



**Fig. 24** Lawnmower pattern; with wind and noise; Control: 8.3, Table 8;  $K_P = 1, K_{Pr} = 1.5, K_D = 2, K_{Dr} = 0, K_{Dr\alpha} = 2, K_{D\alpha} = 0.4, K_{P\alpha} = 0.3$ ; (a) Quadrotor system performance, (b) Control performance, (c) Quadrotor trajectories.