

# EXHIBIT 1



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(54) **WIRELESS PRINTING DEVICE FOR PRINTING DIGITAL CONTENT RECEIVED VIA WIRELESS COMMUNICATION COMPATIBLE, AT LEAST PARTLY, WITH IEEE 802.11 OR BLUETOOTH**

(75) Inventors: **William Ho Chang**, Vancouver, WA (US); **Christina Ying Liu**, Vancouver, WA (US)

(73) Assignee: **Flexiworld Technologies, Inc.**, Vancouver, WA (US)

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(58) **Field of Classification Search**  
None  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,629,493 A 12/1971 Morgenfruh  
3,833,297 A 9/1974 Swartz

(Continued)

FOREIGN PATENT DOCUMENTS

CA 20101044809.3 B 9/2010  
CN 1217503 A 5/1999

(Continued)

OTHER PUBLICATIONS

Bettstедder, Christian "A Comparison of Service Discovery Protocols and Implementation of the Service Location", Technische Universitat Munchen (TUM), Sep. 13-15, 2000, D-80290, Munich, Germany.

(Continued)

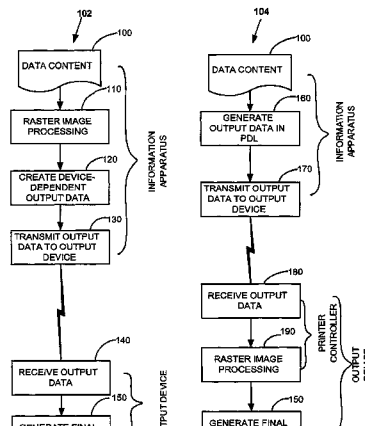
*Primary Examiner* — Marcus T Riley

(74) *Attorney, Agent, or Firm* — Kolisch Hartwell, PC

(57) **ABSTRACT**

A wireless printer for rendering digital content received from wireless information apparatus is herein disclosed and enabled. The wireless printer includes a wireless communication unit compatible with at least part of a protocol within IEEE 802.11 or Bluetooth. The wireless printer may access and connect to a local area wireless network for wireless connection, or may communicate directly with the wireless information apparatus via direct wireless communication. The wireless printer may wirelessly broadcast an indication of the wireless printer to the wireless information apparatus for selection and service. The wireless printer may include an output controller for decoding output data; an image processor for image processing the output data; a marking engine for printing an image onto a substrate; and may further include an operating system that enables installation of additional applications for expanding or updating the functionalities of the wireless printer.

**22 Claims, 14 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

3,848,856	A	11/1974	Reeber et al.	5,802,314	A	9/1998	Tullis et al.
4,262,301	A	4/1981	Erlichman	5,822,230	A	10/1998	Kikinis
4,266,863	A	5/1981	Hollingsworth et al.	5,826,244	A	10/1998	Huberman
4,291,956	A	9/1981	Vogelgesang	5,831,664	A *	11/1998	Wharton et al. .... 725/81
4,291,957	A	9/1981	Hollingsworth	5,832,191	A	11/1998	Thorne
4,301,599	A	11/1981	Leay	5,838,320	A	11/1998	Matthews, III et al.
4,335,955	A	6/1982	Lopata	5,838,926	A	11/1998	Yamagishi
4,340,905	A	7/1982	Balding	5,845,078	A	12/1998	Tezuka et al.
4,360,264	A	11/1982	Baker et al.	5,852,721	A	12/1998	Dillon et al.
4,417,792	A	11/1983	Martin, geb. Boser	5,859,970	A	1/1999	Pleso
4,428,001	A	1/1984	Yamamura et al.	5,862,321	A	1/1999	Lamming et al.
4,431,282	A	2/1984	Martin geb. Boser	5,867,633	A	2/1999	Taylor, III et al.
4,435,059	A	3/1984	Gerber	5,870,723	A	2/1999	Pare, Jr. et al.
4,495,490	A	1/1985	Hopper et al.	5,880,858	A	3/1999	Jin
4,539,585	A	9/1985	Spackova et al.	5,881,213	A	3/1999	Shaw et al.
4,541,010	A	9/1985	Alston	5,884,140	A *	3/1999	Ishizaki et al. .... 455/2.01
4,553,835	A	11/1985	Morgan, Jr.	5,903,832	A	5/1999	Seppanen et al.
4,580,880	A	4/1986	Watson	5,907,831	A	5/1999	Lotvin et al.
4,602,280	A	7/1986	Maloomian	5,911,044	A	6/1999	Lo et al.
4,603,330	A	7/1986	Horne et al.	5,916,309	A	6/1999	Brown et al.
4,758,881	A	7/1988	Laspada	5,917,542	A *	6/1999	Moghadam et al. .... 348/231.99
4,956,665	A	9/1990	Niles	5,926,104	A	7/1999	Robinson
4,958,220	A	9/1990	Alessi et al.	5,930,466	A	7/1999	Rademacher
4,979,032	A	12/1990	Alessi et al.	5,931,919	A	8/1999	Thomas et al.
5,048,057	A	9/1991	Saleh	5,933,498	A	8/1999	Schneck et al.
5,166,809	A	11/1992	Surbrook	5,937,112	A	8/1999	Herregods et al.
5,220,674	A	6/1993	Morgan et al.	5,940,843	A	8/1999	Zucknovich et al.
5,228,118	A	7/1993	Sasaki	5,946,031	A	8/1999	Douglas
5,257,097	A	10/1993	Pineau et al.	5,946,110	A	8/1999	Hu et al.
5,270,773	A	12/1993	Sklut et al.	5,953,546	A	9/1999	Okada et al.
5,287,194	A	2/1994	Lobiondo	5,960,162	A	9/1999	Yamamoto
5,303,342	A	4/1994	Edge	5,968,176	A	10/1999	Nessett et al.
5,319,711	A *	6/1994	Servi ..... 380/247	5,974,401	A	10/1999	Enomoto et al.
5,337,258	A	8/1994	Dennis	5,978,560	A	11/1999	Tan et al.
5,353,388	A	10/1994	Motoyama	5,983,200	A	11/1999	Slotznick
5,404,433	A	4/1995	Hosugai	5,987,454	A	11/1999	Hobbs
5,412,798	A	5/1995	Garney	5,993,047	A	11/1999	Novogrod et al.
5,467,434	A	11/1995	Hower, Jr. et al.	6,006,265	A	12/1999	Rangan et al.
5,475,507	A	12/1995	Suzuki et al.	6,009,464	A	12/1999	Hamilton et al.
5,479,206	A	12/1995	Ueno et al.	6,020,973	A	2/2000	Levine et al.
5,485,634	A	1/1996	Weiser et al.	6,023,715	A	2/2000	Burkes et al.
5,490,287	A *	2/1996	Itoh et al. .... 455/41.3	6,034,621	A	3/2000	Kaufman
5,515,480	A	5/1996	Frazier	6,035,214	A	3/2000	Henderson
5,519,641	A	5/1996	Beers et al.	6,043,898	A	3/2000	Jacobs
5,524,185	A *	6/1996	Na ..... 358/1.15	6,046,820	A	4/2000	Konishi
5,537,107	A	7/1996	Funado	6,061,142	A	5/2000	Shim
5,537,517	A	7/1996	Wakabayashi et al.	6,069,707	A	5/2000	Pekelman
5,546,079	A	8/1996	Wagner	6,070,185	A	5/2000	Anupam et al.
5,564,109	A	10/1996	Snyder et al.	6,072,595	A	6/2000	Yoshiura et al.
5,566,278	A	10/1996	Patel et al.	6,076,076	A	6/2000	Gottfreid
5,568,595	A	10/1996	Yosefi et al.	6,076,109	A	6/2000	Kikinis
5,580,177	A	12/1996	Gase et al.	6,078,906	A	6/2000	Huberman
5,589,889	A	12/1996	Kawaoka	6,087,060	A	7/2000	Chase et al.
5,596,697	A	1/1997	Foster et al.	6,088,450	A	7/2000	Davis et al.
5,604,843	A	2/1997	Shaw et al.	6,101,291	A	8/2000	Arney et al.
5,613,123	A	3/1997	Tsang et al.	6,138,178	A	10/2000	Watanabe
5,613,124	A	3/1997	Atkinson et al.	6,141,659	A	10/2000	Barker et al.
5,619,257	A	4/1997	Reele et al.	6,144,997	A	11/2000	Lamming et al.
5,619,649	A	4/1997	Kovnat et al.	6,145,031	A	11/2000	Mastie et al.
5,625,757	A	4/1997	Kageyama et al.	6,148,346	A	11/2000	Hanson
5,636,211	A	6/1997	Newlin et al.	6,167,514	A	12/2000	Matsui et al.
5,644,662	A	7/1997	Vuyksteke	6,173,407	B1	1/2001	Yoon et al.
5,664,243	A	9/1997	Okada et al.	6,184,996	B1	2/2001	Gase
5,675,717	A	10/1997	Yamamoto	6,189,148	B1	2/2001	Clark et al.
5,687,332	A	11/1997	Kurahashi	6,189,993	B1	2/2001	Mantell
5,699,495	A	12/1997	Snipp	6,192,407	B1	2/2001	Smith et al.
5,710,557	A	1/1998	Schuette	6,195,564	B1	2/2001	Rydbeck et al.
5,717,742	A	2/1998	Hyde-Thomson	6,199,099	B1	3/2001	Gershman et al.
5,724,106	A	3/1998	Autry et al.	6,199,106	B1	3/2001	Shaw et al.
5,737,501	A	4/1998	Tsunekawa	6,201,611	B1	3/2001	Carter et al.
5,739,928	A	4/1998	Scott	6,205,495	B1	3/2001	Gilbert et al.
5,748,859	A	5/1998	Takayanagi et al.	6,211,858	B1	4/2001	Moon et al.
5,754,655	A *	5/1998	Hughes et al. .... 705/70	6,215,483	B1	4/2001	Zigmond
				6,215,494	B1	4/2001	Teo
				6,223,059	B1	4/2001	Haestrup
				6,225,993	B1	5/2001	Lindblad et al.
				6,226,098	B1	5/2001	Kulakowski et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

6,246,486	B1	6/2001	Takahashi	6,671,068	B1	12/2003	Chang et al.
6,252,964	B1	6/2001	Wasilewski et al.	6,678,004	B1	1/2004	Schultheiss et al.
6,255,961	B1	7/2001	Van Ryzin et al.	6,678,751	B1	1/2004	Hays et al.
6,256,666	B1	7/2001	Singhal	6,690,918	B2	2/2004	Evans et al.
6,263,503	B1	7/2001	Margulis	6,694,371	B1	2/2004	Sanai
6,285,357	B1	9/2001	Kushiro et al.	6,697,848	B2	2/2004	Hamilton et al.
6,285,889	B1	9/2001	Nykanen et al.	6,701,009	B1	3/2004	Makoto et al.
6,288,790	B1	9/2001	Yellepeddy et al.	6,705,781	B2	3/2004	Iwazaki
6,292,283	B1	9/2001	Grandbois	6,707,581	B1	3/2004	Browning
6,324,521	B1	11/2001	Shiota et al.	6,711,677	B1 *	3/2004	Wiegley ..... 713/151
6,330,611	B1	12/2001	Itoh et al.	6,735,616	B1	5/2004	Thompson et al.
6,363,149	B1	3/2002	Candelore	6,738,841	B1	5/2004	Wolff
6,363,452	B1	3/2002	Lach	6,741,871	B1	5/2004	Siverbrook et al.
6,366,912	B1	4/2002	Wallent et al.	6,745,229	B1	6/2004	Gobin et al.
6,366,965	B1	4/2002	Binford et al.	6,748,195	B1	6/2004	Phillips
6,369,909	B1	4/2002	Shima	6,750,978	B1	6/2004	Maarggraff et al.
6,379,058	B1	4/2002	Petteruti et al.	6,751,732	B2	6/2004	Strobel et al.
6,385,305	B1	5/2002	Gerszberg et al.	6,753,978	B1	6/2004	Chang
6,389,010	B1	5/2002	Kubler et al.	6,757,070	B1	6/2004	Lin et al.
6,396,598	B1	5/2002	Kashiwagi et al.	6,760,745	B1	7/2004	Tan et al.
6,418,439	B1	7/2002	Papierniak et al.	6,775,407	B1	8/2004	Gindele et al.
6,421,748	B1	7/2002	Lin et al.	6,778,289	B1	8/2004	Iwata
6,430,599	B1	8/2002	Baker et al.	6,785,727	B1	8/2004	Yamazaki
6,434,535	B1 *	8/2002	Kupka et al. .... 705/24	6,788,332	B1	9/2004	Cook
6,437,786	B1	8/2002	Yasukawa	6,788,428	B1	9/2004	Shimokawa
6,442,375	B1	8/2002	Parmentier	6,789,228	B1	9/2004	Merril et al.
6,449,052	B1	9/2002	Sherer et al.	6,798,530	B1 *	9/2004	Buckley et al. .... 358/1.13
6,452,692	B1	9/2002	Yacoub	6,801,962	B2	10/2004	Taniguchi et al.
6,453,127	B2	9/2002	Wood et al.	6,813,039	B1	11/2004	Silverbrook et al.
6,467,688	B1 *	10/2002	Goldman et al. .... 235/472.01	6,819,919	B1	11/2004	Tanaka
6,473,070	B2 *	10/2002	Mishra et al. .... 345/158	6,826,632	B1	11/2004	Wugofski
6,473,800	B1	10/2002	Jerger et al.	6,839,775	B1	1/2005	Kao et al.
6,477,575	B1	11/2002	Koeppel et al.	6,840,441	B2	1/2005	Monaghan et al.
6,480,292	B1	11/2002	Sugiyama	6,856,430	B1	2/2005	Gase
6,487,587	B1	11/2002	Dubey	6,857,716	B1	2/2005	Nagahashi
6,487,599	B1	11/2002	Smith et al.	6,859,197	B2	2/2005	Klein et al.
6,489,934	B1	12/2002	Klausner	6,859,228	B1	2/2005	Chang et al.
6,493,104	B1	12/2002	Cromer et al.	6,859,937	B1	2/2005	Narayan et al.
6,496,855	B1	12/2002	Hunt et al.	6,889,385	B1	5/2005	Rakib et al.
6,510,235	B1 *	1/2003	Shin et al. .... 382/100	6,892,251	B2	5/2005	Anderson et al.
6,510,515	B1	1/2003	Raith	6,895,444	B1	5/2005	Weisshaar et al.
6,515,988	B1	2/2003	Eldridge et al.	6,915,124	B1	7/2005	Kiessling et al.
6,526,129	B1	2/2003	Beaton et al.	6,922,258	B2	7/2005	Pineau
6,529,522	B1	3/2003	Ito et al.	6,941,014	B2	9/2005	Lin et al.
6,540,722	B1	4/2003	Boyle et al.	6,947,067	B2	9/2005	Halttunen
6,542,173	B1	4/2003	Buckley	6,947,995	B2	9/2005	Chang et al.
6,542,491	B1	4/2003	Tari et al.	6,952,414	B1	10/2005	Willig
6,545,722	B1 *	4/2003	Schultheiss et al. .... 348/552	6,957,194	B2	10/2005	Stefik et al.
6,546,387	B1	4/2003	Triggs	6,958,821	B1	10/2005	McIntyre
6,546,419	B1	4/2003	Humpleman et al.	6,980,319	B2	12/2005	Ohta
6,553,240	B1	4/2003	Dervarics	6,983,310	B2	1/2006	Rouse et al.
6,553,431	B1	4/2003	Yamamoto et al.	6,990,548	B1	1/2006	Kaylor
6,556,313	B1	4/2003	Chang et al.	6,996,555	B2	2/2006	Muto et al.
6,577,861	B2 *	6/2003	Ogasawara ..... 455/419	7,016,062	B2	3/2006	Ishizuka
6,578,072	B2	6/2003	Watanabe et al.	7,024,200	B2	4/2006	McKenna et al.
6,584,903	B2	7/2003	Jacobs	7,028,102	B1	4/2006	Larsson et al.
6,587,835	B1 *	7/2003	Treyz et al. .... 705/14.64	7,039,445	B1	5/2006	Yoshizawa
6,600,569	B1	7/2003	Osada et al.	7,058,356	B2	6/2006	Slotznick
6,601,108	B1	7/2003	Marmor	7,076,534	B1	7/2006	Cleron et al.
6,604,135	B1	8/2003	Rogers et al.	7,088,691	B2	8/2006	Fujita
6,604,148	B1	8/2003	Dennison	7,099,304	B2	8/2006	Liu et al.
6,607,314	B1	8/2003	McCannon et al.	7,133,845	B1	11/2006	Ginter et al.
6,608,928	B1	8/2003	Queiroz	7,133,846	B1	11/2006	Ginter et al.
6,618,039	B1	9/2003	Grant et al.	7,143,356	B1	11/2006	Shafir et al.
6,621,589	B1	9/2003	Al-Kazily et al.	7,149,726	B1	12/2006	Lingle et al.
6,622,015	B1	9/2003	Himmel et al.	7,155,163	B2	12/2006	Cannon et al.
6,623,527	B1	9/2003	Hamzy	7,164,885	B2	1/2007	Jonsson et al.
6,628,302	B2	9/2003	White et al.	7,180,614	B1	2/2007	Senoo et al.
6,628,417	B1	9/2003	Naito et al.	7,197,531	B2	3/2007	Anderson
6,633,346	B1	10/2003	Yamamoto	7,237,253	B1	6/2007	Blackketter et al.
6,633,395	B1	10/2003	Tuchitoi et al.	7,239,346	B1	7/2007	Priddy
6,643,650	B1	11/2003	Slaughter et al.	7,263,270	B1	8/2007	Lapstun et al.
6,654,135	B2	11/2003	Mintani	7,272,788	B2	9/2007	Anderson et al.
				7,318,086	B2	1/2008	Chang et al.
				7,346,374	B2	3/2008	Witkowski et al.
				7,348,961	B1	3/2008	Shneidman
				7,359,714	B2	4/2008	Parupudi et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

7,370,090 B2 5/2008 Nakaoka et al.  
 7,403,510 B1 7/2008 Miyake  
 7,454,796 B2 11/2008 Mazzagatte et al.  
 7,460,853 B2 12/2008 Toyoshima  
 7,478,403 B1 1/2009 Allavarpu et al.  
 7,554,684 B1\* 6/2009 Senoo et al. .... 358/1.15  
 7,593,123 B2 9/2009 Sugahara  
 7,609,402 B2 10/2009 Chang et al.  
 7,660,460 B2 2/2010 Wu et al.  
 7,743,133 B1 6/2010 Motoyama et al.  
 RE41,416 E 7/2010 Liu et al.  
 RE41,487 E 8/2010 Liu et al.  
 RE41,532 E 8/2010 Liu et al.  
 RE41,689 E 9/2010 Liu et al.  
 7,805,720 B2 9/2010 Chang et al.  
 RE41,882 E 10/2010 Liu et al.  
 7,908,401 B2 3/2011 Chang et al.  
 7,929,950 B1 4/2011 Rao et al.  
 7,941,541 B2 5/2011 Chang et al.  
 7,944,577 B2 5/2011 Chang et al.  
 7,949,223 B2 5/2011 Shiohara  
 7,953,818 B2 5/2011 Chang et al.  
 7,986,298 B1 7/2011 Dulaney et al.  
 RE42,725 E 9/2011 Chang et al.  
 RE42,828 E 10/2011 Liu et al.  
 8,086,961 B2 12/2011 Saeki et al.  
 RE43,181 E 2/2012 Chang et al.  
 8,169,649 B2 5/2012 Chang et al.  
 8,184,324 B2 5/2012 Chang et al.  
 8,285,802 B2 10/2012 Chang et al.  
 8,296,757 B2 10/2012 Chang et al.  
 8,332,521 B2 12/2012 Chang et al.  
 8,533,352 B2 9/2013 Chang  
 8,595,717 B2 11/2013 Chang et al.  
 8,630,000 B2\* 1/2014 Chang et al. .... 358/1.15  
 8,705,097 B2 4/2014 Chang et al.  
 8,711,408 B2 4/2014 Chang et al.  
 8,964,220 B2 2/2015 Chang et al.  
 8,972,610 B2 3/2015 Chang  
 2001/0011302 A1 8/2001 Son  
 2001/0012281 A1 8/2001 Hall et al.  
 2001/0015717 A1 8/2001 Mishra et al.  
 2001/0029531 A1 10/2001 Ohta  
 2001/0032254 A1 10/2001 Hawkins  
 2001/0034222 A1 10/2001 Roustaei et al.  
 2001/0055951 A1 12/2001 Slotznick  
 2002/0012329 A1 1/2002 Atkinson et al.  
 2002/0026492 A1 2/2002 Fujita  
 2002/0038612 A1 4/2002 Iwazaki  
 2002/0042263 A1 4/2002 Ishikawa  
 2002/0049839 A1 4/2002 Miida et al.  
 2002/0057452 A1 5/2002 Yoshino  
 2002/0059489 A1 5/2002 Davis et al.  
 2002/0062398 A1 5/2002 Chang et al.  
 2002/0062406 A1 5/2002 Chang et al.  
 2002/0065873 A1 5/2002 Ishizuka  
 2002/0077980 A1 6/2002 Chang  
 2002/0078101 A1 6/2002 Chang et al.  
 2002/0081993 A1 6/2002 Toyoshima  
 2002/0087622 A1 7/2002 Anderson et al.  
 2002/0090912 A1 7/2002 Cannon et al.  
 2002/0092029 A1 7/2002 Smith  
 2002/0097408 A1 7/2002 Chang et al.  
 2002/0097415 A1 7/2002 Chang et al.  
 2002/0097416 A1 7/2002 Chang et al.  
 2002/0097417 A1 7/2002 Chang et al.  
 2002/0097418 A1 7/2002 Chang et al.  
 2002/0097419 A1 7/2002 Chang et al.  
 2002/0097433 A1 7/2002 Chang et al.  
 2002/0099884 A1 7/2002 Chang et al.  
 2002/0178272 A1 11/2002 Igarashi et al.  
 2002/0194302 A1 12/2002 Blumberg  
 2003/0002072 A1 1/2003 Berkema et al.

2003/0061606 A1 3/2003 Hartwig et al.  
 2003/0120754 A1 6/2003 Muto et al.  
 2003/0122934 A1 7/2003 Shiohara  
 2003/0128272 A1 7/2003 Clough et al.  
 2003/0160993 A1 8/2003 Kang  
 2004/0057075 A1 3/2004 Stewart et al.  
 2005/0125664 A1 6/2005 Berkema et al.  
 2005/0204176 A1 9/2005 Togawa  
 2005/0210120 A1 9/2005 Yukie et al.  
 2005/0222963 A1 10/2005 Johnson  
 2007/0125860 A1 6/2007 Lapstun et al.  
 2007/0129109 A1 6/2007 Silverbrook et al.  
 2007/0133073 A1 6/2007 Shida et al.  
 2008/0007482 A1 1/2008 Morioka  
 2008/0049253 A1 2/2008 Chang  
 2008/0049651 A1 2/2008 Chang  
 2008/0201236 A1 8/2008 Field et al.  
 2008/0218776 A1 9/2008 Takami et al.  
 2008/0318602 A1 12/2008 Chang et al.  
 2009/0002760 A1 1/2009 Chang et al.  
 2009/0070411 A1 3/2009 Chang et al.  
 2009/0094457 A1 4/2009 Lapstun et al.  
 2009/0180142 A1 7/2009 Suzuki et al.  
 2009/0290182 A1 11/2009 Hashimoto et al.  
 2010/0039660 A1 2/2010 Chang et al.  
 2010/0039669 A1 2/2010 Chang et al.  
 2010/0201996 A1\* 8/2010 Chang et al. .... 358/1.2  
 2010/0203824 A1\* 8/2010 Chang et al. .... 455/3.06  
 2010/0227550 A1 9/2010 Chang et al.  
 2011/0016280 A1 1/2011 Chang et al.  
 2011/0034150 A1 2/2011 Chang et al.  
 2011/0035682 A1 2/2011 Chang et al.  
 2011/0138378 A1 6/2011 Chang et al.  
 2011/0167166 A1 7/2011 Chang  
 2011/0167175 A1 7/2011 Chang  
 2011/0197159 A1 8/2011 Chaganti et al.  
 2011/0211226 A1 9/2011 Chang et al.  
 2011/0279829 A1 11/2011 Chang et al.  
 2011/0279863 A1 11/2011 Chang et al.  
 2012/0226777 A1 9/2012 Shanahan  
 2012/0230315 A1 9/2012 Chang et al.  
 2012/0258700 A1 10/2012 Chang et al.  
 2013/0095887 A1 4/2013 Chang et al.  
 2013/0103775 A1 4/2013 Chang et al.  
 2013/0104052 A1 4/2013 Chang et al.  
 2013/0109353 A1 5/2013 Chang et al.  
 2014/0018130 A1 1/2014 Chang  
 2014/0082604 A1 3/2014 Chang et al.

FOREIGN PATENT DOCUMENTS

CN 01821101 C 4/2004  
 CN 02806907 B 10/2004  
 CN 100334577 8/2007  
 CN 20101044167.7 A 9/2010  
 CN 201010444174 A 9/2010  
 EP 0691619 A2 10/1996  
 EP 0738979 A1 10/1996  
 EP 0952513 A1 10/1999  
 GB 2332764 6/1999  
 JP 11316658 A 11/1999  
 WO 0195096 A2 12/2001  
 WO 0195097 A2 12/2001  
 WO 02/084928 10/2002

OTHER PUBLICATIONS

Bisdikian, et al., "WiSAP: A wireless personal access network for handheld computing devices," Personal Communications, IEEE [see also IEEE Wireless Communications], vol. 5, No. 6, pp. 18-25, Dec. 1998.  
 Haynie, Dave, The Zorro III Bus Specification, Mar. 20, 1991, 60 pages, Document Revision 1.10, Commodore-Amiga Inc.  
 House, et al., An on-line communication print service for the demanding client. In Proceedings of the 11th Annual International

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