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FIRICH ENTERPRISES CO., LTD.

FEC Cash Drawer SDK
Integration Guide

FEC
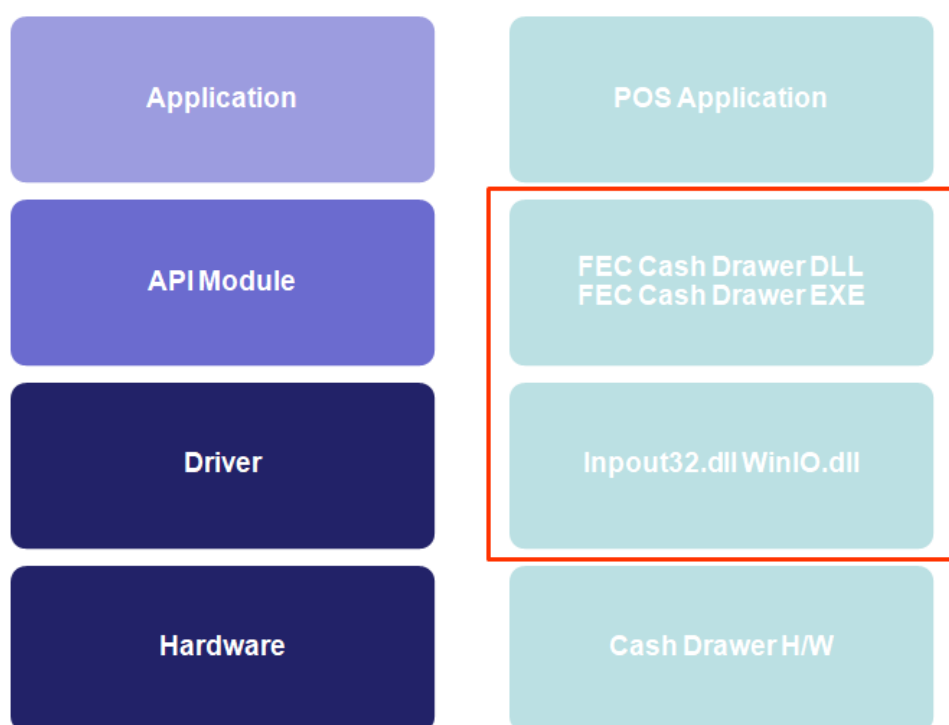
June.12th, 2019

Document Revision History

Rev.	Date	Author	Draft/Changes
0.1	*2016/8/25*	Nelson Yang	First Version
0.2	*2017/1/12*	Nelson Yang	Add fec_cashdrawer.exe for AT-1450
0.3	*2017/3/14*	Nelson Yang	Add fec_cashdrawer_module.exe for detect FEC machine model and change to return code for detect CashDrawer Open (=1) or Close(=0)
0.4	*2017/4/20*	Nelson Yang	1. Bug fix for AT-1450 cashdrawer 1 and 2 can't open at the same time 2. Add configure Open Status Value setting function 3. Add only open CashDrawer1 or 2 function 4. Remove Cash Drawer Open Timeout Alarm function
0.5	*2017/11/2*	James Wang	1. Add FEC_CashDrawer DLL interface for Cash Drawer API 2. Build installation file for FEC CashDrawer SDK
0.6	*2018/7/25*	Elliot Ling	1. Add support for H110/Q170 main board
0.7	*2019/6/12*	Elliot Ling	1. Add support for FKLU main board (XPOS Project)

1. Introduction

1.1. Overview

This document describes about how to use the FEC Cash Drawer SDK to control Cash Drawer device for FEC M/B. The FEC Cash Drawer SDK support that DLL and EXE interface controlling cash drawer for windows application

2. System Architecture

The Figure show FEC Cash Drawer SDK included software stack of system architecture. FEC Cash Drawer support DLL and EXE interface for POS application development, Developer can load library with DLL for them POS application, or Tester can executed with EXE for test cash drawer function directly.

3. System Requirement & Installation
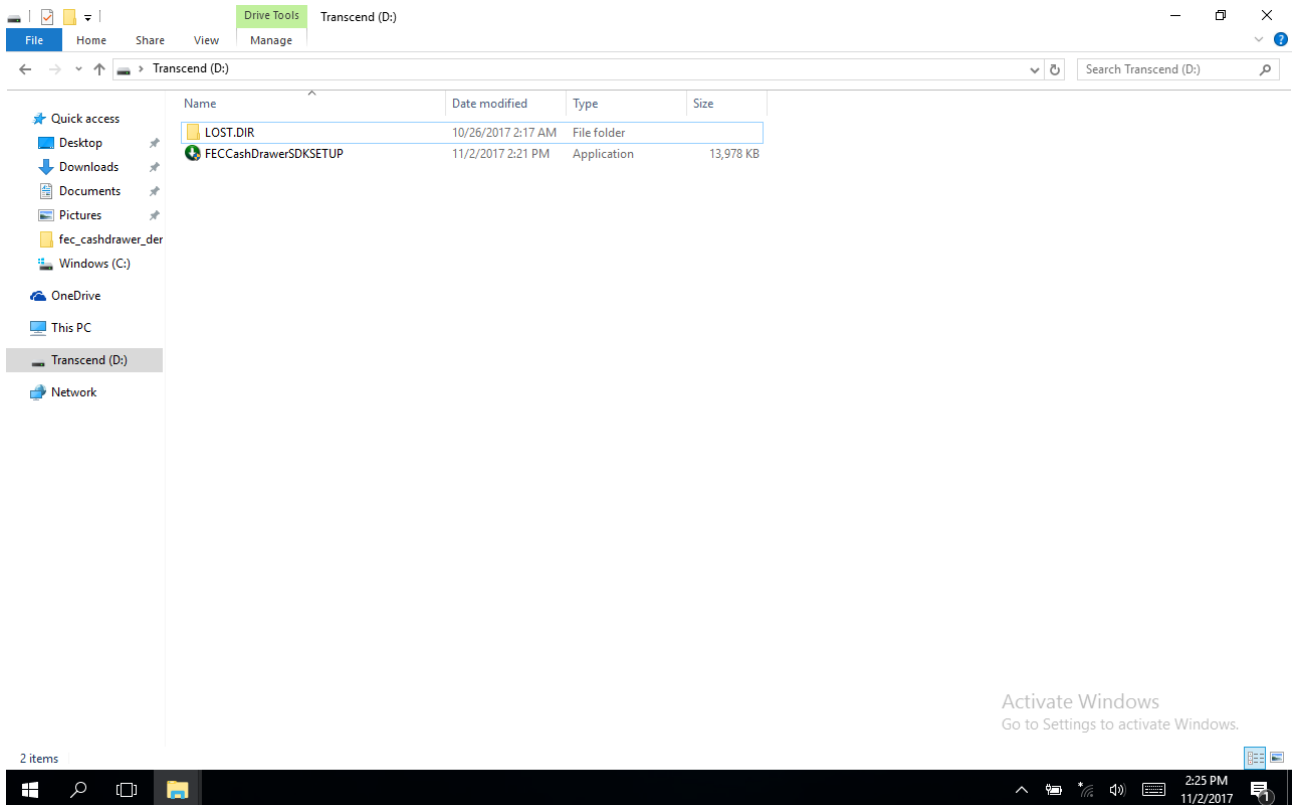
This SDK can be used with the following system configurations

- Hardware Platform (Mother Board)

  - FEC H61

  - FEC H81

  - FEC J1900

  - FH-Z8300/FH-Z8350

  - FEC H110/Q170

  - FEC FKLU

- Supported Operating System(OS)

  - **Microsoft® Windows Embedded® POSReady 2009**

  - **Microsoft® Windows Embedded® POSReady 7**

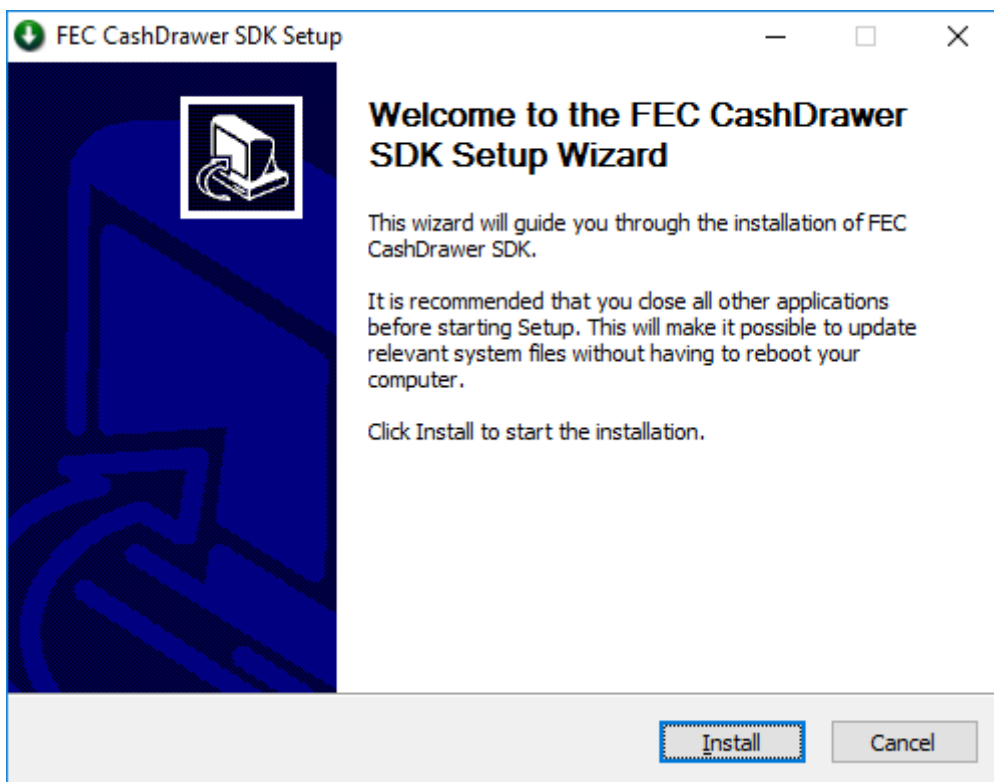 - **Microsoft® Windows 10 IOT Enterprise LTSB**

The 32-bit/64-bit OS version are also supported
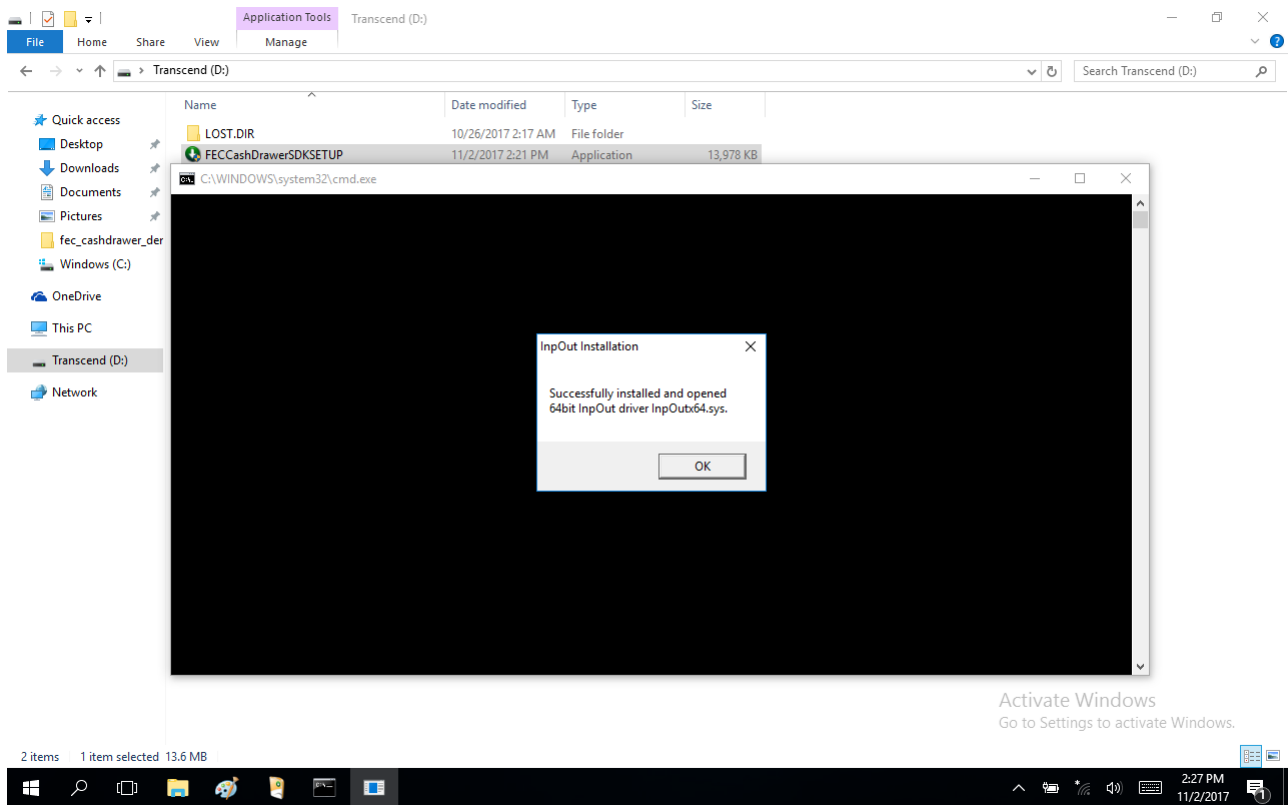
The following showed installation steps

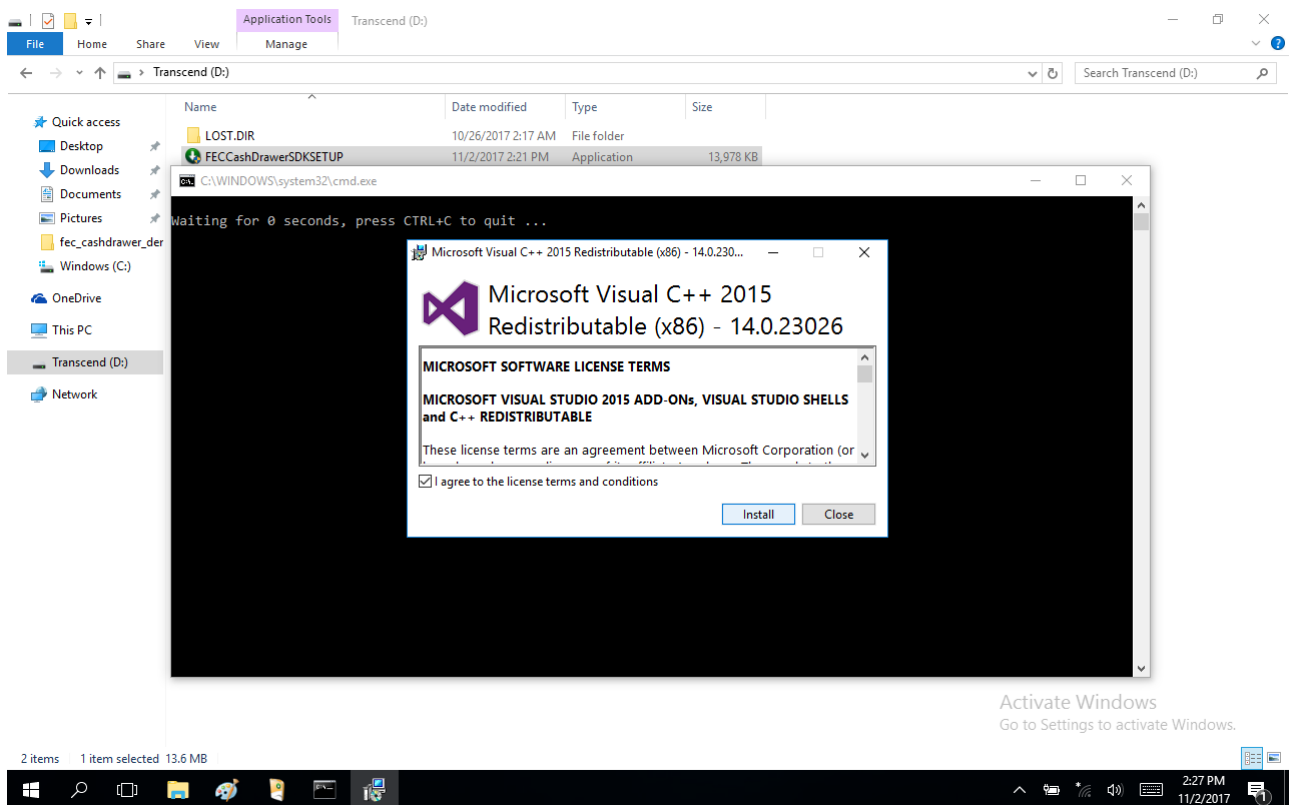- Executed FECCashDrawerSDKSETUP.exe for starting installation
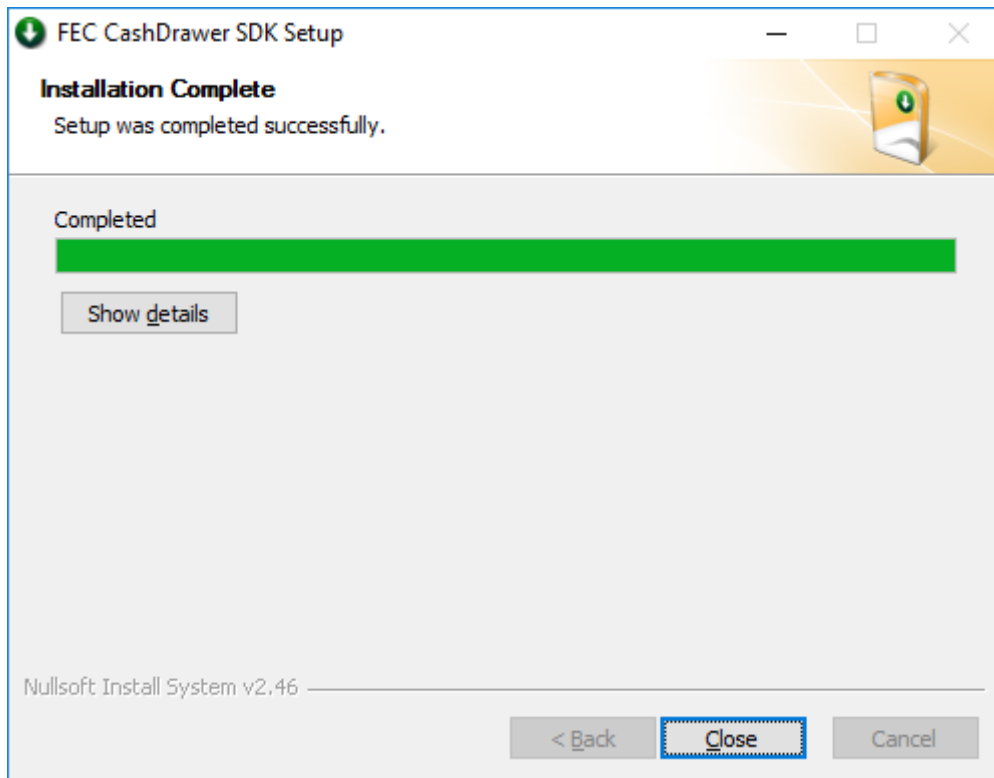
- Click Install button to start install

- Installation copy files and register driver for cash drawer

● **Install C++ Redistributable(x86) library for Cash Drawer utility**
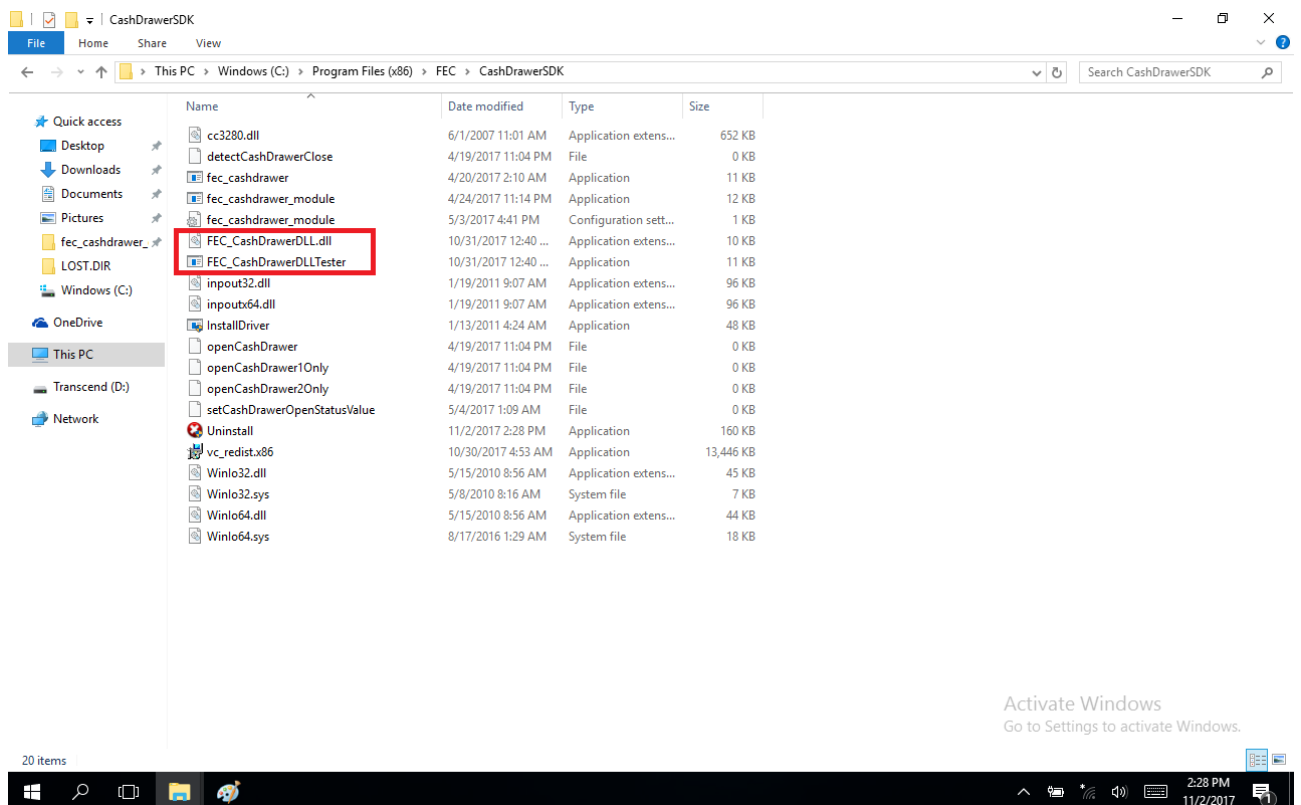
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- Finish Install for FEC CashDrawer SDK

- FEC CashDrawer SDK will install in C:\Program Files(x86)\FEC\CashDrawerSDK

4. DLL interface for FEC Cash Drawer SDK

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FEC CashDrawer SDK provide DLL interface to control cash drawer device, the DLL named is FEC_CashDrawerDLL.dll, and also provide cash drawer utility to test the DLL, the utility named is FEC_CashDrawerDLLTester.exe.

API Function

- DLLExport DWORD OpenCashDrawer()

  Call this API will trigger signal to open cash drawer for Cash Drawer 1 and Cash Drawer 2 both

- DLLExport DWORD OpenCashDrawer1Only()

  Call this API will trigger signal to open cash drawer for Cash Drawer 1 only

- DLLExport DWORD OpenCashDrawer2Only()

  Call this API will trigger signal to open cash drawer for Cash Drawer 2 only

- DLLExport DWORD GetCashDrawerStatus()

  Call this API will get cash drawer open status for cash drawer device,

  Return value 1 is cash drawer open

  Return value 0 is cash drawer closed

- DLLExport DWORD SetCashDrawerOpenStatusValue(int OpenValue)

  This API only for customization cash drawer using
  Normally fec_cashdrawer_module.exe with detectCashDrawerClose parameter will return cash drawer open or close status for FEC standard cashdrawer, due to customization cash drawer might different with FEC standard cash drawer, here provide setCashDrawerOpenStatusValue parameter to set cash drawer open status value if you use non-standard cash drawer, through setCashDrawerOpenStatusValue parameter set, detectCashDrawerClose parameter will return you set the value when cash drawer opened.

  If set OpendValue=0, GetCashDrawerStatus() will return 0 when cash drawer opened,

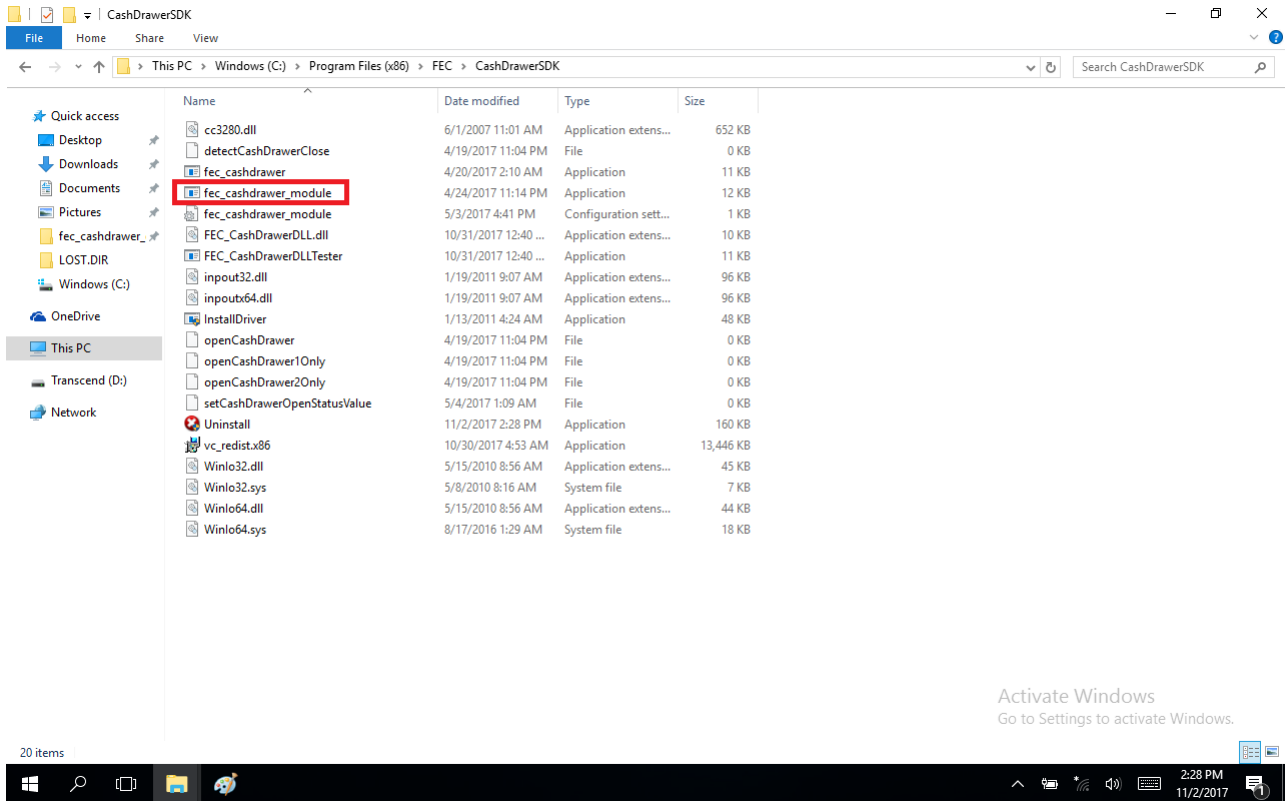If set OpendValue=1, GetCashDrawerStatus() will return 1 when cash drawer opened,

If set OpendValue=2, GetCashDrawerStatus() will return value by default

5. Example for DLL interface

Please refer to FEC_CashDrawerTester.zip that is Microsoft VisualStudio 2015 sample project to demo how to integration with FEC CashDrawer SDK DLL interface

```
pfAddIntFunction pfAddInt;
pfGetCashDrawerStatusFunction pfGetCashDrawerStatus;
pfSetCashDrawerOpenStatusValueFunction pfSetCashDrawerOpenStatusValue;
pfOpenCashDrawerFunction pfOpenCashDrawer;
pfOpenCashDrawer1OnlyFunction pfOpenCashDrawer1Only;
pfOpenCashDrawer2OnlyFunction pfOpenCashDrawer2Only;


HINSTANCE hLibrary = LoadLibrary(L"FEC_CashDrawerDLL.dll");

if (hLibrary)
{
    pfGetCashDrawerStatus = (pfGetCashDrawerStatusFunction)GetProcAddress(hLibrary, "GetCashDrawerStatus");;
    if (pfGetCashDrawerStatus)
    {
        std::cout << "CashDrawerStatus is " << pfGetCashDrawerStatus() << std::endl;
        //std::cout << pfGetCashDrawerStatus() << std::endl;
    }


    pfOpenCashDrawer = (pfOpenCashDrawerFunction)GetProcAddress(hLibrary, "OpenCashDrawer");;
    if (pfOpenCashDrawer)
    {
        pfOpenCashDrawer();
    }
```

6. EXE interface for FEC Cash Drawer SDK

- **Open Cash Drawer 1 and 2**
  trigger signal to open cash drawer for Cash Drawer 1 and Cash Drawer 2 both
  >fec_cashdrawer_module.exe openCashDrawer

- **Only open Cash Drawer 1**
  Call this API will trigger signal to open cash drawer for Cash Drawer 1 only
  >fec_cashdrawer_module.exe openCashDrawer1Only

- **Only open Cash Drawer 2**
  Call this API will trigger signal to open cash drawer for Cash Drawer 2 only
  >fec_cashdrawer_module.exe openCashDrawer2Only

Detect Cash Drawer Open or Close

Get cash drawer open status for cash drawer device,

Return value 1 is cash drawer open

Return value 0 is cash drawer closed
>fec_cashdrawer_module.exe detectCashDrawerClose

- **Set CashDrawer Open Status Value**
  This API only for customization cash drawer using
  Normally fec_cashdrawer_module.exe with detectCashDrawerClose parameter will return cash drawer open or close status for FEC standard cashdrawer, due to customization cash drawer might different with FEC standard cash drawer, here provide setCashDrawerOpenStatusValue

parameter to set cash drawer open status value if you use non-standard cash drawer, through setCashDrawerOpenStatusValue parameter set, detectCashDrawerClose parameter will return you set the value when cash drawer opened.

>fec_cashdrawer_module.exe setCashDrawerOpenStatusValue 1 (Set to 1, detectCashDrawerClose will return 1 when cashdrawer opened)

Or

>fec_cashdrawer_module.exe setCashDrawerOpenStatusValue 0 (Set to 0, detectCashDrawerClose will return 0 when cashdrawer opened)

Or

>fec_cashdrawer_module.exe setCashDrawerOpenStatusValue 2 (Set to 2, detectCashDrawerClose will set to default standard)

7. Example for EXE Interface

At here we use Microsoft VisualStudio 2015 build a sample code to demo how to integration with FEC CashDrawer SDK EXE interface

Please refer to fec_cashdrawer_demo_source_code.zip.

- "Open CashDrawer" button source code

```csharp
private void cmdOpenCashDrawer_Click(object sender, EventArgs e)
{
    try
    {
        Process myProcess = new Process();
        myProcess.StartInfo.CreateNoWindow = true;
        myProcess.StartInfo.WindowStyle = ProcessWindowStyle.Hidden;
        myProcess.StartInfo.FileName = @"fec_cashdrawer_module.exe"; //FEC CashDrawer module program filename
        myProcess.StartInfo.Arguments = @"openCashDrawer"; //call FEC CashDrawer module program parameter,
        myProcess.StartInfo.UseShellExecute = false;
        myProcess.StartInfo.RedirectStandardOutput = true;
        myProcess.StartInfo.RedirectStandardInput = true;
        myProcess.Start();
        myProcess.WaitForExit();
        myProcess.Close();
        txtLog.AppendText("Open Cash Drawer\n");

    }
    catch (System.ComponentModel.Win32Exception ex)
    {
        Console.WriteLine(ex.Message);
```

● "Get CashDrawer Status" button source code

```
private void cmdGetCashDrawerStatus_Click(object sender, EventArgs e)
        {
            try
            {
                Process myProcess = new Process();
                myProcess.StartInfo.CreateNoWindow = true;
                myProcess.StartInfo.WindowStyle = ProcessWindowStyle.Hidden;
                myProcess.StartInfo.FileName = @"fec_cashdrawer_module.exe"; //FEC CashDrawer module program
filename
                myProcess.StartInfo.Arguments = @"detectCashDrawerClose"; //call FEC CashDrawer module program
parameter,
                myProcess.StartInfo.UseShellExecute = false;
                myProcess.StartInfo.RedirectStandardOutput = true;
                myProcess.StartInfo.RedirectStandardInput = true;
                myProcess.Start();
                txtLog.AppendText("Detect Cash Drawer Open or Close\n");
                myProcess.WaitForExit();
                int result = myProcess.ExitCode;
                if (result == 0)
                {
                    txtLog.AppendText("Cash Drawer Close\n");
                }
                if (result == 1)
```