

## NPB-GPRS Modem Option INSTALLATION SHEETS

This document covers the mounting of an NPB-GPRS wireless modem option card in a Vykon® JACE® controller (JACE-200/600, SEC-J-x01, JACE-7 series).

Note that the NPB-GPRS option card is *not supported* in any JACE that also has an NPB-MDM option card installed.

**Table 1 NPB-GPRS modem option description.**

Description	Models/Notes
GSM cellular modem using GPRS (General Packet Radio Service) data technology, powered by the JACE controller. Has 2 LEDs to indicate status and signal. Uses SMA coax connector (with provided antenna), optional GPRS-CBL-EXT antenna extension, or use another external antenna.	<ul style="list-style-type: none"> <li>• <b>NPB-GPRS-W</b> (bundled with Wyless provisioned SIM card)</li> <li>• <b>NPB-GPRS</b> (without SIM)</li> <li>• <b>GPRS-SIM-W</b> (only a SIM card provisioned by Wyless)</li> </ul> <p>Note the GPRS modem option requires a SIM (subscriber identity module) card from an approved vendor. At the time of this document, only a SIM card provisioned by the <i>Wyless Group</i> is supported for use in the U.S.</p>

**Note** The JACE requires NiagaraAX-3.4 or later to support operation of the NPB-GPRS.

Not covered in this document is the *software setup and operation* of the installed NPB-GPRS modem option. Refer to the *NiagaraAX GPRS modem option - engineering notes* document for this information.

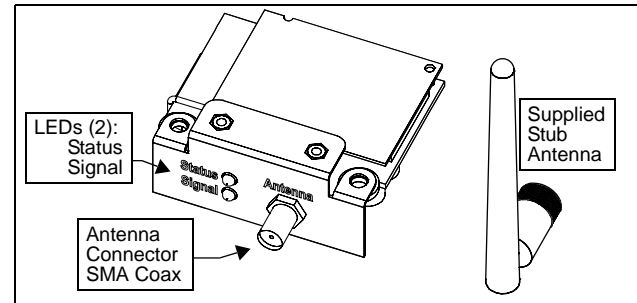
For all other related mounting and wiring details, refer to the appropriate mounting and wiring document. See [“Related Documentation,”](#) page 4.

### Included in this Package

Included in this package you should find the following items:

- NPB-GPRS option card, with attached endplate.
- if an NPB-GPRS-W, a Wyless provisioned SIM card, ready for [pre-installation](#).
- a right-angle GSM/GPRS quad-band SMA coax-mounted stub antenna.
- This document *NPB-GPRS Modem Option Installation Sheets*, Part Number 11129 Rev 1.3

**Figure 1 NPB-GPRS Modem Option.**



### Material and Tools Required

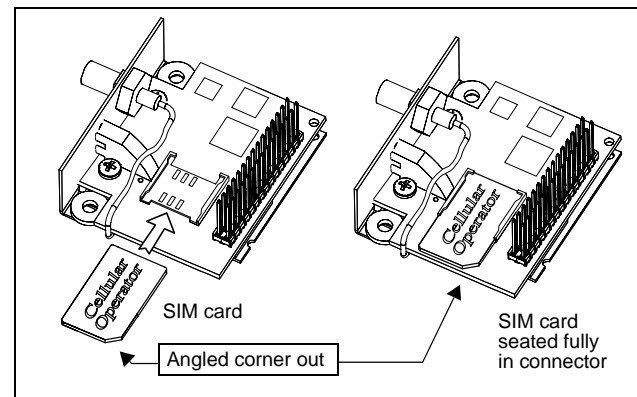
The following supplies and tools are required:

- SIM card from approved wireless service provider (see model notes in [Table 1](#)).
- #2 phillips screwdriver: used to install the NPB-GPRS option card.

### Pre-installation

Prior to mounting the NPB-GPRS modem option card in the JACE, install the SIM card into the connector on the underside of the option card.

**Figure 2 Inserting SIM into underside of NPB-GPRS.**



To install, orient the SIM with its foil connectors down (writing side up) and its angled corner out, and slide fully into the connector. See [Figure 2](#) above.

## Mounting



**Warning** Power to the JACE must be OFF when installing or removing option cards, or damage will occur! Also, you must be very careful to plug any option card into its connector properly (pins aligned).

The NPB-GPRS card can be installed in either available option slot of a JACE controller. However, Option Slot 2 is typically recommended, for port number simplicity. For related details, see “COM Port Usage,” page 3.

### Procedure 1 Mounting NPB-GPRS option card on a JACE.

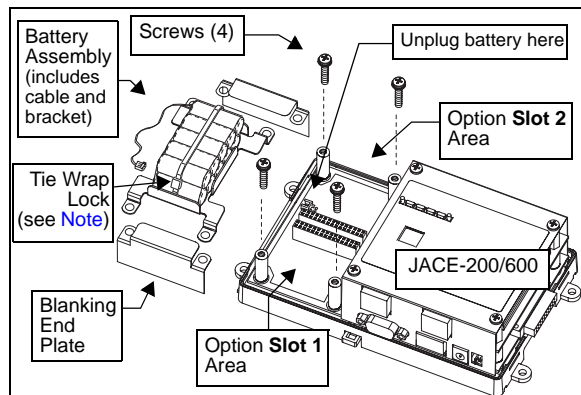
1. Remove power from the JACE — see the previous [Warning](#). Wait for all LEDs on the unit to be Off.
2. For a JACE-2/6 series or JACE-700, remove the JACE cover. To do this, press in the four tabs on both ends of the unit, and lift the cover off.



**Note** If accessory modules are plugged into the JACE, you may need to slide them away from the unit to get to the cover tabs.

3. Remove the battery and bracket assembly by taking out the four screws holding it in place, setting the screws aside for later. Unplug the battery from the connector on the JACE. [Figure 3](#) shows an exploded view of a JACE-2/6 series.

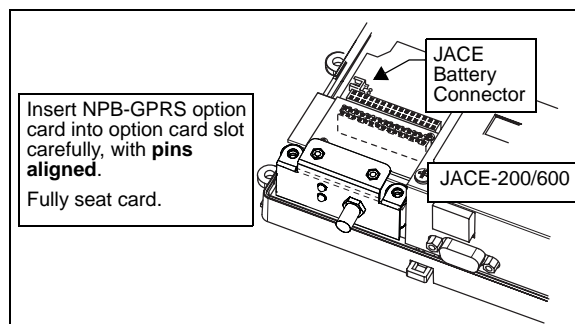
**Figure 3 Remove screws and battery assembly.**



**Note** The tie wrap on the battery pack should have its lock “knot” on **top**, as shown in [Figure 3](#). If not, cut and *remove* the tie, then *re-install* another tie wrap with its lock tab on top. (*Tie lock at bottom inteferes with option card*).

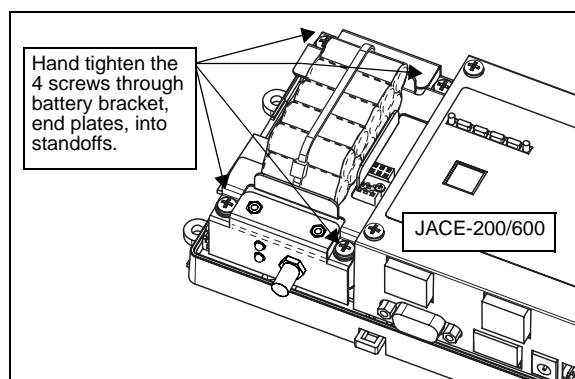
4. Remove the blanking end plate for the slot you are installing the option card into.  
(Retain the blanking end plate in case the option card must be removed at a later date.)
5. Carefully insert the pins of the NPB-GPRS into the socket of the appropriate option card slot. The mounting holes on the option board should line up with the standoffs on the base board. If they do not, the connector is not properly aligned. Press until the option card is completely seated.

**Figure 4 NPB-GPRS inserted, end plate on top.**



6. Plug the battery cable into the battery connector on the JACE (see [Figure 4](#) for location).
7. Set the battery and bracket assembly back over the option card slots, with the mounting holes aligned with the standoffs.
8. Place the four screws through the battery bracket, end plates, and into the standoffs on the JACE base board. Hand tighten these screws.

**Figure 5 Re-fasten screws through battery bracket.**



9. Replace the JACE cover.  
If accessory modules were unplugged, plug them back into the JACE as before, and secure.

## COM Port Usage

The NPB-GPRS modem option consumes two COM ports on the installed JACE controller, see [Table 2](#).

**Table 2 NPB-GPRS modem option COM port usage.**

Controller Series	COM Port Usage of NPB-GPRS	
	Option Slot 1	Option Slot 2
JACE-200/600, SEC-J-x01	COM3, COM4	COM5, COM6

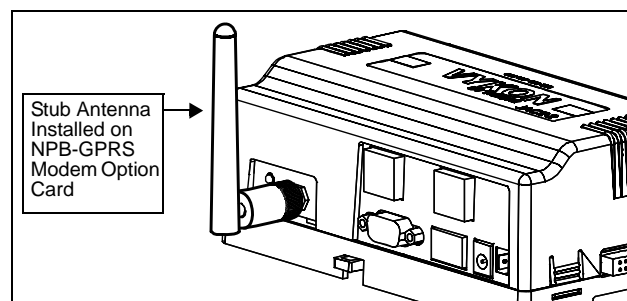
If installing *another* option card that uses COM ports, note that COM assignments for that other card are affected if you install the NPB-GPRS in Option Slot 1.

For example, if you install an NPB-GPRS card in Slot 1 of JACE-200/600, and an NPB-232 option card in Slot 2, the RS-232 port on the NPB-232 option is COM5.

## Attaching Antenna

A GSM/GPRS stub antenna with right-angle SMA male coax connector is provided for use with a JACE-2/6 series or JACE-700 controller. To attach, simply insert into the SMA coax jack on the modem, and finger-tighten the knurled nut ([Figure 6](#)).

**Figure 6 SMA stub antenna on JACE-2/6 series.**

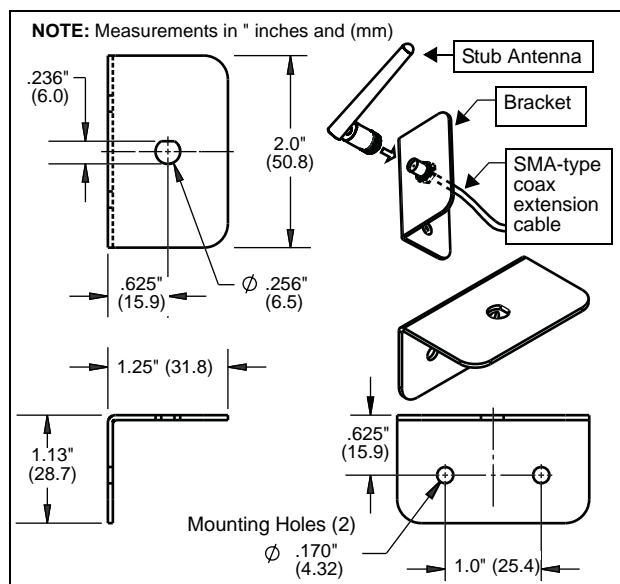


Rotate in whatever position is needed for mounting clearance and/or best reception. If needed, you can use the GPRS-CBL-EXT [antenna extension option](#).

## Antenna Extension Option

To locate the included stub antenna off the JACE-2/6 series or JACE-700 controller, order and install the GPRS-CBL-EXT option. Included is a 6.56 ft. (2m) SMA-type coax extension cable and steel bracket for wall or panel mounting. See [Figure 7](#) for bracket details and dimensions.

**Figure 7 GPRS-CBL-EXT bracket details.**



Some installations may require a different external antenna.



### Note

Any external antenna must be compatible with the GSM 900/1800 frequency and the 50Ω impedance of the SMA coax connector on the NPB-GPRS modem option.

## LEDs

Two LEDs are on the endplate of the NPB-GPRS option card. On the option card label these appear as "STATUS" and "SIGNAL"—see [Figure 1](#) on page 1.

These two LEDs are briefly described as follows:

- **STATUS (green)** — Flashes various LED patterns based on the state of the modem. This LED is directly under control of the modem itself (rather than the NiagaraAX modem driver). Upon initial power up, the Status LED pattern is typically 600ms On / 600ms Off, and may change depending on various modem state changes.
- **SIGNAL (green)** — Indicates the RSSI (received signal strength indicator), according to the number of short (350ms On) flash patterns. Analogous to "number of bars" on a cell phone.

For further details on the operation of both LEDs, see the *NiagaraAX GPRS modem option - Engineering Notes* document.

## Modem Checkout

After mounting the NPB-GPRS modem option and attaching the antenna, power the JACE on. Following reboot of the JACE, you can configure the modem by opening a platform connection to the JACE.

To verify modem communications, verify that status properties in the “GPRS Modem Configuration” platform view show returned values.

## Related Documentation

For more information on mounting and wiring a Vykron system, refer to the following documents:

- *JACE-2 Mounting & Wiring Guide*
- *JACE-6 Mounting & Wiring Guide*
- *JACE-700 Mounting & Wiring Guide*

For the NiagaraAX software configuration and operation of the installed GPRS modem option:

- *GPRS modem option - Engineering Notes*

## Options and Parts

The following options and replacement parts may be ordered for the NPB-GPRS-W or NPB-GPRS modem:

**Table 3** Parts for NPB-GPRS modem option.

Option/Part	Description
GPRS-CBL-EXT	6.56 ft (2m) SMA-type coax extension cable, and mounting bracket. See <a href="#">“Antenna Extension Option”</a> on page 3.
GPRS-SIM-W	Replacement SIM card, provisioned by Wyless.
NPB-GPRS	Replacement GPRS modem option card, <b>without</b> bundled SIM card.
11166	Replacement right-angle GSM/GPRS quad-band SMA coax-mounted stub antenna.

## Approvals

**FCC:** The Siemens TC63 cellular communications module used on the NPB-GPRS modem option card is FCC approved, and has an FCC ID of QIPTC63.