

ABSTRACT

Wireless communication today plays an important role everywhere in life. However, wireless transmission line has two obstructs are bandwidth is very treasure and fading. Therefore, techniques to higher the spectrum efficiency and the believable in transmission.

MIMO technique is invented make an important milestone in wireless communication. With this technique, both transfer speed and believable increase.

To increase the efficiency of design and development of MIMO system then simulation MIMO channel is very important not only on software (M-file) but also on hardware.

Thesis focuses on researching the simulation MIMO channel on FPGA with research about theory, how to simulate channel. The first results are understand the operation of the function blocks that implement the theoretical algorithm. Thesis also built the model of SISO and MIMO channel successfully on FPGA. Find out the matrix response of SISO and MIMO channel models.

Because of the time limitation, this simulation is not applied for researching and developing other specific models.