



# RCATS<sup>®</sup> High Capacity Remote Test Probe — LTE/HSPA+/HSPA/WCDMA/EDGE/GPRS/GSM



The RCATS high-capacity probe lets wireless service providers actively monitor and improve the quality of services they deliver to their end customers.

The probe tests voice, data, and messaging services from a subscriber perspective in LTE/HSPA+/HSDPA/HSUPA/WCDMA/EDGE /GPRS/GSM networks. It is a self contained, rack-mountable unit that can be deployed throughout the network. The probe is remotely accessed and controlled through the web-based QoSExecutive or telnet over Ethernet. Probes are integrated with the Mobile Identity Server that provides a centrally-located pool of SIM modules for testing various subscriber profiles in remote locations.

The probe is a rugged, embedded platform capable of supporting multiple RCATS service validation packages (SVPs) such as Basic Voice, Basic Data, Supplementary Services, SMS, WAP, MMS, Iperf, and others. This enables operators to target the specific services they wish to monitor upon deployment and provides the flexibility to add new services to existing probes already deployed in the field.

The probe is part of the patented Viavi Solutions RCATS solution that provides automated testing, centralized management, and aggregated reporting for large numbers of deployed probes. The solution lets wireless operators access real-time, network-wide performance and availability information, enabling them to use this information to increase service quality, increase revenue, and reduce costs.

Wireless operators face enormous pressure to attract and retain subscribers through new service offerings and improved network quality. Viavi, the leader in end-to-end service quality monitoring solutions for wireless networks, has specifically designed turn-key RCATS solutions for large-scale, operator-grade deployments worldwide.

## Key Benefits

- Increases customer satisfaction by reducing the time required to detect customer-impacting problems
- Reduces operating costs by automating monitoring, testing, and reporting
- Increases operator visibility of service quality by providing network-wide, real-time reporting of measurements and key performance indicators (KPIs)
- Improves consistency in customer experience by performing a common set of tests throughout the entire network footprint
- Reduces the time and risk to install or modify network infrastructure by providing extensive testing capability
- Increases revenue and reduces churn through positive customer satisfaction

## Key Features

- Tests services as end-users see them
- Rugged, embedded platform operates in remote locations, with downloadable remote software upgrade and rack-mounted installation support
- Secure access and control via web-based QoSExecutive or telnet over Ethernet
- Worldwide 900/1800/2100 MHz and 700/850/1700/1900 MHz frequency band coverage and support
- Embedded DSP platform generates/detects DTMF tones, generates/records local voice, measures voice quality, and supports interactive voice response (IVR) and message waiting indicator (MWI)
- Interactive mode for real-time network development and troubleshooting
- Front panel includes 4-slot SIM switch, menu buttons, and a LCD for local configuration
- Distributed architecture scales across hundreds of geographically dispersed locations
- Available with the Multiple Test Session option that enables up to three simultaneous tests per probe
- Supports Viavi-patented Mobile Identity Server, providing a centrally located pool of SIM modules for testing various subscriber profiles in remote locations

## Service Specifications

Frequency Band	
WCDMA 850/900/1700/1900/2100 MHz	
GSM/GPRS/EDGE 850/900/1800/1900 MHz	
LTE 700/800/900/1700/1800/2100/2600 MHz (bands 1, 3, 4, 7, 8, 17, and 20)	
Voice Services	
EFR/HR/FR/AMR vocoders (GSM/WCDMA only)	
DTMF detection and generation	
Data Services	
LTE	Forward link up to 100 Mbps Reverse link up to 50 Mbps
HSPA+	Forward link up to 21.1 Mbps Reverse link up to 5.76 Mbps
HSPA	Forward link up to 7.2 Mbps or 3.6 Mbps depending on model Reverse link up to 2.0 Mbps
EDGE	Forward link up to 236.8 Kbps Reverse up to 108 Kbps
GPRS	Multislot class 12, CS1-CS4; up to 85.6 Kbps
GSM	Circuit switched; up to 14.4 Kbps
vxexcMultiple Test Session (MTS) Option	
This option enables up to three tests simultaneously per probe for voice, SMS, MMS and data services.	
The landlines are associated with one mobile.	
Audio tests are available for only one mobile.	

## Technical Specifications

Power Requirements	
AC 100 to 240 V, 50/60 Hz	
Power consumption	45 W (max)
Physical	
Size (H/W/D)	1U form factor 47.625 x 428.625 x 254 mm 1.875 x 16.875 x 10.0 in
Weight	3.175 kg; 7 lbs
Mounting	19" or 23" rack mounts (23" option)
Environmental	
Operating temperature	0 to 50°C; 32 to 122°F
Relative humidity	8% to 80%, noncondensing
Interfaces	
12 antenna connectors (SMA)	
1 Ethernet port (RJ45; 10/100/1000 BaseT) (WAN)	
1 serial port for terminal (DB-9; RS232)	
2 USB ports (for future use)	
4 local SIM card ports (5 V, 3.3 V and 1.8 V support)	
2 telephone connectors (RJ11)	

Signal Reception	
Remotely-mounted, high-gain antennae	
Recommended signal strength	-80 dBm or better
Signal strength collected for each mobile handset	
Manageability	
Web-based access/control via QoSExecutive	
Telnet access/control via Ethernet	
Interactive mode for network development and troubleshooting	
Downloadable remote software upgrades	
Front-panel buttons and LED display for local configuration	
Reliability	
Rugged, embedded form factor with optional rack mounts	
No moving parts such as fans or disk drives	
Fail-safe watchdog reset timer for lights-out resiliency	
Embedded operating system with purpose-built drivers	
Support and Warranty	
One-year return-to-factory hardware warranty excluding phone modules	
90-day software warranty	
Web-based support and toll-free customer hotline support	
Optional hardware and software extended warranty coverage	

## Solution Requirements and Options

Required RCATS Solution Components	
RCATS Remote Test Probes	
QoSExecutive	
QoSManager	
Optional: Mobile Identity Server (centralized SIM repository)	
Optional: Mobile Identity Server Controller	
RCATS Remote Test Probes	
LTE/HSPA+/WCDMA/EDGE/GPRS/GSM probe	
1xEV-DO Rev. A/1xRTT probe	
RCATS Service Validation Packages (SVPs)	
Basic Voice	
Supplementary Services	
Basic Data	
WAP	
SMS	
MMS	
Voice Quality	
IVR	
LTE	
Iperf	
RCATS Remote Test Probes Options	
Multiple Test Session (MTS) option	



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