

<b>Title:</b>	H.264+ Bit Rate Chart	<b>Version:</b>	---	<b>Date:</b>	12/01/2015
<b>Product:</b>	Hikvision Cameras			<b>Page:</b>	1 of 1
<b>Action Required:</b>	None, Information Only				

### About H.264+

H.264+ is Hikvision's optimized, fully compatible version of the industry-standard H.264 video compression protocol. H.264+ saves 50 percent bandwidth and storage space, on average, over H.264. For static scenes with few moving objects, H.264+ can provide up to 75 percent savings.

The following table lists recommended H.264+ bit rates for various resolutions.

H.264+ Recommended Bit Rate at General Resolutions (Approximate Value)															
Resolution and Rate		Frames	30 fps	25 fps	22 fps	20 fps	18 fps	15 fps	12.5 fps	10 fps	8 fps	6 fps	4 fps	2 fps	1 fps
12 MP (4000 × 3000)	Max Bitrate (Kbps)		27033	22528	21504	20480	18432	16384	14336	12288	10240	8192	6144	3584	2560
	Average Bitrate (Kbps)		10823	9020	8610	8200	7380	6560	6104	5232	4620	3696	2928	2165	1800
4K/8 MP (4096 × 2160)	Max Bitrate (Kbps)		19660	16384	15360	14336	13312	11264	10240	9216	8192	6656	5120	3072	2048
	Average Bitrate (Kbps)		7871	6560	6540	6104	5668	5082	4620	4158	3696	3172	2560	1856	1440
3840 × 2160	Max Bitrate (Kbps)		18432	15360	13312	12160	11264	10240	9216	8192	6656	5632	4608	2560	2048
	Average Bitrate (Kbps)		7380	6540	5668	5486	5082	4620	4158	3696	3172	2816	2304	1800	1440
6 MP (3072 × 2048)	Max Bitrate (Kbps)		13516	11264	10240	9216	8192	7680	6656	6144	5120	4352	3584	2048	1536
	Average Bitrate (Kbps)		5754	5082	4620	4158	3696	3660	3172	2928	2560	2176	2165	1440	1248
2560 × 1920	Max Bitrate (Kbps)		11059	9216	8192	8192	7680	6656	6656	5120	4096	3584	2560	1536	1024
	Average Bitrate (Kbps)		4989	4158	3696	3696	3660	3172	3172	2560	2048	2165	1800	1248	832
2048 × 2048	Max Bitrate (Kbps)		9216	7680	6144	5632	5120	4608	4352	4096	3584	2560	2048	1536	1024
	Average Bitrate (Kbps)		4158	3660	2928	2816	2560	2304	2176	2048	2165	1800	1440	1248	832
4 MP (2560 × 1440)	Max Bitrate (Kbps)		7987	6656	5632	5120	4608	4352	4096	3584	3072	2560	1920	1280	1024
	Average Bitrate (Kbps)		3806	3172	2816	2560	2304	2176	2048	2165	1856	1800	1560	1040	832
QXGA (2048 × 1536)	Max Bitrate (Kbps)		6144	5120	4608	4352	4096	3584	3200	3072	2560	2048	1536	1024	768
	Average Bitrate (Kbps)		2928	2560	2304	2176	2048	2165	1933	1856	1800	1440	1248	832	696
1536 × 1536	Max Bitrate (Kbps)		5529	4608	4096	3584	3200	3072	2560	2048	1536	1024	896	768	640
	Average Bitrate (Kbps)		2764	2304	2048	2165	1933	1856	1800	1440	1248	832	812	696	580
1080p (1920 × 1080)	Max Bitrate (Kbps)		4915	4096	3584	3072	2560	2240	2048	1536	1024	896	768	640	512
	Average Bitrate (Kbps)		2457	2048	2165	1856	1800	1575	1440	1248	832	812	696	580	464
UXGA (1600 × 1200)	Max Bitrate (Kbps)		4915	4096	3584	3072	2560	2240	2048	1536	1024	896	768	640	512
	Average Bitrate (Kbps)		2457	2048	2165	1856	1800	1575	1440	1248	832	812	696	580	464
2048 × 768	Max Bitrate (Kbps)		3686	3072	2560	2240	2048	1792	1536	1024	768	640	640	512	384
	Average Bitrate (Kbps)		2226	1856	1800	1575	1440	1456	1248	832	696	580	580	464	366
1280 × 1280	Max Bitrate (Kbps)		3686	3072	2560	2240	2048	1536	1024	896	768	640	512	448	384
	Average Bitrate (Kbps)		2226	1856	1800	1575	1440	1248	832	812	696	580	464	427	366
1280 × 960	Max Bitrate (Kbps)		2457	2048	1792	1536	1280	1024	896	768	640	512	448	384	256
	Average Bitrate (Kbps)		1727	1440	1456	1248	1040	832	812	696	580	464	427	366	244
720p (1280 × 720)	Max Bitrate (Kbps)		2457	2048	1792	1536	1280	1024	896	768	640	512	448	384	256
	Average Bitrate (Kbps)		1727	1440	1456	1248	1040	832	812	696	580	464	427	366	244
1024 × 1024	Max Bitrate (Kbps)		2150	1792	1536	1280	1024	896	768	640	512	448	384	320	256
	Average Bitrate (Kbps)		1511	1456	1248	1040	832	812	696	580	464	427	366	305	244
960 × 576	Max Bitrate (Kbps)		1680	1400	1232	1120	1008	840	672	560	453	367	297	241	216
	Average Bitrate (Kbps)		1365	1137	1001	910	913	761	609	507	431	349	283	229	205
720 × 720	Max Bitrate (Kbps)		1536	1280	1152	1024	896	768	640	512	448	320	256	192	128
	Average Bitrate (Kbps)		1248	1040	936	832	812	696	580	464	427	305	244	183	122
4CIF (704 × 576)	Max Bitrate (Kbps)		1228	1024	768	640	640	512	448	384	320	320	256	160	80
	Average Bitrate (Kbps)		997	832	696	580	580	464	427	366	305	305	244	152	76
VGA (640 × 480)	Max Bitrate (Kbps)		921	768	640	640	512	448	384	320	320	256	224	128	80
	Average Bitrate (Kbps)		834	696	580	580	464	427	366	305	305	244	213	122	76
528 × 384	Max Bitrate (Kbps)		614	512	450	409	368	307	245	204	165	134	108	88	79
	Average Bitrate (Kbps)		556	464	428	389	350	292	233	194	157	127	102	83	75
704 × 288	Max Bitrate (Kbps)		614	512	450	409	368	307	245	204	165	134	108	88	79
	Average Bitrate (Kbps)		556	464	428	389	350	292	233	194	157	127	102	83	75
352 × 288	Max Bitrate (Kbps)		307	256	225	204	184	153	122	102	82	67	54	44	39
	Average Bitrate (Kbps)		292	244	214	194	175	145	116	97	78	63	51	41	37
176 × 144	Max Bitrate (Kbps)		153	128	112	102	92	76	61	51	41	33	27	22	19
	Average Bitrate (Kbps)		145	122	106	97	87	72	58	48	39	31	25	20	18

**NOTE 1:** The max bitrate values are used for scenes with relatively more movement.

**NOTE 2:** For maximum reduced bandwidth and storage, variable bitrate type is recommended when H.264+ is enabled.

**NOTE 3:** The max bitrate values are suitable for all Hikvision H.264+ products using variable bitrate type. Recommended max bitrate value under constant bitrate type is the same as H.264.