



US 20220360236A1

(19) **United States**(12) **Patent Application Publication****Ouyahia et al.**(10) **Pub. No.: US 2022/0360236 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **RADIO FREQUENCY POWER AMPLIFIER****H03F 3/45** (2006.01)**H03F 1/02** (2006.01)(71) Applicant: **STMICROELECTRONICS SA**,
Montrouge (FR)(52) **U.S. Cl.****CPC** **H03F 3/213** (2013.01); **H01L 27/0629**
(2013.01); **H03F 3/45179** (2013.01); **H03F**
1/0216 (2013.01); **H03F 2200/451** (2013.01)(72) Inventors: **Samia Ouyahia**, Vernouillet (FR);
Renaud Lemoine, Champigny sur
Marne (FR); **Eric Wilhelm**, Gisors (FR)

(57)

ABSTRACT

According to an embodiment, An integrated circuit comprising a first cascode radio frequency (RF) power amplifier that includes a first common source transistor having a gate configured to receive a first RF signal, and a source connected to a neutral point; a first common gate transistor having a gate and a drain connected to a power source node, and a source connected to a drain of the first common source transistor; and a first resistor coupled between a bulk of the first common gate transistor and a first bulk bias node configured to provide a voltage that is greater than or equal to a voltage at the source of the first common gate transistor, wherein the first resistor is configured to obtain a floating point.

(21) Appl. No.: **17/662,542**(22) Filed: **May 9, 2022**(30) **Foreign Application Priority Data**

May 10, 2021 (FR) 2104917

Publication Classification(51) **Int. Cl.****H03F 3/213** (2006.01)**H01L 27/06** (2006.01)