Designator	Quantity	Value/Description	Mouser	DigiKey	Other	Total Price	Comments
U2	1	KSZ9031RN Ethernet Phy	3.38	5.99		$3.38	RNXCC is less expensive copper
REG1	1	LM3671 1.2V Regulator	0.88	0.92		$0.88	
L1	1	2.2uH	0.23	0.27		$0.23	Handle 1A, shielded, high self resonant frequency
CN1	1	Ethernet Jack with Magnetics	5.72	5.73		$5.72	Handle gigabit, 5E
C37,C38,C40,C43,C45,C46,C47,C48,C49,C50,C51,C52,C53,C54,C55,C22,C26,C27,C30	19	10nF		0.031		$0.59	X5R or X7R, >=6.3V
C33,C36,C41,C44,C56,C57	6	0.1uF		0.051		$0.31	X5R or X7R, >=6.3V
C21	1	4.7uF		0.115		$0.12	X5R or X7R, >=6.3V
C34,C35,C39,C42,C58,C59	6	10uF		0.106		$0.64	X5R or X7R, >=6.3V
R5,R8	2	240 Ohm		0.021		$0.04	
R6,R7,R18	3	1K		0.021		$0.06	
R11,R12,R13,R14,R15,R16,R17	7	4.7K		0.018		$0.13	Consider resistor array
R4,R10	2	10K		0.018		$0.04	
R9	1	12.1K		0.10		$0.10	Must be 1%
FB5,FB6,FB7,FB8,FB9	5	Ferrite Bead		0.101		$0.51	
						$12.73	

Designator	Quantity	Value/Description	Mouser	DigiKey	Other	Total Price	Comments
U1	1	AD9866	34.59	35.24	27.4571	$35.24	Minimum quantity of 13 for $27 price
FB1,FB2,FB3,FB4	4	Ferrite Bead		0.101		$0.40	
C1,C2,C3,C4,C9,C10,C11,C23,C24,C28,C29,C31,C32	13	0.1uF		0.051		$0.66	X5R or X7R, >=6.3V
C5,C6,C7,C8,C12,C13,C14	7	1uF		0.066		$0.46	Low ESR
C25	1	10uF		0.34		$0.34	Tantalum is specified in the AD9866 datasheet, ceramic should work
C15,C16,C19,C20	4	10uF		0.106		$0.42	X5R or X7R, >=6.3V
R1	1	1.6K		0.10		$0.10	
						$37.63	
Optional							
RF Shield Frame	1	RF Shield Frame		1.33		$1.33	
RF Shield Cover	1	RF Shield Cover		0.79		$0.79	
						$2.12	

Designator	Quantity	Value/Description	Mouser	DigiKey	Other	Total Price	Comments
Versa							
C66,C67,C68,C69,C70,C72	5	0.1uF		0.051		$0.26	X5R or X7R, >=6.3V
C71	1	1uF		0.066		$0.07	Low ESR
C73,C76	2	10uF		0.106		$0.21	X5R or X7R, >=6.3V
FB11,FB12	2	Ferrite Bead		0.101		$0.20	
R25,R26	2	33 Ohm		0.10		$0.20	
JP1	1	0 Ohm		0.018		$0.02	
U5	1	VersaClock 5	2.82	2.80		$2.80	
FB5,FB6,FB7,FB8,FB9	5	Ferrite Bead		0.101		$0.51	
						$4.26	
Oscillator							
C62,C63	2	0.1uF		0.051		$0.10	X5R or X7R, >=6.3V
C65	1	10uF		0.106		$0.11	X5R or X7R, >=6.3V
FB10	2	Ferrite Bead		0.101		$0.20	
X2	1	38.4MHz Oscillator		2.17	3.29	$2.17	Part is hard to solder, other is easier and is VCTCXO
						$2.58	
Oscillator VC OE R							
R21,R22	2	10K		0.018		$0.04	
						$0.04	
Oscillator VC DAC							
C64	1	0.1uF		0.051		$0.05	X5R or X7R, >=6.3V
R19	1	3.3K		0.10		$0.10	
R20	1	10K		0.018		$0.02	
U4	1	MCP4716		0.82		$0.82	
						$0.99	
Versa Crystal							
X3	1	38.4 MHz		0.63		$0.63	
						$0.63	
Versa Crystal Capacitors							
C60,C61	2	15pF		0.10		$0.20	To be adjusted for crystal and stray capacitance
						$0.20	
External Clock							
C33	1	0.1uF		0.051		$0.05	X5R or X7R, >=6.3V
P1	1	SMA Jack		1.64		$1.64	

						$1.69	
FPGA to Reference							
JP1	1	0 Ohm		0.018		$0.02	
						$0.02	
Reference Divider							
R23	1	130 Ohm		0.10		$0.10	
R24	1	75 Ohm		0.10		$0.10	
						$0.20	
I2C PullUps							
R28,R29	2	4.7K		0.018		$0.04	
						$0.04	
Ethernet Crystal							
C74,C75	2	15pF		0.10		$0.20	To be adjusted for crystal and stray capacitance
R27	1	4.7K		0.018		$0.02	
X1	1	25 MHz		0.72		$0.72	
						$0.94	
External Reference							
C127	1	0.1uF		0.051		$0.05	X5R or X7R, >=6.3V
P2	1	SMA Jack		1.64		$1.64	
						$1.69	

Build Option	C66,C67,C68,C69, C70,C71,C72,C73, FB11,FB12,R25,R26 JP1,U5	X2,C63,C62 C65,FB10	R21,R22	U4,C64 R19,R20	X3	C60, C61	P1, C33	JP2	R23,R24	R28,R29	X1,R27 C74,C75	WJ1 to WJ4	WJ2 to WJ3	WJ1 to WJ5	Total	Notes
	$4.26	**$2.58**	**$0.04**	**$0.99**	**$0.63**	**$0.20**	**$1.69**	**$0.02**	**$0.20**	**$0.04**	**$0.94**					
Versa with Oscillator	Y	Y	See Notes							Y					**$6.91**	R21,R22 Voltage divider if VC pin 1, Pullup/down if OE pin 1
Versa with Voltage Controlled Oscillator	Y	Y		Y						Y					**$7.86**	
Versa with Crystal	Y				Y					Y					**$4.92**	C60,C61 not required as Versa has internal adjustable capacitors
Versa with External Reference*	Y						Y		See Notes	Y					**$6.19**	R23,R24 Voltage divider if 3.3 LVCMOS, R23=0Ohm, No R24 if low level
Versa with LVDS Link Recovered Clock*	Y							Y	Y	Y					**$4.51**	
AD9866 with 38.4 MHz Oscillator		Y	See Notes							if Si570	Y	Y			**$3.55**	R1,R22 Voltage divider if VC pin 1, Pullup/down if OE pin 1
AD9866 with Voltage Controlled 38.4 MHz Oscillator		Y		Y						Y	Y	Y			**$4.54**	
AD9866 with 38.4 MHz Crystal					Y	Y					Y	Y	Y		**$1.77**	Keep wire jumpers separated
AD9866 with External Reference							Y		See Notes		Y			Y	**$2.83**	R23=0Ohm, No R24
Build options marked with * may also populate Versa Oscillator or Crystal option for software switching between internal or external reference.																

Designator	Quantity	Value/Description	Mouser	DigiKey	Other	Total Price	Comments
U6	1	TLV62130		2.02		$2.02	
L2	1	3.3uH		0.83		$0.83	
C25	1	47uF		0.49		$0.49	X5R or X7R, >=6.3V
C17	1	10uF		0.29		$0.29	X5R >=20V
C18	1	3.3nF		0.10		$0.10	>=20V
C80,C85,C90,C95,C99,C103,C107,C111,C114,C117,C82,C87,C92,C96,C100,C104,C108,C83,C88,C93,C97,C105,C109,C112,C115,C119,C122,C125	29	0.1uF		0.051		$1.48	X5R or X7R, >=6.3V
C81,C86,C91,C118,C121,C124,C84,C89,C94,C98,C102,C106,C110,C113,C116,C120,C123,C126	18	1uF		0.066		$1.19	X5R or X75, >=6.3V
C77,C78,C79	3	10uF		0.106		$0.32	X5R or X7R, >=6.3V
R3	1	750K		0.10		$0.10	
R30	1	240K		0.10		$0.10	
R2	1	100K		0.10		$0.10	
CN2	1	Barrel Connector		0.91	0.46	$0.91	Other is terminal block, footprint to support barrel or terminal block
U3	1	MAX 10 FPGA		57.69		$57.69	See FPGA Matrix at bottom of this sheet
						$65.62	
Optional							
Q1	1	DMP3099L		0.33		$0.33	Reverse polarity protection
F1	1	Resettable Fuse		0.24		$0.24	Over current protection
CN3,CN4	1	3x2		0.82		$0.82	Choose one power connection point
						$1.39	

FPGA Matrix

FPGA	LEs	Slice Receivers	Price
10M50SCE144C8G	50K	7+	57.69
10M40SCE144C8G	40K	5 to 7	51.66
10M25SCE144C8G	25K	3	44.00?
10M16SCE144C8G	16K	1 to 2	34.11
10M8SCE144C8G	8K	DFC only?	17.46

Designator	Quantity	Value/Description	Mouser	DigiKey	Other	Total Price	Comments
U6	1	Relay Driver		0.62		$0.62	Use 20 pin length if CN11 poplulated
R31,R35,R39,R32,R36, R33,R37,R34,R38,R44, R49,R50,R51	13	10K		0.018		$0.23	
R45,R46,R47,R48, R40,R41,R42,R43	8	330 Ohm		0.021		$0.17	
SW1	1	4 pos dip switch		0.89		$0.89	
D1,D2,D3,D4	4	LED		0.26		$1.04	
CN5,CN6	2	3.5mm Stereo Audio Jack		0.66		$1.32	
CN7	1	USB Blaster Connector		1.25		$1.25	
CN11	1	Header with longer pins		0.81		$0.81	Use 20 pin length if CN11 poplulated
						$6.33	
Optional							
CN8	1	Header with longer pins		0.37		$0.37	Break and use for CN8 too
CN9,C10	2	SATA connector		0.60		$1.20	Alternate SMT
						$1.57	

	Power	Current @ 3.3V	
Ethernet	0.66	0.2	
RF Frontend	1.5675	0.475	
FPGA	2.4397	0.74	
Versa Clock	0.33	0.1	
Oscillator	0.0825	0.025	Max for Si510
MCP4716	0.165	0.05	
ULN2803	0.05	0.015	
Total	5.2947	1.605	

Header	Use 7.49 mm length to mate through pcb	
Receptacle	Alternate that is only 8mm tall?	
Spacer	M3, 8mm between boards, washer to lengthen	
Standoff		
Legs		
	Option 1	Option 2
Top Space	16	12.5
Bottom Space	12	15.5
Height of Relay	11.8	
Height of Ethernet Jack	11.2	
PCB	1.6	
PCB	1.6	
Socket	8.5	Mating length up to 5.8mm
	34.7	