

APRIL 2023 PRODUCT CATALOG

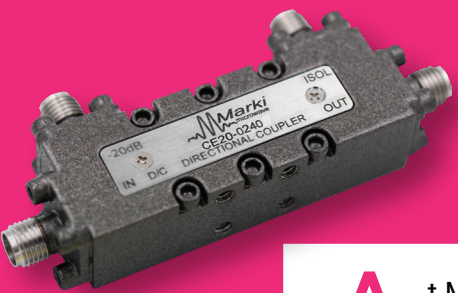
The Marki Experience

PERFORMANCE
THAT WILL
BLOW YOUR MIND

RF, Microwave & mmWave Components
Bare Die, Surface Mount & Connectorized

DC to 140GHz





At Marki Microwave, our mission is to empower you, our customers, to **design faster, simplify production, eliminate complexity, and shatter performance barriers**. We achieve this through intensive research, rigorous product development, and advanced and carefully controlled production.

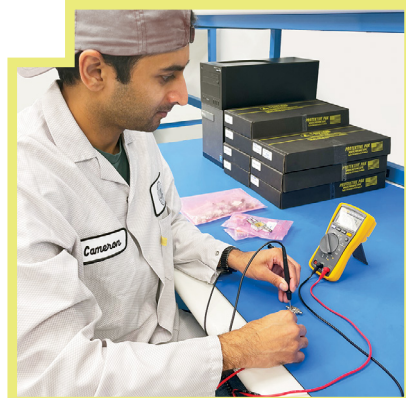
PERFORMANCE

By combining time-honored fabrication and assembly techniques with a modern design approach, we are able to push the technological boundaries of broadband RF and microwave components like never before. With proprietary innovations such as our T3 mixer line and high isolation bridge power combiners, and an expanding portfolio of MMIC devices, we seek to provide the most comprehensive selection of high-performance microwave components in the world.



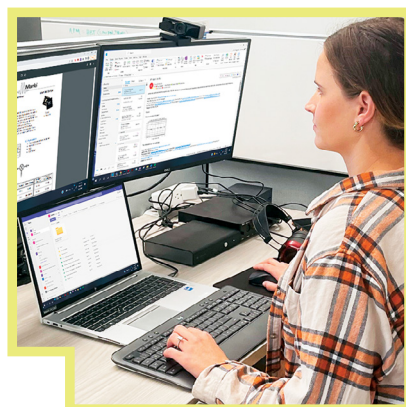
RELIABILITY

In this modern world of outsourcing and commodity pricing, Marki Microwave has prospered by retaining all design, manufacturing, and testing in its Morgan Hill, California facility. We continually invest in advanced test and manufacturing capabilities to ensure products are maintained at the highest level of performance and workmanship. We are ISO9001:2015, ITAR, and REACH compliant.



SUPPORT

We pride ourselves on providing the best technical support of any company in the industry. We offer a full library of application notes, tech notes, web apps, comprehensive datasheets, and device models for ADS and Microwave Office. To further our domain expertise and empower our customers, we've invested heavily in characterizing the performance of our components and the optimization of multi-component solutions.



CAPABILITIES

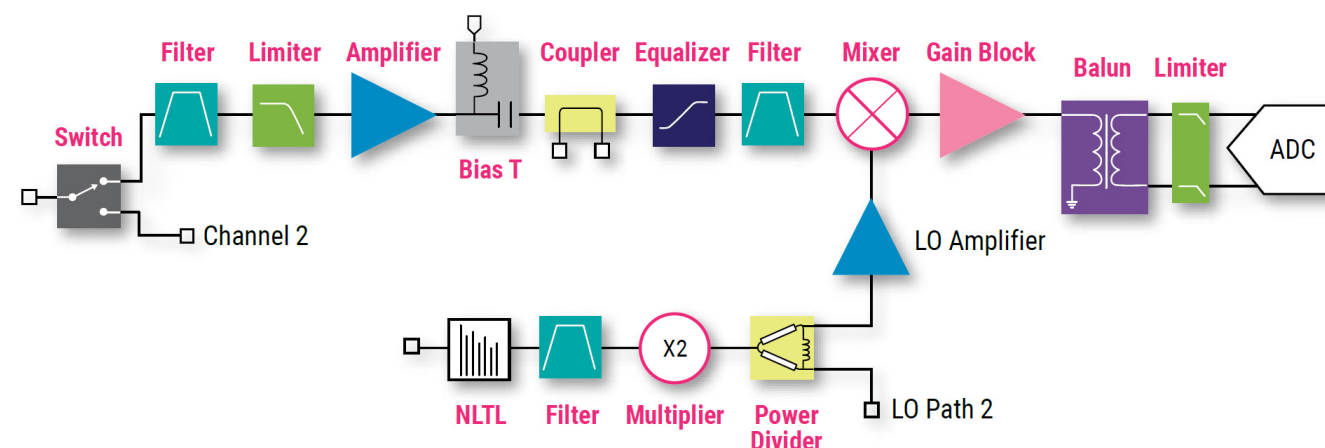
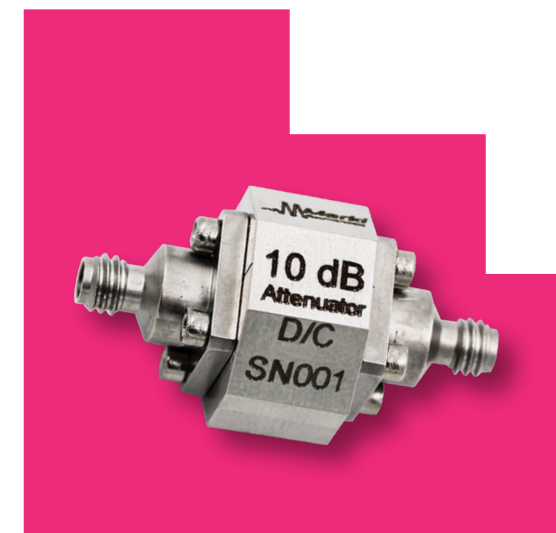
For over 30 years, Marki Microwave has solved its customers' most complex and challenging problems by creating a robust portfolio of performance shattering RF and microwave components.



Marki Microwave is unique in its ability to develop traditional hybrid and MMIC solutions that are co-developed with the package, an integral element in any broadband, high frequency design, without sacrificing key performance parameters.

Founded in 1991 with the goal to develop the best mixers in the industry, Marki Microwave now has the highest performance portfolio of broadband mixers, spanning frequencies from 10 MHz to 130 GHz+ in die, surface mount and connectorized form factors. Leveraging this expertise, combined with continuous innovation in design and investments in infrastructure and headcount, the company has since expanded its microwave component portfolio, which includes a similarly superior family of broadband baluns.

Today, Marki Microwave is a single source for high performance, broadband microwave products, supporting multiple form factors including die, surface mount and connectorized solutions for the entire RF block diagram.



As demands from RF and microwave markets continue to evolve and the supply base consolidates, Marki Microwave remains dedicated to building beyond performance barriers, expanding its catalog and empowering the industry to build next-generation systems.

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■ BARE DIE

AMPLIFIERS, LO Driver

Part Number	Band (GHz)	Gain (dB)	Psat (dBm)	OIP3 (dBm)	Voltage (V)	Current (mA)	ECCN
ADM-5931CH	DC-28	11	+18	+27	+3 to +7 VD and -0.3 to 0 VG	85	EAR99
ADM-5974CH	DC-35	14	+22	+27	+3 to +7 VD and -0.3 to 0 VG	160	3A001.b.2.d
APM-7099CH¹	0.01-20	14	+25	+24	+5 to +8 VC and +5 to +8 VB	72	EAR99
APM-7098CH¹	0.1-22	14	+23	+24	+5 to +8 VC and +5 to +8 VB	44	EAR99
APM-6849CH¹	2-30	11	+21	+21	+5 VC and +5 VB	23	EAR99
AMM-7199CH	11-38	20.5	+21	+31	+3 to +4 VD and -0.6 to -0.4 VG	180	3A001.b.2.d
AMM-7200CH	12-46	18	+21.5	+29	+3 to +4 VD and -0.6 to -0.4 VG	180	3A001.b.2.d
AMM-6702CH	20-55	24	+21	+27	+3 to +4 VD and -0.6 to -0.4 VG	200	3A001.b.2.d
AMM-7203CH	30-60	11.5	+16	+21	+1.5 to +3 VD and -0.6 to -0.4 VG	80	3A001.b.2.d

¹Low Phase Noise

AMPLIFIERS, Gain Block

Part Number	Band (GHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Voltage (V)	Current (mA)	ECCN
AKA-1300D	DC-14	13	5	+14	+28	+3.8 VD	50	EAR99
AKA-1310D	DC-14	13	5	+14	+28	+4.6 VD	50	EAR99
AKA-1400D	DC-14	17	4	+15	+28	+3.8 VD	50	EAR99
AKA-1500D	DC-14	19	4	+16	+28	+4.2 VD	50	EAR99

BALUNS

Part Number	Band (GHz)	Amp Bal (dB)	Phase Bal (°)	Isolation (dB)	Impedance Ratio	Total Insertion Loss as a Mode Converter (dB)	ECCN
MBAL-1440CH	14-40	0.2	1.1	13	1:2	3	EAR99

EQUALIZERS, Positive Gain Slope

Part Number	Band (GHz)	Low Freq Attenuation (dB)	Typ Return Loss (dB)	ECCN
MEQX-7ACH	DC-7	3, 6, 10 & 12.5	29, 29, 27, 27	EAR99
MEQX-14ACH	DC-14	3, 6 & 10	23, 22, 24	EAR99
MEQX-20ACH	DC-20	3, 5, 6, 7.5, 10 & 11	21, 22, 21, 23, 25, 23	EAR99
MEQX-30ACH	DC-30	3, 6 & 10	20	EAR99
MEQX-60ACH	DC-60	3, 6 & 10	15	EAR99

DIPLEXERS

Part Number	Passband Low (GHz)	Passband High (GHz)	Isolation (dB)	ECCN
MDPX-0305CH	DC-3	5-26.5	40	EAR99
MDPX-0407CH	DC-4	7-26.5	38	EAR99
MDPX-0609CH	DC-6	9-26.5	51	EAR99
MDPX-2330CH	DC-23	30-60	20	EAR99
MDPX-2734CH	DC-27	34-60	20	EAR99

*New Release

All electrical specifications given are typical values.

FILTERS

Part Number	Type	Center Freq (GHz)	1dBc Passband (GHz)	Insertion Loss in Passband (dB)	ECCN
MFBA-00004CH	Bandpass	10.00	8.40-12.50	1.9	EAR99
MFB-1100CH	Bandpass	11.00	9.50-12.50	2.0	EAR99
MFBA-00003CH	Bandpass	12.00	10.10-14.10	2.1	EAR99
MFBB-00001CH	Bandpass	15.10	14.60-15.65	2.57	EAR99
MFB-1600CH	Bandpass	16.00	12.60-18.60	1.5	EAR99
MFBA-00001CH	Bandpass	16.00	14.10-17.90	2.4	EAR99
MFB-2025CH	Bandpass	20.25	16.75-24.40	1.5	EAR99
MFBB-00002CH	Bandpass	21.75	20.25-23.25	1.6	EAR99
MFBA-00002CH	Bandpass	22.20	18.10-26.00	1.8	EAR99
MFB-2400CH	Bandpass	24.00	21.00-27.00	1.5	EAR99
MFB-2500CH	Bandpass	25.00	18.00-32.00	1.5	EAR99
MFB-2625CH	Bandpass	26.25	21.50-30.00	1.5	EAR99
MFB-3175CH	Bandpass	31.75	26.60-36.70	1.5	EAR99
MFB-3300CH	Bandpass	33.00	26.00-40.00	1.5	EAR99
MFB-3325CH	Bandpass	33.25	32.00-34.30	2.5	EAR99
MFB-3450CH	Bandpass	35.00	24.00-45.00	1.5	EAR99
MFB-3475CH	Bandpass	34.75	29.95-40.00	2.0	EAR99
◆ MFBC-00017CH*	Bandpass	42.00	34.50-49.50	1.5	EAR99
◆ MFBC-00008CH*	Bandpass	44.50	36.70-51.10	1.5	EAR99
MFB-5350CH	Bandpass	53.50	40.00-67.00	1.2	EAR99
◆ MFBC-00018CH*	Bandpass	53.75	44.50-62.50	2.0	EAR99
◆ MFBC-00009CH*	Bandpass	55.60	46.50-63.50	1.6	EAR99
◆ MFBC-00019CH*	Bandpass	70.00	58.30-77.70	2.85	EAR99
◆ MFBC-00020CH*	Bandpass	93.50	77.35-107.80	3.60	EAR99

HYBRIDS, 90° Quadrature

Part Number	Band (GHz)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	ECCN
MQS-0209CH	2-9	±0.5	±3	16	EAR99
MQS-0218CH	2-18	±1	±3	17	EAR99
MQH-2R58R5CH	2.5-8.5	±0.4	±3	23	EAR99
MQH-3R510CH	3.5-10	±0.4	±1.5	25	EAR99
MQS-0418CH	4-18	±0.4	±0.5	20	EAR99
MQH-0517CH	5-17	±0.5	±6	23	EAR99
MQH-0920CH	9-20	±0.55	±2	21.5	EAR99
MQH-1434CH	14-34	±0.7	±4.5	17	EAR99
MQH-1842CH	18-42	±1.5	±4	15	EAR99

LIMITERS

Part Number	Band (GHz)	Loss (dB)	Flat Leakage (dBm)	Peak Power CW (W)	Peak Power Pulsed (W)	P1dB (dBm)	ECCN
◆ HLM-8011CH*	DC-30	0.4@15GHz	7	1	4.5	+10	EAR99
HLM-40CH	DC-40	0.4@18GHz	18	4	20	+15	EAR99

*New Release

All electrical specifications given are typical values.

IQ MIXERS

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	Image Rej (dBc)	L-R Isolation (dB)	ECCN
MMIQ-0218(L/H)CH	2-18	DC-3	8/7.5	27/35	58/53	EAR99
MMIQ-0416(L/H)CH	4-16	DC-6	9	28/29	58/59	EAR99
MMIQ-0520(L/H)CH	5-20	DC-6	9	35	46	EAR99
MMIQ-0626(L/H)CH	6-26	DC-6	9	35	41	EAR99
MMIQ-1037HCH	10-37	DC-12	9	25	47	EAR99
MMIQ-1040(L/S)CH	10-40	DC-12	9	25	47/44	EAR99
MMIQ-1865(L/H/S)CH	18-65	DC-23	9	35	49/48/50	EAR99
MMIQ-40100(L/H)CH	40-100	DC-20	10	30	see datasheet	EAR99
◆ MMIQ-30120HCH*	30-120	DC-30	8.5	27	40	EAR99

¹Differential IF IQ Mixer

MIXERS, Double Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	ECCN
MM1-0115HCH	1-15	DC-2.5	7.5	+21	+17	EAR99
MM1-0212(L/H/S)CH	2-12	DC-3	8/8.5/8.5	+13/+23/+26	+9/+15/+20	EAR99
MM1-0222(L/H)CH	2-22	DC-3.5	8.5	+12/+20	+9/+15	EAR99
MM1-0312(H/S)CH	3-12	DC-4.5	7.5	+19/+24	+15/+20	EAR99
MM1-0320(L/H)CH	3-20	DC-4	8	+10/+20	+7/+15	EAR99
MM1-0330(H/T)CH	3-30	DC-5	7/9	+21/+32	+19/+23	EAR99
MM1-0424SCH	4.5-24	DC-4	8	+25	+20	EAR99
MM1-0626(H/S)CH	6-26.5	DC-9	7.5/8	+21/+25	+15/+20	EAR99
MM1-0832(L/H)CH	8-32	DC-12	8/7.5	+14/+23	+9/+15	EAR99
MM1-1044(L/H)CH	10-44	DC-14	7.5	+13/+22	+9/+15	EAR99
MM1-1140HCH	11-40	DC-12	8	+21	+15	EAR99
MM1-1240SCH	12-40	DC-12	8	+25	+20	EAR99
MM1-1467(L/H)CH	14-67	DC-21	7	+12/+18	+13/+15	EAR99
MM1-1850(H/S)CH	18-50	DC-20	8/8.5	+21/+25	+15/+20	EAR99
MM1-1857(L/H)CH	18-57	DC-21	8/7.5	+13/+20	+9/+13	EAR99
MM1-2567LCH	25-67	DC-30	9	+9	+13	EAR99
MM1-30100LCH	30-100	DC-20	8.5	see datasheet	+14	EAR99
MM1-35130HCH	35-130	DC-50	8	see datasheet	+12	EAR99
◆ MMH-35120HCH*	35-120, 12-40	DC-14	18	+7	+15	3A001.b.7.c.1

¹Harmonic Mixer

MIXERS, Triple Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	ECCN
MM2-0530(L/H)CH	5-30	2-20	10/9	+19/+28	+15/+20	EAR99
MT3A-0113HCH¹	1-13	0.5-8.5	8.5	+28	+8	EAR99
MT3L-0113HCH	1.5-13	0.25-5	8.5	+31	+20	EAR99
MT3H-0113(L/H)CH	1.5-13	0.8-8.5	8/8.5	+20/+28	+15/+20	EAR99

¹Integrated low phase noise driver amplifier

*New Release

All electrical specifications given are typical values.

PASSIVE MULTIPLIERS & NON-LINEAR TRANSMISSION LINES

Part Number	Type	Input (GHz)	Output (GHz)	1F Supp (dBc)	3F Supp (dBc)	ECCN
MMD-0415HCH	Doubler	2-7.5	4-15	27	36	EAR99
MMD-1030(L/H)CH	Doubler	5-15	10-30	38/41	46/47	EAR99
MMD-1250HCH	Doubler	6-25	12-50	32	40	EAR99
MMD-1648LCH	Doubler	8-24	16-48	44	69	EAR99
MMD-2060(L/H)CH	Doubler	10-30	20-60	37/38	41/40	EAR99
MMD-3580LCH	Doubler	17.5-40	35-80	38	44	EAR99
MMD-20100HCH	Doubler	10-50	20-100	24.5	33	3A001.b.7.b.1
MMD-40120HCH	Doubler	20-60	40-120	30	40	3A001.b.7.b.1
MMQ-40125HCH	Quadrupler	10-31.25	40-125	19	12	3A001.b.7.b.1
NLTL-6273CH	Comb Generator	0.7-5	0.7-40	—	—	EAR99
NLTL-6275CH	Comb Generator	3-15	3-85	—	—	EAR99

POWER DIVIDERS, 1:2

Part Number	Band (GHz)	Amplitude Balance (dB)	Phase Balance (dB)	Isolation (dB)	ECCN
MPD-0226CH	2-26.5	±0.2	±2	20	EAR99

SURFACE MOUNTS

AMPLIFIERS, LO Driver

Part Number	Band (GHz)	Gain (dB)	Psat (dBm)	OIP3 (dBm)	Bias Voltage (V)	Bias Current (mA)	Package	ECCN
ADM-0012-5931SM	DC-12	11	+18	+26	+3 to +7 VD and -0.3 to 0 VG	85	3mm QFN	EAR99
ADM-0026-5929SM	DC-26.5	13	+20	+26	+3 to +7 VD and -0.3 to 0 VG	165	4mm QFN	EAR99
APM-7099SM¹	0.01-20	14	+25	+27	+5 to +8 VC and +5 to +8 VB	72	3mm QFN	EAR99
◆ ADM-8350PSM*	0.09-6	22	+23	+39.5	+3 to +6 VD and +3 to +6 VB	84	1.3x2mm DFN	EAR99
ADM-8096PSM	0.09-6	22	+23	+33	+3 to +6 VD and +3 to +6 VB	58	1.3x2mm DFN	EAR99
ADM-8095PSM	0.09-10	18	+21	+30	+3 to +6 VD and +3 to +6 VB	39	1.3x2mm DFN	EAR99
APM-7098SM¹	0.1-22	15	+23	+22	+5 to +8 VC and +5 to +8 VB	44	4mm QFN	EAR99
AMM-7473PSM	0.4-27	17	+25	+34	+5 to +7 VD and -0.7 to -0.6 VG	150	4mm QFN	EAR99
APM-7516PSM	1.5-20	11	+22	+33	+5 VC and +5 VB	106	4mm QFN	EAR99
APM-6849SM¹	2-30	11	+21	+20	+5 VC and +5 VB	23	3mm QFN	EAR99
ADM-8007PSM	2-40	23	+24	+30	+3 to +6 VD and +3 to +6 VG	218	4mm QFN	3A001.b.2.d
AMM-7199SM	11-38	21	+21	+29	+3 to +4 VD and -0.6 to -0.4 VG	180	3mm QFN	3A001.b.2.d
AMM-7200SM	12-46	18	+22	+29	+3 to +4 VD and -0.6 to -0.4 VG	180	3mm QFN	3A001.b.2.d
AMM-6702SM	20-50	28	+22	+27	+3 to +4 VD and -0.6 to -0.4 VG	200	4mm KFN	3A001.b.2.d

¹Low Phase Noise

BALUNS

Part Number	Band (GHz)	Amp Bal (dB)	Phase Bal (°)	Isolation (dB)	Impedance Ratio	Total Insertion Loss as a Mode Converter (dB)	Package	ECCN
BAL-0003SMG	0.0005-3	0.3	3	9	1:2	3.8	SMG	EAR99
BALH-0003SMG	0.0005-3	0.2	2	7	1:1	2	SMG	EAR99
BAL-0006SMG	0.0005-6	0.4	3	8	1:2	4	SMG	EAR99
BALH-0006SMG	0.0005-6	0.2	3	6	1:1	2	SMG	EAR99
BAL-0009SMG	0.0005-9	0.6	5	8	1:2	4.5	SMG	EAR99
BALH-0009SMG	0.0005-9	0.8	5	6	1:1	2.5	SMG	EAR99
MBAL-0104SM	1-4	0.2	2	8	1:2	2.5	4mm QFN	EAR99
BAL-0208SMG	2-8	0.3	1	17	1:2	2.5	SMG	EAR99
BAL-0416SMG	4-16	0.4	1	15	1:2	3.3	SMG	EAR99
BAL-0012SSG	0.01-12	0.6	5	8	1:2	5	SSG	EAR99
BALH-0012SSG	0.01-12	0.6	5	5.5	1:1	2	SSG	EAR99
BAL-0020SLG	0.01-20	0.4	5	12	1:2	4.5	SLG	EAR99
MBAL-0220SM	2-20	0.25	3	10	1:2	6	4mm QFN	EAR99
BAL-0620SMG	6-20	0.2	1	14	1:2	2.6	SMG	EAR99
BAL-0032SSG	0.01-32	0.5	5	8	1:2	5	SSG	EAR99
MBAL-1445SM	14-45	0.2	2	18	1:2	4.5	4mm QFN	EAR99

*New Release

All electrical specifications given are typical values.

*New Release

All electrical specifications given are typical values.



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BIAS TEES

Part Number	Band (GHz)	Insertion Loss (dB)	DC Current (A)	DC Port Isolation (dB)	DC Voltage (V)	Package	ECCN
BT-0010SMG	0.02-10	0.5	0.5	40	30	SMG	EAR99
BTL-0012SMG	0.0005-12	0.5	0.5	35	30	SMG	EAR99
◆ BTM-0026PSM*	0.01-26	0.43	0.32	25	16	PSM	EAR99
BT-0026SMG	0.02-26	1	0.5	40	35	SMG	EAR99
BTL-0026SMG	0.0005-26	1	0.5	35	30	SMG	EAR99
BT-0035SMG	0.02-35	1	0.5	35	30	SMG	EAR99
BTL-0035SMG	0.0005-35	1	0.5	35	30	SMG	EAR99

COUPLER, Directional

Part Number	Band (GHz)	VSWR	Mean Coupling (dB)	Directivity (dB)	Package	ECCN
MC16-0222SM	2-22	1.22	16	19	4mm QFN	EAR99

HYBRIDS, 90° Quadrature

Part Number	Band (GHz)	Amp Bal (dB)	Phase Bal (°)	Isolation (dB)	Package	ECCN
MQS-0218SM	2-18	±1	±3	15	4mm QFN	EAR99
MQS-0518SM	5-18	±0.5	±2.5	17	4mm QFN	EAR99

EQUALIZERS, Positive Gain Slope

Part Number	Band (GHz)	Low Freq Attenuation (dB)	Typ Return Loss (dB)	Package	ECCN
MEQX-7ASM	DC-7	3, 6, 10 & 12.5	29, 29, 27, 27	3mm QFN	EAR99
MEQX-14ASM	DC-14	3, 6 & 10	23, 28, 29	3mm QFN	EAR99
MEQX-20ASM	DC-20	3, 5, 6, 7.5, 10 & 11	19, 22, 23, 26, 20, 27	3mm QFN	EAR99
MEQ6-26CSP1	DC-26	6	23	1.5mm CSP	EAR99
MEQ10-26CSP1	DC-26	10	17	1.5mm CSP	EAR99
MEQ06-45CSP1	DC-45	6	17	1.5mm CSP	EAR99
MEQ10-45CSP1	DC-45	10	13	1.5mm CSP	EAR99

*New Release

All electrical specifications given are typical values.

FILTERS

Part Number	Type	Center Freq (GHz)	1dBc Passband (GHz)	Insertion Loss in Passband (dB)	Package	ECCN
FB-0785SMG	Bandpass	7.85	7.25-8.45	2.2	SMG	EAR99
FB-0850SM	Bandpass	8.50	7.85-9.20	2	SM	EAR99
MFBC-00001PSM	Bandpass	8.70	7.40-9.90	2	5mm QFN	EAR99
FB-0900SM	Bandpass	9.00	8.40-9.60	2.2	SM	EAR99
FB-0955SM	Bandpass	9.55	8.90-10.20	2	SM	EAR99
MFBA-00004PSM	Bandpass	10.00	8.40-12.25	1.9	5mm QFN	EAR99
FB-1050SM	Bandpass	10.50	9.60-11.40	2	SM	EAR99
MFBC-00002PSM	Bandpass	11.00	9.13-12.40	1.8	5mm QFN	EAR99
FB-1140SM	Bandpass	11.40	10.45-12.35	2	SM	EAR99
MFBA-00003PSM	Bandpass	12.00	10.10-14.10	2.1	5mm QFN	EAR99
FB-1215SM	Bandpass	12.15	11.35-12.95	2	SM	EAR99
FB-1300SMG	Bandpass	13.00	12.00-14.00	2	SMG	EAR99
MFBC-00003PSM	Bandpass	14.15	11.85-15.90	1.7	5mm QFN	EAR99
FB-1445SM	Bandpass	14.45	13.20-15.70	2	SM	EAR99
MFB-1445SM	Bandpass	14.45	13.60-15.10	3.8	3mm QFN	EAR99
FB-1575SMG	Bandpass	15.75	14.60-16.90	2	SMG	EAR99
MFBA-00001PSM	Bandpass	16.00	14.10-17.90	2.4	5mm QFN	EAR99
MFBC-00004PSM	Bandpass	17.50	14.90-19.90	1.6	5mm QFN	EAR99
MFBC-00005PSM	Bandpass	22.00	18.60-25.10	1.4	5mm QFN	EAR99
MFBA-00002PSM	Bandpass	22.20	18.10-26.00	1.8	5mm QFN	EAR99
MFBC-00006PSM	Bandpass	28.00	23.60-32.20	1.6	5mm QFN	EAR99
MFBC-00007PSM	Bandpass	35.00	30.10-39.30	1.5	5mm QFN	EAR99
◆ MFBC-00016PSM*	Bandpass	36.00	30.60-41.00	1.21	5mm QFN	EAR99

DIPLEXERS

Part Number	Passband Low (GHz)	Passband High (GHz)	Isolation (dB)	Package	ECCN
DPX-M50	DC-0.035	0.07-10	24	SM	EAR99
DPX-0R5	DC-0.36	0.7-8	24	SM	EAR99
DPX-1	DC-0.85	1.4-5	24	SM	EAR99
DPX-2	DC-1.5	2.7-7	25	SM	EAR99
DPX-3	DC-2.3	4.2-8	25	SM	EAR99
DPX-4	DC-2.8	5.5-12	30	SM	EAR99
◆ MDPX-0305PSM*	DC-3	5-26.5	37	3mm QFN	EAR99
◆ MDPX-0407PSM*	DC-4	7-26.5	38	3mm QFN	EAR99

*New Release

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IQ MIXERS

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	Image Rej (dBc)	L-R Isolation (dB)	Package	ECCN
MMIQ-0106HCSM	1.5-5.5	DC-3	8	33	62	5mm QFN	EAR99
MMIQ-0205HSM	1.75-5	DC-2	8	32	61	5mm QFN	EAR99
MMIQ-0218(L/H)SM	2-18	DC-3	8	27/35	58/53	6mm QFN	EAR99
MMIQ-0416(L/H)SM	4-16	DC-6	9/8.5	35/31	51	4mm QFN	EAR99
MMIQ-0520(L/H)SM	5-20	DC-6	9	35	46/39	4mm QFN	EAR99
MMIQ-0626(L/H)SM	6-26	DC-6	9	35	39/36	4mm QFN	EAR99
MMIQ-1040(L/H)SM	10-40	DC-10	9	35	50/40	4mm QFN	EAR99
MMIQ-1867(L/H)SM	18-67	DC-23	9	32/29	48.5/44	4mm QFN	EAR99

MIXERS, Double Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	Package	ECCN
MM1-0115HPSM	1-15	DC-2.5	8	+21	+17	4mm QFN	EAR99
MM1-0212(L/H/S)SM	2-12	DC-3	8.5/8.5/9	+13/+25/+28	+9/+15/+20	4mm QFN	EAR99
MM1-0222(L/H)SM	2-22	DC-3.5	7/7.5	+11.5/+20	+11/+20	3mm QFN	EAR99
MM1-0312(H/S)SM	3-12	DC-4.5	7	+19/+24	+15/+20	3mm QFN	EAR99
MM1-0320HSM	3-20	DC-4	8	+20	+15	3mm QFN	EAR99
MM1-0424SSM	4.5-24	DC-4	8	+25	+20	3mm QFN	EAR99
MM1-0626(H/S)SM	6-26.5	DC-9	7.5/8	+21/+24.5	+15/+20	3mm QFN	EAR99
MM1-0726HSM	7-26.5	DC-9	7.5	+17	+20	3mm QFN	EAR99
MM1-0832(L/H)SM	8-32	DC-12	8.5/8	+11/+20.5	+9/+15	3mm QFN	EAR99
MM1-0832HPSM	8-32	DC-12	8	+23	+15	3mm QFN	EAR99
MM1-1040HPSM	10-40	DC-12	9	+20	+15	3mm QFN	EAR99
MM1-1130HSM	11-30	DC-12	7	+21	+15	3mm QFN	EAR99
MM1-1453(L/H)SM	14-53	DC-22	8/7.6	+13/+17	+13/+15	4mm QFN	EAR99
MM1-1850(H/S)SM	18-50	DC-21	8.7/9.7	+17/+28	+15/+20	4mm KFN	EAR99
MM1-2567LSM	25-67	DC-30	11	+9	+9	3mm QFN	EAR99

MIXERS, Triple Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	Package	ECCN
MM2-0530(L/H)SM	5-30	2-20	10/9	+19/+28	+15/+20	4mm QFN	EAR99
MM2D-0528SCSM¹	5-28	DC-12	10	+31	+28	4mm QFN	EAR99
MT3-0113(L/H/S)CQG	1.5-13	0.01-7	7.5/7.5/8.5	+24/+30/+36	+15/+20/+27	CQG	EAR99
MT3D-0113LSM¹	1.5-13	see plots	7.5	+27	+17	4mm QFN	EAR99
MT3D-0325HCSM¹	3-25	DC-6	7.5	+25	+20	4mm QFN	EAR99
MT3L-0113HSM	1.5-13	0.25-5	8.5	+20	+31	4mm QFN	EAR99
MT3H-0113(L/H)SM	1.5-13	0.8-8.5	8	+22/+29	+15/+20	4mm QFN	EAR99
T3-18GLCTG	0.01-18	0.001-10	7.5	+30	+20	CQG	EAR99
T3H-18GLCTG	0.01-18	0.01-18	9.5	+30	+20	CQG	EAR99
T3-20GLCTG	0.01-20	0.001-10	7.5	+30	+20	CQG	EAR99
T3H-20GLCTG	0.01-20	0.01-18	9.5	+30	+20	CQG	EAR99

¹Differential IF

MIXERS, Integrated Drive

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	Package	ECCN
MT3A-0113HCSM	1.5-13	0.5-8.5	9.5	+28	+5 to +15	6mm QFN	EAR99
MM1A-0222HPSM	2-22	DC-3.5	7.5	+17	+3 to +15	5mm QFN	EAR99
MM1A-0622HPSM	6-22	DC-9	7.5	+21	+3 to +15	5mm QFN	EAR99
MM1A-0832HPSM	8-32	DC-12	9	+24	-6 to +6	3x4.6mm QFN	EAR99
MM1A-1040HPSM	10-40	DC-12	10	+23	+3 to +9	3x4.6mm QFN	EAR99
MM1A-1855HPSM	18-55	DC-21	9	+20	+4 to +10	3x4.6mm QFN	EAR99

PASSIVE MULTIPLIERS & NON-LINEAR TRANSMISSION LINES

Part Number	Type	Input (GHz)	Output (GHz)	1F Supp (dBc)	3F Supp (dBc)	Package	ECCN
MMD-0415HPSM*	Doubler	2-7.5	4-15	27	38	3mm QFN	EAR99
MMD-1030(LC*/H)SM	Doubler	5-15	10-30	31/34	43/46	3mm QFN	EAR99
MMD-2050(L/H)SM	Doubler	10-25	20-50	35/33	46/40	3mm QFN	EAR99
NLTL-6794SM	Comb Generator	0.1-1	0.1-30	—	—	6mm QFN	EAR99
NLTL-6796SM	Comb Generator	0.5-3.5	0.5-50	—	—	6mm QFN	EAR99
NLTL-6273SM	Comb Generator	0.7-5	0.7-24	—	—	5mm QFN	EAR99

POWER DIVIDERS, 1:2

Part Number	Band (GHz)	Excess Loss (dB)	Amp Bal (dB)	Isolation (dB)	Type	Package	ECCN
PD-0030SMG	DC-30	1	±0.25	6	Resistive	SMG	EAR99
PBR-0003SMG	0.01-3	1.5	±0.8	40	High Isolation	SMG	EAR99
PBR-0006SMG	0.01-6	1.7	±0.8	35	High Isolation	SMG	EAR99
PBR-0012SMG	0.01-12	1.7	±1	30	High Isolation	SMG	EAR99
MPD-0226SM	2-26.5	1.5 to 3	±0.2	20	Wilkinson	4mm QFN	EAR99
PD-0434SM	4-34	1.5	±0.25	20	High Isolation	SM	EAR99
PD-0530SMG	5-30	1.5	±0.1	25	Wilkinson	SMG	EAR99
PD-0535SM	5-35	1.5	±0.25	18	Wilkinson	SM	EAR99

ATTENUATORS

Part Number	Band (GHz)	Attenuation (dB)	Accuracy (dB)	Return Loss (dB)	Package	ECCN
ATN03-0050CSP1	DC-50	3	see datasheet	20	1.5mm CSP	EAR99
ATN06-0050CSP1	DC-50	6	see datasheet	20	1.5mm CSP	EAR99
ATN10-0050CSP1	DC-50	10	see datasheet	24	1.5mm CSP	EAR99

LIMITERS

Part Number	Band (GHz)	Loss (dB)	Flat Leakage (dB)	Average Power Handling (W)	Peak Power Handling (W)	P1dB (dBm)	Package	ECCN
DLM-10SM	DC-10	0.75	Adjustable	0.5	—	+10	3mm QFN	EAR99
HLM-20PSM	DC-20	0.7@10GHz	15	5	50	+15	4mm QFN	EAR99
HLM-40PSM	DC-40	0.7@20GHz	15	2.5	9.5	+14	4mm QFN	EAR99

*New Release

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CONNECTORIZED MODULES

AMPLIFIERS

Part Number	Band (GHz)	Gain (dB)	Psat (dBm)	OIP3 (dBm)	Voltage (V)	Current (mA)	ECCN
ADM3-00001PD	0.0003-18	37	+23	+31	See Datasheet	120, 120, 100	EAR99
ADM1-0026PA	0.005-26.5	12	+20	+25	+3 to +7 VD and -0.3 to 0 VG	165	EAR99
ADM1-8096PC	0.09-6	22.5	+23	+35	+3V to +6V Vd	84	EAR99
ADM1-8095PC	0.09-10	18	+19	+32	+3V to +6V Vd	57	EAR99
ADM3-0022PA	0.01-22	35	+30	+31	See Datasheet	115, 115, 450	EAR99
APM-7099PA	0.1-20	14	+25	+24	+8 VC and +7 VB	72	EAR99
APM-7098PA	0.1-22	14	+23	+24	+8 VC and +7 VB	44	EAR99
ADM2-0035PA	0.1-35	23	+23	+30	+3 to +7 VD and -0.3 to 0 VG	320	EAR99
APM-7516PA	1-22	12.5	+23	+33	+5 VC and +5 VB	106	EAR99
APM-6849PA	2-30	11	+21	+21	+7 VC and +7 VB	21	EAR99
ADM1-8007PC	2-40	22	+22	+30	+3 to +6 VD and +3 to +6VG	213	EAR99
AMM-7199UC	11-38	20.5	+21	+31	+3 to +4 VD and -0.6 to -0.4 VG	180	EAR99
AMM-7200UC	12-46	18	+21.5	+29	+3 to +4 VD and -0.6 to -0.4 VG	180	EAR99
AMM-6702UC/UC5	20-55	24	+21	+27	+3 to +4 VD and -0.6 to -0.4 VG	180/230	EAR99
◆ AMM-8211UC5*	22-57	13	+21	+27	+3.5 to +5.5 VB	175	EAR99
AMM-7203UC	30-60	11.5	+16	+21	+1.5 to +3 VD and -0.6 to -0.4 VG	80	EAR99
A-3567UC	35-67	18	+20	+26	+3 to +4 VD and -0.6 to -0.4 VG	300	EAR99

BALUNS

Part Number	Band (GHz)	Amp Bal (dB)	Phase Bal (°)	Isolation (dB)	Turns Ratio	Total Insertion Loss as a Mode Converter (dB)	ECCN
BAL-0003	0.0002-3	0.05	1	8	1:2	4	EAR99
BALH-0003	0.0002-3	0.1	1	7	1:1	1.5	EAR99
BAL-0006	0.0002-6	0.05	1	9	1:2	4.5	EAR99
BALH-0006	0.0002-6	0.1	1	8	1:1	2.5	EAR99
BAL-0010	0.0002-10	0.2	2	9	1:2	5	EAR99
BALH-0010	0.0002-10	0.2	2	8	1:1	2.5	EAR99
BAL-0106	1.2-6	0.1	2	6	1:2	0.6	EAR99
BAL-0212	2.6-12	0.1	2	6	1:2	1	EAR99
BAL-0520	5-20	0.2	3	6	1:2	1.5	EAR99
BAL-0026	0.0003-26.5	0.5	3	24	1:2	2.5	EAR99
BAL-0036	0.0003-36	0.5	3	24	1:2	3	EAR99
BAL-0050	0.0003-50	0.7	4	25	1:2	3	EAR99
BAL-0067	0.0003-67	0.7	4	25	1:2	3	EAR99

PULSE INVERTERS, Broadband, Fast Rise Time

Part Number	Band (GHz)	Loss (dB)	Rise/Fall Time (ps)	ECCN
INV-0026	0.0001-26.5	2	13	EAR99
INV-0040	0.0001-40	2.5	13	EAR99
INV-0065	0.0001-65	5	12	EAR99

*New Release

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BIAS TEES

Part Number	Band (GHz)	DC Voltage (V)	DC Current (A)	Insertion Loss (dB)	ECCN
BT-0018	0.00004-18	30	0.5	0.6	EAR99
BTN1-0018	0.0005-18	50	1	0.7	EAR99
BTN2-0018	0.003-18	50	2	0.7	EAR99
BT-0025	0.00004-25	30	0.5	0.8	EAR99
BT-0026	0.01-26.5	30	0.5	0.8	EAR99
BT1-0026	0.0002-26.5	50	1	1	EAR99
BT2-0026	0.0002-26.5	50	2	1	EAR99
BTN1-0026	0.0005-26.5	50	1	1	EAR99
BTN2-0026	0.003-26.5	50	2	1	EAR99
BT-0040	0.000004-40	30	0.5	1.5	EAR99
BTN-0040	0.00004-40	30	0.5	1.5	EAR99
BT1-0040	0.0002-40	50	1	1.5	EAR99
BT2-0040	0.0002-40	50	2	1.5	EAR99
BTN1-0040	0.0005-40	50	1	1.5	EAR99
BTN2-0040	0.003-40	50	2	1.5	EAR99
BT-0050	0.0002-50	30	0.5	1.8	EAR99
BTN-0050	0.0002-50	30	0.5	1.8	EAR99
BT1-0050	0.0002-50	50	1	1.5	EAR99
BT2-0050	0.0002-50	50	2	1.5	EAR99
BTN1-0050	0.0005-50	50	1	1.5	EAR99
BTN2-0050	0.003-50	50	2	1.5	EAR99
BT-0065	0.000004-65	30	0.5	1.8	EAR99
BTN-0065	0.00004-65	30	0.5	2.0	EAR99

COUPLERS, Elite Stripline Directional

Part Number	Band (GHz)	Coupling (dB)	IL Corrected Directivity (dB)	Flatness (dB)	VSWR	ECCN
CE10-0R620T	0.6-20	10	27	±0.2	1.07	EAR99
CE10-0R640(T)	0.6-40	10	24/22	±0.2	1.07/1.08	EAR99
CE10-1R520T	1.5-20	10	32	±0.25	1.07	EAR99
CE10-1R540(T)	1.5-40	10	26/22	±0.25	1.07	EAR99
CE13-0220T	2-20	13	30	±0.15	1.07	EAR99
CE13-0240(T)	2-40	13	29/27	±0.15	1.07/1.08	EAR99
CE16-0220T	2-20	16	32	±0.1	1.07	EAR99
CE16-0240(T)	2-40	16	30/29	±0.1	1.07	EAR99
CE20-0R620T	0.6-20	20	26	±0.15	1.07	EAR99
CE20-0R640(T)	0.6-40	20	27/24	±0.15	1.07	EAR99
CE20-0220T	2-20	20	30	±0.1	1.07	EAR99
CE20-0240(T)	2-40	20	33/28	±0.1	1.05/1.07	EAR99

COUPLERS, High Directivity Bridge

Part Number	Band (GHz)	Coupling (dB)	Directivity (dB)	VSWR	ECCN
CBR16-0003	0.0002-3	16	40	1.1	EAR99
CBR16-0006	0.0002-6	16	38	1.15	EAR99
CBR16-0012	0.0002-12	16	32	1.25	EAR99
CBR17-0036	0.0002-36	17	23	1.22	EAR99

COUPLERS, Stripline Directional

Part Number	Band (GHz)	Coupling (dB)	Directivity (dB)	Flatness (dB)	VSWR	ECCN
C09-0R412	0.45-12	9	22	±0.7	1.15	EAR99
C09-0R418	0.45-18	9	22	±0.7	1.15	EAR99
C09-0R426	0.45-26.5	9	22	±0.7	1.15	EAR99
C09-0R430	0.45-30	9	20	±0.7	1.15	EAR99
C20-0R612	0.6-12	20	22	±0.6	1.2	EAR99
C10-0116	1-16	10	20	±0.5	1.15	EAR99
C20-0116	1-16	20	20	±0.6	1.15	EAR99
C20-0R518	0.5-18	20	22	±0.75	1.2	EAR99
C20-0R520	0.5-20	20	22	±0.75	1.2	EAR99
C13-0126	1-26.5	13	20	±0.6	1.15	EAR99
C16-1R718	1.7-18	16	20	±0.3	1.15	EAR99
C16-1R726	1.7-26.5	16	20	±0.4	1.15	EAR99
C10-0226	2-26.5	10	22	±0.6	1.15	EAR99
C20-0226	2-26.5	20	22	±0.75	1.25	EAR99
C13-0140	1-40	13	16	±0.1	1.2	EAR99
C20-0240	2-40	20	17	±0.75	1.3	EAR99
C13-0150	1-50	13	16	±0.75	1.2	EAR99
C10-0450	4-50	10	15	±0.5	1.35	EAR99
C10-0667	6-67	10	17	±0.8	1.2	EAR99
C16-0667	6-67	16	17	±0.9	1.25	EAR99
C20-0667	6-67	20	17	±0.8	1.25	EAR99

COUPLERS, Low Loss High Power

Part Number	Band (GHz)	Coupling (dB)	Directivity (dB)	Loss (dB)	Average Power Handling (W)	ECCN
C17-0R506	0.5-6	17	20	0.4	120	EAR99
C17-0R512	0.5-12	17	20	0.65	80	EAR99
C17-0R518	0.5-18	17	20	1	60	EAR99
CA-18	DC-18	> 30	22	0.35	200	EAR99
CA-26	DC-26.5	> 27	24	0.35	50	EAR99
CA-40	DC-40	> 27	24	0.5	20	EAR99
CA-50	DC-50	> 27	24	0.5	15	EAR99
C-0250	2-50	12	15	0.7	10	EAR99
C-0265	2-65	12	15	0.7	10	EAR99

COUPLERS, Dual Directional

Part Number	Band (GHz)	Coupling (dB)	Directivity (dB)	Flatness (dB)	VSWR	ECCN
CD10-0106	0.7-6.3	10	25	±0.6	1.14	EAR99
CD10-0114	0.7-14.7	10	23	±0.6	1.17	EAR99

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COUPLERS, Pick-Off Tees

Part Number	Band (GHz)	Pick-Off Loss (dB)	Insertion Loss (dB)	ECCN
PT-0020	DC-20	16	2	EAR99
PT-0030/A	DC-30	16	2	EAR99

COUPLERS, 90° Quadrature Hybrids

Part Number	Band (GHz)	Amp Bal (dB)	Phase Bal (°)	Excess Loss (dB)	Isolation (dB)	ECCN
QH-0R518	0.5-18	±0.5	±3	1.5	20	EAR99
QH-0R71R3	0.65-1.3	±0.3	±3	0.5	16	EAR99
QH-0R714	0.7-14.5	±0.2	±2	1.2	22	EAR99
MQS-0209UB	2-9	±0.5	±3	2	16	EAR99
MQS-0218UA	2-18	±1	±3	1.4	17	EAR99
QH-0226	2-26.5	±0.25	±2	2	22	EAR99
MQH-2R58R5UB	2.5-8.5	±0.4	±3	2	23	EAR99
MQH-3R510UB	3.5-10	±0.4	±1.5	1.8	25	EAR99
MQS-0418UA	4-18	±0.4	±0.5	1.5	20	EAR99
QH-0440	4-40	±0.4	±5	2	18	EAR99
MQH-0517UB	5-17	±0.5	±6	1.6	23	EAR99
QH-0550	5-50	±0.6	±5	1	22	EAR99
QH-0867	8-67	±0.6	±6	1.2	18	EAR99

EQUALIZERS, Positive-Slope

Part Number	Band (GHz)	Loss at DC (dB)	Typ Return Loss (dB)	ECCN
EQX-26	DC-26	3, 6	21, 15	EAR99
EQX-40	DC-40	3, 6	18	EAR99
MEQX-26AS	DC-26.5	3, 6, 10	18, 20, 20	EAR99
MEQ10-50AU	DC-50	10	15	EAR99
Additional MMIC Equalizer modules available upon request.				EAR99

FILTERS: Lowpass, Highpass, Bandpass, Diplexer

The filters below are a small sample of Marki Microwave's extensive portfolio. Visit markimicrowave.com for the full catalog of filters.

LOWPASS

Part Number	3dB Cutoff (GHz)	Passband Insertion Loss (dB)	Passband Return Loss (dB)	Frequency @ 50 dB Supp (GHz)	ECCN
FLP-0490	4.9	0.6	30	9.3	EAR99
FLP-2650	26.5	1.5	15	36.5	EAR99
FLP-5000	50	2	15	62	EAR99

***New Release**

All electrical specifications given are typical values.
Visit markimicrowave.com for more connectorized components.

HIGHPASS

Part Number	Cutoff (GHz)	30dB Rejection Freq (GHz)	50dB Rejection Freq (GHz)	80dB Rejection Freq (GHz)	ECCN
FH-1700	17	14	11.5	6	EAR99
FH-2600	26	21.5	18	11	EAR99
FH-5500	55	51	45	35	EAR99

BANDPASS

Part Number	Center Freq (GHz)	Low Freq 1dB Cutoff (GHz)	High Freq 1dB Cutoff (GHz)	Insertion Loss @ Center Freq (GHz)	ECCN
FB-0905	9.05	8.45	9.65	3.00	EAR99
◆ MFB-3475U*	34.75	28.90	39.40	2.80	EAR99
FB-4000	40.00	34.40	45.60	3.00	EAR99
◆ MFBC-00017M*	42.00	34.50	49.50	2.00	EAR99
◆ MFBC-00008M*	44.50	36.70	51.10	2.15	EAR99
◆ MFBC-00018M*	53.75	44.50	62.50	2.15	EAR99
◆ MFBC-00009M*	55.60	46.50	63.50	2.25	EAR99
◆ MFBC-00019M*	70.00	58.30	77.70	2.85	EAR99
◆ MFBC-00020M*	93.50	77.35	107.80	3.60	EAR99

DIPLEXERS

Part Number	Passband Low (GHz)	Passband High (GHz)	Isolation (dB)	ECCN
MDPX-0305	DC-3	5-26.5	47	EAR99
MDPX-0407	DC-4	7-26.5	38	EAR99
MDPX-0609	DC-6	9-26.5	58	EAR99

IQ MIXERS

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	Image Rej (dBc)	L-R Isolation (dB)	ECCN
MMIQ-0205HXA	1.75-5	DC-2	8	32	61	EAR99
MMIQ-0218(L/H)XPC	2-18	DC-3	8/7.5	27/35	58/53	EAR99
MMIQ-0416(L/H)S	4-16	DC-6	9	28/29	58/59	EAR99
MMIQ-0520(L/H)S	5-20	DC-6	9	35	46	EAR99
MMIQ-0626(L/H)S	6-26	DC-6	9	35	41	EAR99
MMIQ-1037H	10-37	DC-12	9	25	47	EAR99
MMIQ-1040(L/S)S	10-40	DC-12	9	25	47/44	EAR99
MMIQ-1865(L/H/S)UB	18-65	DC-23	9	35	49/48/50	EAR99
MMIQ-4067LU	40-67	DC-20	9	35	33	EAR99
MMIQ-40100(L/H)M	40-100	DC-20	10	30	see datasheet	EAR99
◆ MMIQ-30120HM*¹	30-120	DC-30	8.5	27	40	EAR99

¹Differential IF IQ Mixer

*New Release

All electrical specifications given are typical values.

Visit markimicrowave.com for more connectorized components.

MIXERS, Double Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	ECCN
MM1-0115HS	1-15	DC-2.5	7.5	+21	+17	EAR99
MM1-0212(L/H/S)S	2-12	DC-3	8/8.5/8.5	+13/+23/+26	+9/+15/+20	EAR99
MM1-0222(L/H)S	2-22	DC-3.5	8.5	+11.5/+20	+9/+15	EAR99
MM1-0312(H/S)S	3-12	DC-4.5	7.5	+19/+24	+15/+20	EAR99
MM1-0320(L/H)S	3-20	DC-4	8	+10/+20	+7/+15	EAR99
MM1-0330(H/I)S	3-30	DC-5	7/9	+21/+32	+19/+23	EAR99
MM1-0424SS	4.5-24	DC-4	8	+25	+20	EAR99
MM1-0626(H/S)S	6-26.5	DC-9	7.5/8	+21/+25	+15/+20	EAR99
MM1-0832(L/H)S	8-32	DC-12	8/7.6	+14/+23	+9/+15	EAR99
MM1-1044(L/H)S	10-44	DC-14	7.6	+13/+22	+9/+15	EAR99
MM1-1140HS	11-40	DC-12	8	+21	+15	EAR99
MM1-1240SS	12-40	DC-12	8	+25	+20	EAR99
MM1-1467(L/H)S	14-67	DC-21	7	+12/+17.5	+11/+15	EAR99
MM1-1850(H/S)S	18-50	DC-20	8/8.5	+21/+25	+15/+20	EAR99
MM1-1857(L/H)S	18-57	DC-21	8/7.5	+13/+20	+9/+13	EAR99
MM1-2567LS	25-67	DC-30	9	+9	+13	EAR99
MM1-30100LM	30-100	DC-20	8.5	see datasheet	+14	EAR99
◆ MMH-35120HM*¹	35-120, 12-40	DC-14	18	+7	+15	3A001.b.7.c.1

¹Harmonic Mixer

MIXERS, Triple Balanced

Part Number	RF/LO (GHz)	IF (GHz)	Conversion Loss (dB)	IIP3 (dBm)	LO Drive (dBm)	ECCN
MT3A-0113HPA¹	1-13	0.5-8.5	9.5	+28	+12	EAR99
MT3L-0113HS	1.5-13	0.25-5	8.5	+31	+20	EAR99
MT3H-0113(L/H)S	1.5-13	0.8-8.5	8/8.5	+20/+28	+15/+20	EAR99
T3-18GLS	0.01-18	0.001-10	7.5	+25	+20	EAR99
T3H-18GLS	0.01-18	0.01-18	9.5	+30	+20	EAR99
T3-20GLS	0.01-20	0.001-10	7.5	+30	+20	EAR99
T3H-20G(L/I)S	0.01-20	0.01-20	9.5	+30	+20	EAR99
T3-0838GLN	8-38	0.01-10	8	+30	+20	EAR99
T3-1040GLN	10-40	1-18	8	+25	+20	EAR99
MM2-0530(L/H)S	5-30	2-20	10/9	+15/+21	+15/+20	EAR99

¹Integrated low phase noise driver amplifier

PASSIVE MULTIPLIERS & NON-LINEAR TRANSMISSION LINES

Part Number	Type	Input (GHz)	Output (GHz)	1F Suppression (dBc)	3F Suppression (dBc)	ECCN
MMD-0415HS	Doubler	2-7.5	4-15	27	36	EAR99
MMD-1030(L/H)S	Doubler	5-15	10-30	38/41	46/51	EAR99
MMD-1250HU	Doubler	6-25	12-50	32	40	EAR99
MMD-1648LS	Doubler	8-24	16-48	44	69	EAR99
MMD-2060(L/H)U	Doubler	10-30	20-60	37/38	41/40	EAR99
MMD-20100HM	Doubler	10-50	20-100	24.5	33	3A001.b.7.b.1
MMD-3567LU	Doubler	17.5-33.5	35-67	38	44	EAR99
MMD-3580LU-KW	Doubler	17.5-40	35-80	38	44	EAR99
MMD-40120HM	Doubler	20-60	40-120	30	40	3A001.b.7.b.1
MMQ-40125HM	Quadrupler	10-31.25	40-125	19	12	3A001.b.7.b.1
NLTL-6273S	Comb Generator	0.7-5	0.7-40	-	-	EAR99
			-85	-	-	EAR99

ACTIVE MULTIPLIERS

Part Number	Input (GHz)	Output (GHz)	Input (dBm)	Output (dBm)	ECCN
ADA-0416	2-8	4-16	0 to +6	+16	EAR99
ADA-1030	5-15	10-30	0 to +6	+16	EAR99
AQA-2156	5.25-14	21-56	-2 to +6	+20	EAR99
ADA-2052	10-26	20-52	-6 to +2	+16	EAR99

POWER DIVIDERS, High Isolation

Part Number	Band (GHz)	Loss (dB)	Amplitude Balance (dB)	Isolation (dB)	ECCN
PBR-0003	.0003-3	1.25	±0.4	45	EAR99
PBR-0006	.0003-6	1.5	±0.5	40	EAR99
PBR-0012	.0003-12	1.5	±0.6	35	EAR99

POWER DIVIDERS, Wilkinson 1:2

Part Number	Band (GHz)	Loss (dB)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	ECCN
PD-0R413	0.4-13.2	1	±0.05	±1	24	EAR99
PD-0R426	0.4-26	2	±0.05	±2	24	EAR99
PD-0R510	0.5-10	0.9	±0.1	±1	22	EAR99
PD-0R618	0.6-18	1	±0.05	±1	22	EAR99
PD-0R636	0.6-36	2	±0.1	±3	22	EAR99
PD-0109	1-9	0.75	±0.1	±1	22	EAR99
PD-0126	1-26	1	±0.1	±3	20	EAR99
PD-0140	1-40	1.5	±0.2	±2	20	EAR99
PD-0150	1-50	2	±0.25	±3	20	EAR99
PD-0165	1-65	5	±0.25	±3	20	EAR99
PD-0218	2-18	1	±0.2	±2	22	EAR99
PD-0220	2-20	1	±0.2	±2	22	EAR99
PD-0426	4-26.5	0.8	±0.2	±2	18	EAR99
PD-0440	4-40	1	±0.2	±3	18	EAR99
PD-0450	4-50	1.2	±0.5	±5	18	EAR99
PD-0465	4-65	2	±0.5	±5	18	EAR99

POWER DIVIDERS, Wilkinson 1:3

Part Number	Band (GHz)	Loss (dB)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	ECCN
PD3-0R412	0.4-12	1.5	±0.1	±2	23	EAR99
PD3-0R616	0.6-16	1.5	±0.1	±2	24	EAR99
PD3-0126	1.5-26.5	1.5	±0.3	±4	24	EAR99

POWER DIVIDERS, Wilkinson 1:4

Part Number	Band (GHz)	Loss (dB)	Amplitude Balance (dB)	Phase Balance (°)	Isolation (dB)	ECCN
PD4-0R518	0.5-18	1.5	±0.25	±3	20	EAR99
PD4-0R526	0.5-26.5	2.5	±0.25	±3	19	EAR99
PD4-0R532	0.5-32	2.5	±0.3	±4	19	EAR99
PD4-0120	1-20	1.5	±0.25	±3	20	EAR99
PD4-0126	1-26.5	1.5	±0.3	±3	20	EAR99
PD4-0140	1-40	2.5	±0.4	±4	19	EAR99
PD4-0150	1-50	4	±0.5	±5	20	EAR99
PD4-0218	2-18	1.2	±0.2			

POWER DIVIDERS, Resistive 1:2

Part Number	Band (GHz)	Loss (dB)	Amplitude Balance (dB)	Phase Balance (°)	ECCN
PD-0010	DC-10	0.25	±0.1	±1	EAR99
PD-0020	DC-20	0.5	±0.2	±2	EAR99
PD-0030	DC-30	0.5	±0.25	±2	EAR99
PD-0040	DC-40	0.75	±0.25	±2	EAR99

ADAPTERS, High Performance

Part Number	Band (GHz)	Loss (dB)	VSWR	Description	ECCN
ADP-2429	DC-40	0.3	1.2	2.4(M/F) to 2.92(M/F)	EAR99
ADP-29	DC-40	0.3	1.2	2.92(M/F) to 2.92(M/F)	EAR99
ADP-24	DC-50	0.5	1.3	2.4(M/F) to 2.4(M/F)	EAR99
RA40	DC-40	0.3	1.4	2.92M to 2.92F	EAR99
RA50	DC-50	0.3	1.4	2.92M to 2.92F	EAR99

ATTENUATORS, Precision-Grade

Part Number	Band (GHz)	Attenuation (dB)	Accuracy (dB)	Return Loss (dB)	ECCN
ATN06-0067	DC-67	6.4	see datasheet	23	EAR99
ATN10-0067	DC-67	10.5	see datasheet	22	EAR99
ATN06-00110	DC-110	6.5	see datasheet	20	EAR99
ATN10-00110	DC-110	10.5	see datasheet	20	EAR99

DC BLOCKS, Broadband

Part Number	Band (GHz)	Loss (dB)	DC Voltage (V)	Rise Time (ps)	Group Delay (ps)	ECCN
DCZ(M-F)29(M-F)29	.000004-40	0.7	16	6	75	EAR99
DCZ(M-F)24(M-F)24	.000004-50	0.7	16	6	75	EAR99

LIMITERS

Part Number	Band (GHz)	Loss (dB)	Flat Leakage (dBm)	Peak Power CW (W)	Peak Power Pulsed (W)	P1dB (dBm)	ECCN
♦ HLM-8011U*	DC-30	0.8@15GHz	7	1	4.5	+10	EAR99
HLM-40U	DC-40	1@25GHz	18	4	20	15	EAR99

THUMBWHEEL

Part Number	Description	ECCN
TW-1	quick, secure, wrenchless connection for SMA, 2.92mm and 2.4mm	EAR99

***New Release**

All electrical specifications given are typical values.

MARKI MICROWAVE PART NUMBER DECODER RING

Example: MT3H-0113LCQG-2

Prefix=MT3H, Identifier=0113, Diode=L, Package=CQG, Suffix=-2

PREFIX

1 to 4 letters to identify the product category (**BAL**=balun, **PD**=power divider, etc)

- MMICs: M prefix (ex: **MBAL**, **MM1**, **MT3**)
- Modifiers: ex: **MT3A** Integrated LO Driver Amplifier
- EVAL, EVB: evaluation boards of SMT components (ex: **EVAL-MM1-0212H**)

IDENTIFIER

Most part numbers include a 4-digit string that identifies start/stop frequencies (ex: **0416** = 4 to 16 GHz), with a few exceptions:

- Exceptions: amplifiers and NLTs have the chip number instead of frequency band

DIODE

Found on mixers, IQ mixers and multipliers. LO Drive is given at typical value.

- **L** diode: Vf=0.25V, LO Drive +5 to +15 dBm
- **H** diode: Vf=0.75V, LO Drive +11 to +20 dBm
- **S** diode: Vf=1.4V, LO Drive +17 to +23 dBm
- **T** diode: Vf=2V, LO Drive +20 to +27 dBm

PACKAGES

- MMIC SMTs: **SM** (surface mount), **PSM** (plastic substrate), **CSM** (ceramic substrate), **CSP** (chip scale package), **LGA** (land grid array) or **CH** (chip/bare die)
- Hybrid surface mounts: **CTG**, **CQG**, **SM**, **SMG**, **SLG**, **SSG**, etc
- Connectorized
 - Sub-30GHz MMIC: typically **S**
 - mmWave modules: **M**, **U**, **UA**, **UB**, **UC**, etc
- Evaluation boards: **EVAL**, **EVB**

LAYOUT CONFIGURATION

- Mixers are generally offered in **-2** layout, but some are offered in a mirrored layout **-1** (ex: **MM1-1467LCH-1** and **MM1-1467LCH-2**)

CONNECTOR OPTIONS: swaps are available upon request

- SMA
- 2.92 mm
- 2.4 mm
- 1.85 mm
- 1 mm



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