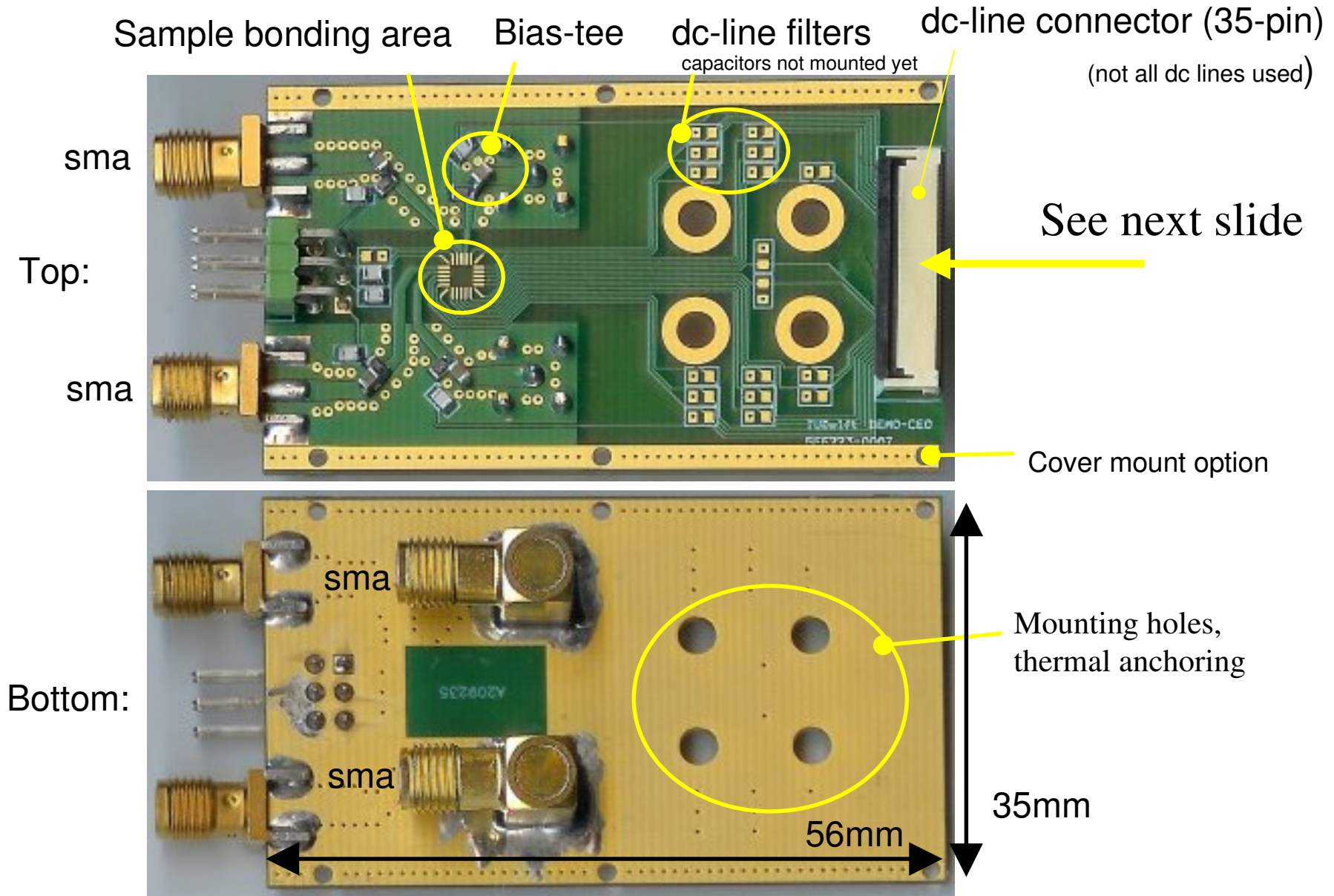


Example board, 4xRF + 4xbias-tee + 35xdc

(low cost 1.6mm FR4, double layer, goldfinish)

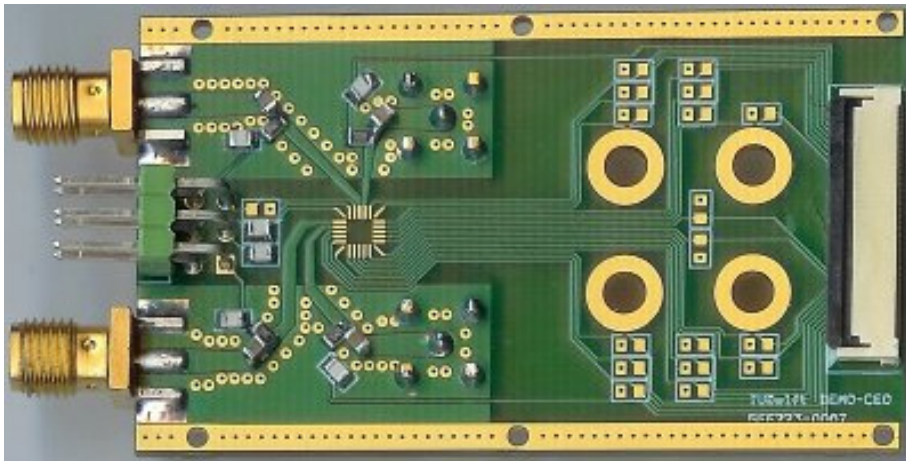
Sample board used in Delft



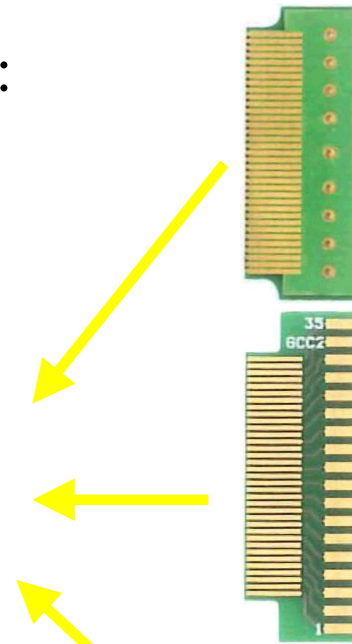
Example board, 4xRF + 4xbias-tee + 35xdc, connections:

Sample board used in Delft

different d.c. connection types:

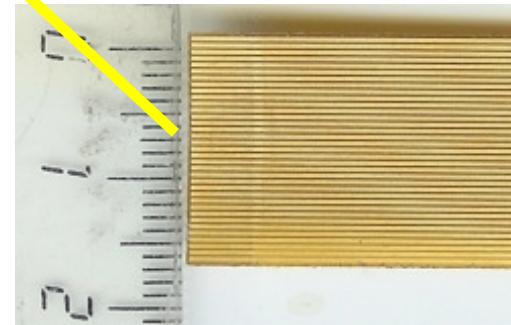


Sample directly bonded on board
boards sometimes re-used by
removing old samples



“short” pcb
protects sample
during transport/handling

“wire” pcb
solderpads to attach
individual dc-wires



“flex” pcb
under
evaluation



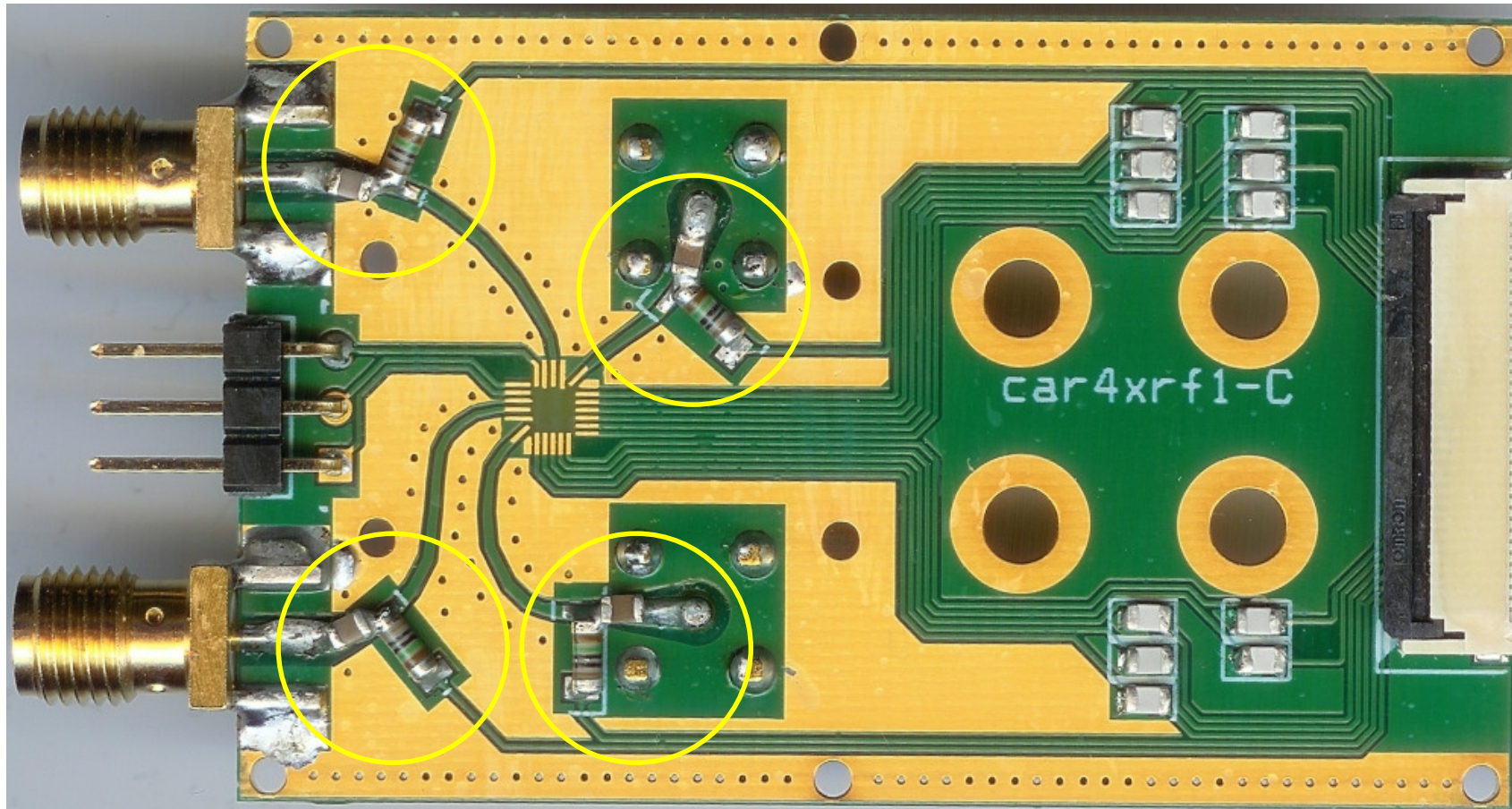
0.1mm thin flex pcb Cu+Au on Kapton film

To
RC-filter
board

**Example board, 4xRF + 4xbias-tee + 35xdc
latest version (c) improved transmission lines:**

Sample board
used in Delft

R-C bias-tees are small and very close to the sample(gate)
We can use 10Mohm+4n7 resulting in 4Hz cutoff at the low end
allowing also AWG-pulses of milliseconds to be send with minimal "tilt" in the levels

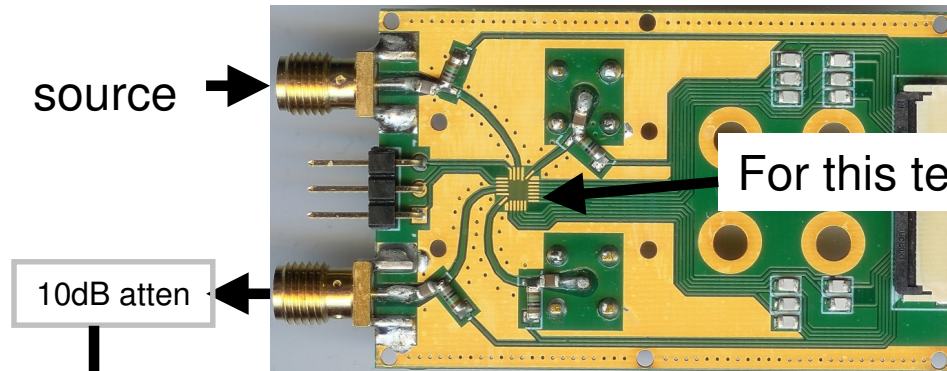


Board: double layer 1.6mm FR4, goldfinish

Measured microwave transmission

SMA>biastee>bondwires>biastee>SMA

Sample board used in Delft



source

10dB atten

meas

For this test: 3 parallel bond-wire between pads

-10dB is full transmission

Results in approx
-3dB @ 10GHz
-10dB @ 20GHz

