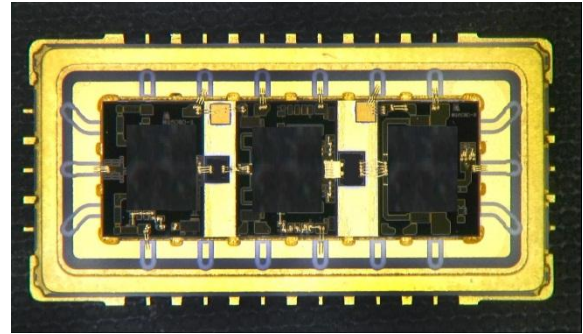


Description

The M1603B is a X-band high power amplifier module operating from 8.5 to 9.7 GHz range with 13 W typical output pulsed power. M1603B uses advanced high performance GaN microwave device technology with long term reliability. The M1603B is fully matched to 50Ω at both RF ports that allows simple system integration. The module is made in metal-based HTCC hermetically sealed package for optimal electrical and thermal performance.



Features:

- Frequency Range 8.5 – 9.7 GHz
- 13 W RF Output Pulsed Power
- 33% Typical PAE
- 50 Ohm Internally Matched
- Hermetically sealed package
- High reliability

Applications:

- Communications Systems
- Test Instrumentation
- Weather Monitoring
- Point To Point Radio

Electrical Specifications @ T=25°C, V_D=28V, V_G=-5V

Parameters	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	8.5		9.7	GHz
RF Output Pulsed Power @ at P _{in} = 27 dBm	P _{27dBm}	41	41,3		dBm
Small Signal Gain	G _{SS}	20	20.5	21	dB
VSWR Input / Output	VSWR In/Out		1.5 / 1.6	2.0 / 2.0	
Power Added Efficiency	PAE	30	33		%

Mechanical Specifications

Parameters	Value	Unit	Limits
Dimensions	16.5 x 8.2 x 2.4 (0.65 x 0.32 x 0.094)	mm (inch)	Max
Weight	1.4 (0.0031)	g (lb)	Max

Recommended Operating Conditions

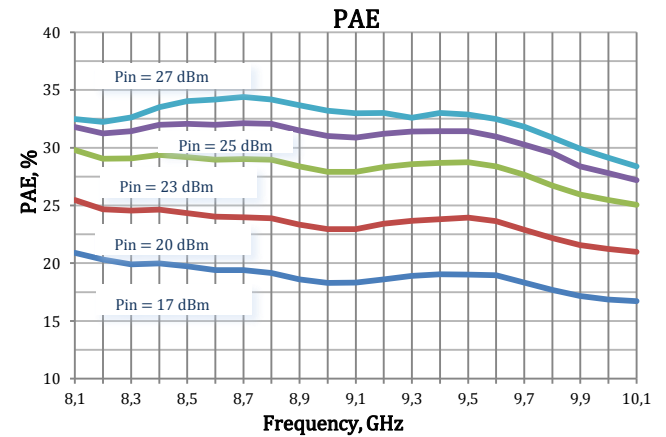
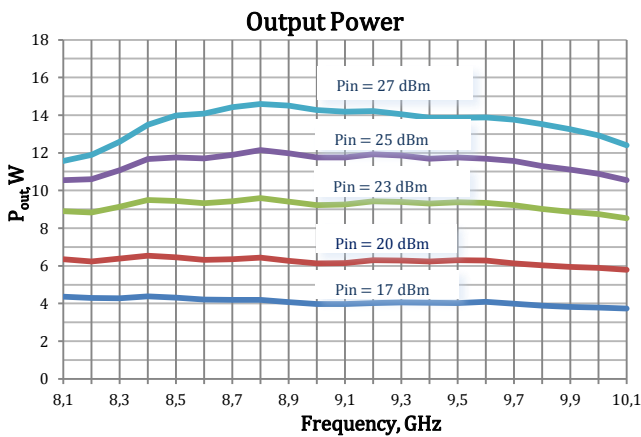
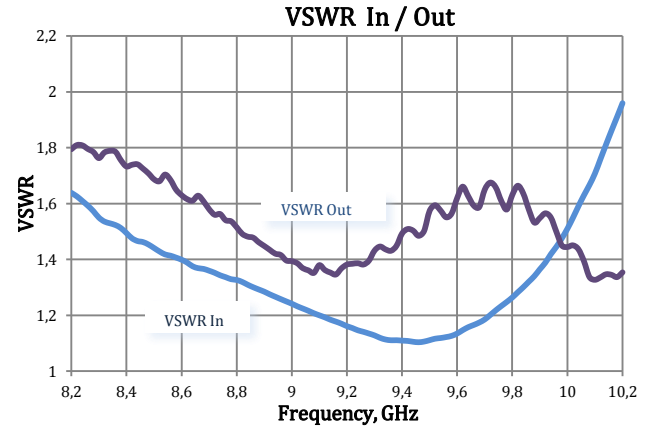
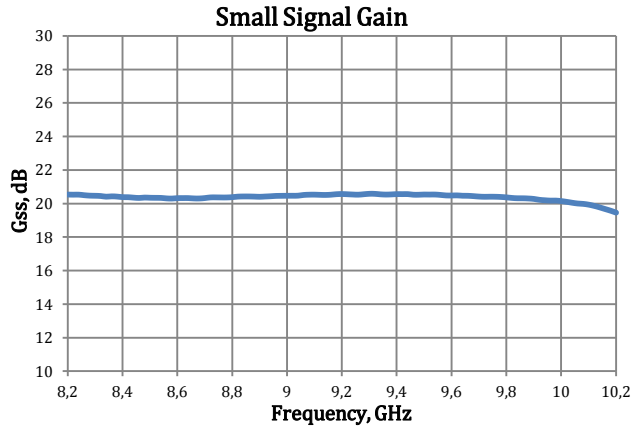
Parameters	Symbol	Min	Typ	Max	Units
Drain Voltage (Pulse Width = 100 μs, Duty Cycle = 10)	V _D	20	28	30	V
Gate Voltage	V _G	-5.2	-5	-4.8	V
Drain Current	I _{DQ}	0.2	0.35	0.55	A
Gate Current	I _G		30	40	mA

Absolute Maximum Ratings

Parameters	Symbol	Min	Max	Units
Drain Voltage	V _{Dmax}	15	40	V
Gate Voltage	V _{Gmax}	-10	2	V
Drain Current (Pulse)	I _{Dmax}		2	A
Duty Cycle	Q _{max}		25	%
Maximum Input RF Power (Pulse)	P _{in}		30	dBm

Performance Plots

Test Conditions : $T=25^{\circ}\text{C}$, $V_D=+28\text{ V}$, $V_G=-5\text{ V}$, $I_{DQ}=0.35\text{ mA}$,
Pulse Width = 100 μs , Duty Cycle = 10, $Z_S = Z_L = 50\Omega$



Mechanical Outline

(All dimensions in millimeters)

