Piccolo F2803x controlCARD

The Piccolo F2803x controlCARD can be used as a quick evaluation board as well as a noise-resistant plug-in card in low-quantity production. The controlCARD features:
- Small size – 90mm x 25mm (3.5" x 1")
- All GPIO, ADC and other key signals routed to gold connector fingers
- Single 5V input supply to the controlCARD and extensive supply pin decoupling with L+C connected close to the device
- Clamping diode protection at ADC input pins
- Anti-aliasing filter (noise filter) at ADC input pins
- Ground plane
- Isolated RS-232 communication

Each controlCARD includes a "Hardware Developer's Package", a set of "soft collateral" files which makes deploying this
technology very easy, these files include:
- Schematics
- Bill of materials (BOM)
- Gerber files to freely use or modify
- Pinout table showing all key signals at the 100-pin connector
- DIMM100 pin / socket mechanical details

Reference

LD1 – Turns on when controlCARD is powered on
LD2 – controlled by GPIO-31
LD3 – controlled by GPIO-34

SW1 – controls whether on-card RS-232 connection is enabled or disabled.

- ON – RS-232 transceiver will be enabled and allow communication through a serial cable via pins 2 and 42 of the DIMM-100 socket. Putting SW1 in the "ON" position will allow the F28035 controlCARD to be card compatible with the F2808, F28044, F28335, and F28027 controlCARDs. GPIO-28 will be stuck as logic high in this position.
- OFF – The default option. SW1 in the "OFF" position allows GPIO-28 to be used as a GPIO. Serial communication is still possible, however an external transceiver such as the FTDI – FT2232D chip.

SW2 – controls the boot options of the F28035 device

Position 1 (GPIO-34)	Position 2 (TDO)	
0	0	Parallel I/O
0	1	Wait mode
1	0	SCI
1	1	(default) Get mode; the default get mode is boot from FLASH

SW3 – ADC VREF control
The ADC will by default convert from 0 to 3.3V, however if in the ADC registers the ADC is configured to use external limits the ADC will convert its full range of resolution from VREF-LO to VREF-HI.

Position 1 controls VREF-HI, the value that the ratiometric ADC will convert as the maximum 12-bit value, 0x0FFF.   In the downward position, VREF-HI will be connected to 3.3V. In the upward position, VREF-HI will be connected to pin 66 of the DIMM100-socket. This would allow a connecting board to control the ADC-VREFHI value.

Position 2 controls VREF-LO, the value that the ratiometric ADC will convert as the minimum 12-bit value, 0x0000.   In the downward position, VREF-LO will be connected to 0V. In the upward position, VREF-LO will be connected to pin 16 of the DIMM100-socket. This would allow a connecting board to control the ADC-VREFLO value.