SGW Authentication Vehicle Communication Commands

To successfully authenticate a diagnostic scan tool with an SGW equipped vehicle, the following ECU communication steps must be completed.

1. The diagnostic tool should begin sending tester present messages ($3E) and place the SGW into Extended Diagnostic Mode ($1003)
2. The diagnostic tool should read the SGW Serial Number ($22F18C), SGW Policy Type ($222954), and SGW Certificate Store UUID ($222951)
   1. This info should then be provided to the Authentication Server, which will then create a signed certificate.
3. The diagnostic tool should use the signed certificate received from the Authentication Server to request a challenge from the SGW ($2711 + Certificate + FF padding).
   1. The total length of the signed certificate plus the “FF” padding should equal 1,536 bytes.
4. The SGW’s challenge response ($6711 + challenge response) should then be provided to the Authentication Server.
5. The Authentication Server will return a signed challenge. The signed challenge should then be sent to the SGW ($2712 + signed challenge).
   1. Positive response received from the SGW ($6712) indicates that the process was completed successfully.
6. To ensure the SGW was unlocked successfully, the diagnostic tool should check the Active Roles DID ($220108) to ensure the correct role was activated.

**Read Certificate Store UUID**

TX 18DACBF1 18DAF1CB  22 29 51

RX 18DACBF1 18DAF1CB  62 29 51 71 2D 5E D0 B8 E1 11 E6 9C 4E 49 EE 69 2A BA AD

**Read Policy Type**

TX 18DACBF1 18DAF1CB  22 29 54

RX 18DACBF1 18DAF1CB  62 29 54 04

**Read ECU Serial number**

TX 18DACBF1 18DAF1CB  22 F1 8C

RX 18DACBF1 18DAF1CB  62 F1 8C 54 46 31 31 36 31 33 39 37 4A 30 39 36 37 30