



INTEL® PROSET/WIRELESS BLUETOOTH TECHNOLOGY 20.120 PV SOFTWARE RELEASE

ww05, 2019

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Release Overview

Intel is pleased to announce the Bluetooth 20.120 PV release.

The intended audience of this document is all OEM/ODMs.

- This release includes drivers for JfP1 (9461,9462), JfP2 (9560), ThP2 (9260) as well as WP-WsP. See list below.
- This release package (iBTW5627_20.120.0.3G.Zip) has different drivers per POA – The driver versions in the slide 5 matrix will appear in Device Manager.
- This release is RS3, RS4, and RS5 certified.

General Information

Bluetooth Software Build

- TIC # iBTW5627_20.120.0.3G.Zip
- file: iBTW5627_20.120.0.3G.Zip

Tested Platforms

- Sky Lake
- Kaby Lake
- Kaby Lake-R
- Kaby Lake-Y R
- Gemini Lake
- CNL-U
- CFL-S/H
- WHL
- AML

Supported Hardware

- Thunder Peak2 (ThP2)/9260
- Jefferson Peak2 (JfP2)/9560
- Jefferson Peak1 (JfP1)/9461/9462
- Windstorm Peak(WsP)/8265
- Sandy Peak(SdP)/3168
- Snowfield Peak(SfP) / 8260
- Douglas Peak(DgP) / 18260 (WiGig)
- Maple Peak (MP)/17265 (WiGig)
- Stone Peak 2 (StP2) / 7265
- Stone Peak 1 (StP1) / 3165
- Wilkins Peak 2(WP2) / 7260
- Wilkins Peak 1(WP1) / 3160

Supported Operating Systems on Adapter

- WP/StP/7265-C0: Windows 7 - 32/64bit; Windows 8.1 - 32/64 bit; Windows 10 - 32/64 bit
- StP/7265-D0: Windows 7 - 32/64bit; Windows 8.1 32/64bit; Windows 10 - 32/64 bit
- SfP/8260: Windows 7 - 32/64bit; Windows 8.1 - 64 bit; Windows 10 - 64 bit
- SdP/3168: Windows 7- 32/64; Windows 8.1 -32/64 bit; Windows 10 - 32/64 bit
- WsP/8265: Windows 7 - 32/64bit; Windows 8.1 - 64 bit; Windows 10 - 64 bit
- ThP2/9260: Windows 10 - 64 bit
- JfP1/9461/9462: Windows 10 - 64 bit
- JfP2/9560: Windows 10 - 64 bit

POA Driver Matrix – Non-DCH

(Colors indicate same driver version)

20.120.0.3 (TIC version)	Win7	Win8.1	Win10
JfP			20.120.0.3
ThP			20.120.0.3
WsP	20.90.4.1	20.92.3.1	20.120.0.3
SfP	20.90.4.1	20.92.3.1	20.120.0.3
SdP	20.90.4.1	20.91.3.1	20.100.3.1
StP C0/D0/D1	20.90.4.1	20.91.3.1	20.100.3.1
WP	20.90.4.1	20.91.3.1	20.100.3.1

POA Driver Matrix – DCH

(Colors indicate same driver version)

20.120.0.3 (TIC version)	Win10
JfP	20.120.0.3
ThP	20.120.0.3
WsP	20.120.0.3
SfP	20.120.0.3
SdP	20.100.3.1
StP C0/D0/D1	20.100.3.1

New Bluetooth Features in 20.120 PV

DCR-239 – More reliable method for downloading firmware for RAM devices and patches for ROM devices. This change corrects some rare BSODs.

Important Notes about this Release

The IBTSIVA is ON by default for all HW/SW combinations except for the DCH releases.

Extension INF files are the method to enable services and install options in DCH releases.

Bluetooth extension INF files have already been resold to customers that requested them. Please see your Intel Wireless account manager for further information on this topic.

The debug tools are now included in the VIP package

Known Issues & Limitations – 20.120 PV

ID	Title	Impact on the user	NIC OS Observed	Workaround Recovery procedure	Comments [C] customer found
BT-2626	No HFP audio during Skype call using Apple AirPods & Disconnect with "LMP Response Timeout"	UX	ThP/Win10	None	Will be fixed in 21.00
BT-3963	WsP fails to create an LE Connection, LE Encrypt (Pairing) and disconnect for 1000 iterations.	UX	WsP/Win10	None	Will be fixed in 21.00
BT-5350	When Skype is calling, BLE Mouse starts lagging and becomes impossible to use if BT Headset is connected as Master	UX	JfP/ThP/Win10	None	Will be fixed in 21.00
BT-6025	Observed High BT idle power than target	Higher current	ThP/Win10	None	User likely won't notice but needs to be fixed
BT-6320	LE connection anchor point move failure, during steady state scheduling of LE mouse and HFP voice call	UX	JfP/ThP/Win10	None	Voice quality impact
BT-6528	Rapoo M300 Silent" becomes not paired after user back from out of zone, 100% reproducible	UX	JfP/ThP/Win10	None	
BT-6751	Audio glitches heard during skype call	UX	JfP/ThP/Win10	None	Mainly noticeable on Bose QC5 headset.

Corrected Issues – 20.120 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-6260	BT device becomes "USB unknown device" during warm boot stress testing with BT LE mouse connection	JfP2/Win10	Root Cause: Debug code was overwriting RAM in some corner cases causing memory corruption. Fix: Code is corrected to avoid Memory Corruption
BT-6344	BT 9F BSOD – Multiple models reported BSOD from end user	SdP/Win10	Fixed by DCR-239
BT-6360	BT connection creation will be fail between PC and phone due to "PIN or KEY missing" during PC/phone connect/disconnect stress testing	SdP/Win10	Root Cause: In certain cases disconnect was called twice due to wrong link index count. Fix: Proper check was added in code to avoid calling disconnect twice
BT-6365	BSOD occurs during running stress test, reboot run failed on Hybrid shutdown.	WsP/Win10	Fixed by DCR-239

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.120 PV

ID	Title	NIC OS Observed	Comments

20.120 Sustaining Validation:

Information and Guidance

Functional Area	20.110	20.120	Notes for This Release (see known Issues and Limitations for more details)
OPP			
AVRCP			
A2DP			<ul style="list-style-type: none"> BT-2626: No HFP audio during Skype call using Apple Airpods & Disconnect with "LMP Response Timeout"
ACPI			
SPP			
FTP			
HFP			
HID			
Multi Profile			
BLE/HID			<ul style="list-style-type: none"> BT-5350: When Skype is calling, sometimes BLE Mouse starts lagging and becomes impossible to use if BT Headset is connected as Master BT-6320: LE connection anchor point move failure, during steady state scheduling of LE mouse and HFP voice call BT-6528 "Rapoo M300 Silent" becomes not paired after user back from out of zone, 100% reproducible
PAN			
PBAP			
RF Kill			
Connected Stby			
Power Consumption			<ul style="list-style-type: none"> BT-6025 Observed High BT idle power than target
Wake			
Sx transitions / Stability			
WiFi/BT Coex			
Installation / Upgrade			
Selective Suspend			
Device WHCK Pass Rate			
BQP			

Testable
 Testable, see notes
 Blocked

BT Release History

This Release →

Milestone Release Name	Date	BT TIC	BT KIT
20.10 PV SP	Released ww47	iBTW2745	125423
20.20 PV SP	Released ww49	iBTW2888	125525
20.30 PV SP	Released ww02	iBTW3044	126044
20.30 HF PV SP	Released ww08	iBTW3553	126589
20.40 PV SP	Released ww08	iBTW3556	126803
20.50	Released ww13	iBTW3825	127355
20.50.1.2 HF PV	Released ww17	iBTW3935	127703
20.60 PV	Released ww20	iBTW4113	127921
20.70.0.4 PV	Released ww28	iBTW4305	128517
20.90.0.3 PV	Released ww40	iBTW4878	129432
20.100.0.5 PV	Released Ww46	iBTW5177	129923
20.110.0.3 PV	Released Ww50	iBTW5389	130369
20.120.0.3 PV	Released Ww05	iBTW5627	130809

Tools Info

ibtttrace tools are now included in the VIP package

The practice of distributing these tools via Files Anywhere is being discontinued

Glossary

COEX = Coexistence. This refers to when Bluetooth and Wifi are both operating simultaneously in the 2.4Ghz band. Collisions between the radios can occur and degrade performance.

PC = Production Candidate – Part of the initial software series on a new adapter (e.g. alpha, beta, PC, PV)

PV = Production Version – Software that is approved for shipping

SP = Service Pack – an intermediate release between major release. It usually only has defect corrections.

MR = Major Release – Includes new features and defect corrections.

WA = Workaround

RN = Release Note

HF = Hot Fix – a software release with minimal change. Created to resolve a urgent customer need.

YB – Yellow exclamation mark in device manager. Indicates that a driver is not functioning properly

Ibtsiva – Software service that runs after certain sleep cycles and restarts the BT device upon YB detection

POA – Platform, OS, Adapter e.g. (Kaby lake, RS1, WsP) – usually refers to OS/Adapter combo.

ATS – Adaptive Time Share

Backup Section

Important Notes about this Release (cont.)

The version numbers in programs and features will be 4 digits instead of 3 from now on. This is only for Win8.1 and Win10. Example below.

PV#	Programs and Features Version		
	Win7	Win8.1	Win10
iBTW5177_20.100.0.5	20.90.1	20.100.0	20.100.0
iBTW5389_20.110.0.3	20.90.2	20.110.0.3	20.110.0.3

From this release forward driver package files will be stored at **C:\Windows\System32\DriverStore\FileRepository** instead of **C:\Windows\System32\drivers**.

Adapter w. BT/Number

Cyclone Peak AX200
Harrison Peak AX201
Thunder Peak 2/ 9260
Thunder Peak 1/ 9162
Jefferson Peak 2/ 9560
Jefferson Peak 1 Single Antenna 9461
Jefferson Peak 1 Diversity 9462
Windstorm Peak / 8265
Oak Peak (WiGiG) / 18265
Snowfield Peak / 8260
Douglas Peak (WiGiG) / 18260
Sandy Peak / 3168
Stone Peak 2 / 7265
Maple Peak (WiGiG) / 17265
Stone Peak 1 / 3165
Wilkins Peak 2 / 7260
Wilkins Peak 1 / 3160
Jackson Peak 1 / 2230
Jackson Peak 2 / 6235

CCG Wi-Fi/BT Platform Alignment Matrix – 5Q

Last Update: ww34'18

Wireless Products		Platforms	Big Core										Small Core	
			KBL KBL-R	KBL-G	BSF (SKL-X) (KBL-X)	CNL	CFL-U	CFL-S CPU / KBL-R PCH	AML	WHL	CFL-S/H	BSF-R (SKL-X)	CML	APL
2x2 Wi-Fi	Intel® Dual Band Wireless-AC 7265 (StP2)	○	○										●	
	Intel® Dual Band Wireless-AC 8260 (SfP)	○◆	○											
	Intel® Dual Band Wireless-AC 8265 (WsP)	●◆	●	●	○	○	●	●◆		○	●		○	
	Intel® Wireless-AC 9260 (ThP2)	○	○		●	●◆	○	○	●◆	●◆	○			○
	Intel® Wireless-AC 9560 (JfP2) ¹				●	●◆			●◆	●◆		●		●
	Intel® Wireless-AX 22560 (HrP2)											●◆		
	Intel® Wireless-AX 22260 (CcP2)							○	○◆	○◆				
1x1 Wi-Fi	Intel® Dual Band Wireless-AC 3165 (StP1)	○	○										○	
	Intel® Dual Band Wireless-AC 3168 (SdP)	●	●					○					●	○
	Intel® Wireless-AC 9461 (JfP1) Single Ant.				●	●			○	○		○		●
	Intel® Wireless-AC 9462 (JfP1) Diversity				●	●			○	○		○		●

- ◆ Platform POR for vPro platforms
- Platform POR for non-vPro platforms

- Supported/validated option for non-vPro platforms
- Support under consideration, not yet POR

Platform POR: the wireless card is part of the overall platform POR, is validated by the wireless and platform teams and the wireless software is part of the platform BCKs.

Supported/validated option: the wireless card is not platform POR, will only be validated by the wireless team and will not be tracked in the platform BCKs. Wireless issues will be fixed if they can be duplicated in-house, customer might have to provide the specific platform for issue duplication.

¹ Only JfP2 160MHz is eligible for vPro platforms

Corrected Issues – 20.110 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5974	BT system exception occurs on JfP2 models	JfP/Win10	Root Cause: A buffer used to store logs was getting corrupted due to a higher priority thread. The corrupted buffer was sometime causing an infinite loop resulting in the exception. Fix: The fix was to include a check for buffer corruption.
BT-6313 BT-6172	BT mouse does not work after reboot or leaving the system alone/Mouse Rapoo [MT550] stops working after ~1 hour of regular use and becomes not paired	JfP/Win10	Root cause: When DUT as master attempts to performs role switch to become slave and if the remote device rejects the role switch then DUT's state machine gets stuck in wrong state. Due to this, all the future role switch request initiated by either DUT or Remote device will be failed. Fix: Role switch handling logic is corrected so that state machine moves back to Idle state after handling the request.
BT-6370	Bluetooth mouse does not auto reconnect after bluetooth mouse power cycle (On -> Off -> On).	JfP/Win10	Root Cause: A second connection with the same bd address was being accepted and that interfered with the auto-reconnect. There was also a logic error in the code. Fix:[C] FW design is changed according to the airpod design to reject the connection from the same bd address and continue with older connection. The logic error was also corrected. [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.110 PV

ID	Title	NIC OS Observed	Comments
BT-6275	BSOD observed while connecting/disconnecting A2DP headset during Youtube video playback via WiFi	Jfp/Win10	MSFT issue 143717. Intel issue will be closed.

Corrected Issues – 20.100 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-3843	Remove the second earphone from the Docking disconnect AirPods and does not reconnect	ThP/Win10	Root Cause: Apple AirPods follows their proprietary protocol over BT for synchronizing the music between left and right ear phone. When left air phone is removed from air pod for use, it tries to connect to DUT using same BD address as right earphone (an existing connection). As per the existing policy in FW when any new device attempts for a connection using same BD address even though DUT already have an existing connection from same BD address, then the existing connection is silently disconnected and new connection is formed. This was the reason for music being stopped in right earphone due to this disconnection. Fix: Updated the policy for duplicate connection where FW continue with existing connection and ignore new connection.
BT-5651	File transfer w/size >50Mb will interrupt or hung up w/Intel 3160BT	WP/Win10	Root Cause: Packet headers were being accepted with an improperly corrected FEC error. Acceptance of a bad packet breaks the OBEX state/flows resulting in OPP transfer getting stuck. Fix: The fix will reject any packet if the header has any FEC errors. This will result in a re-transmission and getting the correct packet in the next re-transmission[C]
BT-5780 BT-5911 BT-5913 BT-6199 BT-6023	Various symptoms but one common root cause, e.g. DUT fails to wake from S3 causing platform crash, BT FATAL EXCEPTION (1819) occurs/BLE mouse reconnect but cursor can not work at all, then no BLE device can be found/Mouse can not work and remote PC can not be removed/Bluetooth was unable to transfer some files/BT connection creation will be fail between PC and phone during PC/phone connect/disconnect stress testing	WsP/Win10	Root Cause: During the AES encryption enable process, if the first encrypted packet send by a remote slave uses the wrong CCM counter the firmware attempts to disconnect the link. Sometimes during disconnection, the state machine in FW gets into a bad state. During this state: <ul style="list-style-type: none"> If any Link Specific command is received from the Host, then FW would throw a FATAL Exception (BT-5911/BT-5913/BT-5780/BT-6199) If the remote device timed out and tried to reconnect, the connection will fail (BT-6023) Fix: The logic was corrected to handle wrong CCM counter so that the FW state machine remains in a normal state.
BT-6082	Bluetooth Device lost with BLE mouse connected while doing reboot	JfP2/Win10	Root Cause: It was a Race condition during blocking of data from Controller to Host between USB early suspend and suspend interrupt. Fix: Blocking of data is moved to thread context from Interrupt context which avoids the race condition. [C]
BT-6200 BT-6255	BSOD 0xD1 (debug to ibtusb.sys) occurs when plug in USB3.0 disk to USB2.0 port after resume from MS idle test	JfP/Win10	Root Cause: The Host software was performing Platform Level Device Reset(PLDR) recovery in DISPATCH_LEVEL instead of doing it in PASSIVE_LEVEL. Fix: Change was made so that PLDR was done at the correct level [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.100 PV

ID	Title	NIC OS Observed	Comments
BT-4529	Takes around 22 seconds to connect to A2DP after turn headset off/on	ThP/Win10	No longer observed on RS5
BT-4549	Short BLE HID lag every 5~10 sec	ThP/WsP/Win10	No longer observed
BT-6275	BSOD observed while connecting/disconnecting A2DP headset during Youtube video playback via WiFi	JfP/Win10	MSFT issue – HSD#1606775690, External id: 143717

Corrected Issues – 20.90.1.1 HF PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5477	Bluetooth headphone can't use control button on Power DVD.	STP Win7	Root Cause: This feature was accidentally removed. Fix: The feature was added back[C]
BT-5527	SUT transfer more than 1M files to the another system failed	WP Win8.1/10	Root Cause: A patch for a different application caused a conflict. This patch was found to cause issues in the HLK test for WIN7. The same patch is also causing issues in the USB layer causing the BT device to disappear. Fix: The issue was corrected by disabling this patch.[C]
BT-5584	BT YB happened during manufacturing line test	JFP2/ Win10	Root Cause: WRT Debug feature is modifying the ICCM memory which is causing the PECC error. Fix: Remove the debug feature. Feature will be added back in the next release. No impact to customer.[C]
BT-5650 BT-5491 BT-5931	Device manager show BT yellow bang after install BT driver:20.60.0.4	STP/WP Win7/8.1	Root Cause: Patch cleanup effort introduced this issue. Fix: The issue was corrected by redoing the patch [C]
BT-5693	Setup.exe fails with return code 9	All controllers Win7/8.1/10	Root Cause: Issue occurs because of temp directory naming. Fix: Fixed by adding delete directory api in setup [C]
BT-5766	BT yellow mark when run S3 or S4 stress test.	THP2/ Win10	Root Cause: While going to S3/4 (D3) if the STATUS of a response expected from driver timeout, recovery was failing due to wrong return value.

Corrected Issues – 20.90 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-4054	During Miracast , use Bluetooth to send or receive big file (1GB) and sometimes the UI gets stuck	WsP/Win10	Root cause is found in Error Correction Logic which was incorrectly marking a NAK from peer device as ACK. This was causing OPP to stall. To fix this issue, Error correction logic was corrected. [C]
BT-5640	BT device cannot be detected after installing 20.60.0.4 driver package on RS1	JfP/Win10	This was caused by an OS restriction added into the installation logic. This restriction was removed[C]
BT-5281	YB appears on BT device or BT device is changed to Unknown device	SfP/Win10	Issue root caused to timing between updating GP3TimeVal register and enabling GP3 timer. The timing issue was corrected[C]
BT-5658	BT LE advertisement enable HCI command is not working in customer application	JfP/Win10	Incorrect initialization and variable setting. Software issues were corrected[C]
BT-5075	WHQL Lullaby Test (System)	WsP Win7	The reconnect process was changed to handle asynchronous suspend/resume in a more robust and reliable way[C]
BT-5654 BT-5810 BT-5816	Sometimes send file unsuccessful via BT between SUT and SUT	JfP/Win10	This was caused because of an initialization issue following a secure connection. The code was changed so that the proper initialization was done following the connection[C]
BT-5928	Random YB on WLAN	JfP/Win10	Root Cause: This was because a special register access was not via the required method. Fix: This was changed so that the access followed used the correct method[C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.90 PV

ID	Title	NIC OS Observed	Comments
BT-3399	Poor HFP Skype quality when using Logitech H800 headset	WsP/Win10	No longer observed
BT-5253	Bluetooth device show two icons on settings after doing PC-PC pairing using Bluetooth with 20.60.0.4 iBTW4113	WsP/Win10	No functionality impact just an extra entry in the UI. [C]

Corrected Issues – 20.80 PV (20.80 was skipped)

Corrected Issues – 20.70.6.1 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-6082	Bluetooth Device lost with BLE mouse connected while doing reboot	JfP2/Win10	Root Cause: It was a Race condition during blocking of data from Controller to Host between USB early suspend and suspend interrupt. Fix: Blocking of data is moved to Thread context from Interrupt context which avoids the race condition. [C]

Corrected Issues – 20.70.5.1 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5654 BT-5810 BT-5816	Sometimes send file unsuccessful via BT between SUT and SUT	JfP/Win10	This was caused because of an initialization issue following a secure connection. The code was changed so that the proper initialization was done following the connection[C]
BT-5928	Random YB on WLAN driver	JfP/Win10	This was caused because a special register access was not via the required method. This was changed so that the access followed used the correct method[C]

Corrected Issues – 20.70.4.1 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5658	BT LE adv enable HCI command is not working in Huawei HiCenter	JfP2 Win10	Flag not getting set properly and vendor specific command is getting corrupted [C]

Corrected Issues – 20.70.2.1 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5686	Intel latest wireless 9560 driver + 4K monitor + Intel DP1 output will cause black screen.	JfP/ThP Win10	<p>This is a refinement to BT-4565 and now the fix is more robust. After re-considering the change and following tests showing that the VTUNE change has a side-effect of causing a BSOD during cold boot, we have decided to make a small change to the ESD mitigation strategy and remove the VTUNE increase.</p> <p>This means that the ESD mitigation by SW is now only going to change the slew rate (DEL) parameter of the clock buffer.</p>

Corrected Issues – 20.70.1.1 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5016	Upgrade issue for a specific customer using UWD installer	JfP2/Win10	Installer issue fixed in 20.70

Corrected Issues – 20.70 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-4100	No BLE mouse movement after waking from S3/S4	SdP/Win10	Root Cause: This is a ROM device and the patch file was being sent twice unnecessarily which caused an unexpected reset that resulted in a disconnect. Fix: Change was made to avoid this second unneeded download.
BT-4503	BT driver is lost (usb unknown device) after idle for a while with 20.40 HF	WsP/Win10	Root Cause: Race condition where controller is sending an event to the host and an early suspend is received. Fix: code change to eliminate the opportunity for this race condition.
BT-5016	Upgrade issue for a specific customer using UWD installer	JfP2/Win10	Installer issue fixed in 20.70
BT-5324	Frequent BSOD (3b.1a.0a...) when doing S4,S5,Hybridshutdown test	WsP/Win10	Root Cause: This issue is due to a side-effect of a correction that was in 20.60. That correction was intended for a specific customer. Fix: The correction was backed out. Once backed out the BSOD no longer occurs. [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.70 PV

ID	Title	NIC OS Observed	Comments
BT-4138	Sometimes microphone is not working while using skype	WsP/Win10	No longer repros with latest software
BT-4532	It Takes half a minute to connect to A2DP after turn Speaker off/on	ThP/Win10	Microsoft issue confirmed fixed on RS5

Corrected Issues – 20.60.2.1 HF PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-4997	DUT will BSOD or hard hang during reboot/s4 test after Intel BT driver 20.60 installed successfully	JfP1/Win10	Issue only occurs on some GLK platforms. Root Cause: Reference clock configuration can result in a BSOD. Fix: Reference clock configuration changed for slower slew rate and stronger clock signal.

Corrected Issues – 20.60.1.1 HF PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-5016	Cannot Upgrade or install when using UWD 20.60	JfP2/Win10	Issue related to installer tools.

Corrected Issues – 20.60 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-3868	BT mouse not working suddenly and BT headset also stop output music.	WsP/Win10	Root cause: When HW exception is reported, Host used to send HARD RESET, however, HW was not able to recover on that. Fix: On HW Exception, Host will issue SOFT RESET along with USB Disconnect as parameter to SOFT RESET Cmd. With this HW is able to recover.
BT-3899	TargetOSVersion decoration is missing in Manufacturer Section in ibtusb INF for all OS	All HW Win10	Build issue not a functional issue
BT-4155	Not able to search nearby BT device and USB port is not working	WsP/Win10	Same RC as BT-3868
BT-4162	BT driver lost from Device Manager when adding BT device from PC settings/Devices/Bluetooth	JfP1/Win10	Root cause: Exception error seen in memory management. Fix: Null pointer check added.
BT-4175	BT headset is not working and BT scan is also not working	WsP/Win10	Same RC as BT-3868
BT-4279	Installation will auto restart even add /norestart	JfP2/WsP Win10	Build issue not a functional issue
BT-4185	Launching "setup.exe /qn /norestart" does not suppress automatic reboot on upgrade	StP2/Win7	Build issue not a functional issue
BT-4215	HFP (Hands Free Profile) experiences choppiness during standalone playback	JfP2/ThP2/ Win10	Root cause: Active Park exit was masking lower priority interrupts and when SCO playback occurs simultaneously it was causing some packet loss resulting in an audio glitch. Fix : Active Park is disabled when USB ISOC endpoint is configured for SCO.

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.60 PV

ID	Title	NIC OS Observed	Comments
BT-1925	BT mouse is sluggish during skype call and becomes not operational	JfP2/ThP2/Win10	Was still occurring on 1 specific mouse but issue is no longer present with latest release
BT-4179	OEM Tools - CITU BRI tests fail	JfP2/Win10	Originally reported to Bluetooth but is in fact a tools issue that was fixed by CITU_1411_11_1818

Corrected Issues – 20.50.1.2 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-791	Inquiry misses devices about 10% of cycles	WsP/Win10	Root Cause: The controller was not always waiting for DM3(EIR) packet containing remote device name before sending HCI EIR event up to host system. This results in HCI EIR event with no remote device name, and a generic name being populated in UI by host system. Fix: Changes were made in FW to ensure proper waiting is done. It was noted that finding all the devices takes longer but that is a MSFT not Intel issue.
BT-2538	LE Mouse lags during Skype call; mouse movement very sluggish	WsP/Win10	Root Cause: The sluggishness was due to a race condition that prevented a slot management resource from being freed up properly. Fix: The correction was to eliminate this race condition so that devices would not have to contend for the same resource.
BT-2697	When paired Motion Controllers are powered on at the same time to reconnect to the PC, one reconnects quickly and the other takes much longer than expected to reconnect (about a minute)	StP/Win10	Root Cause: This issue was due to a connection timer that was deemed redundant. Fix: Redundant connection timer was removed.
BT-3238	Connection issue with CT1100 BLE smart card reader	StP/Win10	Root Cause: EP0 not returning to idle state if port reset was issued in the middle of a HCI command. Fix: Changes were made so that EP0 will return to the idle state properly. [C]
BT-3453	BT mouse is not working and there is YB of BT driver in device manager	WsP/Win10	Root Cause: Link Variable was not checked before accessing in a different thread. Fix: Proper check was added.
BT-3779	Intel BT driver(UWD) show YB in DM after reboot units with turn on airplane mode	StP/Win10	Root Cause: Driver failed to load due to missing default value for a registry key in some corner cases. Fix: missing default value was added.[C]
BT-3926	Intel 3165 bluetooth driver show yellow mark in device manager when run S3 long run	StP/Win10	Root Cause: USB was going to bad state during patch download. Fix: USB endpoints FIFO flush is been propagated during Soft Reset and Host iBT driver is changed to provide sufficient time (2ms delay) before sending the next command in patch download. [C]
BT-3914	BT driver is lost (usb unknown device) after idle for a while	WsP/Win10	Root Cause: BT lost due to race condition between DMA to USB and USB suspend interrupt handler. Changes were made to minimize the race condition so not considered a final fix [C]
BT-4020	Sound didn't come out from unit or BT headset when BT headset is taken out of connection region then approach the unit again.	StP/Win10	Root Cause: A variable was being updated incorrectly and this caused the number of completed packet events to stop being reported. This leads to A2DP traffic halting Fix: Handling of the above variable was corrected. [C]

Corrected Issues – 20.50.1.2 PV – Continued

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-4093	Intermittent BSOD on GLK	JfP1/win10	Root cause: XTAL tuning block caused disturbances of the GLK CLK that, in turn, caused the BSOD Fix: Modified the XTAL tuning block (via FW) for both WiFi and BT, so that it does not create CLK disturbances This change has a corresponding change on the WiFi side. [C]
BT-4094	After turn off BT from Settings and restart find DM BT item show"yellow mark" and Settings have no turn on item.	SdP/Win10	Same root cause as BT-3779 [C]
BT-4120	HID mouse lagging during HfP playback	SfP/WsP/JfP ThP2 Win10	Root Cause: This occurred because the priority of SCO packets were increased over HID packet priority when received simultaneously. Fix: The fix was to change the priority value to the previous setting.
BT-4136	[Intel 3165 bluetooth driver show yellow mark in device manager when run S3 long run	StP/Win10	Same root cause as BT-3926 [C]
BT-4145	Intel 3165 BT will yellow mark when we run S4 overnight	StP/Win10	Same root cause as BT-3926 [C]
BT-4284	BT device is hidden and then becomes Unknown USB device in DM while S3 Stress test on WLAN/BT combo 7265	StP/Win10	Same root cause af BT-3926 [C]
BT-4432	BT driver (UWD) show YB (Code 43) when resume from restart/S5 after turn off BT	SdP/Win10	Same root cause as BT-3779 [C]
BT-4565	Intel latest wireless 9560 driver + 4K monitor + Intel DP1 output will cause black screen (flicker)	JfP/ThP Win10	Root Cause: Signal noise caused the flicker. Fix: A HW register setting was changed to correct the issue [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.50.1.2 PV

ID	Title	NIC OS Observed	Comments
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	StP/SfP/Wsp Win10	Root caused to BRCM BTOE
BT-981	HFP has low audio quality when inquiring during stream	SdP/StP Win7/Win10	Not reported on RS3 or newer
BT-2074	BSOD when LE peripherals are enabled on DUT and connected	JfP2/ThP2 Win10	Not reported on RS3 or newer
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	StP/SfP/Wsp Win10	Not reported on RS3 or newer
BT-2304	Existing connections disconnect when trying to add new LE connections	WsP/Win10	Not seen on RS3
BT-3051	No Bluetooth device appear under device manager , but WIFI is good	Jf{2/Win10	BIOS Fix
BT-3104	User can not pair a BLE Designer mouse	ThP2/Win10	Fixed in RS4
BT-3348	LE mice stop working after 10 cycles of S4	JfP2/Win10	Only seen on oreleases older than RS3
BT-3866	System hang up and black screen (Code:0x9F) occurs when run WHQL Teston Win10 RS3 16299.	SdP/Win10	MSFT Bug ID: 11283939 – very low failure rate, customer OK to close
BT-3901	Sometimes sound may output from DUT but BT headset after playing for 5 hrs or longer	WsP/Win10	Issue confirmed in Remote BT device, Not Intel issue
BT-3910	BT device keep enumerating without BT driver and BSOD occurs frequently at reboot	JfP2/Win10	BIOS Fix
BT-4161	BT headsets can't auto reconnect if device out of range and back to unit again.	StP/Win10	Issue confirmed in BT headset. Customer OK to close
BT-4180	BSOD 0X9F DRIVER_POWER_STATE_FAILURE while running WinPVT Standby critical only test (S3 stress test)	WsP/Win10	No longer reproduces

Known Issues & Limitations – 20.40 PV

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	MOS score should be 3.5 or greater but in the test case score drops to 2.8	No impact	WsP/SfP/StP2/SdP/Win10	None	Observed during internal COEX stress testing only. Not noticeable to end-users
BT-791	[WSP] Inquiry misses devices about 10% of cycles	While running inquiry scan, not all nearby devices are found. On cycles where all devices are found, the inquiry times meet the KPI targets	Not all BT devices are found	WsP/Win10	None	Tested with BT 15 devices. FR about 10%. Fix planned for 20.40
BT-981	HFP has low audio quality when inquiring during stream	When streaming HFP audio and performing an inquiry the audio starts sporadically skipping	Audio sometimes degraded	WsP/SfP/StP/Win7/Win10	None	RS2 and Win 7 seeing HFP audio stutter when force search for surrounding BT devices. FR 60%
BT-1925	BT mouse is sluggish during skype call and becomes not operational	BT devices connected: HP classic BT mouse, Rapoo E6700 keyboard, Bose sound link headset. while having a skype call the mouse moves a little sluggish, and not operational.	Audio stops	JfP2/ThP2/Win10	None	Still seen but only with one specific mouse
BT-2074	BSOD when LE peripherals are enabled on DUT and connected	When DUT is acting as peripheral and connected from 5 central devices (using apps on smart phones), after about 1 to 3 minutes of being connected, the DUT will bluescreen.	ThP2/Win10	BSOD – Unusual use case	Reboot	Uncommon use case
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	Once 2 LE Peripheral connections are established, attempting to pair a LE device will result in the “That didn’t work” error message.	Poor UX	SdP/SfP/WsP	No workaround if a third LE connection required	Failure rate is high, ~75%
BT-2304	Existing connections disconnect when trying to add new LE connections	When trying to add 2nd LE connections, the existing connections get disconnected	Poor UX	WsP/Win10	Repair with fewer connections if will add 2 or more BLE connections	Low repro rate

Known Issues & Limitations – 20.40 PV (cont.)

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-3051	No Bluetooth device appear under device manager , but WIFI is good	On power up before SW install Intel generic BT driver should be shown in DM but instead it shows as unknown device.	Poor UX	JfP2/Win10	Install BT driver	Only seen on GLK. Under investigation [C]
BT-3104	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	Poor UX	ThP/Win10	Switch WiFi to another channel	Only seen with fresh OS install
BT-3348	LE mice stop working after 10 cycles of S4	When using LE mice and going into an S4 state, coming back after less than 10 cycles the LE mouse will stop functioning.	Poor UX	JfP2/Win10	Power cycle mouse	Seen in lab testing. End-user unlikely to experience.
BT-3399	Poor HFP Skype quality when using Logitech H800 headset	Internal user experienced poor audio quality in HFP Skype calls, When recording a 2 minute session, we confirmed deep fades and lost of audio data	Poor UX	WsP/Win10	None	Not seen uniformly. May be more frequent with this headset
BT-3453	BT mouse is not working and there is YB of BT driver in device manager	BT mouse is not working and there is YB of BT driver in device manager. DUT had 3 links (2 BR/EDR, 1 LE link)	Poor UX	WsP/Win10	Recovers automatically	Seen within 2 hours [C]
BT-3926	Intel 3165 bluetooth driver show yellow mark in device manager when run S3 long run	Intel AC 3165 Bluetooth show yellow mark in device manager when S3 longrun with ATS.FR:2/3 EUT 2/400 cycles	Poor UX	StP/Win10	None	Only seen on some modules (4 out of 20) [C]
BT-4161	BT headsets can't auto reconnect if device out of range and back to unit again.	Pairing BT headset/speaker and away the unit for a while. When come back to unit, found BT headsets didn't reconnect automatically.	Poor UX	JfP1/Win10	Reconnect manually	May be compatibility issue with a particular headset [C]
BT-4162	BT driver lost from Device Manager when adding BT device from PC settings/Devices/Bluetooth(JP1)	Open PCsettings/Devices/Bluetooth and add a BT device, find BT device disappear from Device Manager.	Poor UX	JfP1/Win10	Restart device, sometimes recovers without intervention	Seems to occur in busy RF environment[C]
BT-4120	HID mouse lagging during HfP playback	After pairing headphones, initiating HfP audio playback, pairing HID mouse - mouse experiences noticeable lag	Poor UX	StP/WsP win10	None	Expecting fix in 20.50

Known Issues & Limitations – 20.40 PV (cont.)

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-4175	BT headset is not working and BT scan is also not working	BT headset is not working and BT scan is also not working.	Poor UX	WsP/Win10	Unclear	Seen about 10% of the time [C]
BT-4180	BSOD 0X9F DRIVER_POWER_STATE_FAILURE while running WinPVT Standby critical only test (S3 stress test)	Fail at the 4th cycle. 2 out of 2 units. 2 out of 16 cycles	N/A	WsP/Win10	Reboot	Not a end-user use case [C]

Corrected Issues – 20.40 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-3571	Get Intel Bluetooth yellow bang in DM after resume from S4 on DC mode.	WsP/Win10	Problem (firmware download failure) is caused by either Microsoft USB driver stack or by AMD hardware. Corrective action was taken: hard reset is sent to the controller and STATUS_NO_SUCH_DEVICE to force system to reload device. [C]
BT-3815	Bluetooth device lost during BT on/off test	JfP2/Win10	Root cause: Race condition between host initiated wakeup and locally generated suspend interrupt. The fix is to ignore and clear the suspend interrupt when host wakeup and suspend interrupts are detected by firmware during interrupt processing. [C]
BT-3943	Clean installation by setup.exe can reproduce non-signed error message pop-up issue	SfP/StP/Win7	Customer specific release layout issue [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.40 PV

ID	Title	NIC OS Observed	Comments
BT-3181	BT Mouse not able to wake system from S4 using WoBT	JfP1/JfP2/Win10	No longer occurs with updated BIOS
BT-3455	Bluetooth headset keeps connecting/disconnecting	WsP/Win10	3 rd party fix
BT-3543	Stress_CB SUT will device lost (8265 BT) when running stress test	WsP/Win10	No longer occurs with updated BIOS
BT-3560	Bluetooth Paring has high failure rate to get fail (FR 50%)	SfP/Win10	3 rd party fix (MSFT)
BT-3582	The machine will BSOD when do normal test in sometimes such as wlan/BT/video call/wifi hotspot test	JfP1/Win10	No longer reproduces
BT-3641	Intel BT lost when running reboot aging	WsP/Win10	Does not reproduce after moving to RS3
BT-3660	BT headset is not working and BT scan is also not working	WsP/Win10	Does not repro with 20.30 at customer
BT-3661	BT scan is not working in UI	WsP/Win10	No longer repros
BT-4106	BT off when turn airplane mode on/off (F12) with BT mouse and wireless AP connected (Intel 9461)	JfP1/w1n10	No longer repros at customer nor in Intel lab

Add 20.30 HF info here

Known Issues & Limitations – 20.30 PV

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	MOS score should be 3.5 or greater but in the test case score drops to 2.8	No impact	WsP/SfP/StP2/SdP/Win10	None	Observed during internal COEX stress testing only. Not noticeable to end-users
BT-791	[WSP] Inquiry misses devices about 10% of cycles	While running inquiry scan, not all nearby devices are found. On cycles where all devices are found, the inquiry times meet the KPI targets	Not all BT devices are found	WsP/Win10	None	Tested with BT 15 devices. FR about 10%. Fix planned for 20.30
BT-981	HFP has low audio quality when inquiring during stream	When streaming HFP audio and performing an inquiry the audio starts sporadically skipping	Audio sometimes degraded	WsP/SfP/StP/Win7/Win10	None	RS2 and Win 7 seeing HFP audio stutter when force search for surrounding BT devices. FR 60%
BT-1925	BT mouse is sluggish during skype call and becomes not operational	BT devices connected: HP classic BT mouse, Rapoo E6700 keyboard, Bose sound link headset. while having a skype call the mouse moves a little sluggish, and not operational.	Audio stops	JfP2/ThP2/Win10	None	Still seen but only with one specific mouse
BT-2074	BSOD when LE peripherals are enabled on DUT and connected	When DUT is acting as peripheral and connected from 5 central devices (using apps on smart phones), after about 1 to 3 minutes of being connected, the DUT will bluescreen.	ThP2/Win10	BSOD – Unusual use case	Reboot	Uncommon use case
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	Once 2 LE Peripheral connections are established, attempting to pair a LE device will result in the “That didn’t work” error message.	Poor UX	SdP/SfP/WsP	No workaround if a third LE connection required	Failure rate is high, ~75%
BT-2304	Existing connections disconnect when trying to add new LE connections	When trying to add 2nd LE connections, the existing connections get disconnected	Poor UX	WsP/Win10	Repair with fewer connections if will add 2 or more BLE connections	Low repro rate

Known Issues & Limitations – 20.30 PV (cont.)

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-3051	No Bluetooth device appear under device manager , but WIFI is good	On power up before SW install Intel generic BT driver should be shown in DM but instead it shows as unknown device.	Poor UX	JfP2/Win10	Install BT driver	Only seen on GLK. Under investigation [C]
BT-3104	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	Poor UX	ThP/Win10	Switch WiFi to another channel	Only seen with fresh OS install
BT-3181	BT Mouse not able to wake system from S4 using WoBT	Mouse not able to wake system from S4(WoBT) on GLK platform using JfP2. Issue happens with just LE mice	Poor UX	JfP1/JfP2/Win10	None	Only observed on GLK
BT-3348	LE mice stop working after 10 cycles of S4	When using LE mice and going into an S4 state, coming back after less than 10 cycles the LE mouse will stop functioning.	Poor UX	JfP2/Win10	Power cycle mouse	Seen in lab testing. End-user unlikely to experience.
BT-3399	Poor HFP Skype quality when using Logitech H800 headset	Internal user experienced poor audio quality in HFP Skype calls, When recording a 2 minute session, we confirmed deep fades and lost of audio data	Poor UX	WsP/Win10	None	Not seen uniformly. May be more frequent with this headset
BT-3455	Bluetooth headset keeps connecting/disconnecting	Bluetooth headset keeps connecting/disconnecting	Poor UX	WsP/Win10	N/A	Rare <10% [C]
BT-3543	Stress_CB SUT will device lost (8265 BT) when running stress test	Stress_CB SUT will device lost (8265 BT) when running stress test	Poor UX	WsP/Win10	Cold Boot	Only seen with customer test tool [C]

Corrected Issues – 20.30 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-2739	Security Vulnerability: DLL Hijacking	All	Resolved elevation of privilege vulnerability in Autorun.exe and Setup.exe for Intel® Wireless products (Intel® Dual-Band Wireless-AC, Intel® Tri-Band Wireless-AC, Intel® Wireless-AC products). CVSSv3 AV:L/AC:L/PR:L/UI:R/S:U/C:H/I:H/A:HSee PSIRT-TA-201711-003, doc id 575910 for more information.
BT-2787	BT would lost or yellow band during Warmboot	JfP2/Win10	Back to back USB wake race condition was making USB to go in bad state. There was timer for 2ms , which was not working as expected. This timer is fixed by putting a HW delay timer. [C]
BT-3142	BT lost when function test	JfP1/Win10	When there is a USB suspend, the UTMI bridge requires the Firmware to provide a 2ms delay before any resume is triggered from the controller. The timer used was not sufficient so the fix was to change to a different timer [C]
BT-3143	BT fail to pair active pen	WsP/Win10	Data length update procedure flag was not getting cleared which was blocking further transactions and connection was failing, which will caused pairing failure. Clearing this flag fixed this issue [C]
BT-3249	Device Compare tool get 3165/ 7265 BT yellow bang when run WB stress test	StP/Win10	Fix was to wake up the USB if it was suspended while doing reset. [C]
BT-3336	BT connected to LE mouse will disappear after S4	JfP1/JfP2 Win10	Same RC as BT-2787 [C]
BT-3471	BT LE Keyboard Does Not Function When Paired After Two Other LE Devices	SfP/Win10	Same RC as BT-3143 [C]
BT-3486	Cannot pair customer Active Stylus Pen	WsP/Win10	Same RC as BT-3143 [C]
BT-3544	Intel 9560 BT show yellow bang after warm boot stress test	JfP2/Win10	Same RC as BT-3142 [C]
BT-3570	Intel 9461_9560 Bluetooth device lost	JfP2/Win10	Same RC as BT-3336 [C]

Corrected Issues – 20.30 PV

ID	Title	NIC OS Observed	Root Cause/Comments [C] customer found
BT-3625	BT shows Yellow Bang in Device Manager while using BT keyboard/mouse	JfP1/win10	Same RC as BT-3143 [C]
BT-3626	Connect MSFT BT 3600 BLE mouse timeout	WsP/win10	Same RC as BT-3142 [C]
BT-3645	Stress_S3/S4_Bluetooth Device disappear during run S3/S4 cycle test	StP/Win10	Correction is to wake up USB if suspended while doing Sx cycles. [C]
BT-3692	Intel Wireless Bluetooth 7265 yellow bang when running S3 stess test	StP/Win10	Same RC as BT-3645 [C]

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.30 PV

ID	Title	Description	NIC OS Observed	Comments

Corrected Issues – 20.20 HF PV

ID	Summary
BT-2739	Resolved elevation of privilege vulnerability in Autorun.exe and Setup.exe for Intel® Wireless products (Intel® Dual-Band Wireless-AC, Intel® Tri-Band Wireless-AC, Intel® Wireless-AC products). CVSSv3 AV:L/AC:L/PR:L/UI:R/S:U/C:H/I:H/A:H – Severity: High. See PSIRT-TA-201711-003, doc id 575910 for more information.

Important Note:

The Bluetooth® driver versions did not have to change from the previous PV release (20.20)

The Autorun.exe and Setup.exe are shared across all drivers for all wireless HW (WkP and newer) in all supported OSes.

Known Issues & Limitations – 20.20 PV

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	MOS score should be 3.5 or greater but in the test case score drops to 2.8	No impact	WsP/SfP/StP2/SdP/Win10	None	Observed during internal COEX stress testing only. Not noticeable to end-users
BT-791	[WSP] Inquiry misses devices about 10% of cycles	While running inquiry scan, not all nearby devices are found. On cycles where all devices are found, the inquiry times meet the KPI targets	Not all BT devices are found	WsP/Win10	None	Tested with BT 15 devices. FR about 10%. Fix planned for 20.30
BT-981	HFP has low audio quality when inquiring during stream	When streaming HFP audio and performing an inquiry the audio starts sporadically skipping	Audio sometimes degraded	WsP/SfP/StP/Win7/Win10	None	RS2 and Win 7 seeing HFP audio stutter when force search for surrounding BT devices. FR 60%
BT-1925	BT mouse is sluggish during skype call and becomes not operational	BT devices connected: HP classic BT mouse, Rapoo E6700 keyboard, Bose sound link headset. while having a skype call the mouse moves a little sluggish, and not operational.	Audio stops	JfP2/ThP2/Win10	None	Still seen but only with one specific mouse
BT-2074	BSOD when LE peripherals are enabled on DUT and connected	When DUT is acting as peripheral and connected from 5 central devices (using apps on smart phones), after about 1 to 3 minutes of being connected, the DUT will bluescreen.	ThP2/Win10	BSOD – Unusual use case	Reboot	Uncommon use case
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	Once 2 LE Peripheral connections are established, attempting to pair a LE device will result in the "That didn't work" error message.	Poor UX	SdP/SfP/WsP	No workaround if a third LE connection required	Failure rate is high, ~75%
BT-2304	Existing connections disconnect when trying to add new LE connections	When trying to add 2nd LE connections, the existing connections get disconnected	Poor UX	WsP/Win10	Repair with fewer connections if will add 2 or more BLE connections	Low repro rate
BT-2787	BT lost or yellow band during Warmboot	BT Lost" and "BT Yellow Band" symptom could duplicate after resume from warm boot/ S3/ S4	Poor UX	JfP2/Win10	Reboot system	Failure observed after the 100 th iteration [C]

Known Issues & Limitations – 20.20 PV (cont.)

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments [C] customer found
BT-3051	No Bluetooth device appear under device manager , but WIFI is good	Power on GLK ;Check the device manager; Cannot find BT device from device manager , but wifi is ok	Poor UX	JfP2/Win10	None	Only seen on GLK. Under investigation [C]
BT-3104	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	When WiFi is connected to low band (CH1) user can not connect a BLE mouse	Poor UX		Switch WiFi to another channel	Only seen with fresh OS install
BT-3142	BT lost when function test	After installation and begin BT functional testing BT will be lost, we find taskbar no BT icon; BT settings no turn on/off item; DMhave no BT HW and Universal Serial Bus controllers have one unknown USB YM	Poor UX	JfP1/Win10	Re-pair mouse	Relatively low FR 10% [C] Disabling selective suspend can avoid the issue but this is only a temp. solution.
BT-3143	BT fail to pair active pen	Can't pair successfully and show error	Poor UX	WsP/Win10	Reconnect Pen	Root caused and planned for 20.30 [C]
BT-3181	BT Mouse not able to wake system from S4 using WoBT	Mouse not able to wake system from S4(WoBT) on GLK platform using JfP2. Issue happens with just LE mice	Poor UX	JfP1/JfP2/Win10	None	Only observed on GLK
BT-3336	BT connected to LE mouse will disappear after S4	BT connected to LE mouse will disappear after S4	Poor UX	JfP1/JfP2 Win10 RS3	Reboot system	Only seen on JfP1 with MSFT Arc touch Mouse with RS3 on GLK.
BT-3348	LE mice stop working after 10 cycles of S4	When using LE mice and going into an S4 state, coming back after less than 10 cycles the LE mouse will stop functioning.	Poor UX	JfP2/Win10	Power cycle mouse	Seen in lab testing. End-user unlikely to experience.
BT-3399	Poor HFP Skype quality when using Logitech H800 headset	Internal user experienced poor audio quality in HFP Skype calls, When recording a 2 minute session, we confirmed deep fades and lost of audio data	Poor UX	WsP/Win10	None	Not seen uniformly. May be more frequent with this headset
BT-3457	BT lost when running reboot aging	also cannot find BT device in BIOS setup menu	Poor UX	WsP/Win10	None	Testing ongoing. Source of issue unclear [C]

Corrected Issues – 20.20 PV

ID	Title	Description	NIC OS Observed	Root Cause/Comments [C] customer found
BT-2159	HFP stops working after several tests in playback devices	This problem was found when user received a Skype call during playing a video on YouTube	SdP Win10	The resource timer that was used during the eSCO connection creation was expiring prematurely because the sniff-substrate mode was not taken into account while calculating the timeout value. Sniff-substrate mode now taken into account to fix this
BT-2552	BT/WiFi COEX TPT fail on bluetooth	Still open in Jira	WsP Win10	Addressed by DCR 5168 [C]
BT-2941	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion	SdP Win10	The variable used was sometimes not updated in the scheduler properly, causing the file transfer to halt prematurely. A code change was made so that the variable was updated properly
BT-2993	Bluetooth yellowbangs with code 43 during wake-on-BT test	Bluetooth disappears while waking the system from S4 using a BT mouse	JfP1/ThP2 Win10	Insufficient memory allocated. Fixed by increasing allocated memory. Also fixed with same root cause (BT-2972)
BT-3119	BT driver reloads and YB on devices paired in Device manager after RfKill,S4,S5W,S5C	BT driver reloads in Device manager and YB on Devices after Power cycles. Not all the devices paired work properly	ThP2 Win10	Memory allocation issue during a copy procedure. Fix was to correct the allocation. Also fixed with same root cause (BT-3112, BT-2962,BT-306)
BT-3420	Wrong TIC # is shown in the control panel	Details: The TIC # which is shown in the bottom of control panel is different from actual SW package's TIC #.	Win10	Build related issue due to manual change

Issues no longer observed/Closed for other reasons/Non-Intel BT - 20.20 PV

ID	Title	Description	NIC OS Observed	Comments
BT-3196	BT driver lose from Device Manager after restarting unit.	GM and OOBE, boot to OS; Restarting unit; Find BT driver is missing from DM.	StP Win10	No longer observed by customer[C]
BT-3249	Device Compare tool get 3165/ 7265 BT yellow bang when run WB stress test	Device Compare tool get 3165 BT yellow bang when run WB stress.	StP Win10	Information points to a non-Intel issue. Waiting for customer feedback [C]
BT-3217	BT disappear and WiFi YB during S3 aging	We find a BT YB issue when we run S3 aging.	JfP2 win10	Source is not within Intel BT. Issue went to Intel ME [C]
BT-3232	Bluetooth Yellow bang occurs after turning bluetooth off and on	Yellow bang occurs on BT device after turn BT off and on	JfP2 Win10	Issue not seen on QS sample [C]

Corrected Issues – 20.10 HF PV

ID	Title	Description	NIC OS Observed	Root Cause/Comments
BT-2766	v20.10.0.2 BT driver uninstall is abnormal	BT driver uninstall is abnormal, it requires more than 3 minutes to complete, and sometimes cannot uninstall successfully from the device manager	StP/Win10	EPO not returning to idle state if port reset was issued in the middle of a HCI command

Known Issues & Limitations – 20.10 PV

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	MOS score should be 3.5 or greater but in the test case score drops to 2.8	No impact	WsP/SfP/StP2/SdP/Win10	N/A	Observed during internal COEX stress testing only. Not noticeable to end-users
BT-981	HFP has low audio quality when inquiring during stream	When streaming HFP audio and performing an inquiry the audio starts sporadically skipping	Audio sometimes degraded	WsP/SfP/StP/Win7/Win10	N/A	RS2 and Win 7 seeing HFP audio stutter when force search for surrounding BT devices. Failure rate 60%
BT-1925	BT mouse is sluggish during skype call and becomes not operational	BT devices connected: HP classic BT mouse, rapoo E6700 keyboard, bose sound link headset. while having a skype call the mouse moves a little sluggish, and not operational. The call can't be hung up (even if the other user hangs up). further more, about 5 sec after the call stated, Audio (HFP) stopped working.	Audio stops	JfP2/ThP2/Win10	N/A	Still seen but only with one mouse
BT-2074	BSOD when LE peripherals are enabled on DUT and connected	When DUT is acting as peripheral and connected from 5 central devices (using apps on smart phones), after about 1 to 3 minutes of being connected, the DUT will bluescreen.	ThP2/Win10	BSOD – Unusual use case	Reboot	Uncommon use case
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	Once 2 LE Peripheral connections are established, attempting to pair a LE device will result in the “That didn’t work” error message.	Poor UX	SdP/SfP/WsP	No workaround if a third LE connection required	Failure rate is high, ~75%
BT-2159	HFP stops working after several tests in playback devices	This problem was found when user receive Skype call during playing YouTube	Audio stops	SdP/Win10	Restart HID device	Need to switch back and forth between playback devices in order for this to occur. Less likely use scenario. Will be fixed in 20.20

Known Issues & Limitations – 20.10 PV (cont.)

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments
BT-2304	Existing connections disconnect when trying to add new LE connections	When trying to add 2nd LE connections, the existing connections get disconnected	Poor UX	WsP/Win10	Repair with fewer connections if will add 2 or more BLE connections	Low repro rate
BT-2941	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion.	Poor UX	SdP/Win10	N/A	Same RC as BT-1673. Will be fixed in 20.20 for SdP
BT-3181	BT Mouse not able to wake system from S4 using WoBT	Mouse not able to wake system from S4(WoBT) on GLK platform using JfP2. Issue happens with just LE mice	Poor UX	JfP1/JfP2/Win10	N/A	Only observed on GLK- Bios fix coming from platform team
BT-3336	BT connected to LE mouse will disappear after S4	BT connected to LE mouse will disappear after S4	Poor UX	JfP1/JfP2 Win10 RS3	Reboot system	Only seen on JfP1 with MSFT Arc touch Mouse with RS3 on GLK. Planned for 20.20 and/or HF
BT-3348	LE mice stop working after 10 cycles of S4	When using LE mice and going into an S4 state, coming back after less than 10 cycles the LE mouse will stop functioning.	Poor UX	JfP2/Win10	Power cycle mouse	Seen in lab testing. End-user unlikely to experience.

Corrected Issues – 20.10 PV

ID	Title	Description	NIC OS Observed	Root Cause/Comments
BT-1673	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion.	ThP2/WsP SfP/SdP Win10	The variable used was sometimes not updated in the scheduler properly causing file transfer to halt prematurely. A code change was made so that the variable was updated properly.
BT-1687	Poor Audio quality in Skype HFP calls	Audio interference is sometimes such that user has to switch to a USB headset	WsP/SfP StP2/SdP Win10	Channel mapping changes (AFH) made in FW were not propagated correctly within the system. Code was changed to fix the propagation issue. Found in internal test.
BT-1673 BT-1517	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion.	WsP/SfP SdP/Win10	Coding error in scheduler caused the incorrect ARQN bit to be updated. Coding error was corrected. Found in internal test.
BT-1737	Bad audio (A2DP) quality when user works with BLE mouse	Sometimes impossible to hear music at all. If user close BLE mouse, A2DP profile works properly.	WsP/SfP Win10	Priority contention between LE mouse packets and A2DP packets in poor RF environment. A modification was made to ensure both connections get processed in a timely manner under all RF conditions. Found in internal test.
BT-1872	Typing words delays when connecting both Logitech K780 Keyboard and Logitech M337 mouse	The issue can only be reproduced when connecting both below bluetooth devices: Logitech K780 Multi-Device Wireless Keyboard https://www.logitech.com/zh-tw/product/k780-multi-device-wireless-keyboard Logitech M337 mouse https://www.logitech.com/zh-tw/product/bluetooth-mouse-m337	SfP/Win10	Priority handling of LE and BR/EDR was set so that sometimes BR/EDR would not get processed in a timely fashion. Fix was to change the this priority handling so that BR/EDR would get processed reliably. Found in internal test.
BT-1939	Unknown USB device under device manager after reboot system then disable/enable BT	Unknown USB device under Device Manager after reboot system or disable/enable BT	WsP/SdP Win10	USB EP0 not returning to idle state if port reset was issued in the middle of a HCI command. Code changed to correct. Customer found.
BT-2034	HFP+HID Audio choppy or HID Mouse lags	HFP audio is distorted while playing audio through Hands free playback option and using HID mouse. This setup does not use Skype or Wifi	SfP Win7/win10	CVSD re-transmission bit was getting set for the first SCO packet that was sent in the re-transmission slot. This was corrected. Found in internal test.
BT-2143	Bluetooth LE mouse is sluggish or non-responsive when SCO active	LE connection is dropped some time after A2DP streaming starts. After this point, despite several connectable advertisements and connection requests, the LE connection fails to be re-established.	WsP/Win10	Near Synch was cancelling the LE job. SW changed to correct. Found in Internal test.

Corrected Issues – 20.10 PV (cont.)

ID	Title	Description	NIC OS Observed	Root Cause/Comments
BT-2169	Classic HID and LE devices fail to reconnect after idle during Skype call	When classic HID or LE devices are left to go idle during a skype call, they cannot reconnect from idle until the skype call is ended	SdP/StP Win7/Win10	Scanning algorithm in this scenario was insufficient. SW changed to a more effective scan. Found in Internal test.
BT-2333	Bluetooth turns on automatically after RFKill with Audio streaming	Bluetooth spontaneously returns after RF Kill when streaming A2DP audio. After ~5 seconds, bluetooth will turn on automatically and begin streaming. RF Kill cannot be used again for a minute or two after BT returns.	SfP/Win10	Memory exception was due missing NULL check. Fix was to add the check. Found in Internal test.
BT-2990 BT-2604	Bluetooth disappears when connected to LE devices during idle	When leaving LE mouse (Microsoft Arc Touch) & LE keyboard (Microsoft Surface) idle, as soon as devices enter low-energy mode during idleness (status showing paired instead of connected) - devices become unresponsive and Bluetooth disappears	JfP1/Win10	This was caused by a race condition between remote wake up during USB partial power down. The code has been changed so that the race condition is avoided.
BT-2993	Bluetooth yellowbangs with code 43 during wake-on-BT test	Bluetooth disappears while waking the system from S4 using a BT mouse	ThP2/Win10	Incorrect handling of event buffers. Logic issue was corrected
BT-3034 BT-2504	LE devices having issues pairing/connecting	BLE devices are frequently unable to pair, and when they do pair the mouse cursor doesn't move.	JfP1/ThP/ Win10	Race condition where the LE link parameters were not cleared properly during disconnection before the next connection takes place.
BT-3054 BT-2344	BT shows YB in DM and malfunction after BT switch off/on	Verify device can be turned OFF by native application or system network setting. While OFF, verify device is removed from device manager. Turn device ON and check DM, YB is displayed.	JfP2/Win10	Issue was traced to unnecessary calibration of an external crystal. The crystal had already been calibrated by the WiFi side and the BT calibration was causing clock drift. The fix was to remove this BT calibration step.
BT-2034 BT-2504	HFP+HID Audio choppy or HID Mouse lags	HFP audio is distorted while playing audio through Hands free playback option and using HID mouse. This setup does not use Skype or Wifi	JP2/ThP2/SfP Win7/win10	A bit related to retransmission was getting set incorrectly and this caused the state machine to misbehave. The code was changed so that this incorrect bit setting no longer happens.

Corrected Issues – 20.10 PV (cont.)

ID	Title	Description	NIC OS Observed	Root Cause
BT-1985 BT-2004	Customer application sometimes can't receive any ADV packets for over one minute while doing file transfer through WiFi/ BLE scanner is hard to receive advertisement packets from remote DUT for 1 min	Multi-advertise packets sometimes hard to be received in very noisy environment	WsP/Win10	Fixed by WIFIWIN-3544
BT-3310	BT LED fail to work (when BT enable + WIFI disable , HP Wireless button still show amber)	The LED is not properly reflecting the customer requirements when BT is off.	WsP/Win10	Merge error. Logic was corrected.

Issues no longer observed/Closed for other reasons/Non-Intel - 20.20 PV

ID	Title	Description	NIC OS Observed	Comments
BT-1684	Platform usb hid devices stuck after LE keyboard keys stopped responding	While watching YouTube movies, and all other devices connected. From time to time using LE keyboard. At some point keyboard volume up and down stopped responding.	WsP/SfP/ Win10	Only seen on some platforms. Likely MSFT issue
BT-1714	A2DP will be laggy during WiFi Tx Traffic on 2.4Ghz Band	Glitches/audio gaps happen randomly during the WiFi download	StP2/WsP/ Win10	About 3 or 4 glitches per minute
BT-2200	BSOD while switching between two paired/connected headphones	Sometimes the switch between headsets will require multiple tries before the BSOD occurs	WsP/SfP/ Win10	Seen roughly 20% of the time
BT-2301	Unable to send a file to unpaired devices	When trying to send a file from the DUT to an unpaired BTOE, the devices will pair however the file will fail to send.	Can't send file as expected	
BT-2344 BT-2226	Bluetooth disappears after returning from Hibernate with Mouse Active/Idle/BT devices stop working after being idle	Bluetooth disappeared when mouse was left idle for a few minutes. The platform had gone into a few hibernate cycles just before BT disappeared	ThP2/JfP2/ Win10	Seen randomly during S5 and connected standby testing
BT-3308	Intel JFP BT installation issue on RS3	Intel BT installation issue on RS3driver 20.0.0.10SBIOS: 002.T24	JfP2/Win10	

Known Issues & Limitations – 20.10 PV

ID	Title	Description	Impact on the user	NIC OS Observed	Workaround / Recovery procedure	Comments
BT-143	HID lag/MOS degradation/WiFi tput under some conditions	MOS score should be 3.5 or greater but in the test case score drops to 2.8	No impact	WsP/SfP/StP2/SdP/Win10	N/A	Observed during internal COEX stress testing only. Not noticeable to end-users
BT-981	HFP has low audio quality when inquiring during stream	When streaming HFP audio and performing an inquiry the audio starts sporadically skipping	Audio sometimes degraded	WsP/SfP/StP/Wi7/Win10	N/A	RS2 and Win 7 seeing HFP audio stutter when force search for surrounding BT devices. Failure rate 60%
BT-2159	HFP stops working after several tests in playback devices	This problem was found when user receive Skype call during playing YouTube	Audio stops	SdP/Win10	Restart HID device	Need to switch back and forth between playback devices in order for this to occur. Less likely use scenario.
BT-2304	Existing connections disconnect when trying to add new LE connections	When trying to add 2nd LE connections, the existing connections get disconnected	Poor UX	WsP/Win10	Repair with fewer connections if will add 2 or more BLE connections	Low repro rate
BT-2138	LE devices fail to pair after 2 LE Peripheral connections have been established	Once 2 LE Peripheral connections are established, attempting to pair a LE device will result in the "That didn't work" error message.	Poor UX	SdP/SfP/WsP	No workaround if a third LE connection required	Failure rate is high, ~75%
BT-2941	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion.	Poor UX	SdP	N/A	Same RC as BT-1673. Will be fixed in 20.20 for SdP

Corrected Issues – 20.10 PV

ID	Title	Description	NIC OS Observed	Root Cause/Comments
BT-1687	Poor Audio quality in Skype HFP calls	Audio interference is sometimes such that user has to switch to a USB headset	WsP/SfP StP2/SdP Win10	Channel mapping changes (AFH) made in FW were not propagated correctly within the system. Code was changed to fix the propagation issue. Found in internal test.
BT-1673	OPP(recv) fails to complete when streaming HFP audio from DUT	When receiving files on DUT with HFP audio streaming, file transfer progress halts roughly half-way through completion.	WsP/SfP SdP/Win10	Coding error in scheduler caused the incorrect ARQN bit to be updated. Coding error was corrected. Found in internal test.
BT-1737	Bad audio (A2DP) quality when user works with BLE mouse	Sometimes impossible to hear music at all. If user close BLE mouse, A2DP profile works properly.	WsP/SfP Win10	Priority contention between LE mouse packets and A2DP packets in poor RF environment. A modification was made to ensure both connections get processed in a timely manner under all RF conditions. Found in internal test.
BT-1872	Typing words delays when connecting both Logitech K780 Keyboard and Logitech M337 mouse	The issue can only be reproduced when connecting both below bluetooth devices: Logitech K780 Multi-Device Wireless Keyboard https://www.logitech.com/zh-tw/product/k780-multi-device-wireless-keyboard Logitech M337 mouse https://www.logitech.com/zh-tw/product/bluetooth-mouse-m337	SfP/Win10	Priority handling of LE and BR/EDR was set so that sometimes BR/EDR would not get processed in a timely fashion. Fix was to change the this priority handling so that BR/EDR would get processed reliably. Found in internal test.
BT-1939	Unknown USB device under device manager after reboot system then disable/enable BT	Unknown USB device under Device Manager after reboot system or disable/enable BT	WsP/SdP Win10	USB EP0 not returning to idle state if port reset was issued in the middle of a HCI command. Code changed to correct. Customer found.
BT-2034	HFP+HID Audio choppy or HID Mouse lags	HFP audio is distorted while playing audio through Hands free playback option and using HID mouse. This setup does not use Skype or Wifi	SfP Win7/win10	CVSD re-transmission bit was getting set for the first SCO packet that was sent in the re-transmission slot. This was corrected. Found in internal test.
BT-2143	Bluetooth LE mouse is sluggish or non-responsive when SCO active	LE connection is dropped some time after A2DP streaming starts. After this point, despite several connectable advertisements and connection requests, the LE connection fails to be re-established.	WsP/Win10	Near Synch was cancelling the LE job. SW changed to correct. Found in Internal test.

Corrected Issues – 20.10 PV

ID	Title	Description	NIC OS Observed	Root Cause/Comments
BT-2169	Classic HID and LE devices fail to reconnect after idle during Skype call	When classic HID or LE devices are left to go idle during a skype call, they cannot reconnect from idle until the skype call is ended	SdP/StP Win7/Win10	Scanning algorithm in this scenario was insufficient. SW changed to a more effective scan. Found in Internal test.
BT-2333	Bluetooth turns on automatically after RFKill with Audio streaming	Bluetooth spontaneously returns after RF Kill when streaming A2DP audio. After ~5 seconds, bluetooth will turn on automatically and begin streaming. RF Kill cannot be used again for a minute or two after BT returns.	SfP/Win10	Memory exception was due missing NULL check. Fix was to add the check. Found in Internal test.

Issues no longer observed/Closed for other reasons/Non-Intel - 20.10 PV

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BT-1684	Platform usb hid devices stuck after LE keyboard keys stopped responding	While watching YouTube movies, and all other devices connected. From time to time using LE keyboard. At some point keyboard volume up and down stopped responding.	WsP/SfP/ Win10	Closed as MSFT issue.
BT-1714	A2DP will be laggy during WiFi Tx Traffic on 2.4Ghz Band	Glitches/audio gaps happen randomly during the WiFi download	StP2/WsP Win10	No longer observed. Still seen on StP2 (ROM part), not a regression. Will not fix on StP2 due to no patch space and no root cause on WsP.
BT-1985	Customer application sometimes can't receive any ADV packets for over one minute while application doing file transfer through WiFi	Multi-advertise packets sometimes hard to be received in very noisy environment	WsP/Win10	This was fixed by a change in the Intel WiFi SW (WiFIWIN-3544) Not a BT issue.
BT-2200	BSOD while switching between two paired/connected headphones	Sometimes the switch between headsets will require multiple tries before the BSOD occurs	WsP/SfP/ Win10	MSFT issue to be fixed in RS4. Closed as 3 rd party.
BT-2301	Unable to send a file to unpaired devices	When trying to send a file from the DUT to an unpaired BTOE, the devices will pair however the file will fail to send.	SfP/Win10	No longer seen with latest RS3

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