



# New MMIC Products in 2017

## Mixers, Multipliers & Passives

### Double-Balanced, Triple-Balanced T3, and IQ Mixers

Marki Microwave offer the best mixers in the world and continues to innovate to meet the demands of next generation high dynamic range systems. Our MMIC mixers are fabricated with precise tolerance on a GaAs substrate with high speed Schottky diodes. Marki MMIC mixers offer superior non-linear performance and isolations compared to both competing MMIC mixers and hybrid mixers. For the first time, the T3 mixer, our most advanced mixer circuit offering overlapping bands and extremely high linearity, is available in a 4mm QFN package.

Part Number	RF/LO (GHz)	IF (GHz)	Package	Description
MM1-0320L	3-20	DC-4	Chip & Module	Double-Balanced General Purpose
MM2-0530L	5-30	2-20	Chip & Module	Double-Balanced General Purpose
MM2-0530H	5-30	2-20	Chip & Module	Double-Balanced High Linearity
MM1-1857L	18-57	DC-21	Chip & Module	Double-Balanced General Purpose
MT3-0113LCQG	1.5-13	0.01-7	SMT	Triple-Balanced High Linearity
MT3-0113HCQG	1.5-13	0.01-7	SMT	Triple-Balanced Ultra High Linearity
MT3H-0113LSM	1.5-13	0.8-8.5	Chip, QFN & Module	Triple-Balanced High Linearity
MT3H-0113HSM	1.5-13	0.8-8.5	Chip, QFN & Module	Triple-Balanced Ultra High Linearity
MMIQ-0205SSM	1.75-5	DC-2	QFN	IQ mixer



## Frequency Doublers and NLTL Comb Generators

A consistent challenge facing engineers is generating clean LO tones multiplied up from a low frequency source. Marki's MMIC passive doublers provide exceptionally high fundamental isolation and harmonic suppression, optimized in 2D and 3D simulation. Non-Linear Transmission Lines (NLTL) are a superior method of comb generation, compared to SRDs, providing low residual phase noise, lower required input power, and higher harmonic generation.

Part Number	Input (GHz)	Output (GHz)	Package	Description
<b>MMD-1030H</b>	5-15	10-30	Chip, QFN & Module	Passive Doubler Excellent Suppression
<b>MMD-1648L</b>	8-24	16-48	Chip & Module	Passive Doubler Excellent Suppression
<b>NLTL-6026</b>	> 1GHz	2-70	Chip & Module	NLTL Comb Generator Low Phase Noise

## MMIC Passive Products

Marki Microwave's expertise in passive circuit design is now being offered on GaAs MMIC substrates providing a small form factor, repeatable performance, and scalable production to support high volume applications. Our customers have spoken, and we'll be adding more filter and equalizer products to our portfolio in the near future. The surface-mount balun and limiter are excellent companions to modern analog-to-digital converters.

Part Number	Band (GHz)	Description
<b>MFB-3300</b>	26-40	Low Loss Ka-Band Bandpass Filter
<b>MDPX-2330</b>	DC-60	Low Loss Diplexer, 26GHz Crossover Point
<b>MDPX-2734</b>	DC-60	Low Loss Diplexer, 30GHz Crossover Point
<b>MEQ3-30A</b>	DC-30	3dB Positive Gain Slope Equalizer
<b>MEQ6-30A</b>	DC-30	6dB Positive Gain Slope Equalizer
<b>MEQ10-30A</b>	DC-30	10dB Positive Gain Slope Equalizer
<b>MEQ3-60A</b>	DC-60	3dB Positive Gain Slope Equalizer
<b>MEQ6-60A</b>	DC-60	6dB Positive Gain Slope Equalizer
<b>MEQ10-60A</b>	DC-60	10dB Positive Gain Slope Equalizer
<b>MBAL-0104SM</b>	1-4	1:2 Balun, 4mm QFN
<b>DLM-10SM</b>	DC-10	Tunable Differential (Dual Channel) Limiter, 3mm QFN

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