CLAIMS

[Claim 1]

A mobile station comprising:

~~a first protocol~~an AS (Access Stratum) function corresponding to ~~a first protocol~~an AS terminated between the mobile station and a radio base station; and

a ~~second protocol~~NAS (Non Access Stratum) function corresponding to a ~~second protocol~~NAS terminated between the mobile station and a mobile switching center, wherein

the ~~first protocol~~AS function is configured to activate a first timer, when a quality deterioration of a radio link established with the radio base station is detected;

the ~~first protocol~~AS function is configured to detect a failure in the radio link and to activate a second timer, when the quality deterioration of the radio link is not recovered before the first timer expires;

the ~~first protocol~~AS function is configured to transition to an idle state, when an inter-RAT cell is discovered during a time that the second timer is activated, and to notify, to the ~~second protocol~~NAS function, the failure; and

the ~~second protocol~~NAS function is configured to transmit, in response to the notification, a location registration request signal to the mobile switching center in a radio communication system to which the inter-RAT cell belongs.

[Claim 2]

The mobile station according to claim 1, wherein

the ~~second protocol~~NAS function is configured to transmit, even if an ISR is applied, the location registration request signal in response to the notification.

~~[Claim 3]~~

~~The mobile station according to claim 1, wherein~~

~~the first protocol function is an AS function corresponding to an AS that serves as the first protocol; and~~

~~the second protocol function is an NAS function corresponding to an NAS that serves as the second protocol.~~