		Electrical specifications	P31U	NanoHub	A712D	Motherboard
H1	1 (A)	CAN bus, 3.3V, 120R, diff. low			CANL (Bi)	CANL (Bi)
	1 (B)	3.3V LVCMOS			GPIO CPU pin 51 (Bi)	
H1	2	3.3V LVCMOS			GPIO CPU pin 53 (Bi)	
H1	3	CAN bus, 3.3V, 120R, diff. high			CANH (Bi)	CANH (Bi)
H1	4					
H1	5					
H1	6					
H1	7					
H1	8					
H1	9	3.3V LVCMOS open-drain			SPI CS1 (output)	
H1	10	3.3V LVCMOS open-drain			SPI CS2 (output)	
H1	11	3.3V LVCMOS open-drain			SPI CS3 (output)	
H1	12	3.3V LVCMOS open-drain			SPI CS4 (output)	
H1	13	3.3V LVCMOS open-drain			SPI CS5 (output)	
H1	14	3.3V LVCMOS open-drain			SPI CS6 (output)	
H1	15					
H1	16					
H1	17					
H1	18	3.3V LVCMOS			GPIO CPU pin 48 (Bi)	
H1	19	UART, 3.3V, 500kbaud		TX (output)	UART2 RX (input)	
H1	20	UART, 3.3V, 500kbaud		RX (input)	UART2 TX (output)	
H1	21	3.3V LVCMOS			SPI CLK (output)	
H1	22	3.3V LVCMOS			SPI MISO (input)	
H1	23	3.3V LVCMOS			SPI MOSI (output)	
H1	24	3.3V LVCMOS open-drain			SPI CS7 (output)	
H1	25					
H1	26	3.3V LVCMOS			GPIO CPU pin 47 (Bi)	
H1	27					
H1	28					
H1	29	3.3V LVCMOS			GPIO CPU pin 52 (Bi)	
H1	30					
H1	31					
H1	32	5V, 1A, charge	input			
H1	33	UART, 3.3V, 500kbaud		TX (output)	UART1 RX (input)	
H1	34					
H1	35	UART, 3.3V, 500kbaud		RX (input)	UART1 TX (output)	
H1	36					
H1	37					
H1	38					
H1	39					
H1	40					
H1	41	I2C SDA, LVCMOS (3.3V)	Bi (802R pull-up)	Bi (100k pull-up)	Bi (100k pull-up)	Bi (100k pull-up)
H1	42					
H1	43	I2C SCL, LVCMOS (3.3V)	Bi (802R pull-up)	Bi (100k pull-up)	Bi (100k pull-up)	Bi (100k pull-up)
H1	44					
H1	45	I2C SDA2, LVCMOS (3.3V)			Bi (100k pull-up)	
H1	46					
H1	47 (A)	3.3V, 2A	output	VCC input option	VCC input option	VCC input option
	47 (B)	I2C SCL2, LVCMOS (3.3V)			Bi (100k pull-up)	
H1	48	3.3V, 2A	output	VCC input option	VCC input option	VCC input option
H1	49 (A)	5V, 2A	output	VCC input option	VCC input option	VCC input option
	49 (B)	3.3V LVCMOS			GPIO CPU pin 55 (Bi)	
H1	50	3.3V, 2A	output	VCC input option	VCC input option	VCC input option
H1	51	5V, 2A	output	VCC input option	VCC input option	VCC input option
H1	52	3.3V, 2A	output	VCC input option	VCC input option	VCC input option
H2	1					
H2	2					
H2	3					
H2	4					
H2	5					
H2	6					
H2	7					
H2	8					
H2	9					
H2	10					
H2	11					
H2	12					
H2	13					
H2	14					
H2	15					
H2	16					
H2	17					
H2	18					
H2	19					
H2	20					
H2	21					
H2	22					
H2	23					
H2	24					
H2	25	5V, 5A	output	Switch 1 input		
H2	26	5V, 5A	output	Switch 1 input		
H2	27	3.3V, 5A	output	Switch 0 input	VCC input option	
H2	28	3.3V, 5A	output	Switch 0 input	VCC input option	
H2	29	Power ground	GND	GND	GND	GND
H2	30	Power ground	GND	GND	GND	GND
H2	31	Analog ground	GND			
H2	32	Power ground	GND	GND		GND
H2	33					
H2	34					
H2	35					
H2	36	UART, 3.3V, 500kbaud	RX (input)	TX (output)		
H2	37					
H2	38	UART, 3.3V, 500kbaud	TX (output)	RX (input)		
H2	39					
H2	40					
H2	41					
H2	42					
H2	43					
H2	44					
H2	45	Battery voltage (protected < 10A)	output	input		input
H2	46	Battery voltage (protected < 10A)	output	input		input
H2	47					
H2	48					
H2	49					
H2	50	3.3V LVCMOS			GPIO CPU pin 49 (Bi)	
H2	51					
H2	52					