

The research in communications at sub-THz and THz frequencies is currently confined to static wireless links due to the bottlenecks in interfacing with the real-time digital backends. A software defined radio platform to support real-time ultra-broadband communications over multi-GHz bandwidths at THz frequencies is proposed. A prototype for the transmit-side is implemented and experimentally demonstrated.

Bio: Viduneth Ariyaratna is currently a post-doctoral research associate at the Ultrabroadband Nanonetworking Laboratory in the Department of Electrical and Computer Engineering, Northeastern University. He completed the B.Sc. in Electronic and Telecom Engineering, from the University of Moratuwa, Sri Lanka in 2013 and the M.S. in Electrical Engineering at the University of Akron, OH, USA, in 2016. He received the PhD in Electrical Engineering from Florida International University, USA in 2019 focusing on low complexity multi-beam beamforming circuits for emerging millimeter wave communication systems. His main research interests include software defined radios, one- and multi-dimensional signal processing, RF-systems, and high-speed modem design targeting ultra-broadband wireless systems.