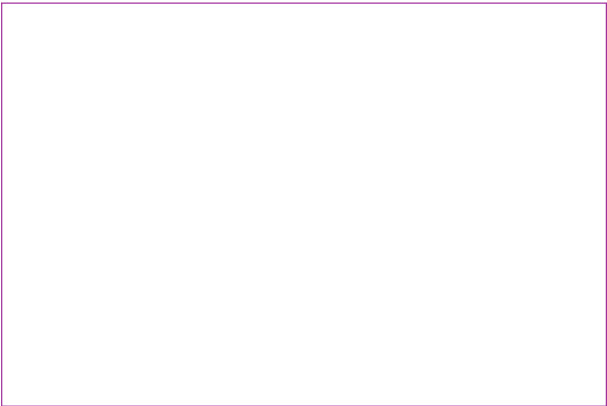Sheet: sheet6D0E6B64

File: tranZPUter-SW_z80_v2_2.sch

Sheet: sheet6D0E6B65

File: tranZPUter-SW_teensy35_v2_2.sch

H1
M2.5

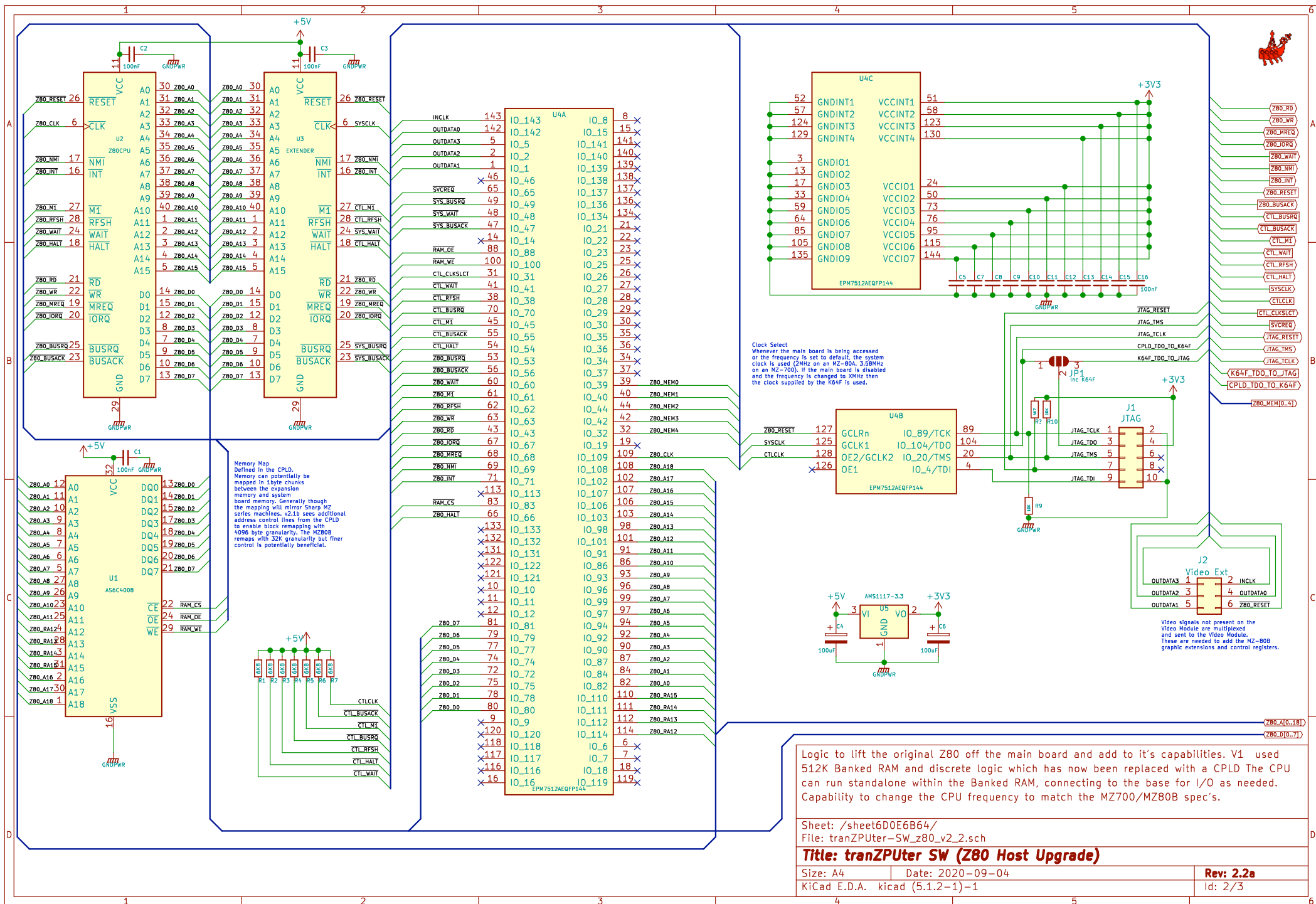H2
M2.5

GNDPWR
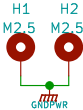
Capabilities upgrade for the Sharp MZ80A.
Providing upgraded hardware and an optional MPU for provision of SD services to host,
alternative soft processors, ZPUTA Menu System and additional resources to enhance
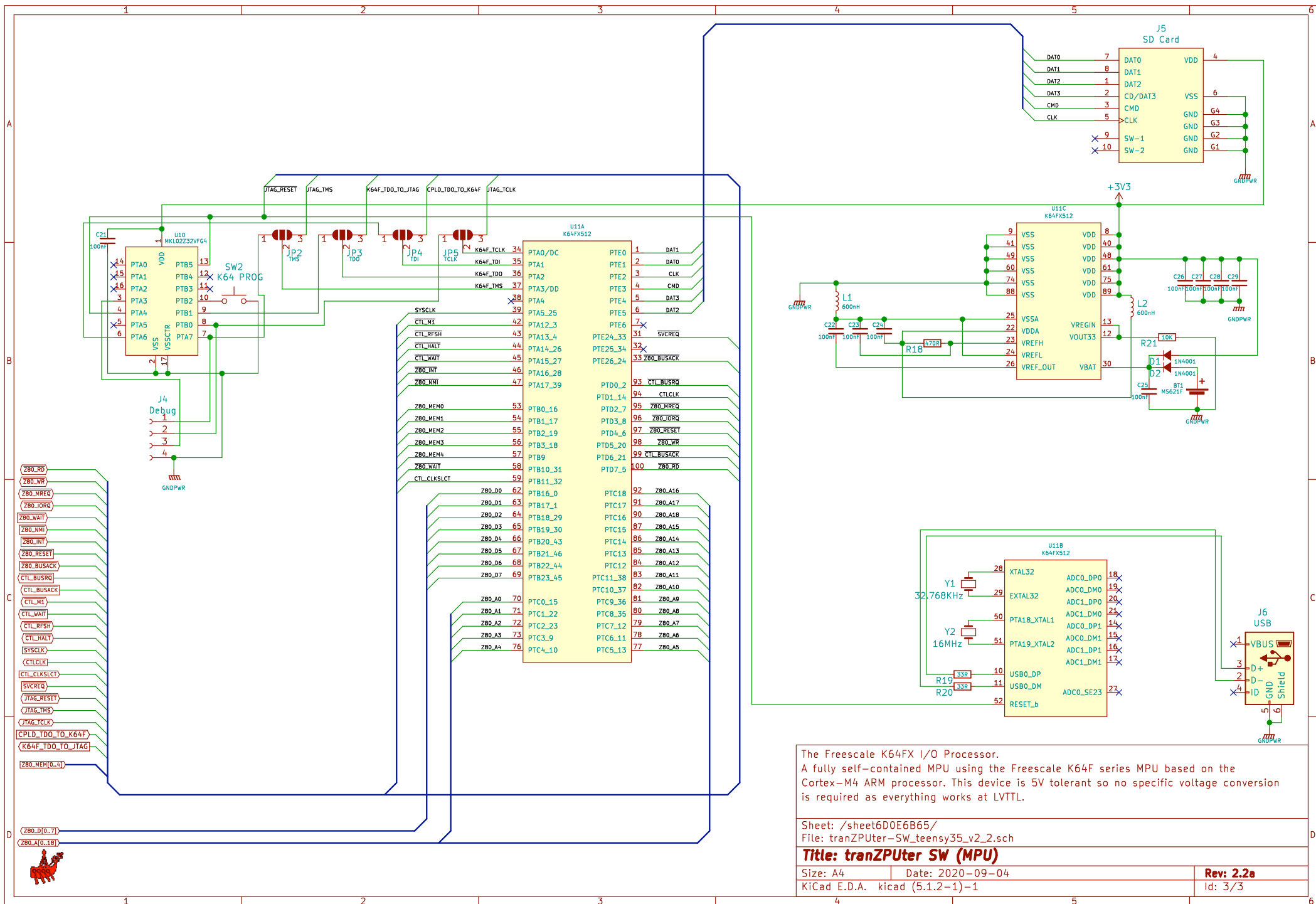the Sharp MZ80A.

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File: tranZPUter-SW_v2_2.sch

Title: tranZPUter SW

| Size: A4 | Date: 2020-07-31 | Rev: 2.2 |
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Memory Map
Defined in the CPLD. Memory can potentially be mapped in 1byte chunks between the expansion memory and system board memory. Generally though the mapping will mirror Sharp MZ series machines. v2.1b sees additional address control lines from the CPLD to enable block remapping with 4096 byte granularity. The MZ80B remaps with 32K granularity but finer control is potentially beneficial.

Clock Select
Whenever the main board is being accessed or the frequency is set to default, the system clock is used (2MHz on an MZ-80A, 3.58MHz on an MZ-700). If the main board is disabled and the frequency is changed to XMHz then the clock supplied by the K64F is used.

Video signals not present on the Video Module are multiplexed and sent to the Video Module. These are needed to add the MZ-80B graphic extensions and control registers.

Logic to lift the original Z80 off the main board and add to it's capabilities. V1 used 512K Banked RAM and discrete logic which has now been replaced with a CPLD The CPU can run standalone within the Banked RAM, connecting to the base for I/O as needed. Capability to change the CPU frequency to match the MZ700/MZ80B spec's.

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File: tranZPUter-SW_z80_v2_2.sch

Title: tranZPUter SW (Z80 Host Upgrade)

Size: A4	Date: 2020-09-04	Rev: 2.2a
KiCad E.D.A. kicad (5.1.2-1)-1		Id: 2/3

Title: tranZPUter SW (MPU)

The Freescale K64FX I/O Processor.
A fully self-contained MPU using the Freescale K64F series MPU based on the Cortex-M4 ARM processor. This device is 5V tolerant so no specific voltage conversion is required as everything works at LVTTL.

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File: tranZPUter-SW_teensy35_v2_2.sch

Size: A4
Date: 2020-09-04
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Rev: 2.2a
Id: 3/3