Fabrication of Printed Microstrip Patch Antennas

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Introduction
- The goal of this project was to learn about antenna design, how to simulate antennas, and fabricate and measure an antenna
- A paper was selected with a design for a dual frequency microstrip blade antenna
- A ~20mm x ~60mm blade antenna with a C shaped slot

Future Antenna Designs

| A | B | C | C | D | E |

Measurement Results
- The fabricated antennas are measured
- Blade with slot showed more pronounced resonances in the 1-5 GHz range.
- We found inconsistencies between simulations and measurements
- These inconsistencies are now being investigated to determine if it is due to fabrication errors, inaccuracy of substrate material properties, or errors in setting up the simulation parameters.

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Conclusion

- We found that the simulated antennas had comparable results to the published data.
- In our primary simulations, however, we found that the placement and shape of the slot had minimal impact on antenna performance.
- Our fabricated antennas do not produce the expected results.
- Further investigation is underway to perfect the fabrication and to repeat the measurements.

Future Work

- We would like to test and fabricate all of the antenna designs seen in the Future Antenna Designs section above.
- Figure out the disconnect between simulation and measurement data of fabricated antennas.

References and Acknowledgements:

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