

Cohere Technologies is working on field-proving the viability and advantages of our new OTFS (Orthogonal Time Frequency Space) modulation scheme. OTFS can provide a deterministic picture of the wireless channel characteristic, and provide static performance in all multipath and doppler environments.

Test will be conducted in multiple phases:

1. Provide small cell backhaul under multipath conditions in LOS, nLOS and NLOS links using 2x2, 4x4 MIMO
2. Test conditions to add doppler determination and removal providing a static wireless channel
3. Test mobility capabilities for use in the new 5G radio standard.

**This operation will provide comprehensive measurements and test results for wireless radios operating in LOS, nLOS and NLOS environments mounted at small cell heights, in multipath and doppler conditions. Provide experimental data on static radio link throughput performance, independent of the doppler and multipath conditions. Expand the system's capabilities beyond the current level of 4x4 MIMO to much higher order MIMO configurations to provide unprecedented spectral efficiency of up to 100Bits/Hz/s.**

**In previous field tests performed under an STA, OTFS has demonstrated capacities of up to 50Bits/Hz/s in multipath and doppler environments on links with LOS, nLOS and NLOS. No current technology promises such an improvement. OTFS has the potential to solve the problem of spectrum shortage in the lower bands, while providing unprecedented capacities within small spectrum slices. Past tests which only indicate the potential of the technology have already proven throughputs higher than any current technology. In the simulated massive MIMO system envisioned, capacities of substantially more than 100Bits/Hz/s appear to be within reach.**