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SHAHMOHAMMADI et al.(10) **Pub. No.: US 2022/0360219 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **RADIO FREQUENCY OSCILLATOR****H03F 1/56** (2006.01)**H03F 3/24** (2006.01)**H03F 3/72** (2006.01)(71) Applicant: **Huawei Technologies Co., Ltd.**,
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ABSTRACT**Related U.S. Application Data**(63) Continuation of application No. 17/318,742, filed on
May 12, 2021, now Pat. No. 11,336,229, which is a
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051574, filed on Jan. 27, 2015.**Publication Classification**(51) **Int. Cl.****H03B 5/12** (2006.01)**H03F 3/193** (2006.01)

The invention relates to a radio frequency oscillator, the radio frequency oscillator comprising a resonator circuit being resonant at an excitation of the resonator circuit in a differential mode and at an excitation of the resonator circuit in a common mode, wherein the resonator circuit has a differential mode resonance frequency at the excitation in the differential mode, and wherein the resonator circuit has a common mode resonance frequency at the excitation in the common mode, a first excitation circuit being configured to excite the resonator circuit in the differential mode to obtain a differential mode oscillator signal oscillating at the differential mode resonance frequency, and a second excitation circuit being configured to excite the resonator circuit in the common mode to obtain a common mode oscillator signal oscillating at the common mode resonance frequency.

