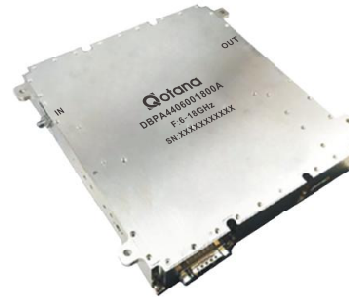


Features

- Gain: 60dB Typical
- Saturated Output Power: 46dBm Typical
- Supply Voltage: +36V @ 9A
- 50 Ohm Matched Input / Output
- Size: 12.84" x 11.74" x5.46 "


Typical Applications

- Wireless Infrastructure
 - Military & Aerospace
 - Fiber Optics
- RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	6		12	12		18	GHz
Gain	58	62	68	52	56	60	dB
Gain Flatness		±5			±4		dB
Gain Variation Over Temperature(-45 ~ +85)		±3.0			±3.0		dB
Input Return Loss		15			13		dB
Output Return Loss		25			22		dB
Output Power for 1 dB Compression (P1dB)	42	43	44	40	41	42	dBm
Saturated Output Power (Psat)	45	46	46.5	43	45	46	dBm
IM3 at (40dBm output)		-41			-39		dBc
Supply Current (Idd) (Vcc=+36V)	5.7	6	9	5.7	6	9	A
Isolation S12	80	86		79	85		dB
Input Max Power(no damage)			+5			+5	dBm

Weight	105.82 ounces	Impedance	50ohms
Input / Output Connectors	SMA-Female	Material	Aluminum
Finishing	Standard: Nickel 220 micron thickness	Package Sealing	Epoxy and Screw tight Sealing (Standard)
			Hermetically Seal (Option with extra charge)

1.P1dB, P3dB and Psat power testing signal: 200µs pulse width with 10% duty cycle.

2.For average CW power testing, a 5dB back off from Psat is required unless water/oil cooling system is applied.

QOTANA TECHNOLOGIES
Wide Band Power Amplifier 6GHz~18GHz
Absolute Maximum Ratings

Operating Voltage	+40Vdc
RF Input Power (RFIN)	+5dBm

Note: Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves

Biassing Up Procedure

Step 1	Connect input and output with 50 Ohm source/load. (in band VSWR<1.9:1 or >10dB return loss)
Step 2	Connect Ground Pin
Step 3	Connect +36V biasing

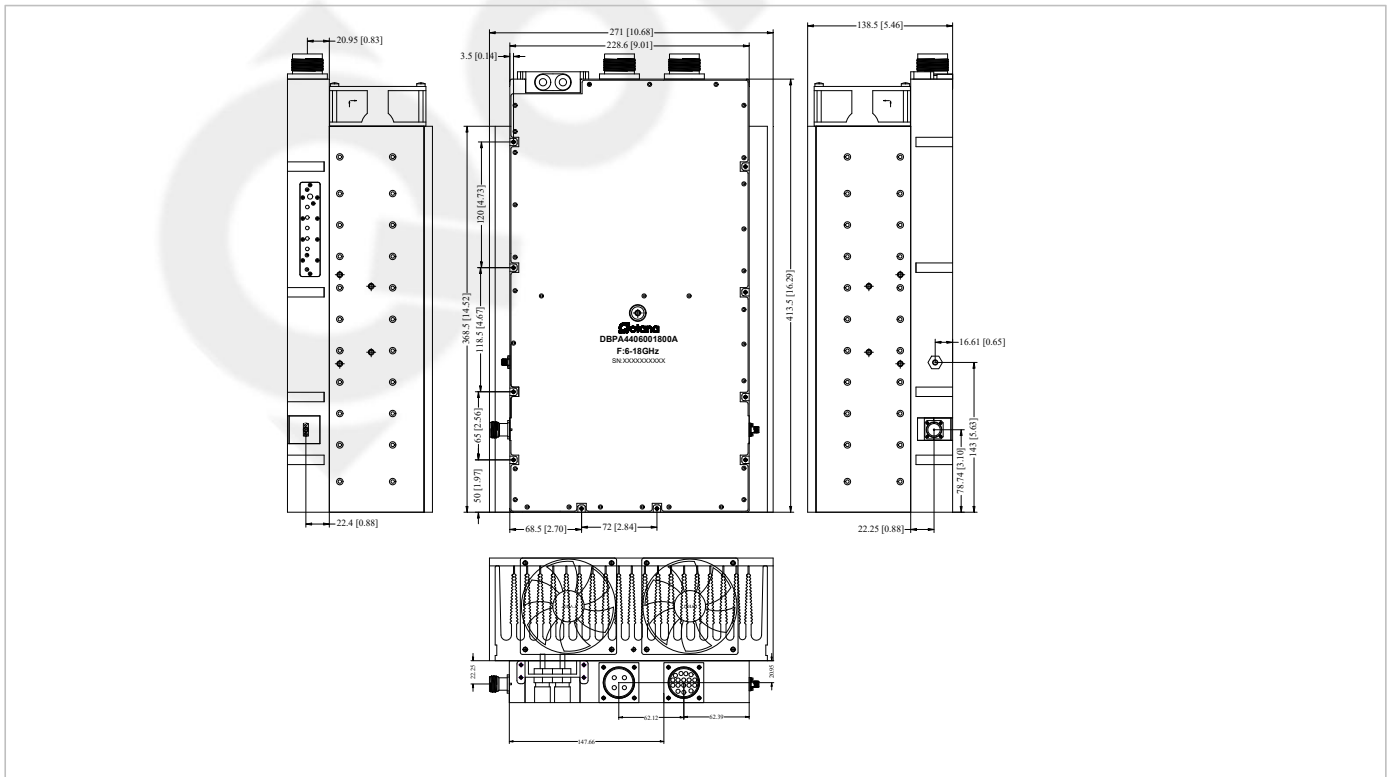
Power OFF Procedure

Step 1	Turn off +36V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

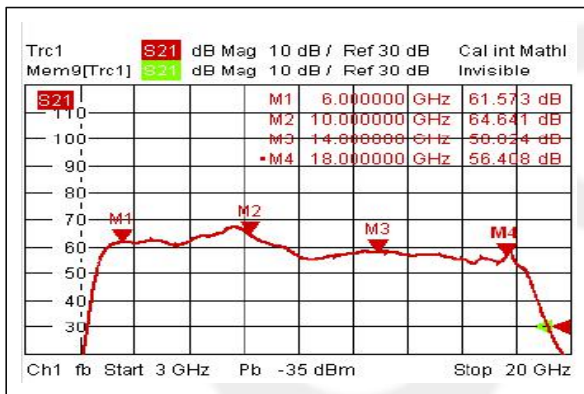

Environmental Specifications

Operational Temperature	-45°C~+85°C
Storage Temperature	-55°C~+125°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

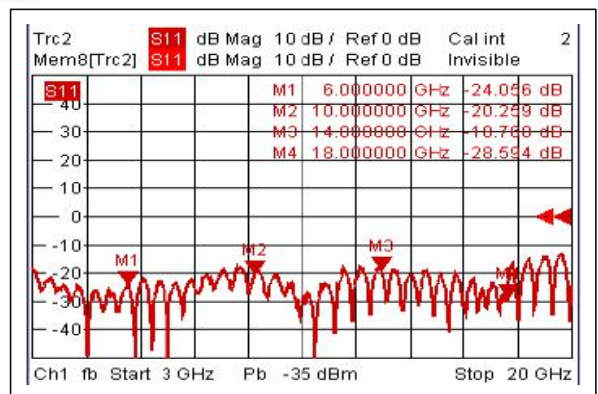
Note: The operating temperature for the unit is specified at the package base. It is the user's responsibility to ensure the part is in an environment capable of maintaining the temperature within the specified limits

PIN #	NAME	Function	TYPE	STANDARD	ENABLE	DESCRIPTION	Applied
1	RESET	Control	INPUT/OUTPUT	TTL	LOW	Set as logic low to reset PA (Front Panel also has a manual reset button to perform the same function)	Yes
2	Input Over	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high upon input overdrive	Yes
3	Over Temperature	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high when driven over temperature	Yes
4	Over Current	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high when Current Limit is reached	Yes
5	IDD Imbalance	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high upon imbalance in drain current of combining branches	Yes

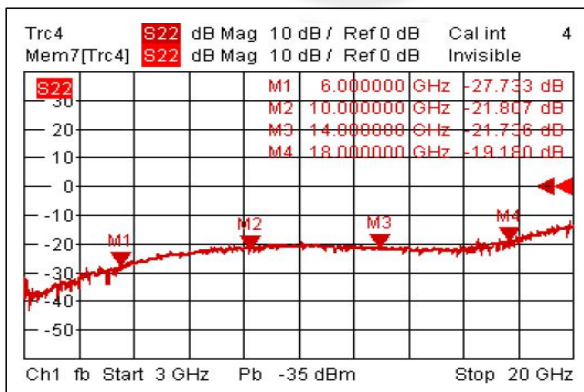
Gain



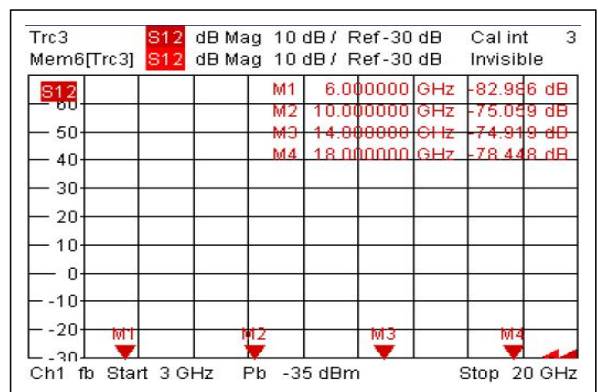
Input Return Loss



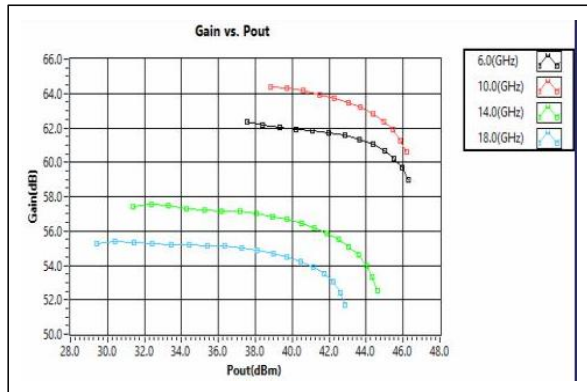
Output Return Loss



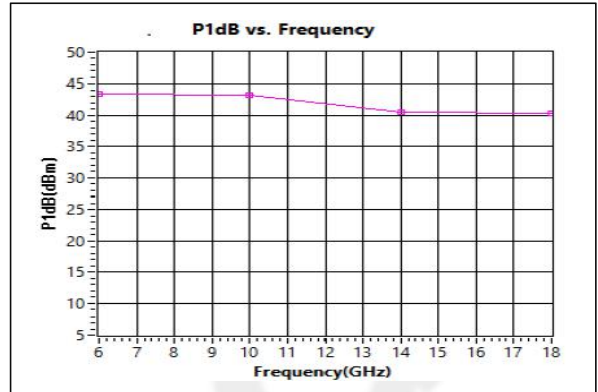
Isolation



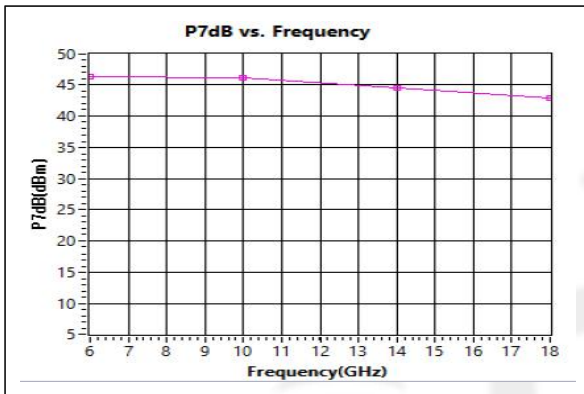
Gain vs. Output Power



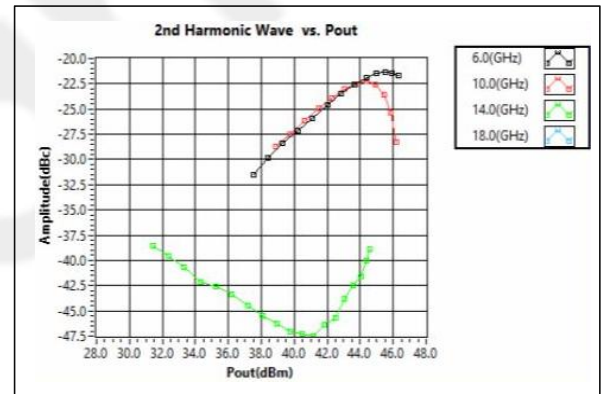
P1dB vs. Frequency



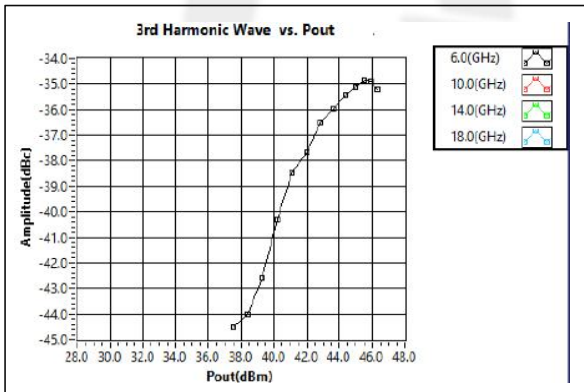
P7dB vs. Frequency



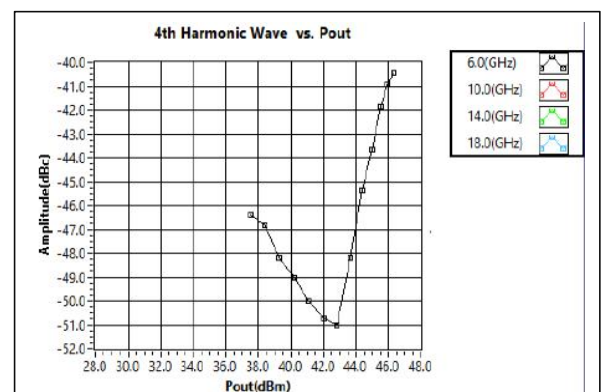
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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