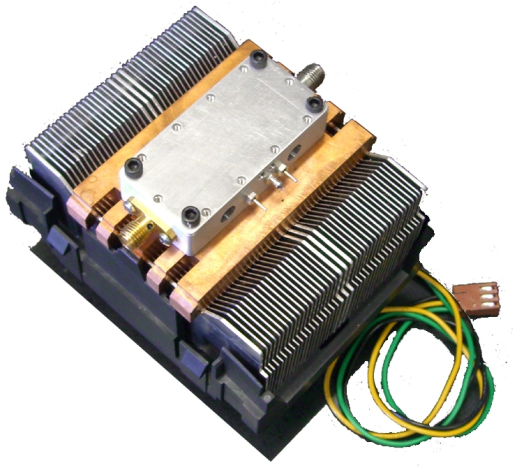
GaN Broadband High Power Amplifier
DEPA50-4000/5 ALLmax
50MHz - 4GHz / 5Watts

The DEPA50-4000/5 power amplifier is ideal for broadband applications such as instrumentation or 802.16, WiFi, WiMax, RFID or Software Defined Radios. This amplifier utilizes the latest ultra linear highly efficient GaN devices. The DEPA50-4000/5 offers ultra small size and operates from a single supply.



Case dim: 1.8" x 1" x .5"

- Class Class A operation
- Instantaneous ultra broadband
- RF Power control & Blanking
- Low harmonic content and spurious output
- Suitable for CW/FM/PM/AM/Digital modulation
- 50 Ohm Input/Output
- Single Power Supply operation with bias sequencer
- Small compact size
  Optional copper heat sink (cooling required)

ELECTRICAL SPECIFICATIONS VD = +28VDC, IDQ = 2A,T=25 C, 50 Ohm System

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW(3dB)	50		4000	MHz
Power Output CW @ Pin = +0to+7	Po	33	38	40	dBm
Power Gain @ Pout = +37dBm (3 Watt)	Pg	31	35	39	dB
Power Gain (Small Signal)	S21dB	35	36	39	dB
Input VSWR	-			2.0:1	-
Output Load Tolerance in 50 ohm system				2.0:1	-
Harmonics @ Pout = +37dBm	-		-14		dBc
Inter-Modulation Distortion Pout=4W 2-Tone,△ = 10MHz	IMD	-15	-20	-24	dBc
Spurious Signals	Spurs				
Efficiency	Eff	10	18	33	%
Operating Voltage	VD	27	28	30	Volt DC
Operating Current (Pin in = 0dBm)	IDQ	1.8	2.0	2.5	A
Operating Current (Po = +37dBm)	IDO		2.0	2.5	A
RFin MAX	-			27	dBm
Protection	Over voltage and reverse voltage protection				

MECHANICAL SPECIFICATIONS

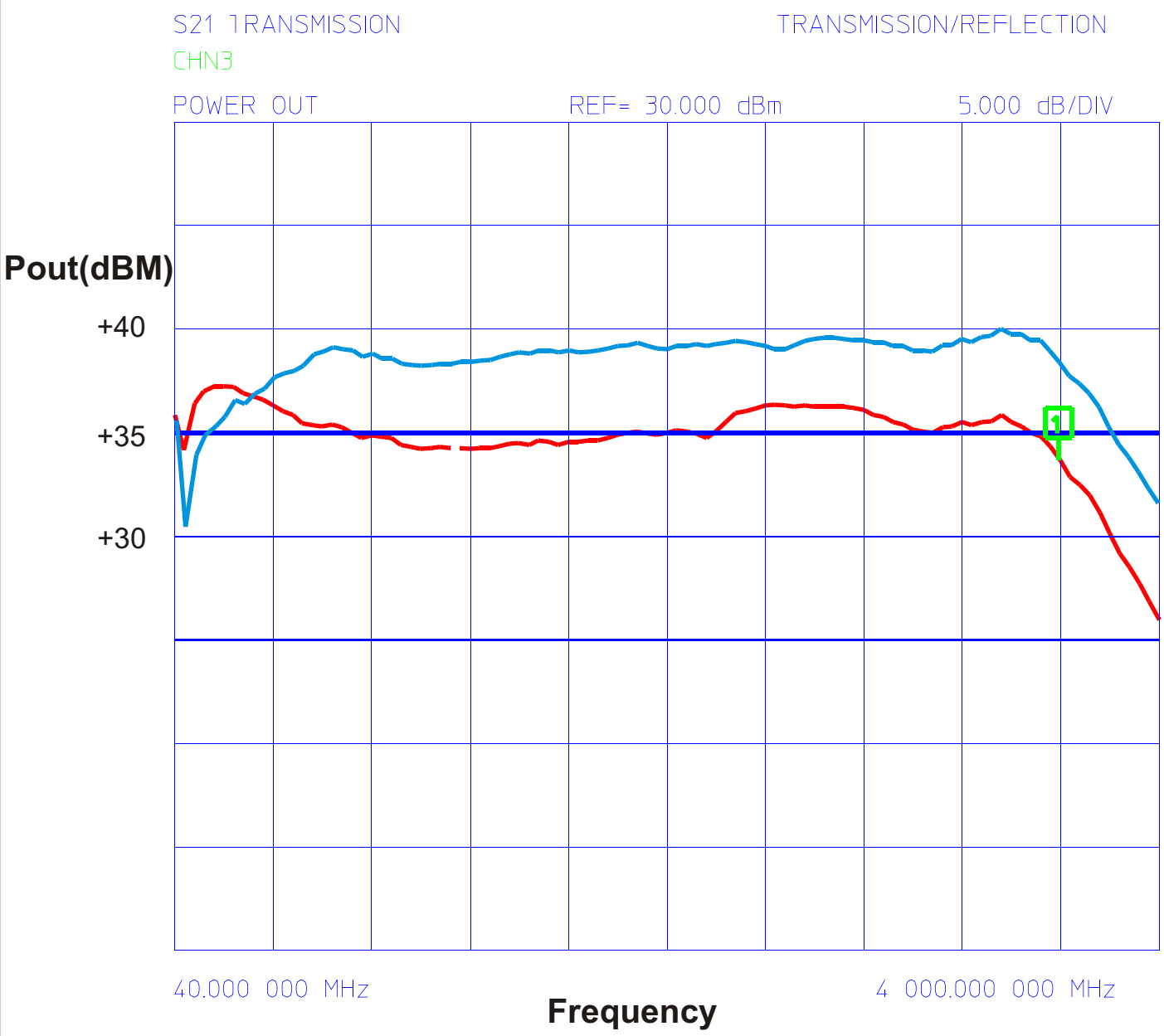
Dimensions (no heat sink)	L = 1.8" W = 1.0" H = .5"				
Weight (no heat sink)		1.8	1.9	2.0	Oz
RF Connectors I/O	SMA - Female				
DC Connector	EMI Pin				

Diamond Engineering

GaN Broadband High Power Amplifier
DEPA50-4000/5 ALLmax
50MHz - 4GHz / 5Watts

Gain And Power Out Profile vs Pin

Leveled Input Power
+0dBM
+5dBM



Diamond Engineering

GaN Broadband High Power Amplifier
DEPA50-4000/5 ALLmax
50MHz - 4GHz / 5Watts

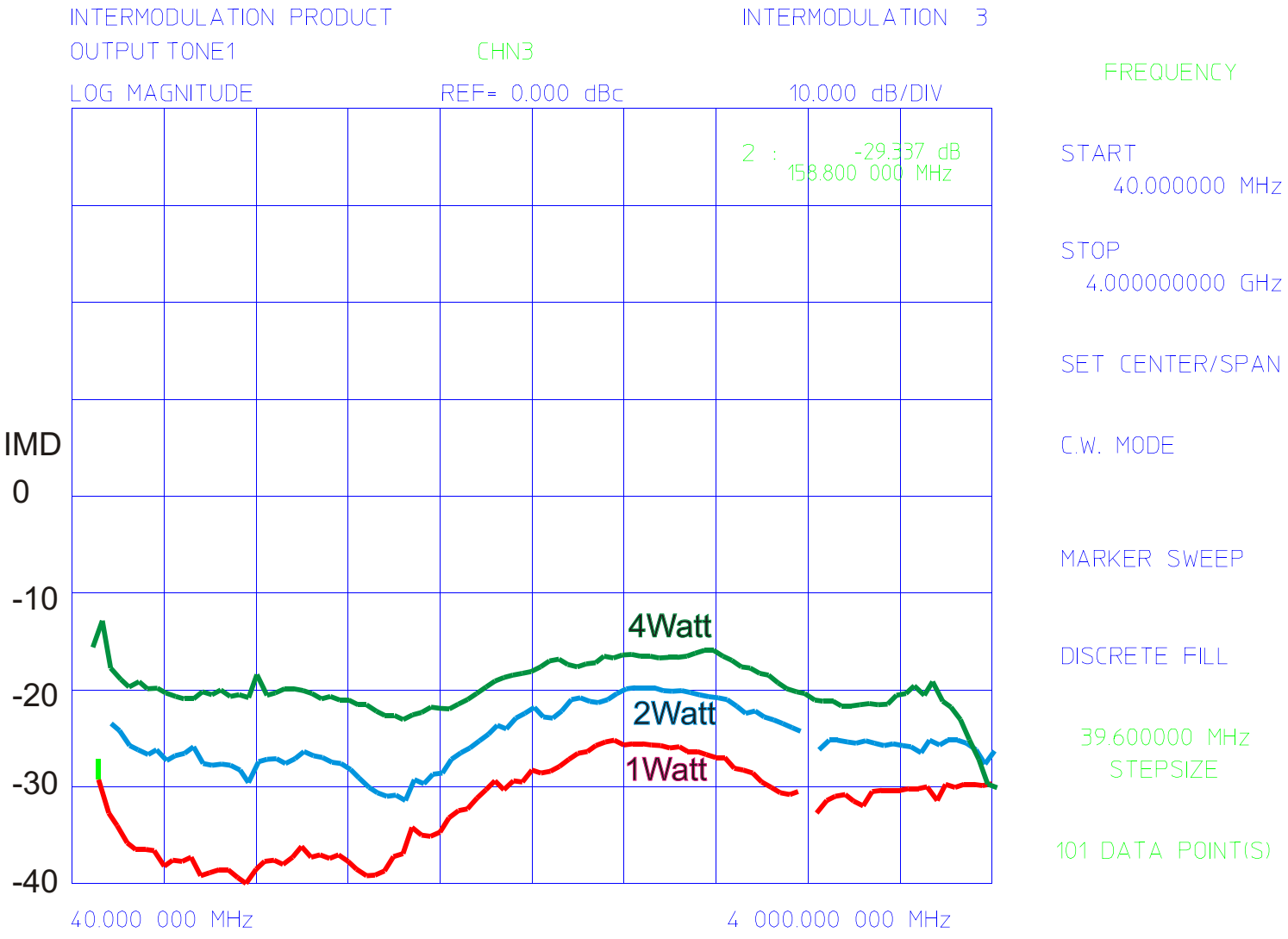
IMD For Constant Power Output

Leveled Output Power
- +30dBM
- +33dBM
- +36dBM

START: 0.040000000 GHz
STOP: 4.000000000 GHz
STEP: 0.039600000 GHz

GATE START:
GATE STOP:
GATE:
WINDOW:

ERROR CORR:IMD
AVERAGING: 1 PT
IF BNDWDTH: 1 KHz



Diamond Engineering

GaN Broadband High Power Amplifier
DEPA50-4000/5 ALLmax
50MHz - 4GHz / 5Watts

Input Match and Power Output