

NITRO Wireless

Energy Efficiency Solution

TeraVM RIC Test and TM500 Network Tester

The Challenge Facing Operators

Energy costs have rapidly become a major concern with operators facing a double hit from both increased price per megawatt and new technology such as 4x4 MIMO to increase the total energy consumption significantly. On top of this, increased competition and slowing growth in subscriber numbers mean that operators need to look at ways to reduce their total costs and accelerate achieving a positive ROI for 5G upgrades.

The VIAVI Solution

Use TeraVM RIC Test and TM500 Network Tester to train, test and verify energy efficiency features. Train AI algorithms with realistic RAN scenarios with millions of test iterations for the most rigorous training process. Test that AI/ML algorithms work as expected by reducing energy consumption while maintaining performance KPIs. Finally, verify the Apps in a simulated RAN environment to ensure no conflict occurs when working alongside Base Station energy saving features and other RIC r/xApps with similar goals.

Business Impact

At MWC23, VIAVI demonstrated how TeraVM RIC Test can be used to train AI/ML models underpinning r/xApps to deliver 10-20% energy savings without negatively impacting QoS. Scaled to a network comprising 5000+ sites, this has the potential to deliver \$10m+ opex savings per year.



Sample Use Cases

Use Case 1: Turn off unused capacity cells to save energy. TeraVM RIC Test emulates cells, power levels, users and traffic to validate industry claims that turning down quiet cells can save millions of dollars per year without affecting user performance.

Use Case 2: Use TM500 to generate UE traffic and mobile scenarios to benchmark appliance power usage. TM500 emulates millisecond level traffic gaps, which when detected are used for temporary power reductions. When combined across multiple cells sites with multiple antenna, these micro adjustments add up to significant savings over time.

VIAVI Benefits

- ✓ **Best RIC App Test Tool**
Only RAN scenario generator and App validation RIC and r/xApp test tool on the market.
- ✓ **MWC Showcase**
RIC Test tool demonstrated on AWS stand at MWC 23.
- ✓ **O-RAN Alliance Plugfest Tool of Choice**
Used in over 15 O-RAN Alliance Plugfests.
- ✓ **OTIC Lab Preferred Tool**
RIC Test deployed in all OTIC labs.



Get started with VIAVI Green Network Test solutions

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