

AIRSPAN NETWORKS BROCHURE

Proven End-To-End CBRS Solutions

Unlocking Connectivity with
CBRS Spectrum

Airspan

Best-in-Class Performance & Reliability

Unlock unparalleled connectivity with Airspan's CBRS solutions, your gateway to advanced private networks, Neutral Host Networks and outdoor coverage extension. Our end-to-end offerings, enriched by strategic partnerships, redefine connectivity landscapes. At the core, a sophisticated software platform with SAS Domain Proxy ensures optimal spectrum utilization. Additionally, our diverse portfolio includes B41 band options, augmenting our comprehensive CBRS capabilities to meet every connectivity challenge.



A U.S. BASED COMPANY

350 Employees in
15 Locations



END-TO-END SOLUTIONS

Multiple Generations of
Award-Winning Products



FULL PORTFOLIO OF PRODUCTS

Disruptive Technologies
Backed by Patents



20+ YEARS OF EXPERIENCE

Developing RAN
Hardware and Software

Awards and Recognitions



OUTSTANDING
CONTRIBUTION TO
EMERGING TECHNOLOGY,
ARCHITECTURE &
OPEN NETWORKS



ONGO NEUTRAL
HOST ARCHITECTURE/
SOLUTION:
AWARDED TO CTS
(WITH AIRSPAN, DRUID)



JUDGE'S CHOICE:
AWARDED TO BEARCOM
(WITH ATHONET, AIRSPAN,
AND BEC)



EXCELLENCE IN
COMMERCIAL
DEPLOYMENT BY A
PRIVATE NETWORK



EXCELLENCE IN
COMMERCIAL
DEPLOYMENT BY A
MOBILE NETWORK
OPERATOR



OUTSTANDING
CONTRIBUTION TO
NEW SMALL CELL
BUSINESS CASES



2X INNOVATION AWARDS
WINNER:
DIGITAL DIVIDE (FWA) &
PRIVATE NETWORKS



BEST MOBILE
TECHNOLOGY
BREAKTHROUGH



EXCELLENCE IN
COMMERCIAL
DEPLOYMENT
Open RAN



EXCELLENCE IN
RESIDENTIAL DEPLOYMENT
Urban



EXCELLENCE IN
RESIDENTIAL DEPLOYMENT
Urban



EXCELLENCE IN
RESIDENTIAL DEPLOYMENT
Residential

What is CBRS?



CBRS is short for Citizens Broadband Radio Service. In the United States, it defines the usage rules for using the 3.55–3.70 GHz band.



The CBRS band does not require spectrum licenses and reduces the cost of data transmissions.



FCC Rules Part 96 defines commercial use of the CBRS band.



Utilizing shared spectrum, it expands coverage both in-building and outdoors, and increases overall capacity.

Why CBRS?

1

CBRS significantly lowers the barrier to entry for non-traditional wireless carriers.

2

CBRS provides an opportunity for operators to expand access to spectrum for enhanced Mobile Broadband Services (eMBB).

3

CBRS provides an opportunity for operators to set up private networks that are separated from licensed and expensive spectrum, with performance significantly better than WiFi.

4

With the option to use either Priority Access License (PAL) or General Authorized Access (GAA) spectrum, or both, network operators can have access to up to 150 MHz of spectrum

Three-Tier Spectrum Sharing

Tier 1: Incumbent Access

Includes authorized federal users. Incumbent Access users receive protection against harmful interference from PAL and GAA users.

Tier 2: PAL (Priority Access Licenses)

Licensed on a county-by-county basis through competitive bidding. PAL's are 10 year, renewable licenses. Up to seven PAL's may be licensed in any given county, subject to a four PAL channel aggregation cap for any licensee. Receives protection from GAA users.

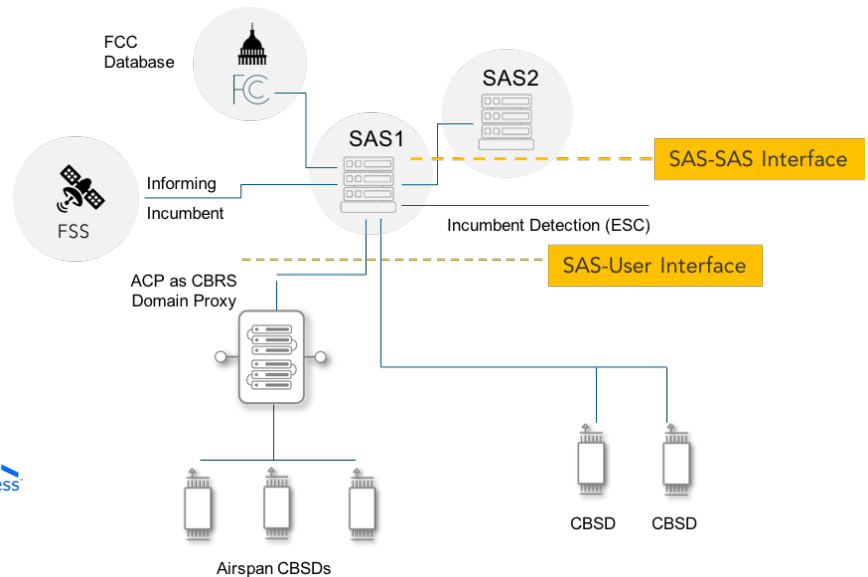
Tier 3: GAA (General Authorized Access)

Open, flexible access. Must not cause harmful interference to Incumbent Access or PAL users.



Architecture – SAS, Domain Proxy, CBSD

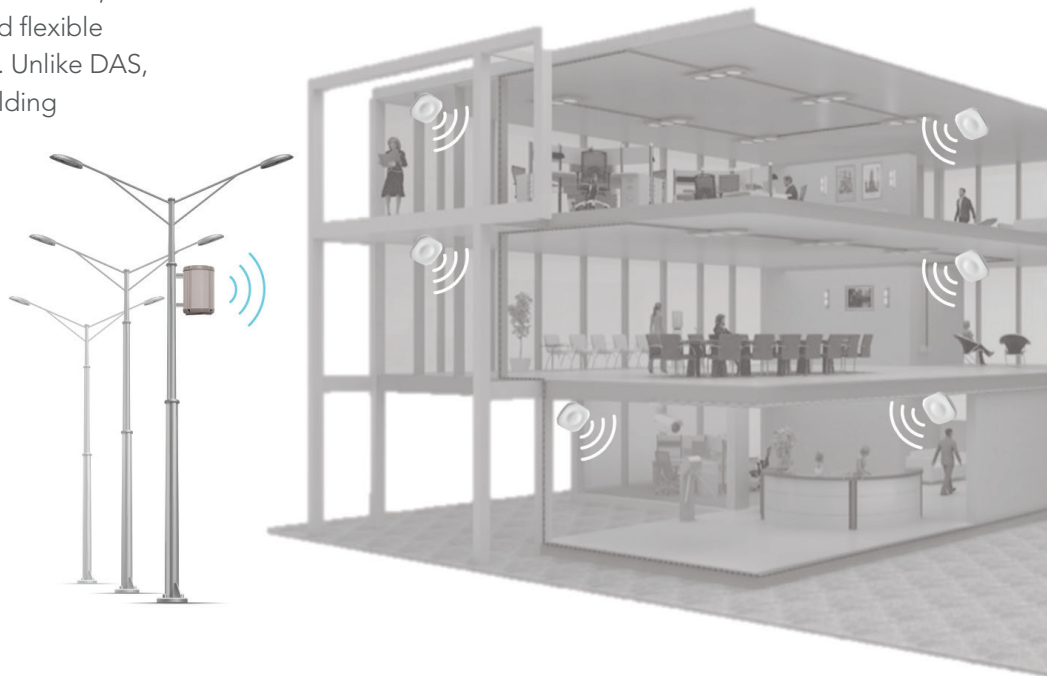
The SAS (spectrum access system) is an external, cloud-based system that manages wireless communications. It enables authorization of CBRS devices, and management use of the spectrum, in accordance with FCC guidelines. Domain Proxy performs a set of procedures to authorize a CBSD with the SAS.



CBRS as driver for Neutral Host Networks (NHN)

With the growing demand for reliable indoor coverage, neutral host networks (NHN) based on CBRS spectrum are becoming an increasingly popular solution, providing a cost-effective, efficient and flexible alternative to traditional DAS systems. Unlike DAS, Airspan NHN can use the existing building transport infrastructure to connect the indoor small cells.

Together with MOCN GW (Multi-Operator Core Network Gateway) technology, Private and Public networks from different operators can co-exist with the same RAN infrastructure.



The Airspan Advantage



End-to-End Solutions through strategic partnerships and sophisticated software platform with a SAS Domain Proxy.



PRACTICALLY ZERO TIME TO MARKET to get up and running. Offers private, high-capacity, and secure networks for multiple segments.



SUPERIOR PERFORMANCE & LATENCY with a complete, end-to-end CBRS solution portfolio for fixed and mobile operators. Increase capacity and coverage today.



U.S.-BASED & WELL ESTABLISHED as members of CBRS Alliance and CBRS Winnforum, with partnerships with all leading SAS vendors (Federated Wireless, Google, Sony, Commscope), and certifications from OnGo.

4G Certified CBRS Portfolio



AirSpeed 1030

- Outdoor
- Highest EIRP for CAT-B (52dBm)
- Dual sector / carrier up to 40MHz
- Integrated / external antenna



AirVelocity 1500

- Indoor
- Highest EIRP for CAT-A (35dBm)
- Dual carrier up to 40MHz



AirSpeed 1000A

- Ruggedized Indoor/ Outdoor
- Max EIRP, CAT-A
- Dual sector / carrier up to 40MHz
- Integrated / external antenna

4G CPE Certified CBRS Portfolio



AirSpot 1310

- Outdoor CPE
- CBSD, CAT-B



AirSpot 1412

- Outdoor CPE
- CBSD, CAT-B



AirSpot 1421

- Indoor CPE
- CBSD, CAT-A

5G Certified CBRS Portfolio



AirSpeed 2900

- Outdoor AIO gNB
- Highest EIRP for CAT-B (52dBm)
- Dual sector / carrier up to 80MHz
- Integrated / external antenna



AirSpeed 2920

- 5G
- Bands: n77, n78, n48, n79, n41
- 4T4R, 4 x 15W
- AIO



AirStrand 2200

- Outdoor Strand Mount
- AIO gNB, CBSD CAT-B
- DOCSIS3.1 Backhaul
- Dual sector, Omni Coverage
- Dual Carrier up to 80MHz

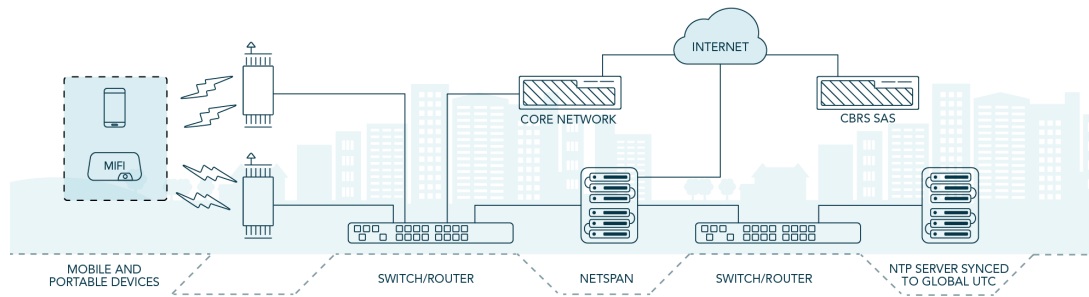


AirVelocity 1901

- Indoor AIO gNB
- CBSD CAT-A
- Up to 40MHz

ACP/Netspan – EMS

Built for managing CBSD's, ACP/Netspan is a field-proven EMS (element management system) with a seamless interface that allows complete visibility via a single server. It provides alarms, event history, configuration, map views, statistics, inventory management, and much more. ACP/Netspan controls all interaction with the SAS, including maintaining grants and handling heartbeats. Airspan's Domain Proxy communicates with the SAS on behalf of all our CBSD's, considerably reducing OpEx.



EMS Features



FAULT MANAGEMENT

Set alarms and event logging



CONFIGURATION MANAGEMENT

Provisioning options and inventory management



PERFORMANCE MANAGEMENT

Data and performance statistics and analysis



SECURITY MANAGEMENT

Access control and policies from different levels



AVAILABILITY

Virtualization and architecture



SCALABILITY

Virtual machine and multiple server deployments



USABILITY

Web client-based, search capability, useful tools, profiles



OSS INTEGRATION

XML/SOAP-based interface, KPI's, event and activity logs

Solutions for Band 41 (2.496–2.690 GHz)

This multi-purpose band is used in education, distant learning, telemedicine, tribal networks, rural coverage, and many more essential applications. Upcoming FCC auctions in the U.S., should likely open up more availability in this band. Airspan's band 41 solutions are ideal for WISP's, MSO's, and larger carriers.



4G

AirHarmony

Outdoor, long-range, mini-macro
(dual sector and dual carrier)



AirSpeed

Outdoor pico cell
(dual sector with integrated
smartbeam antennas)



AirStrand

Outdoor, strand-mount pico cell
(dual sector with DOCSIS backhaul
and power)



AirVelocity

Indoor small cell (wireline backhaul)

5G

Based on Open RAN architecture, Airspan's end-to-end 5G outdoor and indoor portfolio include the radio unit (RU), as well as the software running on the central and distributed unit (CU/DU) which follow the latest standard releases from 3GPP and O-RAN Alliance.





Case Studies



Industry 4.0

Industry 4.0 is a tech-powered revolution with the capacity to bring manufacturing anywhere. The automation which sits at the core of the movement can concentrate supply lines closer to customers, reduce the need for manual labor in manufacturing, drive new business models and refine traditional business models to deliver next level goods and services. The high speed and low latency of private 5G networks, combined with strong security protocols, enable IoT deployments that drive manufacturing, warehousing and other environments to stronger productivity gains and optimal efficiency.



Airports

Solutions for airports require ubiquitous, reliable, low-latency, high-speed, and secure connectivity to digitize and automate operations, assist airlines and other partners, and offer a tailored customer experience.

The private 5G network delivered the required connectivity to support many existing and new use cases in the terminals, ramp, airfield, and cargo areas. The highest priority use cases include: assets & baggage tracking, security & safety, check-in & boarding.

Allowing increased control over the network architecture, coverage, performance, security, and technology evolution with private 5G networks than public 5G networks. Allowing for more efficiency handling business-critical applications with a dedicated spectrum.



In-Building Coverage

This Private Network solution will improve the hotel guest experience by providing excellent indoor and outdoor high-speed voice and data coverage and hotspot capabilities on property, including connectivity to Public Networks from main carriers. With the exponential growth of video conferencing, 5G eliminates the typical problems related to virtual meetings. Additionally, hotel operators can streamline operations with rapid communication between different systems. The new technology allows for faster automated check-in and check-out procedures for Hilton Honors loyalty members, which cuts labor costs and eliminates lines that are irritating for guests. With 5G, all systems are interconnected and communicate seamlessly in real-time.



Energy Corporations

With long distances between sites and extremely harsh environments, network communication between multiple locations had to be solved. Airspan stepped in with their CBRS solutions to provide secure, reliable, rugged, high-speed broadband for data and voice, as well as real-time access to video surveillance and critical data. Airspan's deployment proved to be successful, efficient, and reliable for this major multinational energy corporation.



Coverage Extension

In the U.S., only 56% of households have access to broadband internet. With the onset of the COVID-19 pandemic, student connectivity at home became essential to education. Multiple public school districts in Texas and Florida deployed solutions that use CBRS, and CBRS spectrum for FWA (Fixed Wireless Access), enabling their students to stay connected and continue learning. Airspan's small cells and CPE's were key in rapidly and effectively addressing this critical need.



Healthcare

Traditionally, WiFi has been the transport of choice for all wireless communication in healthcare. With heavy reliance on handheld devices recently, there has been a decline in adoption, as WiFi fails to perform well. We have seen smart devices traded out for walkie talkies and pagers just to get as close as possible to 100% message delivery. The better and more reliable solution is CBRS. In partnership with a well-known broadband systems integrator, Airspan delivered a secure end-to-end, carrier class, low latency, voice-first wireless network designed to increase staff efficiency and real-time response to critical patient care at multiple facilities.

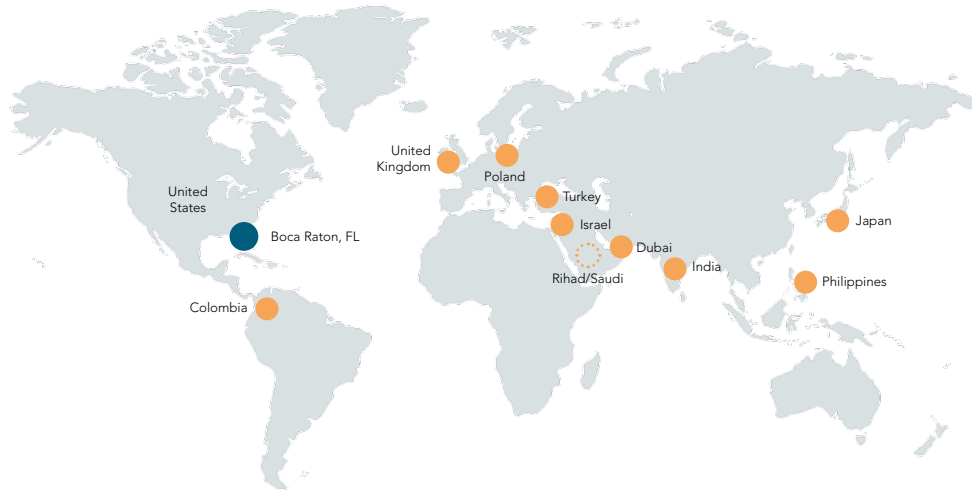


CBRS Can Help

CBRS is the efficient and innovative way to use dynamic spectrum in all vertical markets. Small, medium, and large businesses require secure networks for growing data demands resulting from modernization, automation, and remote devices. Banks, educational institutions, convention centers, healthcare facilities, retailers, and others can own a secure, high-capacity, private LTE network with significantly low TCO.

- ⊗ Utilities
- ⊗ Industrial
- ⊗ Smart Cities
- ⊗ Smart Homes
- ⊗ Governments
- ⊗ Airports
- ⊗ Ports
- ⊗ Education
- ⊗ Healthcare
- ⊗ Retail

For more information about our any of products or solutions, please visit airspan.com or contact sales@airspan.com to get in touch with a representative from one of our offices.



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A MEMBER OF

