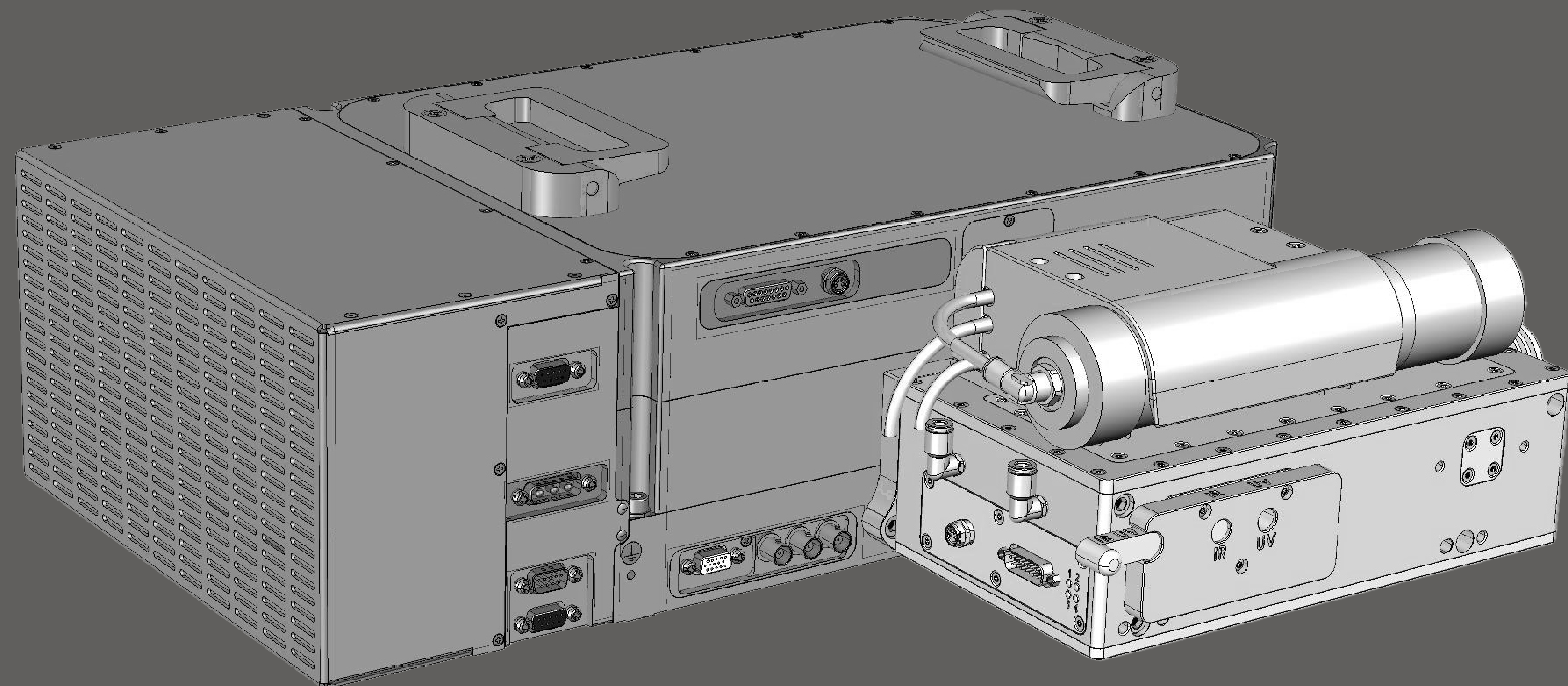


Origami 03XP-2P

Dual wavelength IR and UV femtosecond laser

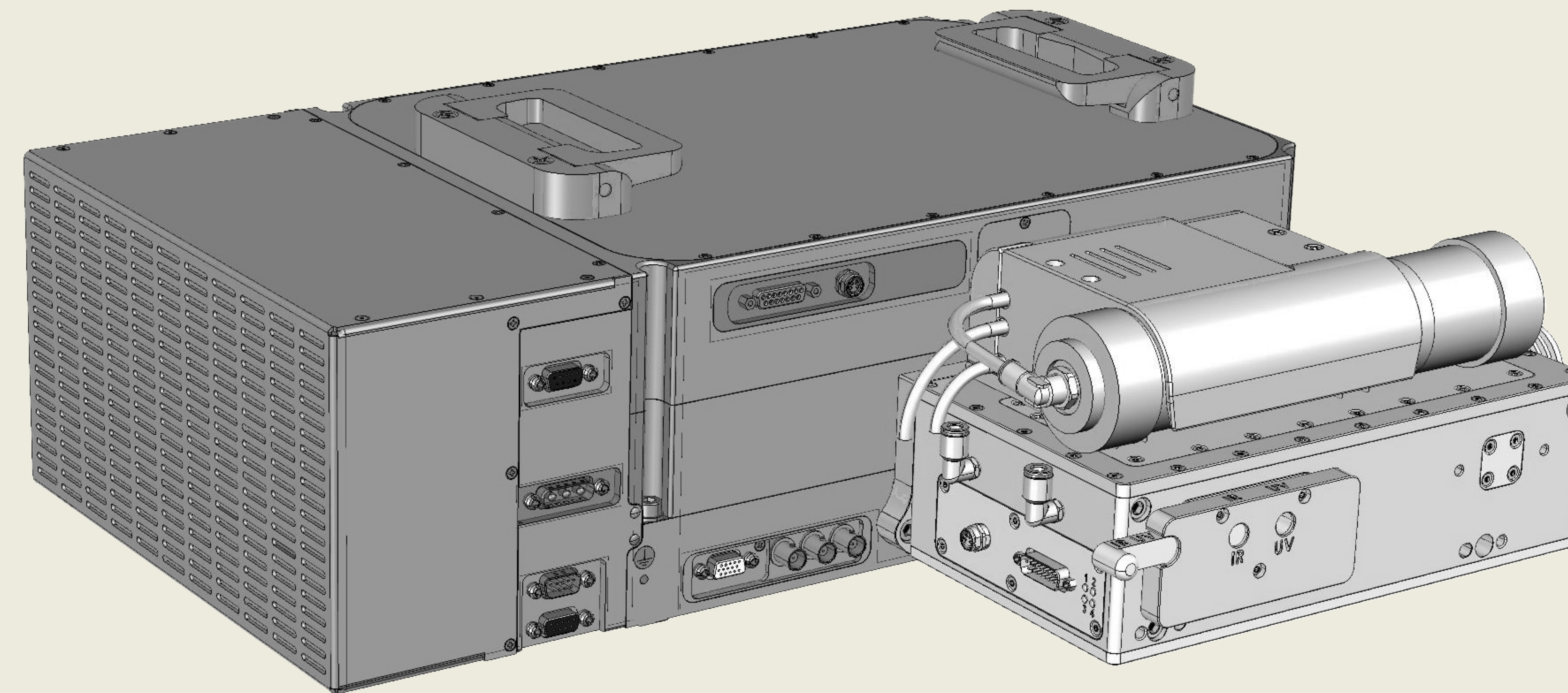


Femtosecond IR and UV

Dual wavelength flexibility

The ORIGAMI 03XP-2P and higher power 03XP-S-2P is a dual wavelength femtosecond laser, allowing computer-controlled, flexible switching between IR and UV wavelengths in one laser system.

Based on the highly successful ORIGAMI XP platform, the same advantages of clean, femtosecond pulse output, excellent beam quality together with unprecedented beam stability are obtained by virtue of the Optocage™ laser design.



Origami 03XP-2P

Applications

Foil cutting

LCD patterning

OLED display repair

Flex PCB processing

Medical device manufacturing

Reliable

High reliability for industrial and medical applications

The ORIGAMI 03XP(-S)-2P has been designed with a focus on high reliability and unprecedented UV lifetime.

Easy availability of IR and UV wavelengths ensure the user can process a variety of materials with the Origami 03XP(-S)-2P.

The combination of multiple wavelengths together with clean femtosecond pulse output allows efficient processing of materials where low HAZ is essential.

Origami 03XP-2P

Features

IR and UV selectable output

> 10,000 hours reliability

< 400 fs UV pulse duration

Single-shot or Pulse-on-demand

Excellent pointing stability

Superior beam quality

In-field replaceable purge system

Air or water cooled

Performance monitoring

On-board diagnostics

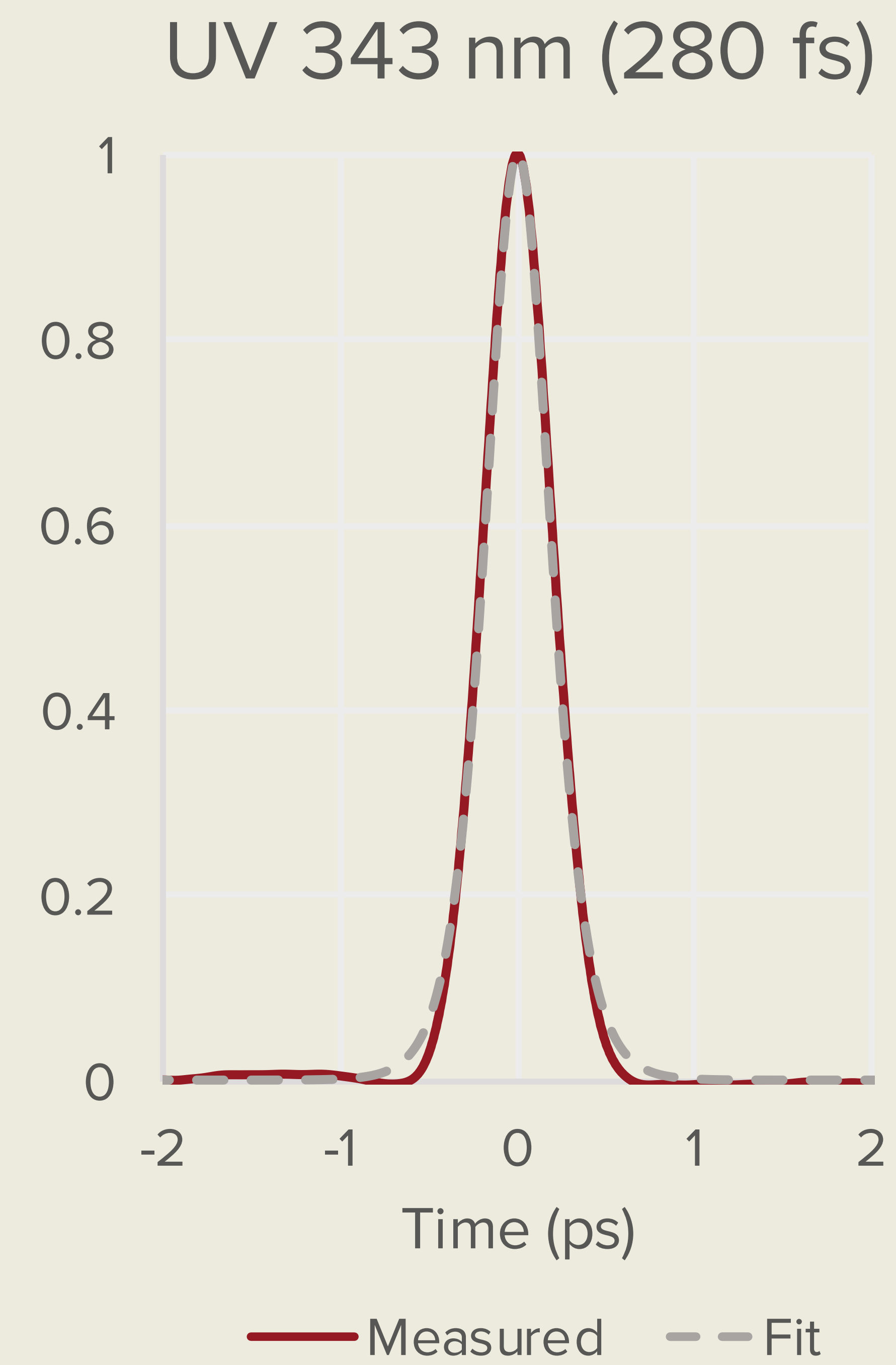
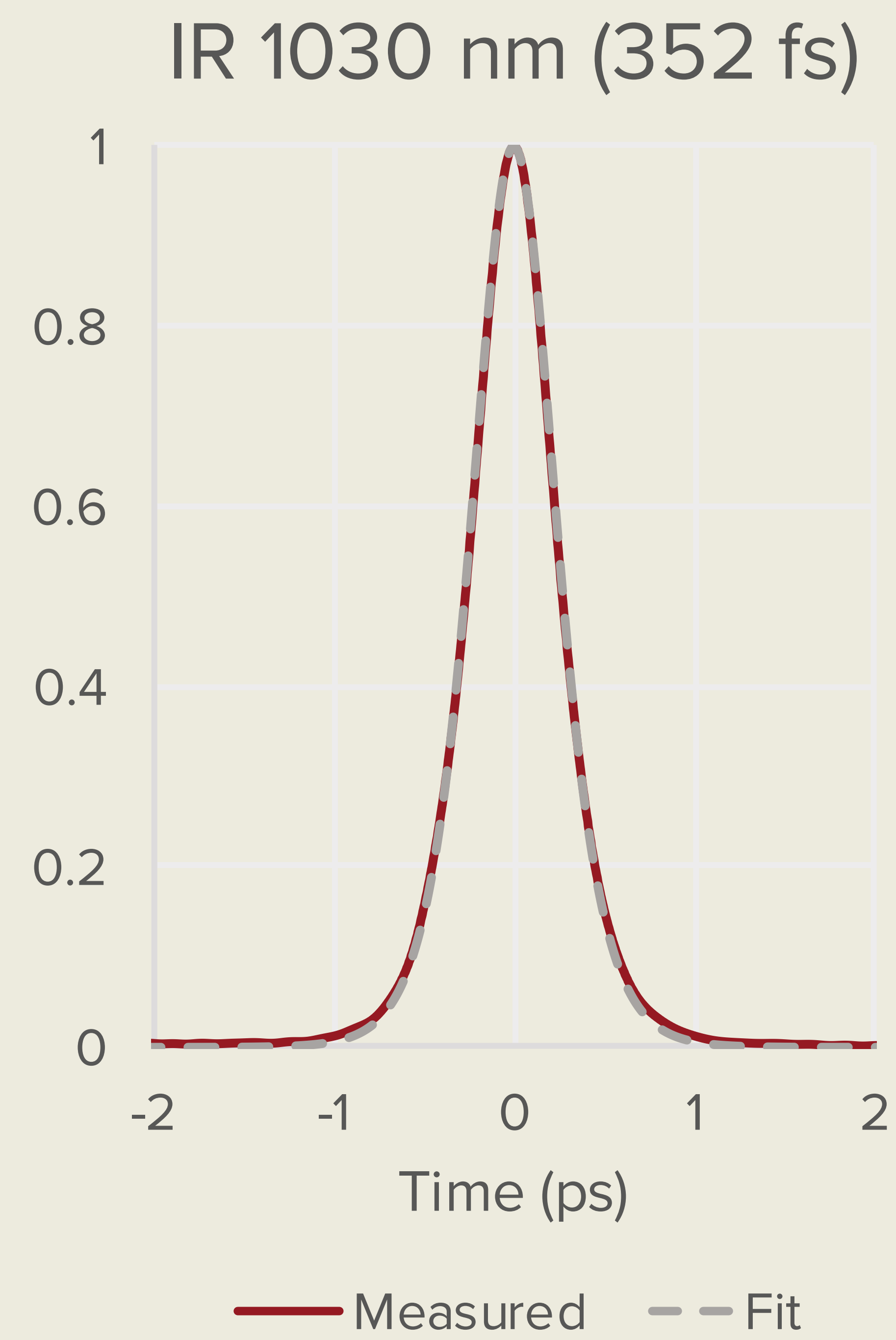
Ethernet communications

Performance

Origami
03XP-2P

Typical output pulse width

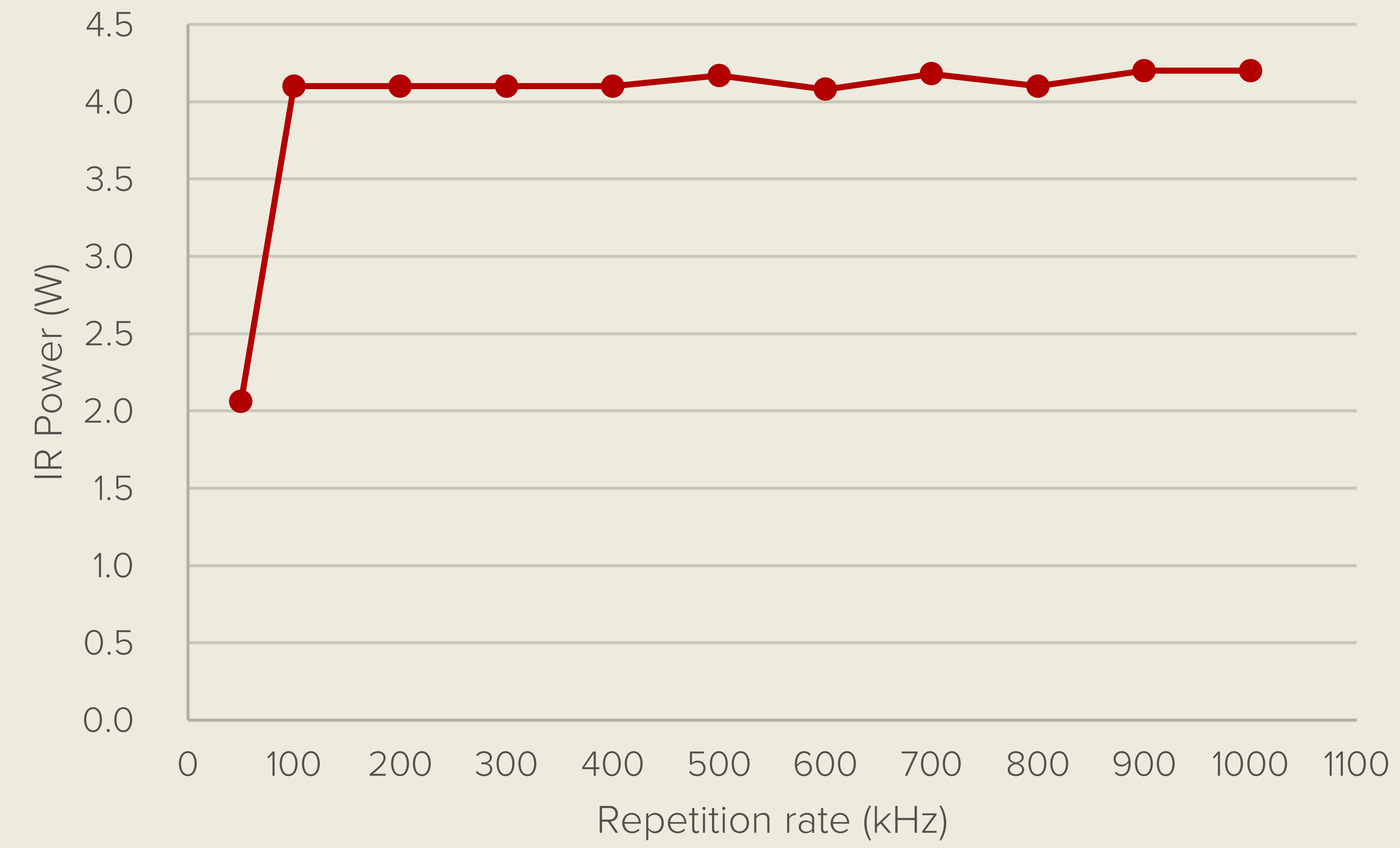
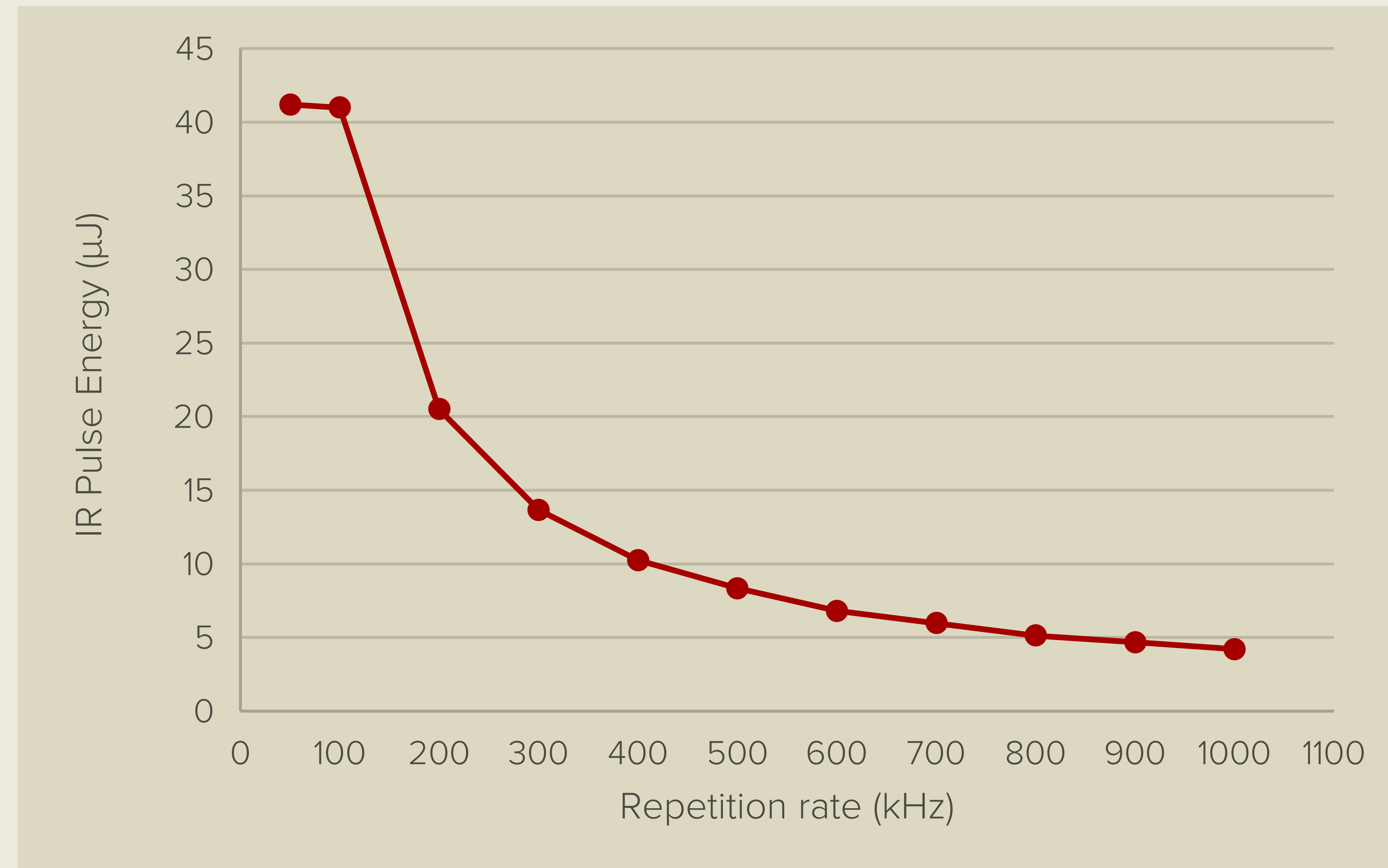
Typical clean output pulse traces from the 03XP-2P showing a close fit to ideal (Sech²).



Performance

Origami
03XP-2P

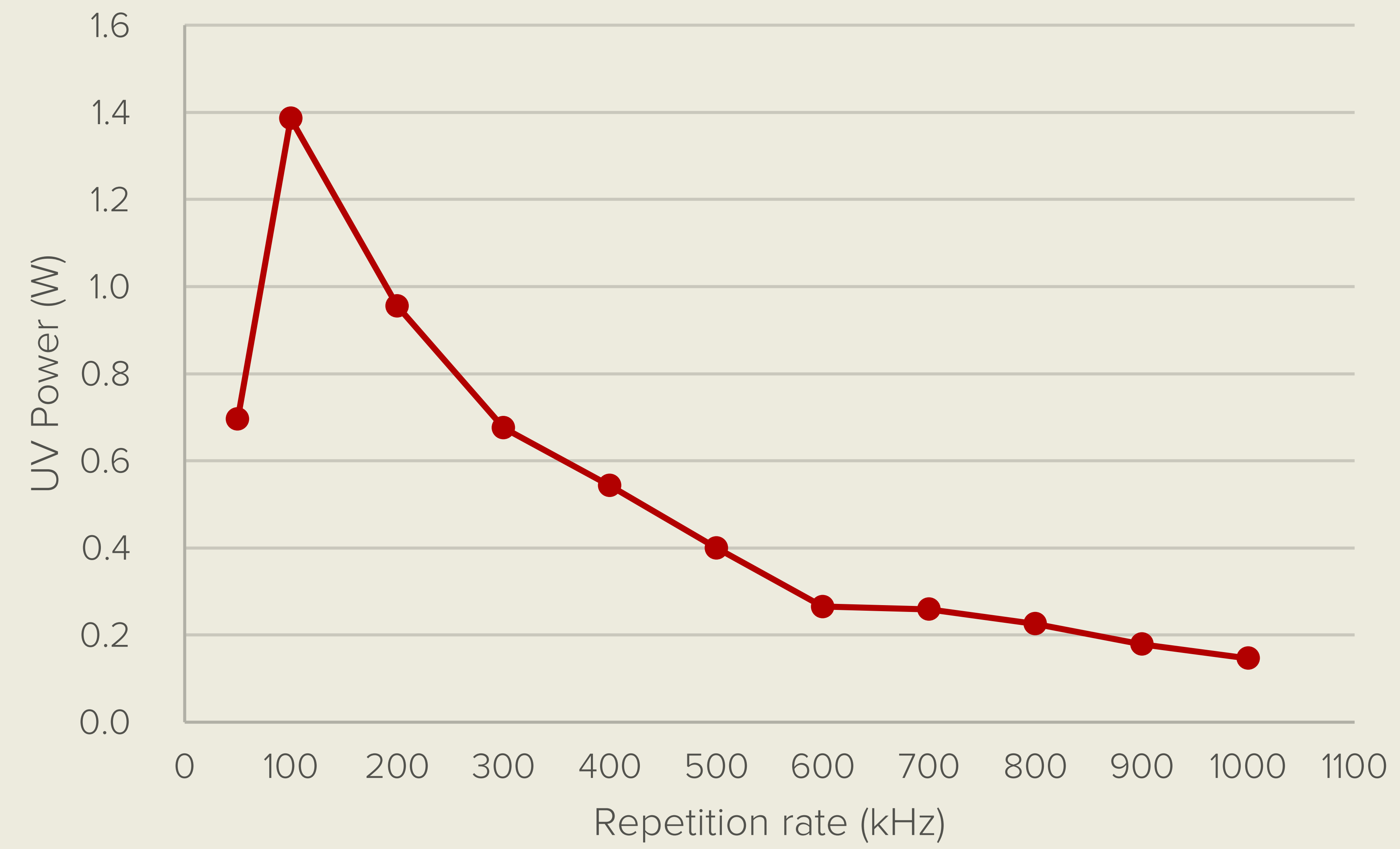
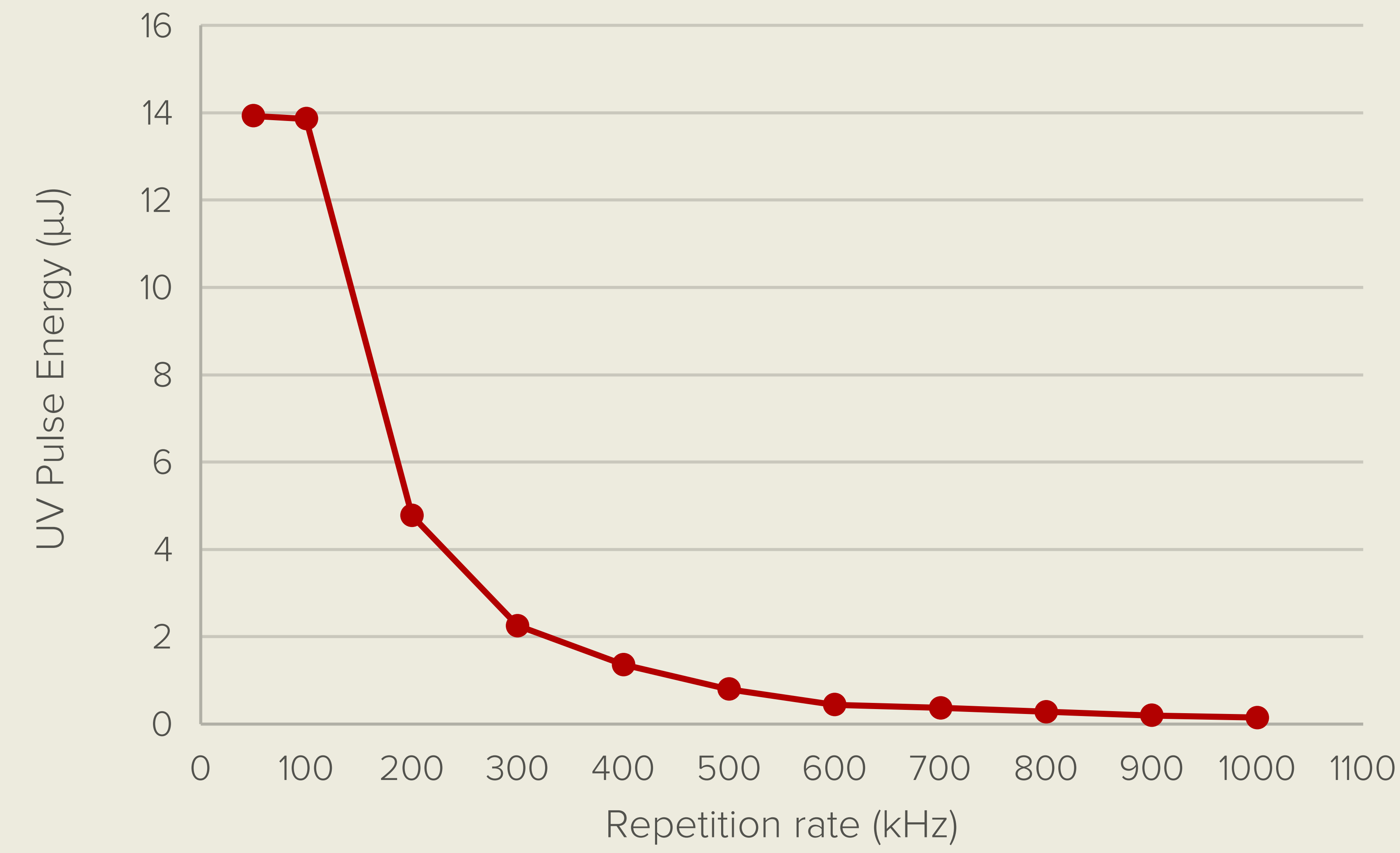
Typical 03XP-2P IR performance



Performance

Origami
03XP-2P

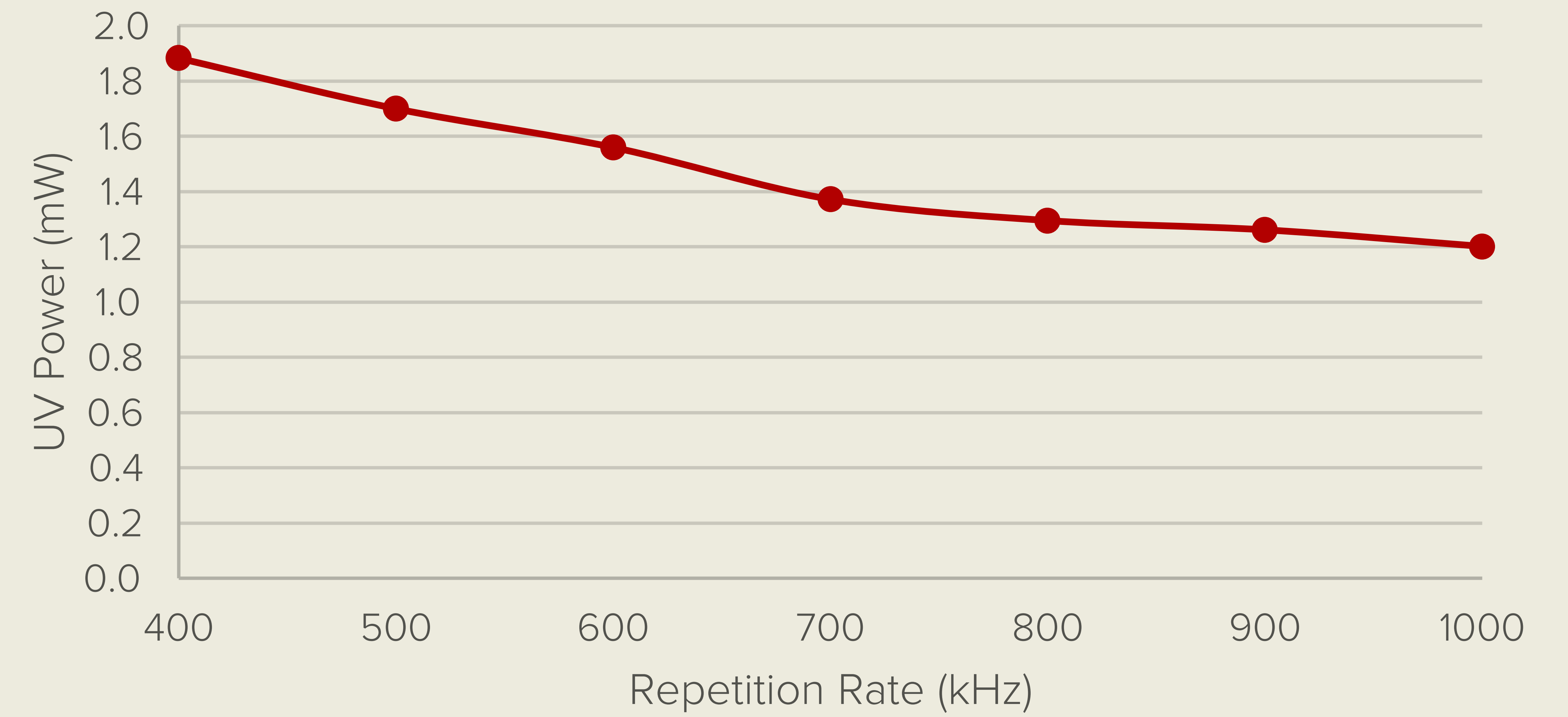
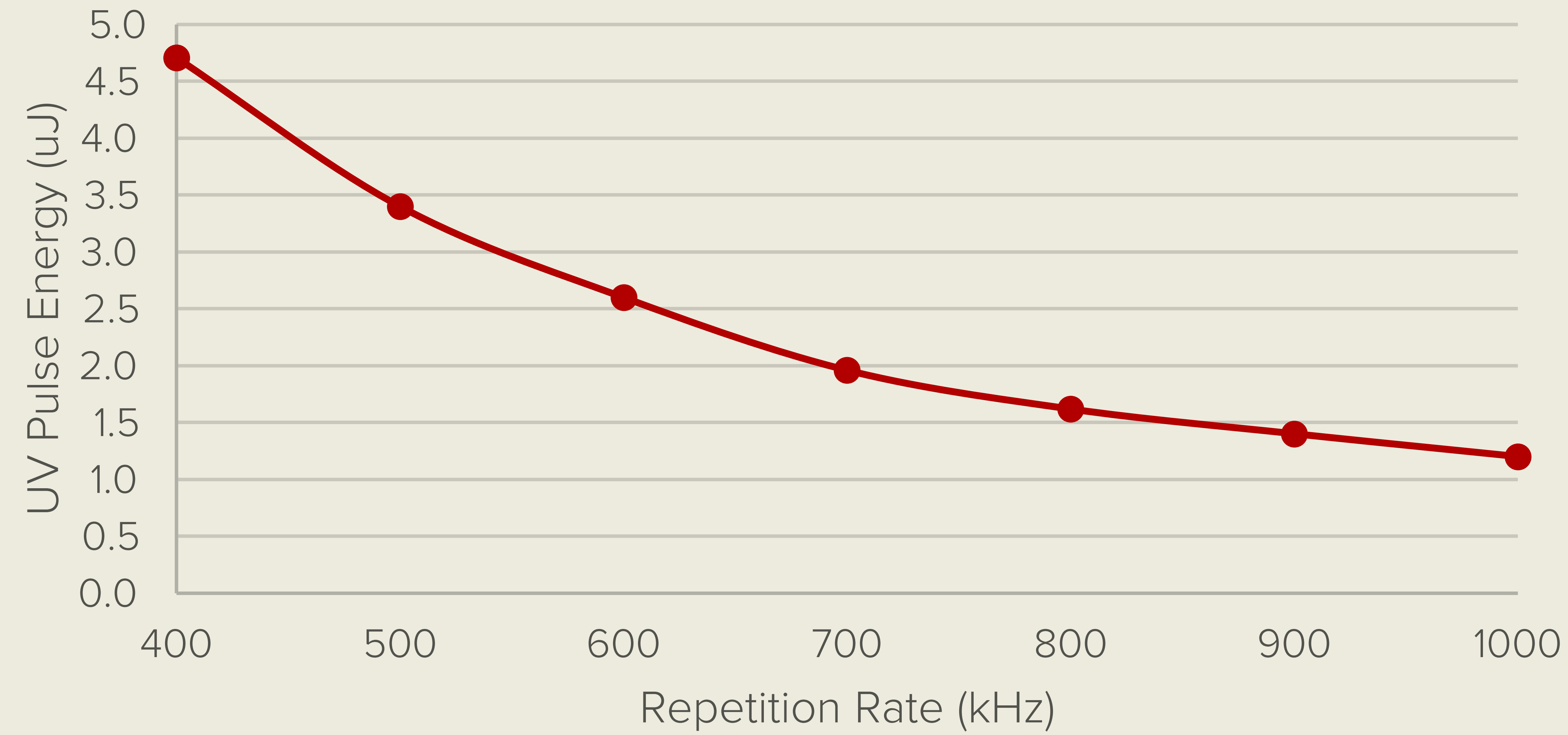
Typical 03XP-2P UV performance optimized for 100 kHz



Performance

Origami
03XP-2P

Typical 03XP-2P UV performance optimized for operation above 500 kHz



Specifications

Origami
03XP-2P

Optical

| Model | 10XP | 03XP |
|-----------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| Center wavelength [nm] | 1030 | 343 |
| Average Power [W] | > 4 | > 1.2 |
| Pulse duration [fs] | < 370 | < 400 |
| Pulse energy [μJ] | 40 | 12 |
| Peak power [MW] | > 80 | > 30 |
| Spectral bandwidth [nm] | < 7.5 | < 1 |
| Pulse selection options | Single-shot to 1 MHz, Pulse-on-demand | Single-shot to 1 MHz, Pulse-on-demand |
| Beam quality (TEM ₀₀) | M ² ≤ 1.2 | M ² ≤ 1.3 |
| Polarization / PER (vertical) [dB] | > 22 | > 20 |
| Beam diameter [mm] | - | 2 |
| Power stability (RMS, 12h, constant temp) [%] | < 1 | < 2 |
| Ellipticity | < 1.1 | < 1.2 |
| Pulse-to-pulse stability (RMS) [%] | < 1 | < 2 |
| Pointing stability | < 30 μrad rms (12h), constant temperature < 15 μrad / °C 18 – 28 °C | < 30 μrad rms (12h), constant temperature < 15 μrad / °C 18 – 28 °C |

Specifications

Origami
03XP-2P

Optical

| Model | 10XP-S | 03XP-S |
|-----------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Center wavelength [nm] | 1030 | 343 |
| Average Power [W] | > 5 | > 1.5 |
| Pulse duration [fs] | < 370 | < 400 |
| Pulse energy [μ J] | 70 | 20 |
| Peak power [MW] | > 150 | > 50 |
| Spectral bandwidth [nm] | < 7.5 | < 1 |
| Pulse selection options | Single-shot to 1 MHz, Pulse-on-demand | Single-shot to 1 MHz, Pulse-on-demand |
| Beam quality (TEM ₀₀) | $M^2 \leq 1.2$ | $M^2 \leq 1.3$ |
| Polarization / PER (vertical) [dB] | > 22 | > 20 |
| Beam diameter [mm] | - | 2 |
| Power stability (RMS, 12h, constant temp) [%] | < 1 | < 2 |
| Ellipticity | < 1.1 | < 1.2 |
| Pulse-to-pulse stability (RMS) [%] | < 1 | < 2 |
| Pointing stability | < 30 μ rad rms (12h), constant temperature < 15 μ rad / °C 18 – 28 °C | < 30 μ rad rms (12h), constant temperature < 15 μ rad / °C 18 – 28 °C |

Specifications

Electrical/Mechanical

| | |
|---------------------------------------------|--------------------------------------------|
| Laser output | Collimated free-space |
| Warm-up time [min.] | < 10 (warm start) < 30 (cold start) |
| Operation temperature [°C] | 18 – 28 |
| Storage temperature [°C] | -20 – 55 |
| Power supply requirements | 24 VDC/20A or 90-264 VAC, 47-63 Hz |
| Power consumption [W] | < 500 |
| Laser head dimensions (WxHxD) [mm] | 585.6 x 176 x 438.5 |
| Power supply dimensions (WxHxD) [mm] | 165 x 85 x 314 |
| Laser head weight [kg] | 33 kg (water-cooled) 33 kg (air-cooled) |
| Cooling | Water or Air |

Origami 03XP-2P

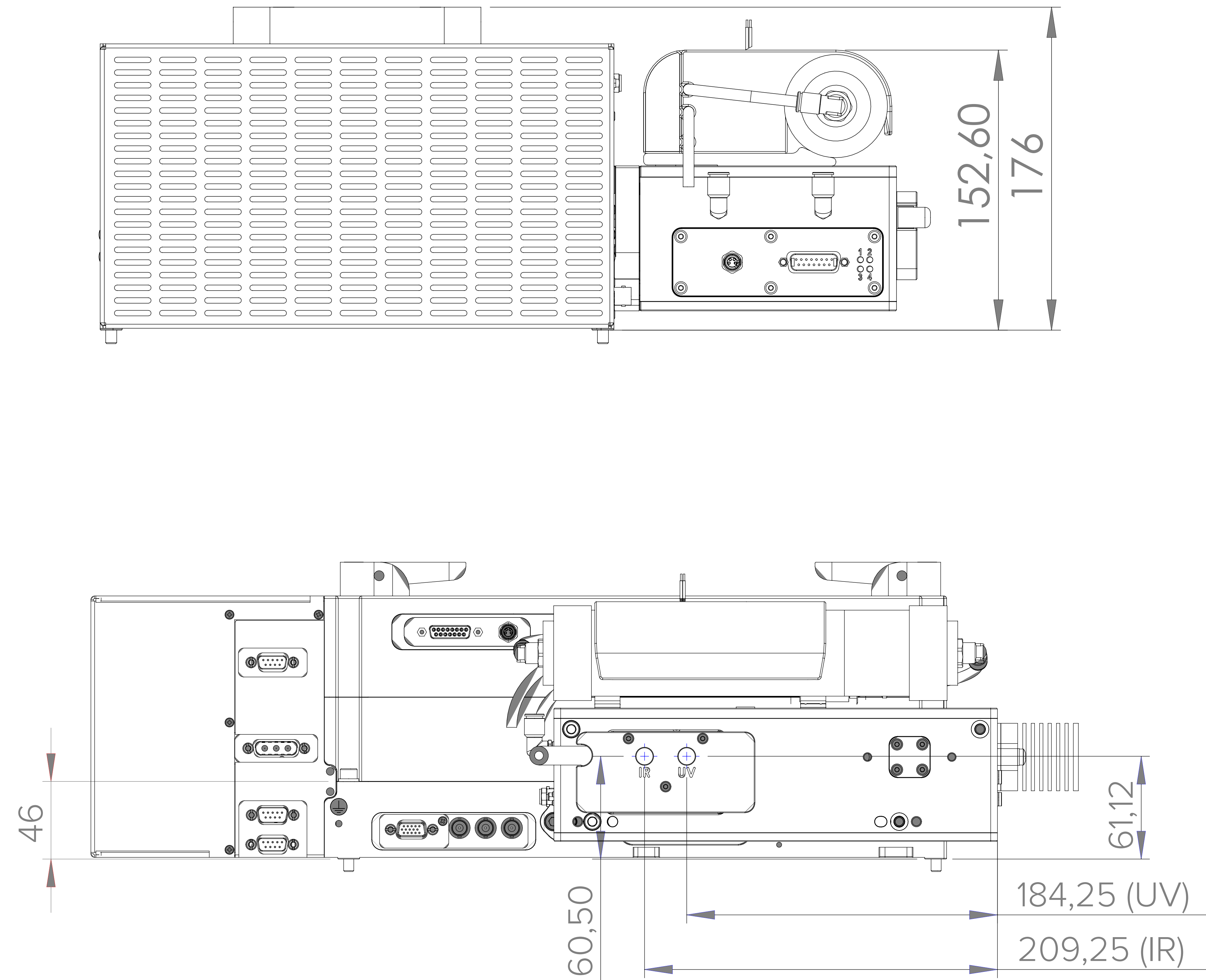
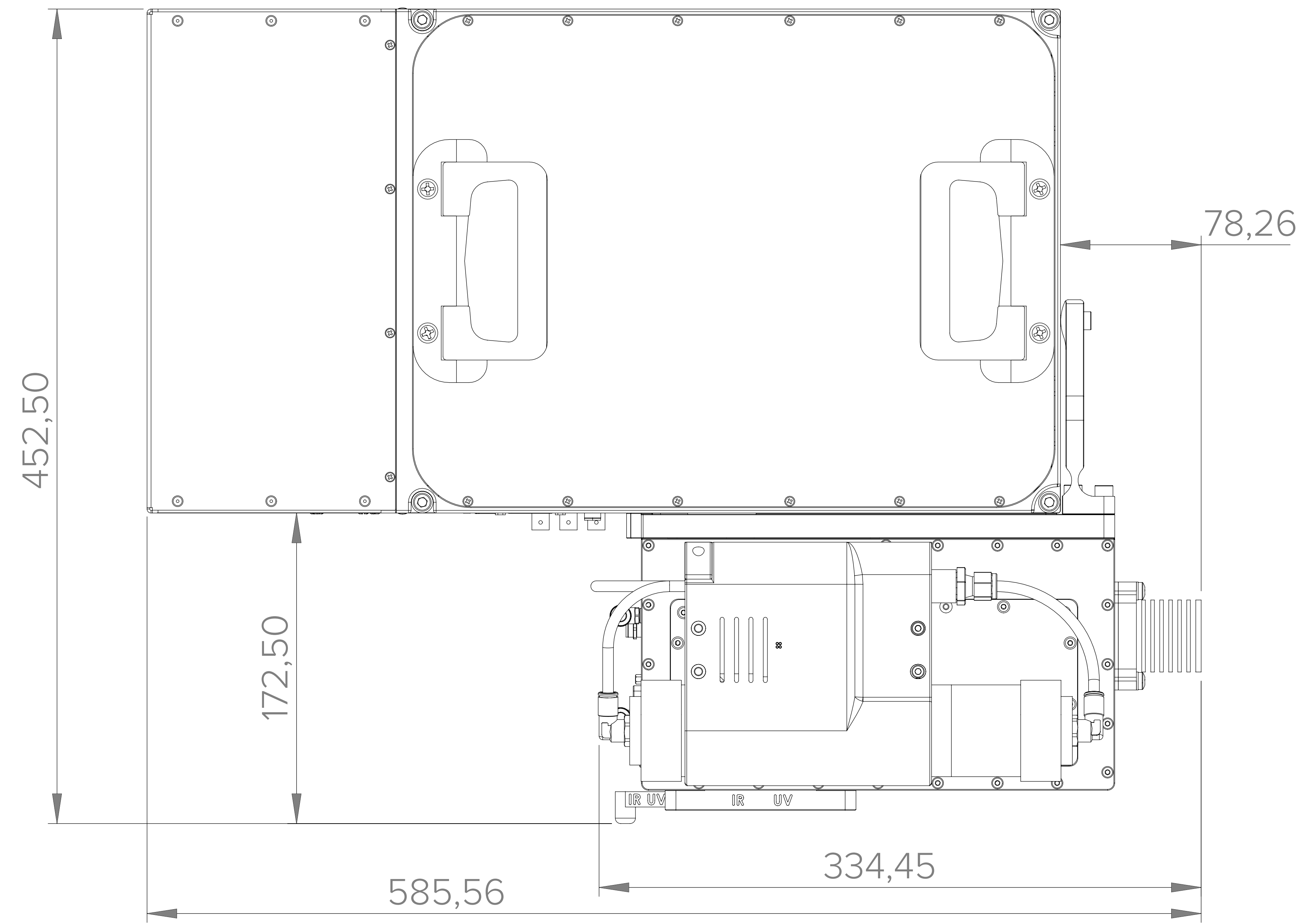
Support and warranty

All ORIGAMI product come with an industryleading reliability.

The product is covered by a comprehensive warranty. Service options are available. For details, please enquire.

Mechanical Drawings

Origami 03XP-2P



All ORIGAMI products are produced under our quality management system certified in accordance with the ISO 9001:2015 and ISO 13485:2016 standard.



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