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PARK et al.(10) **Pub. No.: US 2022/0385287 A1**(43) **Pub. Date: Dec. 1, 2022**(54) **TRANSMITTER CIRCUIT INCLUDING
SELECTION CIRCUIT, AND METHOD OF
OPERATING THE SELECTION CIRCUIT****Publication Classification**

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SHIN**, Seoul (KR); **Hyunyoan CHO**,
Uiwang-si (KR); **Youngdon CHOI**,
Seoul (KR); **Junghwan CHOI**,
Hwaseong-si (KR)(57) **ABSTRACT**

A transmitter circuit includes a clock generator configured to generate a plurality of clock signals having different phases, and a plurality of selection circuits configured to receive a plurality of parallel data signals and output a serial data signal on an output node based on the plurality of clock signals and the received plurality of parallel data signals. Each of the plurality of selection circuits includes a data multiplexer configured to generate a plurality of data selection signals based on the received one of the plurality of parallel data signals and the plurality of clock signals; a control signal generator configured to generate first and second control signals based on the plurality of data selection signals; and an output driver connected to the output node, and configured to precharge the output node based on the first control signal or discharge the output node based on the second control signal.

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