

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 March 2006 (16.03.2006)

PCT

(10) International Publication Number
WO 2006/027769 A3

(51) International Patent Classification:
H04K 1/00 (2006.01)

(21) International Application Number:
PCT/IL2005/000469

(22) International Filing Date: 4 May 2005 (04.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/934,477 7 September 2004 (07.09.2004) US

(71) Applicant (for all designated States except US): **AL-ADDIN KNOWLEDGE SYSTEMS LTD.** [IL/IL]; 15 Beit Oved St., 61110 Tel Aviv (IL).

(72) Inventors: **RANEN, Ohad**; 5 Vermiza St., 62642 Tel Aviv (IL). **AGAM, Leedor**; 3 Simtat Harakefet, 56905 Savion (IL). **MARGALIT, Yanki**; 6 Carmeli St, Ramat Gan (IL). **MARGALIT, Dany**; 10 Kiriaty St, Ramat Chen (IL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

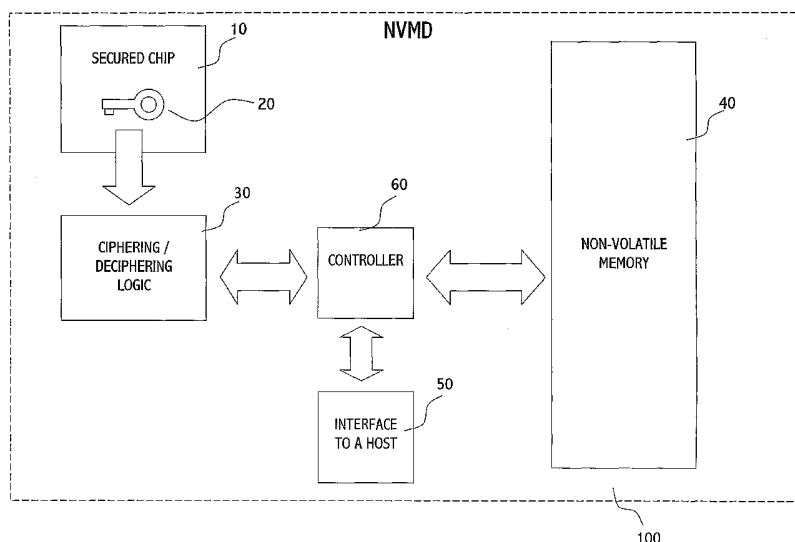
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
26 May 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR SECURING DATA STORED WITHIN A NON-VOLATILE MEMORY



(57) Abstract: A method for securing data of a non-volatile memory device (Fig. 2, 100), comprising: Providing the non-volatile memory device (100) with a secured chip (10), for securely storing a secret (920) for ciphering/deciphering the data; providing the non-volatile memory device (100) with a ciphering/deciphering logic (30), for ciphering/deciphering the data with a secret (20); storing a secret for ciphering/deciphering the data within the secured chip (10); on storing data within the non-volatile memory device (100), employing the secret (20) from the secured chip (910), and ciphering the data with the secret (20); and on retrieving data from the non-volatile memory device (100), employing the secret (20) from the secured chip (910), and deciphering the encrypted data with the secret (20).

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL05/00469

A. CLASSIFICATION OF SUBJECT MATTER

IPC: H04K 1/00(2006.01)

USPC: 713/189

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)

U.S. : 713/189, 193; 380/30

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6, 101, 605 A (BUER) 08 August 2000 (08.08.2000), Abstract, col. 2, line 50 through col3, line 63, Figs 1-4 and associated text.	1-21
Y,P	US 2004/0236958 A1 (TEICHER et al.) 25 November 2004 (25.11.2004), Abstract.	3, 8-9, 17-18, 21
Y	US 5,825,878 A (TAKAHASHI et al.) 20 October 1998 (20.10.1998), the entire documeny.	1, 11
Y	US 5,563,950 A (EASTER et al.) 09 October 1996 (08.10.1996) , the entire document.	1,11
Y	US 5,452,355 A (COLI) 19 September 1995 (19.09.1995), the entire document.	1,11

☐ 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 published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

11 March 2006 (11.03.2006)

Date of mailing of the international search report

07 APR 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Taghi T. Arani
Taghi T. Arani

Telephone No. (571) 272-3787

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL05/00469

Continuation of B. FIELDS SEARCHED Item 3:

Used West. Search terms: (encrypt\$6 same decrypt\$6 same non adj volatile) and (secure\$6 near2 key same smart adj card or chip) and
filae adj allocation adj table