

Power Management in RDK-V Platforms

Introduction

This document provides a general guideline on the power management features of RDK Video platform.

Power modes

RDK currently supports 4 power modes

Mode	Details	State Transition	Reference APIs
ON	<ul style="list-style-type: none">Box will be in full power modeAll services will be running.Logs will be written to persistent device directly	To/From *Decided by application manager *IR/Bluetooth/CEC input	setPowerState onSystemPowerStateChanged
Lightsleep/standby	<ul style="list-style-type: none">Box is fully functional, none of the services are disabled.video/graphics display is turned offAudio will be muted.Applications can decide on what the behavior should be on standby mode.Logs will be written to RAM and are periodically flushed to persistence.	To <ul style="list-style-type: none">Application manager can enter into this state based on the user/system inactivity. User inactivity is no key inputs from user, while system inactivity includes no audio/video playbackIR/Bluetooth/CEC input From <ul style="list-style-type: none">IR/Bluetooth/CEC input	setPreferredStandbyMode setPowerState onSystemPowerStateChanged
Deepsleep (w/o n/w support)	<ul style="list-style-type: none">video/graphics display is turned offAudio is mutedAll CPU activity is suspendedEthernet port and WiFi radio are disabledAll input ports other than HDMI-CEC are disabledBluetooth remains ON for keypress input onlyIR remains ONHDMI-CEC is retainedSystem time is retained	To <ul style="list-style-type: none">If the setpreferredstandbymode is set and application manager puts the box to standby due to inactivityIR/Bluetooth/CEC input From <ul style="list-style-type: none">One of the wakeup sources	setPreferredStandbyMode setPowerState onSystemPowerStateChanged setWakeupSrcConfiguration setDeepSleepTimer
Deepsleep (n/w supported)	<ul style="list-style-type: none">video/graphics display is turned offAudio is mutedAll CPU activity is suspendedEthernet port and WiFi radio are enabledAll input ports other than HDMI-CEC are disabledBluetooth remains ON for keypress input onlyIR remains ONHDMI-CEC is retainedSystem time is retained	To <ul style="list-style-type: none">If the setpreferredstandbymode is set and application manager puts the box to standby due to inactivityIR/Bluetooth/CEC input From <ul style="list-style-type: none">One of the wakeup sources	setPreferredStandbyMode setPowerState onSystemPowerStateChanged setWakeupSrcConfiguration setDeepSleepTimer

State transition diagram

While in ON state, application manager can detect user/system inactivity and switch to preferred power saving state. Other than user intentionally turning off the device, the only other scenario where power state change happens is when thermal protection is enabled and threshold values are crossed.

Please note that there is no direct transition from Deepsleep to ON state. when system wakes up from deepsleep, it switches to lightsleep mode and let the event listeners decide what to do with the wakeup notification. Based on [getlastdeepsleepreason](#) and [getLastWakeupKeyCode](#), application manager /dial server can determine how to proceed further.

