

| Line # | Spacecraft DATE/TIME | S/C Cmd #         | HEX ID# | DEC ID # | GRS Deployed Mapping Activities Run Commands | Notes                                                               | Cumulative Seconds |
|--------|----------------------|-------------------|---------|----------|----------------------------------------------|---------------------------------------------------------------------|--------------------|
| 1      | 02-143/15:40:15      | cn0339            | C32     | 3122     | c01grs_s22b_warm_anneal1_2.bfl               | Executed at Orbit <i>xxxx</i> , Pixel <i>xxx</i>                    | imm                |
| 2      |                      | (GRS cmd id 2469) | D501    | 54529    | c01grs_is_temp_b_dont_comp.sasf              | Terminate the comparison                                            | imm                |
| 3      |                      | (GRS cmd id 1114) | D502    | 54530    | c01grs_activate_sequence_14b.sasf            | Ramp down gamma high voltage                                        | 20                 |
| 4      |                      | (GRS cmd id 1308) | D503    | 54531    | c01grs_ann_pwr_o_mr_sec_on.sasf              | MR secondary heater used to assist primary heater to control temp   | 380                |
| 5      |                      | (GRS cmd id 2078) | D504    | 54532    | c01grs_mr_temp_b_oor_a_ct_2.sasf             | Requires two consecutive out-of-range values.                       | 380                |
| 6      |                      | (GRS cmd id tbd)  | D505    | 54533    | c01grs_mr_temp_b_low_p82_0c.sasf             | 82°C 355°K Dn=11634 (0x2D72)                                        | 380                |
| 7      |                      | (GRS cmd id tbd)  | D506    | 54534    | c01grs_mr_temp_b_up_p81_0c.sasf              | 81°C 354°K Dn=11678 (0x2D9E)                                        | 380                |
| 8      |                      | (GRS cmd id 1030) | D507    | 54535    | c01grs_activate_sequence_30a.sasf            | Start MR primary heater control using MR-B sensor (turns heater on) | 400                |
| 9      |                      | (GRS cmd id 1123) | D508    | 54536    | c01grs_activate_sequence_23b.sasf            | Start second part of Warm Anneal                                    | 460                |
| 10     |                      |                   |         |          |                                              |                                                                     |                    |
| 11     | 02-116/12:48:49      | cn0244            | C32     | 3122     | c01grs_s22b_warm_anneal1_1.bfl               | Executed at Orbit <i>xxxx</i> , Pixel <i>xxx</i>                    | imm                |
| 12     |                      | (GRS cmd id 1245) | D501    | 54529    | c01grs_csb_alt_curr_timer3.sasf              |                                                                     | imm                |
| 13     |                      | (GRS cmd id 2469) | D502    | 54530    | c01grs_is_temp_b_dont_comp.sasf              | Terminate the comparison                                            | imm                |
| 14     |                      | (GRS cmd id 1114) | D503    | 54531    | c01grs_activate_sequence_14b.sasf            | Ramp down gamma high voltage                                        | 20                 |
| 15     |                      | (GRS cmd id 1308) | D504    | 54532    | c01grs_ann_pwr_o_mr_sec_on.sasf              | MR secondary heater used to assist primary heater to control temp   | 380                |
| 16     |                      | (GRS cmd id 2078) | D505    | 54533    | c01grs_mr_temp_b_oor_a_ct_2.sasf             | Requires two consecutive out-of-range values.                       | 380                |
| 17     |                      | (GRS cmd id 2075) | D506    | 54534    | c01grs_mr_temp_b_timer2.sasf                 | Switch to timer 2 for 20-second intervals.                          | 380                |
| 18     |                      | (GRS cmd id 2079) | D507    | 54535    | c01grs_mr_temp_b_lower_p63c.sasf             | 63°C 336°K Dn=12464 (0x30B0)                                        | 380                |
| 19     |                      | (GRS cmd id 2080) | D508    | 54536    | c01grs_mr_temp_b_upper_p61c.sasf             | 61°C 334°K Dn=12552 (0x3108)                                        | 380                |
| 20     |                      | (GRS cmd id 1030) | D509    | 54537    | c01grs_activate_sequence_30a.sasf            | Start heater control (turns MR primary heater on)                   | 400                |
| 21     |                      | (GRS cmd id 1123) | D50A    | 54538    | c01grs_activate_sequence_23b.sasf            | Start second part of Warm Anneal                                    | 460                |
| 22     |                      |                   |         |          |                                              |                                                                     |                    |
| 23     | n/a                  | n/a               |         |          | c00grs_seq_22_b_gamma_1_nom.bfl              | Pre-launch load                                                     | imm                |
| 24     |                      |                   | D501    | 54529    | c01grs_gam_gain_0.sasf                       |                                                                     | imm                |
| 25     |                      |                   | D502    | 54530    | c01grs_gam_ild_6.sasf                        |                                                                     | imm                |
| 26     |                      |                   | D503    | 54531    | c01grs_gam_ild_13.sasf                       |                                                                     | imm                |
| 27     |                      |                   | D504    | 54532    | c01grs_gam_ild_20.sasf                       |                                                                     | imm                |
| 28     |                      |                   | D505    | 54533    | c01grs_gam_ild_30.sasf                       |                                                                     | imm                |
| 29     |                      |                   | D506    | 54534    | c01grs_gam_ild_205.sasf                      |                                                                     | imm                |
| 30     |                      |                   | D507    | 54535    | c01grs_pulser_all_on.sasf                    |                                                                     | imm                |
| 31     |                      |                   | D508    | 54536    | c01grs_pulser_trans_enable.sasf              |                                                                     | imm                |
| 32     |                      |                   | D509    | 54537    | c01grs_pulser_combine_on.sasf                |                                                                     | imm                |
| 33     |                      |                   | D50A    | 54538    | set pulser bin BIN1 to 0                     |                                                                     | imm                |
| 34     |                      |                   | D50B    | 54539    | set pulser bin BIN2 to 2300                  |                                                                     | imm                |
| 35     |                      |                   | D50C    | 54540    | set pulser bin BIN3 to 6600                  |                                                                     | imm                |
| 36     |                      |                   | D50D    | 54541    | c01grs_activate_sequence_10a.sasf            |                                                                     | imm                |