FCC ID: XKB-BAS930B – Base Unit

Device is a Base Unit for a Handheld Terminal (FCC ID: XKB-EFT930B). They operate as a system. Although the base qualifies as a mobile (d>20cm from body), it will be evaluated against portable exposure limits for worst case purposes. The Base Unit has a Bluetooth radio.

Base Unit Bluetooth radio power level = 10.9mW EIRP.
Bluetooth radio low threshold = 60 / 2.48 = 24.19 mW

Since the EIRP is lower than the low threshold, device complies with FCC RF radiation exposure limits as a portable device.

Collocation with the Handheld Terminal FCC ID: XKB-EFT930B

The Base Unit can be collocated with the Handheld Terminal during charging mode.

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 **Σ[P(n)/T(n)] ≤ 1**.

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

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

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

T(3) = Base Unit Bluetooth radio low threshold
T(3) = 60 / 2.48 = 24.19 mW

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

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

P(3) = Base Unit Bluetooth radio power level
P(3) = 10.9mW EIRP

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

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