

 **LoRa Alliance**® Member

**SF SYSTEM**



**SQ OUT N 800 HOTSPOT**

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## ADVANTAGES

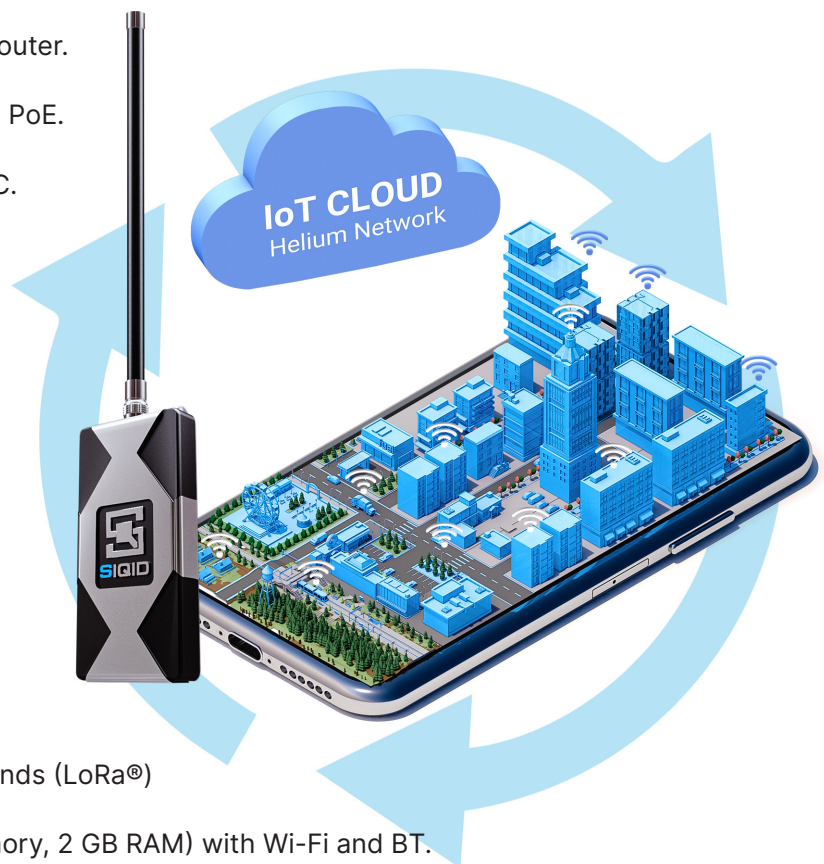
- LoRaWAN® concentrator based on Semtech® SX1303 with LBT allows you to scan the channels of the LoRaWAN® network (including for occupancy) beforehand, before receiving or transmitting data - more efficient operation of the LoRaWAN® network and the Helium blockchain.

- Built-in GNSS positioning module supports GPS, Beidou, Glonass, etc.
- 4-core processor Broadcom BCM2711, Cortex-A72 (ARM v8) 64-bit 1.5 GHz.
- RAM LPDDR4 up to 8Gb.
- Up to 32Gb eMMC 5.1 storage.
- Power consumption like that of a household router.
- 100 Mbit/s Ethernet support with 12V passive PoE.
- Operating temperature range: -40°C to +85°C.

## FEATURES

- Concentrator based on Semtech® SX1303 with LBT - Listen Before Talk (SX1303 + 2 pcs. SX1250 + SX1261 with different LoRaWAN®, Wi-Fi/BT and GPS antennas).

- Frequency range: 8XX Mhz / 9XX Mhz ISM bands (LoRa®)
- Raspberry PI Compute Module 4 (32 GB memory, 2 GB RAM) with Wi-Fi and BT.
- ECC608 encryption chip for key storage.
- The aluminum alloy body is a heatsink.
- DC 12V/2A power supply, Passive PoE (PoE+ 802.3at in development).
- Local web-based monitoring panel for easy diagnostics and control.
- Built-in GNSS positioning module with a GPS antenna.
- Working with the Helium network.
- Various management and control methods (local web panel, remote web panel).
- Automatic self-diagnosis and OTA software update (both embedded and blockchain).
- Safe exception on power off.



SiQiD OUT N 800 Specifications	
Feature	Description
Processor	Broadcom BCM2711 quad-core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
Self-management	Watchdog, RTC, Timer
Memory	2GB / 4GB / 8GB LPDDR4-3200 SDRAM (depending on variant)
Storage	32GB eMMC 5.1 flash memory
LoRa Module	Based on SX1303 with fine timestamping
LoRaWAN Specification	
Frequency Bands	EU868, IN865, US915, AU915, KR920, AS923-1, AS923-1B, AS923-2, AS923-3, AS923-4
Channels	8 (multiSF) + 1 (LoRaSTD) + 1 (FSK)
Sensitivity	-141dBm@SF12, BW 125 kHz
Transmit power	up to 27dBm (limit by E.I.R.P in region)
Connectivity	
Ethernet	1 x RJ45 10/100/1000 Base-T, Half/Full Duplex, Auto MDI/MDIX, with Passive PoE 12V
Wi-Fi	Wi-Fi 5 (IEEE 802.11 a/b/g/n/ac) 2.4/5GHz, 433Mbit/s, WPA/WPA2 with encryption
Bluetooth	v5.0, BLE, work with older versions of Bluetooth
GNSS	GPS, BEIDOU, GALILEO, GLONASS, QZSS
Celluar (optional)	LTE cat 4 module for celluar network
Other	
Buttons	1 x Reset, 1 x Bluetooth Pairing
LEDs	1 x Red, 1 x Green, 1 x Blue
Interfaces	1 x RJ45(Ethernet), 1 x USB Type-C (Flashing), 1 x N - Type for LoRa antenna, 2 x SMA for Wi-Fi/Bluetooth and GNSS antenna
Power supply	1 x AC/DC 12V/2A power supply, Passive PoE
Software	
Network protocols	SNMP v1/v2c/v3, IPv4, TCP, UDP, DHCP, SSH, DNS, HTTP, HTTPS etc.
Management	WEB Dashboard, CLI, Android and iOS App, IoT Cloud
Environment	
Dimension	
Weight	
Storage Temperature	-40°C to +105 °C
Operating Temperature	-40°C to +85 °C (reduce radio performance above 70°C)
Storage Humidity	0% to 95% (non-condensing)
Operating Humidity	0% to 95% (non-condensing)
Ingress Protection	IP67
Installation method	Wall or Pole Mount
Certifications	
Safety	EN 62368-1:2014/AC:2015; EN 62368-1:2014/A11:2017/AC:2017-3
Health	EN 62311:2008
EMC	EN 301 489-1 V2.2.3; EN 301 489-3 V2.1.1; EN 301 489-17 V3.2.4
Radio	EN 300 220-2 V3.1.1; EN 300 328 V2.2.2; EN 301 893 V2.1.1; EN 300 220-1 V3.1.1

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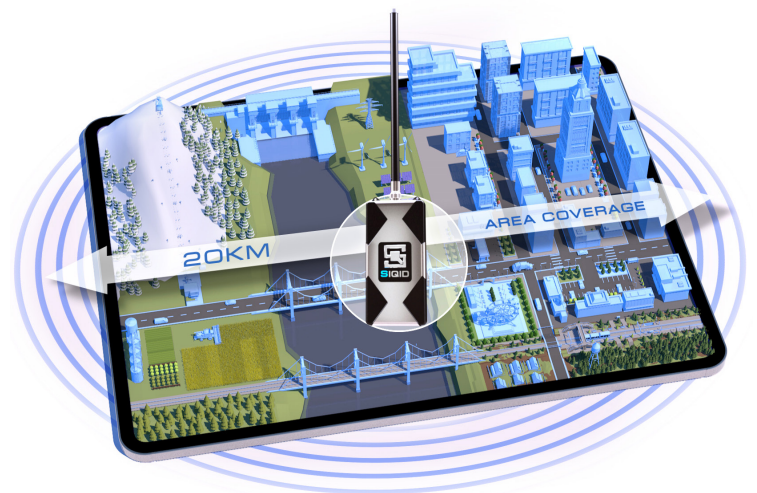


**The alternative Helium® Network** is designed for low-power sensors and devices and runs on compatible access points. The Access Point is a combination of Helium® Blockchain and LoRaWAN® packet routing software in one compact and LoRaWAN®-compatible gateway. This allows customers to participate in the deployment of Helium® coverage easily and use LoRa-based open wireless IoT networks.

**LoRaWAN® “SiQiD” IoT Access Points** provide IEEE (802.11 a/b/g/n/ac) compliant Wi-Fi connectivity – a high gain external antenna provides a more stable connection to the router.

**Additional LoRaWAN® antennas** can be connected to the N-Type connectors or with an RF cable (if the antenna must be installed elsewhere or antenna’s physical size does not allow it to be installed directly on the gateway). If necessary, you can purchase an N-Type – N-Type adapter with built-in lightning protection.

**The IoT LoRaWAN® access point** covers a distance of up to 20 km in open spaces. The use of the new Semtech SX1303 radio processor enables more data packets to be processed simultaneously, reducing the number of data layer collisions for denser deployment of sensors in areas such as smart agriculture, smart home or asset tracking.



**The gateway is equipped with a built-in GNSS positioning module with a GPS antenna**, which is used not only to determine the location of the gateway, but also to synchronize the time of the gateway and generate timestamps of LoRa packets.

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