

Automated Testing of IoT Edge Devices and its Integration into CI/CD

Architecture

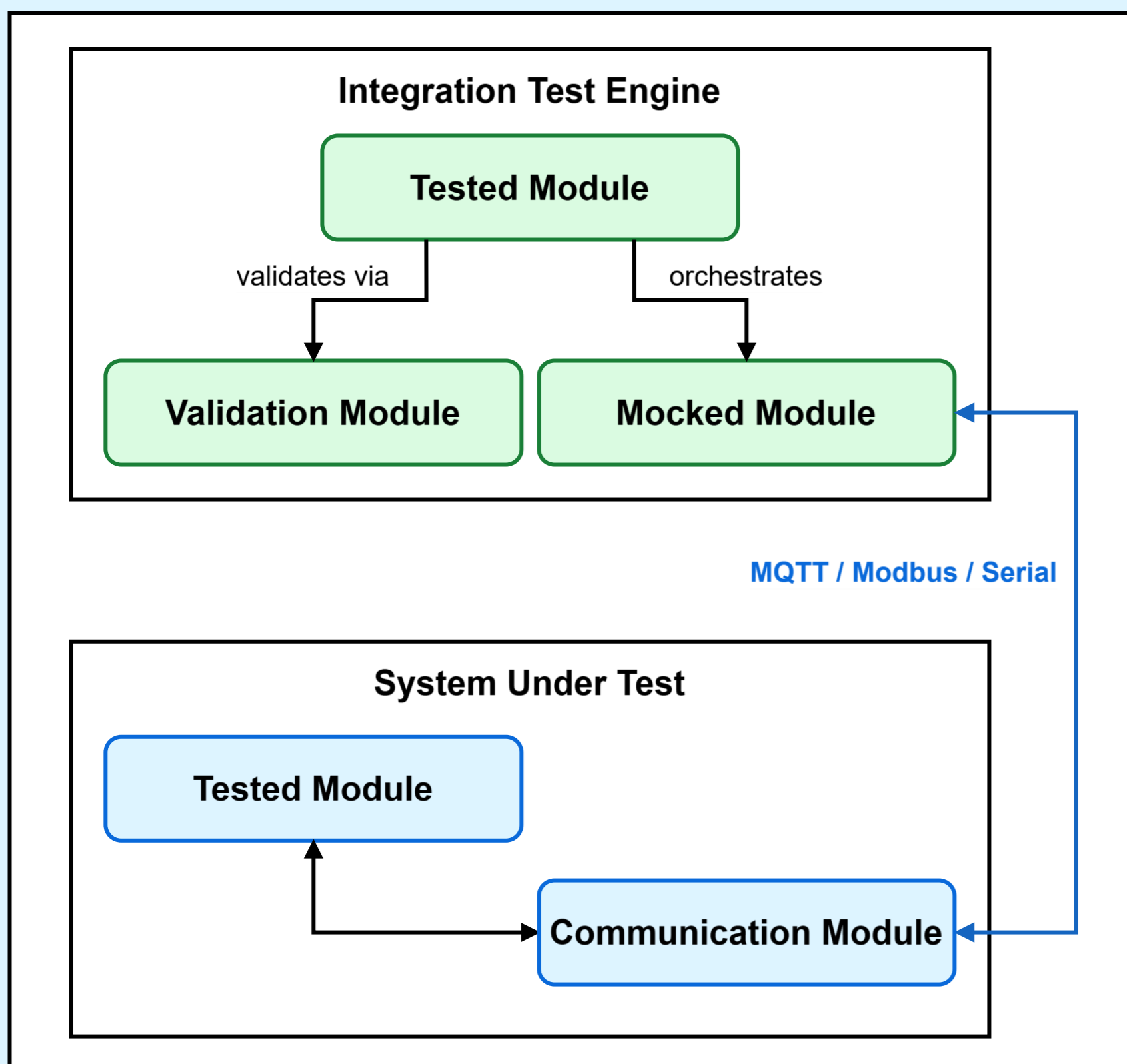


Figure 1: Interaction between the framework and the System Under Test.

Message Validation Algorithm

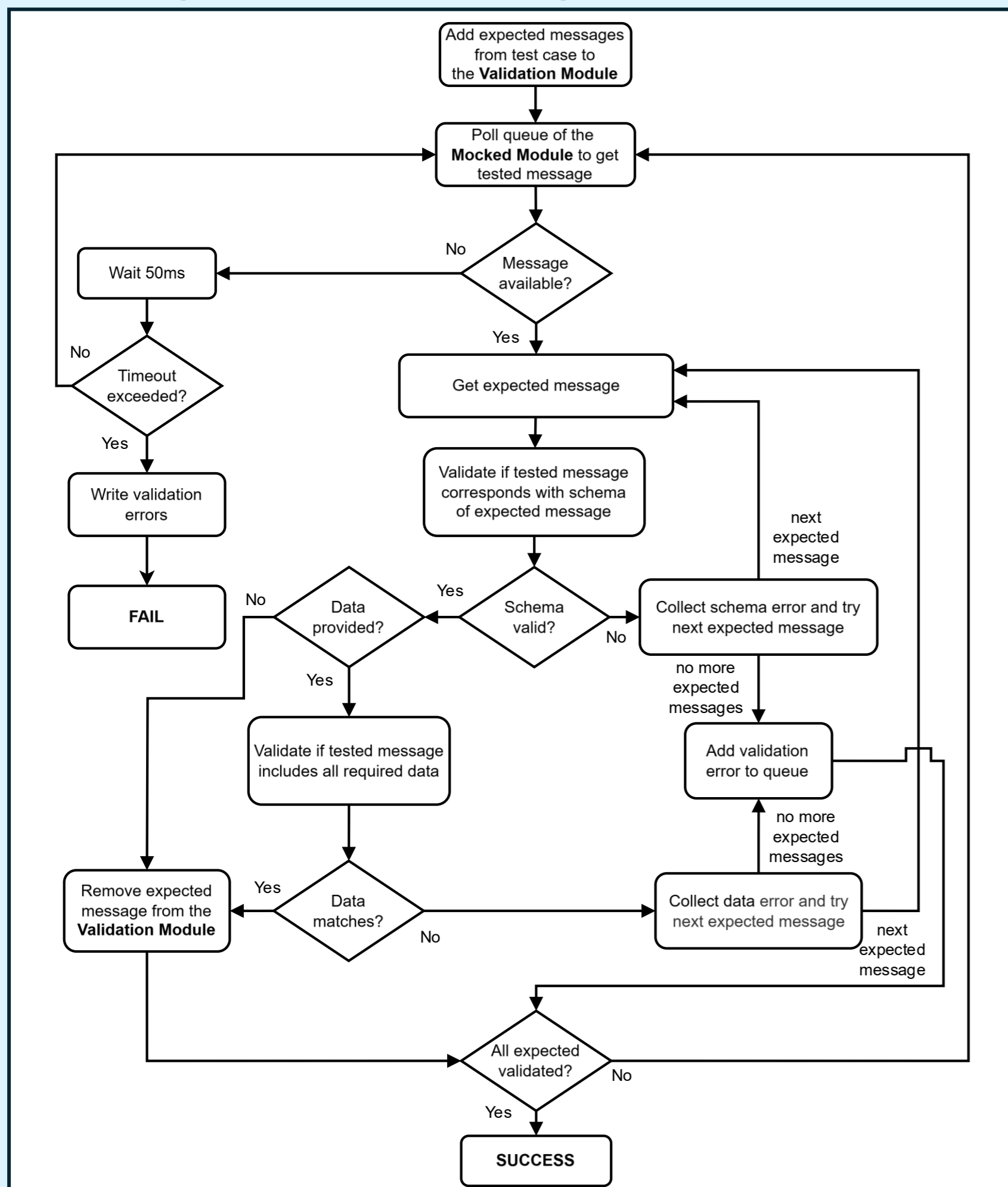


Figure 2: Flowchart describing the Message Validation Algorithm.

Tested Modules

Module	Gateway	Interfaces
GwStatus	LgmcEdge	Cloud MQTT
Scheduler	LgmcEdge	Cloud MQTT
Serial	LgmcEdge	Cloud MQTT Serial
LiftManager	LgmcEdge	Cloud MQTT Modbus Local MQTT
InputOutput	TRB140	MQTT Modbus



LgmcEdge



TRB140

Figure 3: Overview of tested gateways, their modules, and interfaces.

Dashboard

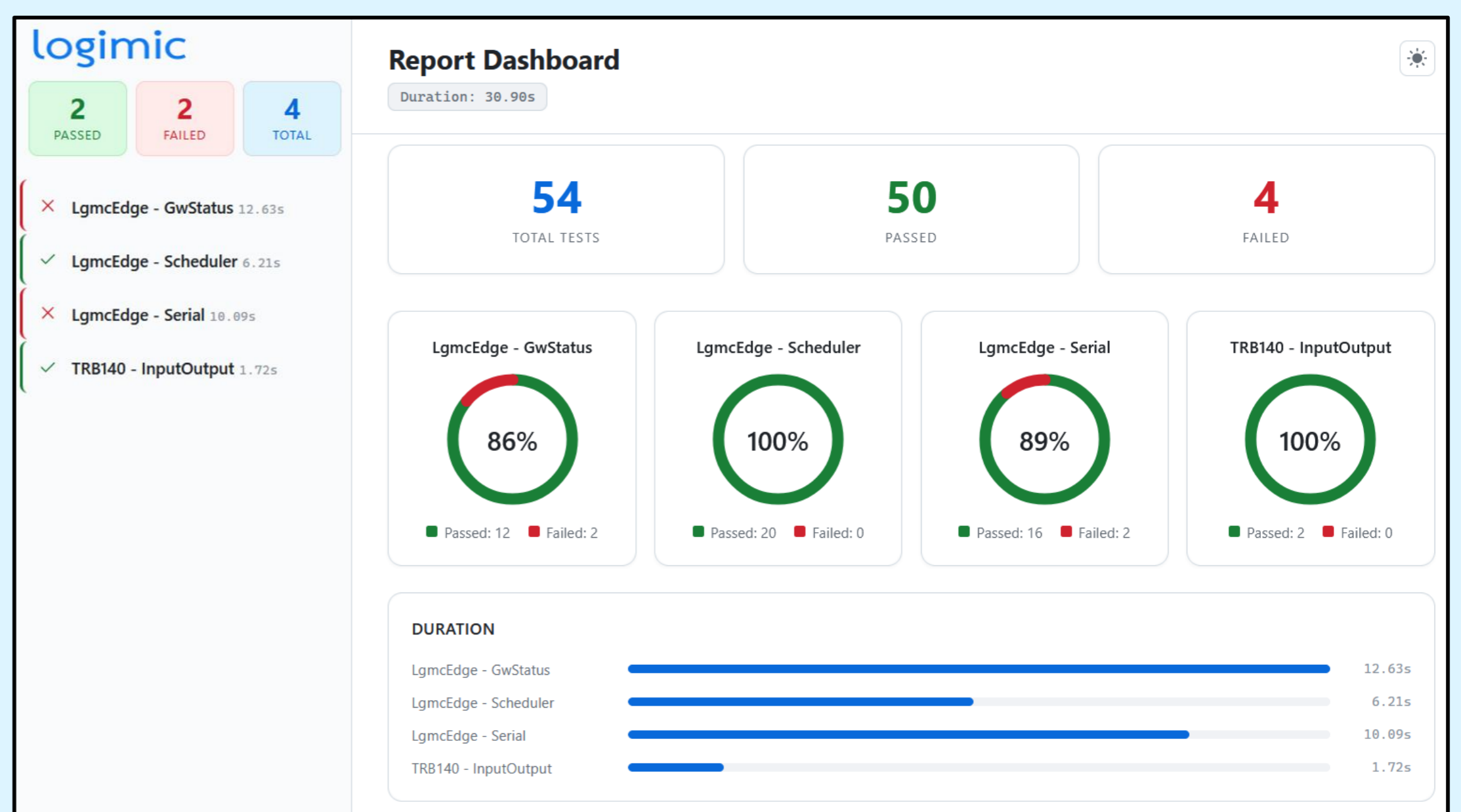


Figure 4: Report Dashboard of the Integration Test Engine.

Test Suite

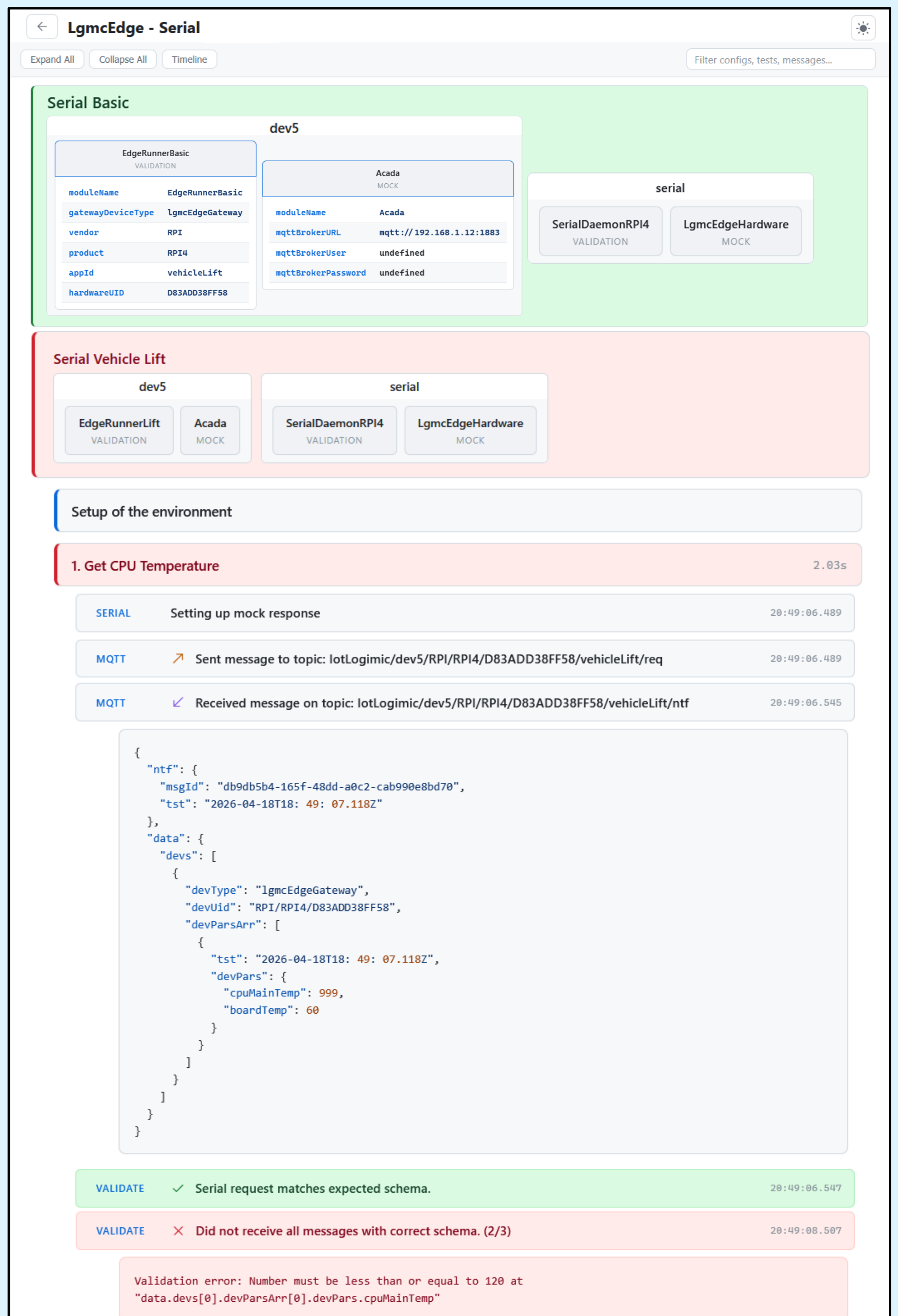


Figure 5: Example of the final report generated from the Integration Test Engine for one test suite.