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US

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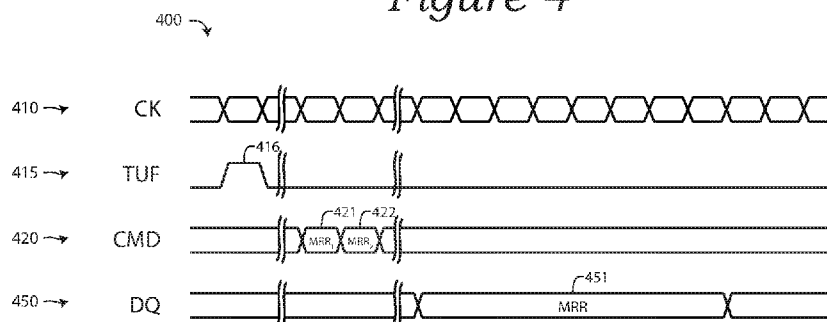
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(54) Title: METHODS FOR ASYNCHRONOUSLY SIGNALING UPDATED INFORMATION FROM A MEMORY DEVICE TO A HOST AND MEMORY DEVICES AND SYSTEMS EMPLOYING THE SAME

Figure 4



(57) Abstract: Memory devices, memory systems, and methods of operating memory devices and systems are disclosed in which a memory device can asynchronously indicate to a connected host that information in a mode register has been changed, obviating the need for repeated polling of the information and thereby reducing both command/address bus and data bus bandwidth consumption. In one embodiment, a memory device comprises a memory; a mode register storing information corresponding to the memory; and circuitry configured to, in response to the information in the mode register being modified by the memory device, generate a notification to a connected host device.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2018/046890**A. CLASSIFICATION OF SUBJECT MATTER****G11C 7/10(2006.01)i, G11C 7/04(2006.01)i, G11C 11/406(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)

G11C 7/10; G06F 11/10; G06F 12/00; G06F 12/02; G11C 11/16; G11C 11/406; G11C 29/52; G11C 7/04

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: memory, mode register, temperature, refresh rate, notification, voltage, command, host

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 9911485 B2 (QUALCOMM INCORPORATED) 06 March 2018 column 3, lines 59-63; column 4, line 43 - column 5, line 24; and figure 1	1-40
Y	US 2014-0258786 A1 (MICRON TECHNOLOGY, INC.) 11 September 2014 paragraphs [0023], [0028]-[0029]; and claims 2-3	1-40
A	US 2017-0132075 A1 (INTEGRATED SILICON SOLUTION, INC.) 11 May 2017 paragraphs [0020]-[0023]; claim 1; and figure 1	1-40
A	US 2006-0221718 A1 (NOBUHIRO ONO) 05 October 2006 paragraphs [0025]-[0032]; claim 1; and figure 1	1-40
A	US 2013-0311717 A1 (CHAN-KYUNG KIM et al.) 21 November 2013 paragraphs [0106]-[0124]; claim 1; and figure 2	1-40



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2018/046890

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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