(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 31 March 2005 (31.03.2005)

PCT

(10) International Publication Number WO 2005/029389 A3

(51) International Patent Classification⁷:

H04Q 5/22

(21) International Application Number:

PCT/US2004/030471

(22) International Filing Date:

16 September 2004 (16.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10/666,226 17 September 2003 (17.09.2003) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 10/666,226 (CON) Filed on 17 September 2003 (17.09.2003)

- (71) Applicant (for all designated States except US): BELLA ID SOLUTIONS, INC. [US/US]; 13034 Polvera Avenue, San Diego, CA 92128 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ROESNER, Bruce, B. [US/US]; 13034 Polvera Avenue, San Diego, CA 92128 (US).
- (74) Agent: HUNTER, William, E.; Fish & Richardson P.C., 12390 El Camino Real, San Diego, CA 92130 (US).

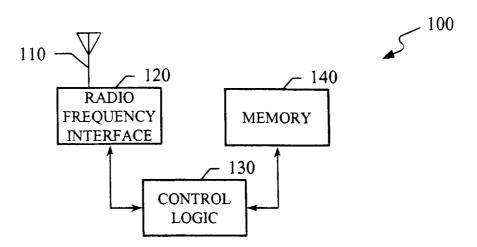
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, 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, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US (patent), 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, IT, 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: 16 June 2005

[Continued on next page]

(54) Title: DEEP SLEEP IN AN RFID TAG



(57) Abstract: Systems and techniques to provide radio frequency identification tags including a non-responsive state, which is independent of supplied power, initiated in conjunction with a tag communications reset. In general, in one implementation, a passive radio frequency identification tag includes an antenna, a radio frequency interface coupled with the antenna, and control logic that initiates a deep sleep state in response an event, the deep sleep state including a non-responsive state that is independent of supplied power, and the control logic providing a following state entered upon conclusion of the non-responsive state, where communications initiate from the following state.

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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/30471

		PC17US04/304	/1				
A. CLASSIFICATION OF SUBJECT MATTER							
IPC(7) : H04Q 5/22							
US CL	: 340/010330						
According to International Patent Classification (IPC) or to both national classification and IPC							
B. FIELDS SEARCHED							
Minimum do	cumentation searched (classification system followed	l by classification symbols)					
	40/10.330, 10.2, 10.3, 10.4, 10.1, 572.3						
			1: 1: 1: 1: 1				
Documentati	on searched other than minimum documentation to the	ne extent that such documents are included	ed in the fields searched				
			assumb towns and				
	ata base consulted during the international search (na	me or data base and, where practicable,	search terms used)				
Please See C	ontinuation Sheet						
C. DOC	UMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.				
X	US 5,963,144 A (KRUEST) 05 October 1999, fig.		1-4, 15, 16, 27,				
	col. 3, line 15.	<u> </u>					
Y	33.7 5, 2		5,13,14,17-19,24-26				
Y	US 6,104,333 A (WOOD, JR.) 15 August 2000, co	ol. 8, lines 14-25.	5,14,17,18				
_	, , , , , , , , , , , , , , , , , , , ,	·					
\mathbf{Y}	Y US 5,942,978 A (SHAFER) 24 August 1999, col. 1, lines 33-36, and col. 2, lines 9-14						
	and 31-39.						
Y,P	US 6,661,336 B1 (ATKINS et al) 09 December 200	25, 26					
	lines 40-55.						
Y	US 5,990,794 A (ALICOT et al) 23 November 199	9, col. 2, lines 1-15.	13, 26				
A,P US 6,690,264 B2 (DALGLISH) 10 February 2004,		see entire document.	1-28				
A US 6,072,383 A (GALLAGHER III et al) 06 June 2000, see entire document.		2000, see entire document.	1-28				
i							
Further	documents are listed in the continuation of Box C.	See patent family annex.					
* Si	pecial categories of cited documents:	"T" later document published after the in	ternational filing date or priority				
•	•	date and not in conflict with the appl	ication but cited to understand the				
	defining the general state of the art which is not considered to be lar relevance	principle or theory underlying the in	vention				
•	at tolovanco	"X" document of particular relevance; th					
"E" earlier ap	plication or patent published on or after the international filing date	considered novel or cannot be considered to the document is taken alone	lered to involve an inventive step				
"L" document	which may throw doubts on priority claim(s) or which is cited to	where the document is taken alone					
establish t	he publication date of another citation or other special reason (as	"Y" document of particular relevance; th					
specified)		considered to involve an inventive st combined with one or more other su					
"O" document	referring to an oral disclosure, use, exhibition or other means	being obvious to a person skilled in					
"P" document	published prior to the international filing date but later than the	"&" document member of the same pater	t family				
priority date claimed							
Date of the o	ctual completion of the international search	Date of mailing of the international se	arch report				
Date of the actual completion of the international search Date of mailing of the international search report O ADD 2005							
20 April 2005 (20.04.2005) 2 9 APR 2005							
Name and ma	tiling address of the ISA/US	Authorized officer					
	Stop PCT, Attn: ISA/US	Venneth Wieder () " Yas am					
	missioner for Patents	KINDLE WIELD AND MICHAEL					
	. Box 1450 tandria, Virginia 22313-1450	Telephone No. 703-305-4700	11				
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Kenneth Wieder Telephone No. 703-305 Again Telephone No. 703-305 Aga							

Form PCT/ISA/210 (second sheet) (January 2004)

	International application No.	
INTERNATIONAL SEARCH REPORT	PCT/US04/30471	
	•	
•		
,		
	•	
n		
Continuation of B. FIELDS SEARCHED Item 3:		
USPAT; US-PGPUB; USOCR; EPO; JPO DERWENT; IBM_TDB respon\$4 sleep with independent with power		
respon\$4 sleep with independent with power	•	

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US04/30471

Supplemental Box In case the space in any of the preceding boxes is not sufficient.						
			-			
			ļ			
		•				
		•	ı			
			!			
			6			