BOM: SwissSkills 2020 HW-Design

Author: PEX "HW-Design"　　　　date: 25.10.2020　　　　Version: 1

Pos.	Ref Des	Part	Typ	Producer	Footprint	Distributor	Part-No.	Amount	Price	Total
1	-	PCB	SwissSkills2020HWDesign					1		
2	U1	ESP32-Pico-Kit	WLAN Development Tools (802.11) ESP32-PICO-D4 Development Board	Espressif Systems	DIL40-W	Mouser	356-ESP32-PICO-KIT	1	9.15	9.15
3	U3	IR-Receiver Module	TSOP38138, 2.5 .. 5.5V, 38kHz, 45m, 45°	Vishay	THT-5x4.8x6.95mm	Farnell	2251356	1	0.54	0.54
4	V3	IR-Transmitter	TSAL4400, 3mm, 25°, 100mA, 1.35V, 940nm, 800ns	Vishay	T-1	Farnell	1045420	1	0.30	0.30
5	V4-V9	RGB-LED	WS2812B, RGB-LED, 5V	Worldsemi	SMD	Digikey	1568-COM-16346-ND	6	0.46	2.73
6	V1	LED green	KPT-2012ZGC	Kingbright	0805	Vibratec	-	1	0.15	0.15
7	V2	LED blue	KPT-2012QBC-D	Kingbright	0805	Vibratec		1	0.15	0.15
8	U2	TFT-Display	TFT01-1.8SP, 1.8", TFT, 160x128, SPI, 3.3V, ST7735, SD-Card 2GB	-	-	AliExpress	45060	1	1.50	1.50
9	LS1	Piezo	AT-1224-TWT-5V-2-R, 5V, 40mA, 2.4KHz, 87dB	PUI Audio Inc.	THT	Digikey	668-1470-ND	1	0.42	0.42
10	T1-T2	Transistor	BC817-40; NPN, 300mW, 45V, 500mA, 250hFE, 170MHz	Multicomp	SOT-23	Farnell	1798081	1	0.06	0.06
11	S1	Swich On/Off	1101M2S3AQE2, SPDT, 0.4VA, 250V, 6A	C&K	THT	Mouser	611-1101M2S3AQE2	1	3.26	3.26
12	S2	Button 90°	B3F-3150, SPST, 90°, 1N, 24VDC, 50mA	Omron	THT	Mouser	653-B3F-3150	1	0.35	0.35
13	S3-S6	Button	MCDTS2-4N, SPST, NO, 12V, 50mA	Multicomp	THT	Farnell	9471634	4	0.25	0.99
14	S7-S8	DIP-Switch 8-channel	A6H-8102-PM, SPST, 8Pos, 24VDC, 25mA	Omron Electronic	SMD-RM=1.27mm	Mouser	653-A6H8102PM	2	1.52	3.04
15	P1	Trimmpotentiometer	3314J-1-103E, 10k, 250mW, 240°, linear	Bourns	SMD-4mm^2	Mouser	652-3314J-1-103G	1	1.37	1.37
16	R9 & R11	Resistor	100Ω		0805			1	0.05	0.05
17	R1, R2, R8 & R10	Resistor	2.2kΩ		0805			4	0.05	0.20
18	R3-R7 & R12	Resistor	10kΩ		0805			6	0.05	0.30
19	C5-C10	Capacitor	100nF		0805			6	0.05	0.30
20	C1-C3	Capacitor	10uF		0805			3	0.05	0.15
21	C4	Capacitor	4.7uF		0805			1	0.05	0.05
22	X1	USB-Connector	897-43-005-00-100001, RCPT Mini Type B, 1A	Mill-Max	SMD	Mouser	575-89743005	1	0.76	0.76
23	X2	Pin-Header 1x2	MTSW-102, 1 row, 2 position, 4.7A	Samtec	THT-RM=2.54mm			1	0.05	0.05
24	X3	Pin-Socket 2x5	SSW-105-02-T-D-RA, 2 row, 5 position, 90°, 4.7A	Samtec	THT-RM=2.54mm	Farnell	2308470	1	0.86	0.86
25	J1 & J2	Pin-Header 1x17	MTSW-117, 1 row, 17 position, 4.7A	Samtec	THT-RM=2.54mm			2	0.25	0.50
26	-	Pin-Socket 1x17 for U1	SSW-117-01-T-S, 1 row, 17 position, 4.7A	Samtec	THT-RM=2.54mm	Farnell	2779593	2	1.17	2.34
27	-	Pin-Socket 1x4 for U2	Pin-Socket, 1x4		THT-RM=2.54mm			1	0.25	0.25
28	-	Pin-Socket 1x8 for U2	Pin-Socket, 1x8		THT-RM=2.54mm			1	0.50	0.50
		Components for Engineering (=> Amount = Limit!)								
40		IC: OPV	MCP6002T-I/SN, 2 channel, 1.8 .. 5.5V, 23mA, 1MHz	Microchip	SOIC-8	Mouser	579-MCP6002T-I/SN	2	0.26	0.51
41		IC: ADC	MCP3428-E/SL, ADC, 16bit delta-sigma, 4 channels	Microchip	SOIC-14	Mouser	579-MCP3428E/SL	1	2.71	2.71
42		IC: Timer	NE555DR, Precision Timer, TTL, 4.5V … 16V	TI	SOIC-8	Mouser	595-NE555DR	1	0.24	0.24
43		IC: Logic Multifunctional	SN74LVC1G97DBVR, Cnfgrble Mult Function Gate, 1.65V … 5.5V	TI	SOT-23-6	Mouser	595-SN74LVC1G97DBVR	3	0.13	0.40
44		IC: Logic D-FF	SN74LVC1G175DBVR, D-FlipFlop, 1.65V … 5.5V	TI	SOT-23-6	Mouser	595-SN74LVC1G175DBVR	3	0.10	0.29
45		IC: Logic Inverter	SN74LVC1G14DBVR, SchmittTrigger Inverter, 1.65V … 5.5V	TI	SOT-23-5	Mouser	595-SN74LVC1G14DBVR	3	0.08	0.23
46		Transistor	BC817-40; NPN, 300mW, 45V, 500mA, 250hFE, 170MHz	Multicomp	SOT-23	Farnell	1798081	2	0.06	0.13
47		Schottky-Diode	SD0805S020S1R0, 1A Vf=0.45V, Vr=20V	AVX	0805	Mouser	581-SD0805S020S1R0	4	0.18	0.71
48		Ambient Light Sensor	TEMT6200FX01, Ohot Sensor, Top View, 550nm,	Vishay	0805	Digikey	751-1056-1-ND	4	0.59	2.36
49		Resistor	different values		0805					
50		Capacitor	different values		0805					
		Total								37.90