

# AMP01600017

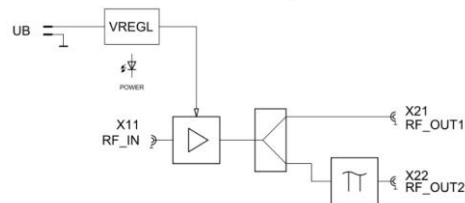
## 50 mW High Dynamic Wideband Amplifier Module with Monitoring Port 100 kHz ... 6500 MHz

### Features

- output power +17 dBm typ.
- monitoring output
- OIP3 +32 dBm typ. @ 1 GHz
- internal voltage stabilizer
- optical supply indication

### Applications

- RX amplifier
- PA driver amplifier
- laboratory
- test equipment



### At a Glance

AMP01600017 from Becker Nachrichtentechnik is a compact wideband amplifier module in 50 ohms technology designed for the use in professional applications. The robust electric and mechanic design gives solid operations over a long time. The amplifier works stable over a wide frequency range with many octaves. Internal filters and low noise voltage supplies guarantee high suppression of spurious. The presence of DC power is indicated by a LED at the module. The amplifier module has an integrated heat sink for passive cooling.

### Special Features

The high IP3 properties and the large frequency range makes the amplifier module suitable in professional receiving systems applications where weak RF signals in combination with very strong signals must be amplified without any distortion effects.

The module has a coupled output "RF\_OUT2" for monitoring purpose. With help of this output checks of signals can be done without interruption in operation.

### Rugged Design

The amplifier is housed in a milled aluminum case. This saves the circuits against mechanical damage and gives best shielding for avoiding EMI influences caused by radio signals coming from the environment.

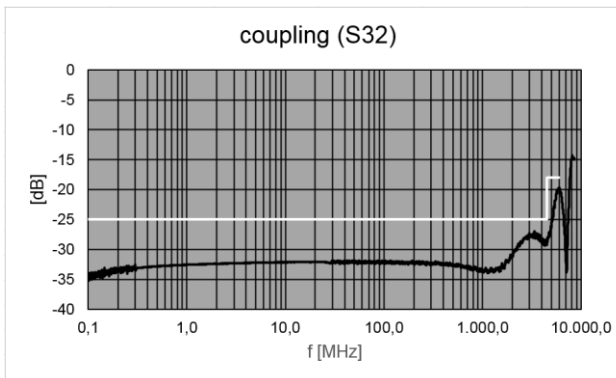
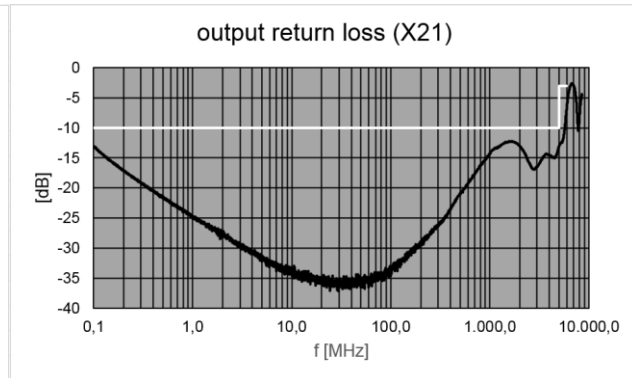
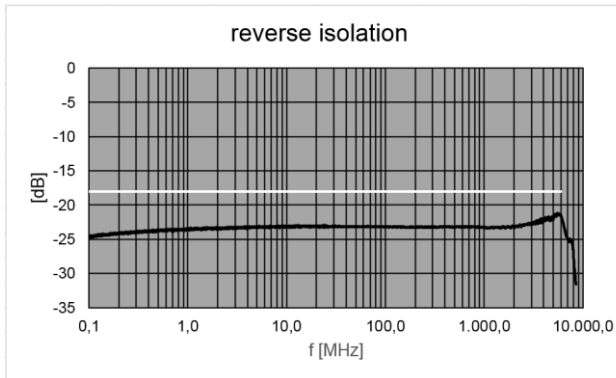
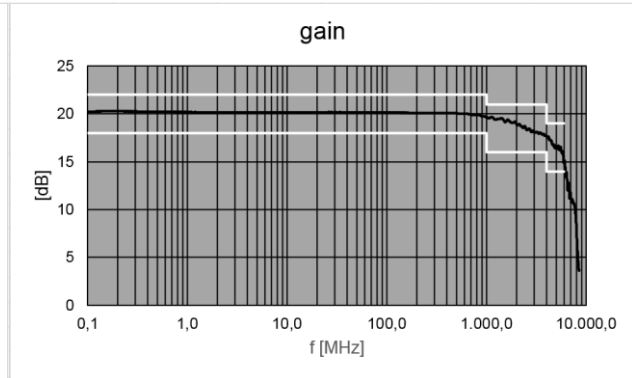
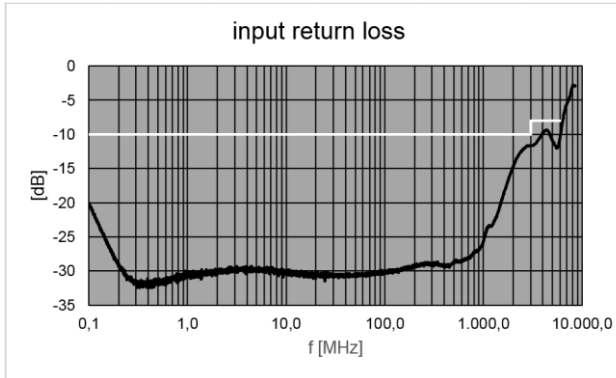
**RF Specification**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	$Z_{in} / Z_{out}$		50		Ohm	
low frequency	$f_{min}$			100	kHz	
high frequency	$f_{max}$	6000	6500		MHz	
gain	$S_{21}$	18	20	22	dB	100 kHz $\leq$ f $\leq$ 1000 MHz
	$S_{21}$	16	18.5	21	dB	1000 MHz $<$ f $\leq$ 4000 MHz
	$S_{21}$	14	16	19	dB	4000 MHz $<$ f $<$ 6000 MHz
input return loss	$S_{11}$		-20	-10	dB	100 kHz $\leq$ f $\leq$ 3000 MHz
	$S_{11}$		-10	-8	dB	3000 MHz $<$ f $<$ 6000 MHz
output return loss	$S_{22}, S_{33}$		-15	-10	dB	100 kHz $\leq$ f $\leq$ 5000 MHz
	$S_{22}$		-6	-4	dB	5000 MHz $<$ f $<$ 6000 MHz
reverse isolation	$S_{12}$		-22	-18	dB	100 kHz $\leq$ f $<$ 6000 MHz
3 <sup>rd</sup> order intercept	OIP3 <sup>1</sup>	30	32		dBm	100 kHz $\leq$ f $\leq$ 1000 MHz
	OIP3 <sup>1</sup>	26	29		dBm	1000 MHz $<$ f $\leq$ 3000 MHz
	OIP3 <sup>1</sup>	20	24		dBm	3000 MHz $<$ f $\leq$ 5000 MHz
	OIP3 <sup>1</sup>	18	20		dBm	5000 MHz $<$ f $\leq$ 6000 MHz
1 dB compression	$P_{1dB}$	+16	+17.5		dBm	100 kHz $\leq$ f $\leq$ 3000 MHz
	$P_{1dB}$	+12	+15		dBm	3000 MHz $<$ f $\leq$ 5000 MHz
	$P_{1dB}$	+9	+11		dBm	5000 MHz $<$ f $\leq$ 6000 MHz
noise figure	NF		4	5	dB	100 kHz $\leq$ f $\leq$ 5000 MHz
	NF	6	4.5		dB	5000 MHz $<$ f $\leq$ 6000 MHz
monitoring coupling	$S_{31}$		-30	-25	dBm	100 kHz $\leq$ f $\leq$ 4500 MHz
	$S_{31}$		-22	-18	dBm	4500 MHz $<$ f $\leq$ 6000 MHz
maximum DC Voltage	$U_{DC}$			20	V	RF ports
ESD discharge resistors	$R_{ESD}$		4.7		k $\Omega$	RF input / output
ESD discharge resistors	$R_{ESD}$		1		k $\Omega$	RF monitoring port
input power	$P_{in}$			+12	dBm	no damage
RF connectors		SMA female				

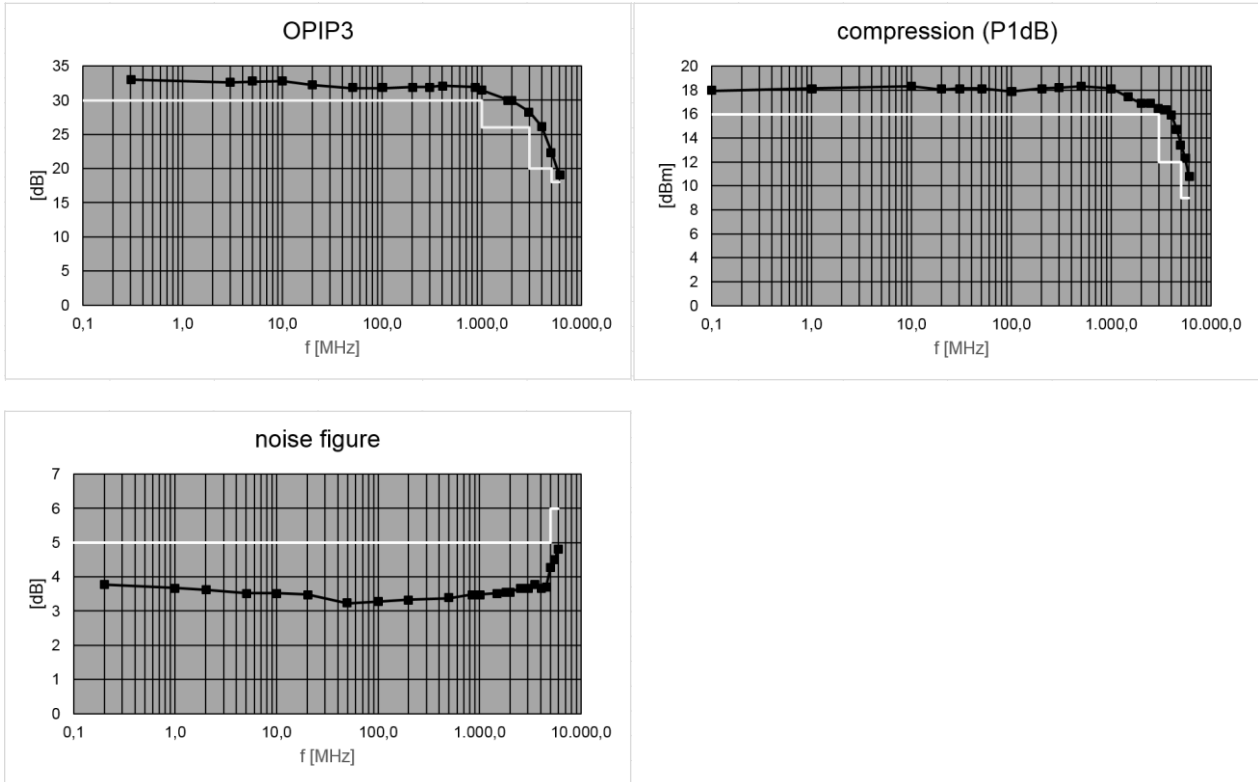
Note 1: tested at  $P_{OUT} 2 \times +4$  dBm**Common Specification**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	$U_{DC}$	9	12	14	V	DC
current consumption	$I_{12V}$		70		mA	@ 12V DC
dimensions	W x H x D	approx. 53 x 19 x 57			mm	
weight	m		50		g	
power socket	$X_{DC}$	Würth WR-TBL3251-2-3.5-W				
power plug	$X_{DCP}$	Würth WR-TBL3641-2-3.5				part of delivery
operating temp. range	$T_{AMB}$	5		+70	$^{\circ}$ C	module surface
storage temp. range	$T_s$	-40		+70	$^{\circ}$ C	
ordering information		AMP01600017			1604.5001.1	

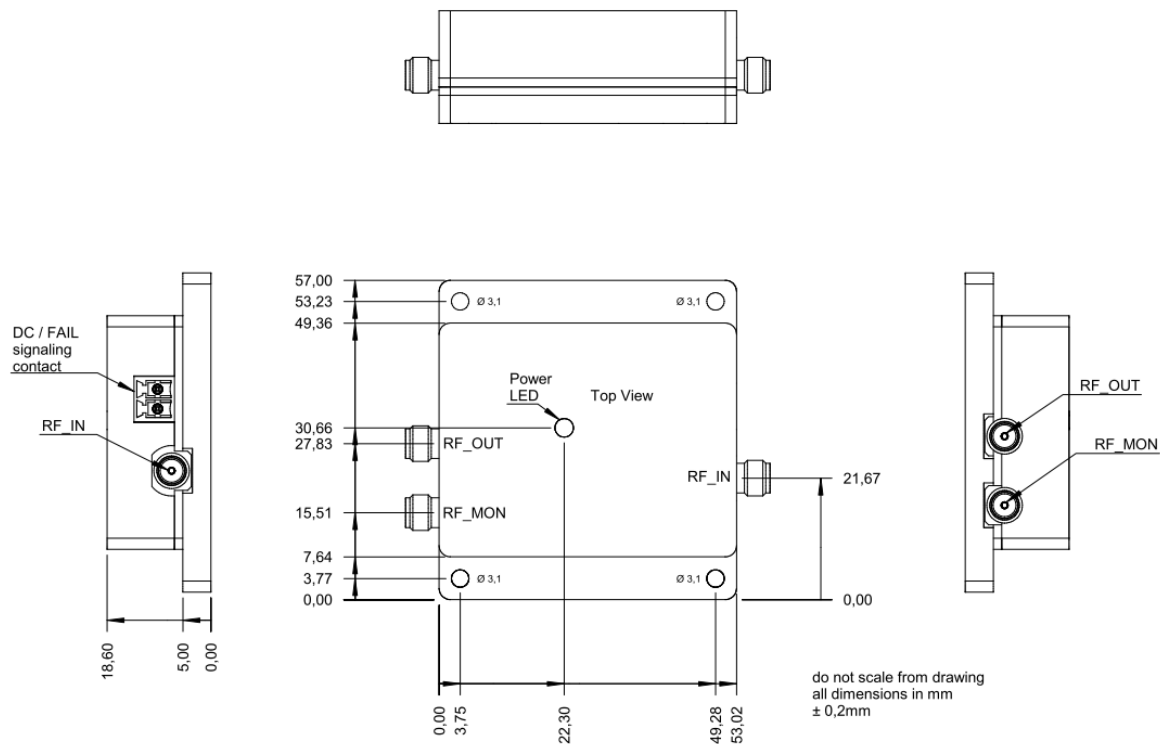


**S-Parameters (typical responses)**

## Dynamic Range (typical responses)



## Dimensions



**Related Products**

Product	Description	P/N
AMP1053043H	20 W Power Amplifier Module 10 ... 530 MHz	1001.5001.x
AMP2000600040L	13 W Power Amplifier Module 2000 ... 6000 MHz	1711.5001.1
AMP300600040L	10 W Power Amplifier Module 300 ... 6000 MHz	1801.5001.1
AMP20280035	4.5 W Wideband Amplifier Module 20 ... 2800 MHz	1209.5001.x
AMP3060036	4 W Ultra High Linearity, Full Redundant, Wideband Amplifier Module 30 ... 600 MHz with heat sink	1602.5001.1
AMP3060036L	4 W Ultra High Linearity, Full Redundant, Wideband Amplifier Module 30 ... 600 MHz for mounting on heat sink	1602.5001.2
AMP590033	2 W Booster Amplifier Module 5 ... 900 MHz	0901.5011.x
AMP590033H	2 W Amplifier Module 5 ... 900 MHz	0901.5001.x
AMP5170033	2 W Amplifier Module 5 ... 1700 MHz	1401.5011.1
AMP5220031	1 W High Dynamic Amplifier Module 5 ... 2200 MHz	1005.5101.x
AMP018032	1.3 W High Linearity Amplifier Module 100 kHz...80 MHz	1002.5701.x
AMP5270026	400 mW High Dynamic Amplifier Module 5 ... 2700 MHz	1005.5201.x
AMP10850026	400 mW Ultra Wideband Amplifier Module 10 ... 8500 MHz	1305.5001.x
LNA1080014	400 mW Low Noise Amplifier Module 10 ... 800 MHz	0901.5501.x
AMP01600017	50 mW High Dynamic Wideband Amplifier Module with Monitoring Port 100 kHz ... 6500 MHz	1604.5001.1

Remark: All modules with P/N extension with ".x" are available with horizontal or vertical orientated DC power connector.

