

VIIRS Spectral, Spatial, and Radiometric Characteristics

			Specification							Prelunch	On Orbit		
	Band No.	Driving EDR(s)	Spectral Range (um)	Horiz Sample Interval (km) (track x Scan)		Band Gain	Ltyp or Ttyp (Spec)	Lmax or Tmax	Spec SNR or NEdT (K)	Measured SNR or NEdT (K) (2)	Measured SNR or NEdT (K) (1)	Measured SNR or NEdT (K) (2)	
				Nadir	End of Scan								
Reflective Bands	VisNIR	M1	Ocean Color Aerosol	0.402 - 0.422	0.742 - 0.259	1.60 x 1.58	High	44.9	135	352	616.8	578	588.9
							Low	155	615	316	1092	974	1045.78
		M2	Ocean Color Aerosol	0.436 - 0.454	0.742 - 0.259	1.60 x 1.58	High	40	127	380	622.4	564	572.02
							Low	146	687	409	1118	975	1010.76
		M3	Ocean Color Aerosol	0.478 - 0.498	0.742 - 0.259	1.60 x 1.58	High	32	107	416	690	611	628.46
							Low	123	702	414	1111	1003	988.54
		M4	Ocean Color Aerosol	0.545 - 0.565	0.742 - 0.259	1.60 x 1.58	High	21	78	362	581.1	522	534.96
							Low	90	667	315	963.2	846	856.51
		I1	Imagery EDR	0.600 - 0.680	0.371 - 0.387	0.80 x 0.789	Single	22	718	119	240.7	215	214.07
		M5	Ocean Color Aerosol	0.662 - 0.682	0.742 - 0.259	1.60 x 1.58	High	10	59	242	366.6	321	336.13
							Low	68	651	360	827.9	673	631.26
		M6	Atmosph. Correct.	0.739 - 0.754	0.742 - 0.776	1.60 x 1.58	Single	9.6	41	199	415.2	355	368.4
		I2	NDVI	0.846 - 0.885	0.371 - 0.387	0.80 x 0.789	Single	25	349	150	304.1	251	264.01
		M7	Ocean Color Aerosol	0.846 - 0.885	0.742 - 0.259	1.60 x 1.58	High	6.4	29	215	519.8	435	457.54
							Low	33.4	349	340	845.6	636	631.24
Emissive Bands	S/WMIR	M8	Cloud Particle Size	1.230 - 1.250	0.742 x 0.776	1.60 x 1.58	Single	5.4	165	74	273	233	221
		M9	Cirrus/Cloud Cover	1.371 - 1.386	0.742 x 0.776	1.60 x 1.58	Single	6	77.1	83	253	231	227
		I3	Binary Snow Map	1.580 - 1.640	0.371 x 0.387	0.80 x 0.789	Single	7.3	72.5	6	172	149	149
		M10	Snow Fraction	1.580 - 1.640	0.742 x 0.776	1.60 x 1.58	Single	7.3	71.2	342	714	550	586
		M11	Clouds	2.225 - 2.275	0.742 x 0.776	1.60 x 1.58	Single	0.12	31.8	10	25	21.8	22
		I4	Imagery Clouds	3.550 - 3.930	0.371 x 0.387	0.80 x 0.789	Single	270	353	2.5	0.4	0.4	0.4
		M12	SST	3.660 - 3.840	0.742 x 0.776	1.60 x 1.58	Single	270	353	0.396	0.13	0.13	0.13
		M13	SST Fires	3.973 - 4.128	0.742 x 0.259	1.60 x 1.58	High	300	343	0.107	0.04	0.042	0.04
							Low	380	634	0.423			
	LWIR	M14	Cloud Top Properties	8.400 - 8.700	0.742 x 0.776	1.60 x 1.58	Single	270	336	0.091	0.06	0.06	0.05
		M15	SST	10.263 - 11.263	0.742 x 0.776	1.60 x 1.58	Single	300	343	0.07	0.03	0.03	0.03
		I5	Cloud Imagery	10.500 - 12.400	0.371 x 0.387	0.80 x 0.789	Single	210	340	1.5	0.4	0.4	0.4
		M16	SST	11.538 - 12.488	0.742 x 0.776	1.60 x 1.58	Single	300	340	0.072	0.04	0.03	0.03

(1) The Aerospace Corporation (2) NASA NICSE

HSI uses 3 in-scan pixels aggregation at Nadir

Source: VIIRS user's guide. On orbit values (last two columns for March 8, 2012) are updated based on the Murphy table for RSB, provided by Aerospace; TEB values are provided by STAR and NASA.