SATEL

SATEL Configuration Manager

setup and configuration program

USER GUIDE
Version 3.5

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2   GENERAL

2.1   About SATEL Configuration Manager

SATEL Configuration Manager is a software for configuring and reprogramming a SATEL device. Please check the compatibility for your modem type from the table at SATEL web site:
https://www.satel.com/products/software/software-product-compatibility-table/

Minimum requirements:
SATEL Configuration Manager PC-program COM port with baud rate min. 9600 bps (alternatively with industrial level USB-RS adapter), recommended Win10 64-bit OS.

3   QUICK GUIDE TO START USING THE PROGRAM

### 3.1   QuickStart

Preliminary settings:

1. Save the **SATEL Configuration Manager, SATEL_Configuration_Manager.help** and the **SatelNMS.ID** to the same directory. If available, save also the Firmware to the same directory. The FW type is 3as-oemxx-xx-xx-xx-xx.*snn*.
FW file extension syntax is "snn", where numbers nn define the modem model/FW variant (e.g. "s18" for SATELLINE-EASy Pro 35W).

2. Connect the modem module to the PC using either direct serial interface cable or the special SATEL programming adapter.

3. Connect supply power to the module. Check that you have the correct supply voltage.

- Open the SATEL Configuration Manager program. Check from the "Program Preferences" tab, that you have selected correct COM-port number and that the Baud Rate, Stop Bits, Parity Bits and Data Bits are set according to radio port settings. Default settings of different radio models are mentioned in the products user manual. It is recommended to use 8 Data Bits, No Parity Bits None) and 1 Stop Bits for device connection as other values are not commonly tested.
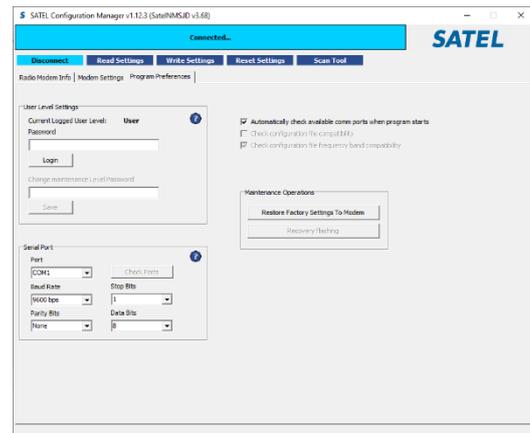
   Factory default settings for the SATELLINE-M3-TR1 module-based products: port 1 ON, 9600bps, 8N1. The SATELLINE-M3-TR1 based radio modems can be set to programming mode, HW PROG -state, where modem serial port settings are temporarily set to following settings: port 1 ON, 9600bps, 8, N, 1 (P2 OFF).

   Using evaluation kit for SATEL-TR -modules, service switch (connected to SATEL-TR module Service -pin) can be used to toggled to set the UART1 (TD1, RD1) into known state, 38400, 8, N, 1 (radio service pin pulled low). Many SATEL-TR -module-based products- such like SATEL-EASy+ support port parameters 38400, 8, N, 1 in HW PROG -state (P1 ON RS232, P2 ON RS232).

4. To establish connection between the modem and the PC, press the blue Connect tab. To get the radio modem info, press blue Read Settings tab. Now all the information from the modem is available.

5. Changed serial interface parameters are taken in use immediately.

Please note!
To get access to the Maintenance Settings, press the Program Preferences tab, type in the maintenance Password and press Login and OK. **Functionality is only for authorized dealer.**

4 MAIN LEVEL (User level)

4.1 Main Information Tabs

Connect/Disconnect, Read Settings, Write Settings, Reset Settings.

4.1.1 Connect/Disconnect

Opens and closes the connection between the modem and PC.
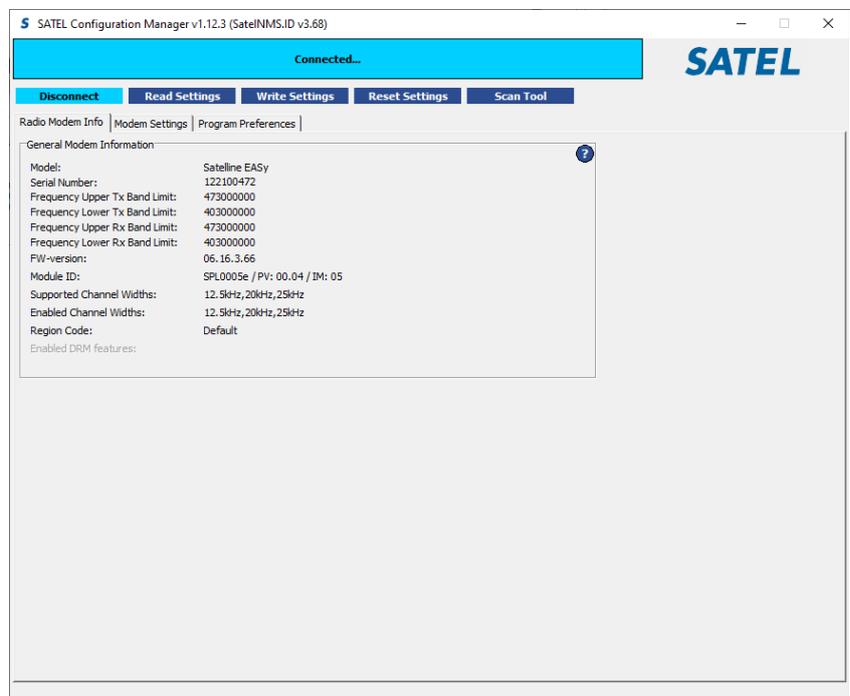
4.1.2 Read Settings

Loads settings from the modem.

4.1.3 Write Settings

Writes settings to the modem.
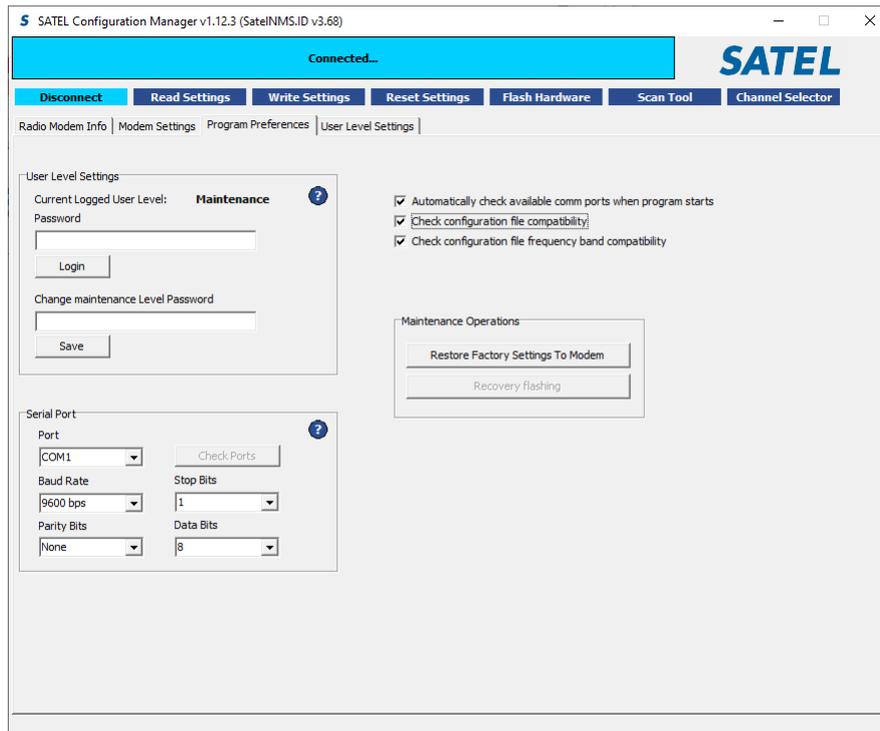
4.1.4 Reset Settings

Resets changes and retrieves settings to their value as loaded from the modem prior to saving.

5   MAINTENANCE LEVEL (for authorized dealer)

5.1   Flash Hardware and Channel Selector

Note! By default the Flash Hardware and Channel Selector are only available in maintenance level.


5.1.1   Flash Hardware

Writes new Firmware to the modem.

First four digits in the radio FW version name define the equivalency of the FW to the device:
SATELLINE_M3_TR1_fw_**06_16**_3_66 (device recognition, "16" = EASy / TR1).

To Flash the Firmware, establish the connection as described before.
To check the FW-version, open the "Radio Modem Info" tab and press "Read Settings"
To start flashing procedure, Press Flash Hardware and Press "Yes or No" accordingly.
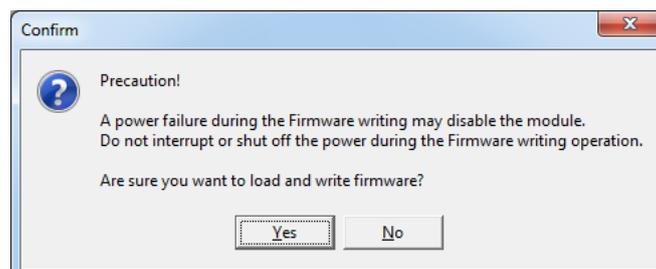
Select the program (3as-oemxx-xx-xx-xx-xx.syy). The flashing starts, when "Yes" is pressed.
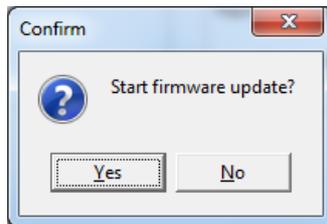
Wait a while, the flashing takes about 2.5 minutes.

PLEASE NOTE! Do not disconnect the supply power or interfere with the modem in any other way during the flashing procedure. Interferences may destroy the procedure and it may no longer be possible to flash the module again.

When the text: "Device programmed successfully…" appears, the flashing is finished and the module must be switched OFF and ON, before it is ready to use.
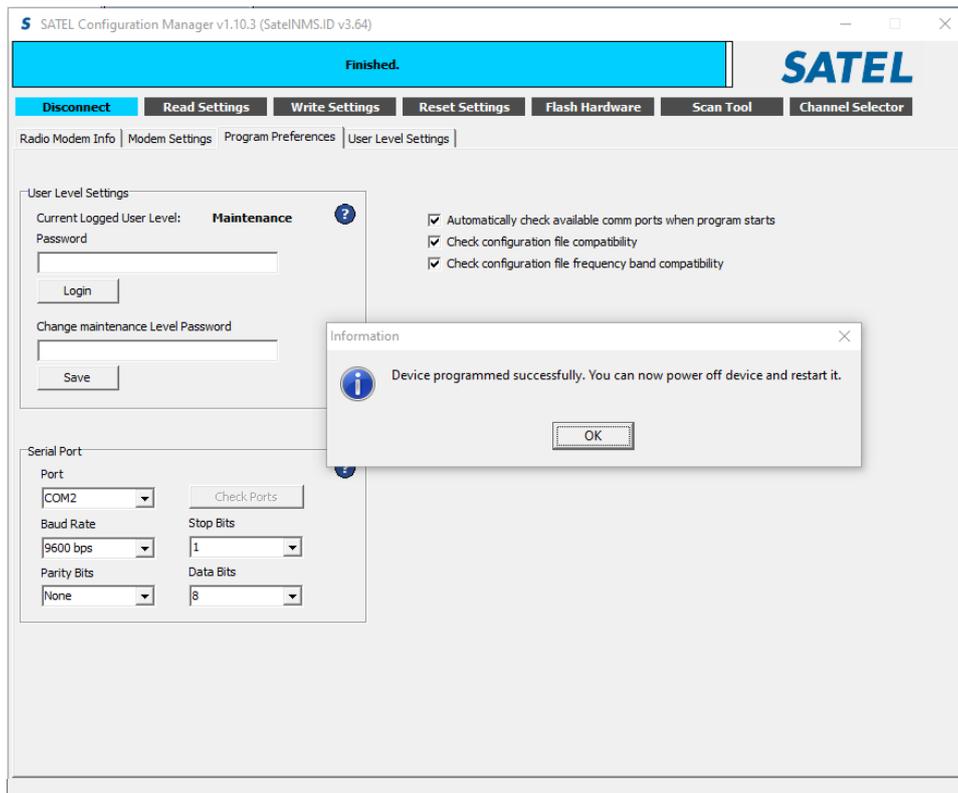
When this is done, press "Connect" (and "Read settings") to verify that the new FW has been downloaded.

After the device is programmed, you can always restore the factory settings if needed by pressing "Restore factory settings"-tab.

Note! It is not possible to update the SATELLINE radio modem to AES supporting firmware from standard firmware version in the field. This task can be executed only in SATEL service and will be changed according to service price list.

It is possible to set firmware version without the AES encryption support to a device which has firmware version with AES encryption support.
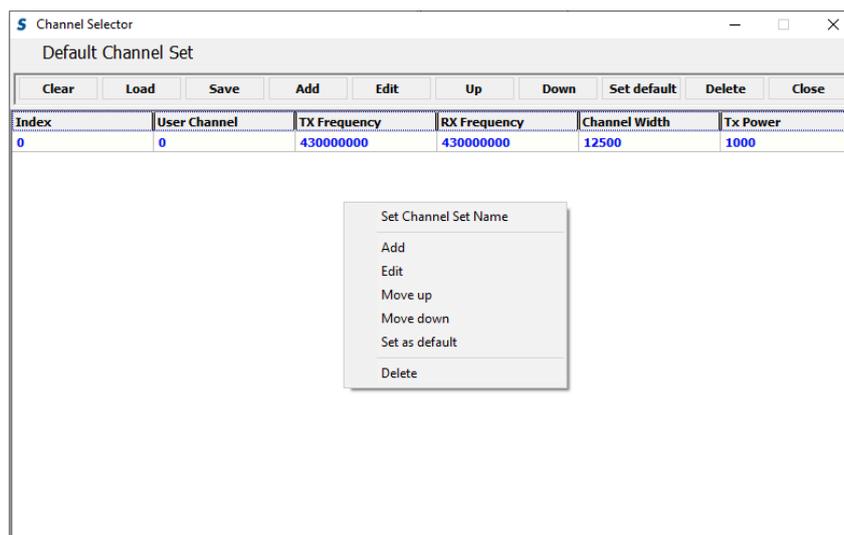
5.1.2 Channel Selector

Channel Selector is a tool to make a channel setup. The setup can be loaded to the modem's memory by clicking the "Write Settings"-tab.

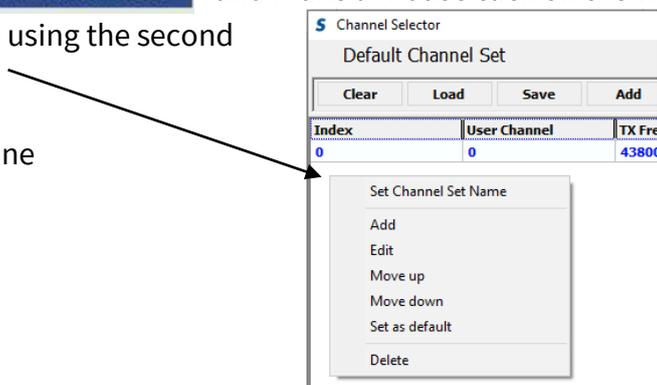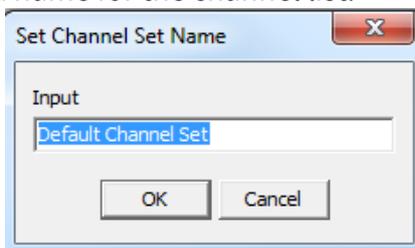**Options:**
Load, Save, Clear and Close.
Set Channel Name, New Channel, Edit Channel and Delete Channel.

How to make a new channel setup:

o Open the "Channel Selector" and make a mouse click on the white area of the Channel Selector window using the second button (usually "right click").

o Click Set Channel Set Name, and define a name for the channel list.

o Right click on the grey area, select Add and the following window opens.

| User Channel	= Any number given by the user or, for example, the SATEL distributor.
TX Frequency	= Transmitting frequency. Any given frequency which is available to the modem.
RX Frequency	= Receiving frequency. Any given frequency which is available to the modem.
Channel Width	= Selected Channel Width, usually given by authorities.
Channel TX Power	= Selected TX output power

The created frequency list will be displayed in red in the menu until the settings are written to the device with "Write Settings" button.
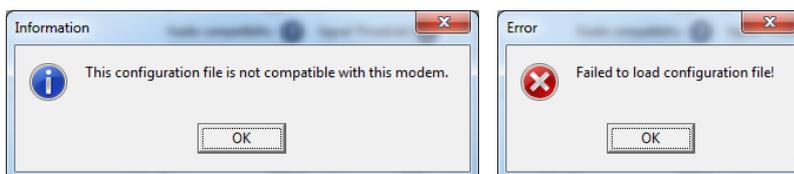
6 LOAD AND SAVE CONFIGURATIONS

6.1 Load Configuration From File

The configurations made by the Configuration Manager can be loaded from PC to the CM. Select "Load Configuration From File" and "Open" the desired .cfg -file. When done, all settings become red and the following info table opens. The settings are uploaded to the modem by pressing "Write Settings" tab.
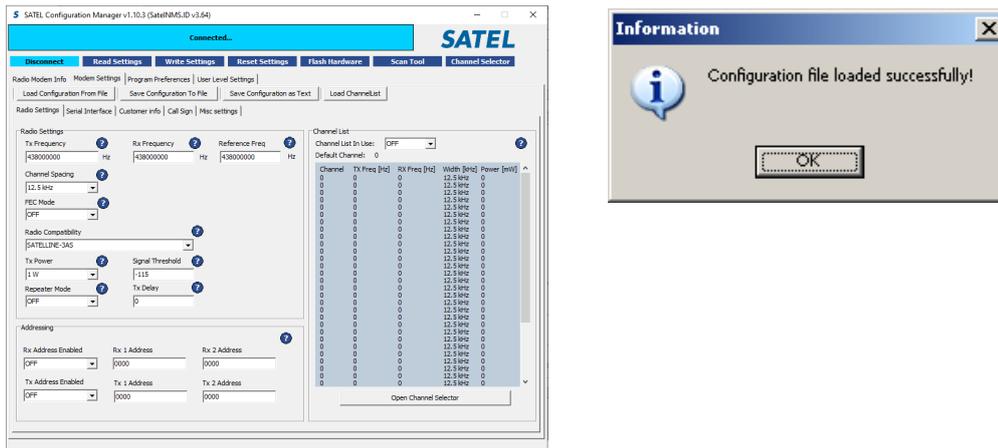
Note! By default, the "Check configuration file compatibility" setting is enabled in the SW settings, Program Preferences -tab. SW checks whether the .cfg file is compatible with exact device HW variant. In case the saved configuration file is needed to be imported to a device from example from a different manufacturing period, this selection needs to be unchecked.

In case HW difference between the devices in file import process, the following error messages are shown:

### 6.2 Save Configuration to File

All configurations made by the Configuration Manager can be saved to the PC. Saving is done by pressing "Save Configuration To File" and selecting the directory where the settings will be saved.

6.3 Save Configuration as Text

All configurations made by the Configuration Manager can be saved as a text-file to the PC. This feature makes it possible to use settings for other purposes, for example printing etc.

7   SETUP LEVEL

Radio Modem Info, Modem Settings, Program Preferences, User Level Settings.
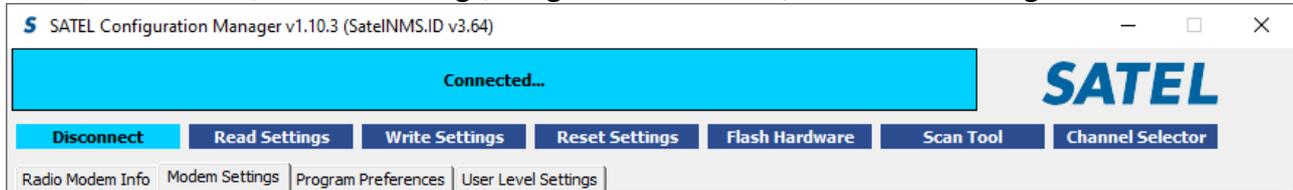
7.1   Radio Modem Info

Information about the model, serial number, frequency limits, Firmware version, and ID.

Module ID:
- SPL0005e → Support for PCC and TrimTalk® modulations
- available since serial number 1118xxxxx

7.2   Modem Settings

7.2.1   How to change values

1. Values without ▼-button (like RX Frequency). Type new value, when the value is changed, but not sent to the modem yet, the name of the box becomes red.
2. Values with ▼-button. Select new value from pull-down menu.
3. The changed values will be sent to the modem when **Write Settings** is pressed.
4. When the radio modem has accepted the changes the red colour changes back to normal.
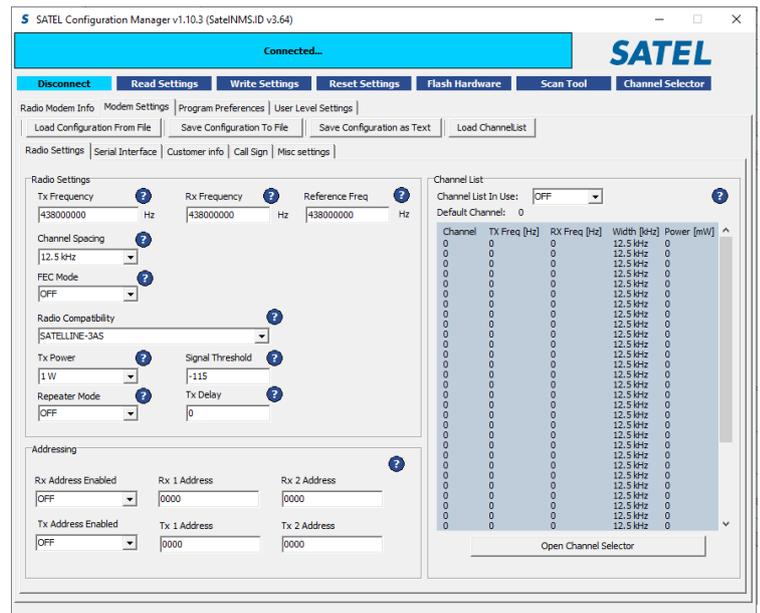
7.2.2 Radio Settings

Radio Settings

Options:

TX Frequency, RX Frequency, Reference Frequency, Channel Spacing, FEC Mode, Radio Compatibility, TX Power, Signal Threshold, Repeater mode, TX Delay.

Addressing

Options:

RX Addressing, TX Addressing.

RX/TX Address Enabled ON/OFF

RX/TX 1 Address, RX/TX 2 Address.

Addresses can be used to route a data message to the desired destination or to separate two parallel networks from each other.

The radio modem contains one transmission and one reception address, which is known as the primary address. This primary address is used whenever data from the serial interface is transmitted. At the receiving end, the radio modem will receive using this address. The ports are functioning according to the device hardware recognition.

Channel List (accessing needs maintenance level password)

Options:

Channel list in use: ON/OFF

Channel, Frequency, Channel Width, Power
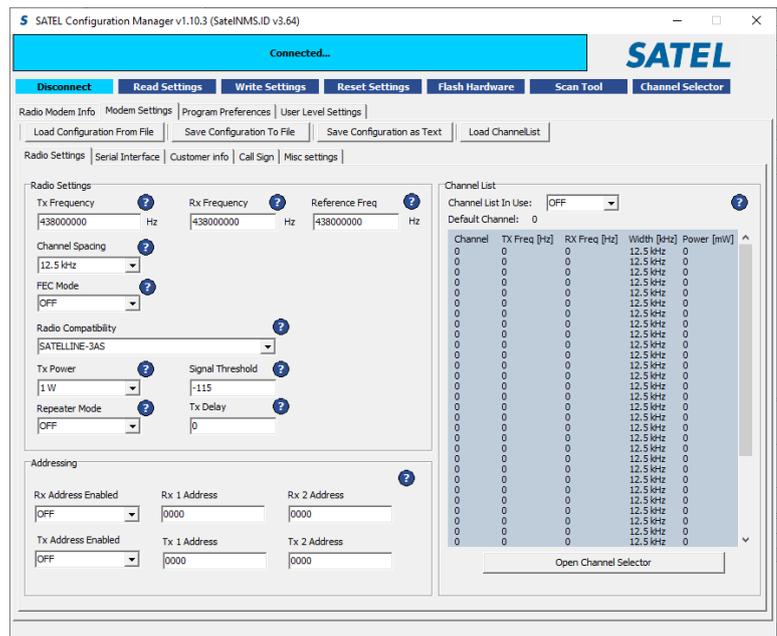
7.2.3 Serial Interface

The alternatives are:

One port:
- o Port 2 grey or invisible.

Two ports:
- o When one is set ON the other goes OFF.

Port 1
Options:
Function, Baud Rate, Data Bits, Parity Bits, Stop Bits, Pause Length, Wait For Pause
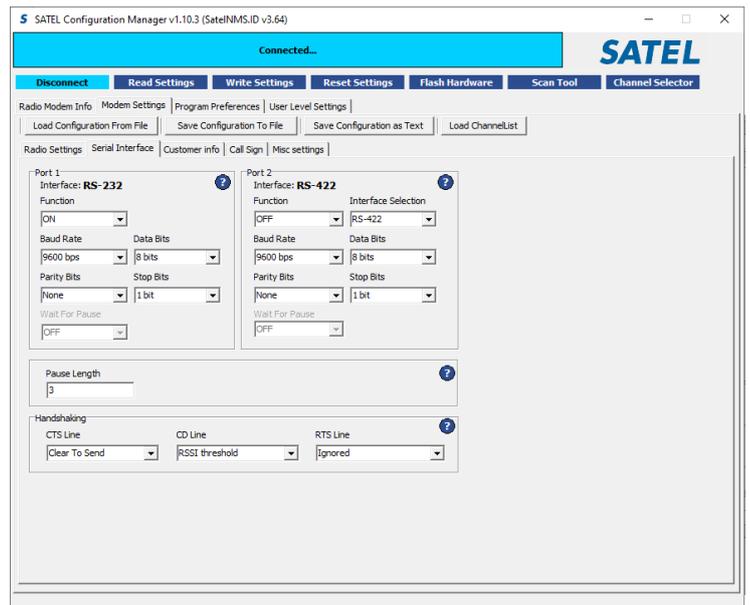
Port 2
Options:
Function, Interface Selection, Baud Rate, Data Bits, Parity Bits, Stop Bits, Pause Length, Wait For Pause

Handshaking
Options:
CTS Line, CD Line, RTS Line.

7.2.4 Customer info (accessing needs maintenance level password)

Options:
Customer Serial Number,
Configuration Number,
Model

Customer Serial Number
Any number that can be set by the author. The maximum number is 32 alphanumeric characters.
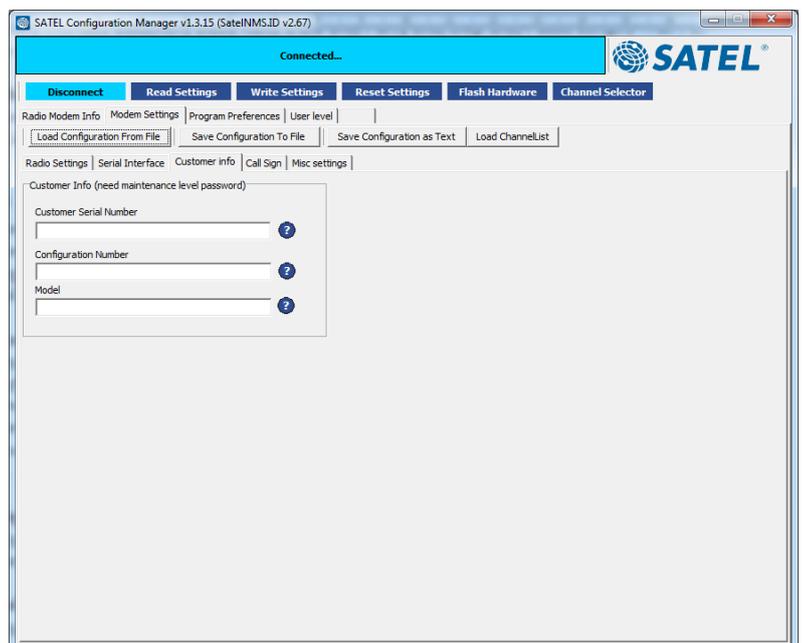The number is accepted by Enter.

Configuration Number
Any number that can be set by the author. The maximum number is 32 alphanumeric characters. The number is accepted by Enter.

Model
Any number that can be set by the author. The maximum number is 32 alphanumeric characters. The number is accepted by Enter.
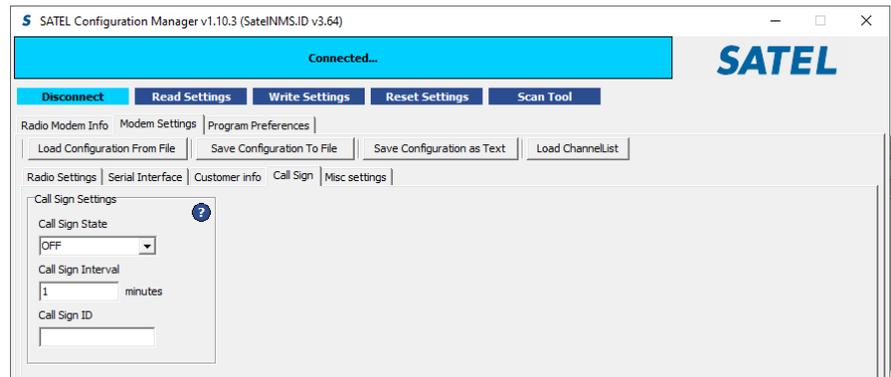
7.2.5   Call sign

Options:
Call sign state, ON/OFF
Call sign Interval
Call sign messages

Call sign feature is used in US.

7.2.6   Misc settings

Contents depends of the used radio model. Accessing most settings in this tab requires
Maintenance level password

Options:
- LCD Mode
- Add RSSI to data
- SL Command mode
- Error Check mode
- Radio Priority mode
- Power Save mode
- Enabled Radio States

Tests
- Short block test
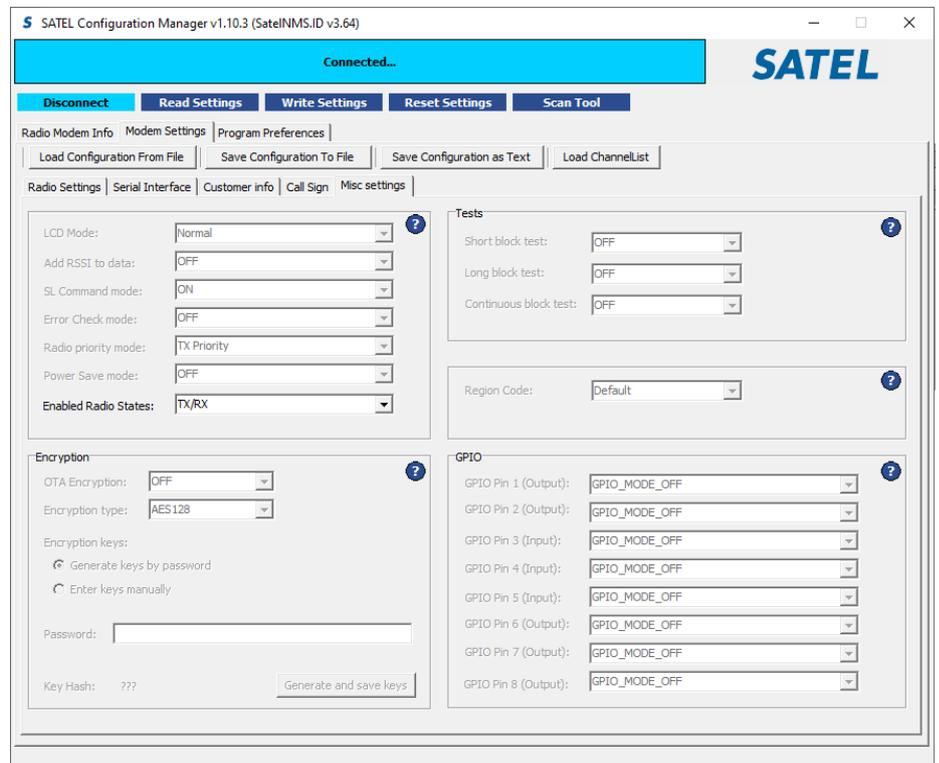- Long block test

Region code
- Default
- US
- RU
- Japan
- South Korea
- EU
- New Zealand
- Australia

Encryption
- Generate keys by password
- Enter keys manually

GPIO
Please contact SATEL for further details.

7.3   Program Preferences

Options:
User Level Settings,
Serial Port.

The user levels are:
Maintenance / User (default).
1. The maintenance level password is given to authorized dealers only.
It allows the user to access to all functions of the software.
2. The Maintenance level password gives access to functions that are defined by the "User Level".
3. When no password is given the user has access to the standard features.
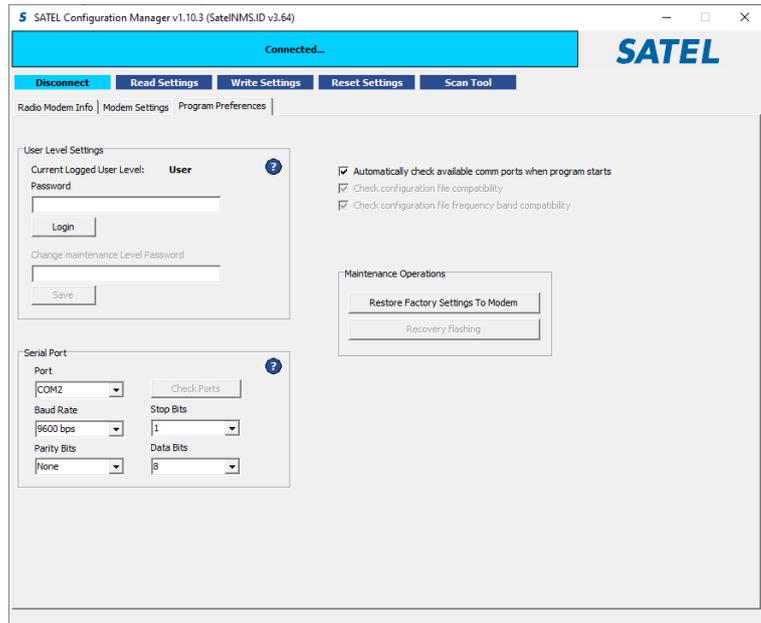
Type in the correct password xxxxxxxx (by e-mail from SATEL Oy) and press Login. Change and save if needed.

Port
Defines settings for the PC's serial port communication.

Check Ports
Will automatically check available (free) serial ports of the PC. Press Check Ports and select free port. Note that if this program uses the port, it is already reserved and will not be shown anymore as a free port.

Automatically check available COM ports when program starts
Default: enabled. When enabled, SW checks the available ports in start. In all cases, user can manually update the available port list by pressing "Check ports" to update the current situation during operation

Check configuration file compatibility
Default: enabled. When enabled, SW checks whether the .cfg file is compatible with exact device HW variant. In case the saved configuration file is needed to be imported to a device from example from a different manufacturing period, this selection needs to be unchecked.

In case HW difference between the devices in file import process, the following error messages are shown:
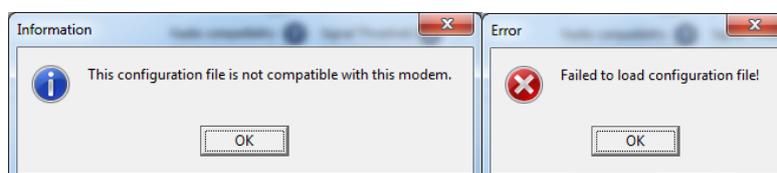
Check configuration file frequency band compatibility
Default: enabled. Must be left enabled. Reserved for special cases with SATEL multiband products. Compares the frequency band from the file and current frequency band value in the device before file actions

Restore Factory Settings To Modem
Restores the settings as they were originally set at the factory.

Note! Changes made in this page come effective immediately.

7.4 User Level settings

Options:
Description, User Level, Visibility, Status, Edited Item.
These settings are used to select which item can be seen or used on the main menu window.

If a "higher level" user, like Factory Level, has made changes, the "lower level" user cannot change it.

Select an item from the "Description" and make changes according to your choice. To make changes valid, press "Apply".
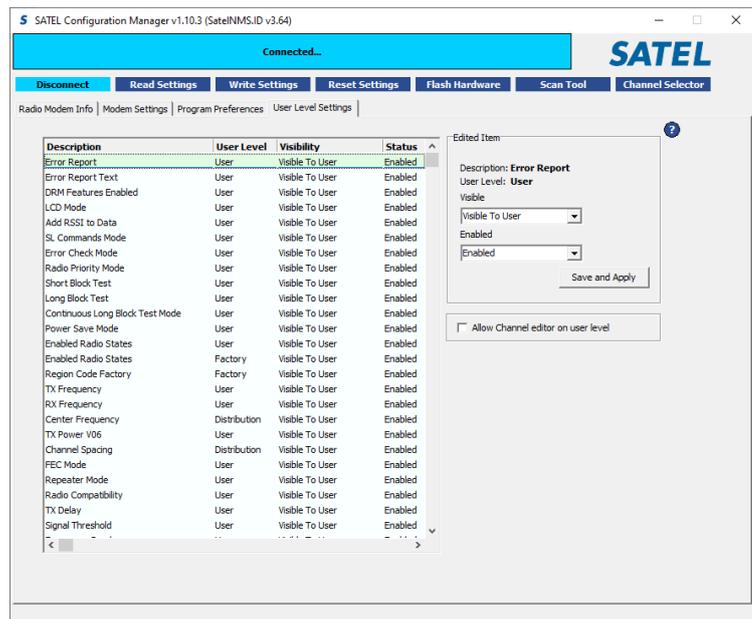
Description = Defines how the item is seen in the window
User Level   = Defines the level at which individuals have rights to control the item
Visibility   = Defines if the item is visible for the user or not
Status   = Defines if the item can be used by the user or not

Visible
The item can be either visible or hidden from the user.

Enabled
The item can be either disabled or enabled from the user.

Allow Channel editor on user level
Regular user can access to Channel List Editor, when this is selected.