Grandstream Networks, Inc.

GWN76xx Access Points - Power Consumption Information

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Introduction

This document summarizes the measured power consumption of **GWN series access points** when powered by either an external PSU or via PoE, covering Idle, typical Operating (Work), and Maximum Power conditions under defined load scenarios (wireless client traffic and Ethernet throughput). It also presents PoE-specific behavior under IEEE 802.3af and IEEE 802.3at, including idle draw, operating consumption, maximum measured input power, and the corresponding PoE class advertisement, along with model-dependent PSE output capabilities where applicable.

The data is intended to support accurate power budgeting, PoE switch capacity planning, and compliance documentation by providing test-based consumption values for each access point model and powering method.

Power Consumption

PSU Model Power Consumption

The table below lists the power dissipation values for GWN models that require an external PSU, as they do not support PoE powering.

Product	Idle State Power (W)	Work State Power (W)	Max Power Consumption (W)
GWN7603	3.7	6.9	22.3
GWN7604	4.1	9.6	24
GWN7302	5.1	9.2	34
GWN7605CLR	3.57	6.65	7.31
GWN7660EM	2.62	6.11	8.41

Table 1

PoE Model Power Consumption

The table below lists the power consumption values for GWN AP models that support Power over Ethernet (PoE) and can be powered by a PoE source.

Product	Idle State Power (W)	Work State 802.3af (W)	Work State 802.3at (W)	Work State 802.3bt (W)	Max Power 802.3af (W)	Max Power 802.3at (W)	Max Power 802.3bt (W)	Class Advertisement (IEEE 802.3bt)
GWN7605	4.27	7.18	7.18	NA	7.18	7.18	NA	4
GWN7660	6.23	10.03	10.03	NA	10.03	10.03	NA	4
GWN7660LR	6.57	10.74	10.74	NA	12.37	12.37	NA	4
GWN7664	6.45	13.61	13.61	NA	13.61	13.61	NA	4
GWN7630	5.44	10.2	NA	NA	10.2	NA	NA	4
GWN7625	5.44	9.32	9.32	NA	9.32	9.32	NA	4
GWN7624	5.77	9.83	9.83	NA	NA	21.59	NA	4

GWN7665	7.01	NA	16.24	NA	NA	16.24	NA	4
GWN7660ELR	5.56	9.33	9.33	NA	NA	14	NA	4
GWN7630LR	6.88	10.55	10.55	NA	NA	23.84	NA	4
GWN7660E	3.93	7.19	7.19	NA	9.5	9.5	NA	4
GWN7664E	3.95	NA	15.62	NA	NA	16.25	NA	4
GWN7670	8.55	9.54	10.21	NA	13	14.5	NA	4
GWN7670WM	6.2	NA	13	NA	NA	15.5	NA	4
GWN7670LR	7.5	12.81	14	NA	NA	15	NA	4
GWN7661	6.2	9	9.4	NA	10.3	23.1	NA	4
GWN7603	4.2	7.5	7.5	NA	13	21.7	NA	4
GWN7604	4.8	10.4	10.8	NA	11.6	23.4	NA	4
GWN7302	5.5	9.6	9.7	NA	10.3	22.7	NA	4
GWN7605CLR	4.71	6.99	6.99	NA	8.09	8.09	NA	3
GWN7672	6.88	NA	16.56	NA	NA	18.21	NA	4
GWN7630	5.48	NA	9.89	NA	NA	9.89	NA	4
GWN7670E	4.60	9.30	10.70	NA	10.70	13.20	NA	4
GWN7674	10.00	NA	25.50	28.40	NA	25.50	35.00	6
GWN7671	4.90	9.80	10.60	NA	10.30	25.50	NA	4

The values below represent the measured **total system input power** of the device under specific PD load and power source conditions.

- **n1) 20.50 W** - PSE port connected with two 6W PD loader by PSU supply power
- **n2) 11.60 W** - PSE port connected with one 6W PD loader by af PSE supply power.
- **n3) 20.30 W** - PSE port connected with one 2W PD loader by at PSE supply power.

PD Power Classification

Class	Usage	Max Power Range used by the PD (phone)
0	Default	0.44 to 12.95W
1	Optional	0.44 to 3.84W
2	Optional	3.84 to 6.49W
3	Optional	6.49 to 12.95W
4	Optional	12.95 to 25.5W

5	Optional	25.5 to 40W
6	Optional	40 to 51W
7	Optional	51 to 62W
8	Optional	62 to 71.3W

Test Condition Terminology

The following test condition terminology was used based on the power consumption information on Table 1 and Table 2

Idle State

- The device has completed the boot-up process and is in **Idle state**.
- **No wireless clients** are connected.

Operating State

- **Maximum number of clients** connected.
- **2.4 GHz, 5 GHz, and 6 GHz radios:** 50% TX / 50% RX at maximum throughput.
- **Ethernet port:** operating at maximum throughput.
- **FXS port:** connected to **1 US standard REN**, off-hook.
- **PSE output:** half load.

Maximum Power State

- **Maximum number of clients** connected.
- **2.4 GHz, 5 GHz, and 6 GHz radios:** 100% TX at maximum throughput.
- **USB interface:** maximum supported USB dongle connected.
- **Ethernet port:** operating at maximum throughput.
- **FXS port:** connected to **3 US standard REN**, off-hook.
- **PSE output:** full load.
- **Low-temperature operating condition** applied.

Additional PSE Load Conditions by Model

- **GWN7624:** Two PSE ports connected to **6 W PD load each**.

Power Supply and PSE Output Capabilities by Model

The table below summarizes the Power Supply and PSE (Power Sourcing Equipment) output capabilities for selected GWN series models under different powering scenarios.
It highlights how the available PSE OUT functionality and maximum output power vary depending on whether the device is powered via PoE (802.3af), PoE+ (802.3at), or DC input.

Model	Input Type	PSE OUT Capability	Maximum PSE OUT Power
GWN7661	PoE 802.3af	PSE OUT ports do not supply power	0 W
	PoE+ 802.3at	PSE OUT supported	15.2 W

GWN7604	PoE 802.3af	PSE OUT ports do not supply power	0 W
	PoE+ 802.3at	PSE OUT supported	15.2 W
GWN7603	PoE 802.3af	PSE OUT supported	8 W
	PoE+ 802.3at	PSE OUT supported	15.2 W
GWN7302	DC (+24 VDC / 2 A, 16-48 VDC compatible)	PSE OUT supported	25 W
	PoE 802.3af	PSE OUT ports do not supply power	0 W
	PoE+ 802.3at	PSE OUT supported	13 W
GWN7671	PoE 802.3af	PSE OUT ports ?do not supply power?	0 W
	PoE+ 802.3at	PSE output	14.4W