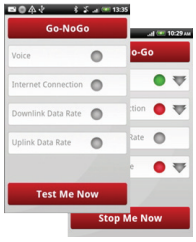
Handheld WCDMA/ LTE Service and Applications Testing

The market-leading Viavi Solutions® handheld optimization solution now tests user applications such as Facebook, Twitter, Skype, WhatsApp, and SpeedTest.

Viavi lets you measure the experience of an end user running the most popular apps while simultaneously measuring RF network performance.

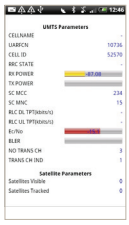
TestMeNow

Simple one-button testing for voice, web, and data



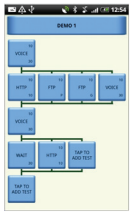
Detailed Visibility

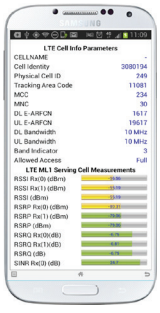
Easily view and customize the parameters you need

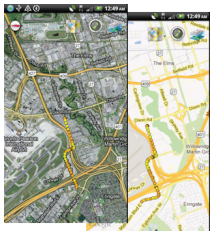


Simulate Subscriber Behavior

Test services the way subscribers use them with simple parallel sequencing







Outdoors: Google Maps

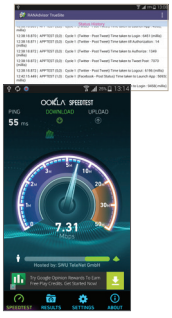
Test outdoors and view results with Google Maps

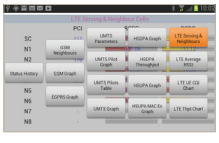
Indoors: Floor Plans

Perform detailed indoor analysis, where most of your traffic originates, without GPS

Applications Testing

Benchmark the performance of end-user applications and troubleshoot RF vs. service issues





Easy to Use

An intuitive interface lets virtually anyone test

Key Benefits

- **Understand how users experience the network**
  Test the end-to-end performance of real applications over the network and benchmark against competitors to limit churn
- **Virtually any technician can capture data, anywhere**
  Discreetly collect data and send results via FTP for expert analysis
- **Test with the devices your subscribers use**
  Measure the real customer experience using supported Android™ devices
- **Quickly analyze WCDMA and LTE parameters**
  Engineering mode lets your experts see all associated measurements for GSM, GPRS, WCDMA, HSDPA, LTE, and WiFi
- **In-sequence forcing**
  Ensure consistent, repeatable testing by forcing within the test sequence

Supported Measurements

LTE Cell Info Parameters	LTE ML1 Serving Cell Measurements	LTE Serving and Neighbor Parameters	LTE Demodulation Configuration Parameters	LTE RACH Request Response Parameters	LTE Advance SCC Parameters	LTE Path Loss Result Parameter
· Cell identity · Physical cell ID · Tracking area code · MCC · MNC · DL E-ARFCN · UL E-ARFCN · DL bandwidth · UL bandwidth · Band indicator · Allowed access · RLC Rx throughput · RLC Tx throughput · MAC UL throughput · MAC DL throughput · Total PDCP Tx throughput (kbps) · Total PDCP Rx throughput (kbps) · LTE mode · LTE TDD SF assignment · LTE TDD special SF patterns · CQI CWO · CQI CW1	· RSSI Rx(0) dBm · RSSI Rx(1) dBm · RSSI dBm · RSRP Rx(0) dBm · RSRP Rx(1) dBm · RSRP dBm · RSRQ Rx(0) dBm · RSRQ Rx(1) dBm · RSRQ dBm · SINR Rx(0) dB · SINR Rx(1) dB	· Serving E-ARFCN · Serving physical cell ID · Serving RSRP (dBm) · Serving RSRQ (dB) · Detected cells PCI · Neighbor cell count · N1 PCI · N1 RSRP (dBm) · N1 RSRQ (dB) · N2 PCI · N2 RSRP (dBm) · N2 RSRQ (dB) · N3 PCI · N3 RSRP (dBm) · N3 RSRQ (dB) · N4 PCI · N4 RSRP (dBm) · N4 RSRQ (dB)	· PDSCH RNTI ID · PDSCH RNTI type · Number of Tx antennas · Number of Rx antennas · Transmission mode · Spatial rank · RB allocation for slot 0 (%) · RB allocation for slot 1 (%) · Frequency selective PMI · PMI index · Stream 0 TBS (bits) · Stream 0 modulation · Traffic-to-pilot block ratio · Stream 1 TBS (bits) · Stream 1 modulation · PB	**Request** · RACH RNTI · RACH preamble · Cyclic shift · PRACH Tx power (dBm) **Response** · RACH response RX time · Timing advance · Temporary C-RNTI · MCS · TPC for PUSCH · Hopping flag · UL delay · CQI request · RB assignment · RACH procedure type · RNTI type · RNTI value	· SCC 1 – 7: serving EARFCN · SCC 1 – 7: serving PCI · SCC 1 – 7: neighbor cell count · SCC 1 – 7: serving RSRQ · SCC 1 – 7: serving RSRP	· SIB 2 RS power (dBm) · DL path loss (dB) · SIB 2 P0NomPUCCH power (dBm) · PUCCH Tx power (dBm) · UL path loss(dB) · Path loss imbalance indicator · Path loss imbalance magnitude

GSM Parameters	GPRS/EDGE Parameters	UMTS Parameters	HSDPA HSUPA Parameters	IMS/RTP Parameters (requires VoLTE license)	Summary Parameters
· ARFCN · BCCH · BSIC · Cell ID · MCC · MNC · LAC · Mode · Rx level full · Rx level sub · Rx qual full · Rx qual sub · Timeslot · Timing advance · Tx level · C1 · C2 · DSF · DTX · FER · HSN · HOP LIST · HOP FLAG · MAIO · RLT · Neighbor 1 – 6: BCCH · Neighbor 1 – 6: BSIC · Neighbor 1 – 6: C1 · Neighbor 1 – 6: C2 · Neighbor 1 – 6: RXLEV	· C/I · EGPRS DL CS · EGPRS UL CS · EDGE support · ACC burst type · Allocation type · Control ACK type · DL TS allocation · UL TS allocation · ACK mode · DL CS · DL TBF state · DL TFI · UL CS · UL TBF state · UL TFI · DL LLC throughput · DL RLC/MAC throughput · UL LLC throughput · UL RLC/MAC throughput · DL RTX RLC block rate · UL RTX RLC blocks · UL TX RLC blocks · DL RX RLC blocks	· Serving UARFCN · Serving SC · Serving Ec/Io (dB) · Serving RSCP (dBm) · CELL ID · RRC state · RX power · TX power · SC MCC · SC MNC · RLC DL throughput (kbps) · RLC UL throughput (kbps) · BLER · No trans channels · Trans channel ind · Active RSSI · Neighbor 1 – 5: UARFCN · Neighbor 1 – 5: RSSI · Neighbor 1 – 5: SC · Neighbor 1 – 5: Ec/Io · Neighbor 1 – 5: RSCP · Detected 1 – 5: UARFCN · Detected 1 – 5: RSSI · Detected 1 – 5: SC · Detected 1 – 5: Ec/Io	**HSDPA** · AVG MAC rate · AVG schedule rate · AVG served rate · Modulation scheme · DL HS-PDSCH BLER · DL HSDPA throughput · CQI sample count · CQI valid count · CQI average · % ACKS · & NACKS · % DTX **HSUPA** · TTI in use · Primary E-RNTI · Secondary E-RNTI · HSUPA HARQ throughput (Kbps) · HSUPA BLER (%) · Happy bits (%) · Not-happy bits (%)	· IMS session setup status · IMS session setup time · IMS session handshake time · Codec type · Packet loss · Inter arrival jitter · R-factor · R-factor MOS	· Satellites visible · Satellites tracked · Battery status · Battery level · Current running test · HTTP throughput · FTP GET DL throughput · FTP GET DL Interim throughput · FTP PUT DL throughput · FTP PUT DL Interim throughput · FTP GET DL throughput · IPERF DL throughput · IPERF UL throughput · SPEED latency · SPEED DL rate · SPEED UL rate · VOICE call setup time · VOICE MoS score · VOICE attenuation · VOICE ref sample rate · VOICE rec sample rate · VOICE ref SNR · VOICE rec SNR · VOICE ref active speech ratio · VOICE rec active speech ratio

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