

Embedded Systems Hands-On 1: Design and Implementation of Hardware/Software Systems

Documentation of the Extensionboard
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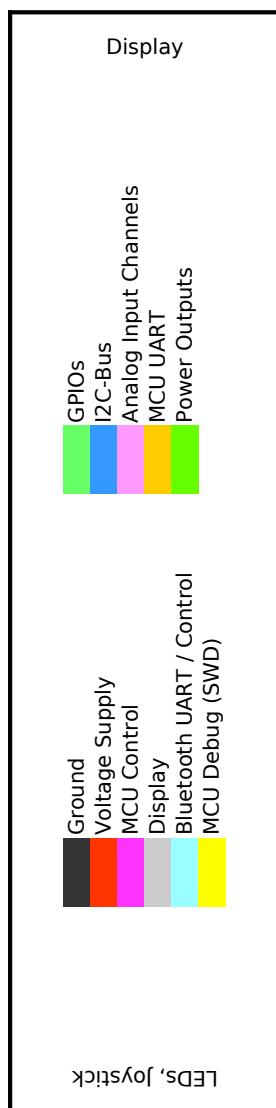
Embedded Systems & Applications

1 Specification

Operating voltage: 5 V

2

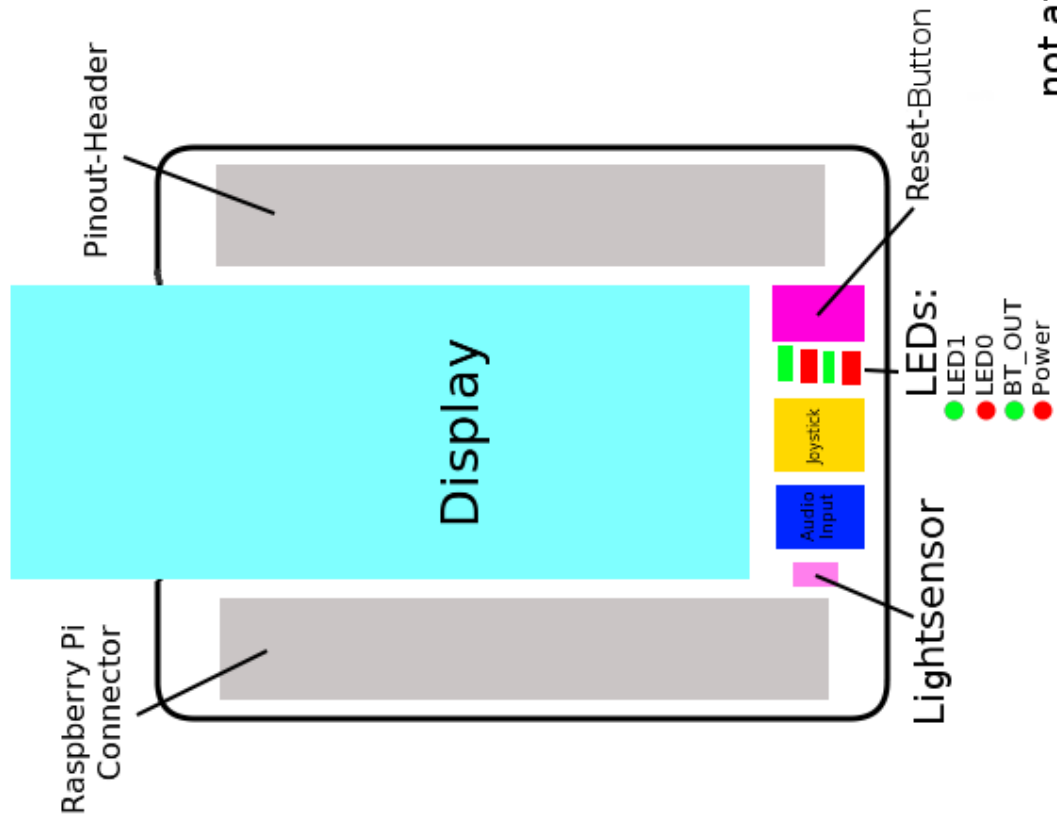
5V	5V		RX	TX	LED	10	9		DC		RESET	CE					GND		
	SDA	SCL								MOSI	MISO	SCK		SWCLK	SWD		GND		GND



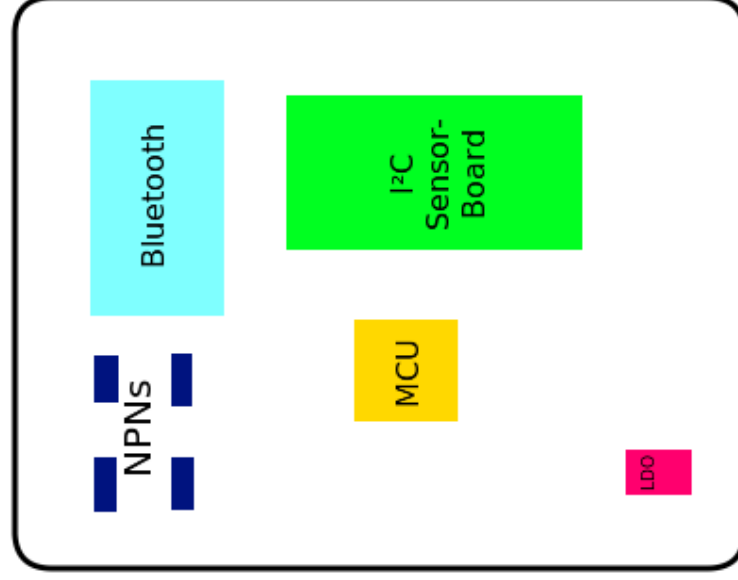
GND	GND	RX	MISO	MOSI	CE	TX	CTS	OUT	SWCLK	1	3	5	7	SCL	8	IN5	IN4	M2	M4
3.3V	5V	TX	Boot0*	SCK	NRST	RX	RTS	KEY	SWD	0	2	4	6	SDA	LIGHT	RIGHT	LEFT	M1	M3

Pinout Header

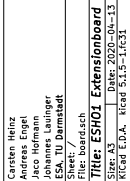
Front



Back

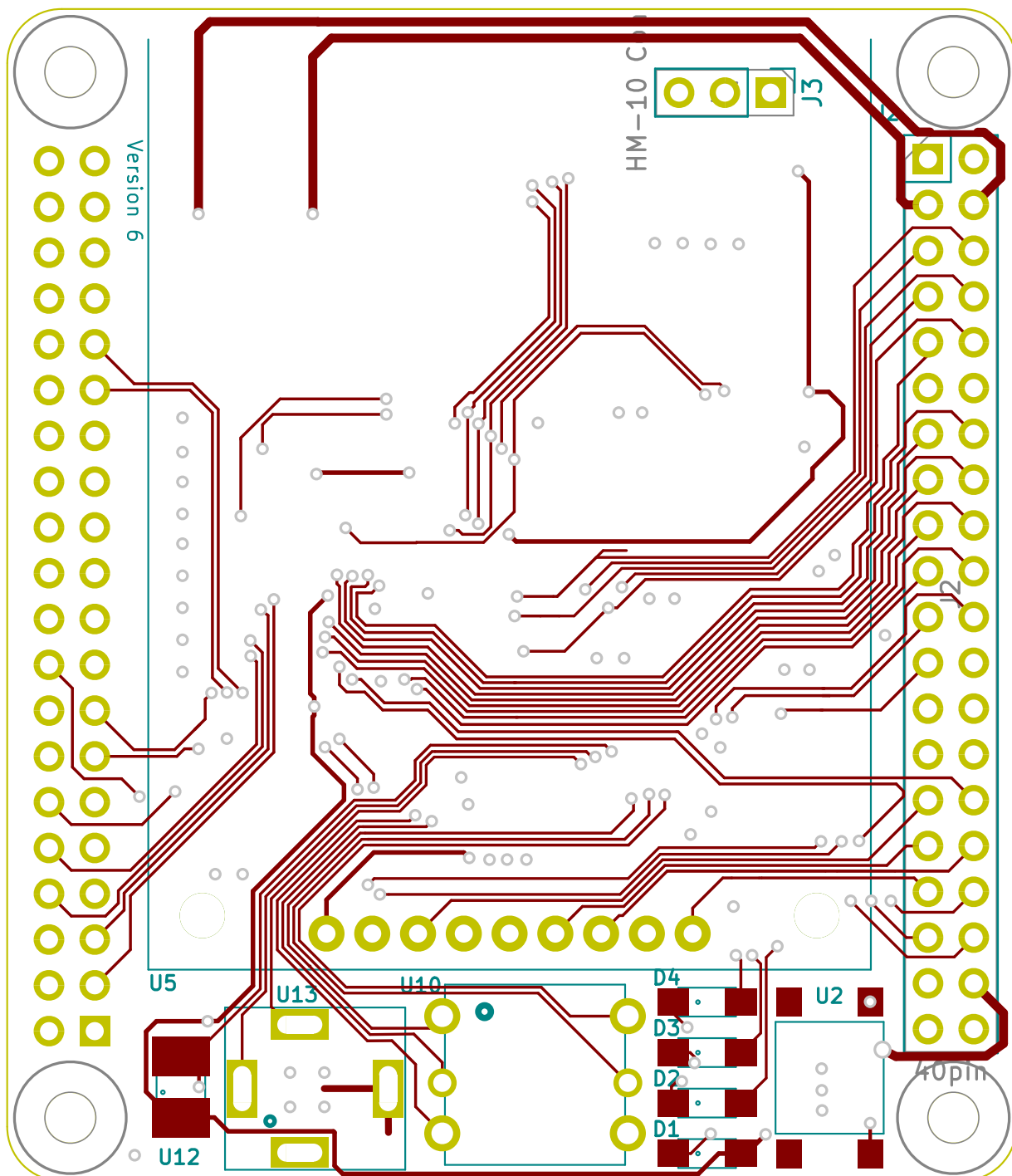


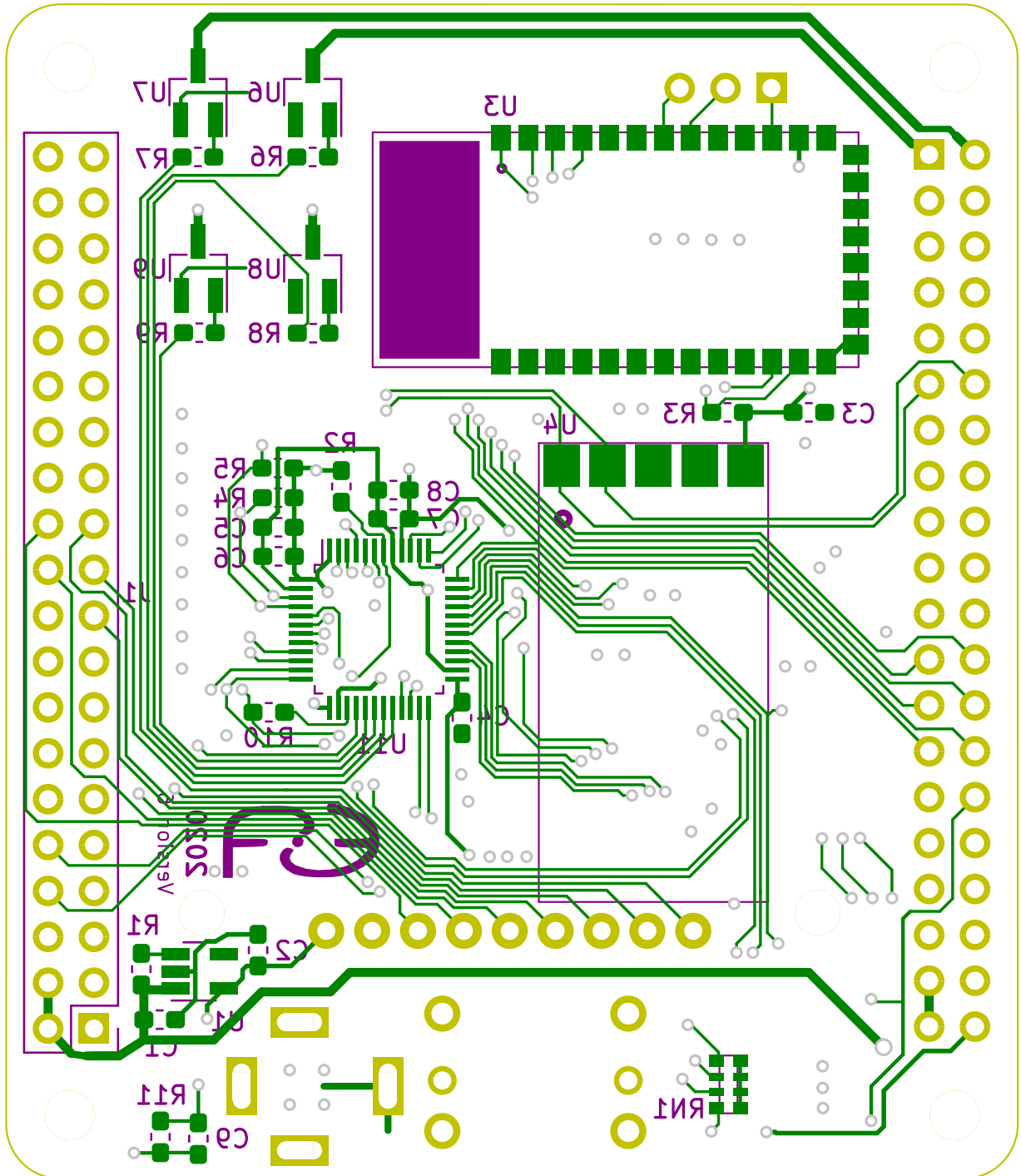
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5 PCB Layout





6 References for Relevant Components

Component	Name	Description	References
U1	MIC5504-3.3YM5-TR	Voltage Regulator	Datasheet
U2	MC32882	Reset Button	Datasheet
U3	HM-10	Bluetooth-Modul	Resources
U4	AltIMU-10_v5	Integriertes Sensor-Board	Distributor
U5	Ili9341	LCD-Display	Specification
U6,U7,U8,U9	BC817-25	NPN-Transistor	Datasheet
U10	SKQUCAA010	Joystick	Datasheet
U11	STM32F030CCT6	ARM Cortex-M0 Mikrocontroller	Datasheet
U12	KPS-3227SP1C	Lichtsensord	Datasheet
U13	SPC20504	40-Pin Header	Datasheet
U14	FC681374V	3.5mm Audio Jack	Datasheet
RN1	EXB38V101JV	100 Ω resistor array	Datasheet