

Leichte Portabelantennen für KW



Waldsassen 4/2012 – Silberthal 6/2012 DL2AVH/DL4ALJ

Helmut – DL2AVH

Serba 6/2022

Helmut - DL2AVH

Serba 6/2022





Helmut – DL2AVH

Serba 6/2022

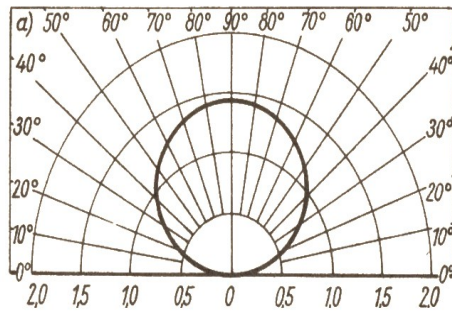


Antenne besteht aus Erreger und Reflektor (Spiegel) .
- Antenneneigenschaften und Antennengewinn wird vom Reflektor bestimmt

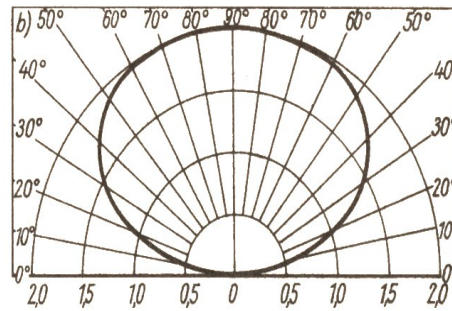


**Auch auf KW besteht die Antenne aus Erreger und Reflektor .
- Haus und Erde sind der Reflektor**

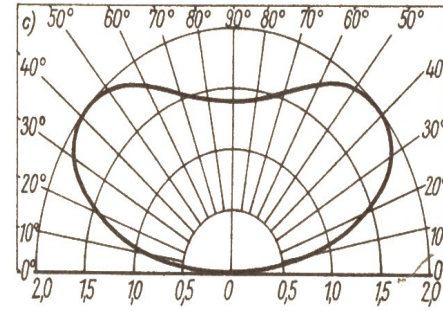
Vertikaldiagramm horizontaler Halbwellendipol



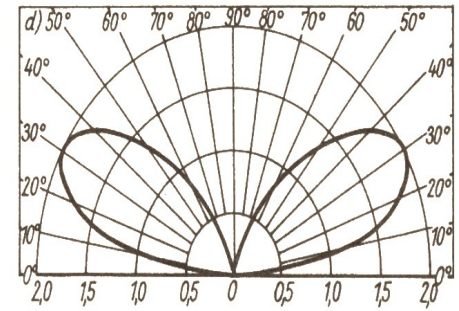
Höhe $1/8 \lambda$



Höhe $1/4 \lambda$

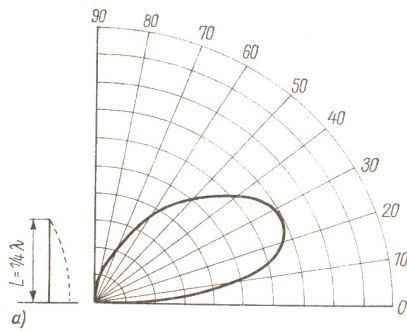


Höhe $3/8 \lambda$

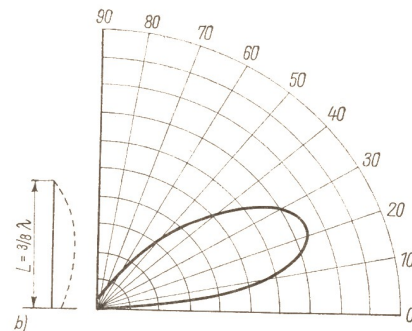


Höhe $1/2 \lambda$

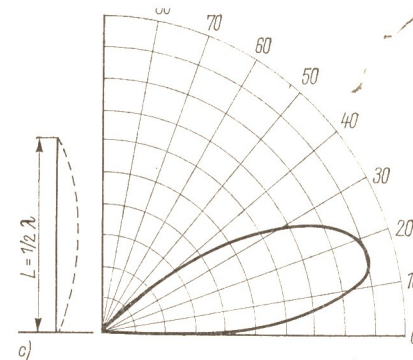
Vertikaldiagramm von Vertikalenstäben



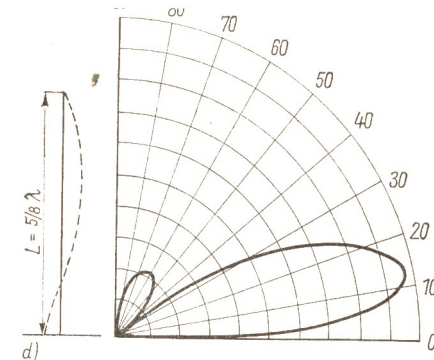
$1/4 \lambda$



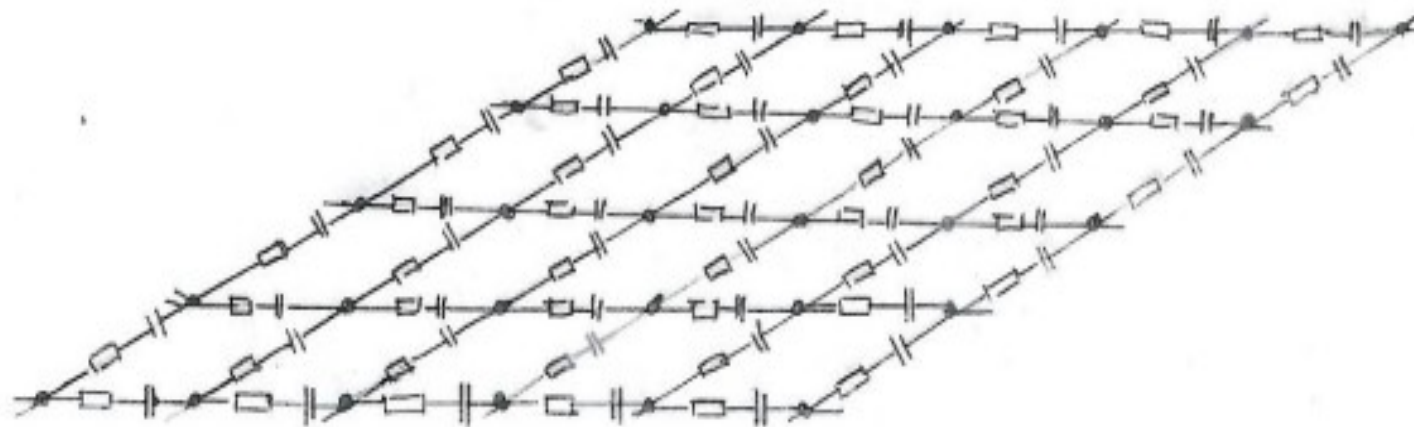
$3/8 \lambda$



$1/2 \lambda$

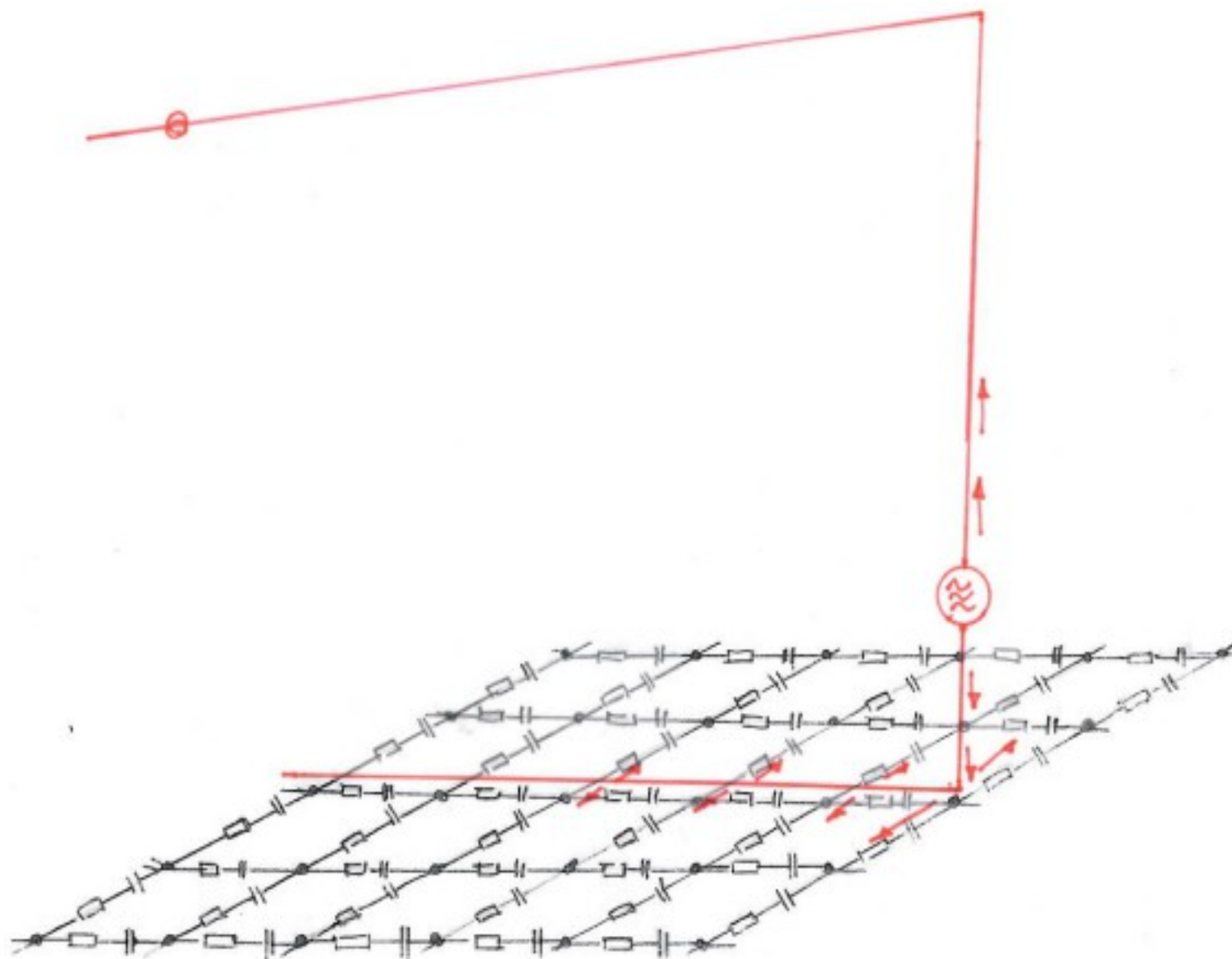


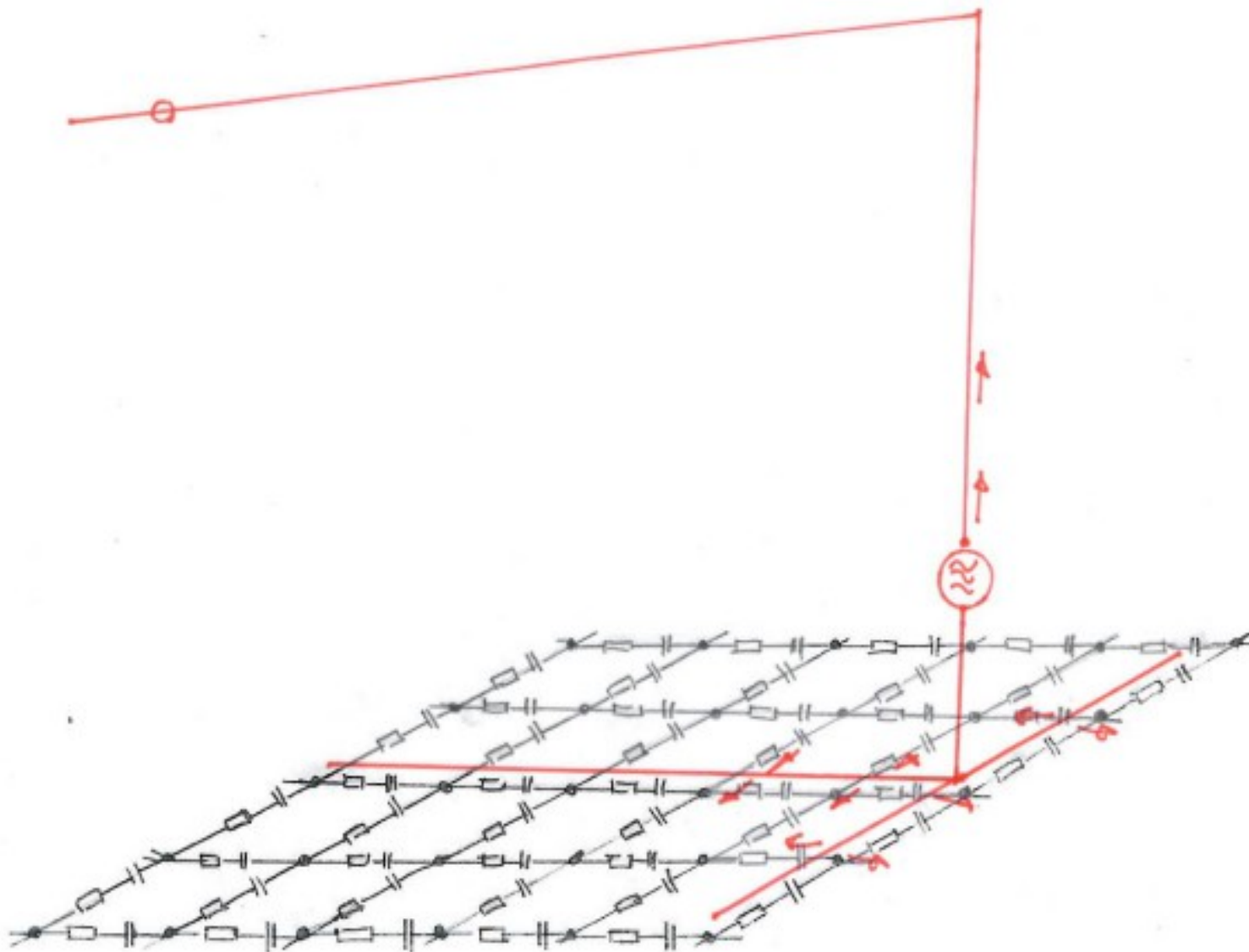
$5/8 \lambda$

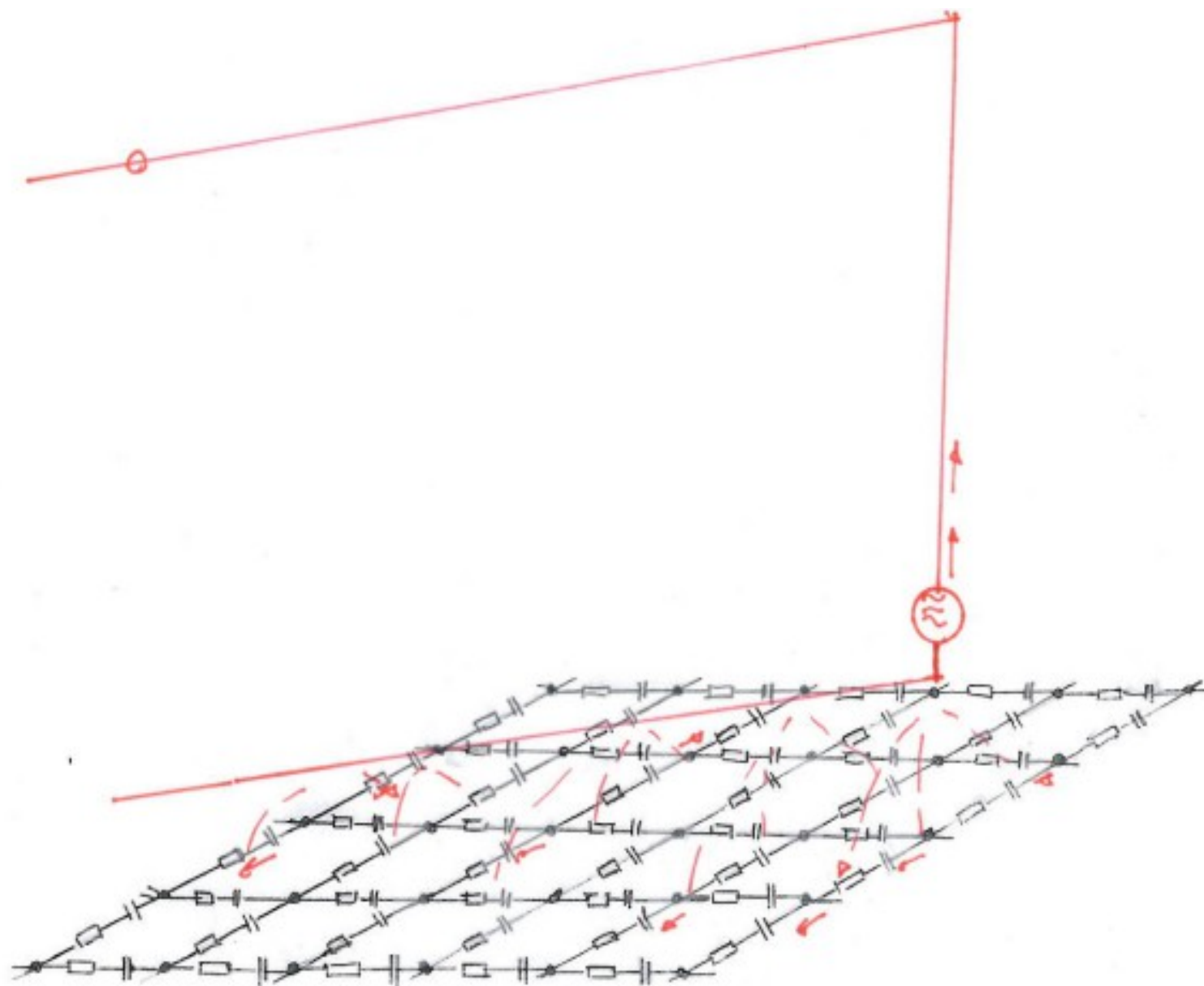


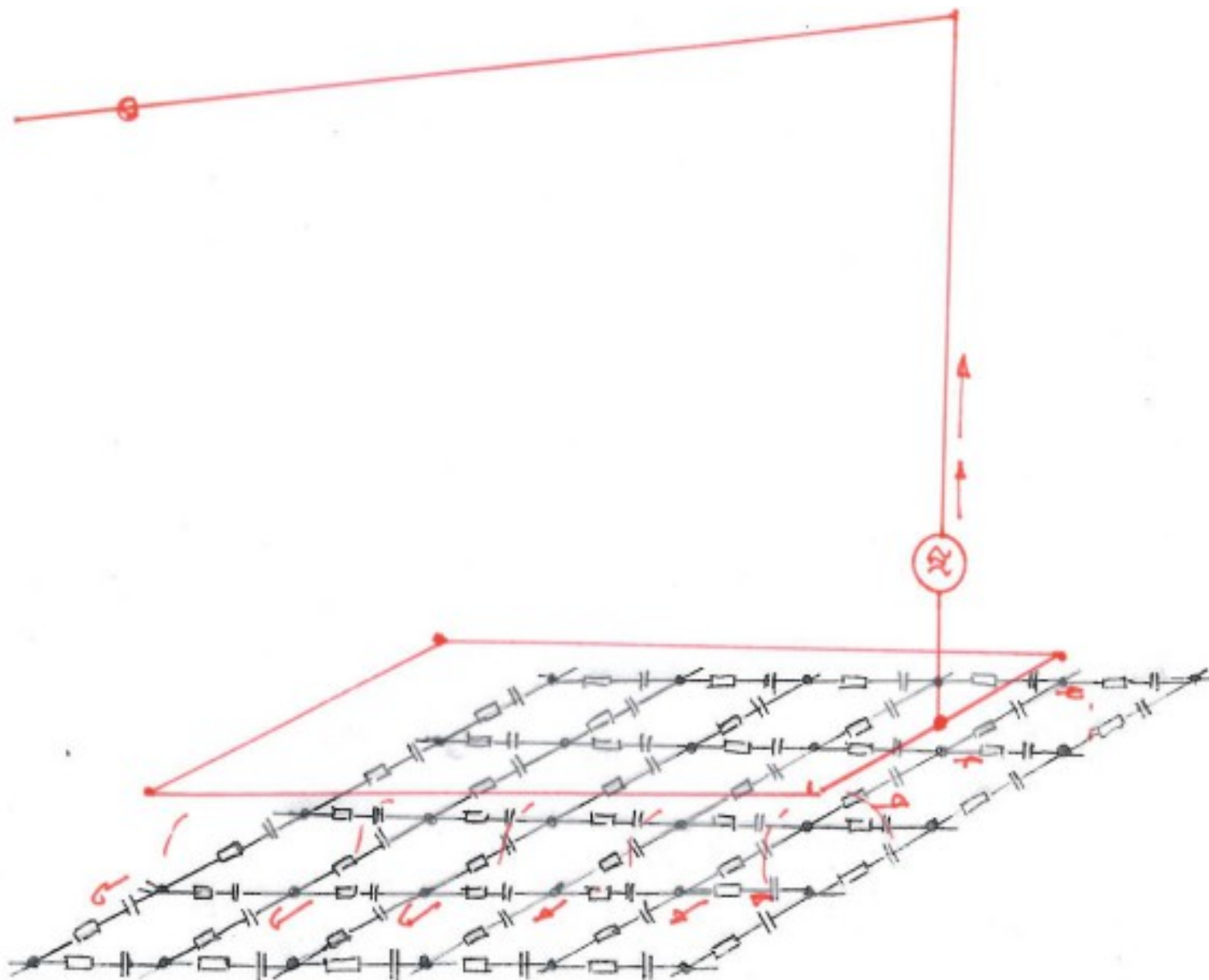
Helmut – DL2AVH

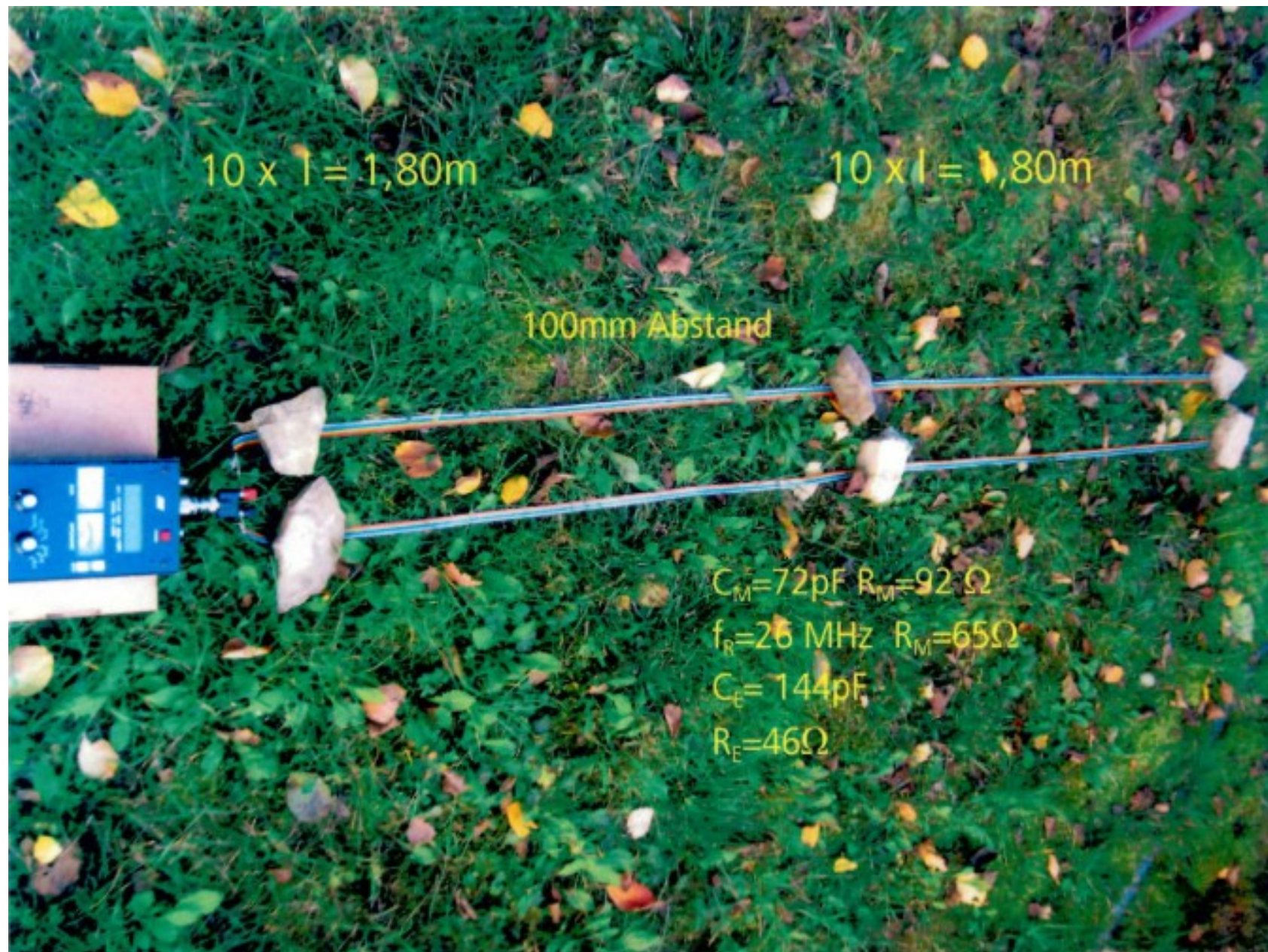
Serba 6/2022

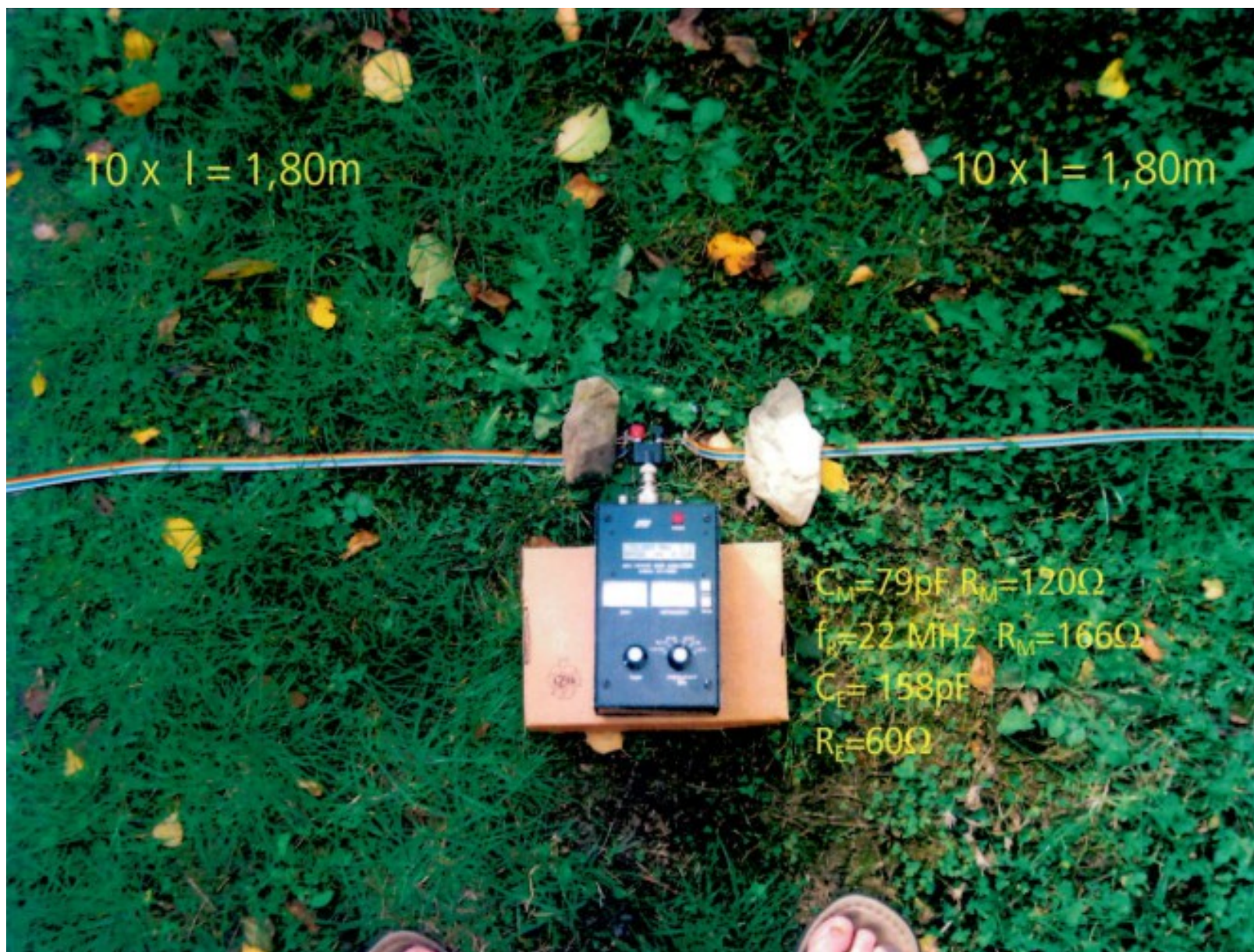




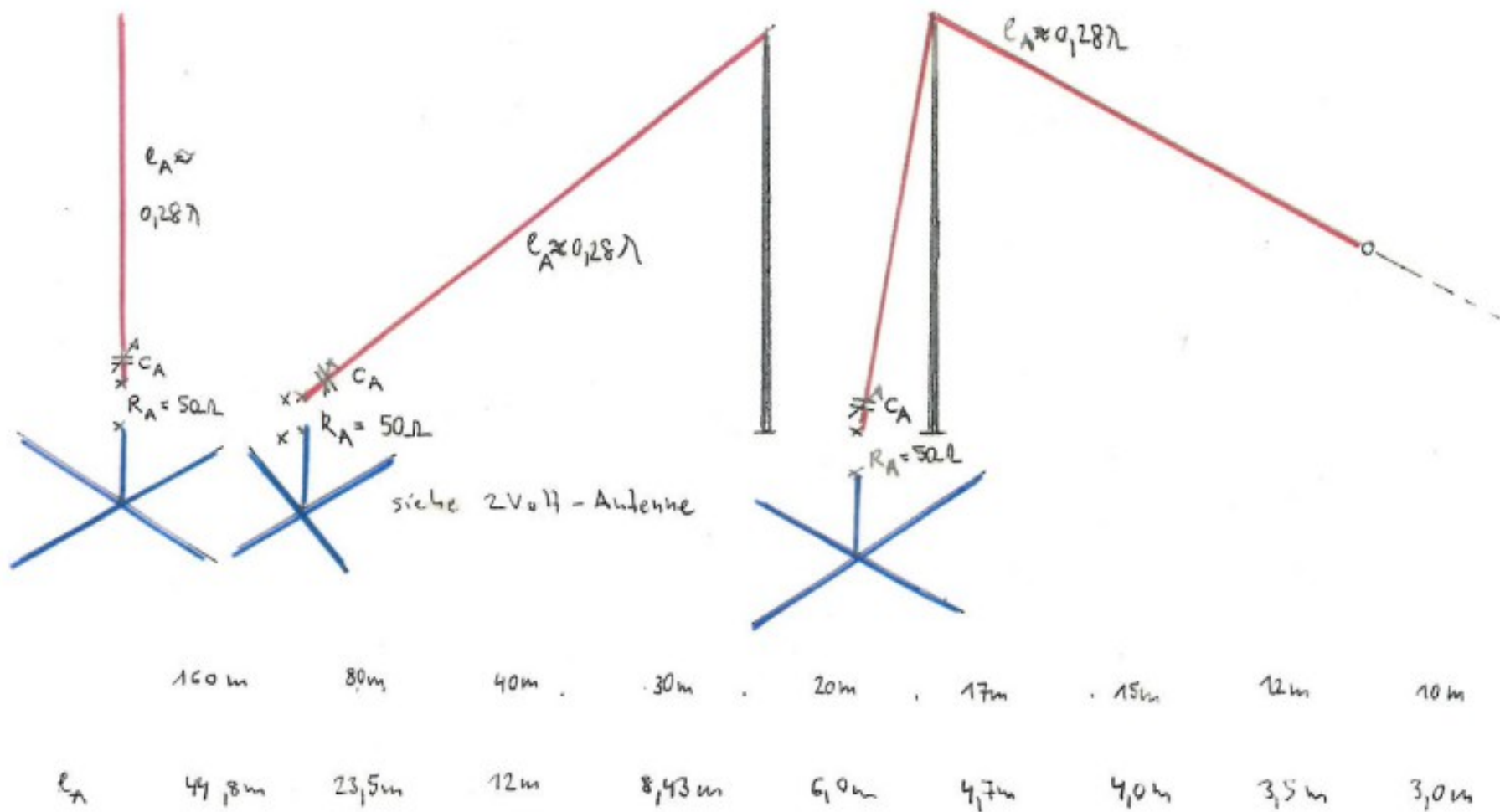






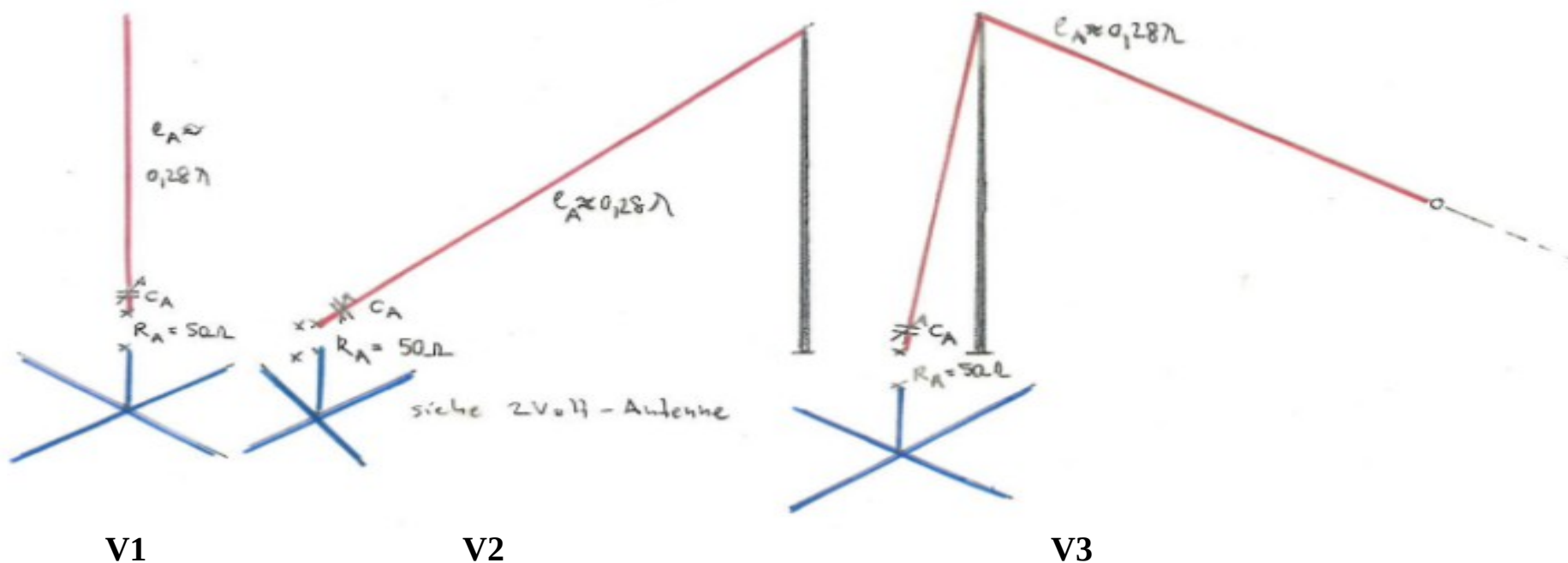






Helmut , DL2AVH : Antennenanpaßgerät für die Hosentasche . QRP-Report 1/99 , S22 bis 24

1Volt-Antenne DL2AVH/2022 – 80m bis 10m



LA = Klingeldraht

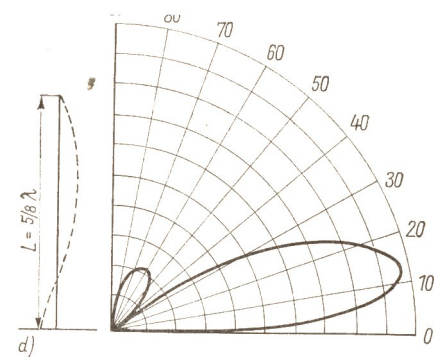
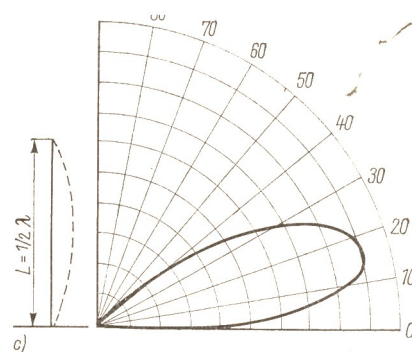
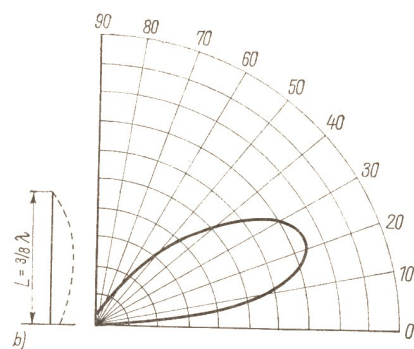
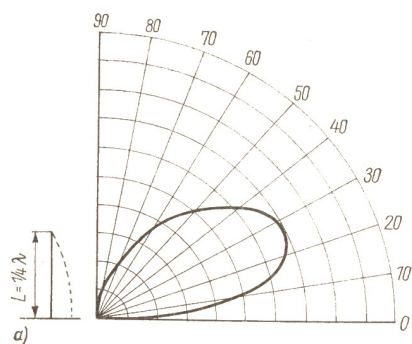
Gegengewicht = 10 x 1,80m

Mast = 5,64m - 60m ... 10m , 8m - 80m

	80m	60m	40m	30m	20m	17m	15m	12m	10m
LA	25,5m	16,5m	12,5m	8,2m	5,9m	4,35m	3,7m	3,0m	2,7m
	V3 – 12/13,5m	V3 – 8/8,5m	V3 – 8/4,5m	V2	V1	V1	V1	V1	V1
CA	255pF+-	170pF+-	100pF+-	120pF+-	-----	30 ... 150pF	-----	-----	-----
RA	50Ω	64Ω	50Ω	81Ω	82Ω	86Ω	80Ω	94Ω	72Ω

Helmut – DL2AVH

Serba 6/2022



	3,5	3,8	5,35	7,1	10,1	14,1	18,1	21,2	24,9	28,0	30,0 MHz
1,0	85,7	79,0	56,0	42,3	29,7	21,3	16,6	14,2	12,0	10,7	10,0 m
5/8	53,6	49,3	35,0	26,4	18,6	13,3	10,4	8,84	7,53	6,70	6,25 m
0,28	24,0	22,1	15,7	11,8	8,32	5,96	4,65	4,06	3,36	3,00	2,80 m



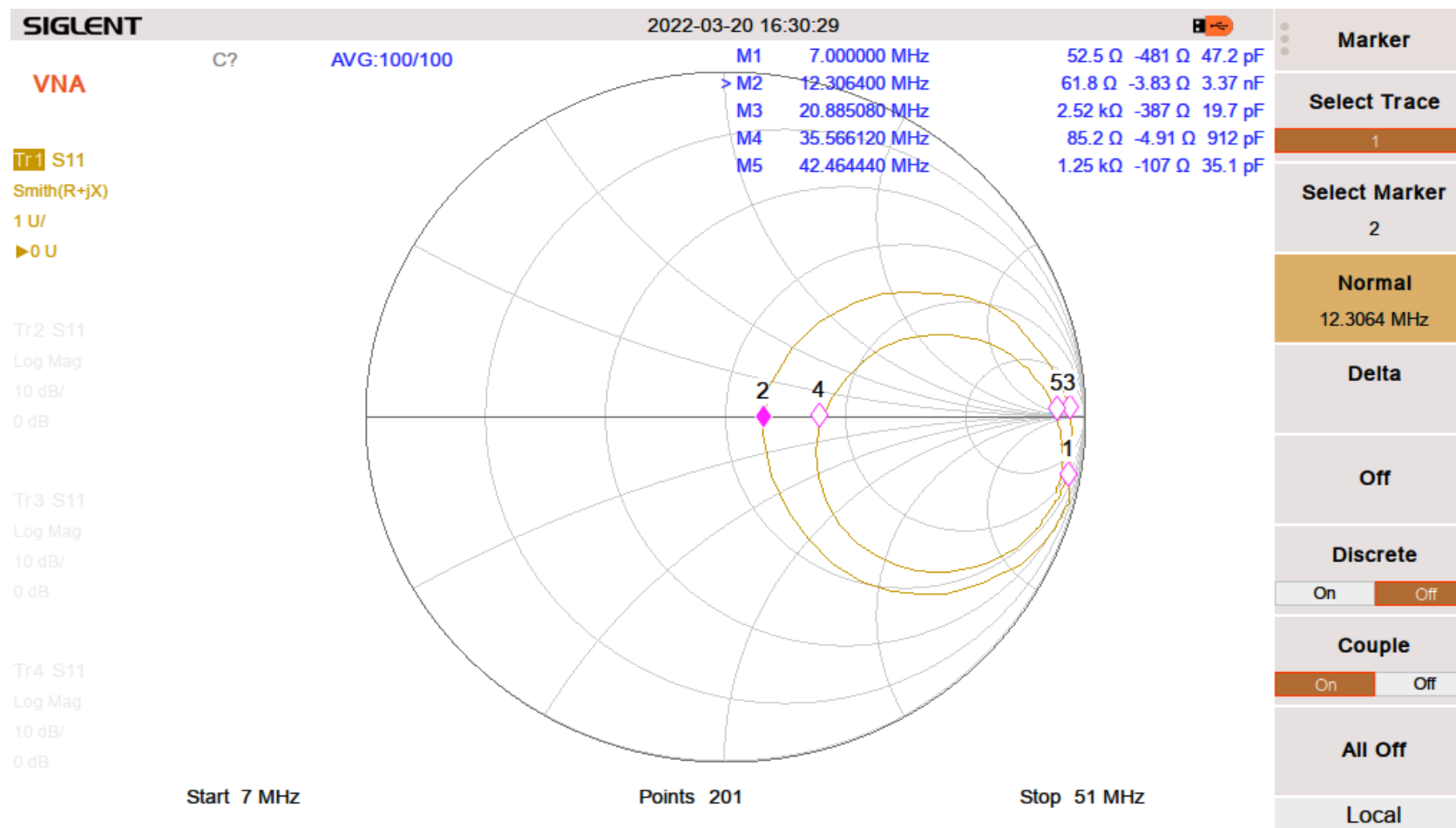
Helmut – DL2AVH

Serba 6/2022



Helmut – DL2AVH

Serba 6/2022



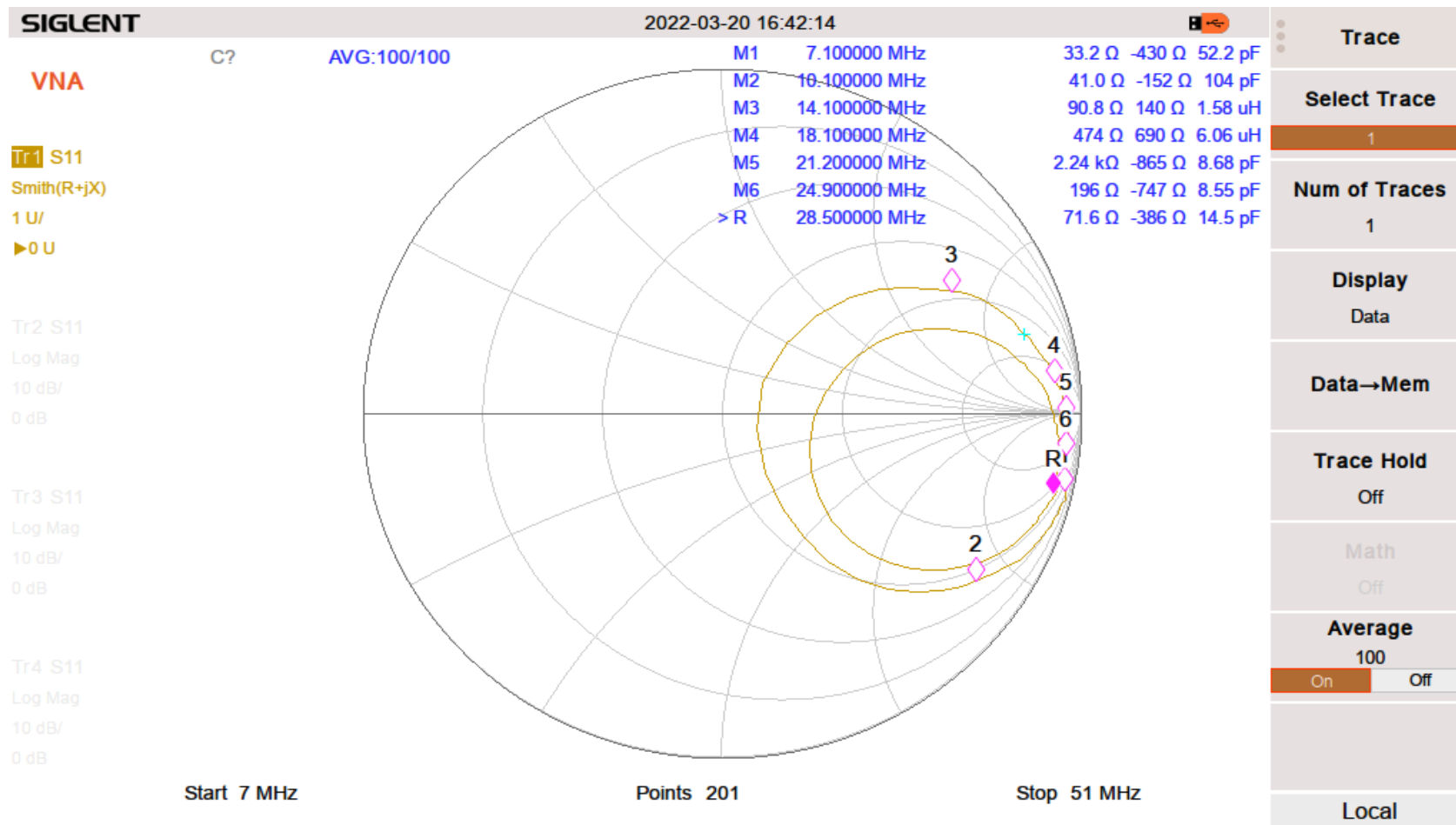
$L_A = 5,85\text{m} - \text{Klingeldraht}$

Gegengewicht = 10 x 1,80m

Mast = 5,64m

Helmut – DL2AVH

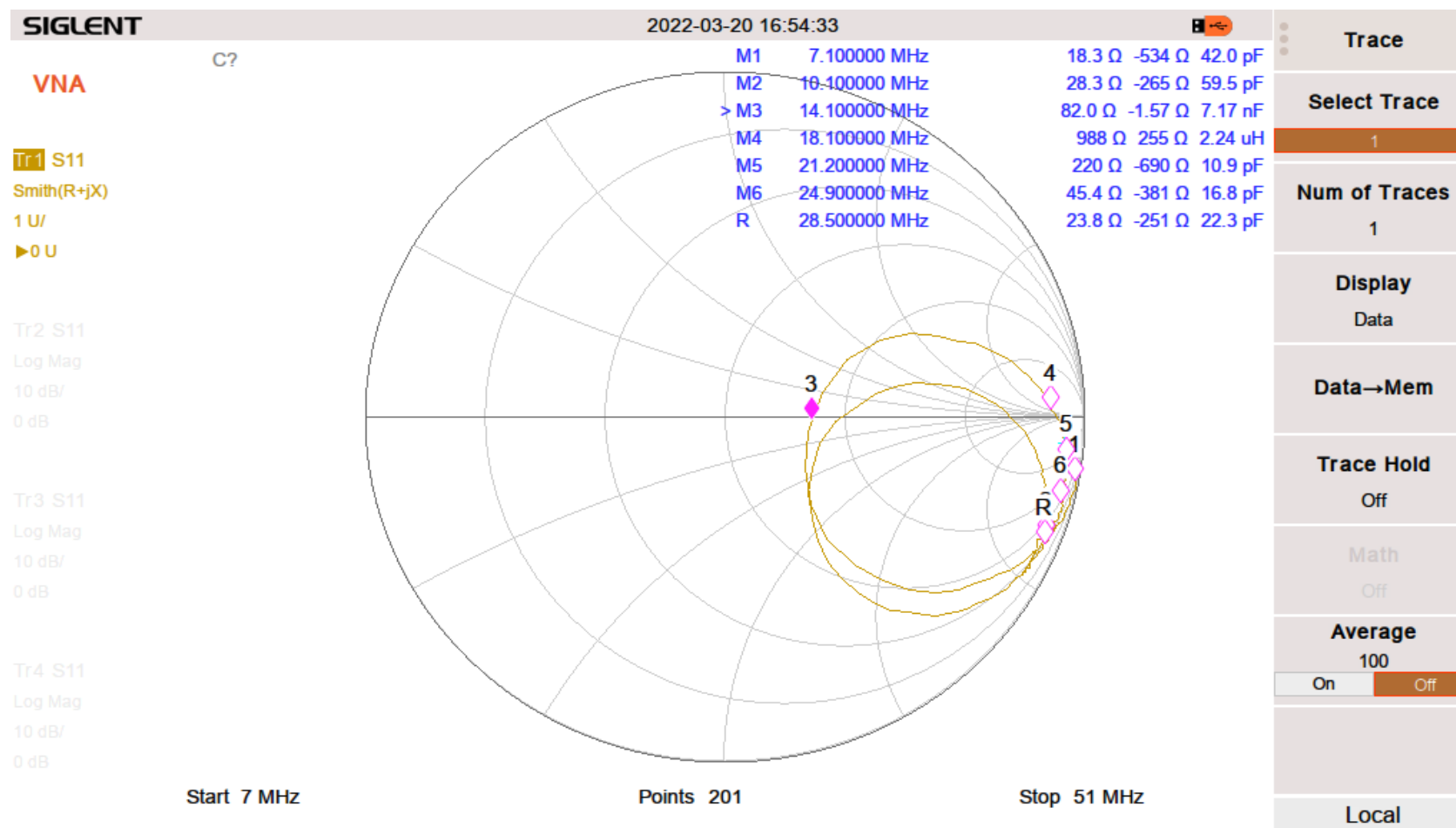
Serba 6/2022



$L_A = 5,85\text{m}$ – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022



$L_A = 5,85\text{m}$ – Klingeldraht

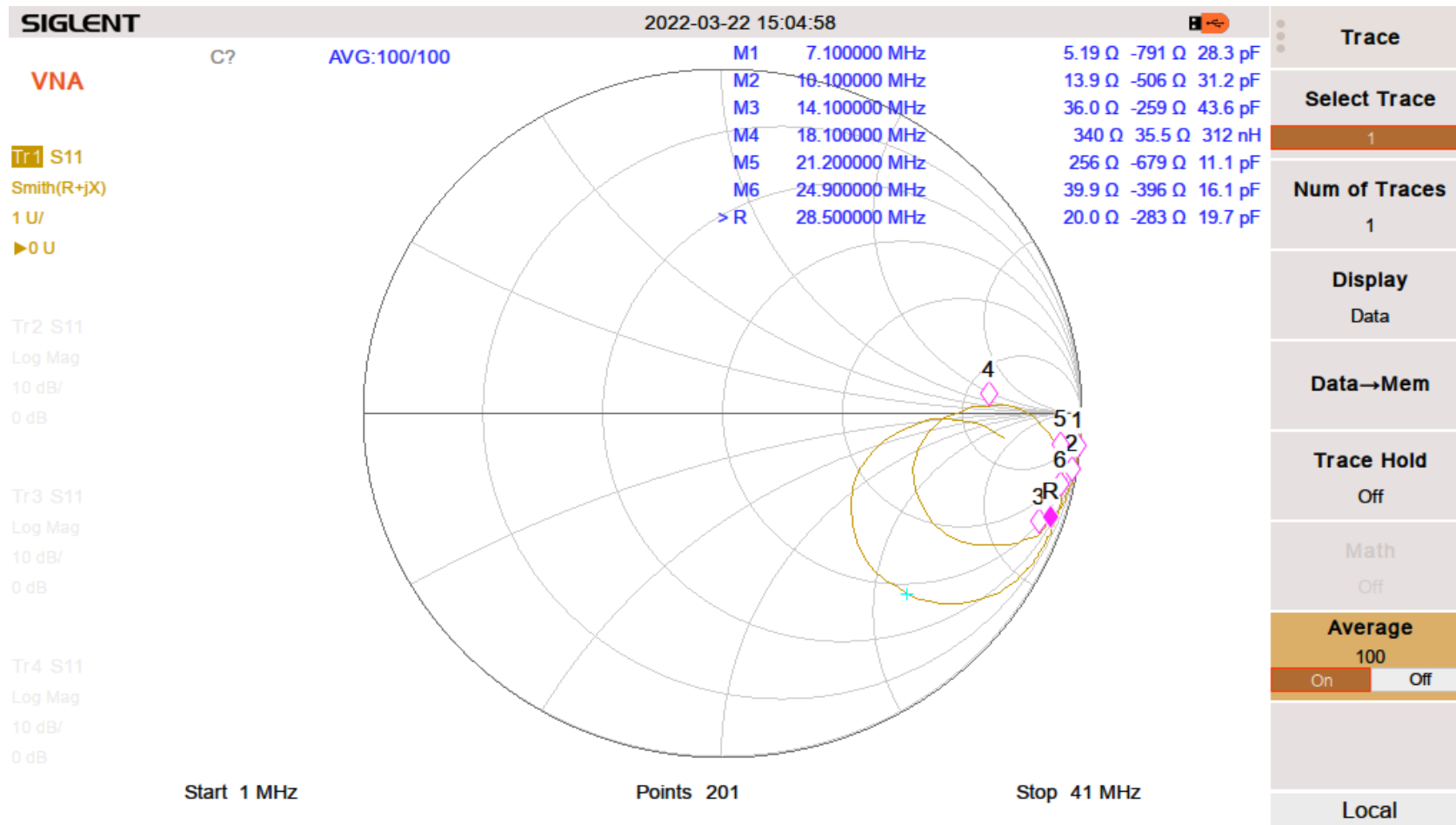
Gegengewicht = 10 x 1,80m

Mast = 5,64m

$C_s = 82\text{pF}$

Helmut – DL2AVH

Serba 6/2022



$L_A = 5,85\text{m}$ – Klingeldraht

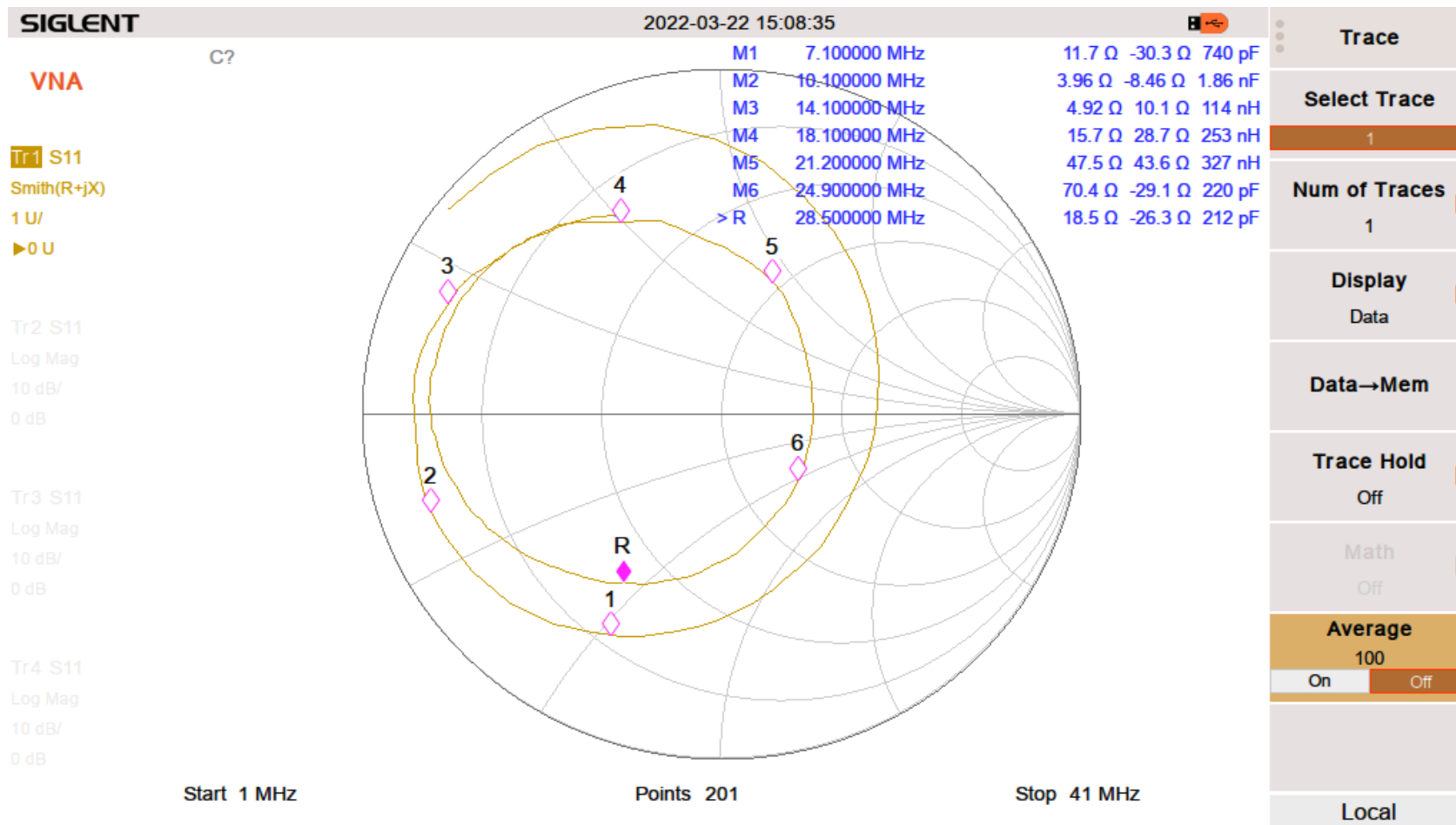
Gegengewicht = 10 x 1,80m

Mast = 5,64m

$C_s = 15\text{pF}$

Helmut – DL2AVH

Serba 6/2022



$L_A = 5,85\text{m}$ – Klingeldraht

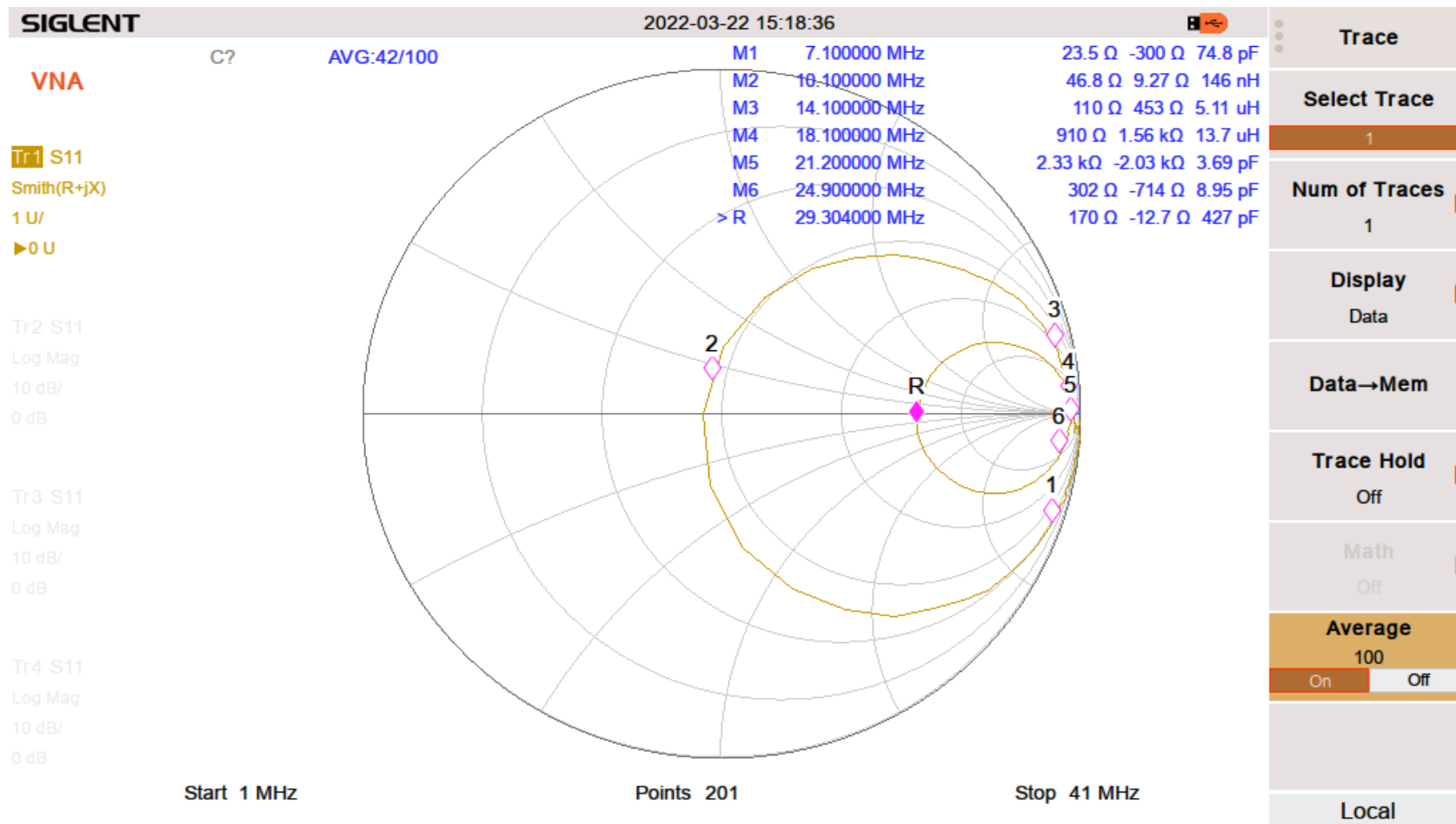
Gegengewicht = 10 x 1,80m

Mast = 5,64m

Übertrager 4:1 Wdg

Helmut – DL2AVH

Serba 6/2022



$L_A = 5,85\text{m} - \text{Klingeldraht}$

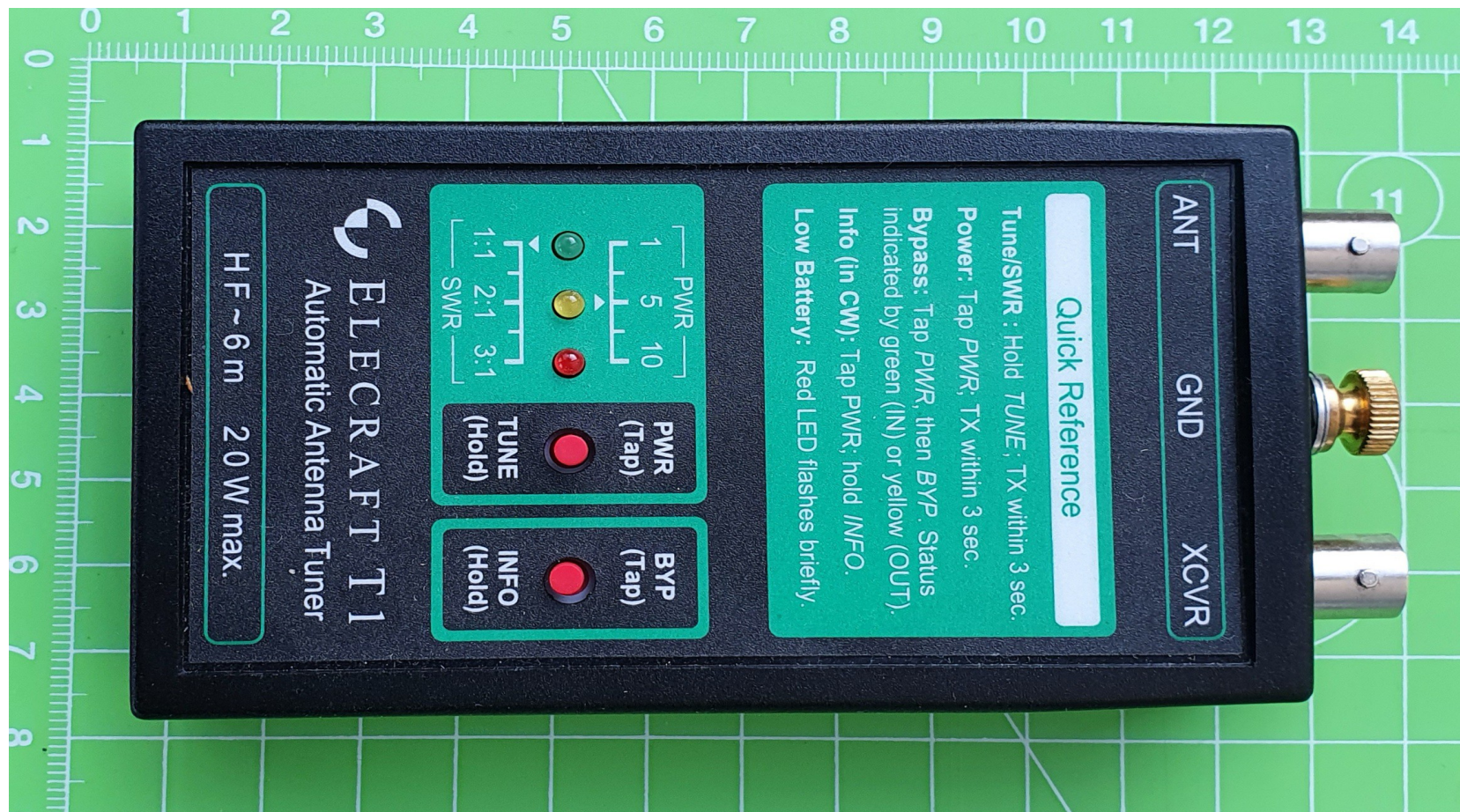
$\text{Gegengewicht} = 10 \times 1,80\text{m}$

$\text{Mast} = 5,64\text{m}$

$L_S = 2,5\mu\text{H}$

Helmut – DL2AVH

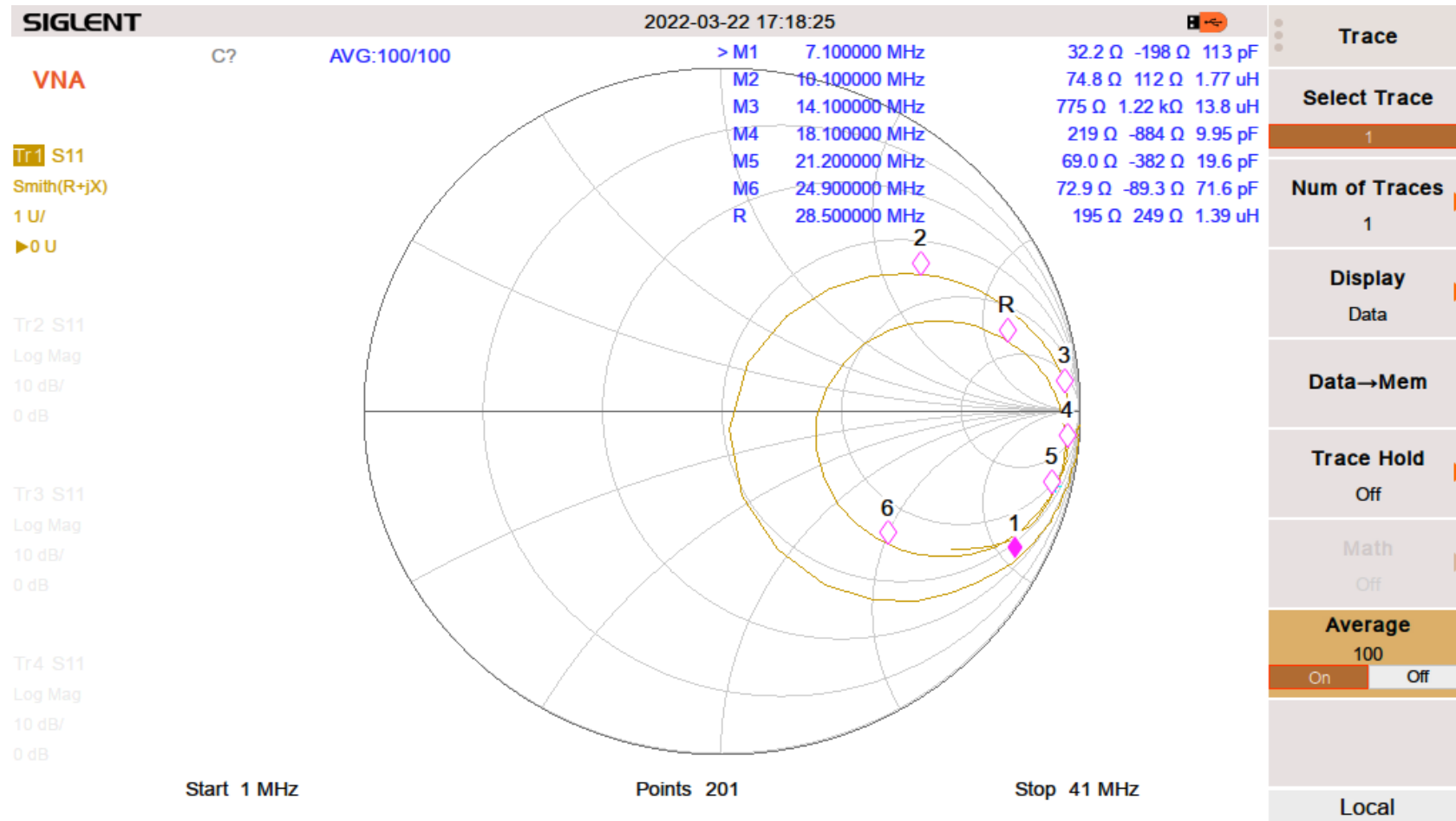
Serba 6/2022



L_A = 5,85m – Klingeldraht		Gegengewicht = 10 x 1,80m		Mast = 5,64m			
40m /2,5µH / 10µH		30m / 2,5µH	20m	17m	15m	12m	10m / 2,5µH
SWR	- / 1,4 / 1,0	1,3 / 1,0	1,25	1,2	1,25	1,0	1,4 / 1,0

Helmut – DL2AVH

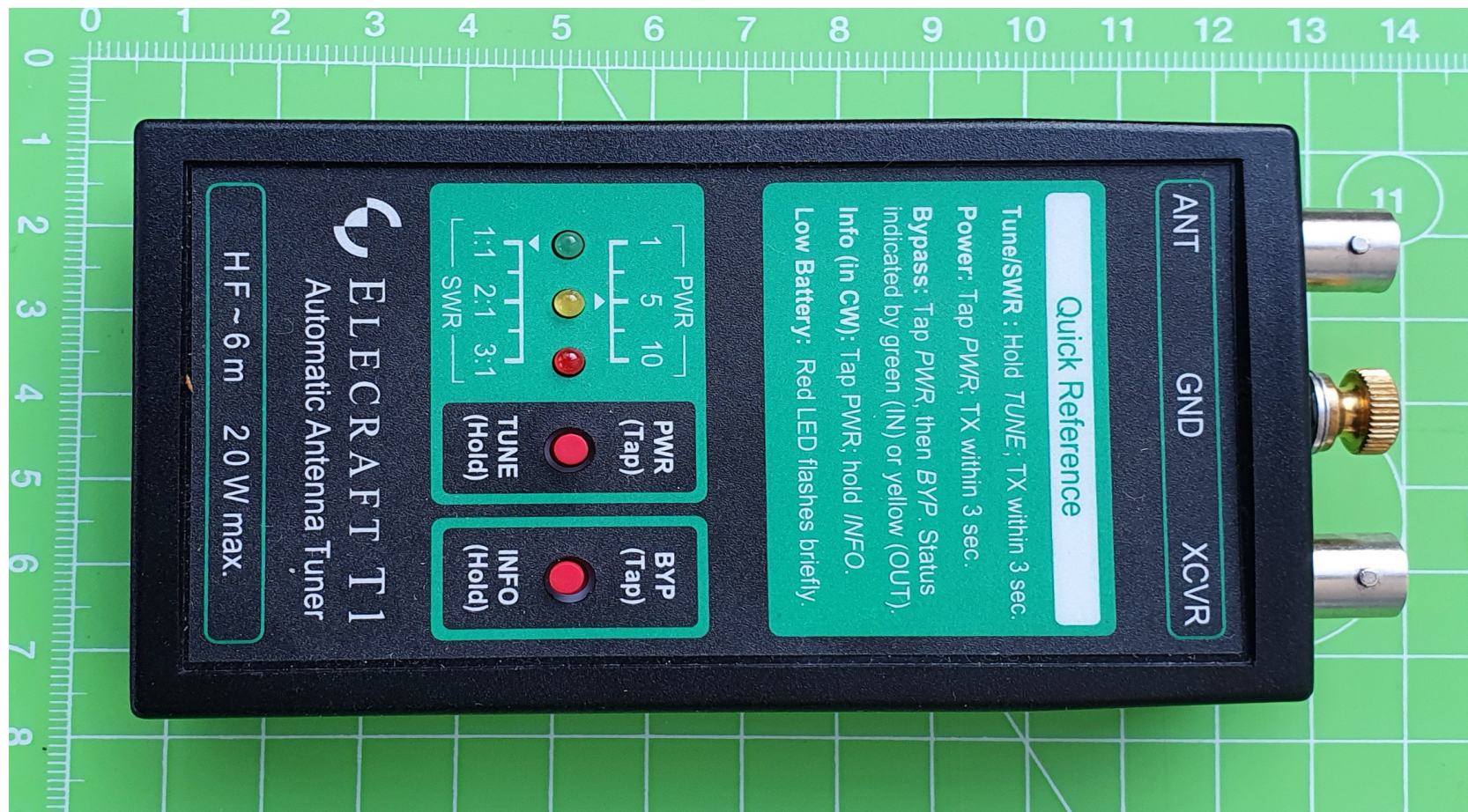
Serba 6/2022



$L_A = 8,2\text{m}$ – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022

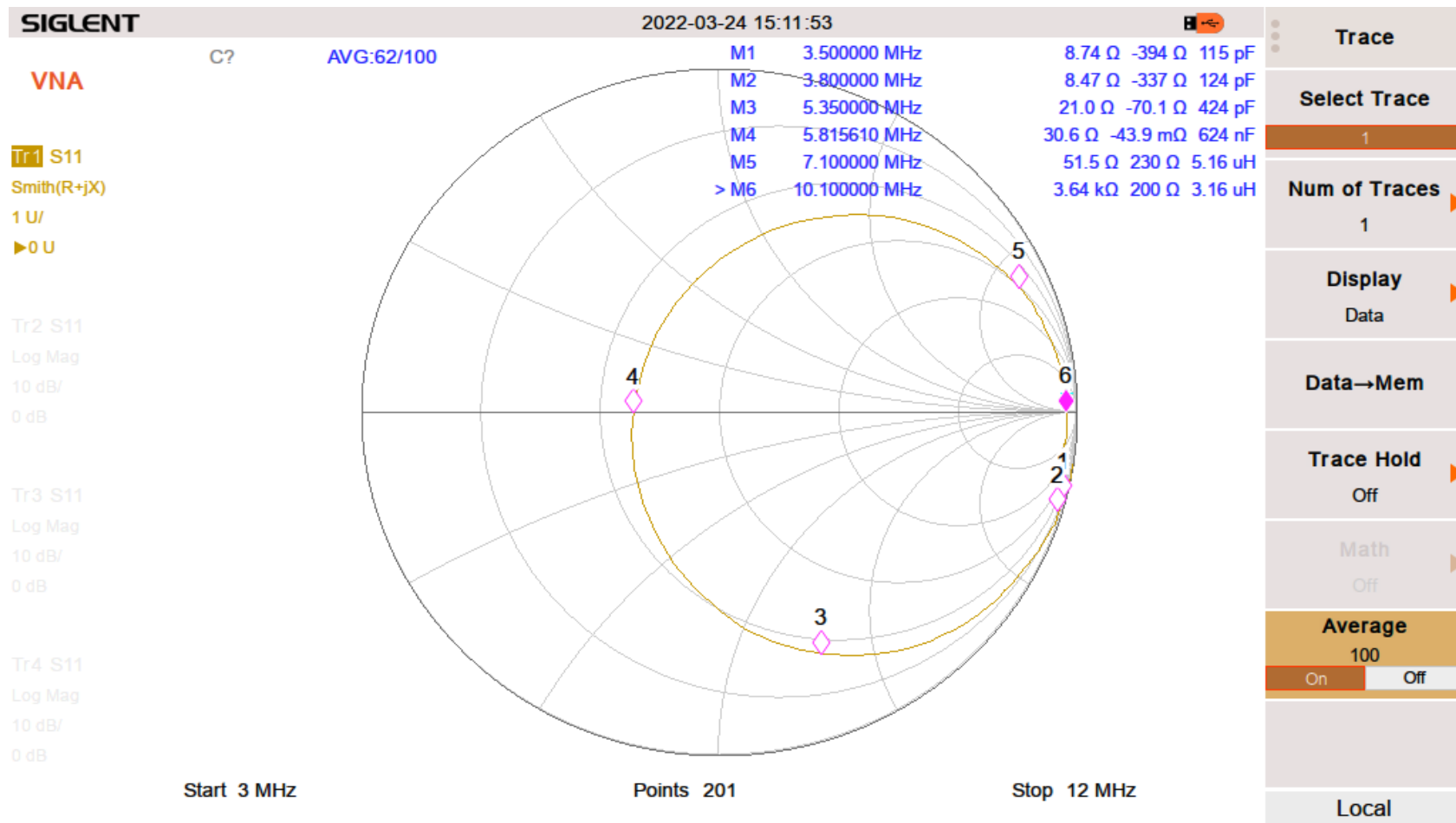


L_A = 8,2m – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

	40m	30m	20m	17m	15m	12m	10m
SWR	1,3	1,0	1,6	1,2	1,25	1,0	1,4

Helmut – DL2AVH

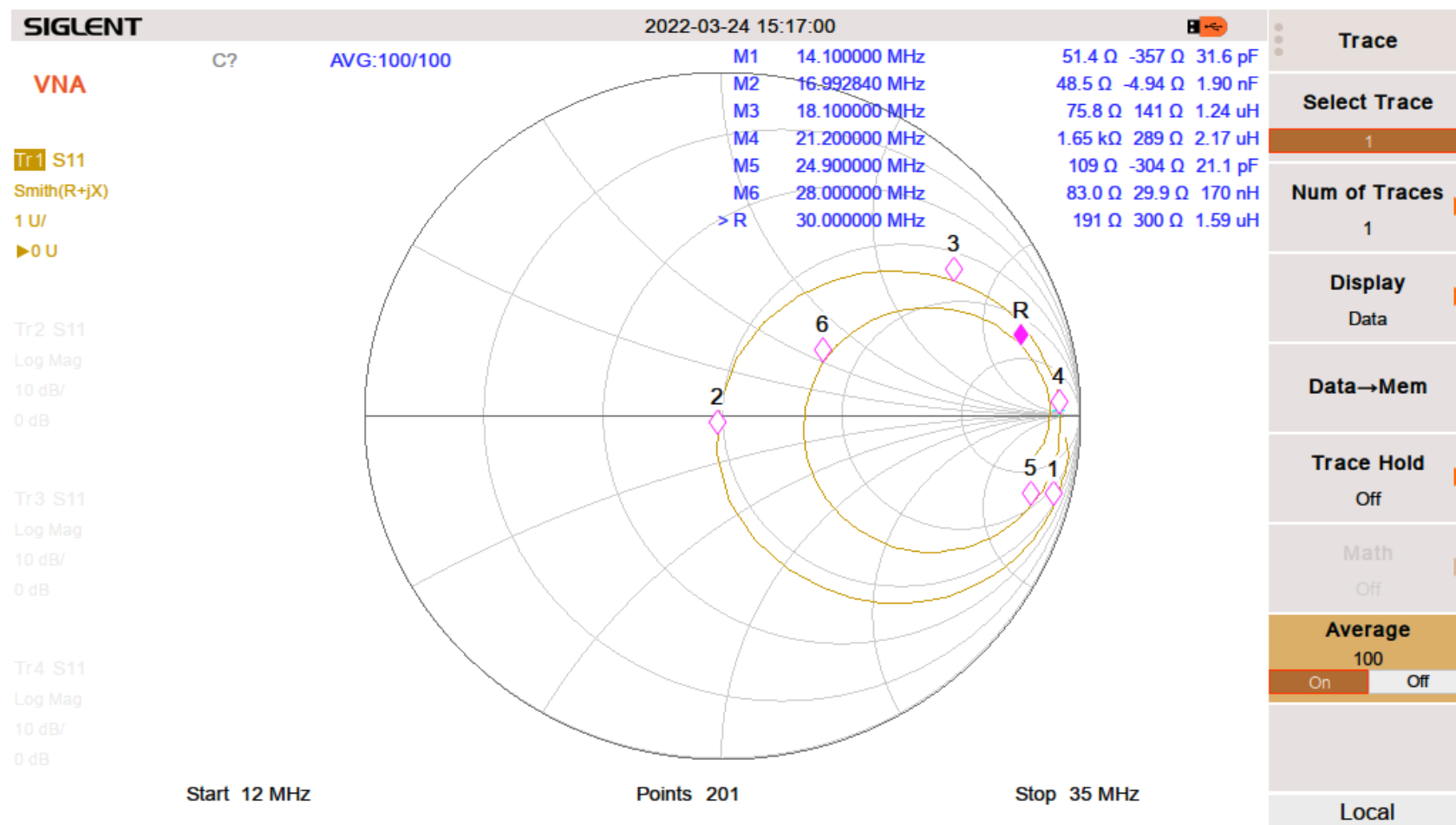
Serba 6/2022



LA = 12,5m – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

Helmut – DL2AVH

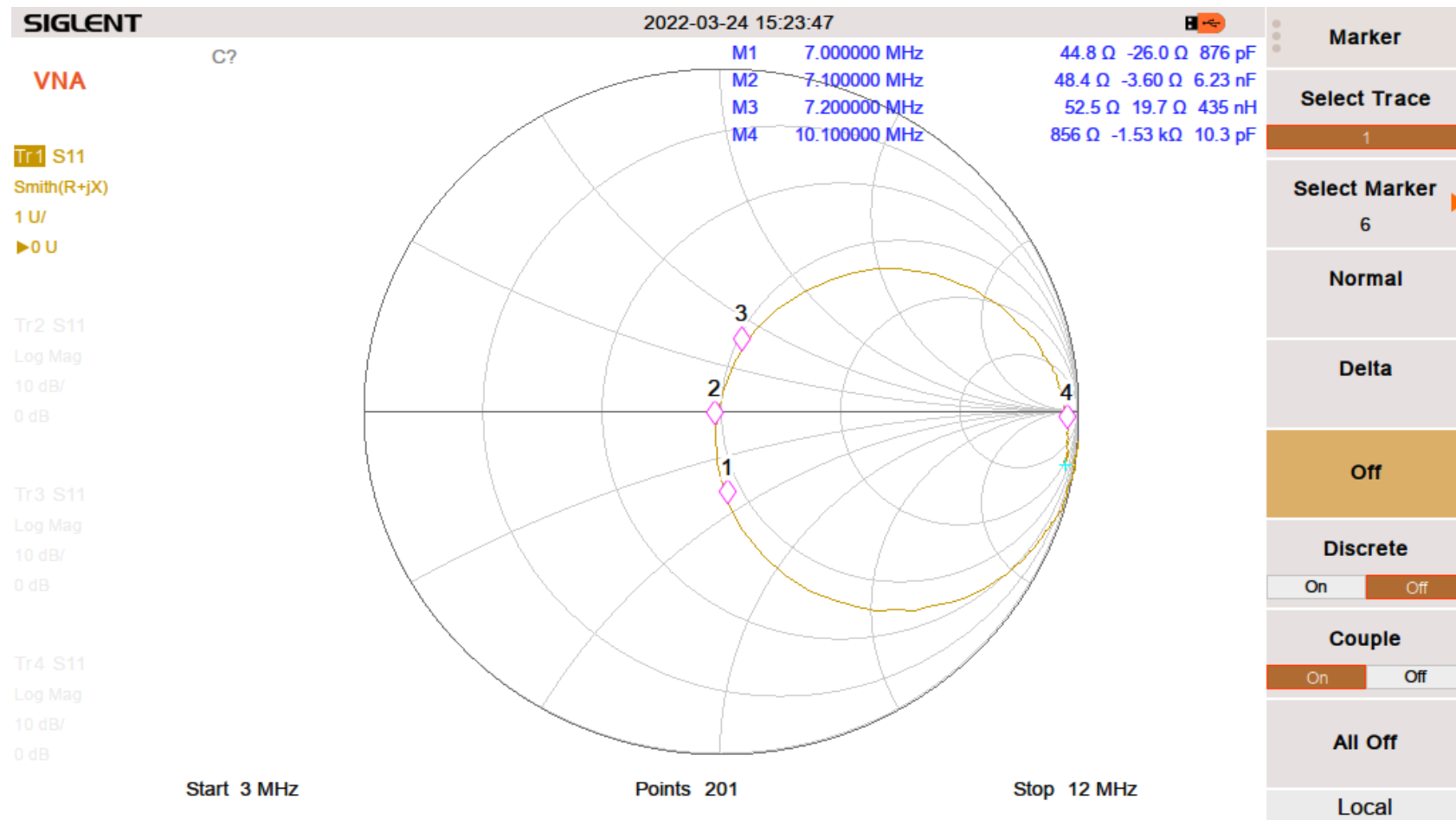
Serba 6/2022



LA = 12,5m – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022



LA = 12,5m – Klingeldraht

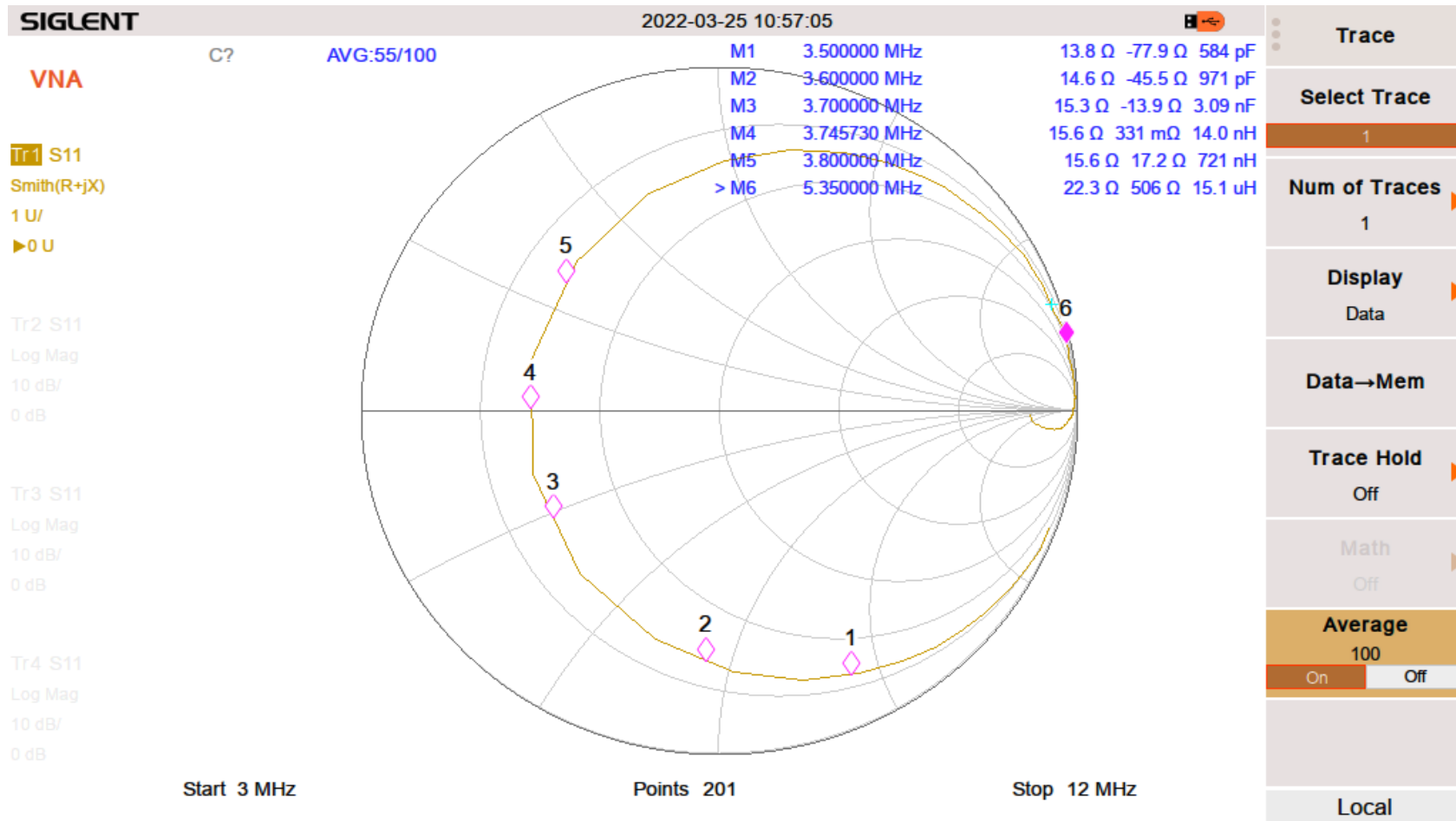
Gegengewicht = 10 x 1,80m

Mast = 5,64m

Cs = 100pF

Helmut – DL2AVH

Serba 6/2022

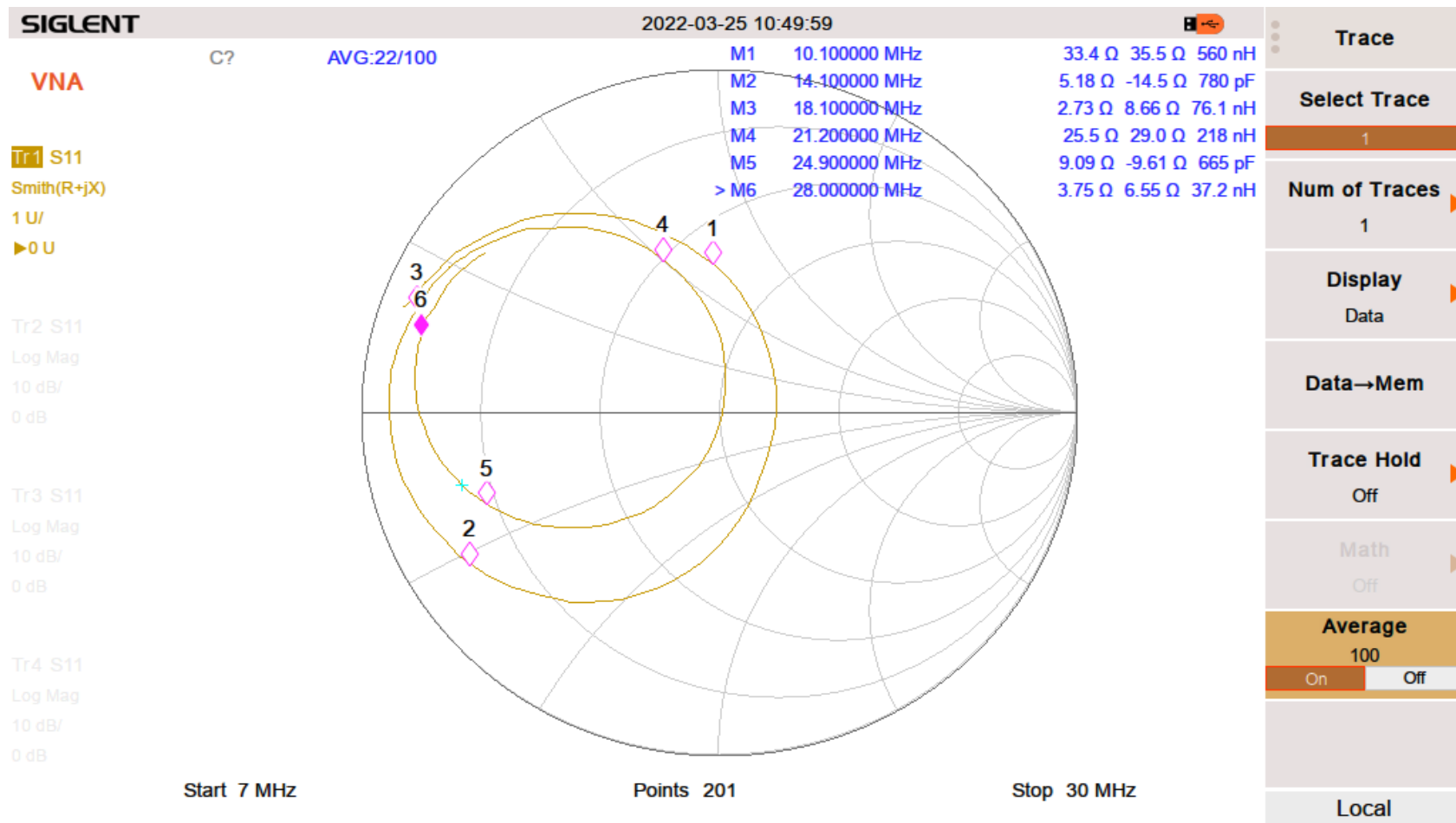


$L_A = 12,5\text{m}$ – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

$L_s = 17\mu\text{H}$

Helmut – DL2AVH

Serba 6/2022

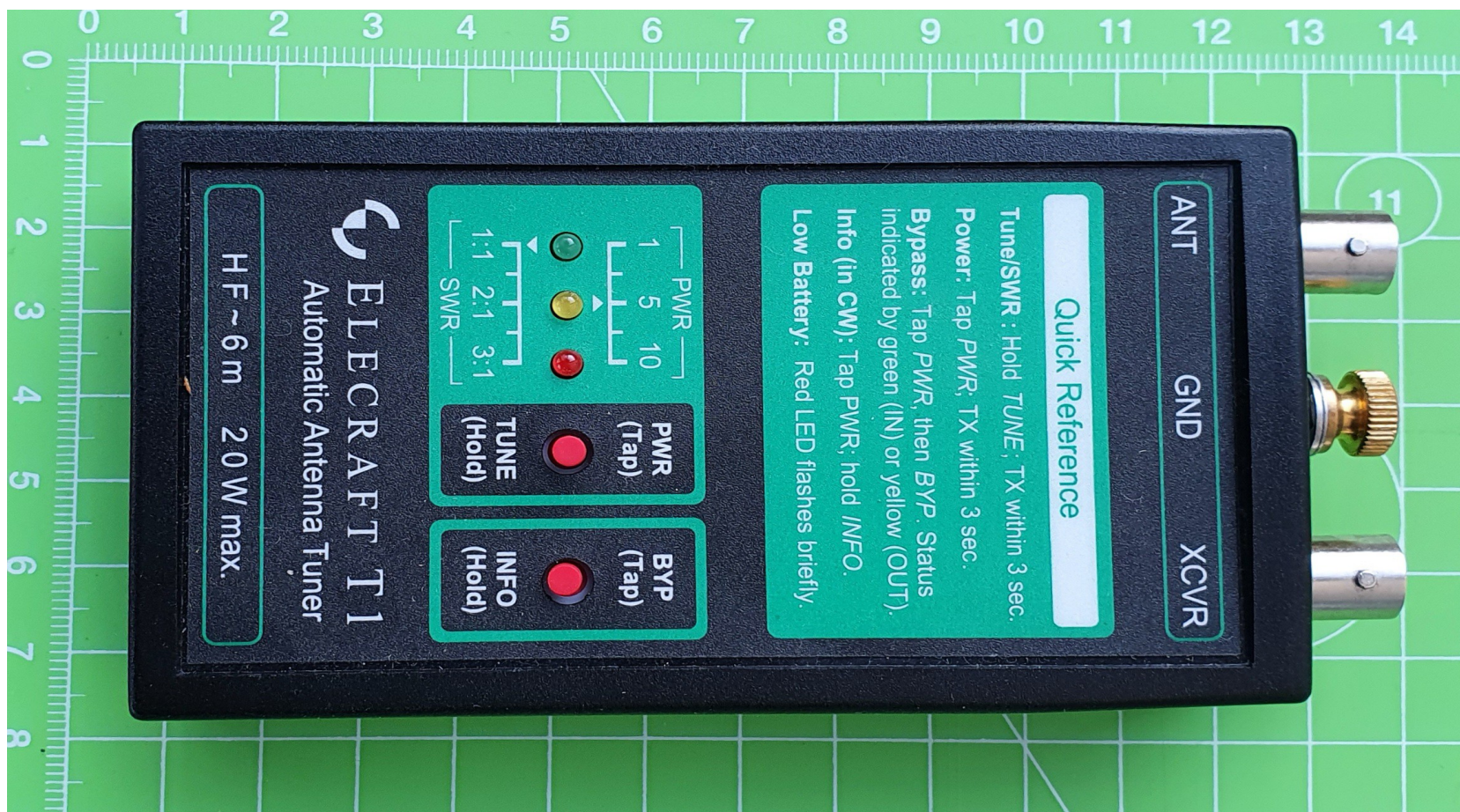


LA = 12,5m – Klingeldraht Gegengewicht = 10 x 1,80m Mast = 5,64m

Übertrager 5:1 Wdg

Helmut – DL2AVH

Serba 6/2022



L_A = 12,5m – Klingeldraht	Gegengewicht = 10 x 1,80m					Mast = 5,64m		
80m/20µH	40m/100pF	30m	20m	17m	15m	12m	10m	
SWR - / 1,1	1,6/ 1,0	1,2	1,0	1,2	1,1	1,0	1,0	

callsign	spotter-callsign	dl2avh
● spotter	● spotted	
freq	cq/dx	snr
speed	time	
 HB9BXE	 DL2AVH	7026.3
 OK2ZAW	 DL2AVH	7026.3
 DM6EE	 DL2AVH	7026.3
 DK0TE	 DL2AVH	7026.3
 OK2PMU-1	 DL2AVH	7026.3
 OK2PMU-1	 DL2AVH	7026.3
 DL5RMH	 DL2AVH	7026.3
 DJ9IE-2	 DL2AVH	7026.3
 DL1HWS	 DL2AVH	7026.3
 SM7IUN	 DL2AVH	7026.3
 S53A	 DL2AVH	7026.3
 DL8TG	 DL2AVH	7026.3
 OE9GHV	 DL2AVH	7026.3
 HA1VHF	 DL2AVH	7026.3
 SE5E	 DL2AVH	7035.7

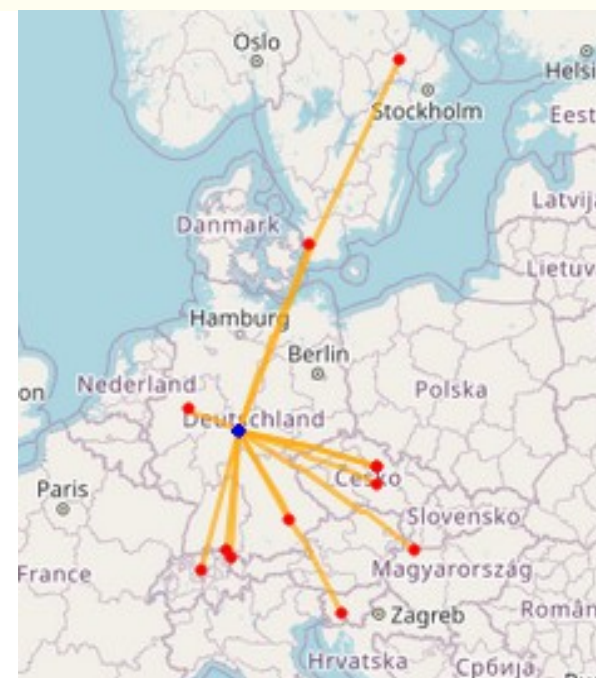
$L_A = 12,5\text{m} - \text{Klingeldraht}$ Gegengewicht = $10 \times 1,80\text{m}$

Mast = 5,64m

Test mit 1 Volt-TRX , QRPP = 0,3W

Helmut – DL2AVH

Serba 6/2022

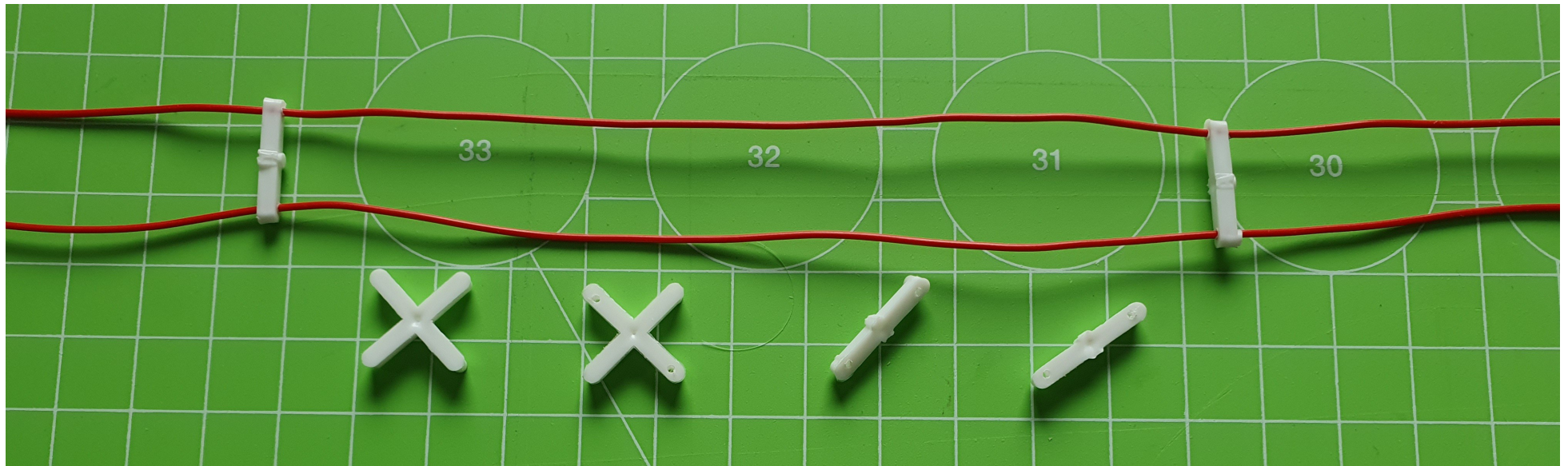
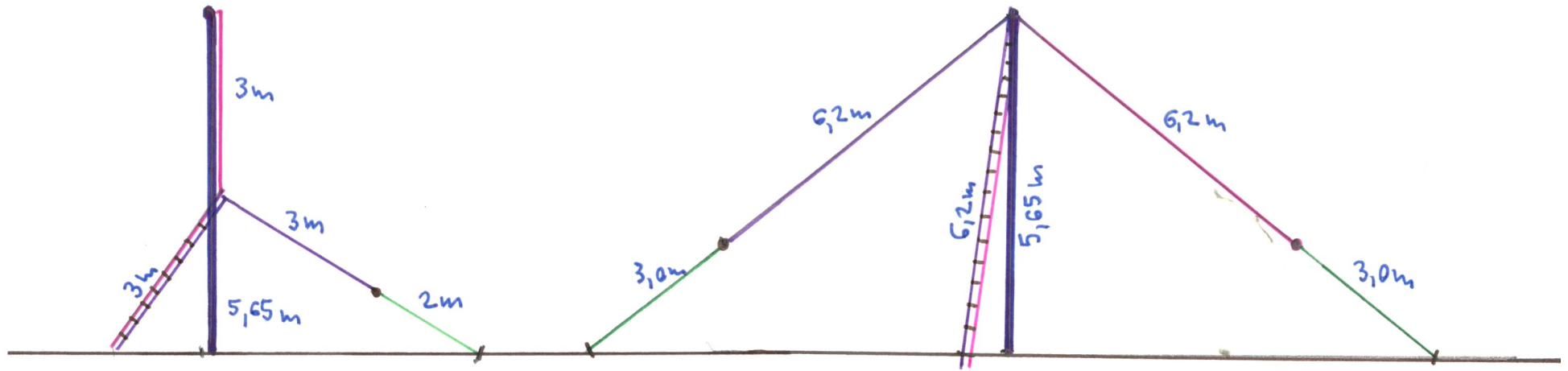




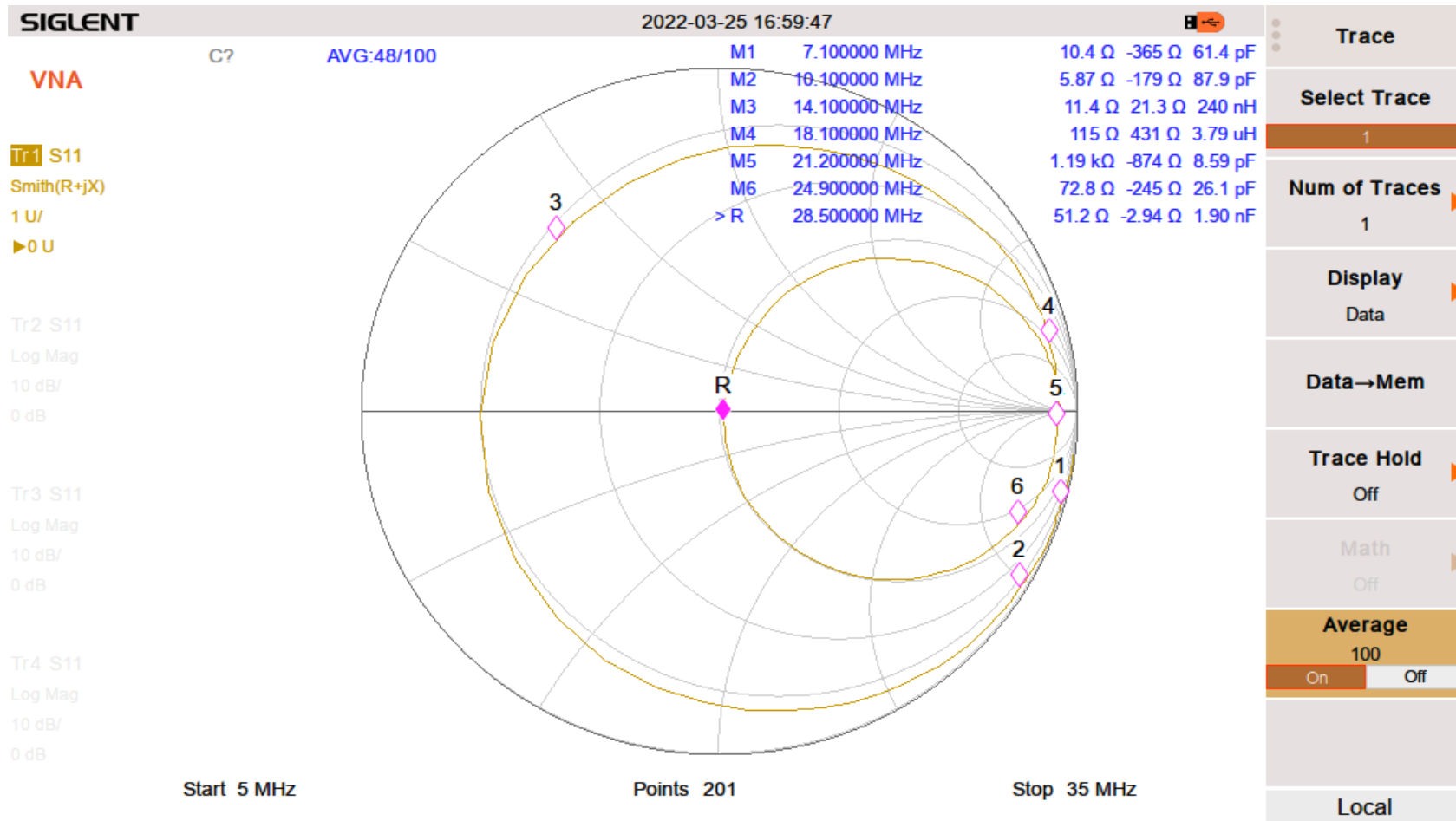
Auto otimales Gegengewicht für die Bänder 160m bis 10m

Helmut – DL2AVH

Serba 6/2022



400 Ohm Speiseleitung – Klingeldraht $d = 0,9 \text{ mm}$, Spreizer mit $D = 15 \text{ mm}$



$L_A = 2 \times 3,0\text{m}$ – Klingeldraht

Speiseleitung = 3,0m

Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022

callsign	spotter-callsign						dl2avh
● spotter	● spotted	freq	cq/dx	snr	speed	time	
 CT7ANO	 DL2AVH	14054.0	CW CQ	2 dB	20 wpm	1624z 25 Mar	
 OG73X	 DL2AVH	14054.1	CW CQ	8 dB	20 wpm	1624z 25 Mar	
 CT7ANO	 DL2AVH	14028.4	CW CQ	3 dB	20 wpm	1622z 25 Mar	
 OG73X	 DL2AVH	14028.5	CW CQ	10 dB	20 wpm	1622z 25 Mar	
 LA6TPA	 DL2AVH	14056.9	CW CQ	3 dB	20 wpm	1604z 25 Mar	
 LZ4AE	 DL2AVH	14056.6	CW CQ	8 dB	20 wpm	1558z 25 Mar	
 OG73X	 DL2AVH	14056.6	CW CQ	22 dB	20 wpm	1558z 25 Mar	
 RU9CZD	 DL2AVH	14056.6	CW CQ	10 dB	19 wpm	1558z 25 Mar	

LA = 2x3m – Klingeldraht

Speiseleitung = 3m

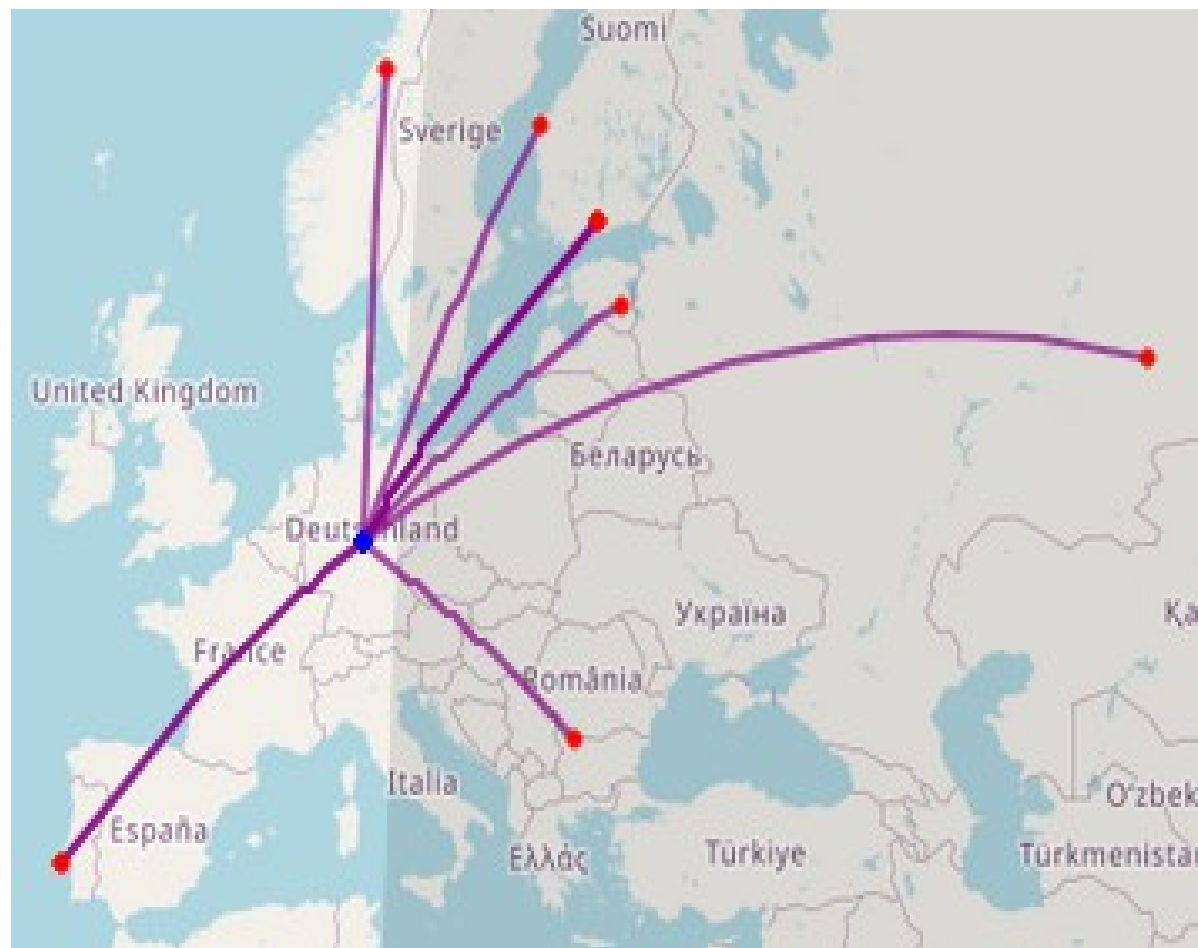
Mast = 5,64m

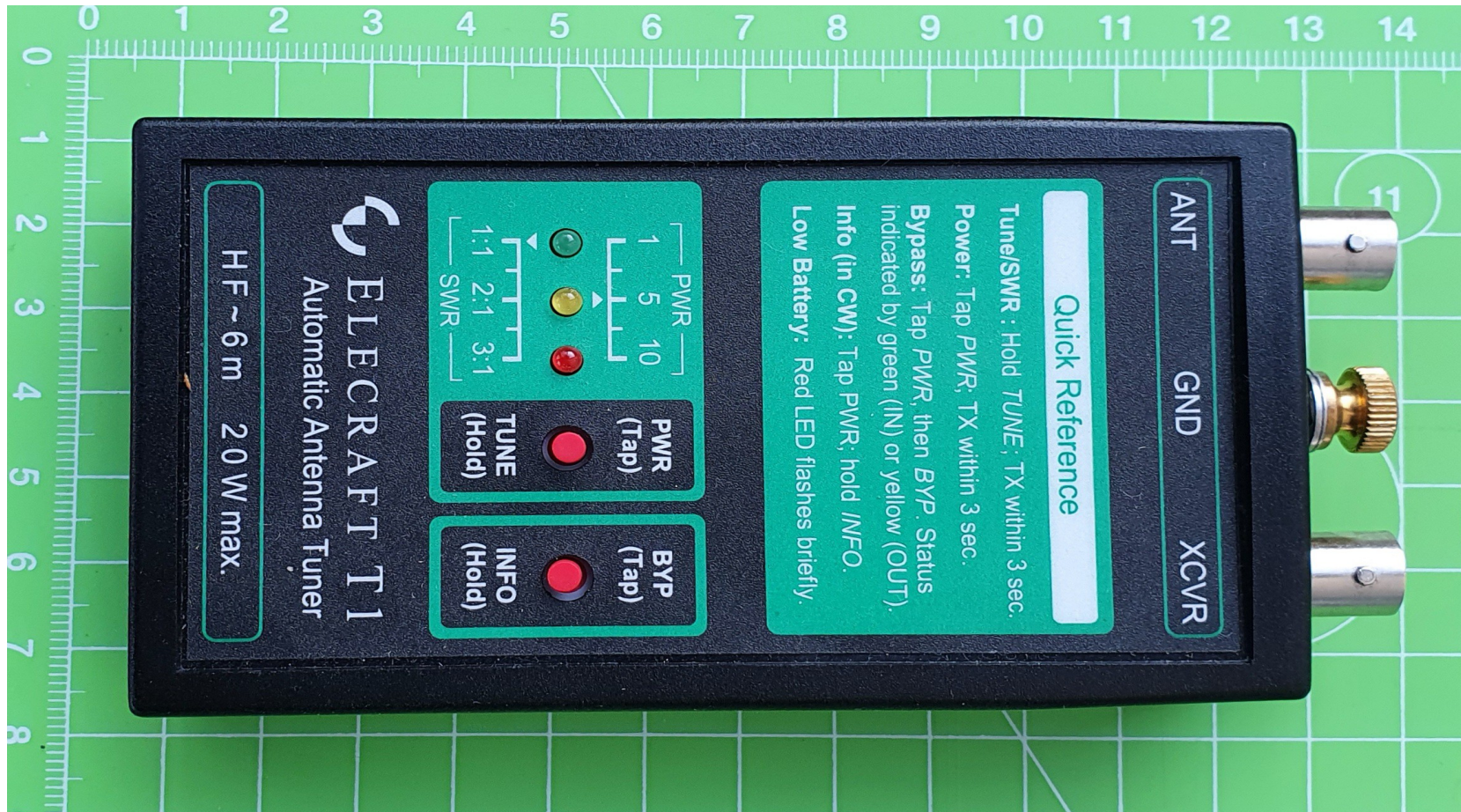
Test mit 1 Volt-TRX

QRPp = 0,3W

Helmut -DL2AVH

Serba 6/2022



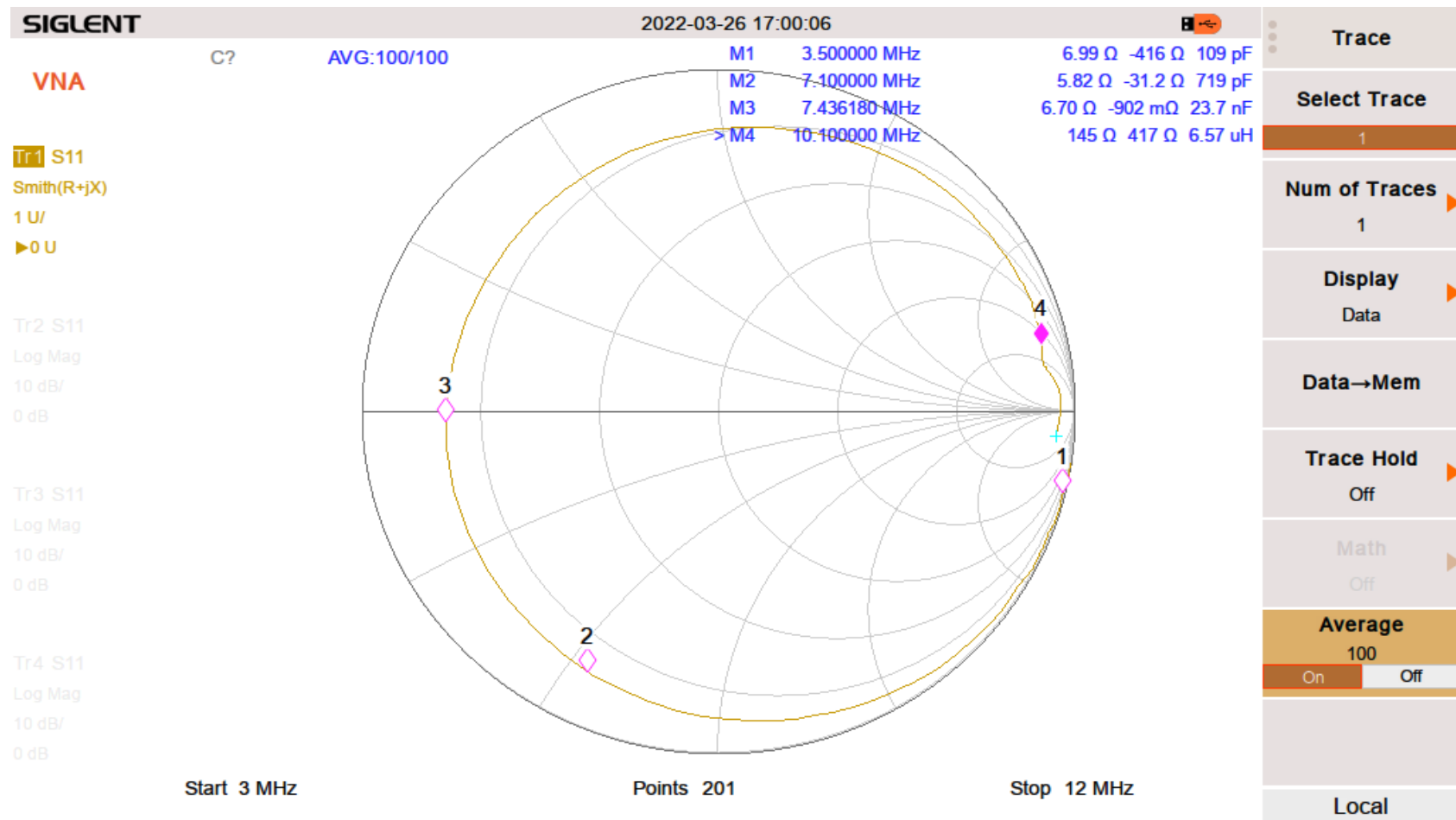


L_A = 2x3m – Klingeldraht Speiseleitung = 3m Balun WE-SL2 1000µH Mast = 5,64m

	30m	20m	17m	15m	12m	10m
SWR	1,0	1,0	1,2	1,8	1,4	1,2

Helmut – DL2AVH

Serba 6/2022



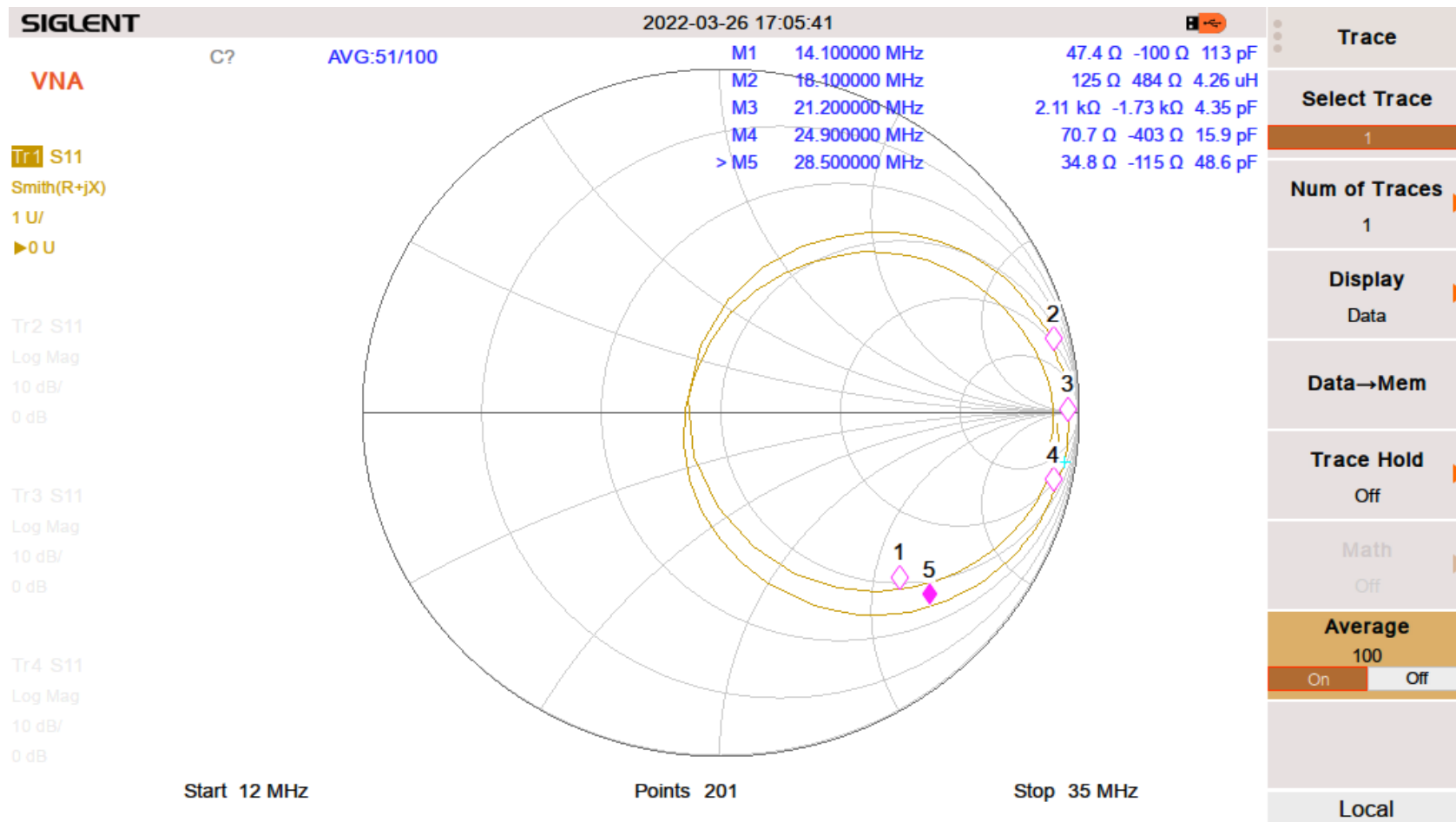
$L_A = 2 \times 6,2\text{m}$ – Klingeldraht

Speiseleitung = 6,2m

Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022



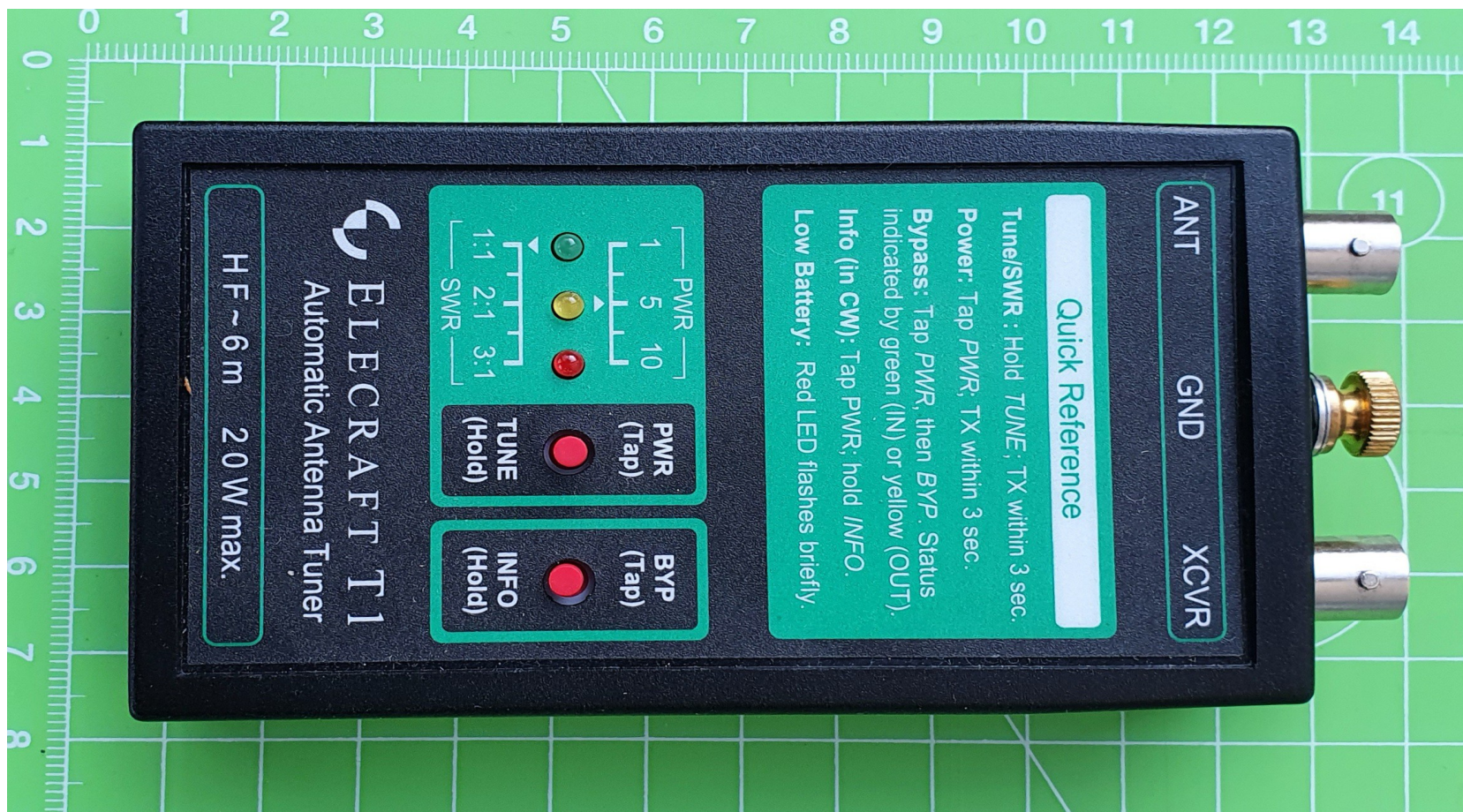
$L_A = 2 \times 6,2\text{m}$ – Klingeldraht

Speiseleitung = 6,2m

Mast = 5,64m

Helmut – DL2AVH

Serba 6/2022



$L_A = 2 \times 6,2\text{m}$ – Klingeldraht Speiseleitung = 6,2m Balun WE-SL2 1000 μH Mast = 5,64m

	40m	30m	20m	17m	15m	12m	10m
SWR	1,2	2,2	1,3	1,2	1,5	1,2	1,3

Helmut – DL2AVH

Serba 6/2022

callsign	spotter-callsign				dl2avh
• spotter	• spotted	freq	cq/dx	snr	speed time
 DL8TG	 DL2AVH	7020.3	CW CQ	9 dB	20 wpm 1607z 26 Mar
 DM6EE	 DL2AVH	7020.3	CW CQ	9 dB	19 wpm 1606z 26 Mar
 OK2PMU-1	 DL2AVH	7020.3	CW CQ	5 dB	20 wpm 1606z 26 Mar
 IK4VET	 DL2AVH	7020.3	CW CQ	2 dB	20 wpm 1606z 26 Mar
 OK2ZAW	 DL2AVH	7020.3	CW CQ	7 dB	20 wpm 1606z 26 Mar
 DL1HWS	 DL2AVH	7020.3	CW CQ	7 dB	20 wpm 1606z 26 Mar
 DL0PF	 DL2AVH	7020.3	CW CQ	1 dB	20 wpm 1606z 26 Mar
 SM7IUN	 DL2AVH	7020.3	CW CQ	4 dB	20 wpm 1606z 26 Mar
 OE9GHV	 DL2AVH	7020.3	CW CQ	11 dB	20 wpm 1606z 26 Mar
 OK1HRA	 DL2AVH	7020.2	CW CQ	7 dB	20 wpm 1606z 26 Mar
 S53A	 DL2AVH	7020.3	CW CQ	8 dB	20 wpm 1606z 26 Mar
 DF7GB	 DL2AVH	7020.3	CW CQ	8 dB	20 wpm 1605z 26 Mar
 DJ9IE-2	 DL2AVH	7020.3	CW CQ	6 dB	20 wpm 1605z 26 Mar
 DL8LAS	 DL2AVH	7020.3	CW CQ	3 dB	20 wpm 1605z 26 Mar

LA = 2x6,2m – Klingeldraht

Speiseleitung = 6,2m

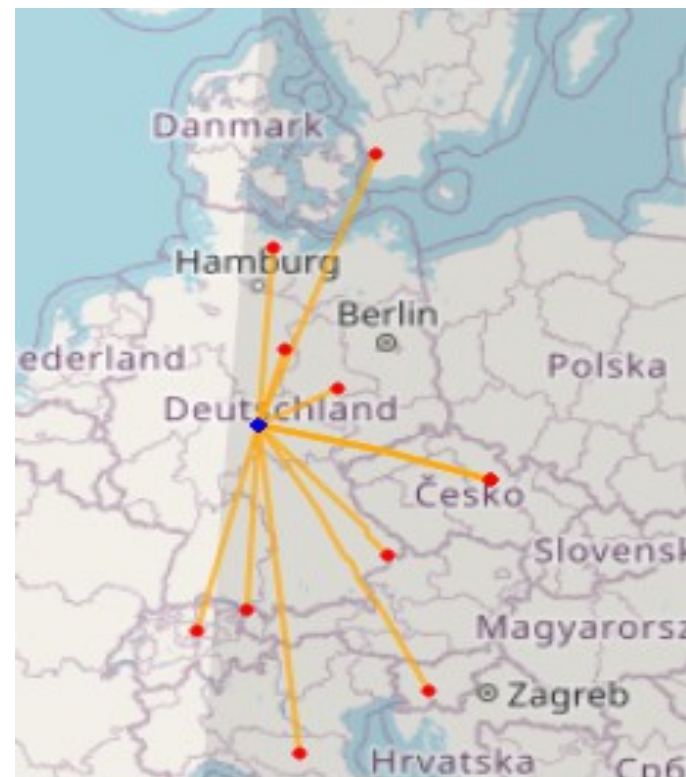
Mast = 5,64m

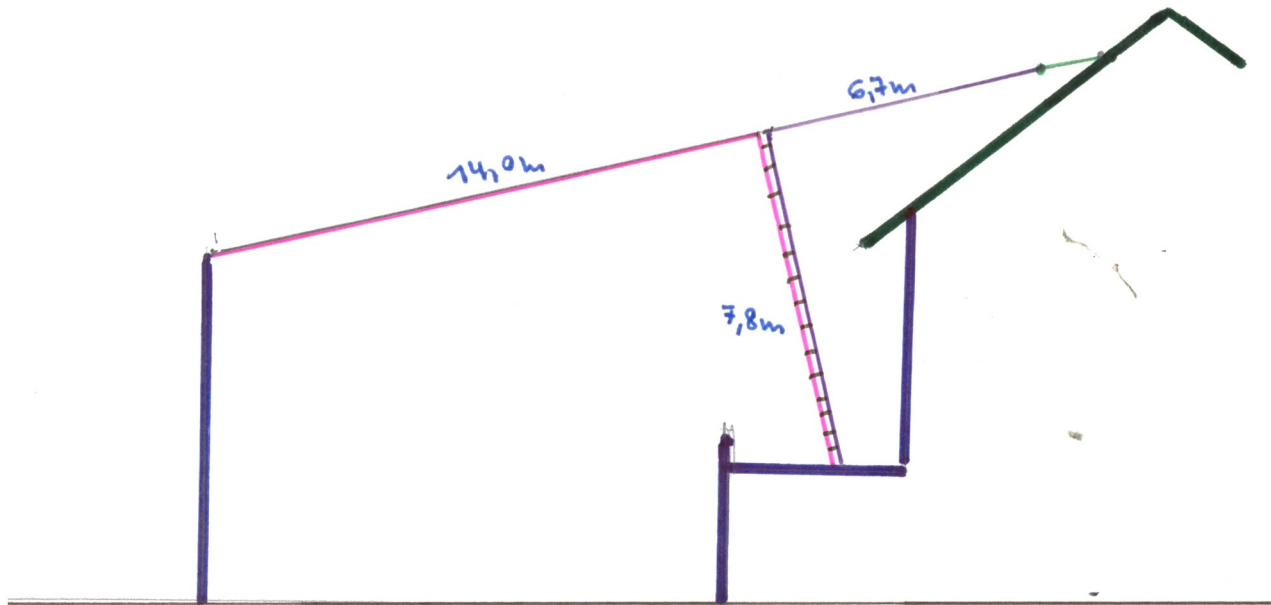
Test mit 1 Volt-TRX

QRPP = 0,3W

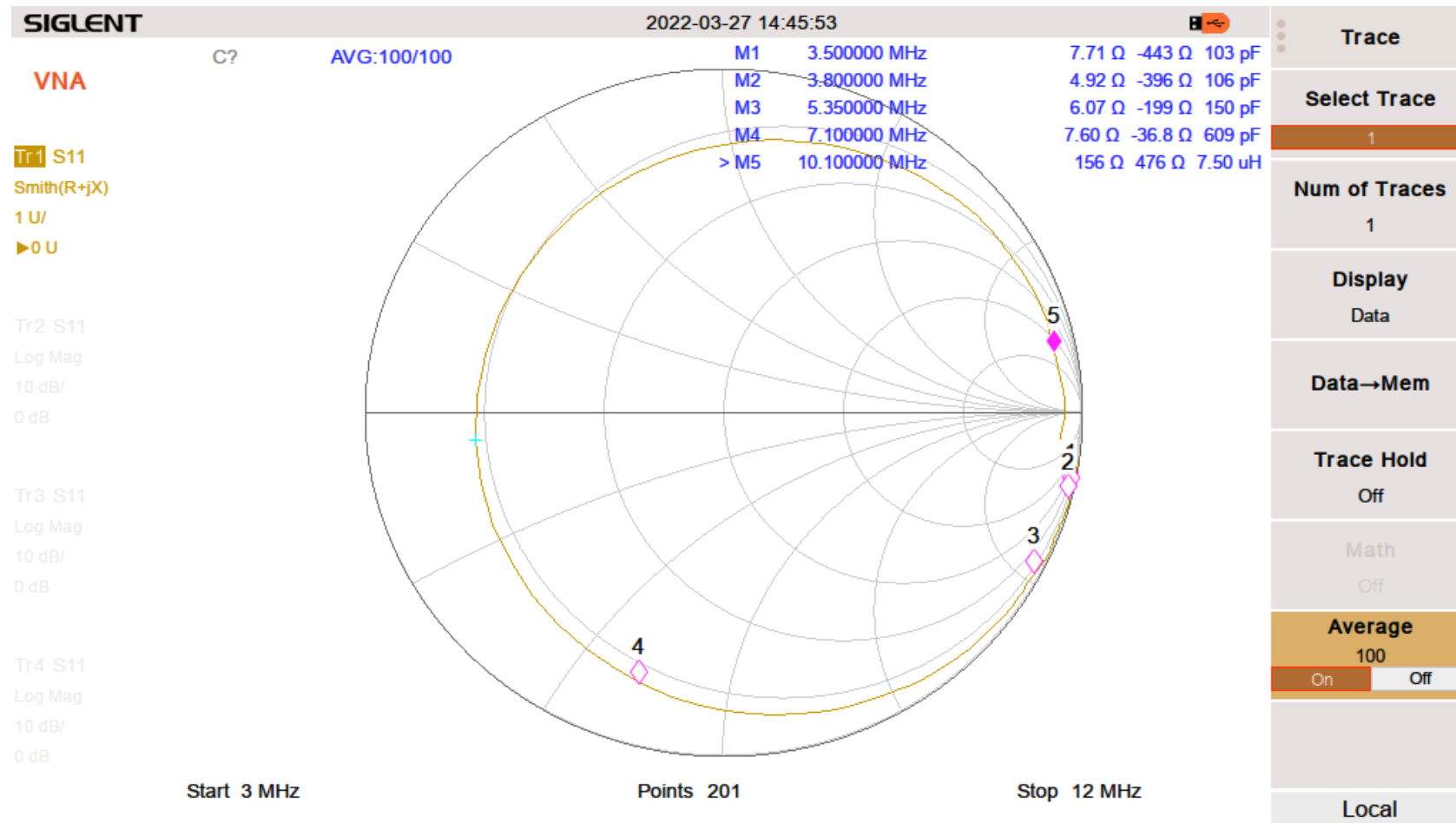
Helmut – DL2AVH

Serba 6/2022





Serba 6/2022



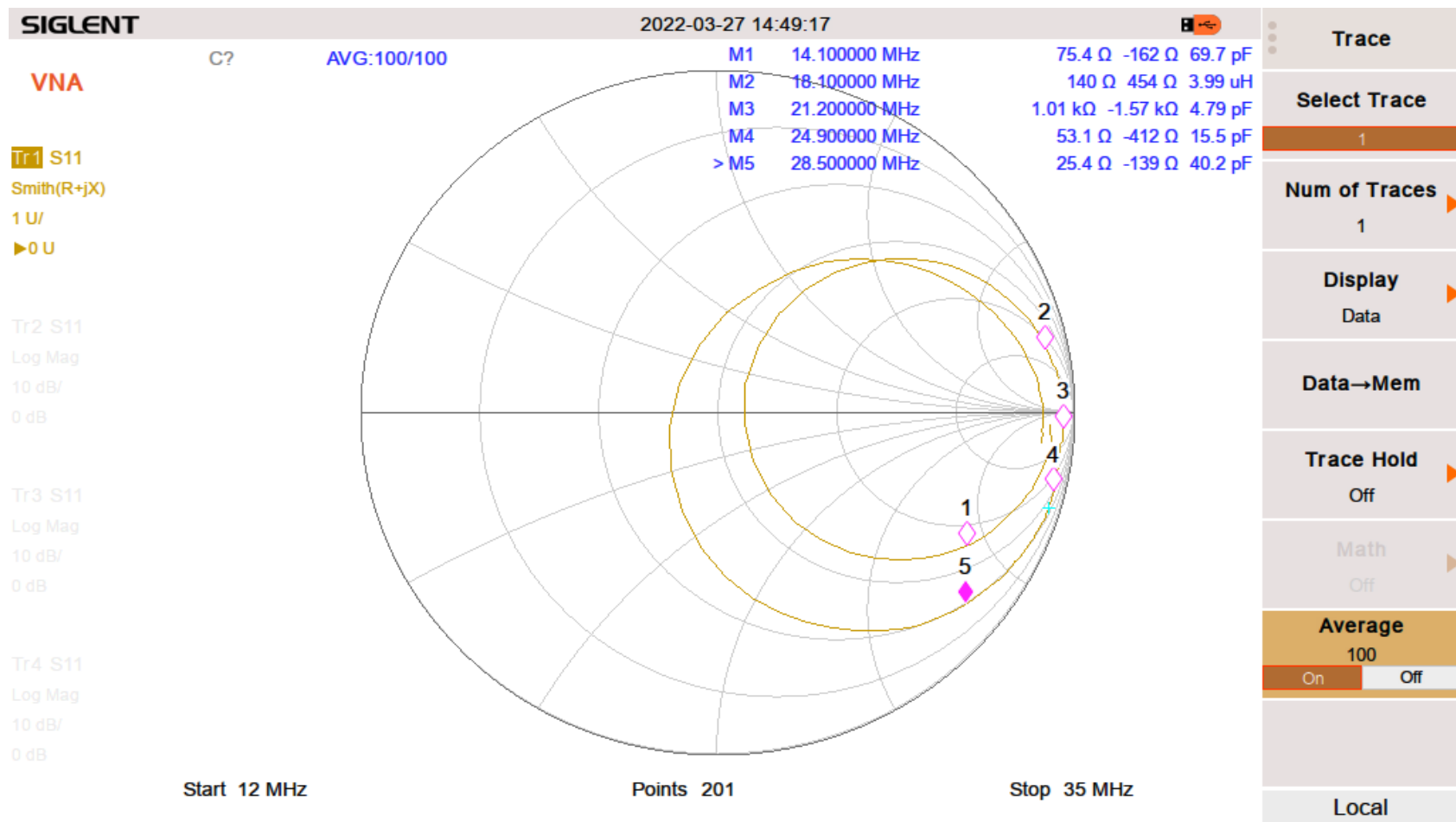
L_A = 2x6,2m – Klingeldraht

Speiseleitung = 6,2m

Mast = 10,0m

Helmut – DL2AVH

Serba 6/2022



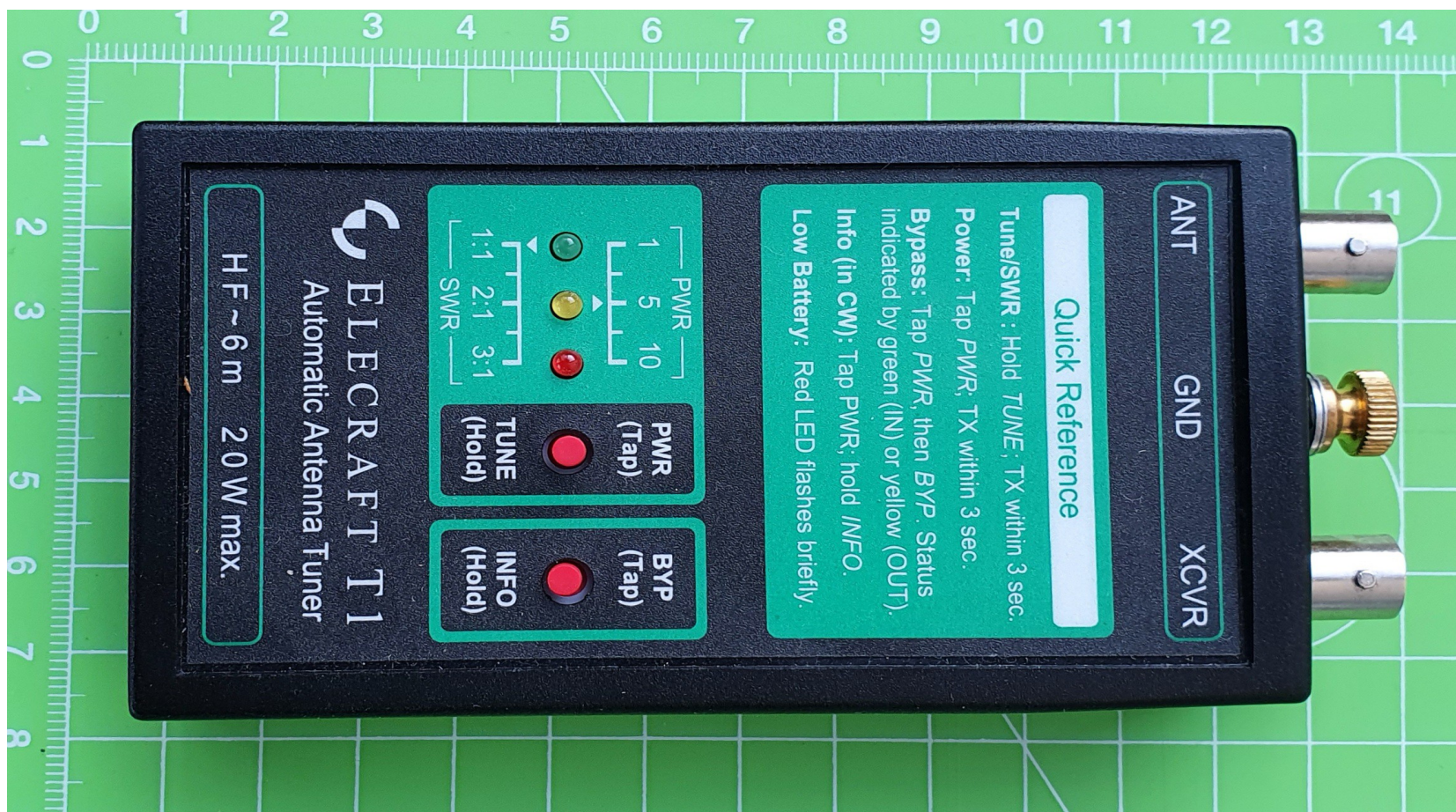
$L_A = 2 \times 6,2\text{m}$ – Klingeldraht

Speiseleitung = 6,2m

Mast = 10,0m

Helmut – DL2AVH

Serba 6/2022

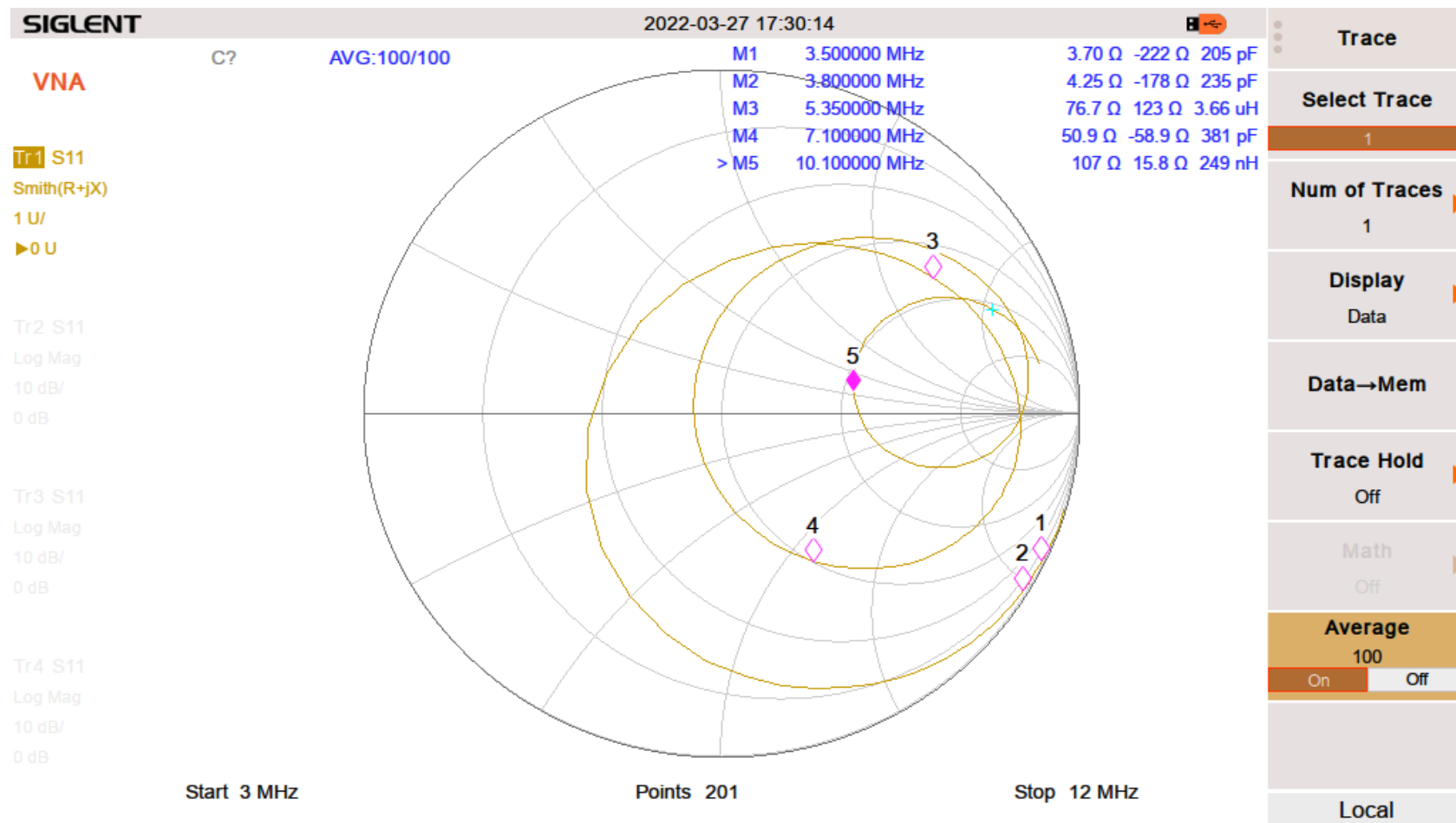


L_A = 2x6,2m – Klingeldraht Speiseleitung = 6,2m Balun WE-SL2 1000µH Mast = 10,0m

	40m	30m	20m	17m	15m	12m	10m
SWR	1,2	2,2	1,3	1,1	1,5	1,2	1,5

Helmut – DL2AVH

Serba 6/2022



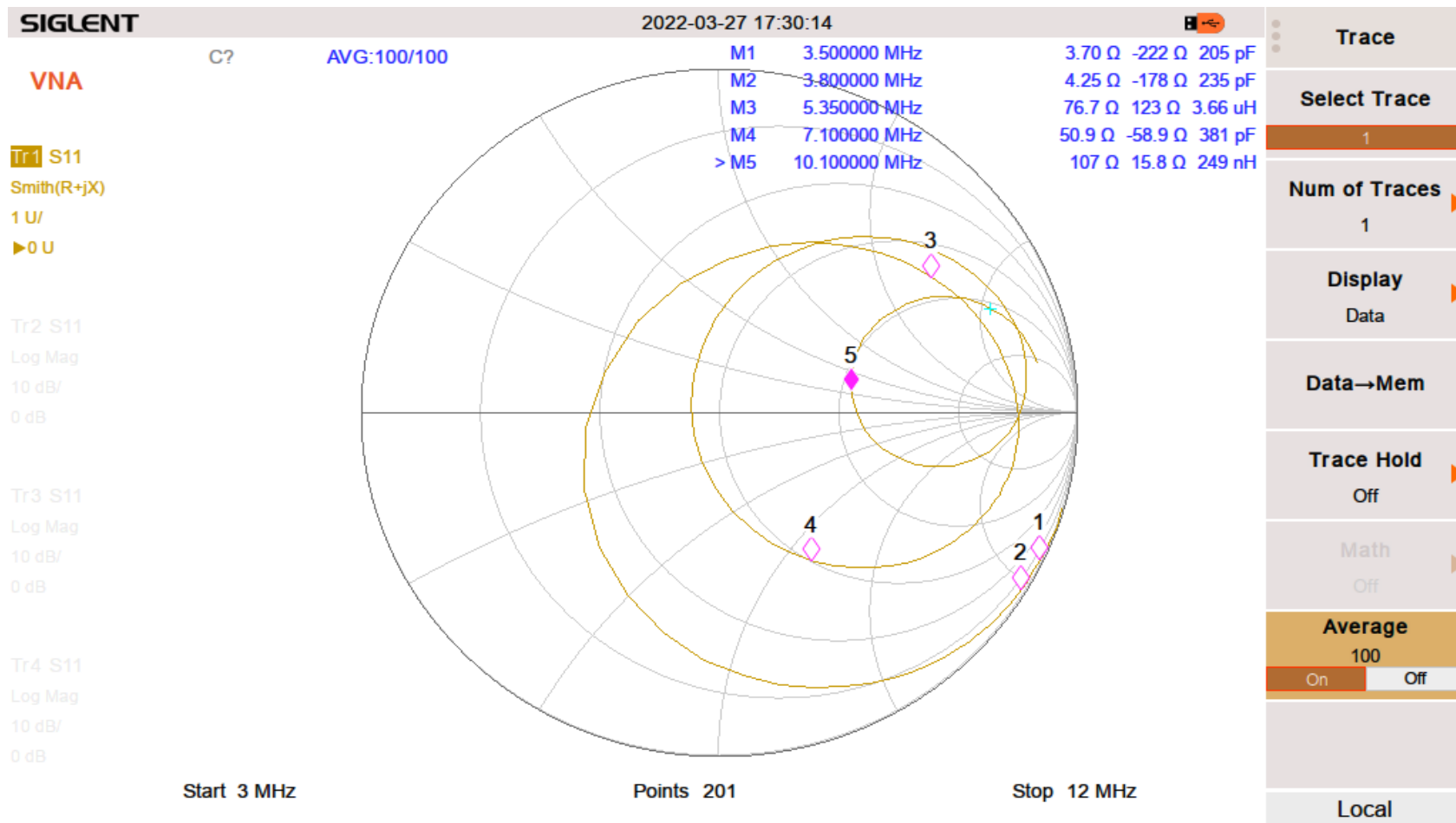
$L_A = 6,7\text{m} + 14,0\text{m Klingeldraht}$

Speiseleitung = 7,8m

Mast = 10,0m

Helmut – DL2AVH

Serba 6/2022



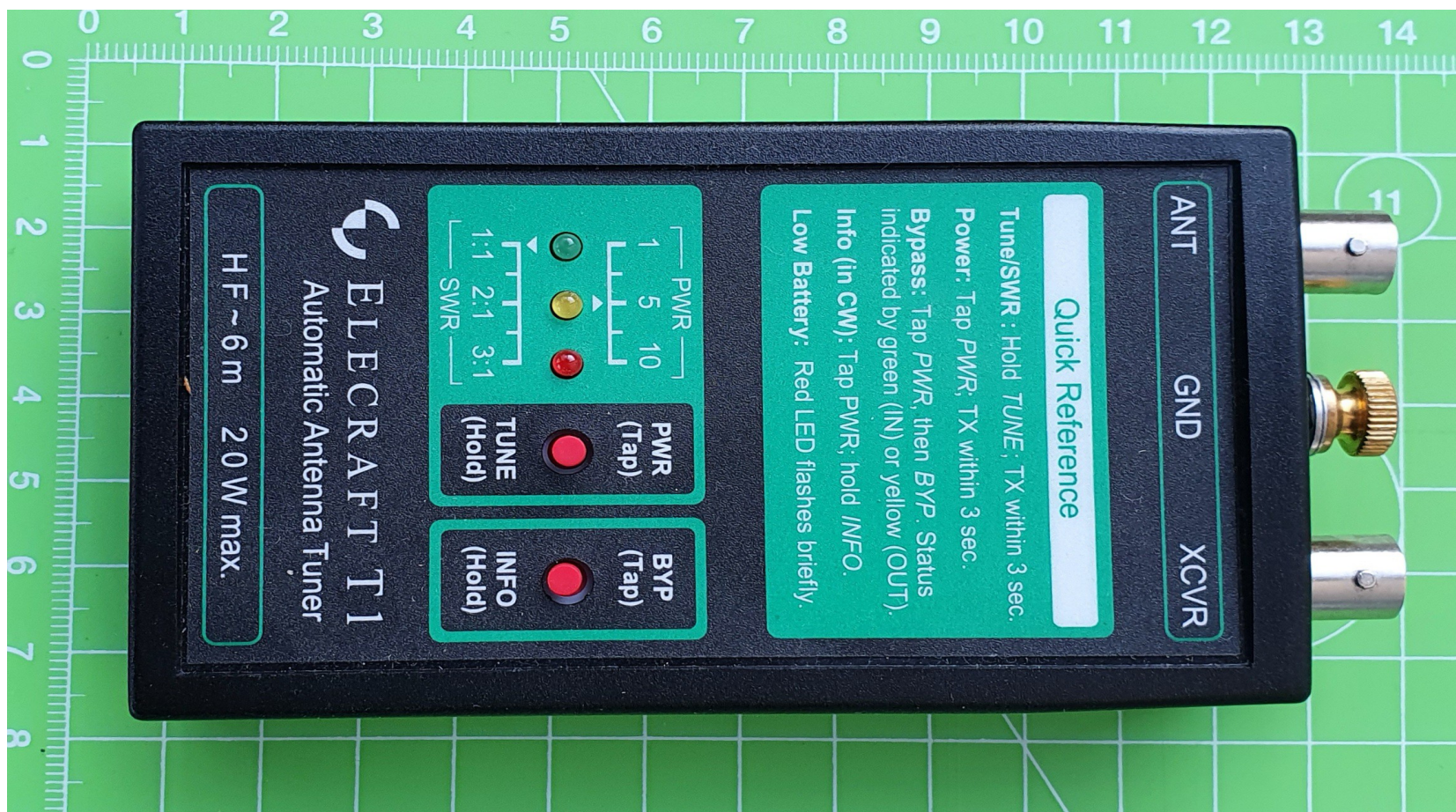
$L_A = 6,7\text{m} + 14,0\text{m Klingeldraht}$

Speiseleitung = 7,8m

Mast = 10,0m

Helmut – DL2AVH

Serba 6/2022

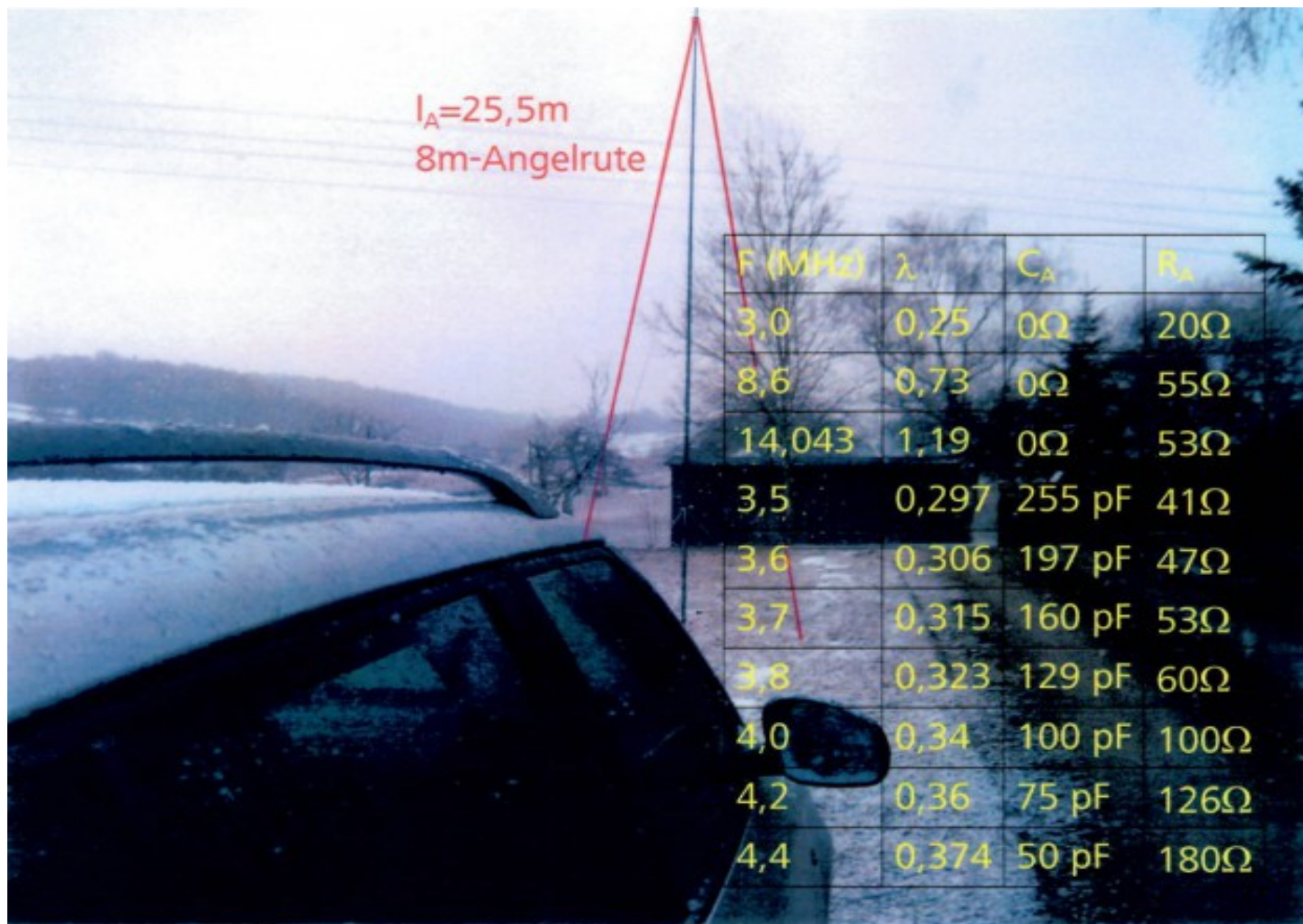


$L_A = 6,7\text{m} + 14,0\text{m}$ Klingeldraht Speiseleitung = 7,8m Balun WE-SL2 1000 μH Mast = 10,0m

	80m/10 μH	60m	40m	30m	20m	17m	15m	12m	10m
SWR	- / 1,2	1,1	1,0	1,7	1,0	1,0	-	1,3	1,2

Helmut – DL2AVH

Serba 6/2022





Viel Erfolg beim Antennenbau – Antennen immer erdfrei speisen

Helmut – DL2AVH

Serba 6/2022