

Načrtovanje elektronike za

EMC

2

MAHLE



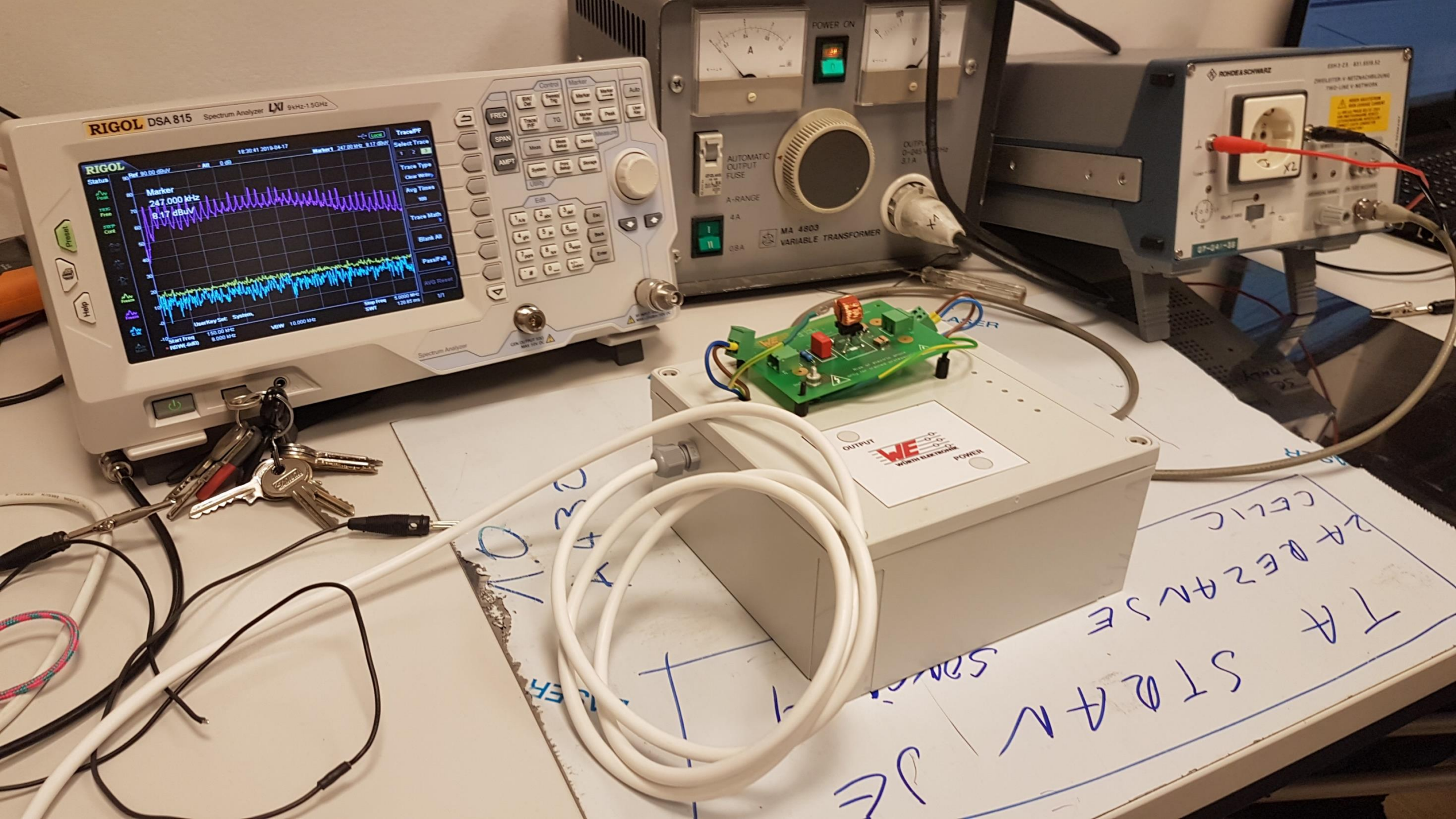
Univerza v Ljubljani
Fakulteta *za elektrotehniko*
Katedra za elektroniko



Laboratorij za fotovoltaiiko
in optoelektroniko



Praktična delavnica načrtovanja EMI filtrov Tomo Kozeljnik in Sašo Božjak, 17. 4. 2019



RIGOL DSA 815 Spectrum Analyzer LXI 9kHz-1.5GHz

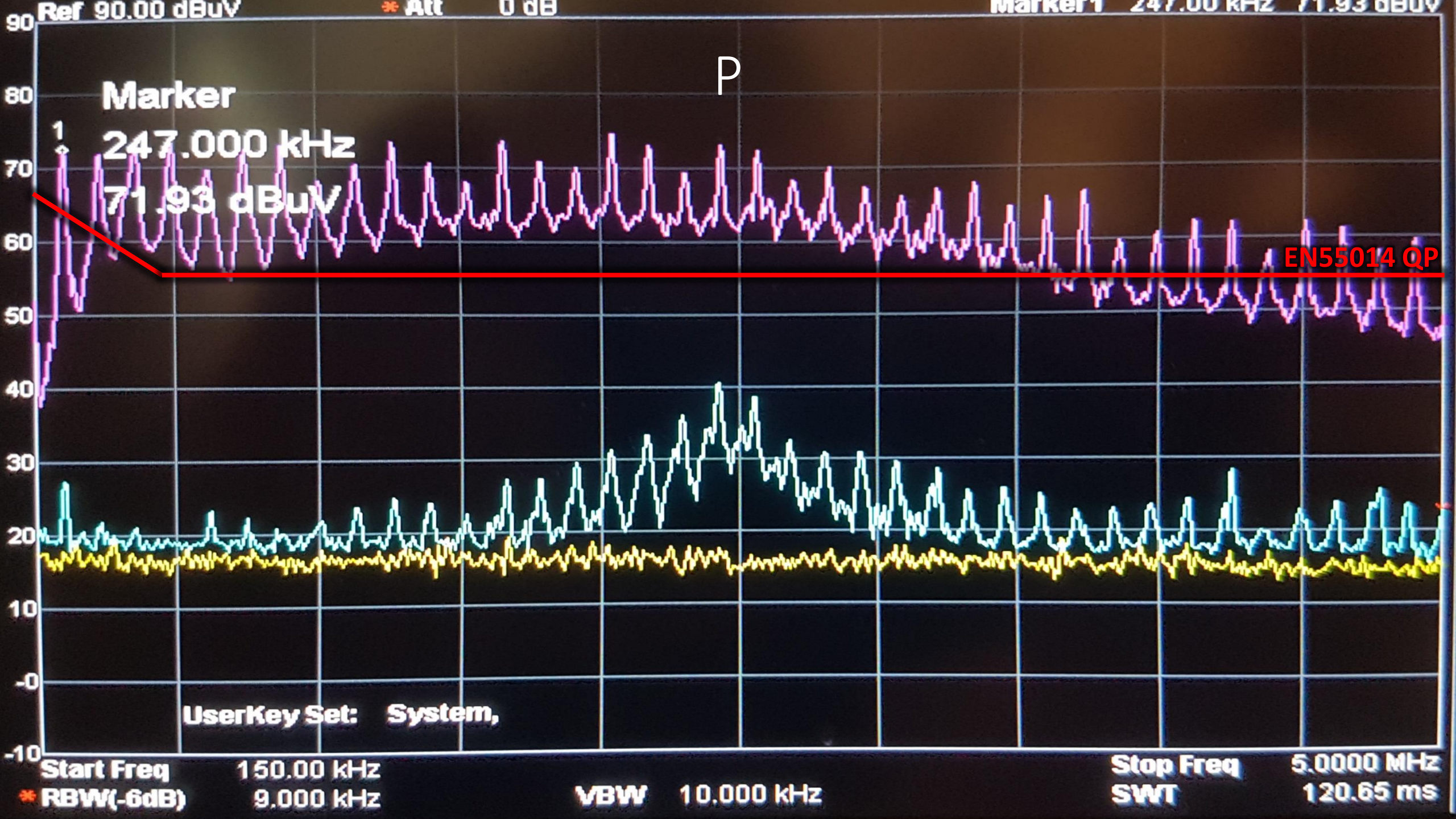


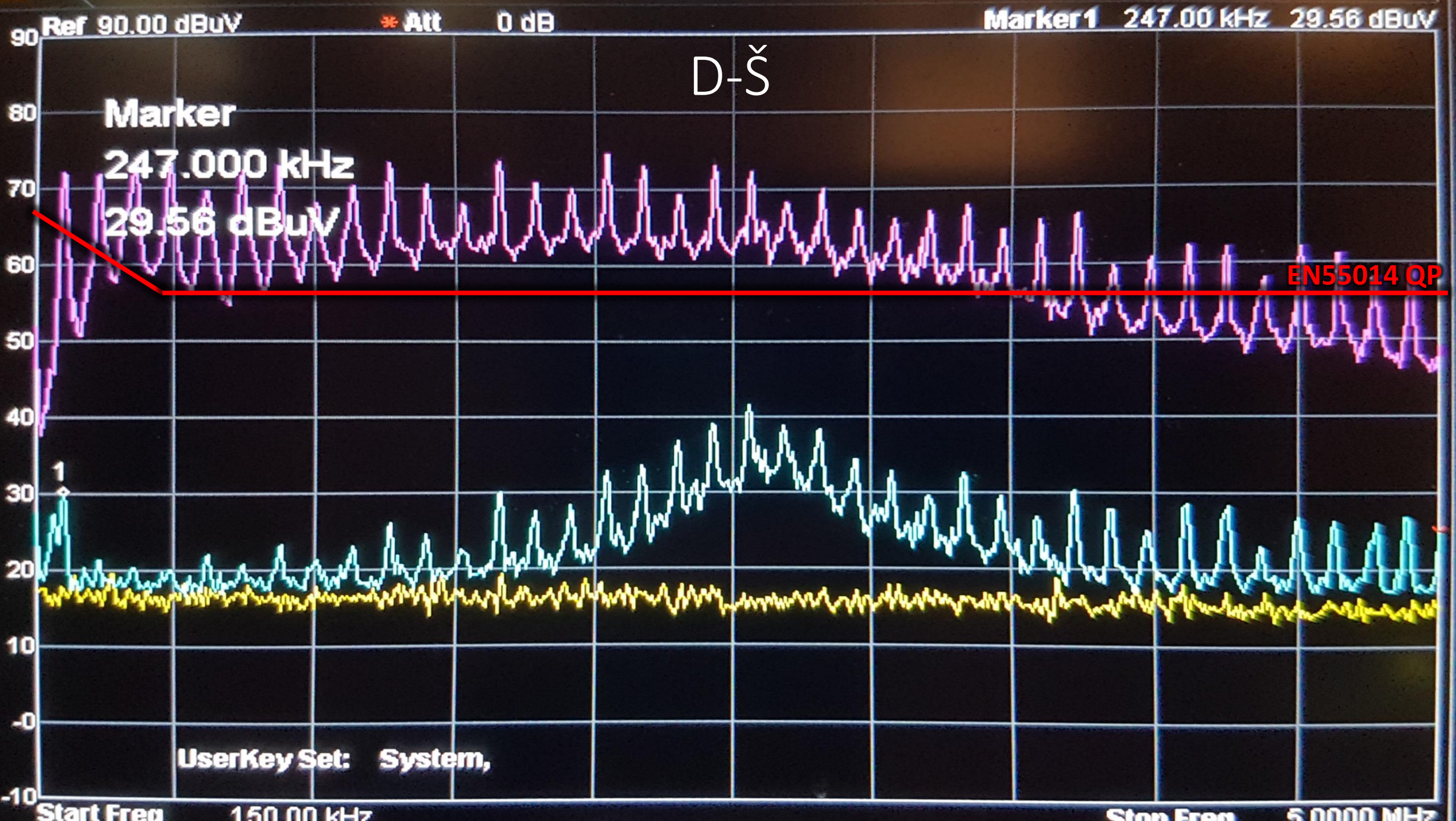
POWER ON
A
V
AUTOMATIC OUTPUT FUSE
A-RANGE
4A
0.8A
MA 4803 VARIABLE TRANSFORMER

ROHDE & SCHWARZ
ESN-2 25 831 8318 82
ZWEILEITIGER V-NETZSCHWELNUNG
TWO-LENE V-NETWORK

WE
WORTH ELECTRONICS
POWER

STAN
STANSE
CELLIC
430
OV

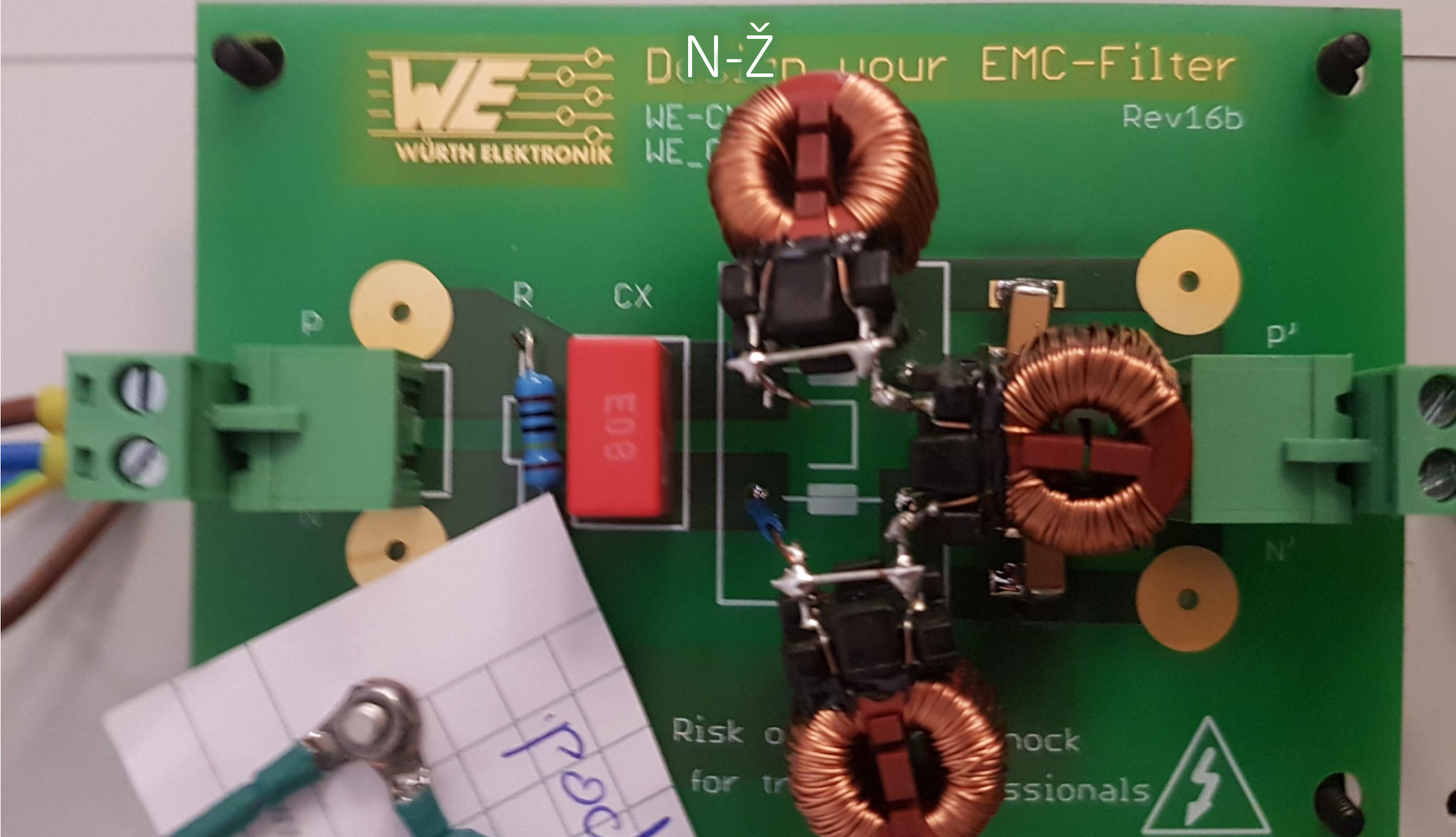






N-Ž
Desktop Hour EMC-Filter

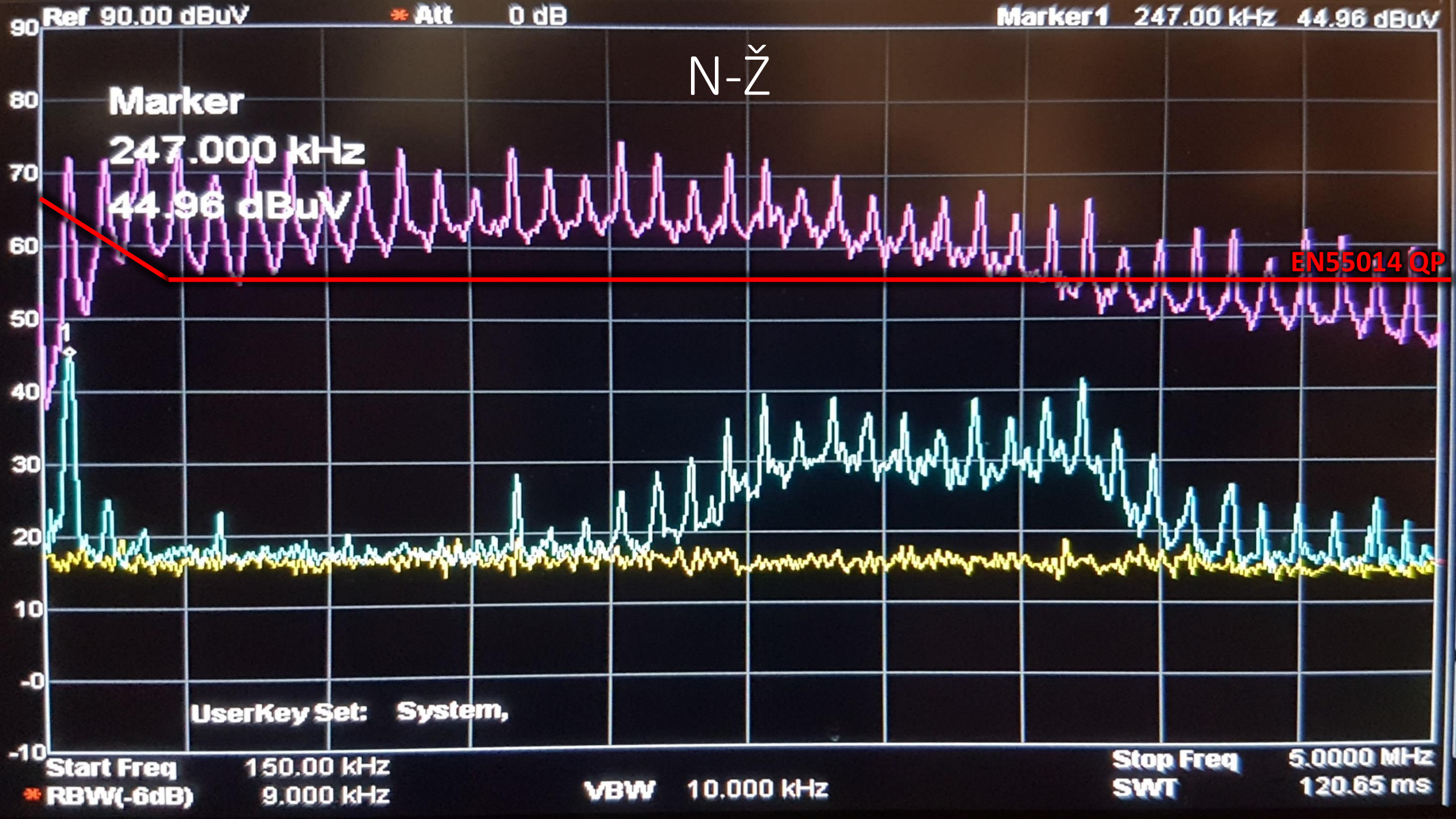
Rev16b



100Ω

Risk of electric shock
for trained professionals







O-K
WE-LF SH

Design your EMC-Filter

Rev16b

R

CX

D'

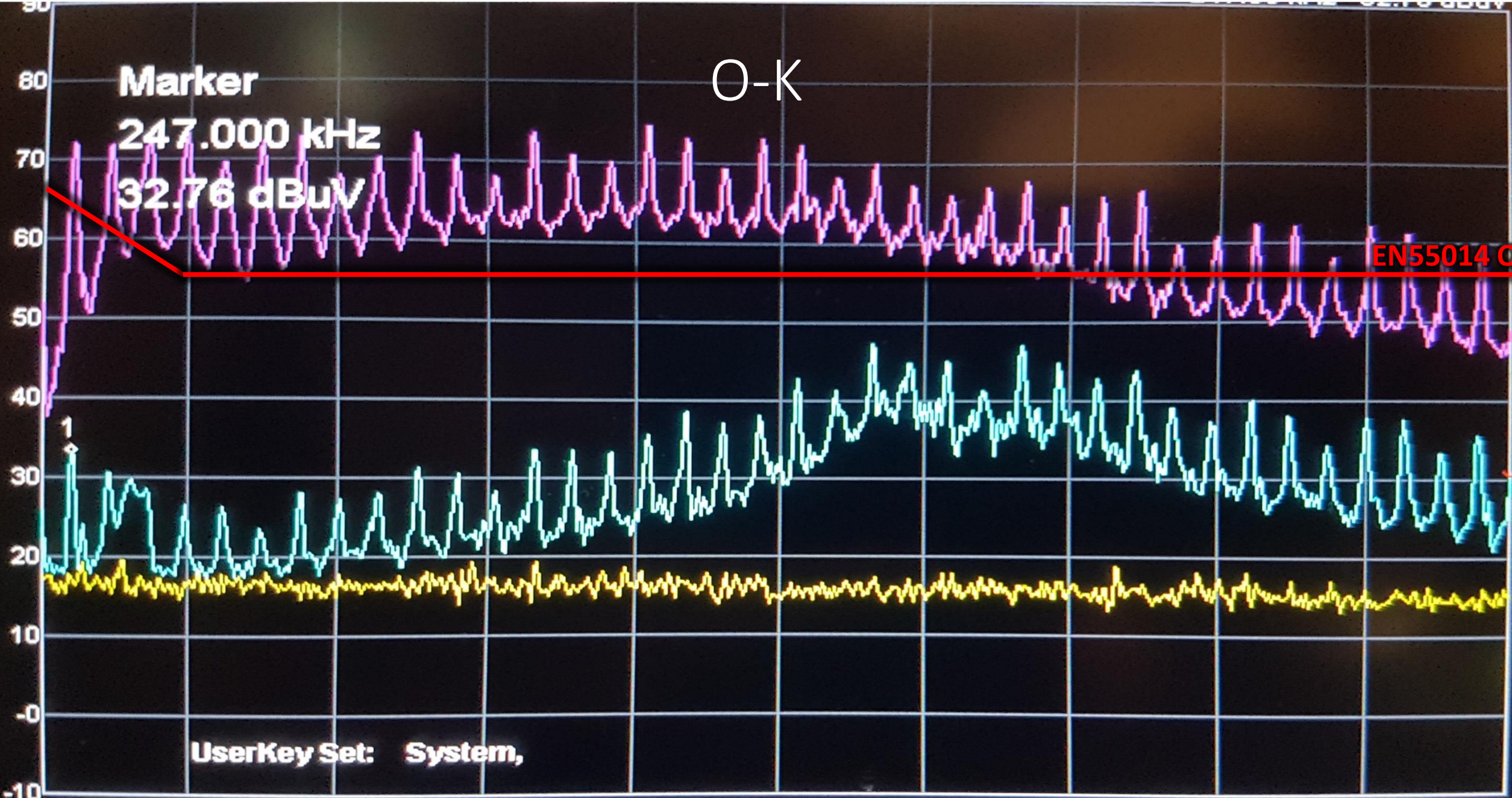
CY

GND

Risk of electric shock

for trained professionals





Marker
247.000 kHz
32.76 dBuV

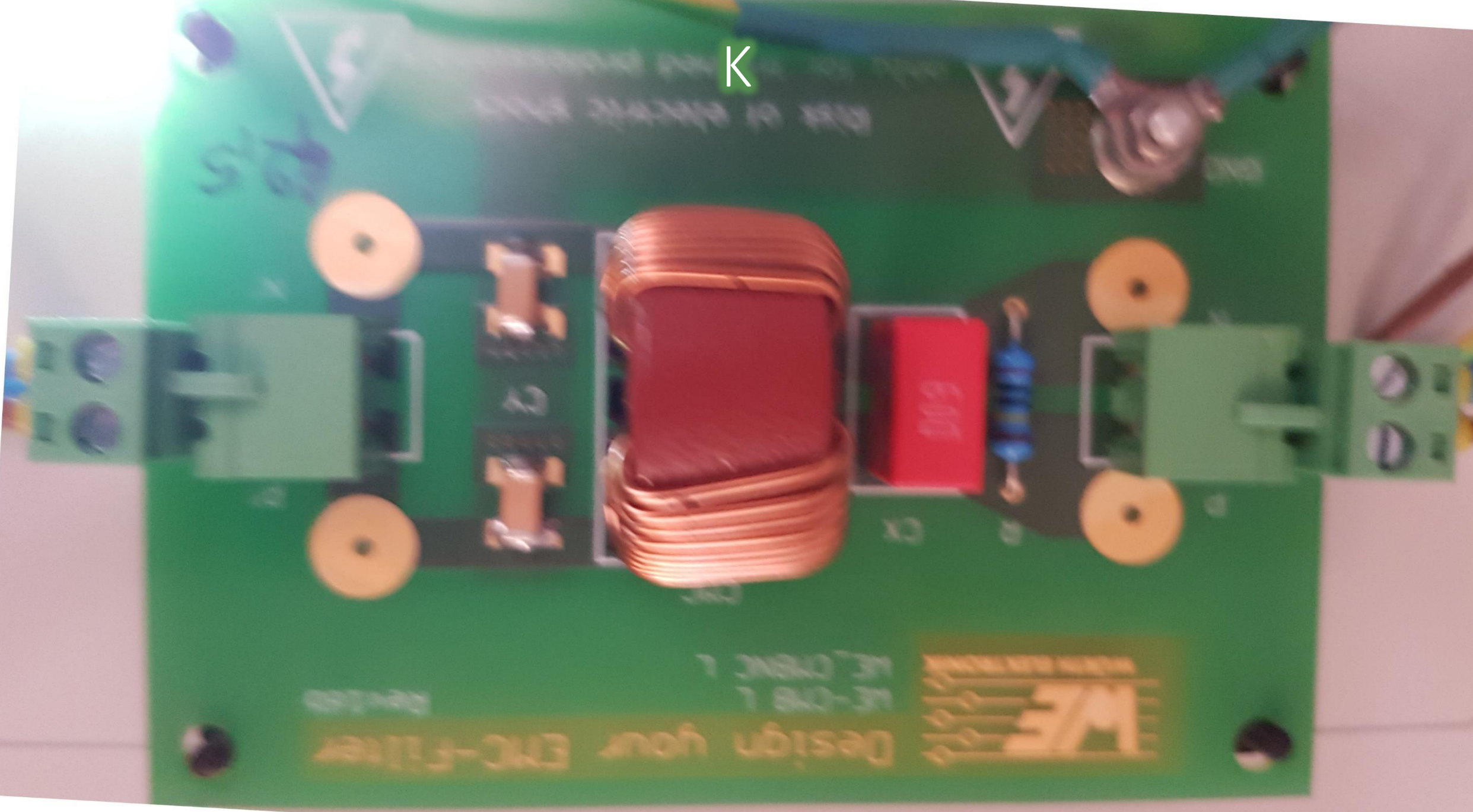
O-K

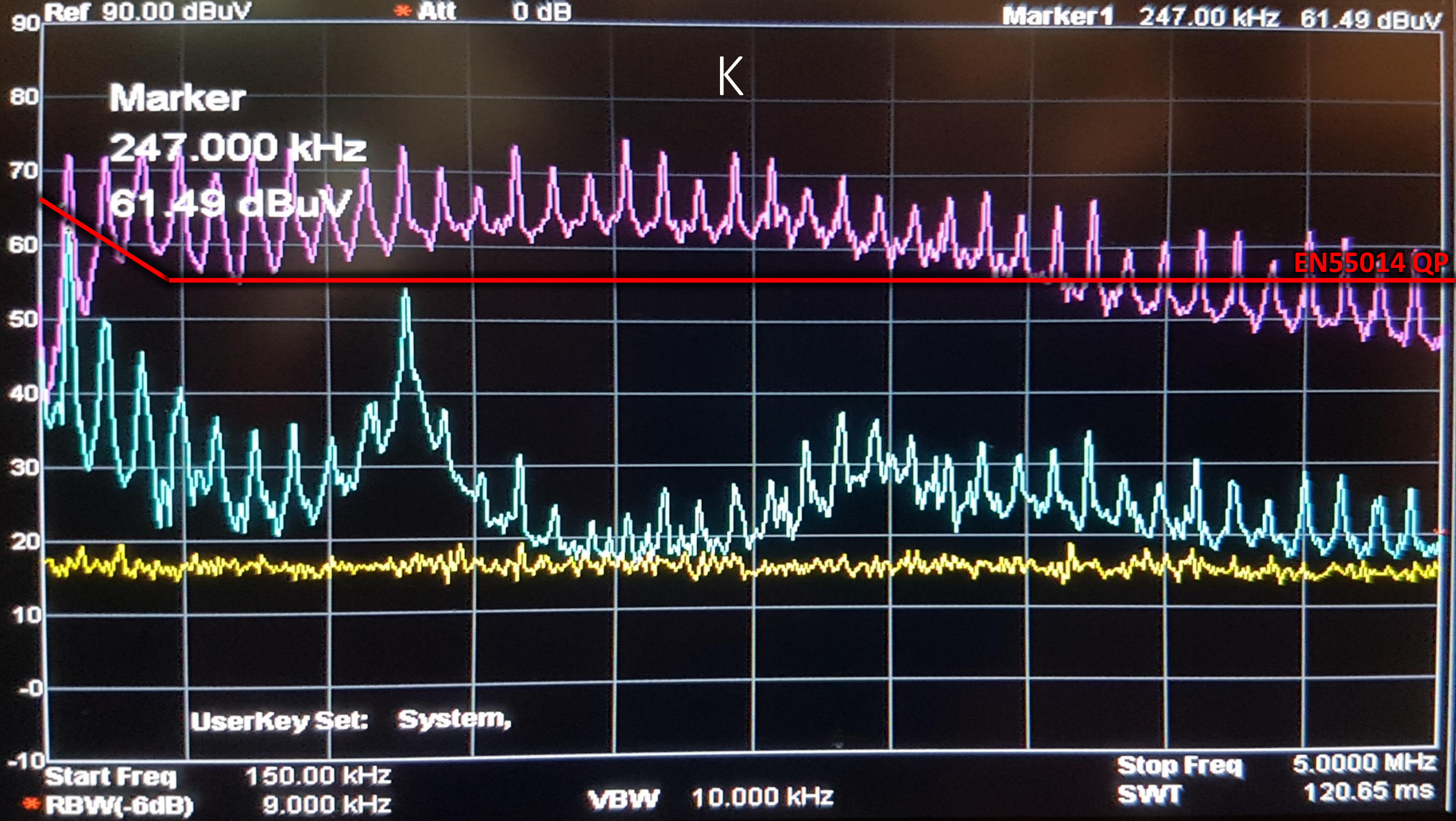
EN55014 QF

UserKey Set: System,

Start Freq 150.00 kHz Stop Freq 5.0000 MHz
* RBW(-6dB) 9.000 kHz VBW 10.000 kHz SWT 120.65 ms

K





WE
WÜRTH ELEKTRONIK

Š-G
WE-LF 5H

Design your EMC-Filter

Rev16b

R

CX

EMC

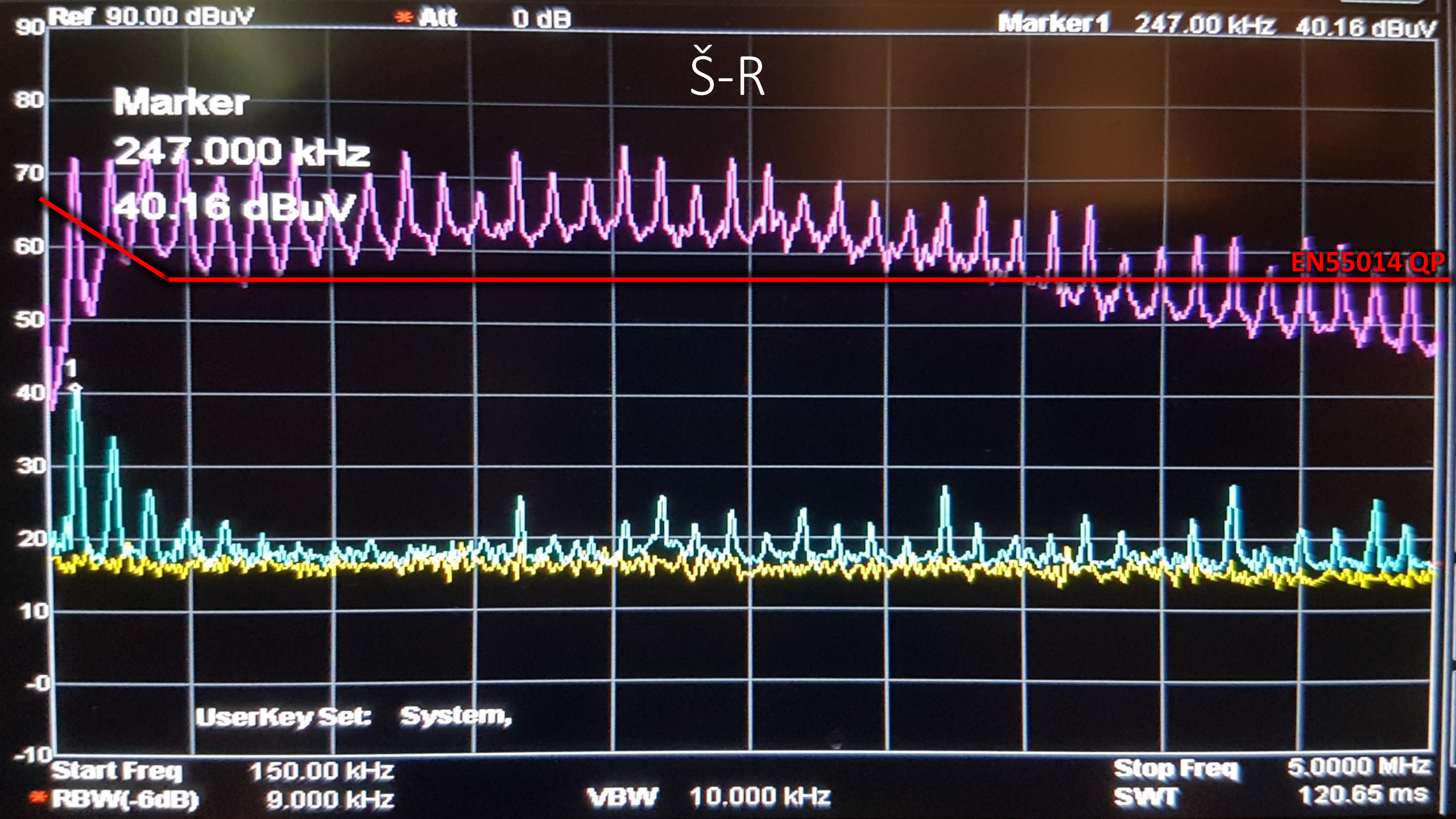
D1

DNB



Risk of electric shock
only for trained personnel

2P0E





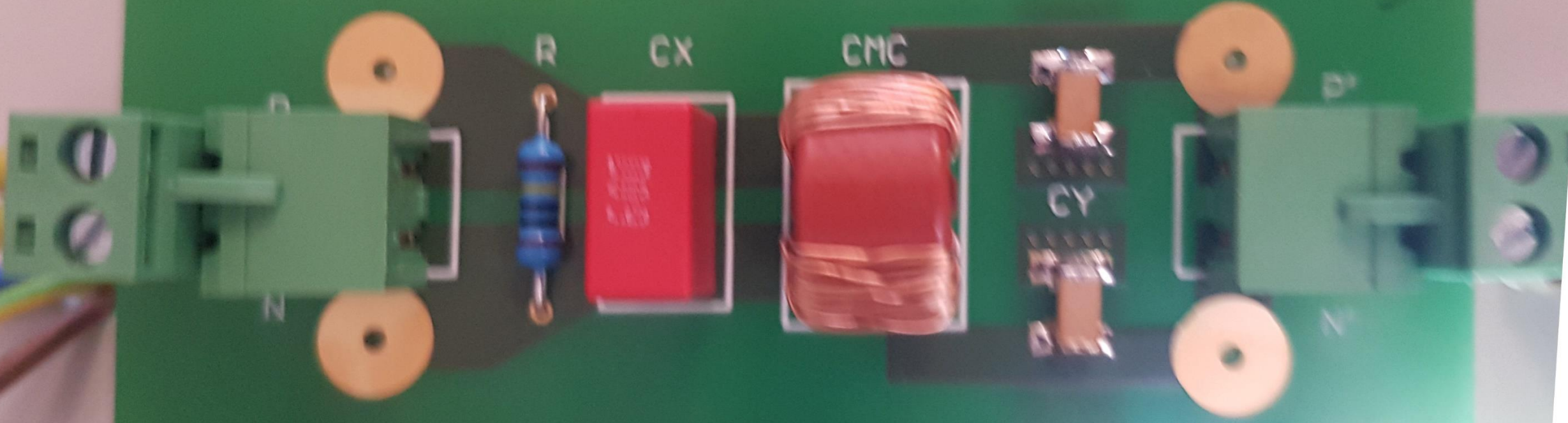
Design your EMC-Filter

WE-CMB S

Rev16b

ALJAZ KOVAČIĆ

33

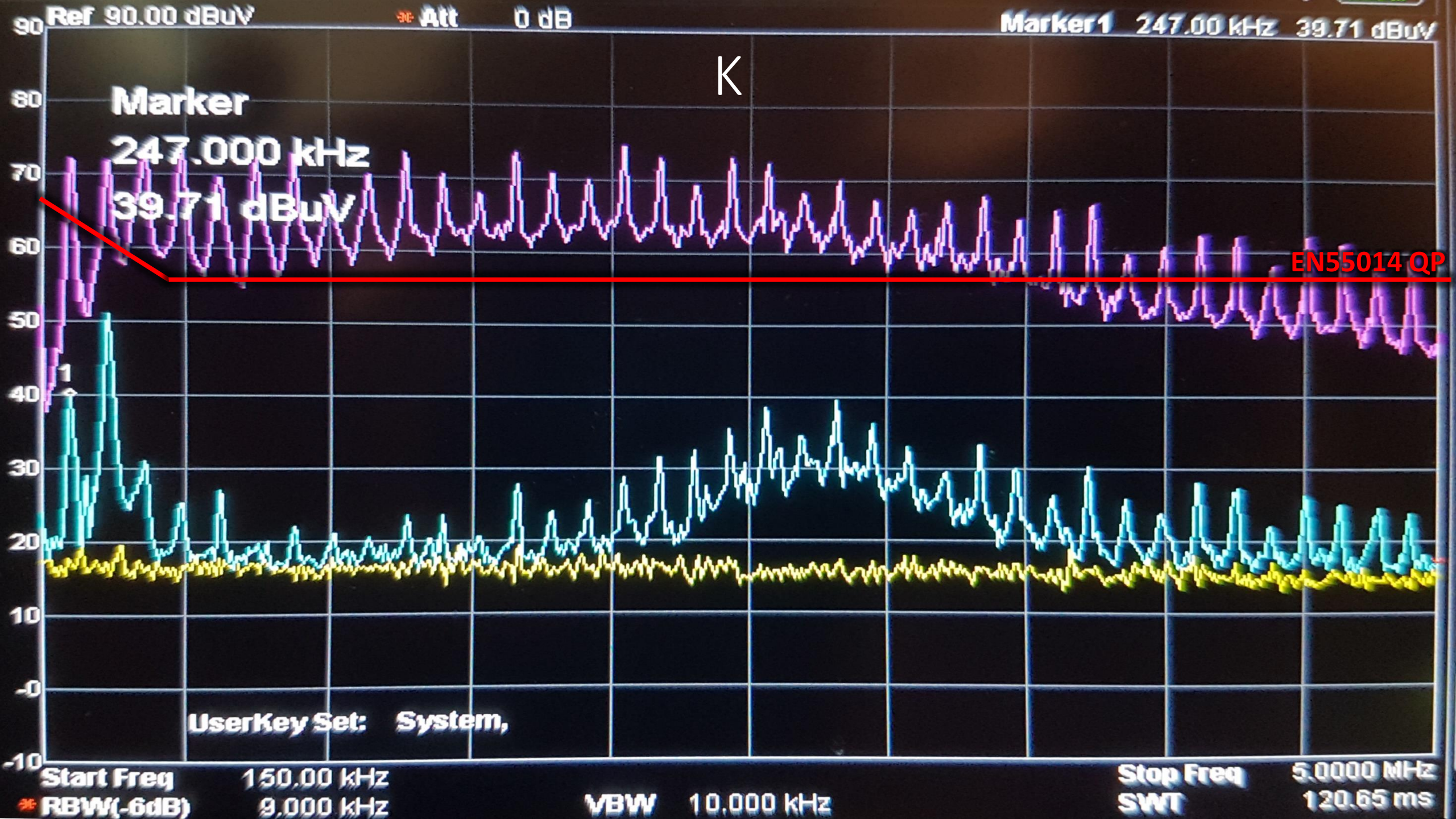


GND



Risk of electric shock
only for trained professionals



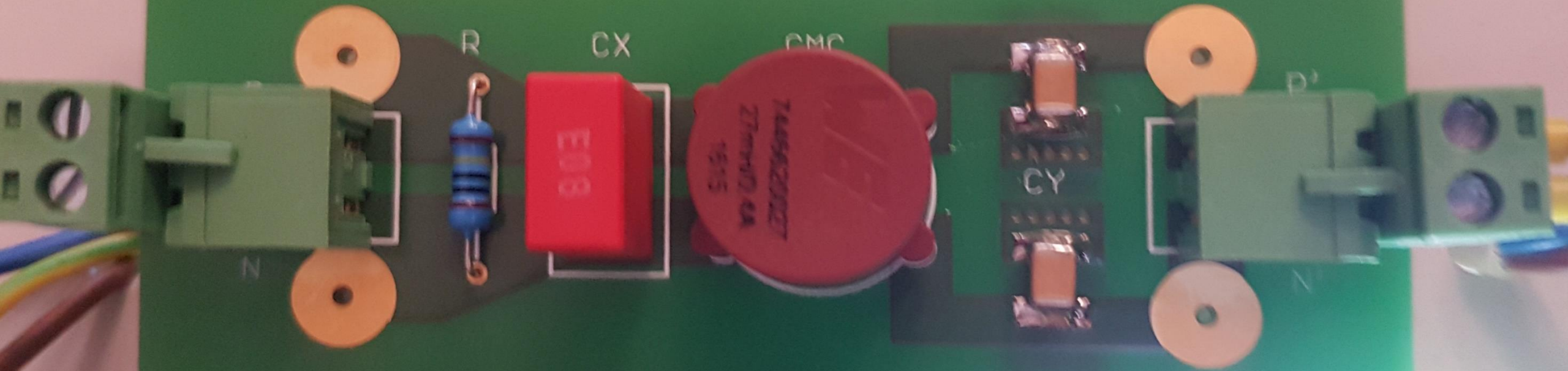




Design your EMC-Filter

WE-LF SH

Rev16b



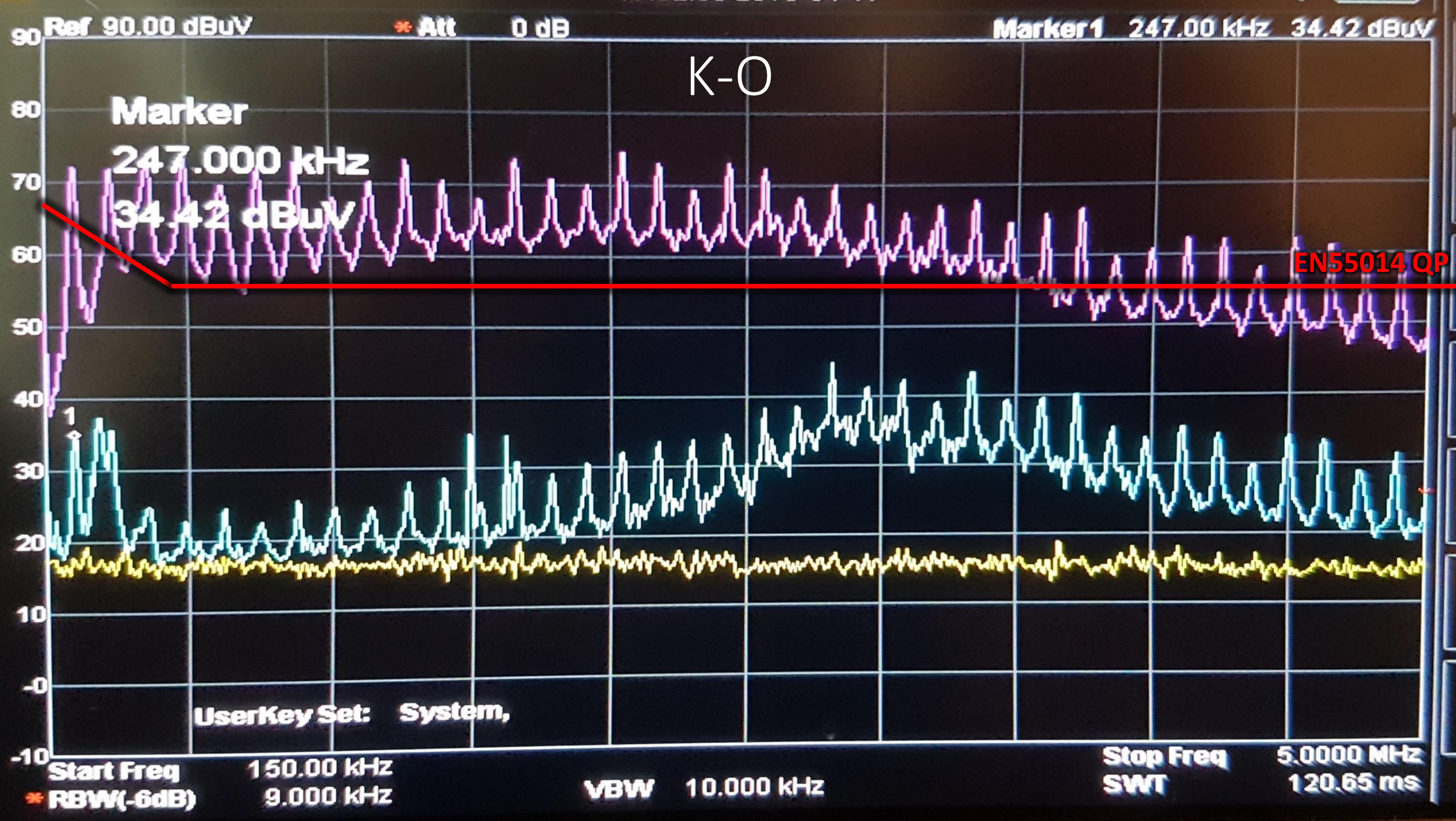
GND

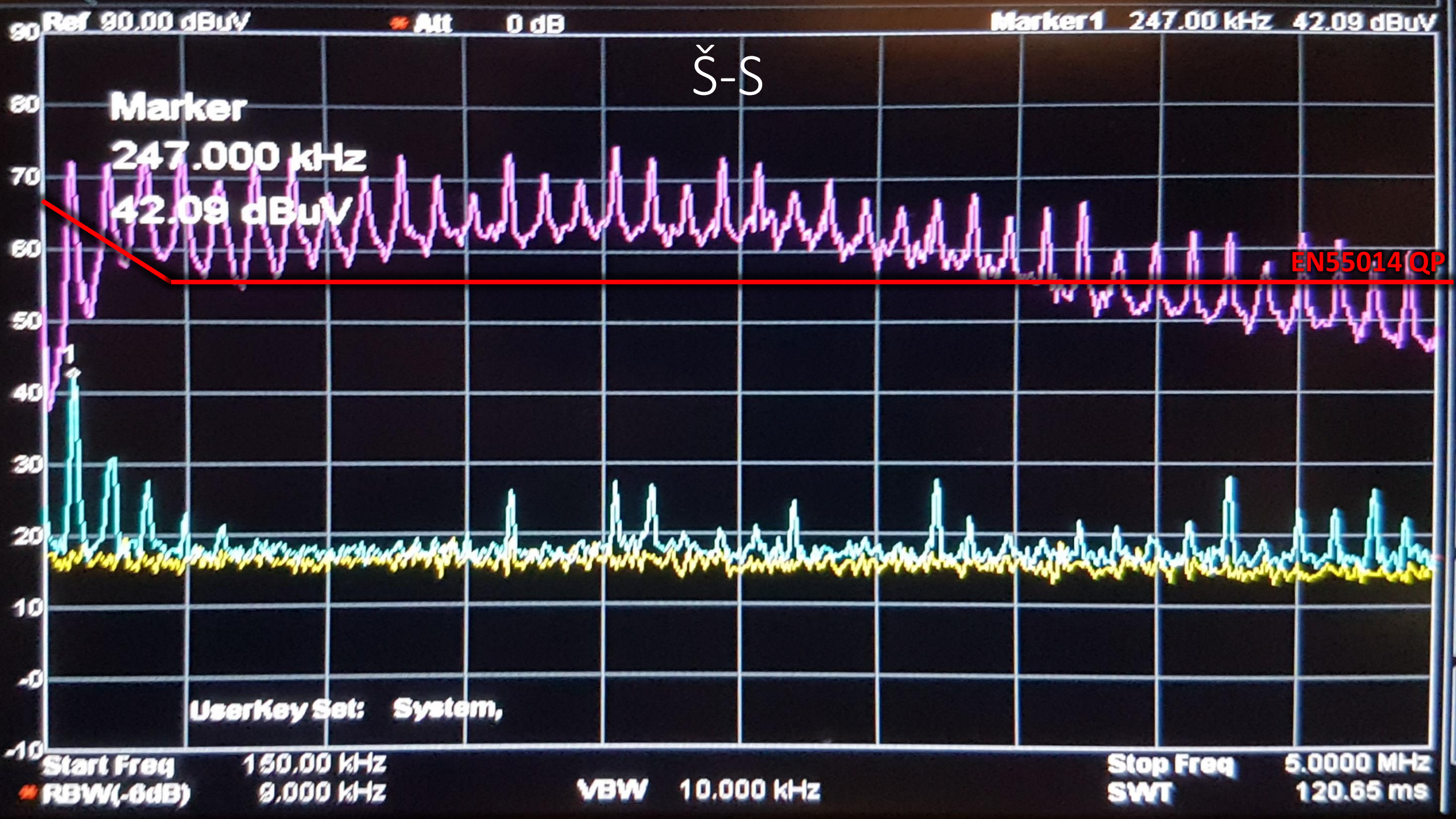


Factor of electric strength
only for standard conditions

35 dB









Design your EMC-Filter
NE-LF SH

Rev1.00

R



CX



C2



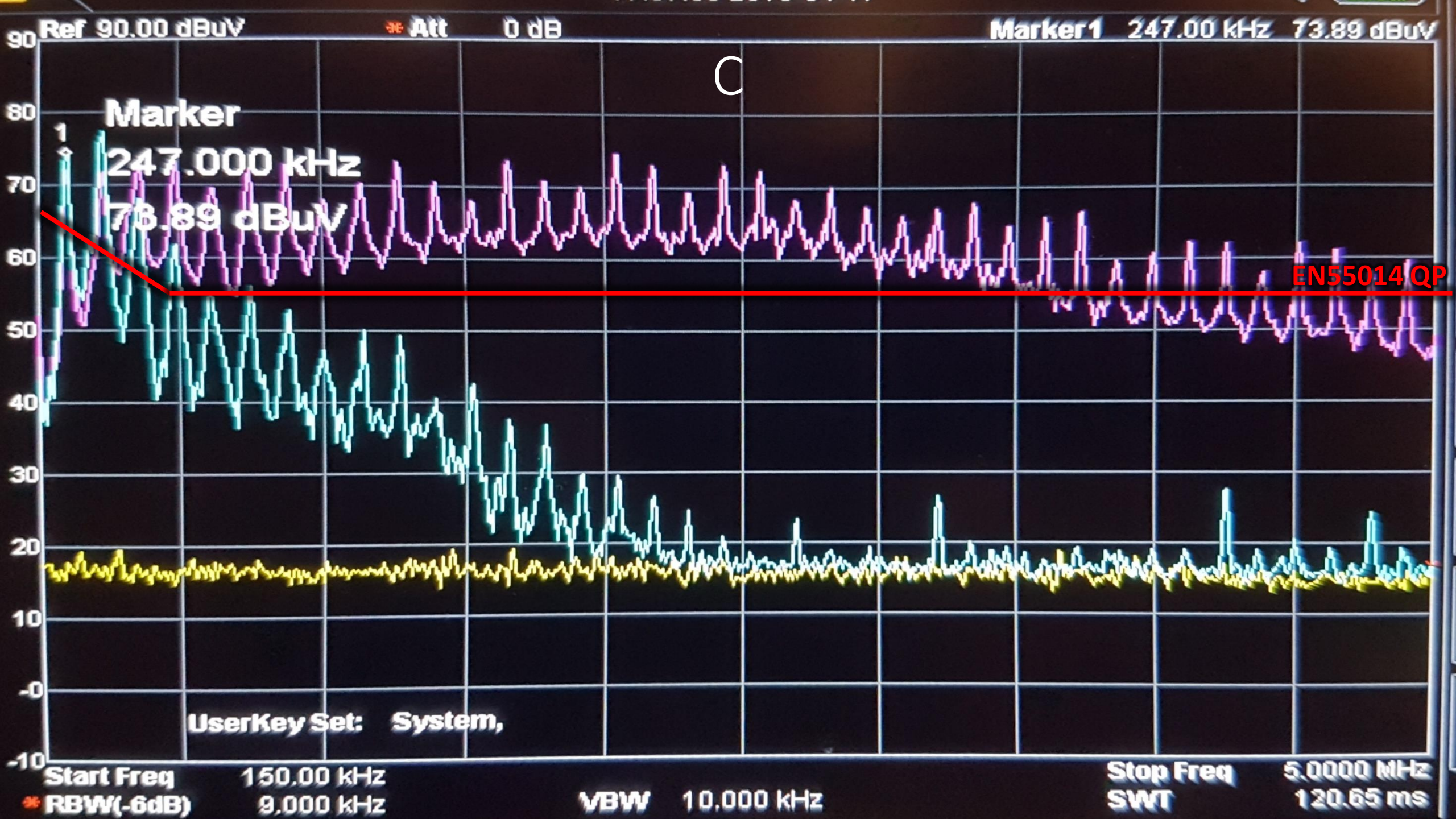
GND



@250Hz 33dB

Risk of electric shock
only for trained professionals







Design your EMC-Filter
WE-LF SH Rev16b

B

R



CX



CMC



CY



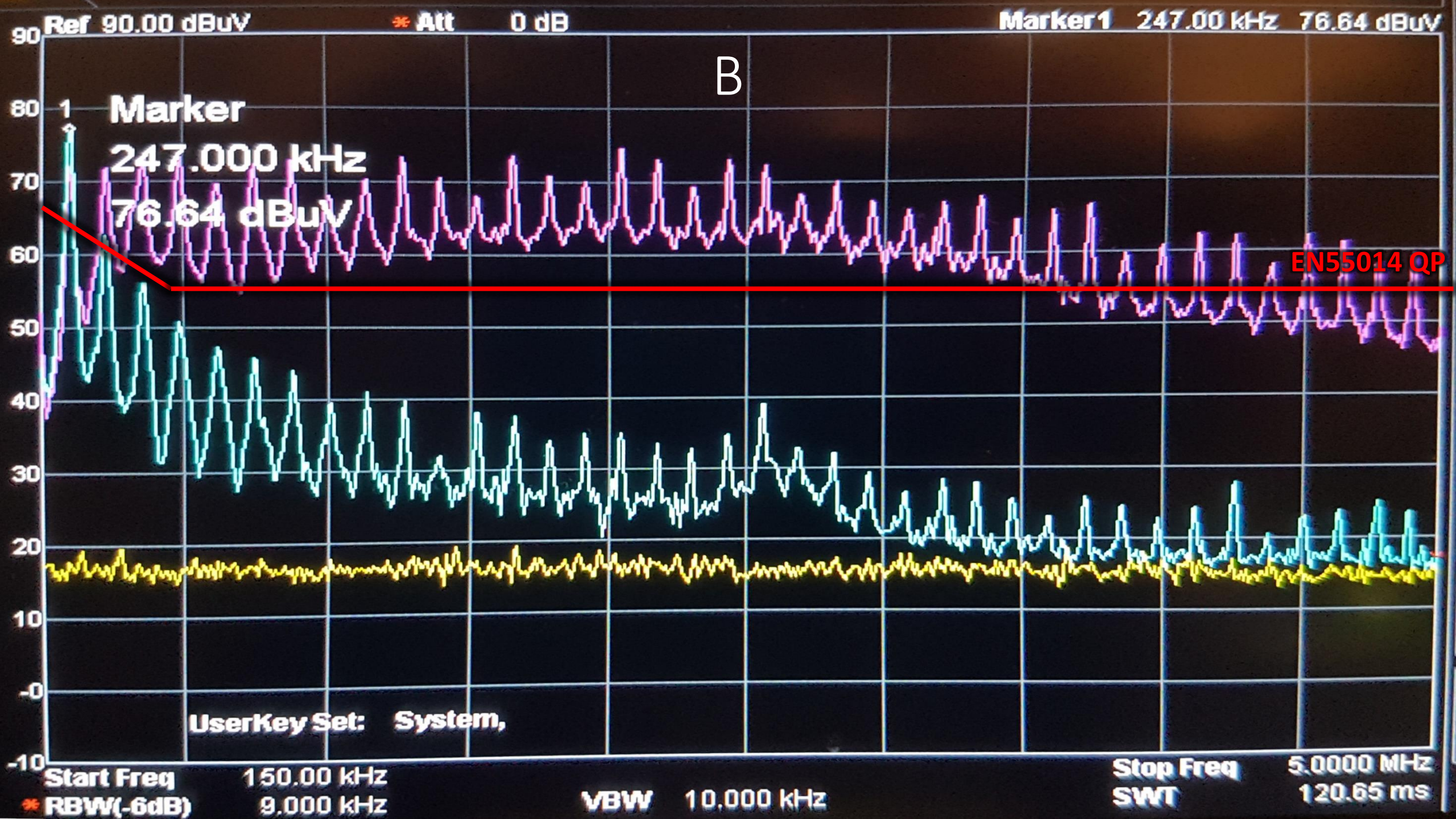
P1

GND



Risk of electric shock
only for trained professionals







Design your EMC-Filter

WE-CMB L
WE_CMBNC L

Rev16b

CMC

R

CX

P

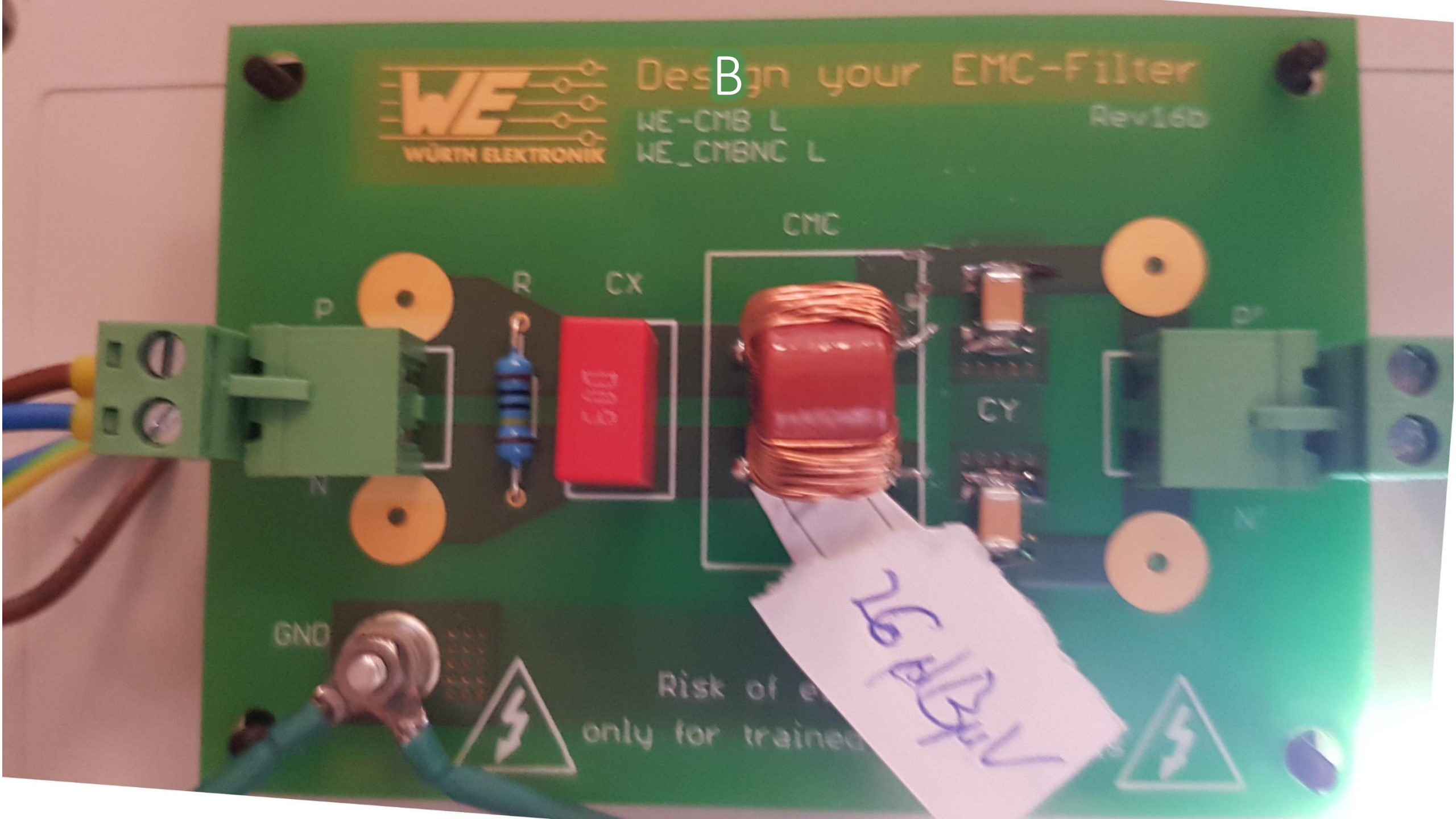
D'

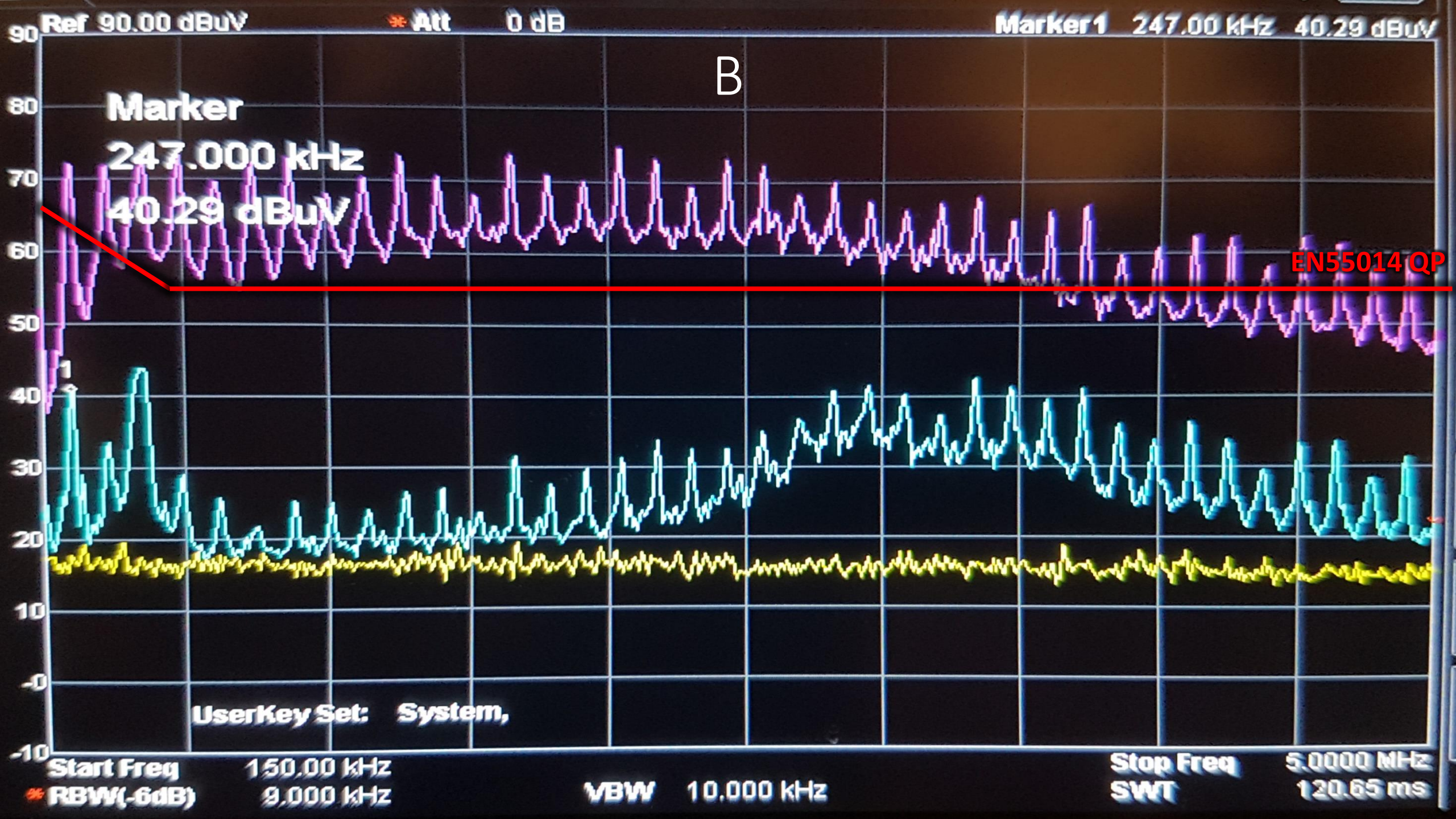
CY

GND

Risk of e
only for trained

Handwritten note:
720 P/B/L





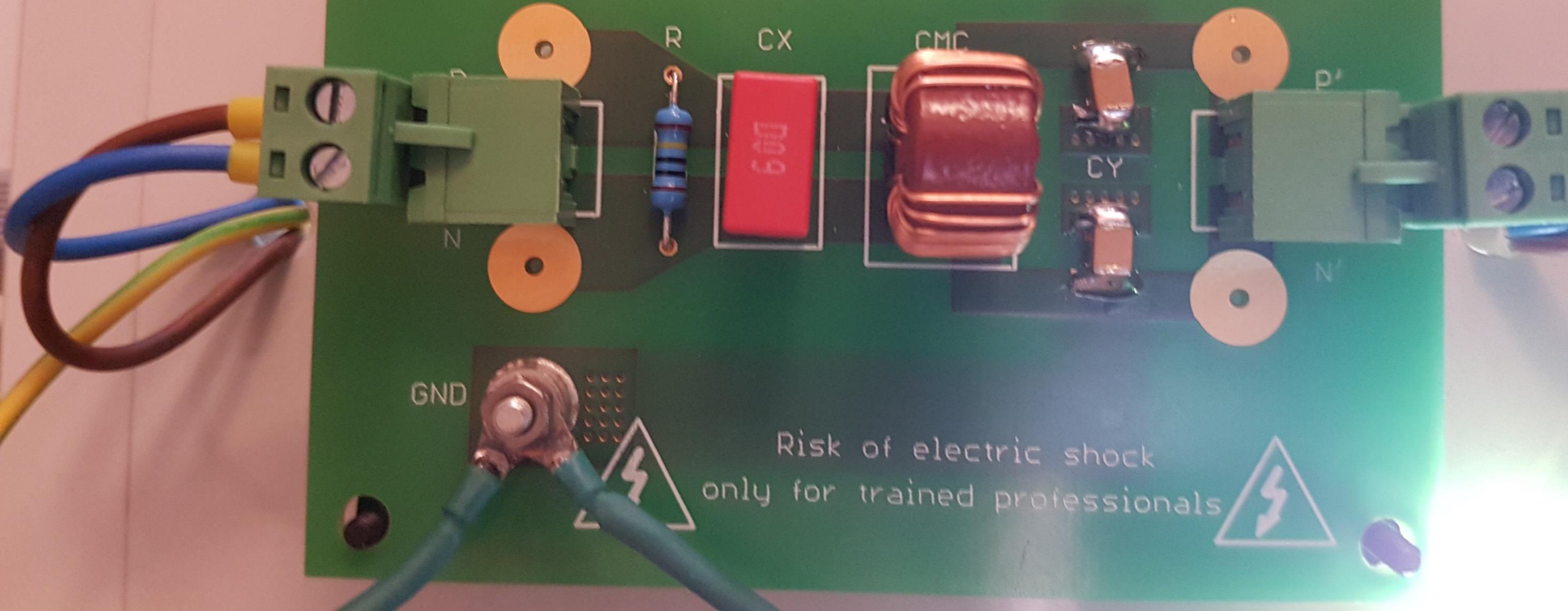
K-B



Design your EMC-Filter

WE-CMB S

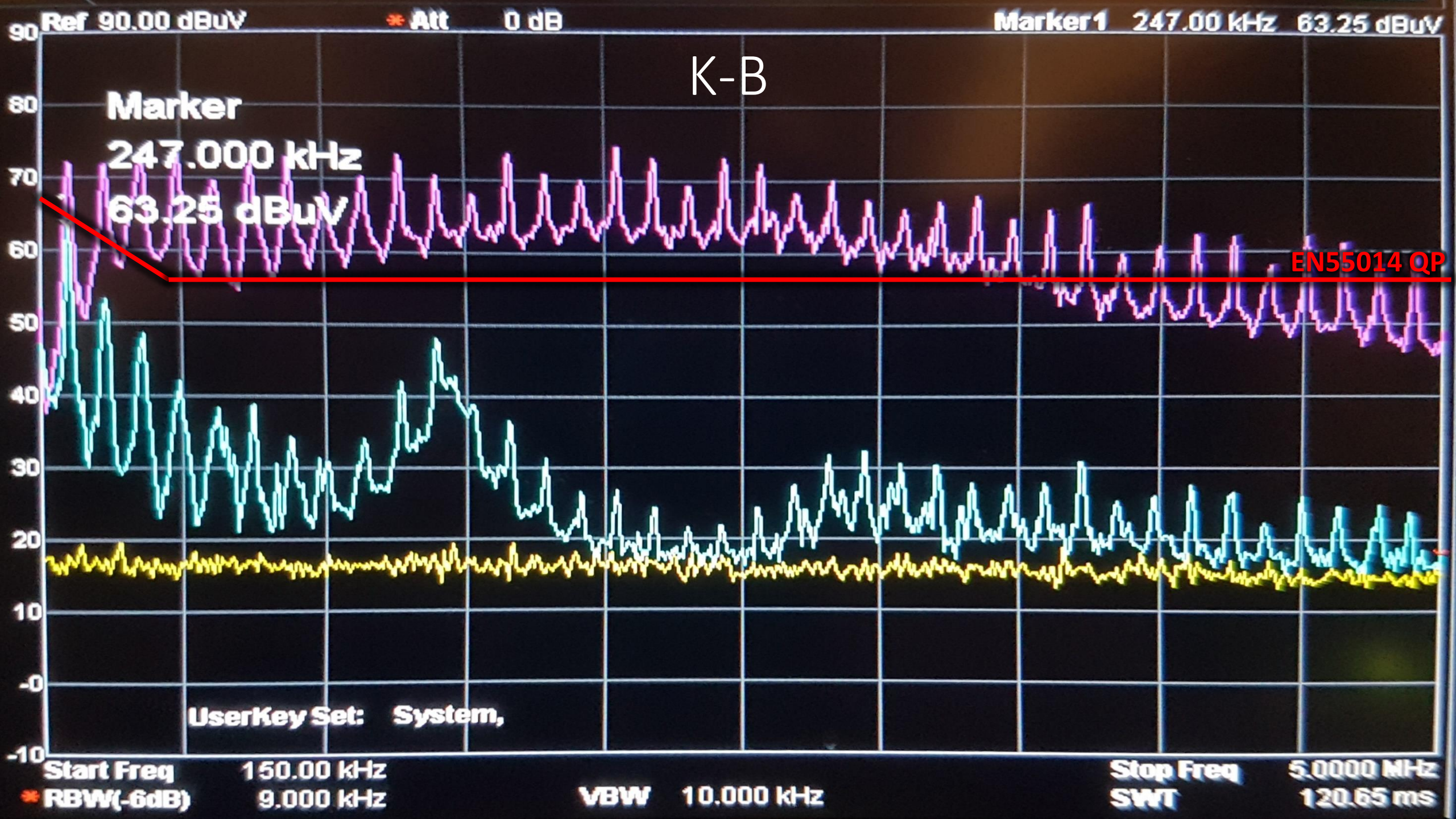
Rev16b



GND

Risk of electric shock
only for trained professionals







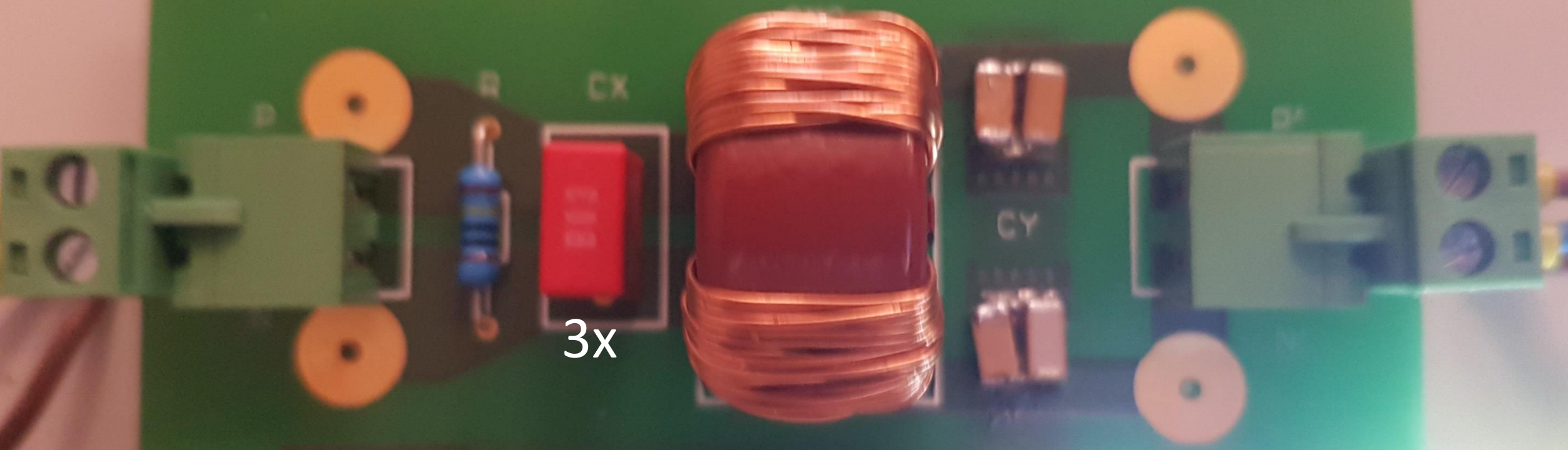
Design your EMC-Filter

WE-CMB L
WE_CMBNC L

Rev1.6b

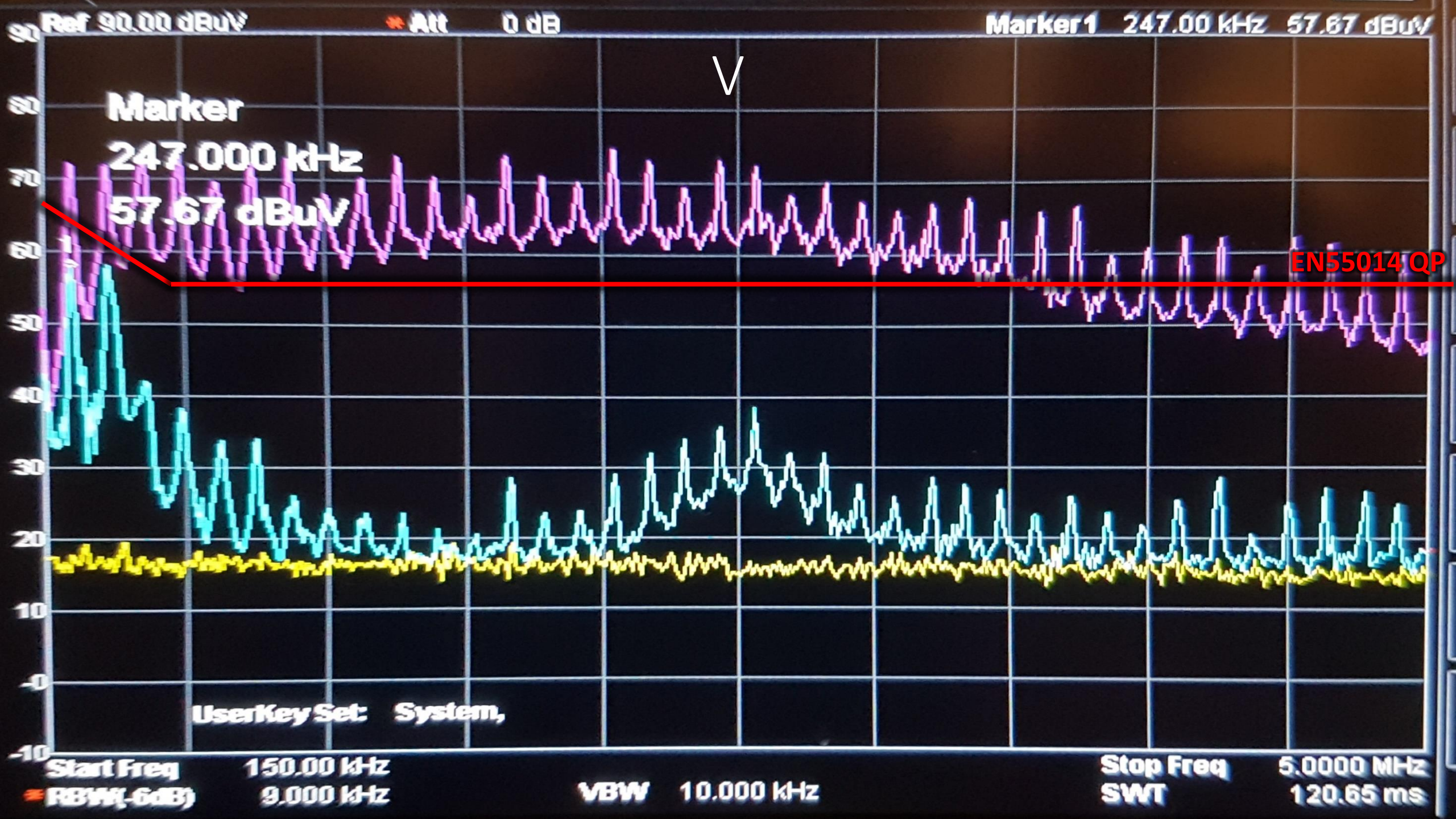
V

3x



Risk of electric shock
only for trained professionals



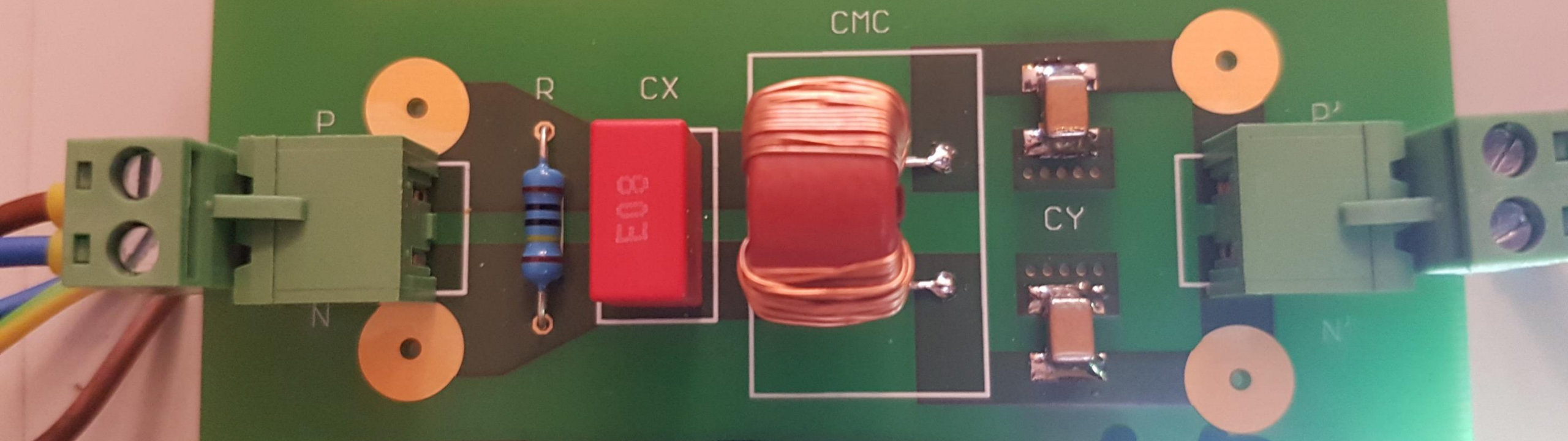




Design your EMC-Filter

WE-CMB L
WE_CMBNC L

Rev16b

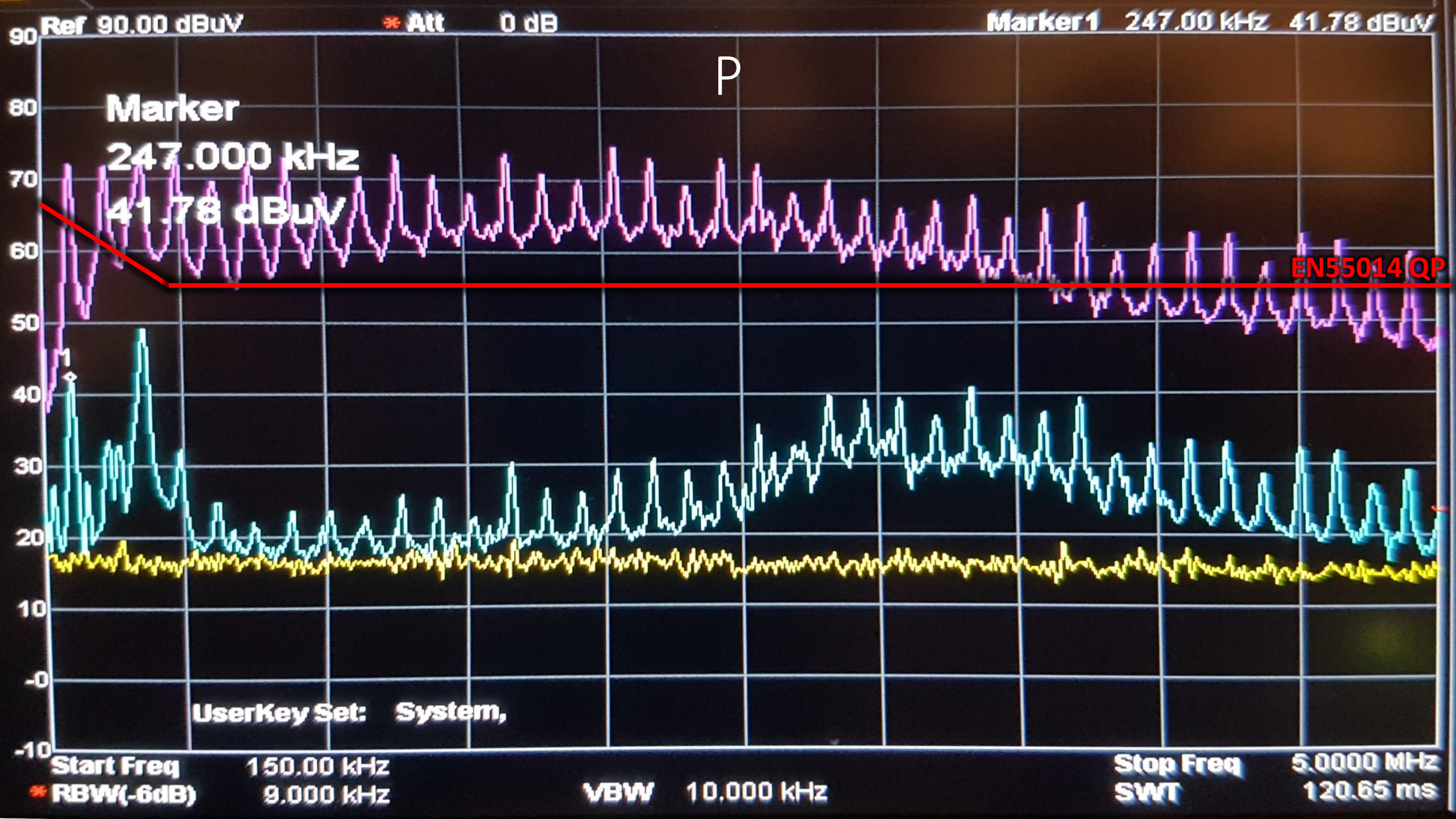


GND



Risk of electric shock
only for trained professional

3213



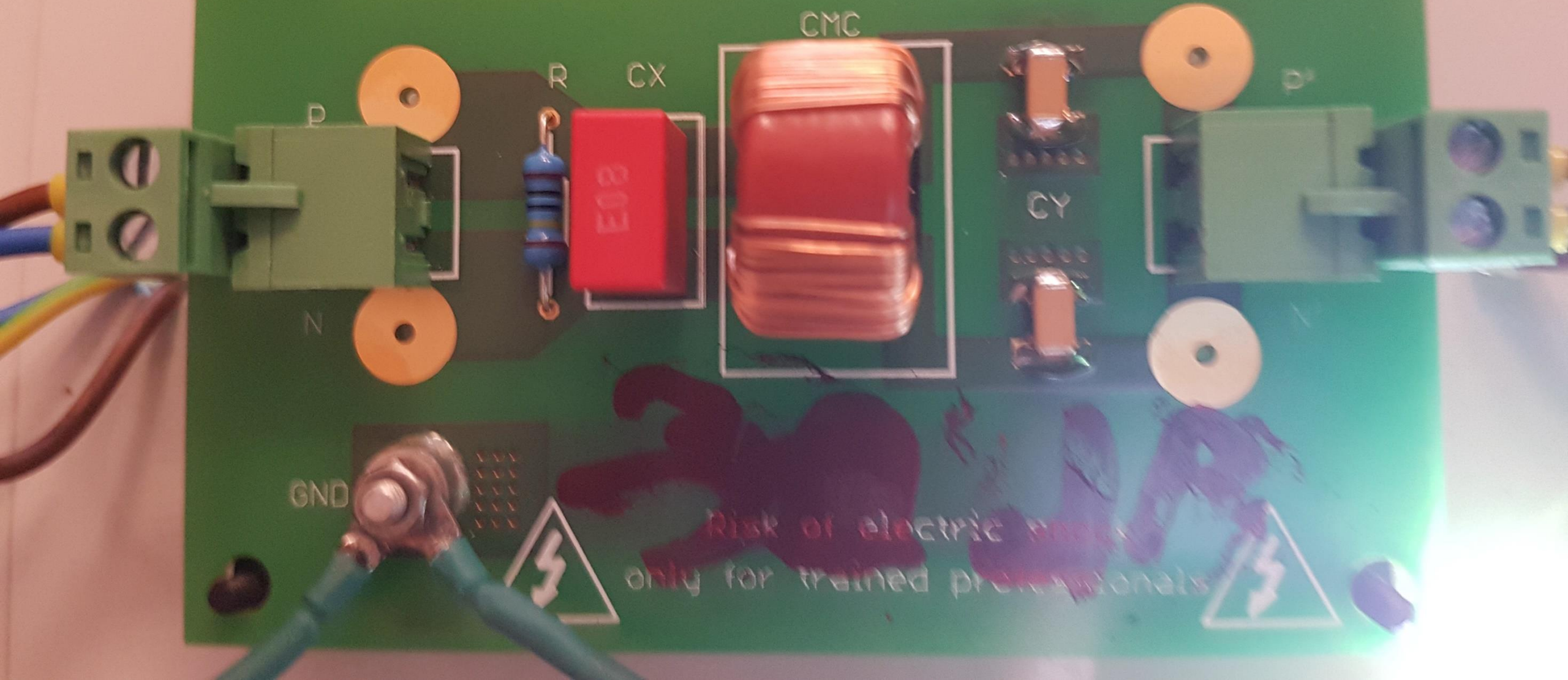


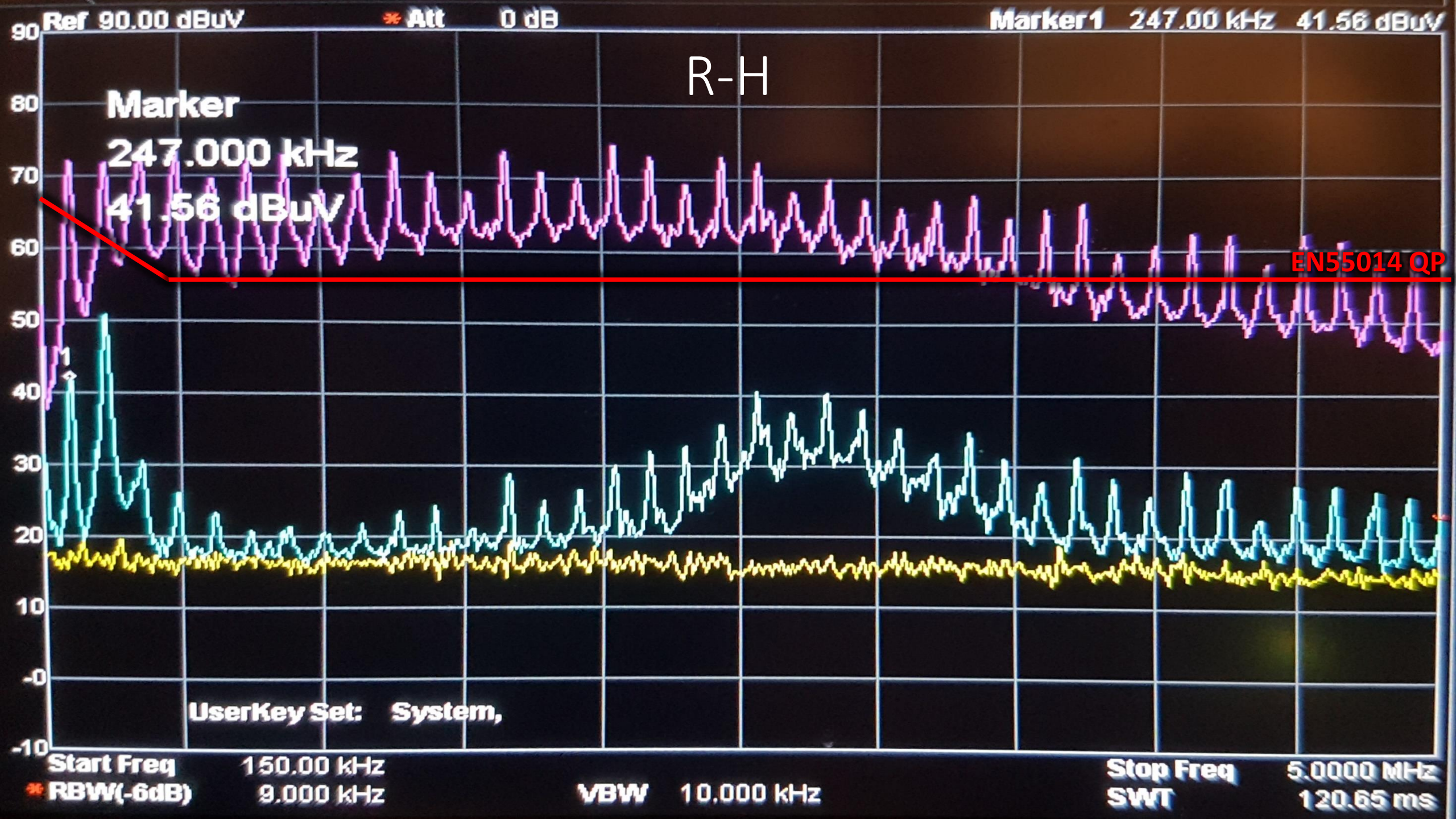
Design your EMC-Filter

WE-CMS M
WE-CMBNC M

Rev16b

R-H







Design your EMC-Filter

WE-CMB M
WE-CMBNC M

Rev16b

P

N

R

CX

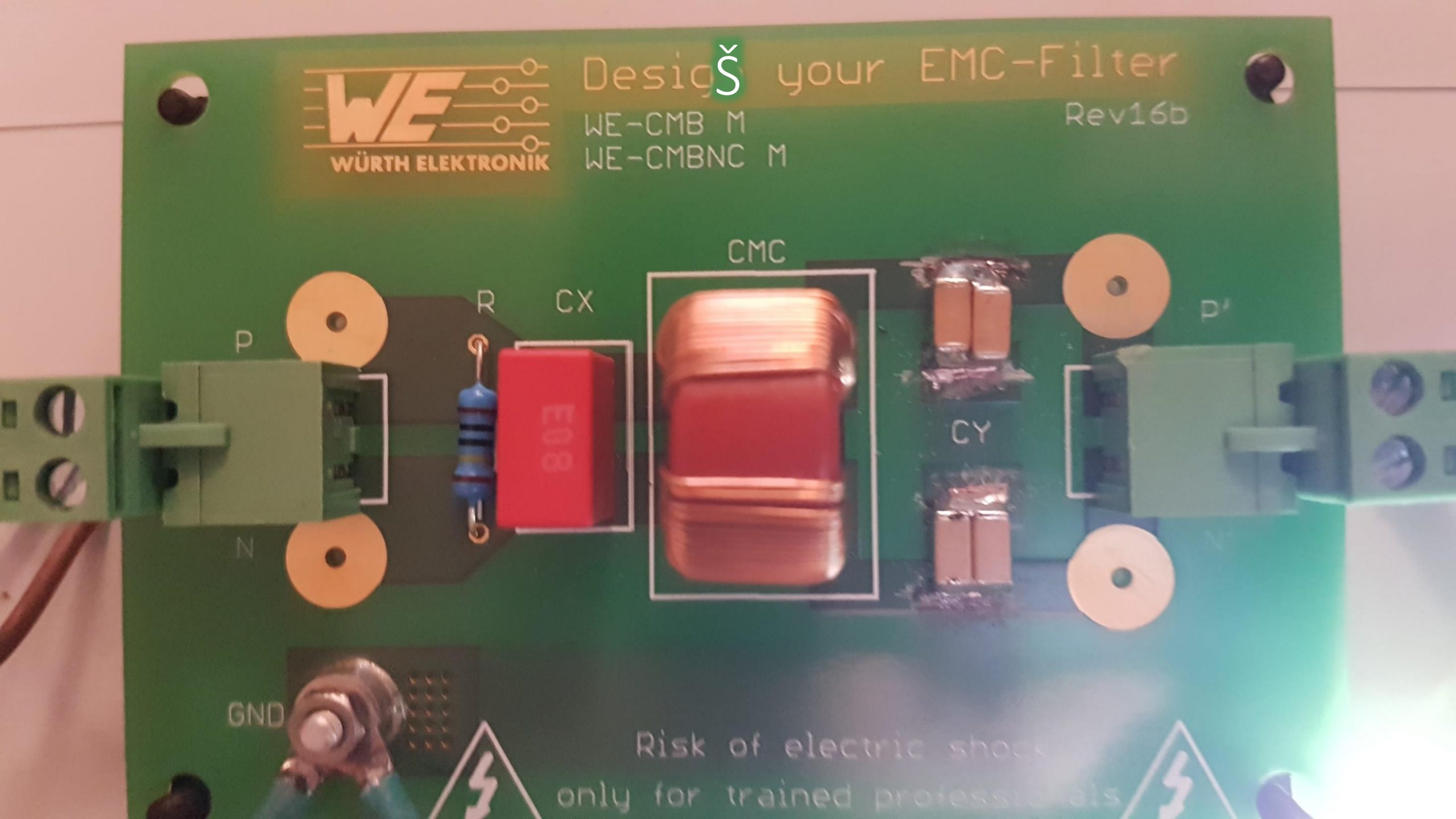
CMC

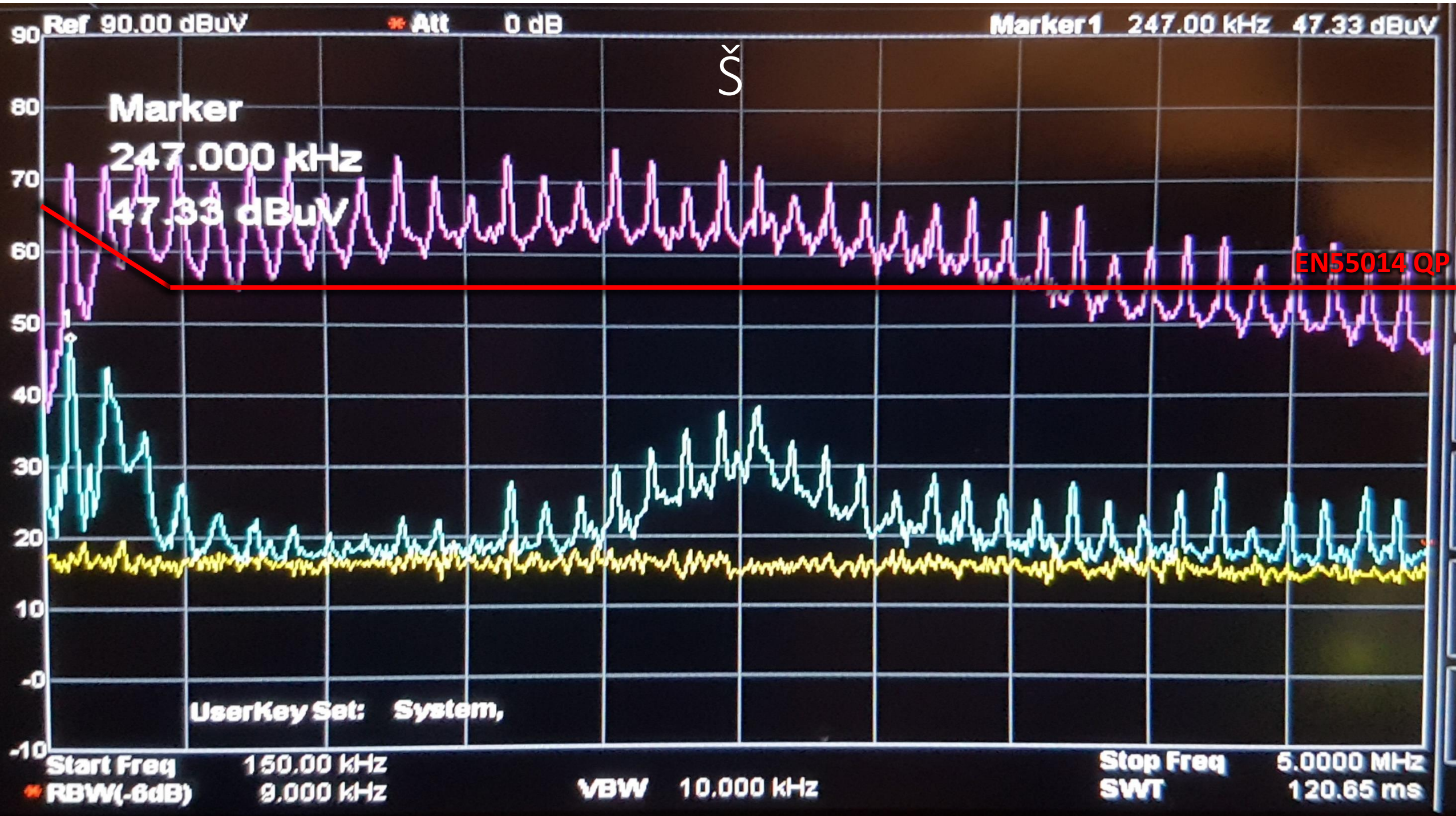
CY

P'

GND

Risk of electric shock
only for trained professionals







Design your EMC-Filter

WE-CMB L

Rev15b

WE_CMBNC L

250kHz \Rightarrow 45 dBu ✓
CMC

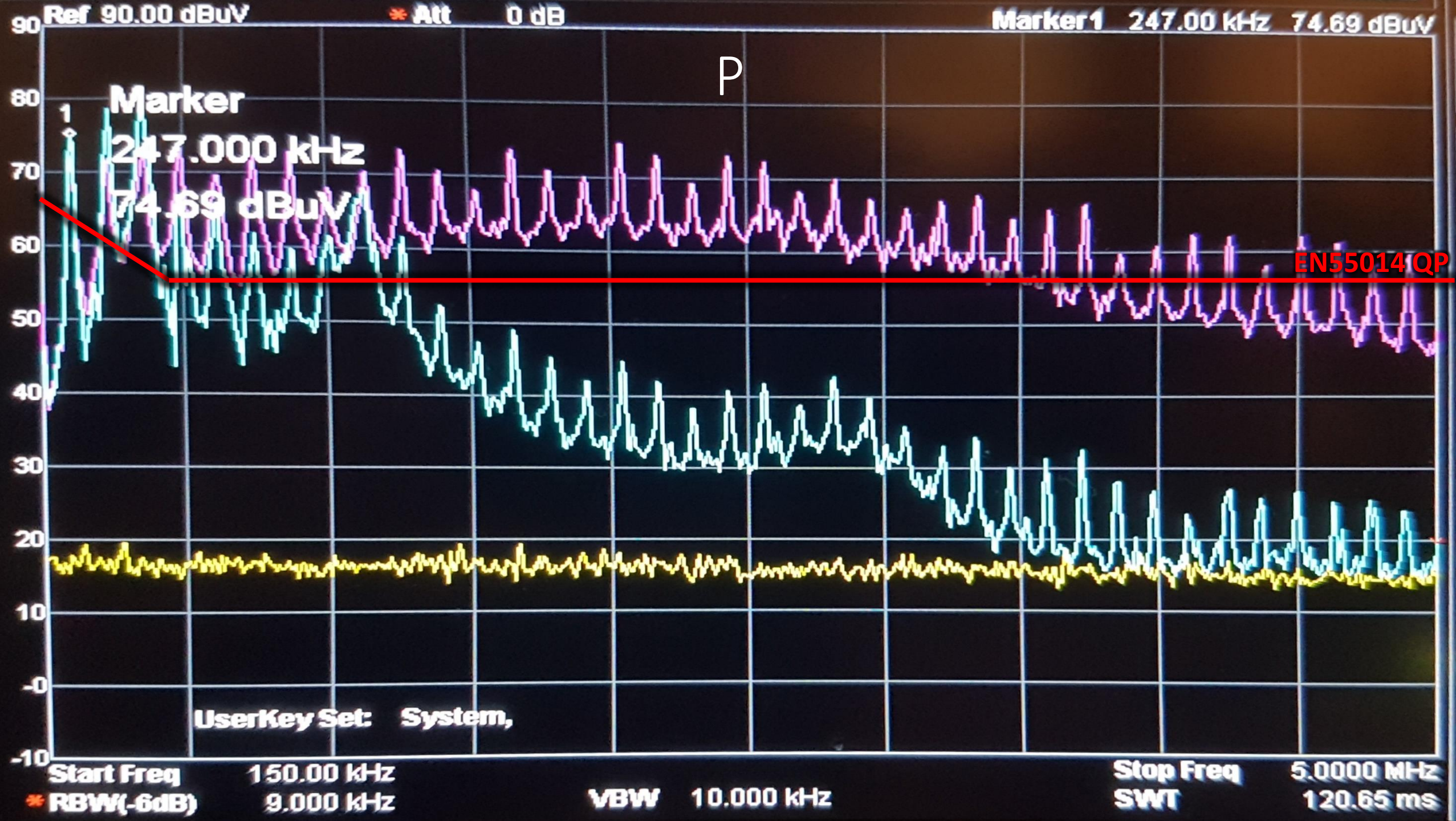


GND



Risk of electric shock
only for trained professionals





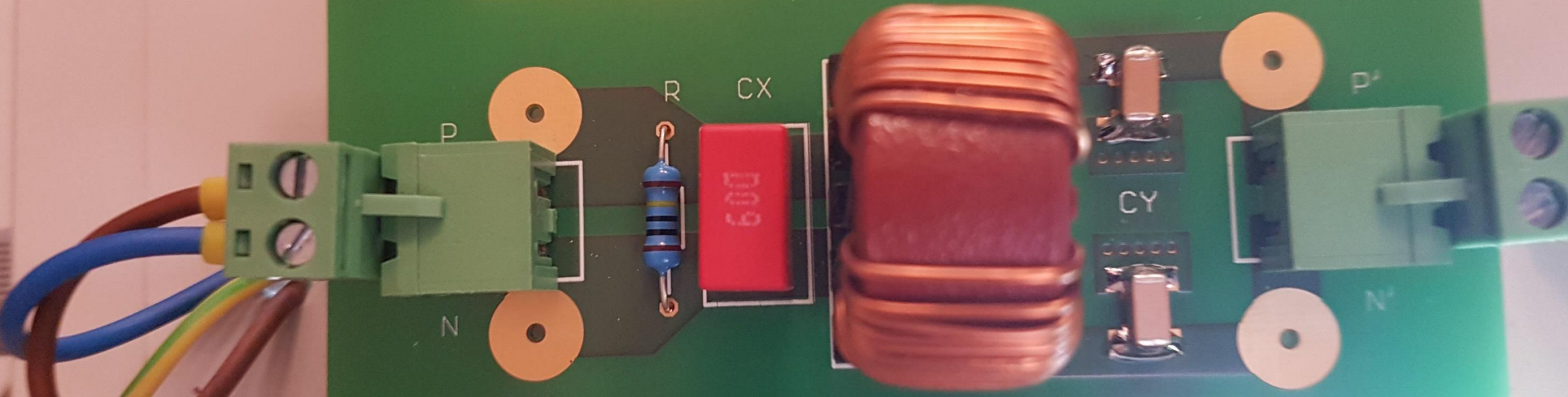


V

Design your EMC-Filter

Rev16b

WE-CMB M
WE-CMBNC M



GND

Risk of electric shock
only for trained professionals



