

Android Release Note

TCC88xx-Android-IceCreamSandwich-V1.01E-Release Note

June 25, 2012.

TeleChips

Preliminary

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Preliminary

Revision History

Date	Version	Description
2012-05-21	1.00	Release note for v12.05_r1-tcc-android-4.0.4 official release, for 88xx
2012-06-25	10.1	Release note for v12.06_r1-tcc-android-4.0.4 official release, for 88xx

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1 v12.06_r1-tcc-android-4.0.4 Release

You can check below comments from each repositories except hardware/telechips/tcc880x, hardware/telechips/dxb, device/telechips repositories. Please understand there may be some spelling mistakes and it can be found comments from GIT server, also.

1.1 Notice

- Support Wi-Fi Direct function
- Optimize multimedia functions
: Local & Streaming play

1.2 Function Limitations

In the **v12.06_r1-tcc-android-4.0.4** Release, there are some function limitations. And for more information, refer to the following description.

No	Function	Description
1	WIFI	WIFI Direct function is supported. : In case of Atheros WIFI, it doesn't support this function yet.
		Support Realtek RT8189ES (include Wi-Fi Direct) Support WPS operation using push button.
2	File system	Support EXT4 file system on NAND FTL Driver(V8).

[표1. Function limitations in v12.06_r1-tcc-android-4.0.4 Release]

1.3 Changes History

The following items are main items which changed from this version.

1.3.1 System Part

- **System**

- ✓ Optimize driving strength & ODT setting of DDR3
- ✓ Change dirty_ratio set 0 to 5 when connect ums
: when ums connected dirty_ratio set to 0 but it regress io performance so change dirty_ratio set to 5
- ✓ Update RN5T614G PMIC Driver
- ✓ Fix the problem which dev/tmem device opened count is increased repeatedly
- ✓ Bug fix: to increase UMP_memory when playing next/prev files with different resolution
- ✓ Update GPU scaling process (but this feature is disabled now)
- ✓ [TCC88xx] Fix a problem cam bus clock is unintentionally written wrong value
- ✓ Fix the problem that the eCompass module can be slept for a long time.
- ✓ Bug fix: folder be recognized by media's file when folder's last name was media's extension.
- ✓ Bug fix: UMP allocation failed problem when wake-up work just after LCD start dimming
- ✓ Insert supplement code for shutdown
- ✓ Update PMIC (AXP192/RN5T614) drivers
:set the LDO voltage level on bootloader, only control enable/disable in kernel
- ✓ Add a protection code while repeating plug-in/out UMS on USB host
- ✓ Change dalvik.vm.heapsize (256->368)
- ✓ Remove Phone and TelephonyProvider package on WiFi only devices
- ✓ Add eMMC booting for HDMI Dongle
- ✓ Add Nanya-NT5CB256M8GN_CG, Innosys-IN5CB256M8BN_CB ddr3 init code
- ✓ Update ADC touch driver and add save external interrupt selection register.

- **Network**

- ✓ Update WIFI driver for Realtek-rt8189es.
- ✓ Add WIFI power control function
- ✓ Add tethering function using Realtek WIFI module
- ✓ Update Realtek WiFi (RT8188CUS/RT8189ES) for WiFi direct function

- **Filesystem**

- ✓ Support EXT4 file system on NAND FTL new driver (V8).
- ✓ Fix the problem that was not displayed storage space on "Settings → Apps" menu.
- ✓ Updated UI related to NTFS format on Factory Data Reset menu.

1.3.2 Multimedia Part

- **Audio**

- ✓ Update AAC Decoder library to v3.18.08.\
- ✓ Improvement audio driver
- ✓ Fix bug that sound didn't out after recording using RT5633
- ✓ Update audio HAL for RT5625 codec
- ✓ Bug fix: CPU usage increased up to 95% at SPDIF out mode
- ✓ Add interface for adjusting the sampling rate
- ✓ Bug fix: Wave file recognition problem
- ✓ Update DDP(to DD) passthru and DRC control
- ✓ Fix bug that is related with high frequency WMA contents
:Some WMA contents with high frequency over 48KHz is played so fast, because WMA decoder out the pcm downsampling it.
- ✓ Improve audio quality

- **Video**

- ✓ Bug fix: broken display of first frame just after LCD is off/on during playback.
- ✓ Bug fix: video editor error when inserting clip and playing video after inserting clip.
- ✓ Update VPU library (v0.0.61) for TCC88xx.
- ✓ Add skip process when 30fps interlace video output to 50Hz.
- ✓ Support UVC Camera function.
- ✓ Bug fix: In case of specific video apk, timeout is happened during suspend/resume function.
- ✓ Update WMA & WMV Decoder library.
- ✓ Bug fix: unsmooth video play when vsync enable and wrong audio media time - ignore the difference between audio media time and real time
- ✓ Add video vsync onthefly mode for TCC8800
- ✓ Modify to control VPU clock in detail
- ✓ Add a function to move a subtitle position in TCCVideoPlayer
- ✓ Support fast start playback of TS file format
- ✓ Modify OVERLAY_0_MEM_SIZE for video vsync in TCC8800
: increase mem size for m2m scaler use when video vsync
- ✓ Modify deinterlace when video is played through HWC renderer on LCD mode
- ✓ Bug fix: position problem in case SurfaceTexture reuse even though resolution of contents is changed
- ✓ Update transcoder API
- ✓ Modify to restore VPU when init function is failed
- ✓ [TCCVideoPlayer] bug fix: after preview is finished, application is crashed.
- ✓ Support HWC renderer mode when playing video on LCD
- ✓ Update MPG library to v1.83.5
- ✓ [Subtitle]Modified to display subtitle on UI layer.
- ✓ [Subtitle]Fixed an error what display red screen when play start
- ✓ [Subtitle]Modified to support RGB565 format when using CCFB driver
- ✓ Update MPG library v1.83.4

- **Streaming Play**

- ✓ Update RTSP pause/resume logic.
- ✓ Enhance playback of RTSP, HTML5, HLS, HPS
 - :Make HLS/RTSP seek stable
 - :Enhance interoperability of a various kind of HTML5 video apk.
 - :Avoid android audio track from hanging media player up.
- ✓ Upload patch files to block ads before movie on Chinese flash video site.
- ✓ Add HTTP Streaming service data.
- ✓ Modify connection control value for RTSP
- ✓ [HLS] Add safety code to clean connecting data source up fast
- ✓ [HLS] Add 'vice versa' case of www.56.com
 - : Cover the HLS video clip that its url has not an m3u8 token but real service is HLS
- ✓ [HLS] Add more safety code for HTTP connection while playing
- ✓ [HTTP Streaming] Make heap memory of streaming cache and cdk demuxer thread to be cleaned up strictly
- ✓ [HPS] Change AVI init. Option for streaming
- ✓ Bug fix: Playing flash audio using OpenMax AL would be hung up if audio decoder returns time out
 - :ignore time out is comes from OMXCodec, because it will be decoded next time in common cases.
- ✓ [HPS] Enhance playback stuttering protection
 - ◆ Create new demux thread for HPS
 - ◆ Remove the property tcc.parser.sequential
 - ◆ Tune delayed thread triggering time against caching underrun
 - ◆ Minimize playback stuttering
 - ◆ Fix the problem that webm files may not be recognized at SniffTCCMedia.a
 - : Webm files don't have 0x42 0x82 0x88 sequence at header
- ✓ Media Streaming: Bug fix for misextraction of the duration of sequential mode buffer.
- ✓ Update RTSP Seek operation(VOD)
- ✓ Bug fix: seek operation didn't work correctly when playing flash video or Netflix
 - :Reset timestamp when all ports of video decoder component are flushed. Because previous timestamp and data in vpu buffer are useless.
- ✓ [HTML5] consider more of resume-seek in HTML5VideoView
 - :solve display time mismatch problem at re-entering the same clip when this clip can't support seek.
- ✓ [HLS]bug fix for playlist reloading routine
 - :prevent playlist sequence number from being overwrite by old one
- ✓ Add ASF mime type for HTTP streaming
- ✓ Optimize overall of HTML5/HLS/HPS
- ✓ Media streaming: Tune media seek determination time not to run media seek while dragging progress thumb.
- ✓ [HLS]Fix the excessive auto-pause/resume in HLS 'live' playback
- ✓ [HLS]Tune configuration to endure http keep alive session
- ✓ [HLS]support live.cntv.cn playback
- ✓ [HPS]Add wav/mp4/general test code for DLNA
- ✓ [HPS]Support wma/wmv/wav/mp4/mpg for DLNA specific server configurations.

- **HDMI / Composite**

- ✓ Modify to support auto-detection mode for HDMI
- ✓ Change HDMI power control, HDMI power doesn't be controlled off at HDMI resolution is changed
- ✓ Modify video scale condition of bypass
- ✓ Fix display problem when HDMI is disconnected
- ✓ Fix clock setting of HDMI audio for SPDIF output
- ✓ Fix default resolution of auto-detect when device have wrong EDID
- ✓ Fix video resize problem of component and composite output

1.3.3 Graphic Part

- **Display**

- ✓ Added alphablending to tcc scaler driver
- ✓ Improve low quality of UI when rotation UI.
- ✓ Remove ldpi in PRODUCT_AAPT_CONFIG
- ✓ Fix the problem : Shaking display issue when 25fps video output to 60Hz
- ✓ Modify to prevent LCD tearing
- ✓ Support simple deinterlace block on LCD and VIQE deinterlace block on HDMI
- ✓ Modify to align UMP offset when playing video with specific resolution of YUV420 semi-planar.

1.3.4 Camera Part

- **JPEG**

- ✓ modify to slideshow speed & duration
- ✓ modify to image cropping don't save to external memory
- ✓ bug fixed that duplicated image is displayed
- ✓ bug fixed that folder be recognized by media's file when a folder's last name was media's extension

- **Stability**

- ✓ Support to DE signal that mv9317 sensor.
- ✓ Camera preview & capture sequence change more stability
- ✓ Support TVP5150 preview, capture, recoding
- ✓ add DE signal polarity setting variable.

1.3.5 Broadcasting part

- **Common**

- ✓ Update GPSB-TSIF driver for suspend/resume.
- ✓ Set default PTS interval & framerate. It is for default video delay value.
- ✓ Update tcc_dxb_drv.ko and linuxtv component
- ✓ Add file play function while recording
- ✓ Update tcc_dxb_drv.ko (linuxtv driver)
- ✓ Update TCCSWDemuxer_V2_018 for resolution change while playing
- ✓ [TCC316X] Asm update for T-DMB(version 1.5.23)
: bug fix TDMB TS Align problem
- ✓ Modify to improve the speed of channel change
- ✓ Update LATM parser
- ✓ Update BSAC decoder
- ✓ Bug fix: after channel scan, no audio output

- ✓ Update tcc_gpsb_tsif
- ✓ Fixed full view size in status bar hide
- ✓ [IPTV]Add protection code while parsing RTP header

- **ISDB-T**
 - ✓ Add an area-code field in channel DB.
 - ✓ Add a channel of "open university of Japan" to preset of Kanto wide-area.
 - ✓ Update IC-card driver for TCC8925_M805S_D3_08X4_2CS_V1.4 board.
 - ✓ Arrange source for libISDBTDemux.Input.so, not code change.
 - ✓ Add EPG_3List.
 - ✓ Update asm (MPW version 2, MPW version 1) - Improve stability
 - ✓ Support MPW version 2 and 2-Diversity.
 - ✓ Add a routine to discard the statement of caption & superimpose which has CS but non-whitespace characters within 0.5s form a previous one.
 - ✓ Change a channel name of yomiuri broadcasting system in kagoshima (traditional Chinese → simplified chine)
 - ✓ Modified to save a handover information in channel DB.
 - ✓ Modified to save EPG information of all services in same channel number
 - ✓ Set a default code table of closed caption on SBTVD full-seg
 - ✓ Indicate a display port when caption will be shown on LCD
 - ✓ Modified DEMUXINPUT_ReadData function
 - ✓ Applied SUPPORT_SMART_STARTDMA to isdbt demux component
 - ✓ Add an EPG function that EPG data is accrued on SQL database
 - ✓ Modified to control a CCFB driver because CCFB driver is modified

- **DVB-T**
 - ✓ Fix a bug for iso6937 conversion at parsing EPG.
 - ✓ Add TsParse_DVB.c to middleware, remove libTSProcDVB_XX.a

2 v12.05_r1-tcc-android-4.0.4 Release

v12.05_r1-tcc-android-4.0.4 is release version for TCC88xx@ ICS in MID.

You have to take care of supported chipsets about these SDK versions, as follows.

The below table is explanation about versions vs chipset in MID :

Release note version	Release date	Release version	Chipset @ ICS (MID)
1.00@ TCC88xx	2012-05-21	V12.05_r1-tcc-android-4.0.4	TCC88xx
1.01@ TCC892x	2012-04-20	V12.04_r1-tcc-android-4.0.4	TCC892x
1.00@ TCC892x	2012-03-05	V12.03_r1-tcc-android-4.0.3	TCC892x
0.01@ TCC892x	2012-02-20	Beta version	TCC892x
0.00@ TCC892x	2012-01-27	Alpha version	TCC892x

And you can check below comments from each repositories except hardware/telechips/tcc88xx, hardware/telechips/dxb, device/telechips repositories. Please understand there may be some spelling mistakes and it can be found comments from GIT server, also.

2.1 Notice

- This version is 1st release for TCC88xx@ICS (Android 4.0.4), MID.
- This version have not include to release about TCC892x@ICS, MID.
- How to detect the SD Card in deep sleep state
 - ➔ Refer to "How to detect the SD Card in deep sleep state.pdf"
- Changed the layout of partitions for eMMC, for TCC88xx
 - ➔ Refer to "eMMC Boot Quick Start Guide"
- How to camera driver setting when use DE signal or HS signal
 - ➔ Refer to "Camera module porting Guide"

2.2 Function Limitations

In the v12.05_r1-tcc-android-4.0.4 Release for TCC88xx, there are some function limitations. And for more information, refer to the following description.

No	Function	Description
1	Video Vsync	- Video vsync disable
2	Video playback	- Video playback of 1080p is supported up to 10Mbps on DDR3 memory.
3	HDMI	- HDMI auto detect function not support - Issue of Interworking between Bluetooth and HDMI on DDR3 1. Bluetooth and HDMI output cannot be used simultaneously on DDR3 memory. So in this release version, the scenario was changed regarding setting of Bluetooth as follows. * Below is a new scenario regarding Bluetooth operation 1) When Bluetooth was turned on, if trying to set HDMI output as output mode of display in settings menu, Bluetooth is turned off automatically. 2) When HDMI output mode was set as output mode of display, if trying to turn on Bluetooth in settings menu, pop-up message will appear as follows. : "Cannot use Bluetooth when HDMI is ON" 2. Telechips solution does not support Auto-detection of HDMI by default.
4	Camera	- Video snapshot disable

		- When Video Recoding, in case of Saving at NAND, Recoding resolution limited up to VGA(640x480)
5	UVC	- UVC Camera is not yet supported.
6	SD	- SD Erase is not yet supported. Only eMMC Erase is supported.
7	MTP	- MTP is not yet supported. Currently, UMS is supported.
8	High Bit-rate DTV	- In case of DDR3 Memory, High bit-rate HD contents (over 10Mbps) cannot be played. Because of DDR3 performance.

[ㄸ1. Function limitations in v12.05_r1-tcc-android-4.0.4 Release for TCC88xx]

2.3 Known Issue

In the **v12.05_r1-tcc-android-4.0.4** Release for TCC88xx, there is some Known Issue. And for more information, refer to the following description.

Function	Description
CAMERA	Sometimes camera shutter sound is abnormal.
	About BGM, when camera enter preview, BGM should be stopped. But sometimes BGM don't stop.
Wi-Fi	If customer's EVM board use Realtek WIFI module (RTL8188). And it use USB interface. When System wakeup after suspend mode, sometimes Wi-Fi connection will be delayed

[ㄸ2. Known Issue in v12.05_r1-tcc-android-4.0.4 Release for TCC88xx]

2.4 Changes History

The following items are main items which changed about TCC88xx@ICS, MID from this version.

2.4.1 System Part

- **Application**
 - ✓ When Compatibility of application running, Change to install of Compatibility Applications.
 - ➔ segmentation fault : 15ea
 - ➔ failure (install_failed_missing_shared_library) : 1ea
 - ➔ /system/bin/sh: no closing quote : 1ea
- **Power**
 - ✓ insert supplement code for shutdown (TCC892x)
- **DDR**
 - ✓ add innoways IN5CB256M8BN_CG ddr3 init code (TCC892x)
 - ✓ add Nanya NT5CB256M8GN_CG ddr3 init code (TCC892x)

- **USB**
 - ✓ When UFD insert and remove of UFD, Changed to notification display of status removed UFD.
- **Display**
 - ✓ When select of menu, stricmode disable.
- **Network**
 - ✓ Update NTP(Network Time protocol) function.
- **Wi-Fi**
 - ✓ Add RT8189ES drive.
 - ✓ Support Wi-Fi Direct, Realtek Wi-Fi module.
- **Graphic**
 - ✓ Update MALI driver to r2p4_02rel1
 - ✓ bug fixed : U plane was broken issue when playing video with specific resolution
- **eMMC**
 - ✓ Support Erase of eMMC, only.
 - ✓ Support Recovery mode (eMMC, SD/MMC booting).

2.4.2 Multimedia Part

- **Audio**
 - ✓ Fix bug that some WMA contents with over 48KHz sampling rate was played at 2x speed.
 - ✓ Fix bug that AudioResampler had poor quality. It was caused by supporting high sampling rate over 96KH.
- **Video**
 - ✓ VPU library to v0.0.60
 - Add m_iEncQualityLevel, in enc_rc_init of Encoder
 - : Control for image quality in Encoded stream
 - Field about Trade off
 - of image quality and bit rate control performance.
 - ✓ Bug Fixed: Fix seek problem on Netflix and Flash video player.
 - ✓ Bug fixed: display problem when Flash is played with negative position on HDMI.
 - ✓ Bug fixed: Encoder failed problem when User choose "Export Movie" function after editing video on Movie studio.
 - ✓ Bug fixed: playback failed problem when contents with strange resolution is failed when trying to play.
 - ✓ Bug fixed: playback color problem when contents with strange resolution is played.
 - ✓ Bug fixed: UV order problem when playing flash with cropping.
 - ✓ New function added: HWC renderer will be used when video or camera is displayed on LCD.
 - ✓ v.1.0.0.52 -> v.2.1.0.00 (TCC892x)
 - When play H.264 progressive contents, changed the issue of hang-up.
 - In case of field stream, changed the way of count FPS (Frame rate).

- Add m_iEncQualityLevel, in enc_rc_init of Encoder
- Increasing stability of H.264 decoder and using external ps buffer
- When Dvix3 contents playback and seek, changed the issue of screen image tearing
- Changed the issue of abnormal play about MVC dependent view.
- Add output option about H.264 one field.
- Support multi-speed playback about China Telecom IPTV
- ✓ In this version, there are some unstable issue about Encoder and Multi-instance (TCC892x)
- **HTML5**
 - ✓ Change the way of displaying live broadcast playback time/duration in media progress bar.
 - ✓ Prevent user from dragging the seek thumb in media progress bar during live broadcast playback.
- **HTTP**
 - ✓ Enhance overall HLS LIVE streaming playback.
 - ✓ Change HLS default aac decoder from Google's to TCC's.
 - ✓ Fix the HLS AV Sync. problem in some HTML5 sites.
 - ✓ Support L16 audio streaming playback using DLNA.
- **RTSP**
 - ✓ Enhance RTSP seek functionality.
- **Transcoder**
 - ✓ Support API to using of Transcoder Module.
- **HDMI**
 - ✓ Fixed bug: When playback of video, UI had been enabled display on HDMI for display of subtitles.

2.4.3 Camera Part

- ✓ Camera system stabilization (preview, zoom, capture) (TCC892x)
- ✓ Add usability according to DE (Data enable) signal. (TCC892x)
- ✓ Port of TVP5150 driver for ICS. (TCC892x)
- ✓ Fixed bug: Saving of image with cropping at external storage in Gallery 3D. (TCC892x)

2.4.4 Broadcasting part

- **Common**
 - ✓ Fix run-time bugs
 - ✓ Improve capture function
- **ISDB-T**
 - ✓ ISDB-T Caption - support PNG image of caption and super-impose. (892x)