Abstract: A multi-antenna station with distributed antennas and capable of providing good performance for terminals distributed throughout the coverage area of the multi-antenna station is described. The multi-antenna station includes multiple antennas, a controller, and at least one transmitter unit. The multiple antennas are coupled to the multi-antenna station and include at least one remote antenna that is located away from the multi-antenna station. The controller selects a set of one or more antennas from among the multiple antennas for data transmission to a terminal. The at least one transmitter unit transmits data to the terminal via the set of one or more antennas.