[0078] The adaptation unit **304** is adapted to adapt the predefined system bandwidth based on the result of the comparison. The system bandwidth or number of PRBs may be increased or reduced based on the comparison. In some cases, the actual MCS level may also be considered for this decision.

[0079] The base station comprises a receiver as known by a skilled person. The base station may also comprise a transmitter. The receiver and the transmitter may be implemented as one single unit, for example as a transceiver **301** as shown in FIG. **3**. The transceiver or the receiving unit and the transmitter may be adapted to communicate with a further base station (not shown) or the user equipment **102** via an antenna.

[0080] The base stations may be any type of access point or point of attachment, which is capable of providing a wireless access to a cellular network system. Thereby, the wireless access may be provided for the user equipment, or for any other network element, which is capable of communicating in a wireless manner. The base stations may be a NodeB, eNB, home NodeB or HeNB, or any other kind of access point.

[0081] The user equipment **102** (UE) may be any type of communication end device, which is capable of connecting with the described base station. The UE may be in particular a cellular mobile phone, a Personal Digital Assistant (PDA), a notebook computer, a printer and/or any other movable communication device.

[0082] The user equipment **102** may comprise a receiving unit or receiver which is adapted for receiving signals from the base station. The user equipment may comprise a transmitting unit for transmitting signals. The transmitting unit may be a transmitter as known by a skilled person. The receiver and the transmitting unit may be implemented as one single unit, for example as a transceiver **305**. The transceiver or the receiver and the transmitting unit may be adapted to communicate with the base station via an antenna.

[0083] The user equipment may further comprise a control unit **306** for controlling and configuring transmissions based on information received from the base station. The control unit may be implemented as a single unit or may be implemented for example as part of a standard control unit, like a CPU or a microcontroller.

[0084] Having regard to the subject matter disclosed herein, it should be mentioned that, although some embodiments refer to a "base station", "eNB", etc., it should be understood that each of these references is considered to implicitly disclose a respective reference to the general term "network component" or, in still other embodiments, to the term "network access node". Also other terms which relate to specific standards or specific communication techniques are considered to implicitly disclose the respective general term with the desired functionality.

[0085] It should further be noted that a base station as disclosed herein is not limited to dedicated entities as described in some embodiments. Rather, the herein disclosed subject matter may be implemented in various ways in various locations in the communication network while still providing the desired functionality.

[0086] According to embodiments of the invention, any suitable entity (e.g. components, units and devices) disclosed herein, e.g. the determination unit, are at least in part provided in the form of respective computer programs which enable a processor device to provide the functionality of the respective entities as disclosed herein. According to other embodiments, any suitable entity disclosed herein may be provided in hardware. According to other-hybrid-embodiments, some entities may be provided in software while other entities are provided in hardware.

[0087] It should be noted that any entity disclosed herein (e.g. components, units and devices) are not limited to a dedicated entity as described in some embodiments. Rather, the herein disclosed subject matter may be implemented in various ways and with various granularity on device level while still providing the desired functionality. Further, it should be noted that according to embodiments a separate entity (e.g. a software module, a hardware module or a hybrid module) may be provided for each of the functions disclosed herein. According to other embodiments, an entity (e.g. a software module, a hardware module or a hybrid module (combined software/hardware module)) is configured for providing two or more functions as disclosed herein.

[0088] It should be noted that the term "comprising" does not exclude other elements or steps. It may also be possible in further refinements of the invention to combine features from different embodiments described herein above. It should also be noted that reference signs in the claims should not be construed as limiting the scope of the claims.

LIST OF REFERENCE SIGNS

[0089] **100** Cellular network system
[0090] **101** Base station
[0091] **102** User equipment
[0092] **103** Cell
[0093] **104** Uplink communication channel
[0094] **201** Start
[0095] **202** OLLA
[0096] **203** Counter increase
[0097] **204** Decision
[0098] **205** Getting actual values
[0099] **206** Decision
[0100] **207** Decision
[0101] **208** Setting PRB number
[0102] **209** Decision
[0103] **210** Setting PRB number
[0104] **211** End
[0105] **300** Cellular network system
[0106] **301** Transceiver of base station
[0107] **302** Determination unit of base station
[0108] **303** Comparison unit of base station
[0109] **304** Adaptation unit of base station
[0110] **305** Transceiver of user equipment
[0111] **306** Control unit of user equipment

1. A method for adapting a system bandwidth to be used by a user equipment for an uplink communication channel for an uplink communication between the user equipment and a base station within a cell of a cellular network system, wherein the cell is served by the base station, wherein the user equipment is adapted to use a predefined system bandwidth for the uplink communication, the method comprising

determining an actual block error rate of the uplink communication channel,

comparing the actual block error rate with a predefined threshold, and

adapting the predefined system bandwidth based on the result of the comparison.

2. The method as set forth in claim **1**, the method further comprising

determining an actual modulation and coding scheme level used for the uplink communication,