

Grandstream Networks, Inc.

GSC35xx

Power Consumption



This technical bulletin provides power consumption details for GSC35XX paging and intercom speaker devices.

Depending on the model, GSC35XX devices can be powered using a power adapter (DC input) or Power over Ethernet (PoE). Power dissipation measurements are provided in Tables 1–3. Maximum speaker power consumption for GSC3518HS is provided in Table 4. PoE PD power classification reference ranges are provided in Tables 5–7.

TEST CONDITION TERMINOLOGY

This table defines the test conditions used for the power consumption measurements in Tables 1–3.

Test Condition	Criteria
Idle State	The system has completed the boot-up process; Factory default configuration is applied; Network connection only; No call is established; The speaker has no audio output.
Work State	The system is set up as described in Idle State; A standard male voice is played at maximum volume.
Max Power Consumption (Power Not Exceed)	The system is set up as described in Idle State; For GSC3518HS, maximum speaker power consumption is measured while playing a 0 dB sweep tone; When powered by DC input, maximum power consumption for GSC3506 V2 and GSC3518HS is measured while playing large dynamic music; When powered by PoE input, maximum power consumption for GSC3506 V2 and GSC3518HS is measured while playing a 0 dB sweep tone.

Test condition terminology

POWER DISSIPATION

Table 1: Power Dissipation and PoE Class Advertisement (PoE 48VDC, IEEE 802.3at)

Note: Power adapter (12VDC) values are not applicable (NA)

Product	Power Adapter(12VDC)				POE (48VDC)			Class Advertisemen t (IEEE 802.3at)
	Versio n	Idle State	Work State	MAX POWER CONSUMPTIO N	Idle State	Work State	MAX POWER CONSUMPTIO N	
Power(W)				Power(W)				
GSC3510	NA	NA	NA	NA	3.35	6.02	9.44	class4
GSC3516	V1.2	NA	NA	NA	3.31	4.22	13.59	class4

Table 1: PoE power consumption for GSC3510 and GSC3516 (Idle, Work, Max)

Table 2: Power Dissipation (DC Input / Power Adapter 24VDC)

Product	Version	Power Adapter(24VDC)		
		Idle State Power(W)	Work State Power(W)	MAX POWER CONSUMPTION Power(W)
GSC3506 V2	V2.0B	1.48	6.22	69.37

GSC3518HS	V1.1B	3.61	7.94	96.00
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Table 2: DC input power consumption for GSC3506 V2 and GSC3518HS (Idle, Work, Max)

Table 3: Power Dissipation (PoE by Standard: 802.3af / 802.3at / 802.3bt)

Product	Version	POE Model									Class Advertisemen t (IEEE 802.3bt)
		Idle State			Work State			MAX Power Consumption			
		802.3af	802.3at	802.3bt	802.3af	802.3at	802.3bt	802.3af	802.3at	802.3bt	
		Power (W)			Power (W)			Power (W)			
GSC3506 V2	V2.0B	NA	3.58	3.58	NA	6.85	7.22	NA	19.06	28.75	class6
GSC3518HS	V1.1B	6.30	6.40	6.60	6.90	7.30	8.94	15.40	25.50	65.40	class8

Table 3: PoE power consumption for GSC3506 V2 and GSC3518HS by standard (Idle, Work, Max).

Table 4: Maximum Speaker Power Consumption by Power Class (GSC3518HS)

Product	POWER CLASS		MAX SPEAKER POWER CONSUMPTION
GSC3518HS	DC Input	DC24V/4A~48V/2A	48W
	802.3af	CLASS 0/3	7.7W
	802.3at	CLASS 4	15W
	802.3bt	CLASS 5	33W
		CLASS 6	33W
		CLASS 7	40W
		CLASS 8	40W

Table 4: Maximum speaker power consumption for GSC3518HS under DC input and PoE power classes (IEEE 802.3af/at/bt).

PD POWER CLASSIFICATION

Table 5: PD Power Classification (IEEE 802.3af)

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	Not Allowed	Reserved for future use (for example: IEEE802.3at)
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Table 6: PD Power Classification (IEEE 802.3at)

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

Table 7: PD Power Classification (IEEE 802.3bt)

Class	Usage	Max Power Range used by the PD
5	Optional	40W
6	Optional	51W
7	Optional	62W
8	Optional	71.3W
