

**CONFIDENTIAL A**

# GMS Express/PLUS/EEA SOP v8

2018/Nov/23



# 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。

FastPass-N1-R4-overlay google etc sysconfig



gmsexpress.xml



google.xml

(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
```



[Home](#) • [GIT Release Patch Info](#)

Only support querying Git project patch

Scenario/Category (Required):

Type:

Google Patch - All

### Connectivity - Wi-Fi

## Google Patch

Google Patch - All

Google Patch - CTS

Google Patch - GMSExpress

Google Patch - GTS

Platform (Required) :

Select Platform

### 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

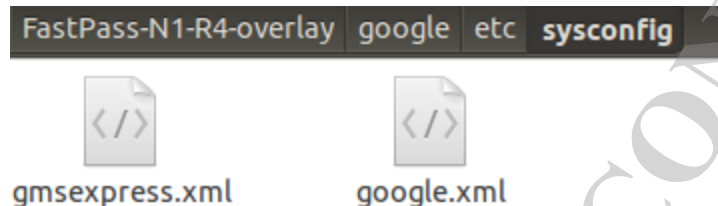
# GMS Express PLUS

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
```

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














The screenshot displays the MediaTek eService portal. On the left is a navigation menu with the following items: CUSTOMER SERVICE, Dashboard, eService, Patch Management, GIT Release Patch Info (highlighted with a red box), Critical Patch, Specific Domain (highlighted with a red box), Patch ID, Project Setting, Customer Project, Customer Management, Customer SW Project Management, and Report. The main content area is titled 'Home • GIT Release Patch Info'. It contains a section 'Specific Domain query patch.' with a yellow warning box stating 'Only support querying Git project patch'. Below this is an 'Action Buttons' bar with two buttons: 'Check AP Patch Information' and 'Check Modem Patch Information'. Further down is a 'SEARCH PANEL' with a dropdown menu for 'Scenario/Category (Required):'. The dropdown is open, showing options: 'Google Patch - All' (highlighted with a red box), 'Connectivity - Wi-Fi', and a 'Google Patch' section containing 'Google Patch - All' (highlighted with a red box), 'Google Patch - CTS', 'Google Patch - GMSExpress', and 'Google Patch - GTS'. At the bottom, there is a 'Platform (Required):' field with a 'Select Platform' button.

MEDIA TEK CONFIDENTIAL

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# 3. 依照GMS Express规范设定软件

## GMS Express Plus & Go Requirement - 10/2018 (GMS Express and Express Plus are not available in Russia)

App Requirement	GMS Express Plus	Go Requirement (by MADA/GMS Req.)	GMS Express Plus for GO
 Google Search	Exclusive (DHS in EU/Turkey/Korea)	Go Version	<b>Exclusive (DHS in EU/Turkey/Korea)</b> - Go Version
 Google Assistant	Exclusive (except 1P OEM)	Go Version	<b>Exclusive</b> (except 1P OEM) - Go version
 Gmail	Exclusive	Go Version	<b>Exclusive</b> - Go Version
 Google Calendar	Exclusive	not required	<b>Exclusive</b> - Main Version
 GBoard	Exclusive	Default, Go Version	<b>Exclusive</b> - Go Version
 Photos	Exclusive	not required	not required
 Android Messages	Exclusive; in hotseat	not required	<b>Exclusive;</b> Main Version, in hotseat
 Chrome	Default; in hotseat	Main Version, in hotseat	<b>Default</b> - Main Version, in hotseat
 Duo	DHS	not required	not required
 Google "Feed"	Integrated on -1 screen	not required	not required
 YouTube	mandatory, GMS	Go Ver. / Main Ver. depending on geo	Go Ver. / Main Ver. depending on geo
 Google Maps	mandatory GMS	Go Version*	Go Version*
 Files	Exclusive	Optional	<b>Exclusive</b> - Go Version

\*On 512MB devices, Maps Go is optional

GOOGLE PRIVILEGED & CONFIDENTIAL

# 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) 把SearchLauncher 设置进GMS清单

Android 8.x

```
GMS_PRODUCT_PACKAGES += \  
SearchLauncher \  
FilesGo
```

Android 9.x

```
GMS_PRODUCT_PACKAGES += \  
SearchLauncherQuickStep \  
FilesGo
```

(2) 设置SearchLauncher的override package

Android 9.x

File:

apps/SearchLauncher/build\_search\_launcher.mk

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 Launcher3QuickStep MtkLauncher3 MtkLauncher3QuickStep Op09Launcher3 Launcher3Go
```

Android 8.x

File:

apps/SearchLauncher/Android.mk

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 MtkLauncher3 Op09Launcher3 Launcher3Go
```

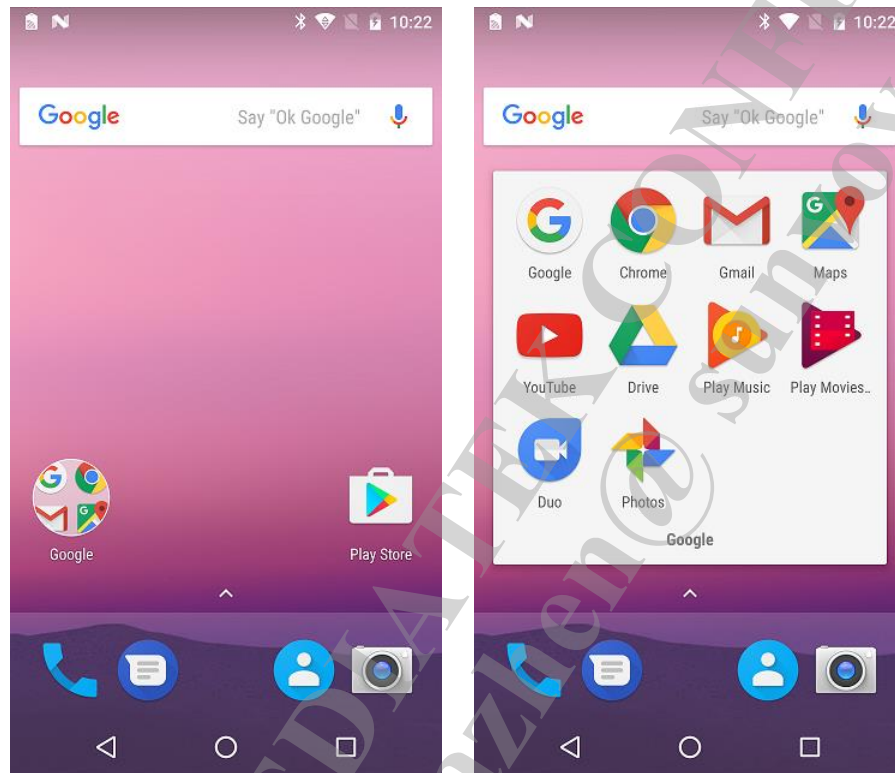
(3) 设置launcher的home screen place

File:

products/gms\_overlay/vendor/mediatek/proprietary/packages/apps/Launcher3/res/xml

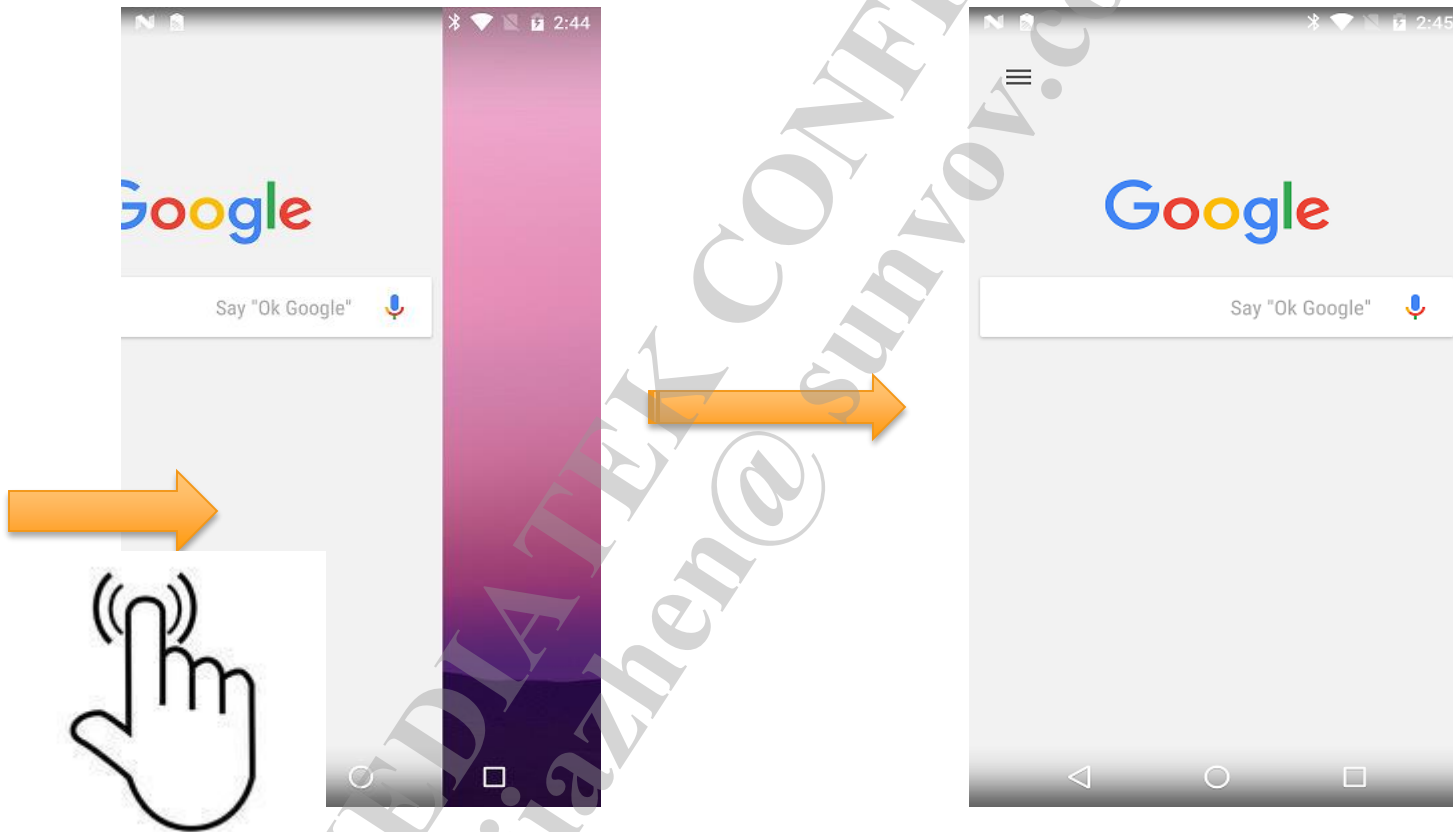
## 3.3 预载 SearchLauncher 整合(续)

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

# GMS EEA

# GMS EEA

1. 修改build 文件，使用EEA的配置文件。
2. 修改EEA的配置文件
3. 依照Google EEA规范设定home screen place
4. 使用GMSExpress 和EEA build option编译



# 1. 使用EEA配置文件 - android 9.0

- (1) 在/vendor/google/gms.mk中，新增build option: EEA\_TYPE,并根据 EEA\_TYPE来选择需要使用的EEA配置文件。注意区分ago和 非ago的EEA 配置文件是不一样的。

```
ifndef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
ifeq ($(strip $(BUILD_AGO_GMS)), yes)
ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4c.mk)
else
$(call inherit-product-if-exists, vendor/google/products/gms_go.mk)
endif
else
ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4c.mk)
else
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
endif
endif
endif
endif
```

# 1. 使用EEA配置文件 - android 8.0/8.1

- (1) 在/vendor/google/products/gms.mk中，新增build option:  
EEA\_TYPE

```
# GMS home folder location
# Note: we cannot use $(my-dir) in this makefile

ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4c.mk)
else
ANDROID_PARTNER_GMS_HOME := vendor/google

# GMS mandatory core packages(17)

//... the ignore code doesn't need to change.
endif
```

# 1. 使用EEA配置文件 - android 8.1-go

(1) 在/vendor/go-gms/products/gms.mk中，新增build option:  
EEA\_TYPE

```
1  ifdef BUILD_GMS
2  ifeq ($(strip $(BUILD_GMS)), yes)
3  ifeq ($(strip $(BUILD_AGO_GMS)), yes)
4  ifeq ($(strip $(EEA_TYPE)), type1)
5  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type1.mk)
6  else ifeq ($(strip $(EEA_TYPE)), type2)
7  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type2.mk)
8  else ifeq ($(strip $(EEA_TYPE)), type3a)
9  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type3a.mk)
10 else ifeq ($(strip $(EEA_TYPE)), type3b)
11 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type3b.mk)
12 else ifeq ($(strip $(EEA_TYPE)), type4a)
13 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4a.mk)
14 else ifeq ($(strip $(EEA_TYPE)), type4b)
15 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4b.mk)
16 else ifeq ($(strip $(EEA_TYPE)), type4c)
17 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4c.mk)
18 else
19 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go.mk)
20 endif
21 endif
22 endif
23 endif
```

## 2. 修改EEA配置文件 – android 9.0

### (1) 修改/vendor/google/products/eea\_common.mk

original

modified

```
1 #####
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/partner_gms
5
6 # GMS mandatory core packages
7 PRODUCT_PACKAGES := \
8     AndroidPlatformServices \
9     ConfigUpdater \
```

```
31 # Overlay for GMS devices
32 $(call inherit-product, device/sample/products/backup_overlay.mk)
33 $(call inherit-product, device/sample/products/location_overlay.mk)
```

```
40 # Overlay for GoogleDialer
41 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps/GoogleDi
```

```
43 # Configuration files for GMS apps
44 PRODUCT_COPY_FILES += \
45     $(ANDROID_PARTNER_GMS_HOME)/etc/default-permissions/default-permi
46     $(ANDROID_PARTNER_GMS_HOME)/etc/permissions/privapp-permissions-g
47     $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/
48     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/s
49     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-packag
```

```
51 # GMS mandatory application packages
52 PRODUCT_PACKAGES += \
53     Drive \
```

```
1 #####
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/google
5
6 # GMS mandatory core packages
7 $(call inherit-product, build/target/product/product_launched_with_p.mk):t_launched_with_p.mk)
8 GMS_PRODUCT_PACKAGES += \
9     AndroidPlatformServices \
10     ConfigUpdater \
```

```
32 # Overlay for GMS devices
33 $(call inherit-product, device/sample/products/backup_overlay.mk)
34 $(call inherit-product-if-exists, device/mediatek/common/overlay/backup/backup_overlay.mk)
35 $(call inherit-product, device/sample/products/location_overlay.mk)
```

```
42 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
43 # Overlay for GoogleDialer
44 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps/GoogleDialer/overlay
45 endif
```

```
47 # Configuration files for GMS apps
48 PRODUCT_COPY_FILES += \
49     $(ANDROID_PARTNER_GMS_HOME)/etc/default-permissions/default-permissions-google.xml:system/etc/default-permissions-google.xml
50     $(ANDROID_PARTNER_GMS_HOME)/etc/permissions/privapp-permissions-google.xml:system/etc/permissions
51     $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
52     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
53     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml \
54     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc/sysconfig/google-hiddenapi-package-whitelist.xml
55
56 # GMS mandatory application packages
57 GMS_PRODUCT_PACKAGES += \
58     Drive \
```

## 2. 修改EEA配置文件 – android 9.0

(1) 修改/vendor/google/products/eea\_common.mk 接上页

original

modified

```
61
62 # GMS comms suite
63 PRODUCT_PACKAGES += \
64     CarrierServices \
65     GoogleContacts \
66     GoogleDialer \
67     Messages
```

```
69 # GMS optional application packages
70 PRODUCT_PACKAGES += \
71     CalendarGoogle \
72     DeskClockGoogle \
73     FaceLock \
74     LatinImeGoogle \
75     TagGoogle \
76     talkback \
77     Keep \
78     CalculatorGoogle \
79     OobConfig
```

```
88 # Overrides
89 PRODUCT_SYSTEM_DEFAULT_PROPERTIES += \
90     ro.opa.eligible_device=true \
91     ro.setupwizard.mode=OPTIONAL \
92     setupwizard.feature.preferred_enabled=false \
93     ro.com.google.gmsversion=9_201810
```

```
66 # Hangouts is for non-telephony devices
67 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
68     GMS_PRODUCT_PACKAGES += Hangouts
69 endif
70
71 # GMS comms suite
72 GMS_PRODUCT_PACKAGES += \
73     CarrierServices \
74     GoogleContacts
75 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
76     GMS_PRODUCT_PACKAGES += \
77     GoogleDialer \
78     Messages
79 endif
```

```
80 # GMS optional application packages
81 GMS_PRODUCT_PACKAGES += \
82     CalendarGoogle \
83     LatinImeGoogle
```

```
92 GMS_PRODUCT_PACKAGES += \
93     FilesGo
94
95 # Add GMS package into system product packages
96 PRODUCT_PACKAGES += $(GMS_PRODUCT_PACKAGES)
97
98 # Overrides
99 PRODUCT_SYSTEM_DEFAULT_PROPERTIES += \
100     ro.opa.eligible_device=true \
101     ro.setupwizard.mode=OPTIONAL \
102     setupwizard.feature.preferred_enabled=false \
103     ro.com.google.gmsversion=9_201810
104
105 PRODUCT_PROPERTY_OVERRIDES += \
106     ro.com.google.clientidbase="" \
107     ro.com.google.clientidbase.ms="" \
108     ro.com.google.clientidbase.yt="" \
109     ro.com.google.clientidbase.am="" \
110     ro.com.google.clientidbase.gmm=""
```



## 2. 修改EEA配置文件 – android 9.0

### (1) 修改/vendor/google/products/eea\_go\_common.mk

original

modified

```
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/partner_gms
5
6 # GMS mandatory core packages
7
8 PRODUCT_PACKAGES := \
  AndroidPlatformServices \
```

```
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/google
5
6 # GMS mandatory core packages
7 $(call inherit-product, build/target/product/product_launched_with_p.mk)
8
9 GMS_PRODUCT_PACKAGES += \
10 AndroidPlatformServices \
```

//...

```
32 # Overlay for GMS devices
33 $(call inherit-product, device/sample/products/backup_overlay.mk)
34 $(call inherit-product, device/sample/products/location_overlay.mk)
35 PRODUCT_PACKAGE_OVERLAYS += \
36 $(ANDROID_PARTNER_GMS_HOME)/products/gms_overlay \
37 $(ANDROID_PARTNER_GMS_HOME)/products/go_overlay \
38 $(ANDROID_PARTNER_GMS_HOME)/products/webview_eea_overlay
```

```
34 # Overlay for GMS devices
35 $(call inherit-product, device/sample/products/backup_overlay.mk)
36 $(call inherit-product-if-exists, device/mediatek/common/overlay/backup/backup_overlay.mk)
37 $(call inherit-product, device/sample/products/location_overlay.mk)
38 PRODUCT_PACKAGE_OVERLAYS += \
39 $(ANDROID_PARTNER_GMS_HOME)/products/go_overlay \
40 $(ANDROID_PARTNER_GMS_HOME)/products/gms_overlay \
41 $(ANDROID_PARTNER_GMS_HOME)/products/webview_eea_overlay
```

//...

```
41
42 # Overlay for GoogleDialerGo (use this only if GoogleDialerGo is the
43 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps_go/GoogleDialerGo/overlay
```

```
44
45 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
46 # Overlay for GoogleDialerGo (use this only if GoogleDialerGo is the default dialer app)
47 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps_go/GoogleDialerGo/overlay
48 endif
```

//...

```
50 $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google_go.xml:system/etc
51 $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc
52
53 # GMS mandatory application packages
54 PRODUCT_PACKAGES += \
55 GmailGo \
```

```
55 $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google_go.xml:system/etc/sysconfig/google.xml \
56 $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml \
57 $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc/sy
58
59 # GMS mandatory application packages
60 GMS_PRODUCT_PACKAGES += \
61 GmailGo \
```

## 2. 修改EEA配置文件 – android 9.0

(1) 修改/vendor/google/products/eea\_go\_common.mk 接上页

original

modified

```
60 # GSM comms suite
61 PRODUCT_PACKAGES += \
62     CarrierServices \
63     GoogleContacts \
64     GoogleDialerGo \
65     MessagesGo
```

```
67 # GSM optional application packages
68 PRODUCT_PACKAGES += \
69     CalendarGoogle \
70     DeskClockGoogle \
71     FilesGo \
72     NavGo \
73     PdfViewer \
74     TagGoogle \
75     talkback \
76     CalculatorGoogle
77
78 # GSM sample application packages
79 PRODUCT_PACKAGES += \
80     WallpaperPicker
```

```
87 ro.com.google.gmsversion=9_201810.go
```

//...

```
66 # GSM comms suite
67 GSM_PRODUCT_PACKAGES += \
68     CarrierServices \
69     GoogleContacts
70
71 ifneq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
72 GSM_PRODUCT_PACKAGES += \
73     GoogleDialerGo \
74     MessagesGo
75 endif
```

//...

```
77 # GSM optional application packages
78 GSM_PRODUCT_PACKAGES += \
79     CalendarGoogle \
80     FilesGo \
81     NavGo
82
83 # Add GSM package into system product packages
84 PRODUCT_PACKAGES += $(GSM_PRODUCT_PACKAGES)
```

//...

```
91 ro.com.google.gmsversion=9_201810.go
92
93 PRODUCT_PROPERTY_OVERRIDES += \
94     ro.com.google.clientidbase="" \
95     ro.com.google.clientidbase.ms="" \
96     ro.com.google.clientidbase.yt="" \
97     ro.com.google.clientidbase.am="" \
98     ro.com.google.clientidbase.gmm=""
```

## 2. 修改EEA配置文件 – android 9.0

(2) 修改/vendor/google/products/gms\_eea\_typeXX.mk

Example: gms\_eea\_type4c.mk

original	modified
<pre>1 \$(call inherit-product, vendor/partner_gms/products/eea_common.mk) 2 3 PRODUCT_COPY_FILES += \ 4 vendor/partner_gms/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/eea 5 6 PRODUCT_PACKAGE_OVERLAYS += vendor/partner_gms/products/assistant_gsa_overlay 7 8 PRODUCT_PACKAGES += \ 9 Velvet \ 10 Chrome \ 11 GmsEEAType4cIntegration \ 12 SearchLauncherQuickStep 13</pre>	<pre>1 \$(call inherit-product, vendor/google/products/eea_common.mk) 2 3 PRODUCT_COPY_FILES += \ 4 vendor/google/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/eea 5 6 PRODUCT_PACKAGE_OVERLAYS += vendor/google/products/assistant_gsa_overlay 7 8 GMS_PRODUCT_PACKAGES += \ 9 Velvet \ 10 Chrome \ 11 GmsEEAType4cIntegration \ 12 SearchLauncherQuickStep 13 14 # Add GMS package into system product packages 15 PRODUCT_PACKAGES += \$(GMS_PRODUCT_PACKAGES)</pre>



## 2. 修改EEA配置文件 – android 9.0

(2) 修改/vendor/google/products/gms\_go\_eea\_typeXX.mk

Example: gms\_go\_eea\_type4c.mk

original	modified
1 \$(call inherit-product, vendor/partner_gms/products/eea_go_common.mk)	1 \$(call inherit-product, vendor/google/products/eea_go_common.mk)
2	2
3 PRODUCT_COPY_FILES += \	3 PRODUCT_COPY_FILES += \
4 vendor/partner_gms/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/	4 vendor/google/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/
5	5
6 PRODUCT_PACKAGE_OVERLAYS += vendor/partner_gms/products/assistant_go_overlay	6 PRODUCT_PACKAGE_OVERLAYS += vendor/google/products/assistant_go_overlay:rlay
7	7
8 PRODUCT_PACKAGES += \	8 GMS_PRODUCT_PACKAGES += \
9 AssistantGo \	9 AssistantGo \
10 GoogleSearchGo \	10 GoogleSearchGo \
11 Chrome \	11 Chrome \
12 GmsEEAType4cIntegrationGo \	12 GmsEEAType4cIntegrationGo \
13 Launcher3Go	13 Launcher3Go
*	14
	15 # Add GMS package into system product packages
	16 PRODUCT_PACKAGES += \$(GMS_PRODUCT_PACKAGES)

## 2. 修改EEA配置文件- android 8.0/8.1/8.1-go

请参考android 9.0的修改方法。

注意， android 8.1-go project中 gms folder 是 vendor/go-gms  
所以配置文件中对应的path就是 vendor/go-gms  
而不是vendor/google

### 3. Configure home screen place

修改/vendor/google/apps/GmsSampleIntegration/res\_dhs\_XX/xml/partner\_default\_layout.xml

EEA的home screen布局在上面的文件中修改。

res\_dhs\_XX 根据EEA的type而不同。可以在文件：

/vendor/google/apps/GmsSampleIntegration/Android.mk中确认。

Example: type4c

```
145 # GmsEEAType4cIntegration (GSA, Chrome, search+chrome placement)
146 include $(CLEAR_VARS)
147 LOCAL_PACKAGE_NAME := GmsEEAType4cIntegration
148 LOCAL_MODULE_TAGS := optional
149 LOCAL_CERTIFICATE := platform
150 LOCAL_SRC_FILES := $(call all-java-files-under, src)
151 LOCAL_RESOURCE_DIR := $(LOCAL_PATH)/res_dhs_full $(LOCAL_PATH)/res
152 LOCAL_SDK_VERSION := current
153 include $(BUILD_PACKAGE)
```

# 3. Configure home screen place

注意:

/vendor/google/apps/GmsSampleIntegration/res\_dhs\_XX/xml/partner\_default\_layout.xml

只支持一种home screen的布局尺寸。Example: 4x4。

请根据实际project的home screen的布局尺寸来修改。

Example:

/vendor/google/apps/GmsSampleIntegration/res\_dhs\_full/xml/partner\_default\_layout.xml

这是4x4的home screen的布局尺寸。

```
<favorites>
  <!-- Hotseat (We use the screen as the position of the item in the hotseat) -->
  <!-- Dialer Messaging Calendar Contacts Camera -->
  <favorite container="-101" screen="0" x="0" y="0" packageName="com.google.android.dialer" cla
  <favorite container="-101" screen="1" x="1" y="0" packageName="com.google.android.apps.messa
  <favorite container="-101" screen="2" x="2" y="0" packageName="com.google.android.calendar" c
  <favorite container="-101" screen="3" x="3" y="0" packageName="com.google.android.contacts" c
  <favorite container="-101" screen="4" x="4" y="0" packageName="com.android.camera2" className
  <!-- In Launcher3, workspaces extend infinitely to the right, incrementing from zero -->
  <!-- Google folder -->
  <!-- Google, Chrome, Gmail, Maps, YouTube, (Drive), (Music), (Movies), Duo, Photos -->
  <folder title="@string/google_folder_title" screen="0" x="0" y="3">
    <favorite packageName="com.google.android.googlequicksearchbox" className="com.google.andrc
    <favorite packageName="com.android.chrome" className="com.google.android.apps.chrome.Main"/
    <favorite packageName="com.google.android.gm" className="com.google.android.gm.Conversatio
    <favorite packageName="com.google.android.apps.maps" className="com.google.android.maps.May
    <favorite packageName="com.google.android.youtube" className="com.google.android.youtube.ay
    <favorite packageName="com.google.android.apps.docs" className="com.google.android.apps.doc
    <favorite packageName="com.google.android.music" className="com.android.music.activitymana
    <favorite packageName="com.google.android.videos" className="com.google.android.youtube.vic
    <favorite packageName="com.google.android.apps.tachyon" className="com.google.android.apps.
    <favorite packageName="com.google.android.apps.photos" className="com.google.android.apps.p
  </folder>
  <favorite screen="0" x="3" y="3" packageName="com.android.vending" className="com.android.ver
</favorites>
```

# 3. Configure home screen place

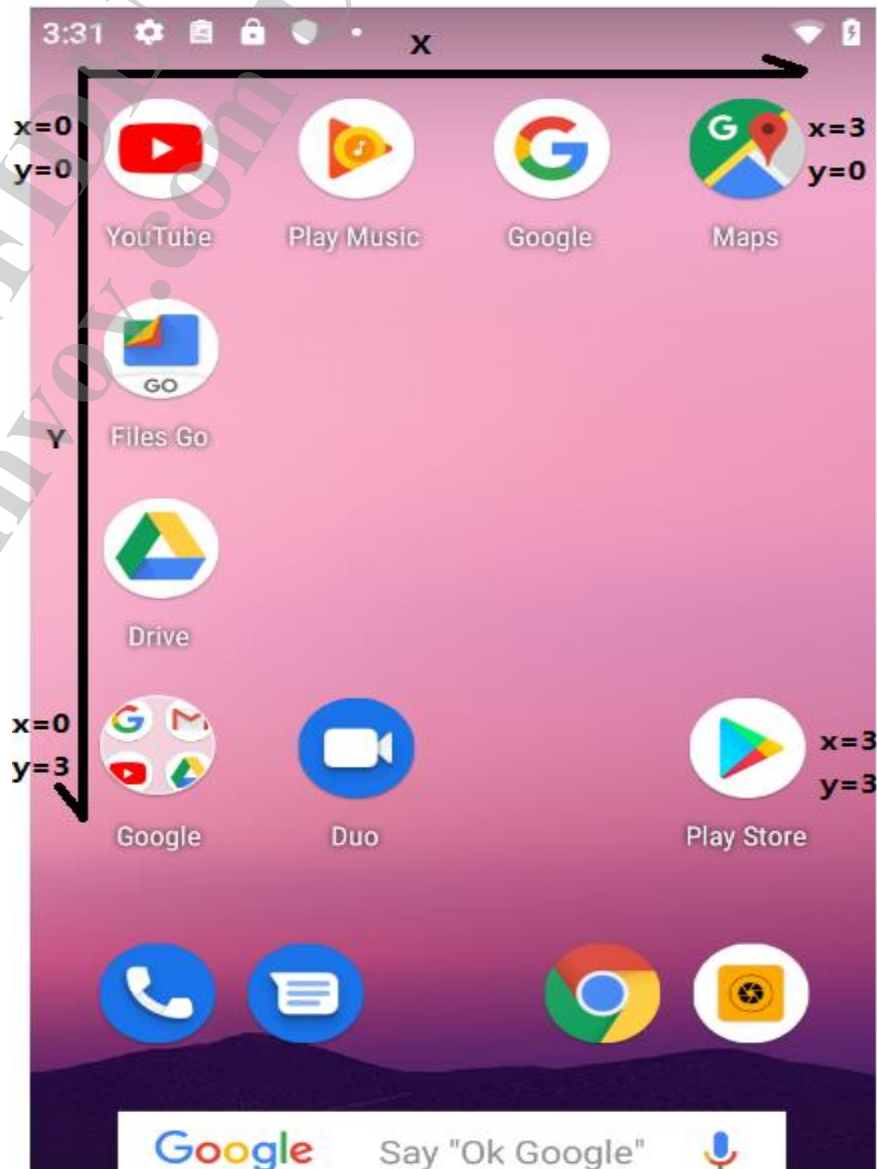
这是5x5 的home screen的布局尺寸。

```
<favorites>
  <!-- Hotseat (We use the screen as the position of the item in the hotseat) -->
  <!-- Dialer Messaging Calendar Contacts Camera -->
  <favorite container="-101" screen="0" x="0" y="0" packageName="com.google.android.dialer"
  <favorite container="-101" screen="1" x="1" y="0" packageName="com.google.android.apps.mes
  <favorite container="-101" screen="2" x="2" y="0" packageName="com.google.android.calendar
  <favorite container="-101" screen="3" x="3" y="0" packageName="com.google.android.contacts
  <favorite container="-101" screen="4" x="4" y="0" packageName="com.android.camera2" classN
  <!-- In Launcher3, workspaces extend infinitely to the right, incrementing from zero -->
  <!-- Google folder -->
  <!-- Google, Chrome, Gmail, Maps, YouTube, (Drive), (Music), (Movies), Duo, Photos -->
  <folder title="@string/google_folder_title" screen="0" x="0" y="4">
    <favorite packageName="com.google.android.googlequicksearchbox" className="com.google.an
    <favorite packageName="com.android.chrome" className="com.google.android.apps.chrome.Mai
    <favorite packageName="com.google.android.gm" className="com.google.android.gm.Conversat
    <favorite packageName="com.google.android.apps.maps" className="com.google.android.maps.l
    <favorite packageName="com.google.android.youtube" className="com.google.android.youtube
    <favorite packageName="com.google.android.apps.docs" className="com.google.android.apps.
    <favorite packageName="com.google.android.music" className="com.android.music.activityma
    <favorite packageName="com.google.android.videos" className="com.google.android.youtube.
    <favorite packageName="com.google.android.apps.tachyon" className="com.google.android.ap
    <favorite packageName="com.google.android.apps.photos" className="com.google.android.app
  </folder>
  <favorite screen="0" x="4" y="4" packageName="com.android.vending" className="com.android.
</favorites>
```

# 3. Configure home screen place

Home screen place position:

Example: 4x4



## 3.1 launcher

如果您的launcher是 [Launcher3NoQsb](#)，请在apps/[Launcher3NoQsb](#)/Android.mk中设置 [LOCAL\\_OVERRIDES\\_PACKAGES](#).

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 Launcher3QuickStep MtkLauncher3 MtkLauncher3QuickStep Op09Launcher3 Launcher3Go
```

## 4. Build GMS EEA project – android 9.0/8.x/8.1-go

编译 GMS EEA指令如下:

```
make BUILD_GMS=yes EEA_TYPE=type4c 2>&1 | tee log.txt
```

EEA\_TYPE 设定的值根据project选择的type去设定:

type1, type2, type3a, type3b, type4a, type4b,  
type4c



## 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 **PLUS**,会得到下列的字串输出:

**feature:** com.google.android.feature.GMSEXPRESS\_ **PLUS**\_BUILD

如果项目是GMS EEA,会得到下列的字串输出:

**feature:** com.google.android.feature.EEA\_DEVICE














如果都不是, 会得到下列的字串输出:

**feature:** com.google.android.feature.GMSEXPRESS\_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

## GMS Express Plus & Go Requirement - 10/2018 (GMS Express and Express Plus are not available in Russia)

App Requirement	GMS Express Plus	Go Requirement (by MADA/GMS Req.)	GMS Express Plus for GO
 Google Search	Exclusive (DHS in EU/Turkey/Korea)	Go Version	<i>Exclusive (DHS in EU/Turkey/Korea) - Go Version</i>
 Google Assistant	Exclusive (except 1P OEM)	Go Version	<i>Exclusive (except 1P OEM) - Go version</i>
 Gmail	Exclusive	Go Version	<i>Exclusive - Go Version</i>
 Google Calendar	Exclusive	<i>not required</i>	<i>Exclusive - Main Version</i>
 GBoard	Exclusive	Default, Go Version	<i>Exclusive - Go Version</i>
 Photos	Exclusive	<i>not required</i>	<i>not required</i>
 Android Messages	Exclusive; in hotseat	<i>not required</i>	<i>Exclusive; Main Version, in hotseat</i>
 Chrome	Default; in hotseat	Main Version, in hotseat	<i>Default - Main Version, in hotseat</i>
 Duo	DHS	<i>not required</i>	<i>not required</i>
 Google "Feed"	Integrated on -1 screen	<i>not required</i>	<i>not required</i>
 YouTube	<i>mandatory GMS</i>	Go Ver. / Main Ver. depending on geo	<i>Go Ver. / Main Ver. depending on geo</i>
 Google Maps	<i>mandatory GMS</i>	Go Version*	<i>Go Version*</i>
 Files	Exclusive	Optional	<i>Exclusive - Go Version</i>

\*On 512MB devices, Maps Go is optional

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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

## Android 7.x/8.x

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	Please Ignore.
	adb shell am start -W -t image/* file:///tmp/cute.mp4   grep -c com.google.android.apps.photos	Please Ignore.
	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: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
	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
Keyboard	adb shell settings get secure default_input_method   grep -c com.google.android.inputmethod	1
	adb shell ime list -a   grep mld   grep -v -c mld=com.google.android	0
Voice Assistant	adb shell am start -W -a android.intent.action.VOICE_COMMAND   grep -c com.google.android.googlequicksearchbox	1
Search	adb shell am start -W -a android.intent.action.WEB_SEARCH -e query wikipedia   grep -c com.google.android.googlequicksearchbox	1

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

# 利用Linux指令复检

- Android Go:

App Category	Command Line(Linux)	Expected result
Email	adb shell am start -W -a android.intent.action.SENDTO -d mailto:someone@gmail.com   grep -c com.google.android.gm.lite	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.READ_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.WRITE_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.READ_CONTACTS: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.WRITE_CONTACTS: granted=true"	1
Voice Assistant	adb shell am start -W -a android.intent.action.ASSIST   grep -c com.google.android.apps.assistant	1
Search	adb shell am start -W -a android.intent.action.WEB_SEARCH -e query wikipedia   grep -c com.google.android.apps.searchlite	1

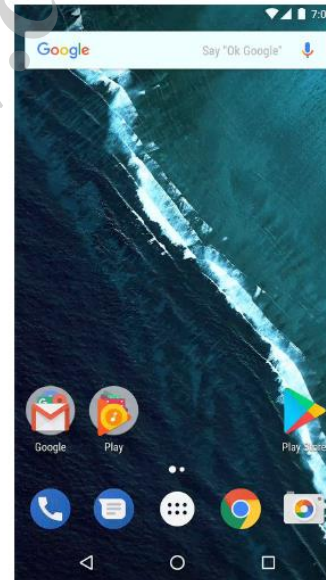
# 检查首页UI layout

## BEFORE & AFTER ON GMS EXPRESS DEVICES



**Before**

Duplicate apps in same category



**After**

Best Google experience

# 3. 送测



# 联系MTK实验室申请APFE创建OEM-Mediatek

项目开发中，OEM可能会需要创建GOTA部署,申请keybox, 申请fingerprint白名单等, 都需要通过实验室帮忙在APFE上面进行操作(赋予权限, 审核等), 所以OEM如果没有对应的APFE权限, 首先就要请实验室帮忙跟Google申请创建OEM-Mediatek(只需要在APFE创建一次即可).

- 首先确保MADA没过期, 然后将如下信息发邮件给如下MTK 认证实验室负责人:  
([Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com), [Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com), [Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com))

## 1. 申请在APFE创建OEM-Mediatek所需的信息

**brand/odm in dropdown:** (此处填写OEM公司简称, 比如BLU)

**company name:** (此处填写OEM公司英文全称)

**company website:** (此处填写OEM公司的官网)

**company email domain:** (此处填写OEM公司的邮箱, 若有多个用逗号隔开)

2. 需要开通keybox, GOTA权限的OEM公司账户(账户本身要先注册为Google账户, 可以去<https://myaccount.google.com/> 注册).



# 申请GOTA部署/keybox/fingerprint白名单

- 要申请创建GOTA 部署, 申请和下载keybox (attestation key), 都需要先填写一份项目基本信息的表格GMSExpress\_pretest\_info.xlsx :
  - [https://drive.google.com/open?id=1nUEB\\_3VA6rcTNID4p\\_dzFFZBhia9yzb5](https://drive.google.com/open?id=1nUEB_3VA6rcTNID4p_dzFFZBhia9yzb5)
- 然后将GMSExpress\_pretest\_info.xlsx 和 testSignature的CTS测试报告通过邮件发送给如下MTK 认证实验室负责人, 收到会尽快处理:
  - [Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com)
  - [Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com)
  - [Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com)
- 申请白名单(45天有效期)制只需要提供一份testSignature测试报告。

## 单跑testSignature 的CTS命令

Android 8.1	<code>run cts -m CtsSystemCurrentApiSignatureTestCases -t android.signature.cts.api.SignatureTest#testSignature</code>
Android 8.0	<code>run cts -m CtsSignatureTestCases -t android.signature.cts.SignatureTest#testSignature</code>

# 下载keybox和查看APFE项目状态

- 3PL帮忙添加keybox项目后，OEM可以自行到如下链接申请和下载Keybox：
  - <https://partner.android.com/approval>
- 登录APFE可以查看项目状况
  - <https://partner.android.com/?pli=1#>
- 登录Google OTA官网可以查看GOTA部署
  - <https://partner.android.com/ota>
- 如果有权限问题无法访问,请联系MTK实验室负责人：
  - [Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com), [Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com), [Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com)

# 送测重要注意事项

1.检查 CDD  
check list

2.手机版本/IMEI/SN/  
数量/电量 检查

3.GMS 3PL 提单

Items	Request
1.检查CDD check list	每一项均要满足Google要求, 否则拿不到Google approval.  到如下地址下载最新的CDD检查文档: <a href="https://drive.google.com/open?id=1MjZurwbkXtd7Alq3kmX6XnsS1OzjB5Qk">https://drive.google.com/open?id=1MjZurwbkXtd7Alq3kmX6XnsS1OzjB5Qk</a>
2.手机版本 /IMEI/SN/数量/ 电量	a. 寄送机器前务必 <b>刷好版本</b> b. 写好 <b>有效IMEI</b> c. 8.0以上版本需提供 <b>8把手机</b> (4台烧user版本, 3台烧GSI, 一台烧userdebug版本), 7.0的5台 (全烧user版本) d. <b>8把手机的SN必须各不相同</b> f. 务必保证每只手机电量 <b>90%</b> 以上
3.快速入门GMS 3PL提单	a. 完整填写 <b>GMS认证项</b> b. 提供自测CTS/CTS-ON-GSI/VTS/GTS/CTS verifier的 <b>Pass report</b> 。 若有Fail项, 包括没有条件测试的环境问题、Google issue等, 须 <b>逐项详细说明</b> c. 提供 <b>市场和品牌</b> 相关资料(彩盒、说明书的电子档, 产品的高清正面ID图)

**重要说明:** 第1到3项, 任一项不满足, 需打回到满足要求为止。  
**打回一次, 就算作一次测试。** 每个项目有两次机会, 从第三次起开始收费, 每次**1500美金**

# 寄手机

- 寄送地址，将快递单号在GMS 3PL提单时填写清楚即。对于直接将手机送到深圳MTK的，可直接联系Yunqiu Xu (续云璆) [Yunqiu.Xu@mediatek.com](mailto:Yunqiu.Xu@mediatek.com)

收件人：续云璆

地 址：深圳市南山区高新南环路22号 (深圳湾科技生态园一区4栋)

Building No.4, Block No.1, Shenzhen Bay ECO-Technology Park, No.22,  
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- 每一个项目都有对应的工程师跟踪。项目开始测试后，工程师会主动联系客户，请客户保持手机畅通即可，谢谢配合
- 如果一个快递包裹寄多个项目手机时，请将每一个项目的手机单独包装，并用便签纸备注好项目名称，谢谢配合

# 请ODM在GMS 3PL系统填单

- 进入<http://online.mediatek.inc> -> GMS 3PL



快速链接



## ■ GMS 3PL 填写示例

FormID	GMS16144	ODM	SHENZHEN Y CO.,LTD.
OEM	X COMPANY	Build fingerprint	Cool/Cool_XY:7.0/N90/1520908888:user/release-keys
HW Project	cool_XY	RAM(MB)	1024
Display Size(inches)	4.5	CPU Model	MT6580
Flash Storage(GB)	9000	Supports DRM ?	Yes
Clockspeed(GHz)	1.1	Trusted OS	Beanpod
Widevine DRM Level	Level 3	Marketing Name	OhYeah
Trusted Output (HDMI/HDCP) ?	No	The website of Retail Branding	XXXXXXXXXX
Retail Branding	SSSSS	End Date	2018/3/31 0:00:00
Launch Date	2018/3/1 0:00:00	Launch Country	Algeria
Sales Volume	148000	language of Packaging & User guide	French
Launch Region	the Middle East and Africa	Operator device	No
First Launch ?	Yes	Device certification type	GMSEXPRESS plus
Operator Name	abc	GTS version	5.1R2
CTS version	7.0R17		
GMS version	R13		
Special request			
CTS/GTS/CTS verifier self-test reports	<a href="#">CtsGtsReport.zip</a>		
Load path	<a href="https://pan.baidu.com/s/1VdsdfsBP7zaKxoFwerwerMA">https://pan.baidu.com/s/1VdsdfsBP7zaKxoFwerwerMA</a>		
Marketing and branding related materials	<a href="#">MarketingBranding.zip</a>		
Contact Window's fafa Name	Contact Window's Email	fafa@ksdjf.com +86-16666666666	

# 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

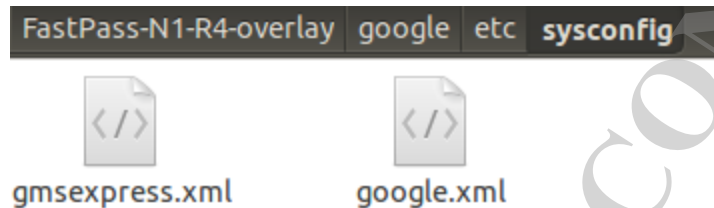
# GMS Express

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
```

[Home](#) • [GIT Release Patch Info](#)

Only support querying Git project patch

Scenario/Category (Required):

Type:

Google Patch - All

### Connectivity - Wi-Fi

## Google Patch

Google Patch - All

Google Patch - CTS

Google Patch - GMSExpress

Google Patch - GTS

Platform (Required) :

Select Platform

### 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

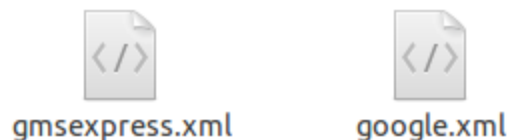
1. Add Track Log
2. Download all the Google GMSExpress/CTS/GTS/Security patches on MTK PMS
3. Follow the regulation of Clean UX to configure SW
4. Compile with GMSExpress build option

# 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
```

The image shows a screenshot of the Mediatek EService portal. At the top, there is a navigation bar with a search icon and the text 'Home • GIT Release Patch Info'. Below this, the main heading is 'Specific Domain' followed by 'query patch.'. A yellow banner states 'Only support querying Git project patch'. Under the 'Action Buttons' section, there are two buttons: 'Check AP Patch Information' and 'Check Modern Patch Information'. The 'SEARCH PANEL' section contains a 'Scenario/Category (Required):' dropdown menu. The dropdown is open, showing a list of options: 'Google Patch - All' (highlighted with a red box), 'Connectivity - Wi-Fi', 'Google Patch' (highlighted with an orange background), 'Google Patch - All' (highlighted with a red box), 'Google Patch - CTS', 'Google Patch - GMSEXPRESS', and 'Google Patch - GTS'. Below the dropdown, there is a 'Platform (Required):' label and a 'Select Platform' button.



# 3. Follow GMS Express regulation to configure SW

## GMS Express Plus & Go Requirement - 10/2018 (GMS Express and Express Plus are not available in Russia)

App Requirement	GMS Express Plus	Go Requirement (by MADA/GMS Req.)	GMS Express Plus for GO
 Google Search	Exclusive (DHS in EU/Turkey/Korea)	Go Version	<b>Exclusive (DHS in EU/Turkey/Korea)</b> - Go Version
 Google Assistant	Exclusive (except 1P OEM)	Go Version	<b>Exclusive</b> (except 1P OEM) - Go version
 Gmail	Exclusive	Go Version	<b>Exclusive</b> - Go Version
 Google Calendar	Exclusive	not required	<b>Exclusive</b> - Main Version
 GBoard	Exclusive	Default, Go Version	<b>Exclusive</b> - Go Version
 Photos	Exclusive	not required	not required
 Android Messages	Exclusive; in hotseat	not required	<b>Exclusive;</b> Main Version, in hotseat
 Chrome	Default; in hotseat	Main Version, in hotseat	<b>Default</b> - Main Version, in hotseat
 Duo	DHS	not required	not required
 Google "Feed"	Integrated on -1 screen	not required	not required
 YouTube	mandatory GMS	Go Ver. / Main Ver. depending on geo	Go Ver. / Main Ver. depending on geo
 Google Maps	mandatory GMS	Go Version*	Go Version*
 Files	Exclusive	Optional	<b>Exclusive</b> - Go Version

\*On 512MB devices, Maps Go is optional

GOOGLE PRIVILEGED & CONFIDENTIAL

# 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 SearchLauncher into GMS list

Android 8.x

```
GMS_PRODUCT_PACKAGES += \  
SearchLauncher \  
FilesGo
```

Android 9.x

```
GMS_PRODUCT_PACKAGES += \  
SearchLauncherQuickStep \  
FilesGo
```

(2) Set OVERRIDES\_PACKAGES of SearchLauncher

Android 9.x

File:

apps/SearchLauncher/build\_search\_launcher.mk

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 Launcher3QuickStep MtkLauncher3 MtkLauncher3QuickStep Op09Launcher3 Launcher3Go
```

Android 8.x

File:

apps/SearchLauncher/Android.mk

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 MtkLauncher3 Op09Launcher3 Launcher3Go
```

(3) Set home screen place

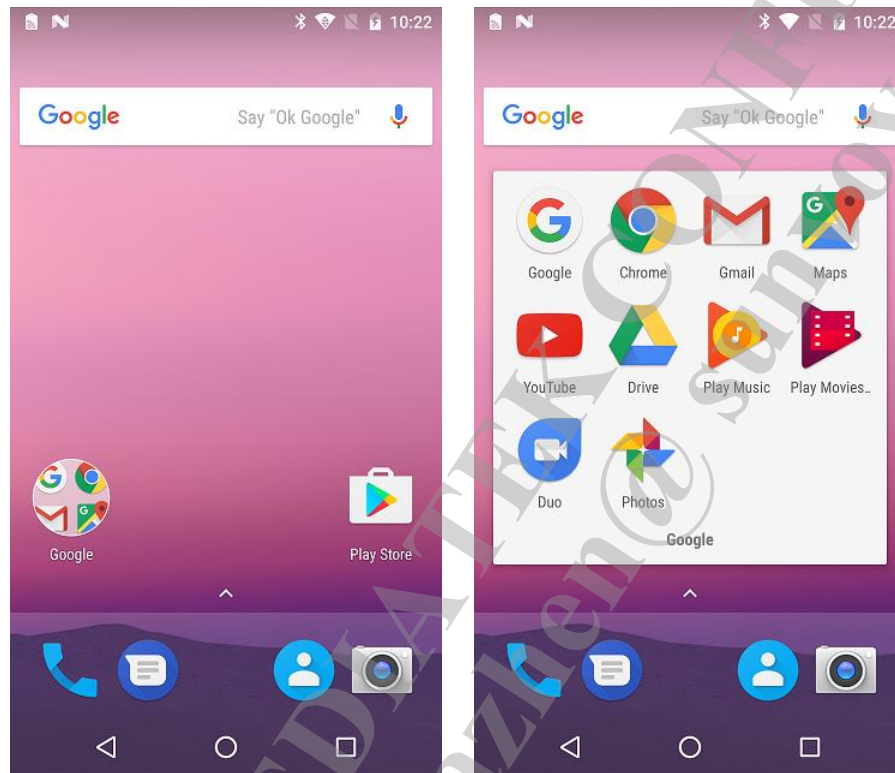
File:

products/gms\_overlay/vendor/mediatek/proprietary/packages/apps/Launcher3/res/xml



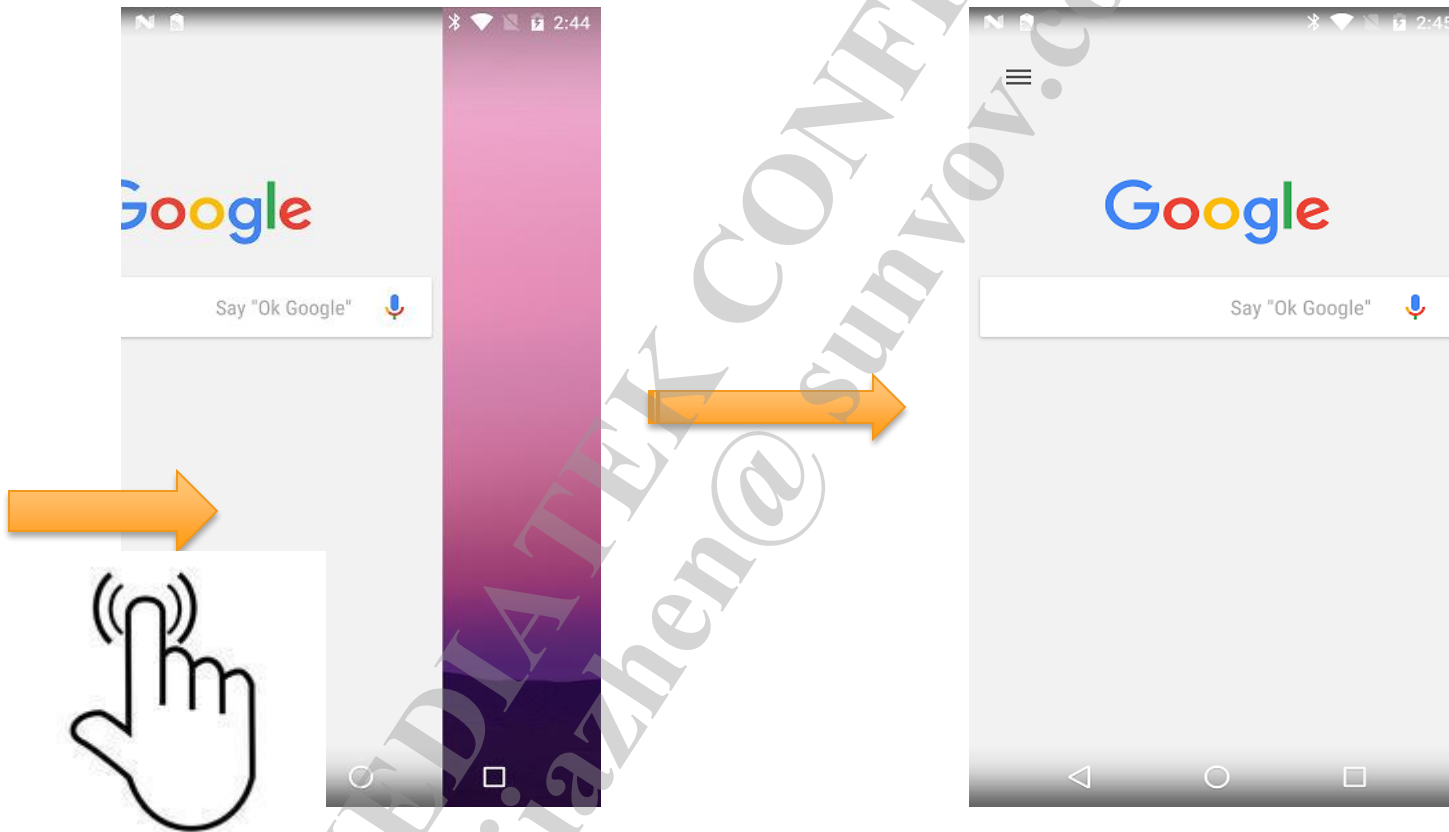
## 3.3 Preload Search Launcher Integration(cont.)

- 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
```

# GMS EEA

# GMS EEA

1. Modify build file to use EEA configuration file
2. Change EEA configuration file
3. Configure home screen place according google EEA spec
4. Build EEA project with EEA\_TYPE option

# 1. Modify build file for EEA - android 9.0

- (1) Add build option: **EEA\_TYPE** in file: **/vendor/google/gms.mk**, and choose EEA configuration file according to EEA\_TYPE value. Be care for configuration file is different between ago and non-ago.

```
ifndef BUILD_GMS
ifeq ($(strip $(BUILD_GMS)), yes)
ifeq ($(strip $(BUILD_AGO_GMS)), yes)
ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_go_eea_type4c.mk)
else
$(call inherit-product-if-exists, vendor/google/products/gms_go.mk)
endif
else
ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4c.mk)
else
$(call inherit-product-if-exists, vendor/google/products/gms.mk)
endif
endif
endif
endif
```

# 1. Modify build file for EEA - android 8.0/8.1

- (1) Add build option: **EEA\_TYPE** in file:  
**/vendor/google/products/gms.mk**, and choose EEA configuration file according to EEA\_TYPE value.

```
# GMS home folder location
# Note: we cannot use $(my-dir) in this makefile

ifeq ($(strip $(EEA_TYPE)), type1)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type1.mk)
else ifeq ($(strip $(EEA_TYPE)), type2)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type2.mk)
else ifeq ($(strip $(EEA_TYPE)), type3a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3a.mk)
else ifeq ($(strip $(EEA_TYPE)), type3b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type3b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4a)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4a.mk)
else ifeq ($(strip $(EEA_TYPE)), type4b)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4b.mk)
else ifeq ($(strip $(EEA_TYPE)), type4c)
$(call inherit-product-if-exists, vendor/google/products/gms_eea_type4c.mk)
else
ANDROID_PARTNER_GMS_HOME := vendor/google

# GMS mandatory core packages (17)

//... the ignore code doesn't need to change.
endif
```

# 1. Modify build file for EEA - android 8.1-go

- (1) Add build option: **EEA\_TYPE** in file: **/vendor/go-gms/products/gms.mk**, and choose EEA configuration file according to EEA\_TYPE value.

```
1  ifdef BUILD_GMS
2  ifeq ($(strip $(BUILD_GMS)), yes)
3  ifeq ($(strip $(BUILD_AGO_GMS)), yes)
4  ifeq ($(strip $(EEA_TYPE)), type1)
5  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type1.mk)
6  else ifeq ($(strip $(EEA_TYPE)), type2)
7  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type2.mk)
8  else ifeq ($(strip $(EEA_TYPE)), type3a)
9  $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type3a.mk)
10 else ifeq ($(strip $(EEA_TYPE)), type3b)
11 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type3b.mk)
12 else ifeq ($(strip $(EEA_TYPE)), type4a)
13 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4a.mk)
14 else ifeq ($(strip $(EEA_TYPE)), type4b)
15 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4b.mk)
16 else ifeq ($(strip $(EEA_TYPE)), type4c)
17 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go_eea_type4c.mk)
18 else
19 $(call inherit-product-if-exists, vendor/go-gms/products/gms_go.mk)
20 endif
21 endif
22 endif
23 endif
```



(1) Change `/vendor/google/products/eea_common.mk`

original

modified

```
1 #####
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/partner_gms
5
6 # GMS mandatory core packages
7 #####
8 PRODUCT_PACKAGES := \
9     AndroidPlatformServices \
10     ConfigUpdater \
```

```
31 # Overlay for GMS devices
32 $(call inherit-product, device/sample/products/backup_overlay.mk)
33 $(call inherit-product, device/sample/products/location_overlay.mk)
```

```
40 # Overlay for GoogleDialer
41 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps/GoogleDi
```

```
43 # Configuration files for GMS apps
44 PRODUCT_COPY_FILES += \
45     $(ANDROID_PARTNER_GMS_HOME)/etc/default-permissions/default-permi
46     $(ANDROID_PARTNER_GMS_HOME)/etc/permissions/privapp-permissions-g
47     $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/
48     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/s
49     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-packag
50
51 # GMS mandatory application packages
52 PRODUCT_PACKAGES += \
53     Drive \
```

```
1 #####
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/google
5
6 # GMS mandatory core packages
7 $(call inherit-product, build/target/product/product_launched_with_p.mk):t_launched_with_p.mk)
8 GMS_PRODUCT_PACKAGES += \
9     AndroidPlatformServices \
10     ConfigUpdater \
```

```
32 # Overlay for GMS devices
33 $(call inherit-product, device/sample/products/backup_overlay.mk)
34 $(call inherit-product-if-exists, device/mediatek/common/overlay/backup/backup_overlay.mk)
35 $(call inherit-product, device/sample/products/location_overlay.mk)
```

```
42 ifneq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
43 # Overlay for GoogleDialer
44 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps/GoogleDialer/overlay
45 endif
```

```

47 # Configuration files for GMS apps
48 PRODUCT_COPY_FILES += \
49     $(ANDROID_PARTNER_GMS_HOME)/etc/default-permissions/default-permissions-google.xml:system/etc/default-permissions/google.xml \
50     $(ANDROID_PARTNER_GMS_HOME)/etc/permissions/privapp-permissions-google.xml:system/etc/permissions/privapp-permissions-google.xml \
51     $(ANDROID_PARTNER_GMS_HOME)/etc/preferred-apps/google.xml:system/etc/preferred-apps/google.xml \
52     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google.xml:system/etc/sysconfig/google.xml \
53     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml \
54     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc/sysconfig/google-hiddenapi-package-whitelist.xml \
55
56 # GMS mandatory application packages
57 GMS_PRODUCT_PACKAGES += \
58     Drive \

```

## 2. Change EEA configuration file – android 9.0

(1) Change /vendor/google/products/eea\_common.mk (continued from the previous page)

original

modified

```
61
62 # GMS comms suite
63 PRODUCT_PACKAGES += \
64     CarrierServices \
65     GoogleContacts \
66     GoogleDialer \
67     Messages
```

```
69 # GMS optional application packages
70 PRODUCT_PACKAGES += \
71     CalendarGoogle \
72     DeskClockGoogle \
73     FaceLock \
74     LatinImeGoogle \
75     TagGoogle \
76     talkback \
77     Keep \
78     CalculatorGoogle \
79     OobConfig
```

```
88 # Overrides
89 PRODUCT_SYSTEM_DEFAULT_PROPERTIES += \
90     ro.opa.eligible_device=true \
91     ro.setupwizard.mode=OPTIONAL \
92     setupwizard.feature.preferred_enabled=false \
93     ro.com.google.gmsversion=9_201810
```

```
68 # Hangouts is for non-telephony devices
69 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
70     GMS_PRODUCT_PACKAGES += Hangouts
71 endif
72 # GMS comms suite
73 GMS_PRODUCT_PACKAGES += \
74     CarrierServices \
75     GoogleContacts
76 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
77     GMS_PRODUCT_PACKAGES += \
78     GoogleDialer \
79     Messages
```

```
80 # GMS optional application packages
81 GMS_PRODUCT_PACKAGES += \
82     CalendarGoogle \
83     LatinImeGoogle
```

```
92 GMS_PRODUCT_PACKAGES += \
93     FilesGo
94
95 # Add GMS package into system product packages
96 PRODUCT_PACKAGES += $(GMS_PRODUCT_PACKAGES)
97
98 # Overrides
99 PRODUCT_SYSTEM_DEFAULT_PROPERTIES += \
100     ro.opa.eligible_device=true \
101     ro.setupwizard.mode=OPTIONAL \
102     setupwizard.feature.preferred_enabled=false \
103     ro.com.google.gmsversion=9_201810
104
105 PRODUCT_PROPERTY_OVERRIDES += \
106     ro.com.google.clientidbase="" \
107     ro.com.google.clientidbase.ms="" \
108     ro.com.google.clientidbase.yt="" \
109     ro.com.google.clientidbase.am="" \
110     ro.com.google.clientidbase.gmm=""
```

# 2. Change EEA configuration file – android 9.0

## (1) Change /vendor/google/products/eea\_go\_common.mk

original

modified

```
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/partner_gms
5
6 # GMS mandatory core packages
7 PRODUCT_PACKAGES := \
8     AndroidPlatformServices \
```

```
2 # GMS home folder location
3 # Note: we cannot use $(my-dir) in this makefile
4 ANDROID_PARTNER_GMS_HOME := vendor/google
5
6 # GMS mandatory core packages
7 $(call inherit-product, build/target/product/product_launched_with_p.mk)
8
9 GMS_PRODUCT_PACKAGES += \
10     AndroidPlatformServices \
```

//...

```
32 # Overlay for GMS devices
33 $(call inherit-product, device/sample/products/backup_overlay.mk)
34 $(call inherit-product, device/sample/products/location_overlay.mk)
35 PRODUCT_PACKAGE_OVERLAYS += \
36     $(ANDROID_PARTNER_GMS_HOME)/products/gms_overlay \
37     $(ANDROID_PARTNER_GMS_HOME)/products/go_overlay \
38     $(ANDROID_PARTNER_GMS_HOME)/products/webview_eea_overlay
```

```
34 # Overlay for GMS devices
35 $(call inherit-product, device/sample/products/backup_overlay.mk)
36 $(call inherit-product-if-exists, device/mediatek/common/overlay/backup/backup_overlay.mk)
37 $(call inherit-product, device/sample/products/location_overlay.mk)
38 PRODUCT_PACKAGE_OVERLAYS += \
39     $(ANDROID_PARTNER_GMS_HOME)/products/go_overlay \
40     $(ANDROID_PARTNER_GMS_HOME)/products/gms_overlay \
41     $(ANDROID_PARTNER_GMS_HOME)/products/webview_eea_overlay
```

//...

```
41
42 # Overlay for GoogleDialerGo (use this only if GoogleDialerGo is the
43 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps_go/GoogleDialerGo/overlay
```

```
44
45 ifeq ($(strip $(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY)
46 # Overlay for GoogleDialerGo (use this only if GoogleDialerGo is the default dialer app)
47 PRODUCT_PACKAGE_OVERLAYS += $(ANDROID_PARTNER_GMS_HOME)/apps_go/GoogleDialerGo/overlay
48 endif
```

//...

```
50     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google_go.xml:system/etc
51     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc
52
53 # GMS mandatory application packages
54 PRODUCT_PACKAGES += \
55     GmailGo \
```

```
55     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google_go.xml:system/etc/sysconfig/google.xml \
56     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/gmsexpress.xml:system/etc/sysconfig/gmsexpress.xml \
57     $(ANDROID_PARTNER_GMS_HOME)/etc/sysconfig/google-hiddenapi-package-whitelist.xml:system/etc/sy
58
59 # GMS mandatory application packages
60 GMS_PRODUCT_PACKAGES += \
61     GmailGo \
```

## 2. Change EEA configuration file – android 9.0

(1) Change `/vendor/google/products/eea_go_common.mk` (continued from the previous page)

original	modified
<pre>60 # GMS comms suite 61 PRODUCT_PACKAGES += \ 62     CarrierServices \ 63     GoogleContacts \ 64     GoogleDialerGo \ 65     MessagesGo</pre>	<pre>//... 66 # GMS comms suite 67 <b>GMS_PRODUCT_PACKAGES</b> += \ 68     CarrierServices \ 69     GoogleContacts 70 71 ifneq (\$(strip \$(MTK_TB_WIFI_3G_MODE)),WIFI_ONLY) 72 <b>GMS_PRODUCT_PACKAGES</b> += \ 73     GoogleDialerGo \ 74     MessagesGo 75 endif</pre>
<pre>67 # GMS optional application packages 68 PRODUCT_PACKAGES += \ 69     CalendarGoogle \ 70     DeskClockGoogle \ 71     FilesGo \ 72     NavGo \ 73     PdfViewer \ 74     TagGoogle \ 75     talkback \ 76     CalculatorGoogle</pre>	<pre>77 # GMS optional application packages 78 <b>GMS_PRODUCT_PACKAGES</b> += \ 79     CalendarGoogle \ 80     FilesGo \ 81     NavGo</pre>
<pre>78 # GMS sample application packages 79 PRODUCT_PACKAGES += \ 80     WallpaperPicker</pre>	<pre>82 83 # Add GMS package into system product packages 84 <b>PRODUCT_PACKAGES</b> += \$(<b>GMS_PRODUCT_PACKAGES</b>)</pre>
<pre>87 ro.com.google.gmsversion=9_201810.go</pre>	<pre>//... 91 ro.com.google.gmsversion=9_201810.go 92 93 <b>PRODUCT_PROPERTY_OVERRIDES</b> += \ 94     ro.com.google.clientidbase="" \ 95     ro.com.google.clientidbase.ms="" \ 96     ro.com.google.clientidbase.yt="" \ 97     ro.com.google.clientidbase.am="" \ 98     ro.com.google.clientidbase.gmm=""</pre>

## 2. Change EEA configuration file – android 9.0

(2) Change `/vendor/google/products/gms_eea_typeXX.mk`

Example: `gms_eea_type4c.mk`

original	modified
1 <code>\$(call inherit-product, vendor/partner_gms/products/eea_common.mk)</code>	1 <code>\$(call inherit-product, vendor/google/products/eea_common.mk)</code>
2	2
3 <code>PRODUCT_COPY_FILES += \</code>	3 <code>PRODUCT_COPY_FILES += \</code>
4 <code>vendor/partner_gms/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/eea</code>	4 <code>vendor/google/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/eea</code>
5	5
6 <code>PRODUCT_PACKAGE_OVERLAYS += vendor/partner_gms/products/assistant_gsa_overlay</code>	6 <code>PRODUCT_PACKAGE_OVERLAYS += vendor/google/products/assistant_gsa_overlay</code>
7	7
8 <code>PRODUCT_PACKAGES += \</code>	8 <code>GMS_PRODUCT_PACKAGES += \</code>
9 <code>Velvet \</code>	9 <code>Velvet \</code>
10 <code>Chrome \</code>	10 <code>Chrome \</code>
11 <code>GmsEEAType4cIntegration \</code>	11 <code>GmsEEAType4cIntegration \</code>
12 <code>SearchLauncherQuickStep</code>	12 <code>SearchLauncherQuickStep</code>
13	13
14	14 <code># Add GMS package into system product packages</code>
15	15 <code>PRODUCT_PACKAGES += \$(GMS_PRODUCT_PACKAGES)</code>



## 2. Change EEA configuration file – android 9.0

(2) Change `/vendor/google/products/gms_go_eea_typeXX.mk`

Example: `gms_go_eea_type4c.mk`

original	modified
<pre>1 \$(call inherit-product, vendor/partner_gms/products/eea_go_common.mk) 2 3 PRODUCT_COPY_FILES += \ 4 vendor/partner_gms/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/ 5 6 PRODUCT_PACKAGE_OVERLAYS += vendor/partner_gms/products/assistant_go_overlay 7 8 PRODUCT_PACKAGES += \ 9   AssistantGo \ 10  GoogleSearchGo \ 11  Chrome \ 12  GmsEEAType4cIntegrationGo \ 13  Launcher3Go 14 15 16</pre>	<pre>1 \$(call inherit-product, vendor/google/products/eea_go_common.mk) 2 3 PRODUCT_COPY_FILES += \ 4 vendor/google/etc/sysconfig/eea_search_chrome.xml:system/etc/sysconfig/ 5 6 PRODUCT_PACKAGE_OVERLAYS += vendor/google/products/assistant_go_overlay:rlay 7 8 GMS_PRODUCT_PACKAGES += \ 9   AssistantGo \ 10  GoogleSearchGo \ 11  Chrome \ 12  GmsEEAType4cIntegrationGo \ 13  Launcher3Go 14 15 # Add GMS package into system product packages 16 PRODUCT_PACKAGES += \$(GMS_PRODUCT_PACKAGES)</pre>

## 2. Change EEA configuration file – android 8.0/8.1/8.1-go

Please refer to android 9.0.

Note:

the gms folder is vendor/[go-gms](#) in android 8.1-go. So the relative path isn't vendor/google but vendor/[go-gms](#).

### 3. Configure home screen place

Change

`/vendor/google/apps/GmsSampleIntegration/res_dhs_XX/xml/partner_default_layout.xml`

for home screen place of EEA.

`res_dhs_XX` is different according to EEA type, you can confirm it in file: `/vendor/google/apps/GmsSampleIntegration/Android.mk`

Example: type4c

```
145 # GmsEEAType4cIntegration (GSA, Chrome, search+chrome placement)
146 include $(CLEAR_VARS)
147 LOCAL_PACKAGE_NAME := GmsEEAType4cIntegration
148 LOCAL_MODULE_TAGS := optional
149 LOCAL_CERTIFICATE := platform
150 LOCAL_SRC_FILES := $(call all-java-files-under, src)
151 LOCAL_RESOURCE_DIR := $(LOCAL_PATH)/res_dhs_full $(LOCAL_PATH)/res
152 LOCAL_SDK_VERSION := current
153 include $(BUILD_PACKAGE)
```



# 3. Configure home screen place

Note:

/vendor/google/apps/GmsSampleIntegration/res\_dhs\_XX/xml/partner\_default\_layout.xml just support one home screen size. Example: 4x4.

So you need change this file according to device's home screen size.

Example:

/vendor/google/apps/GmsSampleIntegration/res\_dhs\_full/xml/partner\_default\_layout.xml

This is for home screen size: 4x4

```
<favorites>
  <!-- Hotseat (We use the screen as the position of the item in the hotseat) -->
  <!-- Dialer Messaging Calendar Contacts Camera -->
  <favorite container="-101" screen="0" x="0" y="0" packageName="com.google.android.dialer" cla
  <favorite container="-101" screen="1" x="1" y="0" packageName="com.google.android.apps.messa
  <favorite container="-101" screen="2" x="2" y="0" packageName="com.google.android.calendar" c
  <favorite container="-101" screen="3" x="3" y="0" packageName="com.google.android.contacts" c
  <favorite container="-101" screen="4" x="4" y="0" packageName="com.android.camera2" className
  <!-- In Launcher3, workspaces extend infinitely to the right, incrementing from zero -->
  <!-- Google folder -->
  <!-- Google, Chrome, Gmail, Maps, YouTube, (Drive), (Music), (Movies), Duo, Photos -->
  <folder title="@string/google_folder_title" screen="0" x="0" y="3">
    <favorite packageName="com.google.android.googlequicksearchbox" className="com.google.andr
    <favorite packageName="com.android.chrome" className="com.google.android.apps.chrome.Main"/
    <favorite packageName="com.google.android.gm" className="com.google.android.gm.Conversatio
    <favorite packageName="com.google.android.apps.maps" className="com.google.android.maps.May
    <favorite packageName="com.google.android.youtube" className="com.google.android.youtube.ay
    <favorite packageName="com.google.android.apps.docs" className="com.google.android.apps.doc
    <favorite packageName="com.google.android.music" className="com.android.music.activitymana
    <favorite packageName="com.google.android.videos" className="com.google.android.youtube.vic
    <favorite packageName="com.google.android.apps.tachyon" className="com.google.android.apps.
    <favorite packageName="com.google.android.apps.photos" className="com.google.android.apps.p
  </folder>
  <favorite screen="0" x="3" y="3" packageName="com.android.vending" className="com.android.ver
</favorites>
```

# 3. Configure home screen place

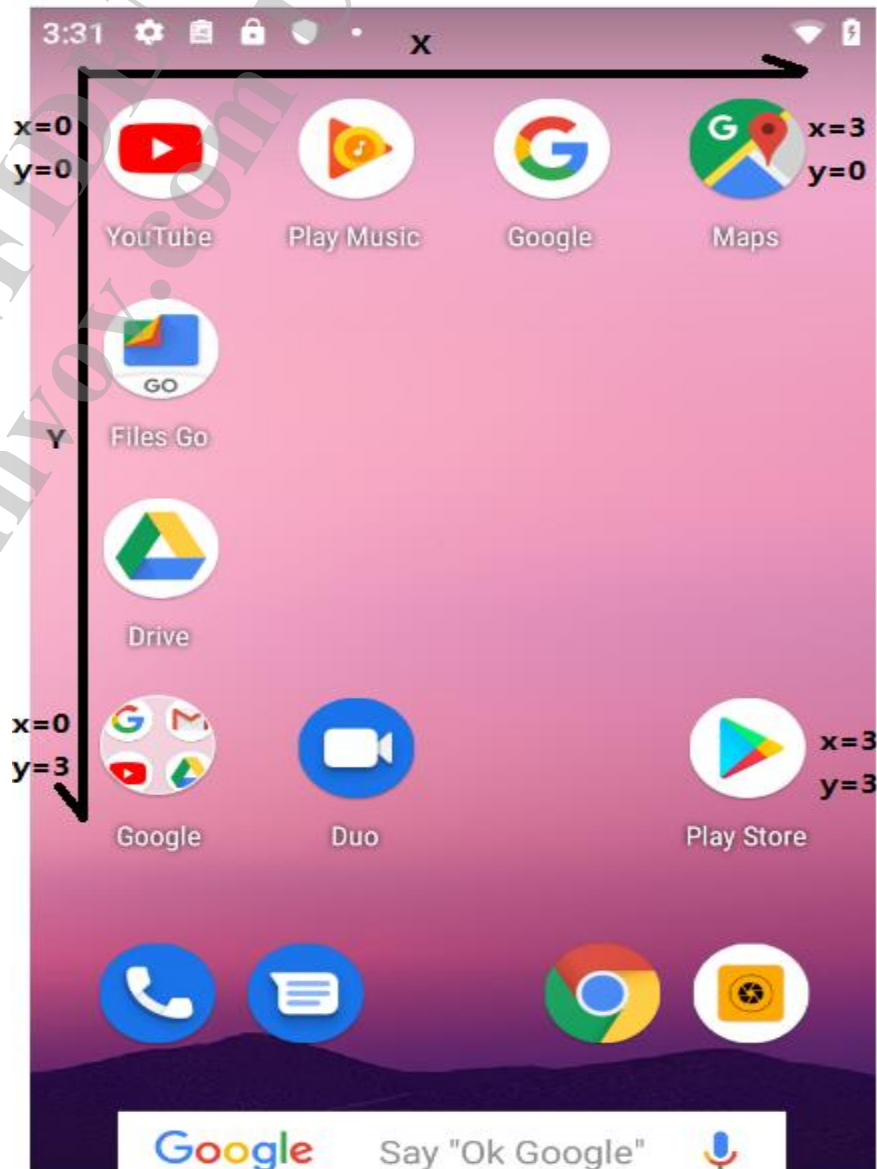
This is for home screen size: 5x5

```
<favorites>
  <!-- Hotseat (We use the screen as the position of the item in the hotseat) -->
  <!-- Dialer Messaging Calendar Contacts Camera -->
  <favorite container="-101" screen="0" x="0" y="0" packageName="com.google.android.dialer"
  <favorite container="-101" screen="1" x="1" y="0" packageName="com.google.android.apps.mes
  <favorite container="-101" screen="2" x="2" y="0" packageName="com.google.android.calendar
  <favorite container="-101" screen="3" x="3" y="0" packageName="com.google.android.contacts
  <favorite container="-101" screen="4" x="4" y="0" packageName="com.android.camera2" classN
  <!-- In Launcher3, workspaces extend infinitely to the right, incrementing from zero -->
  <!-- Google folder -->
  <!-- Google, Chrome, Gmail, Maps, YouTube, (Drive), (Music), (Movies), Duo, Photos -->
  <folder title="@string/google_folder_title" screen="0" x="0" y="4">
    <favorite packageName="com.google.android.googlequicksearchbox" className="com.google.an
    <favorite packageName="com.android.chrome" className="com.google.android.apps.chrome.Mai
    <favorite packageName="com.google.android.gm" className="com.google.android.gm.Conversat
    <favorite packageName="com.google.android.apps.maps" className="com.google.android.maps.l
    <favorite packageName="com.google.android.youtube" className="com.google.android.youtube
    <favorite packageName="com.google.android.apps.docs" className="com.google.android.apps.
    <favorite packageName="com.google.android.music" className="com.android.music.activityma
    <favorite packageName="com.google.android.videos" className="com.google.android.youtube.
    <favorite packageName="com.google.android.apps.tachyon" className="com.google.android.ap
    <favorite packageName="com.google.android.apps.photos" className="com.google.android.app
  </folder>
  <favorite screen="0" x="4" y="4" packageName="com.android.vending" className="com.android.
</favorites>
```

# 3. Configure home screen place

Home screen place position:

Example: 4x4



# 3.1 launcher

If the launcher package is [Launcher3NoQsb](#), please set [LOCAL\\_OVERRIDES\\_PACKAGES](#) in file: `apps/Launcher3NoQsb/Android.mk`.

Example:

```
LOCAL_OVERRIDES_PACKAGES := Home Launcher2 Launcher3 Launcher3QuickStep MtkLauncher3 MtkLauncher3QuickStep Op09Launcher3 Launcher3Go
```

## 4. Build GMS EEA project – android 9.0/8.x/8.1-go

Build command for GMS EEA:

```
make BUILD_GMS=yes EEA_TYPE=type4c 2>&1 | tee log.txt
```

The value of EEA\_TYPE is decided by your product.

(type1, type2, type3a, type3b, type4a, type4b, type4c)

## 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 **PLUS**, you need to see string below:

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

if you join a program of GMS **EEA**, you need to see string below:

**feature:** `com.google.android.feature.EEA_DEVICE`














None of above 2 program, you need to see string below:

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

# Check Item by Item following regulation below

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

## GMS Express Plus & Go Requirement - 10/2018 (GMS Express and Express Plus are not available in Russia)

App Requirement	GMS Express Plus	Go Requirement (by MADA/GMS Req.)	GMS Express Plus for GO
 Google Search	Exclusive (DHS in EU/Turkey/Korea)	Go Version	<b>Exclusive (DHS in EU/Turkey/Korea) - Go Version</b>
 Google Assistant	Exclusive (except 1P OEM)	Go Version	<b>Exclusive (except 1P OEM) - Go version</b>
 Gmail	Exclusive	Go Version	<b>Exclusive - Go Version</b>
 Google Calendar	Exclusive	not required	<b>Exclusive - Main Version</b>
 GBoard	Exclusive	Default, Go Version	<b>Exclusive - Go Version</b>
 Photos	Exclusive	not required	<b>not required</b>
 Android Messages	Exclusive; in hotseat	not required	<b>Exclusive; Main Version, in hotseat</b>
 Chrome	Default; in hotseat	Main Version, in hotseat	<b>Default - Main Version, in hotseat</b>
 Duo	DHS	not required	<b>not required</b>
 Google "Feed"	Integrated on -1 screen	not required	<b>not required</b>
 YouTube	mandatory GMS	Go Ver. / Main Ver. depending on geo	<b>Go Ver. / Main Ver. depending on geo</b>
 Google Maps	mandatory GMS	Go Version*	<b>Go Version*</b>
 Files	Exclusive	Optional	<b>Exclusive - Go Version</b>

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.

\*On 512MB devices, Maps Go is optional

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# Review by Linux command

## Android 7.x/8.x

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	Please Ignore.
	adb shell am start -W -t image/* file:///tmp/cute.mp4   grep -c com.google.android.apps.photos	Please Ignore.
	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: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
	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
Keyboard	adb shell settings get secure default_input_method   grep -c com.google.android.inputmethod	1
	adb shell ime list -a   grep mld   grep -v -c mld=com.google.android	0
Voice Assistant	adb shell am start -W -a android.intent.action.VOICE_COMMAND   grep -c com.google.android.googlequicksearchbox	1
Search	adb shell am start -W -a android.intent.action.WEB_SEARCH -e query wikipedia   grep -c com.google.android.googlequicksearchbox	1

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

# Review by Linux command

- Android Go:

App Category	Command Line(Linux)	Expected result
Email	adb shell am start -W -a android.intent.action.SENDTO -d mailto:someone@gmail.com   grep -c com.google.android.gm.lite	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.READ_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.WRITE_CALENDAR: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.READ_CONTACTS: granted=true"	1
	adb shell dumpsys package com.google.android.gm.lite   grep -c "android.permission.WRITE_CONTACTS: granted=true"	1
Voice Assistant	adb shell am start -W -a android.intent.action.ASSIST   grep -c com.google.android.apps.assistant	1
Search	adb shell am start -W -a android.intent.action.WEB_SEARCH -e query wikipedia   grep -c com.google.android.apps.searchlite	1

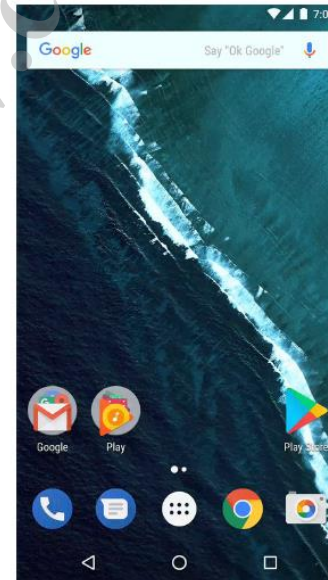
# Check UI layout of front page

## BEFORE & AFTER ON GMS EXPRESS DEVICES



**Before**

Duplicate apps in same category



**After**

Best Google experience

# 3. CERTIFICATION

# Contact MTK 3PL to create OEM-Mediatek on APFE

During development, OEM may need to create GOTA deployment, request keybox, request fingerprint whitelist and so on, which need 3PL help to operate on APFE , hence it is necessary to ask 3PL to help to create **OEM-Mediatek** on APFE first (Only need to create once).

- First of all, make sure MADA license does not expired ,then send below information to MTK 3PL managers through Email:

([Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com),[Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com),[Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com))

## 1. Information required to create OEM-Mediatek on APFE

**brand/odm in dropdown:** (fill in the short name here, like BLU)

**company name:** (fill in the full name here in English)

**company website:** (fill in the official website of OEM here)

**company email domain:** (fill in the Corporate Email domain, seperated by comma for multiple domains)

## 2.

The Corporate Email accounts which need “view APFE”, “download keybox”, “access GOTA” permissions (Need to register the corporate account as Google account first. Go to <https://myaccount.google.com/> to proceed) .

# GOTA/keybox/Fingerprint whitelist

- For GOTA deployment and keybox (attestation key) , please fill in the basic info table [GMSEpress\\_pretest\\_info.xlsx](#) first :  
[https://drive.google.com/open?id=1nUEB\\_3VA6rcTNID4p\\_dzFFZBhia9yzb5](https://drive.google.com/open?id=1nUEB_3VA6rcTNID4p_dzFFZBhia9yzb5)
- Then send the [GMSEpress\\_pretest\\_info.xlsx](#) and CTS test report of testSignature to below MTK 3PL members, they will handle ASAP:  
[Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com)  
[Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com)  
[Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com)
- For fingerprint whitelist (valid for 45 days)request, only need to provide testSignature report.

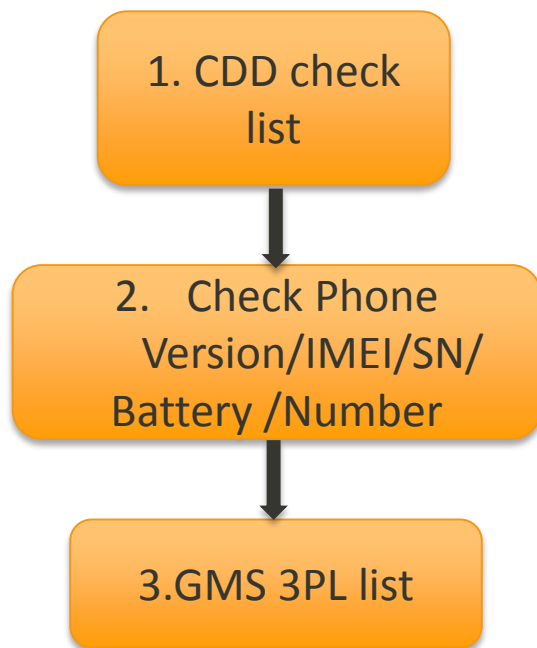
## The CTS test command to run testSignature

Android 8.1	<code>run cts -m CtsSystemCurrentApiSignatureTestCases -t android.signature.cts.api.SignatureTest#testSignature</code>
Android 8.0	<code>run cts -m CtsSignatureTestCases -t android.signature.cts.SignatureTest#testSignature</code>

# Download keybox & Access APFE

- After 3PL added the device into keybox list on APFE , OEM can go to this website to submit and download Keybox by himself:
  - <https://partner.android.com/approval>
- Log in APFE website, OEM can track the device status:
  - <https://partner.android.com/?pli=1#>
- Log in Google OTA website, OEM can see the related GOTA deployments.
  - <https://partner.android.com/ota>
- If any permission issue found of above websites, please contact MTK 3PL managers for help:
  - [Wenjuan.nie@mediatek.com](mailto:Wenjuan.nie@mediatek.com), [Jane.wen@mediatek.com](mailto:Jane.wen@mediatek.com), [Zhongxiao.lin@mediatek.com](mailto:Zhongxiao.lin@mediatek.com)

# Important notes



Items	Request
1. CDD check list	<p>Each item must satisfy Google's requirements, otherwise it won't get Google approval.</p> <p>Download latest CDD checklist doc here:  <a href="https://drive.google.com/open?id=1MjZurwbkXtd7Alq3kmX6XnsS1OzjB5Qk">https://drive.google.com/open?id=1MjZurwbkXtd7Alq3kmX6XnsS1OzjB5Qk</a></p>
2. Phone Version/IMEI/SN/Battery /Number	<ul style="list-style-type: none"> <li>a. Must use <b>FlashTool download</b> the software before deliver devices</li> <li>b. Make sure write <b>valid IMEI</b></li> <li>c. Provide at least <b>8</b> devices for Android 8.x(4 flash in user ,3 flash in GSI ,1 flash in userdebug), <b>5</b> devices for Android 7.x(all flash in user)</li> <li>d. 8 devices must have <b>different SN</b></li> <li>f. Make sure each device's <b>battery above 90%</b></li> </ul>
3. Submit GSM 3PL Request from <b>online.mediatek.com</b>	<ul style="list-style-type: none"> <li>a. Complete <b>GSM 3PL list</b>.</li> <li>b. Provide self-test Pass report of CTS/CTS-ON-GSI/VTS/GTS/CTS verifier. If there is <b>any Fail item</b>, including an environmental issue without conditional test, or Google issue, etc., it must <b>be specified in detail</b>.</li> <li>c. Provide relevant information about the market and brand (electronic file of <b>color box</b> and <b>Instructions</b>, device's <b>HD ID picture of Front view</b> )</li> </ul>

**Important note:** If **any items of 1 to 3 is not met requirements**, need to be **returned to customer** until meet the requirements. Return one times, count as test once. There are two free opportunities for each project, the third time, customer need **pay 1,500 US dollars for each test**.



# Deliver devices

- Fill the tracking number on the GMS 3PL list. For directly bring the mobile phone to MTK Shenzhen office, please contact **Yunqiu Xu** (Yunqiu.Xu@mediatek.com)

**Receiver:** Yunqiu Xu

**Address:** Building No.4, Block No.1, Shenzhen Bay ECO-Technology Park, No.22, Nanhuan Road, Nanshan District, Shenzhen, China 518063

**Tel:** (86)755-2663 0099- 65247

**Mobile:** 15113328865

- Each project has corresponding engineer tracking. **Once the project starts testing, the engineer will contact customer ASAP** . Please keep the mobile phone unblocked. Thanks for your cooperation.
- Please put one project's devices in **one package**, and notes **Project's name**.

# Inform your ODM to Submit a ticket in GMS 3PL

- Access <http://online.mediatek.inc> -> GMS 3PL

The screenshot displays the MediaTek On-Line website. At the top, there is a navigation bar with the MediaTek On-Line logo, a search bar, and icons for account, download, application, admin, and help. Below the navigation bar, a grid of partner logos is shown, including BIWIN, SKYWORKS, muRata (with text 'Exclusive service for Mediatek On-Line members'), TAIYO YUDEN, Bosch Sensortec, QORVO (with text 'all around you'), WISOL (with text 'RF solution provider'), TDK, InvenSense, and Micron (with text 'MOBILE SOLUTIONS'). Below the logos, a section titled '快速链接' (Quick Links) contains a grid of icons for FAQ, QVL / DRL (NEW), QVL / DRL / CVI (OLD), Tool & SDK, DCC, eService, eCourse, Quick Start, FEX 2.0, and GMS 3PL. The GMS 3PL icon, which features an Android robot, is highlighted with a red border.

## ■ GMS 3PL Example:

FormID	GMS16144	ODM	SHENZHEN Y CO.,LTD.
OEM	X COMPANY	Build fingerprint	Cool/Cool_XY:7.0/N90/1520908888:user/release-keys
HW Project	cool_XY	RAM(MB)	1024
Display Size(inches)	4.5	CPU Model	MT6580
Flash Storage(GB)	9000	Supports DRM ?	Yes
Clockspeed(GHz)	1.1	Trusted OS	Beanpod
Widevine DRM Level	Level 3	Marketing Name	OhYeah
Trusted Output (HDMI/HDCEP) ?	No	The website of Retail Branding	XXXXXXXXXX
Retail Branding	SSSSS	End Date	2018/3/31 0:00:00
Launch Date	2018/3/1 0:00:00	Launch Country	Algeria
Sales Volume	148000	language of Packaging & User guide	French
Launch Region	the Middle East and Africa	Operator device	No
First Launch ?	Yes	Device certification type	GMSEXPRESS plus
Operator Name	abc	GTS version	5.1R2
CTS version	7.0R17		
GMS version	R13		
Special request			
CTS/GTS/CTS verifier self-test reports	<a href="#">CtsGtsReport.zip</a>		
Load path	<a href="https://pan.baidu.com/s/1VdsdfsBP7zaKxoFwerwerMA">https://pan.baidu.com/s/1VdsdfsBP7zaKxoFwerwerMA</a>		
Marketing and branding related materials	<a href="#">MarketingBranding.zip</a>		
Contact Window's fafa Name	Contact Window's Email	fafa@ksdjf.com	Contact Window's Phone +86-16666666666

**MEDIATEK**

*everyday genius*

# 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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## EEA Type

	Preload		Feature flags			Test Cases		
Product type	Search preload	Chrome preload	EEA flag	Search placement flag	Chrome placement flag	Search placement test	Chrome placement test	Default Assistant + No Disambig
No Search/Chrome Preload Type 1			x					VAS
Chrome Preload, No Placement Type 2		x	x					VAS
Search Preload, No Placement Type 3a	x		x					GSA or Assistant Go
Search Preload, Search Placement Type 3b	x		x	x				GSA or Assistant Go
Search/Chrome Preload, No Placement Type 4a	x	x	x					GSA or Assistant Go
Search/Chrome preload, Search Placement Type 4b	x	x	x	x				GSA or Assistant Go
Search/Chrome preload, Search/Chrome Placement Type 4c	x	x	x	x	x			GSA or Assistant Go