



SPECTRAN[®] V6

— BEYOND REALTIME —

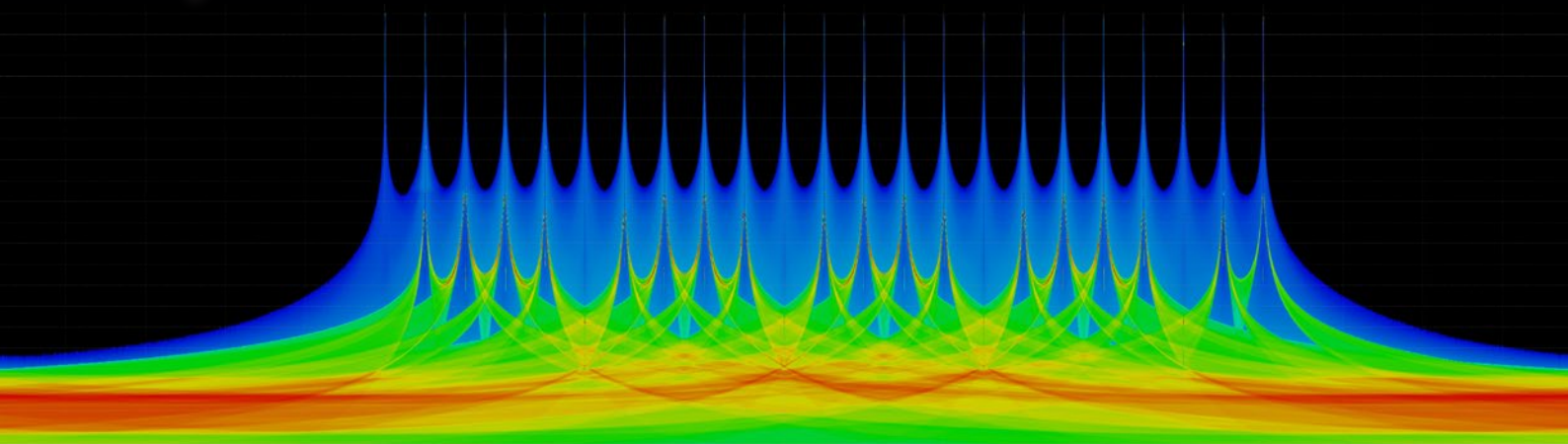
REALTIME SPECTRUM ANALYZER

5G



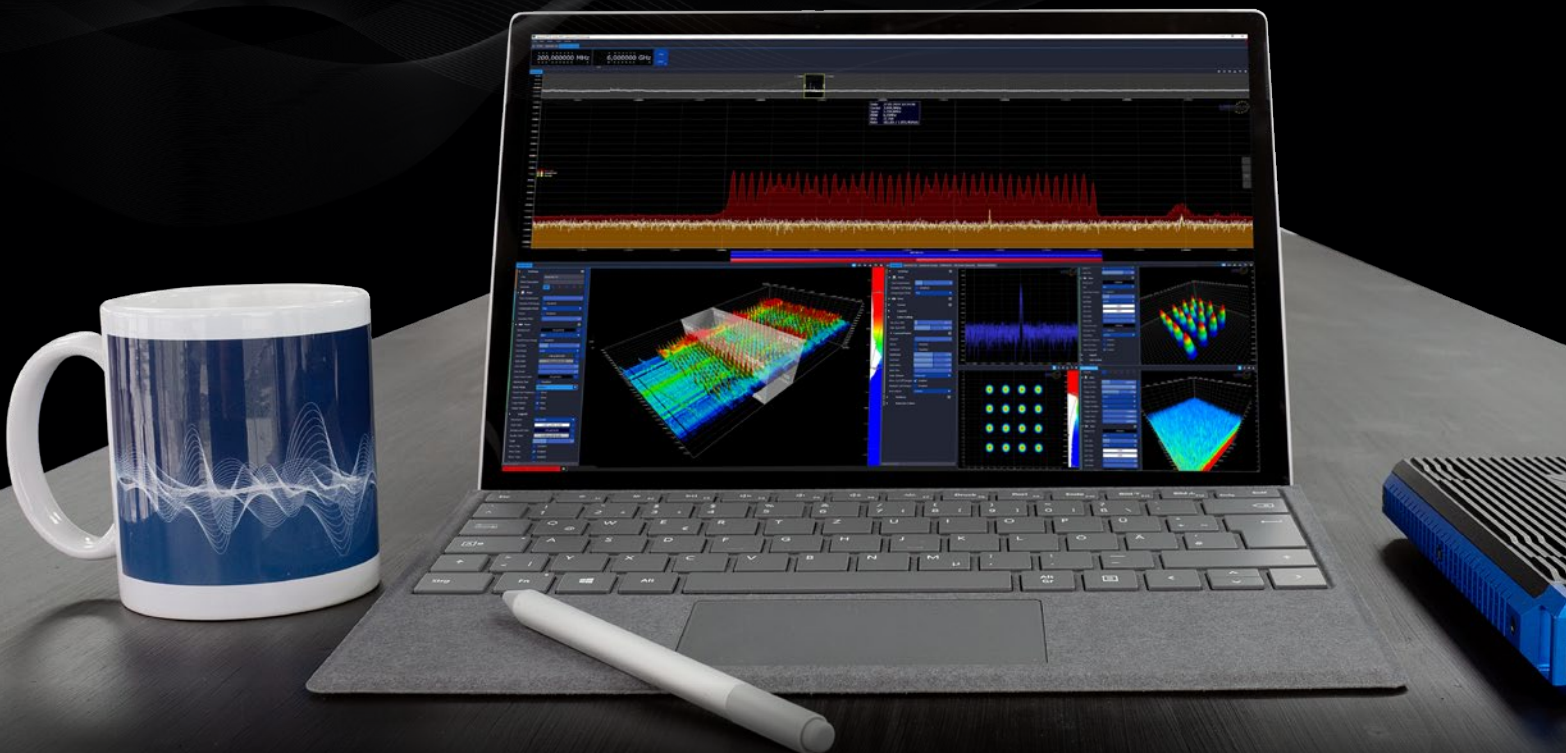
53 GHz USB Real-Time Spectrum Analyzer

- ✓ Frequency range: 250 MHz - 7.125 GHz | 24 - 53 GHz
- ✓ Bandwidth Rx: 60 MHz
- ✓ Noise Figure: -170dBm/Hz (4dB NF)
- ✓ Sweep Speed: 3 THZ/s
- ✓ ADC Resolution: 16-Bit



Highlights

- ✓ Frequency range: 250 MHz - 7.125 GHz | 24 - 53 GHz
- ✓ Power: Via USB (10W)
- ✓ Scans 6GHz in less than 2ms
- ✓ Unlimited, continuous, true 24/7 I/Q Streaming
- ✓ I/Q vector signal generator (60 MHz)
- ✓ Extraordinary dynamic range with a 16-Bit ADC at 2GSPS
- ✓ Sample rate of 500 MSPS (16-Bit Dual 256 MSPS I/Q-Data)
- ✓ FPGA: 930 GMAC/s
- ✓ FFT rate: 960 Million FFT-points/s (120 Million FFTs/s)
- ✓ Stackable accessories
- ✓ Compact and lightweight
- Included software:
 - ✓ “RTSA-Suite PRO” spectrum analysis software with regular updates
 - ✓ Fully remote controllable via platform independent HTTP based API
 - ✓ Native C++ SDK for Windows and Linux
 - ✓ Community plugins for GNU Radio, SDRAngel, SDR++ and many more
 - ✓ Made in Germany



Introduction

Fast, compact and powerful

Aaronia presents the SPECTRAN® V6 5G, a real-time spectrum analyzer specifically designed for monitoring 5G networks, detecting even the shortest signal interference or performance degradation. Its price/performance ratio as well as the number of available additional functions are unsurpassed. The analyzer scans 6GHz in less than 2ms (3 THz/s), making it one of the fastest USB spectrum analyzers in the world.

Fits to your needs

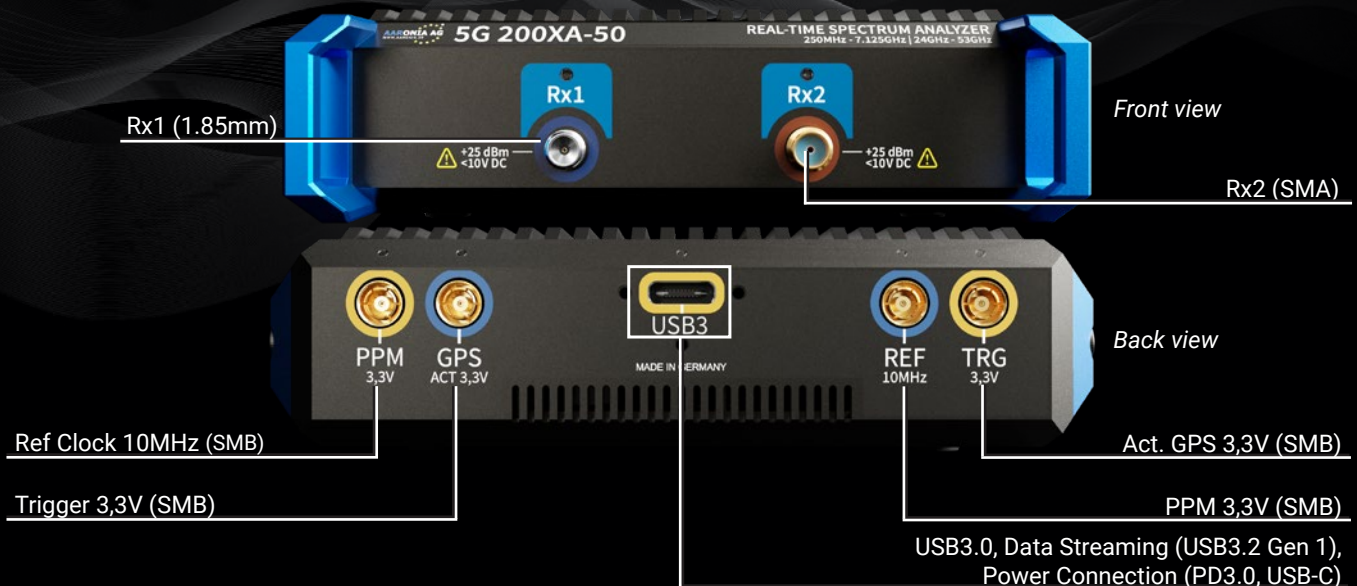
Three different versions are provided, covering the complete range of 5G bands. Simply choose the one which fulfills your requirements.

Compact and lightweight

Due to its weight and dimensions, the V6 5G is ideal for measurements in the field and in the laboratory. Due to the modular design of the RTSA-Suite PRO software, exactly those software extensions that are really needed can be selected from a wide range. Further upgrades can also be carried out subsequently at any time.

Made in Germany

The SPECTRAN® V6 5G spectrum analyzer is designed and assembled in Germany, guaranteeing the highest quality standards.

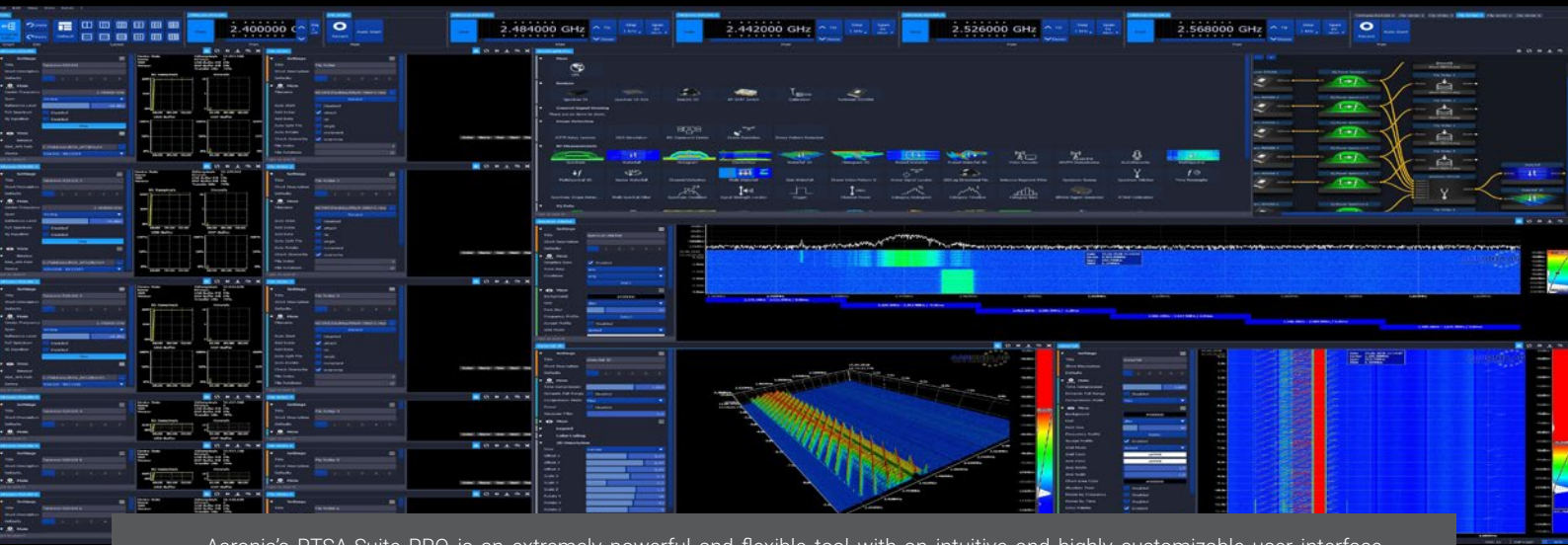


- ✓ Real-Time USB IQ-streaming
- ✓ Ultrawide frequency range from 250 MHz - 7.125 GHz | 24 - 53 GHz
- ✓ Compact size: 210 x 115 x 30 mm
- ✓ Stackable
- ✓ Included PC software
- ✓ Tough, high quality aluminum case
- ✓ 50 Ohm RF connector(s)



RTSA-Suite PRO

World's most powerful RTSA software with endless possibilities!



Aaronia's RTSA-Suite PRO is an extremely powerful and flexible tool with an intuitive and highly customizable user interface. Our node-based software enables users to identify, capture, demodulate and track any signal, and offers a multitude of ways to graphically display the signal detection.

RTSA-Suite PRO – Layout

An amazing block solution offers a convenient configuration to match any requirement!



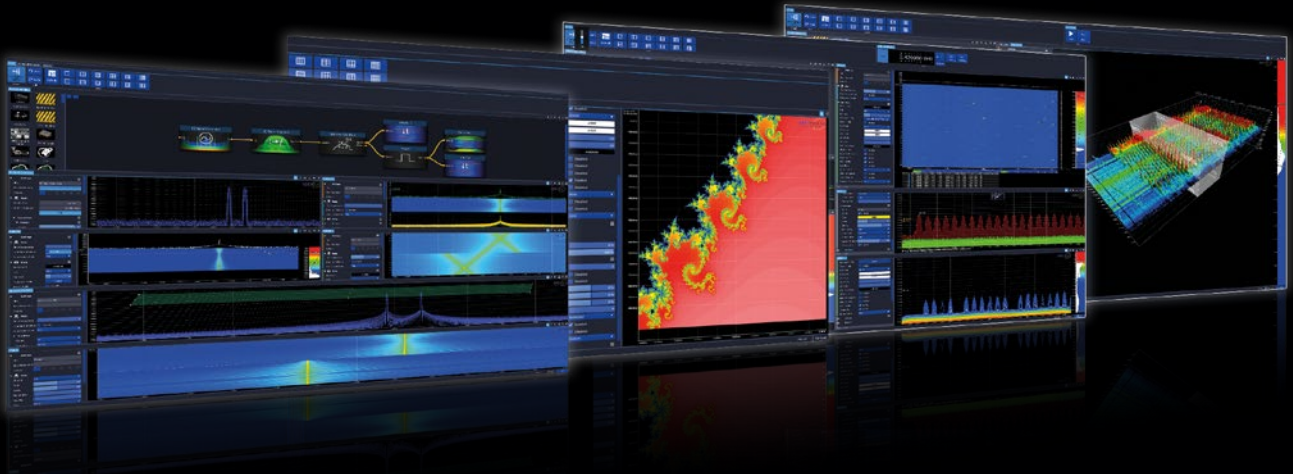
Multiple 2D/3D Spectrum Analysis

Trigger Block

Powerful Script Block

Various Demodulations

3D/4D Waterfall



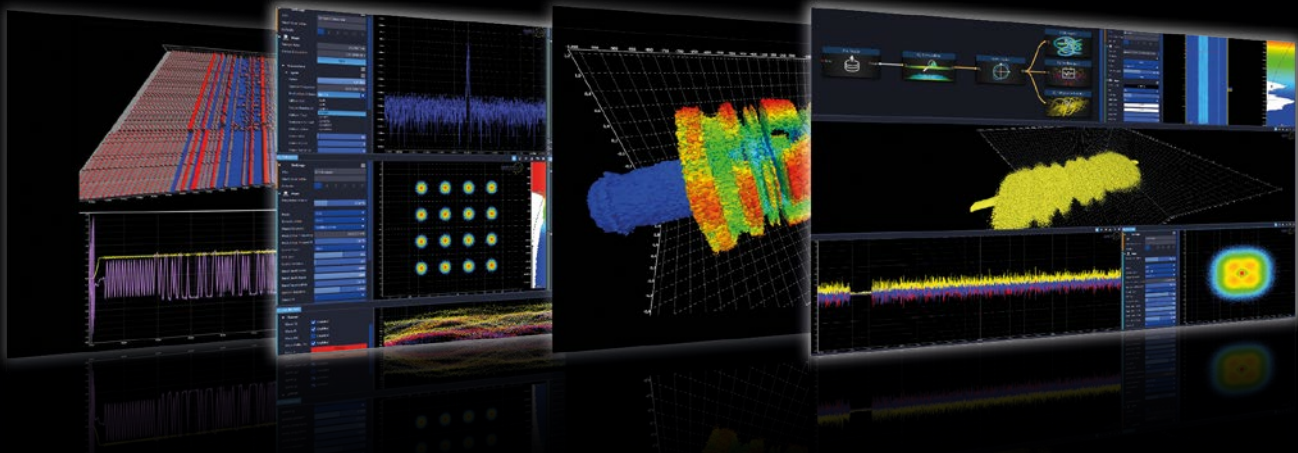
2D/3D IQ Streaming and Decoding

DECT Decoding

Software IQ Generator

3D IQ Display

DAB IQ Demodulation



Multi Unit Stitching and Multi Frequency Monitoring

Multi Frequency Monitoring

Multi Waterfall

V6 full Frequency Monitoring

Multi-Unit Stitching



WORLD of SPECTRAN® V6 5G

Model	Bandwidth	RTBW	Speed	I/Os
V6 5G 100XA-30	24 - 30 GHz	60 MHz	500 GHz/s (optional 3THz/s)	1 Rx
V6 5G 200XA-50	250 MHz - 7.125 GHz, 24 - 53 GHz	60 MHz	500 GHz/s (optional 3THz/s)	2 Rx

All models are available in OEM versions with e.g. reduced size and weight

Options	Comment
Ultra fast tictoc LO	3 THz/s sweep speed
Ultra Low Noise Preamp	Additional 20 dB of gain for Rx2 (250 MHz - 7.125 GHz)
Internal GPS	Incl. spoofing detection and active GPS antenna with SMB cable, GPS disciplined Oscillator (200ppt optional, additional software key required)

Accessories

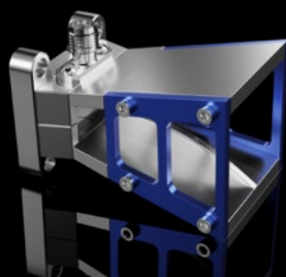
HyperLOG PRO Antennas

Directional measuring and direction finding antennas with a wide frequency range of 380 MHz to 40 GHz. Active and passive versions available.



PowerLOG 50700 antenna

Ultra wideband waveguide double-ridged horn antenna with a frequency range from 5 GHz to 70 GHz.



26800 mAh Power Pack

External Power Pack with 26800 mAh capacity. Extends the battery runtime by up to 4-5 hours. Strongly recommended for outdoor operation. Stackable.



Analyzer Specifications

Specifications	SPECTRAN® V6 5G
Frequency range	250 MHz - 7.125 GHz 24 - 53 GHz
Real-time bandwidth Rx	60 MHz via 1x USB
Max. power Rx	+23 dBm
Max. power Tx	+20 dBm
DANL (internal pre-amp on)	Typ. -170 dBm/Hz
Amplitude accuracy (typ.)	Typ. +/- 0,5 dB (compensated by FIR filter)
USB streaming connection	1x USB 3.1 or 3.2 PD
RBW (resolution bandwidth)	62 mHz to 200 MHz
Measurement units	Over 20 (e.g. dBm, dBµV, V/m, A/m, W/m², dBµV/m, W/cm²)
Detector	Min, Max, AVG, Peak, QPeak
Attenuator range	50 dB / 70 dB (0,5 dB steps)
Traces	Over 20 (e.g. ACT, AVG, MAX, MIN, QPEAK)
Measurement modes	True IQ or Power/Frequency data
Trigger	Cursor, Measurement, Density
ADC	2GSPS 16 Bit
GPS	GPS/QZSS, GLONASS, BeiDou and Galileo (concurrent reception)
GPS synchronisation	+/- 10ns timestamping in each data packet
External Frequency Reference Input	typ. 10MHz, 3,5VRMS into 50 Ohm (SMB-connector)
DSP processing	930 GMACs
SDRAM	2 GB
RF connectors	1.85mm (Rx1), SMA (Rx2), SMB (Trigger, Refclock, GPS, PPM) - all 50 Ohms
Temperature range (operation)	0 °C to +50 °C (extended -40 to +75 °C)
Dimensions	210 x 115 x 30 mm
Power	USB 3.2 Gen 1 Type-C PD 3.0
Power consumption	Typical 10 W
Country of origin	Germany
Recommended calibration interval	2 years



References



Selected Aaronia Clients

Government, Military, Aeronautic, Astronautic

- NATO, Belgium
- Department of Defense, USA
- Department of Defense, Australia
- Airbus, Germany
- Boeing, USA
- Bundeswehr, Germany
- NASA, USA
- Lockheed Martin, USA
- Lufthansa, Germany
- DLR, Germany
- Eurocontrol, Belgium
- EADS, Germany
- DEA, USA
- FBI, USA
- BKA, Germany
- Federal Police, Germany
- Ministry of Defense, Netherlands

Research/Development, Science and Universities

- MIT – Physics Department, USA
- California State University, USA
- Indonesian Institute of Sciences, Indonesia
- Los Alamos National Laboratory, USA
- University of Bahrain, Bahrain
- University of Florida, USA
- University of Victoria, Canada
- University of Newcastle, United Kingdom
- University of Durham, United Kingdom
- University Strasbourg, France
- University of Sydney, Australia
- University of Athens, Greece
- University of Munich, Germany
- Technical University of Hamburg, Germany
- Max Planck Inst. for Radio Astronomy, Germany
- Max Planck Inst. for Nuclear Physics, Germany
- Research Centre Karlsruhe, Germany

Industry

- IBM, Switzerland
- Intel, Germany
- Shell Oil Company, USA
- ATI, USA
- Microsoft, USA
- Motorola, Brazil
- Audi, Germany
- BMW, Germany
- Daimler, Germany
- Volkswagen, Germany
- BASF, Germany
- Siemens AG, Germany
- Rohde & Schwarz, Germany
- Infineon, Austria
- Philips, Germany
- Thyssenkrupp, Germany
- EnBW, Germany
- CNN, USA
- Duracell, USA
- German Telekom, Germany
- Bank of Canada, Canada
- NBC News, USA
- Sony, Germany
- Anritsu, Germany
- Hewlett Packard, Germany
- Robert Bosch, Germany
- Mercedes Benz, Austria
- Osram, Germany
- DEKRA, Germany
- AMD, Germany
- Keysight, China
- Infineon Technologies, Germany
- Philips Semiconductors, Germany
- Hyundai Europe, Germany
- VIAVI, Korea
- Wilkinson Sword, Germany
- IBM Deutschland, Germany
- Nokia Siemens Networks, Germany

