

## EDGEPROBE ADVANCED

## DVB-T/T2® DVB-S/S2/S2X® ISDB-T/Tb DVB-C/C2®

## RF, ASI, IP Monitoring

THE IDEAL TOOL FOR ACCURATE & COST-EFFECTIVE MONITORING OF THE QUALITY OF DIGITAL TV & RADIO BROADCAST NETWORKS. COMBINE ANY TWO RF STANDARDS IN ONE 1RU DEVICE! UP TO 4 PARALLEL MONITORING MODULES (2 PER RF STANDARD).



Combined with a Network Monitoring System or not, the EdgeProbe Advanced provides a powerful network alert & diagnosis tool allowing Digital TV & Radio network operators to monitor global trends and anticipate potential failures. EdgeProbe Advanced provides monitoring of the signal at different levels:

- RF:
  - key RF signal parameters (Signal Level, SNR/CNR, BER) including specific measures for Satellite and DAB signals
  - SFN synchronization: SFN RF frame delay & drift, Carrier Frequency offset & drift
  - Channel Impulse Response
- MPEG-2 TS: checks the ETSI TR 101 290 (Priority 1, 2 & 3) conformance and provides optional Quality of Service indicators (Service Availability, Service Degradation)
- T2-MI: checks the ETSI TR 101 290 T2-MI conformance, displays L1 pre & post signaling information and supports PLP extraction
- BTS: checks the TMCC & IIP packets
- OneBeam/SingleIllumination: checks the T2-MI marker and In-Band specific PIDs

## APPLICATIONS

- 24/7 Monitoring and Maintenance of both Head-End and TX sites (SFN, MFN, retransmission)
- 24/7 Monitoring and Maintenance of both Uplink and Downlink sites (RF & Baseband)
- Generation of Service Availability reports for Service Level Agreements
- Gateway from RF to ASI or IP
- Live transmission log, trend (RF measures) and TS recorder

## Monitor DVB-T &amp; DVB-T2 signals at TX output or reception areas, up to 2 RF inputs in 1RU

Signal Level, MER, SNR, BER

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

Channel Impulse Response

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

## Monitor ISDB-T/Tb signals at TX output or reception areas, up to 2 RF inputs in 1RU

Signal Level, MER, SNR, BER per Layer A/B/C

Modulation parameters: TMCC, Layer A/B/C

Channel Impulse Response

## Monitor RF signal SFN synchronisation

RF Frame Delay & Drift

Carrier Frequency Offset & Drift

Quick identification of which TX site is causing SFN issues!

## Complete MPEG-2 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

## BENEFITS

- Monitor both Satellite distribution and TX RF transmission (terrestrial, cable, DAB) in a single 1RU device
- Standalone, easy to use and configure, fast deployment, SNMP compatible
- Increase customer satisfaction by detecting & preventing network degradations before your customers do
- Reduce site maintenance cost by anticipating and identifying issues
- Plan and improve the network configuration by identifying global trends
- Remotely accessible, compatible with low bandwidth control networks (GPRS/3G)
- Low power consumption 25W

## Monitor DVB-S &amp; DVB-S2 (S2X) signals at uplink/downlink, up to 2 RF inputs in 1RU

Signal Level, CNR, Eb/NO, Link Margin, BER

Multistream support, modulation parameters

LNB powering & configuration

Frequency range (L-band after LNB down conversion): 950 to 2150 MHz

DVB-S, DVB-S2; C-band, Ku-band, Ka-band

## Monitor DVB-C/C2 signals at TX output or reception areas, up to 2 RF inputs in 1RU

Signal Level, MER, BER

Modulation parameters, L1 part2 signaling in DVB-C2

## Baseband monitoring and TS forward over ASI/IP output

Monitor TS & T2-MI & BTS baseband distribution links at Head-End output and TX site input through the ASI and IP inputs (up to 4 in 1RU)

Forward the demodulated analyzed TS over ASI or IP output (T2-MI PLP extraction support)

VLAN support on the IP Data link

## T2-MI, BTS &amp; OneBeam Monitor

ETSI TR 101 290 T2-MI packet alarms

T2 L1 pre/post signaling

T2-MI PLP TS analysis and extraction support

BTS: IIP, TMCC packets monitoring

OneBeam: T2-MI marker and In-Band PID monitoring



## 32 GB of internal storage (up to 4 in 1RU)

Alarm logs up to 6 months

RF parameter trends up to 6 months

TS recording (manual trigger)

## Compatible with all Network Monitoring Systems

Powerful network alert & diagnosis tool: monitor global trends and anticipate potential failures

Compatible SNMP v2c and v2c INFORM for alarming and device configuration

Web GUI access: support of low bandwidth Internet connection (3G, GPRS)

## INTERFACES

|                             |   |
|-----------------------------|---|
| RF                          | *   |
| Connector In                | Up to 4x RF inputs (N-type female – 50Ω or F-type female – 75Ω) depending on RF standard  |
| Standards (up to 2x per RU) | DVB-T/T2/T2 Lite<br>DVB-S, DVB-S2<br>ISDB-T/Tb<br>DVB-C/C2  |
| Frequency range             | DVB-T/T2, DVB-C/C2, ISDB-T/Tb: 40 to 1000 MHz<br>DVB-S/S2: 950 to 2150 MHz (after LNB down conversion)  |
| Sensitivity (RF lock)       | -80 to -5 dBm (28 to 104 dBμV)  |
| Baseband TS                 | Up to 4x ASI/ETI in/out (BNC-type female – 75Ω)<br>Up to 4x Gigabit Ethernet for Data in/out (VLAN support)   |
| GNSS & Time Reference       | 1x GNSS antenna input (SMA-type – 50Ω) (GPS/GLONASS) HW option,<br>3.3V antenna power up<br>1x 1PPS input (BNC-type female – 50Ω)<br>1x 10MHz input (BNC-type female – 50Ω) |

## PHYSICAL

|  |
|--|
| Height: 45 mm / 1.7 in, Width: 440 mm / 17.3 in, Depth: 300 mm / 11.8 in |
| Format: 1 RU, width 19", Power supply: 100-240 VAC +/-10%                |
| Power consumption: 20W, Redundant Power Supply (HW option)               |

## ORDERING CODES

| EdgeProbe Advanced MultiStandard | MultiStandard Advanced Monitoring Probe  |
|----------------------------------|--|
| <i>Options</i>                   | <b>SW ACCESS</b> : RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3)<br><b>SW PERFORMANCE</b> : RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View<br><b>SW ULTIMATE</b> : RF Monitoring, Round-Robin, ETSI TR 101 290 Monitoring (Priorities 1, 2, 3), Service Plan & Multiplex View, IP Monitoring (littering, RTP FEC,...), T2-MI Monitoring, OneBeam Monitoring<br><b>EPA3-In200VRedundant</b> : Add 1x redundant 220V AC input in the EPA3 chassis (hardware)<br><b>EPA3-GNSS</b> : Add GNSS support on the module (hardware) |

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## Internal GNSS receiver & Dual PSU – Hardware options

Internal GNSS: GPS & GLONASS support, for internal 1PPS reference signal generation

Dual Power Supply: one additional Power Supply can be installed on the equipment in order to ensure the power redundancy

## ENVIRONMENT

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

## MONITORING FEATURES

|   |
|---|
| Please refer to the corresponding EdgeProbe Advanced product for standard specific features & technical details   |
| DVB-T/T2: <a href="https://www.test-tree.com/product/dvb-tt2-monitoring-probe/">https://www.test-tree.com/product/dvb-tt2-monitoring-probe/</a>                   |
| DVB-S/S2: <a href="https://www.test-tree.com/product/dvb-ss2-advanced-monitoring-probe/">https://www.test-tree.com/product/dvb-ss2-advanced-monitoring-probe/</a> |
| ISDB-T/T2: <a href="https://www.test-tree.com/product/isdb-ttb-monitoring-probe/">https://www.test-tree.com/product/isdb-ttb-monitoring-probe/</a>                |
| DVB-C/C2: <a href="https://www.test-tree.com/product/dvb-cc2-monitoring-probe/">https://www.test-tree.com/product/dvb-cc2-monitoring-probe/</a>                   |