4.18_V2.1 Cold Boot the Active ACIS BEP

Last Revised: December 1, 2015
Filename: coldboot

BRIEF FUNCTIONAL DESCRIPTION:
This is an "atomic" procedure which cold boots the ACIS BEP. ACIS flight software can be booted in either cold or warm. The cold boot means that ACIS will be booted from EEPROM

The sequence of actions will be:

1. set the boot-from-uplink flag to zero (should already be zero)
2. set the warm boot flag off (ie: do a cold boot)
3. halt the active BEP
4. restart the active BEP
5. verify BEP booted from SW TLM verifiers
6. check HW LEDs
7. check SW LEDs

ASSUMED INSTRUMENT STATE:

SPECIAL INITIAL CONDITIONS:

OPERATIONAL CONSTRAINTS/CAUTIONS:
This procedure coldboots the active BEP. It removes any patches which may have been loaded into that BEP. It also resets the focal point temperature setting and the threshold crossings patch parameters.

REFERENCES:
ACIS Long Form Functional Test Procedure (36-01301.01)
ACIS Short Form Functional Test Procedure (36-01301.02)
ACIS Science Instrument SW User's Guide (36-54003)

CHANGE HISTORY:

V1.2

- changed Time Req for all steps
- added to check that the warmbootFlag = 0
- added steps 1.5, 1.6, and 1.7 to verify the BEP boot

V2.0

- ACIS Team signed-off version
- changed expected value of HW TLM verifier "1STAT7ST" in step 1.6

V2.1

- Added warnings about FP temperature setting and txings parameters

Table 1: **Cold Boot the Active ACIS BEP**

Step #	Title (Revision 4.18_V2.1)	Time Req (s)	Command Description	Command Mnemonic	Telemetry Description	Telemetry Mnemonic	Expected Value	Units
1	Cold boot BEP							
1.1	Set Boot modifier off	1.0	DPA FS Boot Modifier	1BMODIBM(0)				
1.2	Set warm boot flag off	1.0	DPA Cold Boot	1WRMBTSB(0)				
1.3	Halt active BEP	1.0	Halt BEP	1RSETIRT(1)				
1.4	Restart active BEP	1.0	Restart BEP	1RSETIRT(0)				
1.5	Check BEP A Boot	120.0						
1.6	Check HW LEDs	60.0			BEP Select	1STAT4ST	0or1	
					BEP FIFO Not Full	1STAT6ST	1	
					BEP FIFO Not Empty	1STAT7ST	0	
1.7	Check SW LEDs	60.0			BEP initialization	1STAT3ST	0	
					Watchdog boot	1STAT2ST	1	
					Science run status	1STAT1ST	1	
						1STAT0ST	0or1	
	Total Time	244						

Table 2: (CONT) **Cold Boot the Active ACIS BEP**

Step #	Telemetry EGSE	Other Verifier	Crit	Description	Notes	RT Con	Tlm Fmt	Min Alt	SIM Pos
1									
1.1				disables boot from uplink	LF 4.4.1		1or2		
1.2				disable Warm boot	LF 4.4.1		1or2		
1.3				Hold active BEP reset line	LF 4.4.1		1or2		
1.4				Release BEP reset line	LF 4.4.1		1or2		
1.5	Check bepStartupMessage:		A				1or2		
	bepTickCounter $<$ 10; version =11;		A						
	warmbootFlag = 0, patchValidFlag =1		A						
	Check swHousekeeping messages:								
	startingBepTickCounter $<$ 10;		B						
	endingBepTickCounter=		B						
	=startingBepTickCounter+640								
	version =11		A						
1.6			2	0/1 indicates BEP A/B is selected			1or2		
			2	1 means FIFO not full					
			2	1 means FIFO not empty					
1.7			1	0 means BEP SW is running			1or2		
			2	1 means no watchdog boot					
			2	1 means science idle					
			2	this bit toggles to indicate BEP is running					