

Omni-ID Power 50 Battery Assisted Passive (BAP) Tag

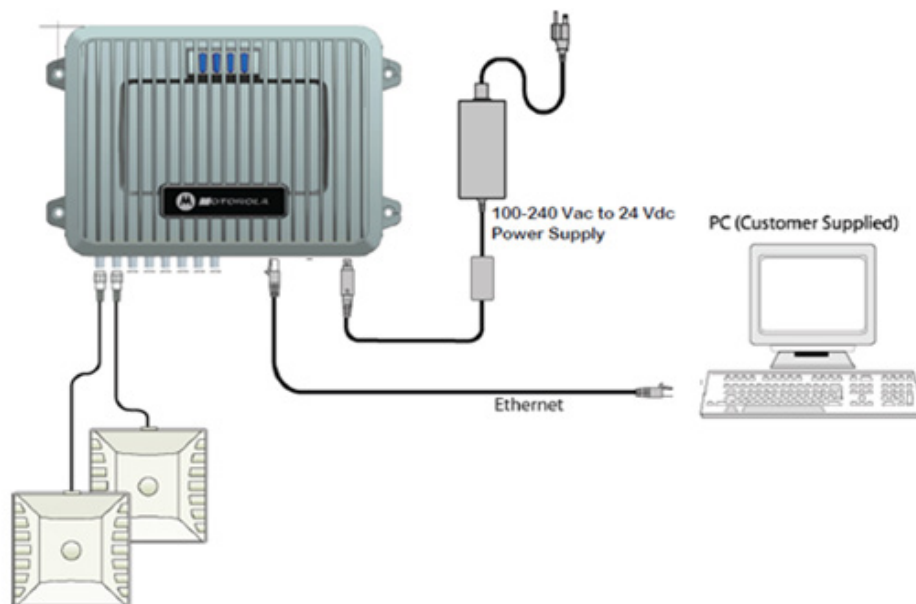
This Application note provides details on how to set up and operate the Motorola FX9500 reader using the web interface to test the extended read distance offered by the Omni-ID **Power 50** BAP Tag.

Reader System Setup Requirements

- 1) Use two or more antennas.
- 2) Configure the antenna ports to Bi-static operation.
- 3) Set the Backscatter Link Frequency to 240KHz.
- 4) Set the Protocol Tari length to 25uS.
- 5) Use session mode 1.
- 6) Set Q allocation to 0.



System Configuration Requirements



Recommended Antenna: MTI MT242025 7.5 dBiC Antenna

Mount each Antenna, minimum 1.0m above ground and separated 40cm apart

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RFID Reader Operation with Web Console

The FX9500 can be operated by logging directly into the RFID Reader's embedded Web Console. To access a particular RFID Reader, perform the following:

1. Enter the RFID Reader's IP Address into your web browser (Default: 169.254.1.1) or press the **Configure** button.
2. The RFID Reader's Web Console interface is displayed.



3. Log into the RFID Reader. Press **Login** for the login screen.

Name	Value	?
Login	<input type="text" value="admin"/>	?
Password	<input type="password" value="*****"/>	?

4. The default login is **guest**. If you need administrator privileges, login as **admin** & enter **change** as the password.
5. Press **submit**.
6. Select **Basic Configuration**, then **Setup Antenna/Cables** to configure the antennas, gain, and power settings.
7. Select **Advanced Functions**, then **Change Operating Mode** to verify the RFID Reader is in the proper mode.
8. Select **Basic Configuration**, then **Set Tag Protocol** to verify the RFID Reader is configured for the proper tag protocol.

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9. Press **System Status**, then **View Tags** to view tag data.

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Tag ID	Protocol	Antenna	Repeat Counts	First Read Time	Last Read Time
0x030402080000000000016335	ISOC	4	25	2009-06-02T21:08:54.865	2009-06-02T21:08:57.178
0x030402080000000000016336	ISOC	3	12	2009-06-02T21:08:54.954	2009-06-02T21:08:57.045
0x030402080000000000016337	ISOC	4	25	2009-06-02T21:08:54.876	2009-06-02T21:08:57.176
0x030402080000000000016338	ISOC	4	25	2009-06-02T21:08:54.868	2009-06-02T21:08:57.178
0x030402080000000000016354	ISOC	4	25	2009-06-02T21:08:54.900	2009-06-02T21:08:57.176
0x030402080000000000016355	ISOC	4	13	2009-06-02T21:08:54.848	2009-06-02T21:08:57.175

Polling Period (seconds):

10. If you need to configure our RFID Reader, See **Chapter 4, Embedded Web Console** for information on using the Web Console to adjust configuration variables and parameters.

Setting Reader Protocol settings IN Set Tag Protocol, menu options

Control

Name	Value	?
Command Retried	<input type="text" value="3"/>	?
Display Tag CRC	<input type="button" value="false"/>	?
Mem Bank For Selection	<input type="button" value="membank_epc"/>	?
Number Slots Q	<input type="text" value="0"/>	?
Select Cmd Period	<input type="text" value="0"/>	?
Session ID	<input type="button" value="session_1"/>	?
Transmit Attenuation	<input type="text" value="0"/>	?
User Block Write	<input type="button" value="false"/>	?

- Command retried : 3
- Display Tag CRC : False
- Mem Bank fo selection : membank_epc
- Number Slots Q : 0
- Session ID : session_1
- Transmit Attenuation : 0
- User Block Write : False

Physical

Name	Value	?
Mode	<input type="button" value="4 - Miller4/LF240/12.5tari/PR_ASK"/>	?
Modulation Depth	<input type="text" value="90"/>	?
Pilot Tone	<input type="button" value="true"/>	?

- Mode : 17- Miller8/LF240/25.0tari/PR_ASK
- Modulation depth : 100
- Pilot Tone : True

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Setting Reader Antenna Ports in - Setup Antenna/Cables menu

Setup Antenna 1 port & Antenna 2 port TX power levels according to Antenna and Cable loss used.

ONE OF THESE MENU OPTIONS ALLOWS THE Antennas to be set to B-static mode. THIS detail needs to be added.

This table provides information related to the individual antennas.

Name	Antenna 1	Antenna 2	Antenna 3	Antenna 4	?
Conducted Power	0	0	0	0	?
Attenuation	0	0	0	0	?
Cable Loss	10	10	10	10	?
Gain	60	60	60	60	?
Gain Units	dbdc	dbdc	dbdc	dbdc	?
Computed Conducted Power	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	?
Name	Antenna 5	Antenna 6	Antenna 7	Antenna 8	?
Conducted Power	0	0	0	0	?
Attenuation	0	0	0	0	?
Cable Loss	10	10	10	10	?
Gain	60	60	60	60	?
Gain Units	dbdc	dbdc	dbdc	dbdc	?
Computed Conducted Power	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	310 (ddBm), 1.26 (W)	?