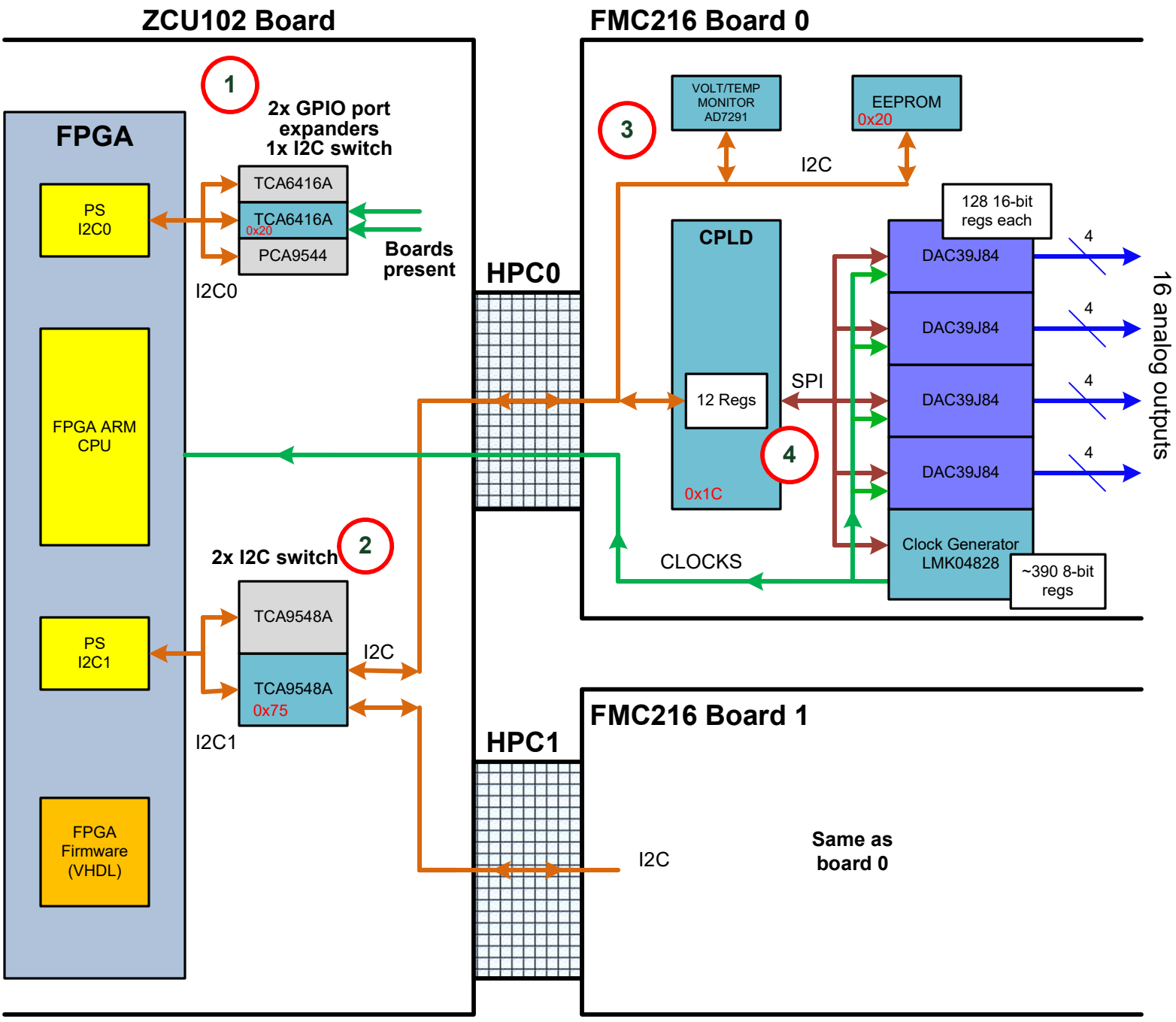
ZCU102 and FMC216 I2C and SPI bus connections for device control



1. Three devices on the **I2C0** bus but only U97 is interesting.
   Device addr 0x20 has presence detect for FMC boards if they drive a signal low
   P10 is FMC_HPC0_PRSNT_M2C_B
   P11 is FMC_HPC1_PRSNT_M2C_B

2. Two devices on the **I2C1** bus
   U34 is mainly ZCU102 clock chips.
   U135,Device addr 0x75, enables I2C paths to FMC boards.
   SC0 is FMC_HPC0_IIC_SDA/SCL
   SC1 is FMC_HPC1_IIC_SDA/SCL

3. The Abaco FMC216 boards have three I2C devices
   addr 0x1C CPLD Used for SPI bus access, status etc.
   addr 0x50 EEPROM – Do not access
   addr 0x20 Voltage/Temp monitor

4. Five devices on the **SPI** bus. Read/write through CPLD registers.
   4x DAC39J84 4-channel DACs
   1x LMK04028B Clock generator

Programming:

1. Read P10 and P11 pins on I2C0 port expander at address 0x20 to determine if one or two boards are connected.
2. Write to U135 on I2C1 at address 0x75 to enable I2C1 connection to FMC216 board 0.
3. Write to CPLD on board 0 to configure each DAC chip and the clock generator over the SPI bus.
4. If FMC216 board 1 is present, write to U135 on I2C1 at address 0x75 to disable I2C1 connection to FMC216 board 0 and connect it to board 1.
5. Write to CPLD on board 1 to configure each DAC chip and the clock generator over the SPI bus.