

# Ruckus CBRS LTE for Large Public Venues

Superior wireless connectivity

## REQUIREMENTS

- Seamless connectivity for staff and critical use cases
- Ubiquitous coverage throughout the facility
- High QoS connections, even in dense crowds or on moving vehicles
- Strongest possible security
- Ease of deployment
- Broad device and application support

## RUCKUS CBRS LTE BENEFITS

- Increased productivity and effectiveness
- Improved services for guests, vendors and staff
- Proven end to end security
- Enterprise control of the network and network data
- Ability to support new and expanded use cases
- Complete end to end solution including SIM and subscriber management
- Future proof solution with path to 5G

## OVERVIEW

Stadiums, arenas, conference centers and other large public venues have long understood the importance of delivering good end-user wireless services. Today there is a strong ecosystem of solutions and solution providers that can provide either Distributed Antenna Systems (DAS) to ensure strong mobile wireless coverage or Wi-Fi for high capacity, low cost broadband connections for fans and other guests.

While these solutions will continue to improve via technology advances such as 5G and Wi-Fi6, venue operators are increasingly looking for an additional wireless solution that will support their internal operational needs and be independent of the public facing networks. CBRS LTE offers a new wireless platform that can be used to support a diverse range of venue use cases and be entirely controlled by the venue, allowing them to ensure that their staff, services, and security are always operating at peak effectiveness.

New Ruckus CBRS LTE solutions allow enterprises to deploy LTE technology, which is ideal for tackling these challenges. Designed to be as easy as Wi-Fi, Ruckus LTE provides superior connectivity for high-value wireless applications.

## THE SOLUTION: RUCKUS CBRS PRIVATE LTE

Ruckus CBRS Private LTE provides outstanding coverage, QoS, security and mobility in large, crowded venues. Ruckus CBRS uses standard LTE protocols in dedicated spectrum reserved specifically for your venue using new FCC spectrum rules to deliver fast and ubiquitous coverage. Since your CBRS spectrum is not impacted by the size or usage of the crowds, it is always working at peak performance supporting functions such as push to talk communications, IP Video camera backhaul, vendor and kiosk point of sale, IoT gateways and temporary connections for special events.

CBRS offers unique advantages over both Wi-Fi and mobile operator LTE or DAS services.

- 4x as much coverage area per access point compared to Wi-Fi.
- Superior non-line of site performance due to LTE's high receive sensitivity and clear spectrum
- Highest possible quality of service

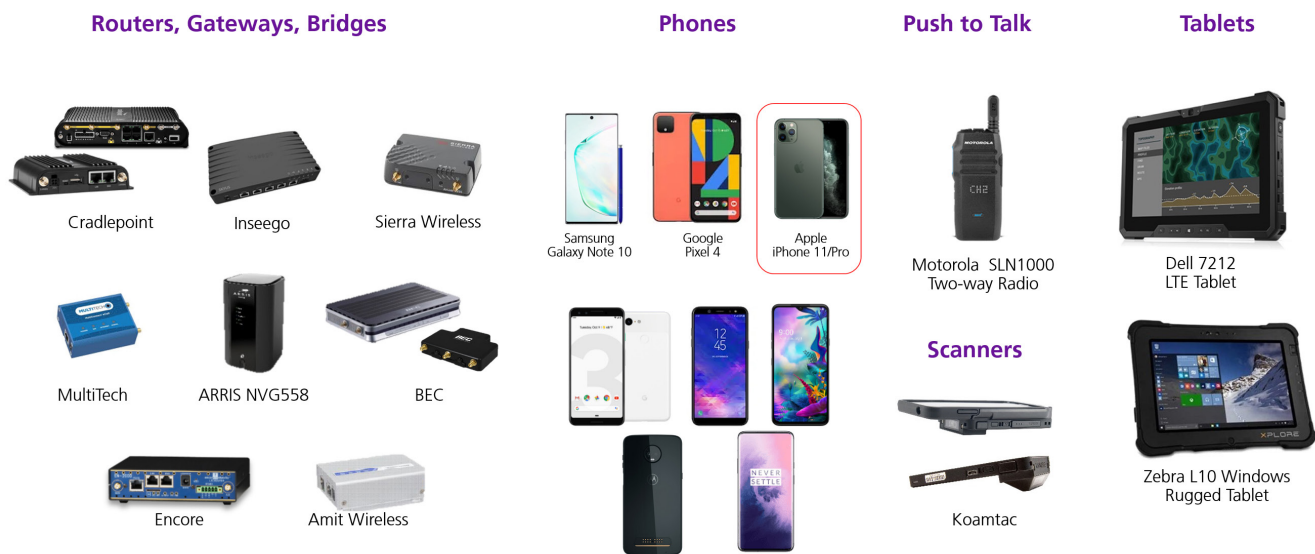
- Proven LTE security
- No monthly charges for service
- Ability to deploy wherever coverage is needed and to minimize latency if needed via an optional onsite EPC

These features are critical to venues that need to support a growing array of services while maintaining security and operational efficiencies. For larger facilities or campuses, Ruckus CBRS Private LTE offers seamless mobility – even at high speeds – so shuttles or vans can stay connected. Roaming is controlled by the Ruckus CBRS LTE core network (EPC) which automatically ensures devices are always connected to the most optimal access point. There is no need for re-authentication on each AP, and there is no risk of infrastructure ‘hanging-on’ to an access point that is no longer in range.

Moreover, Ruckus CBRS Private LTE integrates the highest level of security in its APs. This is important because secure Wi-Fi networks can be challenging to design and maintain. Since security protocols are built-in to Ruckus CBRS Private LTE, security is consistent and comprehensive across every LTE deployment.

## COMPREHENSIVE CBRS DEVICE ECOSYSTEM

Since CBRS operates in newly available 3.5 GHz spectrum, it requires devices or routers that can also operate in that spectrum. The good news is that, thanks to broad industry support led by the CBRS Alliance, there is wide range of available solutions, and most new LTE-capable devices are likely to also support the CBRS band.



CBRS (B48) Device Ecosystem

CBRS LTE routers, gateways and bridges enable a robust CBRS link to the network, and provide Ethernet, Wi-Fi or other connections to devices such as IP Video cameras, Wi-Fi capable tablets or phones or an IP-enabled point of sale terminals. Essentially, they act as network extenders so that you can use the same equipment that is already available but without the expense and complexity of running an ethernet cable or the unpredictability of using Wi-Fi or cellular.

CBRS-capable phones, including the iPhone 11 models and most new high-end Android phones, can connect to CBRS to provide clear data connectivity including data-based voice services such as Skype as well as other smart-phone services such as point of sale processing and venue-specific applications. In the near future, CBRS will also be able to serve as a neutral host wireless service to provide additional coverage and capacity for mobile wireless service.

Push to Talk phones such as the Motorola SLN 1000 are ubiquitous in large venues, but currently offer very limited narrow band voice services over a dedicated network. With CBRS, PTT phones can deliver clearer, jitter free broadband voice as well as other services such as Wi-Fi hotspots. Also, they can share the CBRS network with a wide range of other applications to reduce your network management cost and complexity.

Other devices such as ruggedized tablets and bar code scanner sleds are also available so that venues can improve almost any application using CBRS connectivity

## A NEW WIRELESS PLATFORM FOR LARGE PUBLIC VENUES

CBRS LTE will not replace a venue's existing DAS or Wi-Fi capabilities. Each of these is still needed and will need to be refreshed as available technology and end-user demands continue to advance. However, by enabling venues to deploy proven LTE technology, CBRS provides a new capability that is ideal to support critical internal and operational use cases that are not well-supported by previous solutions. It gives the enterprise full control over a vital platform that can enable new service and efficiency innovations.

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CO-114156-EN (01/20)