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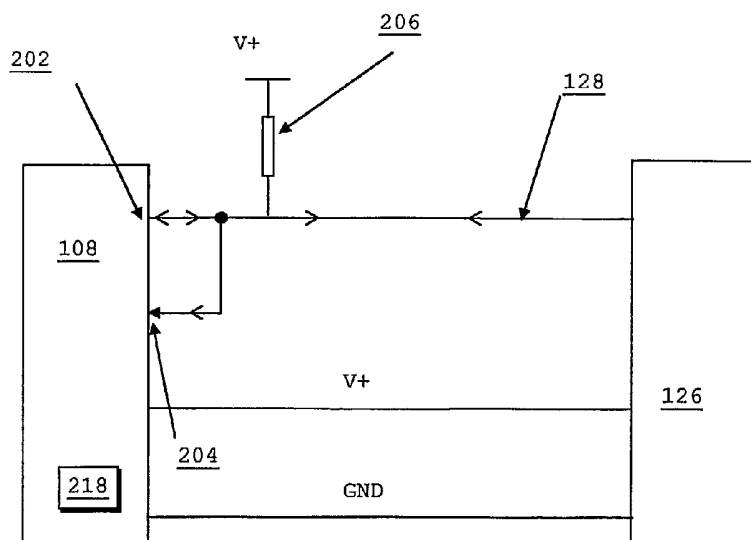
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[Continued on next page]

(54) Title: ELECTRONIC DEVICE AND METHODS OF IMPLEMENTING THE 1-WIRE PROTOCOL USING AN INTERRUPT



(57) Abstract: A method of reading data from a peripheral device (126) via a 1-Wire interface (128) using a GPIO pin (202) connected to an interrupt pin (204) on a signal processor (108) comprises initialising the GPIO pin (202) as an input and initiating an interrupt timer in response to identifying an interrupt event. The method further comprises monitoring the timer to identify a start-bit interface (128) once the start-bit time (404) has been reached. A method of writing data on such a 1-wire interface and an electronic device comprising the 1-wire interface are also described. In this manner, by provision of a GPIO pin coupled to an interrupt pin (say an FIQ power fail interrupt pin), a 1wire interface can be used in both a read and write mode of operation by linking the timer to the interrupt mechanism and controlling polarity levels on the 1-wire interface.

**Declaration under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations* 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, 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, *ARIPO patent* (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), *Eurasian patent* (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), *European patent* (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 patent* (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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A. CLASSIFICATION OF SUBJECT MATTER
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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)

IPC 7 G06F

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 practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 978 927 A (CURRY ET AL) 2 November 1999 (1999-11-02) column 1, line 60 - column 2, line 29 column 3, line 31 - line 37 column 5, lines 44-52 column 6, line 14 - line 18 -----	1-18
A	ANONYMOUS: "1-wire communication with a Mircochip PICmicro Mircocontroller" DALLAS APPLICATION NOTE 2420, 'Online! 8 September 2003 (2003-09-08), XP002341161 Retrieved from the Internet: URL: http://pdfserv.maxim-ic.com/en/an/AN2420.pdf > 'retrieved on 2005-08-18! the whole document ----- -/--	1-18

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 5 862 354 A (CURIGER ET AL) 19 January 1999 (1999-01-19) abstract -----	1-18

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