chiptech

Chiptech Products

Electromagnetic Compatibility with Pacemakers

Chiptech designs and manufactures a range of telecare base units and wearable alerting devices to support people to be independent and safe. Chiptech base units and wearables are independently tested by accredited test labs for compliance with a range of standards, including Electromagnetic Compatibility (EMC) and the Radio Equipment Directive (RED).

Please refer to the applicable Technical Specification document for a list of standards that each product complies with, along with the frequencies utilised, and their automated testing intervals.

Electromagnetic Interference

Electromagnetic compatibility (EMC) is the concept of enabling different electronics devices to operate without mutual interference when they operate in close proximity to each other.

Electromagnetic Interference (EMI) can occur in a number of ways and from a range of sources, including naturally occurring and man made devices.

Pacemakers, defibrillators, ECG monitors and other electronic medical implant devices are made to withstand EMI in accordance with the government or regional regulations. As these standards vary across different markets and device types it is important that an end user is referred to their medical specialist to discuss any specific concerns about electromagnetic interference. The specialist can provide further information and guidance provided by the implant device manufacturer.

The New Zealand Heart Foundation recommends that users who have a pacemaker:

> *"It's a good idea to check the manufacturer's brochure of any devices you would like to use, and ask the staff at your pacemaker clinic about anything you're unsure about."*

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Base Units

Chiptech base units utilise RF and cellular technology, therefore it is recommended that **the pacemaker or implanted electronic medical device be kept a least 25cms away from the base unit when they are on.**

Personal Help Buttons

Pearl personal help buttons, including Pearl Advanced, utilise a low power (60µW) radio frequency signal (RF) to connect with a Chiptech base unit. These RF transmissions are very brief, typically 0.2 seconds, and only occur at automated test times (typically every 7 hours), and when they are activated by a button press.

Pearl personal help buttons are designed and manufactured to reduce electromagnetic interference with other electronic devices. Chiptech personal help buttons do not have any magnets. Pearl can be worn by a user with a pacemaker or other implanted electronic device. However, if the end user has any concerns, please request they consult their medical specialist for further advice.

Standard Interface Device (SID)

SID products utilise the same low power radio frequency (RF) signal as Pearl products to connect to a base unit, and SID can be used near a pacemaker or other implanted electronic device, if required.

The exception is SID + Magnet, which are supplied with magnets which can cause EMI. **At all times, a pacemaker or implanted electronic device should be kept at least 15cms from products with magnets.**

Mobile Personal Help Devices

All GO devices utilise both RF and cellular frequencies (the same as a cellular phone). If the end user has a pacemaker, they cannot wear GO around the neck, as a pendant. GO can be attached with the supplied split ring to a belt clip or keys. At all times GO must be **at least 15cm from the pacemaker or implanted electronic device.**

GO has a Qi compliant wireless inductive charging system, when connected to power **a pacemaker or implanted electronic device should be kept at least 15cms from the charger**, including when GO is charging.

The New Zealand Heart Foundation recommends that users who have a pacemaker:

> *"You should be able to use a cellphone, but to keep you safe please make sure you keep it at least 15cm (six inches) away from the pacemaker."*

Important to Remember

Please note, the EMC recommendations we provide are generalised. Medical device manufactures' products are made to differing specifications and standards and these will change over time and in different markets. Along with this, industry and advisory groups may have different recommendations depending on the market being supplied. If in doubt, the user with the implanted electronic device should consult their medical specialist.

Up to date Compliance Reports, Declarations of Conformity, Technical Specifications and User Guides including various warnings, can be download from the Chiptech Web Portal.

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