Abstracts

Application of Grating-Filter Techniques in Microstrip to Obtain Narrowband Millimeter-Wave Bandpass Filters with Low Radiation Losses

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Microstrip lines are attractive for the lower millimeter-wave ranges, but use of relatively thick substrates would be desirable in order to minimize ohmic losses. On such substrates the usual types of microsrnp bandpass filters (formed from, e.g., coupled line segments with open ends) tend to radiate strongly, giving poor performance. It has been found that a grating technique initially developed for use with dielectric waveguide can be adapted for microstrip, with some modifications. The grating technique yields narrowband mm-wave microstrip filters with little radiation and strong filter characteristics. Experimental filters have been designed and tested with good results.

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