![OCEUS NETWORKS — Networking for a *Better* Tomorrow]

Oceus Networks Xiphos® Macro

SCALABLE AND RAPIDLY DEPLOYABLE 4G LTE COMMUNICATION SOLUTIONS

Secure communications and accurate situational awareness are key to any size mission. The next generation of Xiphos® Macro is the most powerful and flexible member of the Xiphos family of products and optimized for larger scale deployments.

Xiphos Macro is a tactical, ruggedized (MIL Standard) and scalable on-the-move 4th Generation (4G) Long Term Evolution (LTE) / 5G New Radio (NR) broadband solution that can operate in a stand-alone or networked environment.It is highly scalable and provides high data throughput, operating as a compact system to a small group of users in a defined coverage area, or a high capacity configuration that services a large number of users within a wide coverage area.

Xiphos Macro is based on Ericsson's world leading LTE macro radio technology, which delivers superior RF output power and range, providing 5-7 miles of range in a typical tactical environment and over 50 miles of range for airborne deployments with a clear line of sight.

The optional Advanced Network of Xiphos (ANOX) capability enables on-the-move systems to recognize each other and make intelligent decisions on how to work together to provide the best connectivity to end-users.

Xiphos Macro is a robust system with features and functionality that empowers mission success to the edge.

XIPHOS

◄ *Xiphos® Macro Main Unit with Radio 2217 Top Mount*

KEY BENEFITS

MISSION-CRITICAL OPERATIONS
Supports mission-critical operations by providing users access to fast mobile broadband connectivity.

EASY-TO-USE
Installs easily, operates autonomously and powers up fast for operation in minutes.

FLEXIBLE RUGGED CONFIGURATIONS
Xiphos is based on rugged modular HW components that provide deployment flexibility and scalability.

BASED ON COMMERCIAL TECHNOLOGY
The use of standards-based carrier grade commercial 4G LTE technology in Xiphos allows customers to leverage industry innovation and economies of scale to lower costs and to equip users with best-of-breed tools, applications and smartphones.

HIGH CAPACITY DATA TRANSFER
Xiphos Macro's high capacity enables applications to transfer large amounts of data in a fast and cost efficient manner.

MULTITUDE OF LTE FREQUENCIES
Supports a full range of Frequency Division Duplex (FDD) and Time Division Duplex (TDD) frequency bands, and it is compatible with commercial 4G LTE devices.

LTE FREQUENCY FLEXIBILITY
Supports concurrent use of up to three (3) different frequency bands per system. This allows customers to quickly adapt to an LTE frequency suited for a particular country/region and mission, and it enhances the interference resilience of the solution.

NETWORK SCALABILITY
Xiphos Macro can be deployed in a Network of Xiphos (NOX) configuration, allowing users to move between coverage areas while maintaining already established sessions. This provides flexible network scalability by increasing the aggregated coverage area, data throughput and concurrent connected radio sessions for each deployed system.

ADVANCED NETWORK OF XIPHOS (ANOX)
The ANOX architecture allows a swarm of Xiphos systems on the move to dynamically learn about the presence of other Xiphos peer systems, and to make intelligent decisions on how to optimize network connectivity between them.

INTERFERENCE DETECTION
Xiphos Macro detects LTE RF interference and displays an alarm on the dashboard.

SON AND QOS
Xiphos Macro provides sophisticated carrier-grade functionality, such as support for Quality of Service (QoS), policy management and enforcement, Self Organizing Network (SON), priority and pre-emption handling and radio interface optimization.

HARDWARE COMPONENTS

Xiphos Macro's hardware design consists of ruggedized Main Unit and new lighter outdoor radios with pole mounting, rail mount, or tower mount.

- **MAIN UNIT MODULE**
  Contains the Enhanced Packet Core (EPC), Home Subscriber Server (HSS), Policy and Charging Rules Function (PCRF) (optional) and O&M software, and the LTE baseband processing unit. It allows up to three sectors operation.

- **RADIO 2217/2203/4478**
  Supports MIMO operation.

- **SITE SOLUTIONS**
  Transit case kit for MU
  TFOCA case for MU and radios
  Optional radio fan kit
  Radio pole mounting kit
  Radio docking (to MU) kit
  Radio power unit kit
  Optical cabling kits

Radio 2217 ▶

Xiphos® Macro Main Unit ▶

XIPHOS MACRO 4.0 FIGURES AND FACTS

	MAIN UNIT	RADIO 2203 *(SMALL)*	RADIO 2217 *(MEDIUM)*	RADIO 4478 *(LARGE)*
SIZE (HXWXD)	5.2"x16"x16.4"	8"x8"x4"	13.8"x11.7"x5.4"	18"x13.5"x7.8",
WEIGHT	37 lbs	10 lbs	13.8"x11.7"x5.4"	56 lbs
POWER INPUT	100V to 240V AC	-48V DC	-48V DC	-48V DC
POWER CONSUMPTION	<400W	<150W	<350W	<602W
SYSTEM PROCESSOR	Quad-core Processor, 2.4 MHz, 32 GB RAM, 1 TB SSD	1 MIMO Sector	1 MIMO Sector	1 MIMO Sector
APPLICATION PROCESSOR	Quad-core Processor, 2.4 MHz, 32 GB RAM, 2 TB SSD	150/75 Mbps	150/75 Mbps	150/75 Mbps
NUMBER OF RF SECTORS	3 MIMO Sectors	Up to 2*5W (LTE band dependent)	Up to 2*40W (LTE band dependent)	Up to 80W Band 14, 2TX/2RX and 4TX/4RX
CONCURRENT RF SESSIONS	2000			2*40W and 4*40W=

ENVIRONMENTAL

TEMPERATURE HIGH	131F/55C
TEMPERATURE LOW: RADIO	-40F/-40C
TEMPERATURE LOW: MAIN UNIT	-4F/-20C
MIL 810G	Compliant
EMI, FCC, PART 15A	Compliant

LTE FREQUENCY BANDS
(NOT ALL FREQUENCIES ARE AVAILABLE FOR ALL RADIO TYPES)

2100 (1),1900 (2)	850 (26A)
1800 (3,3A),17/2100 (4)	700 (28A,28B,28C)
800 (5), 2600 (7)	2600 (38), 1900 (39)
900E (8), 700 (12,13,14,17)	2300 (40,40A,40U)
800 (20), 1900 (25)	2600 (41)