

EDGEPROBE NANO



DVB-T/T2 Compact Monitoring Probe

WITH ITS SMALL, COMPACT AND EASY TO HANDLE DESIGN, THE EDGEPROBE NANO DVB-T/T2 IS THE IDEAL TOOL FOR FIELD TECHNICIANS TO TRANSPORT IN ORDER TO VALIDATE AND MONITOR 24/7 ALL POINTS OF A DTV NETWORK.

EDGEPROBE NANO IS ABLE TO MONITOR DVB-T AND DVB-T2 SIGNALS THROUGH ITS RF INPUT (144 X 137 MM COMPACT FORMAT).

COMBINED WITH A NETWORK MONITORING SYSTEM OR NOT, THE EDGEPROBE NANO PROVIDES A POWERFUL BROADCAST NETWORK ALERT & DIAGNOSIS TOOL ALLOWING DTV NETWORK OPERATORS TO MONITOR GLOBAL TRENDS AND ANTICIPATE POTENTIAL FAILURES.



APPLICATIONS

- Network operators
 - automate the tests of new transmitter
 - temporary monitoring/investigation tool
 - rebroadcasting receiver: RF to ASI or IP
- Broadcasters: off-air monitoring probe to validate the on-air content
- TV/STB producers: automated tests against a professional receiver
- Labs: easy & simple access to live DTV sources /Live transmission recorder

Accurate DVB-T/T2 RF signal quality monitor

Signal Level, MER, SNR, BER

Modulation parameters, L1 signaling in DVB-T2, TPS in DVB-T

RF Spectrum & Constellation display

DVB-T, DVB-T2 (1.1.1, 1.2.1, 1.3.1) & T2 Lite support

DVB-T2 Single/Multi-PLP reception support

TS monitor and forward over ASI/IP interfaces

TX site input through the ASI and IP inputs (up to 4 in 1RU)

Forward the analyzed TS/T2-MI over ASI or IP output

VLAN support on the IP Data link

Complete T2-MI monitoring

Single/Multi-PLP support

ETSI TR 101 290 T2-MI packet

T2 L1 pre/post signaling

Network Delay

PLP extraction and TS PLP analysis

Internal GNSS receiver (Hardware option)

Generates an internal 1PPS reference signal for SFN synchronization measurements (SFN Drift, Frequency Offset)

GPS & GLONASS support

BENEFITS

- Small, Silent & Magnetized: can be installed anywhere
- Remotely accessible, compatible with low bandwidth control networks (GPRS/3G)
- Portable tool for maintenance team
- Easy to use and configure
- Standalone: no need for PC
- Enables SNMP test automation
- Low power consumption 8W

Complete SFN synchronisation monitor

Transmission site SFN monitor: quick identification of which TX site is causing SFN issues!

- RF Frame Delay & Drift
- Carrier Frequency Offset & Drift
- Before modulator: Network Delay of TS (MIP packet) or T2-MI streams

SFN overlapping Reception Area monitor: Channel Impulse Response (Echo Delay and Level alarming thresholds) – with **TestTree's Unique Echo Pattern** monitor

Complete TS monitoring

ETSI TR 101 290 Priority 1, 2, 3

QoS indicators (optional): Service Availability Error & Service Degradation Error

Verify Regionalization: Service Plan view, PID/Service presence, Scrambling

Service & components bitrates

32 GB of internal storage

Alarm logs up to 6 months

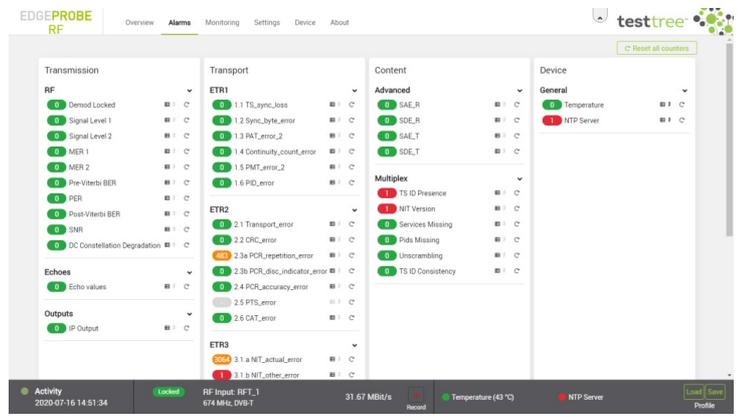
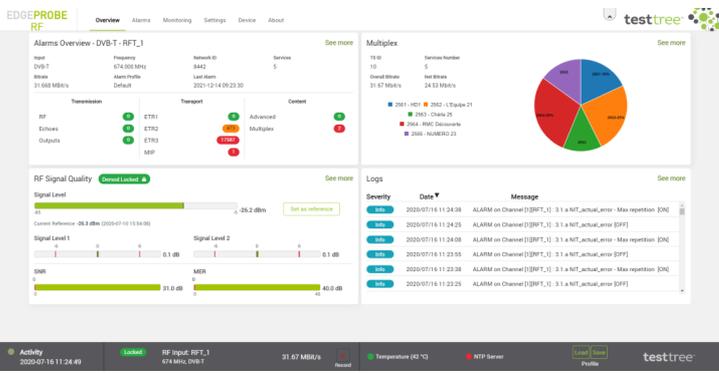
RF parameter trends up to 6 months

TS/T2-MI recording (trigger: manual or automatic by SNMP)

User-friendly interface

Easy-to-use HTML5 interface compatible with most recent browsers (Google Chrome, Mozilla Firefox...)

15 minutes only for a first configuration



MONITORING FEATURES

| | |
|---|---|
| RF Monitor | Power – Signal Level, SNR, MER, BER |
| Demodulation status | Lock / Unlock |
| Signal level | Measure from -90 to -5 dBm ±1 dBm, typically ±0.5 dBm, resolution 0.2 dBm Unit: dBm or dBµV |
| Constellation, Spectrum display | . |
| MER | 0 to 40 dB (0 to 36 dB: ±1 dB, 36 to 40 dB: ±2 dB) |
| SNR | 0 to 40 dB ±1 dB |
| BER (DVB-T) | Pre/Post-Viterbi, Post-RS |
| BER (DVB-T2) | Pre/Post-LDPC, Post-BCH |
| Modulation parameters | L1 signaling in DVB-T2, TPS in DVB-T |
| SFN Monitor at RX site (SFN overlapping area) | Channel Impulse Response (CIR) monitoring in the SFN overlapping reception area: Echoes Delay and Power Level alarming masks With TestTree's unique Echo Pattern monitor: more reliable echo in error identification even if the main (strongest) echo suffers changes! |
| SFN Monitor at TX site | Quick identification of which TX site is causing SFN issues! Time Synchronization: RF Frame Drift Frequency Synchronization: Carrier Frequency Offset (±1 Hz, resolution 0.1 Hz) |
| Distribution Network Delay | Delay for the TS (with MIP packet) / T2-MI stream between the Broadcast Gateway and the Remote Transmission Site. Measured before the modulator. |
| IP Link Monitor | UDP/RTP supported Network Jitter, RTP packet errors, FEC |
| T2-MI Monitor | Single/Multi-PLP support ETSI TR 101 290 T2-MI packet, L1 pre/post signaling T2-MI Network Delay PLP extraction and TS PLP analysis (ETR 101 290) |
| OneBeam/Single Illumination Monitor | Specific PID from the DTH stream used to recover the T2-MI distribution on TX site |
| ETSI TR 101 290 | MPEG-2 TS Monitor, ETSI TR 101 290 Priority 1, 2, 3 TS (with MIP packet) Network Delay |
| QoS | SAE (Service Availability Error), SDE (Service Degradation Error) based on ETR 101 290 |
| Service Plan | Verify regional services, Service & PID bitrates, Scrambling, Service & PID presence Thumbnails for unencrypted video services (refresh rate might vary upon encoding) PSI/SI tables decoding |
| Round-Robin | Monitor sequentially several channels over 1 RF input in a Round-Robin mode. Monitoring context (measurement alarms) are kept between successive rounds. |
| Extended Memory | 32 GB of internal storage for: Event logs up to 6 months, Trends up to 6 months, analyzed TS/T2-MI recording |

ORDERING_CODES

EdgeProbe Nano DVB-T/T2

DVB-T/T2 Compact Monitoring Probe

options

EdgeProbeNano - DVB-T/T2 ACCESS: RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3)
EdgeProbeNano - DVB-T/T2 PERFORMANCE: RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View
EdgeProbeNano - DVB-T/T2 ULTIMATE: RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View, IP Monitoring (Jittering, RTP FEC...), T2-MI Monitoring, OneBeam Monitoring
EPA3-GNSS: Add GNSS support on the module (hardware)

INTERFACES

| | |
|-----------------------|--|
| Control | 1 x Gigabit Ethernet for: HTTP Web GUI (management), SNMP v2/v2c/INFORM (alarm traps and OID command SET/GET), FTP (firmware update, log file download, profile update) |
| RF | 1 x RF input (N-type female – 50 Ω) |
| Standards | DVB-T – ETSI EN 300 744 DVB-T2 & T2 Lite – ETSI EN 302 755 v1.3.1, ETSI TS 102 831 T2-MI – ETSI TS 102 773 |
| Frequency range | 40 to 1000 MHz |
| Sensitivity | -80 to -5 dBm; RF lock down to -80dBm |
| Channel bandwidth | 1.7, 5, 6, 7 & 8 MHz |
| TS/T2-MI | 1 x ASI in/out (BNC-type female – 75 Ω) |
| TS/T2-MI | 1 x Gigabit Ethernet for Data in/out (VLAN support) |
| GNSS & Time Reference | 1x GNSS antenna input (SMA-type – 50 Ω) (GPS/GLONASS) HW option, 3.3V antenna power up 1x 1PPS input (BNC-type female – 50 Ω) |
| Web UI | HTML5 User Interface, compatible with up-to-date browsers (Google Chrome, Mozilla Firefox...) |

PHYSICAL

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| Height: 30 mm / 1.2 in, Width: 140 mm / 5.5 in, Depth: 140 mm / 5.5 in |
| Power supply: 12 VDC, 100-240 VAC to 12 VDC adapter provided |
| Power consumption: 8W |

ENVIRONMENT

| | |
|-----------------------|---------------------------|
| Operating temperature | -20 to 50°C / -4 to 122°F |
| Storage temperature | -20 to 70°C / -4 to 158°F |
| Humidity | 0 to 95%, non condensing |

