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LU et al.(10) **Pub. No.: US 2022/0393695 A1**(43) **Pub. Date: Dec. 8, 2022**(54) **CIRCUITRY AND METHOD FOR REDUCING ENVIRONMENTAL NOISE**(52) **U.S. Cl.**CPC *H03M 1/08* (2013.01); *H03K 5/24* (2013.01); *H03M 1/1071* (2013.01)(71) Applicant: **TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.**, Hsinchu (TW)

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ABSTRACT(72) Inventors: **CHUNG-TING LU**, KAOHSIUNG CITY (TW); **CHIH-CHIANG CHANG**, TAIPEI CITY (TW); **CHUNG-CHIEH YANG**, HSINCHU COUNTY (TW)

The present disclosure provides a circuitry. The circuitry includes a comparator and a signal correlated circuit. The comparator includes a first input terminal, a second input terminal, and an output terminal. The signal correlated circuit includes a first input terminal, a second input terminal, a first output terminal, and a second output terminal. The first input terminal is coupled to receive a first input signal. The second input terminal is coupled to receive a second input signal independent from the first input signal. The first output terminal is configured to generate a first output signal and to send the first output signal to the first input terminal of the comparator. The second output terminal is configured to generate a second output signal and to send the second output signal to the second input terminal of the comparator. The first output signal and the second output signal are correlated.

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