



Automotive Industry Action Group

B-11

Item Level
Radio Frequency Identification (RFID) Standard



Erratum to the **B-11**

Item-Level Radio Frequency Identification (RFID) Standard

Correction Sheet
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When the AIAG Material Management Steering Committee approved this document in November of 2009, the reference supplied by NEN for the Issuing Agency Codes was correct. Since that time, NEN has changed the URL for the Issuing Agency Codes.

In Table 8, page 35, the reference and the URL currently listed in the B-11 Rev 8 document are; "Register of NEN assigned Issuing Agency Codes for ISO/IEC 15459:
<http://www2.nen.nl/nen/servlet/dispatcher.Dispatcher?id=167677>"

The new URL for this reference is;
<http://www.nen.nl/web/Normen-ontwikkelen/ISOIEC-15459-Issuing-Agency-Codes.htm>

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FOREWORD

Revision 8 of the B-11 was created to provide additional data-use details – what data to put in which Memory Bank (MB), which standards to use where, and how to use them effectively. Revision 8 provides details on the Monomorphic Unique Item Identifier (UII), also called Birth Record (what it is and how to use it), and what data to put into the User Memory Bank and how that data should be placed there. The intent behind Revision 8 is to reduce ambiguity through additional explanations and details.

B-11 Revision 8 references only ISO/IEC 18000-6 Type C; it no longer references ISO/IEC 18000-6 Type B.

This revision enhances the global RFID user community's use of standards-based RFID technology to meet the needs of OEMs and the supply chain, including the retail segment, using a single tag throughout an item's life cycle. Starting with Revision 7 and continuing with Revision 8, this document has been all-inclusive for "Items" in general and has not been restricted to only tires and wheels.

B-11 Revision 8 was specifically written for trading partners having the need to encode unique item identification in the Unique Item Identifier Memory Bank (MB01₂), and user data formatted using Data Identifiers (DIs) in the User Memory Bank (MB11₂), as specified within relevant ISO/IEC or EPCglobal data syntax standards.

This standard is built on these assumptions:

1. Only passive or battery-assisted passive UHF-based (860 MHz - 960 MHz) RFID tags are used.
2. The air interface protocol is ISO/IEC 18000-6 Type C / EPCglobal UHF Gen 2.
3. The data syntax is ISO/IEC 15962, or ISO 1736x; Data Identifier (DI)-based.

In this document, the word "shall" indicates a requirement and the word "should" indicates a recommendation.

It is the supplier's responsibility to provide RFID tags that meet this standard. Strict adherence to these specifications for RFID tags for item-level identification will reduce implementation costs and increase benefits throughout the industry.

Various number-type designators are available for use in this document;

- 17 **hex**, 17**h**, 17_H, 17_h, or x17 is used to denote HEX-based data.
- 15 **b** or 15₂ is used to denote BINARY-based data.
- 10 ₁₀ is used to denote DECIMAL-based data.

NOTE: When no designator is used, the number is DECIMAL-based.

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1 DEFINITIONS

Many terms and definitions associated with the subject of this standard have special meaning. Definitions of other related terms used in this document can be found in the documents referenced in Section 4 References.

Table 1: Terms and Definitions

TERM	DEFINITION
Active RFID Tag	RFID device having the ability to produce a radio signal. NOTE: Active tags are not within the scope of this document.
Addressability	The ability to address bits, bytes, fields, files, or other portions of memory in the Tag .
AFI	A pplication F ormat I dentifier stored in the second byte of the Protocol Control Word (18 _h to 1F _h)
AIM	Association for A utomatic I dentification and M obility.
Alignment	The orientation of the Tag to the reader in pitch, roll, and yaw.
Alphanumeric	A character set that contains alphabetic characters (letters) and numeric digits (numbers) and usually other characters such as punctuation marks.
ANS ANSI	A merican N ational S tandards Institute document prefix.
ANS MH10	Unit Loads & Transport Packages committee under ANSI.
ANSI MH10.8	Coding and Labeling of Unit Loads subcommittee under ANS MH10.
Antenna	The conductive element that radiates and / or receives radio frequency energy to and from the Tag .
Assigned Relative OID	See OID .
Battery-assisted Passive RFID Tag	A tag that uses a battery to improve its functionality and range and functions as a passive tag if the battery is depleted.
Binary	A numbering system with only two values: 0 (zero) and 1 (one). Mathematical base 2, or numbers composed of a series of zeros and ones. Represented by X ₂ , or X _b . Example: MB01 ₂