

# Cyber VauLTE™

## Deployable Cellular Network

**Sub-U Systems** and **RIVA Networks** have teamed to design, develop and produce the Cyber VauLTE™, the smallest, COMPLETE military-grade, deployable cellular network solution available today. The solution delivers a private, anywhere-anytime cellular network providing secure communications for forward deployed operations.

Cyber VauLTE™ performs the role of a tactical cellular bubble. It securely long-hauls voice and data (using CNSA/Suite B IPsec) to another cellular bubble or back to a headquarters location.



### Cyber VauLTE™ Key Features

- ◀ Provides cellular coverage in areas of denied infrastructure or lack of infrastructure
- ◀ Allows users to operate avoiding commercial networks and/or simulate commercial networks
- ◀ Identify unauthorized mobile phones in restricted areas
- ◀ Eliminates the need to use traditional Ethernet cables and desktop VoIP phones
- ◀ Allows for the tactical cellular bubble to be long hauled securely using NSA CNSA/Suite B IPsec

### SDN-A MICRO

The Software Definable Network-Appliance™ (SDN-A™) MICRO is a software programmable communications solution that combines the functionality of an IP router and a Virtual Machine (VM) server. It acts as a Virtual Machine (VM) Server Hypervisor to host RIVA Networks' Call Control software directly on the router's IAS Router OS (IAS ROS) firmware. This unique VM capability eliminates the need for additional computer(s), making the Cyber VauLTE™ a small, low weight, low power (SWAP) solution that is easily deployable.

The IAS ROS diverse WAN technology supports:

- ◀ One or more Ethernet interfaces
- ◀ One or more commercial 3G/4G cellular modems
- ◀ Wi-Fi radio as either a traditional Wi-Fi access point and/or Wi-Fi client

### The Cyber VauLTE™ Solution includes:

- ◀ SUB-U SDN-A MICRO
- ◀ RIVA cellular base station transceiver(s)\*  
\*Bands and technologies based on customer needs (GSM, 3G and 4G LTE)

### RIVA Call Control Core Software

RIVA Networks' Call Control Core software enables secure, private cell phone networks anywhere on earth. It is class-leading for its ease of use, flexibility and reasonable cost.

The RIVA Call Control Core software supports:

- ◀ GSM, 3G and 4G LTE network technologies
- ◀ Handsets, tablets, laptops and other cellular enabled devices, public SIM cards or private SIM cards, or a hybrid of both
- ◀ Thousands of users with no additional licensing (simply add additional transceivers as needed)



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The Cyber VauLTE™ solution is small, lightweight and scalable. The solution has the flexibility to adapt to various mission requirements. To add different bands, more network technologies or to support more users, simply add the additional transceivers needed. Each transceiver adds a 6.5" wide by 9" deep by 1.8" tall device.

The SUB-U SDN-A MICRO and RIVA transceivers are low power and can run from small form factor batteries including:

- ◀ Military 5590/2590 batteries
- ◀ SUB-U's UPS-500 - Uninterruptable Power Supply with 155 Wh Li-Ion battery

### RIVA TRANCEIVER SPECIFICATIONS

#### Physical/Environmental

- ◀ 9.0 x 6.5 x 1.8 inches (LxWxH)
- ◀ Operating Temp: 0°C ~ +40°C
- ◀ Operating Humidity: 10% ~ 70% non-condensing

#### Power

- ◀ 12 VDC
- ◀ RF output power 1W-50W (Inquire)

#### Security

- ◀ 3GPP air interface security
- ◀ IPsec IKEv2 on AP-SeGW links
- ◀ x509 certificate authentication with CRL

#### Mobility

- ◀ Intra-frequency, Inter-frequency, Inter-RAT

#### Band Options

- ◀ LTE FDD 1,2,3,4,5,7,10,12,13,14,17,20
- ◀ 3G 1,2,4,5

#### LTE Services

- ◀ Radio: 2x2 MIMO, 125mW per port, Local Area Base station class
- ◀ Simultaneous active users - 32 per Access Point Module
- ◀ 75/25 Mbps
- ◀ CSFB for voice
- ◀ VoLTE
- ◀ Warning System Broadcast

#### 3G Services

- ◀ Simultaneous active users - 32 per Access Point
- ◀ 12.2 AMR Cs voice
- ◀ Rel 99 PS 64/128/348kbs
- ◀ HSDPA to 14.4 Mbps (21 Mbps upgradable)
- ◀ HSUPA to 1.45 Mbps (5 Mbps upgradable)
- ◀ Supplementary service transparency
- ◀ SMS, MMS, Cell broadcast

### SUB-U SDN-A MICRO SPECIFICATIONS

#### Physical/Environmental

- ◀ 9.0 x 6.5 x 1.8 inches (LxWxH)
- ◀ Operating Temp: -20°C ~ +70°C
- ◀ Storage Temp: -40°C ~ +85°C
- ◀ Operating Humidity: 5% ~ 95%

#### Power

- ◀ Wide Range Dirty DC input 9 ~ 36 VDC
- ◀ 100-240 VAC 50/60 Hz auto ranging, auto sensing PSU

#### WAN Technology

- ◀ (6) 10/100/1000 Ethernet
- ◀ PPPoE
- ◀ 802.11ac client and or AP
- ◀ 3G/4G cellular USB tethering optional
- ◀ RS232

#### VPN Technology

- ◀ IPsec
- ◀ CNSA/Suite B IPsec performance >250 Mbps

#### Security

- ◀ Deep Packet Inspection
- ◀ Advanced Firewall Functionality
- ◀ Intrusion Detection/Intrusion Protection

#### Virtualization

- ◀ Supports most commercial vendors' software-based IP networking function and application server based virtual machine technologies

#### Certifications

- ◀ NSA Commercial Solutions for Classified (CSfC)
- ◀ FIPS 140-2
- ◀ NIAP Common Criteria

