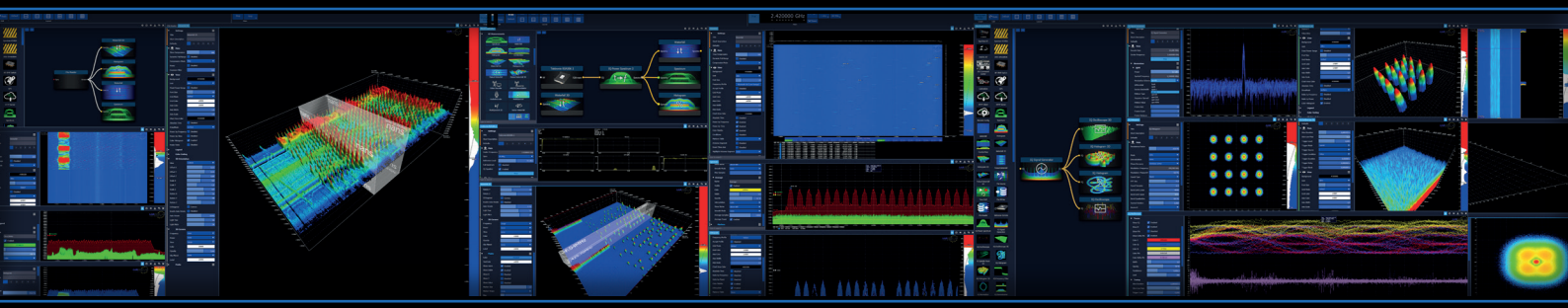
SPECTRAN® V6

BEYOND REALTIME

Real-Time Vector Signal Generator | 240 MHz RTBW

VSG

6 GHz USB Real-Time Vector Signal Generator



- ✔ Frequency range from 75 MHz to 6 GHz
- ✔ Complex I/Q
- ✔ Dual USB 3.0 streaming
- ✔ RTSA-Suite PRO software

AARONIA AG
WWW.AARONIA.DE

Highlights

- ✔ I/Q vector signal generator bandwidth of 120 MHz or 240 MHz Tx
- ✔ Standard signal types (e.g. CW, sweep, chirp, pulse, ...)
- ✔ Complex I/Q (e.g. QAM, OFDM, FSK, ...)
- ✔ Software extensions (e.g 4096QAM, Raster Image, FPGA RAM Memory)
- ✔ Radio Frequency range of 75 MHz to 6 GHz
- ✔ Dual USB 3.0 streaming
- ✔ Stackable accessories
- ✔ Extremely compact and lightweight
- ✔ Including “RTSA-Suite PRO” software with regular updates
- ✔ Made in Germany

Introduction

Fast, compact and powerful

Aaronia presents the SPECTRAN® V6 VSG, a real-time high-performance vector signal generator, designed to generate every imaginable signal. Many additional software extensions are available, allowing singal sweeping inbetween 75MHz to 6 GHz in less than 5 ms or complex IQ vector signal modulation with up to 4096QAM.

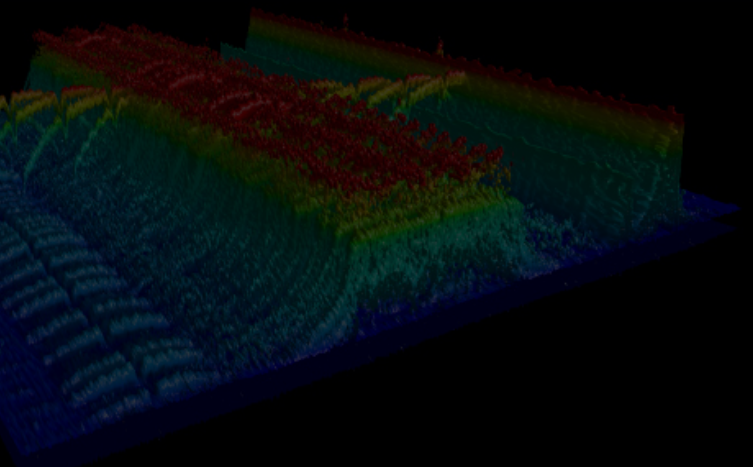
This device enables you to master any challenge, either in analyzing any DUT or in EMC testing like shielding effectiveness.

Compact and lightweight

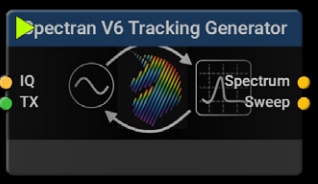
A weight of just 850 g makes the SPECTRAN® V6 VSG ideal for testings in the field, yet it can also be used in the lab. The included PC software "RTSA-Suite PRO" transforms the V6 VSG into a high quality benchtop vector signal generator. The V6 VSG offers a solution for almost every application.

Made in Germany

The SPECTRAN® V6 VSG vector signal generator is developed and assembled in Germany, guaranteeing the highest quality standard.

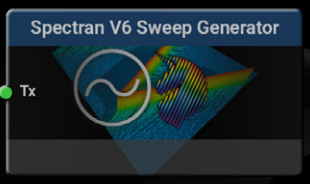


Software extensions



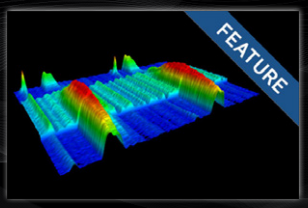
Tracking Generator

This block offers a powerful tracking generator, e.g. for rejection measurement of a DUT.



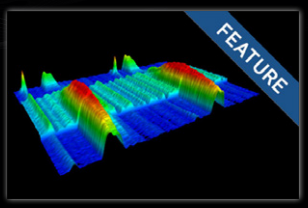
Sweep Generator

This block allows to easily control the signal generator to sweep the entire frequency range 75MHz to 6GHz.



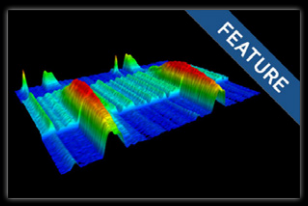
I/Q Raster Image

Convert any bitmap image to IQ data. Perfect for complex pattern generation.



4096 QAM

IQ modulation extension for signals above 64 QAM (64, 256, 1024, 4096).



FPGA RAM Memory

Stores a Tx pattern generator config file inside the device. This allows the signal generator to be used without data traffic on the USB connection that would otherwise be used.

Get more information about RTSA-Suite PRO Software:
www.aaronia.com/rtsa
or buy the software extensions directly from:
www.aaronia-shop.com/rtsa-blocks

WORLD of SPECTRAN® V6 VSG

Model	RTBW	Speed	I/Os
V6-VSG120X	120 MHz I/Q	440 GHz/s	1 Tx
V6-VSG240X	240 MHz I/Q	1100 GHz/s	1 Tx

Options	Comment
Extended Temperature Range	-40°C to +75°C
OCXO Timebase	**5 ppb**, ultra high vibration resistance (±0.1 ppb/g)
Internal GPS	Incl. spoofing detection and active GPS antenna with SMB cable

Accessories

RF over Fiber (Rx/Tx)

Converts an RF signal into a laser signal for lossless streaming of data over long distances through a fiber optic cable.

4-way Splitter/Combiner

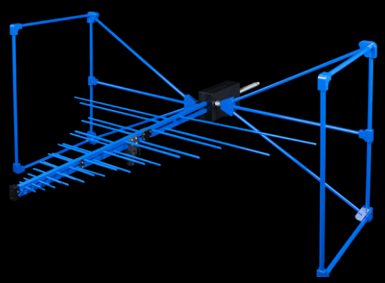
External 4-way low-loss splitter/combiner (e.g. stitch multiple V6 units to expand the real-time bandwith), stackable.

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.

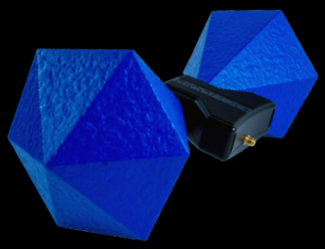
HyperLOG EMI Antennas

Directional, ultra broadband LPDA antennas with wide frequency range from 20 MHz to 6 GHz. High and constant gain of typ. 8 dBi.



BicoLOG Antennas (20MHz – 3GHz)

Broadband Biconical Antennas for EMC Pre-compliance Tests. Perfect for in-house compliance testing of various EMC standards. High bandwidth and gain up to 41dBi (active).



PowerLOG PRO (300MHz – 8 GHz)

Very powerful quad-rided horn antenna with a constant field strength du to linear increasing gain up to 14 dBi and 2 x N(f) connections (h/v).

Analyzer Specifications

Specifications	SPECTRAN® V6 VSG
Frequency range	75 MHz to 6 GHz (1 Hz to 26 GHz in development)
Real-time bandwidth Tx	120 MHz / 240 MHz I/Q (depends on version)
Max. power Tx	+20 dBm
USB streaming connection	One or two USB 3.0 (USB 3.1 Gen1; USB 3.2 Gen1)
USB bandwidth (2 x USB 3.0)	Up to 784 MBytes/s sustained throughput to PC
Frequency reference accuracy	0,5 ppm (5 ppb via OCXO option)
DAC	2GSPS 14-Bit
GPS	GPS/QZSS, GLONASS, BeiDou and Galileo (concurrent reception)
GPS synchronisation	+/- 10ns timestamping in each data packet
External Frequenc Reference Input	typ. 10MHz, 3,5VRMS into 50 Ohm (SMB-connector)
FPGA	XC7A200T-2
DSP processing	930 GMACs
SDRAM	2 GB
RF connectors	SMA (Tx), 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
Weight	850 g
Power	USB 3.2 Gen 1 Type-C PD 3.0
Power consumption	Typical 15 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

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