

Low Framerate Compensation (LFC)

- ▶ Smoother gameplay when application framerate falls below minimum refresh supported by AMD FreeSync™ technology-enabled display
- ▶ Adaptive algorithm automatically adjusts GPU output and refresh rate to gracefully prevent juddering from sudden drops in framerate
- ▶ Automatically enabled on all AMD FreeSync™-ready monitors where max refresh is $\geq 2.5X$ min. refresh
- ▶ No user configuration or proprietary monitor hardware required

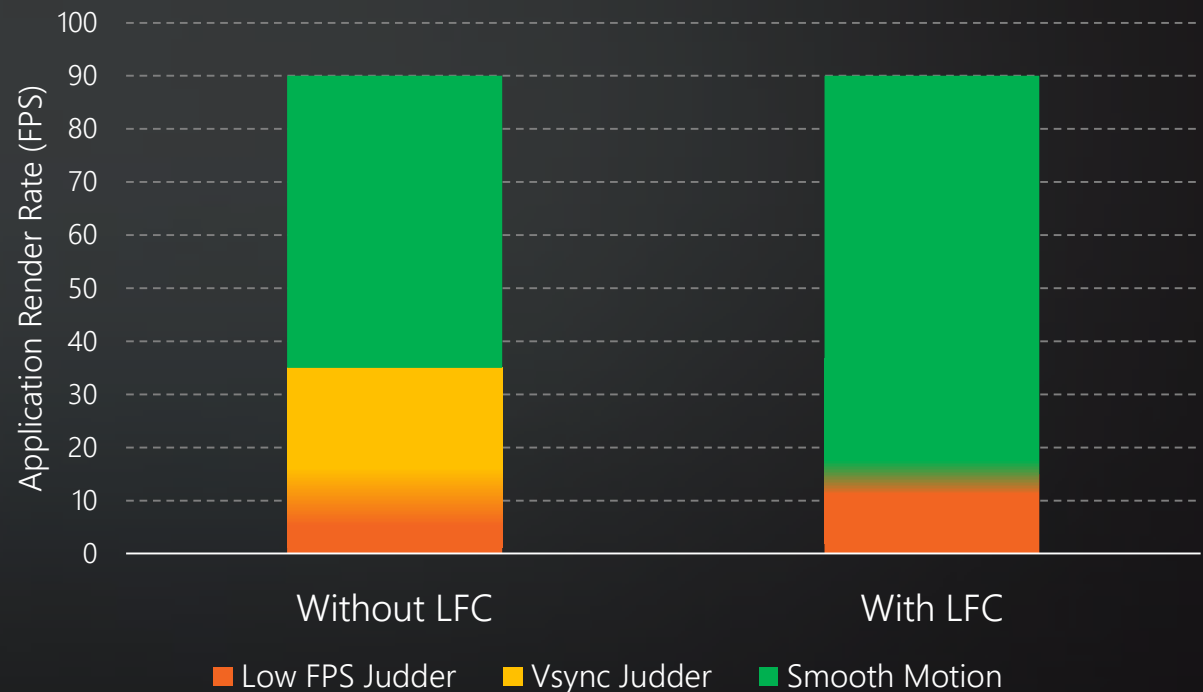
FPS vs. Refresh Rate	VSync	AMD FreeSync™ Without LFC	AMD FreeSync™ With LFC
FPS \geq Max Refresh Rate	VSync ON	Smooth Motion, No Tearing	Same
FPS \geq Max Refresh Rate	VSync OFF	Smooth Motion, Tearing, Uncapped Mouse Latency	Same
FPS Within Min/Max Refresh Rate	VSync ON VSync OFF	Smooth Motion, No Tearing, Uncapped Mouse Latency	Same
FPS $<$ Min Refresh Rate	Vsync ON	No Tearing, Motion Judder	*NEW* No tearing, smooth motion
FPS $<$ Min Refresh Rate	VSync OFF	Tearing, Low Motion Judder	*NEW* Reduced tearing, lower motion judder

More on Low Framerate Compensation (LFC)

- ▶ LFC algorithm monitors render rates and adaptively inserts additional frames to enforce smoothness
- ▶ Asus MG279Q is a 35-90Hz AMD FreeSync™ enabled monitor (maximum $\geq 2.5x$ minimum)
- ▶ **No LFC:** 35 FPS is the DRR limit for this display, judder possible as VSync takes over < 35 FPS
- ▶ **With LFC:** AMD FreeSync™ remains active < 30 FPS, smoothing out undesirable VSync judder
- ▶ LFC is tunable in software and can be adjusted to meet the needs of new displays
- ▶ Again: no proprietary module required

BEHAVIOR

VSync judder vs. low framerate judder with and without Low Framerate Compensation



**Note: Diagram for illustrative purposes only; based on expected results on Asus MG279Q with AMD FreeSync™ technology.*