

**BILL OF MATERIALS**

TITLE:	BOM IceZUM		REV	DATE	AUTHOR	DATE		AUTHOR						
VARIANT:			00	18/02/2016	Eladio Delgado	MADE BY:		18/02/2016		Eladio Delgado				
DOCUMENT:	Bill of Materials		01			VERIFIED BY:								
PROJECT:	IceZUM_Core_HX1K.PrjPcb		02			APPROVED BY:								
NOTE	ITEM	Designator	Description			Ordering Code		Manufacturer	Supplier	Footprint	Qty	OrderingCode 2	Manufacturer 2	Value
	1	C1-C10, C12-C16, C18-C21, C23, C25-C30, C32-C37, C45-C50, C68	Capacitor SMD			C0402C104K4RAC		Kemet		C0402	39			100nF ±10% 16V
	2	C11	Capacitor SMD			EMK107BBJ106MA-T		Taiyo Yuden		C0603	1	C1608X5R1C106M080AB	TDK	10uF ±20% 16V
	3	C17, C24, C31, C41, C59, C64, C65	Capacitor SMD			C1608X5R1C475K080AC		TDK		C0603	7			4.7uF ±10% 16V
	4	C22	Capacitor			C0603C103K3RAC		Kemet		C0603	1			10nF ±10% 25V
	5	C38-C40, C42-C44, C51-C58	Capacitor SMD			C0402C101K4RAC		Kemet		C0402	14			100pF ±10% 16V
	6	C60, C62, C66, C70	Capacitor SMD			C0603C104K3RAC		Kemet		C0603	4			100nF ±10% 25V
	7	C67	Capacitor SMD			TMK316B7106KL-TD		Taiyo Yuden		C1206	1			10uF ±10% 25V
	8	C69	Capacitor			LMK316ABJ226ML-T		Taiyo Yuden		C1206	1			22uF ±20% 10V
	9	C71	Capacitor			GRM1885C1E621JA01D		Murata		C0603	1			620pF ±5% 25V
	10	D1	Schottky Diode			MMDL101T1G		On Semiconductor		SOD323	1			100mA 7V
	11	D2, D3, D4, D5, D6, D7, D8, D9	LED			LY Q971-H1L2-36		OSRAM Opto		LED0603	8	HSMY-C190	Avago Technologies	Yellow
	12	D10	Protection, Bidirectional Transient Suppression Diodes			SMAJ17CA		Bourns		DO-214AC-SMA	1	SMAJ17CA	Littelfuse	
	13	D11	Dual Schottky Diode Common Cathode			BAT54C-G3-08		Vishay		SOT23-3	1	BAT54C	Fairchild	200mA 30V
	14	D12	LED			LW Q38G-Q2R2-3K5L-1		OSRAM Opto		LED0603	1			White
	15	D13	Zener Diode			BZX384C5V1-E3		Vishay		SOD323	1	BZX384B5V1-E3	Vishay	5V1
	16	F1	PTC Resettable Fuse			MF-MSMF050-2		Bourns	Abacus	F1812	1			
	17	F2	Protection, USB ESD			82400152		Würth	Würth	SOT563	1	CDSOT563-0502	Bourns	
	18	J1	Connector, USB Micro B			10118192-0001LF		FCI	Abacus	USB_Micro_B	1	ZX62-B-5PA-11	Hirose Connector	
	19	J2, J13	1x6 pin Header 2.54mm			TSW-106-07-T-S-RED		Samtec	Samtec	1x6 Pin Header 2.54	2			
	20	J3, J14	1x6 pin Header 2.54mm			TSW-106-07-T-S		Samtec	Samtec	1x6 Pin Header 2.54	2	613 006 111 21	Würth Elektronik	6
	21	J4	Connector, 10 pin Socket Header 2.54mm			SSW-110-01-T-S		Samtec	Samtec	1x10 Socket Header THT 2.54mm	1	613 010 118 21	Würth Elektronik	10
	22	J5, J10	8 pin Socket Header 2.54mm			SSW-108-01-T-S		Samtec	Samtec	1x8 Socket Header THT 2.54mm	2	613 008 118 21	Würth Elektronik	8
	23	J6, J12	1x6 pin Header 2.54mm, Connector, 1x6 pin Header 2.54mm			TSW-106-07-T-S-NATURAL		Samtec	Samtec	1x6 Pin Header 2.54	2			
	24	J7	1x8 pin Header 2.54mm			TSW-108-07-T-S-RED		Samtec	Samtec	1x8 Pin Header 2.54	1			
	25	J8	1x8 pin Header 2.54mm			TSW-108-07-T-S		Samtec	Samtec	1x8 Pin Header 2.54	1	613 008 111 21	Würth Elektronik	8
	26	J9	1x8 pin Header 2.54mm			TSW-108-07-T-S-NATURAL		Samtec	Samtec	1x8 Pin Header 2.54	1			
	27	J11	6 pin Socket Header 2.54mm			SSW-106-01-T-S		Samtec	Samtec	1x6 Socket Header THT 2.54mm	1	613 006 118 21	Würth Elektronik	6
	28	J15	Connector, 1x4 pin Header 2.54mm			TSW-104-07-T-S-RED		Samtec	Samtec	1x4 Pin Header 2.54	1			

	29	J16	Connector, 1x4 pin Header 2.54mm	TSW-104-07-T-S	Samtec	Samtec	1x4 Pin Header 2.54	1	613 004 111 21	Würth Elektronik	4
	30	J17	Connector, 1x4 pin Header 2.54mm	TSW-104-07-T-S-BLUE	Samtec	Samtec	1x4 Pin Header 2.54	1	613 004 111 21	Würth Elektronik	4
	31	J18	Connector, Power, DC Power Jack	KLDHCX0202A	Kycon	Avnet	Jack 2.1	1	RAPC722X	Switchcraft	
	32	J19	Connector, 8 pin Dual Header 2.54mm	TSW-104-07-T-D	Samtec	Samtec	2x4 Pin Header 2.54	1	613 008 211 21	Würth Elektronik	8
	33	JP1	Connector, Jumper, 3 pin Male Header 2.54mm	613 003 111 21609 002 136	Würth	Würth	1x3 Header 2.54	1			3
	34	JPM1	Connector, Jumper, 1x2 Jumper 2.54mm	609 002 136 21	Würth	Würth		1			Blue 1x2
	35	L1	Inductor SMD	LQM21FN100M70L	muRata		L0805	1			10uH 0,1A
	36	L2, L4	[NoValue], Ferrite Bead	BLM18SG121TN1D	Murata		L0603	2			120R 0,025R 3000mA
	37	L3	Ferrite Bead	MPZ1608S221A	TDK		L0603	1			220R 0,05R 2200mA
	38	L5	Inductor SMD	74438356022	Würth Elektronik	Würth	L4040	1	XAL4020-222MEB	Coilcraft	2,2uH 4,7A
	39	Q1, Q2, Q4	P-Channel MOSFET, 6 pin	DMP3017SFK-7	Diodes Incorporated	Silica	U-DFN2523-6	3			
	40	Q3	PFET	DMP2035U-7	Diodes Incorporated	Silica	SOT23-3	1			
	41	Q5	PNP	PMBT3906,215	NXP		SOT23-3	1			
	42	R1, R3- R8, R12-R14, R20, R21, R28, R37, R38	Resistor, SMD	CRCW040210K0JN	Vishay		R0402	15			10k ±5% 0.063W
	43	R2	Resistor, SMD	CRCW0402470RJN	Vishay		R0402	1			470R ±5% 0.063W
	44	R9	Resistor, SMD	CRCW0402100RJN	Vishay		R0402	1			100R ±5% 0.063W
	45	R10, R25, R39	Resistor, Resistor, SMD, Resistor, SMD	CRCW04021K00JN	Vishay		R0402	3			1k ±5% 0.063W
	46	R11	Resistor, SMD	CRCW040212K0FK	Vishay		R0402	1			12k ±1% 0.063W
	47	R15	Resistor, SMD	CRCW04022K20JN	Vishay		R0402	1			2k2 ±5% 0.063W
	48	R16, R32, R33, R35	Resistor, SMD	ERJ-2GE0R00X	Panasonic		R0402	4	CRCW04020000Z0	Vishay	0R ±5% 0.063W
	49	R17, R18	Resistor	CAY16-271J4LF	Bourns		4xArray_1206	2			270R ±0,5% 0,0625W
	50	R19	Resistor, SMD	CRCW040210R0JN	Vishay		R0402	1			10R ±5% 0.063W
	51	R22, R23	Resistor, SMD	CRCW04024K70JN	Vishay		R0402	2			4k7 ±5% 0.063W
	52	R24, R27	Resistor, SMD	CRCW040247K0JN	Vishay		R0402	2			47k ±5% 0.063W
	53	R26, R29, R30, R31	Resistor, SMD	CRCW0402100KJN	Vishay		R0402	4			100k ±5% 0.063W
	54	R34	Resistor, SMD	CRCW04025K60JN	Vishay		R0402	1			5k6 ±5% 0.063W
	55	R36	Resistor, SMD	CRCW0402220KJN	Vishay		R0402	1			220k ±5% 0.063W
	56	SW1, SW2	Micro miniature pushbutton Surface Switch	434 121 025 816	Würth Elektronik	Würth	SW_SMD_6.0x3.8	2	KSR231GLFS	Cannon, ITT Industries	
	57	SW3	SPDT Switch	450 302 014 072	Würth Elektronik	Würth	Slide SW SPDT Right Angle	1	MMP1010D-RA	Knitter-Switch	
	58	SW4	Micro miniature pushbutton Surface Switch	PTS645VL39-2 LFS	C&K Components	Abacus	SW_Vert_THT 7.5x6x6.5	1			
	59	U1	iCE40 HX1K Series FPGA Family, 1280 Logic Cells, 1.2 V Core, 64 K Embedded RAM Bits, 144-pin TQFP, Pb-Free, Tray	iCE40HX1K-TQ144	Lattice		TQFP-144_IPC-MD	1			
	60	U2	NOR Flash Memory, serial	N25Q032A13EF640E	Micron	Silica	DFN-8 6x5mm	1	S25FL032P0XNFI011	Spansion	32Mb
	61	U3	Dual High Speed USB to Multipurpose UART/FIFO IC	FT2232HQ-REEL	FTDI	Silica	FTDI_QFN-64	1			
	62	U4	Oscillator, Low-Power CMOS, 4 pin, 1.8-3.3V	DSC1001CL2-012.0000	Microchip		OSC 3.2x2.5	1			12MHz
	63	U5	EEPROM, 2K Microwire Compatible Serial, 8 or 16 bit word size, 2.5-5.5 Vcc range	93LC56CT-I/MS	Microchip	Silica	MSOP8	1			2Kb
	64	U6	Voltage Translator, Hex	TXB0106RGYR	Texas Instruments	Silica	QFN16	1			
	65	U7	ADC Converter, 12-Bit, 4-Ch, I2C	ADS7924IRTER	Texas Instruments	Silica	QFN16	1			

	66	U8	Voltage Level Translator, 8-Bit Bidir., with TP	TXS0108ERGYR	Texas Instruments	Silica	VQFN20 4.5x3.5mm	1			
	67	U9	Voltage Level Translator, 8-Bit Bidir., with TP	TXB0108RGYR	Texas Instruments	Silica	VQFN20 4.5x3.5mm	1			
	68	U10	LDO Regulator, 8 pin, adjustable And fixed mode with enable	AP7361-33FGE-7	Diodes Inc.	Silica	U-DFN3030-8	1			
	69	U11	LDO Regulator, Dual, 6 pin	TLV7111233DSER	Texas Instruments	Silica	WS0N-6-1,5x1,5mm	1			
	70	U12	3A High Efficient Synchronous Step Down Converter with DCS™ Control	TPS62133RGTR	Texas Instruments	Silica	QFN16	1			
NOTES:											