US 20220407509A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0407509 A1**

Atienza et al. (43) **Pub. Date: Dec. 22, 2022**

(54) **VOLTAGE SOURCE KICKSTART CIRCUIT FOR POWERING INTEGRATED CIRCUITS**

(71) Applicant: **Appleton Grp LLC**, Rosemont, IL (US)

(72) Inventors: **Joel Jeremiah Guevarra Atienza**, Hagonoy (PH); **Mark Chester Bernardino Nepomuceno**, Taytay (PH); **Jonathan Art Fulgencio Recaflanca**, Quezon City (PH); **Runelle Namoro Tria**, Quezon City (PH)

(21) Appl. No.: **17/349,615**

(22) Filed: **Jun. 16, 2021**

Publication Classification

(51) **Int. Cl.**

H03K 17/22	(2006.01)
G06F 1/28	(2006.01)
G01R 19/165	(2006.01)

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

CPC ***H03K 17/223*** (2013.01); ***G06F 1/28*** (2013.01); ***G01R 19/16552*** (2013.01)

(57) **ABSTRACT**

A system is described. The system includes a control transistor, a voltage source, a feedback node connected between a drain of the control transistor and the voltage source, a plurality of resistors connected between the voltage source and ground, and a control node connected to a gate of the control transistor. The resistors include a first series-connected set of resistors associated with the control transistor being biased and a second series-connected set of resistors associated with the control transistor being unbiased. During a startup period, the control node is configured to bias the control transistor to select the first series-connected set of resistors, thereby increasing a voltage level of the voltage source to a boosted VCC voltage. After the startup period, the control node is configured to unbias the control transistor to select the second series-connected set of resistors, thereby decreasing the boosted VCC voltage to a normal VCC voltage.