

# (19) United States

## (12) Patent Application Publication (10) Pub. No.: US 2023/0232261 A1 Knode

### Jul. 20, 2023 (43) **Pub. Date:**

#### (54) PERCENTILE FLOOR LINK QUALIFICATION

(71) Applicant: Lutron Technology Company LLC, Coopersburg, PA (US)

Galen Edgar Knode, Macungie, PA Inventor:

Assignee: Lutron Technology Company LLC, Coopersburg, PA (US)

Appl. No.: 18/087,546 (21)

(22) Filed: Dec. 22, 2022

### Related U.S. Application Data

- Continuation of application No. 17/110,265, filed on Dec. 2, 2020.
- Provisional application No. 63/117,759, filed on Nov. 24, 2020, provisional application No. 63/022,169, filed on May 8, 2020, provisional application No. 62/942,713, filed on Dec. 2, 2019.

#### **Publication Classification**

(51) Int. Cl. H04W 24/08 (2006.01)H04B 17/318 (2006.01)H04W 48/16 (2006.01)

(52)U.S. Cl. H04W 24/08 (2013.01); H04B 17/318 CPC ..... (2015.01); H04W 48/16 (2013.01)

#### (57)ABSTRACT

Devices of a control system may communicate with each other via a network. The control devices may be configured to form the network by joining the network and each attempt to attach to another device on the network. Attachment may be performed using one or more link quality thresholds. For example, the control device may measure background values and the link quality threshold may represent an Nth percentile value of the recorded background values measured at the control device. During a router optimization mode, the control devices may measure and store a communication quality metrics that may be used to assign the role of router devices and/or the role of leader device to control devices on the network.

