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### (54) ISOLATION COMMUNICATIONS CHANNEL USING DIRECT DEMODULATION AND **DATA-EDGE ENCODING**

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#### ABSTRACT (57)

An apparatus for communicating across an isolation barrier includes a differential pair of input terminals. The apparatus includes a bandpass filter circuit configured to receive a received signal on the differential pair of input terminals and to provide a received differential signal on a differential pair of nodes. The apparatus includes a demodulator directly coupled to the bandpass filter circuit and configured to directly demodulate the received differential signal on the differential pair of nodes to provide a demodulated received signal.

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