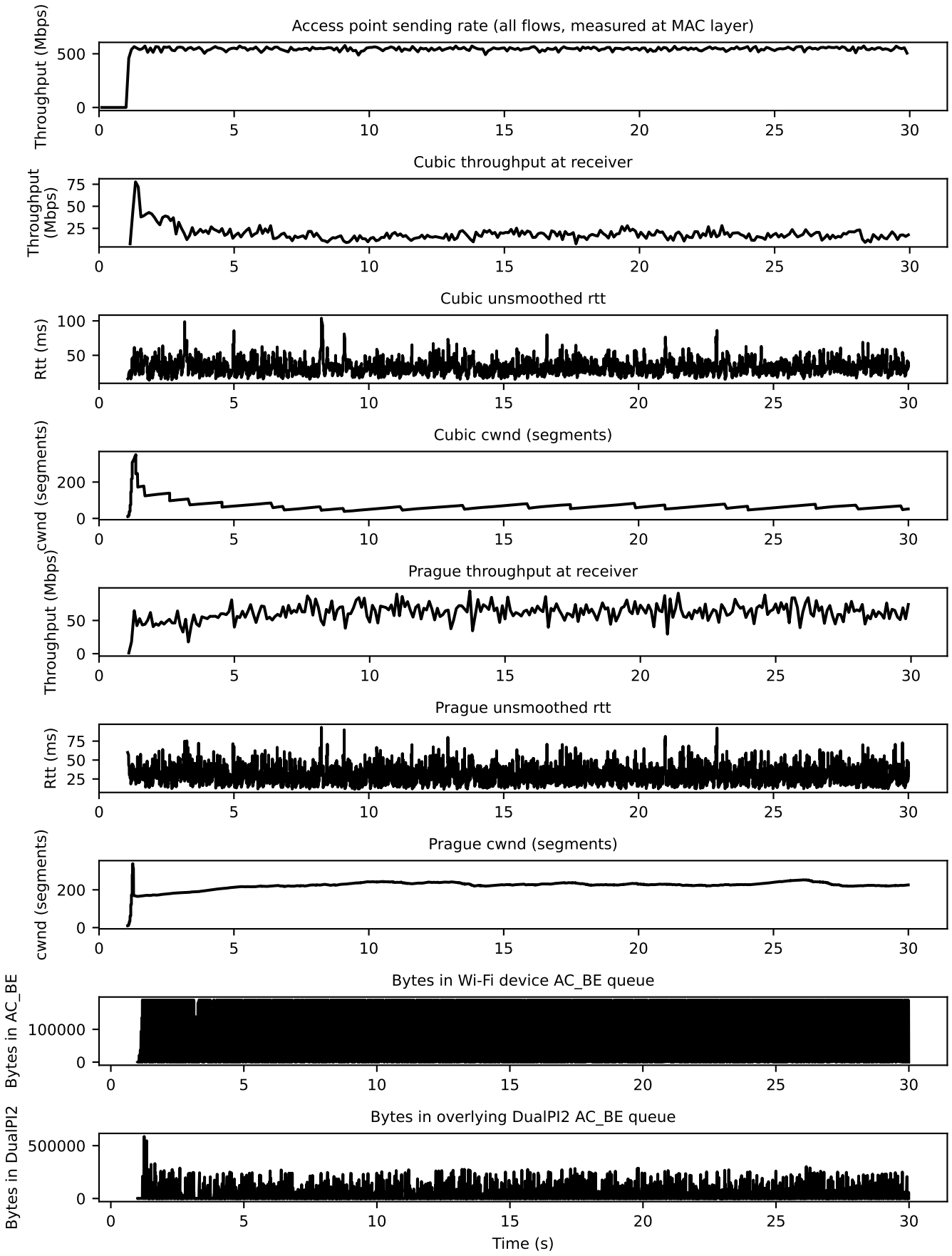Simulation ED3-MS2-AP1-LS2-TC3-TS2