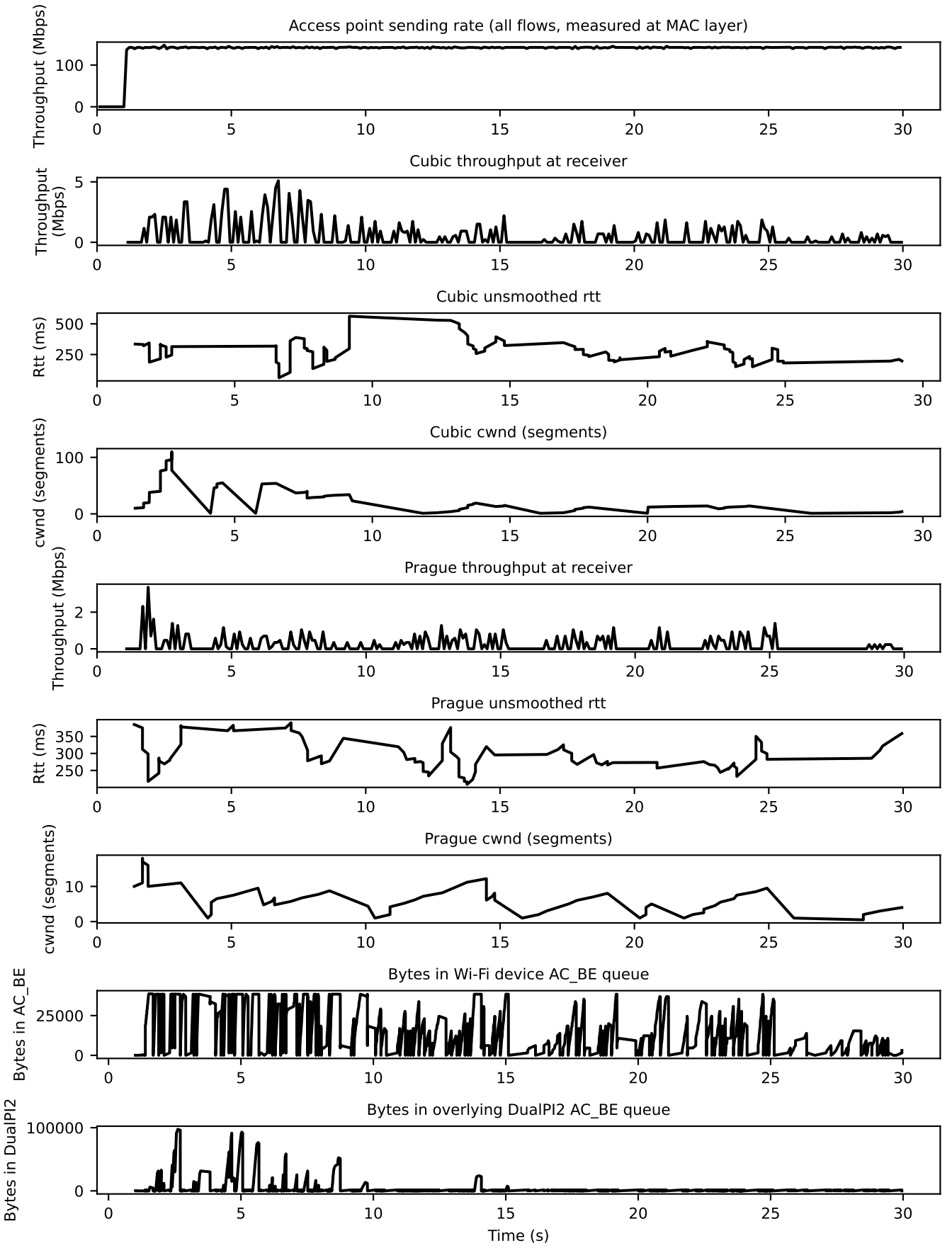Simulation ED2-MS1-AP1-LS1-TC4-TS2