World's Smallest Augmented Reality Display

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TRILITE

Trixel® 3
Ultra-compact display for consumer AR eyewear

- Miniature and lightweight laser beam scanner (<1cm³ @ 1.5g)

- Ultra-low power for all day use

- Works in direct sunlight (up to 15 lumen)

- Scales with increasing resolution and Field of View (FoV)

- Full color support (214% over sRGB) & always in focus

- Easy system integration through TriLite Calibration Module (TCM)

General Description

The latest product evolution, **Trixel® 3,** sets a **new standard in super small projection displays** and includes light engine, MEMS mirror and all optical components.

It is no less than a revolutionary step forward in terms of size, weight, image quality, optical compatibility, power consumption and reliability. TriLite's mass-manufacturable laser beam scanners deliver performance that significantly outshines conventional display technology.

Trixel® 3 integrates a number of key patented technologies. Wider field of view, better resolution, faster refresh rate and higher luminance with an optimized interface between the laser beam scanner and optical combiner. Compatible with free space (HOE) and waveguide optical combiners in monocular or binocular vision. Mass production of Trixel® 3 brings high performance consumer AR applications to truly wearable head mounted devices as lightweight as the eyewear of today.

Benefits

- Enables smallest system & slim temple
- Enables lightweight glasses
- Best in class visualization
- Focus free image (no nausea, no headache)
- Natural AR image integration with motion compensation
- Easy system integration
- Works in all environments from direct sunlight (15 lumen) to dark rooms

Features

- Tiny & lightweight laser beam scanner
- Scales with increased resolution and FoV
- Optimized optical path requires no relay optics
- Ultra-low power for smallest batteries
- Ideal form factor fit slim temples
- Full color support
- Real time error & distortion correction
- Ultra-low system latency with motion compensation
- System-level end-to-end calibration

Trixel® 3 specs

Total LBS Volume:	<1cm^3
Total LBS Size:	<1.5 grams
FoV (H x V):	≥ 30°
Resolution (H x V):	1024 x 768 (XGA)
Refresh rate:	up to 90 Hz
MEMS mirror type:	1x 2D Mirror
Max. luminous flux[1]:	15 lm
Brightness[2]:	6000 nits
Power consumption[3]:	320 mW
Color gamut:	214 % RGB
Color depth:	3 x 10 bit

[1] At LBS output when 100% pixels are on
[2] At waveguide output assumed waveguide efficiency 400 nits/lm
[3] Typical AR use case with 20% pixel-on at 5 lm brightness

Feel free to contact our sales team via **info@trilite-tech.com** to find out more about how a Trixel® Evaluation Kit can help you realize your AR goals.