



## GR740SBC - ToC for FM Reference Data Package

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List

2022-12-08

Doc. No GR740SBC-LST-1

Issue 2.0

Contract 4000128263/19/NL/FE  
Deliverable Doc-01-05



## CHANGE RECORD

Issue	Date	Section / Page	Description
2.0	2022-12-08		First issue of this ToC and related Reference Data Package for external publication.

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## 1 INTRODUCTION

### 1.1 Scope of the Document

This document defines the Table of Contents for the Reference Data Package for the Flight Model designed in the activity “Reference Design and basic software for a single board computer based on GR740” initiated by the European Space Agency under ESTEC contract 4000128263/19/NL/FE.

The scope of this list is defined in [AD1] and summarizes the contents of the “GR740SBC Reference Design Data Package for the FM” compiled during the activity. The “File ref.” column refers to the name of the top-level file in the data package. The reference design is externally available at [www.gaisler.com/gr740\\_sbc\\_refdesign](http://www.gaisler.com/gr740_sbc_refdesign).

The document has been developed by Cobham Gaisler AB (CG) and subcontractor Beyond Gravity Sweden AB (BG), both located in Göteborg, Sweden.

### 1.2 Applicable Documents

The following documents, listed in order of precedence, contain requirements applicable to the contents of the document:

[AD1] “Statement of Work, Reference design and basic software for a single board computer based on GR740”, ESA-TRP-TEC-SOW-012994, Issue 1, Revision 2, 15/04/2019

## 2 TABLE OF CONTENTS

Scope from [AD1]	Doc/draw. No	Issue	Title / Description	File ref.	Origin
<b>Package part: PDF</b>					
HW Design Description	P-1375864-RSE	7	GR740SBC HW Detailed Design Document	GR740SBC HW Detailed Design Document (P - 1375864 - 1 - 7) - 1.pdf	BG
User Manual	GR740SBC-UM-1	1.2	GR740 SBC Reference Design User Manual Describes how to configure and use a board built as a complete Reference Design.	GR740SBC-UM-1-1-2_D0402_Ref_Design_User_Manual.pdf	CG
	GR740SBC-UM-4	1.4	GR740 SBC FPGA Detailed Design/User Manual incl. annex A	GR740SBC-UM-4-1-4_D0402_FPGA_Design_User_Manual_with_Annex.pdf	CG
	GR740SBC-LST-2	1-0	GRBOOT LEON boot loader for GR740SBC Overview	GR740SBC-LST-2-1-0_GRBOOT_Overview.pdf	CG
	GR740SBC-DRIVER-UM	1.3	GR740SBC RTEMS driver User Manual	GR740SBC-DRIVER-UM-1.3.pdf	CG
Analysis reports	P-1400420-RSE	3	GR740SBC Worst Case Analysis (WCA)	GR740SBC Worst Case Analysis (WCA) (P - 1400420 - 1 - 3) - 1.pdf	BG
	P-1400937-RSE	2	GR740 Board Parts Stress Analysis (PSA) Report	GR740 Board Parts Stress Analysis (PSA) Report (P - 1400937 - 1 - 2) - 1.pdf	BG
	P-1390301-RSE	3	GR740SBC Reference design Radiation tolerance	Reference design Radiation tolerance (P - 1390301 - 1 - 3) - 1.pdf	BG
	P-1389961-RSE	2	GR740 SBC Reference Design Thermal Analysis	GR740SBC Reference Design Thermal Analysis (P - 1389961 - 1 - 2) - 1.pdf	BG
	P-1389963-RSE	2	GR740 SBC Reference Design Structural Analysis	GR740SBC Reference Design Structural Analysis (P - 1389963 - 1 - 2) - 1.pdf	BG
	P-1418073-RSE	1	GR740SBC Reliability Analysis	GR740SBC Reliability Analysis (P - 1418073 - 1 - 1)	BG



Scope from [AD1]	Doc/draw. No	Issue	Title / Description	File ref.	Origin
				- 1_a.pdf	
	P-1359598-RSE	2	GR740 SBC FMECA	GR740 SBC FMECA (P - 1359598 - 1 - 2) - 1.pdf	BG
<i>In addition to [AD1] scope</i>	M-DRW-4007806-501-RSE	A	GR740 SBC Reference Design Schematics Pdf format (Also part of “Board files” package below)	GR740SBC CIRCUIT DIAGRAM (M – M-DRW-4007806-501-RSE – 1 – A) – 1.pdf	BG
PCB layout	M-DRW-4008255-001-RSE	A	GR740 SBC Reference Design Assembly Layout Pdf format	GR740SBC PW ASSY (M - M-DRW-4008255-001-RSE - 1 - A) - 1.PDF	BG
Bill of materials	1000077150	R07	GR740 SBC Reference Design EEE Bill of Materials Pdf format (Also part of “Board files” package below)	GR740 EEE BOM.pdf	BG
	N/A	221117	GR740 SBC Reference Design Top Assembly Bill of Materials Pdf format (Also part of “Board files” package below)	GR740SBC FM Top Assy BOM_221117.pdf	BG
Model descriptions	P-1456537-RSE	1	GR740SBC RTMM (Reduced Thermal Math Model)	GR740SBC Reduced Thermal Mathematical Model (RTMM) (P - 1456537 - 1 - 1) - 1.pdf	BG
	P-1456548-RSE	1	GR740SBC Reduced FEM (Finite Element Method)	GR740SBC Structural FE Model (P - 1456548 - 1 - 1) - 1.pdf	BG
<b>Package part: BINARY</b> md5sum: e09fc0edf6dc43bbbd4831561a08e9e0					
Analysis reports	N/A	N/A	Appendix to “GR740SBC Worst Case Analysis (WCA)” above	GR740SBC Worst Case Analysis (WCA) (P - 1400420 - 1 - 3) - 1.zip	BG
CAE files (board and FPGA design)	N/A	N/A	Manufacturing files, mechanical drawings (frame, stiffeners etc.) design files essential for the manufacturing drawings	GR740SBC_EBB_Board_files_221117.zip	BG



Scope from [AD1]	Doc/draw. No	Issue	Title / Description	File ref.	Origin
	N/A	N/A	Board (schematics, layout and Gerber files from Mentor Xpedition)	GR740SBC DESIGN FILES (M - M-FIL-4007806-502-BGS - 1 - A) - 1.ZIP	BG
	N/A	N/A	GR740SBC power calculator	GR740SBC_power_calculator_all_comp_CG_20221102_allcases_issue1.xlsx	CG
	N/A	N/A	RTG4 FPGA Pinout details	1_22_111056_RT4G150_CG1657_REV_C_CG_20221123_REV4.xlsx	CG
	N/A	N/A	FPGA design delivered by ESA, see <a href="http://www.gaisler.com/gr740_sbc_refdesign">www.gaisler.com/gr740_sbc_refdesign</a>		

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