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

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)

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

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 3.0 content monitoring for Lighthouse scenario

PLP and Services list decoding

Bitrate & Channel usage monitoring

ATSC 1.0 TS monitoring

ETSI TR 101 290 priority 1, 2, 3

Multiplex Service structure: service/PID list, bitrate, scrambling/PCR presence

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)

Highly customizable alarming

User-defined alarm thresholds (min, max, hysteresis) & severity (critical, warning, info)

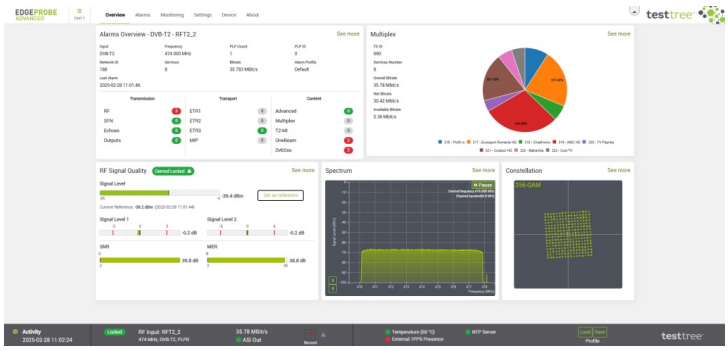
Alarming templates (profiles) defined per RF channel

SNMP trapping configurable per alarm

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INTERFACES

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.

PHYSICAL

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

ORDERING CODES

EdgeProbe Nano ATSC 3.0/1.0	**ATSC 3.0/1.0 Compact Monitoring Probe**
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)

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