

S88 Rev 213 Timeline for RSS T110 LGA Gravity Observation

2015/074-075, Sunday-Monday, March 15-16, 2015 PDT

Titan Closest Approach: 2015/075-15:49:32 ERT

OWLT = 01:19:43, RTLT = 02:39:26

- Goldstone DSS-14 related activities
- Canberra DSS-43 related activities
- DSS-14 and DSS-43 related activities

DOY	Time SCET	Time ERT	Time PDT	Event	Comments
074	11:55:11	13:15	6:15 AM	DSS-43 Pre-Cal	
	12:55:11	14:15	7:15 AM	DSS-43 BOT	
	20:30:00	21:49	2:49 PM	Switch from HGA uplink to LGA1	No change in signal power
	21:40:00	22:59	3:59 PM	X-TWTA standby	Brief Loss of Signal
	21:40:01	22:59	3:59 PM	Switch from HGA downlink to LGA1	
	21:40:03	22:59	3:59 PM	X-TWTA operate	
	21:40:06	22:59	3:59 PM	Telemetry OFF	
	21:40:07	22:59	3:59 PM	Ranging OFF	
	21:40:07	22:59	3:59 PM	DSS-43 Begin 2-way LGA signal acquisition	Expected Pc/No = 15.7 dB-Hz (-168 dBm)
	21:55:11	23:15	4:15 PM	DSS-43 EOT	
075	5:40:17	07:00:00	12:00 AM	DSS-14 Pre-Cal	Pass# 0075
	6:40:17	08:00:00	1:00 AM	DSS-14 BOT	
	7:00:23	08:20:06	1:20 AM	DSS-14 Transmitter ON, 18 kW, LCP, RAMP, SWEEP	(20 deg off-Earth) - RTLT. DSS-14 TXR ON limit 08:19:36 ERT
	9:29:49	10:49:32	3:49 AM	Begin T110 RSS LGA Observation	C/A - 05:00:00. VIMS prime
	9:29:51	10:49:34	3:49 AM	Start turn from CIRS hand-off attitude to 20 deg off-Earth	Turn by VIMS
	9:37:10	10:56:53	3:56 AM	End turn to 20 deg off-Earth	Possible 1-way signal on RSRs
	9:39:49	10:59:32	3:59 AM	Start tracking at 20 deg off-Earth	2 minutes to complete sweep at 150 Hz/sec
	9:39:49	10:59:32	3:59 AM	DSS-14 Begin 2-way acquisition	Expected Pc/No = 14.7 dB-Hz
	9:44:49	11:04:32	4:04 AM	End tracking at 20 deg off-Earth	
	9:44:51	11:04:34	4:04 AM	Start turn from 20 deg off-Earth	Turn by VIMS
	9:52:37	11:12:20	4:12 AM	End turn from 20 deg off-Earth	Continue with nominal VIMS pointing
	10:10:17	11:30:00	4:30 AM	DSS-43 Pre-Cal	Pass# 0075
	11:10:17	12:30:00	5:30 AM	DSS-43 BOT	DSS-43 TXR ON limit 12:38:28 ERT
	11:10:17	12:30:00	5:30 AM	DSS-43 Begin 3-way acquisition (with DSS-14)	
	11:42:17	13:02:00	6:02 AM	Uplink transfer from DSS-14 to DSS-43, RAMP, NO SWEEP	(40 deg off-Earth) - RTLT. DSS-14 EL 34.9, DSS-43 EL 14.8 deg
	13:59:45	15:19:28	8:19 AM	Note: Maximum off-Earth angle (54.3 deg)	Expected Pc/No = 5.8 dB-Hz (-180 dBm)
	14:21:25	15:41:08	8:41 AM	Note: 40 deg off-Earth and decreasing	C/A - 00:08:24
	14:21:43	15:41:26	8:41 AM	DSS-43 Begin 2-way acquisition	EL 47.0 deg and rising
	14:21:43	15:41:26	8:41 AM	DSS-14 Begin 3-way acquisition	EL 18.5 deg and setting
	14:25:00	15:44:43	8:44 AM	Note: 20 deg off-Earth and decreasing	C/A - 00:04:49
	14:29:15	15:48:58	8:48 AM	Note: Minimum off-Earth angle (4.5 deg)	
	14:29:49	15:49:32	8:49 AM	Titan T110 C/A	
	14:33:45	15:53:28	8:53 AM	Note: 20 deg off-Earth and increasing	C/A + 00:03:56
14:59:49	16:19:32	9:19 AM	Note: CIRS prime	C/A + 00:30:00	
15:35:17	16:55:00	9:55 AM	DSS-14 EOT	DSS-14 TXR OFF limit 16:32:15 ERT	

DOY	Time SCET	Time ERT	Time PDT	Event	Comments
	16:55:17	18:15:00	11:15 AM	DSS-43 Transmitter OFF	End of observation - RTLT + 5m
	19:28:00	20:47:43	1:47 PM	X-TWTA standby	
	19:28:00	20:47:43	1:47 PM	DSS-43 LOS	
	19:28:01	20:47:44	1:47 PM	Switch from LGA to HGA	
	19:28:04	20:47:47	1:47 PM	X-TWTA operate	
	19:28:07	20:47:50	1:47 PM	Telemetry ON	
	19:28:08	20:47:51	1:47 PM	Ranging ON	
	19:29:49	20:49:32	1:49 PM	End T110 RSS LGA Observation	C/A + 05:00:00. BOE exceeds 55 deg at 19:35:39 SCET
	20:10:17	21:30:00	2:30 PM	DSS-43 EOT	