



MITRA™ – The Rugged 5G Mobile

Built for the Network. Designed for the Mission

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Overview

Mission-critical users in defence, paramilitary, police, and public-safety environments need communication devices that go beyond conventional smartphones. To meet these needs, Lekha is developing MITRA™ – a rugged **5G mobile**, to complement its 4G/5G infrastructure solutions designed for these customer, providing secure, private and dedicated networks.

MITRA™ combines **ruggedized design, extended radio coverage, specialized frequency-band support, multi-waveform communication capabilities and enhanced security** in a single field-ready device.

Designed around emerging private and dedicated 4G/5G network requirements, MITRA™ is intended to provide reliable communication in challenging environments where coverage, device resilience, and communication security are critical.

Addressing the Mission-Critical Communication Challenge

Conventional smartphones are primarily designed for consumer networks. Defence and public-safety users operate under very different conditions.

Field personnel may require:

- Reliable connectivity at the edge of a coverage area
- Operation across challenging terrain and environments
- Support for specialized frequency bands
- Secure communication within controlled private networks, with customer-defined encryption keys
- Dedicated push-to-talk and group communication
- Compatibility with specialized communication waveforms
- Rugged hardware suitable for demanding field conditions
- Centralized control of devices, identities and applications



MITRA™ is designed to address these requirements while integrating directly with dedicated 4G/5G network infrastructure.

Product Highlights

Ruggedized for Field Deployment

Designed for demanding operational environments and planned for compliance with JSS 55555 environmental requirements, MITRA™ is intended for deployment across challenging field conditions. Its rugged design targets applications where conventional commercial smartphones may not provide the required level of environmental resilience.

Designed for Extended Coverage

MITRA™ is designed for large-cell and wide-area deployments, incorporating a high-gain antenna architecture to improve radio performance and support reliable connectivity, particularly at cell edge. This makes it particularly suitable for applications where maximizing usable coverage from deployed 4G/5G infrastructure is important.

Specialized Frequency-Band Support

MITRA™ is designed to support specialized frequency bands relevant to defence, public safety and dedicated network deployments. This provides flexibility to operate beyond conventional consumer cellular configurations and enables deployment across purpose-built communication networks.

SDR-Based Multi-Waveform Communication

An SDR-based add-on communication module provides a pathway for supporting multiple communication waveforms. This architecture can enable MITRA™ to evolve with operational requirements and support specialized communication capabilities without requiring a completely different user device for every network or waveform.

Security for Critical Communications

Security is designed into MITRA™ at both the hardware and software levels. The product roadmap includes hardware security architecture with a planned SAG-grade security module for critical communication applications. The centrally managed software stack is engineered for deployment within private networks, providing controlled device and software management while strengthening protection against unauthorized access, identity compromise, and communication interception.

Key Use Cases

Defence

The unit is designed for personnel operating in remote, border and tactical environments where reliable connectivity and secure communications are essential. Potential applications include:

- Field-force communication
- Tactical voice and data
- Command and control
- Situational awareness
- Secure group communication
- Remote-area connectivity

Paramilitary & CAPF

MITRA™ can support communication requirements across large operational areas, including border security, counter-insurgency operations, and field deployments. Potential applications include:

- Push-to-talk communication
- Team and group coordination
- Secure voice and data
- Real-time operational information
- Personnel tracking and location services

Police & Public Safety

Dedicated 4G/5G networks can provide police and emergency personnel with controlled connectivity independent of conventional consumer networks. Potential applications include:

- Mission-critical voice
- Group communication
- Video and data sharing
- Incident response
- Command-centre connectivity
- Secure field communications

Critical Infrastructure

MITRA™ can also support private-network deployments in sectors where network reliability and device resilience are important. Potential sectors include:

- Oil & gas
- Mining
- Ports
- Railways
- Utilities
- Large industrial facilities

Why Lekha?

Lekha Wireless brings together the network infrastructure, radio expertise, and mission-critical communication requirements needed to develop a purpose-built 5G mobile for specialized deployments. Unlike a conventional rugged smartphone, MITRA™ is being developed as part of an integrated communication system.

From network to device, Lekha's 4G/5G infrastructure, mission-critical private networks, and secure rugged 5G mobiles provide a foundation for building dedicated communication networks for organizations that require greater control over connectivity, devices, and operational communications.

The Road Ahead

The rise of private 4G/5G networks creates an opportunity to move beyond conventional commercial smartphones to develop purpose-designed communication endpoints for mission-critical users. Lekha's MITRA™ is being developed with this vision – to create a secure, rugged, and coverage-optimized 5G device designed to become the field endpoint of India's next generation of mission-critical private networks. With support for specialized frequency bands, high-gain radio architecture, SDR-based multi-waveform capabilities, and a security-first software and hardware architecture, MITRA™ is positioned to complement Lekha's growing 4G/5G infrastructure portfolio across defence, paramilitary, police and other critical communication environments.



Lekha Wireless is a deep-tech company that designs and manufacturers 5G, 4G and dot16 RAN infrastructure for private, public and defence networks. Started in 2010, Lekha is focused on R&D of these wireless connectivity technologies and actively participates in 5G-Advanced and 6G standardization. Lekha is a member of the TSDSI SDO and is a founding member of the Bharat 6G Alliance.

For more information or a demonstration, please send a request to business@lekhawireless.com. For details on other products please visit www.lekhawireless.com.