

# CORDIC Vector README

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## Block Functionality

The CORDIC Vector block takes real and imaginary components of a complex number and estimates the angle of the input vector. The output angle range is between  $-\pi$  and  $\pi$ .

## Block Interface

**Input Word Length:** Total number of bits of inputs. (X and Y are assumed to have the same format.)

**Binary Point:** Number of fraction bits for inputs.

**Output Angle Word Length:** Total number of bits of output angle

**Output Angle Binary Point:** Number of fraction bits for output angle

**Number of stages:** User can choose number of stages.

## How Many Stages to Choose

The number of stages to choose depends on the accuracy of the result required. Figure 1 plots the normalized error of estimation for different stages.

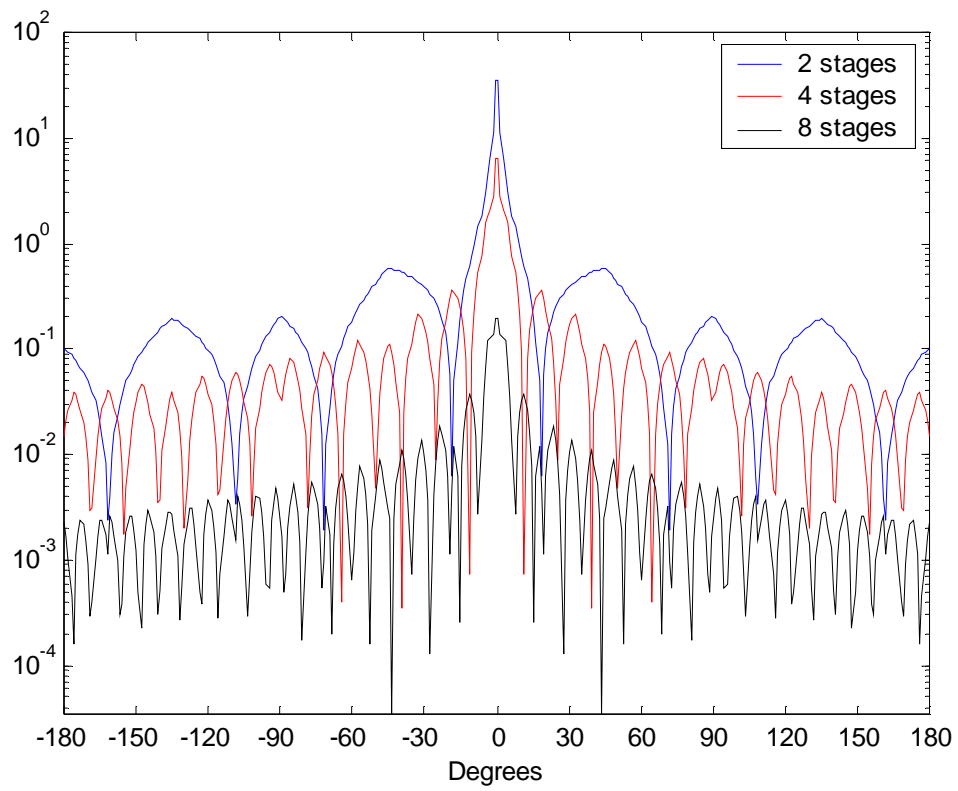


Figure 1 Normalized Angle Estimation Error for CORDIC