



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
03.06.2015 Bulletin 2015/23

(51) Int Cl.:
G03G 15/08 (2006.01) G03G 21/18 (2006.01)

(43) Date of publication A2:
25.06.2014 Bulletin 2014/26

(21) Application number: **13177300.4**

(22) Date of filing: **19.07.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

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(30) Priority: **24.12.2012 KR 20120152433**
30.04.2013 KR 20130048712

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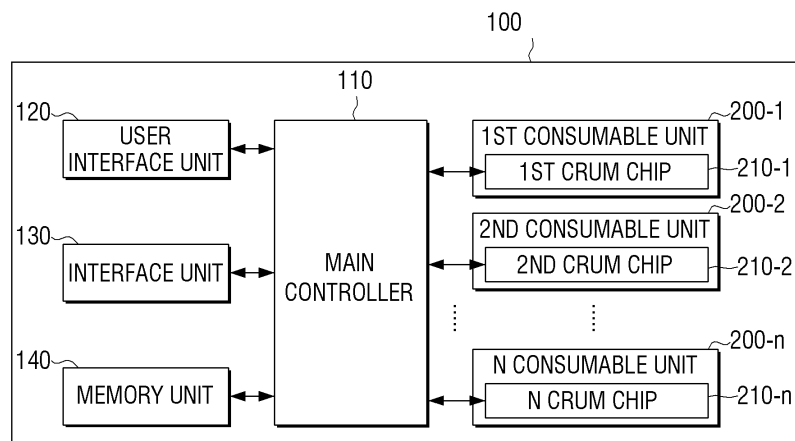
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(54) **CRUM chip and image forming device for authentication and communication, and methods thereof**

(57) A Customer Replaceable Unit Monitoring (CRUM) chip (210), an image forming apparatus, and a method of authenticating are provided. The apparatus includes a main body (100) that includes a main controller (110) controlling operations of the apparatus, a consumable unit (200) mounted on the main body to communicate with the main controller, and a CRUM chip that is

provided in the consumable unit and stores information regarding the consumable unit. The main controller and the CRUM chip transmit and receive signals that include data and integrity detection data between each other. The integrity detection data is generated by accumulating and examining integrity detection data included in a previous signal.

FIG. 5





EUROPEAN SEARCH REPORT

Application Number
EP 13 17 7300

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 March 2015	Examiner Urbaniec, Tomasz
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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