CLUSTER DEFINITION Support Table

Cluster Definition 1

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
1	216	807	592	240	314					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	1	0	0	5
1	5	14	10			straylight	2	1	5	10
	15	215	201			unused pixel				
2	216	743	528	240,00	305,99	virtual channel 1a	3	2	216	528
3	744	807	64	306,11	314,00	virtual channel 1b	4	3	744	64
	808	1008	201			unused pixel				
4	1009	1018	10			straylight	5	4	1009	10
5	1019	1023	5			Blinded Pixel	6	5	1019	5
			1024							

Pixel calculation	
Pixel	Wavelength
807	314 nm

Cluster Definition 1

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
2	95	929	835	405	309					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	7	0	1024	5
	5	94	90			unused pixel				
1	95	833	739	405,00	320,05	virtual channel 2b	8	1	1119	739
2	834	929	96	319,94	309,00	virtual channel 2a	9	2	1858	96
	930	1008	79			unused pixel				
3	1009	1018	10			straylight	10	3	2033	10
4	1019	1023	5			Blinded Pixel	11	4	2043	5
			1024							

Cluster Definition 1

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
3	46	975	930	394	620					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	12	0	2048	5
	5	45	41			unused pixel				
1	46	975	930	394,00	620,00		13	1	2094	930
	976	1018	43			unused pixel				
2	1019	1023	5			Blinded Pixel	14	2	3067	5
			1024							

Cluster Definition 1

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
4	46	976	931	604	805					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	15	0	3072	5
	5	45	41			unused pixel				
1	46	976	931	604,00	805,00		16	1	3118	931
	977	1018	42			unused pixel				
2	1019	1023	5			Blinded Pixel	17	2	4091	5

1024

Cluster Definition 1

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
5	54	967	914	785	1050					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	18	0	4096	5
	5	53	49			unused pixel				
1	54	967	914	785,00	1050,00		19	1	4150	914
	968	1018	51			unused pixel				
2	1019	1023	5			Blinded Pixel	20	2	5115	5

1024

Cluster Definition 1

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
6	45	977	933	1000	1750					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	21	0	5120	10
	10	44	35			unused pixel				
1	45	977	933	1000,00	1750,00		22	1	5165	933
	978	1013	36			unused pixel				
2	1014	1023	10			Blinded Pixel	23	2	6134	10

1024

Cluster Definition 1

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
7	73	949	877	1940	2040					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	24	0	6144	10
	10	72	63			unused pixel				
1	73	949	877	1940,00	2040,00		25	1	6217	877
	950	1013	64			unused pixel				
2	1014	1023	10			Blinded Pixel	26	2	7158	10

1024

Cluster Definition 1

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
8	73	950	878	2265	2380					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	27	0	7168	10
	10	72	63			unused pixel				
1	73	950	878	2265,00	2380,00		28	1	7241	878
	951	1013	63			unused pixel				
2	1014	1023	10			Blinded Pixel	29	2	8182	10

1024

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
1	216	807	592	240	314					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	4	4	5			Blinded Pixel	1	0	0	5
	5	215	211			unused pixel				
1	216	743	528	240,00	305,99	virtual channel 1a	2	1	216	528
2	744	767	24	306,11	308,99	virtual channel 1b	3	2	744	24
3	768	807	40	309,12	314,00	overlap region	4	3	768	40
	808	1018	211			unused pixel				
4	1019	1023	5			Blinded Pixel	5	4	1019	5

1024

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
2	95	929	835	405	309					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	6	0	1024	5
	5	94	90			unused pixel				
1	95	190	96	405,00	394,06	overlap region	7	1	1119	96
2	191	833	643	393,95	320,05	virtual channel 2b	8	2	1215	643
3	834	885	52	319,94	314,06	virtual channel 2a	9	3	1858	52
4	886	929	44	313,95	309,00	overlap region	10	4	1910	44
	930	1018	89			unused pixel				
5	1019	1023	5			Blinded Pixel	11	5	2043	5

1024

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
3	46	975	930	394	620					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	12	0	2048	5
	5	45	41			unused pixel				
1	46	91	46	394,00	404,95	overlap region	13	1	2094	46
2	92	173	82	405,19	424,90		14	2	2140	82
3	174	276	103	425,14	449,95	NO2	15	3	2222	103
4	277	481	205	450,20	499,82	Ozone	16	4	2325	205
5	482	687	206	500,07	549,94		17	5	2530	206
6	688	728	41	550,18	559,91	AE	18	6	2736	41
7	729	909	181	560,16	603,94		19	7	2777	181
8	910	975	66	604,19	620,00	overlap region	20	8	2958	66
	976	1018	43			unused pixel				
9	1019	1023	5			Blinded Pixel	21	9	3067	5

1024

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
4	46	976	931	604	805					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	22	0	3072	5
	5	45	41			unused pixel				
1	46	120	75	604,00	619,99	overlap region	23	1	3118	75
2	121	277	157	620,21	653,93		24	2	3193	157
3	278	323	46	654,14	663,87	AE	25	3	3350	46
4	324	744	421	664,08	754,86		26	4	3396	421
5	745	860	116	755,07	779,93	Clouds	27	5	3817	116
6	861	883	23	780,15	784,90		28	6	3933	23
7	884	975	92	785,12	804,78	overlap region	29	7	3956	92
	976	1018	43			unused pixel				
8	1019	1023	5			Blinded Pixel	30	8	4091	5
			1024							

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
5	54	967	914	785	1050					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	31	0	4096	5
	5	53	49			unused pixel				
1	54	122	69	785,00	804,74	overlap region	32	1	4150	69
2	123	313	191	805,03	860,18		33	2	4219	191
3	314	346	33	860,47	869,75	AE	34	3	4410	33
4	347	760	414	870,04	989,92		35	4	4443	414
5	761	794	34	990,21	999,79	AE	36	5	4857	34
6	795	829	35	1000,08	1009,95		37	6	4891	35
7	830	967	138	1010,24	1050,00	overlap region	38	7	4926	138
	968	1018	51			unused pixel				
8	1019	1023	5			Blinded Pixel	39	8	5115	5
			1024							

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
6	45	977	933	1000	1750					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	40	0	5120	10
	10	56	47			unused pixel				
1	57	107	51	1009,66	1049,89	overlap region	41	1	5177	51
2	108	337	230	1050,70	1234,98		42	2	5228	230
3	338	361	24	1235,78	1254,29	AE	43	3	5458	24
4	362	529	168	1255,10	1389,48		44	4	5482	168
5	530	554	25	1390,29	1409,60	Water Vapour	45	5	5650	25
6	555	728	174	1410,41	1549,62		46	6	5675	174
7	729	790	62	1550,43	1599,52	Water/Ice	47	7	5849	62
8	791	914	124	1600,32	1699,30	Water/Ice	48	8	5911	124
9	915	977	63	1700,11	1750,00	Water/Ice	49	9	6035	63
	978	1013	36			unused pixel				
10	1014	1023	10			Blinded Pixel	50	10	6134	10
			1024							

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
7	73	949	877	1940	2040					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	51	0	6144	10
	10	72	63			unused pixel				
1	73	949	877	1940,00	2040,00		52	1	6217	877
	950	1013	64			unused pixel				
2	1014	1023	10			Blinded Pixel	53	2	7158	10

1024

Cluster Definition 2

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
8	73	950	878	2265	2380					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	54	0	7168	10
	10	72	63			unused pixel				
1	73	950	878	2265,00	2380,00		55	1	7241	878
	951	1013	63			unused pixel				
2	1014	1023	10			Blinded Pixel	56	2	8182	10

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
1	216	807	592	240	314					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	1	0	0	5
1	5	14	10			straylight	2	1	5	10
	15	215	201			unused pixel				
2	216	743	528	240,00	305,99	virtual channel 1a	3	2	216	528
3	744	767	24	306,11	308,99	virtual channel 1b	4	3	744	24
4	768	807	40	309,12	314,00	overlap region	5	4	768	40
	808	1008	201			unused pixel				
5	1009	1018	10			straylight	6	5	1009	10
6	1019	1023	5			Blinded Pixel	7	6	1019	5

Pixel calculation	
Pixel	Wavelength
807	314 nm

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
2	95	929	835	405	309					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	8	0	1024	5
	5	94	90			unused pixel				
1	95	190	96	405,00	394,06	overlap region 2b	9	1	1119	96
2	191	294	104	393,95	382,09	virtual channel 2b	10	2	1215	104
3	295	833	539	381,98	320,05	UV DOAS O3, PMD 1, 2b	11	3	1319	539
4	834	886	53	319,94	313,95	PMD 1, 2a	12	4	1858	53
5	887	929	43	313,83	309,00	overlap region 2a, PMD 1	13	5	1911	43
	930	1008	79			unused pixel				
6	1009	1018	10			straylight	14	6	2033	10
7	1019	1023	5			Blinded Pixel	15	7	2043	5

Pixel calculation	
Pixel	Wavelength
295	382 nm

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max					
3	46	975	930	394	620					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	16	0	2048	5
	5	45	41			unused pixel				
1	46	91	46	394,00	404,95	overlap region	17	1	2094	46
2	92	173	82	405,19	424,90		18	2	2140	82
3	174	628	455	425,14	529,99	NO2, O3 VIS DOAS, PMI	19	3	2222	455
4	629	666	61	530,23	544,83		20	4	2677	38
5	667	748	82	545,07	564,78	AE	21	5	2715	82
6	749	909	161	565,02	603,94		22	6	2797	161
7	910	975	66	604,19	620,00	overlap region	23	7	2958	66
	976	1018	43			unused pixel				
8	1019	1023	5			Blinded Pixel	24	8	3066	5

Pixel calculation	
Pixel	Wavelength
605	530 nm

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max			Pixel calculation Pixel	Pixel calculation Wavelength
4	46	976	931	604	805			120	620 nm
	Cluster			Cluster Wavelength [nm]		Description			
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	25	0	3072	5
	5	45	41			unused pixel				
1	46	120	75	604,00	619,99	overlap region, PMD 3	26	1	3118	75
2	121	536	416	620,21	709,90	PMD 3, AE	27	2	3193	416
3	537	744	208	710,12	754,86		28	3	3609	208
4	745	860	116	755,07	779,93	Clouds	29	4	3817	116
5	861	883	23	780,15	784,90		30	5	3933	23
6	884	975	92	785,12	804,78	overlap region	31	6	3956	92
	976	1018	43			unused pixel				
7	1019	1023	5			Blinded Pixel	32	7	4091	5

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max			Pixel calculation Pixel	Pixel calculation Wavelength
5	54	967	914	785	1050			485	910 nm
	Cluster			Cluster Wavelength [nm]		Description			
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	4	5			Blinded Pixel	33	0	4096	5
	5	53	49			unused pixel				
1	54	122	69	785,00	804,74	overlap region, PMD 4/7	34	1	4150	69
2	123	485	363	805,03	910,10	PMD 4/7, AE	35	2	4219	363
3	486	760	275	910,39	989,92		36	3	4582	275
4	761	794	34	990,21	999,79	AE	37	4	4857	34
5	795	829	35	1000,08	1009,95		38	5	4891	35
6	830	967	138	1010,24	1050,00	overlap region	39	6	4926	138
	968	1018	51			unused pixel				
7	1019	1023	5	1065,09	1066,25	Blinded Pixel	40	7	5115	5

1024

Cluster Definition 3

Channel ID	Channel Start Pixel	Channel End Pixel	Channel Length	Channel Wavelength [nm] Min	Channel Wavelength [nm] Max			Pixel calculation Pixel	Pixel calculation Wavelength
6	45	977	933	1000	1750			629	1470 nm
	Cluster			Cluster Wavelength [nm]		Description			
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	41	0	5120	10
	10	56	47			unused pixel				
1	57	107	51	1009,66	1049,89	overlap region	42	1	5177	51
2	108	337	230	1050,70	1234,98		43	2	5228	230
3	338	361	24	1235,78	1254,29	AE	44	3	5458	24
4	362	529	168	1255,10	1389,48		45	4	5482	168
5	530	554	25	1390,29	1409,60	Water Vapour	46	5	5650	25
6	555	628	74	1410,41	1469,15		47	6	5675	74
7	629	846	218	1469,96	1644,58	Water/Ice cloud & PMD 5	48	7	5749	218
8	847	977	131	1645,39	1750,00	Water/Ice cloud & PMD 5	49	8	5967	131
	978	1013	36			unused pixel				
9	1014	1023	10			Blinded Pixel	50	9	6134	10

1024

Cluster Definition 3

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
7	73	949	877	1940	2040					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	51	0	6144	10
	10	72	63			unused pixel				
1	73	949	877	1940,00	2040,00		52	1	6217	877
	950	1013	64			unused pixel				
2	1014	1023	10			Blinded Pixel	53	2	7158	10

Pixel calculation	
Pixel	Wavelength
73	1940 nm

1024

Cluster Definition 3

	Channel			Channel Wavelength [nm]						
Channel ID	Start Pixel	End Pixel	Length	Min	Max					
8	73	950	878	2265	2380					
	Cluster			Cluster Wavelength [nm]		Description				
Cluster ID	Start Pixel	End Pixel	Length	Min	Max		Cluster Index	Cluster Identifier	Start Pixel	Length
0	0	9	10			Blinded Pixel	54	0	7168	10
	10	72	63			unused pixel				
1	73	950	878	2265,00	2380,00	PMD 6	55	1	7241	878
	951	1013	63			unused pixel				
2	1014	1023	10			Blinded Pixel	56	2	8182	10

Pixel calculation	
Pixel	Wavelength
73	2265 nm

1024