

XUE YUCHEN

mobile: (+86) 13012300186 · email: yuchen032@e.ntu.edu.sg

Gender: Male · Nationality: China



EDUCATION

Xidian University, Electromagnetic Field and Radio Technology, *BEng* 2022.09 - 2026.06

- **GPA:** 3.5 / 4.0
- **Scholarship:** The 2024 and 2025 Annual Individual Scholarships

Nanyang Technological University, Communications Engineering, *MSc* 2026.08-

INTERNSHIP

Xi'an Hengda Microwave Technology Co.,Ltd, Intern 2025.06

- Master the development and testing procedures of microwave devices, horn antennas and other related components.

PROJECT

Design of Filtering Directional Coupler Based on Multi-mode Resonator, Graduation Thesis

- To meet the demand for compact design of radio frequency front-ends, based on the 3 dB branch-line coupler, T-stub loaded filters are integrated at all four ports to realize multi-mode resonance.
- Additional parasitic elements are introduced to generate transmission zeros, so as to improve the out-of-band rejection and passband flatness.
- Operating frequency covers S-band, with directivity of 25 dB and operational bandwidth over 10%.

A Wireless Power Transfer System Based on 1×4 Linear Array, Experimental Project

- Based on the laboratory transmitting source, the final received power of the receiving antenna array and rectifier system is required to be higher than 15 dBm to light up the LED lamp. The receiving antenna adopts a 1×4 equally-spaced linear array with a center frequency of 5.8 GHz and an operating distance of 50 cm. A T-type power divider is used together with the rectifying network.

Simulation of Indoor Wireless Communication Environment for Multipath Channel Distribution and Frequency Domain Response Analysis

- Establish models of actual indoor environments including furniture and objects via HFSS, conduct simulations on the frequency domain response of multipath channels and generate electric field distribution diagrams, and identify strong signal bands at 5.2 GHz and weak signal bands at 2.75 GHz within signals.
- Optimization schemes are proposed by optimizing receiver positions and improving antenna characteristics to enhance channel performance.

Performance Analysis of Lossy Lines in Frequency and Time Domains

- Establish ideal lossy transmission line models via ADS to study their behaviors and performances in both frequency domain and time domain.
- In the frequency domain: S-parameters are adopted to observe that the insertion loss of lossy transmission lines increases with frequency. The influences of conductor loss and dielectric loss on total loss are analyzed separately under different conditions.
- In the time domain: analyze the rise edge degradation of lossy transmission lines, the differences of inter-symbol interference (ISI) under various conditions as well as eye diagram depression, and explore the effects of different transmission line lengths on overall performance.

ADDITIONAL INFORMATION

- **Language Proficiency:** IELTS – 6.5(Overall Band)
- **EDA Tools Proficiency:** Ansys HFSS, Keysight ADS
- **Other Tools:** MATLAB, Python
- **Interest:** Signal Integrity and Power Integrity in High-Speed Circuit Design