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**DAS Design and the Importance of
Accurate Modeling**

Presentation by
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Introduction

- SQUAN is a DAS “System Integrator”
 - Design (*iBwave Certified*)
 - Construction (*non-union*)
 - Testing (*CW, benchmarking, sweep, PIM*)
 - Commissioning (*JMA, CommScope, etc.*)
 - Maintenance



Modeling

- Creating an accurate model in iBwave is the foundation of an effective DAS design
 - Drywall (blue)
 - Metal (olive)
 - Concrete (black)
 - Wood (red)
 - Glass (green)





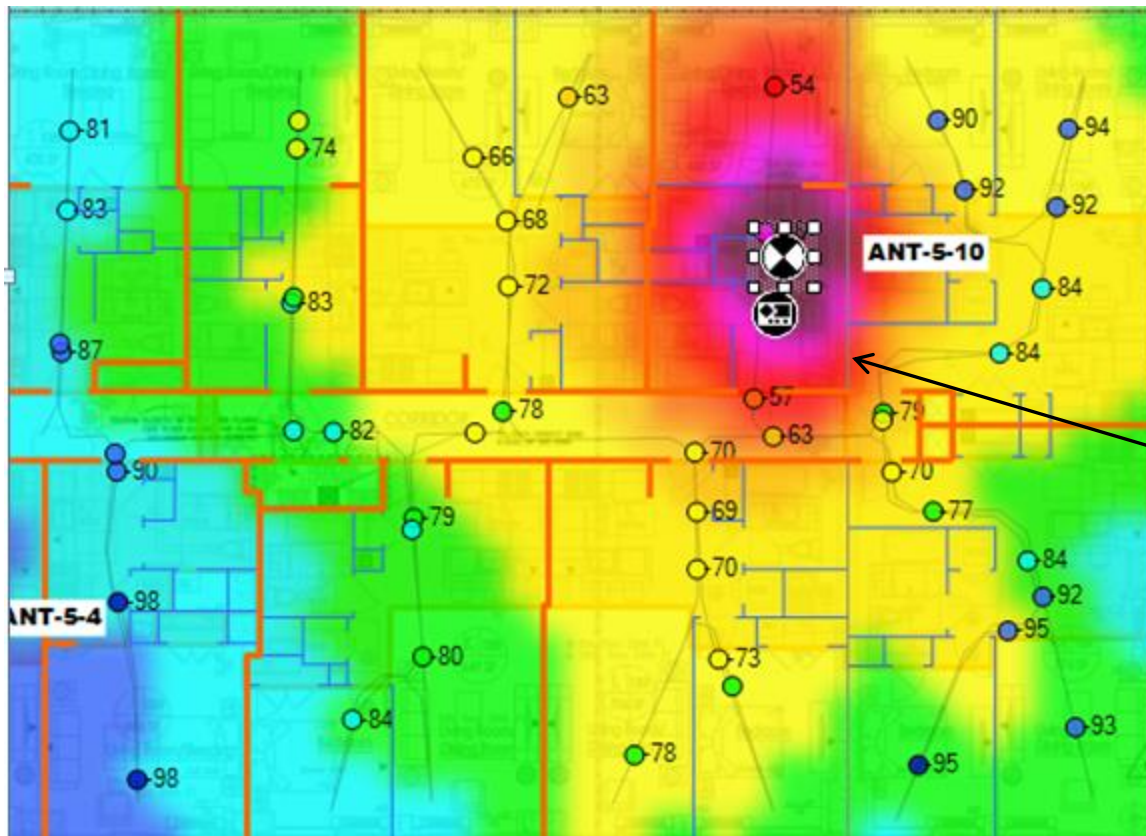
Model Validation



- Model should be confirmed with empirical field data
 - Building survey to verify materials
 - Field Testing to verify material losses
- Adjust/calibrate model based on field data prior to designing the DAS



CW Testing / Compare to Predicted



*Data averaged over 20λ

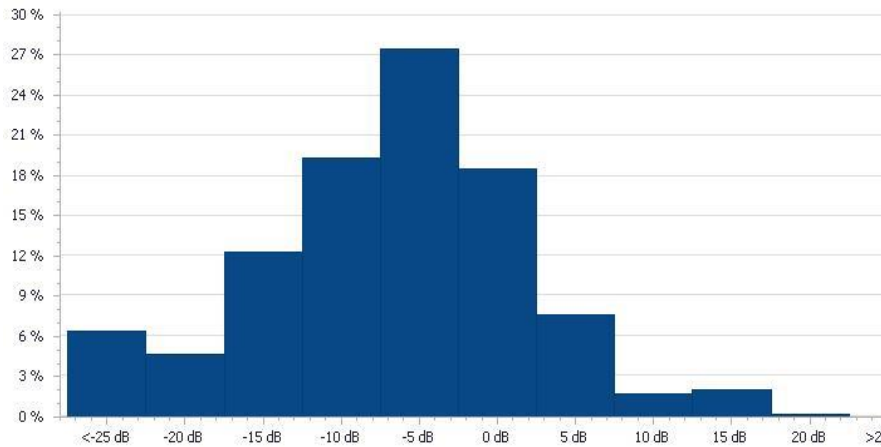
Concrete wall erroneously modeled as drywall



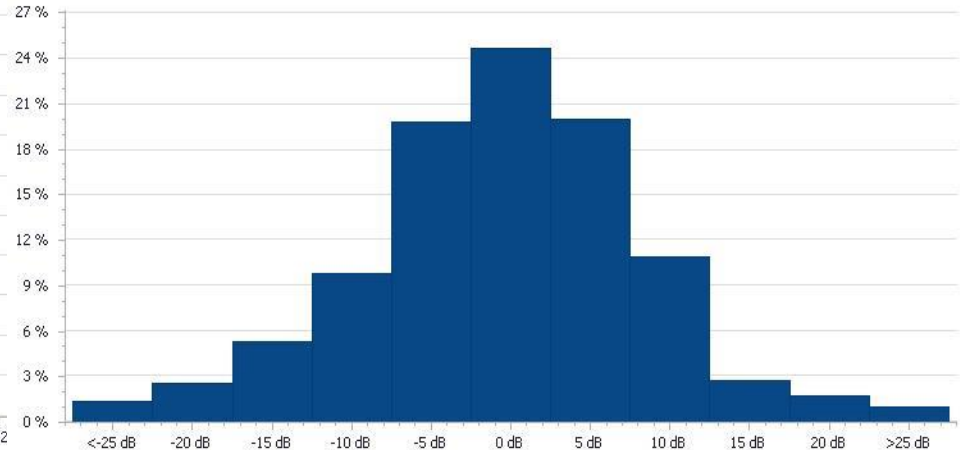
Update and Calibrate the Model



Actual vs. Predicted
(Before Calibration)

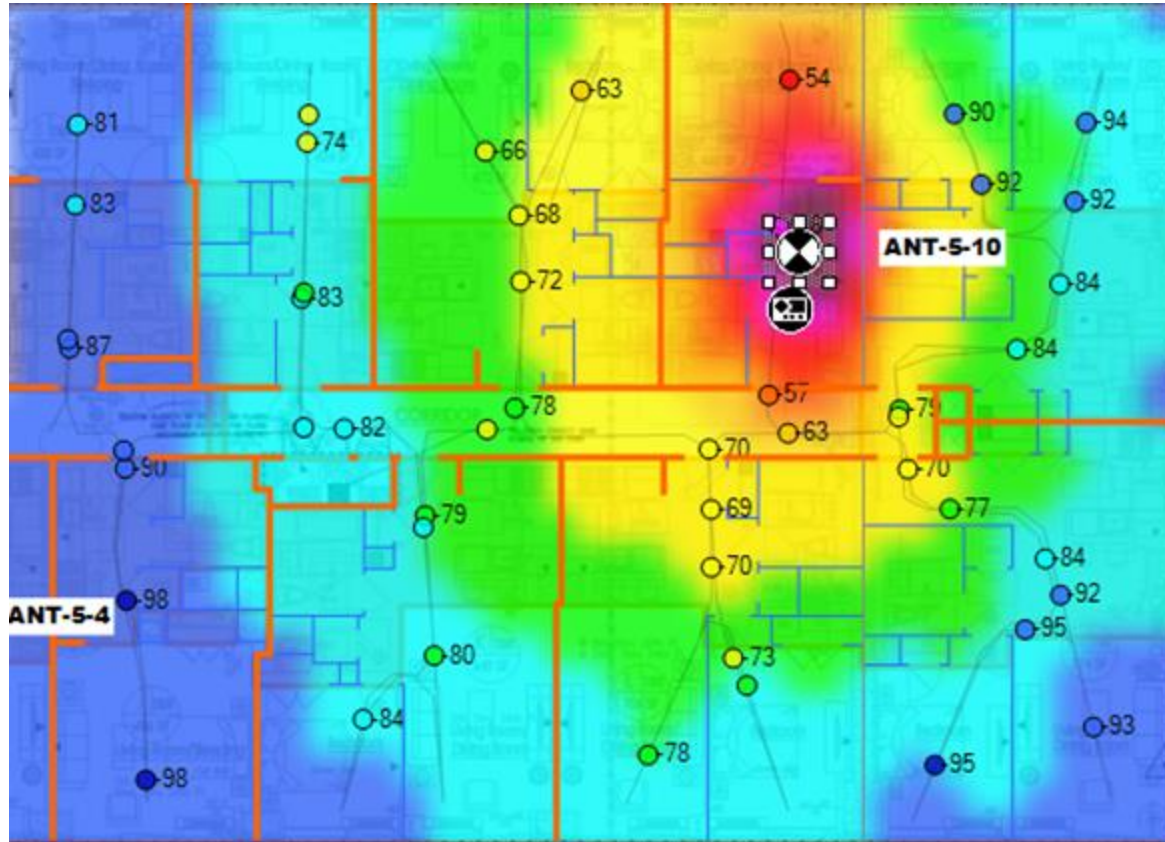


Actual vs. Predicted
(After Calibration)





New Model / Improved Results



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Benefits of Model Validation/ Calibration



- Maximize probability of meeting coverage objectives after DAS is constructed
- Minimize need to augment design post construction

Give the client what
they paid for!





Thank You



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