

METHOD AND SYSTEM FOR HIGH BANDWIDTH AND LOW POWER BODY CHANNEL COMMUNICATION

ABSTRACT

[0055] A system and method for body channel communication is provided. The system includes a transceiver which encodes multiple bits per symbol when operating in a high data rate mode by selecting a first Walsh code in response to a first set of multiple bits of data and selecting a second Walsh code in response to a second set of multiple bits of data, both Walsh codes selected from a multiple-bit Walsh code sequence. The transceiver also generates a multi-level transmission signal having a predetermined symbol frequency by stacking the first Walsh code onto the second Walsh code, and transmits the multi-level signal having the first predetermined symbol frequency through the body channel. The transceiver also has additional modes of operation which include a normal mode and a low power mode, the low power mode decoding the multiple bits from the signal in response to harmonic energy from a harmonic frequency generated by the multiple-bit Walsh code sequence. Also, the transceiver modulates a M-Sequence code with the multi-bit Walsh code sequence up to a desired frequency band associated with the predetermined frequency in order to improve auto-correlation after passing through the body channel.

FIG. 5A.