

(12) **United States Patent**
Whetsel

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(54) **TEST MESSAGING DEMODULATE AND MODULATE ON SEPARATE POWER PADS**

(71) Applicant: **Texas Instruments Incorporated**,
Dallas, TX (US)

(72) Inventor: **Lee D. Whetsel**, Parker, TX (US)

(73) Assignee: **Texas Instruments Incorporated**,
Dallas, TX (US)

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See application file for complete search history.

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Primary Examiner — Cynthia Britt

(74) *Attorney, Agent, or Firm* — Lawrence J. Bassuk; Frank D. Cimino

(57) **ABSTRACT**

The present disclosure describes a novel method and apparatus for using a device's power and ground terminals as a test and/or debug interface for the device. According to the present disclosure, messages are modulated over DC voltages applied to the power terminals of a device to input test/debug messages to the device and output test/debug messages from the device. The present disclosure advantageously allows a device to be tested and/or debugged without the device having any shared or dedicated test or debug interface terminals.

3 Claims, 29 Drawing Sheets

