

T&J ELECTRIC (SINGAPORE) PTE LTD

Company Registration No: 200205797Z
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Telephone: +65 6547-4333 Fax: +65 6547-4666

Date: 12th June 2018

Subject: Surface temperature of W8301USBA-C11420099 (new PCB)

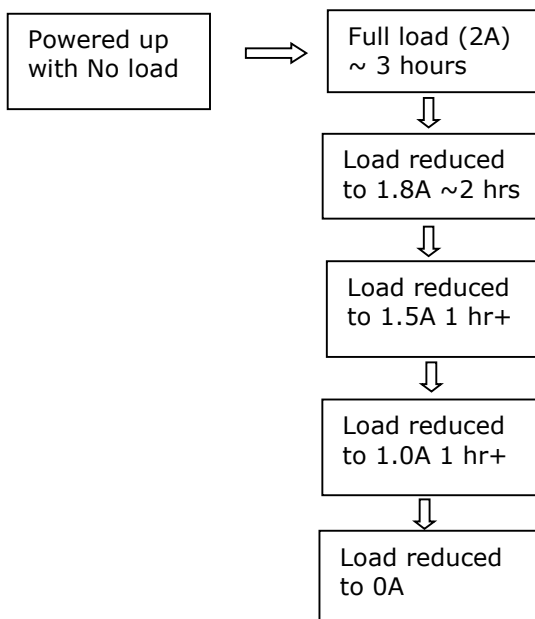
Introduction:

This document covers the measurement of surface temperature on the front housing of a W8301USBA USB Charger, as it gone through a normal charging cycle (although charging test time was extreme) to simulate the actual conditions the USB charger might subjected to in some environment such as in a hotel application.

Product identification:



Surface temperature measurement cycle:




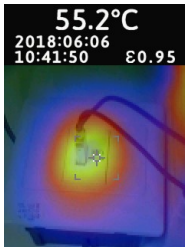



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Single USB Charger Thermal Image (charger enclosed in wall-box):




Test Conditions:	Thermal Image (Surface)	Remarks:
<p>No load Powered up for >1 hour</p> <p>Ambient Temp.: ~25°C AC input: ~238VAC</p>		
<p>Full load 2A Continuously for >1 hour</p> <p>Ambient Temp.: ~25°C AC input: ~238VAC</p>		
<p>Full load 2A Continuously for >2 hours</p> <p>Ambient Temp.: ~25°C AC input: ~238VAC</p>		<p>Temperature measured after ~3 hours with load of 2.0A</p>
<p>Load reduced to 1.8A</p> <p>Ambient Temp.: ~25°C AC input: ~238VAC</p>		<p>Temperature measured after ~2 hours with reduced load of 1.8A</p>

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<p>Load reduced to 1.5A</p> <p>Ambient Temp.: ~25°C AC input: ~238VAC</p>		<p>Temperature measured after ~1.5 hours with reduced load at 1.5A.</p>
<p>Load reduced to 1.0A</p> <p>Ambient Temp.: ~26°C AC input: ~238VAC</p>		<p>Temperature measured after ~1.5 hours with reduced load at 1.0A.</p>
<p>Load to 0A (No load)</p> <p>Ambient Temp.: ~28-30°C AC input: ~238VAC</p>		<p>Temperature measured after >12 hours, no load</p>

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Burn-in (under extreme test conditions)



Surface temperature after continuous burn-in for ~300 hours at 30-36°C ambient temperature with input AC voltage **250VAC**.

Full load: **2.0 – 2.1A**

Note: Emissivity (ϵ) is the ratio of how well a material radiates infrared energy, compared to a perfect radiator (1.0). Human skin is close to a perfect radiator with an emissivity of 0.98. A polished copper surface is at the other end of the spectrum with a value of 0.01.

Equipment used:

- Fluke VT04 Visual IR Thermometer
- Variable Resistive load
- AC/DC Current Clamp meter
- W8301USBA USB Charger (Date code: 18E09)