## **1 BIOS SETUP**

## 1.1 UPDATE BIOS SETTINGS

This section updates the SBC's BIOS settings. <u>Preliminary instructions:</u>

1. Connect equipment as shown below.



Procedure and pass criteria:

- 1. Apply power to the UUT.
- 2. Press the "Reset" button located on the rear panel.
- 3. Verify the Rear Panel's fan is exhausting out of the chassis (i.e. blowing out).
- 4. At the Intel splash screen, press [F2] on the keyboard <u>several times</u> to enter the BIOS CMOS Setup Utility. (**Note**: the window of time to enter BIOS mode is small, hence the need to press [F2] several times)

SBC Total Memory and Processor

1. From the "Main" menu:

- 2. Press [F9], Setup Defaults
- 3. Press [y], Load Defaults

System Setup			
Main Configuration Security Power	Boot Exit		
BIOS Version	CCCDT10N.86A.0032.2012.0323.1510	Number of cores to enable in each	
Processor Type	Intel(R) Atom(TM) CPU D2500 @ 1.86GHz	processor package	
Active Processor Cores	<all></all>		
Processor Speed	1.86 GHz		
Memory Speed	1⊍bb MHz		
L2 Cache RAM Total Memory SO DIMM 0(Memory Channel A Slot 0)	2x 0.5 MB		
SO DIMM 1(Memory Channel A Slot 1)	Load Defaults? (Y/N)		
System Identification Information			
System Date	[02/28/2013]		
System Time	[18:48:21]		
		↔=Select Screen ↑↓=Select Item	
		Enter=Select Submenu	
		F9=Setup Defaults	
		FIU=Save and Exit	
		LSC=Frevious Page	
	Changes		

- 4. Verify "Total Memory": 2 GB
- 5. Verify "Processor Speed": 1.86GHz

System Setup			
Main Configuration Security Power	Boot Exit		
BIOS Version	CCCDT10N.86A.0032.2012.0323.1510	Number of cores to	
Processor Type Active Processor Cores Processor Speed Memory Speed	Intel(R) Atom(TM) CPU D2500 @ 1.86GHz <all> 1.86 GHz 1066 MHz</all>	processor package	
L2 Cache RAM Total Memory SO DIMM 0(Memory Channel A Slot 0) SO DIMM 1(Memory Channel A Slot 1)	2x 0.5 MB 2 GB Not Installed 2 GB		
System Identification Information			
System Date System Time	[02/09/2013] [17:39:03]		
		+→=Select Screen 1↓=Select Item Enter=Select Submenu F9=Setup Defaults F10=Save and Exit Esc=Previous Page	

**Configuration** 

- 1. From the "Configuration" menu
- 2. Select "Fan Control & Real-Time Monitoring"
- 3. Verify all voltages are +/-5% of their nominal values.

	System Setup	
Configuration		
Fan Control & Real-Time Monitoring		
System (System Header) Fan Speed	680 RPM	
Memory Temperature	42.00 °C	
VR Temperature	36.00 °C	
+12.00	12.00 V	
+5.00	5.06 V	
+3.30	3.30 V	
+5.0V Standby	5.02 V	
Memory Vcc	1.49 V	
Processor Vcc	1.19 V	
Restore Default Fan Control Configurat	ion	
Warning: Setting items on these screens system to overheat and/or produce undes	s to incorrect values may cause sired acoustics!	
		+→=Select Screen ↑↓=Select Item Enter=Select Submenu F9=Setup Defaults
		F10=Save and Exit Esc=Previous Page

- 4. Select "System (System Header) Fan Speed"
- 5. Set "Minimum Duty Cycle (%)" to 100.
- 6. Press [Enter] to change setting.

	Syster	m Setup		
Configuration				
System Fan				Selects the minimum
Current Fan Speed	649 RPM			fan will never go below.
	Proposed	Active	Default	
Fan Usage Control Mode	<system> <auto></auto></system>	System Manual	System Auto	
Under-Speed Threshold (RPM) Minimum Duty Cycle (%) Maximum Duty Cycle (%)	[250] [100] [100]	250 20 100	250 20 100	
Warning: Setting items on these screens to incorrect values may cause system to overheat and/or produce undesired acoustics! F10=Save and Exit Esc=Previous Page				
			Changes	

7. Press [Esc] to exit the monitoring screen.

<u>Power</u>

- 1. From the "Power" menu:
- 2. Select "After Power Failure"
- 3. Select "Power On"
- 4. Press [Enter]

## System Setup Main Configuration Security Power Boot Exit System Power Options If set to Stay Off, the After Power Failure <Power On> System will stay in a Wake on LAN from S4/S5 <Power On - Normal Boot> power-off state after S3 State Indicator <Blink> AC power is restored. Wake System from S5 <Disable> Wake on PS/2 Keyboard from S5 <Stay Off> If set to Last State, PCIe ASPM Support <Disable> the System will return Flash Update Sleep Delay <Disable> to the last power state before AC power was lost. Stay Off If set to Power On, Last State the System will Power On automatically power-on after AC power is restored. ↑↓=Select Item PgUp/PgDn=Scroll List Enter=Change Setting Esc=Discard Changes

## <u>Boot</u>

- 1. From the "Boot" menu:
- 2. Disable the following Boot devices:

	System Setup	
Main Configuration Security Power	Boot Exit	
Boot Menu Type Boot Device Priority Hard Drive Order Boot to Optical Devices Boot to Removable Devices Boot to Network USB Boot Boot USB Devices First UEFI Boot Fast Boot General Optimization USB Optimization Video Optimization Boot Display Options	<pre></pre>	If Enabled, BIOS will attempt to boot via UEFI before using the legacy boot sequence. If Disabled, BIOS will use the legacy boot sequence. UEFI Boot must be enabled in order to boot to a drive larger than 2 TB (terabytes).
	Changes	↔=Select Screen ↑↓=Select Item Enter=Select Submenu F9=Setup Defaults F10=Save and Exit Esc=Previous Page

- 3. Select "Boot Display Options"
- 4. Select "POST Function Hotkeys Displayed"
- 5. Select "Disable"
- 6. Press [Enter]



7. Press [Esc] to exit the Boot menu.

<u>Exit</u>

- 1. From the "Exit" menu:
- 2. Select "Exit Saving Changes"
- 3. Press [Enter].



4. "Exit Saving Changes?", press "y"