

1. Record Nr.	UNINA9910544876503321
Titolo	A combined data and power management infrastructure : for small satellites // Jens Eickhoff, editor
Pubbl/distr/stampa	Berlin, Germany : , : Springer, , [2021] ©2021
ISBN	9783662640531 9783662640524
Edizione	[Second edition.]
Descrizione fisica	1 online resource (459 pages)
Collana	Springer aerospace technology
Disciplina	629.46
Soggetti	Artificial satellites - Control systems Artificial satellites - Electronic equipment
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Foreword by Robin Biesbroek -- Foreword by Ana Ambrosio -- Foreword by Olivier L. de Weck -- Foreword by René Laufer -- Foreword by Peter Martinez -- Preface -- Donation for Life -- Contents -- List of Abbreviations -- 1 System Design Concept -- 1.1 Introduction -- 1.2 The Onboard Computer Concept -- 1.3 The PCDU with Enhanced Functionality -- 1.4 CPU-Board Reconfiguration Control -- 1.4.1 Component Functions During Failure Handling -- 1.4.2 A Combined Controller for PCDU and CPU FDIR -- 1.4.3 Failure Management with the Combined-Controller -- 1.4.4 Advantages of the Combined-Controller Approach -- 1.5 CDPI Software Functions -- 1.5.1 Software Initialization -- 1.5.2 SpaceWire Network Initialization and FDIR -- 1.5.3 Remote-Board Reconfiguration Management -- 1.6 Firmware Functions -- 1.6.1 Pulse per Second Signal Management -- 1.6.2 I/O-Board Interface Operation and Group Tailoring -- 1.6.3 Ground/Space Communication -- 1.7 Board Identification -- 1.8 Completeness of System Architecture -- 1.9 Outlook for Future Missions -- 2 OBC CPU-Boards -- 2.1 Introduction -- 2.2 GR712RC-SBC -- 2.2.1 Board Block Diagram -- 2.2.2 Processor -- 2.2.3 Memory -- 2.2.4 Interface Circuits -- 2.2.5 Auxiliary Circuits -- 2.2.6 Mechanical Layout and Constraints -- 2.2.7 PCB Design and Constraints -- 2.2.8 Housing and Connectors -- 2.2.9

Components -- 3 OBC Periphery Boards -- 3.1 Common Design for SpaceWire Routers, I/O and CCSDS-Boards -- 3.2 OBC Periphery Boards Overview -- 3.3 FPGA-Mezzanine -- 3.3.1 FPGA -- 3.3.2 Memory -- 3.3.3 FPGA Configuration -- 3.4 Carrier -- 3.4.1 JTAG -- 3.4.2 Configurable IO -- 3.4.3 SpaceWire -- 3.4.4 Ethernet -- 3.5 System Architecture -- 3.5.1 Board Implementation -- 3.5.2 System Grounding -- 3.5.3 Power Budget -- 3.5.4 Physical Structure -- 3.5.5 Loki-Board IO Connectors -- 3.5.6 Loki-Board Radiation Characteristic. 3.5.7 Loki-Board Temperature Limits -- 4 SpaceWire Router Boards -- 4.1 SpaceWire Routers for Ground and Flight -- 4.2 General Router Functions -- 4.3 Router Board Structure -- 4.4 Peripherals -- 4.4.1 Peripheral Identification & Configuration (PID) -- 4.4.2 Memory and Applications -- 4.4.3 SpaceWire Ports -- 4.4.4 SpaceWire-Ethernet Bridge -- 4.4.5 FPGA Resources -- 4.4.6 Configuration -- 4.4.7 PPS Interfaces -- 4.5 Router-Board Programmers Model -- 4.5.1 RMAP0 -- 4.5.2 Router Configuration Space -- 4.5.3 Port0 RMAP SpaceWire Codec -- 4.5.4 Port0 RMAP PPS -- 4.5.5 MRAM -- 4.5.6 Ethernet -- 5 I/O-Boards -- 5.1 General I/O-Board Functions -- 5.2 I/O Board Structure -- 5.3 Memory and Applications -- 5.4 Peripherals -- 5.4.1 I/O-Board Internal Router -- 5.4.2 SpaceWire Ports -- 5.4.3 UART Interfaces -- 5.4.4 GPIO Interfaces -- 5.5 I/O Board Programmers Model -- 5.5.1 RMAP0 -- 5.5.2 Router Configuration Space -- 5.5.3 SpaceWire Codec -- 5.5.4 MRAM -- 5.5.5 Configurable I/O Interfaces -- 5.5.6 UART -- 5.5.7 GPIO -- 6 CCSDS Decoder/Encoder Boards -- 6.1 Introduction -- 6.2 CCSDS-Board Hardware -- 6.2.1 Onboard Memory -- 6.2.2 Peripherals -- 6.2.3 Memory -- 6.2.4 FPGA Resources -- 6.2.5 Configuration -- 6.3 Functional Overview -- 6.3.1 Interfaces -- 6.3.2 Command Link Control Word Coupling -- 6.3.3 Clock and Reset -- 6.3.4 Performance -- 6.3.5 Error Mitigating Strategy -- 6.3.6 SpaceWire Link Interfaces -- 6.3.7 On-Chip Memory -- 6.3.8 Signal Overview -- 6.3.9 Telemetry Encoder Functional Overview -- 6.3.10 Telecommand Decoder Functional Overview -- 6.4 Telemetry Encoder -- 6.4.1 Layers -- 6.4.2 Data Link Protocol Sub-layer -- 6.4.3 Synchronization and Channel Coding Sub-layer -- 6.4.4 Physical Layer -- 6.4.5 Connectivity -- 6.4.6 Operation -- 6.4.7 Registers -- 6.4.8 Signal Definitions and Reset Values -- 6.4.9 TM Encoder-Virtual Channel Generation. 6.4.10 TM Encoder-Descriptor -- 6.4.11 TM Encoder-Virtual Channel Generation Function Input Interface -- 6.5 TC Decoder-Flight Software Commands -- 6.5.1 Overview -- 6.5.2 Waveforms -- 6.5.3 Coding Layer (CL) -- 6.5.4 Transmission -- 6.5.5 Relationship Between Buffers and FIFOs -- 6.5.6 Command Link Control Word Interface (CLCW) -- 6.5.7 Configuration Interface (AMBA AHB Slave) -- 6.5.8 Interrupts -- 6.5.9 Registers -- 6.5.10 Signal Definitions and Reset Values -- 6.6 TC Decoder-High Priority Commands -- 6.6.1 Overview -- 6.6.2 Operation -- 6.6.3 Telecommand Transfer Frame Format-Hardware Commands -- 6.6.4 Signal Definitions and Reset Values -- 6.7 SpaceWire Interface with RMAP Target -- 6.8 JTAG Debug Interface -- 6.9 Diverse Features -- 6.10 CCSDS Processor Spacecraft Specific Configuration -- 7 Integrated Mass Memory Unit -- 7.1 General -- 7.2 Introduction -- 7.3 System Overview with Peripherals -- 7.4 Mass Memory Handling -- 7.4.1 Partition Configuration -- 7.4.2 Memory Recovery -- 7.4.3 SpaceWire RMAP Implementation -- 7.5 Memory Mapping -- 7.6 Interrupt Sources -- 7.7 Electrical Characteristics -- 7.7.1 Connectors -- 7.7.2 Power Consumption -- 7.8 Mechanical Characteristics -- 7.9 Radiation Hardness Characteristics -- 8 OBC Module and Cassette Concept -- 8.1 OBC-Housing Basics -- 8.1.1 The Different Boards of the OBC -- 8.1.2 Concept of the Cassettes -- 8.1.3 The OBC

as Stacked Cassettes -- 8.1.4 Mount Points of the OBC -- 8.1.5 Internal Harness Basics -- 8.2 Mechanical Design of the Cassettes -- 8.2.1 Design Concept -- 8.2.2 Individual Cassette Design -- 8.3 Summary -- 9 OBC Internal Harness -- 9.1 Internal Harness Overview -- 9.1.1 The SpaceWire Harness -- 9.1.2 The Power Harness -- 9.1.3 CLCW Interconnects -- 9.1.4 Pulse Line Connections -- 9.1.5 JTAG Interfaces -- 9.1.6 Crypto-Key Load Interfaces -- 9.2 Interfaces Per OBC Subunit. 9.3 Remote Board Nominal/Redundant Identification -- 10 Board Interconnects to Cassettes -- 10.1 Introduction -- 10.2 Flex-PCBs Model to Market -- 10.3 Router-Board Flex in Detail -- 10.4 I/O-Cassette Flex Overview -- 10.5 CCSDS-Cassette Flex Overview -- 11 Modular Power-Boards -- 11.1 Introduction -- 11.2 Mechanical Concept -- 11.3 Electrical Concept -- 11.4 Thermal Concept -- 11.5 The DC/DC Converters -- 11.5.1 VPT Main Converter -- 11.5.2 Intersil Converter -- 11.6 MPB Combined Efficiency -- 11.7 PCB Layout -- 11.8 MPB Schematic Design -- 11.9 MPB Variants -- 12 OBC Thermal Analysis -- 12.1 Introduction -- 12.1.1 Geometrical Mathematical Model of the Housing -- 12.1.2 Dissipation Points: Router Board -- 12.1.3 Dissipation Points: I/O-Board -- 12.1.4 Dissipation Points: CCSDS-Board -- 12.1.5 Dissipation Points: MMU and MPB -- 12.1.6 Dissipation Points: CPU-Board and MPB -- 12.1.7 Summary of Dissipation Values -- 12.2 Assumptions -- 12.2.1 Components -- 12.2.2 Environment -- 12.3 Results -- 12.3.1 Case 01 -- 12.3.2 Case 02 -- 12.4 OBC Housing Material Properties -- 13 Power Control and Distribution Unit -- 13.1 Introduction -- 13.2 The PCDU in a Typical Power Supply Subsystem -- 13.3 PCDU Unit Design Overview -- 13.3.1 PCDU Interfaces -- 13.3.2 PCDU Command Concept -- 13.4 Boot-Up Sequence of the PCDU and PCDU Modes -- 13.5 Power Control and Distribution Functions -- 13.6 PCDU Specific Functions in the CDPI Architecture -- 13.6.1 Analog Data Handling Concept -- 13.6.2 Reconfiguration Logic for the OBC -- 13.6.3 Reconfiguration Functionality for the Spacecraft -- 13.7 Diverse PCDU Functions -- 13.7.1 Launcher Separation Detection -- 13.7.2 Control and Monitoring of Solar Panel Deployment (Optional) -- 13.7.3 Control of the Payload Data Transmission Subsystem Power -- 13.7.4 History Log Function. 13.7.5 Time Synchronization Between Internal Controllers -- 13.7.6 Overvoltage Protection -- 13.8 PCDU Environmental Qualification Characteristics -- 13.8.1 Thermal-Vacuum Limits -- 13.8.2 Radiation Limits -- 13.8.3 Vibration Limits -- 13.9 List of Connectors -- 13.10 PCDU Commands Overview -- 13.11 The PCDU and Electric Propulsion Systems -- 14 CDPI Functional Testing -- 14.1 Introduction -- 14.2 Test Scope -- 14.3 Test Conditions -- 14.4 Test Plan, Test Procedures and Setups -- 14.4.1 Power-Board Tests -- 14.4.2 CPU-Board Tests -- 14.4.3 SpaceWire RTR-Board Tests -- 14.4.4 I/O-Boards Tests -- 14.4.5 CCSDS-Boards Tests -- 14.4.6 MMU Tests -- 14.4.7 PCDU Tests -- 14.4.8 OBC Subsystem Tests -- 14.4.9 CDPI Reconfiguration Tests -- 14.5 Test Execution on STB -- 14.5.1 Satellite Testbed Infrastructure -- 14.5.2 Typical Test Stages on a Satellite Testbed -- 14.6 Test Execution on FlatSat -- 15 OBC Mechanical Qualification -- 15.1 Introduction -- 15.2 Structural Analysis -- 15.3 Determination of Eigenfrequencies -- 15.4 Vibration Testing -- 15.5 Shock Testing -- 15.6 Mechanical Properties -- 16 Example Missions -- 16.1 ClearSpace "ADRIOS CS-1" -- 16.1.1 The Motivation -- 16.1.2 The ClearSpace-1 Service to ESA -- 16.1.3 The Target -- 16.1.4 The Mission -- 16.1.5 The ClearSpace-1 Servicer -- 16.2 Thailand Space Program and FLP2 -- 16.3 Stuttgart University "Flying Laptop" -- 16.3.1 Technology and Payloads -- 16.3.2 Satellite Attitude Control System -- 16.3.3 Satellite Electrical Architecture and Block Diagram -- 17 Annexes

and Data Sheets -- 17.1 GR712RC-SBC Interface Board -- 17.1.1 Power Circuits -- 17.1.2 JTAG (FTDI USB) Interface -- 17.1.3 Interface Configuration Logic/Circuits & -- GPIO/GPIN -- 17.1.4 Mechanical Layout, Design and Constraints -- 17.1.5 List of Connectors-IF-Board -- 17.1.6 List of Oscillators, Switches and LED's-IF-Board. 17.1.7 List of Switches and LED's-IF-Board.

2. Record Nr.	UNINA9910783455003321
Titolo	Agricultural trade reform and the Doha development agenda // edited by Kym Anderson and Will Martin
Pubbl/distr/stampa	Washington, DC : , : Palgrave Macmillan/World Bank, , [2006] copyright 2006
ISBN	0-8213-6369-7 1-280-45452-0 9786610454525 0-8213-6240-2
Descrizione fisica	xviii, 420 pages : illustrations ; ; 23 cm
Collana	Trade and Development Series
Altri autori (Persone)	AndersonKym MartinWill <1953->
Disciplina	382/.41
Soggetti	Agriculture and state International trade
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Acknowledgments; Contributors; Abbreviations and Acronyms; Part I SETTING THE SCENE; Figures; Tables; Part II AGRICULTURAL MARKET ACCESS; Part III EXPORT SUBSIDIES AND DOMESTIC SUPPORT; Part IV DOHA REFORM SCENARIOS; Index
Sommario/riassunto	Agricultural trade reform is critical to a favorable development outcome from the Doha Development Agenda. But agricultural policies and the policy reforms being contemplated are fiendishly complicated, and the devil is in the details. Agricultural Trade Reform and the Doha Development Agenda builds up from the essential detail of the tariffs and other protection measures, and uses this information to provide an

analysis of the big-picture implications of proposed reforms. Providing the most complete and up to date analysis of the range of agricultural issues under negotiation in the multilate

3. Record Nr.	UNINA9910855377103321
Autore	Geroimenko Vladimir
Titolo	Augmented Reality Games II : The Gamification of Education, Medicine and Art // edited by Vladimir Geroimenko
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2024
ISBN	9783031544750 3031544757
Edizione	[2nd ed. 2024.]
Descrizione fisica	1 online resource (371 pages)
Collana	Computer Science Series
Disciplina	5,437 4,019
Soggetti	User interfaces (Computer systems) Human-computer interaction Video games - Programming Education - Data processing Medical informatics User Interfaces and Human Computer Interaction Game Development Computers and Education Health Informatics Interfícies d'usuari (Sistemes d'ordinadors) Interacció persona-ordinador Realitat augmentada Ludificació Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I: Augmented reality games in education -- Educational

augmented reality games -- New horizons for digital youth: Augmented reality and the gamification of elementary and secondary education -- A new key competence: Teachers' methodological knowledge of augmented reality and its gaming potential -- Augmented imagination: Creating immersive and playful reading experiences -- Learning to build a Doric temple: The augmentation of knowledge through AR gamification -- Explorations in mixed reality with learning and teaching frameworks: Lessons from Ludus and the Vulcan academy -- Novel teaching methods in the classroom: The use of augmented reality games -- Part II: Augmented reality games in medicine and healthcare -- The unexplored potential of playful ambient projection-based AR to improve well-being -- Augmented reality games for health promotion in old age -- The healing App: Augmented reality and art for pediatric patients with chronic pain -- From boring to engaging: Using gamification to transform dental education and practice -- The gamification of physical education using augmented reality technology -- Part III: Augmented reality games in art -- The gamification of augmented reality art -- Unintended consequence: Pervasive games and public art -- Defacing the 'Balloon Dog': Art, algorithmic culture and augmented reality -- Circumpolar gamifications in the age of global warming: Ice levels, anxiety and the Anthropocene -- Augmented reality gaming in public space: Dealing with non-player characters or having a shared experience?- Concluding remarks.

Sommario/riassunto

This is the second edition of the first ever research monograph that explores the exciting field of augmented reality games and their enabling technologies. The new edition has been thoroughly revised and updated, with 6 new chapters included. As well as investigating augmented reality games in education, the book covers the gamification of medicine, healthcare, and art. It has been written by a team of 43 researchers, practitioners, and artists from 12 countries, pioneering in developing and researching the new type of computer games. This book deals with a systematic analysis of educational augmented reality games, the gamification of elementary and secondary education, teachers' novel key skills and new teaching methods in the classroom, creating immersive and playful reading experiences, augmented reality games for health promotion in old age and for transforming dental and physical education and practice, the gamification of augmented reality art, pervasive games, and gaming in public spaces, among other topics. Intended as a starting point for exploring this new fascinating area of research and game development, it will be essential reading not only for researchers, practitioners, game developers, and artists, but also for students (graduates and undergraduates) and all those interested in the rapidly developing area of augmented reality games.
