

Broadband amplifiers open up applications in the microwave range

The new R&S®BBA150 broadband amplifier starts with a base frequency range of 800 MHz to 3 GHz. In combination with the well-established R&S®BBA100 broadband amplifier family, the R&S®BBA150 permits the implementation of amplifier systems with multiple frequency ranges from 9 kHz to 3 GHz and numerous power classes.

New applications up to 3 GHz

The development focus of the new R&S®BBA150 was to design a broadband amplifier that is optimized for high frequencies, compact and lightweight (Fig. 1). The R&S®BBA150 opens up new applications, such as EMS measurements up to 3 GHz in line with different standards. The amplifier is also suitable for industrial applications, such as component production and quality assurance, as well as for research, physical engineering and communications engineering. The R&S®BBA150 is currently available with an instantaneous frequency range from 800 MHz to 3 GHz and output powers of 30 W, 60 W, 110 W and 200 W.

Most advanced RF design on the market

The R&S®BBA150 features the most advanced RF design currently available on the market thanks to decades of experience in developing amplifiers, the use of state-of-the-art design and simulation programs as well as of advanced

power semiconductors. The compact, 4 HU R&S®BBA150 achieves output powers of up to 200 W and weighs only 24 kg (200 W version) thanks to its lightweight construction.

Efficient, rugged, series-produced

The ruggedness of the R&S®BBA150 ensures uninterrupted operation, an important economic factor. The R&S®BBA150 is series-produced in line with high quality standards at the Teisnach plant, one of Europe's most advanced plants. The amplifier's lean firmware with effective monitoring and protection mechanisms provides operational safety. Generous dimensioning of the RF amplifier stages ensures sufficient margin and compliance with warranted data sheet parameters without pushing the amplifiers to their limits. The R&S®BBA150 broadband amplifiers' high tolerance to mismatch (e.g. short-circuiting at the RF end or an open RF output) helps ensure high reliability.

Fig. 1 The R&S®BBA150 power amplifier is available with output powers of 30 W, 60 W, 110 W and 200 W.

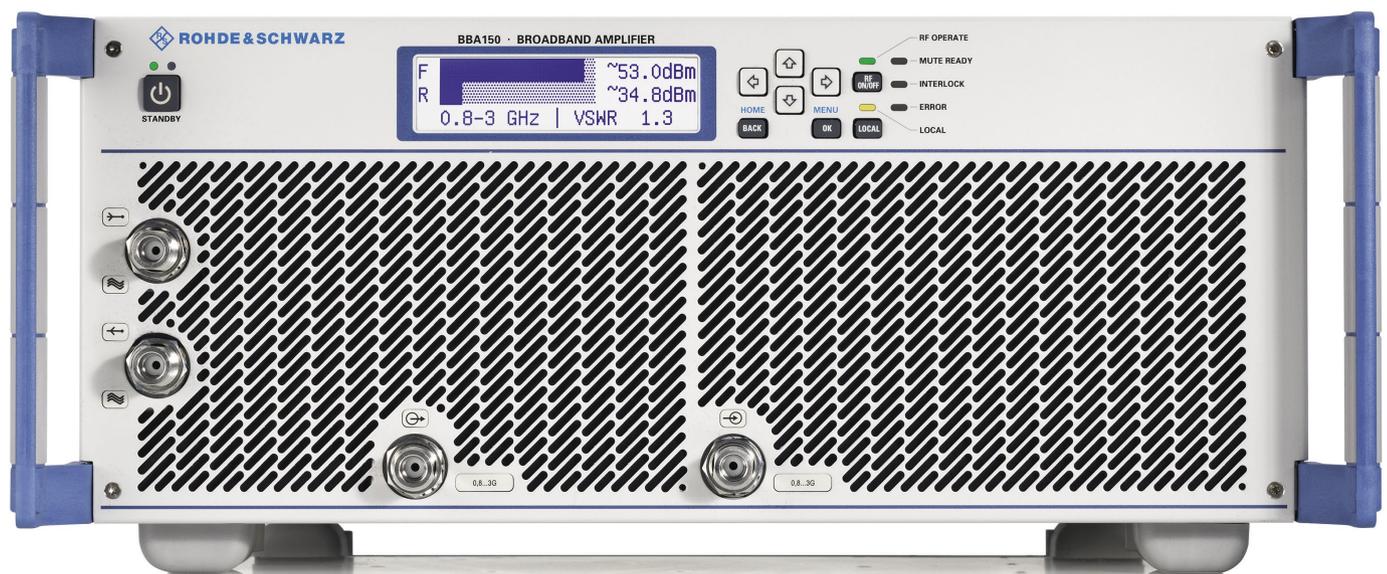




Fig. 2 R&S®BBA150 operating panel on a web browser.

Versatile operation

The amplifier can be operated either using the display and pushbuttons on the front panel or via a common web browser user interface (Fig. 2). The R&S®EMC32 EMC measurement software, which fully supports the R&S®BBA150, is ideal for automated test sequences. Remote control via Ethernet is also possible; a large number of remote control commands in line with the SCPI nomenclature are available.

Two families – one amplifier system

The R&S®BBA150 can, of course, be used as a standalone product. However, its strengths are also brought to bear in combination with the R&S®BBA100 broadband amplifiers: Both amplifier families can be seamlessly integrated into a combined amplifier system for the frequency range from 9 kHz to 3 GHz (Fig. 3). In such systems, the R&S®BBA150 benefits from the R&S®BBA100 RF switching options, such as the RF input switch, RF output switches and RF sample port switches (Fig. 4).

Fig. 3 Overall amplifier system consisting of the R&S®BBA150 and R&S®BBA100.



When so desired, the R&S®BBA100 as the master controls the R&S®BBA150 and integrates it like an additional RF path. The overall system functions as a multiband amplifier that optionally has a common RF input, common sample ports and RF switches. It is remotely controlled via a single interface.

Excellent service and quick maintenance

The modular structure of the R&S®BBA150 allows problems to be remedied quickly and keeps downtime to a minimum. All modules can usually be replaced at the local Rohde&Schwarz office or the nearest service center. Spare parts are available worldwide. If the problem cannot be eliminated by replacing modules, the instrument will be repaired at the plant within a maximum of ten working days (plus shipping time).

And that is not all: The extended warranty offers high availability of the R&S®BBA150 broadband amplifier at low, calculable operating costs. The terms of one to four years – over and above the three-year warranty – provide long-term investment protection.

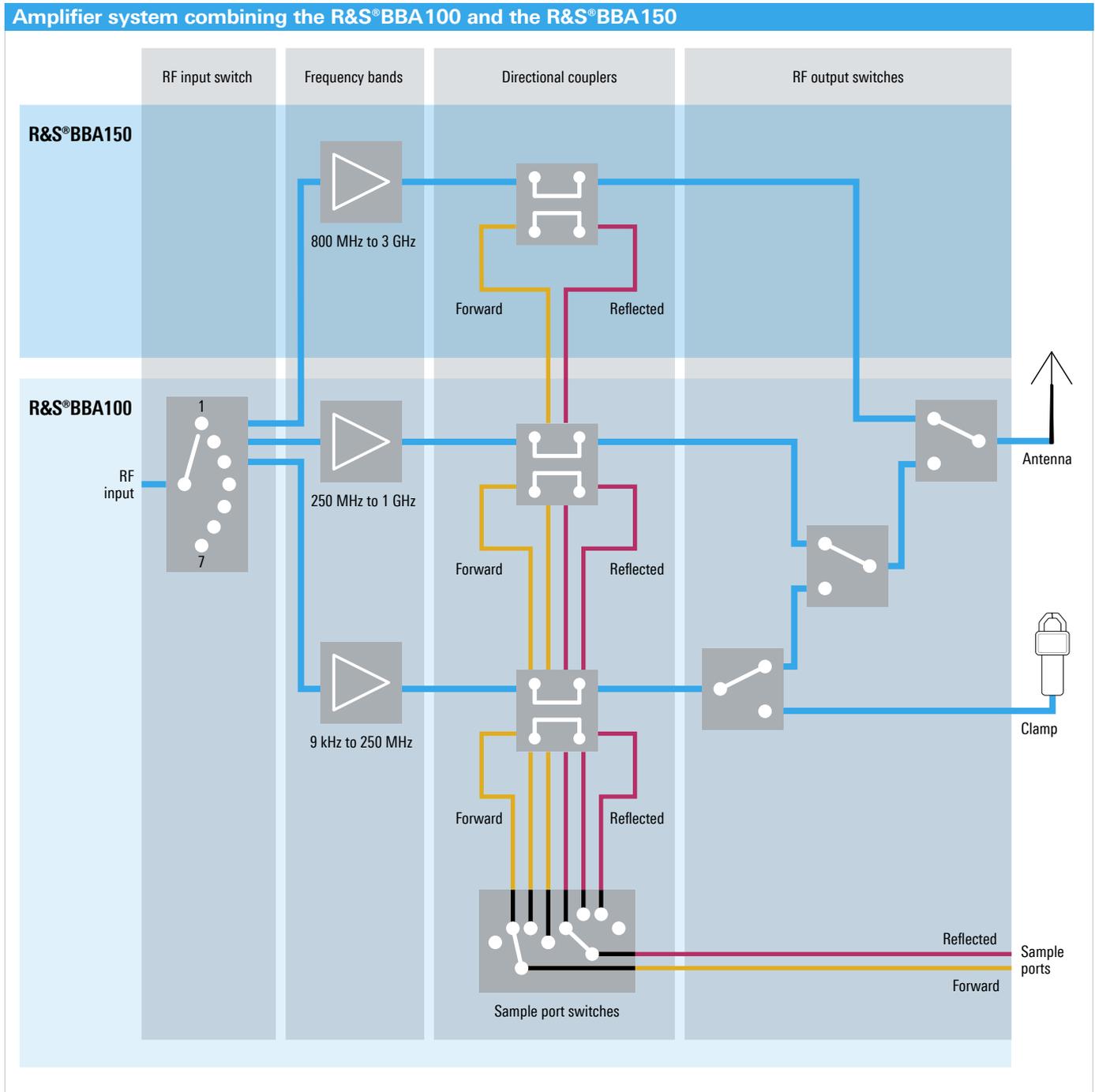


Fig. 4 The amplifier system shown above consists of an R&S®BBA150 and an R&S®BBA100 with frequency ranges from 9 kHz to 250 MHz (band A), 250 MHz to 1 GHz (band C) and 800 MHz to 3.0 GHz (band D).

Summary

The new R&S®BBA150 power amplifier is an important addition to the Rohde&Schwarz EMC portfolio. The amplifier's advanced design, seamless integration into the well-established R&S®BBA100 broadband amplifier family and

worldwide service make the R&S®BBA150 ideal for EMC applications and other tasks. The modular concept enables later upgrading of the power and frequency range and protects investments.

Sandro Wenzel