GPUpartner

VALIDATION REPORT · VIDEO GENERATION

Wan2.1 I2V 14B

on RTX 3090 · 8-bit (FP8 · Q8_0)

STATUS · NOV 22, 2026

Not validated

2 of 3 checks pass

Wan2.1 I2V 14B at 8-bit runs on the RTX 3090, about 72 min per clip.

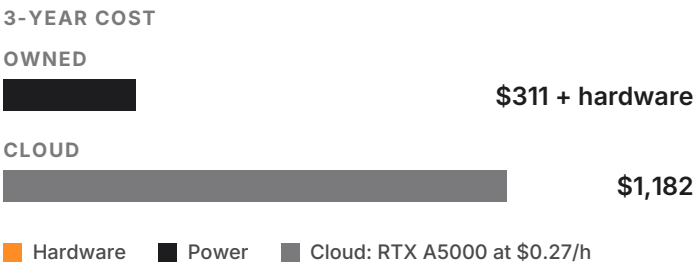
VALIDATION

CHECK	TARGET	RESULT	STATUS
Fits in GPU memory	24.0 GB usable	20.4 GB needed	PASS
Headroom	5% free	3.6 GB free (15%)	PASS
Time per clip	under 15 min	72 min	FAIL

Targets: a clip in under 15 min, and 5% of memory left free. Calculated from published specs, not benchmarked.

BUDGET

HARDWARE, ONE-TIME	MSRP not entered
POWER, PER YEAR	$104 · 395 W at the wall
CLOUD INSTEAD, PER YEAR	$394
3-YEAR TOTAL, OWNED	Hardware + $311 power
3-YEAR TOTAL, CLOUD	$1,182
BREAK-EVEN	Needs the hardware MSRP



Budget basis: 4 h a day, power at $0.18 per kWh, cloud at RunPod on-demand prices as of Nov 22, 2026. Hardware at the MSRP entered in the calculator, not a GPU Partner quote. A 3-year view; resale value, staff time and taxes aren't counted.

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TECHNICAL DETAIL · VIDEO GENERATION

Wan2.1 I2V 14B

on RTX 3090 · 8-bit (FP8 · Q8_0)

SETUP

PARAMETERS	14.3B
PRECISION	8-bit (FP8 · Q8_0)
OUTPUT	1280 × 720, 81 frames
STEPS	40
HARDWARE	RTX 3090
GPU CAN USE	24.0 GB of 24.0 GB

MEMORY

WEIGHTS	13.8 GB
WORKING	5.8 GB
RUNTIME	819 MB
SYSTEM	0.0 GB
FREE	3.6 GB

SAME MODEL, OTHER MACHINES

RTX 4090	8-bit · 31 min
RTX 5090	8-bit · 24 min
RTX PRO 6000 BLACKWELL	16-bit · 10 min
M5 MAX 128 GB	16-bit · 1.6 h
M3 ULTRA 256 GB	16-bit · 3.1 h
DGX SPARK 128 GB	16-bit · 81 min
RYZEN AI MAX+ 395 128 GB	16-bit · 2.4 h

WHERE TO GET IT

OFFICIAL	huggingface.co/Wan-AI/Wan2.1-I2V-14B-720P-Diffusers

METHOD AND ASSUMPTIONS

Memory is the denoiser's weights at the chosen precision plus the bigger of one transformer block's working set and the VAE decode, plus the runtime; the text encoders run first and then wait in system RAM. Time is the denoising FLOPs per step times the steps, against the chip's dense 16-bit TFLOPS, scaled to published GeForce runs of this model. Running cost is power at the wall at your rate and hours; the cloud figure is the cheapest RunPod on-demand GPU that runs the same job. Accuracy: memory lands within about a gigabyte; speeds and times are rough, about ±25%. Model data and hardware specs checked Nov 2026; cloud prices are RunPod's on-demand list as of Nov 22, 2026. Report VR-0WIDAOU, generated November 22, 2026.