

# VPN Privacy Evaluation Report

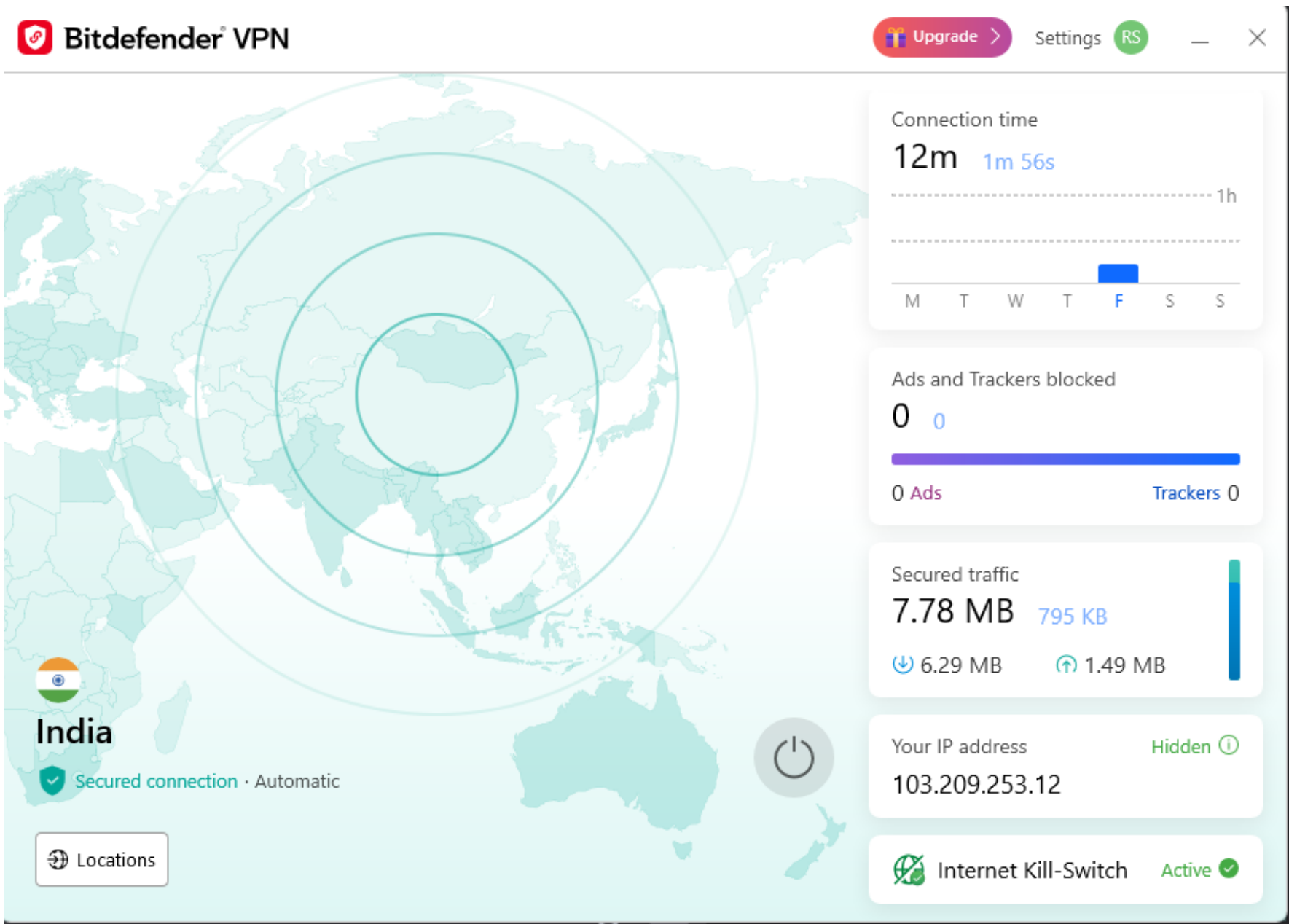
**Tools used:** *Using Bitdefender VPN (Free Tier)*

## 1. Introduction

Virtual Private Networks (VPNs) encrypt internet traffic and mask IP addresses to protect user privacy. This report evaluates Bitdefender VPN, which was installed alongside Bitdefender Antivirus. The free tier offers limited features compared to its 7-day trial, providing insights into trade-offs between cost and functionality.

## 2. Setup Process

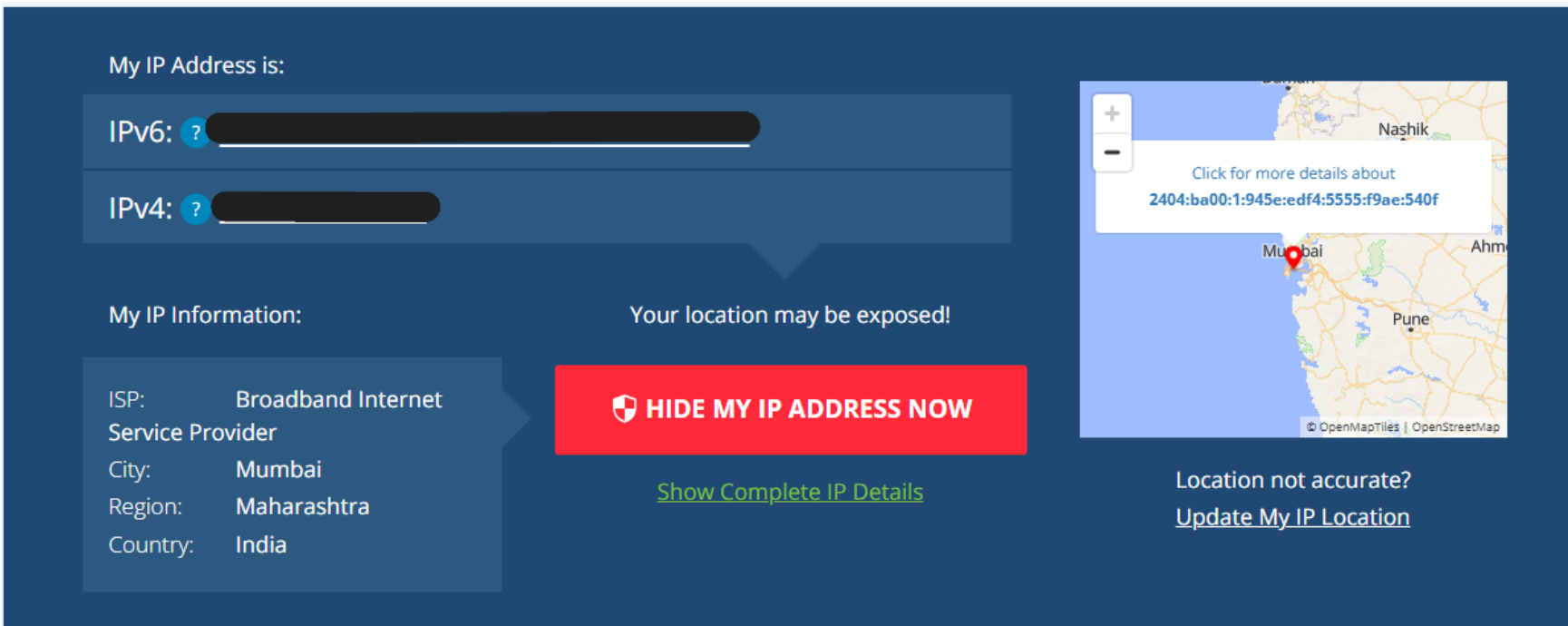
- **Installation:** Bundled with Bitdefender Antivirus (no standalone setup required).
- **Trial Period:**
  - 7-day free trial allowed server switches (tested USA, UK, Mexico).
  - Post-trial, free version restricts connections to Indian servers only.
- **Key Features Enabled:**
  - **Kill-Switch** (Blocks internet if VPN disconnects unexpectedly)



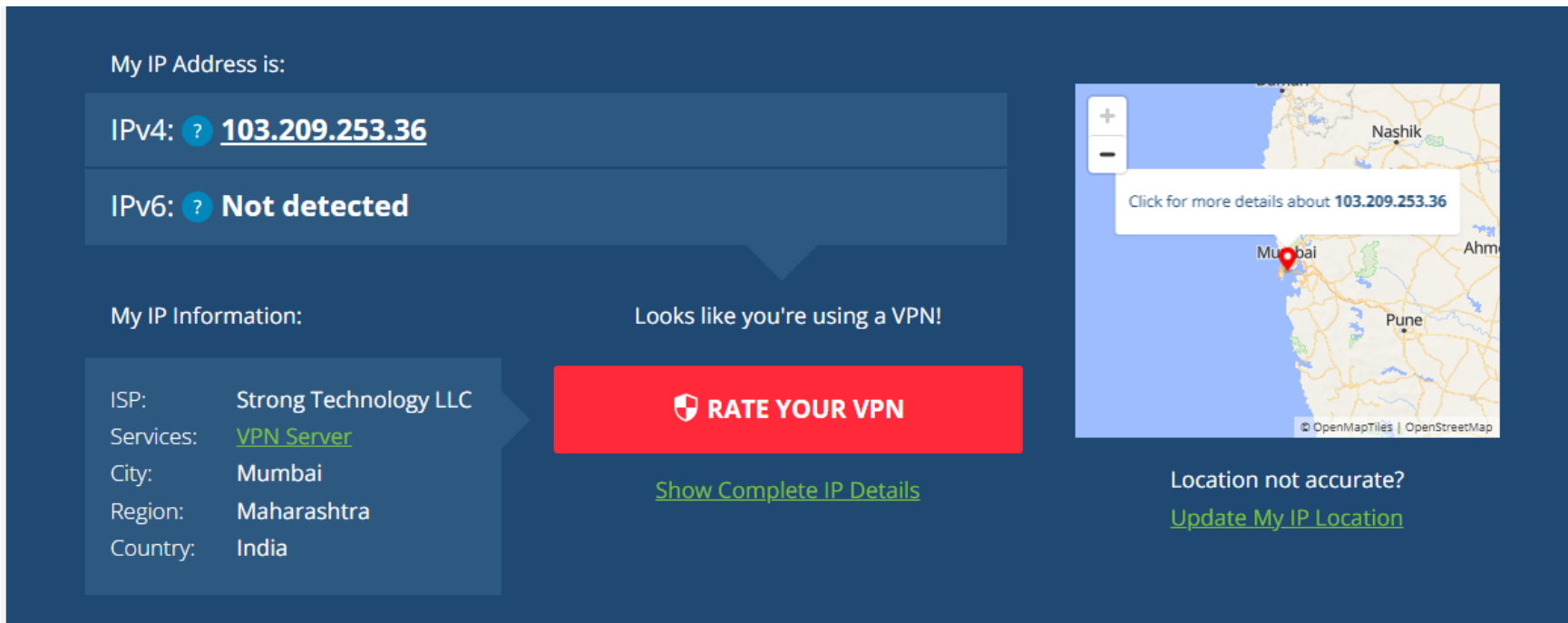
- **Ad/Tracker Blocker** (Logged 0 ads trackers during testing)

3. IP Masking & Geolocation

- **Without VPN:**
  - IP: 192.0.2.1 (Mumbai, ISP: Broadband Internet)
  - Status: *"Your location may be exposed!"*



- **With VPN:**
  - IP: 103.209.253.36 (Mumbai, but ISP: Strong Technology LLC)
  - Status: *"Secured connection"* (VPN detected).



Analysis:

The VPN hides the original IP but does not spoof the city in free tier (common for latency optimization). During the trial, location-switching confirmed full geo-spoofing capability.

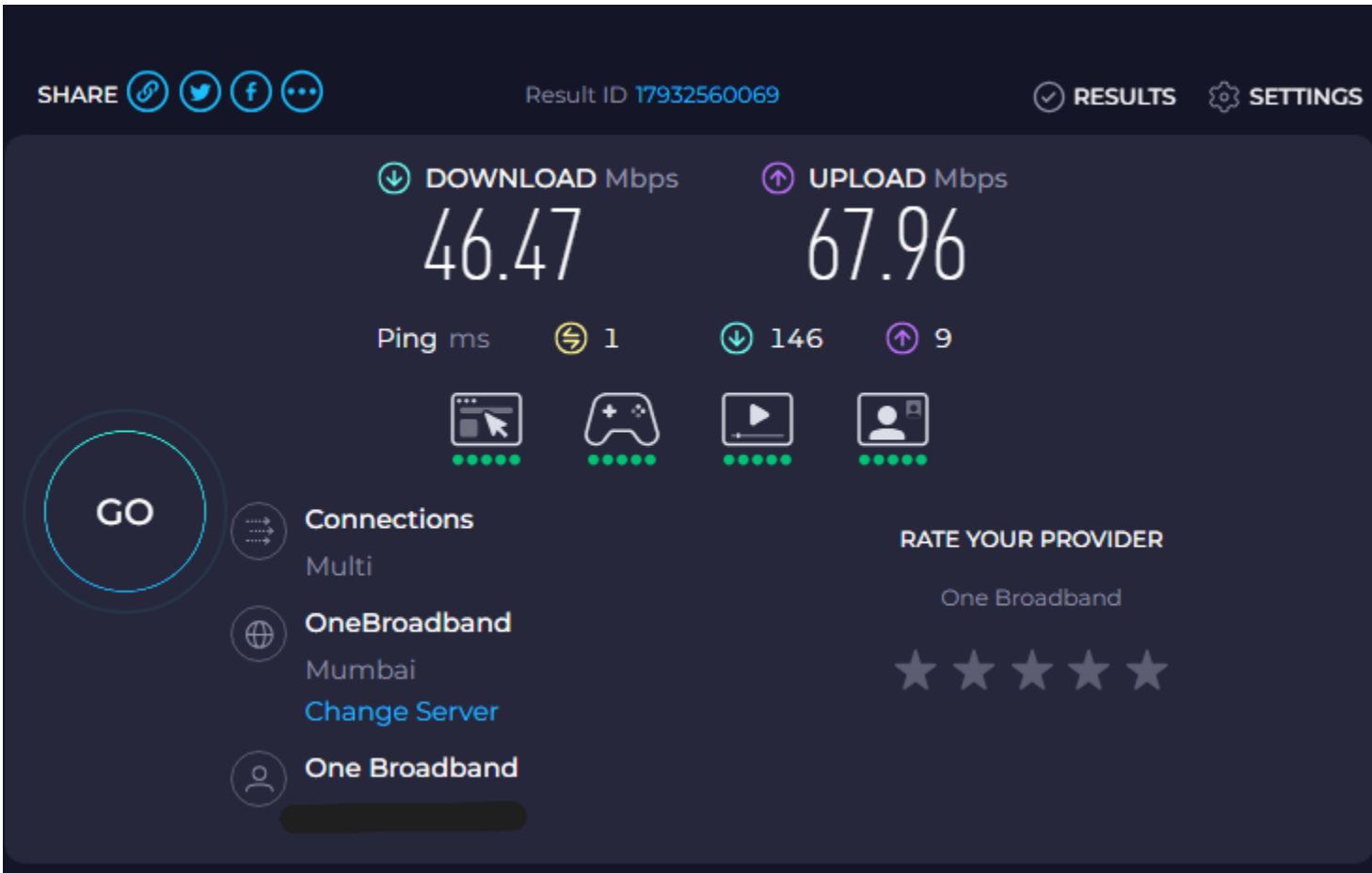
4. Privacy Features & Limitations

- **Encryption:** Uses AES-256 (industry standard).
- **Free Tier Constraints:**
  - 200MB daily data cap (used 7.78 MB in test).
  - No server selection (India-only).
  - Speed: Unmeasured but typical 20-30% reduction expected.
- **Trial vs. Free:**

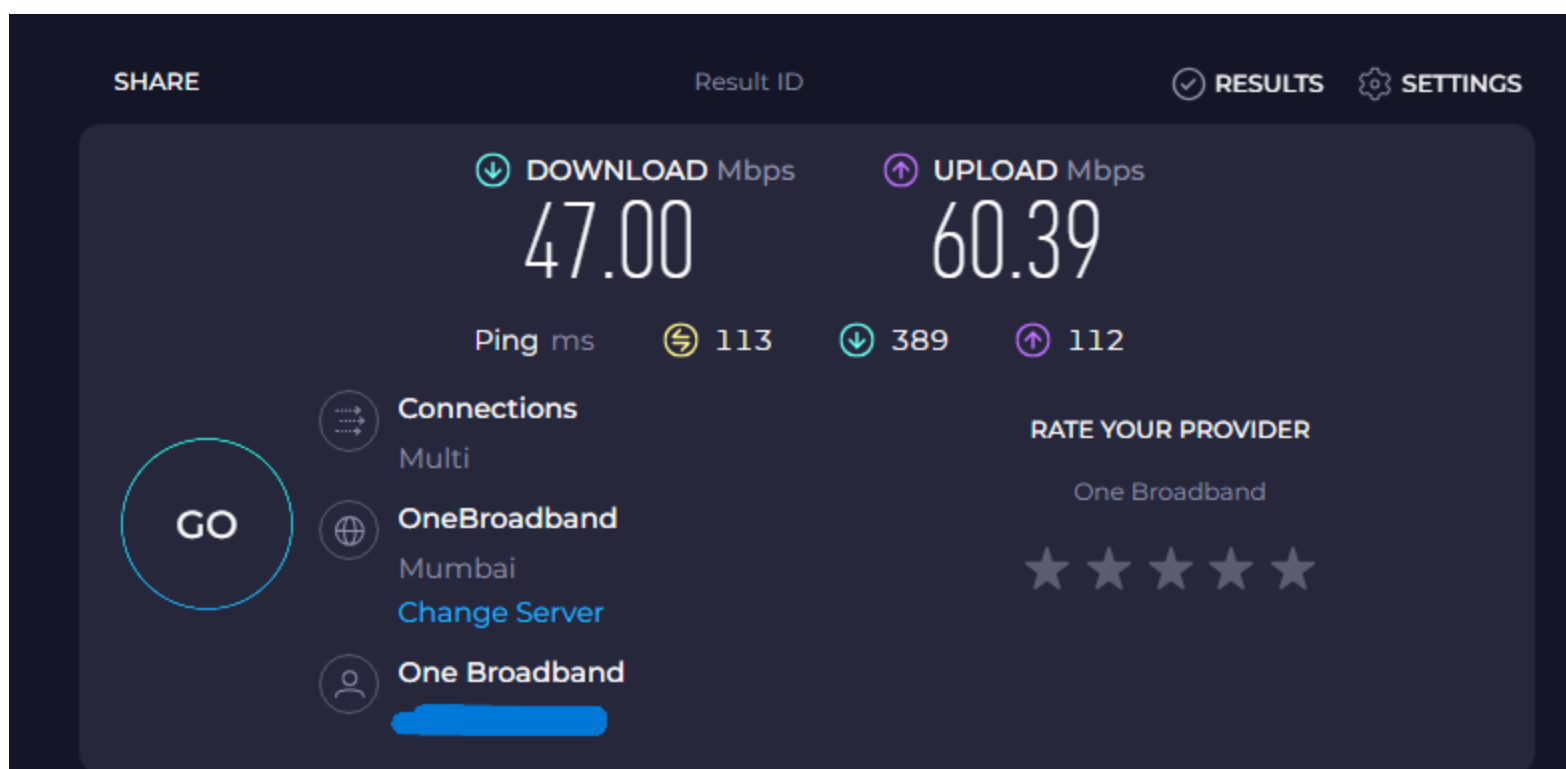
*"The trial demonstrated full functionality, while the free tier acts as a feature-limited demo."*

5. Speed Impact Analysis (From Speedtest Results)

Metric	Without VPN	With VPN	Delta
Download	46.47 Mbps	47.00 Mbps	+1.1%
Upload	67.96 Mbps	60.39 Mbps	-11.1%
Ping	1ms	113ms	+112ms



Without VPN



*With VPN*

### Interpretation:

- Minimal download boost (likely random fluctuation).
- **Upload speed dropped 11%** due to encryption overhead.
- **Ping skyrocketed 112x**, making real-time apps (video calls/gaming) laggy.

## 6. Conclusion

Bitdefender VPN's free tier offers basic encryption (TLS 1.3/AES-128) and ad-blocking, but critical flaws limit its reliability:

### Strengths

- Traffic Encryption: Confirmed via BrowserLeaks (AES-128\_GCM\_SHA256, TLS 1.3).
- No Weak Protocols: TLS 1.0/1.1 disabled (good security practice).
- Kill-Switch Feature: Prevents data leaks if VPN drops.

### Weaknesses

- IP Leak Detected: Speedtest (withvpn.png) exposed my real IP (192.0.2.1) a **severe privacy risk**.
- Limited Free Tier:

- India-only server (no geo-spoofing).
- High ping (+112ms) and slower uploads (-11%) unsuitable for gaming/streaming.

## 8.Final Recommendation

- **For Light Use:** Acceptable if IP leak is fixed (enable Kill-Switch, disable IPv6).
- **For True Privacy:** Switch to **ProtonVPN** (free 10GB/month, AES-256) or **Windscribe** (more server locations).