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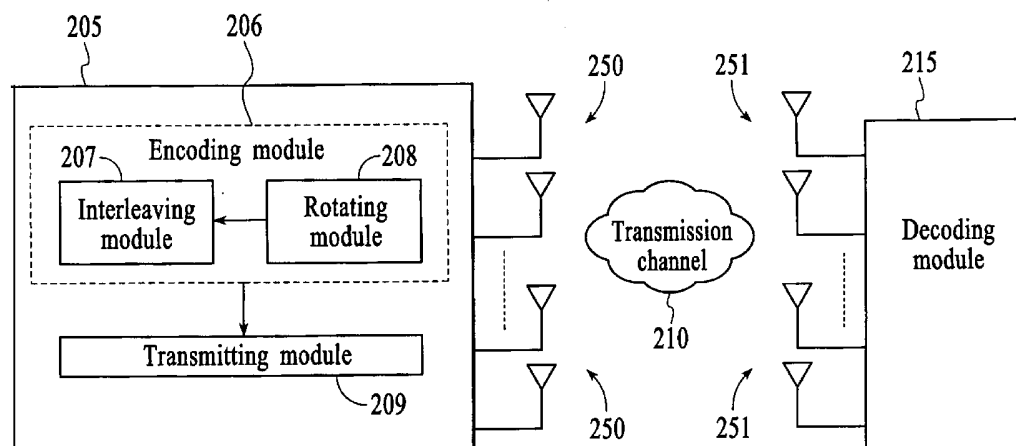
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(54) Title: A METHOD AND SYSTEM FOR RATE-2 TRANSMISSION



(57) Abstract: Signal encoding in a multiple input multiple output system in a wireless communication network is provided. The communication system provides a method of encoding and transmitting symbols in a rate-2 complex symbol per second per Hertz transmission system that achieves a maximum diversity of four for a four transmit antenna system and a diversity of three on a three transmit antenna system. The communication system further provides a method of interleaving the complex symbols such that each interleaved symbol comprises information of at least two complex symbols where the complex symbols obtain values from a rotated constellation.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/29303

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): H04B 7/02

US CL.: 375/267

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. CL.: 375/267

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Micropatent, IEEE Xplore, Ei Compendex, INSPEC, NTIS - National Technical Information Service, JICST-EPlus - Japanese Science & Technology, PASCAL, Current Contents Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,479,448 A (SESHADRI) 26 December 1995 (26.12.1995) abstract; column 1, lines 10-11;	1, 3
-----	column 2, lines 19-22; column 2, lines 30-35; column 3, lines 13-23; column 5, lines 55-59;	-----
Y	column 6, lines 3-11; column 6, lines 13-38	2, 4-6, 8-14, 16-27
Y	US 2002/0105961 A1 (HOTTINEN et al) 08 August 2002 (08.08.2002) paragraph 46	2, 6, 14, 17, 20, 22
Y	US 6,115,427 A (CALDERBANK et al) 05 September 2002 (05.09.2002) column 17, lines 50-54	4, 18-27
Y	US 2004/0047284 A1 (EIDSON) 11 March 2004 (11.03.2004) paragraphs 40-42; figure 3	5, 8-9, 11-14, 16-17, 19
Y	US 6,771,620 B2 (BUTLER) 03 August 2004 (03.08.2004) column 7, lines 59-65	8-9, 11-14, 16-17
Y	US 6,751,187 B2 (WALTON et al) 15 June 2004 (15.06.2004) column 4, lines 45-61	10
Y	US 6,775,332 B1 (LI et al) 10 August 2004 (10.08.2004) column 12, lines 4-14	11-14, 16-17
A	US 6,678,263 B1 (HAMMONS JR et al) 13 January 2004 (13.01.2004) entire document	1-27
A	US 2003/0053410 A1 (WILLIAMS et al) 20 March 2003 (20.03.2003) entire document	1-27

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