Scope of the Claims

[Claim1]

A communication device in a communication system that supports a wireless mesh network using a wireless LAN, the communication device comprising:

a storing part that stores a definition table where a reception power and a metric value are associated with each other, and a cumulative metric value; and

a processor configured to:

receive a broadcast signal transmitted from another communication device;

acquire, from the definition table, a metric value corresponding to a reception power of the received broadcast signal and then calculate a cumulative metric value based on the acquired metric value and a metric value included in the received broadcast signal; and

update the cumulative metric value stored in the storing part to the calculated cumulative metric value if the calculated cumulative metric value is smaller than the cumulative metric value stored in the storing part, and determine the other communication device transmitting the broadcast signal of the calculated cumulative metric value as a route construction target in the wireless mesh network.

[Claim 2]

The communication device according to claim 1, wherein the communication device transmits a broadcast signal containing the calculated cumulative metric value when the communication device operates as a fixed station.

[Claim 3]

The communication device according to claim 2, wherein the communication device does not transmit the broadcast signal containing the calculated cumulative metric value when the communication device operates as a mobile station.

[Claim 4]
The communication device according to claim 1, wherein the processor is configured to calculate the reception power of the received broadcast signal by adding a reception power of a broadcast signal received in the past and a reception power of a newly received broadcast signal at a predetermined ratio, the predetermined ratio can be set to an arbitrary ratio.

[Claim 5]
A communication method performed by a communication device in a communication system that supports a wireless mesh network using a wireless LAN, the communication method comprising:

storing, in a storing part, a definition table where reception power and a metric value are associated with each other, and a cumulative metric value;

receiving a broadcast signal transmitted from another communication device;

acquiring, from the definition table, a metric value corresponding to reception power of the received broadcast signal, and then calculating a cumulative metric value based on the acquired metric value and a metric value included in the received broadcast signal; and

updating the cumulative metric value stored in the storing part to the calculated cumulative metric value if the calculated cumulative metric value is smaller than the cumulative metric value stored in the storing part, and determining the other communication device transmitting the broadcast signal of the calculated cumulative metric value as a route construction target in the wireless mesh network.

[Claim 6]
A computer-readable non-transitory recording medium storing a program that causes steps to be performed by a communication device in a communication system that supports a wireless mesh network using wireless LAN, the operations comprising:

storing, in a storing part, a definition table where reception power and a metric value are associated with each other, and a cumulative metric value;

receiving a broadcast signal transmitted from another communication device;

acquiring, from the definition table, a metric value corresponding to reception power of the received broadcast signal, and then calculating a cumulative metric value based on the acquired metric value and a metric value included in the received broadcast signal;

updating the cumulative metric value stored in the storing part to the calculated cumulative metric value if the calculated cumulative metric value is smaller than the cumulative metric value stored in the storing part, and determining the other communication device transmitting the broadcast signal of the calculated cumulative metric value as a route construction target in the wireless mesh network.

[Claim 7]

The communication device according to claim 2, wherein the processor is configured to calculate the reception power of the received broadcast signal by adding a reception power of a broadcast signal received in the past and a reception power of a newly received broadcast signal at a predetermined ratio.

[Claim 8]

The communication device according to claim 3, wherein the processor is configured to calculate the reception power of the received broadcast signal by adding a reception power of a broadcast signal received in the past and a reception power of a newly received broadcast signal at a predetermined ratio.

[Claim 9]

The communication device according to claim 1, wherein the definition table includes a first set of a reception power and a metric value and a second set of a reception power and a metric value, and

the processor is configured to acquire the metric value corresponding to the reception power of the received broadcast signal from a designated set which is either the first set or the second set.

[Claim 10]

The communication device according to claim 1, wherein the definition table contains a metric value indicating that no route is created.

[Claim 11]

The communication device according to claim 4, wherein the predetermined ratio that is set when the communication device operates as a mobile station, and the predetermined ratio that is set when the communication device operates as a fixed station, are different.