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 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 i7 quad core processor provides the user the ability to host all the IP services and smartphone applications at the point of operations. For RF supportability in congested and contested RF environments, the replacable quad diplexer 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 WAN network, geographically dispensed manpacks would function as a single 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 i7 quad core processor and managed through an operator tablet
- eNodeB supports all the LTE FDD bands
- Has a removable quad diplexer that supports four LTE Bands
- Can support up to 64 active users
- Achieves 1km range, QoS and throughput at low transmit power (nominal 1Watt)
- Low transmit power minimizes LPI / LPD concerns
- Supports different antenna configurations based on CONOPs & EW threat
- The embedded i7 quad core processor supports all the IP services and management functions
- Supports multiple eNodeBs networked together and tactical roaming
- 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
- The integrated EPC an i7 core processor ensures continuity of operations for IP services if disconnected from the higher enterprise network

Applications

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

CORNET TECHNOLOGY

STINN LTEmp Specifications

Mechanical, Power and Environmental

Size	5.1" H x 11" W x 12" D without Battery 5.1" H x 11" W x 16.7" D with Battery
Weight	~18 lbs without battery ~21 lbs with one battery
Input Power	9 - 30 V DC (Available with BA5590/2590 battery) 100 - 240V AC
Consumption	< 50W
Temp Range	***Operating***: -20°C to +50°C ***Storage***: -40°C to +50°C
Environmental	Designed to MIL 810G & IPV65

Technical

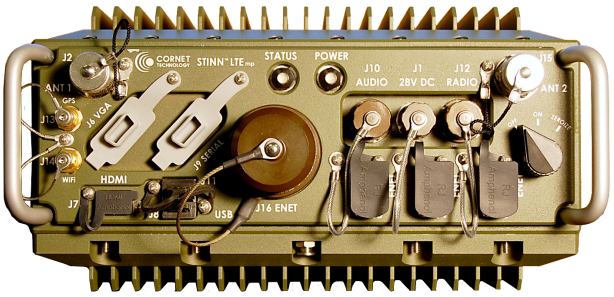
LTE Bands	Supports over 32 commercial FDD Bands
RF Frequency Range	400 MHZ to 3 GHz bands (Low Bands: <1000 MHz, High Bands: >1700 MHz)
Channel size	1.4, 3, 5, and 10 MHz
Duplexing	FDD
Quad-Band Diplexer	***Current:*** Supports LTE Bands 4, 5, 7 and 14 ***Option:*** Quad Diplexer(s) are built to order based on LTE Band requirements (any four FDD bands)
3GPP Version	LTE R9 (R10 - future)
eNodeB Modem	Software Defined Radio
Encryption	AES 256 with VPN tunnel
Functionality	Integrated eNodeB and Evolved Packet Core (EPC)
Output Power:	Nominal 1 W *Supports External Power Amplifier for greater range*
Antenna Scheme	SISO (MIMO - future) *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*** Access Point. 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	12 Mbps (Uplink) / 30Mbps (Downlink) shared amongst 64 users

Interfaces

Built-in Network Interfaces	2 ea USB *(used for programming, mouse, keyboard etc)* 3 ea Ethernet 10/100/1000-BT *(used for LAN/WAN)* 1 ea TFOCA fiber (Ethernet) *(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)
Backhaul for Remote Connection to other eNodeBs	Commercial Fiber, TFOCA, Copper, Ethernet, HCLOS and MANET radios – transport agnostic
Supported WAN Connections	Commercial Fiber, TFOCA, Copper, Ethernet VSAT, MANET Radio and Internet – transport agnostic

Control and Management

Field Management	***Windows-based Tablet GUI*** - Connection Status of all EUDs - Network Configuration - LTE Band Selection - Channel Size Selection - RF Tuning - Add and Delete Users (SIMs) - 2 login profiles (user and admin)
Internal Processing for Data Services	***Processor*** Intel® i7 Quad Core ***RAM*** 16 GB ***Storage*** 512 GB
i7 Operating System	Linux CENTOS
System Management	IntelView element management software running on the i7 processor is used for 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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