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(71) Applicant (for all designated States except US): **INTER-DIGITAL TECHNOLOGY CORPORATION** [US/US];
300 Delaware Avenue, Suite 527, Wilmington, DE 19801 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **TERRY, Stephen, E.** [US/US]; 15 Summit Avenue, Northport, NY 11768 (US).

(74) Agent: **BALLARINI, Robert, J.**; Volpe and Koenig, P.C.,
United Plaza, Suite 1600, 30 South 17th Street, Philadelphia, PA 19103 (US).

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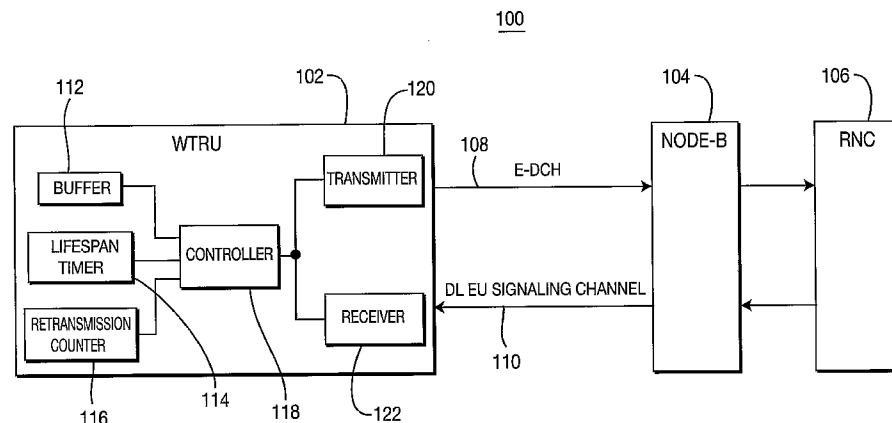
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(54) Title: METHOD AND APPARATUS FOR DYNAMICALLY ADJUSTING DATA TRANSMISSION PARAMETERS AND CONTROLLING H-ARQ PROCESSES



(57) Abstract: In a wireless communication system including a wireless transmit/receive unit (WTRU) which transfers data to a Node-B, data transmission parameters such as modulation and coding scheme (MCS) and transport block set (TBS) size are dynamically adjusted on a transmission time interval (TTI) basis, and hybrid-automatic repeat request (H-ARQ) processes used to control the transfer of data between the WTRU and the Node-B are initiated and released, as required. The WTRU transmits and retransmits data to the Node-B through an enhanced uplink (EU) dedicated channel (E-DCH) in accordance with data feedback information received from the Node-B. The WTRU queues data for transmission, and determines a transmission status of the data. The transmission status is set to one of "new transmission," "successful transmission," "retransmission" and "restarted transmission." For each TTI, the WTRU initiates an EU transmission to the Node-B which identifies the assigned H-ARQ process, TBS size and MCS.

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[0001] METHOD AND APPARATUS FOR DYNAMICALLY
ADJUSTING DATA TRANSMISSION PARAMETERS
AND CONTROLLING H-ARQ PROCESSES

[0002] FIELD OF INVENTION

[0003] The present invention is related to a wireless communication system including a wireless transmit/receive unit (WTRU) and a Node-B. More particularly, the present invention is related to a method and apparatus for dynamically adjusting data transmission parameters such as modulation and coding scheme (MCS) and transport block set (TBS) size, and assigning and releasing a hybrid-automatic repeat request (H-ARQ) process used to control the transfer of data between the WTRU and the Node-B.

[0004] BACKGROUND

[0005] In 3rd generation cellular systems, adaptive modulation and coding (AM&C) and H-ARQ schemes are being investigated for incorporation into an enhanced uplink (EU) operation designed to offer low transmission latency, higher throughput, and more efficient use of physical resources.

[0006] The AM&C scheme allows an MCS to be dynamically adjusted on a transmit time interval (TTI) basis whereby, for each TTI, the MCS is selected to make the most efficient use of radio resources and to provide the highest possible data rates. A less robust MCS uses less physical resources, but is more vulnerable to errors. A more robust MCS uses more physical resources, but offers greater protection against errors.

[0007] The H-ARQ scheme is used to generate transmissions and retransmissions with low latency. A primary aspect of the H-ARQ scheme is that data received in failed transmissions can be soft combined with successive retransmissions to increase the probability of successful reception. Either Chase Combining (CC) or incremental redundancy (IR) may be applied. When CC is applied, the same MCS is chosen for the retransmission. When IR is applied, a more robust MCS is used in each retransmission.