

EXHIBIT 5



US007292835B2

(12) **United States Patent**
Sorrells et al.

(10) **Patent No.:** **US 7,292,835 B2**

(45) **Date of Patent:** **Nov. 6, 2007**

(54) **WIRELESS AND WIRED CABLE MODEM APPLICATIONS OF UNIVERSAL FREQUENCY TRANSLATION TECHNOLOGY**

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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 1563 days.

(21) Appl. No.: **09/770,675**

(22) Filed: **Jan. 29, 2001**

(65) **Prior Publication Data**

US 2002/0049038 A1 Apr. 25, 2002

Related U.S. Application Data

(60) Provisional application No. 60/178,741, filed on Jan. 28, 2000.

(51) **Int. Cl.**
H04B 1/00 (2006.01)

(52) **U.S. Cl.** **455/313; 455/323; 455/190.1; 455/131; 375/325; 375/350; 327/113; 327/103**

(58) **Field of Classification Search** **455/313, 455/190.1, 131, 323, 334, 333, 118-119, 455/350, 22-23, 337, 319, 318, 130, 76, 455/191.1, 91, 112.1, 112; 325/325, 350, 325/319, 329, 376; 327/103, 113, 101, 124**
See application file for complete search history.

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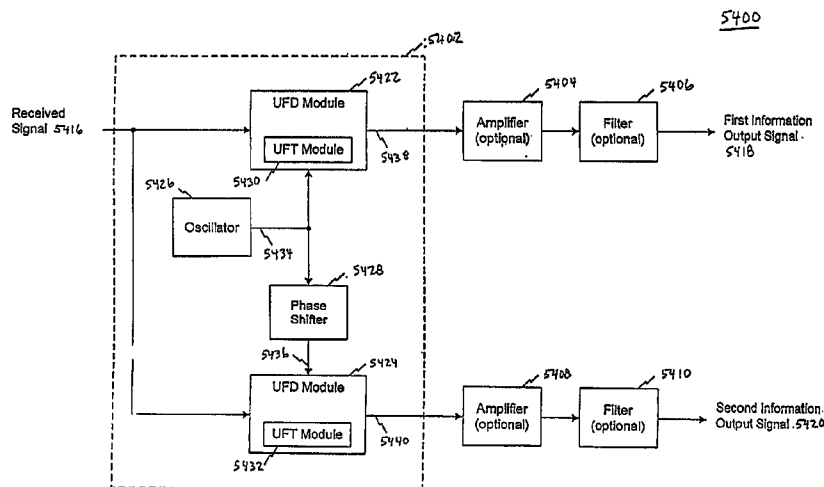
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(57) **ABSTRACT**

Frequency translation and applications of same are described herein, including cable modem applications. Such applications include, but are not limited to, frequency down-conversion, frequency up-conversion, enhanced signal reception, unified down-conversion and filtering, and combinations and applications of same. Furthermore, QAM, QPSK, and other modulation techniques are also described.

21 Claims, 77 Drawing Sheets



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