Network & Service Companion (NSC-100/200)

QUICK CARD

RFC 6349 TCP Throughput Testing with TrueSpeed

This quick card describes how to run an RFC 6349 TrueSpeed test using the NSC-100 or NSC-200 Network & Service Companion OneCheck Ethernet test.

- Mobile Device (Smartphone or Tablet) with VIAVI Mobile Tech App

- Network & Service Companion equipped with the following:
  - Software release V4.2.5 or greater
  - **NSC-OC-ETHERNET** option for up to 1 Gigabit Ethernet testing
  - **NSC-TRUESPEED-1G** option for up to 1 Gigabit Ethernet testing
  - **NSC-TRUESPEED-10G** option for 2.5, 5, or 10 Gigabit Ethernet testing
  - **NSC-OPTICAL-ETHERNET** to perform tests with an Optical Transceiver.

- Optical Transceiver supporting the line rate to be tested:
  - **NSC-SFP-ELEC-10G** 10G Electrical Ethernet SFP+
  - **NSC-SFP-ELEC-1-2.5-5-10G** 1G, 2.5G, 5G and 10G Electrical Ethernet SFP+
  - **NSC-SFP-ELEC-AUTO-10G** 2.5G, 5G and 10G Auto-neg Electrical Ethernet SFP+
  - **NSC-SFP-850-1G-10G** 1G and 10G Optical Ethernet SFP+ 850 nm SR
  - **NSC-SFP-1310-1G-10G** 1G and 10G Optical Ethernet SFP+ 1310 nm LR
  - **NSC-SFP-1550-1G-10G** 1G and 10G Optical Ethernet SFP+ 1550 nm ER

- Cables to match the optical transceiver and the line under test
- Fiber optic inspection microscope (P5000i or FiberChek Probe)
- Fiber optic cleaning supplies

Figure 1: Equipment Requirements

PAIRING THE NSC TO YOUR MOBILE DEVICE

On the Network & Service Companion:

1. Press the Power button ⏻ to turn on the unit. The Power indicator will turn solid green when the NSC is on.

2. Press and hold the Pair button on the NSC for 3 seconds to enter pairing mode. The blue Pair indicator blinks.

Figure 2: Front View

QUICK CARD

On the Mobile Device:

1. Go to the Settings menu, enable Bluetooth, and scan for available devices.
2. Pair with **VIAVI NSC**.
3. Launch the VIAVI Mobile Tech App:
   1. If you are using Stratasync for Asset and Report Management, tap **LOGIN WITH INSTRUMENT**, enter your Tech ID, and tap **LOGIN** when prompted.
   2. If you do not use Stratsync, tap **LOCAL MODE.**
4. Press **CONNECT** to connect to VIAVI NSC.
5. Press **Companion** to view the Companion menu. You can now control the instrument through the **Mobile Tech App** and run all tests on the Companion.
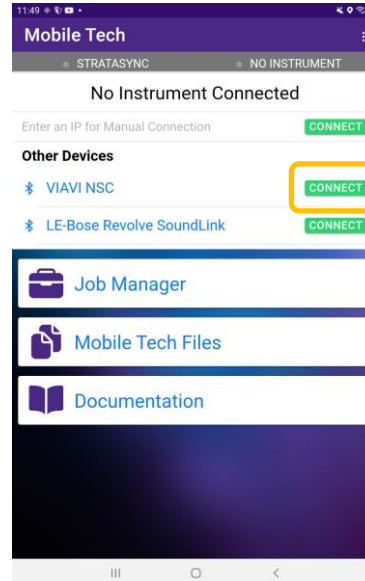6. Press **<** to exit Job View.

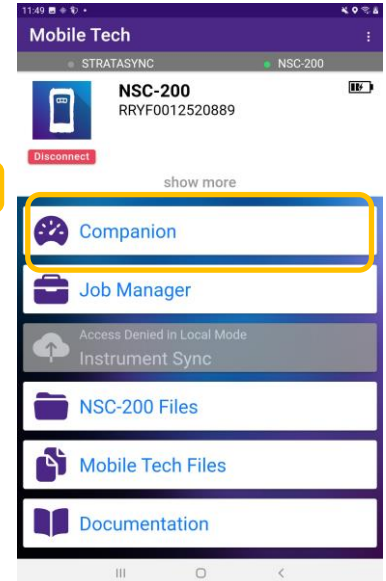*Figure 3: Mobile Tech App*

Figure 4: Companion

CONFIGURE PROFILE

► The following Information is needed to configure the Ethernet Profile:

- Interface Type (RJ-45 or SFP)
- Autonegotiation (On or Off)
- Interface Rate (10M, 100M, 1G, 2.5G, 5G, 10G)
- Upload Speed Threshold (Mbps)
- Download Speed Threshold (Mbps)
- Truespeed Server IP Address

Figure 5: Work Order

1. Press **Profile Manager** to display the Profile Manager screen.
2. Press **CREATE NEW PROFILE** to create a new profile.
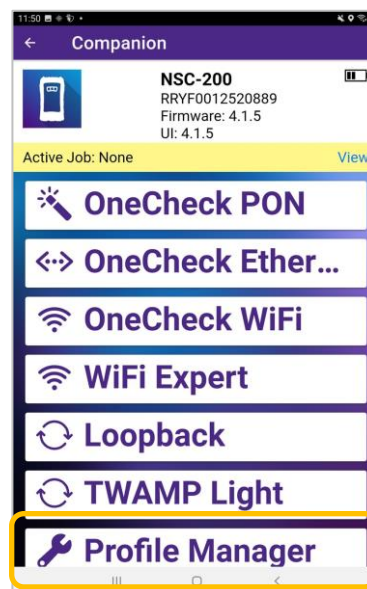3. Select **New Ethernet Profile** and, if prompted, **ACCEPT TERMS OF USE**.
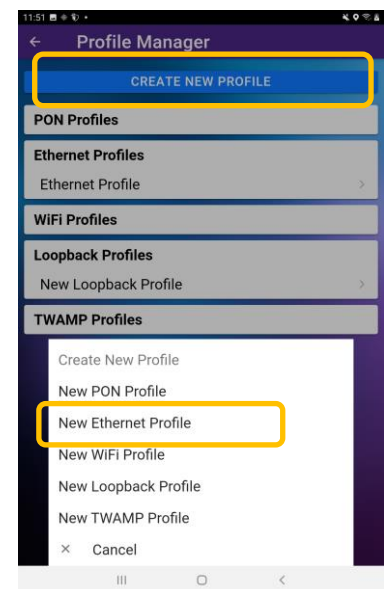
Figure 6: Profile Manager

Figure 7: Create New Profile

QUICK CARD

CONFIGURE PROFILE (Continued)

4. Enter a **Profile Name**.

5. Slide controls to the right ⬤ to enable **Run Ping Test** and **Run TrueSpeed**. Slide all other General controls to the left ◯.

6. Swipe up screen to view **Interface Configuration** and **Data Interface** settings.

7. Configure **Interface Type** as follows:

Port	Interface Type
1Gig Electrical	RJ45
2.5Gig Electrical	SFP
5Gig Electrical	SFP
10Gig Electrical	SFP
1Gig Optical	SFP
10Gig Optical	SFP

8. Configure other interface settings to match the port under test on your network equipment:
   - ► **Autonegotiation**: On or Off (typically, on)
   - ► **Interface Rate**: 10M, 100M, 1G, 2.5G, 5g, or 10G (Only needed if Autonegotation is Off)

9. If a Static IP Address if required, change the **Address Type** to "**Static**" and enter IPv4 Address, Gateway, and Subnet Mask.

10. Swipe up screen to view **Ping Configuration** settings.
    - ► In the **Server** section, enter the IP Address of your TrueSpeed Test Agent.

11. Swipe up screen to view **TrueSpeed Configuration** settings.
    - ► In the **Host** section, enter the IP Address of the TrueSpeed Test Agent.
    - ► Enter **Upload** and **Download** Committed Information Rate (CIR).
    - ► Enter **Upload** and **Download** Pass/Fail **Thresholds** (Typically 95% of CIR).

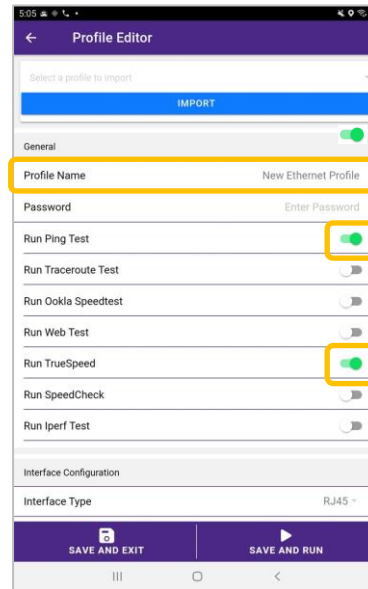12. Press [SAVE AND RUN] to initiate the test.

Figure 8: Profile Editor
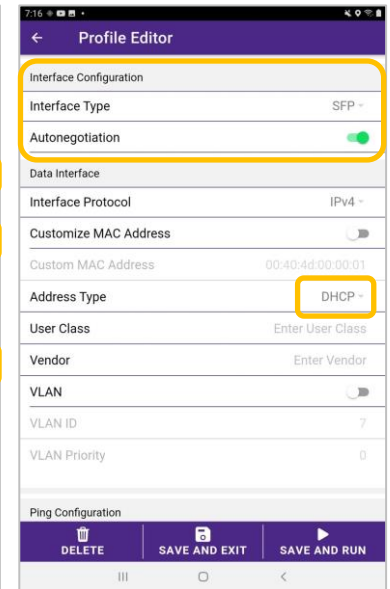
Figure 9: Interface Configuration
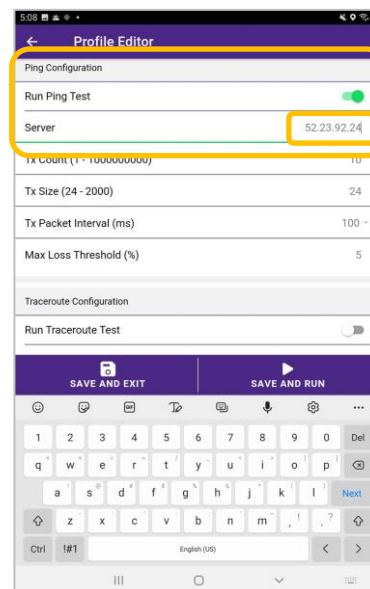
Figure 10: Ping Configuration

Figure 11: TrueSpeed Configuration

VIAVI
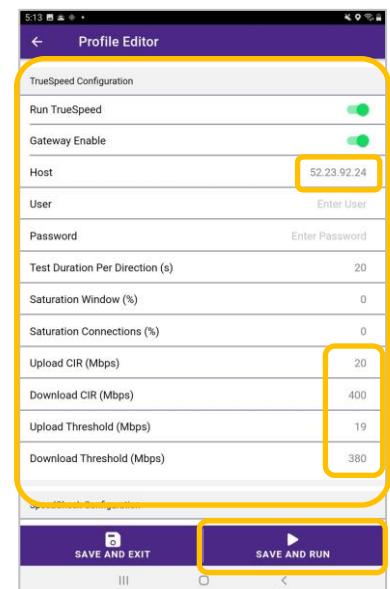VIAVI Solutions

QUICK CARD

CONNECT TO LINE UNDER TEST

► **For 1G Electrical RJ45 interfaces**:
1. Connect the **RJ45** jack to the port under test using **CAT 5E** or better cable..

► **For Multigig Electrical SFP interfaces**:
1. Insert desired Multigig Electrical SFP into the SFP cage on the bottom of the NSC.
2. Connect the SFP to the port under test using **CAT 6A** or better cable..

► **For Optical Interfaces:**
1. Insert desired Optical Transceiver into the SFP port on the bottom of the NSC.
2. Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (SFP, attenuators, patch cables, bulkheads)
   o Focus the fiber on the screen.
   o If it appears dirty, clean the fiber end-face and re-inspect.
   o If it appears clean, run the inspection test.
   o If it fails, clean the fiber and re-run inspection test. Repeat until it passes.
3. Connect the SFP to the port under test using a jumper cable compatible with the line under test..

RJ45 Jack

SFP Cage

Figure 12: Network and Service Companion Interfaces

INSPECT

IS IT CLEAN?

Inspect Before You Connect

CLEAN

NO   YES
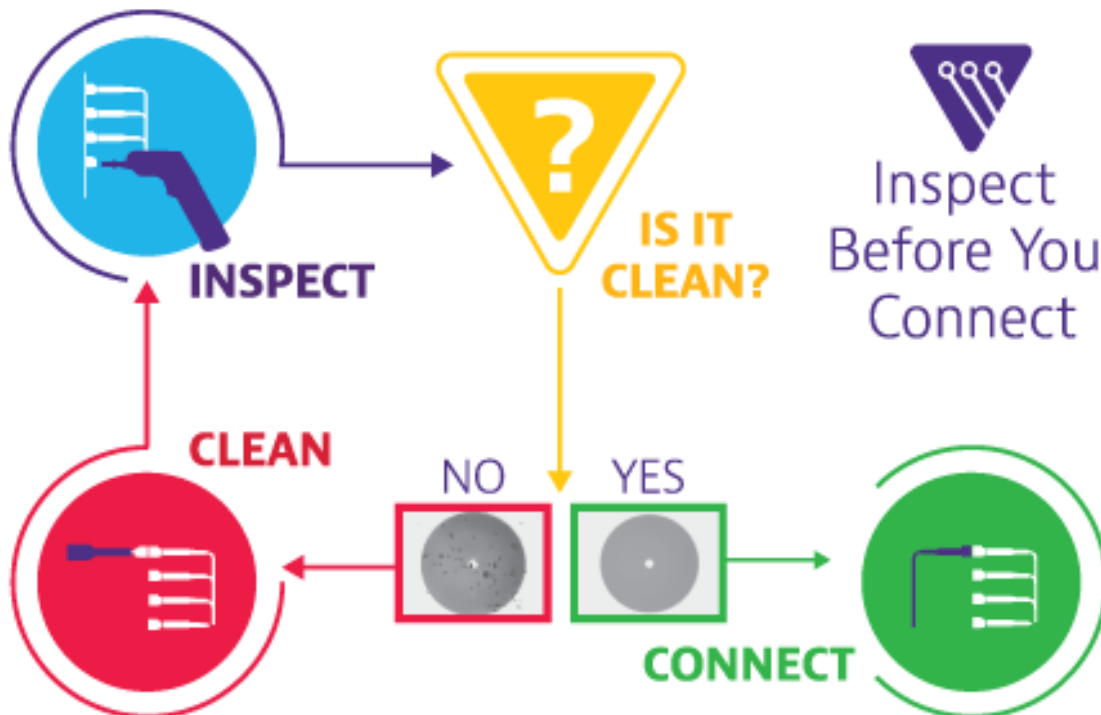
CONNECT

Figure 13: Inspect Before You Connect

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RUN TEST

1. In the **Select a Location** window, tap **Select** and select the location for your test.

2. Press [START]

3. Tap ⤢ to zoom in on **TrueSpeed** results and view progress.

4. When the test completes, verify that all results pass ✓ and that Download and Upload speeds meet or exceed pass/fail thresholds.
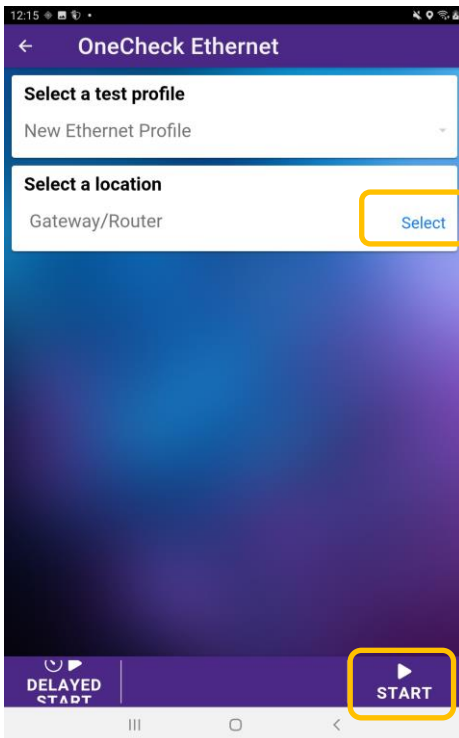
5. Tap ⤡ to return to the summary view.
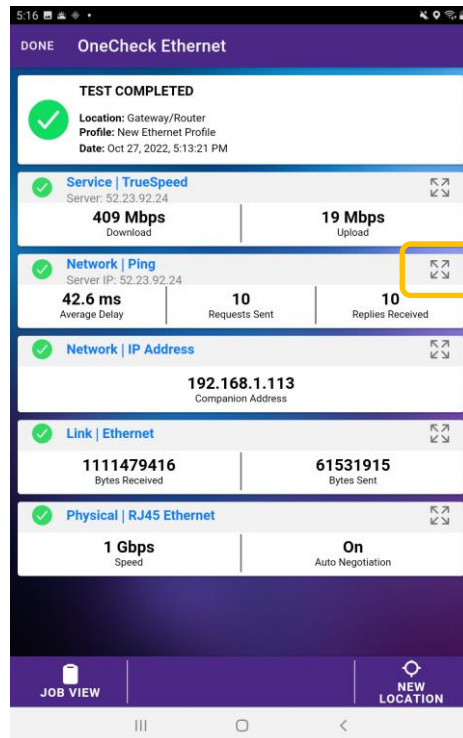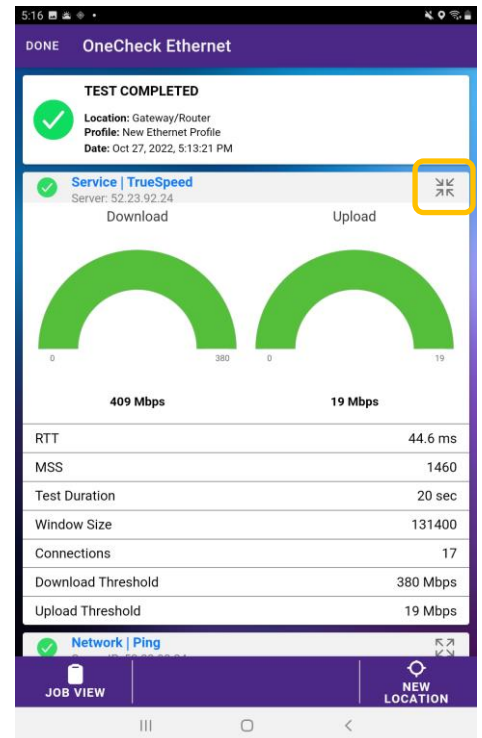
Figure 14: Select a Location

Figure 15: Test Results

Figure 16: TrueSpeed Results