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Test Case Report for Digital Key Generation Smart Contract

Test No.	User Story (Redeemer)	Conditions	Steps	Expected Output	Accepted Output	Result
1	DigitalKeyGeneration – Valid digital key generation by admin	• initiateCheckIn == True• adminPKH == testAdmin• digitalKey == ""• tx signed by testAdmin	Create DigitalKeyGeneration redeemer with digitalKey="generated_digital_key_456"; build txInfo signed by admin; call validator	Validator allows update; sets digitalKey	Update accepted and committed	✅ Pass
2	DigitalKeyGeneration – Reject without admin signature	• initiateCheckIn == True• adminPKH == testAdmin• tx signed by non-admin	Build txInfo signed by otherPkh; apply DigitalKeyGeneration; call validator	Validator rejects update due to missing admin signature	Update rejected	✅ Pass
3	DigitalKeyGeneration – Reject when check-in not initiated	• initiateCheckIn == False	Attempt DigitalKeyGeneration on datum with initiateCheckIn=False; call validator	Validator rejects update due to check-in not yet initiated	Update rejected	✅ Pass
4	DigitalKeyGeneration – Reject when key already exists	• digitalKey != ""	Attempt DigitalKeyGeneration on datum where digitalKey is already set; call validator	Validator rejects update due to existing digitalKey	Update rejected	✅ Pass
5	DigitalKeyValidation – Valid digital key validation	• digitalKey != ""• isDigitalKeyValidated == False	Apply DigitalKeyValidation to set isDigitalKeyValidated=True; call validator	Validator allows update; sets isDigitalKeyValidated=True	Update accepted and committed	✅ Pass
6	DigitalKeyValidation – Reject when digital key not generated	• digitalKey == ""	Attempt DigitalKeyValidation on datum with no digitalKey; call validator	Validator rejects validation due to missing digitalKey	Update rejected	✅ Pass

| 7 | DigitalKeyValidation – Reject when validation flag not set | • digitalKey != ""• redeemer leaves isDigitalKeyValidated == False | Apply DigitalKeyValidation but leave isDigitalKeyValidated=False; call validator | Validator rejects update due to isDigitalKeyValidated not set to True | Update rejected | ✅ Pass |

Screenshot

```
Running 1 test suites...
Test suite digital-key-test: RUNNING...
HGE2 Hotel Guest Experience Validator Tests
  DigitalKeyGeneration Redeemer
    Valid digital key generation by admin:        OK
    Reject generation without admin signature:    OK
    Reject generation when check-in not initiated:  OK
    Reject generation when key already exists:     OK
  DigitalKeyValidation Redeemer
    Valid digital key validation:                 OK
    Reject validation when digital key not generated: OK
    Reject when validation flag not set to true:   OK


All 7 tests passed (0.00s)
Test suite digital-key-test: PASS
```