ZHM20-6000/20

MIL Grade High Power Amplifier

This is a High power, super broadband RF amplifier that operates from 20 MHz to 6 GHz, ideal for broadband military platforms as well as commercial applications because it is robust and offers high power over an extremely large bandwidth with decent power added efficiency. It was designed for broad band communication systems platforms. This amplifier has a typical saturated output power of 15-20 watts at room temperature. Noise figure at room temperature is 8.0 dB typical. It offers a typical gain of 53.5 dB with a typical gain flatness of ± 4.5 dB..

- Gallium Nitride Broadband Power Amplifier
- Operation from 20 MHz to 6.0 GHz min
- Small Signal Gain 53.5 dB typical
- 15-20 Watts PSat typical

Electrical Specifications					
PARAMETER	MIN.	TYP.	MAX	UNITS	SYMBOL
Operating Frequency	20		6000	MHz	BW
Output Power CW	15	20	22	Watt	P_{SAT}
Small Signal Gain	51.5	54	56	dB	G_{1dB}
Input Power for Rated P_{OUT}		0	5	dBm	P_{IN}
Switching Speed, 1kHz TTL @ P_{IN} = 0dBm			1	uSec	$T_{ON/OFF}$
Small Signal Gain Flatness		±2.0	±4.5	dB	ΔG
Third Order Intercept Point 2-Tones, 33dBm/Tone., Δ= 100 KHz		+48		dBm	IP3
Input Return Loss			-10	dB	S_{11}
Noise Figure@ minimum attenuation			8	dB	NF
Harmonics @ Rated P_{1dB} = 10W		-20	-15	dBc	H
Spurious Signals		-70	-60	dBc	Spur
Operating Voltage	26	28	32	Volt	Vdc
Current consumption			2.7	Amp	I_{DC}

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Mechanical Specifications			
PARAMETER	VALUE	UNITS	LIMITS
Dimensions	3.5" X 7.5" X 1.0"	Inch	Max
Weight	2.0	lb	Max
RF Connectors In/Out	SMA Female		
DC Connectors			
Cooling	External Heatsink (Not Supplied)		

Environmental Characteristics (Design to Meet)					
PARAMETER	MIN.	TYP.	MAX	UNITS	SYMBOL
Operating Case Temperature	-20		+75	°C	Tc
Storage Temperature	-40		+85	°C	Tstg
Relative humidity (non-condensing)			95	%	RH
Altitude (MIL-STD-810F Method 500.4)			30,000	Feet	ALT
Shock / Vibration (MIL-STD-810F Method 516.5)		Airborne			SH / VI

Protections		
Input Overdrive	+10 dBm	Max
Load VSWR @ 25 W output power	∞ @ all load phase & amplitude for duration of 1 minute 3:1 @ all load phase & amplitude continuous	Nom

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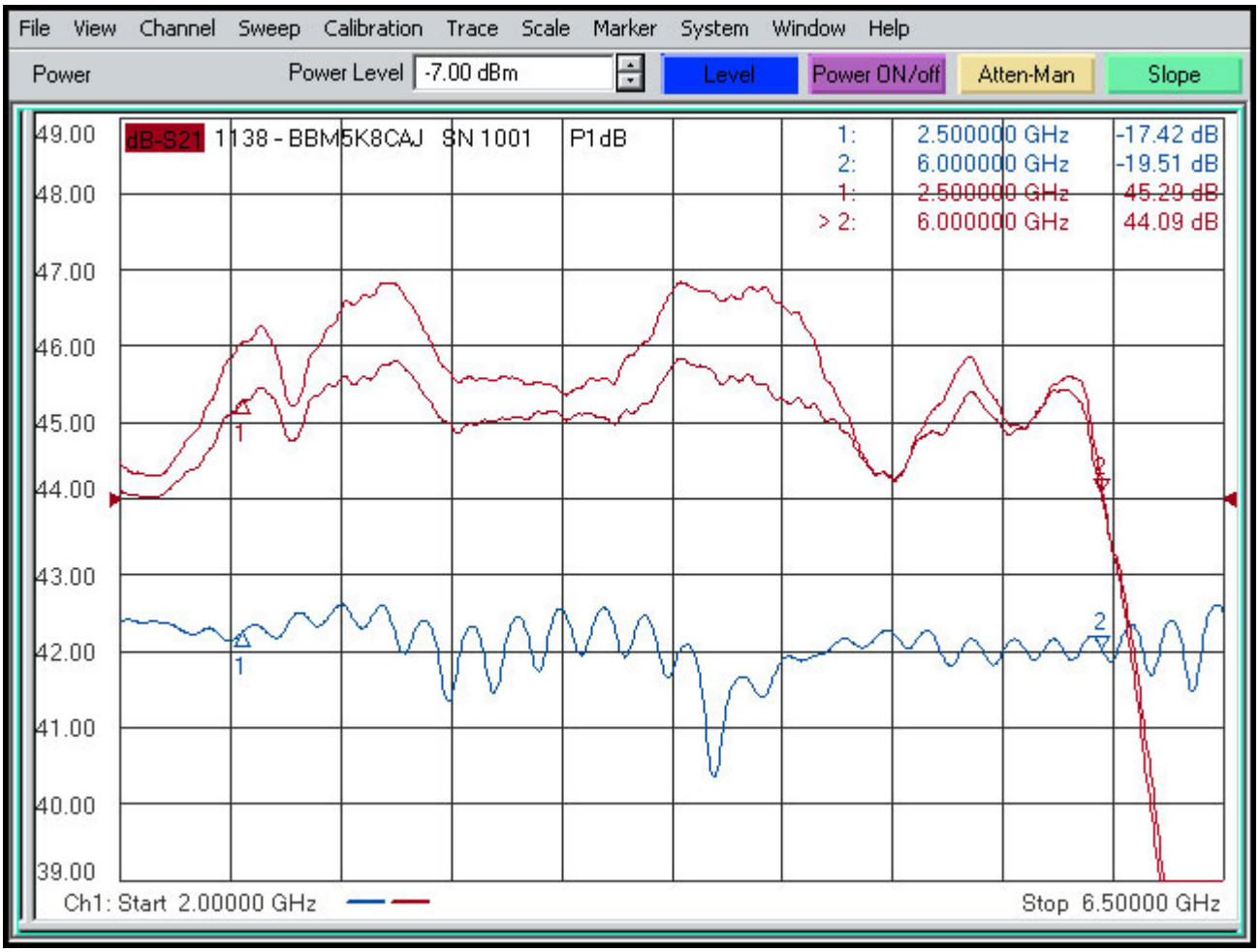
TYPICAL PERFORMANCE PLOTS

Small Signal Gain and P1dB
Top Curve: Small Signal Gain @ PIN = -20dBm
Middle Curve: Power Gain @ P1dB, PIN = -7.0dBm
Reference: 44dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



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