GRUNDFOS Holding A/S
Poul Due Jensens Vej 7
DK-8850 Bjerringbro
Denmark

Phone: (+45) 87 50 14 00
www.grundfos.com

Bankers:
Danske Bank, Copenhagen
Citibank N.A., New York
Nordea Bank Dan mark A/S,
Copenhagen VAT-No.: 31 85 83 56

Date: 01/12/2022
Our ref.: Thomas Young Olesen

Telecommunication Certification Body
UL International (UK) Ltd.
Units 1-3, Horizon
Wade Road
Kingsland Business Park
Basingstoke
Hampshire
RG24 8AH
United Kingdom

Subject: MPE Calculation - FCC ID: OG3-UP001

To whom it may concern

The FCC requires that the calculated MPE be equal to or less than a given limit dependent on frequency at a distance of 20 cm from a device to the body of a user.

The transmitter operation for the Grundfos Holding A/S 92710890 covers the 2.4GHz band.

The following FCC Rule Parts are applicable:

Part 1.1310 - Radiofrequency radiation exposure limits
Part 2.1091(c) - Radiofrequency radiation exposure evaluation: mobile devices

CALCULATION

The following far field power density equation is applicable:

$$S = EIRP/4 \pi R^2$$

Where S = Power density

EIRP = Effective Isotropically Radiated Power (EIRP = P x G)

P = Conducted Transmitter Power

G = Antenna Gain (relative to an isotropic radiator)

R = distance to the centre of radiation of the antenna (safe operating distance)

Calculation for 2.4GHz BT LE:

Values:

Transmitter frequency range = 2402 - 2480MHz

P = 3.35dBm

G = -0.41dBi

EIRP = 2.94dBm (1.97mW)

R = 20cm

Power Density Requirement

From table 1 (b) - Limits for General Population/ Uncontrolled Exposure of FCC Rule Part 1.1310 for 2.4GHz

S_{req1} = 1.0 mW/cm^2

Calculation:

$S = EIRP/4 \pi R^2$

$= 1.97 / (12.56 \times 20^2)$

$= 1.97 / (5024)$

S_1 = 0.00039

(Equivalent to 0.4cm safe operating distance)

Conclusion

The required 20cm RF exposure limits for General Population/ Uncontrolled Exposure FCC Rule Part 1.1310 limits will not be exceeded for the Grundfos Holding A/S 92710890 using an antenna having a maximum gain of -0.41dBi (2.4GHz).

Yours faithfully,

Thomas Young Olesen

Senior Manager
Safety & Digital Product Compliance