

NOAA-20 VIIRS On-orbit Performance

			Specification							Prelaunch	On Orbit	
	Band	Driving EDRs	Spectral Range (μm)	Horizontal Sample Interval (km) (track × scan)		Band Gain	Ltyp of Ttyp (Spec)	Lmax or Tmax	Spec SNR or NEdT (K)	Measured SNR or NEdT (K) *	Measured SNR or NEdT (K) **	
				Nadir	End of Scan							
Reflective Solar Bands	VisNIR	M1	Ocean Color Aerosol	0.402 - 0.422	0.742 × 0.259	1.60 × 1.58	High	44.9	135	352	636	644
							Low	155	615	316	1066	1115
		M2	Ocean Color Aerosol	0.436 - 0.454	0.742 × 0.259	1.60 × 1.58	High	40	127	380	573	573
							Low	146	687	409	986	1012
		M3	Ocean Color Aerosol	0.478 - 0.498	0.742 × 0.259	1.60 × 1.58	High	32	107	416	706	686
							Low	123	702	414	1063	1057
		M4	Ocean Color Aerosol	0.545 - 0.565	0.742 × 0.259	1.60 × 1.58	High	21	78	362	559	551
							Low	90	667	315	844	857
		I1	Imagery EDR	0.600 - 0.680	0.371 × 0.387	0.80 × 0.789	Single	22	718	119	227	224
	M5	Ocean Color Aerosol	0.662 - 0.682	0.742 × 0.259	1.60 × 1.58	High	10	59	242	380	383	
						Low	68	651	360	751	762	
	M6	Atmospheric Correction	0.739 - 0.754	0.742 × 0.776	1.60 × 1.58	Single	9.6	41	199	428	413	
	I2	NDVI	0.846 - 0.885	0.371 × 0.387	0.80 × 0.789	Single	25	349	150	287	285	
	M7	Ocean Color Aerosol	0.846 - 0.885	0.742 × 0.259	1.60 × 1.58	High	6.4	29	215	549	523	
						Low	33.4	349	340	760	708	
	S/VMIR	M8	Cloud Particle Size	1.230 - 1.250	0.742 × 0.776	1.60 × 1.58	Single	5.4	165	74	335	319
M9		Cirrus/Cloud Cover	1.371 - 1.386	0.742 × 0.776	1.60 × 1.58	Single	6	77.1	83	325	297	
I3		Binary Snow Map	1.580 - 1.640	0.371 × 0.387	0.80 × 0.789	Single	7.3	72.5	6	190	174	
M10		Snow Fraction	1.580 - 1.640	0.742 × 0.776	1.60 × 1.58	Single	7.3	71.2	342	765	653	
M11		Clouds	2.225 - 2.275	0.742 × 0.776	1.60 × 1.58	Single	1	31.8	90	216	198	
I4		Imagery Clouds	3.550 - 3.930	0.371 × 0.387	0.80 × 0.789	Single	270	353	2.5	0.42	0.42	
M12		SST	3.660 - 3.840	0.742 × 0.776	1.60 × 1.58	Single	270	353	0.396	0.13	0.12	
M13		SST Fires	3.973 - 4.128	0.742 × 0.259	1.60 × 1.58	High	300	343	0.107	0.044	0.04	
					Low	380	634	0.423	0.34			
Emissive Bands	LMIR	M14	Cloud Top Properties	8.400 - 8.700	0.742 × 0.776	1.60 × 1.58	Single	270	336	0.091	0.061	0.05
		M15	SST	10.263 - 11.263	0.742 × 0.776	1.60 × 1.58	Single	300	343	0.07	0.03	0.02
		I5	Cloud Imagery	10.500 - 12.400	0.371 × 0.387	0.80 × 0.789	Single	210	340	1.5	0.41	0.42
		M16	SST	11.538 - 12.488	0.742 × 0.776	1.60 × 1.58	Single	300	340	0.072	0.038	0.03

* NASA VCST (Oudrari et al, Remote Sens. **8**, 41 (2016))

** NOAA STAR VIIRS SDR Team, evaluated by the onboard calibrator data collected in May 2018.