Laboratory report

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| Subject of the exercise: | Electromagnetic Compatibility (EMC) |
| Date: | <year>. <month>. <day> |
| Students name: | <name 1>  <name 2>  <name 3> |
| Course and group No. | Course: <Course No>, <Group No.> |
| Supervisors: | <name 1>, <name 2> |
| Desk No.: |  |

Equipment in use

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| --- | --- | --- |
| Oscilloscope | Agilent 54622A | < > |
| Power supply | Agilent E3630 | < > |
| Function generator | Agilent 33220A | < > |
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Measurement tasks

1. Investigation of inductive, capacitive and conductive coupling
   1. Calculate the mutual inductances between the outer and two inner loops of the test panel! (See EMC-M in Fig. 10 in the laboratory guide!)



<summarize your results>

* 1. Measure the inductive coupling at 10 MHz for both configurations!

<summarize your results>

* 1. Calculate the stray capacitances between the tracks for the two configurations! (See EMC-C in Fig. 10 in the laboratory guide!)

<summarize your results>

* 1. Measure the capacitive coupling at the optimal frequency!



<summarize your results>

* 1. Calculate the conductive coupling between the two loops for the two configurations! (See EMC-G in Fig. 10 in the laboratory guide!)



<summarize your results>

* 1. Measure the conductive coupling at the optimal frequency!

The copper foil is 52…58 µm thick, width of track is 1mm ± 10%. The PCB is 1.6 mm thick, relative permittivity is 4.7.

1. Test of the line filter
   1. Using Reference [2], calculate the stray inductance of the line filter for symmetrical signals at 1 MHz!

<summarize your results>

* 1. Calculate and measure the damping of the line filter for asymmetrical signals at 0.1 and 1 MHz!

<summarize your results>

Note, that the damping of the built-in impedance matching unit is 4 dB!