Claim no. HP-2017-000048

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
INTELLECTUAL PROPERTY LIST (ChD)
PATENTS COURT

B E T W E E N:

CONVERSANT WIRELESS LICENSING S.à r.l.
(a company incorporated under the laws of Luxembourg)

Claimant

- and -

(1) HUAWEI TECHNOLOGIES CO., LIMITED
(a company incorporated under the laws of the People's Republic of China)

(2) HUAWEI TECHNOLOGIES (UK) CO., LIMITED

(3) ZTE CORPORATION
(a company incorporated under the laws of the People's Republic of China)

(4) ZTE (UK) LIMITED

Defendants

ANNEX A
TO THE STATEMENT OF GROUNDS
TRIAL B

Claims

1. A method which is executed by a mobile station for autonomous enhanced uplink transmission in which a scheduling grant from a network is not required, comprising:

determining a virtual transmission time interval for a medium access control entity, which virtual transmission time interval defines a minimum time interval that is allowed between enhanced uplink transmissions;

checking to determine whether the medium access control entity is transmitting data packets in a current air interface transmission time interval, by checking whether the medium access control entity is able to empty the radio link control buffer in the current air interface transmission time interval; and

for the case where it is determined that the medium access control entity is not transmitting in the current air interface transmission time interval, transmitting a next data packet only after a period determined by the virtual transmission time interval is determined to have elapsed.

2. The method of claim 1, wherein the virtual transmission time interval is independent from air interface transmission time interval.

3. The method of claim 1, wherein the next data packet comprises at least one protocol data unit.

~~4. The method of claim 1, wherein checking to determine whether the medium access control entity is transmitting data packets in a current air interface transmission time interval comprises checking to determine if the medium access control entity emptied its radio link control buffer.~~

4~~5~~. The method of claim 4~~1~~, wherein transmitting comprises transmitting at least one protocol data unit from the buffer.

6~~5~~. The method of claim 5~~4~~, wherein transmitting the at least one protocol data unit comprises selecting a transport format combination as a function of the virtual transmission time interval.

~~7~~6. The method of claim 5~~6~~, wherein selecting the transport format combination is a function of occupancy of the radio link control buffer and the virtual transmission time interval.

~~8~~7. The method of claim ~~1~~4, wherein transmitting the at least one protocol data unit comprises transmitting it over a dedicated channel.

~~9~~8. The method of claim 1, wherein determining the virtual transmission time interval comprises receiving from a network element the virtual transmission time interval.

~~10~~9. The method of claim 1, wherein determining the virtual transmission time interval is without explicit network signaling.

~~11~~10. The method of claim 1, wherein the mobile station is further configured to implement the virtual transmission time interval in a~~n~~ medium access control dedicated layer

~~12~~11. A computer program product embodied on a computer readable medium and executable by a processor for performing actions by a mobile station for autonomous enhanced uplink transmission in which a scheduling grant from a network is not required, said actions comprising:

determining a virtual transmission time interval for a medium access control entity, which virtual transmission time interval is independent from the air interface transmission time interval and defines a minimum time interval that is allowed between enhanced uplink transmissions;

checking to determine whether the medium access control entity is transmitting data packets in a current air interface transmission time interval, by checking whether the medium access control entity is able to empty the radio link control buffer in the current air interface transmission time interval; and

for the case where it is determined that the medium access control entity is not transmitting in the current air interface transmission time interval, transmitting a next data packet only after a period determined by the virtual transmission time interval is determined to have elapsed.

~~13~~12. The computer program product of claim ~~12~~11, wherein the virtual transmission time interval is independent from air interface transmission time interval.

~~14~~13. The computer program product of claim ~~12~~11, wherein the next data packet comprises at least one protocol data unit.

~~15. The computer program product of claim 12, wherein checking to determine whether the medium access control entity is transmitting data packets in a current air interface transmission time interval comprises checking to determine if the medium access control entity emptied its radio link control buffer.~~

~~16~~14. The computer program product of claim ~~15~~11, wherein transmitting comprises transmitting at least one protocol data unit from the buffer.

~~17~~15. The computer program product of claim ~~16~~14, wherein transmitting the at least one protocol data unit comprises selecting a transport format combination as a function of the virtual transmission time interval.

~~18~~16. The computer program product of claim ~~17~~15, wherein selecting the transport format combination is a function of occupancy of the radio link control buffer and the virtual transmission time interval.

~~19~~17. The computer program product of claim ~~12~~11, wherein transmitting the at least one protocol data unit comprises transmitting it over a dedicated channel.

~~20~~18. The computer program product of claim ~~12~~11, wherein determining the virtual transmission time interval comprises receiving from a network element the virtual transmission time interval.

~~21~~19. The computer program product of claim ~~12~~11, wherein determining the virtual transmission time interval is without explicit network signaling.

~~22~~20. The computer program product of claim ~~12~~11, configured to cause the mobile station to implement the virtual transmission time interval in a medium access control dedicated layer.

~~23~~21. A mobile station comprising:

a memory adapted to store computer program instructions and a virtual transmission time interval that is independent from the air interface transmission time interval and defines a minimum time interval that is allowed between enhanced uplink transmissions;

a wireless transceiver;

a processor coupled to the memory and to the wireless transceiver, and adapted to:

check to determine whether the mobile station is transmitting data packets in a current air interface transmission time interval, by checking whether the medium access control entity is able to empty the radio link control buffer in the current air interface transmission time interval; and

for the case where it is determined that the mobile station is not transmitting in the current air interface transmission time interval, ~~to~~ cause the wireless transceiver ~~transmitter~~ to transmit a next data packet only after a period determined by the virtual transmission time interval is determined to have elapsed, wherein the virtual transmission time interval is used for autonomous enhanced uplink transmission in which a scheduling grant from a network is not required.

~~24~~22. The mobile station of claim ~~23~~21, wherein the virtual transmission time interval is independent from air interface transmission time interval.

~~25~~23. The mobile station of claim ~~23~~21, wherein the next data packet comprises at least one protocol data unit.

~~26. The mobile station of claim 23, further comprising a radio link control buffer coupled to the wireless transceiver, and wherein the check to determine whether the mobile station is transmitting data packets in a current air interface transmission time interval comprises a check to~~

~~determine if the radio link control buffer is empty.~~

~~27~~24. The mobile station of claim ~~26~~21, wherein the next data packet comprises at least one protocol data unit sent from the buffer to the wireless transceiver.

~~28~~25. The mobile station of claim ~~27~~24, wherein the processor is adapted to cause the wireless transceiver to transmit the at least one protocol data unit comprises the processor adapted to select a transport format combination as a function of the virtual transmission time interval.

~~29~~26. The mobile station of claim ~~28~~25, wherein the transport format combination is a function of occupancy of the radio link control buffer and the virtual transmission time interval.

~~30~~27. The mobile station of claim ~~23~~21, wherein the wireless transceiver ~~transmitter~~ is adapted to transmit the next data packet over a dedicated channel.

~~31~~28. The mobile station of claim ~~23~~21, wherein the virtual transmission time interval is received from a network element via the wireless transceiver.

~~32~~29. The mobile station of claim ~~23~~21, wherein the virtual transmission time interval is determined by the processor without explicit network signaling.

~~33~~30. The mobile station of claim ~~23~~21, further configured to implement the virtual transmission time interval in a~~n~~ medium access control dedicated layer.