

RF Exposure evaluation

According to 447498 D04 Interim General RF Exposure Guidance v01

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

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

where

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

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Ant gain = 8.02dBi (8.02-2.15=5.87dBd)

MAX output power : 14.84dBm@2440.4MHz

$-\log\{60 / (3060 \times \sqrt{2.4404})\} = 1.9$

$3060 \times \{(8.5/20)^{1.9}\} = 602$

So Limit=602mW

ERP=14.84dBm +5.87dBd= 20.71dBm

WORSE CASE: 20.71dBm

$10^{2.071} = 118 \text{ mW} < 602 \text{ mW}$

Then SAR evaluation is not required

Remark:

The shortest distance between antenna and The manual part is 85mm.

