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Category	■FAQ □ SOP	Related OS	N/A
Abstract	How to control DO on WISE-4210 S250		
Keyword	Downlink mode, Digital Output, SUB-G		
Related Product	WISE-4210, WISE-S250		

■ **Problem Description:**

WISE-4210 supports downlink mode after vA103B08. In this document, we will show you what downlink mode it is and how to configure the setting.

■ **Answer:**

Requirement:

✓ WISE-4210 AP after vA103B08
✓ WISE-4210 Endnode after vA103B08
✓ WISE Studio after V1.01.00 B17

What is the Downlink Mode:

Downlink mode is a new feature for WISE-4210. It allows user to control endnode's IO status by AP and also polling endnode's IO data which extend the flexibility for the customer. As you can see in Fig 1, WISE AP control and polling data from WISE endnode which is different from the push mode that only broadcast data to AP.
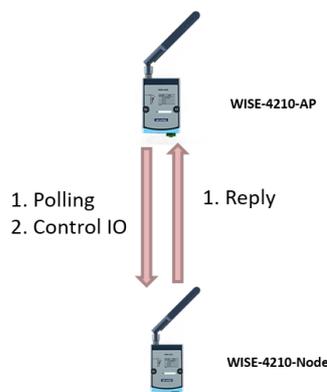

Figure1. Topology of Downlink Mode

There is also one important point to be noticed. In downlink mode, the WISE-4210 node will not enter into power saving mode. Because it needs to keep listening to the command from WISE-4210 AP.

Configuration of Downlink Mode:

Step. 1 RF Configuration:

  As the setting in push mode, the frequency, data rate and baseband of AP and endnode need to be matched. Next, the RF operation mode needs to be set to downlink mode. Both AP and node need to be set to downlink mode at the same time.
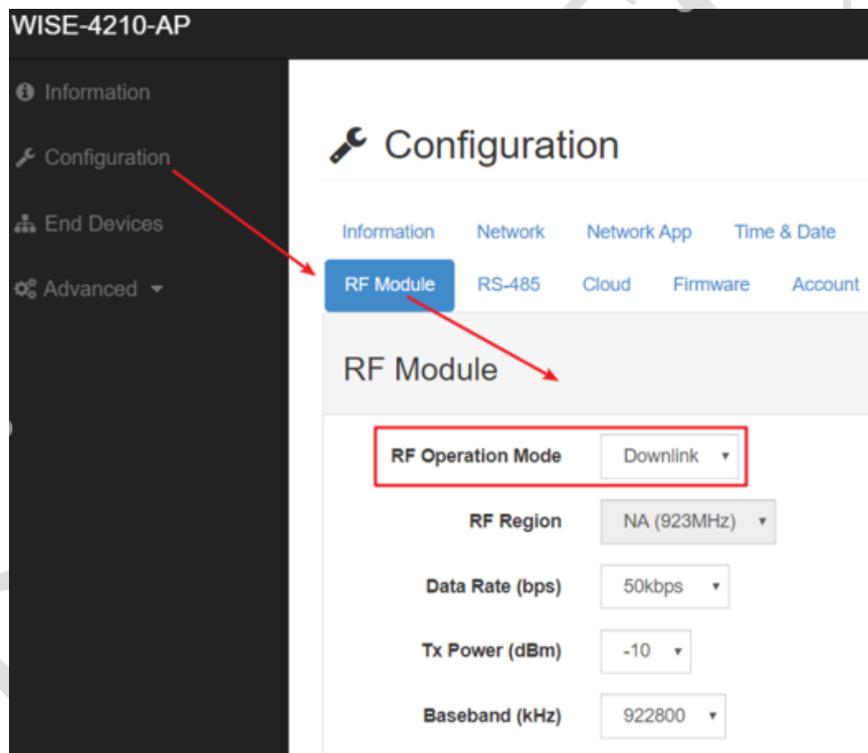

Figure2. RF Configuration Page on WISE-4210 AP

Step. 2 Add WISE-4210 Node into the Connection List of WISE-4210 AP:

  Different from push mode, the device need to be added into the list of AP manually by user. By enter the last 12 digit MAC ID of end node, the user will be able to add the node into the list.
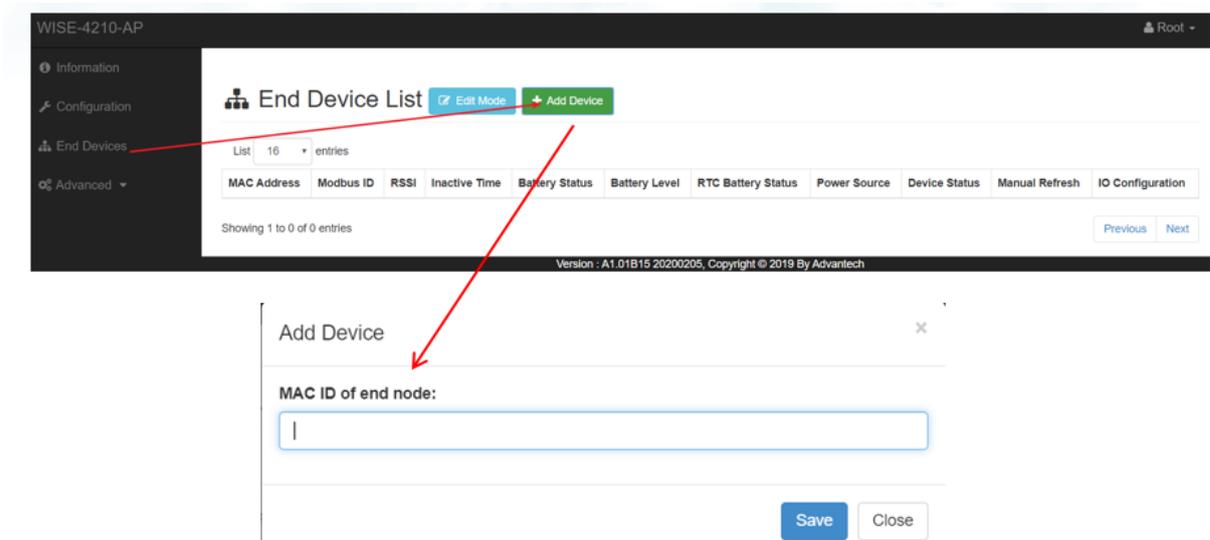
Figure3. Add Downlink Device into Connection List of WISE-4210 AP

Step. 3 Configure the WISE-4210 AP Polling Interval for Downlink Mode:

WISE-4210 AP queries node's data periodically. The data polling interval setting could be found in the main page of WISE-4210 AP. For example: If data polling interval is 10s, WISE-4210 AP will query each node every 10s.

Figure4. Configuration of Polling Interval for Downlink Mode

<u>Step. 4 Observer WISE-4210 Node Information on WISE-4210 AP:</u>

If the setting above steps are corrected, you should able to see the device status change

from connecting to connected. By clicking the IO configuration of node, you will be able to

enter IO information page. In this page, you could observe the latest IO value and control

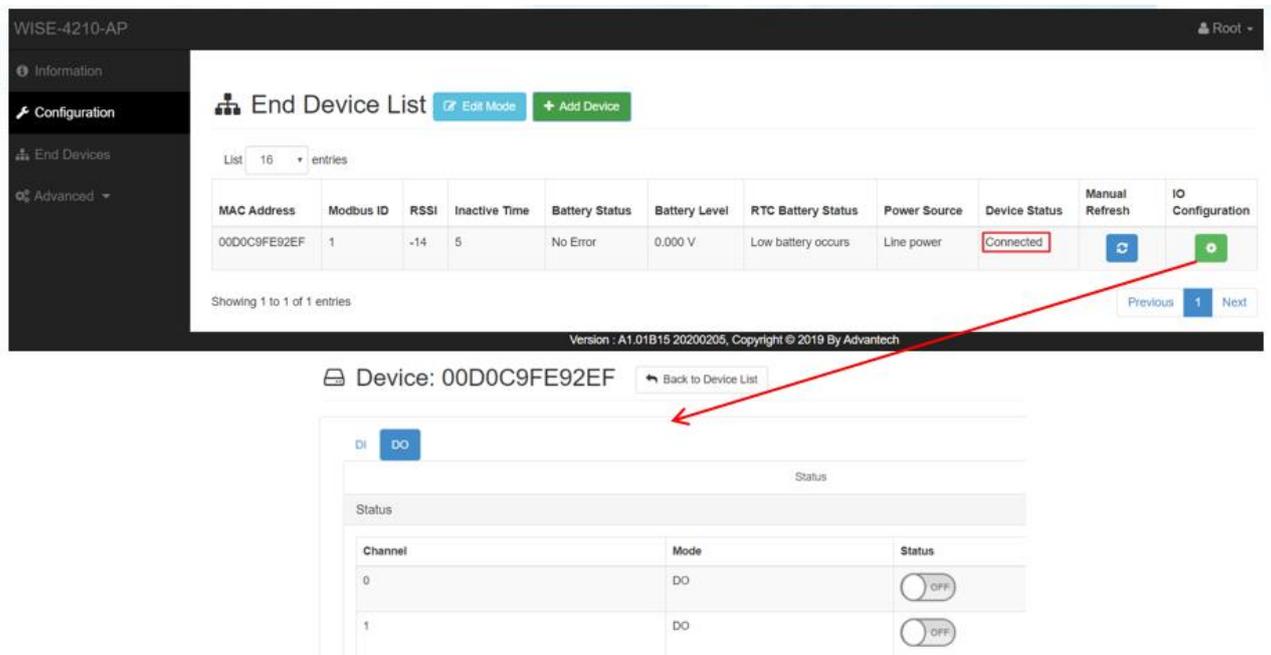the digital output. You could also control the DO via Modbus TCP.

Figure5. IO Configuration Page for Downlink Mode