PinInit

Functions in “PinInit.c” are designed to initialize GPIO pins. The core functions are in “F2837xD\_Gpio.c”. 8 high-speed pins are used for general output. Others are listed:

### *Initial value of pins*

|  |  |  |  |
| --- | --- | --- | --- |
| **Pin Name** | **Pin Number** | **Initial value** | **Note** |
| GPIO output pins for DAC | | | |
| DACCLR | 25 | 1 |  |
| DACRST | 27 | 1 |  |
| CSB | 26 | 1 |  |
| GPIO output pins for ADC | | | |
| ADCRST | 122 | 1 |  |
| CSA | 61 | 1 |  |
| GPIO output pins for 20bit DAC | | | |
| CS20 | 95 | 1 |  |
| RST20 | 139 | 1 |  |
| CLR20 | 56 | 1 |  |
| Pins for tip approach | | | |
| XGAIN\_0 | 15 | 1 | Initial gain 10 for XIN |
| XGAIN\_1 | 14 | 1 |  |
| YGAIN\_0 | 11 | 1 | Initial gain 10 for YIN |
| YGAIN\_1 | 10 | 1 |  |
| ZGAIN\_0 | 5 | 1 | Initial gain 0.1 for Z1 |
| ZGAIN\_1 | 24 | 1 |  |
| ZGAIN\_2 | 16 | 1 | Initial gain 10 for Z2(HV) |
| ZGAIN\_3 | 4 | 1 |  |
| COARSE | 8 | 1 | Initial coarse mode (5/10/15 = 10 \* ZOUTER) |
| RETRACT | 125 |  |  |
| ROT | 124 | 0 | Initial rotational mode |
| DITHER\_0 | 9 | 0 | Initial Dither0 off |
| DITHER\_1 | 3 | 0 | Initial Dither1 off |
| FEEDBACK | 2 | 1 | Initial feedback on |

**GPIO\_SetupPinMux**

*void GPIO\_SetupPinMux(Uint16 gpioNumber, Uint16 cpu, Uint16 muxPosition)*

Set the peripheral muxing for the specified pin. The appropriate parameters can be found in the GPIO Muxed Pins table(4.4) in the datasheet. Use the GPIO index row (0 to 15) to select a muxing option for the GPIO.

**GPIO\_SetupPinOptions**

*void GPIO\_SetupPinOptions(Uint16 gpioNumber, Uint16 output, Uint16 flags)*

Setup up the GPIO input/output options for the specified pin. The flags are a 16-bit mask produced by ORing together options.

### *For input pins, the valid flags are:*

|  |  |
| --- | --- |
| GPIO\_PULLUP | Enable pull-up |
| GPIO\_INVERT | Enable input polarity inversion |
| GPIO\_SYNC | Synchronize the input latch to PLLSYSCLK  (default -- you don't need to specify this) |
| GPIO\_QUAL3 | Use 3-sample qualification |
| GPIO\_QUAL6 | Use 6-sample qualification |
| GPIO\_ASYNC | Do not use synchronization or qualification |

Note: only one of SYNC, QUAL3, QUAL6, or ASYNC is allowed.

### *For output pins, the valid flags are:*

|  |  |
| --- | --- |
| GPIO\_OPENDRAIN | Output in open drain mode |
| GPIO\_PULLUP | If open drain enabled, also enable the pull-up and the input qualification flags (SYNC/QUAL3/QUAL6/SYNC) listed above. |

With no flags, the default input state is synchronous with no pull-up or polarity inversion. The default output state is the standard digital output.

**PIO\_WritePin**

*void GPIO\_WritePin(Uint16 gpioNumber, Uint16 outVal)*

Set the GPyDAT register bit for the specified pin.