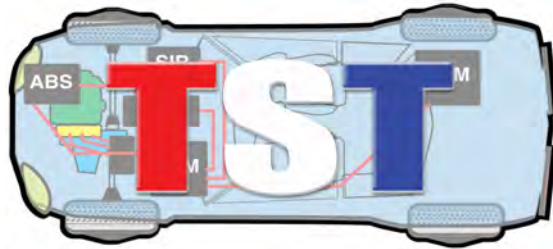


MOTOR AGE
TRAINING



"Decoding Vehicle Diagnostics"

Presented by Motor Age & TST

1

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<https://autel.us/product/maxisys-ultra-s2/>

2

2

Autel Ultra S2



3

3

What To Expect From This Webinar

- **A 60 to 90+ Minute Webinar**
- **"Decoding Vehicle Diagnostics"**
- **In this webinar we will cover efficient ways to start and go through a logical diagnostic process.** There will be information provided that will be helpful for automotive enthusiasts, to a seasoned technician, that will assist them in taking the right diagnostic path. **Join us using the Autel Ultra S2 to dive into the vehicle diagnostics and see how to make your "Diag's" easier.**
- **Have Something To Write With**
- **All Slides Are Numbered**
- **The Recording Will Be Available at [Motor Age Training Account](#) & [TSTseminars.org](#)**



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4

What Will Be Covered

Some Impressive Features On The New Autel Ultra S2

- Max AI voice command
 - **Topology**
 - Live Data Fusion
 - **Scope Split Screen**
 - **DIY TRAINING**
 - **Motor Repair**
 - Remote Expert
- We will use the new Autel Ultra S2 Topology 3.0 with the module ping feature and working with the Live Data reference sampling feature and creating one's own PID list.



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Autel Ultra S2



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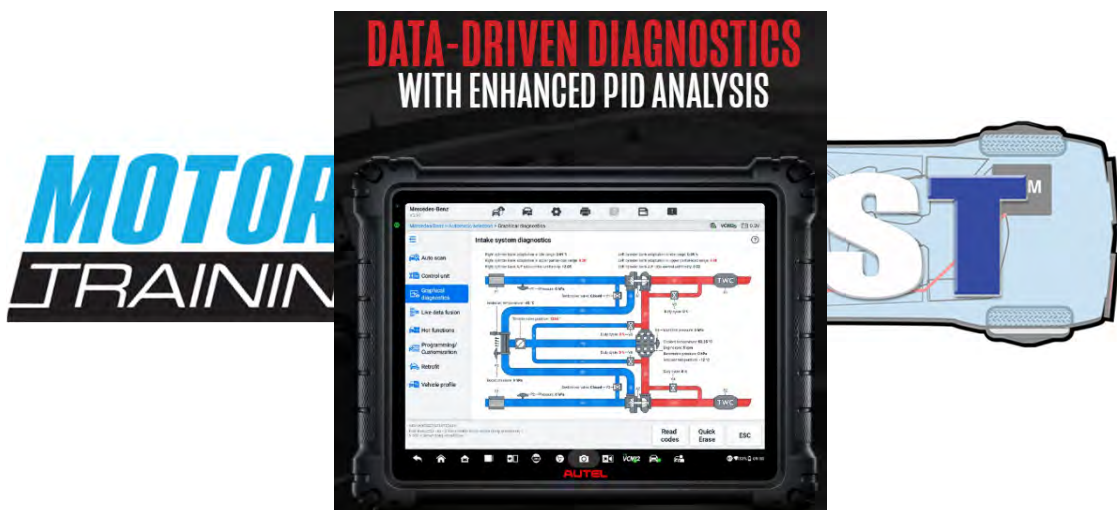
Autel Ultra S2



7

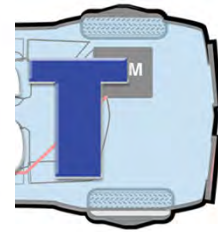
7

Autel Ultra S2



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NETWORK TOPOLOGY 3.0

DYNAMIC NETWORK ANALYSIS

-

10

Tests To Perform

- Battery - Starter - Alternator

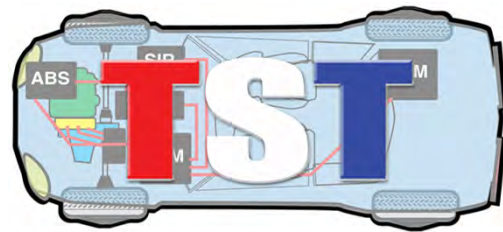
- Relative Compression

- Ignition

- Fuel

- Crank/Cam Sync ---- WHY?

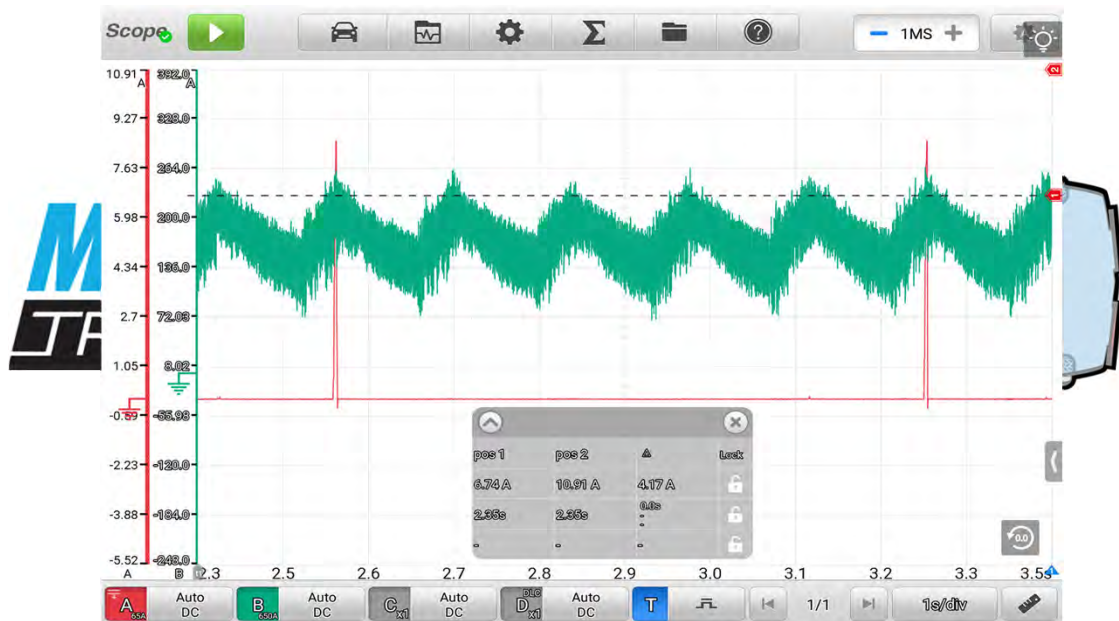
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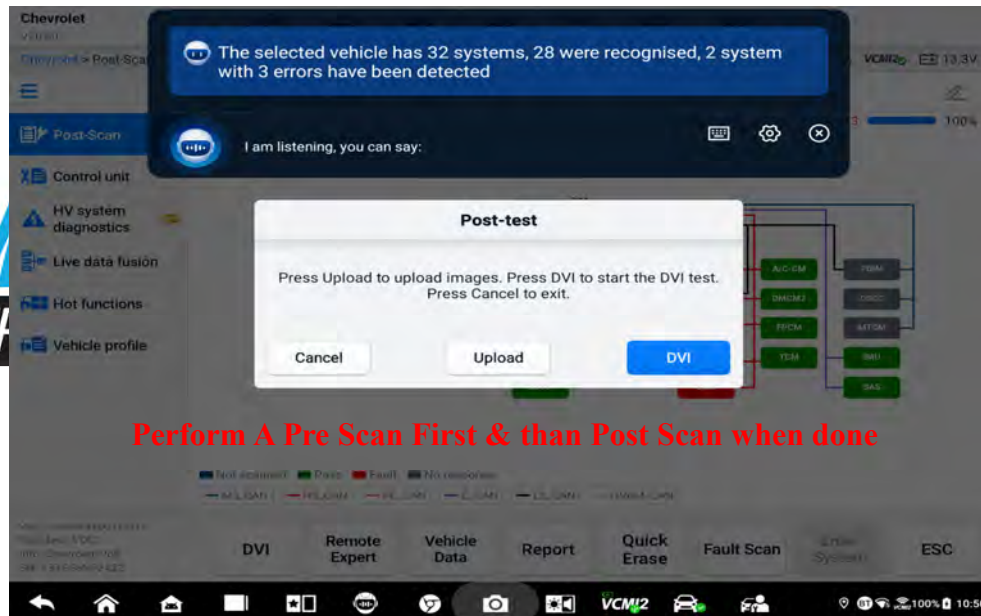
Test To Perform - Relative Compression



12

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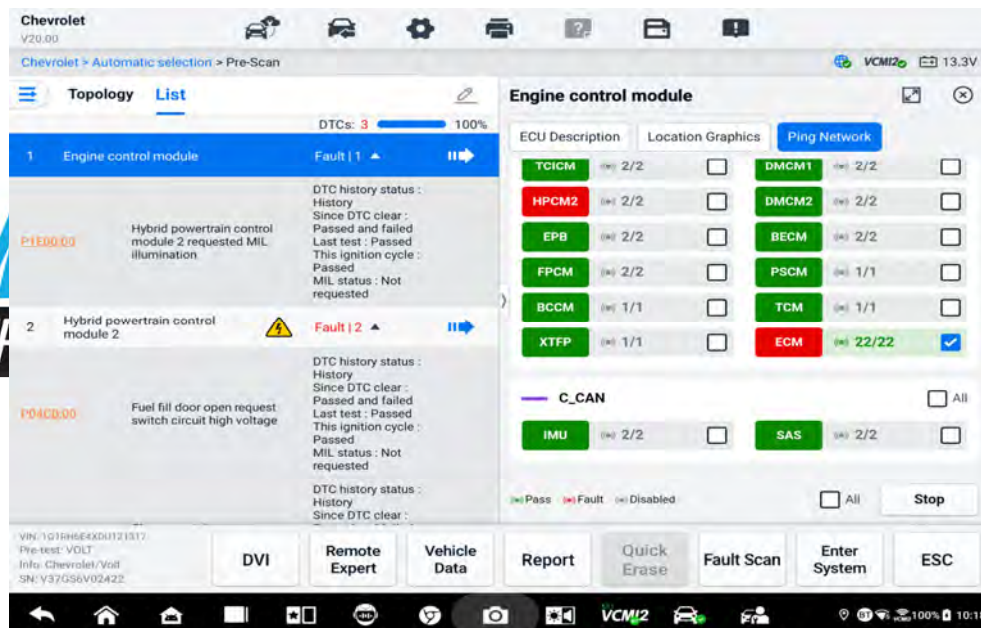
Post Test With Help From Our Friends - Max / AI



Perform A Pre Scan First & than Post Scan when done

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Network List & DTCs



14

Topology & Graphic Info

Chevrolet
v20.00

Chevrolet > Post-Scan

Topology List

DTCs: 3 100%

Engine control module

ECU Description DTCs(1) Location Graphics Ping Network

Behind left side of front fascia

Legend:
 Not scanned (blue) Pass (green) Fault (red) No response (grey)
 MS_CAN HS_CAN PE_CAN C_CAN LS_CAN HVAM_CAN

VIN: 1G7RH6E0X0U121317
 Post-test: VOLT
 Info: Chevrolet/Volt
 SN: V37G56V02422

DVI Remote Expert Vehicle Data Report Quick Erase Fault Scan Enter System ESC

VCM2 13.3V

15

15

Topology & The Ability To Perform A Ping Test - Like OE

Chevrolet
v20.00

Chevrolet > Automatic selection > Pre-Scan

Topology List

DTCs: 3 100%

Engine control module

ECU Description DTCs(1) Location Graphics Ping Network

CHCM 2/2 Cluster 2/2
 F-SHCM 2/2 PDIM 2/0
 FCM 2/2 HVACM 2/2
 PACM 2/2 PEPS 2/2
 PPM 2/2 RAD 2/2
 SCL 2/0 SDM 2/2

MS_CAN All
 DSCC 2/0 MTCM 2/0

Pass Fault Disabled All Stop

VIN: 1G1F9H6E0X0U121317
 Pre-test: VOLT
 Info: Chevrolet/Volt
 SN: V37G56V02422

DVI Remote Expert Vehicle Data Report Quick Erase Fault Scan Enter System ESC

VCM2 13.3V

16

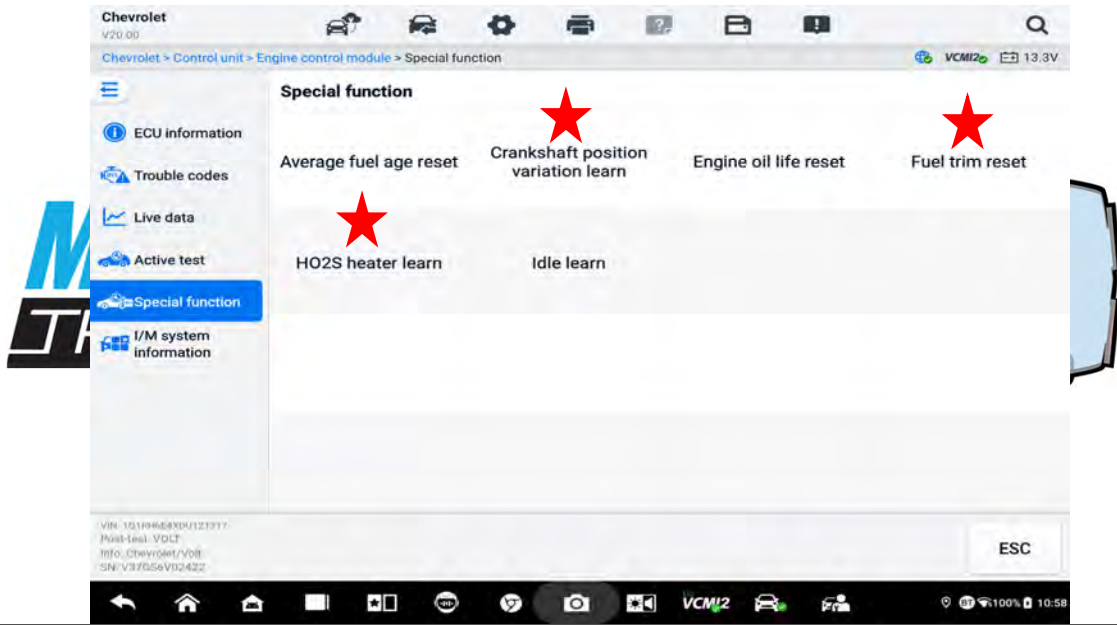
16

Topology & Ping Network



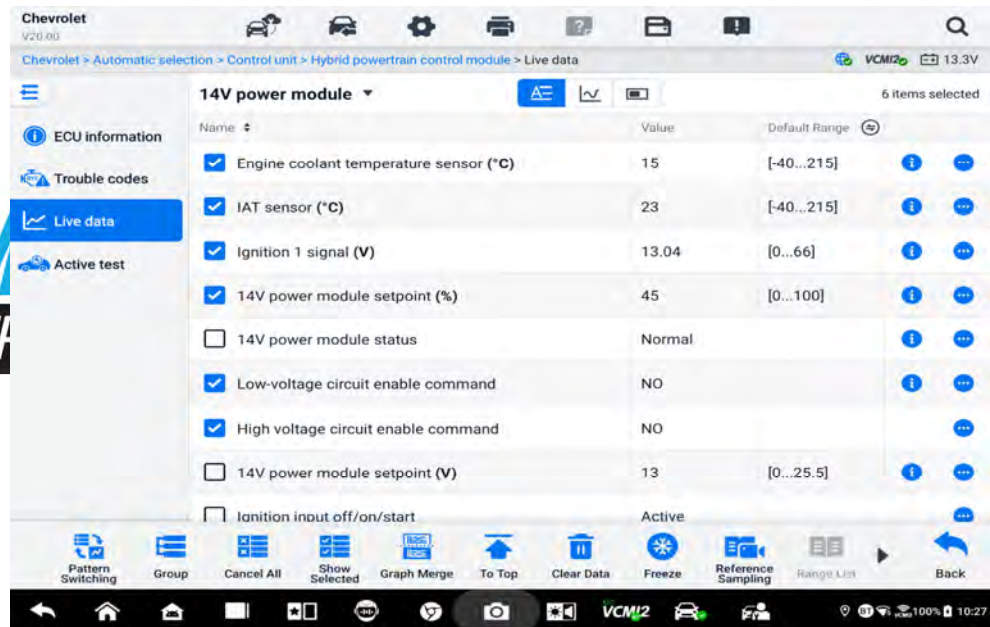
17

Module Special Functions



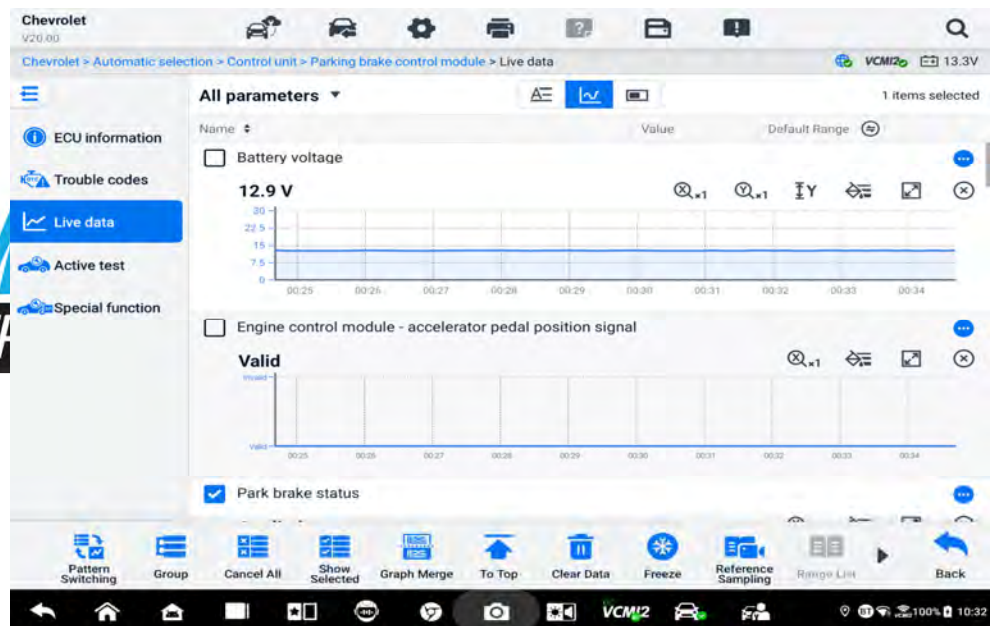
18

Live Data



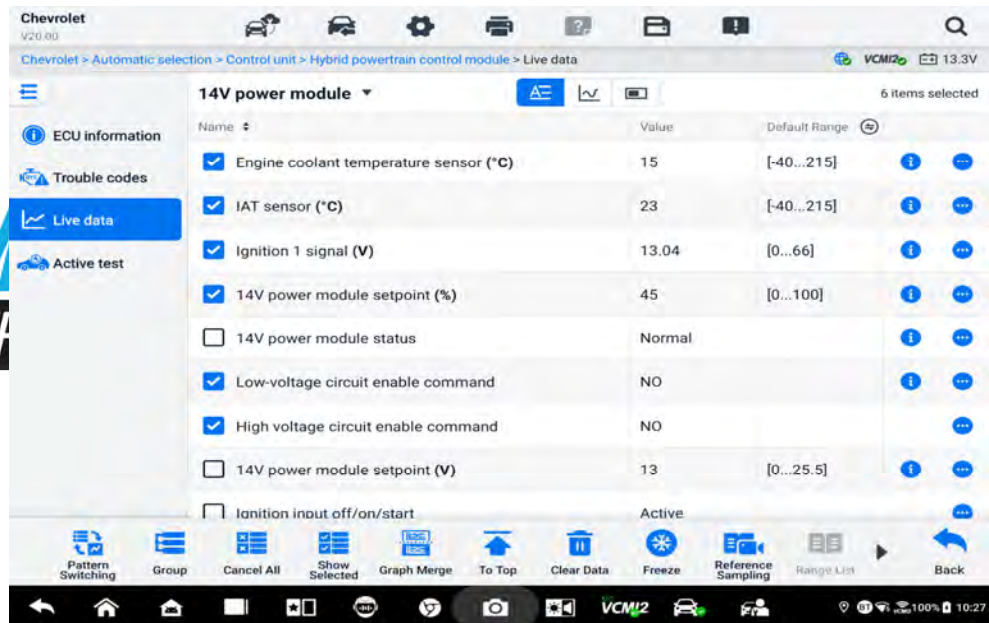
19

Live Data



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Live Data - Select PIDS



14V power module 6 items selected

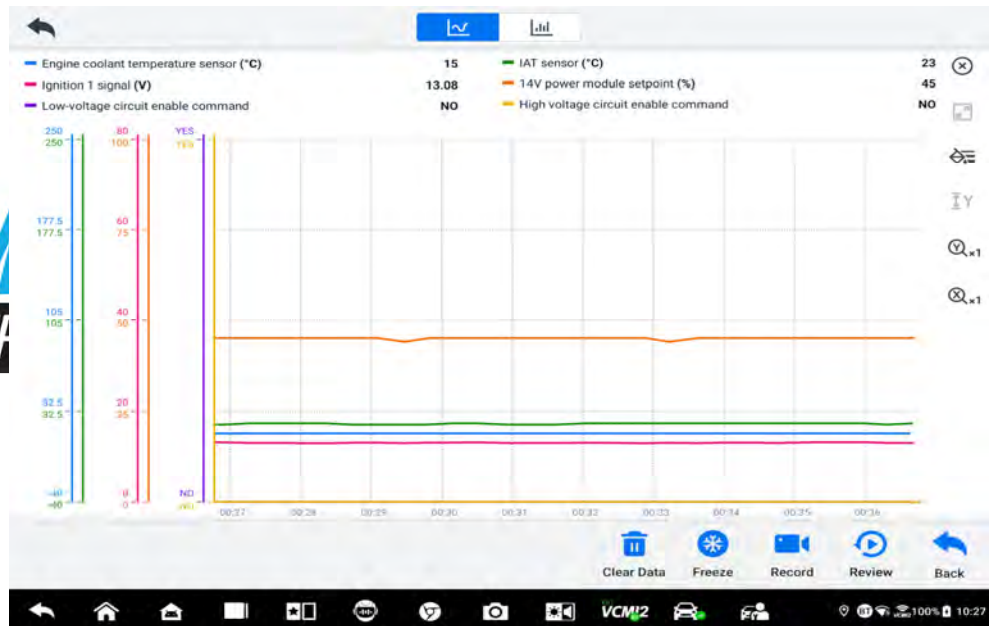
Name	Value	Default Range
☒ Engine coolant temperature sensor (°C)	15	[-40...215]
☒ IAT sensor (°C)	23	[-40...215]
☒ Ignition 1 signal (V)	13.04	[0...66]
☒ 14V power module setpoint (%)	45	[0...100]
☐ 14V power module status	Normal	
☒ Low-voltage circuit enable command	NO	
☒ High voltage circuit enable command	NO	
☐ 14V power module setpoint (V)	13	[0...25.5]
☐ Ignition input off/on/start	Active	

Buttons at the bottom: Pattern Switching, Group, Cancel All, Show Selected, Graph Merge, To Top, Clear Data, Freeze, Reference Sampling, Range List, Back.

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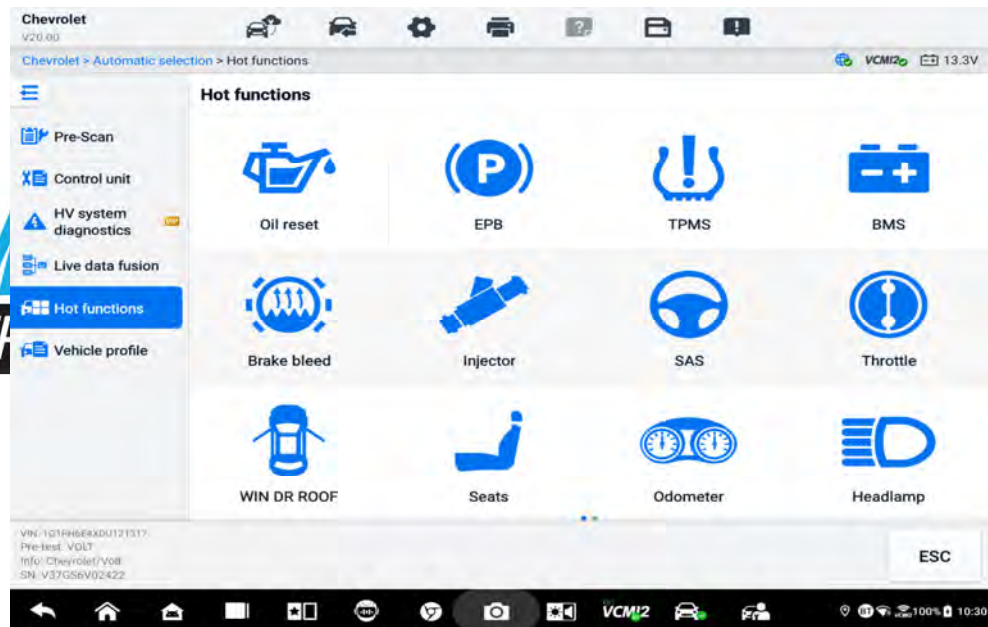
Live Data - Graph



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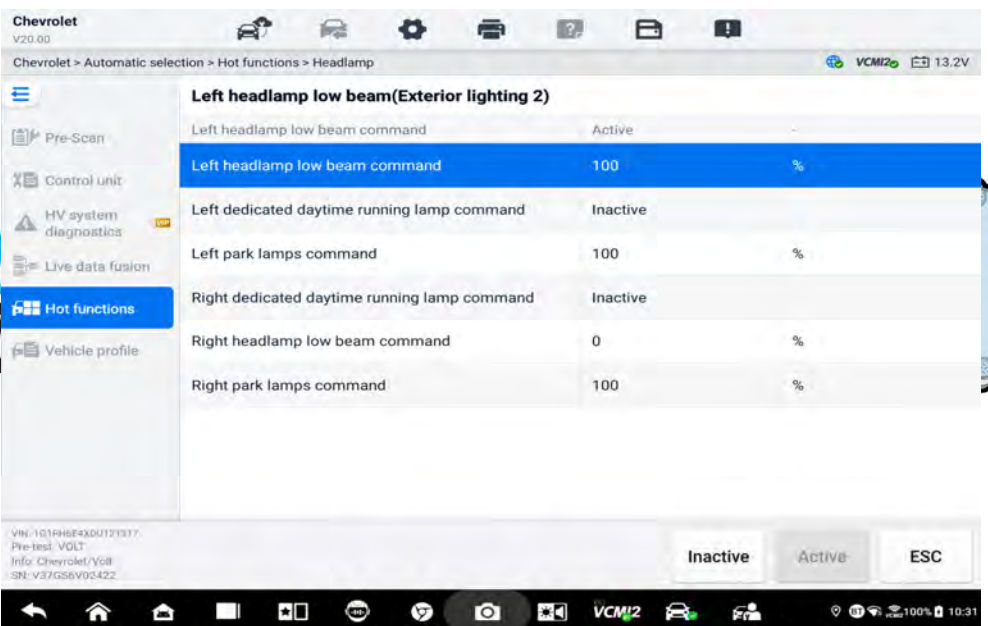
Hot Functions



23

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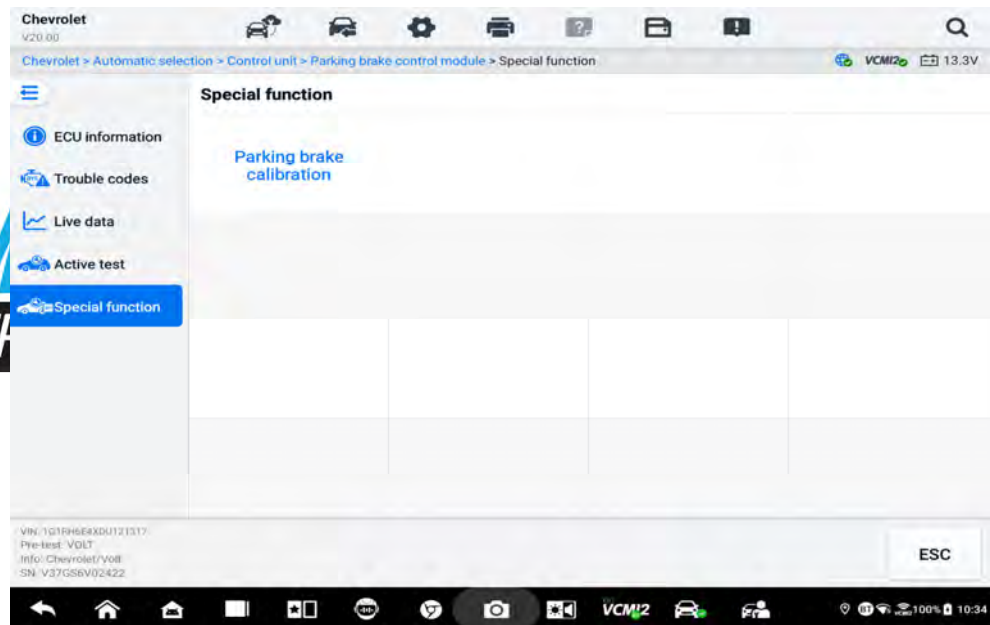
Hot Functions



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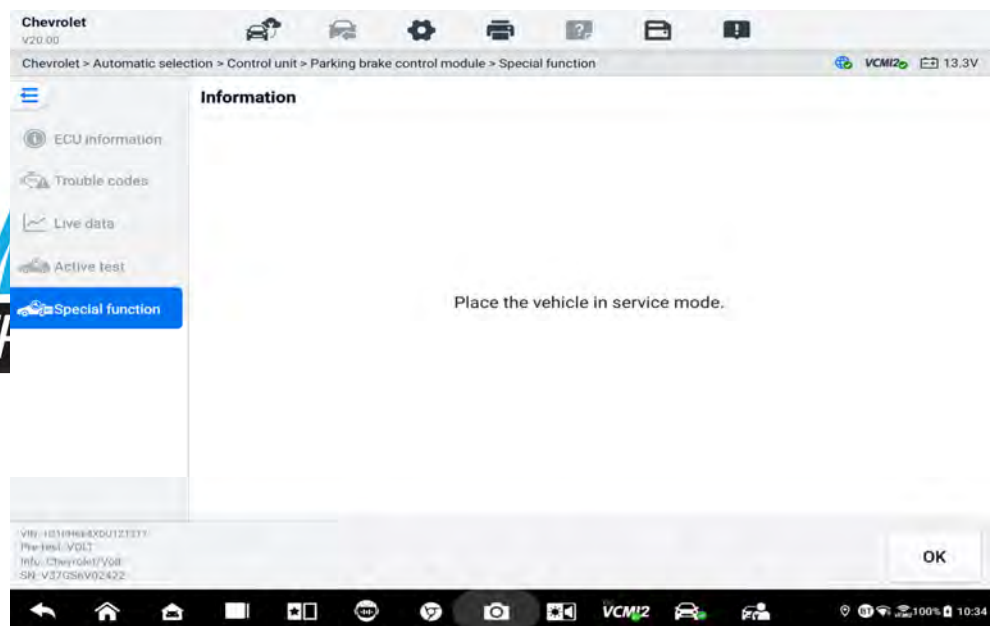
Module Special Functions



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Module Special Functions



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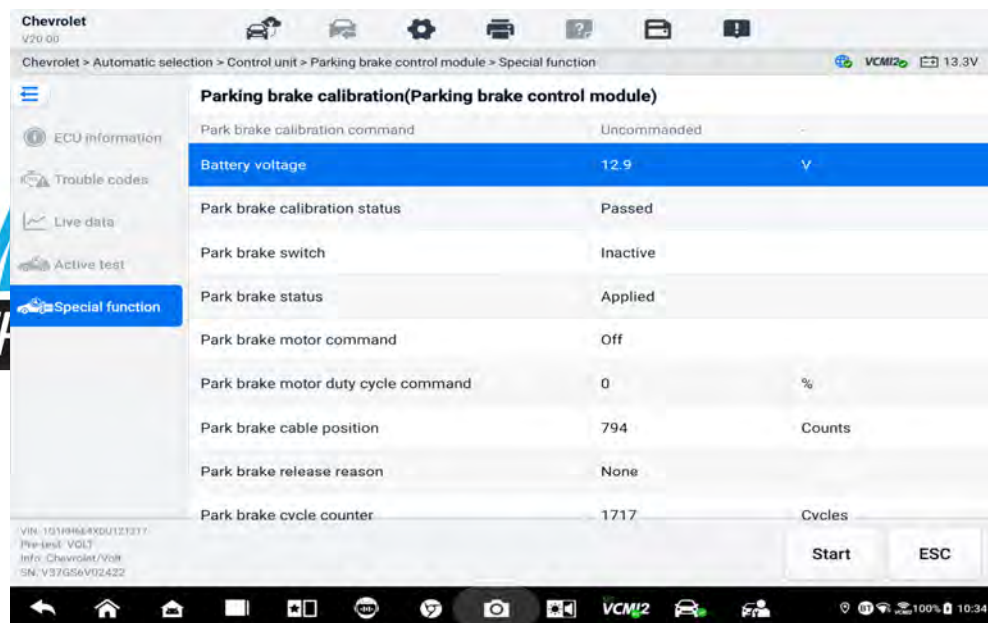
Module Special Functions



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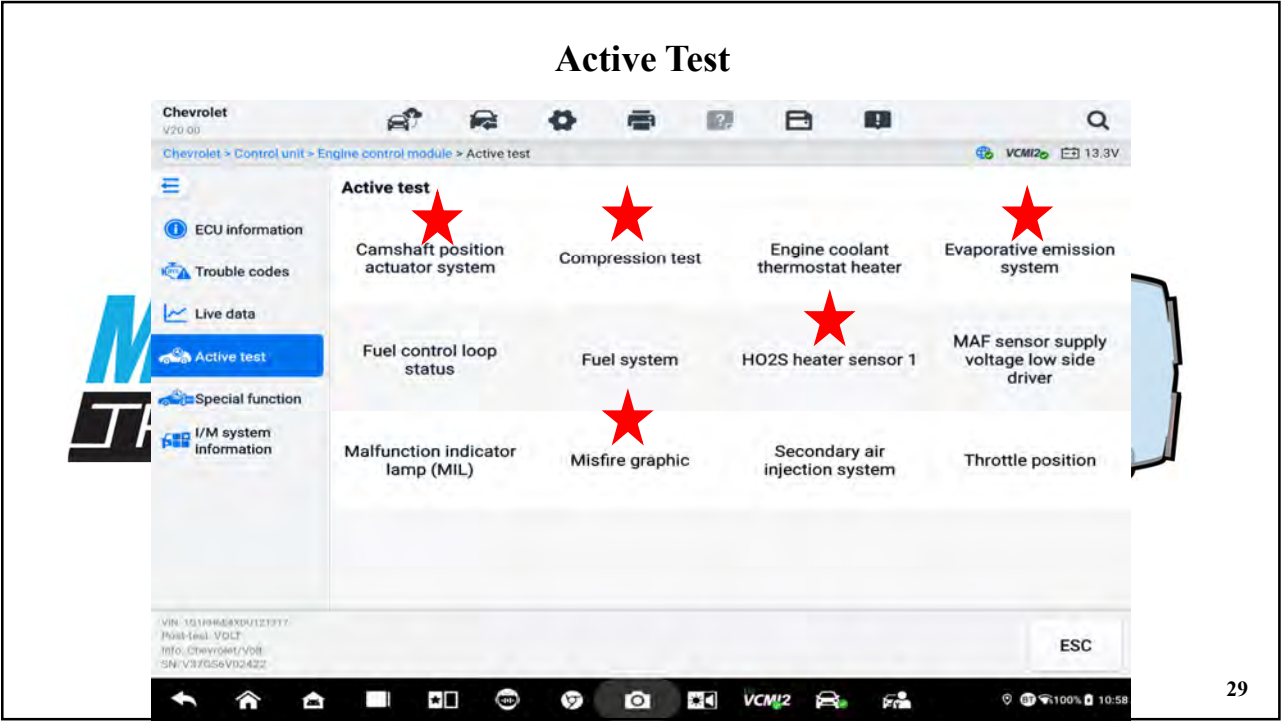
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Module Special Functions

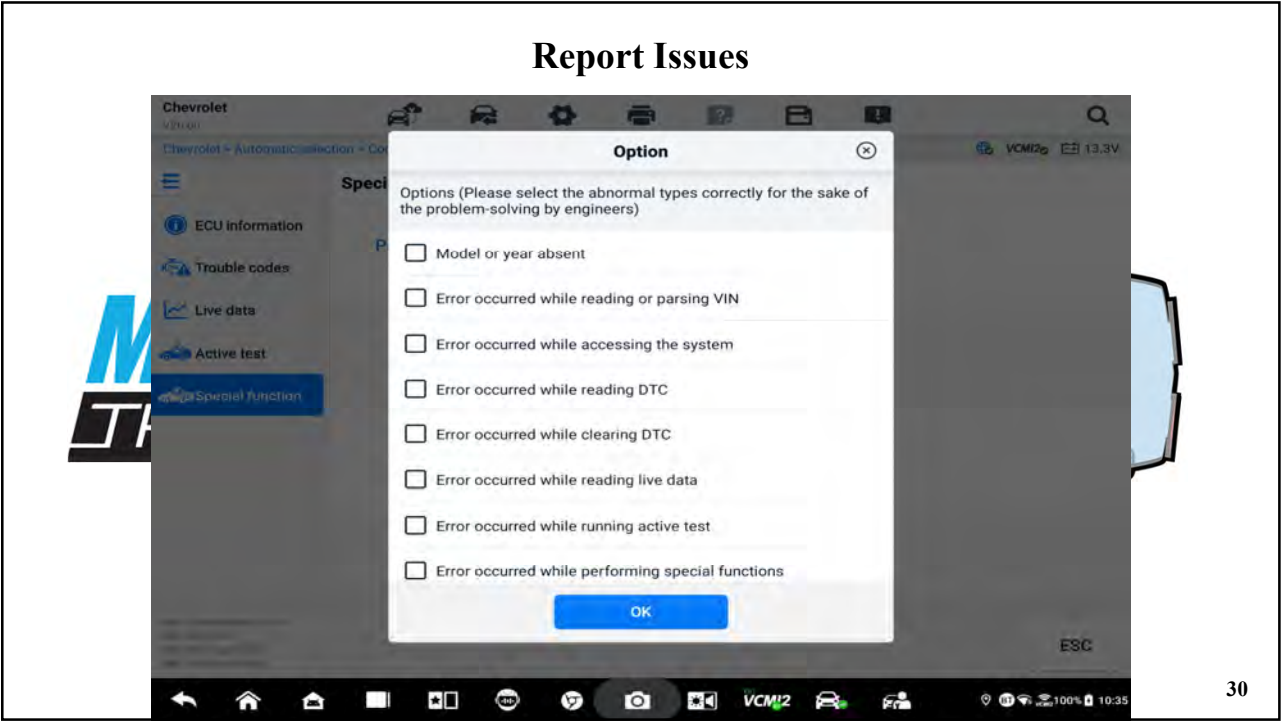


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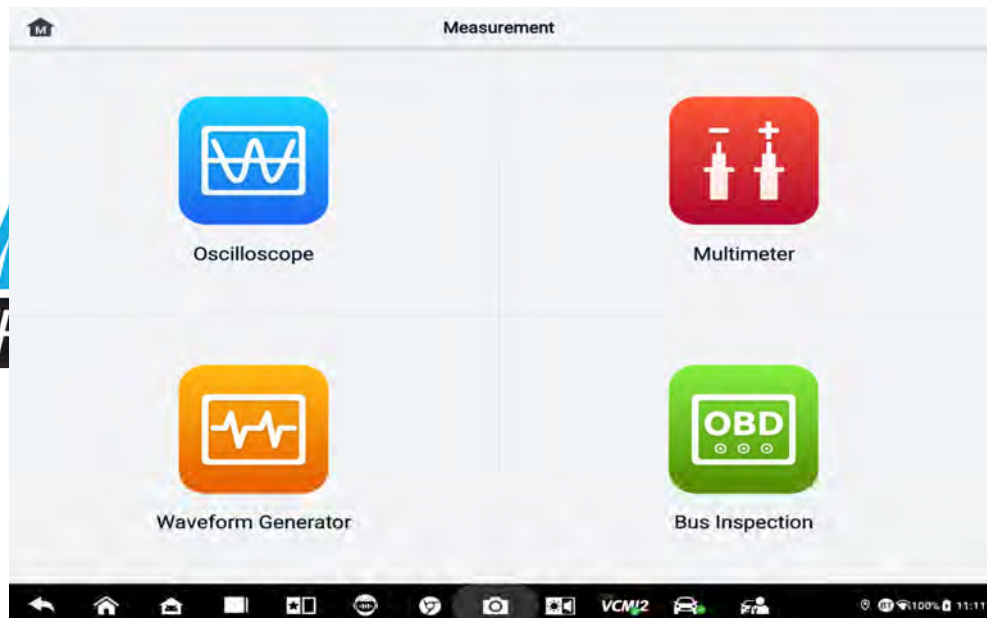


29



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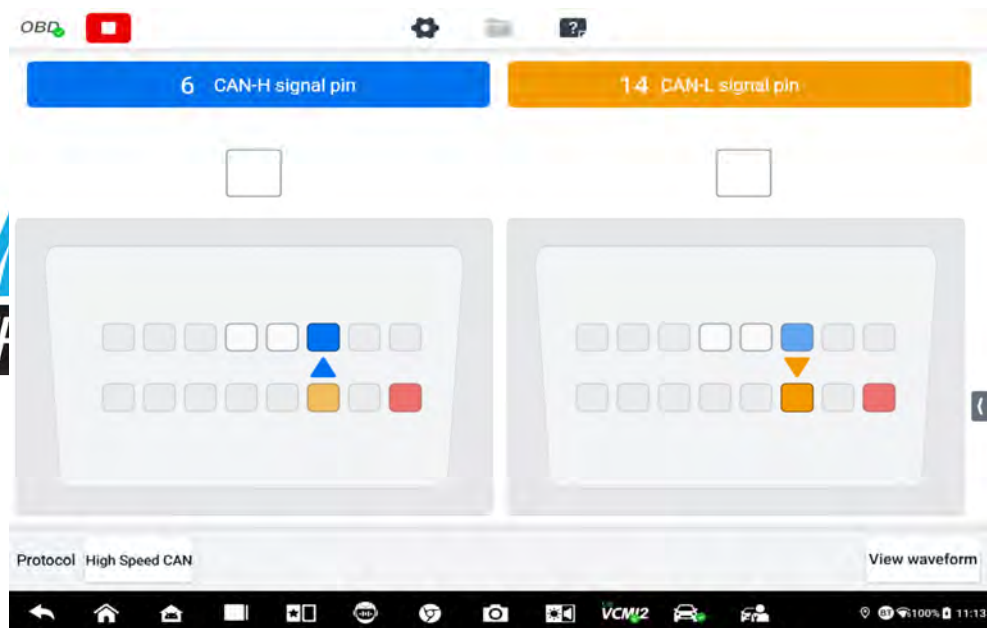
Scope - Meter - Waveform Gen - BUS Inspection Functions



31

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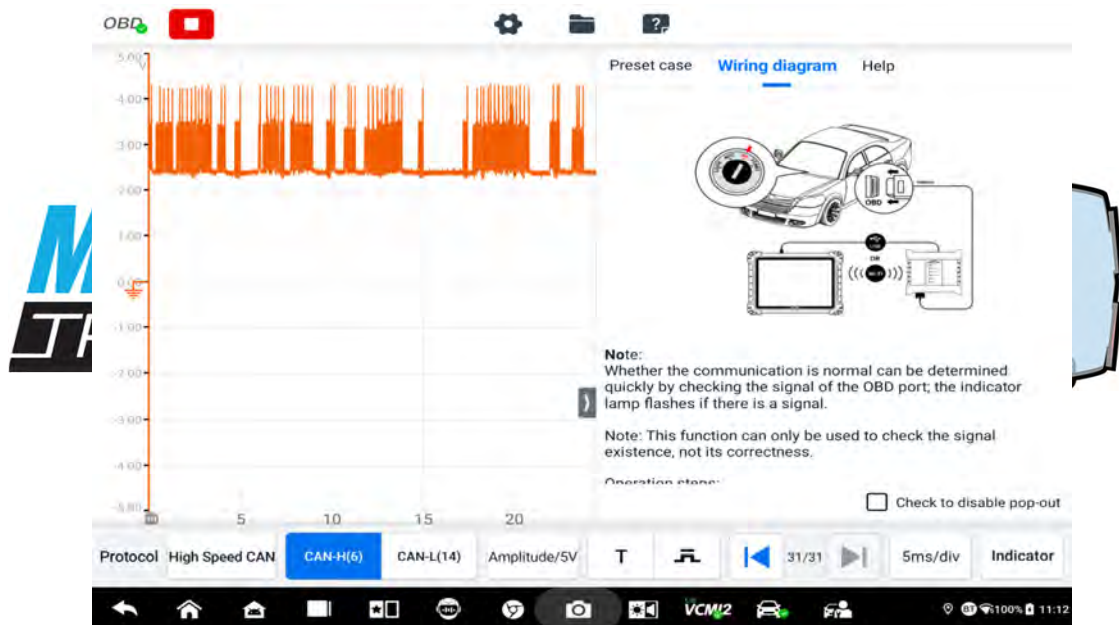
BUS Inspection Functions



32

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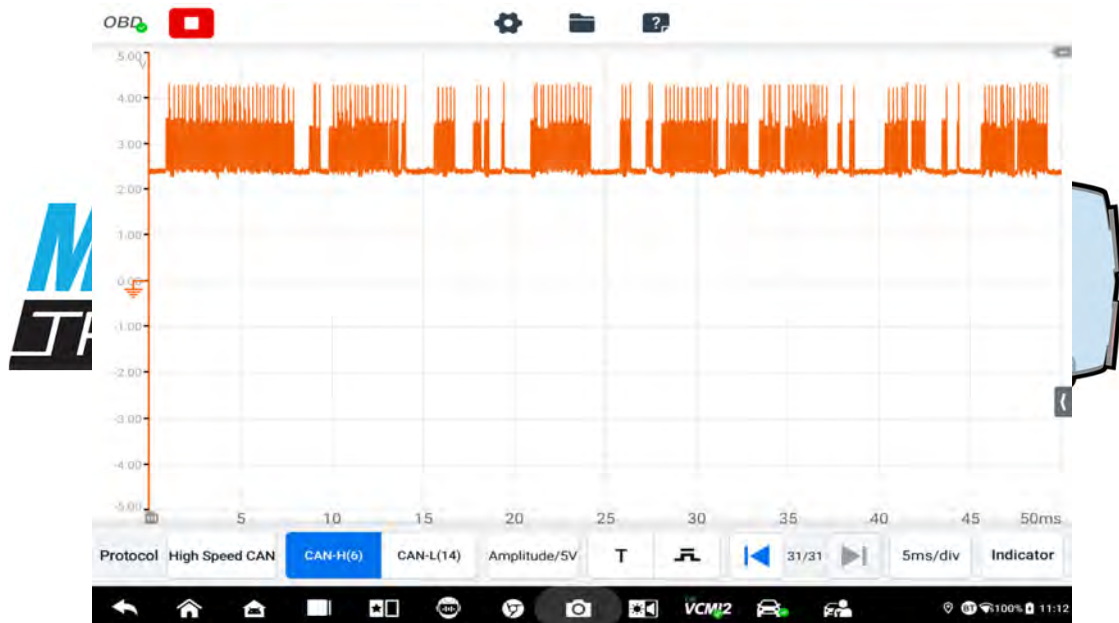
BUS Inspection Functions



33

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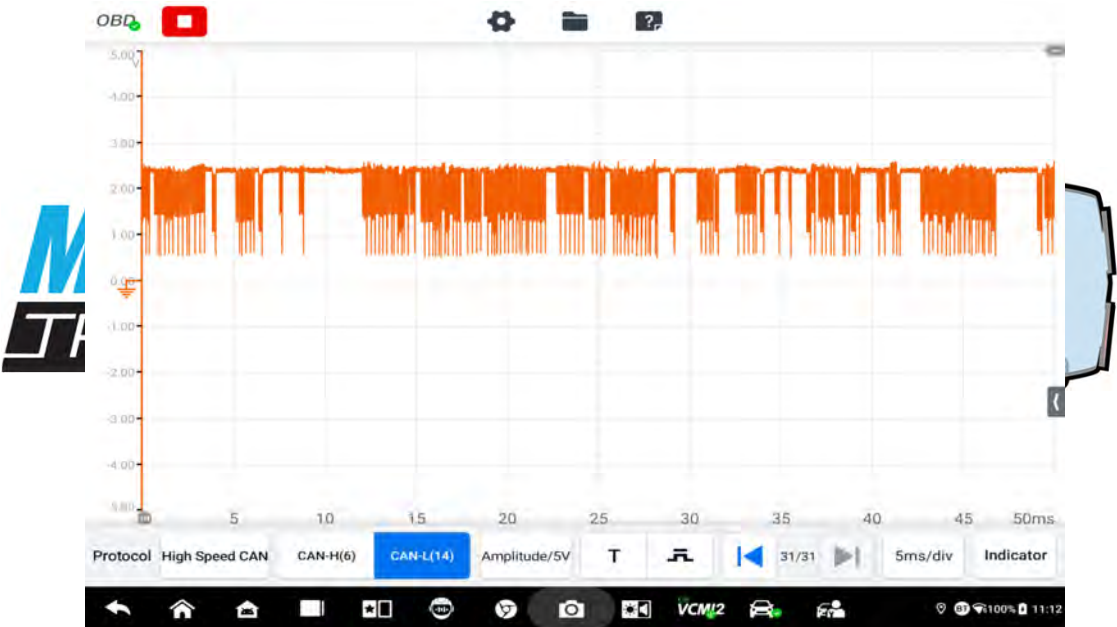
BUS Inspection Functions



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BUS Inspection Functions



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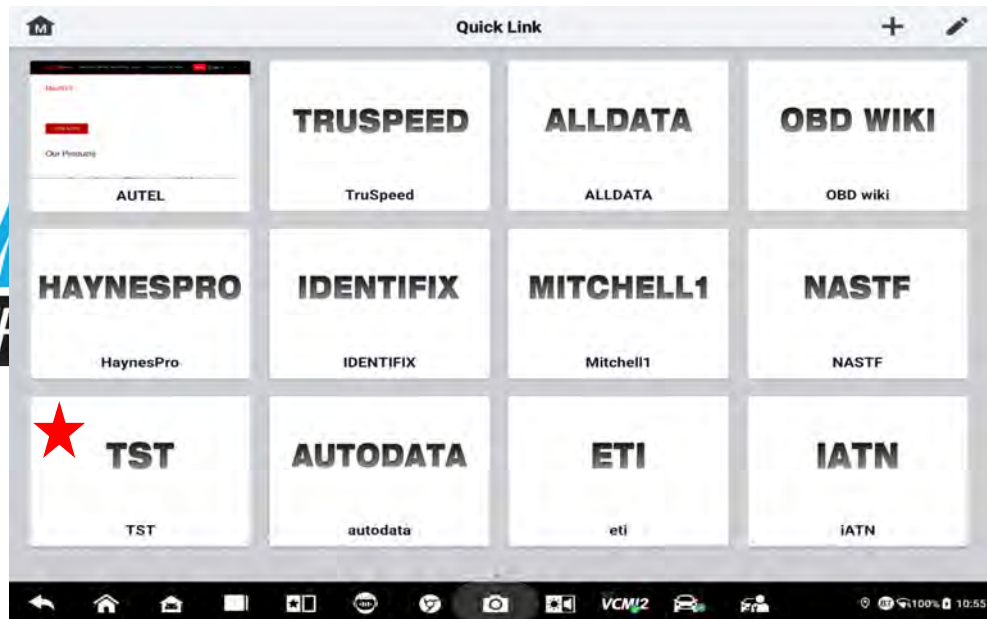
BUS Inspection Functions



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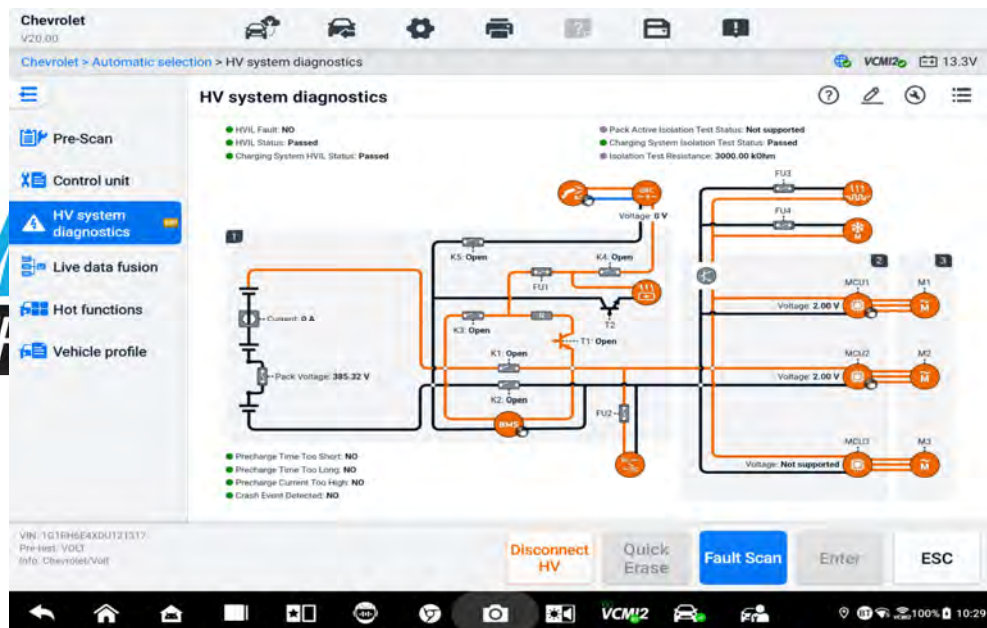
Quick Links



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HV Diagnostics - More On This Next Month - Thanks To Autel



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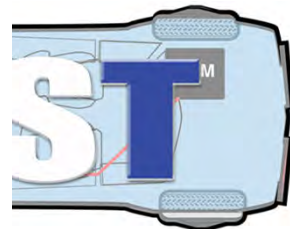
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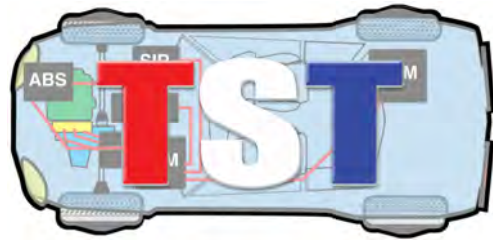


<https://autel.us/product/maxisys-ultra-s2/>

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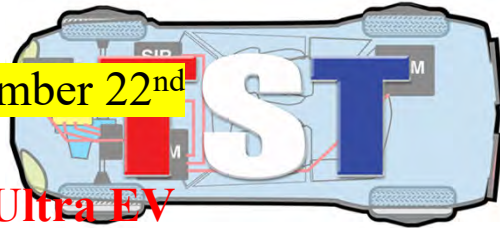
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Next Month November 22nd

Autel MaxiSYS Ultra EV



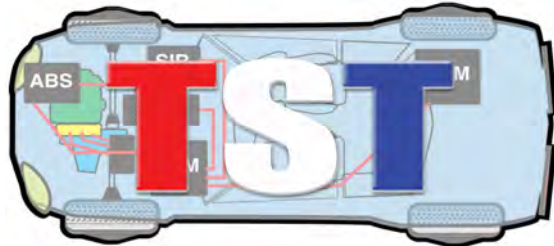
State of Charge and Health Analysis on EV Battery Condition

Presented by Motor Age & TST

41

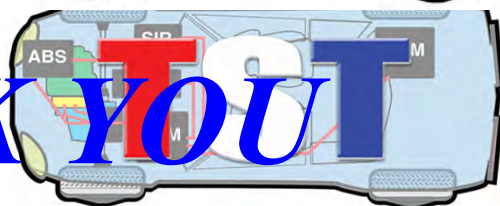
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THANK YOU



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