| RIOT STM32F4 Pin Configuration |         |                          |             | GPIO                 | UART             | SPI            | I2C        |                       |
|--------------------------------|---------|--------------------------|-------------|----------------------|------------------|----------------|------------|-----------------------|
|                                |         |                          |             | PWM                  | ADC              | USB            | INCAP      |                       |
|                                |         |                          |             |                      |                  |                |            |                       |
| STM32F4 Pin                    | LQFP100 | Function (1) after reset | 5V tolerant | Original<br>Function | RIOT<br>Function | Device         | Function   | Comments              |
| PA0                            | 23      | PA0-WKUP                 |             | GPIO                 | GPIO_0           | User Button 1  |            |                       |
| PA1                            | 24      | PA1                      |             | ADC1 / IN1           | ADC_0            |                | CH0        | not connected         |
| PA2                            | 25      | PA2                      |             | USART2 / TX / AF7    | UART_0           |                | TX         | not connected         |
| PA3                            | 26      | PA3                      |             | USART2 / RX / AF7    | UART_0           |                | RX         | not connected         |
| PA4                            | 29      | PA4                      |             | ADC1 / IN4           | ADC_0            | CS43L22        | CH1 / AIN1 |                       |
| PA5                            | 30      | PA5                      |             | SPI1 / SCK / AF5     | SPI_1            | LIS302DL       | SCL        |                       |
| PA6                            | 31      | PA6                      |             | SPI1 / MISO / AF5    | SPI_1            | LIS302DL       | MISO       |                       |
| PA7                            | 32      | PA7                      |             | SPI1 / MOSI / AF5    | SPI_1            | LIS302DL       | MOSI       |                       |
| PA8                            | 67      | PA8                      |             | GPIO                 | GPIO_9           |                |            | not connected         |
| PA9                            | 68      | PA9                      |             | GPIO                 | GPIO_10          | LD7 (USB data) |            | not connected         |
| PA10                           | 69      | PA10                     |             |                      |                  | USB            | ID         |                       |
| PA11                           | 70      | PA11                     |             |                      |                  | USB            | DM         |                       |
| PA12                           | 71      | PA12                     |             |                      |                  | USB            | DP         |                       |
| PA13                           | 72      | JTMS-SWDIO               |             |                      |                  | SWDIO          | DIO        | Programming interface |
| PA14                           | 76      | JTCK-SWCLK               |             |                      |                  | SWCLK          | CLK        | Programming interface |
| PA15                           | 77      | JTDI                     |             |                      |                  | JTDI           |            | Programming interface |
| PB0                            | 35      | PB0                      |             | TIM3 / CH3 / AF2     | PWM_1            |                | CH2        | not connected         |
| PB1                            | 36      | PB1                      |             | TIM3 / CH4 / AF2     | PWM_1            |                | CH3        | not connected         |
| PB2                            | 37      | PB2-BOOT1                |             |                      |                  |                |            |                       |
| PB3                            | 89      | JTDO                     |             |                      |                  | swo            |            | Programming interface |
| PB4                            | 90      | NJTRST                   |             | TIM3 / CH1 / AF2     | PWM_1            |                | СН0        | not connected         |
| PB5                            | 91      | PB5                      |             | TIM3 / CH2 / AF2     | PWM_1            |                | CH1        | not connected         |
| PB6                            | 92      | PB6                      |             | I2C1 / SCL / AF4     | I2C_1            | CS43L22        | SCL        |                       |
| PB7                            | 93      | PB7                      |             | I2C1 / SDA / AF4     | I2C_1            | CS43L22        | SDA        |                       |
| PB8                            | 95      | PB8                      |             |                      |                  |                |            |                       |
| PB9                            | 96      | PB9                      |             |                      |                  |                |            |                       |
| PB10                           | 47      | PB10                     |             |                      |                  | MP45DT02       | CLK        |                       |
| PB11                           | 48      | PB11                     |             |                      |                  |                |            |                       |
| PB12                           | 51      | PB12                     |             |                      |                  |                |            |                       |
| PB13                           | 52      | PB13                     |             | SPI2 / SCK / AF5     | SPI_0            |                | SCL        | not connected         |

| PB14 | 53 | PB14      | SPI2 / MISO / AF5 | SPI_0   |                        | MISO    | not connected           |
|------|----|-----------|-------------------|---------|------------------------|---------|-------------------------|
| PB15 | 54 | PB15      | SPI2 / MOSI / AF5 | SPI_0   |                        | MOSI    | not connected           |
| PC0  | 15 | PC0       |                   |         | USB                    | PowerOn |                         |
| PC1  | 16 | PC1       | ADC2 / IN11       | ADC_1   |                        | CH0     | not connected           |
| PC2  | 17 | PC2       | ADC2 / IN12       | ADC_1   |                        | CH1     | not connected           |
| PC3  | 18 | PC3       |                   |         | MP45DT02               | DOUT    |                         |
| PC4  | 33 | PC4       |                   |         |                        |         |                         |
| PC5  | 34 | PC5       |                   |         |                        |         |                         |
| PC6  | 63 | PC6       |                   |         |                        |         |                         |
| PC7  | 64 | PC7       | I2S3 / MCK / AF6  |         | CS43L22                | MCLK    |                         |
| PC8  | 65 | PC8       |                   |         |                        |         |                         |
| PC9  | 66 | PC9       |                   |         |                        |         |                         |
| PC10 | 78 | PC10      | I2S3 / CK / AF6   |         | CS43L22                | SCLK    |                         |
| PC11 | 79 | PC11      |                   |         |                        |         |                         |
| PC12 | 80 | PC12      | I2S3 / SD / AF6   |         | CS43L22                | SDIN    |                         |
| PC13 | 7  | PC13(4)   |                   |         |                        |         |                         |
| PC14 | 8  | OSC32_IN  |                   |         |                        |         |                         |
| PC15 | 9  | OSC32_OUT |                   |         |                        |         |                         |
| PD0  | 81 | PD0       |                   |         |                        |         |                         |
| PD1  | 82 | PD1       |                   |         |                        |         |                         |
| PD2  | 83 | PD2       |                   |         |                        |         |                         |
| PD3  | 84 | PD3       |                   |         |                        |         |                         |
| PD4  | 85 | PD4       | GPIO              | GPIO_5  | CS43L22                | RESET   |                         |
| PD5  | 86 | PD5       | GPIO              | GPIO_6  | LD8 (USB over current) |         |                         |
| PD6  | 87 | PD6       | GPIO              | GPIO_7  |                        |         | not connected           |
| PD7  | 88 | PD7       | GPIO              | GPIO_8  |                        |         | not connected           |
| PD8  | 55 | PD8       | USART3 / TX / AF7 | UART_1  |                        | TX      | not connected           |
| PD9  | 56 | PD9       | USART3 / RX / AF7 | UART_1  |                        | RX      | not connected           |
| PD10 | 57 | PD10      | GPIO              | GPIO_11 |                        |         | not connected           |
| PD11 | 58 | PD11      |                   |         |                        |         |                         |
| PD12 | 59 | PD12      |                   |         | LD4 (LED_GREEN)        |         | direct access via macro |
| PD13 | 60 | PD13      |                   |         | LD3 (oragne)           |         | direct access via macro |
| PD14 | 61 | PD14      |                   |         | LD5 (LED_RED)          |         | direct access via macro |
| PD15 | 62 | PD15      |                   |         | LD6 (blue)             |         | direct access via macro |
| PE0  | 97 | PE0       | <b>GPIO</b>       | GPIO_1  | LIS302DL               | INT1    |                         |
| PE1  | 98 | PE1       | GPIO              | GPIO_2  | LIS302DL               | INT2    |                         |

| PE2  | 1 1 | PE2       | GPIO             | GPIO_3 |          |     | not connected |
|------|-----|-----------|------------------|--------|----------|-----|---------------|
|      |     |           |                  |        | LICAGODI |     | not connected |
| PE3  | 2   | PE3       | GPIO             | GPIO_4 | LIS302DL | CS  |               |
| PE4  | 3   | PE4       |                  |        |          |     |               |
| PE5  | 4   | PE5       |                  |        |          |     |               |
| PE6  | 5   | PE6       |                  |        |          |     |               |
| PE7  | 38  | PE7       |                  |        |          |     |               |
| PE8  | 39  | PE8       |                  |        |          |     |               |
| PE9  | 40  | PE9       | TIM1 / CH1 / AF2 | PWM_0  |          | CH0 | not connected |
| PE10 | 41  | PE10      |                  |        |          |     |               |
| PE11 | 42  | PE11      | TIM1 / CH2 / AF2 | PWM_0  |          | CH1 | not connected |
| PE12 | 43  | PE12      |                  |        |          |     |               |
| PE13 | 44  | PE13      | TIM1 / CH3 / AF2 | PWM_0  |          | CH2 | not connected |
| PE14 | 45  | PE14      | TIM1 / CH4 / AF2 | PWM_0  |          | CH3 | not connected |
| PE15 | 46  | PE15      |                  |        |          |     |               |
| PH0  | 12  | OSC32_IN  |                  |        |          |     |               |
| PH1  | 13  | OSC32_OUT |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
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|      |     |           |                  |        |          |     |               |
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|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |
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|      |     |           |                  |        |          |     |               |
|      |     |           |                  |        |          |     |               |