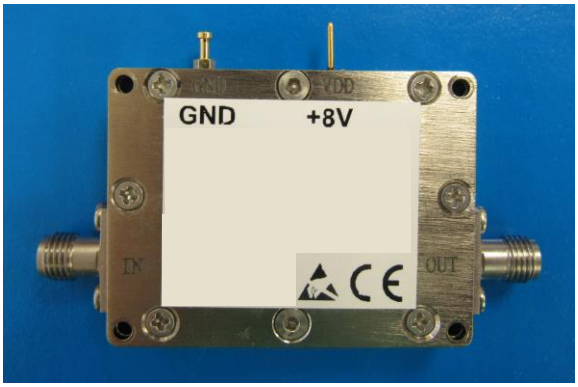
HD33791

20 – 40GHz RF Power Amplifier

Features

- Frequency Range: 20-40GHz
- Gain: 30dB
- P_{OUT}: +23dBm
- OIP3: +30dBm
- Noise Figure: 4.0dB (typ.)
- DC Power: +8V @ 560mA
- RF Connector: 2.92mm-female

Photo



Description

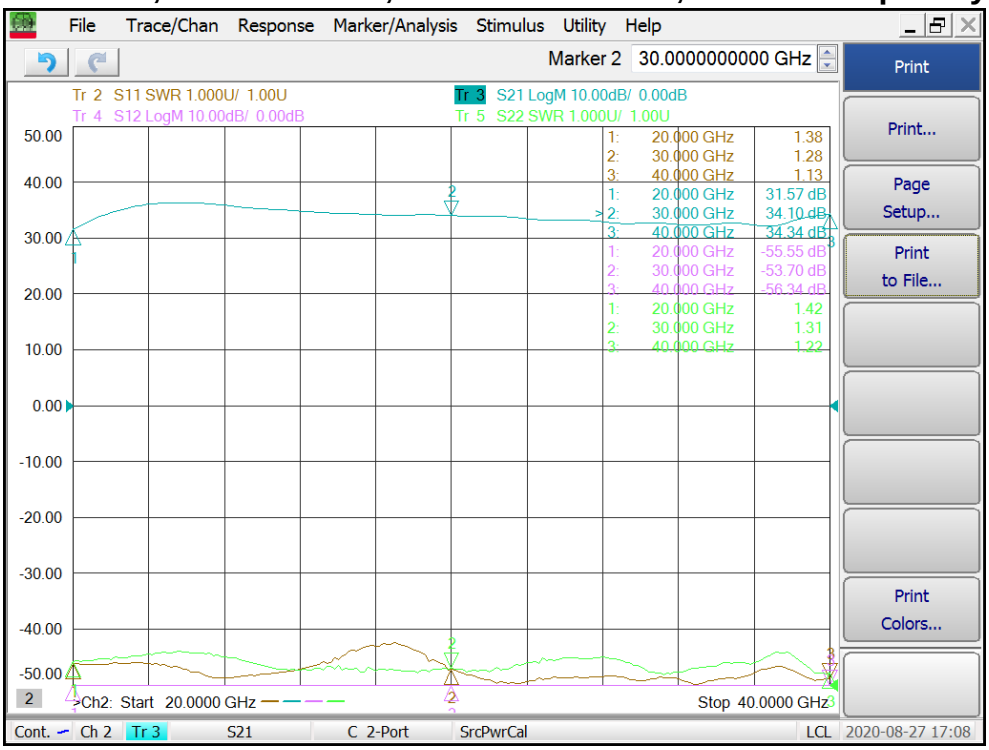
HD33791 is a wide band high performance RF Power Amplifier, with standard frequency range of 20 to 40GHz.

Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +8VDC

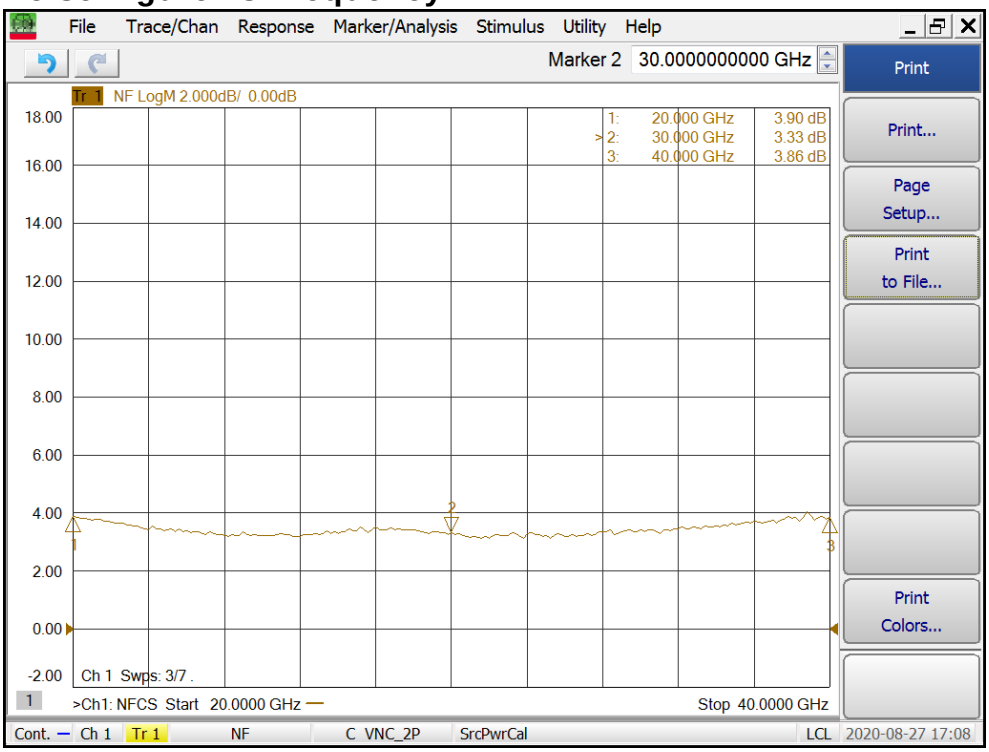
Parameter		Unit	Minimum	Typical	Maximum
Frequency Range		GHz	20		40
Gain S21	f = 20GHz	dB	28	31	
	f = 30GHz	dB	30	33	
	f = 40GHz	dB	31	34	
Gain Flatness		dB		±2.0	±3.0
Output Power P_{1dB}	f = 30GHz	dBm	+21	+22	
Output Power P_{SAT}	f = 30GHz	dBm	+22	+23	
Output Third Order Intercept IP3	f = 30GHz	dBm	+27	+30	
Noise Figure	f = 30GHz	dB		4.0	5.0
Reverse Isolation S12	f = 30GHz	dB	-45	-50	
Input VSWR S11	f = 30GHz			1.5:1	2.2:1
Output VSWR S22	f = 30GHz			1.5:1	2.2:1
DC Power Supply - voltage		V	+5.5	+8	+10
DC Power Supply - current		mA		560	600
Size (RF/DC feedthrough excluded)		Inch (mm)	1.772”x1.339”x0.335” (45x34x8.5mm)		
Weight		Oz	2.0		

WARNING: MUST USE HEAT SINK OR MOUNT ON LARGE METAL PLATE

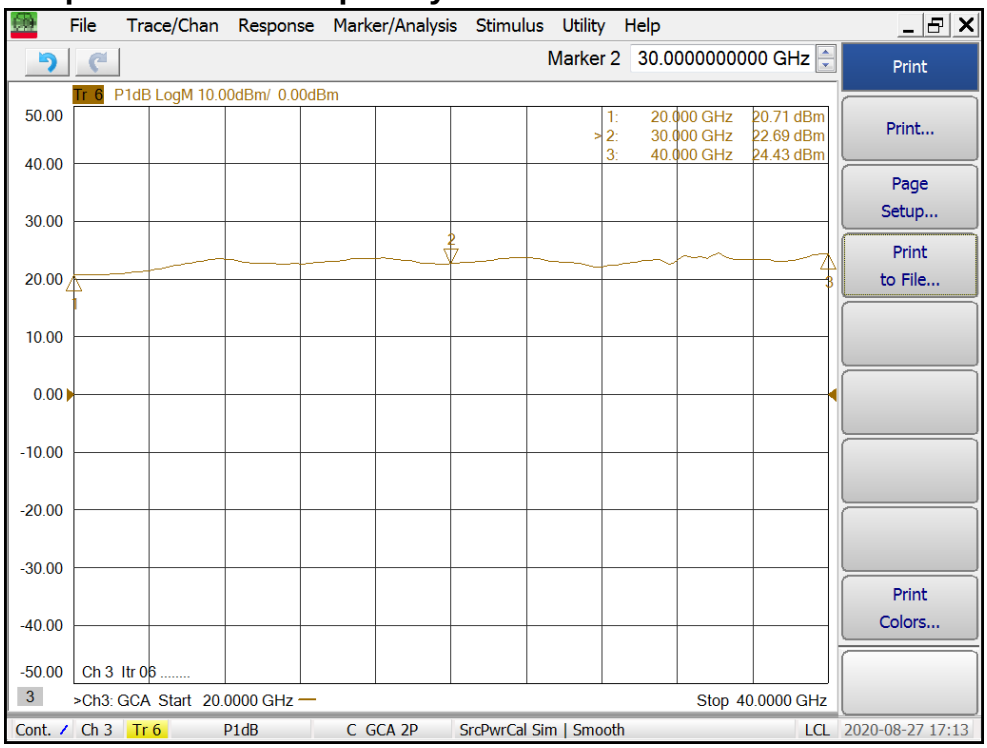
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



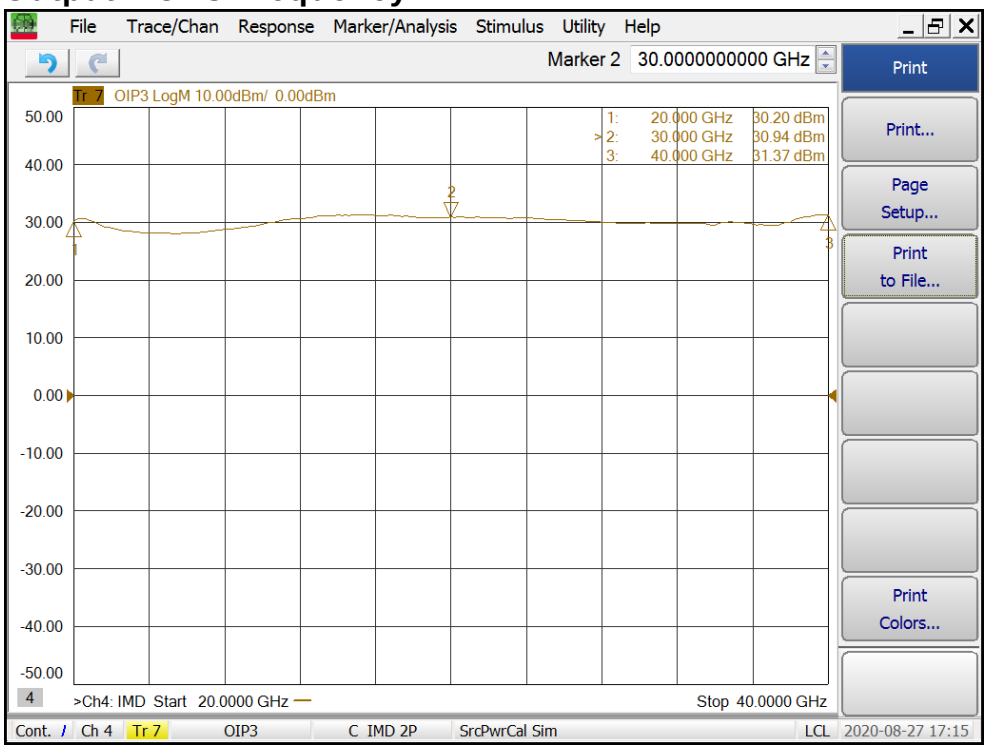
Noise Figure vs Frequency



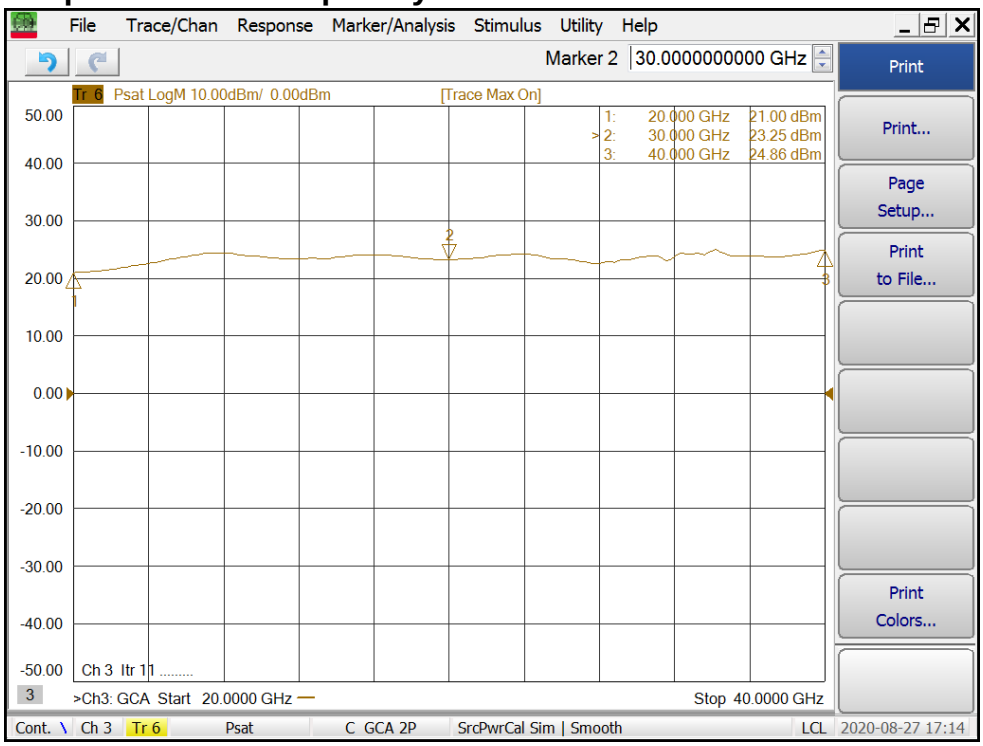
Output P1dB vs Frequency



Output IP3 vs Frequency



Output Psat vs Frequency



20 – 40GHz RF Power Amplifier

Absolute Maximum Ratings

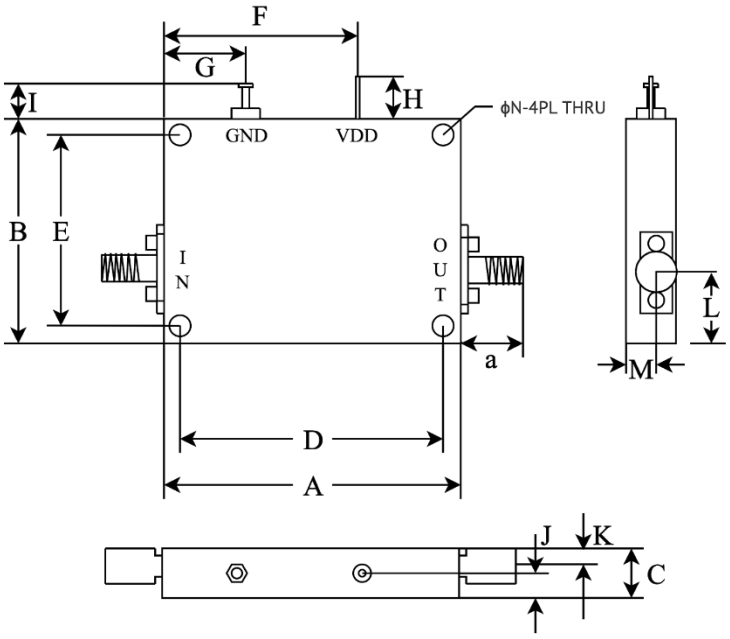
Parameter	Absolute Maximum
Supply Voltage	+13V
RF Input Power	+5dBm
Operating Temperature	-20 °C to +55 °C
Storage Temperature	-65 °C to +150 °C

ESD Sensitive Material

RoHS (EU)/2015/863 COMPLIANT

CE

Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.772	1.339	0.335	1.614	1.181	1.075	0.256	0.256	0.197	0.167
mm	45.00	34.00	8.50	41.00	30.00	27.30	6.50	6.50	5.00	4.25

	K	L	M	N	a (SMA)	a (2.92mm)	a (2.4mm)	a (1.85mm)
Inch	0.130	0.390	0.205	0.087	0.370	0.374	0.425	0.445
mm	3.30	9.90	5.20	2.20	9.40	9.50	10.80	11.30