

SynapSense WSN Battery Lifetime Calculation	
Applies to:	SynapSense WSN
Objective:	Calculate data on standard node operation for battery lifetime for normal operation instead of only the joining process.
Pre-Requisites:	SynapSense

Description

Either a day or two after the WSN is initially installed or after batteries are replaced in individual nodes, the system may indicate that the battery life is below 90 days. The calculation for battery lifetime is performed each day at midnight and takes the last 30 days of power consumption and extrapolates the battery lifetime.

During the initial joining process that occurs when the network is initially started or when the battery is replaced, the radio receiver is on full-time. Once the node joins, the power consumption goes down to the point where 3-5 years of battery life can be accomplished.

Since the power consumption data that the system has after one or two days is high, the battery lifetime calculation indicates that the battery lifetime is short. After several days, the calculation has enough data to determine a more accurate battery lifetime. The alarms about the battery will go away.

Performing the Procedure

1. When batteries are changed in nodes, **do not** respond to the battery alerts for two days after the change.
 - This will give the calculation enough data in the standard operation of the node to calculate the battery lifetime for the normal operation instead of only the joining process.