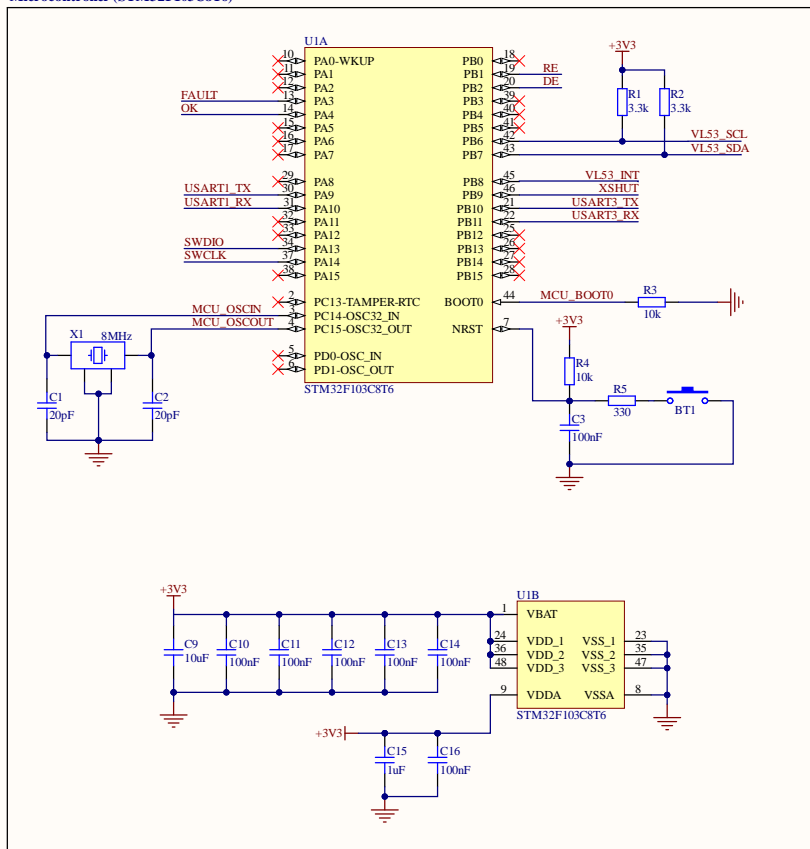
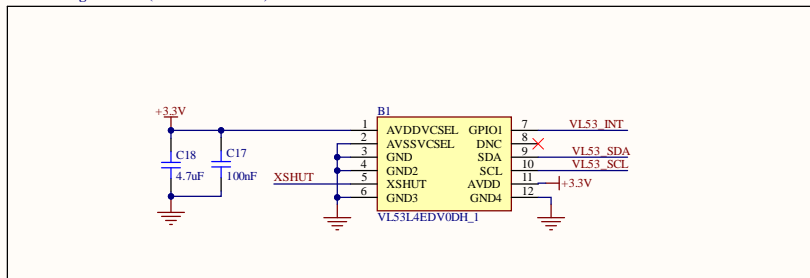


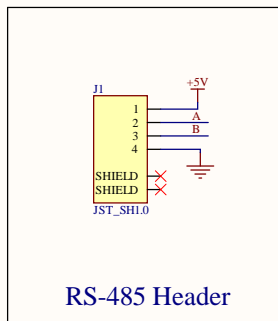
Microcontroller (STM32F103C8T6)



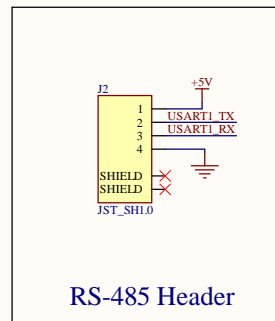
Time-of-Flight Sensor (VL53L4EDV0DH)



I2C Address: 0x52

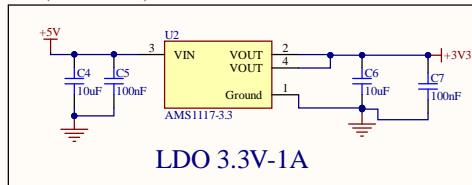


RS-485 Header



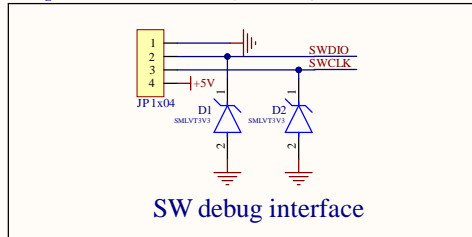
RS-485 Header

LDO (AMS1117-3.3V)



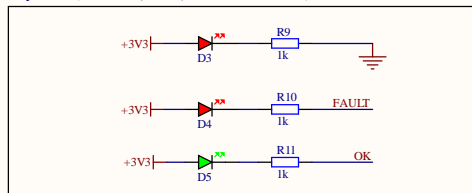
LDO 3.3V-1A

Debug Header and ESD Protection (SMLVT3V3)

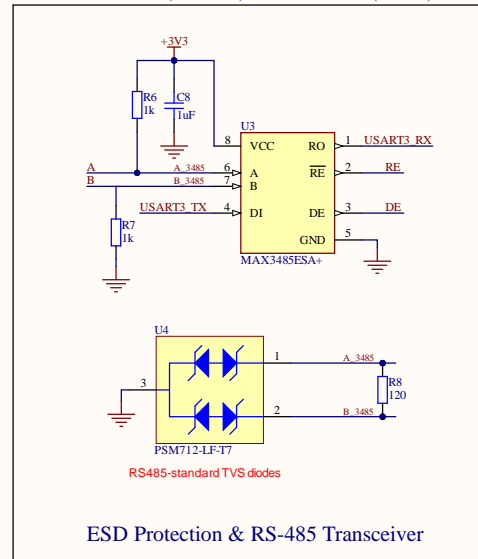


SW debug interface

Key LEDs (Power-on, Fault, and Normal Status)



RS485 Communication (MAX3485) and ESD Protection (PSM712)



RS485-standard TVS diodes

ESD Protection & RS-485 Transceiver

ToF Sensor Module Board V1.0

Title		
Size	Number	Revision
A3		
Date:	2/01/2026	Sheet of
File:	D:\Mechatronics\4V ToF Sensor Board V1.0\B1\B1_Schematic_SchDoc	



Comment	Description	Designator	Footprint	LibRef	Quantity
VL53L4EDV0DH_1	Time-of-Flight high accuracy proximity sensor with extended temperature capability	B1	VL53L4EDV0DH1	VL53L4EDV0DH_1	1
Nut Nhan 2 Chan SMD 3x6x2.5	Nut Nhan 2 Chan SMD 3x6x2.5	BT1	Nut Nhan 2 Chan SMD 3x6x2.5	Nut Nhan 2 Chan SMD 3x6x2.5	1
20pF	Capacitor SMD 0603	C1, C2	CAP_0603	CAP_0603	2
100nF	Capacitor SMD 0603	C3, C5, C7, C10, C11, C12, C13, C14, C16, C17	CAP_0603	CAP_0603	10
10uF	Capacitor SMD 0603	C4, C6, C9	CAP_0603	CAP_0603	3
1uF	Capacitor SMD 0603	C8, C15	CAP_0603	CAP_0603	2
4.7uF	Capacitor SMD 0603	C18	CAP_0603	CAP_0603	1
SMLVT3V3	TVSDIODE 3.3V 10.3V SMB	D1, D2	FP-SMB-MFG	CMP-2000-07127-2	2
RED	LED 0603 RED SMD	D3, D4	LED_0603_RED	LED_0603_RED	2
GREEN	LED 0603 GREEN SMD	D5	LED_0603_GREEN	LED_0603_GREEN	1
JST_SH1.0	Connector Header Surface Mount, Right Angle 4 position 0.039 (1.00mm)	J1, J2	JST_SMD4B-SRSS-TB(LF)(SN)	CMP-002-00071-1	2
JP 1x04	Cắm	JP1	JP 1x4 DT	JP 1x4 2.54 Duc Thang	1
3.3k	Resistor SMD 0603	R1, R2	RES_0603	RES_0603	2
10k	Resistor SMD 0603	R3, R4	RES_0603	RES_0603	2
330	Resistor SMD 0603	R5	RES_0603	RES_0603	1
1k	Resistor SMD 0603	R6, R7, R9, R10, R11	RES_0603	RES_0603	5
120	Resistor SMD 0603	R8	RES_0603	RES_0603	1
STM32F103C8T6	ARM Cortex-M3 32-bit MCU, 64 KB Flash, 20 KB Internal RAM, 37 I/Os, 48-pin LQFP, -40 to 85 degC, Tray	U1	STM-LQFP48_L	CMP-0237-00215-3	1
AMS1117-3.3	LDO Voltage Regulators 1A, 3.3V	U2	FP-AMS1117-IPC_C	CMP-209535-000001-1	1
MAX3485ESA+	IC TXRX RS485/422 10MBPS 8SOIC	U3	FP-S8-5-MFG	CMP-05679-000038-1	1
PSM712-LF-T7	TVS Array - Asymmetrical Data Line Protector, 600 W, 7.5 V, -55 to 150 degC, 3-Pin SOT23, RoHS, Tape and Reel	U4	PRKT-SOT23-3_V	CMP-2000-07553-1	1
8MHz	Crystal SMD 24MHz 10PPM 7pF 3225	X1	XTAL_3225	TSX-3225_24.0000MF15X-AC	1