User Manual of DSC Switcher Tool for ThinkPad Universal Thunderbolt 4 Dock
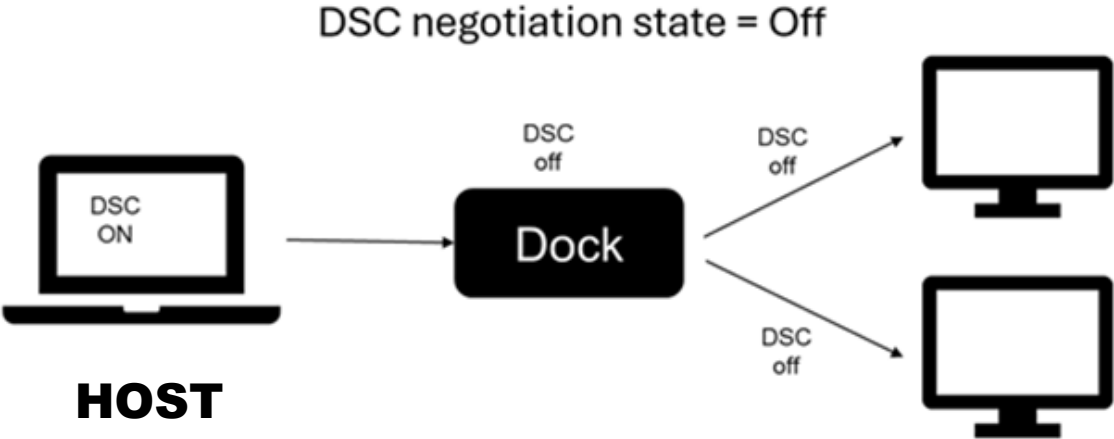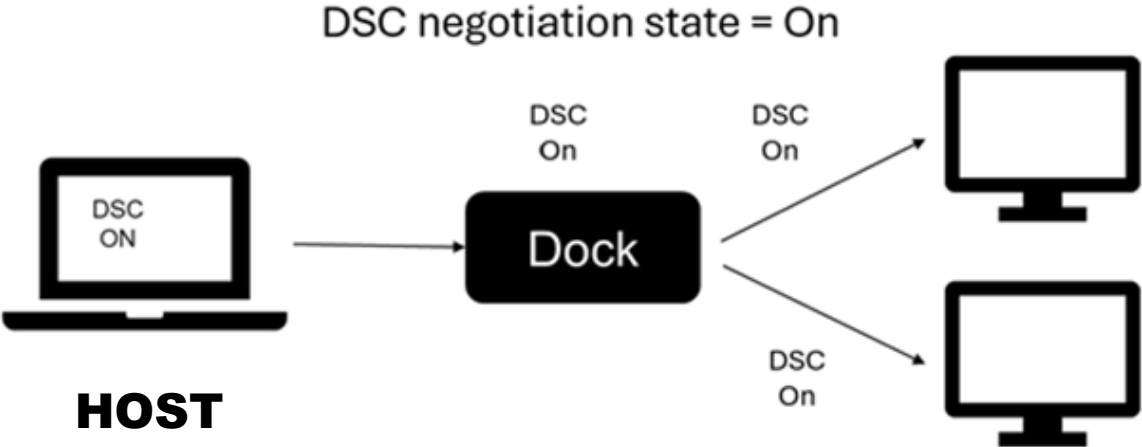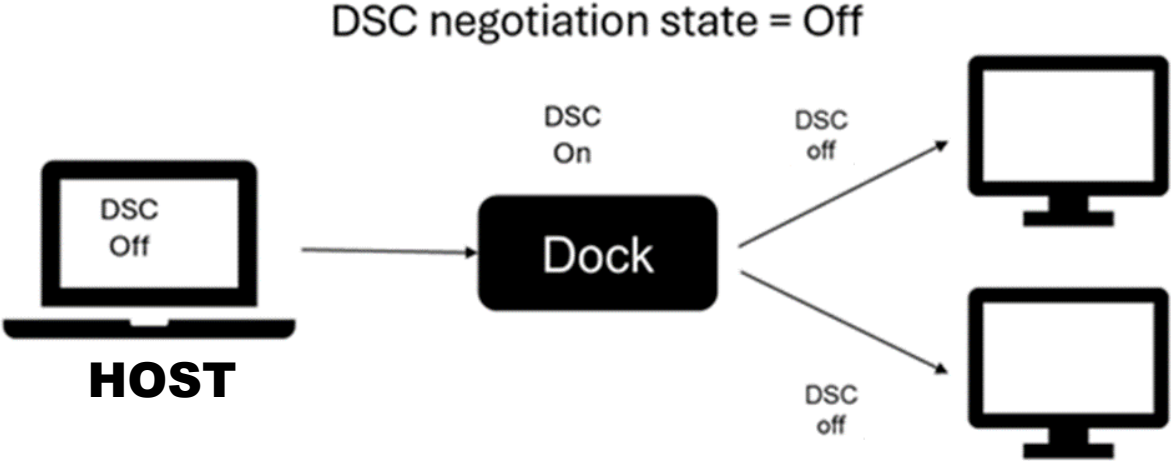
Lenovo 联想

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User Scenario

Host DSC ON

DSC negotiation state = Off

DSC ON [HOST] → DSC off [Dock] → DSC off → monitor, DSC off → monitor

DSC negotiation state = On

DSC ON [HOST] → DSC On [Dock] → DSC On → monitor, DSC On → monitor

Host DSC OFF

DSC negotiation state = Off

DSC Off [HOST] → DSC On [Dock] → DSC off → monitor, DSC off → monitor
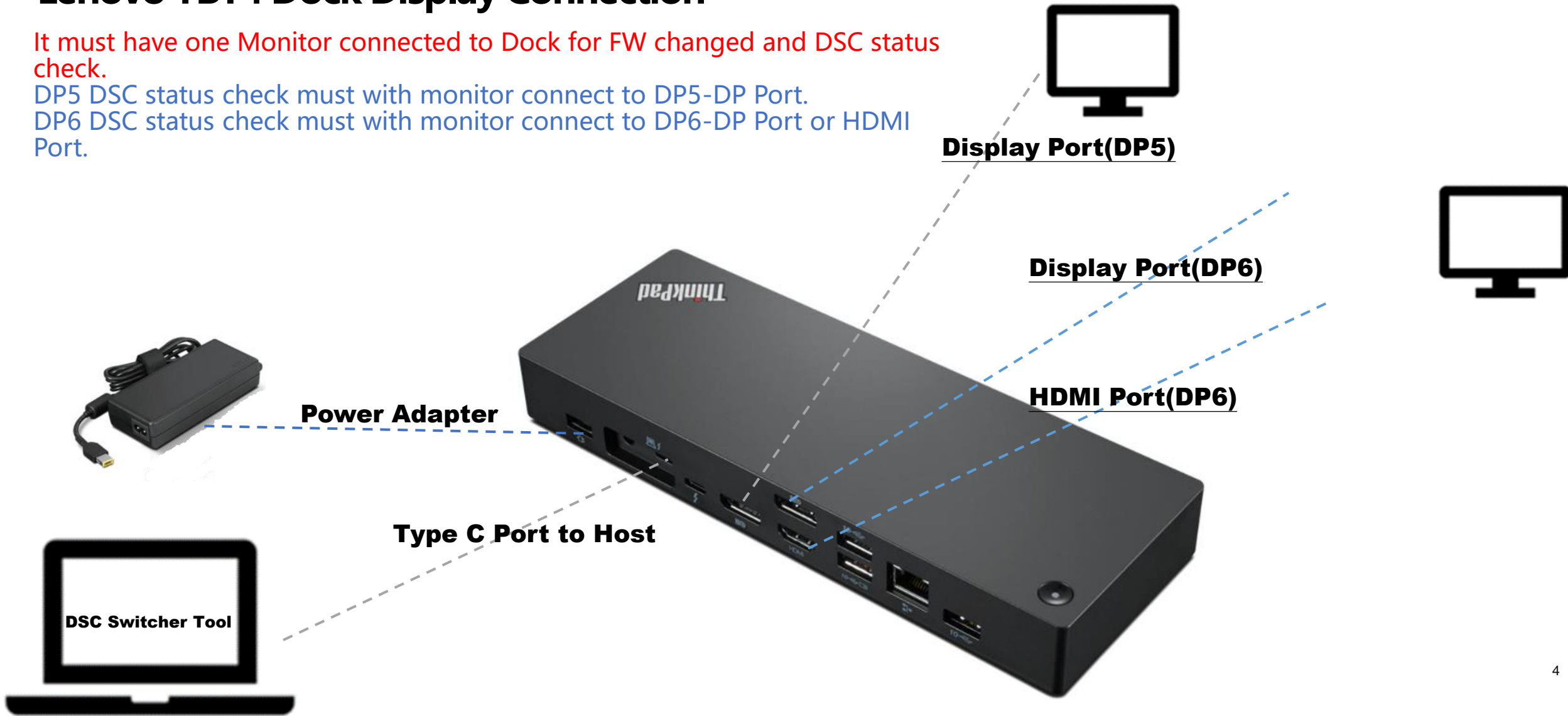
Lenovo TBT4 Dock Display Connection

It must have one Monitor connected to Dock for FW changed and DSC status check.
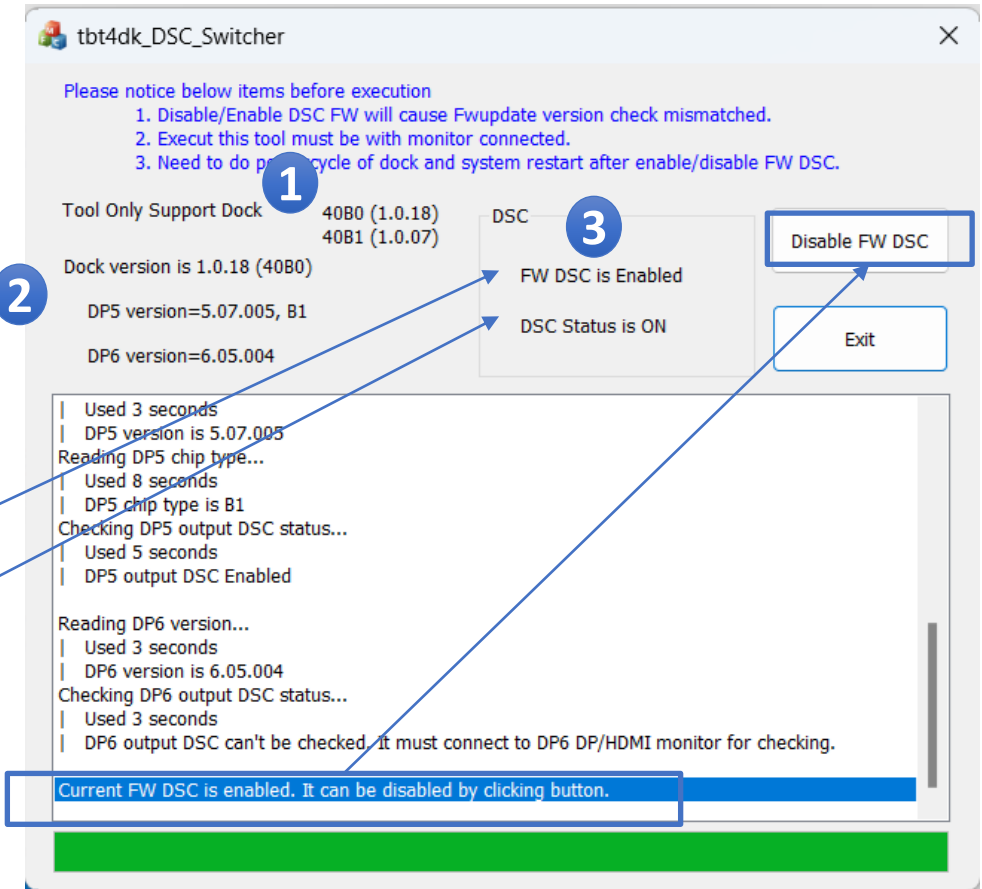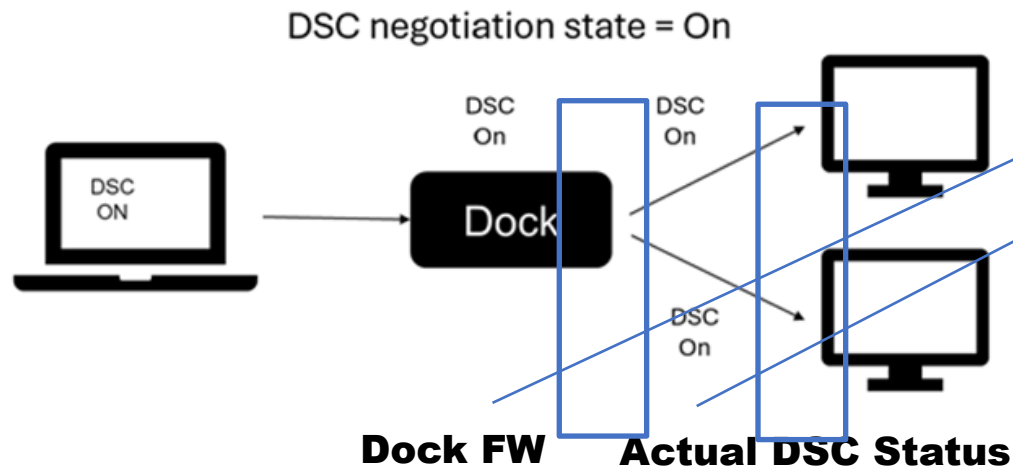DP5 DSC status check must with monitor connect to DP5-DP Port.
DP6 DSC status check must with monitor connect to DP6-DP Port or HDMI Port.

Display Port(DP5)

Display Port(DP6)

HDMI Port(DP6)

Power Adapter

Type C Port to Host

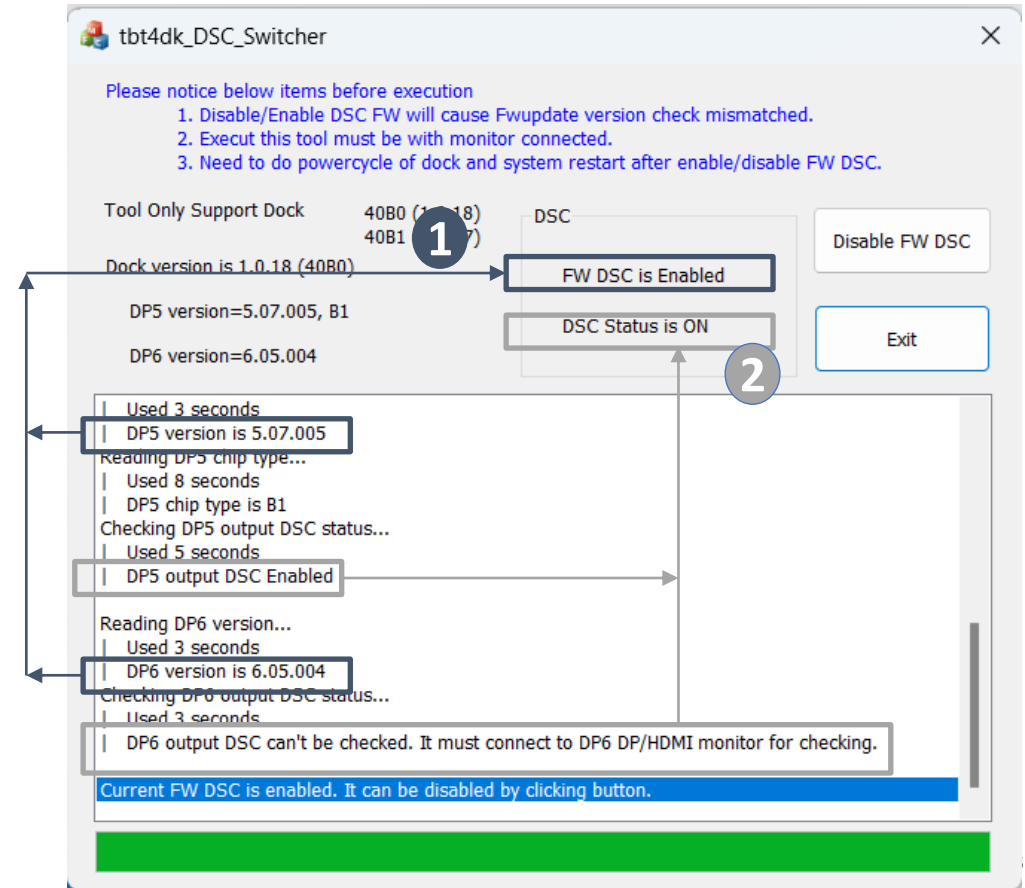**DSC Switcher Tool**

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DSC Switcher Tool UI Introduction

User Interface Introduction as below:

(1) Supported Dock model with FW version

(2) Detected Dock FW version and Current DP FW

(3) Display if Current DP FW is supporting DSC Function or not. And actual DSC status output is ON or OFF.

(4) Disable/Enable FW DSC Button. If Current FW DSC is enabled, user can click this button to disable DSC. If Current FW DSC is disabled, user can click this button to enable DSC.

DSC negotiation state = On

Dock FW   Actual DSC Status

tbt4dk_DSC_Switcher

Please notice below items before execution
1. Disable/Enable DSC FW will cause Fwupdate version check mismatched.
2. Execut this tool must be with monitor connected.
3. Need to do power cycle of dock and system restart after enable/disable FW DSC.

Tool Only Support Dock   40B0 (1.0.18)
                          40B1 (1.0.07)

Dock version is 1.0.18 (40B0)

DP5 version=5.07.005, B1

DP6 version=6.05.004

DSC
FW DSC is Enabled
DSC Status is ON

Disable FW DSC
Exit

```
| Used 3 seconds
| DP5 version is 5.07.005
Reading DP5 chip type...
| Used 8 seconds
| DP5 chip type is B1
Checking DP5 output DSC status...
| Used 5 seconds
| DP5 output DSC Enabled

Reading DP6 version...
| Used 3 seconds
| DP6 version is 6.05.004
Checking DP6 output DSC status...
| Used 3 seconds
| DP6 output DSC can't be checked, it must connect to DP6 DP/HDMI monitor for checking.
```

Current FW DSC is enabled. It can be disabled by clicking button.

DSC Switcher Tool Log Information

(1) It shows detected DP5 & DP6 FW version and judge current FW DSC function is enabled or disabled.

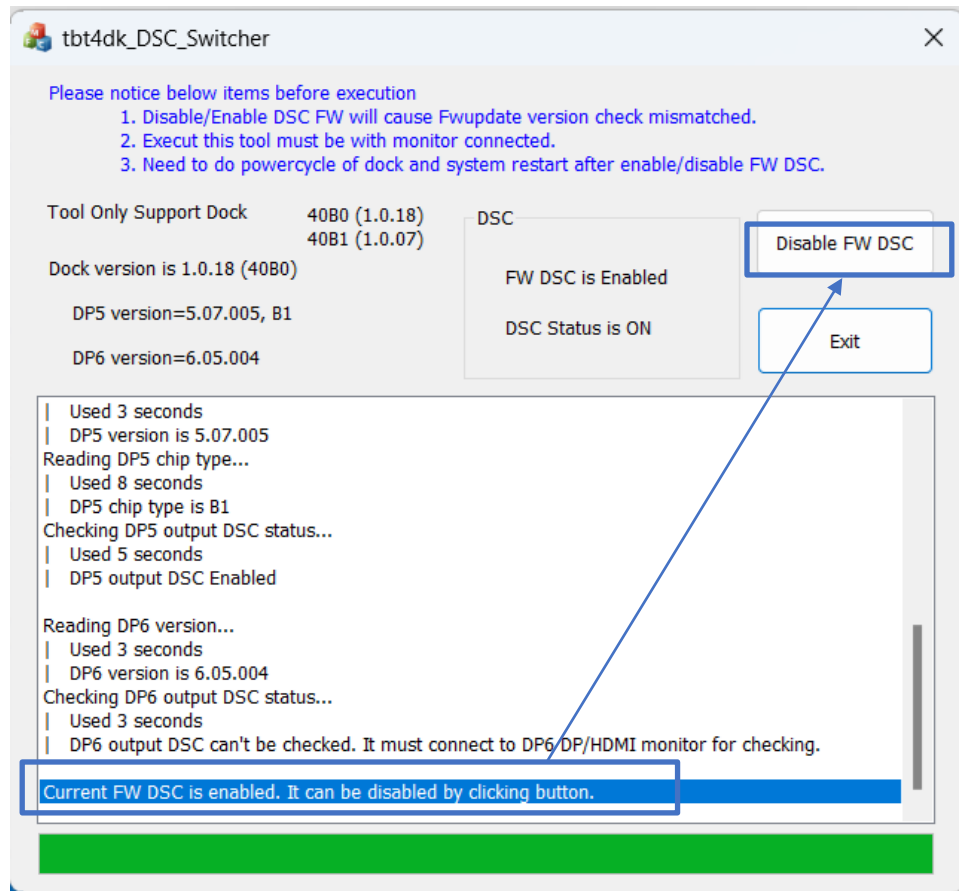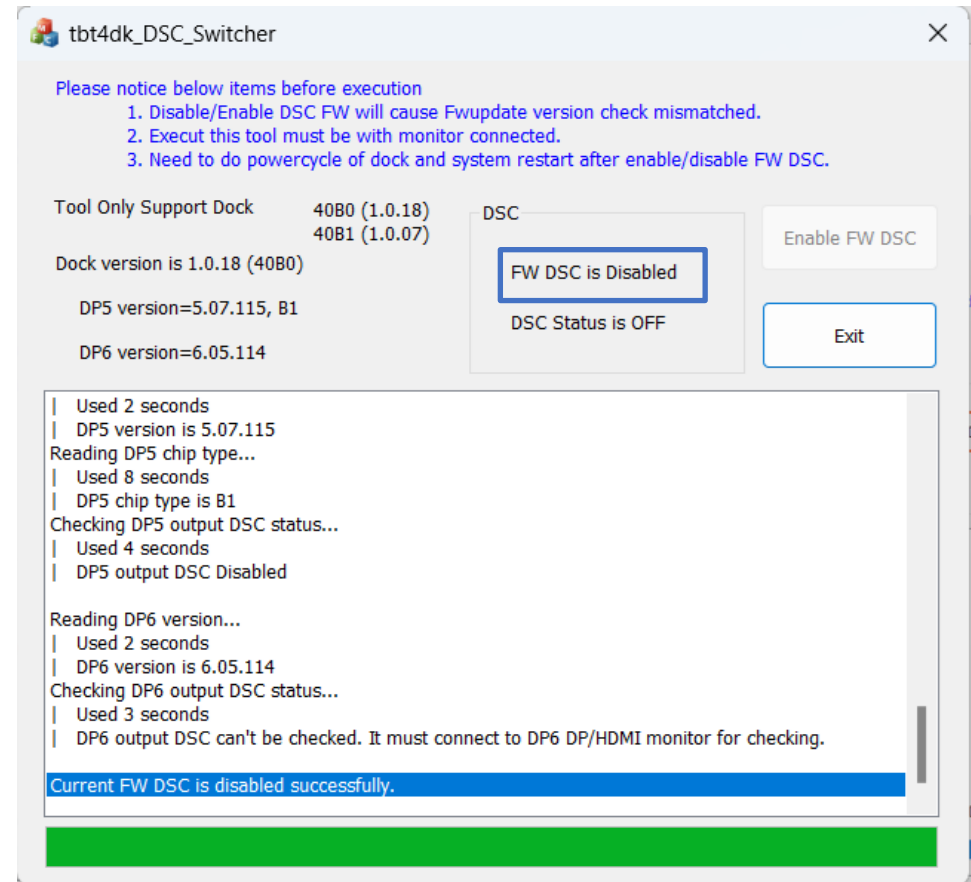(2) Detect actual DSC function is ON or OFF by actual monitor connection.

Log Output File is "tbt4dk_DSC_Switcher_yyyymmddhhmmss.log"
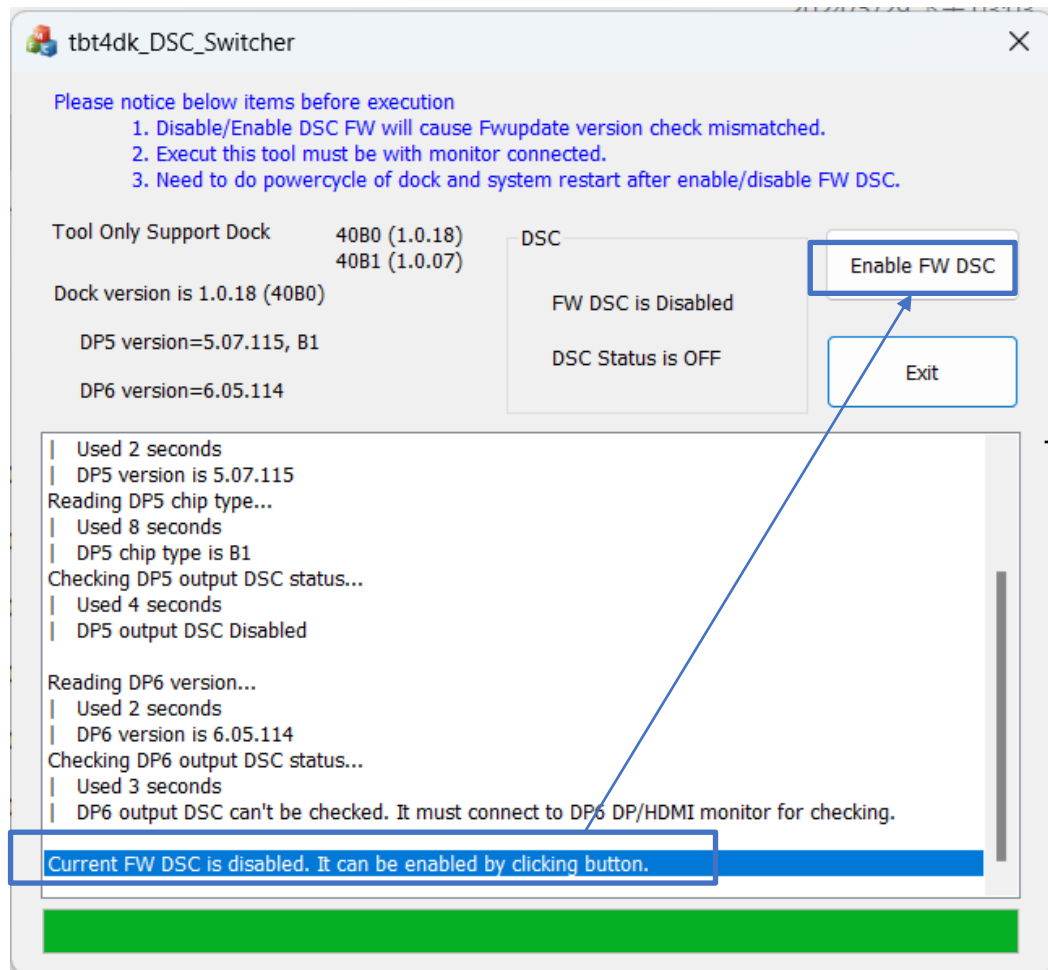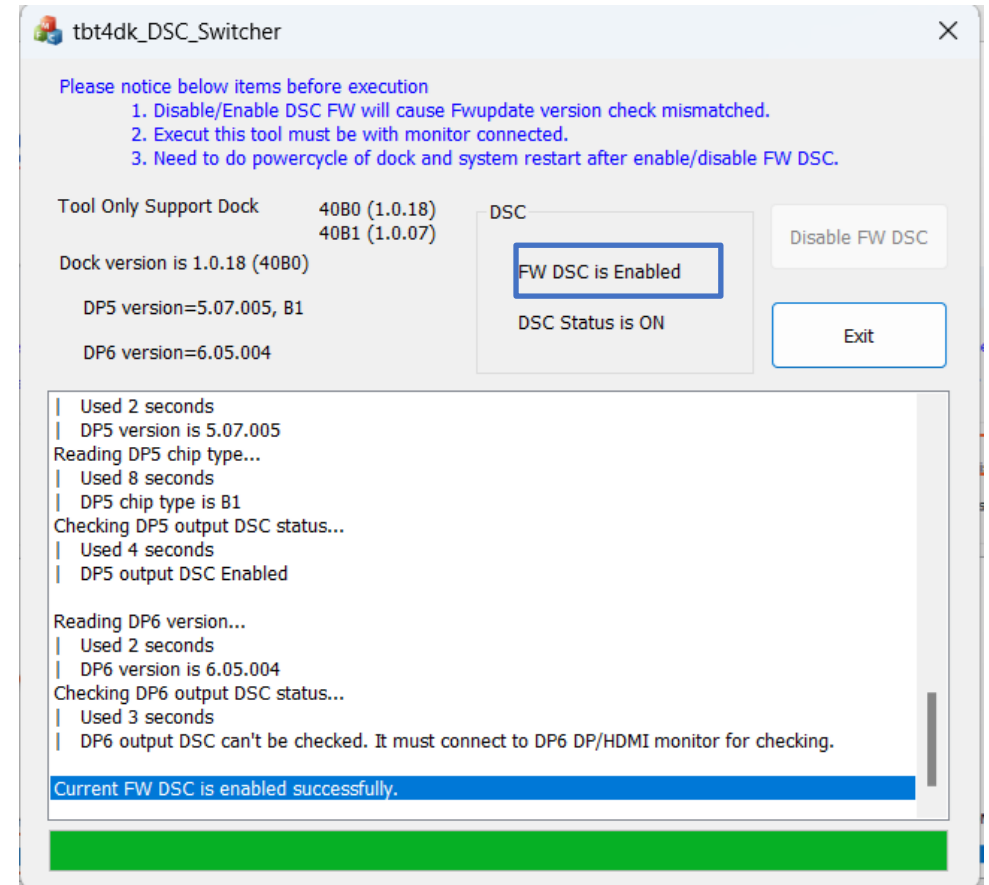
Tool Execution

Tool Execution_Disable FW DSC

DP FW support DSC Function

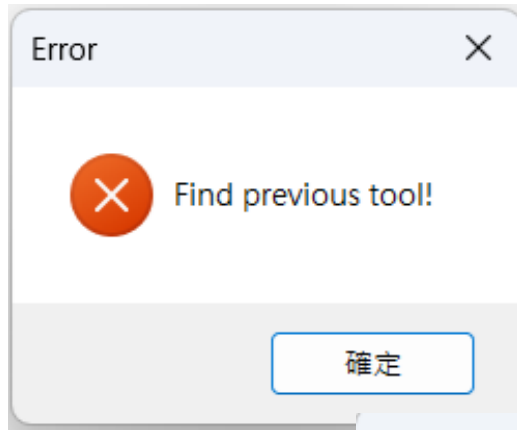**DP FW DSC is Disabled**

Tool Execution_Enable FW DSC

DP FW not support DSC Function

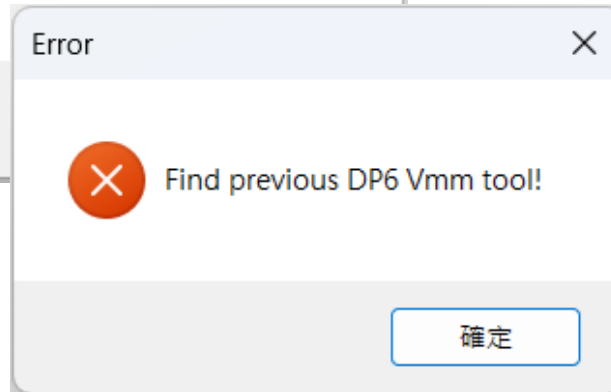**Enable FW DSC**

DP FW DSC is Enabled

Execution Cases

Case 1- Find Previous Tool

Error   ✕

❌ Find previous tool!

確定

Error   ✕
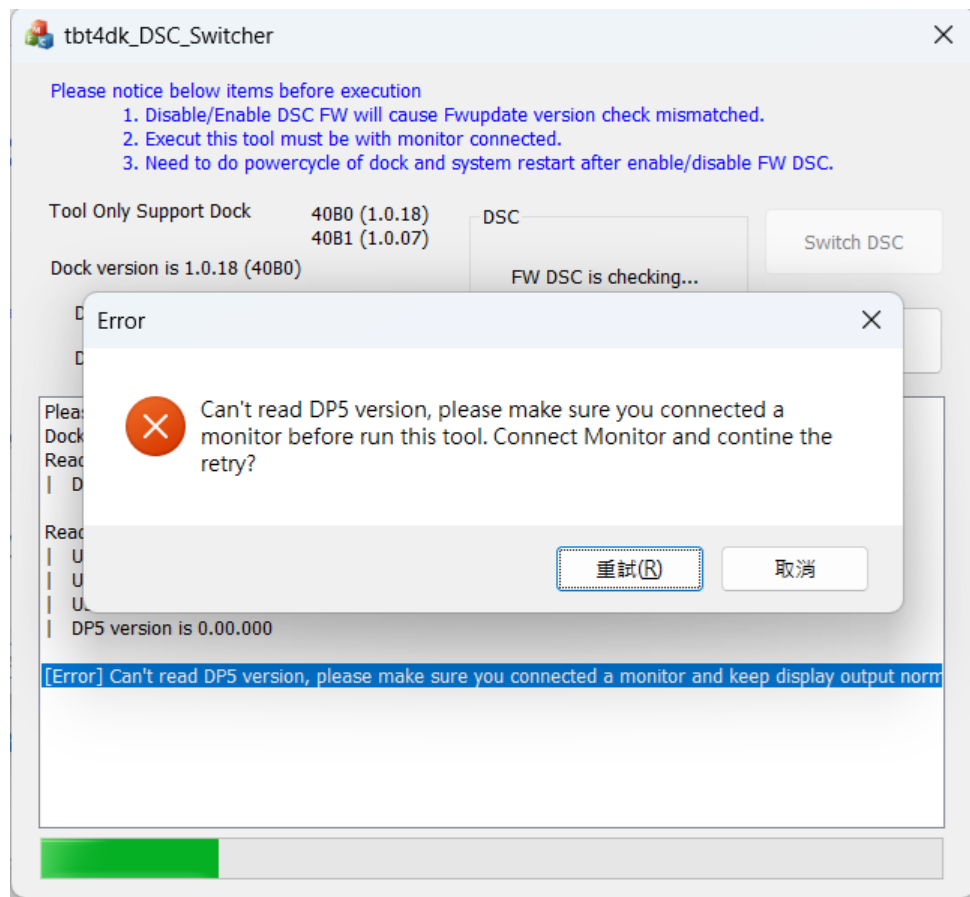
❌ Find previous DP5 Vmm tool!

Error   ✕

❌ Find previous DP6 Vmm tool!

確定

Exit this tool and continue to confirm if this tool or Vmmtool is already in execuction.
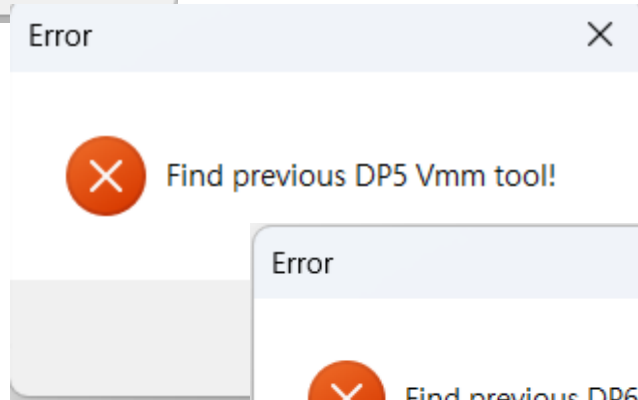
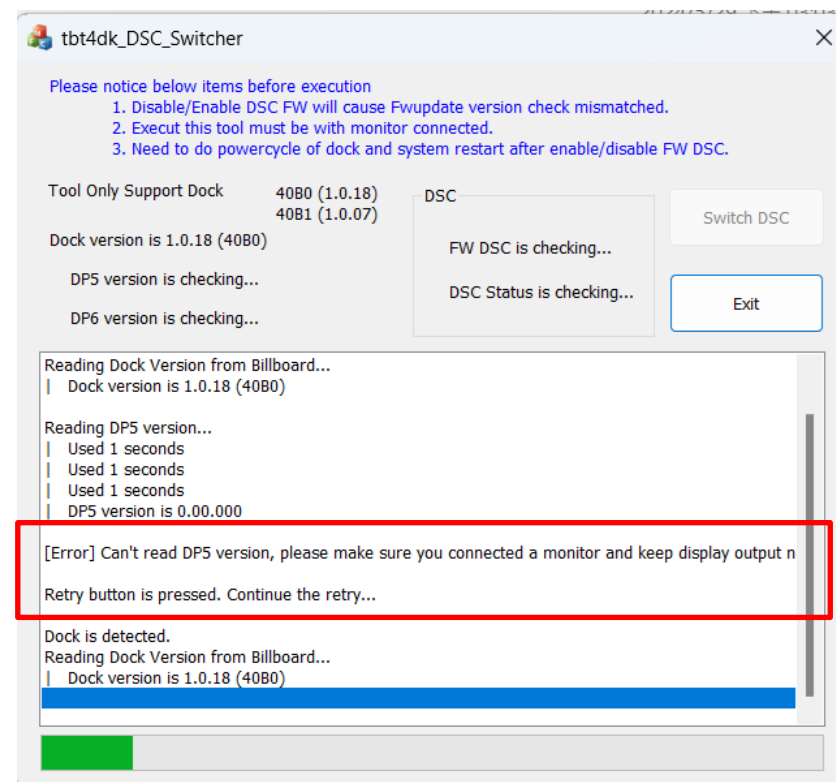# Case 2- Can't Read DP5/DP6 Version

Need to make sure at least one monitor is connected to dock well.

User can select below action

-Retry: Make sure one monitor is connected to dock and then continue
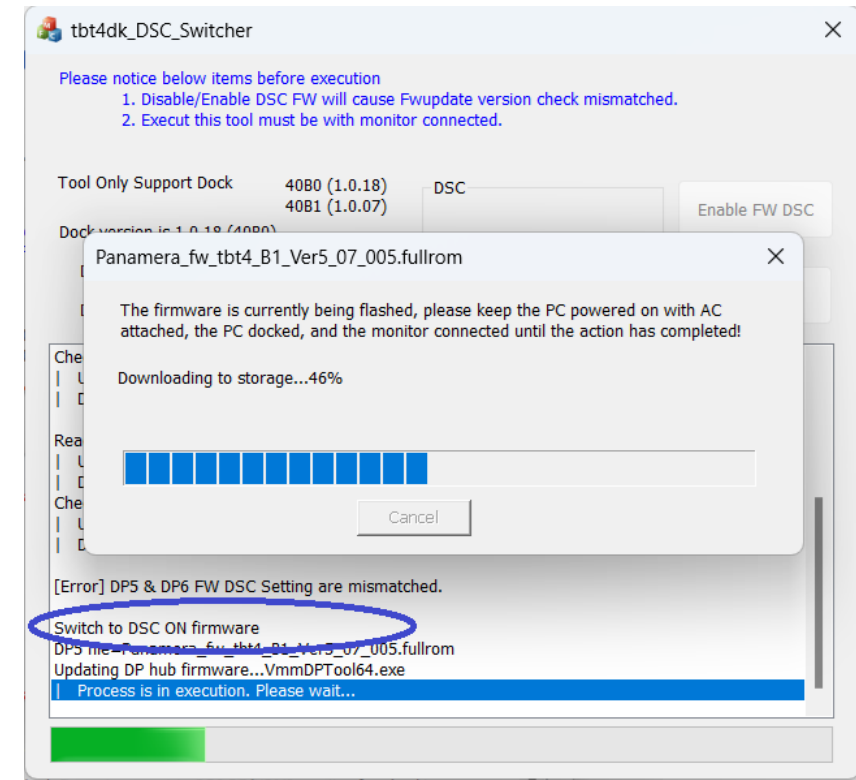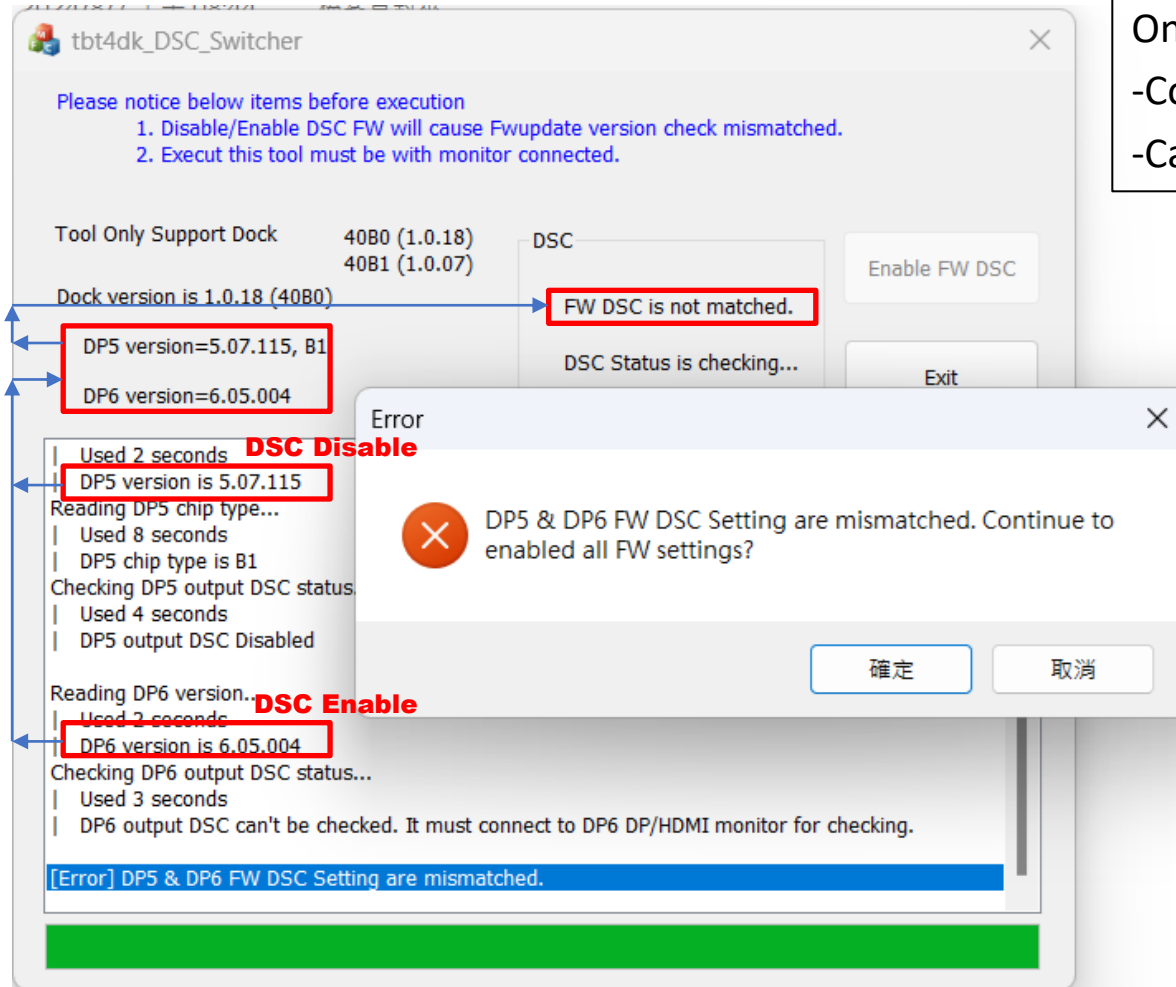　　　　 to retry detecting DP FW version
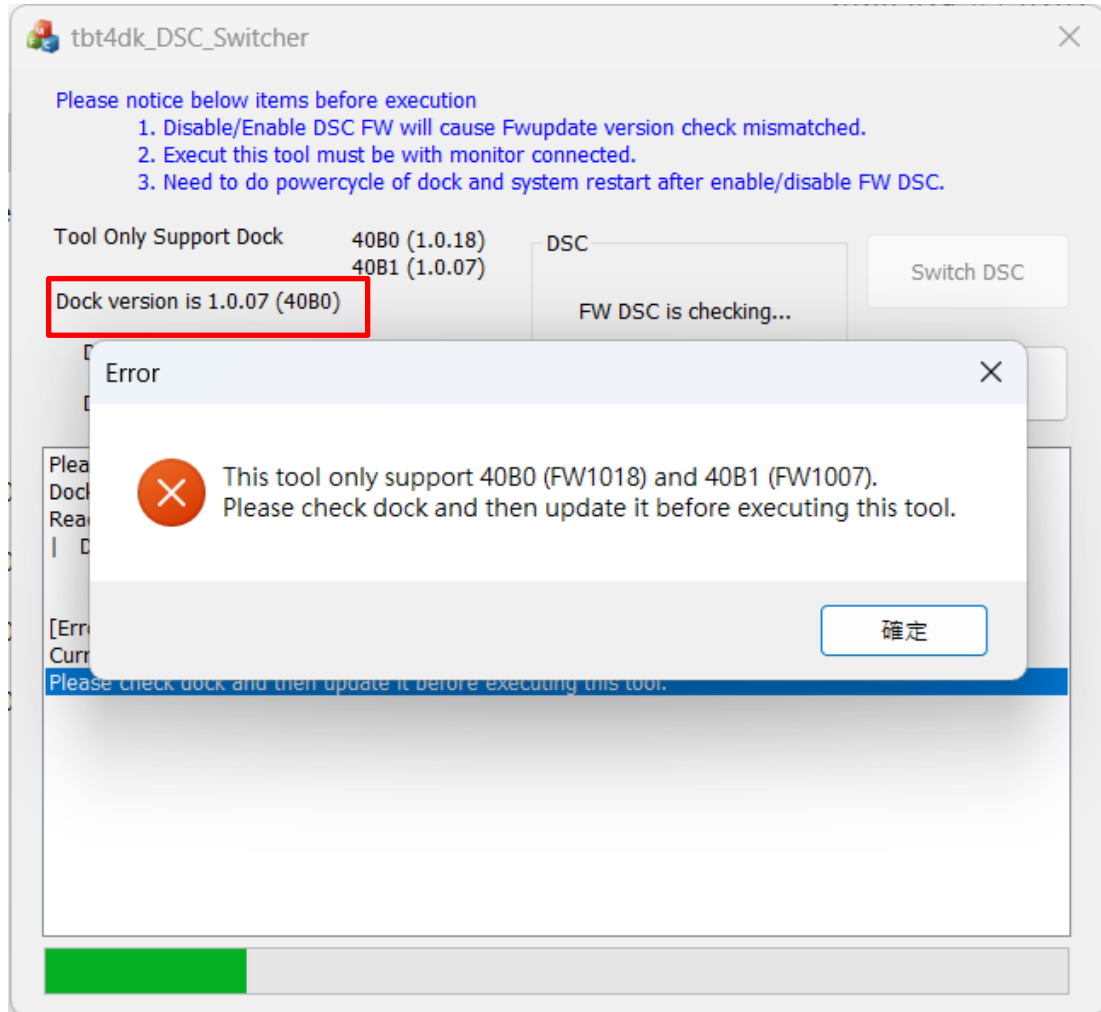
-Cancel: Exit this tool.

Case 3- DP5 & DP6 FW DSC Setting are Mismatched

One of DP FW DSC setting is enabled but another one is disabled.

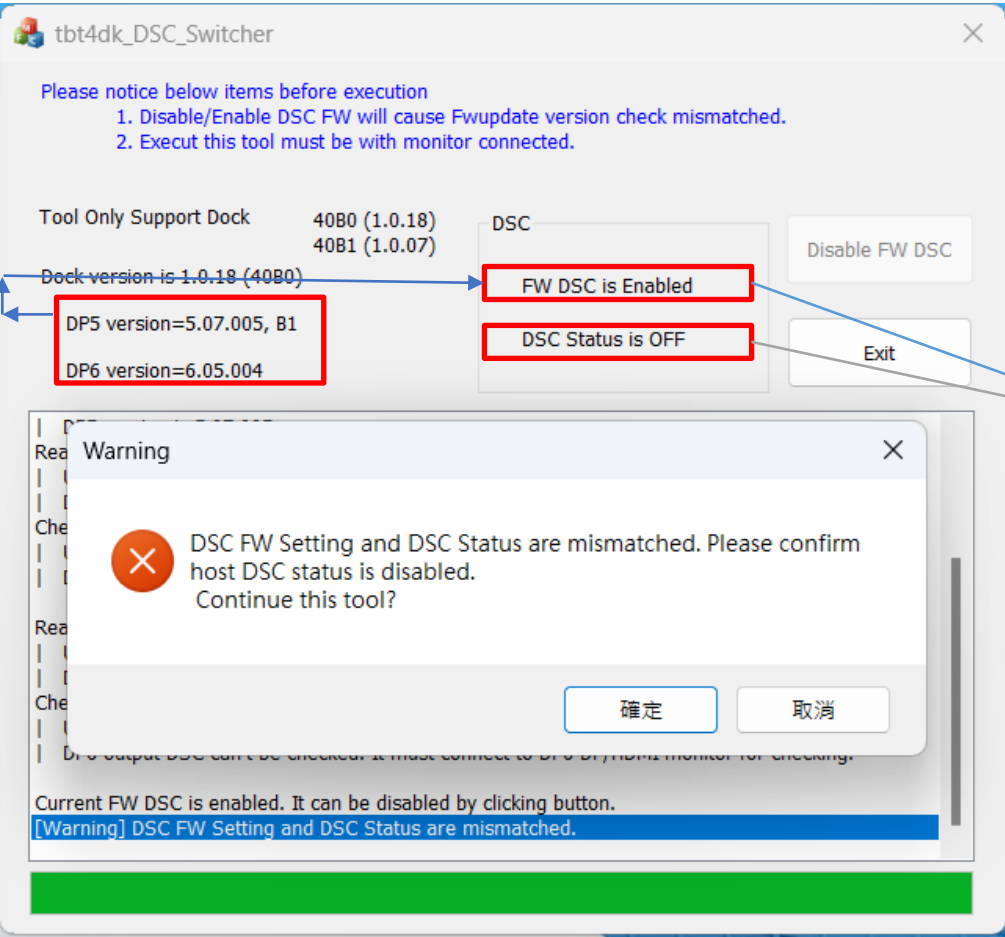-Continue: Continue to enable DP5&DP6 DSC Setting by update FW.

-Cancel: Exit this tool.

# Case 4- This Tool only Support…

The detected dock with firmware version is not support.

This tool only support **40B0 with firmware V1.0.18** and **40B1 with firmware V1.0.07**.

Refer this picture, the dock is 40B0 but firmware is only V1.0.07. Users need to update it to V1.0.18 before this tool execution.
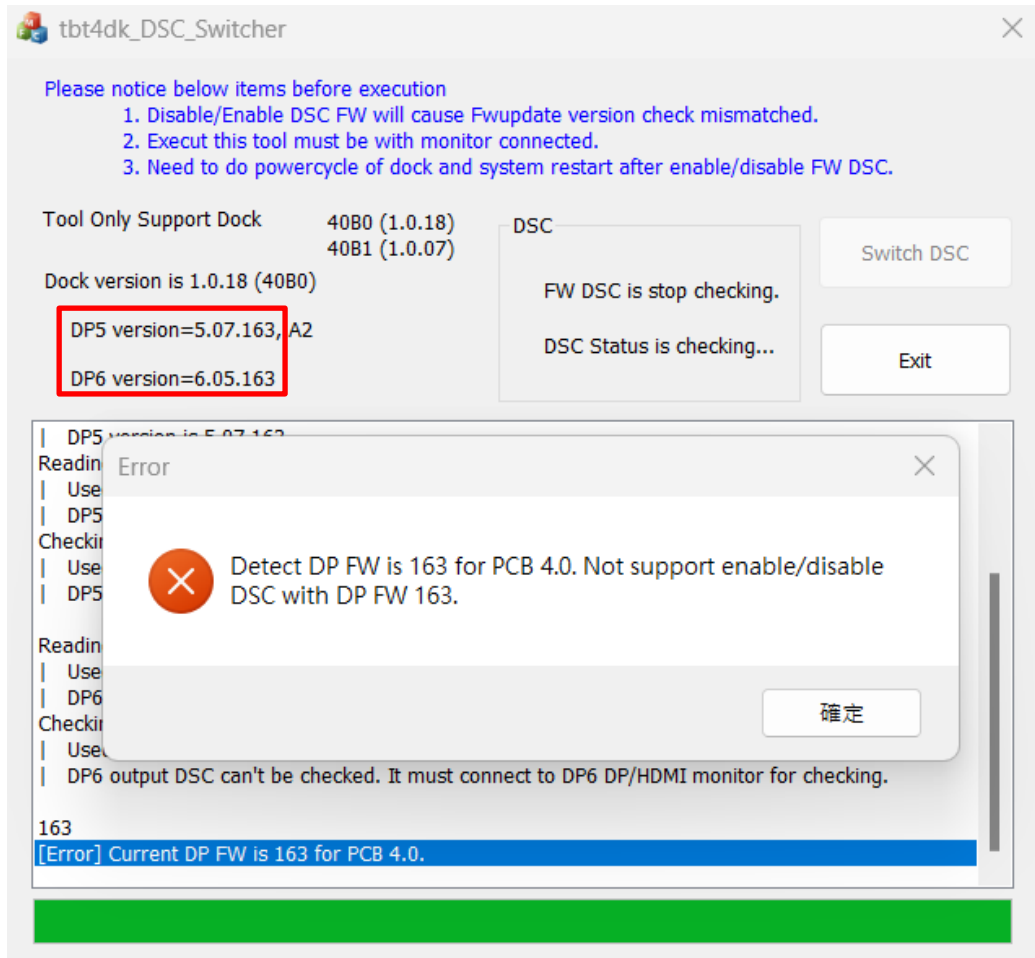
Case 5- DSC FW Setting and DSC Status are Mismatched.

The DP DSC Setting are enabled but actual DSC Status is OFF.

It may cause DSC Status OFF by host setting(refer below user scenario)

-Continue: Ignore this message and continue to disable FW DSC.

-Cancel: Exit this tool.
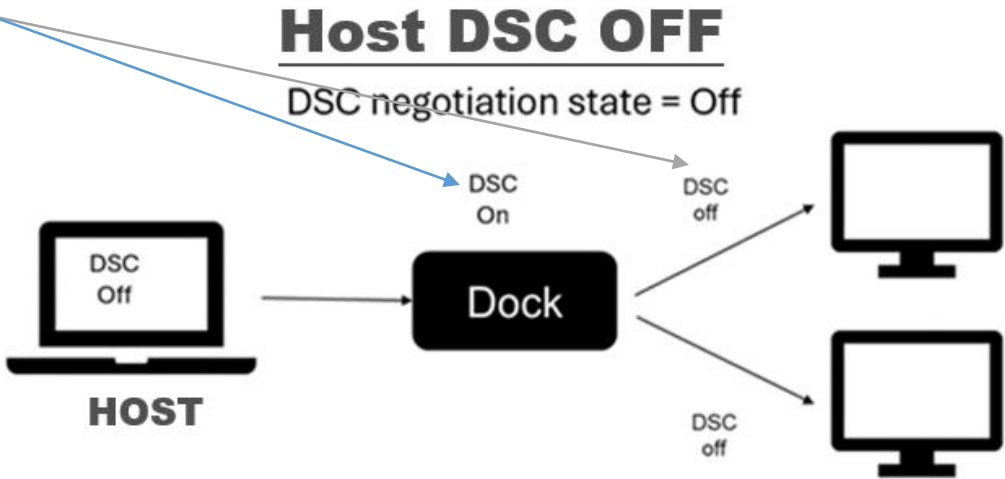
Case 6-Detect Current DP FW Version is X.XX.163

Current DP FW Version is X.XX.163 supported for PCB 4.0 only.
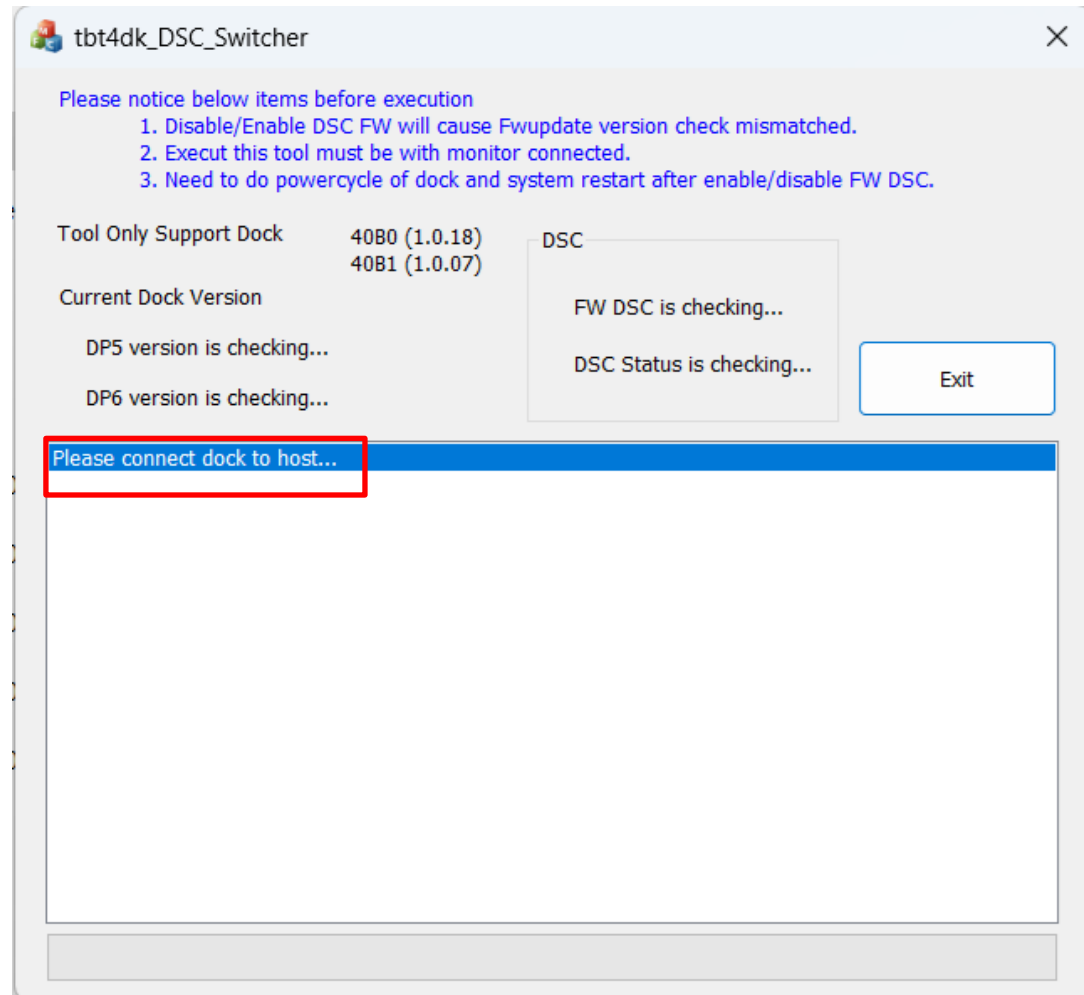
The PCB 4.0 only can use X.XX.163 DP FW. Then it can not support to enable/disable DSC with this tool.
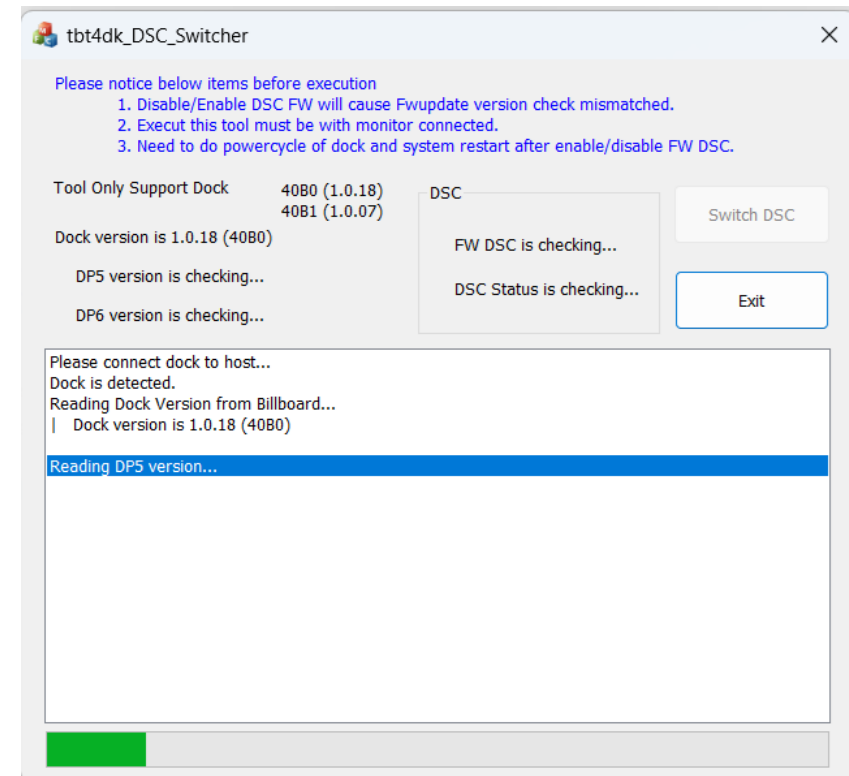
Case 7-DP Load Default FW
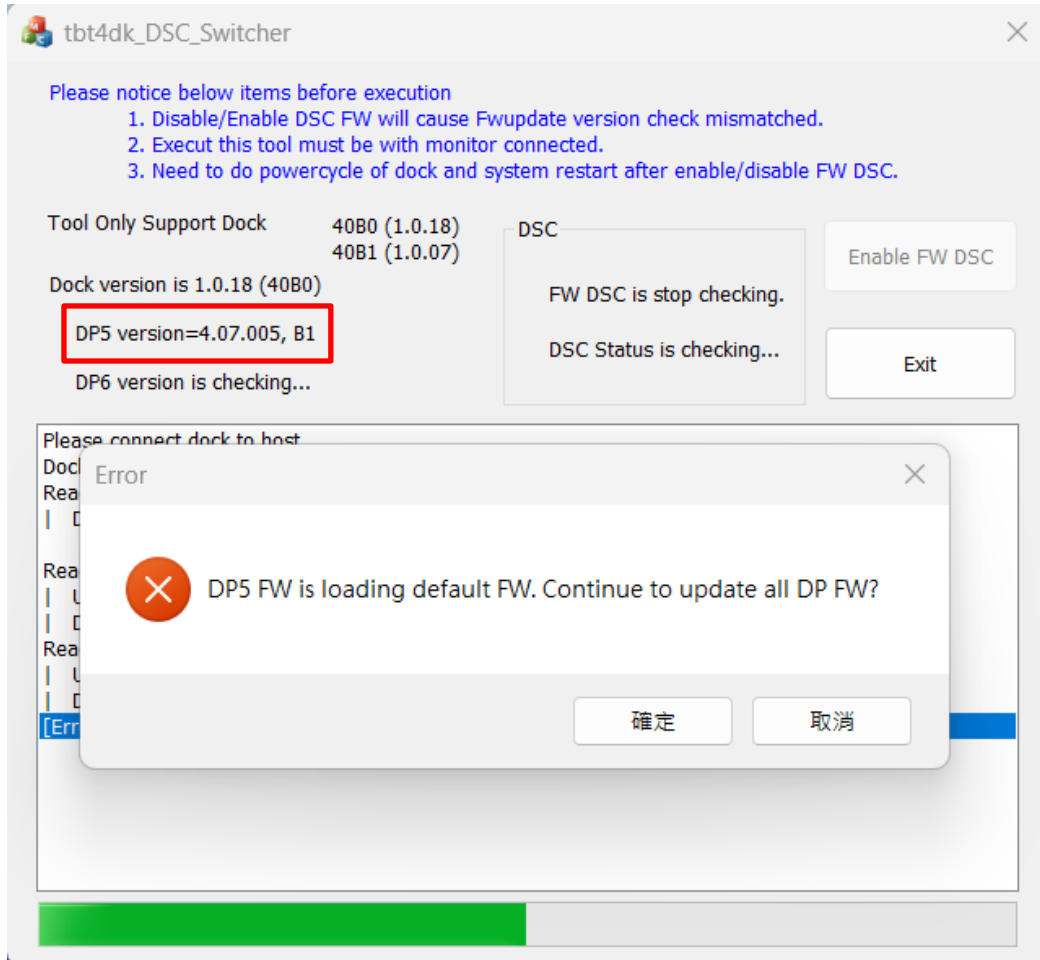
Current DP is loading default FW with unknown error.

User can select to continue updating all DP FW for recovery.

-Continue: Continue to update all DP FW with DSC enabled.

-Cancel: Exit this tool
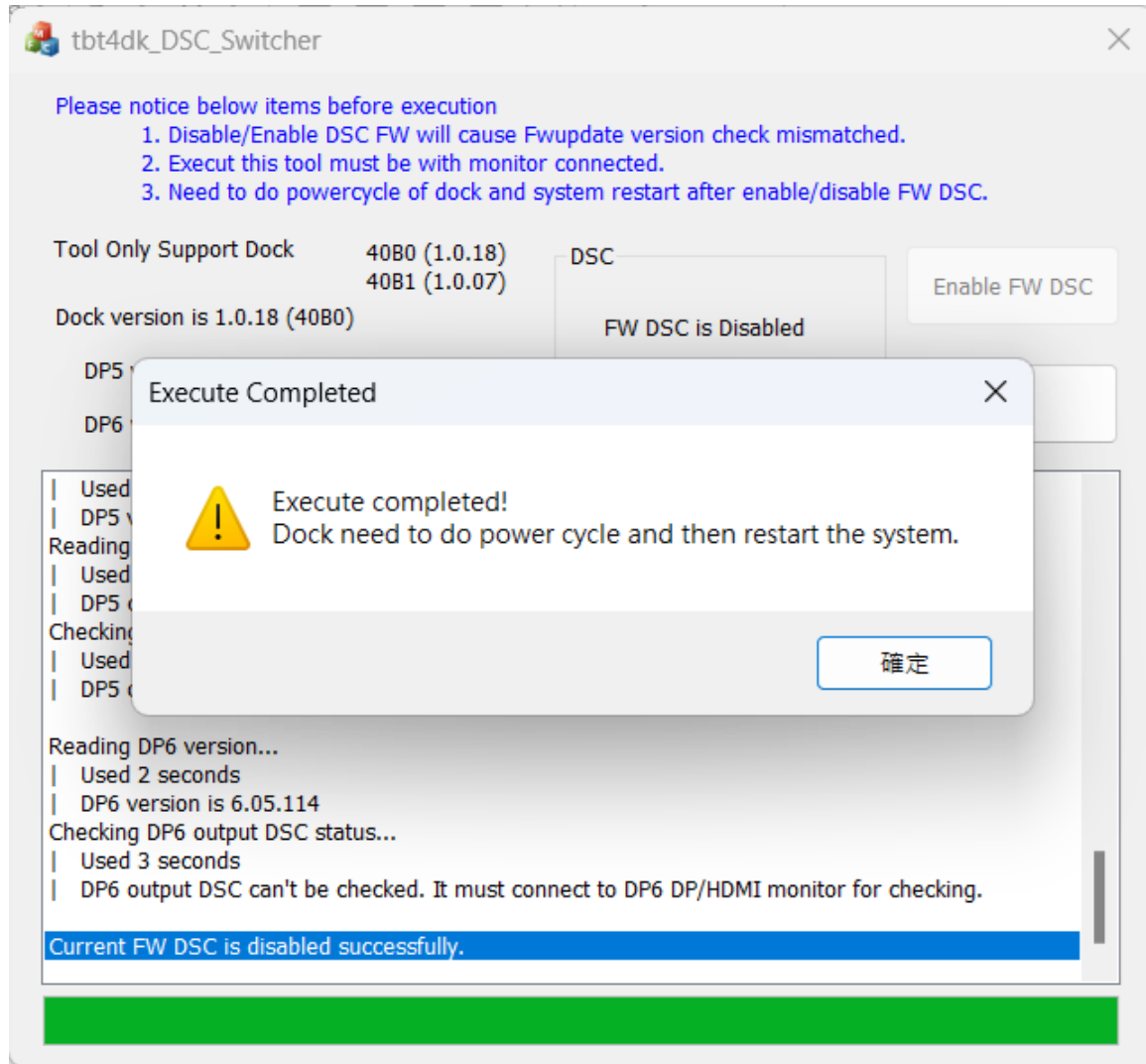
Case 8-Please Connect Dock to Host

Case 9- Execute Completed

tbt4dk_DSC_Switcher

Please notice below items before execution
1. Disable/Enable DSC FW will cause Fwupdate version check mismatched.
2. Execut this tool must be with monitor connected.
3. Need to do powercycle of dock and system restart after enable/disable FW DSC.

Tool Only Support Dock   40B0 (1.0.18)
              40B1 (1.0.07)

DSC

Enable FW DSC

Dock version is 1.0.18 (40B0)

FW DSC is Disabled

DP5

DP6

Execute Completed

⚠ Execute completed!
Dock need to do power cycle and then restart the system.

確定

| Used
| DP5 v
Reading
| Used
| DP5
Checking
| Used
| DP5

Reading DP6 version...
| Used 2 seconds
| DP6 version is 6.05.114
Checking DP6 output DSC status...
| Used 3 seconds
| DP6 output DSC can't be checked. It must connect to DP6 DP/HDMI monitor for checking.

Current FW DSC is disabled successfully.

Execute to enable/disable FW DSC completed. Reminder user to do dock power cycle and to restart the system after it.

Power

Adapter

thanks.

Smarter
technology
for all

Lenovo