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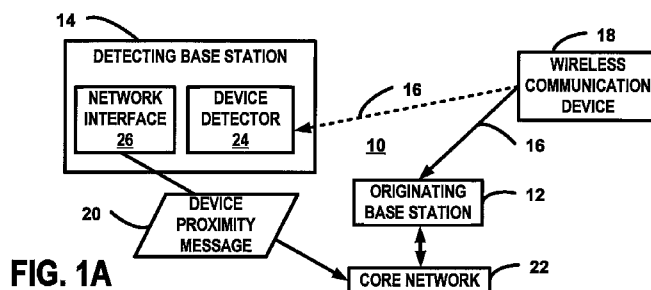
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: APPARATUS, SYSTEM AND METHOD FOR MANAGING WIRELESS SERVICE TO A WIRELESS COMMUNICATION DEVICE



(57) Abstract: A detecting base station (14) detects a wireless communication device (18) by intercepting an uplink communication signal (16) intended for an originating base station (12). In response to the detection of the wireless communication device (18), the detecting base station (14) sends a message (20) to the core network. The detecting base station (14) includes a mobile communication device detector (24) configured to intercept the uplink communication signal (16) transmitted from the wireless communication device (18) to the originating base station (12) of a communication network. A network interface (26) within the detecting base station (14) is configured to send a device proximity message (20) to the communication network (22) where the device proximity message (20) is based on the proximity of the wireless communication device (18) to the detecting base station (14). The device proximity message may be a handoff request, distance, or other information that is derived or otherwise related to the intercepted uplink communication signal (16).

# INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/035179

## A. CLASSIFICATION OF SUBJECT MATTER

INV. H04W36/38

ADD. H04W36/04

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

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	WO 98/19474 A2 (NORTHERN TELECOM LTD [CA]; HANLEY DONALD [US]; MCCARTHY MICHAEL [US];) 7 May 1998 (1998-05-07) abstract page 4, lines 15-25 page 6, line 1 - page 7, line 28 page 8, lines 19-24	1-20
X	EP 0 504 122 A2 (ERICSSON TELEFON AB L M [SE]) 16 September 1992 (1992-09-16) abstract column 2, lines 19-29 column 2, line 48 - column 3, line 21 column 9, lines 21-37 column 10, lines 25-29 column 12, lines 27-33 column 13, line 43 - column 14, line 44 claim 1	1-3, 6-20
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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'A' document defining the general state of the art which is not considered to be of particular relevance

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Name and mailing address of the ISA/

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A  A  X,P  X,P  X,P  X,P  E	<p>US 4 737 978 A (BURKE MICHAEL [US] ET AL) 12 April 1988 (1988-04-12) abstract column 2, lines 11-19 column 2, lines 43-49 column 10, line 33 - column 11, line 19 column 12, line 58 - column 13, line 14 -----</p> <p>US 2007/254620 A1 (LINDQVIST THOMAS L E [SE] ET AL) 1 November 2007 (2007-11-01) abstract paragraphs [0014], [0017] - [0020], [0025], [0026], [0045], [0046], [0073] -----</p> <p>WO 2008/066928 A2 (KYOCERA CORP [JP]; KALHAN AMIT [US]) 5 June 2008 (2008-06-05) page 2, lines 13-29; figures 1-5 -----</p> <p>WO 2008/066929 A2 (KYOCERA CORP [JP]; KALHAN AMIT [US]) 5 June 2008 (2008-06-05) page 2, lines 18-31; figures 1-7 -----</p> <p>WO 2008/066927 A2 (KYOCERA CORP [JP]; KALHAN AMIT [US]) 5 June 2008 (2008-06-05) page 2, lines 13-21; figures 1-6 -----</p> <p>WO 2008/066926 A2 (KYOCERA CORP [JP]; KALHAN AMIT [US]) 5 June 2008 (2008-06-05) page 2, lines 20-31; figures 1-7 -----</p> <p>WO 2009/067700 A1 (QUALCOMM INC [US]; BALASUBRAMANIAN SRINIVASAN [US]; CHEN JEN MEI [US];) 28 May 2009 (2009-05-28) paragraphs [0006] - [0012]; figures 1-20 -----</p>	<p>1,13,19  2-12, 14-18,20  1-20  1-20  1-20  1-20  1-20</p>

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2009/035179

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9819474	A2	07-05-1998	BR	9706896 A	28-08-2001
			CA	2241363 A1	07-05-1998
			EP	0875118 A2	04-11-1998
EP 0504122	A2	16-09-1992	AT	169172 T	15-08-1998
			AU	653005 B2	15-09-1994
			AU	1281492 A	17-09-1992
			DE	69226388 D1	03-09-1998
			DE	69226388 T2	17-12-1998
			ES	2119806 T3	16-10-1998
			IE	920633 A1	23-09-1992
			JP	3167773 B2	21-05-2001
			JP	5075533 A	26-03-1993
			MX	9201093 A1	01-09-1992
			US	5175867 A	29-12-1992
US 4737978	A	12-04-1988	CA	1266884 A1	20-03-1990
US 2007254620	A1	01-11-2007	CA	2648363 A1	08-11-2007
			EP	2014119 A1	14-01-2009
			WO	2007126351 A1	08-11-2007
WO 2008066928	A2	05-06-2008	US	2008153497 A1	26-06-2008
			US	2008130555 A1	05-06-2008
WO 2008066929	A2	05-06-2008	US	2008130598 A1	05-06-2008
WO 2008066927	A2	05-06-2008	US	2008130597 A1	05-06-2008
WO 2008066926	A2	05-06-2008	US	2008130596 A1	05-06-2008
WO 2009067700	A1	28-05-2009	US	2009129341 A1	21-05-2009