GS1

EPC Gen2v2 Fact Sheet

WHAT

GS1's *EPC "Gen2"* air interface standard, first published in 2004, defines the physical and logical requirements for an RFID system of interrogators and passive tags, operating in the 860 MHz - 960 MHz UHF range.

Over the past decade, EPC Gen2 has established itself as *the standard for UHF implementations* across multiple sectors, and is at the heart of more and more RFID implementations.

Gen2v2 represents the latest release of GS1's EPC air interface standard, which has been enhanced in response to the requirements of a global user community.

WHERE

Globally.

Industry is deploying EPC/RFID item-level tagging on a large scale in the *apparel* sector.

Expansion into other sectors in years to come, includes *aerospace & defence, consumer electronics, pharmaceuticals, wine & spirits, high-end fashion*, and more.

HOW

Gen2v2 features a number of optional features, including:

Untraceable function to hide portions of data, restrict access privileges and reduce a tag's read range.

Support for *cryptographic authentication of tags and readers*, to verify identity and provenance, as well as reduce the risk of counterfeiting and unauthorized access.

Enhanced User Memory for supplementary encodings (such as maintenance logging) during a product's life cycle.

"Non-removable" flag for embedded tagging of electronics and sewn-in tagging of apparel, to indicate that a tag cannot easily be removed without compromising the tagged product's intended functionality.

WHY

Gen2v2 is the result of several years of *industry-wide collaboration* with a diverse group of stakeholders. Gen2v2 will drive the next wave of UHF adoption in a wide range of sectors.

This new version of the EPC UHF Generation 2 air interface standard includes *new features and additional functionality* to help address increasingly complex supply chain challenges, including a number of security aspects to protect trading partners and consumers alike.

WHEN

1973
GS1's bar code is the first single standard for product identification

2003
GS1 launches EPCglobal as a subsidiary organisation to facilitate the technical development and adoption of EPC/RFID standards

2004
GS1 publishes the first-ever version of the EPC Gen2 air interface standard

2005
ISO/IEC incorporates the EPC Gen2 standard into ISO/IEC 18000-6C

2008
GS1 releases EPC Gen2 v1.2.0, featuring enhancements to improve RFID performance for item level tagging applications

2009
GS1 publishes implementation guidelines for EPC-based Electronic Article Surveillance (EAS)

2010
Industry working group launched to develop enhancements to the Gen2 standard for UHF, based on EPC user community requests for additional functionality

2013
Gen2v2 ratified - first major update since 2008

2014
ISO will incorporate Gen2v2 into the ISO/IEC 18000-63 standard

WHO

GS1 is a neutral, not-for-profit, global organisation that develops and maintains the most widely-used supply chain standards system in the world. GS1 standards improve the efficiency, safety, and visibility of supply chains across multiple sectors.

Mission To be the neutral leader enabling communities to develop and implement global standards providing the tools, trust and confidence needed to achieve our vision.

111 countries represented by our Member Organisations

+1 million user companies

6 billion transactions each day using GS1 Standards

150 countries use GS1 standards

GS1 *facilitates* the technical development and *global adoption of Electronic Product Code (EPC)* standards. Driven by industry and user requirements, they enable the identification of objects, data capture and sharing of information among partners throughout the supply chain.

EPCglobal Inc. is an affiliate of GS1.

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