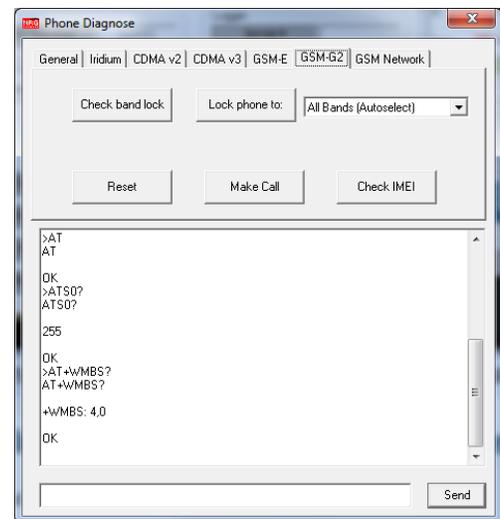
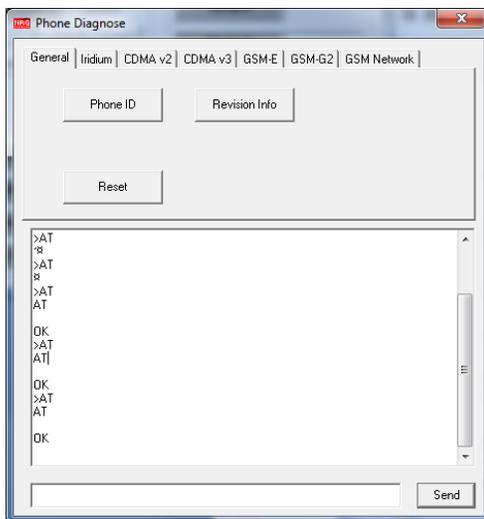


Frequency Band / Carrier Locking Instruction

The following set of instructions describes how to lock to a specific frequency band and how to lock to a specific carrier using a GSM iPackGPS. This may be necessary when there are multiple carriers available.

HOW TO LOCK TO A SPECIFIC FREQUENCY BAND:

1. Download the latest version of SDR here: <http://www.nrgapps.com/beta.php>
2. Open the copy of SDR that you just downloaded and type “nrgphone” and once you see the main screen of the program; this will open the Phone Diagnosis window, which will look like this:



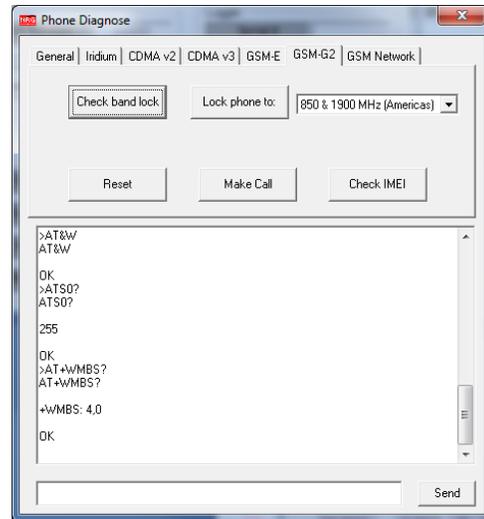
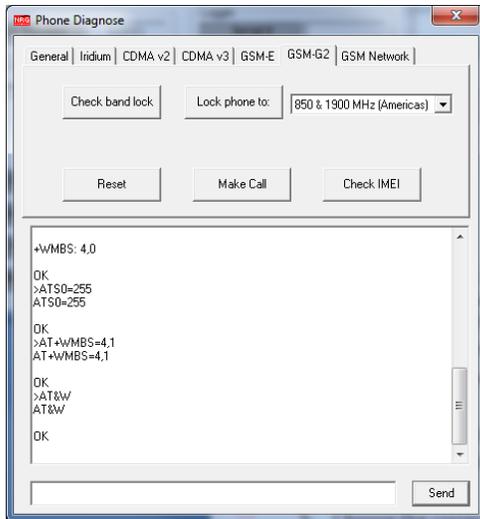
3. Let the screen sit for a minute while the program runs through a couple AT (modem) commands. Once it says “OK” at the bottom, go to the “GSM-G2” tab and select “Check band lock” (see above, right) – this should make the dropdown box to the right say “All Bands (Autoselect)” (it might also just stay blank).
4. Change your selection on the dropdown menu to the frequency band commonly used in your region. A list of the different frequency bands can be found here: <http://allworldcellphones.com/gsm-frequencies-list.htm>
5. Choose the correct frequency band for your region and click “Lock phone to:” The program will run a couple more scripts and then say “OK” at the bottom of the screen. See example below:



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APPLICATION NOTE



6. To double check that the change has been made, select “All Bands (Autoselect)” and then click “Check band lock”. Once this has been clicked, the AT script will run and the drop down menu should change back to whichever frequency you have selected.

HOW TO LOCK TO A SPECIFIC CARRIER:

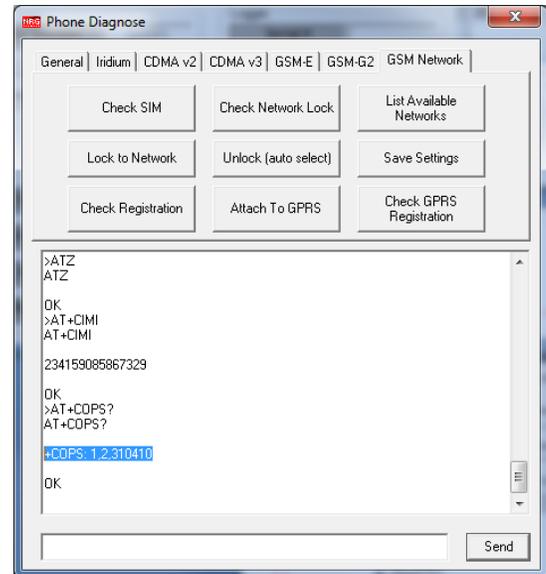
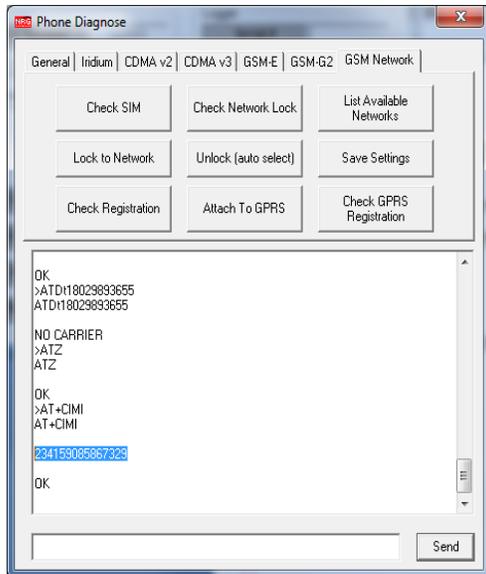
1. With the latest version of SDR, type “nrgphone” on the main screen of the program - this will open the Phone Diagnosis window.
2. Click on the “GSM Network” tab, and go through the buttons from left to right.
3. Start with the “Check SIM” button. The number above the “OK” after the AT scripts runs is the SIM number inside the GSM iPack (see below, left side). Verify that you got a number and that it matches your records. If anything other than this is displayed, there is a problem with the SIM card.

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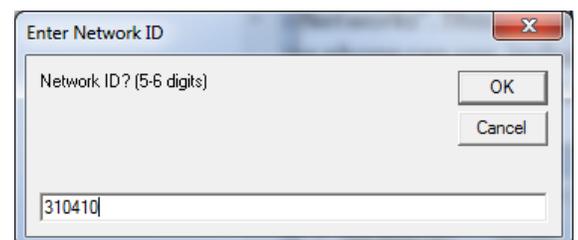
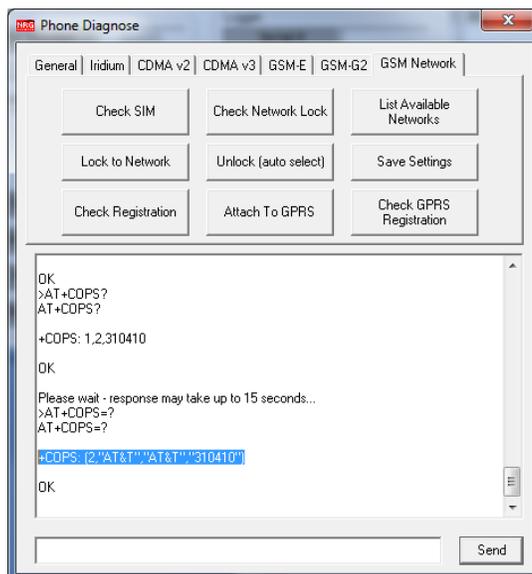


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APPLICATION NOTE



- Click "Check Network Lock". You can see what network the modem is currently locked to. The network description shown will look similar to "+COPS: 0, 2, 123456" (above, right). If the first number is 0, the modem frequency is not locked (auto). If the first number is 1, the modem frequency is locked to the network specified by the third number.
- Click "List Available Networks". This will take a bit of time (15 - 30 seconds). This button will return a list of GSM networks the phone can see, including carrier name and a 5-6 digit code.
 - To lock to an Available Network, click "Lock to Network". Enter the code from the desired network. Verify you get an OK. If you want to undo this, click "Unlock (auto select)" instead.



- Once you have locked to a network by entering the Network ID, click "Save Settings".



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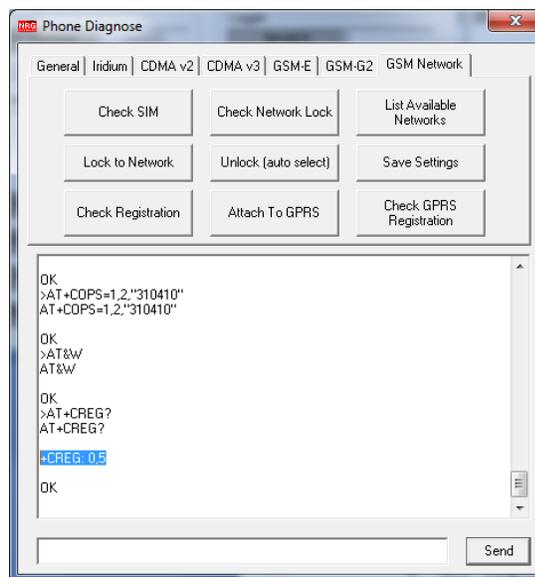
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APPLICATION NOTE

7. Click "Check Registration". This checks whether the phone is on the network or not. You will see a result like "+CREG: 0, X". X is the status - you want a 1 or 5. All possible status results are shown below:

- 0,0 - Not registered, Mobile Equipment is not currently searching for a new operator.
- 0,1 - Registered, home network.
- 0,2 - Not registered, Mobile Equipment currently searching for a new operator to register to.
- 0,3 - Registration denied.
- 0,4 - Unknown.
- 0,5 - Registered, roaming.
-

It should look something like this:



Contact NRG Technical Support if you need further assistance.

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