

Intertek Testing Services

For SAR evaluation of the handset, refer to TCB Exclusions List Revised on 17 July 2002. Transmitter with output power less than 60/fGHz ($d < 2.5\text{cm}$) can be certified by TCB without the SAR evaluation.

In fact, the Output power for transmitters is the higher of the conducted or radiated (EIRP) source-based time-averaged output. And the $f\text{GHz}$ is mid-band frequency in GHz, and d is the distance to a person's body, excluding hands, wrists, feet, and ankles.

For the tested model of 95339,

Base unit:

The measured peak conducted power was 2.21mW and the source-based time averaged output power was 0.99mW as TX duty cycle of the handset is 44.7%.

The maximum field strength (FS) was 96.2dB $\mu\text{V}/\text{m}$ at 925.800MHz. The distance (D) between the antenna and the equipment under test (EUT) was 3 meters.

From these data, the EIRP can be calculated by:

$$\begin{aligned} \text{EIRP} &= (\text{FS} \cdot \text{D})^2 / 30 \\ &= 1.25\text{mW} \end{aligned}$$

$$\begin{aligned} \text{Source-based time averaged output power} &= (1.25 \times 0.447)\text{mW} \\ &= 0.56\text{mW} \end{aligned}$$

Handset:

The measured peak conducted power was 1.16mW and the source-based time averaged output power was 0.52mW as TX duty cycle of the handset is 44.7%.

The maximum field strength (FS) was 93.6dB $\mu\text{V}/\text{m}$ at 914.400MHz. The distance (D) between the antenna and the equipment under test (EUT) was 3 meters.

From these data, the EIRP can be calculated by:

$$\begin{aligned} \text{EIRP} &= (\text{FS} \cdot \text{D})^2 / 30 \\ &= 0.69\text{mW} \end{aligned}$$

$$\begin{aligned} \text{Source-based time averaged output power} &= (0.69 \times 0.447)\text{mW} \\ &= 0.31\text{mW} \end{aligned}$$

Based on the above calculation, it is concluded that the base unit and handset can be certified by TCB without the SAR evaluation.