

# **TOST: Aftermarket Package 059TI (T41)**

**Segment Boundary**

**Start: 2008-053T03:51:00**

**End: 2008-055T11:21:00**

**Titan C/A= 2008-053T17:32:06; at 1000 km**

**Epoch = GMB\_E059\_Titan41**

**September 27, 2007**

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## 059TI (T41)

- Science to be accomplished during this flyby:
  - ISS will be performing global-scale mapping (630-1080 m/pixel) of the dark region around 26 N, 231 W (phase angle  $67^\circ$ ), will obtain a full-disk, color mosaic (centered at 26 N, 237 W) at 1.4-1.6 km/pixel (phase angle  $67^\circ$ ).
  - VIMS will determine time scales for cloud formation and dissipation and perform spectral mapping of dark region.
  - RADAR will perform SAR imaging of the southeast quadrant and the Huygens landing site.

## 059TI (T41) Timeline C/A= 2008-053T17:32:06

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
053T03:51	053T04:21	SP Turn to waypoint	NAC to Titan, +X to NTP	DFPW Normal	S_N_ER_3	
053T04:21	053T04:36	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-13:03	-10:00	CIRS	FP1	DFPW Normal/RADWU	S_N_ER_3/5A	Template N (modified); S&ER-5a at TI-10:15
-10:00	-09:00	ISS	Photometry	RADWU	S_N_ER_3	Template N
-09:00	-06:16	VIMS	Cloud Map	RADWU	S_N_ER_3	Template Q
-05:15	-04:45	SP Turn to RADAR WP	-Z to Titan, -X to 30/+42	RADWU	S_N_ER_3	
-04:45	-02:00	RADAR	Radiometry	RADRWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition				
-00:30	-00:15	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:15	+00:15	RADAR	SAR	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+01:12	RADAR	Scatterometry	RADRCS	S_N_ER_8	
+01:12	+01:21	SP Turn to waypoint	NAC to Titan, -X to Sun	ORSRCS	S_N_ER_3	
+01:21	+01:44	RCS to RWA Transition				Simultaneous with UVIS occ
+01:21	+02:30	UVIS	Stellar occ	ORSRCS/DFPW Normal	S_N_ER_3	
+02:30	+05:00	UVIS		DFPW Normal	S_N_ER_3	Template K (modified)
+05:00	+08:36	ISS	Global Map	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+14:30	SP turn to downlink				
+14:30	+18:30	downlink				
+18:30	+19:00	SP turn to waypoint	NAC to Titan, +X to NTP			
+19:00	+22:45	CIRS		DFPW Normal	S_N_ER_3	Template A
+22:45	+1T01:15	UVIS	Stellar occ	DFPW Normal	S_N_ER_3	
+1T01:15	+1T03:55	CIRS		DFPW Normal	S_N_ER_3	Template A
+1T03:55	+1T06:10	UVIS	Stellar occ	DFPW Normal	S_N_ER_3	
+1T06:10	+1T07:55	CIRS		DFPW Normal	S_N_ER_3	Template A
055T01:36	055T01:51	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
055T01:51	055T02:21	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
055T02:21	055T11:21	Goldstone 70-m		DFPW Normal	RTE_N_SP8	

# T41 TOL

Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing
CAPS_059SA_SURVEY003_RIDER	CAPS_16000	2008-049T00:00:00		004T15:31:49	2008-053T	1000	401.509	Non-SPASS	
CAPS_059TI_T41INBD001_PRIME	CAPS_16000	2008-053T15:39:23		000T00:52:26	2008-053T	4000	12.584	SPASS Rider	
CAPS_059TI_T41CLOSE001_PRIME	CAPS_16000	2008-053T16:31:49	GMB_E059_Titan41-000T01000T02:00:00		2008-053T	16000	115.2	SPASS Rider	
CAPS_059TI_T41OUTBND001_PRIME	CAPS_16000	2008-053T18:31:49	GMB_E059_Titan41+000T000T01:00:00		2008-053T	4000	14.4	SPASS Rider	
CAPS_059SA_SURVEY002_RIDER	CAPS_16000	2008-053T19:31:49	GMB_E059_Titan41+000T003T02:51:49		2008-056T	1000	269.509	Non-SPASS	
CDA_059DR_1509DUST486_RIDER	CDA_524	2008-053T00:18:34		003T21:51:20	2008-056T	300	101.361	Non-SPASS	
CIRS_059TI_FIRNADCMP001_PRIME	CIRS_4000	2008-053T04:28:49	GMB_E059_Titan41-000T13:000T03:03:00		2008-053T	4000	43.92	Prime	CIRS_FP1 to Titan
CIRS_059TI_FIRNADCMP001_SI	ISS_SUPPORT_IMAG	2008-053T04:28:49	GMB_E059_Titan41-000T13:000T03:03:00		2008-053T	0	3	SPASS Rider	
CIRS_059TI_PHOTOMWAC001_ISS	CIRS_4000	2008-053T07:31:49	GMB_E059_Titan41-000T10:000T01:00:00		2008-053T	3600	12.96	SPASS Rider	
CIRS_059TI_MEDRESDRK001_VIMS	CIRS_4000	2008-053T08:31:49	GMB_E059_Titan41-000T09:000T03:45:00		2008-053T	4000	54	SPASS Rider	
CIRS_059ST_ETACMA002_UVIS	CIRS_4000	2008-053T19:01:49	GMB_E059_Titan41+000T000T01:00:00		2008-053T	4000	14.4	SPASS Rider	
CIRS_059TI_EUVFUV002_UVIS	CIRS_4000	2008-053T20:01:49	GMB_E059_Titan41+000T000T02:30:00		2008-053T	4000	36	SPASS Rider	
CIRS_059TI_GLOBMAP001_ISS	CIRS_4000	2008-053T22:31:49	GMB_E059_Titan41+000T000T03:36:00		2008-054T	4000	51.84	SPASS Rider	
CIRS_059TI_PHOTOMWAC002_ISS	CIRS_4000	2008-054T02:07:49	GMB_E059_Titan41+000T000T00:24:00		2008-054T	4000	5.76	SPASS Rider	
CIRS_059TI_FIRNADCMP002_PRIME	CIRS_4000	2008-054T02:31:49	GMB_E059_Titan41+000T000T02:00:00		2008-054T	4000	28.8	Prime	CIRS_FP1 to Titan
CIRS_059TI_FIRNADCMP002_SI	ISS_SUPPORT_IMAG	2008-054T02:31:49	GMB_E059_Titan41+000T000T02:00:00		2008-054T	0	2	SPASS Rider	
CIRS_059TI_MONITORNA001_ISS	CIRS_4000	2008-054T04:31:49	GMB_E059_Titan41+000T1000T02:00:00		2008-054T	4000	28.8	SPASS Rider	
CIRS_059TI_GLOBMAP002_VIMS	CIRS_4000	2008-054T06:31:49	GMB_E059_Titan41+000T1000T01:00:00		2008-054T	2000	7.2	SPASS Rider	
CIRS_059TI_MIDIRTMAP002_PRIME	CIRS_4000	2008-054T12:31:49	GMB_E059_Titan41+000T1000T03:45:00		2008-054T	4000	54	Prime	CIRS_FPB to Titan
CIRS_059TI_MIDIRTMAP002_SI	ISS_SUPPORT_IMAG	2008-054T12:31:49	GMB_E059_Titan41+000T1000T03:45:00		2008-054T	0	6	SPASS Rider	
CIRS_059ST_EPSCMA003_UVIS	CIRS_4000	2008-054T16:16:49	GMB_E059_Titan41+000T2000T02:30:00		2008-054T	2000	18	SPASS Rider	
CIRS_059TI_TEMPMAPO37_PRIME	CIRS_4000	2008-054T18:46:49	GMB_E059_Titan41+001T0000T02:40:00		2008-054T	4000	38.4	Prime	CIRS_FPB to Titan
CIRS_059ST_EPSCMA004_UVIS	CIRS_4000	2008-054T21:26:49	GMB_E059_Titan41+001T0000T02:15:00		2008-054T	2000	16.2	SPASS Rider	
CIRS_059TI_TEMPMAPO38_PRIME	CIRS_4000	2008-054T23:41:49	GMB_E059_Titan41+001T0000T01:45:00		2008-055T	4000	25.2	Prime	CIRS_FPB to Titan
CIRS_059IC_DSICAL2690_RIDER	CIRS_4000	2008-055T03:41:00		000T06:00:00	2008-055T	4000	86.4	SPASS Rider	
ENGR_059SC_RADWU053_PPS	OpMode	2008-053T07:16:49	GMB_E059_Titan41-000T10:000T00:00:07		2008-053T	0	0	Non-SPASS	
ENGR_059SC_RADRWA053_PPS	OpMode	2008-053T12:46:49	GMB_E059_Titan41-000T04:000T00:00:44		2008-053T	0	0	Non-SPASS	
ENGR_059SC_RADRCS053_PPS	OpMode	2008-053T16:39:49	GMB_E059_Titan41-000T00:000T00:21:13		2008-053T	0	0	Non-SPASS	
ENGR_059SC_RADRCS053_PRIME	MILESTONE	2008-053T16:39:49	GMB_E059_Titan41-000T00:000T00:01:00		2008-053T	0	0	Prime	NEG_Z to Titan
ENGR_059SC_AACSDUAL001_CDS	ENGR_1638	2008-053T17:16:49	GMB_E059_Titan41-000T00:000T00:30:00		2008-053T	1638	2.948	Non-SPASS	
ENGR_059SC_ORSRCS053_PPS	OpMode	2008-053T18:43:43	GMB_E059_Titan41+000T0000T00:00:06		2008-053T	0	0	Non-SPASS	
ENGR_059SC_DFPWBIAS053_PPS	OpMode	2008-053T18:54:49	GMB_E059_Titan41+000T0000T00:22:42		2008-053T	0	0	Prime	ISS_NAC to 111.023/-29.303
ENGR_059SC_AACSDUAL002_CDS	ENGR_1638	2008-054T08:01:36	GMB_E059_Titan41+000T1000T00:00:02		2008-054T	0	0	Non-SPASS	
INMS_059SA_PTOTM145B001_RIDER	INMS_1498	2008-052T11:36:00		000T18:03:45	2008-053T	50	3.251	Non-SPASS	
INMS_059TI_T41INBD001_RADAR	INMS_1498	2008-053T05:39:45		000T10:52:04	2008-053T	100	3.912	Non-SPASS	
INMS_059TI_T41CLOSE001_RADAR	INMS_1498	2008-053T16:31:49	GMB_E059_Titan41-000T01000T02:00:00		2008-053T	1498	10.786	Non-SPASS	
INMS_059TI_T41OUTBND001_RADAR	INMS_1498	2008-053T18:31:49	GMB_E059_Titan41+000T0000T01:00:00		2008-054T	100	3.96	Non-SPASS	
INMS_059SA_SURVEY004_RIDER	INMS_1498	2008-054T05:31:49	GMB_E059_Titan41+000T1000T11:59:37		2008-054T	50	2.159	Non-SPASS	
INMS_059SA_SURVEY005_RIDER	INMS_1498	2008-054T17:38:50		002T04:44:48	2008-056T	50	9.494	Non-SPASS	

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing
ISS_059TI_FIRNADCMP001_CIRS	ISS_Phot_1_by_1	2008-053T04:28:49	GMB_E059_Titan41-000T13	000T03:03:00	2008-053T	0	20	SPASS Rider	
ISS_059TI_PHOTOMWAC001_PRIME	ISS_Phot_1_by_1	2008-053T07:31:49	GMB_E059_Titan41-000T10	000T01:00:00	2008-053T	0	30	Prime	ISS_NAC to Titan
ISS_059TI_MEDRESDRK001_VIMS	ISS_Phot_1_by_1	2008-053T08:31:49	GMB_E059_Titan41-000T09	000T03:45:00	2008-053T	0	20	SPASS Rider	
ISS_059TI_EUVFUV002_UVIS	ISS_Phot_1_by_1	2008-053T20:01:49	GMB_E059_Titan41+000T0	000T02:30:00	2008-053T	0	140	SPASS Rider	
ISS_059TI_GLOBMAP001_PRIME	ISS_Phot_1_by_1	2008-053T22:31:49	GMB_E059_Titan41+000T0	000T03:36:00	2008-054T	0	200	Prime	ISS_NAC to Titan
ISS_059TI_PHOTOMWAC002_PRIME	ISS_Phot_1_by_1	2008-054T02:07:49	GMB_E059_Titan41+000T0	000T00:24:00	2008-054T	0	30	Prime	ISS_NAC to Titan
ISS_059TI_FIRNADCMP002_CIRS	ISS_Phot_1_by_1	2008-054T02:31:49	GMB_E059_Titan41+000T0	000T02:00:00	2008-054T	0	20	SPASS Rider	
ISS_059TI_MONITORNA001_PRIME	ISS_Phot_1_by_1	2008-054T04:31:49	GMB_E059_Titan41+000T1	000T02:00:00	2008-054T	0	264	Prime	ISS_NAC to Titan
ISS_059TI_GLOBMAP002_VIMS	ISS_Phot_1_by_1	2008-054T06:31:49	GMB_E059_Titan41+000T1	000T01:00:00	2008-054T	0	20	SPASS Rider	
ISS_059TI_MIDIRTMAP002_CIRS	ISS_Phot_1_by_1	2008-054T12:31:49	GMB_E059_Titan41+000T1	000T03:45:00	2008-054T	0	20	SPASS Rider	
ISS_059TI_TEMPMPAP037_CIRS	ISS_Phot_1_by_1	2008-054T18:46:49	GMB_E059_Titan41+001T0	000T02:40:00	2008-054T	0	20	SPASS Rider	
ISS_059TI_TEMPMPAP038_CIRS	ISS_Phot_1_by_1	2008-054T23:41:49	GMB_E059_Titan41+001T0	000T01:45:00	2008-055T	0	20	SPASS Rider	
MAG_059OT_SURVEY002_PRIME	MAG_1976	2008-053T03:51:00		000T11:40:49	2008-053T	600	25.229	Non-SPASS	
MAG_059TI_MAGTITAN001_PRIME	MAG_1976	2008-053T15:31:49	GMB_E059_Titan41-000T02	000T04:00:00	2008-053T	1976	28.454	Non-SPASS	
MAG_059OT_SURVEY005_PRIME	MAG_1976	2008-053T19:31:49	GMB_E059_Titan41+000T0	000T22:07:11	2008-054T	600	47.779	Non-SPASS	
MAG_059OT_SURVEY003_PRIME	MAG_1976	2008-054T17:39:00		004T17:12:00	2008-059T	600	244.512	Non-SPASS	
MIMI_059CO_SURVEY004_RIDER	MIMI_8000	2008-052T17:39:00		000T21:52:49	2008-053T	900	70.892	Non-SPASS	
MIMI_059TI_T41INBND001_CAPS	MIMI_8000	2008-053T15:31:49	GMB_E059_Titan41-000T02	000T01:00:00	2008-053T	2000	7.2	SPASS Rider	
MIMI_059TI_T41CLOSE001_CAPS	MIMI_8000	2008-053T16:31:49	GMB_E059_Titan41-000T01	000T02:00:00	2008-053T	2000	14.4	SPASS Rider	
MIMI_059TI_T41OUTBND001_CAPS	MIMI_8000	2008-053T18:31:49	GMB_E059_Titan41+000T0	000T01:00:00	2008-053T	2000	7.2	SPASS Rider	
MIMI_059CO_SURVEY005_RIDER	MIMI_8000	2008-053T19:31:49	GMB_E059_Titan41+000T0	000T21:59:37	2008-054T	900	71.259	Non-SPASS	
MIMI_059SA_MAGDYN003_PRIME	MIMI_8000	2008-054T17:39:01		002T04:45:37	2008-056T	1200	227.924	SPASS Rider	
MP_058NA_DSS54DOWN001_NA	MILESTONE	2008-035T00:00:00		097T23:59:59	2008-132T	0	0	Non-SPASS	
MP_059NA_SEQUENCE038_NA	MILESTONE	2008-047T11:51:00	E059_SEQUENCE_038+00	035T13:59:00	2008-083T	0	0	SPASS Note	
MP_059NA_DSS15DOWN001_NA	MILESTONE	2008-049T00:00:00		083T23:59:59	2008-132T	0	0	Non-SPASS	
MP_059TI_FLYBYT041_NA	MILESTONE	2008-053T17:31:49		000T00:00:01	2008-053T	0	0	Non-SPASS	
MP_059SA_RPXASCEND059_NA	MILESTONE	2008-053T18:21:57		000T00:00:01	2008-053T	0	0	Non-SPASS	
RADAR_059TI_T41WARMUP001_RIDER	RADAR_364800	2008-053T07:16:49	GMB_E059_Titan41-000T10	000T05:30:00	2008-053T	474.2	9.39	SPASS Rider	
RADAR_059TI_T41INRAD001_PRIME	RADAR_364800	2008-053T12:46:49	GMB_E059_Titan41-000T04	000T03:15:00	2008-053T	5216.6	61.035	Prime	NEG_Z to Titan
RADAR_059TI_T41INSCAT001_PRIME	RADAR_364800	2008-053T16:01:49	GMB_E059_Titan41-000T01	000T00:38:00	2008-053T	19735.7	44.997	Prime	NEG_Z to Titan
RADAR_059TI_T41INALT001_PRIME	RADAR_364800	2008-053T17:01:49	GMB_E059_Titan41-000T00	000T00:15:00	2008-053T	32211.8	28.991	Prime	NEG_Z to Titan
RADAR_059TI_T41INLSAR001_PRIME	RADAR_364800	2008-053T17:16:49	GMB_E059_Titan41-000T00	000T00:08:00	2008-053T	250216.3	120.104	Prime	NEG_Z to Titan
RADAR_059TI_T41HISAR001_PRIME	RADAR_364800	2008-053T17:24:49	GMB_E059_Titan41-000T00	000T00:14:00	2008-053T	337440	283.45	Prime	NEG_Z to Titan
RADAR_059TI_T41OULSAR001_PRIME	RADAR_364800	2008-053T17:38:49	GMB_E059_Titan41+000T0	000T00:08:00	2008-053T	250216.3	120.104	Prime	NEG_Z to Titan
RADAR_059TI_T41OUTALT001_PRIME	RADAR_364800	2008-053T17:46:49	GMB_E059_Titan41+000T0	000T00:15:00	2008-053T	32211.8	28.991	Prime	NEG_Z to Titan
RADAR_059TI_T41OUTSCT001_PRIME	RADAR_364800	2008-053T18:01:49	GMB_E059_Titan41+000T0	000T00:42:00	2008-053T	19735.7	49.734	Prime	NEG_Z to Titan
RPWS_059SA_OUTSURVEY002_PRIME	RPWS_30464	2008-053T03:51:00		000T11:40:49	2008-053T	1310	55.085	Non-SPASS	
RPWS_059TI_TIINTRMED001_PRIME	RPWS_30464	2008-053T15:31:49	GMB_E059_Titan41-000T02	000T01:30:00	2008-053T	3500	18.9	Non-SPASS	
RPWS_059TI_TICAD001_PRIME	RPWS_182784	2008-053T17:01:49	GMB_E059_Titan41-000T00	000T01:00:00	2008-053T	30464.1	109.671	Non-SPASS	
RPWS_059TI_TIINTRMED002_PRIME	RPWS_30464	2008-053T18:01:49	GMB_E059_Titan41+000T0	000T01:30:00	2008-053T	3500	18.9	Non-SPASS	
RPWS_059SA_OUTSURVEY004_PRIME	RPWS_30464	2008-053T19:31:49	GMB_E059_Titan41+000T0	003T02:51:49	2008-056T	1310	353.06	Non-SPASS	

# T41 TOL

Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing
SP_059NA_G7DOBSNON054_NA	OBSERVATION_PERI	2008-053T03:51:00		001T04:10:49	2008-054T	0	0	Non-SPASS	
SP_059NA_TOSTSEG053_NA	MILESTONE	2008-053T03:51:00		002T07:30:00	2008-055T	0	0	SPASS Note	
SP_059TI_WAYPTTURN053_PRIME	MILESTONE	2008-053T03:51:00		000T00:30:00	2008-053T	0	0	New Waypoint	ISS_NAC to Titan
SP_059TI_DEADTIME053_PRIME	MILESTONE	2008-053T04:21:00		000T00:07:49	2008-053T	0	0	Prime	ISS_NAC to Titan
SP_059TI_WAYPTTURN453_PRIME	MILESTONE	2008-053T12:16:49	GMB_E059_Titan41-000T05	000T00:30:00	2008-053T	0	0	New Waypoint	NEG_Z to Titan
SP_059TI_WAYPTTURN553_PRIME	MILESTONE	2008-053T18:43:49	GMB_E059_Titan41+000T05	000T00:09:00	2008-053T	0	0	New Waypoint	ISS_NAC to Titan
SP_059ST_WAYPTTURN453_PRIME	MILESTONE	2008-053T18:52:49	GMB_E059_Titan41+000T05	000T00:02:00	2008-053T	0	0	Prime	ISS_NAC to 111.023/-29.303
SP_059NA_G70METNON054_SP	DSN_PASS	2008-054T05:36:00		000T06:48:23	2008-054T	0	0	Non-SPASS	
SP_059EA_DLTURN054_PRIME	MILESTONE	2008-054T07:31:49	GMB_E059_Titan41+000T11	000T00:30:00	2008-054T	0	0	Prime	XBAND to Earth
SP_059EA_G70METNON054_PRIME	DOWNLINK_PASS	2008-054T08:01:49	GMB_E059_Titan41+000T11	000T04:00:00	2008-054T	0	0	Prime	XBAND to Earth
SP_059NA_G70OBSNON055_NA	OBSERVATION_PERI	2008-054T12:01:49	GMB_E059_Titan41+000T11	000T14:19:11	2008-055T	0	0	Non-SPASS	
SP_059TI_WAYPTTURN054_PRIME	MILESTONE	2008-054T12:01:49	GMB_E059_Titan41+000T11	000T00:30:00	2008-054T	0	0	New Waypoint	ISS_NAC to Titan
SP_059TI_DEADTIME055_PRIME	MILESTONE	2008-055T01:26:49	GMB_E059_Titan41+001T05	000T00:16:47	2008-055T	0	0	Prime	ISS_NAC to Titan
SP_059EA_DLTURN055_PRIME	MILESTONE	2008-055T01:51:00		000T00:30:00	2008-055T	0	0	Prime	XBAND to Earth
SP_059EA_G70METNON055_PRIME	DOWNLINK_PASS	2008-055T02:21:00		000T09:00:00	2008-055T	0	0	Prime	XBAND to Earth
SP_059NA_G70METNON055_SP	DSN_PASS	2008-055T02:21:00		000T09:00:00	2008-055T	0	0	Non-SPASS	
UVIS_059SC_DFPWBIA0003_ENGR	UVIS_32096	2008-053T18:54:49	GMB_E059_Titan41+000T05	000T00:23:00	2008-053T	32096	44.292	SPASS Rider	
UVIS_059ST_ETACMA002_PRIME	UVIS_32096	2008-053T19:17:49	GMB_E059_Titan41+000T05	000T00:44:00	2008-053T	32096	84.733	Prime	ISS_NAC to 111.023/-29.303
UVIS_059TI_EUVFUV002_PRIME	UVIS_5032	2008-053T20:01:49	GMB_E059_Titan41+000T05	000T02:30:00	2008-053T	5032	45.288	Prime	UVIS_FUV to Titan
UVIS_059TI_FIRNADCMP002_CIRS	UVIS_5032	2008-054T02:31:49	GMB_E059_Titan41+000T05	000T02:00:00	2008-054T	1006.4	7.246	SPASS Rider	
UVIS_059ST_EPSCMA003_PRIME	UVIS_32096	2008-054T16:16:49	GMB_E059_Titan41+000T12	000T02:30:00	2008-054T	32096	288.864	Prime	ISS_NAC to 104.656/-28.972
UVIS_059ST_EPSCMA004_PRIME	UVIS_32096	2008-054T21:26:49	GMB_E059_Titan41+001T05	000T02:15:00	2008-054T	32096	259.978	Prime	ISS_NAC to 104.656/-28.972
UVIS_059SW_IPHSURVEY009_RIDER	UVIS_5032	2008-055T02:21:00		000T09:00:00	2008-055T	76	2.462	Non-SPASS	
VIMS_059TI_FIRNADCMP001_CIRS	VIMS_18432	2008-053T04:28:49	GMB_E059_Titan41-000T11	000T03:03:00	2008-053T	3278.7	36	SPASS Rider	
VIMS_059TI_PHOTMAP001_ISS	VIMS_18432	2008-053T07:31:49	GMB_E059_Titan41-000T11	000T01:00:00	2008-053T	11111.1	40	SPASS Rider	
VIMS_059TI_MEDRESDRK001_PRIME	VIMS_18432	2008-053T08:31:49	GMB_E059_Titan41-000T09	000T03:45:00	2008-053T	10666.7	144	Prime	ISS_NAC to Titan
VIMS_059TI_MEDRES001_UVIS	VIMS_18432	2008-053T20:01:49	GMB_E059_Titan41+000T05	000T02:30:00	2008-053T	10000	90	SPASS Rider	
VIMS_059TI_GLOBMAP001_ISS	VIMS_18432	2008-053T22:31:49	GMB_E059_Titan41+000T05	000T03:36:00	2008-054T	6172.8	80	SPASS Rider	
VIMS_059TI_WACPHOT001_ISS	VIMS_18432	2008-054T02:07:49	GMB_E059_Titan41+000T05	000T00:24:00	2008-054T	55555.6	80	SPASS Rider	
VIMS_059TI_FIRNADCMP002_CIRS	VIMS_18432	2008-054T02:31:49	GMB_E059_Titan41+000T05	000T02:00:00	2008-054T	5000	36	SPASS Rider	
VIMS_059TI_MOSAIC001_ISS	VIMS_18432	2008-054T04:31:49	GMB_E059_Titan41+000T11	000T02:00:00	2008-054T	11111.1	80	SPASS Rider	
VIMS_059TI_GLOBMAP002_PRIME	VIMS_18432	2008-054T06:31:49	GMB_E059_Titan41+000T11	000T01:00:00	2008-054T	10000	36	Prime	ISS_NAC to Titan
VIMS_059TI_TEMPMP001_CIRS	VIMS_18432	2008-054T12:31:49	GMB_E059_Titan41+000T11	000T03:45:00	2008-054T	4000	54	SPASS Rider	
VIMS_059TI_TEMPMP002_CIRS	VIMS_18432	2008-054T18:46:49	GMB_E059_Titan41+001T05	000T02:40:00	2008-054T	3750	36	SPASS Rider	
VIMS_059TI_TEMPMP003_CIRS	VIMS_18432	2008-054T23:41:49	GMB_E059_Titan41+001T05	000T01:45:00	2008-055T	2857.1	18	SPASS Rider	

# 059TI T41 Attitude Strategy

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S038, length = 36 ...		2008-047T11:51:00	E059_SEQUENCE_038+000	035T13:59:00	2008-083T01:50:00			
TOST rev 59 Segment		2008-053T03:51:00		002T07:30:00	2008-055T11:21:00			
SP_059TI_WAYPTTURN053_PRIME		2008-053T03:51:00		000T00:30:00	2008-053T04:21:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	10.62 min turn from +X to NEP
<b>NEW WAYPOINT</b>		<b>2008-053T04:21:00</b>		<b>000T08:26:06</b>	<b>2008-053T12:47:06</b>	<b>ISS_NAC to Titan</b>	<b>POS_X to North_Pole_Dir</b>	
<b>SP_059TI_DEADTIME053_PRIME</b>		<b>2008-053T04:21:00</b>		<b>000T00:08:06</b>	<b>2008-053T04:29:06</b>	<b>ISS_NAC to Titan</b>	<b>POS_X to North_Pole_Dir</b>	
CIRS_059TI_FIRNADCMP001_PRIME	C, I, R, V	2008-053T04:29:06	GMB_E059_Titan41-000T13:000T03:03:00		2008-053T07:32:06	CIRS_FP1 to Titan	PIC	
ISS_059TI_PHOTOMWAC001_PRIME	C, R, V	2008-053T07:32:06	GMB_E059_Titan41-000T10:000T01:00:00		2008-053T08:32:06	ISS_NAC to Titan	POS_X to North_Pole_Dir	
VIMS_059TI_MEDRESDRK001_PRIME	C, I, R	2008-053T08:32:06	GMB_E059_Titan41-000T09:000T03:45:00		2008-053T12:17:06	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_059TI_WAYPTTURN453_PRIME	R	2008-053T12:17:06	GMB_E059_Titan41-000T05:1000T00:30:00		2008-053T12:47:06	NEG_Z to Titan	NEG_X to 30.0/42.0	20.24 min turn
<b>NEW WAYPOINT</b>		<b>2008-053T12:47:06</b>		<b>000T06:06:00</b>	<b>2008-053T18:53:06</b>	<b>NEG_Z to Titan</b>	<b>NEG_X to 30.0/42.0</b>	
RADAR_059TI_T41INRAD001_PRIME	M	2008-053T12:47:06	GMB_E059_Titan41-000T04:000T03:15:00		2008-053T16:02:06	NEG_Z to Titan	POS_Y to North_Pole_Dir	Use +Y_NTP and +X_NTP for the two polarizations.
RADAR_059TI_T41INSCAT001_PRIME	M	2008-053T16:02:06	GMB_E059_Titan41-000T01:000T00:38:00		2008-053T16:40:06	NEG_Z to Titan	POS_X to North_Pole_Dir	
ENGR_059SC_RADRCS063_PRIME	M	2008-053T16:40:06	GMB_E059_Titan41-000T00:000T00:01:00		2008-053T16:41:06	NEG_Z to Titan	PIC	Actual duration = 20.51
RADAR_059TI_T41INAL001_PRIME	M	2008-053T16:41:06	GMB_E059_Titan41-000T00:000T00:36:00		2008-053T17:17:06	NEG_Z to Titan	POS_X to North_Pole_Dir	
Begin High Value Science		2008-053T17:09:06	GMB_E059_Titan41-000T00:000T00:00:01		2008-053T17:09:07			
RADAR_059TI_T41INLSAR001_PRIME	M	2008-053T17:17:06	GMB_E059_Titan41-000T00:1000T00:08:00		2008-053T17:25:06	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_059TI_T41HISAR001_PRIME	M	2008-053T17:25:06	GMB_E059_Titan41-000T00:000T00:14:00		2008-053T17:39:06	NEG_Z to Titan	NEG_X to Titan_SC_RAM	RADAR must control both primary and secondary axes for polarization optimization
RADAR_059TI_T41OULSAR001_PRIME	M	2008-053T17:39:06	GMB_E059_Titan41+000T00:000T00:08:00		2008-053T17:47:06	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_059TI_T41OUTALT001_PRIME	M	2008-053T17:47:06	GMB_E059_Titan41+000T00:000T00:15:00		2008-053T18:02:06	NEG_Z to Titan	NEG_Y to North_Pole_Dir	
End High Value Science		2008-053T17:50:06	GMB_E059_Titan41+000T00:000T00:00:01		2008-053T17:50:07			
RADAR_059TI_T41OUTSCT001_PRIME	M	2008-053T18:02:06	GMB_E059_Titan41+000T00:000T00:42:00		2008-053T18:44:06	NEG_Z to Titan	NEG_Y to North_Pole_Dir	
SP_059TI_WAYPTTURN563_PRIME	M	2008-053T18:44:06	GMB_E059_Titan41+000T01:000T00:09:00		2008-053T18:53:06	ISS_NAC to Titan	NEG_X to Sun	on thrusters ; 8 min turn on RCS
<b>NEW WAYPOINT</b>		<b>2008-053T18:53:06</b>		<b>000T17:39:00</b>	<b>2008-054T12:32:06</b>	<b>ISS_NAC to Titan</b>	<b>NEG_X to Sun</b>	
SP_059ST_WAYPTTURN453_PRIME	M	2008-053T18:53:06	GMB_E059_Titan41+000T01:000T00:02:00		2008-053T18:55:06	ISS_NAC to 111.023/-29.303	NEG_X to Sun	on thrusters . Turn to RADEC for UVIS to observe during the RWA transition.
ENGR_059SC_DFPWBIA053_PPS	C, M, U	2008-053T18:55:06	GMB_E059_Titan41+000T01:000T00:22:42		2008-053T19:17:48	ISS_NAC to 111.023/-29.303	NEG_X to Sun	
UVIS_059ST_ETACMA002_PRIME	C, M	2008-053T19:18:06	GMB_E059_Titan41+000T01:000T00:44:00		2008-053T20:02:06	ISS_NAC to 111.023/-29.303	NEG_X to Sun	
UVIS_059TI_EUVFUV002_PRIME	C, I, V	2008-053T20:02:06	GMB_E059_Titan41+000T02:000T02:30:00		2008-053T22:32:06	UVIS_FUV to Titan	NEG_X to Sun	
ISS_059TI_GLOBMAP001_PRIME	C, V	2008-053T22:32:06	GMB_E059_Titan41+000T05:000T03:36:00		2008-054T02:08:06	ISS_NAC to Titan	NEG_X to Sun	
ISS_059TI_PHOTOMWAC002_PRIME	C, V	2008-054T02:08:06	GMB_E059_Titan41+000T08:000T00:24:00		2008-054T02:32:06	ISS_NAC to Titan	NEG_X to Sun	
CIRS_059TI_FIRNADCMP002_PRIME	C, I, U, V	2008-054T02:32:06	GMB_E059_Titan41+000T09:000T02:00:00		2008-054T04:32:06	CIRS_FP1 to Titan	PIC	
ISS_059TI_MONITORNA001_PRIME	C, V	2008-054T04:32:06	GMB_E059_Titan41+000T11:000T02:00:00		2008-054T06:32:06	ISS_NAC to Titan	NEG_X to Sun	
VIMS_059TI_GLOBMAP002_PRIME	C, I	2008-054T06:32:06	GMB_E059_Titan41+000T13:000T01:00:00		2008-054T07:32:06	ISS_NAC to Titan	NEG_X to Sun	
SP_059EA_DLTURN054_PRIME		2008-054T07:32:06	GMB_E059_Titan41+000T14:000T00:30:00		2008-054T08:02:06	XBAND to Earth	POS_X to NEP	?? min turn
SP_059EA_G70METNON054_PRIME		2008-054T08:02:06	GMB_E059_Titan41+000T14:000T04:00:00		2008-054T12:02:06	XBAND to Earth	Rolling	
SP_059TI_WAYPTTURN054_PRIME		2008-054T12:02:06	GMB_E059_Titan41+000T18:000T00:30:00		2008-054T12:32:06	ISS_NAC to Titan	POS_X to North_Pole_Dir	?? min turn
<b>NEW WAYPOINT</b>		<b>2008-054T12:32:06</b>		<b>000T22:48:54</b>	<b>2008-055T11:21:00</b>	<b>ISS_NAC to Titan</b>	<b>POS_X to North_Pole_Dir</b>	
CIRS_059TI_MIDIRTMAP002_PRIME	C, I, V	2008-054T12:32:06	GMB_E059_Titan41+000T19:000T03:45:00		2008-054T16:17:06	CIRS_FP2 to Titan	NEG_X to Sun	
UVIS_059ST_EPSCMA003_PRIME	C, M	2008-054T16:17:06	GMB_E059_Titan41+000T22:000T02:30:00		2008-054T18:47:06	ISS_NAC to 104.656/-28.972	NEG_X to Sun	
CIRS_059TI_TEMPMP037_PRIME	I, M, V	2008-054T18:47:06	GMB_E059_Titan41+001T01:000T02:40:00		2008-054T21:27:06	CIRS_FP2 to Titan	POS_X to North_Pole_Dir	
UVIS_059ST_EPSCMA004_PRIME	C, M	2008-054T21:27:06	GMB_E059_Titan41+001T03:000T02:15:00		2008-054T23:42:06	ISS_NAC to 104.656/-28.972	NEG_X to Sun	
CIRS_059TI_TEMPMP038_PRIME	I, M, V	2008-054T23:42:06	GMB_E059_Titan41+001T06:000T01:45:00		2008-055T01:27:06	CIRS_FP2 to Titan	POS_X to North_Pole_Dir	
<b>SP_059TI_DEADTIME055_PRIME</b>	<b>M</b>	<b>2008-055T01:27:06</b>	<b>GMB_E059_Titan41+001T07:000T00:23:54</b>		<b>2008-055T01:51:00</b>	<b>ISS_NAC to Titan</b>	<b>POS_X to NTP</b>	
SP_059EA_DLTURN055_PRIME	M	2008-055T01:51:00		000T00:30:00	2008-055T02:21:00	XBAND to Earth	POS_X to NEP	17.33 min turn
SP_059EA_G70METNON055_PRIME	C, M	2008-055T02:21:00		000T09:00:00	2008-055T11:21:00	XBAND to Earth	Rolling	

# 059TI (T41) Telemetry Modes

TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2008-053T03:51:00.000	03:26:06	S_N_ER_3	SP_059NA_G70OBSNON054_NA
GMB_E059_Titan41-000T10:15:00	2008-053T07:17:06.000	00:15:00	S_N_ER_5A	SP_059NA_G70OBSNON054_NA
GMB_E059_Titan41-000T10:00:00	2008-053T07:32:06.000	05:15:00	S_N_ER_3	SP_059NA_G70OBSNON054_NA
GMB_E059_Titan41-000T04:45:00	2008-053T12:47:06.000	05:57:00	S_N_ER_8	SP_059NA_G70OBSNON054_NA
GMB_E059_Titan41+000T01:12:00	2008-053T18:44:06.000	13:18:00	S_N_ER_3	SP_059NA_G70OBSNON054_NA
GMB_E059_Titan41+000T14:30:00	2008-054T08:02:06.000	03:03:54	RTE_N_SPB_165900	SP_059EA_G70METNON054_PRIME
GMB_E059_Titan41+000T17:33:54	2008-054T11:06:00.000	00:41:06	RTE_N_SPB_142200	SP_059EA_G70METNON054_PRIME
GMB_E059_Titan41+000T18:15:00	2008-054T11:47:06.000	00:15:00	RTE_N_SPB_124425	SP_059EA_G70METNON054_PRIME
GMB_E059_Titan41+000T18:30:00	2008-054T12:02:06.000	14:18:54	S_N_ER_3	SP_059NA_G70OBSNON055_NA
	2008-055T02:21:00.000	00:30:00	RTE_N_SPB_142200	SP_059EA_G70METNON055_PRIME
	2008-055T02:51:00.000	08:15:00	RTE_N_SPB_165900	SP_059EA_G70METNON055_PRIME
	2008-055T11:06:00.000	00:15:00	RTE_N_SPB_142200	SP_059EA_G70METNON055_PRIME



# DSN Requests

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for T41\_2007-09-25\_v2.xml on 2007-Sep-25 10:03:11  
 (+ = 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
G70METNON054	054T08:02-12:02	054T09:11-13:11	04:00	165,142,124	14	054T05:36-12:24	054T06:45-13:35	06:50	60/15	Ranging_ X_up_on	
G70METNON055	055T02:21-11:21	055T03:30-12:30	09:00	142,165,142	14	055T02:21-11:21	055T03:30-12:30	09:00	60/15	Ranging_ X_up_on	

# 059TI (T41) Data Volume

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

DOWNLINK PASS NAME	OBSERVATION_PERIOD		DOWNLINK_PASS															
	Start doy hh:mm	End doy hh:mm	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_059EA_G70METNON054_PRIME	054 08:02	054 12:02	0	3439	123	3562	3550	-11	0	775	24	4349	1912	-2437	-61	0%	2436	
SP_059EA_G70METNON055_PRIME	055 02:21	055 11:21	2436	1115	60	3612	3550	-61	0	236	53	3838	4509	670	671	15%	0	

# 059TI (T41) 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_059NA_G70OBSNON054_NA	201896	335	25596
SP_059NA_G70OBSNON055_NA	201896	335	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	053 03:51	054 08:02	229.3	30.4	299.5	19.4	744.0	80.7	107.2	827.4	261.5	181.6	622.0	0.0	26.0	3429.1
OBSERVATION_SI	053 03:51	054 08:02	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
SP_059EA_G70METNON054_PRIME	054 08:02	054 12:02	14.4	4.3	57.6	0.7	0.0	8.6	13.0	0.0	669.6	0.0	0.0	0.0	0.0	768.2
DAILY TOTAL SCIENCE	053 03:51	054 12:02	243.7	34.8	362.1	20.2	744.0	89.3	120.1	827.4	931.1	181.6	622.0	0.0		
OBSERVATION_NOR	054 12:02	055 02:21	51.5	15.5	159.0	2.6	60.0	30.9	55.4	0.0	67.5	548.8	108.0	0.0	11.7	1110.9
OBSERVATION_SI	054 12:02	055 02:21	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
SP_059EA_G70METNON055_PRIME	055 02:21	055 11:21	32.4	9.7	86.4	1.6	0.0	19.4	38.9	0.0	42.4	2.5	0.0	0.0	0.0	233.4
DAILY TOTAL SCIENCE	054 12:02	055 11:21	83.9	25.2	251.4	4.2	60.0	50.4	94.3	0.0	110.0	551.3	108.0	0.0		
TOTAL RECORDED (OPNAV data not included)			327.7	59.9	613.5	24.3	804.0	139.7	214.4	827.4	1041.1	732.9	730.0	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 T41 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)