

MMA-495930-Q4 4.9-5.9GHz Fully Matched Medium Power Amplifier

Features:

- Ideal for 4900 –5900 MHz High Linearity / High Dynamic Range WiMax/WLAN and Point-To-Point Radio Applications
- Excellent RF Performance:
 - 44 dBm OIP3
 - 30 dBm P1dB
 - 21 dBm Pout @ 2.0% EVM (Testing signal: 802.16/64 QAM)
 - 21 dB Gain
- Vdd = +7.5V
- Input and Output matched to 50 Ω
- MTTF > 100 years @ 85°C ambient temperature
- Surface-Mount QFN 4x4mm Package

Description:

The MMA-495930-Q4 is a high linearity GaAs HFET broadband MMIC amplifier. It is packaged in a cost-effective QFN 4 x 4mm surface mount package. Applications include the driver and output stage of power amplifiers for WLAN and WiMax infrastructure base stations and access points. The third order intercept performance of the MMA-495930-Q4 is excellent and is typically 14 dB above the 1 dB gain compression point.

Typical RF Performance: *Vds = 7.5 V, Ids = 450 mA (typ. Vgs = -0.9V), Ta = 25°C, Z0 = 50 Ω*

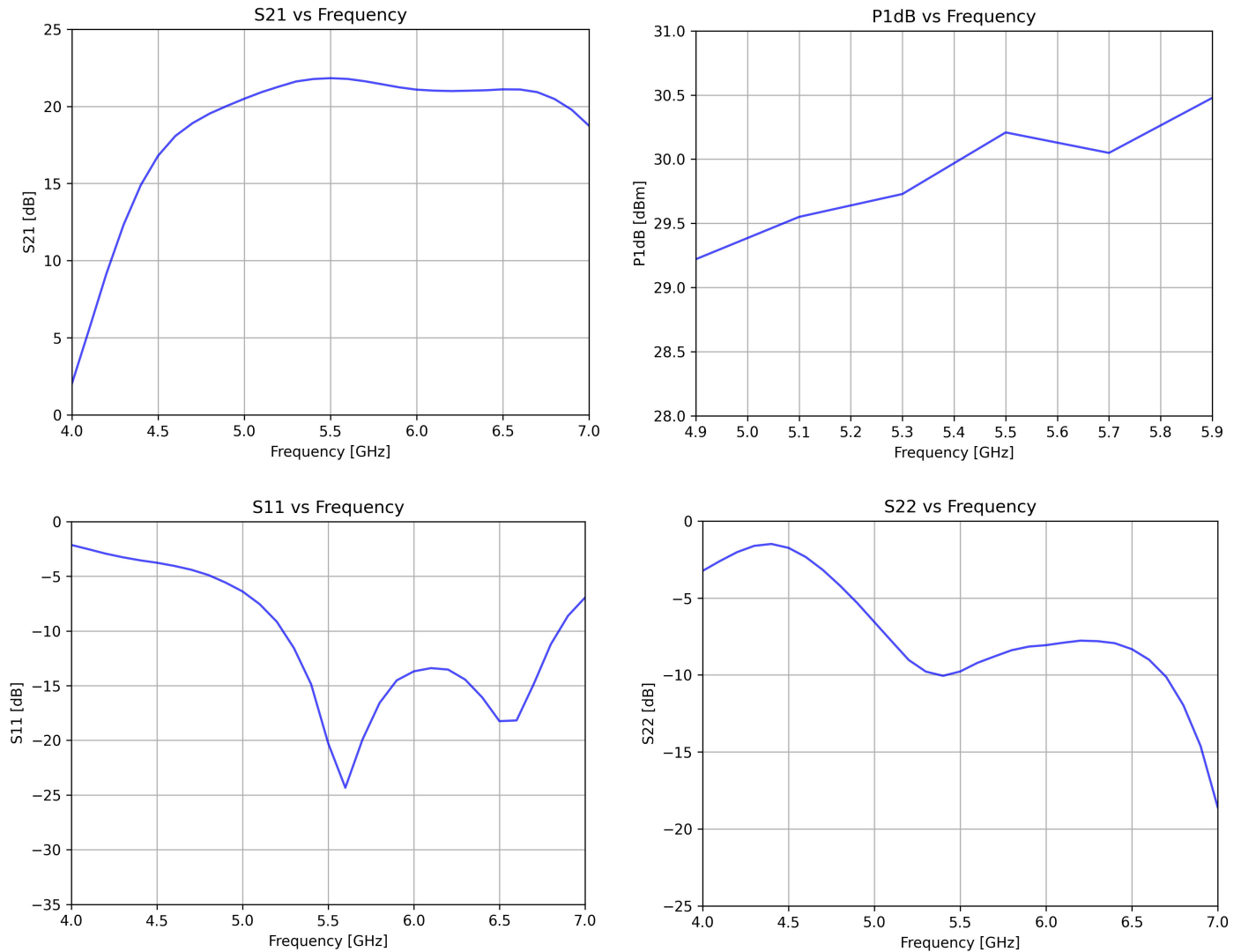
Parameter	Units	Typical Data
Frequency Range	MHz	4900 - 5900
Gain (Typ)	dB	21
Gain Flatness (Typ)	±dB	1.0
Input Return Loss	dB	10
Output Return Loss	dB	8
Output P1dB	dBm	30
Output IP3 ⁽¹⁾	dBm	44
Pout @ 2.0 % EVM	dBm	21
Operating Current Range (Typ / Max)	mA	450 / 500
Thermal Resistance	°C /W	20

(1) Output IP3 is measured with two tones at output power of 10 dBm / tone separated by 10 MHz.

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Typical RF Performance: $V_{ds} = 7.5\text{ V}$, $I_{ds} = 450\text{ mA}$, $Z_0 = 50\ \Omega$, $T_a = 25\ ^\circ\text{C}$



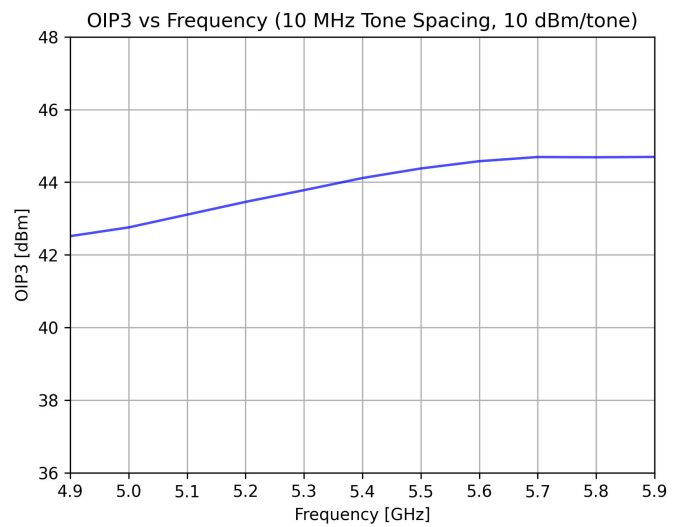
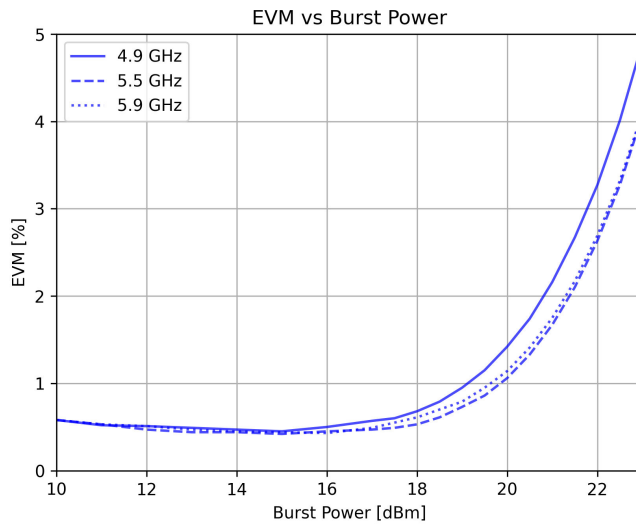
ESD Caution



High-performance RF integrated circuits are highly sensitive to electrostatic discharge (ESD) and may contain unprotected inputs and outputs. Handling and assembly should be conducted in an ESD-controlled environment. It is recommended that ESD precautions and protocols are adopted to minimise the risk of electrostatic discharge and protect product integrity.

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Absolute Maximum Ratings: ($T_a = 25^\circ\text{C}$)*

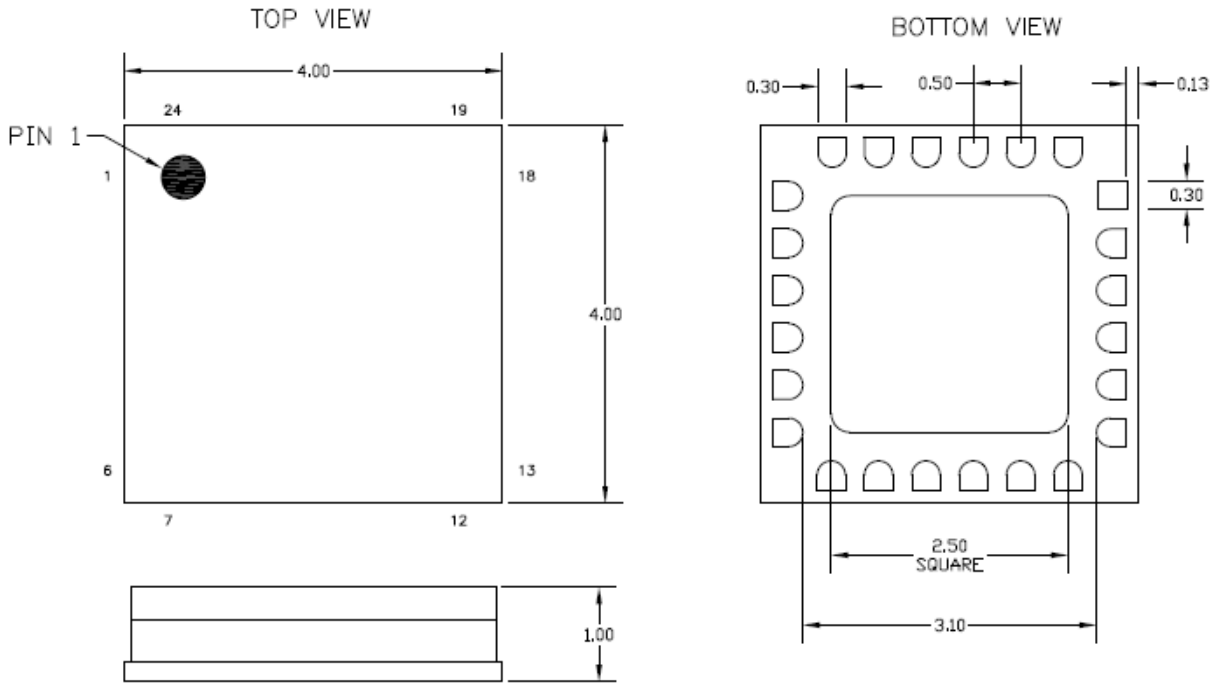
SYMBOL	PARAMETERS	UNITS	ABSOLUTE MAXIMUM
V _{ds}	Drain-Source Voltage	V	8.5
V _{gs}	Gate-Source Voltage	V	-6 to +0.8
I _{ds}	Drain Current	mA	500
I _{gs}	Gate Current	mA	5.0
P _{diss}	DC Power Dissipation	W	4.0
P _{in max}	RF Input Power	dBm	+24.0
T _{oper}	Operating Temperature	°C	-40 to +85
T _{ch}	Channel Temperature	°C	150.0
T _{stg}	Storage Temperature	°C	-60.0 to 150.0

*Operation of this device above any one of these parameters may cause permanent damage.

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Mechanical Information:



All dimensions are in mm

Pin Assignment			
Pin #	Function	Pin #	Function
1	N/C	13	N/C
2	N/C	14	N/C
3	RF in	15	RF out
4	RF in	16	RF out
5	N/C	17	N/C
6	N/C	18	N/C
7	N/C	19	N/C
8	N/C	20	N/C
9	N/C	21	N/C
10	Vdd	22	Vgs
11	N/C	23	N/C
12	N/C	24	N/C

RoHS Compliance



CML Micro certifies, to the best of our knowledge, that its products comply with RoHS directive (2011/65/EU), as amended by Directive (EU) 2015/863.

REACH Compliance



CML Micro certifies, to the best of our knowledge, that its products do not contain any of the banned substances specified in the SVHC list at <https://echa.europa.eu/candidate-list-table>. CML Micro are committed to ensuring the safety of products and the compliance with regulations. Publications will be updated in the event that REACH control is compromised.

Contact Information

For further information please contact your local CML sales representative.
Contact details can be found at www.cmlmicro.com.

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