

# Cel-Fi QUATRA Connects Cellular Power-Users at Campus Area Apartments



Illuminati Labs' Case Study  
courtesy of Cel-Fi by Nextivity

## Cell phone signal a must-have amenity for millennials

An apartment complex consisting of six buildings in Tempe, Arizona housed students attending nearby Arizona State University, and young professionals attracted to its proximity to the Tempe Marketplace. The stucco exterior coupled with its LEED certification made it impossible for cellular signals to penetrate the buildings. There was literally zero indoor coverage on the first two floors with poor coverage on the two top levels.

The lack of indoor coverage was resulting in a high tenant turnover rate of the largely millennial renters. Those who did stay were not shy about voicing their displeasure—including online. With its reputation at stake, the compound owners called in Illuminati Labs to provide indoor coverage for all four major carriers.

"This demographic has grown up in a digital world. Their cell phones are their lifeline, so they need good coverage," explains Adam Rubey, co-founder of Illuminati Labs. "If we failed to provide that, they would continue to look for alternative living arrangements and posting negative reviews about the building."

An initial assessment of the first 168,000 square foot 4-story building uncovered several challenges. The "hard lid" ceilings in the hallways meant that the team could not simply lift the tiles to access the grid, making cabling more difficult. The aesthetics of the building limited Illuminati's ability to place units in certain places. And since the building was occupied, the team was only able to work within certain timeframes during the day.

## Expanded coverage that looks good, too

Illuminati Labs decided to install Cel-Fi QUATRA, an active DAS hybrid that delivers uniform, in-building cellular coverage and specifically addresses the challenges of poor voice quality, dropped calls, and dead zones in buildings from 10,000 to 500,000 sq. ft.

In the first building, a total of two Cel-Fi QUATRA Network Units (NUs), the headends of the system, and eight Coverage Units (CUs), the remote units that distribute the signal, were installed in each of the hallways to provide residents with 4G service for all four major carriers throughout the building.

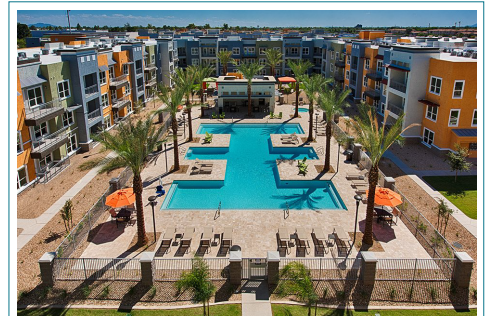
"In apartments, the owners don't want any of the equipment inside the individual units where behind closed doors they could be touched by occupants, so having the equipment out in a common area prevents this," explains Rubey. "QUATRA CUs will do a 100-foot radius where everyone else on the market does a 50-foot radius. This gives you more of a coverage bubble that goes up and down floors as well as just on that individual floor. We were able to use half as many units and stagger and spread them out in the hallways to get great coverage throughout the building and save them money in the design."

As the building had unique details on the ceilings, such as up-lighting and cove-lighting, the owners also had aesthetic concerns in retrofitting the building with cabling and devices. "They didn't want to see these devices, so having half as many was a positive. But most importantly, QUATRA uses Cat5E cabling and it's so much easier to run a Cat-5 down to a coverage unit as opposed to an RG-11 garden hose that doesn't bend, doesn't turn, and it's big and bright blue. It's hard to hide that huge RG-11 garden hose down a hallway," says Rubey.

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It took Illuminati's five-man team three days to complete the installation of the first building. The owners were so pleased with the results, Illuminati has already installed Cel-Fi QUATRA in the second apartment building in the complex, and the other four buildings are scheduled for installation over the next 18 months.

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Tempo Apartments at McClintock Station in Tempe, AZ

## Repeat performances