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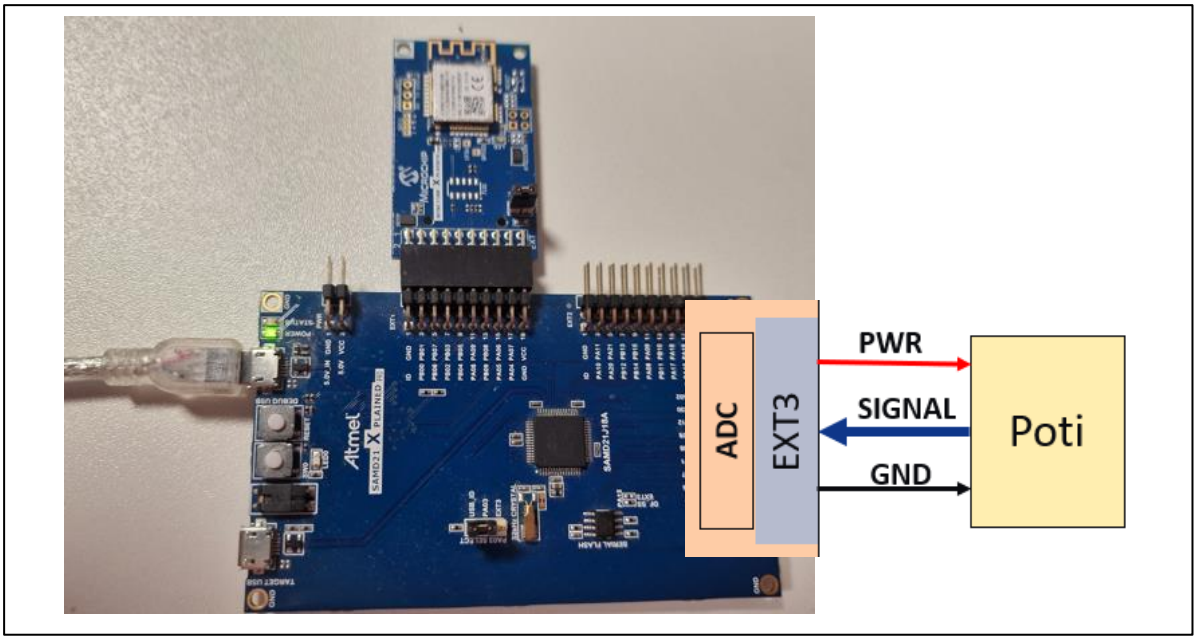
Contents

History

v1.5: successful version using current wireless-repo 'wireless_wifi' (SL, 15.11.22)

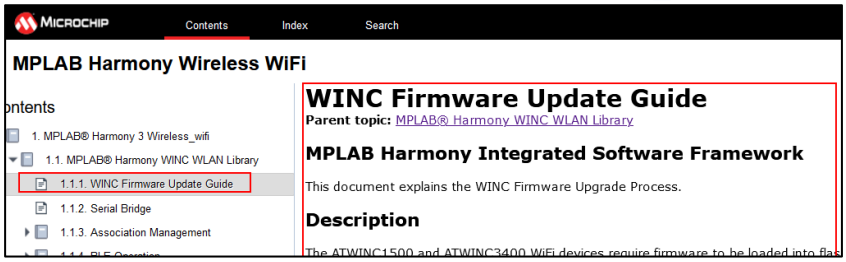
FW-update

HW setup for FW-update



FW-update with 'new' repo 'wireless_wifi'

Follow steps from C:\mchp\mTools\harmony\v3\wireless_wifi\docs\index.html



Steps that need to be done to update the WINC1500-FW are

1. create image with 'image_tool'
2. program serial_bridge.X into SAMD21
3. download new image (->'1') into WINC1500

1) create new image with image_tool

Tried to run from different directories BUT only work if run from
`$RunDir=<h3>\wireless_wifi\utilities\wifi\winc\files\winc1500\`

Instructions on index.html mentioned cmd line to use:

```
(dos)> image_tool.exe -c winc1500_19.6.1\config.txt -o winc1500_19.6.1.prog -of prog
```

but that doesn't work -> working cmdLine looks like this (must run from $RunDir -> see Test1,2!!):

```
(dos: winc1500\)> ..\..\tools\image_tool.exe \
                  -c winc1500_19.7.7\flash_image.config -o winc1500_19.7.7.prog -of prog
```

First fails as provided flash_image.config has an invalid statement '[gain table]' -> just removed and now successfully creates $runDir\winc1500_19.7.7.prog'

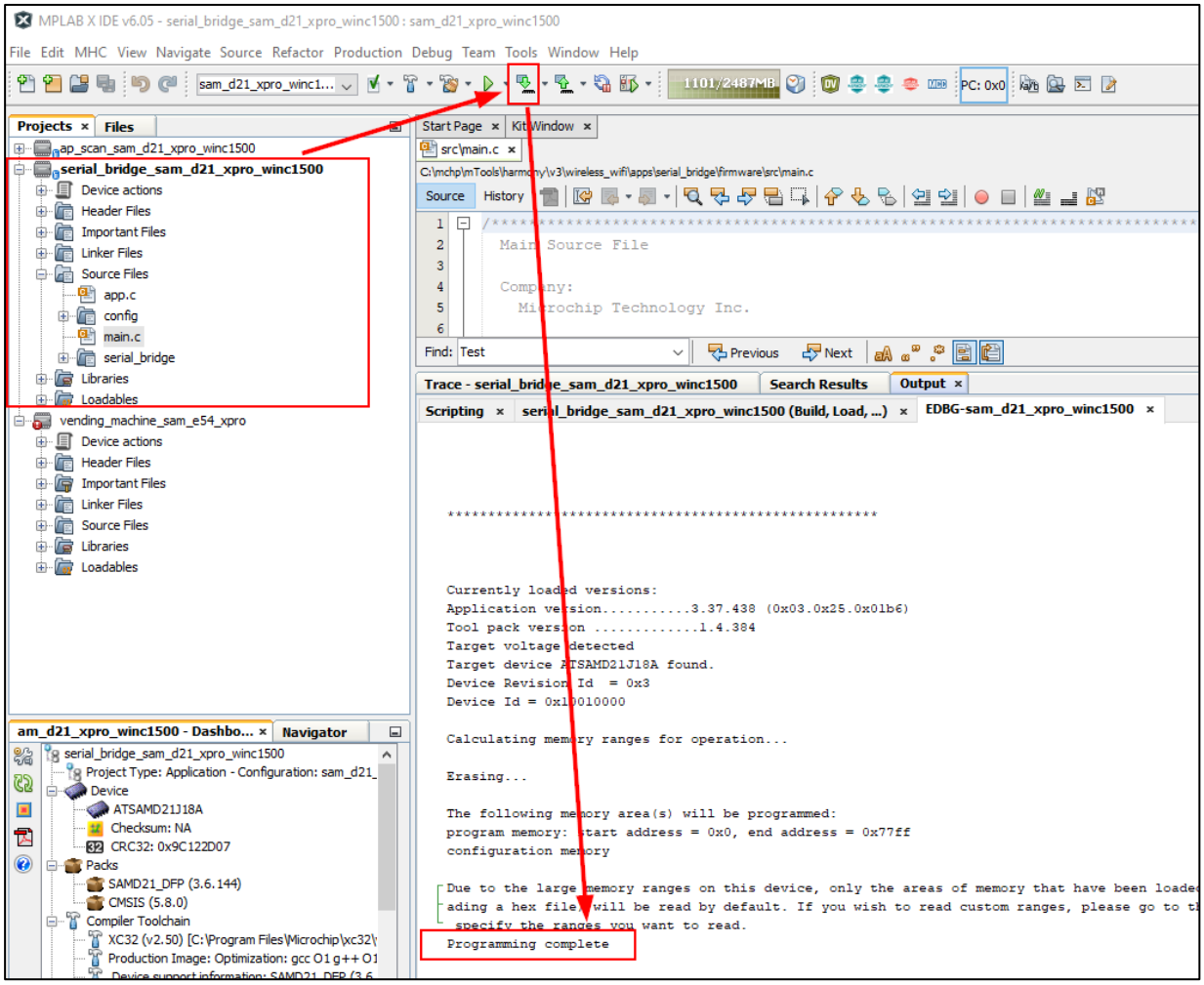
```
C:\mchp\mTools\harmony\v3\wireless_wifi\utilities\wifi\winc\files\winc1500>..\..\tools\image_tool -c 19.7.7\flash_image.config -o winc1500_19.7.7.prog -of prog
Device Image Creation Tool 2.0.1 [ceebe5f] (Apr 20 2022)
Copyright (C) Microchip Technology Inc. 2022

processing region '[boot firmware]'
WINCFirmwareImageBuild: opening firmware file '19.7.7/firmware/boot_firmware.bin'
written 1304 of 4096 bytes to image (32%)
processing region '[control sector]'
WINC1500ControlSectorBuild: creating control sector
written 64 of 4096 bytes to image (2%)
processing region '[backup sector]'
written 0 of 4096 bytes to image (0%)
processing region '[pll table]'
Creating WiFi channel lookup table for PLL with xo_offset = 0.0000.
written 456 of 1024 bytes to image (45%)
processing region '[gain table]'
error: invalid [gain table].type found
error: unable to process region '[gain table]'

C:\mchp\mTools\harmony\v3\wireless_wifi\utilities\wifi\winc\files\winc1500>..\..\tools\image_tool -c 19.7.7\flash_image.config -o winc1500_19.7.7.prog -of prog
Device Image Creation Tool 2.0.1 [ceebe5f] (Apr 20 2022)
Copyright (C) Microchip Technology Inc. 2022

processing region '[boot firmware]'
WINCFirmwareImageBuild: opening firmware file '19.7.7/firmware/boot_firmware.bin'
written 1304 of 4096 bytes to image (32%)
processing region '[control sector]'
WINC1500ControlSectorBuild: creating control sector
written 64 of 4096 bytes to image (2%)
processing region '[backup sector]'
written 0 of 4096 bytes to image (0%)
processing region '[pll table]'
Creating WiFi channel lookup table for PLL with xo_offset = 0.0000.
written 456 of 4096 bytes to image (12%)
processing region '[root certificates]'
found certificate: Amazon Root CA 1
found certificate: Baltimore CyberTrust Root
found certificate: DigiCert High Assurance EV Root CA
found certificate: DigiCert SHA2 High Assurance Server CA
found certificate: Entrust Root Certification Authority
found certificate: GlobalSign Root CA
found certificate: ISRG Root X1
found certificate: QuoVadis Root CA 2
found certificate: VeriSign Class 3 Public Primary Certification Authority - G5
written 3268 of 4096 bytes to image (80%)
processing region '[tls certificates]'
written 0 of 8192 bytes to image (0%)
processing region '[http files]'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/default.html'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/style.css'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/favicon.ico'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/logo.png'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/error.json'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/scanresults.json'
HTTPFileSystemAddFile: opening HTTP file '19.7.7/http_files/ok.json'
written 7524 of 8192 bytes to image (92%)
processing region '[connection parameters]'
written 0 of 4096 bytes to image (0%)
processing region '[downloader firmware]'
WINCFirmwareImageBuild: opening firmware file '19.7.7/firmware/downloader_firmware.bin'
written 4628 of 241664 bytes to image (2%)
processing region '[wifi firmware]'
WINCFirmwareImageBuild: opening firmware file '19.7.7/firmware/wifi_firmware.bin'
written 235472 of 237036 bytes to image (100%)
processing region '[ate firmware]'
WINCFirmwareImageBuild: opening firmware file '19.7.7/firmware/burst_tx_firmware.bin'
written 77304 of 765952 bytes to image (11%)

C:\mchp\mTools\harmony\v3\wireless_wifi\utilities\wifi\winc\files\winc1500>
```

2) serialBridge-FW

next need to download FW-update prj into SAMD21-xpl + WINC1500=EXT1 -> this creates a serial-bridge from 'hostPC-uart -> SAMD21 -> EXT1 -> WINC1500-uart' so you can download the new FW in step3 through this path.

Start MPLABX and load FW-update-prj
<h3>\wireless_wifi\apps\serial_bridge\firmware\sam_d21_xpro_winc1500.X

Now make+download -> AND then press HW-reset button or power-cycle board



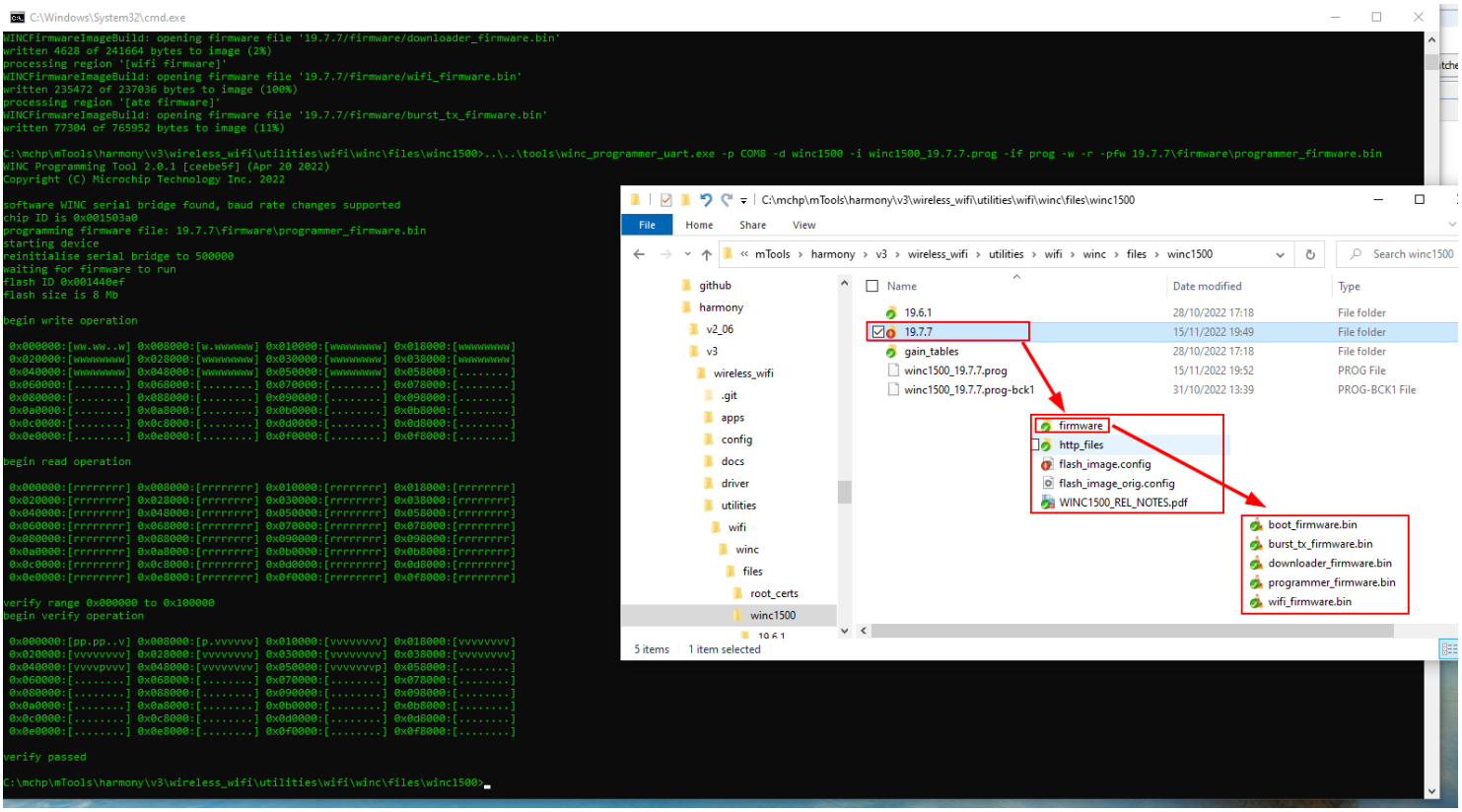
->now you've the new winc1500-image (->'1') and prepared your setup to provide a bridge from hostPC where the new image created in '1' is located to the WINC1500 (->'2'), so you can continue to download the new WINC1500-FW next

3) Update FW on winc1500

Now update the WINC1500-FW created in '1' through bridge from host-2-winc (->'2) with this cmdline (again must run from $runDir! and find vCOM-port of your SAMD21):

```
(dos: winc1500\)> ..\..\tools\winc_programmer_uart.exe \
                  -p COM8 -d winc1500 -i winc1500_19.7.7.prog -if prog -w -r \
                  -pfw 19.7.7\firmware\programmer_firmware.bin
```

->while FW-update is running the orange STATUS-LED on the SAMD21 is on



-> the final msg 'verify passed' informs about successful FW-update of the WINC1500

#eof