ABSTRACT

The need for mobile communication increasingly has increased in the world of technology that exists today, then exist the latest technology, Long Term Evolution (LTE). With the technique of duplex type of Frequency Division Duplex (FDD), was designed duplexer that is capable of sending and receiving process in one time with different frequencies between uplink and downlink. In this research, the authors try to design and realize a microstrip hybrid coupler 900. Where one long-term goal of this research is the writer's bias marketing tool for mobile operators. Where in 2016 several operators targeting the developing spectrum in the 2300 MHz frequency for 4G which is an ecosystem of time division duplex (TDD). This final task begins with calculating the dimensions of the coupler according to the existing formula. Dimensional calculation results will be used in the simulation process. Modification of the coupler dimensions are used as a way to obtain optimum results in simulation, then the optimum dimensions used in the manufacturing process.Hybrid Coupler which will be designed using the Hybrid Coupler 90º, the coupler which has a -3 dB coupling and 90º phase difference of outputs. With a resonant frequency is at 2300 MHz

In this final project the simulation dan measurement results almost exactly the same with the spesification. In the future, hope there will be another research about this topic. So there will be improvement of this reaserch. Hopefully all reader can get ideas for design the hybrid coupler. As for making this book, threre are still deficiencies and mistakes, from the material, the method, or the techinique of making this book .

Keywords: Coupler, Uplink, Downlink and Hybrid