

Dimmer switches

Cheap dimmer switches and wiring connected to them give off radiofrequency noise that you may be able to pick up on the Acoustimeter. As little of this energy is in the microwave part of the spectrum, a better way to detect it is to use a battery portable radio set to receive on the Long Wave or Medium Wave bands and tuned between radio stations. If present, the dimmer 'noise' will appear as considerable electrical interference. Dimmer switches that have been properly CE tested shouldn't result in this sound, though you may hear a little VERY close to them or the wiring, as when they switch off they can cause spikes especially with fluorescent lamp loads.

The difference between good dimmers and poor ones is in the level of high-frequency filtering that they have built into them and that they also use "zero voltage switching" for the end of power where switching spikes most occur. They use both half-cycles, so supply power 100 times every second. Lamps do not normally appear to flicker – though they can do, especially when very dim. Dimmers have got better over the last 15 years due to the EU and UK EMC Directive and Regulations which strictly limit the amount of RF interference such a device can generate.

See: http://www.lutron.com/product_technical/FAQ.asp#OLE_LINK3

They also have a useful technical note about minimising RFI interference, which is what we are concerned about. They suggest the use of a LDC (lamp debuzzing coil) which they can supply.

<http://lutron.com/applicationnotes/362219b.pdf>

All electronically light-dimmed AC systems will give off more noise than ones with a simple on-off switch. You might want to think carefully about whether you want to have a dimmer switch if there is a high bunk bed nearby. The electrical 'noise' doesn't just come from the dimmer switch but from all the wiring on that electrical circuit.

A much better low EMF solution would be to have some low-power light fittings in the room for use when you want dim lighting. These could just be plugged in to power sockets (e.g. a low-wattage up-lighter).

It is worth noting that any "light at night" is not good for our health. It is better to sleep in the dark (see the article on melatonin (in 4 sections) <http://emfields.org/library/index.asp>). If children *really* can not sleep in the dark (n.b. this often results from parents' leaving the lights on when they were a baby and thereby 'conditioning' the child to expect light at night!) then a small orange or red plug-top glow light is all that should be used. That is quite adequate to see the room if the person awakes during the night. This was discussed on day 4 of the CHILDREN with LEUKAEMIA 2004 [International Scientific Conference](#). To download the main talk on this subject as a (152KB)PDF file, [click here](#).

Recent work by Professor Magda Havas and others have shown that "noisy" electricity can cause all sorts of adverse health problems. See the article on Dirty Electricity, <http://www.powerwatch.org.uk/library/downloads/dirty-electricity-20110108.pdf>