

KEY FEATURES

- ▶ compact rugged design
- ▶ output power +35.5 dBm typ.
- ▶ high efficiency
- ▶ VLF suppression
- ▶ AC mains supply



TYPICAL APPLICATIONS

- ▶ cellular (GSM, UMTS, LTE)
- ▶ Wi-Fi
- ▶ IMSI catcher
- ▶ R&D / laboratory test equipment

AT A GLANCE

AMP20280035B-R from Becker Nachrichtentechnik is a compact linear amplifier designed with 50 Ohm technology. It features a 19" 1U housing. The robust electrical and mechanical design ensures reliable operation over an extended period. Internal filters and low-noise power supplies guarantee high suppression of spurious signals. The RF connectors are positioned on the rear side as N female connectors. The presence of AC mains power is indicated by an LED on the front panel.

Special Features

The AMP20280035B-R offers 3 W RF output power with a good efficiency. An integrated high pass filter in the input suppresses unwanted signals in the VLF and HF range.

Rugged Design

The amplifier unit is housed in a solid aluminum case to give best shielding for avoiding EMI influences caused by radio signals coming from the environment. The RF connectors on the unit rear panel are N female type.

RF SPECIFICATIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
impedance	Z	-	50	-	Ω	
low frequency	f_{MIN}	-	-	20	MHz	
high frequency	f_{MAX}	2800	-	-	MHz	
linear gain	S_{21}	35.0	39.0	41.0	dB	$f < 50$ MHz
	S_{21}	32.0	36.0	41.0	dB	$50 \text{ MHz} \leq f \leq 2500 \text{ MHz}$
	S_{21}	28.0	34.0	41.0	dB	$f > 2500 \text{ MHz}$
	S_{21}	-	-	-23.0	dB	$f < 4 \text{ MHz}$, rel. S_{21} @ 100 MHz

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
input return loss	S_{11}	-	-16.0	-10.0	dB	
reverse isolation	S_{12}	-	-70.0	-40.0	dB	
3rd order intercept	$OIP3$	-	43.0	-	dBm	Tested at Pout 2 x +25 dBm; $\Delta f = 2$ MHz
1 dB compression	P_{1dB}	33.0	35.0	-	dBm	$f \leq 2000$ MHz
3 dB compression	P_{3dB}	34.0	36.0	-	dBm	$f \leq 2500$ MHz
	P_{3dB}	32.0	34.0	-	dBm	$f > 2500$ MHz
noise figure	NF	-	4.0	7.0	dB	$f > 50$ MHz
input power	P_{IN}	-	-	20.0	dBm	output terminated with 50 ohms
DC voltage	U_{DC}	-	20	20	V	RF ports
RF connector type	X_{RF}	SMA female				rear panel
ESD discharge resistor	R_{ESD}	-	4.7	-	k Ω	RF ports

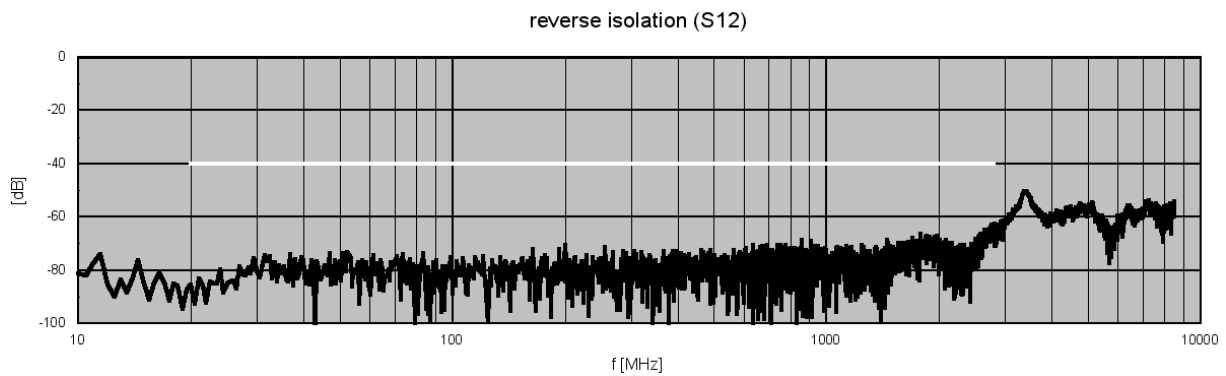
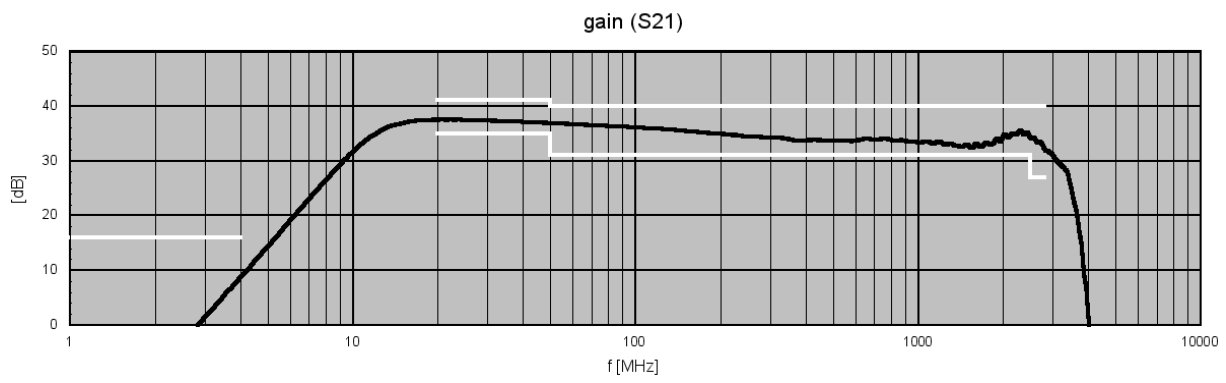
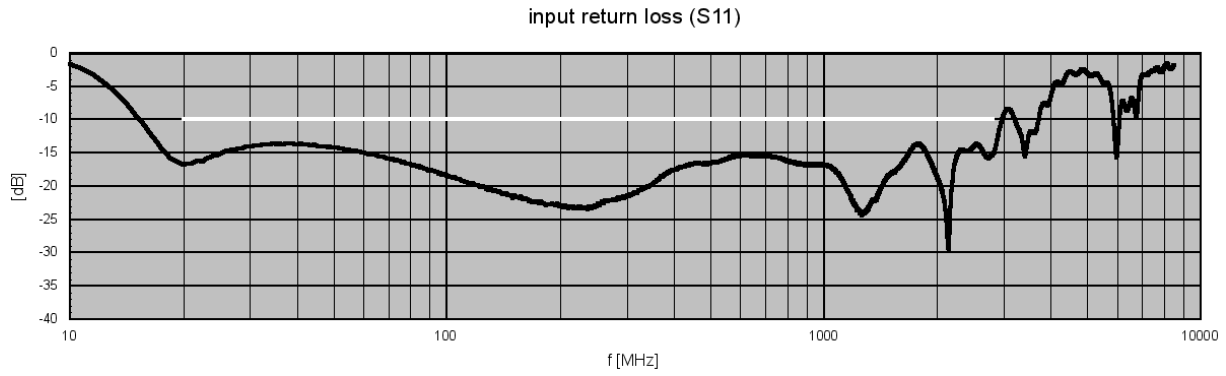
COMMON SPECIFICATIONS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
voltage supply range	U_{AC}	90	230	260	V	AC, 50 ... 400 Hz
power consumption	P_{AC}	-	12	-	W	variant with AC supply
power socket	X_{AC}	IEC-60320 C14				country specific power cable
dimensions	$W \times H \times D$	approx. 482 x 44 x 145			mm	without connectors
weight	m	-	2.0	-	kg	
operating temp. range	T_O	5	-	40	$^{\circ}C$	housing surface
storage temp. range	T_S	-40	-	70	$^{\circ}C$	

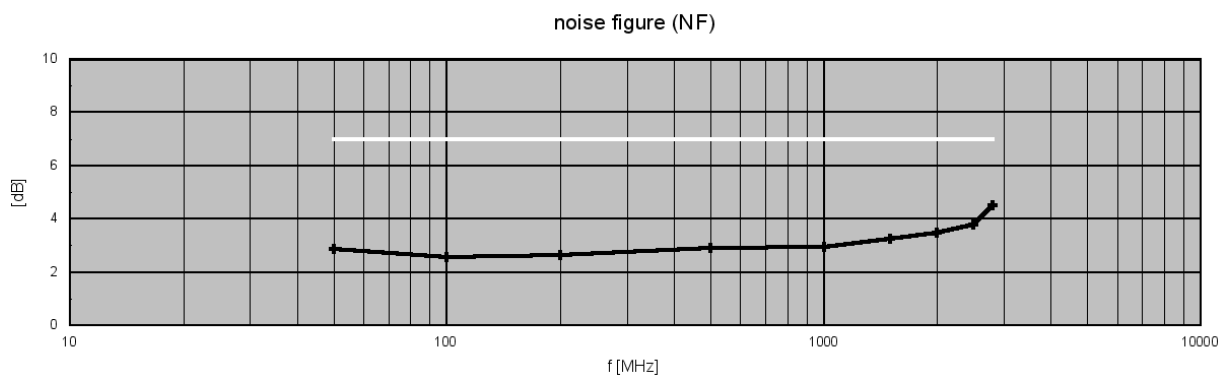
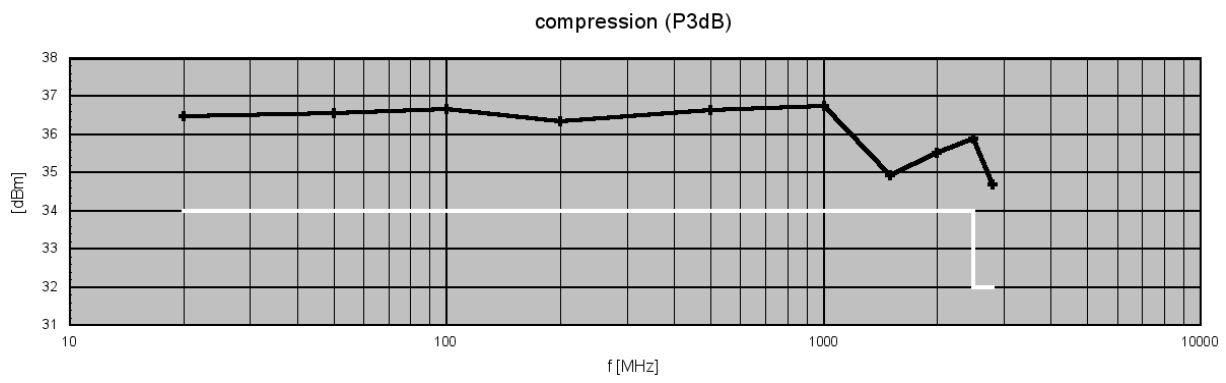
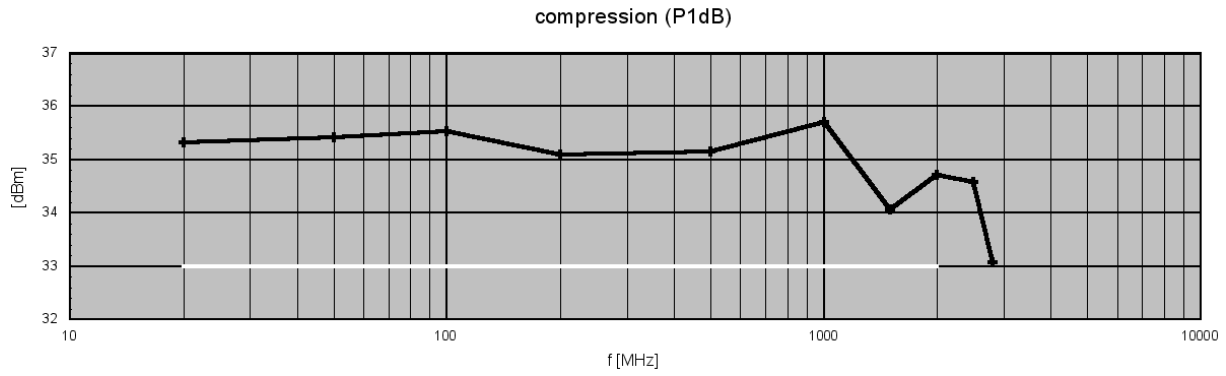
COMPLIANCE SPECIFICATIONS

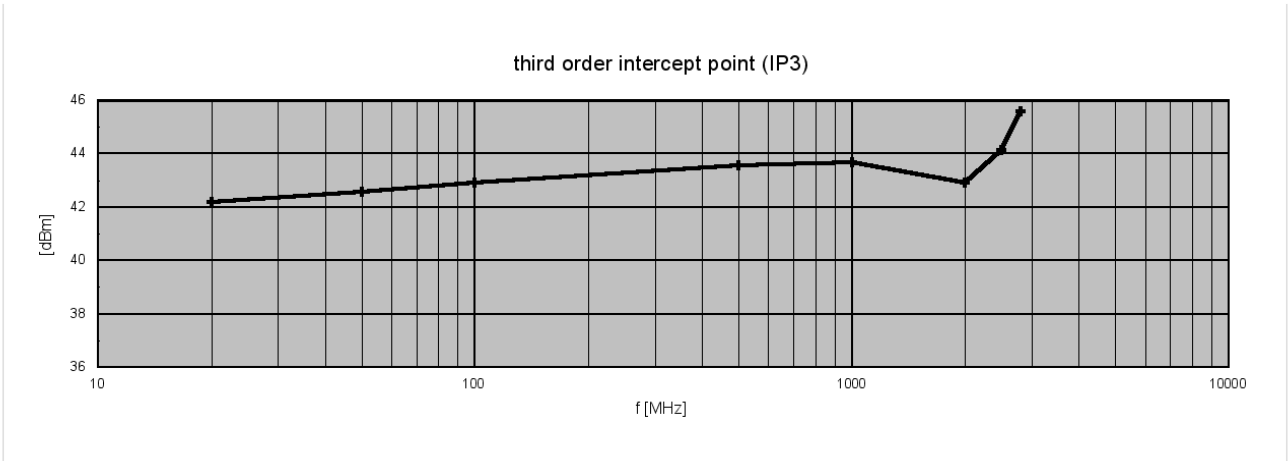
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
material compliance		RoHS compliant in accordance with EU Directive 2011/65/EU and 2015/863/EU				applied harmonized standards: EN 63000:2018
electrical safety		EU: in line with low voltage directive (2014/35/EC)				applied harmonized standard: EN 61010-1
electromagnetic compatibility		EU: in line with EMC directive (2014/30/EC)				applied harmonized standards: EN 61326-1 (for use in industrial environment), EN 61326-2-1, EN 55011 (class B), EN 61000-3-2, EN 61000-3-3

S-PARAMETERS (TYPICAL RESPONSES)



DYNAMIC RANGE (TYPICAL RESPONSES)





APPEARANCES

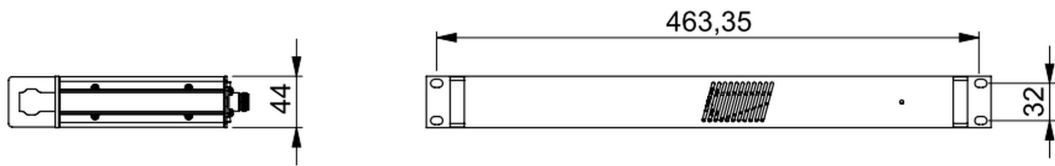


Front View

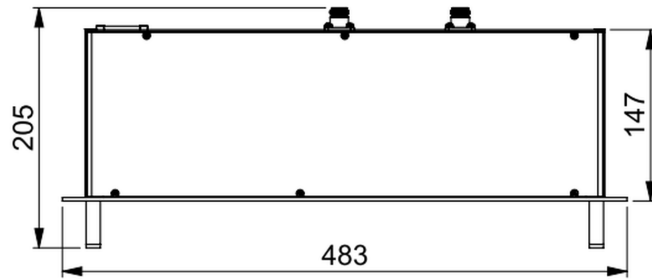


Rear View

DIMENSIONS



all dimensions in mm
±2mm



Dimensions

ORDERING INFORMATION

PART NUMBER	VARIANT	DESCRIPTION
1209.5202.1	-	4.5 W Wideband Amplifier, 19" Rack Device, 20...2800 MHz

RELATED PRODUCTS

PART NUMBER	PRODUCT	DESCRIPTION
2106.5002.1	AMP101800030-R	1 W Ultra-Wideband Linear Amplifier 1 U 19" rack device 10...18000 MHz
2200.5702.1	AMP17001300038-R	6.5 W Power Amplifier 2 U 19" rack device 1700...13000 MHz
2200.5752.1	AMP20002000042-R	15 W Power Amplifier 2 U 19" rack device 2000...20000 MHz
2200.5762.1	AMP20002000044-R	25 W Power Amplifier 2 U 19" rack device 2000...20000 MHz
1209.5201.1	AMP20280035B	4.5 W Wideband Amplifier Module 20...2800 MHz
1209.5203.1	AMP20280035B-T	4.5 W Wideband Amplifier Device Table Top Device 20...2800 MHz
2200.5512.1	AMP300600040-R	10 W Power Amplifier 2 U 19" rack device 300...6000 MHz
2200.5522.1	AMP300600043-R	20 W Power Amplifier 2 U 19" rack device 300...6000 MHz
2200.5602.1	AMP45090036-R	4 W High Linearity Amplifier for Event Radio Applications 2 U 19" Rack Device 450...900 MHz