Cassini Grand Finale: Rev 276 RSS Chord Ring Occultation
May 28-29, 2017 UTC (DOY 148-149)
Essam Marouf & Aseel Anabtawi 05/25/2017 (v2)

	ERT UTC OWLT = 01:15:36	SCET	PDT ERT-7hrs 07:00:00	Comments
DOY 2017-148				
DSS-43: Pre-Cal	16:30:00	15:14:24	09:30:00	
DSS-74: Pre-Cal	16:30:00	15:14:24	09:30:00	
DSS-74: BOT	17:15:00	15:59:24	10:15:00	
DSS-43: BOT	17:30:00	16:14:24	10:30:00	
DSS-35: Pre-Cal	17:40:00	16:24:24	10:40:00	
DSS-43: Transmitter ON, 18 kW, LCP, RAMP, SWEEP	17:42:14	16:26:38	10:42:14	Earth point - RTLT
S-Band ON	18:10:22	16:54:46	11:10:22	Per PEF
DSS-43: Start S-Band 1-Way Acquisition	18:10:22	16:54:46	11:10:22	Pc/N0 TLM ON (S-70) = 42 dB-Hz
Ka-Band ON	18:15:18	16:59:42	11:15:18	Per PEF
RSSG: Begin DSS-43 & DSS-35 Open-Loop Recordings	18:50:00	17:34:24	11:50:00	
RSSG: Begin DSS-74 Open-Loop Recordings	18:50:00	17:34:24	11:50:00	
DSS-35: BOT	19:10:00	17:54:24	12:10:00	
S/C at Waypoint: XBAND to Earth, NEG_Y to NSP	19:25:36	18:10:00	12:25:36	
DSS-43: Start X- & S-Band 1-Way Acquisition	19:25:36	18:10:00	12:25:36	Pc/N0 TLM ON (X-70, S-70) = 40, 42 dB-Hz
DSS-35: Start X- & Ka-Band 1-Way Acquisition	19:25:36	18:10:00	12:25:36	Pc/N0 TLM ON (X-34, Ka-34) = 35, 48 dB-Hz
DSS-74: Do Not Configure For 1-Way	19:25:36	18:10:00	12:25:36	
RSSG: Enter 1-Way Open-Loop Frequency Offsets as Needed	19:25:36	18:10:00	12:25:36	
S/C AACS Activity	19:25:36	18:10:00	12:25:36	Will take HGA off Earth point some of the time
S/C Off Earth Point. Loss of Signals	19:30:36	18:15:00	12:30:36	
DSS-55: Pre-Cal	20:05:00	18:49:24	13:05:00	
S/C Back at Earth Point	20:13:26	18:57:50	13:13:26	
DSS-43 Transmitter ON Observed	20:13:26	18:57:50	13:13:26	
DSS-43: Start X- & S-Band 2-Way Acquisition	20:13:26	18:57:50	13:13:26	Pc/N0 TLM ON (X-70, S-70) = 40, 42 dB-Hz
DSS-35: Start X- & Ka-Band 3-Way Acquisition w/DSS-43	20:13:26	18:57:50	13:13:26	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-74: Start X-Band 3-Way Acquisition w/DSS-43	20:13:26	#REF!	#REF!	
Start of Rev 276 Chord Ring Occultation	20:14:36	18:59:00	13:14:36	
RNG OFF	20:14:36	18:59:00	13:14:36	
TLM OFF	20:14:37	18:59:01	13:14:37	Pc/N0 TLM OFF(X-70, X-34) = 54, 48 dB-Hz
DSS-35: Enable Monopulse	20:15:00	18:59:24	13:15:00	Enable/Disable Monopulse only when requested by RSSG

DSS-63: Pre-Cal	20:30:00	19:14:24	13:30:00	
Ring F	20:54:02	19:38:26	13:54:02	
RSSG: Begin DSS-63 & DSS-55 Open-Loop Recordings	21:00:00	19:44:24	14:00:00	
Ring A-in	21:01:31	19:45:55	14:01:31	
DSS-35: Disable Monopulse Without Clearing the Offsets	21:23:00	20:07:24	14:23:00	Enable/Disable Monopulse only when requested by RSSG
DSS-63: BOT	21:30:00	20:14:24	14:30:00	
DSS-63: Start X- & S-Band 3-Way Acquisition w/DSS-43	21:30:00	20:14:24	14:30:00	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
DSS-74: Transmitter ON, 18 kW, LCP, RAMP	21:31:00	20:15:24	14:31:00	NO SWEEP; uplink transfer from DSS-43 to DSS-74
DSS-43: Transmitter OFF	21:31:05	20:15:29	14:31:05	
Ring A-out	21:33:48	20:18:12	14:33:48	
DSS-55: BOT	21:35:00	20:19:24	14:35:00	
DSS-55: Start X- & Ka-Band 3-Way Acquisition w/DSS-43	21:35:00	20:19:24	14:35:00	Pc/N0 TLM OFF (X-34, Ka-34) = 48, 48 dB-Hz
DSS-55: Enable Monopulse	21:35:10	20:19:34	14:35:10	6.7 deg EL. Enable/Disable Monopulse only when requested by RSSG
DSS-35: Enable Monopulse	21:35:10	20:19:34	14:35:10	9.5 deg EL. Enable/Disable Monopulse only when requested by RSSG
DSS-55: Disable Monopulse Without Clearing the Offsets	21:42:40	20:27:04	14:42:40	Enable/Disable Monopulse only when requested by RSSG
DSS-35: Disable Monopulse Without Clearing the Offsets	21:42:40	20:27:04	14:42:40	Enable/Disable Monopulse only when requested by RSSG
Ring B-in	21:43:52	20:28:16	14:43:52	
DSS-43 & DSS-35: EOT	21:50:00	20:34:24	14:50:00	
DSS-63: Tranmitter ON, 18 kW, LCP, RAMP	21:59:00	20:43:24	14:59:00	NO SWEEP; uplink transfer from DSS-74 to DSS-63
DSS-74: Transmitter OFF	21:59:05	20:43:29	14:59:05	
DSS-43 & DSS-35: Post-Cal	22:05:00	20:49:24	15:05:00	
RSSG: End DSS-43 & DSS-35 Open-Loop Recordings	22:10:00	20:54:24	15:10:00	
Ring B-out/Ring C-in	22:44:17	21:28:41	15:44:17	
DSS-55: Enable Monopulse	22:46:15	21:30:39	15:46:15	Enable/Disable Monopulse only when requested by RSSG
Ring C-out	23:38:26	22:22:50	16:38:26	
DOY 2017-149				
DSS-74: EOT	00:00:00	22:44:24	17:00:00	
DSS-43 to DSS-74 Uplink Transfer Observed	00:02:12	22:46:36	17:02:12	
DSS-63: Begin X- & S-Band 3-Way Acquisition/74	00:02:12	22:46:36	17:02:12	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
RSSG: Use 2-Way Predicts at DSS-63	00:02:12	22:46:36	17:02:12	Since 3-way/74 predicts are not available
DSS-55: Begin X- & Ka-Band 3-Way Acquisition/74	00:02:12	22:46:36	17:02:12	Pc/N0 TLM OFF (X-34, Ka-34) = 48, 48 dB-Hz
RSSG: Use 3-Way/DSS-63 Predicts at DSS-55	00:02:12	22:46:36	17:02:12	Since 3-way/74 predicts are not available
DSS-74: Post-Cal	00:15:00	22:59:24	17:15:00	
DSS-84: Pre-Cal	00:15:00	22:59:24	17:15:00	
RSSG: End DSS-74 Open-Loop Recordings	00:20:00	23:04:24	17:20:00	
RSSG: Begin DSS-84 Open-Loop Recordings	00:30:00	23:14:24	17:30:00	
DSS-74 to DSS-63 Uplink Transfer Observed	00:30:12	23:14:36	17:30:12	
DSS-63: Begin X- & S-Band 2-Way Acquisition	00:30:12	23:14:36	17:30:12	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz

DSS-55: Begin X- & Ka-Band 3-Way Acquisition	00:30:12	23:14:36	17:30:12	Pc/N0 TLM OFF (X-34, Ka-34) = 48, 48 dB-Hz
RSSG: Predicts Have Already Been Switched	00:30:12	23:14:36	17:30:12	
DSS-84: BOT	01:00:00	23:44:24	18:00:00	
DSS-84: Begin X- & Ka-Band 3-Way Acquisition w/DSS-63	01:00:00	23:44:24	18:00:00	
Ring C-in	01:33:10	00:17:34	18:33:10	
DSS-55: Disable Monopulse Without Clearing Offsets	02:25:00	01:09:24	19:25:00	Enable/Disable Monopulse only when requested by RSSG
Ring C-out/Ring B-in	02:26:55	01:11:19	19:26:55	
Ring B-out	03:26:06	02:10:30	20:26:06	
Ring A-in	03:35:48	02:20:12	20:35:48	
DSS-14: Pre-Cal	03:45:00	02:29:24	20:45:00	
DSS-55: Enable Monopulse	03:46:00	02:30:24	20:46:00	Enable/Disable Monopulse only when requested by RSSG
Ring A-out	04:06:32	02:50:56	21:06:32	
Ring F	04:13:32	02:57:56	21:13:32	
DSS-55: Disable Monopulse	04:43:30	03:27:54	21:43:30	Enable/Disable Monopulse only when requested by RSSG
S-Band OFF	04:43:47	03:28:11	21:43:47	Per PEF
Ka-Band OFF	04:43:49	03:28:13	21:43:49	Per PEF
TLM ON	04:44:30	03:28:54	21:44:30	
RNG ON	04:44:34	03:28:58	21:44:34	
End of Rev 276 Chord Ring Occultation	04:44:36	03:29:00	21:44:36	
Tracking Continues for Telemetry Purposes. Follow DKF	04:44:36	03:29:00	21:44:36	S/C continues to be Earth pointed
DSS-14: BOT	04:45:00	03:29:24	21:45:00	Track is for uplink and telemetry support after RSS observation
DSS-63: Tranmitter OFF	05:05:15	03:49:39	22:05:15	Per DKF
DSS-14: Transmitter ON, 18 kW, LCP, RAMP, SWEEP	05:10:00	03:54:24	22:10:00	Per DKF
DSS-84: EOT	05:10:00	03:54:24	22:10:00	
DSS-55: EOT	05:25:00	04:09:24	22:25:00	
DSS-84: Post-Cal	05:25:00	04:09:24	22:25:00	
DSS-63: EOT	05:30:00	04:14:24	22:30:00	
RSSG: End DSS-84 Open-Loop Recordings	05:40:00	04:24:24	22:40:00	
DSS-55: Post-Cal	05:40:00	04:24:24	22:40:00	
DSS-63: Post-Cal	05:45:00	04:29:24	22:45:00	
RSSG: End DSS-63 & DSS-55 Open-Loop Recordings	05:50:00	04:34:24	22:50:00	
DSS-14: Transmitter OFF	10:43:23	09:27:47	03:43:23	Per DKF
DSS-14: EOT	13:15:00	11:59:24	06:15:00	
DSS-14: Post-Cal	13:30:00	12:14:24	06:30:00	

Canberra DSS-43 & DSS-35 related activities
Madrid DSS-63 & DSS-55 related activities

New Norcia DSS-74 related activities
Malargue DSS-84 related activities
Goldstone DSS-14 related activities

Predicted ring event times are approximate and are based on reference trajectory 150901