

Chrysalide Engineering

Nunki V3F Evaluation Board

Quick Reference Handbook

History

V1.0	9/8/2024	
V1.1	10/8/2024	GPIO refs completed
V1.2	31/8/2024	GPIO Updated

Short desc

The NUNKI V3F is a miniature board with

- One Micro-Controller (TSSOP 20 pins)
- One On-board 24 Mhz Crystal
- One 16 GPIO port 2.54mm pitch
- One Programmation port
- One 6-Pins power port with protection fuse and diode
- One Micro-USB port (power supply only)
- On-board 3.3V regulator
- Two LEDs with free standing pins
- One Reset push-button

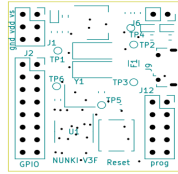
Variants

The Layout fits 20 pin TSSOP microcontroller.
Variant(s), if any, for the board:

<i>Name</i>	<i>Manuf.</i>	<i>Desc.</i>
V3F	WCH	CHV003 F4P6

J1 Power port					
In to 10V	Vin	1	2	Vin	In to 10V
In or out	+3.3V	3	4	+3.3V	In or out
Ground	GND	5	6	GND	Ground

J2 GPIO port					
GPIO_01	PDS/UTX	1	2	PD7/NRST	GPIO_02
GPIO_03	PC0	3	4	PD3/SWDIO	GPIO_04
GPIO_05	PC7	5	6	PC5	GPIO_06
GPIO_07	PC3	7	8	PC1	GPIO_08
GPIO_09	PC2	9	10	PC4	GPIO_10
GPIO_11	PC6	11	12	PD2	GPIO_12
GPIO_13	PD3	13	14	PD0	GPIO_14
GPIO_15	PD6/URX	15	16	PD4	GPIO_16



J12 Prog and serial port					
SWCLK	1	2	Prog RX	GPIO_01	
SWDIO	3	4	Prog TX	GPIO_15	
gnd	5	6	TDO		
3V	7	8	TDI		
5V	9	10	NRST	GPIO_02	

J6 LED port	
Free standing LED pin	1 2
Free standing LED pin	1 2

Main characteristics

Microcontroller	CH32V003-F4P6
Core / Arch.	RISC-V EC instruction set
Clock	Built-in 24 Mhz - PLL 48 Mhz
Power supply	3.3V and 5V
Flash	16k
SRAM	2k
GPIO	16
Output current	8 mA

Headers	Pin	Port	Function	Alternates
J1 Power port				
	1	Vin	Supply 5-15V	
	2	Vin	Supply 5-15V	
	3	+3.3V	Supply 3.3V / 5V	
	4	+3.3V	Supply 3.3V / 5V	
	5	GND	Ground	
	6	GND	Ground	
J2 GPIO port				
GPIO_01	1	PDS	UTX	A5/UTX/TZCH4_URX_
GPIO_02	2	PD7	NRST	NRST/TZCH4/OPP1_LUCK_
GPIO_03	3	PC0	User	TZCH3/UTX_RSS_TZCH3
GPIO_04	4	PD1	User	SWIOAETR/TZCH3/SCL_URX_
GPIO_05	5	PC7	User	MISO/TZCH2_TZCH2_URTS
GPIO_06	6	PC5	User	SKCT1ETR/TZCH1ETR_SCL_URX_
GPIO_07	7	PC3	User	TZCH3/TZCH1N_URTS
GPIO_08	8	PC1	User	SDA/SS/TZCH4_TZCH1ETR_TBKIN_URX_
GPIO_09	9	PC2	User	SCLURTS/TZCH1AETR_TZCH2_TZCH2_URTS
GPIO_10	10	PC4	User	AZ/TZCH4/MCO/TZCH1CH2N
GPIO_11	11	PC6	User	MOSI/TZCH1CH3N_URTS_SDA
GPIO_12	12	PD2	User	A3/TZCH1/TZCH3_TZCH2N
GPIO_13	13	PD3	User	A4/TZCH2AETR/URTS/TZCH4
GPIO_14	14	PD0	User	TZCH1N/OPN1/SDA_URX_
GPIO_15	15	PD6	URX	A6/URX/TZCH3_URX_
GPIO_16	16	PD4	User	A7/URX/TZCH1ETR/OPN1/TZCH4ETR_

Wiring informations

From Header pin, prog port or derived from external Vs

From Header pin, prog port or derived from external Vs

From Header pin, prog port or derived from external Vs

From Header pin, prog port or derived from external Vs

From Header pin, prog port or derived from external Vs

Wired to Prog RX and serial headers TX. Pin may be used if not conflicting.

Reset (board and prog port). Pin may be used if not conflicting.

User pin available

SWDIO from Prog port. Pin may be used if not conflicting.

User pin available

Wired to Prog TX and serial headers RX. Pin may be used if not conflicting.

User pin available

USB / UART TX

USB / UART RX

Program Data Pin

3.3V supply

Reset pin

5V supply (not used)

J12 Prog port			
GPIO_01	1	Prog RX	Prog RX
	2	SWCLK	Not used
GPIO_15	3	Prog TX	Prog TX
GPIO_04	4	SWDIO	Prog DIO
	5	TDO	Not used
	6	GND	Prog
	7	TDI	Not used
	8	3.3V	Prog 3.3V
GPIO_02	9	NRST	Prog Reset
	10	5V	Prog 5V

J6 LED port	
1	LED (right)
2	LED (left)

Free standing pin with Green LED and 2.7k resistor

Free standing pin with Green LED and 2.7k resistor

