

LNA1080014-T

400 mW Low Noise Amplifier Table Top Unit 10 ... 800 MHz

Features

- output power +28 dBm typ.
- high OIP3 +48 dBm typ.
- VLF suppression filter
- open/short stable
- AC mains supply

Applications

- VHF/ UHF preamplifier
- ISM
- laboratory
- test equipment



At a Glance

LNA1080014-T from Becker Nachrichtentechnik is a compact amplifier as table top unit in 50 Ohm technology. It is designed for the use in laboratory environments. 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. The amplifier offers a wide AC mains supply voltage range. The presence of AC power is indicated by a LED at the front side of the unit. Mounting feet are part of delivery.

Push Pull Technology

The internal wideband amplifier stages are designed in push-pull technology. This technology gives the amplifier high linearity performance and wider operation bandwidths. Compared with the linearity of single stage amplifiers the push-pull technology gives much better power efficiency with less heat generation.

Special Features

The highest IP2 and IP3 properties makes the device suitable in professional applications where weak RF signals in combination with very strong signals or digital modulated signals must amplified without any distortion effects. An integrated high pass filter in the input suppress unwanted signals in the VLF and HF range.

Tolerant to Mismatches

Using RF power transistors with enough head room to maximum ratings make the amplifier robust against reverse power and therefore robust against loads at the output which are not matched. The output of the amplifier is robust against open or short load at the output.

Rugged Design

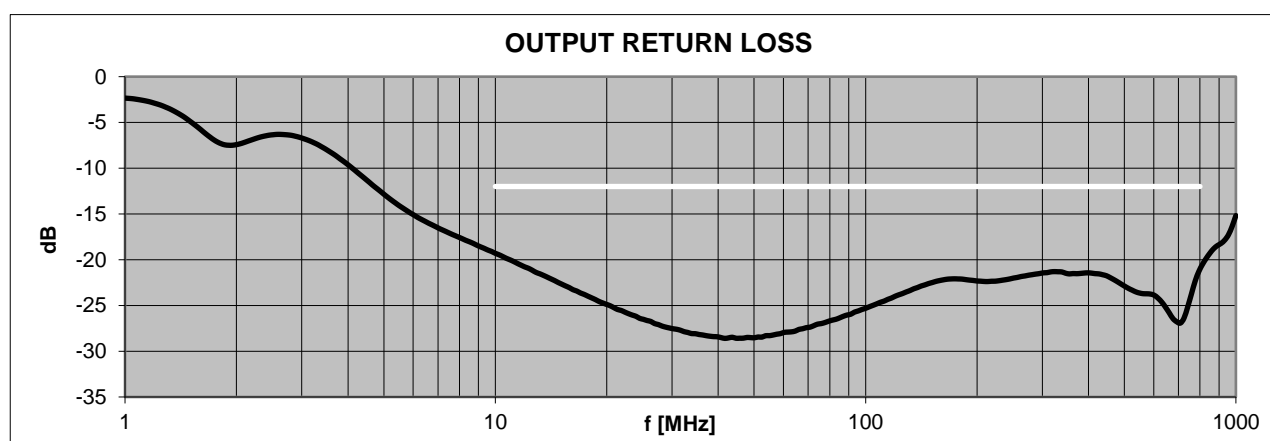
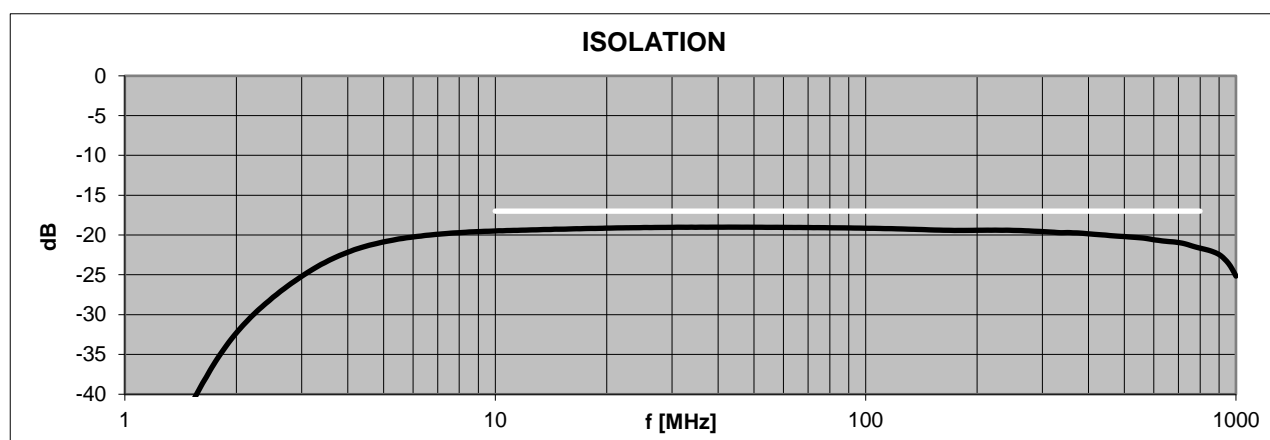
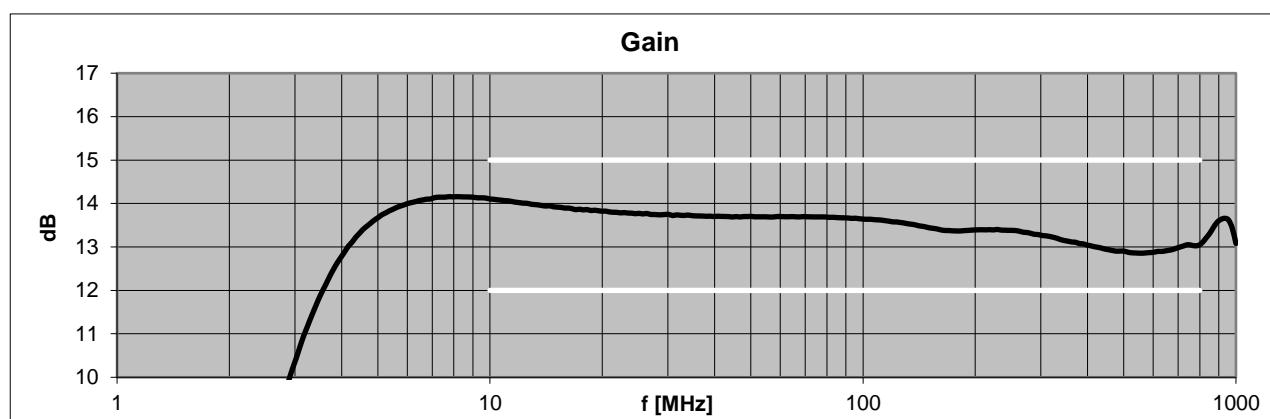
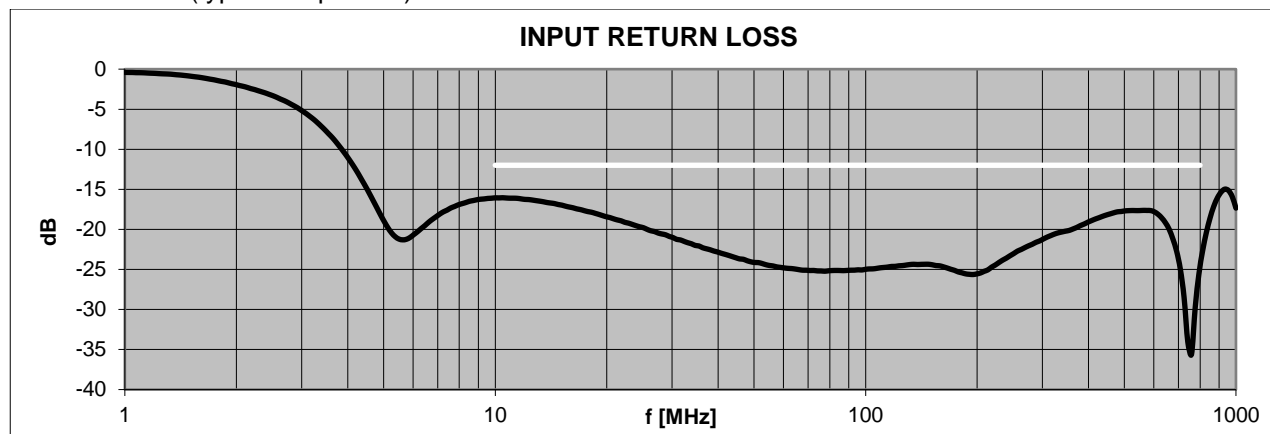
The amplifier unit has aluminum housing. The internal amplifier module additional is built in a milled aluminum case to give best shielding for avoiding EMI influences caused by radio signals coming from the environment. The RF connectors on the unit front side are N female type.

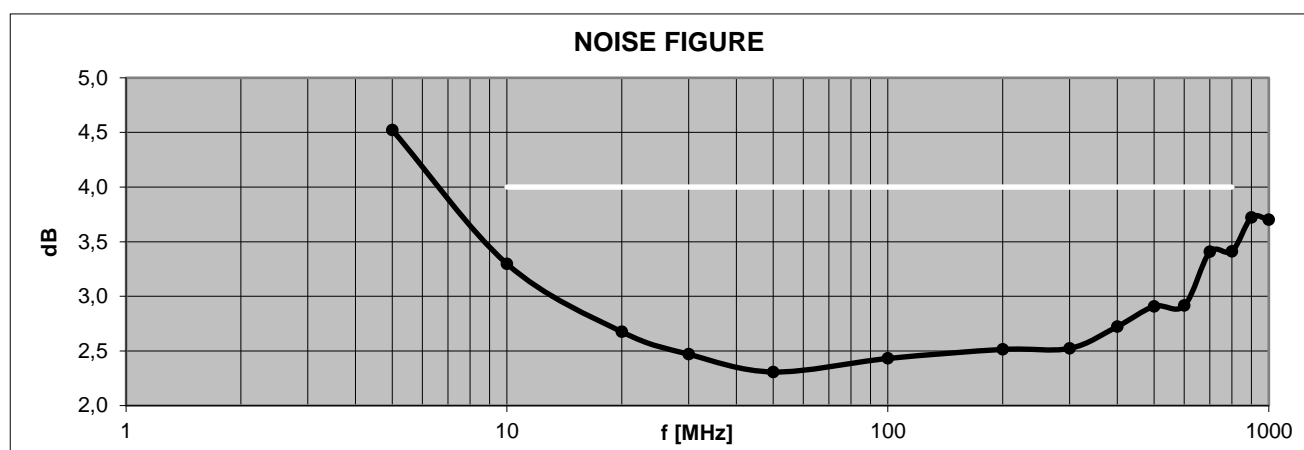
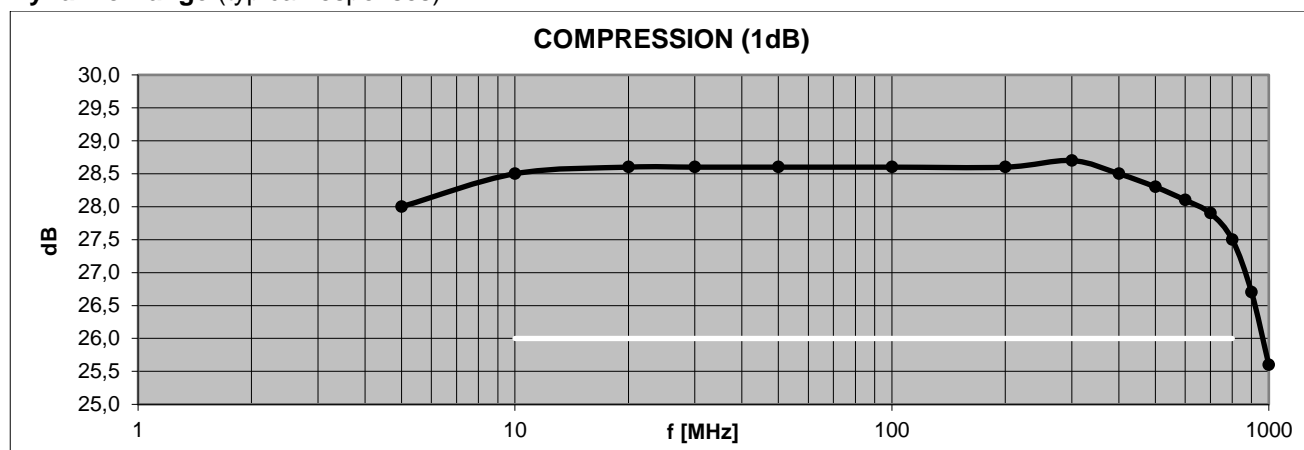
RF Specification

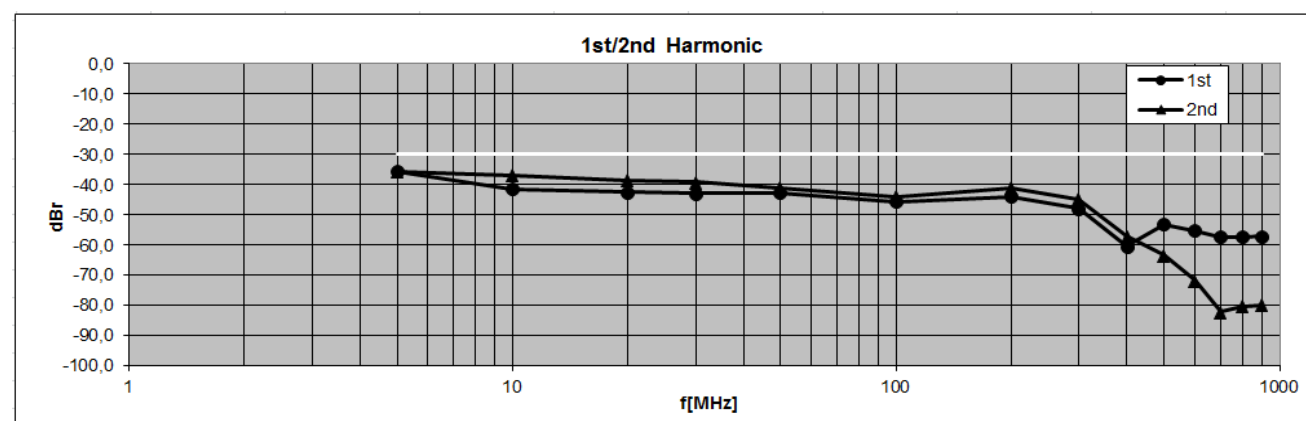
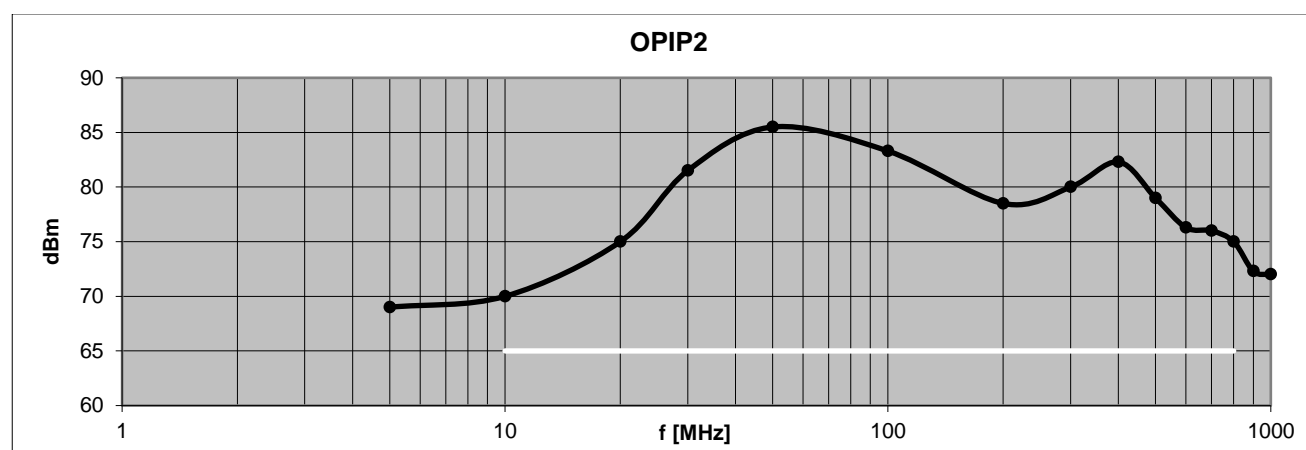
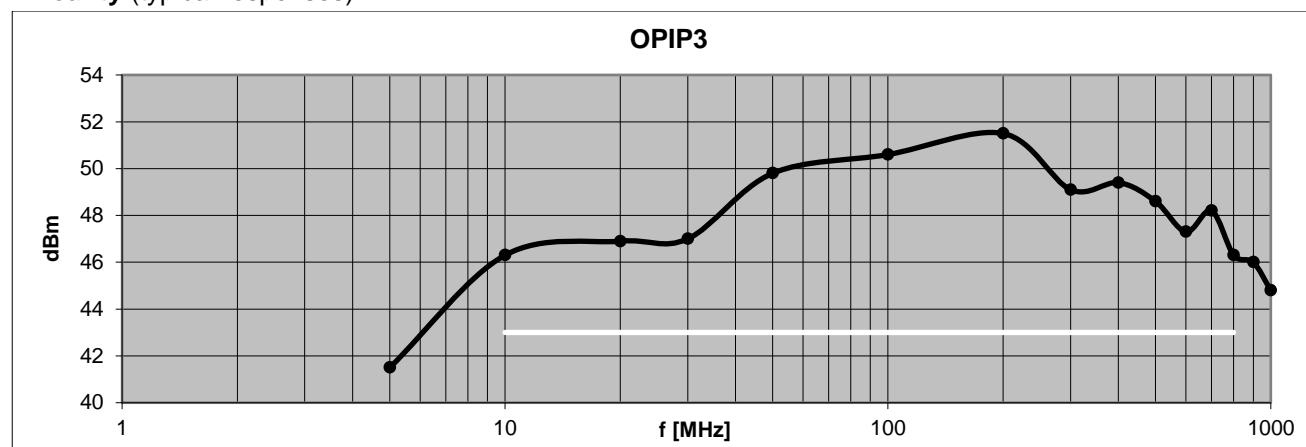
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{IN}/Z_{OUT}		50		Ω	
low frequency	f_{MIN}		5	10	MHz	
high frequency	f_{MAX}	800	1000		MHz	
gain	S_{21}	12.0	13.5	15.0	dB	
gain ripple	ΔS_{21}		± 0.6	± 1.0	dB	
VLF suppression	S_{21}			-70	dB	@ 100 kHz, rel. 100 MHz
	S_{21}			-25	dB	@ 1 MHz, rel. 100 MHz
input return loss	S_{11}		-20	-12	dB	
output return loss	S_{22}		-23	-12	dB	
reverse isolation	S_{12}		-19	-17	dB	
1 dB compression	P_{1dB}	+26	+28		dBm	
3 rd order intercept	$OIP3^1$	+43	+48		dBm	
2 nd order intercept	$OIP2^1$	+65	+80		dBm	
noise figure	NF		2.5	4.0	dB	
maximum input power	$P_{in\ max}$			+20	dBm	output terminated with 50 ohms
maximum DC Voltage	U_{DC}			20	V	RF ports
ESD discharge resistor	R_{ESD}		4.7		k Ω	RF input
RF connectors	X_{RF}	N female				

Note 1: Tested at P_{IN} 2 x 0 dBm; Δf = 1 MHz**Common Specification**

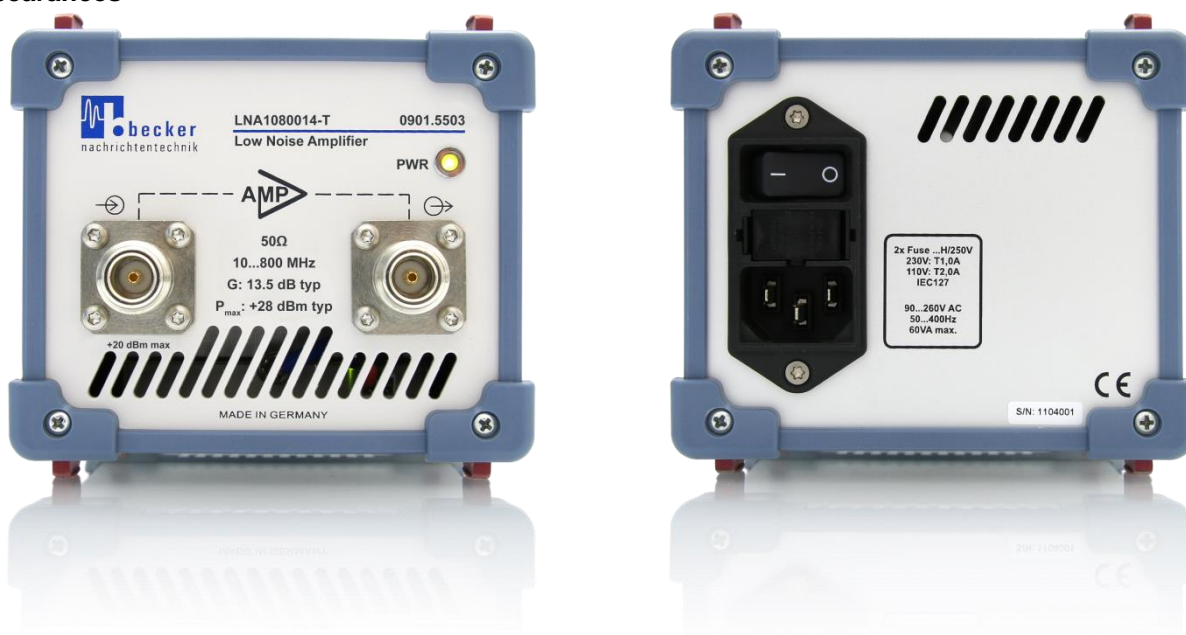
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply	U_{AC}	90		260	V	AC, 50 ... 400 Hz
power consumption	P_{AC}		12		W	
power socket	X_{AC}	IEC-60320 C14				country specific power cable
dimensions	W x H x D	approx. 115 x 100 x 190			mm	without connectors
weight	m		1.5		kg	
operating temp. range	T_o	+5		+40	°C	housing surface
storage temp. range	T_s	-40		+70	°C	
ordering information	LNA1080014-T			0901.5503.1		

S-Parameters (typical responses)

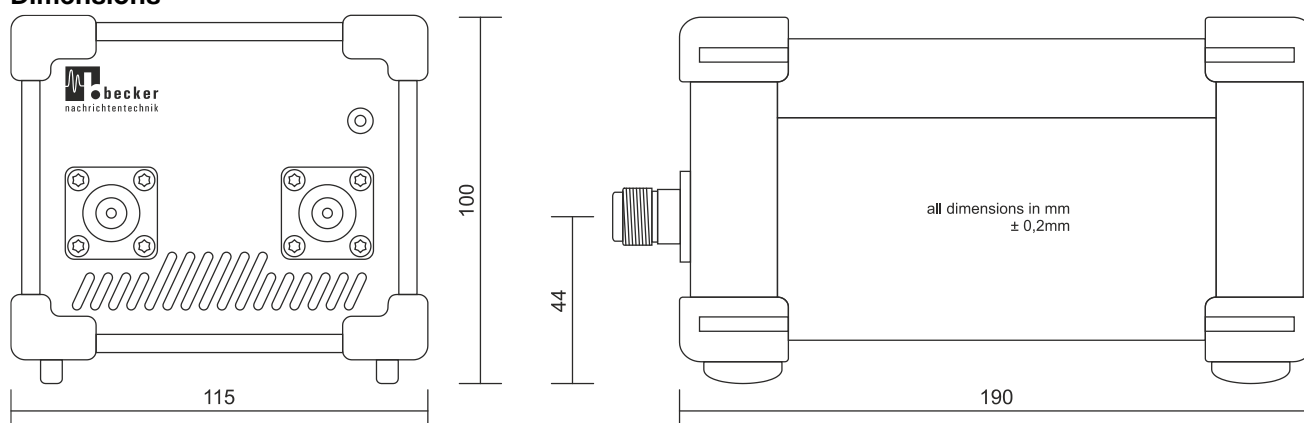
Dynamic Range (typical responses)

Linearity (typical responses)

Appearances



Dimensions



Related Products

Product	Description	P/N
AMP20280035B-T	4.5 W Wideband Amplifier Table Top Unit 20 ... 2800 MHz	1209.5203.1
AMP590033-T	2 W Booster Amplifier Table Top Unit 5 ... 900 MHz	0901.5013.1
AMP590033H-T	2 W Amplifier Table Top Unit 5 ... 900 MHz	0901.5003.1
AMP5220031-T	1 W High Dynamic Range Amplifier Table Top Unit 5 ... 2200 MHz	1005.5103.1
AMP5270026-T	400 mW High Dynamic Amplifier Table Top Unit 5 ... 2700 MHz	1005.5203.1
AMP018032-T	1.3 W High Linearity Table Top Unit 100 kHz...80 MHz	1002.5703.1
LNA1080014-T	400 mW Low Noise Amplifier Table Top Unit 10 ... 800 MHz	0901.5503.1
AMP40100034-R	4 W Wideband Amplifier 19" Device 40 ... 1000 MHz	1209.5002.1
AMP5220031H-R	1 W High Dynamic TX Amplifier 19" Device 5 ... 2200 MHz	1404.5102.1
AMP101800030-R	1 W Ultra-Wideband Linear Amplifier 19" Device 10 ... 18000 MHz	2106.5002.1
AMP20280035B-R	4.5 W Wideband Amplifier 19" Device 20 ... 2800 MHz	1209.5202.1
AMP590033H-R	2 W Power Amplifier 19" Device 5 ... 900 MHz	0901.5002.1
AMP018032-R	1.3 W High Linearity Amplifier 19" Device 100 kHz ... 80 MHz	1002.5702.1