SurfBeam Modem Lock Test

Summary

Use the **Modem Lock Test** to determine if the satellite modem can lock onto the signal across the satellite to the gateway.

Important: While a Modem Lock determines if the modem and the gateway are communicating, the modem connection can still be poor. Use the **Poor Performing Modem Matrix** to resolve poor communication link issues.

This Job Aid covers:

This Job Aid supports all Technician audiences.

Unprovisioned Modem Lock:

If modem replacement occurs during the repair process, the replacement modem is an un-provisioned modem. Complete the un-provisioned modem lock process before starting the modem swap provisioning process. Use the **Antenna Pointing Aid (APA)** and the **Viasat Attenuation Pads** in the Coax RX path during un-provisioned modem lock for two reasons:

- Because the modem can communicate with every beam frequency offered by the satellite, the **APA** and **Attenuators** force the modem to ignore all frequencies not outside the beam where the customer site is located.

- Because the **Network Multi-rate Frequency** management software allows sets of modems to communicate on different frequencies within the beam depending on environmental factors, the **APA** and **Attenuators** force the modem to use the correct frequency for the local area within the beam.

Process

Power down modem

Disconnect Ethernet cable

If this is a replacement modem, add the **APA** and **Attenuators** to the Coax RX cable path.

Power up modem

Observe **Modem Lock** process

Possible Results

There are two possible outcomes for this test:

- PASSED
  - Modem Lock OK
  - Validate internet access with **Internet Access Test**
- FAILED
  - Modem Lock Failed
  - Evaluate failure with **Modem Short-Cable Test**

Test Details

Validate that the appropriate pre-tests are complete as detailed on the **Trouble Isolation Check Sheet**.

Disconnect the AC power plug from the power source to power down the modem.

Connect the Transmit and Receive COAX cables (along with the **APA** and **Attenuators** if this is a Replacement Modem) to the appropriate connectors on the back of the modem.

Disconnect the Ethernet cable from the modem.

Reconnect the modem AC power cable to the power source.

Observe the modem **LED** activity.

Results:

- If Modem Lock occurs, the test is PASSED.
- If Modem Lock does not occur, the test is FAILED.

Use the results of this test to determine the next step based on the checklist.