GS1 Tagged Item Grading (TIPP) Tests with Voyantic Tagformance

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Grading
Grades are used in many industries in defining performance and quality: Engine oils, steel types, car tyres, batteries (AA, AAA)...

Now grades are coming to RFID

Idea of grading: User only needs to know which grade is suitable for them – buying is easy. Technology providers know what the code means and use standardized test methods to test which grades their products fulfill.
EXAMPLE – WITH GRADING

I need for my camera an AAA battery.

With grade it is easy to communicate requirements and buy batteries.

EXAMPLE – NO GRADING

I need for my camera:

A battery with voltage of 1.5 V. Cylindrical shape, 44.5 mm in length and 10.5 mm in diameter. Length shall include the positive terminal button with a minimum of 0.8 mm height and 3.8 mm in diameter, located to one end of the cylinder; the flat negative terminal has a minimum diameter of 4.3 mm, located to other end of the cylinder.
RFID Tagged Items in Retail

- All shapes and sizes
- Different materials
- Displayed in different ways

Several types of readers in use

RFID tag should function well
- With all readers
- In all shelves and racks, boxes and pallets

Grading helps in finding right tags for each system
No Grading: Problem with tag lists

Supplier

Stock of tag models

Tag model S1
Tag model FF
Tag model AE45
Tag model AA

Small purchases, lot of stock

Retailer 1
Retailer 2
Retailer 3
...
Solution with TIPP grading

Supplier

Stock of tag models

Volume purchases, Lower price

S05B
S10B
M20B
S10B

Retailer 1
Retailer 2
Retailer 3
...
Retailer 234

S10B, M20B

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GS1 tagged Item grading (TIPP)

With retailers, manufacturers and technology providers GS1 developed Tagged Item Performance Protocol (TIPP) and standardized test method. GS1 looked how other industries worked and decided to apply grading to RFID.

- Communication tool: TIPP grades simplify tag buying and selling.
- Standardized test methods: Easy to test and verify.
- Grades: Easy to manage and optimize required tag models
Using TIPP grades in practice

1. A system integrator (or retailer themselves) defines which performance grade is needed for a retailer’s RFID system.

   *RFID system at user Z requires grade S05B tagged items*

2. Retailer can then buy tags according to the grade.

3. With standardized method supplier can test that required grade definition is passed.

4. With standardized test methodology user can verify that requirement is met.
Tagged-Item Grading

Grade defines how easily a tagged item is read from different angles

Different grades for different items and systems

Single items
- S05B
- S15B
- S15D
- S20B

Stacked items
- M05B
- M10B
- M15B
- M20D

New grades will be added
Tagformance Tagged-Item Grading System Overview

- 100% aligned with GS1 TIPP methodology
- Fully automated tests
  - Easy to use, easy to share results
- Turn-key system deliveries including test chambers
  - Existing Tagformance systems can be upgraded for TIPP
Easy to use

Tagged item is placed to the test cabinet. One button press starts the test and result is clear pass/fail for each grade.
TIPP tests as a service

Standardized test methodology has enabled testing as a service.

There are already test service providers offering TIPP grading and verification tests as a service.

These service providers help RFID tag providers, system integrators and RFID users.
Thank you!

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