



- (51) **International Patent Classification:**
B41J 2/175 (2006.01) *H04W 12/06* (2009.01)
- (21) **International Application Number:**
PCT/US2013/057674
- (22) **International Filing Date:**
30 August 2013 (30.08.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (71) **Applicant:** HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P. [US/US]; Hewlett-Packard Company, 11445 Compaq Center Drive W., Houston, Texas 77070 (US).
- (72) **Inventors:** WARD, Jefferson P; 1115 SE 164th Ave., Columbia Center, Suite 210, Vancouver, Washington 98683 (US). PANSHIN, Stephen D; 1070 NE Circle Blvd., Corvallis, Oregon 97330-4239 (US).
- (74) **Agents:** RIETH, Nathan R et al.; Hewlett-Packard Company, IP Administration - MS 35, 3404 E. Harmony Road, Fort Collins, Colorado 80528 (US).
- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

- *with international search report (Art. 21(3))*

(54) **Title:** SUPPLY AUTHENTICATION VIA TIMING CHALLENGE RESPONSE

(57) **Abstract:** In an example implementation, a print supply cartridge comprises a microcontroller to receive a timing challenge and enable authentication of the cartridge by providing a challenge response. The challenge response is provided in a challenge response time that falls within an expected time window.

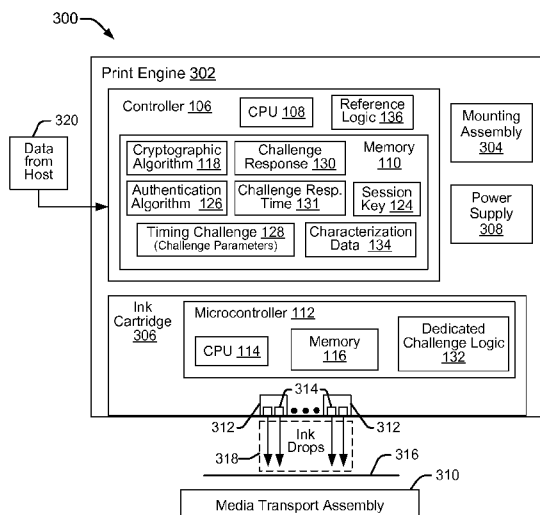


FIG. 3