S.No	Test Cases
1	Verify the interop between ASD works. BSMd is able to transmit and receive packet. Verify the receive packets in log.
2	Verify interop with security between ASD is supported. Verify the receive packets in log.
3	Verify Tim, Spat, Map are received on ASD. After receiving, it is able to decoded the packets on ASD and decode is correct.
4	Verify RandMac is support and it changes as per the guideline.
5	Verify ASD is able to connect to RSE and communicate with the backend of RSE. Test in Live Mode and GPS mode
6	Verify ASD is able to connect to RSE in secured mode. Test in Live Mode and GPS mode
7	Verfiy ASD is able to generate alert in the following scenarios: FCW, IMA, EEBL, BSW
8	Verify Channel switch is working properly in ASD.

9	Verify V2I safety apps are working properly in ASD. Verify the following apps: CSW, Speed Alert.
10	Verify Red light violation warning is working properly on the ASD..
11	Verify if the CAN data is available over the CAN interface and it is update in BSM
12	Verfiy ASD CPU utilization and memory with transmit and receive and without security.
13	Verfiy ASD CPU utilization and memory with transmit and receive and with security.
13	Verify ASD get a proper gps fix and the time is update properly.
15	Verify ASD get a proper GPS fix and the pps pulse is there.
16	Verify the ASD is able to receive RTCM fix and apply it.
17	Verfiy the GPS update rate is fine and dsecond is update properly.

18	Verify in Live mode is CAN data is unavailable, the values are update from GPS.
19	Verfiy the following field are update properly. Lat, long, long accel, speed, heading, events etc. Valide in GPS only mode.
20	Verify BSMs is transmitted with Full certificate.
21	Verify BSM are transmitted with full certificate at attach interval.
22	Verify tx/rx on the ASD be receiving and matching the tx and rx count at the interface and at the BSM.
23	Verify ASD is able operate in both 10 Mhz and the 20 Mhz channel (175 and 183).

Prerequisite Automation	Procedure
	1. Power up ASD in default channel. 2. Enable the BSM logging, Check if the packet are received on the ASD.
	1 In the v2vi_obe.conf, enable security. 2. Certificates are preload on ASD. 3. Start BSM transmission using halt and run.
	1. Transmit Tim, Spat and Map Message from the RSE. 2. Using Tap interface capture and decode the packet on ASD. 3. Match the original packet to the received decoded packet. And output the result.
Use a dedicated Automation channel, with no traffic.	1 In v2vi_obe.conf, check if the randmac is enable by default. 2. Check in the receive side log. With the change of certificate as per the certificate attach rate, the mac address of the packets should change.
	1. Verify ath0 interface is in single channel 178. 2. Enable ipv6 service in RSE and execute halt and run. 3. Now check if ASD is switching channels. 4. Verify ASD ath0 interface receive the ipv6 address. 5. ping from ASD to RSE and verify the response.
	1. Configure ipv6 in secure mode. 2. Once the ASD connects to RSE as described in the above steps, ping from ASD to the RSE's ipv6 address and verify the response.
The setup has to be as per the Regression one guidelines.	1. Configure Hv and Rv in pre-recorded mode in v2vi_obe.conf file. 2. Upload the respective Hv and the Rv file. 3. Run the BSM on HV and RV in same time, without any delay.
	1. Configure the service channel and control channel in ASD ath0 interface. 2. Execute halt and run. 3. Execute ifconfig ath0 and match with the service channel or control channel.

The setup has to be as per the Regression one guidelines.	1. Load the respective TIMDB file in RSE. 2. Start the Tim transmission of ASD. 3. Verify Tim is going over the air using rse stats. 4. Ensure ASD is able to receive TIM messages. 5. Load the respective prerecorded file on ASD. 6. Run the BSM. 7. Check in the Logs if the alerts are generated in the logs.
The setup has to be as per the Regression one guidelines.	1. Load the MAP.xml file in the RSE 2. Halt and run the RSE. 3. On ASD verify Spat and Map packets are being received. 4. Now load the respective prerecorded file on ASD and start the BSM. 5. Verify the alerts in the logs.
	1. Start the BSM in Live mode. 2. Use CAN sender to send the CAN data to the ASD. 3. Verify on the receive side BSM log, if the ASD is able to populate the CAN data in BSM.
	1. Start the BSM on ASD. 2. Ensure ASD is receiving 10 packets per second. 3. Using mpstat or top check the CPU utilization. Use free to check the memory usage of the system. 4. Report the CPU usage and Memory usage in logs/report. [Note: If all the BSM, savarideamon, airolink individually can be reported.]
	1. Start the BSM on ASD. 2. Ensure ASD is receiving 10 packets per second. 3. Using mpstat or top check the CPU utilization. Use free to check the memory usage of the system. 4. Report the CPU usage and Memory usage in logs/report. [Note: If all the BSM, savarideamon, airolink individually can be reported.]
	1. Start the BSM and the logging on the ASD board. Verify the system time on ASD and match it with the utc time of the laptop.
	1. In the Nmea string, verify if 3D fix is available. 2. Execute cat /proc/interrupt to verify the number of pps pulse in a min.
	Not Supported Now, will be supported in future builds.
	1. Start the BSM in live mode and log the BSM tx on ASD. 2. In the log, verify the delta between dsecond. 3. Report the detla if it is more that 200 ms.

	1. Start the BSM in Live mode. 2. Use CAN sender to send the CAN data to the ASD. 3. Verify on the receive side BSM log, if the ASD is able to populate the CAN data in BSM.
	1. Start the BSM in GPS mode. 2. Use CAN sender to send the CAN data to the ASD. 3. Verify on the receive side BSM log, if the ASD is able to populate the CAN data in BSM.
	1. Enable security in the v2vi_obe.conf file. 2. Start the BSM transmission. 3. Check in the transmission logs, certType = 1, when it is transmitted with certs and CertType = 2 when it is transmitted without certificates.
	1. Enable security in the v2vi_obe.conf file. 2. Start the BSM transmission. 3. Check in the transmission logs, certType = 1 after every configured interval. For example, if the attach interval is 1000 ms, then in logs, cert type =1 should appear every second.
Use a dedicated Automation channel, with no traffic.	1. Start the BSM transmission on a configured channel. 2. Receive the BSM on the receiving ASD. 3. Run the test for 5 min, 15 min, 30 min. After each interval stop BSM and check count of the receive BSM on the interface and on the asd_stats.
	In the above test case, configure channel 172, 174, 180 184 to test 10 Hz channel. And configure 175 and 183 to test 20 Hz channel.

Build	Remark