HD Communications Corp.
Ronkonkoma, NY USA

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Solid State Broadband High Power RF Amplifier

HD20357

800 – 3000 MHz / 25 Watt

The HD20357 is suitable for ultra broadband high power linear applications. This amplifier utilizes high power GaAsFET devices that provide wide frequency response and dynamic range, high gain, low distortions, and excellent linearity. Employing advanced broadband RF matching networks and combining techniques, EMI/RFI filters, and all qualified components achieve exceptional performance, and high efficiency. The system includes a universal voltage, single phase, power supply and a built in forced air-cooling system.

- Solid-state linear design
- Instantaneous ultra broadband
- Small and lightweight
- Standard front panel manual gain adjust
- Suitable for CW/FM/PM/AM/Pulse/Digital modulation
- 50 Ohm Input/Output impedance
- High reliability and ruggedness

ELECTRICAL SPECIFICATIONS @ T=25°C, 50Ω System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1000		3000	MHz
Output Power CW	P_{Sat}	25	30		Watt
Output Power @ 1dB G.C.P	P_{1dB}	20	25		Watt
Power Gain @ 1dB G.C.P	G_{1dB}	44			dB
Input Power for Nominal Pout	P_{in}		0		dBm
Small Signal Gain Flatness	ΔG			±1.5	dB
Gain Adjustment Range	FGA	25			dB
Input/Output VSWR	S11/S22	-10			dB
Noise Figure	NF		10		dB
Third Order Intercept Point	IP3		+53		dBm
Harmonics @ 1dB G.C.P	H		-30	-20	dBc
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage (single phase)	VAC	100		240	Volt
AC Power Consumption	P_D		200	250	Watt

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	Tc	-10		+55	°C
Non-operating Temperature	Tstg	-40		+85	°C
Relative humidity w/o condensation	RH	95			%
Altitude	ALT	10,000	30,000		Feet
Shock & Vibration	SH / VI		Airborne		

MECHANICAL SPECIFICATIONS

Parameter	Value	Units	Limits
Dimensions	19 x 3.5 x 18	Inch	Max
Weight	30	lb.	Max
RF Connectors Input/Output	Type-N female		-
Cooling	Built in internal forced air cooling system		-

PROTECTIONS

Input Overdrive	+6dBm		Max
Load VSWR	Infinite @ any angle & amplitude		Nom
Thermal Overload	85°C shutdown		Max

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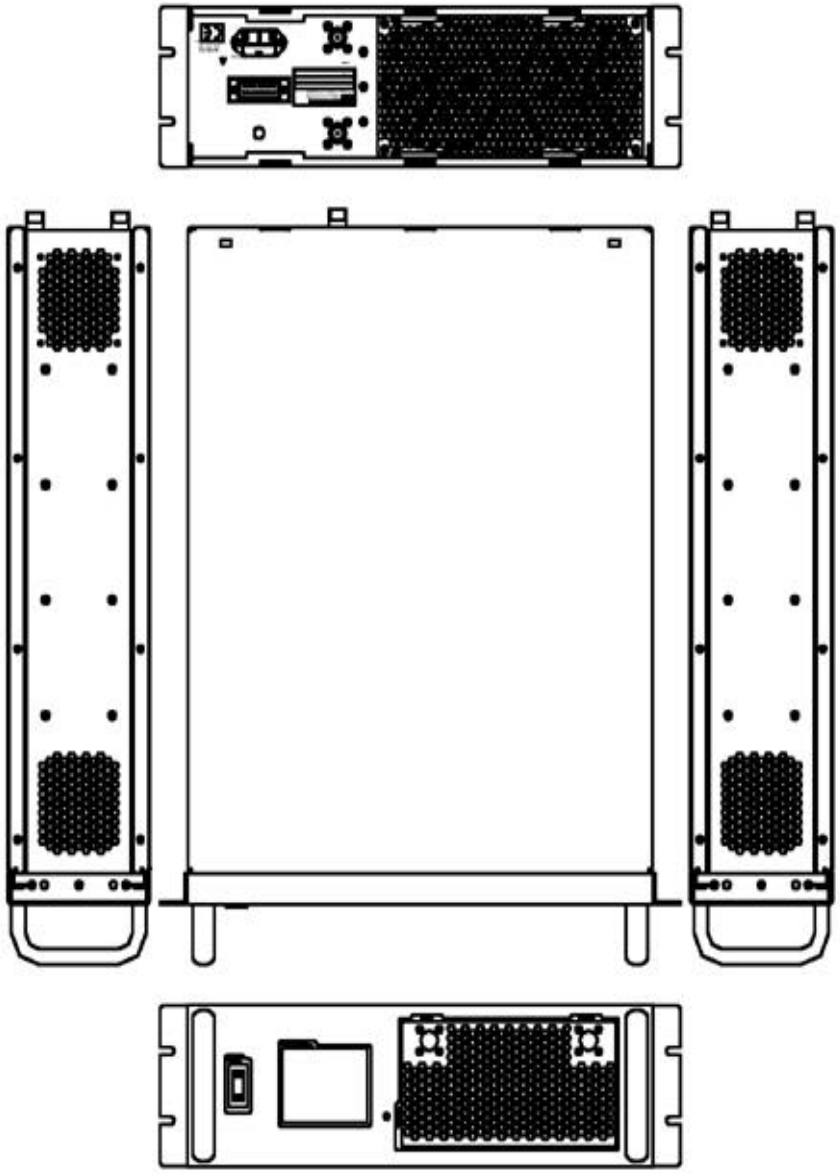
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AVAILABLE OPTIONS (Refer to table for systems options)

Option	Number	Description	Price
FGA	**061**	Front panel 10 turns manual gain adjustment.	Standard
LCD	**062**	Touchscreen Digital Display, including Fwd/Rev Power indication (dB or Watt scale), Gain Adjustment, ALC Fast/Slow, On/Off, Standby mode, Fault indication, Rear panel HPIB IEEE-488.2 or Full Duplex RS232 remote interface. Note: Output Power is lowered by 0.5 - 0.75dB with this option.	3,500
FCN	**051**	Front Panel Type-N female	N/C
RCN	**052**	Rear Panel Type-N female	N/C

Available Option Packages: 03, 04, 05, 06

SYSTEM OUTLINE SHOWN WITH OPTION PACKAGE 03



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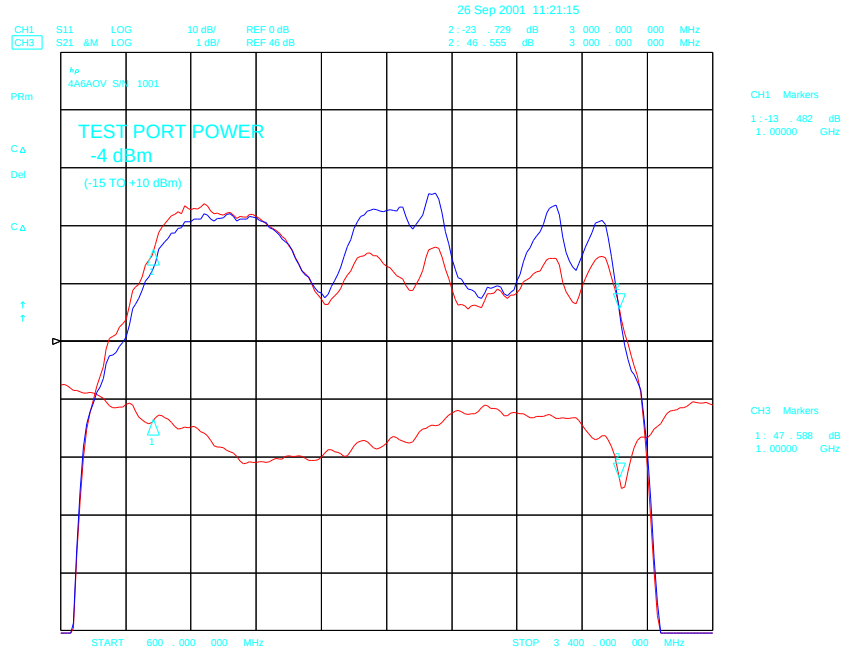
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TYPICAL PERFORMANCE PLOTS

Top Curve: Small signal @ Pin = -15dBm
Mid Curve: P1dB @ Pin = -4.0dBm
Reference: 46dB
Bottom Curve: Input VSWR



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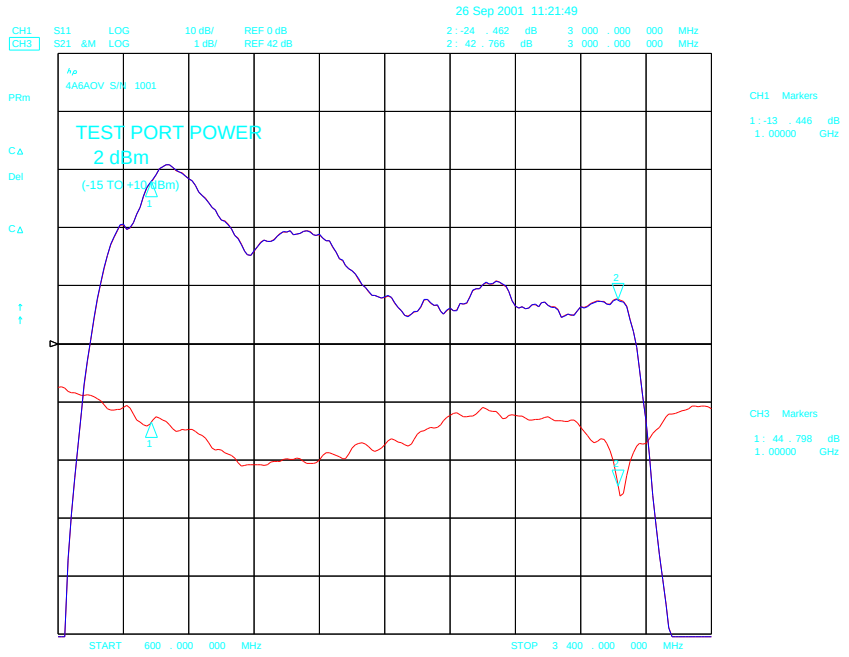
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Top Curve: Psat @ Pin = 2dBm
Reference: 42dB
Bottom Curve: Input VSWR



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