This Is Still the Beginning of RAIN Growth

The number of sold RAIN tags is increasing constantly...

... but market penetration is still low

Data from NXP, IdTechEx
We can already see 100 billion tags a year in the horizon!
But We Have Some Obstacles to Overcome

1. We need to think about what happens when applications overlap

2. We need to prepare for people intentionally messing with the applications

3. We need to stop thinking in terms of tags, and start thinking about RAIN-enabled items
Enter the Tagging Specification

- Source tagging requires a common language between different parties on how to tag products
- The tagging specification could also work as a checklist to make sure that the most important aspects have been considered
Geographic Region

Tagging specification

Region: Global

Where does the tag have to work?

Upper ETSI providing an almost global band
Tag Numbering Scheme

Tagging specification
Region: Global
Numbering: ISO/IEC 20248

Applications are starting to overlap, and if we continue with “cowboy numbering”, they will stop working properly.
Security

Tagging specification

Region: Global
Numbering: ISO/IEC 20248
Security: Lock EPC and passwords
*) ask Danny about password management

There are always going to be people who will try to sabotage your RAIN application if they only can. How much security does your application require?
Tagging specification

Region: Global
Numbering: ISO/IEC 20248
Security: Lock EPC and passwords
*) ask Danny about password management
Tagging method: Integrated in seam

RAIN added on price tag
RAIN integrated in product
RAIN added in package
Tag Size

Tagging specification

Region: Global
Numbering: ISO/IEC 20248
Security: Lock EPC and passwords
*) ask Danny about password management
Tagging method: Integrated in seam
Size: 2x5 cm

- There is going to be a compromise between small size, wideband operation, and good performance – Pick any two!
Tagged Item Performance

Tagging specification

Region: Global
Numbering: ISO/IEC 20248
Security: Lock EPC and passwords
*) ask Danny about password management
Tagging method: Integrated in seam
Size: 2x5 cm
Performance: TIPP S20A

We need industry-specific test methodology for tagged items
Total Cost of Tagging

Tagging specification

- Region: Global
- Numbering: ISO/IEC 20248
- Security: Lock EPC and passwords
  *) ask Danny about password management
- Tagging method: Integrated in seam
- Size: 2x5 cm
- Performance: TIPP S20A

• All tagging specs contribute to the total cost of tagging

• It’s not only the cost of the blank label but also
  • Personalization costs
  • Tag attachment costs
Thank you!

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