



US 20040184398A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2004/0184398 A1**
Walton et al. (43) **Pub. Date: Sep. 23, 2004**

(54) **TRANSMISSION MODE SELECTION FOR DATA TRANSMISSION IN A MULTI-CHANNEL COMMUNICATION SYSTEM**

(52) U.S. Cl. 370/203; 370/332

(57) **ABSTRACT**

(76) Inventors: **Jay Rod Walton**, Carlisle, MA (US);
Irina Medvedev, Somerville, MA (US)

Techniques to select a suitable transmission mode for a data transmission in a multi-channel communication system with multiple transmission channels having varying SNRs. In one method, an SNR estimate is initially obtained for each of multiple transmission channels used to transmit a data stream. An average SNR and an unbiased variance are then computed for the SNR estimates for the multiple transmission channels. A back-off factor is determined, for example, based on the SNR variance and a scaling factor. An operating SNR for the transmission channels is next computed based on the average SNR and the back-off factor. The transmission mode is then selected for the data stream based on the operating SNR. The selected transmission mode is associated with a highest required SNR that is less than or equal to the operating SNR. The method may be used for any system with multiple transmission channels having varying SNRs.

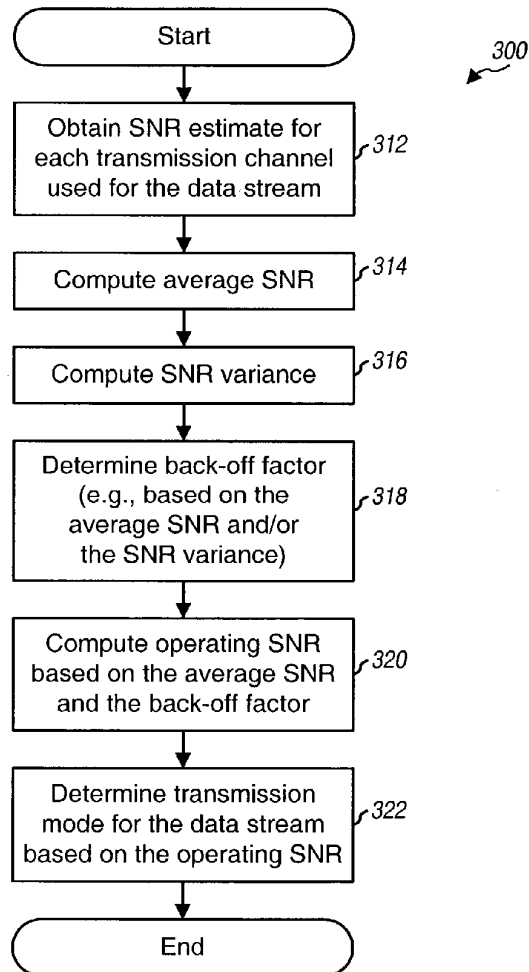
Correspondence Address:
Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714 (US)

(21) Appl. No.: **10/394,529**

(22) Filed: **Mar. 20, 2003**

Publication Classification

(51) Int. Cl.⁷ **H04Q 7/00**



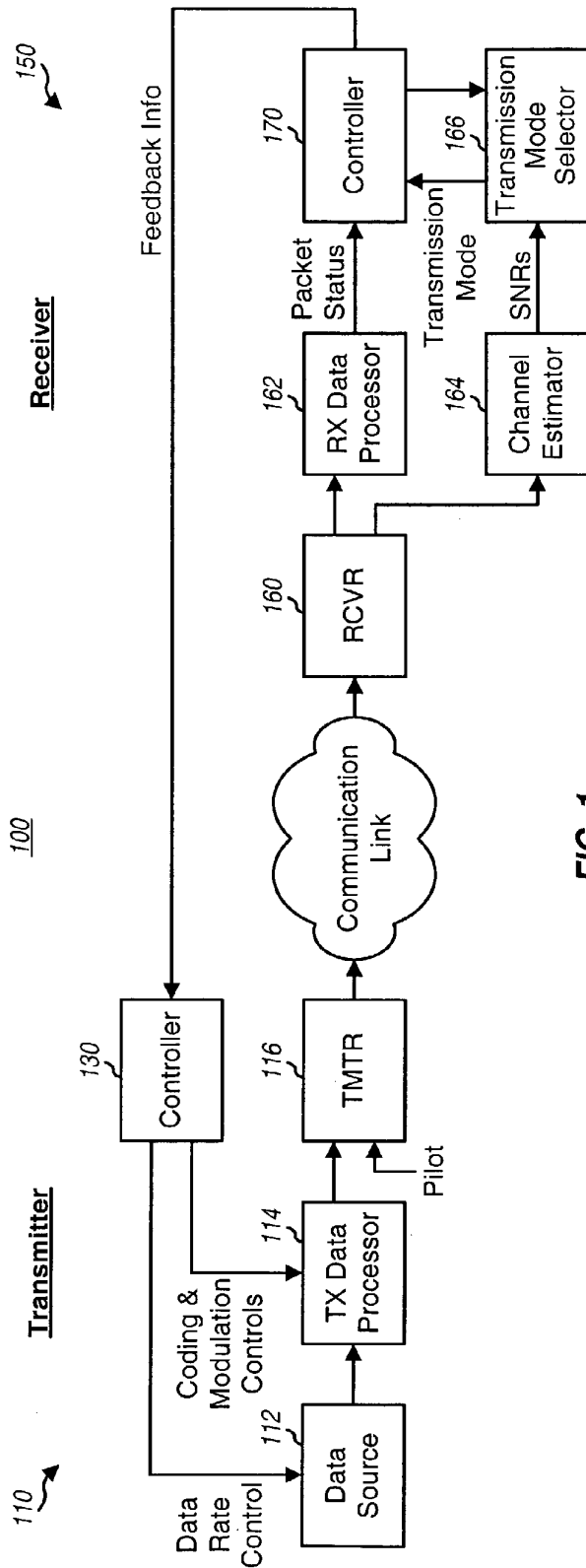


FIG. 1

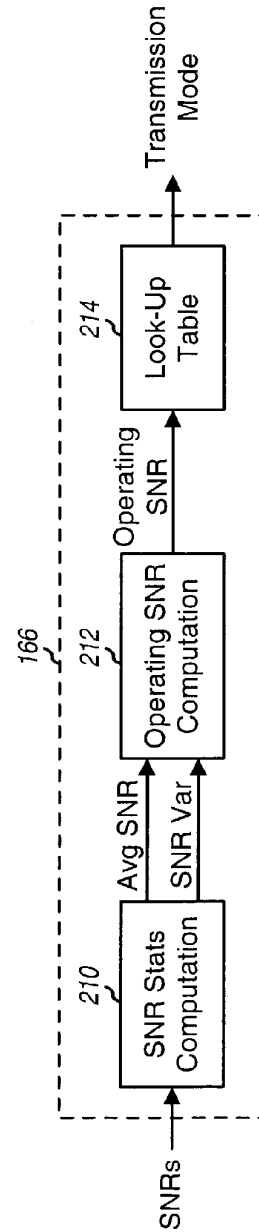


FIG. 2

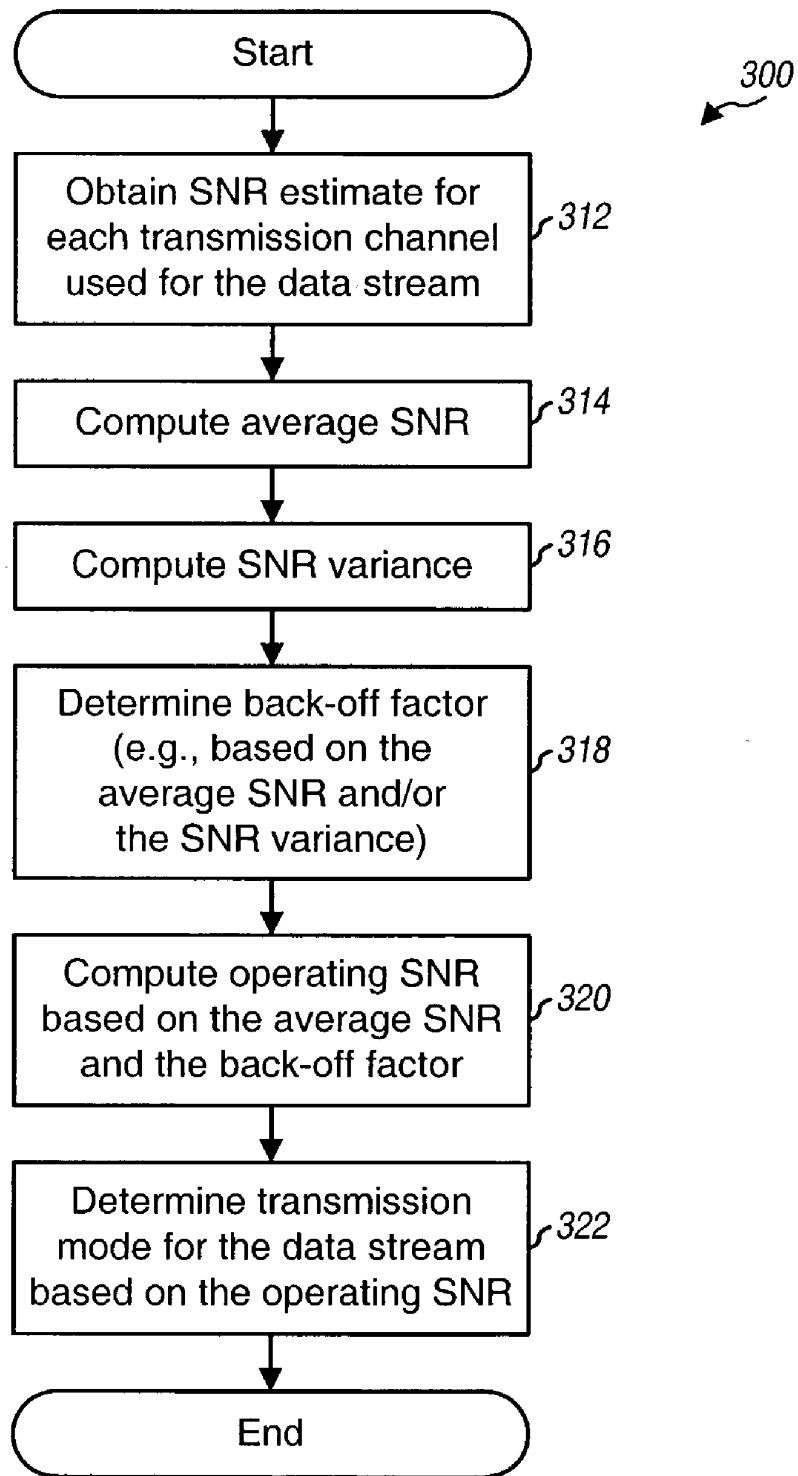


FIG. 3

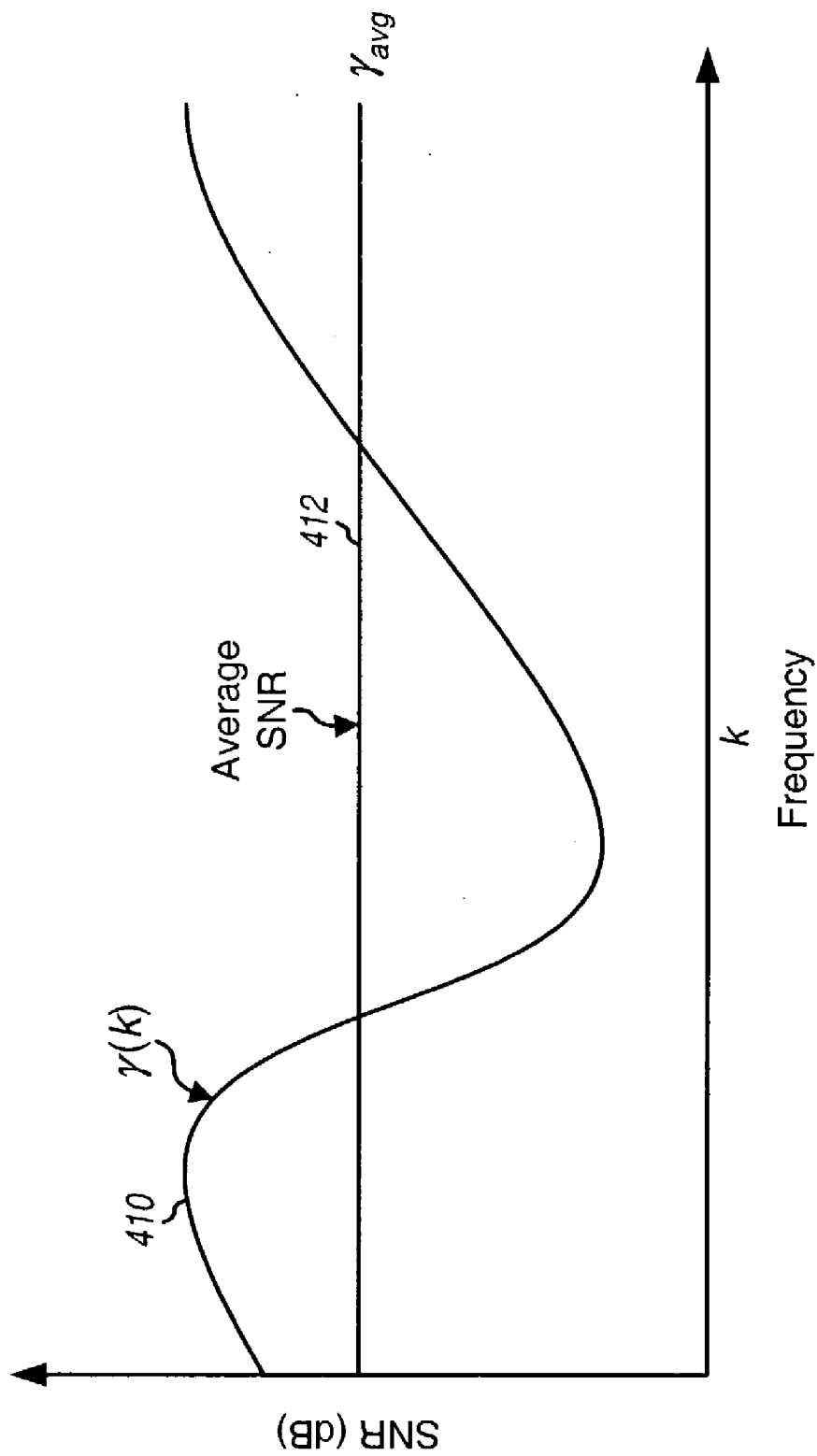


FIG. 4

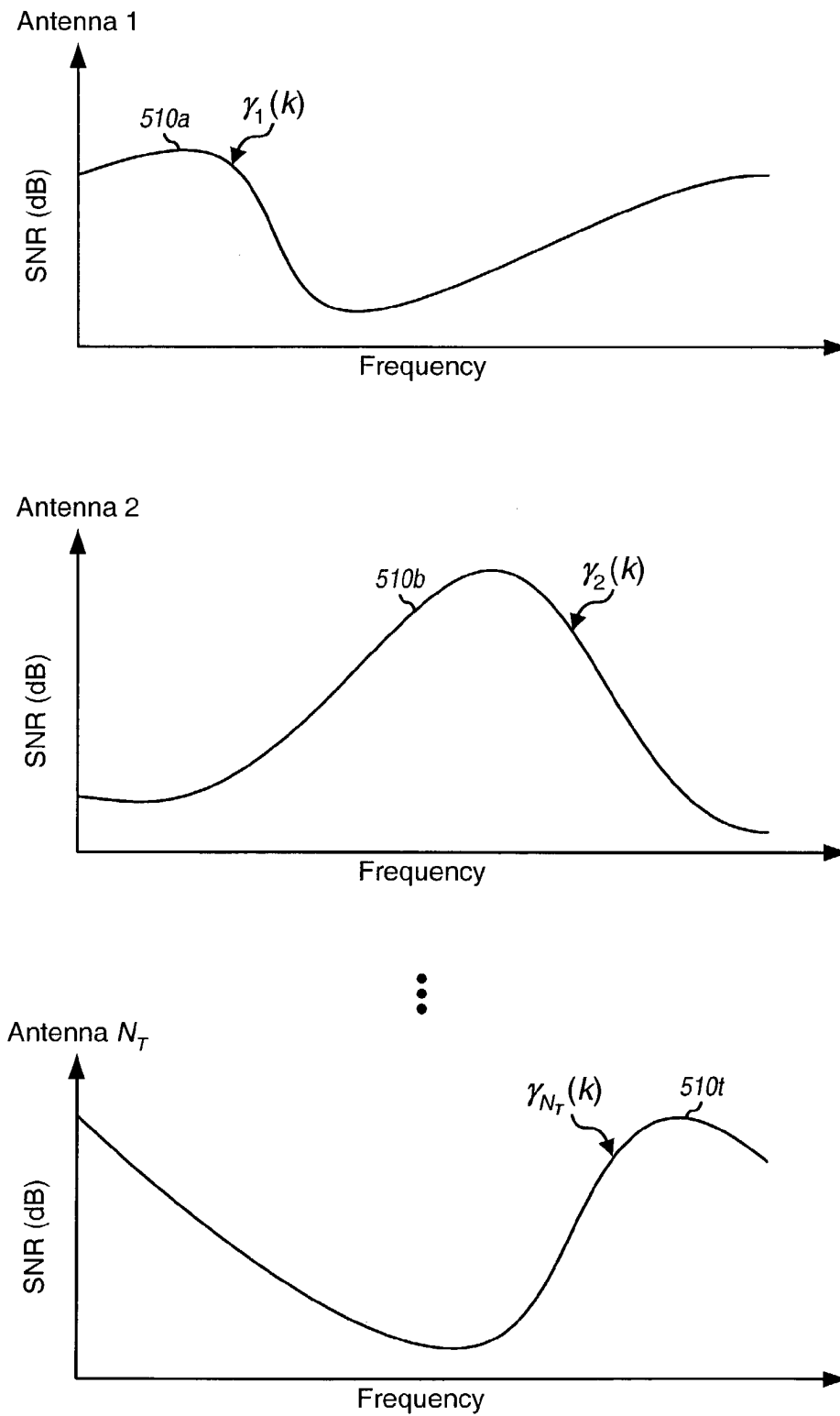


FIG. 5A

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