

RAIN Terminology

December, 2015



Overview

This white paper defines the terminology in common use by the RAIN industry

Terminology

RAIN Alliance: A global alliance representing the RAIN industry. Also known as the RAIN RFID Alliance

RAIN: RAdio Item identification **N** using UHF Gen2 (or ISO/IEC 18000-63). Also known as RAIN RFID.

GS1: A global organization focused on developing standards to help information and items move efficiently and securely.

EPCglobal: A 2003 joint venture between the Uniform Code Council and EAN International, focused primarily on promoting EPC adoption via RAIN. EPCglobal was fully integrated into GS1 in 2013.

AIDC: Automatic Identification & Data Capture

AIM: An international association and authority for AIDC innovation and technologies (**A**utomatic Identification and **M**obility). The RAIN Alliance is an independent committee within AIM.

ISO: The International **O**rganization for **S**tandards development. ISO ratified the UHF Gen2 protocol as the international standard ISO/IEC 18000-63.

RFID: Radio-Frequency Identification. Refers to the use of electromagnetic or inductive coupling in the radio frequency portion of the spectrum to communicate to or from a tag through a variety of modulation and encoding schemes to uniquely read the identity of an RF Tag. Typical operating frequencies are LF (125 kHz & 134.2 kHz), HF (13.56MHz), UHF (300 MHz, 433 MHz, 860 – 960 MHz), and microwave (2.45GHz).

EPC: A numbering system to uniquely identify products. The **E**lectronic **P**roduct **C**ode is a Uniform Resource Number (URN) namespace registered to EPCglobal by the Internet Assigned Numbers Authority (IANA).

UHF Gen2: A passive-backscatter, reader-talks-first UHF RFID protocol. Version 1.1.0, ratified in 2005, delivered the core RFID functionality. Version 1.2.0, a backward-compatible update to V1.1.0 ratified in 2008, added support for item tagging. Version 2.0.1, a backward-compatible update to V1.2.0 ratified in 2015, added support for loss prevention, brand protection, security, files, and consumer privacy. V1.2.0 is colloquially known as V1 and V2.0.1 as V2.

ISO/IEC 18000-63: ISO ratified UHF Gen2 V1.1.0, V1.2.0, and V2.0.1 as the international standard ISO/IEC 18000-63, with each new version of 18000-63 superseding the prior one. The latest version (equivalent to UHF Gen 2 V2.01) was published in October 2015.

Passive tag: RFID device which reflects and modulates a carrier signal received from an interrogator

Active tag: RFID device having the ability to produce a radio signal

Backscatter: a technique for retrieving information from a tag in which the narrow band energy from the interrogator is reflected back to the interrogator in varying degrees as the impedance of the tag antenna is modulated

ABOUT RAIN RFID ALLIANCE

The RAIN RFID Alliance is an organization founded in April 2014 to promote awareness, increase education and support the universal adoption of UHF RFID technology. RAIN members are manufacturers, distributors, resellers and researchers working with the EPC Gen2 UHF RFID specification, incorporated into the ISO/IEC 18000-63 standard.

RAIN RFID is a wireless technology that connects billions of everyday items to the Internet, enabling businesses and consumers to **identify, locate, authenticate** and **engage** each item. For more information, visit www.RAINRFID.org.

The RAIN RFID Alliance is part of AIM Global, the worldwide authority on automatic identification, data collection and networking in a mobile environment. AIM is dedicated to accelerating the growth and use of Automatic Identification and Mobility technologies and services around the world. For more information, visit www.aimglobal.org.



RAIN RFID

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If you're interested in having your company become a member of RAIN or have any questions about the RAIN alliance, please send RAIN an e-mail: info@rainrfid.org