sheetBoson

fileBoson.sch

sheetFPGA

fileFPGA.sch

sheetIO

fileIO.sch

sheetSDMMC

fileSDMMC.sch

sheetHyperRAM

fileHyperRAM.sch

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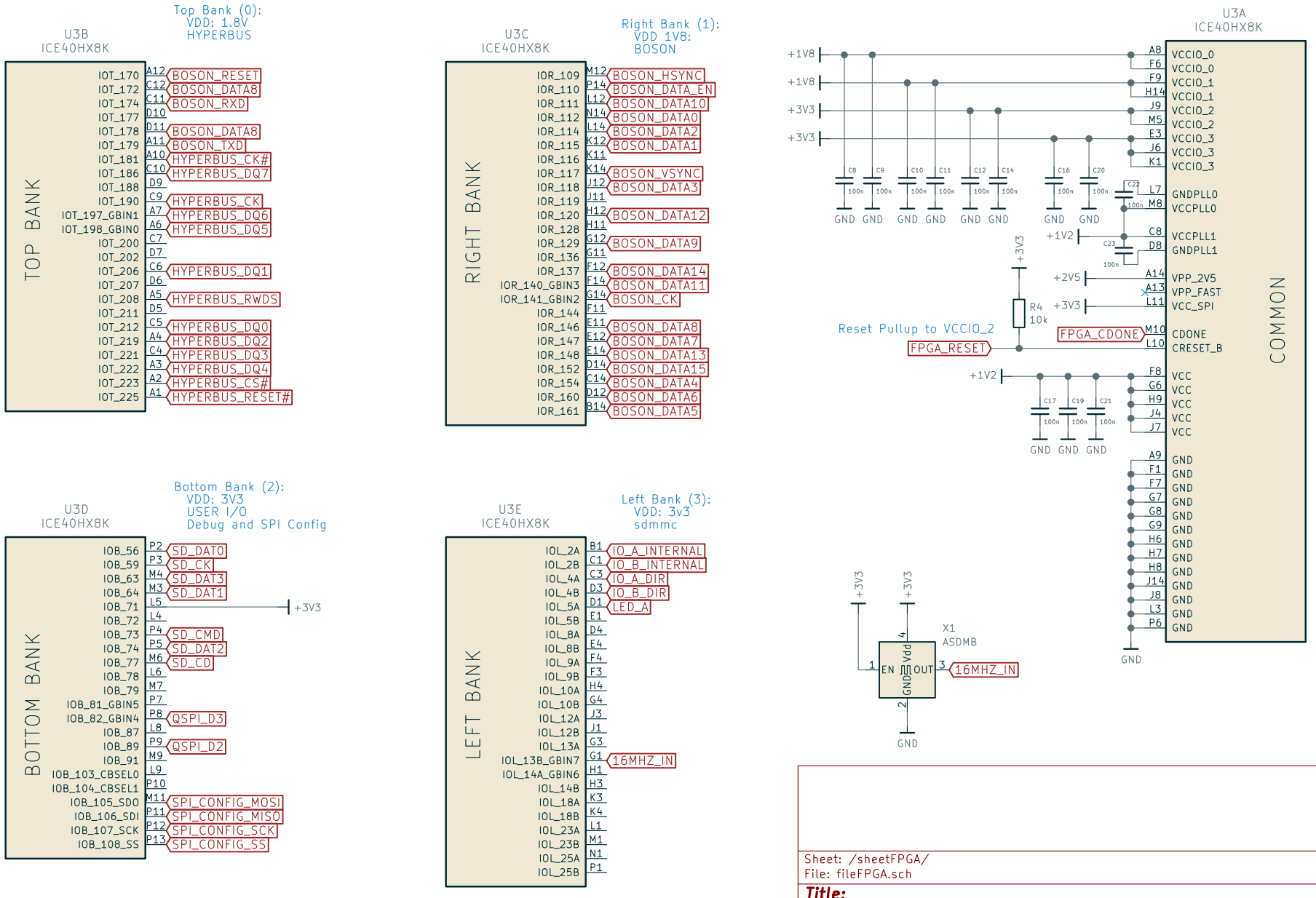
File: bosonFrameGrabber.sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.0.0-rc2-dev-321-g78161b592)		Id: 1/6


U3B
ICE40HX8K
Top Bank (0):
VDD: 1.8V
HYPERBUS
TOP BANK
IOT_170 A12 BOSON_RESET
IOT_172 C12 BOSON_DATA8
IOT_174 C11 BOSON_RXD
IOT_177 D10
IOT_178 D11 BOSON_DATA8
IOT_179 A11 BOSON_TXD
IOT_181 A10 HYPERBUS_CK#
IOT_186 C10 HYPERBUS_DQ7
IOT_188 D9
IOT_190 C9 HYPERBUS_CK
IOT_197_GBIN1 A7 HYPERBUS_DQ6
IOT_198_GBIN0 A6 HYPERBUS_DQ5
IOT_200 C7
IOT_202 D7
IOT_206 C6 HYPERBUS_DQ1
IOT_207 D6
IOT_208 A5 HYPERBUS_RWDS
IOT_211 D5
IOT_212 C5 HYPERBUS_DQ0
IOT_219 A4 HYPERBUS_DQ2
IOT_221 C4 HYPERBUS_DQ3
IOT_222 A3 HYPERBUS_DQ4
IOT_223 A2 HYPERBUS_CS#
IOT_225 A1 HYPERBUS_RESET#
U3C
ICE40HX8K
Right Bank (1):
VDD 1V8:
BOSON
RIGHT BANK
IOR_109 M12 BOSON_HSYNC
IOR_110 P14 BOSON_DATA_EN
IOR_111 L12 BOSON_DATA10
IOR_112 N14 BOSON_DATA0
IOR_114 L14 BOSON_DATA2
IOR_115 K12 BOSON_DATA1
IOR_116 K11
IOR_117 K14 BOSON_VSYNC
IOR_118 J12 BOSON_DATA3
IOR_119 J11
IOR_120 H12 BOSON_DATA12
IOR_128 H11
IOR_129 G12 BOSON_DATA9
IOR_136 G11
IOR_137 F12 BOSON_DATA14
IOR_140_GBIN3 F14 BOSON_DATA11
IOR_141_GBIN2 G14 BOSON_CK
IOR_144 F11
IOR_146 E11 BOSON_DATA8
IOR_147 E12 BOSON_DATA7
IOR_148 E14 BOSON_DATA13
IOR_152 D14 BOSON_DATA15
IOR_154 C14 BOSON_DATA4
IOR_160 D12 BOSON_DATA6
IOR_161 B14 BOSON_DATA5
U3A
ICE40HX8K
COMMON
+1V8
+1V8
+3V3
+3V3
C8 C9 C10 C11 C12 C14 C16 C20 C22 C23 100n
GND
A8 VCCIO_0
F6 VCCIO_0
F9 VCCIO_1
H14 VCCIO_1
J9 VCCIO_2
M5 VCCIO_2
E3 VCCIO_3
J6 VCCIO_3
K1 VCCIO_3
L7 GNDPLL0
M8 VCCPLL0
+1V2
C8
D8 VCCPLL1
GNDPLL1
+2V5
A14 VPP_2V5
A13 VPP_FAST
+3V3
L11 VCC_SPI
R4
10k
Reset Pullup to VCCIO_2
FPGA_CDONE M10 CDONE
FPGA_RESET L10 CRESET_B
+1V2
C17 C19 C21
F8 VCC
G6 VCC
H9 VCC
J4 VCC
J7 VCC
A9 GND
F1 GND
F7 GND
G7 GND
G8 GND
G9 GND
H6 GND
H7 GND
H8 GND
J14 GND
J8 GND
L3 GND
P6 GND
U3D
ICE40HX8K
Bottom Bank (2):
VDD: 3V3
USER I/O
Debug and SPI Config
BOTTOM BANK
IOB_56 P2 SD_DAT0
IOB_59 P3 SD_CK
IOB_63 M4 SD_DAT3
IOB_64 M3 SD_DAT1
IOB_71 L5 +3V3
IOB_72 L4
IOB_73 P4 SD_CMD
IOB_74 P5 SD_DAT2
IOB_77 M6 SD_CD
IOB_78 L6
IOB_79 M7
IOB_81_GBIN5 P7
IOB_82_GBIN4 P8 QSPI_D3
IOB_87 L8
IOB_89 P9 QSPI_D2
IOB_91 M9
IOB_103_CBSEL0 L9
IOB_104_CBSEL1 P10
IOB_105_SDO M11 SPI_CONFIG_MOSI
IOB_106_SDI P11 SPI_CONFIG_MISO
IOB_107_SCK P12 SPI_CONFIG_SCK
IOB_108_SS P13 SPI_CONFIG_SS
U3E
ICE40HX8K
Left Bank (3):
VDD: 3v3
sdmmc
LEFT BANK
IOL_2A B1 IO_A_INTERNAL
IOL_2B C1 IO_B_INTERNAL
IOL_4A C3 IO_A_DIR
IOL_4B D3 IO_B_DIR
IOL_5A D1 LED_A
IOL_5B E1
IOL_8A D4
IOL_8B E4
IOL_9A F4
IOL_9B F3
IOL_10A H4
IOL_10B G4
IOL_12A J3
IOL_12B J1
IOL_13A G3
IOL_13B_GBIN7 G1 16MHZ_IN
IOL_14A_GBIN6 H1
IOL_14B H3
IOL_18A K3
IOL_18B K4
IOL_23A L1
IOL_23B M1
IOL_25A N1
IOL_25B P1
+3V3
+3V3
X1
ASDMB
EN
GND
Vdd
OUT
16MHZ_IN
GND
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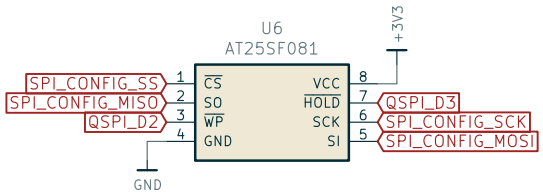

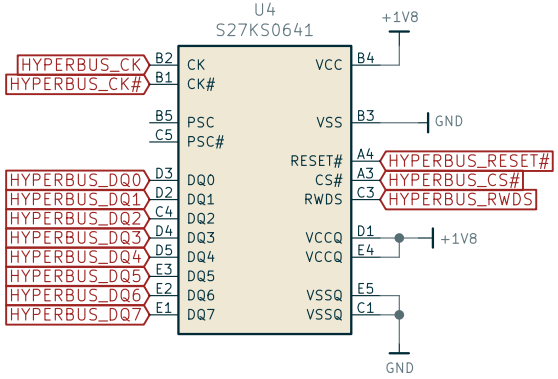

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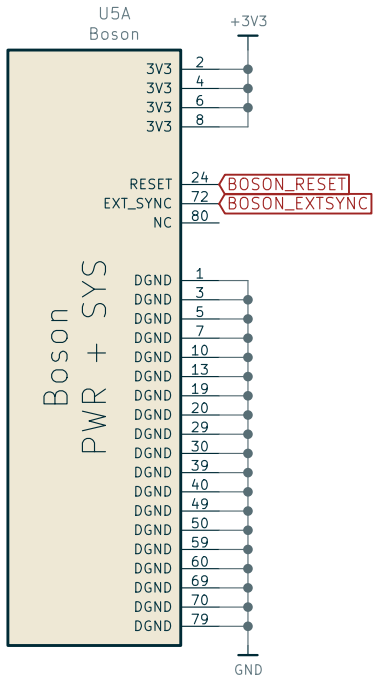
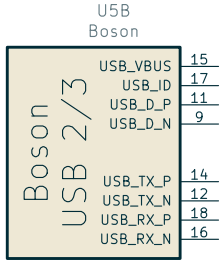
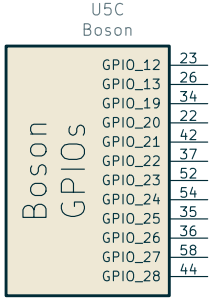
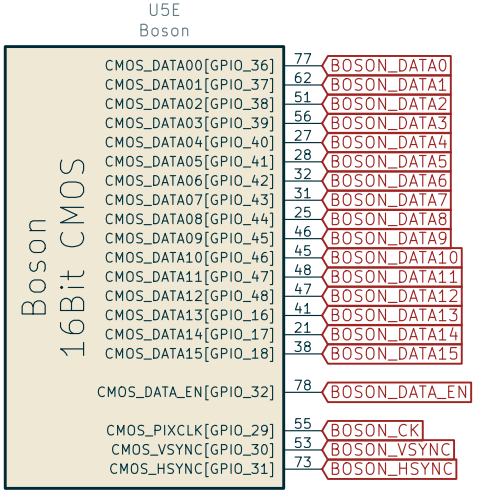
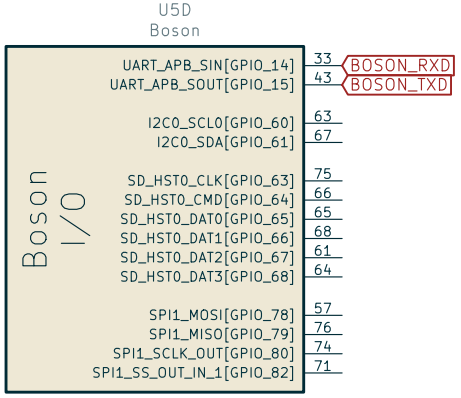
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.0.0-rc2-dev-321-g78161b592)		Id: 3/6











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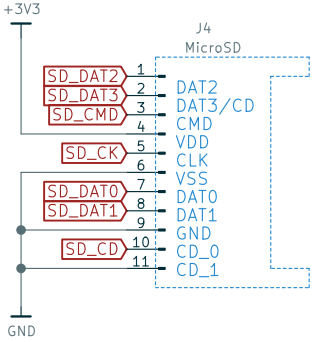

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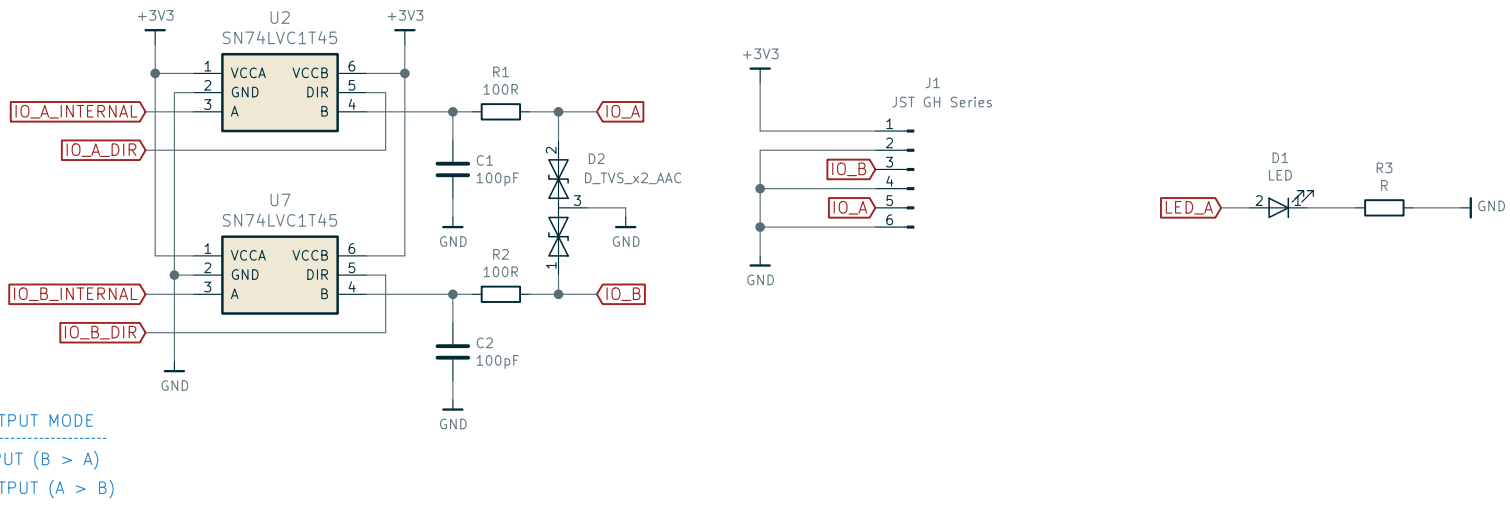

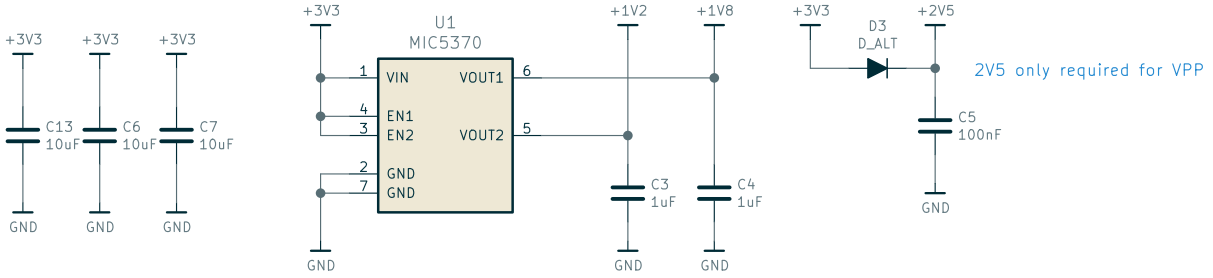

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