

## REFEREE 3 ATSC 3.0 Analyzer for Field Measurements

# ATSC 3.0/1.0



Ensuring that end-users can receive good quality TV is the main concern for anyone working through the media delivery chain.

ReFeree 3 offers the only compact solution able to efficiently put oneself in the final customer shoes.



### APPLICATIONS

- **Coverage & Drive Tests** for ATSC 3.0 & ATSC 1.0
- **Installation & Maintenance** Test Tool
- RF Reception **Qualification**
- Head-End/TX site/off-air measurements
- **ATSC 3.0/1.0** Network Troubleshoot
- **R&D** Test & Measurements

### BENEFITS

- **The most compact** ATSC 3.0 analyzer
- **Complete analysis** of the ATSC 3.0/1.0 broadcast chain (RF + STLTTP)
- **Efficient** maintenance & operation
- **Analyze/Validate** ATSC 3.0 signals **in real-time** down to the frame structure
- **Live video decoding**

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### KEY FEATURES

- **ATSC 3.0 & ATSC 1.0 RF Measurements**
  - Spectrum & Constellation display
  - Signal level, MER, SNR, BER
  - Channel Impulse Response (CIR) with TXID
  - Modulation Parameters
- **ATSC 3.0 Frame analysis**
  - Complete frame decoding
  - Frame structure display (including subframe & PLP)
  - Service list view
  - Bit rate monitoring by PLP & Service
  - Log and trend files
- **Audio/Video Display**
  - Service decoding (unencrypted programs)
  - ROUTE DASH reception
- **STLTP Analysis**
  - STLTP decoding via PC ETH
  - Bit rate monitoring (outer, inner, by PLP & Service)
- **Road Test & Field Coverage**
  - Internal GPS/GLONASS receiver
  - GPS/GLONASS L1 antenna provided
  - Google compliant report files including RF measurements

### ENVIRONMENT & PHYSICAL

- 2x RF input (F-type female 75Ω)
- 1x ASI input and 1x ASI output
- 1x IP Data Ethernet 1Gbps + 1x IP Data Fiber 1Gbps (SFP) 1x
- 10 MHz input, 1x GNSS input, 1x 1PPS input for SFN delay measurements
- 1x CI+ slot for CAM module input
- Weight/Dimensions 0.8 x 0.5 x 0.2", 1.6 lbs (21 x 12 x 3.5 cm, 730 g)
- USB self-powered, allows LNB powering



### ORDERING CODES

#### ReFreee 3

#### ATSC 3.0 & ATSC 1.0 Compact Measurement Receiver

Shipped bundled with dedicated software for Windows 8/8.1, 10

Software Option	Video decoding ATSC 3.0 STLTP	ATSC 3.0 ROUTE live video decoding, ATSC 1.0 live video decoding STLTP analysis
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