



# **CC5MPX Digital Network Camera Airlink RavenX (Bell Network) Application Note**

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## Introduction

This application note is intended to provide guidance to setting up the CC5MPX and RavenX modem for remote wireless operation.

### ***Modem Account – Public versus Private IP address***

When setting up an account with your mobile data service provider it is important to note that it is beneficial to obtain an account that has a public IP address.

If the modem account does not have a public IP address, then it will not be possible to initiate communications from the internet to the camera. Only the camera will be able communicate by sending pictures or video using FTP or email.

If a public IP address is provided then, it will be possible to access the CC5MPX web interface from the internet. This is useful to change camera settings or for diagnostics purposes. Although a static IP address is easier to deal with, a dynamic public IP address works as well with the use of a DNS server.

## Initial Modem Setup

The following procedures assume that:

- You have obtained an appropriate account from your mobile data provider
- The appropriate SIM card has been inserted properly into the modem
- You have the required account information and setting details from your mobile data provider

The easiest way to configure a RavenX modem is to connect the modem directly to your computer using the Ethernet port. If you do not see the RavenX green network light turn on when the Ethernet connection is made, unplug the cable and plug it in again. For some reason the network connection does not work the first time something is plugged in.

A modem that is set to factory defaults will act as a DHCP server and once connected to a computer the modem can be accessed by typing the following address into your web browser:

192.168.13.31:9191

A login page will appear and the default user name and passwords are normally:

user  
12345

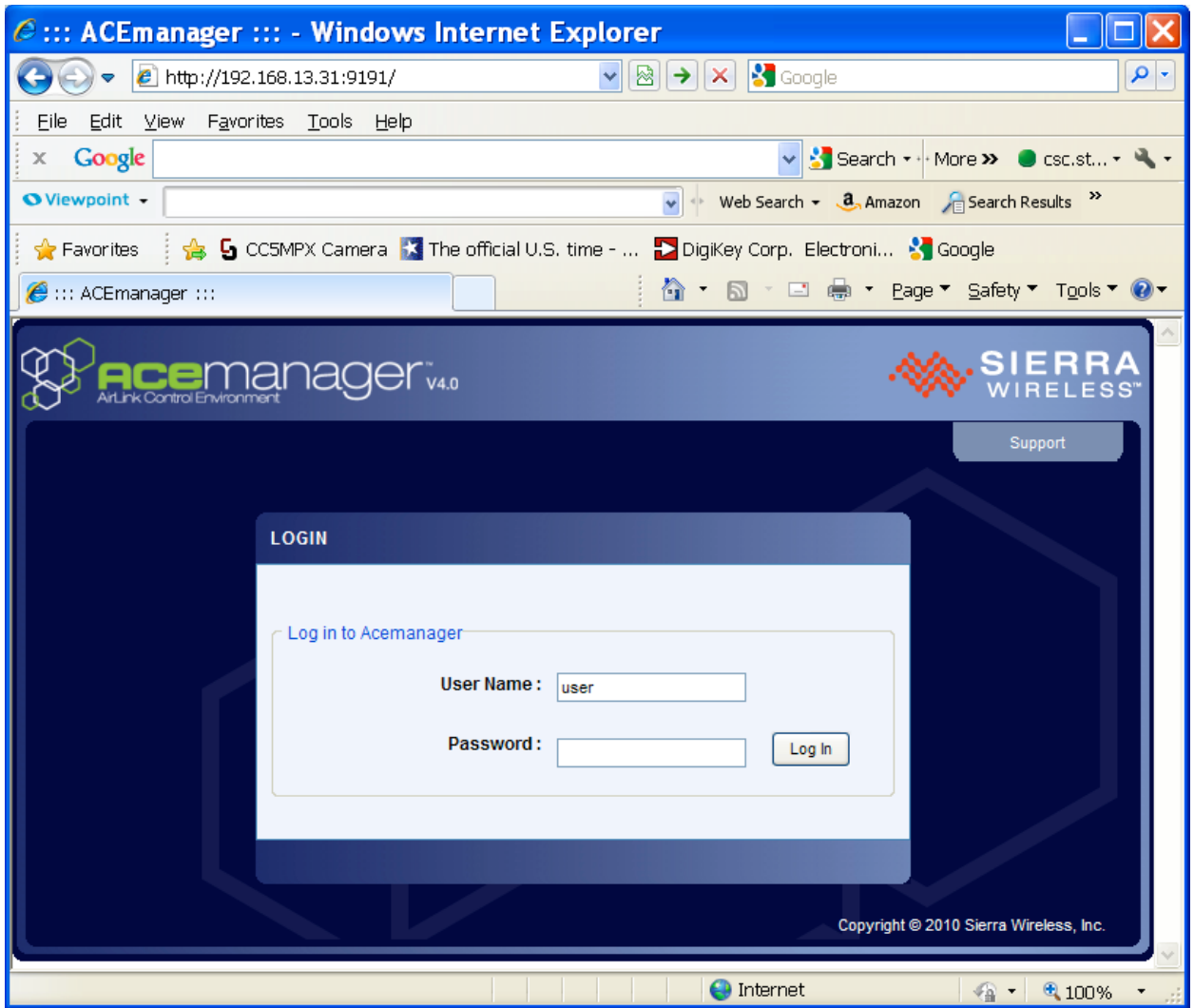


Figure 1 – AceManager Login Page

Once logged in click on the settings tab [WAN/Cellular](#). Information obtained from your service provider will need to be entered here. An example screen is as follows:

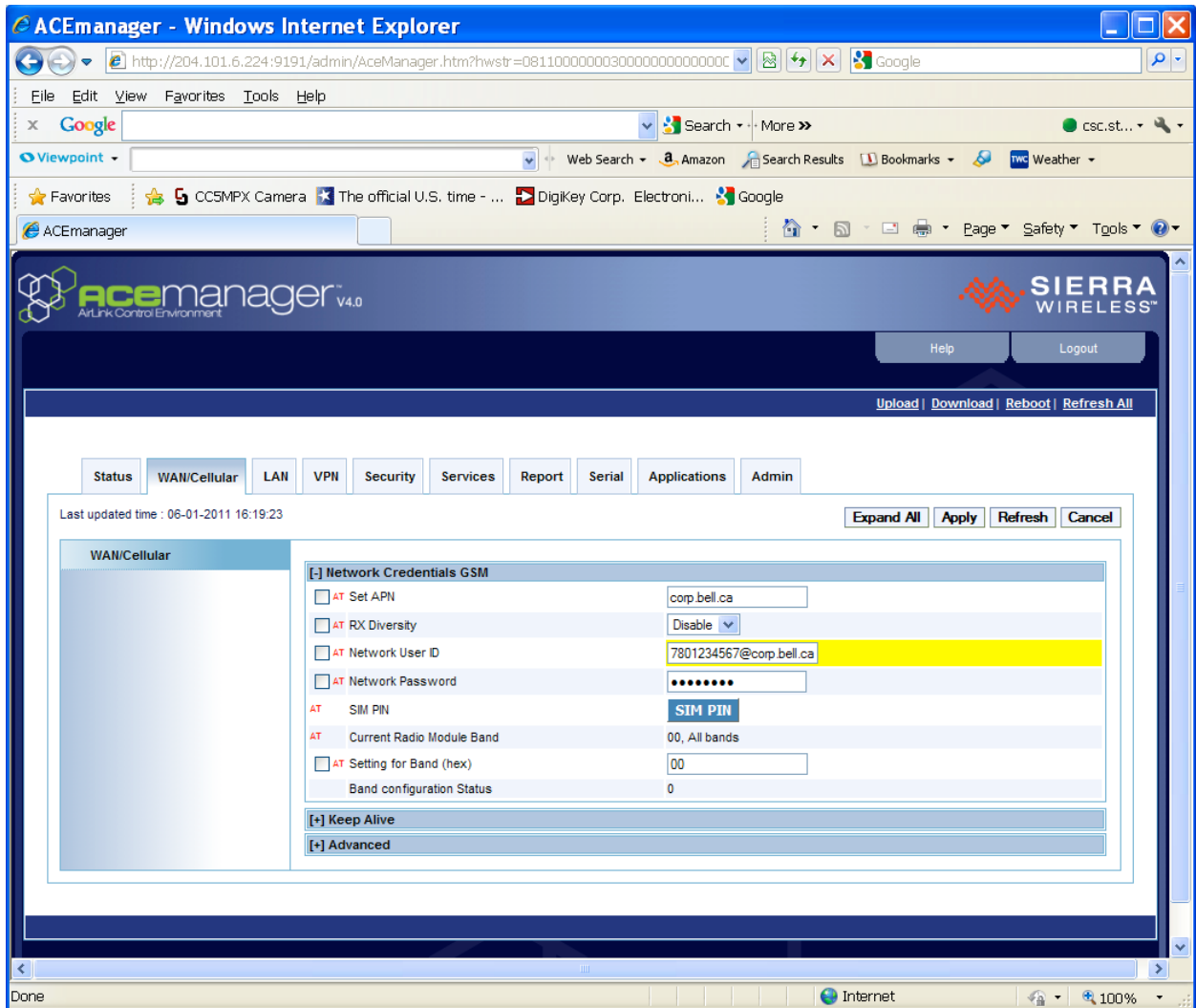


Figure 2 – WAN/Cellular Configuration Page

Click on the Keep Alive and the Advanced setting options to view these settings as well. Notice that the [Response to Incoming Ping](#) option is set to "Aleos Responds". This will enable the modem to respond to network pings which can be useful for diagnostics. However, there can be security issues when this is enabled.

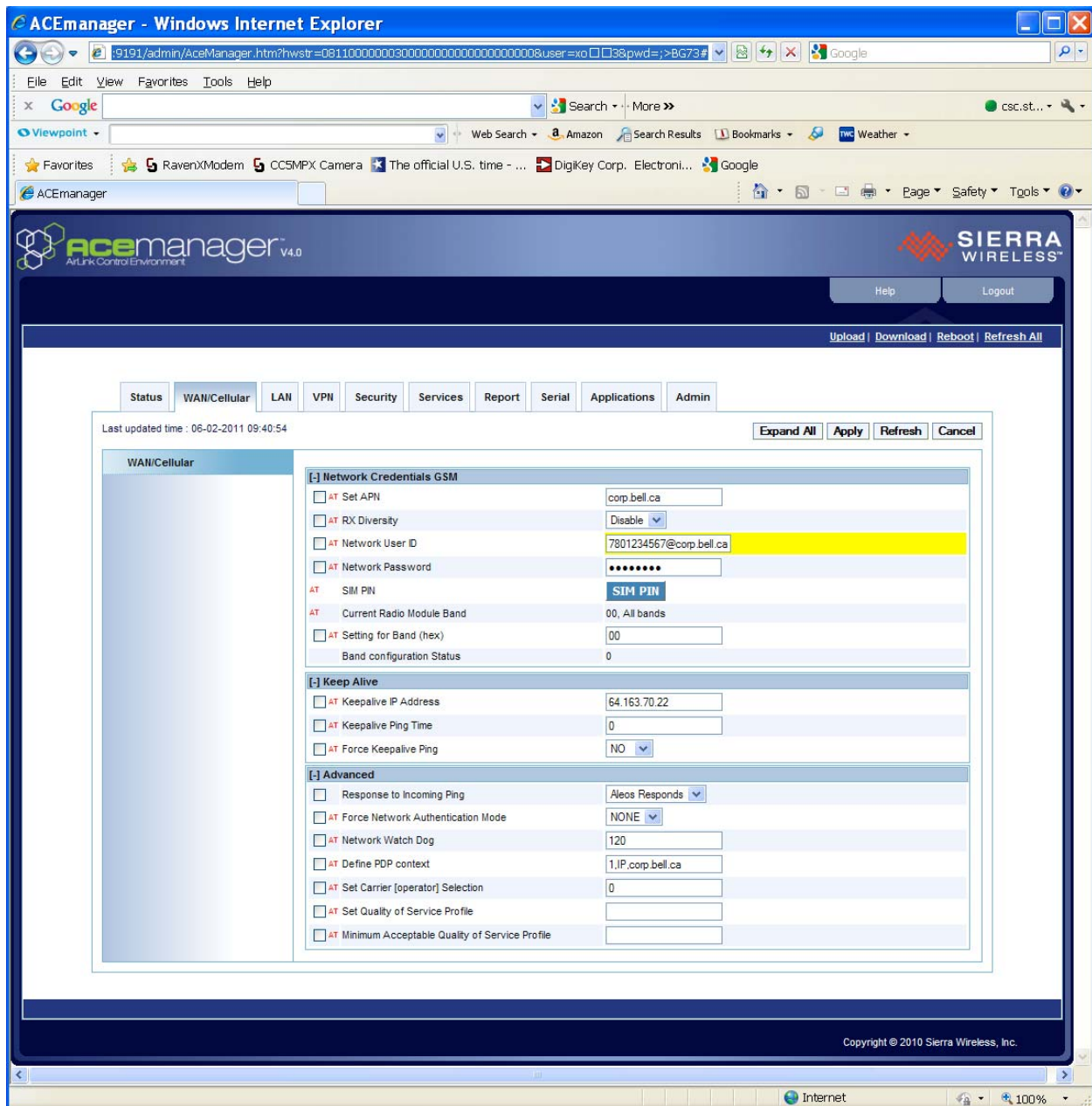


Figure 3 – Incoming Ping Configuration

Select the settings tab **LAN** to review the Modems LAN settings. There is one change that is recommended to be made to the LAN settings page from the factory default settings. The “Host Routing Mask” is changed from 255.255.255.0 to 255.255.0.0. This change allows the system to work with both the CC5MPX and RavenX to remain at their default IP address settings. The default IP address setting for the CC5MPX is 192.168.1.90 and the default IP address setting for the RavenX is 192.168.13.31.



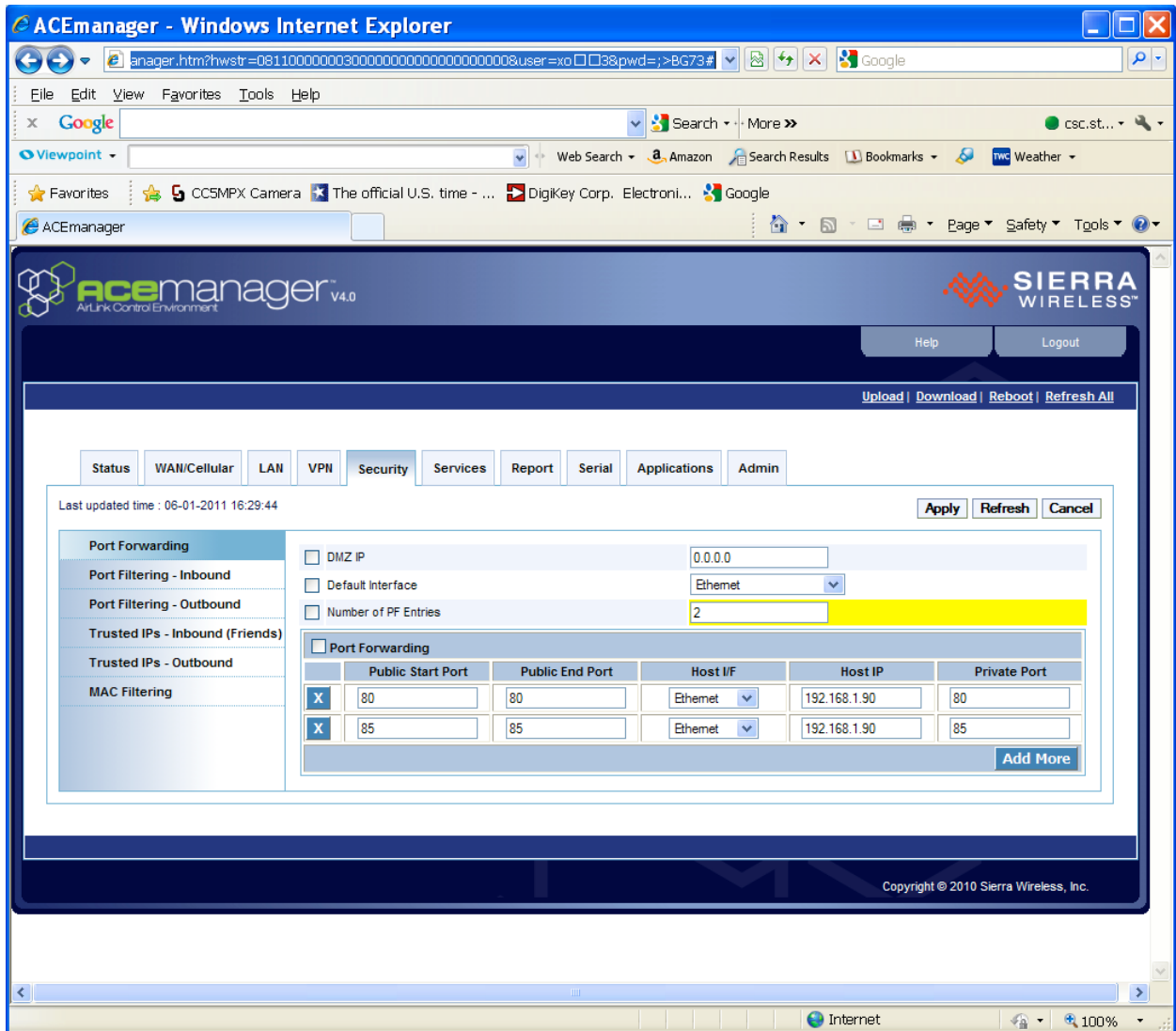


Figure 5 – Security Configuration Page

Select the settings tab [Services](#) it is recommended to have the ACEnet Management Enabled.

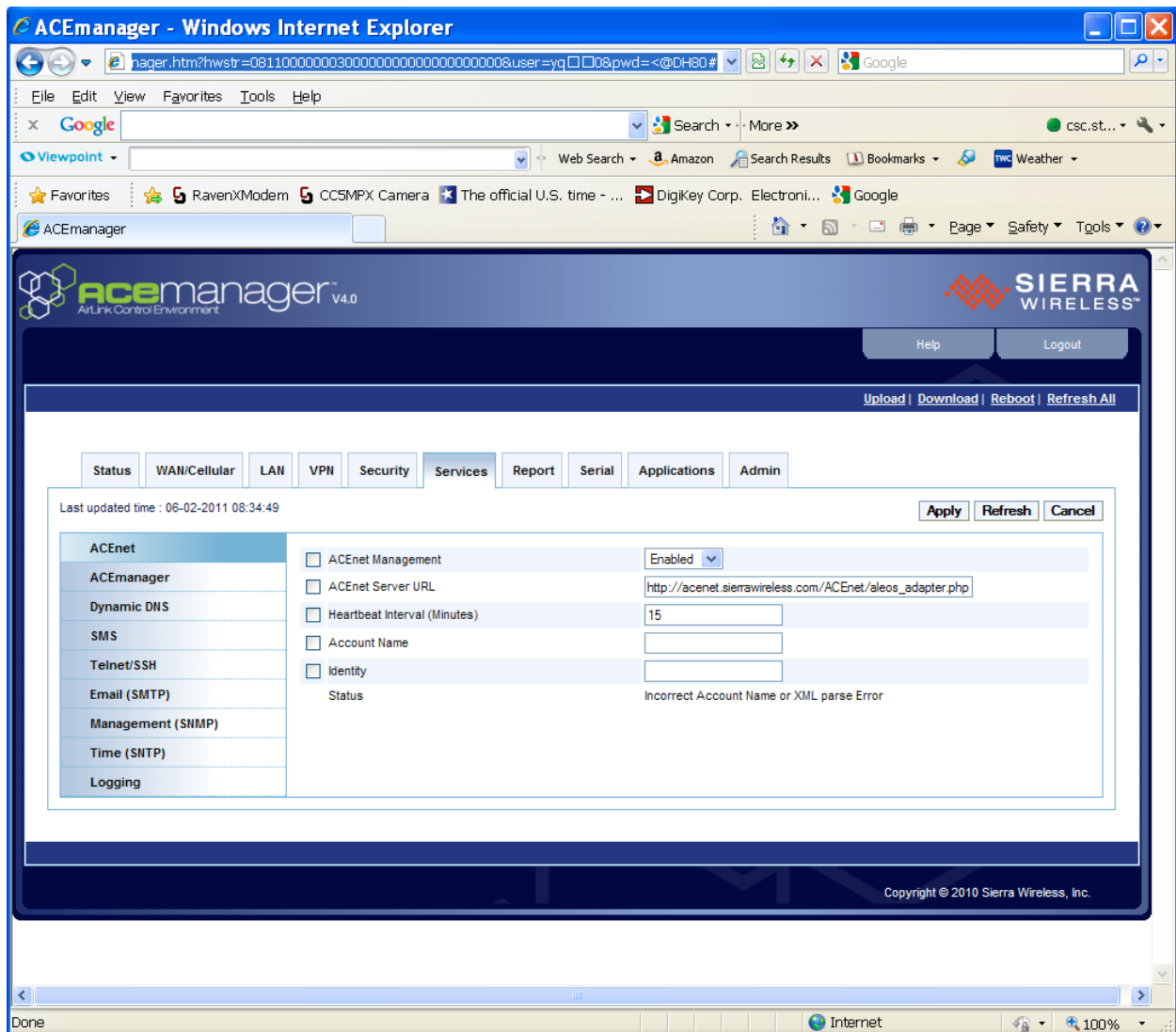


Figure 6 – Services Configuration Page

Click the **ACEmanager** settings tab on the left side. It may be a good idea to select the tethered and the OTA (Over The Air) option for the ACEmanager. By having the OTA option a user can configure a RavenX remotely by accessing the default port 9191.

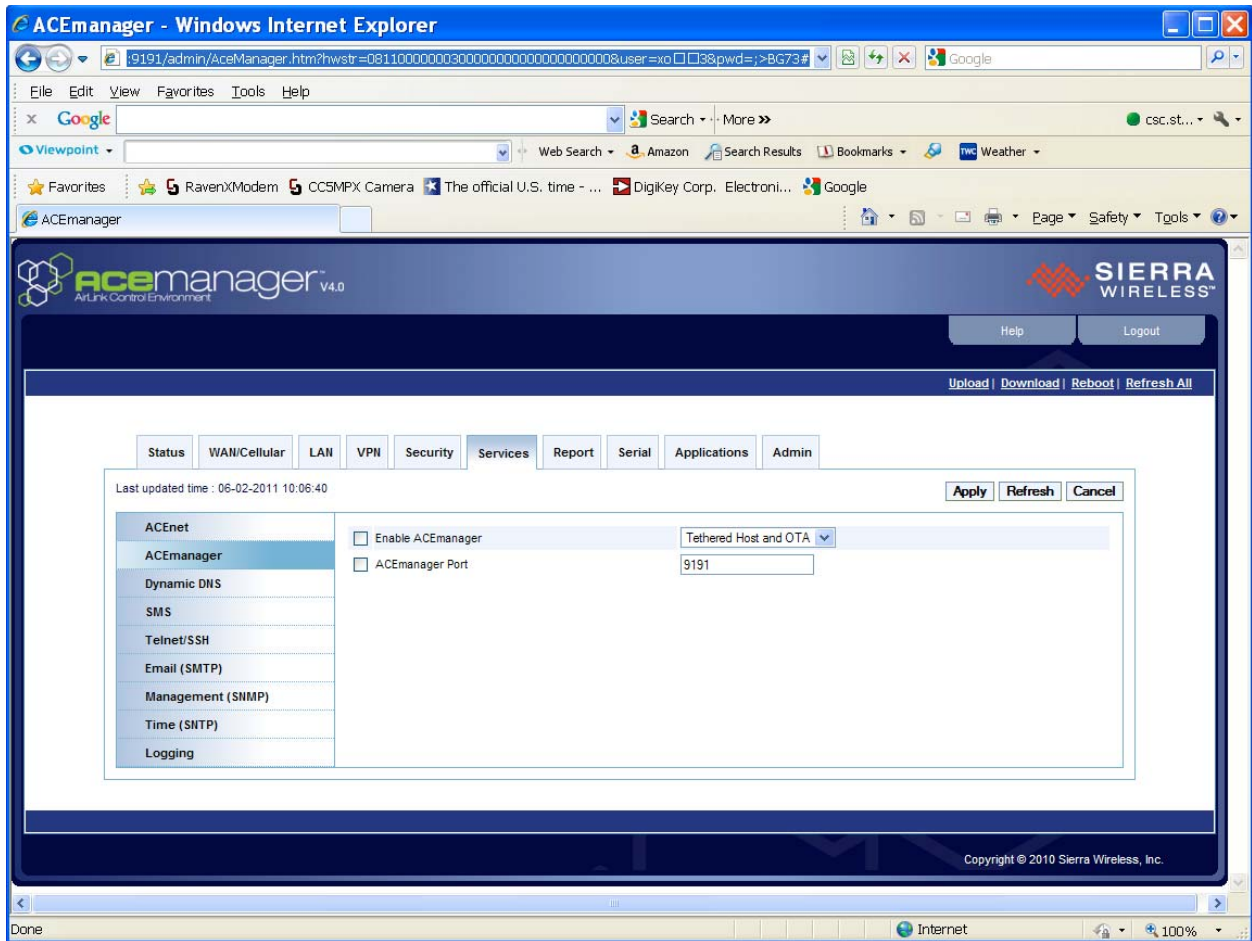


Figure 7 – AceManager Over the Air Configuration Page

If a datalogger is connected to the modem as well, then select the [Serial](#) settings tab and make the changes for Loggernet to communicate to the datalogger using the port 6785.

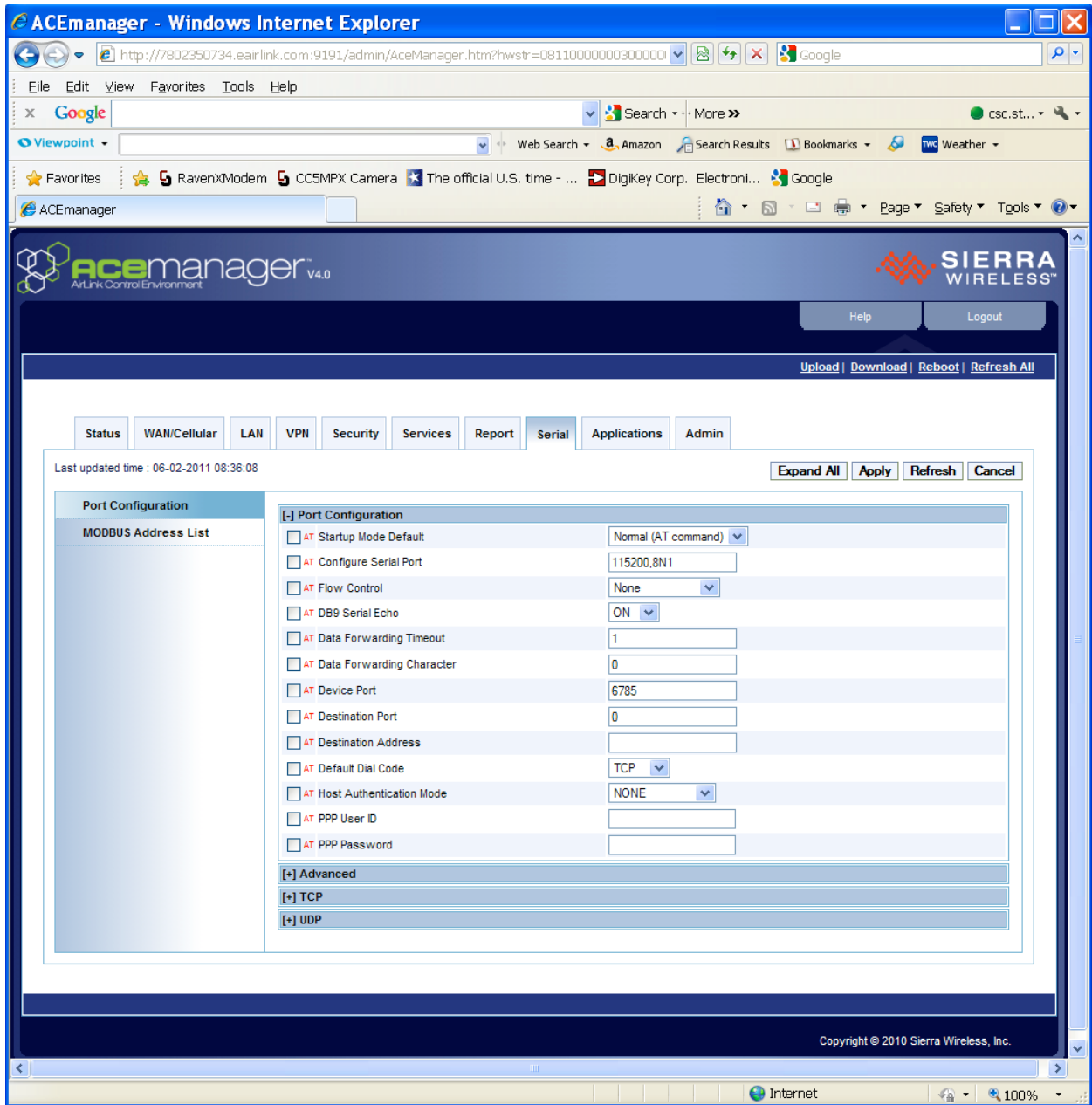


Figure 8 – Serial Port Configuration Page

## Setting up the CC5MPX camera

Select the Network settings tab for the CC5MPX camera. We recommend keeping the default IP address and changing the Netmask and the Default Gateway as shown. The example shows the primary name server that was provided by Bell and this should be confirmed from Bell. However, you may also use the name server recommended by your service provider.

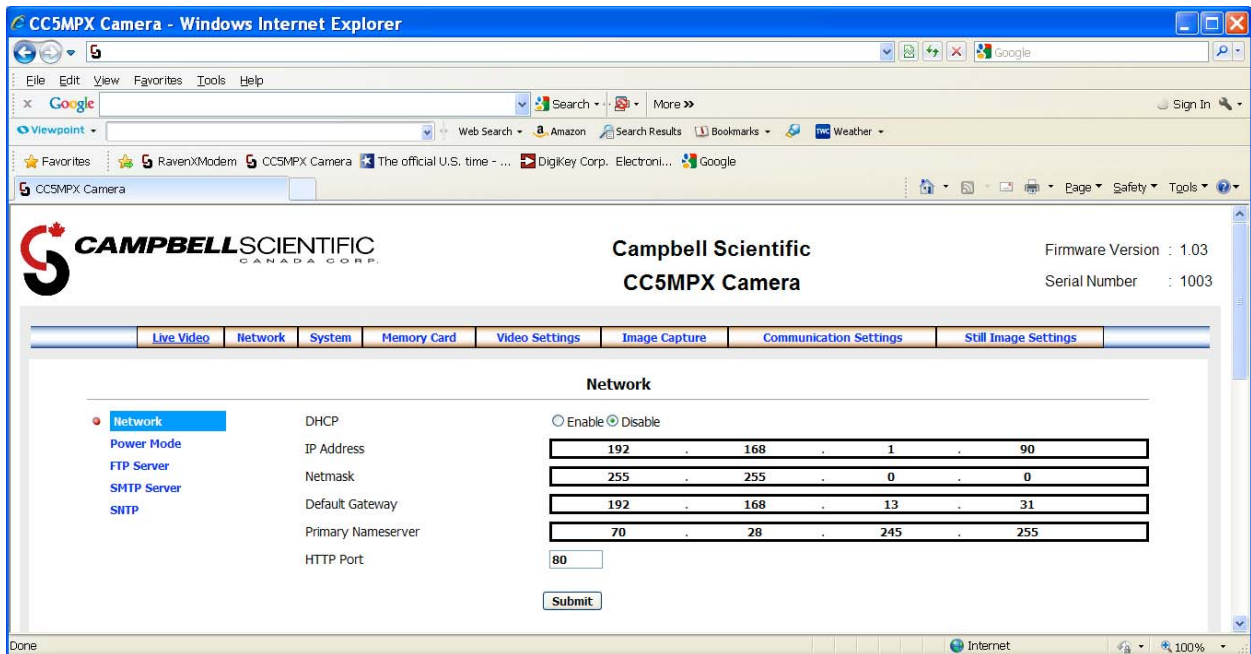


Figure 9 – CC5MPX Network Configuration Page

Once the above network settings are changed on the CC5MPX the camera can be connected to the RavenX. The camera can be accessed by typing the assigned name address to the modem. In most cases the address will be as follows:

55512345678.eairlink.com

Where 55512345678 is replaced by the actual phone number assigned to your modem by your service provider.

## EMAIL Setup

It is also possible to make use of bells email server to send emails out via the CC5MPX. An example setup is shown below.

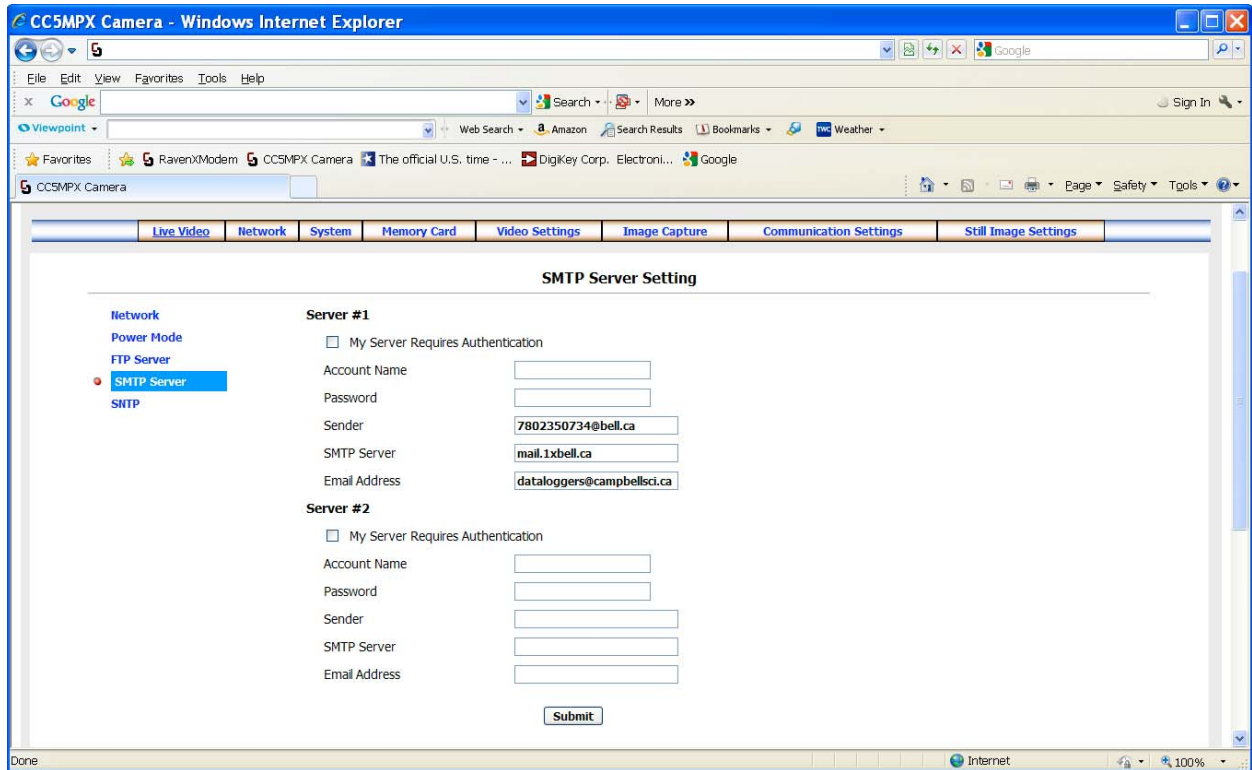


Figure 10 – SMTP Configuration Example

## Power Management

If your system is power constrained as can be the case with solar powered systems, then the CC5MPX can be setup to manage the power consumption.

The highest power savings can be achieved by having the camera control the power supplied to the RavenX modem in conjunction with using the camera in one of its low powered modes.

The following example shows how to setup a camera that will FTP images every 15 minutes while maintaining low power consumption for solar powered sites.

Access the CC5MPX Digital I/O settings menu that is located in the main System tab.

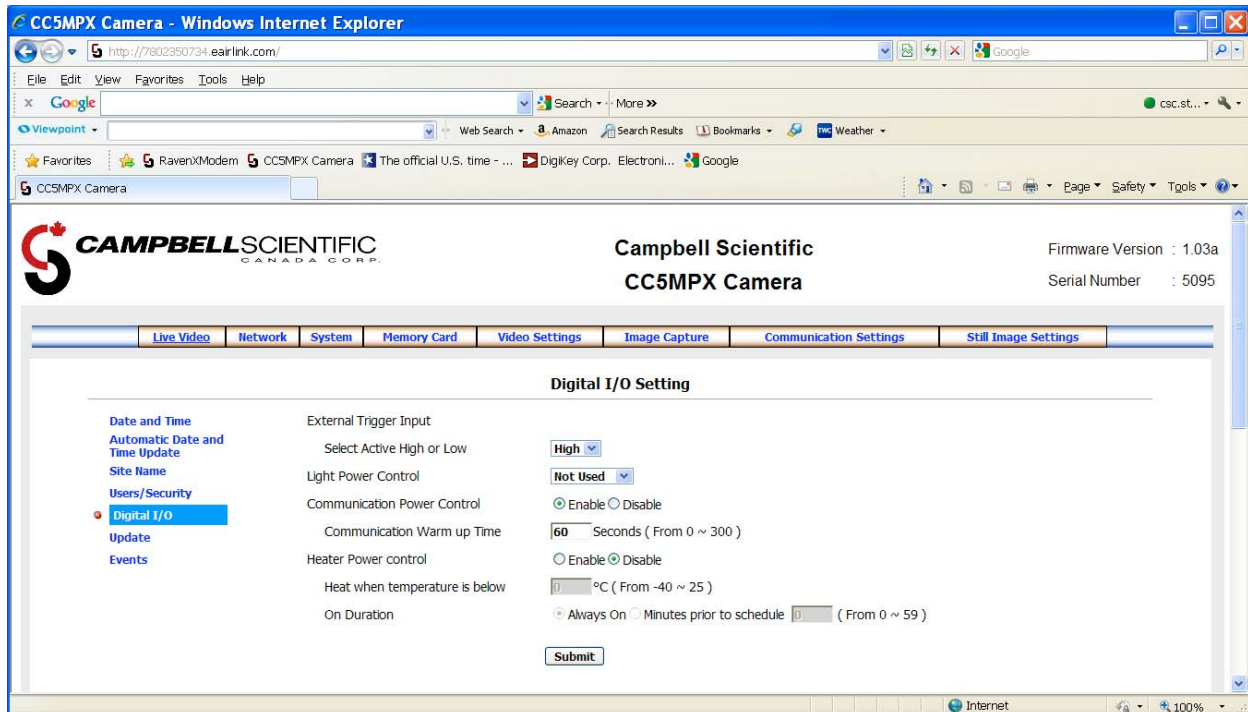


Figure 11 – CC5MPX Power Control Example

Enable the communication power control and set the Communication Warm up Time to 60 Seconds. A warm up time is required for the modem to register onto the data network. Preliminary testing indicates that 60 seconds provides sufficient time for the RavenX modem.

The CC5MPX camera switches the power on the Communication Power Control line when an EMAIL or an FTP file transfer is required. When one of the capture events is triggered that needs to send out an EMAIL or FTP transfer the power will be switch on to power up the modem, the camera will wait for the duration of the Communication Warm up Time and then it will attempt to send out the picture of video.

The following shows a CC5MPX that is setup with Self-timed Capture 1 to send out a still image using EMAIL every 15 minutes.

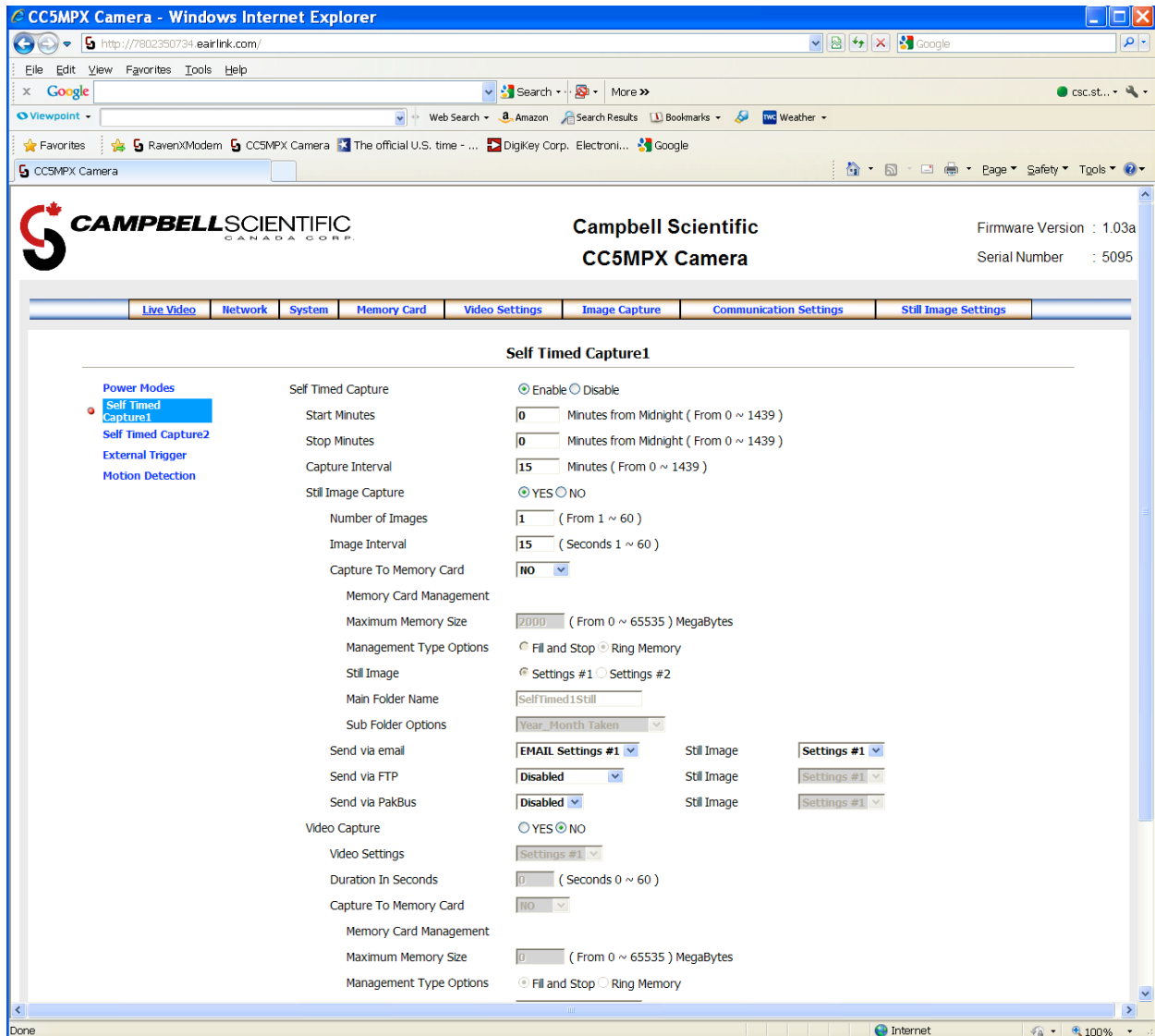


Figure 12 – Image Capture Configuration Example

## Setting up an optional Callback time window

When full power management is taken advantage of it will be difficult to initiate communications with the CC5MPX or RavenX Modem as the equipment is only on for short durations. To make a time window available to keep the equipment on for a longer duration one of the unused Self-timed captures can be used to keep the camera and Modem on for a longer duration.

This can be done by enabling a self-timed capture as shown in the following setup screen:

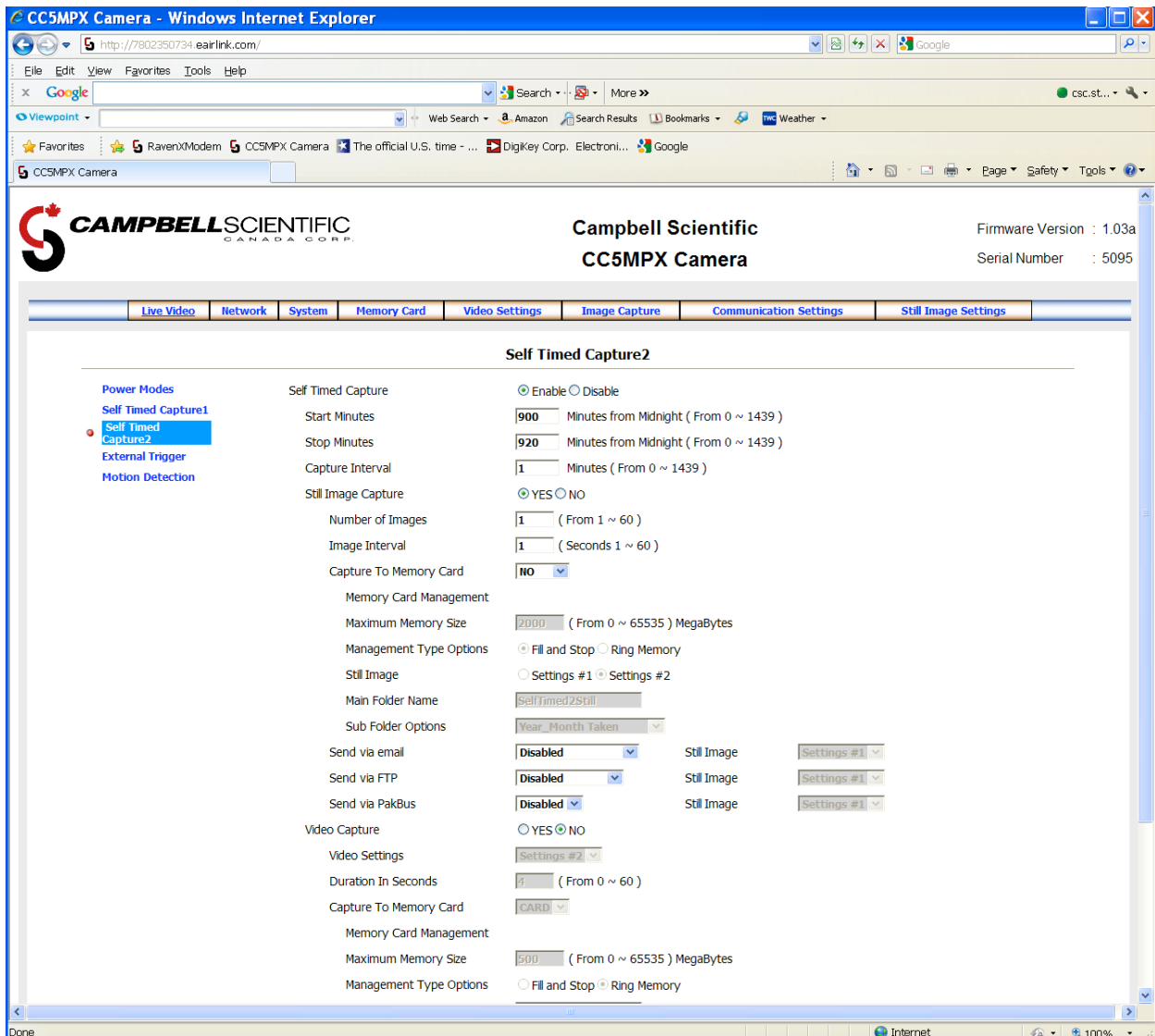


Figure 13 – Power Management Example

