

# PROTOCOL

to exercise

## *Capacitive coupling between two Wires*

**HTL**  
St. Pölten

**EL**

Class <b>4BHLS</b>	Secretary <b>HOFSTÄTTER A.</b>	Signature
Exercise- / Delivery date <b>4<sup>th</sup> March 2015</b>	Employee	Signature
Teacher <b>GRASINGER</b>	Employee	Signature
Grade	Employee	Signature

## *Capacitive coupling between two Wires*

### Used Devices

Nr.	Device	Manufacturer	Type	
1.	Oscilloscope	-		
2.	Function generator	-		

## 1 Inhalt

---

<b>2</b>	<b>MEASUREMENT 1 (CAPACITIVE COUPLING BETWEEN THE WIRES)</b>	<b>3</b>
2.1	MEASUREMENT TABLE	3
2.2	MEASUREMENT GRAPH	3
<b>3</b>	<b>MEASUREMENTS (SIGNALS)</b>	<b>4</b>
3.1	SIGNAL 1: $R_2=10\text{k}\Omega$	4
3.2	SIGNAL 2: $R_2=100\text{k}\Omega$	4
3.3	SIGNAL 3: $R_2=1\text{M}\Omega$	5
3.4	SIGNAL 4: $R_2=10\text{M}\Omega$	5

## 2 Measurement 1 (Capacitive coupling between the wires)

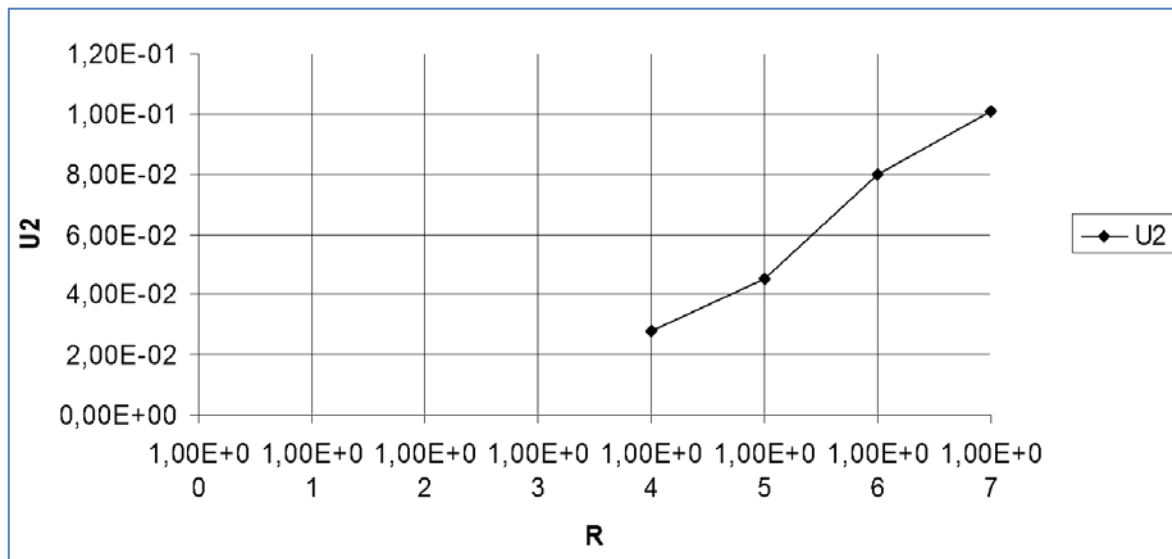
A 4-pole cable was given and 2 poles were connected to line voltage. On one of the other two poles one side the if resistors with the values 10k, 100k, 1M and 10M were connected with ground. On the last free pin, frequency and amplitude got measured with an oscilloscope and a multimeter.

With the values of the measurements (table) a diagram was drawn.

### 2.1 Measurement Table

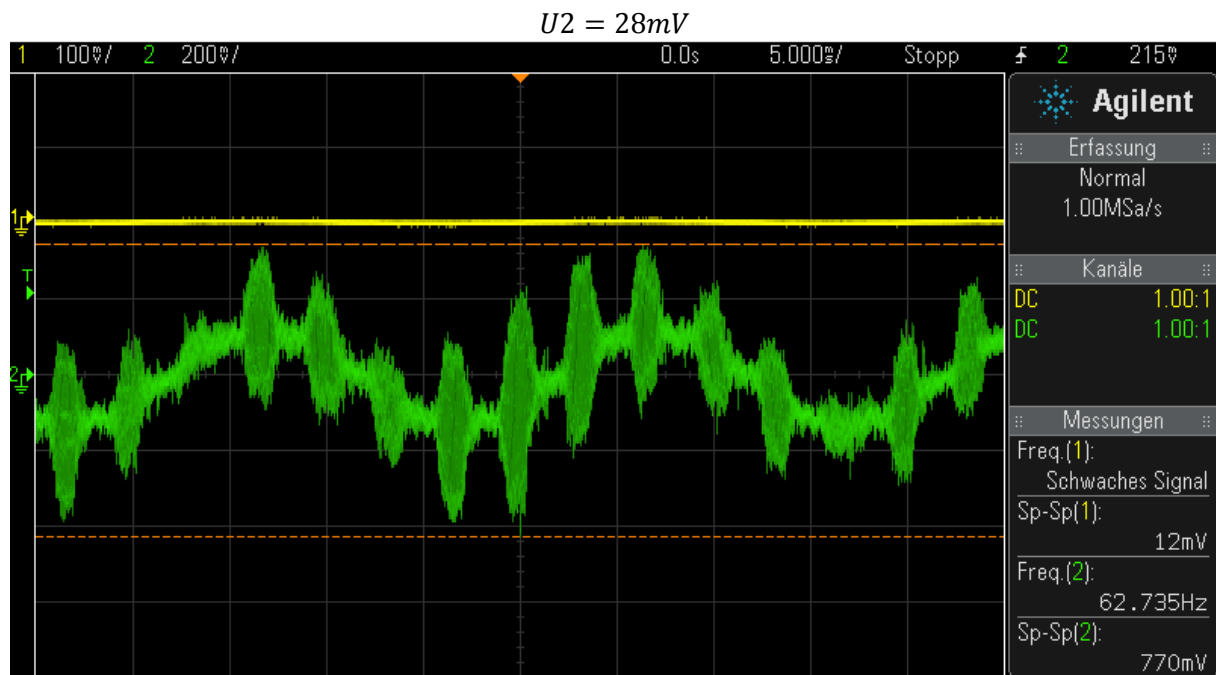
R[Ω]	U2 [V]
10K	28m
100K	45m
1M	80m
10M	101m

### 2.2 Measurement Graph

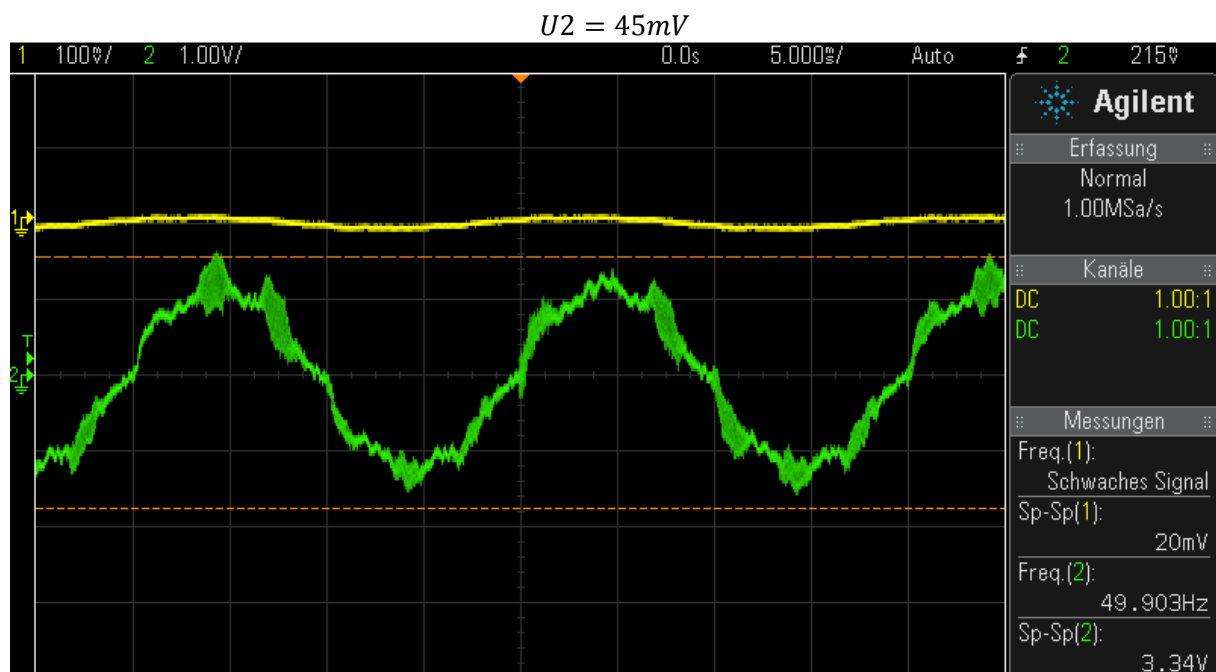


### 3 Measurements (Signals)

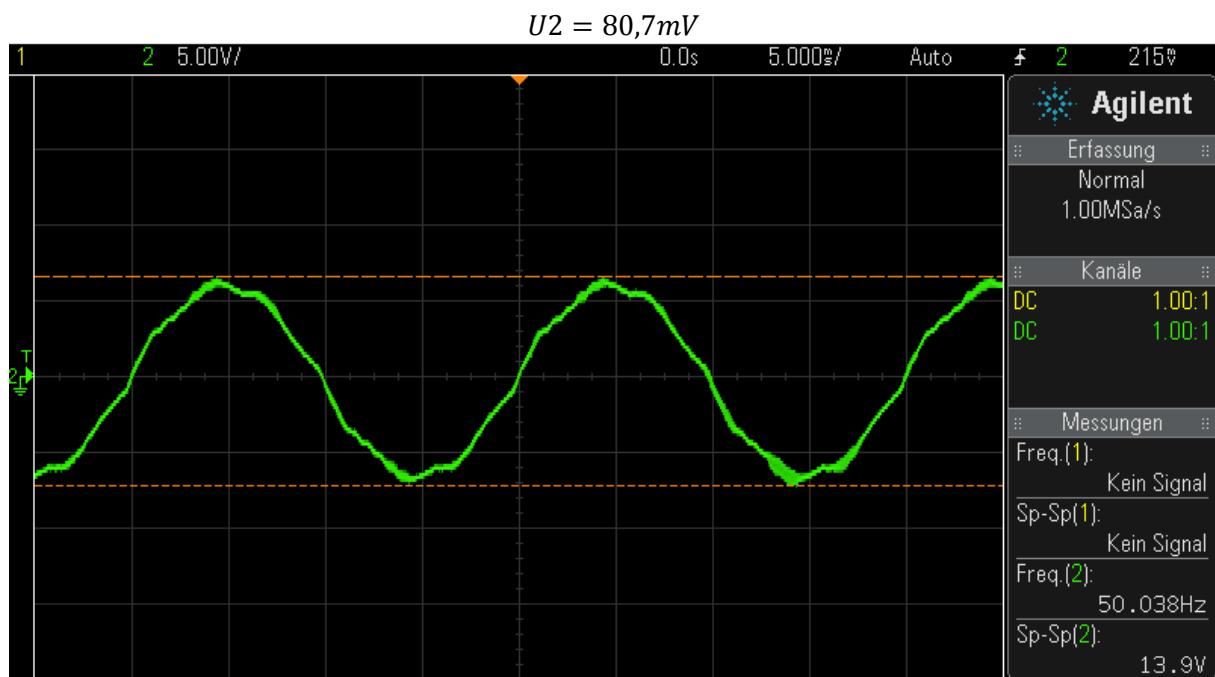
#### 3.1 Signal 1: R2=10kOhm



#### 3.2 Signal 2: R2=100kOhm



### 3.3 Signal 3: R2=1MOhm



### 3.4 Signal 4: R2=10MOhm

