ADRF Solutions for Higher Education

Reliable Wireless Communication on Campus Depends on ADRF

ADRF

THE SIGNAL FOR SUCCESS™

ADRF Higher Education Solutions

CHALLENGES

Increased Data Usage

Mobile use among students is on the rise and having adequate wireless coverage inside campus buildings as well as dormitories is now a requirement for students and faculties. According to a research from McGraw-Hill, 81% of students use mobile devices such as smartphones or tablets to study – a 40% increase from 2013-2015*. The mobile is becoming essential as students need to stay connected to be able to study on mobile devices.

Environmental Challenges

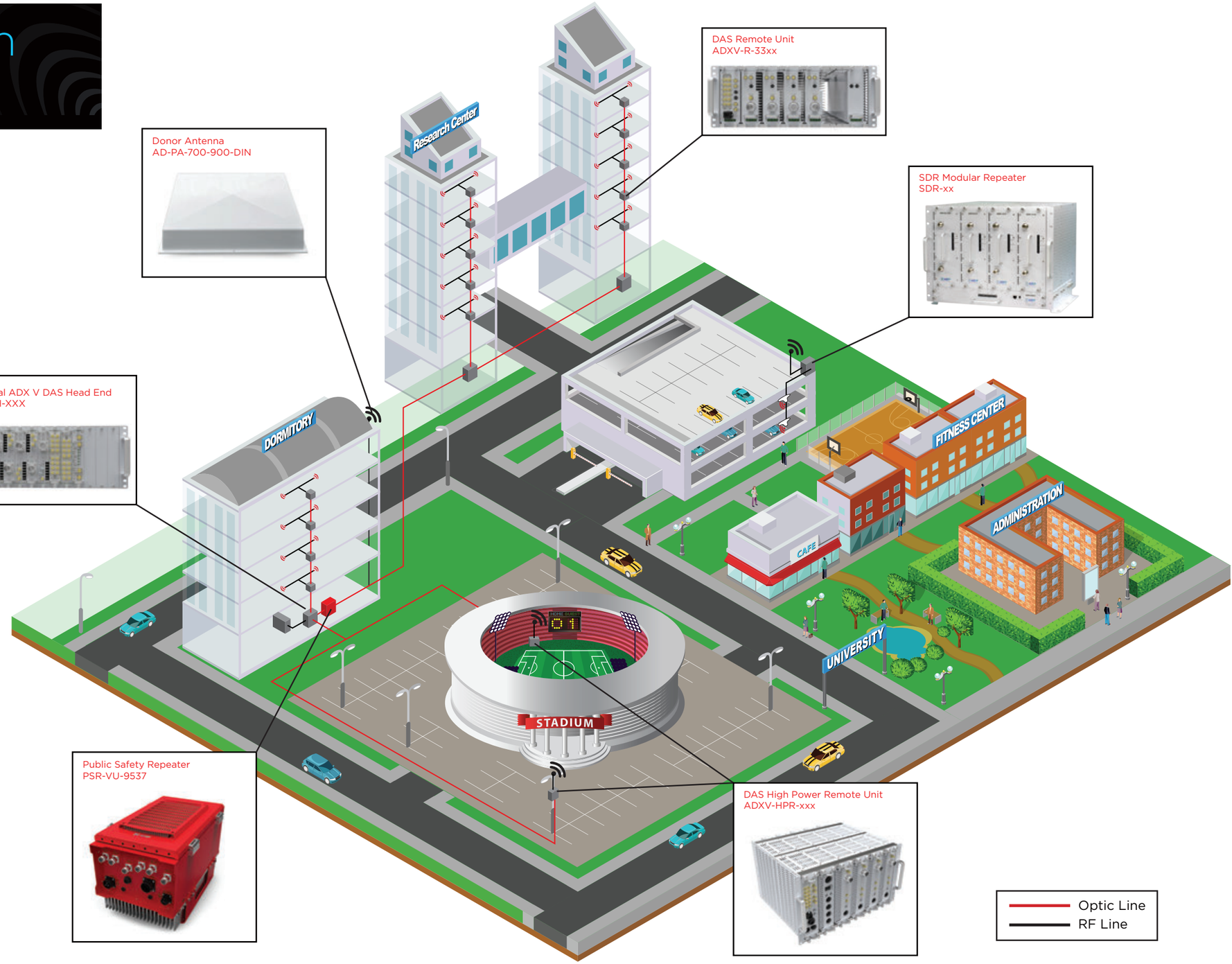
University campuses are generally made up of a collection of buildings of various shapes, sizes, and materials, distributed over a wide area. These buildings are typically made of brick, concrete, and steel – the very materials that stop the transmission of wireless signals. In addition, many universities are very conscious of the aesthetics of the building and preserving the architectural design.

Safety on Campus

Another important reason campuses need wireless coverage is for the safety of their students and faculties. Security and emergency personnel depend on code-compliant coverage on multiple frequency bands for two-way radio and emergency communication throughout the school campus and inside the buildings.

SOLUTIONS

ADRF solutions meet the need for complete, clear, reliable coverage throughout the campus, including underground areas, on-campus stadiums or arenas, and parking structures. Students, faculty, security personnel, visitors, and first responders can stay connected with ADRF's wireless solutions. Flexible and easy to install with minimal disruption, ADRF solutions can grow and change with structural or service needs.



ADRF equipment will meet all coverage and capacity challenges at major universities as their expectations for wireless coverage for both commercial service as well as public safety on campus are becoming a need to have, not a nice to have.

Selected ADRF Higher Education Deployments

FLORIDA GULF COAST UNIVERSITY

Fort Meyers, FL

Solution Summary

Scope:	2 dormitories, 6 floors each
Total Area:	180,000 sq. ft./dormitory (550 student capacity in each)
Carriers:	Ververizon, T-Mobile, Public Safety
Frequency Bands:	700 MHz, Cell 850 MHz, PCS 1900 MHz, AWS 2100 MHz, 700/800 MHz PS

Highlights

- Neutral host system
- Head end was placed in a central location to allow expansion to buildings under construction
- Verizon and public safety were first on site. T-Mobile and AT&T were added to the system with minimal disruption. The upgrade was completed with few component additions on the head end.
- Utilizing proprietary active power sharing on the system, ADRF successfully allocated power to each carrier within a single band.

WESTERN CAROLINA UNIVERSITY

Cullowhee, NC

Solution Summary

Scope:	4 floors
Total Area:	160,000 sq ft
Carriers:	AT&T, Verizon
Frequency Bands:	700 MHz, Cell 850 MHz, PCS 1900 MHz

Highlights

- Neutral host system
- Tri-band system for two wireless providers
- Head end was placed in a central location to allow expansion to buildings under construction
- Verizon was first on site, AT&T was added to the system with minimal disruption. The upgrade was completed with few component additions on the head end.
- Utilizing proprietary active power sharing on the system, ADRF successfully allocated power to each Carrier within a single band.

UNIVERSITY OF CALIFORNIA, IRVINE

Orange, CA

Solution Summary

Scope:	Medical Center Building
Total Area:	6 separate buildings; BTS fed; 6 sectors
Carriers:	Verizon
Frequency Bands:	700 MHz, Cell 850 MHz, PCS 1900 MHz, AWS 2100 MHz

Highlights

- Verizon DAS system
- MIMO tri-band system for 700 MHz, PCS and AWS.
- 6 separate buildings connected by fiber make up the DAS system coverage.
- The system is built for minimal disruption when other Wireless providers are added. The upgrade will be completed with few component additions on the head end.

UNIVERSITY OF PORTLAND

Portland, OR

Solution Summary

Scope:	Fitness Center
Total Area:	72,000 sq. ft.
Carriers:	Public Safety
Frequency Bands:	700/800 MHz Public Safety

Highlights

- Public safety system for both 700 MHz and 800 MHz
- System was placed in a central location to allow expansion to other buildings with public safety coverage issues.
- The system is built for minimal disruption when other wireless providers are added. The upgrade will be completed with few component additions on the head end.
- An expansion is planned to cover all the buildings on campus. All carriers will be added to the existing system and coverage will be augmented with 60 remotes.

KIPP CHARTER SCHOOLS

Houston/Multiple Locations, TX

Solution Summary

Scope:	High Schools
Total Area:	5 separate campuses in the Greater Houston area
Carriers:	Verizon
Frequency Bands:	700 MHz, Cell 850 MHz, PCS 1900 MHz, AWS 2100 MHz

Highlights

- Verizon DAS system
- 5 schools campuses with a separate system built out.
- The system is built for minimal disruption when other wireless providers are added. The upgrade will be completed with few component additions on the head end.

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