

Instruction Sheet

Follow these instructions to install and configure the MultiTech Modem.

Subject: MultiTech Modem Installation and Configuration Instructions Kit PN's 8263715, 8263716, 8263717, 8263718

Models affected FilterQuick Touch and LOV-Touch 30lb Electric Fryers

1. Remove the JIB/BIB to access the FIB box (see Figure 1).
2. Attach antenna extension cables to antenna bracket as shown (see Figure 2).
3. Unscrew and remove both antennas from the modem (see Figure 3).
4. Securely attach the antennas removed from the modem to the antenna extensions on the new bracket (see Figure 4). **Note: The antennas may vary from what is shown.**
5. Route the antenna cables through the supplied heat protection insulation (see Figure 5).
6. Position the antenna bracket to right rear side of the front upright brace, left of the FIB box cabinet as shown (see Figure 6).



Figure 1



Figure 2



Figure 3



Figure 4

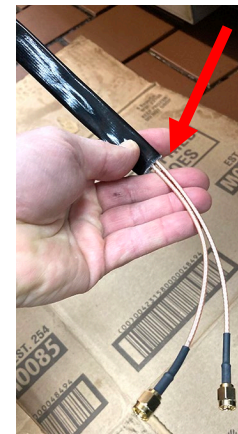


Figure 5



Figure 6

In These Kits - Note not all parts are in each kit

Part #	Description	Qty
1088878	MODEM W/ MICRO SIM NON-CE	1
1088965	MODEM W/ MICRO SIM CE	1
2402053	HOLDER, MULTITECH MODEM	1
2402044	SUPPORT, ANTENNA MERLIN CE	1
8076543	BLE, COAX SMA PLG/SMA BLKHD JK	2
8090361	SCRW, DRLL #8X1/2 HX HD ZP	8
8140015	TY WRAP	6
8122633SP	SLEEVING, 7/16X22" PVC/FBRGLS	1
8076532	USB HARNESS (SHORT) 18"	1
8076148	PCB ASSY KCCM FQ4000	1
8076242	CABLE, KCCM POWER/COM FQ4000	1
8090349	SPACER	4
8090688	NUT 4-40 HEX	4
8074056	WAGO	2
130000372	PLATE ASS'Y, SUI MOUNTING 30LB	1
8076544	ANTENNA, LTE 7" 3.5DBI	2
8197985	INSTRUCTIONS	1

7. Attach the bracket to the brace as shown with two (2) drill point screws (see Figure 7).
8. Orient the antennas towards the left of the upright brace, away from the JIB cabinet. Ensure the antennas are parallel to each other (see Figure 8).
9. Route the insulated antenna wires over the drain and through the center channel to the rear of the FIB box (see Figure 9).

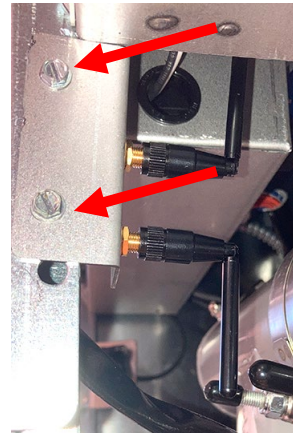


Figure 7

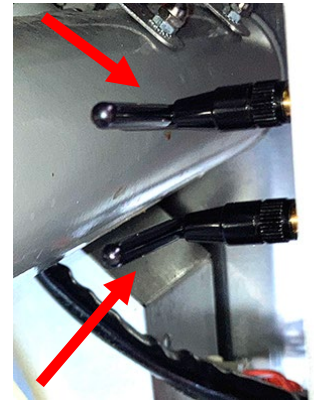


Figure 8

10. Remove the FIB box cover by removing the two (2) 1/4" screws attaching the cover and lifting up on the cover to remove (see Figure 10).

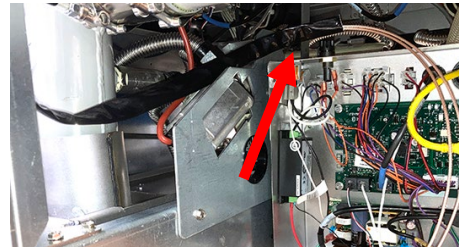


Figure 9

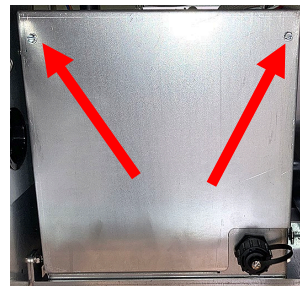


Figure 10

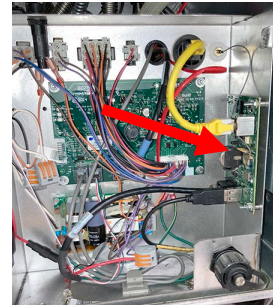


Figure 11

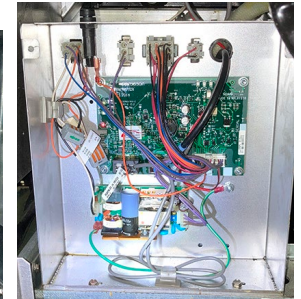


Figure 12

11. If the KCCM board is already installed, it is located on the right side of the FIB box (see Figure 11). If a replacement KCCM board is enclosed, replace the KCCM board. If a KCCM board is not installed (see Figure 12), proceed to the next step to install the KCCM board, otherwise skip to step 16.

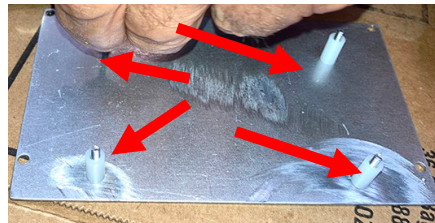


Figure 13



Figure 14

12. Slide the four (4) standoff spacers over the studs of the KCCM adaptor mounting plate (see Figure 13).



Figure 15

13. Orient the KCCM board as shown (see Figure 14) and attach the KCCM board to the KCCM adaptor mounting plate using supplied nuts as shown (see Figure 15).
14. Orient the KCCM mounting plate with KCCM board on the right side of the FIB box as shown. Temporarily secure with vise grips (see Figure 16).

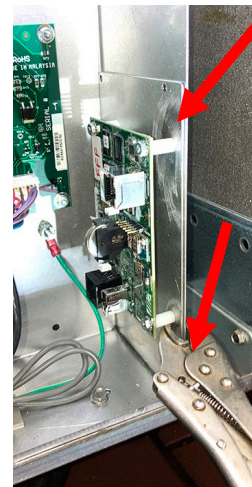


Figure 16

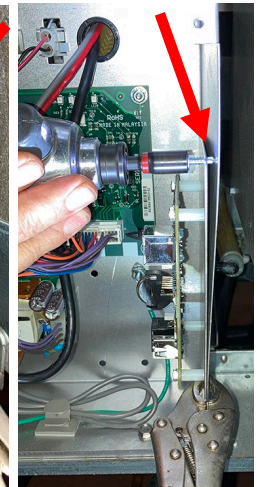


Figure 17

15. Using drill point screws, attach the KCCM mounting plate with KCCM board to the right side of the FIB box as shown (see Figure 17).

16. If an existing small black power supply is already installed in the FIB box, disconnect, and remove the power supply and **ALL** associated wires (see Figure 18), otherwise continue to next step.

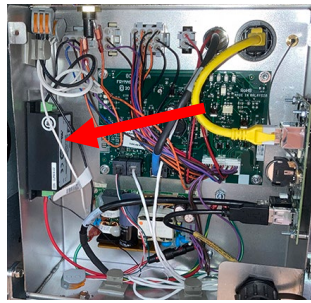


Figure 18

17. Disconnect the power supply harness from the power supply with the two (2) purple and two (2) brown wires (see Figures 19 and 20).

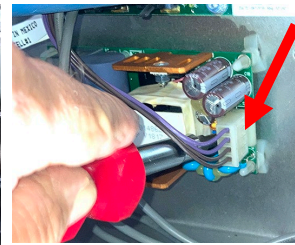


Figure 19

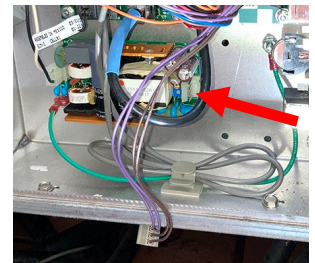


Figure 20

18. Using wire cutters, cut **ONE** (1) of the purple and **ONE** (1) of the brown wires about 2-3 inches from the connector disconnected in the previous step (see Figure 21).

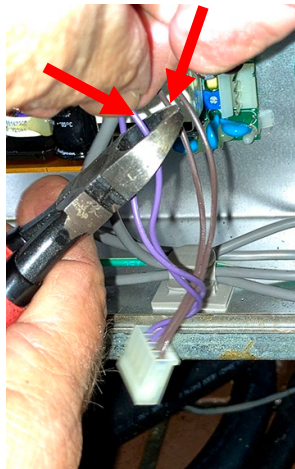


Figure 21



Figure 22

19. Using wire strippers, strip both ends of the purple and brown wires cut in the previous step (see Figures 22 and 23).

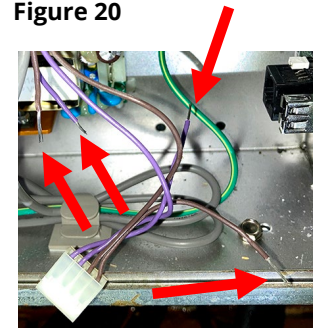


Figure 23

20. Locate the KCCM power harness (PN 8076242) with the RJ45 connector and other wires (see Figure 24).



Figure 24

21. Using the enclosed Wago snap connectors, lift on **ALL** the orange tabs to unlock the connectors (see Figure 25).

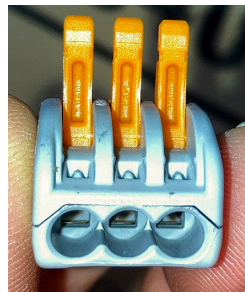


Figure 25



Figure 26

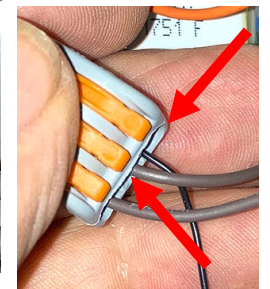


Figure 27

22. Insert both **BROWN** wires from the power supply harness in the previous steps into a Wago snap connector and lock the connector. Tug gently on the wires to ensure the wires are secured into the connector (see Figure 26).

23. Insert the **BLACK** wire from the KCCM power harness in step 20 into the Wago snap connector with the **BROWN** wires and lock the connector. Tug gently on the wire to ensure the wire is secured into the connector (see Figure 27).

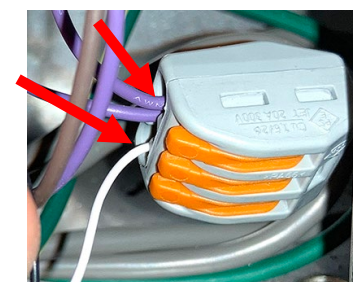


Figure 28

24. Insert both **PURPLE** wires from the power supply harness in the previous steps into the other Wago snap connector and lock the connector. Tug gently on the wires to ensure the wire is secured into the connector (see Figure 28).

25. Insert the **WHITE** wire from the KCCM power harness in step 20 into the Wago snap connector with the **PURPLE** wires and lock the connector. Tug gently on the wire to ensure the wire is secured into the connector (see Figure 28). **NOTE: The power is polarity specific. Ensure the BROWN and BLACK wires are together in a Wago snap connector and the WHITE and PURPLE wires are together in a Wago snap connector.**

26. Connect the green ground wire, from the KCCM power harness to an existing screw in the lower right front corner of the FIB box below the KCCM board (see Figure 29).

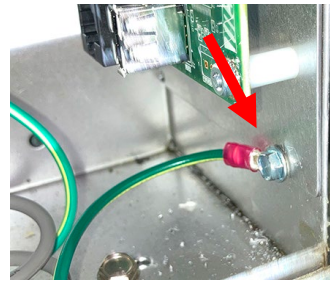


Figure 29

27. Disconnect the terminator resistor from the FIB board if applicable (see Figure 30).



Figure 30

28. Connect the RJ11 connector from the KCCM power harness to the FIB board (see Figure 31).

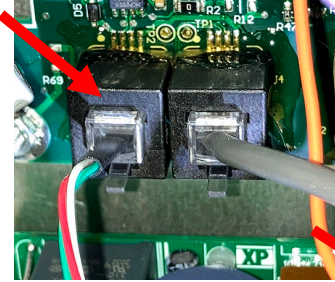


Figure 31

29. Connect the RJ45 connector from the KCCM power harness to the **BLACK** RJ45 connector, next to the USB connector on the KCCM board (see Figure 32). **NOTE: There are two (2) RJ45 connectors on the KCCM board. It MUST be connected to the BLACK RJ45 connector to operate properly.**

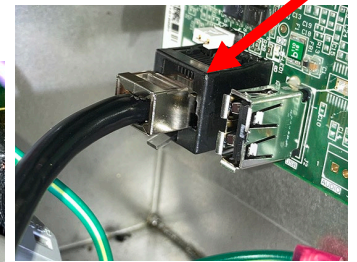


Figure 32

30. Reconnect the power harness disconnected from the power supply in step 17 (see Figure 33).

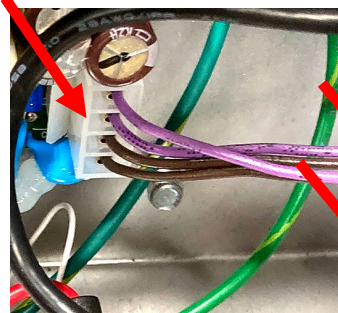


Figure 33

31. Position the modem bracket as shown on the lower left side of the FIB box. Note the position in relation to the power supply and the FIB board. Temporarily secure with vise grips (see Figure 34).

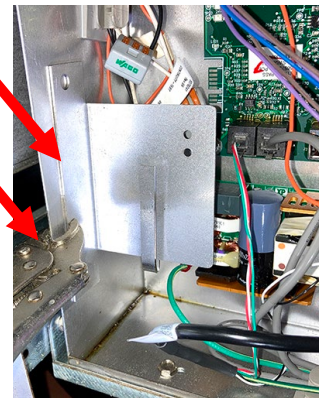


Figure 34

32. Using drill point screws, attach the modem bracket to the left side of the FIB box as shown (see Figure 35).

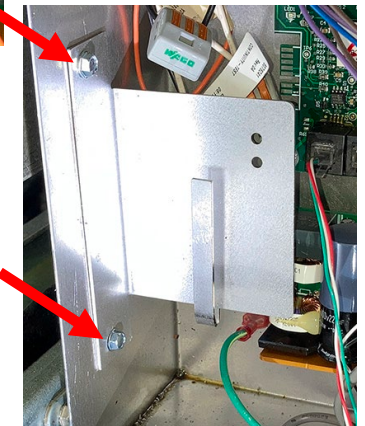


Figure 35

33. Insert the antenna extension wires from step 9 through the grommet in the rear of the FIB box (see Figure 36).

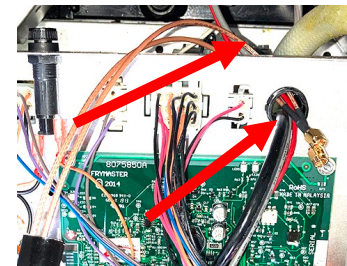


Figure 36

34. Securely attach both antenna extension wires to the modem (see Figure 37).

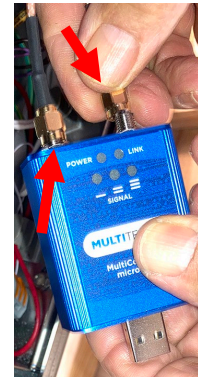


Figure 37

35. Slide the modem onto bracket as shown (see Figure 38).

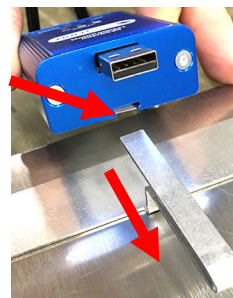


Figure 38

36. Slide the modem onto the bracket, inserting into the slot, on the bottom of the modem. Ensure the modem is completely fitted on the tab as far as possible (see Figures 38 and 39).

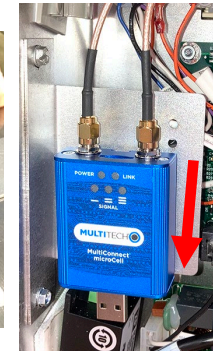


Figure 39

37. Attach the USB cable to the modem (see Figure 40).



Figure 40

38. Attach the other end of the USB cable from the previous step to the USB port on the KCCM board (see Figure 41).

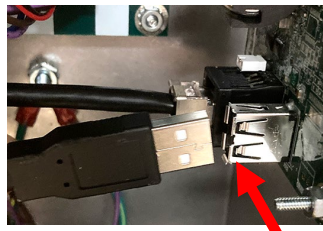


Figure 41

39. Using a small screwdriver, disconnect any existing antenna from the KCCM board if applicable, by gently prying up on the connector and tucking out of the way (see Figure 42).

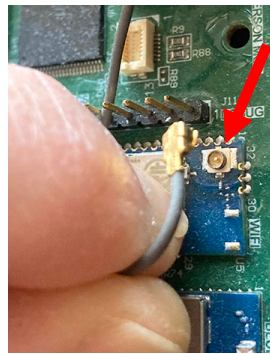


Figure 42

40. Ensure LED's illuminate on the modem and KCCM board (see Figure 43). The LINK LED should blink after a few minutes.

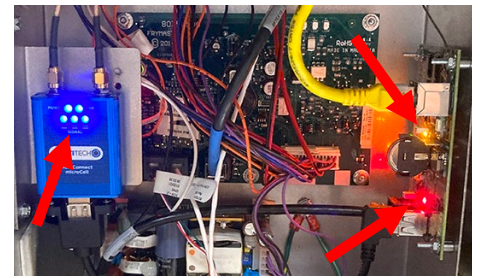


Figure 43

41. Wait 5 minutes and press  →  →  →  →  → 

42. The GATEWAY SOFTWARE VERSION and other information is shown. Ensure there are numbers other than zero's shown (see Figure 44.). If only zeros are shown, power cycle the entire fryer battery and wait 5 minutes before checking the software version and IP address.

SOFTWARE VERSION

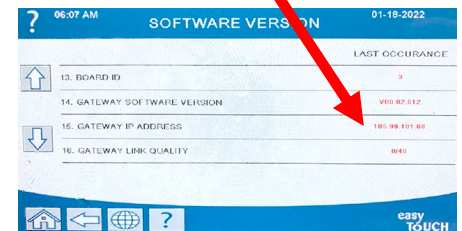


Figure 44

43. Secure any cables with zip ties.

44. Reattach the FIB box cover.

45. Return the JIB/BIB to the cabinet to return fryer to service.

46. If the fryer hasn't been completely power cycled press and hold the master reset button for at least 60 seconds to reset the fryer.

Only follow the steps on the next three (3) pages if instructed to do so.

Editing Config Files

If the modem didn't ship with correctly configured config_settings.ini settings file, the config_settings.ini file will need to be edited to operate properly.

1. On the initial installation, the service tech may have to configure the parameters listed in the config_settings.ini file on the USB drive by opening the file with Notepad++ utility available in Microsoft PC based machine. Right click on the file and Open with Notepad to edit the file (see Figure 1).

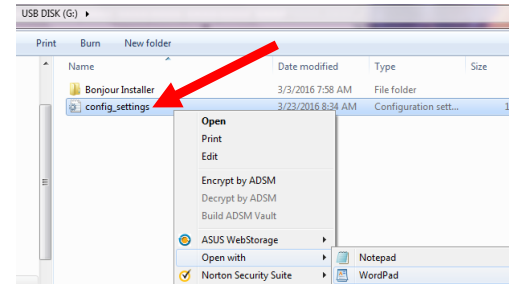


Figure 1

2. Enter the parameters listed below. The model number and serial number of the fryer can be located on the inside of the far-left door of the fryer on the rating plate.
3. Below are the parameters listed in this file. Some of the parameters are **case sensitive**; enter these parameters **exactly** as they are displayed.

[Network]

DEVICE_TYPE: Should match energy type of fryer. (i.e. GAS)

STOREID: Should match the Store ID in Kitchen Connect. Maximum 10 characters. ID of the store or unit number of the store

SERIAL_NUMBER: Should match the Serial Number in Kitchen Connect. (i.e. 2020XX0001)

NUMBER_OF_UI: Should match the number of frypots in Kitchen Connect. (i.e. 2 [Range 1-6])

UI1TYPE: Vat type of vat #1 (i.e. FULL, SPLIT)

UI2TYPE: Vat type of vat #2 (i.e. FULL, SPLIT)

NETWORK_MODE: Type of network. (i.e. CELLULAR)

APN: Connection address (i.e. welbilt-americas.telefonica.com)

4. Click on File and Save or Save the modified file on a blank USB stick that is formatted with FAT32 (see Figure 2).

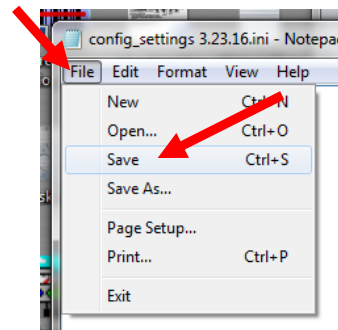


Figure 2

5. Click on Eject USB Flash Disk (see Figure 3).

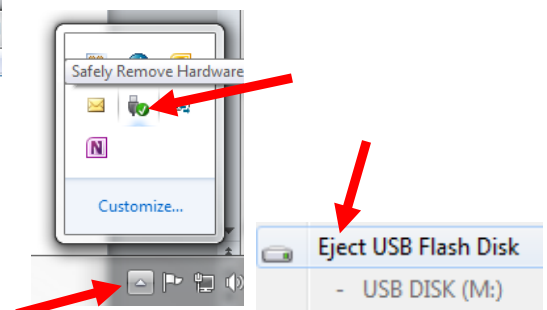


Figure 3

6. Remove USB drive from computer.

7. Ensure the fryer has completely power cycled.

8. Check that the gateway board has completely booted by checking the software in the information screen (see steps 41 and 42 in previous section). If Gateway software version is displayed, proceed to next step.

9. Follow steps 11 and 12 from previous section to load the config_settings.ini file to the KCCM board.

10. Completely power cycle the fryer, ensuring the fryer is off at least 30 seconds.

KCCM board BSP software upgrade process

Note – This process will erase/wipe out stored events and connectivity parameters. After this upgrade process, you will have to configure KCCM for connectivity parameters.


1. Format a USB stick in FAT32 format.
2. Place KCCM software (Rootfs.ubi*, u-boot.scr and ulmage-3.10-ts-armv7l) on the USB stick.
3. Remove the JIB if applicable and locate the KCCM USB port. The location may vary on the KCCM USB port extension. On some, the port is located behind a protective cap, on the side of the FIB box (see Figure 1). On others the FIB cover may need to be removed, the USB cable removed from the KCCM board and inserted directly into the KCCM board (see Figure 2). **NOTE: If a modem is already attached to the KCCM board, disconnect the modem and insert the USB directly into the KCCM board.**
4. Insert USB drive with **BSP UPDATE** files (KCCM software) into the KCCM extension port (see Figures 3 & 4).
5. Remove power from the fryer for at least 30 seconds.
6. Reapply power to the fryer.
7. Wait 5 minutes for software to load.
8. 
SOFTWARE VERSION
9. The GATEWAY SOFTWARE VERSION and other information is shown (see Figure 4).
10. If the gateway software version does **NOT** match the intended version (v00.02.012), repeat these steps above again.
11. Remove the USB drive.
12. Insert USB drive with **CONFIG.INI** files into the KCCM extension port (see Figures 2 and 3). Wait about 2 minutes for files to load.
13. Remove the USB drive.



Figure 1



Figure 2

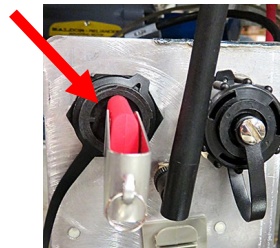


Figure 3

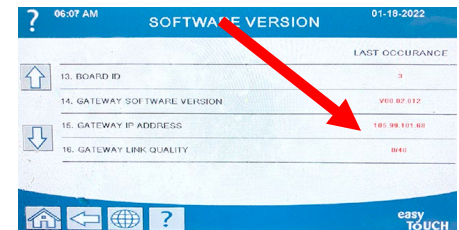


Figure 4

KCCM board tar file upgrade process

Note – This process will upgrade application software, it will retain stored events and connectivity parameters.

1. Format a USB stick in FAT32 format.
2. Place KCCM tar file on the USB stick.
3. Make sure that Fryer is powered up.
4. If the Gateway board is booted completely it will display the software version in information screen (see steps 8 and 9 in above section).
5. Remove the JIB if applicable and locate the USB port. Refer to Figures 1 in above section for locating the USB port. **NOTE: If a modem is already attached to the KCCM board, disconnect the modem and insert the USB directly into the KCCM board otherwise insert into KCCM extension port (see Figures 3 in the previous section.**
6. Wait 5 minutes for software to load.

7. Remove the USB drive.
8. Wait approximately 3 minutes and check the Gateway software version (see steps 8-9 in previous section).

Debugging steps

- If the controller displays the software version, then the CAN bus cable is connected and operational. If the software version is all zeros (0), the Gateway is not connected or terminated. Otherwise, a service person will have to check CAN bus wiring and ensure that wiring is correct and there is CAN bus termination.
- The first number on gateway link quality (refer to Figure 4 in previous section and item #11 or 16 (Gateway Link Quality) which is shown at 25/40) is the difference between received signal strength and background noise level. This number is called SNR.
Below is breakdown of first number:
 - 40dB = Excellent signal; always associated; lightning fast.
 - 25dB to 40dB = Very good signal; always associated; very fast.
 - 15dB to 25dB = Low signal; always associated; usually fast.
 - 10dB - 15dB = Very low signal; mostly associated; mostly slow.
 - 5dB to 10dB = No signal; not associated; no go.
- Gateway signal strength and noise (refer to Figure 4 in previous section and steps 8-9). Signal strength from -20 dbm to -65 dbm is good connection. Noise level should be below -70 dbm to -95dbm
- If the IP address is not being displayed but the link quality and signal strength are good, then the modem or KitchenConnect has some issues and/or configuration file needs to be confirmed for accuracy and updated again.