

Timeline for Cassini Rev 57 RSS Occultation of Saturn's Rings on January 27, 2008 (DOY 027)

Essam Marouf 01/21/2008 (v2)

	ERT UTC OWLT = 1:09:56	SCET	PST ERT-8hrs 8:00:00	Comments
DSS-34: Start Precal	16:00:00	14:50:04	8:00:00	
DSS-43: Start Precal	16:30:00	15:20:04	8:30:00	
DSS-34 & 43 Begin of Track	17:30:00	16:20:04	9:30:00	
SNT Measurements (all bands)	17:35:00	16:25:04	9:35:00	Diodes need to be OFF before 14:49:00
TWNC ON/ RNG OFF/ TLM OFF	17:49:49	16:39:53	9:49:49	
Start Live Moveable Block (LMB)	17:49:56	16:40:00	9:49:56	Cassini HGA is Earth pointed
DSS-34: Enable Monopulse	17:50:00	16:40:04	9:50:00	Enable monopulse once receiver is locked
DSS-34: Disable Monopulse				Real-Time decision
Start Free-Space Baseline	18:30:52	17:20:56	10:30:52	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ring F	19:31:08	18:21:12	11:31:08	Rings F is only detectable in postprocessing
Ring A in	19:31:53	18:21:57	11:31:53	Detectable signals over most of Ring A
Enke Gap	19:32:32	18:22:36	11:32:32	Signals are back very briefly to full strength
Ring A out	19:34:55	18:24:59	11:34:55	Relatively strong signals in the Cassini Division
Ring B in	19:35:53	18:25:57	11:35:53	Signals may be detectable over inner region of Ring B
Ring C in	19:42:02	18:32:06	11:42:02	Signals detectable but briefly blocked by dense ringlets
Ring C out	19:49:47	18:39:51	11:49:47	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ring C in	19:52:42	18:42:46	11:52:42	All ring features occultes again in reverse order
Top of ionosphere (~68,000 km)	19:59:04	18:49:09	11:59:04	The upper ionosphere will be mixed with the rings
Ring B in	20:00:27	18:50:31	12:00:27	Signals likely absent over most of Ring B
Ring B out	20:06:36	18:56:40	12:06:36	Relatively strong signals in the Cassini Division
Ring A in	20:07:34	18:57:39	12:07:34	Detectable signals over most of Ring A

Encke gap	20:09:57	19:00:02	12:09:57	Signals are back very briefly to full strength
Ring A out	20:10:36	19:00:40	12:10:36	PC/N0 (X70, X&Ka34, S70) = ~56, 49, 49, and 42 dB
Ring F	20:11:21	19:01:25	12:11:21	Rings F is only detectable in postprocessing
Troposphere in	20:12:04	19:02:08	12:12:04	A brief target-of-opportunity atmospheric occultation
End of Rev 57 RSS Observations	20:12:52	19:02:56	12:12:52	"Official" end of the rev 57 RSS ring occultation
S/C Turn to start a solar occultation	20:12:52	19:02:56	12:12:52	All radio signals are lost briefly after this time
SNT measurement (all bands)	20:30:00	19:20:04	12:30:00	
DSS-34 & 43: End of Track	21:15:00	20:05:04	13:15:00	
DSS-34 & 43: End of Postcal	21:30:00	20:20:04	13:30:00	
TLM ON/ TWNC OFF/ RNG LOW	21:53:51	20:43:55	13:53:51	

Indicates DSS-34 & 43 Related Activities

All times are based on the Rev 57 NAV Live Update OD on 14 Jan 08; the update was a NO GO times changed by +17 seconds from the 070918 traj

Some Ring Edges are known to be noncircular, which will affect ring event times above