DSD Project - Rotation - Page-1

TopModule

input [31:0] x
input [31:0] y
input [31:0] angle
input [1:0] mode
Input clock

output [31:0] rotated_x
output [31:0] rotated_y
output [31:0] final_angle

Quadrant_Corrector

input [31:0] x
input [31:0] y
input [31:0] angle

output [31:0] x_out
output [31:0] y_out
output [31:0] angle_out

Scaler

input [31:0] number
input [1:0] mode

output [31:0] answer

Z_Calculator

input [31:0] angle
input [1:0] lookup_table_amount
Input clock

output [31:0] angle_out

X_Calculator

input [31:0] x
input [31:0] y
input [31:0] angle
input [1:0] mode
input [31:0] y_shift
Input clock

output [31:0] x_out

Y_Calculator

input [31:0] angle
input [31:0] y
input [31:0] x_shift
Input clock

output [31:0] y_out

CORDIC_Rotation

input [31:0] x
input [31:0] y
input [31:0] angle
input [1:0] mode
Input clock

output [31:0] rotated_x
output [31:0] rotated_y
output [31:0] final_angle

Parameter NUMBER_OF_ITERATIONS : Default(29)