TEKTELIC
communications
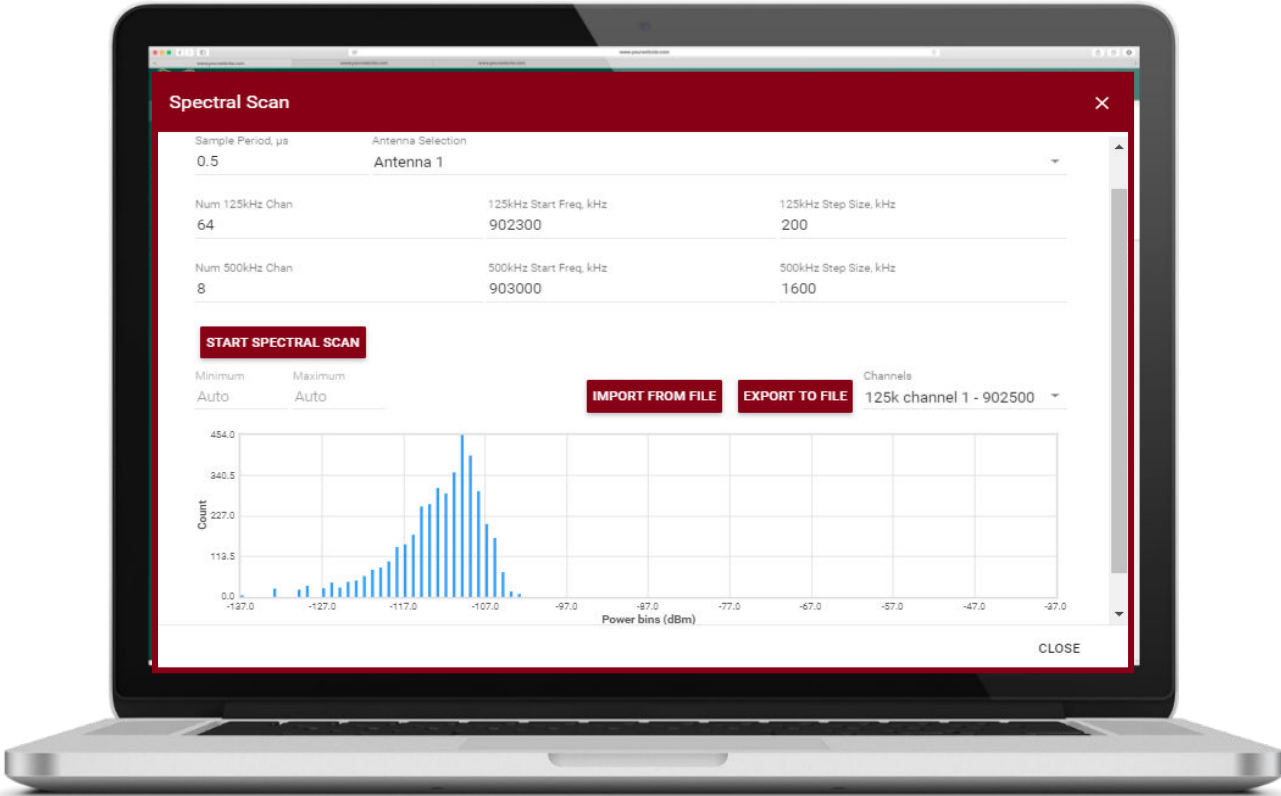
KONA Element OA&M Server

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KONA Element Overview

The KONA Element Server is a comprehensive LoRaWAN® Network tool designed to configure, monitor and optimize the performance of all LoRaWAN® Gateways in a customer network. KONA Element is a user-friendly interface to monitor the most common commands and actions for the gateways in your network. The server contains intuitive layouts and screenshots that provide valuable information on a number of advanced Radio Performance features. This allows users to easily use KONA Element as a tool for bulk management and configuration of all gateways in their network, but also provides the ability to update, manage and monitor individual gateways as required. KONA Element is available to any operator who has deployed a LoRaWAN® network with TEKTELIC gateways, regardless of the vendor they are partnering with for the network server.
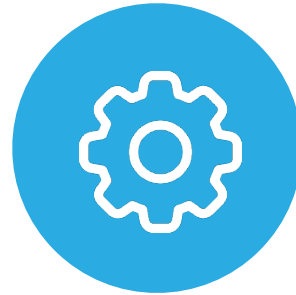
KONA Element provides the operator with valuable insight into their network, providing operational information such as status and debugging diagnostics, administration such as SW upgrades and configuration maintenance and other features such as:
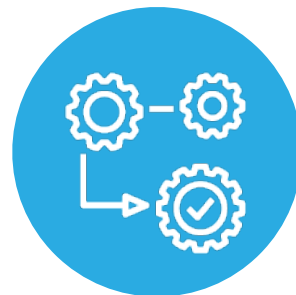
GATEWAY INFORMATION

TROUBLESHOOTING

EVENTS/ALARMS

SOFTWARE MANAGEMENT

PERFORMANCE MANAGEMENT

Gateway Information

KONA Element collects essential data from each Gateway, offering numerous benefits to the operator. It provides vital information such as; gateway type, serial number, gateway ID and IP Address, making it easier for the operator to stay organized when arranging updates for the gateways in their network. Along with giving the operators the ability to connect to a gateway to retrieve important information, KONA Element can also provide gateway location (latitude, longitude, altitude), timestamp and can adjust for gateway movement with real-time

visualization on a map. Network performance is measured at gateways, this is a function of gateway position. If you have poor performance at or near to a gateway and you can visualize these on a map you can start to see how to improve your network.

Troubleshooting

In the event that a critical error occurs to a gateway requiring reboot, KONA Element gives operators the ability to action this remotely. This reduces operating expenses associated with manual maintenance and truck roll by eliminating the need to physically visit the gateway for diagnostics. The costs associated with manually servicing gateways are typically higher than cost of the gateways themselves, making KONA Element an effective cost-saving feature.

KONA Element allows operators to establish, terminate & execute SSH – Secure Shell sessions giving operators the ability to identify, understand and resolve unknown issues with deployed gateways. KONA Element lets you connect to a gateway and run scripts to troubleshoot different functions and check the gateway status. Without KONA Element, you may need a 3rd party program to connect to a gateway individually, which in turn relates to more time, money and resources spent identifying potential issues.

Configuration

Gateway configuration with the KONA Element is now a seamless integrated process, saving time, money and resources. Remote firewall updates and modem configuration is quick and simple with the user-friendly KONA Element dashboard. Important updates may not be uniform across all gateways in your network, and KONA Element gives operators the ability to remotely update and configure only the gateways which require it.

When it comes to backhaul connectivity for the gateway, KONA Element gives operators the ability to easily set, modify or delete a cellular APN. If you are deploying a gateway with cellular and ethernet backhaul capabilities, KONA Element allows operators to remotely choose their preferred backhaul configuration and change the fallback interface as needed.

Events & Alarms

Having a visualization of Startup & Initialization Faults can be a significant time saver for the operator in the event that an error occurs. Notifications are sent by KONA Element which can then efficiently notify the operator of the potential issue, and identify which gateway is impacted before the issue impacts the network operation.

One common issue that occurs in the operation of a radio network is the potential of hardware overheating. Overheating can result in gateway failure, but with KONA Element, the operator has visibility to early warning signs that the gateway temperature is exceeding a certain threshold. Operators can proactively investigate the potential issue before an outage occurs, and activate remote shut off if necessary.

KONA Element provides a suite of valuable alarms to notify operators of potential issues worth investigating. These include; Interface alarms, cellular backhaul alarms, and GPS holdover expiry alarms. Operators benefits by having increased visibility into network issues allowing them to quickly and proactively resolve these before outage or downtime occurs.
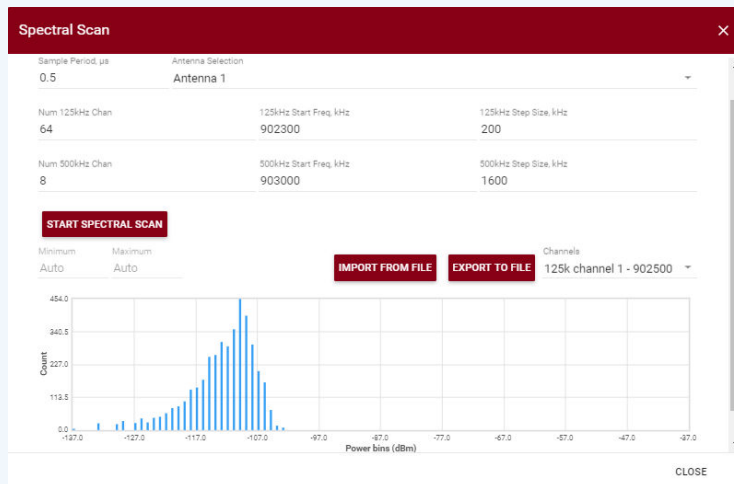
Software

KONA Element enables operators to simply action the update of essential software when needed. This includes; BSP Upgrades, file transfers, new package installs and patches that can all be remotely managed, saving the operator time and money.
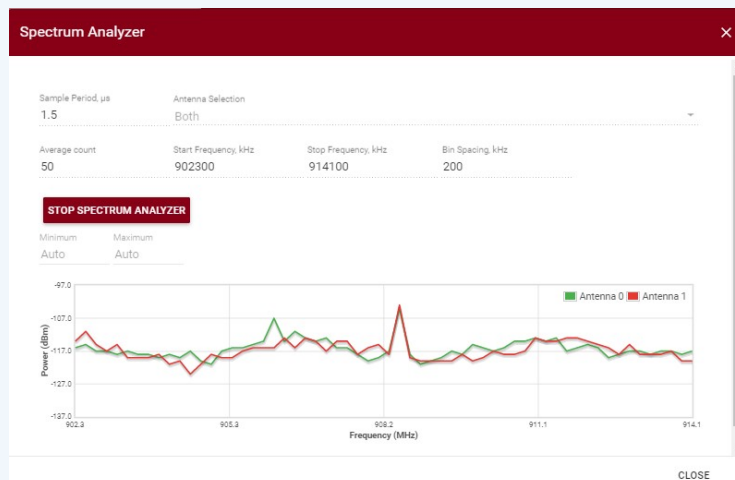
Performance Management

KONA Element provides operators with powerful management tools providing valuable, real-time insight into the network performance.

Spectral Scan – Identifying how much noise or interference is present at each specific frequency channel

Analysis of the distribution of power in each specific frequency channel.

Spectrum Analyzer – Real time analysis of power levels by frequency, giving operators the ability to identify any noise or interference in their environment.

Conclusion

The KONA Element Server is a comprehensive LoRaWAN® Network tool designed to configure, monitor and optimize the performance of all LoRaWAN® Gateways in a customer network. It is a tool providing a user-friendly interface to monitor the most common commands and actions

for the gateways in your network. Remote gateway configuration and performance monitoring with the KONA Element is now a seamless integrated process resulting in network operators saving time, money and resources. Overall, The costs associated with manually servicing gateways are typically higher than cost of the gateways themselves, making KONA Element an efficient and effective cost-saving tool.

About TEKTELIC

TEKTELIC, a global leader of End-to-End IoT Products and Solutions, works to perfect the deployment of IoT Networks and Solutions for the best efficiency, high reliability, cost effectiveness and ease of operation. TEKTELIC IoT solutions are designed to work out-of-the box with little to no prior technical expertise from the end user. This results in IoT acceleration and expediency. TEKTELIC solutions are not only unique because of how they are designed, but because of their ease of deployment, operation, and high reliability to help the consumer became a part of the IoT ecosystem. For additional information, visit: https://tektelic.com/.