Alhambra II V1.0A

Open FPGA Board

⚠ Maximum Supply Voltage: 5.5V
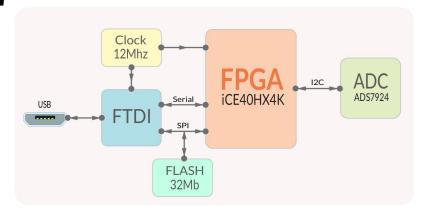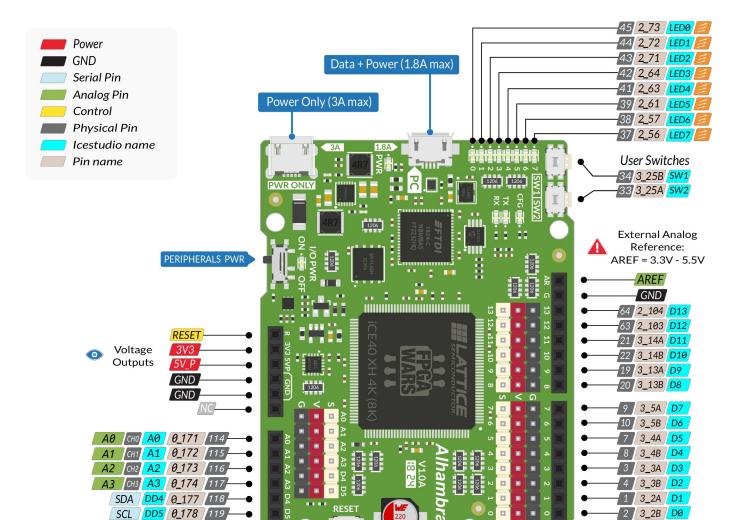
👁 Operating Supply Voltage: 3.5 - 5.5V

✓ 3.3V GPIO, 5V Compatible

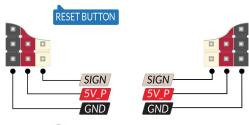👁 Each GPIO Includes a 200 ohm Serial Resistor
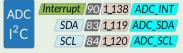
✓ ADC Internal to External Ref. Automatic Switching

Clock 12Mhz

FPGA iCE40HX4K

I2C

ADC ADS7924

USB

FTDI

Serial

SPI

FLASH 32Mb

Legend

Color	Meaning
Red	Power
Black	GND
Light Blue	Serial Pin
Green	Analog Pin
Yellow	Control
Dark Gray	Physical Pin
Cyan	Icestudio name
Tan	Pin name

Data + Power (1.8A max)

Power Only (3A max)

45	2_73	LED0
44	2_72	LED1
43	2_71	LED2
42	2_64	LED3
41	2_63	LED4
39	2_61	LED5
38	2_57	LED6
37	2_56	LED7

User Switches

| 34 | 3_25B | SW1 |
| 33 | 3_25A | SW2 |

⚠ External Analog Reference: AREF = 3.3V - 5.5V

PERIPHERALS PWR

PWR ONLY

ON · I/O PWR · OFF

	AREF
	GND
64	2_104	D13
63	2_103	D12
21	3_14A	D11
22	3_14B	D10
19	3_13A	D9
20	3_13B	D8
9	3_5A	D7
10	3_5B	D6
7	3_4A	D5
8	3_4B	D4
3	3_3A	D3
4	3_3B	D2
1	3_2A	D1
2	3_2B	D0

Voltage Outputs

👁

| RESET |
| 3V3 |
| 5V_P |
| GND |
| GND |
| NC |

A0	CH0	A0	0_171	114
A1	CH1	A1	0_172	115
A2	CH2	A2	0_173	116
A3	CH3	A3	0_174	117
SDA	DD4		0_177	118
SCL	DD5		0_178	119

iCE40 XH 4K (8K) LATTICE SEMICONDUCTOR

FPGA WARS

Alhambra II V1.0A

RESET

RESET BUTTON

WE 220 010 PLSP

FTDI

SCK	70	2_107	SCK
SDI	68	2_106	MISO
SDO	67	2_105	MOSI
SS	71	2_108	SS
DONE	65	CDONE	DONE
REST	66	CREST	RES

FTDI

RX	61	2_96	RX
TX	62	2_102	TX
RTS	60	2_95	RTS
CTS	56	2_94	CTS
DTR	52	2_82	DTR
DSR	48	2_80	DSR
DCD	47	2_79	DCD

SIGN
5V_P
GND

SIGN
5V_P
GND

👁 Max 4.8A for all 5V_P Pins

| CLK | Clock 12Mhz | 49 | 2_81 |

ADC I²C

Interrupt	90	1_138	ADC_INT
SDA	83	1_119	ADC_SDA
SCL	84	1_120	ADC_SCL