

ISO/IEEE 11073-20601:2016-06 (E)

Health informatics - Personal health device communication - Part 20601: Application profile - Optimized exchange protocol

Contents	Page
1. Overview	1
1.1 Scope	1
1.2 Purpose	1
1.3 Context	2
2. Normative references.....	5
3. Definitions, acronyms, and abbreviations	5
3.1 Definitions	5
3.2 Acronyms and abbreviations	6
4. Guiding principles	7
5. Introduction to IEEE 11073 personal health devices.....	8
5.1 General	8
5.2 Domain information model (DIM)	9
5.3 Service model	9
5.4 Communication model	9
5.5 Compliance with other standards.....	9
5.6 Security.....	9
6. Personal health device DIM	10
6.1 General	10
6.2 Nomenclature usage	11
6.3 Personal health object class definitions	12
6.3.1 General.....	12
6.3.2 MDS class	14
6.3.3 Metric class	22
6.3.4 Numeric class.....	28
6.3.5 RT-SA class	31
6.3.6 Enumeration class	33
6.3.7 PM-store class.....	35
6.3.8 PM-segment class	41
6.3.9 Scanner classes.....	46
6.4 Information model extensibility rules.....	57
7. Personal health device service model.....	58
7.1 General	58
7.2 Association service	58
7.3 Object access services.....	58
7.4 Specific application of object access EVENT REPORT services for personal health devices.....	59
7.4.1 General.....	59
7.4.2 Confirmed and unconfirmed event reports.....	59
7.4.3 Configuration event report	59
7.4.4 Agent- and manager-initiated measurement data transmission.....	63
7.4.5 Variable, fixed, and grouped format event reports.....	64
7.4.6 Single-person and multiple-person event reports.....	65

7.4.7 Temporarily stored measurements	66
8. Communication model	66
8.1 General	66
8.2 System context.....	67
8.3 Communications characteristics	68
8.3.1 General	68
8.3.2 Common communications characteristics.....	69
8.3.3 Reliable communications characteristics	70
8.3.4 Best-effort communications characteristics	70
8.4 State machines	71
8.4.1 Agent state machine	71
8.4.2 Manager state machine.....	74
8.4.3 Timeout variables.....	75
8.5 Connected procedure	76
8.5.1 General.....	76
8.5.2 Entry conditions	76
8.5.3 Normal procedures.....	76
8.5.4 Exit conditions	77
8.5.5 Error conditions	77
8.6 Unassociated procedure	77
8.6.1 General.....	77
8.6.2 Entry conditions	77
8.6.3 Normal procedures.....	77
8.6.4 Exit conditions	77
8.6.5 Error conditions	77
8.7 Associating procedure	78
8.7.1 General.....	78
8.7.2 Entry conditions	78
8.7.3 Normal procedures.....	78
8.7.4 Exit conditions	82
8.7.5 Error conditions	82
8.7.6 Test association.....	83
8.8 Configuring procedure.....	84
8.8.1 General.....	84
8.8.2 Entry conditions	84
8.8.3 Normal procedures.....	84
8.8.4 Exit conditions	87
8.8.5 Error conditions	88
8.9 Operating procedure	88
8.9.1 General.....	88
8.9.2 Entry conditions	88
8.9.3 Normal procedures.....	88
8.9.4 Exit conditions	100
8.9.5 Error conditions	101
8.10 Disassociating procedure	102
8.10.1 General.....	102
8.10.2 Entry conditions	102
8.10.3 Normal procedures.....	103
8.10.4 Exit conditions	103
8.10.5 Error conditions	103
8.11 Message encoding.....	103
8.12 Time coordination.....	104
8.12.1 General.....	104
8.12.2 Absolute time	104

8.12.3 Base time with offset.....	106
8.12.4 Relative time	106
8.12.5 High-resolution relative time	107
9. Conformance model	108
9.1 Applicability	108
9.2 Conformance specification	108
9.3 Implementation conformance statements (ICSs)	109
9.4 General conformance.....	109
9.4.1 General ICS.....	109
9.4.2 Minimum requirements ICS.....	111
9.4.3 Service support ICS	112
9.5 Device additions/extensions ICS	113
9.5.1 General additions/extensions ICS	113
9.5.2 Personal health device DIM object and class (POC) ICS	114
9.5.3 POC attribute ICS	114
9.5.4 POC behavior ICS.....	115
9.5.5 POC notification ICS	115
9.5.6 POC nomenclature ICS.....	116
Annex A (normative) ASN.1 definitions.....	117
Annex B (informative) Scale and range specification example.....	151
Annex C (informative) The PM-store concept	153
Annex D (informative) Transport profile types.....	158
Annex E (normative) State tables	161
Annex F (normative) Medical device encoding rules (MDER).....	181
Annex G (informative) Encoded data type definitions	193
Annex H (informative) Examples.....	213
Annex I (normative) Nomenclature codes.....	228
Annex J (informative) Derivation and modification history.....	233
Annex K (informative) Bibliography	236