Validation Laboratory Testing

Week of February 12, 2018

**Configuration/Integration Of Units**

Wavemobile RSU/OBU

1. Webinar from Wavemobile held from 8:00 AM to 10:00 AM on 2/13/18
2. Logged into both RSU & OBU
3. Factory Reset both units
4. Both units come from factory as a “RSU”, configured one of the radios for a “OBU”
5. Configured IP for RSU: 192.168.0.10
6. Configured IP for OBU: 192.168.0.20
7. When configuring the OBU for IP, a SSH Session is required. RSU is from the GUI
8. Configured both units with ID names
9. Was able to confirm via the webinar the correct ports for all antennas
10. Had to re-enable the GPS Driver in both units through an SSH session with
11. Once the gps drivers were re-enabled both units started to receive GPS coordinates
12. On the GUI from the OBU we were able to verify connection between the OBU and RSU by the signal strength and the MAC Address of the RSU being displayed (same screenshot from 1/29/18)
13. Verified RSU was receiving BSM from the OBU by opening a SSH session and viewing log files. The individual logs contained GPS coordinates that were being broadcasted by the OBU
14. During the webinar it was noted that we are going to need an SDK to pull messages from the Signal Controller to the RSU and perhaps a third-party device may be needed
15. Wavemobile stated they may help in the development of the interface between the RSU and the signal controller
16. No messages were transmitted or received other then BSM

Commsignia RSU/OBU

1. Webinar from Commsignia held from 8:00 AM to 10:00 AM on 2/14/18
2. Was unable to power up the RSU unit, tried two (2) different POE’s and a DC inverter
3. Was able to power up the OBU, lights were present however was not able to establish communication between laptop and unit
4. After some time of troubleshooting Reps from Commsignia told us they were going to try and figure some solutions on their end and would get back to us
5. Webinar from Commsignia held from 8:00 AM to 9:30 AM on 2/15/18
6. The ethernet interface was not active on the OBU and Commsignia walked us through, by going into the console port, on how to activate it. Once activated we were able to establish communication to the OBU
7. Commsignia informed us that it was probably the same issue with the RSU however the only way we could locally access the console port was to remove the cover. They advised us not to because we could have damaged the boards. They said they would get back to us on shipping out a new one.
8. Configured IP for the OBU: 192.168.0.54
9. Went through the menus on the OBU
10. The OBU has the same software as the RSU so once we established communication we then set it up to capture messages (just as the RSU would) from the Signal Controller (Commsignia already works with Trafficware controllers). Due to certain paremeters needing to be installed in the controller we were unable to capture any messages
11. Commsignia sent us an example of some timing and phasing parameters and Chad from Seminole County was going to upload it into the signal controller.
12. We set up a webinar for Friday 2/15/18 from 8:00 AM to 10:00 AM to try and receive SPat messages from the Controller to the OBU (acting as an RSU)

Week of January 29, 2018

**Inventory Equipment**

One (1) Wavemobile RSU Assemblies and each assembly includes:

* 1. One (1) RSU External Enclosure -SN # 17US30440022
  2. One (1) Mounting Kits
  3. One (1) DSRC Antennas
  4. One (1) PoE Injector

One (1) OBU Assemblies and each assembly includes:

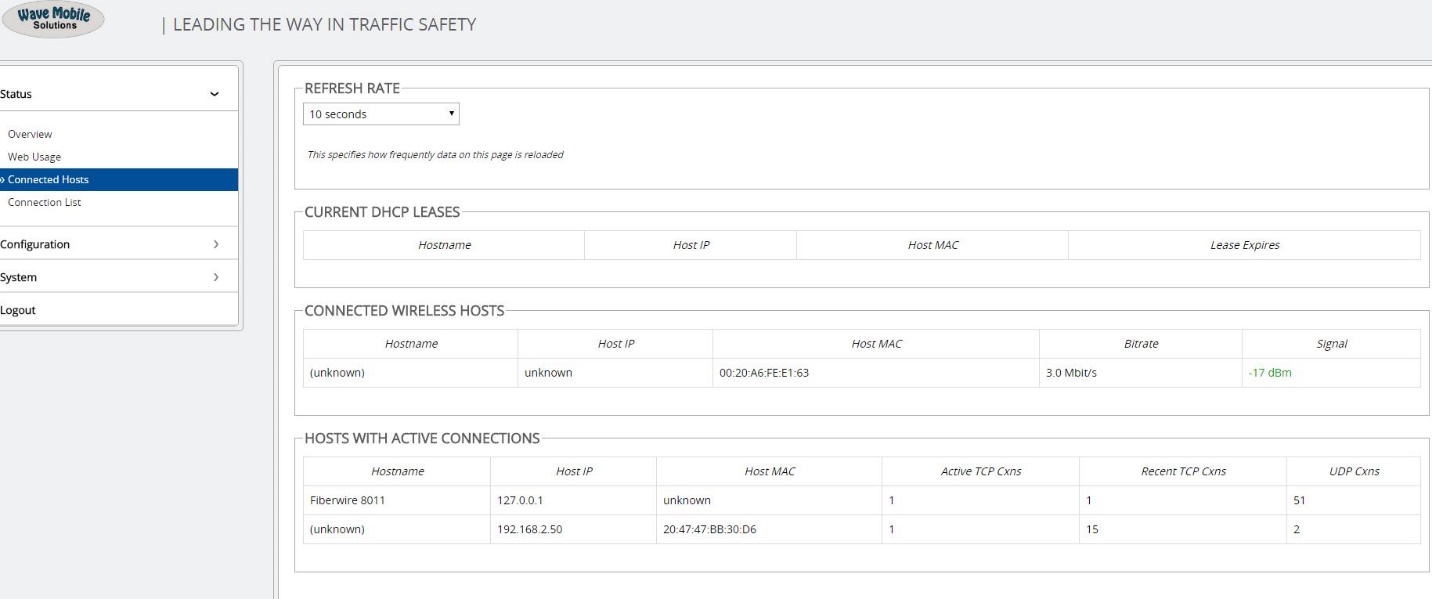
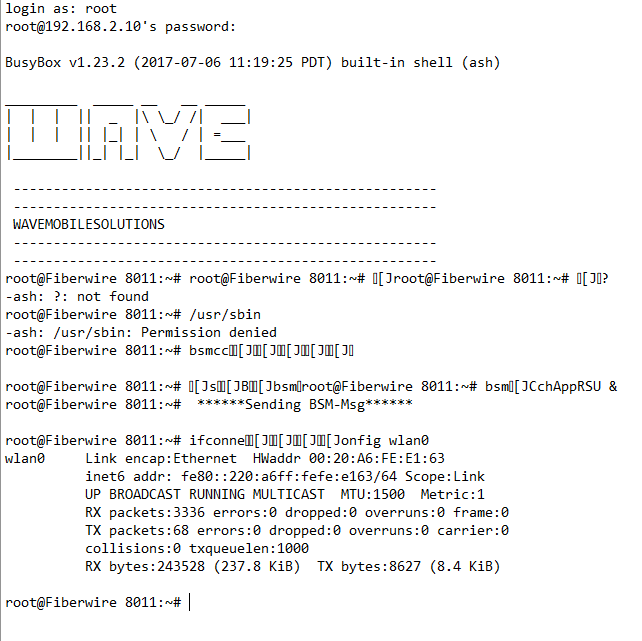
* 1. One (1) OBU External Enclosure – SN # 17US30440021
  2. One (1) Mounting Kits
  3. One (1) DSRC Antennas
  4. One (1) PoE Injector

**Configuration/Integration Of Units**

Wavemobile RSU/OBU

Passwords provided are inconsistent with what is documented in User Manuals

* 1. To log into unit - Can be accessed via WebGUI or SSH
  2. No password is set from factory
  3. Username: root
  4. Updated RSU and OBU: Password1
  5. RSU IP address: 192.168.2.10
  6. Was successful able to update RSU per manual
  7. Was successful able to update OBU per manual
  8. Successful in linking RSU to OBU as shown in GUI as FiberWire 8011 as shown in Host with Active Connection Section and Green Color within Signal Strength Box.



**Items completed for Week of January 22, 2018**

1. Successfully wired both Wavemobile units with power and antennas
2. Successfully obtained access to configuration menus on Wavemobile OBU and RSU
3. Changed IP Addresses on the Wavemobile RSU and OBU Units
4. Successful in updating both units Password
5. Successful access to both RSU and OBU GUI
   1. Was successful able to update RSU per manual
   2. Was successful able to update OBU per manual
6. Successful in linking RSU to OBU as shown in GUI as FiberWire 8011 as shown in Host with Active Connection Section and Green Color within Signal Strength Box.

**Device Manuals - Attached**