

Qingbin Li

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EDUCATIONS

Shanghai Jiao Tong University

Sep. 2023 – Jun. 2026

- M.Eng. in Electronic Science and Technology
- Core Courses: CMOS RFIC Design, RF System Design, Semiconductor Physics and Devices

Xi'an Jiaotong University

Sep. 2018 – Jun. 2022

- B.Eng. in Information Engineering
- Core Courses: Signals and Systems, Digital Signal Processing, Principles of Communication

ACADEMIC PAPERS

- **Qingbin Li**, Jian Pang, "An Area-Efficient 20-100-GHz Phase-Invariant Switch-Type Attenuator Achieving 0.1-dB Tuning Step in 65-nm CMOS," 2025 18th United Conference on Millimeter Waves and Terahertz Technologies (UCMMT). (Accepted)
- **Qingbin Li**, Yifu Li, Zheng Wang, Xu Luo, Xinyu Sui, Rui Wang, Yuchao Mei, and Jian Pang, "A 0.14mm² Mixed-Type True-Time Delay Circuit Based on Slow-Wave Transmission Lines Covering 52.8ps for 5G/B5G Carrier Aggregation." (In Submission)
- Zheng Wang, Yifu Li, Yuchao Mei, Xinyu Sui, **Qingbin Li**, Xu Luo, Rui Wang, Dongxin Ni, Jian Pang, "A 24-GHz CMOS Transformer-Based Three-Tline Series Doherty Power Amplifier Achieving 39% PAE," 2025 8th International Conference on Integrated Circuits, Technologies and Applications (ICTA). (Accepted)

RESEARCH EXPERIENCES

RF Circuit Optimization Based on Bayesian Optimization and Gaussian Process (Leader)

Aug. 2025 – Present

- Built Gaussian Process (GP) surrogate models to approximate ADS simulations for RF circuit optimization with limited samples and high evaluation cost.
- Introduced a multi-objective Bayesian optimization (MOBO) framework to systematically approximate the performance upper bound under a limited sample budget, enabling comprehensive multi-metric optimization for RF circuit design.
- Integrated the Expected Hypervolume Improvement (EHVI) acquisition function into multi-objective Bayesian optimization to efficiently approximate the Pareto front.

Mixed-Type True-Time-Delay (TTD) Circuit for Wideband 5G/B5G Phased-Array Systems (Leader)

Aug. 2024 – Mar. 2025

- Applied TTD in wideband systems to mitigate the beam-squint issue.
- Cascaded a reflection-type TTD with two switch-type TTDs to achieve both coarse and fine delay tuning. Developed an ultra-compact two-turn 90° coupler-based reflection-type TTD

with tunable reflective loads. Implemented switch-type TTDs using all-pass networks (APNs).

- Used slow-wave transmission lines (SW-TLs) to improve delay efficiency per unit area.

A Compact Low-Phase-Error Wideband Attenuator for mm-Wave Phased-Array Systems (Leader) Feb. 2024 – Jul. 2024

- Proposed an attenuator based on the T-type structure with capacitor compensation technique.
- Adopted a simplified T-type structure for the low-attenuation cells and implemented small resistors in the low-attenuation cells using metal lines, reducing phase and amplitude errors and improving operating bandwidth.
- Used a continuous-tuning cell to enhance tuning accuracy and reduce the total number of attenuation cells.

AWARDS

- Best Student Paper Honorable Mention Award, 18th United Conference on Millimeter Waves and Terahertz Technologies, 2025.
- Champion, the "Fellow Townsmen Cup" Basketball Tournament, Xi'an Jiaotong University, 2022.

PATENT APPLICATION

- **Qingbin Li**, Jian Pang, "A True Time-Delay Circuit Utilizing Slow-Wave Transmission Line," Patent Pending, China National Intellectual Property Administration (CNIPA), 2025.

SKILLS

Softwares: ADS, Cadence, HFSS, Python, PyTorch, Origin, Microsoft Office.

Languages: Mandarin (native), English

Hobbies: Basketball, Football, Badminton