

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 65037774PC01	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2017/049765	International filing date (<i>day/month/year</i>) 31 August 2017 (31.08.2017)	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant KIMBERLY-CLARK WORLDWIDE, INC.		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1A

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☒ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/049765**A. CLASSIFICATION OF SUBJECT MATTER****H04L 12/28(2006.01)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)

H04L 12/28; H04B 7/00; H04Q 7/00; H04L 12/24; G06Q 50/22; G05B 23/02; G06Q 40/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: wireless-network, install, washroom, devices, spatial-orientation, clockwise-direction, naming-information

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0066473 A1 (PAUL R. SIMONS) 12 March 2009 See paragraph [0026]; claim 1; and figures 1, 4.	1-14
A	US 2008-0218334 A1 (STEPHEN M. PITCHERS et al.) 11 September 2008 See paragraphs [0025]-[0048]; and figures 1-2.	1-14
A	EP 1455482 A1 (HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P.) 08 September 2004 See paragraphs [0006]-[0022]; and figures 1-2.	1-14
A	KR 10-2012-0127803 A (LEE, DONG HUN) 26 November 2012 See paragraphs [0053]-[0058]; and figures 1, 3.	1-14
A	US 2014-0022940 A1 (THE PROCTER & GAMBLE COMPANY) 23 January 2014 See paragraphs [0005]-[0007]; and figure 5.	1-14



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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

"E" earlier application or patent but published on or after the international filing date

"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)

"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

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

23 May 2018 (23.05.2018)

Date of mailing of the international search report

23 May 2018 (23.05.2018)

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea

Facsimile No. +82-42-481-8578

Authorized officer

KANG, Hee Gok

Telephone No. +82-42-481-8264



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2017/049765

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0066473 A1	12/03/2009	CN 101138280 A EP 1862037 A1 JP 2008-533796 A WO 2006-095317 A1	05/03/2008 05/12/2007 21/08/2008 14/09/2006
US 2008-0218334 A1	11/09/2008	AT 419731 T CN 101138279 A CN 101138279 B DE 602006004573 D1 EP 1862036 A1 EP 1862036 B1 ES 2319460 T3 JP 2008-537855 A JP 4981784 B2 US 9253040 B2 WO 2006-095316 A1	15/01/2009 05/03/2008 21/03/2012 12/02/2009 05/12/2007 31/12/2008 07/05/2009 25/09/2008 25/07/2012 02/02/2016 14/09/2006
EP 1455482 A1	08/09/2004	None	
KR 10-2012-0127803 A	26/11/2012	KR 10-1247240 B1	25/03/2013
US 2014-0022940 A1	23/01/2014	CA 2878942 A1 CA 2879149 A1 CN 104471429 A CN 104471430 A EP 2875370 A1 EP 2875378 A2 JP 2015-532795 A JP 6166369 B2 US 2014-0022917 A1 WO 2014-014993 A1 WO 2014-014994 A2 WO 2014-014994 A3	23/01/2014 23/01/2014 25/03/2015 25/03/2015 27/05/2015 27/05/2015 12/11/2015 19/07/2017 23/01/2014 23/01/2014 23/01/2014 13/03/2014