Planck Integration and Test
(HFI centric)

- June-September 2005: Cryogenic Qualification Model (individual subsystem level)
- June 2005 - Feb 2006: Device level testing [Caltech and Cardiff] (quick turnaround)
- March 2006: HFI integration and test of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (4 days testing / 28 day turnaround)
- May 2006: cryogenic video photogrammetry of telescope and truss [300-40K]
- June-July 2006: HFI testing and calib of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (20d testing / 42 day turnaround)
- 2007: full integration (telescope+HFI+LFI+cooler+spacecraft)
- May-August 2008: Thermal/Vacuum [CSL Focal 5, Liege] (~few days)
- May 2009: Launch

https://authors.library.caltech.edu/20758/1/Pajot2010p11790Astron_Astrophys.pdf

Planck Integration and Test
(HFI centric)

- June-September 2005: Cryogenic Qualification Model (individual subsystem level)
  - Testing of cooler subsystems (20K, 4K, dilutor)

Planck Integration and Test
(HFI centric)

- June-September 2005: Cryogenic Qualification Model (individual subsystem level)
- June 2005 - Feb 2006: Device level testing [Caltech and Cardiff] (quick turnaround)
  - Dark device characterization
  - Optical efficiency, spectroscopy, polarimetric calibration of the 2K feeds & detector sub-assemblies

Planck Integration and Test
(HFI centric)

- June-September 2005: Cryogenic Qualification Model (individual subsystem level)
- June 2005 - Feb 2006: Device level testing [Caltech and Cardiff] (quick turnaround)
- March 2006: HFI integration and test of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (4 days testing / 28 day turnaround)
  - Cryogenic functionality
  - Basic functionality of detectors/readout
  - Test of calibration hardware

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- May 2006: cryogenic video photogrammetry of telescope and truss [300-40K]
  - Thermo/optical/mechanical validation of telescope and mechanical structure
  - A very limited amount of optical testing

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- May 2006: cryogenic video photogrammetry of telescope and truss [300-40K]
- June-July 2006: HFI testing and calib of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (20d testing / 42 day turnaround)
  - Calibration run: spectroscopic, polarimetric, optical efficiency, cross-talk
  - Only prolonged period of operation of the science instrument under reasonably representative optical loading
  - Not able to test all bands under representative loading
  - NOT LONG ENOUGH – missed phenomenology that would have saved time/science in flight.

Planck Integration and Test
(HFI centric)

- June-September 2005: Cryogenic Qualification Model (individual subsystem level)
- June 2005 - Feb 2006: Device level testing [Caltech and Cardiff] (quick turnaround)
- Feb 2006: Device level testing [Caltech] (quick turnaround, feed-level testing: dark characterization, spectra, optical efficiency, polarimetric cal)
- March 2006: HFI integration and test of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (4 days testing / 28 day turnaround)
- May 2006: cryogenic video photogrammetry of telescope and truss [300-40K]
- June-July 2006: HFI testing and calib of sub-K cooler + focal plane [Saturne cryostat, IAS Orsay] (20d testing / 42 day turnaround)
- 2007: full integration (telescope+FHFI+LFI+cooler+spacecraft)
- May-August 2008: Thermal/Vacuum [CSL Focal 5, Liege] (~two weeks)
  - Provision for a ~4K load was an afterthought. Implementation did not allow for meaningful testing of the receiver (load stability, temperature, etc did not allow for representative noise testing, crosstalk with LFI, parasitic loading, etc)