STINN LTEmp
Manpack

A Small Tactical IP Networking Node LTE Manpack (STINN LTEmp) in a Lightweight Form Factor

The Cornet Technology STINN LTEmp is a lightweight man packable LTE eNodeB that leverages proven technologies and complies with 3GPP Release 14 commercial industry standards. The manpack can easily scale to support small dispersed dismounted teams, to larger formations and mobile platforms in support of military, law enforcement and disaster response operations. The unit can easily be installed, operated, maintained in less than 5 minutes and can be quickly reconfigured through a ruggedized tablet. The embedded server class Xeon quad core processor provides the user the ability to host all the IP services and smartphone applications at the point of operations without dependency for network reachback for enterprise services. For RF supportability in congested and contested RF environments, the replacable quad diplexers with four LTE Bands allows the operator to quickly change the LTE band without impacting operations. The STINN LTEmp also supports tactical roaming when traversing through overlapping LTE bubbles without disruption of service or user intervention required on their Smartphone. When connected via a LAN/WAN network, geographically dispensed manpacks function as a single integrated LTE network.

Key Features

- A small eNodeB with reduced SWaP that leverages commercial cellular technology
- Provides assured voice, video, data and PLI services within the LTE bubble
- Has an integrated eNodeB and Evolved Packet Core (EPC) supported by an Xeon quad core processor and managed through an operator tablet using web management software
- eNodeB supports all the LTE FDD bands
- Has removable quad diplexers that support four LTE Bands (Bands 5, 13, 14 and 28a)
- Supports up to 64 active users
- Achieves 1.5 km range, QoS and throughput at low transmit power (nominal 2Watt)
- Low transmit power minimizes LPI / LPD concerns
- Supports different antenna configurations
- based on CONOPs & EW threat
- The embedded Xeon quad core processor supports all the IP services and management functions – supports cloud computing
- Supports multiple eNodeBs networked together and tactical roaming between bubbles
- Operates on AC & DC power and provides 4 plus hours of battery operations. Batteries are hot swappable
- Operational in 5 minutes
- Supports Type 2 Encryption and Sensitive But Unclass (SBU) information requirements

Advantages

- Can be quickly and easily configured to support mounted or dismounted operations – from ruck, to vehicle, to Command Post, to aircraft platforms
- Integrates voice, video, data and PLI services in a single, small form factor eNodeB – a Small Tactical IP Networking Node (STINN)
- Transport and Smartphone agnostic and supports connected or disconnected operations
- Supports UAS FMV distribution in the LTE bubble and over federated eNodeBs
- Can be configured to use external RF front end and amplifier for greater range
- The integrated EPC an Xeon core processor ensures continuity of operations for IP services if disconnected from the higher enterprise network

Applications

- Supports C2, SA, PLI, intelligence, telemedicine, logistics, force protection, biometrics (facial recognition) and sensor services and applications
- Provides your own secure private cellular network at the point of operations
- Ideal for Military, Law Enforcement, First Responders and Disaster Response

![CORNET TECHNOLOGY logo]

Mechanical, Power and Environmental

Size	7.0" H x 13.8" W x 13.0" D
Weight	~24 lbs without battery ~30 lbs with battery
Input Power	9 - 30 V DC (Available with BA5590/2590 battery) 90 - 240V AC, 50/60 Hz
Consumption	Max 100W
Temp Range	*Operating*: -20°C to +50°C *Storage*: -40°C to +50°C
Environmental	Designed to MIL 810G & IPV65

Technical

LTE Bands	Supports over 32 commercial FDD Bands
RF Frequency Range	400 MHZ to 3.8 GHz bands (Low Bands: <1000 MHz, High Bands: >1700 MHz)
Channel size	1.4, 3, 5, 10, 15 and 20 MHz
Duplexing	FDD
Quad-Band Diplexer	*Current:* Supports LTE Bands 5, 13, 14 and 28a *Option:* Quad Diplexer(s) are built to order based on LTE Band requirements (any four FDD bands)
3GPP Version	Software Release 14
eNodeB Modem	Software Defined Radio
Encryption	AES 256 with VPN tunnel
Functionality	Integrated eNodeB and Evolved Packet Core (EPC)
Output Power:	Nominal 2 W *Supports External Power Amplifier for greater range*
Antenna Scheme	MIMO *The LTEmp has a Female N-type antenna connector*

Antenna Types

RF Omni Broadband
- **Low Profile** for dismounted ops
  (planning range ~250m radius LOS)
  Requires antenna with Male N-Type connector
- **Vehicle Mag Mounted** for Mobile ops
  (planning range ~500m radius LOS)
  Vehicle mount uses low profile antenna listed above
- **Mast Mounted** for Command Post use
  (planning range ~ 1Km radius LOS)
  Requires antenna with Female N-Type connector
  Uses a 20' or 50' coax cable

RF Directional Broadband
  Mast Mounted to mitigate LPI/LPD concerns
  (planning range ~ 1.5 Km radius LOS)
  Requires antenna with Female N-Type connector
  Uses a 20' or 50' coax cable

WiFi Client: 802.11 11a/11b/11g/11n
  Requires antenna with Male SMA type connector

GPS
  Requires antenna puck with Male SMA type connector

Supported Users	64 simultaneous users
Throughput	50 Mbps (Uplink) / 100 Mbps (Downlink) shared amongst 64 users

Interfaces

Built-in Network

Interfaces	2 ea USB *(used for programming, mouse, keyboard etc)* 4 ea Ethernet 10/100/1000-BT *(used for LAN/WAN)* 1 ea HDMI *(used for external monitor etc.)* 1 ea VGA *(used for external monitor)* 1 ea Audio for headset (future) 1 ea Radio for donor Radio (future)
Supported LAN Connections	Commercial Fiber, Copper, Ethernet, Tac Radio and MANET radios – transport agnostic
Supported WAN Connections	LEO/MEO/GEO SATCOM, Microwave, HF, Commercial backhaul and Internet – transport agnostic

Control and Management

Field Web Management   ***Windows-based Tablet GUI***
  - Manpack and Service Status
  - User Management
  - Network Management
  - Advanced Configuration
  - Event Log
 - Quick Start & Troubleshooting Guide

Internal Processing for Data Services	*Processor* *RAM* *Storage*	Intel® Xeon Quad Core 32 GB 512 GB
CPU Operating System	Ubuntu	
VMWare	ESXi	
System Management	Web management software running on the Xeon processor is used for application system and network management	
Control Switches	(i) ON / OFF (ii) Zeroize Switch - to completely wipe all stored data, security keys and base station setting	
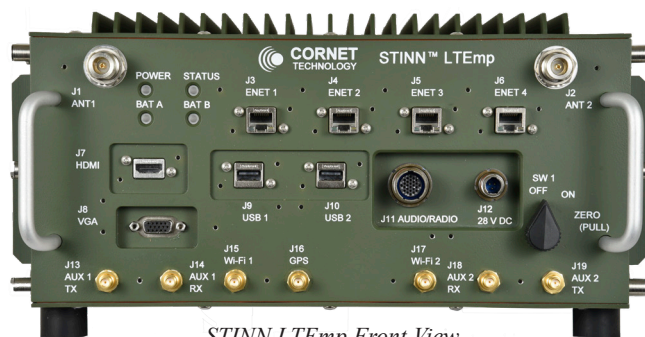
STINN LTEmp Front View

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