

21861 U.S. PTO

030205

UTILITY PATENT APPLICATION TRANSMITTAL <small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small>	Attorney Docket No.:	CML01942M
	First Inventor:	Xiangyang Zhuang
	Title:	METHOD AND APPARATUS FOR ACCESSING A WIRELESS COMMUNICATION SYSTEM
	Express Mail Label No.:	EV580331299

APPLICATION ELEMENTS <small>(see MPEP chapter 600 concerning utility patent application contents)</small>	ADDRESS TO: Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450
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1. Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. Applicant claims small entity status
See 37 CFR 1.27
3. Specification [Total Pages 26]
(preferred arrangement set forth below)
 -Descriptive title of the invention
 -Cross Reference to Related Applications
 -Statement Regarding Fed sponsored R & D
 -Reference to sequence listing, a table, or computer program listing appendix
 -Brief Summary of the Invention
 -Brief Description of the Drawings (if filed)
 -Detailed Description
 -Claim(s)
 -Abstract of the Disclosure
4. Drawing(s) (35 U.S.C. 113) [Total Sheets 6]
5. Oath or Declaration [Total Sheets 3]
 - a. Newly executed (original or copy)
 - b. Copy from prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
 - i. **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)
6. Application Data Sheet. See 37 CFR 1.76

7. CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence (if applicable, all necessary)
 - a. Computer Readable Form (CFR)
 - b. Specification Sequence Listing on:
 - i. CD-ROM or CD-4 (2 copies); or
 - ii. Paper
 - c. Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS	
9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s))	
10. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney <small>(when there is an assignee)</small>	
11. <input type="checkbox"/> English Translation Document (if applicable)	
12. <input type="checkbox"/> Information Disclosure Statement (IDS)/PT-1449 <input type="checkbox"/> Copies of IDS Citations	
13. <input type="checkbox"/> Preliminary Amendment	
14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) <small>(Should be specifically itemized)</small>	
15. <input type="checkbox"/> Certified Copy of Priority Document	
16. <input type="checkbox"/> Nonpublication Request under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.	
17. <input type="checkbox"/> Other: _____	

18. IF A CONTINUING APPLICATION, check appropriate box and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

Continuation Divisional Continuation-in- Part (CIP) of prior application No. _____

Prior application information: Examiner: _____ Art Unit: _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS							
<input checked="" type="checkbox"/> Customer Number		22917		or <input type="checkbox"/> Correspondence address below			
Name				James A. Lamb			
Address							
City				State		Zip Code	
Country		Telephone		(847) 576-5054		Fax (847) 576-3750	
Name				James A. Lamb		Registration No. 38,529	
SIGNATURE				Date		03/02/2005	

CML01942M

Effective on 12/08/2004 Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818)		Complete if Known	
FEE TRANSMITTAL For FY 2005 <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Application Number	
		Filing Date	03/02/2005
		First Named Inventor	Zhuang, Xiangyang
		Examiner Name	
		Group Art Unit	
TOTAL AMOUNT OF PAYMENT	(\$) 1100.00	Attorney Docket No.	CML01942M

METHOD OF PAYMENT (check all that apply)

Check Credit card Money Order None Other (please identify): _____
 Deposit Account Deposit Account Number: **502117** Deposit Account Name: **MOTOROLA, INC.**
 For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
 Charge fee(s) indicated below Charge fee(s) indicated below, **except for the filing fee**
 Charge any additional fee(s) or underpayments of fee(s) Credit any overpayments
 under 37 CFR 1.16 and 1.17

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	Fee (\$)	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
		Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	
Utility	300	150	500	250	200	100		\$1,000.00
Design	200	100	100	50	130	65		
Plant	200	100	300	150	160	80		
Reissue	300	150	500	250	600	300		
Provisional	200	100	0	0	0	0		

2. EXCESS CLAIM FEES

Fee Description	Fee(\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims
 22 - 20 or HP= 2 Extra Claims x 50 Fee (\$) = 100 Fee Paid (\$)

HP=highest number of total claims paid for, if greater than 20

Indep. Claims
 3 - 3 or HP= Extra Claims x 200 Fee (\$) = Fee Paid (\$)

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3. APPLICATION SIZE FEE:

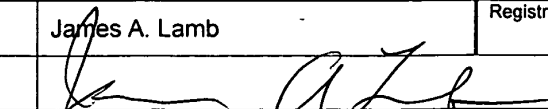
If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets: 26 - 100 = Extra Sheets /50 = Number of each additional 50 or fraction thereof (round up to a whole number) x Fee (\$) = Fee Paid (\$)

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount) Fee Paid (\$)

Other: _____ _____

SUBMITTED BY		Complete (if applicable)	
Name (Print/Type)	James A. Lamb	Registration No.	38,529
		Telephone	(847) 576-5054
Signature		Date	03/02/2005

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 Other (please identify): _____

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 Deposit Account Name: **MOTOROLA, INC.**
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SUBMITTED BY		Complete (if applicable)	
Name (Print/Type)	James A. Lamb	Registration No.	38,529
		Telephone	(847) 576-5054
Signature		Date	03/02/2005

METHOD AND APPARATUS FOR ACCESSING A WIRELESS COMMUNICATION
SYSTEM

Field of the Invention

5

The present invention relates generally to communication systems, and in particular, to a method and apparatus for randomly accessing a wireless communication system by a subscriber station in order to obtain or maintain such parameters as uplink timing, power control, channel estimation, and
10 frequency alignment of the subscriber station.

Background of the Invention

15

In a wireless communication system, it is critical to design a mechanism for allowing a remote subscriber station (SS) to access the network by sending an access signal to a Base Station (BS). The access signal fulfills important functions such as requesting resource allocation from the BS, alerting the BS of the existence of the SS that is trying to enter the network, and initiating a
20 process that allows the BS to measure some parameters of the SS (e.g., timing offset caused by propagation, transmit power, etc.) that must be maintained and adjusted constantly in order to ensure a non-interfering sharing of the uplink resource. Unlike ordinary data traffic that is sent using scheduled resources that are allocated by the BS to the SS, such an access signal is often transmitted in
25 an unsolicited manner. Therefore, this process is often referred to as a random access. Sometimes the process is also referred to as “ranging”, as used in the Institute of Electrical and Electronic Engineers (IEEE) 802.16 standards, because the access signal can help the BS to measure the propagation distance from the SS (thus, its range). A parameter known as a timing advance offset is used by the SS to advance its transmission relative to the reference timing at the
30 BS so that the signals from all the SS’s appear synchronized at the BS (i.e., uplink timing synchronization). Once uplink timing synchronization is achieved, the SS orthogonality is ensured (i.e., each SS occupies its own allocated sub-carriers without interfering with other SS). In this specification,
35 the terms “access”, “random access”, and “ranging” will be used

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