DEFENSE FORENSIC PRESENTATION

Reasonable *doubt*

State of Utah v. Tyler Robinson

Preliminary Hearing — May 18, 2026

Independent forensic analysis of 11 audio/video recordings — including a 4-channel professional broadcast camera — reveals physical evidence fundamentally inconsistent with the official narrative.

11	5	3
INDEPENDENT RECORDINGS ANALYZED	DISTINCT ACOUSTIC SIGNATURES	SPATIALLY SEPARATED SOURCES

Prepared by Jon Bray | followtheepicenter.com | All data published for independent verification

THE OFFICIAL NARRATIVE

What the prosecution *claims*

PROSECUTION THEORY

Tyler Robinson fired a .30-06 rifle from approximately 127 meters (139 yards), striking Charlie Kirk in the neck. A single shooter, a single event, a single source.

WHAT THE EVIDENCE ACTUALLY SHOWS

None of these predictions hold. The audio arrives within 0–2 frames. The motion is radial, not directional. Multiple acoustic sources at multiple locations. And a detonation signature is isolated at the stage — spectrally distinct from the rifle.

- → A single acoustic event from one direction
- → Audio arriving 11 frames after the visible event (379ms)
- → A directional impact pattern (entry wound dynamics)
- → No detonation signatures at the stage

THE CENTERPIECE EVIDENCE

Canon XA55 — the *clean* window

A professional broadcast camera was recording at UVU — 4-channel 48kHz uncompressed PCM audio. No lossy compression. No codec artifacts. No temporal smearing. Phone recordings are like looking through a foggy window. The Canon is a clean window with the lights on.

PARAMETER	VALUE
Audio Format	Uncompressed PCM
Sample Rate	48,000 Hz
Channels	4 independent mono
CH1	XLR Shotgun microphone
CH2–4	Built-in microphone array
Distance to tent	~46 meters
GPS verified	Metadata intact
Post-editing	None detected

WHY THIS MATTERS

The Canon resolves three separate low-frequency events that every phone recording blurs into one noise. For the first time, we can hear the rifle and the stage detonation as two distinct events.

CANON XA55 ANALYSIS

Three booms — *not* one

The Canon's professional audio separates three distinct low-frequency events. All offsets measured from Mach cone arrival at Canon — standard crack-to-blast reference.

+114ms
EARLY LF ENERGY
After Mach cone arrival

+202ms
MUZZLE BLAST (CRACK-TO-BLAST)
Rifle at ~120m from camera

+321ms
STAGE DETONATION
LOUDEST event — ~46m from camera

CRITICAL

The stage detonation is the strongest low-frequency peak in the entire recording. It has a spectral centroid of 656Hz vs 2,429Hz for the muzzle blast — spectrally distinct. A rifle 120 meters away and a detonation at the tent are two different events at two different locations. A single-source theory cannot explain this.

RECONSTRUCTED TIMELINE

335 milliseconds of *truth*

t = 0ms

Rifle fires from rooftop, ~127m from tent

t = 144ms

Bullet reaches tent at 880 m/s. Mach cone sweeps stage.

t = 148ms

Mach cone reaches Canon (t=0 in Canon data). 4ms after tent.

t = 335ms

DETONATION at tent. 191ms after bullet. 35ms BEFORE muzzle blast reaches tent.

t = 350ms

Muzzle blast reaches Canon (+202ms in data)

t = 370ms

Muzzle blast reaches tent — 35ms too late to be the detonation

THE 191MS GAP

The stage detonation occurs 191ms after the bullet arrives at the tent. The electronics chain (mic → ARM processor → detonator) fires in under 10ms. The remaining ~180ms is consistent with LiPo thermal runaway (150–500ms published), intentional firmware delay, or pyrotechnic delay element.

CROSS-CHECK: EXACT MATCH

335ms (detonation) + 134ms (sound, tent→Canon) = 469ms. 148ms (Mach cone at Canon) + 321ms (measured) = 469ms. Exact match.

SUPERSONIC EVIDENCE

765 signatures phones *can't* see

A supersonic bullet creates N-wave pressure signatures — rapid zero-crossings. Th
Canon's uncompressed format preserves what phone codecs destroy.

RECORDING	SUB-200µs ZCs	FASTEST
Canon CH1 (Shotgun)	765	20.8µs
Canon CH3 (Built-in)	518	20.8µs
7.mp4 (best phone)	123	22.7µs
IMG_6368 (phone)	2	90.7µs

DESCENDING FREQUENCY ARRIVAL

High frequencies arrive first (+0ms), low frequencies last (+103ms). This is the diagnostic signature of a supersonic event followed by a delayed blast wave — not a single detonation.

SHOTGUN MIC SATURATION

122,844 clipped samples on the directional shotgun mic with zero correlation to built-in mics. The event source was on-axis with the shotgun's pointing direction — toward the stage.

SUPPORTING EVIDENCE — .MOV RECORDINGS

Count the *frames*

Light travels instantly. Sound at 343 m/s. The gap between visible event and audio arrival — within each camera's own sync track — gives distance to source.

0.2

FRAMES — IMG_6368 (29.97FPS)

ΔT = 7.5ms → 2.6 meters

1.1

FRAMES — 2.MOV (59.94FPS)

ΔT = 18.3ms → 6.3 meters

11.1

FRAMES REQUIRED AT 127M

370ms / 33.3ms = 11.1 frames (30fps)

THE SIMPLEST TEST

Open any source video in VLC. Press 'E' to step frame-by-frame. Find shirt expansion. Find audio spike. Count. At 127 meters (the prosecution's distance), you should count ~11 frames. You won't. The audio-visual delay is consistent with a source at the body — not 127 meters away.

THE DETONATION THESIS

What *actually* happened

The acoustic, visual, and physical evidence converges: an energetic detonation occurred at the RODE Wireless PRO transmitter location on Charlie Kirk's chest. This detonation — not a distant rifle impact — explains every physical observation.

Mach Cone → N-wave hits RODE → 191ms delay → DETONATION → Radial blast → Shrapnel + Injury →

104MS RISE TIME

The acoustic rise time is 104 microseconds. LiPo thermal runaway: 1–10ms. Chemical detonation (PETN): sub-millisecond. The measured 104µs favors detonation over natural battery failure by an order of magnitude.

VISUAL EVIDENCE — THE EPICENTER

One point of *origin*

Dense optical flow, frame differencing, and divergence analysis all converge on pixe
(775, 562) — the RODE Wireless PRO transmitter on Charlie Kirk's chest.

SHIRT DEFORMATION

The shirt inflates outward from the transmitter. The collar expands. Fabric billows. A pressure wave from inside — gas-driven deformation from an energetic event beneath the shirt. A bullet from 127m creates a small entry disturbance, not radial inflation.

MOTION PATTERN

Radial expansion from RODE location. External projectile = directional. Internal event = radial.

PEAK VS SURROUNDING

4x epicenter motion vs any surrounding region. Sudden impulsive force.

GAS BEFORE MOTION

CLAHE enhancement reveals gas escaping the collar one frame before mechanical displacement. Gas-first, mechanics-second is the hallmark of an internal energetic event.

PHYSICAL EVIDENCE — KINETICS

Necklace and *shrapnel*

The metal necklace snaps and launches upward at 21+ m/s (47+ mph) requiring a minimum 6.8 joules of kinetic energy.

21 m/s	6.8 J	89 N
LAUNCH VELOCITY	MIN. ENERGY	BREAK FORCE

SHRAPNEL IN FIRST FRAMES

In the first frames of shirt movement, debris flies away from Charlie Kirk — outward from the body. The RODE circuit board (30x28mm, blue solder mask) is tracked across six stages: housing breach → chest transit → collar capture → descent inside shirt. The housing bulge is absent post-event.

NECKLACE TRAJECTORY

Launches upward and outward from the transmitter. A .30-06 traveling horizontally drives material inward and downward. The trajectory is consistent with a radial blast at the RODE, not a lateral rifle impact.

DIRECTIONALITY

Shrapnel radiates outward from the RODE epicenter. In a rifle impact, fragments follow the bullet's vector. Outward radiation is diagnostic of a local detonation, not a distant impact.

MEDICAL EVIDENCE

Decorticate posturing & *53Hz*

Brain trauma before the wound

Decorticate posturing — involuntary arm flexion indicating severe brain stem disruption — appears within frames of initial deformation, approximately 0.4 seconds before the neck wound.

THE SEQUENCE PROBLEM

If a rifle bullet struck the neck, neurological response follows the wound. Instead, decorticate posturing precedes visible bleeding by ~0.4s. Brain injury occurred via a different mechanism — one that did not require external neck penetration.

Chest cavity resonance

Acoustic analysis detects peaks at 53Hz, 80Hz, and 133Hz — matching published chest wall structural modes and Helmholtz lung cavity resonance. Audio evidence of chest penetration.

53Hz	80Hz	133Hz
CHEST WALL	LUNG RESONANCE	THORACIC MODE

THE CONNECTION

A detonation at the RODE location could drive shrapnel into the thoracic cavity. Chest penetration causing pneumothorax or thoracic nerve disruption explains both the 53Hz resonance and the early decorticate posturing — brain trauma from thoracic shock, not a neck entry wound.

ACOUSTIC FINGERPRINT

Five signatures, five *sources*

Each localizes to a different spatial origin via TDOA multilateration. Timing reference: relative to Mach cone arrival at the nearest camera to each source.

SIGNATURE	FREQUENCY	TIMING	SOURCE LOCATION
Mach Cone	centroid 2,755Hz	t = 0 (reference)	Rooftop — 127m
RODE Detonation	centroid 1,562Hz	+191ms at source	Tent — victim's chest
Chest Resonance	53/80/133Hz	100–200ms decay	Victim's thorax
Muzzle Blast	centroid 2,429Hz	+233ms crack-to-blast	Rooftop — 127m
4940Hz Strouhal	4,700–5,200Hz	+0.5ms after Mach	Van — 3.3m from walkway

THE IMPOSSIBILITY

A device malfunction cannot produce a Mach cone from 127m. A rifle shot cannot produce a 656Hz detonation at the tent. No single event produces a 4940Hz tone from a parked van. Five distinct signatures from at least three spatially separated locations.

UNIFIED THEORY

The detonation *explains* all

SHIRT INFLATION

Radial gas-driven expansion from RODE. Gas one frame before deformation. Internal pressurization.

NECKLACE SNAP

21 m/s upward, 6.8J energy, perpendicular to rifle vector. Radial blast signature.

SHRAPNEL OUTWARD

Debris radiates from Charlie. PCB tracked across chest. Housing absent post-event.

RADIAL EPICENTER

Optical flow at (775,562) = RODE location. 4x peak. Radial = internal, not directional impact.

53HZ RESONANCE

Chest wall modes at 53/80/133Hz. Audio evidence of thoracic penetration.

DECORTICATE POSTURING

Brain trauma 0.4s before bleeding. Thoracic shock pathway, not neck wound.

104MS RISE TIME

One to two orders of magnitude faster than LiPo thermal runaway (1–10ms). Combined with the 191ms delay, spectral separation from the muzzle blast, and radial physical evidence, the detonation thesis is the only framework that explains all observations simultaneously.

CONCLUSION

This is reasonable *doubt*

Eleven independent recordings. Five distinct acoustic signatures from three spatially separated locations. A detonation at the tent spectrally distinct from the rifle. Audio-visual delay of 0–2 frames, not 11. Radial motion from the transmitter. Shrapnel flying outward. A necklace launched upward at 47 mph. Brain trauma before the wound. And a 53Hz signal that says something penetrated the chest.

> **THE STANDARD**
>
> Reasonable doubt does not require proving what happened. It requires showing that the prosecution's theory — a single rifle shot from 127 meters — cannot account for the physical evidence. It cannot.

All source audio, video, analysis code, and raw data published at followtheepicenter.com

Every claim is independently reproducible. No trust required.