

EDGEPROBE NANO

ATSC 3.0/1.0

ATSC 3.0/1.0 Compact Monitoring Probe

EDGEPROBE NANO IS THE MOST COMPACT AND POWERFUL ALERT & DIAGNOSIS TOOL FOR ALL POINTS OF ATSC 3.0/1.0 NETWORKS.



Combined with a NMS or TestTree's GlobalViewer, the EdgeProbe Nano provides a powerful broadcast network alert & diagnosis tool allowing DTV network operators to monitor global trends and anticipate potential failures. EdgeProbe Nano ATSC 3.0/1.0 is able to monitor ATSC 3.0/1.0 signals at Transmitter output through its RF inputs as well as at Modulator input and Head-End/distribution links through IP (STLTP) inputs.

APPLICATIONS

- 24/7 Network Quality Monitoring:
 - Head-End: STLTP distribution (over IP, Satellite)
 - TX sites: RF transmission quality & stability, SFN synchronization
 - Reception area (SFN overlapping): RF signal quality & Echoes (w/ TX ID)
- Generation of Service Availability reports for SLA & channel bitrate allocation stats for Lighthouse scenario
- Plan and improve the network configuration by identifying global trends

Accurate RF & SFN measures at TX output or Reception area

- RF spectrum display and Shoulders (out-of-band) monitoring
- Signal Level, SNR, MER (L1-Basic, L1-Detail, PLP), BER LDPC iteration
- TX SFN measure: RF frame drift
- Reception area SFN measure: Channel Impulse Response (Echoes) with TX ID decoding and echo association
- Compatible ATSC 1.0
- Up to 4 RF inputs in 1RU

ATSC 3.0 content monitoring for Lighthouse scenario

- PLP and Services list decoding
- Bitrate & Channel usage monitoring

RF measures & channel bitrate history storage

- Alarm logs, RF parameter trends and channel bitrates stored up to 4 months
- CSV format files, available for download via web GUI or FTP connection (automation scripts)
- Demodulated TS recording (.ts) for ATSC 1.0
- 32 GB of internal storage per monitoring unit (up to 4 in 1RU)

BENEFITS

- Small, Silent & Magnetized: can be installed anywhere
- Portable tool for maintenance team
- Standalone, easy to use and configure, fast deployment, SNMP compatible
- Increase customer satisfaction by detecting & preventing DTV network degradations before your customers do
- Remotely accessible, compatible with low bandwidth control networks (GPRS/3G/4G)
- Low power consumption (8W)

Distribution link STLTP monitoring

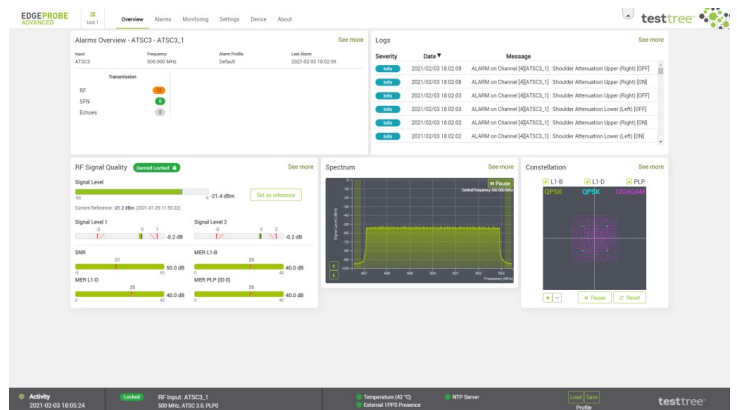
- IP network quality: jitter, FEC support (Packet Loss & Recovery)
- SFN synchronization: STLTP Network Delay
- STLTP integrity
- At Head-End and/or TX site

ATSC 1.0 TS monitoring

- ETSI TR 101 290 priority 1, 2, 3
- Multiplex Service structure: service/PID list, bitrate, scrambling/PCR presence

Highly customizable alarming

- User-defined alarm thresholds (min, max, hysteresis) & severity (critical, warning, info)
- Alarming templates (profiles) defined per RF channel
- SNMP trapping configurable per alarm



INTERFACES

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|-----------------|--|
| RF Connector In | 1 x RF input (F-type female – 75 Ω) |
| Standards | ATSC 3.0 (NEXTGEN TV), ATSC 1.0 |
| Frequency range | 40 to 1000 MHz |
| RF Sensitivity | -80 to -5 dBm / 28 to 104 dBμV |
| BaseBand | Gigabit Ethernet for DATA in/out (VLAN support) ASI in/out (BNC-type female 75 Ω) |
| Time Reference | 1PPS input (BNC-type female 50 Ω) |

MONITORING FEATURES

| | |
|---|--|
| ATSC 3.0 RF Monitor | Demodulation status: Lock / Unlock Spectrum, Constellation display Shoulders measurement: Lower (Left), Upper (Right) Signal level: -100 to -5 dBm SNR: 0 to 50 dB MER: 0 to 40 dB (L1-Basic, L1-Detail, PLP) Pre-LDPC BER, Pre-BCH BER, Post-BCH FER, Packet Error Number, LDPC Iteration |
| ATSC 1.0 RF Monitor | Demodulation status: Lock / Unlock Spectrum display Shoulders measurement: Lower (Left), Upper (Right) Signal level: -100 to -5 dBm SNR: 0 to 50 dB Post-Viterbi BER |
| Reception area SFN Monitor | Channel Impulse Response – Echoes: Delay/Level alarm mask per echo With TX ID detection and echo association |
| TX SFN Monitor | SFN Drift measured at RF level Fast identification of which TX site is causing SFN issues |
| ATSC 1.0 Transport Stream - ETR 290 Monitor | MPEG-2 TS Monitor, ETSI TR 101 290 Priority 1, 2, 3 |
| ATSC 1.0 Service Plan | Verify regional services, Service & PID bitrates, Scrambling, Service & PID presence |
| ATSC 3.0 Content Monitor - Service Plan | PLP list & Services list with Bitrates and Channel Usage (ideal for channel-sharing scenarios – "Lighthouse") Modulation parameters with complete decoding of L1 information (Subframes, PLP structure) |
| ATSC 3.0 STLTP Monitor | Gigabit Ethernet STLTP stream input IP link monitoring (IP jitter, FEC, Packets lost/recovered) STLTP integrity (Inner, Outer, L1) |
| Round-Robin Monitor Mode | Monitor sequentially (round-robin) multiple frequencies over 1 RF input Monitoring status & context is kept between two successive monitoring rounds |
| 32GB Internal Memory | 32 GB of internal storage: alarm logs, RF trends, service bitrates up to 4 months. CSV format files. Available for download via web GUI or FTP connection. Demodulated TS recoding (*.ts) files. |

ORDERING CODES

EdgeProbe Nano ATSC 3.0/1.0

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Options

SW ACCESS : RF Monitoring, Round-Robin, ATSC 1.0: ETSI TR 101 290 Monitoring (Priorities 1, 2, 3)
SW PERFORMANCE : RF Monitoring, Round-Robin, ATSC 1.0: ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View
SW ULTIMATE : RF Monitoring, Round-Robin, ATSC 1.0: ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View, IP Monitoring (Jittering, RTP FEC...), ATSC 3.0: STLTP Monitoring
EPA3-In200VRedundant : Add 1x redundant 220V AC input in the EPA3 chassis (hardware)
EPA3-GNSS : Add GNSS support on the module (hardware)

sales@test-tree.com

www.test-tree.com

PHYSICAL

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| Height: 30 mm / 1.2 in, Width: 144 mm / 5.6 in, Depth: 137 mm / 5.3 in |
| Power supply: 12 VDC, 100-240 VAC to 12 VDC adapter provided |
| Power consumption: 8W |

ENVIRONMENT

| | |
|-----------------------|---------------------------|
| Operating temperature | -20 to 55°C / -4 to 131°F |
| Storage temperature | -20 to 70°C / -4 to 158°F |
| Humidity | 0 to 95%, non condensing |