MATRIX CLOCK — Schematic components include:

- U2: STM32F103 microcontroller
- U1: Header 16P
- U3: DS3231 (real-time clock)
- U4: AMS1117 voltage regulator
- U5
- SWD connector

Notable net labels and components: GND, 3V3, +5, SDA, SCL, SWCLK, SWDIO, SWIO, LAT, CLK, A0, G2, NRST, OK, UP, OE.

Capacitors: C1 104, C2 104, C3 104, C4 104, C5 20pF, C6 20pF, C7 104, C8 104, C9 104, C10 10uF, C11 10uF, C12 104, C13 104, C14 104.

Resistors: R1 10K, R2 1M, R3 10K, R4 10K, R5 510R, R6 10K, R7 10K, R8 LDR, R9 10K, R10 10K.

Other: Y1 8Mhz, L1 R, D1 IN5819, BT1 BT, BT2 BT, BT3 BT, BAT1 BAT.

TITLE:		NAME PART:
MATRIX CLOCK		ALL

DRAWING: MINH CHÍ	DATE: 15/11/2022	CONTACT: 0397758380
CHECK:	VERSION: V1.0	PAGE: 1

DS3231

GND
SWCLK
SWDIO
3V3
RESET

MCU

G1
R1

UP
OK
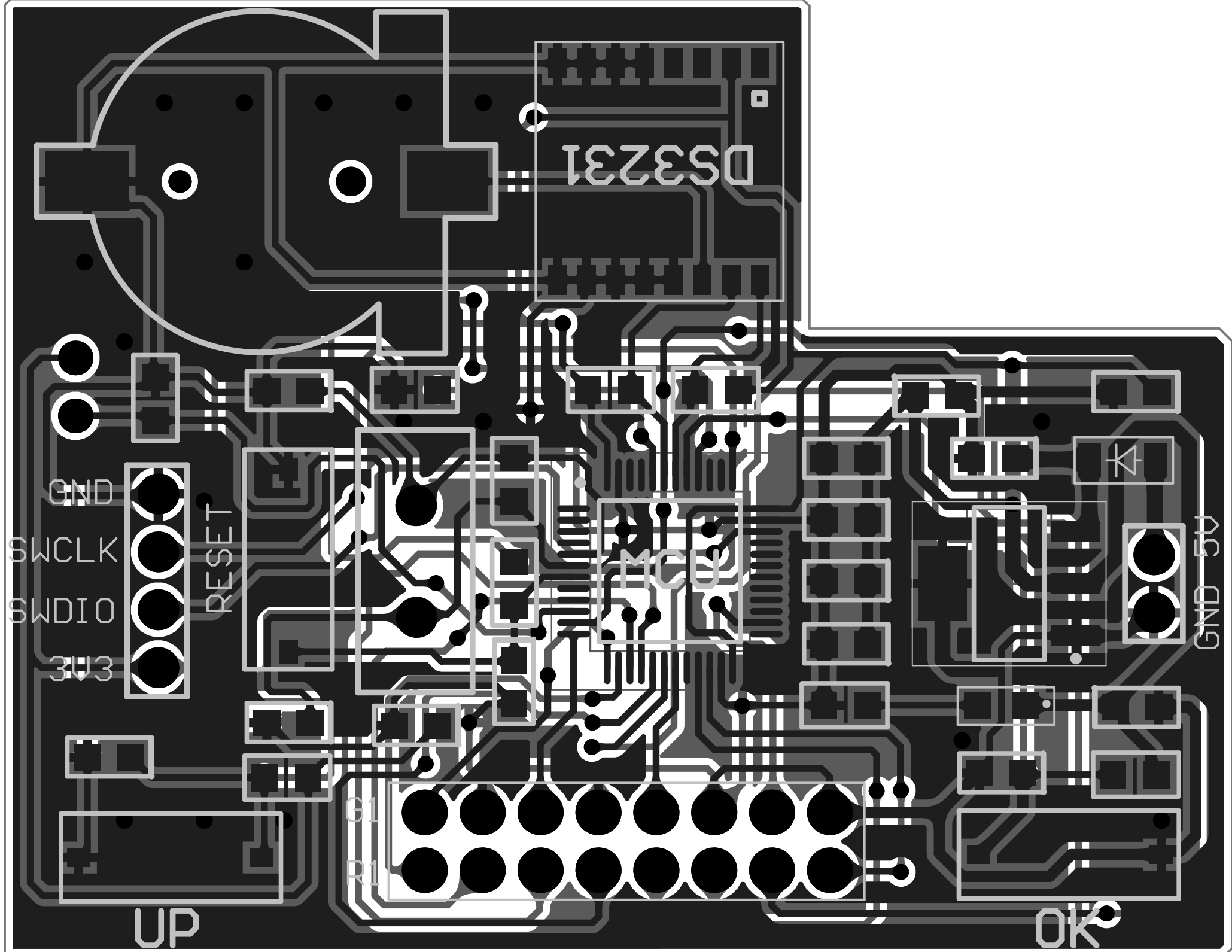
Comment	Description	Designator	Footprint	LibRef	Quantity
BAT		BAT1	CR11220	BAT_CR1220	1
BT		BT1, BT2, BT3	BUTTON-2P-SMD	BUTON-2P	3
104		C1, C2, C3, C4, C7, C8, C9, C12, C13, C14	CAP-0805	CAP-NON	10
20pF		C5, C6	CAP-0805	CAP-NON	2
10uF		C10, C11	CAP-0805	CAP-NON	2
IN5819		D1	IN5819	DIODE	1
R		L1	LED-R	LED-SINGLE	1
10K		R1, R3, R4, R6, R7, R9, R10	RES-0805	RES	7
1M		R2	RES-0805	RES	1
510R		R5	RES-0805	RES	1
LDR		R8	LDR2	LDR	1
HEADER-4P		SWD	HEADER-4P	HEADER-4P	1
Header 16P		U1	HEADER16P	CONNECTOR 16P	1
STM32F103		U2	LQFP-48	STM32F103_MCU	1
DS3231		U3	SOIC16-W	DS3231	1
AMS1117		U4	SOT-223	AMS1117_SOT-232	1
Header 2P		U5	HEADER 2P	Header 2P	1
8Mhz		Y1	QUARTZ	Quartz	1