

For all those who supported Cassini RSS experiments execution throughout the past more than 12 years, your tireless and dedicated contributions were at the heart of arguably the richest radio science data set a spacecraft has ever collected. Cassini's unprecedented success story is because of your exceptional competence, hard work, and remarkable dedication. Suffice it to say almost every radio science experiment during those many years was successfully completed. Thank you for being the wonderful professionals you have always shown to be.

	ERT UTC OWLT = 1:16:34	SCET	PDT ERT-7hrs 07:00:00	Comments
<b>DOY 2017-199</b>				
S/C at Waypoint: X-Band to Earth, NEG_Y to 127.0°/-37.0°	12:54:34	11:38:00	05:54:34	
DSS-43: Pre-Cal	13:25:00	12:08:26	06:25:00	Not DSN Level 3 support
DSS-43: Beginning Of Track	14:25:00	13:08:26	07:25:00	
DSS-43: Begin X-Band 1-Way Acquisition	14:25:00	13:08:26	07:25:00	
RSSG: Note TLM BR 142201	14:25:00	13:08:26	07:25:00	
<b>DSS-43 Transmitter ON, 18kW, LCP, RAMP, SWEEP</b>	<b>14:35:00</b>	<b>13:18:26</b>	<b>07:35:00</b>	Per DKF
RSSG: Note TLM BR 124426	15:44:35	14:28:01	08:44:35	
RSSG: Note TLM BR 99541	16:44:34	15:28:00	09:44:34	
DSS-55: Pre-Cal	16:50:00	15:33:26	09:50:00	
DSS-65: Pre-Cal	17:00:00	15:43:26	10:00:00	Not DSN Level 3 support
DSS-43 Transmitter ON Observed	17:08:05	15:51:31	10:08:05	
DSS-43: Begin X-Band 2-Way Acquisition	17:08:05	15:51:31	10:08:05	
RSSG: Note TLM BR 66360	17:29:34	16:13:00	10:29:34	
RSSG: Start DSS-65 X-Band Open-Loop Recordings	17:30:00	16:13:26	10:30:00	
RSSG: Start DSS-55 X-Band Open-Loop Recordings	17:50:00	16:33:26	10:50:00	
<b>DSS-43 Transmitter OFF</b>	<b>17:56:00</b>	<b>16:39:26</b>	<b>10:56:00</b>	Per DKF
RSSG: Note TLM BR 47400	17:59:34	16:43:00	10:59:34	
DSS-65: Beginning Of Track	18:00:00	16:43:26	11:00:00	
DSS-65: Begin X-Band 3-Way Acquisition w/DSS-43	18:00:00	16:43:26	11:00:00	
RSSG: Note TLM BR 14220	18:14:34	16:58:00	11:14:34	
DSS-43: End of Track	18:15:00	16:58:26	11:15:00	
DSS-55: Beginning Of Track	18:20:00	17:03:26	11:20:00	
DSS-55: Begin X-Band 3-Way Acquisition w/DSS-43	18:20:00	17:03:26	11:20:00	Pc/N0 TLM ON (X-34) = 34 dB-Hz
RSSG: Note TLM BR 22120	18:29:35	17:13:01	11:29:35	
DSS-43: Post-Cal	18:30:00	17:13:26	11:30:00	
<b>DSS-55: Transmitter ON, 18kW, LCP, RAMP, SWEEP</b>	<b>18:30:00</b>	<b>17:13:26</b>	<b>11:30:00</b>	
RSSG: Start DSS-55 Ka-Band Open-Loop Recordings	18:35:00	17:18:26	11:35:00	

Ka-Band ON	19:06:16	17:49:45	12:06:16	Per PEF
DSS-55: Begin Ka-Band 3-Way Acquisition w/DSS-43	19:06:16	17:49:45	12:06:16	Pc/N0 TLM ON (Ka-34) = 48 dB-Hz
DSS-55: Enable Monopulse	19:10:00	17:53:26	12:10:00	> 10 deg EL. Enable/Disable Monopulse only when requested by RSSG
RSSG: Note TLM BR 27650	19:14:34	17:58:00	12:14:34	
DSS-55: Disable Monopulse Without Clearing the Offsets	20:28:00	19:11:26	13:28:00	Before mode switch to 1-way; when requested by RSSG
DSS-43 Transmitter OFF Observed	20:29:06	19:12:32	13:29:06	
DSS-55: Begin X- and Ka-Band 1-Way Acquisition	20:29:06	19:12:32	13:29:06	Pc/N0 TLM ON (X-34, Ka-34) = 34 dB-Hz, 48 dB-Hz
DSS-65: Begin X-Band 1-Way Acquisition	20:29:06	19:12:32	13:29:06	Pc/N0 TLM ON (X-34) = 34 dB-Hz
RSSG: Enter 1-Way Open-Loop Frequency Offsets as Needed	20:29:06	19:12:32	13:29:06	
DSS-55: Enable Monopulse	20:32:00	19:15:26	13:32:00	Enable/Disable Monopulse only when requested by RSSG
DSS-55: Disable Monopulse Without Clearing the Offsets	21:02:00	19:45:26	14:02:00	Before mode switch to 2-way; when requested by RSSG
DSS-55 Transmitter ON Observed	21:03:07	19:46:33	14:03:07	
DSS-55: Begin X- & Ka-Band 2-Way Acquisition	21:03:07	19:46:33	14:03:07	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-65: Begin X-Band 3-Way Acquisition w/DSS-55	21:03:07	19:46:33	14:03:07	Pc/N0 TLM ON (X-34) = 34 dB-Hz
RSSG: Clear 1-Way Open-Loop Frequency Offsets	21:03:07	19:46:33	14:03:07	
DSS-55: Enable Monopulse	21:06:00	19:49:26	14:06:00	Enable/Disable Monopulse only when requested by RSSG
DSS-65: End of Track	21:10:00	19:53:26	14:10:00	
<b>Start of Rev 284 RSS Saturn Gravity Observation</b>	21:10:34	19:54:00	14:10:34	
DSS-84: Pre-Cal	21:15:00	19:58:26	14:15:00	
DSS-65: Post-Cal	21:25:00	20:08:26	14:25:00	
Begin MAG Roll #1	21:29:34	20:13:00	14:29:34	
RSSG: End DSS-65 X-Band Open-Loop Recordings	21:30:00	20:13:26	14:30:00	
RSSG: Start DSS-84 Open-Loop Recordings	21:30:00	20:13:26	14:30:00	
DSS-84: Beginning Of Track	22:00:00	20:43:26	15:00:00	
DSS-84: Beging X- and Ka-Band 3-Way Acquisition w/DSS-55				
DSS-25: Start Pre-Cal	23:40:00	22:23:26	16:40:00	
RSSG: Note TLM BR 22120	23:44:36	22:28:02	16:44:36	
<b>DOY 2017-200</b>				
RSSG: Start DSS-25 Open-Loop Recordings	00:40:00	23:23:26	17:40:00	
RSSG: Note TLM BR 14220	00:59:35	23:43:01	17:59:35	
DSS-25 Beginning Of Track	01:10:00	23:53:26	18:10:00	
DSS-25: Begin X- & Ka-Band 3-Way Acquisition w/DSS-55	01:10:00	23:53:26	18:10:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-55: Transmitter OFF	01:28:00	00:11:26	18:28:00	
DSS-25: Enable Monopulse	01:30:00	00:13:26	18:30:00	~10 deg EL. Enable/Disable Monopulse only when requested by RSSG
DSS-25: Transmitter ON, 18kW, LCP, RAMP	01:33:00	00:16:26	18:33:00	<b>NO SWEEP</b>
RSSG: Note TLM BR 22120	01:44:36	00:28:02	18:44:36	
DSS-55: Disable Monopulse	01:50:00	00:33:26	18:50:00	
DSS-55: EOT	01:50:00	00:33:26	18:50:00	
DSS-55: Post-Cal	02:05:00	00:48:26	19:05:00	

RSSG: End DSS-55 Open-Loop Recordings	02:10:00	00:53:26	19:10:00	
End MAG Roll #1	02:27:55	01:11:21	19:27:55	
RSSG: Note TLM BR 27650	02:44:36	01:28:02	19:44:36	
DSS-35: Start Pre-Cal	03:50:00	02:33:26	20:50:00	
DSS-35: Fix Subreflector at 45 Degrees	03:50:00	02:33:26	20:50:00	Keep it fixed until 13:12:39
DSS-25: Disable Monopulse Without Clearing the Offsets	04:00:00	02:43:26	21:00:00	Before mode switch to 1-way; when requested by RSSG
DSS-55 Transmitter OFF Observed	04:01:08	02:44:34	21:01:08	Begin ~5 min coherent gap
DSS-25: Begin X- & Ka-Band 1-Way Acquisition	04:01:08	02:44:34	21:01:08	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-84: Do Not Attempt 1-Way Acquisition	04:01:08	02:44:34	21:01:08	
RSSG: Adjust 1-Way Open-Loop Frequency Offsets as Needed	04:01:08	02:44:34	21:01:08	
DSS-25 Transmitter ON Observed	04:06:08	02:49:34	21:06:08	End ~5 min coherent gap
DSS-25: Begin X- & Ka-Band 2-Way Acquisition	04:06:08	02:49:34	21:06:08	Pc/N0 TLM ON (Ka-34, X-34) = 48, 34 dB-Hz
DSS-84: Begin X- and Ka-Band 3-Way Acquisition w/DSS-25	04:06:08	02:49:34	21:06:08	
RSSG: Clear 1-Way Open-Loop Frequency Offsets	04:06:08	02:49:34	21:06:08	
DSS-25: Enable Monopulse	04:10:00	02:53:26	21:10:00	Enable/Disable Monopulse only when requested by RSSG
DSS-43: Start Pre-Cal	04:10:00	02:53:26	21:10:00	
RSSG: Start DSS-43 X-Band Open-Loop Recordings	04:40:00	03:23:26	21:40:00	
RSSG: Start DSS-35 Open-Loop Recordings	04:40:00	03:23:26	21:40:00	
DSS-43: Beginning Of Track	05:10:00	03:53:26	22:10:00	
DSS-43: Begin X-Band 3-Way Acquisition w/DSS-25	05:10:00	03:53:26	22:10:00	Pc/N0 TLM ON (X-70) = 40 dB-Hz
RSSG: Note TLM BR 66360	05:14:36	03:58:02	22:14:36	
DSS-35: Beginning Of Track	05:20:00	04:03:26	22:20:00	
DSS-35: Begin X- & Ka-Band 3-Way Acquisition w/DSS-25	05:20:00	04:03:26	22:20:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-35: Enable Monopulse	05:28:00	04:11:26	22:28:00	~10 deg EL. Enable/Disable Monopulse only when requested by RSSG
RSSG: Start DSS-43 S-Band Open-Loop Recordings	05:50:00	04:33:26	22:50:00	
DSS-35: Transmitter ON, 18 kW, LCP, RAMP	05:50:00	04:33:26	22:50:00	NO SWEEP. Uplink Transfer from DSS-25 to DSS-35
DSS-25: Transmitter OFF	05:50:05	04:33:31	22:50:05	
RSSG: Note TLM BR 99541	05:59:37	04:43:03	22:59:37	
DSS-84: End of Track	06:00:00	04:43:26	23:00:00	
DSS-84: Post-Cal	06:15:00	04:58:26	23:15:00	
RSSG: End DSS-84 Open-Loop Recordings	06:20:00	05:03:26	23:20:00	
S-Band ON	06:20:32	05:03:58	23:20:32	Per DKF
DSS-43: Start S-Band 3-Way Acquisition w/DSS-25	06:20:32	05:03:58	23:20:32	Pc/N0 TLM ON (S-70) = 42 dB-Hz
RSSG: Note TLM BR 110601	06:29:36	05:13:02	23:29:36	
Begin MAG Roll #2	06:46:30	05:29:56	23:46:30	
RSSG: Note TLM BR 124426	06:59:36	05:43:02	23:59:36	
RSSG: Note TLM BR 142201	07:59:36	06:43:02	00:59:36	
<b>Start of Rev 284 Periapse Ring Occultation</b>	08:20:34	07:04:00	01:20:34	Gravity observation continues
RNG OFF	08:20:38	07:04:04	01:20:38	

TLM OFF	08:20:39	07:04:05	01:20:39	
Start Free-Space 2-Way/3-Way Baseline	08:20:43	07:04:09	01:20:43	Pc/N0 TLM OFF (X-70, S-70, X-34, Ka-34) = 54, 42, 48, 48 dB-Hz
DSS-25 to DSS-35 Uplink Transfer Observed	08:23:08	07:06:34	01:23:08	
DSS-35: Start X- & Ka-Band 2-Way Acquisition	08:23:08	07:06:34	01:23:08	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-43: Start X- & S-Band 3-Way Acquisition w/DSS-35	08:23:08	07:06:34	01:23:08	Pc/N0 TLM ON (X-70) = 40 dB-Hz
DSS-25: Start X- & Ka-Band 3-Way Acquisition w/DSS-35	08:23:08	07:06:34	01:23:08	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
Ring C In	09:10:46	07:54:12	02:10:46	Approximate time
<b>Saturn Closest Approach (Orbit Periapse)</b>	09:11:23	07:54:49	02:11:23	
DSS-25: Disable Monopulse Without Clearing the Offsets	09:15:57	07:59:23	02:15:57	Enable/Disable Monopulse only when requested by RSSG
DSS-35: Disable Monopulse Without Clearing the Offsets	09:15:57	07:59:23	02:15:57	Enable/Disable Monopulse only when requested by RSSG
Ring C Out/Ring B In	09:16:12	07:59:38	02:16:12	Approximate time
Ring B Out	09:25:00	08:08:26	02:25:00	Approximate time
Ring A In	09:26:44	08:10:10	02:26:44	Approximate time
DSS-25: Enable Monopulse	09:28:50	08:12:16	02:28:50	Enable/Disable Monopulse only when requested by RSSG
DSS-35: Enable Monopulse	09:28:50	08:12:16	02:28:50	Enable/Disable Monopulse only when requested by RSSG
Ring A Out	09:32:55	08:16:21	02:32:55	Approximate time
Ring F	09:34:30	08:17:56	02:34:30	Approximate time
Start Free-Space 2-Way/3-Way Baseline	09:34:31	08:17:57	02:34:31	
DSS-25: Disable Monopulse	09:45:00	08:28:26	02:45:00	
DSS-25: EOT	09:45:00	08:28:26	02:45:00	
DSS-25: Post-Cal	10:00:00	08:43:26	03:00:00	
RSSG: End DSS-25 Open-Loop Recordings	10:05:00	08:48:26	03:05:00	
TLM ON	10:27:28	09:10:54	03:27:28	
RNG ON	10:27:32	09:10:58	03:27:32	
<b>End of Rev 284 Periapse Ring Occultation</b>	10:27:34	09:11:00	03:27:34	Gravity observation continues
RSSG: Note TLM BR 142201	10:27:37	09:11:03	03:27:37	
<b>DSS-43: Transmitter ON, 18 kW, LCP, RAMP</b>	10:39:31	09:22:57	03:39:31	<b>NO SWEEP.</b> Uplink transfer from DSS-35 to DSS-43
<b>DSS-35: Transmitter OFF</b>	10:39:36	09:23:02	03:39:36	U/L Transfer at $\geq C/A + 4$ hours per gravity request
End MAG Roll #2	11:44:51	10:28:17	04:44:51	
<b>Start of Rev 284 Chord Ring Occultation</b>	12:52:34	11:36:00	05:52:34	Gravity observation continues; (X-band to Earth, NEG_Y to 127°/-37°)
RNG OFF	12:52:38	11:36:04	05:52:38	
TLM OFF	12:52:39	11:36:05	05:52:39	
DSS-35 to DSS-43 Uplink Transfer Observed	13:12:39	11:56:05	06:12:39	Observed during the ingress free-space baseline
DSS-43: Start X- & S-Band 2-Way Acquisition	13:12:39	11:56:05	06:12:39	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
DSS-35: Start X- & Ka-Band 3-Way Acquisition w/DSS-43	13:12:39	11:56:05	06:12:39	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
DSS-35: Move Subreflector	13:12:39	11:56:05	06:12:39	
DSS-74: Start Pre-Cal	13:15:00	11:58:26	06:15:00	

RSSG: Start DSS-74 Open-Loop Recordings	13:30:00	12:13:26	06:30:00	
DSS-74: Beginning Of Track	14:00:00	12:43:26	07:00:00	
DSS-74: Begin X- & S-Band 3-Way Acquisition w/DSS-43	14:00:00	12:43:26	07:00:00	
Ring F	14:21:13	13:04:39	07:21:13	Approximate time
Ring A In	14:29:45	13:13:11	07:29:45	Approximate time
DSS-35: Disable Monopulse Without Clearing the Offsets	14:55:12	13:38:38	07:55:12	Enable/Disable Monopulse only when requested by RSSG
DSS-74 Transmitter ON, 18 kW, LCP, RAMP	14:56:47	13:40:13	07:56:47	NO SWEEP. Uplink transfer from DSS-43 to DSS-74
DSS-43: Transmitter OFF	14:56:52	13:40:18	07:56:52	U/L Transfer at the turnabout point in Ring B (in inner B1)
Ring A Out	15:08:08	13:51:34	08:08:08	Approximate time
Ring B In	15:20:52	14:04:18	08:20:52	Approximate time
DSS-55: Start Pre-Cal	16:20:00	15:03:26	09:20:00	
DSS-63: Start Pre-Cal	16:50:00	15:33:26	09:50:00	
DSS-35: Enable Monopulse	16:52:12	15:35:38	09:52:12	
RSSG: Start DSS-63 & DSS-55 Open-Loop Recordings	17:20:00	16:03:26	10:20:00	
DSS-43 to DSS-74 Uplink Transfer Observed	17:29:55	16:13:21	10:29:55	Observed at the turnaround time in Ring B (outer B1)
DSS-74: Begin X- & S-Band 2-Way Acquisition	17:29:55	16:13:21	10:29:55	
RSSG: Continue using 3-Way/DSS-43 Predicts at DSS-74	17:29:55	16:13:21	10:29:55	Since 2-way predicts are not available
DSS-43: Start X- & S-Band 3-Way Acquisition/DSS-74	17:29:55	16:13:21	10:29:55	in Ring B (B2)
RSSG: Continue using 2-Way Predicts at DSS-43	17:29:55	16:13:21	10:29:55	Since 3-way/74 predicts are not available
DSS-35: Start X- & Ka-Band 3-Way Acquisition w/DSS-74	17:29:55	16:13:21	10:29:55	in Ring B (B2)
RSSG: Continue using 3-Way/DSS-43 Predicts at DSS-43	17:29:55	16:13:21	10:29:55	Since 3-way/74 predicts are not available
Ring B Turn Around	17:30:00	16:13:26	10:30:00	Approximate time; in outer region B1 of Ring B
DSS-63 & DSS-55: Beginning Of Track	17:50:00	16:33:26	10:50:00	In Region B1 of Ring B
DSS-63: Begin X- & S-Band 3-Way Acquisition w/DSS-74	17:50:00	16:33:26	10:50:00	Pc/N0 TLM OFF (X-70, S-70) = 54, 42 dB-Hz
DSS-55: Begin X- & Ka-Band 3-Way Acquisition w/DSS-74	17:50:00	16:33:26	10:50:00	Pc/N0 TLM ON (X-34, Ka-34) = 34, 48 dB-Hz
RSSG: Use 3-Way/DSS-43 Predicts at DSS-63 & DSS-55	17:50:00	16:33:26	10:50:00	Since 3-way/74 predicts are not available
DSS-35: Disable Monopulse	18:00:00	16:43:26	11:00:00	
DSS-43 & DSS-35: End Of Track	18:10:00	16:53:26	11:10:00	
DSS-43 & DSS-35: Post-Cal	18:25:00	17:08:26	11:25:00	
RSSG: End DSS-43 & DSS-35 Open-Loop Recordings	18:30:00	17:13:26	11:30:00	
DSS-74 Transmitter OFF	19:26:22	18:09:48	12:26:22	
Ring B Out	19:30:11	18:13:37	12:30:11	Approximate time
Ring A In	19:42:32	18:25:58	12:42:32	Approximate time
DSS-55: Enable Monopulse	19:55:48	18:39:14	12:55:48	Enable/Disable Monopulse only when requested by RSSG
Ring A Out	20:19:15	19:02:41	13:19:15	Approximate time
Ring F	20:27:17	19:10:43	13:27:17	Approximate time
Start Free-Space 2-Way/3-Way Baseline	20:27:18	19:10:44	13:27:18	
DSS-74: End Of Track	20:30:00	19:13:26	13:30:00	~3 degrees elevation. EOT is 20:20 in DSN schedule
DSS-74: Post-Cal	20:45:00	19:28:26	13:45:00	20:35 in DSN schedule
RSSG: Switch DSS-63 Predicts to 2-Way	20:46:00	19:29:26	13:46:00	Since 3-way/74 predicts are not available
RSSG: Switch DSS-55 Predicts to 3-Way w/DSS-63	20:46:00	19:29:26	13:46:00	Since 3-way/74 predicts are not available

RSSG: End DSS-74 Open-Loop Recordings	20:50:00	19:33:26	13:50:00	
<b>End of Rev 284 RSS Saturn Gravity Observation</b>	21:11:23	19:54:49	14:11:23	
DSS-55: Disable Monopulse Without Clearing the Offsets	21:58:00	20:41:26	14:58:00	
TLM ON	21:59:23	20:42:49	14:59:23	
RNG ON	21:59:27	20:42:53	14:59:27	
RSSG: Note TLM BR 1896	21:59:30	20:42:56	14:59:30	
S-Band OFF	21:59:34	20:43:00	14:59:34	Per PEF
<b>End of Rev 284 Chord Ring Occultation</b>	21:59:34	20:43:00	14:59:34	
Ka-Band OFF	21:59:36	20:43:02	14:59:36	Per PEF
DSS-74 Transmitter OFF Observed	21:59:39	20:43:05	14:59:39	
Loss of X-band Signal	21:59:39	20:43:05	14:59:39	Begin spacecraft turn away from Earth point
DSS-63 & DSS-55: End Of Track	22:15:00	20:58:26	15:15:00	
RSSG: End DSS-63 & DSS-55 Open-Loop Recordings	22:20:00	21:03:26	15:20:00	
DSS-63 & DSS-55: Post-Cal	22:30:00	21:13:26	15:30:00	

Canberra DSS-43 & DSS-35 related activities
Madrid DSS-63, DSS-55 and DSS-65 related activities
Goldstone DSS-25 related activities
New Norcia DSS-74 related activities
Malargue DSS-84 related activities

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