iCore® Network in a Box®

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

Tecore networks

6.16 in

16.91 in
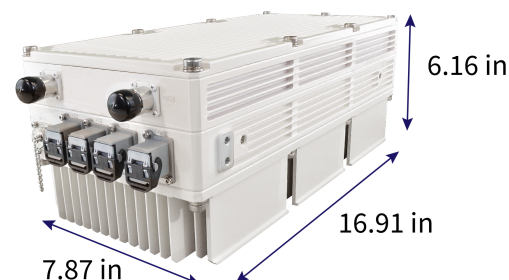
7.87 in

Tecore's iCore® Network in a Box® (NIB) is the industry's first all-in-one, transportable and ready-in-minutes network solution. Integrated into this single unit is all the hardware and software required to support concurrent 4G LTE/5G operation, including voice, text, video, and packet data services through standards-based network elements developed to current 3GPP standards. Tecore has incorporated 30 years of industry leadership in scalable wireless systems into the design of the iCore NIB architecture. The iCore® 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).

Optionally, the iCore® NIB has the capability to support legacy technologies in 2G and 3G. Furthermore, to support the global rollout of 5G, the iCore® 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 iCore® NIB is a robust all-in-one integrated solution enabling comprehensive management and operations of networks and 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 needs when a backhaul connection to the macro network is lost. A number of broad deployment scenarios include extreme disaster, special rescue missions, emergency management, armed forces, peace-keeping missions, and mobile communications networks in transit.

iCore NIB Capabilities

Feature Capabilities
- Voice (VoLTE)
- Voice Over IP (VoIP/SIP)
- 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

Software	
Dimensions	16.91" H x 7.87" W x 6.16" D 42.95 x 19.98 x 15.65 cm
Weight	32.0lbs / 14.5kg
Power Consumption	300W max, 250W typical
Voltage	-48V DC
RF Output Power	40W (20W per port)
Antenna Connector Port	2 x 4.3/10
Operating Frequency	Available in select 3GPP Bands*
Bandwidth Supported	1.4, 3, 5, 10, 15, 20 MHz
Duplex Method	FDD/TDD
AISG Support	RET Control AISF v2.0
Operating Temperature	-40 to +131°F -40 to +55°C

Throughput Capacity Data	
Active Users	Scalable up to 1,000 SAU per baseband unit
Downlink Peak L1 Throughput	**LTE:** 200 Mbps with 2x2 MiMO in 20 MHz bandwidth (DL 256QAM)
Uplink Peak L1 Throughput	**LTE:** 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	
Relative Humidity	+20% to 80%
Options	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	
OAM	In band via CPRI Out of band via LMT
MIMO	2x2
Fiber Links	2 CPRI interfaces supporting up to CPRI rate 8
Data Interface	1 Gigabit Ethernet port
Integrated GPS Receiver and Antenna	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