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How much power can be drawn from the lightning connector by a external device?

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Asked 10 years, 6 months ago Modified 5 years, 9 months ago Viewed 31k times

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How much power can be drawn from the iPhone/iPad lightning connector by a external device?

Update: The use case is a audio-related device for iPhone/iPads. It would require around ~100 mA at 3,3 volts, so I'm trying to find out if we could draw this from the iPhone/iPad. (That would allow us to skip an external battery –> smaller size...)

(This question has been asked for the old 30-pin connector here, but a new connector might imply new power constraints.)

iphone ipad power power-management lightning

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edited Apr 13, 2017 at 12:45
Community Bot
1

asked Feb 3, 2014 at 12:00
user2078515
193 1 1 4

What is going to consume power? Do you have something particular in mind? – bmike ♦ Feb 3, 2014 at 13:08

Yes, you can draw 100 mA, but the battery life would go down significantly. Do you want to do that to the users? – Ruskes Feb 3, 2014 at 13:56

2 @Buscar웃 Is there anything you can add to my answer to explain how you get 100mA from the lightning connector? What accessory do you use or modify? – bmike ♦ Feb 3, 2014 at 18:46

This is a good article, including the power stuff. pocketables.com/2012/12/... – Ruskes Feb 3, 2014 at 20:45

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1 Answer

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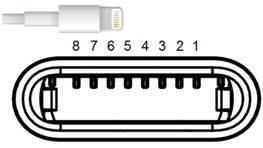
Since Apple doesn't publicly commit to power levels or even pin compatibility on the lightning connector, anyone interested in learning how hardware should be designed to work with Apple's dock connectors could choose to join the MFI program:

- https://developer.apple.com/programs/mfi/

As a developer, Apple will provide you with detailed hardware requirements, schematics and even technical support. I haven't seen anyone take a current meter and volt meter to the devices and post publicly, but wanted to make you aware of one official avenue to get this sort of information across all of Apple's iOS product line wether they use the 30 pin dock connector, the lightning dock connector or some of the other specific iPod connectors.

Additionally, the pin out for lightning connectors requires an authentication chip according to wikipedia, so getting power out of a lightning device involves software authentication before power will flow.



The article describing 8 pins that are active (both above images are from wikipedia) indicates that when power flows into the phone (the opposite of your use), pins 1 and 5 are ground and power respectively. However, until your cable identifies itself to iOS, no power will be provided.

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edited Feb 3, 2014 at 18:44

answered Feb 3, 2014 at 14:06
bmike ♦
238k 79 426 944

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