

# OCCUPATIONAL EXPOSURE TO HIGH FREQUENCY EMF IN PHYSIOTHERAPY FACILITIES. (Part II: measurements and results)

## OBJECTIVE

To assess the staff exposure in physiotherapy facilities, under the Directive 2004/40/EC on the minimum safety and health requirements regarding workers exposure to the risks arising from physical agents (electromagnetic fields).

## MEASUREMENTS

### MEASUREMENT TOOLS

The measuring equipment is the RADMAN XT ELF Immune that has the following characteristics:

- > Frequency range: 1MHz - 40 GHz
- > Uncertainty: +/- 3 dB
- > Magnitudes: E and H

The results given by the equipment are directly compared to the criteria set by the Directive 2004/40/EC



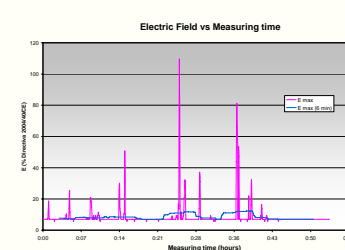
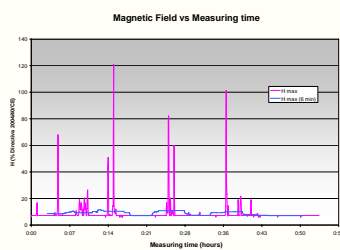
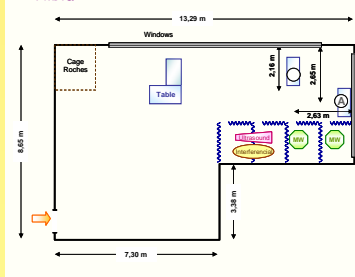
### MEASUREMENT PROGRAMMING

The time data of the carried out measurements are

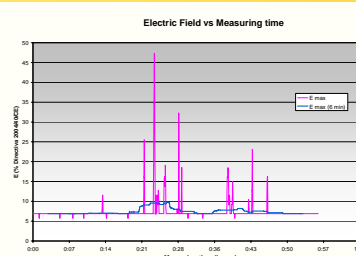
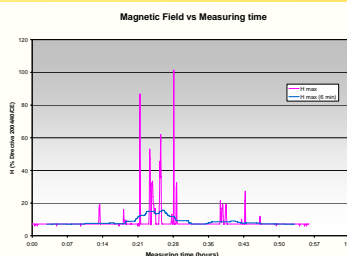
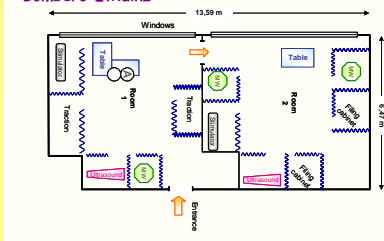
- > Minimum sampling time: 1 hour
- > Interval store: 5 seconds
- > Averaging on 6 minutes made after measurement

## MEASUREMENT RESULTS

### Albia



### Bombero Etxainz



## SUMMARY

### DATA TABLE

Health Centre	% E <sub>max</sub> (6 min)	% H <sub>max</sub> (6 min)
Deusto	< 10	< 10
Albia	< 13	< 12
Doctor Areilza	< 12	< 11
Bombero Etxainz	< 10	< 16
Begoña	< 8	< 9
Txurdinaga	< 19	< 16
Basurto	< 16	< 14

Measurements have been made in seven different hospitals finding similar exposures, all of them complying with the criteria set by the Directive

## CONCLUSIONS

All the measurements comply with the criteria set by the Directive 2004/40/EC, being even below 20% of the values giving rise to an action. The Standard Pr EN 50499 includes diathermy facilities as workplaces requiring detailed risk assessment. However, this study shows that the exposures comply with the criteria as long as good practice codes are kept, exposure time near to sources is limited, and right layout and correct maintenance of the equipments is guaranteed.

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