Groenlo, 20 November 2015

# Declaration on radiation safety standard conformance

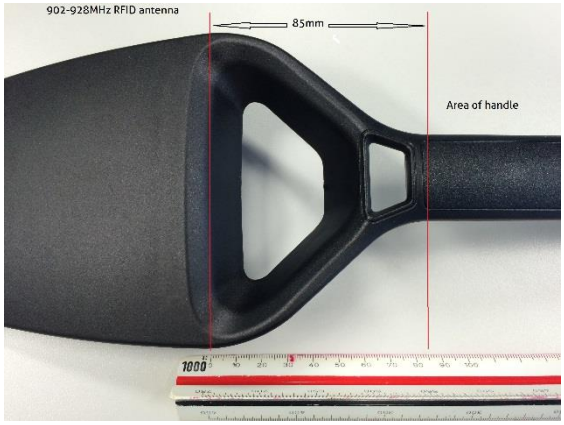
Return address: PO Box 6, 7140 AA Groenlo, The Netherlands

American Certification Body
Certification Department
6731 Whittier Avenue, Suite C110
McLean, Virginia 22101
USA

To whom it may concern

We, N.V. Nederlandsche Apparatenfabriek "Nedap", declare that the following product:
Description : Hand held UHF RFID Reader for in-store retail applications operating on 902-928 MHz
FCC ID : CGDHH2RFID
Manufacturer : N.V. Nederlandsche Apparatenfabriek "Nedap"

Brand : Nedap
Model : ASSY HH2 RFID




has a maximum conducted peak power of 26.05 dBm equals 403 mW. With an antenna gain of +1 dBi
(1.26 x) this results in 508 mW peak in the frequency range of 902 – 928 MHz. meaning the power density at 8.5 cm distance for near fields can be calculated as follows :

$S = Ppeak/4*\pi * R^2$ (power density)

Ppeak = 508 mW

$S = Ppeak / 4*\pi * R^2 = 508 / 4*\pi*(8.5\ cm)^2 = 0.560\ mW/cm^2$ The limit is 1 $mW/cm^2$

This means that according to OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01), the equipment fulfills the requirements on power density for general population/uncontrolled exposure and therefore fulfills the requirements of 47 CFR Part 15.247 (b)(5).

For the SAR exclusion threshold calculations (10g, extremity-SAR), see the next page of this document.

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technology that matters

**SAR exclusion threshold calculations (10g, extremity-SAR)**

KDB 447498 D01 General RF Exposure Guidance v05r02, section 4.3.1 1) provides the following equation (10g SAR test exclusion threshold) for test separation distances of less than 50 mm (step 1):

$$\frac{(maximum\ power\ of\ channel\ including\ tune-up\ tolerance\ (mW))}{(minimum\ test\ separation\ distance\ (mm))} \times \sqrt{f(GHz)} \leq 7.5$$

- f (GHz) is the RF channel transmit frequency in GHz;
- Power and distance are rounded to the nearest mW and mm before calculation;
- The result is rounded to one decimal place for comparison;
- 7.5 is referred to as the numeric threshold.

Since the test separation distance is >= 50 mm, KDB 447498 D01 General RF Exposure Guidance v05r02, section 4.3.1 2), must be taken into account.

Section 4.3.1 2) a) contains the following equation for calculating the SAR exclusion threshold at test separation distance >= 50 mm (for frequencies between 100 MHz and 1500 MHz):

$$\left((Power\ allowed\ at\ numeric\ threshold\ for\ 50\ mm\ in\ step\ 1\ (mW)) + ((test\ separation\ distance\ -\ 50\ mm) \times (f(MHz)/150))\right)\ mW$$

Power allowed at numeric threshold for 50 mm in step 1 (mW):

$$maximum\ power\ of\ channel\ including\ tune-up\ tolerance\ (mW) = \left(\frac{7.5}{\sqrt{f(GHz)}}\right) \times (minimum\ test\ separation\ distance\ (mm))$$

$$maximum\ power\ of\ channel\ including\ tune-up\ tolerance\ (mW) = \left(\frac{7.5}{\sqrt{0.928}}\right) \times 50$$

$$maximum\ power\ of\ channel\ including\ tune-up\ tolerance\ (mW) = 389.2\ mW$$

Power allowed at a test separation distance of 85 mm (for frequencies between 100 MHz and 1500 MHz, mW):

$$\left(389.2 + ((85\ -\ 50) \times (928/150))\right)\ mW$$

$$\left(389.2 + (35 \times (928/150))\right)\ mW$$

$$(389.2 + (35 \times 6.19))\ mW$$

$$(389.2 + 216.5)\ mW$$

$$605.7\ mW$$

The maximum peak output power (EIRP) in the frequency range of 902 – 928 MHz is 508 mW and less than the calculated threshold of 605.7 mW.

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Compliance Engineer

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