Telemetry Handbook

For the HuskySat-1 Mission

Table of Contents

Telemetry Packets

CMD_MTQ_BDOT

ID: 0x12570021
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
CMD_MTQ_BDOT_X	bdot command for x direction	224	8	INT	
CMD_MTQ_BDOT_Y	bdot command for y direction	232	8	INT	
CMD_MTQ_BDOT_Z	bdot command for z direction	240	8	INT	

COM1_MODE

ID: 0x1204033a
Grnd: None

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
COM1_MODE_MODE	The current mode of COM1	224	8	UINT	

State	Value
HEALTH_MODE	1
SAFE_MODE	2
REAL-TIME_MODE	3
CAMERA_MODE	4

COM2_STATE

ID: 0x125801f0
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
COM2_STATE_UPTIME	time since least mcu reboot	224	16	UINT	s
COM2_STATE_QLEN	length of the queue of py files to run	240	16	UINT	
COM2_STATE_QFILESIZE	size of most recent queue file	256	16	UINT	
COM2_STATE_CURR_FILE	which fille is comm2 running rn	272	8	UINT	
COM2_STATE_HEALTH_STATE	health state codes	280	8	UINT	

EPS_DIST_AUTOSEQ_GET_IND_RSP

ID: 0x125002d8
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units

EPS_DIST_AUTOSEQ_GET_IND_RSP_IND	the indices, as an 8-element array	224	64	UINT

EPS_DIST_AUTOSEQ_GET_MET_RSP

ID: 0x125002d9
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
EPS_DIST_AUTOSEQ_GET_MET_RSP_MET	the MET	224	32	UINT	s

MTQ_ACK

ID: 0x12570030
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
MTQ_ACK_PHASE	specifies what state the coils are in - measurement or actuation phase	224	8	INT	
MTQ_ACK_SOURCE	who the mtq last listened to - bdot or fsw	232	8	INT	
MTQ_ACK_LAST_BDOT_X	last bdot x command received	240	8	INT	
MTQ_ACK_LAST_BDOT_Y	last bdot y command received	248	8	INT	
MTQ_ACK_LAST_BDOT_Z	last bdot z command received	256	8	INT	
MTQ_ACK_LAST_FSW_X	last fsw x command received	264	8	INT	
MTQ_ACK_LAST_FSW_Y	last fsw y command received	272	8	INT	
MTQ_ACK_LAST_FSW_Z	last fsw z command received	280	8	INT	

State	Value
MEASUREMENT_PHASE	0
ACTUATION_PHASE	1
PMS_PHASE	2

RAHS_CAMERA

ID: 0x12180320
Grnd: CAMERA

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RAHS_CAMERA_DATA	The picture data	224	64	UINT	

RC_ADCS_BDOT_1

ID: 0x12590206
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units

RC_ADCS_BDOT_1_SPAM_ON_X_MTQ_X	the averages of one axis of magnetometer readings during one axis of the last spam	224	16	INT	nT
RC_ADCS_BDOT_1_SPAM_ON_X_MTQ_Y	the averages of one axis of magnetometer readings during one axis of the last spam	240	16	INT	nT
RC_ADCS_BDOT_1_SPAM_ON_X_MTQ_Z	the averages of one axis of magnetometer readings during one axis of the last spam	256	16	INT	nT
RC_ADCS_BDOT_1_SPAM_ON_Y_MTQ_X	the averages of one axis of magnetometer readings during one axis of the last spam	272	16	INT	nT

RC_ADCS_BDOT_10

ID: 0x126902dd
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_10_DIPOLE_VAR_X	The variance of sent dipole commands	224	16	UINT	
RC_ADCS_BDOT_10_DIPOLE_VAR_Y	The variance of sent dipole commands	240	16	UINT	
RC_ADCS_BDOT_10_DIPOLE_VAR_Z	The variance of sent dipole commands	256	16	UINT	

RC_ADCS_BDOT_11

ID: 0x12690274
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_11_MAG_X_VAR	The magnetometer variance on the x axis	224	16	UINT	
RC_ADCS_BDOT_11_MAG_Y_VAR	The magnetometer variance on the y axis	240	16	UINT	
RC_ADCS_BDOT_11_MAG_Z_VAR	The magnetometer variance on the z axis	256	16	UINT	

RC_ADCS_BDOT_2

ID: 0x12590207
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_2_MAG_X_MIN	X Minium reading in nT	224	16	INT	nT
RC_ADCS_BDOT_2_MAG_X_MAX	X Maximum reading in nT	240	16	INT	nT
RC_ADCS_BDOT_2_MAG_X_AVG	X Average reading in nT	256	16	INT	nT
RC_ADCS_BDOT_2_MAG_Y_MIN	Y Minium reading in nT	272	16	INT	nT

RC_ADCS_BDOT_3

ID: 0x12590219
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units

RC_ADCS_BDOT_3_MAG_Y_MAX	Y Maximum reading in nT	224	16	INT	nT
RC_ADCS_BDOT_3_MAG_Y_AVG	Y Average reading in nT	240	16	INT	nT
RC_ADCS_BDOT_3_MAG_Z_MIN	Z Minium reading in nT	256	16	INT	nT
RC_ADCS_BDOT_3_MAG_Z_MAX	Z Maximum reading in nT	272	16	INT	nT

RC_ADCS_BDOT_4

ID: 0x1259021a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_4_MAG_Z_AVG	Z Average reading in nT	224	16	INT	nT
RC_ADCS_BDOT_4_SPAM_ON_Y_MTQ_Y	the averages of one axis of magnetometer readings during one axis of the last spam	240	16	INT	nT
RC_ADCS_BDOT_4_SPAM_ON_Y_MTQ_Z	the averages of one axis of magnetometer readings during one axis of the last spam	256	16	INT	nT
RC_ADCS_BDOT_4_TUMBLE	Tumble Status	272	1	UINT	

State	Value
FALSE	0
TRUE	1

RC_ADCS_BDOT_5

ID: 0x1259025c
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_5_SPAM_ON_Z_MTQ_X	the averages of one axis of magnetometer readings during one axis of the last spam	224	16	INT	nT
RC_ADCS_BDOT_5_SPAM_ON_Z_MTQ_Y	the averages of one axis of magnetometer readings during one axis of the last spam	240	16	INT	nT
RC_ADCS_BDOT_5_SPAM_ON_Z_MTQ_Z	the averages of one axis of magnetometer readings during one axis of the last spam	256	16	INT	nT

RC_ADCS_BDOT_6

ID: 0x12590270
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_6_SPAM_OFF_TIME	Current setting for the time in minutes of SPAM not being on	224	16	UINT	min

RC_ADCS_BDOT_6_SPAM_ON_TIME	Current setting for the time in minutes of SPAM being on	240	16	UINT	min
RC_ADCS_BDOT_6_SPAM_CONTROL	Current setting on whether or not spam is enabled **State** / **Value** FALSE / 0 TRUE / 1	256	1	UINT	
RC_ADCS_BDOT_6_MAX_TUMBLE_TIME	Current max tumbling time that bdot can be in until it swtiches to SLEEP_MODE automatically	257	16	UINT	min
RC_ADCS_BDOT_6_CURRENT_STATE	State that bdot is in. Chooses mode that bdot is in: 0 = NORMAL_MODE , 1 = SLEEP_MODE, 2 = SPAM_MAG_SELF_TEST, 3 = SPAM **State** / **Value** NORMAL_MODE / 0 SLEEP_MODE / 1 SPAM_MAG_SELF_TEST / 2 SPAM / 3	273	2	UINT	
RC_ADCS_BDOT_6_POP_STATUS_X	Current status of whether or not POP is enable for specified axis **State** / **Value** FALSE / 0 TRUE / 1	275	1	UINT	
RC_ADCS_BDOT_6_POP_STATUS_Y	Current status of whether or not POP is enable for specified axis **State** / **Value** FALSE / 0 TRUE / 1	276	1	UINT	
RC_ADCS_BDOT_6_POP_STATUS_Z	Current status of whether or not POP is enable for specified axis **State** / **Value** FALSE / 0 TRUE / 1	277	1	UINT	
RC_ADCS_BDOT_6_GAIN_OVR_STATUS_X	None **State** / **Value** FALSE / 0 TRUE / 1	278	1	UINT	
RC_ADCS_BDOT_6_GAIN_OVR_STATUS_Y	None **State** / **Value**	279	1	UINT	

FALSE	0
TRUE	1

RC_ADCS_BDOT_6_GAIN_OVR_STATUS_Z	None	280	1	UINT

State	Value
FALSE	0
TRUE	1

RC_ADCS_BDOT_6_MAG_CONTROL	Shows the current state of magnetometer control on bdot. Choose the best fit magnetometer from ground. 0 = Auto, 1 = MAG_BDOT, 2 = MAG_SP1, 3 = MAG_SP2	281	2	UINT

State	Value
BDOT_MODE	0
SP1_MODE	1
SP2_MODE	2

RC_ADCS_BDOT_7

ID: 0x12690271
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_7_SPAM_MAGNITUDE_X	None	224	8	INT	
RC_ADCS_BDOT_7_SPAM_MAGNITUDE_Y	None	232	8	INT	
RC_ADCS_BDOT_7_SPAM_MAGNITUDE_Z	None	240	8	INT	
RC_ADCS_BDOT_7_SPAM_OFF_X_MTQ_X	Last spam reading with mtq off 1/73 nT	248	16	INT	nT
RC_ADCS_BDOT_7_SPAM_OFF_X_MTQ_Y	Last spam reading with mtq off 1/73 nT	264	16	INT	nT
RC_ADCS_BDOT_7_DIPOLE_GAIN_X	None	280	8	UINT	

RC_ADCS_BDOT_8

ID: 0x12690272
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_8_SPAM_OFF_X_MTQ_Z	Last spam reading with mtq off 1/73 nT	224	16	INT	nT
RC_ADCS_BDOT_8_SPAM_OFF_Y_MTQ_X	Last spam reading with mtq off 1/73 nT	240	16	INT	nT
RC_ADCS_BDOT_8_SPAM_OFF_Y_MTQ_Y	Last spam reading with mtq off 1/73 nT	256	16	INT	nT
RC_ADCS_BDOT_8_SPAM_OFF_Y_MTQ_Z	Last spam reading with mtq off 1/73 nT	272	16	INT	nT

RC_ADCS_BDOT_9

ID: 0x12690273
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_9_SPAM_OFF_Z_MTQ_X	Last spam reading with mtq off 1/73 nT	224	16	INT	nT
RC_ADCS_BDOT_9_SPAM_OFF_Z_MTQ_Y	Last spam reading with mtq off 1/73 nT	240	16	INT	nT
RC_ADCS_BDOT_9_SPAM_OFF_Z_MTQ_Z	Last spam reading with mtq off 1/73 nT	256	16	INT	nT
RC_ADCS_BDOT_9_DIPOLE_GAIN_Y	None	272	8	UINT	
RC_ADCS_BDOT_9_DIPOLE_GAIN_Z	None	280	8	UINT	

RC_ADCS_BDOT_H1

ID: 0x12690264
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_ADCS_BDOT_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_ADCS_BDOT_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_ADCS_BDOT_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44

(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_ADCS_BDOT_H1_RESET_COUNT	Reset Count	280	8	UINT

RC_ADCS_BDOT_H2

ID: 0x1269026d
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_BDOT_H2_CANRXERROR	the BDOT MCP's RX error buffer	224	8	UINT	

RC_ADCS_ESTIM_10

ID: 0x12590255
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_10_SUN_Y	y component of unit vector from spacecraft to sun	224	64	FLOAT	

RC_ADCS_ESTIM_11

ID: 0x12590256
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_11_SUN_Z	z component of unit vector from spacecraft to sun	224	64	FLOAT	

RC_ADCS_ESTIM_12

ID: 0x12590257
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_12_MAG_X	x component of unit vector of the direction of the magnetic field	224	64	FLOAT	

RC_ADCS_ESTIM_13

ID: 0x12590258
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_13_MAG_Y	y component of unit vector of the direction of the magnetic field	224	64	FLOAT	

RC_ADCS_ESTIM_14

ID: 0x12590259
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_14_MAG_Z	z component of unit vector of the direction of the magnetic field	224	64	FLOAT	

RC_ADCS_ESTIM_2

ID: 0x1259022d
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_2_POS_X	Inertial position that the ADCS system thinks the satellite is at	224	64	FLOAT	m

RC_ADCS_ESTIM_3

ID: 0x1259022e
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_3_POS_Y	Inertial position that the ADCS system thinks the satellite is at	224	64	FLOAT	m

RC_ADCS_ESTIM_4

ID: 0x1259022f
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_4_POS_Z	Inertial position that the ADCS system thinks the satellite is at	224	64	FLOAT	m

RC_ADCS_ESTIM_5

ID: 0x12590230
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_5_VEL_X	The inertial velocity the satellite thinks we have	224	64	FLOAT	m/s

RC_ADCS_ESTIM_6

ID: 0x12590231
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_6_VEL_Y	The inertial velocity the satellite thinks we have	224	64	FLOAT	m/s

RC_ADCS_ESTIM_7

ID: 0x12590232
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units

RC_ADCS_ESTIM_7_VEL_Z	The inertial velocity the satellite thinks we have	224	64	FLOAT	m/s

RC_ADCS_ESTIM_8

ID: 0x12590233
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_8_EPOCH	Epoch used in position and velocity calculation	224	40	UINT	s
RC_ADCS_ESTIM_8_SGP4_FLAG	Flag telling what mode ESTIM is propagating the orbit in	264	8	INT	
RC_ADCS_ESTIM_8_SC_IN_SUN	Boolean indicating whether the s/c thinks it is in the sun or not.	272	1	UINT	
RC_ADCS_ESTIM_8_SC_ABOVE_GS	Boolean indicating whether the s/c thinks it is above the UW ground station or not.	273	1	UINT	
RC_ADCS_ESTIM_8_TLE_ID	TLE ID valid bit	274	1	UINT	

State	Value
FALSE	0
TRUE	1

State	Value
FALSE	0
TRUE	1

State	Value
FALSE	0
TRUE	1

RC_ADCS_ESTIM_9

ID: 0x12590254
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_9_SUN_X	x component of unit vector from spacecraft to sun	224	64	FLOAT	

RC_ADCS_ESTIM_H1

ID: 0x12590261
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_ADCS_ESTIM_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C

RC_ADCS_ESTIM_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_ADCS_ESTIM_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_ADCS_ESTIM_H1_RESET_COUNT	Reset Count	280	8	UINT	

RC_ADCS_ESTIM_H2

ID: 0x1259026a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_ESTIM_H2_CANRXERROR	Estim MCP's RX error buffer	224	8	UINT	

RC_ADCS_MPC_10

ID: 0x1259023d
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_10_OMEGA_Y	None	224	64	FLOAT	r/s

RC_ADCS_MPC_11

ID: 0x1259023e
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_11_OMEGA_Z	None	224	64	FLOAT	r/s

RC_ADCS_MPC_15

ID: 0x12590242
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_15_SC_MODE	The current operating mode of the ADCS system	224	8	UINT	
RC_ADCS_MPC_15_POINT_TRUE	Proportion of samples where attitude is within 20 degrees of commanded vector	232	8	UINT	

RC_ADCS_MPC_2

ID: 0x12590235
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_2_SC_QUAT_1	The first element of the attitude quaternion of the spacecraft	224	64	FLOAT	

RC_ADCS_MPC_3

ID: 0x12590236
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_3_SC_QUAT_2	The second element of the attitude quaternion of the spacecraft	224	64	FLOAT	

RC_ADCS_MPC_4

ID: 0x12590237
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_4_SC_QUAT_3	The third element of the attitude quaternion of the spacecraft	224	64	FLOAT	

RC_ADCS_MPC_5

ID: 0x12590238
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_5_SC_QUAT_4	The fourth element of the attitude quaternion of the spacecraft	224	64	FLOAT	

RC_ADCS_MPC_6

ID: 0x12590239
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_6_OMEGA_MIN	None	224	64	FLOAT	r/s

RC_ADCS_MPC_7

ID: 0x1259023a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_7_OMEGA_MAX	None	224	64	FLOAT	r/s

RC_ADCS_MPC_8

ID: 0x1259023b
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_8_OMEGA_AVG	None	224	64	FLOAT	r/s

RC_ADCS_MPC_9

ID: 0x1259023c
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_9_OMEGA_X	None	224	64	FLOAT	r/s

RC_ADCS_MPC_H1

ID: 0x12690262
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_ADCS_MPC_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_ADCS_MPC_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_ADCS_MPC_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6

(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_ADCS_MPC_H1_RESET_COUNT	Reset Count	280	8	UINT

RC_ADCS_MPC_H2

ID: 0x1269026b
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MPC_H2_CANRXERROR	the MPC MCP's RX error buffer	224	8	UINT	

RC_ADCS_MTQ_2

ID: 0x1269020c
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_2_BDOT_X_AVG	Average X BDOT command	224	8	INT	
RC_ADCS_MTQ_2_BDOT_X_MAX	Max X BDOT command	232	8	INT	
RC_ADCS_MTQ_2_BDOT_X_MIN	Min X BDOT command	240	8	INT	
RC_ADCS_MTQ_2_BDOT_Y_AVG	Average Y BDOT command	248	8	INT	
RC_ADCS_MTQ_2_BDOT_Y_MAX	Max Y BDOT command	256	8	INT	
RC_ADCS_MTQ_2_BDOT_Y_MIN	Min Y BDOT command	264	8	INT	
RC_ADCS_MTQ_2_BDOT_Z_AVG	Average Z BDOT command	272	8	INT	
RC_ADCS_MTQ_2_BDOT_Z_MAX	Max Z BDOT command	280	8	INT	

RC_ADCS_MTQ_3

ID: 0x1269020d
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_3_BDOT_Z_MIN	MinZ BDOT command	224	8	INT	
RC_ADCS_MTQ_3_FSW_X_AVG	Average X FSW command	232	8	INT	
RC_ADCS_MTQ_3_FSW_X_MAX	Max X FSW command	240	8	INT	
RC_ADCS_MTQ_3_FSW_X_MIN	Min X FSW command	248	8	INT	
RC_ADCS_MTQ_3_FSW_Y_AVG	Average Y FSW command	256	8	INT	
RC_ADCS_MTQ_3_FSW_Y_MAX	Max Y FSW command	264	8	INT	
RC_ADCS_MTQ_3_FSW_Y_MIN	Min Y FSW command	272	8	INT	
RC_ADCS_MTQ_3_FSW_Z_AVG	Average Z FSW command	280	8	INT	

RC_ADCS_MTQ_4

ID: 0x1269020e
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_4_FSW_Y_MAX	Max Z FSW command	224	8	UINT	
RC_ADCS_MTQ_4_FSW_Z_MIN	Min Z FSW command	232	8	UINT	
RC_ADCS_MTQ_4_DUTY_X1_AVG	Average X Duty	240	8	UINT	
RC_ADCS_MTQ_4_DUTY_X2_AVG	Average X Duty	248	8	UINT	
RC_ADCS_MTQ_4_DUTY_Y1_AVG	Average Y Duty	256	8	UINT	
RC_ADCS_MTQ_4_DUTY_Y2_AVG	Average Y Duty	264	8	UINT	
RC_ADCS_MTQ_4_DUTY_Z1_AVG	Average Z Duty	272	8	UINT	
RC_ADCS_MTQ_4_DUTY_Z2_AVG	Average Z Duty	280	8	UINT	

RC_ADCS_MTQ_5

ID: 0x1269020f
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_5_FSW_IGNORE	Flight Software Ignore	224	8	UINT	

State	Value
FALSE	0
TRUE	1

RC_ADCS_MTQ_5_RESET_COUNTS	Number of resets	232	8	UINT
RC_ADCS_MTQ_5_CMDS_X_VAR	Variance in BDot's dipole commands	240	16	UINT
RC_ADCS_MTQ_5_CMDS_Y_VAR	Variance in BDot's dipole commands	256	16	UINT
RC_ADCS_MTQ_5_CMDS_Z_VAR	Variance in BDot's dipole commands	272	16	UINT

RC_ADCS_MTQ_H1

ID: 0x1269025e
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_ADCS_MTQ_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_ADCS_MTQ_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_ADCS_MTQ_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_ADCS_MTQ_H1_RESET_COUNT	Reset Count	280	8	UINT

RC_ADCS_MTQ_H2

ID: 0x12690267
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_MTQ_H2_CANRXERROR	the MTQ MCP's RX error buffer	224	8	UINT	

RC_ADCS_SP_1

ID: 0x1259021b
Grnd: REAL-TIME

RC_ADCS_SP_10

ID: 0x12590224
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_10_MAG1_Y_AVG	Magnetometer 1 Y axis avg	224	16	INT	nT
RC_ADCS_SP_10_MAG1_Z_MIN	Magnetometer 1 Z axis min	240	16	INT	nT
RC_ADCS_SP_10_MAG1_Z_MAX	Magnetometer 1 Z axis max	256	16	INT	nT
RC_ADCS_SP_10_MAG1_Z_AVG	Magnetometer 1 Z axis avg	272	16	INT	nT

RC_ADCS_SP_11

ID: 0x12590225
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_11_MAG2_X_MIN	Magnetometer 2 X axis min	224	16	INT	nT
RC_ADCS_SP_11_MAG2_X_MAX	Magnetometer 2 X axis max	240	16	INT	nT
RC_ADCS_SP_11_MAG2_X_AVG	Magnetometer 2 X axis avg	256	16	INT	nT
RC_ADCS_SP_11_MAG2_Y_MIN	Magnetometer 2 Y axis min	272	16	INT	nT

RC_ADCS_SP_12

ID: 0x12590226
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_12_MAG2_Y_MAX	Magnetometer 2 Y axis max	224	16	INT	nT
RC_ADCS_SP_12_MAG2_Y_AVG	Magnetometer 2 Y axis avg	240	16	INT	nT
RC_ADCS_SP_12_MAG2_Z_MIN	Magnetometer 2 Z axis min	256	16	INT	nT
RC_ADCS_SP_12_MAG2_Z_MAX	Magnetometer 2 Z axis max	272	16	INT	nT

RC_ADCS_SP_13

ID: 0x12590227
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_13_MAG2_Z_AVG	Magnetometer 2 Z axis avg	224	16	INT	nT
RC_ADCS_SP_13_SUNA_MIN	Minimum alpha value from the sun sensor	240	16	INT	deg
RC_ADCS_SP_13_SUNA_MAX	Maximum alpha value from the sun sensor	256	16	INT	deg
RC_ADCS_SP_13_SUNA_AVG	Average alpha value from the sun sensor	272	16	INT	deg

RC_ADCS_SP_14

ID: 0x12590228
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_14_SUNB_MIN	Minimum beta value from the sun sensor	224	16	INT	deg
RC_ADCS_SP_14_SUNB_MAX	Maximum beta value from the sun sensor	240	16	INT	deg
RC_ADCS_SP_14_SUNB_AVG	Average beta value from the sun sensor	256	16	INT	deg
RC_ADCS_SP_14_SUN_VALID	Sum of last 255 processed sun sensor valid bits	272	8	UINT	

RC_ADCS_SP_15

ID: 0x12590229
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_15_IMU_VALID	Sum of last 255 processed imu valid bits	224	8	UINT	
RC_ADCS_SP_15_IMU_X_MIN	IMU X axis min	232	16	INT	deg/s
RC_ADCS_SP_15_IMU_X_MAX	IMU X axis max	248	16	INT	deg/s
RC_ADCS_SP_15_IMU_X_AVG	IMU X axis avg	264	16	INT	deg/s

RC_ADCS_SP_16

ID: 0x1259022a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_16_IMU_Y_MIN	IMU Y axis min	224	16	INT	deg/s
RC_ADCS_SP_16_IMU_Y_MAX	IMU Y axis max	240	16	INT	deg/s
RC_ADCS_SP_16_IMU_Y_AVG	IMU Y axis avg	256	16	INT	deg/s
RC_ADCS_SP_16_IMU_Z_MIN	IMU Z axis min	272	16	INT	deg/s

RC_ADCS_SP_17

ID: 0x1259022b
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_17_IMU_Z_MAX	IMU Z axis max	224	16	INT	deg/s
RC_ADCS_SP_17_IMU_Z_AVG	IMU Z axis avg	240	16	INT	deg/s
RC_ADCS_SP_17_I2C_RESULT_MAG_1	None	256	8	UINT	

State	Value
NO_ERROR	0
START_TIMEOUT	1
STOP_TIMEOUT	2
NACK	3
TRANSMIT_TIMEOUT	4

RC_ADCS_SP_17_I2C_RESULT_MAG_2	None	264	8	UINT	

State	Value
NO_ERROR	0
START_TIMEOUT	1
STOP_TIMEOUT	2
NACK	3
TRANSMIT_TIMEOUT	4

RC_ADCS_SP_17_I2C_RESULT_IMU	None	272	8	UINT	

State	Value
NO_ERROR	0
START_TIMEOUT	1
STOP_TIMEOUT	2
NACK	3
TRANSMIT_TIMEOUT	4

RC_ADCS_SP_17_I2C_RESULT_SUN	None	280	8	UINT	

State	Value
NO_ERROR	0
START_TIMEOUT	1
STOP_TIMEOUT	2
NACK	3
TRANSMIT_TIMEOUT	4

RC_ADCS_SP_2

ID: 0x1259021c
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_2_IMUP_X_MIN	Processed IMU X axis min	224	16	INT	deg/s
RC_ADCS_SP_2_IMUP_X_MAX	Processed IMU X axis max	240	16	INT	deg/s
RC_ADCS_SP_2_IMUP_X_AVG	Processed IMU X axis avg	256	16	INT	deg/s
RC_ADCS_SP_2_IMUP_Y_MIN	Processed IMU Y axis min	272	16	INT	deg/s

RC_ADCS_SP_3

ID: 0x1259021d
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_3_IMUP_Y_MAX	Processed IMU Y axis max	224	16	INT	deg/s
RC_ADCS_SP_3_IMUP_Y_AVG	Processed IMU Y axis avg	240	16	INT	deg/s
RC_ADCS_SP_3_IMUP_Z_MIN	Processed IMU Z axis min	256	16	INT	deg/s
RC_ADCS_SP_3_IMUP_Z_MAX	Processed IMU Z axis max	272	16	INT	deg/s

RC_ADCS_SP_4

ID: 0x1259021e
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_4_IMUP_Z_AVG	Processed IMU Z axis avg	224	16	INT	deg/s
RC_ADCS_SP_4_SUN_X_MIN	Sun Sensor X axis min	240	16	INT	u
RC_ADCS_SP_4_SUN_X_MAX	Sun Sensor X axis max	256	16	INT	u
RC_ADCS_SP_4_SUN_X_AVG	Sun Sensor X axis avg	272	16	INT	u

RC_ADCS_SP_5

ID: 0x1259021f
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_5_SUN_Y_MIN	Sun Sensor Y axis min	224	16	INT	u
RC_ADCS_SP_5_SUN_Y_MAX	Sun Sensor Y axis max	240	16	INT	u
RC_ADCS_SP_5_SUN_Y_AVG	Sun Sensor Y axis avg	256	16	INT	u
RC_ADCS_SP_5_SUN_Z_MIN	Sun Sensor Z axis min	272	16	INT	u

RC_ADCS_SP_6

ID: 0x12590220
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_6_SUN_Z_MAX	Sun Sensor Z axis max	224	16	INT	u
RC_ADCS_SP_6_SUN_Z_AVG	Sun Sensor Z axis avg	240	16	INT	u
RC_ADCS_SP_6_MAG1_VALID	Sum of last 255 processed mag valid bits	256	8	UINT	
RC_ADCS_SP_6_MAG2_VALID	Sum of last 255 processed mag valid bits	264	8	UINT	
RC_ADCS_SP_6_MAG1_X_MIN	Magnetometer 1 X axis min	272	16	INT	nT

RC_ADCS_SP_7

ID: 0x12590221
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_7_MAG1_VAR_X	None	224	16	UINT	
RC_ADCS_SP_7_MAG1_VAR_Y	None	240	16	UINT	
RC_ADCS_SP_7_MAG1_VAR_Z	None	256	16	UINT	

RC_ADCS_SP_8

ID: 0x12590222
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_8_MAG2_VAR_X	None	224	16	UINT	
RC_ADCS_SP_8_MAG2_VAR_Y	None	240	16	UINT	
RC_ADCS_SP_8_MAG2_VAR_Z	None	256	16	UINT	

RC_ADCS_SP_9

ID: 0x12590223
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_9_MAG1_X_MAX	Magnetometer 1 X axis max	224	16	INT	nT
RC_ADCS_SP_9_MAG1_X_AVG	Magnetometer 1 X axis avg	240	16	INT	nT
RC_ADCS_SP_9_MAG1_Y_MIN	Magnetometer 1 Y axis min	256	16	INT	nT
RC_ADCS_SP_9_MAG1_Y_MAX	Magnetometer 1 Y axis max	272	16	INT	nT

RC_ADCS_SP_H1

ID: 0x12690260
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_ADCS_SP_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_ADCS_SP_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_ADCS_SP_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_ADCS_SP_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_ADCS_SP_H1_RESET_COUNT	Reset Count	280	8	UINT	

RC_EPS_BATT_1

ID: 0x12790200
Grnd: WOD

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_1_ACC_CHARGE_AVG	None	224	16	UINT	
RC_EPS_BATT_1_VOLTAGE_AVG	None	240	16	UINT	V

RC_EPS_BATT_2

ID: 0x12690201
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_2_NODE_V_MIN	Voltage at the node between batteries	224	16	UINT	V
RC_EPS_BATT_2_NODE_V_MAX	Voltage at the node between batteries	240	16	UINT	V
RC_EPS_BATT_2_NODE_V_AVG	Voltage at the node between batteries	256	16	UINT	V

RC_EPS_BATT_3

ID: 0x12690202
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_3_CURRENT_MIN	Minimum battery current seen since last min/max reset	224	16	UINT	A
RC_EPS_BATT_3_CURRENT_MAX	Maximum battery current seen since last min/max reset	240	16	UINT	A
RC_EPS_BATT_3_CURRENT_AVG	Average current into or out of the battery	256	16	UINT	A
RC_EPS_BATT_3_BATT_TEMP_AVG	Battery temperature indicated by TMP36 mounted to the batteries.	272	8	INT	C

RC_EPS_BATT_4

ID: 0x12590203
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_4_VOLTAGE_MIN	Battery voltage from the coulomb counter on the battery board. Most accurate but only on when the EPS power domain is on.	224	16	UINT	V
RC_EPS_BATT_4_VOLTAGE_MAX	Battery voltage from the coulomb counter on the battery board. Most accurate but only on when the EPS power domain is on.	240	16	UINT	V
RC_EPS_BATT_4_VOLTAGE_AVG	Battery voltage from the coulomb counter on the battery board. Most accurate but only on when the EPS power domain is on.	256	16	UINT	V
RC_EPS_BATT_4_BALANCER_STATE	State of the battery balancer. enabeling the battery balancer only gives it permission to ballance.	272	1	UINT	

State	Value
FALSE	0
TRUE	1

RC_EPS_BATT_4_HEATER_STATE	State of the battery heater switch	273	1	UINT	

State	Value

	FALSE	0			
	TRUE	1			
RC_EPS_BATT_4_HEATER_AUTO_STATE	None		274	1	UINT
	State	**Value**			
	FALSE	0			
	TRUE	1			
RC_EPS_BATT_4_BAL_AUTO_STATE	None		275	1	UINT
	State	**Value**			
	FALSE	0			
	TRUE	1			

RC_EPS_BATT_5

ID: 0x12690204
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_5_NODE_C_MIN	Current into the node between batteries. Indicates battery ballancing state.	224	16	INT	A
RC_EPS_BATT_5_NODE_C_MAX	Current into the node between batteries. Indicates battery ballancing state.	240	16	INT	A
RC_EPS_BATT_5_NODE_C_AVG	Current into the node between batteries. Indicates battery ballancing state.	256	16	INT	A
RC_EPS_BATT_5_BATT_TEMP_MIN	Battery temperature indicated by TMP36 mounted to the batteries.	272	8	INT	C
RC_EPS_BATT_5_BATT_TEMP_MAX	Battery temperature indicated by TMP36 mounted to the batteries.	280	8	INT	C

RC_EPS_BATT_6

ID: 0x12690205
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_6_STATUS	State of charge status register	224	8	UINT	
RC_EPS_BATT_6_CTRL	State of charge from coulomb counter on battery board	232	8	UINT	
RC_EPS_BATT_6_LAST_CHARGE	The MET of last full battery charge	240	40	UINT	s

RC_EPS_BATT_7

ID: 0x1259025a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
ACC_CHARGE_MIN		0	0	DERIVED	mAH
ACC_CHARGE_AVG		0	0	DERIVED	mAH
ACC_CHARGE_MAX		0	0	DERIVED	mAH
RC_EPS_BATT_7_VOLTAGE_DIFF		0	0	DERIVED	mV
RC_EPS_BATT_7_ACC_CHARGE_MIN	Acumulated charge minimum	224	16	UINT	
RC_EPS_BATT_7_ACC_CHARGE_MAX	Accumulated charge maximum	240	16	UINT	
RC_EPS_BATT_7_ACC_CHARGE_AVG	Accumulated charge avg	256	16	UINT	

RC_EPS_BATT_H1

ID: 0x12690265
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_EPS_BATT_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_EPS_BATT_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_EPS_BATT_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44

(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_EPS_BATT_H1_RESET_COUNT	Reset Count	280	8	UINT

RC_EPS_BATT_H2

ID: 0x1269026e
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_BATT_H2_CANRXERROR	the Batt MCP's RX error buffer	224	8	UINT	
RC_EPS_BATT_H2_LAST_I2C_RES	the result of the last i2c operation	232	8	UINT	

RC_EPS_DIST_1

ID: 0x12700243
Grnd: WOD

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_1_BATT_V_AVG	None	224	16	UINT	V
RC_EPS_DIST_1_COM1_C_AVG	None	240	16	UINT	A
RC_EPS_DIST_1_TEMP_AVG	None	256	16	UINT	C

RC_EPS_DIST_10

ID: 0x1259024c
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_10_BDOT_STATE	BDOT domain state	224	8	UINT	

State	Value
ON (GREEN)	0
OFF_MANUAL (YELLOW)	1
OFF_OVERCURRENT (RED)	2
OFF_BATT_UNDERVOLTAGE (RED)	3
OFF_INITIAL (YELLOW)	4
OFF_AUTOSHUTOFF (RED)	5
UNKNOWN (RED)	6

RC_EPS_DIST_10_BDOT_C_MIN	BDOT domain current minimum	232	16	INT	A
RC_EPS_DIST_10_BDOT_C_MAX	BDOT domain current maximum	248	16	INT	A
RC_EPS_DIST_10_BDOT_C_AVG	BDOT domain current average	264	16	INT	A

RC_EPS_DIST_11

ID: 0x1259024d
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_11_BDOT_V_MIN	BDOT domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_11_BDOT_V_MAX	BDOT domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_11_BDOT_V_AVG	BDOT domain voltage average	256	16	UINT	V

RC_EPS_DIST_12

ID: 0x1259024e
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_12_ESTIM_STATE	ESTIM domain state	224	8	UINT	

State	Value
ON (GREEN)	0
OFF_MANUAL (YELLOW)	1
OFF_OVERCURRENT (RED)	2
OFF_BATT_UNDERVOLTAGE (RED)	3
OFF_INITIAL (YELLOW)	4
OFF_AUTOSHUTOFF (RED)	5
UNKNOWN (RED)	6

RC_EPS_DIST_12_ESTIM_C_MIN	ESTIM domain current minimum	232	16	INT	A
RC_EPS_DIST_12_ESTIM_C_MAX	ESTIM domain current maximum	248	16	INT	A
RC_EPS_DIST_12_ESTIM_C_AVG	ESTIM domain current average	264	16	INT	A

RC_EPS_DIST_13

ID: 0x1259024f
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_13_ESTIM_V_MIN	ESTIM domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_13_ESTIM_V_MAX	ESTIM domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_13_ESTIM_V_AVG	ESTIM domain voltage average	256	16	UINT	V

RC_EPS_DIST_14

ID: 0x12590250
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_14_EPS_STATE	EPS domain state State: ON (GREEN) = 0; OFF_MANUAL (YELLOW) = 1; OFF_OVERCURRENT (RED) = 2; OFF_BATT_UNDERVOLTAGE (RED) = 3; OFF_INITIAL (YELLOW) = 4; OFF_AUTOSHUTOFF (RED) = 5; UNKNOWN (RED) = 6	224	8	UINT	
RC_EPS_DIST_14_EPS_C_MIN	EPS domain current minimum	232	16	INT	A
RC_EPS_DIST_14_EPS_C_MAX	EPS domain current maximum	248	16	INT	A
RC_EPS_DIST_14_EPS_C_AVG	EPS domain current average	264	16	INT	A

RC_EPS_DIST_15

ID: 0x12590251
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_15_EPS_V_MIN	EPS domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_15_EPS_V_MAX	EPS domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_15_EPS_V_AVG	EPS domain voltage average	256	16	UINT	V

RC_EPS_DIST_16

ID: 0x12590252
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_16_PPT_STATE	PPT domain state State: ON (GREEN) = 0; OFF_MANUAL (YELLOW) = 1; OFF_OVERCURRENT (RED) = 2; OFF_BATT_UNDERVOLTAGE (RED) = 3; OFF_INITIAL (YELLOW) = 4; OFF_AUTOSHUTOFF (RED) = 5; UNKNOWN (RED) = 6	224	8	UINT	
RC_EPS_DIST_16_PPT_C_MIN	PPT domain current minimum	232	16	INT	A

RC_EPS_DIST_16_PPT_C_MAX	PPT domain current maximum	248	16	INT	A
RC_EPS_DIST_16_PPT_C_AVG	PPT domain current average	264	16	INT	A

RC_EPS_DIST_17

ID: 0x12590253
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_17_PPT_V_MIN	PPT domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_17_PPT_V_MAX	PPT domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_17_PPT_V_AVG	PPT domain voltage average	256	16	UINT	V

RC_EPS_DIST_18

ID: 0x125902db
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_18_BDOT_OCP_THRESH	BDOT current threshold	224	9	UINT	A
RC_EPS_DIST_18_COM2_OCP_THRESH	COM2 current threshold	233	9	UINT	A
RC_EPS_DIST_18_EPS_OCP_THRESH	EPS current threshold	242	9	UINT	A
RC_EPS_DIST_18_ESTIM_OCP_THRESH	ESTIM current threshold	251	9	UINT	A
RC_EPS_DIST_18_PPT_OCP_THRESH	PPT current threshold	260	9	UINT	A
RC_EPS_DIST_18_RAHS_OCP_THRESH	RAHS current threshold	269	9	UINT	A

RC_EPS_DIST_2

ID: 0x12590244
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_2_UV_STATE	Undervoltage State	224	8	UINT	
RC_EPS_DIST_2_MET	Mission elapsed time first 4 bytes	232	40	UINT	s

State	Value
NORMAL	0
UNDERVOLTAGE	1

RC_EPS_DIST_3

ID: 0x12590245
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_3_BATT_V_MIN	Battery voltage minimum	224	16	UINT	V
RC_EPS_DIST_3_BATT_V_MAX	Battery voltage maximum	240	16	UINT	V
RC_EPS_DIST_3_BATT_V_AVG	Battery voltage average	256	16	UINT	V

RC_EPS_DIST_4

ID: 0x12690246
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_4_COM1_STATE	COM1 domain state	224	8	UINT	

State	Value
ON (GREEN)	0
OFF_MANUAL (YELLOW)	1
OFF_OVERCURRENT (RED)	2
OFF_BATT_UNDERVOLTAGE (RED)	3
OFF_INITIAL (YELLOW)	4
UNKNOWN (RED)	5

RC_EPS_DIST_4_COM1_C_MIN	COM1 domain current minimum	232	16	INT	A
RC_EPS_DIST_4_COM1_C_MAX	COM1 domain current maximum	248	16	INT	A
RC_EPS_DIST_4_COM1_C_AVG	COM1 domain current average	264	16	INT	A

RC_EPS_DIST_5

ID: 0x12590247
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_5_COM1_V_MIN	COM1 domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_5_COM1_V_MAX	COM1 domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_5_COM1_V_AVG	COM1 domain voltage average	256	16	UINT	V

RC_EPS_DIST_6

ID: 0x12590248
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_6_COM2_STATE	COM2 domain state	224	8	UINT	

State	Value
ON (GREEN)	0

	OFF_MANUAL (YELLOW) 1 OFF_OVERCURRENT (RED) 2 OFF_BATT_UNDERVOLTAGE (RED) 3 OFF_INITIAL (YELLOW) 4 OFF_AUTOSHUTOFF (RED) 5 UNKNOWN (RED) 6				
RC_EPS_DIST_6_COM2_C_MIN	COM2 domain current minimum	232	16	INT	A
RC_EPS_DIST_6_COM2_C_MAX	COM2 domain current maximum	248	16	INT	A
RC_EPS_DIST_6_COM2_C_AVG	COM2 domain current average	264	16	INT	A

RC_EPS_DIST_7

ID: 0x12590249
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_7_COM2_V_MIN	COM2 domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_7_COM2_V_MAX	COM2 domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_7_COM2_V_AVG	COM2 domain voltage average	256	16	UINT	V

RC_EPS_DIST_8

ID: 0x1259024a
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_8_RAHS_STATE	RAHS domain state State Value ON (GREEN) 0 OFF_MANUAL (YELLOW) 1 OFF_OVERCURRENT (RED) 2 OFF_BATT_UNDERVOLTAGE (RED) 3 OFF_INITIAL (YELLOW) 4 OFF_AUTOSHUTOFF (RED) 5 UNKNOWN (RED) 6	224	8	UINT	
RC_EPS_DIST_8_RAHS_C_MIN	RAHS domain current minimum	232	16	INT	A
RC_EPS_DIST_8_RAHS_C_MAX	RAHS domain current maximum	248	16	INT	A
RC_EPS_DIST_8_RAHS_C_AVG	RAHS domain current average	264	16	INT	A

RC_EPS_DIST_9

ID: 0x1259024b
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_9_RAHS_V_MIN	RAHS domain voltage minimum	224	16	UINT	V
RC_EPS_DIST_9_RAHS_V_MAX	RAHS domain voltage maximum	240	16	UINT	V
RC_EPS_DIST_9_RAHS_V_AVG	RAHS domain voltage average	256	16	UINT	V

RC_EPS_DIST_H1

ID: 0x12690263
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_EPS_DIST_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_EPS_DIST_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_EPS_DIST_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_EPS_DIST_H1_RESET_COUNT	Reset Count	280	8	UINT

RC_EPS_DIST_H2

ID: 0x1269026c
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_DIST_H2_CANRXERROR	the Dist MCP's RX error buffer	224	8	UINT	

RC_EPS_GEN_1

ID: 0x12590210
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_1_PNL_1_ENABLED	whether gen panel 1 is enabled State: Value DISABLED (RED): 0 ENABLED (GREEN): 1	224	1	UINT	
RC_EPS_GEN_1_PNL_2_ENABLED	whether gen panel 2 is enabled State: Value DISABLED (RED): 0 ENABLED (GREEN): 1	225	1	UINT	
RC_EPS_GEN_1_PNL_3_ENABLED	whether gen panel 3 is enabled State: Value DISABLED (RED): 0 ENABLED (GREEN): 1	226	1	UINT	
RC_EPS_GEN_1_PNL_1_CHARGING	whether gen panel 1 is charing State: Value NOTCHARGING (YELLOW): 0 CHARGING (GREEN): 1	227	1	UINT	
RC_EPS_GEN_1_PNL_2_CHARGING	whether gen panel 2 is charing State: Value NOTCHARGING (YELLOW): 0 CHARGING (GREEN): 1	228	1	UINT	
RC_EPS_GEN_1_PNL_3_CHARGING	whether gen panel 3 is charing	229	1	UINT	

State	Value
NOTCHARGING (YELLOW)	0
CHARGING (GREEN)	1

RC_EPS_GEN_10

ID: 0x12790332
Grnd: WOD

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_10_PNL_1_POWER_AVG	None	224	16	UINT	W
RC_EPS_GEN_10_PNL_2_POWER_AVG	None	240	16	UINT	W
RC_EPS_GEN_10_PNL_3_POWER_AVG	None	256	16	UINT	W

RC_EPS_GEN_2

ID: 0x12590211
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_2_PNL_1_VOLTAGE_MIN	Panel 1 Voltage min	224	16	UINT	V
RC_EPS_GEN_2_PNL_1_VOLTAGE_MAX	Panel 1 Voltage max	240	16	UINT	V
RC_EPS_GEN_2_PNL_1_VOLTAGE_AVG	Panel 1 Voltage avg	256	16	UINT	V
RC_EPS_GEN_2_PNL_2_VOLTAGE_MIN	Panel 2 Voltage min	272	16	UINT	V

RC_EPS_GEN_3

ID: 0x12590212
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_3_PNL_2_VOLTAGE_MAX	Panel 2 Voltage max	224	16	UINT	V
RC_EPS_GEN_3_PNL_2_VOLTAGE_AVG	Panel 2 Voltage avg	240	16	UINT	V
RC_EPS_GEN_3_PNL_3_VOLTAGE_MIN	Panel 3 Voltage min	256	16	UINT	V
RC_EPS_GEN_3_PNL_3_VOLTAGE_MAX	Panel 3 Voltage max	272	16	UINT	V

RC_EPS_GEN_4

ID: 0x12590213
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_4_PNL_3_VOLTAGE_AVG	Panel 3 Voltage avg	224	16	UINT	V

RC_EPS_GEN_4_PNL_1_CURRENT_MIN	Panel 1 Current min	240	16	INT	A
RC_EPS_GEN_4_PNL_1_CURRENT_MAX	Panel 1 Current max	256	16	INT	A
RC_EPS_GEN_4_PNL_1_CURRENT_AVG	Panel 1 Current avg	272	16	INT	A

RC_EPS_GEN_5

ID: 0x12590214
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_5_PNL_2_CURRENT_MIN	Panel 2 Current min	224	16	INT	A
RC_EPS_GEN_5_PNL_2_CURRENT_MAX	Panel 2 Current max	240	16	INT	A
RC_EPS_GEN_5_PNL_2_CURRENT_AVG	Panel 2 Current avg	256	16	INT	A
RC_EPS_GEN_5_PNL_3_CURRENT_MIN	Panel 3 Current min	272	16	INT	A

RC_EPS_GEN_6

ID: 0x12590215
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_6_PNL_3_CURRENT_MAX	Panel 3 Current max	224	16	INT	A
RC_EPS_GEN_6_PNL_3_CURRENT_AVG	Panel 3 Current avg	240	16	INT	A
RC_EPS_GEN_6_PNL_1_POWER_MIN	Panel 1 Current min	256	16	INT	W
RC_EPS_GEN_6_PNL_1_POWER_MAX	Panel 1 Current max	272	16	INT	W

RC_EPS_GEN_7

ID: 0x12590216
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_7_PNL_1_POWER_AVG	Panel 1 Current avg	224	16	INT	W
RC_EPS_GEN_7_PNL_2_POWER_MIN	Panel 2 Current min	240	16	INT	W
RC_EPS_GEN_7_PNL_2_POWER_MAX	Panel 2 Current max	256	16	INT	W
RC_EPS_GEN_7_PNL_2_POWER_AVG	Panel 2 Current avg	272	16	INT	W

RC_EPS_GEN_8

ID: 0x12590217
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_8_PNL_3_POWER_MIN	Panel 3 Current min	224	16	INT	W

RC_EPS_GEN_8_PNL_3_POWER_MAX	Panel 3 Current max	240	16	INT	W
RC_EPS_GEN_8_PNL_3_POWER_AVG	Panel 3 Current avg	256	16	INT	W
RC_EPS_GEN_8_PNL_1_TEMP_MIN	Panel 1 Temp min	272	8	INT	C

RC_EPS_GEN_9

ID: 0x12590218
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_9_PNL_1_TEMP_MAX	Panel 1 Temp max	224	8	INT	C
RC_EPS_GEN_9_PNL_1_TEMP_AVG	Panel 1 Temp avg	232	8	INT	C
RC_EPS_GEN_9_PNL_2_TEMP_MIN	Panel 2 Temp min	240	8	INT	C
RC_EPS_GEN_9_PNL_2_TEMP_MAX	Panel 2 Temp max	248	8	INT	C
RC_EPS_GEN_9_PNL_2_TEMP_AVG	Panel 2 Temp avg	256	8	INT	C
RC_EPS_GEN_9_PNL_3_TEMP_MIN	Panel 3 Temp min	264	8	INT	C
RC_EPS_GEN_9_PNL_3_TEMP_MAX	Panel 3 Temp max	272	8	INT	C
RC_EPS_GEN_9_PNL_3_TEMP_AVG	Panel 3 Temp avg	280	8	INT	C

RC_EPS_GEN_H1

ID: 0x1269025f
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_EPS_GEN_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_EPS_GEN_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_EPS_GEN_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26

(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_EPS_GEN_H1_RESET_COUNT	Reset Count	280	8	UINT	

RC_EPS_GEN_H2

ID: 0x12690268
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_EPS_GEN_H2_CANRXERROR	GEN MCP's RX error buffer	224	8	UINT	

RC_PPT_1

ID: 0x12590208
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_PPT_1_FIRE_COUNT	Total number of times the PPT has fired	224	16	UINT	
RC_PPT_1_FAULT_COUNT	PPT fault count	240	16	UINT	
RC_PPT_1_LAST_MAIN_CHARGE	Main Charge Time Average	256	16	UINT	s
RC_PPT_1_SMT_WAIT_TIME	None	272	16	UINT	s

RC_PPT_2

ID: 0x12590209
Grnd: REAL-TIME

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_PPT_2_MAIN_CHARGE_TIME	None	224	16	UINT	s
RC_PPT_2_MAIN_IGN_DELAY	None	240	16	UINT	s
RC_PPT_2_IGN_CHARGE_TIME	None	256	16	UINT	s
RC_PPT_2_COOLDOWN_TIME	None	272	16	UINT	s

RC_PPT_H1

ID: 0x1269025d
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_PPT_H1_TEMP_MIN	Temperature of MSP	224	16	INT	C
RC_PPT_H1_TEMP_MAX	Temperature of MSP	240	16	INT	C
RC_PPT_H1_TEMP_AVG	Temperature of MSP	256	16	INT	C
RC_PPT_H1_SYSRSTIV	Reason for reset	272	8	UINT	

State	Value
NO_INTERRUPT_PENDING	0
(BOR)_BROWNOUT	2
(BOR)_RSTIFG_RST/NMI	6
(BOR)_LPMX.5_WAKE_UP	8
(BOR)_SECURITY_VIOLATION	10
(BOR)_SVSHIFG_SVSH_EVENT	14
(POR)_PMMSWPOR_SOFTWARE_POR	20
(PUC)_WDTIFG_WATCHDOG_TIMEOUT	22
(PUC)_WDTPW_PASSWORD_VIOLATION	24
(PUC)_FRCTLPW_PASSWORD_VIOLATION	26
(PUC)_UNCORRECTABLE_FRAM_BIT_ERR	28
(PUC)_PERIPHERAL_AREA_FETCH	30
(PUC)_PMMPW_PMM_PWD_VIOLATION	32
(PUC)_MPUPW_MPU_PWD_VIOLATION	34
(PUC)_CSPW_CS_PASSWORD_VIOLATION	36
(PUC)_MPUSEGIPIFGENCAPIPMEMSEG	38
(PUC)_MPUSEGIIFGINFOMEMSEGVIOL	40
(PUC)_MPUSEG1IFG_SEG_1_MEM_VIOL	42
(PUC)_MPUSEG2IFG_SEG_2_MEM_VIOL	44
(PUC)_MPUSEG3IFG_SEG_3_MEM_VIOL	46

RC_PPT_H1_RESET_COUNT	None	280	8	UINT	

RC_PPT_H2

ID: 0x12690266
Grnd: HEALTH

Item Name	Description	Bit Offset	Bit Size	Data Type	Units
RC_PPT_H2_CANRXERROR	the PPT MCP's RX error buffer	224	8	UINT	
RC_PPT_H2_LAST_FIRE_RESULT	The result of the last PPT fire	232	2	UINT	

State	Value
FIRE_SUCCESSFUL	0
NO_MAIN_CHARGE	1
NO_MAIN_DISCHARGE	2