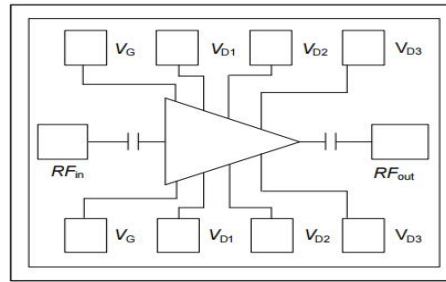


Performance

- Frequency: 17.7~19.7GHz
- Typical Signal Gain: 30dB
- Typical Pout: 42dBm@20V
- Typical PAE: 47%
- Bias: 20V, -2.4V, 0.5A(CW)
- Technology: GaN HEMT
- Size: 3.05*2.3mm*0.05mm

Function Diagram

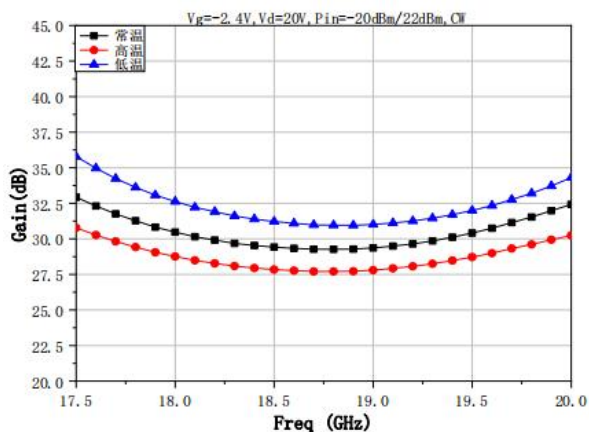


Electrical Specifications (T_A=25°C, V_d=20V, V_g= -2.4V, F: 17.7~19.7GHz, Heat station temp. 70°C)

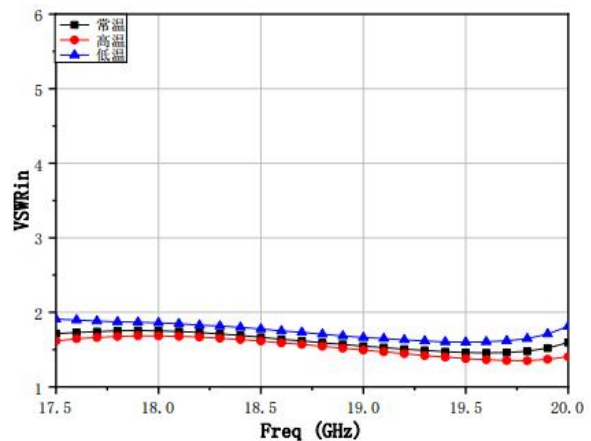
Symbol	Parameter	Min	Typical	Max	Unit
G	Small Signal Gain	-	30	-	dB
G _p	Power Gain	-	20	-	dB
P _{out}	Saturated Power	-	42	-	dBm
I _d	Dynamic Current	-	1.9	-	A
PAE	Power Added Efficiency	-	47	-	%
IM3	The third-order intermodulation coefficient		-25@39dBm		dBc
R _{th}	Thermal Resistance	-	2.5	-	°C/W

Test Curves

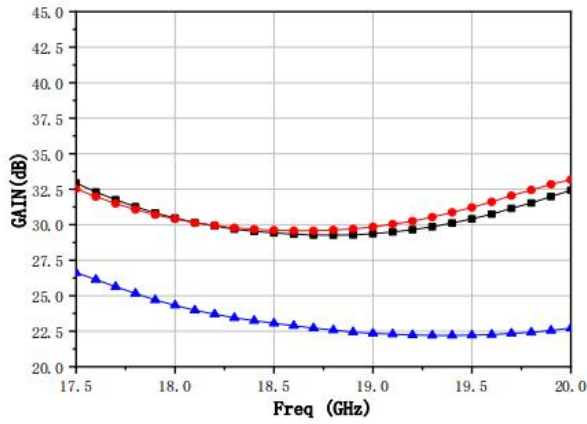
Small Signal Gain@ Different Temp



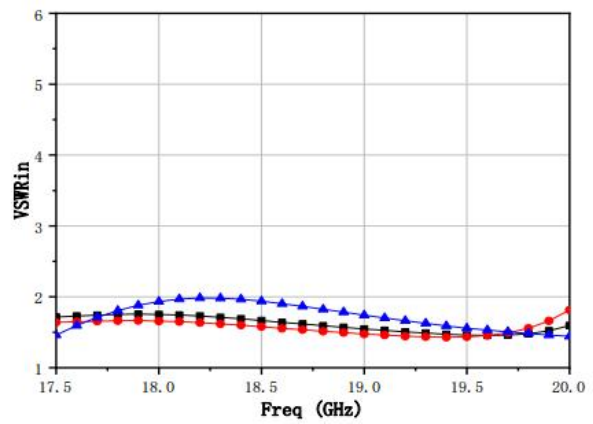
VSWR_{in}@ Different Temp



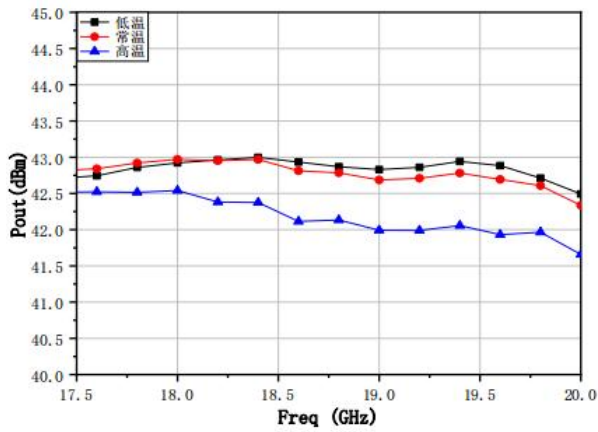
Small Signal Gain@ Different Vg



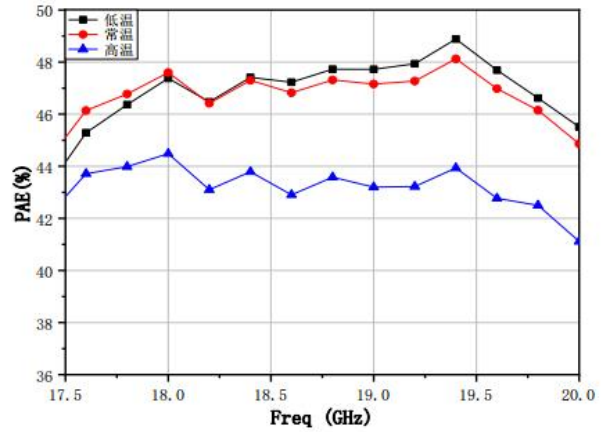
VSWRin@ Different Vg



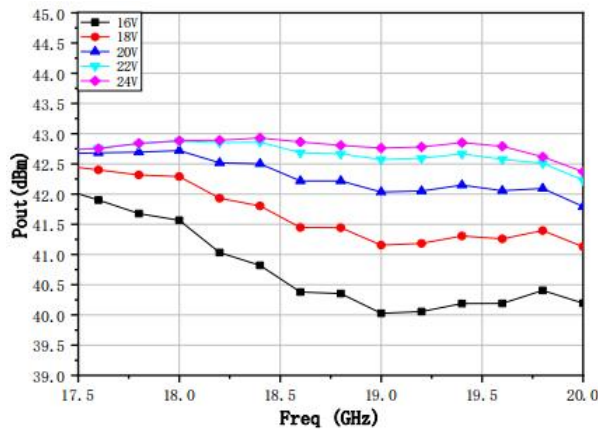
Pout@ Different Temp



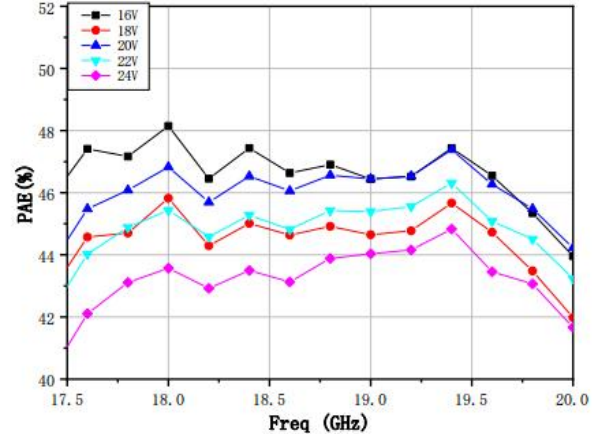
PAE@ Different Temp



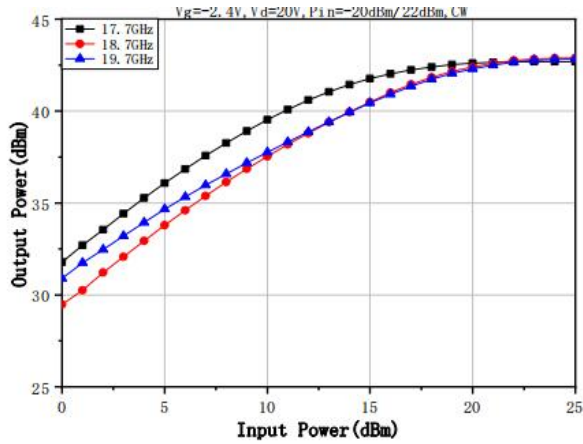
Pout@ Different Vd



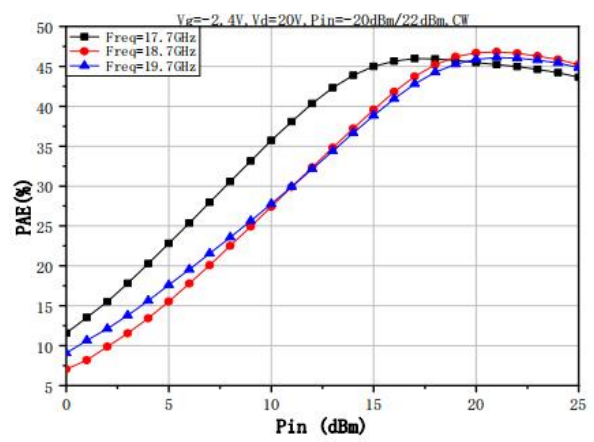
PAE@ Different Vd



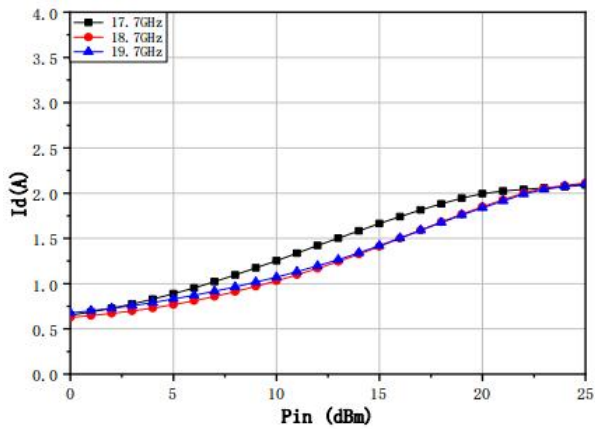
Pout@ Different Pin



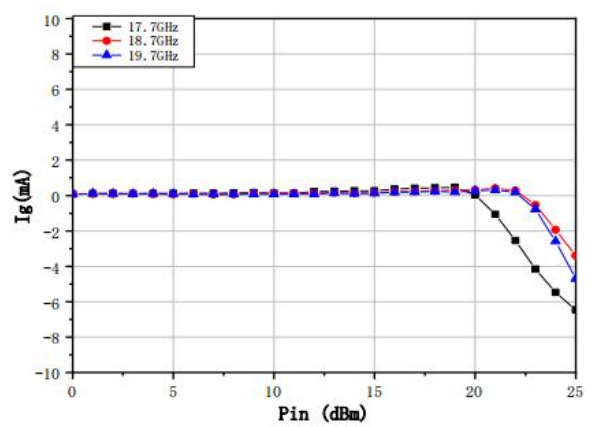
PAE@ Different Pin



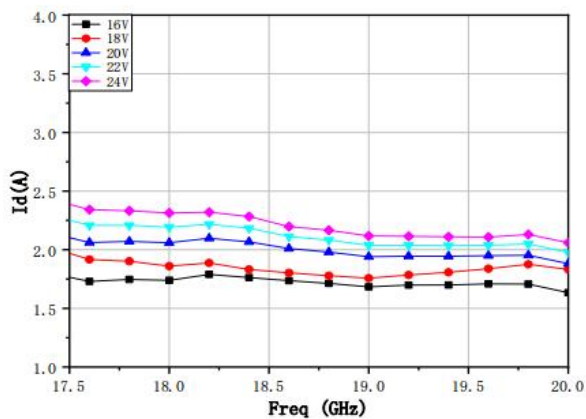
Id@ Different Pin



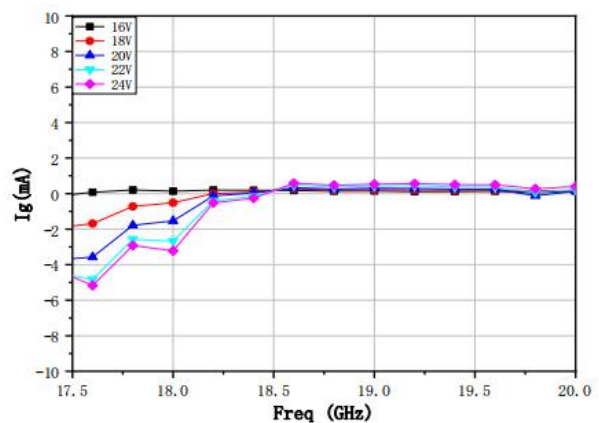
Ig@ Different Pin



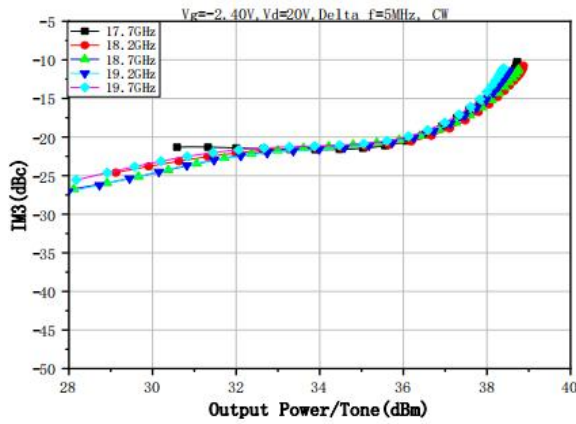
Id@ Different Vd



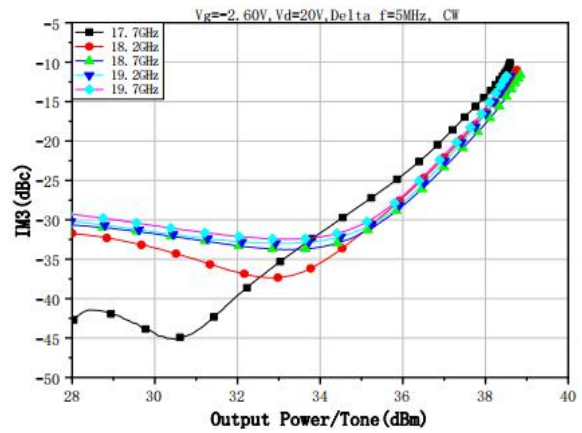
Ig@ Different Vd



IM3 VS pout/per tone



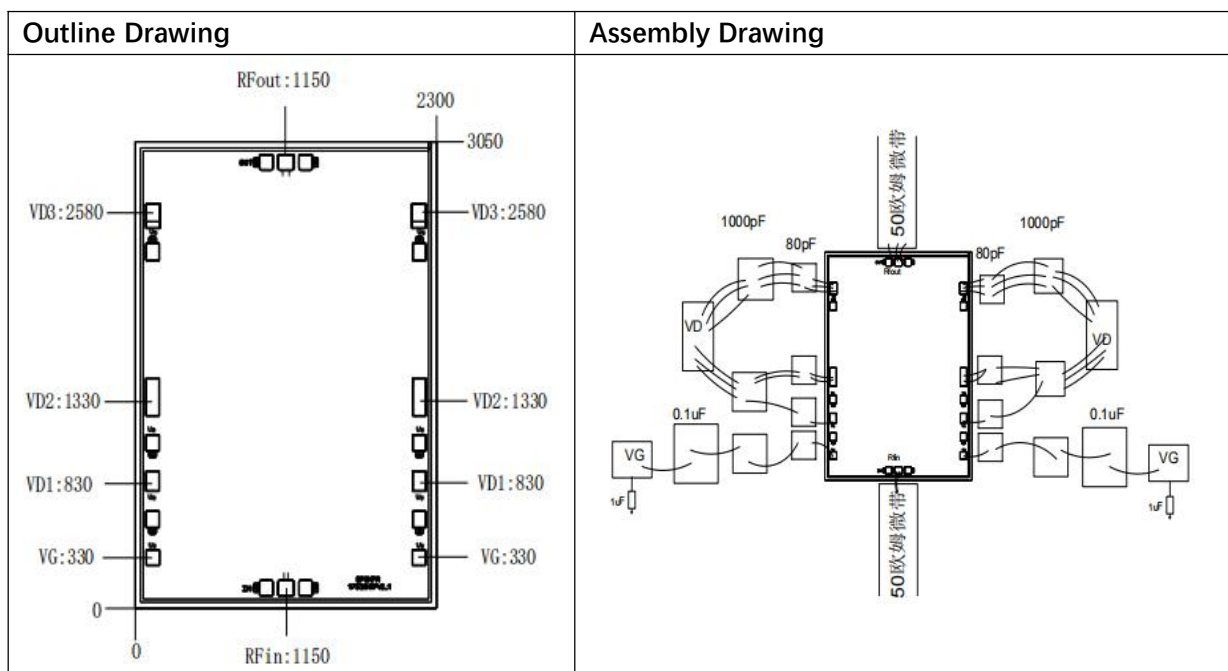
IM3 VS pout/per tone



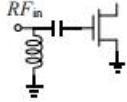
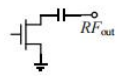
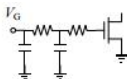

Absolute Max Ratings (TA=25°C)

Symbol	Parameter	Value	Remark
Vd	Drain Voltage	24V	
Vg	Grid Voltage	-10V	
Pd	DC Power	50W	
Pin	Input Power	25dBm	
Tch	Channel Temperature	225°C	
Tm	Mounting Temperature	310°C	1 min, N2 Protection
Tstg	Storage Temperature	-55~175°C	

Exceeding any one or combination of these limits may cause permanent damage.



Pads Definition

Pad	Description	Equivalent Circuit
RFin	RF Signal input, connect to 50ohm system, block capacitor is needed if there's external DC applied on this pad.	
RFout	RF Signal output, connect to 50ohm system, no need block capacitor.	
VG	Amp gate bias, external 80pF, 1000pF capacitor is needed	
VD1、VD2、VD3	Amp drain bias, external 80pF, 1000pF capacitor is needed	
GND	Bottom must connect to RF and DC ground	