

Quick Start

for PCIe-S114(i) PCIe-S144(i)



Oct. 2021/ Version 1.0

1

What's in the Shipping Package?

The package includes the following items:

- 1 PCIe-S114 or PCIe-S144



- 2 Quick Start Guide (This Guide)

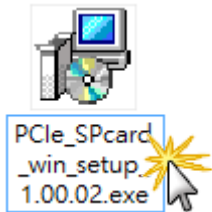


- 3 CA-4002 D-Sub Connector



2

Installing Windows Driver



- 1 Launch the **Windows XP/7/8/10/2012/2016 (32/64-bit) driver setup program (PCIe_SPCard_Win_Setup_1.00.02.exe)**, which can be obtained from ICP DAS via the link given below.



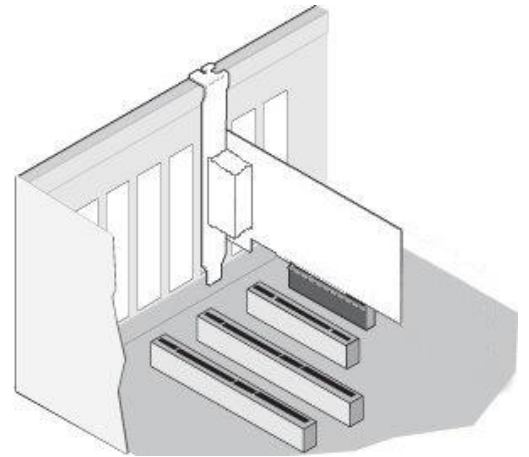
<https://www.icpdas.com/en/download/index.php?nation=US&kw=PCIe+Series+Card+Windows+Driver>

- 2 Click the **“Next>”** button to start the installation.
- 3 Click the **“Next>”** button to install the driver into the default folder.
- 4 In the installation process, the Command Prompt windows will be displayed, don't care. And please do not close this Command Prompt window in installation process.
- 5 Select the **“NO, I will restart the computer later”** and click the **“Finish”** button.

3

Installing the Hardware

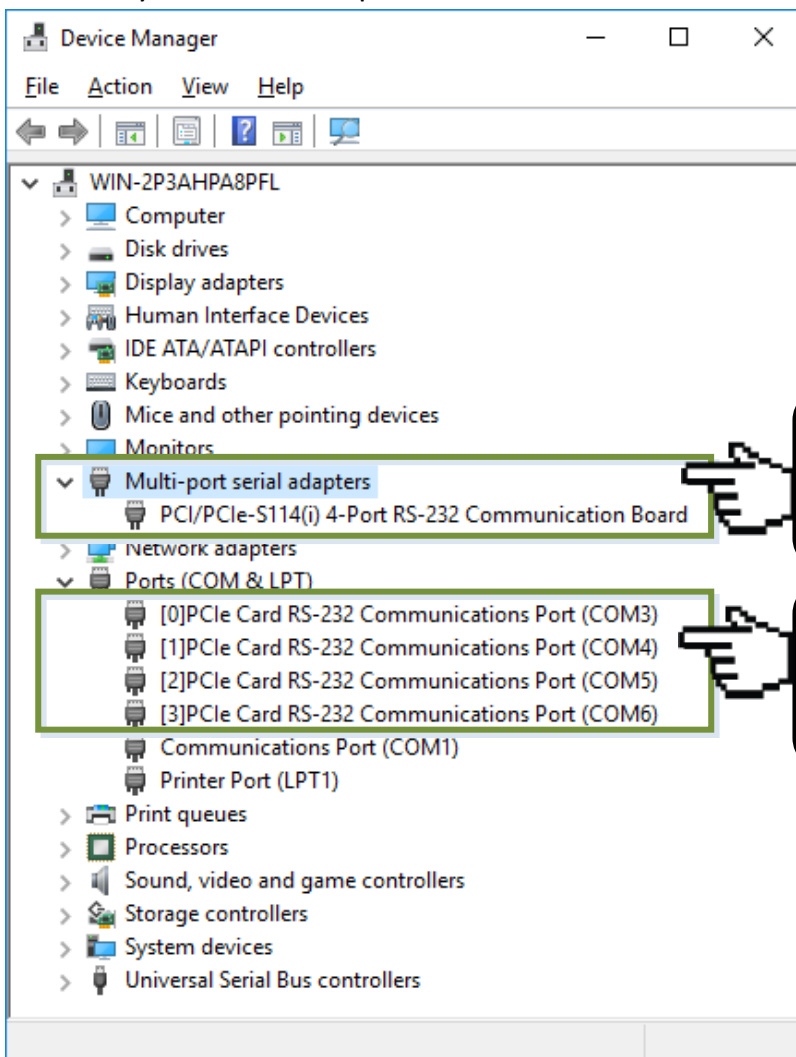
- 1 Shut down and power off your computer.
- 2 Remove the cover from the computer.
- 3 Select an unused PCI Express slot.
- 4 Carefully insert your PCIe-S1x4 card into the PCI Express slot.
- 5 Replace the PC cover.
- 6 Power on the computer.
- 7 Follow the prompt message to finish the Plug & Play steps.
- 8 Please open the **“Device Manager”** to verify the COM port installation, as follows steps:



8-1: In Windows 7, Click **“Start”** button, and then click **“Control Panel”**.

8-2: Click **“System and Maintenance”**, and then click **“Device Manager”**.

8-3: Verify that the COM ports of PCIe-S114/S144 card are listed correctly.



Successful Installation

Check whether the PCIe-S1x4 card is listed correctly or not.

Successful Installation

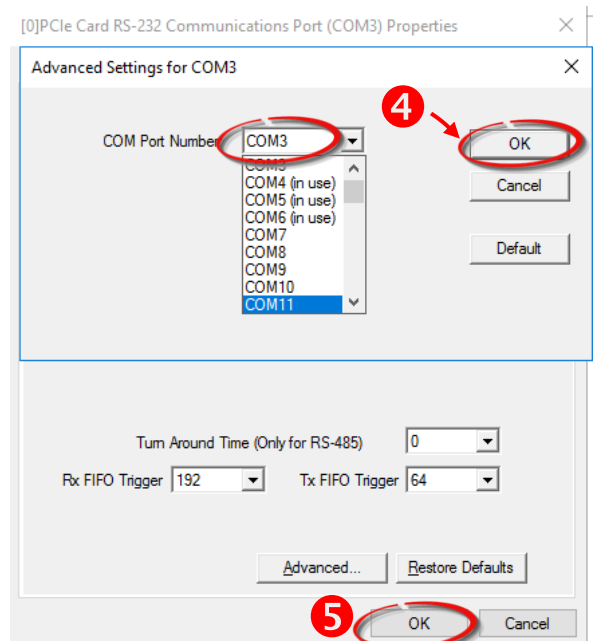
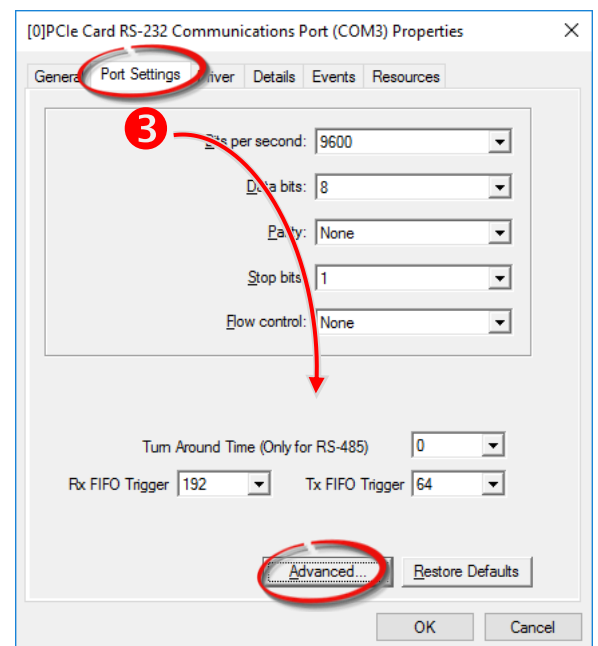
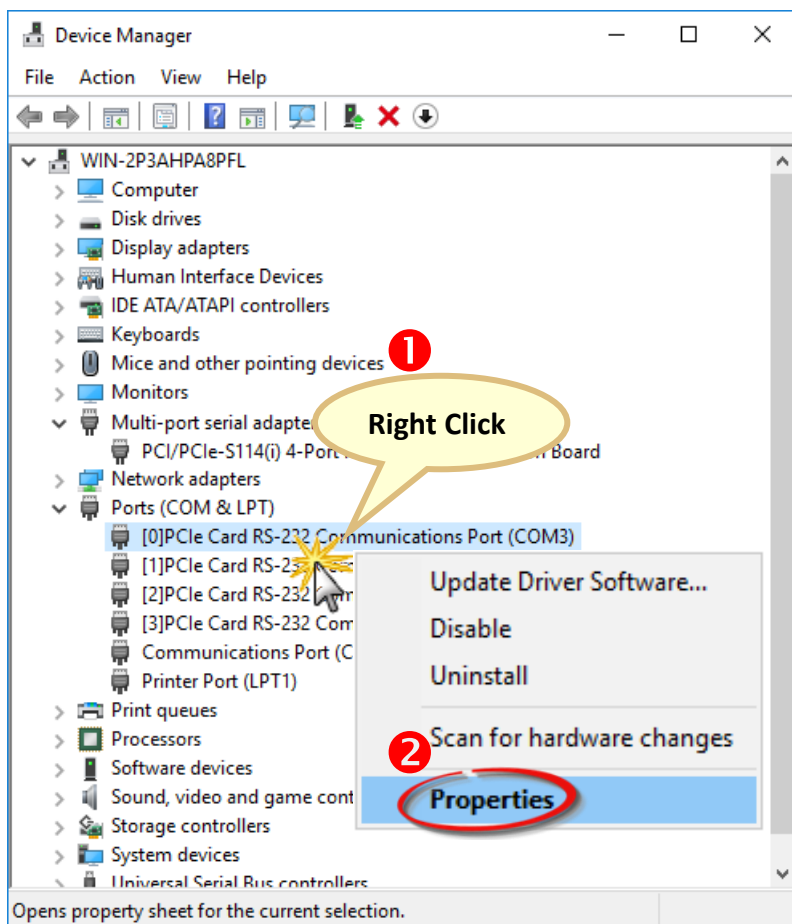
COM port mapping is automatically applied depending on the PC.

4

Manual COM Port Configuration

If the auto-configuration for COM Port is messy or that is not you need, you can change the COM port mappings. For detailed configuration steps, please refer to the following steps:

- 1 Open Windows **Device Manager** and **right click** the serial port of the PCIe-S1x4 series card.
- 2 Select the **“Properties”** item from the popup menu.
- 3 Click the **“Port Settings”** tab and click the **“Advanced...”** button.
- 4 Select the appropriate **COM Port number** from the **“COM Port Number:”** drop-down options and click the **“OK”** button. **Note that the COM port display “(in use)” means this COM port is being used. Therefore, please do not select it.**
- 5 Click the **“OK”** button in the “Properties” dialog box.
- 6 **Restart your computer** to complete the configuration.

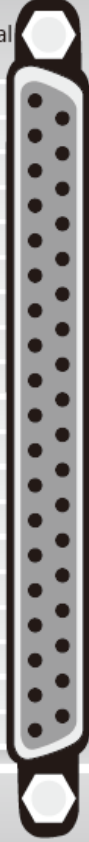


5

Pin Assignments and RS-232 Cable Wiring for PCIe-S114(i)

PCIe-S114/ PCIe-S114i DB-37

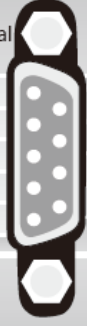
Pin Assignment	Terminal	No.	Pin Assignment
N.C.	01	20	RI3
DCD3	02	21	DTR3
GND	03	22	DSR3
CTS3	04	23	RTS3
RxD3	05	24	TxD3
RI4	06	25	DCD4
DTR4	07	26	GND
DSR4	08	27	CTS4
RTS4	09	28	RxD4
TxD4	10	29	RI2
DCD2	11	30	DTR2
GND	12	31	DSR2
CTS2	13	32	RTS2
RxD2	14	33	TxD2
RI1	15	34	DCD1
DTR1	16	35	GND
DSR1	17	36	CTS1
RTS1	18	37	RxD1
TxD1	19		



RS-232 Female DB-37 Connector

PCIe-S114/ PCIe-S114i DB-9

Pin Assignment	Terminal	No.	Pin Assignment
GND	05	09	RI
DTR	04	08	CTS
TxD	03	07	RTS
RxD	02	06	DSR
DCD	01		



RS-232 Female DB-37 to Male DB-9 Connector


PCIe-S114 Card		RS-232 Wiring		Device	
Signal	PIN		PIN	Signal	
RxD	2	←	3	TxD	
TxD	3	→	2	RxD	
GND	5	↔	5	GND	
DTR	4	→	6	DSR	
--	--		1	DCD	
DCD	1	←	--	--	
DSR	6	←	4	DTR	
RTS	7	→	8	CTS	
CTS	8	←	7	RTS	
RI	9	←	9	RI	

6

Pin Assignments and RS-422/485 Cable Wiring for PCIe-S144(i)

PCIe-S144/ PCIe-S144i DB-37


Pin Assignment	Terminal	No.	Pin Assignment
N.C.	01	20	CTS3-(A)
TxD3-(A)/Data3-(A)	02	21	RxD3-(A)
GND/VEE3	03	22	RTS3-(A)
CTS3+(B)	04	23	RTS3+(B)
TxD3+(B)/Data3+(B)	05	24	RxD3+(B)
CTS4-(A)	06	25	TxD4-(A)/Data4-(A)
RxD4-(A)	07	26	GND/VEE4
RTS4-(A)	08	27	CTS4+(B)
RTS4+(B)	09	28	TxD4+(B)/Data+(B)
RxD4+(B)	10	29	CTS2-(A)
TxD2-(A)/Data2-(A)	11	30	RxD2-(A)
GND/VEE2	12	31	RTS2-(A)
CTS2+(B)	13	32	RTS2+(B)
TxD2+(B)/Data2+(B)	14	33	RxD2+(B)
CTS1-(A)	15	34	TxD1-(A)/Data1-(A)
RxD1-(A)	16	35	GND/VEE1
RTS1-(A)	17	36	CTS1+(B)
RTS1+(B)	18	37	TxD1+(B)/Data1+(B)
RxD1+(B)	19		



RS-422/485 Female DB-37 Connector

PCIe-S144/ PCIe-S144i DB-9

Pin Assignment	Terminal	No.	Pin Assignment
GND/VEE	05	09	CTS-(A)
RxD-(A)	04	08	CTS+(B)
RxD+(B)	03	07	RTS+(B)
TxD+(B)/Data+(B)	02	06	RTS-(A)
TxD-(A)/Data-(A)	01		



RS-422/485 Female DB-37 to Male DB-9 Connector

PCIe-S144 Card		RS-485 Wiring		Device	
Signal	PIN		PIN	Signal	
DATA-	1	↔	1	DATA-	
DATA+	2	↔	2	DATA+	

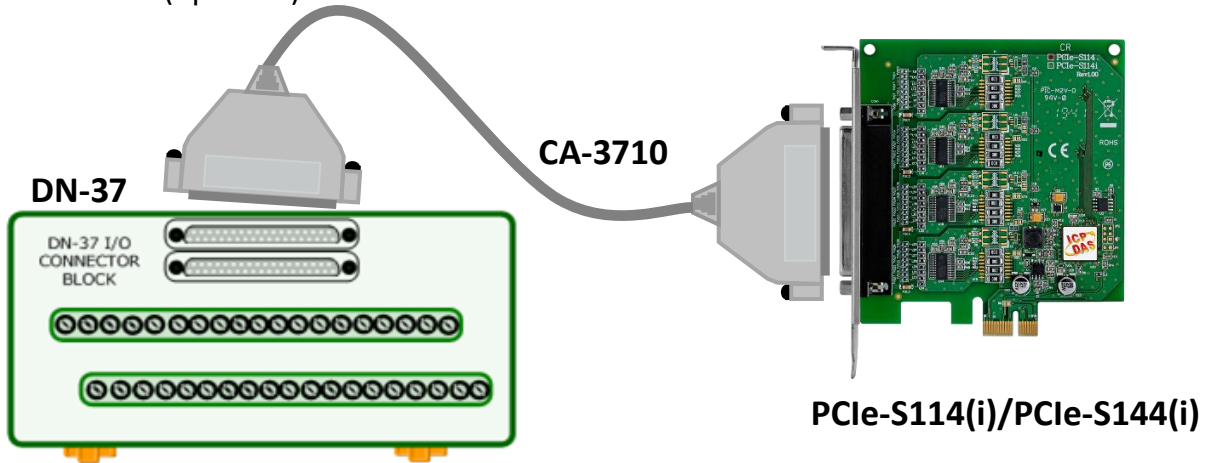
Note: The RS-485 bus is a differential (balanced) signal, thus you cannot wire the Data+ with Data- directly for a single port loop-back test. It will not work at all.

PCIe-S144 Card		RS-422 Wiring		Device	
Signal	PIN		PIN	Signal	
TxD-	1	→	4	RxD-	
TxD+	2	→	3	RxD+	
RxD+	3	←	2	TxD+	
RxD-	4	←	1	TxD-	
GND	5	↔	5	GND	
RTS-	6	→	9	CTS-	
RTS+	7	→	8	CTS+	
CTS+	8	←	7	RTS+	
CTS-	9	←	6	RTS-	

7

Self-Test Wiring

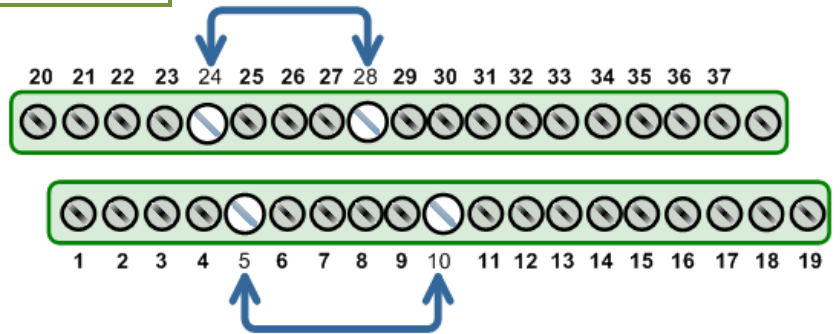
Step 1: Connect the DN-37 terminal board (optional) to the PCIe-S1x4 series card using the CA-3710 cables (optional).



Step 2: Wire the Port 3 and Port4.

➤ **PCIe-S114(i) card (RS-232 Wiring):** Shorting the RxD, TxD and GND pins of both Port3 and Port4.

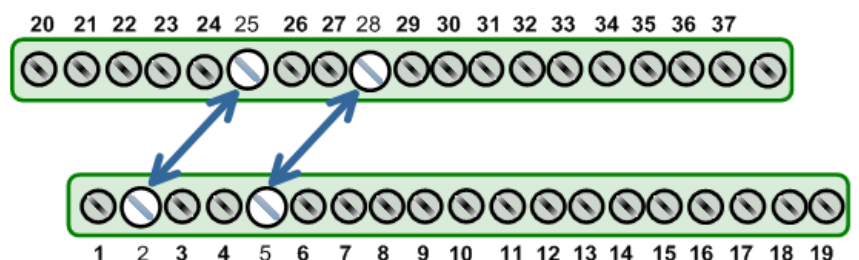
Port3 Signal	PIN		PIN	Port4 Signal
TxD3	24	↔	28	RxD4
RxD3	05	↔	10	TxD4



➤ **PCIe-S144(i) card (RS-485 Wiring):**

Shorting the **Port3 Data+** and **Port4 Data+** and the **Port3 Data-** and **Port4 Data-** pins.

Port3 Signal	PIN		PIN	Port4 Signal
Data3-	02	↔	25	Data4-
Data3+	05	↔	28	Data4+



8

Execute the Test Program

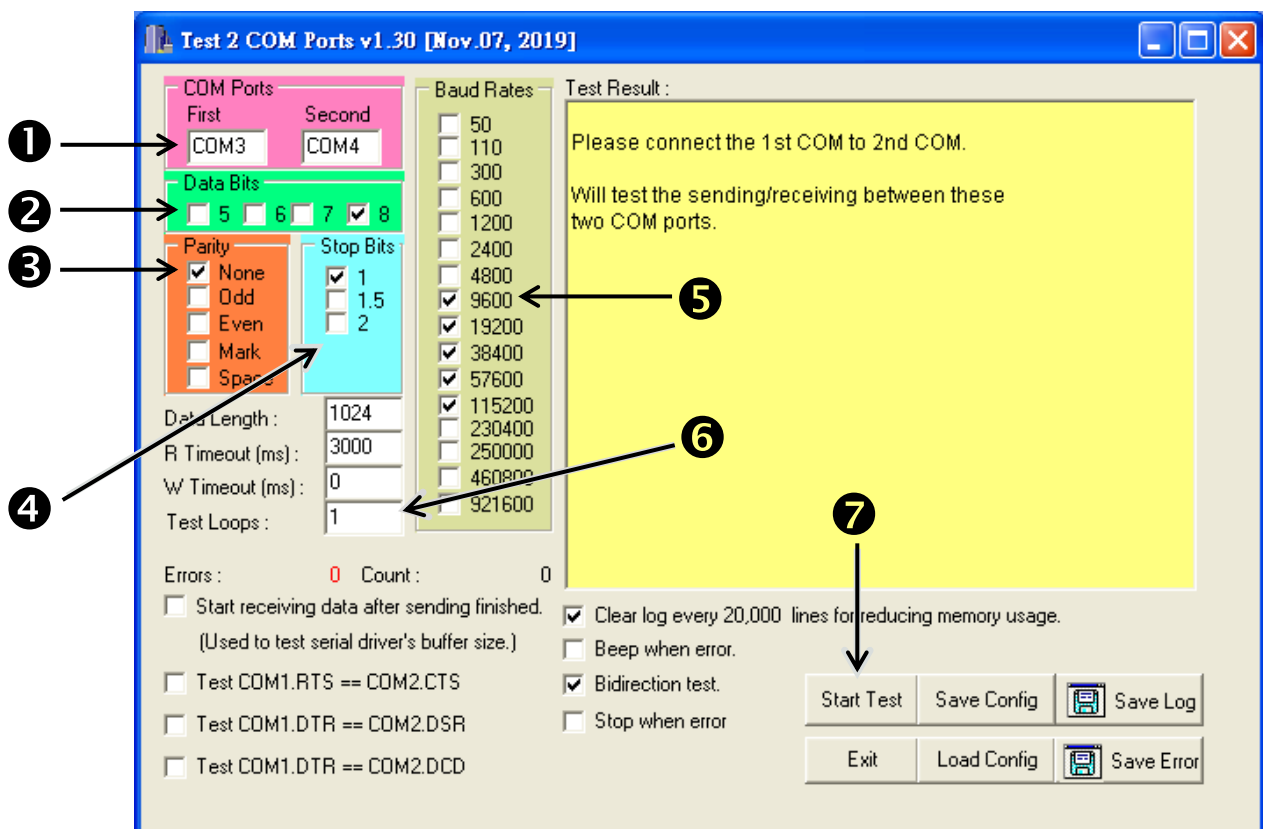
Step 1: Execute the **Test2COM.exe** program, which can be downloaded from:



<https://www.icpdas.com/en/download/index.php?nation=US&kw=Test2COM>

Step 2: Set the appropriate COM Ports, Baud Rate and Data Format information to the values shown in the image below.

- ❶ COM Ports: Enter **COM3** (First), **COM4** (Second).
- ❷ Data Bits: Check **"8"**
- ❸ Parity: Check **"None"**
- ❹ Stop Bits: Check **"1"**
- ❺ Baud Rates: Check values **9600 to 115200**
- ❻ Test Loops: Type **"1"**
- ❼ Click **"Start Test"** to begin the test.

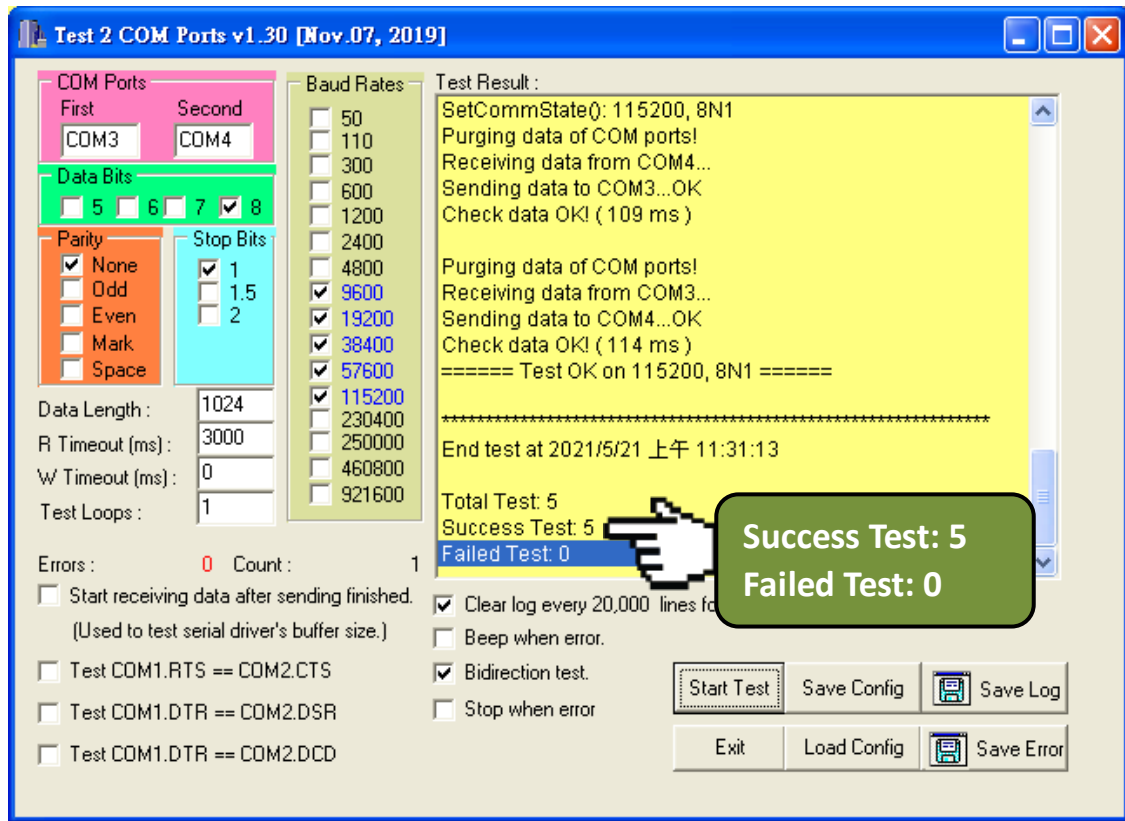


9

Successful Testing

Once the test is complete, verify the test results.

If the result indicates that the test was successful, the expanded COM Port is ready-to-use.



Related Information

- PCIe-S114(i)/PCIe-S144(i) card product page:
<https://www.icpdas.com/en/product/guide+Industrial+Communication+Serial+Communication+Multi-port+Serial+Board#793>
- DN-37 and CA-3710 product page (optional):
<https://www.icpdas.com/en/product/DN-37>
<https://www.icpdas.com/en/product/CA-3710>
- Software and documentation:
<https://www.icpdas.com/en/download/index.php?model=PCIe-S114>