FCC ID: XKB-EFT930B – Handheld Terminal

Device is a handheld only unit. Although it qualifies as mobile (d>20cm from body), it will be evaluated against portable exposure limits for worst case purposes.

The Handheld Terminal has 2 radios:
- Radio 1: Bluetooth
- Radio 2: 13.56MHz RFID tag reader

Background

When all co-located transmitters are built-in or operating as an integral part of the host product and there is NO provision for external antenna connections,

Determine the aggregate output power ratio of all transmitters according to

Σ **[P(n) / T(n)]**, where

P(n) is the *higher* of the
1. Maximum Source-Based Time-Averaged EIRP or
2. Maximum Source-Based Time-Averaged Conducted Output Power

for the individual transmitter

T(n) is the applicable low/high threshold

with respect to the **low** threshold: except when routine SAR evaluation is required, SAR evaluation is not needed when $\Sigma[P(n)/T(n)] \leq 1$.

T(n) = 60/f(GHz) in **mW** for general population. (Portable exposure category d < 2.5cm)

T(1) = Bluetooth radio low threshold
T(1) = 60 / 2.48 = 24.19 mW

T(2) = 13.56MHz radio low threshold
T(2) = 60 / 0.01356 = 4424.77 mW

P(1) = Bluetooth power
Conducted = 5.6dBm
Antenna Gain = 1.6dBi
EIRP = 5.25mW;
P(1) = 5.25mW

P(2) = 13.56MHz radio power
EIRP = 0.03mW ;
P(2) = 0.03mW

$\{ P(1) / T(1) \} + \{ P(2) / T(2) \} = 0.217 + 0.000007 = 0.217 < 1$

Therefore device complies with FCC RF radiation exposure limits for a portable device.

Collocation with the base unit FCC ID: XKB-BAS930B

The Handheld Terminal can be collocated during charging mode with the Base Unit, which also has a Bluetooth radio.

$P(3) =$ Base Unit Bluetooth radio power level
$P(3) = 10.9\text{mW EIRP}$

$T(3) =$ Bluetooth radio low threshold
$T(3) = 60 / 2.48 = 24.19 \text{ mW}$

$\{ P(1) / T(1) \} + \{ P(2) / T(2) \} + \{ P(3) / T(3) \} = 0.217 + 0.000007 + 0.4504 = 0.6674 < 1$

Therefore; when the Handheld Terminal is collocated with the Base Unit, as a system they comply with FCC RF radiation exposure limits as well.