

## **[CLAIMS]**

### **[Claim 1]**

A method of transmitting Hybrid ARQ Acknowledgement (HARQ-ACK) information based on Code Block Group (CBG) by a communication apparatus in a wireless communication system, the method comprising:

performing decoding to CBGs configuring a Transport Block (TB);

after the decoding, re-receiving the TB; and

transmitting HARQ-ACK responses for each CBG of the TB, with regard to the re-reception of the TB,

wherein a HARQ-ACK response for a first CBG which was successfully decoded before the re-reception of the TB is fixed as ACK.

### **[Claim 2]**

The method of claim 1, wherein the first CBG includes a CBG which was not received at the re-reception of the TB.

### **[Claim 3]**

The method of claim 1, wherein a HARQ-ACK response for a second CBG which was not received at the re-reception of the TB and not successfully decoded before the re-reception of the TB is mapped to Negative ACK (ACK).

### **[Claim 4]**

The method of claim 1, wherein each CBG includes one or more CBs, a respective CB-based Cyclic Redundancy Check (CRC) is attached to each of the code blocks, and a TB-based CRC is attached to the TB.

### **[Claim 5]**

The method of claim 1, wherein a total number M of CBGs configuring the TB is received through a Radio Resource Control (RRC) signaling, and a number of HARQ-ACK bits is M.

### **[Claim 6]**

The method of claim 1, wherein the TB in the decoding step and the TB in the receiving

step share a same HARQ process.

[Claim 7]

The method of claim 1, wherein the wireless communication system includes 3<sup>rd</sup> Generation Partnership Project (3GPP)-based wireless communication system.

[Claim 8]

The method of claim 1, wherein, with regard to the re-reception of the TB, HARQ-ACK bits indicating HARQ-ACK responses for each CBG of the TB are transmitted, and a HARQ-ACK bit for the first CBG is mapped to ACK.

[Claim 9]

The method of claim 8, wherein the HARQ-ACK bit for the first CBG is mapped to ACK, regardless of detection of the first CBG at the re-reception of the TB.

[Claim 10]

The method of claim 1, wherein if CBGs configuring the TB are all successfully detected, but if the TB is not successfully detected, NACKs are transmitted for each CBG of the TB.

[Claim 11]

A communication apparatus for use in transmitting Hybrid ARQ Acknowledgement (HARQ-ACK) information based on Code Block Group (CBG) in a wireless communication system, the communication apparatus comprising:

- a Radio Frequency (RF) module; and

- a processor, wherein the processor is configured to:

- perform decoding to CBGs configuring a Transport Block (TB);

- after the decoding, re-receive the TB; and

- transmit HARQ-ACK responses for each CBG of the TB, with regard to the re-reception of the TB,

- wherein a HARQ-ACK response for a first CBG which was successfully decoded before the re-reception of the TB is fixed as ACK.

[Claim 12]

The communication apparatus of claim 11, wherein the first CBG includes a CBG which was not received at the re-reception of the TB.

[Claim 13]

The communication apparatus of claim 11, wherein a HARQ-ACK response for a second CBG which was not received at the re-reception of the TB and not successfully decoded before the re-reception of the TB is mapped to Negative ACK (ACK).

[Claim 14]

The communication apparatus of claim 11, wherein each CBG includes one or more CBs, a respective CB-based Cyclic Redundancy Check (CRC) is attached to each of the code blocks, and a TB-based CRC is attached to the TB.

[Claim 15]

The communication apparatus of claim 11, wherein a total number M of CBGs configuring the TB is received through a Radio Resource Control (RRC) signaling, and a number of HARQ-ACK bits is M.

[Claim 16]

The communication apparatus of claim 11, wherein the TB in the decoding step and the TB in the receiving step share a same HARQ process.

[Claim 17]

The communication apparatus of claim 11, wherein the wireless communication system includes 3<sup>rd</sup> Generation Partnership Project (3GPP)-based wireless communication system.

[Claim 18]

The communication apparatus of claim 11, wherein, with regard to the re-reception of the TB, HARQ-ACK bits indicating HARQ-ACK responses for each CBG of the TB are transmitted, and a HARQ-ACK bit for the first CBG is mapped to ACK.

[Claim 19]

The communication apparatus of claim 18, wherein the HARQ-ACK bit for the first CBG is mapped to ACK, regardless of detection of the first CBG at the re-reception of the TB.

[Claim 20]

The communication apparatus of claim 11, wherein if CBGs configuring the TB are all successfully detected, but if the TB is not successfully detected, NACKs are transmitted for each CBG of the TB.