MRTech IFF SDK benchmarks

RTSP / WebRTC streaming

Transmitting side

NVIDIA Jetson AGX Thor (T5000)

IFF SDK v2.1, Jetson Linux v38.4

IFF SDK `farsight` sample application

Codec

H.265 (HEVC)

level 6.2, Main tier, P1 preset

approx. 10 Mbps bitrate

Receiving side

MSI Raider GE77HX, NVIDIA GeForce RTX 3070 Ti, Windows 11 OS

IFF SDK `imagebroker` sample application (RTSP)

Google Chrome v146 web browser (WebRTC)

sensor bitdepth	input bitdepth	processing bitdepth	demosaic algorithm	color corr. algorithm	frame rate, FPS	processing latency, ms	Jetson CPU load	Jetson GPU load	Jetson EMC load	Jetson NVENC load	Power, W (w/o cams)	RTSP G2G latency, ms	WebRTC G2G latency, ms
Camera:	**XIMEA CB262CG-GP-X8G3**						**Jetson power mode:**		**MAXN with jetson_clocks active**				
Full frame (5120 x 5120)			**5 ms exposure time**										
10	8	8-bit	HQLI	matrix	**110**	**13**	2%	63%	50%	80%	76	**45**	**63**
10	8	8-bit	DFPD	matrix	**110**	**13**	2%	70%	50%	80%	82	**45**	**64**
10	10	16-bit	L7	matrix	**100**	**18**	2%	85%	72%	90%	91	**52**	**69**
10	10	16-bit	DFPD	matrix	**100**	**18**	2%	90%	77%	90%	97	**52**	**70**
10	10	16-bit	MG	matrix	**80**	**20**	2%	95%	80%	60%	102	**57**	**73**
10	10	16-bit	L7	LUT	**70**	**21**	2%	86%	66%	60%	93	**58**	**71**
10	10	16-bit	DFPD	LUT	**70**	**21**	2%	90%	70%	60%	97	**58**	**71**
10	10	16-bit	MG	LUT	**60**	**24**	2%	90%	74%	60%	101	**63**	**76**
4K UHDTV (3840 x 2160)			**2 ms exposure time**										
10	8	8-bit	HQLI	matrix	**350***	**4**	2%	49%	38%	83%	72	**24**	**46**
10	8	8-bit	DFPD	matrix	**350***	**4**	2%	58%	39%	83%	77	**24**	**46**
10	10	16-bit	L7	matrix	**320**	**6**	2%	75%	62%	95%	88	**25**	**50**
10	10	16-bit	DFPD	matrix	**320**	**6**	2%	83%	65%	93%	91	**26**	**49**
10	10	16-bit	MG	matrix	**260**	**7**	2%	93%	75%	70%	100	**28**	**53**
10	10	16-bit	L7	LUT	**250**	**7**	2%	90%	67%	70%	95	**28**	**51**
10	10	16-bit	DFPD	LUT	**240**	**7**	2%	90%	67%	65%	97	**28**	**50**
10	10	16-bit	MG	LUT	**190**	**8**	2%	90%	66%	50%	101	**30**	**47**

* limited by maximum camera (sensor) frame rate and not by Jetson performance

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approx. 10 Mbps per camera

Receiving side

MSI Raider GE77HX, NVIDIA GeForce RTX 3070 Ti, Windows 11 OS

IFF SDK `imagebroker` sample application (RTSP)

Google Chrome v146 web browser (WebRTC)

sensor bitdepth	input bitdepth	processing bitdepth	demosaic algorithm	color corr. algorithm	frame rate, FPS	processing latency, ms	Jetson CPU load	Jetson GPU load	Jetson EMC load	Jetson NVENC load	Power, W (w/o cams)	RTSP G2G latency, ms	WebRTC G2G latency, ms
Camera:	**2x XIMEA CB262CG-GP-X8G3 in PCIe 4-lane Gen3 mode**						**Jetson power mode:**	**MAXN with jetson_clocks active**					
Full frame (5120 x 5120)			**5 ms exposure time**										
10	8	8-bit	HQLI	matrix	**2x 60**	**20**	1%	50%	55%	95%	80	**59**	**73**
10	8	8-bit	DFPD	matrix	**2x 60**	**23**	1%	70%	55%	95%	85	**62**	**76**
10	10	16-bit	HQLI	matrix	**2x 50**	**28**	1%	80%	72%	90%	87	**70**	**83**
10	10	16-bit	L7	matrix	**2x 50**	**28**	1%	80%	72%	90%	88	**72**	**89**
10	10	16-bit	DFPD	matrix	**2x 50**	**28**	1%	90%	77%	90%	96	**75**	**81**
10	10	16-bit	MG	matrix	**2x 40**	**35**	1%	95%	80%	80%	100	**83**	**92**
10	10	16-bit	HQLI	LUT	**2x 40**	**34**	1%	95%	76%	80%	95	**84**	**91**
10	10	16-bit	L7	LUT	**2x 35**	**35**	1%	90%	66%	60%	93	**87**	**94**
10	10	16-bit	DFPD	LUT	**2x 35**	**35**	1%	90%	70%	60%	96	**81**	**103**
10	10	16-bit	MG	LUT	**2x 30**	**43**	1%	95%	74%	50%	104	**93**	**107**
4K UHDTV (3840 x 2160)			**5 ms exposure time**										
10	8	8-bit	HQLI	matrix	**2x 190**	**4**	2%	55%	42%	90%	78	**24**	**46**
10	8	8-bit	DFPD	matrix	**2x 190**	**4**	2%	65%	42%	90%	81	**25**	**47**
10	10	16-bit	HQLI	matrix	**2x 150**	**8**	2%	75%	60%	88%	86	**31**	**50**
10	10	16-bit	L7	matrix	**2x 150**	**8**	2%	77%	60%	88%	88	**31**	**49**
10	10	16-bit	DFPD	matrix	**2x 150**	**9**	2%	78%	61%	88%	91	**31**	**51**
10	10	16-bit	MG	matrix	**2x 130**	**12**	2%	93%	76%	75%	104	**37**	**51**
10	10	16-bit	HQLI	LUT	**2x 130**	**12**	2%	93%	73%	75%	101	**39**	**48**
10	10	16-bit	L7	LUT	**2x 130**	**12**	2%	94%	71%	75%	100	**37**	**51**
10	10	16-bit	DFPD	LUT	**2x 120**	**12**	2%	93%	68%	70%	99	**39**	**51**
10	10	16-bit	MG	LUT	**2x 90**	**14**	2%	90%	65%	50%	98	**38**	**57**