

Bill of Materials

File name:	Mainboard.PrjPcb
Project:	Mainboard
Variant:	V1.0

Creation Date:	22.01.2024
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Designator	Component Description	Component Value	Footprint	JLC-Parts	Farnell	Mouser	Digkey	Quantity	Unit Price	Total Price
C1, C2, C8, C24, C29, C31, C52, C55, C57A, C57B, C57C, C57D, C58A, C58B, C58C, C58D	Multilayer Ceramic Capacitors MLCC, Multilayer Ceramic Capacitors	100nF 50V	SMD Keramikkondensator 0603	C14663	2210822, 2522432	810-CGA2B3X7R1H104K	445-8899-1-ND, 445-5666-1-ND	16	SFR, 0.01	SFR, 0.16
C3, C5, C7, C18, C28, C30, C53, C60A, C60B, C60C, C60D, C62A, C62B, C62C, C62D	Multilayer Ceramic Capacitors MLCC	10µF 50V	SMD Keramikkondensator 1206	C13585	1213070	963-LMK107BBJ-106MALT	587-3258-1-ND	15	SFR, 0.01	SFR, 0.15
C4, C6	Tantalum Capacitor	100µF 6.3V	SMD Tantalkondensator 1210 +	C16133	1135048	581-TAJB107K006R	478-1677-1-ND	2	SFR, 0.08	SFR, 0.16
C9, C27	Multilayer Ceramic Capacitors MLCC	1nF 3kV	SMD KERAMIKKONDENSATOR 1808	C173224	1886070	605-302R29W 102K1V4E	709-1047-1-ND	2	SFR, 0.06	SFR, 0.06
C10	Electrolytic Capacitor	22µF 100V	SMD Elko 6.3x7.7	C3456761				1	SFR, 0.06	SFR, 0.06
C11, C12	Multilayer Ceramic Capacitors	1µF 100V	SMD Keramikkondensator 1206	C13832	16567939	77-VJ1206Y104MXBAT	720-VJ1206Y104MXBATCT-ND	2	SFR, 0.01	SFR, 0.01
C13, C14	Multilayer Ceramic Capacitors MLCC	10nF 100V	SMD Keramikkondensator 0603	C302008	2470342	81-GCM188R72A103KA7D	490-4781-1-ND	2	SFR, 0.01	SFR, 0.02
C15, C26	Multilayer Ceramic Capacitors	1.5nF 50V	SMD Keramikkondensator 0603	C1595	2435474	810-CGA3E2X7R1H152K	445-6920-1-ND	2	SFR, 0.01	SFR, 0.02
C16, C17	Electrolytic Capacitor	470µF 6.3V	SMD Elko 6.3x7.7	C72520				2	SFR, 0.03	SFR, 0.06
C19	Multilayer Ceramic Capacitors MLCC	100nF 100V	SMD Keramikkondensator 0805	C28233	2470440	81-GCMC18R72A104MK4T	490-4788-1-ND	1	SFR, 0.01	SFR, 0.01
C20, C21, C22, C23	Multilayer Ceramic Capacitors MLCC	22nF 100V	SMD Keramikkondensator 0603	C161234	2494195	81-GCM188R72A223KA7D	490-4782-1-ND	4	SFR, 0.01	SFR, 0.04
C25, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C54, C59A, C59B, C59C, C59D, C61A, C61B, C61C, C61D	Multilayer Ceramic Capacitors, Multilayer Ceramic Capacitors MLCC	1µF 50V	SMD Keramikkondensator 0603	C15849	3013383	87-CL10A105K8BNNNC	1276-1860-1-ND	29	SFR, 0.01	SFR, 0.29
C32	Multilayer Ceramic Capacitors MLCC	220nF 50V	SMD Keramikkondensator 0603	C21120	3416121	810-C1608X7R1H224KAE	445-173612-1-ND	1	SFR, 0.01	SFR, 0.01
C35	Multilayer Ceramic Capacitors	47µF 50V	SMD Keramikkondensator 0603	C1671	1414639	80-C0603CA47UJ5G	399-C0603CA47U5GAC7867CT-ND	1	SFR, 0.01	SFR, 0.01
D1, D2, D15	Trench Schottky Barrier Rectifier	SDT10A45P5-13	SMD Diode PowerDi-5	C2987843	3344970	621-SDT10A45P5-13	31-SDT10A45P5-13CT-ND	3	SFR, 0.19	SFR, 0.57
D3, D4, D5, D6, D7, D9, D10, D11, D12	General Purpose Rectifier Diodes	51B-13-F	SMD Diode D0-214-AC	C156295	3127425	621-S1B-F	S1B-FDICT-ND	9	SFR, 0.03	SFR, 0.27
D8	Fast Switching Diode	1N4148WTR	SMD Diode SOD-123	C81598	2306363	760-1N4148W -HF	1655-1360-1-ND	1	SFR, 0.01	SFR, 0.01
D13	Low-Voltage Adjustable Precision Shunt Regulator	TLV431BCD82R	SMD IC SOT-23-3	C2156583		595-TLV431BCD82R	296-17569-1-ND	1	SFR, 0.59	SFR, 0.59
D16	Low Voltage Schottky-Diode	B5819W	SMD Diode SOD-123	C8598	2306495	833-B5819W1P	B5819W1PMSCT-ND	1	SFR, 0.03	SFR, 0.03
D18	ESD Suppressor	P34E1U06	SMD IC SOT-363 (SOT-70-6)	C194628	3116516	595-TPD4E1U06DCKR	296-9347-1-ND	1	SFR, 0.12	SFR, 0.12
K1	Phototransistor Optocoupler	FOD817ASD	SMD IC DIP-4	C241830	2322515	512-FOD817ASD	FOD817ASDDKR-ND	1	SFR, 0.25	SFR, 0.25
K2	MOSFET N-Channel	A03400A	SMD MOSFET SOT-23	C20917			785-1000-1-ND	1	SFR, 0.20	SFR, 0.20
K3	MOSFET N-Channel	2N7002	SMD MOSFET SOT-23	C8545	1713823	512-2N7002	2N7002NCT-ND	1	SFR, 0.02	SFR, 0.02
L1, L2, L3	Ferrite Bead	CRM01209U601T (600 Ohm @ 100MHz, 200mA)	SMD INDUCTOR FERRITE 0805	C130169	823-2586838	1R34-1A67-1-ND	1R34-1A67-1-ND	3	SFR, 0.01	SFR, 0.03
L4	Chip Inductor	27nH	SMD Inductor 0402	C12669	1404304	81-LOG15HS27N0J2D	490-2628-1-ND	1	SFR, 0.01	SFR, 0.01
M1, M2, M3, M4, M5	Solderable Standoff Nut	M3 4mm	SMD Solder-Nut (M3 4mm)	C2915635		153-SMTSO-M3-4ET	5-06-268-1-ND	5	SFR, 0.06	SFR, 0.30
P1, P3	General Purpose LED	Green (5mA, 2.4V)	SMD LED 0603	C1465991		645-598-8070-107F	350-2035-1-ND	2	SFR, 0.34	SFR, 0.68
P2, P22	General Purpose LED	Yellow (5mA, 2.1V)	SMD LED 0603	C72038	1967103	645-598-8050-107F	350-2033-1-ND	2	SFR, 0.34	SFR, 0.68
P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19, P20	Smart RGB LED	XL-0807RGBC-W52812B	SMD LED W-52812B-0807	C3646029				17	SFR, 0.34	SFR, 5.78
P21	General Purpose LED	Red (5mA, 2.0V)	SMD LED 0603	C2286	1465988	645-598-8010-107F	350-2029-1-ND	1	SFR, 0.34	SFR, 0.34
Q1	Electromagnetic Buzzer	MLT-8530	SMD Buzzer (MLT-8530)	C45499	1801084	539-AST200Q	458-1052-ND	1	SFR, 0.27	SFR, 0.27
R1, R2	Thick Film Chip Resistor	47k (75V, 100mW, 1%)	SMD Widerstand 0603	C25819	2303213	667-ERJ-3KF4702V	P47.0KHCT-ND	2	SFR, 0.01	SFR, 0.02
R3, R4, R24, R25, R34, R35, R39, R40	Thick Film Chip Resistor	5.1k (75V, 100mW, 1%)	SMD Widerstand 0603	C23186	2059378	667-ERJ-3KF5101V	P5.1KHCT-ND	8	SFR, 0.01	SFR, 0.08
R5	Thick Film Chip Resistor	270 (75V, 100mW, 1%)	SMD Widerstand 0603	C2296	2303086	667-ERJ-3KF2700V	P270HCT-ND	1	SFR, 0.06	SFR, 0.06
R6	Thick Film Chip Resistor	82k (75V, 100mW, 1%)	SMD Widerstand 0603	C23254	2303225	667-ERJ-3KF8202V	P82.0KHCT-ND	1	SFR, 0.01	SFR, 0.01
R7	Thick Film Chip Resistor	8.2 (75V, 100mW, 1%)	SMD Widerstand 0603	C322222	1171784	667-ERJ-3QF8R2V	P8.2AJCT-ND	1	SFR, 0.01	SFR, 0.01
R8, R30, R36, R37	Dickschicht Chipwiderstand	1k (75V, 100mW, 1%)	SMD Widerstand 0603	C21190	2303145	667-ERJ-3KF1001V	P1.0KHCT-ND	4	SFR, 0.01	SFR, 0.04
R9	Thick Film Chip Resistor	88.7k (75V, 100mW, 1%)	SMD Widerstand 0603	C23258	2303491	667-ERJ-3KF8872V	P88.7HCT-ND	1	SFR, 0.01	SFR, 0.01
R10	Thick Film Chip Resistor	24.3k (75V, 100mW, 1%)	SMD Widerstand 0603	C276290	2059442	667-ERJ-3KF2432V	P24.3KHCT-ND	1	SFR, 0.01	SFR, 0.01
R11, R12, R33, R41A, R41B, R41C, R41D, R42A, R42B, R42C, R42D	Thick Film Chip Resistor	10 (75V, 100mW, 1%)	SMD Widerstand 0603	C22859	2302958	667-ERJ-3KF10R0V	P10.0HCT-ND	11	SFR, 0.01	SFR, 0.11
R13	Thick Film Chip Resistor	4.7k (75V, 100mW, 1%)	SMD Widerstand 0603	C23162	2059378	667-ERJ-3KF4701V	P4.70KHCT-ND	1	SFR, 0.01	SFR, 0.01
R14	Thick Film Chip Resistor	36.5k (75V, 100mW, 1%)	SMD Widerstand 0603	C403185	2059461	667-ERJ-3KF3652V	P36.5KHCT-ND	1	SFR, 0.01	SFR, 0.01
R15	Thick Film Chip Resistor	750 (75V, 100mW, 1%)	SMD Widerstand 0603	C23241	2059323	667-ERJ-3KF7500V	P750HCT-ND	1	SFR, 0.01	SFR, 0.01
R16, R17, R18, R19	Thick Film Chip Resistor	75 (75V, 100mW, 1%)	SMD Widerstand 0603	C4275	2059282	667-ERJ-3KF75R0V	P75.0HCT-ND	4	SFR, 0.01	SFR, 0.04
R20	Thick Film Chip Resistor	3 (75V, 100mW, 1%)	SMD Widerstand 0603	C23157	3546376	71-CRCW0603R0300FKEAH	541-3.00SCT-ND	1	SFR, 0.01	SFR, 0.01
R21	Thick Film Chip Resistor	48.7 (75V, 100mW, 1%)	SMD Widerstand 0603	C2692820		667-ERJ-3KF48R7V	P48.7HCT-ND	1	SFR, 0.01	SFR, 0.01
R22	Thick Film Chip Resistor	0.62 (75V, 100mW, 1%)	SMD Widerstand 0603	C175661	3923404	603-RL0603FR-070R6ZL	311-620CT-ND	1	SFR, 0.01	SFR, 0.01
R23	Thick Film Chip Resistor	12.1k (75V, 100mW, 1%)	SMD Widerstand 0603	C22864	2059413	667-ERJ-3KF1212V	P12.1KHCT-ND	1	SFR, 0.01	SFR, 0.01
R26, R27, R28, R29, R31, R32, R38	Thick Film Chip Resistor	10k (75V, 100mW, 1%)	SMD Widerstand 0603	C25804	2303192	667-ERJ-3KF1002V	P10.0KHCT-ND	7	SFR, 0.01	SFR, 0.07
T1	LAN 10/100 Base-T Pulse Transformer with PoE	B16085	SMD Transformer 500x375	C507596	2325384	652-SM13126PEL	SM13126PELCT-ND	1	SFR, 0.24	SFR, 0.24
T2	PoE Power Transformer	749119950 (5V)	SMD Transformer 749119950			710-749119950	732-2432-1-ND	1	SFR, 5.42	SFR, 5.42
TP4	Ground-Clip	Ø 2.54mm (Black)	THT Messpunkt Ø2.54mm Schwarz	C238122	2301278	334-5001	36-5001-ND	1	SFR, 0.36	SFR, 0.36
U1	Linear Voltage Regulator	MC171T007-1802E (1.8V, 200mA)	THT MC171T007-1802E	C150796	1298591	719-MC171T007T1802ETT	MC171T007T1802ETTCT-ND	1	SFR, 0.37	SFR, 0.37
U2	RT1062 1MX ARM® Cortex®M7 MPU	Tsengy 4.1	THT Tsengy 4.1			474-DEV-16771	1568-DEV-16771-ND	1	SFR, 28.70	SFR, 28.70
U3	Low-Power Audio Codec with Headphones Driver	SI3404-A-GMR	SMD IC QFN-20	C461934	3387044	863-SI3404-A-GMRDKR-ND		1	SFR, 1.37	SFR, 1.37
U4	Digital Pressure Sensor	BMP388	SMD IC LGA-10	C779278		828-BMP388	828-1079-1-ND	1	SFR, 2.40	SFR, 2.40
U5	High-Performance eCompass Module	LSM303AGRTR	SMD IC LGA-12	C126671	2664523	511-LSM303AGRTR	497-16527-1-ND	1	SFR, 1.42	SFR, 1.42
U6	High Precision GNSS Module (GPS-RTK)	NEO-M8P-2	SMD NEO-M8P-2			3774-NEO-M8P-2	3774-NEO-M8P-2CT-ND	1	SFR, 134.10	SFR, 134.10
U7A, U7B, U7C, U7D	8-Channel PDM to I2S/TDM Converter	ADAU7118ACPZRL	SMD IC QFN-16	C654437	4033291	584-ADAU7118ACPZRL	505-ADAU7118ACPZRLCT-ND	4	SFR, 6.20	SFR, 24.80
X1, X6	USB Connector Type-C Vertical	KH-TYPE-C-L10-14P	THT USB-C Socket (KH-TYPE-C-L10-14P)	C2761226				2	SFR, 0.27	SFR, 0.54
X2	NE8FBV-C5-LED1-S	RS45 etherCON (Cat 5e)	THT CONNECTOR NE8FBV-C5-LED1-S			568-NE8FBV-C5-LED1-S		1	SFR, 20.67	SFR, 20.67
X3	Female Pin Header	SSW-10A07L-F-S	THT Buchsenleiste 4-Pol (1x4)	C5116530	2553979	200-S5W10A07-FS	SAM10018-ND	1	SFR, 0.07	SFR, 0.07
X4, X5	Pin Header SMD	64201-G0807L-F	SMD Pin-Header 1x7			649-64201-G0807L-F	609-54201-G0807L-F-ND	2	SFR, 1.32	SFR, 2.64
X7	SMA Connector	BW-SMA-KE-2001	THT SMA-Connector (Vertical)	C496549	2586281	200-SMAJHPSTH1T	SAM8971-1-ND	1	SFR, 0.30	SFR, 0.30
X8A, X8B, X8C, X8D, X8A, X9B, X9C, X9D	SMA Connector (10-Pin, Slide-Lock, Bottom Contact)	AFA07-S10FCC-00	SMD Connector (AFA07-S10FCC-00)	C52162	3873345	640-FFC3807-10-T	2073-FFC3807-10-TCT-ND	1	SFR, 0.09	SFR, 0.72
										SFR, 231.34

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