【CLAIMS】

【Claim 1】

A method of receiving a Reference Signal (RS) by a User Equipment (UE) in a wireless communication system, the method comprising:

receiving Quasi Co-Location (QCL) configuration information that relates to a spatial reception parameter, wherein the QCL configuration information configures a QCL relationship, based on the spatial reception parameter, between (i) a first antenna port for receiving a first RS and (ii) a second antenna port for receiving a second RS;

receiving the first RS through the first antenna port; and

receiving the second RS through the second antenna port that has the QCL relationship with the first antenna port,

wherein the QCL relationship is based on the spatial reception parameter.

【Claim 2】

The method of claim 1, wherein the spatial reception parameter is related to at least one of (i) a direction in which a beam is received by the UE or (ii) a reception beam width.

【Claim 3】

The method of claim 1, wherein an RS type of the second RS is the same as an RS type of the first RS.

【Claim 4】

The method of claim 3, wherein the first RS is a first Channel state information

(CSI)-RS that is mapped to a first CSI-RS resource,

wherein the second RS is a second CSI-RS mapped to a second CSI-RS resource which is different from the first CSI-RS resource, and

wherein the first antenna port for receiving the first CSI-RS resource and the second antenna port for receiving the second CSI-RS resource are configured to have the QCL relationship based on the spatial reception parameter.

【Claim 5】

The method of claim 3, wherein the first RS and the second RS are the same CSI-RS that is mapped to an identical CSI-RS resource.

【Claim 6】

The method of claim 1, wherein an RS type of the first RS is a CSI-RS and an RS type of the second RS is a Synchronization Signal (SS), and

wherein the first antenna port for receiving the CSI-RS and the second antenna port for receiving the SS are configured to have the QCL relationship based on the spatial reception parameter.

【Claim 7】

The method for receiving an RS of claim 3, wherein an RS type of the first RS is a Demodulation RS (DMRS) and an RS type of the second RS is a Phase noise compensation RS (PCRS), and

wherein the first antenna port for receiving the DMRS and the second antenna port

for receiving the PCRS are configured to have the QCL relationship for a plurality of QCL parameters.

【Claim 8】

The method of claim 7, wherein the PCRS corresponds to a reference signal for phase tracking.

【Claim 9】

The method of claim 7, wherein the plurality of QCL parameters comprises the spatial reception parameter and at least one of a Delay spread parameter, a Doppler spread parameter, a Doppler shift parameter, an Average gain parameter or an Average delay parameter.

【Claim 10】

The method of claim 7, wherein a first precoding for the first antenna port for receiving the DMRS is identical to a second precoding for the second antenna port for receiving the PCRS.

【Claim 11】

The method for receiving an RS of claim 1, wherein the second antenna port has the QCL relationship with the first antenna port for at least one QCL parameter, and

Wherein the at least one QCL parameter is indicated to the UE through a hierarchical QCL signaling.

【Claim 12】

The method of claim 11, wherein the UE is configured with a plurality of first candidate QCL configuration parameter sets through a Radio Resource Control (RRC) signaling,

wherein the UE is configured with a plurality of second candidate QCL configuration parameter sets selected among the plurality of first candidate QCL configuration parameter sets through an L2 (Layer 2)/MAC (medium access control) layer signaling, and

wherein the UE is configured with QCL configuration parameter set which is selected among the plurality of second candidate QCL configuration parameter sets through an L1 (Layer 1)/PHY (Physical) layer signaling.

【Claim 13】

A User Equipment (UE) configured to receive a Reference Signal (RS) in a wireless communication system, the UE comprising:

a radio frequency (RF) unit;

at least one processor; and

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

receiving Quasi Co-Location (QCL) configuration information that relates to a spatial reception parameter, wherein the QCL configuration information configures a QCL

relationship, based on the spatial reception parameter, between (i) a first antenna port for receiving a first RS and (ii) a second antenna port for receiving a second RS;

receiving, using the RF unit, the first RS through the first antenna port; and

receiving, using the RF unit, the second RS through the second antenna port that has the QCL relationship with the first antenna port,

wherein the QCL relationship is based on the spatial reception parameter.

【Claim 14】

The UE of claim 13, wherein the spatial reception parameter is related to at least one of (i) a direction in which a beam is received by the UE or (ii) a reception beam width.

【Claim 15】

The UE of claim 13, wherein an RS type of the second RS is the same as an RS type of the first RS.

【Claim 16】

The method of claim 7, wherein the first antenna port for receiving the DMRS and the second antenna port for receiving the PCRS are configured to have the QCL relationship for all QCL parameters that have been defined for the first antenna port and the second antenna port.

【Claim 17】

The method of claim 2, wherein the spatial reception parameter is related to at least

one of an average angle (AA) or an average spread (AS).

【Claim 18】

The method of claim 1, wherein receiving the second RS through the second antenna port that has the QCL relationship with the first antenna port based on the spatial reception parameter comprises:

based on a first value of the spatial reception parameter that is obtained from the first RS received through the first antenna port, determining a second value of the spatial reception parameter for receiving the second RS through the second antenna port.