



CONFIDENTIAL A

GMS Express/PLUS SOP v3

2017/AUG/29



中文版

三部曲

1. 设定
2. 检查
3. 送测

开始之前 – MOL [FAQ03066]

- 请到Mediatek On-Line:
<http://online.mediatek.com/Pages/FAQ.aspx>
- 依照FAQ03066，做Settings中About Phone 的Model number等信息的修改
- 不要误用alps字符串作为装置名称

1. 设定

GMS EXPRESS

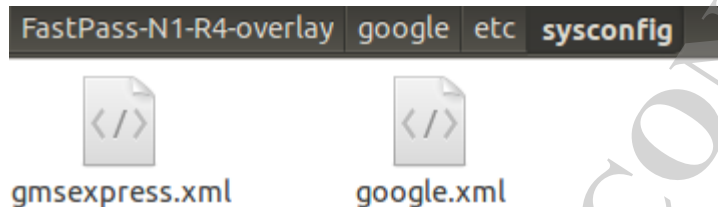
GMS Express

1. 加入 Track Log
2. 到MTK PMS下载Google所有
GMSExpress/CTS/GTS/Security补丁
3. 使GMSExpress build option编译

1. 加入GMS EXPRESS Track Log

■ 如何加入track log:

(1) 在 /vendor/google/etc/sysconfig/ 文件夹中，新增 gmsexpress.xml 文件。如果打上 GMSExpress 专区的补丁，它会自动生成。



(2) 在 gmsexpress.xml 中，加入 track_log:
“com.google.android.feature.GMSEXPRESS_BUILD”

```
<!-- These are configurations that must exist on all GMS devices. -->
<config>
  <!--Track GMSExpress log-->
  <feature name="com.google.android.feature.GMSEXPRESS_BUILD" />
</config>
```

(3) 在 gms.mk 文件里面，把 gmsexpress.xml 加入 PRODUCT_COPY_FILES

```
# Configuration files for GMS apps
PRODUCT_COPY_FILES += \
    $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml
```


2. 下载并合并 GMSExpress 补丁 (<http://eservice.mediatek.com/>)

MEDIATEK

CUSTOMER SERVICE

- Dashboard
- VAR
- eService
- Patch Management**
- Critical Patch
- Specific Domain**
- Patch ID
- Patch History
- Project Setting
- Customer Project
- Report

Home • Patch Management

Specific Domain query and apply patch.

Action Buttons

Check Patch Status Apply Patch

SEARCH PANEL

Scenario/Category (Required): Google Patch - GMSExpress

Type:

- Google Patch
- Google Patch - All
- Google Patch - CTS
- Google Patch - GMSExpress**
- Google Patch - GTS
- Google Patch - Security

Platform (Required): Select Platform Other

Active Project: ☒ Active [Activate your project first! \(Click\)](#) ☐ Non-Active

Patch Title: Filter Patch Title

3. 使用GMSExpress build option编译

(1) 在/device/mediatek/common/device.mk中，新增build option:

```
# GMS interface
ifdef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
```

(2) 编译 GMSExpress指令如下:

```
[mtk10832@mcswglx001 n1.mp9]$mosesq make -j24 BUILD_GMS=yes
```

GMS EXPRESS PLUS

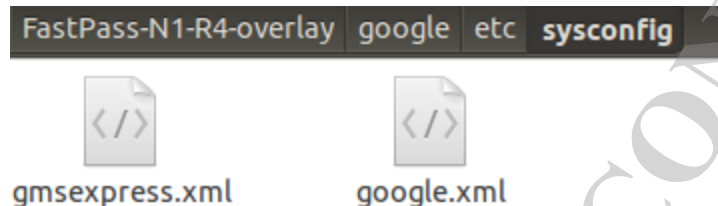
GMS Express PLUS

1. 加入 Track Log
2. 到MTK PMS下载Google所有
GMSExpress/CTS/GTS/Security补丁
3. 依照Google Clean UX规范设定软件
4. 使用GMSExpress build option编译

1. 加入GMS EXPRESS PLUS Track Log

■ 如何加入track log:

(1) 在 /vendor/google/etc/sysconfig/ 文件夹中，新增 gmspress.xml 文件。如果打上 GMSExpress 专区的补丁，它会自动生成。



(2) 在 gmsexpress.xml 中，加入 track_log:

“com.google.android.feature.GMSEXPRESS_ **PLUS** _BUILD”

```
<!-- These are configurations that must exist on all GMS devices. -->
<config>
  <!--Track GMSExpress plus log-->
  <feature name="com.google.android.feature.GMSEXPRESS_PLUS_BUILD" />
</config>
```

(3) 在 gms.mk 文件里面，把 gmspress.xml 加入 PRODUCT_COPY_FILES

```
# Configuration files for GMS apps
PRODUCT_COPY_FILES += \
    $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml
```

1.1 平板或手机非所列平台，请改成加入Clean UX Track Log

- GMS Express支持平台：
 - 手机：MT6739, MT6580, MT6737, MT6738, MT6750, MT6753
 - 平板：MT8321, MT8735B/D, MT8765
- 非上述平台，请把上面的(2)步骤，改成在gmsexpress.xml中，加入track_log:
“com.google.android.feature.CLEANUX_BUILD”

```
<!-- These are configurations that should exist on CleanUX devices. -->
<config>
  <!-- Track CleanUX log-->
  <feature name="com.google.android.feature.CLEANUX_BUILD" />
</config>
```

2. 下载并合并 GMSExpress 补丁 (<http://eservice.mediatek.com/>)

MEDIATEK

CUSTOMER SERVICE

- Dashboard
- VAR
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- Patch Management**
- Critical Patch
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Specific Domain query and apply patch.

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Scenario/Category (Required): Google Patch - GMSExpress

Type: Google Patch

- Google Patch - All
- Google Patch - CTS
- Google Patch - GMSExpress**
- Google Patch - GTS
- Google Patch - Security

Platform (Required): Select Platform Other

Active Project: ☒ Active [Activate your project first! \(Click\)](#) ☐ Non-Active

Patch Title: Filter Patch Title

3. 依照GMS Express规范设定软件



Gmail as only mailer



Google Calendar as only calendar app



GBoard as only keyboard app



Photos as only gallery app



Android Messages as only SMS/RCS/messaging app



Chrome as the default browser



Duo on the Default Home Screen



Google "Feed" on the -1 screen

3.1 相关GMS 应用设定

1) 设定Gmail为唯一邮箱应用:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Email Exchange2
```

2) 设定Google Calendar为唯一行事历应用:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Calendar GoogleCalendarSyncAdapter MtkCalendar
```

3) 设定Gboard为唯一输入法应用:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := LatinIME TouchPal
```

4) 设定Photos为唯一gallery应用:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Gallery2
```

3.1 相关GMS应用设定(续)

5) 设定Messages为唯一SMS/RCS应用:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := messaging Mms MtkMms
```

6) 设定Chrome为默认浏览器:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Browser Browser2 MtkBrowser
```

7) 将Duo放在首页:

```
<favorite packageName="com.google.android.music" className="com.android.music.activitymanagement.TopLevelActivity"/>  
<favorite packageName="com.google.android.videos" className="com.google.android.youtube.videos.EntryPoint"/>  
<favorite packageName="com.google.android.apps.tachyon" className="com.google.android.apps.tachyon.MainActivity"/>
```

8) 将Google “Feed”放在负1页面。请参照下一页的SearchLauncher 整合说明

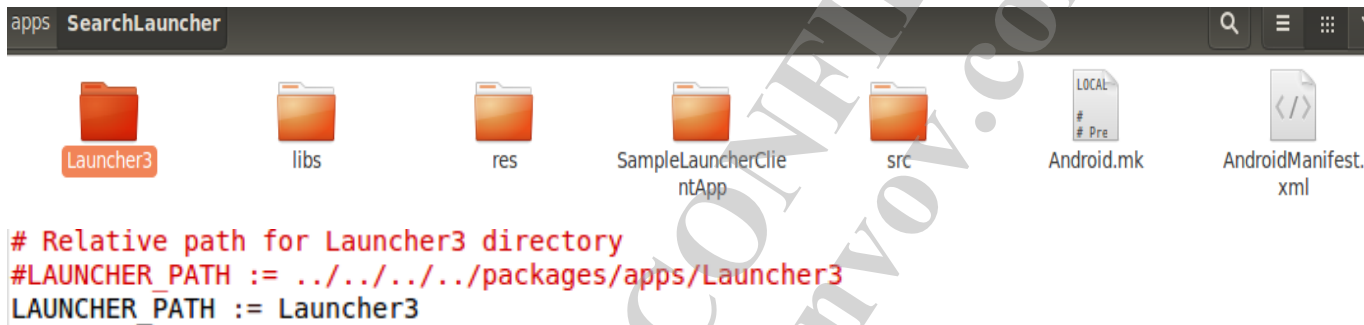
3.2 SearchLauncher 整合

1. Search Launcher Service Library 可以在GMS bundle(Full integration)中取得, 并请参考文档 IntegratingGoogleAppwithOEMlauncher 。
2. 预载 SearchLauncher 应用 (Launcher3+SLS(Search Launcher Service)), 请参考下一页的预载SearchLauncher 的整合说明.

3.3 预载 SearchLauncher 整合

■ 如何整合:

(1) 在SearchLauncher文件夹里，新增AOSP软件的 Launcher3



(2) 把AOSP Launcher3中的Android.mk移除。(否则在GMS包的编译会发生错误)

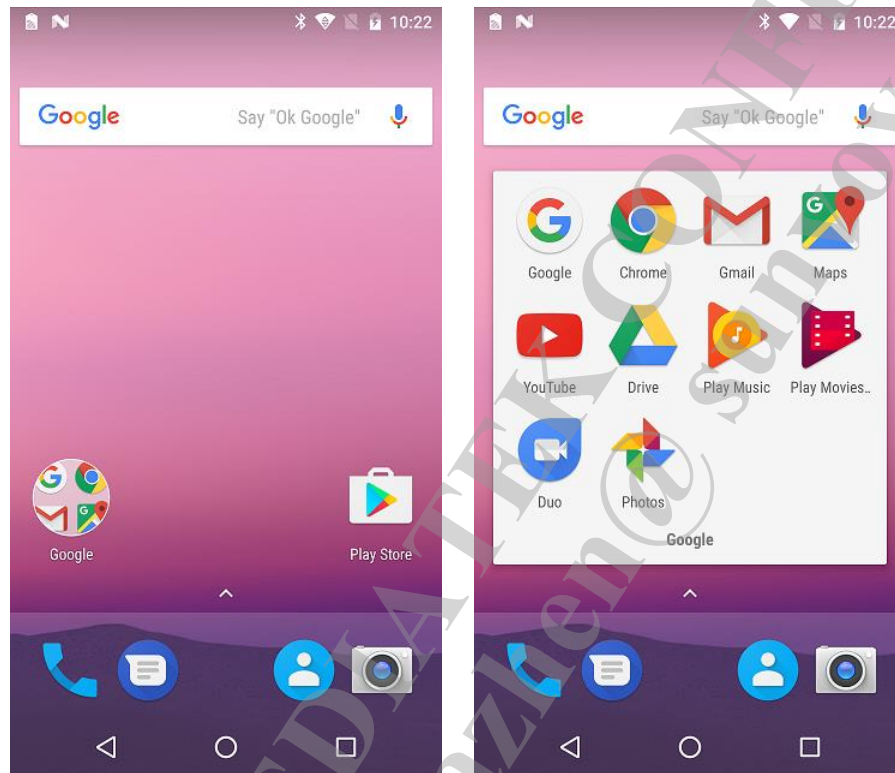


(3) 把SearchLauncher 设置进GMS清单

```
# GMS optional application packages(4)
GMS_PRODUCT_PACKAGES += \
    Messages \
    LatinImeGoogle \
    CalendarGoogle \
    SearchLauncher
```

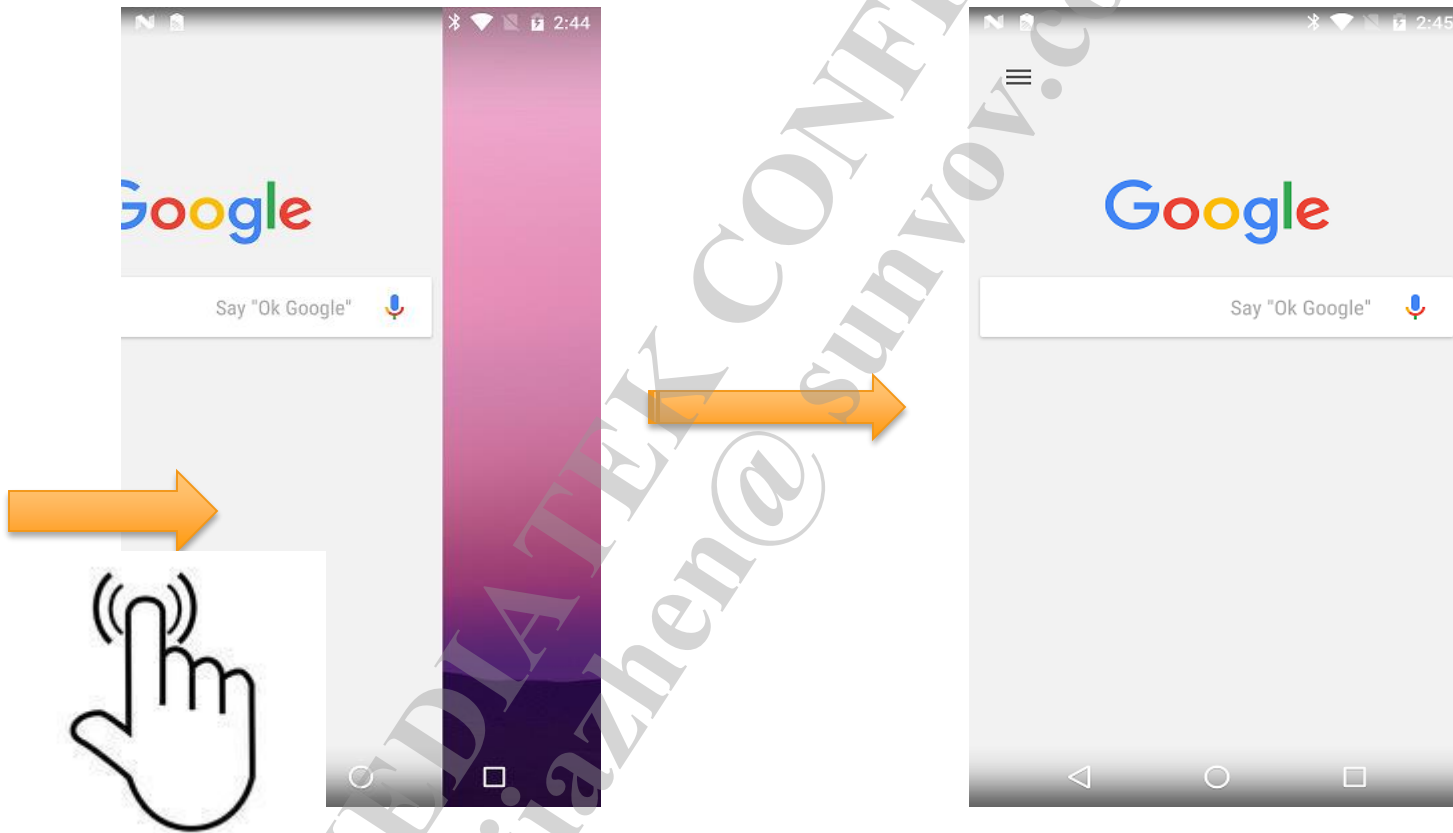
3.3 预载 SearchLauncher 整合(续)

- 首页Search Launcher UI layout:



3.4 Google “Feed” 整合在负1页面

- 只要在首页把页面往右划动，就可以进入Google Feed页面：



4. 使用GMSExpress build option编译

(1) 在/device/mediatek/common/device.mk中，新增build option:

```
# GMS interface
ifdef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
```

(2) 编译 GMSExpress指令如下:

```
[mtk10832@mcldswglx001 n1.mp9]$mosesq make -j24 BUILD_GMS=yes
```

2. 检查

检查GMS Express PLUS Track Log

- 如何检查GMS Express Track log

您可以利用此指令来检查输出结果: adb shell pm list features:

如果项目是GMS express, 会得到下列的字串输出:

feature: com.google.android.feature.GMSEXPRESS_BUILD

如果项目是GMS express **PLUS**,会得到下列的字串输出:

feature: com.google.android.feature.GMSEXPRESS_ **PLUS**_BUILD

如果项目是Clean UX,会得到下列的字串输出:

feature: com.google.android.feature.CLEANUX_BUILD

依照下列规范逐个项目检查

3PL certification fee is funded if no key elements are overwritten from Express baseline



Gmail as only mailer



Google Calendar as only calendar app



GBoard as only keyboard app



Photos as only gallery app



Android Messages as only SMS/RCS app and placed in the hotseat



Chrome as default browser and placed in the hotseat



Duo on the default home screen



Google "Feed" on the -1 screen

GMS Requirements still remain* (e.g. Google provided widget, Google Folder and Google Play on the Default Home Screen)

Those requirements will be satisfied if you don't change the GMS Express baseline.

No other 1P/3P apps in the app categories above can be pre-loaded. Other 1P/3P in other categories will be allowed.

利用Linux指令复检

App Category	Command Line(Linux)	Expected result
Browser	adb shell am start -W -a android.intent.action.VIEW -d 'https://www.wikipedia.org/' grep -c com.android.chrome	1
	adb shell am start -W -a android.intent.action.VIEW -d 'http://www.wikipedia.org/' grep -c com.android.chrome	1
Gallery	adb shell am start -W -t image/* file:///tmp/cute.jpg grep -c com.google.android.apps.photos	1
	adb shell am start -W -t image/* file:///tmp/cute.mp4 grep -c com.google.android.apps.photos	1
	adb shell am start -W -a android.intent.action.PICK -t image/* grep -c com.google.android.apps.photos	1
Messaging	adb shell am start -W -a android.intent.action.SENDTO -d sms:CCXXXXXXXXXX grep -c com.google.android.apps.messaging	1
	adb shell am start -W -a android.intent.action.SENDTO -d smsto:CCXXXXXXXXXX grep -c com.google.android.apps.messaging	1
Calendar	adb shell am start -W -a android.intent.action.VIEW -d content://com.android.calendar/time/1410665898789 grep -c com.google.android.calendar	1
Email	adb shell am start -W -a android.intent.action.SENDTO -d mailto:someone@gmail.com grep -c com.google.android.gm	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.READ_CALENDAR: granted=true"	1

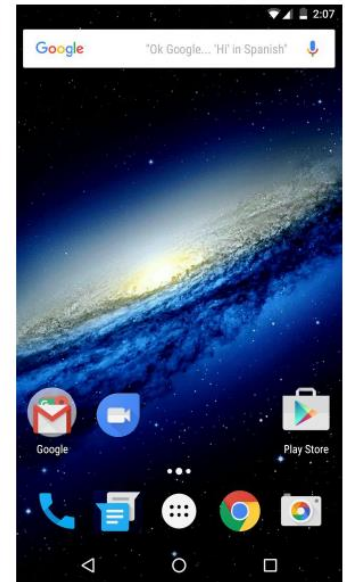
检查首页UI layout

BEFORE & AFTER ON GMS EXPRESS DEVICES



Before

Duplicate apps in same category



After

Best Google experience

3. 送测

送测前需求

- 手机: 5支
 - 确保每台手机写入的序列号(SN)是唯一的（可以通过“adb devices”命令来检查）
 - 需要提供手机的工模入口（MTK默认：“*##3646633#*#*”）
 - 送测手机必须是user-build，且必须是同一版软件
 - 需要严格按照GMS Express PLUS SOP配置软件，保证CTS/GTS有自测pass，并提供自测时使用CTS & GTS tool, GMS包的版本。
- 寄送手机前一周请提前跟MTK CTS 联系窗口「林中晓」沟通好注意事项。
- 请提供接口人便于随时沟通

联系我们

■ 联系方式:

- 地址：广东省深圳市南山区科技中二路深圳软件园11# 10层 联发软件设计（深圳）有限公司
- 邮编：518057
- 联系人：林中晓
- 联系电话：0755-26630099 分机：85547
- E-mail: zhongxiao.lin@mediatek.com

ENGLISH VERSION

Before Start – MOL [FAQ03066]

- Please Log-in to Mediatek On-Line:
<http://online.mediatek.com/Pages/FAQ.aspx>
- Follow FAQ03066 , Modify Model number in Settings ->About Phone to your own product name.
- Avoid to keep “alps” string as device name

3 Steps

1. Configuration
2. Examination
3. Certification

1. CONFIGURATION

GMS EXPRESS

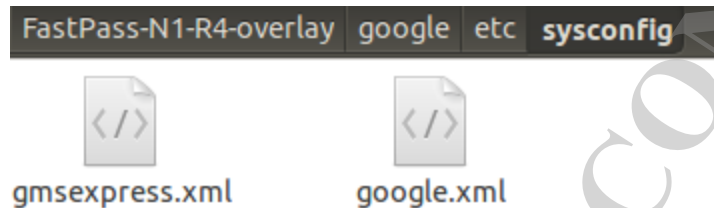
GMS Express

1. Add Track Log
2. Download all the Google GMSExpress/CTS/GTS/Security patches on MTK PMS
3. Compile with GMSExpress build option

1. Add GMS EXPRESS Track Log

- How to add track log:

(1) Add a [gmsexpress.xml](#) file in folder: /vendor/google/etc/sysconfig/. It would be generated automatically if you applied GMSEXPRESS patch.



(2) Add track_log: "com.google.android.feature.GMSEXPRESS_BUILD" in [gmsexpress.xml](#)

```
<!-- These are configurations that must exist on all GMS devices. -->
<config>
  <!--Track GMSEXPRESS log-->
  <feature name="com.google.android.feature.GMSEXPRESS_BUILD" />
</config>
```

(3) Add gmsexpress.xml under PRODUCT_COPY_FILES in [gms.mk](#) file

```
# Configuration files for GMS apps
PRODUCT_COPY_FILES += \
    $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml
```

2. Apply and Merge GMSExpress patches (<http://eservice.mediatek.com/>)

MEDIATEK

CUSTOMER SERVICE

- Dashboard
- VAR
- eService
- Patch Management**
- Critical Patch
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- Patch ID
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- Customer Project
- Report

Home • Patch Management

Specific Domain query and apply patch.

Action Buttons

Check Patch Status Apply Patch

SEARCH PANEL

Scenario/Category (Required): Google Patch - GMSExpress

Type: Google Patch

- Google Patch - All
- Google Patch - CTS
- Google Patch - GMSExpress**
- Google Patch - GTS
- Google Patch - Security

Platform (Required): Select Platform Other

Active Project: ☒ Active [Activate your project first! \(Click\)](#) ☐ Non-Active

Patch Title: Filter Patch Title

3. Compile with GMSExpress build option

(1) Add build option in /device/mediatek/common/device.mk:

```
# GMS interface
ifdef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
```

(2) Instruction to build GMSExpress as below:

```
[mtk10832@mcldswglx001 n1.mp9]$mosesq make -j24 BUILD_GMS=yes
```


GMS EXPRESS PLUS

GMS Express PLUS

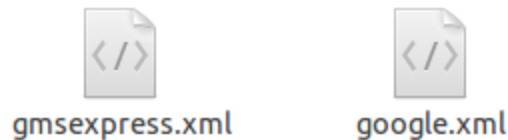
1. Add Track Log
2. Download all the Google GMSExpress/CTS/GTS/Security patches on MTK PMS
3. Follow the regulation of Clean UX to configure SW
4. Compile with GMSExpress build option

1. Add GMS EXPRESS PLUS Track Log

- How to add track log:

(1) Add a [gmsexpress.xml](#) file in folder: /vendor/google/etc/sysconfig/. It would be generated automatically if you applied GMSEXPRESS patch

FastPass-N1-R4-overlay google etc sysconfig



(2) Add track_log: “com.google.android.feature.GMSEXPRESS_ **PLUS**_BUILD” in [gmsexpress.xml](#)

```
<!-- These are configurations that must exist on all GMS devices. -->
<config>
  <!--Track GMSEXPRESS plus log-->
  <feature name="com.google.android.feature.GMSEXPRESS_PLUS_BUILD" />
</config>
```

(3) Add gmsexpress.xml under PRODUCT_COPY_FILES in [gms.mk](#) file

```
# Configuration files for GMS apps
PRODUCT_COPY_FILES += \
    $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
    $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml
```

1. 1 Platform not listed below, please add Clean UX Track Log instead

- GMS Express support platforms :
 - Phone : MT6739, MT6580, MT6737, MT6738, MT6750, MT6753
 - Tablet : MT8321, MT8735B/D, MT8765
- Using platforms not listed above, please modify step(2) in previous page, instead to add track_log:
“com.google.android.feature.CLEANUX_BUILD” in
[gmsexpress.xml](#)

```
<!-- These are configurations that should exist on CleanUX devices. -->
<config>
  <!-- Track CleanUX log-->
  <feature name="com.google.android.feature.CLEANUX_BUILD" />
</config>
```

2. Apply and Merge GMSExpress patches (<http://eservice.mediatek.com/>)

MEDIATEK

CUSTOMER SERVICE

- Dashboard
- VAR
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- Critical Patch
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Type:

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- Google Patch - GTS
- Google Patch - Security

Platform (Required): Select Platform Other

Active Project: ☒ Active [Activate your project first! \(Click\)](#) ☐ Non-Active

Patch Title: Filter Patch Title

3. Follow GMS Express regulation to configure SW



Gmail as only mailer



Google Calendar as only calendar app



GBoard as only keyboard app



Photos as only gallery app



Android Messages as only SMS/RCS/messaging app



Chrome as the default browser



Duo on the Default Home Screen



Google "Feed" on the -1 screen

3.1 GMS APP setup

1) Set Gmail as the only mailer:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Email Exchange2
```

2) Set Google Calendar as only calendar app:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Calendar GoogleCalendarSyncAdapter MtkCalendar
```

3) Set Gboard as only keyboard app:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := LatinIME TouchPal
```

4) Set Photos as only Gallery app:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Gallery2
```

3.1 GMS app. setup(cont.)

5) Set Android Messages as only SMS/RCS app:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := messaging Mms MtkMms
```

6) Set Chrome as the default browser:

```
#LOCAL_PRIVILEGED_MODULE :=  
LOCAL_CERTIFICATE := PRESIGNED  
LOCAL_OVERRIDES_PACKAGES := Browser Browser2 MtkBrowser
```

7) Set Duo on the default home screen:

```
<favorite packageName="com.google.android.music" className="com.android.music.activitymanagement.TopLevelActivity"/>  
<favorite packageName="com.google.android.videos" className="com.google.android.youtube.videos.EntryPoint"/>  
<favorite packageName="com.google.android.apps.tachyon" className="com.google.android.apps.tachyon.MainActivity"/>
```

8) Set Google “Feed” on the -1 screen.

Instruction please refer to the next page

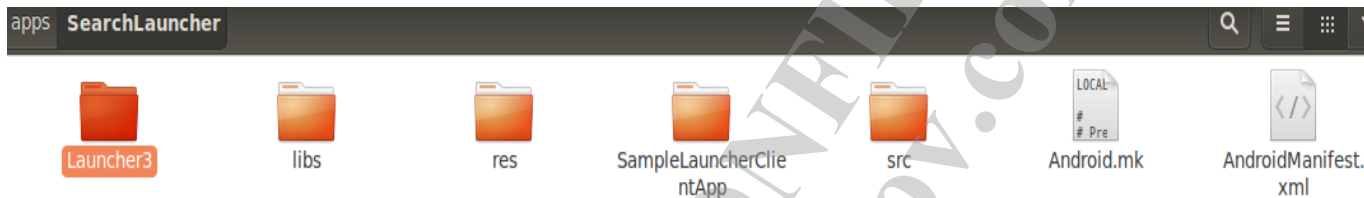
3.2 SearchLauncher Integration

1. You can get Search Launcher Service Library from GMS bundle(Full integration), please refer to the document: IntegratingGoogleAppwithOEMlauncher .
2. Preload SearchLauncher application (Launcher3+SLS(Search Launcher Service)), please refer to the instruction next page.

3.3 Preload SearchLauncher Integration

- How to integrate:

(1) Add AOSP Launcher 3 in folder "SearchLauncher"



```
# Relative path for Launcher3 directory
#LAUNCHER_PATH := ../../../../packages/apps/Launcher3
LAUNCHER_PATH := Launcher3
```

(2) Remove **Android.mk** from AOSP Launcher3. (or build error would be happened while compiling
GMS pkg.)

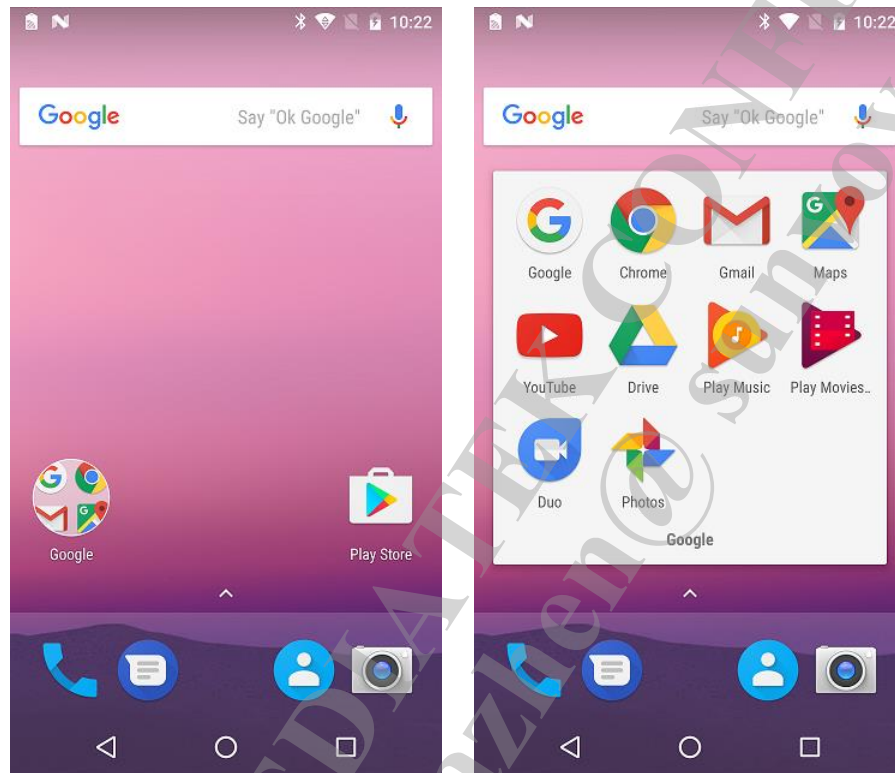


(3) Add SearchLauncher into GMS list

```
# GMS optional application packages(4)
GMS_PRODUCT_PACKAGES += \
    Messages \
    LatinImeGoogle \
    CalendarGoogle \
    SearchLauncher
```

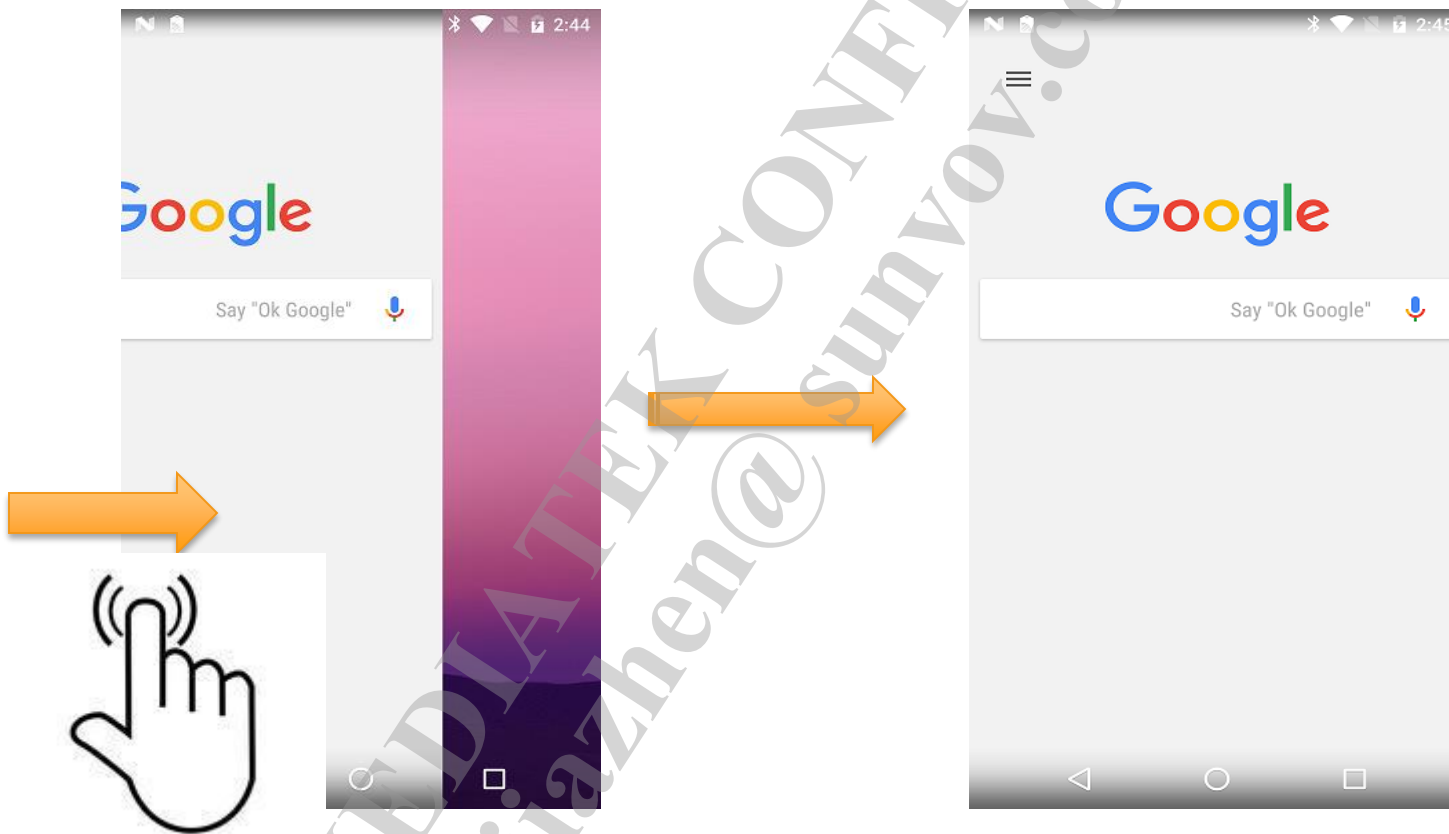
3.3 Preload Search Launcher Integration(cont.)

- Search Launcher UI layout on the default home screen:



3.4 Google “Feed” integrated on the -1 screen

- As long as swipe from left to right on the default home screen, user can enter Google Feed page:



4. Compile with GMSExpress build option

(1) Add build option in /device/mediatek/common/device.mk:

```
# GMS interface
ifdef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
```

(2) Instruction to build GMSExpress as below:

```
[mtk10832@mcldswglx001 n1.mp9]$mosesq make -j24 BUILD_GMS=yes
```

2. EXAMINATION

Check GMS Express PLUS Track Log

- How to check GMS Express Track log

You can check the output by using command following: `adb shell pm list features:`

If you join a program of GMS express, you need to see string below:

feature: `com.google.android.feature.GMSEXPRESS_BUILD`

If you join a program of GMS express **PLUS**, you need to see string below:

feature: `com.google.android.feature.GMSEXPRESS_PLUS_BUILD`

If you join a program of Clean UX, you need to see string below:

feature: `com.google.android.feature.CLEANUX_BUILD`

Check Item by Item following regulation below

3PL certification fee is funded if no key elements are overwritten from Express baseline



Gmail as only mailer



Google Calendar as only calendar app



GBoard as only keyboard app



Photos as only gallery app



Android Messages as only SMS/RCS app and placed in the hotseat



Chrome as default browser and placed in the hotseat



Duo on the default home screen



Google "Feed" on the -1 screen

GMS Requirements still remain* (e.g. Google provided widget, Google Folder and Google Play on the Default Home Screen)

Those requirements will be satisfied if you don't change the GMS Express baseline.

No other 1P/3P apps in the app categories above can be pre-loaded. Other 1P/3P in other categories will be allowed.

Review by Linux command

App Category	Command Line(Linux)	Expected result
Browser	adb shell am start -W -a android.intent.action.VIEW -d 'https://www.wikipedia.org/' grep -c com.android.chrome	1
	adb shell am start -W -a android.intent.action.VIEW -d 'http://www.wikipedia.org/' grep -c com.android.chrome	1
Gallery	adb shell am start -W -t image/* file:///tmp/cute.jpg grep -c com.google.android.apps.photos	1
	adb shell am start -W -t image/* file:///tmp/cute.mp4 grep -c com.google.android.apps.photos	1
	adb shell am start -W -a android.intent.action.PICK -t image/* grep -c com.google.android.apps.photos	1
Messaging	adb shell am start -W -a android.intent.action.SENDTO -d sms:CCXXXXXXXXXXXX grep -c com.google.android.apps.messaging	1
	adb shell am start -W -a android.intent.action.SENDTO -d smsto:CCXXXXXXXXXXXX grep -c com.google.android.apps.messaging	1
Calendar	adb shell am start -W -a android.intent.action.VIEW -d content://com.android.calendar/time/1410665898789 grep -c com.google.android.calendar	1
Email	adb shell am start -W -a android.intent.action.SENDTO -d mailto:someone@gmail.com grep -c com.google.android.gm	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.READ_CALENDAR: granted=true"	1

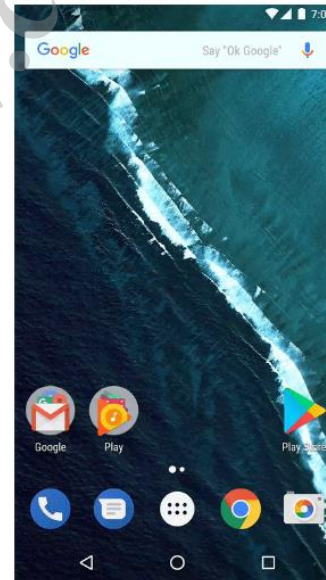
Check UI layout of front page

BEFORE & AFTER ON GMS EXPRESS DEVICES



Before

Duplicate apps in same category



After

Best Google experience

3. CERTIFICATION

Requirement

- Quantity of handsets: 5
 - Make sure the serial number(SN) are unique.(you can use “adb devices” command to check)
 - Need to provide the secret code(MTK default ‘*##3646633#*##’) of entering engineer mode.
 - Make sure all handsets are user-build with the same software version.
 - Must configure the software by following GMS Express PLUS SOP document , make sure you’ve already verified CTS/GTS pass on your side ,and provide us the CTS & GTS tool version ,also the GMS package version which you use.
- One week before you deliver the handsets ,please contact MTK CTS window “Zhongxiao Lin” for confirmation.
- Need to provide a contact window to MTK for better communication.

Contact us

■ Contacts:

- Recipient: Zhongxiao Lin
- Tel: (86)755-2663 0099 Ext: 85547
- E-mail: zhongxiao.lin@mediatek.com
- Address: MediaTek(Shenzhen)Inc. 10-12F, building No.11, Shenzhen Software Park. Middle District, High-tech Industrial Park, Nanshan District, Shenzhen.
P.C.: 518057

MEDIATEK

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附录APPENDIX

How to check App is the only one in the category or is the default for the category.

Step 1:

Factory reset the phone

Step 2:

Clear defaults

settings=>apps=>Calendar=>Open by Default=>Clear Defaults

Do the same for Gboard/Gmail/Messages/Photos

Do not clear Chrome default setting

Step 3:

Use followed to check whether an app is the default

App Category	Command Line(Linux)	Expected result
Browser	adb shell am start -W -a android.intent.action.VIEW -d 'https://www.wikipedia.org/' grep -c com.android.chrome	1
	adb shell am start -W -a android.intent.action.VIEW -d 'http://www.wikipedia.org/' grep -c com.android.chrome	1
Gallery	adb shell am start -W -t image/* file:///tmp/cute.jpg grep -c com.google.android.apps.photos	1
	adb shell am start -W -t image/* file:///tmp/cute.mp4 grep -c com.google.android.apps.photos	1

	adb shell am start -W -a android.intent.action.PICK -t image/* grep -c com.google.android.apps.photos	1
	adb shell am start -W -a com.android.camera.action.REVIEW -t image/* grep -c com.google.android.apps.photos	1
Messaging	adb shell am start -W -a android.intent.action.SENDTO -d sms:CCXXXXXXXXXX grep -c com.google.android.apps.messaging	1
	adb shell am start -W -a android.intent.action.SENDTO -d smsto:CCXXXXXXXXXX grep -c com.google.android.apps.messaging	1
Calendar	adb shell am start -W -a android.intent.action.VIEW -d content://com.android.calendar/time/1410665898789 grep -c com.google.android.calendar	1
Email	adb shell am start -W -a android.intent.action.SENDTO -d mailto:someone@gmail.com grep -c com.google.android.gm	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.READ_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.WRITE_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.READ_CONTACTS: granted=true"	1
	adb shell dumpsys package com.google.android.gm grep -c "android.permission.WRITE_CONTACTS: granted=true"	1

*On Android 7.0 device, test for the default permission for Calendar could be skipped.

Step 4:

Check settings=>languages and input=>Virtual Keyboard to make sure no non-Google keyboard installed.

Step 5: For GMS Express Specific (Started Jun 1st, 2017)

- Check if -1 screen (Home Left) is using Google
- Check at least one of below feature flag is set

adb shell pm list features grep -c "com.google.android.feature.FASTPASS_BUILD"	1
adb shell pm list features grep -c "com.google.android.feature.FASTPASS_PLUS_BUILD"	1
adb shell pm list features grep -c "com.google.android.feature.GMSEXPRESS_BUILD"	1
adb shell pm list features grep -c "com.google.android.feature.GMSEXPRESS_BUILD"	1

Step 5: For Clean UX Specific (Started July 1st, 2017)

adb shell pm list features grep -c "com.google.android.feature.CLEANUX_BUILD"	1
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