



US 20220368294A1

(19) **United States**(12) **Patent Application Publication**  
**Khlat**(10) **Pub. No.: US 2022/0368294 A1**(43) **Pub. Date: Nov. 17, 2022**(54) **RADIO FREQUENCY SIGNAL PHASE  
CORRECTION IN POWER AMPLIFIER  
CIRCUIT**(52) **U.S. Cl.**CPC ..... *H03F 3/245* (2013.01); *H03H 11/16*  
(2013.01); *H03F 2200/105* (2013.01); *H03F*  
*2200/451* (2013.01)(71) Applicant: **Qorvo US, Inc.**, Greensboro, NC (US)(72) Inventor: **Nadim Khlat**, Cugnaux (FR)(21) Appl. No.: **17/564,734**(22) Filed: **Dec. 29, 2021****Related U.S. Application Data**(60) Provisional application No. 63/188,019, filed on May  
13, 2021.**Publication Classification**(51) **Int. Cl.***H03F 3/24* (2006.01)  
*H03H 11/16* (2006.01)(57) **ABSTRACT**

A power amplifier circuit supporting phase correction in a radio frequency (RF) signal is disclosed. The power amplifier circuit includes a power amplifier configured to amplify an RF signal based on a modulated voltage. The power amplifier circuit also includes a phase correction circuit configured to generate a phase correction signal based on the modulated voltage to thereby cause a phase change in the RF signal before the RF signal is amplified by the power amplifier. As a result, the modulated voltage and the time-variant power envelope can be better aligned in time and/or phase at the power amplifier circuit to thereby improve efficiency and linearity of the power amplifier circuit.

