

Issue Date : February 3, 2004

Page 1 of 1

RF Exposure Calculation

Exposure of Humans to RF Fields Requirements

Applicant : Toshiba Medical Systems Corporation
Type of Equipment : IASSIST CONTROLLER (incorporated with Bluetooth)
Model No. : UIIA-771A
FCC ID : ROKMED001

Regulations Applied : CFR 47 FCC 15.247(b)(5)
References Documents : CFR 47 FCC 1.1307(b), 1.1310, 2.1093 and
OET65 Supplement C

RF Exposure Calculations :

The following minimum separation distance between the EUT's antenna and the human body was calculated in accordance with FCC OET65 Appendix B Table(B) "Limit for General Population / Uncontrolled Exposure".

The maximum permissible exposure level is defined with 1mW/cm².

The minimum separation distance where the exposure level reaches the permitted level can be calculated as bellow:

where:
$$S = P * G / 4\pi R^2 \quad \therefore R = \sqrt{P * G / 4\pi S}$$

R = minimum separation distance in cm

P = 0.574 mW(-2.41dBm) (Max. conducted output power at antenna terminal)

G = 1.60(numeric gain) = 2.044 dBi(Max. antenna Gain)

S = 1.0 mW/cm² for 2.4 GHz (Max. permissible exposure level)

Then minimum separation distance is 0.270 cm.

Summary:

The EUT complies with the RF exposure requirement of the above regulation.



Masaaki Takahashi
Senior Manager
JQA EMC Engineering Dept.