

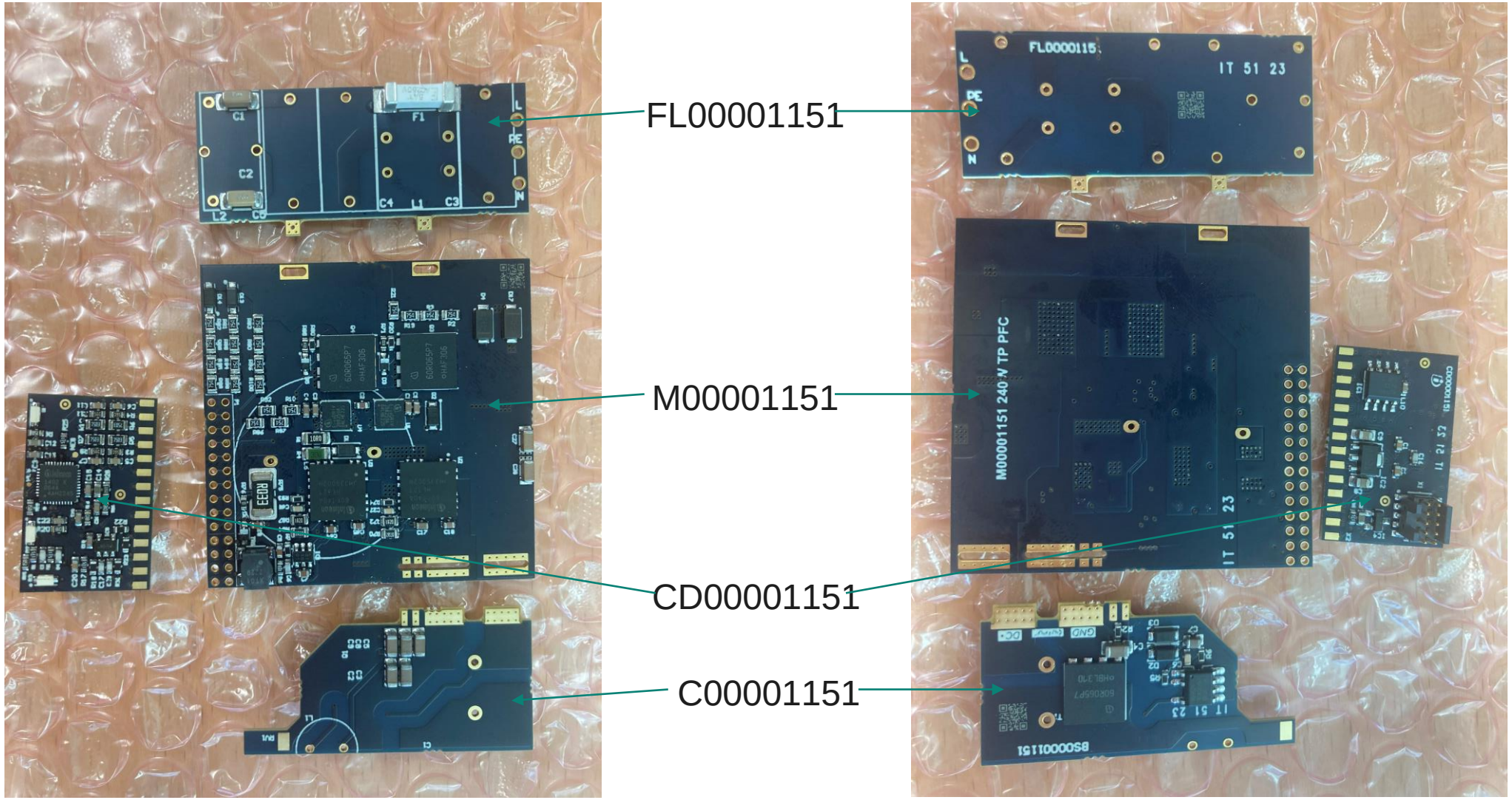
REF_240W_TP_PFC_GAN assembly and mounting process

PSS GAN SAM SAA SAE

March 2024

restricted

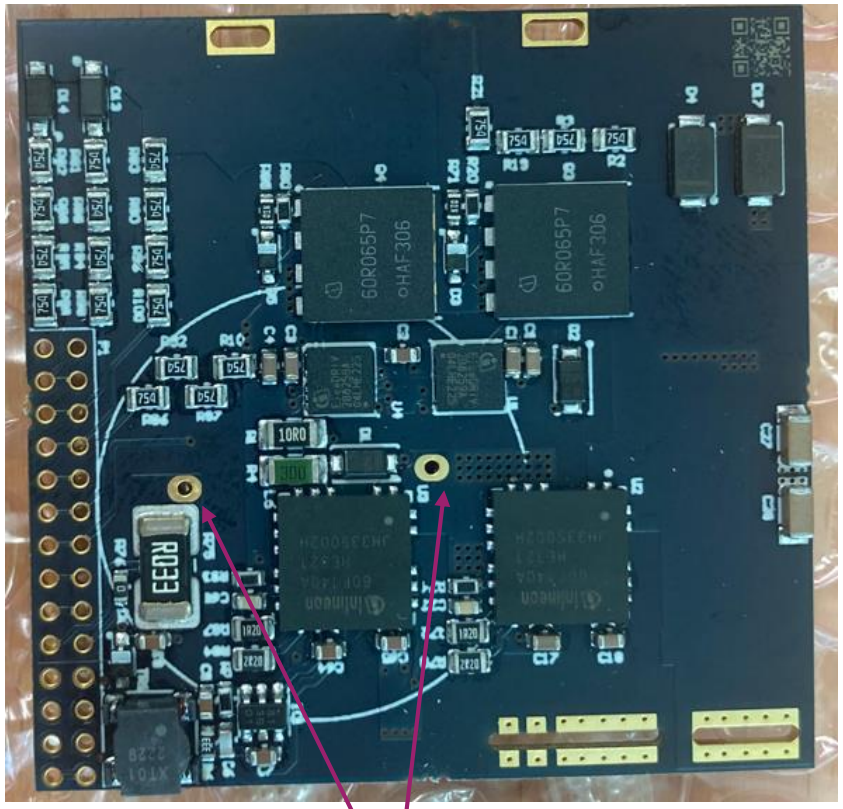
REF_240W_TP_PFC_GAN consists of 4 boards



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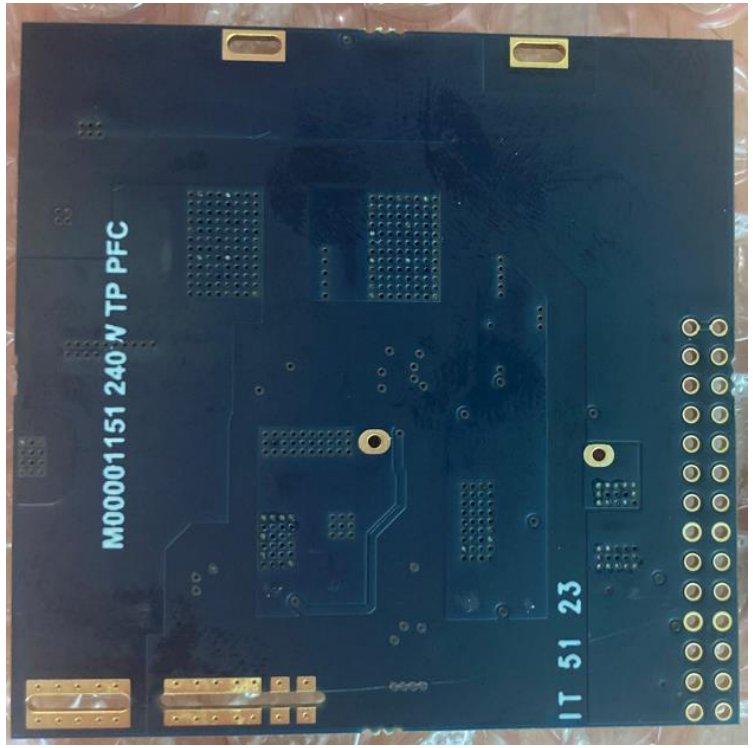
Boards SMD and THT mounting

Main board M00001151 is mainly SMD devices



– PFC choke is only THT part

– No devices on bottom

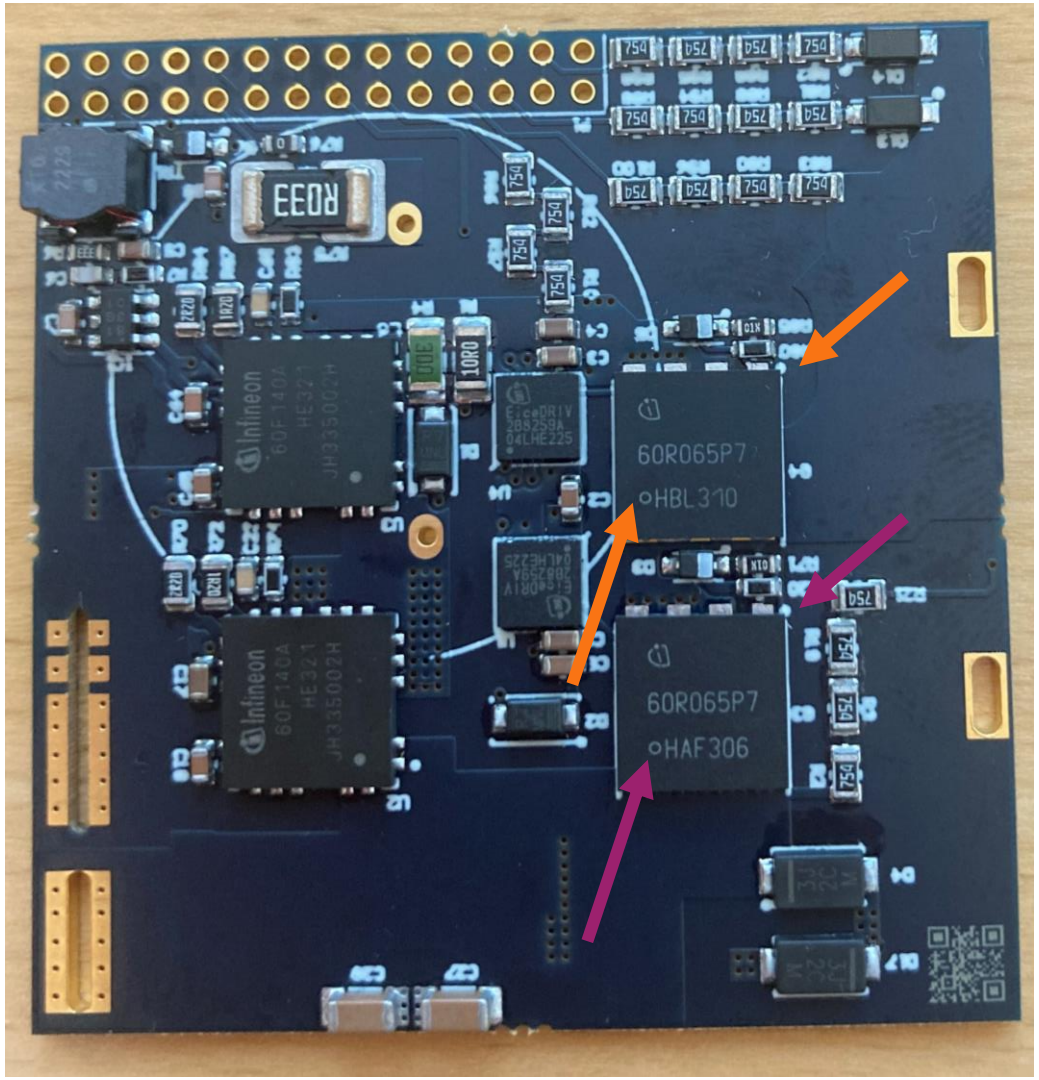


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Attention to Q3 and Q4 mounting (reminder)

- In previous production: Q3 and Q4 wrong mounting
  - See arrows of reference in device and PCB

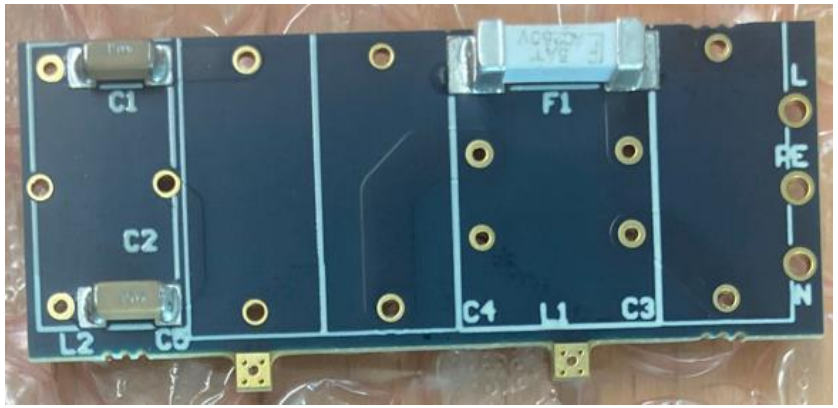
- When measuring DC+ to GND or GND to DC+ → short circuit
  - 0.1Ohm / 0.00V



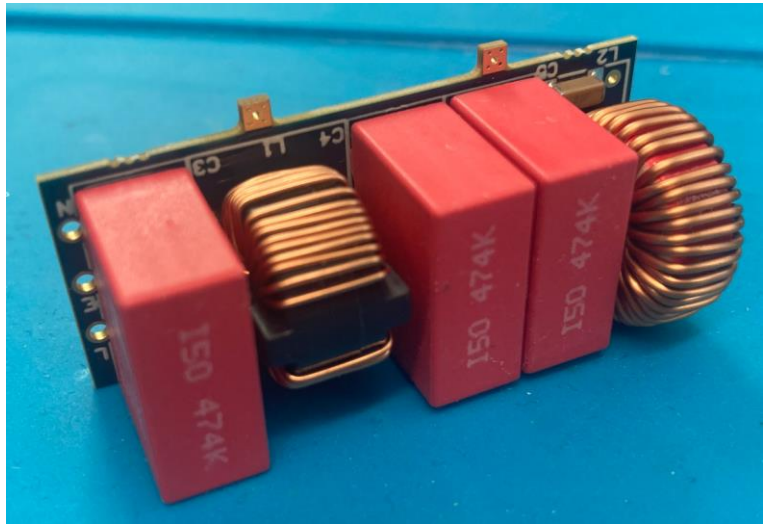
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Line filter board: FL00001151

– SMD components:



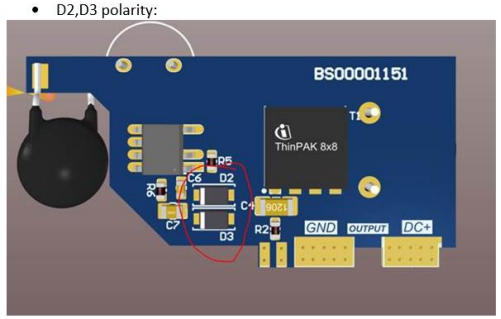
– Mount the rest of THT parts:



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Capacitor and bias board: BS00001151

- D2,D3 polarity:



– SMD components:

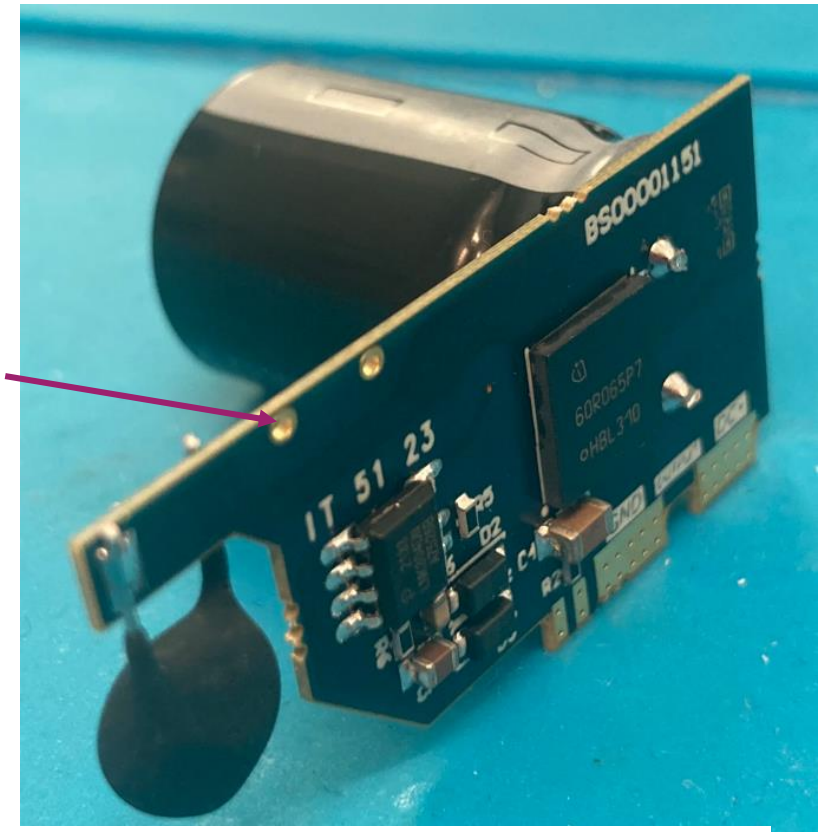




– Inductor L1 to be assembled after PFC choke is on main board

– THT parts:

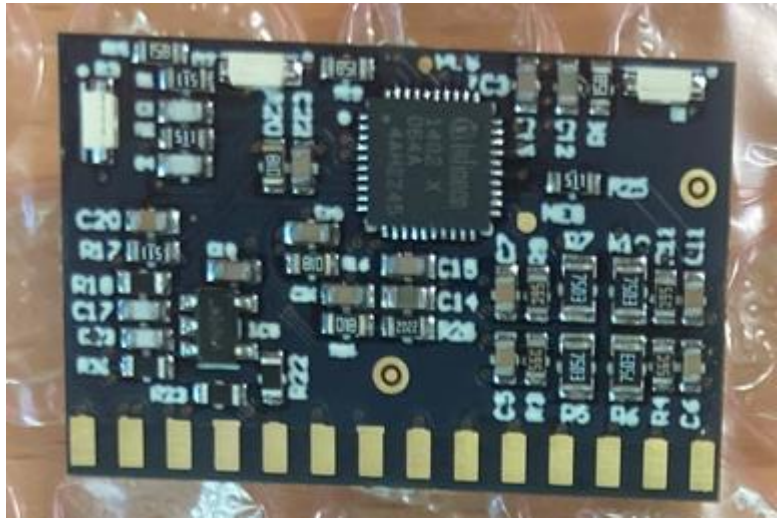
– Electrolytic Capacitor polarity



– NTC with one lead on each side of the PCB

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Control card: CD00001151, all SMD components





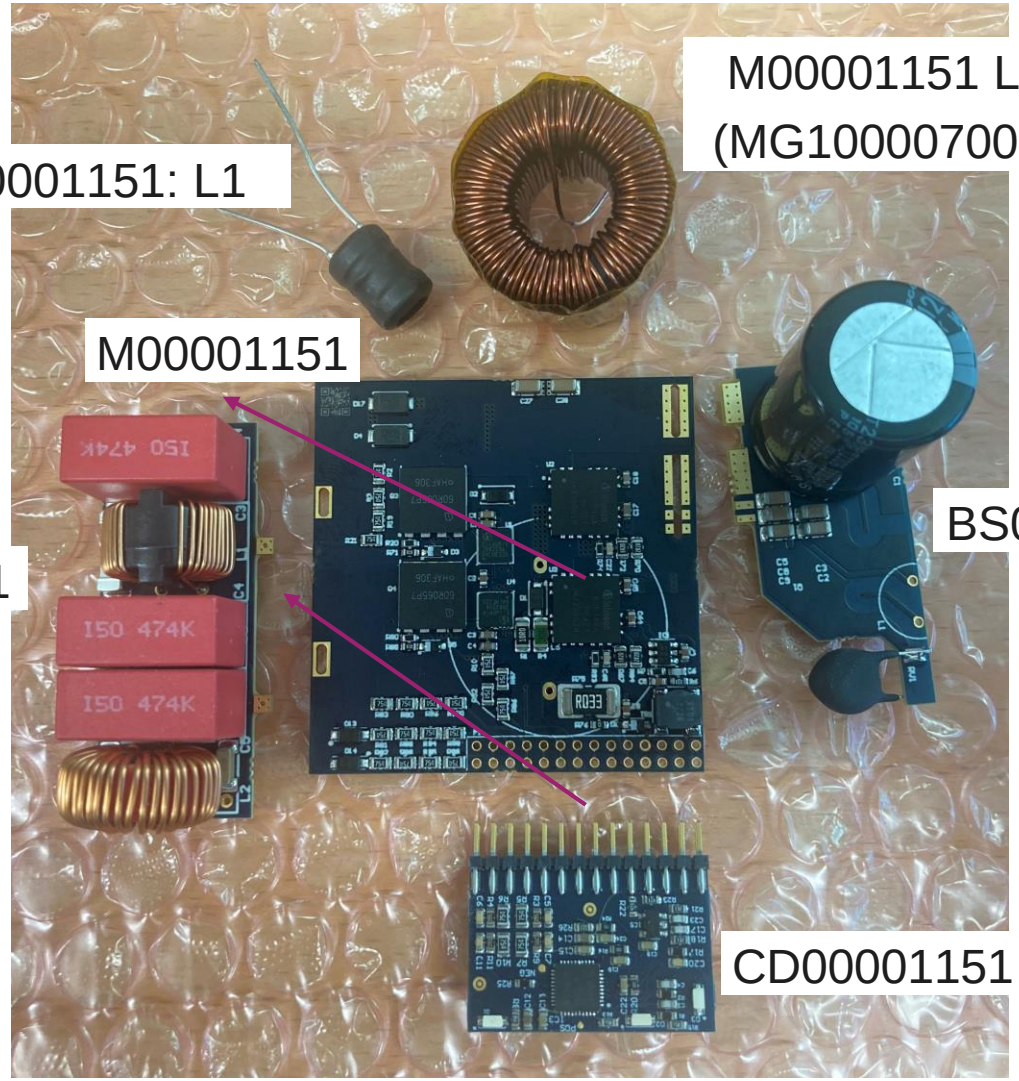
– Mount a 2-row 14 pin header (X2) on CD00001151



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Board integration

Board integration: required material



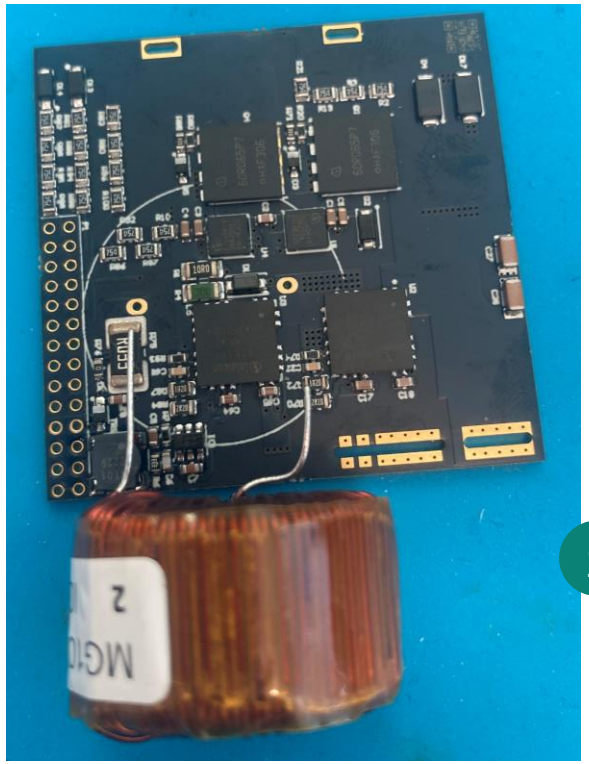
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PFC choke (L6 – MG10007000) in main board

- Bend choke wires to adapt to holes
  - Wire close to internal wall
- Mount choke into main board
- Inner part of L6 needs to be clear → L1 to be mounted inside at the end of the process

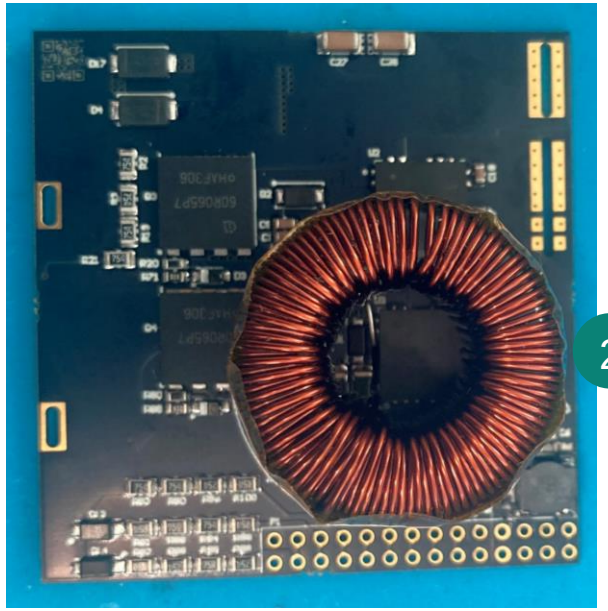
1

2



1

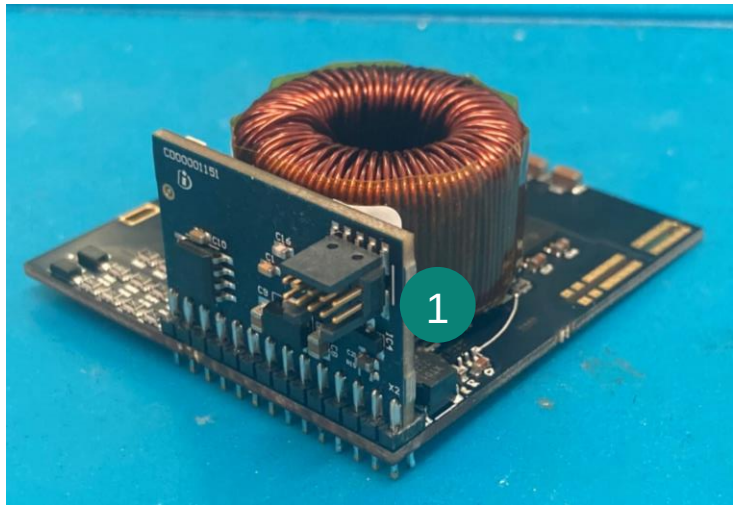


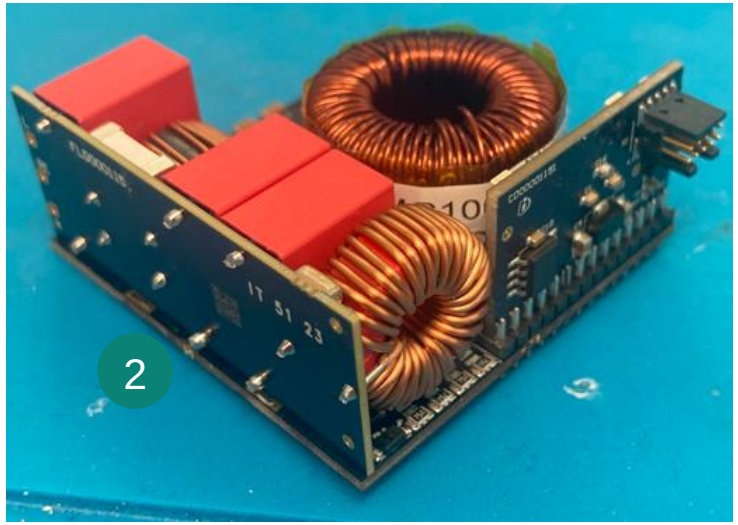


2

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Control card (CD00001151) and Line filter board (FL00001151)



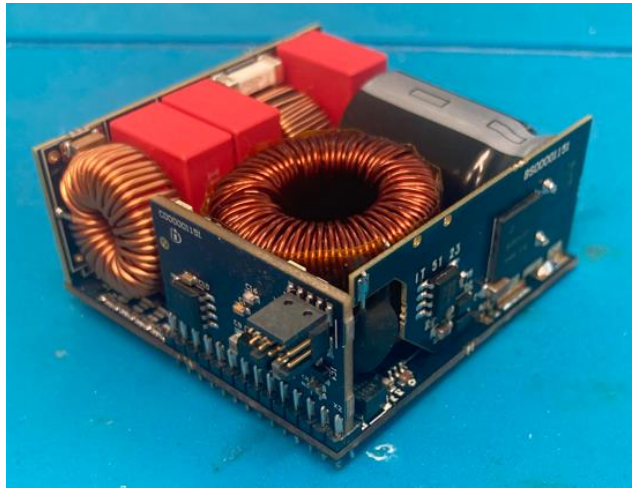


- Solder control card directly into the main board
  - Using the pin header
  - Programming connector must be facing outside of the main board 1
- Mount filter board as shown in the picture 2
  - Soulder in bottom

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Bias and capacitor board (BS00001151)

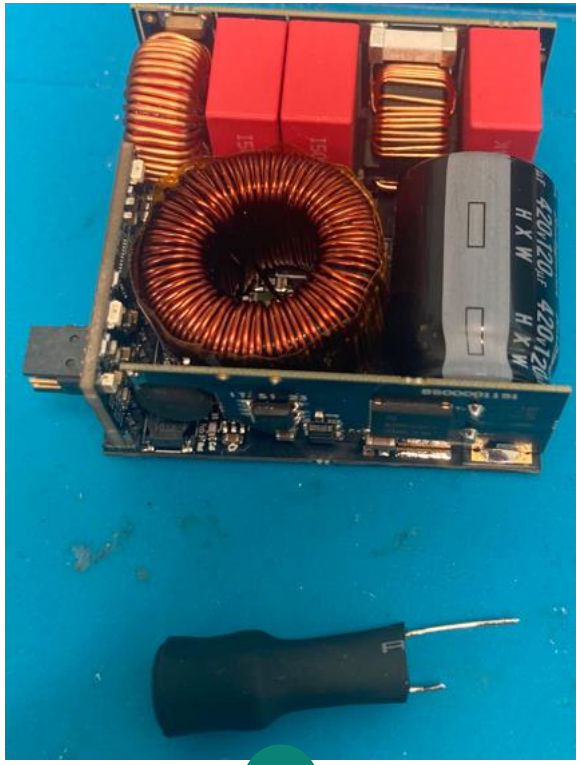




- Mount the capacitor and bias board into the main board
  - Soulder all connections in bottom of the main board

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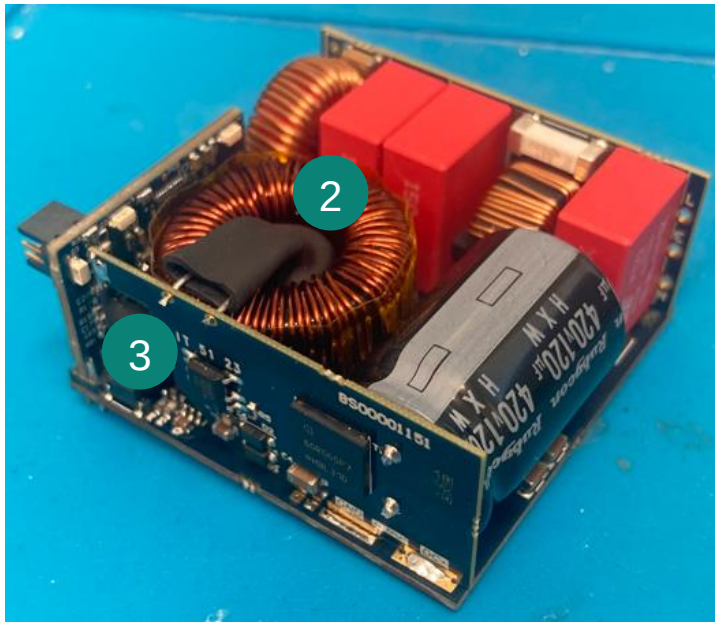
L1 inductor inside PFC choke and connected to BS00001151





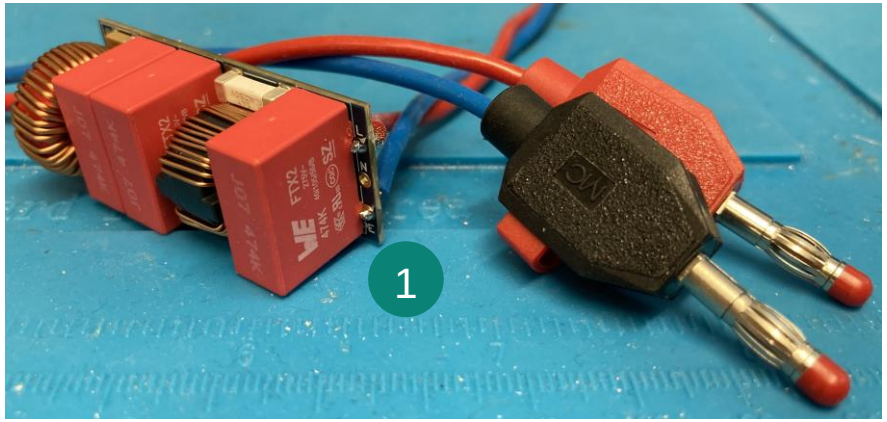
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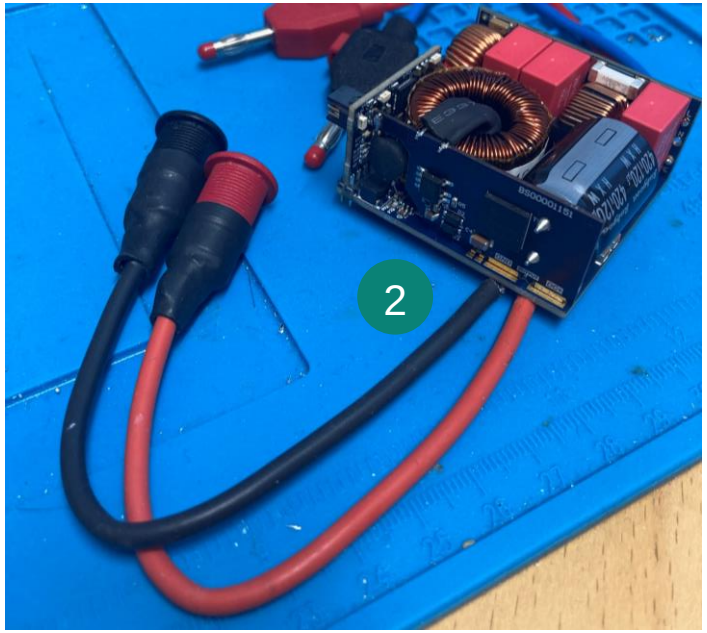
- Prepare L1 by applying a heat shrink tuve 1
  - 12/4 mm suggested
- 2 Place the covered L1 inductor inside the PFC choke
- Bend the L1 leads and introduce inside the contacts in BS00001151 3
  - Cut and Solder the leads



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Connections





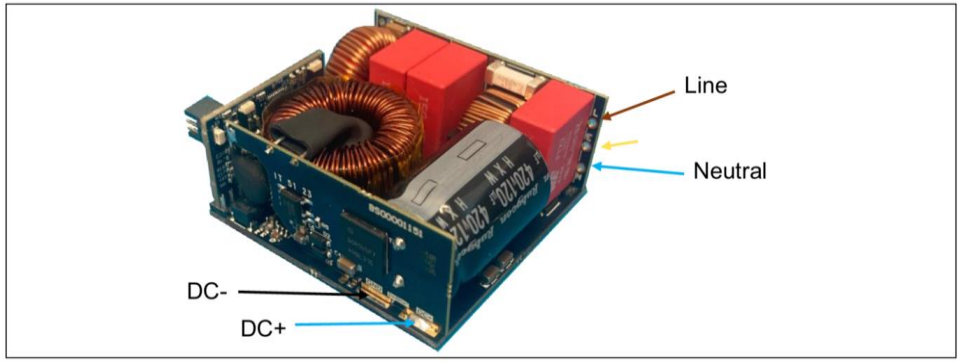


Figure 9 **AC and DC board connections available in REF_240W_TP_PFC_GAN**

- Solder cables with banana connector to EMI filter board (AC input 2.1A) 1
  - L – N connections
  - Length: 10cm
  - Diameter: 2.5 sqmm
  - Connector: **male** banana 4mm
- Solder output banana connectors at bottom of BS-M boards 2
  - Red in DC+ terminal
  - Black in GND terminal
  - Lenght: 10cm
  - Diameter: 2.5 sqmm
  - Connector: **female** banana 4mm

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