AVATEQ

RF Signal Analyzers
RF Layer Monitoring
Receivers

DATASHEET

MONITOR.
ANALYZE.
ARCHIVE.
ANYWHERE.

ACTIVECORE®

AVQ200ISDBT
RF SIGNAL INSPECTOR™
for ISDB-T/Tb off-air monitoring

FEATURES:
- ► In-Band interference detection and visualization
- ► Rich set of tools for remote monitoring
- ► Transport Stream output (IP/ASI)

Description

AVQ200 RF Signal Inspector™ is an embedded RF signal analyzer for ISDB-T/TB (**ARIB STD-B31**) digital broadcasting standard. **AVQ200** is an extension of Avateq's line of products designed for remote off-air signal monitoring. Along with extensive RF measurements, **AVQ200** features advanced web-based user interface with unique interference monitoring tools, a report generator, and a user-defined alarm engine. This combination of functionality and available set of measurements makes **AVQ200** an efficient tool for on-site or remote signal quality monitoring in the service area.

Technical Specification

Supported standards:	ISDB-T/Tb (ARIB STD-B31)	Control and Monitor Ports:	
Main signal input "RF in":		Ethernet:	RJ45 10/100/1000
		Transport Stream:	IP (RJ45)/ASI (HDBNC)[1]
Connector:	50Ω, SMA	**Form factor:**	205mm x 105mm x 50mm
Level:	-80 .. +5 dBm		(8.1" x 4.1" x 2")
Frequency range:	42 .. 1000 MHz	**Operating temperature:**	0 .. 50, °C
Frequency tuning step:	1kHz	**Power Supply:**	12VDC, 4 Amp

(1) - ASI TS output is optional and requires hardware installation.

Monitored Parameters

General parameters:	- MER; - Signal PAPR; - Bandwidth; - Frequency and Sampling rate shifts; - Shoulder attenuation; - Emission/Spectral mask compliance; - Amplitude and Phase response; - Group Delay across bandwidth.	ISDB-T/Tb standard specific:	Parameters: - Pre/Post-RS BER for each layer; - ISDB-T/Tb mode and GI length; - TMCC information. Plots: - Layer A,B,C Constellations
General plots:	- Spectrum of the main lobe and in-band interference; - Channel Amplitude/Phase and Impulse responses; - CCDF; - SFN Drift; - Constellation; - Echo profile;	Default set of alarms:	- Input Signal level; - Spectrum shoulder levels; - Signal MER; - SFN Echo profile variation; - Frequency shift.
		Data logging and reporting:	- Detailed report with data and plots; - Event and alarm log; - Main parameters internal log.
		Software interfaces:	- Web GUI;

Measurements and Metrics

► In-band interference power spectral density;

► Signal statistic: MER, signal RMS, PAPR, signal CCDF;

► Echo profile with monitoring capabilities for SFN applications;

► Signal group delay and frequency responses;

► Multipath echo and interference detection, estimation and visualization.

Applications

► ISDB-T/Tb coverage area 24/7 QoS monitor;

► Remote monitoring for broadcasting repeater system network;

► SFN/Echo profile monitor;

► In-field and production testing.

Plot tools and accessories

► Normal and Delta markers;

► Min/Max hold;

► Manual scale adjustment;

► Cross bar;

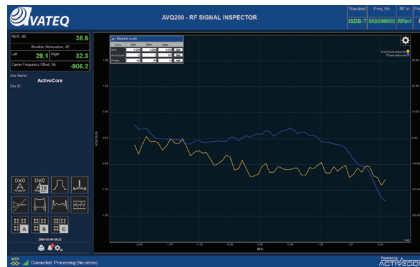► Thresholds for SFN profile and in-band interference level.

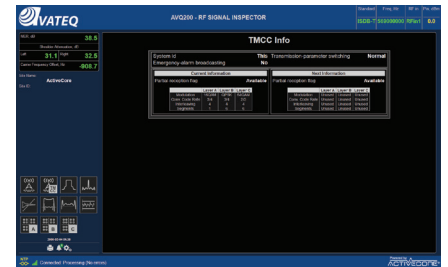## Samples of Reported Parameters and Plots
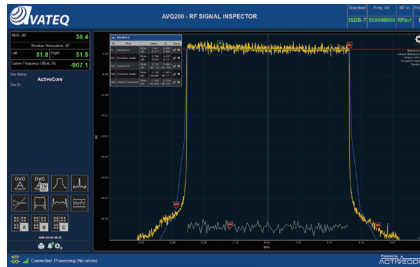
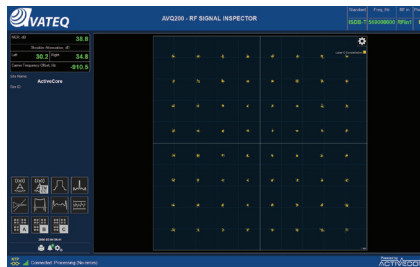ISDB-T/Tb Spectrum with In-Band and Markers
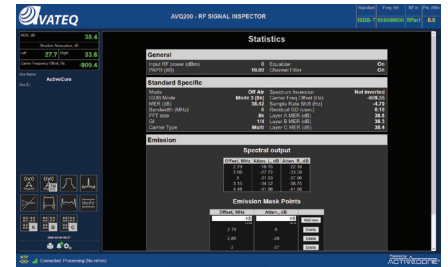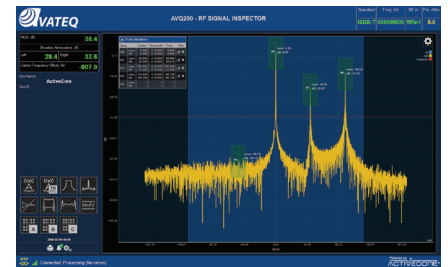

ISDB-T/Tb Statistics

Channel Amplitude/Phase responses
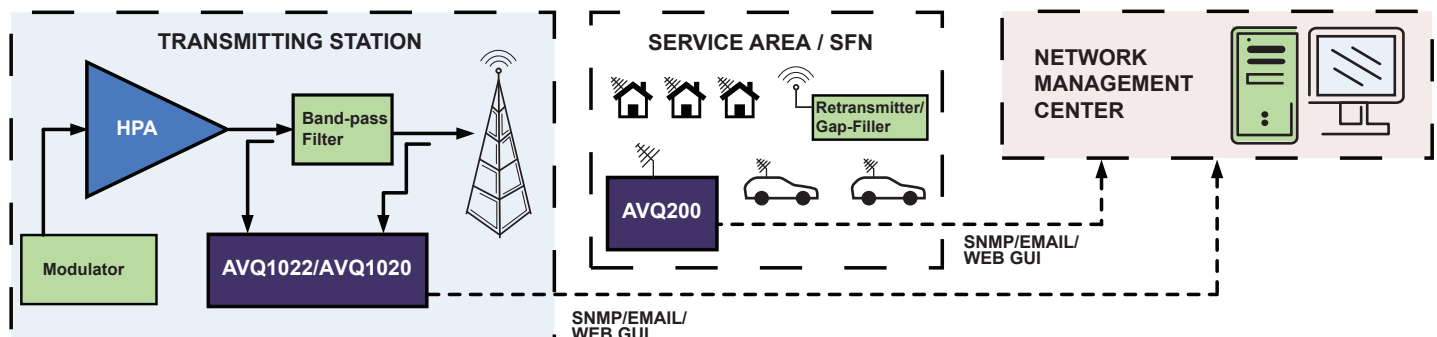

TMCC Information

Layer C Constellation

SFN/Echo profile

Application Block-Diagram

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