

Vhdl code

```
19 LIBRARY ieee;
20 USE ieee.std_logic_1164.all;
21
22 LIBRARY work;
23
24 ENTITY NCO2 IS
25     PORT
26     (
27         clk_in : IN STD_LOGIC;
28         clken : IN STD_LOGIC;
29         outvalid : OUT STD_LOGIC;
30         fsin : OUT STD_LOGIC_VECTOR(15 DOWNTO 0)
31     );
32 END NCO2;
33
34 ARCHITECTURE bdf_type OF NCO2 IS
35
36     COMPONENT nco
37     PORT (clk : IN STD_LOGIC;
38          reset_n : IN STD_LOGIC;
39          clken : IN STD_LOGIC;
40          phi_inc_i : IN STD_LOGIC_VECTOR(15 DOWNTO 0);
41          out_valid : OUT STD_LOGIC;
42          fsin_o : OUT STD_LOGIC_VECTOR(15 DOWNTO 0)
43     );
44     END COMPONENT;
45
46     COMPONENT coeff_16
47     PORT (coeff_16a : OUT STD_LOGIC_VECTOR(15 DOWNTO 0)
48     );
49     END COMPONENT;
50
51     SIGNAL SYNTHESIZED_WIRE_0 : STD_LOGIC_VECTOR(15 DOWNTO 0);
52
53 BEGIN
54
55
56     b2v_inst : nco
57     PORT MAP (clk => clk_in,
58
59
60         reset_n => clken,
61         clken => clken,
62         phi_inc_i => SYNTHESIZED_WIRE_0,
63         out_valid => outvalid,
64         fsin_o => fsin);
65
66
67     b2v_inst2 : coeff_16
68     PORT MAP (coeff_16a => SYNTHESIZED_WIRE_0);
69
70
71 END bdf_type;
```