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WANG et al.(10) **Pub. No.: US 2024/0223203 A1**(43) **Pub. Date: Jul. 4, 2024**(54) **CIRCUIT AND METHOD FOR CHANNEL
RANDOMIZATION BASED ON
TIME-INTERLEAVED ADC**(30) **Foreign Application Priority Data**

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Ltd., Chongqing (CN)**(21) Appl. No.: **18/603,189**(22) Filed: **Mar. 12, 2024****Related U.S. Application Data**(63) Continuation of application No. PCT/CN2021/
133566, filed on Nov. 26, 2021.(57) **ABSTRACT**

A circuit for channel randomization based on time-interleaved ADC includes: a channel selection module for outputting M clock reception control signals and encoded N data reception control signals based on a main clock and a generated random number; a multi-phase clock distribution module for generating N multi-phase clocks according to a sampling main clock, redistributing the multi-phase clocks according to the clock reception control signals, and outputting M redistributed clock signals; a time-interleaved ADC module for outputting M output data and a corresponding number of channel quantization completion signals according to the redistributed clock signals; an adjustable delay module for setting a delay length for the data reception control signals; and a timing distribution control module for controlling, according to delayed data reception control signals and the channel quantization completion signals, the output data to be output sequentially in chronological order.

