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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: COGNITIVE ERROR CONTROL CODING FOR CHANNELS WITH MEMORY

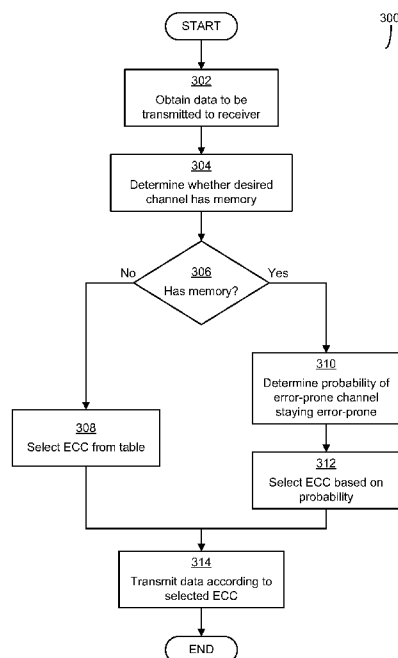


FIG. 3

(57) Abstract: Techniques for adapting error control codes (ECCs) based on memory conditions in a channel. A wireless communication system may be adapted to detect and quantify memory in a channel, such as memory resulting from multipath fading, and adjust an ECC to reduce the possibility of errors impacting communication in the channel. In some implementations, adjusting the ECC may comprise determining a probability that a channel in an error-prone state will remain in an error-prone state, and selecting an ECC based on that probability. In other implementations, a concatenated code may be used, and the relative size of an inner and outer code may be adjusted, and/or an interleaver between the inner and outer code may be adjusted, based on the parameter quantifying the memory in the channel.



- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/063106**A. CLASSIFICATION OF SUBJECT MATTER*****G06F 11/00(2006.01)i, G06F 11/10(2006.01)i, G06F 9/30(2006.01)i, G06F 1/28(2006.01)i***

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)

G06F 11/00; G10L 19/12; H03M 13/00; H04B 7/216; H04L 1/18

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: error, control, code

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005-0262419 A1 (BECKER et al.) 24 November 2005 See abstract and figure 1.	1-15
A	US 2005-0278169 A1 (HARDWICK) 15 December 2005 See abstract and figure 1.	1-15
A	US 6678263 B1 (HAMMONS, JR. et al.) 13 January 2004 See abstract and figure 1.	1-15

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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