CLAIMS

【Claim 1】A method of receiving a synchronization signal block (SSB) by a user equipment (UE) from a base station (BS) in a wireless communication system, the method comprising:

receiving, from the BS, the SSB in a half frame among two half frames included in a frame, wherein the SSB comprises a primary synchronization signal (PSS), a secondary synchronization signal (SSS), and a physical broadcast channel (PBCH); and

receiving, from the BS, a demodulation reference signal (DMRS) in a resource region of the PBCH,

wherein the DMRS comprises information about the half frame in which the SSB is received, and

wherein SSB candidates available for transmission of the SSB are allocated with a period of a half frame.

【Claim 2】The method according to claim 1, further comprising:

based on a number of SSB candidates in the half frame satisfying a first condition, obtaining the information about the half frame from the DMRS.

【Claim 3】The method according to claim 1, further comprising:

based on a number of SSB candidates in the half frame satisfying a second condition, the information about the half frame is not received in the DMRS.

【Claim 4】The method according to claim 3, wherein the information about the half frame is received in a payload of the PBCH.

【Claim 5】The method according to claim 1, wherein receiving the DMRS comprises receiving a sequence for the DMRS generated based on (i) a cell identifier (ID) identifying a cell, (ii) an index of the SSB, and (iii) the information about the half frame.

【Claim 6】The method according to claim 1, wherein receiving the DMRS

comprises:

based on a number of SSB candidates in the half frame satisfying a first condition, receiving a sequence for the DMRS generated by using a product between a specific value of the information about the half frame and a value for the first condition.

【Claim 7】The method according to claim 1,

wherein a first set of sequences is configured for the DMRS, based on a number of SSB candidates in the half frame satisfying a first condition,

wherein a second set of sequences is configured for the DMRS, based on the number of SSB candidates satisfying a second condition, and

wherein the first set of sequences is included in the second set of sequences.

【Claim 8】The method according to claim 1, wherein the PBCH comprises, in a payload of the PBCH, information about the frame in which the SSB is received.

【Claim 9】The method according to claim 1, wherein the information about the half frame corresponds to one bit of a scrambling sequence of the PBCH.

【Claim 10】The method according to claim 1, wherein a scrambling sequence of the PBCH is generated based on information about the frame.

【Claim 11】 A user equipment (UE) configured to receive a synchronization signal block (SSB) from a base station (BS) in a wireless communication system, the UE comprising:

a transceiver;

at least one processor; and

at least one computer memory operably connectable to the at least one processor and storing instructions that, when executed, causes the at least one processor to perform operations comprising:

controlling the transceiver to receive, from the BS, the SSB in a half frame among two half frames included in a frame, wherein the SSB comprises a primary

synchronization signal (PSS), a secondary synchronization signal (SSS), and a physical broadcast channel (PBCH); and

controlling the transceiver to receive, from the BS, a demodulation reference signal (DMRS) in a resource region of the PBCH,

wherein the DMRS comprises information about the half frame in which the SSB is received, and

wherein SSB candidates available for transmission of the SSB are allocated with a period of a half frame.

【Claim 12】 A method of transmitting a synchronization signal block (SSB) by a base station (BS) to a user equipment (UE) in a wireless communication system, the method comprising:

generating a demodulation reference signal (DMRS), wherein the DMRS comprises information about a half-frame, among two half frames included in a frame, in which the SSB is to be transmitted;

transmitting, to the UE, the SSB in the half frame among two half frames included in a frame, wherein the SSB comprises a primary synchronization signal (PSS), a secondary synchronization signal (SSS), and a physical broadcast channel (PBCH); and

transmitting, to the UE, the DMRS in a resource region of the PBCH,

wherein SSB candidates available for transmission of the SSB are allocated with a period of a half frame.

【Claim 13】 A base station (BS) configured to transmit a synchronization signal block (SSB) to a user equipment (UE) in a wireless communication system, the BS comprising:

a transceiver;

at least one processor; and

at least one computer memory operably connectable to the at least one processor and storing instructions that, when executed, causes the at least one processor to perform operations comprising:

generating a demodulation reference signal (DMRS), wherein the DMRS comprises information about a half-frame, among two half frames included in a frame, in

which the SSB is to be transmitted;

controlling the transceiver to transmit, to the UE, the SSB in a half frame among two half frames, wherein the SSB comprises a primary synchronization signal (PSS), a secondary synchronization signal (SSS), and a physical broadcast channel (PBCH); and

controlling the transceiver to transmit, to the UE, the DMRS in a resource region of the PBCH, and

wherein SSB candidates available for transmission of the SSB are allocated with a period of a half frame.