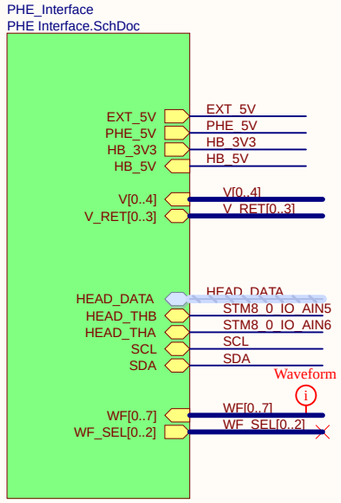
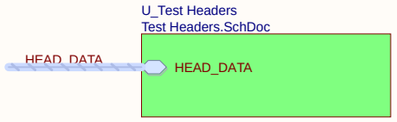
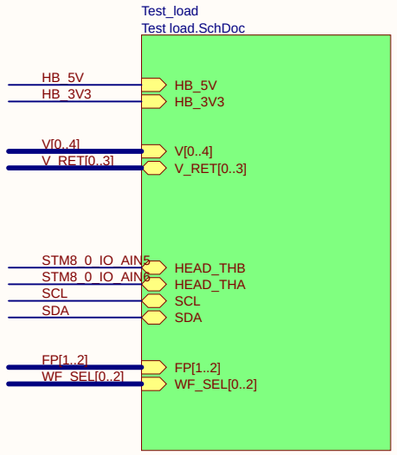
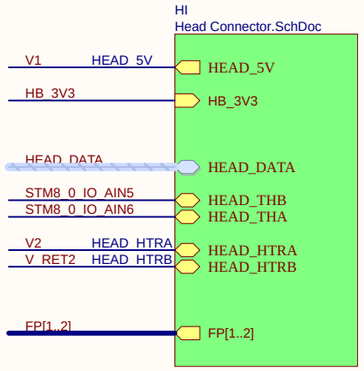
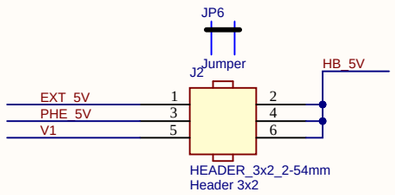
Test Headers either connect to PH signals for wide bus, or to PEI FPGA for high-speed decodes (e.g. D3000)



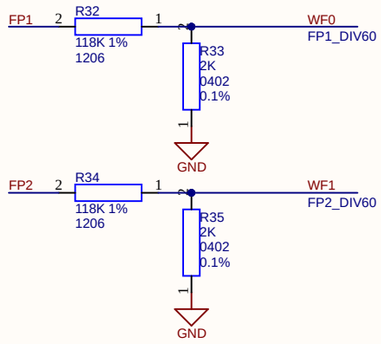


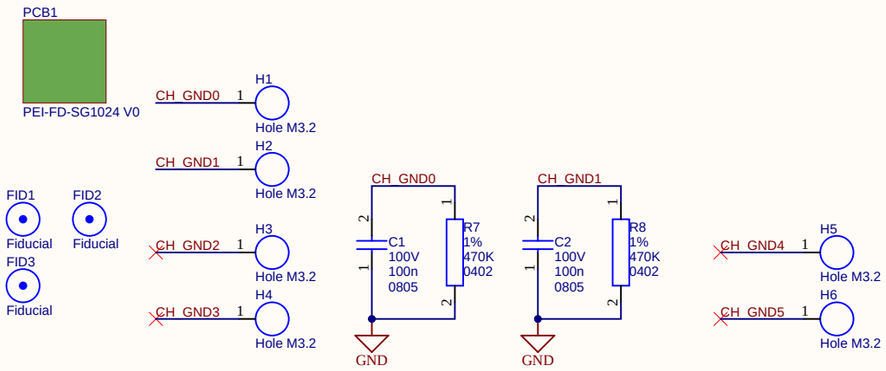




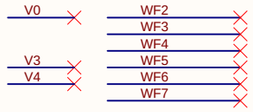


Connect Head_5V to the correct head voltage





Unused Signals



Global Inkjet Systems Ltd. Edinburgh House, Cambridge, CB4 0DS		
Title: Top Level		
Size: A3	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Top Level.SchDoc	Sheet 1 of 20

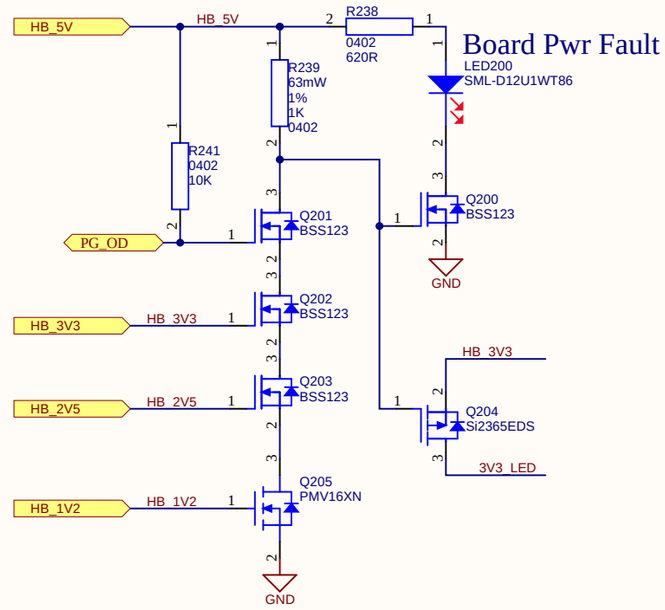
Place each set of RYG together

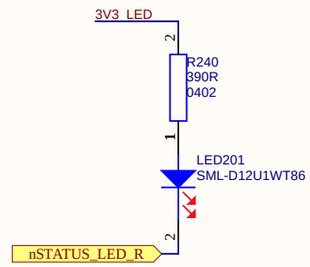
LED Set 1
Not Implemented

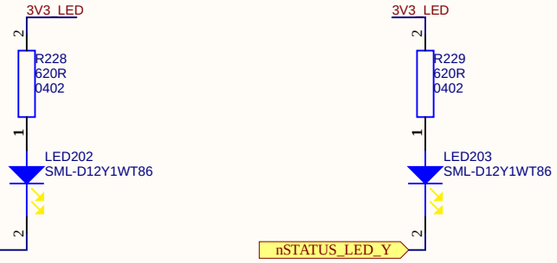
LED Set 2

LED Set 3
Place 20mm east of Set 2

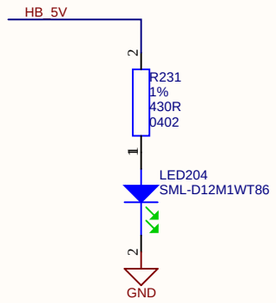
LED Set 4
Place 20mm east of Set 3



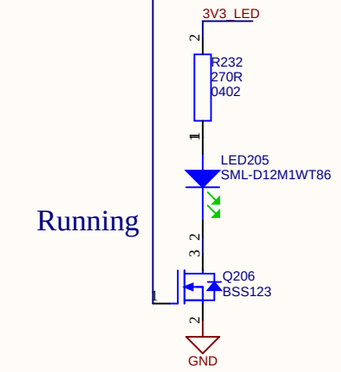




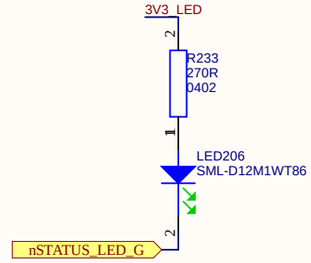
Booting



HB_5V Present

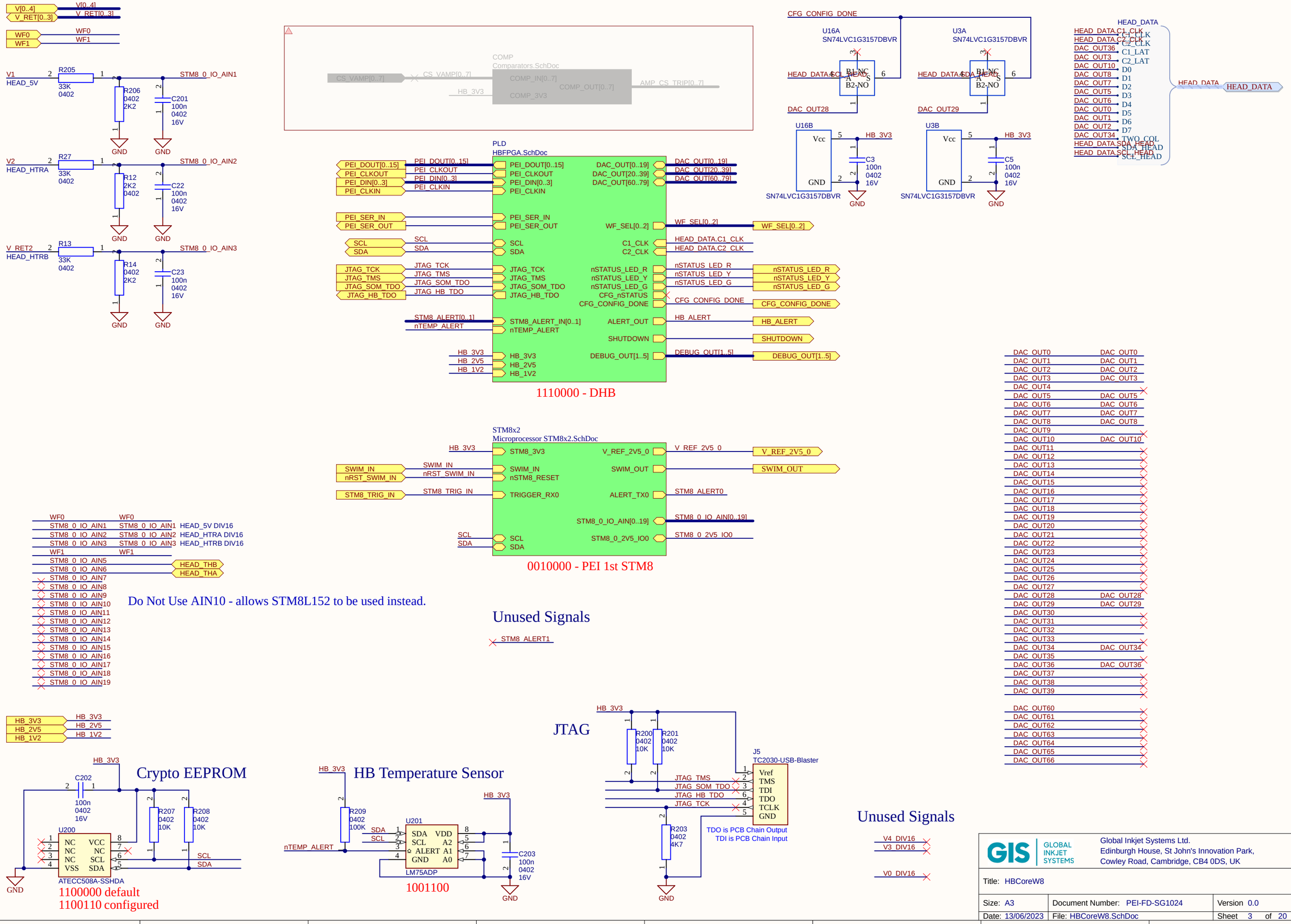


Running



GIS GLOBAL INKJET SYSTEMS
Global Inkjet Systems Ltd.
Edinburgh House, St John's Innovation Park,
Cowley Road, Cambridge, CB4 0DS, UK

Title: HB Status LEDs		
Size: A3	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: HB Status LEDs.SchDoc	Sheet 2 of 20


V[0..4]
V_RET[0..3]
WF0
WF1
V1
HEAD_5V
R205
33K
0402
R206
0402
2K2
C201
100n
0402
16V
STM8_0_IO_AIN1
V2
HEAD_HTRA
R27
R12
C22
STM8_0_IO_AIN2
V_RET2
HEAD_HTRB
R13
R14
C23
STM8_0_IO_AIN3
GND
CS_VAMP[0..7]
HB_3V3
COMP
Comparators.SchDoc
COMP_IN[0..7]
COMP_OUT[0..7]
COMP_3V3
AMP_CS_TRIP[0..7]
PLD
HBFPGA.SchDoc
PEI_DOUT[0..15]
PEI_CLKOUT
PEI_DIN[0..3]
PEI_CLKIN
PEI_SER_IN
PEI_SER_OUT
SCL
SDA
JTAG_TCK
JTAG_TMS
JTAG_SOM_TDO
JTAG_HB_TDO
STM8_ALERT[0..1]
nTEMP_ALERT
HB_2V5
HB_1V2
DAC_OUT[0..19]
DAC_OUT[20..39]
DAC_OUT[60..79]
WF_SEL[0..2]
C1_CLK
C2_CLK
nSTATUS_LED_R
nSTATUS_LED_Y
nSTATUS_LED_G
CFG_nSTATUS
CFG_CONFIG_DONE
STM8_ALERT_IN[0..1]
ALERT_OUT
SHUTDOWN
DEBUG_OUT[1..5]
1110000 - DHB
CFG_CONFIG_DONE
U16A
SN74LVC1G3157DBVR
HEAD_DATA.SCL_HEAD
DAC_OUT28
U3A
HEAD_DATA.SDA_HEAD
DAC_OUT29
U16B
U3B
Vcc
GND
HB_3V3
C3
C5
100n
0402
16V
HEAD_DATA
HEAD_DATA.C1_CLK
HEAD_DATA.C2_CLK
DAC_OUT36
DAC_OUT3
DAC_OUT10
DAC_OUT8
DAC_OUT7
DAC_OUT5
DAC_OUT6
DAC_OUT0
DAC_OUT1
DAC_OUT2
DAC_OUT34
HEAD_DATA.SDA_HEAD
HEAD_DATA.SCL_HEAD
C1_CLK
C2_CLK
C1_LAT
C2_LAT
D0
D1
D2
D3
D4
D5
D6
D7
TWO_COL
SDA_HEAD
SCL_HEAD
STM8x2
Microprocessor STM8x2.SchDoc
STM8_3V3
V_REF_2V5_0
SWIM_IN
nRST_SWIM_IN
nSTM8_RESET
SWIM_OUT
STM8_TRIG_IN
TRIGGER_RX0
ALERT_TX0
STM8_ALERT0
STM8_0_IO_AIN[0..19]
STM8_0_2V5_IO0
0010000 - PEI 1st STM8
WF0
WF1
STM8_0_IO_AIN1
STM8_0_IO_AIN2
STM8_0_IO_AIN3
HEAD_5V DIV16
HEAD_HTRA DIV16
HEAD_HTRB DIV16
STM8_0_IO_AIN5
STM8_0_IO_AIN6
HEAD_THB
HEAD_THA
STM8_0_IO_AIN7
STM8_0_IO_AIN8
STM8_0_IO_AIN9
STM8_0_IO_AIN10
STM8_0_IO_AIN11
STM8_0_IO_AIN12
STM8_0_IO_AIN13
STM8_0_IO_AIN14
STM8_0_IO_AIN15
STM8_0_IO_AIN16
STM8_0_IO_AIN17
STM8_0_IO_AIN18
STM8_0_IO_AIN19
Do Not Use AIN10 - allows STM8L152 to be used instead.
Unused Signals
STM8_ALERT1
HB_3V3
HB_2V5
HB_1V2
Crypto EEPROM
C202
100n
0402
16V
R207
R208
0402
10K
U200
NC
VCC
SCL
VSS
SDA
ATECC508A-SSHDA
1100000 default
1100110 configured
HB Temperature Sensor
R209
100K
U201
ALERT
A2
A1
A0
LM75ADP
1001100
C203
JTAG
R200
R201
J5
TC2030-USB-Blaster
Vref
TMS
TDI
TDO
TCLK
GND
R203
4K7
TDO is PCB Chain Output
TDI is PCB Chain Input
Unused Signals
V4_DIV16
V3_DIV16
V0_DIV16
DAC_OUT0
DAC_OUT1
DAC_OUT2
DAC_OUT3
DAC_OUT4
DAC_OUT5
DAC_OUT6
DAC_OUT7
DAC_OUT8
DAC_OUT9
DAC_OUT10
DAC_OUT11
DAC_OUT12
DAC_OUT13
DAC_OUT14
DAC_OUT15
DAC_OUT16
DAC_OUT17
DAC_OUT18
DAC_OUT19
DAC_OUT20
DAC_OUT21
DAC_OUT22
DAC_OUT23
DAC_OUT24
DAC_OUT25
DAC_OUT26
DAC_OUT27
DAC_OUT28
DAC_OUT29
DAC_OUT30
DAC_OUT31
DAC_OUT32
DAC_OUT33
DAC_OUT34
DAC_OUT35
DAC_OUT36
DAC_OUT37
DAC_OUT38
DAC_OUT39
DAC_OUT60
DAC_OUT61
DAC_OUT62
DAC_OUT63
DAC_OUT64
DAC_OUT65
DAC_OUT66
GLOBAL INKJET SYSTEMS
Global Inkjet Systems Ltd.
Edinburgh House, St John's Innovation Park,
Cowley Road, Cambridge, CB4 0DS, UK
Title: HBCoreW8
Size: A3
Document Number: PEI-FD-SG1024
Version 0.0
Date: 13/06/2023
File: HBCoreW8.SchDoc
Sheet 3 of 20

Powered from 5V, so limits wfs to 150V

Unused Signals

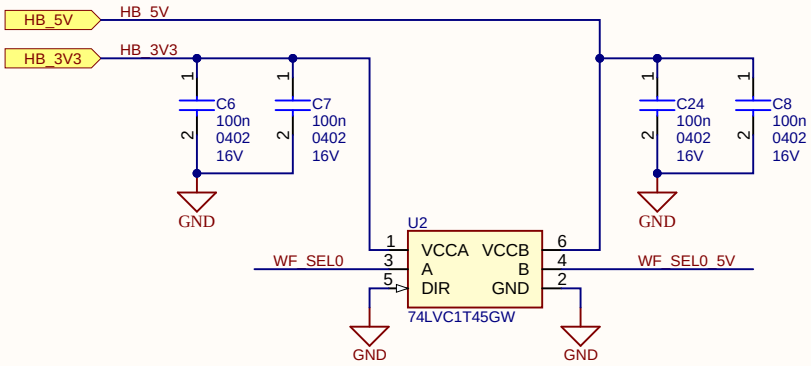
WF_ATT[0..7] WF_ATT[0..7]

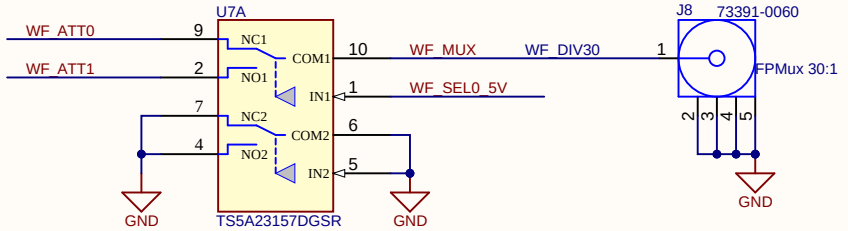
WF_SEL[0..2] WF_SEL[0..2]

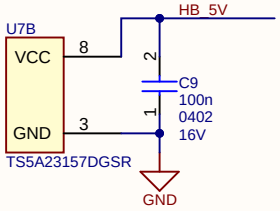
WF_SEL1

WF_SEL2

Level translator from 3.3V to 5V

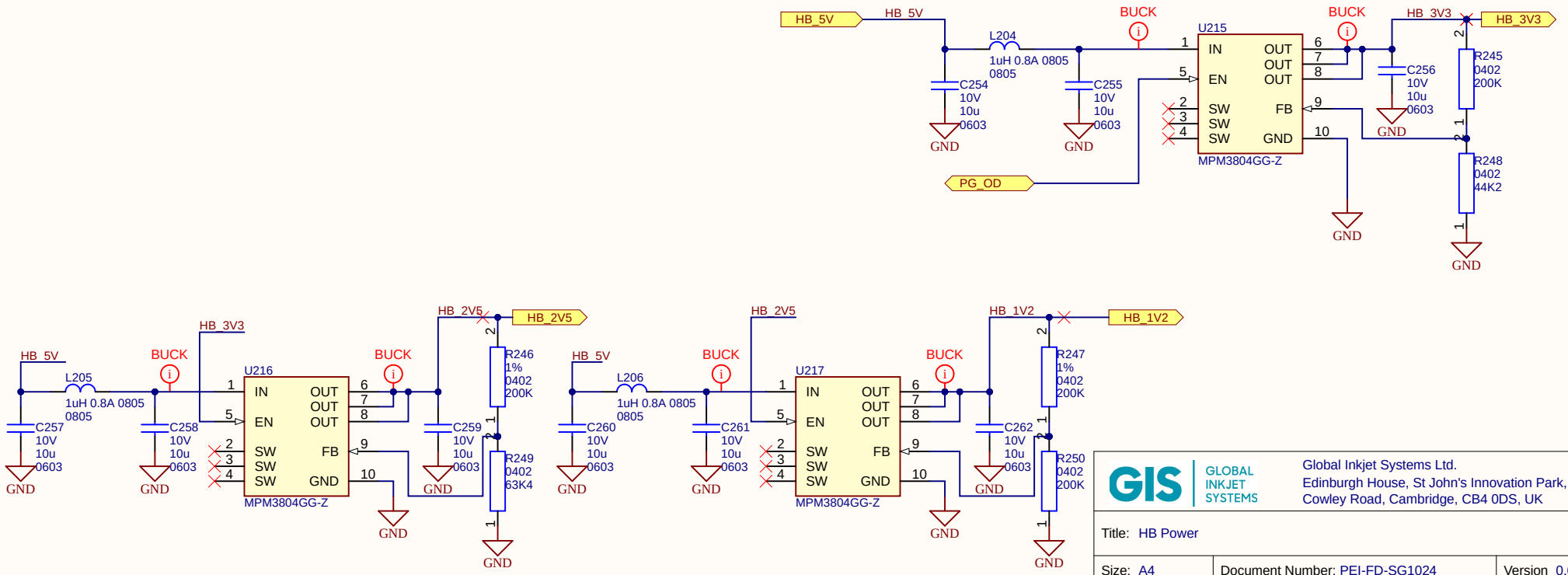






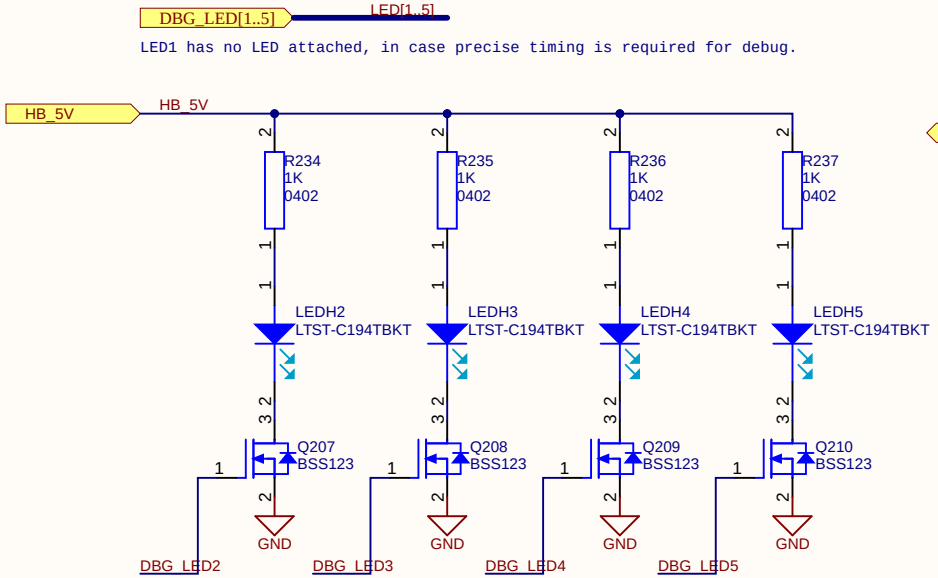
GIS GLOBAL INKJET SYSTEMS — Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK		
Title: HBMux 2 Channel		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: HBMux2.SchDoc	Sheet 4 of 20

Note PG_OD needs pullup (in Status LEDs, is to 5V)

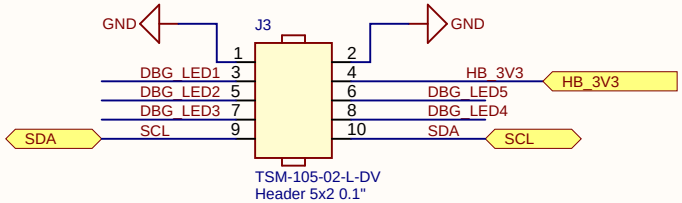


GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: HB Power		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: HBPower.SchDoc	Sheet 5 of 20

LED bus is also routed to debug header



Debug Header



GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, Cambridge, CB4 0DS	
Title: Debug		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Debug.SchDoc	Sheet 6 of 20

U202B 3.3V Bank
Bank 1
IO_B1_B1/CDPCLK0 B1
IO_B1_C2 C2
IO_B1_D1 D1
IO_B1_G2/DPCLK0 G2
10CL010YU256C8G

U202C 2.5V Bank
Bank 2
IO_B2_J1 J1 lvds_d_out0_N
IO_B2_J2 J2 lvds_d_out0_P
IO_B2_K1 K1
IO_B2_K5/RUP1 K5 STM8_ALERT0
IO_B2_K6 K6 lvds_d_in0_P
IO_B2_L1 L1 lvds_d_in1_N
IO_B2_L2/DPCLK1 L2 lvds_d_in1_P
IO_B2_L4/RDN1 L4
IO_B2_L6 L6 lvds_d_in0_N
IO_B2_N1 N1
IO_B2_N2 N2 HB_ALERT
IO_B2_P1 P1 ALERT_OUT
IO_B2_P2 P2
IO_B2_R1/CDPCLK1 R1
10CL010YU256C8G
LVDS_D_OUT0_N
LVDS_D_OUT0_P

STM8_ALERT_IN[0..1] STM8_ALERT_IN[0..1]
nTEMP_ALERT nTEMP_ALERT

U202D 3.3V Bank
Bank 3
IO_B3_L7 L7 AMP_CS_TRIP7
IO_B3_L8 L8 AMP_CS_TRIP4
IO_B3_M6 M6 AMP_CS_TRIP6
IO_B3_M7/DPCLK2 M7 AMP_CS_TRIP5
IO_B3_M8 M8 DAC_OUT11
IO_B3_N3 N3 AMP_CS_TRIP2
IO_B3_N5 N5 AMP_CS_TRIP3
IO_B3_N6 N6 AMP_CS_TRIP1
IO_B3_N8 N8 DAC_OUT9
IO_B3_P3 P3 AMP_CS_TRIP0
IO_B3_P8 P8 DAC_OUT10
IO_B3_R3 R3 DAC_OUT15
IO_B3_R4/PLL1_CLKOUTp R4 DAC_OUT3
IO_B3_R5 R5 DAC_OUT1
IO_B3_R6 R6 DAC_OUT5
IO_B3_R7 R7 DAC_OUT8
IO_B3_T2/CDPCLK2 T2
IO_B3_T4/PLL1_CLKOUTn T4 DAC_OUT2
IO_B3_T5 T5 DAC_OUT0
IO_B3_T6 T6 DAC_OUT6
IO_B3_T7/DPCLK3 T7 DAC_OUT7
10CL010YU256C8G

U202F 3.3V Bank
Bank 5
IO_B5_J12 J12 DBG_LED1
IO_B5_J13 J13 hd_out8
IO_B5_J14 J14 hd_in0
IO_B5_K12 K12 hd_out1
IO_B5_K15/DPCLK6 K15 DAC_OUT19
IO_B5_K16 K16 DAC_OUT16
IO_B5_L13 L13 DAC_OUT20
IO_B5_L16 L16 DAC_OUT13
IO_B5_N14/RUP3 N14 DAC_OUT33
IO_B5_N15 N15 DAC_OUT38
IO_B5_N16 N16 DAC_OUT32
IO_B5_P15/RDN3 P15 DAC_OUT37
IO_B5_P16/CDPCLK4 P16 sda_fpga
IO_B5_R16 R16 DAC_OUT30
10CL010YU256C8G

U202G 3.3V Bank
Bank 6
IO_B6_B16/DPCLK7 B16 scl_fpga
IO_B6_C15 C15 DAC_OUT69
IO_B6_C16/CDPCLK5 C16 DAC_OUT68
IO_B6_D15 D15 DAC_OUT65
IO_B6_D16 D16 DAC_OUT66
IO_B6_G11 G11 DBG_LED3
10CL010YU256C8G

U202H 3.3V Bank
Bank 7
IO_B7_A10 A10 nSTATUS_LED_G
IO_B7_A11 A11 PEI_DOUT12
IO_B7_A12 A12 DAC_OUT76
IO_B7_A14/PLL2_CLKOUTn A14 DAC_OUT78
IO_B7_A15 A15 DAC_OUT71
IO_B7_B10 B10 nSTATUS_LED_Y
IO_B7_B11 B11 PEI_DOUT4
IO_B7_B12 B12 DAC_OUT79
IO_B7_B13 B13 DAC_OUT72
IO_B7_B14/PLL2_CLKOUTp B14 DAC_OUT77
IO_B7_C14 C14 DAC_OUT70
IO_B7_C9 C9 PEI_DOUT8
IO_B7_D11 D11 nSTATUS_LED_R
IO_B7_D12/CDPCLK6 D12 DAC_OUT67
IO_B7_D14 D14 DAC_OUT60
IO_B7_D9 D9 PEI_DOUT15
IO_B7_E10/RDN4 E10 DAC_OUT75
IO_B7_E11/RUP4 E11 DAC_OUT61
IO_B7_E9/DPCLK9 E9 DAC_OUT74
IO_B7_F9/DPCLK8 F9 DBG_LED2
10CL010YU256C8G

nSTATUS_LED_G nSTATUS_LED_G
nSTATUS_LED_Y nSTATUS_LED_Y
nSTATUS_LED_R nSTATUS_LED_R

U202E 3.3V Bank
Bank 4
IO_B4_K10 K10 WF_SEL0
IO_B4_K9 K9 DAC_OUT17
IO_B4_L10 L10 DAC_OUT12
IO_B4_L11 L11 hd_out0
IO_B4_L9 L9 DAC_OUT18
IO_B4_M10/RUP2 M10 v_pg2
IO_B4_M11 M11 hd_out3
IO_B4_M9 M9 v_pg3
IO_B4_N11/RDN2 N11 DAC_OUT35
IO_B4_N9 N9 DAC_OUT34
IO_B4_P14/PLL4_CLKOUTp P14 DAC_OUT31
IO_B4_P9/DPCLK5 P9
IO_B4_R10 R10 WF_SEL1
IO_B4_R11 R11 DAC_OUT24
IO_B4_R12 R12 DAC_OUT21
IO_B4_R13 R13 DAC_OUT26
IO_B4_R14/PLL4_CLKOUTn R14 DAC_OUT29
IO_B4_T10/DPCLK4 T10 DAC_OUT23
IO_B4_T11 T11 DAC_OUT22
IO_B4_T12 T12 WF_SEL2
IO_B4_T13 T13 DAC_OUT25
IO_B4_T14 T14 DAC_OUT27
IO_B4_T15/CDPCLK3 T15 DAC_OUT28
10CL010YU256C8G

U202I 3.3V Bank
Bank 8
IO_B8_A3 A3 PEI_DOUT5
IO_B8_A4 A4 PEI_DIN3
IO_B8_A5/DATA7 A5 PEI_DIN1
IO_B8_A6/DPCLK11 A6 PEI_DOUT6
IO_B8_A7 A7 PEI_DOUT10
IO_B8_B3/CDPCLK7 B3 PEI_DIN0
IO_B8_B4 B4 PEI_DOUT0
IO_B8_B5 B5 PEI_DOUT1
IO_B8_B6 B6 PEI_DOUT13
IO_B8_B7/DATA4 B7 PEI_DOUT2
IO_B8_C3/PLL3_CLKOUTn C3 HB_SHUTDOWN
IO_B8_C8/DPCLK10 C8 PEI_DOUT14
IO_B8_D3/PLL3_CLKOUTp D3 PEI_DIN2
IO_B8_D6 D6 PEI_DOUT11
IO_B8_D8 D8 PEI_DOUT3
IO_B8_E6/DATA6 E6 v_en0
IO_B8_E7/DATA5 E7 PEI_SER_IN
IO_B8_E8/DATA2 E8 PEI_SER_OUT
IO_B8_F8/DATA3 F8 v_en3
10CL010YU256C8G

HB_SHUTDOWN SHUTDOWN

DAC_OUT[0..19] DAC_OUT[0..19]
DAC_OUT[20..39] DAC_OUT[20..39]
DAC_OUT[60..79] DAC_OUT[60..79]
PEI_DOUT[0..15] PEI_DOUT[0..15]
PEI_DIN[0..3] PEI_DIN[0..3]
PEI_CLKIN PEI_CLKIN
PEI_CLKOUT PEI_CLKOUT
HEAD_DATA.C1_CLK C1_CLK
HEAD_DATA.C2_CLK C2_CLK

PEI_DOUT2 PEI_DOUT2
PEI_DOUT7 PEI_DOUT7
PEI_DOUT14 PEI_DOUT14
PEI_DOUT11 PEI_DOUT11
PEI_DOUT3 PEI_DOUT3
PEI_DOUT13 PEI_DOUT13
PEI_DOUT10 PEI_DOUT10
PEI_DOUT6 PEI_DOUT6
PEI_DOUT1 PEI_DOUT1
PEI_DIN1 PEI_DIN1
PEI_DIN2 PEI_DIN2
PEI_DIN3 PEI_DIN3
PEI_DIN0 PEI_DIN0
PEI_DOUT9 PEI_DOUT9
PEI_DOUT15 PEI_DOUT15
PEI_DOUT8 PEI_DOUT8
PEI_DOUT4 PEI_DOUT4
PEI_DOUT0 PEI_DOUT0
PEI_DOUT5 PEI_DOUT5
PEI_DOUT12 PEI_DOUT12

U202J
Clocks and VRef
IO_B1_G1/VREFB1N1 G1 heater_en0
IO_B1_F3/VREFB1N0 F3
IO_B2_K2/VREFB2N1 K2
IO_B2_L3/VREFB2N0 L3
IO_B3_T3/VREFB3N1 T3 DAC_OUT4
IO_B3_P6/VREFB3N0 P6 DAC_OUT14
IO_B4_N12/VREFB4N1 N12 hd_out2
IO_B4_P11/VREFB4N0 P11 hd_out4
IO_B5_L14/VREFB5N1 L14 DAC_OUT39
IO_B5_L15/VREFB5N0 L15 DAC_OUT36
IO_B6_F13/VREFB6N1 F13 DAC_OUT62
IO_B6_F14/VREFB6N0 F14 DAC_OUT63
IO_B7_A13/VREFB7N1 A13 DAC_OUT73
IO_B7_C11/VREFB7N0 C11 PEI_DOUT9
IO_B8_A2/VREFB8N1 A2
IO_B8_C6/VREFB8N0 C6 PEI_DOUT7
CLK0/DIFFCLK_0p E2 STM8_ALERT1
CLK1/DIFFCLK_0n E1
CLK2/DIFFCLK_1p M2 lvds_clk_in_P
CLK3/DIFFCLK_1n M1 lvds_clk_in_N
CLK4/DIFFCLK_2p E15 clk25_in
CLK5/DIFFCLK_2n E16
CLK6/DIFFCLK_3p M15 HEAD_DATA.C1_CLK
CLK7/DIFFCLK_3n M16 HEAD_DATA.C2_CLK
CLK11/DIFFCLK_4p B8 PEI_CLKIN
CLK10/DIFFCLK_4n A8 PEI_CLKOUT
CLK9/DIFFCLK_5p B9
CLK8/DIFFCLK_5n A9 nTEMP_ALERT
CLK15/DIFFCLK_6p R8
CLK14/DIFFCLK_6n T8
CLK13/DIFFCLK_7p R9
CLK12/DIFFCLK_7n T9
10CL010YU256C8G

U202A
VCC
2V5_VCCA L5 VCCA1
F12 VCCA2
F5 IN / VCCA3 (Mig)
L12 IN / VCCA4 (Mig)
1V2_PLL N4 VCCD_PLL1
D13 VCCD_PLL2
D4 IN/ VCCD_PLL3 (Mig)
N13 IN / VCCD_PLL4 (Mig)
HB_1V2 F7 IN / VCCINT (Mig)
F11 IN / VCCINT (Mig)
G6 VCCINT
G7 VCCINT
G8 VCCINT
G9 VCCINT
G10 VCCINT
H6 VCCINT
H11 VCCINT
J6 VCCINT
K7 IN / VCCINT (Mig)
K11 VCCINT
IN / VCCINT (Mig)
HB_3V3 E3 VCCIO1
G3 VCCIO1
HB_2V5 K3 VCCIO2
M3 VCCIO2
P4 VCCIO3
P7 VCCIO3
T1 VCCIO3
P10 VCCIO4
P13 VCCIO4
T16 VCCIO4
K14 VCCIO5
M14 VCCIO5
E14 VCCIO6
G14 VCCIO6
A16 VCCIO7
C10 VCCIO7
C13 VCCIO7
A1 VCCIO8
C4 VCCIO8
C7 VCCIO8
10CL010YU256C8G

U202L
Gnd
GND H7
GND H8
GND H9
GND H10
GND J7
GND J8
GND J9
GND J10
GND F6
IN / GND (Mig) F10
IN / GND (Mig) J11
IN / GND (Mig) K8
IN / GND (Mig) B2
GND B15
GND C5
GND C12
GND D7
GND D10
GND E4
GND E13
GND G4
GND G13
GND K4
GND K13
GND M4
GND M13
GND N7
GND N10
GND P5
GND P12
GND R2
GND R15
GND H16
GND H15
GND F2
GND G5
GND D5
GND F1
GNDA1 M5
GNDA2 E12
IN / GNDA3 (Mig) E5
IN / GNDA4 (Mig) M12
10CL010YU256C8G
GND

U202K
Configuration
IO_B1_H2/DATA0 H2 CFG_RDATA
IO_B1_C1/DATA1_ASDO C1 CFG_WDATA
IO_B1_H1/DCLK H1 CFG_DCLK
IO_B1_D2/FLASH_nCE_nCSO D2 CFG_nCS
nCE J3
nCONFIG H5 CFG_nCONFIG
nSTATUS F4 CFG_nSTATUS
TCK H3 JTAG_TCK
TDI H4 JTAG_SOM_TDO
TDO J4 JTAG_HB_TDO
TMS J5 JTAG_TMS
IO_B5_J15/DEV_CLRn J15 DBG_LED5
IO_B5_J16/DEV_OE J16 DBG_LED4
IO_B6_F15/CLKUSR F15 DAC_OUT64
CONF_DONE H14 CFG_CONFIG_DONE
IO_B6_G15/CRC_ERROR G15 v_en1
IO_B6_G16/INIT_DONE G16 v_en2
MSEL0 H13
MSEL1 H12 HB_3V3
MSEL2 G12
IO_B6_F16/nCEO F16
10CL010YU256C8G
AS, 3.3V

HB_3V3
R210 0402 10K
R211 0402 10K
CFG_nSTATUS
JTAG_TCK
JTAG_SOM_TDO
JTAG_HB_TDO
JTAG_TMS
R212 10K 0402 HB_3V3
CFG_CONFIG_DONE

HB_3V3 HB_3V3
HB_2V5 HB_2V5
HB_1V2 HB_1V2

CFG EEPROM
CFG_RDATA R213 27R 0402 CFG_DATA
GND C204 100n 0402 16V HB_3V3
U205
CFG_nCS nCS VCC
CFG_DATA SO nHOLD
HB_3V3 nWP SCK
GND SI
CFG_DCLK
CFG_WDATA
MT25QL128ABA1ESE-0SIT

1110000 - DHB
I2C Switches
U203B SN74LVC1G3157DBVR
U204B SN74LVC1G3157DBVR
C205 100n 0402 16V
U203A SN74LVC1G3157DBVR
U204A SN74LVC1G3157DBVR
SCL
SDA
scl_fpga
sda_fpga
CFG_CONFIG_DONE

LVDS Rx Termination
LVDS_CLK_IN_P R214 0402 100R LVDS_CLK_IN_N
LVDS_D_IN1_P R215 0402 100R LVDS_D_IN1_N
LVDS_D_IN0_P R216 0402 100R LVDS_D_IN0_N

25MHz Clock
L200 0805 MPZ2012S102AT 1K@100MHz
C219 10V 4u7 0603
U206 EN VDD GND OUT
FKSSD1025 25MHz
33R 0402 R217 clk25_in

DEBUG_OUT[1..5] DEBUG_OUT[1..5]
PEI_SER_IN PEI_SER_IN
PEI_SER_OUT PEI_SER_OUT
WF_SEL[0..2] WF_SEL[0..2]
WF_SEL0 WF_SEL0
WF_SEL1 WF_SEL1
WF_SEL2 WF_SEL2

C220 6.3V 100u 1206
C221 10V 22u 0603
C222 10V 4u7 0603
C223 10V 4u7 0603
C224 10V 4u7 0603
C225 220n 0402 16V
C226 220n 0402 16V
C227 100n 0402 16V
C228 100n 0402 16V

C206 10V 4u7 0603
C207 100n 0402 16V
C208 100n 0402 16V

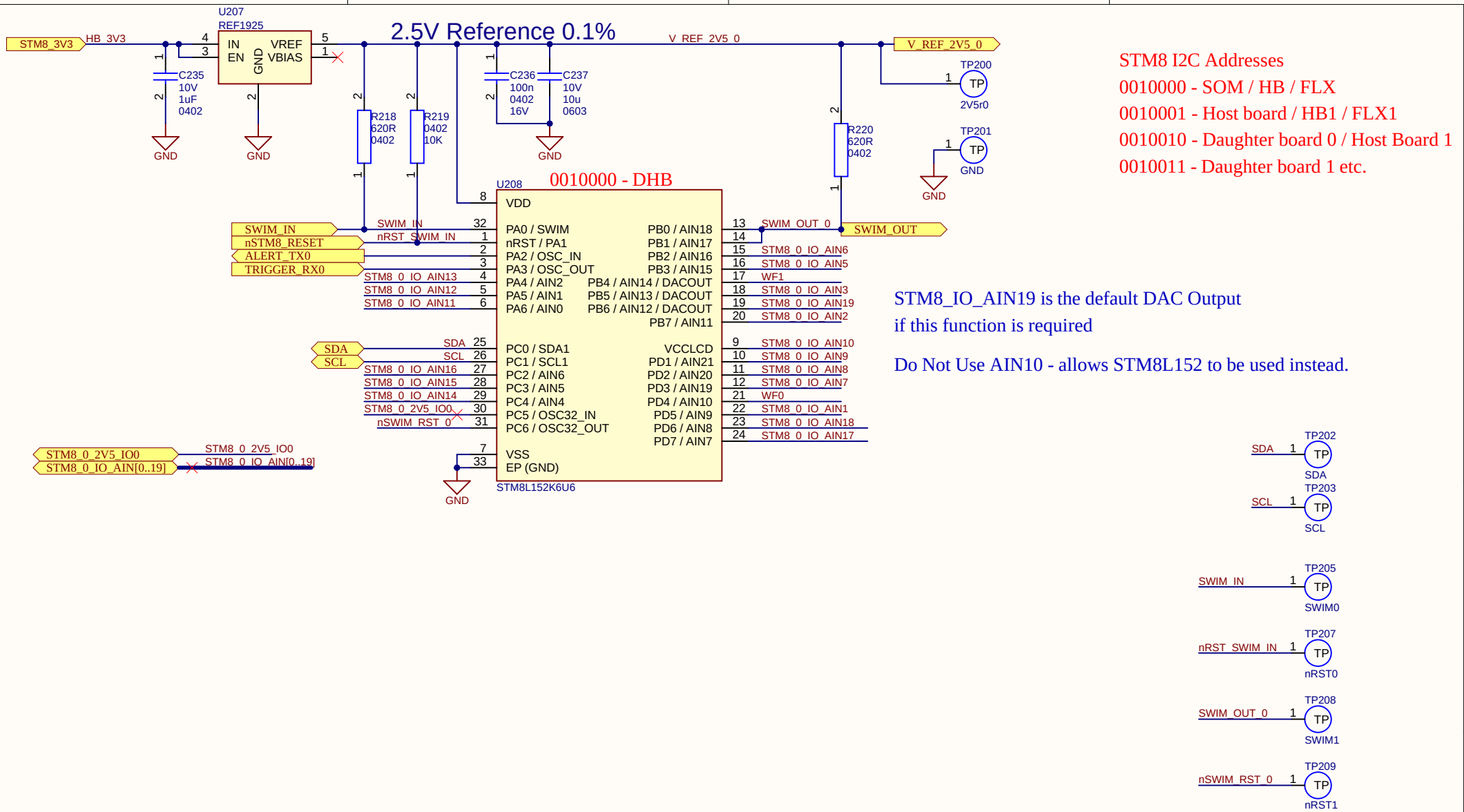
C209 10V 22u 0603
C210 10V 4u7 0603
C211 220n 0402 16V
C212 100n 0402 16V
C213 100n 0402 16V
C214 100n 0402 16V
C215 100n 0402 16V
C216 100n 0402 16V
C217 100n 0402 16V
C218 100n 0402 16V

L201 0805 MPZ2012S102AT 1K@100MHz
C229 10V 4u7 0603
C230 100n 0402 16V
C231 100n 0402 16V
1V2_PLL

L202 0805 MPZ2012S102AT 1K@100MHz
C232 10V 4u7 0603
C233 100n 0402 16V
C234 100n 0402 16V
2V5_VCCA

GND

GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: FPGA		
Size: A3	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: HBFPGA.SchDoc	Sheet 7 of 20



STM8 I2C Addresses

0010000 - SOM / HB / FLX

0010001 - Host board / HB1 / FLX1

0010010 - Daughter board 0 / Host Board 1

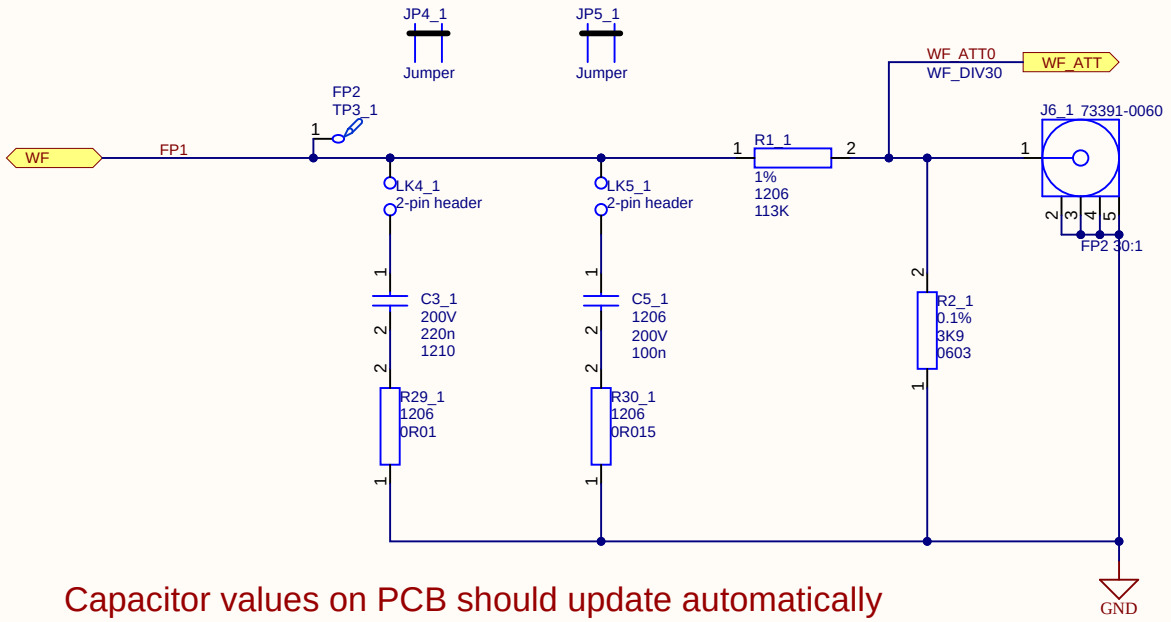
0010011 - Daughter board 1 etc.

STM8_IO_AIN19 is the default DAC Output if this function is required

Do Not Use AIN10 - allows STM8L152 to be used instead.

GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, Cambridge, CB4 0DS	
Title: Microprocessor STM8		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Microprocessor STM8x2.SchDoc	Sheet 8 of 20

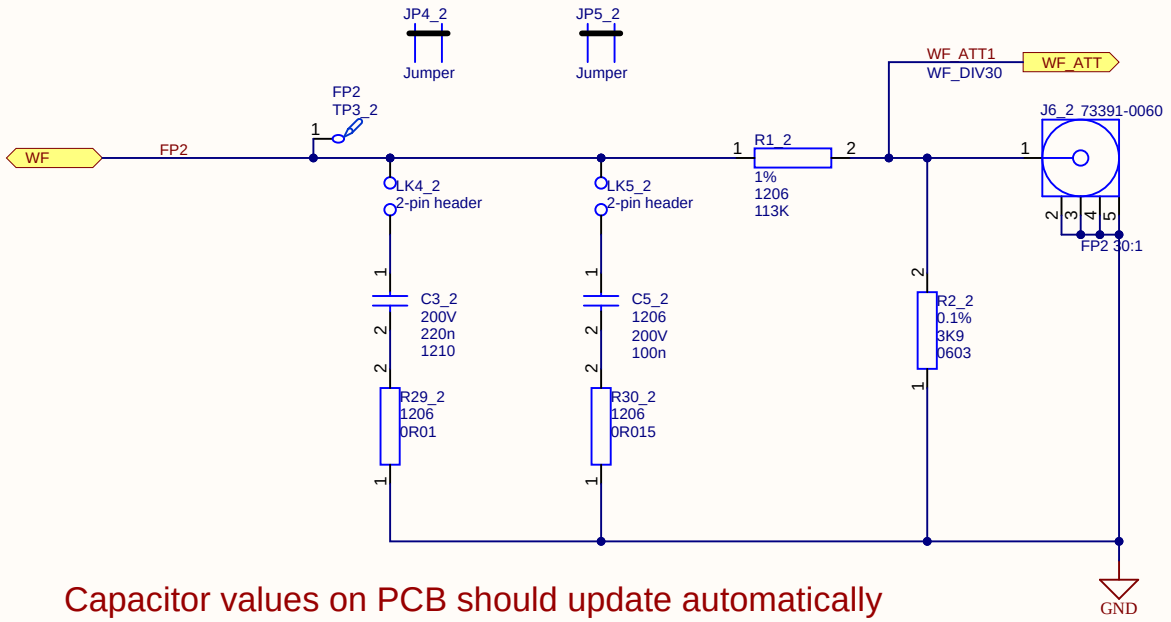
Assuming 1M input impedance of scope, gives 30:1 within 1.5%



Capacitor values on PCB should update automatically

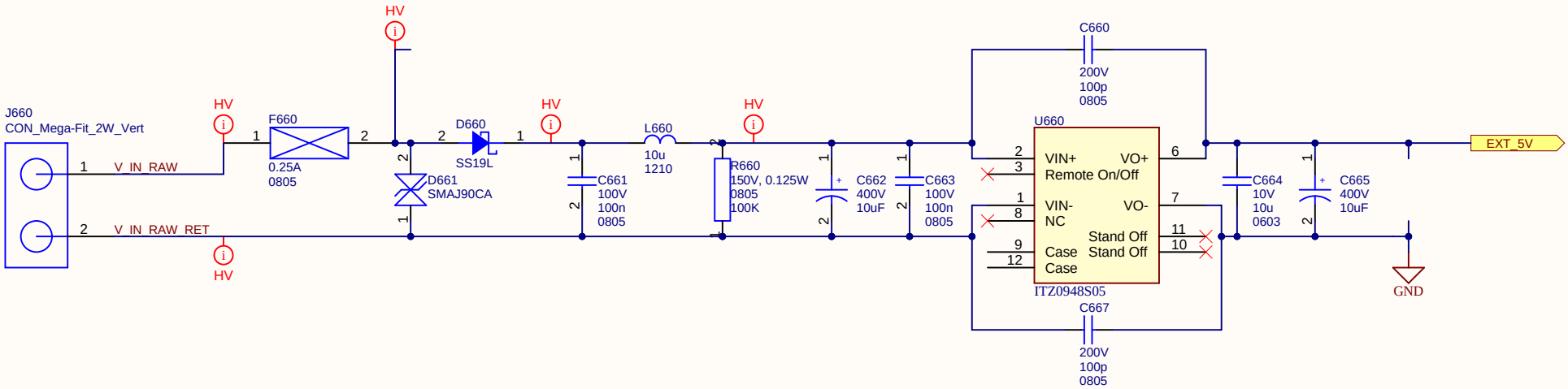
GIS GLOBAL INKJET SYSTEMS — Global Inkjet Systems Ltd., Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK		
Title: Capacitive Load		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Capacitive Load.SchDoc	Sheet 9.1 of 20

Assuming 1M input impedance of scope, gives 30:1 within 1.5%

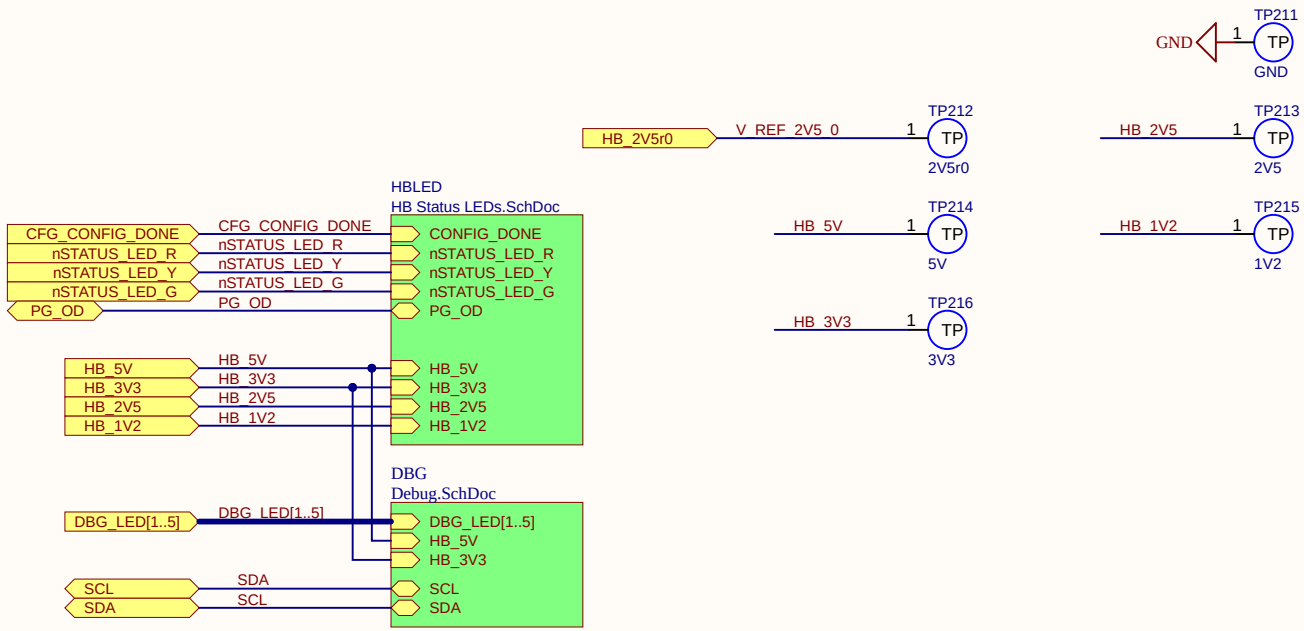


Capacitor values on PCB should update automatically

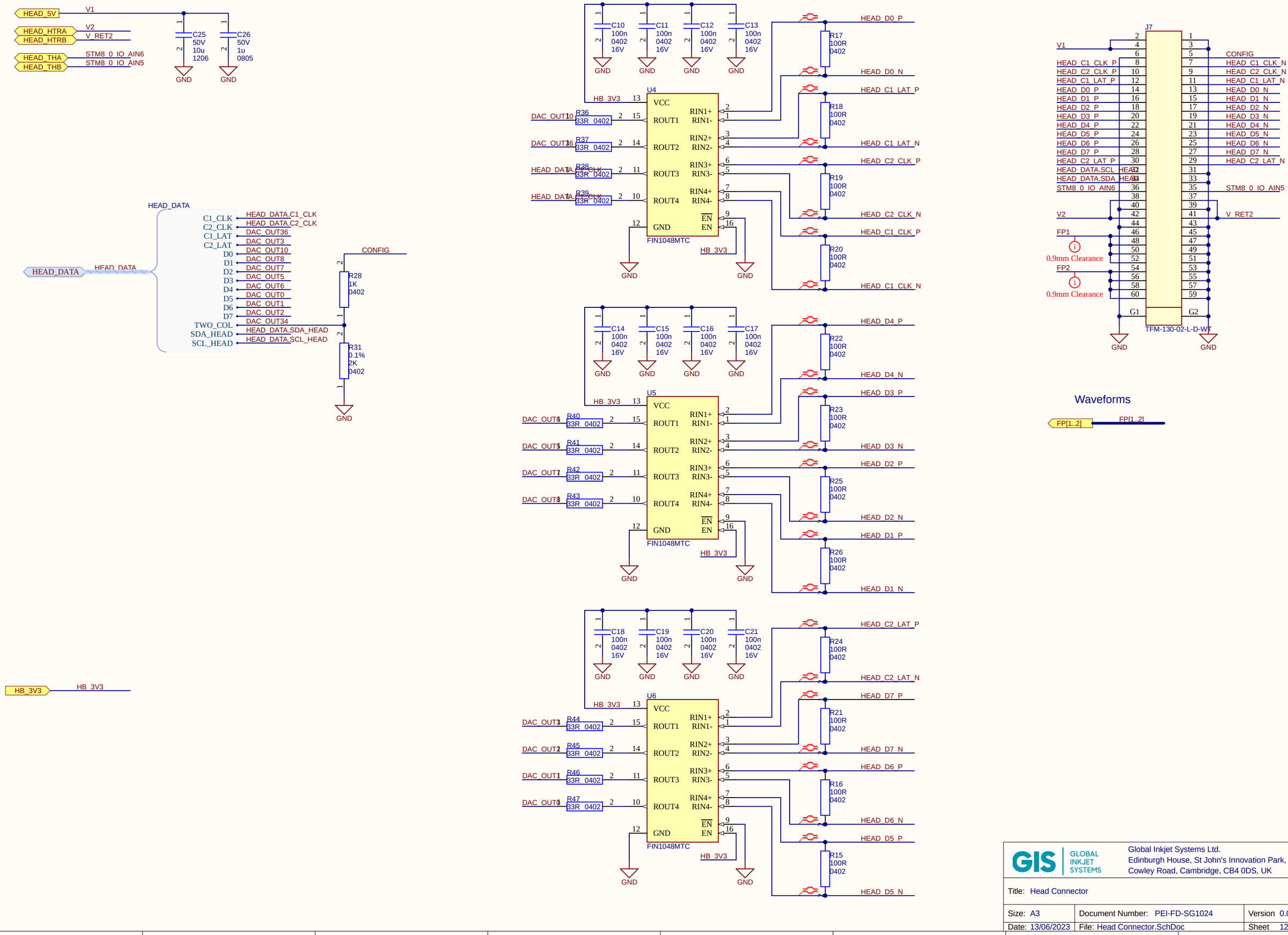
GIS GLOBAL INKJET SYSTEMS — Global Inkjet Systems Ltd., Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK		
Title: Capacitive Load		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Capacitive Load.SchDoc	Sheet 9.2 of 20



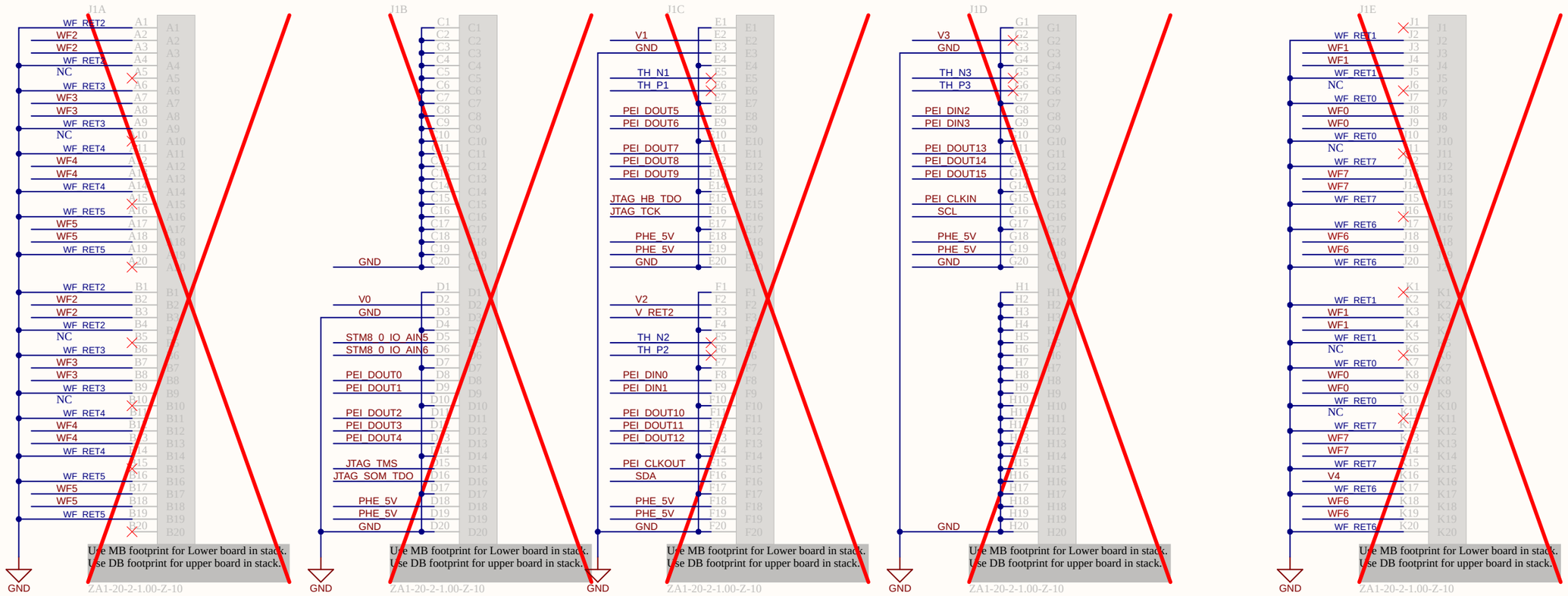
GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: External Power		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: EXT Power.SchDoc	Sheet 10 of 20

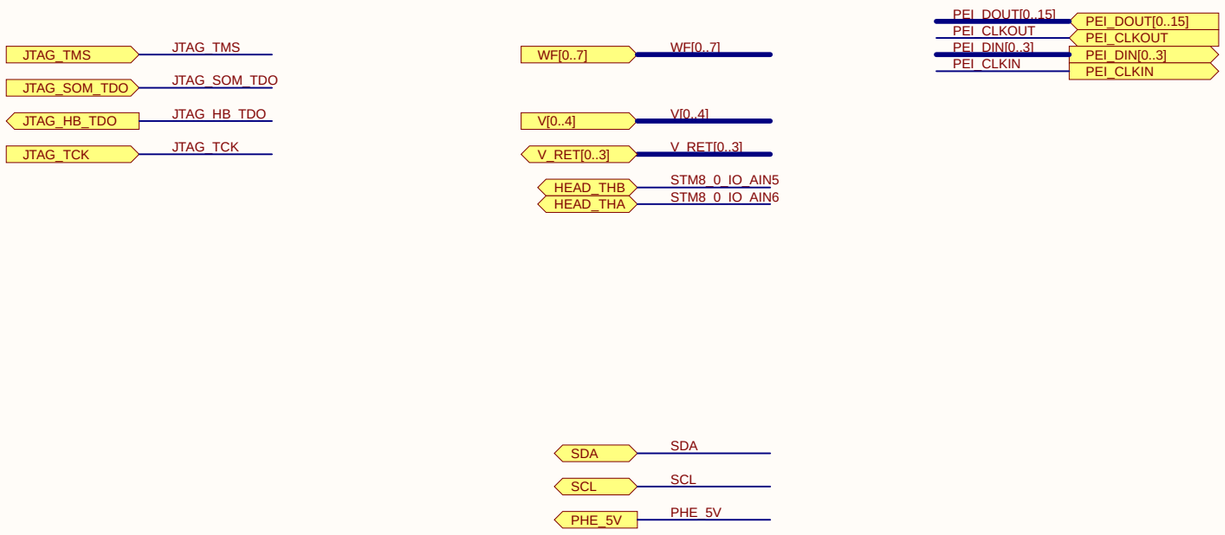


GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: HBUI		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: HBUI.SchDoc	Sheet 11 of 20



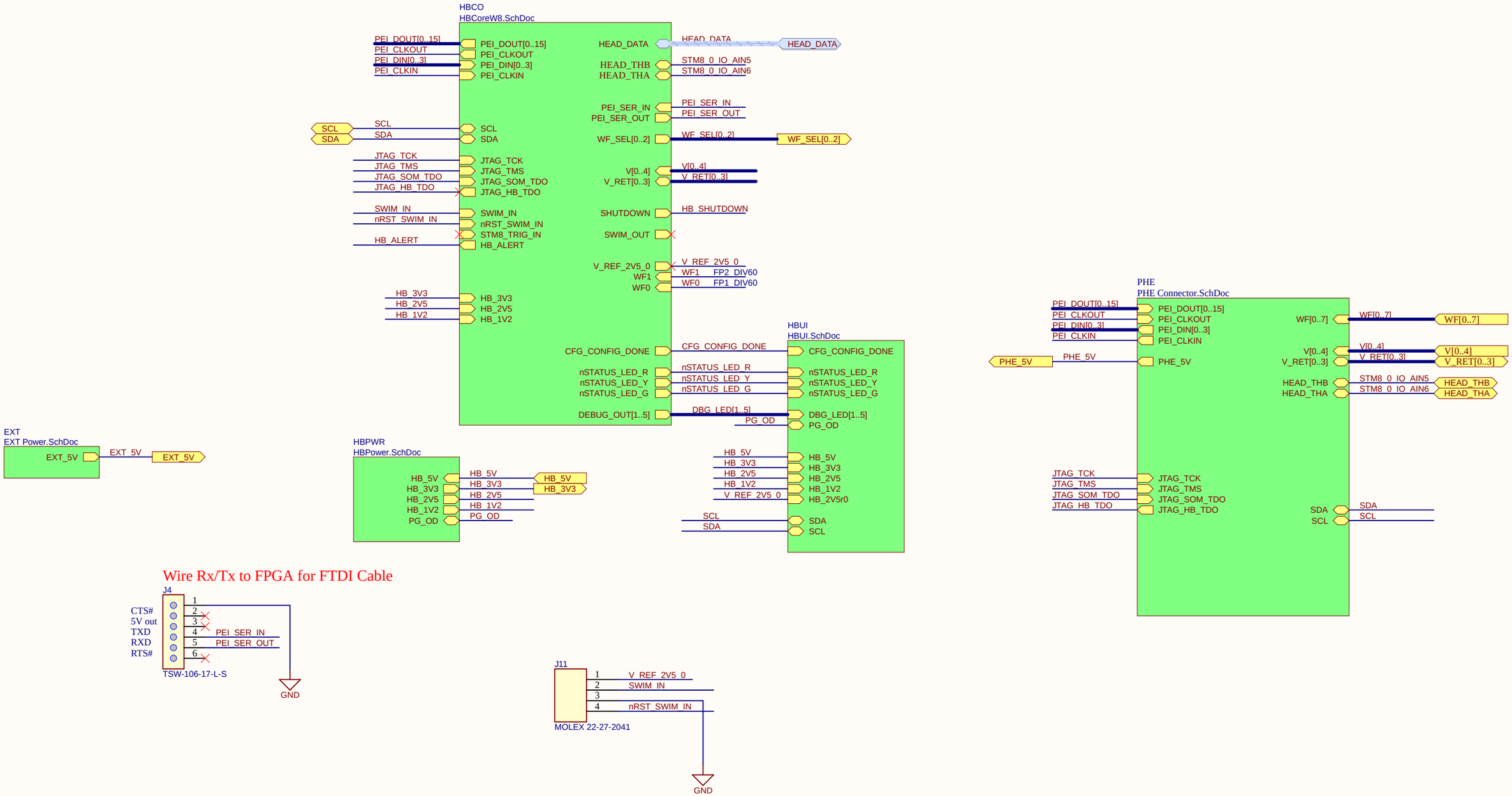
Global Inkjet Systems Ltd.	Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK
Title: Head Connector	
Size: A3	Document Number: PEI-FD-SG1024 — Version 0.0
Date: 13/06/2023	File: Head Connector.SchDoc — Sheet 12 of 20



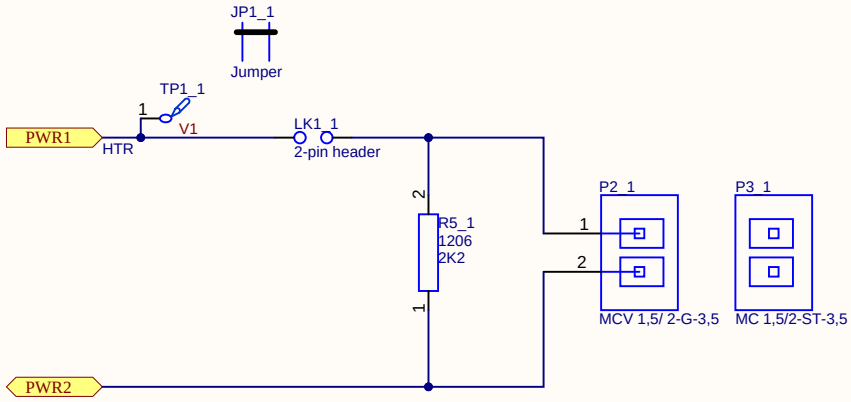


GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK		
Title: PHE Connector			
Size: A3	Document Number: PEI-FD-SG1024	Version 0.0	
Date: 13/06/2023	File: PHE Connector.SchDoc	Sheet 13 of 20	

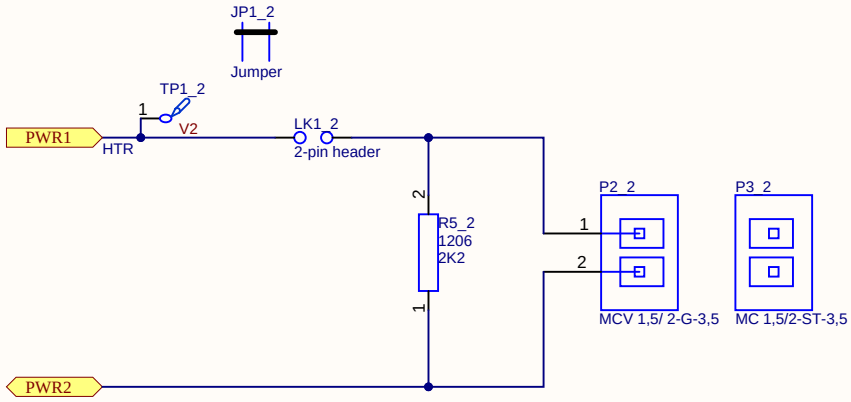
Circuitry common to all PEIs



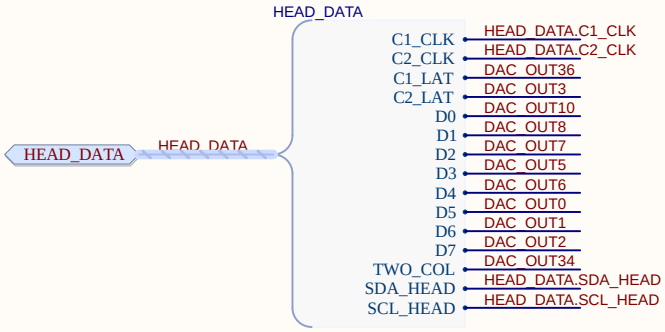
GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: PHE Interface		
Size: A3	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: PHE Interface.SchDoc	Sheet 14 of 20

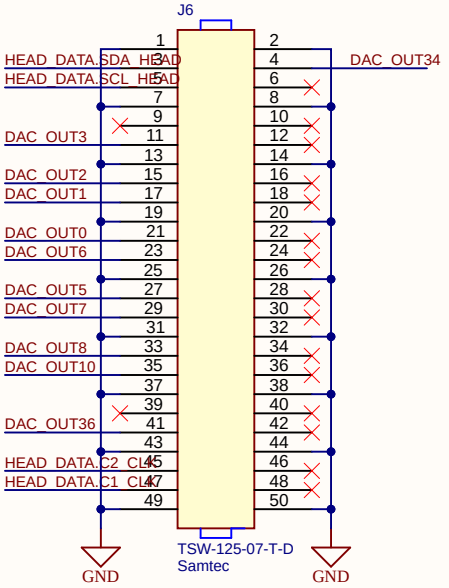


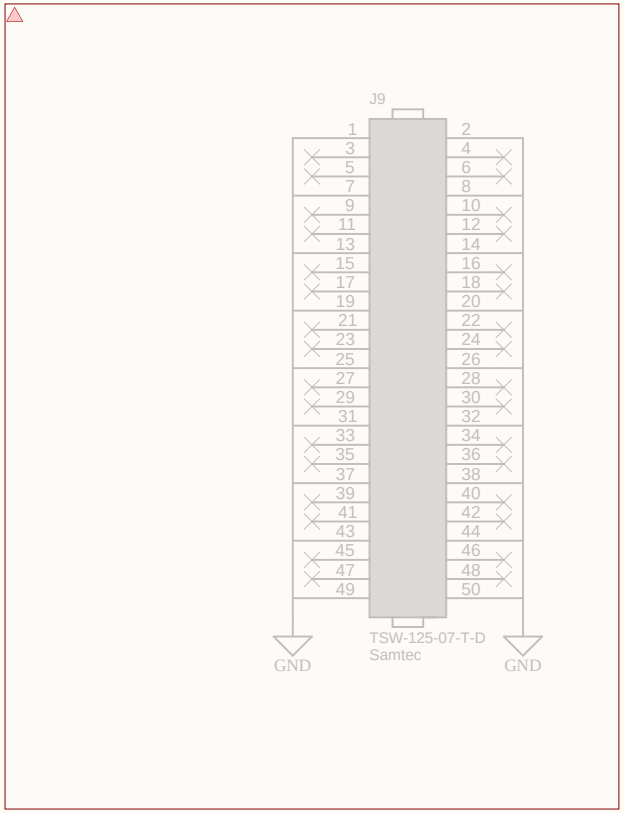
GIS GLOBAL INKJET SYSTEMS — Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK		
Title: Static Load		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Static Load.SchDoc	Sheet 15.1 of 20



GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: Static Load		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Static Load.SchDoc	Sheet 15.2 of 20

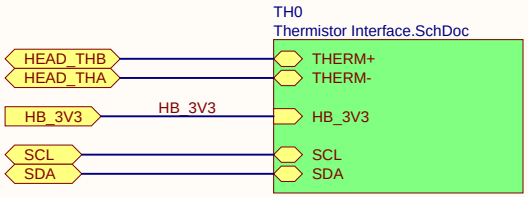


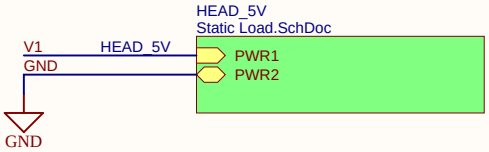


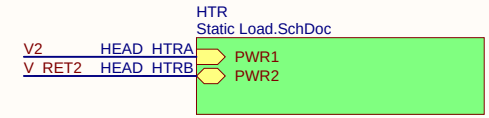


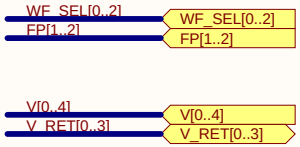
GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: Test Headers		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Test Headers.SchDoc	Sheet 16 of 20

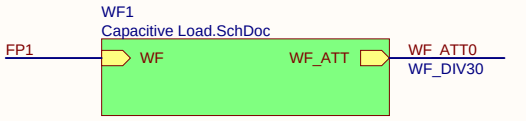
Change sheet designators to change test point names on PCB - Altium 22.3 onwards

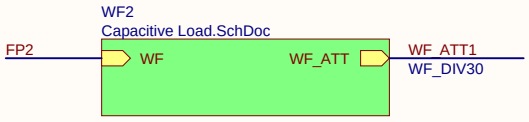


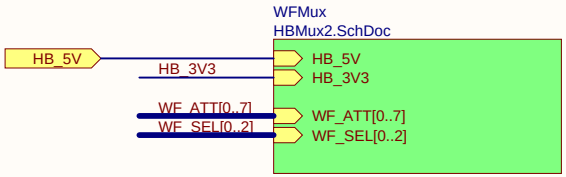




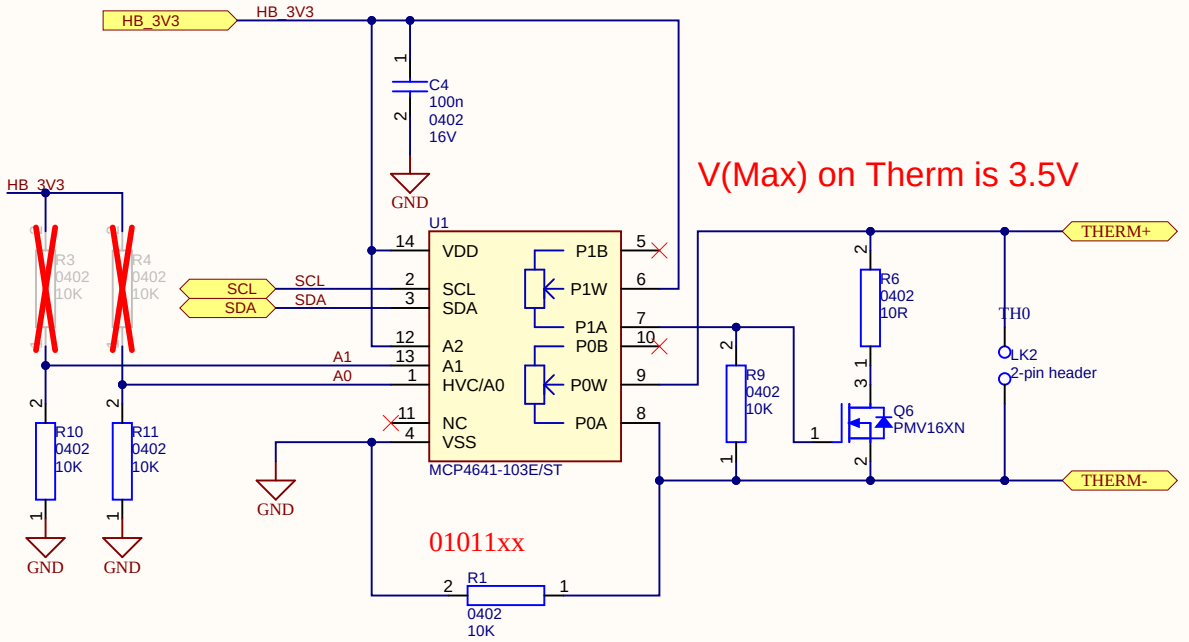








GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: Test Load		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Test load.SchDoc	Sheet 17 of 20



GIS GLOBAL INKJET SYSTEMS	Global Inkjet Systems Ltd. Edinburgh House, St John's Innovation Park, Cowley Road, Cambridge, CB4 0DS, UK	
Title: Thermistor Interface		
Size: A4	Document Number: PEI-FD-SG1024	Version 0.0
Date: 13/06/2023	File: Thermistor Interface.SchDoc	Sheet 18 of 20