**Equipment Model Number: KDTC635**

## Acc. RSS-102 Issue 4 Chapter 2.5.2:

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- **below 1.5 GHz and the maximum e.i.r.p. of the device is equal to or less than 2.5 W;**
- **at or above 1.5 GHz and the maximum e.i.r.p. of the device is equal to or less than 5 W.**

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

## Prediction of MPE limit at given distance

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

where: S = Power density
P = Power input to the antenna (including tolerance of tune up procedure of +0.5 dB)
G = Antenna gain
R = Distance to the center of radiation of the antenna

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

| Frequency Range (MHz) | Power Density ($mW/cm^2$) | Averaging Time (minutes) |
|---|---|---|
| 300 -1500 | f/1500 | 30 |
| 1500 - 100000 | 1.0 | 30 |

where f = Frequency (MHz)

### Prediction: GSM 850

| | | |
|---|---|---|
| P | Max power input to the antenna: | 33.60 dBm / 2291 mW |
| R | Distance: | 20 cm |
| S | MPE limit for uncontrolled exposure: | 0.56 $mW/cm^2$ |
| G | Antenna gain: | 0.74 numerical |
| **Calculated Power density:** | | **0.34 $mW/cm^2$** |

**This prediction demonstrates the following:**

The power density levels at a distance of 20 cm are below the maximum levels allowed by FCC regulations.
The radiated power is below the maximum level allowed by IC regulations.

**Prediction: GSM 1900**

| | | |
|---|---|---|
| P | Max power input to the antenna: | 30.57 dBm / 1140 mW |
| R | Distance: | 20 cm |
| S | MPE limit for uncontrolled exposure: | 1 mW/cm$^2$ |
| G | Antenna gain: | 1.0 numerical |
| **Calculated Power density:** | | **0.23 mW/cm$^2$** |

**This prediction demonstrates the following:**

The power density levels at a distance of 20 cm are below the maximum levels allowed by FCC regulations
The radiated power is below the maximum level allowed by IC regulations.

**Prediction: WCDMA 850**

| | | |
|---|---|---|
| P | Max power input to the antenna: | 23.93 dBm / 247.2 mW |
| R | Distance: | 20 cm |
| S | MPE limit for uncontrolled exposure: | 0.56 mW/cm$^2$ |
| G | Antenna gain: | 0.85 numerical |
| **Calculated Power density:** | | **0.04 mW/cm$^2$** |

**This prediction demonstrates the following:**

The power density levels at a distance of 20 cm are below the maximum levels allowed by FCC regulations
The radiated power is below the maximum level allowed by IC regulations.

**Prediction: WCDMA 1700**

| | | |
|---|---|---|
| P | Max power input to the antenna: | 24.09 dBm / 256.4 mW |
| R | Distance: | 20 cm |
| S | MPE limit for uncontrolled exposure: | 1 mW/cm$^2$ |
| G | Antenna gain: | 0.78 numerical |
| **Calculated Power density:** | | **0.04 mW/cm$^2$** |

**This prediction demonstrates the following:**

The power density levels at a distance of 20 cm are below the maximum levels allowed by FCC regulations
The radiated power is below the maximum level allowed by IC regulations.

**Prediction: WCDMA 1900**

| | | |
|---|---|---|
| P | Max power input to the antenna: | 24.58 dBm / 287.1 mW |
| R | Distance: | 20 cm |
| S | MPE limit for uncontrolled exposure: | 1 mW/cm$^2$ |
| G | Antenna gain: | 0.92 numerical |
| **Calculated Power density:** | | **0.05 mW/cm$^2$** |

**This prediction demonstrates the following:**

The power density levels at a distance of 20 cm are below the maximum levels allowed by FCC regulations
The radiated power is below the maximum level allowed by IC regulations.

**Signature:** 

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