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(19) **United States**(12) **Patent Application Publication****Wu et al.**(10) **Pub. No.: US 2024/0178818 A1**(43) **Pub. Date: May 30, 2024**(54) **RESISTIVE ATTENUATOR AND METHOD FOR IMPROVING LINEARITY OF RESISTIVE ATTENUATOR**(52) **U.S. Cl.**CPC **H03H 11/53** (2013.01); **H03F 1/3282** (2013.01); **H03H 7/25** (2013.01)(71) Applicant: **Realtek Semiconductor Corp.,**
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ABSTRACT(72) Inventors: **Yi-Ching Wu,** HsinChu (TW);
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A resistive attenuator and a method for improving linearity of the resistive attenuator are provided. The resistive attenuator includes a first transistor, an attenuation circuit and a compensation circuit, wherein both the first transistor and the attenuation circuit are coupled between an input terminal and an output terminal of the resistive attenuator, and the compensation circuit is coupled to the first transistor. The first transistor is configured to provide a first signal path between the input terminal and the output terminal. The attenuation circuit is configured to provide a second signal path between the input terminal and the output terminal, wherein signal attenuation of the second signal path is greater than signal attenuation of the first signal path. The compensation circuit is configured to compensate nonlinear distortion caused by the first transistor.

