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**Lee et al.**

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(54) **METHOD, SYSTEM AND APPARATUS FOR INITIATING AND MAINTAINING SYNCHRONIZATION OF A PULSE POSITION MODULATION (PPM) DECODER WITH A RECEIVED PPM SIGNAL**

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(57) **ABSTRACT**

A radio frequency identification (RFID) tag device having a pulse position modulation (PPM) decoder circuit which calculates a relative frequency relationship between an internal clock-oscillator of the RFID tag device and an external PPM source such as a RFID tag reader, and then synchronizes the RFID tag device PPM decoder circuit to the required precision for reliable PPM symbol decoding. The PPM decoder is synchronized by measuring the "counts per pulse" (CPP) from a calibration cycle having a plurality of pulses in a single symbol frame.

**23 Claims, 5 Drawing Sheets**

