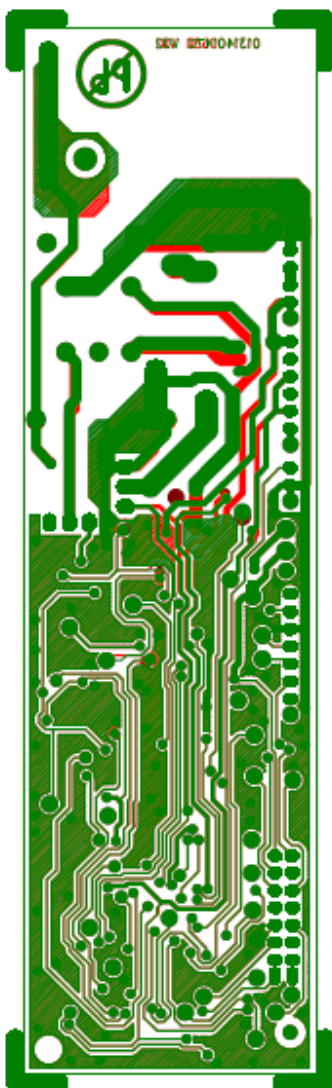


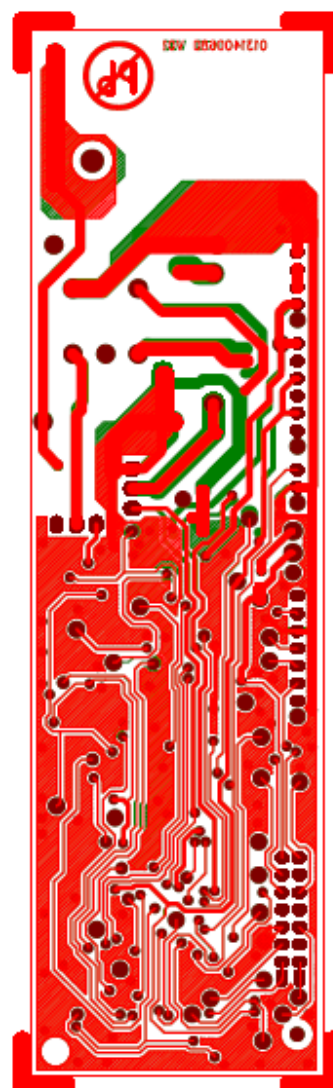
Description of the changes regarding the GX 3 - electronics

Jan. 08, 2016

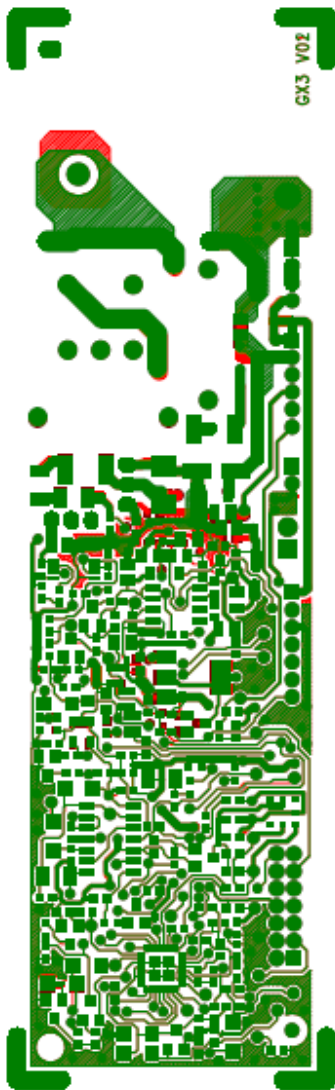
Main unit – difference of the printed circuit board (V01-layout in green, V02-layout in red)



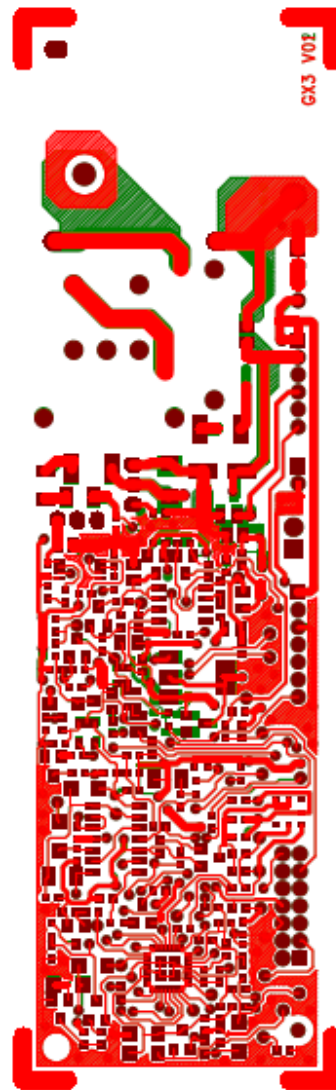
Bottom view
V01-layout red below, V02-layout green above



Bottom view
V01-layout red above, V02-layout green below

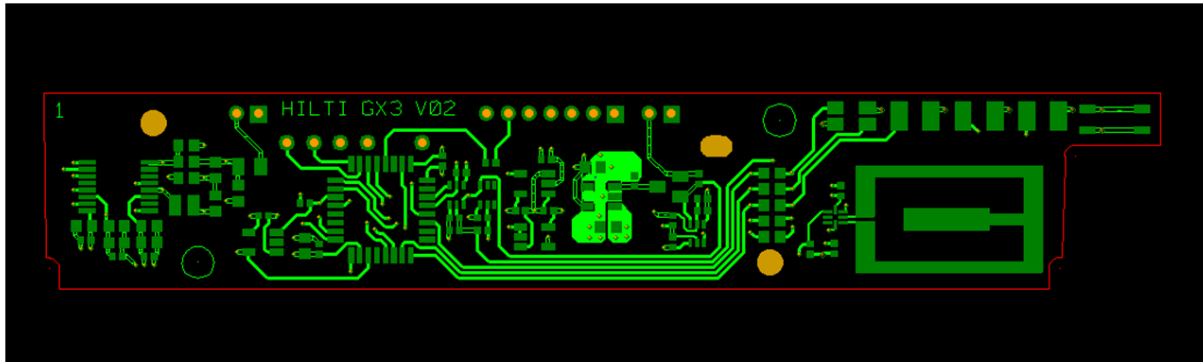


Top view
V01-layout red below, V02-layout green above

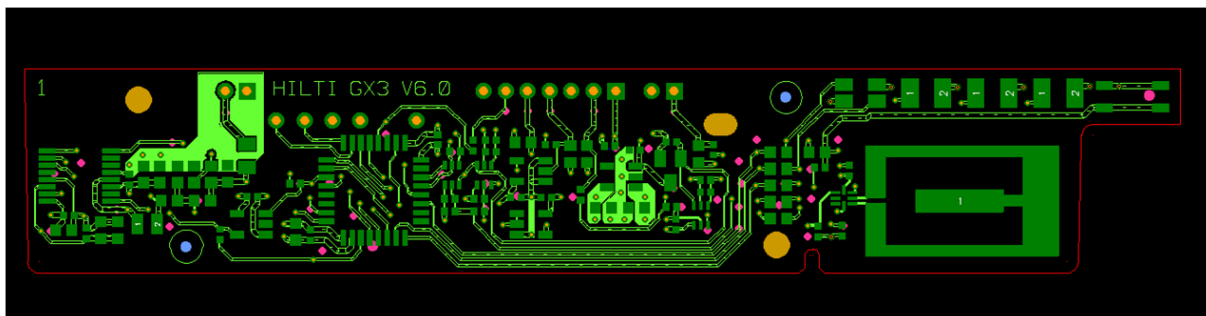


Top view
V01-layout red above, V02-layout green below

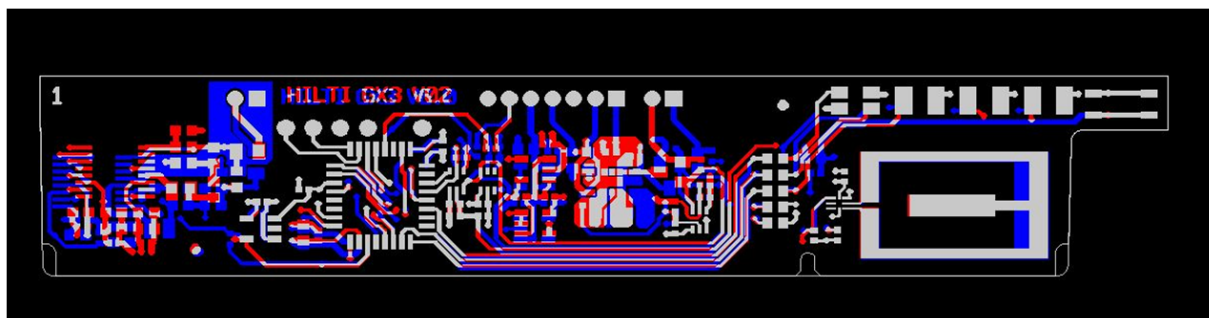
Reader unit – difference of the printed circuit board (V02 versus V06)



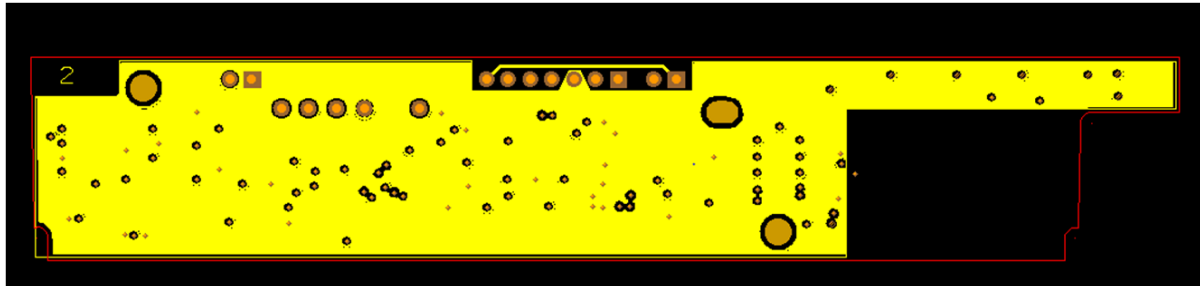
Top-view V02-layout



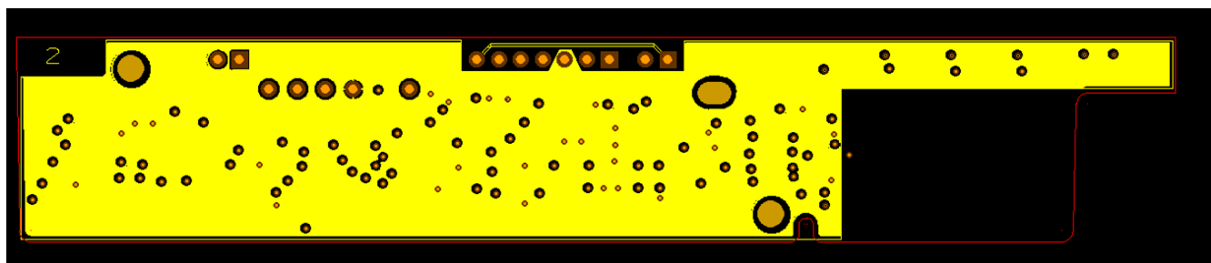
Top-view V06-layout



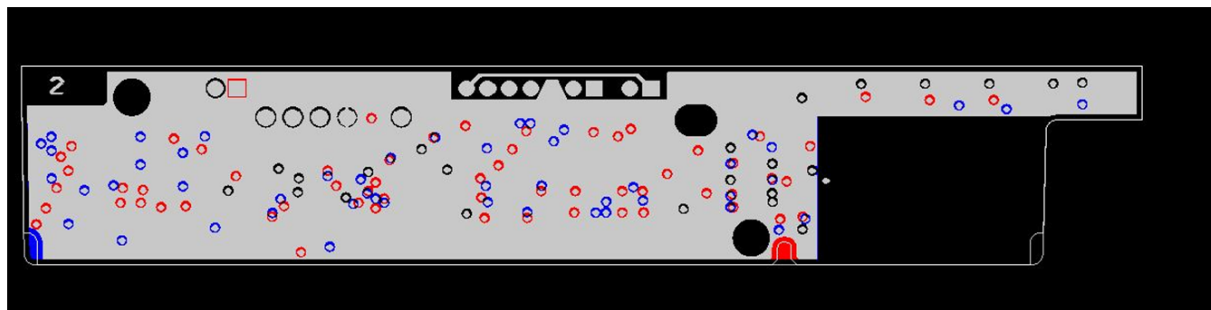
Top view - V02-layout red, V06-layout blue



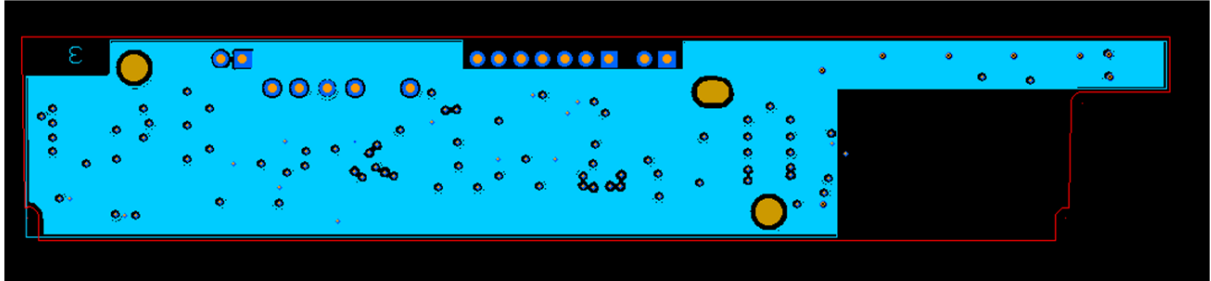
Multilayer 1 - V02-layout



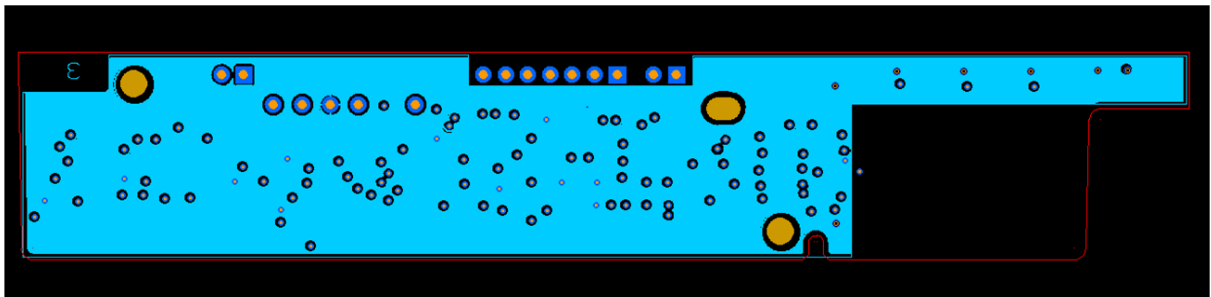
Multilayer 1 - V06-layout



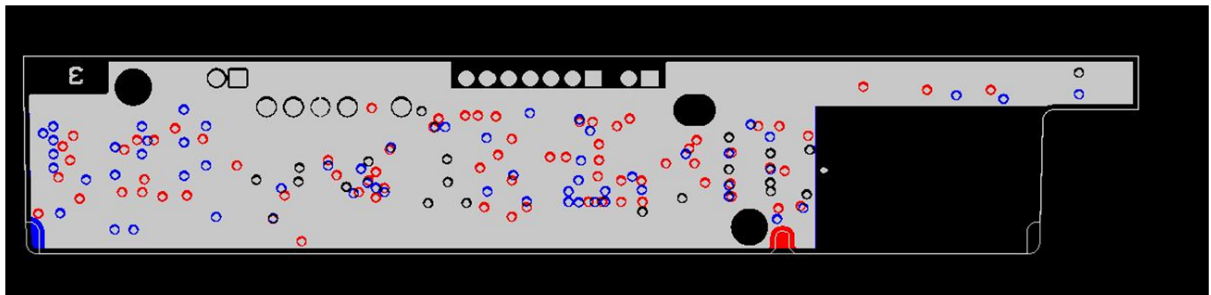
Multilayer 1 V02-layout, black and blue representing holes in the layer,
V06-layout, black and red representing holes in the layer



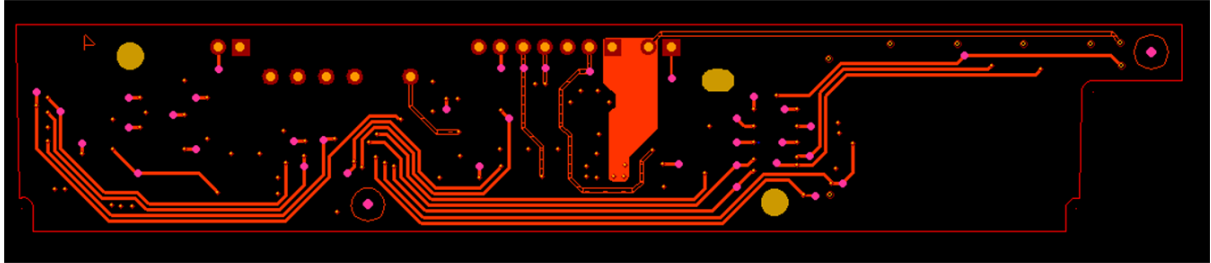
Multilayer 2 - V02-layout



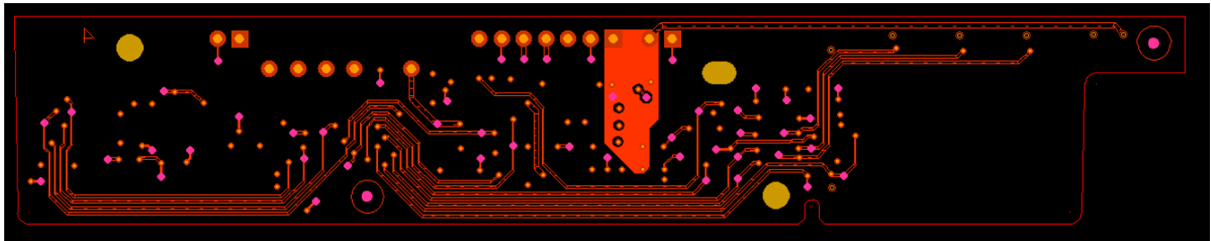
Multilayer 2 - V06-layout



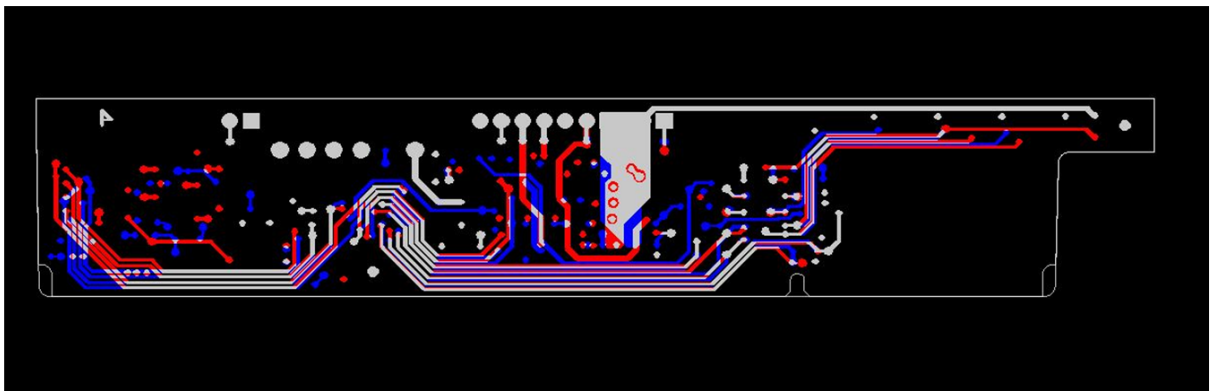
Multilayer 2 V02-layout, black and blue representing holes in the layer,
V06-layout, black and red representing holes in the layer



Bottom view V02-layout



Bottom view V06-layout



Bottom view - V02-layout red, V06-layout blue

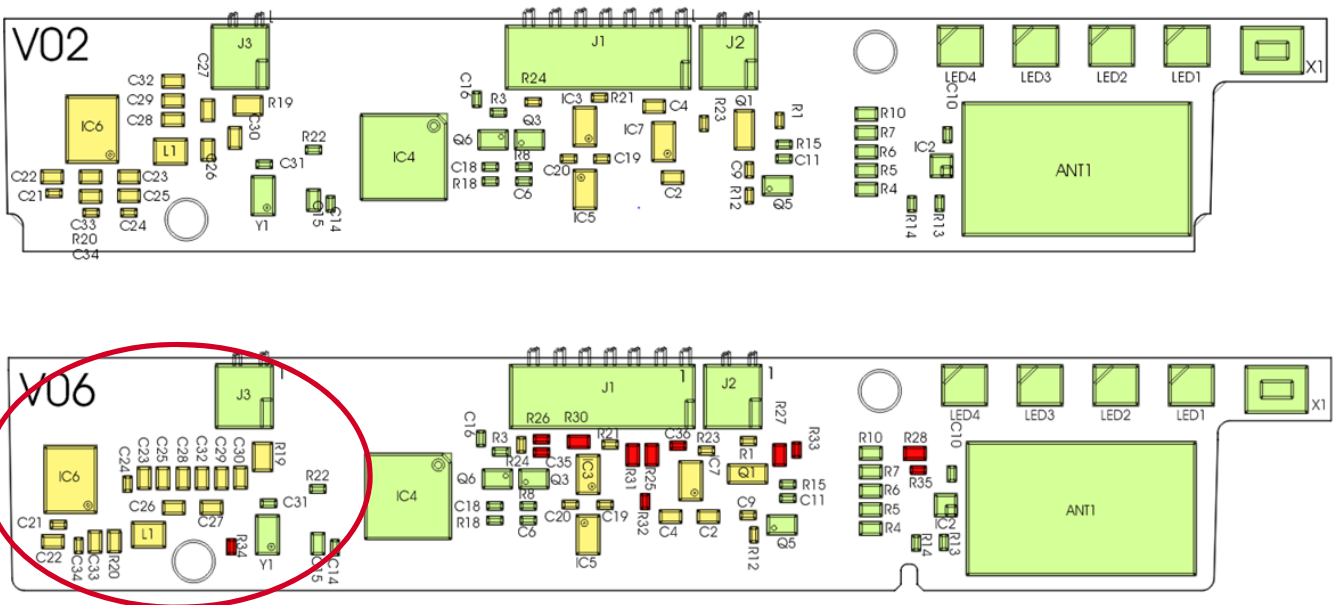
Confirmed by

P. Stauss-Reiner
Development engineer

J. Nienstedt
Certification engineer

Amendment 1 to “Description of the changes regarding the GX 3 – electronics” of Jan. 8, 2016

Show the differences in components and placement on the PCB:

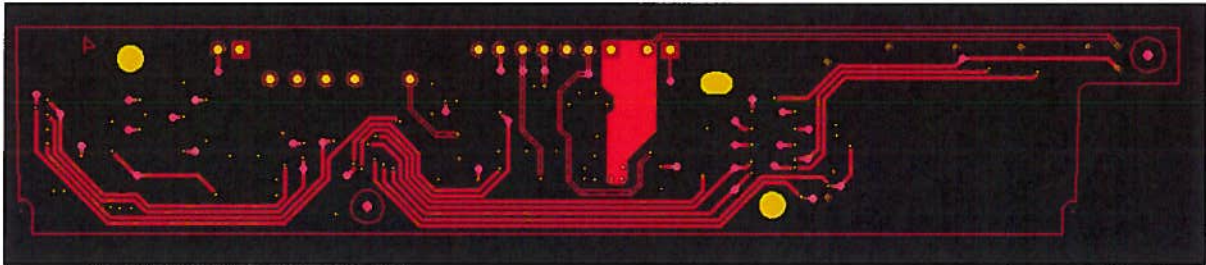


Key

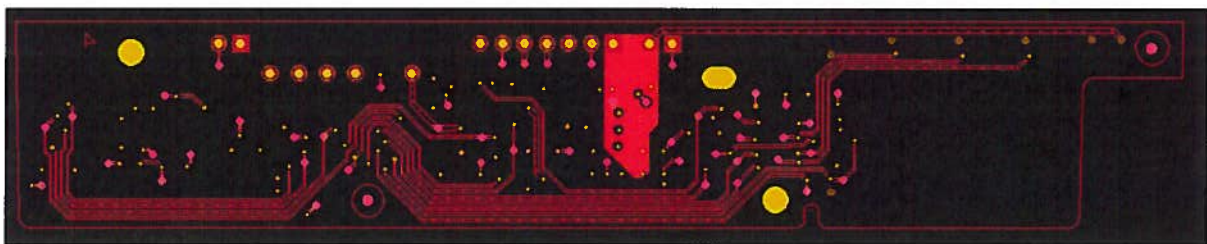
- Components in green are unchanged in type and placement from V02 compared to V06
- Components in yellow are unchanged in type but with a different placement on the PCB
- Components in red are new. These components are resistors and capacitors. They are introduced to improve the EMC and electrostatic discharge results. Hence they don't influence the RF-part and functionality.

The RF-relevant part of the electronics is surrounded by the red circle. The components remain identical. They only changed the place on the PCB. There is only one new component – the resistor R34 (marked in red).

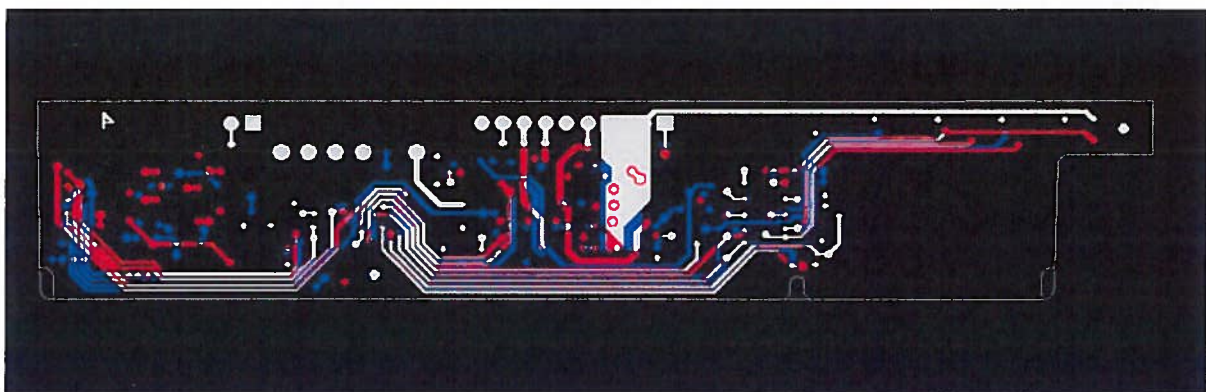
The Oscillator (Y1) provides the driver of the RFID-antenna as well as the micro controller with the system clock frequency. Between these components it exist different wire lengths. This difference is compensated by the resistor R34. Hence this resistor is also used for EMC improvement.



Bottom view V02-layout



Bottom view V06-layout



Bottom view - V02-layout red, V06-layout blue

Confirmed by

P. Stauss-Reiner
Development engineer

J. Nienstedt
Certification engineer