Quick User Guide

SPECTRE Industry (SMI) – SPECTRE Extrem (SME)

www.stid-industry.com

CONTENTS

Factory settings

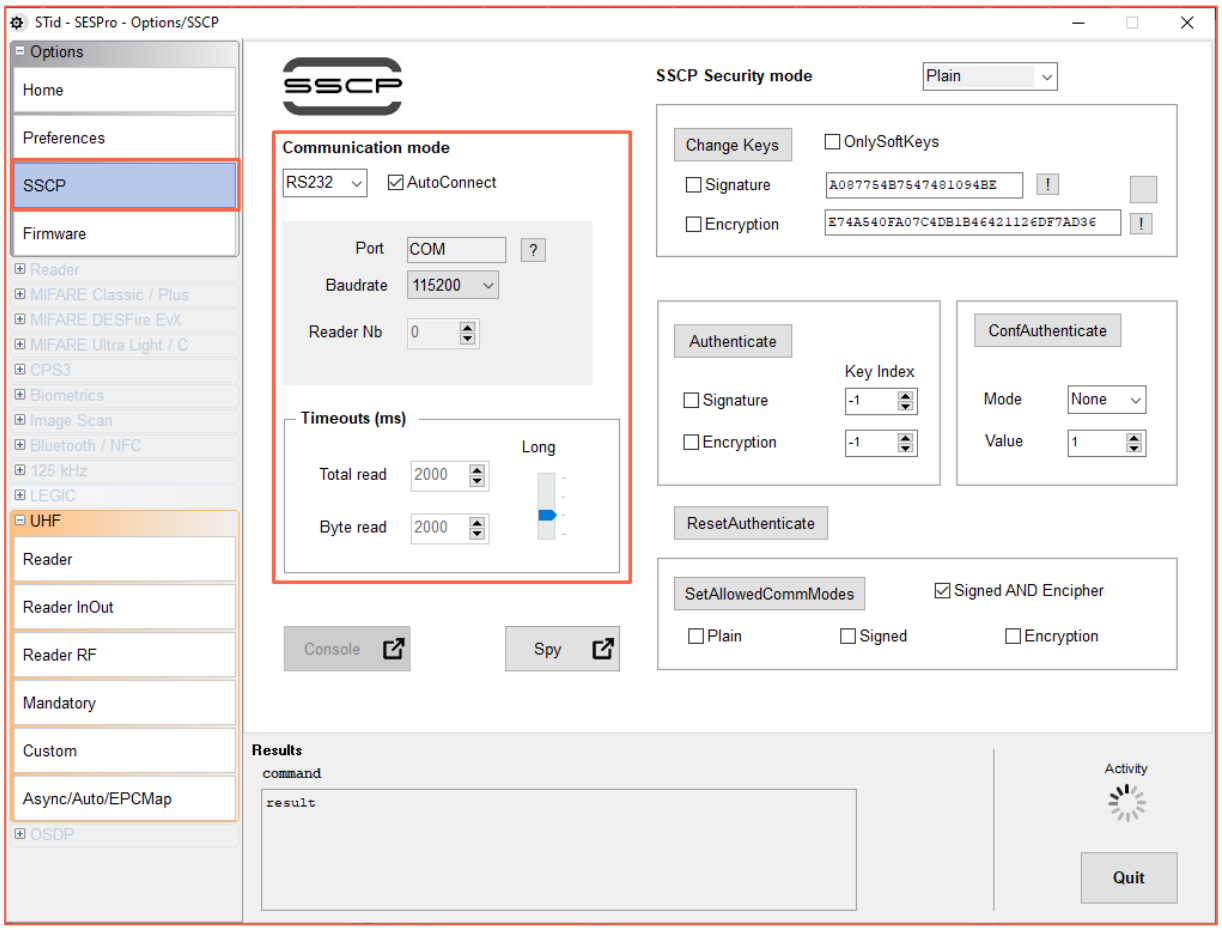
		SMI	SME
Communication mode		Ethernet	RS232 or Ethernet
Baud rate		115200	115200
RS485 address		*0*	
Hardware configuration of the outputs (OutputConf)		Output type ◉ V+ ○ OC	
Status of the outputs (OutputConf)		State ◉ Closed ○ Opened	
Autonomous_Output		Autonomous_Output ☐ NoLeadingZeros ☑ ASCII ☐ CR/LF ☐ STX+ETX ☐ LRC ☐ AntID EPC output: ◉ MSB ○ LSB EPC format: ◉ Hexadecimal ○ Decimal Output Len 12 ☑ EPC ☐ TID len 1 word	
RF settings	Upper-band	A: 0 ScanDuration x10ms: 20 Power: 263 Antenna: 1	
	Lower-band	A: 0 ScanDuration x10ms: 20 Power: 268 Antenna: 1	

Changing the communication mode

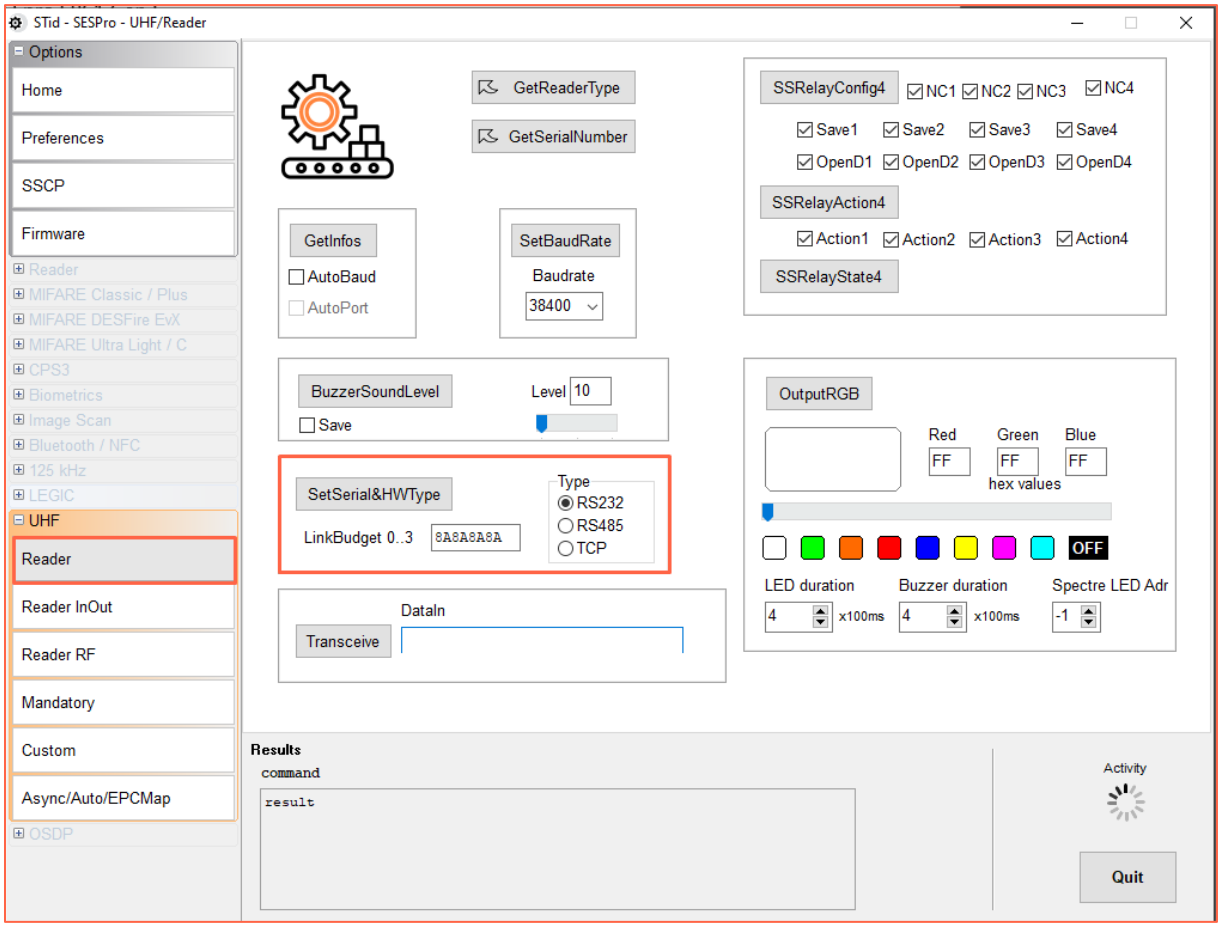
1- Connect the reader with the internal USB-C connector.

2- Open STid - SESProUHF. (v 1.0.0.847 or higher).

3- On the “SSCP” tab, enter the following settings and the number of the communication port to which the reader is connected:



4- On the “Reader” tab, enter “LinkBudget 0...3”: 8A8A8A8A (for SMx)
- Select the required type of communication: RS232 or RS485 or TCP.
- Click “SetSerial&HWType”.
- Check that the command has been executed in the “Results” window, which displays OK.

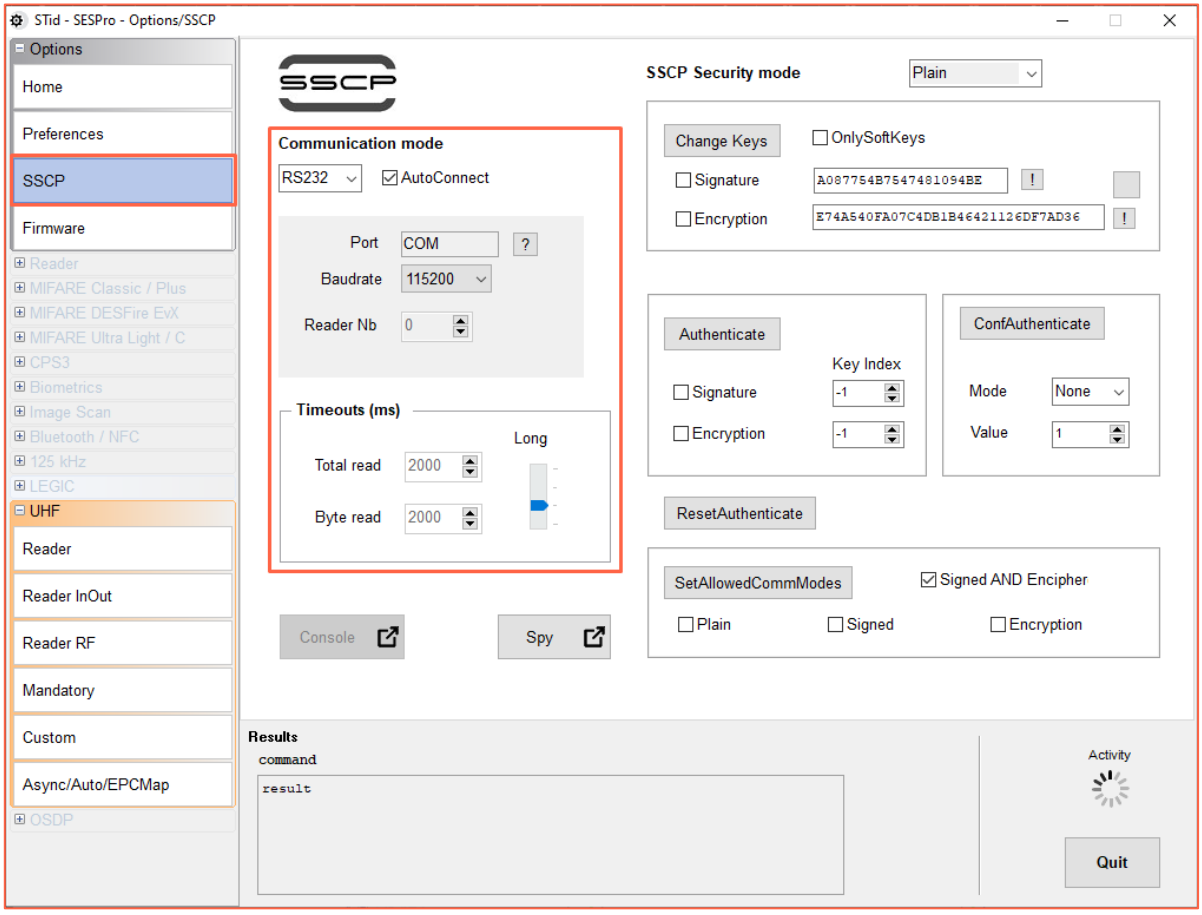


Changing the regulation

1- Connect the reader with the internal USB-C connector.

2- Open STid - SESProUHF.

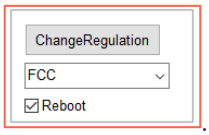
3- On the “SSCP” tab, enter the following settings and the number of the communication port to which the reader is connected:



4- On the “Reader RF” tab, select the required regulation according to the table below:

Reader reference	Authorized / accepted regulation
SMI/SME-W**5**x (Upper-band)	FCC Australia New Zealand
SMI/SME-W**4**x (Lower-band)	ETSI- Lower-band Morocco

A Lower-band reader will refuse the FCC/Australia/New Zealand regulations.
An Upper-band reader will refuse the ETSI-Lower-band / Morocco regulations.

5- Tick the “Reboot” box 

.

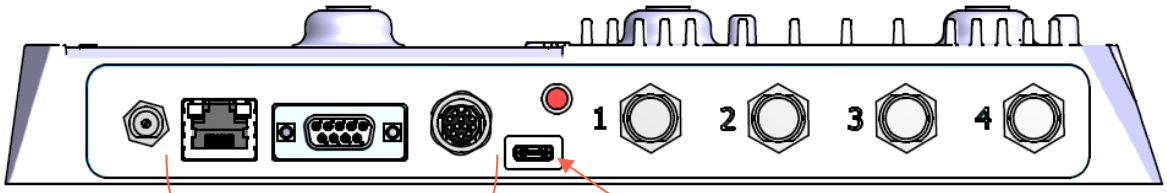
6- Click “ChangeRegulation”.

Note: The reader must be restarted to apply changes to the regulation.
This command must only be used to adjust the regulation of the reader to the regulation in force in the country of use.

The “Custom” setting must only be used with the prior agreement/support of STid. Otherwise, deterioration or malfunctions may occur, or the emissions may not comply with the regulation in force.
The agreement/support of STid for the definition of the “Custom” regulation settings does not relieve the user of its obligation to check the technical and administrative compliance with the regulation of the territory where the product is used.

Operating modes

SMI



TCP / RS232 / RS485

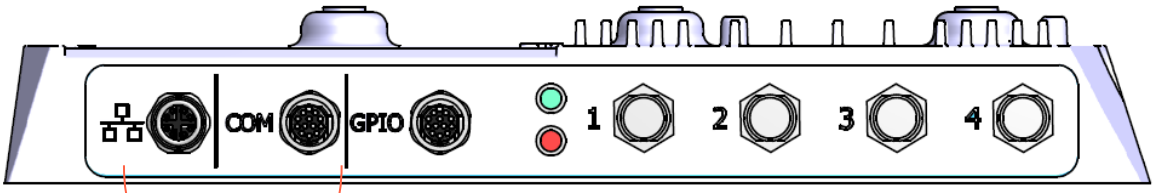
Operation according to the SSCP protocol

(SSCP_UHF_INDUS_US_Vxx)

USB-C

Keyboard emulation operation

SME



TCP / RS232 / RS485

Operation according to the SSCP protocol

(SSCP_UHF_INDUS_US_Vxx)

TCP operation with Switch POE+

Refer to the specifications of the *SSCP_UHF_INDUS_US_Vxx* protocol for the commands.

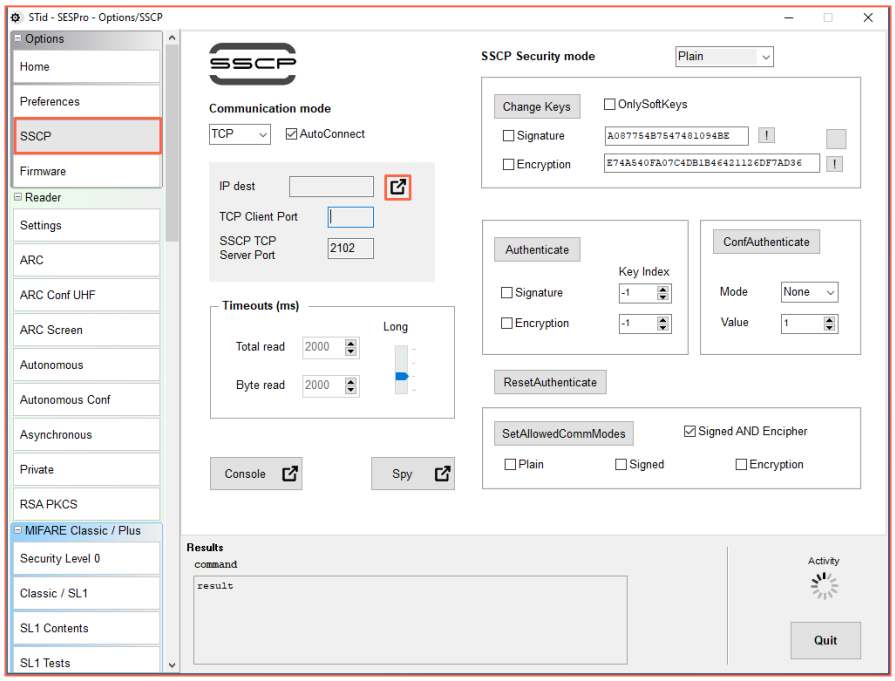
Reader connection

Connect the reader to the Swith POE + (Use a PSE (Power Sourcing Equipment) compatible with the IEEE 802.3at. 2009 standard.)

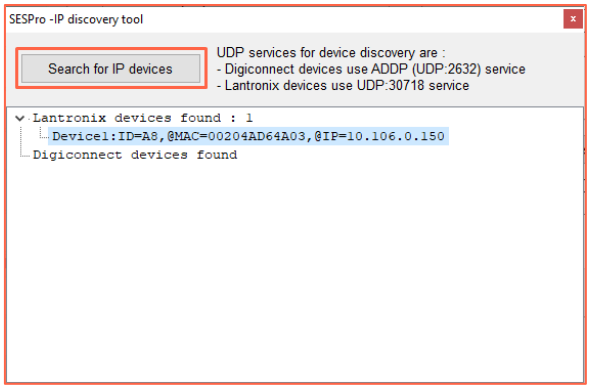
Searching for the IP address of the reader

1- Open STid - SESProUHF.

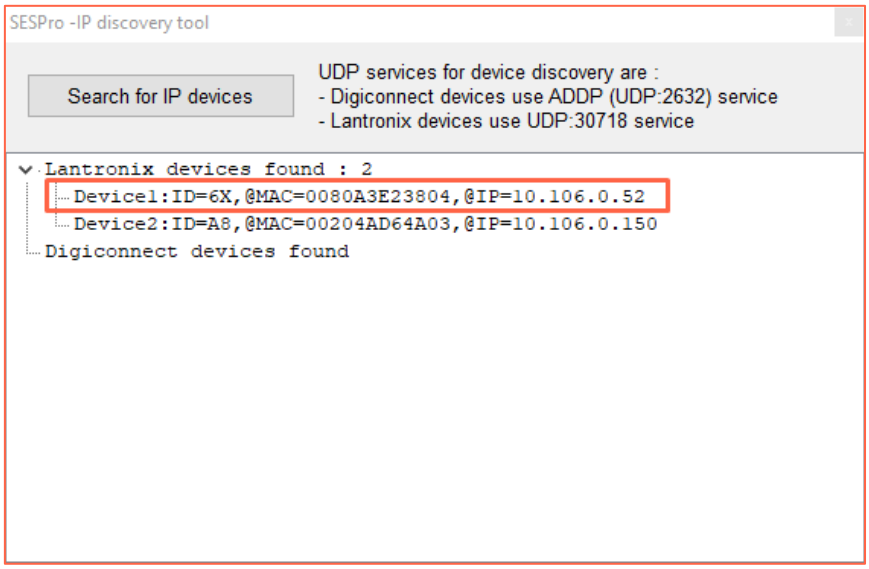
2- On the “SSCP” tab, click .



3- The window below opens. Click “Search for IP devices” to detect the reader.



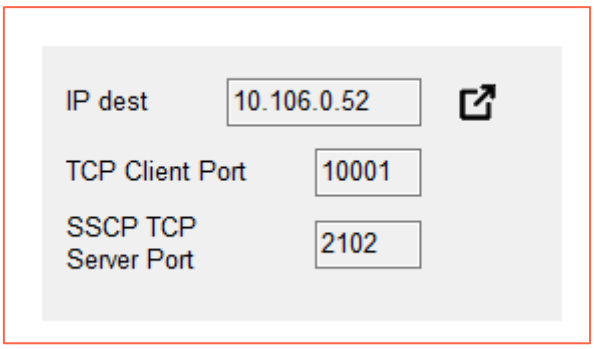
4- The list of detected readers appears.



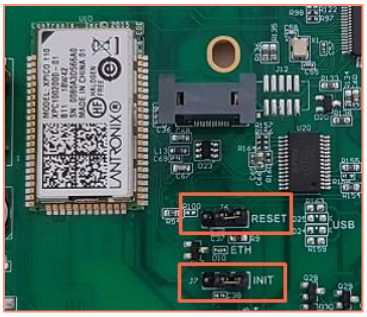
Note: if no devices appear, refer to “Reset and reconfiguration of the Ethernet module” section.

5- Check that the MAC address matches the address of the connected module.

6- Enter the IP address retrieved above in SESProUHF. Enter “10001” in the “TCP Client Port” field.



Reset and reconfiguration of the Ethernet module



1- Put the J7-INIT jumper in the 1-2 position, then put the J6-RESET jumper in the 1-2 position.

2- Return the J6-RESET jumper to the initial 2-3 position.

The orange Ethernet LED flashes once a second (500ms ON / 500MS OFF). Wait for 5 seconds.

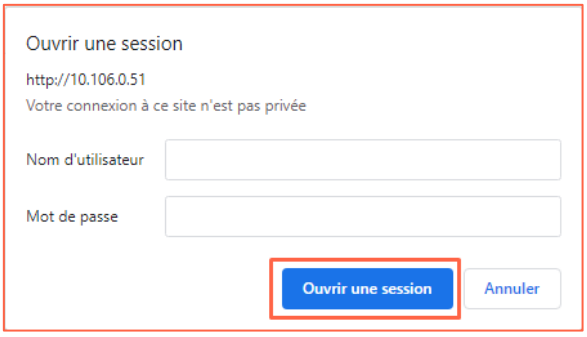
3- Return the J7-INIT jumper to the initial 2-3 position.

The orange Ethernet LED flashes. As soon as it remains permanently on, the module has been reset.

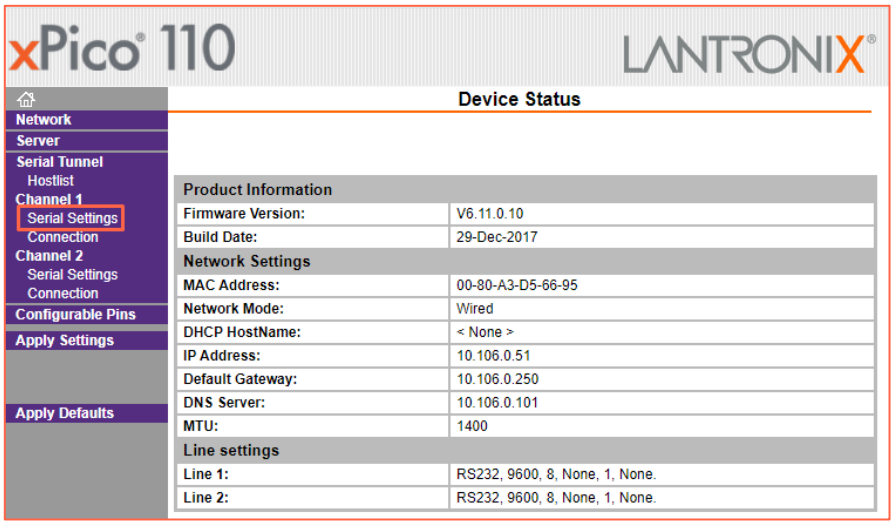
4- Repeat steps 1, 2 and 3.

5- Double-click on the device.

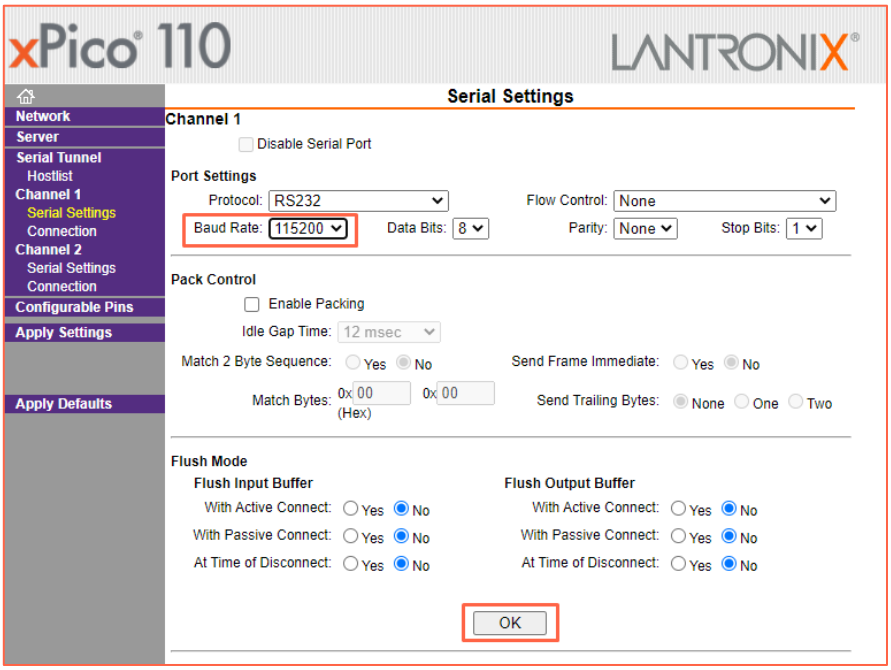
6- The window below opens. Click “Open a session”.



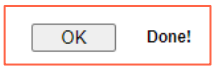
7- Go to “Channel 1 / Serial settings”.



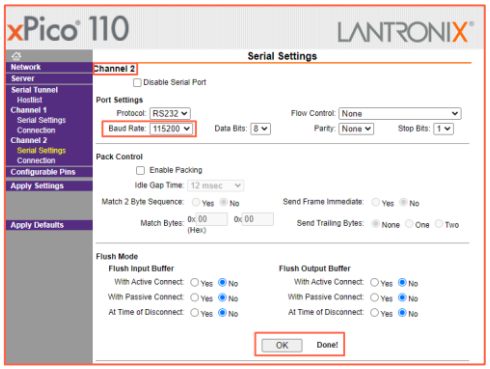
8- Change the baud rate to 115200 and click “OK”.



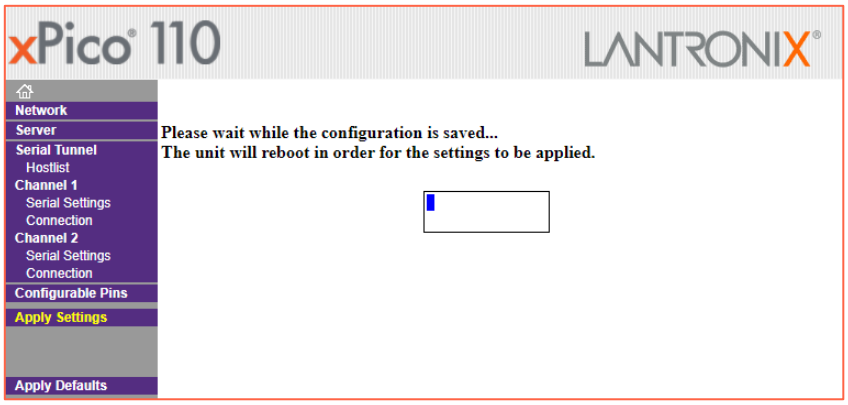
“Done!” appears to the right of “OK”.



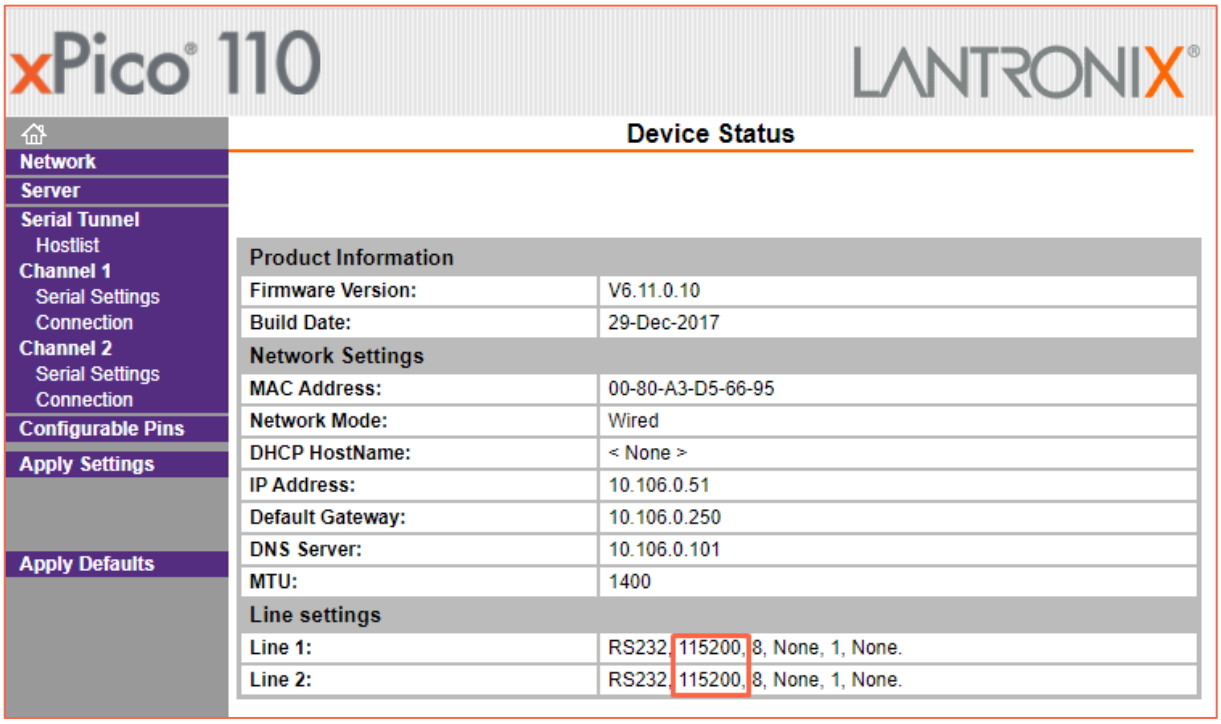
9- Go to “Channel 2 / Serial settings” and repeat the same operation.



10- Click “Apply Settings”.

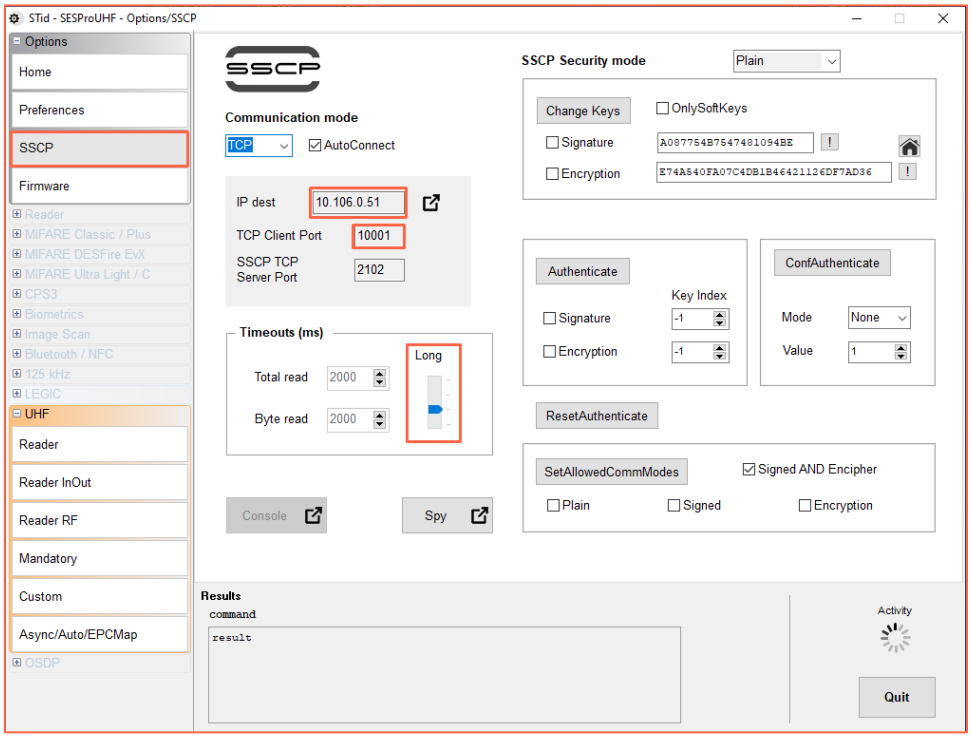


11- Check that the baud rates are 115200.

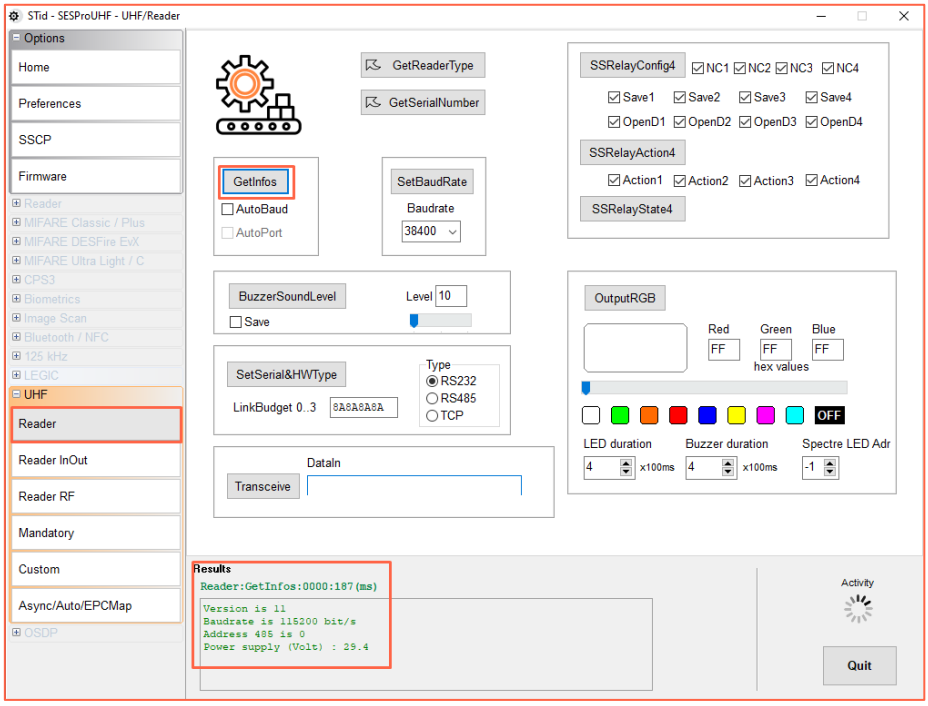


Communication test

In STid - SESProUHF, enter the IP address, enter “10001” in “TCP Client Port” and set the Timeout to “Long”.



Run a “GetInfos” in the “Reader” tab. The response from the reader appears in the “Results” window.



TCP operation: direct connection to the PC (without Switch / test mode)

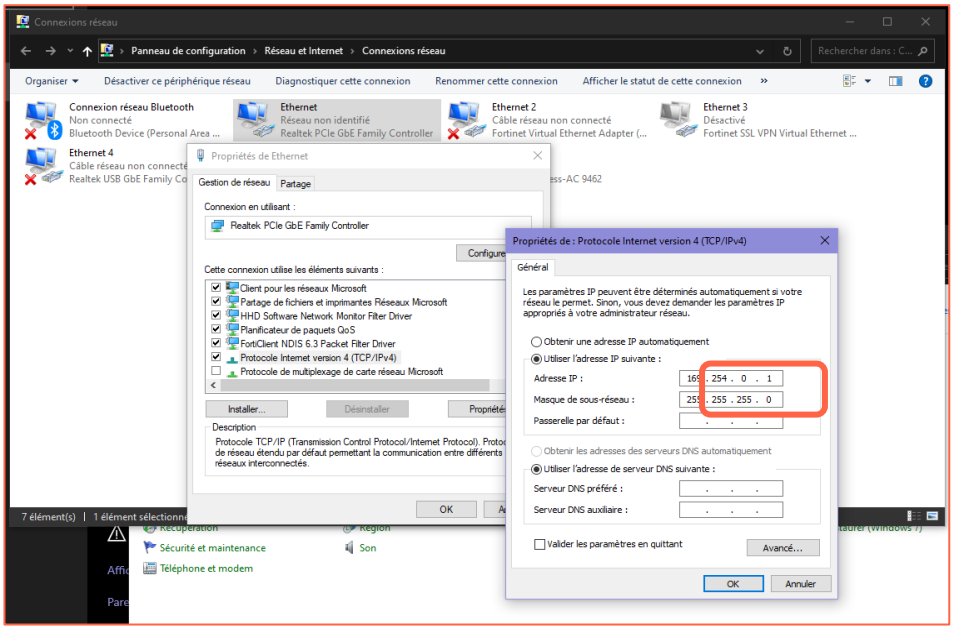
Refer to the specifications of the *SSCP_UHF_INDUS_US_Vxx* protocol for the commands.

Reader connection

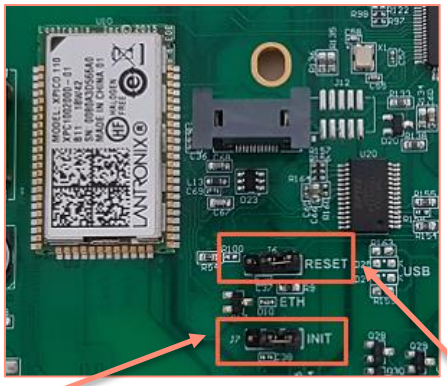
- Power the reader via Power jack
- Connect the reader via TCP-IP to the computer

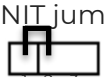
Computer network settings

Change the network settings of the computer so that it can communicate on the Lantronix module's default IP address which is 169.254.X.X



RESET of the Ethernet module



1- Put the J7-INIT jumper in the 1-2 position, then put the J6-RESET jumper in the 1-2 position. 

2- Return the J6-RESET jumper to the initial 2-3 position. 

The orange Ethernet LED flashes once a second (500ms ON / 500MS OFF). Wait for 5 seconds.

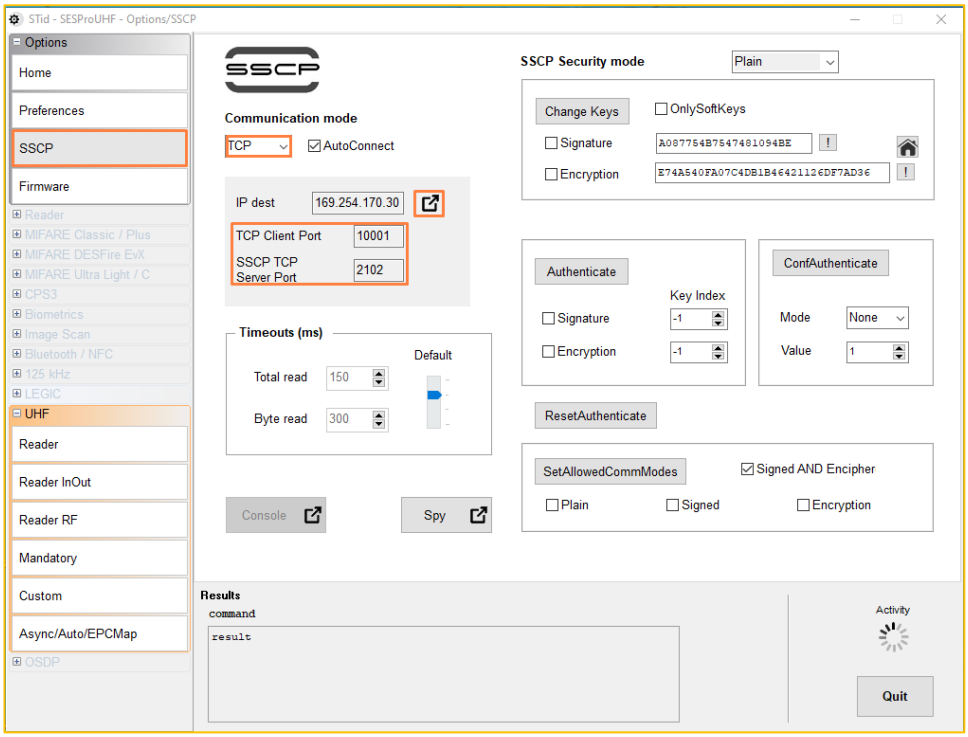
3- Return the J7-INIT jumper to the initial 2-3 position. 

The orange Ethernet LED flashes. As soon as it remains permanently on, the module has been reset.

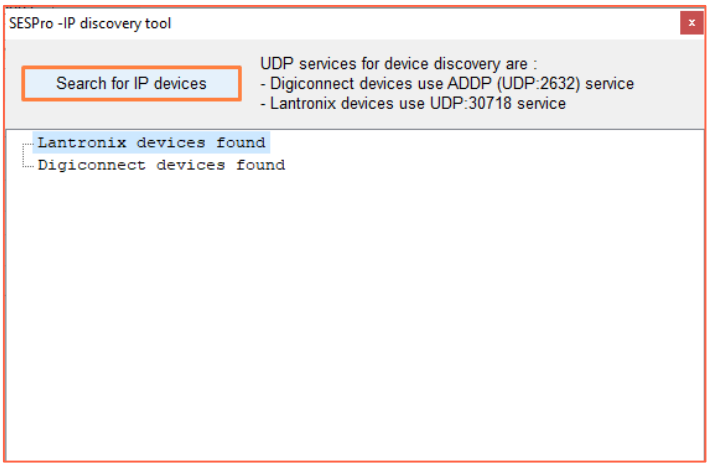
Searching for the reader on the network

1- Open STid - SESProUHF.

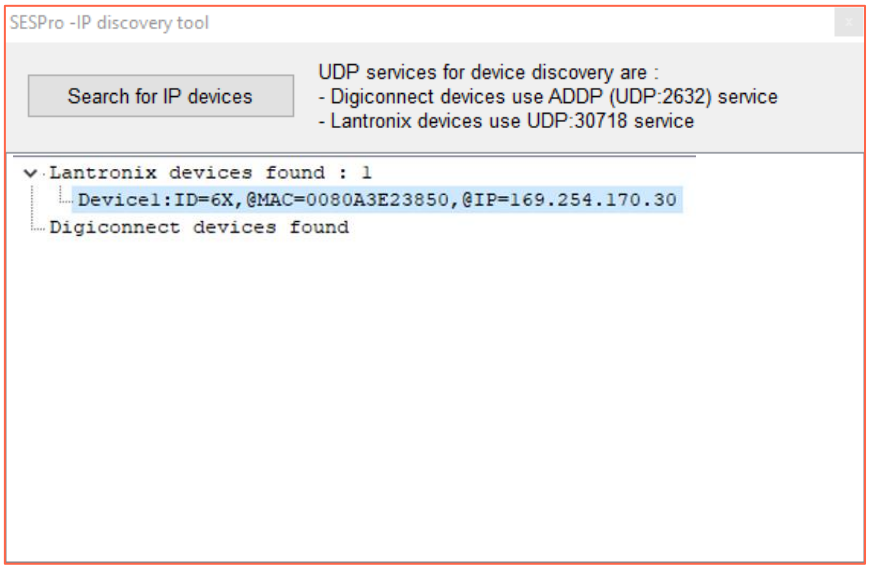
2- In « SSCP » enter TCP Client Port 10001 and SSCP TCP Server Port 2102 then click on



3- The window below opens, click on « Search for IP devices » to detect the reader.



4- The list of detected readers appears:

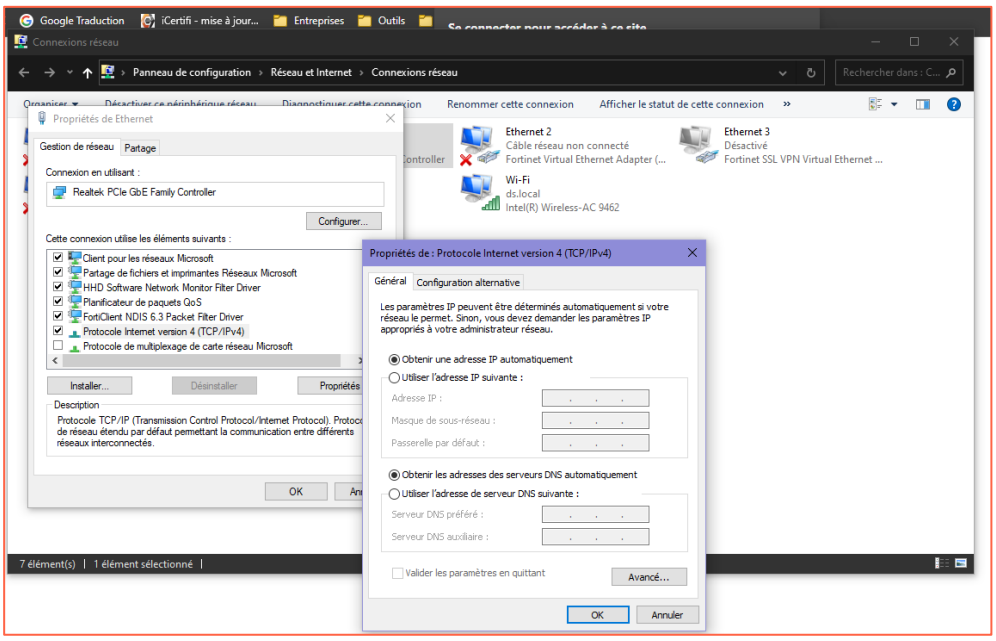


Note: if no devices appear, refer to “Reset and reconfiguration of the Ethernet module” section.

5- Check that the MAC address matches the address of the connected module.

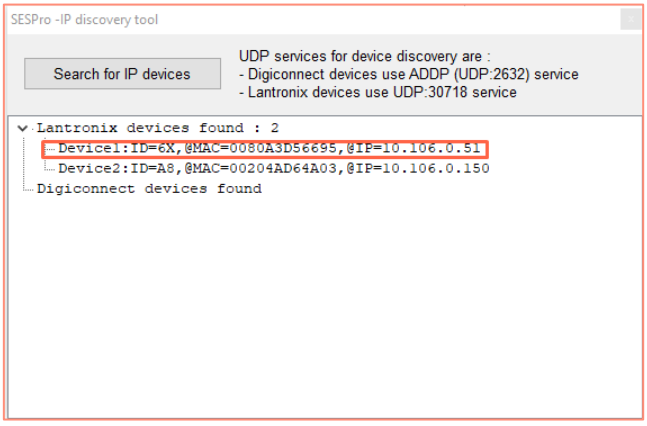
Computer network settings

Return the computer to the default IP address so that it can communicate with the Lantronix via the internet:

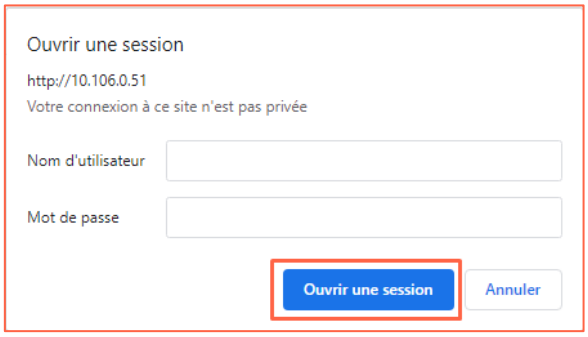


Configuration of the Ethernet module

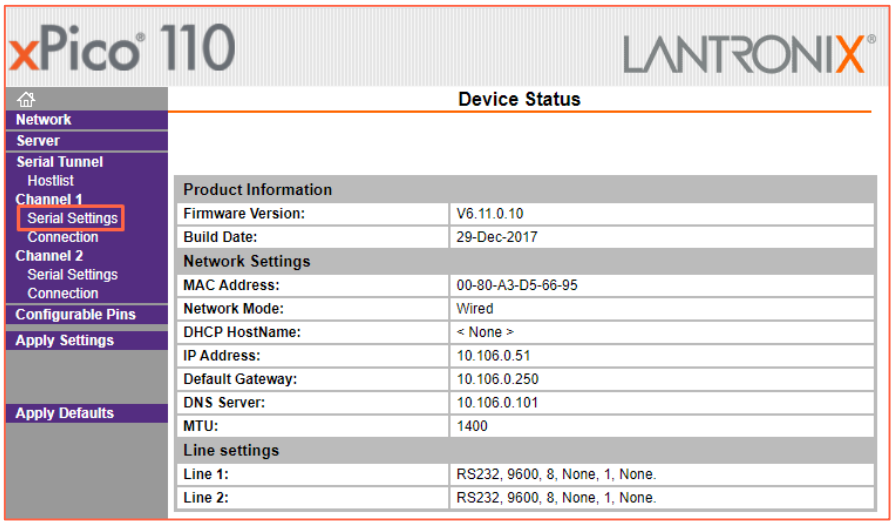
1- In STid - SESProUHF double-click on the Device:



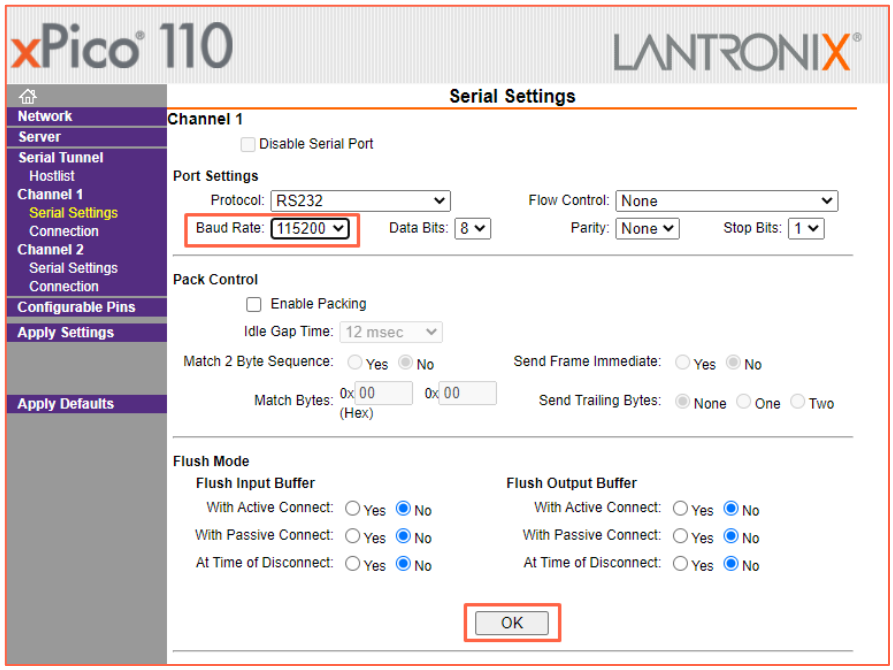
2- The window below opens. Click “Open a session”.



3- Go to “Channel 1 / Serial settings”.

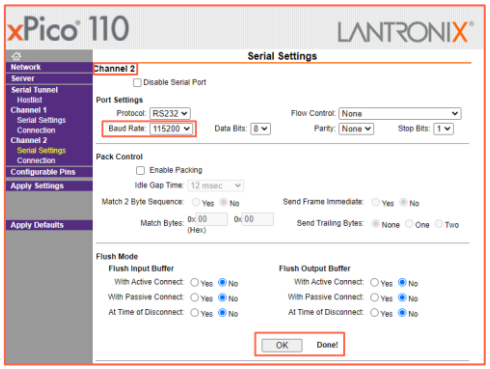


4- Change the baud rate to 115200 and click “OK”.

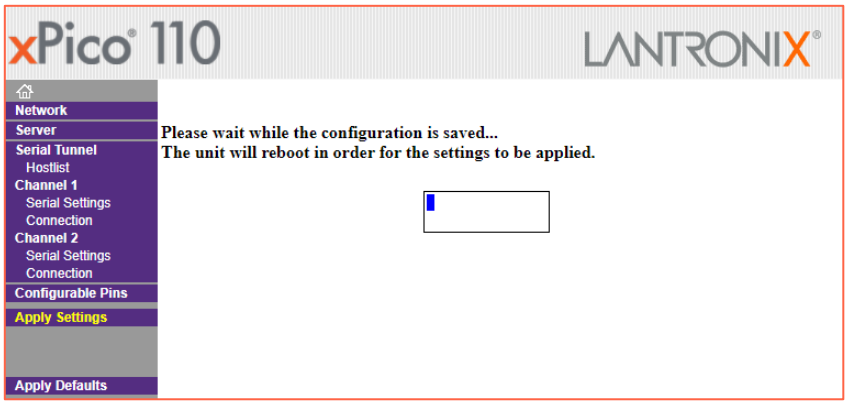


“Done!” appears to the right of “ OK Done!

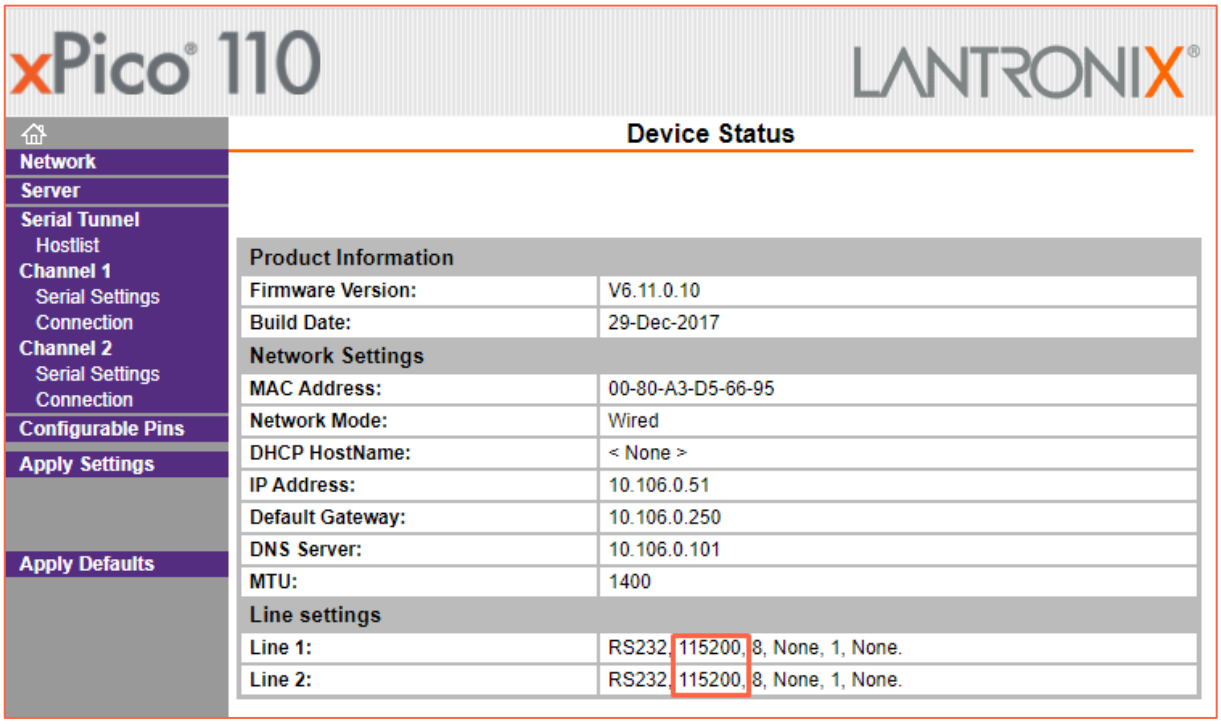
5- Go to “Channel 2 / Serial settings” and repeat the same operation.



6- Click “Apply Settings”.



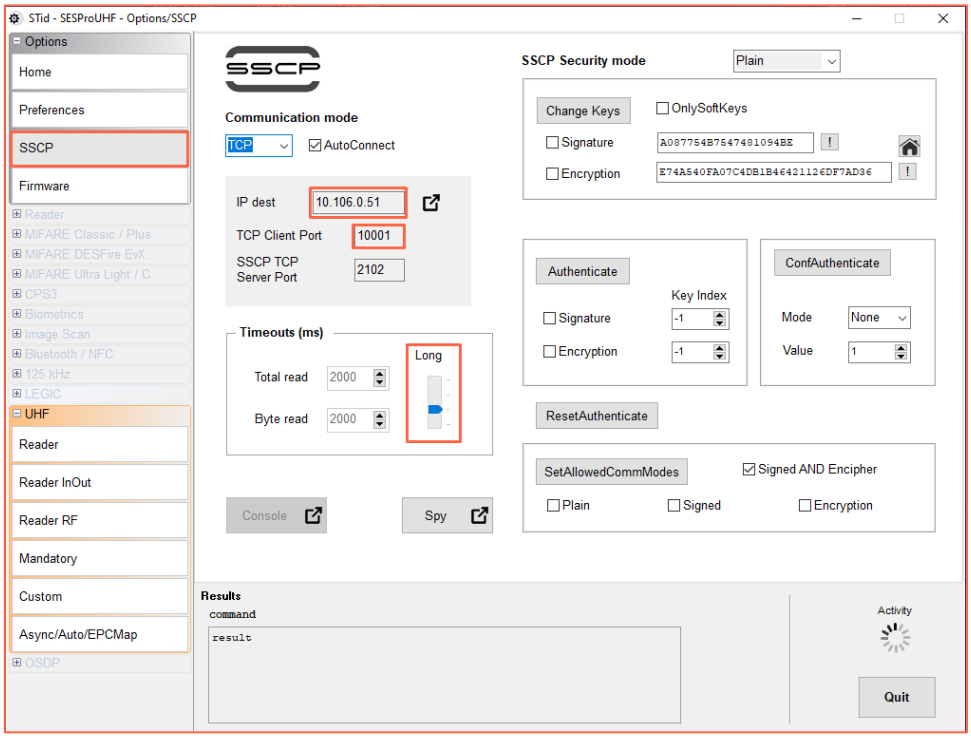
7- Check that the baud rates are 115200.



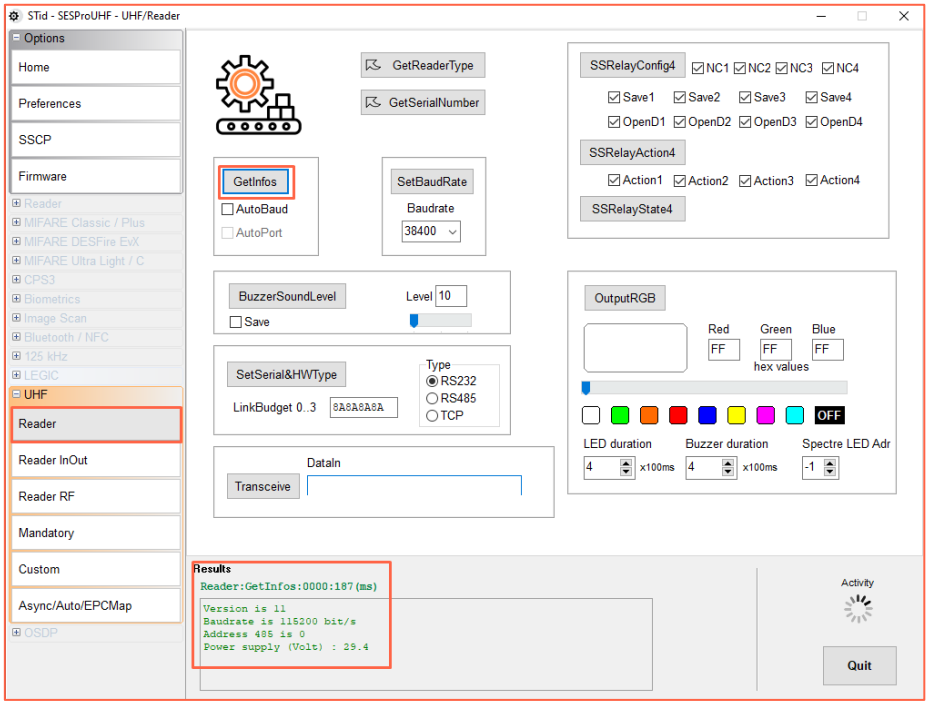
The reader is ready to communicate with the computer.

Communication test

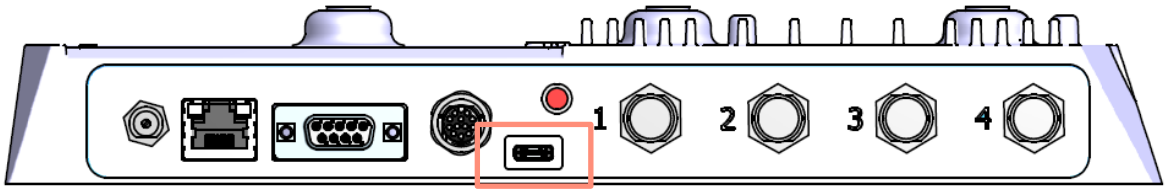
In STid - SESProUHF enter the IP adresse, “10001” in “TCP Client Port” and set the Timeout to “Long”



Run a “GetInfos” in the “Reader” tab. The response from the reader appears in the “Results” window.



SMI keyboard emulation operation



As soon as a USB cord is connected between the USB-C output (on the front of the SMI) and a host, the reader switches to an autonomous mode, in which it performs inventories and sends all the EPCs of every detected tag in an active window.

The keyboard emulation settings can be configured using the internal USB-C connector:

- Using a terminal capable of sending ASCII characters on the serial connection of the internal USB-C. The commands must end with CR/LF (0x0D 0x0A). The reader responds “o” and “k” in ASCII when the frame is successfully retrieved.
- Using the STid – USB Wedge tool supplied on the USB key. Refer to Appendix 1.

List of the configurable settings:

ASCII command	Hexa data	Description of the command	Default settings
language	1 byte of data: AZERTY → 0x00 QWERTY → 0x01	Changes the keyboard layout.	AZERTY
casing	1 byte of data: Uppercase → 0x00 Lowercase → 0x01	Chooses whether the alphabetical characters are displayed on the screen in uppercase or lowercase.	Uppercase
numloc	1 byte of data: Num keypad → 0x00 Num key → 0x01	Chooses which numerical keys are used: those on the numerical keypad or those above the alphabetical keys.	Num keypad
info	No data	Shows the current configuration (version, baud rate, etc.).	
charreturn	1 byte of data: Deactivated → 0x00 Activated → 0x01	Switches the carriage return on or off.	Activated
reset	No data	Restores the default settings.	

SME + CNV-485-HID keyboard emulation operation

The SME does not have native keyboard emulation functionality.

This functionality can be used with a STid CNV-485-HID converter cable (not supplied).

Step 1: Configuration of the converter settings (optional)

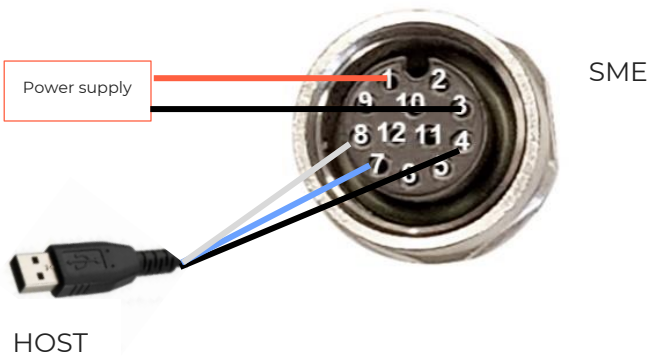
The cable comes ready-to-use with the following default settings. Refer to NI1123C01 - CNV-485-HID-UHF to change these settings.

List of the configurable settings:

ASCII command	Hexa data	Description of the command	Default settings
language	1 byte of data: AZERTY → 0x00 QWERTY → 0x01	Changes the keyboard layout.	AZERTY
casing	1 byte of data: Uppercase → 0x00 Lowercase → 0x01	Chooses whether the alphabetical characters are displayed on the screen in uppercase or lowercase.	Uppercase
numloc	1 byte of data: Num keypad → 0x00 Num key → 0x01	Chooses which numerical keys are used: those on the numerical keypad or those above the alphabetical keys.	Num keypad
info	No data	Shows the current configuration of the cable (version, baud rate, etc.).	
charreturn	1 byte of data: Deactivated → 0x00 Activated → 0x01	Switches the carriage return on or off.	Activated
reset	No data	Restores the default settings.	

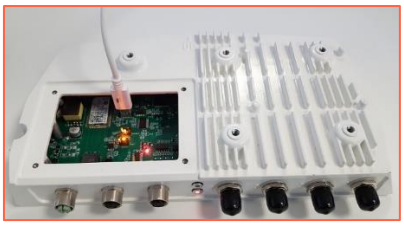
Step 2: Connect the CNV-485-HID to the RS485 output of the reader

1	+Vdc	Red
2	Tx	
3	GND	Black power supply
4	GND	Black CNV
5	NC	
6	GND	
7	L+ / A	Blue CNV
8	L- / B	White CNV
9	+Vdc	
10	NC	
11	NC	
12	NC	

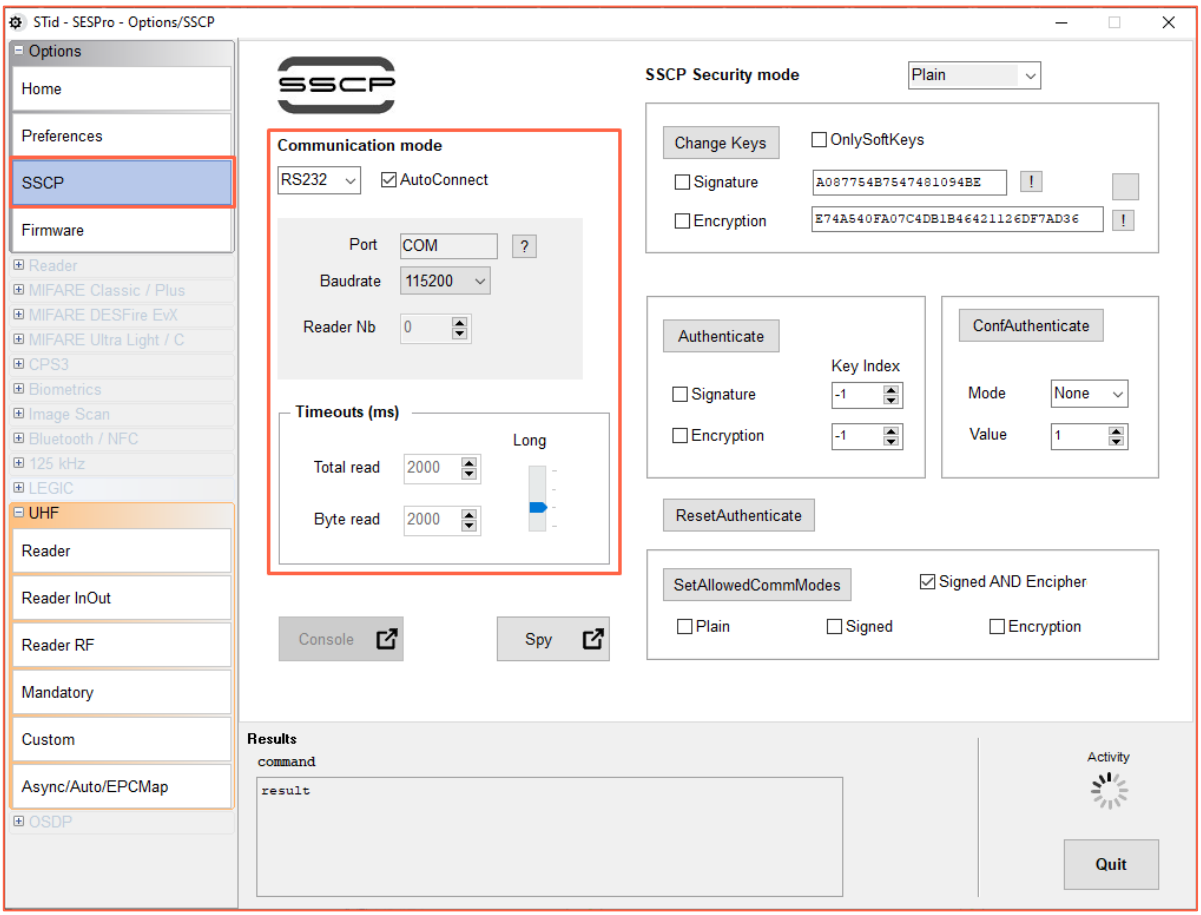


Step 3: Switch the reader to autonomous mode

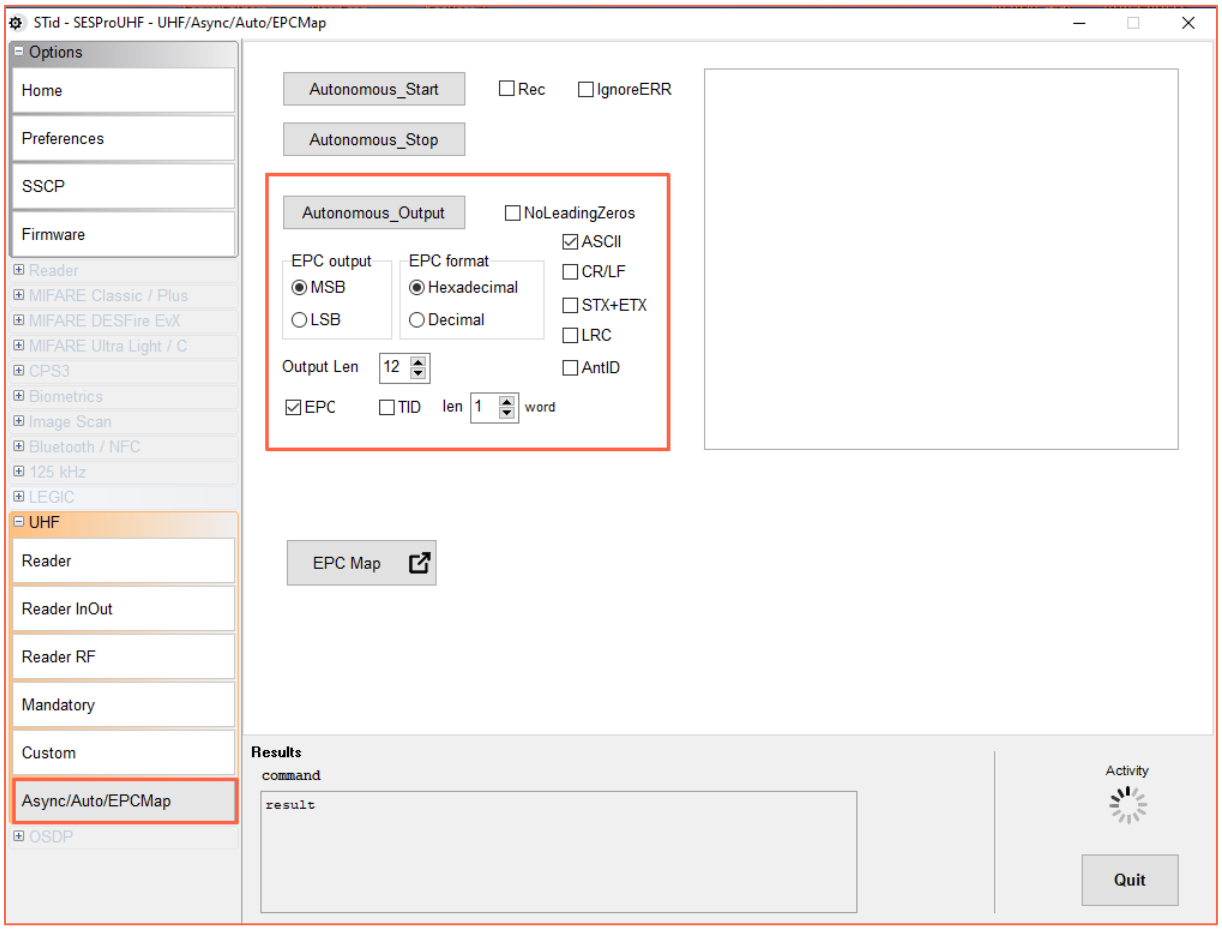
1- Connect the reader with the internal USB-C connector.



2- Open STid - SESProUHF.
3- On the “SSCP” tab, enter the following settings and the number of the communication port to which the reader is connected:



4- Enter the following output settings on the “Async/Auto/EPCMap” tab.



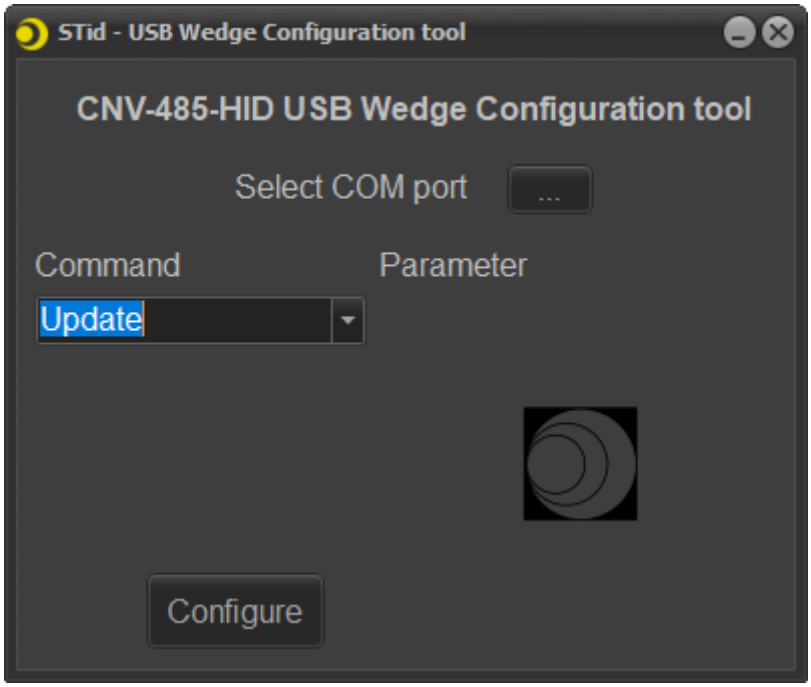
5- Click “Autonomous_Output”.

6- Click “Autonomous_Start” to switch the reader to autonomous mode.

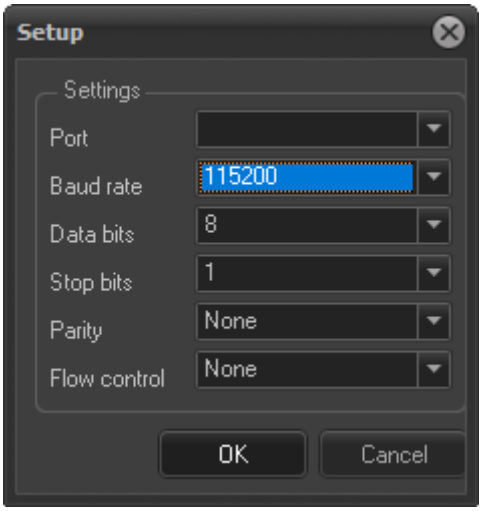
7- Disconnect the internal USB-C.

APPENDIX 1 – STid USB WEDGE

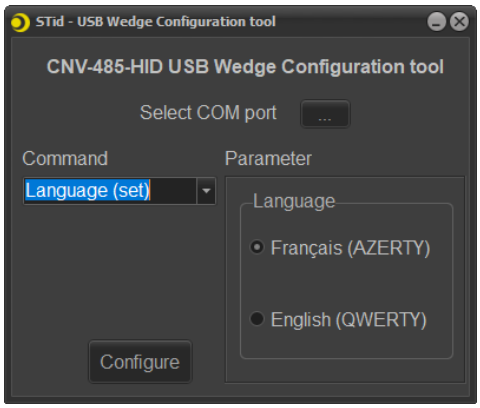
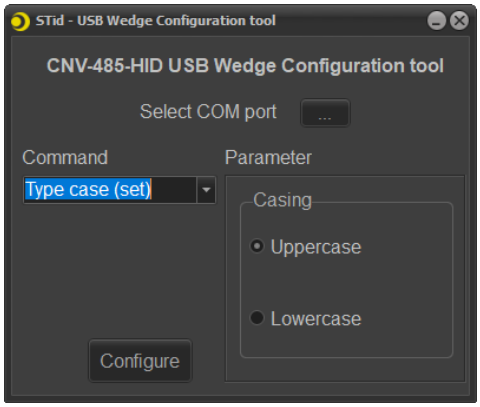
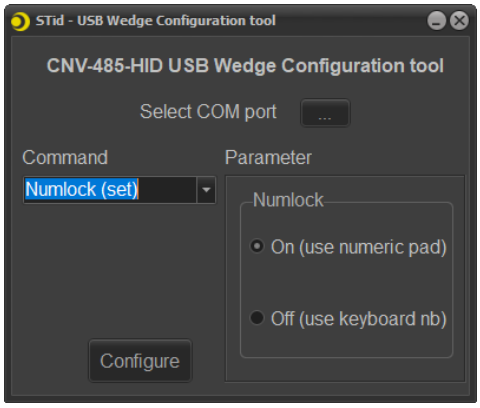
This tool is used to change the Wedge settings of the SMI reader and of the CNV_485_HID_SME.

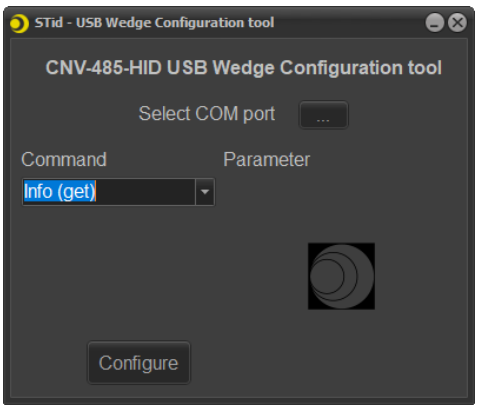
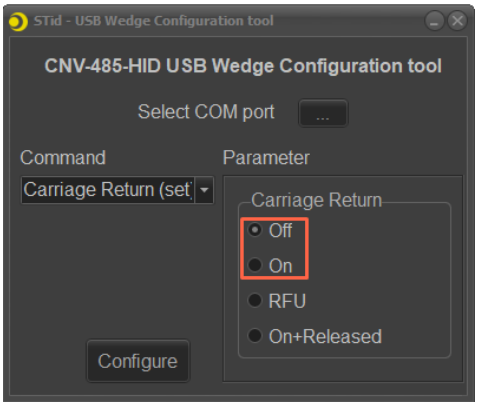
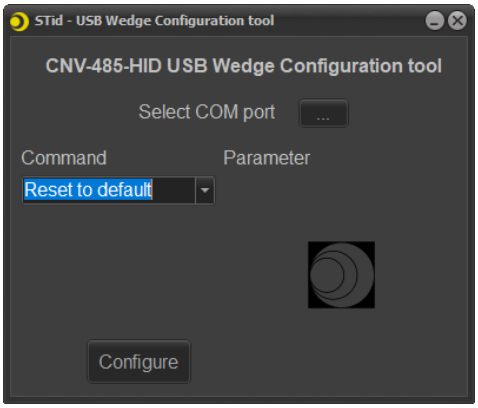


1- Select the COM port to which the SMI or the CNV_485_HID_SME is connected and enter the following settings:



2- Select the setting to be changed in the dropdown list:

Command	Setting
language	
casing	
numloc	

Command	Setting
info	
charreturn	
reset	

3- Click the “Configure” button.