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## (12) United States Patent

#### Pearl

#### (54) ADAPTIVE DUTY CYCLE MANAGEMENT METHOD AND SYSTEM FOR RADIO TRANSMITTERS

- (75) Inventor: Norman Pearl, Montreal (CA)
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- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 577 days.

This patent is subject to a terminal disclaimer.

- (21) Appl. No.: 11/223,221
- (22) Filed: Sep. 9, 2005

#### (65) **Prior Publication Data**

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#### **Related U.S. Application Data**

- (63) Continuation-in-part of application No. 09/854,610, filed on May 14, 2001, now Pat. No. 6,950,404.
- (51) Int. Cl.

H04B 7/212	(2006.01)
H04B 7/00	(2006.01)
H04J 3/00	(2006.01)

- (52) **U.S. Cl.** ...... **370/321**; 370/337; 370/345; 455/522

See application file for complete search history.

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#### (45) **Date of Patent:** \*Jul. 7, 2009

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#### (57) **ABSTRACT**

A duty cycle management system and method for use in a wireless device having a transmitter which transmits packets in the form of individual packets and/or packet bursts. A controller in combination with an instruction set limits the number of packets transmitted during each time period defined by one time window or adjacent time windows, on a sliding basis, so as to control the duty cycle of transmissions during successive adjacent time windows based on the transmitter's output power, to produce that average power output. The transmission of packets is thereby delayed as needed to establish sufficient idle period(s) during one time window or adjacent time windows to apply whatever duty cycle is needed to produce that average power output level limit for the transmitter.

#### 17 Claims, 4 Drawing Sheets



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