



## Don Addon 101 LVDS

### General Description

Rev.1.3

2022-03-02

Don Addon 101 LVDS applies to below Riverdi HB, IPS 10.1" LVDS series:

PRODUCT NAME	DESCRIPTION
RVT101HVLNWN00	HB, IPS, 10.1", 1000cd/m <sup>2</sup> , LVDS, No touch panel
RVT101HVLFWN00	HB, IPS, 10.1", 1000cd/m <sup>2</sup> , LVDS, No touch panel, Metal frame
RVT101HVLNWC00-B	HB, IPS, 10.1", 850cd/m <sup>2</sup> , LVDS, uxTouch, Optical bonding
RVT101HVLNWC00	HB, IPS, 10.1", 800cd/m <sup>2</sup> , LVDS, uxTouch, Air bonding
RVT101HVLNWC00	HB, IPS, 10.1", 800cd/m <sup>2</sup> , LVDS, aTouch, Air bonding
RVT101HVLFWCA0	HB, IPS, 10.1", 800cd/m <sup>2</sup> , LVDS, aTouch, Air bonding, Metal frame



1. REVISION RECORD

REV NO.	REV DATE	CONTENTS	REMARKS
1.0	2021-10-25	Initial Release	
1.1	2021-12-22	Add info on how to test touch panel performance	
1.2	2022-01-14	Updating the product photos	
1.3	2022-03-02	Updating the product photo	



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## 3. INTRODUCTION

The aim of this document is to present the general idea and functions of the device presented. Don Addon 101 LVDS is a hardware connection between Riverdi STM32 Evaluation Board and the [Riverdi HB,IPS 10.1" LVDS TFT display](#), turning three separate items into one working unit.

## 4. GENERAL DESCRIPTION

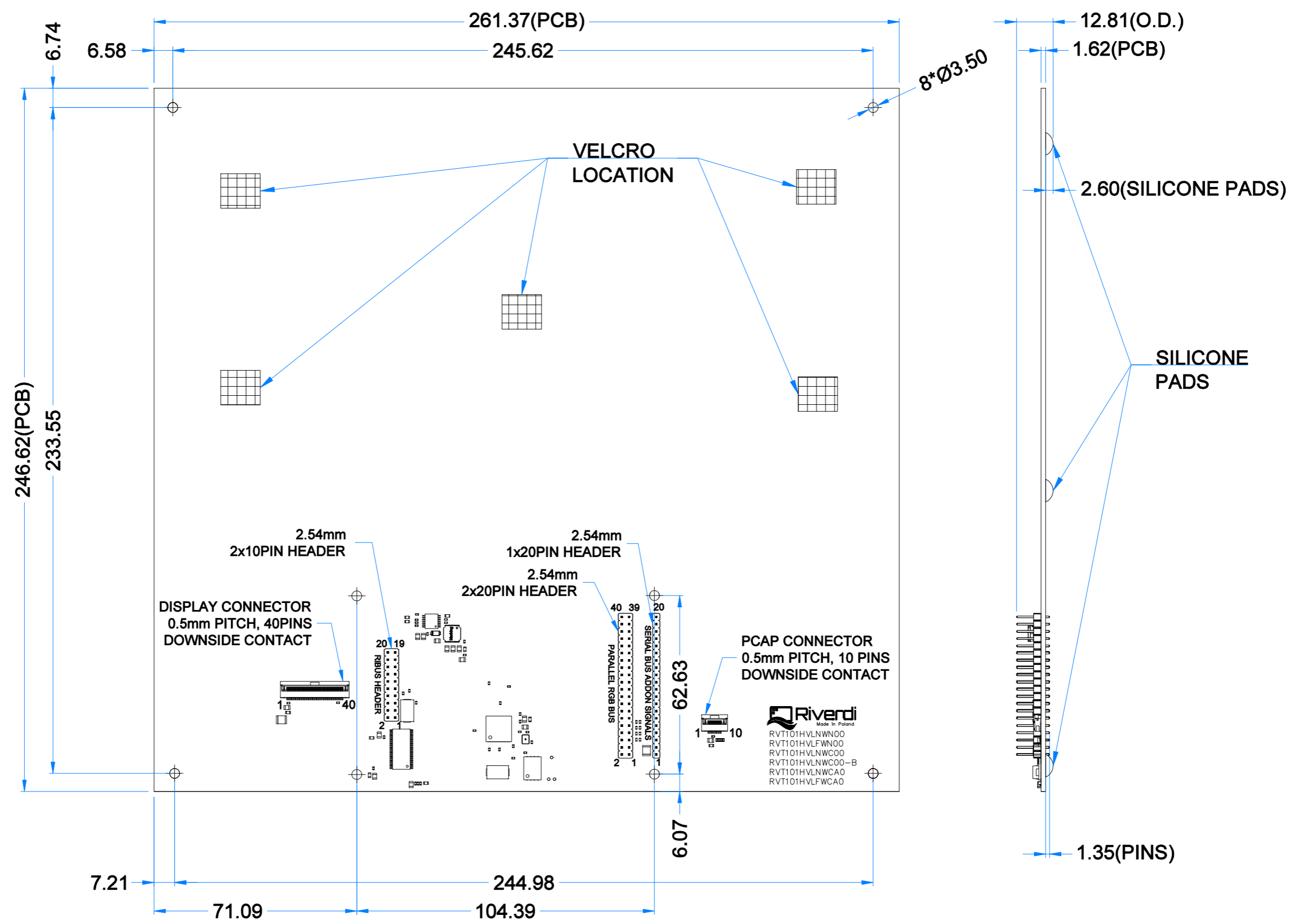
The Don Add board is the hardware interfacing device that provides the necessary connection between TFT and STM32 Evaluation Board.

Because of the rich offer of TFT modules from Riverdi and the necessity to ensure seamless cooperation between different TFT modules and ONE type of STM32 Evaluation Board, there must be different, customized versions of Don Addon boards, to make it possible to use many modules differing in size, signal connectors and mechanical builds, together with ONE universal controller – STM32 Evaluation Board.

One of the purposes for building Don Addons was to put developers' world in order.

Another one was to prepare and demonstrate the working TFT modules at various presentations and exhibitions.

Revision:	Changes:	Date:
1.0	Initial Case	2021.11.02



**GENERAL NOTES:**  
 1. WITHOUT INDIVIDUAL TOLERANCE: ±0.3mm  
 2. RoHS3 COMPLIANT

PN: DON ADDON 101 LVDS\_Rev1.0  
 SN:  
 DRAWN: M.Natywa  
 CHECKED: Carol Gao  
 APPR:



2021.11.02	1:1.42	
2021.11.03	[mm]	
ISO A3	P. 1 of 1	



## 6. MECHANICAL FUNCTIONS

1. The Don Addon 101 LVDS is a stable mechanical base for three components:
  - STM32 Evaluation Board
  - [Riverdi HB, IPS 10.1" LVDS TFT display](#)
  - Don Addon 101 LVDS itself

Mechanical stability of the above devices fixed together protects delicate TFT connectors against breaking, tearing off and wearing out due to frequent connecting and disconnecting.

2. The Don Addon board is designed in a way that allows the use of all three components in horizontal and vertical positions.

The horizontal position is particularly useful during development. It gives a secure access to STM32 Evaluation Board measuring terminals and other circuitry points desired by a developer.

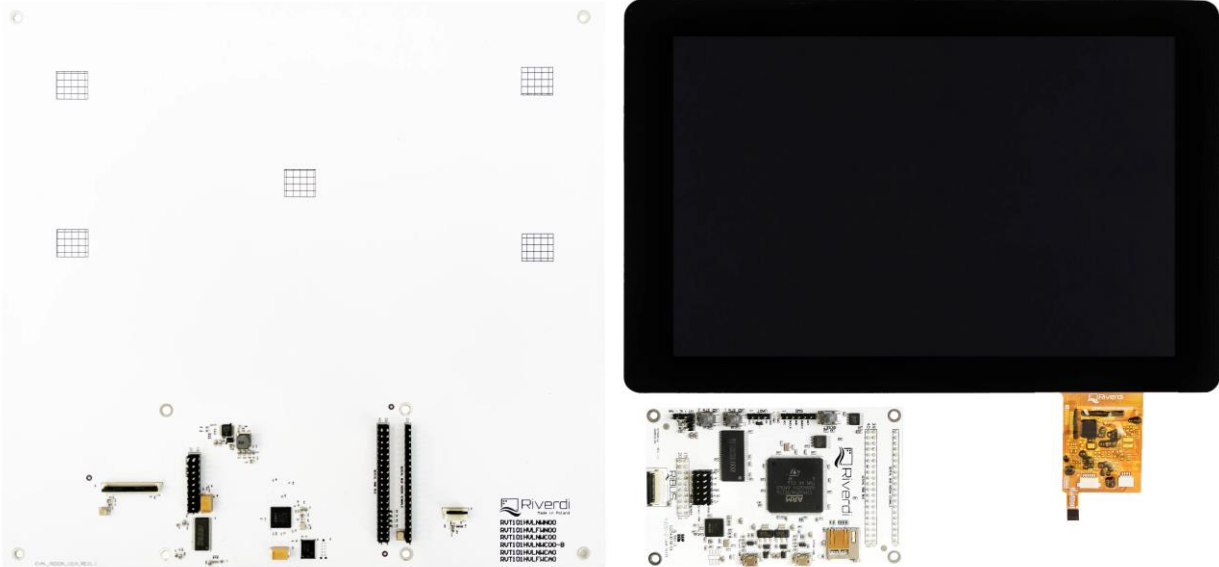
The vertical position allows for hanging the entire working unit on a vertical post for exhibiting purposes and for drawing visitors' attention.

A TFT module is fastened to the Don Addon with velcro tapes in 6 places. Using velcro tapes between the Don Addon board and the TFT ensures:

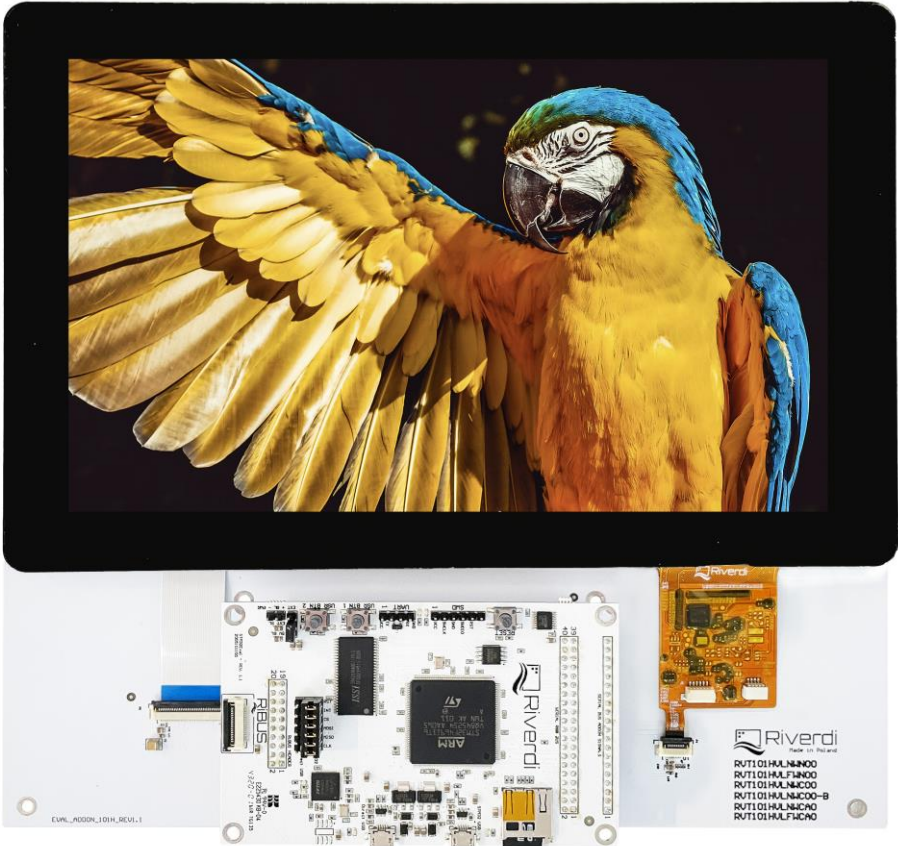
- Relatively high fastening strength that makes sure the TFT connectors are safe from mechanical damage in both positions (horizontal and vertical),
- Relative ease of changing the TFT modules whenever necessary.



The picture below shows all three listed components separately, before being assembled into one unit:



The picture below shows the same three components assembled and connected into one device:





### 7. ELECTRICAL FUNCTIONS

1. The Don Addon board generates all the voltages necessary for the TFT display to operate properly.
2. The Don Addon board generates the power necessary for backlight in the TFT module to operate properly.

### 8. HOW TO USE

Please refer to the User Manual of the STM32 Evaluation board on how to use the assembled unit.

User Manual Download Link: <https://riverdi.com/product/stm32-evaluation-board/>





### 8.1 Touch performance tests

There are 2 ways to test the touch panel performance.

One way is to connect the touch panel with your PC using RVA PCAP USB Cable.

Second way is to use Don Addon 10 LVDS and STM32 Evaluation Board.

The demo of STM32 Evaluation Board has the “drawing test”, which allow user to paint on the touch panel.

#### 8.1.1 Testing the touch panel with PC

**Step 1:** Please connect the touch panel with the PC using the below USB cable.

**Caution!** Before connecting, please make sure that the touch panel is disconnected from the touch ZIF connector on the Don Addon.



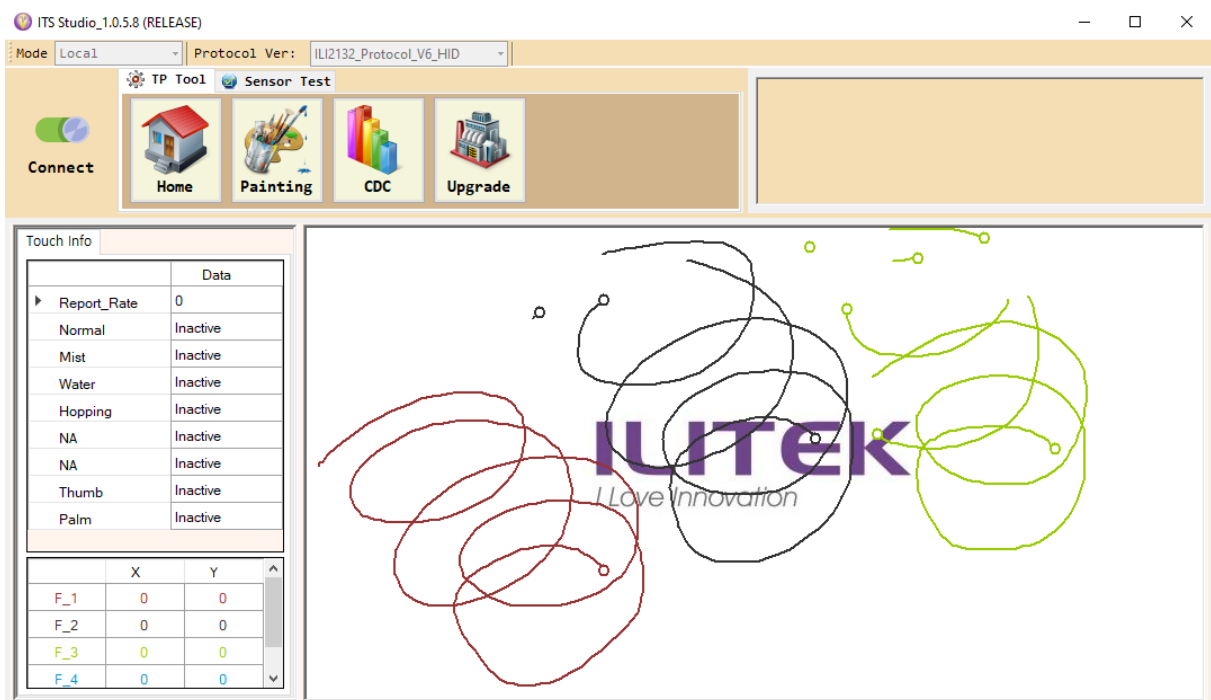
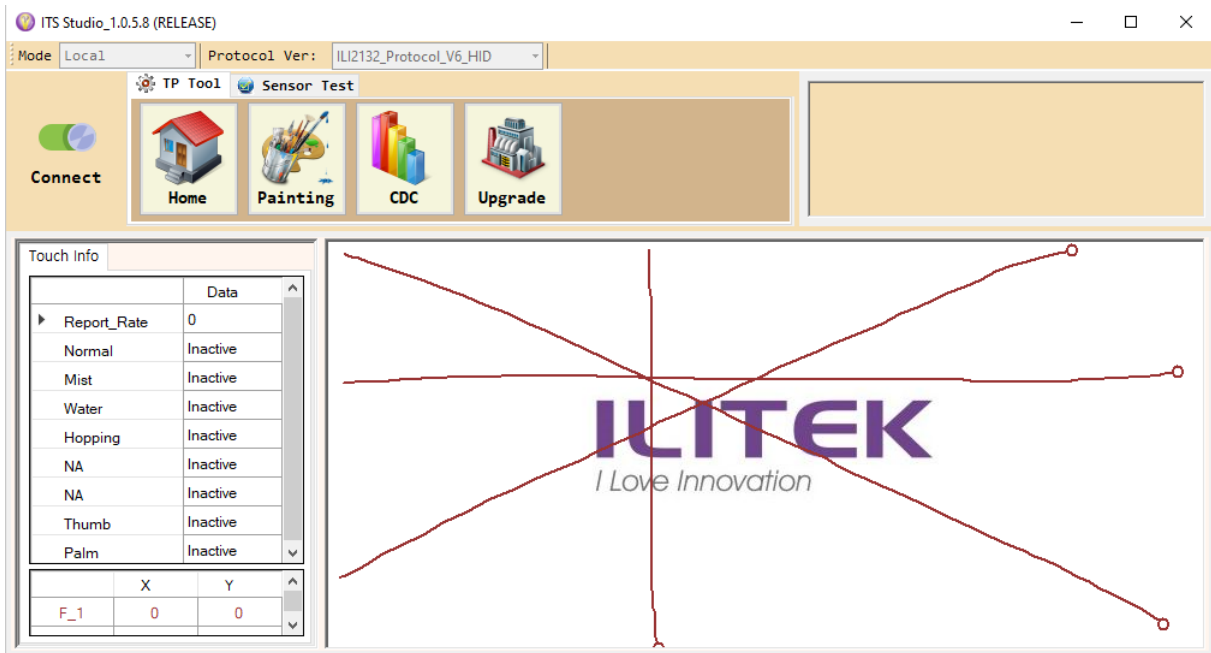
**Step 2:** Release the zip package and double click ‘ITS studio’.

Name	Status	Date modified	Type	Size
Config	☁	10/25/2021 1:49 PM	File folder	
ParaData	☁	10/25/2021 1:49 PM	File folder	
Profile	☁	10/25/2021 1:49 PM	File folder	
INI_Tool.dll	✔	1/20/2021 5:01 AM	Application exten...	23 KB
ITS Studio	✔	2/22/2021 9:22 AM	Application	3,129 KB
ITS Tool V1.0.5.8_20210222.7z	☁	3/5/2021 4:37 PM	7Z File	5,962 KB
LogAnalysis_Tool	☁	12/3/2020 9:32 AM	Application	277 KB
password	☁	3/5/2021 4:38 PM	Text Document	1 KB
SplitButton.dll	☁	12/3/2020 9:32 AM	Application exten...	19 KB
TeeChart.dll	✔	12/3/2020 9:32 AM	Application exten...	4,969 KB



**Step 3:** Click 'Disconnect' red icon then go to 'Painting' page.

Then start the drawing test via single touch, even multi-touch (Up to 10 fingers).





**8.1.2 Testing the touch panel via STM32 Evaluation board demo**

**Caution!** The Don Addon 101 LVDS applies BT817Q on the board. To enable the effective data exchange between the BT817Q and the ILI2132A IC, a new and special communication protocol is required to program the touch panel.

Please write to [contact@riverdi.com](mailto:contact@riverdi.com) to ask for the firmware for Riverdi EVE4 10.1” PCAP and programming software package (name: **ITS Studio, customer version**).

Please follow the below steps to update the firmware of the touch panel.

**Step 1:** Please connect touch panel with the PC via using below USB cable.



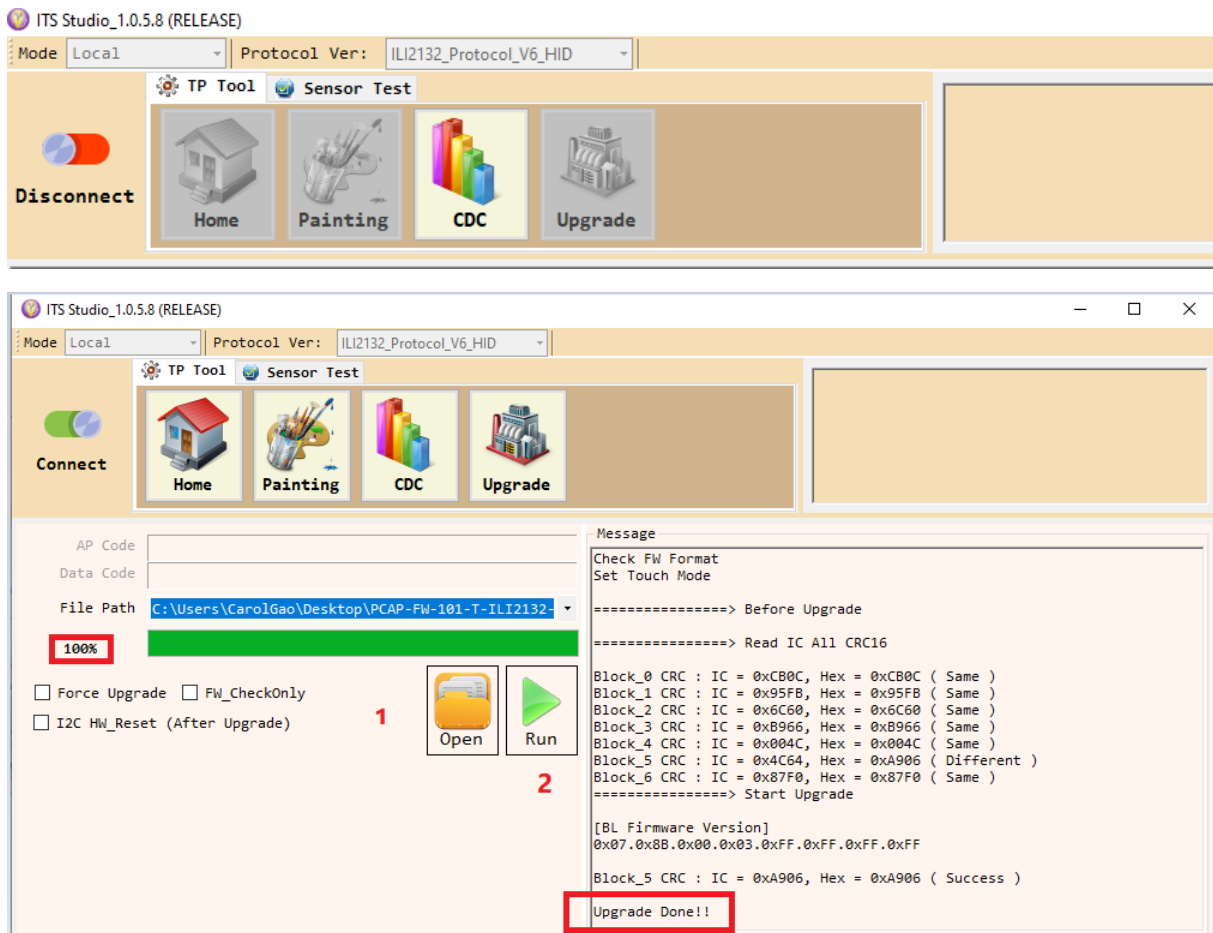
**Caution!** Before connecting, please make sure that the touch panel is disconnected from the touch ZIF connector on the Don Addon.

**Step 2:** Release the zip package and double click ‘ITS studio’

Name	Status	Date modified	Type	Size
Config	☁	10/25/2021 1:49 PM	File folder	
ParaData	☁	10/25/2021 1:49 PM	File folder	
Profile	☁	10/25/2021 1:49 PM	File folder	
INI_Tool.dll	✔	1/20/2021 5:01 AM	Application exten...	23 KB
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ITS Tool V1.0.5.8_20210222.7z	☁	3/5/2021 4:37 PM	7Z File	5,962 KB
LogAnalysis_Tool	☁	12/3/2020 9:32 AM	Application	277 KB
password	☁	3/5/2021 4:38 PM	Text Document	1 KB
SplitButton.dll	☁	12/3/2020 9:32 AM	Application exten...	19 KB
TeeChart.dll	✔	12/3/2020 9:32 AM	Application exten...	4,969 KB

**Step 3:** Click ‘Disconnect’ red icon then go to ‘Upgrade’ page

1. Click ‘Open’ to import the hex file.
2. Click ‘Run’ to upgrade the firmware 100%.



In the end, disconnect the touch panel from the USB cable and re-connect the touch FPC back to the touch ZIF connector on the Don Addon.

**Caution!** For your own application development, please re-program the touch panel with original firmware. Please write to [contact@riverdi.com](mailto:contact@riverdi.com) to ask for the original firmware for Riverdi HB,IPS 10.1"PCAP.

## 9. SUMMARY

If this document has made you interested in knowing more about Riverdi products, please visit Riverdi website: <https://riverdi.com/>



## 10. LEGAL INFORMATION

This document has been issued for informational purposes only. It can be updated or altered without any written notice. Riverdi cannot be held responsible for not announcing any changes or issuing next revisions or versions of this document.

Hi, I am here to help you!  
If you have any additional  
questions, please contact  
our support via email:  
[contact@riverdi.com](mailto:contact@riverdi.com)

