SONY

LOW_POWER_BUP_SAMPLE_APPLICATION (SDK Version 3.0.4)

Description

LOW_POWER_BUP_SAMPLE_APPLICATION (low_power_BUP_sample_app) is a sample application for switching control of the CXM150x's normal operating state and power saving state.

The power saving state is achieved by turning off the power supply in the module by operating the ENABLE pin of the CXM150x. Ephemeris backup (BUP) function is used in this sample application. BUP function reduces the satellite search time at the time of reboot by backing up and restoring GNSS information.

Switching between normal operation and power-saving mode is done by pressing the button on the host MCU board. If the button on the host MCU board is pressed during normal operation, the GNSS information is backed up and the board shifts to the power-saving state. To execute the GNSS information backup process, the CXM150x must be in the EPM_FILL 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, the backup GNSS information is restored and the system shifts to the normal operating state. Since there are no restrictions depending on the state of the CXM150x, the state is not checked in the transition from the power-saving state to the normal operating state.

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_BUP_sample_app and the file name with main_low_power_BUP_sample_app.c.

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·Supported firmware version

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

The following EEPROM settings are involved in the operation of this application.

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, INT_OUT1 must be enabled at profile to use. 5 or higher is recommended for this sample application.

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