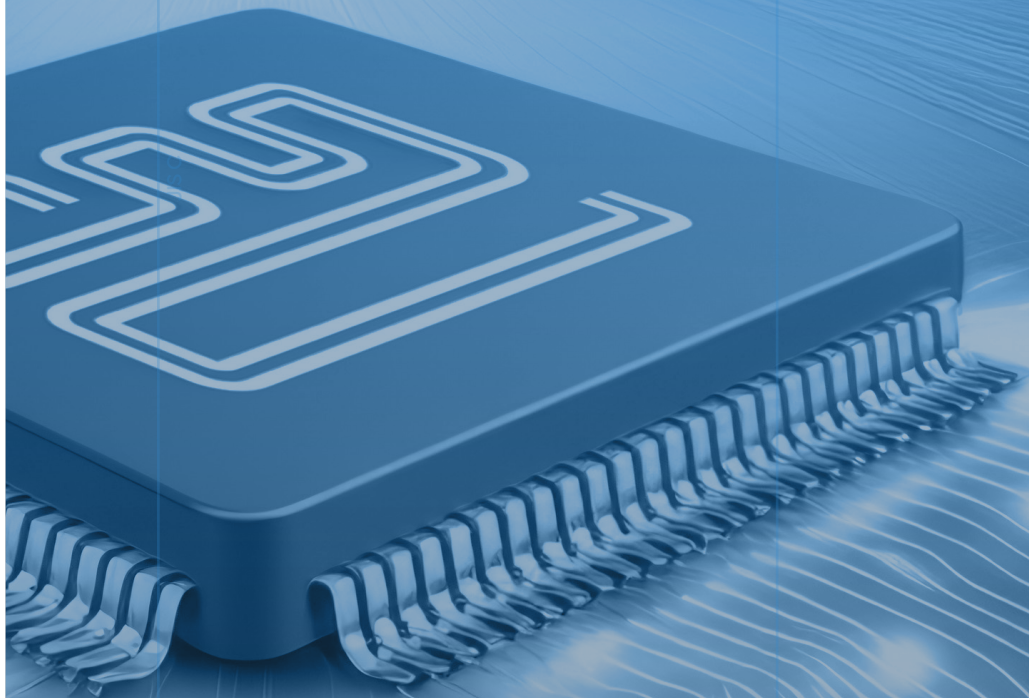


2026 Product Guide

RF innovation, engineered for connection

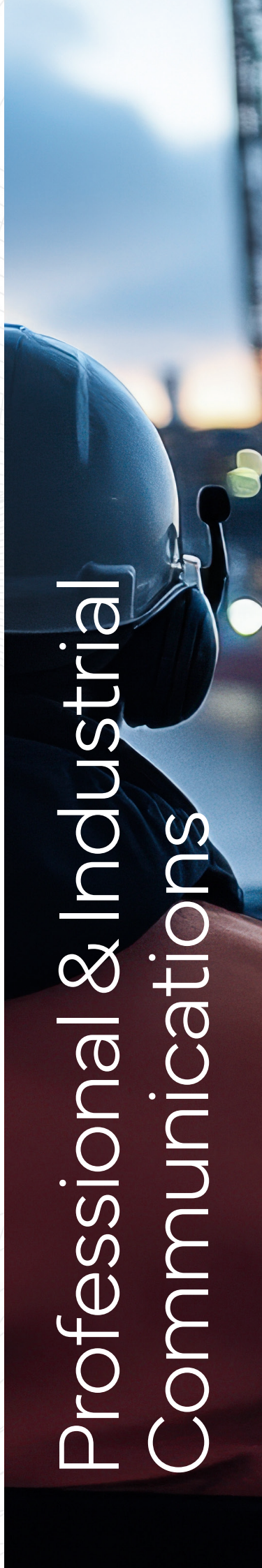


Precision RF and microwave solutions, engineered for real-world communication

CML Micro helps engineers solve complex communication design challenges with high-performance semiconductor solutions spanning mixed-signal, RF and microwave technologies.

From established voice and data ICs to advanced RF, microwave and compound semiconductor technologies, our portfolio supports the design of reliable systems for demanding real-world applications.

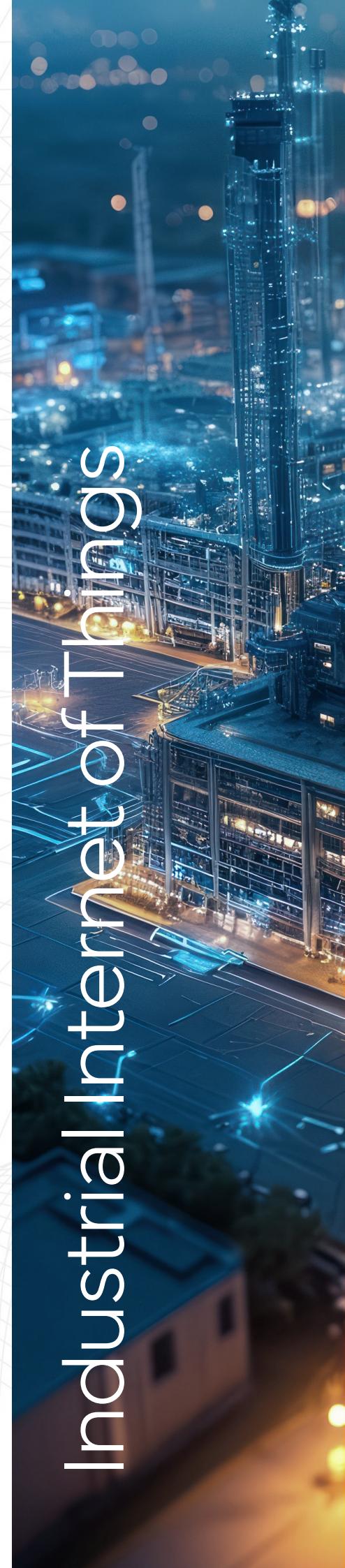
This Product Guide brings together selected CML Micro product families, including the S μ RF RF and mmWave portfolio, helping engineers compare technologies, understand key specifications, and identify solutions suited to their next design.



Professional & Industrial
Communications

A close-up, profile view of a man with a beard and glasses, looking down at a device he is holding. The background is blurred with warm, bokeh light effects.

Network Infrastructure

An aerial night view of a city, featuring a prominent, illuminated skyscraper (Burj Khalifa) and surrounding urban landscape with lights and traffic.

Industrial Internet of Things

A person wearing a headset is shown from the back, looking at a large screen displaying complex data visualizations, including maps and network diagrams, in a dark environment.

Aerospace & Defence

CML Micro and μ RF technologies mapped across the communication system

Professional &
Industrial
Communications

Aerospace
Defense

PA & Gain Blocks

High Linearity & Efficiency PA's up to 25W, DC to 500 MHz

Low Power Direct Conversion Receivers, Mod / Demodulators

RF Building Blocks & Synthesizers

Frac-N Synthesizer with Integrated VCOs

Lineariser

Mobile Radio and Marine

Analogue Front End

Baseband

RALCWI, CVSD, G.711, G.723 & G.729 Vocoders

Vocoders & Codecs

Ultra Low Power Voice Codec

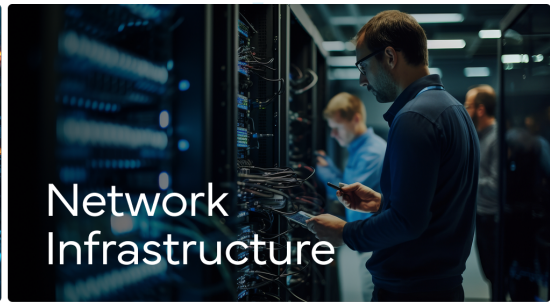
DRM1000

Subsystems

VDES1000

CML Micro brings together complementary product families across the communication signal chain, from RF front-end and microwave amplification through to baseband, voice, data and application-level processing.

Use this map to identify where each product family fits within your system architecture, then refer to the following sections for product specifications and selection tables.

					
e &		Industrial Internet of Things		Network Infrastructure	
GHz					
Modulators, IF & RF Transceivers					
		Narrow Band Data Modems		Wireline Modems	

Markets & Applications

Technologies for demanding communication environments



Professional & Industrial Communications

Reliable voice, data and RF technologies for professional and industrial communications systems where clarity, continuity and long-term availability matter.

Applications:

- Digital Mobile Radio
- Analog Mobile Radio
- Maritime
- Emergency Warning Systems
- ISM Voice
- DRM



Network Infrastructure

RF and microwave technologies supporting resilient connectivity, high-capacity backhaul and next-generation wireless infrastructure.

Applications:

- 5G - Base station, small cell, Backhaul, Repeater, FWA 6G
- Satellite - Terrestrial
- Wireline Telephony
- Test & Measurement
- Microwave Link (non-cellular)

CML Micro supports customers designing reliable communication systems across four core market areas: Professional & Industrial, Network Infrastructure, Internet of Things, and Aerospace & Defence.

Across these areas, CML's mixed-signal, RF and microwave semiconductor portfolio helps engineers design reliable communication systems for applications ranging from professional radio and smart metering to 5G backhaul, satellite links, maritime communications, wireless sensors, UAV data links and specialist RF platforms.

Four markets. Multiple applications. One connected portfolio.



Industrial Internet of Things

Low-power wireless and highly integrated ICs for smart connected devices, distributed sensing, metering and remote monitoring systems.

Applications:

- RF Energy
- ISM Data
- GNSS (GPS, Glonass)
- Smart City/Home/Infrastructure
- Asset tracking
- RFID
- SCADA
- Medical



Aerospace & Defence

High-performance semiconductor technologies for demanding RF and microwave applications where reliability, precision and resilience are critical.

Applications:

- Commercial Radar
- Military Radar
- UAV
- Military - Voice/Data/Video
- Military - Telemetry & Tracking
- EW/EC (Electronic Warfare)
- Satellite - LEO/MEO/GEO
- Intersatellite Link



Wireless Voice & Data

Reliable voice, data and RF technologies for professional communication systems

CML Micro has a long heritage in communication semiconductor design, supporting customers building reliable voice, data and RF systems for professional, industrial and mission-critical environments.

The Wireless Voice & Data portfolio brings together mixed-signal, RF, baseband, voice and data technologies used in applications including PMR/LMR, digital and analogue two-way radio, maritime communications, public safety networks, industrial wireless systems and specialist voice/data platforms.

Designed for long product lifecycles, standards support and practical system integration, these products help engineers develop communication systems where clarity, continuity and reliability matter.

RF Building Blocks

CML's range of Radio Frequency (RF) products provides a selection of modular building blocks for implementation as part or all the 'wireless front-end' of a wide range of constant and non-constant envelope modulation systems.

Receivers

Product	Description	RF/IF Range (MHz)	I/Q BW (MHz)	Input IP3 (dBm)	Noise Figure (dB)	Gain (dB(V/V))	Supply Voltage (V)	Typ. Current (mA)	Package Type
CMX970	RF/IF Quadrature Demodulator	20 - 300	10	-15	10	56	3.0 - 3.6	15	16-VQFN
CMX972	RF/IF Quadrature Demodulator with PLL	20 - 300	10	-15	10	56	3.0 - 3.6	24	32-VQFN
CMX992	RF/IF Quadrature Receiver with IF PLL	100 - 1000	1.4	11	15	61	3.0 - 3.6	52	48-VQFN
CMX994EF	RF Direct Conversion Receiver IC	100 - 1000	>1	6	6	62	3.0 - 3.6	74	40 - VQFN

Transmitters

Product	Description	RF/IF Range (MHz)	I/Q BW (MHz)	Output IP3 (dBm)	Noise Floor (dBm/Hz)	Output Power (dBm)	Supply Voltage (V)	Typ. Current (mA)	Package Type
CMX971	RF Quadrature Modulator	20 - 1000	25	14	-150	0 (PEP)	3.0 - 3.6	61	16-VQFN
CMX993	RF Quadrature Modulator	30 - 1000	10	25	-155	3 (PEP)	3.0 - 3.6	95	48-VQFN
CMX993W	RF Quadrature Modulator	30 - 1000	50	25	-155	3 (PEP)	3.0 - 3.6	96	48-VQFN
CMX998	Cartesian Feedback Loop	30 - 1000	0.2		-155	3 (PEP)	3.0 - 3.6	135	64-VQFN

Transceivers

Product	Description	RF/IF Range (MHz)	I/Q BW (MHz)	IP3 OP/IP (dBm)	Noise / Noise Figure (dBm/Hz)/(dB)	Power / Gain (dBm)/(dBV/V)	Supply Voltage (V)	Typ. Current (mA)	Package Type
CMX973	Low Power RF Quadrature						3.0 - 3.6		32-VQFN
	Tx	20 - 1000	25	14	-150	0 (PEP)		61	
	Rx	20 - 300	10	-15	10dB	56dB		15	
CMX998	RF Quadrature Transceiver	100 - 1000					3.0 - 3.6		64-VQFN
	Tx		1	-	-142	-10		82	
	Rx		1.4	-1	10	61dB		52	

RF Synthesizers

Product	Description	RF/IF Range (MHz)	Normalised PN (dBc/Hz)	Max Fcomp (MHz)	PN at 25kHz (dBc/Hz)	Supply Voltage (V)	Typ. Current (mA)	Package Type
CMX940	High Performance Synthesizer (HPS)	49 MHz - 2040 MHz	-225	120	-123 (at 435 MHz)	3.0 - 3.6	23 - 64	40-LGA

Analogue Front End

Product	Description	FDMA Systems	TDMA Systems	LD or I/Q Interface	Embedded Functions	Supply Voltage (V)	Typ. Current (mA)	Typ. Power Consumption (mW)	Package Type
CMX983	Analogue Front End for Digital Mobile Radios	Universal	-225	120	Channel Filters, Audiband, Codec, AUX, ADC's, DAC's, RAMDAC, GPIO and Speakers Amp, 2 Frac-N Synths	3.0 - 3.6	/	/	40-LGA

Digital/Analogue Two-Way Radio Products

CML's two-way radio products address both the full baseband and communication requirements of digital/analogue PMR/LMR, military, trunked radio, marine and leisure radio systems.

DMR / dPMR / NXDN / ARIB / P25

Product	Description	FDMA Systems	TDMA Systems	LD or I/Q Interface	Embedded Functions	Supply Voltage (V)	Typ. Current (mA)	Typ. Power Consumption (mW)	Package Type
CMX7241 /CMX7341	PMR Common Platform Processor	dPMR™ Mode 1/2/3 Analogue PMR	DMR PDT	LD or I/Q	Automatic Digital and Analogue detection. Air Interface Protocols: Physical and Data Link Layers, Complete Analogue Processing AUX ADCs/DACs, RAMDAC, 4FSK, GPIO and System Clocks	3.0 - 3.6	4.4	/	48-VQFN 48-LQFP
CMX983	Analogue Front End (AFE) for Digital Radio	Universal	Universal	I/Q	Channel Filters, Audioband Codec, AUX, ADCs, DACs, RAMDAC, GPIO and Speaker Amp, 2 Frac-N Synths	3.0 - 3.6	/	/	64-VQFN
CMX7131 / CMX7141	Multi-standard Digital PMR (dPMR) Processor	dPMR446 dPMR™ Mode 1/2/3 ARIB STD-T98 DCR/ARIB STD-T102 NXDN™ AnaloguePMR	/	LD/IQ	Air Interface Protocols: Physical and Data Link Layers, Audioband Codec AUX ADCs/DACs, RAMDAC, GPIO and System Clocks	3.0- 3.6	4.4	/	48-VQFN/ LQFP 64-VQFN/ LQFP
SCT3258TDM DMR/dPMR	DMR/dPMR Processor with embedded Vocoder	dPMR Analog PMR	DMR	I/Q	Full baseband processing, Layers 1/2/3, AMBE+2 Vocoder, RALCWI Vocoder	Core 1.3 V IO 2.5 - 3.6 V	/	64mW DMR 38mW dPMR	QFN 64-pin
SCT-3268TD DMR/ dPMR	DMR/dPMR Processor with Analog Mode	dPMR, Multi-mode, Digital, PMR/LMR with Analog Mode	DMR	LD or I/Q	AMBE+2™ RALCWI™	Core 1.2 V Digital IO 2.5 V - 3.3 V	/	64mW DMR 38mW dPMR	BGA 144

Analogue Two-Way Radio

Product	Description	FDMA Systems	TDMA Systems	LD or I/Q Interface	Embedded Functions	Supply Voltage (V)	Typ. Current (mA)	Typ. Power	Package Type
CMX7031 / CMX7041	Two-way Radio Processor	Analogue PMR/LMR, Marine VHF, Amateur AX.25	/	LD	Audio Processing, CTCSS, DCS, DTMF, Selcall, XTCSS, Programmable Tones, ADCs, DACs, RAMDAC, GPIO, System Clocks	3.0 - 3.6	7	/	48-VQFN 48-LQFP
CMX138A	Audio Scrambler and signalling Processor	PMR446, FRS, MURS, GMRS, Leisure Radio	/	LD	Audio Processing, CTCSS, DCS, Programmable Tones, ADC, DAC, RAMDAC, GPIO, System Clocks	3.0 - 3.6	9	/	3.0 - 3.6
CMX148	PMR Audio and Data Processor	PMR446, FRS, MURS, GMRS, Leisure Radio	/	LD	Audio Processing, FFSK/MSK, DTMF ADC, DAC, RAMDAC, GPIO, System Clocks	3.0- 3.6	10	/	28-TSSOP

Analogue Scrambling

Product	Description	FDMA Systems	TDMA Systems	LD or I/Q Interface	Embedded Functions	Supply Voltage (V)	Typ. Current (mA)	Typ. Power Consumption (mW)	Package Type
CMX7158	Duplex Audio Scrambler	PMR and LMR	/	/	DTMF, Selcall	3.0 - 3.6	6.3	/	48-VQFN

2.4GHz Voice and Data

Product	Description	FDMA Systems	TDMA Systems	LD or I/Q Interface	Embedded Functions	Supply Voltage (V)	Typ. Current (mA)	Typ. Power Consumption (mW)	Package Type
SCT2400	2.4GHz Digital Voice and Data Transceiver	Proprietary	/	Complete 2.5GHz Transceiver	Vocoder Wireless data modem Protocol engine System Controller	Core 3.3 V	10 (standby/scanning) 52 (receive voice) 64 (transmit voice)	/	BGA 144

Digital Voice Products

CML's wireless data products address a wide range of communications and control applications, offering operation to custom, free format and packet data systems.

Voice Codecs

Product	Description	Voice-data Scheme	Voice-band Codec	Supply Voltage (V)	Typ. Current (mA)	Package Type	Additional Features
CMX655D	Ultra-low Power Voice Codec	PCM (linear, A-law, μ -law)	Yes	1.8 - 3.6	300 μ A	24-VQFN	1W Speaker Driver

Vocoders

Product	Description	Voice-data Scheme	Voice-band Codec	Supply Voltage (V)	Typ. Current (mA)	Package Type	Additional Features
CMX7261	Digital Voice Multi-transcoder	ADM, CVSD, PCM G.729A, G.711, G.723.1	Yes	3.0 - 3.6	52	64-VQFN	I/O Filters
CMX618 CMX638	Low-cost 2400bps Vocoder	RALCWI™	Yes	3.0 - 3.6	20	48-VQFN 48-LQFP	I/O Filters
CMX649	Adaptive Delta Modulation (ADM) Codec	ADM PCM CVSD	Yes	2.7 - 5.5	2.9	20-TSSOP 20-SOIC	I/O Filters

Wireless Data Products

CML's wireless data products address a wide range of communications and control applications, offering operation to custom, free format and packet data systems.

Data Pumps

Product	Description	Modulation Schemes	Data Range (kbps)	Supply Voltage (V)	Typ. Current (mA)	Package Type
CMX469A	1200/2400/4800 Baud FFSK/MSK Modem	1200 2400 4800	3.0 - 5.5	3.0 - 5.5	4.5	20-SOIC 24-TSSOP

Packet Data Modems

Product	Description	Modulation Schemes	Data Range (kbps)	Supply Voltage (V)	Typ. Current (mA)	Package Type	Auxiliary Features
CMX7364	Multi-mode High Performance Wireless Data Modem	GMSK/GFSK 2/4/8/16 FSK 4/16/32/64 QAM V.23 Modem	up to 40kbps up to 80kbps up to 196kbps	2.7 - 3.6	27mA 27mA 35mA	64-VQFN	ADCs, DACs, System Clocks, RAMDAC
CMX7164	Multi-mode (I/Q) Wireless Data Modem	GMSK/GFSK 2/4/8/16 FSK 4/16/32/64 QAM V.23 Modem	GMSK $\leq$ 19.2 4 FSK $\leq$ 20 8 FSK $\leq$ 40 QAM $\leq$ 96	3.0 - 3.6	Rx 17.9 Tx 12.7	64-VQFN 64-LQFP	ADCs, DACs System Clocks GPIO RAMDAC
CMX7146	BPSK Wireless Data Modulator	BPSK/PRK/2PSK	0.6 - 9.6	3.0 - 3.6	7 (1200bps) 15 (9600bps)	48-VQFN	ADCs, DACs System Clocks GPIO RAMDAC
CMX7143	Multi-mode Wireless Data Modem	FFSK/MSK GMSK/GFSK 4FSK	FFSK $\leq$ 2.4 GMSK $\leq$ 19.2 4FSK $\leq$ 20	3.0 - 3.6	Rx 11.7 Tx 15.7	48-VQFN 48-LQFP	ADCs, DACs System Clocks GPIO RAMDAC

RF & mmWave

SμRF

RF, microwave and compound semiconductor technologies from MHz to mmWave

SμRF brings together CML Micro's RF and microwave product portfolio, including MMICs, RFICs, GaN amplifiers, GaAs devices and discrete FET technologies.

Designed for applications across wireless infrastructure, satellite communications, aerospace, defence, IoT and specialist RF systems, the SμRF portfolio helps engineers address demanding requirements for gain, power, efficiency, linearity and frequency coverage.

From sub-GHz power amplification to broadband travelling wave amplifiers and mmWave devices, SμRF products are developed to simplify RF design decisions and support reliable performance in real-world systems.

Product areas

MMIC Amplifiers

A broad amplifier portfolio including power amplifiers, driver amplifiers, gain blocks and travelling wave amplifiers.

GaN High Power Amplifiers

High-power GaN MMIC and hybrid amplifier solutions for infrastructure, point-to-point, satellite and demanding RF applications.

Discrete FETs

GaAs FETs and pHEMTs for specialist RF, microwave and high-reliability designs.

Legacy Devices

Established RF and microwave devices supporting existing designs, continuity and migration planning.

Device Types

μRF devices include

Power Amplifiers (PAs)

High-efficiency GaAs and GaN-based amplifiers supporting output powers up to 25W, ideal for point-to-point microwave links, satellite uplinks, tactical radios, and phased arrays.

Driver Amplifiers

Medium-power, high-linearity amplifiers optimised for driving final-stage PAs or operating as stand-alone amplifiers in repeaters, radios, and backhaul applications.

Gain Blocks

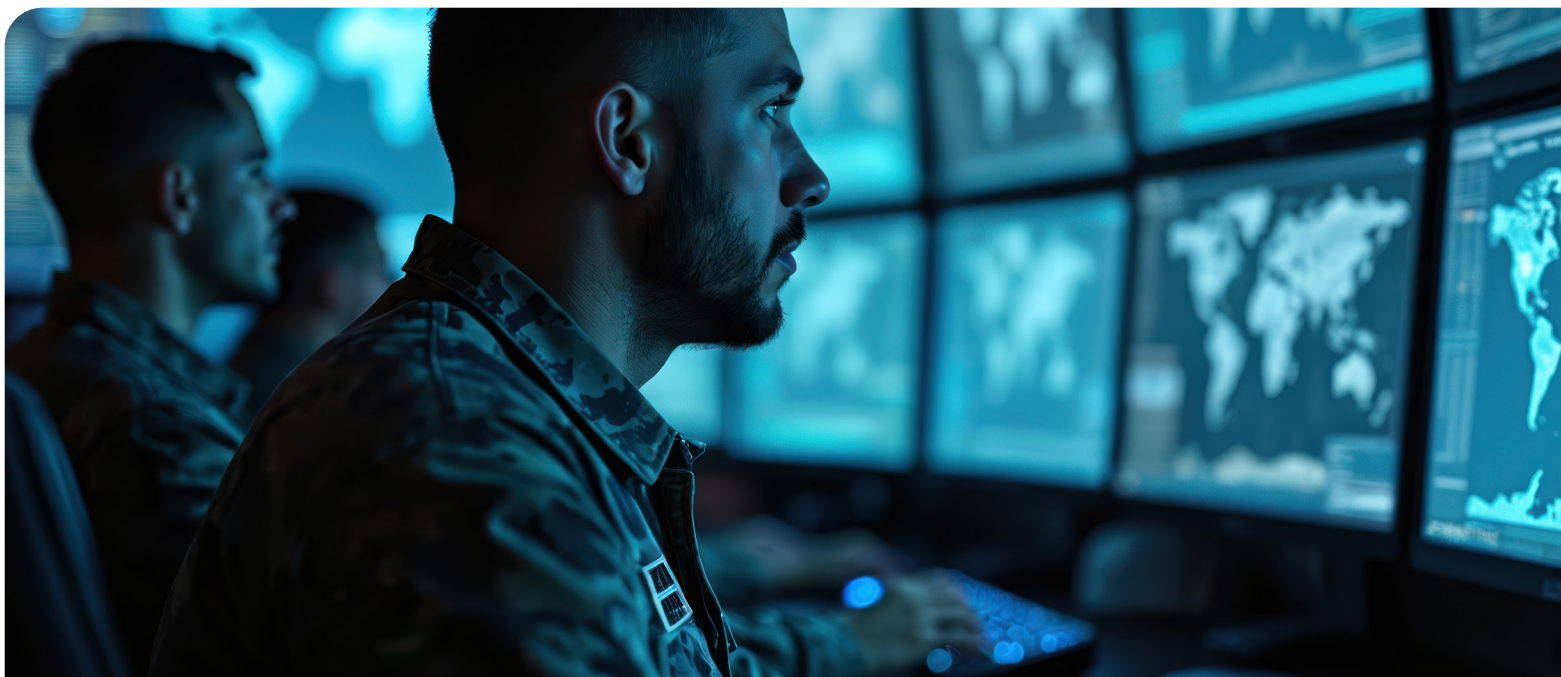
Broadband or band-specific gain stages with flat or positive gain slope, often used for IF amplification, buffering, or signal conditioning.

Wideband Amplifiers & TWAs

Distributed and traveling wave amplifiers offering continuous bandwidth from kHz to 50+ GHz—ideal for test and measurement, optical drivers, and broadband comms.

GaN Hybrid Power Amplifiers

High-power, broadband amplifiers leveraging Gallium Nitride (GaN) technology for efficient performance across wide frequency ranges—perfect for radar, electronic warfare, and high-data-rate communications.



SμRF Featured Products

Designed to meet the demands of next-gen communication systems.

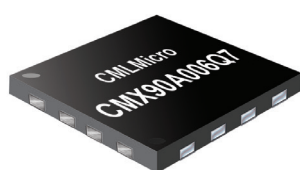
SμRF devices deliver efficiency, linearity, and bandwidth across a wide frequency spectrum.

The perfect design choice for UHF RFID Readers

For ultra-wideband test & measurement equipment

For high-efficiency point-to-point radio applications

For highly linear network infrastructure applications



CMX90A006

Function

High-Linearity RF Amplifier

Frequency Range

860-930MHz

Application

RFID, ISM

Package

4x4mm QFN

Features

High linearity, Robustness, Compact footprint

MMA-005022B

Function

Traveling Wave Amplifier (TWA)

Frequency Range

30 kHz – 50 GHz

Application

Test & Measurement, Optical Communications

Package

Bare Die

Features

15.5 dB gain, +22 dBm output power, fully matched 50 Ω I/O

MGA-445940-02

Function

GaN Hybrid Power Amplifier

Frequency Range

4.4 - 5.9GHz

Application

Test & Measurement, Optical Systems, Broadband Comms

Package

-02 hybrid

Features

10W output power, 50 Ω matched, internally DC blocked

CMX90A702

Function

Medium-Power GaAs MMIC Amplifier

Frequency Range

26.5 – 29.5 GHz (5G FR2)

Application

5G mmWave Infrastructure, Backhaul, Repeaters

Package

4 × 4 mm VQFN-20

Features

+25 dBm output power, +21 dB gain, on-chip RF power detector



MMIC Amplifiers

Setting new benchmarks in performance, reliability and innovation.

PAs >1 GHz

Part	Frequency (GHz)	Gain (dB)	P1dB (dBm)	Psat (dBm)	OIP3 (dBm)	IRL/ORL (dB)	Voltage (V)	Package (mm)
MMA-495933-M5	4.9 - 5.9	10.5	33	-	46	9.6 / 4.8	7.5	5X5 QFN
MMA-445933H-M5	4.4 - 5.9	31	33	-	45	10 / 7	7.5	5X5 QFN
MMA-445933H-02	4.4 - 5.9	33	33	-	45	10 / 7	7.5	02
MMA-070936-M5	7 - 8.5	28.5	34	36	45	15	6	5X5 QFN
MMA-121633-M5	12.5 - 15.5	23.5	32	34	42	10	4 - 6	5X5 QFN
MMA-172135-M5	17 - 21	27	35	-	42.5	12	6	5X5 QFN
MMA-172135D	17 - 21	27	35	-	-	12 / 10	6	Die
MMA-212734-M5	21 - 27	25	34	-	-	15 / 12	6	5X5 QFN
MMA-273034D-M5	24 - 30	23	34	-	34.5	8 / 10	6	5X5 QFN
MMA-243034D-M5	24 - 30	23	34	34.5	-	8 / 10	6	5X5 QFN
CMX90A705	27.5 - 31	16.5	-	37.4	-	10 / 9	27.5	4x4 QFN
MMA-273336-M5	27 - 33	22	35.5	36.5	38	10	6	5X5 QFN
MMA-273336D-M5	27 - 33	22	35.5	36.5	38	10	6	5X5 QFN
MMA-273336	27 - 33	22	35.5	36.5	38	10	6	Die
MMA-273334D-M5	27 - 33	26	33	34	-	10	6	5X5 QFN
MMA-273036-M5	27.5 - 30	22	36	-	-	10 / 8	6	5X5 QFN
MMA-273036D-M5	27.5 - 30	22	36	-	36.5	10 / 8	6	5X5 QFN
MMA-374030-M5	37 - 40	24	31	32	38	10	4 - 6	5X5 QFN

PAs Sub-1 GHz

Part	Frequency (MHz)	Gain (dB)	P1dB (dBm)	Psat (dBm)	Efficiency (%)	Voltage (V)	Bias Current (mA)	RF Match	Package (mm)
CMX90A003	860 - 960	30	-	29.5	49%	1.9 - 3.0	70	Int / Int	4x4 QFN
CMX90A004	860 - 960	30	-	32.5	49%	2.7 - 4.5	78	Int / Int	4x4 QFN
CMX90A006	860 - 930	33	33	33.5	52%	2.5 - 5.25	206	Int / Int	4x4 QFN
CMX90A007	136 - 1000	27	-	33.5	53%	6.0 - 9.5	49.5	5X5 QFN	4x4 QFN
CMX90A009	136 - 1000	17.5	-	41.5	60%	6.0 - 9.5	136	5X5 QFN	4x5 DFN

MMIC Amplifiers

Setting new benchmarks in performance, reliability and innovation.

Traveling Wave Amplifiers (TWAs)

Part	Frequency (GHz)	Gain (dB)	P1dB (dBm)	P3dB (dBm)	Gain Flatness (dB)	OIP3 (dBm)	IRL/ORL (dB)	Voltage (V)	Package (mm)
MMA-005022-M4	30 kHz – 50	15.5	22	25	+/- 1.0	37	10	7	4X4 QFN
MMA-005022B	30 kHz – 50	15.5	22	25	+/- 1.0	37	10	7	Die
MMA-012727-M4	0.1 – 26.5	12.5	26	27	+/- 0.5	35	11	8 – 12	4x4 QFN
MMA-012727	0.1 – 26.5	12.5	26	27	+/- 0.5	35	11	8 – 12	Die
MMA-012030-M4	0.1 – 20	12.5	27	29	+/- 0.5	37	10	12	4X4 QFN
MMA-012030	0.1 – 20	12.5	27	29	+/- 0.5	37	10	12	Die

Driver Amplifiers

Part	Frequency (GHz)	Gain (dB)	IRL/ORL (dB)	NF (dB)	P1dB (dBm)	OIP3 (dBm)	Voltage (V)	Bias Current (mA)	Package (mm)
MMA-054025-M4	0.5 – 4	11	10 / 10	3.5	25	44	7.5	300	4X4 QFN
MMA-054025-87	0.5 – 4	11	10 / 10	3.5	25	44	7.5	300	87
MMA-054025	0.5 – 4	11	10 / 10	3.5	25	44	7.5	300	Die
MMA-053223-M4	0.5 – 3.2	12	10 / 10	3.5	24	42	6	120	4X4 QFN
MMA-053223	0.5 – 3.2	12	10 / 10	3.5	24	42	6	120	Die
MMA-053026-82	0.9 – 2	11	10 / 8	3	2	44	8	220	82
MMA-020624-M4	2 – 4	17	12 / 12	3	25	40	8	250	4X4 QFN
MMA-020624	2 – 4	17	12 / 12	3	25	40	8	250	Die
CMX90A702	26.5 – 29.5	21	10 / 7	-	25	32.5	3	182	4X4 QFN

Gain Blocks

Part	Frequency (GHz)	Gain (dB)	P1dB (dBm)	IRL/ORL (dB)	OIP3 (dBm)	NF (dB)	Voltage (V)	Bias Current (mA)	Package (mm)
MMA-011015-C3	1 – 10	15.0	16.0	12/15	-	4.5	6	75	3X3 QFN
MMA-011015	1 – 10	15.0	16.0	12/15	-	4.5	6	75	Die
CMX90G302	1.4 – 7.1	14.5 – 16.5	11.5	-	21.0	1.9	2.7 – 5	22	3x3 QFN
CMX90G301	1.4 – 7.1	14.5 – 16.5	11.5	-	21	1.9	2.7 – 5	22	3x3 QFN
CMX90G702	6 – 18	9.5 – 11.5	9.5	-	18.5	3.0	2 – 5	22	3x3 QFN
CMX90G701	6 – 18	9.5 – 10.5	10.0	-	19.0	3.0	2 – 5	22	3x3 QFN
MMA-062020-C3	6 – 20	13.5	18.3	10	28.0	-	3 – 6	120	3x3 QFN
MMA-062020	6 – 20	13.5	18.3	10	28.0	-	3 – 6	120	Die
CMX90B701	17 – 23	17.0	7.5	-	17.5	4.0	3 – 5	10	3x3 QFN
MMA-174321-M4	17 – 43	20.0	21.0	8	26.0	-	3 – 5	150 – 250	4X4 QFN
MMA-174321	17 – 43	20.0	21.0	8	26*	-	3 – 5	150 – 250	Die
CMX90B702	23 – 29.5	17.3	5	-	15	4.0	3 – 5	10	3x3 QFN

GaN High Power Amplifiers

Point-to-Point Radio and Wireless Mesh Networks GaN based High Power Amplifiers.

GaN Hybrid PA

Part	Frequency (GHz)	Gain (dB)	Gain Flatness (dB)	IRL/ORL (dB)	Pout @ -3 dB (dBm)	Pout @ 2.5% EVM	Vdd (V)	Bias Current (mA)	Package
MGA-242740-02	2.4 - 2.7	14	1	8 / 8	40	33	28	50 - 400	2
MGA-333840-02	3.3 - 3.8	15	1	8 / 8	40	33	28	100 - 400	2
MGA-445343-99	4.4 - 5.3	14	1	7 / 4	43	35	28	150 - 300	99
MGA-444940-02	4.4 - 4.9	12	1	8 / 10	40	33	28	100 - 400	2
MGA-495940-02	4.9 - 5.9	12	1	8 / 8	40	33	28	100 - 400	2
MGA-515844-99	5.1 - 8.5	16	1	10 / 12	44	-	28	-	99
MGA-718544-HP3	7.1 - 8.5	13.5	1	4.5 / 6	44	-	28	-	HP3
MGA-718540-HP3	7.1 - 8.5	14	1	10 / 7	42	-	28	-	HP3

GaN MMIC PAs

Ideal applications include wireless mesh networks, point-to-point microwave data links, military wireless communications, telemetry, and avionics.

Part	Frequency (GHz)	Band	DC Power to maintain IM3 (W)	Gain (dB)	Psat (dBm)	IRL/ORL (dB)	Package (mm)
MMG-121543-M5	1.2 - 1.5	L-band	20	28.5	43	11 / 13	5x5 QFN
MMG-202544-M5	2.0 - 2.5	S-band	25	27	44	7 / 12	5x5 QFN
MMG-446040-M5	4.4 - 6.0	C-band	10	30	40	7 / 15	5x5 QFN

*Engineering samples available upon request

Discrete FETs

Setting a new standard for high-fidelity, high-performance applications in the RF spectrum.

GaAs FETs / PHEMTs

Part	Package Available Sealed / Hermetic	RF Power @12 GHz (dBm)	Gain @12GHz (dB)	NF @12GHz (dB)	PAE @12GHz (%)	Chip Size (microns)	Gate Width (microns)	Gate Pads (each)	Drain Pads (each)	Replaces
MwT-1F	70 / 71 / 73	24	10	2	--	775 x 241	630	1	1	MwT-1
MwT-3F	70 / 71 / 73	22	11	--	35	406 x 241	300	1	1	MwT-3
MwT-5F	71	19	13	3.5	--	406 x 241	300 Dual	1	3	MwT-5
MwT-7F	70 / 71 / 73	21	11	2	--	356 x 241	250	2	2	MwT-7, S7, LP7
MwT-9F	71	26.5	8.5	--	35	419 x 241	750	1	1	MwT-9, A9
MwT-11F	71	30	9	--	40	775 x 343	2400	2	2	MwT-11
MwT-PH3F	70 / 71 / 73	24	16	--	60	410 x 340	300	1	1	n/a
MwT-PH4F	70 / 71 / 73	22	16	--	60	365 x 260	180	1	1	MwT-PH4
MwT-PH5F	71	22	16	--	45	330 x 400	300 Dual	1	1	MwT-PH5
MwT-PH7F	70 / 71 / 73	24	16	--	60	390 x 260	180	1	1	MwT-PH7
MwT-PH8F	71	30	10	--	40	315 x 690	1200	2	2	MwT-PH8
MwT-PH9F	70 / 71 / 73	27	11	--	50	480 x 315	750	1	1	MwT-PH9
MwT-PH11F	71	32	9	--	45	775 x 365	2400	2	2	MwT-PH11
MwT-PH15F	71	28	13	--	60	850 x 260	630	4	2	MwT-PH15
MwT-PH27F	70 / 71 / 73	24.5	24.5	--	40	410 x 340	400	1	1	QorvoTGF2040
MwT-PH28F	70 / 71 / 73	28	13	--	45	410 x 340	600	1	1	QorvoTGF2060
MwT-PH29F	70 / 71 / 73	29.5	11	--	45	410 x 480	800	1	1	RFMD FDP750 BeRex BCP080C
MwT-PH30F	70 / 71 / 73	29.5	11	--	45	410 x 540	800	2	2	QorvoTGF2080
MwT-PH31F	71	31	9	--	45	540 x 410	1200	2	2	QorvoTGF2120
MwT-PH32F	71	32.5	8	--	45	540 x 410	1600	2	2	QorvoTGF2160
MwT-PH33F	70 / 71 / 73	24	16	--	50	315 x 440	300	1	1	n/a

All above products are space qualified.

- Ultra Linear, High Dynamic Range, Low Phase Noise
- GaAs Process is Approved for Space Applications with Proven Reliability
- Commercial, Industrial, Military, and Space Grades
- Sample Bond Pull, Die Shear, Wafer DC Burn In, and Bake Tests for wafer evaluation per MILPRF-38534
- 100% Die Probe Test with Data Recorded
- 100% Visual Inspection (to level 1, 3, or 4)

- 100% Idss Match to Provide Performance Consistency
- RF Sample Test Capability Available Upon Request
- Standard and Custom Device Specifications
- Hi-Rel and Space-Rel Screening Options Available JAN, JANTX, JANTXV, JANS
- RoHS (lead-free) Compliant Product Available
- Available in Chip and Package

- CML Micro has experience in supplying semiconductor devices to the space industry since 1985.
- CML Micro performs assembly, testing, screening, and qualifications testing for microwave semiconductor devices, microwave components and subsystems based on MIL-PRF-38534 and according to military and government Hi-Rel standards such as MIL-PRF-38535, MIL-STD-202, MIL-STD-883, MIL-STD-750, MIL-STD-810, MIL-Q-9858, MIL-STD-19500 and MIL-I-45208.
- Some of CML Micro's space qualified products are highlighted in this section. Equivalent screening to MIL-PRF-38534 class H and K, and NASA programs.

Legacy Devices

These products are available for purchase in limited quantities and may continue to be used in existing systems or designs. We encourage manufacturers and designers to transition to newer alternatives as these legacy products are nearing the end of their product life cycle, resulting in potential obsolescence and limited long term support.

GaAs FETs / PHEMTs RF Properties

Model	Package Available Sealed/Hermetic	Gate Width/Length (um)	Gate Layout Method	Gate Drain Source Bond Pads	Chip Thickness VIA (mil)	S.S Gain @ 12 GHz Typ/ Min (dB)	N.F. @ 12 GHz Typ/ Min (dB)	GA @ N.F. 12 GHz Typ/Min (dB)	P-IdB @12 GHz Typ/Min (dBm)	IP3 @ 12 GHz (dBm)	Chip Size (um-um)
MwT-1	70, 73 / 71	630 / 0.3	single stripe	01/01/2002	5, no	10.0 / 9.0	2.0 / -	7.0 / -	24.0/23.0	-	775 • 241
MwT-2	70, 73 / 71	630 / 0.3	single stripe	02/02/2003	5, no	8.5 / 8.0	- / -	- / -	24.5/23.0	-	775 • 241
MwT-3	70, 73 / 71	300 / 0.3	single stripe	01/01/2002	5, no	11.0 / 10.0	- / -	- / -	21.0/20.0	-	406 • 241
MwT-4	70, 73 / NA	180 / 0.3	single stripe	01/01/2002	5, no	9.0 / 8.0	1.5 / 1.8	9.0 / 8.0	14.0/13.0	-	356 • 241
MwT-5	N/A / N/A	2 • 300 / 0.3	dual gate	01/01/2002	5, no	13.0 / 12.0	3.5 / -	11.0 / -	10.0/15.0	-	406 • 241
MwT-7	70, 73 / N/A	250 / 0.3	single stripe	01/01/2002	5, no	10.5 / 10.0	2.0 / -	8.0 / -	20.0/18.0	-	356 • 241
MwT-LP7**	70, 73 / N/A	250 / 0.3	single stripe	01/01/2002	5, no	10.5/10.0	2.0 / -	8.0 / -	20.0/18.0	-	356 • 241
MwT-8	71	2400 / 0.3	Interdigit	02/02/2003	4, no	7.5 / 7.0	-	-	28.0/27.0	-	673 • 305
MwT-A9	70, 73 / 71	750 / 0.3	Interdigit	01/01/2002	5, no	9.5 / 8.5	1.8 / -	6.5 / 6.0	25.5/23.0	-	419 • 292
MwT-A989	SOT-89	750 / 0.5	Interdigit	01/01/2002	4, no	17.0/15.0 (1)	0.9 (1)	-	25.0/23.0	40	419 • 292
MwT-A989SB	SOT-89	750 / 0.5	Interdigit	01/01/2002	4, no	17.0/15.0 (1)	0.9 (1)	-	25.0/23.0	40	419 • 292
MwT-11	71	2400 / 0.3	Interdigit	02/02/2003	4, no	9.0 / 7.0	-	-	30.0/28.0	-	775 • 343
MwT-17	89/71	2400 / 0.8	Interdigit	04/04/2005	5, no	7.0 / 6.0	-	-	29.5/28.5	45/-	1130 • 279
MwT-1789	SOT-89	2400 / 0.8	Interdigit	04/04/2005	4, no	--	(3)	14.0 (1)	28.0	46	1130 • 279
MwT-1789SB	SOT-89	2400 / 0.8	Interdigit	04/04/2005	4, no	--	(3)	18.0 (1)	28.0/27.0	44	1130 • 279
MwT - 17Q3	QFN	2400 / 0.8	Interdigit	04/04/25	4, no	18.0 / 16.0 (1)	1.5 (1)	-	28.0/27.0	46	1130 • 279
MwT-PH4	70, 73/71	180 / 0.3	single stripe	01/01/02	5, no	11.0 / 10.0	1.2	13 / 12.0	20.0/18.0	-	356 • 241
MwT-PH5	-	300 / 0.3	single stripe	01/01/2002	4, no	18.0 / 15.0	2.0 / -	12.0 / -	20.0/18.0	-	406 • 241
MwT-PH7	70, 73 / 71	250 / 0.3	single stripe	01/01/2002	4, no	13.5 / 12.0	-	-	24.0/22.0	-	356 • 241
MwT-PH8	71	1200 / 0.3	Interdigit	02/02/2003	4, no	10.0 / 9.0	-	-	30.0/29.0	-	673 • 305
MwT-PH9	70, 73 / 71	750 / 0.3	Interdigit	01/01/2002	4, no	10.0 / 9.0	-	-	27.0/26.0	-	419 • 292
MwT-PH11	71	2400 / 0.3	Interdigit	02/02/2003	4, no	9.0 / 7.0	-	-	32.0/30.0	42	775 • 343

SB= Self-Bias sed (1)@ 2.0GHz, (2) noise figure = 0.8dB@ 0.9Ghz, (3) noise figure= 3.0dB@ 2.0Ghz,(4) noise figure = 1.3dB @ 2.0Ghz, (5)@ 4.0Ghz * Co n sult Factory for Available Packaging: 70 / 73 / 71 / 89 / Q3. ** Low Pha se Noise.

GaAs FETs / PHEMTs DC Properties

Model	Device Type	IDDS Range Min/Max (mA)	GM Tested Vds/Vgs (V/V)	Gm Typ/Min (mS)	Vp Tested at Vds/Ids (V/mA)	Vp Typ/Max (-V)	Bvgs0 Test-ed lgs (-mA)	Bvsg0 Typ/Min (-V)	Bvgd0 Test-ed lgs (-mA)	Bvgd0 Typ/Min (-V)	Vds Abso-lute Max (V)	Chip Rth Typ (^o)C/W	Ideal Circuit
MwT-1	MESFET	60 / 240	4.0 / 0.0	120 / 90	3.0 / 4.0	2.0 / 5.0	1	10.0 / 5.0	1	10.0 / 6.0	6.0	80	FB Amp
MwT-2	MESFET	60 / 240	4.0 / 0.0	100 / 75	3.0 / 4.0	2.0 / 5.0	0.4	12.0 / 6.0	0.4	12.0 / 8.0	7.0	80	BA Amp
MwT-3	MESFET	30 / 120	4.0 / 0.0	55 / 35	3.0 / 2.0	2.0 / 5.0	0.2	12.0 / 6.0	0.4	12.0 / 8.0	7.0	150	BA Amp
MwT-4	MESFET	18 / 66	3.0 / 0.0	35 / 27	3.0 / 1.0	1.5 / 4.0	0.2	8.0 / 5.0	0.2	8.0 / 6.0	6/0	250	Osc & Amp
MwT-5	MESFET	30 / 110	2.0 / 0.0	40 / 23	3.0 / 0.0	2.0 / 4.5	0.4	8.0 / 5.0	0.4	10.0 / 7.0	6.5	150	Buffer Amp
MwT-7	MESFET	26 / 98	3.0 / 0.0	45 / 36	3.0 / 1.0	1.5 / 4.5	0.4	8.0 / 5.0	0.4	8.0 / 6.0	6.0	180	BA/SE Amp
MwT-LP7	MESFET	38 / 98	3.0 / 0.0	45 / 36	3.0 / 1.0	1.5 / 4.5	0.4	8.0 / 5.0	0.4	8.0 / 6.0	6.0	180	Oscillator
MwT-8	MESFET	120 / 480	2.5 / 0.0	160 / 144	3.0 / 5.0	2.0 / 5.0	1.2	12.0 / 8.0	1.2	12.0 / 8.0	7.5	45	Power Amp
MwT-A9	MESFET	78 / 282	2.0 / 0.0	120 / 95	3.0 / 5.0	2.0 / 5.0	1	10.0 / 5.0	1	10.0 / 6.0	6.0	70	FB Amp
MwT-A989	MESFET	100 / 200	2.0 / 0.0	90 / 120	3.0 / 5.0	2.0 / 5.0	1	10.0 / 5.0	1	10.0 / 6.0	8.0	75	Power Amp
MwT-A989SB	MESFET	100 / 200	2.0 / 0.0	90 / 120	3.0 / 5.0	2.0 / 5.0	1	10.0 / 5.0	1	10.0 / 6.0	8.0	75	Power Amp
MwT-11	MESFET	240 / 920	2.5 / 0.0	380 / 290	3.0 / 6.0	2.0 / 5.0	2.4	12.0 / 8.0	2.4	12.0 / 8.0	8.0	28	Power Amp
MwT-17	MESFET	240 / 920	2.0 / 0.0	380 / 290	3.0 / 16.0	2.0 / 5.0	1.6	12.0 / 6.0	1.6	12.0 / 8.0	7.0	33	High Linearity
MwT-1789	MESFET	440 / 680	2.5 / 0.0	380 / 290	3.0 / 16.0	2.0 / 5.0	2.4	12.0 / 6.0	2.4	12.0 / 9.0	8.0	35	High Linearity
MwT-1789SB	MESFET	440 / 680	2.0 / 0.0	380 / 290	3.0 / 16.0	2.0 / 5.0	2.4	12.0 / 6.0	2.4	12.0 / 9.0	8.0	30	Power Amp
MwT - 17Q3	MESFET	440 / 680	2.5 / 0.0	380 / 290	3.0 / 16.0	2.0 / 5.0	2.4	12.0 / 6.0	2.4	12.0 / 9.0	8.0	35	Power Amp
MwT-PH4	PHEMT	18/66	2.5 / 0.0	58 / 36	3.0 / 1.0	1.2 / 2.5	0.4	12.0 / 6.0	0.4	12.0 / 8.0	7.0	210	Osc & Amp
MwT-PH5	PHEMT	40 / 120	2.5 / 0.0	60 / 40	3.0 / 2.0	1.2 / 2.5	0.4	12.0 / 6.0	0.4	12.0 / 10.0	7.0	150	Power Amp
MwT-PH7	PHEMT	50 / 122	2.5 / 0.0	80 / 50	2.0 / 1.0	1.2 / 2.5	0.4	12.0 / 6.0	0.4	12.0 / 8.0	7/0	150	Medium pow
MwT-PH8	PHEMT	240 / 600	2.5 / 0.0	320 / 240	3.0 / 8.0	1.2 / 2.5	1.2	12.0 / 6.0	1.2	13.0 / 10.0	8.0	40	Medium pow
MwT-PH9	PHEMT	120 / 292	2.5 / 0.0	200 / 150	3.0 / 5.0	1.2 / 2.5	1	12.0 / 6.0	1	13.0 / 10.0	8.0	56	Power Amp
MwT-PH11	PHEMT	440 / 800	2.0 / 0.0	800 / 450	3.0 / 16.0	1.2 / 2.5	2.4	12.0 / 6.0	2.4	13.0 / 10.0	8.0	24	Power Amp
MwT-PH15	PHEMT	120 / 240	2.5 / 0.0	200 / 130	3.0 / 2.0	1.2 / 2.5	1	12.0 / 6.0	1	13.0 / 10.0	8.0	65	Medium pow
MwT-PH16	PHEMT	150 / 360	2.5 / 0.0	280 / 180	3.0 / 3.0	1.2 / 2.5	1	12.0 / 6.0	1	13.0 / 10.0	8.0	45	Medium pow

*Consult Factory for Available Packaging: 70 / 73 / 71 / 89 / Q3

Legacy Devices

These products are available for purchase in limited quantities and may continue to be used in existing systems or designs. We encourage manufacturers and designers to transition to newer alternatives as these legacy products are nearing the end of their product life cycle, resulting in potential obsolescence and limited long term support.

Broadband Low Noise Amplifiers

Model	Pkg/Chip	Freq (GHz)	Linear Gain Typ (dB)	Gain Flatness Typ (dB)	Input RL Typ (dB)2	Output RL Typ (dB)3	NF Typ (dB)4	Pout @-1dB Typ (dBm)	Vdd (V)	Type (mA)
MLA-0522A	CHIP	1 - 2	16	1.3	14	13	1.5	15	3	70
MLA-0122B	CHIP	1 - 10	17	1	14	11	1.6	16	5	55
MLA-0122B-C4	4X4 QFN	1 - 10	17	1	14	11	1.6	16	5	55
MLA-0122B-H7	H7	1 - 12	16	1	10@1-8 GHz	13@1-8GHz	1.9@6GHz	16@6GHz	5	55
MLA-0522A	CHIP	.2-1	17	0.5	12	20	1	16	3	70
MLA-0522A-87	87	.2-1	17.5	1	10	11	1	15	3	65
MLA-0552A-87	87	1 - 2	15	1.3	13	12	1.2	15	3	65

Low Noise GaAs FETs

Model	NF @ 12 GHz Typ (dB)	NF @ 4 GHz Typ (dB)	Ga @ N.F @ 12 GHz Typ (dB)	Ga @ N.F @ 4 GHz Typ (dB)	Gate Width / Length (um)	P-1dB @ 12 GHz Typ (dB)
MwT-LN180	0.50	0.20	10 / --	10 / --	180 / 0.15	16.0
MwT-LN240	0.50	0.20	10 / --	10 / --	240 / 0.15	16.0
MwT-LN300	0.60	0.20	10 / --	10 / --	300 / 0.15	16.0
MLA-0122B-H7	0.50	0.20	9 / 8	9 / 8	600 / 0.15	20.0

Space Qualified Low Noise Amplifiers

Model	Pkg/Chip	Freq (GHz)	Linear Gain Typ/ Min (dB)	Gain Flatness Typ/ Max (dB)	Input RL Typ (dB)	Output RL Typ (dB)	NF Typ (dB)	Pout @ -1 dB Typ (dBm)	Vdd (V)	DC Current Typ/ Max (mA)
MLA-01122B	C4, H6	.2-1	17	0.5	12	20	1	16	3	70
		1-2	16	1.3	14	13	1.5	15	3	70
MLA-0522A	87	1-10	17	1	14	11	1.6	16	5	5

PRODUCT GUIDE

Contact Pathway

To keep communication efficient, please route enquiries through these regional channels:

Region	Email	Telephone
Americas	us.sales@cmlmicro.com	+1 (336) 744 5050
EMEA	sales@cmlmicro.com	+44 (0)1621 875 500
Asia-Pacific	sg.sales@cmlmicro.com	+65 62888129

Applications & Technical Support

Region	Email	Telephone
Americas	us.techsupport@cmlmicro.com	+1 (336) 744 5050
EMEA	techsupport@cmlmicro.com	+44 (0)1621 875 500
Asia-Pacific	sg.techsupport@cmlmicro.com	+65 62888129

Marketing & Media

Purpose	Email
Co-marketing, media, or exhibition requests	CMLmarketing@cmlmicro.co

All enquiries are automatically routed to the relevant regional or functional lead for a quick and accurate response.

Our Global Locations

Office	Address	Telephone
CML Micro (UK)	Oval Park, Langford, Maldon CM9 6WG	+44 (0)1621 875 500
Compound Semiconductor Design (CSD)	Abbey Barns, Duxford Rd, Ickleton CB10 1SX	+44 (0)1799 796 464
Systems Engineering (UK)	Systems Engineering (UK) Lower Charlton Trading Estate, Shepton Mallet BA4 5QE	+44 (0)1749 881 130
CML Micro (USA)	301 N Main St, Suite 2206, Winston-Salem, NC 27101 USA	+1 (336) 744 5050
CML Micro (Singapore)	150 Kampong Ampat, #05-03A KA Centre, Singapore 368324	+65 62888129

Wherever our customers and distributors operate, CML's regional teams provide responsive, technically informed, and coordinated support - ensuring it's always easy to work with us.

Notes



The first-choice semiconductor partner to technology innovators, together transforming how the world communicates



CML Micro is a world leader in the design, development and supply of mixed-signal, RF and microwave semiconductors



ANY QUESTIONS, PLEASE CONTACT
SALES@CMLMICRO.COM

www.cmlmicro.com