

**TOST Implementation Delivery of 041TI (T27)**  
**Segment Boundary 2007-084T08:20 – 2007-086T07:22**

**Titan C/A= 2007-085T00:21:52, 953 km**

**Epoch = GMB\_E022\_Titan27**

**March 15, 2004**

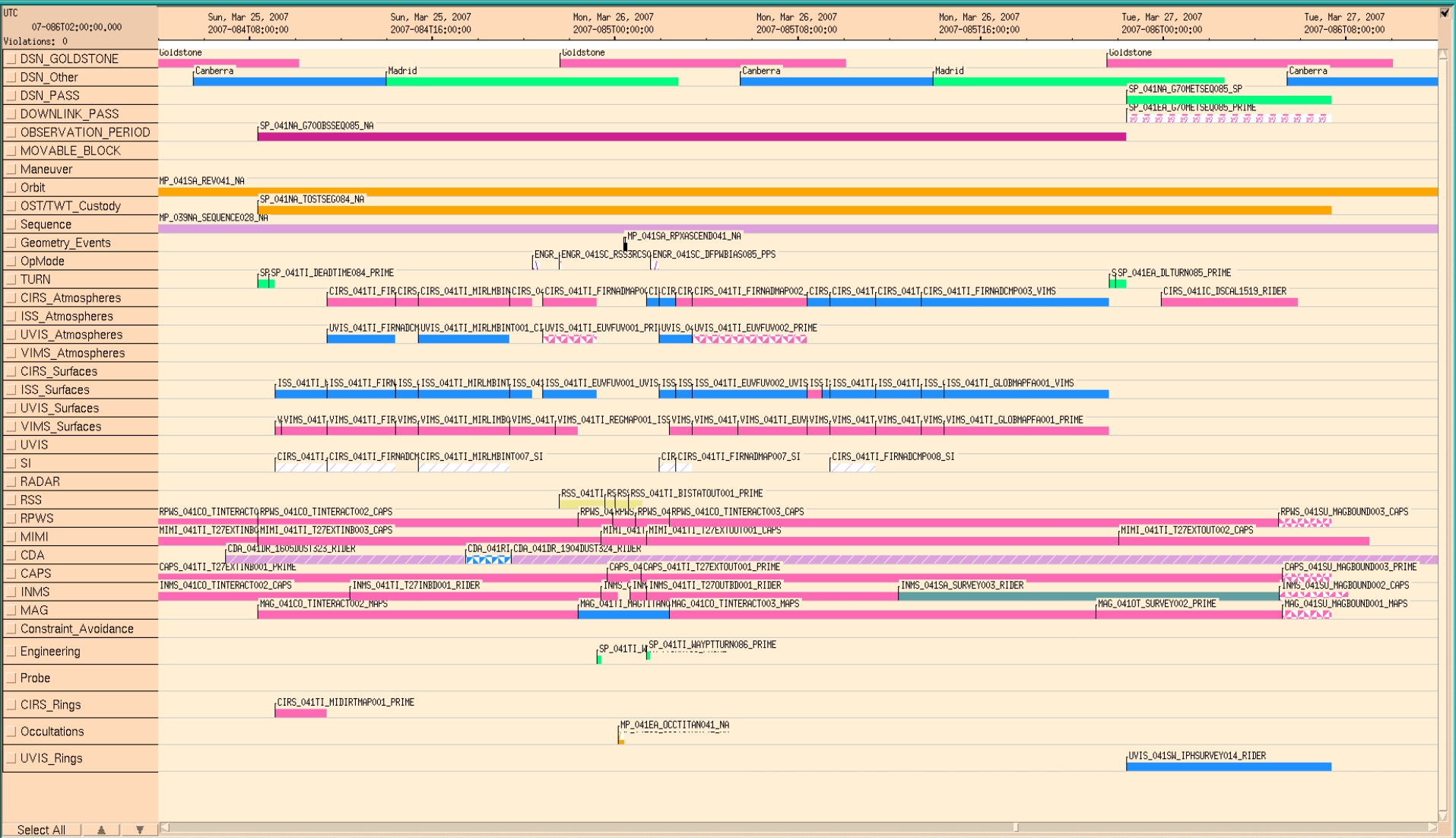
Doug Equils

Scott Bolton, Candy Hansen, Trina Ray, Dave Mohr, Jerod Gross, and  
Amanda Hendrix

| Start Time | End Time  | Prime Activity                | Obs. Detail       | Op Mode  | TLM Mode  | Comments   |
|------------|-----------|-------------------------------|-------------------|----------|-----------|--|
| 084T08:20  | 084T08:50 | SP Turn to waypoint           |                   | DFPW     | S_N_ER_3  | NEG_Y to Titan, NEG_X to Sun                                 |
| 084T08:50  | 084T09:05 | OD Uncertainty Dead           |                   | DFPW     | S_N_ER_3  |  |
| -15:16     | -13:00    | CIRS                          | Mid-IR Temp Map   | DFPW     | S_N_ER_3  | Template M - First 16 mins from                              |
| -13:00     | -10:00    | CIRS                          | FP1               | DFPW     | S_N_ER_3  | Template N   |
| -10:00     | -09:00    | ISS                           | Photometry        | DFPW     | S_N_ER_3  | Template N   |
| -09:00     | -05:00    | CIRS                          | Mid-IR Limb       | DFPW     | S_N_ER_3  | Template R   |
| -05:00     | -04:00    | ISS                           | Regional Map      | DFPW     | S_N_ER_3  | Template U   |
| -04:00     | -03:34    | Transition to RCS             | 26 minutes (21+5) | RSS3/RCS | S_N_ER_3  |  |
| -03:34     | -01:11    | UVIS                          | EUVFUV            | RSS3/RCS | S_N_ER_3  | Template U   |
| -02:50     | -00:50    | RSS Warm-Up                   |                   | RSS3/RCS | S_N_ER_3  |  |
| -01:11     | -00:58    | SP Turn to New Waypoint       |                   | RSS3/RCS | S_N_ER_3  | NEG_Z to Earth, NEG_Y to SCRAM (0,0,30) - See Lien           |
| -00:58     | -00:50    | RSS                           | Turn to Bistatic  | RSS3/RCS | S_N_ER_2  |  |
| -00:50     | -00:23    | RSS                           | Bistatic          | RSS3/RCS | S_N_ER_2  |  |
| -00:23     | +00:12    | RSS                           | Occultation       | RSS3/RCS | S_N_ER_2  |  |
| +00:12     | +00:50    | RSS                           | Bistatic          | RSS3/RCS | S_N_ER_2  |  |
| +00:50     | +01:00    | RSS                           | Turn to waypoint  | RSS3/RCS | S_N_ER_2  |  |
| +01:00     | +01:10    | SP Turn to New waypoint       |                   | RSS3/RCS | S_N_ER_2  | NEG_Y to Titan, NEG_X to Sun - SP Turn to CIRS Limb Attitude |
| +01:10     | +01:33    | Transition to DFPW            | 23 minutes        | DFPW     | S_N_ER_3  |  |
| +01:33     | +03:00    | CIRS                          | Limb              | DFPW     | S_N_ER_3  | Template K   |
| +03:00     | +05:00    | UVIS                          | EUVFUV            | DFPW     | S_N_ER_3  | Template K   |
| +05:00     | +08:00    | UVIS                          | EUVFUV            | DFPW     | S_N_ER_3  | Template G   |
| +08:00     | +09:00    | ISS                           | WAC               | DFPW     | S_N_ER_3  | Template G   |
| +09:00     | +11:00    | CIRS                          | FP1               | DFPW     | S_N_ER_3  | Template D (Updated)   |
| +11:00     | +13:00    | ISS                           | Mosaic            | DFPW     | S_N_ER_3  | Template D (Updated)   |
| +13:00     | +14:00    | VIMS                          | Stare             | DFPW     | S_N_ER_3  | Template D (Updated)   |
| +14:00     | +21:15    | VIMS                          | Global Map        | DFPW     | S_N_ER_3  | Template B (modified)  |
| 085T21:37  | 085T21:52 | OD Uncertainty Dead           |                   | DFPW     | S_N_ER_3  |  |
| 085T21:52  | 085T22:22 | SP Turn to Earth for downlink |                   | DFPW     | S_N_ER_3  | NEG_Z to Earth, NEG_X to Sun                                 |
| 085T22:22  | 086T07:22 | Goldstone 70-m                |                   | DFPW     | RTE_N_SPB | XBAND to Earth, rolling                                      |

File Edit Activity Resource Constraints Scheduling Act Display Res Display Help

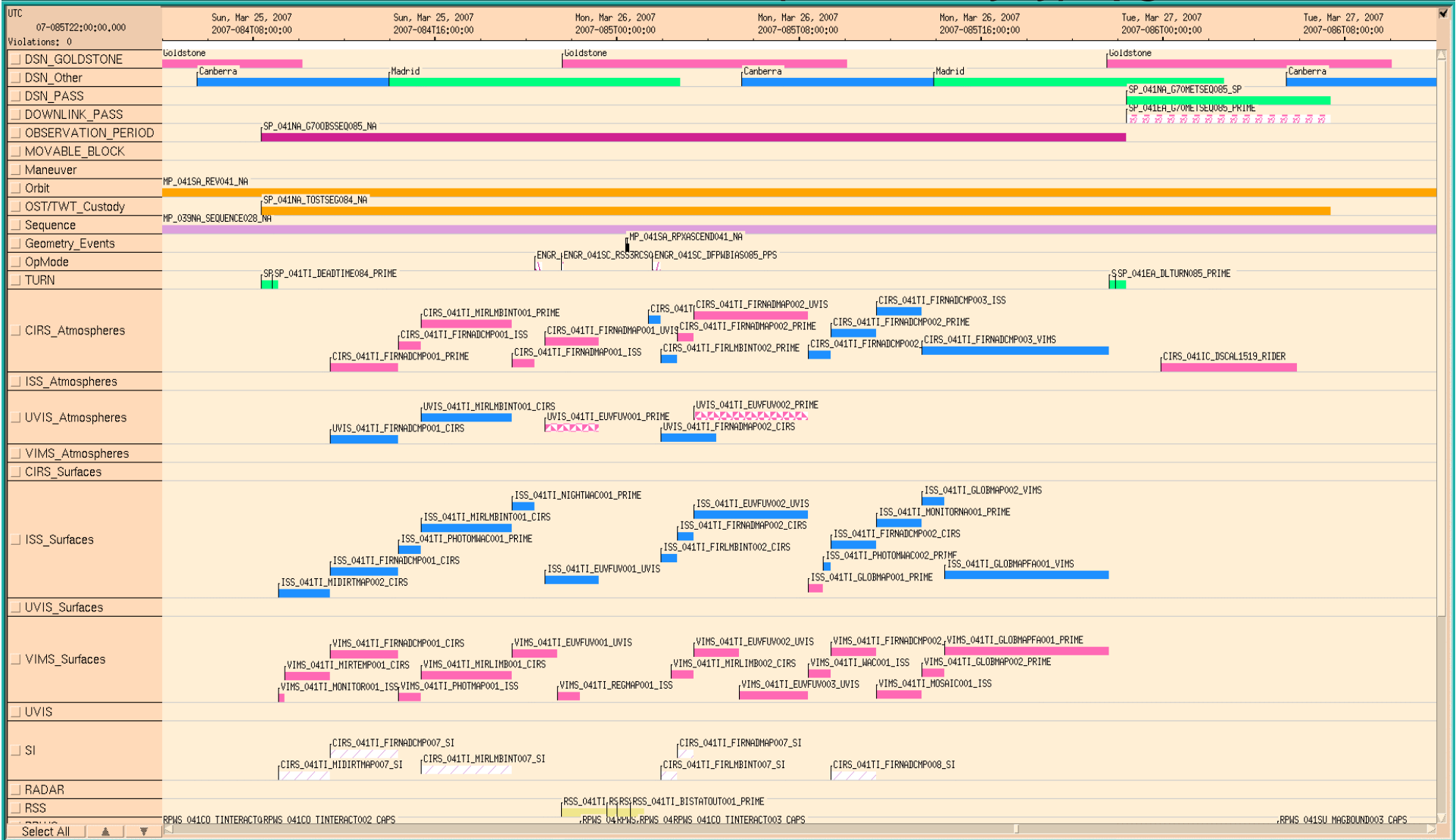
# 041TI (Titan-27 Flyby) Apgen



Opened new activity display.



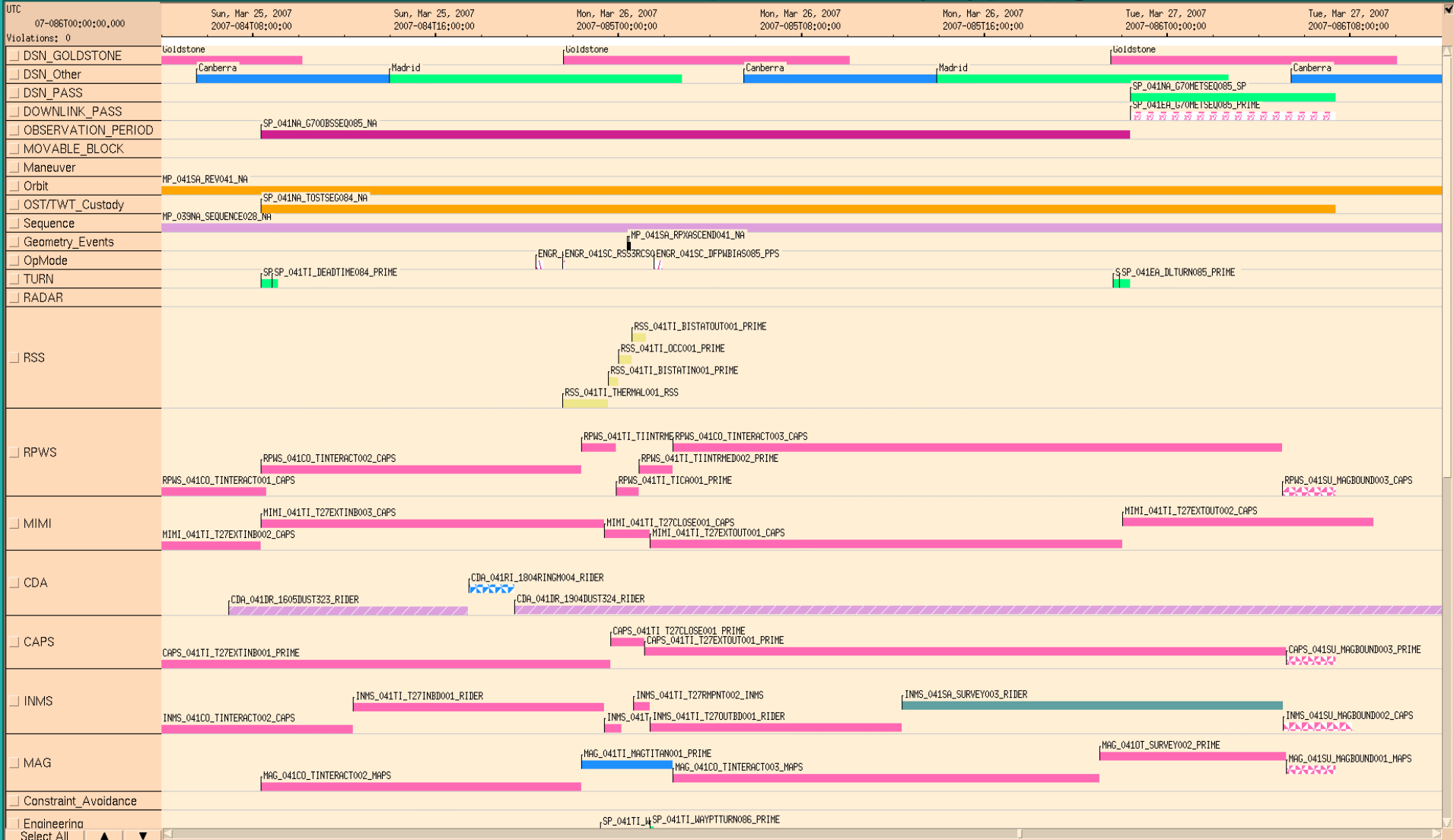
# 041TI (Titan-27 Flyby) Apgen ORS



Opened new activity display.



# 041TI (Titan-27 Flyby) Apgen MAPS



| Request                       | Start Time        | Epoch Relative Start Time     | Duration     | EndTime           | Effective Rate (bps) | Data Volume (10 <sup>6</sup> bits) | SPASS Type  | Primary Pointing  | Secondary Pointing      | Agreement             |
|-------------------------------|-------------------|-------------------------------|--------------|-------------------|----------------------|------------------------------------|-------------|-------------------|-------------------------|-----------------------|
| CAPS_041TI_T27EXTINB001_PRIME | 2007-083118:05:00 |                               | 001T05:31:52 | 2007-084T23:36:52 | 3000                 | 318 936                            | SPASS Rider |                   |                         |                       |
| CAPS_041TI_T27CLOSE001_PRIME  | 2007-084T23:36:52 | GMB_E041_Titan27-000T00:45:00 | 000T01:30:00 | 2007-085T01:06:52 | 16000                | 86 4                               | SPASS Rider |                   |                         |                       |
| CAPS_041TI_T27EXTOUT001_PRIME | 2007-085T01:06:52 | GMB_E041_Titan27+000T00:45:00 | 001T04:03:16 | 2007-086T05:10:08 | 3000                 | 302 988                            | SPASS Rider |                   |                         |                       |
| CAPS_041SU_MAGBOUND003_PRIME  | 2007-086T05:10:08 |                               | 000T02:11:52 | 2007-086T07:22:00 | 4000                 | 31 648                             | SPASS Rider |                   |                         |                       |
| CDA_041DR_1605DUST323_RIDER   | 2007-084T06:55:44 |                               | 000T10:28:25 | 2007-084T17:24:09 | 199.6                | 7 528                              | Non-SPASS   |                   |                         |                       |
| CDA_041RI_1804RINGM004_RIDER  | 2007-084T17:25:11 |                               | 000T01:59:59 | 2007-084T19:25:10 | 524                  | 3 772                              | Non-SPASS   |                   |                         |                       |
| CDA_041DR_1904DUST324_RIDER   | 2007-084T19:26:10 |                               | 002T12:37:50 | 2007-087T08:04:00 | 149.9                | 32 711                             | Non-SPASS   |                   |                         |                       |
| CIRS_041TI_MIDIRTMAP001_PRIME | 2007-084T09:05:52 | GMB_E041_Titan27-000T15:16:00 | 000T02:16:00 | 2007-084T11:21:52 | 2000                 | 16.32                              | Prime       | CIRS_FPB to Titan | POS_X to North_Pole_Dir |                       |
| CIRS_041TI_MIDIRTMAP001_SI    | 2007-084T09:05:52 | GMB_E041_Titan27-000T15:16:00 | 000T02:16:00 | 2007-084T11:21:52 | 0                    | 3                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF001_PRIME | 2007-084T11:21:52 | GMB_E041_Titan27-000T13:00:00 | 000T03:00:00 | 2007-084T14:21:52 | 4000                 | 43.2                               | Prime       | CIRS_FP1 to Titan | PIC                     |                       |
| CIRS_041TI_FIRNADCMF001_SI    | 2007-084T11:21:52 | GMB_E041_Titan27-000T13:00:00 | 000T03:00:00 | 2007-084T14:21:52 | 0                    | 3                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF001_ISS   | 2007-084T14:21:52 | GMB_E041_Titan27-000T10:00:00 | 000T01:00:00 | 2007-084T15:21:52 | 2000                 | 7.2                                | SPASS Rider |                   |                         |                       |
| CIRS_041TI_MIRLMBINT001_PRIME | 2007-084T15:21:52 | GMB_E041_Titan27-000T09:00:00 | 000T04:00:00 | 2007-084T19:21:52 | 4000                 | 57.6                               | Prime       | CIRS_FPB to Titan | PIC                     |                       |
| CIRS_041TI_MIRLMBINT001_SI    | 2007-084T15:21:52 | GMB_E041_Titan27-000T09:00:00 | 000T04:00:00 | 2007-084T19:21:52 | 0                    | 4                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADMAP001_ISS   | 2007-084T19:21:52 | GMB_E041_Titan27-000T05:00:00 | 000T01:00:00 | 2007-084T20:21:52 | 2000                 | 7.2                                | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADMAP001_UVIS  | 2007-084T20:47:52 | GMB_E041_Titan27-000T03:34:00 | 000T02:23:00 | 2007-084T23:10:52 | 2000                 | 17.16                              | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRLMBINT002_RIDER | 2007-085T01:21:52 | GMB_E041_Titan27+000T01:00:00 | 000T00:33:00 | 2007-085T01:54:52 | 4000                 | 7.92                               | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRLMBINT002_PRIME | 2007-085T01:54:52 | GMB_E041_Titan27+000T01:33:00 | 000T00:42:00 | 2007-085T02:36:52 | 4000                 | 10.08                              | Prime       | CIRS_FP1 to Titan | PIC                     |                       |
| CIRS_041TI_FIRLMBINT002_SI    | 2007-085T01:54:52 | GMB_E041_Titan27+000T01:33:00 | 000T00:42:00 | 2007-085T02:36:52 | 0                    | 1                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADMAP002_PRIME | 2007-085T02:36:52 | GMB_E041_Titan27+000T02:15:00 | 000T00:45:00 | 2007-085T03:21:52 | 4000                 | 10.8                               | Prime       | CIRS_FP1 to Titan | POS_X to North_Pole_Dir |                       |
| CIRS_041TI_FIRNADMAP002_SI    | 2007-085T02:36:52 | GMB_E041_Titan27+000T02:15:00 | 000T00:45:00 | 2007-085T03:21:52 | 0                    | 1                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADMAP002_UVIS  | 2007-085T03:21:52 | GMB_E041_Titan27+000T03:00:00 | 000T05:00:00 | 2007-085T08:21:52 | 2000                 | 36                                 | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF002_ISS   | 2007-085T08:21:52 | GMB_E041_Titan27+000T08:00:00 | 000T01:00:00 | 2007-085T09:21:52 | 2000                 | 7.2                                | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF002_PRIME | 2007-085T09:21:52 | GMB_E041_Titan27+000T09:00:00 | 000T02:00:00 | 2007-085T11:21:52 | 4000                 | 26.8                               | Prime       | CIRS_FP1 to Titan | PIC                     |                       |
| CIRS_041TI_FIRNADCMF002_SI    | 2007-085T09:21:52 | GMB_E041_Titan27+000T09:00:00 | 000T02:00:00 | 2007-085T11:21:52 | 0                    | 2                                  | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF003_ISS   | 2007-085T11:21:52 | GMB_E041_Titan27+000T11:00:00 | 000T02:00:00 | 2007-085T13:21:52 | 2000                 | 14.4                               | SPASS Rider |                   |                         |                       |
| CIRS_041TI_FIRNADCMF003_VIMS  | 2007-085T13:21:52 | GMB_E041_Titan27+000T13:00:00 | 000T08:15:00 | 2007-085T21:36:52 | 2000                 | 59.4                               | SPASS Rider |                   |                         |                       |
| CIRS_041IC_DSCALI519_RIDER    | 2007-085T23:52:00 |                               | 000T06:00:00 | 2007-086T05:52:00 | 4000                 | 86.4                               | SPASS Rider |                   |                         |                       |
| ENGR_041SC_ORSRC084_PPS       | 2007-084T20:21:52 | GMB_E041_Titan27-000T04:00:00 | 000T00:20:49 | 2007-084T20:42:41 | 0                    | 0                                  | Prime       | ISS_NAC to Saturn | NEG_X to Sun            | Deadband = (2, 2, 20) |
| ENGR_041SC_RSS3RCS084_PPS     | 2007-084T21:31:52 | GMB_E041_Titan27-000T02:50:00 | 000T00:05:08 | 2007-084T21:37:00 | 0                    | 0                                  | Non-SPASS   |                   |                         |                       |
| ENGR_041SC_DFPWBIA085_PPS     | 2007-085T01:31:52 | GMB_E041_Titan27+000T01:10:00 | 000T00:22:44 | 2007-085T01:54:36 | 0                    | 0                                  | Prime       | CIRS_FP1 to Titan | PIC                     |                       |
| INMS_041CO_TINTERACT002_CAPS  | 2007-084T00:00:00 |                               | 000T12:21:52 | 2007-084T12:21:52 | 100                  | 4 451                              | Non-SPASS   |                   |                         |                       |
| INMS_041TI_T27INBD001_RIDER   | 2007-084T12:21:52 |                               | 000T11:00:00 | 2007-084T23:21:52 | 100                  | 3.96                               | Non-SPASS   |                   |                         |                       |
| INMS_041TI_T27RMPNT001_INMS   | 2007-084T23:21:52 | GMB_E041_Titan27-000T01:00:00 | 000T00:45:00 | 2007-085T00:06:52 | 1498                 | 4 045                              | Non-SPASS   |                   |                         |                       |
| INMS_041TI_T27RMPNT001_PRIME  | 2007-085T00:06:52 | GMB_E041_Titan27-000T00:15:00 | 000T00:30:00 | 2007-085T00:36:52 | 1498                 | 2 696                              | SPASS Rider |                   |                         |                       |
| INMS_041TI_T27RMPNT002_INMS   | 2007-085T00:36:52 | GMB_E041_Titan27+000T00:15:00 | 000T00:45:00 | 2007-085T01:21:52 | 1498                 | 4 045                              | Non-SPASS   |                   |                         |                       |
| INMS_041TI_T27OUTBD001_RIDER  | 2007-085T01:21:52 | GMB_E041_Titan27+000T01:00:00 | 000T11:00:00 | 2007-085T12:21:52 | 100                  | 3.96                               | Non-SPASS   |                   |                         |                       |
| INMS_041SA_SURVEY003_RIDER    | 2007-085T12:21:52 |                               | 000T16:40:31 | 2007-086T05:02:23 | 50                   | 3 002                              | Non-SPASS   |                   |                         |                       |
| INMS_041SU_MAGBOUND002_CAPS   | 2007-086T05:02:23 |                               | 001T03:01:37 | 2007-087T08:04:00 | 100                  | 9.73                               | Non-SPASS   |                   |                         |                       |
| ISS_041TI_MIDIRTMAP002_CIRS   | 2007-084T09:05:52 | GMB_E041_Titan27-000T15:16:00 | 000T02:16:00 | 2007-084T11:21:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_FIRNADCMF001_CIRS   | 2007-084T11:21:52 | GMB_E041_Titan27-000T13:00:00 | 000T03:00:00 | 2007-084T14:21:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_PHOTOMWAC001_PRIME  | 2007-084T14:21:52 | GMB_E041_Titan27-000T10:00:00 | 000T01:00:00 | 2007-084T15:21:52 | 0                    | 30                                 | Prime       | ISS_NAC to Titan  | NEG_X to Sun            |                       |
| ISS_041TI_MIRLMBINT001_CIRS   | 2007-084T15:21:52 | GMB_E041_Titan27-000T09:00:00 | 000T04:00:00 | 2007-084T19:21:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_NIGHTWAC001_PRIME   | 2007-084T19:21:52 | GMB_E041_Titan27-000T05:00:00 | 000T01:00:00 | 2007-084T20:21:52 | 0                    | 20                                 | Prime       | ISS_NAC to Titan  | NEG_X to Sun            |                       |
| ISS_041TI_EUVFUV001_UVIS      | 2007-084T20:47:52 | GMB_E041_Titan27-000T03:34:00 | 000T02:23:00 | 2007-084T23:10:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_FIRLMBINT002_CIRS   | 2007-085T01:54:52 | GMB_E041_Titan27+000T01:33:00 | 000T00:42:00 | 2007-085T02:36:52 | 0                    | 10                                 | SPASS Rider |                   |                         |                       |
| ISS_041TI_FIRNADMAP002_CIRS   | 2007-085T02:36:52 | GMB_E041_Titan27+000T02:15:00 | 000T00:45:00 | 2007-085T03:21:52 | 0                    | 10                                 | SPASS Rider |                   |                         |                       |
| ISS_041TI_EUVFUV002_UVIS      | 2007-085T03:21:52 | GMB_E041_Titan27+000T03:00:00 | 000T05:00:00 | 2007-085T08:21:52 | 0                    | 10                                 | SPASS Rider |                   |                         |                       |
| ISS_041TI_GLOBMAP001_PRIME    | 2007-085T08:21:52 | GMB_E041_Titan27+000T08:00:00 | 000T00:40:00 | 2007-085T09:01:52 | 0                    | 60                                 | Prime       | ISS_NAC to Titan  | NEG_X to Sun            |                       |
| ISS_041TI_PHOTOMWAC002_PRIME  | 2007-085T09:01:52 | GMB_E041_Titan27+000T08:40:00 | 000T00:20:00 | 2007-085T09:21:52 | 0                    | 30                                 | Prime       | ISS_NAC to Titan  | NEG_X to Sun            |                       |
| ISS_041TI_FIRNADCMF002_CIRS   | 2007-085T09:21:52 | GMB_E041_Titan27+000T09:00:00 | 000T02:00:00 | 2007-085T11:21:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_MONITORNA001_PRIME  | 2007-085T11:21:52 | GMB_E041_Titan27+000T11:00:00 | 000T02:00:00 | 2007-085T13:21:52 | 0                    | 300                                | Prime       | ISS_NAC to Titan  | NEG_X to Sun            |                       |
| ISS_041TI_GLOBMAP002_VIMS     | 2007-085T13:21:52 | GMB_E041_Titan27+000T13:00:00 | 000T01:00:00 | 2007-085T14:21:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| ISS_041TI_GLOBMAP001_VIMS     | 2007-085T14:21:52 | GMB_E041_Titan27+000T14:00:00 | 000T07:15:00 | 2007-085T21:36:52 | 0                    | 5                                  | SPASS Rider |                   |                         |                       |
| MAG_041CO_TINTERACT002_MAPS   | 2007-084T08:20:00 |                               | 000T14:01:52 | 2007-084T22:21:52 | 1976                 | 99 812                             | Non-SPASS   |                   |                         |                       |
| MAG_041TI_MAGTITAN001_PRIME   | 2007-084T22:21:52 | GMB_E041_Titan27-000T02:00:00 | 000T04:00:00 | 2007-085T02:21:52 | 1976                 | 26 454                             | Non-SPASS   |                   |                         |                       |
| MAG_041CO_TINTERACT003_MAPS   | 2007-085T02:21:52 | GMB_E041_Titan27+000T02:00:00 | 000T18:38:38 | 2007-085T21:00:30 | 1976                 | 132 625                            | Non-SPASS   |                   |                         |                       |
| MAG_041OT_SURVEY002_PRIME     | 2007-085T21:00:30 |                               | 000T08:09:38 | 2007-086T05:10:08 | 600                  | 17 627                             | Non-SPASS   |                   |                         |                       |
| MAG_041SU_MAGBOUND001_MAPS    | 2007-086T05:10:08 |                               | 000T02:11:52 | 2007-086T07:22:00 | 1976                 | 15 634                             | Non-SPASS   |                   |                         |                       |
| MIMI_041TI_T27EXTINB002_CAPS  | 2007-084T00:00:01 |                               | 000T08:19:59 | 2007-084T08:20:00 | 2000                 | 59 998                             | SPASS Rider |                   |                         |                       |
| MIMI_041TI_T27EXTINB003_CAPS  | 2007-084T08:20:01 |                               | 000T15:01:51 | 2007-084T23:21:52 | 1200                 | 64 933                             | SPASS Rider |                   |                         |                       |
| MIMI_041TI_T27CLOSE001_CAPS   | 2007-084T23:21:52 | GMB_E041_Titan27-000T01:00:00 | 000T02:00:00 | 2007-085T01:21:52 | 1800                 | 12.96                              | SPASS Rider |                   |                         |                       |
| MIMI_041TI_T27EXTOUT001_CAPS  | 2007-085T01:21:52 | GMB_E041_Titan27+000T01:00:00 | 000T20:38:09 | 2007-085T22:00:01 | 1800                 | 133.72                             | SPASS Rider |                   |                         |                       |
| MIMI_041TI_T27EXTOUT002_CAPS  | 2007-085T22:00:01 |                               | 000T11:00:00 | 2007-086T09:00:01 | 2000                 | 79.2                               | SPASS Rider |                   |                         |                       |

|                               |                   |                                |              |                   |         |         |              |  |                 |  |
|-------------------------------|-------------------|--------------------------------|--------------|-------------------|---------|---------|--------------|--|-----------------|--|
| MP_039NA_SEQUENCE028_NA       | 2007-048T10:52:00 | E039_SEQUENCE_028+000T00:00:00 | 038T21:12:00 | 2007-087T08:04:00 | 0       | 0       | SPASS Note   |  |                 |  |
| MP_041SA_REV041_NA            | 2007-074T12:42:26 |                                | 016T04:27:57 | 2007-090T17:10:23 | 0       | 0       | Non-SPASS    |  |                 |  |
| MP_041SU_OCCTITAN041_NA       | 2007-085T00:06:57 |                                | 000T00:17:17 | 2007-085T00:24:14 | 0       | 0       | Non-SPASS    |  |                 |  |
| MP_041EA_OCCTITAN041_NA       | 2007-085T00:07:42 |                                | 000T00:16:28 | 2007-085T00:24:10 | 0       | 0       | Non-SPASS    |  |                 |  |
| MP_041TI_FLYBYT027_NA         | 2007-085T00:21:52 |                                | 000T00:00:01 | 2007-085T00:21:53 | 0       | 0       | Non-SPASS    |  |                 |  |
| MP_041SA_RPXASCEND041_NA      | 2007-085T00:26:15 |                                | 000T00:00:01 | 2007-085T00:26:16 | 0       | 0       | Non-SPASS    |  |                 |  |
| RPWS_041CO_TINTERACT001_CAPS  | 2007-083T18:05:00 |                                | 000T14:30:00 | 2007-084T08:35:00 | 3500    | 182.7   | Non-SPASS    |  |                 |  |
| RPWS_041CO_TINTERACT002_CAPS  | 2007-084T08:20:00 |                                | 000T14:01:52 | 2007-084T22:21:52 | 2500    | 126.28  | Non-SPASS    |  |                 |  |
| RPWS_041TI_TINTRMED001_PRIME  | 2007-084T22:21:52 | GMB_E041_Titan27-000T02:00:00  | 000T01:30:00 | 2007-084T23:51:52 | 3000    | 16.2    | Non-SPASS    |  |                 |  |
| RPWS_041TI_TICA001_PRIME      | 2007-084T23:51:52 | GMB_E041_Titan27-000T00:30:00  | 000T01:00:00 | 2007-085T00:51:52 | 100001  | 360.004 | Non-SPASS    |  |                 |  |
| RPWS_041TI_TINTRMED002_PRIME  | 2007-085T00:51:52 | GMB_E041_Titan27+000T00:30:00  | 000T01:30:00 | 2007-085T02:21:52 | 3000    | 16.2    | Non-SPASS    |  |                 |  |
| RPWS_041CO_TINTERACT003_CAPS  | 2007-085T02:21:52 | GMB_E041_Titan27+000T02:00:00  | 001T02:38:08 | 2007-086T05:00:00 | 2500    | 239.72  | Non-SPASS    |  |                 |  |
| RPWS_041SU_MAGBOUND003_CAPS   | 2007-086T05:00:00 |                                | 000T02:22:00 | 2007-086T07:22:00 | 1310    | 11.161  | Non-SPASS    |  |                 |  |
| RSS_041TI_THERMAL001_RSS      | 2007-084T21:31:52 | GMB_E041_Titan27-000T02:50:00  | 000T02:00:00 | 2007-084T23:31:52 | 0       | 0       | SPASS Rider  |  |                 |  |
| RSS_041TI_BISTATIN001_PRIME   | 2007-084T23:31:52 | GMB_E041_Titan27-000T00:50:00  | 000T00:26:36 | 2007-084T23:58:28 | 0       | 0       | Prime        | XBAND to Titan<br>(0,0,0,0,30.0 degrees offset)  | NEG_Y to SC_RAM | 1. IVD input for pointing at reflection point on Titan. 2. (0,0,30) offset requires star-id suspension.                                |
| RSS_041TI_OCC001_PRIME        | 2007-084T23:58:28 | GMB_E041_Titan27-000T00:23:24  | 000T00:35:22 | 2007-085T00:33:50 | 0       | 0       | Prime        | XBAND to Earth<br>(0,0,0,0,30.0 degrees offset)  | NEG_Y to SC_RAM | 1. Pointing driven with ivd file. 2. (0,0,30) offset to accommodate MAPS (requires star-id suspension).                                |
| RSS_041TI_BISTATOUT001_PRIME  | 2007-085T00:33:50 | GMB_E041_Titan27+000T00:11:58  | 000T00:38:02 | 2007-085T01:11:52 | 0       | 0       | Prime        | XBAND to Titan<br>(0,0,0,0,30.0 degrees offset)  | NEG_Y to SC_RAM | 1. Pointing, driven with ivd file, to reflection point on Titan. 2. (0,0,30) offset to accommodate MAPS (requires star-id suspension). |
| SP_041NA_G700BSSEQ085_NA      | 2007-084T08:20:00 |                                | 001T14:02:00 | 2007-085T22:22:00 | 0       | 0       | Non-SPASS    |  |                 |  |
| SP_041NA_TOSTSEG084_NA        | 2007-084T08:20:00 |                                | 001T23:02:00 | 2007-086T07:22:00 | 0       | 0       | SPASS Note   |  |                 |  |
| SP_041TI_WAYPTTURN084_PRIME   | 2007-084T08:20:00 |                                | 000T00:30:00 | 2007-084T08:50:00 | 0       | 0       | New Waypoint | ISS_NAC to Titan<br>(0,0,5,0,0,0 degrees offset) | NEG_X to Sun    | SP Turn to Waypoint  |
| SP_041TI_DEADTIME084_PRIME    | 2007-084T08:50:00 |                                | 000T00:15:00 | 2007-084T09:05:00 | 0       | 0       | Prime        | ISS_NAC to Titan                                 | NEG_X to Sun    |  |
| SP_041TI_WAYPTTURN085_PRIME   | 2007-084T23:10:52 | GMB_E041_Titan27-000T01:11:00  | 000T00:13:00 | 2007-084T23:23:52 | 0       | 0       | New Waypoint | NEG_Z to Earth<br>(0,0,0,0,30.0 degrees offset)  | NEG_Y to SC_RAM | SP turn to New Waypoint  |
| SP_041TI_WAYPTTURN086_PRIME   | 2007-085T01:21:52 | GMB_E041_Titan27+000T01:00:00  | 000T00:10:00 | 2007-085T01:31:52 | 0       | 0       | New Waypoint | NEG_Y to Titan                                   | NEG_X to Sun    | SP turn to New Waypoint  |
| SP_041TI_DEADTIME085_PRIME    | 2007-085T21:37:00 |                                | 000T00:15:00 | 2007-085T21:52:00 | 0       | 0       | Prime        | ISS_NAC to Titan                                 | NEG_X to Sun    |  |
| SP_041EA_DLTURN085_PRIME      | 2007-085T21:52:00 |                                | 000T00:30:00 | 2007-085T22:22:00 | 0       | 0       | Prime        | XBAND to Earth                                   | NEG_X to NEP    | SP Turn to Earth   |
| SP_041EA_G700METSEQ085_PRIME  | 2007-085T22:22:00 |                                | 000T09:00:00 | 2007-086T07:22:00 | 0       | 0       | Prime        | XBAND to Earth                                   | Rolling         |  |
| SP_041NA_G700METSEQ085_SP     | 2007-085T22:22:00 |                                | 000T09:00:00 | 2007-086T07:22:00 | 0       | 0       | Non-SPASS    |  |                 |  |
| UVIS_041TI_FIRNADCMP001_CIRS  | 2007-084T11:21:52 | GMB_E041_Titan27-000T13:00:00  | 000T03:00:00 | 2007-084T14:21:52 | 1006.4  | 10.869  | SPASS Rider  |  |                 |  |
| UVIS_041TI_MIRLMBINT001_CIRS  | 2007-084T15:21:52 | GMB_E041_Titan27-000T09:00:00  | 000T04:00:00 | 2007-084T19:21:52 | 3321.1  | 47.824  | SPASS Rider  |  |                 |  |
| UVIS_041TI_EUVFUV001_PRIME    | 2007-084T20:47:52 | GMB_E041_Titan27-000T03:34:00  | 000T02:23:00 | 2007-084T23:10:52 | 5032    | 43.175  | Prime        | UVIS_FUV to Titan                                | NEG_X to Sun    |  |
| UVIS_041TI_FIRNADMAP002_CIRS  | 2007-085T01:54:52 | GMB_E041_Titan27+000T01:33:00  | 000T01:27:00 | 2007-085T03:21:52 | 1006.4  | 5.253   | SPASS Rider  |  |                 |  |
| UVIS_041TI_EUVFUV002_PRIME    | 2007-085T03:21:52 | GMB_E041_Titan27+000T03:00:00  | 000T05:00:00 | 2007-085T08:21:52 | 4428.2  | 79.707  | Prime        | UVIS_FUV to Titan                                | NEG_X to Sun    |  |
| UVIS_041SW_IPHSURVEY014_RIDER | 2007-085T22:22:00 |                                | 000T09:00:00 | 2007-086T07:22:00 | 1009    | 32.692  | Non-SPASS    |  |                 |  |
| VIMS_041TI_MONITOR001_ISS     | 2007-084T09:05:52 | GMB_E041_Titan27-000T15:16:00  | 000T00:16:00 | 2007-084T09:21:52 | 17708.3 | 17      | SPASS Rider  |  |                 |  |
| VIMS_041TI_MIRTEMP001_CIRS    | 2007-084T09:21:52 | GMB_E041_Titan27-000T15:00:00  | 000T02:00:00 | 2007-084T11:21:52 | 3750    | 27      | SPASS Rider  |  |                 |  |
| VIMS_041TI_FIRNADCMP001_CIRS  | 2007-084T11:21:52 | GMB_E041_Titan27-000T13:00:00  | 000T03:00:00 | 2007-084T14:21:52 | 2500    | 27      | SPASS Rider  |  |                 |  |
| VIMS_041TI_PHOTMAP001_ISS     | 2007-084T14:21:52 | GMB_E041_Titan27-000T10:00:00  | 000T01:00:00 | 2007-084T15:21:52 | 7500    | 27      | SPASS Rider  |  |                 |  |
| VIMS_041TI_MIRLMB001_CIRS     | 2007-084T15:21:52 | GMB_E041_Titan27-000T09:00:00  | 000T04:00:00 | 2007-084T19:21:52 | 6250    | 90      | SPASS Rider  |  |                 |  |
| VIMS_041TI_EUVFUV001_UVIS     | 2007-084T19:21:52 | GMB_E041_Titan27-000T05:00:00  | 000T02:00:00 | 2007-084T21:21:52 | 5555.6  | 40      | SPASS Rider  |  |                 |  |
| VIMS_041TI_REGMAP001_ISS      | 2007-084T21:21:52 | GMB_E041_Titan27-000T03:00:00  | 000T01:00:00 | 2007-084T22:21:52 | 11111.1 | 40      | SPASS Rider  |  |                 |  |
| VIMS_041TI_MIRLMB002_CIRS     | 2007-085T02:21:52 | GMB_E041_Titan27+000T02:00:00  | 000T01:00:00 | 2007-085T03:21:52 | 0       | 0       | SPASS Rider  |  |                 |  |
| VIMS_041TI_EUVFUV002_UVIS     | 2007-085T03:21:52 | GMB_E041_Titan27+000T03:00:00  | 000T02:00:00 | 2007-085T05:21:52 | 5555.6  | 40      | SPASS Rider  |  |                 |  |
| VIMS_041TI_EUVFUV003_UVIS     | 2007-085T05:21:52 | GMB_E041_Titan27+000T05:00:00  | 000T03:00:00 | 2007-085T08:21:52 | 5000    | 54      | SPASS Rider  |  |                 |  |
| VIMS_041TI_WAC001_ISS         | 2007-085T08:21:52 | GMB_E041_Titan27+000T08:00:00  | 000T01:00:00 | 2007-085T09:21:52 | 10000   | 36      | SPASS Rider  |  |                 |  |
| VIMS_041TI_FIRNADCMP002_CIRS  | 2007-085T09:21:52 | GMB_E041_Titan27+000T09:00:00  | 000T02:00:00 | 2007-085T11:21:52 | 5000    | 36      | SPASS Rider  |  |                 |  |
| VIMS_041TI_MOSAIC001_ISS      | 2007-085T11:21:52 | GMB_E041_Titan27+000T11:00:00  | 000T02:00:00 | 2007-085T13:21:52 | 11111.1 | 80      | SPASS Rider  |  |                 |  |
| VIMS_041TI_GLOBMAP002_PRIME   | 2007-085T13:21:52 | GMB_E041_Titan27+000T13:00:00  | 000T01:00:00 | 2007-085T14:21:52 | 10000   | 36      | Prime        | ISS_NAC to Titan                                 | NEG_X to Sun    |  |
| VIMS_041TI_GLOBMAPFA001_PRIME | 2007-085T14:21:52 | GMB_E041_Titan27+000T14:00:00  | 000T07:15:00 | 2007-085T21:36:52 | 2298.9  | 60      | Prime        | ISS_NAC to Titan                                 | NEG_X to Sun    |  |

# SPASS (Attitude Strategy Spreadsheet)

| Request                           | Riders     | Start(SCET)              | Start(Epoch)                          | Duration            | End(SCET)                        | Primary Pointing                        | Secondary Pointing     | Comments   |
|-----------------------------------|------------|--------------------------|---------------------------------------|---------------------|----------------------------------|---|------------------------|--|
| Sequence S028, length = 39 ...    |            | 2007-048T10:52:00        | E039_SEQUENCE_028+000                 | 038T21:12:00        | 2007-087T08:04:00                |   |                        |  |
| TOST rev 41 Segment               |            | 2007-084T08:20:00        |                                       | 001T23:02:00        | 2007-086T07:22:00                |   |                        |  |
| SP_041TI_WAYPTTURN084_PRIME       | M          | 2007-084T08:20:00        |                                       | 000T00:30:00        | 2007-084T08:50:00                | ISS_NAC to Titan (0,0,5,0,0,0 deg       | NEG_X to Sun           | SP Turn to Waypoint  |
| <b>NEW WAYPOINT</b>               |            | <b>2007-084T08:50:00</b> |                                       | <b>000T14:33:52</b> | <b>2007-084T23:23:52</b>         | <b>ISS_NAC to Titan (0,0,5,0,0,0 de</b> | <b>NEG_X to Sun</b>    |  |
| <b>SP_041TI_DEADTIME084_PRIME</b> | <b>M</b>   | <b>2007-084T08:50:00</b> |                                       | <b>000T00:15:00</b> | <b>2007-084T09:05:00</b>         | <b>ISS_NAC to Titan</b>                 | <b>NEG_X to Sun</b>    |  |
| CIRS_041TI_MIDIRTMAP001_PRIME     | C, I, M, V | 2007-084T09:05:52        | GMB_E041_Titan27-000T15:1000T02:16:00 | 2007-084T11:21:52   | CIRS_FPB to Titan                | POS_X to North_Pole_Dir                 |                        |  |
| CIRS_041TI_FIRNADCMAP001_PRIME    | C, I, M, U | 2007-084T11:21:52        | GMB_E041_Titan27-000T13:000T03:00:00  | 2007-084T14:21:52   | CIRS_FP1 to Titan                | PIC                                     |                        |  |
| ISS_041TI_PHOTOMWAC001_PRIME      | C, M, V    | 2007-084T14:21:52        | GMB_E041_Titan27-000T10:000T01:00:00  | 2007-084T15:21:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| CIRS_041TI_MIRLMBINT001_PRIME     | C, I, M, U | 2007-084T15:21:52        | GMB_E041_Titan27-000T09:000T04:00:00  | 2007-084T19:21:52   | CIRS_FPB to Titan                | PIC                                     |                        |  |
| ISS_041TI_NIGHTWAC001_PRIME       | C, M, V    | 2007-084T19:21:52        | GMB_E041_Titan27-000T05:000T01:00:00  | 2007-084T20:21:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| ENGR_041SC_ORSRCS084_PPS          | M, V       | 2007-084T20:21:52        | GMB_E041_Titan27-000T04:000T00:20:49  | 2007-084T20:42:41   | ISS_NAC to Saturn                | NEG_X to Sun                            | Deadband = (2, 2, 20)  |  |
| UVIS_041TI_EUVFUV001_PRIME        | C, I, M, R | 2007-084T20:47:52        | GMB_E041_Titan27-000T03:3000T02:23:00 | 2007-084T23:10:52   | UVIS_FUV to Titan                | NEG_X to Sun                            |                        |  |
| SP_041TI_WAYPTTURN085_PRIME       | M, R       | 2007-084T23:10:52        | GMB_E041_Titan27-000T01:1000T00:13:00 | 2007-084T23:23:52   | NEG_Z to Earth (0,0,0,0,30,0 deg | NEG_Y to SC_RAM                         |                        | SP turn to New Waypoint  |
| <b>NEW WAYPOINT</b>               |            | <b>2007-084T23:23:52</b> |                                       | <b>000T02:08:00</b> | <b>2007-085T01:31:52</b>         | <b>NEG_Z to Earth (0,0,0,0,30,0 deg</b> | <b>NEG_Y to SC_RAM</b> |  |
| RSS_041TI_BISTATIN001_PRIME       | M          | 2007-084T23:31:52        | GMB_E041_Titan27-000T00:000T00:26:36  | 2007-084T23:58:28   | XBAND to Titan (0,0,0,0,30,0 deg | NEG_Y to SC_RAM                         |                        | 1. IVD input for pointing at reflection point on Titan. 2. (0,0,30) offset requires star-id suspension.                                |
| RSS_041TI_OCC001_PRIME            | M          | 2007-084T23:58:28        | GMB_E041_Titan27-000T00:2000T00:35:22 | 2007-085T00:33:50   | XBAND to Earth (0,0,0,0,30,0 deg | NEG_Y to SC_RAM                         |                        | 1. Pointing driven with ivd file. 2. (0,0,30) offset to accommodate MAPS (requires star-id suspension).                                |
| RSS_041TI_BISTATOUT001_PRIME      | M          | 2007-085T00:33:50        | GMB_E041_Titan27+000T00:000T00:38:02  | 2007-085T01:11:52   | XBAND to Titan (0,0,0,0,30,0 deg | NEG_Y to SC_RAM                         |                        | 1. Pointing, driven with ivd file, to reflection point on Titan. 2. (0,0,30) offset to accommodate MAPS (requires star-id suspension). |
| SP_041TI_WAYPTTURN086_PRIME       | C, M       | 2007-085T01:21:52        | GMB_E041_Titan27+000T01:000T00:10:00  | 2007-085T01:31:52   | NEG_Y to Titan                   | NEG_X to Sun                            |                        | SP turn to New Waypoint  |
| <b>NEW WAYPOINT</b>               |            | <b>2007-085T01:31:52</b> |                                       | <b>001T05:50:08</b> | <b>2007-086T07:22:00</b>         | <b>NEG_Y to Titan</b>                   | <b>NEG_X to Sun</b>    |  |
| ENGR_041SC_DFPWBIAS085_PPS        | C, M       | 2007-085T01:31:52        | GMB_E041_Titan27+000T01:000T00:22:44  | 2007-085T01:54:36   | CIRS_FP1 to Titan                | PIC                                     |                        |  |
| CIRS_041TI_FIRLMBINT002_PRIME     | C, I, M, U | 2007-085T01:54:52        | GMB_E041_Titan27+000T01:000T00:42:00  | 2007-085T02:36:52   | CIRS_FP1 to Titan                | PIC                                     |                        |  |
| CIRS_041TI_FIRNADMAP002_PRIME     | C, I, M, U | 2007-085T02:36:52        | GMB_E041_Titan27+000T02:000T00:45:00  | 2007-085T03:21:52   | CIRS_FP1 to Titan                | POS_X to North_Pole_Dir                 |                        |  |
| UVIS_041TI_EUVFUV002_PRIME        | C, I, M, V | 2007-085T03:21:52        | GMB_E041_Titan27+000T03:000T05:00:00  | 2007-085T08:21:52   | UVIS_FUV to Titan                | NEG_X to Sun                            |                        |  |
| ISS_041TI_GLOBMAP001_PRIME        | C, M, V    | 2007-085T08:21:52        | GMB_E041_Titan27+000T08:000T00:40:00  | 2007-085T09:01:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| ISS_041TI_PHOTOMWAC002_PRIME      | C, M, V    | 2007-085T09:01:52        | GMB_E041_Titan27+000T08:000T00:20:00  | 2007-085T09:21:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| CIRS_041TI_FIRNADCMAP002_PRIME    | C, I, M, V | 2007-085T09:21:52        | GMB_E041_Titan27+000T09:000T02:00:00  | 2007-085T11:21:52   | CIRS_FP1 to Titan                | PIC                                     |                        |  |
| ISS_041TI_MONITORNAD001_PRIME     | C, M, V    | 2007-085T11:21:52        | GMB_E041_Titan27+000T11:000T02:00:00  | 2007-085T13:21:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| VIMS_041TI_GLOBMAP002_PRIME       | C, I, M    | 2007-085T13:21:52        | GMB_E041_Titan27+000T13:000T01:00:00  | 2007-085T14:21:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| VIMS_041TI_GLOBMAPFA001_PRIME     | C, I, M    | 2007-085T14:21:52        | GMB_E041_Titan27+000T14:000T07:15:00  | 2007-085T21:36:52   | ISS_NAC to Titan                 | NEG_X to Sun                            |                        |  |
| <b>SP_041TI_DEADTIME085_PRIME</b> | <b>M</b>   | <b>2007-085T21:37:00</b> |                                       | <b>000T00:15:00</b> | <b>2007-085T21:52:00</b>         | <b>ISS_NAC to Titan</b>                 | <b>NEG_X to Sun</b>    |  |
| SP_041EA_DLTURN085_PRIME          | M          | 2007-085T21:52:00        |                                       | 000T00:30:00        | 2007-085T22:22:00                | XBAND to Earth                          | NEG_X to NEP           | SP Turn to Earth   |
| SP_041EA_G70METSEQ085_PRIME       | C, M       | 2007-085T22:22:00        |                                       | 000T09:00:00        | 2007-086T07:22:00                | XBAND to Earth                          | Rolling                |  |

WPs Checked – IN/OUT – NEG\_Y to Titan (0,5,0 offset coming in), NEG\_X to Sun;  
 CLOSEST APPROACH (NEG\_Z to Earth, NEG\_Y to SC\_RAM (Offset: 0,0,30) with suspend SID)  
 DOWNLINK - X-Band to Earth, NEG\_X to NEP  
 SP checked turns to and from Titan



# Data Volume Summary

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

| DOWNLINK PASS NAME          | Start<br>doy hh:mm | End<br>doy hh:mm | OBSERVATION PERIOD |             |              |               |                |              |               | DOWNLINK PASS |              |               |                        |                |                |               |   |
|-----------------------------|--------------------|------------------|--------------------|-------------|--------------|---------------|----------------|--------------|---------------|---------------|--------------|---------------|------------------------|----------------|----------------|---------------|---|
|                             |                    |                  | P4                 |             |              |               | P5             | RECORDED     |               | PLAYBACK      |              |               | NET_MARGIN<br>(Mb) (%) | CAROVR<br>(Mb) |                |               |   |
|                             |                    |                  | START<br>(Mb)      | SCI<br>(Mb) | HK+E<br>(Mb) | TOTAL<br>(Mb) | CPACTY<br>(Mb) | MRGN<br>(Mb) | OPNAV<br>(Mb) | SCI<br>(Mb)   | ENGR<br>(Mb) | TOTAL<br>(Mb) |                        |                | CPACTY<br>(Mb) | MARGN<br>(Mb) |   |
| SP_041EA_G70METSEQ085_PRIME | 085 22:22          | 086 07:22        | 0                  | 3377        | 130          | 3507          | 3566           | 59           | 0             | 401           | 53           | 3961          | 4281                   | 321            | 320            | 7%            | 0 |

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

| Event                       | Start<br>doy hh:mm | End<br>doy hh:mm | CAPS<br>(Mb) | CDA<br>(Mb) | CIRS<br>(Mb) | INMS<br>(Mb) | ISS<br>(Mb) | MAG<br>(Mb) | MIMI<br>(Mb) | RADAR<br>(Mb) | RPWS<br>(Mb) | UVIS<br>(Mb) | VIMS<br>(Mb) | PROBE<br>(Mb) | ENGR<br>(Mb) | TOTAL<br>(Mb) |
|-----------------------------|--------------------|------------------|--------------|-------------|--------------|--------------|-------------|-------------|--------------|---------------|--------------|--------------|--------------|---------------|--------------|---------------|
| OBSERVATION_NOR             | 084 08:20          | 085 22:22        | 481.0        | 24.8        | 323.3        | 22.0         | 505.0       | 263.8       | 214.3        | 0.0           | 701.9        | 186.8        | 610.0        | 0.0           | 0.0          | 3332.8        |
| OBSERVATION_SI              | 084 08:20          | 085 22:22        | 0.0          | 0.0         | 14.0         | 0.0          | 0.0         | 0.0         | 0.0          | 0.0           | 0.0          | 0.0          | 0.0          | 0.0           | 0.0          | 14.0          |
| SP_041EA_G70METSEQ085_PRIME | 085 22:22          | 086 07:22        | 105.1        | 4.9         | 86.4         | 2.0          | 0.0         | 30.3        | 64.8         | 0.0           | 70.9         | 32.7         | 0.0          | 0.0           | 0.0          | 397.1         |
| DAILY TOTAL SCIENCE         | 084 08:20          | 086 07:22        | 586.1        | 29.7        | 423.7        | 24.0         | 505.0       | 294.2       | 279.1        | 0.0           | 772.7        | 219.5        | 610.0        | 0.0           |              |               |

AVERAGE DATA RATE REPORT (calculated over observation periods and downlink passes)

| Event                       | Start<br>doy hh:mm | End<br>doy hh:mm | CAPS<br>(bps) | CDA<br>(bps) | INMS<br>(bps) | MAG<br>(bps) | MIMI<br>(bps) | RPWS<br>(bps) | UVIS<br>(bps) |
|-----------------------------|--------------------|------------------|---------------|--------------|---------------|--------------|---------------|---------------|---------------|
| SP_041NA_G70OBSSEQ085_NA    | 084 08:20          | 085 22:22        | 3512.7        | 181.3        | 160.4         | 1926.9       | 1564.8        | 5126.0        | 1364.5        |
| SP_041EA_G70METSEQ085_PRIME | 085 22:22          | 086 07:22        | 3244.2        | 149.9        | 62.9          | 936.0        | 2000.0        | 2187.1        | 1009.0        |

# Telemetry Mode Report

TELEMETRY MODE REPORT

| SCET                  | TELEMETRY MODE   | REQUEST                     |
|-----------------------|------------------|-----------------------------|
| 2007-084T08:20:00.000 | S_N_ER_3         | SP_041NA_G70OBSSEQ085_NA    |
| 2007-084T23:23:52.000 | S_N_ER_2         | SP_041NA_G70OBSSEQ085_NA    |
| 2007-085T01:31:52.000 | S_N_ER_3         | SP_041NA_G70OBSSEQ085_NA    |
| 2007-085T22:22:00.000 | RTE_N_SPB_110600 | SP_041EA_G70METSEQ085_PRIME |
| 2007-085T22:50:00.000 | RTE_N_SPB_124425 | SP_041EA_G70METSEQ085_PRIME |
| 2007-085T23:20:00.000 | RTE_N_SPB_142200 | SP_041EA_G70METSEQ085_PRIME |
| 2007-086T00:35:00.000 | RTE_N_SPB_165900 | SP_041EA_G70METSEQ085_PRIME |
| 2007-086T06:50:00.000 | RTE_N_SPB_142200 | SP_041EA_G70METSEQ085_PRIME |

# DSN Report

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for CIMS\_041TI\_T27.apf generated on 2004-Mar-15 11:57:15  
 (+ = pass overlaps with previous pass; \* = in conflict with DSN weekly maintenance)

| DOWNLINK PASS |                      |                     |              |                     | DSN PASS |                      |                     |              |             |                                |    |   |        |
|---------------|----------------------|---------------------|--------------|---------------------|----------|----------------------|---------------------|--------------|-------------|--------------------------------|----|---|--------|
| NAME          | START_TO_END<br>SCET | START_TO_END<br>ERT | DUR<br>hh:mm | DATA_RATES<br>kbps  | ID       | START_TO_END<br>SCET | START_TO_END<br>ERT | DUR<br>hh:mm | CALS<br>min | RADIO__CONFIG<br>R UD D UD MAR |    |   |        |
| G70METSEQ085  | 085T22:22-07:22      | 085T23:33-08:33     | 09:00        | 110,124,142,165,142 | 14       | 085T22:22-07:22      | 085T23:30-08:35     | 09:05        | 15/15       | R                              | XX | S | -K M-2 |

# Open Issues

- High-level Science Summary for T27:
  - RSS - High Northern Latitude Observations examining Polar Vortex Winds, Tropospheric Temperature Profile, Surface Reflectivity. ISS – Global Mapping in Dark Region, Full Disk Color Mosaics. CIRS – Stratospheric Mapping and Composition. VIMS - Monitoring of cloud motion on Titan; mapping of mid-latitude regions at moderate solar phase angles.
- Pointing Issues
  - Turn assignments:
  - RSS - NEG\_Z to Earth, NEG\_X to Sun → Bistatic (-00:58 to -00:50)  
Bistatic → NEG\_Z to Earth, NEG\_X to Sun (+00:50 to +01:00)
- Data Volume Issues – NONE
- CIMS Issues – NONE
- Power Issues
  - CHECKED as per Aug 1 TOST Meeting Action Item (Laura Sakamoto confirms)
- Flight Rule/Mission Plan Guidelines and Constraint Issues
  - Are we on thruster control at 1300km? YES
    - T27 C/A is 953 (source Titan Tour Atlas). Thruster control necessary.
  - Are all ORS observations are epoch relative? YES
  - OD uncertainty margin called out explicitly? YES

| SOP.# | Priority | Team          | Time                     | Request           | Lien or Action (from Team)                                     | Proposed Solution   |
|-------|----------|---------------|--------------------------|-------------------|--|---|
| #     | P1       | SP, ULO, AACS | C/A at 2007-085T00:21:52 | 2007-085T23:23:52 | The NEG_Z to Earth waypoint requires suspend star id commands. | If the RSS observation is pulled then the suspend star id commands generated in the waypoint analysis run of KPT should be entered into the sequence. |

## Suspend SID Information

- Gyro drift rate:  $4.7e-6$  rad/sec (RWA)
- Gyro drift rate:  $4.0e-6$  rad/sec (RCS)
  - 0.00024 rad/min
  - 0.0144 rad/hour
  - 0.82506 degrees/hour
- Maximum duration to Suspend SID is 5 hours.
  - 1) All SID suspend events must be preceded by a 10 minute period in which the total spacecraft rate is less than 0.5 mrad/sec in every axis.
  - 2) All SID suspend events must be followed by a 20 minute period in which the total spacecraft rate is less than 0.4 mrad/s in every axis.

**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  | C=Comply<br>V=Violate<br>N/A=Not Applicable | Comments  | Disposition |
|---|---|---|-------------|
| 1. A. SP has checked all waypoints turns to and from waypoints.<br>B. All initial downlink attitudes have been checked as waypoints.  | C<br>C                                      |   |             |
| 2. All turns to and from waypoints checked for violations and margins.<br><input checked="" type="checkbox"/> CAPS <input checked="" type="checkbox"/> CDA <input checked="" type="checkbox"/> CIRS <input checked="" type="checkbox"/> INMS <input checked="" type="checkbox"/> ISS <input checked="" type="checkbox"/> MIMI <input checked="" type="checkbox"/> MAG<br><input checked="" type="checkbox"/> NAV <input checked="" type="checkbox"/> RADAR <input checked="" type="checkbox"/> RPWS <input type="checkbox"/> RSS <input checked="" type="checkbox"/> UVIS <input checked="" type="checkbox"/> VIMS<br>Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise. | C   |   |             |
| 3. Custom handoffs limited to:<br>A. ±3 hours from targeted Icy Satellite flyby<br>B. ±3 hours from targeted Titan Flyby<br>C. OpNavs preceding/following a downlink  | <br>N/A<br>N/A<br>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 T27 is 15 min. according to memo dated Jan 7, 2003. |             |
| 6. Waypoints changes are ?3 per day<br>A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.   | C<br>C                                      |   |             |
| 7. Live Movable Blocks limited to the following orbits:<br>7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64  | C   |   |             |

| 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)