US 20220407481A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0407481 A1**

Biswas (43) **Pub. Date: Dec. 22, 2022**

(54) **DEVICES AND METHODS FOR OFFSET CANCELLATION**

(71) Applicant: **STMicroelectronics International N.V.**, Geneva (CH)

(72) Inventor: **Riju Biswas**, Noida (IN)

(21) Appl. No.: **17/891,860**

(22) Filed: **Aug. 19, 2022**

Related U.S. Application Data

(63) Continuation-in-part of application No. 16/837,783, filed on Apr. 1, 2020, now Pat. No. 11,444,580.

Publication Classification

(51) **Int. Cl.**

H03F 3/45	(2006.01)
H03M 1/06	(2006.01)

(52) **U.S. Cl.**

CPC ***H03F 3/45977*** (2013.01); ***H03M 1/0607*** (2013.01); ***H03M 1/0682*** (2013.01); ***H03F 3/45753*** (2013.01); *H03F 2200/375* (2013.01); *H03F 2203/45212* (2013.01)

(57) **ABSTRACT**

An offset-cancellation circuit having a first amplification stage with a gain of the first amplification stage and configured to receive an offset voltage of a first amplifier. A storage element is configured to be coupled to and decoupled from the first amplification stage and configured to store a potential difference output by the first amplification stage. The potential difference is determined by the offset voltage of the first amplifier and the gain of the first amplification stage. A second amplification stage is coupled to the storage element and configured to receive the potential difference from the storage element when the storage element is decoupled from the first amplification stage and configured to deliver an offset-cancellation current. The offset-cancellation current is determined by the potential difference and a gain of the second amplification stage.