
**Health informatics — Personal health
device communication —**

**Part 10422:
Device specialization — Urine
analyser**

*Informatique de santé — Communication entre dispositifs de santé
personnels —*

Partie 10422: Spécialisation des dispositifs — Analyseur d'urine

Document Preview

ISO/IEEE 11073-10422:2017

<https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017>



Reference number
ISO/IEEE 11073-10422:2017(E)

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO/IEEE 11073-10422:2017

<https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017>



COPYRIGHT PROTECTED DOCUMENT

© IEEE 2016

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO or IEEE at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Institute of Electrical and Electronics Engineers, Inc
3 Park Avenue, New York
NY 10016-5997, USA

stds.ipr@ieee.org
www.ieee.org

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. ISO/IEEE is not responsible for identifying essential patents or patent claims for which a license may be required, for conducting inquiries into the legal validity or scope of patents or patent claims or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance or a Patent Statement and Licensing Declaration Form, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from ISO or the IEEE Standards Association.

ISO/IEEE 11073-10422 was prepared by the 11073 Committee of the Engineering in Medicine and Biology Society of the IEEE (as IEEE Std 11073-10422-2016). It was adopted by Technical Committee ISO/TC 215, *Health informatics*, in parallel with its approval by the ISO member bodies, under the “fast-track procedure” defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE. Both parties are responsible for the maintenance of this document.

Health informatics—Personal health device communication

Part 10422: Device Specialization— Urine Analyzer

Sponsor

IEEE 11073™ Standards Committee
of the
IEEE Engineering in Medicine and Biology Society

Approved 30 June 2016

IEEE-SA Standards Board

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO/IEEE 11073-10422:2017](https://standards.itih.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017)

<https://standards.itih.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017>

Abstract: Within the context of the ISO/IEEE 11073 family of standards for device communication, a normative definition of communication between personal telehealth urine analyzer devices and compute engines (e.g., cell phones, personal computers, personal health appliances, and set-top boxes) is established by this standard in a manner that enables plug-and-play interoperability. Appropriate portions of existing standards are leveraged, including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. The use of specific term codes, formats, and behaviors in telehealth environments restricting optionality in base frameworks in favor of interoperability is specified. A common core of communication functionality for personal telehealth urine analyzers is defined in this standard.

Keywords: IEEE 11073-10422™, medical device communication, personal health devices, urine analyzer

iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ISO/IEEE 11073-10422:2017](https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017)

<https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017>

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 10 November 2016. Printed in the United States of America.

IEEE is a registered trademark in the U.S. Patent & Trademark Office, owned by the Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN 978-1-5044-2270-3 STD21082
Print: ISBN 978-1-5044-2271-0 STDPD21082

IEEE prohibits discrimination, harassment, and bullying.

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page, appear in all standards and may be found under the heading “Important Notices and Disclaimers Concerning IEEE Standards Documents.” They can also be obtained on request from IEEE or viewed at <http://standards.ieee.org/IPR/disclaimers.html>.

Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents

IEEE Standards documents (standards, recommended practices, and guides), both full-use and trial-use, are developed within IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (“IEEE-SA”) Standards Board. IEEE (“the Institute”) develops its standards through a consensus development process, approved by the American National Standards Institute (“ANSI”), which brings together volunteers representing varied viewpoints and interests to achieve the final product. IEEE Standards are documents developed through scientific, academic, and industry-based technical working groups. Volunteers in IEEE working groups are not necessarily members of the Institute and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers and users of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims all warranties (express, implied and statutory) not included in this or any other document relating to the standard, including, but not limited to, the warranties of: merchantability; fitness for a particular purpose; non-infringement; and quality, accuracy, effectiveness, currency, or completeness of material. In addition, IEEE disclaims any and all conditions relating to: results; and workmanlike effort. IEEE standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

Use of an IEEE standard is wholly voluntary. The existence of an IEEE standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

Translations

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

Official statements

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, or be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on standards

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board

445 Hoes Lane

Piscataway, NJ 08854 USA

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

Photocopies

Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Updating of IEEE Standards documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE Xplore at <http://ieeexplore.ieee.org/> or contact IEEE at the address listed previously. For more information about the IEEE-SA or IEEE's standards development process, visit the IEEE-SA Website at <http://standards.ieee.org>.

Errata

Errata, if any, for all IEEE standards can be accessed on the IEEE-SA Website at the following URL: <http://standards.ieee.org/findstds/errata/index.html>. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA Website at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patent Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this standard was submitted to the IEEE-SA Standards Board for approval, the Personal Health Devices Working Group had the following membership:

Daidi Zhong, *Co-Chair*
Michael J. Kirwan, *Co-Chair*
Sungkee Lee, *Vice Chair*

Karsten Aalders
Charles R. Abbruscato
Nabil Abujbara
Maher Abuzaid
James Agnew
Haidar Ahmad
Manfred Aigner
Jorge Alberola
Murtaza Ali
Rolf Ambuehl
David Aparisi
Paolo Ariano
Lawrence Arne
Diego B. Arquillo
Serafin Arroyo
Muhammad Asim
Merat Bagha
Doug Baird
David Baker
Anindya Bakshi
Ananth
Balasubramanian
Sunlee Bang
M. Jonathan Barkley
Gilberto Barrón
David Bean
John Bell
Rudy Belliardi
Kathryn M. Bennett
Daniel Bernstein
George A. Bertos
Chris Biernacki
Ola Björnsne
Thomas Blackadar
Marc Blanchet
Thomas Bluethner
Douglas P. Bogia
Xavier Boniface
Shannon Boucousis
Julius Broma
Lyle G. Bullock Jr.
Bernard Burg
Chris Burns
Anthony Butt
Jeremy Byford-Rew
Satya Calloji
Xiaoying Cao
Carole C. Carey
Craig Carlson

Santiago Carot-Nemesio
Randy W. Carroll
Simon Carter
Seungchul Chae
Rahul Chauhan
James Cheng
Peggy Chien
David Chiu
Jinyong Choi
Chia-Chin Chong
Saeed A. Choudhary
Jinhan Chung
Malcolm Clarke
John A. Cogan
John T. Collins
Cory Condek
Todd H. Cooper
David Cornejo
Douglas Coup
Nigel Cox
Hans Crommenacker
Tomio Crosley
Allen Curtis
Ndifor Cyril Fru
Jesús Daniel Trigo
Eyal Dassau
David Davenport
Russell Davis
Sushil K. Deka
Ciro de la Vega
Pedro de-las-Heras-Quiros
Jim DelloStritto
Matthew d'Entremont
Kent Dicks
Hyoungdo Do
Alistair Donaldson
Xiaolian Duan
Brian Dubreuil
Sourav Dutta
Jakob Ehrensverd
Fredrik Einberg
Michihiro Enokida
Javier Escayola Calvo
Mark Estes
Leonardo Estevez
Roger Feeley
Hailing Feng
Bosco T. Fernandes

Christoph Fischer
Morten Flintrup
Joseph W. Forler
Russell Foster
Eric Freudenthal
Matthias Frohner
Ken Fuchs
Jing Gao
Xuemei Gao
Marcus Garbe
John Garguilo
Rick Geimer
Igor Gejdos
Ferenc Gerbovics
Nicolae Goga
Julian Goldman
Raul Gonzalez Gomez
Chris Gough
Channa Gowda
Charles M. Gropper
Amit Gupta
Jeff Guttmacher
Rasmus Haahr
Christian Habermann
Michael Hagerty
Jerry Hahn
Robert Hall
Nathaniel Hamming
Rickey L. Hampton
Sten Hanke
Aki Harma
Jordan Hartmann
Kai Hassing
Marc Daniel Haunschild
Wolfgang Heck
Nathaniel Heintzman
Charles Henderson
Jun-Ho Her
Helen B. Hernandez
Takashi Hibino
Timothy L. Hirou
Allen Hobbs
Alex Holland
Arto Holopainen
Kris Holtzclaw
Robert Hoy
Frank Hsu
Anne Huang
Sen-Der Huang

Zhiqiang Huang	Charles Lowe	Phillip Raymond
Ron Huby	Don Ludolph	Tim Reilly
David Hughes	Christian Luszbek	Barry Reinhold
Robert D. Hughes	Bob MacWilliams	Brian Reinhold
Jiyoung Huh	Srikkanth	Melvin I. Reynolds
Hugh Hunter	Madhurbootheswaran	John G. Rhoads
Hitoshi Ikeda	Miriam L. Makhoul	Jeffrey S. Robbins
Yutaka Ikeda	Romain Marmot	Chris Roberts
Philip O. Isaacson	Sandra Martinez	Moskowitz Robert
Atsushi Ito	Miguel Martínez de	Timothy Robertson
Michael Jaffe	Espronceda Cámara	David Rosales
Praduman Jain	Peter Mayhew	Fatemeh Saki
Wei Jin	Jim McCain	Bill Saltzstein
Danny Jochelson	László Meleg	Benedikt Salzbrunn
Phaneeth Junga	Alexander Mense	Giovanna Sannino
Akiyoshi Kabe	Jinsei Miyazaki	Jose A. Santos-Cadenas
Steve Kahle	Erik Moll	Stefan Sauermann
Tomio Kamioka	Darr Moore	John Sawyer
Kei Kariya	Carsten Mueglitz	Guillaume Schatz
Andy Kaschl	Piotr Murawski	Alois Schloegl
Junzo Kashiwara	Soundharya	Paul S. Schluter
Kohichi Kashiwagi	Nagasubramanian	Lars Schmitt
Ralph Kent	Jae-Wook Nah	Mark G. Schnell
Laurie M. Kermes	Alex Neefus	Richard A. Schrenker
Ikuo Keshi	Trong-Nghia Nguyen-	Antonio Scorpiniti
Junhyung Kim	Dobinsky	Kwang Seok Seo
Minho Kim	Michael E. Nidd	Riccardo Serafin
Min-Joon Kim	Tetsu Nishimura	Sid Shaw
Taekon Kim	Jim Niswander	Frank Shen
Tetsuya Kimura	Hiroaki Niwamoto	Bozhi Shi
Michael J. Kirwan	Thomas Norgall	Min Shih
Alfred Kloos	Anand Noubade	Mazen Shihabi
Jeongmee Koh	Yoshiteru Nozoe	Redmond Shouldice
Jean-Marc Koller	Abraham Ofek	Sternly K. Simon
John Koon	Brett Olive	Marjorie Skubic
Patty Krantz	Begonya Otal	Robert Smith
Raymond Krasinski	Marco Paleari	Ivan Soh
Alexander Kraus	Charles Palmer	Motoki Sone
Ramesh Krishna	Bud Panjwani	Emily Sopensky
Geoffrey Kruse	Carl Pantiskas	Rajagopalan Srinivasan
Falko Kuester	Harry P. Pappas	Andreas Stauber
Rafael Lajara	Hanna Park	Nicholas Steblay
Pierre Landau	Jong-Tae Park	Lars Steubesand
Jaechul Lee	Myungeun Park	John (Ivo) Stivorice
JongMuk Lee	Soojun Park	Raymond A. Strickland
Kyong Ho Lee	Phillip E. Pash	Chandrasekaran
Rami Lee	TongBi Pei	Subramaniam
Sungkee Lee	Lucian Pestritu	Hermann Suominen
Woojae Lee	Soren Petersen	Lee Surprenant
Yonghee Lee	James Petisce	Ravi Swami
Joe Lenart	Peter Piction	Ray Sweidan
Kathryn A. Lesh	Michael Pliskin	Jin Tan
Catherine Li	Varshney Prabodh	Yi Tang
Qiong Li	Jeff Price	Haruyuyki Tatsumi
Patrick Lichter	Harald Prinzhorn	John W. Thomas
Jisoon Lim	Harry Qiu	Jonas Tirén
Joon-Ho Lim	Arif Rahman	Alexandra Todiruta
John Lin	Tanzilur Rahman	Janet Traub
Wei-Jung Lo	Steve Ray	Gary Tschautscher

Masato Tsuchid	Jerry P. Wang	Yaxi Yan
Ken Tubman	Yao Wang	Qifeng Yan
Yoshihiro Uchida	Yi Wang	Junjie Yang
Akib Uddin	Steve Warren	Ricky Yang
Sunil Unadkat	Fujio Watanabe	Melanie S. Yeung
Fabio Urbani	Toru Watsuji	Qiang Yin
Philipp Urbauer	Mike Weng	Done-Sik Yoo
Laura Vanzago	Kathleen Wible	Jianchao Zeng
Alpo Värri	Paul Williamson	Jason Zhang
Dalimar Velez	Jan Wittenber	Zhiqiang Zhang
Rudi Voon	Jia-Rong Wu	Thomas Zhao
Barry Vornbrock	Will Wykeham	Daidi Zhong
Isobel Walker	Ariton Xhafa	Miha Zoubek
David Wang	Dan Xiao	Szymon Zyskoter

The following members of the individual balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

Lyle Bullock	Werner Hoelzl	Lars Schmitt
Keith Chow	Atsushi Ito	Walter Struppler
Malcolm Clarke	JongMuk Lee	J. Wiley
Randall Groves	Melvin Reynolds	Jan Wittenber
Jon Hagar	Bartien Sayogo	Oren Yuen
Kai Hassing		Daidi Zhong

When the IEEE-SA Standards Board approved this standard on 30 June 2016, it had the following membership:

Jean-Philippe Faure, *Chair*
Ted Burse, *Vice Chair*
John D. Kulick, *Past Chair*
Konstantinos Karachalios, *Secretary*

Chuck Adams	Ronald W. Hotchkiss	Mehmet Ulema
Masayuki Ariyoshi	Michael Janezic	Yingli Wen
Stephen Dukes	Joseph L. Koepfinger*	Howard Wolfman
Jianbin Fan	Hung Ling	Don Wright
J. Travis Griffith	Kevin Lu	Yu Yuan
Gary Hoffman	Annette D. Reilly	Daidi Zhong
	Gary Robinson	

*Member Emeritus

Introduction

This introduction is not part of IEEE Std 11073-10422™-2016, Health informatics—Personal health device communication—Part 10422: Device Specialization—Urine Analyzer.

ISO/IEEE 11073™ standards enable communication between medical devices and external computer systems. This document uses the optimized framework created in IEEE Std 11073-20601™-2014 and describes a specific, interoperable communication approach for urine analyzers.¹ These standards align with and draw on the existing clinically focused standards to provide support for communication of data from clinical or personal health devices.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEEE 11073-10422:2017](https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017)

<https://standards.iteh.ai/catalog/standards/iso/c785e31b-67a0-458b-8400-db9a29456da3/iso-ieee-11073-10422-2017>

¹Information on references can be found in [Clause 2](#).

Contents

1. Overview	12
1.1 Scope	12
1.2 Purpose	12
1.3 Context	12
2. Normative references	13
3. Definitions, acronyms, and abbreviations	13
3.1 Definitions	13
3.2 Acronyms and abbreviations	14
4. Introduction to ISO/IEEE 11073 personal health devices	15
4.1 General	15
4.2 Introduction to IEEE 11073-20601 modeling constructs	15
4.3 Compliance with other standards	16
5. Urine analyzer device concepts and modalities	16
5.1 General	16
5.2 Bilirubin	16
5.3 Blood	16
5.4 Glucose	16
5.5 Ketones	17
5.6 Leukocyte esterase	17
5.7 Nitrite	17
5.8 pH	17
5.9 Protein	17
5.10 Specific gravity	17
5.11 Urobilinogen	17
6. Urine analyzer domain information model	17
6.1 Overview	17
6.2 Class extensions	18
6.3 Object instance diagram	18
6.4 Types of configuration	18
6.5 Medical device system object	19
6.6 Numeric objects	23
6.7 Real-time sample array objects	33
6.8 Enumeration objects	33
6.9 PM-store objects	34
6.10 Scanner objects	34
6.11 Class extension objects	34
6.12 Urine analyzer information model extensibility rules	34
7. Urine analyzer service model	34
7.1 General	34
7.2 Object access services	34
7.3 Object access event report services	36
8. Urine analyzer communication model	36
8.1 Overview	36
8.2 Communication characteristics	36
8.3 Association procedure	37
8.4 Configuring procedure	38