

# Bill of Materials

# UCS1002 and PIC16F1503 Reference Design

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 Revision: 2  
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Quantity	Designator	Description_	Manufacturer 1	Manufacturer Part Number 1	Supplier 1	Supplier Part Number 1
10	C1, C3, C8, C16, C18, C22, C26, C31, C37, C38	CAP CER 0.1uF 25V 20% X7R SMD 0603	KEMET	C0603C104M3RACTU	Digi-Key	399-1283-2-ND
2	C2, C25	CAP TANT 150uF 10V 10% 100mOhm SMD D	AVX Corporation	TPSD157K010R0100	Digi-Key	478-1781-1-ND
7	C4, C6, C9, C21, C27, C29, C32	CAP CER 0.01uF 50V 20% X7R SMD 0603	KEMET	C0603C103M5RAC	KEMET	C0603C103M5RAC
2	C5, C28	CAP CER 470pF 50V 10% X7R SMD 0603	Johanson Dielectrics	500R14W471KV4T	Digi-Key	709-1164-1-ND
4	C10, C12, C30, C33	CAP TANT 10uF 16V 10% 2.8Ohm SMD B	KEMET	T491B106K016AS	Digi-Key	399-1593-2-ND
2	C13, C35	CAP CER 0.01uF 16V 10% X7R SMD 0603	Panasonic	ECJ-1VB1C103K	Digi-Key	PCC1750CT-ND
1	C17	CAP CER 0.022uF 50V 10% X7R SMD 0603	TDK	C1608X7R1H223K	Digi-Key	445-1312-1-ND
2	C19, C20	CAP CER 10uF 25V 10% X7R SMD 1206	Taiyo Yuden	TMK316B7106KL-TD	Digi-Key	587-2399-1-ND
2	C23, C24	CAP CER 22uF 10V 10% X7R SMD 1206	Samsung Electro-Mechat	CL31B226KPHNNNE	Digi-Key	1276-2769-1-ND
1	D1	DIO SCTKY B340A 500mV 3A 40V DO-214AC SMA	Diodes Incorporated	B340A-13-F	Digi-Key	B340A-FDICT-ND
4	D2, D3, D4, D5	DIO TVS UNIDIR ESD5V3U1U 5.3V SMD SOD-882	Infineon Technologies	ESD5V3U1U-02LRH E6327	Digi-Key	ESD5V3U1U-02LRHE6327INCT-ND
1	FB1	FERRITE 6A 0.007R SMD 0603	Murata	BLM18KG260TN1D	Digi-Key	490-5252-1-ND
2	J1, J9	CON TERMINAL 5.08mm 15A Female 1x2 TH R/A	On Shore Technology Inc	EDZ250/2	Digi-Key	ED1973-ND
4	J2, J7, J8, J11	CON HDR-2.54 Male 1x2 Gold 5.84MH TH VERT	FCI	68001-202HLF	Digi-Key	609-3469-ND
1	J3	CON USB 2.0 STD-B Female TH R/A	Tyco Electronics (TE Cor)	292304-1	Digi-Key	A31725-ND
2	J4, J10	CON USB 2.0 STD-A Female TH R/A	FCI	87520-0010BLF	Digi-Key	609-1045-ND
1	J5	CON HDR-2.54 Male 1x6 Gold 5.84MH TH R/A	FCI	68016-106HLF	Digi-Key	609-3313-ND
1	J6	CON JACK Power 2.5mm 16V 2.5A Male TH R/A	CUI Inc	PJ-002B	Digi-Key	CP-002B-ND
2	L1, L3	INDUCTOR CHOKE COMMON MODE 90 OHM 0805	Murata Electronics North	DLW21HN900SQ2L	Digi-Key	490-1064-1-ND
1	L2	INDUCTOR 4.7uH 4.6A SMD L8W8H4.3	Bourns Inc.	SRU8043-4R7Y	Digi-Key	SRU8043-4R7YCT-ND
2	LD1, LD3	DIO LED GREEN 2.1V 30mA 6mcd Clear SMD 0603	Lite-On	LTST-C190GKT	Digi-Key	160-1183-1-ND

2	LD2, LD4	DIO LED RED 1.8V 40mA 10mcd Clear SMD 0603	Lite-On	LTST-C190KRKT	Digi-Key	160-1436-1-ND
3	R2, R29, R30	RES 0R 1% 1/4W SMD 1206	TT Electronics	WCR1206-R005JI	Farnell	1100137
12	R4, R5, R9, R13, R23, R24, R25, R26, R27, R28, R35, R44	RES TKF 0R 1/10W SMD 0603	NIC Components	NRC06Z0TRF	NIC Components	NRC06Z0TRF
4	R6, R7, R32, R33	RES TKF 470R 1% 1/10W SMD 0603	Yageo	RC0603FR-07470RL	Digi-Key	311-470HRCT-ND
8	R11, R12, R14, R15, R37, R38, R39, R40	RES TKF 10k 1% 1/10W SMD 0603	Vishay	CRCW060310K0FKEA	Digi-Key	541-10.0KHCT-ND
2	R16, R41	RES TKF 33k 1% 1/10W SMD 0603	Stackpole Electronics Inc	RMCF0603FT33K0	Digi-Key	RMCF0603FT33K0TR-ND
1	R18	RES TKF 47k 1% 1/10W SMD 0603	Stackpole Electronics Inc	RMCF1/16 47K 1% R	Digi-Key	RMCF1/1647KFRTR-ND
1	R19	RES TKF 49.9R 1% 1/10W SMD 0603	Panasonic	ERJ-3EKF49R9V	Digi-Key	P49.9HCT-ND
2	R20, R21	RES TKF 4.99k 1% 1/10W SMD 0603	Yageo	9C06031A4991FKHFT	Digi-Key	311-4.99KHTR-ND
1	R22	RES TKF 10k 5% 1/10W SMD 0402	Panasonic	ERJ-2GEJ103X	Digi-Key	P10KJCT-ND
2	R34, R36	RES TKF 15k 1% 1/10W SMD 0402	Panasonic Electronic Cor	ERJ-2RK1502X	Digi-Key	P15.0KLCT-ND
1	R43	RES 82K OHM 1/10W 1% 0603 SMD	Panasonic Electronic Cor	ERJ-3EKF8202V	Digi-Key	P82.0KHCT-ND
1	TP2	CON TP LOOP Black TH	Keystone	5011	Digi-Key	5011K-ND

#### Microchip Parts listed below

2	U1, U4	MCHP INTERFACE USB POWER SWITCH UCS1002-2-BP-TR QFN-20	Microchip Technology	UCS1002-2-BP-TR	Digi-Key	UCS1002-2-BP-TR-ND
1	U2	MCHP ANALOG SWITCHER 3A BUCK 5V MCP16323T-500E/NG QFN-16	Microchip Technology	MCP16323T-500E/NG	Digi-Key	MCP16323T-500E/NGCT-ND
1	U3	MCHP MCU 8-BIT 20MHz 3.5kB 128B PIC16F1503T-E/ST TSSOP-14	Microchip	PIC16F1503T-E/ST	Microchip	PIC16F1503T-E/ST

#### Mechanical Parts to be added in the package

3	JP1, JP2, JP3	MECH HW JUMPER 2.54mm 1x2 Handle Gold	TE Connectivity	881545-2	Digi-Key	A26242-ND
4	PAD1, PAD2, PAD3, PAD4	MECH HW RUBBER PAD CYLINDRICAL D7.9 H5.3 BLACK	3M	SJ61A11	Digi-Key	SJ5747-0-ND
1	PS1	MECH HW POWER SUPPLY 12V 1.5A DC 2.5mm Jack	SL Power Electronics Ma	MENB1020A1203F01	Digi-Key	271-2746-ND

#### Do Not Populate Parts listed below

0	C7, C11, C14, C15, C34, C36	CAP CER 0.01uF 50V 20% X7R SMD 0603	KEMET	C0603C103M5RAC	KEMET	C0603C103M5RAC
0	J12	SOCKET IC PUSH DIP 14 TH	Mill-Max	110-93-314-41-001	Digi-Key	ED3314-ND
0	R8, R10	RES TKF 15k 1% 1/10W SMD 0402	Panasonic Electronic Cor	ERJ-2RK1502X	Digi-Key	P15.0KLCT-ND
0	R17, R42	RES TKF 10k 1% 1/10W SMD 0603	Vishay	CRCW060310K0FKEA	Digi-Key	541-10.0KHCT-ND
0	R31	RES 0R 1% 1/4W SMD 1206	TT Electronics	WCR1206-R005JI	Farnell	1100137

Approved	Notes
	Jumper positions Only two jumpers will be populated on J2 and J8. The third one will be delivered in the box along with the board.
