-- VHDL Code for IceCube Flasher Board
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-- Created: 8/9/2003
-- flash_defs.vhd

library IEEE;
use IEEE.STD_LOGIC_1164.all;

package flash_defs is
    subtype address is std_logic_vector(5 downto 0);
    subtype mode_bits is std_logic_vector(1 downto 0);

type cpld_states is (mode_normal, mode_spi, mode_onewire);

constant addr_status : address := B"000000";
constant addr_reset : address := B"000001";
constant addr_cpld_id : address := B"000010";
constant addr_mode_select : address := B"000011";
constant addr_spi : address := B"000100";
constant addr_dcdc_ctrl : address := B"000101";
constant addr_delay_adjust : address := B"001000";
constant addr_delay_config0 : address := B"001001";
constant addr_delay_config1 : address := B"001010";
constant addr_delay_config2 : address := B"001011";
constant addr_mux : address := B"001100";

-- Bit assignment for the byte at addr_mode_select
constant bits_mode_normal : mode_bits := B"00";
constant bits_mode_spi : mode_bits := B"01";
constant bits_mode_onewire : mode_bits := B"10";

-- Bit assignment for the byte at addr_serial_chan
constant bit_ser_sclk : integer := 0; --(TBR)
constant bit_ser_mosi : integer := 1; --(TBR)
constant bit_ser_ncs : integer := 2; --(TBR)
constant bit_ser_onewire : integer := 3; --(TBR)

-- Bit assignment for the byte at addr_mux
constant bit_mux_0 : integer := 0;
constant bit_mux_1 : integer := 1;
constant bit_mux_a : integer := 2;
constant bit_mux_b : integer := 3;
constant bit_mux_c : integer := 4;
constant bit_mux_d : integer := 5;
constant bit_mux_f : integer := 6;
constant bit_mux_sd : integer := 7;

-- Bit assignment for the byte at addr_dcdc_ctrl
constant bit_dcdc_en : integer := 0;
constant bit_dcdc_on : integer := 1;

end flash_defs;