

beechat

Kaonic 1S radio module

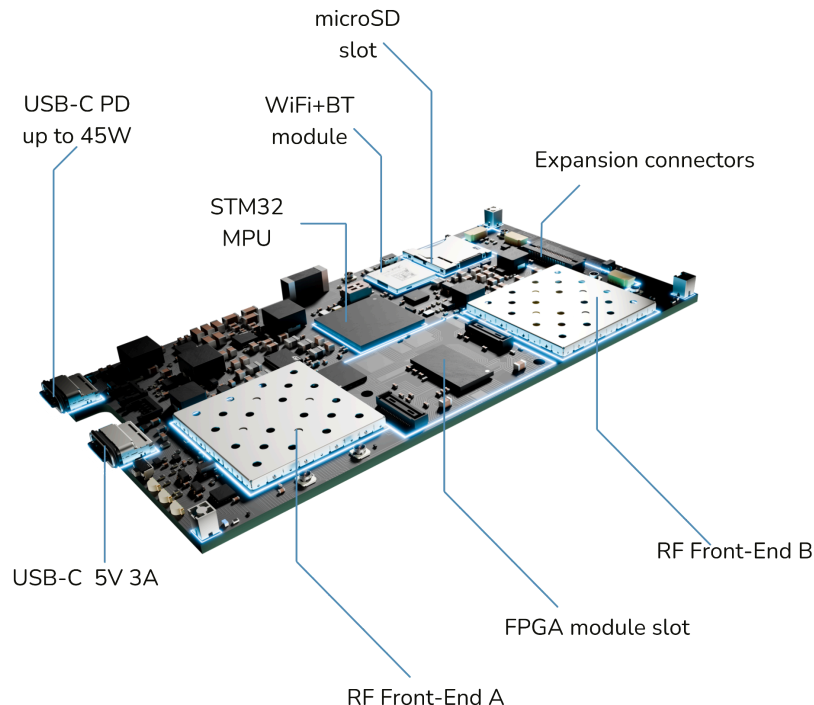
Next-generation mesh networking system

Revision 1.2, February 19, 2025

1. Introduction	2
2. Key Features	3
3. Key Performance Data	4
4. Benefits	5
5. Kaonic App	6
6. Applications & Use Cases	8
7. Support and Warranty	9
8. Disclaimer	9
9. Conclusion	9

1. Introduction

In the age of advanced communication, the Kaonic 1S radio communication module emerges as an integral component of the revolutionary Kaonic System. With unmatched security features and state-of-the-art cryptography, this radio system stands at the forefront of mesh communication. Connect your Kaonic 1S radio module to your smartphone via USB, WiFi, or Bluetooth and start communicating with other users around you.



Kaonic 1S
130 x 60 x 6.7 mm



(NOTE: Kaonic 1S is only the internal radio module. For a full Kaonic device as shown above including battery, case and antennas please contact sales@beechat.network)

2. Key Features

Mesh communication system:

Armed with encrypted real time mesh networking, with up to 128 network hops. This increases the reach of your messages by making each Kaonic radio module a repeater in your mesh network. Chat, audio call, file sending included in the Kaonic App.

High speed radio:

Goes beyond standard communication radios, resulting in enhanced protection against hacking attacks. Kaonic offers dual radio transceivers which allow bi-directional real time audio calls or data sending.

3. Specifications

Feature	Description
Part number	K1S
Dimensions (mm)	130 x 60 x 6.7
Antennas	<p>Integrated antennas:</p> <ul style="list-style-type: none"> • 2 x for 2,4 GHz RF Frontends • 1 x for WLAN/BT <p>External antenna connectors:</p> <ul style="list-style-type: none"> • 2 x U.FL for Sub GHz RF Frontends • 2 x U.FL for optional 2,4 GHz RF Frontends
Sub-GHz Frequency band	863-876 MHz (CE), 902-928 MHz (FCC)
2.4 GHz Frequency band	<p>Transceiver A 2400-2483,5 MHz and 2402-2427 MHz</p> <p>Transceiver B 2400-2483,5 MHz and 2447-2472 MHz</p>
Radio data rate (maximum)	4800 kbps, 1200 kHz channel, -92 dBm
Radio data rate (minimum)	12.5 kbps, 100 kHz channel, -123 dBm
Power output (EIRP)	<p>Sub GHz: CE: 500 mW (ERP), FCC: 1000 mW (EIRP)</p> <p>2.4GHz: 100 mW (EIRP)</p>
Low power consumption (MPU 100%, Transceivers RX mode)	1.3 W
Max. power consumption (MPU 100%, 2x 868/915 MHz 1W out, 2x2,4 GHz +21 dBm out) = 11,3 W	11.3 W
Mesh algorithm	Reticulum network
Cryptography type	Asymmetric
Compatibility	iOS, Android, Windows, Mac, Linux

beechat

Weight	85g
Temperature Range	-40°C to +85°C
Environmental Conditions & Compliance	EU RoHS, Lead-Free, Halogen Free, CE/RED Compliant. See Chapter 8 of this datasheet for details.

4. Benefits

- **Robust Security:** Crafted to withstand sophisticated hacking attempts. All traffic is encrypted with Elliptic Curve Cryptography.
- **User-friendly:** Designed for seamless interaction through the Kaonic App.
- **Future-ready:** Geared for integration with upcoming system enhancements like ATAK or MAVLink.

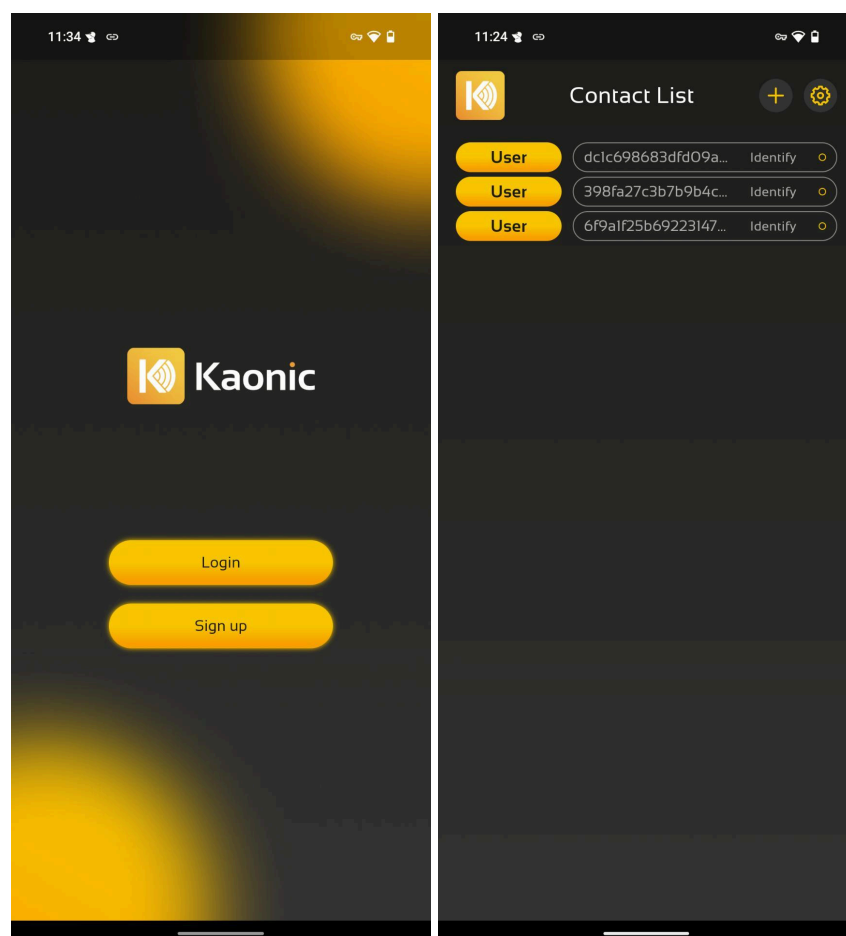
[CONTINUED ON NEXT PAGE]

5. Kaonic App

Kaonic App is the official Android application which allows users to:

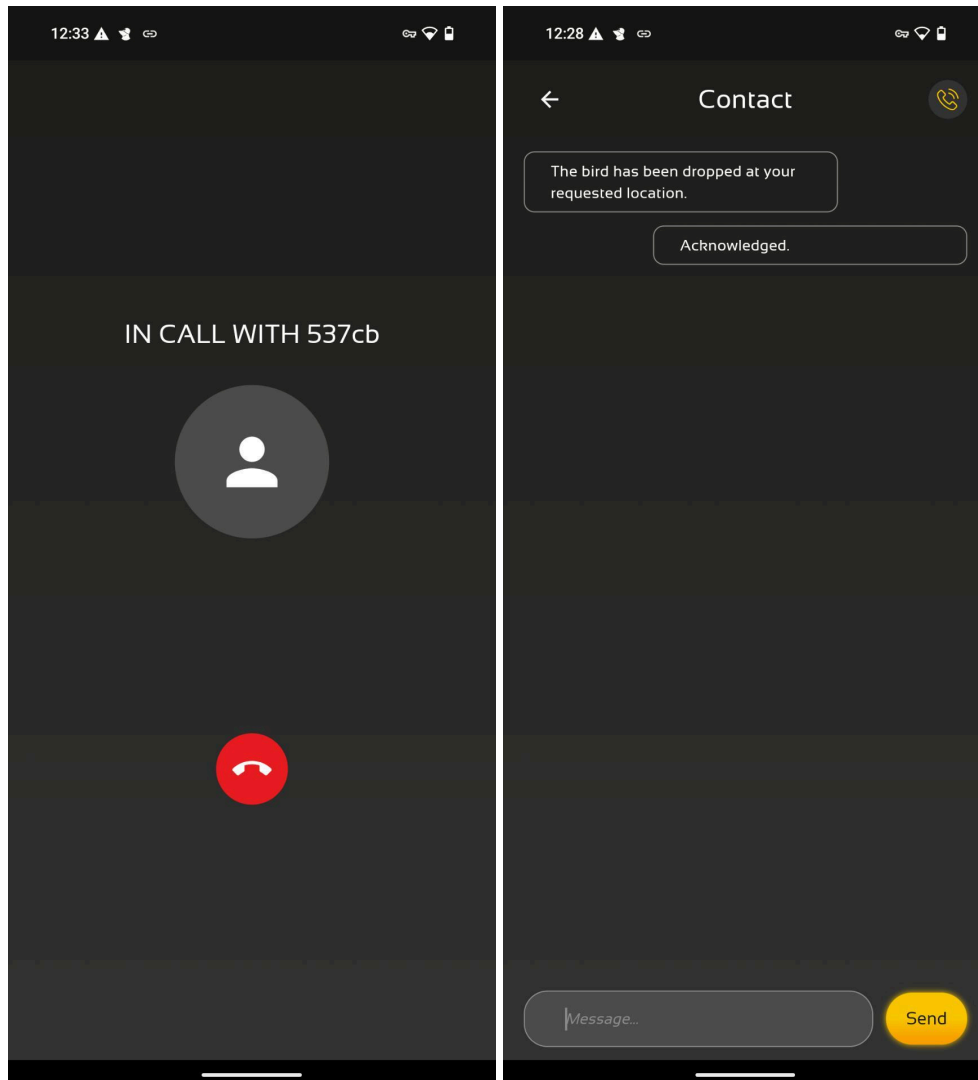
- chat with users in the mesh network
- start an audio call with users in the mesh network
- password-protected user login

The application can be extended to include video calls, remote control of other devices and more features.



Sign up / Log in Screen and Contact list view

bee chat



Audio call and Chat view

6. Applications & Use Cases

In today's interconnected world, the need for reliable, unhackable communication touches numerous industries. Kaonic's advanced cryptographic features and integration capabilities with various systems make it an essential tool for a diverse array of applications:

1. Defense & Off-grid:

- **Tactical Communication:** Squads are able to communicate with live audio calls without the Internet through radio communication. Instead of walkie-talkie style where only one can talk, Kaonic allows a live audio call between different users for instant communication.

2. Construction:

- **Advanced Communication Systems:** During construction, live audio calls could be a matter of life and death. As a vehicle is moving backwards, Kaonic allows the driver and crew to communicate live to each other without walkie-talkie style delay.

3. Drones:

- Kaonic can be used in drone systems for command and control of propeller, video, audio and movement. Since each Kaonic radio is a repeater, the network can be much larger than usual with just one pilot and one drone.

The versatility of the Kaonic 1S, coupled with its unparalleled security features, positions it as the cornerstone of modern communication systems without Internet across multiple industries.

7. Support and Warranty

For queries related to the Kaonic 1S or the broader Kaonic System, contact our support team at b2b@beechat.network

8. Disclaimer

- **For OEM Integration & R&D Use Only:** The Kaonic 1S module is a subassembly component designed for integration into larger systems by Original Equipment Manufacturers (OEMs).
- **Certification Notice:** As Kaonic 1S is a component, it does not require standalone certification. Compliance and certification for the final assembled product—meaning the end product created by the OEM using this module—remain the responsibility of the OEM.
- **Export Compliance Statement:** This product may be subject to export controls and cannot be exported to restricted or embargoed countries. Export to Ukraine and other regions may require special authorisation.
- **Disclaimer:** Beechat Network Systems Ltd disclaims liability for any non-compliance with regulatory requirements if the product is used outside the specified scope of OEM integration or exported without authorisation.

9. Conclusion

The Kaonic 1S is not just a product; it's a commitment to secure communication. As an essential part of the Kaonic System, it is set to redefine the way businesses communicate in off-grid scenarios.

For more about the Kaonic 1S and the entire Kaonic System, visit our official website or scan the QR code below.

