

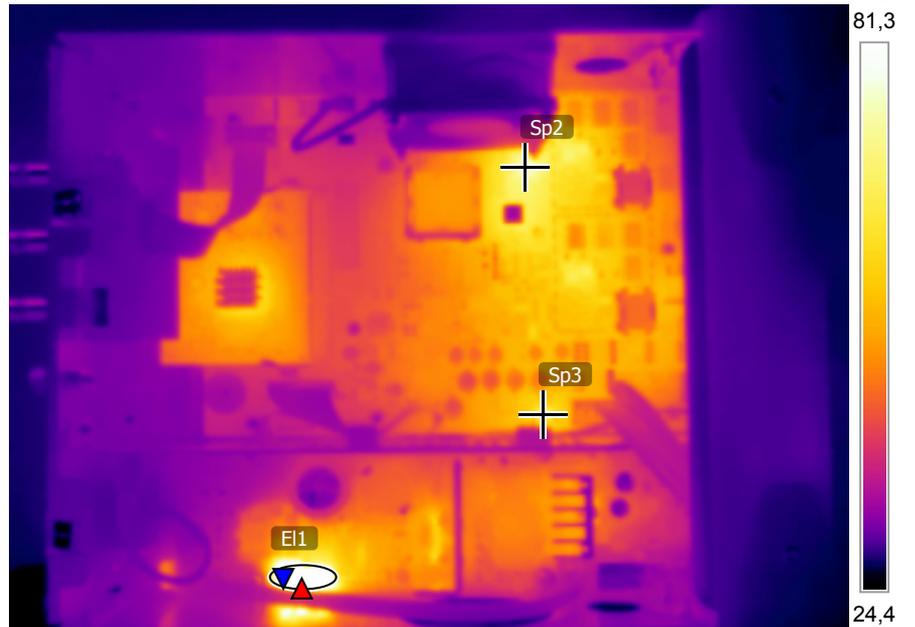
Messungen ° C

E1	Max	140,2
	Min	51,2
	Average	101,2
Sp2		77,3
Sp3		71,1

Parameter

Emissionsgrad	0.95
Refl. Temp.	24 ° C

31.03.2021 23:41:39

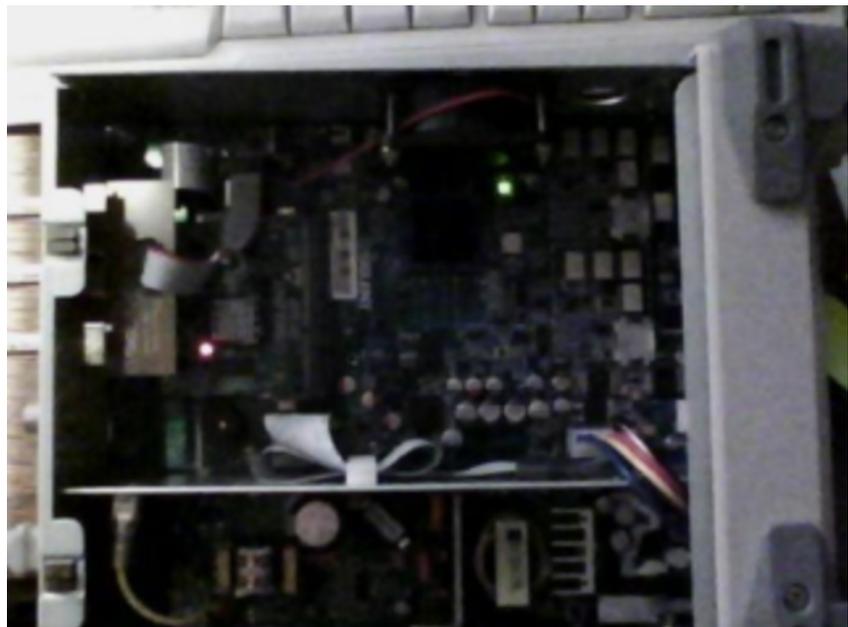


FLIR0193.jpg

FLIR E8

63909122

31.03.2021 23:41:39



FLIR0193.jpg

FLIR E8

63909122

The instrument had been run with the enclosure removed for approx. 30 minutes on an AC line voltage of 234VRMS. When analyzing the overview thermograph, there are three somewhat ostentatious areas. One is a series array of three 2W SMD resistors of 20k Ohms each that make up the start supply circuitry for the SMPS controller of the instrument's PSU. These resistors are actually running at round about 150°C in the open-case configuration (better shown in one of the next thermographs). The complete lack of PCB discoloration in that area may indicate that the fan air flow with the casing closed may keep them cooler than observed here in "normal" operation. The other quite "warmish" items are a LMK04828 "Clock JitterCleaner", drawing close to 0.6A at 3.3V and an TPS7a7001 2A LDO, both fending at more than 70°C.

Messungen ° C

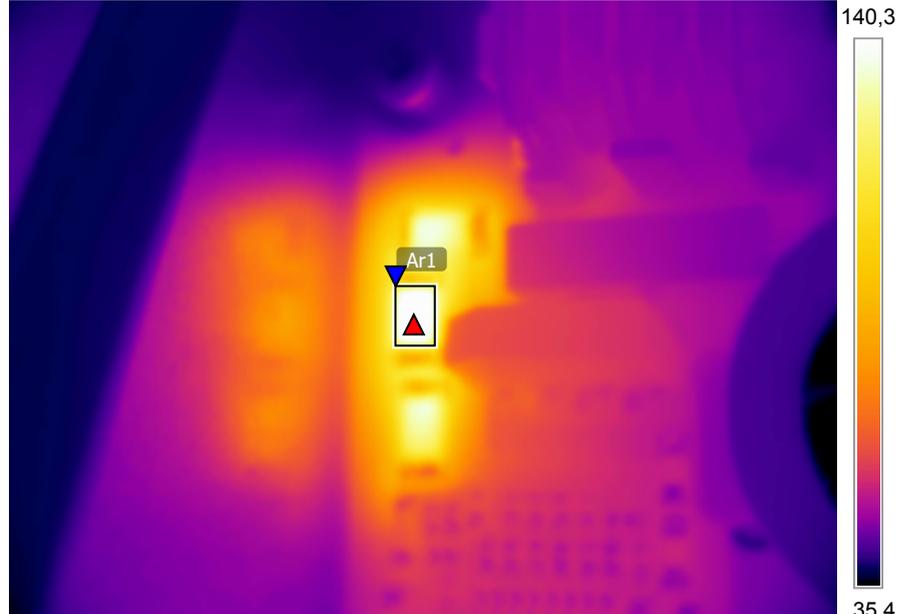
Ar1	Max	147,2
	Min	118,8
	Average	138,6

Parameter

Emissionsgrad	0.95
Refl. Temp.	24 ° C

The Startup Resistors get seriously hot with the case open.

31.03.2021 23:40:17



FLIR0183.jpg

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Messungen ° C

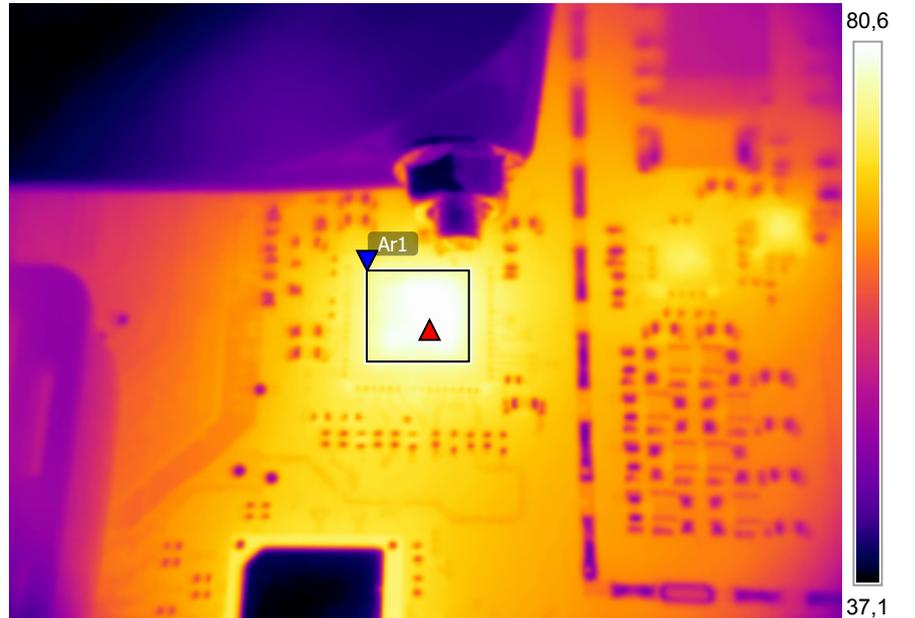
Ar1	Max	81,3
	Min	75,6
	Average	79,0

Parameter

Emissionsgrad	0.95
Refl. Temp.	24 ° C

Here the "Clock Jitter Cleaner" is shown, running at round about 80°C. Since it is located in close proximity to the fan, much lower temperatures cannot be expected with the casing closed. Moreover, this semiconductor has a thermal pad and most of the heat will get dissipated via the multilayer PCB.

31.03.2021 23:40:30



FLIR0185.jpg

FLIR E8

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Messungen ° C

Ar1	Max	74,7
	Min	58,3
	Average	65,6

Parameter

Emissionsgrad	0.95
Refl. Temp.	24 ° C

Should this MLCC across the drain/ source terminals of the right MOSFET really get that hot? I guess here's some preventive maintenance mandatory! The capacitor that's attached identically to the left transistor appears to run much cooler..

31.03.2021 23:43:03

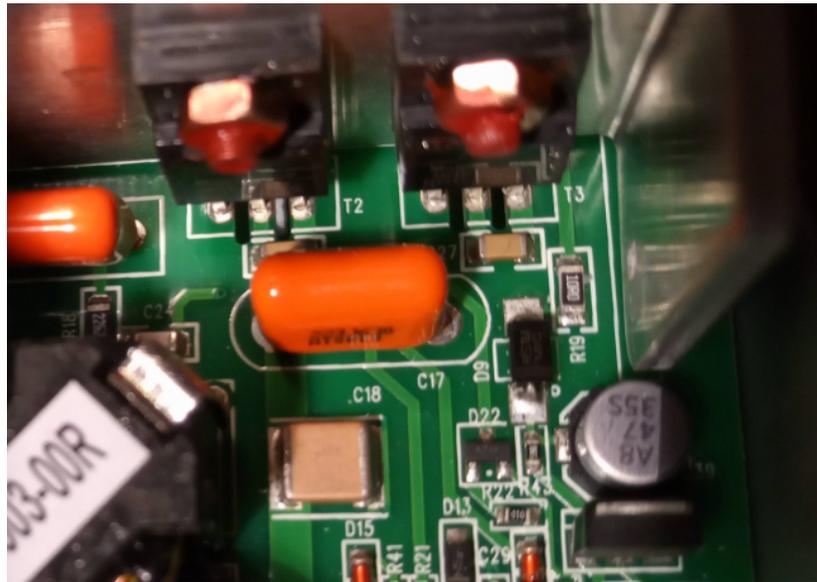


FLIR0197.jpg

FLIR E8

63909122

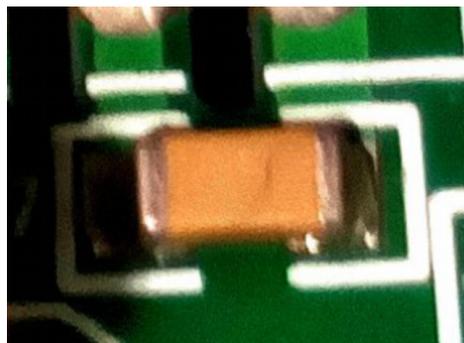
01.04.2021 01:40:12



Hot_Capacitor.jpg

01.04.2021 01:42:20

In high magnification, there's a strange spot / line visible on top of that capacitor, as it seems exactly at the location of the highest temperature. Could that be a crack or another kind of defect? Or is it just a speck of dust?



Possible Defec...