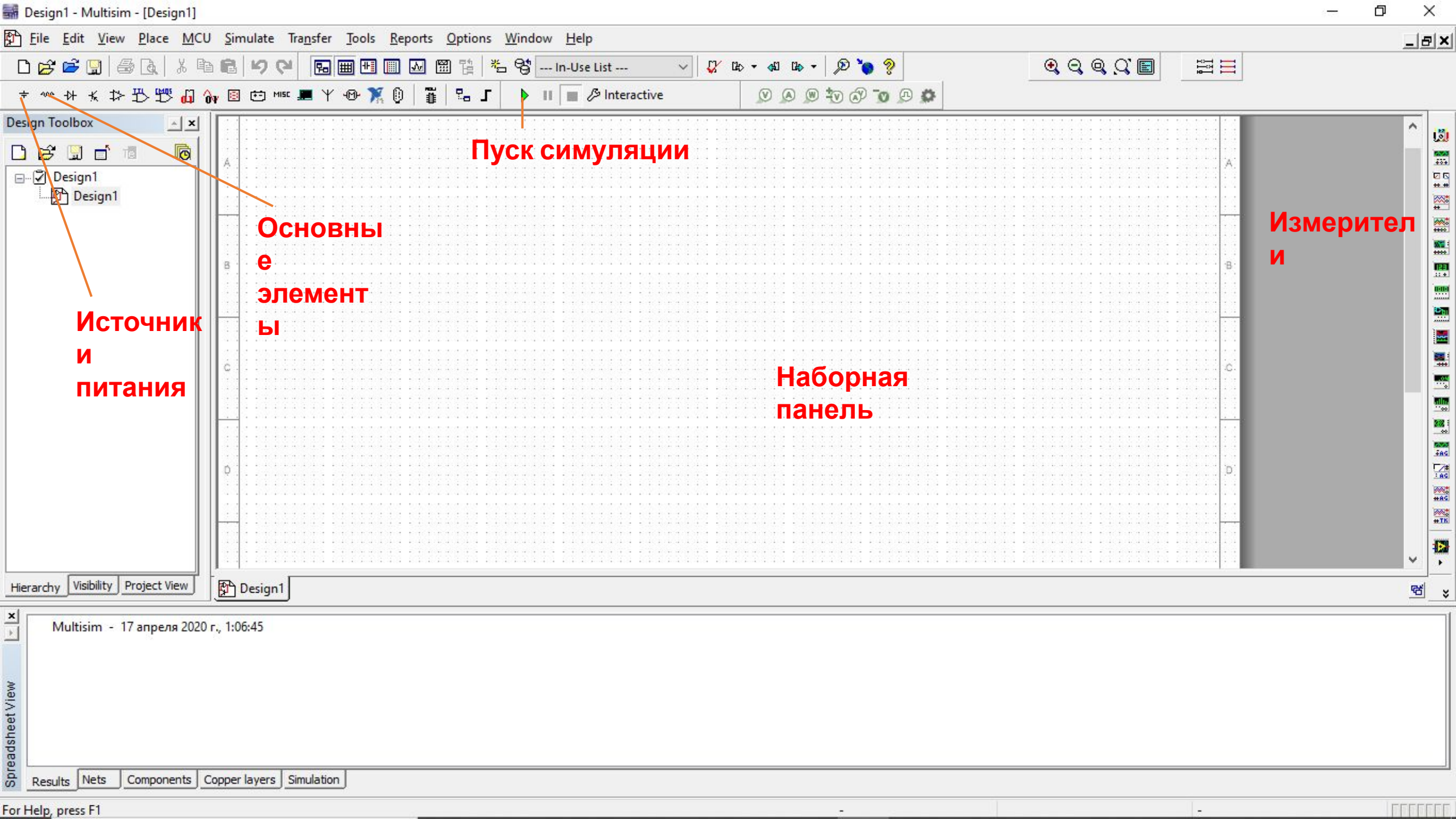


Лабораторная работа 1

Разветвлённая цепь постоянного тока



Источник
и
питания

Основны
е
элемент
ы

Пуск симуляции

Наборная
панель

Измерители

Multisim - 17 апреля 2020 г., 1:06:45

Results Nets Components Copper layers Simulation

File Edit View Place MCU Simulate Transfer

Full screen F11

Parent sheet

Design Toolbox

Zoom in Ctrl+Num +

Zoom out Ctrl+Num -

Zoom area F10

Zoom sheet F7

Zoom to magnification... Ctrl+F11

Zoom selection F12

Grid

Border

Print page bounds

Ruler bars

Status bar

Design Toolbox

Spreadsheet View

SPICE Netlist Viewer

LabVIEW Co-simulation Terminals

Circuit Parameters

Description Box Ctrl+D

Toolbars

Show comment/probe

Grapher

Standard

View

Main

Graphic Annotation

3D components

Analog components

Basic

Diodes

Transistor components

Measurement components

Miscellaneous components

Components

Ladder diagram

Power source components

Rated virtual components

Signal source components

Virtual

Simulation

Instruments

Description Editor

MCU

LabVIEW instruments

NI ELVISmx instruments

PLD

PLD components

Place probe

Help

In-Use List ---

Interactive

Spreadsheet View

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Results Nets Components Copper layers Simulation

Measurement components

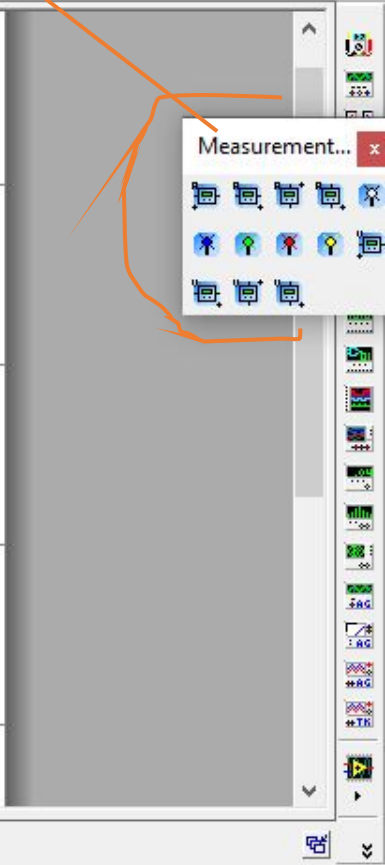
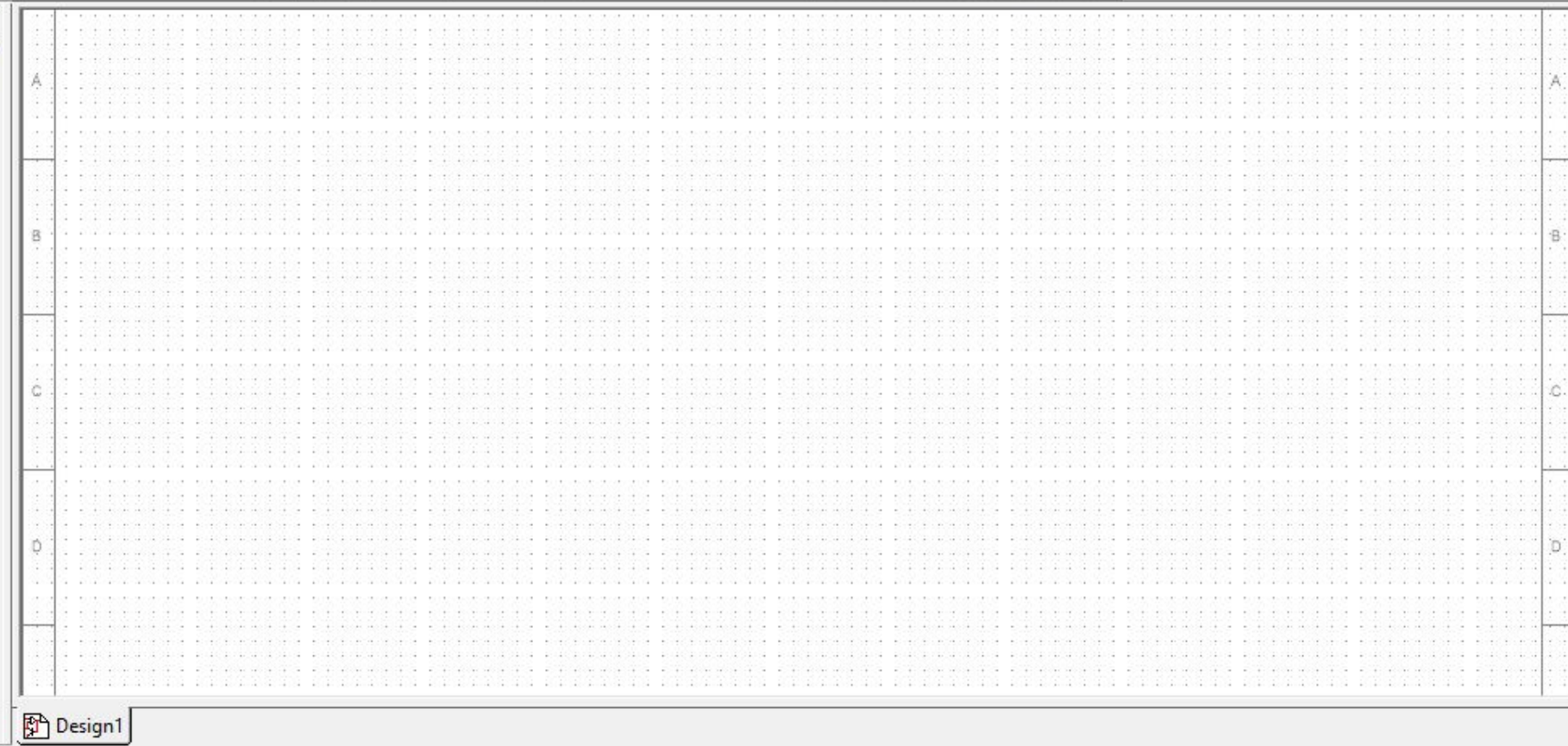
--- In-Use List ---



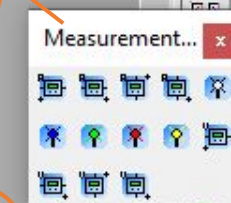
Design Toolbox

- Design1
 - Design1

Hierarchy Visibility Project View



Measurement...



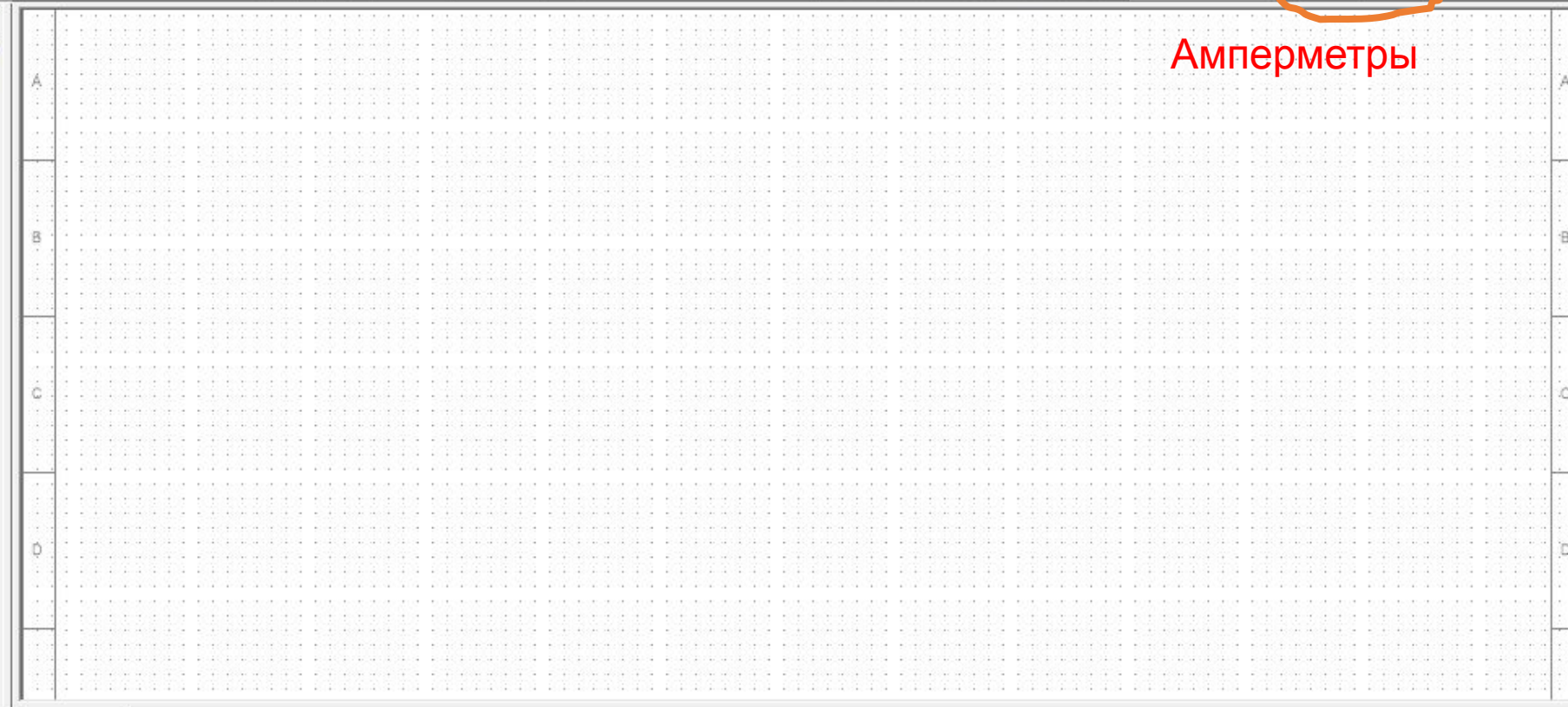
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Results Nets Components Copper layers Simulation



Design Toolbox

- Design1
 - Design1



Амперметры

Вольтметры

A vertical component palette on the right side of the interface, showing various electronic components like resistors, capacitors, and integrated circuits.

Hierarchy Visibility Project View

Design1

Spreadsheet View

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Results Nets Components Copper layers Simulation

Design Toolbox

- Design1
 - Design1

Hierarchy Visibility Project View

Select a Component

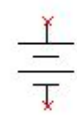
Database: Master Database

Group: Sources

Family: POWER_SOURCES

Component: DC_POWER

Symbol (ANSI Y32.2)



Function: DC voltage source.

Model manufacturer/ID: Generic / VDCP

Package manufacturer/type:

Hyperlink:

Components: 21 Searching: Filter: off

Multisim - 17 апреля 2020 г., 1

Spreadsheet View

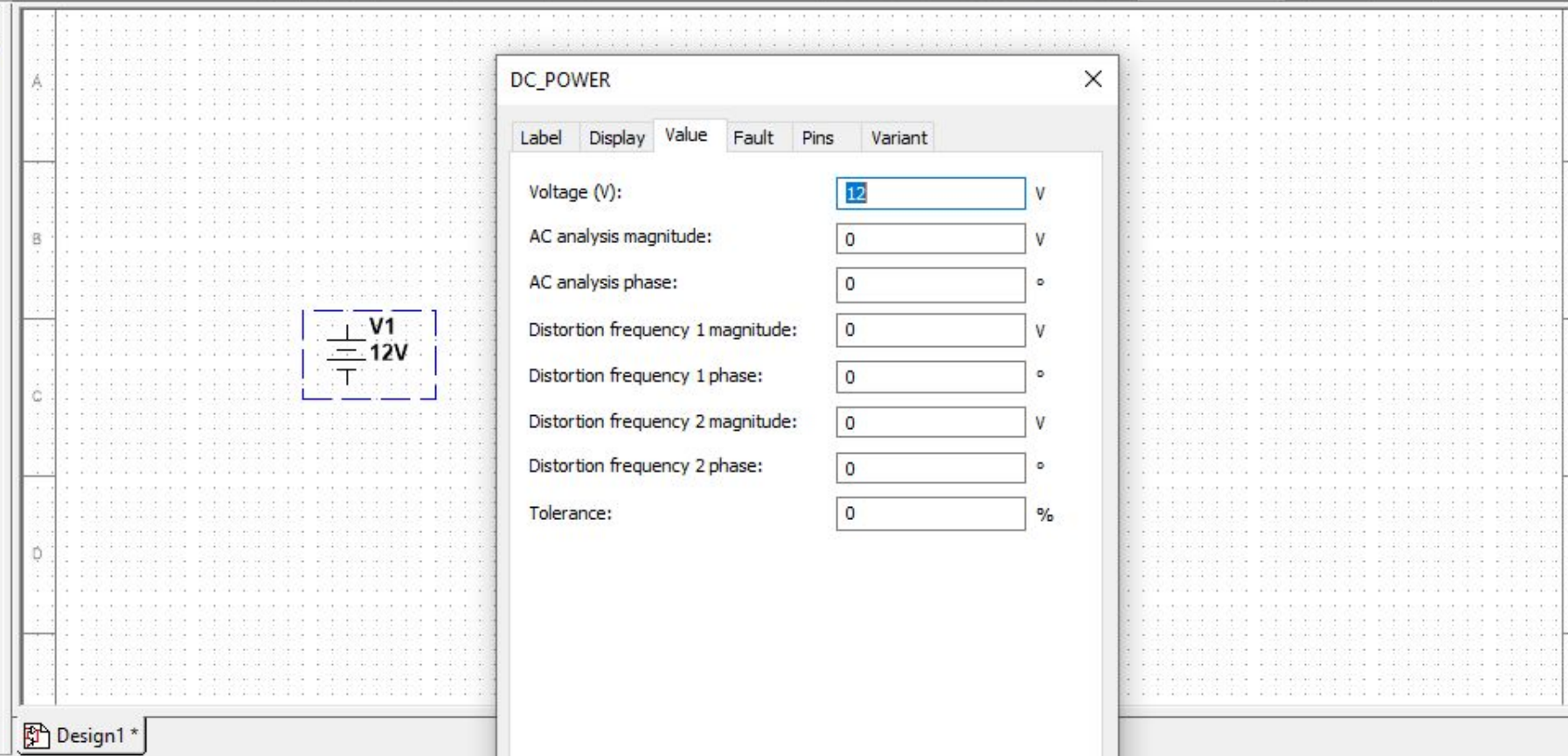
Results Nets Components Copper layers Simulation



Design Toolbox

- Design1
- Design1

Hierarchy Visibility Project View



DC_POWER

Label Display Value Fault Pins Variant

Voltage (V): V

AC analysis magnitude: V

AC analysis phase: °

Distortion frequency 1 magnitude: V

Distortion frequency 1 phase: °

Distortion frequency 2 magnitude: V

Distortion frequency 2 phase: °

Tolerance: %

Replace... OK Cancel Help

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Results Nets Components Copper layers Simulation



Design Toolbox

- Design1
 - Design1

Hierarchy Visibility Project View

Select a Component

Database: Master Database

Component: GROUND

Group: Sources

Family:

- <All families>
- POWER_SOURCES
- SIGNAL_VOLTAGE_SOURCES
- SIGNAL_CURRENT_SOURCES
- CONTROLLED_VOLTAGE_SOUR
- CONTROLLED_CURRENT_SOUF
- CONTROL_FUNCTION_BLOCKS
- DIGITAL_SOURCES

AC_POWER
DC_POWER
DGND
GROUND
GROUND_REF1
GROUND_REF2
GROUND_REF3
GROUND_REF4
GROUND_REF5
NON_IDEAL_BATTERY
THREE_PHASE_DELTA
THREE_PHASE_WYE
V_REF1
V_REF2
V_REF3
V_REF4
V_REF5
VCC
VDD
VEE
VSS

Symbol (ANSI Y32.2)

Function: Analog Ground

Model manufacturer/ID: Generic / EMPTY

Package manufacturer/type:

Hyperlink:

OK Close Search... Detail report View model Help

Vertical toolbar with various icons for simulation and analysis.

Spreadsheet View

Multisim - 17 апреля 2020 г., 1

Results Nets Components Copper layers Simulation

Components: 21 Searching: Filter: off

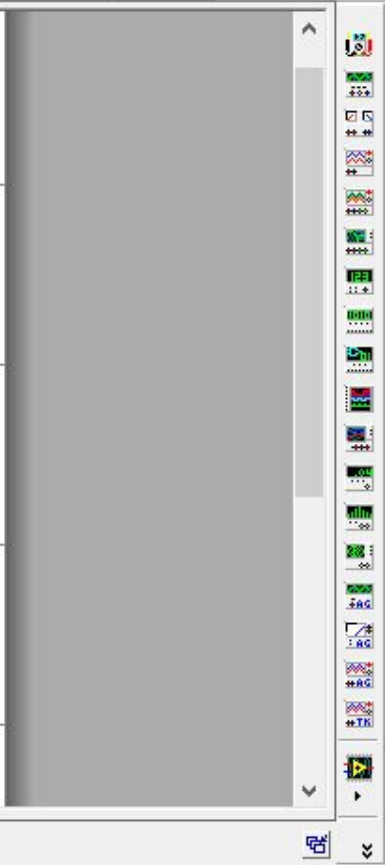
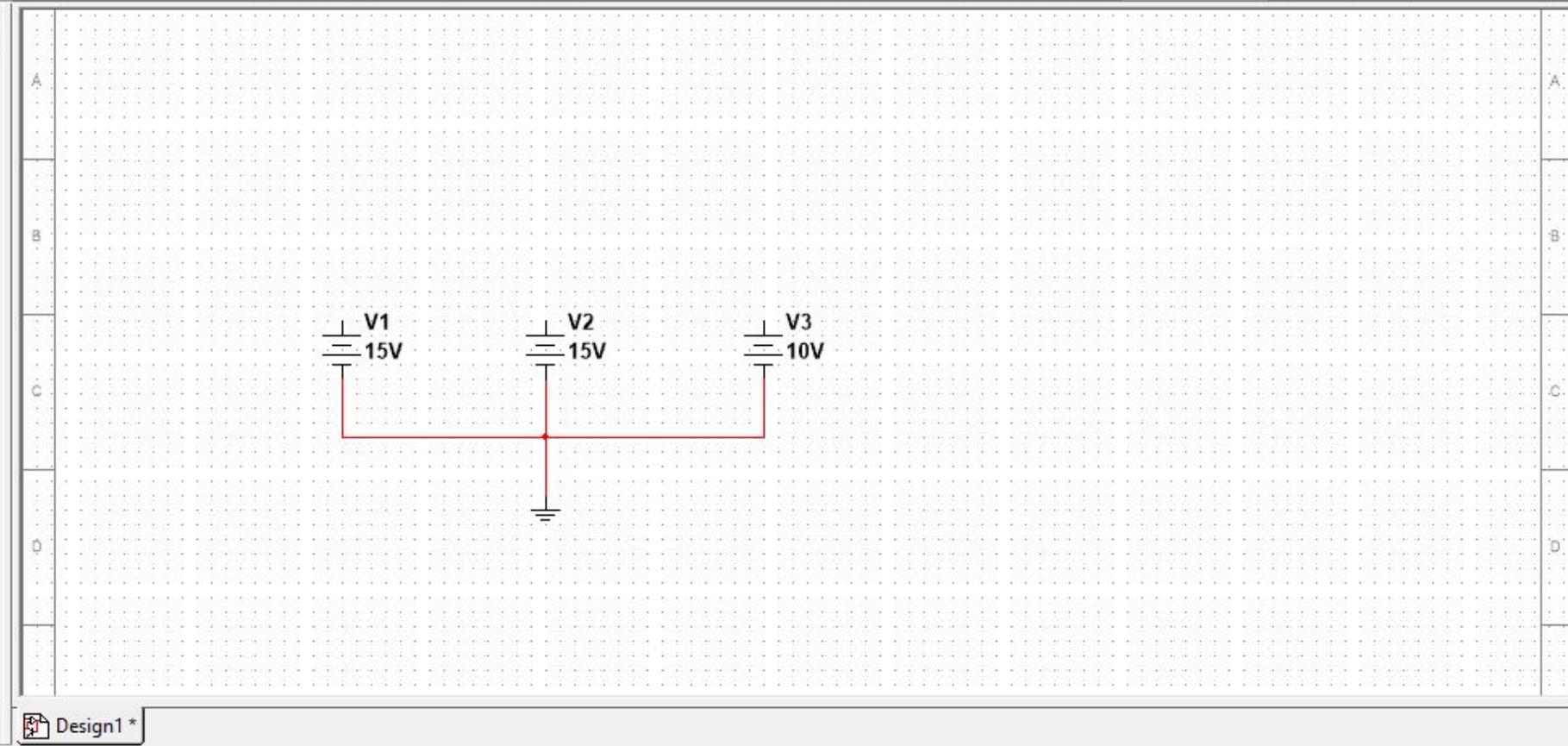
--- In-Use List ---



Design Toolbox

- Design1
 - Design1

Hierarchy Visibility Project View



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Results Nets Components Copper layers Simulation



Design Toolbox

- Design1
 - Design1

Hierarchy Visibility Project View

Select a Component

Database: Master Database Component: 1k

Group: Basic

Family:

- <All families>
- BASIC_VIRTUAL
- RATED_VIRTUAL
- 3D_VIRTUAL
- RPACK
- SWITCH
- TRANSFORMER
- NON_IDEAL_RLC
- Z_LOAD
- RELAY
- SOCKETS
- SCHEMATIC_SYMBOLS
- RESISTOR**
- CAPACITOR
- INDUCTOR
- CAP_ELECTROLIT
- VARIABLE_RESISTOR
- VARIABLE_CAPACITOR

698	700	715	732	750	768	769	787	800	806	820	825	845	866	887	900	909	910	931	953	976	1k	1.0k
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----------	------

Symbol (ANSI Y32.2)

Component type: <no type>

Tolerance(%): 0

Model manufacturer/ID: IIT / VIRTUAL_RESISTANCE

Package manufacturer/type: <no package> / IPC-2221A/2222 / RES1300-700X250 / IPC-2221A/2222 / RES1400-800X250

Hyperlink:

Components: 1090 Searching: Filter: off

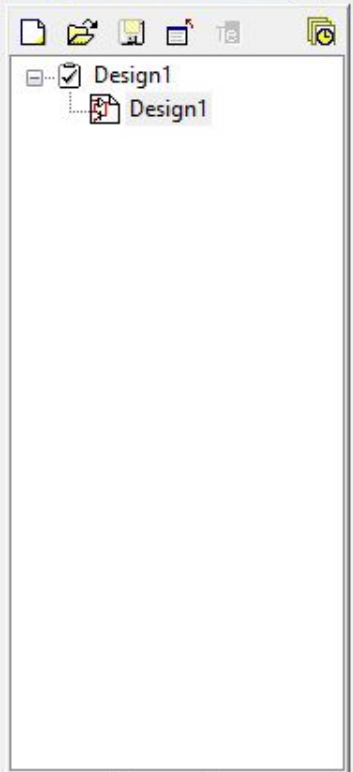
Multisim - 17 апреля 2020 г., 1

Spreadsheet View

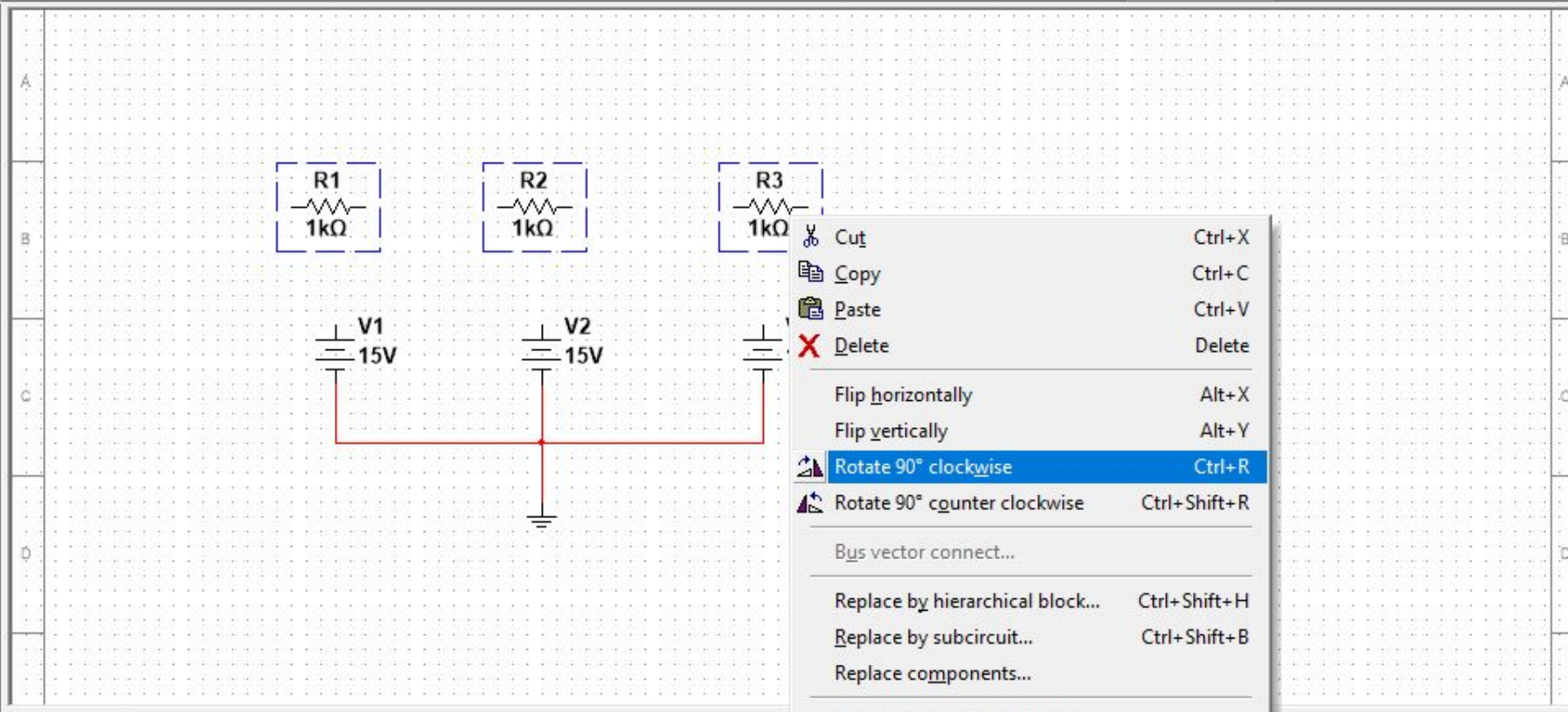
Results Nets Components Copper layers Simulation



Design Toolbox



Hierarchy Visibility Project View



Design1 *

Multisim - 17 апреля 2020 г., 1:06:45

Spreadsheet View

Results Nets Components Copper layers Simulation

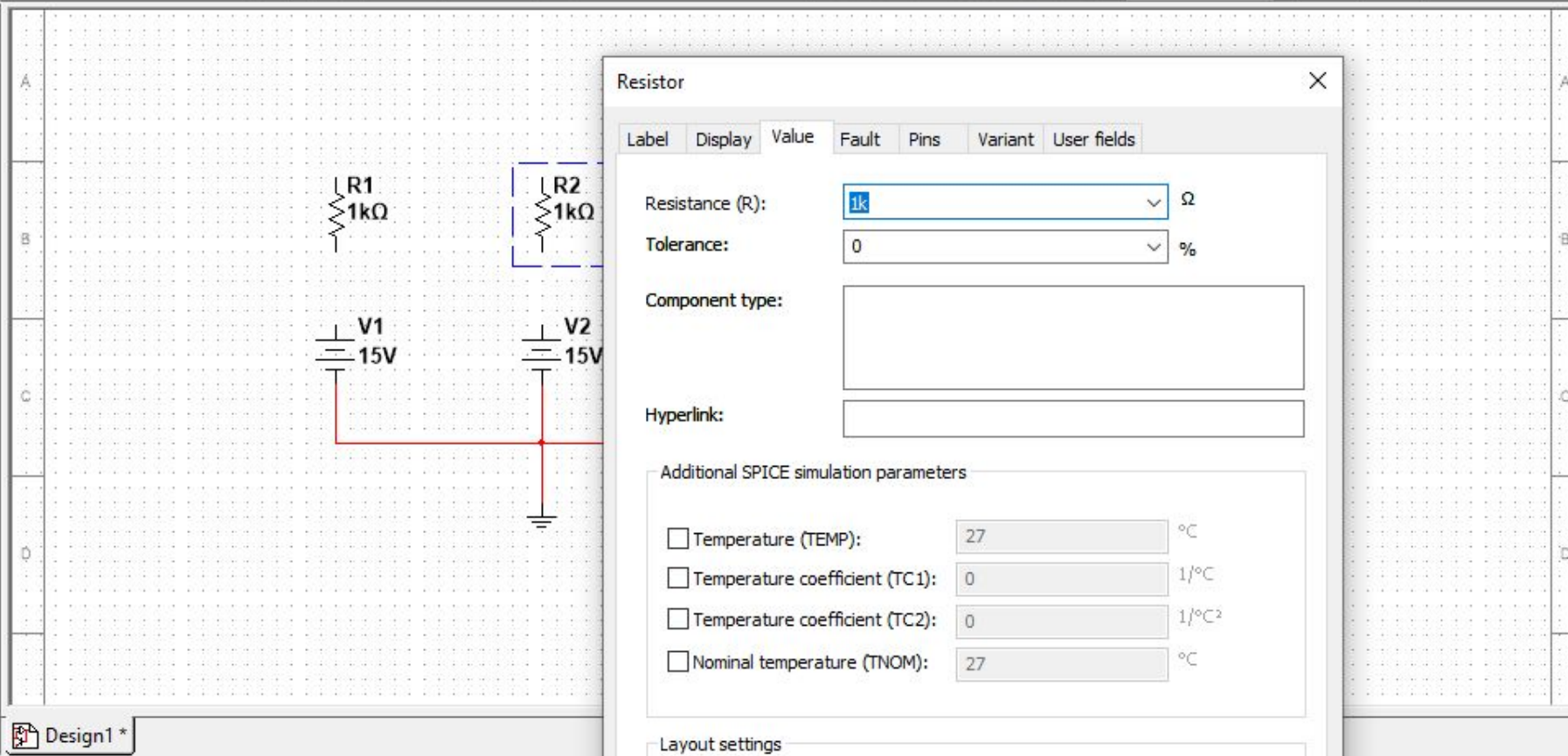
- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Delete Delete
- Flip horizontally Alt+X
- Flip vertically Alt+Y
- Rotate 90° clockwise Ctrl+R**
- Rotate 90° counter clockwise Ctrl+Shift+R
- Bus vector connect...
- Replace by hierarchical block... Ctrl+Shift+H
- Replace by subcircuit... Ctrl+Shift+B
- Replace components...
- Save component to database...
- Edit symbol/title block
- Lock name position
- Reverse probe direction
- Save selection as snippet...
- Color
- Font
- Properties Ctrl+M

Rotate selected objects 90 degrees clockwise.

Design Toolbox

- Design1
- Design1

Hierarchy Visibility Project View



Resistor

Label Display Value Fault Pins Variant User fields

Resistance (R): Ω

Tolerance: %

Component type:

Hyperlink:

Additional SPICE simulation parameters

- Temperature (TEMP): °C
- Temperature coefficient (TC1): 1/°C
- Temperature coefficient (TC2): 1/°C²
- Nominal temperature (TNOM): °C

Layout settings

Package:

Manufacturer:

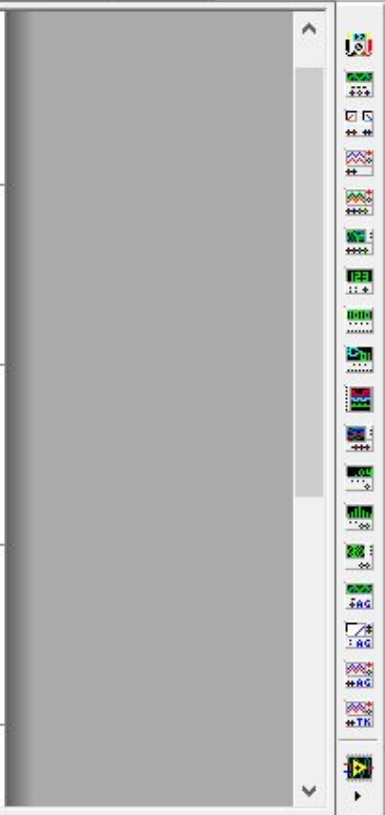
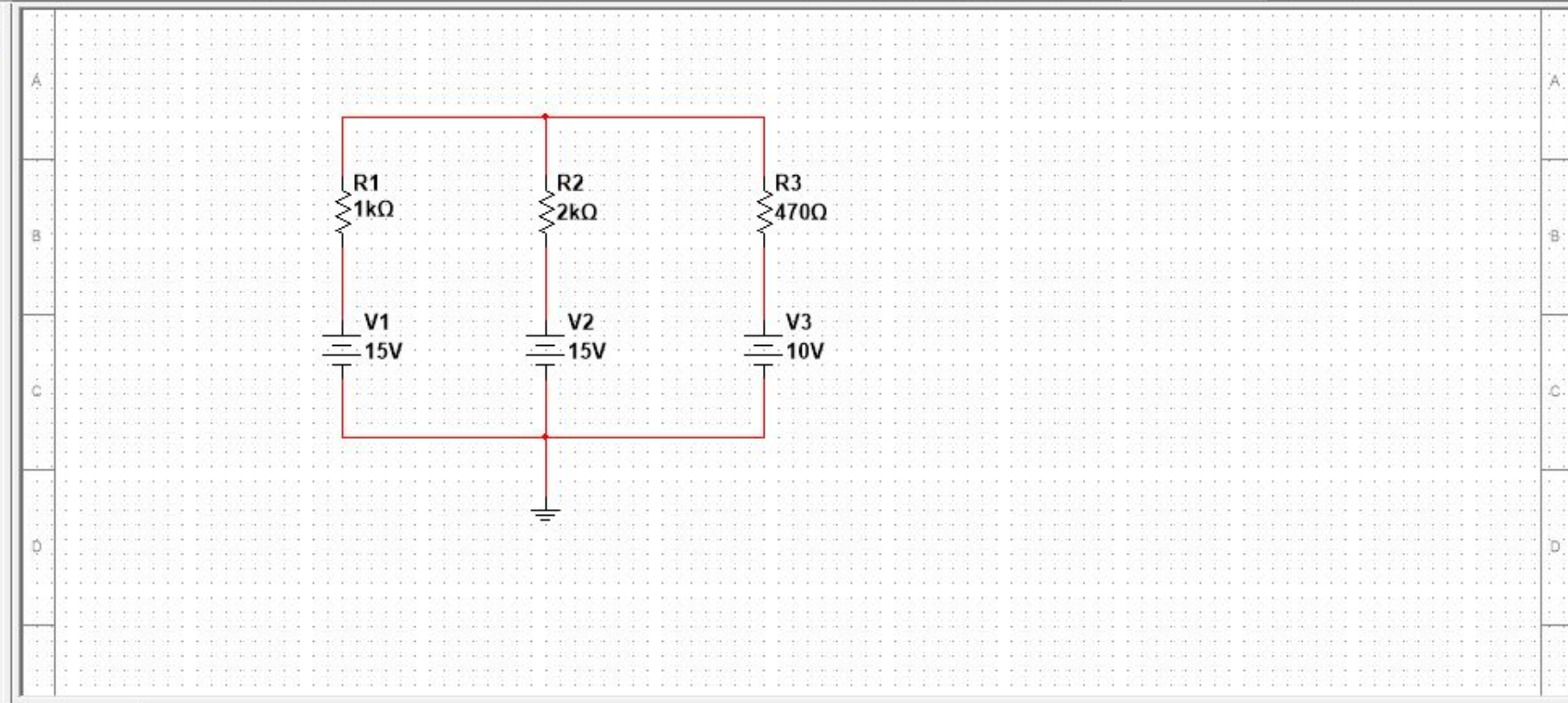
--- In-Use List ---



Design Toolbox

- Design1
- Design1

Hierarchy Visibility Project View



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Results Nets Components Copper layers Simulation

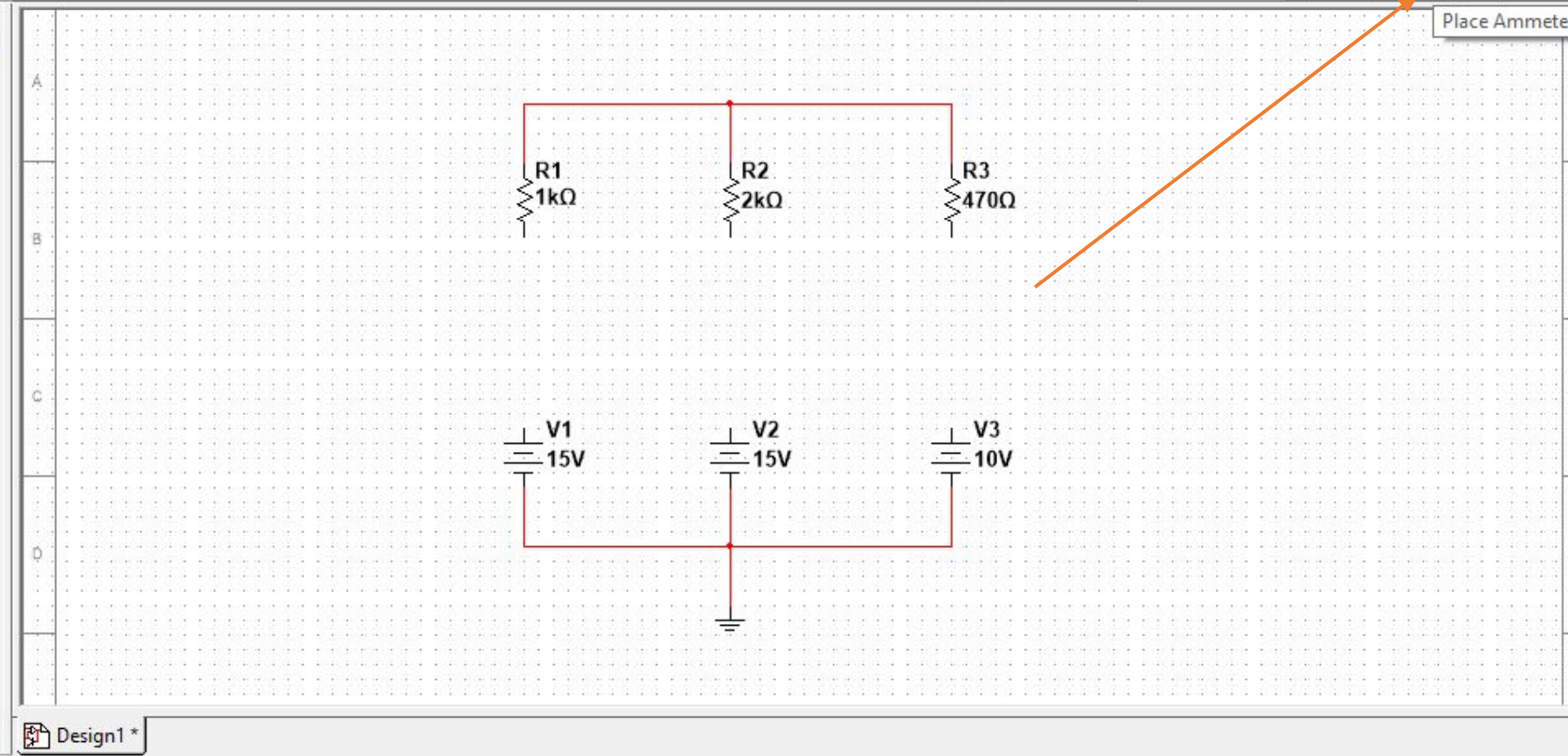
--- In-Use List ---



Design Toolbox

- Design1
- Design1

Hierarchy Visibility Project View



Place Ammeter (Vertically Rotated)

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Results Nets Components Copper layers Simulation

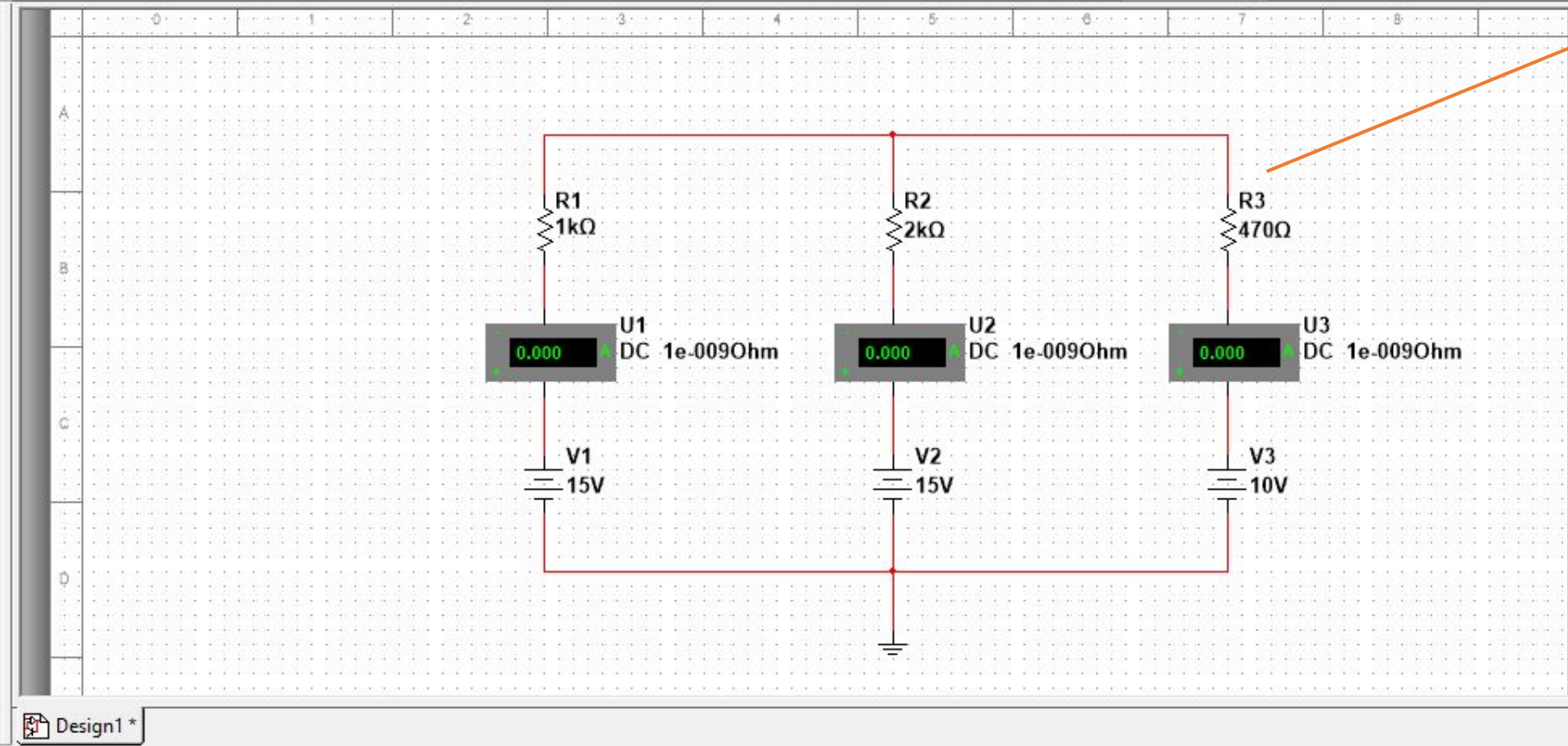
--- In-Use List ---



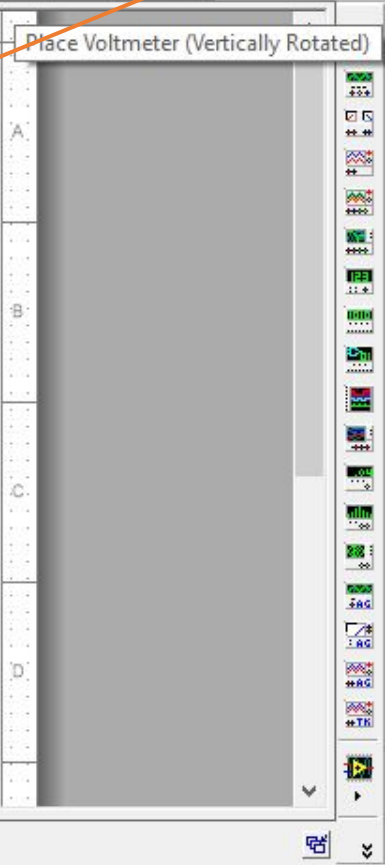
Design1

- Design1

Hierarchy Visibility Project View



Place Voltmeter (Vertically Rotated)



Multisim - 17 апреля 2020 г., 1:06:45

Results Nets Components Copper layers Simulation

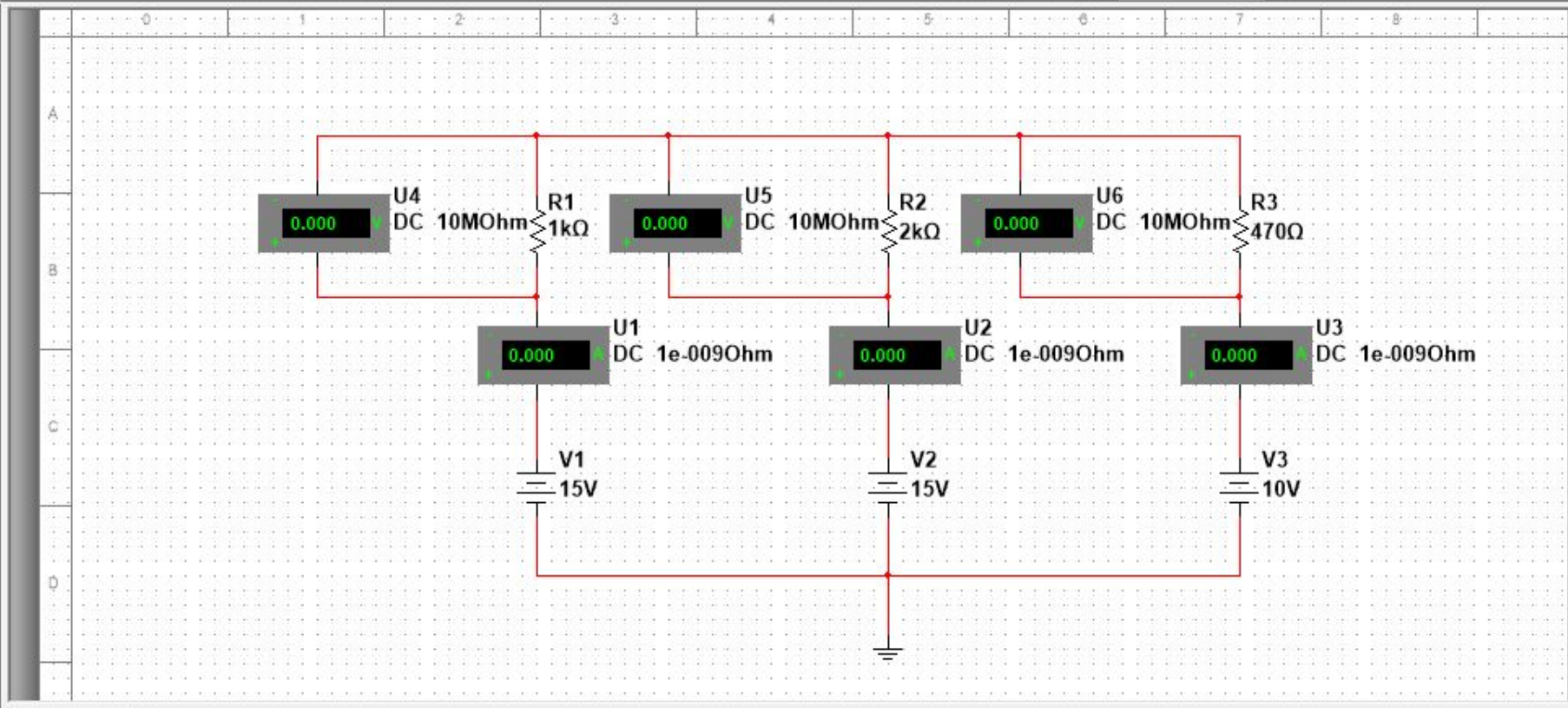
--- In-Use List ---

Interactive

Design1

Design1

Hierarchy Visibility Project View



Vertical toolbar with various simulation and analysis tools.

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Results Nets Components Copper layers Simulation

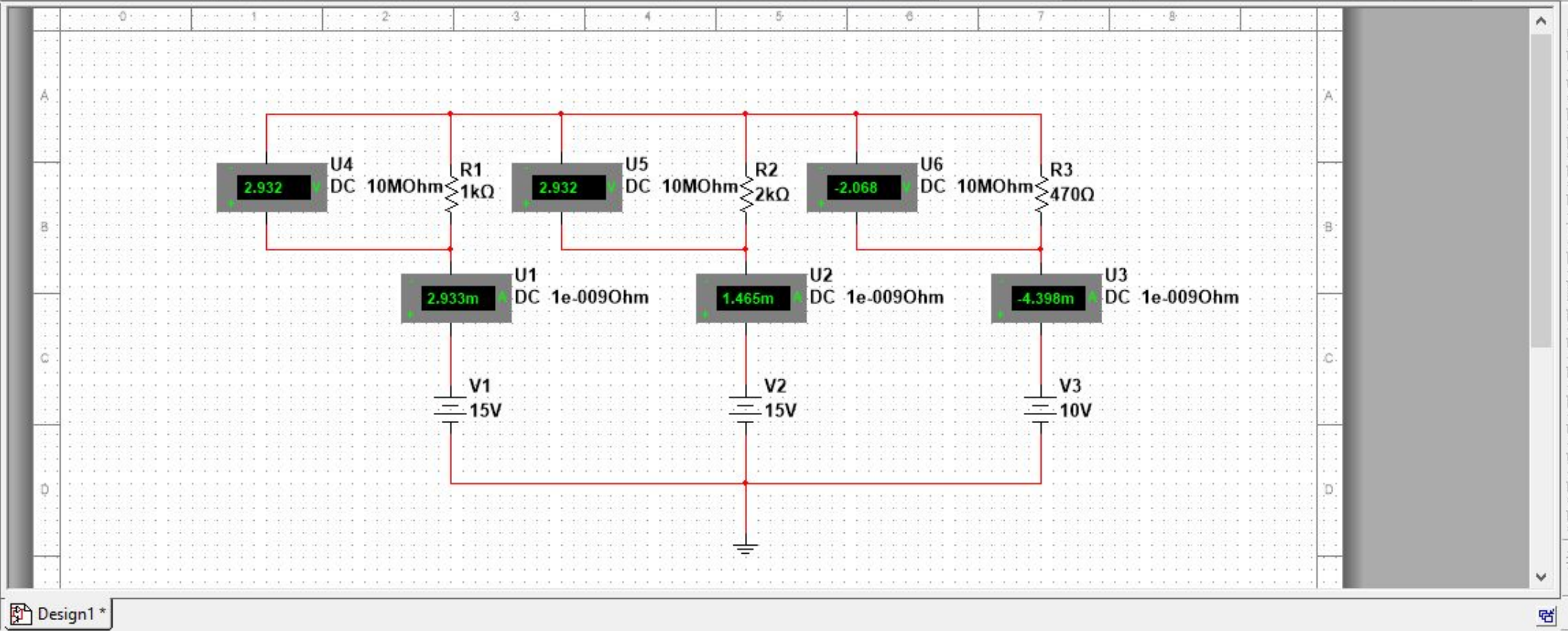
--- In-Use List ---

Interactive

Design1

Design1

Hierarchy Visibility Project View



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Probes do not plot to the Grapher for interactive simulation. Connect an oscilloscope or run a transient simulation to see Grapher data.

Results Nets Components Copper layers Simulation