ABSTRACT

The Federal Communications Commission (FCC) auction of frequency 600 MHz officially, which is currently held by broadcasting TV. The frequency used for broadcasting system. The analog system of broadcasting technology switching to digital technology, so the frequencies allocated to be used for other communication systems.

On the research was designed and realized the filter for frequency 600 MHz-based mikrostrip. Filters designed using Epoxy FR4 with dielectric constants 4.3. Design and realization of this filter method using ring square and hairpin with frequency response butterworth. Both of these methods are compared and analyzed to obtain the filter with the expected parameters. On this filter using the filter type bandpass filter (BPF).

Mikrostrip based filter design is simulated using CST Studio Suite 2015, then the measurement is done using a Network Analyzer. As for the measurement results of the filters is the central frequency 600 MHz indicates the insertion loss of-6,849 dB and return loss of 30,665-dB. The bandwidth of the filter that has been realized by 20 MHz. With this filter, the device can support the development of the instrumentation in the transmission in the communication system or a new application on the frequency.

keywords : Filter, ring square, hairpin, butterworth, FR4 Epoxy