GaN HEMT based oscillators

Using GaN HEMT technology in oscillator applications has potential advantages due to the high breakdown voltage and high frequency properties. High voltage swing can be utilized for increased dynamics and thus lower phase noise which is the most critical parameter in a point-to-point communication system. Moreover, the robust properties of the GaN HEMT make it highly interesting for circuits in satellite communication.

Results from GHz Centre show that GaN are promising for these applications. Outstanding performance is reached for an oscillator module based on a high-Q cavity and a GaN MMIC amplifier.

Partners in GHz Centre Stage 3 (2012-2014):

Chalmers, Ericsson, Ruag Space


An ultra low phase noise 12GHz cavity oscillator based on a GaN HEMT device

Low Phase Noise GaN HEMT Oscillators With Excellent Figures of Merit