



Quick User Guide

SPECTRE Industry (SMI) – SPECTRE Extrem (SME)





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Factory settings

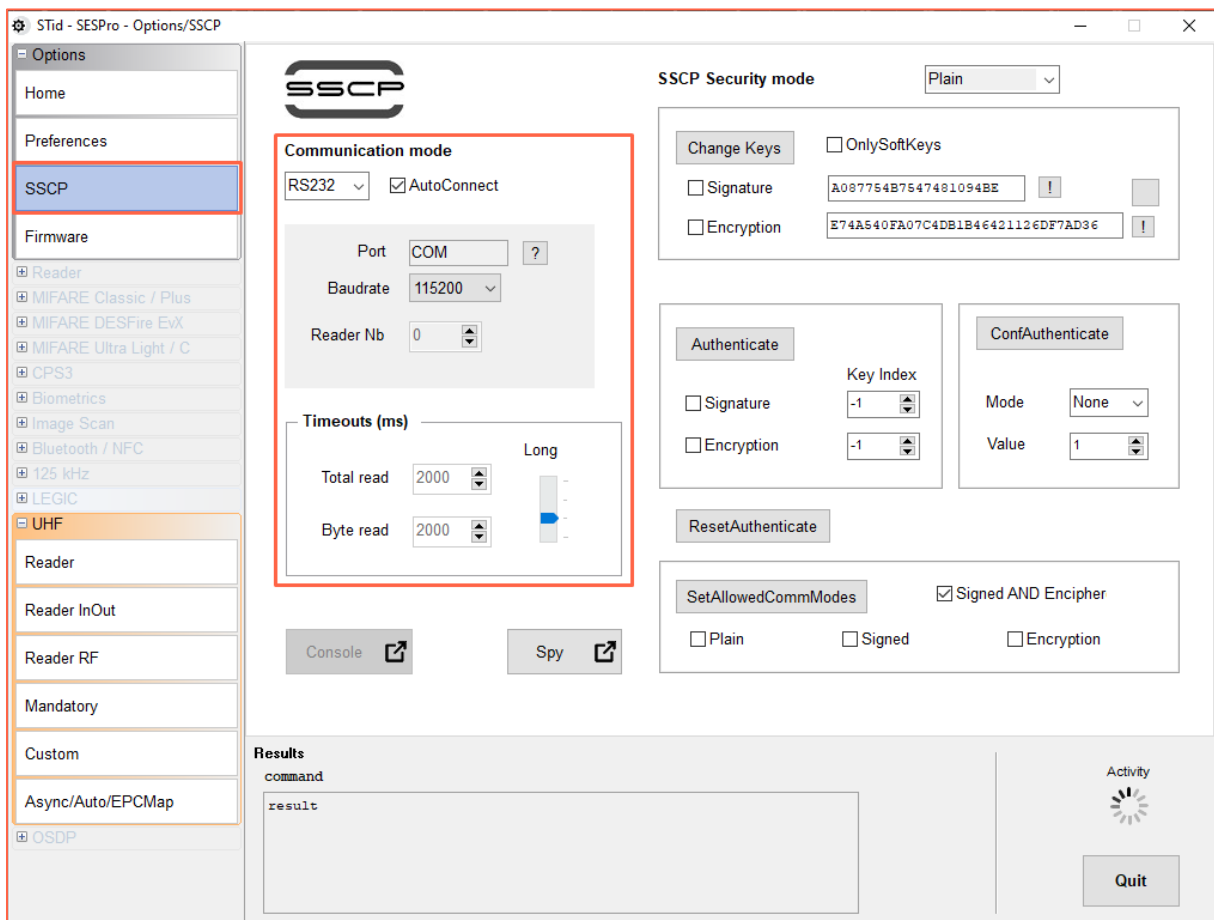
		SMI	SME									
Communication mode		Ethernet	RS232 or Ethernet									
Baud rate		115200	115200									
RS485 address		0										
Hardware configuration of the outputs (OutputConf)		<div>Output type</div> <div><div><input checked="" type="radio"/> V+</div><div><input type="radio"/> 0C</div></div>										
Status of the outputs (OutputConf)		<div>State</div> <div><div><input checked="" type="radio"/> Closed</div><div><input type="radio"/> Opened</div></div>										
Autonomous_Output		<div><div><div>Autonomous_Output</div><div><input type="checkbox"/> NoLeadingZeros</div><div><div><div>EPC output</div><div><div><input checked="" type="radio"/> MSB</div><div><input type="radio"/> LSB</div></div></div><div><div>EPC format</div><div><div><input checked="" type="radio"/> Hexadecimal</div><div><input type="radio"/> Decimal</div></div></div></div><div><div>Output Len</div><div>12</div></div><div><div><input checked="" type="checkbox"/> EPC</div><div><input type="checkbox"/> TID</div><div>len</div><div>1</div><div>word</div></div><div><div><input checked="" type="checkbox"/> ASCII</div><div><input type="checkbox"/> CR/LF</div><div><input type="checkbox"/> STX+ETX</div><div><input type="checkbox"/> LRC</div><div><input type="checkbox"/> AntID</div></div></div></div>										
RF settings	Upper-band	<table><tr><td>A</td><td>ScanDuration x10ms</td><td>Power</td><td>Antenna</td></tr><tr><td>0</td><td>20</td><td>263</td><td>1</td></tr></table>			A	ScanDuration x10ms	Power	Antenna	0	20	263	1
	A	ScanDuration x10ms	Power	Antenna								
0	20	263	1									
	Lower-band	<table><tr><td>A</td><td>ScanDuration x10ms</td><td>Power</td><td>Antenna</td></tr><tr><td>0</td><td>20</td><td>268</td><td>1</td></tr></table>			A	ScanDuration x10ms	Power	Antenna	0	20	268	1
A	ScanDuration x10ms	Power	Antenna									
0	20	268	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:



STid - SESPro - Options/SSCP

Options

Home

Preferences

SSCP

Firmware

Reader

MIFARE Classic / Plus

MIFARE DESFire EvX

MIFARE Ultra Light / C

CPS3

Biometrics

Image Scan

Bluetooth / NFC

125 kHz

LEGIC

UHF

Reader

Reader InOut

Reader RF

Mandatory

Custom

Async/Auto/EPCMap

OSDP

SSCP

Communication mode

RS232 ☒ AutoConnect

Port COM ?

Baudrate 115200

Reader Nb 0

Timeouts (ms)

Total read 2000 Long

Byte read 2000

Console

Spy

SSCP Security mode Plain

Change Keys ☐ OnlySoftKeys

☐ Signature A087754B7547491054BE !

☐ Encryption E74A540FA07C4DB1B46421126DF7AD36 !

Authenticate

☐ Signature Key Index -1

☐ Encryption -1

ConfAuthenticate

Mode None

Value 1

ResetAuthenticate

SetAllowedCommModes ☒ Signed AND Encipher

☐ Plain ☐ Signed ☐ Encryption

Results

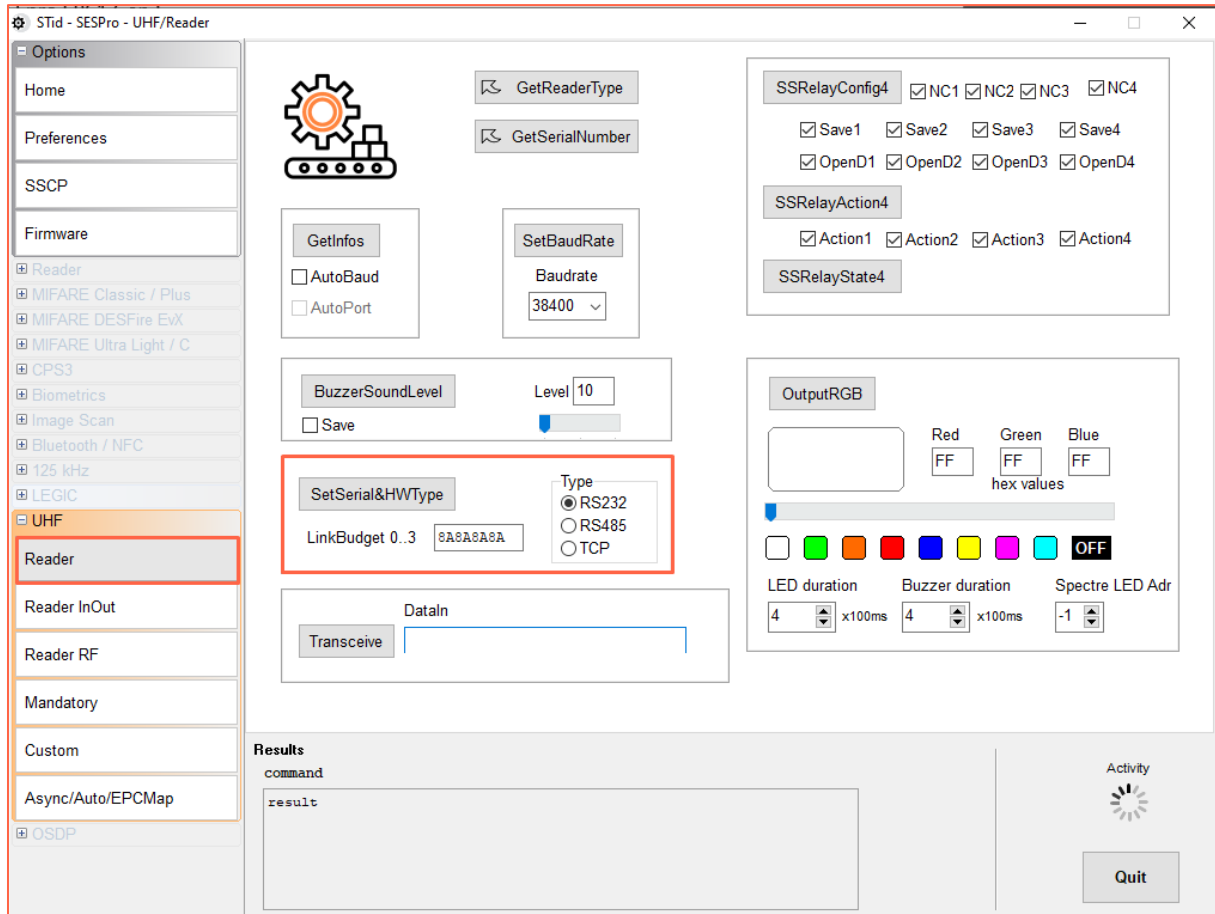
command

result

Activity

Quit

- 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**.

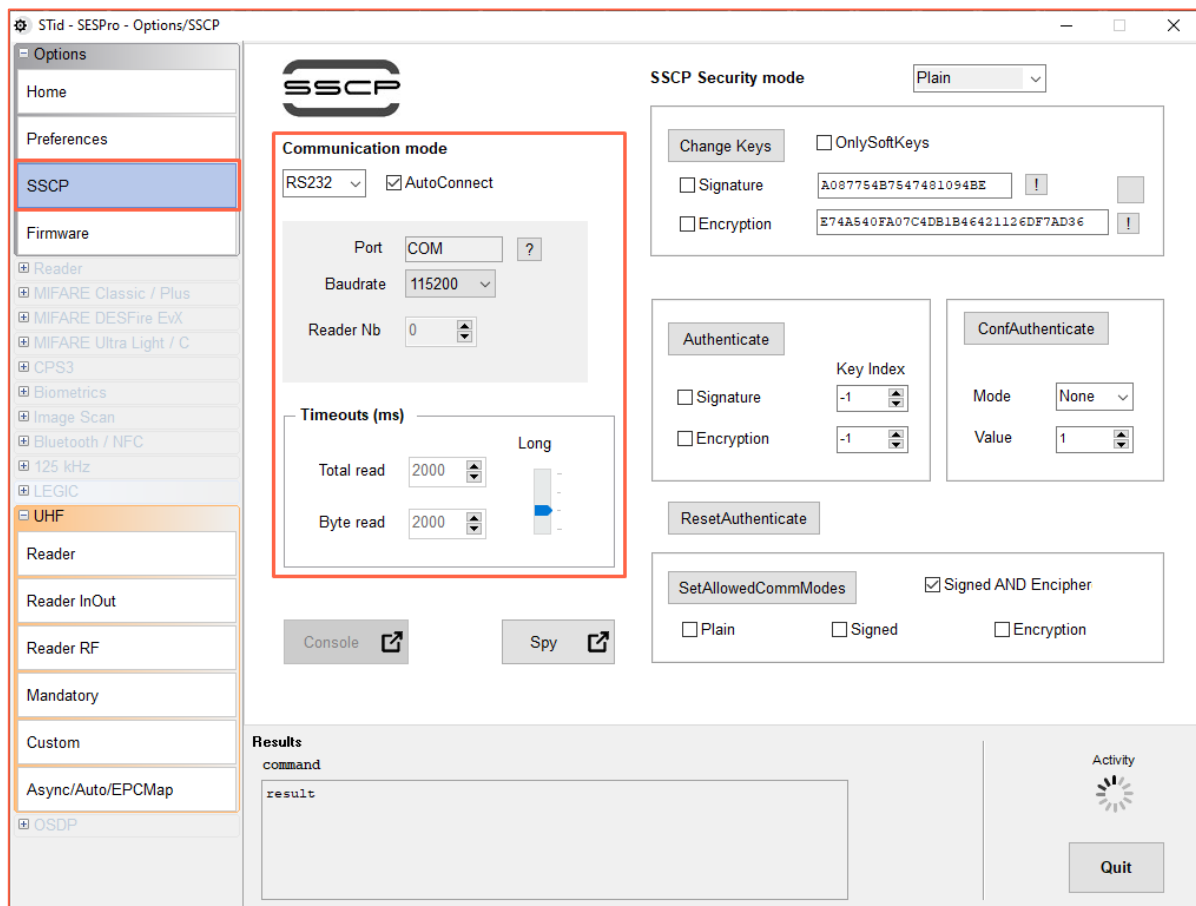


Changing the regulation

- 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:



STid - SESPro - Options/SSCP

Options

- Home
- Preferences
- SSCP**
- Firmware
- Reader
- MIFARE Classic / Plus
- MIFARE DESFire EvX
- MIFARE Ultra Light / C
- CPS3
- Biometrics
- Image Scan
- Bluetooth / NFC
- 125 kHz
- LEGIC
- UHF**
 - Reader
 - Reader InOut
 - Reader RF
 - Mandatory
 - Custom
 - Async/Auto/EPCMap
- OSDP

SSCP

SSCP Security mode: Plain

Change Keys ☐ OnlySoftKeys

☐ Signature: A087754B7547481094BE

☐ Encryption: E74A540FA07C4DB1B46421126DF7AD3E

Authenticate

☐ Signature: Key Index -1

☐ Encryption: Key Index -1

ConfAuthenticate

Mode: None

Value: 1

ResetAuthenticate

SetAllowedCommModes ☒ Signed AND Encipher

☐ Plain ☐ Signed ☐ Encryption

Communication mode

RS232 ☒ AutoConnect

Port: COM

Baudrate: 115200

Reader Nb: 0

Timeouts (ms)

Total read: 2000

Byte read: 2000

Long

Console

Spy

Results

command

result

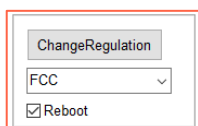
Activity

Quit

- 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”.

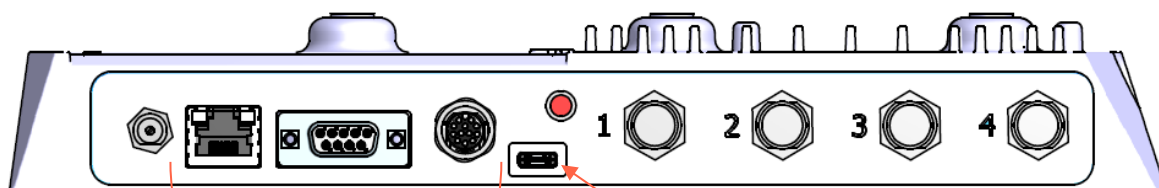
Note: The reader must be restarted to apply changes to the regulation.
This command must only be used to adjust the regulation of the reader to the regulation in force in the country of use.

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



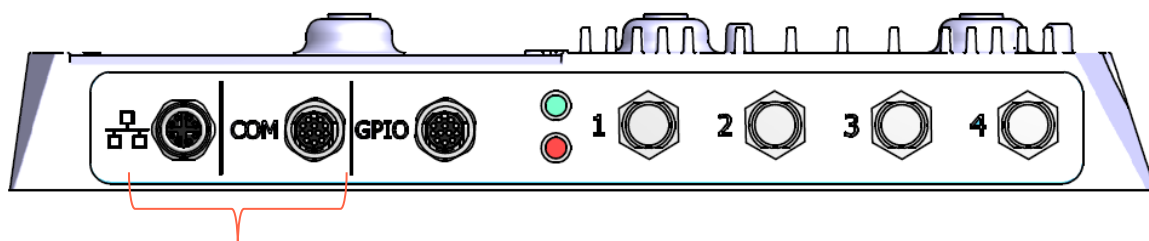
TCP / RS232 / RS485

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+

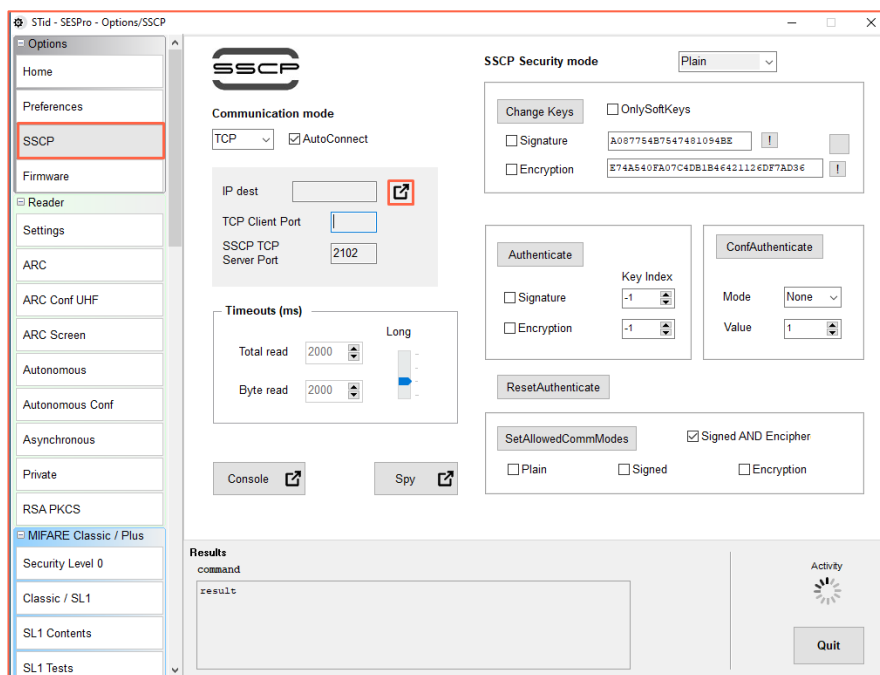
Refer to the specifications of the *SSCP_UHF_INDUS_US_Vxx* protocol for the commands.

Reader connection

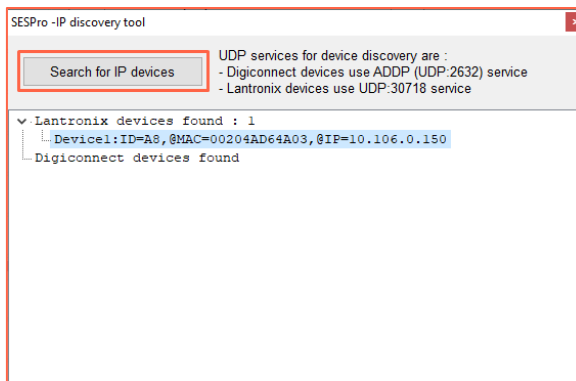
Connect the reader to the Switch POE + (Use a PSE (Power Sourcing Equipment) compatible with the IEEE 802.3at. 2009 standard.)

Searching for the IP address of the reader

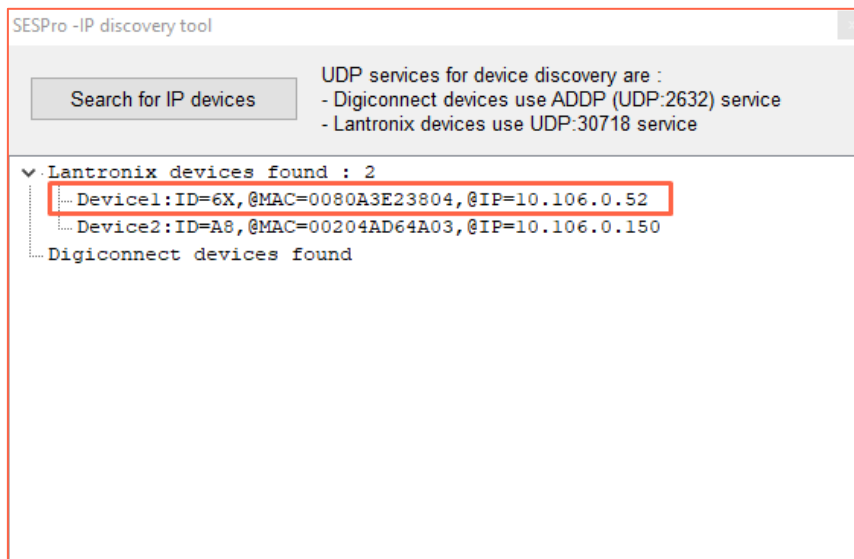
- 1- Open STid - SESProUHF.
- 2- On the “SSCP” tab, click .



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



- 4- The list of detected readers appears.

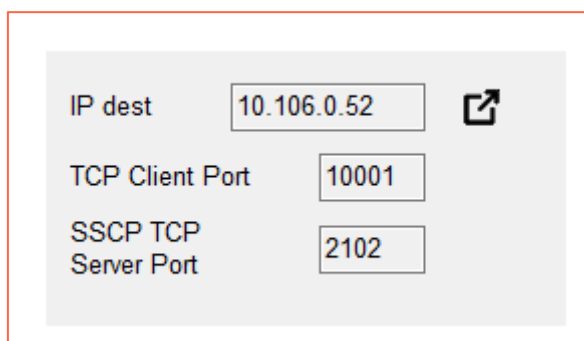


Note: if no devices appear, refer to “Reset and reconfiguration of the Ethernet module” section.

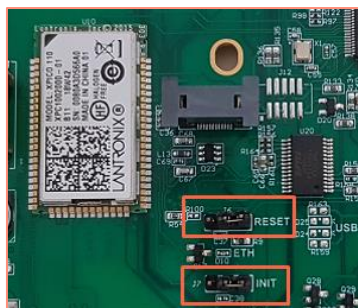
- 5- Check that the MAC address matches the address of the connected module.



- 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".

Ouvrir une session

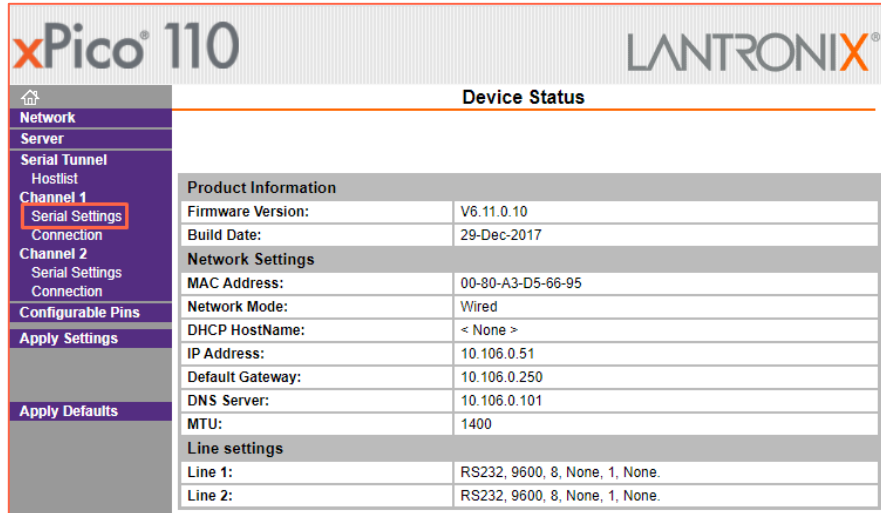
http://10.106.0.51

Votre connexion à ce site n'est pas privée

Nom d'utilisateur

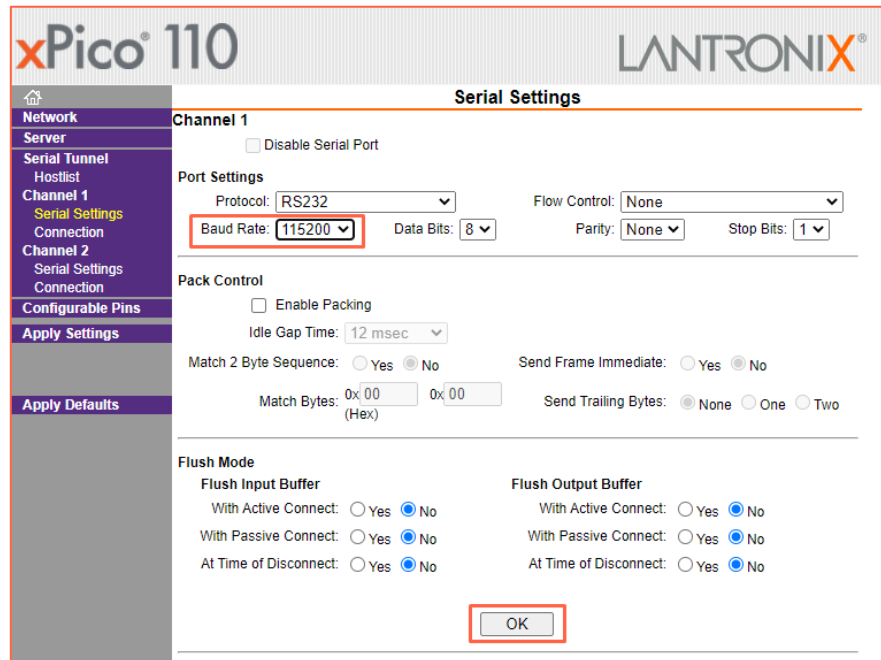
Mot de passe

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



Product Information	
Firmware Version:	V6.11.0.10
Build Date:	29-Dec-2017
Network Settings	
MAC Address:	00-80-A3-D5-66-95
Network Mode:	Wired
DHCP HostName:	< None >
IP Address:	10.106.0.51
Default Gateway:	10.106.0.250
DNS Server:	10.106.0.101
MTU:	1400
Line settings	
Line 1:	RS232, 9600, 8, None, 1, None.
Line 2:	RS232, 9600, 8, None, 1, None.

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



Channel 1

☐ Disable Serial Port

Port Settings

Protocol: RS232 Flow Control: None

Baud Rate: 115200 Data Bits: 8 Parity: None Stop Bits: 1

Pack Control

☐ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No Send Frame Immediate: ☐ Yes ☒ No

Match Bytes: 0x 00 0x 00 (Hex) Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer


With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

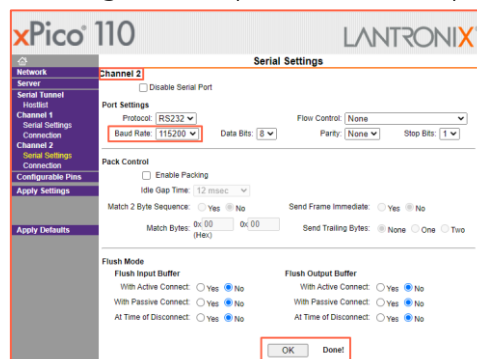
OK

“Done!” appears to the right of “OK”.



OK Done!

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



Channel 2

☐ Disable Serial Port

Port Settings

Protocol: RS232 Flow Control: None

Baud Rate: 115200 Data Bits: 8 Parity: None Stop Bits: 1

Pack Control

☐ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No Send Frame Immediate: ☐ Yes ☒ No

Match Bytes: 0x 00 0x 00 (Hex) Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer

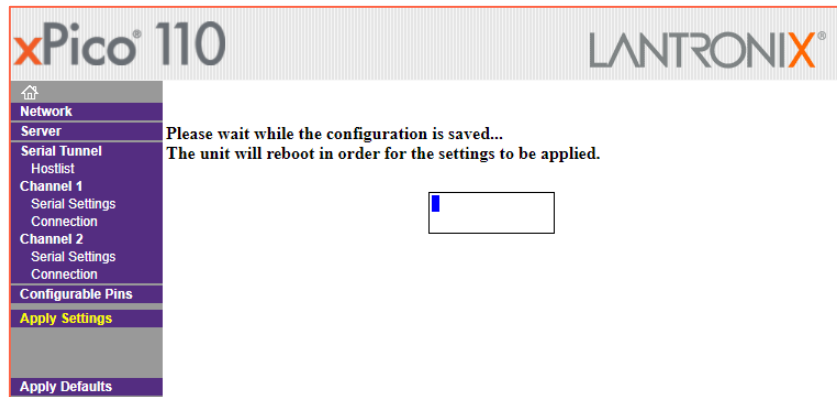
With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

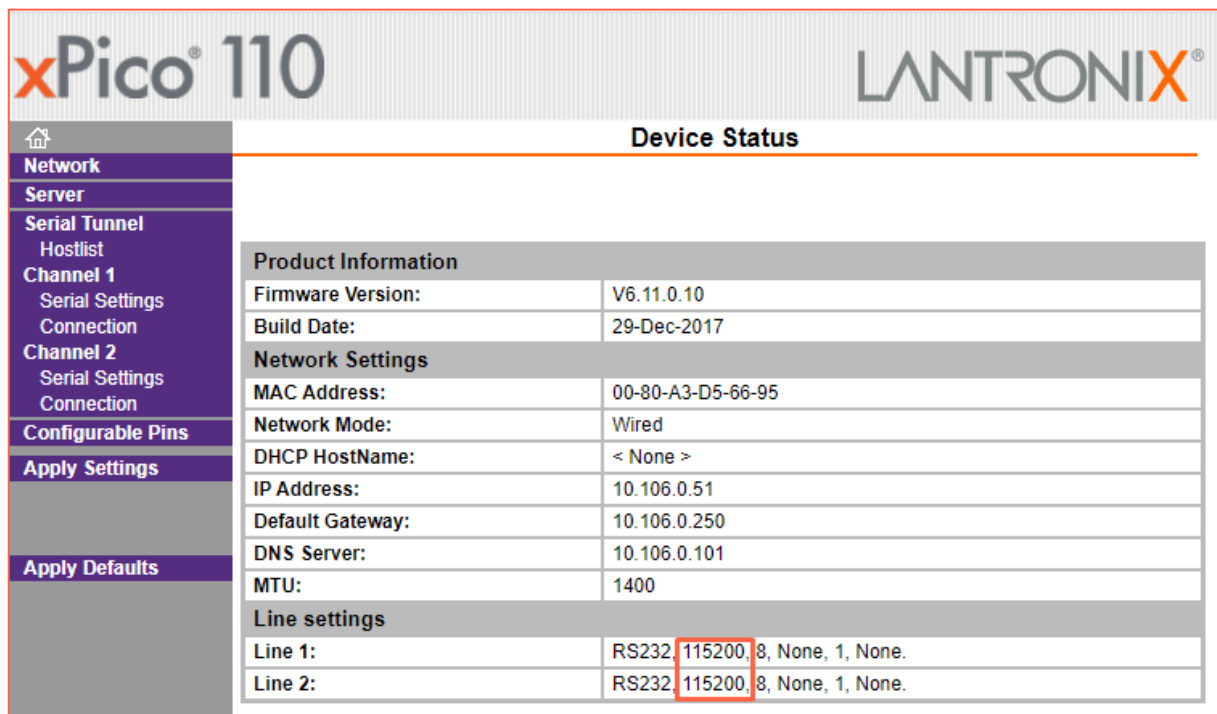
At Time of Disconnect: ☐ Yes ☒ No

OK Done!

10- Click "Apply Settings".

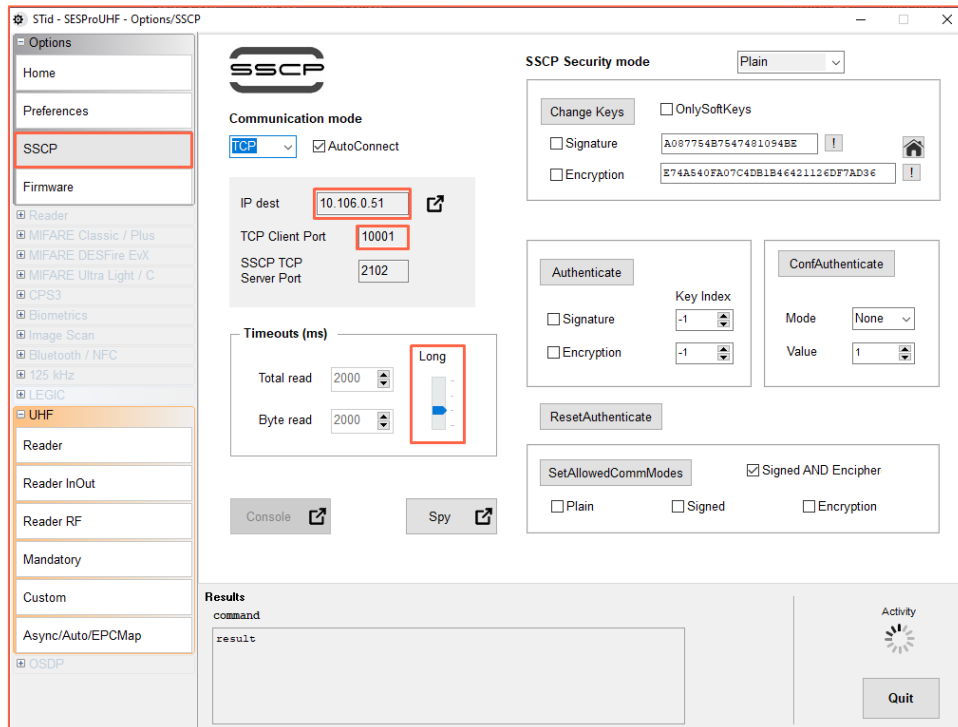


11- Check that the baud rates are 115200.

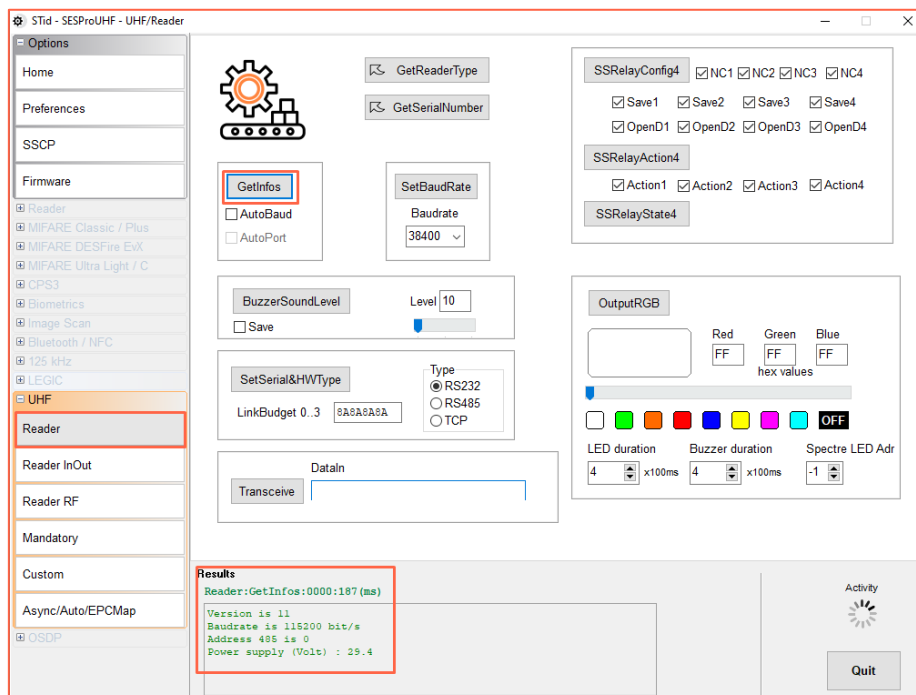


Communication test

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)

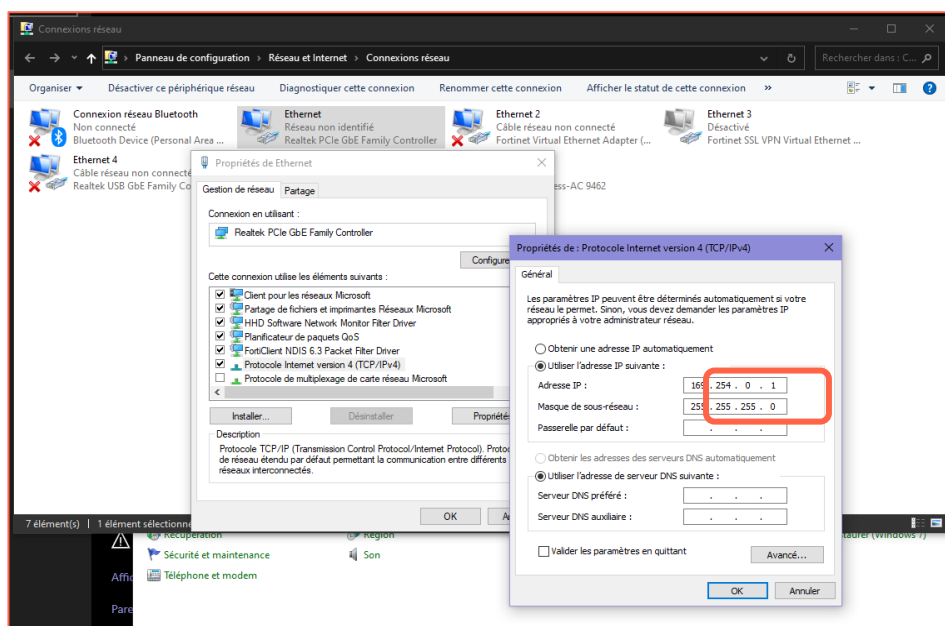
Refer to the specifications of the *SSCP_UHF_INDUS_US_Vxx* protocol for the commands.

Reader connection

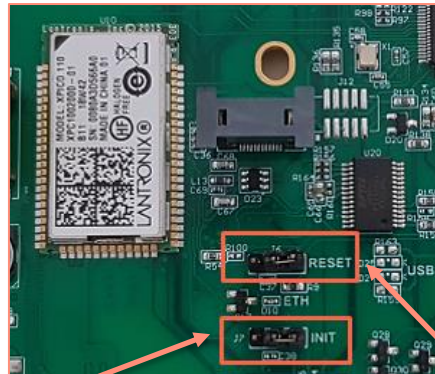
- Power the reader via Power jack
- Connect the reader via TCP-IP to the computer


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. 

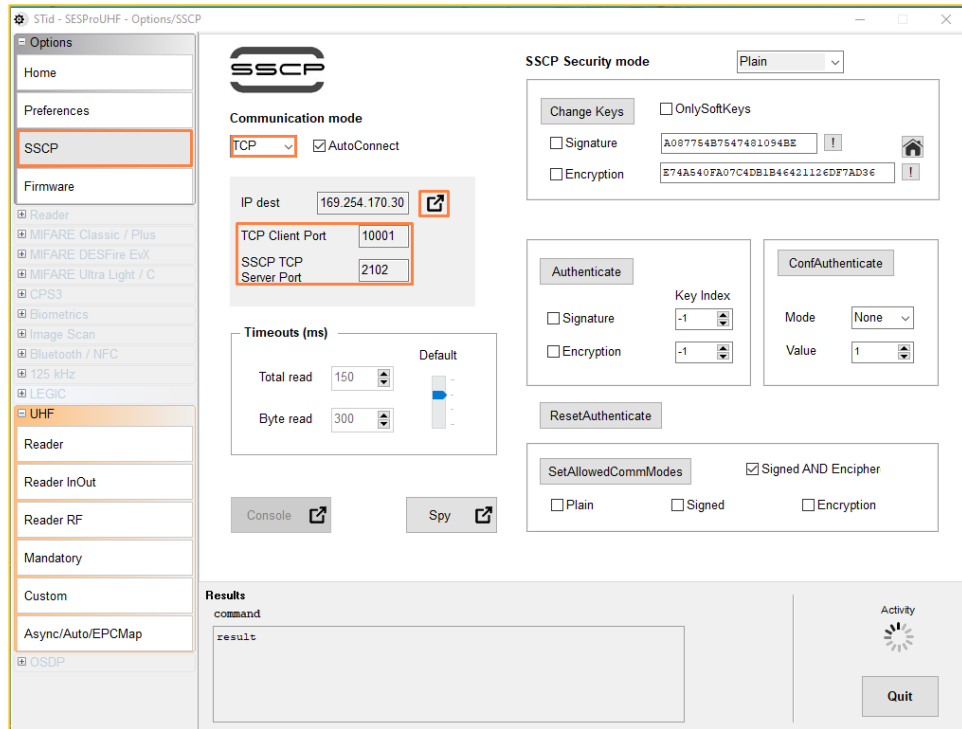
The orange Ethernet LED flashes once a second (500ms ON / 500MS OFF). Wait for 5 seconds.

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

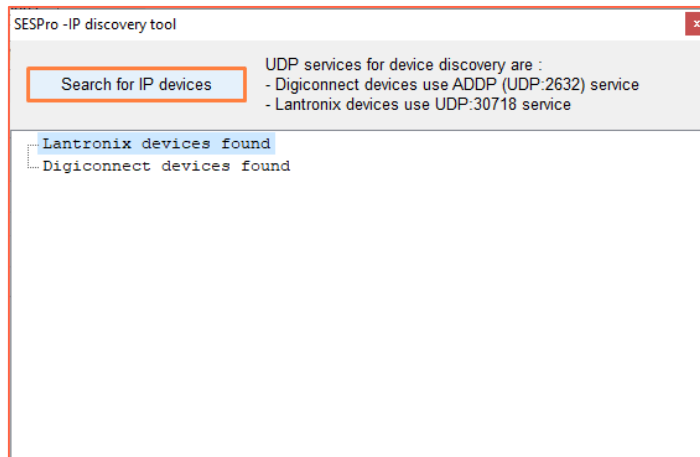
The orange Ethernet LED flashes. As soon as it remains permanently on, the module has been reset.

Searching for the reader on the network

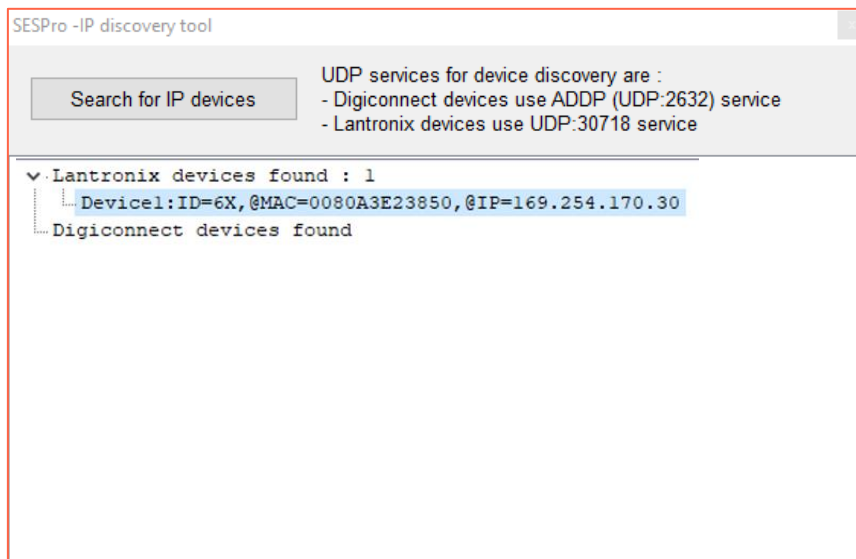
- 1- Open STid - SESProUHF.
- 2- In « SSCP » enter TCP Client Port 10001 and SSCP TCP Server Port 2102 then click on 



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



- 4- The list of detected readers appears:



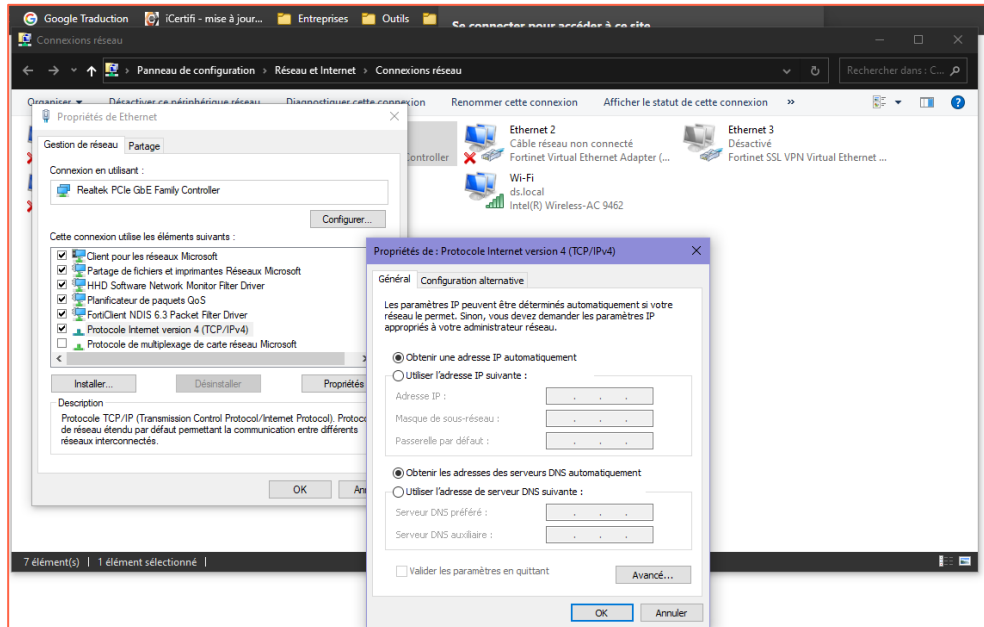
Note: if no devices appear, refer to “Reset and reconfiguration of the Ethernet module” section.

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



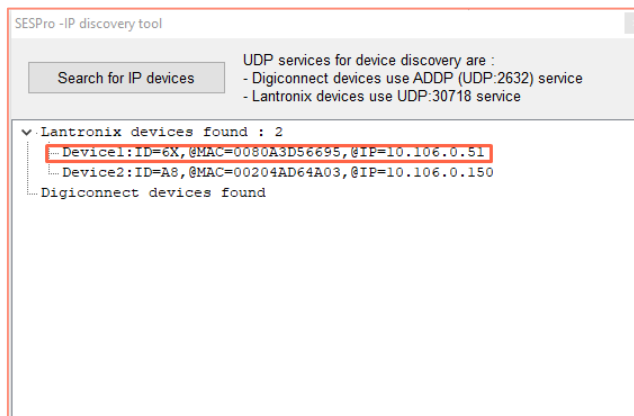
Computer network settings

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

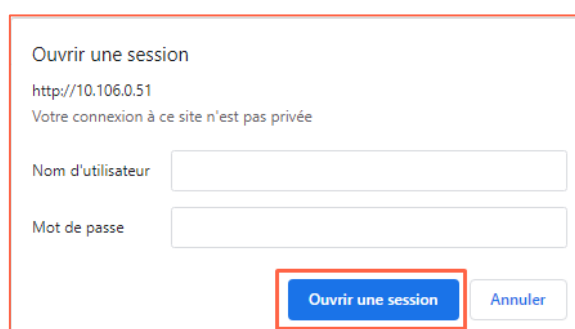


Configuration of the Ethernet module

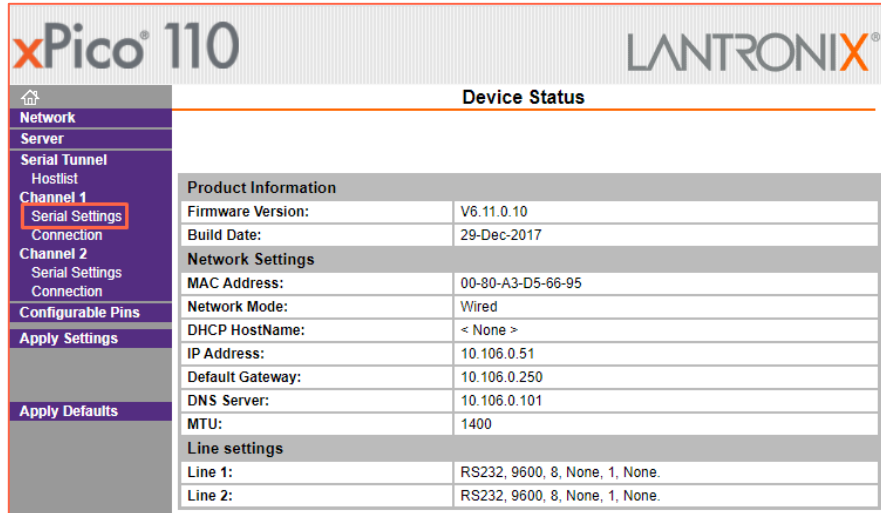
- 1- In STid - SESProUHF double-click on the Device:



- 2- The window below opens. Click "Open a session".

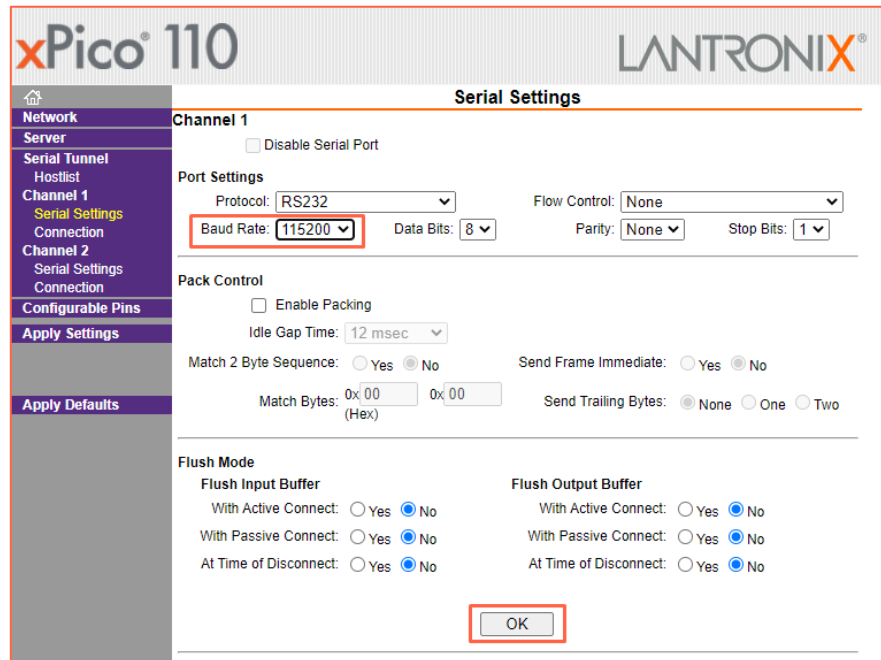


3- Go to "Channel 1 / Serial settings".



Product Information	
Firmware Version:	V6.11.0.10
Build Date:	29-Dec-2017
Network Settings	
MAC Address:	00-80-A3-D5-66-95
Network Mode:	Wired
DHCP HostName:	< None >
IP Address:	10.106.0.51
Default Gateway:	10.106.0.250
DNS Server:	10.106.0.101
MTU:	1400
Line settings	
Line 1:	RS232, 9600, 8, None, 1, None.
Line 2:	RS232, 9600, 8, None, 1, None.

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



Channel 1

☐ Disable Serial Port

Port Settings

Protocol: RS232 Flow Control: None

Baud Rate: 115200 Data Bits: 8 Parity: None Stop Bits: 1

Pack Control

☐ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No Send Frame Immediate: ☐ Yes ☒ No

Match Bytes: 0x 00 0x 00 (Hex) Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer

With Active Connect: ☐ Yes ☒ No

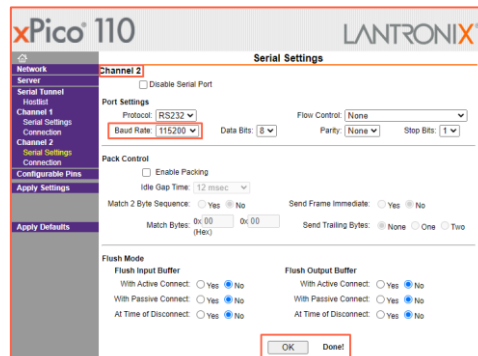
With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

OK

"Done!" appears to the right of "OK"

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



Channel 2

☐ Disable Serial Port

Port Settings

Protocol: RS232 Flow Control: None

Baud Rate: 115200 Data Bits: 8 Parity: None Stop Bits: 1

Pack Control

☐ Enable Packing

Idle Gap Time: 12 msec

Match 2 Byte Sequence: ☐ Yes ☒ No Send Frame Immediate: ☐ Yes ☒ No

Match Bytes: 0x 00 0x 00 (Hex) Send Trailing Bytes: ☒ None ☐ One ☐ Two

Flush Mode

Flush Input Buffer

With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

At Time of Disconnect: ☐ Yes ☒ No

Flush Output Buffer

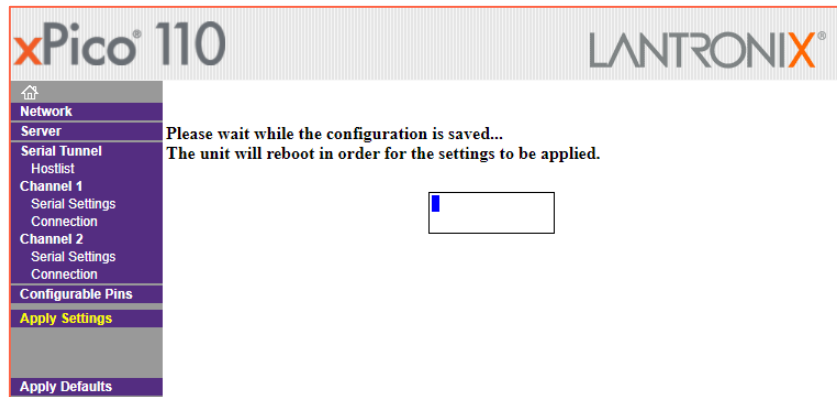
With Active Connect: ☐ Yes ☒ No

With Passive Connect: ☐ Yes ☒ No

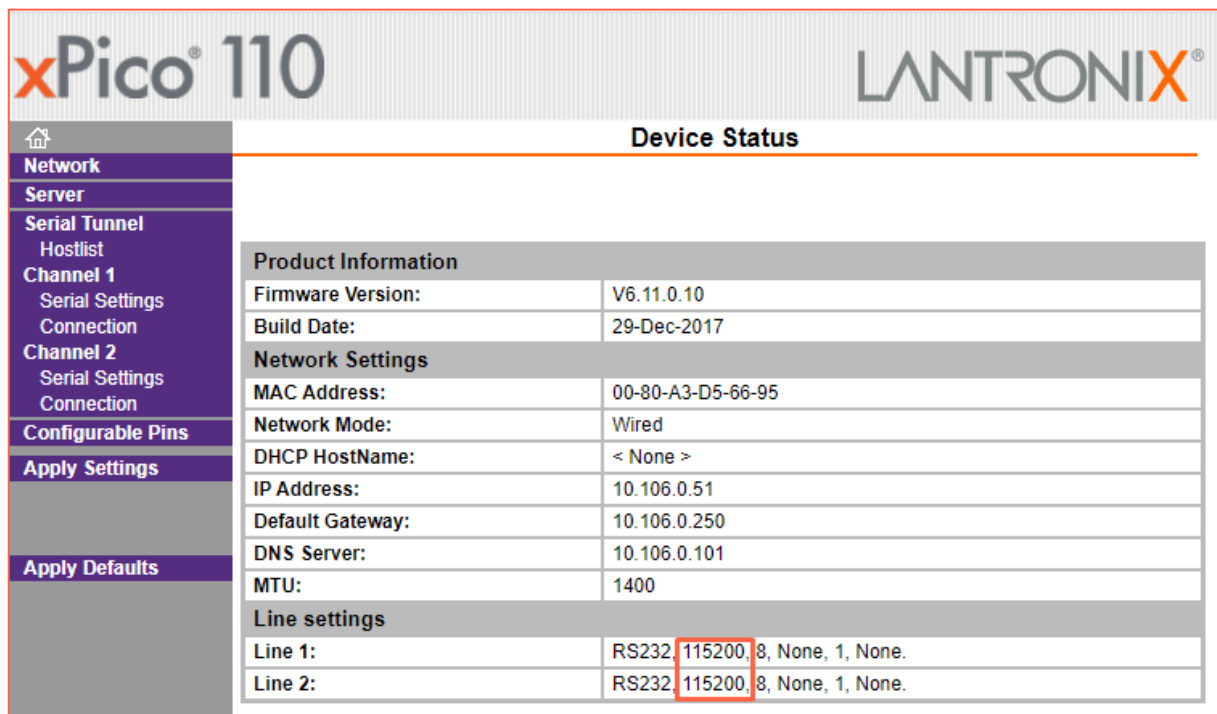
At Time of Disconnect: ☐ Yes ☒ No

OK Done!

6- Click "Apply Settings".



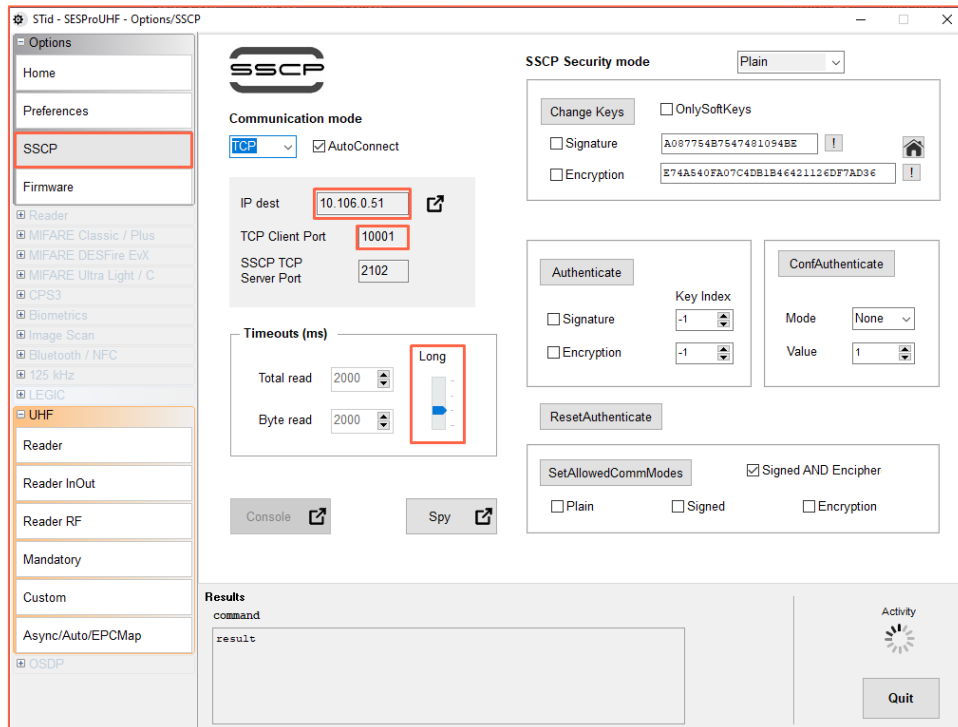
7- Check that the baud rates are 115200.



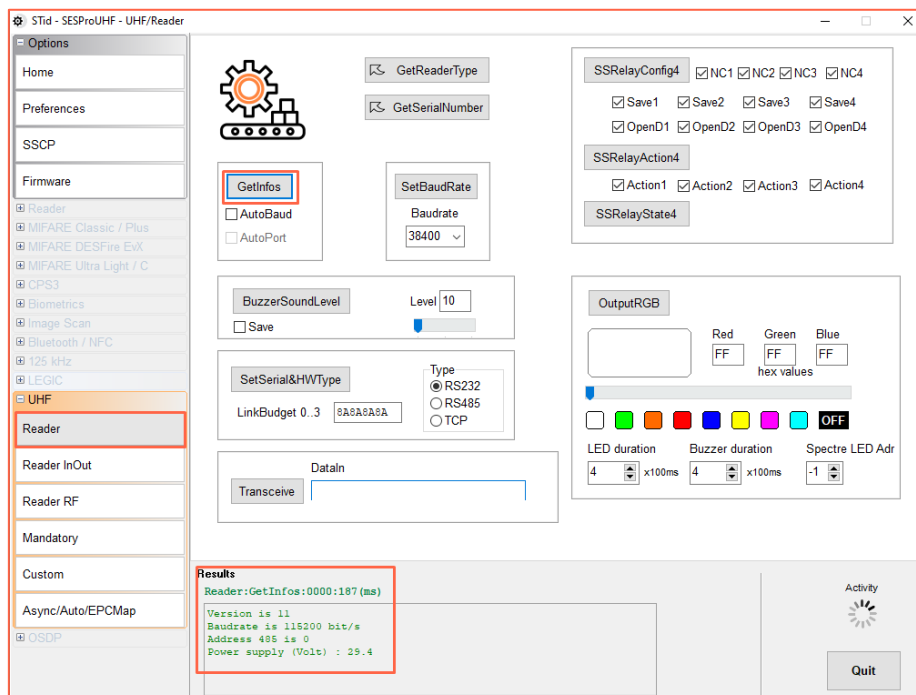
The reader is ready to communicate with the computer.

Communication test

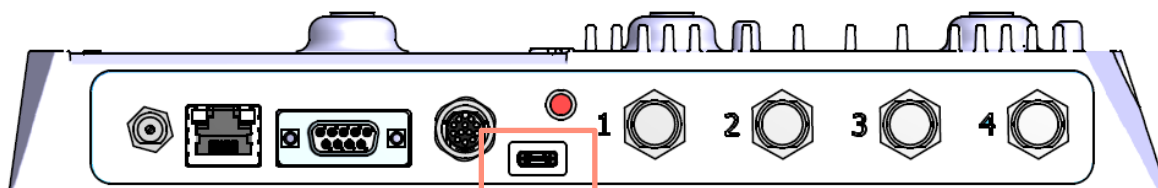
In STid - SESProUHF enter the IP adresse, “10001” in “TCP Client Port” and set the Timeout to “Long”



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)

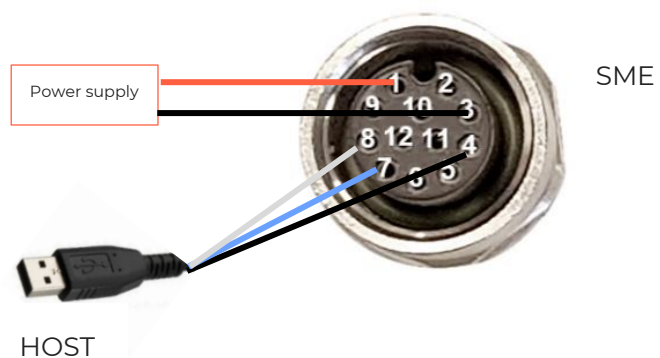
The cable comes ready-to-use with the following default settings. Refer to NI1123C01 - CNV-485-HID-UHF to change these settings.

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	

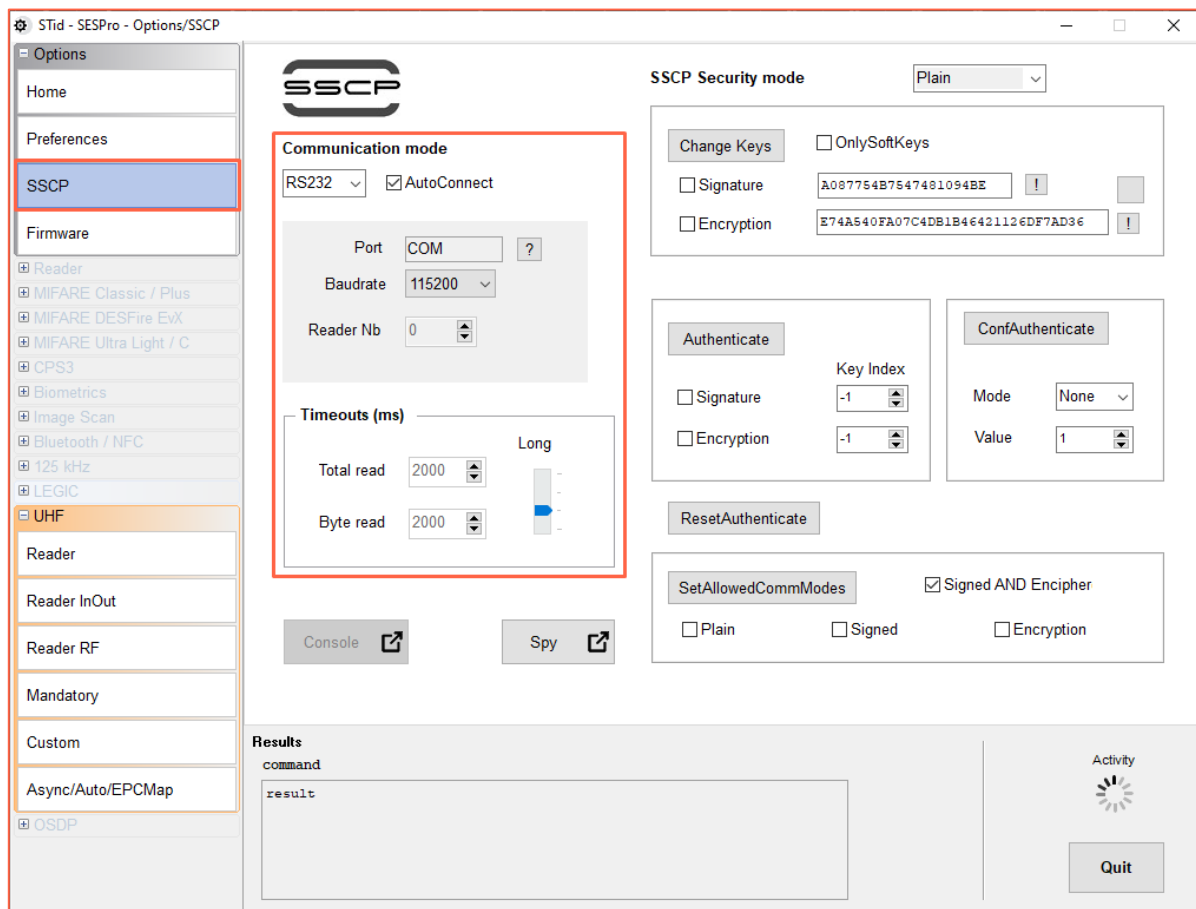


Step 3: Switch the reader to autonomous mode

- 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:



STid - SESPro - Options/SSCP

Options

- Home
- Preferences
- SSCP**
- Firmware
- Reader
- MIFARE Classic / Plus
- MIFARE DESFire EvX
- MIFARE Ultra Light / C
- CPS3
- Biometrics
- Image Scan
- Bluetooth / NFC
- 125 kHz
- LEGIC
- UHF**
 - Reader
 - Reader InOut
 - Reader RF
 - Mandatory
 - Custom
 - Async/Auto/EPCMap
- OSDP

SSCP

Communication mode

RS232 ☒ AutoConnect

Port: COM ?

Baudrate: 115200

Reader Nb: 0

Timeouts (ms)

Total read: 2000

Byte read: 2000

Long

SSCP Security mode

Plain

Change Keys ☐ OnlySoftKeys

☐ Signature: A087754B7547481094BE

☐ Encryption: E74A540FA07C4DB1B46421126DF7AD36

Authenticate

☐ Signature

☐ Encryption

Key Index: -1

ConfAuthenticate

Mode: None

Value: 1

ResetAuthenticate

SetAllowedCommModes ☒ Signed AND Encipher

☐ Plain ☐ Signed ☐ Encryption

Results

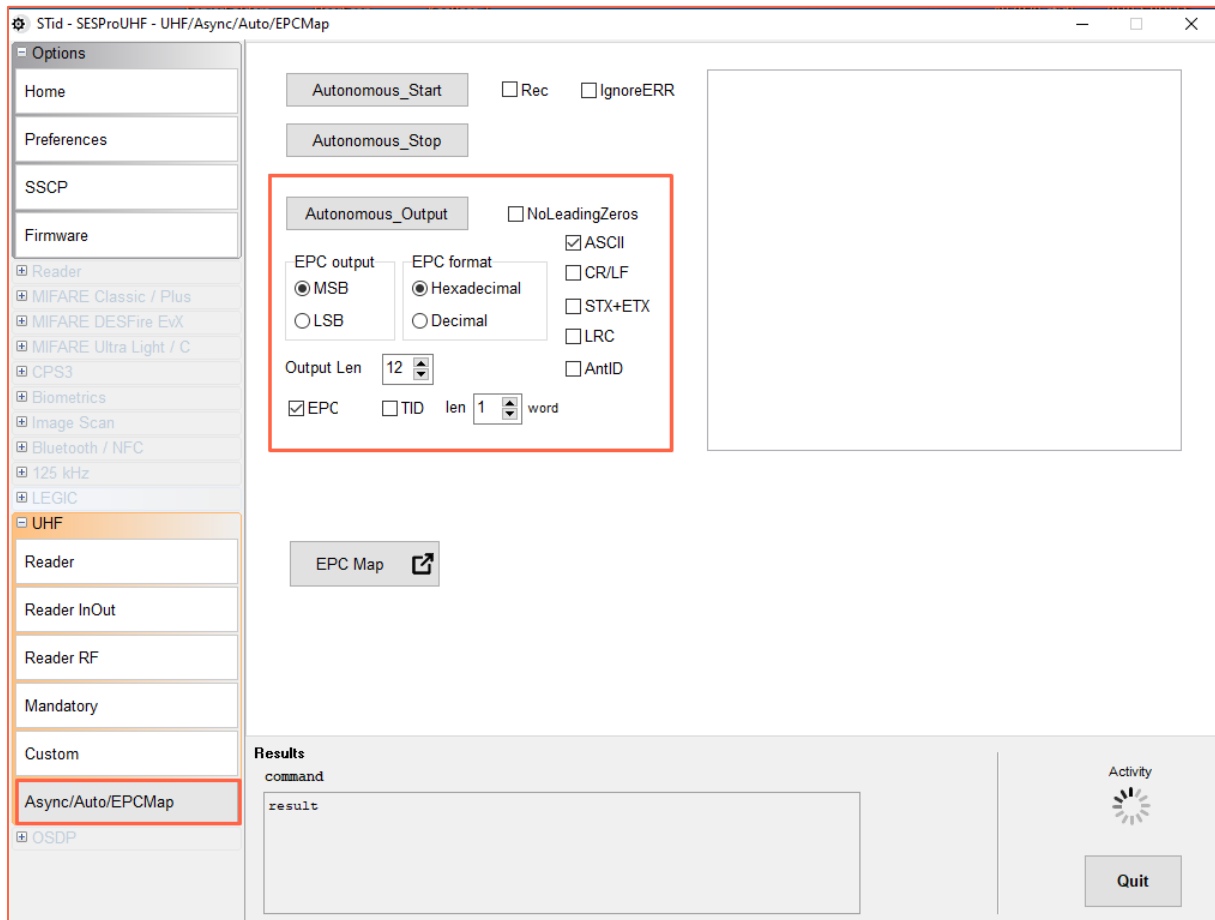
command

result

Activity

Quit

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



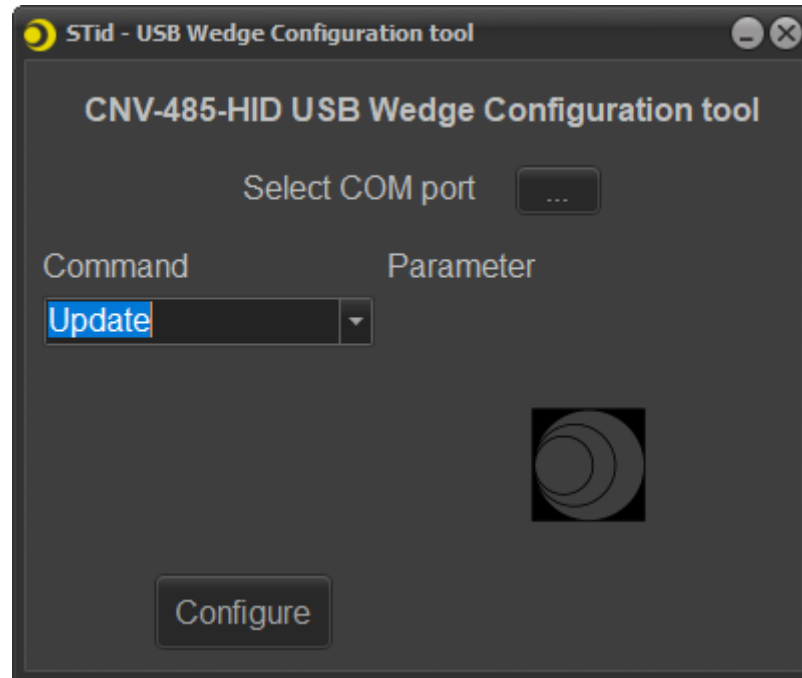
5- Click “Autonomous_Output”.

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

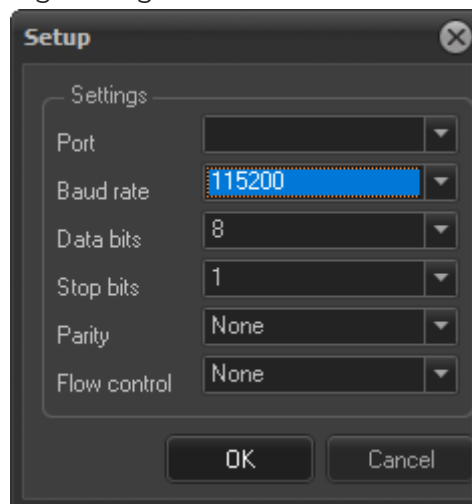
7- Disconnect the internal USB-C.

APPENDIX 1 – STid USB WEDGE

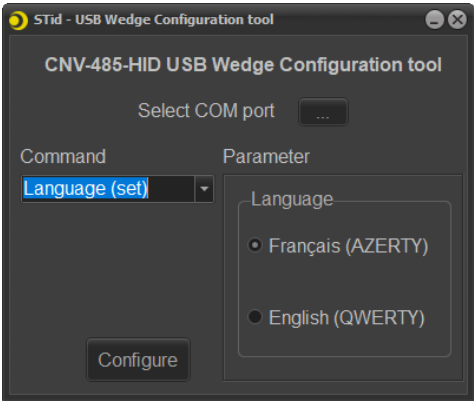
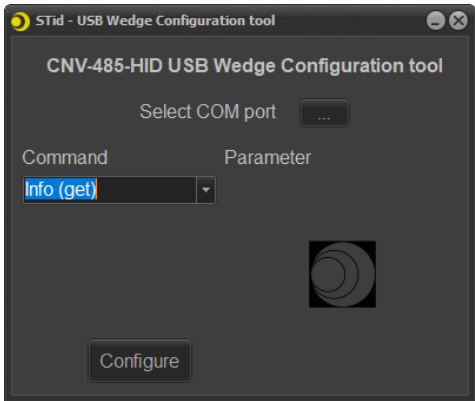
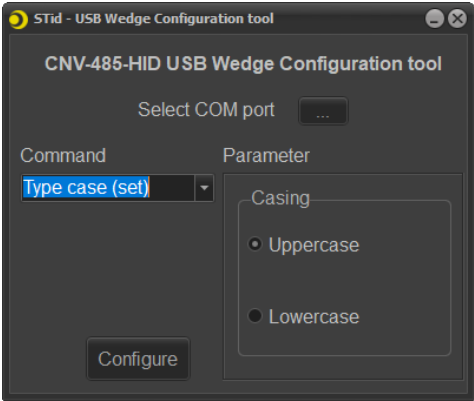
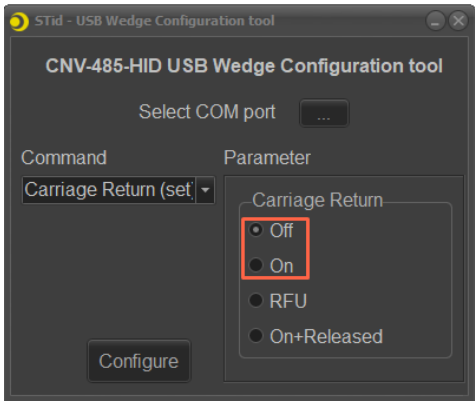
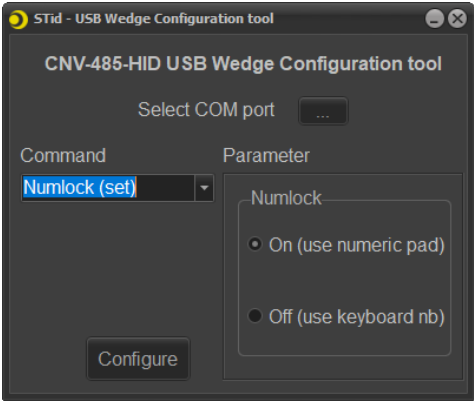
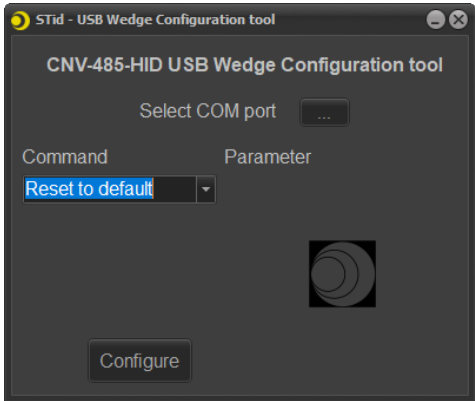
This tool is used to change the Wedge settings of the SMI reader and of the CNV_485_HID_SME.



- 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	Command	Setting
language		info	
casing		charreturn	
numloc		reset	

3- Click the “Configure” button.

Headquarters / EMEA

13850 Gréasque, France
Tel.: +33 (0)4 42 12 60 60

PARIS-IDF Office

92290 Châtenay-Malabry, France
Tel.: +33 (0)1 43 50 11 43

STid UK Ltd. LONDON

Hayes UB11 1FW, UK
Tel.: +44 (0)192 621 7884

STid UK Ltd.

Gallows Hill, Warwick CV34 6UW, UK
Tel.: +44 (0)192 621 7884

NORTH AMERICA Office

Irving, Texas 75063-2670, USA
Tel.: +1 469 524 3442

LATINO AMERICA Office

Cuauhtémoc 06600 CDMX, México
Tel.: +521 (55) 5256 4706



info@stid.com

www.stid-industry.com