



2022-08-02

Subject: NXX RF Exposure Exemption Memo
Simbex, LLC
FCC ID: SUN-R247ISPA

The equipment to be certified, Player Unit (FCC ID: SUN-R247ISPA), is a portable device with respect to RF exposure compliance, a separation distance less than 20 cm from all persons.

The following SAR test exclusion threshold formula, provided in FCC KDB Publication 447498 D04 Interim General RF Exposure Guidance v01 B.2., is used to determine if SAR test exclusion threshold is satisfied.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Equation 1

With $d = 2.0 \text{ cm}$, $ERP_{20 \text{ cm}} = 3060 \text{ mW}$, and $f = 2.48 \text{ GHz}$

$$x = -\log_{10} \left(\frac{60}{3060 \times \sqrt{2.48}} \right) = 1.9048$$

Equation 2

$$P_{th} = 3060 \times \left(\frac{2.0}{20} \right)^{1.9048} = 38.10 \text{ mW}$$

Equation 3

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The maximum conducted power, as reported in Test Report 104550058ATL-001, was 15.13dBm or 32.58mW. Based on the above calculation, SAR evaluation for general population exposure conditions, by measurement or by numerical simulation, is not required as the corresponding SAR Test Exclusion Threshold conditions are satisfied.

References:

Attachment [447498 D01 General RF Exposure Guidance v06](#) provides guidance pertaining to RF exposure requirements for mobile and portable device equipment authorizations.

Attachment [447498 D04 Interim General RF Exposure Guidance v01](#) provides guidance under interim procedures

See “NXT Player Unit RF Exposure Separation Distance Exhibit” to support claimed separation distance.