

Center for High-Frequency Electronics and Circuits for Communication Systems

Samir M. El-Ghazaly

Director

479-575-6048

elghazal@uark.edu (elghazal@uark.edu)

CHECCS Website (<https://checcs.uark.edu/>)

The Center for High-Frequency Electronics and Circuits for Communication Systems brings together research leaders with unique university infrastructure to advance the field high-frequency communications.

There is a national need for qualified engineers and scientists with deep expertise in the various technically-challenging areas supporting high-frequency communications, including semiconductor devices; analog, digital, active and passive circuits; signal and image processing; electromagnetics; antennas; wave propagations; photonics; sensing; systems; and even more.

High-frequency communication systems have penetrated almost all aspects of our daily life with applications ranging from autonomous cars, personalized medicine and monitored healthcare, agricultural sensing, and merchandise inventory, to name only a few. Hence, the technical area of high-frequency devices, circuits and communication systems, broadly defined, is critically important to U.S. industry, economy and national security. It is hard to imagine an innovative application or a modern organization in any area that does not need advanced high-frequency/high-speed telecommunications in its operation.

Researchers are experts in high-frequency communication systems, and our university facilities provide unique infrastructure to perform advanced research into problems that impact industry and the world at large.

Thrust Areas

- High-frequency nitride materials and devices
- Nanomaterial-based devices for communication
- Integrated microwave photonics
- Global modeling of high-frequency components
- Super high resolution imaging
- Ultra-wide-band communications