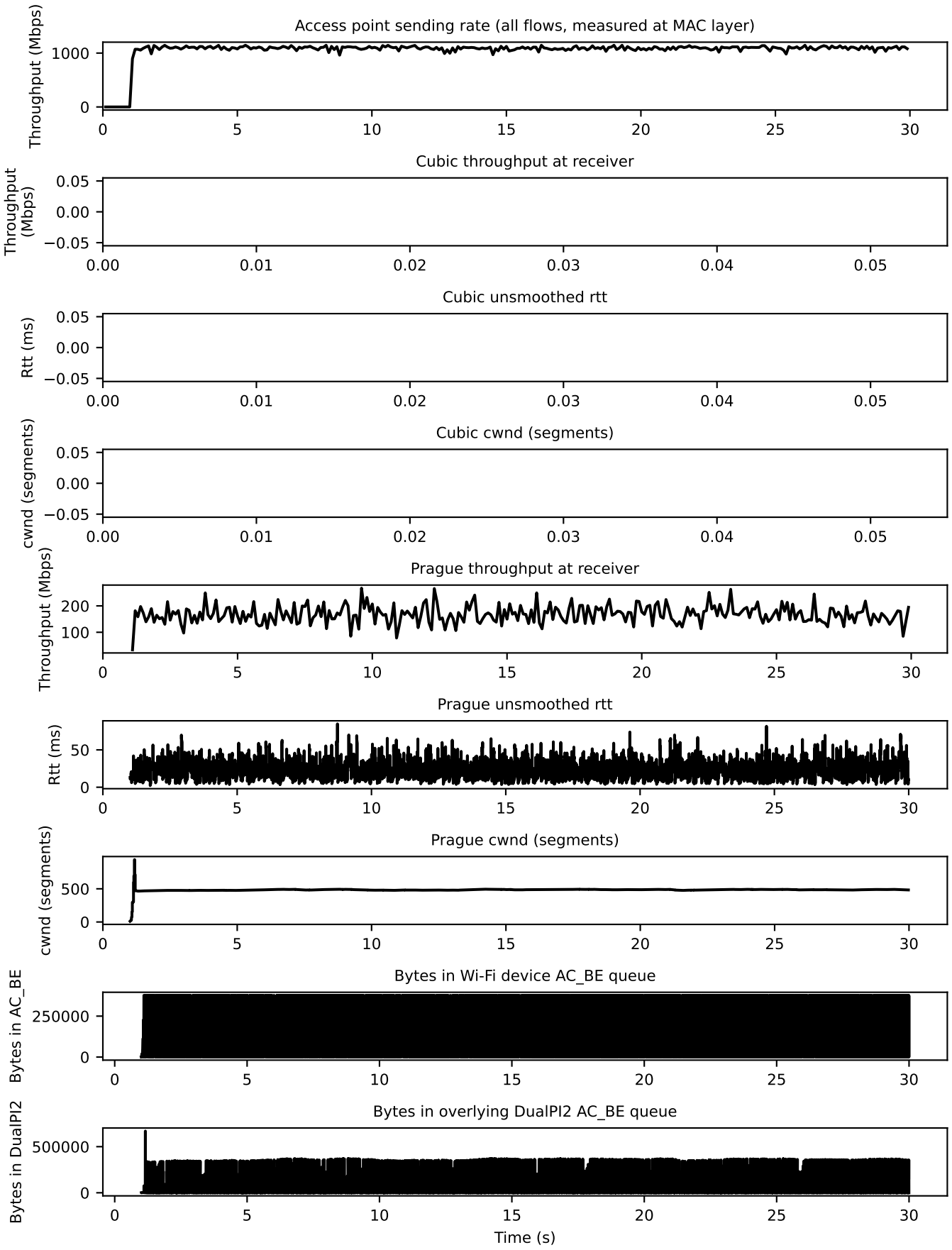Simulation ED3-MS2-AP1-LS3-TC2-TS1