RAJANT

SPEC SHEET

IoT Infrastructure

sGate Cardinal

Wi-Fi/BLE Gateway and Wi-Fi Mesh Node

sGate Cardinal is designed as BLE Observer, WiFi STA and a Wi-Fi connectivity platform and it operates as WiFi-BLE network gateway, receiving BLE information from the sensors and publishing MQTT messages. It is a powerful infrastructure wireless network node bringing the benefits of Rajant Kinetic Mesh Networking and Instamesh.

The sGate Cardinal extends the range of traditional Wi-Fi past the limitations of fixed infrastructure with no line-of-sight requirements using two transceivers having a combined data rate of 1.73 Gbps.

A problem solver, the mesh node works around obstructions, remedying Wi-Fi and 5G range challenges, while the gateway – equipped with edge computing – process sensor messages and create sensor fusion with synthetic data streams.

The Kinetic Mesh coverage solves potential IoT device connectivity issues and eliminates communication gaps in difficult environments.

Key Features

- Receives sensor data over **BLE** and process into **MQTT** messages
- Pivotal to **tracking** applications
- **Sends messages** to actuators placed in the area to perform actions
- Works as an **edge computing** device creating **sensor fusion**
- **Connects** Wi-Fi client devices to the network
- Extended range for Wi-Fi connectivity to clients and **wireless backhaul** to the LAN without wires
- Ability to **connect natively to Cowbell** and any edge processor
- Comes with a ruggedized **IP65 shell** for outdoor harsh environments and different mounting options
- Can be coupled with **different antennas** depending on the environment and the need
- Shows Cardinal's status with **LED** helping deployment and troubleshooting

Benefits and Value

Seamless Integration and Scalability: with the capability to connect natively to a Cowbell edge processor, it serves as an efficient IoT hub that can integrate with a variety of devices and systems, allowing businesses to scale up without significant additional investment.

Geofencing applications: used in combination with the tracking tags, sGate Cardinal collects the tracking data from the sensors offering accurate location-based reporting and, depending on preset boundaries and permissions, can allow real time alarms when required.

Sturdy shell: incased in an IP65 body, with multiple mounting accessories and different power supply options, sGate Cardinal can be used in harsh environments and can be adapted to any specific case.

Operational Efficiency and Cost Savings: an IoT hub and a Wi-Fi connectivity and wireless backhaul in a single integrated device offers significantly lower costs of ownership and the leveraged benefits of both technologies.

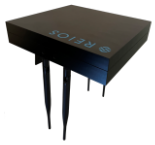
Enhanced Environmental Monitoring and Automation: real-time environmental monitoring, such as tracking temperature, humidity, and occupancy levels, used together with wireless actuators, can automatically send commands to adjust environmental parameters in response to environmental changes.

RAJANT

SPEC SHEET

sGate Cardinal

Wi-Fi/BLE Gateway and Wi-Fi Mesh Node



Product Features	
Product Code	50.100006.016
User interface	9 dots Led strip for Wi-Fi and IoT status Single led for router status
Tag detection	Detection up to 60 meters (BLE and WiFi 2,4GHz)
Power Supply	POE by RJ connector 24-53V
Receiver Sensitivity	Noise Suppression Receiver (NSR)
Wireless Connectivity	WiFi, BLE 4.2
Wi-Fi Protocol	dual-band 2.4/5 GHz
Internal memory (gateway)	4MB
Max Data Rate	300 Mbps | 866.7 Mbps | 866.7 Mbps
Wi-Fi AP Frequency	2402 – 2482 MHz | 5150 – 5850 MHz |
Wi-Fi AP TX power	25 dBm
Wi-Fi AP antenna gain	5 dBi
Wi-Fi Client Frequency	2402 – 2482 MHz
Wi-Fi Client TX power	14 dBm
Wi-Fi client antenna gain	2 dBi
BLE	Bluetooth v4.2 and Bluetooth LE specific
BLE TX power	14 dBm
BLE antenna gain	2 dBi
Wi-Fi Security	Open, WEP, WPA, WPA2
Supported Protocols	IP, TCP, UDP, ARP, ICMP, HTTP, DHCP
Operating Temperature	-10°C / +50°C
Protection	IP65
Size and weight	212x195x56 mm - 1250 gr
Warranty	1 year
Certifications	CE, FCC, IC * all *pending**