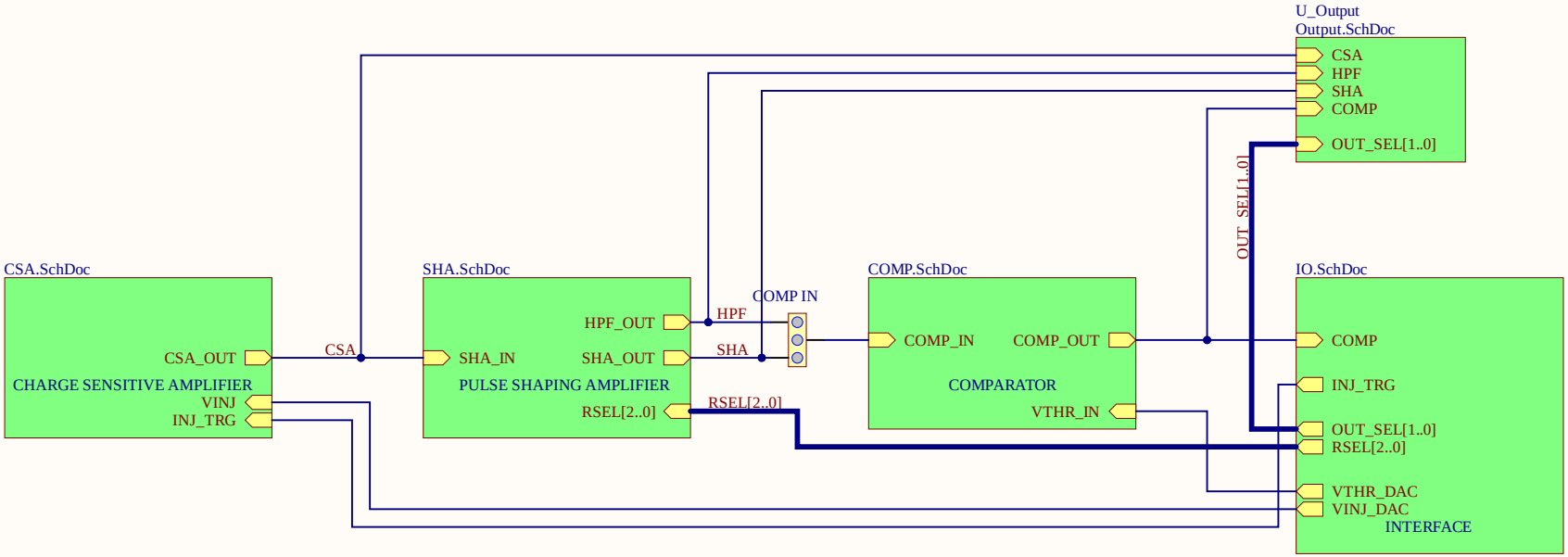

FID1 FID2 FID3

Title: Analog Signal Processing Frontend		
Project: Embedded System Lab	Drawn by: HK Revision: 1.1	
Date: 09/02/2023 Time: 13:29:01	Sheet 1 of 6	
File: AFE.SchDoc		

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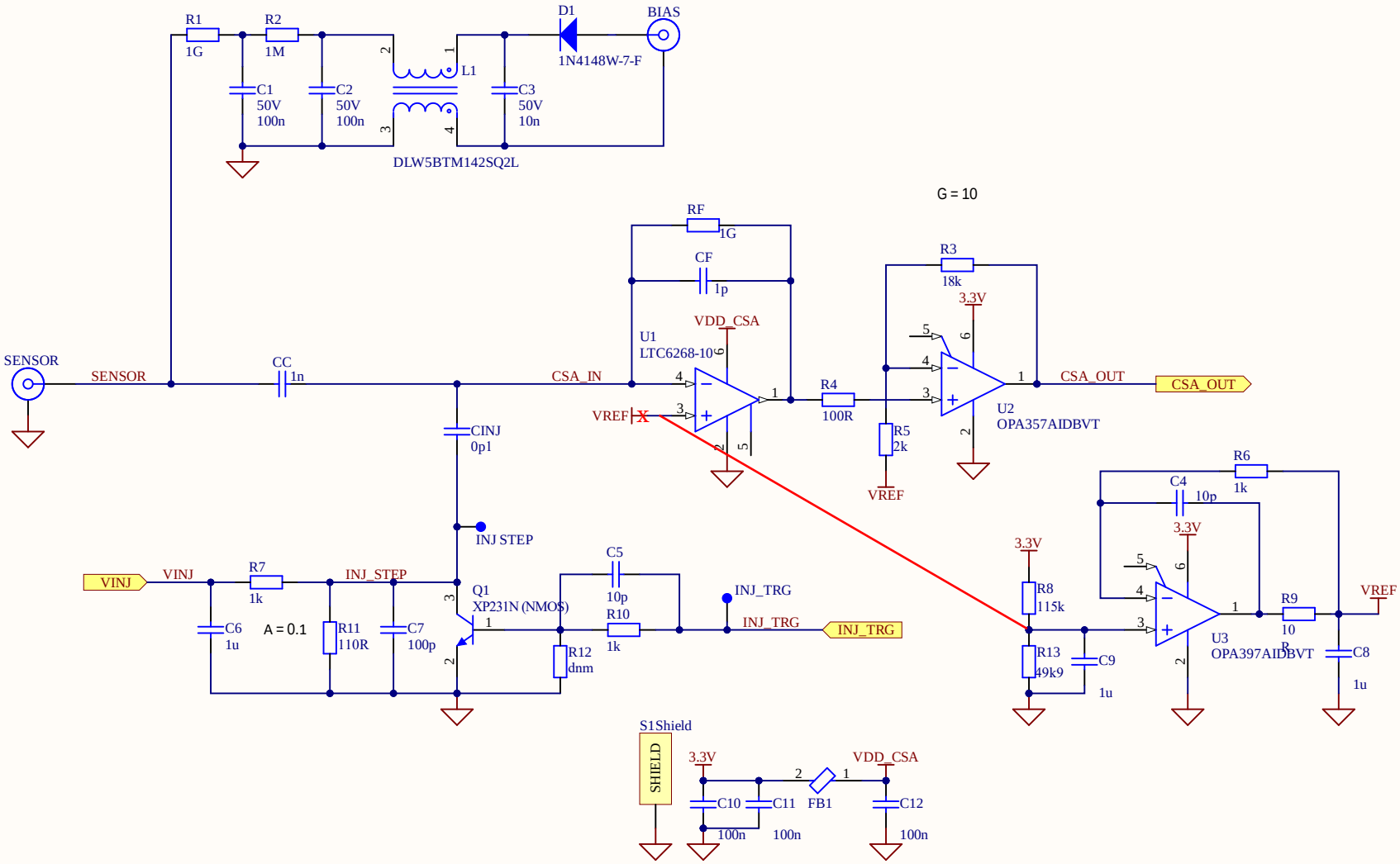

Title: CSA		
Project: Embedded System Lab	Drawn by:HK Revision:1.1	
Date: 09/02/2023 Time: 13:29:02	Sheet 2 of 6	
File: CSA.SchDoc		

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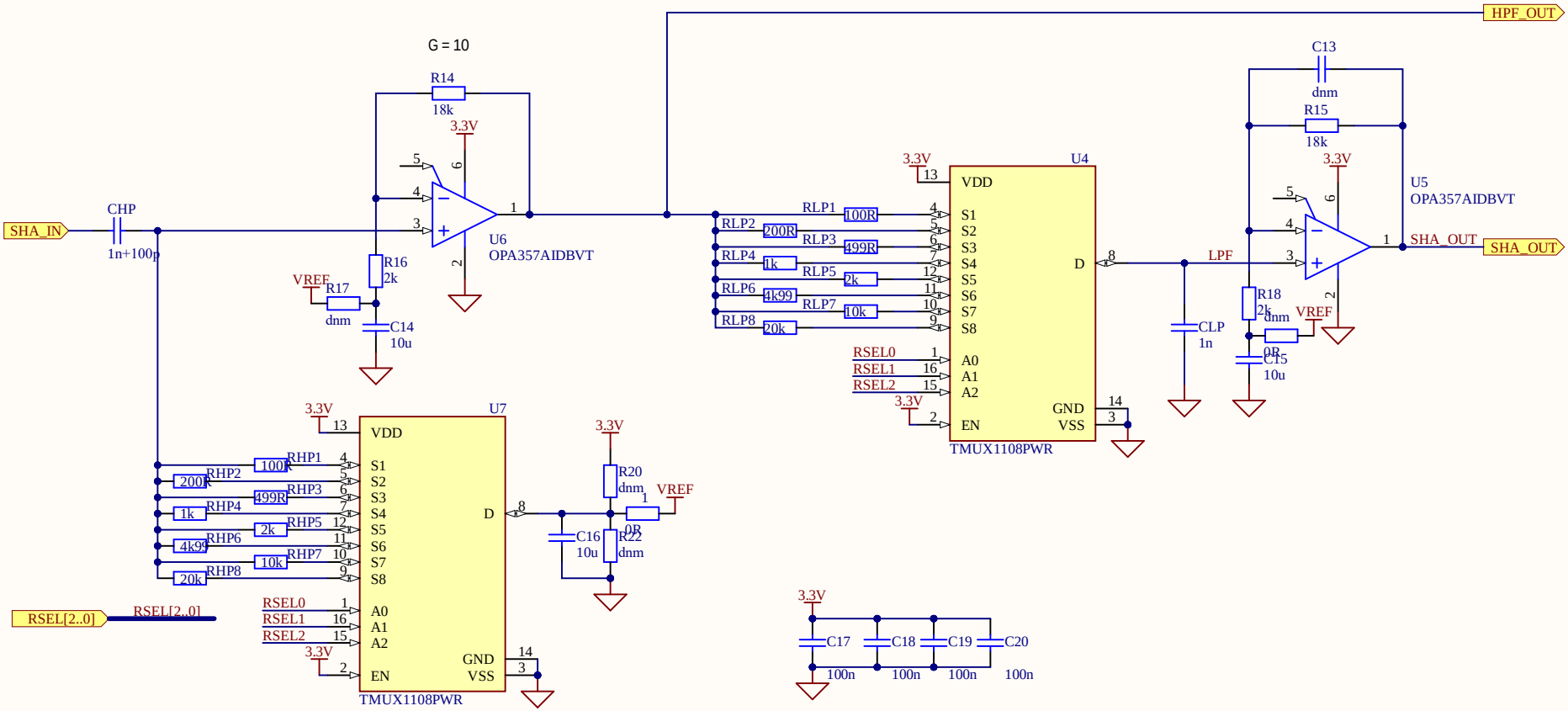

Title: Shaper		
Project: Embedded System Lab	Drawn by: HK	
	Revision: 1.1	
Date: 09/02/2023 Time: 13:29:02	Sheet 3 of 6	
File: SHA.SchDoc		

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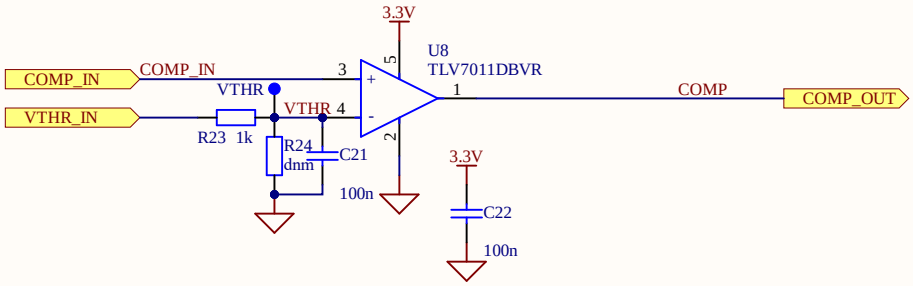

Title: Comparator		
Project: Embedded System Lab	Drawn by: HK	
	Revision: 1.1	
Date: 09/02/2023 Time: 13:29:02	Sheet 4 of 6	
File: COMP.SchDoc		

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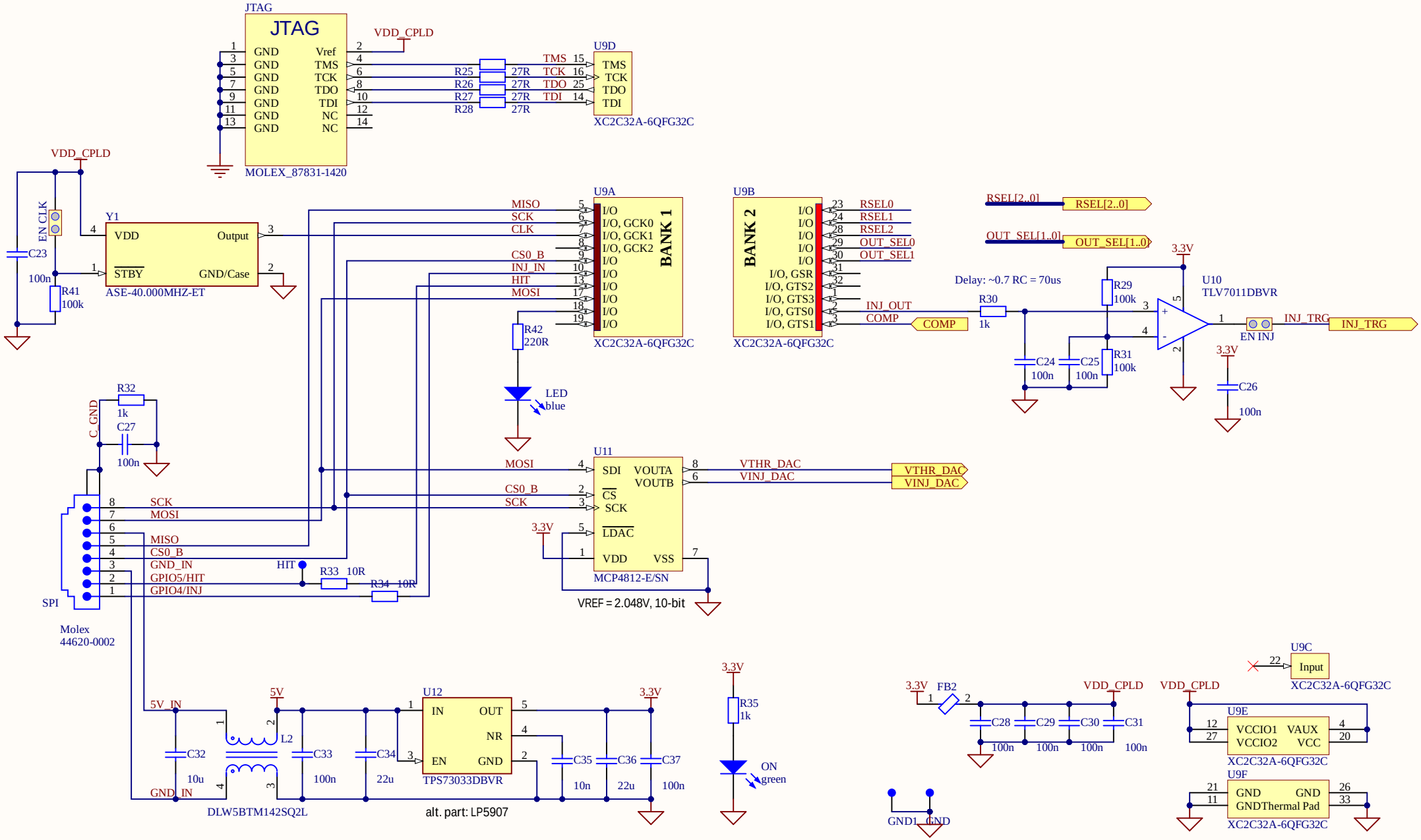

Title: IO		
Project: Embedded System Lab	Drawn by: HK	
	Revision: 1.1	
Date: 09/02/2023 Time: 13:29:02	Sheet 5 of 6	
File: IO.SchDoc		

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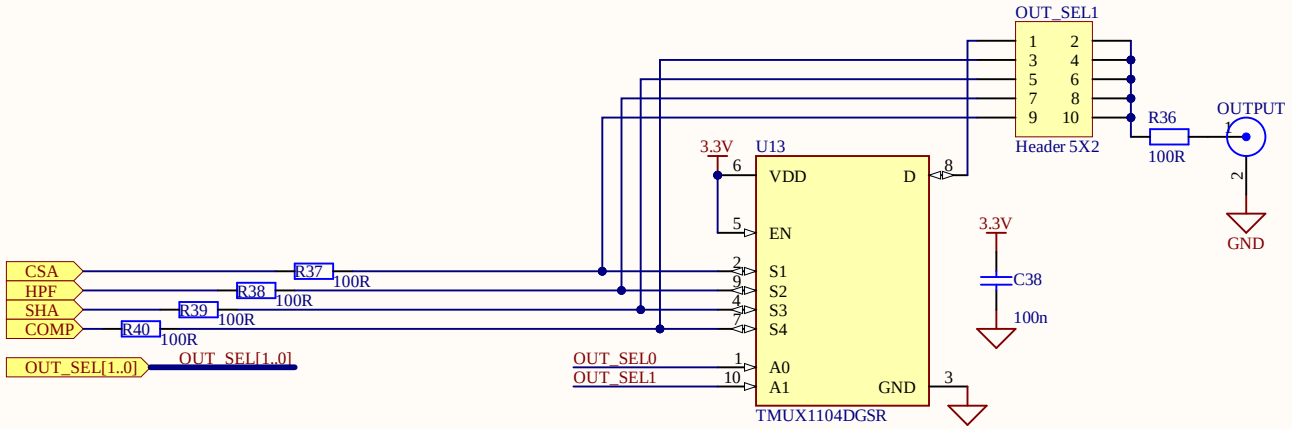

Title: Output		
Project: Embedded System Lab	Drawn by: DrawnName Revision: Rev	
Date: 09/02/2023 Time: 13:29:02	Sheet 6 of 6	
File: Output.SchDoc		

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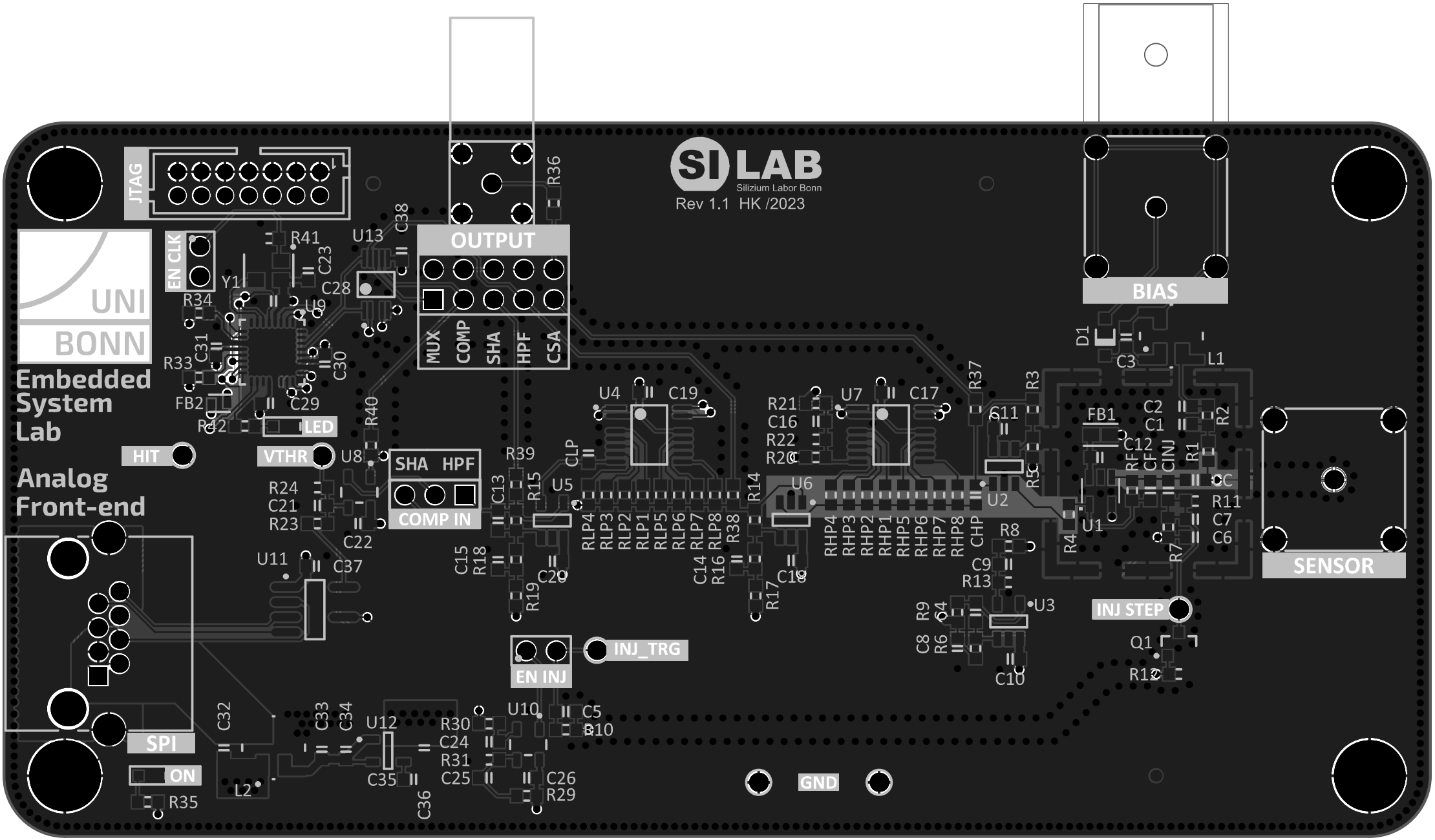
SI LAB
Silizium Labor Bonn
Rev 1.1 HK /2023
UNI BONN
Embedded System Lab
Analog Front-end
JTAG
EN CLK
OUTPUT
MUX
COMP
SHA
HPF
CSA
BIAS
SENSOR
HIT
VTHR
LED
SHA HPF
COMP IN
EN INJ
INJ_TRG
INJ STEP
SPI
ON
GND
U1
U2
U3
U4
U5
U6
U7
U8
U10
U11
U12
U13
Y1
L1
L2
Q1
D1
FB1
FB2
C1
C2
C3
C4
C5
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C38
R1
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R39
R40
R41
R42
RF
CF
CINJ
CC
CLP
CHP
RLP1
RLP2
RLP3
RLP4
RLP5
RLP6
RLP7
RLP8
RHP1
RHP2
RHP3
RHP4
RHP5
RHP6
RHP7
RHP8

Line #	Name	Description	Designator	Revision ID	Revision State	Revision Status	Quantity	Manufacturer 1	Manufacturer Part Number 1	Manufacturer Lifecycle 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Supplier Subtotal 1
	-	Jumper, Solderbridge 1x2	EN CLK, EN INJ		Not managed		2							
	-	Jumper, Solderbridge 1x3	COMP IN		Not managed		1							
	-	LEMO/BNC Buchse, aufrecht od. gewinkelt	OUTPUT		Not managed		1							
	-	Modular Jack, Right Angle RJ-45, Low Profile, Inverted, with all Panel Grounding Tabs, Shielded with RJ-11 Keepout Feature	SPI		Not managed		1							
	-	Solderpad, Einzelner Kontakt	GND, GND1, HIT, INJ STEP, INJ_TRG, VTHR		Not managed		6							
	1N4148W-7-F	Fast Switching Diode, 100 V, 0.15 A, -65 to 150 degC, 2-Pin?SOD123, RoHS, Tape and Reel	D1		Unknown server		1	Diodes	1N4148W-7-F	Volume Production				
	50V	Capacitor	C1, C2		Not managed		2							
	50V	Capacitor	C3		Not managed		1							
	71K201-400A5	75R BNC Right Angle Jack, Up to 4 GHz, -65 to 165 degC	BIAS		Unknown server		1	Rosenberger	71K201-400A5	Volume Production				
	ASE-40.000MHZ-ET	XTAL Oscillator 40MHz ±100ppm CMOS 3.3V 4-SMD 3.2mm x 2.5mm	Y1		Unknown server		1							
	BC846BLT1G	General Purpose Transistor, NPN Silicon, 3-Pin SOT-23, Pb-Free, Tape and Reel	Q1		Unknown server		1							
	BLM18PG121SN1D	Chip Ferrite Bead, 0603, 120Ω @ 100MHz, 0.05Ω, 25%, 2A	FB1, FB2		Unknown server		2							
	blue, green	SMD mono-color Chip LED, WL-SMCW, Green	LED, ON		Unknown server		2	Wurth Electronics	150060GS75000	Volume Production				
	CGO	Capacitor	C13		Not managed		1							
	CGO	Capacitor	CF, CINJ		Not managed		2							
	DLW5BTM142SQ2L		L1		Not managed		1							
	DLW5BTM142SQ2L	Common Mode Choke, 2020, 1400Ω @ 100MHz, 0.056Ω, 1.5A	L2		Unknown server		1	Murata	DLW5BTM142SQ2L	Volume Production				
	Header 5X2	Header, 5-Pin, Dual row	OUT_SEL1		Not managed		1							
	LTC6268-10	No Description Available	U1		Not managed		1							
	MCP4812-E/SN	12-Bit DACs with Internal VREF and SPI Interface, 8-Pin SOIC 150mil, Extended Temperature	U11		Unknown server		1	Microchip	MCP4822-E/SN	Volume Production				
	MOLEX_87831-1420	Molex 87831-1420; 14Pin; 2mm Pitch;	JTAG		Not managed		1							
	OPA357AIDBVT, OPA397AIDBVT	250 MHz, Rail-to-Rail I/O, Single CMOS Operational Amplifier with Shutdown, 2.5 to 5.5 V, -40 to 125 degC, 6-pin SOT23 (DBV6), Green (RoHS & no Sb/Br), Single, low-offset (0.06 mV), low-noise, low bias current, cost optimized, RRIO, e-trim™ op amp	U2, U3, U5, U6		Unknown server		4	Texas Instruments	OPA357AIDBVT	Volume Production				
	R	SMD Chip Resistor	R1, RF		Not managed		2							
	R	SMD Chip Resistor	R2		Not managed		1							
	R	SMD Chip Resistor	R3, R14, R15, R20, RHP7, RLP7		Not managed		6							
	R	SMD Chip Resistor	R4, R36, R37, R38, R39, R40, RHP1, RLP1		Not managed		8							
	R	SMD Chip Resistor	R5, R6, R7, R10, R11, R12, R16, R18, R22, R23, R24, R30, R32, R35, RHP4, RLP4		Not managed		16							
	R	SMD Chip Resistor	R8		Not managed		1							
	R	SMD Chip Resistor	R9		Not managed		1							
	R	SMD Chip Resistor	R13, R29, R31, R41		Not managed		4							
	R	SMD Chip Resistor	R17, R19, R21		Not managed		3							
	R	SMD Chip Resistor	R25, R26, R27, R28		Not managed		4							
	R	SMD Chip Resistor	R33, R34		Not managed		2							
	R	SMD Chip Resistor	R42		Not managed		1							
	R	SMD Chip Resistor	RHP2, RLP2		Not managed		2							
	R	SMD Chip Resistor	RHP3, RLP3		Not managed		2							
	R	SMD Chip Resistor	RHP5, RLP5		Not managed		2							
	R	SMD Chip Resistor	RHP6, RLP6		Not managed		2							
	R	SMD Chip Resistor	RHP8, RLP8		Not managed		2							
	Shield		S1		Not managed		1							
	TLV7011DBVR	VOLTAGE COMPARATOR	U8, U10		Unknown server		2	Texas Instruments	TLV7011DBVR					
	TMUX1104DGSR	IC SWITCH SINGLE 10VSSOP	U13		Unknown server		1							
	TMUX1108PWR	IC SWITCH SINGLE 16TSSOP	U4, U7		Unknown server		2	Texas Instruments	TMUX1108PWR					
	TPS73033DBVR	IC REG LINEAR 3.3V 200MA SOT23-5	U12		Unknown server		1	Texas Instruments	TPS73033DBVR	Volume Production				
	X7R	Capacitor	C4, C10, C11, C12, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C33, C37, C38		Not managed		22							
	X7R	Capacitor	C5		Not managed		1							
	X7R	Capacitor	C6, C8, C9		Not managed		3							
	X7R	Capacitor	C7		Not managed		1							
	X7R	Capacitor	C14, C15, C16, C32		Not managed		4							
	X7R	Capacitor	C34, C36		Not managed		2							
	X7R	Capacitor	C35		Not managed		1							
	X7R	Capacitor	CC, CHP, CLP		Not managed		3							
	XC2C32A-6QFG32C	CoolRunner-II 1.8V, 32 Macrocell CPLD, 21 User I/Os, 32-Pin QFNL, Commercial Grade, Pb-Free	U9		Unknown server		1							
	xxx	Fiducial	FID1, FID2, FID3		Not managed		3							
	71K101-400A5	75R BNC Straight Jack, Up to 4 GHz, -65 to 165 degC	SENSOR		Unknown server		1	Rosenberger	71K101-400A5	Volume Production	Mouser	476-71K101-400A5	15.59	15.59