

CLAIMS

1. A vehicular mobile terminal for determining radio resources for communicating with at least a second mobile terminal in a communication system, wherein the vehicular mobile terminal comprises:
 - 5 a processor configured to determine whether to determine radio resources based on the location of the vehicular mobile terminal or not, wherein the determination is based on information received from an entity of the communication system,

in case the radio resources are to be selected based on the location of the vehicular mobile terminal, the processor is further configured to determine the location of the
10 vehicular mobile terminal, and

the processor is further configured to determine radio resources for communication with at least the second mobile terminal, based on the determined location of the vehicular mobile terminal.
- 15 2. The vehicular mobile terminal according to claim 1, wherein the information received by the vehicular mobile terminal from the entity in the communication system is:
 - provided in system information, broadcast by a radio base station in its cell in which the vehicular mobile terminal is located, optionally wherein the information is a flag indicating whether to base the determination of the radio resources on the location of the vehicular mobile terminal or not, or
 - 20 • information on parameters to be used by the vehicular mobile terminal when determining the location of the vehicular mobile terminal or when determining the radio resources.
3. The vehicular mobile terminal according to claim 1 or 2, wherein the processor
25 determines the location of the vehicular mobile terminal by determining geographical coordinates of the vehicular mobile terminal and/or

by identifying a section of a road on which the vehicular mobile terminal is located.
4. The vehicular mobile terminal according to claim 3, wherein identifying the section of the road on which the vehicular mobile terminal is located comprises:
 - determining geographical coordinates of the vehicular mobile terminal, and

- determining the section of the road based on an association between the determined geographical coordinates of the vehicular mobile terminal and a plurality of sections a road is divided into.
5. The vehicular mobile terminal according to one of claims 1 to 4, wherein the determination of the radio resources comprises selecting by the vehicular mobile terminal radio resources from among radio resources defined in a radio resource pool which is associated with the determined location of the vehicular mobile terminal.
6. The vehicular mobile terminal according to claim 5, wherein the vehicular mobile terminal is configured with a plurality of radio resource pools, each of which is associated with a different location in which the vehicular mobile terminal can be located, optionally wherein the configuration of the radio resource pools is transmitted to the vehicular mobile terminal as system information or within a message dedicated to the vehicular mobile terminal,
- optionally wherein the plurality of radio resource pools are configured in the vehicular mobile terminal either by providing explicit information on the radio resource pools and the respective radio resources in each radio resource pool or based on rules defining how radio resources are divided into the plurality of radio resource pools.
7. The vehicular mobile terminal according to any of claims 1 to 6, wherein the determination of the radio resources comprises:
- requesting radio resources from a radio base station that controls the cell in which the vehicular mobile terminal is located,
 - transmitting information on the determined location of the vehicular mobile terminal to the radio base station, optionally wherein the information on the determined location is geographical coordinates or an identifier of a section of a road on which the vehicular mobile terminal is located, and
 - receiving from the radio base station an indication of radio resources to be used for communication with at least the second mobile terminal.
8. The vehicular mobile terminal according to any of claims 1 to 7, wherein the processor, when determining radio resources, is further configured to determine whether potential radio resources are or will be used by another mobile terminal, and in case the potential radio resources are or will be used by another mobile terminal, the processor is configured to not determine these radio resources but determine different radio resources.

9. The vehicular mobile terminal according to claim 8, wherein the determination of the radio resources comprises selecting by the vehicular mobile terminal radio resources from among radio resources defined in a radio resource pool which is associated with the determined location of the vehicular mobile terminal, and in case potential radio resources that are or will not be used by another mobile terminal are not available in the associated radio resource pool, the processor is adapted to select radio resources from another radio resource pool which is associated with another location than the location of the vehicular mobile terminal, optionally wherein the other location is right next to the location of the vehicular mobile terminal.
10. The vehicular mobile terminal according to any of claims 1 to 9, wherein the location of the vehicular mobile terminal is based on a grid overlaying a road on which the vehicular mobile terminal is located, wherein a part of the road on which the vehicular mobile terminal is located is divided into a plurality of sections, optionally wherein each of the plurality of sections covers all lanes of the road,
- wherein all of the plurality of sections are subdivided into the same plurality of non-overlapping subsections, optionally wherein each of the plurality of subsections covers at least one of the lanes of the road, and
- optionally wherein each of the plurality of subsections is associated with a radio resource pool.
11. The vehicular mobile terminal according to claim 10, wherein the radio resources associated with the plurality of subsections are orthogonal to each other, and the sections and the subsections are such that the radio resources associated with the subsections mitigate interference between neighboring sections, and
- optionally wherein the division of the plurality of sections into subsections assumes that one vehicular mobile terminal is located in each subsection, or assumes that more than one vehicular mobile terminal is located in each subsection.
12. The vehicular mobile terminal according to claim 9 or 10, wherein determining the location of the vehicular mobile terminal comprises determining an identifier of the section and/or an identifier of the subsection in which the vehicular mobile terminal is located,

optionally further comprising that transmitting the determined location of the vehicular mobile terminal to the radio base station comprises transmitting the identifier of the section and/or the identifier of the subsection.

13. The vehicular mobile terminal according to any of claims 1 to 12, wherein the processor is further configured to determine whether the vehicular mobile terminal is in coverage or out of coverage of a radio base station, and in case of out-of-coverage, the processor determines that the radio resources are not to be selected based on the location of the vehicular mobile terminal.
14. The vehicular mobile terminal according to any of claims 1 to 13, wherein the entity of the communication system determines whether radio resources to be used by the vehicular mobile terminal for communicating with at least the second mobile terminal are to be determined based on the location of the vehicular mobile terminal or not, and wherein information on the result of the determination is provided by the entity in the communication system to the vehicular mobile terminal,
- optionally wherein the entity of the communication system is the radio control entity that controls the cell in which the vehicular mobile terminal is located, or is an entity in the control network.
15. A radio base station in a communication system for assisting a vehicular mobile terminal in determining radio resources for communicating with at least a second mobile terminal in the communication system, wherein the radio base station comprises:
- a processor configured to determine whether radio resources are to be determined based on the location of the vehicular mobile terminal or not, wherein the determination is at least based on information on vehicular mobile terminals in the cell of the radio base station,
- a transmitter configured to transmit information to the vehicular mobile terminal, based on which the vehicular mobile terminal determines whether to determine radio resources based on the location of the vehicular mobile terminal or not.
16. The radio base station according to claim 15, wherein the information is provided to the vehicular mobile terminal:
- in system information, broadcast by the radio base station in its cell, optionally wherein the information is a flag indicating whether to base the determination of the radio resources on the location of the vehicular mobile terminal or not, or as

parameters to be used by the vehicular mobile terminal when determining the location of the vehicular mobile terminal or when determining the radio resources.

17. The radio base station according to claim 15 or 16, wherein the transmitter is further configured to transmit information on a plurality of radio resource pools to the vehicular mobile terminal, each of the plurality of radio resource pools being associated with a different location in which the vehicular mobile terminal can be located, such that the vehicular mobile terminal can select radio resources from among radio resources defined in that radio resource pool that is associated with the location of the vehicular mobile terminal, optionally wherein the information on a plurality of radio resource pools is transmitted by the radio base station as system information or within a message dedicated to the vehicular mobile terminal.
18. The radio base station according to one of claims 15 to 17, further comprising a receiver configured to receive a request for radio resources from the vehicular mobile terminal to be used by the vehicular mobile terminal for communication with another mobile terminal and to receive information on the location of the vehicular mobile terminal, optionally wherein the information on the location of the vehicular mobile terminal is geographical coordinates or an identifier of a section of a road on which the vehicular mobile terminal is located,
- wherein the processor is further adapted to determine radio resources to be used by the vehicular mobile terminal for communication with another mobile terminal, and
- wherein the transmitter is further configured to transmit information on the determined radio resources to the vehicular mobile terminal.
19. The radio base station according to one of claims 15 to 18, wherein the location of the vehicular mobile terminal is based on an grid overlaying a road on which the vehicular mobile terminal is located, wherein part of the road on which the vehicular mobile terminal is located is divided into a plurality of sections, optionally wherein each of the plurality of sections covers all lanes of the road,
- wherein all of the plurality of sections are subdivided into the same plurality of non-overlapping subsections, optionally wherein each of the plurality of subsections covers at least one of the lanes of the road, and optionally wherein each of the plurality of subsections is associated with a radio resource pool,

wherein the transmitter is further configured to transmit information on the grid, the sections and subsections to the vehicular mobile terminal, such that the vehicular mobile terminal can use said information to determine the location of the vehicular mobile terminal as a section and/or subsection,

- 5 optionally wherein a receiver of the radio base station is adapted to receive from the vehicular mobile terminal an identifier of the section and/or an identifier of the subsection as information on the location of the vehicular mobile terminal.