

# High Performance MMICs

2020 MMIC  
Selection  
Guide

**MACOM**<sup>™</sup>  
*Partners from RF to Light*

[www.macom.com](http://www.macom.com)

For over 65 years, MACOM’s design and applications experts have spearheaded innovation in the RF, microwave, and millimeterwave domain—developing the industry’s broadest portfolio of MMICs and components, spanning the entire RF signal chain. Leveraging advanced proprietary technologies, including GaAs, AlGaAs, SiGe, SOI, and Silicon, MACOM’s heterogeneous semiconductor and packaging strategy ensures that each individual RF system function is fully optimized to deliver maximum performance at the appropriate cost. MACOM remains firmly committed to delivering true competitive advantage to our customers, providing superior technology, expertise, cost structures, and supply chains—without compromises.



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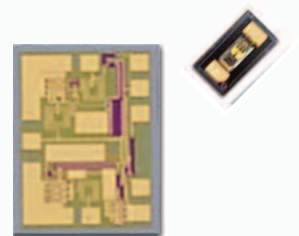
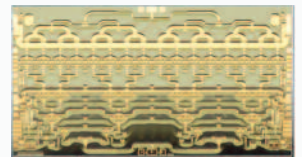
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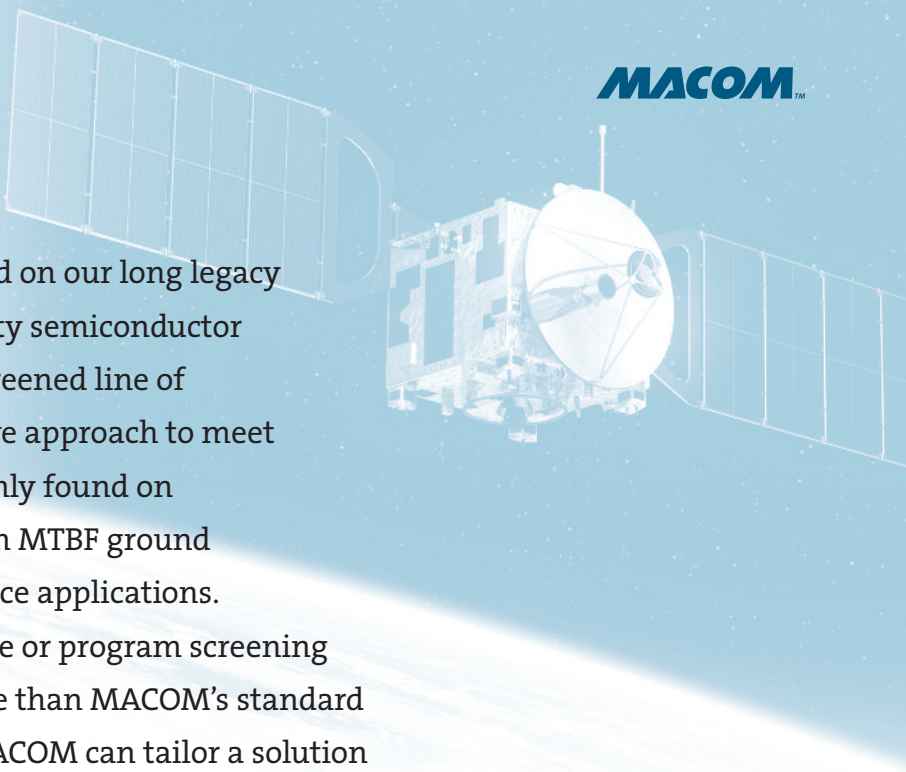
1 The products listed herein are subject to US Export Controls set forth by the Arms Export Control Act and the Export Administration Act.



MACOM provides bare die offerings for many of our MMIC products. Our on-wafer DC and RF test capability allow us to deliver known good die to our customers to be used in module chip and wire assemblies. MACOM is capable of delivering bare die product from our DoD-trusted Lowell foundry to support ITAR customers, as well as commercial applications from our external foundry partners.

Electronic wafer mapping, automated pick and place, and automated optical inspection to MIL-STD-883 ensures a fully compliant die is delivered to our customers, whether in gel or waffle packs, or full wafers on tape.





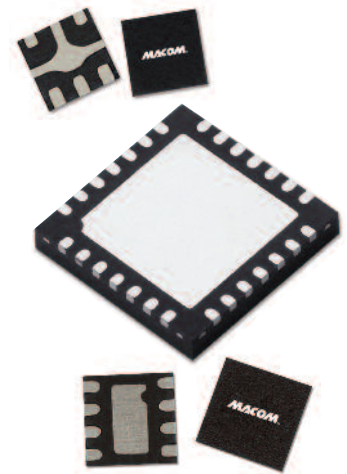
MACOM continues to build on our long legacy of providing high reliability semiconductor products. Our standard screened line of RF and microwave effective approach to meet the requirements commonly found on airborne applications, high MTBF ground based equipment, and space applications.

When system performance or program screening requirements call for more than MACOM's standard catalog screened parts, MACOM can tailor a solution by taking a standard catalog device, assembling with proven assembly processes and tailoring a custom screening program that can be created by either adding screening options or by generating a program specific sequence.

Depending upon the product, equivalent screening requirements supported are:

- > MIL-PRF-38534
- > MIL-PRF-38535
- > MIL-PRF-19500

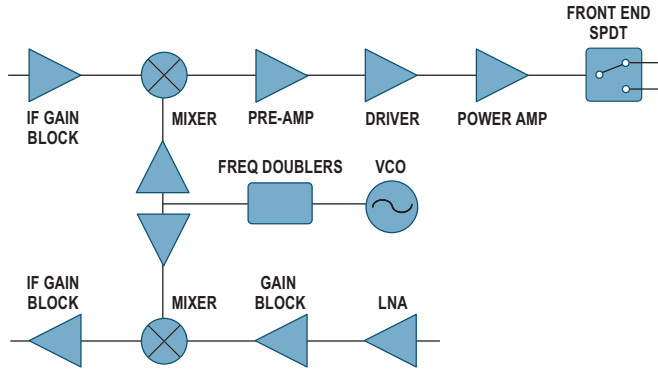
All utilize the test methods defined in MIL-STD-883 and MIL-STD-750.



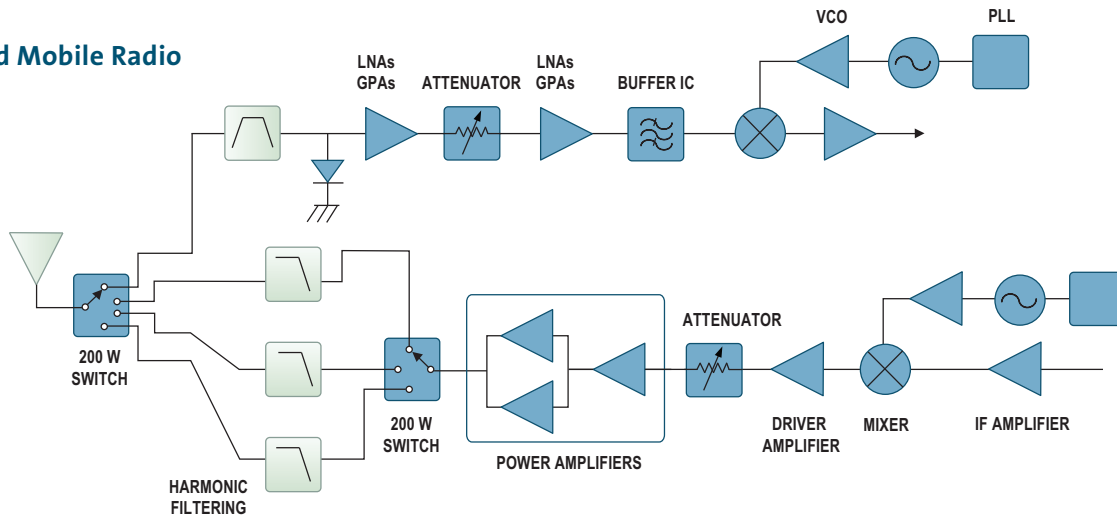
# Application Block Diagrams

MACOM provides the fundamental building blocks to enable your diverse and complex applications. Our broad portfolio of products supports a wide variety of applications ranging from RF to Light. For a complete list of application block diagrams please visit: [www.macom.com](http://www.macom.com)

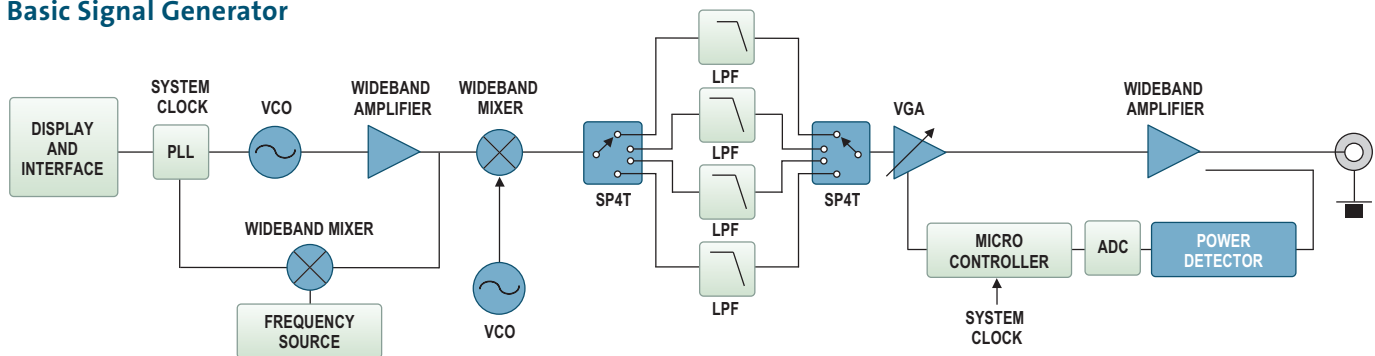
## Basic SATCOM



## Basic Land Mobile Radio



## Basic Signal Generator



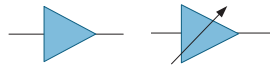
## Recently Released

Part Number	Description	Part Category	Applications
MAAT-010521-L2	Attenuator, 5-40 GHz, 3 mm PQFN-16 Id, Redesign	Attenuator	PtP / Infrastructure
MAAD-011035-DIE	5-bit, 1.0 dB LSB, GaAs DSA, DC-30 GHz, Bare Die	Attenuator	ISM / MM, T&M
MAAD-011036-DIE	6-bit, 0.5 dB LSB, GaAs DSA, DC-30 GHz, Bare Die	Attenuator	ISM / MM, T&M
MAAD-011035	5-bit, 1.0 dB LSB, GaAs DSA, DC-30 GHz	Attenuator	ISM / MM, T&M
MAAD-011036	6-bit, 0.5 dB LSB, GaAs DSA, DC-30 GHz	Attenuator	ISM / MM, T&M
MADR-010269-DIE	Driver, Hex FET, Ser/Par with Translator	Controller	A&D
MAAL-011151	Amplifier, Low Phase Noise, 2-18 GHz, 5 mm PQFN-32	Low Phase Noise Amplifier	A&D
MAAL-011151-DIE	Amplifier, Low Phase Noise, 2-18 GHz, Bare Die	Low Phase Noise Amplifier	DGB, DGB, EW
MAMX-011035	Mixer, Double Balanced, 5.5-19 GHz, 3 mm QFN-12	Mixer	ISM / MM
MAMX-011044	Mixer, Image-Reject, 2.5-9 GHz, 4 mm QFN-24	Mixer	ISM / MM
MAMX-011040	Mixer, Image Reject, 6-28 GHz, 4 mm QFN-24	Mixer	ISM / MM, T&M
MAMX-011043	Mixer, Image Reject, 15-45 GHz, 4 mm QFN-24	Mixer	ISM / MM, T&M
MAMX-011040-DIE	Mixer, 6-28 GHz, Image Reject, Die	Mixer	ISM / MM, T&M
MAMF-011069	LNA Switch Module, 2.455-2.655 GHz	Multi-Function MMIC / Module	5G Infrastructure
MAMF-011119	Module, Switch LNA, 2.3-4.2 GHz	Multi-Function MMIC / Module	5G Infrastructure
MAPS-010163-DIE	Phase Shifter, 1.4-2.4 GHz, Bare Die	Phase Shifter	ISM / MM
MAPS-010164-DIE	Phase Shifter, 2.3-3.8 GHz, Bare Die	Phase Shifter	ISM / MM
MAPS-010165-DIE	Phase Shifter, 3.5-6 GHz, Bare Die	Phase Shifter	ISM / MM
MAAP-118260-DIE	Power Amplifier, 1 W, 18-26 GHz, Bare Die	Power Amplifier & Driver	SATCOM
MAAP-011316	Power Amplifier, 2 W, 27.5-31 GHz, 5 x 5 mm AQFN	Power Amplifier	SATCOM
MAAP-011317	Power Amplifier, 4 W, 27.5-31 GHz, 5 x 5 mm AQFN	Power Amplifier	ISM / MM, T&M
MAAP-011313	Power Amplifier, 13.5-15 GHz, 4 W, 5 mm QFN	Power Amplifier	ISM / MM, T&M
MAAP-011291-DIE	Power Amplifier, 1 W, 20-45 GHz, 2.5 mm x 3.2 mm	Power Amplifier	5G, T&M
MAAP-011250	Power Amplifier, 27.5-30 GHz, 4 W, 5 mm AQFN-32	SATCOM PA & Driver	ISM / MM, General Purpose
MAAP-011289	Power Amplifier, 3W, Ka-Band, 5 mm AQFN-32	SATCOM PA & Driver	SATCOM
MAAP-011298	Power Amplifier, Ka-Band, 2.3 W, 5 mm AQFN-32	SATCOM PA & Driver	PtP / Infrastructure, VSAT
MASW-011128-DIE	Switch, SPDT, DC-26.5 GHz, Non-Reflective	SPDT	SATCOM
MAAM-011238	Amplifier, DC-50 GHz	Wideband Amplifier	ISM / MM, T&M
MAAM-011238-DIE	Amplifier, DC-67 GHz, Bare Die	Wideband Amplifier	ISM / MM, T&M
MAAM-011275-DIE	Amplifier, DC-40 GHz, High Gain, Bare Die	Wideband Amplifier	ISM / MM, T&M
MAAM-011286-DIE	Amplifier, DC-40 GHz, High Gain, Bare Die	Wideband Amplifier	T&M
MAAM-011277-DIE	Amplifier, 20-45 GHz, 20 dB Gain, 0.25 W	Wideband Amplifier	ISM / MM, T&M
MAAM-011291-DIE	Amplifier, 20-45 GHz, 20 dB Gain, 0.8 W	Wideband Amplifier	ISM / MM, T&M
MAAM-011276-DIE	Amplifier, 20-45 GHz, 25 dB Gain, 0.1 W	Wideband Amplifier	ISM / MM, T&M

## Parts to be Released

Part Number	Description	Part Category	Applications
MAAM-011290	Amplifier, 5-20 GHz, 20 dB Gain, 3 x 3mm QFN-16	Gain Block Amplifier	SATCOM
MAAM-011293-DIE	Amplifier, 20 dB Gain, 50 MHz-6 GHz	Gain Block Amplifier	SATCOM
MAMX-011067	Mixer, Double Balanced, 5.5-19 GHz, 3 mm	Mixer	ISM / MM, T&M
MAMX-011071	Mixer, Double Balanced, 8-36 GHz, 3 mm	Mixer	ISM, T&M
MAAP-011327-DIE	Power Amplifier, 1 W, DC-27 GHz, Bare Die	Power Amplifier	ISM / MM, T&M
MAAP-011328-DIE	Power Amplifier, 2 W, DC-22 GHz, Bare Die	Power Amplifier	ISM / MM, T&M
MAAP-011146-DIE	Power Amplifier, 3 W, 21.15-23.65 GHz, Bare Die	Power Amplifier	P2P

## MACOM Amplifiers



For voice, data, and point-to-point applications for A&D and commercial markets

MACOM designs, manufactures, and supports a wide variety of amplifiers for RF, microwave, and millimeter-wave applications. We use a variety of semiconductor processes such as GaAs MESFET for linearity, pHEMT for power and low noise, and HBT for linearity and high gain. MACOM amplifiers are used in a variety of commercial and aerospace and defense applications.

### Amplifier Gain Block

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Output P1dB (dBm)	OIP3 (dBm)	Bias Current (mA)	Package
MAAM02350	Wideband Amplifier	200	3000	17	14	24	65	Die
MAAM28000	Wideband Amplifier	2000	8000	17	14	24	60	Die
XB1007-BD	Buffer Amplifier	4000	11000	23.5	20	30	130	Die
XB1008-BD	Buffer Amplifier	10000	21000	18	20	30	130	Die
XB1004-BD	Buffer Amplifier	16000	30000	21	19	29	100	Die
XB1006-BD	Buffer Amplifier	18000	38000	21	15	25	25	Die
XB1005-BD	Buffer Amplifier	35000	45000	23	16	26	50	Die
MAAM-008198-00A162	Cascadable, Hi Eff	10	1200	13	6	18	15	TO-8
MAAM02350-A2	Wideband Amplifier	200	3000	18	14	24	65	CR-3
MAAM-009286	Driver Amplifier	250	4000	15.5	27	42	155	SOT-89
MAAM-009560	Driver Amplifier	250	4000	15	29	42	225	SOT-89
XF1001-SC	Packaged HFET	0	6000	15.5	30	46.5	300	SOT-89
MAAM28000-A1	Wideband Amplifier	2000	8000	17	14	24	70	CR-3
MAAM28000-A1G	Wideband Amplifier	2000	8000	17	14	24	70	CR-10
MAAM28000-A1G	Wideband Amplifier	2000	8000	17	14	24	70	CR-10
XB1007-QT	Buffer Amplifier	4000	11000	23	19	31	100	3 mm PQFN-16
CMM0511-QT	Driver Amplifier	5000	14000	20	11	22	90	3 mm PQFN-16
MAAM-011206	Darlington Amplifier	DC	15000	13.5	18	27.5	72	1.5 x 1.2 mm TDFN-6
MAAM-011101	Wideband Amplifier	4000	20000	16	19	30	45	1.5 x 1.2 mm TDFN-6
XB1008-QT	Buffer Amplifier	10000	21000	17	18	32	100	3 mm PQFN-16
MAAM-011132	Driver Amplifier	17700	23600	23	21	33	180	4 mm PQFN-16
MAAM-011112	Buffer Amplifier	20000	37000	24	18	30	335	3 mm PQFN-16
MAAM-011109	Wideband Amplifier	100	40000	13	18	22	170	5 mm LGA-9
XB1014-QT	Buffer Amplifier	37000	40000	21	20	30.5	63	3 mm PQFN-16
MAAM-010513	Driver Amplifier	40500	43500	23	23	32	400	5 mm LGA-12

### Power Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Output P1dB (dBm)	PSAT (dBm)	Gain (dB)	OIP3 (dBm)	Package
MAAM26100	GaAs MMIC Power Amplifier	2000	6500	28	30.5	19	39	Die
MAAM71100	Power, GaAs MMIC	7000	11000	28	31	18	38	Die
MAAP-015035-DIE	12 W Power Amplifier	8500	11500	40	41	36	—	Die
MAAP-015030-DIE	13 W Power Amplifier	8500	11750	38	41	25	—	Die
MAAP-118260-DIE	42 GHz Power Amplifier	18000	26000	28.5	31	28.5	37	Die
MAAP-011140-DIE	6 W Ka-band Power Amplifier	27500	30000	37	38.5	25	46	Die
MAAP-011139-DIE	4 W Power Amplifier	29000	31000	35	36.5	24	42	Die

## Power Amplifiers (continued)

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Output P1dB (dBm)	PSAT (dBm)	Gain (dB)	OIP3 (dBm)	Package
MAAP-015016-DIE	4 W Ka-band Power Amplifier	32000	38000	36	37	18	—	Die
XPI018-BD	Power Amplifier	37000	42000	25	26	26	34	Die
<b>NEW</b> MAAM-011277-DIE	0.25 W Power Amplifier	20000	45000	23.5	—	24.5	30	Die
<b>NEW</b> MAAM-011292-DIE	1 W Power Amplifier	20000	45000	28.5	—	19	35	Die
<b>NEW</b> MAAM-011291-DIE	1 W Power Amplifier, 20-45 GHz	20000	45000	28.5	29.5	19	35	Die
MAAP-011218-DIE	0.5 W Power Amplifier	71000	86000	26	27	20	31	Die
MAAP-011199	Power Amplifier	80000	100000	22	24	12	—	Die
MAAP-011232	Power Amplifier	100	3000	29	30	23	40	3 mm PQFN-16
MAAP-010168	10 W Power Amplifier	500	3000	39	41	24	—	Ceramic Flanged-10
MAAP-011022	7 W Pulsed High Power Amplifier	2700	3000	37.5	38.3	23	—	6 mm PQFN-28
MAAP-011246	Power Amplifier	27500	31500	30	33	23	-20	5 mm AQFN 32
MAAP-010171	8 W Power Amplifier	2500	3500	38	39	27.3	—	5 mm PQFN-20
MAAP-011027	8 W Power Amplifier	5200	5900	—	39	20	—	5 mm PQFN-20
MAAM26100-B1	Power Amplifier	2000	6000	27	30.5	19	39	CR-2
MAAM26100-P1	Power Amplifier	2000	6000	28	30.5	20	40	CR-15
MAAP-010169	10 W Power Amplifier	2000	6000	38	41	18	—	Ceramic Flanged-10
XPI039-QJ	2.5 W Power Amplifier	5600	7100	33	34	17	48	6 mm QFN-24
MAAP-011161	4 W Power Amplifier	7100	7900	35.5	36.5	22	46.5	7 mm SMT
MAAP-011193	4 W Power Amplifier	7700	8500	35.5	36.5	20	46.5	7 mm SMT
XPI035-QH	0.5 W Power Amplifier	5900	9500	28	29	26	39	4 mm PQFN-24
MAAP-008924	1.2 W Power Amplifier	10000	13300	31	32	21	42	5 mm PQFN-20
<b>NEW</b> MAAP-011313	4 W 13.5-15 GHz Power Amplifier	13500	15000	34.5	36	36	28	5 mm AQFN-32
MAAP-010150	10-15.35 GHz Power Amplifier	10000	15350	33	36	27	42	7 mm QFN-48
MAAP-011202	2.5 W Power Amplifier	12700	15400	33.5	34.5	30	41	5 mm QFN-24
MAAP-010517	3 W Power Amplifier	14400	15400	35	36.4	24.5	41	5 mm PQFN-24
XPI042-QT	0.5 W Power Amplifier	12000	16000	25	27	21	38	3 mm PQFN-16
XPI043-QH	1.5 W Power Amplifier	12000	16000	30	32	21.5	41	4 mm PQFN-24
MAAP-011145	2 W Power Amplifier	17650	19750	33	34.5	26	43	7 mm Cavity
MAAP-011146-STD	2 W Power Amplifier	21150	23650	33	35	24	41	7 mm Cavity Package
MAAP-118260	Power Amplifier	18000	26000	28.5	31	28.5	37	5 mm 24-lead QFN
MAAP-011250	4 W Ka Band Power Amplifier	27500	30000	34.8	36	24	41	5 mm AQFN-32
MAAP-011289	3 W Ka Band Power Amplifier	28000	30000	35	36	24	35	5 mm AQFN-32
MAAP-011298	2.3W Ka Band Power Amplifier	27000	31000	33	33.5	25.5	39	5 mm AQFN-32
<b>NEW</b> MAAP-011317	4 W Power Amplifier	27500	31000	36.5	36	27.5	40	5 mm AQFN-32
MAAP-011233	4 W Ka Band Power Amplifier	28500	31000	25	38	25	38	5 mm AQFN-32
MAAP-011139	4 W Power Amplifier	28500	31000	34.5	36	23	36	5 mm AQFN-32
MAAP-011170	Power Amplifier	37000	40000	27	28	27	38	7mm 16-lead SMD
XPI031-QK	38 GHz Power Amplifier	37000	40000	25	27.3	25	35.5	7 mm LGA-28
XPI080-QU	38 GHz Power Amplifier	37000	40000	27	28.9	25	38	7 mm LGA-16
MAAP-010512	42 GHz Power Amplifier	40500	43500	27	29	22	38.4	7 mm LGA-16

## E-Band

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAP-011106	Power Amplifier	71000	86000	20	30	Die
MAAM-011167	Power Amplifier	71000	86000	18	27	Die
MAMF-011142	Upconverter	71000	86000	30	25.5	SMT
MADC-011021	Downconverter	71000	86000	—	—	8 x 8 mm SMT
MAAP-011205	Power Amplifier	71000	86000	18	27	7 x 7 mm SMT



## Linear Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Package
MAAP-015024	8 W Power Amplifier	14500	17500	21	27	Die
XPI019-BD	Power Amplifier	17000	24000	18	36	Die
XPI027-BD	Power Amplifier	27000	31000	21	43	Die
XPI026-BD	Power Amplifier	27000	32000	21	40	Die
XPI017-BD	Power Amplifier	30000	36000	16	33	Die
MAAM-011117	Broadband, Low Distortion	50	2700	16	35	2 mm PDFN-8
XPI044-QL	Power Amplifier Module	4000	5900	18.5	47	7 mm SMD-28
XPI050-QJ	2.5 W Power Amplifier	7100	8500	15.5	47	6 mm QFN-24
MAAM-011139	Driver Amplifier	27500	33400	21	32	4 mm QFN-24
MAAP-010516	4 W Power Amplifier	32000	38000	18	—	5 mm PQFN-24

## Low Noise Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAAM37000	3500	7000	17	1.8	24	14	4	75	Die
MAAM71200	7500	12000	16.5	2.3	22	12	4	40	Die
MAAL-011141-DIE	DC	28000	17	1.8	27	16	6	75	Die
XL1002-BD	20000	36000	23	2.6	16	4	5	85	Die
XL1010-BD	20000	38000	17	3	—	—	4	45	Die
XL1000-BD	20000	40000	20	2	16	9	3	35	Die
MAAL-008624	400	500	21	0.9	28	17	5	60	SOIC-8
MAAL-011136	45	1218	20	1.2	32	17.5	5	50	SOT-89 Plastic Pkg
MAALSS0042	1500	1600	27	1.2	13	1	5	20	SOIC-8
MAAL-010705	500	1600	19	0.5	32	19	4	60	2 mm PDFN-8
MAALSS0048	1400	2000	17	1.6	13	1	3	7	SOT-26
MAAL-007304	500	3000	25.5	0.7	19	7	3	12	SOT-26
MAAL-009120	70	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010200	70	3000	11	1.4	36	17	3	77	SOT-89
MAAL-009053	800	3000	11	1.4	35	18	3	80	SOT-363
MAAL-010570	100	3500	16	0.75	34	18.8	5	15	SOT-363
MAAL-010704	100	3500	19.5	0.9	31.5	18	3	60	SOT-363
MAAL-010706	1400	4000	17.5	0.6	34.5	19	4	60	2 mm PDFN-8
MAAL-011078	700	6000	23	0.35	33	17.5	3	50	2 mm PDFN-8
MAAM37000-A1G	3500	7000	17	2.2	25	14	4	75	Ceramic Gull Wing-8
MAAM37000-A1	3500	7000	17	2.2	25	14	4	75	Ceramic-8
MAAM71200-H1	7500	12000	15.5	2.7	21	11	4	40	Leadless Ceramic
MAAL-010528	8000	12000	20.2	1.6	26	14	4	60	3 mm PQFN
MAAL-011130	2000	18000	19	1.4	21	16	3	80	2 mm PQFN-8
MAAL-011141	DC	28000	17.5	2	27	16	6	75	5 mm AQFN-32
MAAL-011129	18000	31500	23	2.5	25	16	3	80	2 mm PQFN-8
XL1010-QT	20000	38000	17	3	—	6	4	45	3 mm QFN-16
MAAL-011111	22000	38000	19	2.5	—	5	3	55	3 mm QFN-16

Note: Part numbers are RoHS compliant  
 Detailed specifications can be found quickly on our website at [macom.com](http://macom.com) by typing the part number into the search box.  
 All specifications are subject to change.

## Low Phase Noise

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
<b>NEW</b> MAAL-011151-DIE	2000	18000	16	5	19	17.5	5	60	Die
<b>NEW</b> MAAL-011151	2000	18000	15	3.5	20	19	5	60	5 mm PQFN-32

## Variable Gain Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current/Voltage (mA/V)	Package
MAAM-010399	Differential Variable Gain Amplifier	50	1100	28	48	900/6	5 x 7 mm PQFN-40
MAAM-011100	Ultra Small Broadband Variable Gain Amplifier	500	20000	12	25	70/+5.-5	1.5 x 1.2 mm TDFN-6

## Distributed Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	Gain Flatness (dB)	Noise Figure (dB)	OIP3 (dBm)	Output P1dB (dBm)	Package
XD1001-BD	18000	50000	17	1	5	24	15	Die
MAAM-015023-DIE	18000	40000	26	0.5	6	30	21	Die
<b>NEW</b> MAAM-011238-DIE	0.1	67500	14	—	—	—	18	Die
<b>NEW</b> MAAM-011275-DIE	0.03	40000	15	—	—	—	22	Die
<b>NEW</b> MAAM-011286-DIE	0.03	44000	16	—	—	—	22	Die
MAAM-011109	100	40000	13	18	3/5	22	18	5 mm LGA-9
<b>NEW</b> MAAM-011238	0.1	50000	13	14	—	—	17	4 mm SMT

## Wired Broadband: 75 Ohm ( $\Omega$ ) Amplifiers

Part Number	Min Freq (MHz)	Max Freq (MHz)	Splits (#)	Gain (dB)	Noise Figure (dB)	CSO (dBc)	CTB (dBc)	Bias Current/Voltage (mA)/(V)	Package
<b>Active Splitters</b>									
MAAM-009450	50	1100	3	3.5	3.8	-65	-65	100 / 5	3 mm PQFN-12
MAAM-007239	50	1100	3	6	4.5	-65	-77	125 / 5	3 mm PQFN-16
MAAM-008818	50	1100	2	3.2	3.4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008819	50	1100	3	2.6	3.8	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008820	50	1100	4	3	3.8	-62	-70	120 / 5	3 mm PQFN-12
MAAM-008821	50	1100	5	3.5	3.8	-60	-70	120 / 5	3 mm PQFN-12
MAAM-008822	50	1100	3	4.5	4	-60	-63	120 / 5	2 mm PDFN-8
MAAM-008970	950	2150	2	4.8	5	—	—	60 / 5	3 mm PQFN-12
MAAM-007805	50	1100	2	8.5	4	-60	-75	100 / 5	3 mm PQFN-12
MAAM-009451	50	1100	3	3	3.5	-55	-67	90 / 3	2 mm PDFN-8
MAAM-009452	50	1100	4	2.5	3.5	-56	-65	96 / 3.3	3 mm PQFN-12
MAAM-009778	50	1100	4	2.5	4.5	-60	-65	100 / 5	3 mm PQFN-12
MAAM-009779	50	1100	5	1.5	3.9	-60	-65	110 / 5	3 mm PQFN-12
MAAM-009811	50	1100	2	2.4	4.5	-55	-65	90 / 3	2 mm PDFN-8
MAAM-009879	50	1100	2	3.5	3.8	-60	-65	100 / 5	3 mm PQFN-12
MAAM-010237	50	1100	8	1.9	4.4	-50	-65	190 / 5	4 mm PQFN-24
MAAM-010263	50	1100	6	2	4.8	-55	-65	190 / 5	4 mm PQFN-24

## Wired Broadband: 75 Ohm ( $\Omega$ ) Amplifiers (continued)

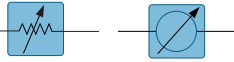
Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
<b>CATV Amplifiers</b>									
MAAM-011184	CATV Return Path Single-Ended Amplifier	5	300	21	43	95	5	2.5	MSOP 8-EP
MAAM-011185	CATV Return Path Differential Amplifier	5	300	21.2	43	290	5	3.1	3 mm PQFN-16
MAAM-011156	Amplifier, CATV Return Path Differential	5	300	19	44	210	8	7	3 mm PQFN-16
MAAM-011168	Differential CATV Variable Gain	5	300	40	44	290	8	2.6	7 mm PQFN-48
MAAM-011186	Differential CATV Variable Gain Amplifier	5	300	39	42	280	8	3	7 mm PQFN-48
MAAMSS0044	Low Noise, Low Distortion Amplifier	50	1000	12.2	42	225	5	3.3	4 mm PQFN-20
MAAM-010144	Push Pull CATV Amplifier	50	1000	20.5	43	325	8	4.2	TSSOP-16
MAAMSS0067	Low Noise, Low Distortion Amplifier	50	1000	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-009100	Broadband CATV Amplifier	50	1000	14.3	34	105	5	3	SOT-89
MAAM-009455	CATV Push Pull Amplifier	50	1000	20.5	43	325	8	4.2	4 mm PQFN-20
MAAM-007724	Low Noise, Low Distortion Amplifier	50	1005	12.2	32	190	5	3.3	4 mm PQFN-20
MAAM-010373	Broadband CATV Amplifier	50	1100	22	40	148	8	1.66	SOT-89
MAAM-009633	Broadband CATV Amplifier	50	1200	17	37	120	8	1.9	SOT-89
MAAMSS0060	Low Noise, Low Distortion Amplifier	50	1200	17	37	120	8	1.8	SOT-89
MAAMSS0041	Low Noise, Low Distortion Amplifier	50	1200	15	36	100	8	2.7	SOT-89
MAAMSS0042	Low Noise, Low Distortion Amplifier	50	1200	15	38	110	5	3	SOT-89
MAAM-011169	CATV 75 $\Omega$ Push Pull Amplifier	45	1200	25	54	480	12	4.4	5x7 mm PQFN40
MAAM-011182	75 $\Omega$ , 8 V RF Amplifier	45	1218	18	38	130	8	2.7	2 mm PDFN-8
MAAM-011163	75 $\Omega$ , Differential RF Amplifier	5	1218	19	42	290	5	1.7	SOIC-8EP
MAAM-011240	75 $\Omega$ , Differential RF Amplifier	5	1218	17	44	290	5	1.7	SOIC-8EP
MAAM-011251	75 $\Omega$ , High Linearity, Low Noise CATV Amplifier	5	1218	15	37	100	5	1.9	SOT-89
MAAM-011258	75 $\Omega$ , High Linearity, Low Noise CATV Amplifier	5	1218	15	37	100	5	2.2	SOT-89
MAAM-011250	75 $\Omega$ , Differential RF Amplifier	5	2018	15	44	290	25	1.7	SOIC-8EP
MAAL-011119	Satellite TV Amplifier	900	2200	10.5	32	80	2.5	1.5	SOT-363
MAAL-009053	Satellite TV Amplifier	800	3000	11	35	80	3	1.4	SOT-363
MAAL-011139	Low Noise Amplifier	5	4000	21	34	85	5	1	SOT-89

## FTTx Amplifiers

Part Number	Description	Min Freq (MHz)	Max Freq (MHz)	Gain (dB)	OIP3 (dBm)	Bias Current (mA)	Bias Voltage (V)	Noise Figure (dB)	Package
MAAM-007807	CATV and 2nd Stage FTTx Amp	50	1000	9	35	60	5	3.8	SOT-89
MAAM-008863	FTTx RF Amplifier	50	1000	37	—	220	5	4.8	4 mm PQFN-24
MAAM-010239	Low Noise FTTx Amplifier	50	1000	30	35	215	5	3.5	4 mm PQFN-20
MAAM-010333	Optical Node RF Amplifier	50	1200	33	—	260	5	—	4 mm PQFN-24

Note: Part numbers are RoHS compliant ♦ indicates non-RoHS compliant  
 Detailed specifications can be found quickly on our website at [macom.com](http://macom.com) by typing the part number into the search box.  
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MACOM Control Products



For a wide range of A&D and commercial applications

MACOM offers control products for a wide range of A&D and commercial applications, covering a broad frequency spectrum from DC to 70 GHz, using Silicon, AlGaAs, and GaAs based technologies.

Digital Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Bit Count	Attenuator Range (dB)	LSB (dB)	Insertion Loss (dB)	IIP3 (dBm)	Package
<b>NEW</b> MAAD-011035-DIE	100	30000	5	31	1	4	43	Die
<b>NEW</b> MAAD-011036-DIE	1000	30000	6	31.5	0.5	4.2	43	Die
MAAD-011021-DIE	0	40000	6	31.5	0.5	6	38	Die
MAAD-008866	50	1000	6	31.5	0.5	1.4	40	4 mm PQFN-24
MAAD-010305	50	1100	1	15	15	0.3	50	SOT-25
MAADSS0009	0	2000	4	30	3	1.6	50	SOIC-16
MAATSS0015	0	2000	4	15	1	2	50	SOIC-16
MAATSS0021	50	2000	5	15.5	0.5	1.5	45	SOIC-16
AT-263-PIN	5	2000	5	31	1	2.1	48	CR-12
MAATSS0016	500	2000	4	30	2	2.2	47	TSSOP-16
MAATSS0018	100	2000	1	10	10	0.4	50	SOT-25
MAATSS0022	500	2500	5	15.5	0.5	1.8	46	MSOP-10
MAATSS0017	400	2500	5	15.5	0.5	2	47	QSOP-16
MAATSS0019	500	4000	4	15	1	1.3	47	TSSOP-16
MAADCC0006	50	4000	4	15	1	2.5	48	CSP-1
MAADSS0018	2000	6000	5	15.5	0.5	2	42	3 mm PQFN-16
MAAD-000523	700	6000	6	31.5	0.5	1.9	52	4 mm PQFN-24
MAADSS0012	800	8000	1	21	—	0.6	41	2 mm PQFN-8
MAAD-011021	0	30000	6	31.5	0.5	6	38	3 mm PQFN-16
<b>NEW</b> MAAD-011035	100	30000	5	31	1	4.8	42	4 mm PQFN-24
<b>NEW</b> MAAD-011036	100	30000	6	31.5	0.5	4.8	41	4 mm PQFN-24

Voltage Variable Attenuators

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Attenuator Range (dB)	Input IP3 (dBm)	Voltage (Volts)	Current (mA)	Package
MAAA2000G	0	12000	—	40	—	—	—	Die
MAAVSS0004	0	2000	7.2	35	36	-3	0.02	SOIC-14
MAAV-008022	500	2000	2.7	40	32	+5	0.05	SOIC-8
MAAVSS0008	500	2000	2.8	30	28	+5	0.3	SOIC-8
MAAVCC0002	1700	2200	—	35	—	—	—	6 mm PQFN-28
MAAVSS0001	1800	2500	2.4	42	32	+2.25	0.05	SOT-25
MAAVSS0006	0	2500	3.6	25	36	-3	0.025	SOT-25
MAAT-010521	5000	45000	2	40	30	-2	—	3 mm PQFN-16
MAAV-011013	5000	45000	1.5	30	42	—	—	3 mm PQFN-16
<b>NEW</b> MAAT-010521-L2	5800	12000	2	30	29	—	—	3 mm PQFN-16

**Digital Phase Shifters**

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Attenuator Variation	Input IP3 (dBm)	Voltage (V)	Current (mA)	Package
<b>NEW</b> MAPS-010163-DIE	1400	2400	4.5	0.8	45	-5/10		Die
<b>NEW</b> MAPS-010164-DIE	2300	3800	3.6	0.6	45	-5/10		Die
<b>NEW</b> MAPS-010165-DIE	3500	6000	5.8	0.4	40	-5/10		Die

**Power Detectors**

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Sensitivity (dBm)	Directivity (dB)	Max Power (dBm)	Package
MADT-011000-DIE	5000	44000	—	—	—	—	Die
MACP-010571	2000	6000	0.2	-15	15	30	1.5 x 1.2 mm TDFN-6
MACP-010572	6000	18000	0.25	-18	16	30	1.5 x 1.2 mm TDFN-6
MACP-010573	10000	30000	0.5	-17	14	30	1.5 x 1.2 mm TDFN-7
MADT-011000	5000	44000	—	—	-	—	3 mm QFN

**CMOS Switch Drivers**

Part Number	Type	Rise Time/Fall Time (ns)	Vcc (V)	Vee (-V)	Icc (mA)	Package
<b>NEW</b> MADR-010269-DIE	Hex FET	8/4.5	3.3	-5	1	Die
MADR-011007	FET	6	—	-5	—	6 mm PQFN-48
MADR-007098-000100	PIN	—	5	—	1	SOW-16

**Switches**

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
<b>SPST</b>						
MASW-001150-1316	45	2500	0.3	65	40	Die
MASW6020G	100	6000	0.9	45	46	Die
MASW-008177	5	1000	0.6	53	52	3 mm PQFN-12
MASWSS0162	50	2500	1	48	46	SOIC-8
SW-209-PIN	0	3000	1.5	27	40	CR-2,CR10
MASWSS0148	300	4000	1.6	51	49	3 mm PQFN-12
<b>SPDT</b>						
MASW2000	0	3000	0.4	45	53	Die
MASW4030G	50	4000	0.6	53	46	Die
MASW-008206-000DIE	2400	5800	0.7	30	54	Die
MASW6010G	200	6000	0.6	45	46	Die
MASW-009590	1000	8000	0.5	24	52	Die
MASW-010647	8000	10500	0.8	37	60	Die
MASW-011021	6000	14000	0.7	34	60	SURMOUNT™ Die
MASW-002102-13580	2	18000	1.8	55	40	Die

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Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
<b>SPDT (continued)</b>						
MASW20000	50	20000	1.4	58	43	Die
MASW-002103-1363	50	20000	0.8	38	40	SURMOUNT™ Die
MASW-011107-DIE	DC	26500	1.3	46	45	Die
MASW-002100-1191	50	26500	0.3	65	40	Die
MASW-001100-1190	50	26500	0.3	65	40	Die
<b>NEW</b> MASW-011128-DIE	50	26500	1.7	50	42	Die
MASW-010646	26000	40000	0.6	39	60	Die
MASW-011036	26000	40000	0.7	40	60	Die
MASWSS0103	5	1000	0.8	71	47	4 mm PQFN-20
MASWSS0161	500	2000	0.6	30	55	SOIC-8
MASWSS0179	50	2000	0.5	28	52	SOT-26
MASWSS0201	0	2500	1	45	44	3 mm PQFN-12
MASWSS0180	50	2500	0.7	38	46	SOIC-8
MASWSS0157	50	2500	0.7	35	45	SOIC-8
MASW-007221-000000	500	3000	0.4	22	52	SC-70 (SOT-363)
MASW-008899-000000	500	3000	0.3	24	48	SC-70 (SOT-363)
MASWSS0166	900	3000	0.4	21	55	SC-70 (SOT-363)
MASWSS0151	0	3000	0.6	32	55	SC-70 (SOT-363)
MASW-007935-000000	0	3000	0.7	34	50	SOT-26
MASWSS0192	50	3000	0.2	24	53	SC-70 (SOT-363)
MASWSS0143	100	3000	0.4	18	58	SOT-26
MASWSS0204	300	3000	0.3	22	56	SC-70 (SOT-363)
MASWSS0181	300	3000	0.5	23	57	SOT-26
MASWSS0136	0	3000	0.4	27	48	SC-70 (SOT-363)
MASWSS0176	50	3000	0.3	23	45	SOT-26
MASWSS0178	10	3000	0.6	57	43	MSOP-8
MASWSS0169	100	3000	0.7	48	50	MSOP-10
MASWSS0167	500	3000	0.4	28	48	1.2 x 1.5 mm PQFN-6
MASWSS0115	50	3000	0.3	24	46	SC-70 (SOT-363)
MASWSS0121	500	3000	0.7	54	46	4 mm PQFN-16
MASW-009101	5	3000	1	65	39	3 mm PQFN-16
MASW-008801	5	3000	0.8	85	47	3 mm PQFN-16
MASW-009588	500	4000	0.4	26	55	1 mm PDFN-6
MASW-000932	10	4000	53	43	72	4 mm PQFN-16
MASW-008543	10	4000	0.7	58	53	MSOP-8
MASW-008853	0	5000	0.2	25	56	SC-70 (SOT-363)
MASW-011043	0	6000	0.6	30	—	2 mm STQFN-12
MASW-000834-13560T	50	6000	0.2	53	65	4 mm PQFN-16
MASW-007588-000000	1000	6000	0.9	28	55	3 mm PQFN-12
MASW-000822-12770T	50	6000	0.2	32	60	3 mm PQFN-16
MASWSS0202	1000	6000	0.6	29	52	3 mm PQFN-12
MASW-009444	200	6000	0	28	54	1 mm PDFN-6
MASW-000936	50	6000	0.2	45	72	4 mm PQFN
MASW-007921	50	7000	0.7	30	58	2 mm PDFN-8
MASW-007107-000000	0	8000	0.5	30	54	2 mm PQFN-8
MASW-008322	500	20000	1	45	48	4 mm PQFN-24
MASW-011102	0	30000	1.8	40	45	3 mm PQFN-14
MASW-011105	17700	31000	1.6	30	43	3 mm PQFN-14
MASW-011098	26000	40000	1.17	38	—	5 mm 20-LD laminate

## Switches (continued)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Insertion Loss (dB)	Isolation (dB)	Input IP3 (dBm)	Package
<b>SP3T</b>						
MASW-011053	2000	18000	0.8	50	48	Die
MASW-003102-13590	2000	18000	0.8	50	40	Die
MASW-003103-1364	50	20000	0.8	40	40	SURMOUNT™ Die
MASW-003100-1192	50	26500	0.3	65	40	Die
MASW-011029	75000	100000	1.3	33	—	Die
MASWSS0200	500	2500	0.6	24	61	3 mm PQFN-12
MASWSS0199	0	2500	0.5	30	58	3 mm PQFN-12
MASW-011030	50	2500	0.4	27	77	7 mm HQFN-16
MASWSS0144	500	3000	0.6	24	55	3 mm PQFN-12
MASW-008955	0	3000	0.5	22	54	2 mm PDFN-8
MASW-008330	500	3000	0.3	24	50	2 mm PQFN-8
MASWSS0191	500	3000	0.6	30	58	2 mm VTDFN-8
MASW-010612	0	3500	0.6	21	54	1.5 mm PDFN-8
MASW-009482	50	4000	0.7	23	65	2 mm STQFN-12
<b>SP4T</b>						
MASW4060G	0	4000	1.3	50	46	Die
MASW-004102-12760	2	18000	1.5	50	40	Die
MASW-004103-1365	50	20000	0.8	50	63	SURMOUNT™ Die
MASW-004100-1193	50	26500	0.3	65	40	Die
MASW-011087	27000	30000	0.85	50	55	Die
MASW-007813-000000	500	3000	0.8	27	58	3 mm PQFN-16
MASW-008566	50	3000	0.7	26	57	4 mm PQFN-16
<b>SP5T</b>						
MASW-005100-1194	50	26500	0.9	38	40	Die
MASW-010351	10	4000	1.4	57	50	4 mm PQFN-24
<b>SP6T</b>						
MASW-006102-13610	50	26500	1.3	45	40	Die

Note: Part numbers are RoHS compliant  
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## MACOM Frequency Conversion Products

Offering a broad range of frequency and performance specifications

MACOM's frequency conversion products include hybrid mixers, mixers, receivers, transceivers, up converters, and frequency multipliers. Our frequency conversion devices are ideal for point-to-point radio, aerospace and defense, and other broadband communications applications. Available as surface mount devices, our reliable products enable easy assembly and integration for real estate constrained customers.

### Frequency Multipliers

Part Number	Min Freq RF (MHz)	Max Freq RF (MHz)	Min Output (MHz)	Max Output (MHz)	Input power (dB)	Multiply Factor	Conversion Loss (dB)	Package
XX1007-BD	13500	17000	27000	34000	8	2	12	Die
XX1000-BD	7500	25000	15000	50000	0	2	13	Die
XX1002-QH	2500	6000	5000	12000	3	2	13	4 mm PQFN-24
FD93 ♦	2000	9000	4000	18000	12	2	12	Versapac
MAFC-004403	8000	12000	16000	24000	0	2	17	4 mm QFN
MAFC-010511	8000	12000	16000	24000	0	—	17	3 mm PQFN-16
XX1010-QT	14625	15000	29250	30000	4.5	2	14	3 mm QFN-16
XX1007-QT	13500	17000	27000	34000	8	2	10	3 mm PQFN-16
XX1000-QT	7500	22500	15000	45000	6	2	12	3 mm QFN-16

### Mixers

Part Number	Min Freq RF/LO (MHz)	Max Freq RF/LO (MHz)	Min Freq IF (MHz)	Max Freq IF (MHz)	Conversion Loss (dB)	LO Drive (dBm)	Package
XM1001-BD	12000	40000	0	4000	8	—	Die
XM1003-BD	32000	42000	0	4000	12	—	Die
XM1002-BD	34000	46000	0	4000	9	—	Die
MAMXSS0013	1400	2100	0	500	8	5	SOT-25
<b>NEW</b> MAMX-011044	2500	9000	0	3500	7	—	4 mm QFN-24
MAMX-011035	5500	19000	0	6000	6	15	3 mm QFN-12
<b>NEW</b> MAMX-011040	8000	26000	15000	45000	9	16	4 mm QFN
MAMX-011009	14000	32000	0	7000	-10	—	1.5 x 1.2 mm TDFN-6
MAMX-011036	8000	43000	0	10000	8.5	—	3 mm AQFN-12
<b>NEW</b> MAMX-011043	15000	45000	15000	45000	9	16	4 mm QFN
<b>NEW</b> MAMX-011054	18000	46000	0	20000	6.5	—	3 mm AQFN-12

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## MACOM Multifunction Modules

### Integrating size, weight, power and cost for next generation applications

MACOM’s multifunctional modules are designed to provide customers with an affordable, highly integrated unit while delivering reliability and performance.

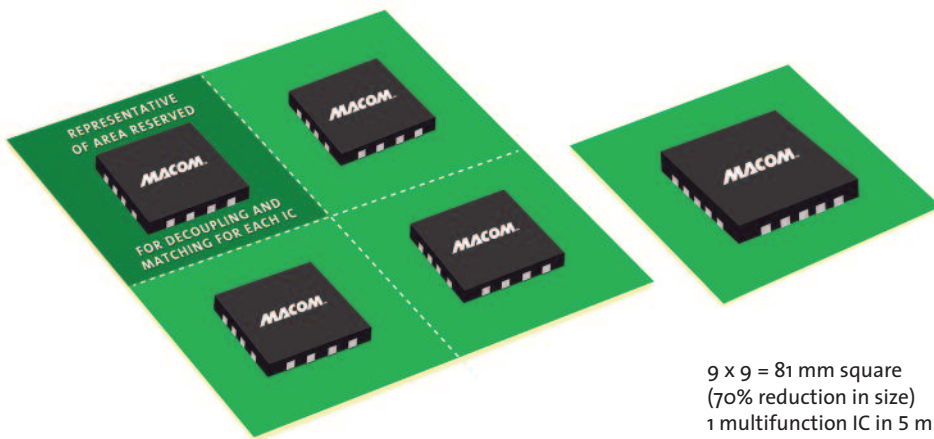
Applications such as radar and commercial 5G face size constraints and the need for higher frequency necessitates multifunction integration. From MACOM, one can expect an even higher level of integration of RF and microwave chipsets. In the data center and optical transport world, integrated products will provide data conversion and data transport solutions coupled with RF and microwave solutions to provide a very high level of integration that will ultimately drive optimal affordability and reliability.

#### Switch LNAs

Part Number	Min Freq (GHz)	Max Freq (GHz)	Gain (dB)	Noise Figure (dB)	OIP3 (dBm)	Tx IPO.1dB (dBm)	Bias Voltage (V)	Bias Current (mA)	Package
MAIA-011002	0.4	4	34	0.85@2 GHz	36	50	3/28	180	5 mm HQFN-32
MAIA-011004	0.4	5	34	1.1@2.7 GHz	36	50	5/28	180	5 mm HQFN-32
<b>NEW</b> MAMF-011069	1.8	3.9	33	1.2@2.6 GHz	32	44	5/28	255	5 mm PQFN-32
<b>NEW</b> MAMF-011119*	1	6	35	1.2@4.2 GHz	31	41	5	78	6 mm QFN-20

#### High Power Switch and Bias Module

Part Number	Min Freq (GHz)	Max Freq (GHz)	Low IL (Tx) (dB)	Low IL (Rx) (dB)	Receive Isolation (dB)	Bias Current (Tx) (mA)	Bias Current (Rx) (mA)	Input P0.1dB (dBm)	Package
MAMF-011070	0.7	6	0.3	0.4	43	140	90	51	5 mm HQFN-20



16 x 16 = 256 mm square  
 4 ICs in 4 mm x 4 mm packages  
 2 mm clearance for decoupling

9 x 9 = 81 mm square  
 (70% reduction in size)  
 1 multifunction IC in 5 mm x 5 mm package  
 2 mm clearance for decoupling

## MACOM Frequency Generation Products

Leading-edge solutions for challenging communications needs

MACOM voltage controlled oscillators (VCOs) generate frequency in aerospace and defense, point-to-point microwave backhaul, and other commercial communications applications. Featuring low phase noise, stable performance over temperature, low power consumption, and highly linear tuning, MACOM's VCOs provide leading edge solutions for challenging communications needs.

### Voltage Controlled Oscillators (VCOs)

Part Number	Min Freq (MHz)	Max Freq (MHz)	Phase Noise at 10 kHz Offset (Vt=5V)(dBc/Hz)	Phase Noise at 100 kHz Offset (Vt=5V)(dBc/Hz)	Pout at Fo (dBm)	DC Current (mA)	Package
MAOC-011030	5458	6129	-93	-117	14	185	5 mm PQFN-32
MAOC-009259	5700	6400	-93	-117	12	190	5 mm PQFN-32
MAOC-009260	6100	7000	-92	-117	8.5	205	5 mm PQFN-32
MAOC-009261	7100	7900	-93	-116	10	180	5 mm PQFN-32
MAOC-009262	7400	8210	-92	-117	14	170	5 mm PQFN-32
MAOC-009263	7800	8700	-90	-115	10.5	180	5 mm PQFN-32
MAOC-010334	8400	9250	-88	-115	10	168	5 mm PQFN-32
MAOC-109173	8805	9542	-88	-117	9	90	5 mm PQFN-32
MAOC-109173	8805	9542	-88	-117	9	90	5 mm PQFN-32
MAOC-009264	8800	9800	-88	-115	9	185	5 mm PQFN-32
MAOC-009871	9200	10200	-86	-113	7	185	5 mm PQFN-32
MAOC-009265	9400	10800	-86	-113	8.5	175	5 mm PQFN-32
MAOC-110820	10550	11050	-88	-113	11	120	5 mm PQFN-32
MAOC-009266	10200	11300	-87	-114	8.5	200	5 mm PQFN-32
MAOC-111100	10800	11415	-88	-113	11	120	5 mm PQFN-32
MAOC-009872	11000	11800	-83	-112	7	165	5 mm PQFN-32
MAOC-009267	11200	12600	-82	-112	6	175	5 mm PQFN-32
MAOC-009269	11400	12800	-83	-110	5	180	5 mm PQFN-32
MAOC-112675	12200	13150	-81	-109	8	90	5 mm PQFN-32
MAOC-113100	12500	13700	-81	-109	8	90	5 mm PQFN-32
MAOC-009270	12200	13800	-78	-107	6.5	165	5 mm PQFN-32
MAOC-009268	12700	14200	-79	-108	9	165	5 mm PQFN-32
MAOC-011027	13400	14400	-79	-108	8	205	5 mm PQFN-32
MAOC-113900	13400	14400	-82	-108	8	90	5 mm PQFN-32
MAOC-114850	14500	15200	-84	-108	3.5	90	5 mm PQFN-32

## Notes



MACOM designs and manufactures semiconductor products for Data Center, Telecommunication and Industrial and Defense applications. Headquartered in Lowell, Massachusetts, MACOM has design centers and sales offices throughout North America, Europe and Asia. MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard.

MACOM has more than 65 years of application expertise with multiple design centers, Si, GaAS and InP fabrication, manufacturing, assembly and test, and operational facilities throughout North America, Europe, and Asia.

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