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(19) **United States**(12) **Patent Application Publication****Lee et al.**(10) **Pub. No.: US 2023/0231551 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **HIGH BANDWIDTH AND LOW POWER TRANSMITTER**(52) **U.S. Cl.**CPC **H03K 17/161** (2013.01); **H03H 11/28** (2013.01)(71) Applicant: **MEDIATEK INC.**, Hsin-Chu (TW)(72) Inventors: **Fong-Wen Lee**, Hsinchu City (TW);
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(57)

ABSTRACT(73) Assignee: **MEDIATEK INC.**, Hsin-Chu (TW)(21) Appl. No.: **17/987,875**(22) Filed: **Nov. 16, 2022****Related U.S. Application Data**

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The present invention provides a transmitter including a first variable resistor, a first transistor, a second transistor, a third transistor and a fourth transistor is disclosed. The first variable resistor is coupled between a supply voltage and a first node. A first electrode of the first transistor is coupled to the first node, and a second electrode of the first transistor is coupled to a first output terminal of the transmitter. A first electrode of the second transistor is coupled to the first output terminal of the transmitter, and a second electrode of the second transistor is coupled to a second node. A first electrode of the third/fourth transistor is coupled to the first node, and a second electrode of the third/fourth transistor is coupled to a second output terminal of the transmitter.

