VIAVI
VIAVI Solutions

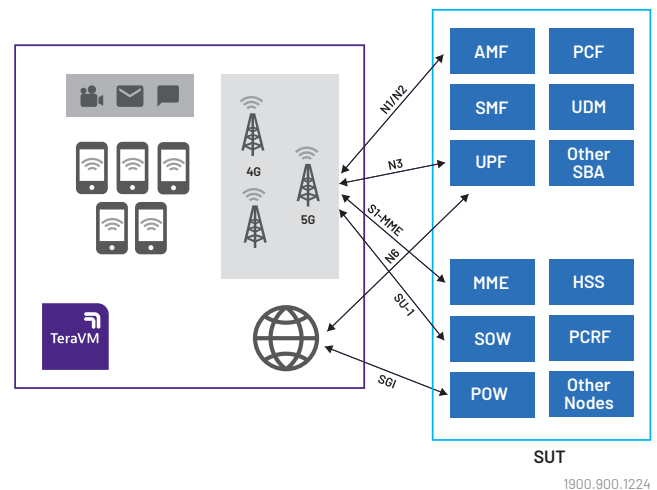# A NITRO WIRELESS PRODUCT
TeraVM Core Test

The VIAVI Core Test offers a comprehensive testing solution designed for the full wrap-around testing of a 5G SA/NSA/4G/3G/2G Core Network. As Network Equipment Manufacturers (NEMs) and mobile operators work to bring 5G capabilities to market, they face a complex challenge in developing products aligned with the continually evolving 3GPP standards. VIAVI's Core Test solution is built to address this challenge by providing a robust, controlled, and repeatable test environment that streamlines the development, validation, and deployment of core networks.

- **Shareable, Scalable, Speed of deployment:** TeraVM Core Test license can be shared across lab locations and time zones, scales to millions of UEs and tens of thousands of BTSs and has fast test case ramp up

- **Lifecycle Simplification:** By simplifying the testing and development lifecycle, TeraVM Core Test accelerates the launch of 5G SA Core Networks

- **Base Station and UE Emulation:** The platform can simulate tens of thousands of base stations and millions of user equipment (UE) devices, along with various user applications. This capability creates a realistic 5G Standalone RAN (Radio Access Network) environment

- **3GPP Interface Support:** With full support for interfaces such as N1/N2/N3/N6 or 4G/3G/2G interfaces

- **SBA Node Plug-in:** TeraVM Core Test allows for VIAVI emulated SBA nodes to be plugged into the emulation environment if certain SBA components are missing from the customer's Core

- **Stress Testing and Scalability:** TeraVM Core Test's virtualized architecture is designed to simulate high-load conditions, making it scalable for different testing requirements

- **Inter-Technology Support:** For operators with mixed 4G and 5G environments, TeraVM Core Test's support for inter-technology scenarios enables seamless testing and validation of both current and transitional network architectures.

Features and Benefits

- **6G Ready:** Protect investment by testing migration of UEs to SA only Core

- **Lightweight VM Deployment:** Runs efficiently on x86 hardware

- **Cloud Compatibility:** Supports GCP, Azure, AWS

- **Containerization:** Kubernetes and container-ready

- **CI/CD Integration:** Seamless automation with VAMOS

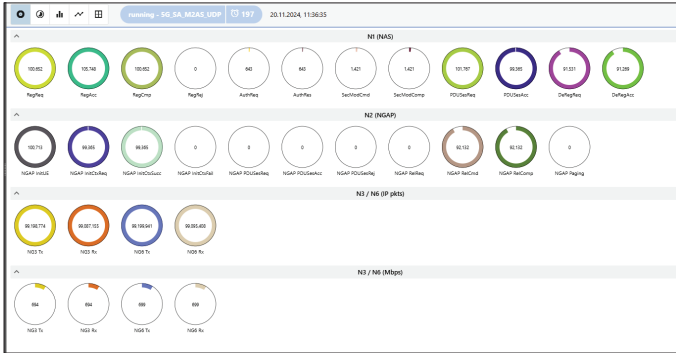- **Voice Testing:** Supports voice testing across 4G and 5G

1900.900.1224

TeraVM Core Test Topology Diagram

Supported Features

Sample Procedures	
NG Setup/Reset between gNB and AMF	Service Request Procedure
UE Registration w/o initial context	Paging Procedure
Identity procedure	Location Reporting procedure
Authentication procedure (null, Snow3G, AES, Zuc)	Public Warning System
PDU Sessions establishment/Release	Xn based HO and Path Switch procedure
Multiple PDU sessions per UE	N26 based mobility
IPv4 and IPv6 address assignments to UEs	SMS/NTN support
EPS Fallback	VoLTE/VoNR/ViNR Call

KPI's to Validate Performance

TeraVM Core Test offers a full suite of counters, rates and graphs, to assess and validate the performance, stability, and security of the Core NW. KPIs cover all layers – 1-7 enabling precise monitoring of user activity, session management, authentication, and service reliability.

Supported KPIs (sample)		
Active Users/Handover	Security Mode Command Comp/Rej	Initial Context Setup
UE Registrations/Deregistrations	TAU Request/Accept/Complete	UE Context Release
PDU Session Establishments	Service Request/Reject	HO Request/Failure
Auth Request/Result/Fail/Reject	VoLTE/VoNR Stats	Paging
NG Setup Request	Identity Request/Response	UL/DL NAS Transport

Order Codes (other specific features are available on request)

Part Number	Description
TVM3000	Appliance Server for Core Test
TVM3167	5G SA Core Wraparound Test – N1/N2/N3/N6 User License
TVM3166	5G NSA Core Wraparound Test –S1/SGI User License
TVM3160	Core Wraparound Test CP Capacity – 100k UEs, 1k NBs, 10k TPS
TVM3161	Core Wraparound Test UP Capacity 10 Gbps

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