Bill of Materials

PCB Name: PX-HERO Board
PCB Number: P0012
PCB Revision: D
BOM Number: P0012
BOM Revision: D
Variant: deluxe edition
Date: 2019-06-10
Engineer: Pieter Conradie
Template revision: 05

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#	Part ID	Quantity	Fitted	Group	Designator	Description	Note	Footprint ID	Value	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
1	CAP00001	15	Fitted	Electronics SMT	C1, C2, C3, C4, C6, C8, C12, C13, C14, C15, C18, C21, C27, C29, C38	Capacitor 0603 100n 10% X7R 16V		0603	100n	SAMSUNG	CL10B104KO8NNWC	Digi-Key	1276-1939-1-ND
2	CAP00006	3	Fitted	Electronics SMT	C5, C28, C36	Capacitor 0805 10u 10% X5R 16V		0805	10u	SAMSUNG	CL21A106KOQNNNG	Digi-Key	1276-6455-1-ND
3	CAP00002	3	Fitted	Electronics SMT	C7, C22, C23	Capacitor 0603 1u 10% X5R 16V		0603	1u	SAMSUNG	CL10A105KO8NNNC	Digi-Key	1276-1034-1-ND
4	CAP00014	2	Fitted	Electronics SMT	C9, C10	Capacitor 0603 18p 5% COG 50V		0603	18p	Samsung	CL10C180JB8NNNC	Digi-Key	1276-1089-1-ND
5	CAP00003	2	Fitted	Electronics SMT	C16, C34	Capacitor 0603 10n 10% X7R 50V		0603	10n	SAMSUNG	CL10B103KB8NCNC	Digi-Key	1276-1921-1-ND
6	CAP00008	4	Fitted	Electronics SMT	C17, C32, C33, C35	Capacitor 0805 4u7 10% X5R 16V		0805	4u7	SAMSUNG	CL21A475KOFNNNE	Digi-Key	1276-1065-1-ND
7	CAP00004	2	Fitted	Electronics SMT	C19, C20	Capacitor 0603 47p 5% COG 50V		0603	47p	Kemet	C0603C470J5GAC	Digi-Key	399-1056-1-ND
8	OPT00020	4	Fitted	Electronics SMT	D1, D2, D4, D7	LED,SMD,0603,Red,99mcd,130deg		0603	LTST-C190KRKT	LITE-ON	LTST-C190KRKT	Digi-Key	160-1436-1-ND
9	DIO00007	3	Fitted	Electronics SMT	D5, D8, D9	Diode Schottky Dual Common Cathode SOT23 BAS40-05 0.12A 40V		SOT23	BAS40-05	ROHM	BAS40-05HMFHT116	Digi-Key	BAS40-05HMFHT116CT-ND
10	DIO00001	1	Fitted	Electronics SMT	D6	Diode Schottky SMA B140-13-F 1A 40V		SMA	B140-13-F	Diodes Inc.	B140-13-F	Digi-Key	B140-FDICT-ND
11	OPT00019	1	Fitted	Electronics THT	DS1	128x64 Monochrome LCD with backlight		SMD	JHD12864-G176BSW	JHDLCM	JHD12864-G176BSW	Alibaba	positive replacement lcd display JHD12864-G176BSW-G
12	IND00001	4	Fitted	Electronics SMT	FB1, FB2, FB3, FB4	Ferrite Bead 0603 BLM18BB151SN1D 20% 0.5A 150R		0603	BLM18AG151SN1D	Murata	BLM18AG151SN1D	Digi-Key	490-5244-1-ND
13	CON00041	1	Fitted	Kit	H1	Header, 2x20, Leaded, 2.54mm pitch, Vertical		Leaded	PRPC020DABN-RC	Sullins	PRPC020DABN-RC	Digi-Key	S2021EC-20-ND
14	CON00039	1	Fitted	Electronics SMT	H2	Connector, 1x4, SMD, 1mm pitch, Wire to board connector		SMD	BM04B-SRSS-TB(LF)(SN)	JST	BM04B-SRSS-TB(LF)(SN)	Digi-Key	455-1790-1-ND
15	CON00040	1	Fitted	Kit	H3	Connector, 1x4, Leaded, 2mm pitch, Wire to board connector		Leaded	110990030	Seeed	110990030	Seeed	110990030
16	CON00012	1	Fitted	Electronics THT	H5	Header, 1x5, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-05GB01	Pinrex	210-71-05GB01	Digi-Key	732-5318-ND
17	CON00014	1	Fitted	Kit	H9	Connector, 1x2, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	B2B-PH-K-S	JST	B2B-PH-K-S	Digi-Key	455-1704-ND
18	CON00032	2	Fitted	Electronics SMT	J1, J2	Connector, 1x5, SMD&TH, 0.65mm pitch, Micro USB Receptacle type B		SMD	10118194-0001LF	FCi	10118194-0001LF	Digi-Key	609-4618-1-ND
19	CON00046	1	Fitted	Electronics SMT	J3	Connector, 1x10, SMD, 1.1mm pitch, Micro SD Push-push connector		SMD	TF-01	Shenzhen Best El	TF-01	seeed	320090008
20	CON00037	1	Fitted	Electronics SMT	J4	Connector, 1x10, SMD, 1mm pitch, Bot contact		SMD	979-33-51061A	Pinrex	979-33-51061A	Arrow Altech	979-33-51061A
21	IND00012	1	Fitted	Electronics SMT	L1	Inductor Polarized SMD 10u 20% 1.2A 0.18R		SMD	10u	TAIYO YUDEN	NRS4018T100MDGJ	Digi-Key	587-2886-1-ND
22	SEN00012	1	Fitted	Electronics SMT	LS1	Speaker Leaded PS1240P02BT		Leaded	PS1240P02BT	TDK	PS1240P02BT	Digi-Key	445-2526-1-ND
23	MEC00021	1	Fitted	PCB	PCB1	P0014 ST STM32L072RB Hero Board			P0014				
24	TRA00004	1	Fitted	Electronics SMT	Q1	MOSFET P SOT23 DMP2305U-7 4.2A 20V		SOT23	DMP2305U-7	Diodes Inc.	DMP2305U-7	Digi-Key	DMP2305UDICT-ND
25	TRA00003	2	Fitted	Electronics SMT	Q2, Q3	MOSFET P SOT23 BSS84 0.13A 50V		SOT23	BSS84	Diodes Inc.	BSS84-7-F	Digi-Key	BSS84-FDICT-ND
26	TRA00009	1	Fitted	Electronics SMT	Q4	MOSFET N SOT23 BSS138 0.2A 50V		SOT23	BSS138	Diodes Inc.	BSS138-7-F	Digi-Key	BSS138-FDICT-ND
27	RES00004	3	Fitted	Electronics SMT	R1, R2, R4	Resistor SMD Metal Film 0603 4k7 1% 100mW		0603	4k7	YAGEO	RC0603FR-**4K7L	Digi-Key	311-4.70KHRCT-ND
28	RES00005	5	Fitted	Electronics SMT	R3, R33, R35, R37, R39	Resistor SMD Metal Film 0603 10k 1% 100mW		0603	10k	YAGEO	RC0603FR-**10KL	Digi-Key	311-10.0KHRCT-ND
29	RES00006	8	Fitted	Electronics SMT	R5, R12, R13, R20, R30, R32, R34, R38	Resistor SMD Metal Film 0603 56k 1% 100mW		0603	56k	YAGEO	RC0603FR-**56KL	Digi-Key	311-56KHRCT-ND
30	RES00009	1	Fitted	Electronics SMT	R6	Resistor SMD Metal Film 0603 270R 1% 100mW		0603	270R	YAGEO	RC0603FR-**270RL	Digi-Key	311-270HRCT-ND
31	RES00003	3	Fitted	Electronics SMT	R7, R8, R19	Resistor SMD Metal Film 0603 27R 1% 100mW		0603	27R	YAGEO	RC0603FR-**27RL	Digi-Key	311-27.0HRCT-ND
32	RES00002	6	Fitted	Electronics SMT	R9, R10, R11, R25, R28, R29	Resistor SMD Metal Film 0603 1k 1% 100mW		0603	1k	YAGEO	RC0603FR-071KL	Digi-Key	311-1.00KHRCT-ND
33	RES00019	1	Fitted	Electronics SMT	R31	Resistor SMD Metal Film 0603 36k 1% 100mW		0603	36k	YAGEO	RC0603FR-**36KL	Digi-Key	311-36.0KHRCT-ND
34	RES00015	1	Fitted	Electronics SMT	R40	Resistor SMD Metal Film 0603 1M 1% 100mW		0603	1M	YAGEO	RC0603FR-**1ML	Digi-Key	311-1.00MHRCT-ND
35	MEC00028	7	Fitted	Electronics SMT	S1, S2, S3, S4, S5, S6, S7	Push Button, SMD Gull Wing, SPST-NO, 6mm x 6mm outline, 5mm height		SMD	PTS645SL50SMTR92 LF	C&K	PTS645SL50SMTR92 LF	Digi-Key	CKN9088CT-ND
36	IC00042	1	Fitted	Electronics SMT	U1	Ultra-low-power 32-bit MCU ARM Cortex-M0+, up to 128 KB Flash memory, 20 KB SRAM, 2		LQFP64	STM32L072RBT6	ST Microelectron	STM32L072RBT6	Digi-Key	497-17504-ND
37	IC00046	1	Fitted	Electronics SMT	U2	1-MHz, 350-mA, 3.3V Step-Down DC-DC Converter		SOT23-5	LM3670MF-3.3/NOPB	Texas Instrument	LM3670MF-3.3/NOPB	Digi-Key	LM3670MF-3.3/NOPBCT-ND
38	IC00012	1	Fitted	Electronics SMT	U3	Single-Cell, Fully Integrated Li-Ion Li-Polymer Charge Management Controller		SOT23-5	MCP73831T-2ATI/OT	Microchip	MCP73831T-2ATI/OT	Digi-Key	MCP73831T-2ATI/OTCT-ND
39	IC00045	1	Fitted	Electronics SMT	U4	4-Mbit 2.5V SPI Serial Flash Memory		SO8	AT25SF041-SSHD-B	adesto	AT25SF041-SSHD-B	Digi-Key	1265-1174-5-ND
40	IC00001	1	Fitted	Electronics SMT	U6	USB to BASIC UART IC (Rev D+)	Must be Rev. D or later!	SSOP16	FT230XS-*	FTDI Chip	FT230XS-*	Digi-Key	768-1135-1-ND
41	IC00050	1	Fitted	Electronics SMT	U7	Bus buffer/line driver; 3-state		SC70	74LVC1G125GW,125	NXP	74LVC1G125GW,125	Digi-Key	1727-3488-1-ND
42	OSC00003	1	Fitted	Electronics SMT	Y1	Crystal SMD 32.768kHz 20ppm -40/85C 12.5pF		SMD	32.768kHz	WTL	WTL1M32122	Digi-Key	1908-1341-1-ND
43	CAP00001	0	Not Fitted	Electronics SMT	C11, C24	Capacitor 0603 100n 10% X7R 16V		0603	100n	SAMSUNG	CL10B104KO8NNWC	Digi-Key	1276-1939-1-ND
44	CAP00012	0	Not Fitted	Electronics SMT	C25, C26, C30, C31	Capacitor 0805 100n 10% X7R 50V		0805	100n	Kemet	C0805X104K4RACTU	Digi-Key	399-5331-1-ND
45	CAP00003	0	Not Fitted	Electronics SMT	C37	Capacitor 0603 10n 10% X7R 50V		0603	10n	SAMSUNG	CL10B103KB8NCNC	Digi-Key	1276-1921-1-ND
46	DIO00002	0	Not Fitted	Electronics SMT	D3	Diode Schottky Dual Common Anode-Cathode SOT23 BAS40-04 0.12A 40V		SOT23	BAS40-04	Diodes Inc.	BAS40-4-7-F	Digi-Key	BAS40-04FDICT-ND
47	CON00043	0	Not Fitted	Electronics SMT	H4	Header, 1x4, SMD, 2.54mm pitch, Vertical		SMD	M20-8770442	Harwin	M20-8770442	Digi-Key	952-2353-ND
48	CON00042	0	Not Fitted	Electronics SMT	H6	Header, 2x4, SMD, 1.27mm pitch, Vertical		SMD	20021121-00010T4LF	FCi	20021121-00010T4LF	Digi-Key	609-3729-ND
49	CON00007	0	Not Fitted	Kit	H7, H11, H12, H13, H18	Header, 1x2, Vertical, 2.54mm pitch		Leaded	210-71-02GB01	Pinrex	210-71-02GB01	Digi-Key	732-5315-ND
50	CON00011	0	Not Fitted	Kit	H8	Connector, 1x3, Leaded Vertical, 2mm pitch, Wire to board connector		Leaded	53253-0370	Molex	53253-0370	Digi-Key	WM19005-ND
51	CON00033	0	Not Fitted	Kit	H10	Header, 1x3, Leaded, 2.54mm pitch, Vertical		Leaded	210-71-03GB01	Pinrex	210-71-03GB01	Digi-Key	732-5316-ND
52	CON00029	0	Not Fitted	Kit	JP7, JP10, JP11, JP12	Jumper, 2 Way, 2.54mm		SMD	QPC02SXGN-RC	Sullins	QPC02SXGN-RC	Digi-Key	S9337-ND
53	SEN00007	0	Not Fitted	Electronics SMT	LS2	Speaker PKLCS1212E4001-R1		SMD	PKLCS1212E4001-R1	Murata	PKLCS1212E4001-R1	Digi-Key	490-4683-1-ND
54	RES00006	0	Not Fitted	Electronics SMT	R14, R36	Resistor SMD Metal Film 0603 56k 1% 100mW		0603	56k	YAGEO	RC0603FR-**56KL	Digi-Key	311-56KHRCT-ND
55	RES00008	0	Not Fitted	Electronics SMT	R17, R18, R23, R24	Resistor SMD Metal Film 0805 1k 1% 125mW		0805	1k	YAGEO	RC0805FR-**1KL	Digi-Key	311-1.00KCRTR-ND
56	RES00001	0	Not Fitted	Electronics SMT	R26, R27	Resistor SMD Metal Film 0603 0R 1% 100mW		0603	0R	YAGEO	RC0603FR-**0RL	Digi-Key	311-0.0HRTR-ND
57	IC00044	0	Not Fitted	Electronics SMT	U5	Very low capacitance ESD protection for USB		SOT23-6	82400102	Wurth	82400102	Digi-Key	732-4473-1-ND