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- (71) Applicant (for all designated States except US): **MICRO-CHIP TECHNOLOGY INCORPORATED** [US/US];  
2355 West Chandler Blvd., Chandler, AZ 85224-6199 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SIMMONS, Michael** [US/US]; 4481 South Kerby Way, Chandler, AZ 85249 (US). **YANG, Yifeng** [US/US]; 2375 West Shannon Street, Chandler, AZ 85224 (US). **BIBLE, Steven, R.** [US/US]; 2470 West Thompson Way, Chandler, AZ 85286 (US). **KOVACS, Peter, Szilveszter** [HU/US]; 2785 Homestead Road #18, Santa Clara, CA 95051 (US).
- (74) Agent: **SLAYDEN, II, Bruce, W. II.**; King & Spalding LLP, 401 Congress Ave., Suite 3200, Austin, TX 78701 (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, 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, KM, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.

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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

**Published:**

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

[Continued on next page]

(54) Title: STANDALONE RADIO FREQUENCY WIRELESS DEVICE HAVING DATA ACQUISITION CAPABILITIES

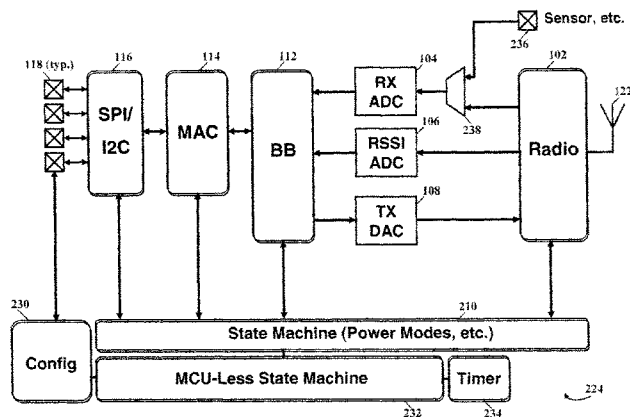
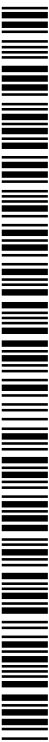


FIGURE 2

(57) Abstract: An inexpensive and low-power demand RF wireless device having data acquisition capabilities may be used for simple applications such as a standalone data repeater or a standalone data acquisition node without requiring a host microcontroller unit (MCU) or programmable logic for control of the wireless device.





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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

**(88) Date of publication of the international search report:**  
26 September 2013

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2012/040163

A. CLASSIFICATION OF SUBJECT MATTER  
INV. H04W52/02 H04B1/40  
ADD.  
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)  
H04W H04B

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)  
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.
A	US 2009/168849 A1 (ROUXEL ALEXANDRE [FR]) 2 July 2009 (2009-07-02) abstract paragraph [0007] paragraph [0013] paragraph [0088] - paragraph [0101] paragraph [0111] - paragraph [0116] paragraph [0125] - paragraph [0130] paragraph [0360] - paragraph [0361] figures 1-3,8,9,13,14,60-62	1-13
A	US 2009/116462 A1 (POWELL CLINTON C [US] ET AL) 7 May 2009 (2009-05-07) the whole document ----- -/--	1-13

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 but 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  12 October 2012	Date of mailing of the international search report  15/07/2013
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Niederholz, Jürgen

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2012/040163

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TANYA VLADIMIROVA ET AL: "Space-based wireless sensor networks: Design issues", AEROSPACE CONFERENCE, 2010 IEEE, IEEE, PISCATAWAY, NJ, USA, 6 March 2010 (2010-03-06), pages 1-14, XP031657397, ISBN: 978-1-4244-3887-7 the whole document	1-13
A	----- WO 2007/101141 A2 (HMICRO INC [US]; MAGAR SURENDAR [US]; SATTIRAJU VENKATESWARA RAO [US]) 7 September 2007 (2007-09-07) the whole document	1-13
A	----- WO 02/19293 A2 (UT BATTELLE LLC [US]) 7 March 2002 (2002-03-07) the whole document	1-13
A	----- A. BOGLIOLO ET AL: "Specification and analysis of power-managed systems", PROCEEDINGS OF THE IEEE, vol. 92, no. 8, 1 August 2004 (2004-08-01), pages 1308-1346, XP055021319, ISSN: 0018-9219, DOI: 10.1109/JPROC.2004.831207 the whole document -----	1-13

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2012/040163

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-13

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13

Wireless data acquisition device

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2. claims: 14-18

Wireless data repeater

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2012/040163
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Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
US 2009168849	A1	02-07-2009	NONE	
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