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ÅAC Sirius Breadboard Release Notes
Rev. C

Introduction

Purpose of document

This document explains the changes that have occurred since the last release.
Errata are defined in the separate errata document RD 2.

Revision log

Rev	Date	Change description	Prepared
A	2016-10-07	First official release	E. Zachrisson
B	2016-11-03	Update for release 0.7.0	M. Werner
C	2017-01-03	Update for release 0.8.0	M. Werner

Reference documents

Rev	Document ref	Document name
RD 1	205065, C	Sirius Product User Manual
RD 2	205056, C	Sirius Product Family Errata

Changes for 0.6.2

Ref #	What	Why	Action to be taken by user	Affects
1598	RX FIFO Size increased to 128. Driver API updated	To prevent buffer overflows	Update IOCTL and symbols according to the manual	TCM-S, OBC-S
1734	TX output polarity changed on uart 3 and 4	Previous polarity was wrong	Harness polarity must be swapped	TCM-S
1644	Extended address for outgoing messages corrected to 0xFF	Previous address of 0x00 was wrong	Any workarounds must be removed	TCM-S application
1716	X-Band pin description added to manual	Missing before	None	TCM-S
1701	UART now closes the line driver upon closure	A line driver should be deactivated when not used	None	TCM-S, OBC-S
1704	TMConfig fields in manual corrected	Order differed between implementation and manual	None	TCM-S
1703	TMBRSet details in manual corrected	Old description and example was wrong	None	TCM-S

Changes for 0.7.0

Ref #	What	Why	Action to be taken by user	Affects
1514	**Version field extended from 1 byte to 4 bytes in GetHK RMAP reply and modified debug uart startup version printout format**	Unification with internal versioning scheme	Update RMAP GetHK reply handling according to new format in manual	TCM-S application
1452	**Debug UART no longer corrupts certain characters**	Increased reliability of debug output, especially if machine-parsed.	None	TCM-S, OBC-S

1738	RTEMS updated to latest upstream prerelease version of 4.11	To benefit from continuous bugfixing done in RTEMS upstream.	None	TCM-S, OBC-S
1545	Applications utilising the board support package can now compile with C99 compiler standard set.	Allows more strict compilation checks.	None	TCM-S, OBC-S
1555	tcm core app, when partition is full ENOSPC should be returned	ENOSPC is returned when partition is full. If data to be written does not fit, ENOSPC will be returned and no data will be written.	Check status value of RMAP reply to see if write-access is successful	TCM-S application
1695	Clarified argument type as pointer to uint32_t for GPIO IOCTL calls in manual	Previously incorrect argument type	None	TCM-S, OBC-S
1712	Adjust CCSDS clock divisor to generate exactly 1 Mbps	Did not previously generate correct rate	None	TCM-S application
1737	RTEMS timecount function modified to use "simple" timecounter implementation instead	Reduces timecounter overhead.	None	TCM-S, OBC-S
1786	NVRAM configuration example now included in board support package	Allows customization of NVRAM configuration	None	TCM-S application
1460	ADC supported sample rate and clock divisor combinations documentation extended and clarified.	Previous limitation documentation was inaccurately conservative.	None	TCM-S, OBC-S
1926	Errno aliases are used in the manual without numerical translation	A table is added in user manual to clarify numerical translation.	None	TCM-S application
1785	Mass memory download does not work	Handling of partition pointers after power-cycle was not correct. Setting of write pointers for partitions was not correct.	User has to read errata so that first 3 blocks are not used when configuring partitions.	TCM-S application

1790	Spacewire mode handling corrected	Changing mode previously caused spacewire link error	None	TCM-S, OBC-S
1781	Error handling and status handling updated in spacewire RTEMS driver	Previously incorrect/incomplete status from spacewire transmision sequence	Update status and error handling according to manual	TCM-S, OBC-S
1505	Handling of read buffer overflow updated in spacewire	Spacewire driver previously triggering overflow reject if read size was insufficient for incoming packet	None	TCM-S, OBC-S
1864	Corrected transmission sequence in spacewire	Fixes spacewire lockup after failed transmission	None	TCM-S, OBC-S

Changes for 0.8.0

Ref #	What	Why	Action to be taken by user	Affects
1360	Mass memory DMA added	Performance increase in conjunction with massmem read/write operations.	None	TCM-S
1497	O3 optimisation enabled by default	Increased performance.	None	TCM-S, OBC-S
1680	SCET now supports syncing subsecond to external PPS source	Old implementation did not meet requirements.	None	TCM-S, OBC-S

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2034	SCET driver has an updated API	Old implementation did not meet requirements and had multiple ways of doing operations.	Check ioctl/read/write operations and ensure the application uses the updated API	TCM-S, OBC-S
1796	CLCW fields "NoRfAvailable" and "NoBitLock" now reports correct status	Previously these fields were constant.	None	TCM-S
1797	Missing RMAP message for TC_VALID and CA_LOCK	Requirement. Solved in conjunction with #1796	None	TCM-S application
1798	New TCM RMAP command for configuration and reading of VC0 timestamps	Requirement	None	TCM-S application
1900	TCM Core App tasks synchronised at initialisation	Avoids risk of passing data to a task not ready from init	None	TCM-S application
1953	TCM Core App stability when reading/writing to mass memory via SpW improved	Previously caused application lockup.	None	TCM-S application
1980	SpW communication no longer stops after packet to invalid logical address	Previously caused application lockup.	None	OBC-S, TCM-S
2017	TMTSControl RMAP command reply size changed from 6 to 1	Previous command reply size was incorrect, and included garbage data.	None	TCM-S application
2018	VC0 interrupt no longer prints debug output	Output was not intended for release build.	None	TMC-S application
2060	TM Pseudo Randomizer is now default enabled	Requirement. In previous release, the TM Pseudo Randomizer was disabled default.	Might affect settings/configuration in ground-station equipment	TCM-S application
2092	CCSDS detect signals must now be connected for proper operations of CCSDS interface	Hardware difference.	When using FM boards the UMBI/TRX1/TRX2 detect signals in the pigtail needs to be grounded for correct operation. E. g. if the TRX1 interface is to be used, the detect pin 24 must be grounded (active low)	TCM-S

1548	**MMStatus RMAP command reply size and content corrected**	Previous size and data was incorrect	None	TCM-S application