TransAir™ STS Series

The LILEE Systems TransAir™ STS series of high-reliability, high-performance gateways include a wide range of wired and wireless connectivity options

The STS series offers a practical way to provide connectivity to fixed and mobile assets for Fleet Management, Connected Transportation, Smart City, and Industrial IoT systems.

Ideal for operations management, user communications, and specialized safety and control systems.

Optimized for high bandwidth services and applications, such as video surveillance, safety, mobile Wi-Fi, and infotainment applications.

Support for sensor-augmented applications with advanced on-board sensors, such as OBD-II/ J1931, 3-axis gyroscope and 3-axis accelerometer.

Sample Use Cases

Driver Behavior

LILEE SafeRide™, a driver performance monitoring solution, gives busing companies that much needed safety and security edge to protect their passengers, drivers and business, to ensure a safe ride.

Rail Safety

A Fully Automated Operation (FAO) train set required a redundant architecture as well as a higher communication connectivity for failover and fault tolerance vital for the safety of the FOA rail system.

Autonomous Driving

Connectivity is essential for the safety of autonomous bus programs. The STS-1020 gateway provides the necessary onboard computing power while also ensuring robust always-on communications with the smart city transit grid.

Meeting the Challenge of IoT Deployments

Each point device, sensor, and field computer in an IoT deployment has its own communications requirements, and often comes with its own SIM card. The duplication of these communication channels makes large-scale IoT deployments cumbersome and expensive to grow. The LILEE Systems TransAir™ STS series provides unified communications, management, and applications support in a compact, rugged, and integrated platform.

Management

- Quality of Service (QoS) and bandwidth management to regulate network traffic, manage costs, prioritize Internet content, and minimize bandwidth congestion

Tracking

- Integrated sensors to support dispatching, operations, maintenance, and emergency response activities
- Global Positioning System (GPS) for precise location tracking and asset management

Connectivity

- Secure, high-speed, and uninterrupted broadband Wi-Fi to provide an at-home, in-office, or on-campus user experience
- Aggregated links from same or different carriers for greater bandwidth and redundancy
- Industry-leading compact form and interface diversity

User Services

- Passenger and field user services, including advanced broadband Wi-Fi
- Support for third-party infotainment services through digital signage or mobile apps
- Interfaces to real-time information exchanges and displays.
- Open, extensible environment hosting x applications for IoT edge computing in the field

The LILEE Systems T-Cloud is an open standards-based platform. It supports provisioning, management, prioritization, value-added services and analytics. When integrated with the STS gateways, it provides network management and autoprovisioning of them and enables organizations to remotely manage IoT data, conduct analytics, and perform other critical functions for safety and control.

Technology Advantages

Diverse interface options combined with the flexibility to run applications directly on the STS accelerates custom application development and deployment. The Linux environment allows a variety of applications to run out-of-the-box.

STS gateways include an embedded processor for hosting enterprise applications when configured in a edge computing architecture. Unlike other solutions, the STS series is open standards and Linux based, facilitating integration of a much wider range of enterprise applications than competitive solutions.

The STS gateway is a high-performance, high-speed connectivity platform with best-of-class features. It provides cloud management as well as edge computing capability in one device. Packed into its rugged,compact form are four classes of devices:

TransAir STS-1020

TransAir STS-1010

Communication

- Wireless communication via dual LTEA enables advanced roaming between carriers and redundancy for higher bandwidth and reliability. STS supports carriers in North America, APAC, and Europe.
- Dual 802.11ac Wi-Fi provides increased and more consistent data throughput and reduced power consumption.
- Gigabit switch with PoEprovides fast connectivity plus power for accessory devices, such as surveillance cameras and additional access points.
- Trunking and carrier aggregation technologies ensure the fastest, most reliable, or longest-range broadband connections

Application Containers

- STS launches and manages sensor-augmented IoT applications with a built-in industrial-grade Intel server.
- The Linux-based platform supports both LILEE Systems and third-party applications with optimized access to interfaces for reduced latency and jitter. The application containers bring enriched sensor data closer to the source for better data analytics.
- Edge computing applications can run even if WAN or cloud connectivity is lost, then reach out to the cloud for enhanced connectivity and processing power.

Interfaces

- The wide range of interfaces enables application breadth and serves as a gateway to legacy and future devices.
- Industry leading interface density and variety includes HDMI for touch-screen displays, USB, serial, and digital I/O ports.
- Includes advanced intelligent power management.

Sensors

- GPS support offers precise and global support for asset management and tracking.
- On-board gyroscope and accelerometer supply device movement and orientation.

Specifications at a Glance

The LILEE Systems TransAir™ STS series is available with options to suit a variety of communications scenarios. Contact your LILEE representative to determine the right solution for your project.

	STS-1020	STS-1010
Cellular Connectivity	Dual LTE Cat 6 (LTE Advanced) modules supporting carriers in North America, APAC, and Europe 2 LTE 4G antenna connectors (2 x 2 MIMO) 4 x SIM card slots	1 x LTE Cat 6 (LTE Advanced) module supporting carriers in North America, APAC, and Europe 2 x LTE 4G antenna connectors 2 x SIM card slots
Wi-Fi	2 x Wi-Fi 802.11ac (2.4 GHz/5 GHz) WLAN antenna systems (3 x 3 MIMO)	
WAN/LAN Interfaces	6 x 10/100/1000 Mbps Ethernet ports (4 of the ports PoE+)	
Onboard PC	Quad-Core Processor	
	4 x GB on board memory 2 x SATA SSD 2.5" disk bays Application containers to host video and sensor augmented applications	4 x GB on board memory 1 x SATA SSD 2.5" disk bays Application containers to host video and sensor augmented applications
Application Interfaces	HDMI, OBD-II, J1939	
Onboard Sensors	6-axis gyroscope 6-axis accelerometer	
GPS	Satellite System support: GPS (US), GLONASS (Russia), BeiDou (China), Galileo (EU)	
I/O Interfaces	4 x digital-in 2 x digital-out 2 x RS-232/422/485 serial ports	
Security	IPsec, AES/CCMP, DTLS, SSL	
Power	Input Voltage: 10 to 30 VDC Power Consumption: 100 W (total of 60 W supplied to the end devices)	
Industrial Operation	Fanless cooling Extended operating temperature range: -40 to 70 °C (-40 to 158 °F) Multi-industry worldwide certifications	

Contact us at **sales@lileesystems.com** or **+1 408-988-8672** for discuss how the STS series can enable your smart transportation systems for smart cities. To learn more, please visit **www.lileesystems.com**