

# Bill of Materials

Project: UltraZed IO Carrier Card  
 Project Name: PRJ-US1CAR  
 Revision: 1  
 BOM: 01  
 Variant: 07



Report Date: 2/5/2018 5:45:30 AM

#	Quantity	Designator	Description	Manufacturer 1	Manufacturer Part Number 1	Fitted	Notes
1	6	BMPR1, BMPR2, BMPR3,	BUMPER CYLIN 0.375" DIA BLK	3M	SJ61A4	Fitted	
2	1	BTH1	HOLDER BATT FOR LR44 COIN SMD	MPD (Memory Protection Devices)	BHX1-LR44-SM	Fitted	
3	1	C1	CAP CER 10UF 16V 10% X5R 0805	Samsung Electro-Mechanics America, Inc.	CL21A106K0FNNE	Fitted	
4	98	C2, C3, C5, C9, C10, C11, C12,	CAP CER 0.1UF 25V 10% X5R 0201	Taiyo Yuden	TMK063C6104KP-F	Fitted	
5	2	C4, C153	CAP CER 1UF 50V 10% X7R 0805	KEMET	C0805C105K5RACTU	Fitted	
6	16	C6, C7, C96, C97, C103, C114,	CAP CER 0.1UF 25V 10% X7R 0402	AVX Corporation	04023C104KAT2A	Fitted	
7	6	C8, C31, C32, C33, C34, C35	CAP CER 0.1UF 50V 10% X7R 0603	AVX Corporation	06035C104KAT2A	Fitted	
8	2	C13, C14	CAP CER 10UF 10V 20% X5R 0402	Samsung Electro-Mechanics America, Inc.	CL05A106MP5NUNC	Fitted	
9	1	C94	CAP CER 22UF 25V 10% X5R 1206	Murata	GRT31CR61E226KE01L	Fitted	
10	2	C98, C151	CAP CER 5.6UF 10V 10% X7R 1206	KEMET	C1206C565K8RACTU	Fitted	
11	1	C99	CAP ALUM 220UF 20% 25V SMD	Panasonic Electronic Components	EEE-FTE221XAP	Fitted	
12	1	C100	CAP ALUM 560UF 20% 25V SMD	NICHICON	UCV1E561MNL1GS	Fitted	
13	3	C102, C104, C106	CAP CER 22UF 25V 20% X5R 0805	TDK Corporation	C2012X5R1E226M125AC	Fitted	
14	5	C105, C107, C109, C111, C117	CAP CER 1UF 25V 10% X5R 0402	Murata	GRM155R61E105KA12D	Fitted	
15	6	C108, C110, C113, C119, C126,	CAP CER 47UF 16V 20% X5R 1206	TDK Corporation	C3216X5R1C476M160AB	Fitted	
16	4	C112, C118, C125, C131	CAP CER 220UF 6.3V 20% X5R 1210	Samsung Electro-Mechanics America, Inc.	CL32A227MQVNNNE	Fitted	
17	4	C115, C127, C133, C137	CAP CER 22UF 10V 20% X5R 0603	TDK Corporation	C1608X5R1A226M080AC	Fitted	
18	1	C121	CAP CER 2.2UF 25V 20% X5R 0402	Murata	GRM155R61E225ME15D	Fitted	
19	2	C122, C123	CAP CER 4.7UF 10V 10% X5R 0402	TDK Corporation	C1005X5R1A475K050BC	Fitted	
20	2	C135, C140	CAP CER 10000PF 25V 10% X7R 0402	AVX Corporation	04023C103KAT2A	Fitted	
21	1	C143	CAP CER 2.2UF 25V 10% X5R 0603	Samsung Electro-Mechanics America, Inc.	CL10A225KA5LNNC	Fitted	
22	1	C146	CAP CER 4.7UF 25V 10% X5R 0805	AVX Corporation	08053D475KAT2A	Fitted	
23	1	C154	CAP ALUM 120UF 6.3V 20% 2917	Panasonic Electronic Components	EEF-CX0J121R	Fitted	
24	1	C157	CAP ALUM 150UF 6.3V 20% 2917	Panasonic Electronic Components	EEF-CX0J151XR	Fitted	
25	2	CON1, CON3	CONN RCPT .100" 8POS STR, SINGLE ROW	Samtec	SSQ-108-01-G-S	Fitted	
26	1	CON2	CONN RCPT .100" 10POS STR, SINGLE ROW	Samtec	SSQ-110-01-G-S	Fitted	
27	1	CON4	CONN RCPT .100" 6POS STR, SINGLE ROW	Samtec	SSQ-106-01-G-S	Fitted	
28	1	D2	DIODE SCHOTTKY 40V 2A SMB	ON Semiconductor	MBR5240LT3G	Fitted	
29	4	D3, D9, D10, D24	LED SMARTLED 570NM GREEN 0603	OSRAM Opto Semiconductors Inc	LG L29K-F2J1-24-Z	Fitted	
30	1	D4	TVS DIODE 5.5VWM 1550N	TEXAS INSTRUMENTS	TPD8S009DSMR	Fitted	
31	1	D5	TVS DIODE 5.5VWM SOT6	TEXAS INSTRUMENTS	TPD4E001DRLR	Fitted	
32	3	D6, D18, D20	DIODE SCHOTTKY 30V 0.2A SOT23-3	Diodes Inc.	BAT400D-7-F	Fitted	
33	9	D7, D8, D11, D12, D13, D14,	LED CHIPLED 633NM RED 0603 SMD	OSRAM Opto Semiconductors Inc	LS Q976-NR-1	Fitted	
34	1	D19	DIODE ZENER 2V 500MW SOD123	Micro Commercial Co	MMSZ4679-TP	Fitted	
35	2	D21, D23	LED YELLOW 587NM 0603 SMD	OSRAM Opto Semiconductors Inc	LY L29K-H1K2-26-Z	Fitted	
36	1	D22	TVS DIODE 20VWM SMD	Bourns	CDSOT23-SR208	Fitted	
37	1	D25	TVS DIODE 5.5VWM 14VC 10SON	TEXAS INSTRUMENTS	TPD4E05U06DQAR	Fitted	
38	1	D26	TVS DIODE 5.5VWM 8VC SOT3	TEXAS INSTRUMENTS	TPD2EUSB30DRTR	Fitted	
39	1	ESD1	ESD Bag	3M	=ESDBagPN	Fitted	
40	2	FB1, FB7	FERRITE BEAD 600 OHM 0.3A 0402	Murata	BLM15AG601SN1D	Fitted	
41	4	FB2, FB3, FB4, FB5	FERRITE BEAD 220 OHM 1.0A 0402	Taiyo Yuden	BKP1005EM221-T	Fitted	
42	2	FB8, FB9	FERRITE BEAD 220 OHM 0603 1LN	TDK Corporation	MPZ1608S221ATA00	Fitted	
43	5	J1, J2, J13, J14, J15	CONN HEADR BRKWAY .100 3POS STR, SINGLE ROW	Amphenol FCI	68001-403HLF	Fitted	
44	1	J3	CONN HEADER 7POS VERT SMD 15GOLD	Molex, LLC	0678005005	Fitted	
45	1	J4	CONN MICRO SD CARD PUSH-PUSH R/A	Molex	502570-0893	Fitted	

46	1	J5	CONN MAGJACK 1PORT 1000 BASE-T	Bel Fuse Inc	L829-1J1T-43	Fitted	
47	1	J6	CONN HEADER 14POS 2MM VERT SMD	Molex Inc	0878321420	Fitted	
48	1	J7	CONN HEADER 6POS 4.2MM R/A TIN	Molex Inc	0039301060	Fitted	
49	1	J9	CONN HEADR BRKWAY .100 6POS STR, SINGLE ROW	Molex, LLC	0423752490	Fitted	
50	1	J10	CONN HEADR BRKWAY .100 4POS STR, SINGLE ROW	Molex, LLC	0423752488	Fitted	
51	1	J11	CONN RCPT MICRO USB AB R/A SMD	Molex Inc	0475890001	Fitted	
52	1	J12	CONN RCPT MICRO USB 3.0 AB R/A SMD 10 POS	Kycon	KMMX-AB10-SMT1SB30TR	Fitted	
53	13	JA1, JA2, JA3, JA4, JA5, JA6,	Header TH 100mil 6X2 Right Angle PMOD Horizontal	SAMTEC	SSW-106-02-T-D-RA	Fitted	
54	4	JP1, JP2, JP6, JP7	CONN HEADR BRKWAY .100 2POS STR, SINGLE ROW	TE CONNECTIVITY / AMP	5-146280-2	Fitted	
55	1	JP5	CONN HEADER 3PIN	Molex, LLC	0022272031	Fitted	
56	2	JT1, JT2	RES 4.7K OHM 1/16W 1% 0402 SMD-3 PAD JUMPER (1-2)	Panasonic Electronic Components	ERJ-2RKF4701X	Fitted	Position 1-2
57	2	JX1, JX2	CONN RCPT 140POS .8MM FH 7H 8AU	TE Connectivity AMP Connectors	5177985-6	Fitted	
58	1	JX3	CONN RCPT 100POS .8MM FH 7H 8AU	TE Connectivity AMP Connectors	5177985-4	Fitted	
59	1	L1	CHOKE COMMON MODE WW 190 OHM SMD	Bourns	SRF0504-191Y	Fitted	
60	3	L2, L3, L4	FIXED IND 3.3UH 5A 38 MOHM SMD	Bourns	SRP5030T-3R3M	Fitted	
61	1	L5	FIXED IND 1.5UH 6A 25 MOHM SMD	Bourns	SRP5030T-1R5M	Fitted	
62	2	Label1, Label2	Label, Product	AES	PBA-US1CAR-1-01-07	Fitted	-
63	1	Label_ESD1	Label, ESD	AES	TBD	Fitted	-
64	2	P1, P2	CONN RCPT R/A W/O FLANGE SMD	Molex, LLC	472720001	Fitted	
65	1	PCB1	BARE PCB Part Number	AES	PCB-US1CAR-1	Fitted	
66	12	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8,	TRANS NPN 40V 0.2A SOT-23	ON Semiconductor	MMBT3904LT3G	Fitted	
67	6	Q13, Q14, Q15, Q16, Q17, Q18	MOSFET N-CH 50V 200MA SOT23-3	Infineon Technologies	BSS138NH6327XTSA2	Fitted	
68	2	R1, R122	RES 2 OHM 0402 1% 1/16W	Vishay Dale	CRCW04022R00FKED	Fitted	
69	41	R2, R3, R4, R5, R6, R45, R46,	RES 10.0K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1002X	Fitted	
70	4	R7, R8, R9, R10	RES 4.75K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4751X	Fitted	
71	37	R11, R12, R20, R22, R25, R26,	RES 0.0 OHM JUMP 0402 1/16W	Yageo	RC0402FR-070RL	Fitted	
72	25	R13, R40, R41, R94, R95, R98,	RES 1.00K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1001X	Fitted	
73	1	R14	RES 18.2K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1822X	Fitted	
74	12	R15, R39, R42, R71, R72, R79,	RES 240 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF2400X	Fitted	
75	1	R16	RES 4.02K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4021X	Fitted	
76	2	R17, R18	RES 1M OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1004X	Fitted	
77	4	R19, R133, R138, R143	RES 10 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF10R0X	Fitted	
78	6	R21, R27, R31, R38, R43, R104	RES 100K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1003X	Fitted	
79	2	R23, R139	RES 2.49K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF2491X	Fitted	
80	1	R24	RES 1.5K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1501X	Fitted	
81	2	R28, R30	RES 49.9 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF49R9X	Fitted	
82	4	R32, R33, R36, R148	RES 4.99K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4991X	Fitted	
83	1	R34	RES 40.2 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF40R2X	Fitted	
84	3	R57, R73, R151	RES 100 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1000X	Fitted	
85	3	R74, R75, R76	RES 4.70K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4701X	Fitted	
86	4	R77, R78, R81, R130	RES 22.1 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF22R1X	Fitted	
87	1	R97	RES 2.00K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF2001X	Fitted	
88	1	R117	RES 102 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF1020X	Fitted	
89	1	R119	RES 0.0 OHM JUMP 1210 1/2W	Panasonic Electronic Components	ERJ-14Y0R00U	Fitted	
90	7	R120, R121, R126, R128, R142,	RES 649 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF6490X	Fitted	
91	7	R124, R171, R173, R175, R177,	RES 23.2K OHM 0402 0.1% 1/16W	Panasonic Electronic Components	ERA-2AEB2322X	Fitted	
92	1	R131	RES 49.9K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4992X	Fitted	
93	2	R134, R141	RES 3.48K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF3481X	Fitted	
94	1	R164	RES 191 OHM 1206 1% 1/4W	Panasonic Electronic Components	ERJ-8ENF1910V	Fitted	
95	3	R187, R188, R189	RES 4.7 OHM 2512 5% 3W	TE Connectivity AMP Connectors	35224R7JT	Fitted	
96	1	R190	RES 499 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4990X	Fitted	
97	1	R191	RES 249 OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF2490X	Fitted	
98	1	RP1	RES ARRAY 10K OHM 4 RES 1206	Panasonic Electronic Components	EXB-V8V103JV	Fitted	
99	1	RP2	RES ARRAY 8 RES 240 OHM 1606	Rohm Semiconductor	MNR18ERAPJ241	Fitted	
100	1	RP3	RES ARRAY 8 RES 4.7K OHM 1506	Panasonic Electronic Components	EXB-2HV472JV	Fitted	
101	9	SH1, SH2, SH3, SH4, SH5, SH6,	SHUNT, ECON, PHBR 15 AU, BLACK	Samtec	SNT-100-BK-G-H	Fitted	
102	6	SW1, SW2, SW3, SW4, SW5,	SWITCH TACTILE SPST-NO 0.05A 24V	TE Connectivity Alcoswitch Switches	1825910-7	Fitted	
103	1	SW6	SWITCH DIP HALF PITCH 8POS 24V	TE CONNECTIVITY / AMP	1-1571983-1	Fitted	
104	1	SW8	SWITCH SLIDE SPDT 6A 120V	C&K Components	1101M2S3CME2	Fitted	
105	1	U1	CLOCK GENERATOR 1MHZ TO 350MHZ 24-VQFPFN	Integrated Device Technology	5P49V5935B536LTGI	Fitted	
106	1	U2	IC 4BIT NON-INV TRANSLTR 14TSSOP	TEXAS INSTRUMENTS	TXS0104EPWR	Fitted	

107	1	U3	IC REG LDO ADJ 0.5A 8TDFN	Maxim Integrated	MAX8902BATA+T	Fitted	
108	1	U4	IC DRVVR/RCVR3.3V LVDS HS 14TSSOP	Fairchild Semiconductor	FIN1019MTCX	Fitted	
109	1	U5	IC EEPROM 2KBIT 400KHZ SOT23-6, With MAC ID	Microchip Technology	24AA025E48T-I/OT	Fitted	
110	13	U6, U7, U8, U9, U10, U11, U12.	IC 8BIT NON-INV TRANSLTR 20TSSOP	TEXAS INSTRUMENTS	TXS0108EPWR	Fitted	
111	1	U18	JTAGSMT2 FPGA PROGRAMMER	Digilent, Inc.	210-251P-BOARD	Fitted	
112	1	U19	IC REG LDO 3.3V 1.5A D2PAK	ON Semiconductor	NCP565D2T33R4G	Fitted	
113	1	U20	IC SGL USB-DL UART BRIDGE 24QFN	Silicon Labs	CP2105-F01-GMR	Fitted	
114	1	U21	IC SW CURR LIMIT HI SIDE 8-MSOP	Microchip Technology	MIC2544-1YMM	Fitted	
115	2	U23, U26	IC SWITCH QUAD SPST 14TSSOP	NXP Semiconductors	74HC4066PW,118	Fitted	
116	1	U27	IC REG BUCK SYNC, 5 OUTPUTS (A01)	Infineon	IRPS5401MTRPBF A01	Fitted	
117	0	C142	CAP CER 0.1UF 25V 10% X7R 0402	AVX Corporation	04023C104KAT2A	Not Fitted	
118	0	C148	CAP CER 4.7UF 25V 10% X5R 0805	AVX Corporation	08053D475KAT2A	Not Fitted	
119	0	C149	CAP CER 0.1UF 25V 10% X5R 0201	Taiyo Yuden	TMK063C6104KP-F	Not Fitted	
120	0	D1	DIODE SCHOTTKY 30V 0.2A SOT23-3	Diodes Inc.	BAT400D-7-F	Not Fitted	
121	0	FB6	FERRITE BEAD 600 OHM 0.3A 0402	Murata	BLM15AG601SN1D	Not Fitted	
122	0	J8	CONN HEADR BRKWAY .100 4POS STR, DUAL ROW	Molex Inc	0010897081	Not Fitted	
123	0	JP3	CONN HEADR BRKWAY .100 2POS STR, SINGLE ROW	TE CONNECTIVITY / AMP	5-146280-2	Not Fitted	
124	0	R69, R118, R154	RES 0.0 OHM JUMP 0402 1/16W	Yageo	RC0402FR-070RL	Not Fitted	
125	0	R123	RES 49.9K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF4992X	Not Fitted	
126	0	R125, R132, R136, R145, R146	RES 0.0 OHM JUMP 1210 1/2W	Panasonic Electronic Components	ERJ-14Y0R00U	Not Fitted	
127	0	R135	RES 6.49K OHM 0402 1% 1/16W	Panasonic Electronic Components	ERJ-2RKF6491X	Not Fitted	

<b>Approved</b>				<b>Notes</b>			