Kelly Designs

Explorer HAT
PN: 1277
Rev P1

As of: 7/27/2017
Patrick Kelly, Jack Kelly

Item	Qty	Location (*bottom*)	Mfg Part #	Description	Rating	Footprint	Mfg	Mouser	DigiKey	Notes	$ each	Total
1	1	*A1*	SR4C033-L	RF Chip Antenna 791-960 MHz Left		SMD	Antenova	237-SR4C033-L	627-1094-1-ND		1.850	1.850
2	2	*C6* , *C7*	GRM1555C1H180JA01D	Cap Cer 18pF 50V COG 5% 0402	COG	0402	Murata	81-GRM1555C1H180JA1D	490-5858-1-ND		0.006	0.012
3	7	C1, C2, C5, C9, C21, C22, C24	CC0603KRX7R7BB104	Cap Cer 0.1uF 16V X7R 10% 0603	X7R	0603	Yageo	603-CC603KRX7R7BB104	311-1088-1-ND		0.005	0.035
4	7	*C12* , *C13* , *C14* , *C15* , C16, C17, *C23*	GRM155R71C104KA88J	Cap Cer 0.1uF 16V X7R 10% 0402	X7R	0402	Murata	81-GRM155R71C104KA8J	490-6328-1-ND		0.006	0.042
5	2	C3, C4	CC0603KRX5R7BB475	Cap Cer 4.7uF 16V X5R 10% 0603	X5R	0603	Yageo	603-CC603KRX5R7BB475	311-1785-1-ND		0.072	0.144
6	1	C8	GRT188R61C106KE13D	Cap Cer 10uF 6.3V X5R 10% 0603	X5R	0603	Murata	81-GRT188R61C106KE3D	490-12317-1-ND		0.154	0.154
7	1	C10	CC1206KKX7R6BB225	Cap Cer 2.2uF 10V X7R 10% 1206	X7R	1206	Yageo	603-CC126KKX7R6BB225	311-1953-1-ND		0.037	0.037
8	1	C11	GRM31CR60J107KE39L	Cap Cer 100uF 6.3V X5R 10% 1206	X5R	1206	Murata	81-GRM31CR60J107KE9L	490-13982-1-ND		0.290	0.290
9	1	C15	GRM1555C1H2R2CA01D	Cap Cer 2.2pF 50V COG +/-0.25pF 0402	COG	0402	Murata	81-GRM1555C1H2R2CA1D	490-5932-1-ND		0.007	0.007
10	1	C17	GRM1555C1H221JA01D	Cap Cer 220pF 50V COG 5% 0402	COG	0402	Murata	81-GRM1555C1H221JA01	490-1293-1-ND		0.009	0.009
11	3	*C18* , C25, C26	CC0603KRX5R5BB475	Cap Cer 4.7uF 6.3V X5R 10% 0603	X5R	0603	Yageo	603-CC603KRX5R5BB475	311-1521-1-ND		0.025	0.075
12	1	*C19*	LMK105BJ105KV-F	Cap Cer 1uF 10V X5R 10% 0402	X5R	0402	Taiyo Yuden	963-LMK105BJ105KV-F	587-1454-1-ND		0.023	0.023
13	1	*C20*	GRM1555C1HR50WA01D	Cap Cer 0.5pF 50V COG +/-0.05pF 0402	COG	0402	Murata	81-GRM1555C1HR50WA1D	490-6264-1-ND		0.019	0.019
14	3	*D1* , *D3* , *D4*	LTST-C190KRKT	LED Red Clear 0603		0603	Lite-On	859-LTST-C190KRKT	160-1436-1-ND		0.068	0.204
15	1	*D2*	LTST-C191KFKT	LED Orange Clear 0603		0603	Lite-On	859-LTST-C191KFKT	160-1445-1-ND		0.068	0.068
16	1	D5	MBRA340T3G	Diode Schotty 40V 3A SMA Low Drop		SMA	On Semi	863-MBRA340T3G	MBRA340T3GOSCT-ND		0.224	0.224
17	1	F1	0ZCK0100FF2E	Fuse PTC Resttable 1.0A 6V Chip 0805		0805	Bel Fuse	530-0ZCK0100FF2E	507-1815-1-ND		0.185	0.185
18	1	J1	CS25582-40G-M36-0A	Conn Socket 2x20 0.100 in Short SMD		0.100	Kaweei Tech	NA	NA (AdaFruit ID: 2187)	1,6	1.950	1.950
19	1	J2	S2B-PH-SM4-TB(LF)(SN)	Conn Header PH Side 2 Pos 2mm SMD		SMD	JST	NA	455-1749-1-ND		0.419	0.419
20	0	*J3*	20021121-00010C4LF	Conn Header 10 Pos DL 0.050 in SMD		SMD	Amphenol	649-202112100010C4LF	609-3695-1-ND		0.606	0.000
21	0	*J4*	68000-404HLF	Header 4 Pos 0.100 in Str Tin		0.100	Amphenol	649-68000-404HLF	609-3262-ND	1,6	0.155	0.000
22	0	*J5*	M22-2510246	Header 2 Pos 2mm		2mm	Harwin	855-M22-2510246	952-2280-ND	6	0.082	0.000
23	0	*J5 Shunt*	M22-1900005	Shunt Jumper 2mm		2mm	Harwin	855-M22-1900005	952-1305-ND		0.215	0.000
24	1	L1	CDRH103RNP-6R8NC-B	Inductor 6.8uH 3.6A 35 Mohm SMD			Sumida	851-CDRH103RNP6R8NCB	CDRH103RNP-6R8NC-B-ND		1.080	1.080
25	1	*L2*	LQG15HN33NH02D	Inductor 33nH 300mA 670 mOhm 0402		0402	Murata	81-LQG15HN33NH02D	490-15080-1-ND		0.048	0.048
26	1	*L3*	LQG15HN3N3C02D	Inductor 3.3nH 800mA 120Mohm 0402		0402	Murata	81-LQG15HN3N3C02D	490-15083-1-ND		0.048	0.048
27	1	Q1	FDN340P	MOSFET P-Chan 20V 2A SSOT-3		SSOT-3	On Semi	512-FDN340P	FDN340PCT-ND		0.157	0.157
28	1	Q2	MMUN2133LT1G	Trans Prebias PNP 246mW SOT23-3		SOT23-3	On Semi	863-MMUN2133LT1G	MMUN2133LT1GOSCT-ND		0.039	0.039
29	1	Q3	MMBT2222ALT1G	Trans NPN 40V 0.6A SOT-23		SOT-23	On Semi	863-MMBT2222ALT1G	MMBT2222ALT1GOSCT-ND		0.034	0.034
30	1	R1	RC0603FR-07750KL	Res 750K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07750KL	311-750KHRCT-ND		0.006	0.006
31	1	R2	RC0603FR-07249KL	Res 249K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07249KL	311-249KHRCT-ND		0.006	0.006
32	1	R3	RC0603FR-071K62L	Res 1.62K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-071K62L	311-1.62KHRCT-ND		0.006	0.006
33	2	R5, R17	RC0603FR-071KL	Res 1.0K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-071KL	311-1.00KHRCT-ND		0.006	0.012
34	0	R12, R13	RC0603FR-072KL	Res 2.0K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-072KL	311-2.00KHRCT-ND		0.006	0.000
35	4	R10, R20, *R14* , *R15*	RC0603FR-072KL	Res 2.0K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-072KL	311-2.00KHRCT-ND		0.006	0.024
36	1	R4	RC0603FR-074K7L	Res 4.7K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-074K7L	311-4.70KHRCT-ND		0.006	0.006
37	1	R6	RC0603FR-071M74L	Res 1.74M Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-071M74L	RC0603FR-071M74L-ND		0.003	0.003
38	1	R8	CRCW06032M10FKEA	Res 2.1M Ohm 1% Thick Film 0603	1%	0603	Vishay Dale	71-CRCW06032M10FKEA	541-2.10MHCT-ND		0.014	0.014
39	1	R7	RC0603FR-07200KL	Res 200K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07200KL	311-200KHRCT-ND		0.006	0.006
40	1	R9	RC0603FR-07340KL	Res 340K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07340KL	311-340KHRCT-ND		0.006	0.006
41	2	R18, R19	RC0603FR-073K9L	Res 3.9K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-073K9L	311-3.90KHRCT-ND		0.006	0.012
42	1	R21	RC0603FR-074K99L	Res 4.99K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-074K99L	311-4.99KHRCT-ND		0.006	0.006
43	1	R22	RC0603FR-07665KL	Res 665K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07665KL	311-665KHRCT-ND		0.006	0.006
44	1	R23	RC0603FR-07402KL	Res 402K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-07402KL	311-402KHRCT-ND		0.006	0.006

45	1	R24	RC0603FR-0747KL	Res 47K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-0747KL	311-47.0KHRCT-ND		0.006	0.006
46	1	R25	RC0603FR-078K06L	Res 8.06K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-078K06L	311-8.06KHRCT-ND		0.006	0.006
47	1	R11	RC0603FR-0710KL	Res 10K Ohm 1% Thick Film 0603	1%	0603	Yageo	603-RC0603FR-0710KL	311-10.0KHRCT-ND		0.003	0.003
48	1	*R16*	RC0402FR-0756KL	Res 56K Ohm 1% Thick Film 0402	1%	0402	Yageo	603-RC0402FR-0756KL	311-56.0KLRCT-ND		0.005	0.005
49	1	SW1	JS102011JAQN	Switch Slide SPDT 300mA 6V SMD			C&K	611-JS102011JAQN	CKN10720CT-ND		0.350	0.350
50	2	*SW2* , *SW3*	PTS645SK43SMTR92 LFS	Switch Tactile SPST-NO 0.05A 12V SMT			C&K	611-PTS645SK43SMTR92	CKN9084CT-ND		0.176	0.352
51	1	U1	MCP73831-2ATI/MC	IC Controller Li-Ion 4.2V 8DFN		8DFN	Microchip	579-MCP73831T-2ATIMC	MCP73831-2ATI/MC-ND		0.450	0.450
52	2	U2, U8	MIC842NYC5-TR	IC Compartor w/Ref Open Drain		SC-70-5	Microchip	998-MIC842NYC5TR	576-2928-1-ND		0.420	0.840
53	1	U3	ADS1014BQDGSRQ1	IC ADC 12-Bit I2C SMD			TI	595-ADS1014BQDGSRQ1	296-45252-1-ND		2.170	2.170
54	1	U4	TPS61090RSAR	IC Reg Boost Adj 2A Sync 16VQFN		16VQFN	TI	595-TPS61090RSAR	296-15259-1-ND		1.720	1.720
55	1	*U5*	CC1110F32RHHT	IC RF TxRx MCU ISM<1GHz 36-VFQFN		36-VFQFN	TI	595-CC1110F32RHHR	296-38889-1-ND		4.480	4.480
56	1	*U6*	0896BM15A0001	RF Balun Filter 863-928 MHz		0805	Johanson	609-0896BM15A0001E	712-1474-1-ND		0.522	0.522
57	1	U7	CAT24C32WI-G	IC EEPROM 32KBit 400KHz 8SOIC		SOIC-8	On Semi	698-CAT24C32WI-G	CAT24C32WI-GOS-ND		0.220	0.220
58	1	V1	VC120605D150DP	TVS 5.6VDC 150A 1206		1206	AVX	581-VC120605D150DP	478-2517-1-ND		0.370	0.370
59	1	*Display*	NA	Display 128X64 I2C OLED 0.96 inch white			eBay	NA	NA		3.670	3.670
60	1	*X1*	7V-24.000MAHJ-T	Crystal 24.0000MHz 18pF SMD		SMD	TXC Corp	717-7V-24.000MAHJ-T	887-2580-1-ND		0.522	0.522
61	1			PCB Bare								0.000
						Sub total:			***$22.96***			
				Assemble Display to Explorer HAT								
1	4	M1, M2, M3,M4	R30-6700394	Spacer M3 nylon 3mm			Harwin	855-R30-6700394	952-1526-ND		0.127	0.508
2	4	M1, M2, M3,M4	MPMS 002 0008 PH	Screw Machine Pan M2 x 8 Phillips			B&F Fastener	NA	H739-ND		0.070	0.280
3	4	M1, M2, M3,M4	MHNZ 002 4	Nut Hex 0.157" M2			B&F Fastener	NA	H761-ND		0.049	0.196
4	0	M1, M2, M3,M4	222 (Purple)	Threadlocker 222 tube 6 ml			Loctite	(on M2 screw end)	Amazon		8.140	0.000
						Sub total:			**$0.98**			

Notes:

1	These components should be stocked due to concerns over lead time and/or limited substitutions available.
2	Cut pins flush to this board (0.030 inch or less)
3	Do not wash
4	
5	Leave holes open (do not fill with solder)
6	Thru-hole component
7	