



CASE STUDY

**AIRVANA DELIVERS EXCEPTIONAL  
WIRELESS EXPERIENCE AT  
UNIVERSITY COLISEUM**

USING iBWAIVE DESIGN + OPTIMIZATION MODULE

Leading small cells provider Airvana uses iBwave Design + Optimization module to ensure an exceptional wireless experience for Gross Memorial Coliseum at Fort Hays State University.





Airvana is a leading provider of award-winning 4G LTE and 3G small cell solutions that significantly improve the experience of mobile subscribers in the most challenging venues: offices, public venues and in the home.

Founded in 2000, the Chelmsford, Massachusetts Airvana has provided commercial wireless solutions to over 90 operators worldwide and is consistently ranked as a market leader in small cells. In 2015 Airvana became part of Commscope, a global leader in wireless networks.

### Quick Facts

#### Location

United States

#### Building Type

University Coliseum

#### iBwave Products Used

iBwave Design, Optimization Module

## WHAT'S THE STORY?

If you've been in a crowded stadium recently then you probably know the frustration that comes with not getting good wireless coverage.

That frustration is exactly what Fort Hays State University aimed to avoid for a quickly approaching graduation ceremony earlier this year. They knew friends and family would be relying on an exceptional wireless experience to make their day special. So, how to provide that experience?

The university turned to US regional operator Nex-Tech Wireless to upgrade the stadium's wireless capabilities. In turn, Nex-Tech Wireless turned to Airvana's OneCell™ cloud RAN architecture solution to help them achieve it. Together they turned to iBwave Design and its powerful Optimization module to ensure the new wireless system would provide an optimal experience for mobile users attending packed events at the coliseum.

## THE CHALLENGES

Here are the challenges iBwave Design and Optimization module solved

- 1 To ensure that mobile subscribers attending events at Gross Coliseum have an exceptional wireless experience.
- 2 To enable Airvana to provide an accurate representation of how their OneCell™ solution will perform once deployed.

## THE RESULTS

### Explanation of Airvana's OneCell™ Benefits

Two of the most impressive benefits of Airvana's OneCell™ solution are the lack of inter-cell interference found in traditional small cell deployments and its simple low-cost deployment model, especially for large venue networks that are not typically considered for small cell deployments. Which was exactly the case for the Gross Coliseum deployment with Nex-Tech Wireless.

Airvana used iBwave Design + Optimization to very accurately model the coliseum network and visually show Nex-Tech Wireless exactly how the network would perform once deployed. This helped Nex-Tech Wireless determine OneCell™ was the right solution for delivering high-performance LTE service in Gross Coliseum.

## IT TAKES MORE THAN SIGNAL STRENGTH

With the graduation ceremony at the coliseum coming up soon, Airvana and Nex-Tech Wireless needed to be sure the modeled network in iBwave Design was extremely accurate in its prediction results. There would be very little time post-deployment to tweak the network. And this is where the Optimization module's ability to model the network - taking into consideration both macro interference from outside the stadium and interference from within the stadium - became very clear.

*"By using iBwave Design, and, in particular, the Optimization module, we were able to accurately model the network to predict both signal quality, and most importantly, the user's experience. By knowing the signal quality before we deployed, we could be confident that all attendees at the coliseum would have an exceptional wireless experience",* says Josh Adelson, Director of Product Marketing at Airvana.

## EXCEPTIONAL WIRELESS EXPERIENCE

Thanks to the collaboration between Airvana and Nex-Tech Wireless, and their effective leveraging of iBwave Design + Optimization module, the wireless experience provided at the graduation ceremony exceeded all expectations.

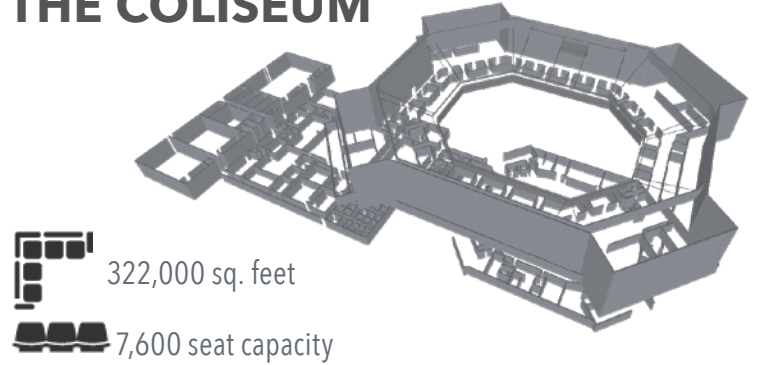
*"The entire qualification process, from first lab tests to live commercial use took just nine weeks. As a demanding use case, the graduation event exceeded our expectations and validated for us the advantages of this technology"* explained Nathan Sutter, director of network operations and engineering, Nex-Tech Wireless.

And to that, we'll flip our tassel and throw our hats.

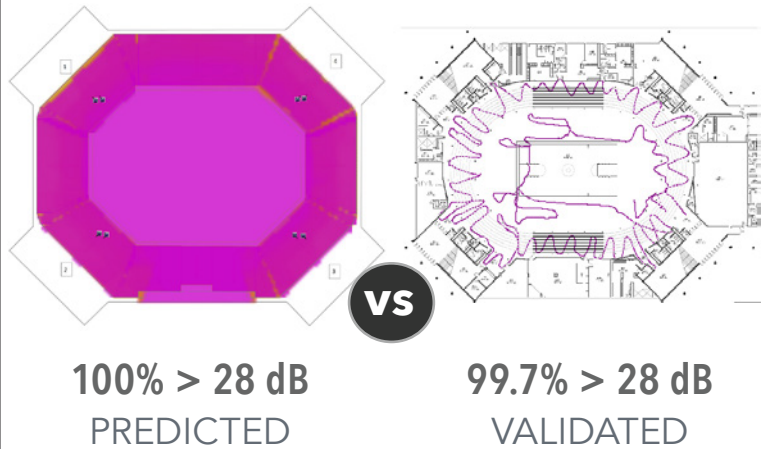
# TESTING RESULTS PREDICTED VS. VALIDATED

Extensive live testing at the coliseum validated the accuracy of iBwave Design's model predictions for signal quality and data rates.

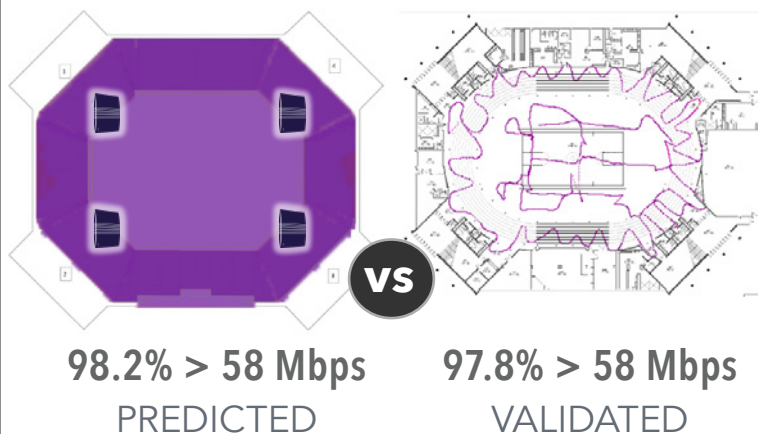
## THE COLISEUM



## SIGNAL QUALITY (SNIR)



## DATA RATES



## About iBwave

iBwave, the global in-building standard, offers a comprehensive software suite and hands-on certification programs that help deliver optimum wireless network coverage and capacity inside various building environments. The company, which now serves over 700 leading operators, system integrators and equipment vendors worldwide, has developed award-winning technologies to tackle network planning and deployment challenges for both enterprises and public venues. Its portfolio includes mobile applications that enable customers to streamline pre and post installation processes, perform Wi-Fi and Small Cell designs directly on-site, and facilitate information sharing in the iBwave format. For more information, please visit [www.ibwave.com](http://www.ibwave.com)



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