

# BOM

## Top Sheet

Source Data From:

Alhambra\_II.PrjPcb

Project:

Alhambra\_II.PrjPcb

PCB Version:

1.0A

Variant:

None

Author:

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#	Designator	Quantity	Description
1	C1, C2, C4, C5, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C20, C21, C22, C23, C25, C26, C27, C28, C29, C30, C32, C33, C34, C35, C36, C38, C39, C40, C46, C48, C49	37	Capacitor SMD
2	C3, C6, C19, C24, C31, C37, C43	7	Capacitor SMD
3	C41, C45, C47	3	Capacitor SMD
4	C42, C44	2	Capacitor SMD
5	C50	1	Capacitor, Electrolytic, SMD
6	D1, D5, D6	3	Schottky Diode
7	D2	1	Protection, USB ESD
8	D3	1	Protection, Transient Suppression Diode
9	D4	1	Zener Diode
10	FB1, FB2, FB3, FB4, FB5	5	Ferrite Bead
11	J1, J5	2	Connector, 8 pin Socket Header 2.54mm
12	J2, J6	2	Connector, 6 pin Socket Header 2.54mm
13	J3, J7	2	Connector, 1x6 pin Header 2.54mm
14	J4	1	Connector, 1x8 pin Header 2.54mm
15	J8, J12	2	Connector, 1x6 pin Header 2.54mm
16	J9, J13	2	Connector, 1x6 pin Header 2.54mm
17	J10	1	Connector, 1x8 pin Header 2.54mm
18	J11	1	Connector, 1x8 pin Header 2.54mm
19	J14	1	Micro USB 2.0 SMT Type B Horizontal 5 Contacts WR-COM
20	J15	1	Micro USB 2.0 SMT Type B Horizontal 5 Contacts High Current WR-COM
21	L1, L2	2	Inductor SMD
22	LD0, LD1, LD2, LD3, LD4, LD5, LD6, LD7, LD9	9	LED
23	LD8, LD10	2	LED
24	LD11, LD12	2	LED
25	Q1	1	P-Channel MOSFET
26	R1, R2, R19, R20, R21, R28, R29, R31, R32, R36, R37, R38, R39, R41, R42, R43	16	Resistor, SMD
27	R3, R23, R33, R47, R50	5	Resistor, SMD
28	R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R30	11	Resistor, Array 4x1

29	R14	1	Resistor
30	R15, R34, R35	3	Resistor, Resistor, Array 4x1
31	R16, R17, R25, R26, R27, R46	6	Resistor, SMD
32	R18, R22, R44, R45	4	Resistor, SMD
33	R24, R48, R49	3	Resistor, SMD
34	R40	1	Resistor, SMD
35	SW1, SW2, SW3	3	Micro miniature pushbutton surface Switch
36	SW4	1	WS-SLSU 6.7x2.7 mm SMD Right Angled, boss design
37	U1	1	iCE40 HX4K Series FPGA Family, 3520 Logic Cells, 1.2 V Core, 80 K Embedded RAM Bits, 144-pin TQFP, Pb-Free, Tray
38	U2	1	NOR Flash Memory, serial
39	U3	1	Dual High Speed USB to Multipurpose UART/FIFO IC
40	U4	1	EEPROM, 2K Microwire Compatible Serial, 8 or 16 bit word size, 2.5-5.5 Vcc range
41	U5	1	Oscillator, Low-Power CMOS, 4 pin, 1.8-3.3V
42	U6	1	LDO Regulator, 5pin, SOT-23
43	U7	1	ADC Converter, 12-Bit, 4-Ch, I2C
44	U8	1	Dual Step-Down DC/DC converter 1A, 1.5 MHz
45	U9	1	Voltage supervisor, Reset active high, 200ms
Total Quantity		155	Notes



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Value	Footprint	OrderingCode	Manufacturer
100nF ±10% 16V	C0402	C0402C104K4RAC	Kemet
10uF ±10% 10V	C0603	GRM188R61A106KE69D	Murata
10uF ±10% 10V	C0805_1.25_HD	LMK212ABJ106KG	Taiyo Yuden
100pF ±5% 25V	C0402	885012005046	WE
220uF 10V	C_POL_6.3x5.8_WE	875105244013	WE
200mA 30V	SOD523	RB520S30T1G	On Semiconductor
	SOT563	82400152	Würth
	DO-214AC-SMA_Unidir	824500500	WE
3,6V	DO-219AC	PLZ3V6A	Vishay
330R 0,080R 1700 mA	L0603	BLM18KG331SN1	Murata
8 PIH	1x8 Socket Header THT 2.54mm PIH	SSW-108-01-T-S	Samtec
6 PIH	1x6 Socket Header THT 2.54mm PIH	SSW-106-01-T-S	Samtec
	1x6 Pin Header 2.54 WHITE PIH	HTSW-106-07-T-S-NATURAL	Samtec
	1x8 Pin Header 2.54 WHITE PIH	HTSW-108-07-T-S-NATURAL	Samtec
	1x6 Pin Header 2.54 RED PIH	HTSW-106-07-T-S-RED	Samtec
	1x6 Pin Header 2.54 BLACK PIH	HTSW-106-07-T-S-BLACK	Samtec
	1x8 Pin Header 2.54 RED PIH	HTSW-108-07-T-S-RED	Samtec
	1x8 Pin Header 2.54 BLACK PIH	HTSW-108-07-T-S-BLACK	Samtec
	629105136821	629105136821	WE
	629105150521	629105150521	WE
4,7uH 1,7A	4018_WE_LQS_4R7	74404042047	WE
Green	LED0603	150 060 VS7 5000	WE
Yellow	LED0603	150 060 YS7 5000	WE
Blue	LED0603	150 060 BS7 5000	WE
	U-DFN2020-6	DMP1005UFDF-7	Diodes Incorporated
10k ±1% 0.063W	R0402	CRCW040210K0FK	Vishay
1k ±5% 0.063W	R0402	CRCW04021K00JN	Vishay
100R 5% 0,0625W, 100R ±5% 0,0625W	4xArray_1206_Convex	YC164-JR-07100RL	Yageo

10K ±5% 0,0625W	4xArray_1206_Convex	YC164-JR-0710KL	Yageo
470R ±5% 0,0625W, 470R 5% 0,0625W	4xArray_1206_Convex	YC164-JR-07470RL	Yageo
100R ±5% 0.063W	R0402	CRCW0402100RJN	Vishay
2k2 ±5% 0.063W	R0402	CRCW04022K20JN	Vishay
12k ±1% 0.063W	R0402	CRCW040212K0FK	Vishay
47k ±1% 0.063W	R0402	CRCW040247K0FK	Vishay
	4363x30458xx	436353045816	WE
	450404015514	450404015514	WE
	TQFP- 144_HX4K_FPGAwards	iCE40HX4K-TQ144	Lattice
32Mb	DFN-8 6x5mm	N25Q032A13EF640E	Micron
	FTDI_QFN-64	FT2232HQ-REEL	FTDI
2Kb	MSOP8	93LC56CT-I/MS	Microchip
12MHz	OSC 3.2x2.5	DSC1001CL2-012.0000	Microchip
	SOT23-5_M	NCP114BSN330T1G	ON Semiconductor
	QFN16	ADS7924IRTER	Texas Instruments
	WDFN_12_3x3	PAM2306AYPKB	Diodes
2,93V	SOT23-3	APX810-29SAG-7	Diodes Incorporated



Supplier	Price (€)	Cost (€)
	0,05	1,85
	0,027	0,189
	0,03	0,09
	0,007	0,014
	0,3	0,3
	0,017	0,051
Würth	0,1	0,1
	0,108	0,108
	0,07	0,07
	0,021	0,105
Samtec	0,438	0,876
Samtec	0,381	0,762
Samtec	0,26	0,52
Samtec	0,35	0,35
Samtec	0,26	0,52
Samtec	0,26	0,52
Samtec	0,35	0,35
Samtec	0,35	0,35
WE	0,26	0,26
WE	0,58	0,58
WE	0,128	0,256
	0,07	0,63
	0,07	0,14
	0,09	0,18
	0,16	0,16
	0,006	0,096
	0,003	0,015
	0,006	0,066

	0,006	0,006
	0,006	0,018
	0,003	0,018
	0,003	0,012
	0,006	0,018
	0,006	0,006
WE	0,2	0,6
WE	0,27	0,27
	6	6
Silica	0,9	0,9
Silica	3,45	3,45
Silica	0,24	0,24
	0,61	0,61
	0,07	0,07
Silica	1,35	1,35
RS	0,32	0,32
Silica	0,1	0,1
	<b>Total Cost</b>	<b>23,50</b>