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BAO(10) **Pub. No.: US 2022/0368298 A1**(43) **Pub. Date: Nov. 17, 2022**(54) **POWER AMPLIFIER WITH LARGE OUTPUT POWER**(71) Applicant: **Telefonaktiebolaget LM Ericsson (publ)**, Stockholm (SE)(72) Inventor: **Mingquan BAO**, Västra Frölunda (SE)(21) Appl. No.: **17/621,781**(22) PCT Filed: **Jun. 24, 2019**(86) PCT No.: **PCT/SE2019/050604**

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ABSTRACT

A power amplifier has a number n of power cells A_i , a number n of output transmission lines $TL_{1,i}$ for combining output powers from the power cells, and a number n of impedance transformation network ITN_i , where $i=1, \dots, n$. The number n of output transmission lines are connected in series. The output terminal of each power cells is connected to its output transmission line via its impedance transformation network. Each impedance transformation network is an upward impedance transformation network for transforming an output impedance of each power cell at the input terminal of the impedance transformation network into a higher impedance at the output terminal of the impedance transformation network. A number n of input transmission lines $TL_{0,i}$ ($i=1, 2, \dots, n$)=connected in series. The input terminal of the i -th power cell is connected to the second terminal of the i -th transmission line via a capacitor, where $i=1, \dots, n$.

