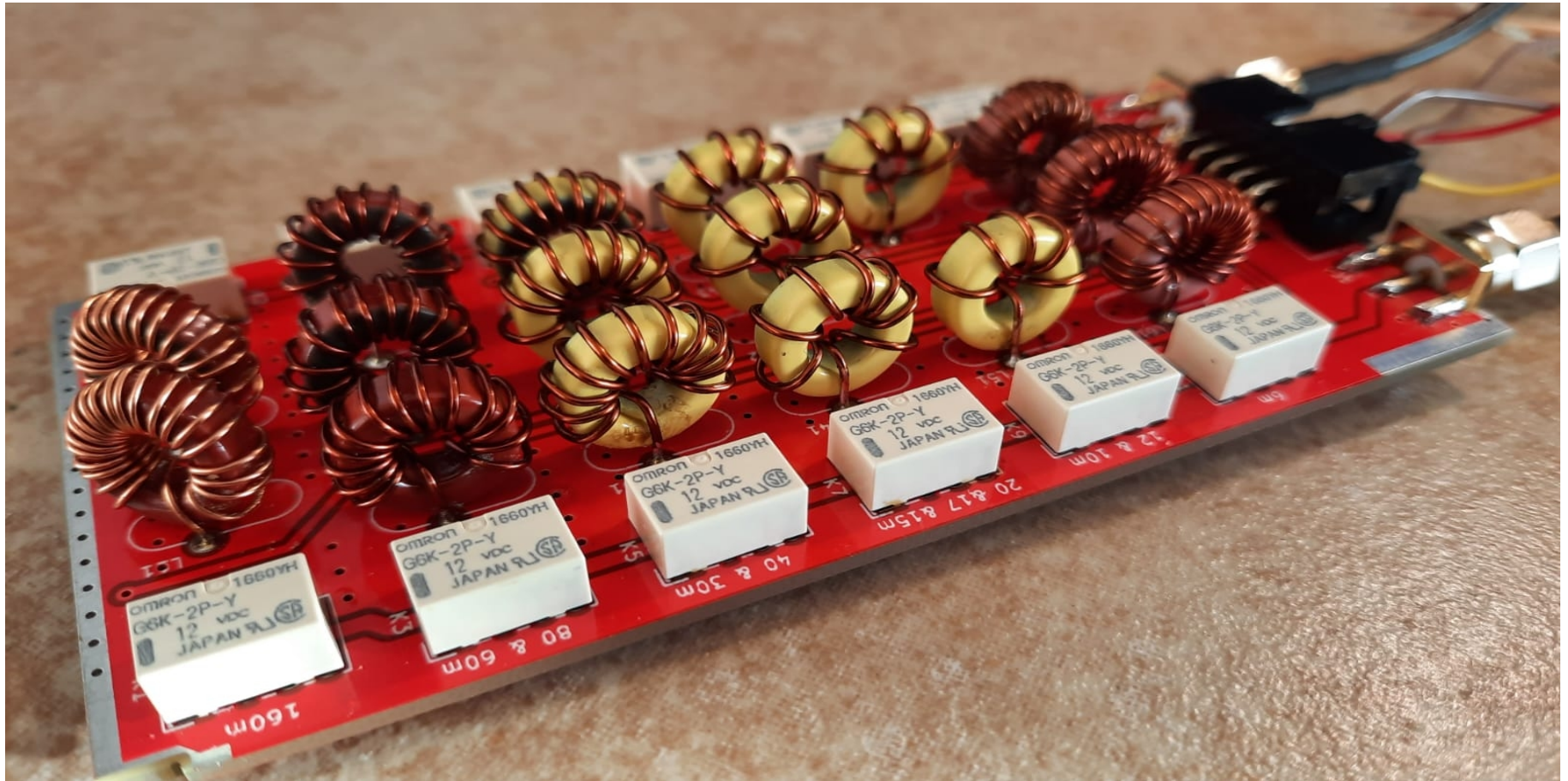
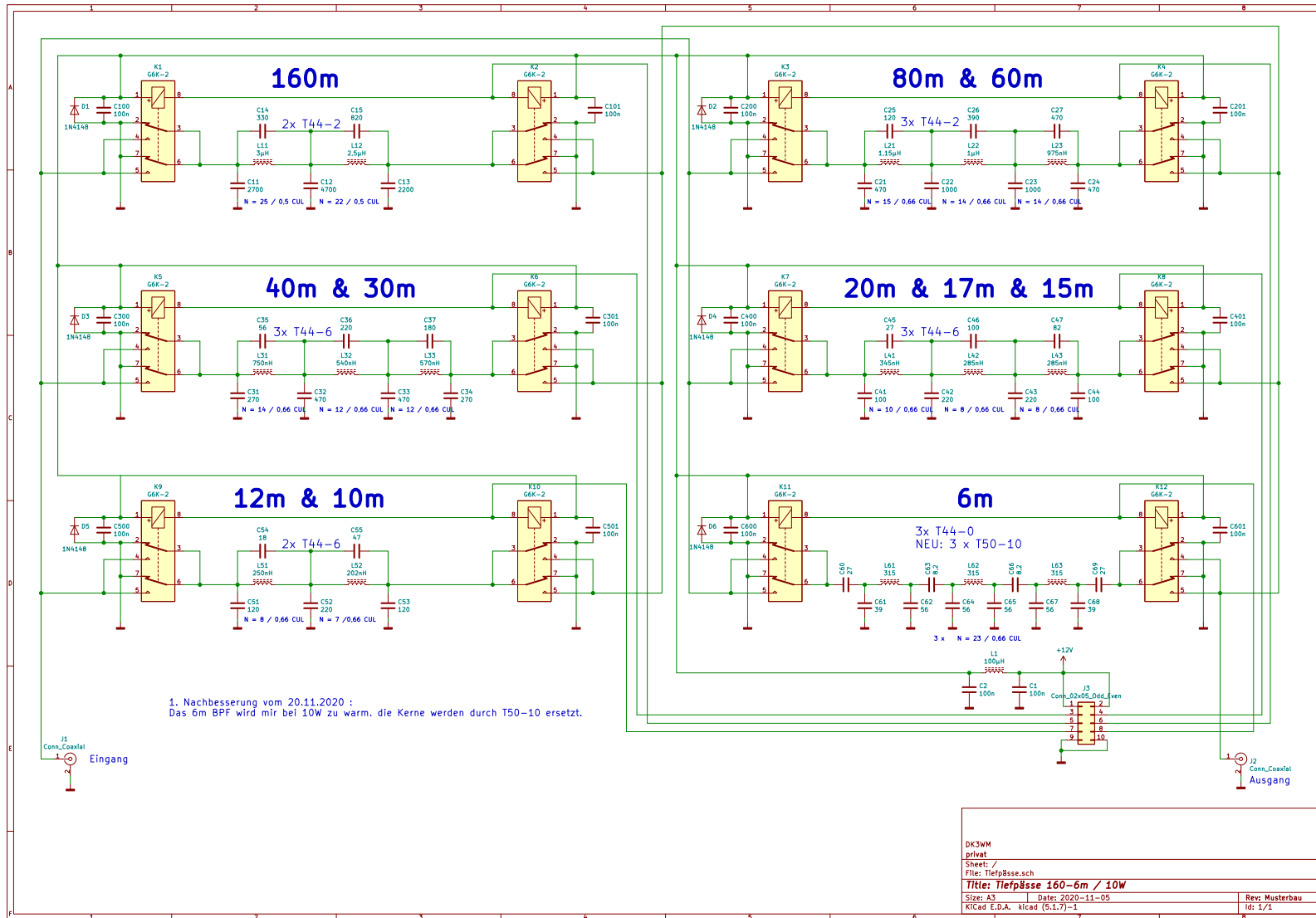


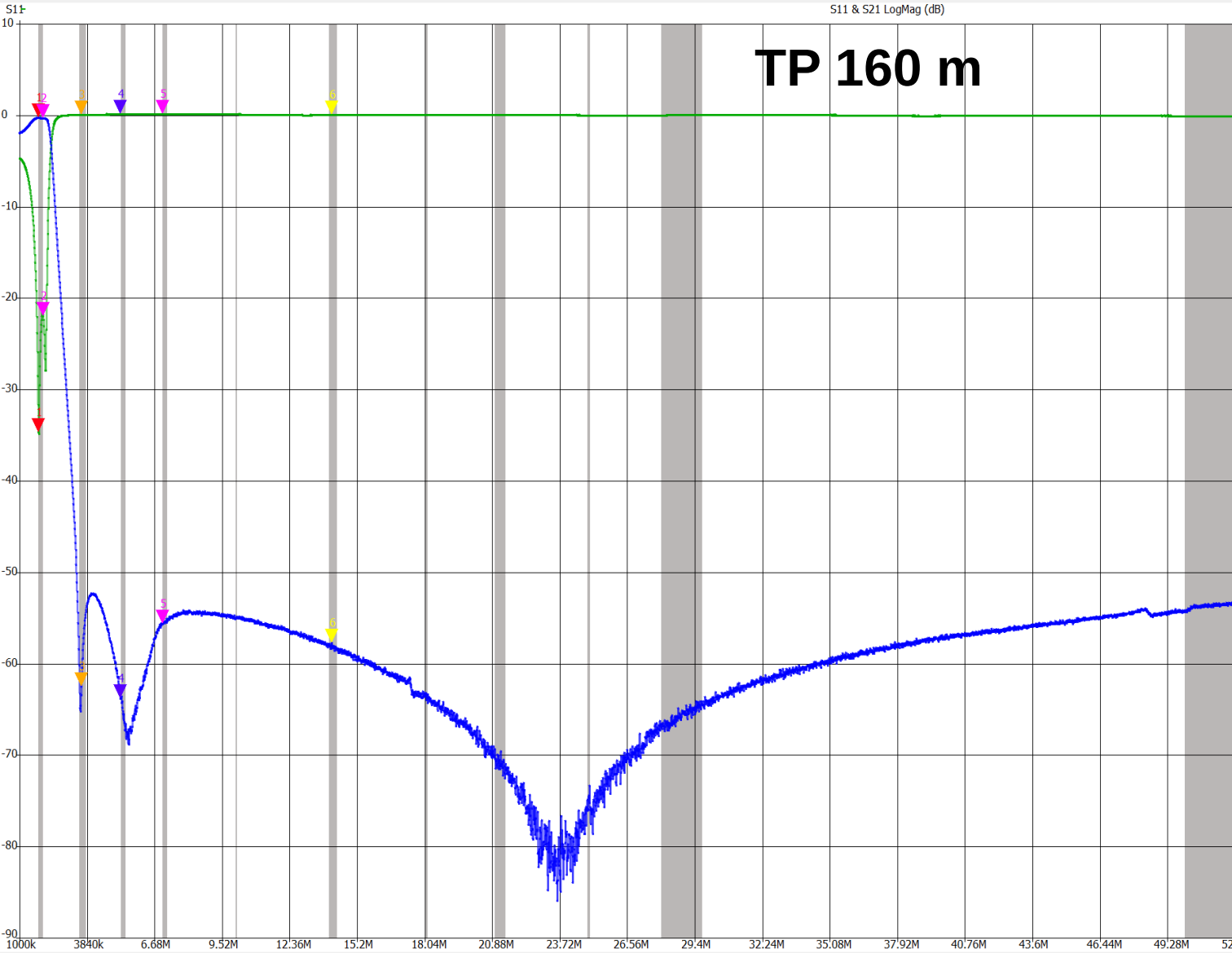
Filter für den redPitaya Treiber





DK3WM
 privat
 Sheet: /
 File: Tiefpässe.sch
Title: Tiefpässe 160-6m / 10W
 Size: A3 | Date: 2020-11-05 | Rev: Musterbau
 KiCad E.D.A., kicad (5.1.7)-1 | Id: 1/1

TP 160 m



Marker 1

Frequency: 1.79959 MHz
 Impedance: $48.3 + j521 \text{ m}\Omega$
 Series L: 46.095 nH
 Series C: -169.68 nF
 Parallel R: 48.271 Ω
 Parallel X: 395.34 μH

VSWR: 1.038
 Return loss: -34.690 dB
 Quality factor: 0.011
 S11 Phase: 162.97°
 S21 Gain: -0.258 dB
 S21 Phase: 177.12°

Marker 2

Frequency: 1.99259 MHz
 Impedance: $46 - j6.55 \Omega$
 Series L: -523.31 nH
 Series C: 12.191 nF
 Parallel R: 46.922 Ω
 Parallel X: 242.51 pF

VSWR: 1.174
 Return loss: -21.955 dB
 Quality factor: 0.142
 S11 Phase: -117.57°
 S21 Gain: -0.331 dB
 S21 Phase: 143.15°

Marker 3

Frequency: 3.60555 MHz
 Impedance: $-j16.1 \Omega$
 Series L: -709.57 nH
 Series C: 2.746 nF
 Parallel R: $-\Omega$
 Parallel X: 2.7455 nF

VSWR: -263.798
 Return loss: 0.066 dB
 Quality factor: 76.87
 S11 Phase: -144.35°
 S21 Gain: -62.463 dB
 S21 Phase: 84.13°

Marker 4

Frequency: 5.24609 MHz
 Impedance: $-j8.08 \Omega$
 Series L: -245.01 nH
 Series C: 3.7566 nF
 Parallel R: $-\Omega$
 Parallel X: 3.7507 nF

VSWR: -160.618
 Return loss: 0.108 dB
 Quality factor: 25.28
 S11 Phase: -161.65°
 S21 Gain: -63.800 dB
 S21 Phase: 85.47°

Marker 5

Frequency: 7.01070 MHz
 Impedance: $-j4.6 \Omega$
 Series L: -104.47 nH
 Series C: 4.933 nF
 Parallel R: $-\Omega$
 Parallel X: 4.9018 nF

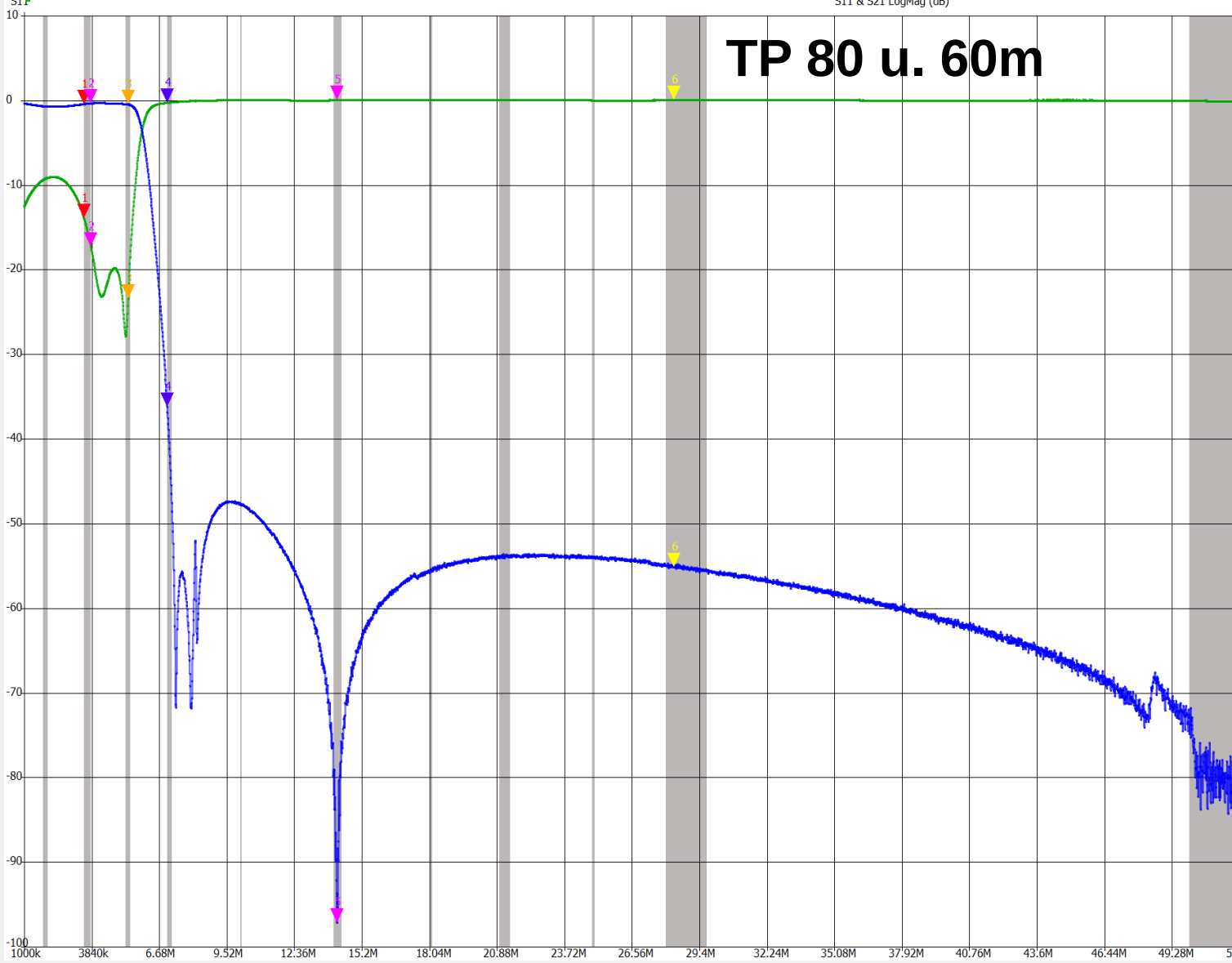
VSWR: -137.299
 Return loss: 0.127 dB
 Quality factor: 12.53
 S11 Phase: -169.48°
 S21 Gain: -55.677 dB
 S21 Phase: -63.65°

Marker 6

Frequency: 14.1243 MHz
 Impedance: $+j1.02 \Omega$
 Series L: 11.484 nH
 Series C: -11.056 nF
 Parallel R: $-\Omega$
 Parallel X: 11.65 nH

VSWR: -408.597
 Return loss: 0.043 dB
 Quality factor: 8.325
 S11 Phase: 177.66°
 S21 Gain: -57.723 dB
 S21 Phase: -86.91°

TP 80 u. 60m



Marker 1

Frequency: 3.50905 MHz
 Impedance: $36.3 + j11.1 \Omega$
 Series L: 502.37 nH
 Series C: -4.0948 nF
 Parallel R: 39.663 Ω
 Parallel X: 5.8924 μH

VSWR: 1.508
 Return loss: -13.863 dB
 Quality factor: 0.305
 S11 Phase: 133.77°
 S21 Gain: -0.412 dB
 S21 Phase: -139.29°

Marker 2

Frequency: 3.79856 MHz
 Impedance: $41.4 + j9.11 \Omega$
 Series L: 381.52 nH
 Series C: -4.6014 nF
 Parallel R: 43.361 Ω
 Parallel X: 8.2512 μH

VSWR: 1.317
 Return loss: -17.281 dB
 Quality factor: 0.22
 S11 Phase: 127.82°
 S21 Gain: -0.332 dB
 S21 Phase: -154.30°

Marker 3

Frequency: 5.37016 MHz
 Impedance: $56.9 - j2.12 \Omega$
 Series L: -62.693 nH
 Series C: 14.01 nF
 Parallel R: 56.991 Ω
 Parallel X: 19.329 pF

VSWR: 1.145
 Return loss: -23.401 dB
 Quality factor: 0.037
 S11 Phase: -15.88°
 S21 Gain: -0.457 dB
 S21 Phase: 90.28°

Marker 4

Frequency: 7.01070 MHz
 Impedance: $153 + j689 \Omega$
 Series L: 15.65 μH
 Series C: -32.93 pF
 Parallel R: 3.2596 k Ω
 Parallel X: 16.421 μH

VSWR: 65.503
 Return loss: -0.265 dB
 Quality factor: 4.506
 S11 Phase: 7.91°
 S21 Gain: -36.184 dB
 S21 Phase: -125.24°

Marker 5

Frequency: 14.1518 MHz
 Impedance: $-j18.4 \Omega$
 Series L: -206.86 nH
 Series C: 611.42 pF
 Parallel R: $-\Omega$
 Parallel X: 611.4 pF

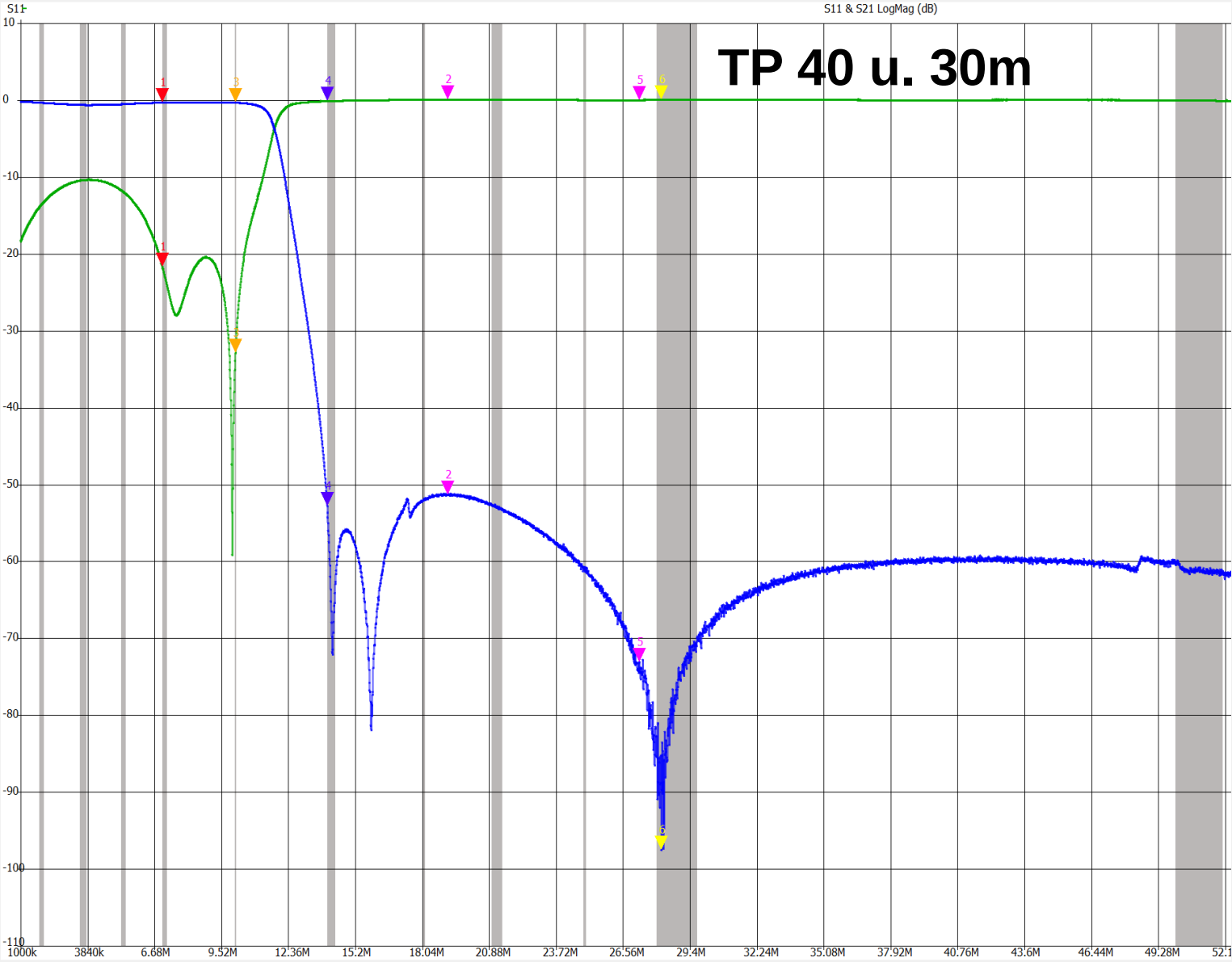
VSWR: -495.032
 Return loss: 0.035 dB
 Quality factor: 160.4
 S11 Phase: -139.61°
 S21 Gain: -97.177 dB
 S21 Phase: -177.13°

Marker 6

Frequency: 28.3239 MHz
 Impedance: $-j1.87 \Omega$
 Series L: -10.515 nH
 Series C: 3.0029 nF
 Parallel R: $-\Omega$
 Parallel X: 2.9912 nF

VSWR: -428.092
 Return loss: 0.041 dB
 Quality factor: 16
 S11 Phase: -175.71°
 S21 Gain: -55.124 dB
 S21 Phase: -88.31°

TP 40 u. 30m



Marker 1

Frequency: 7.01070 MHz
 Impedance: $50.7 + j8.31 \Omega$
 Series L: 188.58 nH
 Series C: -2.733 nF
 Parallel R: 52.015 Ω
 Parallel X: 7.2006 μH

VSWR: 1.180
 Return loss: -21.671 dB
 Quality factor: 0.164
 S11 Phase: 80.79°
 S21 Gain: -0.277 dB
 S21 Phase: -153.26°

Marker 2

Frequency: 19.1286 MHz
 Impedance: $-j29.2 \Omega$
 Series L: -243.26 nH
 Series C: 284.58 pF
 Parallel R: $-\Omega$
 Parallel X: 284.55 pF

VSWR: -212.772
 Return loss: 0.082 dB
 Quality factor: 92.71
 S11 Phase: -119.37°
 S21 Gain: -51.346 dB
 S21 Phase: 141.23°

Marker 3

Frequency: 10.1125 MHz
 Impedance: $52.2 - j706m \Omega$
 Series L: -11.119 nH
 Series C: 22.277 nF
 Parallel R: 52.229 Ω
 Parallel X: 4.0769 pF

VSWR: 1.047
 Return loss: -32.847 dB
 Quality factor: 0.014
 S11 Phase: -17.26°
 S21 Gain: -0.304 dB
 S21 Phase: 94.25°

Marker 4

Frequency: 14.0002 MHz
 Impedance: $1.4 - j91.4 \Omega$
 Series L: -1.0389 μH
 Series C: 124.4 pF
 Parallel R: 5.9878 k Ω
 Parallel X: 124.37 pF

VSWR: 155.591
 Return loss: -0.112 dB
 Quality factor: 65.51
 S11 Phase: -57.36°
 S21 Gain: -52.834 dB
 S21 Phase: -155.71°

Marker 5

Frequency: 27.2485 MHz
 Impedance: $-j13.3 \Omega$
 Series L: -77.781 nH
 Series C: 438.61 pF
 Parallel R: $-\Omega$
 Parallel X: 438.59 pF

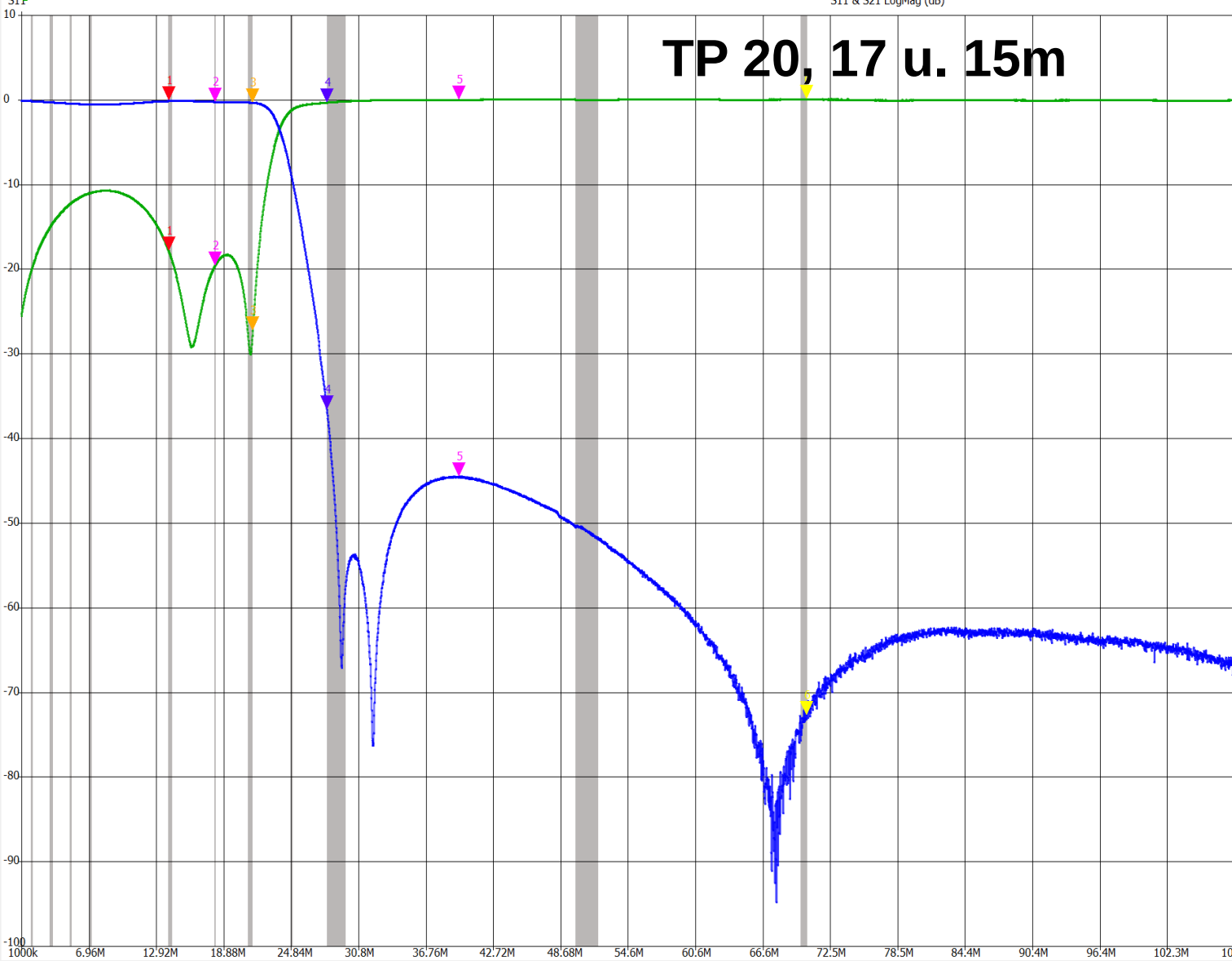
VSWR: -536.842
 Return loss: 0.032 dB
 Quality factor: 133.5
 S11 Phase: -150.17°
 S21 Gain: -73.096 dB
 S21 Phase: 116.99°

Marker 6

Frequency: 28.1860 MHz
 Impedance: $-j12.3 \Omega$
 Series L: -69.272 nH
 Series C: 460.28 pF
 Parallel R: $-\Omega$
 Parallel X: 460.19 pF

VSWR: -323.711
 Return loss: 0.054 dB
 Quality factor: 74.91
 S11 Phase: -152.43°
 S21 Gain: -97.518 dB
 S21 Phase: 55.41°

TP 20, 17 u. 15m



Marker 1

Frequency: 14.0194 MHz	VSWR: 1.293
Impedance: $41.6+j8.19 \Omega$	Return loss: -17.881 dB
Series L: 92.946 nH	Quality factor: 0.197
Series C: -1.3866 nF	S11 Phase: 130.66°
Parallel R: 43.203 Ω	S21 Gain: -0.141 dB
Parallel X: 2.4915 μH	S21 Phase: -140.75°

Marker 2

Frequency: 18.0988 MHz	VSWR: 1.233
Impedance: $41.5-j4.36 \Omega$	Return loss: -19.638 dB
Series L: -38.322 nH	Quality factor: 0.105
Series C: 2.0179 nF	S11 Phase: -150.12°
Parallel R: 41.959 Ω	S21 Gain: -0.231 dB
Parallel X: 22.006 pF	S21 Phase: 159.60°

Marker 3

Frequency: 21.4549 MHz	VSWR: 1.091
Impedance: $48.5-j4 \Omega$	Return loss: -27.254 dB
Series L: -29.658 nH	Quality factor: 0.082
Series C: 1.8554 nF	S11 Phase: -108.44°
Parallel R: 48.814 Ω	S21 Gain: -0.333 dB
Parallel X: 12.531 pF	S21 Phase: 88.41°

Marker 4

Frequency: 27.9936 MHz	VSWR: 55.127
Impedance: $178+j675 \Omega$	Return loss: -0.315 dB
Series L: 3.8376 μH	Quality factor: 3.801
Series C: -8.4229 pF	S11 Phase: 7.93°
Parallel R: 2.7432 k Ω	S21 Gain: -36.598 dB
Parallel X: 4.1033 μH	S21 Phase: -125.28°

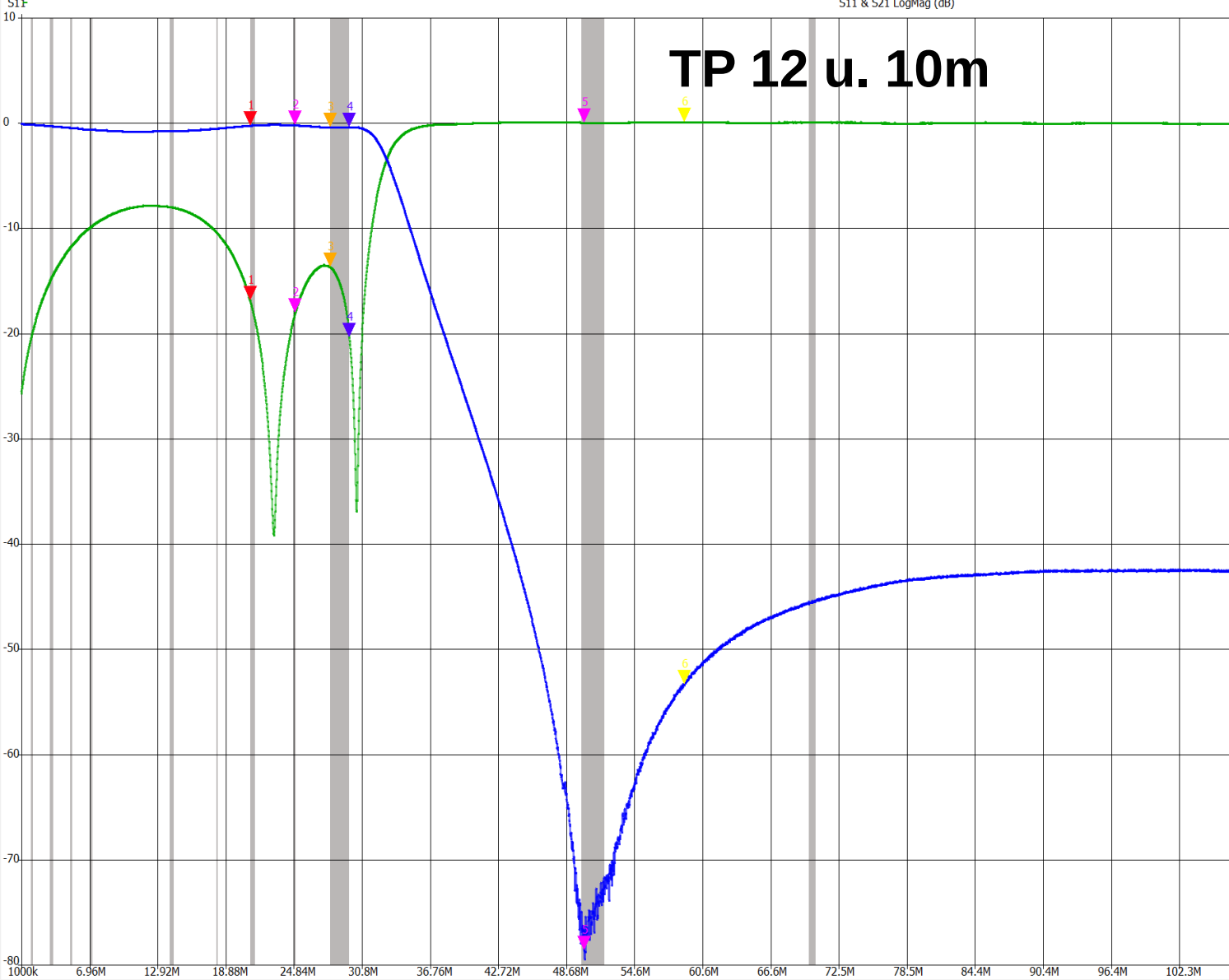
Marker 5

Frequency: 39.6821 MHz	VSWR: 663.962
Impedance: $115m-j36.4 \Omega$	Return loss: -0.026 dB
Series L: -145.99 nH	Quality factor: 315.9
Series C: 110.18 pF	S11 Phase: -107.89°
Parallel R: 11.5 k Ω	S21 Gain: -44.572 dB
Parallel X: 110.18 pF	S21 Phase: 143.26°

Marker 6

Frequency: 70.4368 MHz	VSWR: -372.436
Impedance: -j5.24 Ω	Return loss: 0.047 dB
Series L: -11.843 nH	Quality factor: 38.62
Series C: 431.1 pF	S11 Phase: -168.03°
Parallel R: - Ω	S21 Gain: -72.717 dB
Parallel X: 430.81 pF	S21 Phase: -81.64°

TP 12 u. 10m



Marker 1

Frequency: 21.0209 MHz
 Impedance: $39.4 + j7.32 \Omega$
 Series L: 55.387 nH
 Series C: -1.035 nF
 Parallel R: 40.802 Ω
 Parallel X: 1.6657 μH

VSWR: 1.334
 Return loss: -16.887 dB
 Quality factor: 0.185
 S11 Phase: 140.60°
 S21 Gain: -0.236 dB
 S21 Phase: -134.23°

Marker 2

Frequency: 24.9557 MHz
 Impedance: $49.2 - j12.5 \Omega$
 Series L: -79.565 nH
 Series C: 511.19 pF
 Parallel R: 52.355 Ω
 Parallel X: 30.894 pF

VSWR: 1.286
 Return loss: -18.058 dB
 Quality factor: 0.254
 S11 Phase: -86.54°
 S21 Gain: -0.206 dB
 S21 Phase: -172.70°

Marker 3

Frequency: 28.0225 MHz
 Impedance: $38.7 - j14.7 \Omega$
 Series L: -83.531 nH
 Series C: 386.17 pF
 Parallel R: 44.305 Ω
 Parallel X: 48.695 pF

VSWR: 1.519
 Return loss: -13.718 dB
 Quality factor: 0.38
 S11 Phase: -118.08°
 S21 Gain: -0.403 dB
 S21 Phase: 151.94°

Marker 4

Frequency: 29.7005 MHz
 Impedance: $43.1 - j5.62 \Omega$
 Series L: -30.138 nH
 Series C: 952.79 pF
 Parallel R: 43.816 Ω
 Parallel X: 15.966 pF

VSWR: 1.211
 Return loss: -20.390 dB
 Quality factor: 0.131
 S11 Phase: -137.43°
 S21 Gain: -0.378 dB
 S21 Phase: 127.06°

Marker 5

Frequency: 50.2133 MHz
 Impedance: $-j15.3 \Omega$
 Series L: -48.518 nH
 Series C: 207.06 pF
 Parallel R: $-\Omega$
 Parallel X: 207.04 pF

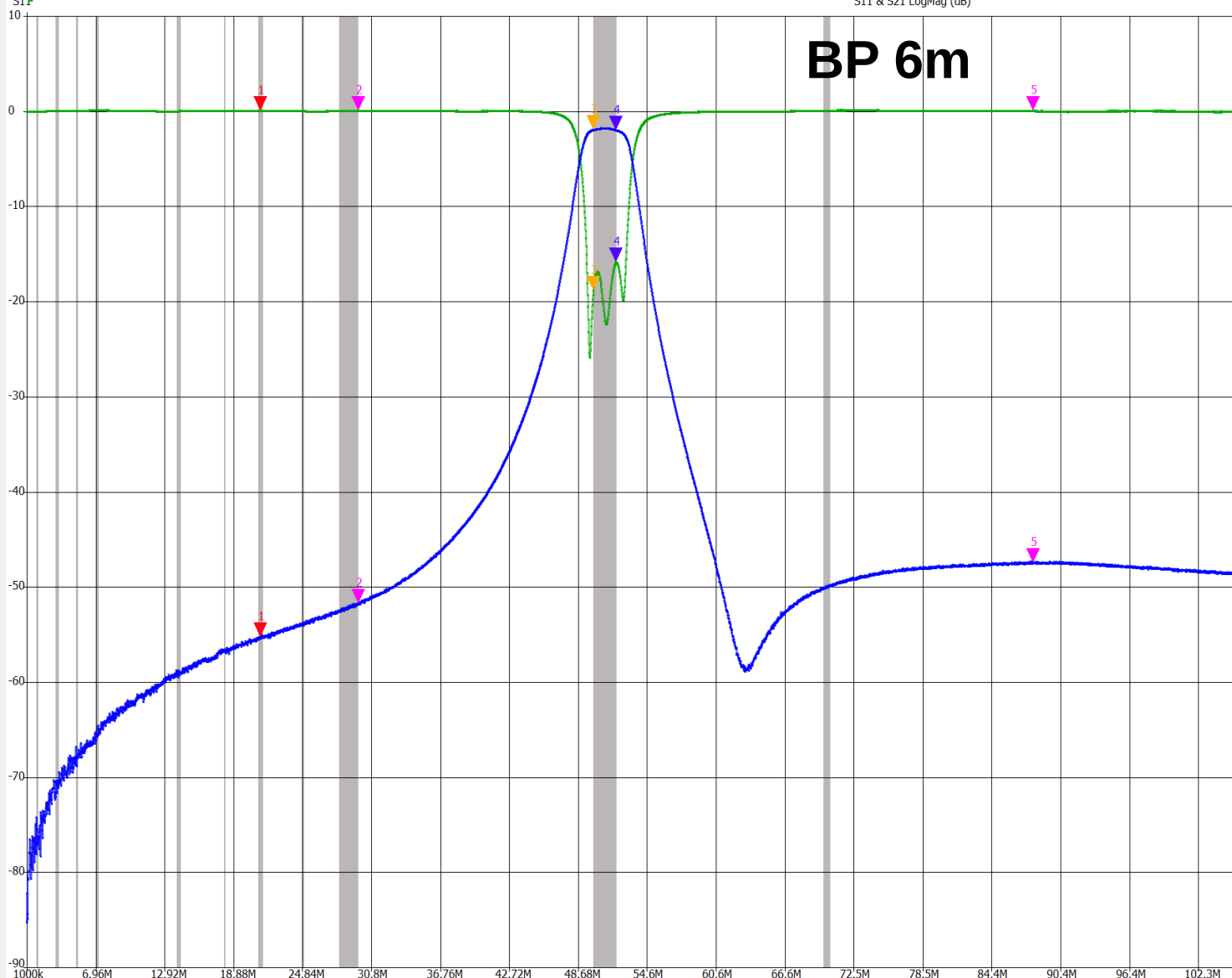
VSWR: -384.712
 Return loss: 0.045 dB
 Quality factor: 107.7
 S11 Phase: -145.96°
 S21 Gain: -78.615 dB
 S21 Phase: -120.92°

Marker 6

Frequency: 59.0087 MHz
 Impedance: $-j9.38 \Omega$
 Series L: -25.295 nH
 Series C: 287.59 pF
 Parallel R: $-\Omega$
 Parallel X: 287.35 pF

VSWR: -191.354
 Return loss: 0.091 dB
 Quality factor: 34.67
 S11 Phase: -158.75°
 S21 Gain: -53.342 dB
 S21 Phase: -80.76°

BP 6m



Marker 1

Frequency: 21.1945 MHz
 Impedance: $-j155 \Omega$
 Series L: $-1.1613 \mu\text{H}$
 Series C: 48.558 pF
 Parallel R: $-\Omega$
 Parallel X: 48.547 pF

VSWR: -232.035
 Return loss: 0.075 dB
 Quality factor: 67.91
 S11 Phase: -35.83°
 S21 Gain: -55.286 dB
 S21 Phase: 49.66°

Marker 2

Frequency: 29.7005 MHz
 Impedance: $-j106 \Omega$
 Series L: -565.74 nH
 Series C: 50.757 pF
 Parallel R: $-\Omega$
 Parallel X: 50.752 pF

VSWR: -258.073
 Return loss: 0.067 dB
 Quality factor: 99.82
 S11 Phase: -50.68°
 S21 Gain: -51.727 dB
 S21 Phase: 34.57°

Marker 3

Frequency: 50.0108 MHz
 Impedance: $48-j11 \Omega$
 Series L: -35.14 nH
 Series C: 288.21 pF
 Parallel R: 50.531Ω
 Parallel X: 14.49 pF

VSWR: 1.257
 Return loss: -18.876 dB
 Quality factor: 0.23
 S11 Phase: -93.88°
 S21 Gain: -1.956 dB
 S21 Phase: 174.36°

Marker 4

Frequency: 51.9782 MHz
 Impedance: $64.6-j11.3 \Omega$
 Series L: -34.567 nH
 Series C: 271.23 pF
 Parallel R: 66.594Ω
 Parallel X: 8.0326 pF

VSWR: 1.382
 Return loss: -15.897 dB
 Quality factor: 0.175
 S11 Phase: -32.05°
 S21 Gain: -1.992 dB
 S21 Phase: 61.07°

Marker 5

Frequency: 88.0275 MHz
 Impedance: $-j39.8 \Omega$
 Series L: -72.02 nH
 Series C: 45.389 pF
 Parallel R: $-\Omega$
 Parallel X: 45.388 pF

VSWR: -651.810
 Return loss: 0.027 dB
 Quality factor: 317.7
 S11 Phase: -102.91°
 S21 Gain: -47.478 dB
 S21 Phase: -18.56°

Marker 6

Frequency: 145.978 MHz
 Impedance: $301m-j15.3 \Omega$
 Series L: -16.676 nH
 Series C: 71.281 pF
 Parallel R: 777.49Ω
 Parallel X: 71.253 pF

VSWR: 181.648
 Return loss: -0.096 dB
 Quality factor: 50.81
 S11 Phase: -145.98°
 S21 Gain: -52.340 dB
 S21 Phase: -95.54°

VY 73 de Werner - DK3WM

DELTA



VEB ELEKTROMECHANISCHE
WERKSTÄTTEN WOLTERS DORF

„TREW 79“

Temperaturregelgerät

TYP 637,02

220 V 1 A 80 500 C

Damit kann man auch noch löten – hi hi – sogar SMD 0805

Rauch – TEST - 6m

← kalter Zustand

Nach 2 Min. Mit 10 Watt FM
und die Temp. vom Kern
stieg weiter. →

Was ist zu tun?

Kerne tauschen – probiert
wird nun T50-10

Ist eigentlich auch logisch -
Bei 10W und 2dB Dämpfung
sind über 3,6W zu
"verheizen".

