



## Online Diagnostics

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The online diagnostics contain tests to check different hardware components and verify the status of the software process and interfaces.

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## Scheduling Online Diagnostics

You can schedule online diagnostics to run at a designated time of day or on a daily, weekly, or monthly basis for a specific router. Use the **no** form of this command to remove the scheduling.

For information on how to configure, see the configuration example sections.

## Configuring Health-Monitoring Diagnostics

You can configure health-monitoring diagnostic testing on a specified router while the router is connected to a live network. You can configure the execution interval for each health-monitoring test, whether or not to generate a system message upon a test failure, or to enable or disable an individual test. Use the **no** form of this command to disable testing.

For information on how to configure Health Monitoring diagnostics, see the *Health-Monitoring Diagnostics Example* section.

## Generic Online Diagnostic Commands

```
diagnostic monitor slot slot num test test num
diagnostic monitor syslog
diagnostic monitor threshold slot slot num test test num failure count threshold value
diagnostic schedule slot slot num/all test test num
```

```
diagnostic event-log size size value
diagnostic monitor interval slot slot num test test num interval
```

## Generic Online Diagnostic EXEC Commands

```
diagnostic start slot slot num test test num
diagnostic stop slot slot num test test num
clear diagnostic event-log slot slot num/all
test diagnostic simulation [failure | clear] slot slot num test test id
```

### EXEC commands to support subslot

```
diagnostic start subslot slot num>/<bay num test test num
diagnostic stop subslot <slot num>/<bay num> test test num
test diagnostic simulation [failure | clear] subslot <slot num>/<bay num> test test id
```

## Generic Online Diagnostic Show commands

```
show diagnostic bootup level
show diagnostic slot slot num/all
show diagnostic schedule slot slot num/all
show diagnostic result slot slot num/all
show diagnostic result slot slot num/all detail
show diagnostic events slot slot num/all
show diagnostic content slot slot num/all
show diagnostic description slot slot num/all
show diagnostic status
show diagnostic ondemand test-parameter slot slot num test testid
show diagnostic simulation failure slot slot num
```

### show command to support subslot

```
show diagnostic subslot slot num/bay num
show diagnostic schedule subslot slot num/bay num
show diagnostic result subslot slot num/bay num
show diagnostic result subslot slot num/bay num detail
show diagnostic events subslot slot num/bay num
show diagnostic content subslot slot num/bay num
show diagnostic description subslot slot num/bay num
show diagnostic content subslot slot num/bay num
show diagnostic ondemand test-parameter subslot slot num/bay num test testid
show diagnostic simulation failure subslot slot num>/bay num
```

## Generic Online Diagnostic Example

```
Router#show diagnostic slot 1

Current bootup diagnostic level: minimal

slot 1: ASR1000-MIP100      SerialNo : JAE210500MM

Overall Diagnostic Result for slot 1 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)
```

```

1) Np5cHeartbeatTest -----> .
2) AstroIlkTest -----> .
3) LCFpgaScratchTest -----> .
4) CCEOBCLinkStateTest -----> .
    
```

slot 1: ASR1000-MIP100 SerialNo : JAE18160AM6

Overall Diagnostic Result for slot 1 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

```

1) EPAPpgaScratchTest -----> .
2) EPAStatusTest -----> .
3) EPAHostPrbsStausTest -----> .
4) EPAXcvrTest:
    
```

```

Port 0 1 2 3 4 5 6 7 8 9
-----
      U U U U U U U U U U
    
```

Router#show diagnostic subslot 1/1

Current bootup diagnostic level: minimal

subslot 1/1: EPA-10X10GE SerialNo : JAE18160AM6

Overall Diagnostic Result for subslot 1/1 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

```

1) EPAPpgaScratchTest -----> .
2) EPAStatusTest -----> .
3) EPAHostPrbsStausTest -----> .
4) EPAXcvrTest:
    
```

```

Port 0 1 2 3 4 5 6 7 8 9
-----
      U U U U U U U U U U
    
```

Router#show diagnostic subslot 1/1 detail

Current bootup diagnostic level: minimal

subslot 1/1: EPA-10X10GE SerialNo : JAE18160AM6

Overall Diagnostic Result for subslot 1/1 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

---

```

1) EPAPpgaScratchTest -----> .
    
```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Mar 05 2019 14:17:05
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Mar 05 2019 14:17:05
    
```

```
Total failure count -----> 0
Consecutive failure count ---> 0
```

---

```
2) EPAStatusTest -----> .
```

```
Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Mar 05 2019 14:17:05
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Mar 05 2019 14:17:05
Total failure count -----> 0
Consecutive failure count ---> 0
```

---

```
3) EPAHostPrbsStausTest -----> .
```

```
Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Mar 05 2019 14:17:05
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Mar 05 2019 14:17:05
Total failure count -----> 0
Consecutive failure count ---> 0
```

---

```
4) EPAXcvrTest:
```

```
Port 0 1 2 3 4 5 6 7 8 9
-----
      U U U U U U U U U U
```

```
Error code -----> 1 (DIAG_FAILURE)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Mar 05 2019 14:17:05
First test failure time -----> Mar 05 2019 14:17:05
Last test failure time -----> Mar 05 2019 14:17:05
Last test pass time -----> n/a
Total failure count -----> 1
Consecutive failure count ---> 1
```

## Health Monitoring Diagnostics Configuration Example

Slot command example :

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#diagnostic monitor slot 2 test ?
```

Diagnostics test suite attributes:

```
M/C/* - Minimal bootup level test / Complete bootup level test / NA
E/* - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
```

S/\* - Only applicable to standby unit / NA  
 X/\* - Not a health monitoring test / NA  
 F/\* - Fixed monitoring interval test / NA  
 E/\* - Always enabled monitoring test / NA  
 A/I - Monitoring is active / Monitoring is inactive

| ID | Test Name           | Attributes | Test Interval<br>day hh:mm:ss.ms | Three-<br>day shold |
|----|---------------------|------------|----------------------------------|---------------------|
| 1) | Np5cHeartbeatTest   | *B*N***I   | 000 00:00:05.00                  | n/a                 |
| 2) | AstroIlkTest        | *B*N***I   | 000 00:01:00.00                  | n/a                 |
| 3) | LCFpgaScratchTest   | *B*N***I   | 000 00:02:00.00                  | n/a                 |
| 4) | CCEOBCLinkStateTest | *B*N***I   | 000 00:01:00.00                  | n/a                 |

WORD Test ID list (e.g. 1,3-6) or Test Name  
 all Select all test ID

```
Router(config)#
Router(config)#diagnostic monitor slot 2 test all
Router(config)#end
Router#show ru
*Aug 2 06:12:19.254: %SYS-5-CONFIG_I: Configured from console by consolen
Router#show run | sec diagnostic monitor
diagnostic monitor slot 2 test Np5cHeartbeatTest cardindex 4
diagnostic monitor slot 2 test AstroIlkTest cardindex 4
diagnostic monitor slot 2 test LCFpgaScratchTest cardindex 4
diagnostic monitor slot 2 test CCEOBCLinkStateTest cardindex 4
Router#
Router#show diagnostic content slot 2
```

slot 2: ASR1000-MIP100

Diagnostics test suite attributes:  
 M/C/\* - Minimal bootup level test / Complete bootup level test / NA  
 B/\* - Basic ondemand test / NA  
 P/V/\* - Per port test / Per device test / NA  
 D/N/\* - Disruptive test / Non-disruptive test / NA  
 S/\* - Only applicable to standby unit / NA  
 X/\* - Not a health monitoring test / NA  
 F/\* - Fixed monitoring interval test / NA  
 E/\* - Always enabled monitoring test / NA  
 A/I - Monitoring is active / Monitoring is inactive

| ID | Test Name           | Attributes | Test Interval<br>day hh:mm:ss.ms | Three-<br>day shold |
|----|---------------------|------------|----------------------------------|---------------------|
| 1) | Np5cHeartbeatTest   | *B*N***A   | 000 00:00:05.00                  | n/a                 |
| 2) | AstroIlkTest        | *B*N***A   | 000 00:01:00.00                  | n/a                 |
| 3) | LCFpgaScratchTest   | *B*N***A   | 000 00:02:00.00                  | n/a                 |
| 4) | CCEOBCLinkStateTest | *B*N***A   | 000 00:01:00.00                  | n/a                 |

```
Router#show diagnostic result slot 2
```

Current bootup diagnostic level: minimal

slot 2: ASR1000-MIP100 SerialNo : JAE210500MM

Overall Diagnostic Result for slot 2 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) Np5cHeartbeatTest -----> .

```

2) AstroIlkTest -----> .
3) LCFpgaScratchTest -----> .
4) CCEOBCLinkStateTest -----> .

```

Router#

Subslot :

Router#show diagnostic content subslot 1/0

subslot 1/0: EPA-2X40GE

Diagnostics test suite attributes:

```

M/C/* - Minimal bootup level test / Complete bootup level test / NA
B/* - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
S/* - Only applicable to standby unit / NA
X/* - Not a health monitoring test / NA
F/* - Fixed monitoring interval test / NA
E/* - Always enabled monitoring test / NA
A/I - Monitoring is active / Monitoring is inactive

```

| ID | Test Name                   | Attributes | Test Interval<br>day hh:mm:ss.ms | Three-<br>day shold |
|----|-----------------------------|------------|----------------------------------|---------------------|
| 1) | EPAFpgaScratchTest ----->   | *B*N***I   | 000 00:01:00.00                  | n/a                 |
| 2) | EPAStatusTest ----->        | *B*N***I   | 000 00:01:00.00                  | n/a                 |
| 3) | EPAHostPrbsStausTest -----> | *B*N***I   | not configured                   | n/a                 |
| 4) | EPAXcvrTest ----->          | *BPN*X**I  | not configured                   | n/a                 |

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#diagno

Router(config)#diagnostic mon

Router(config)#diagnostic monitor sub

Router(config)#diagnostic monitor subslot 1/0 ?

test Diagnostic test selection

Router(config)#diagnostic monitor subslot 1/0 te

Router(config)#diagnostic monitor subslot 1/0 test ?

Diagnostics test suite attributes:

```

M/C/* - Minimal bootup level test / Complete bootup level test / NA
B/* - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
S/* - Only applicable to standby unit / NA
X/* - Not a health monitoring test / NA
F/* - Fixed monitoring interval test / NA
E/* - Always enabled monitoring test / NA
A/I - Monitoring is active / Monitoring is inactive

```

| ID | Test Name                   | Attributes | Test Interval<br>day hh:mm:ss.ms | Three-<br>day shold |
|----|-----------------------------|------------|----------------------------------|---------------------|
| 1) | EPAFpgaScratchTest ----->   | *B*N***I   | 000 00:01:00.00                  | n/a                 |
| 2) | EPAStatusTest ----->        | *B*N***I   | 000 00:01:00.00                  | n/a                 |
| 3) | EPAHostPrbsStausTest -----> | *B*N***I   | not configured                   | n/a                 |
| 4) | EPAXcvrTest ----->          | *BPN*X**I  | not configured                   | n/a                 |

```
WORD    Test ID list (e.g. 1,3-6) or Test Name
all     Select all test ID
```

```
Router(config)#diagnostic monitor subslot 1/0 test 1
Router(config)#end
Router#sho
*Aug  2 06:29:41.321: %SYS-5-CONFIG_I: Configured from console by consolew ru
Router#show running-config | sec diagnostic monitor subslot
diagnostic monitor subslot 1/0 test EPAFpgaScratchTest cardindex 5
Router#
Router#
*Aug  2 06:30:07.735: %LINK-3-UPDOWN: Interface FortyGigabitEthernet1/0/1, changed state
to up
*Aug  2 06:30:07.734: %LINK-3-UPDOWN: SIP1/0: Interface FortyGigabitEthernet1/0/1, changed
state to up
*Aug  2 06:30:08.735: %LINEPROTO-5-UPDOWN: Line protocol on Interface
FortyGigabitEthernet1/0/1, changed state to up
Router#
Router#
Router#show diagnostic content subslot 1/0

subslot 1/0: EPA-2X40GE

Diagnostics test suite attributes:
M/C/* - Minimal bootup level test / Complete bootup level test / NA
B/*   - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
S/*   - Only applicable to standby unit / NA
X/*   - Not a health monitoring test / NA
F/*   - Fixed monitoring interval test / NA
E/*   - Always enabled monitoring test / NA
A/I   - Monitoring is active / Monitoring is inactive

ID   Test Name                               Attributes                               Test Interval  Three-
====  =====                               =====                               day hh:mm:ss.ms shold
=====  =====                               =====                               =====
1) EPAFpgaScratchTest -----> *B*N***A   000 00:01:00.00 n/a
2) EPAStatusTest -----> *B*N***I   000 00:01:00.00 n/a
3) EPAHostPrbsStausTest -----> *B*N***I   not configured n/a
4) EPAXcvrTest -----> *BPN*X**I   not configured n/a

Router#
```

## Slot and Subslot Level Show Commands Output Example

```
Slot related show commands:
=====

Router#show diagnostic slot 0

Current bootup diagnostic level: minimal

slot 0: ASR1000-MIP100          SerialNo : JAE20400315

Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)
```

```

1) Np5cHeartbeatTest -----> .
2) AstroIlkTest -----> .
3) LCFpgaScratchTest -----> .
4) CCEOBCLinkStateTest -----> .

slot 0: ASR1000-MIP100          SerialNo : JAE214006W6

Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) EPAFpgaScratchTest -----> .
2) EPAStatusTest -----> .
3) EPAHostPrbsStausTest -----> .
4) EPAXcvrTest:

Port 0
-----
      U

slot 0: ASR1000-MIP100          SerialNo : JAE214006VX

Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) EPAFpgaScratchTest -----> .
2) EPAStatusTest -----> .
3) EPAHostPrbsStausTest -----> .
4) EPAXcvrTest:

Port 0
-----
      .

Router#show diagnostic result slot 0

Current bootup diagnostic level: minimal

slot 0: ASR1000-MIP100          SerialNo : JAE20400315

Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) Np5cHeartbeatTest -----> .
2) AstroIlkTest -----> .
3) LCFpgaScratchTest -----> .
4) CCEOBCLinkStateTest -----> .

Router#show diagnostic result slot 0 detail

```



Current bootup diagnostic level: minimal

slot 0: ASR1000-MIP100            SerialNo : JAE20400315

Overall Diagnostic Result for slot 0 : PASS

Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

---

1) Np5cHeartbeatTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
Total run count -----> 2  
Last test testing type -----> OnDemand  
Last test execution time -----> Jul 22 2019 04:49:25  
First test failure time -----> n/a  
Last test failure time -----> n/a  
Last test pass time -----> Jul 22 2019 04:49:25  
Total failure count -----> 0  
Consecutive failure count ----> 0

---

2) AstroIlkTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
Total run count -----> 2  
Last test testing type -----> OnDemand  
Last test execution time -----> Jul 22 2019 04:49:25  
First test failure time -----> n/a  
Last test failure time -----> n/a  
Last test pass time -----> Jul 22 2019 04:49:25  
Total failure count -----> 0  
Consecutive failure count ----> 0

---

3) LCFpgaScratchTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
Total run count -----> 2  
Last test testing type -----> OnDemand  
Last test execution time -----> Jul 22 2019 04:49:25  
First test failure time -----> n/a  
Last test failure time -----> n/a  
Last test pass time -----> Jul 22 2019 04:49:25  
Total failure count -----> 0  
Consecutive failure count ----> 0

---

4) CCEOBCLinkStateTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
Total run count -----> 2  
Last test testing type -----> OnDemand  
Last test execution time -----> Jul 22 2019 04:49:25  
First test failure time -----> n/a  
Last test failure time -----> n/a  
Last test pass time -----> Jul 22 2019 04:49:25  
Total failure count -----> 0  
Consecutive failure count ----> 0

---

```

Router#
Router#show diagnostic slot 0 detail

Current bootup diagnostic level: minimal

slot 0: ASR1000-MIP100      SerialNo : JAE20400315

Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

-----

1) Np5cHeartbeatTest -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 2
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:25
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:25
Total failure count -----> 0
Consecutive failure count ----> 0

-----

2) AstroIlkTest -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 2
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:25
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:25
Total failure count -----> 0
Consecutive failure count ----> 0

-----

3) LCFpgaScratchTest -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 2
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:25
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:25
Total failure count -----> 0
Consecutive failure count ----> 0

-----

4) CCEOBCLinkStateTest -----> .

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 2
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:25
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:25
Total failure count -----> 0
Consecutive failure count ----> 0

```

---

slot 0: ASR1000-MIP100            SerialNo : JAE214006W6

Overall Diagnostic Result for slot 0 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

---

1) EPAPpgaScratchTest -----> .

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:45
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:45
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

2) EPAStatusTest -----> .

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:45
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:45
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

3) EPAHostPrbsStausTest -----> .

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:45
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:49:45
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

4) EPAXcvrTest:

```

Port 0
-----
    U

```

```

Error code -----> 1 (DIAG_FAILURE)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:49:45
First test failure time -----> Jul 22 2019 04:49:45
Last test failure time -----> Jul 22 2019 04:49:45

```

```

Last test pass time -----> n/a
Total failure count -----> 1
Consecutive failure count ---> 1

```

---

```
slot 0: ASR1000-MIP100      SerialNo : JAE214006VX
```

```
Overall Diagnostic Result for slot 0 : PASS
Diagnostic level at card bootup: minimal
```

```
Test results: (. = Pass, F = Fail, U = Untested)
```

---

```
1) EPAPpgaScratchTest -----> .
```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:50:03
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:50:03
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

```
2) EPAStatusTest -----> .
```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:50:03
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:50:03
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

```
3) EPAHostPrbsStausTest -----> .
```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:50:03
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:50:03
Total failure count -----> 0
Consecutive failure count ---> 0

```

---

```
4) EPAXcvrTest:
```

```

Port 0
-----
.

```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 1
Last test testing type -----> OnDemand

```

```

Last test execution time ----> Jul 22 2019 04:50:03
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:50:03
Total failure count -----> 0
Consecutive failure count ---> 0
    
```

```

Router#
Router#show diagnostic content slot 0
    
```

```
slot 0: ASR1000-MIP100
```

```

Diagnostics test suite attributes:
M/C/* - Minimal bootup level test / Complete bootup level test / NA
B/* - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
S/* - Only applicable to standby unit / NA
X/* - Not a health monitoring test / NA
F/* - Fixed monitoring interval test / NA
E/* - Always enabled monitoring test / NA
A/I - Monitoring is active / Monitoring is inactive
    
```

| ID | Test Name           | Attributes | Test Interval<br>day hh:mm:ss.ms | Thre-<br>shold |
|----|---------------------|------------|----------------------------------|----------------|
| 1) | Np5cHeartbeatTest   | *B*N***I   | 000 00:00:05.00                  | n/a            |
| 2) | AstroIlkTest        | *B*N***I   | 000 00:01:00.00                  | n/a            |
| 3) | LCFpgaScratchTest   | *B*N***I   | 000 00:02:00.00                  | n/a            |
| 4) | CCEOBCLinkStateTest | *B*N***I   | 000 00:01:00.00                  | n/a            |

```

Router#
Router#show diagnostic description slot 0 test all
    
```

```

Np5cHeartbeatTest :
  It Checks the ezman process heartbeat miss.
    
```

```

AstroIlkTest :
  It tests astro interlaken status and reports failures if not ok
    
```

```

LCFpgaScratchTest :
  It checks Read and Write operation of ELC's FPGA
    
```

```

CCEOBCLinkStateTest :
  It Checks EOBC link status of LC card.
    
```

```

Router#
Router#show diagnostic events slot 0
Diagnostic events (storage for 500 events, 26 events recorded)
Number of events matching above criteria = 8
Event Type (ET): I - Info, W - Warning, E - Error
    
```

| Time Stamp         | ET | [Card] | Event Message              |
|--------------------|----|--------|----------------------------|
| 07/22 04:48:23.878 | I  | [0]    | Np5cHeartbeatTest Passed   |
| 07/22 04:48:23.880 | I  | [0]    | AstroIlkTest Passed        |
| 07/22 04:48:23.882 | I  | [0]    | LCFpgaScratchTest Passed   |
| 07/22 04:48:23.886 | I  | [0]    | CCEOBCLinkStateTest Passed |

## Slot and Subslot Level Show Commands Output Example

```

07/22 04:49:25.297 I [0] Np5cHeartbeatTest Passed
07/22 04:49:25.298 I [0] AstroIlkTest Passed
07/22 04:49:25.300 I [0] LCFpgaScratchTest Passed
07/22 04:49:25.302 I [0] CCEOBCLinkStateTest Passed

Router#
Router#show diagnostic simulation failure slot 0
slot 0:
    There is no test failure simulation installed.

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#do show clock
*05:43:47.385 UTC Mon Jul 22 2019
Router(config)#diagnostic schedule slot 0 test all on jul 22 2019 05:45
Router(config)#end
Router#
Router#show run | sec diagnostic
diagnostic schedule slot 0 test all on July 22 2019 5:45 cardindex 4 jobindex 1
diagnostic bootup level minimal
Router#
Router#
Router#show diagnostic schedule slot 0
Current Time = 05:44:35 UTC Mon Jul 22 2019

Diagnostic for slot 0:

Schedule #1:
    To be run on July 22 2019 5:45
    Test ID(s) to be executed: all.

Router#
*Jul 22 05:44:59.720: %DIAG-6-SCHED_RUNNING: slot 0: Performing Scheduled Online Diagnostic...
*Jul 22 05:44:59.720: %DIAG-6-TEST_RUNNING: slot 0: Running Np5cHeartbeatTest{ID=1} ...
*Jul 22 05:44:59.721: %DIAG-6-TEST_OK: slot 0: Np5cHeartbeatTest{ID=1} has completed
successfully
*Jul 22 05:44:59.721: %DIAG-6-TEST_RUNNING: slot 0: Running AstroIlkTest{ID=2} ...
*Jul 22 05:44:59.722: %DIAG-6-TEST_OK: slot 0: AstroIlkTest{ID=2} has completed successfully
*Jul 22 05:44:59.722: %DIAG-6-TEST_RUNNING: slot 0: Running LCFpgaScratchTest{ID=3} ...
*Jul 22 05:44:59.724: %DIAG-6-TEST_OK: slot 0: LCFpgaScratchTest{ID=3} has completed
successfully
*Jul 22 05:44:59.724: %DIAG-6-TEST_RUNNING: slot 0: Running CCEOBCLinkStateTest{ID=4} ...
*Jul 22 05:44:59.726: %DIAG-6-TEST_OK: slot 0: CCEOBCLinkStateTest{ID=4} has completed
successfully
*Jul 22 05:44:59.726: %DIAG-6-SCHED_COMPLETE: slot 0: Scheduled Online Diagnostic is completed
Router#
Router#show diagnostic schedule slot 0
Current Time = 05:45:07 UTC Mon Jul 22 2019

Diagnostic for slot 0 is not scheduled.

Router#

subslot level commands
=====

Router#show diagnostic result subslot 0/1

Current bootup diagnostic level: minimal

        subslot 0/1: EPA-QSFP-1X100GE        SerialNo : JAE214006VX

```

Overall Diagnostic Result for subslot 0/1 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

- 1) EPAFpgaScratchTest -----> .
- 2) EPAStatusTest -----> .
- 3) EPAHostPrbsStausTest -----> .
- 4) EPAXcvrTest:

Port 0  
 -----  
 .

Router#show diagnostic result subslot 0/1 detail

Current bootup diagnostic level: minimal

subslot 0/1: EPA-QSFP-1X100GE SerialNo : JAE214006VX

Overall Diagnostic Result for subslot 0/1 : PASS  
 Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

---

1) EPAFpgaScratchTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
 Total run count -----> 1  
 Last test testing type -----> OnDemand  
 Last test execution time ----> Jul 22 2019 04:50:03  
 First test failure time -----> n/a  
 Last test failure time -----> n/a  
 Last test pass time -----> Jul 22 2019 04:50:03  
 Total failure count -----> 0  
 Consecutive failure count ---> 0

---

2) EPAStatusTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
 Total run count -----> 1  
 Last test testing type -----> OnDemand  
 Last test execution time ----> Jul 22 2019 04:50:03  
 First test failure time -----> n/a  
 Last test failure time -----> n/a  
 Last test pass time -----> Jul 22 2019 04:50:03  
 Total failure count -----> 0  
 Consecutive failure count ---> 0

---

3) EPAHostPrbsStausTest -----> .

Error code -----> 0 (DIAG\_SUCCESS)  
 Total run count -----> 1  
 Last test testing type -----> OnDemand  
 Last test execution time ----> Jul 22 2019 04:50:03  
 First test failure time -----> n/a

```

Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:50:03
Total failure count -----> 0
Consecutive failure count ---> 0

```

4) EPAXcvrTest:

```

Port 0
-----
.

```

```

Error code -----> 0 (DIAG_SUCCESS)
Total run count -----> 3
Last test testing type -----> OnDemand
Last test execution time ----> Jul 22 2019 04:57:24
First test failure time -----> n/a
Last test failure time -----> n/a
Last test pass time -----> Jul 22 2019 04:57:24
Total failure count -----> 0
Consecutive failure count ---> 0

```

```

Router#
Router#show diagnostic content subslot 0/1

```

subslot 0/1: EPA-QSFP-1X100GE

Diagnostics test suite attributes:

```

M/C/* - Minimal bootup level test / Complete bootup level test / NA
B/* - Basic ondemand test / NA
P/V/* - Per port test / Per device test / NA
D/N/* - Disruptive test / Non-disruptive test / NA
S/* - Only applicable to standby unit / NA
X/* - Not a health monitoring test / NA
F/* - Fixed monitoring interval test / NA
E/* - Always enabled monitoring test / NA
A/I - Monitoring is active / Monitoring is inactive

```

| ID | Test Name            | Attributes | Test Interval   | Three-day hh:mm:ss.ms | Thre-day shold |
|----|----------------------|------------|-----------------|-----------------------|----------------|
| 1) | EPAFpgaScratchTest   | *B*N***I   | 000 00:01:00.00 |                       | n/a            |
| 2) | EPAStatusTest        | *B*N***I   | 000 00:01:00.00 |                       | n/a            |
| 3) | EPAHostPrbsStausTest | *B*N***I   | not configured  |                       | n/a            |
| 4) | EPAXcvrTest          | *BPN*X**I  | not configured  |                       | n/a            |

```

Router#
Router#show diagnostic description subslot 0/1 test all

```

```

EPAFpgaScratchTest :
    it tests read and write operation of EPAs FPGA scratpad resigter

```

```

EPAStatusTest :
    It tests EPA boot staus.

```

```

EPAHostPrbsStausTest :
    It tests mac and EPA phy serdes line auto tune status

```



```
EPAXcvrTest :
  It tests EPA xcvr staus
```

```
Router#
```

```
Router#show diagnostic events subslot 0/1 all
Diagnostic events (storage for 500 events, 26 events recorded)
Number of events matching above criteria = 9
Event Type (ET): I - Info, W - Warning, E - Error
```

| Time Stamp         | ET | [Card] | Event Message               |
|--------------------|----|--------|-----------------------------|
| 07/22 04:50:03.787 | I  | [0/1]  | EPAFpgaScratchTest Passed   |
| 07/22 04:50:03.788 | I  | [0/1]  | EPAStatusTest Passed        |
| 07/22 04:50:03.789 | I  | [0/1]  | EPAHostPrbsStausTest Passed |
| 07/22 04:50:03.811 | I  | [0/1]  | EPAXcvrTest Passed          |
| 07/22 04:57:19.719 | I  | [0/1]  | EPAXcvrTest Passed          |
| 07/22 04:57:24.616 | I  | [0/1]  | EPAXcvrTest Passed          |
| 07/22 05:00:01.333 | I  | [0/1]  | EPAXcvrTest Passed          |
| 07/22 05:00:06.980 | I  | [0/1]  | EPAXcvrTest Passed          |
| 07/22 05:00:31.421 | I  | [0/1]  | EPAXcvrTest Passed          |

```
Router#
```

```
Router#show diagnostic simulation failure subslot 0/1
subslot 0/1:
  There is no test failure simulation installed.
```

```
Router#
```

```
Router#show run | sec diagnostic
diagnostic bootup level minimal
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#do show clock
*05:48:15.905 UTC Mon Jul 22 2019
Router(config)#diagnostic schedule subslot 0/1 test all on jul 22 2019 05:50
Router(config)#end
Router#
*Jul 22 05:48:44.378: %SYS-5-CONFIG_I: Configured from console by consoleconf t

Router#show run | sec diagnostic
diagnostic schedule subslot 0/1 test all on July 22 2019 5:50 cardindex 5 jobindex 1
diagnostic bootup level minimal
Router#show diagnostic schedule sub
Router#show diagnostic schedule subslot 0/1
Current Time = 05:49:02 UTC Mon Jul 22 2019
```

```
Diagnostic for subslot 0/1:
```

```
Schedule #1:
  To be run on July 22 2019 5:50
  Test ID(s) to be executed: all.
```

```
Router#show diagnostic schedule subslot 0/1
Current Time = 05:49:14 UTC Mon Jul 22 2019
```

```
Diagnostic for subslot 0/1:
```

```
Schedule #1:
  To be run on July 22 2019 5:50
  Test ID(s) to be executed: all.

Router#
*Jul 22 05:49:59.832: %DIAG-6-SCHED_RUNNING: subslot 0/1: Performing Scheduled Online
Diagnostic...
*Jul 22 05:49:59.832: %DIAG-6-TEST_RUNNING: subslot 0/1: Running EPAFpgaScratchTest{ID=1}
...
*Jul 22 05:49:59.833: %DIAG-6-TEST_OK: subslot 0/1: EPAFpgaScratchTest{ID=1} has completed
successfully
*Jul 22 05:49:59.833: %DIAG-6-TEST_RUNNING: subslot 0/1: Running EPAStatusTest{ID=2} ...
*Jul 22 05:49:59.834: %DIAG-6-TEST_OK: subslot 0/1: EPAStatusTest{ID=2} has completed
successfully
*Jul 22 05:49:59.834: %DIAG-6-TEST_RUNNING: subslot 0/1: Running EPAHostPrbsStausTest{ID=3}
...
*Jul 22 05:49:59.835: %DIAG-6-TEST_OK: subslot 0/1: EPAHostPrbsStausTest{ID=3} has completed
successfully
*Jul 22 05:49:59.835: %DIAG-6-TEST_RUNNING: subslot 0/1: Running EPAXcvrTest{ID=4} ...
*Jul 22 05:49:59.857: %DIAG-6-TEST_OK: subslot 0/1: EPAXcvrTest{ID=4} has completed
successfully
*Jul 22 05:49:59.857: %DIAG-6-SCHED_COMPLETE: subslot 0/1: Scheduled Online Diagnostic is
completed
Router#
Router#show diagnostic schedule subslot 0/1
Current Time = 05:50:33 UTC Mon Jul 22 2019

Diagnostic for subslot 0/1 is not scheduled.

Router#
```