

# Isolated Operation for Public Safety (IOPS) Network in a Box®

## ALL-IN-ONE 2G/3G/4G/5G NETWORK SOLUTION

Tecore's Isolated Operation for Public Safety (IOPS) Network in a Box® (NIB), is the industry's first all-in-one, transportable and ready-in-minutes network solution capable of supporting an LTE Core Network, IMS-Core in addition to an eNodeB and 2x20 Watt integrated Remote Radio Head (RRH). Tecore has incorporated 30 years of industry leadership in scalable wireless systems into the design of the IOPS architecture. The IOPS NIB leverages the patented iCore® portfolio of 3GPP-compliant software-defined core network elements and E-UTRAN 3GPP compliant radio access portion of the network. The standard package contains an HSS, LTE Evolved Packet Core (EPC), IMS-Core, 4G LTE eNodeB, and a Remote Radio Head (RRH) providing the relevant voice, text, and packet data services.

The IOPS offers a valuable hardware addition to the NIB that allows operators to install a myriad of applications that utilize the network technology.

Optionally, the IOPS NIB has the capability to support legacy technologies in 2G and 3G. Furthermore, to support the global rollout of 5G, the IOPS NIB also has the capability of supporting 5G Networks in NSA mode.

As highlighted above, this single platform has the capability to provide a complete network solution in 2G, 3G, 4G, and 5G. This functionality is unmatched in today's industry.

The IOPS NIB has been successfully deployed in commercial, government, and private networks on a global basis. It provides high operational availability through continued network coverage in a small, compact, portable form factor to meet critical public safety/operator network needs when a backhaul connection to the macro network is lost. A number of broad deployment scenarios include operator network expansion, disaster and rescue missions, emergency management, armed forces, peace-keeping missions, and mobile communications networks in transit.



## IOPS NIB Capabilities

### Feature Capabilities

- IMS Lite supporting VoLTE
- Voice Over IP (VoIP/SIP)
- Media Gateway
- Messaging
- Internet Access
- Self-Organizing Network (SON)
- Commercial Mobile Alert System (CMAS)
- Earthquake and Tsunami Warning Service (ETWS)

### Integrated 4G/5G NSA Functional Capabilities

- MME/SAE Gateway
- HSS/AuC/AAA
- SMSC/MMSC
- EPC/eHSS/IMS + PCRF
- Base Band Unit (BBU)

### Optional 2G/3G Functions and Features

- MSC/VLR
- HLR
- SGSN/GGSN
- RNC, NodeB for 3G
- BSC, BTS/TRX for 2G
- Circuit Switch Fallback (CSFB) to GSM/UMTS

# IOPS NIB Specifications



Software	
<b>Dimensions</b>	16.91" H x 7.87" W x 8.00" D 42.95 x 19.98 x 20.32 cm
<b>Weight</b>	39.5lbs / 17.9kg
<b>Power Consumption</b>	350W max, 300W typical
<b>Voltage</b>	-48V DC
<b>RF Output Power</b>	40W (20W per port)
<b>Antenna Connector Port</b>	2 x 4.3/10
<b>Operating Frequency</b>	Available in select 3GPP Bands*
<b>Bandwidth Supported</b>	1.4, 3, 5, 10, 15, 20 MHz
<b>Duplex Method</b>	FDD/TDD
<b>AISG Support</b>	RET Control AISF v2.0
<b>Operating Temperature</b>	-40 to +131°F -40 to +55°C

Throughput Capacity Data	
<b>Active Users</b>	Scalable up to 1,000 SAU per baseband unit
<b>Downlink Peak L1 Throughput</b>	<b>LTE:</b> 200 Mbps with 2x2 MIMO in 20 MHz bandwidth (DL 256QAM)
<b>Uplink Peak L1 Throughput</b>	<b>LTE:</b> 75 Mbps in 20 MHz bandwidth (UL 64QAM)

Integrated Features	
Integrated Digital Pre-Distortion (DPD)	
Integrated Crest Factor Reduction (CFR)	
Integrated alarm and fault management including forward power, VSWR, and operating status,	

Environmental Data	
<b>Relative Humidity</b>	+20% to 80%
<b>Options</b>	Standard and Milspec

## Benefits

- Self-contained, secure Network-in-a-Box (NIB)
- Scalable to support thousands of provisioned subscribers
- Requires no existing infrastructure
- Operates as Secure Standalone or Integrated
- 3GPP Compliant on Core and RAN services
- Operates in select frequency bands
- Scalable to meet customer requirements
- Adaptable for air, ground, maritime, dismounted, and Network On-The-Move Operations

Interface Data	
<b>OAM</b>	In band via CPRI Out of band via LMT
<b>MIMO</b>	2x2
<b>Fiber Links</b>	2 CPRI interfaces supporting up to CPRI rate 8
<b>Data Interface</b>	1 Gigabit Ethernet port
<b>Integrated GPS Receiver and Antenna</b>	Local or GPS Clock

Optional Accessories	
Deployable Mast	
SIM Cards	
Handsets	
Ruggedized Laptop	
Antennas	
View live camera feed	
View real-time Sensor Data Integration	
Integrate with C4ISR and Situational Awareness platform	
Emergency location capabilities	

\*Please contact Tecore for details

To learn more about our technology, products, and services, call us at **+1.410.872.6500** or visit us at **www.Tecore.com** © Tecore Inc.