5.8 GHz LINEAR ARRAY APERTURE-COUPLED MICROSTRIP ANTENNA

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ABSTRACT

This thesis presented the design of a linear array microstrip antenna by using aperture-coupler technique at 5.8 GHz. This technique was studied to overcome the problem in the conventional design where the feed line and patch were both placed on top of the substrate. The problem with the conventional design was that the feed line also radiated some signals and these signals interfered with the signals from the patch. The return loss, S_{11} from the simulation was -23.255 dB at 5.8 GHz and the gain of the antenna was 7.9 dB. Meanwhile the return loss, S_{11} from the measurement was -16.8 dB at 6.296 GHz. To overcome the shift in the frequency, an open-circuited stub was added to the feed line. The resonant frequency shifted back to 5.8 GHz with return loss of -36.44 dB. Details on the simulation and measurement results were also presented in this thesis.

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