

ABSTRACT

In this final project, duplexer has been realized in the bands 1920MHz-2170MHz frekuensi tandem with a hybrid coupler method and Bandstop Filters. Duplexer is part of a BTS (Base Transceiver Station) which has the function to route the signal received from the antenna to a receiver and route the signal from high power Tx Tx filter to the antenna, in other words, the signal comes and who leaves the antenna is processed without any leakage when receiving and sending signals, because both occur at the same time. Duplexer consists of two hybrid coupler and two Bandstop Filters, which are both designed identically. Hybrid coupler is realized by using the method of tandem hybrid coupler having a wide bandwidth and small size, whereas the Bandstop Filter is realized by using square open loop resonator method with the consideration of this method is simpler perealisasiannya and the nature of the Bandstop Filter is more selective than Bandpass Filters. The design of this duplexer is done by theoretical calculations and simulations using Microwave Office 2004 AWR or Ansoft HFSS v9.2 for optimal results.

Keyword: duplexer, a tandem hybrid coupler, Bandstop Filter, square open loop resonator.