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(19) **United States**(12) **Patent Application Publication**  
**TANIO**(10) **Pub. No.: US 2022/0360231 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **DOHERTY POWER AMPLIFIER****H03F 1/56** (2006.01)**H03F 3/193** (2006.01)(71) Applicant: **NEC Corporation**, Minato-ku, Tokyo (JP)(52) **U.S. Cl.**CPC ..... **H03F 1/0288** (2013.01); **H03F 1/223** (2013.01); **H03F 1/56** (2013.01); **H03F 3/193** (2013.01)(72) Inventor: **Masaaki TANIO**, Tokyo (JP)(73) Assignee: **NEC Corporation**, Minato-ku, Tokyo (JP)(21) Appl. No.: **17/430,036**

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An input signal is input to a main power amplifier and an auxiliary power amplifier. A combiner is connected to an output of the main power amplifier and an output of the auxiliary power amplifier. The combiner includes an impedance converter, first and second lumped elements. The impedance converter is connected to a combining point. The first lumped element is connected between the output of the main power amplifier and the combining point. The second lumped element is connected between the output of the auxiliary power amplifier and the combining point. A line length between the output of the main power amplifier and the combining point is the same as that between a line length between the output of the auxiliary power amplifier and the combining point.

