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:

❶ PCIe-S114 or PCIe-S144



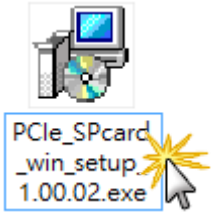
❷ Quick Start Guide (This Guide)



❸ CA-4002 D-Sub Connector



2 Installing Windows Driver



❶ 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

❷ Click the **"Next>"** button to start the installation.

❸ Click the **"Next>"** button to install the driver into the default folder.

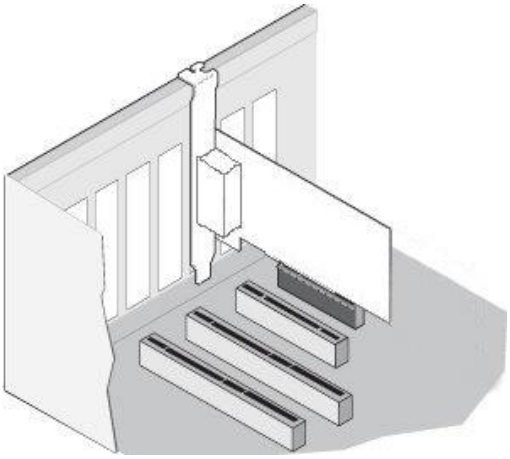
❹ In the installation process, the Command Prompt windows will be displayed, don't care. And please do not close this Command Prompt window in installation process.

❺ Select the **"NO, I will restart the computer later"** and click the **"Finish"** button.

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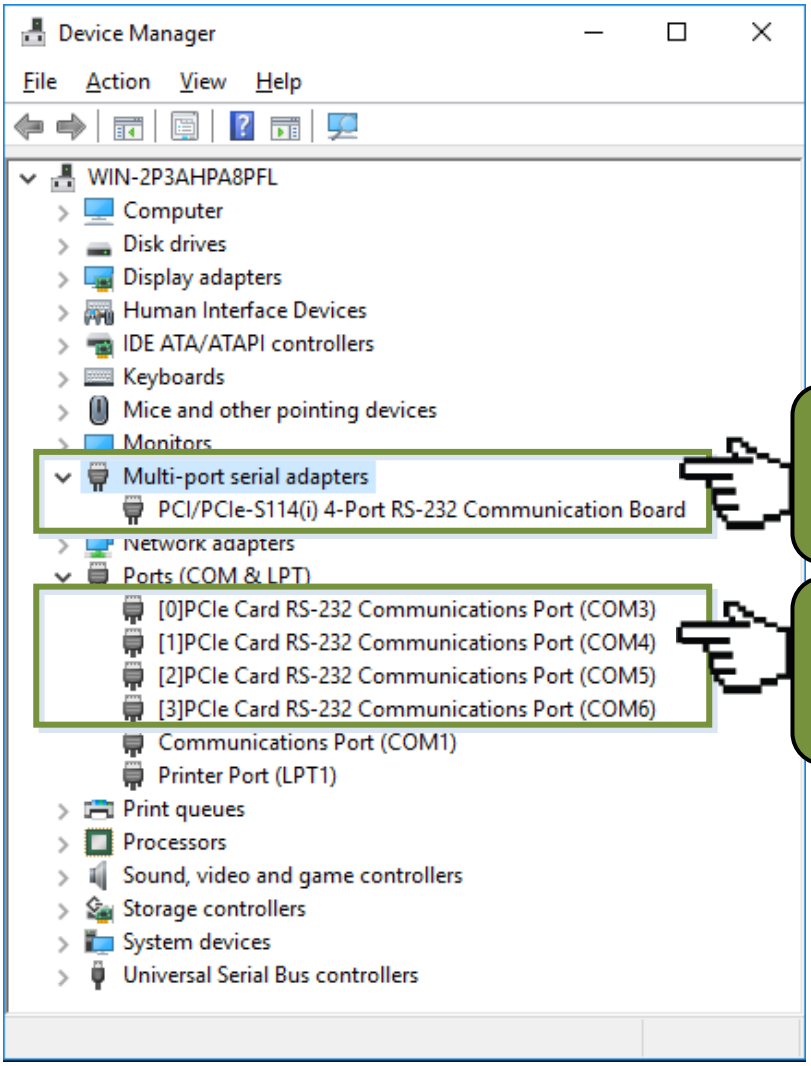
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3 Installing the Hardware



❶ Shut down and power off your computer.
❷ Remove the cover from the computer.
❸ Select an unused PCI Express slot.
❹ Carefully insert your PCIe-S1x4 card into the PCI Express slot.
❺ Replace the PC cover.
❻ Power on the computer.
❼ Follow the prompt message to finish the Plug & Play steps.
❽ 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.

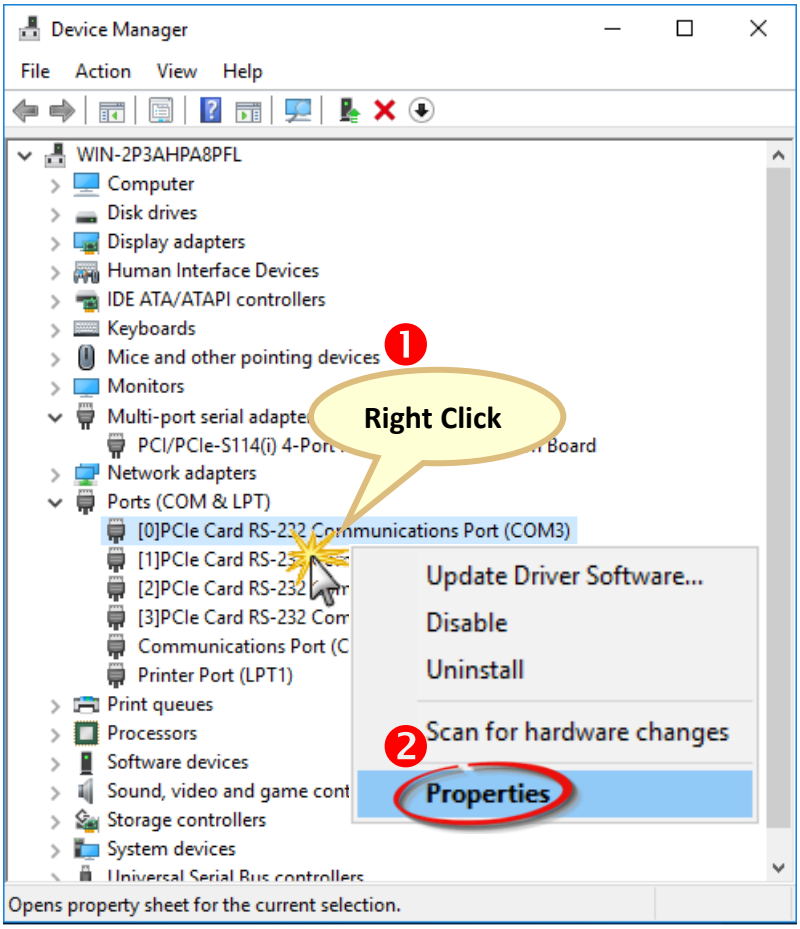
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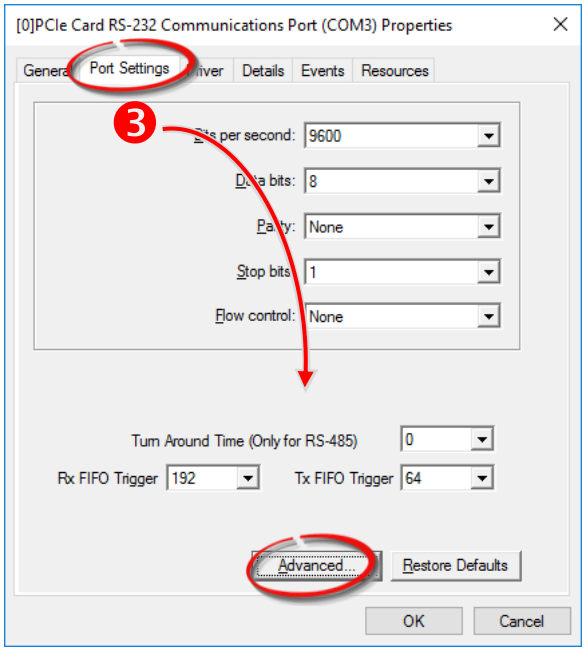
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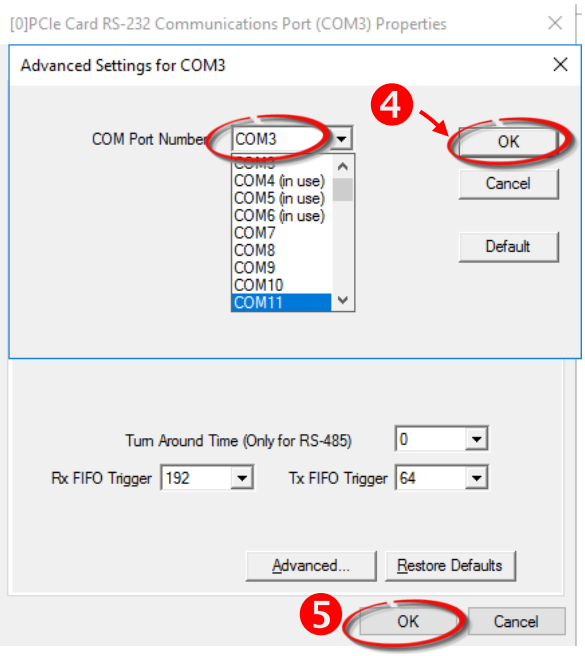
4 Manual COM Port Configuration

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:

❶ Open Windows **Device Manager** and **right click** the serial port of the PCIe-S1x4 series card.
❷ Select the "**Properties**" item from the popup menu.
❸ Click the **"Port Settings"** tab and click the "**Advanced…**" button.
❹ 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.**
❺ Click the **"OK"** button in the "Properties" dialog box.
❻ **Restart your computer** to complete the configuration.







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

PCIe-S114/ PCIe-S114i DB-37

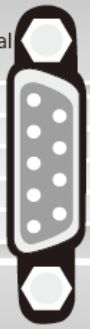
Pin Assignment	Terminal No.	Pin Assignment
N.C.	01	
DCD3	02	20 RI3
GND	03	21 DTR3
CTS3	04	22 DSR3
RxD3	05	23 RTS3
RI4	06	24 TxD3
DTR4	07	25 DCD4
DSR4	08	26 GND
RTS4	09	27 CTS4
TxD4	10	28 RxD4
DCD2	11	29 RI2
GND	12	30 DTR2
CTS2	13	31 DSR2
RxD2	14	32 RTS2
RI1	15	33 TxD2
DTR1	16	34 DCD1
DSR1	17	35 GND
RTS1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



RS-232 Female DB-37 Connector

PCIe-S114/ PCIe-S114i DB-9

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



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

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

PCIe-S144/ PCIe-S144i DB-37

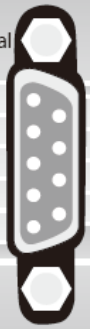
Pin Assignment	Terminal No.	Pin Assignment
N.C.	01	
TxD3-(A)/Data3-(A)	02	20 CTS3-(A)
GND/VEE3	03	21 RxD3-(A)
CTS3+(B)	04	22 RTS3-(A)
TxD3+(B)/Data3+(B)	05	23 RTS3+(B)
CTS4-(A)	06	24 RxD3+(B)
RxD4-(A)	07	25 TxD4-(A)/Data4-(A)
RTS4-(A)	08	26 GND/VEE4
RTS4+(B)	09	27 CTS4+(B)
RxD4+(B)	10	28 TxD4+(B)/Data+(B)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



RS-422/485 Female DB-37 Connector

PCIe-S144/ PCIe-S144i DB-9

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



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.

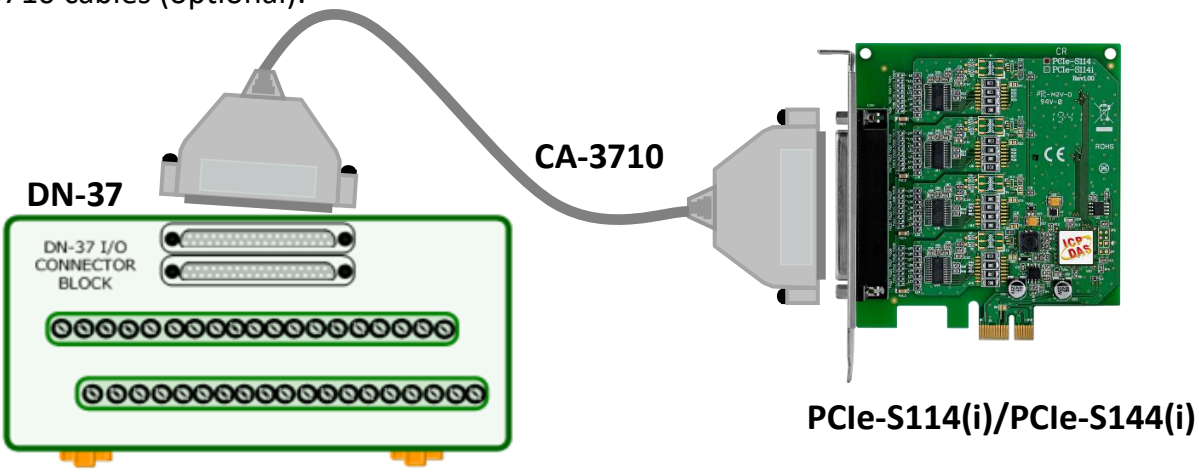
PCIe-S144 Card		RS-422 Wiring	Device	
Signal	PIN		PIN	Signal
TxD-	1	→	4	RXD-
TxD+	2	→	3	RxD+
RxD+	3	←	2	TxD+
RxD-	4	←	1	TxD-
GND	5	↔	5	GND
RTS-	6	→	9	CTS-
RTS+	7	→	8	CTS+
CTS+	8	←	7	RTS+
CTS-	9	←	6	RTS-

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7 Self-Test Wiring

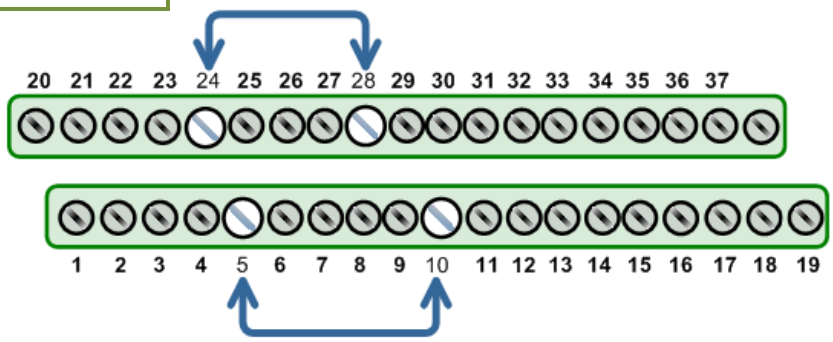
Step 1: Connect the DN-37 terminal board (optional) to the PCIe-S1x4 series card using the CA-3710 cables (optional).



Step 2: Wire the Port 3 and Port4.

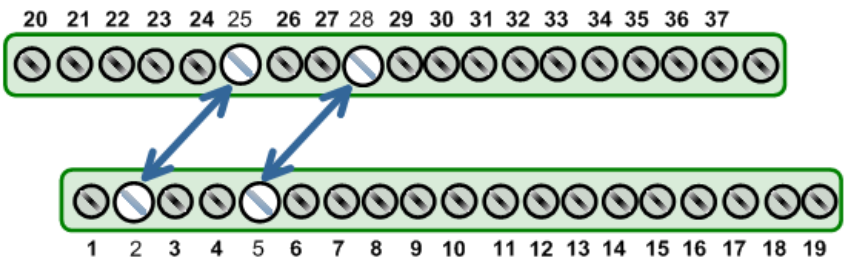
- **PCIe-S114(i) card (RS-232 Wiring):** Shorting the **RxD, TxD and GND pins** of both **Port3 and Port4**.

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+



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8 Execute the Test Program

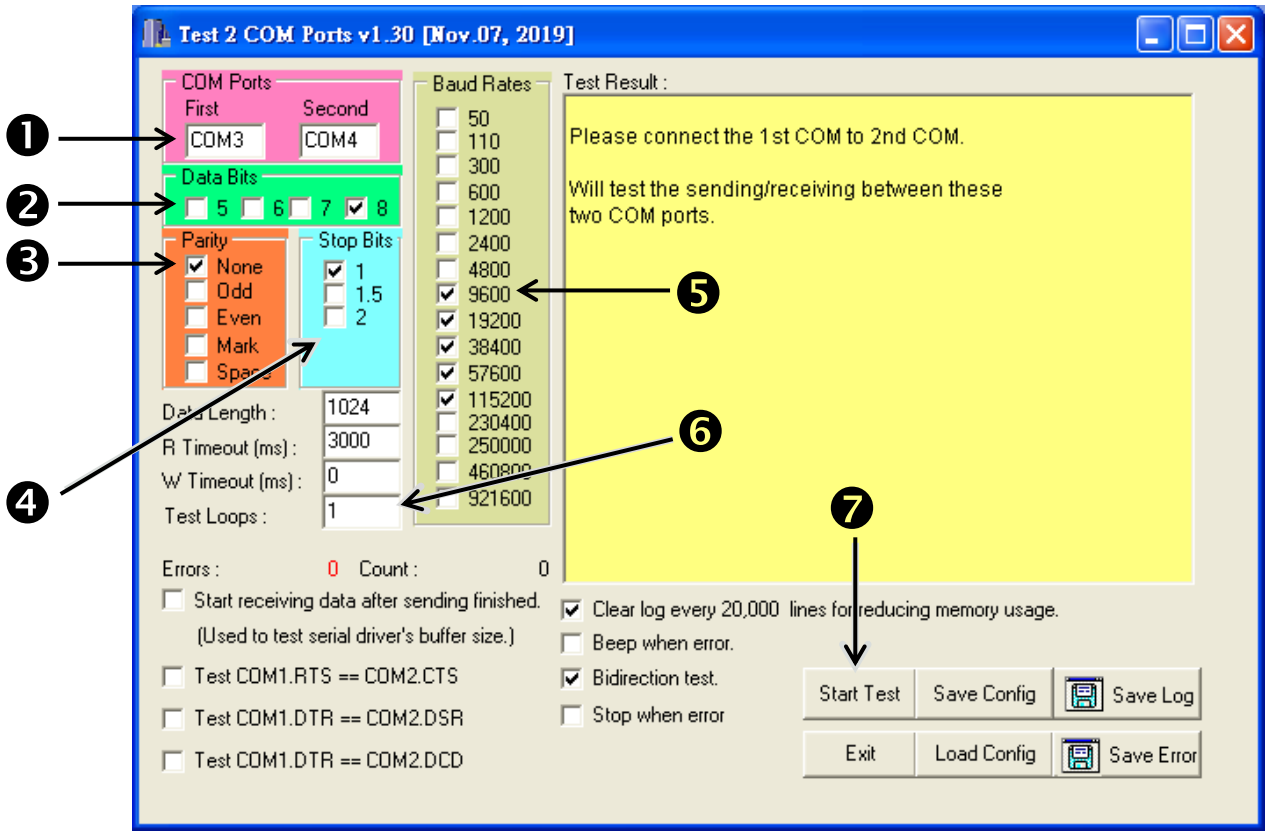
Step 1: Execute the **Test2COM.exe program**, which can be downloaded from:



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.

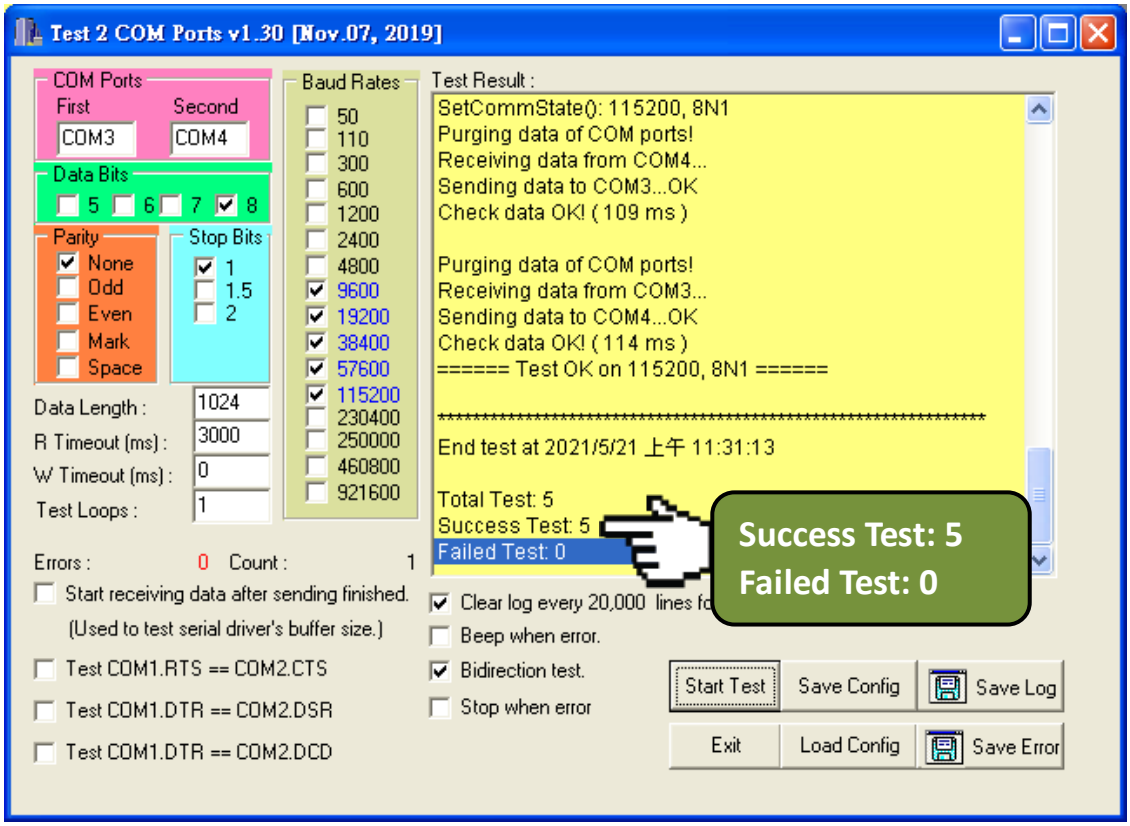


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9 Successful Testing

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

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