# Release notes for TC75 Android L LifeGuard Update 16 (NON-GMS FIPS)

**June 2020**

## Description

This release contains the following software package which is compatible with the TC75 NON-GMS FIPS product. LifeGuard patches are cumulative and include all previous fixes that are part of earlier patch releases.

## Component Contents

| Package Name | Package Description |
| --- | --- |
| CFE-TC75-L-F0-021002-N-00-16.zip | CFE package update 16 for TC75 NON-GMS FIPS |
| FPU-TC75-L-F0-021002-N-00-16.zip | Full OS Software Update Recovery package 16 for TC75 NON-GMS FIPS |

## Component Version Info

| Component / Description | Version |
| --- | --- |
| Product Build Number | 02-10-02-L-00-A |
| Android Version | 5.1.1 |
| Linux Kernel | 3.4.0 |
| Android SDK Level | 22 |
| Android security patch level | 2018-03-05 (Critical Patch Level: 2020-06-01) |
| Platform | QC 8960 Pro |
| Bluetooth Stack | 01.018.00 |
| Flash Size | 8GB |
| RAM Size | 1GB |
| MSP Package | 7.08.85 |

| | |
|---|---|
| Scanner Framework | 19.56.37.2 |
| SimulScan Demo App | 2.6 |
| SimulScanEngine | 1.13.6.5 |
| Datawedge | 6.7.51 |
| EMDK | 6.8.24.1124 |
| Mx / OSX | OSX 5.2/ MXMF version:7.2.10.3 |
| WiFi | FUSION_QA_2.00.0.0.026 |
| PTT | 3.1.27 |
| Touch FW | Stylus-80_GLOVE-105, FW:1.2. AA |
| RxLog | 4.58.5.0 |
| Mlog | MLogPackage v06.54 / MLogManager v06.54 / Service v06.54 |
| Bluetooth Pairing Utility | 3.7 |
| File Browser | 1.19.12 |
| Stage Now | 2.10.1.1389 |
| App Gallery | 2.8.4.13 |
| Battery Swap | 1.00 |
| Tech Docs | 1.0.0 |
| WWAN | QP200-W160926A-6102076 |
| RIL | Qualcomm RIL 1.0 |
| TS.25 | JAN092017 |
| IMEI SV | GMS:24<br>Non-GMS:23 |

| | |
|---|---|
| WLAN | WLAN-1240294.1 |
| GPS | GPS-1.0.0 |
| NFC | NFC_NCIHAL_AR3.5.0_Lollipop, FW:122 |
| Sensors (Accel, Gyro, Light, Prox) | 1 |
| Camera | CAM-FRONT-1.0.0 / CAM-REAR-1.0.0 |
| MSR | MSR-1.0.8 |
| MobiControl | 12.2.0. Build 23469 |
| Zebra Volume Control | 1.1.23 |
| IST | App:1.00 build 3/Service: 1.00 build 1/Firmware:1.00 build 5 |
| Battery Manger | 1.3.6 |
| DDT | 1.15.0.11 |
| Fingerprint | Zebra/TC75/TC75:5.1.1/02-10-02-L-00-A/180316:user/release-keys |
| ZSL | 3.1.1 |
| Zebra Data Service | 3.7.1.1003 |
| WifiConfig CSP | 7.0.1 |
| EKB | 1.7.0.5 |
| License Manager | 3.2 |
| Android System Webview | 55.0.2883.91 |

1. **CFE v16 Updates:**
   - ❖ CFE-TC75-L-F0-021002-N-00-16.zip (NON-GMS FIPS)

   - ❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: June 01, 2020)

   Use the below link to see the Android Security bulletin for more information:
   https://source.android.com/security/bulletin/

   - Added support for Tianma display panel.

2. **CFE v14 Updates:**
   - ❖ CFE-TC75-L-F0-021002-N-00-14.zip (NON-GMS FIPS)

   - ❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: Apr 01, 2020)

   Use the below link to see the Android Security bulletin for more information:
   https://source.android.com/security/bulletin/

   - SPR38404 - "Fixed an issue where there was screeching noise heard after a voip call, and RXDevice was switched to speaker"
   - SPR38341 - Resolved an issue wherein device was getting stuck in boot loop as audio service was getting started a little late
   - SPR37771 - Fixed an issue wherein the device was associated to an Access Point and does not roam.
   - SPR33312 – Resolved an issue wherein certain StageNow profile was not able to use after upgrading from KitKat to Lollipop OS.
   - SPR37434 – Resolved an issue wherein device heats up when the configuration is pushed as xml file from AirWatch or StageNow
   - SPR34353 - Resolved an issue of unexpected EOF exception in logcat
   - SPR 35766 - Resolved an issue wherein device takes longer time to connect when deployed in a denser SSID environment
   - SPR37272 - Resolved an issue wherein EHS Hostname in title was not reflecting updated Hostname after device reboot
   - SPR 34909 - Resolved an issue when device initiates a connection with Mesh BSSID
   - SPR 32157 - Resolved an issue when an invalid Neighbor AP response received from the infrastructure.
   - SPR39273 – Resolved an issue wherein device use to struck on zebra logo due to slimbus timeout on multiple warmboot.

- Updated following Components:
    - License Manager: 3.2
    - Zebra Data Service: 3.7.0.1004
    - WIFI: FUSION_QA_2.00.0.0.026

**Known Issue:**

On first boot-up after installing the LG CFEv14 patch, the Android OS installs the new ZDS (v3.x), which is conflicting with the old ZDS (v2.x) process which might have already started on boot complete. This is intermittent and one-time issue and does not have any impact on ZDS functionality or the OS

3. **CFE v13 Updates:**

❖ CFE-TC75-L-F0-021002-N-00-13.zip (NON-GMS FIPS)

❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: July 01, 2019)
Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- SPR36654 - Resolved an issue where TC70 experiences BT audio disconnect when WLAN 11d set to Auto
- SPR36991 - Resolved an issue wherein with SKT SIM card device will connect to network but shows as No service.
- SPR37104 - Resolved a Framework reboot issue when user tries to access missed call message notification on user screen in EHS (MMS is disabled).
- SPR36971 - Resolved an issue wherein the device was sometimes sticking to Wi-Fi Access Points even at very low signal levels
- SPR36633 - Resolve a scan failure issue when application using EMDK Timed Release api to scan the barcodes.
- SPR37258 - Resolved an issue where DNS Resolution fails when device roams to different subnet.
- Updated below mentioned components:
    - Scanner Framework: 19.56.37.2
    - WLAN: FUSION_QA_2.00.0.0.021

4. **CFE v12 Updates:**

❖ CFE-TC75-L-F0-021002-N-00-12.zip (NON-GMS FIPS)

❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: April 05, 2019)
Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- SPR35912 - Resolved an issue wherein 11k operation depends on 11r functionality
- SPR36293 - Resolved an issue wherein KT SIM loaded devices failed to connect to LTE network
- SPR35288 - Fixed an issue wherein initialization of scanner was taking ~1sec.
- SPR35054 - Added support for reduced quite zone barcode decoding.

- SPR34844 - Resolved an issue wherein multiple open calls are prevented when multiple application tries to open scanner without releasing previous instance.
- Updated below mentioned components:
  - Scanner Framework: 19.53.37.0
  - Bluetooth: 01.018.00

## 5. CFE v11 Updates:

❖ CFE-TC75-L-F0-021002-N-00-11.zip (NON-GMS FIPS)

❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: December 05, 2018)
Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- SPR36118 – Resolved an issue wherein patch version was not updating in cfe.ini.
- SPR34738 – Resolved an issue wherein device reboots when VPN connection established over Cellular (AT & T).
- SPR35368 – Resolved an issue wherein scanner crash while scan the barcode just before suspending or after resume the device.
- SPR35362 – Resolved an issue to set hardware picklist to scan barcodes which are very close to each other.
- SPR33745 – Resolved an issue where device advertise as 11ac supported.
- SPR33709 – Implemented the intercharacter delay functionality in Datawedge to support RDP session scan data transfer.
- SPR34191 – Resolved an issue where Devices not sending the hostname to the DHCP server.
- Updated below mentioned components:
  - MX: 7.2.10.2 (For detail please refer http://techdocs.zebra.com)
  - Scanner Framework: 19.12.35.0
  - EKB:1.7.0.5
  - Bluetooth: 01.015.00

## 6. CFE v10 Updates:

❖ CFE-TC75-L-F0-021002-N-00-10.zip (NON-GMS FIPS)

❖ **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: September 05, 2018)
Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- SPR35025 – Resolved an issue where Proxy Auto Config (PAC) did not work properly following stops/restarts of the PacService.
- SPR33977 – Resolved an issue wherein set time zone issue observed with StageNow.
- SPR34716 – Resolved an issue wherein the MX Framework did not restart properly following events where the service was stopped.
- SPR34679 – Resolved an issue wherein setting WiFi Band selection to Auto was not working properly with StageNow.
- SPR34936 – Resolved an issue wherein Datawedge used to crash on bootup.
- SettingsEULA has been renamed to Zebra Data Services.
- Updated below mentioned components:
  - MX: 7.2.9.0 (For detail please refer http://techdocs.zebra.com)
  - Scanner Framework: 19.10.35.1

- ZSL:3.1.1
- WifiConfigCSP:7.0.1

7. **CFE v9 Updates:**

- CFE-TC75-L-F0-021002-N-00-09.zip (NON-GMS FIPS)
- Note: If whitelisting is enabled ZSL functionalities will NOT work. This issue will fix in next release.

- **Android Security Patch Level**: March 05, 2018 (Critical Patch Level: June 05, 2018)

Use the below link to see the Android Security bulletin for more information:

https://source.android.com/security/bulletin/

- SPR33755 – Resolved an issue wherein the Whitelisted apps were unable to submit XML to MX.
- SPR33207 – Resolved an issue wherein the Device Diagnostic tool had an issue with reading the Battery Cycles in the application for PP+ batteries.
- SPR34267 – Resolved an issue where-in user was not able to enable USB debugging option using StageNow.
- SPR33862 – Fixed an issue where-in user could not set Display Timeout value of 30min using StageNow.
- SPR34145 – Fixed an issue wherein user was unable to connect to WLAN network due to WEP Key Index issue.
- SPR34307 – Resolved an issue wherein device out of the box intermittently failed to get staged via StageNow.
- SPR34083/34014/32519 – Resolved an issue wherein disabling WWAN radio via Airwatch using StageNow XML fails.
- SPR33639 – Resolved an issue wherein the customer app install and launch during device sleep state and device stop emitting scan beam after awake from suspend.
- SPR33876 – Resolved an issue wherein Display Timeout was unable set via StageNow.
- SPR33607 – Resolved an issue where few fresh devices were unable to stage after unboxing the device.
- SPR33538 – Resolved an issue wherein the Scanner beam stuck off and No LED beam while pressing scanner button.
- SPR33981 – Resolved an issue Czech Republic Regulatory Country could not be set using Wifi config profile.
- SPR34429 – Resolved an issue wherein device failed to emit scan beam if the application was launched during device suspend.
- SPR34614 – Fixed an issue in DataWedge wherein scanner could not be enabled due to quick enabling and disabling of scanner through Intents.
- SPR33897 – Resolved an issue wherein Dialer screen was not launching when triggered through an intent "android.intent.action.CALL_BUTTON".
- SPR33156 – Provided configurability option to enable or disable A-GPS based on the presence of gpsinfo.txt.

  To disable A-GPS, create a dummy file with name “gpsinfo.txt” and copy it to /enterprise/usr and reboot the device.
- SPR34716 – Resolved an issue wherein the MX was getting killed by Backupmanager and didn’t restart properly.
- SPR34213 – Resolved an issue wherein shared preference initialization without launching EKB.
- Added support for Enterprise Lockdown feature.
- Updated below mentioned components:
  - Datawedge: 6.7.48
  - EKB: 1.7.0.2 (Added as a System application with this CFE 09)
  - MX: 7.2.8.2

8. **CFE v7 Updates:**
   ❖ CFE-TC75-L-F0-021002-N-00-07.zip (NON-GMS FIPS)

   ❖ **Android Security Patch Level**: March 05, 2018

   Use the below link to see the Android Security bulletin for more information:

   https://source.android.com/security/bulletin/

   - Spectre & Meltdown correction for variant 1 and variant 2.
   - SPR33599 - Resolved an issue wherein few of the system applications are getting disabled after enabling whitelist.
   - SPR33799 - Resolved an issue wherein scanner was unable to read '\n' and '\r'.
   - SPR33930 - Resolved an issue wherein dhcp address was not acquired by the device, while hostname is greater than 32 characters.
   - SPR34123 - Resolved an issue wherein super keys are not working in stage now app.
   - SPR33823 - Resolved an issue wherein black screen occurred in DataWedge application.
   - SPR33973- Resolved an issue wherein erroneously loading default profile by providing feature to ignore disabled profiles in DataWedge.
   - SPR33671- Resolved an issue wherein user was unable to create WIFI profile with username as backslash followed by number.
   - Updated below mentioned components:
     - Datawedge: 6.7.47
     - StageNow: 2.10.1.1389
     - EMDK: 6.8.21.1121
     - MX: 7.2.1.0
     - File Browser: 1.19.12
     - Diagnostic Tool: 1.15.0.11
     - Scanner Framework: 19.9.35.0
     - Radio: 2.00.0.0.009
     - Bluetooth: 01.12.00

9. **CFE v6 Updates:**
   ❖ CFE-TC75-L-F0-021002-N-00-06.zip (NON-GMS FIPS)

   ❖ **Android Security Patch Level:** January 05, 2018

   Use the below link to see the Android Security bulletin for more information:

   https://source.android.com/security/bulletin/

10. **CFE v5 Updates:**
   ❖ CFE-TC75-L-F0-021002-N-00-05.zip (NON-GMS FIPS)

   ❖ **Android Security Patch Level:** December 05, 2017

   Use the below link to see the Android Security bulletin for more information:

   https://source.android.com/security/bulletin/

   - SPR33157 - Resolved an issue wherein the BUTTON_L1 has been consumed by both barcode scanner and Google chrome client.
   - SPR32825 - Resolved an issue wherein BT headset volume up/down was not working during Bluetooth call scenario.
   - SPR33233 - Resolved an issue wherein the DataWedge 6.2.24 could not replace separator or non-printable ascii character with $.
   - SPR32463 - Resolved an issue wherein the StageNow File Manager downloads frequently fails due to Socketimeout exception.
   - Updated below mentioned components:

- Datawedge: 6.6.49
- StageNow: 2.9.1.1344
- EMDK: 6.7.10.1010
- MX: 7.1.1.0

**11. CFE v4 Updates:**

❖ CFE-TC75-L-F0-021002-N-00-04.zip (NON-GMS FIPS)

❖ **Android Security Patch Level:** September 05, 2017

Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- Corrections for KRACK vulnerabilities applied.
- SPR30400/31340 – Added support to enable/disable Network Monitoring Notification.

**12. CFE v3 Updates:**

❖ CFE-TC75-L-F0-021002-N-00-03.zip (NON-GMS FIPS)

❖ **Android Security Patch Level:** September 05, 2017

Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- Updated below mentioned components:
  - MXMF - Version 7.0.2.1
  - DataWedge - Version 6.5.61
  - EMDK - Version 6.6.14.914
  - Staging Client - Version 2.8.1.1221
- Resolved an issue in MX to prevent leakage of configuration parameters.
- Included fix for BlueBorne vulnerability.
- Included fix for blank screen seen during boot.
- SPR32582 - Added support for Netherlands - Belgium language.
- SPR32385 – Resolved an issue wherein Simulscan API fails to read Chinese passports.
- SPR32008_SPR31820 - Resolved an issue wherein scanning PDF417 barcodes which contain embedded 0x0D characters resulted in continuous line of data instead of displaying in different lines.
- SPR32666 – Resolved an issue wherein device reboots when it roams from secured to open Wi-Fi network.
- SPR32676 - Resolved an issue wherein DataWedge App crashes when Velocity App tries to send an Intent to enable the scanner plugin.
- SPR32775 - Resolved an issue wherein the notification class created with FLAG_INSISTENT was not getting cleared upon pulling down the notification drawer.

**13. CFE v2 Updates:**

❖ CFE-TC75-L-F0-021002-N-00-02.zip (NON-GMS FIPS)

❖ **Android Security Patch Level:** August 05, 2017

Use the below link to see the Android Security bulletin for more information:
https://source.android.com/security/bulletin/

- SPR29912 - Resolved an issue wherein certificates installation failed through stagenow.
- SPR30401 - Added support to get the CFE version via MDM clients.
- SPR31954 - Resolved an issue wherein dhcpd was not able to start due to lengthy host name.

- SPR32135 - Resolved an issue wherein Settings screen does not revert to its normal state even though the locale language is changed from Arabic to English via EMDK.
- SPR32240 - Resolved an issue wherein the scanner service was not responding while switching between applications.
- SPR32193_SPR32230 - Resolved an issue wherein devices experiencing authentication failures and were not able to recover.
- SPR32539 - Resolved an issue wherein build certificates were lost randomly even though certificates were not expired.
- SPR32326 - Resolved an issue wherein Settings application crashed while trying to set enterprise keyboard as the default keyboard and disable AOSP keyboard through the stageNow profile.
- SPR32413 - Resolved an issue wherein after selecting the static option in the ethernet settings, changes are not reflecting in interface and the interface was always dhcp.

## Note

**Tianma display devices are not allowed to downgrade to any of the older BSPs or Patches**

- To identify the display type on TC75 devices user can check the ‘persist.sys.hw.display.id’ property using adb getprop command.
    - For TC75 Innolux device [persist.sys.hw.display.id]: [600]
    - For TC75 Tianma device [persist.sys.hw.display.id]: [512]

CFE v15 was a beta release. However, devices can be updated from v14 to v16 or v15 to v16.

Full package update (FPU-TC75-L-F0-021002-N-00-16.zip) is mainly meant for TC75 Tianma display devices as these devices are not allowed to downgrade to any of the older BSPs.

## Device Compatibility

This software release has been approved for Android TC75 L models mentioned below.

| Device | Operating System |
|---|---|
| TC75AH-KA11ES-A2 | Android 5.1.1 |
| TC75AH-KA11ES-A1 | Android 5.1.1 |
| TC75BH-KA11ES | Android 5.1.1 |
| TC75BH-KA11ES-BR | Android 5.1.1 |
| TC75BH-KA11ES-IA | Android 5.1.1 |
| TC75BH-KA11ES-ID | Android 5.1.1 |
| TC75BH-KA11ES-TW | Android 5.1.1 |
| TC75BH-KA11MS-CN | Android 5.1.1 |

## Installation Requirements

- The Software update requires SKU hardware device.

- Enterprise Reset and Factory Reset package files are available on the TC75 Software Download section on Zebra.com

## Installation Instructions

**if you are switch between GMS & NON-GMS software then use the Full OS Software Update Recovery package 16 followed by factory reset (T75N0LXXARFXX21002.zip (Factory Reset Package v02.10.02))or enterprise reset(T75N0LXXAREXX21002.zip (Enterprise Reset Package v02.10.02)**

BEFORE UPDATING THE OS IMAGE, EXTERNAL POWER MUST BE APPLIED TO THE TERMINAL VIA USB CHARGING CABLE OR CRADLE.
PLEASE ENSURE BATTERY LEVEL IS > 30%

### CFE software update procedure for TC75 NON-GMS FIPS:

1. Connect the USB cable from your PC to the device and enable USB mass storage mode on the device.
2. On your PC you should see an internal and external USB mass storage drive (SD card) appears in the File Explore and copy " CFE-TC75-L-F0-021002-N-00-16.zip" file to any storage.
3. Press and hold on the device Power button, click on power off and wait until the screen is turned OFF.
4. Press and hold power, Vol+ button and PTT button.
5. Keep holding all three buttons until the device vibrates.
6. Device should enter recovery mode.
7. if applying update via Sideload Method
    a. Use the Volume + and – to highlight, “Apply update from ADB” and press the PTT Key to select it
    b. With your Command Prompt open in the Host machine, type “adb sideload” command and add a space and then drag and drop the CFE on to it and click enter.
    c. Your PC screen will show files being installed and a little blue horizontal progress bar on your device will show status… and after about 6~ minutes it should be done and you should be back at the Android Recovery screen.
    d. “Reboot system now” is highlighted. Press the PTT Key to Reboot.
8. If applying update via SD card.
    a. Click on Vol+ or Vol- to navigate and select SD card or internal storage. Press PTT button to select it.
    b. Click on Vol+ or Vol- to navigate to the recovery update zip file.
    c. Click on PTT button to select and start the recovery update process.
    d. Device will automatically reboot and will be ready to use.

9. To Check the Android Patch Level after installing the CFE package in the device,
    a. Settings->About Device->SW Components: Device Patch Version: 16
    b. ADB Shell method: Execute following command from PC's command prompt:
    ```
    $ adb shell getprop ro.device.patch.version
    $ 16
    ```
10. The Full OS Software Update Recovery package can also be flashed to install Update.
11. Now you are all set to use your TC75.

**Downgrade instruction from Lollipop to KitKat:**

Follow the same steps mentioned above to downgrade but replace the package with latest KitKat OS full package followed by Enterprise reset (T75N0KEXARExx01506.zip). This is a must step to downgrade smoothly.

A special recovery package is released to downgrade from Lollipop to KitKat (GMS v15.06 Lifeguard Update 06) which contains the Enterprise Reset Embedded to it and is available under "Operating System for Android Kitkat > BSP 15.06 > Recovery Downgrade Package for TC75 NON-GMS". The same should be used for downgrading via MDMs (SOTI & Airwatch).

Last Revised: 1st July 2020