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## Turn-On and Turn-Off Flow Charts x910CF, x910XF, and x910MF Plug-In Modems

The following flow charts illustrate the steps to turn on, turn off, and unconditionally shut down the Janus x910CF, x910XF, and x910MF modems. These flowcharts have been compiled from the information available in the Telit Hardware User Guides for the modules utilized in the Janus modems. The timing values specified in the flowcharts make them compatible with any of the Janus modem products used.

The following input signals used to control the modems are common to the flowchart implementations:

**ON\_OFF** - This input is driven low for a short period in order to turn on or turn off the modems. This is a direct connection to the Telit module ON\_OFF pin. Drive this signal low with an open drain/collector type circuit. Do not use a pull-up resistor.

**RESET** - This input is driven low for a short period in order to perform an unconditional hardware reset of the modules. This is a direct connection to the Telit modules RESET pin. Drive this signal low with an open drain/collector type circuit. Do not use a pull-up resistor.

**ENABLE** - This signal can be used to disable the modem's power supply circuitry when driven low. Drive this signal low with an open drain/collector type circuit. Do not use a pull-up resistor. This pin can be left unconnected.

*NOTE: The x910XF modules do not support an ENABLE pin.*

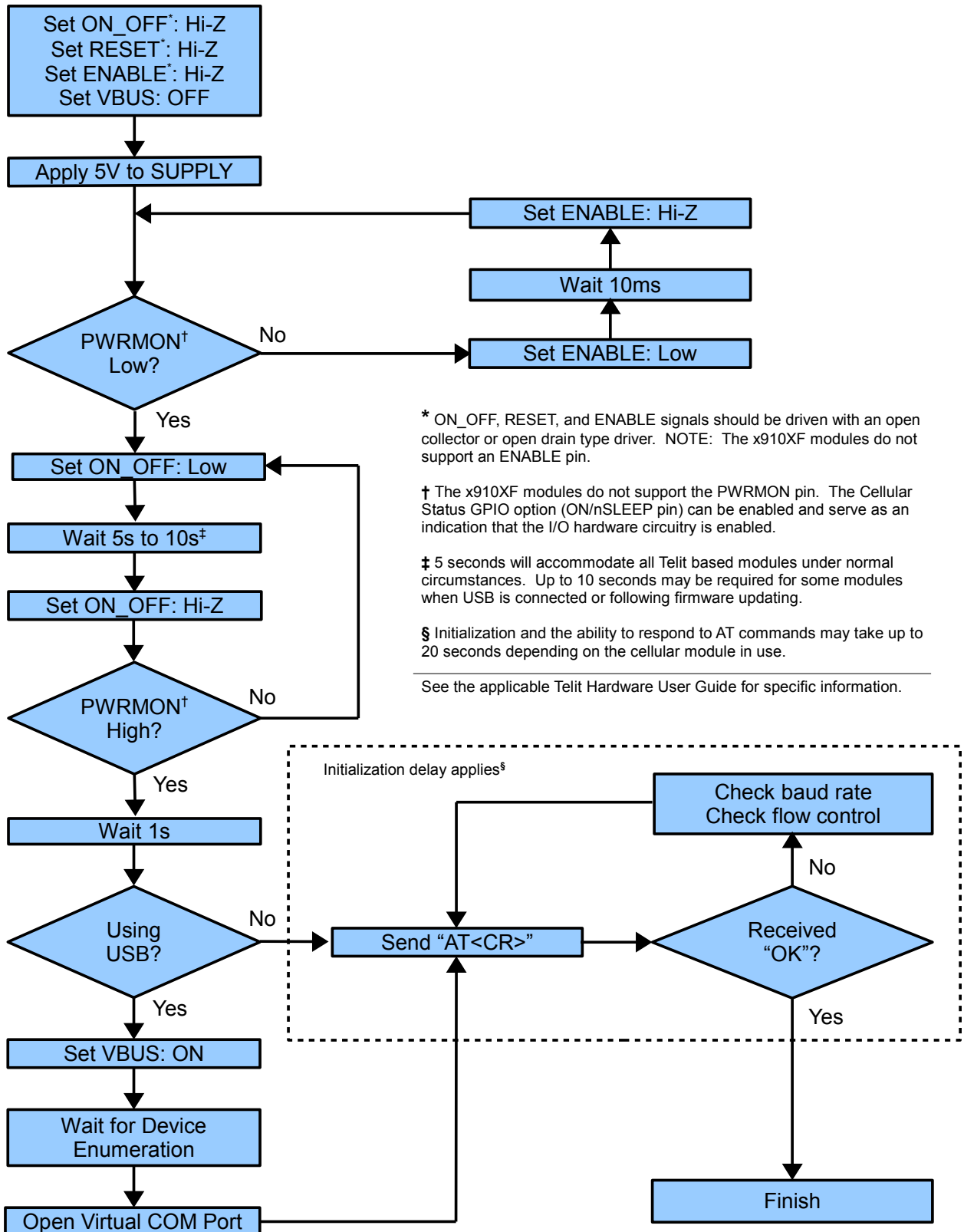
**PWRMON** - Output signal; high level indicates that the unit is on and that the I/O hardware circuitry is enabled. The actual voltage level of the high level output varies among units; see the applicable Janus User Manual for more information.

*NOTE: The x910XF modules do not support the PWRMON pin. The Cellular Status GPIO option can be enabled and serve as an indication that the I/O hardware circuitry is enabled.*

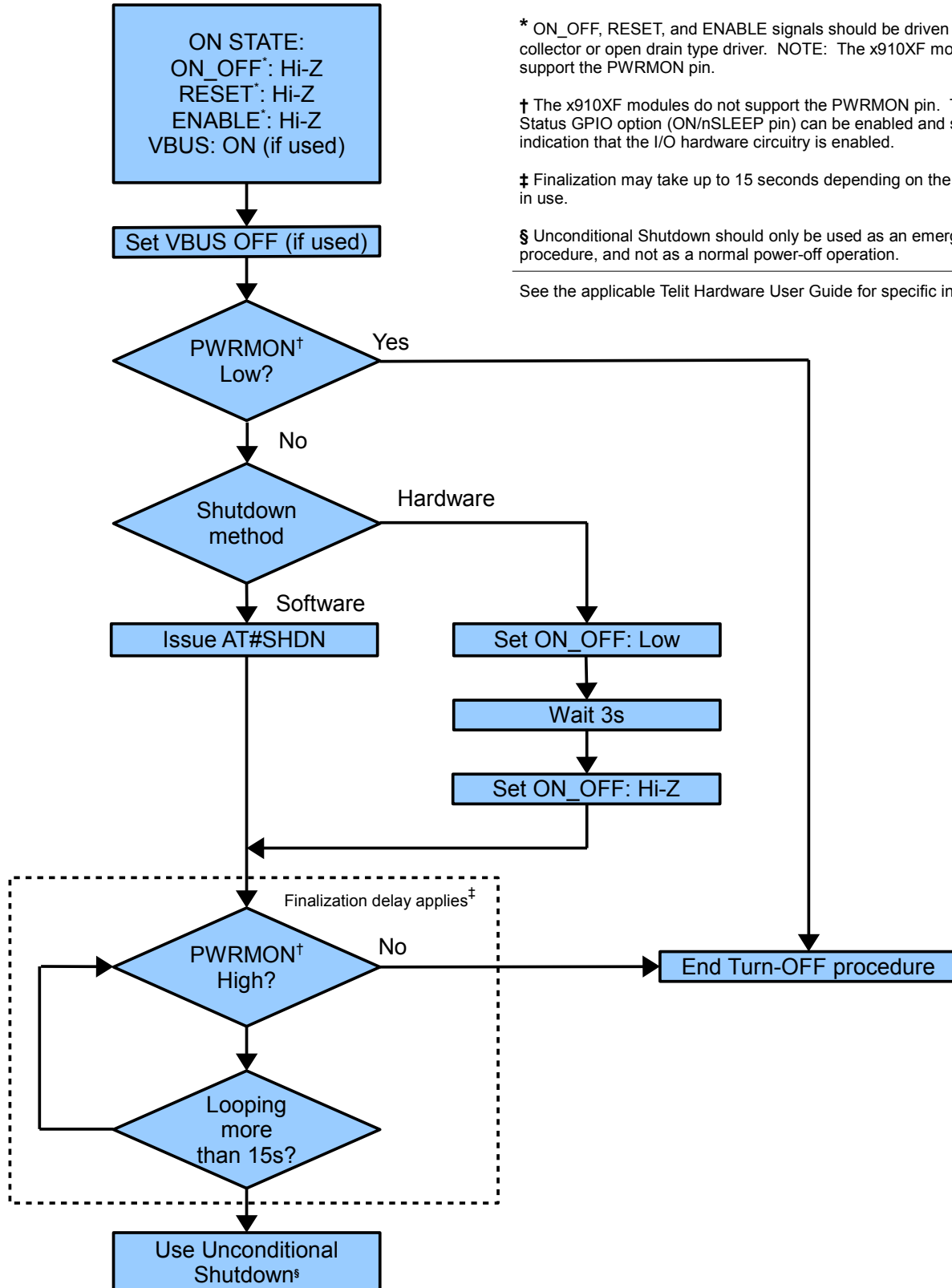
In order to avoid back-powering the module all digital I/O signals should be at a low level or high impedance until the modem has been turned on and before turning the modem off. This is done automatically for level translated signals; this includes all UART signals, GPIO\_03 thru GPIO\_07 on the x910CF modems, and GPIO\_2 thru GPIO\_7 on the x910MF modems. Un-translated signals include the USB\_VBUS signal, DVI audio signals, CELL\_LED (GPIO\_1), I2C\_SDA (GPIO\_9), I2C\_SCL (GPIO\_10), and USER\_LED (GPIO\_2) on the x910CF modems and DIO2 (GPIO\_2) and DIO3 (GPIO3) on the x910XF modems.

See the applicable Janus User Manual for more information.

## Turn-On Flow Chart x910CF, x910XF and x910MF



## Turn-Off Flow Chart x910CF, x910XF and x910MF



\* ON\_OFF, RESET, and ENABLE signals should be driven with an open collector or open drain type driver. NOTE: The x910XF modules do not support the PWRMON pin.

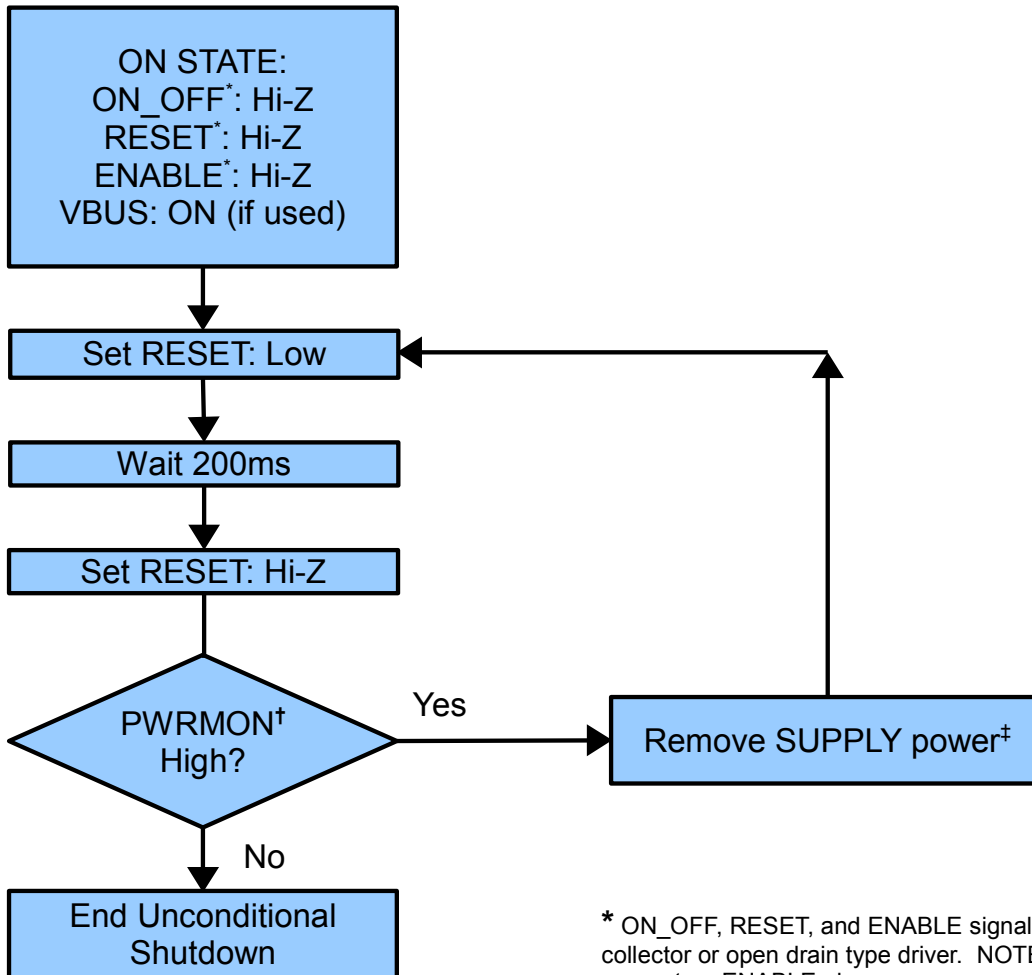
† The x910XF modules do not support the PWRMON pin. The Cellular Status GPIO option (ON/nSLEEP pin) can be enabled and serve as an indication that the I/O hardware circuitry is enabled.

‡ Finalization may take up to 15 seconds depending on the cellular module in use.

§ Unconditional Shutdown should only be used as an emergency exit procedure, and not as a normal power-off operation.

See the applicable Telit Hardware User Guide for specific information.

## Unconditional Shutdown Flow Chart x910CF, x910XF and x910MF



\* ON\_OFF, RESET, and ENABLE signals should be driven with an open collector or open drain type driver. NOTE: The x910XF modules do not support an ENABLE pin.

† The x910XF modules do not support the PWRMON pin. The Cellular Status GPIO option (ON/nSLEEP pin) can be enabled and serve as an indication that the I/O hardware circuitry is enabled.

‡ Setting ENABLE low will also remove SUPPLY power to the module. NOTE: The x910XF modules do not support the PWRMON pin.

See the applicable Telit Hardware User Guide for specific information.