

TOST: Aftermarket Package 067TI (T43)

Segment Boundary

Start: 2008-132T22:30:00

End: 2008-134T22:14:00

Titan C/A= 2008-133T10:01:58; at 1000 km

Epoch = GMB_E067_Titan43

November 15, 2007

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067TI (T43)

- Science to be accomplished during this flyby:
 - VIMS – Time scales for cloud formation and dissipation.
 - RADAR – SAR imaging of bright region (only other coverage is T13).
 - CIRS – Make a number of important maps on the outbound leg, including a far-IR surface/troposphere temperature scan from +2 to +5 hours, a mid-IR limb temperature map for stratospheric temperatures from +5 to +9, and then, after a short downlink, a complete mid-IR temperature map of visible hemisphere, for inferring dynamics, winds and waves.

CIRS also has two far-IR composition links to search for new molecular species in the far-IR and sub-mm ranges beyond the capability of Voyager IRIS.

067TI (T43) Timeline C/A= 2008-133T10:01:58

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
132T22:30	132T23:00	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y to Titan, +X to NTP
132T23:00	132T23:15	OD Dead Time		DFPW Normal	S_N_ER_3	
-10:54	-10:00	CIRS	FP1	RADAR_WU @ -10:15	S_N_ER_5a @ -10:15	Template N (modified) (SNER_5a only for 15m)
-10:00	-09:00	ISS	Photometry	RADAR_WU	S_N_ER_3	Template N
-09:00	-05:07	VIMS	Cloud Map	RADAR_WU	S_N_ER_3	Template Q
-05:07	-04:53	SP turn to waypoint	11 min turn	RADAR_WU	S_N_ER_3	-Z to Titan, -X to 296/-52
-04:53	-02:00	RADAR	Radiometry	RADAR_RWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADAR_RWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition		RADAR/INMS	S_N_ER_8	
-00:30	-00:15	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
-00:15	-00:07	RADAR	Low-Res SAR	RADAR/INMS	S_N_ER_8	
-00:07	+00:07	RADAR	High-Res SAR	RADAR/INMS	S_N_ER_8	
+00:07	+00:15	RADAR	Low-Res SAR	RADAR/INMS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
+00:30	+00:54	RCS to RWA Transition		DFPW Normal	S_N_ER_8	
+00:54	+01:50	RADAR	Scatterometry	DFPW Normal	S_N_ER_8	
+01:50	+02:10	SP turn to waypoint	18 min turn	DFPW Normal	S_N_ER_3	-Y to Titan, +X to NTP
+02:10	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template E
+05:00	+09:00	CIRS	Limb Map	DFPW Normal	S_N_ER_3	Template F
+09:00	+14:00	CIRS		DFPW Normal	S_N_ER_3	Template C
+14:00	+14:30	SP Turn to Earth				
+14:30	+16:15	Downlink to Goldstone				
+16:15	+16:45	SP Turn back to Titan				-Y to Titan, +X to NTP
+16:45	+1T02:19	CIRS		DFPW Normal	S_N_ER_3	Template A (modified)
134T12:29	134T12:44	OD Dead Time		DFPW Normal	S_N_ER_3	
134T12:44	134T13:14	SP Turn to Earth		DFPW Normal	S_N_ER_3	
134T13:14	134T22:14	Downlink over Madrid		DFPW Normal	RTE_N_SPB	Array (63 & 54)

T43 TOL

Request	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
CAPS_067SA_SURVEY002_RIDER	2008-131T02:00:00		002T06:01:58	2008-133T08:01:58	1000	194.518	Non-SPASS		
CAPS_067TI_T43INBND001_PRIME	2008-133T08:01:58	GMB_E067_Titan43-000T02:00:00	000T01:15:00	2008-133T09:16:58	4000	18	SPASS Rider		
CAPS_067TI_T43CLOSE001_PRIME	2008-133T09:16:58	GMB_E067_Titan43-000T00:45:00	000T01:30:00	2008-133T10:46:58	16000	86.4	SPASS Rider		
CAPS_067TI_T43OUTBND001_PRIME	2008-133T10:46:58	GMB_E067_Titan43+000T00:45:00	000T01:15:00	2008-133T12:01:58	4000	18	SPASS Rider		
CAPS_067SA_SURVEY003_RIDER	2008-133T12:01:58	GMB_E067_Titan43+000T02:00:00	001T12:11:07	2008-135T00:13:05	1000	130.267	Non-SPASS		
CDA_067DR_1705DUST572_RIDER	2008-132T19:18:54		000T06:59:37	2008-133T02:18:31	300	7.553	Non-SPASS		
CDA_067RI_1804RINGM011_RIDER	2008-133T02:18:31		000T02:01:58	2008-133T04:20:29	524	3.836	Non-SPASS		
CDA_067DR_1904DUST573_RIDER	2008-133T04:20:29		001T19:48:31	2008-135T00:09:00	300	47.312	Non-SPASS		
CDA_067OT_DECON001_RIDER	2008-134T02:17:00		000T10:57:00	2008-134T13:14:00	0	0	SPASS Rider		
CIRS_067TI_FIRNADCMP001_PRIME	2008-132T23:07:58	GMB_E067_Titan43-000T10:54:00	000T00:54:00	2008-133T00:01:58	4000	12.96	Prime	CIRS_FP1 to Titan	PIC
CIRS_067TI_FIRNADCMP001_SI	2008-132T23:07:58	GMB_E067_Titan43-000T10:54:00	000T00:54:00	2008-133T00:01:58	0	1	SPASS Rider		
CIRS_067TI_PHOTOMWAC001_ISS	2008-133T00:01:58	GMB_E067_Titan43-000T10:00:00	000T01:00:00	2008-133T01:01:58	4000	14.4	SPASS Rider		
CIRS_067TI_MEDRESDRK001_VIMS	2008-133T01:01:58	GMB_E067_Titan43-000T09:00:00	000T03:53:00	2008-133T04:54:58	3200	44.736	SPASS Rider		
CIRS_067TI_FIRNADMAP002_PRIME	2008-133T12:11:58	GMB_E067_Titan43+000T02:10:00	000T02:50:00	2008-133T15:01:58	4000	40.8	Prime	CIRS_FP1 to Titan	POS_X to North_Pole_Dir
CIRS_067TI_FIRNADMAP002_SI	2008-133T12:11:58	GMB_E067_Titan43+000T02:10:00	000T02:50:00	2008-133T15:01:58	0	3	SPASS Rider		
CIRS_067TI_MIRLMBINT002_PRIME	2008-133T15:01:58	GMB_E067_Titan43+000T05:00:00	000T04:00:00	2008-133T19:01:58	4000	57.6	Prime	CIRS_FPB to Titan	PIC
CIRS_067TI_MIRLMBINT002_SI	2008-133T15:01:58	GMB_E067_Titan43+000T05:00:00	000T04:00:00	2008-133T19:01:58	0	4	SPASS Rider		
CIRS_067TI_FIRNADCMP002_PRIME	2008-133T19:01:58	GMB_E067_Titan43+000T09:00:00	000T05:00:00	2008-134T00:01:58	4000	72	Prime	CIRS_FP1 to Titan	PIC
CIRS_067TI_FIRNADCMP002_SI	2008-133T19:01:58	GMB_E067_Titan43+000T09:00:00	000T05:00:00	2008-134T00:01:58	0	5	SPASS Rider		
CIRS_067IC_DSCAL08134_RIDER	2008-134T00:31:58	GMB_E067_Titan43+000T14:30:00	000T01:45:00	2008-134T02:16:58	3400	21.42	SPASS Rider		
CIRS_067TI_MIDIRTMAP002_PRIME	2008-134T02:46:58	GMB_E067_Titan43+000T16:45:00	000T09:34:00	2008-134T12:20:58	4000	137.76	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir
CIRS_067TI_MIDIRTMAP002_SI	2008-134T02:46:58	GMB_E067_Titan43+000T16:45:00	000T09:34:00	2008-134T12:20:58	0	13	SPASS Rider		
CIRS_067IC_DSCAL2732_RIDER	2008-134T14:44:00		000T06:00:00	2008-134T20:44:00	4000	86.4	SPASS Rider		
ENGR_067SC_RADWU132_PPS	2008-132T23:46:58	GMB_E067_Titan43-000T10:15:00	000T00:00:07	2008-132T23:47:05	0	0	Non-SPASS		
ENGR_067SC_RADRWA133_PPS	2008-133T05:12:58	GMB_E067_Titan43-000T04:49:00	000T00:00:44	2008-133T05:13:42	0	0	Non-SPASS		
ENGR_067SC_AACSDUAL001_CDS	2008-133T09:06:58	GMB_E067_Titan43-000T00:55:00	000T01:48:18	2008-133T10:55:16	1638	10.644	Non-SPASS		
ENGR_067SC_RADRCS133_PPS	2008-133T09:09:58	GMB_E067_Titan43-000T00:52:00	000T00:21:15	2008-133T09:31:13	0	0	Non-SPASS		
ENGR_067SC_RADRCS133_PRIME	2008-133T09:09:58	GMB_E067_Titan43-000T00:52:00	000T00:01:00	2008-133T09:10:58	0	0	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
ENGR_067SC_RADRWBIAS433_PPS	2008-133T10:31:58	GMB_E067_Titan43+000T00:30:00	000T00:23:18	2008-133T10:55:16	0	0	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
ENGR_067SC_DFPW133_PPS	2008-133T11:51:21	GMB_E067_Titan43+000T01:49:23	000T00:00:37	2008-133T11:51:58	0	0	Non-SPASS		
ENGR_067SC_AACSDUAL002_CDS	2008-134T00:31:45	GMB_E067_Titan43+000T14:29:47	000T00:00:02	2008-134T00:31:47	0	0	Non-SPASS		
INMS_067TI_T43INBND001_RADAR	2008-132T22:01:58	GMB_E067_Titan43-000T12:00:00	000T11:00:00	2008-133T09:01:58	100	3.96	Non-SPASS		
INMS_067TI_T43CLOSE001_RADAR	2008-133T09:01:58	GMB_E067_Titan43-000T01:00:00	000T02:00:00	2008-133T11:01:58	1498	10.786	Non-SPASS		
INMS_067TI_T43OUTBND001_RADAR	2008-133T11:01:58	GMB_E067_Titan43+000T01:00:00	000T11:00:00	2008-133T22:01:58	100	3.96	Non-SPASS		
INMS_067SA_SURVEY005_RIDER	2008-133T22:01:58	GMB_E067_Titan43+000T12:00:00	000T11:59:59	2008-134T10:01:57	50	2.16	Non-SPASS		
INMS_067SA_SURVEY006_RIDER	2008-134T10:10:00		000T14:03:05	2008-135T00:13:05	50	2.529	Non-SPASS		

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Request	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
ISS_067TI_FIRNADCMP001_CIRS	2008-132T23:07:58	GMB_E067_Titan43-000T10:54:00	000T00:54:00	2008-133T00:01:58	0	20	SPASS Rider		
ISS_067TI_PHOTOMWAC001_PRIME	2008-133T00:01:58	GMB_E067_Titan43-000T10:00:00	000T01:00:00	2008-133T01:01:58	0	50	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir
ISS_067TI_MEDRESDRK001_VIMS	2008-133T01:01:58	GMB_E067_Titan43-000T09:00:00	000T03:53:00	2008-133T04:54:58	0	20	SPASS Rider		
ISS_067TI_FIRNADMAP002_CIRS	2008-133T12:11:58	GMB_E067_Titan43+000T02:10:00	000T02:50:00	2008-133T15:01:58	0	172	SPASS Rider		
ISS_067TI_MIRLMBINT002_CIRS	2008-133T15:01:58	GMB_E067_Titan43+000T05:00:00	000T04:00:00	2008-133T19:01:58	0	171	SPASS Rider		
ISS_067TI_FIRNADCMP002_CIRS	2008-133T19:01:58	GMB_E067_Titan43+000T09:00:00	000T05:00:00	2008-134T00:01:58	0	146	SPASS Rider		
ISS_067TI_MIDIPTMAP002_CIRS	2008-134T02:46:58	GMB_E067_Titan43+000T16:45:00	000T09:34:00	2008-134T12:20:58	0	30	SPASS Rider		
MAG_067OT_SURVEY002_PRIME	2008-132T22:30:00		000T07:31:58	2008-133T06:01:58	600	16.271	Non-SPASS		
MAG_067TI_MAGTITAN001_PRIME	2008-133T06:01:58	GMB_E067_Titan43-000T04:00:00	000T08:00:00	2008-133T14:01:58	1976	56.909	Non-SPASS		
MAG_067OT_SURVEY005_PRIME	2008-133T14:01:58	GMB_E067_Titan43+000T04:00:00	001T08:12:02	2008-134T22:14:00	600	69.553	Non-SPASS		
MIMI_067SA_MAGDYN004_PRIME	2008-132T10:10:01		000T21:51:57	2008-133T08:01:58	1200	94.46	SPASS Rider		
MIMI_067TI_T43INBND001_CAPS	2008-133T08:01:58	GMB_E067_Titan43-000T02:00:00	000T01:00:00	2008-133T09:01:58	2000	7.2	SPASS Rider		
MIMI_067TI_T43CLOSE001_CAPS	2008-133T09:01:58	GMB_E067_Titan43-000T01:00:00	000T02:00:00	2008-133T11:01:58	2000	14.4	SPASS Rider		
MIMI_067TI_T43OUTBND001_CAPS	2008-133T11:01:58	GMB_E067_Titan43+000T01:00:00	000T01:00:00	2008-133T12:01:58	2000	7.2	SPASS Rider		
MIMI_067SA_MAGDYN003_PRIME	2008-133T12:01:58	GMB_E067_Titan43+000T02:00:00	000T22:00:01	2008-134T10:01:59	1200	95.041	SPASS Rider		
MIMI_067SA_MAGDYN005_PRIME	2008-134T10:10:01		000T14:03:53	2008-135T00:13:54	1200	60.76	SPASS Rider		
MP_058NA_DSS54DOWN001_NA	2008-035T00:00:00		097T23:59:59	2008-132T23:59:59	0	0	Non-SPASS		
MP_059NA_DSS15DOWN001_NA	2008-049T00:00:00		083T23:59:59	2008-132T23:59:59	0	0	Non-SPASS		
MP_065NA_SEQUENCE040_NA	2008-110T07:18:00	E065_SEQUENCE_040+000T00:00	041T21:09:00	2008-152T04:27:00	0	0	SPASS Note		
MP_067TI_FLYBYT043_NA	2008-133T10:01:46		000T00:00:01	2008-133T10:01:47	0	0	Non-SPASS		
MP_067SA_RPXASCEND067_NA	2008-133T10:30:32		000T00:00:01	2008-133T10:30:33	0	0	Non-SPASS		
RADAR_067TI_T43WARMUP001_RIDER	2008-132T23:46:58	GMB_E067_Titan43-000T10:15:00	000T05:26:00	2008-133T05:12:58	474.2	9.276	SPASS Rider		
RADAR_067TI_T43INRAD001_PRIME	2008-133T05:12:58	GMB_E067_Titan43-000T04:49:00	000T03:19:00	2008-133T08:31:58	5326.1	63.593	Prime	NEG_Z to Titan (0.0,0.0)	POS_Y to North_Pole_Dir
RADAR_067TI_T43INSCAT001_PRIME	2008-133T08:31:58	GMB_E067_Titan43-000T01:30:00	000T00:38:00	2008-133T09:09:58	32211.8	73.443	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
RADAR_067TI_T43INALT001_PRIME	2008-133T09:31:58	GMB_E067_Titan43-000T00:30:00	000T00:15:00	2008-133T09:46:58	32211.8	28.991	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
RADAR_067TI_T43INLSAR001_PRIME	2008-133T09:46:58	GMB_E067_Titan43-000T00:15:00	000T00:08:00	2008-133T09:54:58	250216.3	120.104	Prime	NEG_Z to Titan	NEG_X to Titan_SC_RAM
RADAR_067TI_T43HISAR001_PRIME	2008-133T09:54:58	GMB_E067_Titan43-000T00:07:00	000T00:14:00	2008-133T10:08:58	364800	306.432	Prime	NEG_Z to Titan	NEG_X to Titan_SC_RAM
RADAR_067TI_T43OULSAR001_PRIME	2008-133T10:08:58	GMB_E067_Titan43+000T00:07:00	000T00:08:00	2008-133T10:16:58	250216.3	120.104	Prime	NEG_Z to Titan	NEG_X to Titan_SC_RAM
RADAR_067TI_T43OUTALT001_PRIME	2008-133T10:16:58	GMB_E067_Titan43+000T00:15:00	000T00:15:00	2008-133T10:31:58	32211.8	28.991	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
RADAR_067TI_T43OUTSCT001_PRIME	2008-133T10:55:58	GMB_E067_Titan43+000T00:54:00	000T00:56:00	2008-133T11:51:58	32211.8	108.232	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir
RPWS_067SA_OUTSURVEY002_PRIME	2008-132T22:30:00		000T09:31:58	2008-133T08:01:58	1310	44.957	Non-SPASS		
RPWS_067TI_TIINTRMED001_PRIME	2008-133T08:01:58	GMB_E067_Titan43-000T02:00:00	000T03:55:00	2008-133T11:56:58	30464	429.542	Non-SPASS		
RPWS_067SA_OUTSURVEY005_PRIME	2008-133T11:56:58	GMB_E067_Titan43+000T01:55:00	001T10:08:59	2008-134T22:05:57	1310	161.052	Non-SPASS		

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Request	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
RSS_067SA_GRAVORT002_RSS	2008-134T11:09:00		000T11:05:00	2008-134T22:14:00	0	0	SPASS Rider		
SP_067NA_G70OBSNON134_NA	2008-132T22:30:00		001T02:01:58	2008-134T00:31:58	0	0	Non-SPASS		
SP_067NA_TOSTSEG132_NA	2008-132T22:30:00		001T23:44:00	2008-134T22:14:00	0	0	SPASS Note		
SP_067TI_WAYPTTURN132_PRIME	2008-132T22:30:00		000T00:30:00	2008-132T23:00:00	0	0	New Waypoint	ISS_NAC to Titan	POS_X to North_Pole_Dir
SP_067TI_DEADTIME132_PRIME	2008-132T23:00:00		000T00:07:58	2008-132T23:07:58	0	0	Prime	ISS_NAC to Titan	POS_X to North_Pole_Dir
SP_067TI_WAYPTTURN133_PRIME	2008-133T04:54:58	GMB_E067_Titan43-000T05:07:00	000T00:18:00	2008-133T05:12:58	0	0	New Waypoint	NEG_Z to Titan	NEG_X to 296.0/-52.0
SP_067NA_BEGHIVAL133_NA	2008-133T09:38:58	GMB_E067_Titan43-000T00:23:00	000T00:00:01	2008-133T09:38:59	0	0	SPASS Note		
SP_067NA_ENDHIVAL133_NA	2008-133T10:19:58	GMB_E067_Titan43+000T00:18:00	000T00:00:01	2008-133T10:19:59	0	0	SPASS Note		
SP_067TI_WAYPTTURN433_PRIME	2008-133T11:51:58	GMB_E067_Titan43+000T01:50:00	000T00:20:00	2008-133T12:11:58	0	0	New Waypoint	NEG_Y to Titan	POS_X to North_Pole_Dir
SP_067EA_DLTURN434_PRIME	2008-134T00:01:58	GMB_E067_Titan43+000T14:00:00	000T00:30:00	2008-134T00:31:58	0	0	Prime	XBAND to Earth	POS_X to NTP
SP_067NA_G70METNON134_SP	2008-134T00:24:00		000T02:15:00	2008-134T02:39:00	0	0	Non-SPASS		
SP_067EA_G70METNON134_PRIME	2008-134T00:31:58	GMB_E067_Titan43+000T14:30:00	000T01:45:00	2008-134T02:16:58	0	0	Prime	XBAND to Earth	POS_X to NTP
SP_067NA_M70OBSNON134_NA	2008-134T02:16:58	GMB_E067_Titan43+000T16:15:00	000T10:48:59	2008-134T13:05:57	0	0	Non-SPASS		
SP_067TI_WAYPTTURN434_PRIME	2008-134T02:16:58	GMB_E067_Titan43+000T16:15:00	000T00:30:00	2008-134T02:46:58	0	0	Prime	NEG_Y to Titan	POS_X to North_Pole_Dir
SP_067TI_DEADTIME134_PRIME	2008-134T12:20:58	GMB_E067_Titan43+001T02:19:00	000T00:14:59	2008-134T12:35:57	0	0	Prime	NEG_Y to Titan	POS_X to North_Pole_Dir
SP_067EA_DLTURN134_PRIME	2008-134T12:44:00		000T00:30:00	2008-134T13:14:00	0	0	Prime	XBAND to Earth	POS_X to NEP
SP_067EA_M70METNON134_PRIME	2008-134T13:14:00		000T09:00:00	2008-134T22:14:00	0	0	Prime	XBAND to Earth	5_Hr_Rolling
SP_067NA_M70METNON134_SP	2008-134T13:14:00		000T09:00:00	2008-134T22:14:00	0	0	Non-SPASS		
UVIS_067SA_PHOTOMWAC001_ISS	2008-133T00:01:58	GMB_E067_Titan43-000T10:00:00	000T01:00:00	2008-133T01:01:58	1006.4	3.623	SPASS Rider		
UVIS_091SA_PHOTOMWAC001_ISS	2008-133T00:01:58	GMB_E067_Titan43-000T10:00:00	000T01:00:00	2008-133T01:01:58	1006.4	3.623	SPASS Rider		
UVIS_067TI_MEDRESDRK001_VIMS	2008-133T01:01:58	GMB_E067_Titan43-000T09:00:00	000T04:00:00	2008-133T05:01:58	2516	36.23	SPASS Rider		
UVIS_067TI_FIRNADMAP002_CIRS	2008-133T12:11:58	GMB_E067_Titan43+000T02:10:00	000T02:50:00	2008-133T15:01:58	5032	51.326	SPASS Rider		
UVIS_067TI_MIRLMBINT002_CIRS	2008-133T15:01:58	GMB_E067_Titan43+000T05:00:00	000T04:00:00	2008-133T19:01:58	2516	36.23	SPASS Rider		
UVIS_067SW_IPHSURVEY010_RIDER	2008-134T00:09:59		000T04:00:00	2008-134T04:09:59	76	1.094	Non-SPASS		
UVIS_067TI_MIDIRMAP002_CIRS	2008-134T02:46:58	GMB_E067_Titan43+000T16:45:00	000T09:34:00	2008-134T12:20:58	2918.6	100.515	SPASS Rider		
UVIS_067SW_IPHSURVEY002_RIDER	2008-134T13:14:00		000T09:00:00	2008-134T22:14:00	76	2.462	Non-SPASS		
VIMS_067TI_FIRNADCMP001_CIRS	2008-132T23:07:58	GMB_E067_Titan43-000T10:54:00	000T00:54:00	2008-133T00:01:58	11111.1	36	SPASS Rider		
VIMS_067TI_PHOTMAP001_ISS	2008-133T00:01:58	GMB_E067_Titan43-000T10:00:00	000T01:00:00	2008-133T01:01:58	11111.1	40	SPASS Rider		
VIMS_067TI_MEDRESDRK001_PRIME	2008-133T01:01:58	GMB_E067_Titan43-000T09:00:00	000T03:53:00	2008-133T04:54:58	9012.9	126	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_067TI_FIRNADCMP002_CIRS	2008-133T12:11:58	GMB_E067_Titan43+000T02:10:00	000T02:50:00	2008-133T15:01:58	8921.6	91	SPASS Rider		
VIMS_067TI_LIMB001_CIRS	2008-133T15:01:58	GMB_E067_Titan43+000T05:00:00	000T04:00:00	2008-133T19:01:58	10000	144	SPASS Rider		
VIMS_067TI_MIRLMBINT001_CIRS	2008-133T19:01:58	GMB_E067_Titan43+000T09:00:00	000T05:00:00	2008-134T00:01:58	3000	54	SPASS Rider		
VIMS_067TI_MIRTEMP001_CIRS	2008-134T02:46:58	GMB_E067_Titan43+000T16:45:00	000T09:34:00	2008-134T12:20:58	4181.2	144	SPASS Rider		

067TI T43 Attitude Strategy

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S040, length = 42 ...		2008-110T07:18:00	E065_SEQUENCE_D40+0000	041T21:09:00	2008-152T04:27:00			
TOST rev 67 Segment		2008-132T22:30:00		001T23:44:00	2008-134T22:14:00			
SP_067TI_WAYPTTURN132_PRIME	M	2008-132T22:30:00		000T00:30:00	2008-132T23:00:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	SP Turn to Waypoint
NEW WAYPOINT		2008-132T23:00:00		000T06:12:58	2008-133T05:12:58	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_067TI_DEADTIME132_PRIME	M	2008-132T23:00:00		000T00:07:58	2008-132T23:07:58	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_067TI_FIRNADCMP001_PRIME	C, I, M, R,	2008-132T23:07:58	GMB_E067_Titan43-000T10:000T00:54:00		2008-133T00:01:58	CIRS_FP1 to Titan	PIC	
ISS_067TI_PHOTOMWAC001_PRIME	C, M, R, U,	2008-133T00:01:58	GMB_E067_Titan43-000T10:000T01:00:00		2008-133T01:01:58	ISS_NAC to Titan	POS_X to North_Pole_Dir	
VIMS_067TI_MEDRESDRK001_PRIME	C, I, M, R,	2008-133T01:01:58	GMB_E067_Titan43-000T09:000T03:53:00		2008-133T04:54:58	ISS_NAC to Titan	NEG_X to Sun	
SP_067TI_WAYPTTURN133_PRIME	M, R, U	2008-133T04:54:58	GMB_E067_Titan43-000T05:000T00:18:00		2008-133T05:12:58	NEG_Z to Titan	NEG_X to 296.0/-52.0	
NEW WAYPOINT		2008-133T05:12:58		000T06:59:00	2008-133T12:11:58	NEG_Z to Titan	NEG_X to 296.0/-52.0	
RADAR_067TI_T43INRAD001_PRIME	M	2008-133T05:12:58	GMB_E067_Titan43-000T04:400T03:19:00		2008-133T08:31:58	NEG_Z to Titan (0.0,0.0,-10.0 deg.	POS_Y to North_Pole_Dir	Use +Y_NTP, +X_NTP offset(0,0,-10) for the two polarizations.
RADAR_067TI_T43INSCAT001_PRIME	M	2008-133T08:31:58	GMB_E067_Titan43-000T01:000T00:38:00		2008-133T09:09:58	NEG_Z to Titan	POS_X to North_Pole_Dir	
ENGR_067SC_RADRCS133_PRIME	M	2008-133T09:09:58	GMB_E067_Titan43-000T00:000T00:01:00		2008-133T09:10:58	NEG_Z to Titan	POS_X to North_Pole_Dir	
RADAR_067TI_T43INALT001_PRIME	M	2008-133T09:10:58	GMB_E067_Titan43-000T00:000T00:36:00		2008-133T09:46:58	NEG_Z to Titan	POS_X to North_Pole_Dir	
Begin High Value Science		2008-133T09:38:58	GMB_E067_Titan43-000T00:200T00:00:01		2008-133T09:38:58			
RADAR_067TI_T43INLSAR001_PRIME	M	2008-133T09:46:58	GMB_E067_Titan43-000T00:1000T00:08:00		2008-133T09:54:58	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_067TI_T43HISAR001_PRIME	M	2008-133T09:54:58	GMB_E067_Titan43-000T00:000T00:14:00		2008-133T10:08:58	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_067TI_T43OULSAR001_PRIME	M	2008-133T10:08:58	GMB_E067_Titan43+000T00:000T00:08:00		2008-133T10:16:58	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_067TI_T43OUTALT001_PRIME	M	2008-133T10:16:58	GMB_E067_Titan43+000T00:000T00:15:00		2008-133T10:31:58	NEG_Z to Titan	POS_X to North_Pole_Dir	
End High Value Science		2008-133T10:19:58	GMB_E067_Titan43+000T00:000T00:00:01		2008-133T10:19:58			
ENGR_067SC_RADRWBIAS433_PPS	M	2008-133T10:31:58	GMB_E067_Titan43+000T00:000T00:23:18		2008-133T10:55:16	NEG_Z to Titan	POS_X to North_Pole_Dir	
RADAR_067TI_T43OUTSCT001_PRIME	M	2008-133T10:55:58	GMB_E067_Titan43+000T00:000T00:56:00		2008-133T11:51:58	NEG_Z to Titan	POS_X to North_Pole_Dir	
SP_067TI_WAYPTTURN433_PRIME	M	2008-133T11:51:58	GMB_E067_Titan43+000T01:000T00:20:00		2008-133T12:11:58	NEG_Y to Titan	POS_X to North_Pole_Dir	
NEW WAYPOINT		2008-133T12:11:58		000T14:35:00	2008-134T02:46:58	NEG_Y to Titan	POS_X to North_Pole_Dir	
CIRS_067TI_FIRNADMAP002_PRIME	C, I, M, U,	2008-133T12:11:58	GMB_E067_Titan43+000T02:000T02:50:00		2008-133T15:01:58	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_067TI_MIRLMBINT002_PRIME	C, I, M, U,	2008-133T15:01:58	GMB_E067_Titan43+000T05:000T04:00:00		2008-133T19:01:58	CIRS_FP2 to Titan	PIC	
CIRS_067TI_FIRNADCMP002_PRIME	C, I, M, V	2008-133T19:01:58	GMB_E067_Titan43+000T09:000T05:00:00		2008-134T00:01:58	CIRS_FP1 to Titan	PIC	
SP_067EA_DLTURN434_PRIME	M	2008-134T00:01:58	GMB_E067_Titan43+000T14:000T00:30:00		2008-134T00:31:58	XBAND to Earth	POS_X to NTP	Use Pos_X to Titan North Pole as secondary. Only 30s of margin is needed (not 2 min)
SP_067EA_G70METNON134_PRIME	C, M	2008-134T00:31:58	GMB_E067_Titan43+000T14:000T01:45:00		2008-134T02:16:58	XBAND to Earth	POS_X to NTP	Use POS_X to Titan North Pole as secondary
SP_067TI_WAYPTTURN434_PRIME	C, M	2008-134T02:16:58	GMB_E067_Titan43+000T16:000T00:30:00		2008-134T02:46:58	NEG_Y to Titan	POS_X to North_Pole_Dir	Only 30s of margin is needed (not 2 min)
NEW WAYPOINT		2008-134T02:46:58		000T19:27:02	2008-134T22:14:00	NEG_Y to Titan	POS_X to North_Pole_Dir	
CIRS_067TI_MIDIRMAP002_PRIME	C, I, M, R,	2008-134T02:46:58	GMB_E067_Titan43+000T16:000T09:34:00		2008-134T12:20:58	CIRS_FP2 to Titan	POS_X to North_Pole_Dir	
SP_067TI_DEADTIME134_PRIME	M, R	2008-134T12:20:58	GMB_E067_Titan43+001T02000T00:23:02		2008-134T12:44:00	NEG_Y to Titan	POS_X to North_Pole_Dir	
SP_067EA_DLTURN134_PRIME	M, R	2008-134T12:44:00		000T00:30:00	2008-134T13:14:00	XBAND to Earth	POS_X to NEP	SP Turn to Earth
SP_067EA_M70METNON134_PRIME	C, M, R	2008-134T13:14:00		000T09:00:00	2008-134T22:14:00	XBAND to Earth	5_Hr_Rolling	

067TI (T43) Telemetry Modes

TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2008-132T22:30:00.000	01:16:58	S_N_ER_3	SP_067NA_G70OBSNON134_NA
GMB_E067_Titan43-000T10:15:00	2008-132T23:46:58.000	00:15:00	S_N_ER_5A	SP_067NA_G70OBSNON134_NA
GMB_E067_Titan43-000T10:00:00	2008-133T00:01:58.000	05:11:00	S_N_ER_3	SP_067NA_G70OBSNON134_NA
GMB_E067_Titan43-000T04:49:00	2008-133T05:12:58.000	06:39:00	S_N_ER_8	SP_067NA_G70OBSNON134_NA
GMB_E067_Titan43+000T01:50:00	2008-133T11:51:58.000	12:40:00	S_N_ER_3	SP_067NA_G70OBSNON134_NA
GMB_E067_Titan43+000T14:30:00	2008-134T00:31:58.000	01:45:00	RTE_N_SPB_142200	SP_067EA_G70METNON134_PRIME
GMB_E067_Titan43+000T16:15:00	2008-134T02:16:58.000	10:57:02	S_N_ER_3	SP_067NA_M70OBSNON134_NA
	2008-134T13:14:00.000	00:45:00	RTE_N_SPB_124425	SP_067EA_M70METNON134_PRIME
	2008-134T13:59:00.000	07:45:00	RTE_N_SPB_142200	SP_067EA_M70METNON134_PRIME
	2008-134T21:44:00.000	00:30:00	RTE_N_SPB_124425	SP_067EA_M70METNON134_PRIME

DSN Requests

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for T43_2007-11-08_v2.apf on 2007-Nov-15 09:44:17

(+ = pass overlaps with previous pass; * = conflicts with DSN weekly maintenance; o = overlaps occultation)

DOWNLINK PASS					DSN PASS						
NAME	START_TO_END SCET	START_TO_END ERT	DUR	DATA_RATES hh:mm kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR	CALS	LABEL	CNFG
G70METNON134	134T00:31-02:16	134T01:47-03:32	01:45	142	14	134T00:24-02:39	134T01:35-03:55	02:20	60/15	Ranging_ X_up_on	
M70METNON134	134T13:14-22:14	134T14:30-23:30	09:00	124,142,124	63	134T13:14-22:14	134T14:30-23:30	09:00	60/15	Ranging_ X_up_on	

067TI (T43) Data Volume

DATA VOLUME SUMMARY --- TRANSFER FRAME OVERHEAD INCLUDED (80 BITS PER 8800-BIT FRAME)

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4			P5				RECORDED			PLAYBACK				
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	(%)	CAROVR (Mb)
SP_067EA_G70METNON134_PRIME	134 00:31	134 02:16	0	3433	121	3554	3552	-1	0	41	10	3604	731	-2873	15	0%	2872
SP_067EA_M70METNON134_PRIME	134 13:14	134 22:14	2872	613	46	3531	3552	21	0	235	53	3819	3834	14	15	0%	0

067TI (T43) Data Volume

SSR PARTITION SIZE SUMMARY - SELECTED SSR CONFIGURATION: DOUBLE

OBSERVATION PERIOD	SSR A/B		
	P4 Size (Frames)	P5 Size (Frames)	P6 Size (Frames)
SP_067NA_G70OBSNON134_NA	202020	211	25596
SP_067NA_M70OBSNON134_NA	202020	211	25596

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	132 22:30	134 00:31	201.7	29.8	242.5	19.0	579.0	95.9	124.0	940.9	533.8	131.1	491.0	0.0	31.9	3420.6
OBSERVATION_SI	132 22:30	134 00:31	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
SP_067EA_G70METNON134_PRIME	134 00:31	134 02:16	6.3	1.9	12.2	0.3	0.0	3.8	7.6	0.0	8.3	0.5	0.0	0.0	0.0	40.8
DAILY TOTAL SCIENCE	132 22:30	134 02:16	208.0	31.6	267.7	19.3	579.0	99.6	131.5	940.9	542.1	131.6	491.0	0.0		
OBSERVATION_NOR	134 02:16	134 13:14	39.4	11.8	143.9	1.9	30.0	23.7	46.7	0.0	51.6	101.0	144.0	0.0	8.9	603.1
OBSERVATION_SI	134 02:16	134 13:14	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
SP_067EA_M70METNON134_PRIME	134 13:14	134 22:14	32.4	9.7	86.4	1.6	0.0	19.4	38.9	0.0	41.8	2.5	0.0	0.0	0.0	232.7
DAILY TOTAL SCIENCE	134 02:16	134 22:14	71.8	21.5	243.3	3.6	30.0	43.1	85.6	0.0	93.5	103.5	144.0	0.0		
TOTAL RECORDED (OPNAV data not included)			279.8	53.2	511.0	22.9	609.0	142.7	217.1	940.9	635.6	235.1	635.0	0.0		

TWT/OST Integration Constraint and Guideline Checklist

Below are Target Working Team (TWT) and Orbiter Science Team (OST) constraints that must be followed during segment implementation. Any exceptions to constraint numbers 3, 4, 6, or 7 must be approved by the Science Planning Manager.

Constraint	V=Violate N/A=Not Applicable	Comments	Disposition
1. A. SP has checked all waypoints turns to and from waypoints. B. All initial downlink attitudes have been checked as waypoints.	C		
2. All turns to and from waypoints checked for violations and margins. <input type="checkbox"/> CAPS <input type="checkbox"/> CDA <input type="checkbox"/> CIRS <input type="checkbox"/> INMS <input type="checkbox"/> ISS <input type="checkbox"/> MIMI <input type="checkbox"/> MAG <input type="checkbox"/> NAV <input type="checkbox"/> RADAR <input type="checkbox"/> RPWS <input type="checkbox"/> RSS <input type="checkbox"/> UVIS <input type="checkbox"/> VIMS Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise.	C		
3. Custom handoffs limited to: A. ±3 hours from targeted Icy Satellite flyby B. ±3 hours from targeted Titan Flyby C. OpNavs preceding/following a downlink	N/A		
4. Minimum 30 min SPASS Prime request duration outside ±5 hours from targeted satellite flyby (5 min. integer duration if >30 min.)	C		
5. Live and Ground Movable Blocks include appropriate time margins.	C	K. Klaasen's margin for flyby T43 is 15 min. according to memo dated .	
6. Waypoints changes are ≤3 per day A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.	C		
7. Live Movable Blocks limited to the following orbits: 7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64	N/A		

Guideline	Yes / No	Comments
1. Were repeatable/reusable templates used where possible?	Yes	
2. During Pre-Integration: Was 30 min. used for 90° RWA turns and/or 10 min. for RCS turns?	Yes	

(DOUBLE-CLICK TO MAKE CHANGES)