

ISO 17364:2013-03 (E)

Supply chain applications of RFID - Returnable transport items (RTIs) and returnable packaging items (RPIs)

| Contents | | Page |
|--------------------|---|-------------|
| Foreword | | v |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Conformanceandperformancespecifications | 1 |
| 3 | Normative references | 1 |
| 4 | Termsanddefinitions | 3 |
| 5 | Concepts | 5 |
| 5.1 | Differentiation between this layer and the preceding layers | 5 |
| 5.2 | Unique RTI and RPI identification | 7 |
| 5.3 | Other identification requirements | 9 |
| 6 | Differentiation within this layer | 9 |
| 7 | Data content | 11 |
| 7.1 | Introduction | 11 |
| 7.2 | System data elements | 12 |
| 7.3 | Tag structure | 12 |
| 7.4 | Protocol control (PC) bits | 14 |
| 7.5 | Data elements | 15 |
| 7.6 | Traceability | 16 |
| 7.7 | Combined RTI/RPI and transport unit data | 16 |
| 7.8 | Unique item serialization | 17 |
| 8 | Data security | 17 |
| 8.1 | Confidentiality | 17 |
| 8.2 | Data integrity | 17 |
| 8.3 | Data preservation | 18 |
| 8.4 | Interrogator authentication | 18 |
| 8.5 | Non-repudiation/audit trail | 18 |
| 9 | IdentificationofRFIDlabelledmaterial | 18 |
| 10 | Human readable information | 18 |
| 10.1 | Human readable interpretation | 18 |
| 10.2 | Human readable translation | 19 |
| 10.3 | Data titles | 19 |
| 10.4 | Backup | 19 |
| 11 | Tag operation | 20 |
| 11.1 | Data protocol | 20 |
| 11.2 | Minimum performance requirements (range and rate) | 20 |
| 11.3 | Environmental parameters | 20 |
| 11.4 | Tag orientation | 21 |
| 11.5 | Packaging material | 21 |
| 11.6 | Shock loads and abrasions | 21 |

| | | |
|---|--|----|
| 11.7 | Tag lifetime | 21 |
| 11.8 | Minimum system reliability | 21 |
| 11.9 | Air interface | 22 |
| 11.10 | Memory requirements for application | 22 |
| 11.11 | Sensor interface, if applicable | 22 |
| 11.12 | Real time clock option | 22 |
| 11.13 | Safety and regulatory considerations | 22 |
| 11.14 | Tag reusability | 22 |
| 12 | Tag location and presentation | 22 |
| 12.1 | Material on which the tag is mounted or inserted | 23 |
| 12.2 | Geometry of the package/tag environment | 23 |
| 12.3 | Working environment | 23 |
| 13 | Interrogator and reader requirements | 23 |
| 13.1 | Safety and regulatory considerations | 23 |
| 13.2 | Data privacy | 23 |
| 14 | Interoperability, compatibility and non-interference with other RF systems | 23 |
| Annex A (informative) Returnable packaging items | | 24 |
| Annex B (normative) Encoding | | 33 |
| Annex C (informative) Table of useful data elements for product life cycle management | | 43 |
| Bibliography | | 45 |