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(54) **PHASED ARRAY TRANSCEIVER INCLUDING A BIDIRECTIONAL PHASE SHIFTER**

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(57) **ABSTRACT**

A method, a phase shifter, and a user equipment (UE) are disclosed for transmitting and receiving signals in a phased array. The method includes receiving, by a balun of a phase shifter, a transmission single-ended input signal at a single-ended side of the balun and generating a transmission differential input signal at a differential side of the balun, generating, by a differential quadrature coupler of the phase shifter, a transmission in-phase signal and a transmission quadrature signal, based on the transmission differential input signal, and combining, by a differential attenuator of the phase shifter, the transmission in-phase signal and the transmission quadrature signal into a differential phase-shifted output signal.