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

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

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

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

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 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

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

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)

Internal GNSS receiver (Hardware option)

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

GPS & GLONASS support

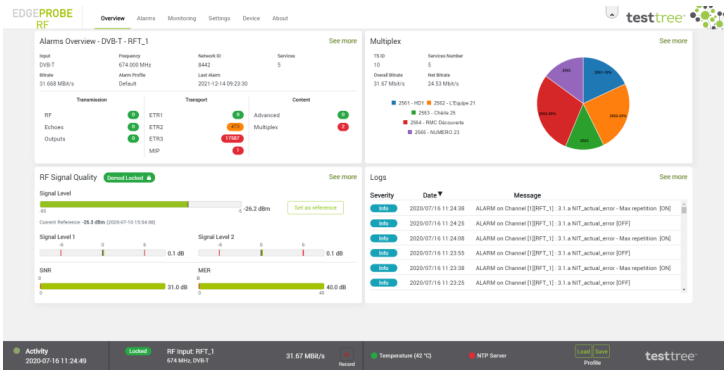
User-friendly interface

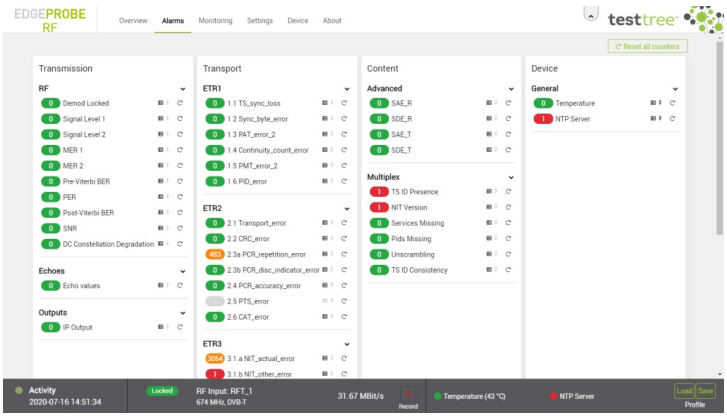
Easy-to-use HTML5 interface compatible with most recent browsers (Google Chrome, Mozilla Firefox...)

15 minutes only for a first configuration

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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

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

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

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)

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