

HIMSA A/S
Mr. Michael Porotnikoff
Lyngbyvej 28, 1th
2100 Copenhagen Ø
Denmark



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Dear Michael

This letter is response to your question if it was possible there could be an interaction between the Bluetooth transmitter inside the NOAHlink and a possible pacemaker used by the person carrying the NOAHlink on his chest.

The frequency is 2400 MHz and the e.i.r.p. is, with reference to the test report of the equipment, maximum 1.54 mW.

There have been made many tests using mobile phones by the University of Oklahoma, Norman, Oklahoma. The results show that the distance between mobile phones and pacemakers, when considering worst case phones, could be set to 3 inch.

The standard EN 45502-2-1:2003 "Active implantable medical devices - Part 2-1: Particular requirements for active implantable medical devices intended to treat bradyarrhythmia (cardiac pacemakers) tells that there shall be uninfluenced function of the implantable pulse generator, when exposed to mobile phones of 2 W output power at a distance of 15 cm. This requirement is in line with the recommended distance of 6 inch, set up by AAMI, USA.

Considering the official recommendation of a separation distance of 15 cm having a 2 W transmitter, a recommended separation distance from the NOAHlink can be calculated.

The transmitted flux from a 2 W transmitter, at a distance of 15 cm, is $P/4\pi r^2$ where P is the power in W, r is the radius to the sphere in m. This calculates to 7.07 W/m².

To obtain the same flux density using a 1.54 mW transmitter, the radius of the sphere, using the formula as previous, will be 4.2 mm.

Conclusion

Taking into consideration that the antenna of the transmitter, as you informed me, is 15 mm from the outer surface of the cabinet, there will be a considerable safe margin between the flux transmitted from NOAHlink and to the recommended safety level.

Yours sincerely
DELTA

Vagn Sylvest

DELTA

Danish Electronics,
Light & Acoustics

Venlighedsvej 4
2970 Hørsholm
Denmark

Tel. (+45) 72 19 40 00
Fax (+45) 72 19 40 01
www.delta.dk
VAT No. DK 12275110

