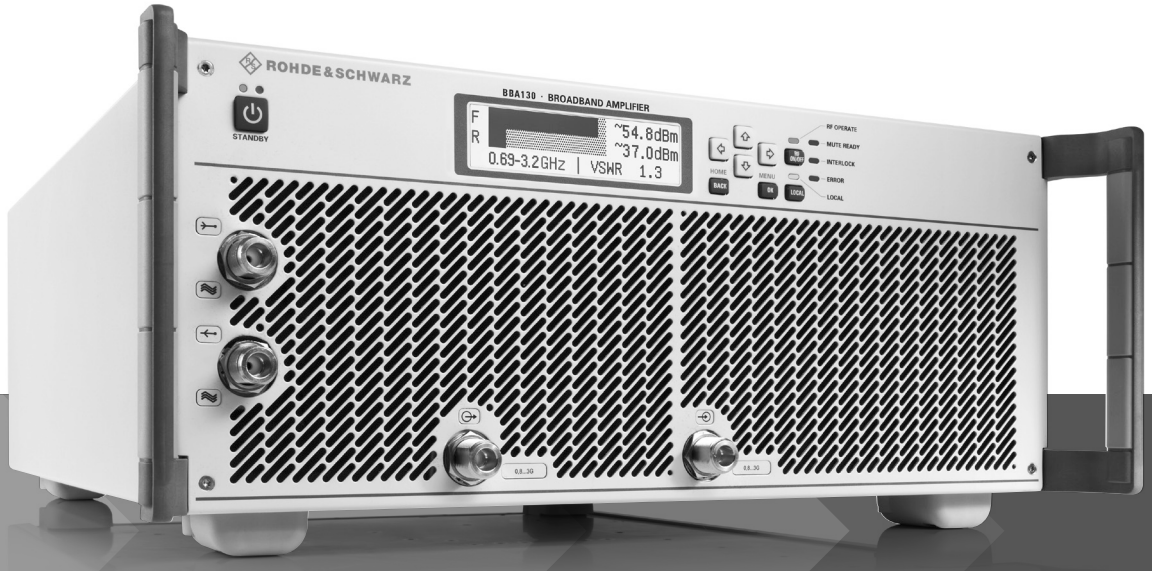
R&S®BBA130
BROADBAND AMPLIFIER

Specifications



Specifications
Version 18.00

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European directives

RoHS Europe, Directive 2011/65/EU:
Equipment category 9, fulfilled without any exceptions.

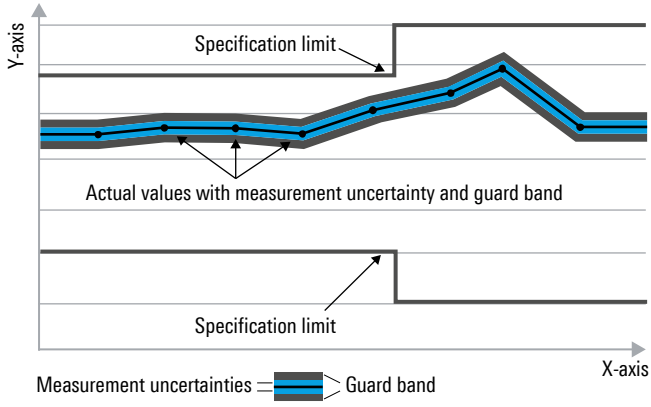
WEEE Europe, Directive 2002/96/EC:
No disposing with unsorted municipal waste; no return with collection of waste electrical and electronic equipment from private households. Separate collection necessary. Ask Rohde & Schwarz representatives about recovery.

Definitions

General
Product data applies under the following conditions:

- 15 minutes of warm-up operation at ambient temperature
- All specified parameters are valid for an ambient temperature of +25 °C, input impedance of 50 Ω and output impedance of 50 Ω
- Specified environmental conditions met
- Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits
Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as <, ≤, >, ≥, ± or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Non-traceable specifications with limits (n. trc.)
Represent product performance that is specified and tested as described under “Specifications with limits” above. However, product performance in this case cannot be warranted due to the lack of measuring equipment traceable to national metrology standards. In this case, measurements are referenced to standards used in the Rohde & Schwarz laboratories.

Specifications without limits
Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value, e.g. dimensions or resolution of a setting parameter. Compliance is ensured by design.

Typical data (typ.)
Characterizes product performance by means of representative information for the given parameter. When marked with <, > or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)
Characterize product performance by means of a representative value for the given parameter, e.g. nominal impedance. In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)
Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties
Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Device settings and GUI parameters are designated with the format “parameter: value”.

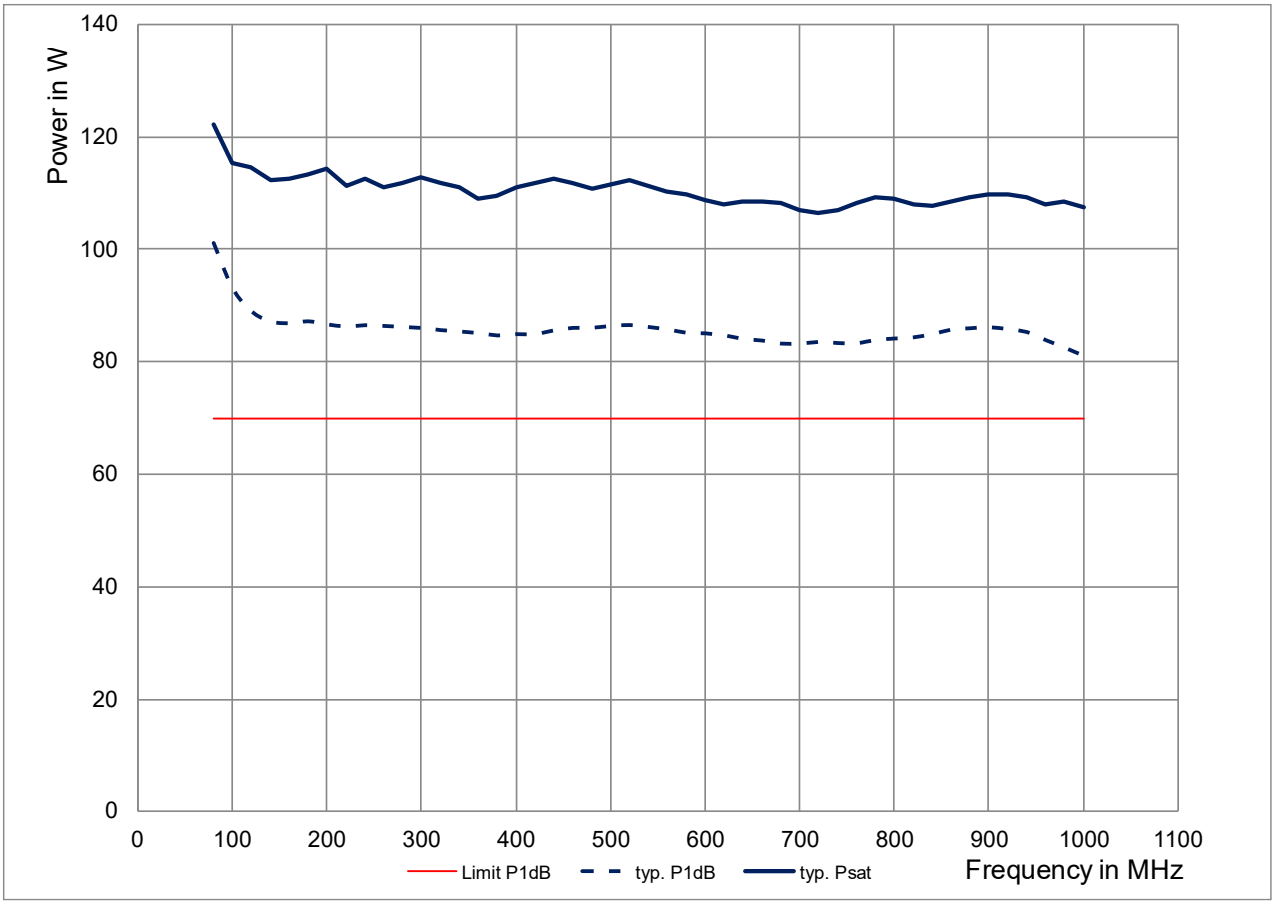
Non-traceable specifications with limits, typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

In line with the 3GPP standard, chip rates are specified in million chips per second (Mcps), whereas bit rates and symbol rates are specified in billion bit per second (Gbps), million bit per second (Mbps), thousand bit per second (kbps), million symbols per second (Msps) or thousand symbols per second (ksps), and sample rates are specified in million samples per second (Msample/s). Gbps, Mcps, Mbps, Msps, kbps, ksps and Msample/s are not SI units.

Frequency band BC from 80 MHz to 1 GHz

R&S®BBA130-BC100, power class: 70 W P1dB or 100 W P_{sat} [1]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		100 W (50.0 dBm)
Output power	output mode: high power	min. 100 W (50.0 dBm)
Output power at 1 dB compression		min. 70 W (48.5 dBm)
Nominal power gain	at 400 MHz	nom. 51.9 dB
Gain flatness		< ±3 dB
Third-order intermodulation (IM3)	2-tone at 42.5 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 70 W, class A	< –20 dBc
Spurious	at 70 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –65 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

[1] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 70 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 57 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 16 kg (35 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

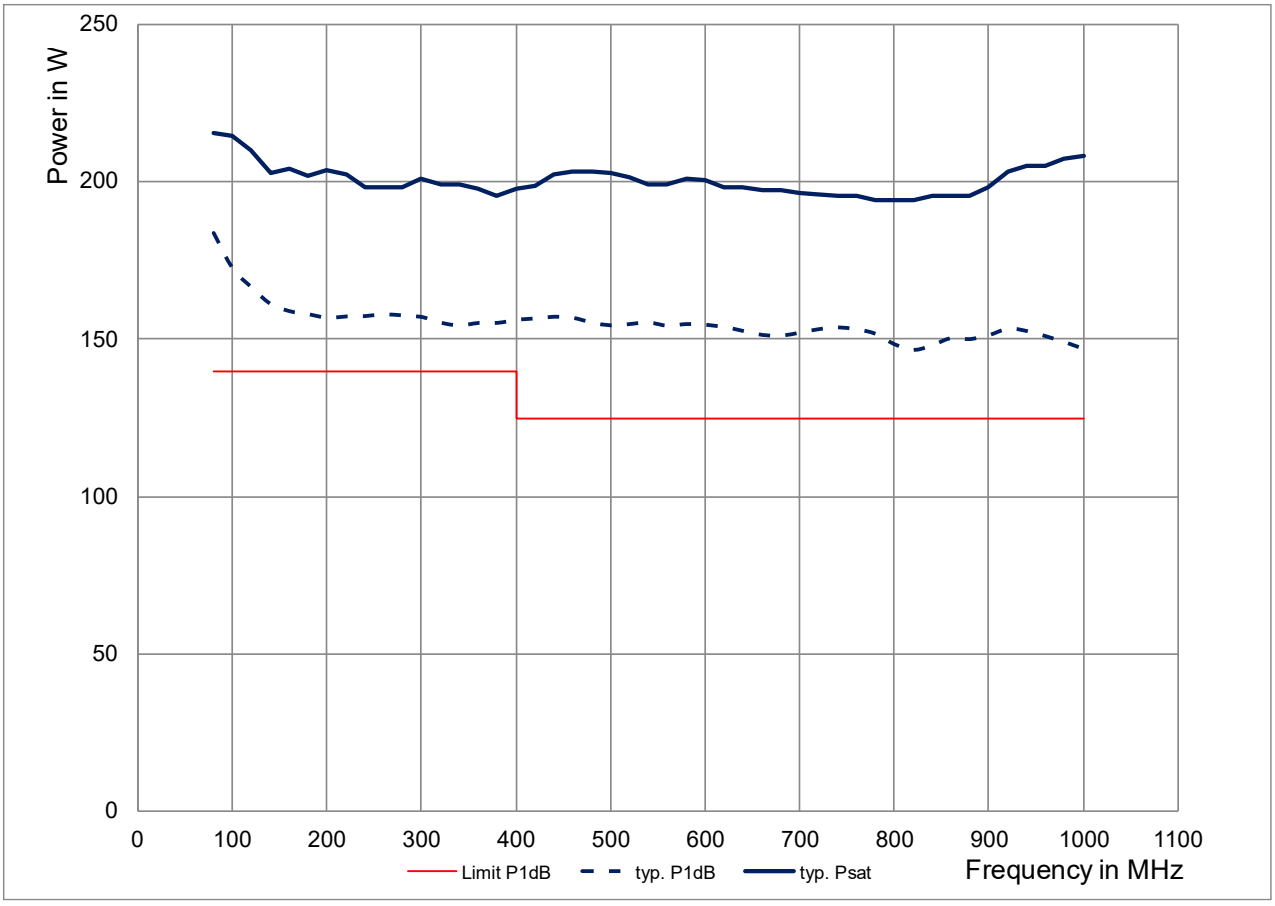
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [2]	at 110 V	8.6 A
	at 230 V	4.1 A
Rated power	RF_{cw} = 100 W (RMS), VSWR = 1	930 VA

[2] The appropriate connection has to be provided on site.

R&S®BBA130-BC180, power class: 140 W P1dB or 180 W P_{sat} [3]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		180 W (52.6 dBm)
Output power	output mode: high power	min. 180 W (52.6 dBm)
Output power at 1 dB compression	< 400 MHz	min. 140 W (51.5 dBm)
	≥ 400 MHz	min. 125 W (50.9 dBm)
Nominal power gain	at 400 MHz	nom. 54.4 dB
Gain flatness		< ±3 dB
Third-order intermodulation (IM3)	2-tone at 44.9 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 125 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 125 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 125 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –65 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

[3] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 125 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 57 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 16 kg (35 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

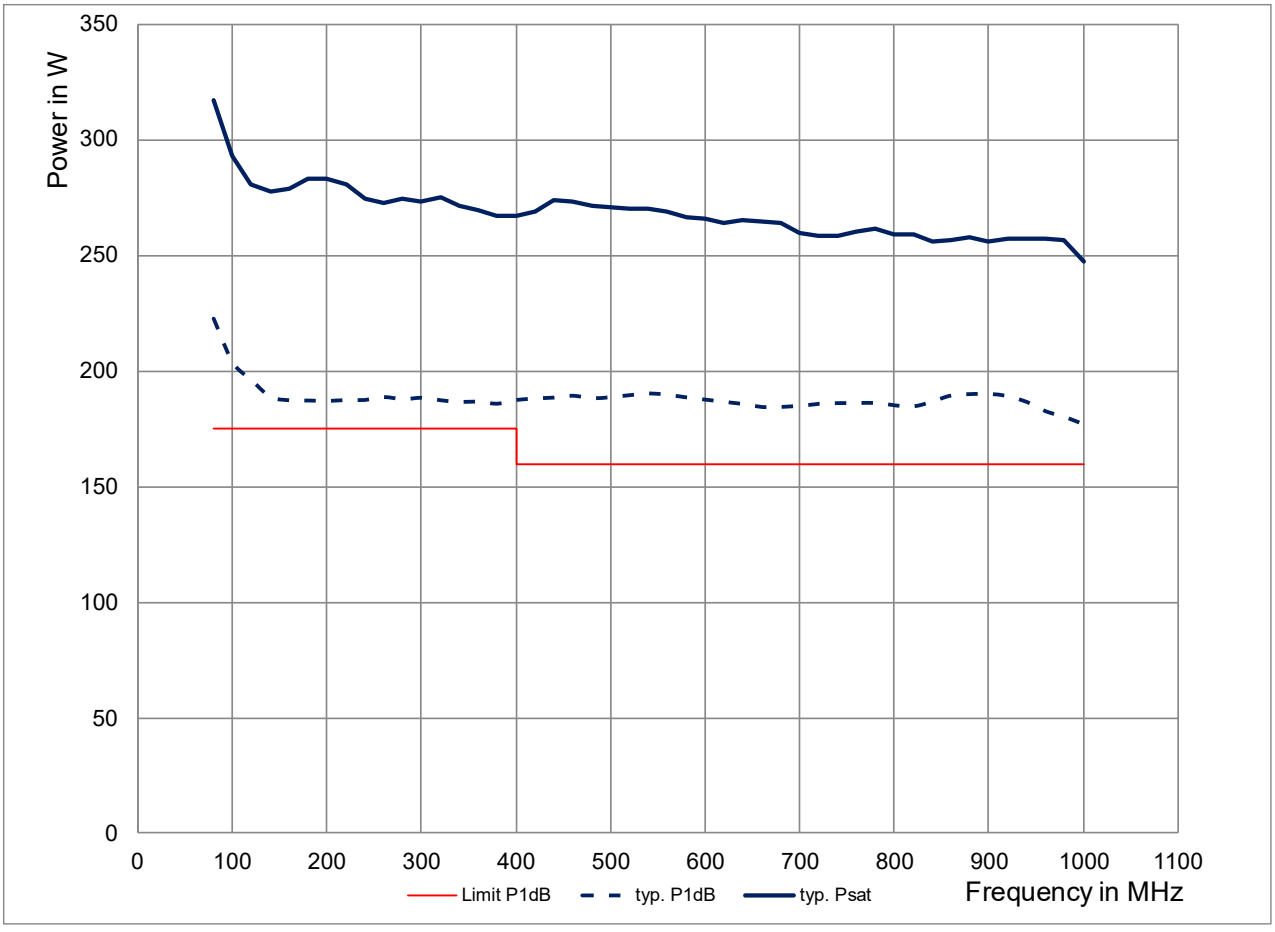
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz ± 6 %
Rated current (high power mode) [4]	at 110 V	8.6 A
	at 230 V	4.1 A
Rated power	RF_{cw} = 180 W (RMS), VSWR = 1	930 VA

[4] The appropriate connection has to be provided on site.

R&S®BBA130-BC240, power class: 175 W P1dB or 240 W P_{sat} [5]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		240 W (53.8 dBm)
Output power	output mode: high power	min. 240 W (53.8 dBm)
Output power at 1 dB compression	< 400 MHz	min. 175 W (52.4 dBm)
	> 400 MHz	min. 160 W (52.0 dBm)
Nominal power gain	at 400 MHz	nom. 55.4 dB
Gain flatness		< ±3 dB
Third-order intermodulation (IM3)	2-tone at 46.0 dBm/tone, 1 MHz spacing	nom. < –26 dBc
Harmonics	at 160 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 160 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 160 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –65 dBc
Noise figure	at maximum gain of nom. 65 dB	nom. < 10 dB

[5] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 160 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 57 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 21 kg (46 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

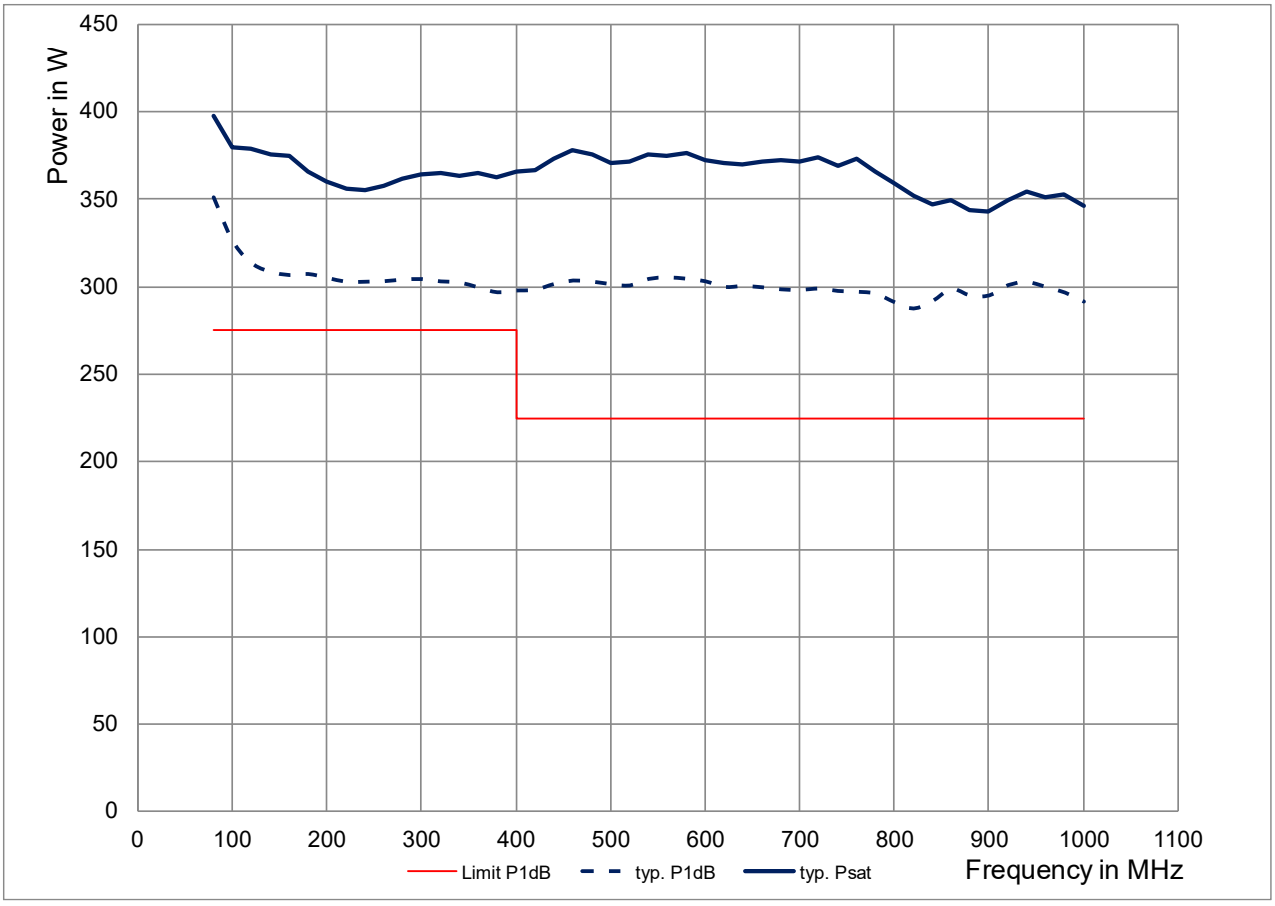
Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [6]	at 200 V	9.5 A
	at 230 V	8.3 A
Rated power	RF_{cw} = 240 W (RMS), VSWR = 1	1.9 kVA

[6] The appropriate connection has to be provided on site.

R&S®BBA130-BC350, power class: 275 W P1dB or 350 W P_{sat} [7]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		350 W (55.4 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 340 W (55.3 dBm)
	≥ 400 MHz	min. 300 W (54.8 dBm)
Output power at 1 dB compression	< 400 MHz	min. 275 W (54.4 dBm)
	≥ 400 MHz	min. 225 W (53.5 dBm)
Nominal power gain	at 400 MHz	nom. 57.4 dB
Gain flatness		< ±3 dB
Third-order intermodulation (IM3)	2-tone at 47.5 dBm/tone, 1 MHz spacing	nom. < –23 dBc
Harmonics	at 250 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 250 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 250 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –65 dBc
Noise figure	at maximum gain of nom. 65 dB	nom. < 10 dB

[7] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 250 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 58 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 21 kg (46 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

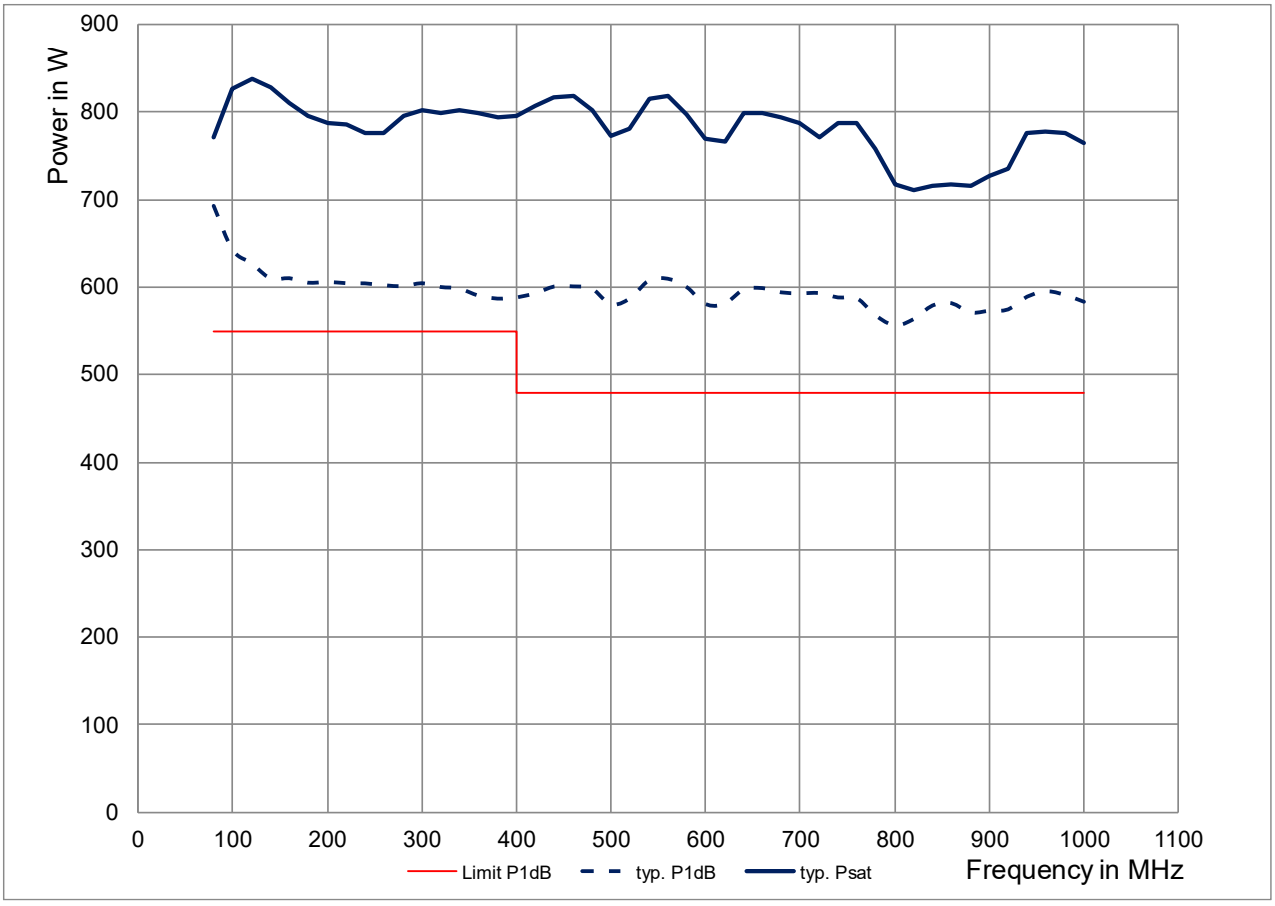
Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [8]	at 200 V	9.5 A
	at 230 V	8.3 A
Rated power	RF_{cw} = 350 W (RMS), VSWR = 1	1.9 kVA

[8] The appropriate connection has to be provided on site.

R&S®BBA130-BC750, power class: 550 W P1dB or 750 W P_{sat} [9]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		750 W (58.7 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 750 W (58.7 dBm)
	≥ 400 MHz < 740 MHz	min. 650 W (58.1 dBm)
	≥ 740 MHz	min. 600 W (57.8 dBm)
Output power at 1 dB compression	< 400 MHz	min. 550 W (57.4 dBm)
	≥ 400 MHz	min. 480 W (56.8 dBm)
Nominal power gain	at 400 MHz	nom. 60.4 dB
Gain flatness		< ±3 dB
Third-order intermodulation (IM3)	2-tone at 50.8 dBm/tone, 1 MHz spacing	nom. < –23 dBc
Harmonics	at 500 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 500 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 500 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 75 dB	nom. < 10 dB

[9] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 500 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 58 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 33 kg (73 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

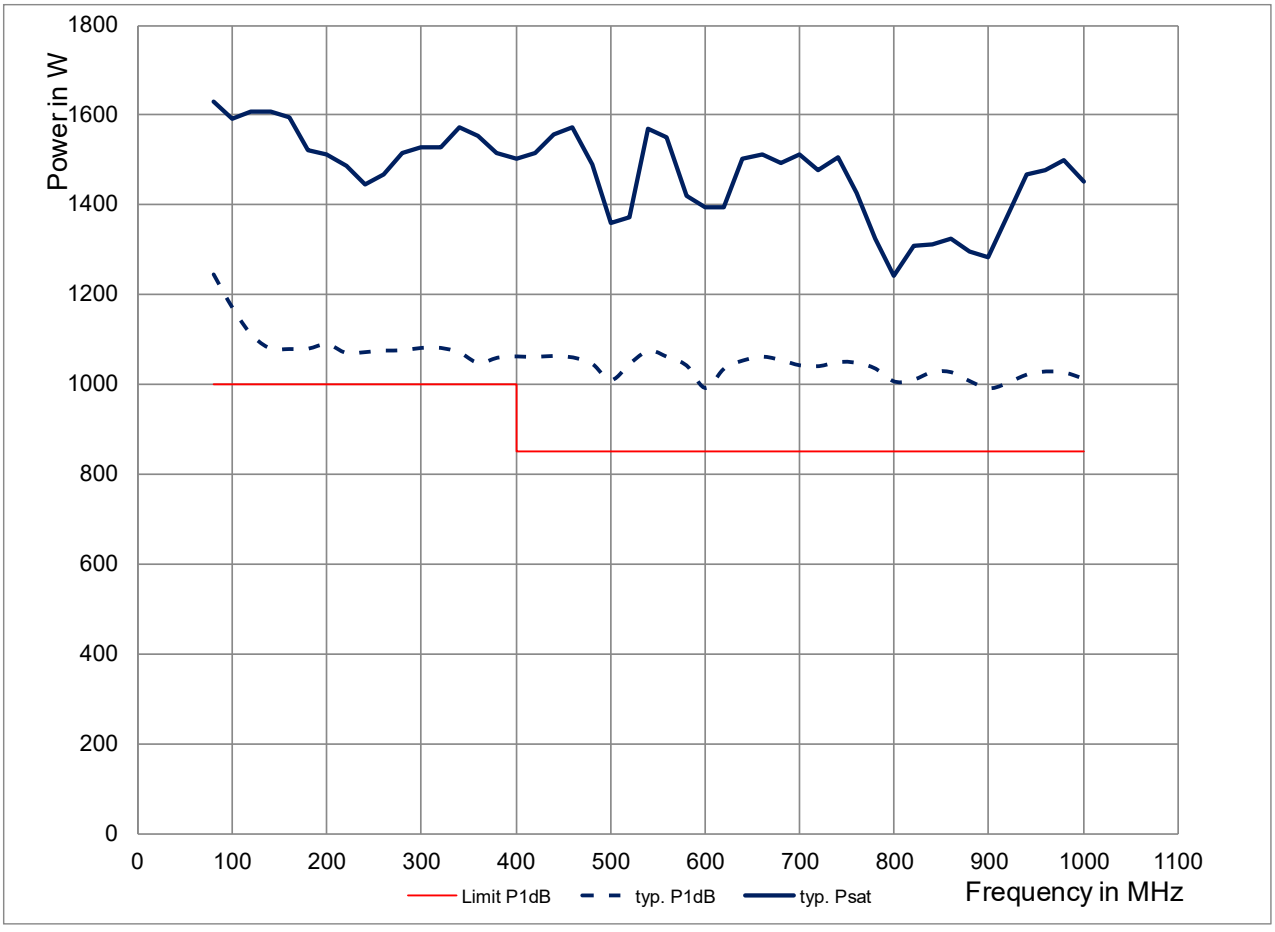
Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [10]		max. 16 A
Rated power	RF_{cw} = 750 W (RMS), VSWR = 1	3.0 kVA

[10] The appropriate connection has to be provided on site.

R&S®BBA130-BC1500, power class: 1000 W P1dB or 1500 W P_{sat} [11]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		1500 W (61.7 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 1400 W (61.5 dBm)
	≥ 400 MHz < 740 MHz	min. 1200 W (60.8 dBm)
	≥ 740 MHz	min. 1100 W (60.4 dBm)
Output power at 1 dB compression	< 400 MHz	min. 1000 W (60.0 dBm)
	≥ 400 MHz	min. 850 W (59.3 dBm)
Nominal power gain	at 400 MHz	nom. 63.4 dB
Gain flatness		< ±3.5 dB
Third-order intermodulation (IM3)	2-tone at 53.3 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 1000 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 1000 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 1000 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 72 dB	nom. < 10 dB

[11] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 1000 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 66 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 12 HU, depth: 800 mm (31.5 in)
Weight	amplifier system incl. rack	approx. 120 kg (265 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	$^{7}/_{16}$ DIN female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

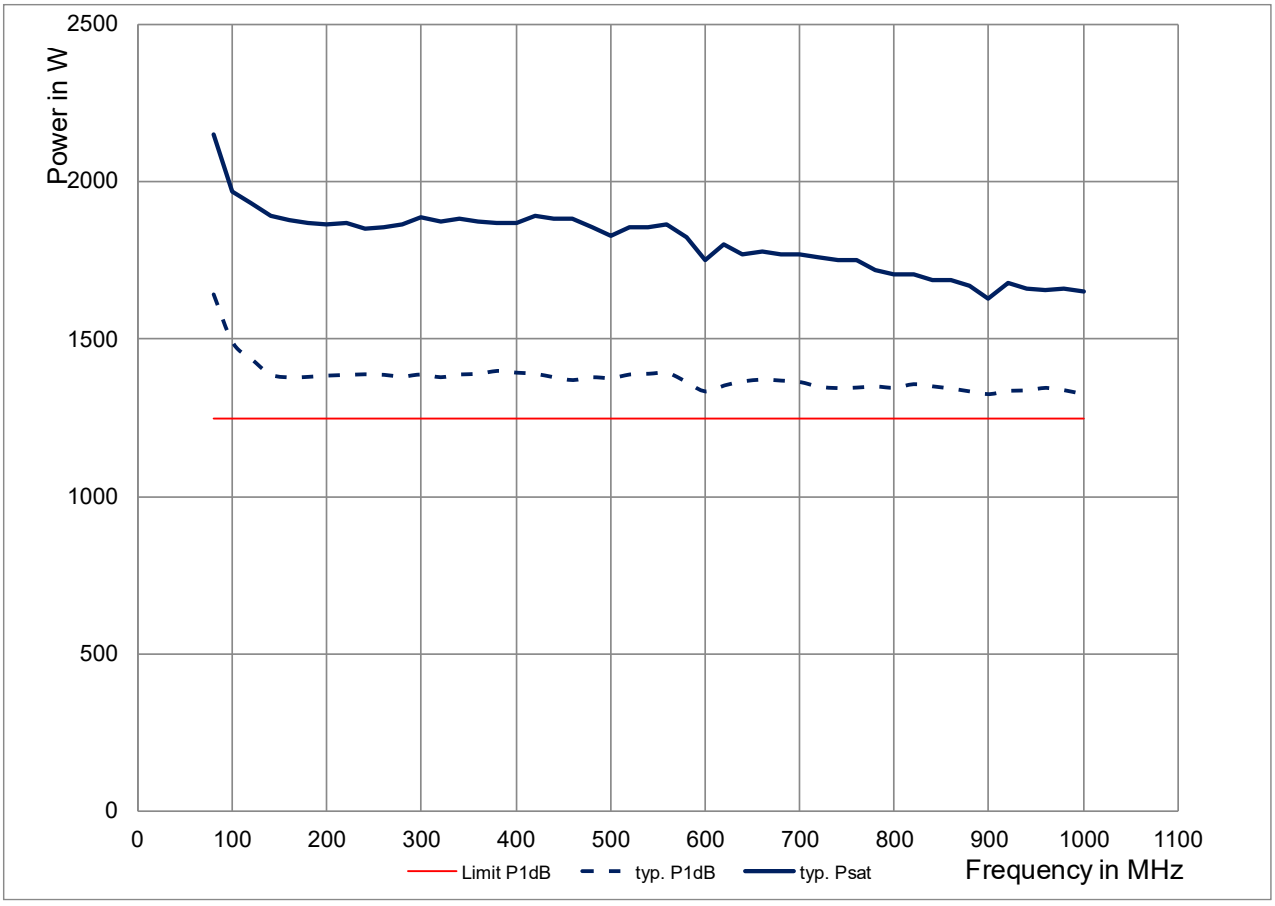
Electrical specifications

AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [12]	at 230 V per phase	13.0 A/13.0 A/0.1 A
Rated power	RF_{cw} = 1500 W (RMS), VSWR = 1	6.0 kVA

[12] The appropriate connection has to be provided on site.

R&S®BBA130-BC1800, power class: 1250 W P1dB or 1800 W P_{sat} [13]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		1800 W (62.6 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 1800 W (62.6 dBm)
	≥ 400 MHz < 740 MHz	min. 1700 W (62.3 dBm)
	≥ 740 MHz	min. 1500 W (61.8 dBm)
Output power at 1 dB compression		min. 1250 W (60.9 dBm)
Nominal power gain	at 400 MHz	nom. 64.2 dB
Gain flatness		< ±4 dB
Third-order intermodulation (IM3)	2-tone at 54.9 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 1250 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 1250 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 1250 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 72 dB	nom. < 10 dB

[13] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 1250 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 66 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 20 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 180 kg (397 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	1 $^5/_8$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

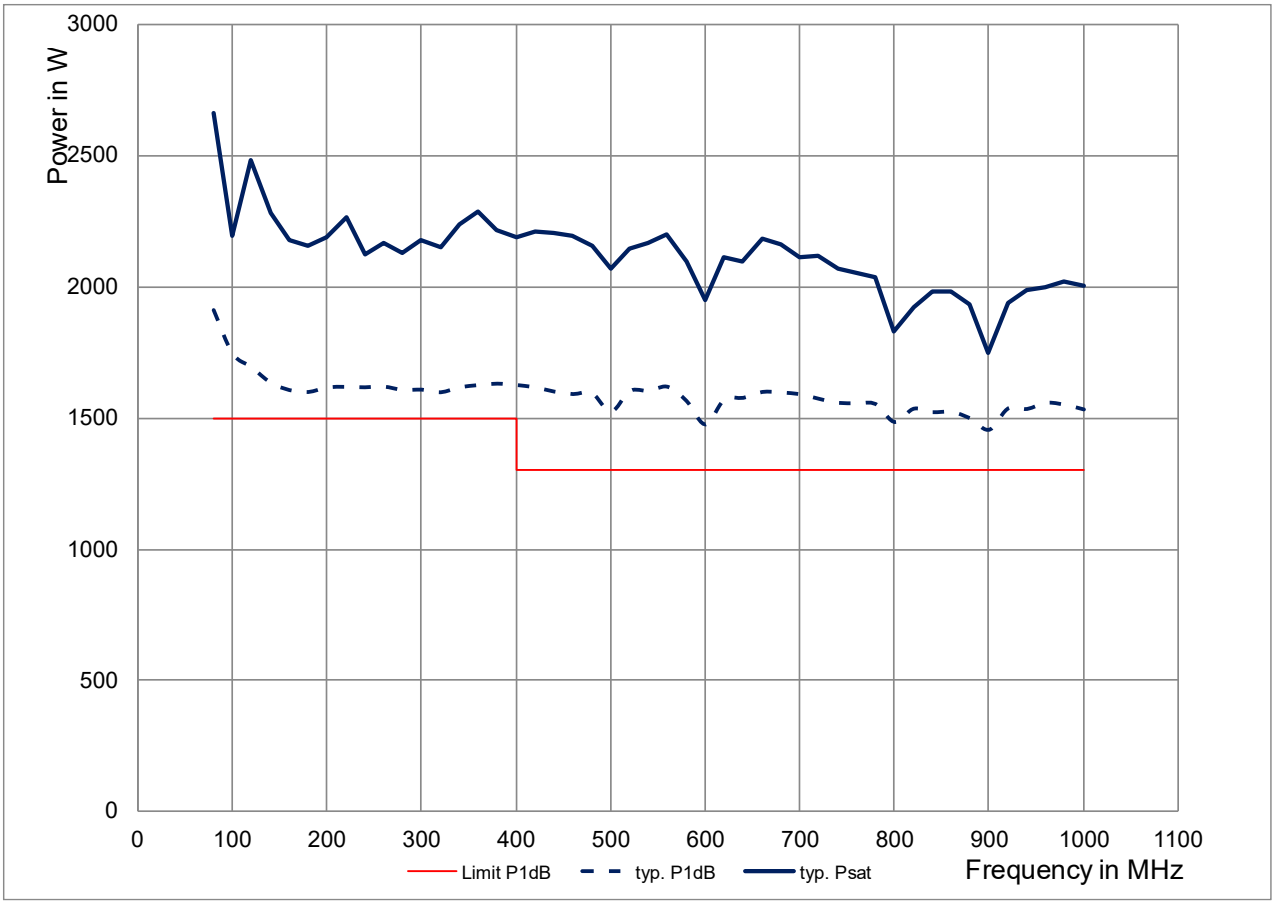
Electrical specifications

AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [14]	at 230 V per phase	12.7 A
Rated power	RF_{cw} = 1800 W (RMS), VSWR = 1	8.7 kVA

[14] The appropriate connection has to be provided on site.

R&S®BBA130-BC2100, power class: 1500 W P1dB or 2100 W P_{sat} [15]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		2100 W (63.2 dBm)
Output power	output mode: high power	
	< 180 MHz	min. 2100 W (63.5 dBm)
	≥ 180 MHz < 740 MHz	min. 1800 W (62.6 dBm)
	≥ 740 MHz	min. 1600 W (62.0 dBm)
Output power at 1 dB compression	< 400 MHz	min. 1500 W (61.8 dBm)
	≥ 400 MHz	min. 1300 W (61.2 dBm)
Nominal power gain	at 400 MHz	nom. 65.0 dB
Gain flatness		< ±4 dB
Third-order intermodulation (IM3)	2-tone at 55.2 dBm/tone, 1 MHz spacing	nom. < –22.1 dBc
Harmonics	at 1500 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 1500 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 1500 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 72 dB	nom. < 10 dB

[15] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 1500 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 66 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 20 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 180 kg (397 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	1 $^5/_8$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

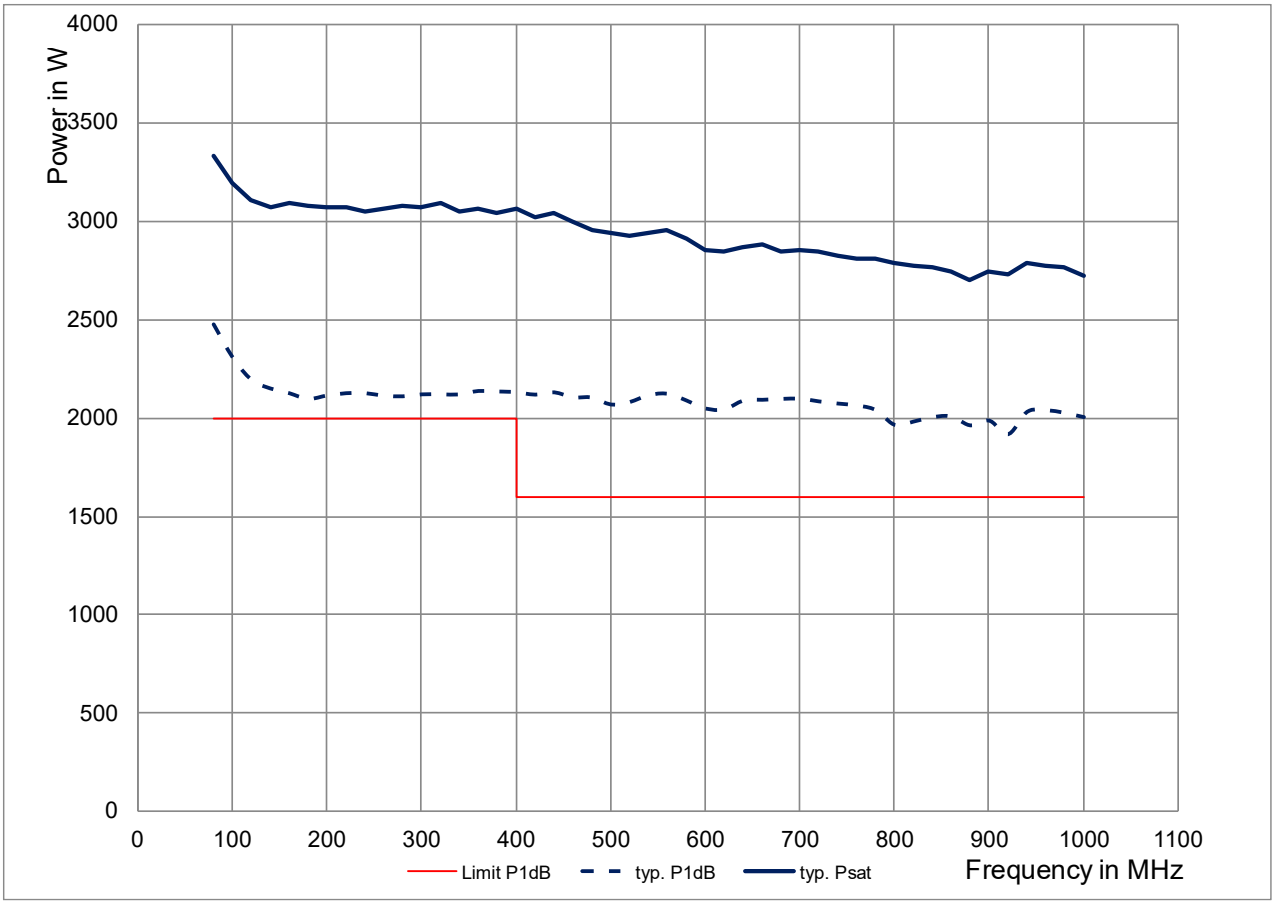
Electrical specifications

AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [16]	at 230 V per phase	12.7 A
Rated power	RF_{cw} = 2100 W (RMS), VSWR = 1	8.7 kVA

[16] The appropriate connection has to be provided on site.

R&S®BBA130-BC2700, power class: 2000 W P1dB or 2700 W P_{sat} [17]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		2700 W (64.3 dBm)
Output power	output mode: high power	
	< 180 MHz	min. 2700 W (64.3 dBm)
	≥ 180 MHz < 740 MHz	min. 2200 W (63.4 dBm)
	≥ 740 MHz	min. 2000 W (63.0 dBm)
Output power at 1 dB compression	< 400 MHz	min. 2000 W (63.0 dBm)
	≥ 400 MHz	min. 1600 W (62.0 dBm)
Nominal power gain	at 400 MHz	nom. 66.4 dB
Gain flatness		< ±4 dB
Third-order intermodulation (IM3)	2-tone at 56.0 dBm/tone, 1 MHz spacing	nom. < –22.6 dBc
Harmonics	at 2000 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 2000 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 2000 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 72 dB	nom. < 10 dB

[17] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 2000 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 74 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 20 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 240 kg (529 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	1 $^5/_8$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

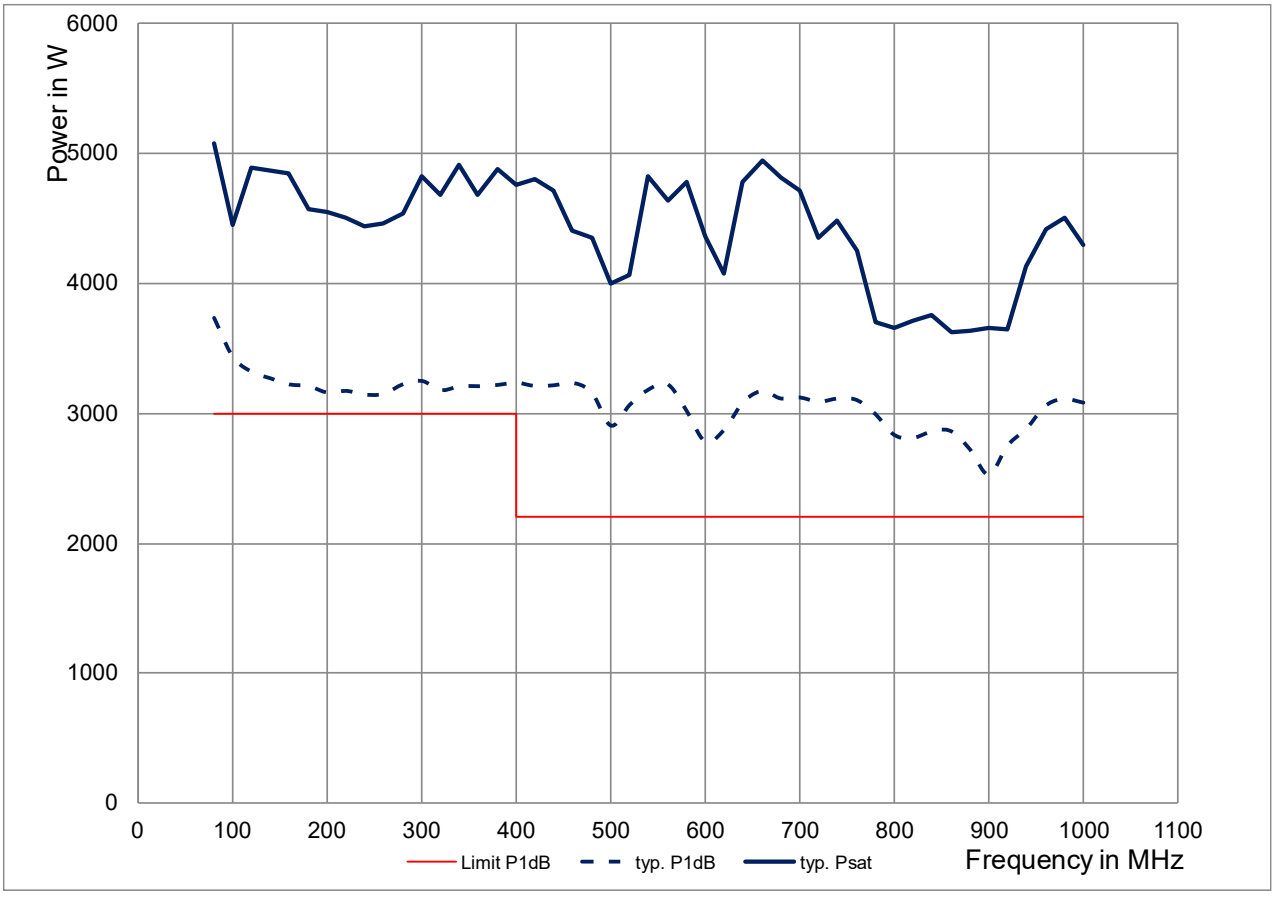
Electrical specifications

AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [18]	at 230 V per phase	25.2 A/12.6 A/12.6 A
Rated power	RF_{cw} = 2700 W (RMS), VSWR = 1	11.6 kVA

[18] The appropriate connection has to be provided on site.

R&S®BBA130-BC4200, power class: 3000 W P1dB or 4200 W P_{sat} [19]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		4200 W (66.2 dBm)
Output power	output mode: high power	
	< 180 MHz	min. 4200 W (66.2 dBm)
	≥ 180 MHz < 740 MHz	min. 3500 W (65.4 dBm)
	≥ 740 MHz	min. 3200 W (65.1 dBm)
Output power at 1 dB compression	< 400 MHz	min. 3000 W (64.8 dBm)
	≥ 400 MHz	min. 2200 W (63.8 dBm)
Nominal power gain	at 400 MHz	nom. 68.2 dB
Gain flatness		< ±4 dB
Third-order intermodulation (IM3)	2-tone at 57.8 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 3000 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 3000 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 3000 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

[19] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 3000 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 74 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 35 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 310 kg (683 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	1 $^5/_8$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

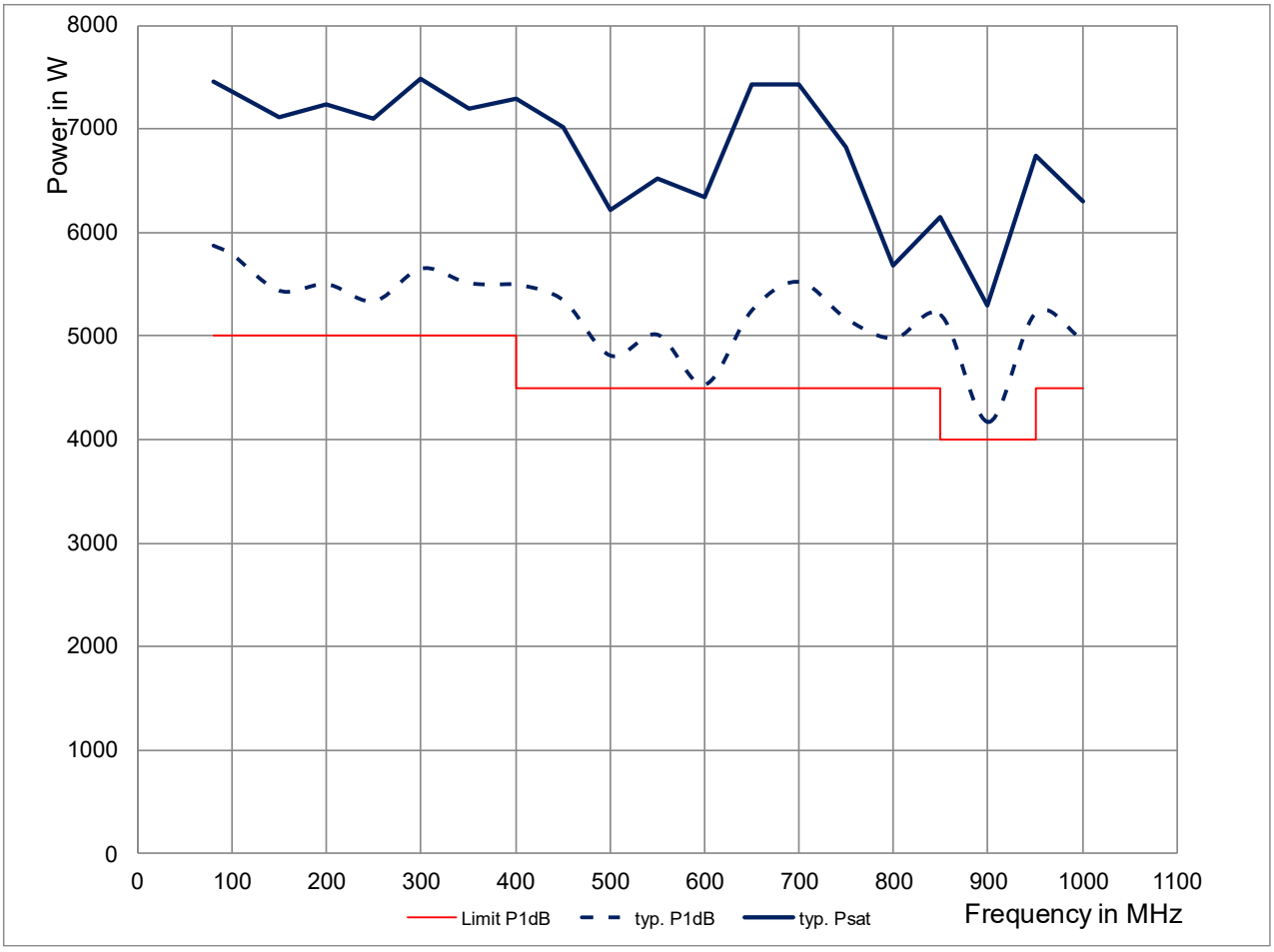
Electrical specifications

AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [20]	at 230 V, per phase	23.8 A/23.8 A/23.8 A
Rated power	RF_{cw} = 4200 W (RMS), VSWR = 1	17.0 kVA

[20] The appropriate connection has to be provided on site.

R&S®BBA130-BC6500, power class: 5000 W P1dB or 6500 W P_{sat} [21] (preliminary specifications)

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		6500 W (68.1 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 6500 W (68.1 dBm)
	≥ 400 MHz < 740 MHz	min. 5000 W (67.0 dBm)
	≥ 740 MHz	min. 4700 W (66.7 dBm)
Output power at 1 dB compression	< 400 MHz	min. 5000 W (67.0 dBm)
	≥ 400 MHz except 850 MHz-950 MHz	min. 4500 W (66.5 dBm)
	850 MHz-950 MHz	min. 4000 W (66.0 dBm)
Nominal power gain	at 400 MHz	nom. 68.1 dB
Gain flatness		< ±4.5 dB
Third-order intermodulation (IM3)	2-tone at 60.0 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 5000 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 5000 W, class A, 320 MHz to 550 MHz	< –17 dBc

[21] Value for P_{sat} is achievable in high power mode.

Spurious	at 5000 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 5000 W	nom. 0 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+10 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 72 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	2.5 × 19" rack, 35 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 1100 kg (2425 lb)

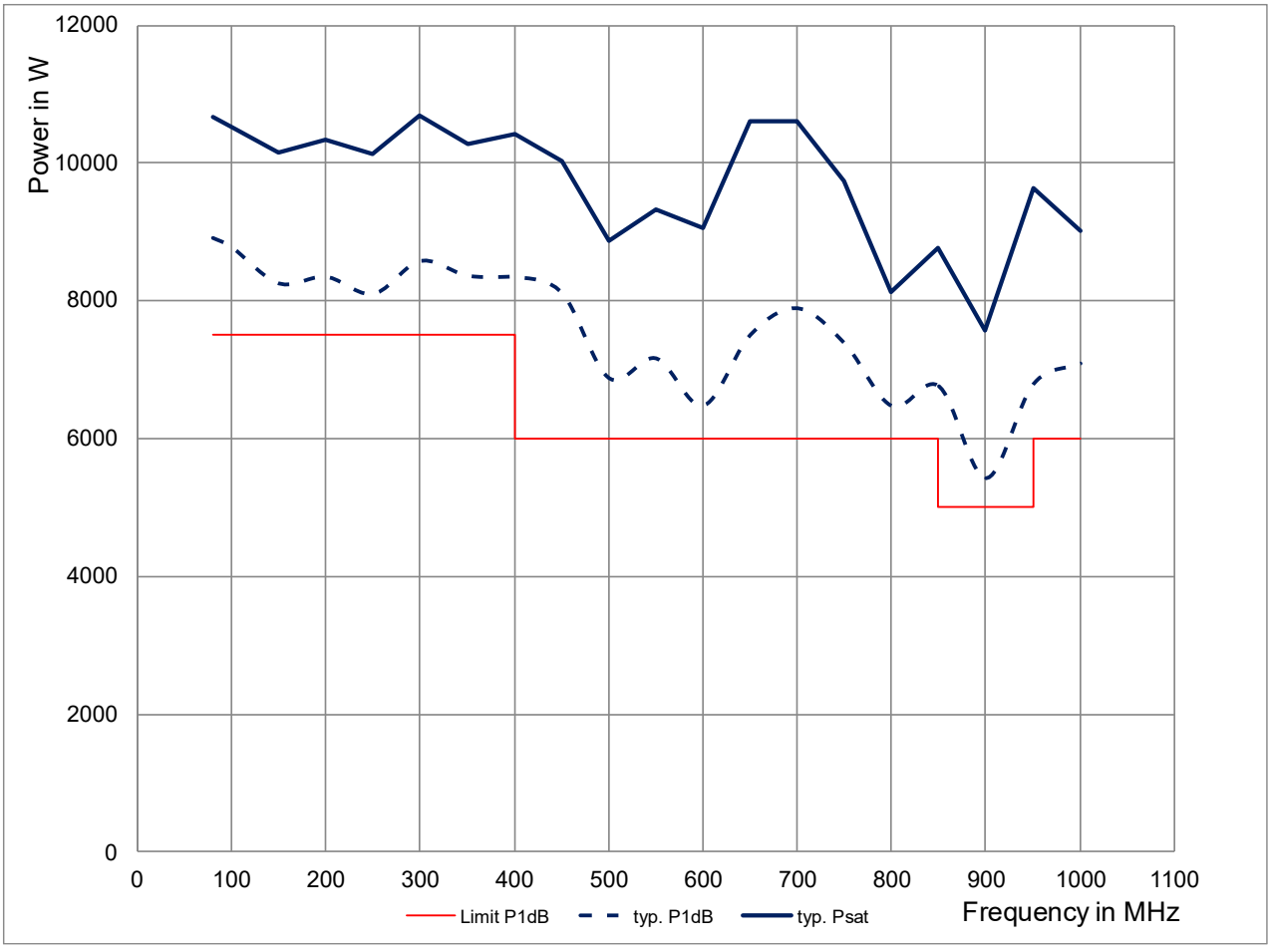
RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	3 $^{1}/_{8}$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

Electrical specifications

AC supply voltage		
Nominal operating voltage range	each per rack	380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
Rated power		2 × 18 kVA = 36.0 kVA

R&S®BBA130-BC9500, power class: 7500 W P1dB or 9500 W P_{sat} [22]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		9500 W (69.8 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 9500 W (69.8 dBm)
	≥ 400 MHz < 740 MHz	min. 7700 W (68.9 dBm)
	≥ 740 MHz	min. 7200 W (68.6 dBm)
Output power at 1 dB compression	< 400 MHz	min. 7500 W (68.8 dBm)
	≥ 400 MHz except 850 MHz to 950 MHz	min. 6000 W (67.8 dBm)
	850 MHz to 950 MHz	min. 5000 W (67.0 dBm)
Nominal power gain	at 400 MHz	nom. 69.8 dB
Gain flatness		< ±4.5 dB
Third-order intermodulation (IM3)	2-tone at 61.0 dBm/tone, 1 MHz spacing	nom. < –22.7 dBc
Harmonics	at 7500 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 7500 W, class A, 320 MHz to 550 MHz	< –17 dBc
Spurious	at 7500 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

[22] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 7500 W	nom. 0 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+10 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 72 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	2.5 × 19" rack, 38 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 1300 kg (2866 lb)

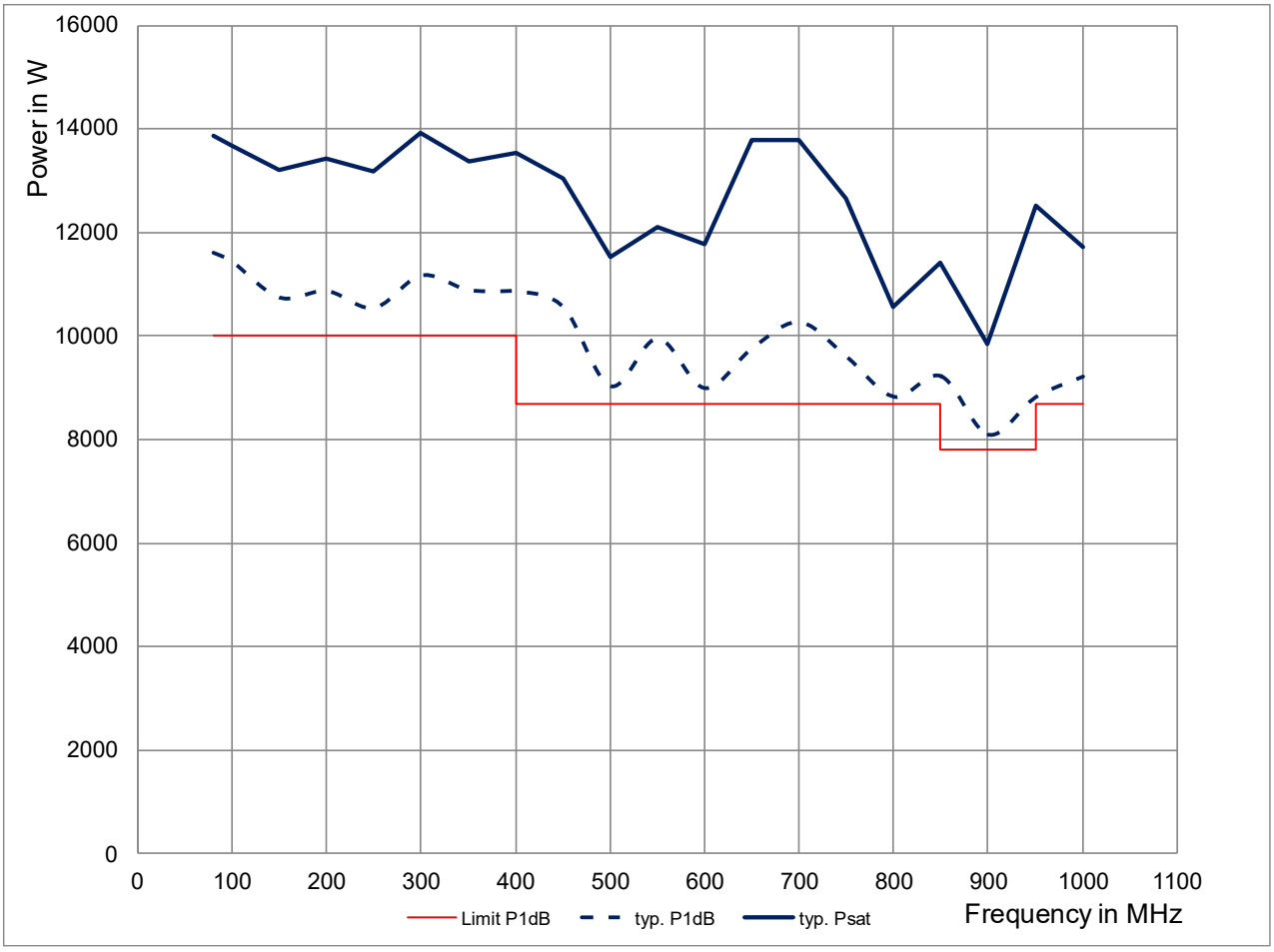
RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	3 $^{1}/_{8}$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

Electrical specifications

AC supply voltage		
Nominal operating voltage range	each per rack	380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
Rated power		2 × 23 kVA = 46.0 kVA

R&S®BBA130-BC13000, power class: 10000 W P1dB or 13000 W P_{sat} [23] (preliminary specifications)

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		80 MHz to 1 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		13000 W (71.1 dBm)
Output power	output mode: high power	
	< 400 MHz	min. 13000 W (71.1 dBm)
	≥ 400 MHz < 740 MHz	min. 10000 W (70.0 dBm)
	≥ 740 MHz	min. 8800 W (69.4 dBm)
Output power at 1 dB compression	< 400 MHz	min. 10000 W (70.0 dBm)
	≥ 400 MHz except 850 MHz to 950 MHz	min. 8700 W (69.4 dBm)
	850 MHz to 950 MHz	min. 7800 W (68.9 dBm)
Nominal power gain	at 400 MHz	nom. 71.1 dB
Gain flatness		< ±4.5 dB
Third-order intermodulation (IM3)	2-tone at 62.9 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 10000 W, class A, entire band except 320 MHz to 550 MHz	< –20 dBc
	at 10000 W, class A, 320 MHz to 550 MHz	< –17 dBc

[23] Value for P_{sat} is achievable in high power mode.

Spurious	at 10000 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 70 dB	nom. < 10 dB

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 10000 W	nom. 0 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+10 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 72 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	4.5 × 19" rack, 35 HU, depth: 1000 mm (39.4 in)
Weight	amplifier system incl. rack	approx. 1540 kg (3395 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	3 $^{1}/_{8}$" EIA female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

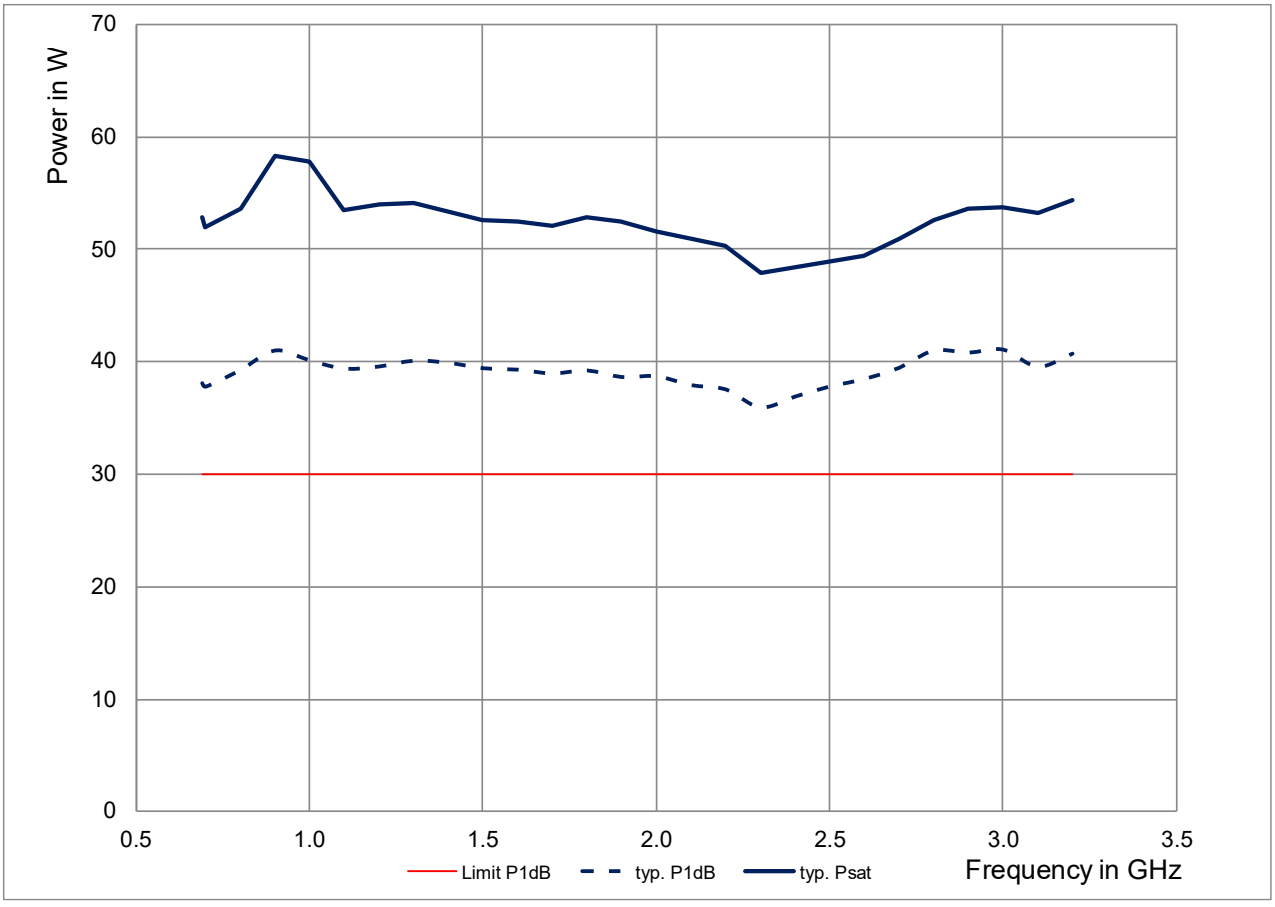
Electrical specifications

AC supply voltage		
Nominal operating voltage range	each per rack	380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
Rated power		4 × 17.0 kVA = 68.0 kVA

Frequency band D from 690 MHz to 3.2 GHz

R&S®BBA130-D45, power class: 30 W P1dB or 45 W P_{sat} [24]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		45 W (46.5 dBm)
Output power	output mode: high power	min. 45 W (46.5 dBm)
Output power at 1 dB compression		min. 30 W (44.8 dBm)
Nominal power gain	at 3000 MHz	nom. 48.2 dB
Gain flatness		< ±2.0 dB
Third-order intermodulation (IM3)	2-tone at 38.8 dBm/tone, 1 MHz spacing	nom. < –23 dBc
Harmonics	at 30 W, class A, < 1.1 GHz	< –18 dBc
	at 30 W, class A, ≥ 1.1 GHz	< –20 dBc
Spurious	at 30 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 56 dB	nom. < 17.0 dB

[24] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 30 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 46 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 11 kg (24 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

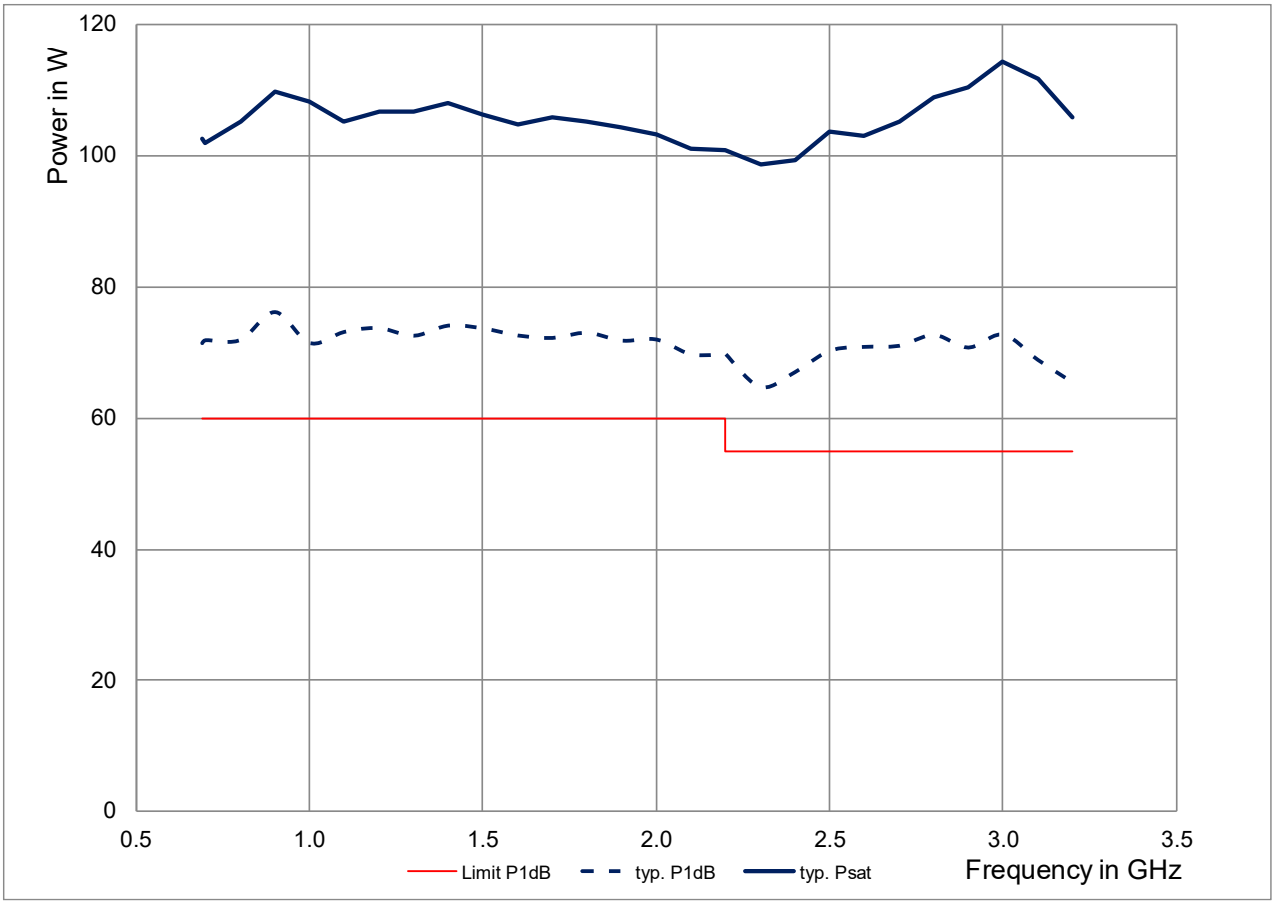
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [25]	at 110 V	4.1 A
	at 230 V	2.0 A
Rated power	RF_{cw} = 45 W (RMS), VSWR = 1	450 VA

[25] The appropriate connection has to be provided on site.

R&S®BBA130-D90, power class: 60 W P1dB or 90 W P_{sat} [26]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		90 W (49.5 dBm)
Output power	output mode: high power	min. 90 W (49.5 dBm)
Output power at 1 dB compression	< 2.2 GHz	min. 60 W (47.8 dBm)
	≥ 2.2 GHz	min. 55 W (47.4 dBm)
Nominal power gain	at 3000 MHz	nom. 51.2 dB
Gain flatness		< ±2 dB
Third-order intermodulation (IM3)	2-tone at 41.2 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 60 W, class A, < 1.8 GHz	< –17 dBc
	at 60 W, class A, ≥ 1.8 GHz	< –20 dBc
Spurious	at 60 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 56 dB	nom. < 12.0 dB

[26] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 60 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 46 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 13 kg (29 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

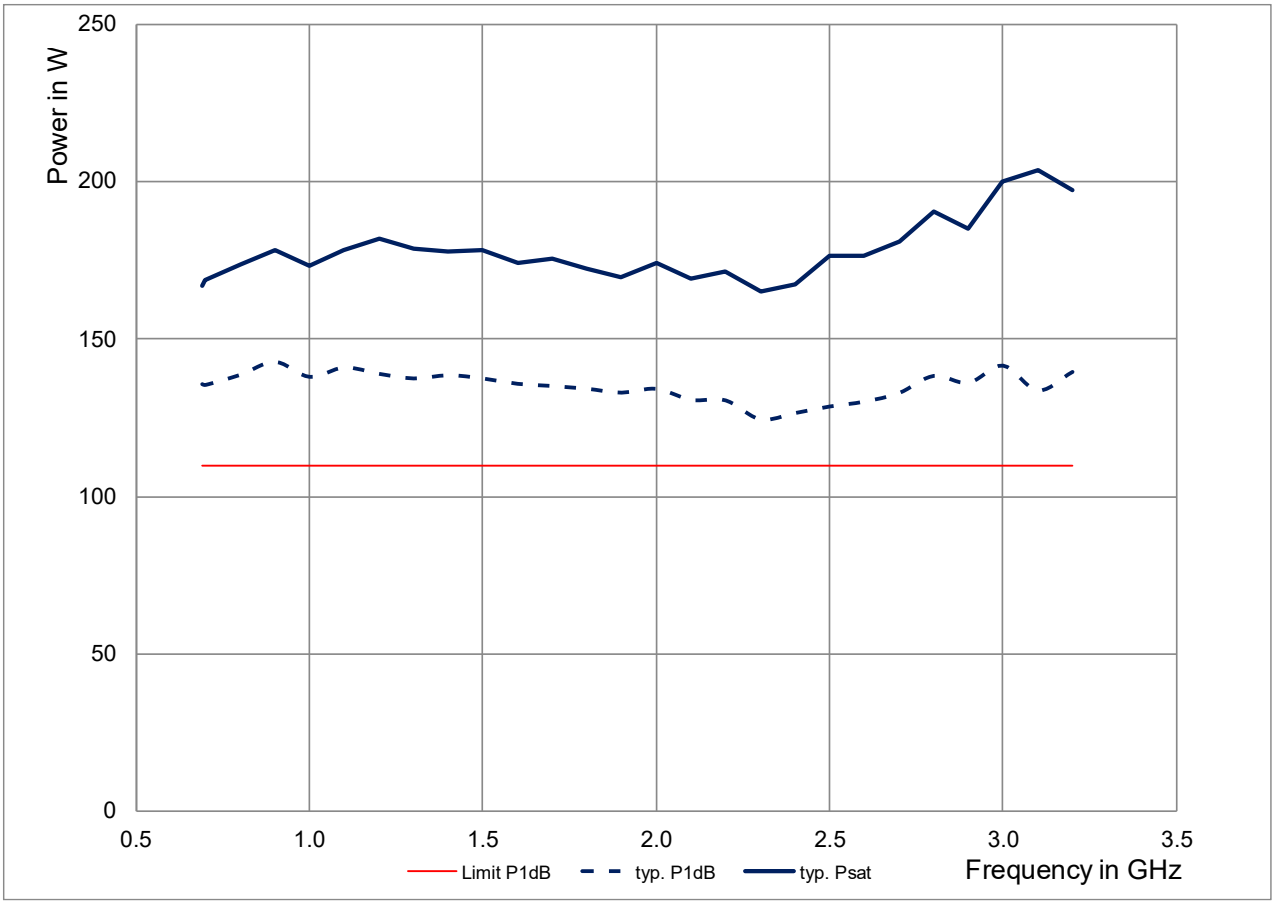
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [27]	at 110 V	6.6 A
	at 230 V	3.1 A
Rated power	RF_{cw} = 90 W (RMS), VSWR = 1	720 VA

[27] The appropriate connection has to be provided on site.

R&S®BBA130-D160, power class: 110 W P1dB or 160 W P_{sat} [28]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		160 W (52.0 dBm)
Output power	output mode: high power	
	< 1.1 GHz	min. 150 W (51.8 dBm)
	≥ 1.1 GHz < 2.0 GHz	min. 160 W (52.0 dBm)
	≥ 2.0 GHz	min. 150 W (51.8 dBm)
Output power at 1 dB compression		min. 110 W (50.4 dBm)
Nominal power gain	at 3000 MHz	nom. 53.8 dB
Gain flatness		< ±2.7 dB
Third-order intermodulation (IM3)	2-tone at 44.4 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 110 W, class A, < 1.8 GHz	< –17 dBc
	at 110 W, class A, ≥ 1.8 GHz	< –20 dBc
Spurious	at 110 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 67 dB	nom. < 12.0 dB

[28] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 110 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 46 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 17 kg (37 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

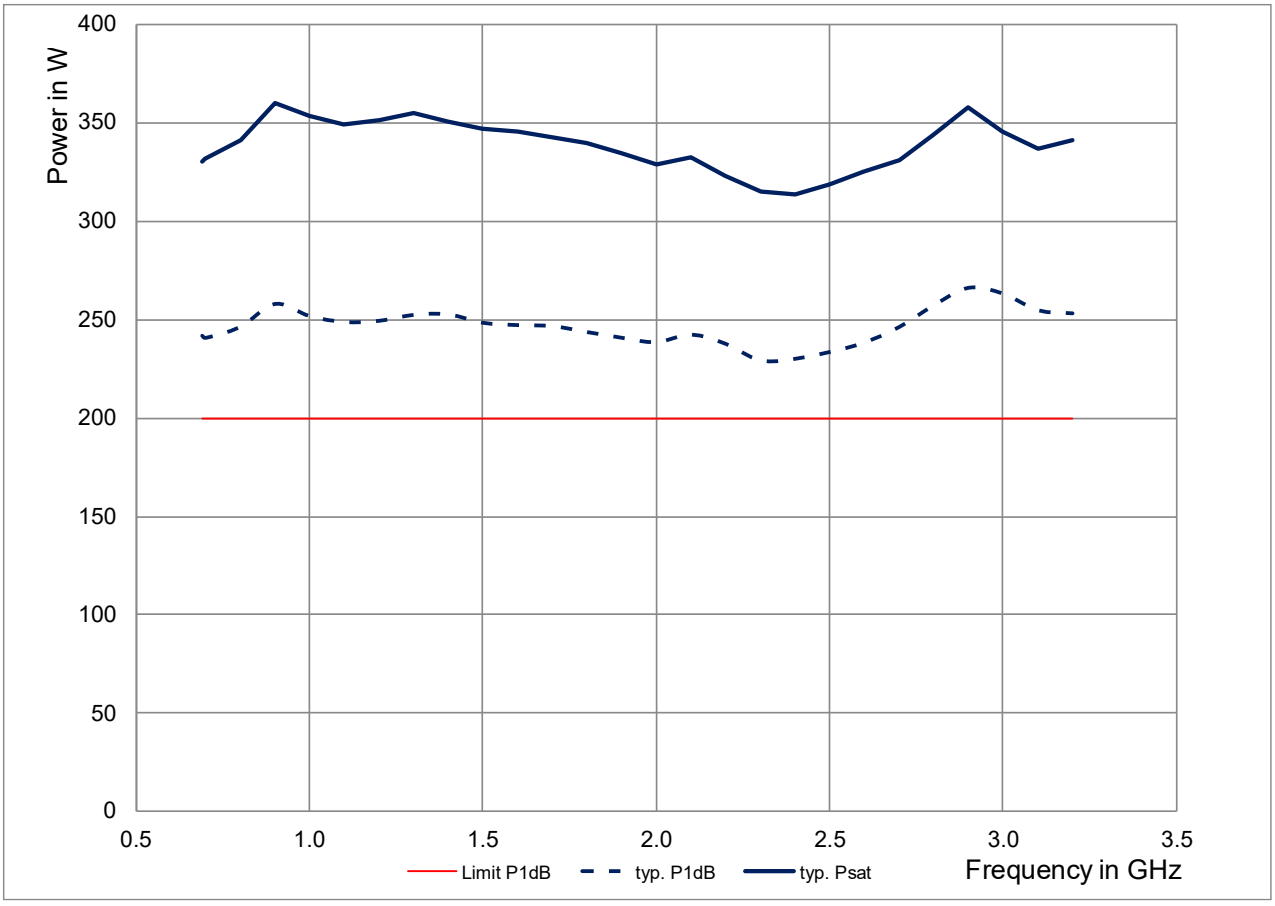
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [29]	at 110 V	12.7 A
	at 230 V	6.1 A
Rated power	RF_{cw} = 160 W (RMS), VSWR = 1	1.4 kVA

[29] The appropriate connection has to be provided on site.

R&S®BBA130-D300, power class: 200 W P1dB or 300 W P_{sat} [30]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		300 W (54.7 dBm)
Output power	output mode: high power	
	< 1.1 GHz	min. 250 W (54.0 dBm)
	≥ 1.1 GHz < 2.0 GHz	min. 300 W (54.7 dBm)
	≥ 2.0 GHz < 2.8 GHz	min. 250 W (54.0 dBm)
	≥ 2.8 GHz	min. 300 W (54.7 dBm)
Output power at 1 dB compression		min. 200 W (53.0 dBm)
Nominal power gain	at 3000 MHz	nom. 56.4 dB
Gain flatness		< ±2.7 dB
Third-order intermodulation (IM3)	2-tone at 47.0 dBm/tone, 1 MHz spacing	nom. < –22.5 dBc
Harmonics	at 200 W, class A, < 1.8 GHz	< –16 dBc
	at 200 W, class A, ≥ 1.8 GHz	< –20 dBc
Spurious	at 200 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 67 dB	nom. < 12.0 dB

[30] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 200 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 46 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight	base unit	approx. 24 kg (53 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

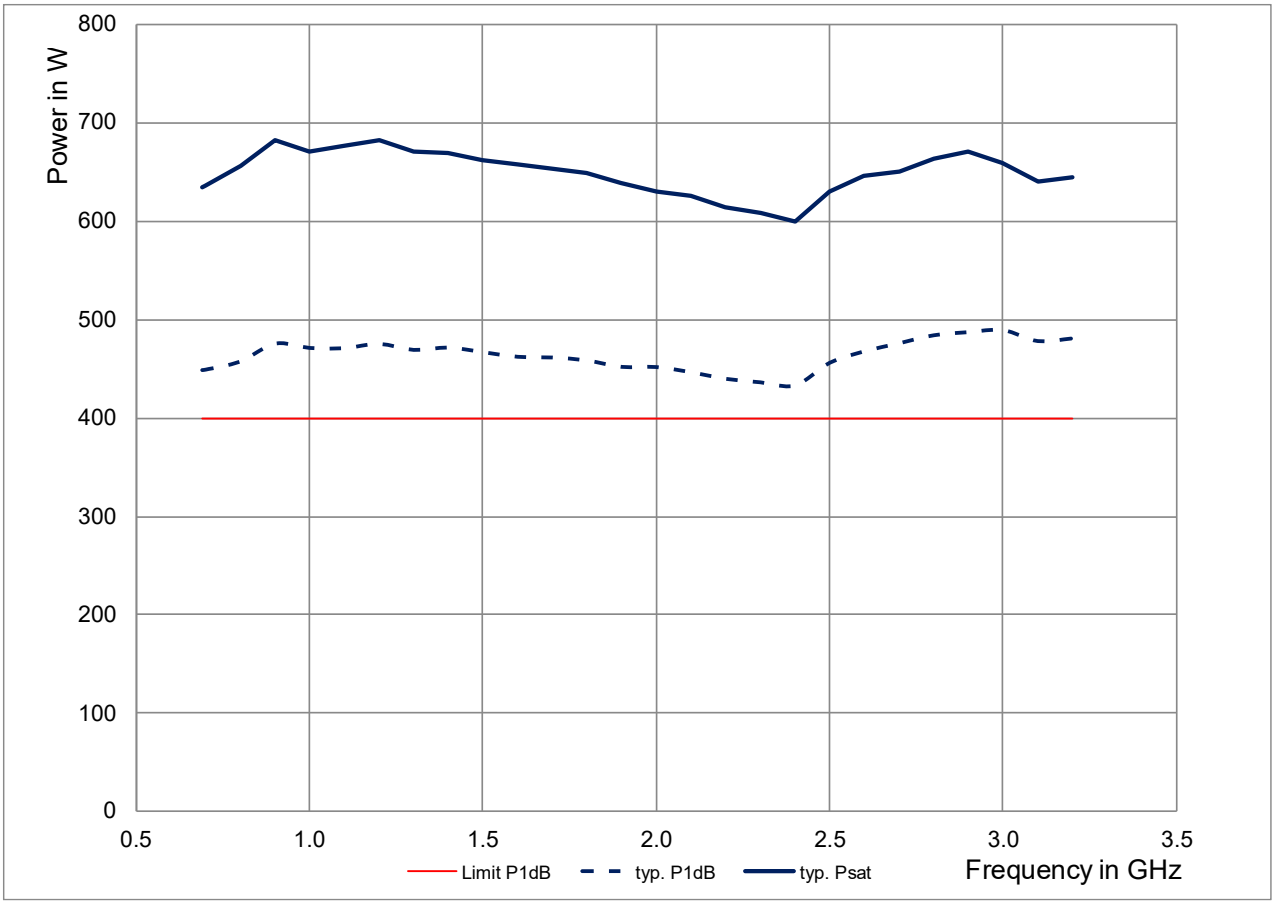
Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current [31]	at 200 V	11 A
	at 230 V	9.6 A
Rated power	RF_{cw} = 300 W (RMS), VSWR = 1	2.2 kVA

[31] The appropriate connection has to be provided on site.

R&S®BBA130-D600, power class: 400 W P1dB or 600 W P_{sat} [32]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		600 W (57.7 dBm)
Output power	output mode: high power	
	< 1.1 GHz	min. 500 W (57.0 dBm)
	≥ 1.1 GHz < 2.0 GHz	min. 600 W (57.7 dBm)
	≥ 2.0 GHz	min. 500 W (57.0 dBm)
Output power at 1 dB compression		min. 400 W (56.0 dBm)
Nominal power gain	at 3000 MHz	nom. 59.4 dB
Gain flatness		< ±3.2 dB
Third-order intermodulation (IM3)	2-tone at 50.0 dBm/tone, 1 MHz spacing	nom. < –21.6 dBc
Harmonics	at 400 W, class A, < 1.8 GHz	< –17 dBc
	at 400 W, class A, ≥ 1.8 GHz	< –20 dBc
Spurious	at 400 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 78 dB	nom. < 12.0 dB

[32] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 400 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 54 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 12 HU, depth 800 mm (31.5 in)
Weight		approx. 95 kg (209 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	$^{7}/_{16}$ DIN female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

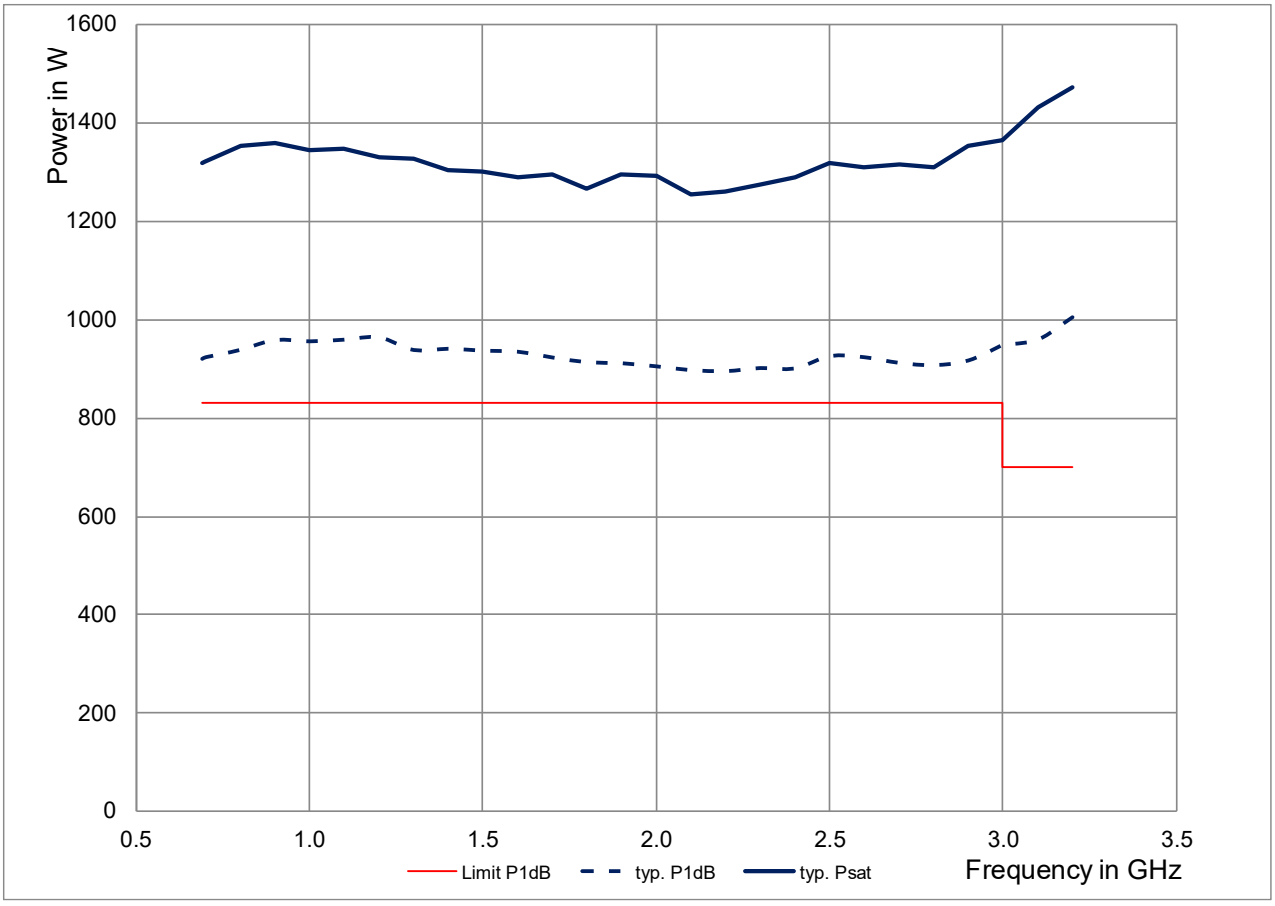
Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
		380 to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [33]	at 230 V per phase	9.8 A/9.8 A/0.1 A
Rated power	RF_{cw} = 600 W (RMS), VSWR = 1	4.5 kVA

[33] The appropriate connection has to be provided on site.

R&S®BBA130-D1200, power class: 830 W P1dB or 1200 W P_{sat} [34]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		0.69 GHz to 3.2 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		1200 W (60.7 dBm)
Output power	output mode: high power	
	< 1.1 GHz	1000 W (60.0 dBm)
	≥ 1.1 GHz < 2.0 GHz	1200 W (60.7 dBm)
	≥ 2.0 GHz	1000 W (60.0 dBm)
Output power at 1 dB compression	0.69 GHz to 3.0 GHz	min. 830 W (59.2 dBm)
	3.0 GHz to 3.2 GHz	min. 700 W (58.5 dBm)
Nominal power gain	at 3000 MHz	nom. 62.4 dB
Gain flatness		< ±4.3 dB
Third-order intermodulation (IM3)	2-tone at 52.5 dBm/tone, 1 MHz spacing	nom. < –26.3 dBc
Harmonics	at 800 W, class A, < 1.8 GHz	< –17 dBc
	at 800 W, class A, ≥ 1.8 GHz	< –20 dBc
Spurious	at 800 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 78 dB	nom. < 17.0 dB

[34] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 800 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 59 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 20 HU, depth 800 mm (31.5 in)
Weight		approx. 230 kg (507 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	1 5/8" EIA female
RF sample port [35]	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

Electrical specifications

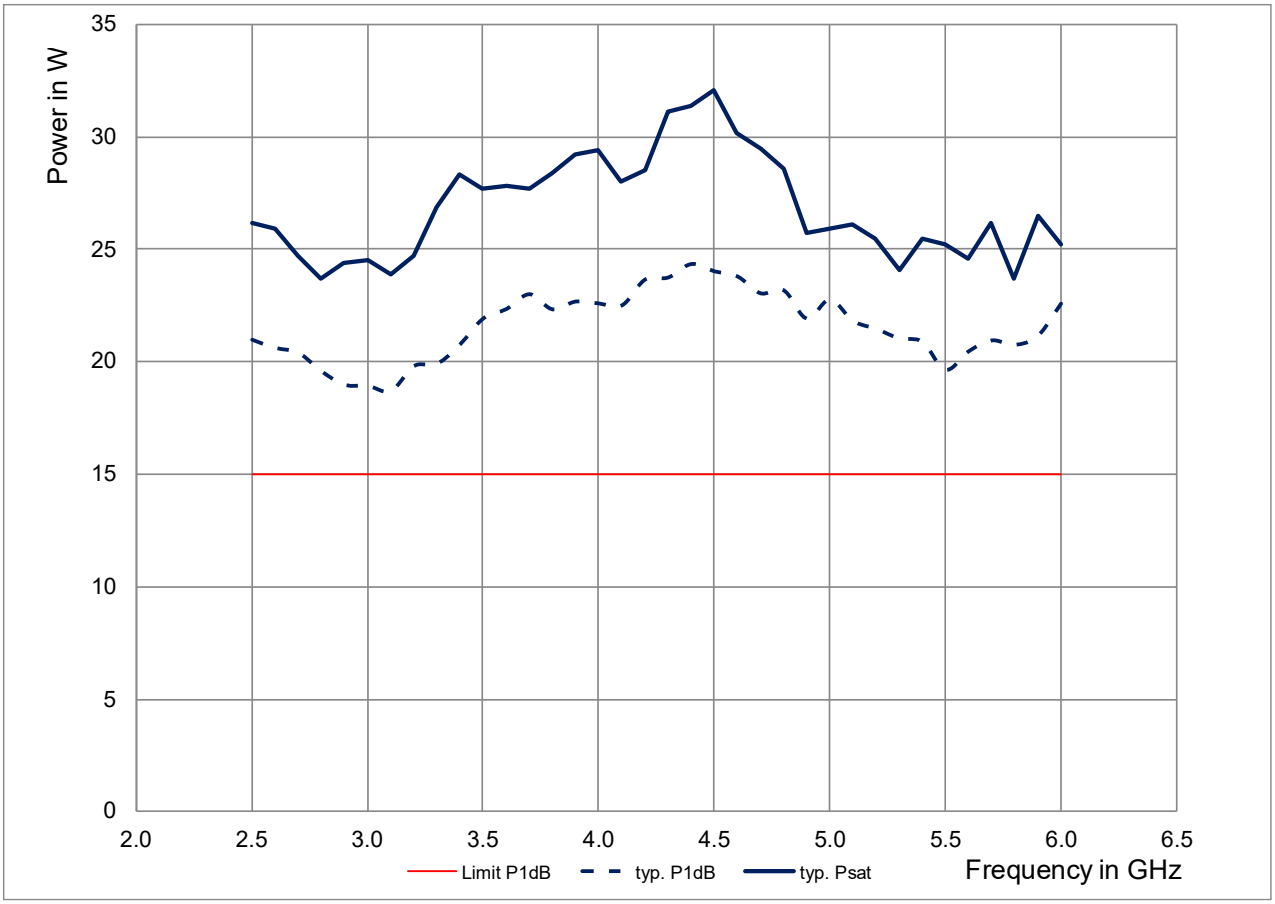
AC supply voltage		
Nominal operating voltage range		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode)	at 230 V per phase	19.4 A/9.7 A/9.7 A
Rated power	RF_{cw} = 1200 W (RMS), VSWR = 1	8.9 kVA

[35] The appropriate connection has to be provided on site.

Frequency band E from 2.5 GHz to 6.0 GHz

R&S®BBA130-E22, power class: 15 W P1dB or 22 W P_{sat} [36]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		22 W (43.4 dBm)
Output power	output mode: high power	min. 22 W (43.4 dBm)
Output power at 1 dB compression		min. 15 W (41.8 dBm)
Nominal power gain	at 3000 MHz	nom. 45.2 dB
Gain flatness		< ±2.5 dB
Third-order intermodulation (IM3)	2-tone at 35.8 dBm/tone, 1 MHz spacing	nom. < –27.3 dBc
Harmonics	at 15 W, class A	< –23 dBc
Spurious	at 15 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 55 dB	nom. < 5.0 dB

[36] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 15 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 51 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^{1}/_{1}$ 19", 4 HU
Weight		approx. 11 kg (24 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

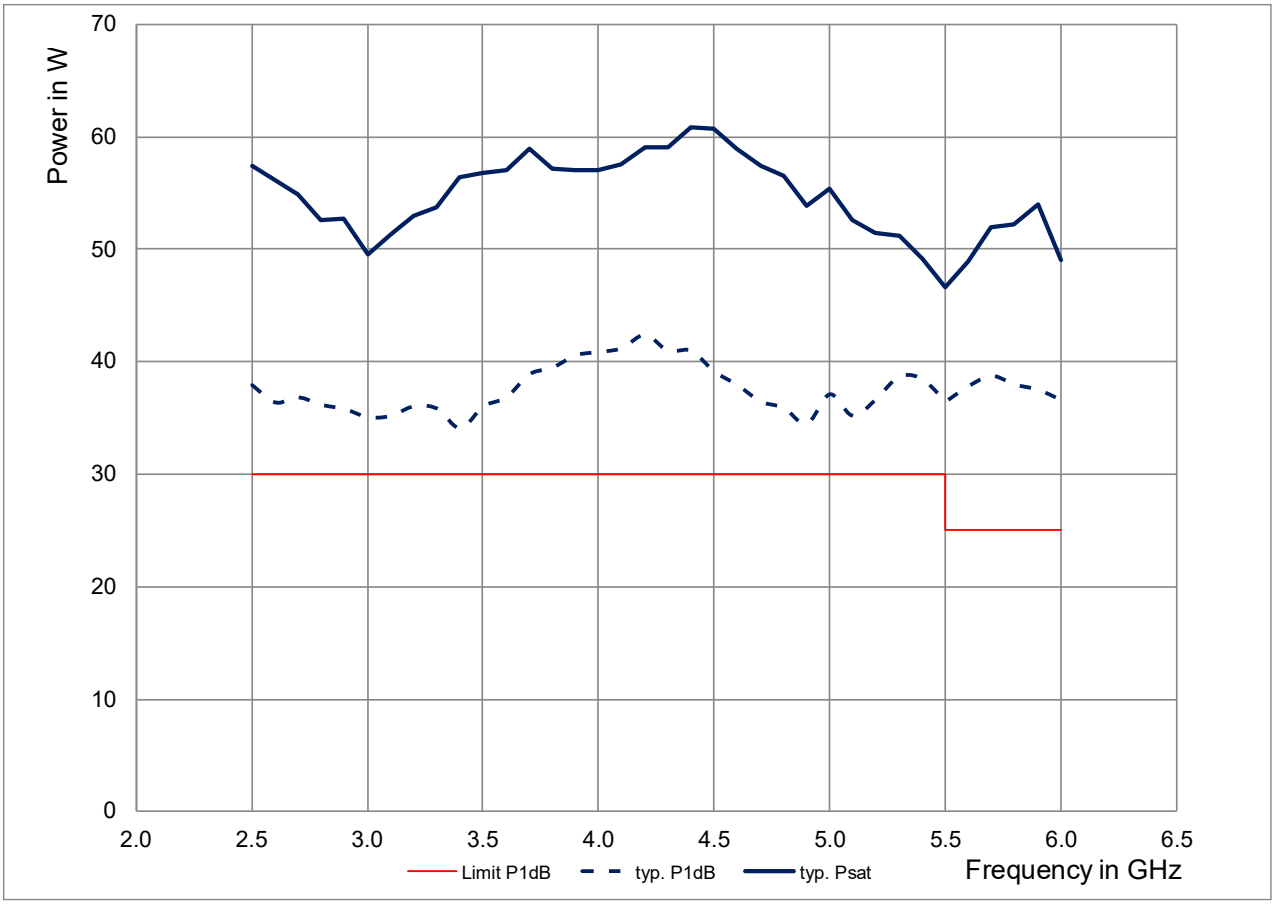
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [37]	at 110 V	5.7 A
	at 230 V	2.7 A
Rated power	RF_{cw} = 22 W (RMS), VSWR = 1	630 VA

[37] The appropriate connection has to be provided on site.

R&S®BBA130-E45, power class: 30 W P1dB or 45 W P_{sat} [38]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		45 W (46.5 dBm)
Output power	output mode: high power	
	< 4.5 GHz	min. 45 W (46.5 dBm)
	≥ 4.5 GHz	min. 40 W (46.0 dBm)
Output power at 1 dB compression	< 5.5 GHz	min. 30 W (44.8 dBm)
	≥ 5.5 GHz	min. 25 W (44.0 dBm)
Nominal power gain	at 3000 MHz	nom. 48.2 dB
Gain flatness		< ±2.5 dB
Third-order intermodulation (IM3)	2-tone at 38.0 dBm/tone, 1 MHz spacing	nom. < –21 dBc
Harmonics	at 30 W, class A	< –20 dBc
Spurious	at 30 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 55 dB	nom. < 5.0 dB

[38] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 30 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 51 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 11 kg (24 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

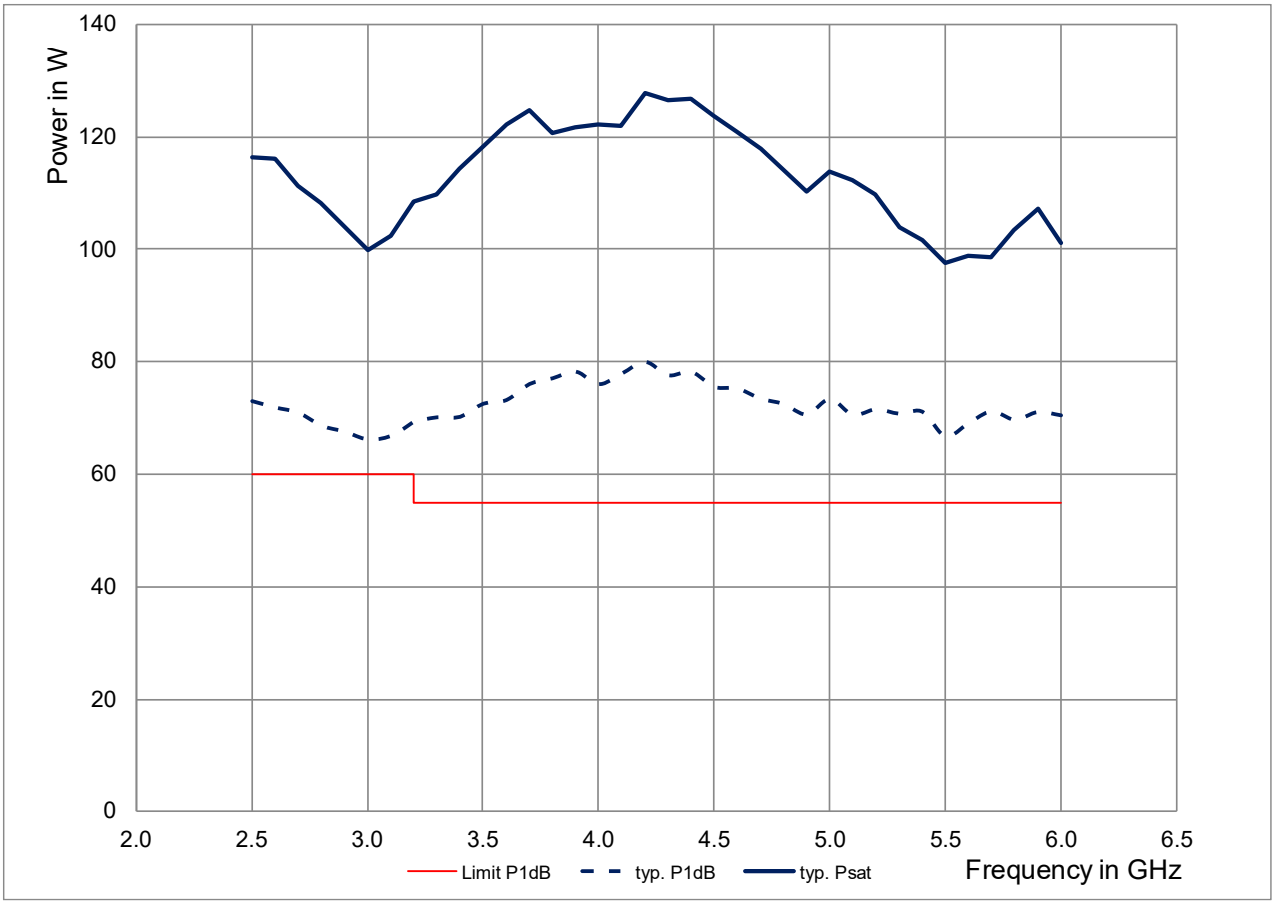
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [39]	at 110 V	5.7 A
	at 230 V	2.7 A
Rated power	RF_{cw} = 45 W (RMS), VSWR = 1	630 VA

[39] The appropriate connection has to be provided on site.

R&S®BBA130-E90, power class: 60 W P1dB or 90 W P_{sat} [40]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		90 W (49.5 dBm)
Output power	output mode: high power	
	< 4.5 GHz	min. 80 W (49.0 dBm)
	≥ 4.5 GHz	min. 75 W (48.8 dBm)
Output power at 1 dB compression	< 3.2 GHz	min. 60 W (47.8 dBm)
	≥ 3.2 GHz	min. 55 W (47.4 dBm)
Nominal power gain	at 3000 MHz	nom. 51.2 dB
Gain flatness		< ±3.5 dB
Third-order intermodulation (IM3)	2-tone at 41.4 dBm/tone, 1 MHz spacing	nom. < –20 dBc
Harmonics	at 60 W, class A, < 3.3 GHz	< –18 dBc
	at 60 W, class A, ≥ 3.3 GHz	< –20 dBc
Spurious	at 60 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 68 dB	nom. < 5.0 dB

[40] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 60 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 51 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 15 kg (33 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

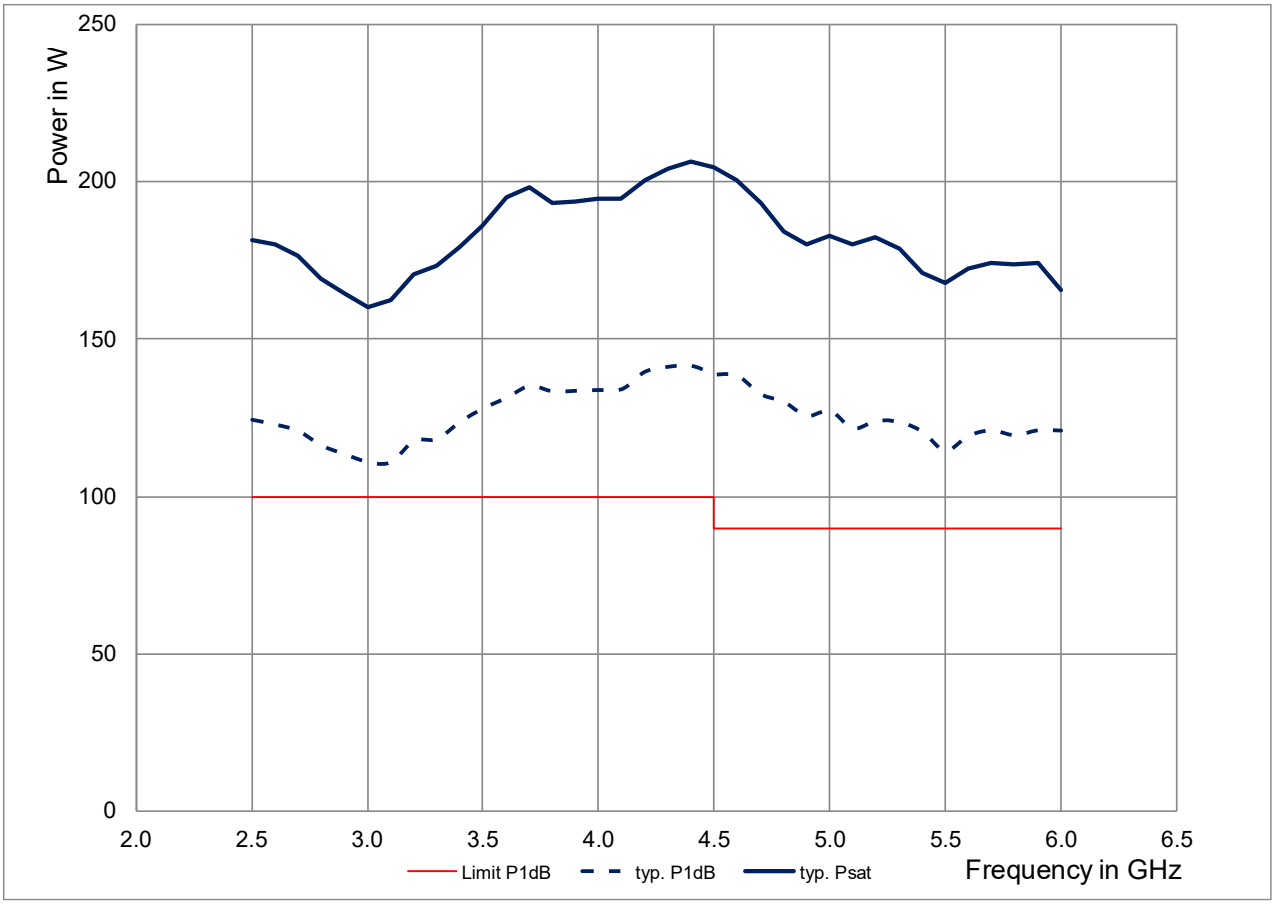
Electrical specifications

AC supply voltage		
Nominal operating voltage range		100 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [41]	at 110 V	10.6 A
	at 230 V	5.1 A
Rated power	RF_{cw} = 90 W (RMS), VSWR = 1	1.17 kVA

[41] The appropriate connection has to be provided on site.

R&S®BBA130-E150, power class: 100 W P1dB or 150 W P_{sat} [42]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		150 W (51.7 dBm)
Output power	output mode: high power	
	< 4.5 GHz	min. 150 W (51.7 dBm)
	≥ 4.5 GHz	min. 125 W (51.0 dBm)
Output power at 1 dB compression	< 4.5 GHz	min. 100 W (50.0 dBm)
	≥ 4.5 GHz	min. 90 W (49.6 dBm)
Nominal power gain	at 3000 MHz	nom. 53.4 dB
Gain flatness		< ±3.6 dB
Third-order intermodulation (IM3)	2-tone at 43.6 dBm/tone, 1 MHz spacing	nom. < –23.7 dBc
Harmonics	at 100 W, class A, < 3.3 GHz	< –18 dBc
	at 100 W, class A, ≥ 3.3 GHz	< –20 dBc
Spurious	at 100 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 68 dB	nom. < 5.0 dB

[42] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 100 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 51 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 17 kg (37 lb)

RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

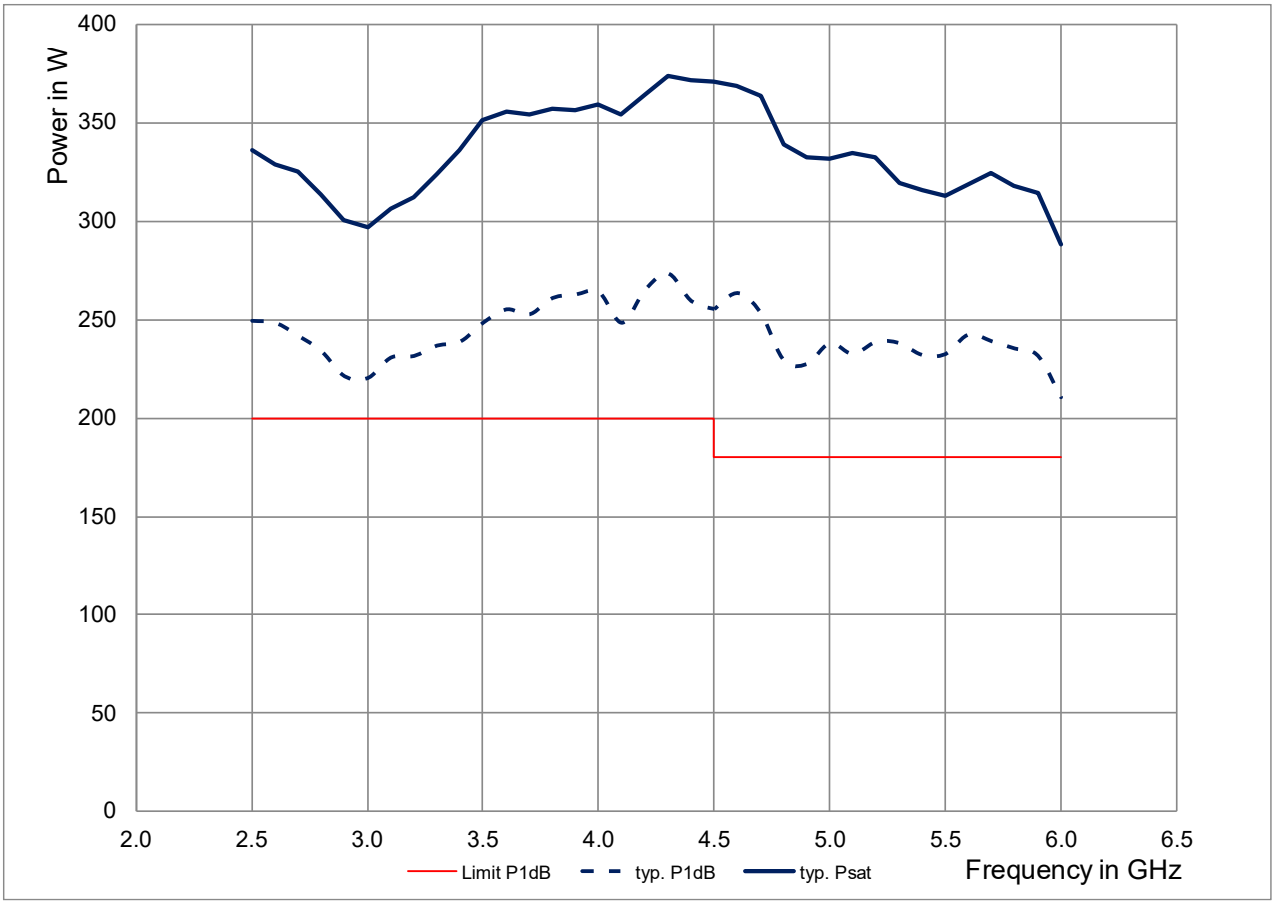
Electrical specifications

AC supply voltage		
Nominal operating voltage range		120 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [43]	at 120 V	14.0 A
	at 230 V	7.3 A
Rated power	RF_{cw} = 150 W (RMS), VSWR = 1	1.68 kVA

[43] The appropriate connection has to be provided on site.

R&S®BBA130-E280, power class: 200 W P1dB or 280 W P_{sat} [44]

Frequency response at high power (high power mode)



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		280 W (54.7 dBm)
Output power	output mode: high power	
	< 4.5 GHz	min. 280 W (54.5 dBm)
	≥ 4.5 GHz	min. 230 W (53.6 dBm)
Output power at 1 dB compression	< 4.5 GHz	min. 200 W (53.0 dBm)
	≥ 4.5 GHz	min. 180 W (52.6 dBm)
Nominal power gain	at 3000 MHz	nom. 56.4 dB
Gain flatness		< ±3.6 dB
Third-order intermodulation (IM3)	2-tone at 46.6 dBm/tone, 1 MHz spacing	nom. < –20.7 dBc
Harmonics	at 200 W, class A, < 3.3 GHz	< –18 dBc
	at 200 W, class A, ≥ 3.3 GHz	< –20 dBc
Spurious	at 200 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 68 dB	nom. < 5.0 dB

[44] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 200 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 51 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	W × H × D, incl. fans, handles and stand	430 mm × 196 mm × 580 mm (16.93 in × 7.72 in × 22.83 in)
	for rackmounting	$^1/_1$ 19", 4 HU
Weight		approx. 24 kg (53 lb)

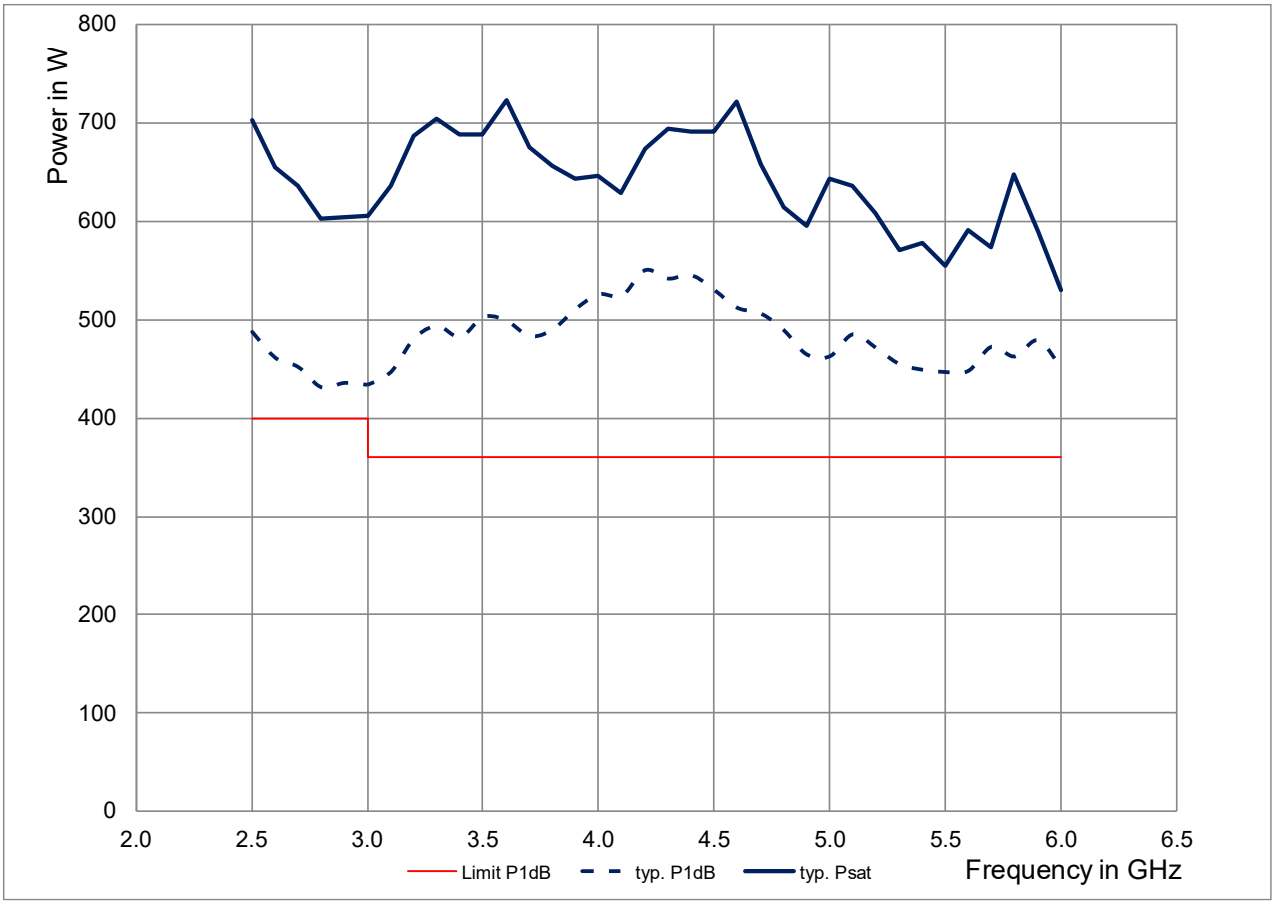
RF and sample connectors		
RF input port	either front panel or rear panel	N female
RF output port	either front panel or rear panel	N female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
Rated current (high power mode) [45]		max. 16 A
Rated power	RF_{cw} = 280 W (RMS), VSWR = 1	2.9 kVA

[45] The appropriate connection has to be provided on site.

R&S®BBA130-E550, power class: 400 W P1dB or 550 W P_{sat} [46]



RF specifications

Main parameters		
Frequency range		2.5 GHz to 6.0 GHz instantaneously
Nominal output load		50 Ω
Nominal output power		550 W (57.4 dBm)
Output power	output mode: high power	
	< 2.8 GHz	min. 550 W (57.7 dBm)
	≥ 2.8 GHz < 3.5 GHz	min. 480 W (56.8 dBm)
	≥ 3.5 GHz < 4.8 GHz	min. 550 W (57.7 dBm)
	≥ 4.8 GHz	min. 480 W (56.8 dBm)
Output power at 1 dB compression	< 3.1 GHz	min. 400 W (56.0 dBm)
	≥ 3.1 GHz	min. 360 W (55.6 dBm)
Nominal power gain	at 3000 MHz	nom. 59.4 dB
Gain flatness		< ±4.5 dB
Third-order intermodulation (IM3)	2-tone at 49.5 dBm/tone, 1 MHz spacing	nom. < –23.4 dBc
Harmonics	at 400 W, class A, < 3.3 GHz	< –18 dBc
	at 400 W, class A, ≥ 3.3 GHz	< –20 dBc
Spurious	at 400 W, class A, carrier offset > 100 kHz	nom. –80 dBc, max. –70 dBc
Noise figure	at maximum gain of nom. 78 dB	nom. < 5.0 dB

[46] Value for P_{sat} is achievable in high power mode.

Adjustable parameters		
Gain adjustment		> 15 dB
Bias adjustment		continuous adjustment between class A and class AB
Power mode and load tolerance adjustment		continuous adjustment between P_{sat} at VSWR of 2:1 (high power mode) and P1dB at VSWR of 6:1 (VSWR mode)

Input		
Nominal input impedance		50 Ω
Input level for output power	output mode: high VSWR at 400 W	nom. –3.4 dBm
Input VSWR	at 50 Ω	max. 2.5:1
Maximum input level	RF	+15 dBm
	DC	0 V

Output		
Nominal output impedance		50 Ω
Output mismatch tolerance	VSWR < set load tolerance	without foldback
	VSWR > set load tolerance	with gradual foldback depending on load impedance
Output mismatch protection, VSWR		100 %, without damage

RF sample and detected sample signals		
RF sample signal coupling factor	RF forward and reflected sample ports, optional	approx. 46 dB, see test report for details
Detected sample signal level	detected forward and reflected sample ports, optional	up to 3.0 V DC, see test report for details

Mechanical specifications

Dimensions and weight		
Dimensions	rack setup	19" rack, 12 HU, depth 800 mm (31.5 in)
Weight		approx. 95 kg (209 lb)

RF and sample connectors		
RF input port	rear panel	N female
RF output port	rear panel	$^{7}/_{16}$ DIN female
RF sample port	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample port	forward output power, optional	N female
	reflected output power, optional	N female

Electrical specifications

AC supply voltage		
Nominal operating voltage range		200 V to 240 V AC ± 10 %, single phase, 47 Hz to 63 Hz
		380 V to 415 V AC ± 10 %, three-phase, with N, 47 Hz to 63 Hz
		200 V to 240 V AC ± 10 %, three-phase, 47 Hz to 63 Hz
Rated current (high power mode) [47]	at 230 V per phase	10.2 A/10.2 A/0.1 A
Rated power	RF_{cw} = 550 W (RMS), VSWR = 1	4.7 kVA

[47] The appropriate connection has to be provided on site.

General data

Modulation specifications

Modulation capability		AM, FM, φM or PM

Cooling specifications

Air cooling		forced air, built-in fans, air entry at front, air exit at rear

Control specifications

Remote control		
Ethernet		RJ-45, 10/100 Mbit/s, auto-negotiation, half/full duplex

Local HMI		
Local display		200 × 48 pixel, monochrome
Manual controls	resting push button	mains switch
	operation push buttons	• system standby/on • RF standby/operate • local/remote
	menu push buttons	• arrow up, down, left, right • ok • back
LED status information		• system standby/on • RF standby/operate • mute ready • interlock • error • local/remote

Web GUI		
Remote web GUI	via Ethernet	RJ-45, 10/100 Mbit/s, auto-negotiation, half/full duplex

Environmental specifications

Temperature loading	operating temperature range	0 °C to +40 °C
	storage temperature range	–40 °C to +70 °C
Damp heat		max. +40 °C at 95 % rel. humidity, without condensation
Altitude	operating altitude	up to 2000 m
	storage altitude	up to 4600 m
Mechanical resistance test values of desktop models	vibration, sinusoidal	5 Hz to 55 Hz, displacement: 0.15 mm, > 55 Hz to 150 Hz, acceleration: 0.5 g, in line with EN 60068-2-6
	vibration, random	effective acceleration ≤ 1.2 g, 8 Hz to 500 Hz, acceleration density: 0.002 g^2/Hz, in line with EN 60068-2-64
	shock	18 sawtooth shocks, each 40 g in 11 ms, in line with EN 60068-2-27, MIL-STD-810E method no. 516.4, procedure I
Calibration interval		no calibration needed
Electromagnetic compatibility	immunity	in line with EN 61326-1, table 2, industrial environment

Electromagnetic emissions	overall	in line with EN 55011 (CISPR 11), industrial area, ISM group 1 class A and FCC 47 CFR part 18 §18.305
	conducted emissions	in line with EN 55011, group 1 class A
	radiated emissions from 30 MHz to 18 GHz	equipment for use in shielded areas only, normative limits of EN 55011 group 1 class A and FCC 47 CFR part 18 §18.305 exceeded; • up to 40 dB: for up to R&S®BBA130-D300 and R&S®BBA130-E150 • up to 50 dB: for up to R&S®BBA130-BC350, from R&S®BBA130-D600 and R&S®BBA130-E280 • up to 60 dB: from R&S®BBA130-BC750
Exposure to electromagnetic fields	all-around the enclosure	in line with the limits of 2014/35, 26. BImSchV, DGVU15 exposure limit 2 (protection of health and safety of workers, consumers and the general public)
Electrical safety		in line with EN 61010-1:2010, IEC 61010-1:2011 + Corr. 2011 (3rd ed.), CAN/CSA-C22.2 no. 61010-1-12, UL 61010-1 3rd edition, May 11, 2012

Protection

RF		
Load VSWR		unlimited
Interlock [48]		1 automatic interlock, 1 interactive interlock
Input protection against bias voltage	optional	DC block level ≤ 50 V DC

Power supply		
Transient voltage compatibility		category II, in line with IEC 60364-4-443
Short-circuit breaking capacity		automatic all-pole 20 A circuit breaker

Miscellaneous		
Thermal overload		shutdown at thermal overload

Product conformity

EU legislation	EU: in line with Data Act – Regulation (EU) 2023/2854	for details, see user documentation

[48] The interlock interface of the R&S®BBA130 series is a functional interlock only and not a safety interlock. In order to realize a safety interlock on system level, a second independent safeguard has to be installed on system level.

General RF specifications

The specified nominal output power is valid for all amplifiers in a 4 HU chassis with RF output at rear and for single-band rack models at the RF connection panel.

For single-band and dual-band amplifiers in a 4 HU chassis with RF output at front cable insertion loss reduces the output power:

Cable insertion loss, for single-band and dual-band power amplifiers in 4 HU chassis, with RF output at front	0 Hz to 1 GHz	≤ 0.20 dB
	> 1 GHz to 2 GHz	≤ 0.30 dB
	> 2 GHz to 3 GHz	≤ 0.40 dB
	> 3 GHz to 6 GHz	≤ 0.50 dB
	> 6 GHz to 8 GHz	≤ 0.60 dB

In case of rack integration, the loss due to cables and RF switches needs to be taken into account. The insertion loss of RF switches is specified under the RF switching specifications (see the following two sections).

RF switching specifications – input and measurement

RF input switch, R&S®BBA-B110 option		
Switch type		1:2 or 2:1, mechanical
RF input port	at desktop model or rack connection panel	N female
	switch	SMA female
Frequency range		0 Hz to 18 GHz
Switching time		< 10 ms
Life		10 000 000 cycles
Insertion loss	0 Hz to 3 GHz	≤ 0.15 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.20 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.25 dB, without cable loss
	> 12.4 GHz to 18 GHz	≤ 0.35 dB, without cable loss

RF input switch, R&S®BBA-B116 option		
Switch type		1:6, mechanical
RF input port	at rack connection panel	N female
	switch	SMA female
Frequency range		0 Hz to 18 GHz
Switching time		< 15 ms
Life		5 000 000 cycles
Insertion loss	0 Hz to 3 GHz	≤ 0.20 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.30 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.40 dB, without cable loss
	> 12.4 GHz to 18 GHz	≤ 0.50 dB, without cable loss

RF sample port switch, dual port, R&S®BBA-B142 option		
Switch type		2 × 2:1, mechanical
RF or detected sample ports	at desktop model or rack connection panel	N female
	switches	SMA female
Frequency range		0 Hz to 18 GHz
Switching time		< 10 ms
Life		10 000 000 cycles
RF sample signal level		max. 10 dBm
Insertion loss	0 Hz to 3 GHz	≤ 0.15 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.20 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.25 dB, without cable loss
	> 12.4 GHz to 18 GHz	≤ 0.35 dB, without cable loss

RF sample port switch, dual port, R&S®BBA-B146 option		
Switch type		2 × 6:1, mechanical
RF or detected sample ports	at rack connection panel	N female
	switches	SMA female
Frequency range		0 Hz to 18 GHz
Switching time		< 10 ms
Life		5 000 000 cycles
RF sample signal level		max. 10 dBm
Insertion loss	0 Hz to 3 GHz	≤ 0.20 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.30 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.40 dB, without cable loss
	> 12.4 GHz to 18 GHz	≤ 0.50 dB, without cable loss

RF switching specifications – output

RF output switch, R&S®BBA-B120 option		
Switch type		2:1 or 1:2, mechanical
RF output port		N female
Frequency range		0 Hz to 12.4 GHz
Switching time		< 15 ms
Life		1 000 000 cycles
Average forward RF power	0 Hz to 1 GHz	max. 700 W × $1/\sqrt{VSWR}$
	> 1 GHz to 2 GHz	max. 500 W × $1/\sqrt{VSWR}$
	> 2 GHz to 3 GHz	max. 400 W × $1/\sqrt{VSWR}$
	> 3 GHz to 8 GHz	max. 250 W × $1/\sqrt{VSWR}$
	> 8 GHz to 12.4 GHz	max. 200 W × $1/\sqrt{VSWR}$
Insertion loss	0 Hz to 1 GHz	≤ 0.15 dB, without cable loss
	> 1 GHz to 2 GHz	≤ 0.20 dB, without cable loss
	> 2 GHz to 3 GHz	≤ 0.25 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.35 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.50 dB, without cable loss

RF output switch, R&S®BBA-B121 option		
Switch type		2:2, mechanical
RF output port		$^7/_{16}$ female
Frequency range		0 Hz to 6 GHz
Switching time		< 100 ms
Life		≥ 500 000 cycles
Average forward RF power	0 Hz to 1 GHz	max. 2.0 kW × $1/\sqrt{VSWR}$
	> 1 GHz to 2 GHz	max. 1.4 kW × $1/\sqrt{VSWR}$
	> 2 GHz to 3 GHz	max. 1.1 kW × $1/\sqrt{VSWR}$
	> 3 GHz to 4 GHz	max. 1.0 kW × $1/\sqrt{VSWR}$
	> 4 GHz to 5 GHz	max. 0.9 kW × $1/\sqrt{VSWR}$
	> 5 GHz to 6 GHz	max. 0.8 kW × $1/\sqrt{VSWR}$
Insertion loss	0 Hz to 2 GHz	≤ 0.05 dB, without cable loss
	> 2 GHz to 5 GHz	≤ 0.10 dB, without cable loss
	> 5 GHz to 6 GHz	≤ 0.15 dB, without cable loss

RF output switch, R&S®BBA-B122 option		
Switch type		2:2, mechanical
RF output port		$^7/_8$" EIA
Frequency range		0 Hz to 3.5 GHz
Switching time		< 120 ms
Life		≥ 250 000 cycles
Average forward RF power	0 Hz to 0.1 GHz	max. 8 kW × $1/\sqrt{VSWR}$
	> 0.1 GHz to 0.23 GHz	max. 5 kW × $1/\sqrt{VSWR}$
	> 0.23 GHz to 0.86 GHz	max. 2.5 kW × $1/\sqrt{VSWR}$
	> 0.86 GHz to 2 GHz	max. 1.8 kW × $1/\sqrt{VSWR}$
	> 2 GHz to 3 GHz	max. 1.4 kW × $1/\sqrt{VSWR}$
	> 3 GHz to 3.5 GHz	max. 1.3 kW × $1/\sqrt{VSWR}$
Insertion loss	0 Hz to 1 GHz	≤ 0.03 dB, without cable loss
	> 1 GHz to 2 GHz	≤ 0.05 dB, without cable loss
	> 2 GHz to 3.5 GHz	≤ 0.20 dB, without cable loss

RF output switch, R&S®BBA-B123 option		
Switch type		2:2, mechanical
RF output port		1 5/8" EIA
Frequency range		0 Hz to 2 GHz
Switching time		< 120 ms
Life		≥ 250 000 cycles
Average forward RF power	0 Hz to 0.1 GHz	max. 19 kW × $1/\sqrt{VSWR}$
	> 0.1 GHz to 0.23 GHz	max. 12.7 kW × $1/\sqrt{VSWR}$
	> 0.23 GHz to 0.86 GHz	max. 6.6 kW × $1/\sqrt{VSWR}$
	> 0.86 GHz to 1.6 GHz	max. 4.8 kW × $1/\sqrt{VSWR}$
	> 1.6 GHz to 2 GHz	max. 4.3 kW × $1/\sqrt{VSWR}$
Insertion loss	0 Hz to 0.86 GHz	≤ 0.05 dB, without cable loss
	> 0.86 GHz to 2 GHz	≤ 0.10 dB, without cable loss

RF output switch, R&S®BBA-B126 option		
Switch type		6:1, mechanical
RF output port		N female
Frequency range		0 Hz to 12.4 GHz
Switching time		< 15 ms
Life		≥ 2 000 000 cycles
Average forward RF power	0 Hz to 1 GHz	max. 700 W × $1/\sqrt{VSWR}$
	> 1 GHz to 2 GHz	max. 500 W × $1/\sqrt{VSWR}$
	> 2 GHz to 3 GHz	max. 400 W × $1/\sqrt{VSWR}$
	> 3 GHz to 8 GHz	max. 250 W × $1/\sqrt{VSWR}$
	> 8 GHz to 12.4 GHz	max. 200 W × $1/\sqrt{VSWR}$
Insertion loss	0 Hz to 1 GHz	≤ 0.15 dB, without cable loss
	> 1 GHz to 2 GHz	≤ 0.20 dB, without cable loss
	> 2 GHz to 3 GHz	≤ 0.25 dB, without cable loss
	> 3 GHz to 8 GHz	≤ 0.35 dB, without cable loss
	> 8 GHz to 12.4 GHz	≤ 0.5 dB, without cable loss

Fast amplifier mute specifications

Fast amplifier mute, R&S®BBA-B130 option		
External mute signal		TTL
Mute on delay	amplifier switches to mute mode, RF turns off	nom. < 8 µs
Mute off delay	amplifier leaves mute mode, RF turns on	
	models with frequency bands from 9 kHz to 250 MHz, from 0.8 GHz to 3.0 GHz, from 2.5 GHz to 6.0 GHz	nom. < 4 µs
	models with frequency band from 80 MHz to 1.0 GHz	nom. < 15 µs

Ordering information

R&S®BBA130 single-band power amplifiers

Frequency band from 80 MHz to 1.0 GHz

Designation	Type	Configuration No.
100 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC100
180 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC180
240 W, air cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC240
350 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC350
750 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC750
1500 W, air-cooled, 12 HU rack model	R&S®BBA130	BBA130-BC1500
1800 W, air-cooled, 20 HU rack model	R&S®BBA130	BBA130-BC1800
2100 W, air-cooled, 20 HU rack model	R&S®BBA130	BBA130-BC2100
2700 W, air-cooled, 20 HU rack model	R&S®BBA130	BBA130-BC2700
4200 W, air-cooled, 35 HU rack model	R&S®BBA130	BBA130-BC4200
6500 W, air-cooled, 2.5 × 42 HU rack model	R&S®BBA130	BBA130-BC6500
9500 W, air-cooled, 2.5 × 42 HU rack model	R&S®BBA130	BBA130-BC9500
13000 W, air-cooled, 4.5 × 35 HU rack model	R&S®BBA130	BBA130-BC13000

Frequency band from 690 MHz to 3.2 GHz

Designation	Type	Configuration No.
45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D45
90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D90
160 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D160
300 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D300
600 W, air-cooled, 12 HU rack model	R&S®BBA130	BBA130-D600
1200 W, air-cooled, 20 HU rack model	R&S®BBA130	BBA130-D1200

Frequency band from 2.5 GHz to 6.0 GHz

Designation	Type	Configuration No.
22 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E22
45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E45
90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E90
150 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E150
280 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E280
550 W, air-cooled, 12 HU rack model	R&S®BBA130	BBA130-E550

Accessories supplied: power cord, user manual on CD-ROM.

R&S®BBA130 twin-band power amplifiers

Frequency bands 2 × from 80 MHz to 1 GHz

Designation	Type	Configuration No.
100 W/100 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC100BC100
180 W/180 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC180BC180
240 W/240 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC240BC240
350 W/350 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC350BC350

Frequency bands 2 × from 690 MHz to 3.2 GHz

Designation	Type	Configuration No.
45 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D45D45
90 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D90D90
160 W/160 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D160D160

Frequency bands 2 × from 2.5 GHz to 6 GHz

Designation	Type	Configuration No.
22 W/22 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E22E22
45 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E45E45
90 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E90E90
150 W/150 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-E150E150

Accessories supplied: power cord, user manual on CD.

R&S®BBA130 dual-band power amplifiers

Frequency bands from 80 MHz to 1 GHz and 690 MHz to 3.2 GHz

Designation	Type	Configuration No.
180 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC180D45
180 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC180D90
180 W/160 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC180D160
240 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC240D45
240 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC240D90
240 W/160 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC240D160
350 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC350D45
350 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC350D90
350 W/160 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-BC350D160

Frequency bands from 690 MHz to 3.2 GHz and 2.5 GHz to 6.0 GHz

Designation	Type	Configuration No.
45 W/22 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D45E22
45 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D45E45
90 W/22 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D90E22
90 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D90E45
90 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D90E90
160 W/45 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D160E45
160 W/90 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D160E90
160 W/150 W, air-cooled, 4 HU desktop model	R&S®BBA130	BBA130-D160E150

Accessories supplied: power cord, user manual on CD.

Options

Designation	Type	Order No.
GPIB remote control	R&S®BBA-B101	5355.8250.02 [49]
PoE switch	R&S®BBA-B102	5355.8243.30
Optical Ethernet remote control	R&S®BBA-B105	5355.8266.03
RF input switch (1:2 or 2:1, N)	R&S®BBA-B110	5355.8866.02 [49]
RF input switch (1:6, N)	R&S®BBA-B116	5355.8950.12
RF output switch (2:1 or 1:2, N)	R&S®BBA-B120	5355.8795.02 [49]
RF output switch (2:2, $^{7}/_{16}$)	R&S®BBA-B121	5355.8895.12 [49]
RF output switch (2:2, $^{7}/_{8}$" EIA)	R&S®BBA-B122	5355.8989.12
RF output switch (2:2, 1 $^{5}/_{8}$" EIA)	R&S®BBA-B123	5355.8943.12
RF output switch (6:1, N)	R&S®BBA-B126	5355.8995.12
Fast amplifier mute	R&S®BBA-B130	5355.8114.02
DC block input protection (N)	R&S®BBA-B132	5353.9236.03
RF forward/RF reflected sample ports (N front)	R&S®BBA-B140	5355.8837.02
RF forward/RF reflected sample ports (N rear)	R&S®BBA-B140	5355.8837.03
Detected forward/detected reflected sample ports (N front)	R&S®BBA-B141	5355.8850.02
Detected forward/detected reflected sample ports (N rear)	R&S®BBA-B141	5355.8850.03
Sample port switch (2 × 2:1, N)	R&S®BBA-B142	5355.8872.02 [49]
Sample port switch (2 × 6:1, N)	R&S®BBA-B146	5355.8972.02
Transparent I/O	R&S®BBA-B160	5355.8889.02

Accessories

Designation	Type	Order No.
Rackmounting brackets (pair)	R&S®ZR1-RA02	5355.8208.00
Mounting rails, for R&S®BBA130 with transport lock (pair)	R&S®ZR1-SLR03	5355.8220.02
Mounting rails, for R&S®BBA130 without transport lock (pair)	R&S®ZR1-SLR03	5355.8220.03
Mounting rails, for other equipment (pair)	R&S®ZR1-SLR02	5353.9565.02
AC power cord (German plug)	R&S®ZR1-PSEA	5355.8514.02
AC power cord (without plug)	R&S®ZR1-PSEA	5355.8514.03
AC power cord (NEMA 5-15 US plug)	R&S®ZR1-PSEA	5355.8514.04
AC power cord (NEMA L5-30 US plug)	R&S®ZR1-PSEA	5355.8514.05
AC power cord (JIS C8303 Japanese plug)	R&S®ZR1-PSEA	5355.8514.06
AC power cord (PRC3/16 Chinese plug)	R&S®ZR1-PSEA	5355.8514.07
AC power cord (BS13/13 British plug)	R&S®ZR1-PSEA	5355.8514.08
AC power cord (ZA3 South African, Indian plug)	R&S®ZR1-PSEA	5355.8514.09
AC power cord (12G Swiss plug)	R&S®ZR1-PSEA	5355.8514.10
AC power cord (BR/3/20 Brazil plug)	R&S®ZR1-PSEA	5355.8514.11
Operating manual, German, printed version	R&S®BBA-MA	5355.8120.03
Operating manual, English, printed version	R&S®BBA-MA	5355.8120.02
Rack wheels	R&S®ZR1-RW	5353.9707.03
Rubber wheels, for racks up to 20 HU	R&S®ZR1-RW	5353.9707.04

Service

Service level agreements

Rohde & Schwarz offers maintenance and support services to maximize and protect the investment of customers' Rohde & Schwarz products. Details are given in the "Service Levels Description for Rohde & Schwarz Broadband Amplifiers" document (PD 3607.6467.92).

Calibration information

An optional calibration can be ordered for the R&S®BBA130. Note that the simple acceptance rule is selected for the declaration of conformity (cf. ILAC-G8:09/2019, section 4.2.1).

System upgrades

Upgrades in frequency band and/or RF output power are available on request.

[49] Variant of order number depends on system configuration.

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