```
                    START

                     │
                     ▼
  ┌──────────────┐        ◆              Y      ┌────────────────────────────┐
  │ ROBOT SEND   │──────  ASK#  ──────────────▶│ TE RESPONSE                │
  │ MESSAGE      │        ◆                     │ STATE:<Cell>-<Test_Status># │
  └──────────────┘        │                     └────────────────────────────┘
                          │ N
                          ▼
                         ◆              Y       ┌────────────────────────────┐
                       OPEN#  ─────────────────▶│ TE RESPONSE                │
                         ◆                       │ OK#                        │
                         │ N                     └────────────────────────────┘
                         ▼
                        ◆              Y        ◆          Y    ┌──────────────┐
                      CHECK#  ──────────  Fixture  ────────────▶│ TE RESPONSE  │
                        ◆                 Opened                │ DONE#        │
                        │ N               ◆                     └──────────────┘
                        │                 │ N
                        ▼
           ◆                    Y     ◆              Y    ┌──────────────┐
     START:<Cell>-<DSN>#  ─────── Valid DSN 16  ─────────▶│ TE RESPONSE  │
           ◆                          characters          │ OK<cell>#    │
           │ N                        ◆                    │ FIXTURE CLOSED│
           │                          │ N                  │ START TESTING │
           ▼                                               └──────────────┘
          ◆              Y                    ┌──────────────┐
       FIN:<DSN>#  ───────────────────────────▶│ TE RESPONSE  │
          ◆                                     │ OK<cell>#    │
          │ N                                   └──────────────┘
          ▼
         ◆              Y                       ┌────────────────────┐
       BOARD#  ────────────────────────────────▶│ TE RESPONSE        │
         ◆                                       │ BOARD#/NOBOARD#    │
         │ N                                     └────────────────────┘
         │
         ▼
                                                      END
```

◆ Test Status Definitions

Status	Meaning	Detailed Description
IDLE	Ready / Standby	The system is in standby mode. Fixture is empty, no DUT inside, and ready for the next test cycle.
OPEN	Fixture Open	The fixture has been opened to allow the robot to load or unload the DUT. No active testing is happening.
CLOSE	Fixture Closed	The fixture has been closed after loading the DUT, but the test sequence hasn't started yet. Waiting for the TE to trigger testing.
TEST	Testing in Progress	The TE is running the test procedure on the DUT (via Kazam or other test framework).
DONE	Calibration / Test Completed	The test or calibration process has finished successfully, but final result reporting or teardown may still be ongoing. Often used when **IsneedCal = true** or as an intermediate "complete" status before returning to `IDLE`.
PASS	Test Passed	The DUT has successfully passed all test steps and met the required specifications.
FAIL	Test Failed	The DUT has failed at least one test step, or a validation mismatch occurred during the test sequence.
ERRO	Error	An unexpected condition or communication failure occurred (e.g., no response from fixture, timeout, or socket error). Manual check or reset is required before proceeding.