

ABSTRACT

In microwave communication systems, bandpass filters are essential components that are widely used in both receivers and transmitters. With dual-band technology, both receive and transmit signal can be pass by one device called dual-band filter. Also, of course, this dual-band filter must have good selectivity because the filter performance to attenuate out-of-band is a very crucial thing.

This dual-band filter used to pass GSM IM3 signal using by INDOSAT celluler operator at uplink and downlink frequencies. Besides that, dual-band filter is design to attenuate Indosat Star-One CDMA signals which potentially causing interference to Indosat IM3 GSM service.

Filter was designed using Cross-Coupling method and Hairpin-Line configuration and measured results are in a good agreement with early specifications. This dual-band filter has 9.2 MHz and 10.6 MHz bandwidth for each passband with minimum 3.67 dB Insertion Loss. Stop Frequency of the filter is 888 MHz with 9.16 dB Insertion Loss and Phase response shows linierity characteristic for each passband.