Ultra-high speed data offload for buses

Smart buses wireless data offload connectivity

Today's smart buses are equipped with numerous CCTV cameras and various sensors to continuously record onboard data, used to enhance safety and operations.

Data recorded on buses accumulates over a single day, requiring high capacity and fast offload – either when a bus arrives at a bus station or parks in a terminal.

In addition, Passenger Information Systems (PIS) and onboard multimedia systems may also require frequent updating and uploading of new data to the buses.

Utilizing an ultra-high-capacity offload system can shorten the time smart buses need to keep their engines running, as well as reduce unnecessary emissions throughout the offload process. The entire system is fully automated, taking only a matter of minutes.

TerraBridge Highlights:

- Ultra-high speed, based on 60GHz millimeter-Wave spectrum
- Throughput > 1.5Gbps
- Small footprint and low visual impact
- Minimal setup and configuration
- Ideal for short range connectivity
- Easy to install with zero maintenance

RADWIN's Terrabridge overcomes the challenges of standard wireless offload solutions available today. Some of these limitations include the following factors:

- Cellular technologies are designed for higher download speeds; therefore, providing insufficient throughput for upload. Mobile technology also includes ongoing service costs.
- Standard Wi-Fi solutions operating on 5.xGHz / 2.4GHz bands prevent effective connectivity when multiple buses are parked together.
- Interference from other Wi-Fi systems operating on the same bands can degrade offload performance.
- Throughput can be insufficient to address the quantity of data requiring offloading. This is particularly important when one considers limited distances or limited time expected for offloading.

RADWIN's TerraBridge enables automatic, high-capacity connectivity to the bus as soon as it arrives at a station or terminates its journey after reaching a designated location in a parking lot.

TerraBridge is based on mmWave, 60GHz technology, providing bus operators with an ultra-high throughput of over 1.5Gbps for data offload or upload.

TerraBridge's small footprint and auto-connect functionality make it an ideal solution for upgrading stations and parking lots with high-speed data offload spots. Designed to operate in harsh environments, alongside an IP69k rating and practically zero maintenance requirements, TerraBridge allows bus operators to migrate to ultra-high speeds, with minimal cost requirements.

Technical highlights:

Throughput:	> 1.5Gbps
Antenna:	Integrated inside the radio unit
Latency:	Maximum<4m second; Average <2m second (for 90% load)
Power:	PoE Gbe interface, 802.3af
Connector:	M12 X-coded connector
Operating Temperatures:	-40° to 70°C / -40° to 158°F
Environmental:	IP-69K, NEMA-type 4
Size (HxWxD):	12x12x2.25 cm / 4.7x4.7x1 in

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