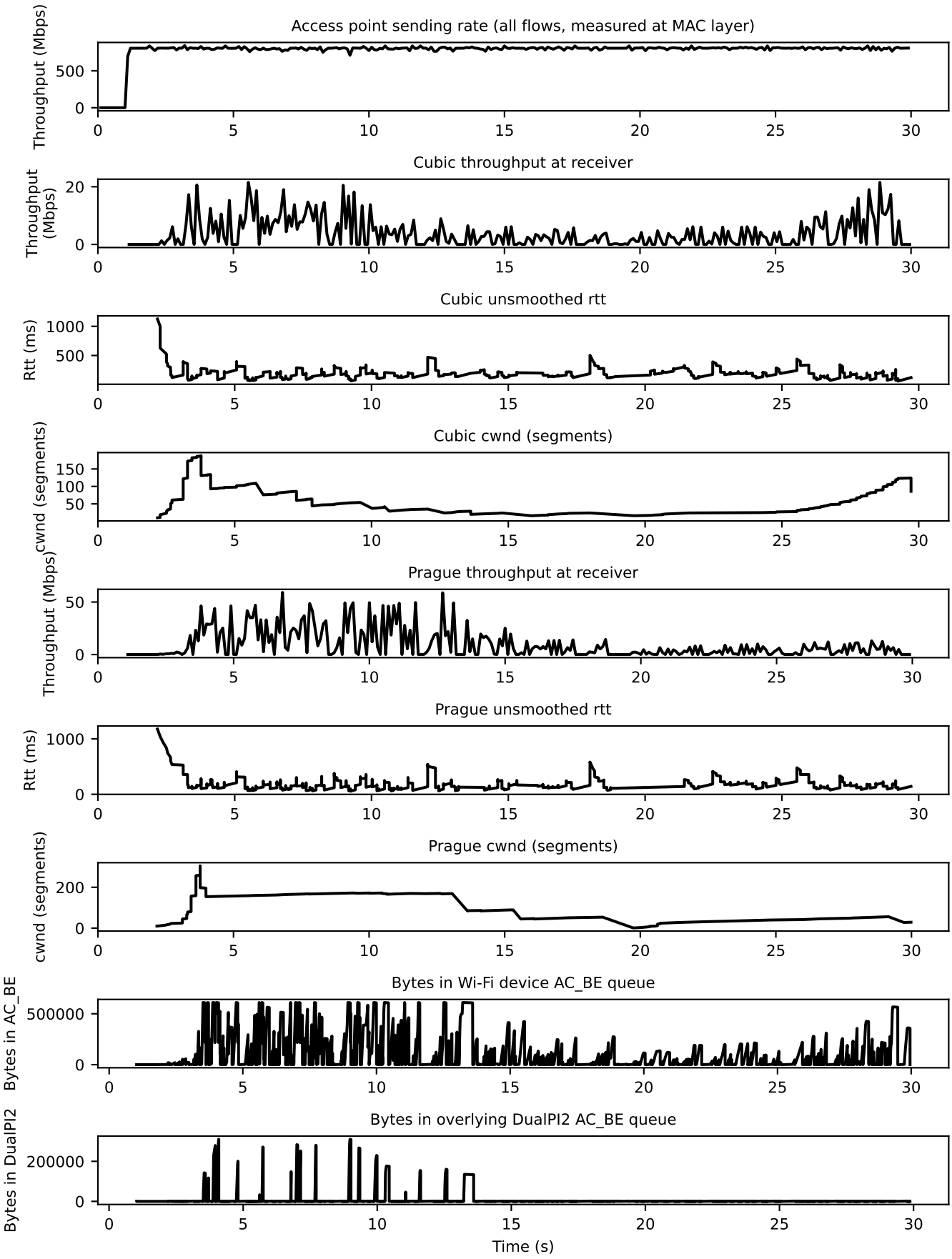Simulation ED1-MS2-AP1-LS3-TC4-TS3