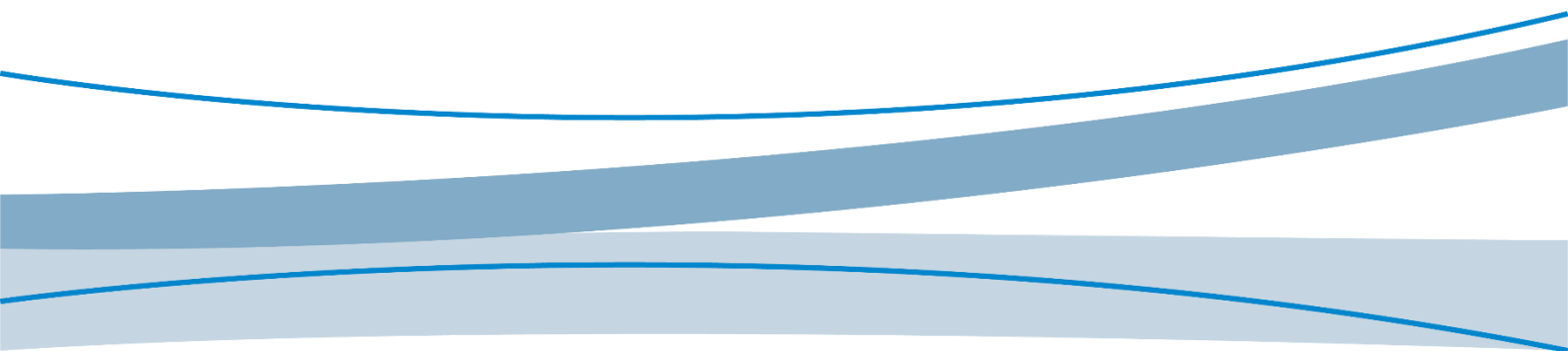




# FbLogCapTool User Guide

V1.8



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## Safety Instructions

Do not operate wireless communication products in areas where the use of radio is not recommended without proper equipment certification. These areas include environments that may generate radio interference, such as flammable and explosive environments, medical devices, aircraft or any other equipment that may be subject to any form of radio interference.

The driver of any vehicle shall not operate wireless communication products while controlling the vehicle, otherwise will be reduced the driver's control of the vehicle , resulting in safety risks.

Wireless communication devices do not guarantee effective connection under any circumstances, such as when the (U) SIM card is invalid or the device is in arrears. In an emergency, please use the emergency call function when the device is turned on, and ensure that the device is located in an area with sufficient signal strength..

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# Applicable Model

No.	Applicable Model	Description
1	FM101, FG101, FM150, FG150, FM160, FG160, NL652, NL668, NL952, FB520, FM100,FG132	Fibocom FbLogCapTool Tool User Guide

## Change History

---

V1.8(2024-1-16)	Add platform FG132 Log cap related usage instructions
V1.6 (2022-12-02)	Fix the wrong screenshot
V1.5 (2021-11-27)	Added chapter 8 "FAQs and Solutions"
V1.4 (2021-11-19)	Add the description of capture setupapi log function. Add the description of capture WMI log function. Add the description of capture WDF log function. Add the description of capture WER1 log function. Add the description of capture WER2 log function. Add the description of capture system log function. Add the description of capture windows application log function. Add the description of capture WWAN SVC log function.
V1.3 (2021-11-11)	Add the description of auto clean log function Add the description of listen APN and listen Ping function.
V1.2 (2020-09-18)	Added tool to support NL652 description Fixed the display information corresponding to the Module QXDM status label in chapters 4 and 5
V1.1 (2020-06-17)	Standardized format Deleted unnecessary content
V1.0 (2020-03-01)	Initial version

# 1 Usage Scenarios

This tool is to solve the Log capture tool of Qc platform, including two different connection methods such as LAN and USB:

1. For the LAN connection method to capture the log method, the module needs to support the network. Users need to connect the network port of the finished machine with a network cable to the network port of the PC. At this time, the PC will get the IP assigned by the DHCP service, which is in the same local area network as the module. Open this tool on the PC and connect to the module specific IP (192.168.225.1) to grab the module log file or real-time log stream. At present, only 192.168.225.1 is considered, other network segments are not considered, and encryption, login, etc. are not considered.
2. There are offline mode and online mode for capturing Log by USB connection. Online mode, when the module is connected to the computer, the Device Manager needs to have the Diagnostics port mapped out. Offline mode, when the module is connected to the computer, the device manager needs to have the ADB port mapped out. If the Device Manager cannot map the Diagnostics port and the ADB port, you can use the AT command to switch the USB mode to a supported mode.

## Precautions:

1. Before using the FbLogCapTool tool to capture the Log, must first manually execute the AT+GTQXDMLLOG=0 command; Only used for FM150/FG150/NL95X.
2. Before using the USB method to capture the module log, close all Qualcomm tools, such as QPST and others, to avoid port occupation.
3. NL95X does not support USB capture offline log, unplug USB cable in running state;
4. The latest version of FM / FG150, need user switch to the mode that supports RNDIS (such as 24 mode), user can directly test the capture offline log with a USB connection;
5. FM150 / FG160 / FM160 /FG132does not support LAN capture Log; NL95X and FG132

does not support capturing App log;

6. When FG150 in non-RNDIS mode, user need to connect a network cable to support LAN capture Log;
7. Due to the limited memory size of the module, it is not possible to save large files. Therefore, the maximum number of offline logs is only 3, and the maximum size of a single file is no more than 10M. If the single log file exceeds 10M, the log file will be automatically deleted and the log will be written again(Recommend to use USB online);
8. NL652 does not support the log capture function of the entire Lan;
9. NL652 and FG132 does not support USB offline Log capture function, that is, no ADB port is required.

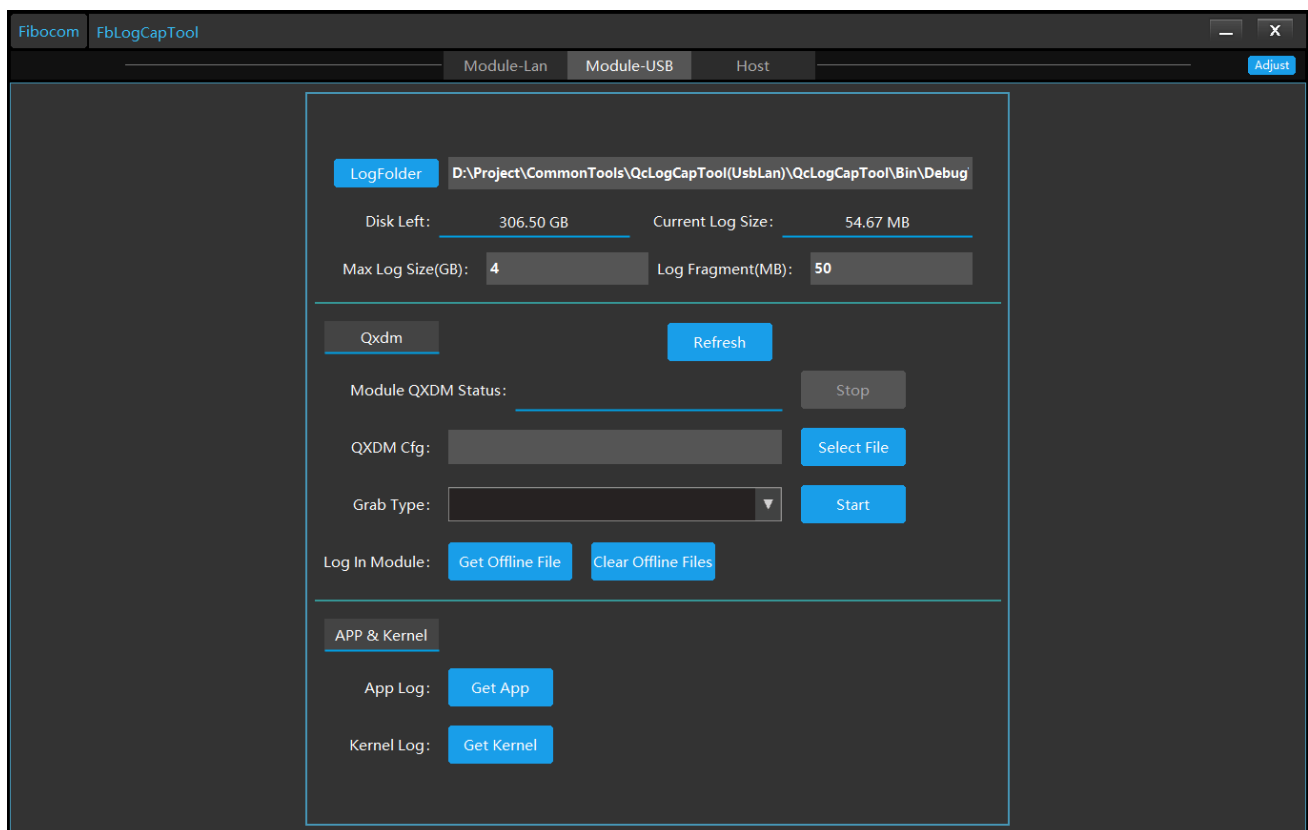
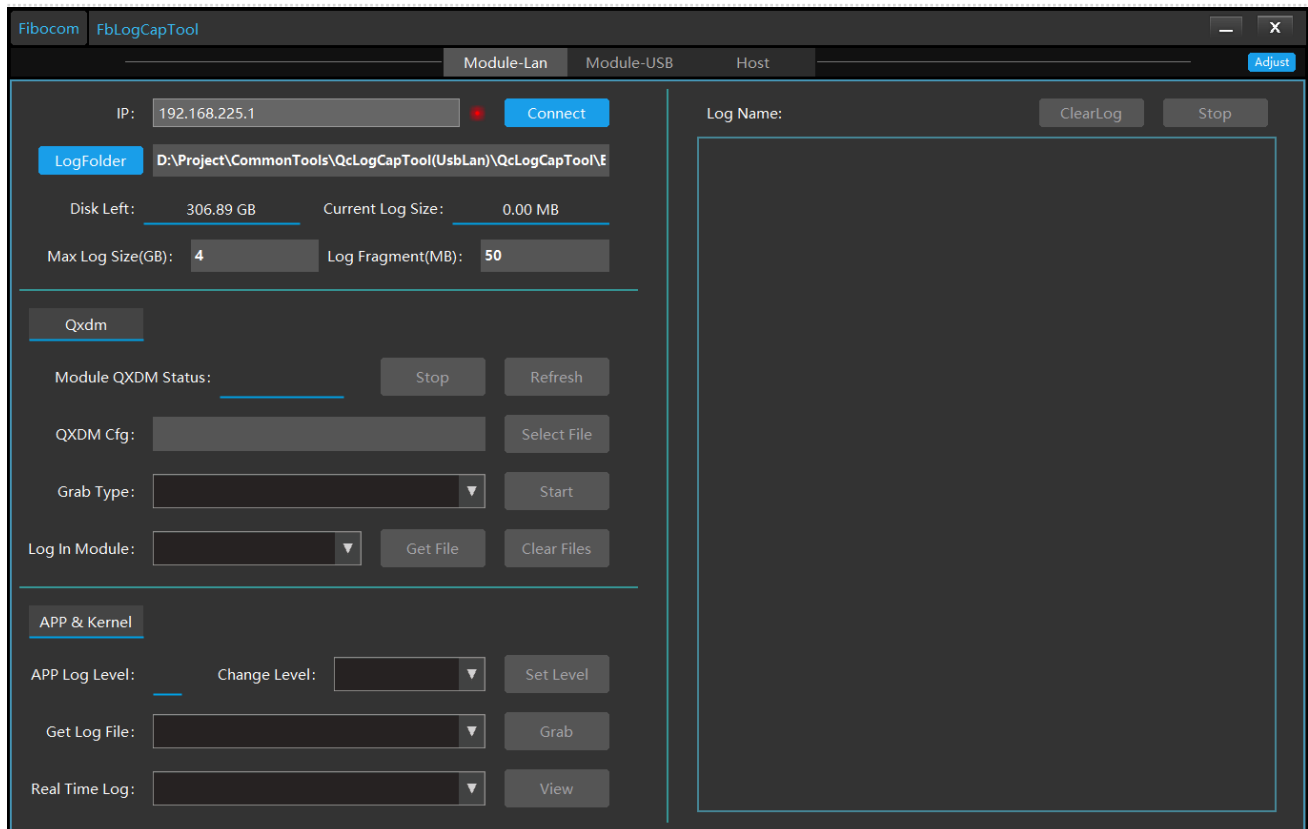


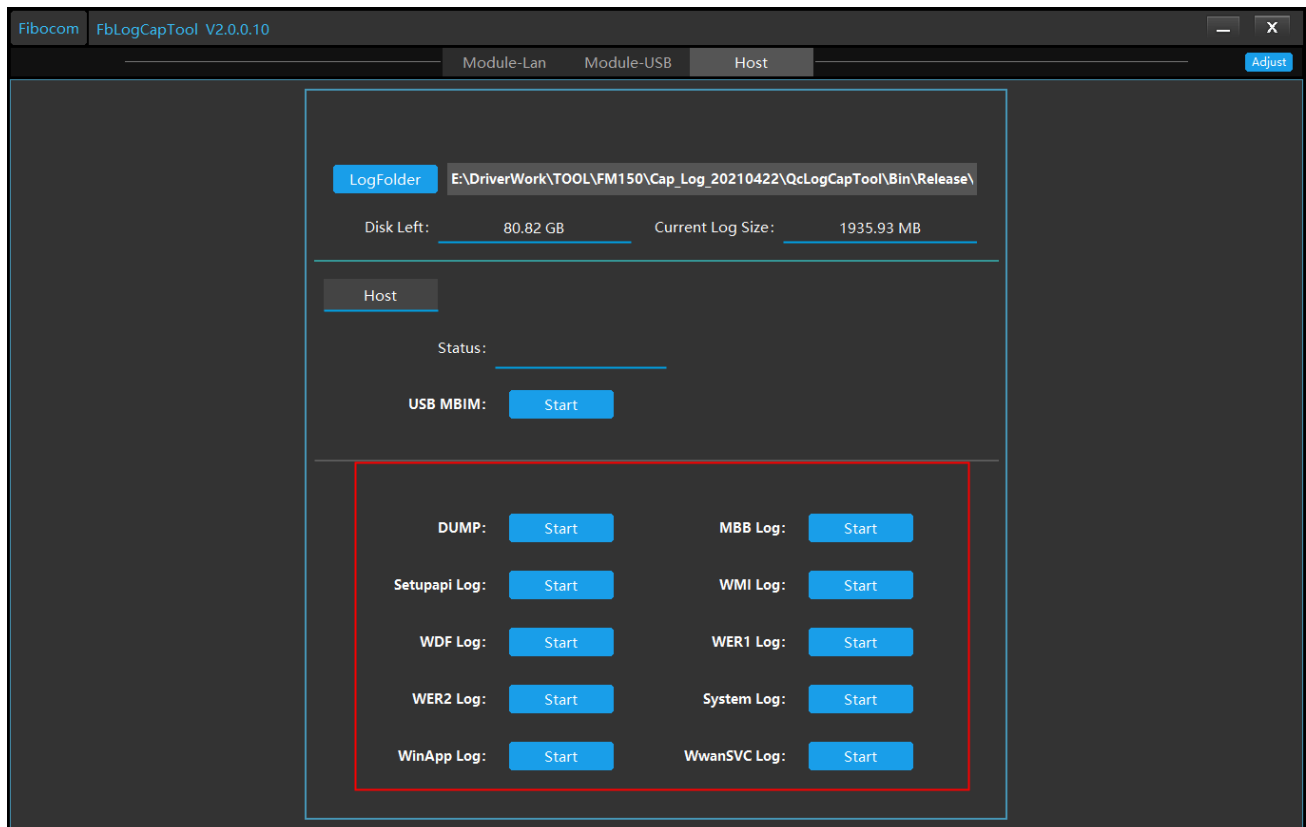
## 2 Function Description

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1. The tool supports Log capture of module and host.
2. The log part of the module contains the log. Log size setting of Qxdm, APP, Kernel, etc., there are several ways as follows:
  - A. Capture Qxdm, App, Kernel log in LAN online mode and set App Log level
  - B. Capture Qxdm, App, Kernel log offline by LAN
  - C. USB online capture Qxdm Log
  - D. USB offline capture Qxdm, App, Kernel log

## 3 Interface Display





## 4 Capturing Modem Log by LAN

Before using the FbLogCapTool tool to capture the Log, you must first manually execute the AT+GTQXDMLOG=0 command.

### 4.1 Preconditions

1. The connection between the module and the PC needs to be via a network cable.
2. The module needs to switch to the mode that supports RNDIS and can support network communication (for example, switch to 24-mode under USB)
3. IP address: Under the above two preconditions, after the module is connected to the window system, it will map a new network device on the windows network connection. It needs to be manually modified to the IP of the same network segment as 192.168.225.1. No communication.

### 4.2 Set the Log File Size

1. Click the LogFolder button to view the log collection folder and log files;
2. Display the size of the current disk file;
3. Refresh the size of the current LogFolder file, and update the information about the size of a LogFolder file when grabbing the log file or log file stream;
4. Set the maximum value of the LogFolder file:
  - 1) When the set maximum value of LogFolder is greater than the remaining disk space, the user is prompted to reset it;
  - 2) When the set maximum value of LogFolder is greater than the size of the current LogFolder file, the user is prompted whether to delete the Log file in the current LogFolder;
5. Set the maximum value of a single log file:

The set size of a single log file cannot be greater than the maximum value of the LogFolder folder. When the maximum size of a single log file is reached, the file size is automatically cut.

## 4.3 Capturing the Qxdm Log of Module

### 4.3.1 Online Capturing

1. Click the Select File button to import the cfg configuration file first;
2. Select the Qxdm Online option in the drop-down box of Grab Type;
3. Click the Start button to start capturing Qxdm's Log, and Module Qxdm status shows as Starting;
4. After starting log capture, the module will send the log content to the tool in real time through the network, the tool saves the log file according to the subcontracting settings;
5. After clicking the Stop button, Qxdm's log crawling will stop, and Module Qxdm status shows as Stopping.

### 4.3.2 Offline Capturing

1. Click the Select File button to import the cfg configuration file first;
2. Select the Qxdm Offline option in the drop-down box of Grab Type;
3. After clicking the Start button to start, the Module Qxdm status shows as Starting (the module end is collecting logs and writing files). At this time, you can disconnect the network cable, and then connect the network cable again when you need to grab the Log in the future;
4. Click the Stop button to stop the collection of logs on the module side, that is, to stop offline log capture, and Module Qxdm status shows as Stopping;

5. Click the Refresh button to refresh the Log capture status and log file list information;
6. After selecting the log file from the drop-down box, click the Grab button to grab the specified Log file;
7. Click the Clear Offline Files button to clear the existing Qxdm Log file in the module.

## 4.4 Capturing App and Kernel Log of Module

### 4.4.1 LAN Capturing the Entire Log File of App and Kernel

First select the log file from the Get Log File drop-down box, and then click the Grab button to grab the log files corresponding to the APP and Kernel. The log file will be saved in the file directory where the tool is located. \LogFolder\LanMode, click the LogFolder button to View.

### 4.4.2 Capturing Real-time Log Stream of App and Kernel in LAN

First select the log file from the Real Time File drop-down box, and then click the view button, you can see the Log stream transmitted from the module in real time in the display area of the tool; the content inside will update the latest 100K in real time. At the same time, the complete Log stream will be saved in the file directory where the tool is located. \LogFolder\LanMode, click the LogFolder button to view.

## 5 Capturing Module Log by USB

Before using the FbLogCapTool tool to capture logs:

1. Manually execute the AT+GTQXDMLOG=0 command. This item is only applicable to FM150, FG150, and NL95X projects.
2. Manually execute the AT+GTDIAGEN=1,1 instruction. This item is only applicable to the FG132 project.

### 5.1 Setting the Log File Size

1. Click the LogFolder button to view the log collection folder and log files;
2. Display the size of the current disk file;
3. Refresh the size of the current LogFolder file, and update the information about the size of a LogFolder file when grabbing the log file or log file stream;
4. Set the maximum value of the LogFolder file:
  - 1) When the set maximum value of LogFolder is greater than the remaining disk space, the user is prompted to reset it;
  - 2) When the set maximum value of LogFolder is greater than the size of the current LogFolder file, the user is prompted whether to delete the Log file in the current LogFolder;
5. Set the maximum value of a single log file:
  - 1) The set size of a single log file cannot be greater than the maximum value of the LogFolder folder. When the maximum size of a single log file is reached, the file size is automatically cut.

### 5.2 Capturing Module Qxdm Log

#### 5.2.1 Online Capturing

1. Click the Select File button to import the cfg configuration file first;

2. Select the Qxdm Online option in the drop-down box of Grab Type;
3. Click the Start button to start capturing Qxdm's Log, and Module Qxdm status shows as  
  
OnLineRunning;
4. After starting Log capture, the module will send the Log content to the tool through the DIAG COM port in real time, the tool saves the Log file according to the subcontracting settings;
5. After clicking the Stop button, Qxdm's log crawling will stop, and Module Qxdm status shows as  
  
OnLineStopped.

## 5.2.2 Offline Capturing

1. Click the Select File button to import the cfg configuration file first;
2. Select the Qxdm Offline option in the drop-down box of Grab Type;
3. After clicking the Start button to start, the Module Qxdm status shows as Qxdm offline is running (the module end is collecting logs and writing files), At this time, you can disconnect the network cable, and then connect the network cable again when you need to grab the Log in the future;
4. Click the Stop button to stop the collection of logs on the module side, also to stop offline log capture, Module Qxdm status shows as Qxdm offline is stopped;
5. Click the Get Offline Files button to grab the existing Qxdm Log file in the module;
6. Click the Clear Offline Files button to clear the existing Qxdm Log file in the module.

## 5.3 Capturing App and Kernel Log of Module

1. Click the Get App button to grab the App log file of the module;



2. Click the Get Kernel button to grab the Kernel log of the module.

## 6 Capturing Log on the Host

---

### 6.1 Capturing USB MBIM Log

1. Click the Start button to start USB MBIM Log collection. The button changes to Stop. After the collection is complete, click the Stop button to complete the USB MBIM Log capture. After the capture is complete, there will be a prompt completion box;
2. USB MBIM Log capture function does not support win7 system, only supports win10 system.

### 6.2 Capturing DUMP Log

Click the Start button to start capturing DUMP Log, after the capture is complete, a prompt completion box will appear.

### 6.3 Capturing MBB Log

Click the Start button to start capturing MBB Log, after the capture is completed, a prompt completion box will appear.

### 6.4 Capturing Setupapi Log

Click the Start button to start capturing Setupapi Log, after the capture is completed, a prompt completion box will appear.

### 6.5 Capturing WMI Log

Click the Start button to start capturing WMI Log, after the capture is completed, a prompt completion box will appear.

### 6.6 Capturing WDF Log

Click the Start button to start capturing WDF Log, after the capture is completed, a prompt completion box will appear.

### 6.7 Capturing WER1 Log

Click the Start button to start capturing WER1 Log, after the capture is completed, a prompt completion box will appear.

## 6.8 Capturing WER2 Log

Click the Start button to start capturing WER2 Log, after the capture is completed, a prompt completion box will appear.

## 6.9 Capturing System Log

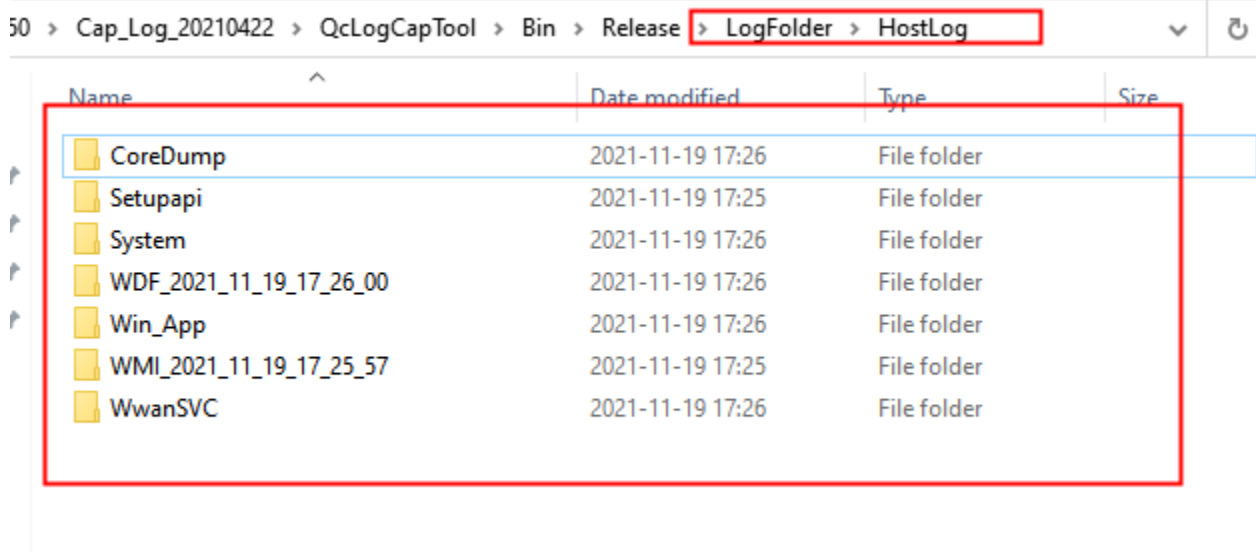
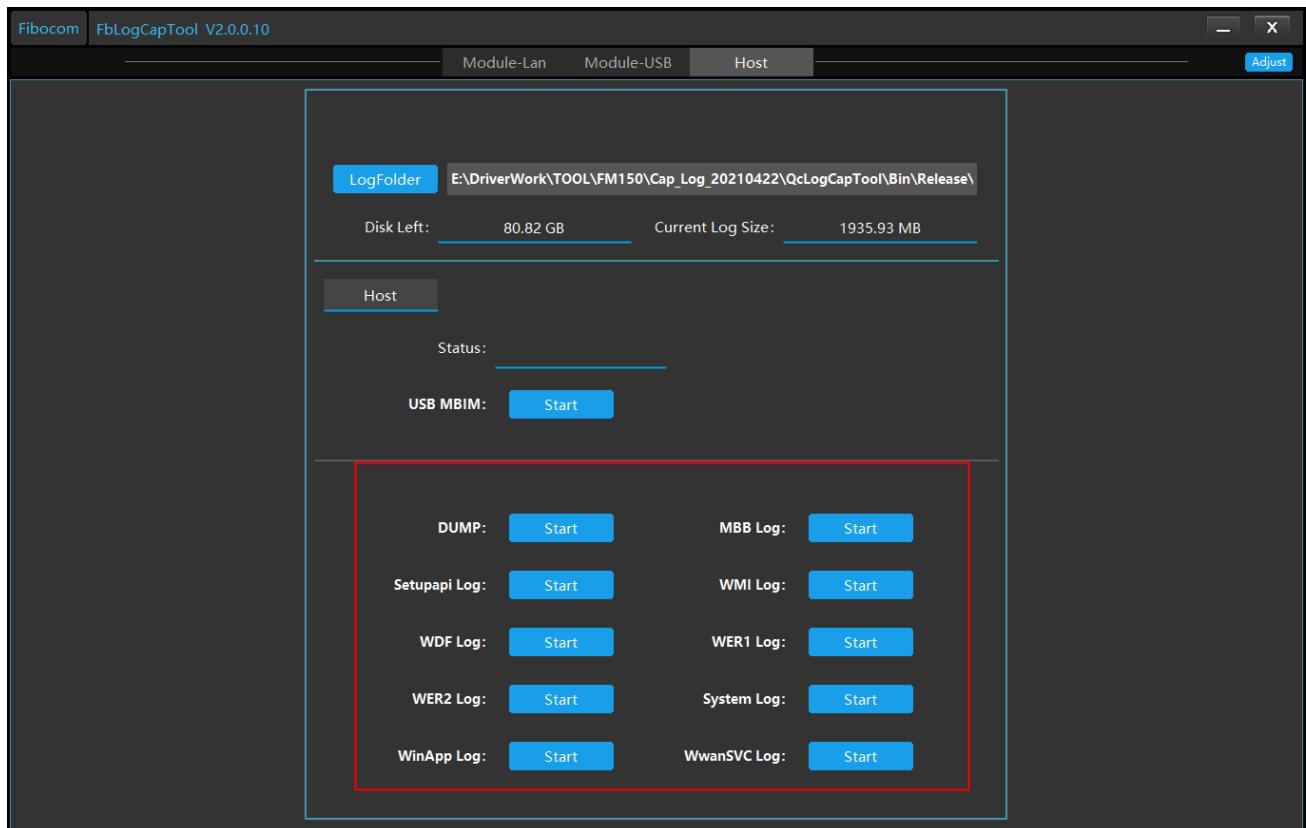
Click the Start button to start capturing System Log, after the capture is completed, a prompt completion box will appear.

## 6.10 Capturing Windows Application Log

Click the Start button to start capturing WinApp Log, after the capture is completed, a prompt completion box will appear.

## 6.11 Capturing Windows WWAN SVC Log

Click the Start button to start capturing WwanSVC Log, after the capture is completed, a prompt completion box will appear.



## 7 Other Configurations

### 7.1 Auto Clean Log

Check the “Auto Clean Log” check box on the UI to automatically clean logs.

The screenshot displays the Fibocom configuration interface with the 'Module-Lan' tab selected. The interface is divided into several sections:

- Log Overview:** Shows 'Disk Left: 84.01 GB' and 'Current Log Size: 20.80 MB'. Below this are input fields for 'Max Log Size(GB): 4' and 'Log Fragment(MB): 50'.
- Qxdm Section:** Includes a dropdown menu for 'Qxdm', a 'Refresh Status' button, a 'Module QXDM Status' field with a 'Stop' button, a 'QXDM Cfg' field with a 'Select File' button, and a 'Grab Type' dropdown with a 'Start' button.
- Log In Module:** Contains two buttons: 'Get Offline File' and 'Clear Offline Files'.
- APP & Kernel Section:** Features 'App Log' and 'Kernel Log' labels, each followed by a 'Get App' and 'Get Kernel' button respectively.
- Other Section:** Contains three checkboxes: 'Auto Clean Log' (which is highlighted with a red rectangle), 'Listen APN', and 'Listen Ping'. Below these are fields for 'Timing Days: 1 (day)', 'Ping Address: 127.0.0.1' (with an example '10.192.13.12' shown in pink), and 'After APN or ping exception will stop capture log (timeouts): 5 (s)'.

To adjust the default time, user can set the “Timing Days” in the timing days area.

Module-Lan

Module-USB

Host

Log Folder: E:\Driver Work\Tool\100\cap\_log\_20210422\log\cap\_log\dm\kaler

Disk Left: 84.01 GB

Current Log Size: 20.80 MB

Max Log Size(GB): 4

Log Fragment(MB): 50

Qxdm

Refresh Status

Module QXDM Status:

Stop

QXDM Cfg:

Select File

Grab Type:

Start

Log In Module:

Get Offline File

Clear Offline Files

APP & Kernel

App Log:

Get App

Kernel Log:

Get Kernel

Other

☐ Auto Clean Log ☐ Listen APN ☐ Listen Ping

Timing Days: 3 (day) Ping Address: 127.0.0.1 Example: 10.192.13.12

After APN or ping exception will stop capture log (timeouts): 5 (s)

## 7.2 Auto Listen APN

Click the "Listen APN" check box on the UI to start the process of listen to the APN operation. At this time, the tool will send a request to query the APN information through the AT port use AT command, and read the APN information returned from the module side. Then, analyze whether the returned APN information is correct. The tool stops fetching logs after a certain interval.

Module-LanModule-USBHost

Log Order

Disk Left: 84.01 GBCurrent Log Size: 20.80 MB

Max Log Size(GB): 4Log Fragment(MB): 50

Qxdm

Refresh Status

Module QXDM Status:

Stop

QXDM Cfg:

Select File

Grab Type:

Start

Log In Module:

Get Offline File

Clear Offline Files

APP & Kernel

App Log: Get App

Kernel Log: Get Kernel

Other

☐Auto Clean Log☐Listen APN☐Listen Ping

Timing Days: 3 (day)Ping Address: 127.0.0.1Example: 10.192.13.12

After APN or ping exception will stop capture log (timeouts): 5 (s)

## 7.3 Auto Listen Ping

Click the "Listen Ping" check box on the UI to start the Ping listening process. In this case, the tool will Ping the specified server IP address at a certain interval. If the Ping fails or timeout during the Ping process, the tool will stop capturing logs after a certain interval.

Module-Lan

Module-USB

Host

Log Folder: E:\Driver Work\Tool\Win100\cap\_log\_20210722\cap\_logcapture\cap\_log\

Disk Left: 84.01 GB

Current Log Size: 20.80 MB

Max Log Size(GB): 4

Log Fragment(MB): 50

Qxdm

Refresh Status

Module QXDM Status:

Stop

QXDM Cfg:

Select File

Grab Type:

Start

Log In Module:

Get Offline File

Clear Offline Files

APP & Kernel

App Log:

Get App

Kernel Log:

Get Kernel

Other

☐ Auto Clean Log ☐ Listen APN ☐ Listen Ping

Timing Days: 3 (day) Ping Address: 127.0.0.1 Example: 10.192.13.12

After APN or ping exception will stop capture log (timeouts): 5 (s)

On the right of the "Ping Address" label, user can edit and set the server IP Address to be Ping. As shown in the figure below.



Module-Lan Module-USB Host

Log Folder: E:\Driver\Work\Tool\WinUSB\cap\_Log\_20210722\%LogcapID%\bin\kernel

Disk Left: 84.01 GB Current Log Size: 20.80 MB

Max Log Size(GB): 4 Log Fragment(MB): 50

Qxdm: [Dropdown] Refresh Status

Module QXDM Status: [Progress Bar] Stop

QXDM Cfg: [Text Box] Select File

Grab Type: [Dropdown] Start

Log In Module: Get Offline File Clear Offline Files

APP & Kernel

App Log: Get App Kernel Log: Get Kernel

Other

☐ Auto Clean Log ☐ Listen APN ☒ Listen Ping

Timing Days: 3 (day) Ping Address: 10.192.13.12 Example: 10.192.13.12

After APN or ping exception will stop capture log (timeouts): 5 (s)

## 7.4 Configuring Delay Stop Capture Log

User can edit the delay stop Log capture process in the edit box as shown below.

Module-Lan
Module-USB
Host

Log Older
E:\DriverWork\TOOL\FB520\FbLogCapTool\Bin\Release

Disk Left: 84.01 GB
Current Log Size: 20.80 MB

Max Log Size(GB): 4
Log Fragment(MB): 50

Qxdm
Fibocom USB Diagnostics (COM43)
Refresh Status

Module QXDM Status:
Stop

QXDM Cfg: E:\DriverWork\TOOL\FB520\FbLogCapTool\Bin\
Select File

Grab Type: Qxdm Online
Start

Log In Module:
Get Offline File
Clear Offline Files

APP & Kernel

App Log: Get App
Kernel Log: Get Kernel

Other

☐ Auto Clean Log
☒ Listen APN
☒ Listen Ping

Timing Days: 3 (day)
Ping Address: 10.192.13.12
Example: 10.192.13.12

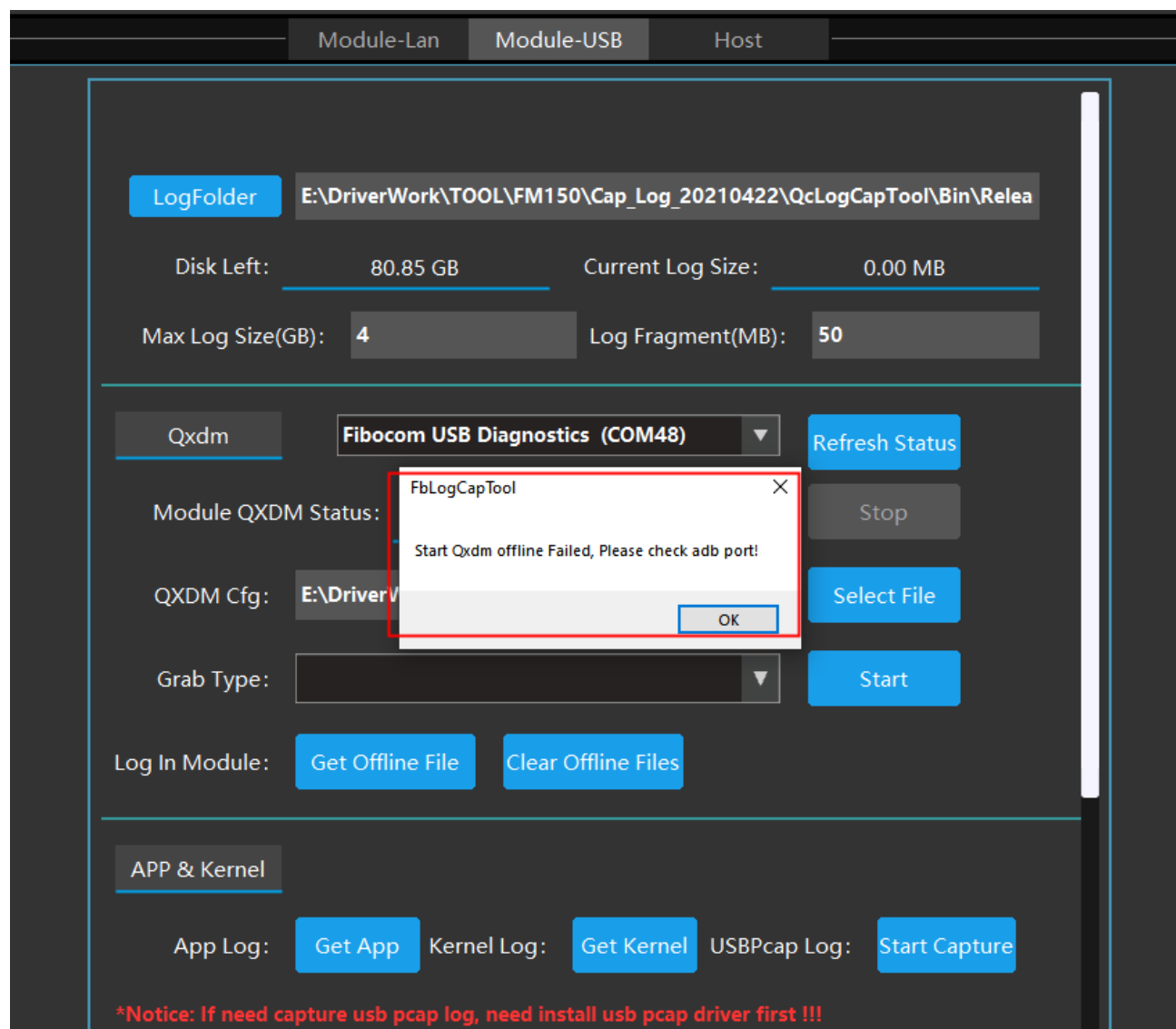
After APN or ping exception will stop capture log (timeouts): 5 (s)

## 7.5 Matters Need Attention

1. The auto clean Log, APN and Ping listening functions only apply to capture online QXDM log.
2. The auto clean Log, listen APN and listen Ping functions are optional and can be choose as required.
3. The listen APN function depend on the AT port.
4. The auto clean Log, listen APN and listen Ping functions can be enabled or disabled during log capturing.

## 8 FAQs and Solutions

**Fault 1:** Symptom an notice message is displayed “Start Qxdm offline Failed, Please check adb port” when the QXDM offline log is captured in USB mode.

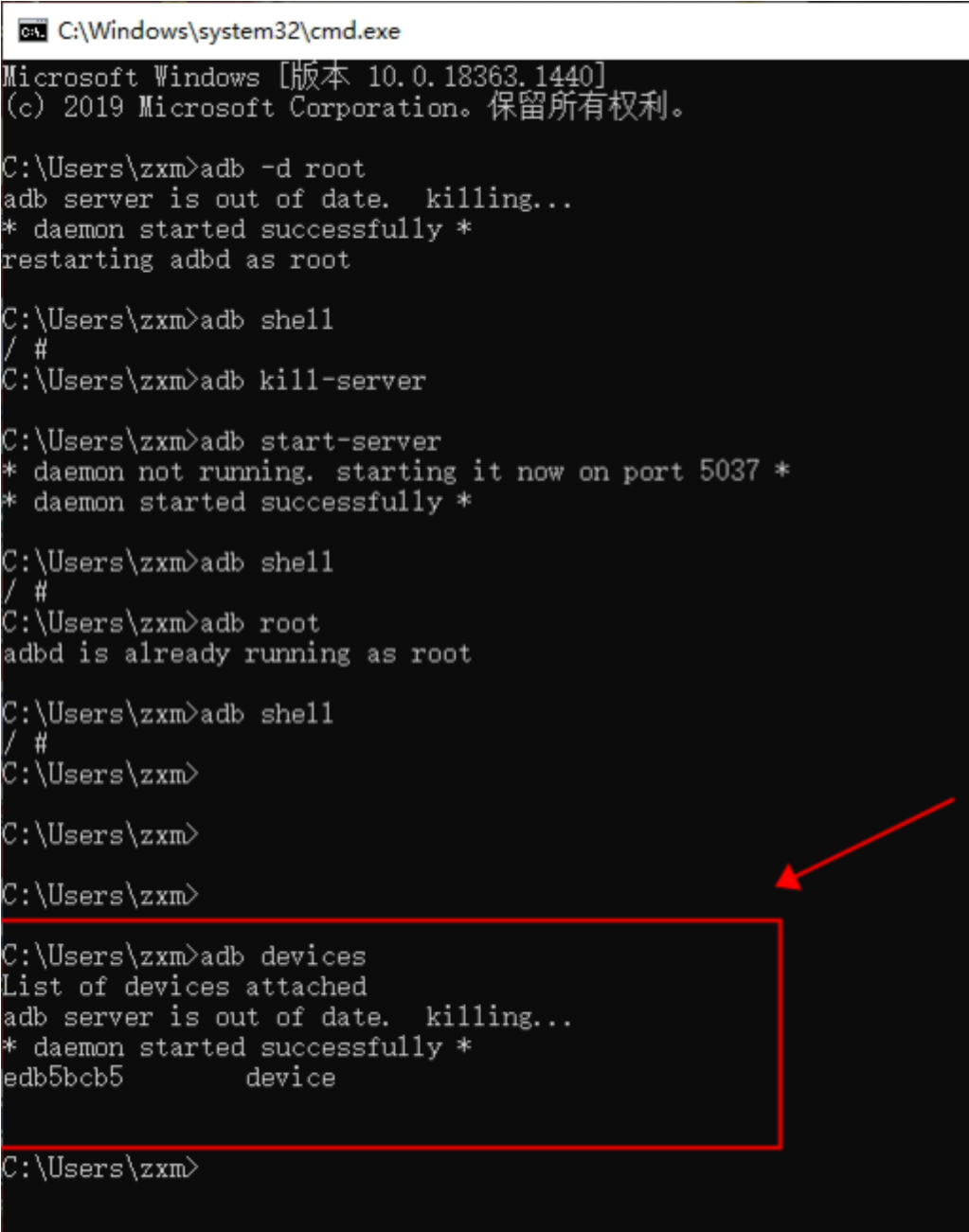


### Solution:

Step 1: Check and confirm the current USB port mode. Must be make sure that the current USB port is in mode 17 or 24, and that the AT or Modem port and ADB port exist.

Step 2: Check and verify that the ADB port is not occupied or open by another program. If it is occupied, close it and ensure that it is not occupied.

Step 3: Run the Command Prompt tool to check whether the daemon service on the module is started and ensure that the device is online. As shown below.



```
C:\Windows\system32\cmd.exe
Microsoft Windows [版本 10.0.18363.1440]
(c) 2019 Microsoft Corporation。保留所有权利。

C:\Users\zxm>adb -d root
adb server is out of date. killing...
* daemon started successfully *
restarting adbd as root

C:\Users\zxm>adb shell
/ #
C:\Users\zxm>adb kill-server

C:\Users\zxm>adb start-server
* daemon not running. starting it now on port 5037 *
* daemon started successfully *

C:\Users\zxm>adb shell
/ #
C:\Users\zxm>adb root
adbd is already running as root

C:\Users\zxm>adb shell
/ #
C:\Users\zxm>

C:\Users\zxm>

C:\Users\zxm>

C:\Users\zxm>adb devices
List of devices attached
adb server is out of date. killing...
* daemon started successfully *
edb5bcb5        device

C:\Users\zxm>
```

User can run `adb devices` on the CLI to check whether the module device is online. If “List of devices attached” is NULL, the module device is offline or the module daemon service is not started properly. In this case, user can run “`adb kill-server`” --> “`adb start-server`” --> “`adb devices`” to check whether the daemon is started properly and whether the module device is online. If there is still no device information in the device list, please replace the computer or update the Google ADB driver and try again.

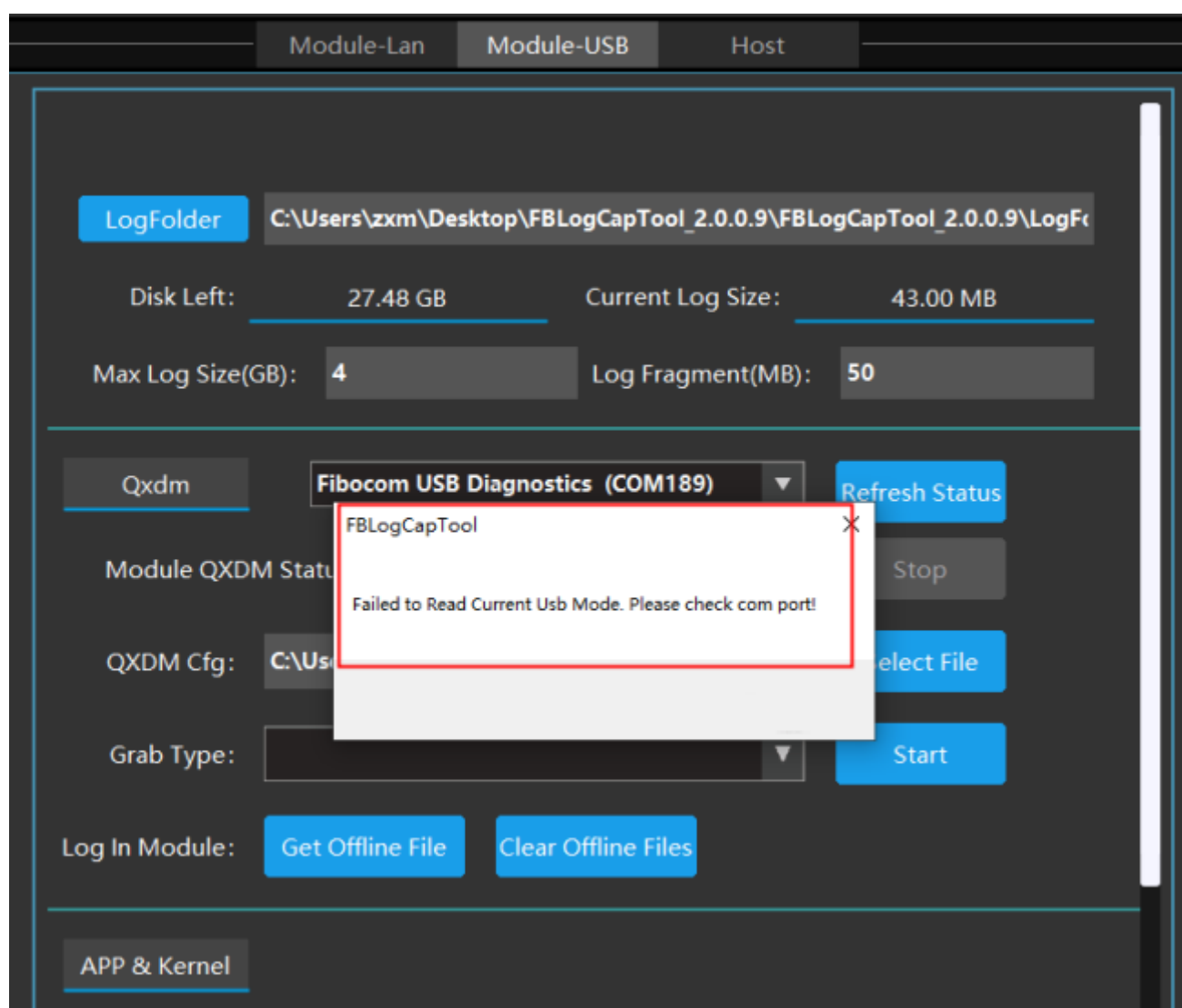


During this step, the user does not need to close the Cap Log tool.

Step 4: If the preceding steps still cannot be resolved, report the problem to the Modem Team.

**Fault 2:** Symptom an notice message is displayed “Failed to Read Current Usb Mode, Please check

com port” when the QXDM offline log is captured in USB mode.



#### Solution:

Step 1: Check and confirm the current USB port mode. Must be make sure that the current USB port is in mode 17 or 24, and that the AT or Modem port and ADB port exist.

Step 2: Check and verify that the AT port or Modem port is not occupied or open by another program. If it is occupied, close it and ensure that it is not occupied.