

Variable Efficiency Power Amplifier (VEPA-2W)

COBHAM

S-Band, 2 W Linear, 3W Non-Linear Model Numbers: VEPA-2W-L2 & VEPA-2W-S1

The most important thing we build is trust.

Applications

- UAV/UGV Transmission
- Wireless Camera
- COFDM Transmission
- FM Transmission
- Mobile and Portable AV Applications
- Electronic News Gathering (ENG)



Key Features

- Variable Efficiency with local switch or remote logic signal
- High Efficiency Mode - 2 W out for 12 W DC in (Linear)
- High Linearity Mode - 1 W with MER 28 dB
- 2 W with MER 27 dB
- 9-32 VDC Supply Voltage
- Compact and lightweight
- Protected against excessive input power and load mismatch
- Reversed polarity protected

GMS' Variable Efficiency Power Amplifier (VEPA) Series has the unique ability to adjust its DC power consumption and switch from high linear operation into high efficiency operation mode. These modes are selectable via an external control connector logic signals. Both of these modes can be used for modulation schemes that require linear operation (like COFDM). The High efficiency mode is suitable for COFDM signal with 16 QAM modulation (MER 23 dB). The high linearity mode can work with COFDM signal up to 64 QAM and provide MER of 27dB for 2 W of RMS RF output power. This PA can also be used for non-linear signals like FM and can provide up to 3 W of RF output power.

An innovative protection circuit switches off the input signal when it exceeds the value corresponding to about 4 W output power and it also turns off the input signal when it detects excessive mismatch conditions.

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The VEPA-2 Series Power Amplifiers (PAs) come in a small, lightweight housing (2.1"W x 0.6"H x 3"L) that is perfect for UAVs or hand-held Wireless Camera Systems. The VEPA-2W provides typically 30 dB of gain.

Specifications:

Parameter		Specification	
Frequency (GHz)		1.7 - 1.85	2.2 - 2.4
Frequency Band			
Max Linear Gain (dB center band)		30	30
Flatness (dB)		+/-0.5	+/-0.5
P1dB (dBm)		39	39
Input/Output VSWR		1.3:1	1.3:1
Rated Output PWR	Linear	2 W	2 W
	FM	3 W	3 W
MER HIGH LINEARITY MODE (16 QAM 64QAM)	1 W	28	28
	2 W	27	27
Current (A max @ 12 Vdc) IN HIGH EFFICIENCY MODE	1 W	0.8	0.8
	2 W	1.0	1.0
Current (A max @ 12 Vdc) IN HIGH LINEARITY MODE	1 W	1.0	1.0
	2 W	1.2	1.2
DC input voltage		9-32	
Mechanical Dimension (without heatsink)		2.1"W x 0.6"H x 3"L 5.3 cm x 1.52 cm x 7.6 cm	
Weight	lbs	0.300	
	grams	136	
Operating Baseplate Temperature		-10 °C to + 65 °C	
Operating Humidity		95% Non-condensing	
RF Connectors		SMA female	