation menu and a main content area. The navigation menu includes sections for Configuration, Applications, Management, and Administration. The Administration section is expanded to show 'System Information'. The main content area is titled 'System Information' and has a sub-section for 'Position'. It displays the following information:

The following position information has been gathered from attached NMEA-0183 compliant GPS receivers, or statically configured position parameters.

Sierra Wireless MC5725/MC5727 Integrated GPS Receiver	
Latitude:	44.898987
Longitude:	-93.416901
Altitude:	163.500000 meters
Speed:	0.000000 knots
Track Angle:	194.699997
Fix Time:	19:33:41.20
Fix Date:	03/15/10
Satellites in View:	6
Fix Quality:	GPS Fix
HDOP:	2.1

Below the table is a 'Refresh' button and a 'Diagnostics' link.

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