

# PSSC Unit

## QT Software Release

### 1V0

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## 2 Version History

Version No	Date	Author	Change Log
1.1	27-09-2023	Mohan kumar C	Testing and Firmware Upgrade Procedures Using USB pendrive

### 3 Acronyms

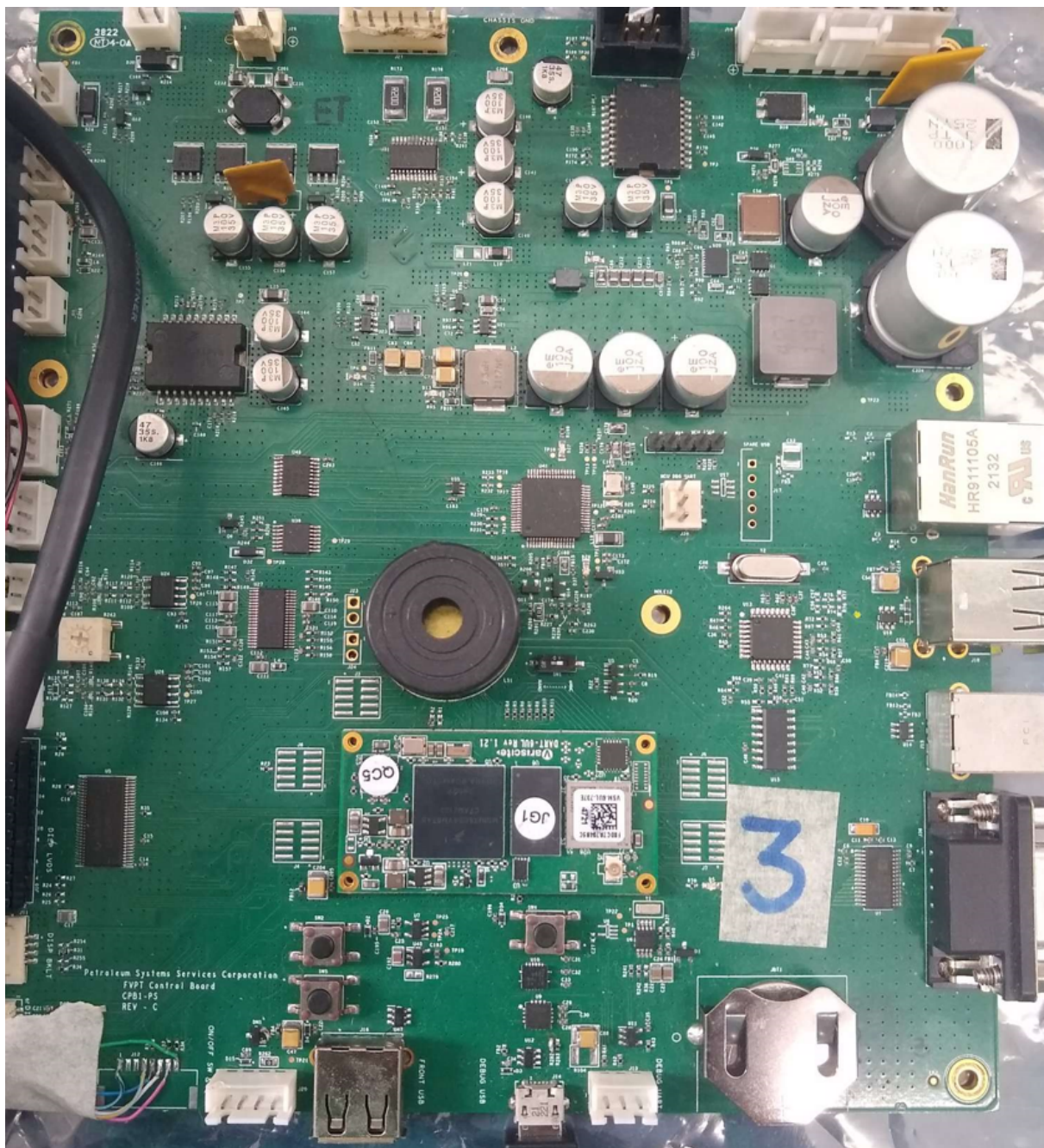
Acronyms	Abbreviations

## 4 Objective

Upgrade the old firmware of the PSSC unit and Upgrade to the latest firmware with QT support.

## 5 Hardware Setup

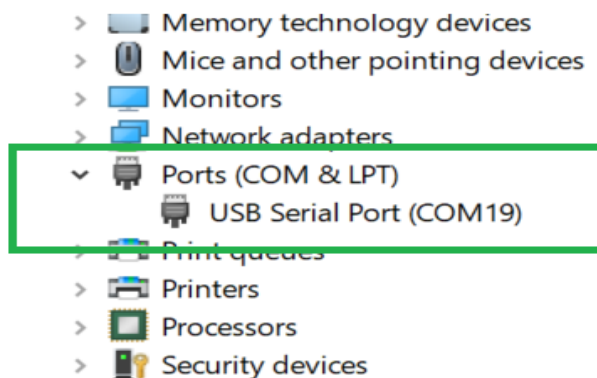
1. Micro USB cable connected with J14 connector.
2. Teraterm software to install. Download the software in below link
  - a. <https://osdn.net/projects/ttssh2/releases/>
3. 24-Volts DC Power supply
4. PSSC PCBA Board
5. PSSC Unit running old software
6. Any USB Pen Drive with FAT32 Formatted.



## 6 New PSSC Firmware uploading

Follow below steps to upgrade the firmware of PSSC

1. Power on the PSSC unit
2. Connect the USB micro cable between the PSSC unit(J14) & Laptop PC USB port
3. Check on Device Manager it has been Identified as comport, note down that serial port number. If not listed, download and install the corresponding serial port drivers.




4. Open the tera term, do set the configurations as below
  - a. go to **setup- > Serial port**
  - b. Speed: 115200, Data:8 bit, Parity: none, Stop bits : 1bit, Flow Control: none
  - c. port : select as shown in device manager. In this case COM20
  - d. If all good then open comport

Tera Term: Serial port setup and connection

The image shows the 'Tera Term: Serial port setup and connection' dialog box. The 'Port' is set to 'COM20'. The 'Speed' is set to '115200'. The 'Data' is set to '8 bit'. The 'Parity' is set to 'none'. The 'Stop bits' is set to '1 bit'. The 'Flow control' is set to 'none'. There are buttons for 'New setting', 'Cancel', and 'Help'. Below these settings is a 'Transmit delay' section with two input fields: '0 msec/char' and '0 msec/line'. At the bottom, there is a text box containing the following information: 'Device Friendly Name: USB Serial Port (COM20)', 'Device Instance ID: FTDIBUS\VID\_0403+PID\_6015+DK0C2Q04A\0', 'Device Manufacturer: FTDI', 'Provider Name: FTDI', 'Driver Date: 7-5-2021', and 'Driver Version: 2.12.36.4'.

5. Restart the board. on teraterm serial you see console messages as shown below

 COM20 - Tera Term VT

```
File Edit Setup Control Window Help
Date of production: 2021 Dec 01
SOM configuration: eMMC WiFi
Trying to boot from MMC1
MMC Boot Device: mmc1 <eMMC>

U-Boot 2018.03-mx6ul+g42788b3875 <Oct 30 2020 - 15:19:59 +0000>

CPU: Freescale i.MX6UL rev1.2 696 MHz <running at 396 MHz>
CPU: Automotive temperature grade <-40C to 125C> at 41C
Reset cause: POR
Board: Variscite DART-6UL
I2C: ready
DRAM: 512 MiB
MMC: FSL_SDHC: 0, FSL_SDHC: 1
Loading Environment from MMC... OK
Display: UAR-WUGA-LCD <800x480>
Video: 800x480x24
Error <-1>: cannot determine file size
In: serial
Out: serial
Err: serial
switch to partitions #0, OK
mmc1<part 0> is current device
eMMC: 7.3 GiB
Net: got MAC0 address from fuse: f8:dc:7a:70:4b:5c
FEC0 [PRIME1, usb_ether
Error: usb_ether address not set.

Normal Boot
Hit any key to stop autoboot: 1 █
```

6. After successful boot will get login console as below

login: root

password: test1954

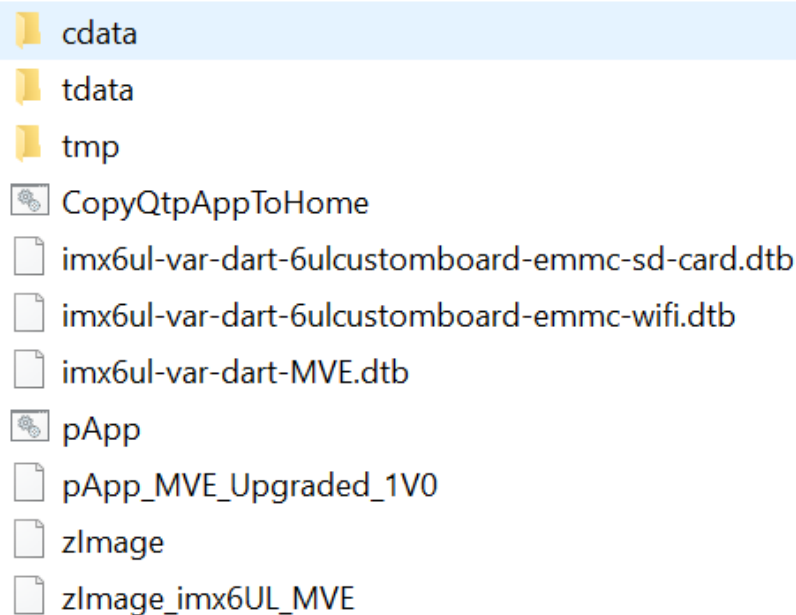
```
Starting Variscite Bluelab setup service...
[ OK ] Started NFS status monitor for NFSv2/3 locking..
[ OK ] Started /etc/rc.local Compatibility.
[ OK ] Started Serial Getty on ttymxc0.

Variscite
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FSLC FrameBuffer 2.6 RUPPRO ttymxc0
RUPPRO login: █
```

7. extract the pApp\_MVE\_Upgraded\_1V0.zip from local PC and copy the folder pApp\_MVE\_Upgraded\_1V0 into pendrive. Note Pendrive must be formatted with FAT32 and it must have the release folder "pApp\_MVE\_Upgraded\_1V0" with contents as below.





8. After login follow below steps
  - a. vi CopyQtpAppToHome.sh
  - b. press one time "i"
  - c. open CopyQtpAppToHome.sh file in text editor & copy the content of CopyQtpAppToHome.sh inside the release folder & past into the teraterm window window
  - d. then press "esc"
  - e. then ":wq"
  - f. this will quit the CopyQtpAppToHome.sh edit window
  - g. execute the command "chmod 777 CopyQtpAppToHome.sh"
  - h. Take the same pendrive and place it on any USB host connector ON Board. Below is the message you get on the terminal.

```

root@RUPPRO:~# usb 1-1.3: new full-speed USB device number 3 using ci_hdrc
usb 1-1.3: not running at top speed; connect to a high speed hub
usb-storage 1-1.3:1.0: USB Mass Storage device detected
scsi host0: usb-storage 1-1.3:1.0
scsi 0:0:0:0: Direct-Access    HP                v165w           1100 PQ: 0 ANSI: 0 CCS
sd 0:0:0:0: [sdal] 7831552 512-byte logical blocks: (4.01 GB/3.73 GiB)
sd 0:0:0:0: [sdal] Write Protect is off
sd 0:0:0:0: [sdal] No Caching mode page found
sd 0:0:0:0: [sdal] Assuming drive cache: write through
sda: sda1
sd 0:0:0:0: [sdal] Attached SCSI removable disk
root@RUPPRO:~# █

```

- i. Make sure you are on root

```

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FSLC FrameBuffer 2.6 RUPPRO ttymxc0

RUPPRO login: root
Password:
mkdir: cannot create directory '/tmp/runtime-root': File exists
root@RUPPRO:~#
root@RUPPRO:~# █

```

- j. run the command ./CopyQtpAppToHome.sh

- k. Wait for the complete script to execute. After the script is successfully executed below is the log you see on the console. It takes 40 to 60 seconds.

```
root@RUPPRO:~# chmod 777 CopyQtPAppToHome.sh
root@RUPPRO:~# ./CopyQtPAppToHome.sh
#####
MUE SCRIPT TO UPGRADE LINUX
#####
mount the pendrive
mount emmc /dev/mmcblkp1
#####
UPGRADING LINUX DONE
#####
MUE SCRIPT TO UPGRADE THE QT FIRMWARE
#####
mounting the pendrive --> /home/root/PenDriveMount
system app path is ----> /home/root/
usb application path --> pApp_MUE_Upgraded_1U0
pApp application name -> pApp_MUE_Upgraded_1U0
MUE Checking for errors
MUE Unmounting is Successful
#####
QT APP UPGRADE COMPLETE!!!
#####
*****
MUST RESTART THE SYSTEM!!!
*****
root@RUPPRO:~# clear
```

## 7 Released firmware features

1. All QT GUI According to Scope of Work for increased Display Resolution.
2. Touch screen upgrade with new touch drivers.

## 8 Known Issues

NA

## 9 References

1. 8.4\_1027X768+CTP\_20230718.pdf
2. pssc-5-Oct-2023-handover.zip
3. rvp-pro control board-rev-d-17-07-23.pdf
4. PSSC\_RVP\_PRO\_SOM\_PROGRAMMING\_INSTRUCTIONS-REV-0.docx
5. rootfs-17-May-2022.tar