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ENTITY mx2_x2 IS
GENERIC (
    CONSTANT area           : NATURAL := 2250;
    CONSTANT cin_cmd        : NATURAL := 17;
    CONSTANT cin_i0         : NATURAL := 8;
    CONSTANT cin_il         : NATURAL := 9;
    CONSTANT rdown_cmd_q    : NATURAL := 1620;
    CONSTANT rdown_i0_q     : NATURAL := 1620;
    CONSTANT rdown_il_q     : NATURAL := 1620;
    CONSTANT rup_cmd_q      : NATURAL := 1790;
    CONSTANT rup_i0_q       : NATURAL := 1790;
    CONSTANT rup_il_q       : NATURAL := 1790;
    CONSTANT tphh_i0_q      : NATURAL := 451;
    CONSTANT tphh_il_q      : NATURAL := 451;
    CONSTANT tpll_i0_q      : NATURAL := 469;
    CONSTANT tpll_il_q      : NATURAL := 469;
    CONSTANT tphh_cmd_q     : NATURAL := 484;
    CONSTANT tphl_cmd_q     : NATURAL := 485;
    CONSTANT tpll_cmd_q     : NATURAL := 522;
    CONSTANT tplh_cmd_q     : NATURAL := 534;
    CONSTANT transistors    : NATURAL := 12
);
PORT (
    cmd      : IN  BIT;
    i0       : IN  BIT;
    i1       : IN  BIT;
    q        : OUT BIT;
    vdd      : IN  BIT;
    vss      : IN  BIT
);
END mx2_x2;

ARCHITECTURE vbe OF mx2_x2 IS

BEGIN
    ASSERT ((vdd and not (vss)) = '1')
    REPORT "power supply is missing on mx2_x2"
    SEVERITY WARNING;
    q <= ((i1 AND cmd) OR (NOT (cmd) AND i0)) AFTER 1100 ps;
END;

```