



## Safer Schools in Texas

### Killeen Independent School District

#### The Challenge

A quote request for a new high school with unreliable cell coverage turned into 10 schools with a 60 day deadline.

#### The Solution

**Powerful Signal's** expert knowledge and professional installation teams got the job done with professional **Nextivity** equipment, on time and on budget.

#### The Results

Improved communication and peace-of-mind for staff, students and parents. All campuses were thrilled that they could call and text after the systems were installed.

Powerful Signal, LLC - 2023  
Hybrid Cellular Active DAS

# The Challenge

**Killeen Independent School District** needed to solve spotty and unreliable cell signal in Chaparral High School, the newest of 53 schools in their central Texas school district.

With the safety of the high school's 1,750 students and 200 faculty and staff being the district's top priority, unreliable indoor cellular signal was a significant concern: In an emergency, cell phones are crucial for communicating with police, firefighters, and other emergency responders.

Chaparral High School's indoor area includes nearly **450,000 square feet**. Fixing the school's weak-to-nonexistent indoor cell signal would require knowledgeable, capable, and experienced cell signal system integrators.

Killeen ISD initially contacted several integrators, but they found these companies to be inconsistent and unreliable and their project bids to be much too high for the district's budget requirements. District representatives began to doubt that a cell signal amplification system could be designed and installed in Chaparral High School in the short timeline they needed.



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*I just wanted to take a moment to let you know how impressed we at KISD are with what a great job you and your team at Powerful Signal did installing cell booster systems in ten of our schools.*

– **Troy Kittell**  
Director of Construction  
Killeen ISD Facility Services



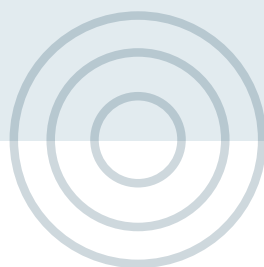
## The Solution

The district then contacted **Powerful Signal** to see what we could offer.

Our professional technicians quickly evaluated their situation and prepared a proposal that met Killeen ISD's needs and fit their budget. Powerful Signal also provided a fast and efficient installation timeline that met the district's tight deadline.

Because of our industry experience, technical expertise, vendor relationships, and commissioning process, the district's representatives felt confident that **Powerful Signal** could deliver on what we had promised.

Because of that confidence, the project that started with one high school quickly expanded to include **nine more** elementary, middle, and high schools across the district. With the expertise and efficient process of our experienced technical team, **Powerful Signal** was able to quickly and confidently provide Killeen ISD with custom-designed cell signal solutions for each location and an overall quote that fit the district's budget.



# Project Workflow

## 01

Nextivity's QUATRA 4000 product is a carrier agnostic, active DAS hybrid that uses off-air technology. Nextivity's patented IntelliBoost technology, unconditionally network safe guarantee, and smart technology rivals much more expensive legacy DAS systems. This allowed Powerful Signal to specifically address the challenges of poor voice quality, dropped calls, and dead zones for Verizon, AT&T and T-Mobile, providing a coverage footprint up to 3x larger than traditional wideband repeaters.

### Project Plan

**Powerful Signal** deployed Nextivity's scalable CEL-FI QUATRA 4000 hybrid active DAS in all of the buildings, paired with our Top Signal antennas, connectors, splitters, and couplers.



### Installation

To meet the school district's tight time frame, we worked with several of our top installation partners and deployed multiple teams to survey the buildings and install the equipment. Our in-house team was also available and on-call 8 a.m.–10 p.m. Monday through Friday and 9 a.m.–5 p.m. on Saturdays and Sundays during the entire project to ensure that all questions from the district and our partners were answered and all concerns were addressed promptly and effectively.

### Results

With the combined help of our professional technicians and efficient and knowledgeable installation partners, and using the highest-quality components available in the industry, we completed all ten schools in under 60 days.

Our post-installation site surveys show a significant improvement in cellular reception in every building. Chaparral High School, for example, has 97 percent "Excellent" or "Good" cell signal strength at 67 scan points across two floors.



# System Performance

## 02

Our process involves the application of an array of cellular system engineering principles that take into account the existing cellular signal strength being received from the carriers' tower, the structural composition of the building, the proposed area to be covered, and the lengths and subsequent signal loss associated with the various cable runs. **Powerful Signal** utilized **12 Network Units (NU)**, **58 Coverage Units (CU)**, **1 Fiber Hub**, **11 Range Extenders**, and **362 EDGE Antennas** to deliver uniform coverage to all needed areas.

*"I just wanted to take a moment to let you know how impressed we at KISD are with what a great job you and your team at Powerful Signal did installing cell booster systems in ten of our schools. From the notification of award, you moved quickly to get your team to Killeen to perform the surveys and complete the designs. You were able to mobilize three extremely qualified installation teams and expedited the delivery of equipment and materials so when the teams arrived, it was waiting for them to install.*

*"Regarding the installation teams: One of the best compliments I can give to a contractor is that I never heard one complaint from any school staff member where a system was being installed about any of the teams working. All campuses were thrilled that they could call and text after the systems were installed. When I walked the schools with the installation teams to review the finished installs, I was very impressed with how neat and clean their work was. It was a pleasure working with all three teams. They were very professional and respectful with regards to where they were working.*

*"I look forward to continue working with Powerful Signal in the future."*

—Troy Kittell  
Director of Construction  
Killeen ISD Facilities Services



# Lifetime Professional Support

**Powerful Signal** has been providing cell signal booster solutions since 2007. We offer extensive experience in product selection and system design, nationwide installation, multi-site roll-out, and post-sale support.

We maintain the system design records for all our customers. When a carrier tower changes, a building expands, or floor plans are modified, Powerful Signal can review your previous design plans and determine what changes need to be made to your system. You might forget what we installed, but we won't.



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