RF EXPOSURE INFORMATION

1. MPE Limits

The limit for Maximum Permissible Exposure (MPE), specified in FCC §1.1310 and IC RSS-102, are listed in Table 1 and Table 2. According to those rules: the criteria listed in the following tables shall be used to evaluate the environmental impact of human exposure to radio-frequency(RF) radiation.

Table1. FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f= frequency)				
30-300	61.4	0.163	1.0	6
300-1500	…	…	…	6
1500-100,000	…	…	…	6
(B) Limits For General Population / Uncontrolled Exposure (f=frequency)				
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

Table2. IC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Average Time (Minutes)
0.003-1	280	2.19	-	6
1-10	280/f	2.19/f	-	6
10-30	28	2.19/f	-	6
30-300	28	0.073	2*	6
300-1500	$1.585\ f^{0.5}$	$0.0042\ f^{0.5}$	f/150	6
1500-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158\ f^{0.5}$	$4.21 \times 10^{-4}\ f^{0.5}$	$6.67 \times 10^{-5}\ f$	$616000/f^{1.2}$

Note: f is frequency in MHz

*Power density limit is applicable at frequencies greater than 100 MHz.

2. EUT INFORMATION

- Applicant : LG-Ericsson co.,Ltd.
- Name : DECT Base Station
- Model Name : GDC-600BE
- FCC ID : TUIGDC-600BE
- IC Number : 6241A-GDC600BE
- Tx Frequency Band : 1921.536 MHz ~ 1928.448 MHz

3. PROCEDURES

The procedure used to determine the RF power density was based upon a calculation for determining compliance with the MPE requirements. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering the limit of uncontrolled exposure limit. The power density level is calculated at a distance of 20 cm. And Minimum distance is also calculated. MPE calculations are calculated under Maximum Power condition in the band.

Formula

$P_d = PG / (4\pi r^2)$

Where,

P_d= Power Density (mW/cm^2)

P= Power input to the antenna (in appropriate units, e.g., mW)

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

π=3.1416

r=distance between observation point and centre of the radiator (cm)

4. Calculated MPE

The power density limit for General Population/Uncontrolled Exposure at each frequency is determined based on the information in Table 1. MPE calculations are calculated at the Maximum Power frequency channel.

Table2. UPCS Calculated MPE Data

Frequency	1928.448 MHz (5ch)
Limit	$1mW/cm^2$
Distance (cm), R	20 cm
Ant. Gain, G	2.5 dBi
Conducted Power	20.59 dBm (114.55 mW)
Power Density (mW/cm^2)	**0.04053**
Minimum Distance	4.03 cm

5. MPE results

Based on the above calculation for 20cm separation, the power density does not exceed FCC& IC limits of 1mW/ $cm^{2.}$ And the minimum distance satisfying the IC limit is 4.03 cm.