

GPIO

BPI-R2-GPIO

Pin-Belegung



Nebenfunktion	Hauptfunktion	pin#	xxxxxxxxxxxxxxxxxxxxxx	pin#	Hauptfunktion	Nebenfunktion
	+3V3	1	1	2	2	+5V
GPIO 56 #	I2C1_SDA	3	3	4	4	+5V
GPIO 55 #	I2C1_SCL	5	5	6	6	GND
GPIO101	PWM 7	7	7	8	8	UART0-TX
	GND	9	9	10	10	GPIO 59 #
GPIO 51 #	PWM1 / UART1-TX	11	11	12	12	GPIO 60 #
GPIO 52 #	PWM2 / UART1-RX	13	13	14	14	
GPIO 98 #		15	15	16	16	GND
	+3V3	17	17	18	18	
GPIO 68 #	PWM5 / SPI1 MOSI	19	19	20	20	GPIO 61 #
GPIO 69	PWM6 / SPI1 MISO	21	21	22	22	GPIO 62 #
GPIO 67	PWM4 / SPI1 CLK	23	23	24	24	
	GND	25	25	26	26	GND
GPIO 58	I2C2 SDA	27	27	28	28	SPI0 CLK
GPIO 85		29	29	30	30	GPIO 63
GPIO 82	SPI0 MOSI	31	31	32	32	SPI1 CS
		33	33	34	34	GPIO 70
		35	35	36	36	SPI0 CS
GPIO 86		37	37	38	38	I2C2 SCL
	GND	39	39	40	40	GPIO 57
						GND
						SPI0 MOSI
						GPIO 64
						GND
						SPI0 MISO
						GPIO 65
						I2S IN
						I2S OUT

(# verified gpio working, 101 is blocked by pwm)

- uart0 (dts) ⇒ Debug-Uart
- uart1 (dts) ⇒ undefined ⇒ mt7622_uart2_2_tx_rx_pins (59/60)
- uart2 (dts) ⇒ uart1 (gpio) ⇒ mt7622_uart2_1_tx_rx_pins (51/52)

Kernel 4.19

```
root@bpi-iot-ros-ai:~# cat /sys/kernel/debug/pinctrl/10211000.pinctrl-  
pinctrl_mt7622/gpio-ranges  
GPIO ranges handled:  
0: pinctrl_mt7622 GPIOs [409 - 511] PINS [0 - 102]  
root@bpi-iot-ros-ai:~# GPIO_NO=$((409+56))  
root@bpi-iot-ros-ai:~# echo $GPIO_NO  
465  
root@bpi-iot-ros-ai:~# echo $GPIO_NO > /sys/class/gpio/export  
  
-bash: echo: write error: Invalid argument => blocked by i2c1  
  
#if i2c1 is disabled in dts:  
root@bpi-r64:~# echo $GPIO_NO > /sys/class/gpio/export  
root@bpi-r64:~# echo out > /sys/class/gpio/gpio${GPIO_NO}/direction  
root@bpi-r64:~# echo 1 > /sys/class/gpio/gpio${GPIO_NO}/value #led goes on  
root@bpi-r64:~# echo 0 > /sys/class/gpio/gpio${GPIO_NO}/value #led goes off
```

Die sysfs Schnittstelle (/sys/class/gpio/...) benötigt die kernel-option CONFIG_GPIO_SYSFS

uart

der debug-Uart ist in der DTS uart0. Der vorhandene uart2 ist scheinbar uart1 der gpio-Leiste...uart1 ist aktuell nicht definiert.

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