Detailed Timeline (1 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
Feb 23, 2009 10:00 AM-12:30 PM EST	Test Readiness Review	All	Done
Feb 24, 2009 5-8 PM EST	Dry Run APL Ground Station test Configuration	Ron Schulze APL Ground Station	Done
Feb 27, 2009 12:00 PM EST	Dry Run GBT pointing sequence	Bryan Butler, Scott Turner, Frank Ghigo	In progress
Feb 28, 2009 9:30:00 UTC	Post Updated Ephemeris to APL Ground Station FTP	ISRO MOps	
Feb 28, 2009 12:00:00 UTC	Email Ephemeris to Bryan Butler and Scott Turner	Priscilla McKerracher	

Detailed Timeline (2 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
Feb 28, 2009 12:30:00 UTC	Brian Sequeira provides updated orbit AoS times to Mckerracher, Schulze, Butler, Turner, Hillyard, APL and GBT Ground Facilities based on new ephemeris. Commence review of ISRO integrated command sequence Verify AoS Plans with APL Ground Station Calculations	Brian Sequeira Matt Hillyard Priscilla McKerracher	
Feb 28, 2009 14:00:00 UTC	Start the review of ISRO S/C command sequence based on new ephemeris	Brian Sequeira Matt Hillyard Priscilla McKerracher	
14:00:00 UTC	Brian Butler provides GBT pointing generation to Scott Turner (APL) for Review	Bryan Butler Scott Turner	
14:30:00 UTC	Verify suitability of latest ephemeris and email assessment to the following team members: Butler, Sequiera, Hillyard, McKerracher, Schulze.	Scott Turner	
14:55:00 UTC	APL Ground Station supports nominal telemetry pass with Chandrayann-1. Do the latest ephemeris files work okay?	APL Ground Station	
15:15:00 UTC	GBT Ground Pointing Review Complete. Email test team results.	Scott Turner	

Detailed Timeline (3 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
16:00:00 UTC	Complete the review of ISRO S/C command sequence	Brian Sequeira Matt Hillyard Priscilla McKerracher	
17:52:00 UTC	ISRO uploads integrated command data to S/C for GBT calibration events	ISRO Brian Sequeira	
18:15:00 UTC	Update timeline to test team	Ron Schulze	
19:00:00 UTC	Bryan Butler provides pointing files to GBT and verifies that pointing files are properly injested.	Bryan Butler Frank Ghigo	
19:00:00 UTC	Open telecon line: 443-778-2200 Passcode: 266715 Required attendees: ISRO (Brian Sequeira, APL Ground Station, POC, Bryan Butler, GBT, Frank Ghigo, Roger Norrod)	Ron Schulze	
19:30:00 UTC	GBT commences reconfiguration process for Forerunner transmissions at 2384.15 MHz.	Frank Ghigo	
19:45:00 UTC	GBT reconfiguration is complete Request Total Electron Content Data be recorded.	Frank Ghigo	

Detailed Timeline (4 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
Feb 28, 2009 <19:52:00 UTC>	Earliest Acquisition of Chandrayaan-1 for Pass #1	GBT Ground Station APL Ground Station	
<19:55:20 UTC>	Initiate Attitude Profile (AtP) for Pass #1	ISRO	
19:59:00 UTC	GBT track S/C S-band Telemetry (Freq=2230.8 MHz, Phase Mod)	GBT	
<20:07:33 UTC>	Power Up Forerunner Instrument	ISRO	
<20:09:33 UTC>	Activate Forerunner.	ISRO	
<20:13:33 UTC>	Mini-SAR Standby	ISRO	
<20:14:33 UTC>	Attitude Buffer TGL (Increases S/C telemetry to high rate)	ISRO	
<20:14:48 UTC>	Forerunner Collect Start, This is when Forerunner is transmitting chirped waveform.	ISRO GBT	
<20:30:48 UTC>	Forerunner Collect Stop	ISRO GBT	
<20:31:03 UTC>	Attitude Buffer TGL (Decrease S/C telemetry to nominal)	ISRO	
<20:31:33 UTC>	Forerunner De-Activate.	ISRO	
<20:31:50 UTC>	Forerunner Off.	ISRO	
<20:31:50 UTC>	S/C returns to Lunar attitude.	ISRO	
<20:51:00 UTC>	Loss of Chandrayaan-1 for Pass #1	GBT Ground Station APL Ground Station	

< > These times subject to change based on Sat. ephemeris

T_1(Equatorial Crossing for Pass #1)=20:21:480

Detailed Timeline (5 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
Feb 28, 2009 <21:50:00 UTC>	Acquisition of Chandrayaan-1 for Pass #2	GBT Ground Station APL Ground Station	
<21:59:23 UTC>	Initiate Attitude Profile (AtP) for Pass #2	ISRO	
<22:19:33 UTC>	Power Up Forerunner Instrument	ISRO	
<22:21:33 UTC>	Activate Forerunner.	ISRO	
<22:25:33 UTC>	Forerunner Standby	ISRO	
<22:26:33 UTC>	Attitude Buffer TGL (Increases S/C telemetry to high rate)	ISRO	
<22:26:48 UTC>	Forerunner Collect Start A, This is when Forerunner is transmitting chirped waveform.	ISRO GBT	
<22:26:50 UTC>	Forerunner Collect Start B	ISRO	
<22:30:50 UTC>	Forerunner Collect Stop	ISRO GBT	
<22:31:05 UTC>	Attitude Buffer TGL (Decrease S/C telemetry to nominal)	ISRO	
<22:31:20 UTC>	Forerunner De-Activate.	ISRO	
<22:31:37 UTC>	Forerunner Off.	ISRO	
<22:31:40 UTC>	S/C returns to Lunar attitude.	ISRO	
<22:49:00 UTC>	Loss of Chandrayaan-1 for Pass #2	GBT Ground Station APL Ground Station	

< > These times subject to change based on Sat. ephemeris

T_2(Equatorial Crossing for Pass #2)=22:19:50

Detailed Timeline (6 of 6)

Date/ Time	Event	Responsible Team Member(s)	Task Completed
Feb 28, 2009 <23:48:00 UTC>	Acquisition of Chandrayaan-1 for Pass #3	GBT Ground Station APL Ground Station	
<23:57:26 UTC>	Initiate Attitude Profile (AtP) for Pass #3	ISRO	
<23:56:34 UTC>	Power Up Forerunner Instrument	ISRO	
<23:58:34 UTC>	Activate Forerunner.	ISRO	
Mar 1. 2009 <00:02:34 UTC>	Forerunner Standby	ISRO	
<00:03:32 UTC>	Attitude Buffer TGL (Increases S/C telemetry to high rate)	ISRO	
<00:03:37 UTC>	Forerunner Collect Start A, This is when Forerunner is transmitting a chirped waveform.	ISRO GBT	
<00:03:39 UTC>	Forerunner Collect Start B	ISRO	
<00:07:39 UTC>	Forerunner Collect Stop	ISRO GBT	
<00:07:54 UTC>	Attitude Buffer TGL (Decrease S/C telemetry to nominal)	ISRO	
<00:08:09 UTC>	Forerunner De-Activate.	ISRO	
<00:08:26 UTC>	Forerunner Off.	ISRO	
<00:08:26 UTC>	S/C returns to Lunar attitude.	ISRO	
<00:47:00 UTC>	Loss of Chandrayaan-1 for Pass #3	GBT Ground Station APL Ground Station	

< > These times subject to change based on Sat. ephemeris

T_3(Equatorial Crossing for Pass #3)=00:17:53