

Annex 1 to the Statement of Grounds for Amendment for EP(UK) 1 440 525 B1

Claim 1

A UMTS radio communication system having a communication channel for the transmission of data packets from a primary station (100) to a secondary station (110) the secondary station having receiving means for receiving a data packet (202) and acknowledgement means for transmitting a signal to the primary station to indicate the status of a received data packet, which signal is selected from a set of at least two available signal types (204, 206) wherein the acknowledgement means is arranged to select the power level at which the signal is transmitted depending on its type and in dependence on an indication of the power level at which each type of signal is transmitted, the indication being signaled from the primary station to the secondary station,

wherein the available signal types are signals indicating positive and negative acknowledgements, and

wherein the indication specifies the power level relative to the pilot bits on the uplink dedicated control channel.

Claim 2

~~A system as claimed in claim 1, characterized in that the available signal types include signals indicating positive and negative acknowledgements.~~

Claim 2 3

A system as claimed in claim 12, characterized in that the available signal types further include a revert signal indicating a request for retransmission of a packet received before the packet just received.

Claim 3 4

A system as claimed in claim 23, characterized in that the revert signal is identical to the negative acknowledgment signal but is transmitted at a higher power.

Claim 4 5

A primary station (100) for use in a UMTS radio communication system having a communication channel for the transmission of data packets from the primary station to a secondary station (110), wherein means are provided for transmitting a data packet to the secondary station and for receiving a signal from the secondary station to indicate the status of a received data packet (202), which signal is selected from a set of at least two available signal types and is transmitted with a power level selected depending on its type (204,206), and wherein means are provided for signaling to the secondary station an indication on how the power level at which the secondary station transmits each type of signal depends on the type of the signal.

Claim 5 6

A primary station as claimed in claim 45, characterized in that means are provided for determining the type of the received signal depending on its received power level.

Claim 6 7

A primary station as claimed in claim 4 or 55 or 6, characterized in that the indication comprises an instruction to the secondary station to transmit at least two types of signals at different powers.

Claim 7 8

A primary station as claimed in claim 4 or 55 or 6, characterized in that the indication informs the secondary station of the transmission power that it should use for at least one of the available signal types.

Claim 8 9

A primary station as claimed in claim 4, 5, or 75, 6 or 8, characterized in that the indication informs the secondary station of a required power difference between two different types of signals.

Claim 9 10

A secondary station (110) for use in a UMTS radio communication system having a communication channel for the transmission of data packets from a primary station (100) to the secondary station, wherein receiving means are provided for receiving a data packet (202) from the primary station and acknowledgement means are provided for transmitting a signal to the primary station (204,206) to indicate the status of a received data packet, which signal is selected from a set of at least two available signal types, wherein the acknowledgement means is arranged to select the power level at which the signal is transmitted depending on its type and in dependence on an indication of the power level at which each type of signal is transmitted, the indication being signaled from the primary station to the secondary station,

wherein the available signal types are signals indicating positive and negative acknowledgements, and

wherein the indication specifies the power level relative to the pilot bits on the uplink dedicated control channel.

Claim 10 11

A secondary station as claimed in claim 910, characterized in that ~~the signal types include signals indicating positive and negative acknowledgements and the~~

acknowledgement means transmits negative acknowledgements at a higher power than positive acknowledgements.

Claim 11 12

A secondary station as claimed in claim ~~10~~11, characterized in that the acknowledgement means only transmits negative acknowledgements at a higher power than positive acknowledgements if a time-averaged ratio of positive acknowledgements to negative acknowledgements is greater than a predetermined value.

Claim 12 13

A secondary station as claimed in claim 9 or ~~10~~10 or ~~11~~11, characterized in that the available signal types include signals conveying information relating to prevailing radio conditions other than the status of the received data packet.

Claim 14

~~A secondary station as claimed in claim 10, characterized in that the indication informs of an offset value of the power level at which the signal is transmitted.~~

Claim 13 15

A method of operating a UMTS radio communication system having a communication channel for the transmission of data packets from a primary station (100) to a secondary station (110) the method comprising the secondary station receiving a data packet (202) and transmitting an acknowledgement signal (204, 206) to the primary station to indicate the status of a received data packet, which signal is selected from a set of at least two available signal types, the method comprising selecting the power level at which the signal is transmitted depending on its type and in dependence on an indication of the power level at which each type of signal is transmitted, the indication being signalled from the primary station to the secondary station,

wherein the available signal types are signals indicating positive and negative acknowledgements,

and wherein the indication specifies the power level relative to the pilot bits on the uplink dedicated control channel.