Okay so here is what i've found for power limitations.  
Helpful resources on this adventure were:

[ac dc - BeagleBone Black - power supply sensitivity - Electrical Engineering Stack Exchange](https://electronics.stackexchange.com/questions/128865/beaglebone-black-power-supply-sensitivity)  
^This link is for the Black, not the green gateway, and thus uses the LDO instead of the TLV chip, as the Black has a 5v barrel plug whereas the green gateway has a 12v one.

and the datasheet schematic for the BeagleBone itself.

The CC1352, our Zigbee radio chip, uses 2.89mA when active, and a max of 85mA when in high power transmit mode +20db.

This gives us a max power draw of less than 100mA for the zigbee radio.

The BeagleBone Green Gateway has two main power chips on it.

The TPS 54302 that takes 12v and regulates down to 5v with a 3amp max output, and

The TLV 6259DBVT that takes 5 down to 3.3v with a 2 amp max output to the DCDC\_VDD4\_3P3V rail

It has implimented inductor and capacitor on the output to be a low pass filter, though it doesn't say how low of a lowpass

TPS 54302 12->5v regulator

[A picture containing text, electronics, circuit

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[9:34 PM]

TLV 6259DBVT 5v->3.3v

[A picture containing text, electronics, circuit

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The TLV 3.3v regulator takes input power from either the TPS 5v, USB 5v, or SYS\_VOUT\_5V

[9:35 PM]

So regardless of how we power the BB, we will have 2amps of 3.3v power. (Assuming our USB supply can keep up, but a 10w usb supply isn't hard to come by)

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Diagram, schematic

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