

AMP01800020+

50 mW High Dynamic Wideband Amplifier Module with Monitoring Port
 100 kHz ... 8000 MHz

Features

- output power +20 dBm typ.
- high level range
- OIP3 +35 dBm typ. @ 1 GHz
- internal voltage stabilizer
- optical supply indication
- internal bypass

Applications

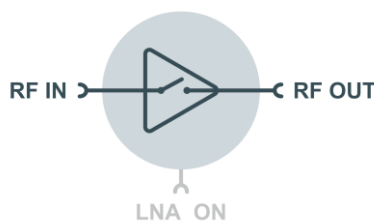
- RX amplifier
- laboratory
- test equipment



At a Glance

AMP01800020+ 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.

Principal Block Diagram



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 amplifier can be switched to an internal bypass with LNA OFF.

Rugged Design

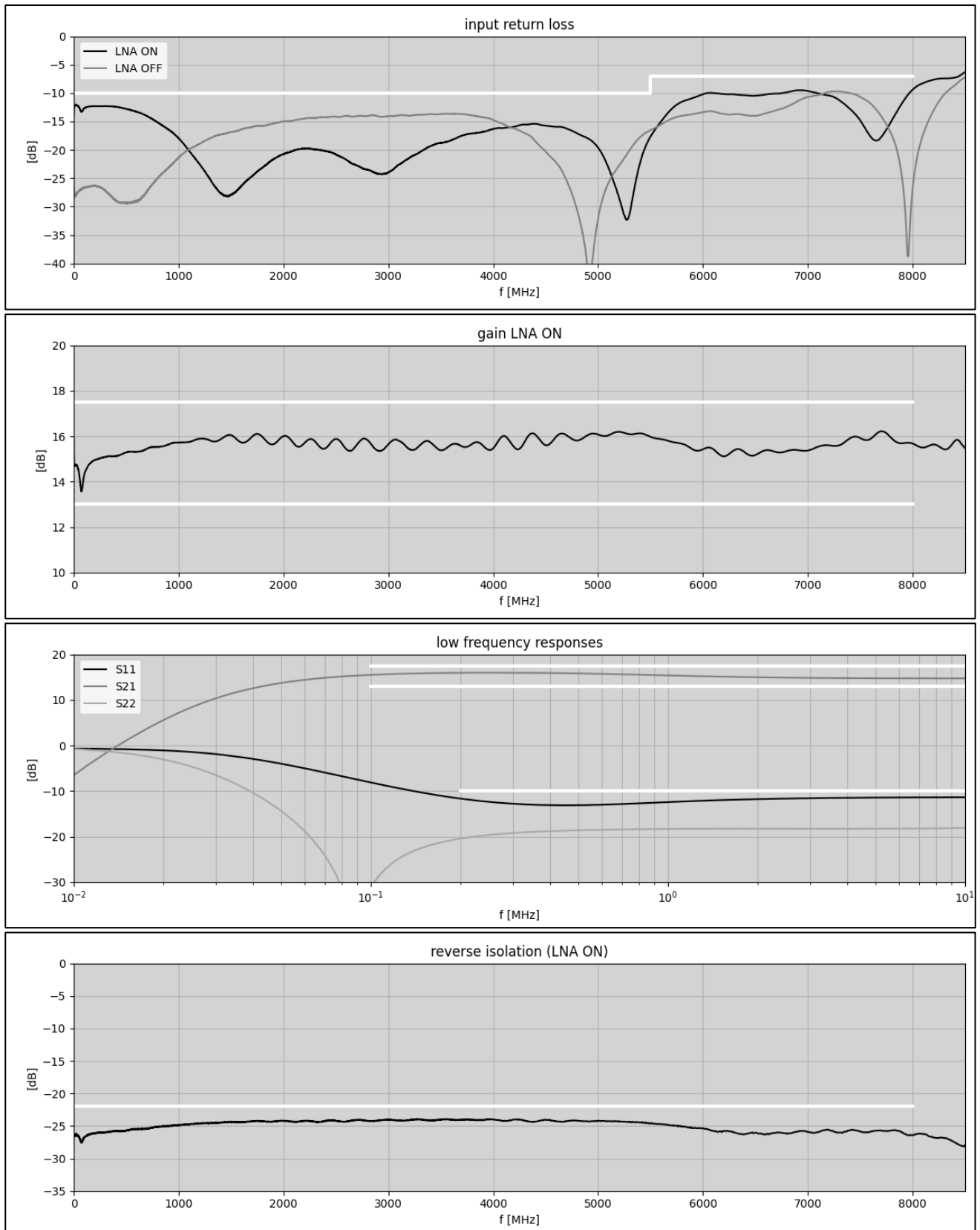
The amplifier is housed in a milled aluminum case. This saves the circuits against mechanical damage and gives best shielding for avoiding EMI influences caused by radio signals coming from the environment.

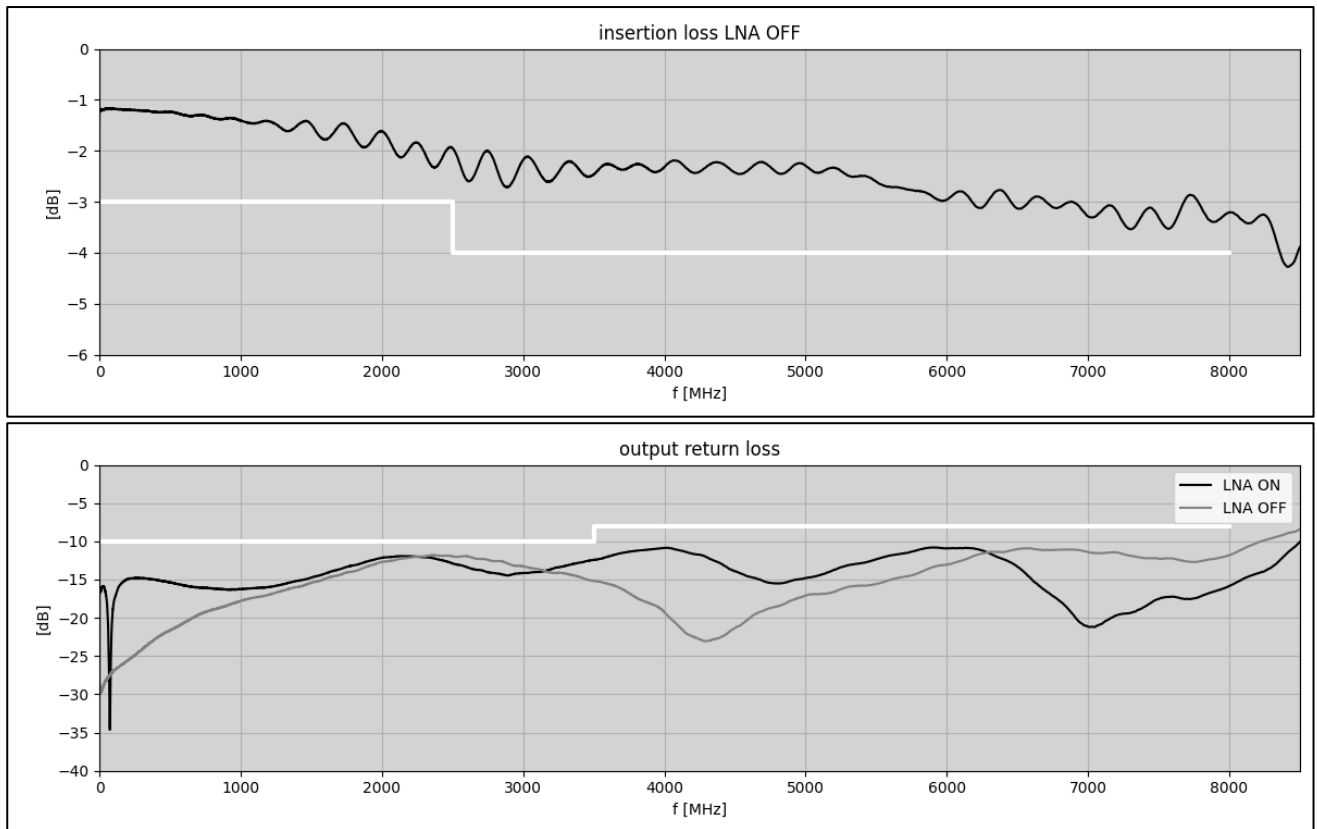
RF Specification

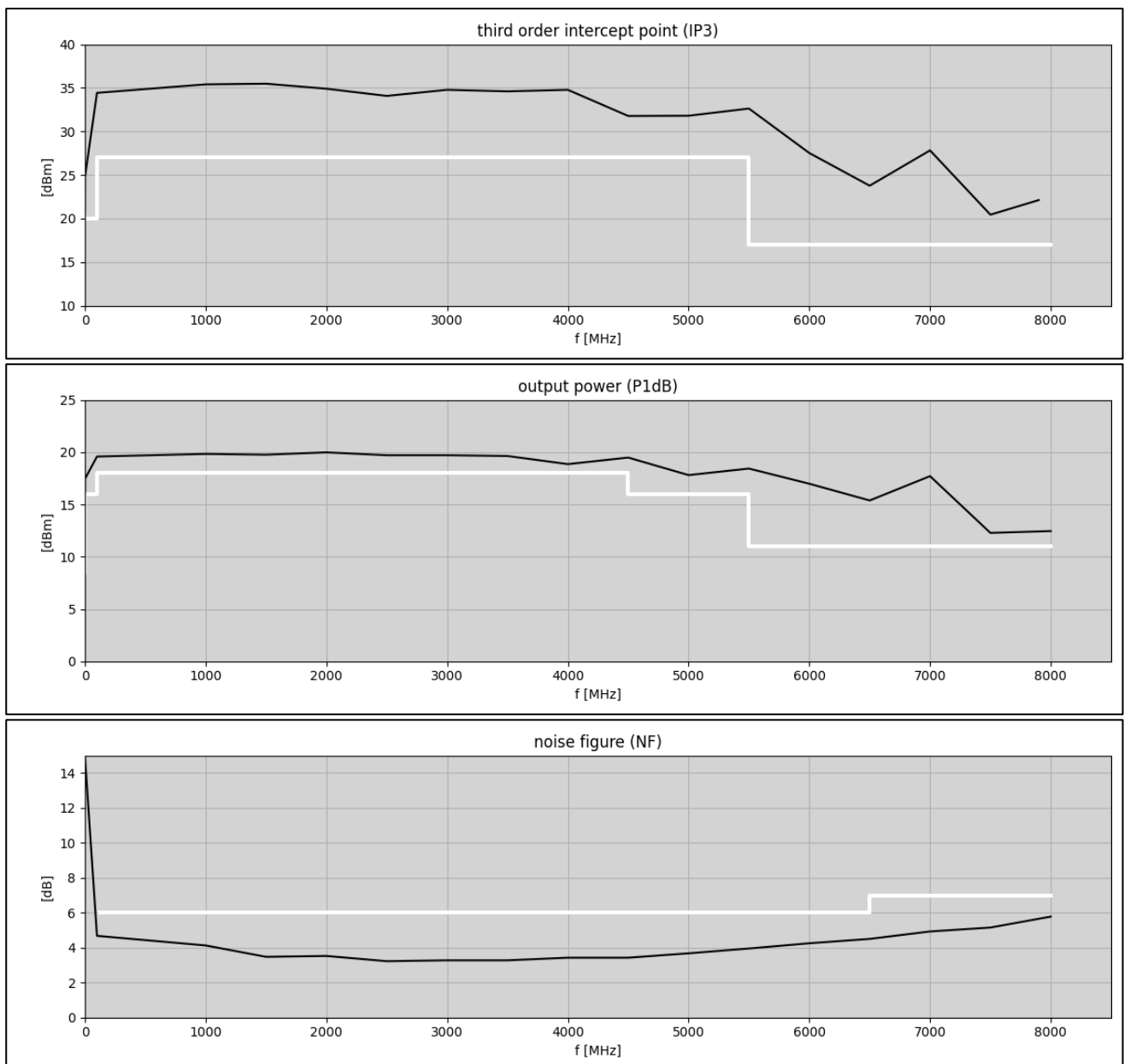
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ohm	
low frequency	f_{min}			100	kHz	
high frequency	f_{max}	8000			MHz	
gain	S_{21}	+13	+15	+17,5	dB	LNA ON
	S_{21}	-3	-2	0	dB	$f \leq 2.5$ GHz, LNA OFF
	S_{21}	-4	-3	0	dB	$f > 2.5$ GHz, LNA OFF
input return loss	S_{11}		-15	-10	dB	$200 \text{ kHz} \geq f \leq 5.5$ GHz
	S_{11}		-11	-7	dB	$f > 5.5$ GHz
output return loss	S_{22}		-15	-10	dB	$f \leq 3.5$ GHz
	S_{22}		-11	-8	dB	$f > 3.5$ GHz
reverse isolation	S_{12}		-24	-22	dB	
3 rd order intercept	OIP3	+20	+25		dBm	$f < 100$ MHz
	OIP3	+27	+35		dBm	$100 \text{ MHz} \geq f \leq 5.5$ GHz
	OIP3	+17	+20		dBm	$f > 5.5$ GHz
1 dB compression	P_{1dB}	+16	+17		dBm	$1 \text{ MHz} \geq f < 100$ MHz
	P_{1dB}	+18	+20		dBm	$100 \text{ MHz} \geq f \leq 4.5$ GHz
	P_{1dB}	+16	+18		dBm	$4.5 \text{ GHz} > f \leq 5.5$ GHz
	P_{1dB}	+11	+13		dBm	$f > 5.5$ GHz
noise figure	NF		4	6	dB	$100 \text{ MHz} \geq f \leq 6.5$ GHz
			5	7	dB	$f > 6.5$ GHz
maximum DC Voltage	U_{DC}				V	RF ports
ESD discharge resistors	R_{ESD}		4.7		k Ω	RF input / output
input power	P_{in}			+20	dBm	no damage
RF connectors		SMA female				

Common Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U_{DC}	12		24	V	DC
current consumption	I_{24V}		92		mA	LNA ON
dimensions	W x H x D	66 x 20 x 51			mm	
weight	m		150		g	
power socket	X_{DC}	Würth WR-TBL3251-3-3.5-W				
power plug	X_{DCP}	Würth WR-TBL3641-3-3.5				part of delivery
operating temp. range	T_{AMB}	5		+70	°C	module surface
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP01800020+			2410.5002.1		

S-Parameter (typical responses)





PIN Assignment

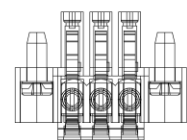
STATUS-signaling contact

PIN	Designation	Remark
1	+UB	DC supply voltage
2	GND	Ground
3	LNA_ON	+5 V LNA_ON 0V LNA_OFF, internal 10k Pullup



AMP header

PIN 1 2 3



fitting cable socket
e.g. WR-TBL 3641
691 364 100 003
(incl. accessory)

Related Products

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