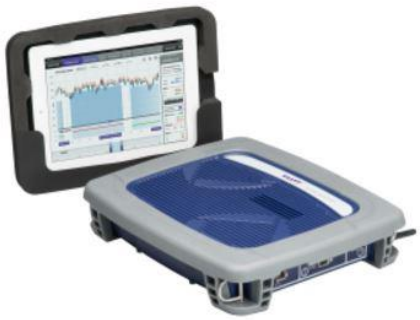
VIAVI VSE 1100

DIGITAL SPECTRUM & VIDEO ANALYZER



The VSE 1100 Video Spectrum Expert is the industry's first converged digital spectrum video analyzer and noise troubleshooting platform designed for the challenges of the converged cable access platform (CCAP) and remote PHY evolution.
The VSE 1100 helps cable service providers maintain optimal network performance with video and spectrum analysis for fast and easy preventive maintenance and troubleshooting. Innovative upstream test modes speed troubleshooting to shorten mean time to repair. A tablet user interface and measurement engine simplifies operation and remote test capabilities.

- Real time VIAVI Hyper Spectrum overlapping FFT analysis instantly detects any transient interference and noise
- Portable MACTrak demodulates upstream signals to detect code word errors and linear distortions
- AutoChannel delivers content intelligent tuning through an innovative method of automatic channel program detection and channel plan building.
- MPEG error visibility with live transport stream display and post capture analysis helps troubleshoot difficult video issues
- One screen display shows all spectrum, level, and MER measurements of all channels (the world's first)

APPLICATIONS

- Rapid and consistent rollout and troubleshooting verification of CCAP and RemotePHY applications
- Clearly indicated impulse noise and ingress to significantly speed resolving intermittent issues
- Collaborative MPEG and RF analysis—reducing MTTR by letting techs track issues through the network

MPEG Analysis

Hyper-Spectrum

MACTrak Local

Downstream Analysis

FREQUENCY		**DOCSIS**	
Range:	0.5-1,100 MHz	Support for 1.0, 1.1, 2.0 and 3.0 (8x4) Versions	
Accuracy:	1 ppm	Cable Modem Functionality	
RBW:	10 kHz-3 MHz 1/Three Steps	Dual MAC Addresses	
Spectrum Update Rate:	10 Frames/Second on full Scan	IPv6 Capability/Support	
LEVEL		**DISPLAY**	
Max Input Level:	65 dBmV	Easy to Use	
Min detectable level:	-58 dBmV (300 kHz RBW)	Color Touch Screen	
Amplitude Accuracy:	±1.5 dB @ 25°C, 2.0/T	Tablet Requirements	
UPSTREAM ANALYSIS (REAL-TIME)		Apple iPad (iPad Air, iPad2 or newer)/iOS 7	
Dual Inputs for Comparisons		Note: iPad not included in base package	
Demod and Spectrum		Detachable remote use via Wi-Fi	
Max and Min Hold for Zero Dead Time		**USABILITY**	
Overlapping FFTs		Battery Life:	> 6hrs
No Time Gaps – 100% Coverage		Boot Time:	less than 15sec
MacTrak Demod		**ENVIRONMENTAL**	
Codeword Errors		Hard Rain	
Synchronized Spectrum with Demodulation		Temp Range:	-4°-122°F (-20°-50°C)
In Channel Response		Operating Temp:	32°-95°F (0°-35° C)
RBW:	1-100 kHz in 1/3 Steps	**INPUT/OUTPUTS**	
Persistence in 85 MHz Band Min detectable Level Upstream:	-60dBmV (300kHz RBW)	RF (2) – F Connectors	
		USB Host (thick and thin Client)	
DOWNSTREAM ANALYSIS		USB OTG	
Simultaneous Display of Carriers (with min and max),		Ethernet	
Noise and MER for any Number of Channels		Power	
Fast Level Measurement - SA Scan		**ASSET AND DATA MANAGEMENT**	
10 Updates per Second		StrataSync Asset and Data Management	
Auto Detection of Channel Parameters		**REPORTING CAPABILITY**	
(Analog/Digital, Symbols, QAM) – no Channel Plan		Screen Capture to Jpeg File	
Spectral Estimation of Channel Parameters		Access with or without StrataSync	
Channel Information compare to System Channel Data		File Export to CVS File	
ANALOG CHANNEL MEASUREMENT		**REMOTE ACCESS/CONNECTIVITY**	
Video and Audio Levels		Measurement Unit can be left behind for longer Term	
Standards:	NTSC, PAL and SECAM	Measurements/recording	
DIGITAL CHANNEL ANALYSIS		Addressable via thin Client via Name and IP Address	
Modulation(s):	Q64, Q128, Q256	Remote File Access	
Annex A, B and C		Wi-Fi, Ethernet and DOCSIS Connections	
Regional Demods:	DVB-C, ISDB-T (optional)	Cellular Connection through Tablet	
Full Span MER		**DIGITAL VIDEO/MPEG FEATURES**	
MER		Transport Stream Verification	
Range > 42 dB		TR101-290	
Resolution 0.1 dB		SCTE-142	
Accuracy +/- 2 dB		ATSC A/78	
Ingress Under Carrier – full Span Ingress Noise Trace		Thumbnail Video (I-Frames- non encrypted)	
BER down to 1E-10 (Pre and Post FEC)		PID Information	
Group Delay and ICR		Program Information	
DQI (including strip Charts)		PSI/SI Tables	
Constellation		Network Information	
Errored/severely errored Seconds		Transport Stream Capture	
Digital Hum		DSG Channel Data	
Level, measured Symbol Rate, Carrier Offset, Modulation, interleaver Depth			

ORDERING INFORMATION

DESCRIPTION	PART NUMBER
Base model with 1.8GHz highest frequency, includes complete set of standard features and is option capable (choose return pass band)	VSE-BASE-42MHZ-18GHZPKG VSE-BASE-65MHZ-18GHZPKG VSE-BASE-85MHZ-18GHZPKG
Downstream model with 1.8GHz highest frequency, includes complete set of standard features and is option capable (choose return pass band)	VSE-DS-42MHZ-18GHZPKG VSE-DS-65MHZ-18GHZPKG VSE-DS-85MHZ-18GHZPKG
Upstream model with 1.8GHz highest frequency, includes complete set of standard features and is option capable (choosereturn pass band)	VSE-US-42MHZ-18GHZPKG VSE-US-65MHZ-18GHZPKG VSE-US-85MHZ-18GHZPKG
Spectrum analyzer model with 1.8GHz highest frequency, includes complete set of standard features and is option capable (choose return pass band)	VSE-SA-42MHZ-18GHZPKG VSE-SA-65MHZ-18GHZPKG VSE-SA-85MHZ-18GHZPKG

OPTIONS

DESCRIPTION	PART NUMBER
MPEG video analysis, factory installed	VSE-VIDEO-ANLYZ
MPEG video analysis, field upgrade	VSE-VIDEO-ANLZ-FLD
MPEG video analysis, timed option license	VSE-VIDEO-ANLYZ-TIMED
MPEG video analysis, floating license	VSE-VIDEO-ANLYZFLOATING

UPGRADES

DESCRIPTION	PART NUMBER
Upgrade SA model to DS model	VSE-1100-SA-TO-DS
Upgrade SA model to BASE model	VSE-1100-SA-TO-BASE
Upgrade US model to BASE model	VSE-1100-US-TO-BASE
Upgrade DS model to BASE model	VSE-1100-DS-TO-BASE

INCLUDED ACCESSORIES

DESCRIPTION
Case with detachable tablet holder and shoulder strap
AC power supply with choice of country-specific adapter plug
12 V DC automobile power supply
Quick-start guide
Supported by StrataSync Core
3-year standard warranty

OPTIONAL ACCESSORIES

DESCRIPTION	
VSE-1100 interface (Air)	VSE-INTERFACE

Note: Port 2 cutoff frequency is 85 MHz.