# Portable Cable/Digital TV RF Analyzer

SLM 1479


## OVERVIEW

The portable SLM 1479 cable/digital TV RF analyzer answers the needs of TV and cable installers and technicians in today's broadcast and high speed cable TV video delivery networks. It is capable of testing and analyzing digital TV/RF formats including QAM, DOCSIS, 8VSB (ATSC) and NTSC from 5 MHz to an extended 1250 MHz.

The meter provides in-depth RF measurements including MER, BER, PER, EVM, noise margin, constellation, spectral analysis and DOCSIS 3.0 channel bonding and dropped packets. It includes simple pass or fail quality indications for easy interpretation of results. Additionally, the SLM 1479 decodes live video and audio from clear streams and displays MPEG information such as service names, video/audio program IDs and MPEG format descriptors.

With its color touchscreen display, the SLM 1479 user interface eliminates the need for multiple menus and pushbuttons, and it achieves the ultimate in user friendliness. The display offers easy to interpret graphs and results as well as live spectral and constellation diagrams for thorough troubleshooting. The SLM 1479 also offers a LAN port for remote connectivity and downloading the results of its automated pass/fail test for system documentation and record keeping.

The SLM 1479 is designed to meet the rigors of everyday field use with a rugged display that is both dependable and viewable even in the brightest sunlight. It also includes a padded nylon case with all the straps and handles a user could want.

## ORDERING INFORMATION

| Module | Feature |
|---|---|
| SLM 1479-ATSC6 | Base model with QAM-B/8VSB (ATSC) input |
| SLM 1479-DOCSIS3-8CH-OPT | DOCSIS 3.0 8x4 cable modem analysis option |
| SLM 1479-OPTICAL-OPT | Optical input option |

## APPLICATIONS

- Professional installation and troubleshooting of digital TV broadcasts, cable TV digital or analog reception and distribution paths
- Optional DOCSIS 2.0/3.0 cable modem installation testing for both forward and return path analysis
- Antenna alignment for private TV/RF distribution systems in schools, campuses and hospitality networks
- Maintenance and testing of digital or analog RF equipment, such as modulators, receivers and decoders

## KEY FEATURES

- 7" high-resolution touch screen user interface simplifies navigation and makes complex measurement tasks easy
- H.264 and MPEG-2 video decoding; MPEG, AAC, HE-AAC, Dolby AC3 and E-AC3 (DD+) audio decoding
- Extended RF frequency range from 5 to 1250 MHz
- Digital RF measurements including average power/level, pre/post BER, MER, Noise Margin, spectral analysis, and constellation
- Advanced installer meter features including INGRESS mode, LEAKAGE mode, BARS SCAN and TILT
- Optional DOCSIS 2.0/3.0 upstream and downstream testing capabilities, 8x4 channel bonding with automatic lock to CMTS
- Optional optical power meter with interchangeable FCST-SC connector for fiber optic testing (FTTH & FTTX) and troubleshooting
- User definable channel scan testing /logging with automatic quality analysis: FAIL-PASS-MARG
- Alpha/numeric keypad for direct channel/frequency selection
- SMART software PC interface for meter upgrades, channel plans and AutoScan testing/logging management
- Weighs only 3.5 lbs. (1.6 kg), H 5.5 x L 9.5 x D 2 inches (14 x 24 x 5 cm)
- Up to 4 hours active battery life with automatic battery saver
- Supplied with padded nylon case, accessories, AC power adapter and vehicle battery charger

# SPECIFICATIONS

Portable Cable/Digital TV RF Analyzer SLM 1479

## LEVEL MEASUREMENT AND SPECTRUM ANALYSIS

| | |
|---|---|
| Frequency Range | 5 to 1250 MHz |
| Frequency Resolution | 25 kHz |
| RF Input Impedance | 75 Ω (interchangeable F-Type connector) |
| Dynamic Range | 1~125 dBuV (-59~65 dBmV, -112~16 dBm) |
| Measurement Resolution | 0.1 dB |
| Level Measurement Accuracy | 1 dB typ., 2 dB max. |
| A/V Ratio | <22±1.5 dB (2 dB max.) |
| S/N Ratio | <45±1.5 dB, 45~50±2 dB |
| Resolution Filter Bandwidth | 100 kHz @ -3 dB |

## DIGITAL MEASUREMENTS

| | |
|---|---|
| BER Measurement | Pre and Post to 1 x $10^{-9}$ |
| MER Measurement | <40 dB |
| MER Accuracy | 1 dB typ., 2 dB max. |

## INGRESS MEASUREMENTS

| | |
|---|---|
| Frequency | 5~65 MHz |
| Level | 5~125 dBuV |
| Accuracy | ±2 dB |
| Bandwidth | 100 kHz @ -3 dB |

## LEAKAGE MEASUREMENTS

| | |
|---|---|
| Frequency Range | 115~140 MHz |
| Resolution | 25 kHz |
| Antenna type | Selectable |

## DOCSIS DOWNSTREAM MEASUREMENTS (OPTIONAL)

| | |
|---|---|
| Frequency Band | 5~1000 MHz |
| Input Impedance | 75 Ω (interchangeable F-Type connector) |
| Range | -45~65 dBmV |
| MAC Address | Default or user-defined |
| Channel Bonding | Up to 8 downstream channels |

## DOCSIS UPSTREAM AND GENERATOR (OPTIONAL)

| | |
|---|---|
| Tone Generator Frequency | 5~65 MHz |
| Modulation | QPSK, QAM, 8,16,32,64 |
| Typical Range | 8~53 dBmV (1 dB typ., 2 dB max.) |
| Channel Bonding | Up to 4 upstream channels |

## OPTICAL MEASUREMENTS (OPTIONAL)

| | |
|---|---|
| Wavelengths | 850, 1310, 1490 and 1550 nm |
| Range | -25~10 dBm |
| Resolution | 0.1 dB |
| Accuracy | ±0.5 dB |

## PORTS

| | |
|---|---|
| RF Input and DOCSIS | 75 Ω Female (F-Type) |
| LAN | RJ45 10/100 Ethernet |
| USB PC Interface | USB 2.0 Type B |
| USB Host | USB 2.0 Type A (for flash drives) |

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Battery | Internal lithium-polymer, rechargeable |
| Battery Duration | 4 hours typical at 25 °C |
| Power Supply | External, 12 VDC, 1A |
| Weight | 3.5 lbs. (1.6 kg) |
| Dimensions | H 5.5 x L 9.5 x D 2 inches (14 x 24 x 5 cm) |
| Display | Color touchscreen LCD 7" (480 x 800 px) |
| Operating Temperature Range | 0~50 °C |
| Storage Temperature Range | -25~70 °C |
| Humidity | Up to 90% non-condensing |
| Front-Panel | Alphanumeric keypad |
| Power Save | TFT backlight timer, brightness adjust |
| PC Management | SMART software |
| Video Decoding | MPEG-2, MPEG-4/AVC/H.264 (SD/HD) |
| Audio Decoding | MPEG, AAC, HE-AAC, Dolby AC3, E-AC3 (DD+) |

## STANDARD ACCESSORIES

- Padded nylon carry case and strap
- USB 2.0 cable
- AC adapter
- 12V automotive charging cable
- RF and optical interchangeable connectors