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201110080727.1 2011年3月31日 (31.03.2011) CN
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(81) 指定国 (除另有指明, 要求每一种可提供的国家保护): 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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[见续页]

(54) Title: DETECTION METHOD, DETECTION DEVICE, AND DETECTION SYSTEM

(54) 发明名称: 检测方法、检测装置和检测系统

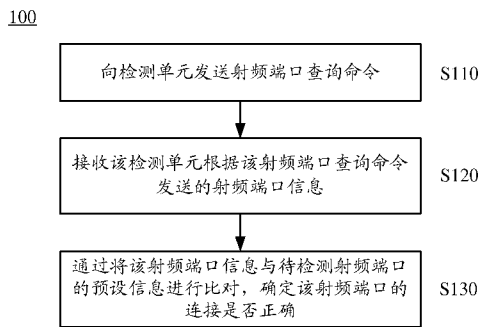


图 1 / Fig. 1

S110 SENDING RF PORT QUERY COMMAND TO DETECTION UNIT
 S120 RECEIVING RF PORT INFORMATION SENT BY DETECTION UNIT ACCORDING TO SAID RF PORT QUERY COMMAND
 S130 DETERMINING WHETHER RF PORT CONNECTION IS IN ORDER BY COMPARING RF PORT INFORMATION AND PRESET INFORMATION OF RF PORTS TO BE DETECTED

(57) Abstract: Disclosed in the present invention are a detection method, a detection device, and a detection system, the detection method comprising: sending to a detection unit a radio frequency port (RF port) query command; receiving the RF port information sent by the detection unit according to the RF port query command; determining whether the RF port connection is correct by comparing said RF port information to preset information of RF ports to be detected. The detection device comprises a sending module, a reception module and a determination module. The detection system comprises a query unit, a detection unit and a transmission unit. The detection method, detection device and detection system of the present invention conveniently and quickly detect the RF port connection status of antenna equipment before the main device turns on thereby shortening execution time and reducing maintenance costs.

(57) 摘要:

[见续页]



WO 2012/136159 A3

**本国际公布:****(88) 国际检索报告公布日期:**

2012年11月29日

- 包括国际检索报告(条约第21条(3))。
- 包括关于请求恢复一项或多项优先权要求的信息(细则26之二.3和48.2(b)(vii))。

本发明公开了一种检测方法、检测装置和检测系统。该检测方法包括：向检测单元发送射频端口查询命令；接收该检测单元根据该射频端口查询命令发送的射频端口信息；通过将该射频端口信息与待检测射频端口的预设信息进行比较，确定该射频端口的连接是否正确。该检测装置包括：发送模块、接收模块和确定模块。该检测系统包括：查询单元、检测单元和传输单元。本发明的检测方法、检测装置和检测系统，能够在主设备上电前方便且快捷地检测天线设备的射频端口连接情况，由此能够缩短施工时间，减小维护成本。

INTERNATIONAL 1 SEARCH REPORT

International application No.

PCT/CN 2012/076293

A. CLASSIFICATION OF SUBJECT MATTER

H04W 24/02 (2009.01) i

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)

IPC:H04W, H04Q

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)

CNKI, CNABS, CNTXT, DWPI, SIPOABS: radio frequency, failure, port?, antenna?, query, detect+, compar+, preset, connection

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 102143516 A (HUAWEI TECHNOLOGIES CO., LTD.), 03 August 2011 (03.08.2011), claims 1-16, description, paragraphs [0007]-[0013] and [0022]-[0058], and figures 1-7	1-16
PX	CN 102217358 A (HUAWEI TECHNOLOGIES CO., LTD.), 12 October 2011 (12.10.2011), description, paragraphs [0017]-[0047], and figures 4-5	1-16
Y	CN 1204933 A (SAMSUNG ELECTRONICS CO., LTD.), 13 January 1999 (13.01.1999), description, page 2, paragraphs 3-4, and page 7, paragraph 5 to page 9, paragraph 2, and figures 4-5	1-16
Y	CN 1633197 A (ZTE CORP.), 29 June 2005 (29.06.2005), description, page 3, paragraph 3 to page 6, paragraph 2	1-16
A	CN 101448274 A (DATANG MOBILE COMMUNICATIONS EQUIPMENT CO., LTD.), 03 June 2009 (03.06.2009), the whole document	1-16
A	US 2008004037 A1 (MICROSOFT CORPORATION), 03 January	1-16

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“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
“E” earlier application or patent but published on or after the international filing date	“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
“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)	“&” document member of the same patent family
“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	

Date of the actual completion of the international search
31 July 2012 (31.07.2012)Date of mailing of the international search report
13 September 2012 (13.09.2012)Name and mailing address of the ISA/CN:
State Intellectual Property Office of the P. R. China
No. 6, Xitucheng Road, Jimenqiao
Haidian District, Beijing 100088, China
Facsimile No.: (86-10) 62019451

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INTERNATIONAL 1 SEARCH REPORT
Information on patent family members

International application No.

PCT/CN 2012/076293

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 102143516 A	03.08.2011	None	
CN 102217358 A	12.10.2011	WO 2011103818 A2	01.09.2011
CN 1204933 A	13.01.1999	JP 11098092 A	09.04.1999
		FR 2765764 A1	08.01.1999
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		DE 19818320 A1	07.01.1999
		GB 2327015 A	06.01.1999
		US 6037868 A	14.03.2000
		KR 99008835 A	05.02.1999
CN 1633197 A	29.06.2005	None	
CN 101448274 A	03.06.2009	None	
US 2008004037 A1	03.01.2008	None	

A. 主题的分类		
H04W 24/02 (2009.01) i		
按照国际专利分类(IPC)或者同时按照国家分类和 IPC 两种分类		
B. 检索领域		
检索的最低限度文献(标明分类系统和分类号)		
IPC:H04W, H04Q		
包含在检索领域中的除最低限度文献以外的检索文献		
在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))		
CNKI,CNABS,CNXTX,DWPI,SIPOABS: 射频,端口,天线,查询,询问,检测,比较,对比,预设,预置,连接,故障, port?, antenna?,query,detect+,compar+,preset,connection		
C. 相关文件		
类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
PX	CN102143516A(华为技术有限公司) 03.8 月 2011(03.08.2011) 权利要求 1-16,说明书第[0007]-[0013],[0022]-[0058]段以及附图 1-7	1-16
PX	CN102217358A (华为技术有限公司) 12.10 月 2011(12.10.2011) 说明书第[0017]-[0047]段以及附图 4-5	1-16
Y	CN1204933A(三星电子株式会社) 13.1 月 1999(13.01.1999) 说明书第 2 页第 3-4 段,第 7 页第 5 段至第 9 页第 2 段以及附图 4-5	1-16
Y	CN1633197A(中兴通讯股份有限公司) 29.6 月 2005(29.06.2005) 说明书第 3 页第 3 段至第 6 页第 2 段	1-16
A	CN101448274A(大唐移动通信设备有限公司) 03.6 月 2009(03.06.2009) 全	1-16
A	US2008004037A1 (MICROSOFT CORPORATION) 03.1 月	1-16
<input type="checkbox"/> 其余文件在 C 栏的续页中列出。 <input checked="" type="checkbox"/> 见同族专利附件。		
* 引用文件的具体类型:		“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件
“A” 认为不特别相关的表示了现有技术一般状态的文件		“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性
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“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件(如具体说明的)		“&” 同族专利的文件
“O” 涉及口头公开、使用、展览或其他方式公开的文件		
“P” 公布日先于国际申请日但迟于所要求的优先权日的文件		
国际检索实际完成的日期 31.7 月 2012 (31.07.2012)	国际检索报告邮寄日期 13.9 月 2012 (13.09.2012)	
ISA/CN 的名称和邮寄地址: 中华人民共和国国家知识产权局 中国北京市海淀区蓟门桥西土城路 6 号 100088 传真号: (86-10)62019451	受权官员 池芳 电话号码: (86-10) 62413454	

国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2012/076293

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
CN102143516A	03.08.2011	无	
CN102217358A	12.10.2011	WO2011103818A2	01.09.2011
CN1204933A	13.01.1999	JP11098092A	09.04.1999
		FR2765764A1	08.01.1999
		RU2154347C2	10.08.2000
		DE19818320A1	07.01.1999
		GB2327015A	06.01.1999
		US6037868A	14.03.2000
		KR99008835A	05.02.1999
CN1633197A	29.06.2005	无	
CN101448274A	03.06.2009	无	
US2008004037A1	03.01.2008	无	