Erase all QSPI **erase\_qspi\_quick.bat**

Erase all Flash (I used **RFP** for this, but should write a jlink script)

Debug x1RA6M4\_boot with startup loading primary and resource.

Run and see the following on the terminal

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

Press SW2. The bootloader spits out some useful information about the state of things. The first few lines are the data from the various areas of flash as defined by the flash maps, FM1 and FM2. Three lines for each section show the header and then the first 32 bytes of the last 256 bytes, the trailer. For the APP there is the PRIMARY, the UPDATE or secondary, and the scratch. Note the scratch is in QSPI

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

Next shown is the memory grids. The first is the QSPI and each character represents 32K block. A ‘\*’ means there is at least one byte that is not 0xFF. A ‘M’ indicates the block contains a magic number. Note the first line is the resources, which is 1 mega-byte. You can see the header, M, and the trailer ‘\*’. There isn’t anything much in the resources at the moment so most of it is empty.

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

[0x60800000] ................................

[0x60900000] ................................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] ................................

[0x60F00000] ................................

Next the flash memory. Here each character represents a 2k block.

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

This is the bootloader at 0x00000000

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

This is the primary application which is allotted 256k. Note the trailer.

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] ...............................\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot

Press SW1

calling boot\_go(0)

[INF] Primary image: magic=good, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: primary slot

[INF] Image index: 0, Swap type: none

returned from boot\_g(0) with status=0

boot\_rsp rsp =

id: 7f \*hdr: 0x20001338 off: 0x00020000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0xC344 load\_addr: 0x00000000

flags: 0x00000000

calling boot\_go(1)

[INF] Primary image: magic=good, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: primary slot

[INF] Image index: 0, Swap type: none

returned from boot\_g(1) with status=0

boot\_rsp rsp =

id: 80 \*hdr: 0x20001338 off: 0x60000000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0x400 load\_addr: 0x00000000

flags: 0x00000000

RESOURCE FILE FOR PRIMARY

Start of primary application

Run upload\_update.bat to put the update image in the QSPI. This has a side-effect of resetting the MCU.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

Press SW2 note the highlighted items.

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000D300 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[2] (0x60E00000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[2] (0x60E00000) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

The update image. Note the 2 parts and the trailers.

[0x60800000] M\*.....\*M.......................

[0x60900000] .......\*........................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] ................................

[0x60F00000] ................................

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] ...............................\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot

Press SW1

calling boot\_go(0)

[INF] Primary image: magic=good, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: primary slot

[INF] Image index: 0, Swap type: test

[INF] Starting swap using scratch algorithm.

returned from boot\_g(0) with status=0

boot\_rsp rsp =

id: 7f \*hdr: 0x20001338 off: 0x00020000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0xD300 load\_addr: 0x00000000

flags: 0x00000000

calling boot\_go(1)

[INF] Primary image: magic=good, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: primary slot

[INF] Image index: 0, Swap type: test

[INF] Starting swap using scratch algorithm.

returned from boot\_g(1) with status=0

boot\_rsp rsp =

id: 80 \*hdr: 0x20001338 off: 0x60000000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0x400 load\_addr: 0x00000000

flags: 0x00000000

Starting the UPDATED application

Resource data =

RESOURCE FILE FOR UPDATE IMAGE

BOTH images are NOT confirmed

Press SW2 to confirm this image:

Do NOT press SW2. Instead, press the reset button (or reset in debugger if you’re still connected)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

Press SW2 to see the current state of things. Take note of the red highlighted word. This is the first word (byte actually) of the last 256 bytes of the image. Note that it is FFs. This is the indication that the image in the primary slot has not validated itself.

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000D300 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

[0x60800000] M\*......M.......................

[0x60900000] ................................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] M...............................

[0x60F00000] ................................

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.....

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] .........................\*.....\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot

Press SW1 and note the revert

calling boot\_go(0)

[INF] Primary image: magic=good, swap\_type=0x2, copy\_done=0x1, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: none

[INF] Image index: 0, Swap type: revert

[INF] Starting swap using scratch algorithm.

returned from boot\_g(0) with status=0

boot\_rsp rsp =

id: 7f \*hdr: 0x20001338 off: 0x00020000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0xC344 load\_addr: 0x00000000

flags: 0x00000000

calling boot\_go(1)

[INF] Primary image: magic=good, swap\_type=0x2, copy\_done=0x1, image\_ok=0x3

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: none

[INF] Image index: 0, Swap type: revert

[INF] Starting swap using scratch algorithm.

returned from boot\_g(1) with status=0

boot\_rsp rsp =

id: 80 \*hdr: 0x20001338 off: 0x60000000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0x400 load\_addr: 0x00000000

flags: 0x00000000

RESOURCE FILE FOR PRIMARY

Start of primary application

Reset the MCU then press SW2 Note that the update image is there, but there is no trailer so it is not a candidate for updating.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000D300 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

[0x60800000] M\*......M.......................

[0x60900000] ................................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] M...............................

[0x60F00000] ................................

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] .........................\*.....\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot

Run upload\_update.bat

Reset the board and press SW2. Note there is now a trailer for the update.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000D300 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

[0x60800000] M\*.....\*M.......................

[0x60900000] .......\*........................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] M...............................

[0x60F00000] ................................

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] .........................\*.....\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot

Press SW1

calling boot\_go(0)

[INF] Primary image: magic=good, swap\_type=0x4, copy\_done=0x1, image\_ok=0x1

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: none

[INF] Image index: 0, Swap type: test

[INF] Starting swap using scratch algorithm.

returned from boot\_g(0) with status=0

boot\_rsp rsp =

id: 7f \*hdr: 0x20001338 off: 0x00020000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0xD300 load\_addr: 0x00000000

flags: 0x00000000

calling boot\_go(1)

[INF] Primary image: magic=good, swap\_type=0x4, copy\_done=0x1, image\_ok=0x1

[INF] Scratch: magic=unset, swap\_type=0x1, copy\_done=0x3, image\_ok=0x3

[INF] Boot source: none

[INF] Image index: 0, Swap type: test

[INF] Starting swap using scratch algorithm.

returned from boot\_g(1) with status=0

boot\_rsp rsp =

id: 80 \*hdr: 0x20001338 off: 0x60000000

hdr-> magic: 96F3B83D hdr\_size: 0x200

img\_size: 0x400 load\_addr: 0x00000000

flags: 0x00000000

Starting the UPDATED application

Resource data =

RESOURCE FILE FOR UPDATE IMAGE

BOTH images are NOT confirmed

Press SW2 to confirm this image:

Press SW2

confirm APP

confirm RES

write\_alignment = 256

BOTH images are confirmed

Image is confirmed

Reset and press SW2. Note the red text, first byte of the last 256 bytes. Note that it is now a 01. This is indication that the primary image has confirmed itself.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* May 19 2025 14:46:08

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

SW2 = print status

SW1 = boot

APP

[0] (0x00020000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000D300 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x0005FF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x0005FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60800000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x0000C344 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6083FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6083FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

RES

[0] (0x60000000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[0] (0x600FFF00) :Data: 0xFFFFFF01 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[0] (0x600FFFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xE12D0080 0x0B41295D 0x9C67778D 0x8A1F0F11

[1] (0x60840000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[1] (0x6093FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[1] (0x6093FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E00000) :Data: 0x96F3B83D 0x00000000 0x00000200 0x00000400 0x00000000 0x00000001 0x00000000 0x00000000

[2] (0x60E3FF00) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

[2] (0x60E3FFE0) :Data: 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF 0xFFFFFFFF

QSPI grid (32k):

[0x60000000] M..............................\*

[0x60100000] ................................

[0x60200000] ................................

[0x60300000] ................................

[0x60400000] ................................

[0x60500000] ................................

[0x60600000] ................................

[0x60700000] ................................

[0x60800000] M\*......M.......................

[0x60900000] ................................

[0x60A00000] ................................

[0x60B00000] ................................

[0x60C00000] ................................

[0x60D00000] ................................

[0x60E00000] M...............................

[0x60F00000] ................................

Flash grid (2k):

[0x00000000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

[0x00010000] \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.......

[0x00020000] M\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*.....

[0x00030000] ................................

[0x00040000] ................................

[0x00050000] .........................\*.....\*

[0x00060000] ................................

[0x00070000] ................................

[0x00080000] ................................

[0x00090000] ................................

[0x000A0000] ................................

[0x000B0000] ................................

[0x000C0000] ................................

[0x000D0000] ................................

[0x000E0000] ................................

[0x000F0000] ................................

SW2 = print status

SW1 = boot