

# CYIENT

SECURE AND RELIABLE  
MILITARY COMMUNICATION SYSTEMS  
DESIGNED, OWNED, AND MADE IN INDIA



Brought to you by

**CYIENT** & Saankhya Labs



## Cyient and Saankhya Labs Present India's First Indigenous Manpack SDR

The Cyient tactical radio is an indigenously designed, developed, and manufactured software defined radio (SDR) for secure military communication. The manpack SDR supports military communication over the VHF/UHF frequency band in MANET environment. The Cyient SDR is powered by a fully-programmable SDR- baseband chipset from Saankhya Labs. A suite of custom waveforms developed in-house from the ground-up, ensures the highest level of communication security. SDR supports integration of customer specified security module in software & hardware for ComSec and frequency hopping for TransSec.

The Cyient SDR supports a wide variety of narrowband and wideband waveforms, including single carrier and multi-carrier OFDM. It is designed to offer flexibility for a range of operational requirements of the Indian defence forces. The SDR is both frequency and bandwidth agile, supporting BW from 1KHz-8MHz. It is payload agnostic and is configurable to support voice, audio, video, and data. Additionally, it also supports a sophisticated GIS map for location services.

Key Features	Technical Specifications	
<p><b>Frequency Band</b> VHF &amp; UHF</p> <p><b>Modulation</b> Multiple modulation schemes</p> <p><b>Power Output</b> Variable up to 10W (PEP)</p> <p><b>Display</b> 3.5" high-resolution, touch-sensitive, sunlight-readable LCD</p> <p><b>Data Rate</b> Narrow Band (FF &amp; FH): 28 Kbps &amp; above over 100 kHz BW Wide Band (FF &amp; FH): 2 Mbps &amp; above over 1.2 MHz BW</p> <p><b>Waveforms</b> Proprietary and legacy Self-healing, self-forming Mobile Ad-hoc Network (MANET)</p> <p><b>ECCM</b> FF and FH 100, 500 hops/second and above*</p> <p><b>Encryption</b> Standard and proprietary</p> <p><b>GPS / IRNSS* Receiver</b> Integrated</p> <p><b>Security</b> Indigenous SDR chipsets Eliminates embedded spyware</p>	<p><b>Baseband</b></p> <p><b>Waveforms:</b> Legacy analog and proprietary digital Waveforms to inter-operate in fixed frequency and frequency hopping modes</p> <p><b>MANET:</b> 16 nodes in NB &amp; 32 nodes in WB</p> <p><b>Modulation:</b> AM (SSB, DSB), FM, FSK, CPM, OFDM (QPSK, QAM)</p> <p><b>RF</b></p> <p><b>Frequency:</b> 30 MHz to 512 MHz</p> <p><b>Transmitter Output:</b> Variable up to 10 W (PEP)</p> <p><b>Harmonics Level:</b> -60 dBc min</p> <p><b>Spurious Level:</b> -70 dBc min</p> <p><b>Receiver Sensitivity:</b> -116 dBm or greater for SINAD of 10 dB for FM -113 dBm or greater for SINAD of 10 dB for AM -116 dBm for digital narrow band for BER better than 10e-6 -104 dBm for digital wide band for BER better than 10e-6*</p>	<p><b>System</b></p> <p>PTT (Voice), Message (Touch screen) VOX and bone conduction headset (optional)</p> <p><b>Security Features:</b> Supports user-defined and proprietary encryption</p> <p><b>Interfaces</b></p> <p>Audio   USB   Ethernet (supports IP routing in MANET)</p> <p><b>Physical</b></p> <p><b>Size:</b> 325 x 250 x 100 mm <b>Weight:</b> &lt; 5.8 Kg with battery</p> <p>Battery - Rechargeable turbocharged battery suitable for 8 hours of continuous operation at 1:9 send to receive ratio</p> <p><b>MIL Standards</b> JSS 5555 MIL-STD 810G MIL-STD 461E</p> <p><b>Network Management System*</b></p> <p><b>Remote Control Unit*</b></p> <p><b>Data Terminal Equipment*</b></p> <p style="text-align: right;"><b>LEGEND: Achieved; *Targeted</b></p>

### About Cyient

Cyient (Estd: 1991, NSE: CYIENT) is a global engineering and technology solutions company. As a design, build, operate & maintain partner for leading organizations worldwide, we take solution ownership across the value chain and leverage the power of digital technologies and advanced analytics, along with domain knowledge and technical expertise, to solve complex business problems. With more than 15,000 employees globally, our industry focus includes aerospace and defense, healthcare, telecommunications, rail transportation, semiconductor, industrial, and energy.

### About Saankhya Labs

Saankhya Labs is a premier wireless technology company recognized for excellence in innovation in Software Defined Radio communication. Saankhya's unique chipset-to-systems expertise enables a wide range of communication products for terrestrial, satellite and broadcast applications. With over 25 international patents to its credit, Saankhya Labs is one of the most vertically integrated, SDR-focused company in the industry today. Saankhya's fully programmable baseband processor combines low power, small footprint, and high flexibility.

Saankhya Labs offers a suite of transformative technology products, all powered by Saankhya's award-winning, indigenous SDR chipsets.