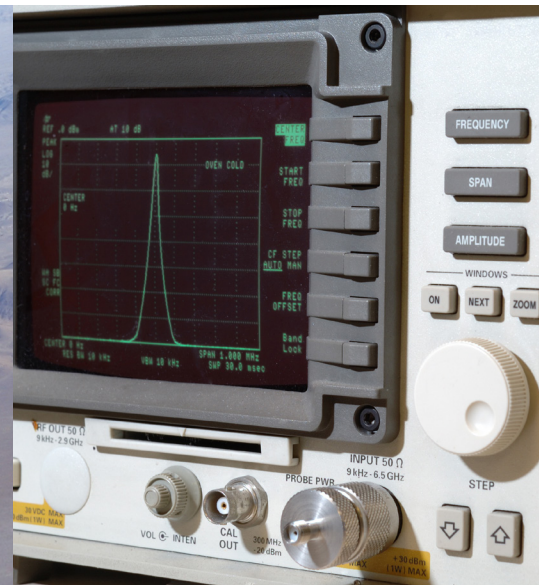
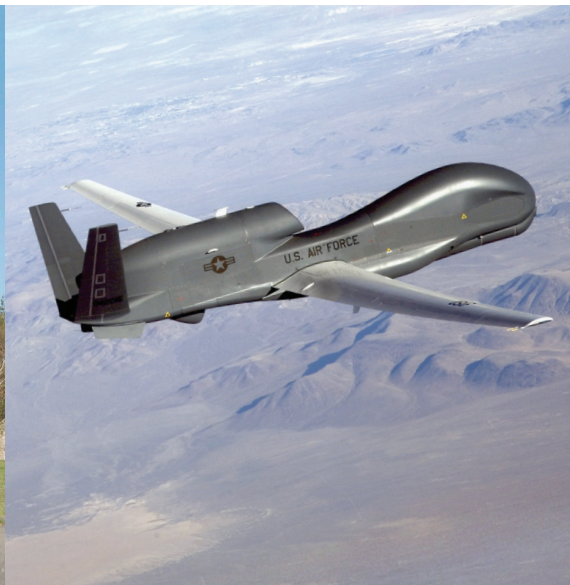


Achieve Peak Performance with Microsemi MMICs



DC-65 GHz

Broadband Amplifiers and Modules

Low-Noise Amplifiers

Power Amplifiers

Prescalers and Frequency Detectors

Switches

Attenuators

MMIC Selection Guide

Microsemi's portfolio of MMIC products targets a broad range of applications including electronic warfare, radars, instrumentation (test and measurement), and microwave communications. The portfolio is comprised of broadband amplifiers (both power and low-noise), amplifier modules, prescalers, attenuators, and switches spanning DC to 65 GHz based on high-performance process technologies. Microsemi offers a large number of distributed amplifier products, including industry-leading MMICs. Microsemi's prescalers combine higher frequency operation, the flexibility to divide by a large number of ratios, and very good residual phase noise.

Broadband Amplifiers

Part Number	Function	Frequency (GHz)	Gain (dB)	NF (dB)	OIP3 (dBm)	P1dB (dBm)	Bias	Package
MMA053AA	Distributed PA	DC–6	17	3	43	31	11 V, 420 mA	Die
MMA053PP5	Distributed PA	DC–6	16	4	41	29	11 V, 420 mA	5 × 5 QFN
MMA043AA	Wideband LNA	0.5–12	16.5	1.4 at 7 GHz	29	17	5 V, 55 mA	Die
MMA043PP4	Wideband LNA	0.5–12	14	2	28	17	5 V, 55 mA	4 × 4 QFN
MMA015AA	Wideband amp	0.1–14	14	2.6 at 10 GHz	29 ³	19 ³	4 V, 80 mA ¹	Die
MMA016AA	Wideband amp	0.1–16	14.5	2.6 at 10 GHz	29 ³	19 ³	4 V, 80 mA ¹	Die
MMA044AA	Wideband LNA	6–18	21	1.7 at 12 GHz	30	17	4 V, 102 mA	Die
UA5M15MP	Distributed amp	5–18	13	6.5 at 10 GHz	28 ³	18 ³	5 V, 130 mA ¹	3 × 3 QFN
MMA044PP3	Wideband LNA	6–18	17	2	28	14	4 V, 100 mA	3 × 3 QFN
MMA040PP5	Distributed LNA	DC–20	14	2.5	23	13	8 V, 60 mA	5 × 5 QFN
MMA041PP5	Distributed LNA	DC–20	18	2.5	35	21	8 V, 160 mA	5 × 5 QFN
MMA021AA	Distributed amp	5–20	15.5	5.5 at 10 GHz	28 ³	18 ³	5 V, 135 mA ¹	Die
MMA041AA	Distributed LNA	DC–26	18	3.2 at 13 GHz	35	22	8 V, 160 mA	Die
MMA040AA	Distributed LNA	DC–28	16.5	2.5 at 10 GHz	27	16	8 V, 60 mA	Die
MMA022AA	Distributed LNA	DC–30	17	2.5	29 ³	19 ³	8 V, 200 mA ¹	Die
MMA025AA	Distributed LNA	DC–30	17	2.5 at 15 GHz	29 ³	19 ³	8 V, 200 mA ¹	Die
MMA026AA	Distributed LNA	DC–30	10.5	4.5 at 20 GHz	29 ³	19 ³	8 V, 190 mA ¹	Die
MMA023AA	Distributed amp	DC–30	17	3.0 at 10 GHz	32 ³	22 ³	8 V, 250 mA ¹	Die
MMA024AA	Distributed amp	DC–30	10.5	5.5 at 20 GHz	31 ³	21 ³	8 V, 250 mA ¹	Die
MMA027AA	Distributed amp	DC–30	11	2.5 at 20 GHz	24 ³	14 ³	4.5 V, 85 mA ¹	Die
UAS3LK	Distributed amp	DC–35	19		29 ³	19 ³	5 V, 180 mA ¹	7 × 7 QFN ²
MMA030AA	Distributed LNA	DC–45	11.5	2.5 at 20 GHz	24 ³	14 ³	4.5 V, 85 mA ¹	Die
MMA029AA	Distributed amp	DC–45	11	4.5 at 20 GHz	29 ³	19 ³	8 V, 190 mA ¹	Die
MMA031AA	Distributed amp	DC–45	10	5.5 at 20 GHz	26.5 ³	16.5 ³	8 V, 250 mA ¹	Die
MMA032AA	Distributed amp	DC–45	10.5	5.5 at 20 GHz	31 ³	21 ³	8 V, 250 mA ¹	Die
MMA033AA	Distributed amp	DC–45	11	3.0 at 20 GHz	25.5 ³	15.5 ³	7.5 V, 85 mA ¹	Die
MMA036AA	Distributed LNA	DC–65	11	2.3 at 20 GHz	24 ³	14 ³	4.5 V, 85 mA ¹	Die
MMA034AA	Distributed amp	DC–65	10.5	5.5 at 20 GHz	31 ³	21 ³	8 V, 250 mA ¹	Die
MMA035AA	Distributed amp	DC–65	11	4.5 at 20 GHz	28 ³	18 ³	8 V, 190 mA ¹	Die

1. Power can be selected by choosing on-chip source resistor; 2. hermetic package; 3. the selected bias point may be changed to modify this parameter.

Achieve Peak Performance with Microsemi MMICs

Prescalers and Frequency Detectors

Part Number	Function	Frequency (GHz)	Pout (dBm)	10 kHz SSB Noise (dBc/Hz)	Pdiss (W)	Package
UXN14M9P	/8 to /511, programmable all integers	DC-14	4	-147	1.1	6 × 6 QFN
UXN14M32K	/1 to $(2^{32}-1)$ programmable	DC-15	4	-150	0.30-0.80	4 × 4 ceramic
UXM15P	/2/4/8 or /4/5/6/7/8/9 programmable	DC-15	5	-153	0.6	4 × 4 QFN
MX1DS10P	/2 to /220 programmable	DC-15	-4	-153	1.4	6 × 6 QFN
UXC20P	/2/4/8 programmable	DC-20	5	-153	0.5	4 × 4 QFN
UXD20P	/1/2/4/8 programmable	DC-20	5	-153	0.43	4 × 4 QFN
UXD20K	/1/2/4/8 programmable	DC-26.5	5	-153	0.43	4 × 4 ceramic
UXN40M7K	/1 to /127 programmable, all integers	0.5-40	2	-153	0.75	4 × 4 ceramic
PFD1K	8 GHz phase frequency detector with dual 40 GHz prescalers	DC-40	0.4 V _{P-P}	-153	1.32	6 × 6 ceramic

Switches

Part Number	Function	Frequency (GHz)	Insertion Loss (dB)	Isolation (dB)	Input P1dB (dBm)	Control Voltage	Package
MMS008AA	SP4T non-reflective	DC-8	1.6	45	28	0/-5 V	Die
MMS008PP3	SP4T non-reflective	DC-8	1.5	44	29	0/-5 V	3 × 3 QFN
MMS006AA	SP2T non-reflective	DC-20	2	40	24	0/-5 V	Die
MMS006PP3	SP2T non-reflective	DC-20	2	42	23	0/-5 V	3 × 3 QFN

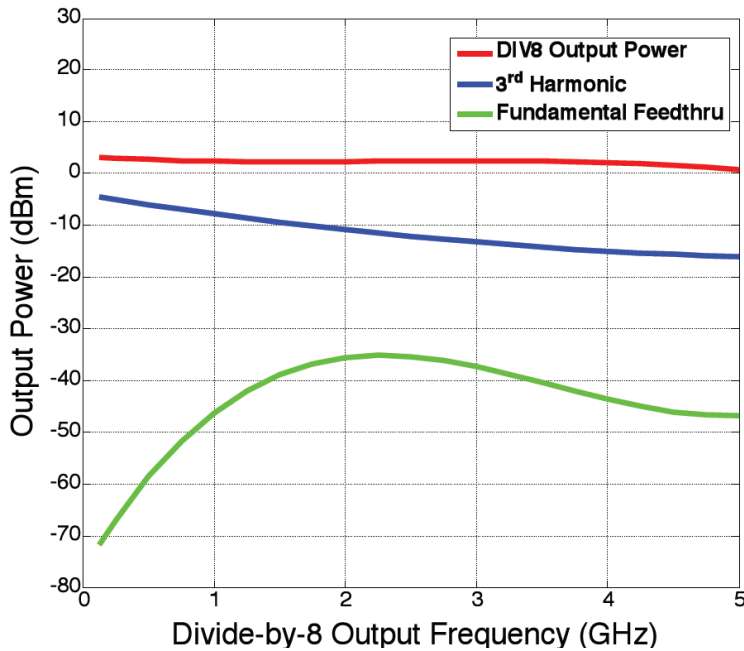
Voltage Variable Attenuators

Part Number	Function	Frequency (GHz)	Insertion Loss (dB)	Dynamic Range (dB)	Return Loss (dB)	Input P1dB (dBm)	Package
MMS005AA	Analog VVA	DC-40	3	17	10	8	Die
MMS004AA	Analog VVA	DC-50	5	27	12	3	Die

Achieve Peak Performance with Microsemi MMICs

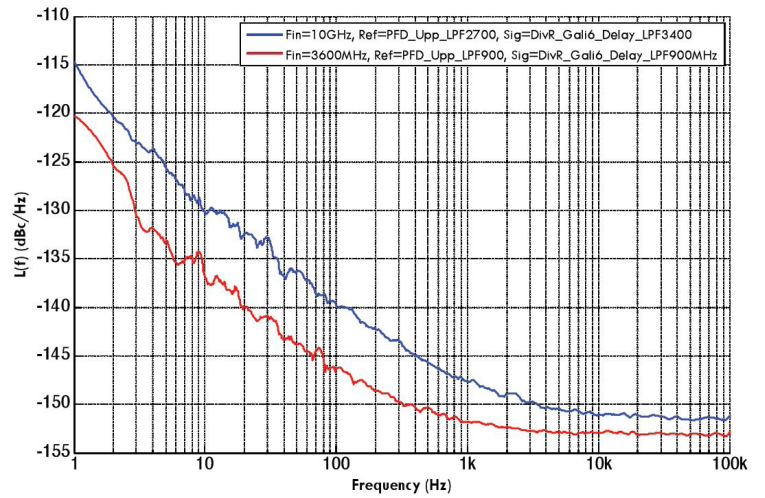
UXN40M7K

/1 to /127 40 GHz
Programmable Integer
Divider



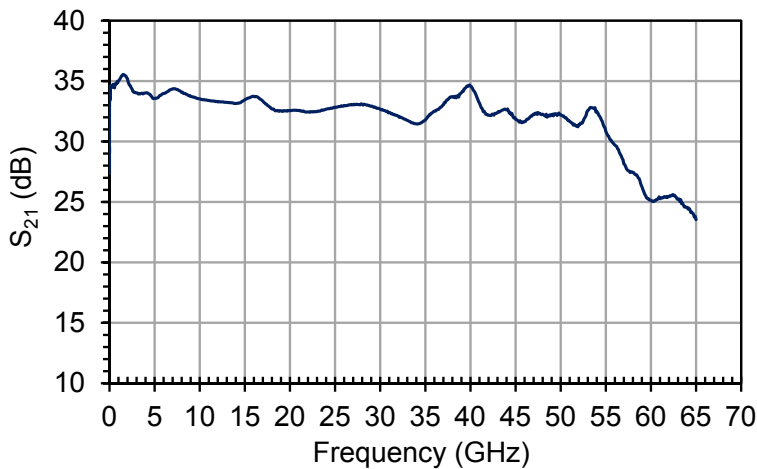
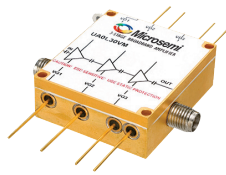
PFD1K

8 GHz Phase Frequency
Detector with Dual 40 GHz
Prescalers



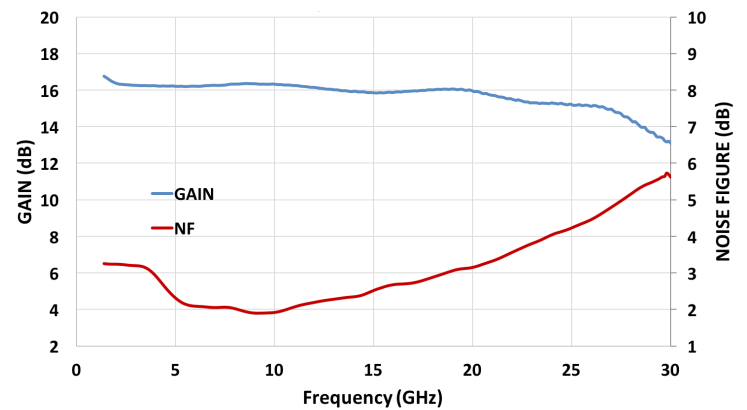
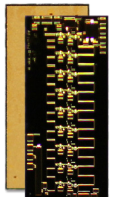
UA0L65VM

DC-65 GHz Wideband
Amplifier Module



MMA040AA

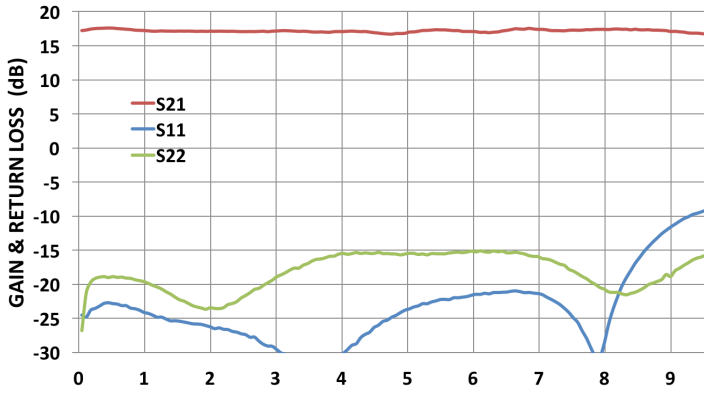
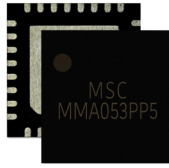
DC-28 GHz Distributed LNA



Achieve Peak Performance with Microsemi MMICs

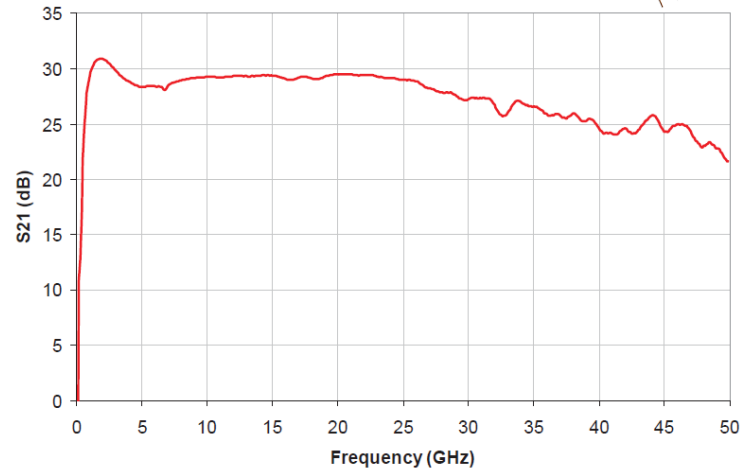
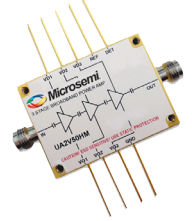
MMA053PP5

DC–8 GHz Distributed
Power Amplifier



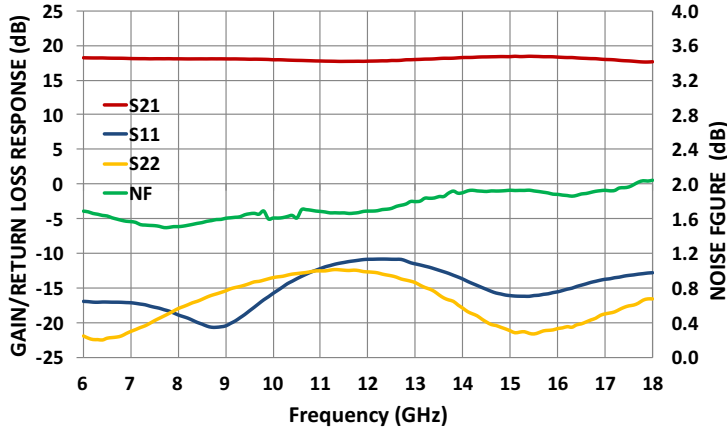
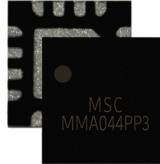
UA2V50HM

2 GHz–50 GHz High-Gain
Power Amplifier Module



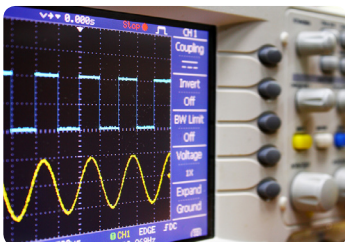
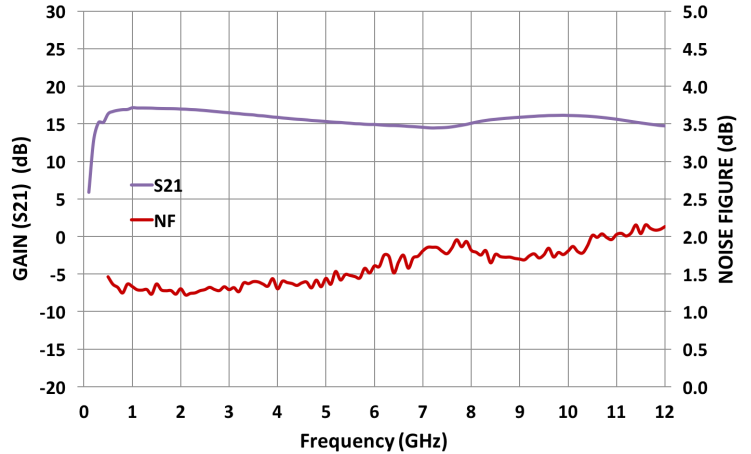
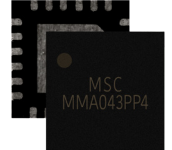
MMA044PP3

6 GHz–18 GHz
Wideband LNA



MMA043PP4

0.5 GHz–12 GHz
Wideband LNA

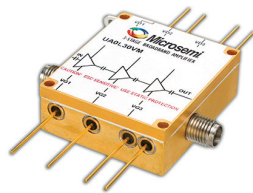


MMIC Selection Guide

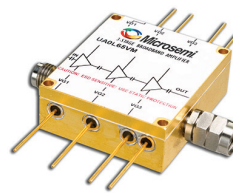
Wideband Amplifier Modules

Part Number	Frequency (GHz)	Gain (dB)	Gain Flatness (dB)	NF (dB)	Psat (dBm)	Bias	Connector
UA0L30VM	0.0001–30	33	±2	4.5 at 15 GHz	23	7 V, 475 mA	2.92 mm “K”
UA0U50HM	0.01–50	25	±3	10.0 at 30 GHz	22–30	7 V, 1800 mA	2.4 mm
UA2V50HM	2–50	23–30	±4	10.5 at 30 GHz	22–30	7 V, 1800 mA	2.4 mm
UA2V50LM	2–50	18	±4.5		22–30	6 V, 1600 mA	2.4 mm
UA0L65VM	0.0001–65	23–35		5.2 at 30 GHz	22	7 V, 475 mA	2.4 mm

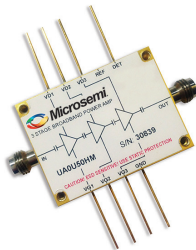
Note: Contact sales for additional connector options and bias board information.



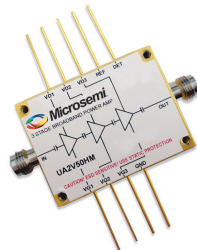
UA0L30VM



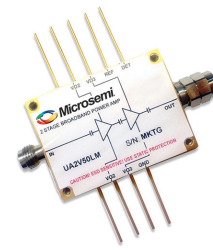
UA0L65VM



UA0U50HM



UA2V50HM



UA2V50LM



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