Under the Same Umbrella:
The GS1 and RAIN RFID Alliance Partnership

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Antitrust Caution

GS1 US is committed to complying fully with antitrust laws.

We ask and expect everyone to refrain from discussing prices, margins, discounts, suppliers, the timing of price changes, marketing or product plans, or other competitively sensitive topics.

If anyone has concerns about the propriety of a discussion, please inform a GS1 US® representative as soon as possible.

Please remember to make your own business decisions and that all GS1 Standards are voluntary and not mandatory.

Please review the complete GS1 US antitrust policy at:
www.gs1us.org/gs1-us-antitrust-compliance-policy

The only way businesses big or small can move forward is to work together.

They need to be able to understand each other, anywhere in the world.

Business requires a common language, and we make that possible.

GS1 Standards are the global language of business—

a language for **identifying**, **capturing**, and **sharing** information automatically and accurately,

so that anyone who wants that information can understand it, no matter who or where they are.

The Global Language of Business

GS1 Standards

Identify GS1 Identification Numbers
Companies, Products, Locations,
Logistics, Assets, and Services

Capture GS1 Data Carriers
Barcodes and EPC®-enabled RFID

Share GS1 Data Exchange
Master Data, Transactional Data,
and Physical Event Data

Our Unique Role

We bring communities together.

GS1 is…

- Neutral and not-for-profit

- User-driven and governed

- Global and local

- Inclusive and collaborative

GS1 by the Numbers

1.5 million companies around the world use GS1 Standards.

More than 5 billion GS1 barcodes are scanned every day.

17 million products are assigned U.P.C.s in the
GS1 US Data Hub® | Product tool.

More than 25 million products are registered by brand owners in
the GS1 Global Data Synchronization Network™ (GDSN®).

GS1 Global Reach and Sectors

- 112 country organizations - ~2000 people serving local communities

- GS1 Members Organizations represent industry user bases in all corners of the world

  - Healthcare (hospitals, pharmacies, logistics)

  - Retail (Foodservice, Fresh, App/GM, Omni/last mile)

  - Humanitarian Initiatives

  - Technical Industries

  - Transport and Logistics

- USER COMMUNITIES across the world: locally, regionally, globally

GS1: Things We Do

- **Industry Engagement:** We work to describe how standards, and the companies that leverage them, change the way that we work and live. We do this through our country Member Organizations.

- **Public Policy:** Engagement with governments, regulators, NGOs, WHO, WEF, others

- **Marketing:** Sector and Solution-based approach…not technology based

- **Global Standards Management Process:** Standards development. Not so slow anymore. Work is defined well and communities are engaged.

About GS1 US

GS1 US® serves more than 300,000 businesses across 25 industries in the United States.

- Leading industry initiatives in Apparel and General Merchandise, Foodservice, Healthcare, and Retail Grocery
- Administrating the GS1 System of Standards
- Providing support services, tools, education, and training
- Connecting communities through events and online forums

GS1 US is the pioneer of the Universal Product Code (U.P.C.) and the Electronic Product Code (EPC®).

GS1 and the RAIN RFID Alliance

- The RAIN RFID Alliance has become the main community of UHF RFID technology and solutions companies

- GS1 has a large community of end users that leverage standards-based technology

Collectively, we plan to bring our communities closer together to leverage our strengths and to be more valuable to industry

The difference between the Interface Protocol and the EPC syntax

Gen2 V2 RFID Air Interface Protocol

The GS1 Standards "Gen2" air interface protocol, first published by EPCglobal 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. It is now an ISO standard as well.

GS1 Electronic Product Code

The Electronic Product Code™ (EPC) is GS1's syntax for unique identifiers assigned to physical objects, unit loads, locations, or other identifiable entity playing a role in business operations.

Interface Standards and Their Market Names

ISO/IEC 18092 / ECMA-340
ISO/IEC 21481 / ECMA-352

➡️ **NFC**

IEEE 802.11 ➡️ **WiFi**

IEEE 802.15.1 ➡️ **Bluetooth**

"EPC™ Radio-Frequency Identity Protocols Generation-2 UHF RFID - Specification for RFID Air Interface Protocol for Communications at 860 MHz – 960 MHz – Version 2.0.1" … and ISO 18000/63 ➡️ **RAIN RFID**

Standards: A Common Language

EPC Syntax and Tag Data Standard:

- SOME RAIN RFID implementations use the EPC syntax, some do not, but all of them use the Air Interface Protocol

- The EPC syntax is part of GS1's Tag Data Standard, NOT part of the Air Interface Protocol

- GS1 will promote the use of the EPC and Tag Data Standard in RAIN RFID implementations

EPCIS and CBV:

- GS1 Electronic Product Code Information Services (EPCIS) is the expanding quickly around the world as the foundational language of relevance for Traceability

- This is also true for the Core Business Vocabulary, which will expand in the future to be a comprehensive business vocabulary, driven by the new needs of IoT

Support of Emerging Capabilities:

- GS1 is working with community to develop standards that will help enable advanced connectivity
  - EPCIS, Web URI identifiers, Blockchain, Consumer IoT, Registries of identifiers and Identity Authentication Solutions

Under the Same Umbrella

All things that can be connected, will be connected!

GS1's role: Standards for item/entity identification, capture and sharing of data

RAIN's role: Technology that can bring it all together

In partnership, GS1 and the RAIN RFID Alliance can improve relevance for both organizations and successfully drive business needs for a connected world

Thank you!

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