



A Virtual Conference presented by AIM & RAIN
9 - 10 December 2020





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Thank you to our sponsors

Platinum



Gold



Silver



SIMPLYRFID





RAIN at the jewelry counter

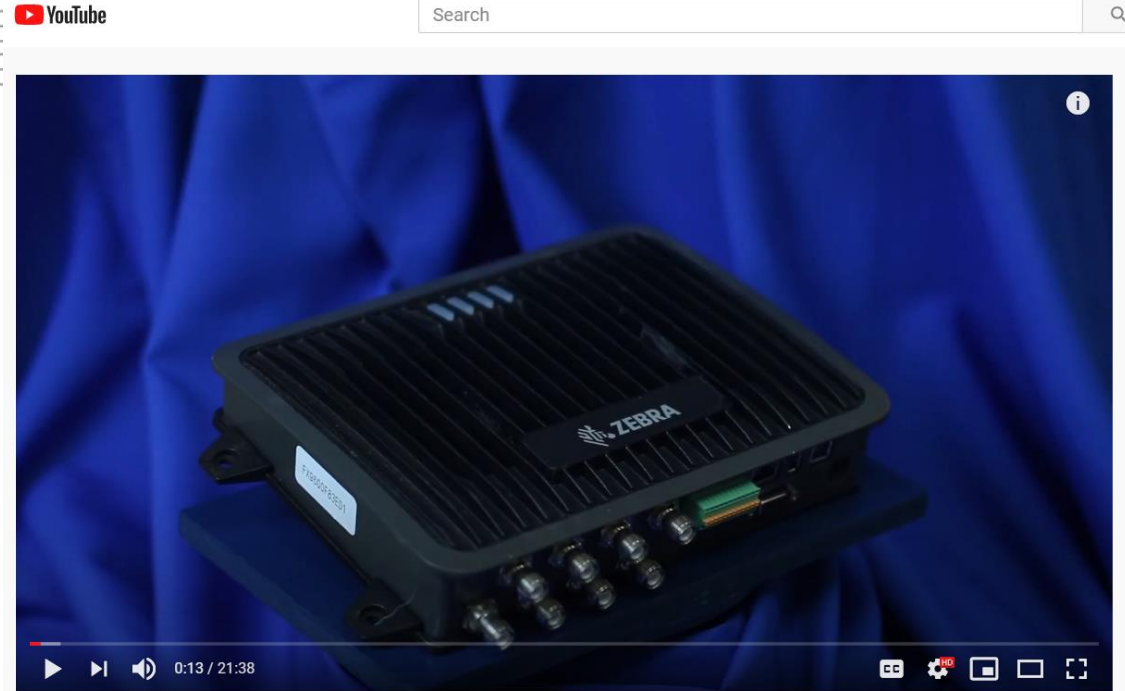


Dec 10, 2020
2:50pm

Kevin Berisso, Ph.D.
Automatic Identification Lab

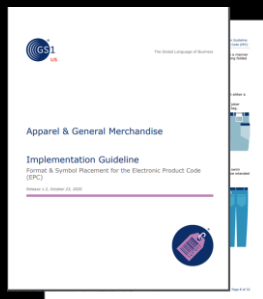
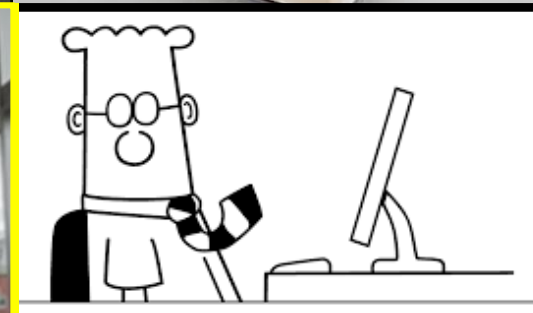
THE UNIVERSITY OF
MEMPHIS[®]
Automatic Identification Lab

Education Advocation Tech Transfer



MEMPHIS
Zebra FX9600 Ethernet/IP Tutorial





© DESPAIR.COM



CURIOSITY

SOME PLACES REMAIN UNKNOWN BECAUSE NO ONE HAS VENTURED FORTH.
OTHERS REMAIN SO BECAUSE NO ONE HAS EVER COME BACK.

Search Results

jewelry

Search

Sort By: ☒ Relevance ☐ Date Descending ☐ Date Ascending

Your search for *JEWELRY* returned approximately 268 results.

Viewing Results: 1 - 10

In the future, is it possible that a criminal could scan the EPCs on watches, jewelry and other items to choose whom to rob?

Mar 30, 2020 by studio98

It's not clear whether RFID tags will ever be used on these items. Companies may simply use them in the [...]

RFID Tracks Jewelry Inventory, Shopping With Smart Tray

Jan 26, 2020 by Claire Swedberg

Hong Kong jewelry brand Chow Tai Fook is employing an RFID-enabled tray from Converge Retail as part of a holistic solution to bring visibility and automation to the manufacture, supply chain and inventory management of its products.



Can RFID Be Embedded in Gold or Silver Jewelry?

Mar 17, 2016 by RFID Journal

If so, how would a tag be placed inside a wedding band, and has RFID Journal published any stories about [...]

Innovative Marketing: Jewelry Shines Brighter With NFC



IGC Brand Services Tags Diamonds, Jewelry

Apr 3, 2015 by Claire Swedberg

The HF RFID system enables the wholesaler to track when products arrive, where they are as they are processed, and when they are stored, shipped or returned, via a combination of handheld and desktop readers.



An Avery Dennison White Paper



Printer Systems Division
170 Monarch Lane
Miamisburg, OH 45342
800.543.6650
www.monarch.com

Achieving Return on Investment using RFID for Jewelry Tracking

Search Results

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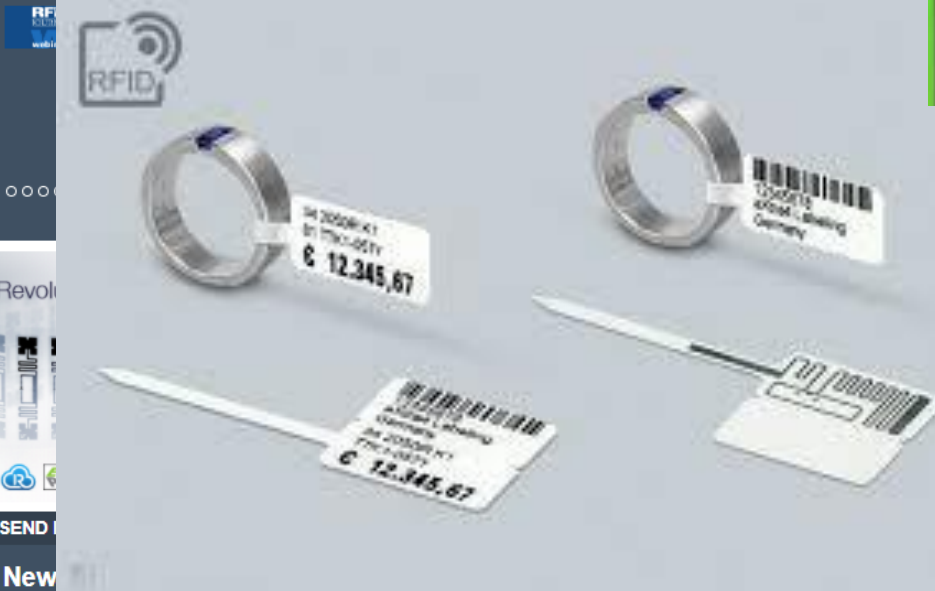
Jan 26, 2020 by Claire Swedberg

\$99/month
Turnkey RFID Asset Tracking System



★ PREMIUM CONTENT

Best Practices Case Studies Features How-To Articles



SEND
New
General Interest (Thursdays)
Europe RFID News

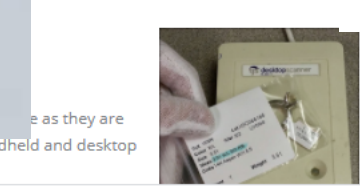
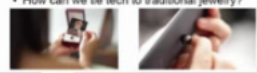


Jewelry?

any stories about [...]

Tech + Sentimentality: Building a Bridge

- Technology will be outdated in a few months or years, but jewelry lasts for generations.
- How can we tie tech to traditional jewelry?





Thanks!



ALIEN®



**AVERY
DENNISON**



Custom app



Magnetic Interference Test

Reader: 192.168.1.22 Connect

Cycles: 50 RFAttenuation 0 Set Test

Sample: b2 ☒ Ant0 ☐ Ant1 ☐ Ant2 ☐ Ant3 ☒ Log?

Tag: E2806894000050078C105499, ant:0

Avg: 91.94 N: 50

Std Dev: 7.36

Run Test

100%

Status: Done

80
83
91
98
95
91
83
103
83
83
93
103
99
85
95
85
87

Alien TOT command

- Turn on Threshold
(minimum power required to get a response from the tag)
- Units: dBm
- Range: 50-315 (-1 if tag can't be read)
- Multiple read attempts recommended
(reading is frequency dependent)

Reader:

192.168.1.22

Connect

Cycles:

50

RFAttenuation

0

Set

Test

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b2

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103

99

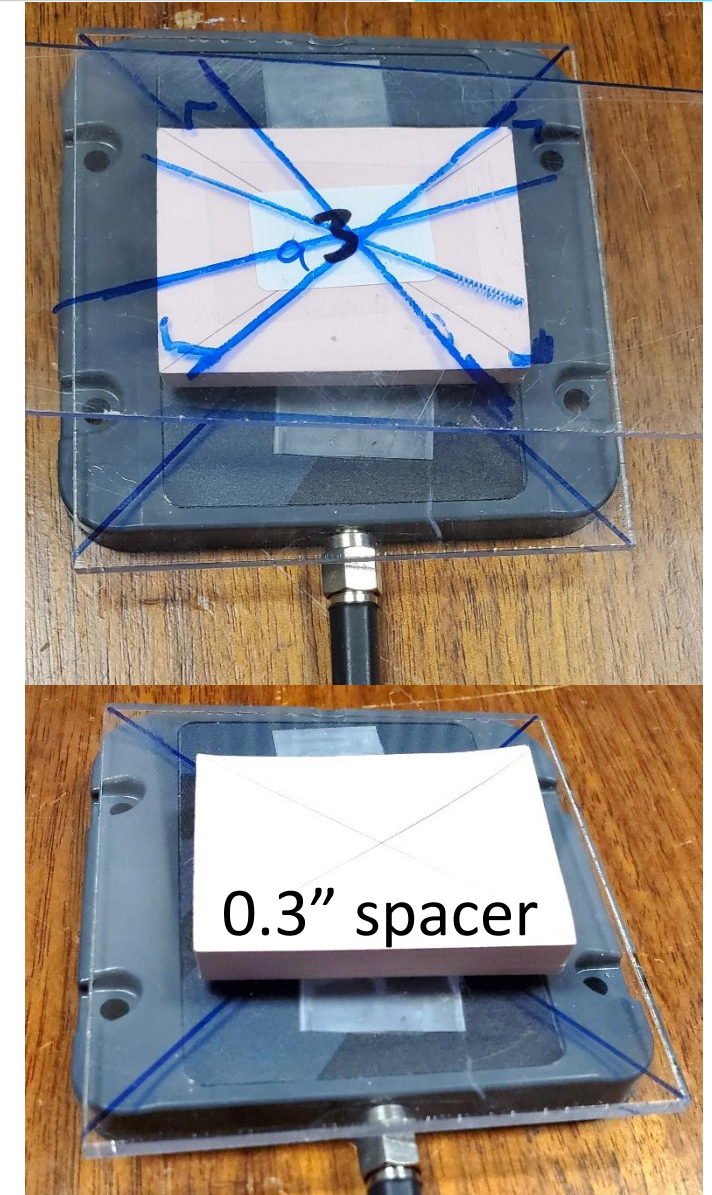
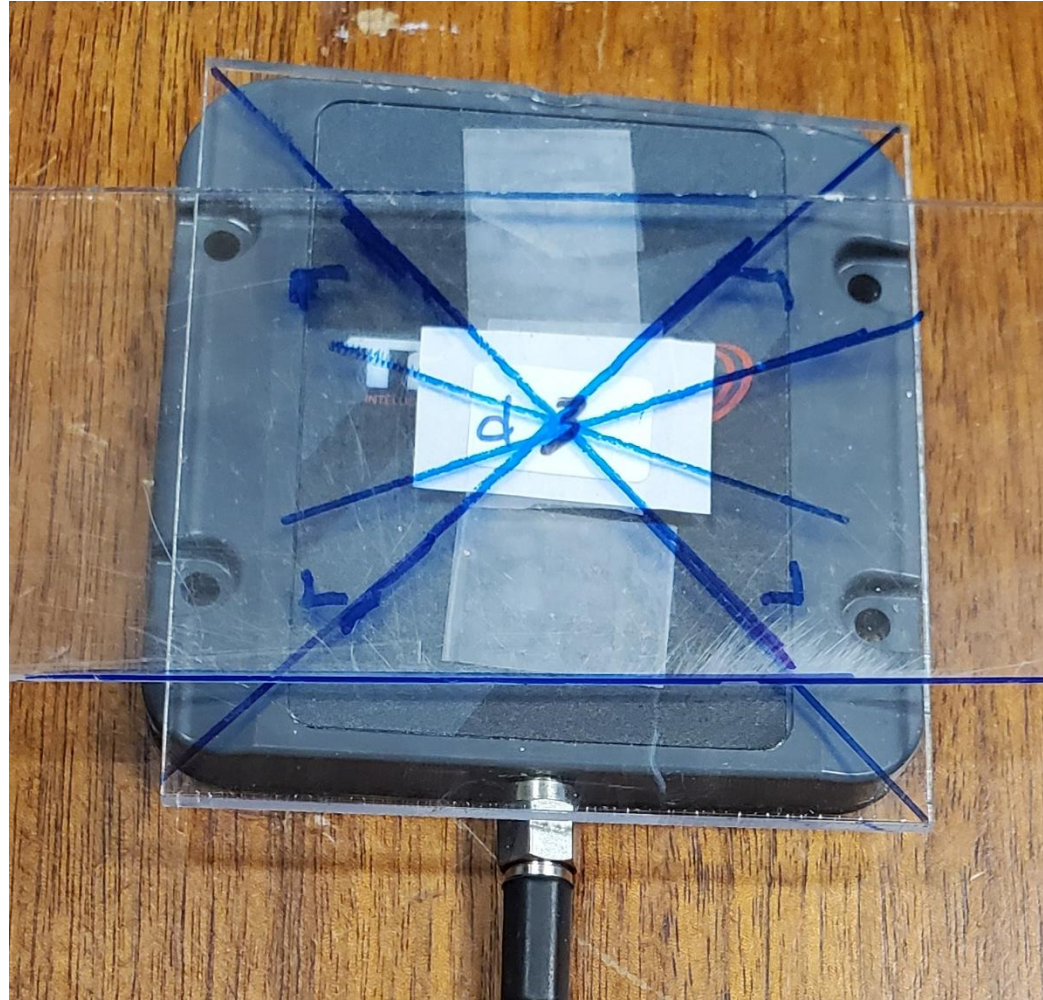
85

95

85

87

Antenna Setup

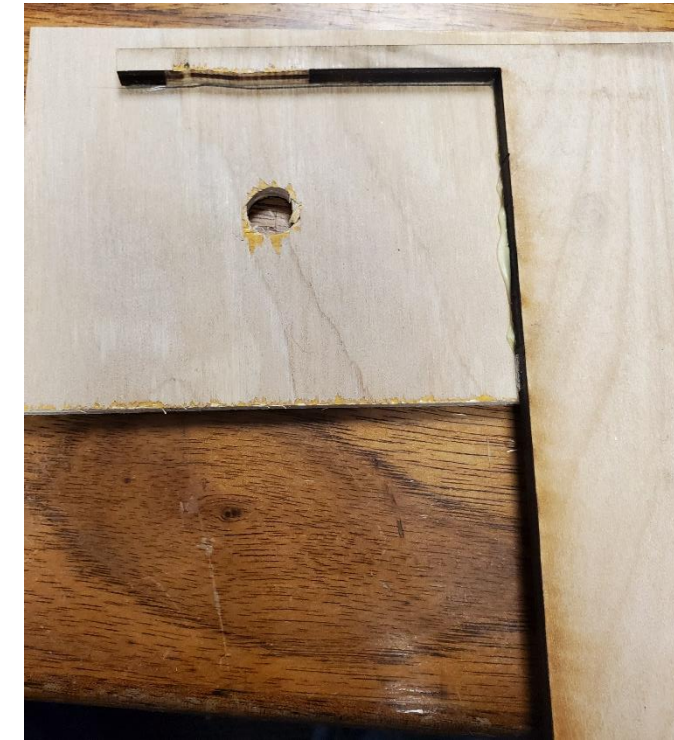


Magnets

- Neodymium
- 3/8" O.D.
- 0.06" thick

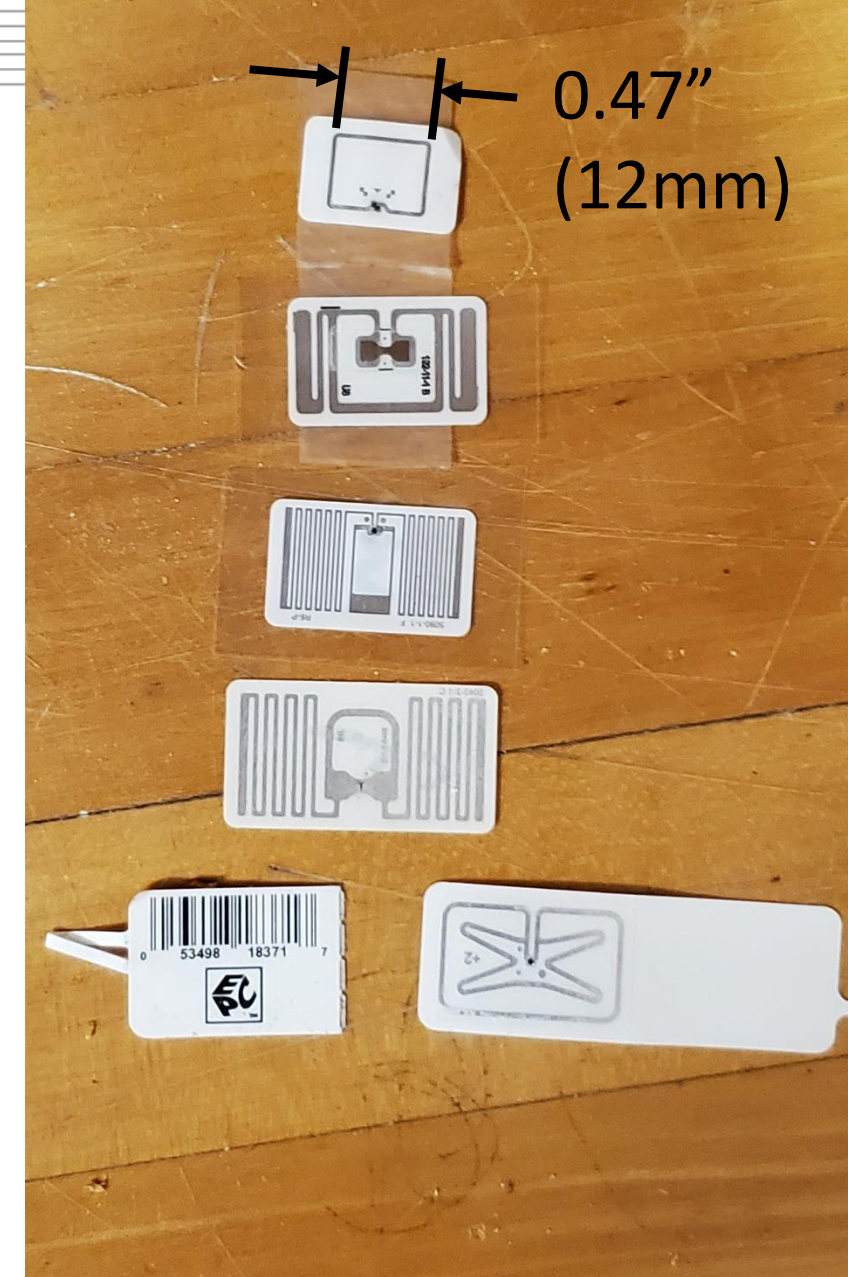


Qty	Strength
0	13 μ T
1	117 μ T
2	259 μ T
3	400 μ T
4	526 μ T
5	625 μ T
6v	217 μ T
6h	585 μ T



Test Protocol

- Tags
 - 5 tag types
 - 5 tags each
- Magnets/strength
 - No magnets, 1-5,
 - 3 magnet assembly,
 - 2 positions



Test Protocol

- Tags
 - 5 tag types
 - 5 tags each
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→ | ← 0.47"



Intentional Test Protocol Limitations

Being tested

- Impacts of static magnetic field
- NF RAIN RFID performance
- NF targeted tags (small form factor)

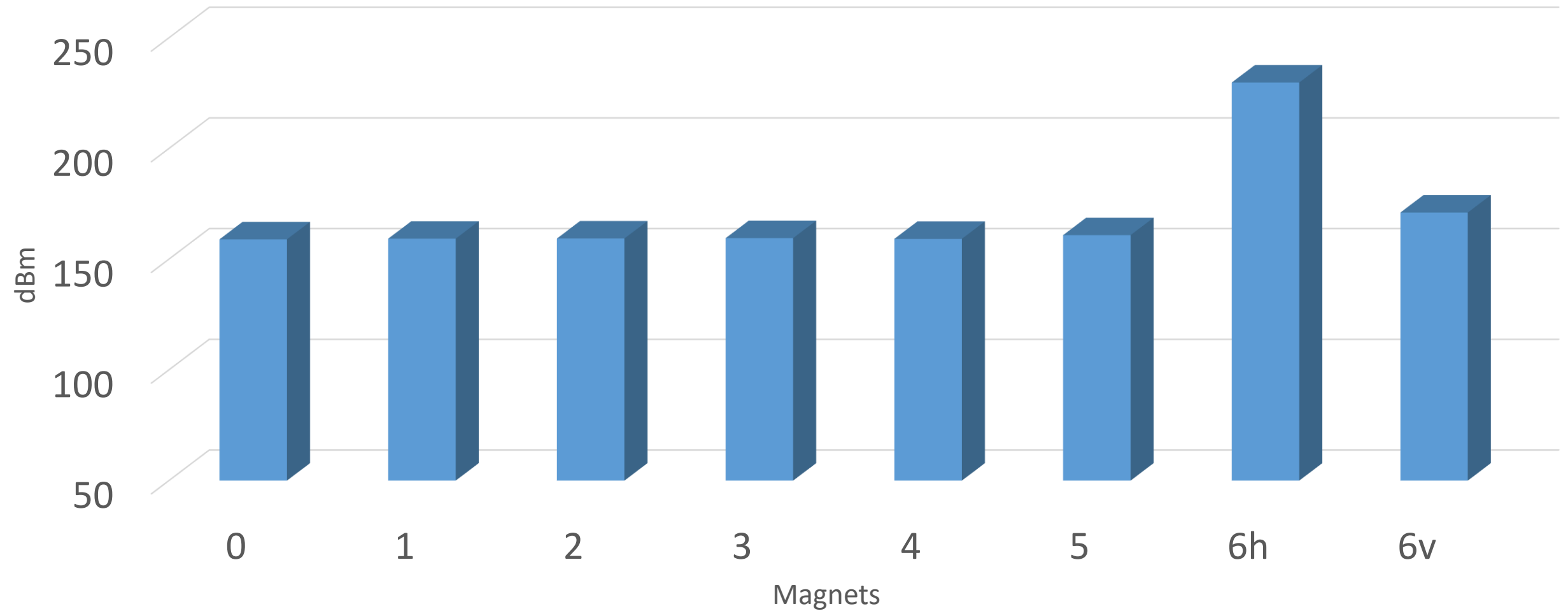
Not being tested

- Tag to tag performance
- Electronically generated magnetic fields (motors)
- All tag formats

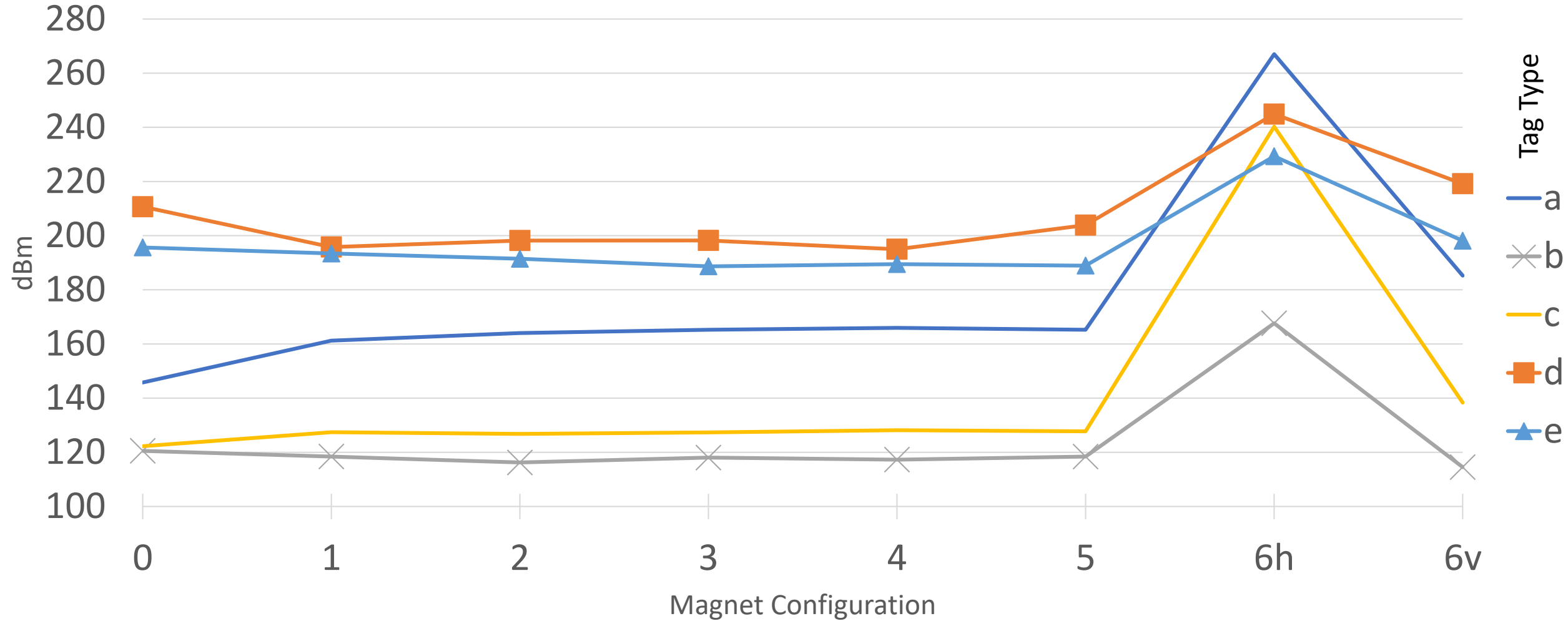
Results (for all tags)

Magnets	Average	Max	Min	Std Dev
0	159.0	304	80	46.42
1	159.3	272	75	40.20
2	159.3	278	75	41.43
3	159.5	277	73	40.14
4	159.2	263	76	38.52
5	160.8	290	80	41.77
6h	229.8	292	133	38.85
6v	171.1	315	83	46.79

Results – By Magnetic Configuration

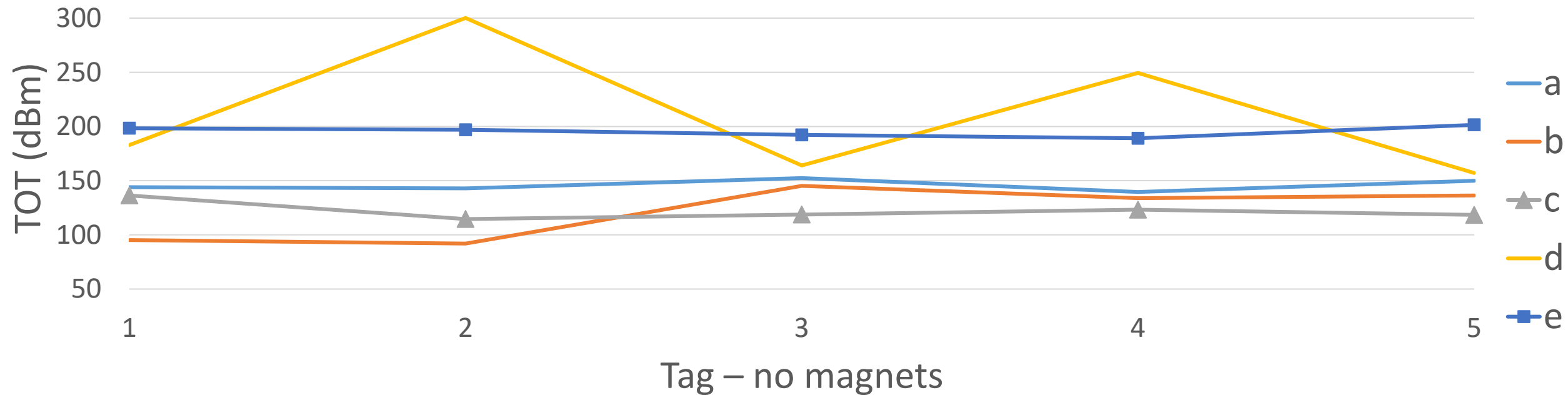


Results – By Tag

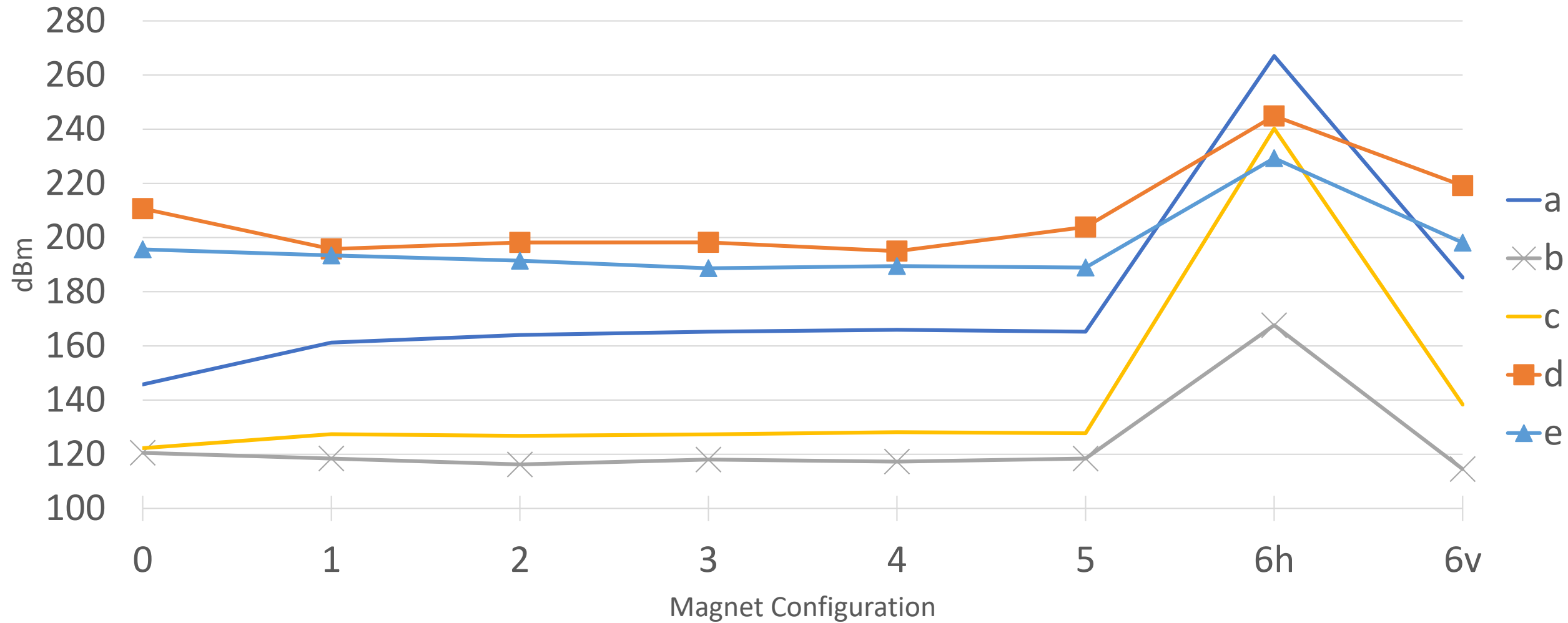


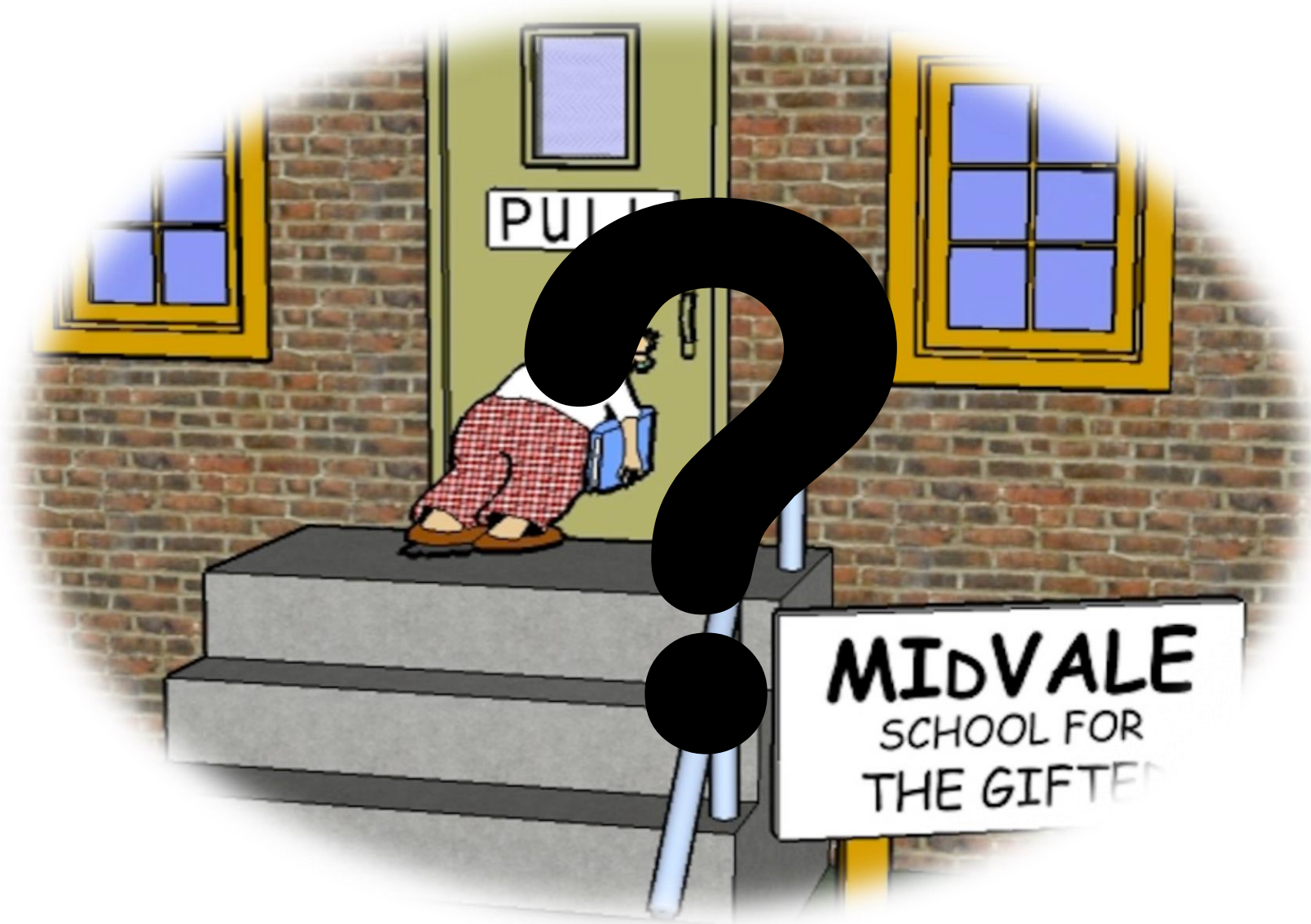
Conclusions

- Failed to show a significant difference
- Within tag variations were larger than expected



Surprises





Thank you for Attending



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Presentations will be available on-line soon. You will receive an email with a link when they are available.