

9kHz-110GHz SERIES SOLID STATE POWER AMPLIFIER

Performance:

- ◆ Frequency range: 9kHz-110GHz
- ◆ Saturated power: 0.1-200Watts
- ◆ Small signal gain: 20-50dB
- ◆ mismatch & thermal protection
- ◆ Spatial power combining technology
- ◆ Working state locking
- ◆ Working temperature display
- ◆ Remote control
- ◆ Open loop/internal stability optional



General Description:

The 387XX is a broadband solid state amplifier series. It is designed to have broad bandwidth, high gain, high power, wide dynamic range, low spurious signals and extremely load tolerant. These features enable the amplifier to be used as a suited test instrument covering multiple frequency bands. It is suitable for applications such as electronic counter measurement, antenna testing, laboratory instrumentation, and electromagnetic compatibility /electromagnetic interference test, as well as narrower band applications like radar, microwave imaging, and satellite communications, etc.

The 387XX amplifier series incorporates the patented spatial power combining. It has a LCD output power displaying screen, a single rotary gain adjusting knob, a power on/off switch and menu assigned softkeys on the front panel to offer extensive control.

Introduction of Front and Rear Panels:

Front Panel:

1. Output Power Display Screen

The instrument uses a liquid crystal screen. It is available for output power display.

2. RF Input & Output Connectors

The RF Input & output connectors are used to import and export RF signals.

3. Gain Tuning Knob

The gain is variable up to 50 dB by tuning the gain knob on the front panel.

4. Setting Wizard Button

By setting the displaying frequency to the actual working frequency, users can improve precision of the output power.

5. Working Switch

The yellow indicating lamp is bright when the machine is in the standby state. When the power supply switch is pressed, the green indicator is light, which indicates that the instrument is in working state.

Rear Panel:**1. Power On/Off Switch**

DC power is connected to the instrument and the instrument is ready to function after pressing the working switch.

2. Remote control interface

The Ethernet interface and GPIB interface in the rear panel can achieve remote control of the instrument. By connecting the net to the computer, we can achieve power calibration and output power setting.

Product Series Table:

The 387XX amplifier series is comprised of seven models which have different working frequency bands. All the models and their typical performance data are as follows:

Number	Type	Frequency (GHz)	Gain (dB)	P1dB (dBm)	Psat (dBm)
1	3871AD	9kHz~250MHz	54	50	51
2	3871AE	9kHz~250MHz	56	52	53
3	3871AH	80MHz~1GHz	54	50	51
4	3871AK	80MHz~1GHz	56	52	53
5	3871AA	1~2.5	53	47	50
6	3871AP	1~2.5	55	49	52
7	3871AB	1~6	48	37	45
8	3871AS	0.5~6	50	40	47
9	3871AT	0.5~6	53	43	50
10	3871AU	0.5~6	55	45	52
11	3871DA	6~18	46	41	43
12	3871DB	6~18	50	40	47
13	3871DC	6~18	53	42	50
14	3871DD	6~18	56	43	53
15	3871DE	2~18	53	43	50
16	3871EA	18~26.5	44	38	41
17	3871EB	18~26.5	49	38	46
18	3871EC	18~26.5	53	42	50
19	3871FA	26~32	43	36	40

20	3871FB	32~40	43	36	40
21	3871FC	24~30	50	37	46
22	3871FD	37~43	50	37	46
23	3871FE	26.5~40	43	33	40
24	3871FF	26.5~40	49	36	46
25	3871FG	26.5~40	53	40	50
26	3871HA	40~47	40	35	37
27	3871LA	40~60	30	30	33
28	3871LB	40~67	30	24	27
29	3871NC	50~75	40	30	33
30	3871PB	75~110	25	18	22

Typical Performance Data:

3871AD	Min	Typ	Max	Units
Frequency Range	0.009~250			MHz
Gain	54	-	-	dB
P-1dB Output Power	50	-	-	dBm
Saturated Output Power	51	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AE	Min	Typ	Max	Units
Frequency Range	0.009~250			MHz
Gain	56	-	-	dB
P-1dB Output Power	52	-	-	dBm
Saturated Output Power	53	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			

Connectors	N (f)
Input Voltage	220V/50Hz

3871AH	Min	Typ	Max	Units
Frequency Range	80~1000			MHz
Gain	54	-	-	dB
P-1dB Output Power	50	-	-	dBm
Saturated Output Power	51	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AK	Min	Typ	Max	Units
Frequency Range	80~1000			MHz
Gain	56	-	-	dB
P-1dB Output Power	52	-	-	dBm
Saturated Output Power	53	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AA	Min	Typ	Max	Units
Frequency Range	1~2.5			GHz
Gain	53	-	-	dB
P-1dB Output Power	47	-	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			

Input Voltage	220V/50Hz
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3871AP	Min	Typ	Max	Units
Frequency Range	1~2.5			GHz
Gain	55	-	-	dB
P-1dB Output Power	49	-	-	dBm
Saturated Output Power	52	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AB	Min	Typ	Max	Units
Frequency Range	1~6			GHz
Gain	48	-	-	dB
P-1dB Output Power	37	-	-	dBm
Saturated Output Power	45	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AS	Min	Typ	Max	Units
Frequency Range	0.5~6			GHz
Gain	50	-	-	dB
P-1dB Output Power	40	-	-	dBm
Saturated Output Power	47	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AT	Min	Typ	Max	Units
Frequency Range	0.5~6			GHz
Gain	53	-	-	dB
P-1dB Output Power	43	-	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871AU	Min	Typ	Max	Units
Frequency Range	0.5~6			GHz
Gain	55	-	-	dB
P-1dB Output Power	45	-	-	dBm
Saturated Output Power	52	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871DA	Min	Typ	Max	Units
Frequency Range	6~18			GHz
Gain	46	-	-	dB
P-1dB Output Power	41	-	-	dBm
Saturated Output Power	43	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871DB	Min	Typ	Max	Units
Frequency Range	6~18			GHz
Gain	50	-	-	dB
P-1dB Output Power	40	-	-	dBm
Saturated Output Power	47	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871DC	Min	Typ	Max	Units
Frequency Range	6~18			GHz
Gain	53	-	-	dB
P-1dB Output Power	42	-	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871DD	Min	Typ	Max	Units
Frequency Range	6~18			GHz
Gain	56	-	-	dB
P-1dB Output Power	43	-	-	dBm
Saturated Output Power	53	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871DE	Min	Typ	Max	Units
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Frequency Range	2~18			GHz
Gain	53	-	-	dB
P-1dB Output Power	43	-	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	N (f)			
Input Voltage	220V/50Hz			

3871EA	Min	Typ	Max	Units
Frequency Range	18~26.5			GHz
Gain	44	-	-	dB
P-1dB Output Power	38	-	-	dBm
Saturated Output Power	41	42	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×500mm			
Connectors	3.5mm (m)			
Input Voltage	220V/50Hz			

3871EB	Min	Typ	Max	Units
Frequency Range	18~26.5			GHz
Gain	49	-	-	dB
P-1dB Output Power	38	-	-	dBm
Saturated Output Power	46	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	WR42			
Input Voltage	220V/50Hz			

3871EC	Min	Typ	Max	Units
Frequency Range	18~26.5			GHz

Gain	53	-	-	dB
P-1dB Output Power	42	-	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Harmonics@P1dB	10	20	-	dBc
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	WR42			
Input Voltage	220V/50Hz			

3871FA	Min	Typ	Max	Units
Frequency Range	26~32			GHz
Gain	43	-	-	dB
P-1dB Output Power	36	-	-	dBm
Saturated Output Power	40	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

3871FB	Min	Typ	Max	Units
Frequency Range	32~40			GHz
Gain	43	-	-	dB
P-1dB Output Power	36	-	-	dBm
Saturated Output Power	40	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

3871FC	Min	Typ	Max	Units
Frequency Range	24~30			GHz
Gain	50	-	-	dB
P-1dB Output Power	37	-	-	dBm
Saturated Output Power	46	-	-	dBm

Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

3871FD	Min	Typ	Max	Units
Frequency Range	37~43			GHz
Gain	50	-	-	dB
P-1dB Output Power	37	-	-	dBm
Saturated Output Power	46	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

3871FE	Min	Typ	Max	Units
Frequency Range	26.5~40			GHz
Gain	43	-	-	dB
P-1dB Output Power	33	38	-	dBm
Saturated Output Power	40	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

3871FF	Min	Typ	Max	Units
Frequency Range	26.5~40			GHz
Gain	49	-	-	dB
P-1dB Output Power	36	38	-	dBm
Saturated Output Power	46	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			

Connectors	WR28
Input Voltage	220V/50Hz

3871FG	Min	Typ	Max	Units
Frequency Range	26.5~40			GHz
Gain	53	-	-	dB
P-1dB Output Power	40	38	-	dBm
Saturated Output Power	50	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×222mm×550mm			
Connectors	WR28			
Input Voltage	220V/50Hz			

3871HA	Min	Typ	Max	Units
Frequency Range	40~47			GHz
Gain	40	-	-	dB
P-1dB Output Power	35	-	-	dBm
Saturated Output Power	37	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	2.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	2.4mm (m)			
Input Voltage	220V/50Hz			

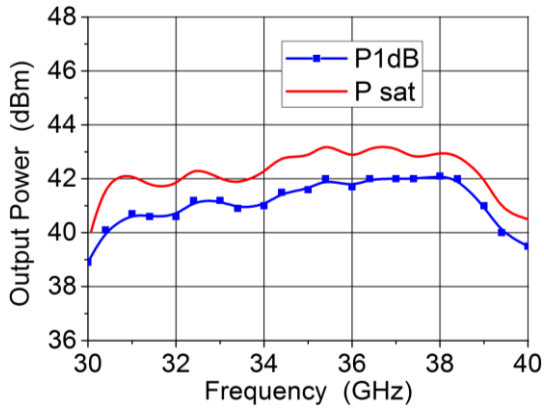
3871LA	Min	Typ	Max	Units
Frequency Range	40~60			GHz
Gain	30	-	-	dB
P-1dB Output Power	30	-	-	dBm
Saturated Output Power	33	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	3.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	1.85mm (m)			
Input Voltage	220V/50Hz			

3871LB	Min	Typ	Max	Units
Frequency Range	40~67			GHz
Gain	30	-	-	dB
P-1dB Output Power	24	-	-	dBm
Saturated Output Power	27	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	3.0	-
Spurious@P1dB	-	40	-	dBc
Dimensions	426mm×176mm×450mm			
Connectors	1.85mm (m)			
Input Voltage	220V/50Hz			

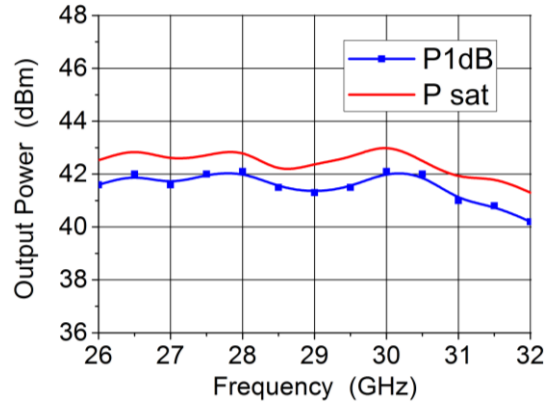
3871NC	Min	Typ	Max	Units
Frequency Range	50~75			GHz
Gain	40	-	-	dB
P-1dB Output Power	30	-	-	dBm
Saturated Output Power	33	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	3.0	-
Dimensions	426mm×176mm×450mm			
Connectors	WR15			
Input Voltage	220V/50Hz			

3871PB	Min	Typ	Max	Units
Frequency Range	75~110			GHz
Gain	25	-	-	dB
P-1dB Output Power	18	-	-	dBm
Saturated Output Power	22	-	-	dBm
Maximum Input Power	-	-	0	dBm
Input VSWR	-	-	3.0	-
Dimensions	426mm×176mm×450mm			
Connectors	WR10			
Input Voltage	220V/50Hz			

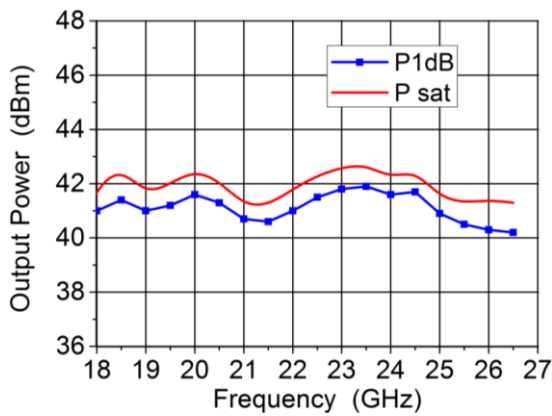
Typical Performance Plots: (Conditions: $T_a=25^{\circ}\text{C}$)



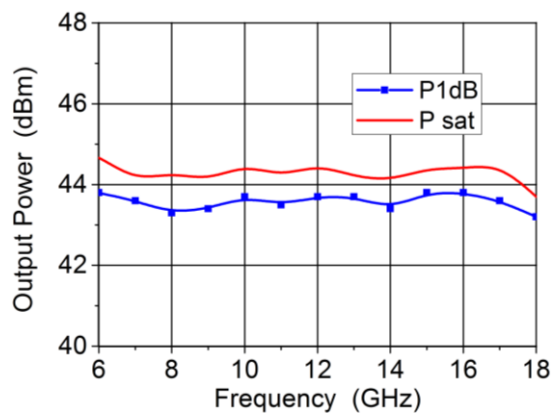
3871FB Output Power (dBm) VS. Freq (GHz)



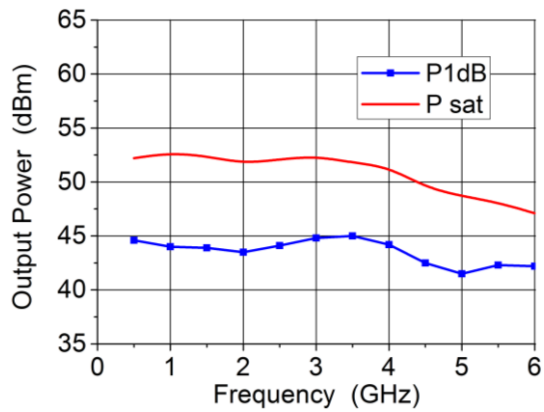
3871FA Output Power (dBm) VS. Freq (GHz)



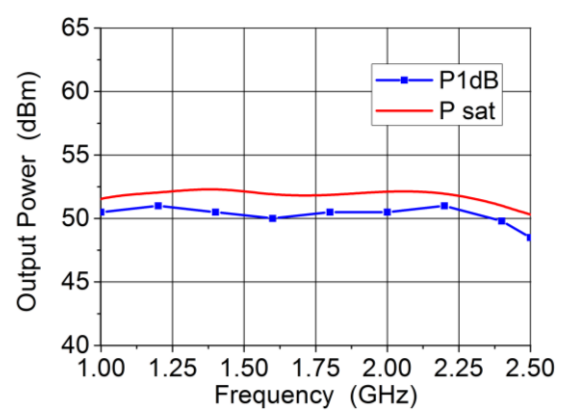
3871EA Output Power (dBm) VS. Freq (GHz)



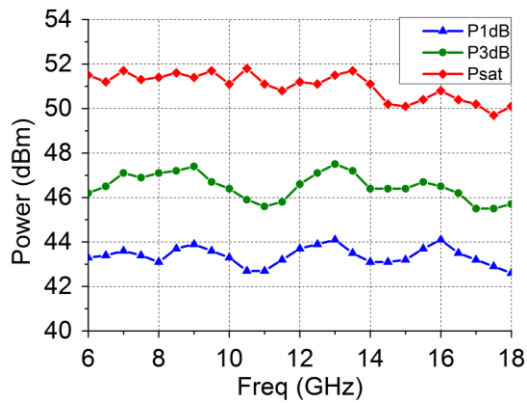
3871DA Output Power (dBm) VS. Freq (GHz)



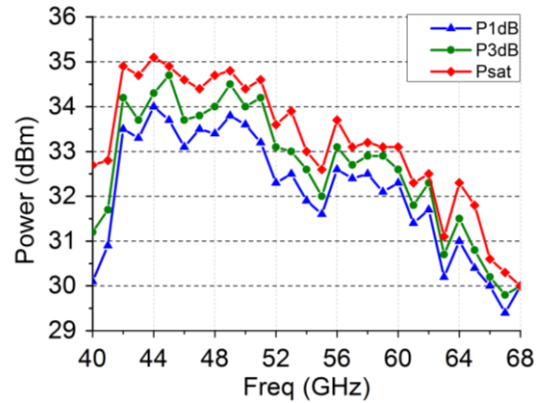
3871AB Output Power (dBm) VS. Freq (GHz)



3871AA Output Power (dBm) VS. Freq (GHz)



3871DC Output Power (dBm) VS. Freq (GHz)



3871LB Output Power (dBm) VS. Freq (GHz)

Important information:

All the information provided herein is believed to be reliable at press time and shall be entirely at the users' own risk. Prices and specifications are subject to change without notice. No patent rights or licenses to any of the products described herein are implied or granted to any third party.

Support Services:

For 3871XX amplifier series, we have RF and microwave instrumentation sales engineers and factory support personnel to help you find the best and most economical instrument for your specific applications. Besides this, our staff can provide quotations, assist you in placing orders, and do everything necessary to ensure that your business transactions with 3871XX are handled efficiently. We believe and commit ourselves in providing you with more than our superior test solutions.

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