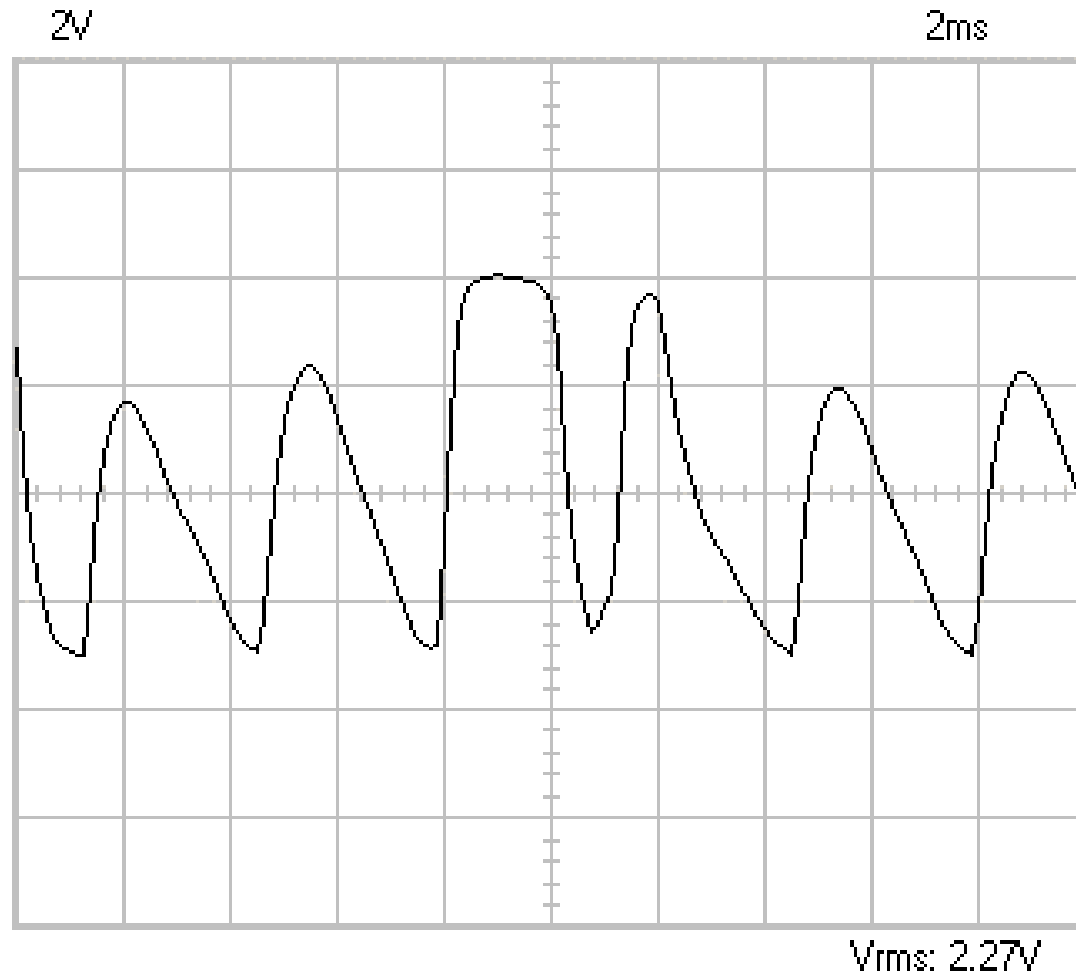


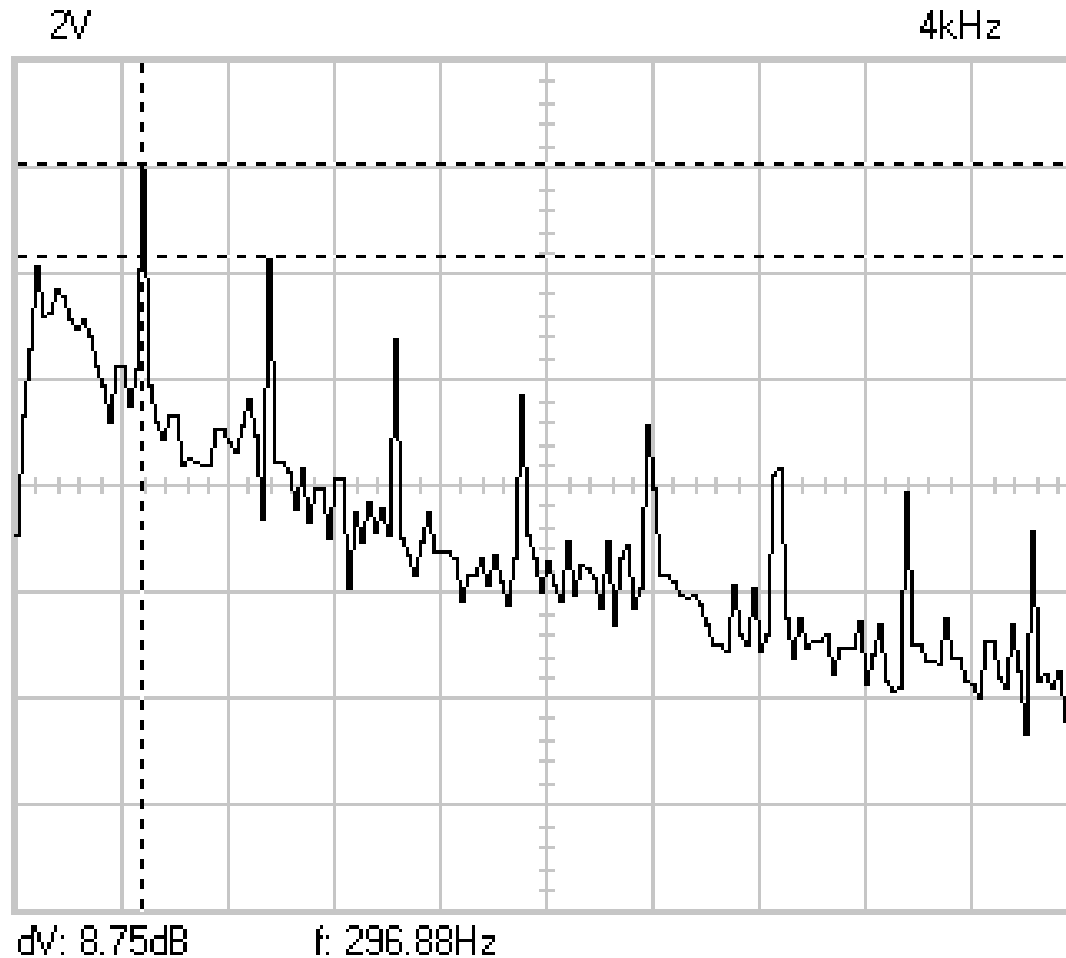
Weld 1 LAW 520



Measurement of AC-current on a standard welding equipment with a Fluke 80i-1000s clamp-on AC current probe, 100 mV corresponds to 1 A.



Weld 1



FFT analysis of the current waveform from a standard welding equipment.



Weld 1:

Broadband B-field = 0.25 mT measured as in Fig 1.
This was divided into frequency components as follow, and compared the ICNIRP reference values:

<i>Frequency (Hz)</i>	<i>Magnetic field (μT)</i>	<i>Reference value (μT)</i>	<i>Measured/Reference</i>
300	233	83	2.8
600	83	42	2.0
900	33	31	1.1
1200	18	31	0.6
1500	15	31	0.5
1800	10	31	0.3
2100	2.5	31	0.1

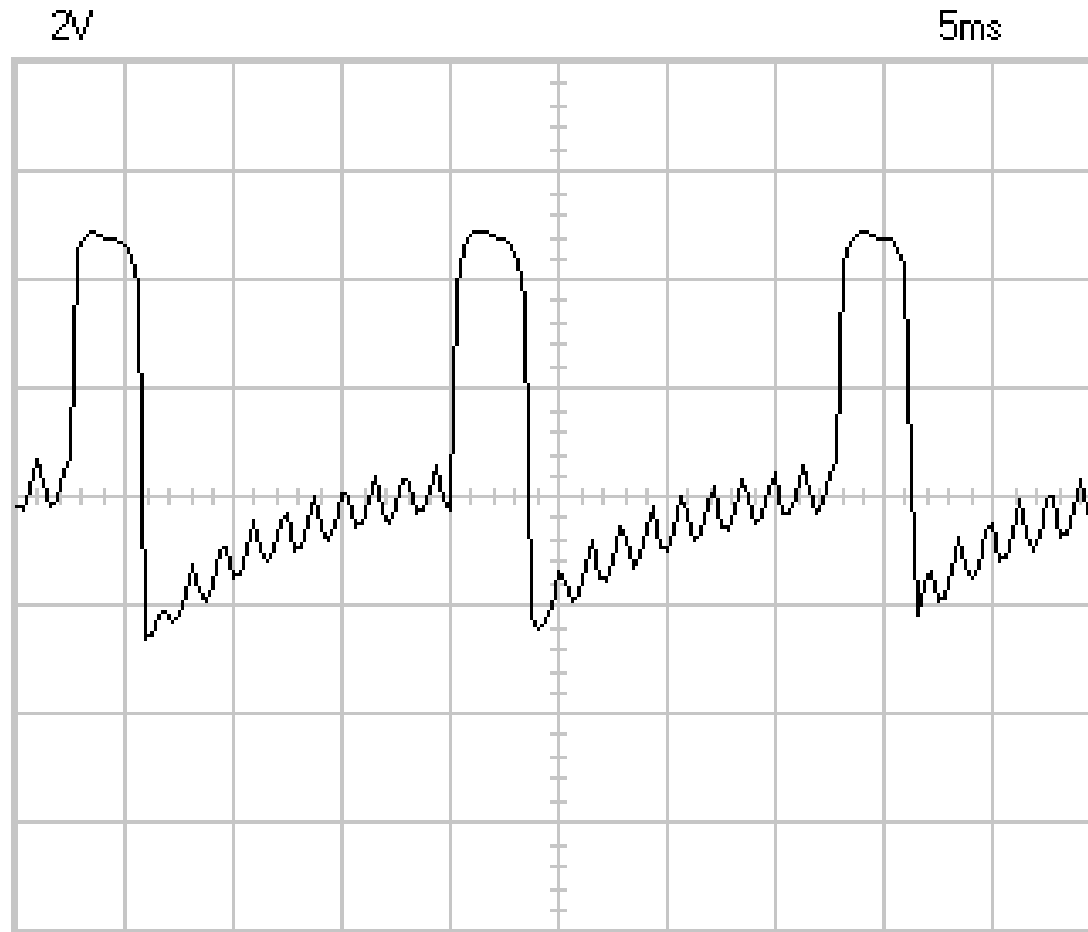
$$\Sigma = 7.4$$

For Weld 1 the ICNIRP reference level is exceeded



Weld 2

Aristomig 500

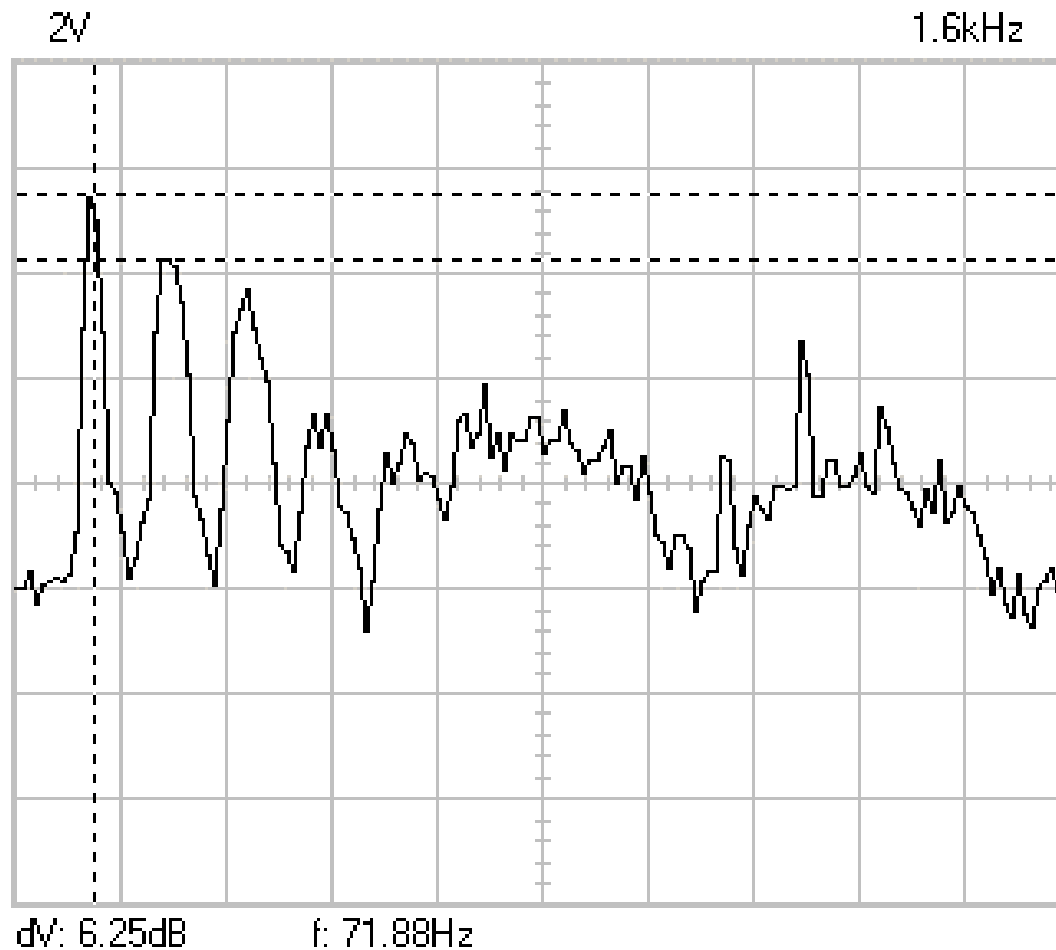


Measurement of AC-current on a modern welding

equipment with a Fluke 80i-1000s clamp-on AC current probe, 100 mV corresponds to 1 A.



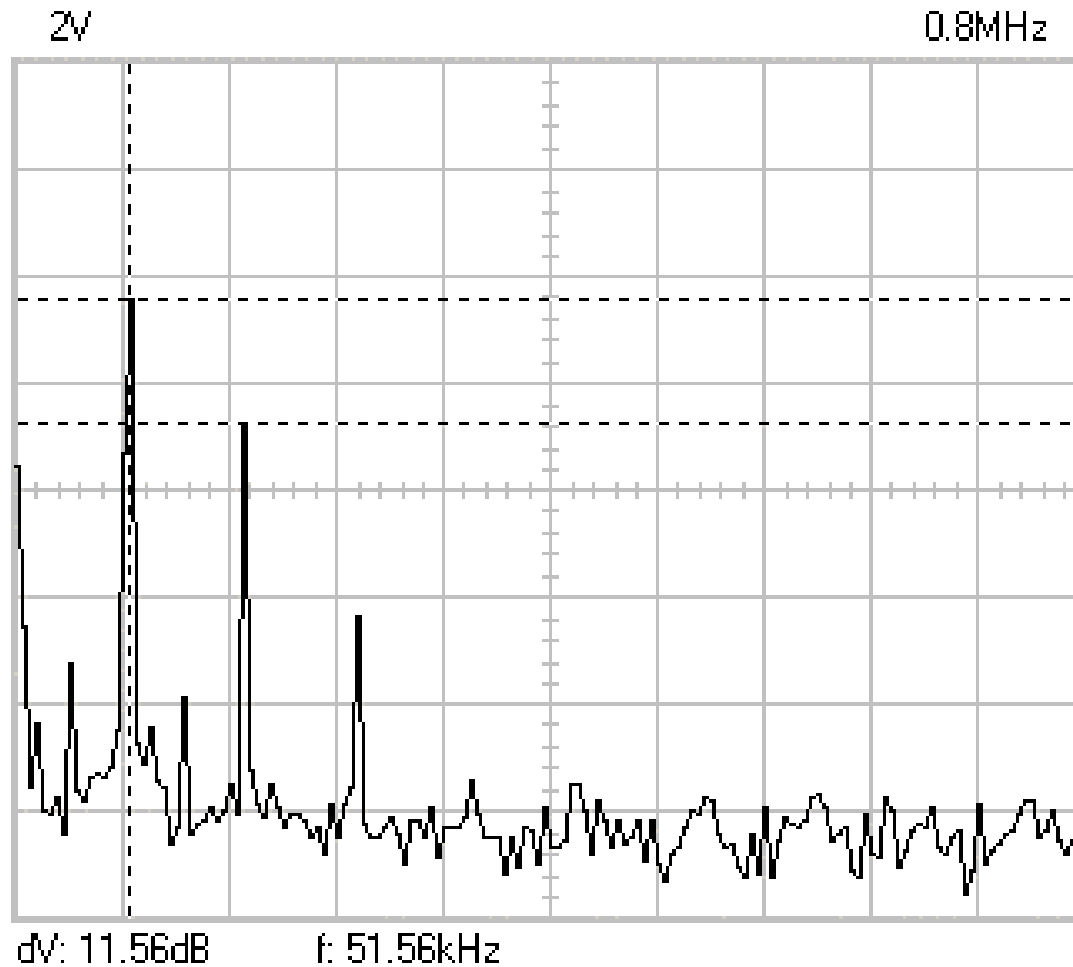
Weld 2



FFT analysis of the current waveform from a modern welding equipment. The ELF part.



Weld 2



FFT analysis of the current waveform from a modern welding equipment. The VLF part.



Weld 2:

The broadband **ELF** B-field = 0.17 mT measured as in Fig 1. This was divided into frequency components as follow, and compared the ICNIRP reference values:

<i>Frequency (Hz)</i>	<i>Magnetic field (μT)</i>	<i>Reference value (μT)</i>	<i>Measured/ Reference</i>	$\Sigma = 1.2$
71	146	352	0.4	
142	71	176	0.4	
213	52	117	0.4	



The broadband **VLF** B-field = 15 μT measured as in Fig 1. This was divided into frequency components as follow, and compared the ICNIRP reference values:

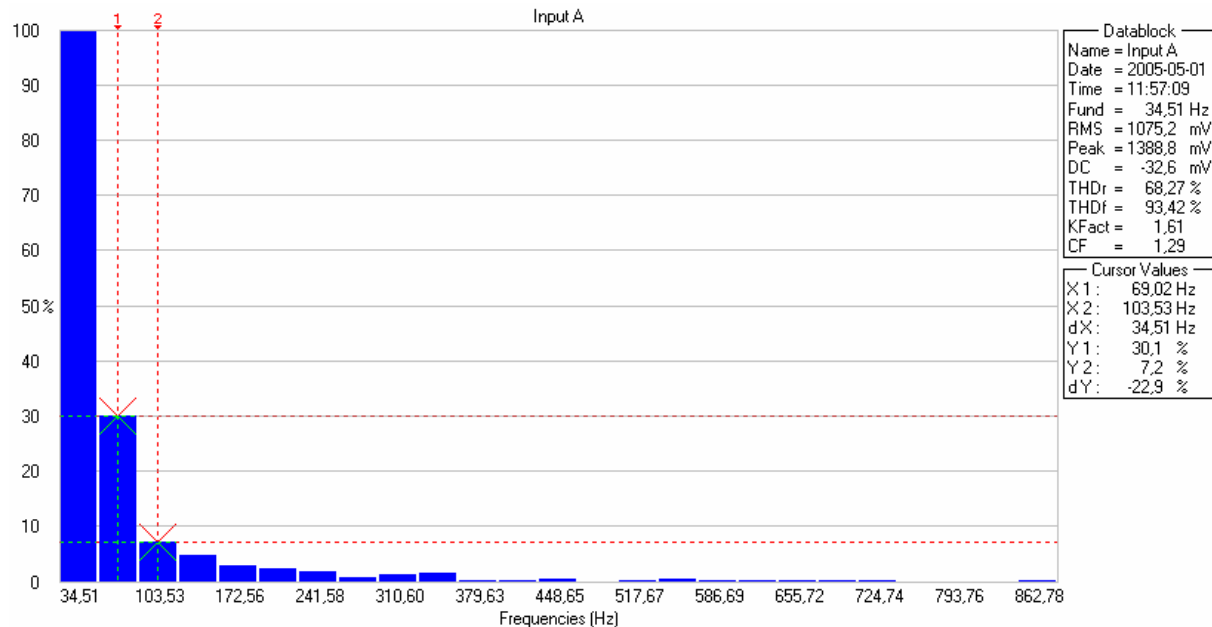
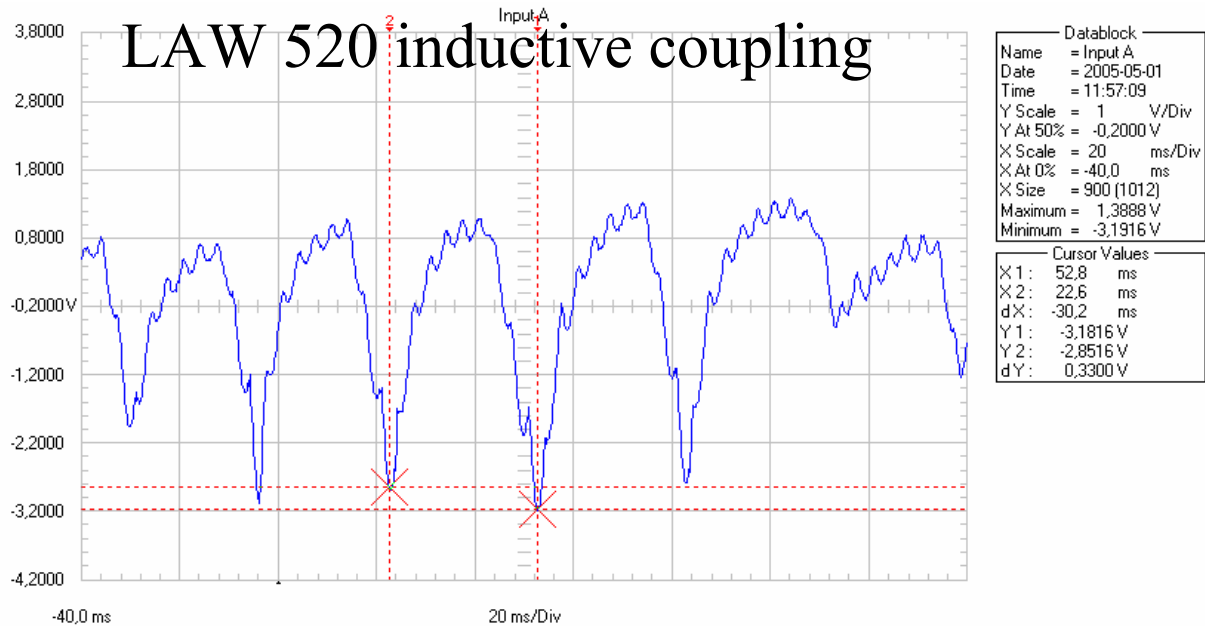
<i>Frequency (kHz)</i>	<i>Magnetic field (μT)</i>	<i>Reference value (μT)</i>	<i>Measured/ Reference</i>
51	14.4	30.7	0.47
102	4.1	30.7	0.13
153	0.5	30.7	0.02

$$\Sigma = 0.62$$

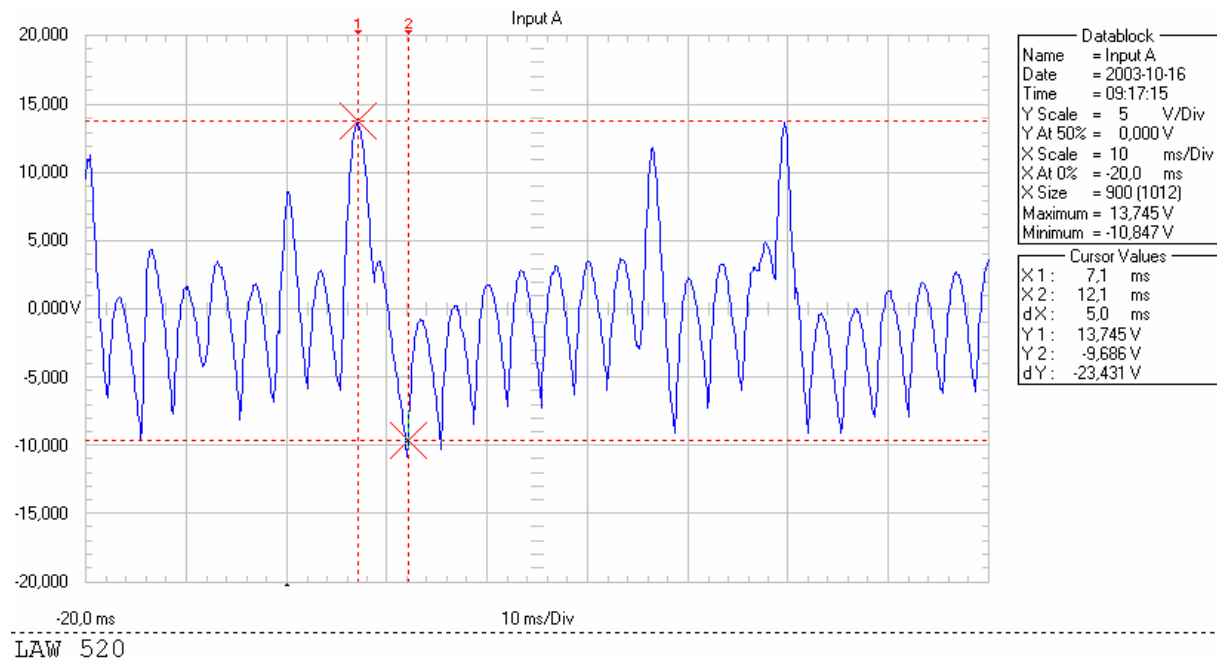
For Weld 2 the total sum is 1.8, and thus the ICNIRP reference level is exceeded



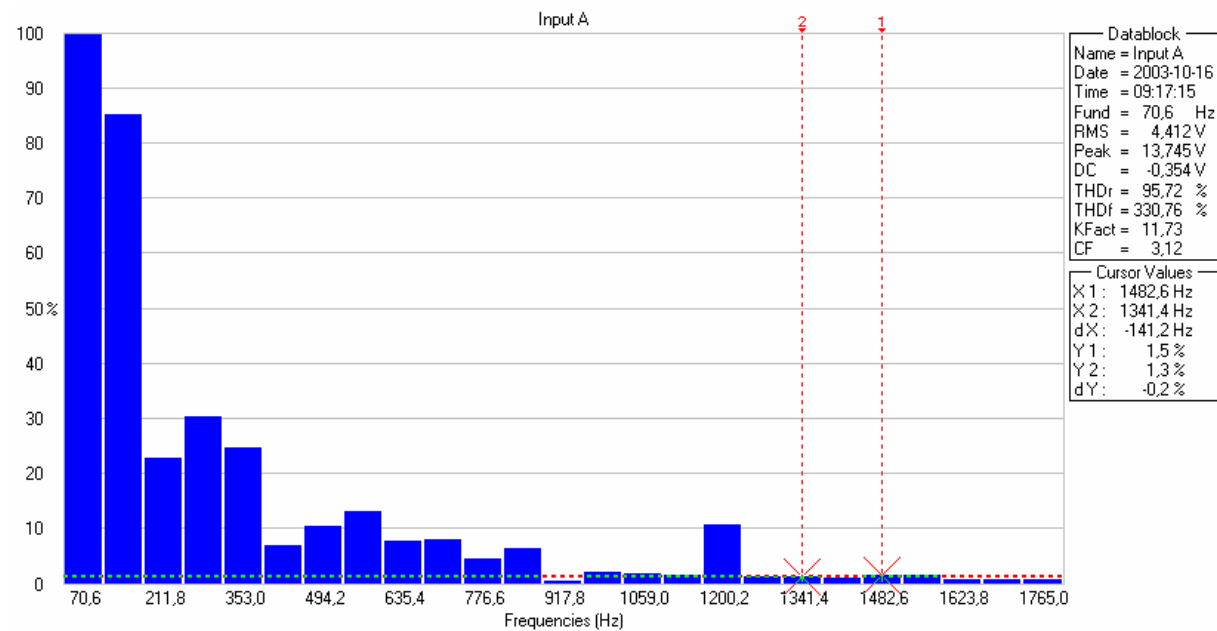
LAW 520 inductive coupling



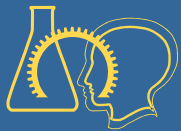
Work and the
physical
environment



LAW 520



LAW 520 fft



Work and the
physical
environment



hetslivsinstitutet

Kjell Hansson Mild

Small portable welding machine, CADDY

