Release Notes – Zebra TC20 and TC25 Android N 03-11-03-0-NG-00-M1 (GMS)

Contents

Introduction

Zebra is announcing the introduction of the TC25 durable smartphone designed for small-medium sized businesses in the tradesmen, courier, DSD, and merchandising industries! TC25 is a WWAN device ideal for customers who need proof of delivery, voice communications, and basic tracking, navigating and messaging applications

The TC20 introduced earlier, is an enterprise mobile computer is designed for small-medium sized businesses in the retail, hospitality and small footprint warehousing industries! TC20 is a WLAN only device ideal for customers who need inventory management, price checking, and basic clientele applications.

TC25 and TC20 series of devices are positioned as the durable everyday business tool, in the entry-level segment of Zebra's mobility portfolio, with a differentiated and comprehensive set of new features including:

- Two scan engine options to meet SMB business needs with SE2100 and SE4710
- Ergonomic smartphone-like form factor that is small enough to fit in your pocket, yet powerful enough to multi-task, manage inventory, price check, and preform back of store applications
- High capacity 3000 mAh internal battery designed to support a full shift plus an optional snap on PowerPack for continuous use
- Pre-installed Workforce Connect Push-To-Talk Express communication solution
- Ambidextrous scan buttons on left and right side of the device
- Android 7.1.2 (Nougat) OS at launch with the ability to support OS upgrades in the future

- Extensive accessory eco-system, including 1-Slot cradles for charging and data communication, 5-slot cradles for large charging deployments, a field detachable trigger handle and a unique snap on PowerPack

Description

This is the Third software release for TC20 Mobile Computer and second software release for TC25. This release contains software packages for Android Nougat GMS operating system for TC20 and TC25.

Device Compatibility

This software release has been approved for Android TC20 Nougat GMS models mentioned below.

Device	Operating System
TC200J-10C112A6	Android N GMS ROW – EMEA, LATAM, APAC & Canada
TC200J-10C112US	Android N GMS US Only
TC200J-10A111US	Android N GMS US Only
TC200J-10A111A6	Android N GMS ROW – EMEA, LATAM, APAC & Canada
TC200J-10C213A6	Android N GMS ROW – EMEA, LATAM, APAC & Canada (Premium SKU)
TC200J-10C213US	Android N GMS US Only (Premium SKU)

This software is also approved for Android TC25 Nougat Non-GMS models mentioned below

Device	Operating System
TC25AJ-10C102A6	Android N GMS ROW – EMEA
TC25AJ-10B101A6	Android N GMS ROW – EMEA
TC25BJ-10C102A6	Android N GMS ROW – EMEA & APAC
TC25BJ-10B101A6	Android N GMS ROW – EMEA & APAC

Component Contents

Component	Version
Build_version	03-11-03-0-NG-00-M1 (GMS)
Android_version	7.1.2
Android_SDK_Level	25
Android Security Patch Level	October 5, 2017
Linux_kernel	3.18.31
Wifi	FUSIONLITE_QA_1_0.0.0.012_N
Platform	Qualcomm MSM8937
Scanning_Framework	19.0.15.0
DWDemo	2.0.12
OSX	QCT.71.7.4.1.UL
MXMF	7.1.1.0
Touch	Focaltech V1.1 20161103 (fw:0x19)
Bluetooth_Stack	CNSS.PR.4.0-00388/01050102
Flash_Size	16G /32G
RAM_Size	2G
GPS	MPSS.JO.3.0-00295-8937_GENNS_PACK-1
MMS	7.1.2
RIL_Version	1.0
BT_Pairing_Utility	3.8
Datawedge	6.6.49
Camera	LA.UM.5.6.r1-04600-89xx.0-1
PTT	3.1.35
RxLogger	5.4.10.0
StageNow	2.9.1.1344
Data_Analytics	3.0.0.1208
EMDK	6.7.10.1010
IMEI SV Number	04
OEM Config	7.0.0.1

NOTE: For **Enterprise Mobile Device Management, most EMM** vendors such as SOTI, AirWatch, MobileIron, etc. WILL require an updated device management agent to support this Nougat enterprise device. **Do NOT use** your existing device management agent and console with this device without first contacting your EMM vendor to understand when the agent supporting this device is available and whether a console upgrade is required as well. Attempting to enroll with an agent that is not validated to support the device will result in errors.

Installation Requirements

HW Requirements

- Windows PC running Windows 7/10 32/64 bits
- USB Type C Cable
- Micro SD Card with at least 2GB capacity (optional)

SW Requirements

Please make sure following components are installed on your computer before commencing OS installation.

- Zebra Android USB Driver V2.2 or higher
- Android Debug Bridge version 1.0.39 or higher
- TC20/TC25 GMS Android OS Release Images

Image Compatibility

Please note that GMS full package update file is not compatible with China based SKUs hence China based SKUs will not allow to download GMS images.

Installation Instructions

Using the "adb sideload" method

Assumptions

1. ADB installed on PC
2. TC20/TC25 has Developer options enabled
3. USB debugging ON

Procedure

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.
2. You may need to pull down notification bar, and tap on the notification which says, "USB charging this device", and change it to "Transfer files".
3. Open Command Prompt on PC, run "adb devices" and check to see if you can see the device's serial number… If yes, proceed… if not you will need to get the PC set up with the proper drivers or install an External SD Card.

4. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player… this can be ignored.
5. Entering Recovery Mode
    a. Choice 1: In Command Prompt, type "adb reboot recovery" and click enter.
    b. Choice 2:
        i. Reboot and hold PTT key
        ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.
7. To select Sideload Method
    a. Use the Volume + and – to highlight, "Apply update from ADB" and press the Power Key to select it
8. With your Command Prompt, open, type "adb sideload" and add a space and then drag and drop the zip file which you want to apply to the device and press enter.
    a. When the file download starts, the command window will show progress with a percentage completed.
    b. Device display will show a series of messages indicating it is downloading, verifying and installing the image on to the device.
9. After successful update the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom… it will stay at this screen for up to 4 minutes and then present the "Welcome Screen".
10. After this you will need to complete the process by setting up Wi-Fi and E-mail accounts and such.
11. To make sure the OS Update took place, once the initial setup is complete;
    a. Go to "Settings" and scroll down to "About phone" and look at the "Build number". It should state "03-11-03-0-NG-00-M1".
12. Setting the Date and Time. If you associate the device to a WLAN AP, it should automatically set the date and time. The only thing left is to set the time zone. Go to "Settings" and scroll to and select "Date & time". Scroll down to and select "Select time zone", and scroll down to and select the appropriate time zone and you are done.
13. Now you are all set to use your TC20/TC25.

Using External SD Card

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.
2. You may need to pull down notification bar, and tap on the notification which says "USB charging this device", and then change it to "Transfer files".
3. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player… this can be ignored.
4. Copy the required files to the SD Card. This can be done in two ways
    a. Copy the files to the Micro SD card with the help of a SD Adapter which gets inserted to the SD slot of your PC/Laptop/SD Writer.
    b. Directly transfer files to the Micro SD card which is inserted in to the back of the device. Please refer to the user guide on how to open the back door and inserting the SD card to the device.

5. Entering Recovery Mode
    a. Choice 1: In Command Prompt, type "adb reboot recovery" and click enter.
    b. Choice 2:
        i. Reboot and hold PTT key
        ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.
7. Applying update via External SD card
    a. Use the Volume + and – to highlight select option to "Apply update from SD card" and press the Power Key to select it
    b. Use the Volume + and – to highlight package to be installed (downloaded Zip file) and press the Power Key to select it.
8. After successful update the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom… it will stay at this screen for up to 4 minutes and then present the "Welcome Screen".
9. After this you will need to complete the process by setting up Wi-Fi and E-mail accounts and such.
10. To make sure the OS Update took place, once the initial setup is complete;
    a. Go to "Settings" and scroll down to "About phone" and look at the "Build number". It should state "03-11-03-0-NG-00-M1".
11. Setting the Date and Time. If you associate the device to a WLAN AP, it should automatically set the date and time. The only thing left is to set the time zone. Go to "Settings" and scroll to and select "Date & time". Scroll down to and select "Select time zone", and scroll down to and select the appropriate time zone and you are done.
12. Now you are all set to use your TC20/TC25.

Installing the OS Update Patch for Build 02-10-07-0-NG-00-M1 (GMS)

1. If the device you have is a TC20/TC25 device and it has factory loaded **02-10-07-0-NG-00-M1** build number and you want to move to the latest OS build; you could do a full OS update by applying the **T2XXJN30APUWW31103.ZIP** or do following OTA Patch update by updating with **T2XXJNXXXRUWW31103.ZIP**.
2. Please download **T2XXJNXXXRUWW31103.ZIP** package to your local hard drive.
3. Follow "adb sideload" or "External SD Card" method to load each OTA package to the device.
4. After both packages are loaded to your device you should see Build Number Under Phone Status as "**03-11-03-0-NG-00-M1**".

Downloadable Software Included in this Release

Filename	Description
T2XXJN30APUWW31103.ZIP	GMS full package update image which, updates complete software.
T2XXJNXXXREXX31103.ZIP	Enterprise Reset package (Resets /Data partition)
T2XXJNXXXRFXX31103.ZIP	Factory Reset package (Resets /Data and /Enterprise partitions)
T2XXJNXXXRWXX31103.ZIP	Full Factory package (Resets /Data, /Enterprise and External SD Card)
T2XXJNXXXRUWW31103.ZIP	GMS Recovery OTA Patch and this is applicable for TC20 Devices which has 02-10-07-0-NG-00-M1 (GMS) this will update the device BSP to 03-11-03-0-NG-00-M1 BSP.

Change Notes

NOTE: change notes in Blue indicates the changes that happened for that component since last BSP Release

Barcode Scanning 19.0.15.0
- Fixed an issue where, Software picklist is not disabled when disabled from DWDemo icon
- Added support for Viewfinder support for software picklist
- Performance optimizations

Data Analytics 3.0.0.1208
- Fixed SQL Lite Exception
- Limit the maximum metrics storage threshold on device
- Fix an Agent self-update problem
- Enhance ADB logging
- Fixed a Data Upload Failure
- Added Scanner metrics collection to the default metrics
- Fixed an issue where when agent is killed by Activity Manager it will not start again.

DataWedge 6.6.49

Added Support for

- Implement Multiple plug-in configuration through a single intent
- Extend the Enumerate scanner intent API to return the scanner type.
- Switch scanner intent API to use scanner type.

- Extend GET_CONFIG API for scanner input to return the scanner type
- Update scanner configuration by the scanner type
- Set enableCalled flag to false when BT scanner battery is removed
- Implement extend GET_CONFIG API to return the profile status
- Implement Report generation module in DataWedge

Fixed

- SPR32676, where DataWedge will stop working on Android devices due to invalid state machine
- Scanner doesn't get enabled after suspend/resume the device
- Fixed an issue where, Unable to switch to Scanner 2 when Scanner 1 is in DISCONNECTED state
- Fixed an issue where DataWedge Crash have been seen during closing StageNow App
- Fixed an issue where, Result feedback shows PLUGIN_BUNDLE_INVALID when giving correct parameters.
- Fixed an issue where, device is still scanning from Embedded scanner even though RS6000 is connected to terminal with scanner selection as *Auto*.
- Fixed Datawedge crash after reboot the device
- Fixed an issue where Scanner parameter changes in exported profile could not be seen once imported.
- Fixed an issue where User needs to disconnect/reconnect device to view Report file
- Fixed an issue where Report not getting generated for a corrupted db file.
- Fixed an issue where Restoring the configuration will delete parameters from the scanner_params table
- Fixed an issue where GET_CONFIG intent API not returning the correct scanner parameter values

Fusion [WLAN] FUSIONLITE_QA_1_0.0.0.012_N
- Enhancement to Addressing KRACK vulnerability by introducing hashing to PTK and GTK Keys
- Addresses KRACK vulnerability
- Added support for additional countries
- Fixed an issue where, AP beacons with a country IE in an unsupported channel and device connects to that AP
- Fix for Device didn't send Association/Re-Association frame immediately after Authentication response
- Fix for device suspend-resume reboot scenario
- Fixed WiFi is not connecting automatically after deploying the profile using AirWatch
- Fixed the country change indication from GSM module
- Device Suspend/resume optimization
- Fix Wi-Fi cannot turn on normally under Wi-Fi hotspot enable state
- Settings crash is observed when modifying a Profile

OSx QCT.71.7.4.1.UL
- Added feature to have External SD card mount as Portable storage whenever SD card is placed in SD Slot
- Fixed an issue where in Android N, when Reduced system settings is enabled using OSX APIs, Developer options can be accessed via notification pull down

- Added support for adding an App to Doze Mode White List
- Add Support for Persistence of Skipping GMS Welcome screen after Enterprise reset, Disabling Security pop-up after first time installation of any application on GMS build
- Fixed an issue where if the device is enrolled in Android Enterprise device owner mode Native applications will not work until device reboot is performed once
- Enable Safe Mode out of box
- Fixed and issue where, Scan beam is emitted twice for a single tap on scan trigger in setup wizard bypass screen
- Fix an issue where, Unable to set Device Owner from Test OSx application
- Fix an issue where, on enable, reduced system settings and Quick settings Icons are still visible until the Notification bar is pulled down completely
- Fixed, Language set via OSX does not persist after device reboot
- Fixed, Setup wizard crash observed while skipping GMS
- Fixed, Deployed WiFi EAP-TLS profile with Certificate getting failed in Device Admin and Device Owner mode
- Fixed, OSx Provision Service crash observed when we try to skip the GMS welcome screen using the Barcode
- Fixed where, Disabling the Recent App Button will not disable the Multi Window
- Fixed Settings crash is seen in Reduced Settings mode while accessing Display settings.
- Enable Reduced System Settings and click on Display - > Settings will crash
- Fixed an issue where Dynamic protected list is returning null
- Fixed issues where mCertInstaller.getCACertificateInfo(CertAlias, "TrustedStore") returning null
- Fixed an issue where List CA Certs is not listing system built-in CA certs
- Fixed an issue where EAP/TLS certificates getting deleted when connection to WiFi Profile
- PowerMgr CSP not working as expected using stagenow 2.8.1 to do factoryReset

Operating System (BSP)

- Fixed an issue where "Group Name" Text was not visible unless the resolution of device was changed when a new contact group was created, especially when the keyboard was displaying suggestions.
- Fixed an issue where BT scanner not getting disconnected when turning off BT.
- Reduce camera image blur on low light conditions
- Fixed an issue where when both Ethernet and WiFi was active, ethernet was not getting the high priority over WiFi for network traffic.
- Added localized User Guide for Chinese language for TC20 & TC25.
- The finger touch cannot be detected easier with screen protector when conductivity is low
- Fixed "Install" option is grayed out when user tries to install any third-party apps from file browser.
- Fixed an issue where camera preview resolution was set to 640x480
- Added Localized User Guide for Japanese/Chinese language for TC20
- LED Notification added when battery charging error is seen
- Reverted a change where battery charging indicator (lightning) is disabled upon reaching 100% capacity
- Fixed DUT is not booting up when device is rebooted after disabling settings app using AppMgr

Known Issues and Workarounds

- It has been noticed when downgrading from higher build number to a lower build number such as 02-10-07-0-NG-00-M1 to 01-08-210-NG-00-M1 some google applications throw ANR (Application Not Responding) errors. To overcome this, make sure to factory/enterprise reset the device when downgrading
- Chrome browser has an issue where printer icon will disappear while trying to share a page by clicking the browser menu (3 dots) and selecting share, if the device is suspended before the action is performed. As a work-around press back-button and revisit the same page and perform the action again and it will show the printer icon again.
- As per Android Compatibility Definition Document, user data needs to get wiped either through a factory reset or an enterprise reset when an Enterprise Mobility Management Agent enrolled to a device as a Device Administrator needs to get migrated to Device Owner mode.

Last Revised: 12-11-2017