NGUYEN Tran Quang Khai

04/09/1994
Vietnamese

EDUCATION

- 3rd year *PhD candidate* on Radio Frequency engineering, Université Côte d'Azur

- *Engineering diploma* in Telecommunications Tech. from Bach Khoa University and addendum from Institut Mines-Télécom (IMT)

LANGUAGES

- *English:* Influent
- *French:* Intermediate
- *Vietnamese:* Native

HOBBIES

Reading

Traveling

Swimming

CONTACT

10 rue Francoise Giroud
06200, NICE, France

Quangkhai1349@gmail.com

(+33) 6 27 14 16 93

RF SYSTEMS ENGINEER

PROFESSIONAL EXPERIENCES

- 01/2019 – present, **PhD project at 5G-Millimeter Wave:** Antenna-in-Packet oriented design using low cost industrial PCB stack-up specifications. Different types of feeding methods for patch antenna are studied. Radiation properties of patch elements in a 4x1 array are measured separately in anechoic chamber and 3D scanner with/without human hand to evaluate the scattering effects of fingers. The final design integrates Anokiwave phase-shifter working at 24.25 – 27.5GHz.

- 09/2017 – present, **PhD project at 5G-sub 6Ghz:** A hybrid optimization for mobile antenna design and matching network. The constrain is that the full screen design of modern mobile phone consumes the clearance space for antenna. The antenna system is designed to cover 4G 700 – 960MHz and 1.7 – 2.7GHz, plus 5G 3.4 – 3.8GHz To overcome the low radiation performance, the matching network is optimized together with antenna geometry using Particle Swam Optimization. This assures the global optimal efficiency.

- 06/2018 – 08/2018, **RF design:** Antenna Front End board with Tx/Rx/Calibration functions working at 3.5 – 3.8GHz. The constrain is the width of the board has to be small to be installed back-to-back with the antenna, whose size is comparable to half wavelength (40mm). The design was fabricated using 4 layer stack-up PCB and used for a project demonstration.

- 03/2017 – 07/2017, **Student Intern:** Design of reconfigurable antenna for LoRa system at both European 868 MHz and American 916MHz. The works include polarization, pattern (using switches) and frequency (using Digital Tunable Capacitor) reconfigurability. Most designs are IFA type to obtain compact form factor and good impedance matching.

SKILLS

Hardware tools:
- Vector Network Analyzer
- Spectrum Analyzer
- Anechoic Chamber
- Satimo Starlab Station

Software tools:
- EM simulators: HFSS/CST
- Matlab/Python
- Optenni Lab
- KiCAD
- ADS

PUBLICATIONS

- *"Experimental Evaluation of User's Finger Effects on a 5G Terminal Antenna Array at 26 GHz,"* Antenna and Wireless Propagation Letter (submitted)

- *"PSO-based Combined Antenna and Matching Network Optimization for Mobile Terminals,"* 13th European Conference on Antenna and Propagation (presented)

- *"Dual-Matching for Single Resonance Miniaturized Antenna for IoT applications,"* 2018 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (presented)

ACHIEVEMENTS

- **Second prize for the student antenna design competition in JNM conference**

- **First Prize** of **Smart Water Innovation Contest** (2016), held by Embassy of Sweden in Ha Noi and the Vietnam's Ministry of Natural Resource and Environment, invited to **World Water Week 2016** in Stockholm