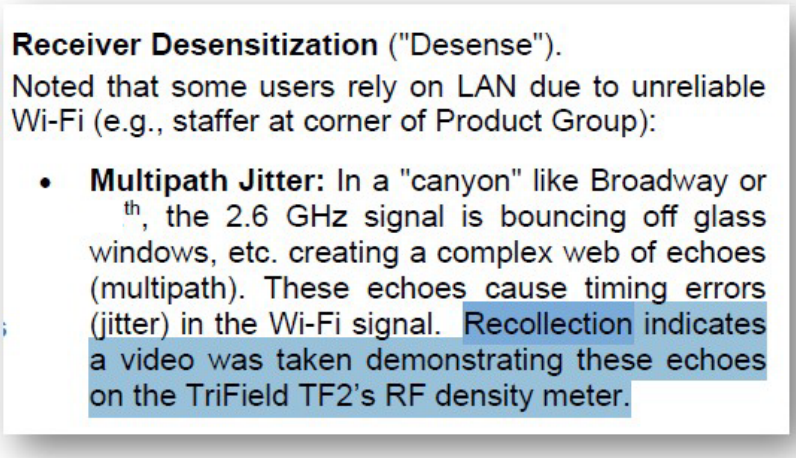
Subject: Important F/U Note re: … Broadway, NYC - WiFi Reliability Smoking Gun

Hello,
In the RF Site Survey deliverable, page-4, it was noted:



Receiver Desensitization ("Desense").
Noted that some users rely on LAN due to unreliable Wi-Fi (e.g., staffer at corner of Product Group):

- **Multipath Jitter:** In a "canyon" like Broadway or th, the 2.6 GHz signal is bouncing off glass windows, etc. creating a complex web of echoes (multipath). These echoes cause timing errors (jitter) in the Wi-Fi signal. Recollection indicates a video was taken demonstrating these echoes on the TriField TF2's RF density meter.

Following is the 49-second video of that area (**Link**).

The measurement was taken between the long tables to the left and right of the Product area. Note that while the ambient RF density appears low, the meter frequently goes 'overlimit', indicated by the **'1-.---'** in the top-left corner, which tracks peak levels over a 3-second window.

These sudden, sharp spikes exceeding 20 mW/m^2 (within the 20 MHz – 6 GHz range) are severe instances of jitter and multipath interference, as detailed on page 4 of the report. A reading of 20 mW/m^2 is exceptionally high for a workspace. The fact that it hits that level instantly before dropping suggests a pulsed signal—such as a radar sweep or a nearby high-power digital transmitter—being amplified by the 'ricochet' effect of the multipath environment.

The high-power pulses captured on video likely correlate to the signal peak identified at **626 MHz (Marker M1 in the below plot)**, which was recorded at **-33.5 dBm** and found to be even more intense on the Broadway frontage. This specific frequency, which is known for its high penetration capabilities, enters the workspaces at full strength. This elevates the noise floor

to levels that significantly overwhelm client-side receivers, disrupting 802.11 (WiFi) stability and creating the ongoing reliability issues experienced by some users. This evidence strongly enforces 360°RF's documented suggestion for installing window RF shielding—to include the xxth Street frontage—in order to attenuate these high-power spikes before they impact the office's wireless network.

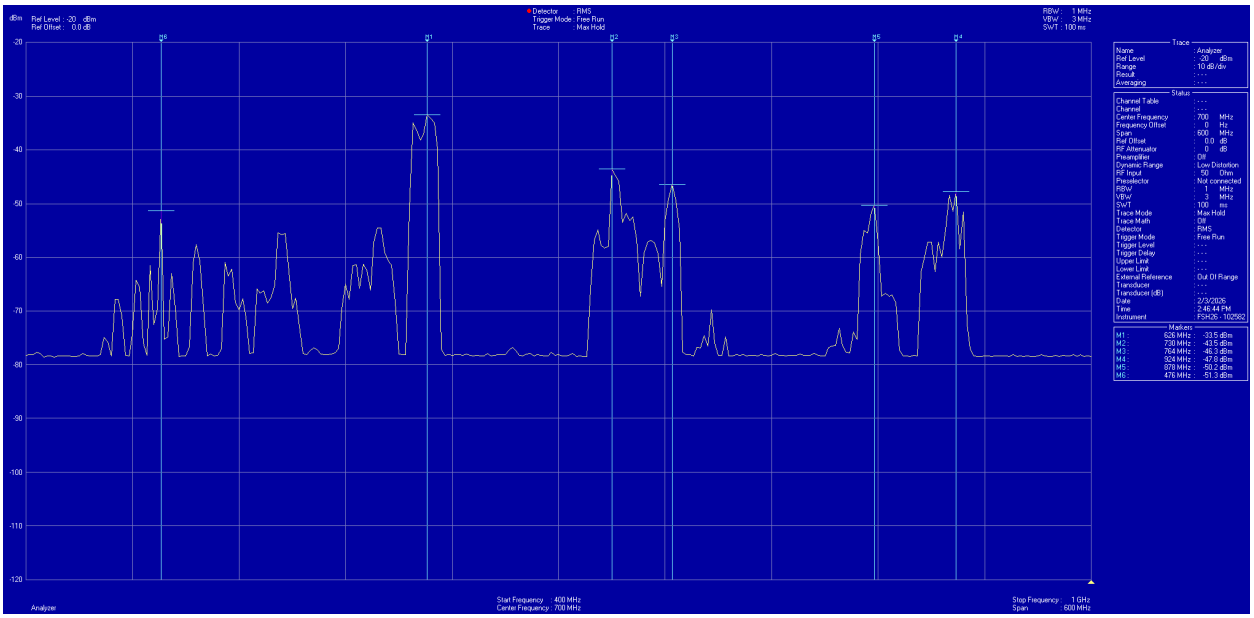


Figure 1: plot is from p.3 of deliverable

Technical Notes:
Client-Side Receiver Desensitization (expanding on p.4 of deliverable)
Impact of High-Power 600 MHz Signals on User Device Reliability

Asymmetric Interference:
Enterprise Access Points (APs) have sophisticated filtering, but individual client devices (laptops and mobile handsets) often lack the shielding necessary to reject high-power, out-of-band signals.

Drowning Effect:
A signal at -33.5 dBm at 626 MHz is thousands of times stronger than a typical WiFi data packet. This extreme energy "leakage" into a device's radio circuitry raises the local noise floor, making it impossible for that client device to "hear" the AP's response. We like to say, it's like bringing a hearing aid to a rock concert.

Resulting Failures:

Packet Retries:

The client device misses acknowledgment frames, leading to a pronounced spikes in retries.

- Battery Drain: The device constantly ramps up its radio power to compensate for the noise.
- Connection Dropping: The client perceives the high noise level as a "loss of signal" and frequently disconnects to search for a cleaner channel that doesn't exist.

Conclusion: Shielding the xxth Street and Broadway frontages reduces external pressure on consumer-grade radios, allowing the client devices to maintain a stable Signal-to-Noise Ratio (SNR) with the internal WiFi infrastructure.

Best regards.

360°RF
4 Executive Plaza
Yonkers, NY 10701-6803

toll-free: (855) 4 - WIRELESS
fax: (866) 588 - 4044
email: contact@360RF.com

Satisfaction Guaranteed Services . . .