Datasheet

Rev 1.7
20.09.2016

Broadband Pre-Amplifier UBBV Series

RF & Microwave Amplifier (DC to 20GHz), up to 40dB Gain

Highlights

- Frequency range max.: DC - 20GHz
- Suitable for any brand of Spectrum Analyzers or Antennas
- 7 different Models
- Fits perfectly to any SPECTRAN
- Integrated calibration data, readout via USB
- Runs with internal battery or power supply
- Small weight and dimensions
- **10 years warranty**

References

- Fraunhofer FHR in Wachtberg, Germany
- DLR in Cologne, Germany
- Ruhr University in Bochum, Germany
- Siemens AG in Berlin, Germany
- Continental Automotive in Jalisco, Mexico
- Saab in Linköping, Sweden
- Cassidian in Elancourt, France
- Finnish Defence Forces in Espoo, Finland

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Details

Highest Performance in the smallest space

Do you have problems to read weak signals? Or how about boosting a probes gain or maybe pre-amplifying an rf antenna.
The UBBV is the answer to all these needs as well as many others.

The UBBV is a high-end Pre-Amplifier which works with any brand of Spectrum Analyzers and directly fits to any Aaronia SPECTRAN Handheld Analyzer.

Since the UBBV has such a high compression point of amlost 100 milliwatts, you can even use it to boost the power of small micro transmitters. Newly designed microwave chips enable the UBBV2 to have gain even up to 30GHz.

The UBBV series enables maximum performance, particularly when measuring extremely weak signals e.g. in typical EMC test according to EN55022, EN55011 and so on.

The transport case offers enough space for the preamp & accessories

Frontside

Backside

The UBBV fits directly to any SPECTRAN Spectrum Analyzer

Technical Data

UBBV DC20 (Widest Range)

- Frequency range: **DC to 20GHz**
- Noise: 2,5dB (typ.)
- Gain: 14dB (typ.)
- Max. power at RF input: +15dBm
- Max. power at RF output: +16dBm
- Input: 50 Ohm SMA (f)
- Output: 50 Ohm SMA (m)
- Interface: USB 2.0/1.1
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

UBBV 0910 (Ultra low noise!)

- Frequency range: **9kHz to 6GHz**
- Noise: **0,4dB (typ.)**
- Gain: 22dB (typ.)
- Max. power at RF input: +10dBm
- Max. power at RF output: +8dBm
- Input: 50 Ohm SMA (f)
- Output: 50 Ohm SMA (m)
- Interface: USB 2.0/1.1
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

UBBV 1

- Frequency range: **1MHz to 1GHz**
- Noise: 3,5dB (typ.)
- Gain: 40dB (typ.)
- Max. power at RF input: +15dBm
- Max. power at RF output: +15dBm
- Input: 50 Ohm SMA (f)
- Output: 50 Ohm SMA (m)
- Interface: USB 2.0/1.1
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

UBBV 2 (Highest Gain)

- Frequency range: **1MHz to 10GHz** (500kHz with -3dB bandwidth)
- Noise: 3,5dB (typ.)
- Gain: 40dB (typ.)
- Max. power at RF input: +15dBm
- Max. power at RF output: +15dBm
- Input: 50 Ohm SMA (f)
- Output: 50 Ohm SMA (m)
- Interface: USB 2.0/1.1
- Internal specific calibration data **with up to 1000 points**, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

UBBV-NF 25

- Frequency range: **1Hz to 50MHz** (60MHz with -3dB bandwidth)
- Gain: 25dB (typ.)
- Max. input DC voltage: 10VDC
- Max. input AC voltage: 3V or 2.1V rms
- Max. power at output:: +15dBm (50 Ohm)
- Input: 100 kohm SMA (f)
- Output: 50 ohm SMA (m)
- Interface: USB 2.0/1.1
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

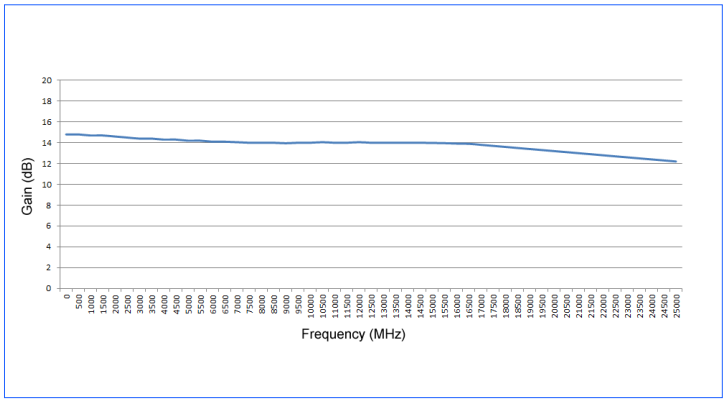
UBBV-NF 35

- Frequency range: **1Hz to 30MHz** (35MHz with -3dB bandwidth)
- Gain: 35dB (typ.)
- Max. input DC voltage: 10VDC
- Max. input AC voltage: 3V or 2.1V rms
- Max. power at output:: +10dBm (50 Ohm)
- Input: 100 kohm SMA (f)
- Output: 50 ohm SMA (m)
- Interface: USB 2.0/1.1
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

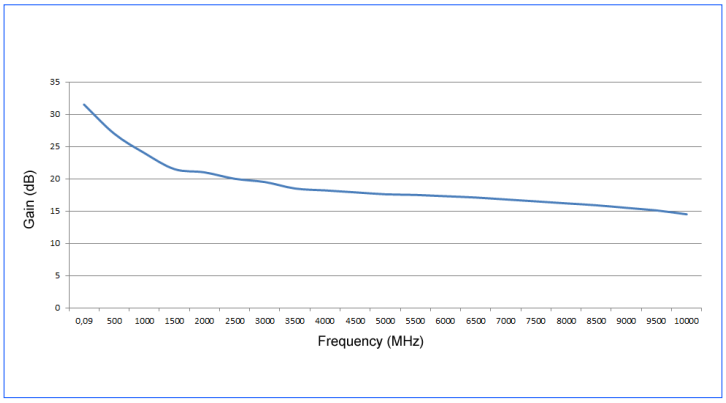
UBBV 1060 BPA (Bypass!)

- Frequency range: **100MHz - 6GHz**
- **Bypass Mode!**
- Noise: 1,4dB at 2GHz
- Gain: 22dB at 2GHz
- IP3: +48dBm (bypass mode)
- Max. power at RF output: +21dBm
- Input: 50 Ohm SMA (f)
- Output: 50 Ohm SMA (m)
- Specific calibration data, readout via USB
- Incl. Transport Case, Power Supply incl. Adapters, Manual, SMA tool & USB cable
- Weight: 146gr
- Dimensions: 81x61x29mm
- **Warranty: 10 years**

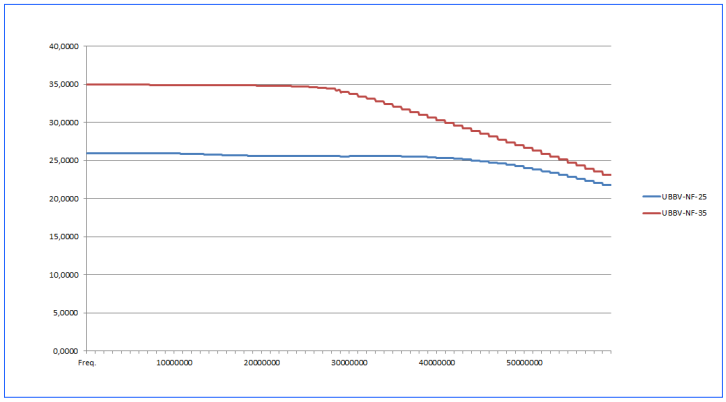
Gain vs Frequency



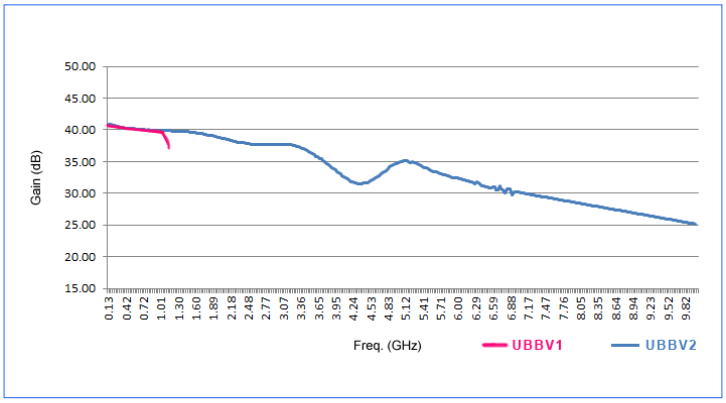
UBBV DC20



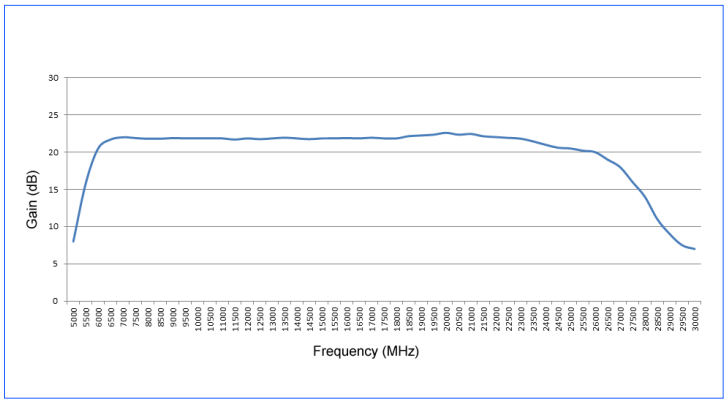
UBBV 0910



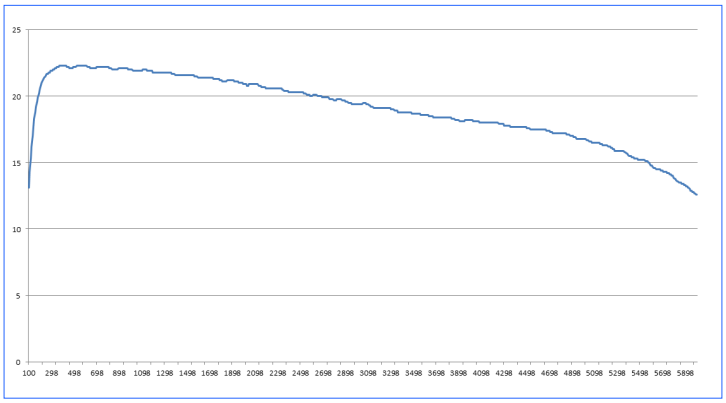
UBBV-NF-25 & UBBV-NF-35



UBBV1 & UBBV2



UBBV 0530



UBBV 1060 BPA

References

Cross-Section of 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
- Indonesien Institute of Sience, Indonesia
- Los Alamos National Labratory, 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 Athen, Greece
- University of Munich, Germany
- Technical University of Hamburg, Germany
- Max-Planck Institute for Radio Astronomy, Germany
- Max-Planck-Institute for Nuclear Physics, Germany
- Research Centre Karlsruhe, Germany

Industry

- APPLE, USA
- 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
- JDSU, Korea
- Wilkinson Sword, Germany
- IBM Deutschland, Germany
- Nokia-Siemens Networks, Germany

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