

TGL-35-03

-Mobile Phone-

Mobile Phone is electronic equipment which role more consistently in every-day's life and its market demand keep increase. In 2003, cellular network in Thailand provided services for all systems about 16.5 million users. Communication through cellular system transfers data in form of radio high frequency, which cause electromagnetic radiation and might affect to user's health. Furthermore, at end of life, its components and batteries consist of hazardous substances include heavy metal and halogen compound that cause significant impact to environment in improper management condition.

Thus to develop Green label criteria for mobile phone shall certify the safety of health during application and prevent pollutants release and contamination to environment after use.

Category Definition:

These criteria apply to mobile phones operating according to frequency band of 300 MHz to 3 GHz. Personal Digital Assistant and wireless telephone are excluded from this category

Green Label Requirements

To be authorized to carry the Green Label, a product must meet both general requirements and product specific requirements as listed below:

General Requirements

1. The product must past certified test of cellular band distribute antenna system of Post and Telegraph Department.
2. The product's charger must be certified with the electrical safety standard IEC 60950: Safety of information technology equipment.
3. Mobile phones must therefore include such characteristics as accessibility and usability for the intended user population as follow ;
 - 1) The *keys* shall be elevated above the *keypad* surface and be distinctly recognized by perception of touch.
 - 2) The surface of the keys shall be made of material that is distinctly different, by means of color coding and perception of touch, from the surrounding surface.
 - 3) The numeric keypad layout shall comply with the international standard for numerical keypad layout (1-9, 0, *, #).
 - 4) The function keys shall be clearly separated, by color and form or by form from the numeric keys

- 5) The keypad shall have lighting that illuminates the characters and symbols on the keys, thereby showing the position of each button.
 - 6) Actuation of a key shall need a *depression force* and be accompanied by feedback.
4. The outside surfaces of the housing, battery pack and buttons shall not contain nickel or chromium, neither in the material used nor as a surface treatment.
 5. The *symbol height* shall be equal to or larger than 3.0 mm for capital letters that are used to show telephone numbers and to show incoming and outgoing messages.
 6. The following accessories shall be made available for certified mobile phones, which are battery charger, hands-free either headset or earpiece, with a connected microphone, vibrator without or in combination with a battery pack.
 7. A user's instruction manual shall accompany the mobile telephone on delivery to the user and shall contain the following information:
 - information concerning where to obtain assistance with problems encountered while using the mobile phone.
 - Instructions on how to avoid power draw of adapters when the mobile phone battery is not being charged.
 - Guidelines for a precautionary use of mobile phones in order to minimize radio wave exposure

Product Specific Requirements

1. The SAR (Specific Absorption Ratio) value shall be equal to or less than 0.8 W/kg.
2. The telephone shall not contain *mercury or cadmium*
3. The batteries, paint, lacquer, cables and *plastic components* in the telephone shall not contain *lead*
4. The batteries, electronic components and accumulator in telephone shall not contain beryllium oxide.
5. Plastic components weighing more than 10 g shall not contain flame retardants that contains chlorinated and brominated polymers and organically bound chlorine or bromine.
6. The carrier material of printed circuit boards must not contain any PBB (polybrominated biphenyls), PBDE (polybrominated diphenyl ethers) or chlorinated paraffins.
7. *Plastic components¹* that weigh more than 10 grams shall be labelled in accordance with ISO 11469, ISO 1043-1, -2, -3, -4.
8. The plastics used for product packaging must not contain any halogen-containing polymers.
9. The *manufacturing company¹* must be certified in accordance with ISO 14001, or EMAS

10. The applicant undertakes to take back his products marked with the Environmental Label after use in order to forward them to utilization/recycling. Non-recyclable device parts shall be forwarded to environmentally acceptable disposal.