REVISION HISTORY

ISA100.11a-2009		First approved version
ISA100.11a-rev		Revision of first approved version

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ISA100.11a

Wireless systems for industrial automation:
Process control and related applications

1 Scope

This project will define the OSI layer specifications (e.g., PhL, DL, etc.), security specifications, and management (including network and device configuration) specifications for wireless devices serving application classes 1 through 5 and optionally class 0 for fixed, portable, and moving devices.

NOTE Usage classes are described in Annex C.

The project's application focus will address performance needs for periodic monitoring and process control where latencies on the order of 100 ms can be tolerated, with optional behavior for shorter latency.

This project will address:

- Low energy consumption devices, and also those applications that have latency and latency variability constraints, with the ability to scale to address large installations;
- Wireless infrastructure, interfaces to legacy infrastructure and applications, security, and network management requirements in a functionally scalable manner;
- Robustness in the presence of interference found in harsh industrial environments and with legacy systems;
- Coexistence with other wireless devices anticipated in the industrial work space, such as IEEE 802.11x, IEEE 802.16x, cell phones, and other relevant standards; and
- Interoperability of ISA100 devices.

2 Normative references

The following standards and specifications contain provisions which, through references in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision and may be changed without notice, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the references listed below.

For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE See the bibliography for non-normative references.

ANSI X9.63-2001, *Public key cryptography for the financial services industry - Key agreement and key transport using elliptic curve cryptography*. American Bankers Association, November 20, 2001

FIPS 197, *Advanced encryption standard (AES)*, Federal Information Processing Standards Publication 197, US Department of Commerce/N.I.S.T, Springfield, Virginia, November 26, 2001

FIPS 198, *The keyed-hash message authentication code (HMAC)*, Federal Information Processing Standards Publication 198, US Department of Commerce/N.I.S.T., Springfield, Virginia, March 6, 2002

IEEE Std 802.15.4™:2006, *Wireless medium access control (MAC) and physical layer (PhL) specifications for low rate wireless personal area networks (WPANs)*