



Track and Train modules

Multi-gigabit connectivity rail-qualified mmWave modules for track-side and train-top deployment.

Blu Wireless mmWave solution for high-speed transport provides continuous, on-the-move multi-gigabit connectivity between trackside and train for on-board services including Passenger Internet Access, real time CCTV upload and operational information.

The LightningBlu solution is comprised of a full track-to-train product set, designed to extend service life and with low maintenance. Track side antennas are typically deployed along the rail track at intervals between 400 m to 1.6 km, these units provide multilink gigabit bandwidth to trains from a trackside fibre network. The compact roof-top antennas are qualified for train-top installation with a separate

in-train network processor unit which provides the interface to in-train distribution and delivery systems such as Passenger WiFi, CCTV, or PIS. Track side and train-top units each feature two radios which work together to maintain an aggregated, uncontested data throughput of between 2-4 Gbps per train, continuously and at high-speed.

Trackside and train units include the RWM6050 dual modem IC with HYDRA technology developed by Blu Wireless, two-sector electronic phased array antennas operating in 60GHz unlicensed spectrum, and a quad-core ARM Network Processor. The units support flexible network and edge application configuration in a standard and secure Linux environment.

Highlights

Full environmental rail certification to EN50155

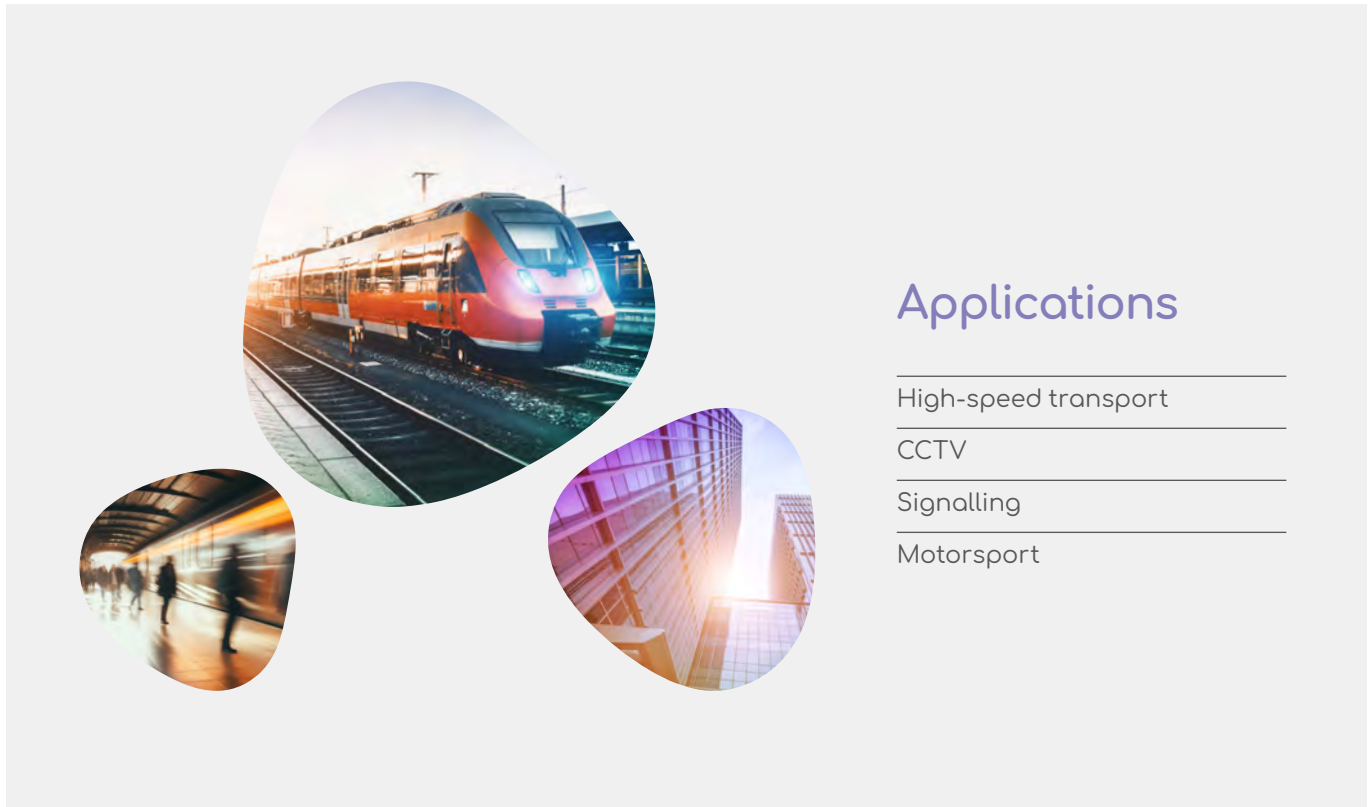
Suitable for High Speed Transport

Linux application platform

Dual modem RWM6050

57-71 GHz phased array antenna RFIC

Optimised algorithm for HST



Applications

High-speed transport

CCTV

Signalling

Motorsport

LightningBlu Features

mmWave Wireless	<p>Mobile Connection Manager for wireless link management</p> <hr/> <p>IEEE 802.11ad TDD-SC with infrastructure extensions</p> <hr/> <p>MCS0 to MCS12.5 (64QAM) modulation</p> <hr/> <p>Supports all six IEEE 802.11ad channels (free of oxygen attenuation in channel 5 and 6)</p> <hr/> <p>Throughput per radio of up to 3.4 Gbps - total of 6.8 Gbps per dual radio equipment</p> <hr/> <p>Measured range of 700m on channel 5 and 6 (>1Gbps)</p> <hr/> <p>EIRP +40dBm</p> <hr/> <p>Beam alignment and tracking using electronic phased-array antennas to accommodate installation and track gradient and bends</p> <hr/> <p>Sub-channelisation enabling robust co-existence in high density deployments</p>	Networking	<p>Multi-queue QoS</p> <p>Support for Link Aggregation</p> <p>SON support via API</p> <p>OA&M capability</p>
		Applications processor	<p>Quad-core 1.8GHz ARM v8 CPU</p> <p>Linux OS with user-space networking</p> <p>Remote diagnostics and software upgrade</p> <p>Network and security acceleration</p>
		Environmental	<p>Ambient temperature -25°C to +55°C</p> <p>IP66</p>
		Power	<p>24V to 48V DC (isolated)</p>



Trackside Features

Fully integrated track-side unit for pole/gantry mounting, 296 x 170 x 83mm, 3.9kg

Twin antennas with 180 degrees split for up/down-track coverage (extensible to quad-antenna)

Up to 3x10Gb network interfaces. Maximum one copper and two fibre for flexible backhaul and pass-through

Train Features

Compact, self-cleaning train-top enclosure, 200 x 155 x 75mm, 2.3kg

Separate in-train power/interface unit, 38 x 250 x 205mm, 3.0kg

Single-cable connectorised interconnect between units

Up to 3x10Gb network interfaces. Maximum one copper and two fibre



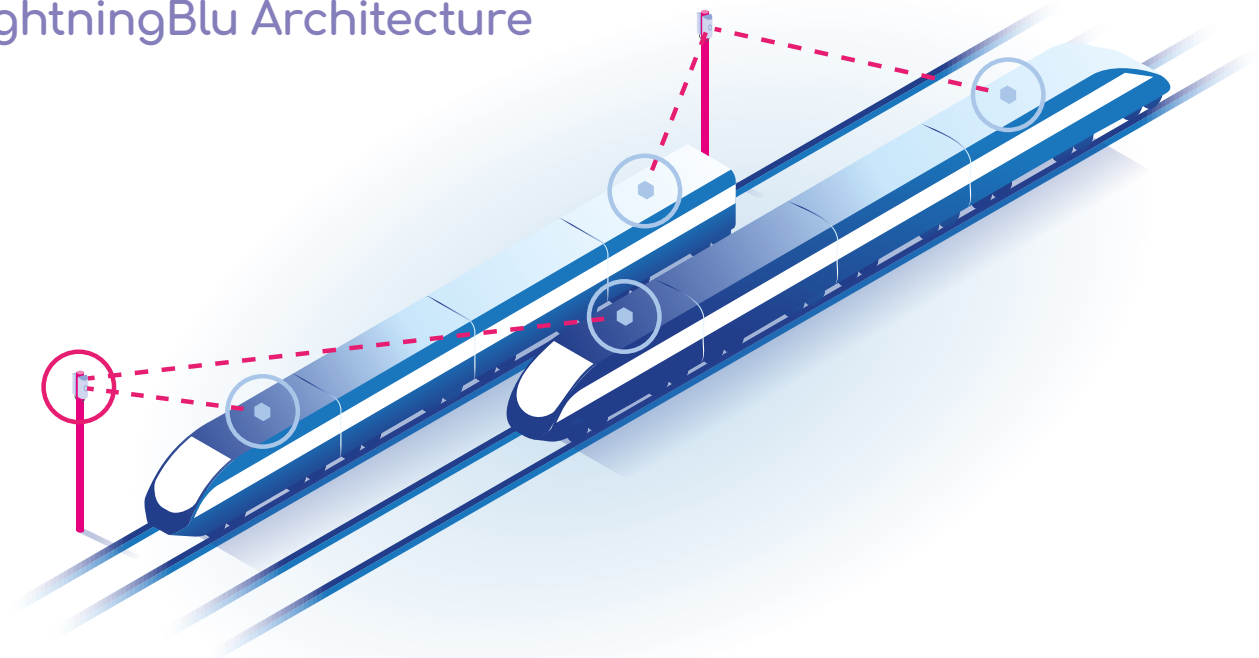


LightningBlu

Powering
Connectivity



LightningBlu Architecture



Blu Wireless

4th Floor, One Castlepark,
Tower Hill, Bristol, BS2 0JA
US Office 10447 Sorrento Rd,
Suite 100, #1007, Pensacola, FL 32507

info@bluwireless.com www.bluwireless.com

Powering
Connectivity