



US 20220385290A1

(19) **United States**(12) **Patent Application Publication**
Nowak et al.(10) **Pub. No.: US 2022/0385290 A1**(43) **Pub. Date: Dec. 1, 2022**(54) **OPEN-DRAIN BUS REPEATER AND SYSTEM
COMPRISING THE SAME***H03K 19/017* (2006.01)*G06F 13/40* (2006.01)(71) Applicant: **NEXPERIA B.V.**, Nijmegen (NL)(52) **U.S. Cl.**CPC ... *H03K 19/0027* (2013.01); *H03K 19/17784*
(2013.01); *H03K 19/01742* (2013.01); *G06F*
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Geethanadh Asam, Nijmegen (NL)(73) Assignee: **NEXPERIA B.V.**, Nijmegen (NL)(21) Appl. No.: **17/828,552**(22) Filed: **May 31, 2022**(30) **Foreign Application Priority Data**

Jun. 1, 2021 (EP) 21177187.8

Publication Classification(51) **Int. Cl.***H03K 19/00* (2006.01)*H03K 19/17784* (2006.01)

(57)

ABSTRACT

A repeater for open-drain bus communication and a system including the same is provided. The repeater includes at least one repeating unit having an A-side terminal connected to an A-side open-drain bus, and a B-side terminal electrically connected to a B-side open-drain bus. The repeater has a first mode to receive a signal at the A-side and to produce a signal at the B-side. The repeating unit includes a B-side accelerator element connected to the B-side terminal. The repeating unit when in a first mode includes a first control unit to, control the B-side accelerator element to pull up a voltage at the B-side when the voltage at the A-side surpasses a first threshold voltage during a rising edge of the voltage, and to subsequently control the B-side accelerator element to stop pulling up the voltage at the B-side when the voltage at the B-side surpasses a second threshold voltage.

