



# Intel® Atom™ Processor Z3700 Series Type 3 BOM3.1 Platform Validation Guidance and Best Known Configuration (Windows\* 10 Desktop x86)

*(Formerly Bay Trail-T (Entry Type 3))*

**Technical Advisory**

**WW31, Jul 2015**

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# Revision History

Revision	Description	Release Date
001	Alpha Validation Guidance and BKC for Bay Trail-T (Entry Type 3) BOM3.1 Windows* 10 x86	WW03, 2015
002	Beta Validation Guidance and BKC for Bay Trail-T (Entry Type 3) BOM3.1 Windows* 10 x86	WW21, 2015
003	Product Version Validation Guidance and BKC for Bay Trail-T (Entry Type 3) BOM3.1 Windows* 10 x86	WW31, 2015

# Bay Trail-T(Entry Type 3) BOM3.1 Product Version Release (Windows\* 10 Desktop x86)

Hardware and OS Configuration	
Component	Details
SoC	Bay Trail-T (Entry Type 3)
OS	Windows* 10 10163 Desktop x86 Early Partner Drop

Firmware Configuration		
Component	Details	
TXE	1.2.0.1149	
GOP	7.2.1013	
FRC	1.2.2	
MCU/Punit/ PMC Patch	QS (C Stepping, Z3735F and Z3735G)	M02306788323
EDKII IFWI (Intel BIOS for reference only)	BYTC_IFWI_IA32_R_2015_27_1_00_ SecEnabled.bin	

Software Configuration			
Subsystem		P/N	Version
I/O	I2C	SoC	604.10143.1010.2069
	GPIO		604.10135.1010.53001
	GPIO Virtual		604.10135.1010.53001
	UART		604.10154.1000.4119
Audio	Codec	ALC5642	604.10135.1010.531
	Audio Controller	SoC	
Camera	ISP	SoC	20.10154.5740.705
	Front Camera Sensor	GC2235	
	Rear Camera Sensor	GC2235	
Sensor	ALS	CM32181	9.57.21.943
	Gyro	BMG160	9.59.48.710
	Accel/Compass	BMC150	14.46.25.959
	Fusion	N/A	1114.26.630
	Magnetic	BMG150	10.0.20.925
MBI		SoC	604.10135.1000.1369
DPTF		SoC	604.10135.1410.1565
Graphics		SoC	10.18.10.4242
PMIC		DOLLAR LAKE-TB/ LAKE-XB	604.10135.1020.62982
TXEI		SoC	1.0.0.1064
Battery Manager		N/A	604.10135.1000.63268

For detailed installation procedures, refer the Bay Trail-T (Entry Type 3) BOM3.1 Windows\* 10 Drivers Readme.pdf included in the driver package.

# Third Party Drivers and FW as Part of BKC

The drivers listed in the following table were used during the release package validation, but NOT included in the release package. Work with your suppliers to obtain the following driver versions.

Software Configuration		
Subsystem	Vendor and P/N	Version
Bluetooth	Realtek* BGN RTL8723BS	1.0.126.2
Wi-Fi	Realtek BGN RTL8723BS	3008.11.0515.2015
Touch	Synaptics* 7300B	Inbox driver

The unsigned driver will cause yellow bang in device manager when Secure Boot is enabled, contact third party vendors to get signed driver package.

# Summary

- The system validation in this BKC is for Xpower\* and TI\* PMIC.
- This BKC was validated with:
  - 1GB DDR3L
  - Windows\* 10 Desktop x86 Build 10163
- All the components should be used exactly as mentioned in the BKC while performing validation.
- For detailed installation instructions on installation steps, refer readme file included in the driver package.

# Platform Validation – WW31

Area	Attempt%	Pass%
IO	100.00%	88.20%
Audio	100.00%	96.30%
Camera	100.00%	94.50%
CWS_BT	100.00%	100.00%
CWS_WIFI	100.00%	100.00%
Display	100.00%	100.00%
DPTF_TI	100.00%	100.00%
DPTF_XPWR	100.00%	100.00%
EnergyManagerment_TI	100.00%	90.70%
EnergyManagerment_XPWR	100.00%	100.00%
Graphics	100.00%	97.70%
InterOp&Concurrency	100.00%	100.00%
Media	100.00%	99.60%
PowerManagerment_TI	100.00%	96.10%
PowerManagerment_XPWR	100.00%	98.70%
Security	100.00%	100.00%
Sensor	100.00%	98.30%
Storage	100.00%	100.00%
Stress	100.00%	100.00%
System WHCK	100.00%	97.20%
Miracast	100.00%	95.10%
USB	100.00%	89.30%
<b>Total</b>	<b>100.00%</b>	<b>97.80%</b>

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# Resolved Issues from WW21 to WW31

HSD #	Issue Details	Current Status
1503952663	System can't enter s0ix after resume from S4 and S5.	Resolved
1206079990	The system entered into Sleep when setting "Never" for sleeping time with Threshold OS.	Resolved
1206094010	With HDMI attached, system cannot enter s0i3.	Resolved
1205914535	The direction of the object is opposite in preview/take photo/record video.	Resolved
1205910353	All GPIO and I2C devices in Device Manager show yellow bang after rebooting or shutdown.	Resolved
1205910797	TPM can not be disabled in BIOS settings manually.	Resolved

General platform issues may impact specific components but the root cause is currently under investigation.

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# General Platform Known Issues

HSD #	Issue Details	Current Status
1504007292	After system resumed from S4/S5 with DCP or CDP connected, the battery icon always shows "plugged in not charging" with TI PMIC.	Under Investigation
1205911687	S0i1 residency can't reach 80% after system has been idle in S0i1 for 15 hours.	Under Investigation

General platform issues may impact specific components but the root cause is currently under investigation.

# BIOS Features

Feature	BIOS Support
Manufacture mode support	Yes
Seamless recovery support	Yes
Fault tolerant update	Yes
SMBIOS support	Yes
ULPMC / Battery charging support	Yes
WHCK Support	Yes
S0ix and RTD3 full support	Yes
PMIC	Yes
UEFI SCT 2.3.1 compliant	Yes
Secure boot full function support	Yes
FTPM	Yes
DPTF BIOS Support	Yes

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# BIOS Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

Critical TXE related issues are listed in this page.

# Graphics Features Availability

Area	Feature	Driver Support <sup>1</sup>
3D	Microsoft DirectX* 11	Yes
	OpenGL 3.2	Yes
	OpenCL 1.1	Yes
2D	Direct 2D	Yes
Media	Codec decoder (WMV9, VC-1, AVC, MPEG-2, MJPEG, MVC)	Yes
	Codec encoder (AVC, MPEG-2)	Yes
	Media SDK	Yes
Display	eDP display	Yes
	HDMI display	Yes
	MIPI display	Yes
	WiDi/Miracast	Yes
Power Management	DPST	Yes
	PSR	Yes
	Graphics Turbo	Yes
	DRRS	Yes
CUI	CUI 7.0	Yes

<sup>1</sup>Yes on driver support does not mean no issues were found. See next slide for list of critical issues.

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# Graphics Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

# Audio Features Availability

Area	Feature	Driver Support <sup>1</sup>
Playback	Jack detection	Yes
	PCM playback	Yes
	Volume and mute control	Yes
Recording	Mono	Yes
	Stereo	Yes

<sup>1</sup>Yes on driver support does not mean no issues were found. See next slide for list of critical issues.

# Audio Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

# Camera Features Availability

Area	Feature	Driver Support <sup>1</sup>
Windows 10* Requirements	Windows 10 Metro for camera	Yes
	Windows 10 driver MFT	Yes
	Windows 10 RTPM	Yes
Basic Features	Preview/Video/Still capture	Yes
	Primary ISP features	Yes
	Dual stream mode	Yes
Advanced Features	Continuous viewfinder	Yes
	Zero shutter lag	Yes
	Noise reduction	Yes
	Smart scene detection	Yes

<sup>1</sup> Yes on driver support does not mean no issues were found. See next slide for list of critical issues.



# Camera Known Issues

HSD #	Issue Details	Current Status
1504011578	Camera metro App shows green color and noise with GC2235 sensor when taking picture or video.	Under investigation

# I/O Features Availability

Interface	Feature	Driver Support <sup>1</sup>
I2C	I2C0-4	Yes
UART	UART0(BT)	Yes
	UART1(GPS)	Yes
	UART2(Debug)	Yes

Interface	Feature	Driver Support
MBI	N/A	Yes
GPIO	Support GPIO framework	Yes
	Input/Output support	Yes
	Interrupt support	Yes

<sup>1</sup> Yes on driver support does not mean no issues were found. See next slide for list of critical issues.

# I/O Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

# USB 2.0 Feature Availability

Area	Feature	Driver Support <sup>1</sup>
USB 2.0	Hot plug	Yes
	Data transfer	Yes

<sup>1</sup> Yes on driver support does not mean no issues were found. See next slide for list of critical issues.

# USB 2.0 Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

# DPTF Feature Availability

Area	Feature	Driver Support <sup>1</sup>
Thermal Control	Thermal policies	Yes
	Thermistor support	Yes
	IA32 and SoC temperature control support	Yes
	DPTF display participant support	Yes

<sup>1</sup> Yes on driver support does not mean no issues were found. See next slide for list of critical issues.

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# DPTF Known Issues

HSD #	Issue Details	Current Status
N/A	N/A	N/A

# Sensor Feature Availability

Area	Feature	Driver Support <sup>1</sup>
Sensor	ALS	Yes
	Gyro	Yes
	Accel/Compass	Yes
	Fusion	Yes
	Magnetic	Yes

<sup>1</sup> Yes on driver support does not mean no issues were found. See next slide for list of critical issues.



# Sensor Known Issues

HSD #	Issue Details	Current Status
NA	NA	NA

# Third Party Software Support

Area	Feature Validated
Wi-Fi	Yes
Bluetooth	Yes
Touch	Yes

# Back Up

# BKC Release Flow

FRC: Frame reference code

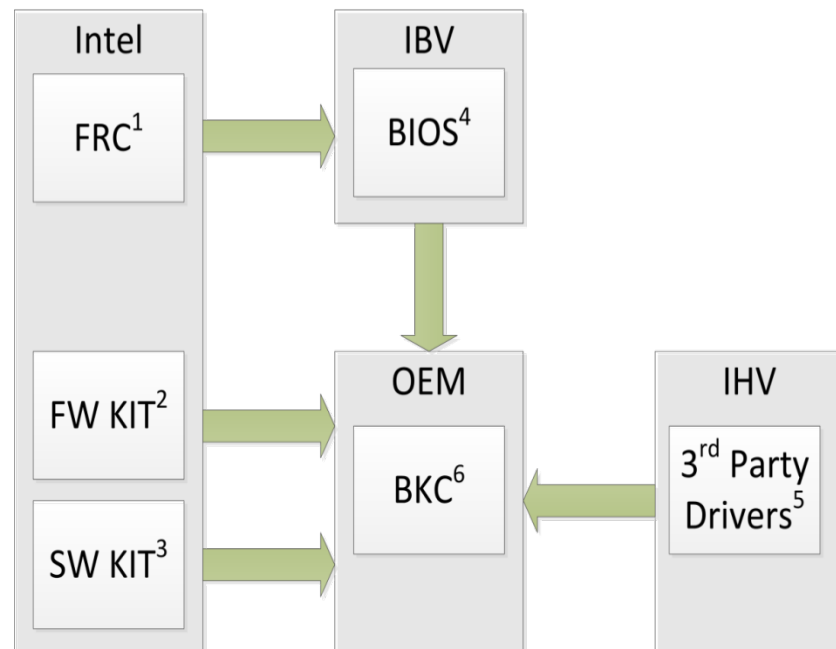
FW Kit: Flash Image Tool, Flash Programming Tool, Image Components (FFRD BIOS, SEC), KMDF\_TXEI\_Driver, TXEInfo, TXE Binary)

SW Kit: Drivers for Audio, Camera, DPTF, GFX, GOP, GPIO, GpioVirtual, I2C, MBI, PMIC, SPI, UART

BIOS: created by IBV for OEM

3rd Party Drivers: provided to OEM

BKC: BIOS + FW KIT + SW KIT + 3rd Party Driver



All the above Intel deliverables are posted on: <https://platformsw.intel.com>

# Resolved Issues from WW03 to WW21

HSD #	Issue Details	Current Status
1205875475	Sometimes system can't shutdown or enter hibernation.	Resolved
1205912632	Sometimes all GPIO and all I2C drivers have yellow bang after reboot or shutdown.	Resolved
1205868444	System connects with HDMI speaker with clone mode and plays video with Windows Media Player, then enters to sleep. After system wakes up from S0i3, Windows Media Player will not response.	Resolved
1205915293	If the S5 Charging is enabled, after changing the BIOS variables, system can not boot to OS(system halts at S5 charging).	Resolved
1205914451	BSOD(KMODE_EXCEPTION_NOT_HANDLED on iacamera32.sys) occurs when taking photo with HDR on.	Resolved
1205916275	Sensor Accelerometer can't make screen rotation and "Allow the Screen auto-rotate" option disappears.	Resolved
1206078792	Unprivileged user can corrupt the system through PMIC IOCTL interface.	Resolved

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