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**Zhang et al.**(10) **Pub. No.: US 2024/0214109 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **SYSTEM AND METHOD FOR PHASE  
TRACKING REFERENCE SIGNAL  
DYNAMIC PRESENCE IN ULTRA-RELIABLE  
AND LOW-LATENCY AND PORT  
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Xiong**, Portland, OR (US); **Yujian  
Zhang**, Beijing (CN); **Guotong Wang**,  
Beijing (CN)(57) **ABSTRACT**

A user equipment wireless communication device in a wireless communication environment receives a signal from the network that includes a radio network temporary ID. From the radio network temporary ID, the user equipment is capable of determining whether a phase tracking reference signal is present based on the radio network temporary ID. If any of these are identified by the radio network temporary ID, then the user equipment determines that a phase tracking reference signal is present. After the user equipment has determined that the phase tracking reference signal is present, the user equipment can then determine which phase tracking reference signal antenna ports are to be used based on the values of the transmitted precoding matrix indicator value and the transmit rank indicator.

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