

Abstract

A wireless communication system includes a roadside device, and an in-vehicle device mounted on a vehicle. The roadside device includes a distribution unit that periodically distributes a downlink message including a usage status of each of a plurality of slots, which are obtained by dividing a transmission period of an uplink message of the in-vehicle device for each predetermined time, and an update unit that updates the usage status of the slot based on the uplink message received from the in-vehicle device. The in-vehicle device includes a time setting unit that determines a reference time based on a satellite signal, a reception unit that receives the downlink message from the roadside device, and a transmission unit that randomly selects one slot not occupied by another in-vehicle device based on the usage status of the slot included in the downlink message and transmits the uplink message to the roadside device in the selected slot.