

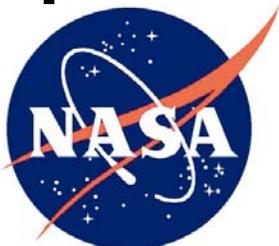
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RELEASED

Global Precipitation Measurement Project

Navigator GPS Front-End Electronics Deliverable Items List and Schedule



**National Aeronautics and
Space Administration**

**Goddard Space Flight Center
Greenbelt, Maryland**

CM FOREWORD

This document is Global Precipitation Measurement(GPM) Configuration Management (CM)-controlled document. Changes to this document require prior approval of the applicable Configuration Control Board (CCB) Chairperson or designee. Proposed changes shall be submitted to the GPM CM Office (CMO), along with supportive material justifying the proposed change. Changes to this document will be made by complete revision.

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CHANGE HISTORY LOG

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1.0 INTRODUCTION

This document is the Global Precipitation Measurement (GPM) GPS Front-End Electronics (FEE) Deliverable Items List and Schedule (DILS). This document provides specific information on the hardware and data deliverables for the FEE.

1.1 PROPRIETARY DATA

Some of the content of documents may be of a proprietary nature to the document preparing/sending Party. In the event data is deemed to be proprietary, and for which protection is to be maintained, the sending Party shall mark the document with a notice to indicate that the data therein is proprietary and shall be used and disclosed by the receiving Party and its related entities (e.g., contractors and subcontractors) only for the purposes of fulfilling the receiving Party's responsibilities under the GPM Project, and that the identified and marked technical data shall not be disclosed or retransferred to any other entity without prior written permission of the document preparer.

1.2 APPLICABLE DOCUMENTS

GPM-GN&C-SOW-0042	Global Precipitation Measurement GPS Front-End Electronics Statement of Work
GPM-GN&C-SPEC-0103	Global Precipitation Measurement GPS Front-End Electronics Performance Specification

2.0 DEFINITIONS

This section contains definitions for the hardware and data deliverables for the GPS Front-End Electronics (FEE) for the Global Precipitation Measurement (GPM) Mission. The information in the tables is as follows:

Description: This provides the Title of the deliverable item.

Reference: This provides the reference to the pertinent document calling out the deliverable

Category:

A = Approval – Documents in this category require approval from the NASA GSFC CSO. In general, documents shall be provided in contractor format as long as required content, as specified in the SOW, is addressed.

R= Review – Documents in this category do not require formal NASA GSFC CO approval. They must be received within a specified time period and are subject to evaluation. The NASA GSFC CO reserves the time-limited right of disapproval for each submission. The time-limited period is two weeks from receipt of documents.

I = Information – Documents in this category are informal and are for information only.

Quantity: This provides the required number of copies for the deliverable. All data is required to be submitted electronically. The number in the quantity column refers to the number of hard copies required.

Delivery Date: This provides the fixed or relative date or time that the deliverable is required.

3.0 HARDWARE DELIVERABLES SCHEDULE

The hardware deliverables for the GPM GPS Front - End Electronics (FEE) are as follows:

Table 2-1. Hardware Deliverables

Item #	Description	Reference	Quantity	Delivery Date
1	Front End Electronics	SOW Section 4.1	5	35 weeks after Award of Contract
2	Set of Flight Mating Connectors (if applicable)	SOW Section 4.4	1 for every external connector on each Flight Unit, plus two additional sets	16 weeks after Award of Contract
3	Set of Connector Savers (if applicable)	SOW Section 4.3	1 for every external connector	With Item #1
4	Set of ESD-safe Connector Caps (if applicable)	SOW Section 4.4	1 for every external connector	With Item #1
5	Shipping Container		One for each FEE	With Item #1

4.0 DATA DELIVERABLES SCHEDULE

The data deliverables for the GPM GPS Front – End Electronics (FEE) are as follows:

Table 3-1. Data Deliverables

Item #	Description	Reference	Category	Quantity	Delivery Date
1	Monthly Status Report	SOW Section 2.1	I	1	Fourteen (14) calendar days following the month being reported.
2	Design Conformance Review	SOW Section 2.3.1	R	1	Two (2) months after Award of Contract
3	Design Conformance Review Report	SOW Section 2.3.1	R	1	Fourteen (14) calendar days after completion of Design Conformance Review (DCR)
4	Pre-Environmental Review	SOW Section 2.3.2	R	1	Seven (7) days before start of environmental testing on first Flight Unit
5	Flight Unit Pre-Ship Review	SOW Section 2.3.3	R	1	Seven (7) calendar days prior to delivery of each Flight Unit
6	ICD	SOW Section 3.2.1	R	3	Twenty-one (21) calendar days before DCR
7	Drawing Package	SOW Section 3.2.2	R	3	Twenty-one (21) calendar days before DCR
8	Design Conformance Review Presentation Package	SOW Section 3.2.3	I	5	Seven (7) calendar before Design Conformance Review
9	Flight Unit Data Delivery Package	SOW Section 3.2.4	A	1	At PSR

Item #	Description	Reference	Category	Quantity	Delivery Date
10	Verification Test Plan	SOW Section 3.2.5	A	3	Fourteen (14) calendar days before Design Conformance Review
11	Verification Test Procedures	SOW Section 3.2.6	R	3	Fourteen (14) calendar days before start of testing and as changes occur.
12	Thermal Analysis	SOW Section 3.3	R	2	Fourteen (14) calendar days before Design Conformance Review
13	Thermal Model	SOW Section 3.3	I	1	Fourteen (14) calendar days before Design Conformance Review
14	Structural Analysis	SOW Section 3.4	R	2	Fourteen (14) calendar days before Design Conformance Review
15	RESERVED				
16	Quality Assurance Plan	SOW Section 5.1.1	A	3	Fourteen (14) calendar days before Design Conformance Review
17	Class I CM Changes	SOW Section 5.1.3	A	2	Seven (7) calendar days after Contractor CM review
18	Class II CM Changes	SOW Section 5.1.3	R	2	Seven (7) calendar days after Contractor CM review
19	Failure Reports	SOW Section 5.1.4	A	2	Seven (7) calendar days after Contractor Failure Review Process determines disposition
20	Failure Mode and Effects Analysis (FMEA)	SOW Section 5.3.1	R	2	Fourteen (14) calendar days before Design Conformance Review

Item #	Description	Reference	Category	Quantity	Delivery Date
21	Parts Stress Analysis	SOW Section 5.3.2	R	2	Fourteen (14) calendar days before Design Conformance Review
22	Parts Stress Analysis Criteria Other than EEE-INST-002	SOW Section 5.3.2	A	2	Twenty-one (21) calendar days before Design Conformance Review
23	Worst Case Circuit Analysis	SOW Section 5.3.3	R	2	Fourteen (14) calendar days before Design Conformance Review
24	Limited-Life Items List	SOW Section 5.3.4	A	2	Fourteen14 Calendar days prior to DCR and PSR
25	Polymeric Materials expired shelf-life waiver	SOW Section 5.3.4	A	2	Fourteen14 Calendar days prior to DCR and PSR
26	Verification Matrix	SOW Section 5.5.1	R	2	Twenty-one (21) calendar days before Pre-Ship Review
27	Trend Parameter List	SOW Section 5.5.2	R	3	Seven (7) calendar days prior to Pre-Environmental Review
28	Test and Trend Analysis Reports	SOW Section 5.5.2	I	1	Delivered at Pre-Ship Review
29	Printed Wiring Board Coupons	SOW Section 5.6.5.1	A	1 Coupon per board	Deliver Twenty-one (21) calendar days before start of PWB assembly
30	Advanced Packaging Technology Requirements Documentation	SOW Section 5.6.5.3	A	2	Twenty-eight (28) calendar days after contract award
31	Parts Identification List	SOW Section 5.7.1	A	5	Twenty-one (21) calendar days before DCR

Item #	Description	Reference	Category	Quantity	Delivery Date
32	As-Built Parts List	SOW Section 5.7.1	R	1	Due at pre-ship review
33	Documentation on Custom Devices	SOW Section 5.7.2	A	2	Twenty-eight (28) calendar days after contract award
34	Plastic Encapsulated Microcircuit (PEM) Specification Documents	SOW Section 5.7.3	A	2	Twenty-eight (28) calendar days after contract award
35	Radiation Test Plans (If Applicable)	SOW Section 5.7.4	R	2	Plans submitted Twenty-eight (28) calendar days prior to test. Returned with comments within Twenty-one (21) days.
36	Radiation Test Reports	SOW Section 5.7.4	I	2	Fourteen (14) calendar days after test
37	Recertification Plans for Parts >5Yrs (If Applicable)	SOW Section 5.7.5	A	2	Fourteen (14) calendar days before DCR
38	Alert/Advisory Disposition and Preparation	SOW Section 5.7.6	R	2	Due 3 working days after Contractor disposition
39	Materials and Processes Identification and Usage List	SOW Section 5.8.1	A	5	Fourteen 14 Calendar days prior to DCR and PSR
40	As-Built Materials List	SOW Section 5.8.1	R	1	Fourteen 14 Calendar days prior to PER
41	Materials Usage Agreement	SOW Section 5.8.2	A	2	Twenty-one (21) calendar days before DCR

Item #	Description	Reference	Category	Quantity	Delivery Date
42	Contamination Control Plan	SOW Section 6.1	R, A	2	Twenty-one (21) calendar days after completion of Design Conformance Review (DCR)
43	Chamber Configuration	SOW Section 6.3	R, A	2	Twenty-eight (28) Calendar days prior to start of Thermal Vacuum Bakeout Tests
44	Thermal Vacuum Bakeout Test Results	SOW Section 6.3	A	2	Fourteen (14) Calendar Days after completion of Thermal Vacuum Bakeout Tests
45	Fastener Integrity Plan	SOW Section 5.8.6	A		Fourteen 14 Calendar days prior to DCR

APPENDIX A. ABBREVIATIONS AND ACRONYMS

Abbreviation/ Acronym	DEFINITION
CM	Configuration Management
CO	Contracting Officer
COTR	Contracting Officer's Technical Representative
DCR	Design Conformance Review
FEE	Front-End Electronics
FMEA	Failure Mode and Effects Analysis
GPM	Global Precipitation Measurement
ICD	Interface Control Document
PEM	Plastic Encapsulated Microcircuit
PER	Pre-Environmental Review
PWB	Printed Wiring Board
PSR	Pre-Ship Review
SOW	Statement of Work