

interference. Furthermore, Patent Document 2 discloses a technique for determining the transmission power or the like of each of a plurality of terminals on the basis of reports about the measurement of interference that a base station has obtained from the plurality of terminals.

CITATION LIST

PATENT DOCUMENT

[0004]

Patent Document 1: Japanese Patent Application Laid-Open No. 2013-183221

Patent Document 2: Japanese National Publication of International Patent Application No. 2015-534418

SUMMARY OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0005]

However, interference with another system has failed to be appropriately prevented in some cases. For example, in the technique of Patent Document 1, a transmission source apparatus that is about to transmit a signal can avoid interference detected by the local apparatus, but fails to grasp an interference state of a transmission destination apparatus. Thus, there is a possibility that the transmission destination apparatus receives an influence of interference and this will result in a failure in communication.

[0006]

Accordingly, embodiments of the present disclosure have been made in view of the foregoing, and provide a communication apparatus and a communication system that are capable of appropriately preventing interference with another system and that are novel and have been improved.

SOLUTIONS TO PROBLEMS

[0007]

According to a first aspect of the present disclosure, there is provided a communication apparatus including: a receiver that performs reception of power from another system; a determination unit that determines presence or absence of interference with the other system on a basis of the reception; and a transmitter that transmits first interference information including information relating to the interference to another communication apparatus, wherein the transmitter transmits, as the first interference information, at least one of a reception time of the power, an arrival direction of the power, or information relating to an attribute of the other system.

[0008]

According to a second aspect of the present disclosure, there is provided a communication apparatus including: a receiver that performs reception of power from another system, and receives first interference information including information relating to the interference from another communication apparatus that determines presence or absence of interference with the other system on a basis of the reception; and a controller that controls communication on a basis of the first interference information by changing settings relating to transmission on a basis of the first interference information, wherein the controller changes at least one of a transmission rate or a transmission destination apparatus.

[0009]

According to a third aspect of the present disclosure, there is provided a communication apparatus including: communication system comprising a first communication apparatus and a second communication apparatus, wherein the first communication apparatus includes: a first receiver that performs reception of power from another system; a determination unit that determines presence or absence of interference with the other system on a basis of the

reception; and a transmitter that transmits first interference information including information relating to the interference to the second communication apparatus, wherein the transmitter transmits, as the first interference information, at least one of a reception time of the power, an arrival direction of the power, or information relating to an attribute of the other system, and the second communication apparatus includes: a second receiver that receives the first interference information from the first communication apparatus; and a controller that controls communication on a basis of the first interference information by changing settings relating to transmission on a basis of the first interference information, wherein the controller changes at least one of a transmission rate or a transmission destination apparatus.

EFFECTS OF THE INVENTION

[0010]

As described above, according to embodiments of the present disclosure, interference with another system can be appropriately prevented.

[0011]

Note that the effect described above is not necessarily restrictive, and any of the effects described in the description or other effects that can be grasped from the description may be exhibited in addition to the effect described above or instead of the effect described above.

BRIEF DESCRIPTION OF DRAWINGS

[0012]

Fig. 1 is a diagram explaining the background of the present disclosure.

Fig 2 is a diagram illustrating a configuration of a communication system according to the present

CLAIMS

1. A communication apparatus comprising:
 - a receiver that performs reception of power from another system;
 - a determination unit that determines presence or absence of interference with the other system on a basis of the reception; and
 - a transmitter that transmits first interference information including information relating to the interference to another communication apparatus, wherein the transmitter transmits, as the first interference information, at least one of a reception time of the power, an arrival direction of the power, or information relating to an attribute of the other system.
2. The communication apparatus according to claim 1,
 - wherein the other system includes a wireless communication system in which a communication scheme different from a communication scheme of a system that a local apparatus and the other communication apparatus participate in is used.
3. The communication apparatus according to claim 1,
 - wherein the receiver also receives second interference information including information relating to interference that has been detected by the other communication apparatus.
4. The communication apparatus according to claim 3,
 - wherein the transmitter also transmits the second interference information to a communication apparatus other than the other communication apparatus.

5. The communication apparatus according to claim 3, further comprising:

a controller that performs control on communication on a basis of either the first interference information or the second interference information.

6. The communication apparatus according to claim 5, wherein the transmitter also transmits, to the other communication apparatus, information relating to whether or not the first interference information can be transmitted, information relating to whether or not the second interference information can be received, or information relating to whether or not the control can be performed.

7. The communication apparatus according to claim 5, wherein the receiver also receives, from the other communication apparatus, information relating to whether or not the other communication apparatus can receive the first interference information, information relating to whether or not the other communication apparatus can transmit the second interference information, or information relating to whether or not the other communication apparatus can perform the control.

8. The communication apparatus according to claim 7, wherein in a case where the other communication apparatus can receive the first interference information, in a case where the other communication apparatus can transmit the second interference information, or in a case where the other communication apparatus can perform the control, the transmitter transmits the first interference information to the other communication apparatus.

9. The communication apparatus according to claim 1,
wherein the transmitter also transmits, as the first
interference information, a reception power value.
10. The communication apparatus according to claim 1,
wherein the transmitter transmits, as the first
interference information, information indicating a combination
of two or more of a reception power value, a reception time of
the power, an arrival direction of the power, or information
relating to an attribute of the other system.
11. A communication apparatus comprising:
a receiver that performs reception of power from another
system, and receives first interference information including
information relating to the interference from another
communication apparatus that determines presence or absence of
interference with the other system on a basis of the
reception; and
a controller that controls communication on a basis of
the first interference information by changing settings
relating to transmission on a basis of the first interference
information, wherein the controller changes at least one of a
transmission rate or a transmission destination apparatus.
12. The communication apparatus according to claim 11,
wherein the other system includes a wireless
communication system in which a communication scheme different
from a communication scheme of a system that a local apparatus
and the other communication apparatus participate in is used.
13. The communication apparatus according to claim 11,
wherein the controller distinguishes a plurality of the

other systems or a plurality of apparatuses that participate in the other system from each other on a basis of the first interference information.

14. The communication apparatus according to claim 11,
wherein the controller also changes at least one of
transmission power value or a communication band.

15. The communication apparatus according to claim 11,
wherein the controller changes settings relating to
reception on a basis of the first interference information.

16. The communication apparatus according to claim 15,
wherein the controller changes a threshold to be used to
detect the power.

17. The communication apparatus according to claim 16,
wherein the controller reduces the threshold to a value
by which interference is detected, the interference having
been detected by the other communication apparatus but not
having been detected by a local apparatus.

18. The communication apparatus according to claim 11,
wherein the receiver also performs the reception of the
power from the other system,

a determination unit is further included that determines
presence or absence of interference between a local apparatus
and the other system on a basis of the reception, and

the controller also controls the communication on a basis
of second interference information including information
relating to the interference between the local apparatus and
the other system.

19. A communication system comprising a first communication apparatus and a second communication apparatus,

wherein the first communication apparatus includes:

a first receiver that performs reception of power from another system;

a determination unit that determines presence or absence of interference with the other system on a basis of the reception; and

a transmitter that transmits first interference information including information relating to the interference to the second communication apparatus, wherein the transmitter transmits, as the first interference information, at least one of a reception time of the power, an arrival direction of the power, or information relating to an attribute of the other system, and

the second communication apparatus includes:

a second receiver that receives the first interference information from the first communication apparatus; and

a controller that controls communication on a basis of the first interference information by changing settings relating to transmission on a basis of the first interference information, wherein the controller changes at least one of a transmission rate or a transmission destination apparatus.