SONY

LOW_POWER_WAIT_FETCHING_TIME_SAMPLE_APPLICATION (SDK Version 3.0.4)

Description

LOW_POWER_WAIT_FETCHING_TIME_SAMPLE_APPLICATION (low_power_Wait_Fetching_time_sample_app) is a sample application for switching control of the CXM150x's normal operating state and power saving state.
The power saving is achieved by allowing the CXM150x to stay in the WAIT_FETCHING_TIME state. In the WAIT_FETCHING_TIME state, the CXM150x enters the standby state while retaining GNSS information, so the time for returning to normal operation from the power-saving state is expected to be shortened.

Switching between normal operation and power-saving state is done by pressing the button on the host MCU board. If the button on the host MCU board is pressed during normal operation, it transitions to the power-saving state. The transition to the WAIT_FETCHING_TIME state is accomplished by issuing the TO_WAIT_FETCHING_TIME command. To transition the CXM150x to the WAIT_FETCHING_TIME state, the CXM150x must be in the EPM_FILL state, WAIT_FETCHING_TIME state or WAIT_TX_PREPARE state, so the state is checked.

If the button on the host MCU board is pressed during the power-saving state, it transitions to the normal operation state. The transition to the normal operation state is accomplished by issuing TX CUR_FRM_TYPE command to transition the CXM150x to the periodic transmission state. After the transition to the normal operation state, the CXM150x is checked whether it has valid ephemeris (GNSS satellite information) or not. If the ephemeris is exhausted, the CXM150x is restarted and acquires the valid ephemeris by receiving GNSS.

In the normal operating state, periodic transmissions are performed using the EEPROM setting profile. Even if the transmission interval is long, the power supply of the CXM150x is not controlled, but only the power saving control of the host MCU is performed.

At the time of the start-up, the callback function to be called when an error occurs is registered.

For details on each function and how to build the application, refer to the CXM150x HOST I/F Specification, CXM150x Configuration Manual, and CXM150x Programmer's Manual.
When you build the software according to the procedure described in CXM150x Programmer's Manual chapter 10, please replace the software name with low_power_Wait_Fetching_time_sample_app and the file name with main_low_power_wait_fetching_time_sample_app.

・Supported firmware version

System firmware version (GNSS firmware version)
FY0100_RA2400 (17166,3dac91c,122) or later

This application refers to the following EEPROM settings

EEPROM function	description
INT_OUT1 p1INT_OUT1 p2INT_OUT1 evINT_OUT1	Notify by the INT_OUT1 pin at the specified time before the update deadline of the LPWA transmission data. Refer to the CXM150x Configuration Manual for details of the settings. In order for the application to work, it must be enabled at profile to use. 5 or higher is recommended for this sample application.

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