1. Key Features

- Operating Frequency: 0.5–6GHz
- Saturated Output Power: 100W (CW)
- Gain Reduction Adjustment: ⩾20dB
- Class AB Operation
- Forced Air Cooling
- Supports Continuous Wave (CW) & Pulse
- Over-Temperature, Over-Current Protection with Alarm Indication
- Real-time Display of Drain Current, Module Temperature and Gain Setting
- Bridge-Type Power Combining Technology Delivering Superior Output VSWR Tolerance



P2350B-PDS-F01

Figure 1: Product Outline

2. Applications

- Industrial Testing
- Reliability Testing
- Active Load-Pull System
- RF Power Stress Testing
- Laboratory Test Instrument
- Antenna and Component Testing
- Radiated and Conducted EMC Testing

3. Product Introduction

This datasheet describes the P2350B solid-state power amplifier, a broadband unit covering 0.5–6GHz with a saturated output power of 100W. The P2350B adopts a hybrid architecture of GaAs driver devices and GaN final-stage power transistors. It delivers outstanding high-temperature tolerance, high reliability and high power efficiency, and supports continuous wave (CW), pulse waveforms and various broadband modulated signals. The unit utilizes bridge-type power combining technology to achieve superior output VSWR performance.

Built-in over-temperature and over-current protection circuits are integrated inside the unit. If an over-temperature or over-current fault is detected, the internal power supply will automatically shut down, with corresponding alarm messages displayed on the front panel screen. The front-panel gain knob provides a gain adjustment range of over 20dB. The unit defaults to maximum gain after power-on. The front panel screen continuously monitors the drain current and module temperature of the final-stage amplifier and displays the real-time gain setting. Equipped with forced-air cooling, the unit maintains stable full-power continuous operation.

Table of Contents

No.	Contents	Page
1	Key Features	1
2	Applications	1
3	Product Introduction	1
4	Specifications	3
5	Connector Interfaces	4
6	Typical Performance	5
7	Dimensions	6
8	Contact Information	6
9	Disclaimer	6

4. Specifications

Table 1: Electrical Specifications*

Parameter	Min.	Typ.	Max.	Unit
Operating Frequency	0.5	-	6	GHz
Small Signal Gain	-	65	-	dB
Gain Reduction Adjustment	20	-	-	dB
Gain Flatness	-	-	±5	dB
Output Power @P1dB	-	44	-	dBm
Output Power @P3dB	-	48	-	dBm
Saturated Output Power (P_{SAT})	-	50	-	dBm
Saturated Output Power (P_{SAT})	-	100	-	W
Input Power @P_{SAT}	-	-	-1	dBm
Input Impedance	-	50	-	Ohm
Input VSWR (50Ω)	-	-	2:1	-
Output Impedance	-	50	-	Ohm
Output VSWR (50Ω)	-	-	2:1	-
Harmonic Distortion @P1dB	-	-	-10	dBc
Spurious @P1dB	-	-70	-	dBc
AC Supply Voltage (50Hz)	-	220	-	V
Power Consumption	-	-	500	W
Operating Temperature	0	-	40	°C
Storage Temperature	-40	-	70	°C

* Test results under CW operation

Table 2: Mechanical Specifications

Parameter	Nominal	Unit
Weight	15	kg
Dimensions (incl. handles and stands) (W×H×D)	485.0×104.9×651.0	mm
Dimensions, 2U for 19” Rack	432.0×88.9×580.0	mm
Cooling	Forced air	-

5. Connector Interfaces

Table 3: Front Panel Interfaces

Function	Type	Notice
RF Input	N, female (50Ω)	-
RF Output	N, female (50Ω)	Do not operate with the RF output unloaded
Gain Knob	Mechanical knob	Short press to enable gain adjustment; Short press again to lock the gain value
Power	Mechanical button	Power on; Power off

Table 4: Rear Panel Interfaces

Function	Type	Notice
GPIB	24-Pin	-
Ethernet	RJ-45	-
USB	2×Type-A, 1×Type-C	-
AC	220V, 50Hz	-
J30J	15-Pin	-
GND	Ground terminal	Ground connection required before power-on

6. Typical Performance

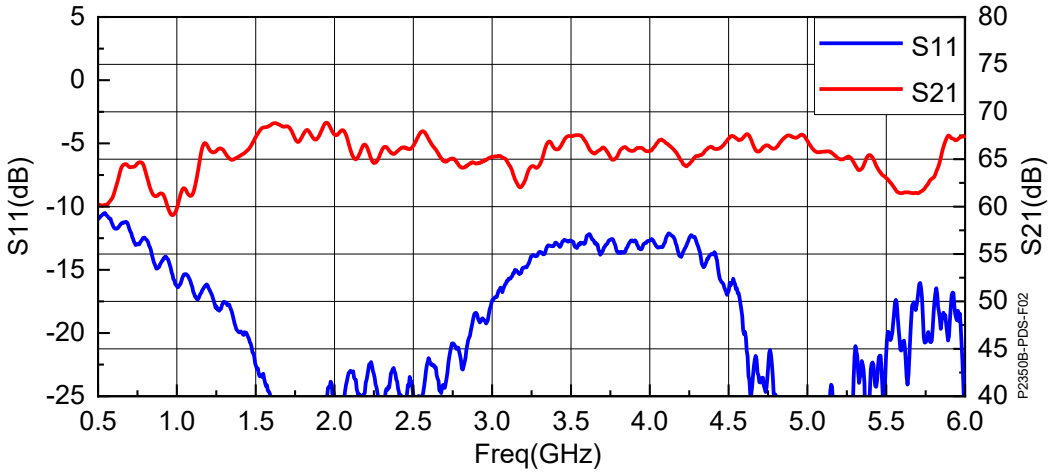


Figure 2. S21 and S11

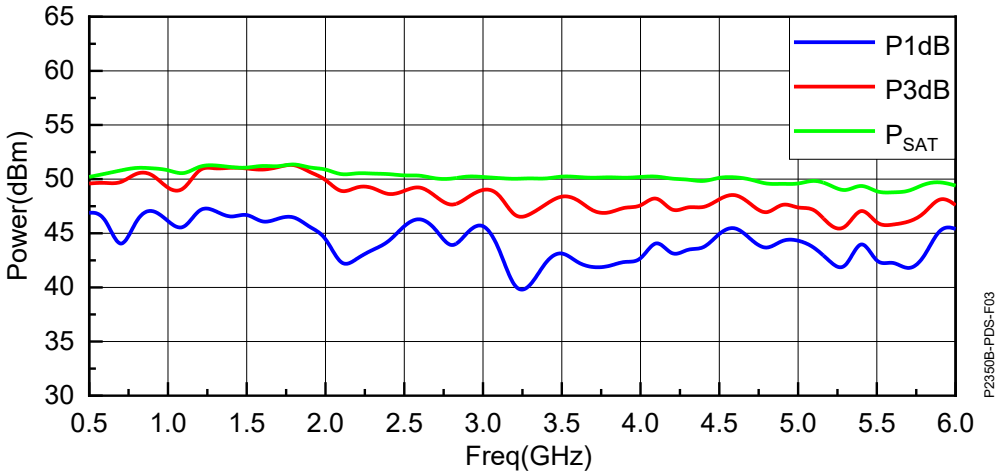


Figure 3. P1dB, P3dB, and P_{SAT}

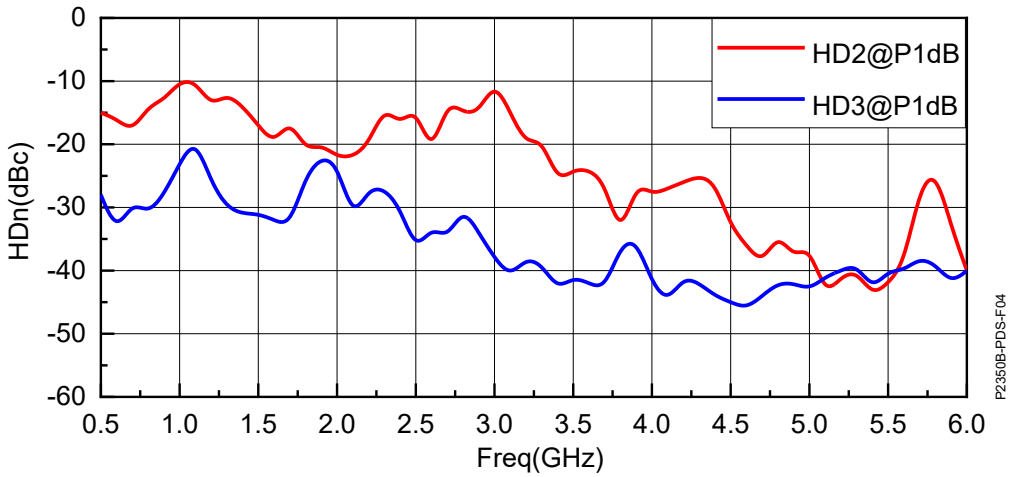
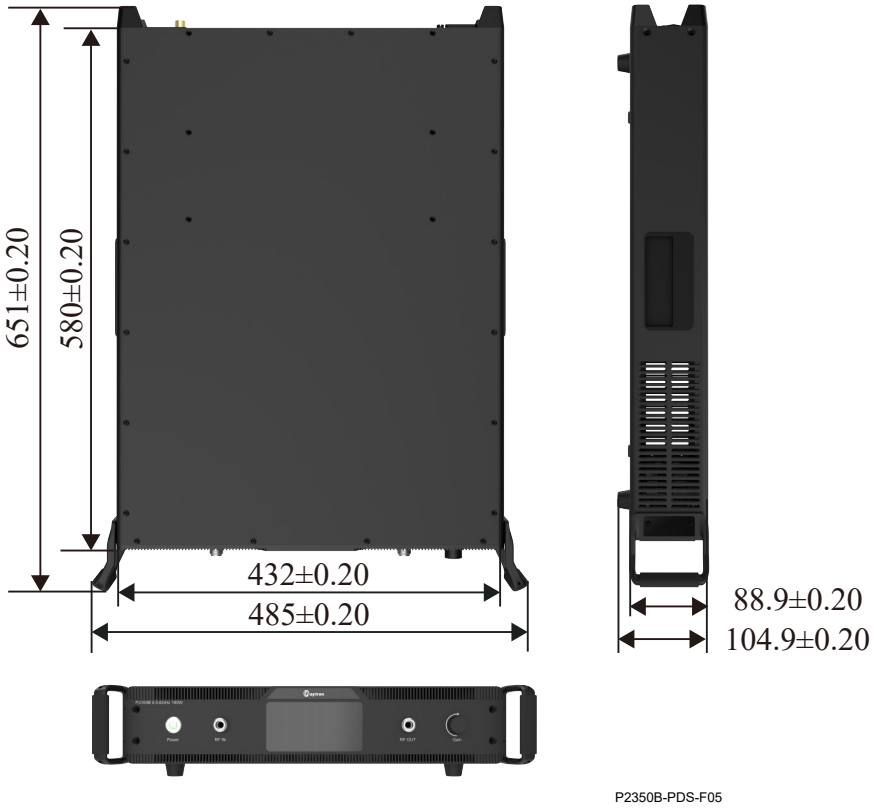


Figure 4. Harmonic Distortion @P1dB

Notes: test conditions, AC220V, 50ohm matching device, 25°C

7. Dimensions



Dimensions shown in millimeters

Figure 5. Outline Dimensions

8. Contact Information

For the latest specifications, additional product information, technical support and sales support, please contact:

- **Email:** RF.support@raytrontek.com
- **Web:** www.raytrontek.com

9. Disclaimer

The information provided here is believed to be reliable at the time of publication. Raytron reserves the right to make changes to its products, specifications and product descriptions at any time without notice. Raytron assumes no responsibility for the use of this information and all such information should entirely be at the user's own risk. Raytron makes no warranty about the suitability of its products for specific purpose or application and disclaims all liability, including without limitation consequential and incidental damages. Raytron does not authorize or warrant any Raytron products for use in the life support devices or systems.

Raytron Microwave

Copyright @ Raytron Technology Co.,Ltd.