

Claims

What is claimed is:

1. A radio communication device comprising:

a channel information receiver configured to receive, from a centralized spectrum coordination device, a channel occupation list determined for the radio communication device amongst a plurality of radio communication devices, the channel occupation list determined for the radio communication device indicating channel usage by at least one other radio communication device of the plurality of radio communication devices;

a channel quality measurement circuit configured to measure for a plurality of channels a communication quality; and

a channel selection circuit configured to select a channel for communication based on the channel occupation list and the measured communication quality for the plurality of channels.
2. The radio communication device of claim 1,

wherein channel information receiver is further configured to receive an available channel list.
3. The radio communication device of claim 1 or 2, further comprising:

- a query transmitter configured to transmit a query to the centralized spectrum coordination device for the channel occupation list.
4. The radio communication device of any one of claims 1 to 3, further comprising:
a working channel update transmitter configured to transmit a working channel update to the centralized spectrum coordination device.
 5. The radio communication device of any one of claims 1 to 4, further comprising:
a conflict determination circuit configured to determine whether there is a conflict of a channel to be used by the radio communication device with at least one channel used by the at least one other radio communication device of the plurality of radio communication devices.
 6. The radio communication device of claim 5,
wherein the radio communication device is configured to change a channel to be used by the radio communication device if it is determined that there is a conflict.
 7. The radio communication device of any one of claims 1 to 6,
wherein the radio communication device is a TVWS device.
 8. A method for controlling a radio communication device, the method comprising:
receiving, from a centralized spectrum coordination device, a channel occupation list determined for the radio communication device amongst a plurality of radio

communication devices, the channel occupation list determined for the radio communication device indicating channel usage by at least one other radio communication device of the plurality of radio communication devices;
measuring for a plurality of channels a communication quality; and
selecting a channel for communication based on the channel occupation list and the measured communication quality for the plurality of channels.

9. The method of claim 8, further comprising:
receiving an available channel list.
10. The method of claim 8 or 9, further comprising:
transmitting a query to the centralized spectrum coordination device for the channel occupation list.
11. The method of any one of claims 8 to 10, further comprising:
determining whether there is a conflict of a channel to be used by the radio communication device with at least one channel used by the at least one other radio communication device of the plurality of radio communication devices.