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3 December 2003

Re- MPE Calculation for the FCC 47 CFR Part 24 Submission of the Tempus 2000 Patient Monitor (part number 00-0002)

Dear Mr Cobb

Further to our submission for FCC approval under 47 CFR Part 24, please find below the calculation of Maximum Permissible Exposure (MPE) based on the worse case Equivalent Isotropically Radiated Power (EIRP) of the SonyEricsson GC75 GSM PC card.

Requirement

The FCC requires that the calculated MPE be equal to or less than $1\text{mW} / \text{cm}^2$ at a distance of 20cm from the device to the body of the User. The equation for the calculation is given by the FCC as:

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

Where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

Values

P for the GC 75 = 1 watt (30 dBm)*

G for the Centurion antenna = 1 dBi

S = the limit of $1\text{mW}/\text{cm}^2$ for General population / Uncontrolled exposure prescribed by the FCC in the OET Bulletin 65 Supplement C

R = 20 cm for mobile devices prescribed by the FCC in the OET Bulletin 65 Supplement C

** 1 watt is being quoted as the absolute worse case emitted power of the SonyEricsson card as this is the limit stipulated by the GSM standard. The Grant issued by the FCC for the SonyEricsson product actually quotes the output power as 0.589W.*

Calculation

$$31\text{dB} / 4\pi \times (20)^2 =$$

$$1258.9\text{mW} / 5024 =$$

$$\underline{0.250\text{mW} / \text{cm}^2}$$

Conclusion

The calculation shows that in the absolute worse case of EIRP, the MPE of the Tempus 2000 will be one quarter of the limit given by the FCC for mobile devices.

I would appreciate it if you could reply to me to confirm that in your opinion as TCB for the FCC, this is correct.

Regards

(signed)

Chris Hannan

Product Validation Manager