RFecho
A Gateway to RFWorld

Wide Band Power Amplifier 20GHz~47GHz

Features

- Gain: 35dB Typical
- P1dB Output Power: 29dBm Typical
- Supply Voltage: +24V @ 700mA
- 50 Ohm Matched Input / Output

Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT
Fiber Optics

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	20		30	30		47	GHz
Gain	30	43	51	28	32	45	dB
Gain Flatness		±8.0			±3.0		dB
Gain Variation Over Temperature (-40ºC~+85ºC)		±3.0			±3.0		dB
Input VSWR		1.6			1.8		:1
Output 1dB Compression Point (P1dB)	25	29		27	28		dBm
Saturated Output Power (Psat)	26.5	29		27	29		dBm
Supply Current (Idd) (Vcc=+24V)		700	1200		700	1200	mA
Power Added Effeciency		5			5		%
Isolation S12		-60			-55		dB

Weight	11 ounces (Max.)	Impedance	50ohms
Input / Output Connectors	2.4mm-Female (2.92mm female optional)	Material	Copper
Finish	Nickel Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Option with extra charge)

Absolute Maximum Ratings

Operating Voltage	+28V
RF Input Power (RFIN)	0dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +24V biasing

Power OFF Procedure

Step 1	Turn off +24V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

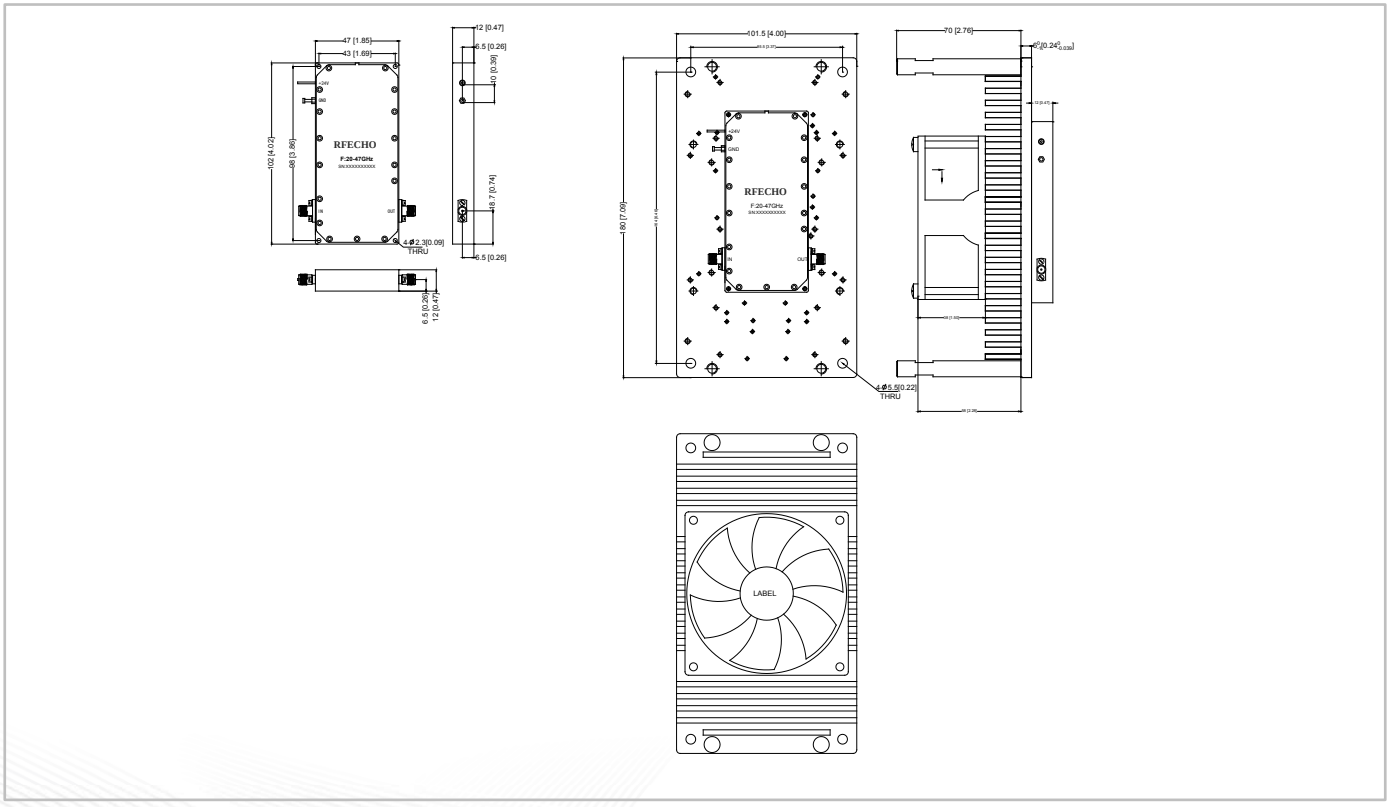
Environmental Specifications

Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
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 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

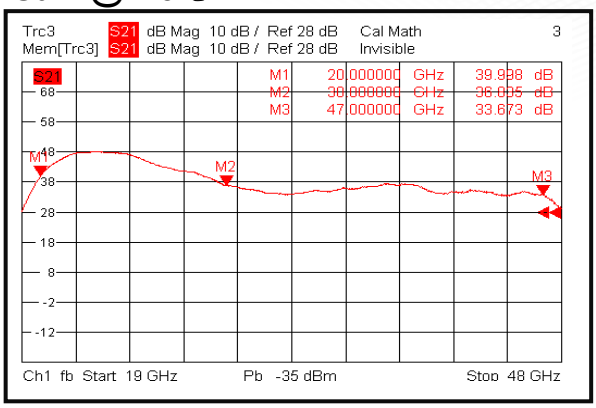
Outline Drawing:

All Dimensions in mm (inches)

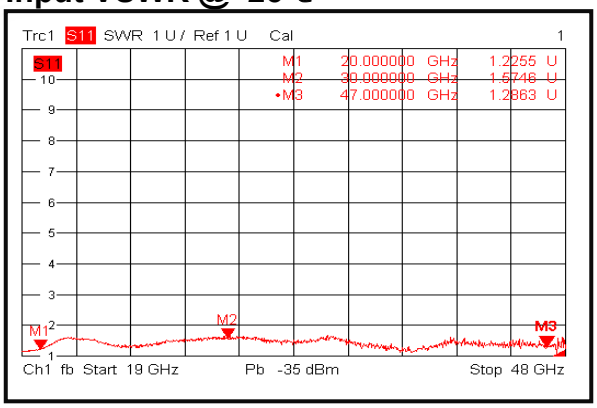
Heat Sink required during operation(Sold Separately)



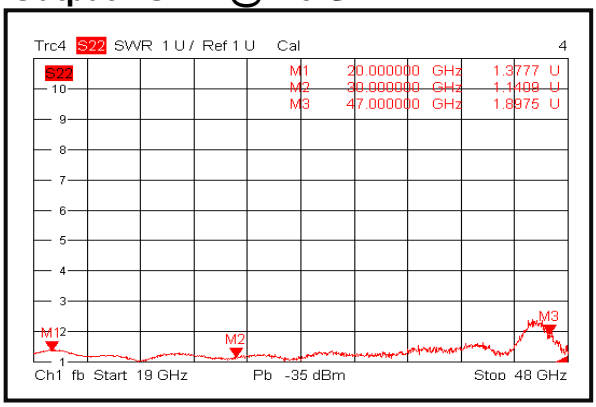
Gain @+25℃



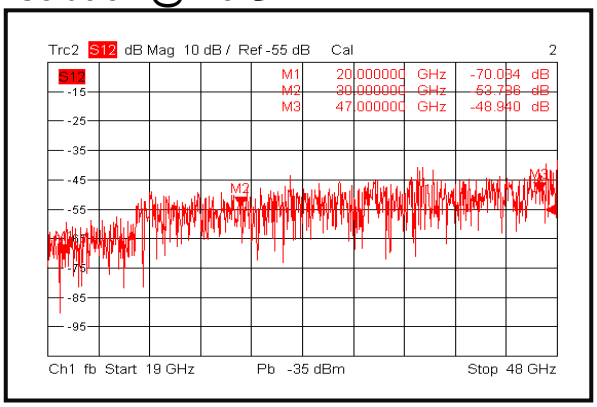
Input VSWR @+25℃



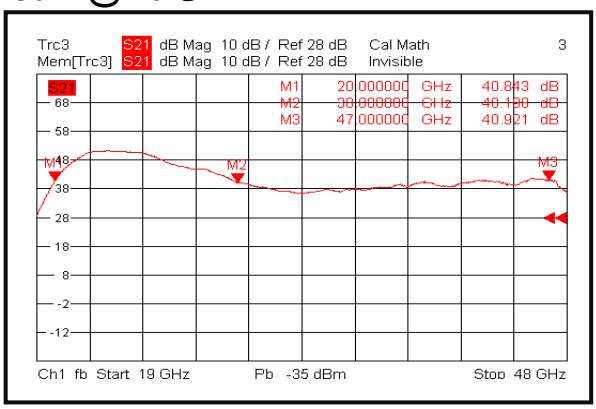
Output VSWR @+25℃



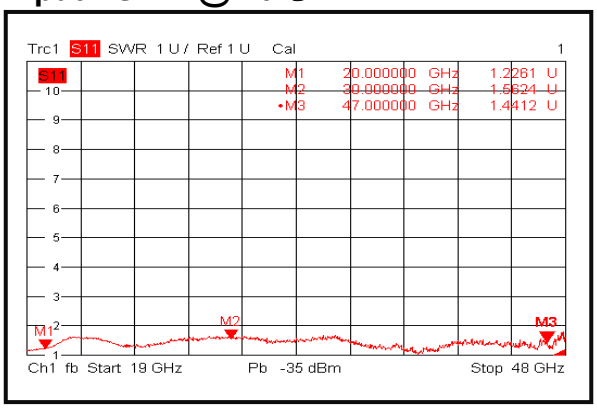
Isolation @+25℃



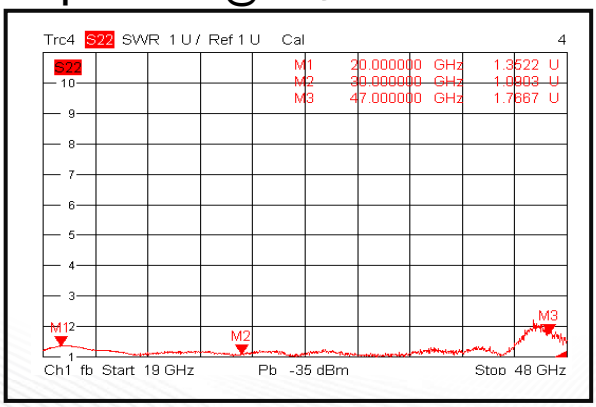
Gain @-40℃



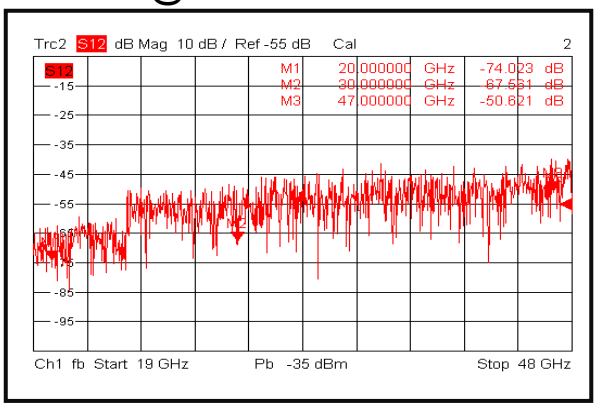
Input VSWR @-40℃



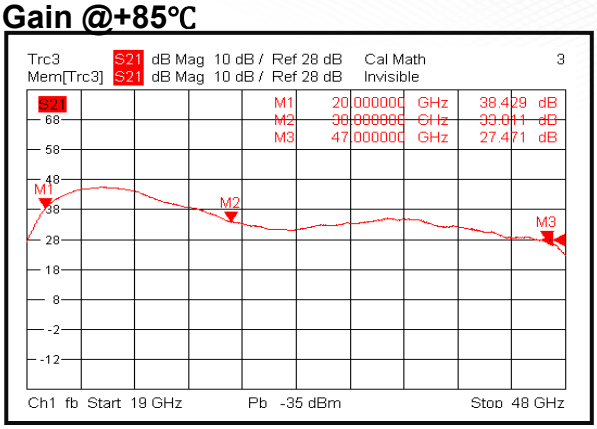
Output VSWR @-40℃



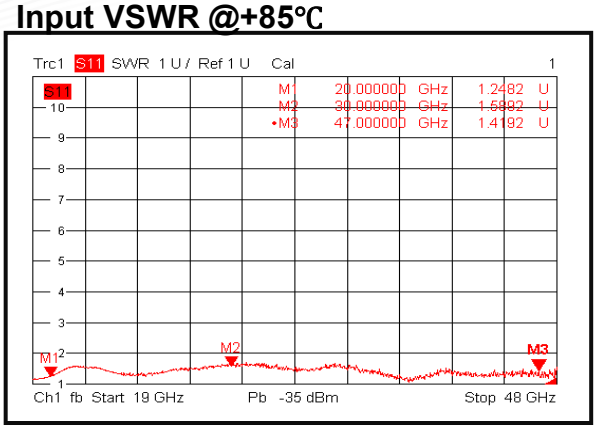
Isolation @-40℃



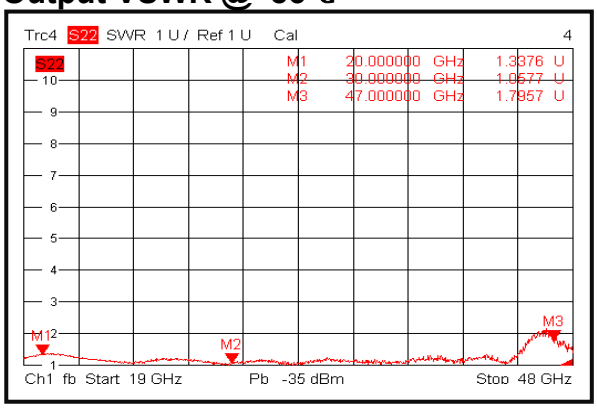
Gain @+85℃



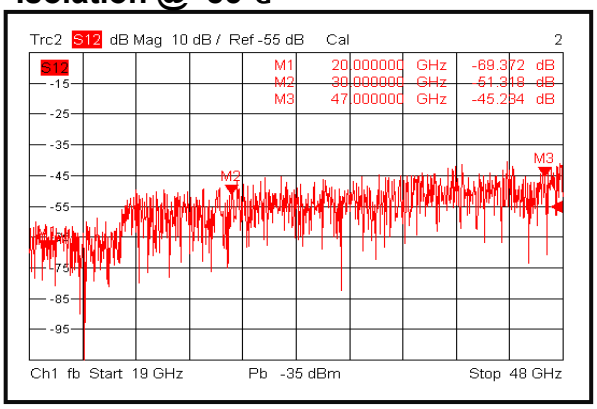
Input VSWR @+85℃



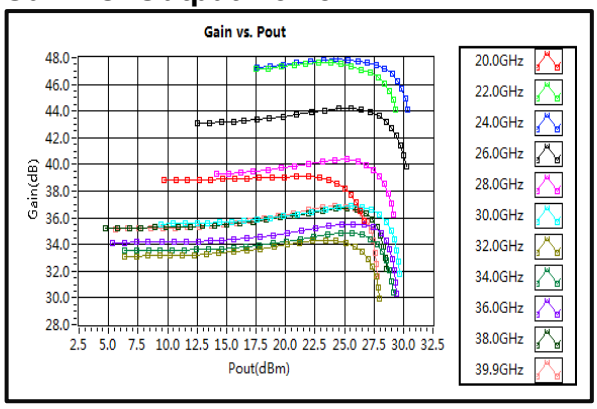
Output VSWR @+85℃



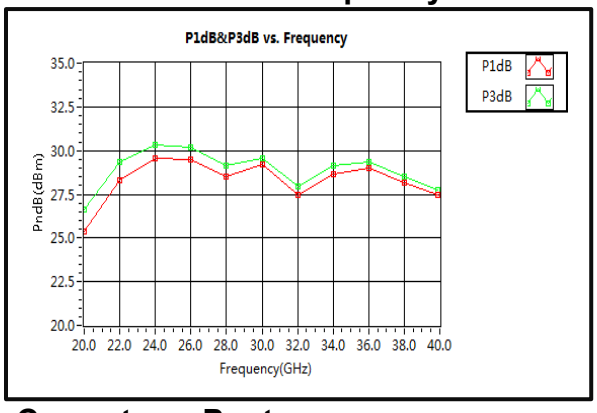
Isolation @+85℃



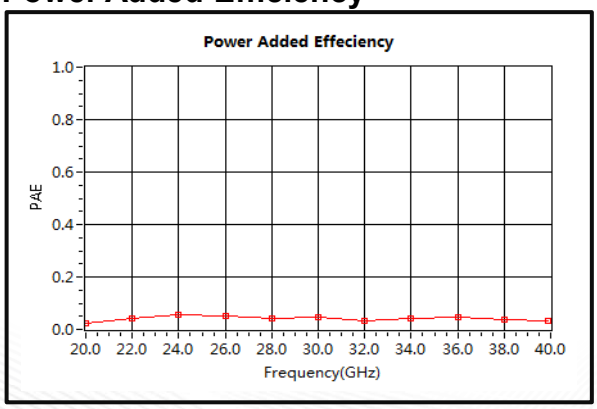
Gain vs. Output Power



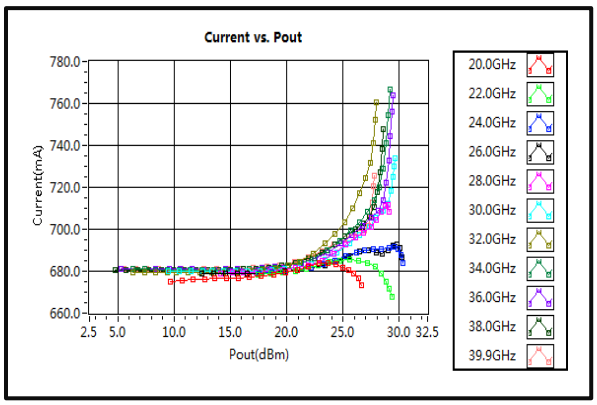
P1dB & P3dB vs. Frequency



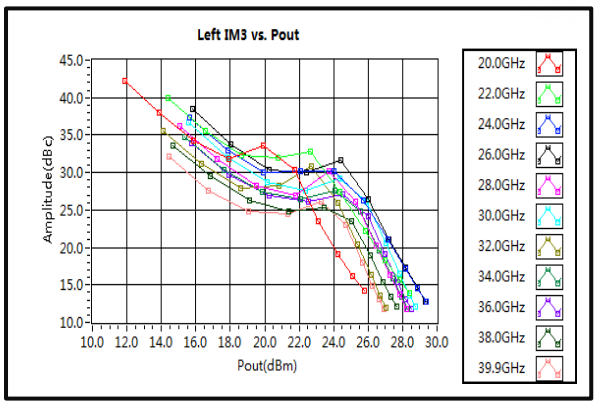
Power Added Efficiency



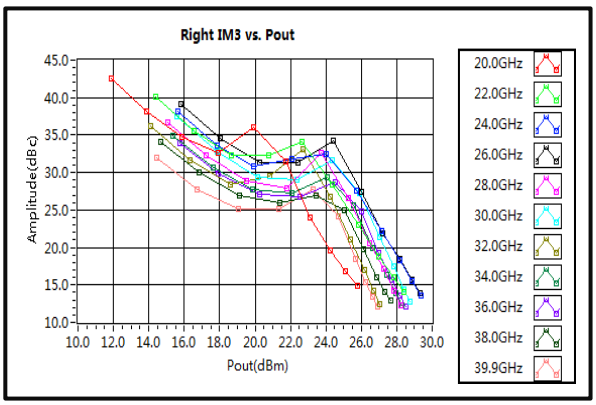
Current vs. Pout



Left IM3 vs. Pout



Right IM3 vs. Pout



2nd Harmonic Wave Output Power