CLAIMS

1. A user equipment, comprising:

a transceiver, which, in operation, receives control signals including a first control signal and a second control signal; and

a circuitry, which, in operation:

monitors the first control signal in a first set of resources;

when the monitored first control signal includes identification of the user equipment and an indicator having a first value, controls the transceiver to receive the second control signal on a second set of resources; and

when the received second control signal includes bandwidth part information for reception of a Physical Downlink Control Channel (PDCCH) and/or a Physical Downlink Shared Channel (PDSCH), controls the transceiver to receive the PDCCH and/or PDSCH on the indicated bandwidth part.

2. The user equipment according to claim 1, wherein the circuitry, when the monitored first control signal includes the indicator having a second value, continues monitoring the first control signal in the first set of resources and does not receive the second control signal on the second set of resources.

3. The user equipment according to claim 1, wherein the first set of resources is located in a fixed distance or a distance configured by radio resource control protocol from resources allocated for a synchronization signal or a reference signal.

4. The user equipment according to claim 1, wherein the circuitry, within a defined time period does not monitor the first control signal in the first set of resources.

5. The user equipment according to claim 1, wherein

the user equipment is referred to as being in a first mode out of a defined time period and as being in a second mode within the defined time period, and

the circuitry, when the user equipment is in the second mode, monitors the first control signal in the first set of resources and, when the monitored first control signal includes the indicator having a second value, sets the user equipment into the first mode after a power-saving period.

6. The user equipment according to claim 1, wherein

the user equipment is referred to as being in a first mode out of a defined time period and as being in a second mode within the defined time period, and

the circuitry, upon setting the user equipment from the first mode to the second mode:

determines resource candidates to be monitored on the PDCCH for receiving scheduling information based on an indication included in the monitored first control signal and/or the identification of the user equipment;

controls the transceiver to receive the first control signal in the resource candidates;

based on the received first control signal in the resource candidates, determines data resources for downlink or uplink data transmission; and

controls the transceiver to receive or transmit data on the determined data resources.

7. The user equipment according to claim 1, wherein

the user equipment is referred to as being in a first mode out of a defined time period and as being in a second mode within the defined time period, and

the circuitry, upon setting the user equipment from the first mode to the second mode:

determines data resources for downlink or uplink data transmission based on an indication included in the monitored first control signal and/or the identification of the user equipment; and

controls the transceiver to receive or transmit data on the determined data resources.

8. The user equipment according to claim 6, wherein the circuitry, in operation, determines resources for receiving or transmitting of transmission acknowledgements corresponding to the determined data resources based on the indication included in the monitored first control signal and/or the identification of the user equipment.

9. The user equipment according to claim 1, wherein

the user equipment is referred to as being in a first mode out of a defined time period and as being in a second mode within the defined time period, and

the circuitry, based on the identification of the user equipment and/or based on traffic selects whether, upon setting the mobile device user equipment from the first mode to the second mode:

to determine resource candidates to be monitored on the PDCCH for receiving scheduling information to schedule data resources for downlink or uplink data transmission according to an indication included in the monitored first control signal and/or the identification of the user equipment; or

to directly determine the data resources for downlink or uplink data transmission according to an indication included in the monitored first control signal and/or the identification of the user equipment.

10. The user equipment according to claim 1, wherein the identification of the user equipment is at least one of:

a pseudo-random sequence from a set of orthogonal or quasi-orthogonal sequences; or

a Radio Network Temporary Identifier, RNTI.

11. The user equipment according to claim 1, wherein the circuitry, in operation, determines QCL relation or beam index association between the monitored first control signal and a data channel in the second set of resources based on time, frequency or code resource of the monitored first control signal.

12. The user equipment according to claim 1, wherein the monitoring of the first set of resources includes less blind decoding than the monitoring of the second set of resources.

13. A network node, comprising:

a transceiver, which, in operation, transmits control signals including a first control signal and a second control signal; and

a circuitry, which, in operation:

transmits the first control signal addressed to a user equipment in a first set of resources;

when the transmitted first control signal includes identification of the user equipment and an indicator having a first value, controls the transceiver to transmit the second control signal on a second set of resources; and

when the transmitted second control signal includes bandwidth part information for transmission of a Physical Downlink Control Channel (PDCCH) and/or a Physical Downlink Shared Channel (PDSCH), controls the transceiver to transmit the PDCCH and/or PDSCH on the indicated bandwidth part.

14. A method implemented by a user equipment, the method comprising:

monitoring a first control signal in a first set of resources;

when the monitored first control signal includes identification of the user equipment and an indicator having a first value,

receiving the second control signal on a second set of resources; and

when the received second control signal includes bandwidth part information for reception of a Physical Downlink Control Channel (PDCCH) and/or a Physical Downlink Shared Channel (PDSCH), receiving the PDCCH and/or PDSCH on the indicated bandwidth part.

15. A method implemented by a network node, the method comprising:

transmitting a first control signal addressed to a user equipment in a first set of resources;

when the transmitted first control signal includes identification of the user equipment and an indicator having a first value,

transmitting a second control signal on a second set of resources; and

when the transmitted second control signal includes bandwidth part information for transmission of a Physical Downlink Control Channel (PDCCH) and/or a Physical Downlink Shared Channel (PDSCH), transmitting the PDCCH and/or PDSCH on the indicated bandwidth part.