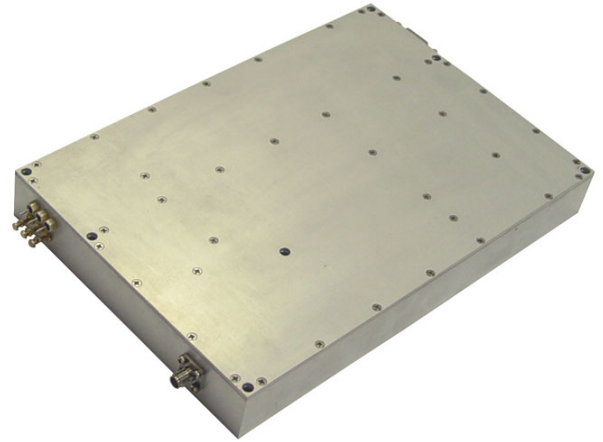


## 100W Linear Power Amplifier 1.7 ~ 2.15 GHz

The ZHM-1727H100 is a high gain, linear amplifier ideal for use in cellular bands from 1.7 – 2.15 GHz.



### Key Features:

Broad Frequency Range:	1.7 ~ 2.2 GHz
High Gain:	52 dB
High Power ( $P_{1dB}$ ):	50 dBm
High Linearity ( $OIP_3$ ):	60 dBm
Impedance:	50 Ohm
Single DC Supply:	2.1 A @ +30 V
High Efficiency:	>30% @ 100W $P_{out}$
Monitoring all Parameters	Through RS-232 $P_{FWD}$ , $P_{REV}$ , Supply Voltage, Supply Current, Temperature

### Absolute Maximum Ratings:

Parameters	Symbol	Value	Units
DC Power Supply Voltage	$V_{dd}$	32	V
DC Power Supply Current	$I_{dd}$	14	A
Total Power Dissipation	$P_{diss}$	300	W
RF Input Power	$P_{In,Max}$	+7	dBm
Maximum Operating Heatsink Temp.	$T_{O,Max}$	+65	°C

### Electrical Specifications: (at room temperature)

Testing Item	Symbol	Test Constraints	Min	Typ	Max	Unit
Gain	$S_{21}$	1.8 ~ 2.0 GHz	51	52		dB
Gain Variation	$\Delta G$	1.8 ~ 2.0 GHz		$\pm 0.5$	$\pm 1$	dB
Input Reflection	$S_{11}$	1.8 ~ 2.0 GHz		15		dB
Output Reflection	$S_{22}$	1.8 ~ 2.0 GHz		15		dB
Output Power @ 1dB Gain Comp. Point	$P_{1dB}$	1.8 ~ 2.0 GHz	49.5	50		dBm
Output IP3	$OIP_3$	2-Tone, Pout 43 dBm each, 1 MHz sep.	59.5	60		dBm
Power Supply Voltage	$V_{dd}$		29.5	30		V
Current Consumption @ no RF input	$I_{dq}$	$V_{dd} = +30 V$		2.1		A
Current Consumption @ P1dB	$I_{dq}$	$V_{dd} = +30 V$		12		A
Operating Temperature	$T_O$		0		+50	°C

## Frequency Response

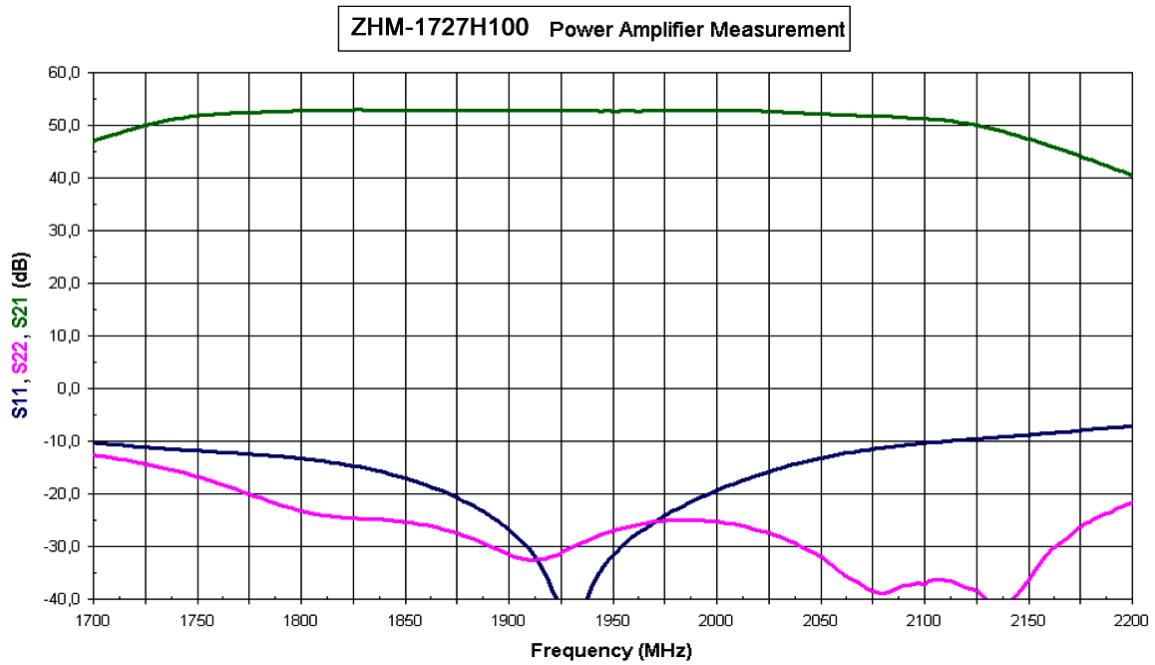


FIG.1 Small signal performance

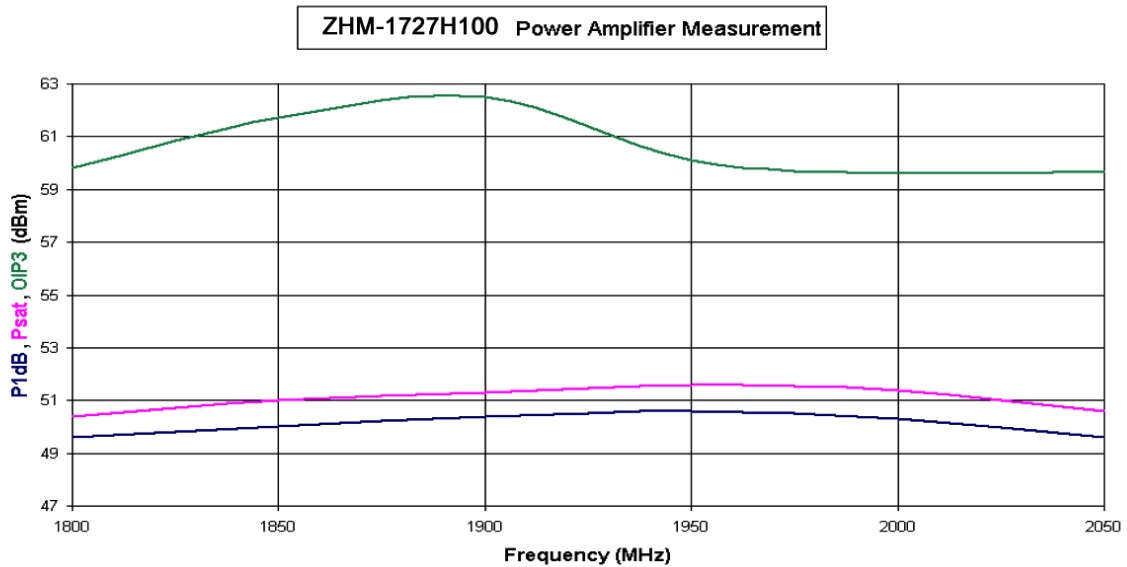
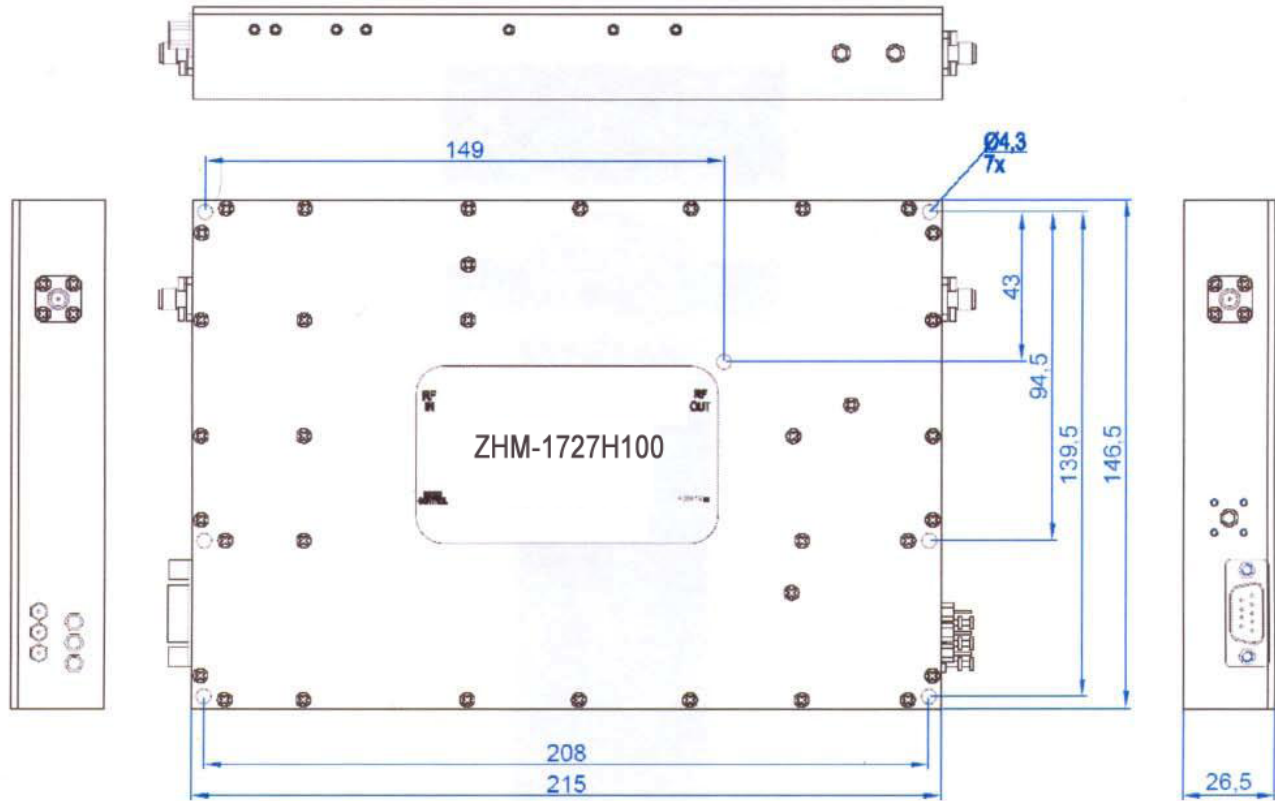


FIG.2 P<sub>1dB</sub>, P<sub>SAT</sub> and OIP<sub>3</sub>

# ZHM-1727H100

**Mechanical Outline:** (all units in mm)



Note: Proper heat sinking required