

SoM20x Development FAQ

Document information

DESCRIPTION	VERSION	BOARD ID	PAGE	DATE	AUTHOR
FAQ	V1.0	RTH220506_V1.0		2023-4-23	

Question 1

1、Use SDK(ssd20x-202303071644.tar) compiled image file burned to the board, appear can not enter the system, display the following prompt information.

```
pc : [<00009554>] lr : [<0000954f>] psr: a0000033
sp : c3e5def8 ip : 00000002 fp : c0488431
r10: c04ac9f4 r9 : c0501000 r8 : c05298e8
r7 : 00000030 r6 : 00000000 r5 : 00000004 r4 : c3a7a780
r3 : 00000000 r2 : 80000000 r1 : c05298eb r0 : c3a7a781
Flags: NzCv IRQs on FIQs on Mode SVC_32 ISA Thumb Segment none
Control: 50c5387d Table: 2000406a DAC: 00000051
Process swapper/0 (pid: 1, stack limit = 0xc3e5c218)
Stack: (0xc3e5def8 to 0xc3e5e000)
dee0: c05298e8 00000030
df00: 00000003 00000003 00000008 0000000a 00000091 c3e5df28 c04a2864 c0009765
df20: 00000003 c0009e57 0000000a 00000091 c3e5df40 c00097f7 c0501000 c04ac9f4
df40: c0488431 c02e0ald c04a2844 c00098b3 00000000 00000008 c0501000 c00099d3
df60: 00000008 c0501000 00000091 c0488a83 00000007 00000007 00000000 c0488431
df80: 00000000 00000000 c02de8b5 00000000 00000000 00000000 00000000 00000000
dfa0: 00000000 c02de8bb 00000000 c000f1c1 00000000 00000000 00000000 00000000
dfc0: 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
dfe0: 00000000 00000000 00000000 00000000 00000013 00000000 00000000 00000000
[<00009554>] (alpm_i2c_write) from [<00009765>] (_i2c_write+0xb/0xe)
[<00009765>] (_i2c_write) from [<00009e57>] (_alpm_init+0x4f/0x16c)
[<00009e57>] (_alpm_init) from [<00000000>] ( (null))
Code: fe45 4b10 7027 695b (885a) 6998
---[ end trace ca7a59d35b1a6969 ]---
Kernel panic - not syncing: Attempted to kill init! exitcode=0x0000000b

CPU0: stopping
CPU: 0 PID: 0 Comm: swapper/0 Tainted: G D 4.9.84 #1
Hardware name: SStar Soc (Flattened Device Tree)
[<0013d39>] (unwind_backtrace) from [<0011b23>] (show_stack+0xb/0xc)
[<0011b23>] (show_stack) from [<01590c3>] (dump_stack+0x57/0x70)
[<01590c3>] (dump_stack) from [<0013321>] (handle_IPI+0x8d/0x104)
[<0013321>] (handle_IPI) from [<00092d9>] (gic_handle_irq+0x59/0x64)
[<00092d9>] (gic_handle_irq) from [<00121e5>] (__irq_svc+0x65/0xac)
Exception stack(0xc04b5f60 to 0xc04b5fa8)
5f60: 00000000 00000880 c40be354 c00195a1 c04b7bf4 00000001 fffffe00 c04ff513
5f80: c04b7c44 c04a28cc 00000000 00000000 000e4e1c c04b5fb0 c000f9f7 c000f9ee
5fa0: 40000133 ffffffff
[<00121e5>] (__irq_svc) from [<000f9ee>] (arch_cpu_idle+0xc/0x1e)
[<000f9ee>] (arch_cpu_idle) from [<003fc8b>] (cpu_startup_entry+0xa3/0xd8)
[<003fc8b>] (cpu_startup_entry) from [<0488931>] (start_kernel+0x239/0x294)
[<0488931>] (start_kernel) from [<2000807f>] (0x2000807f)
---[ end Kernel panic - not syncing: Attempted to kill init! exitcode=0x0000000b
```

Solution:

1.1 please solve the problem as follows Entering the decompression SDK folder (example ssd20x), the compilation items need to be configured:

source lunch.sh

```
root@ubuntu:/opt/ssd20x#
root@ubuntu:/opt/ssd20x#
root@ubuntu:/opt/ssd20x#
root@ubuntu:/opt/ssd20x# source lunch.sh
support project information
--> 1) for ssd202    ssd202-lvds display
--> 2) for ssd202    ssd202-mipi display
--> 3) for ssd202    ssd202-rgb display
_
```

1.2 Select --> 1) for ssd202 ssd202-lvds display

1

```
root@ubuntu:/opt/ssd20x#
root@ubuntu:/opt/ssd20x#
root@ubuntu:/opt/ssd20x# source lunch.sh
support project information
--> 1) for ssd202    ssd202-lvds display
--> 2) for ssd202    ssd202-mipi display
--> 3) for ssd202    ssd202-rgb display
select 1 for ssd202-lvds display
root@ubuntu:/opt/ssd20x# _
```

1.3 Recompile the uboot, kernel, and project files.

1.3.1 Compile uboot

./build.sh uboot

```
root@ubuntu:/opt/ssd20x# ./build.sh uboot
processing option: uboot
=====Start building uboot=====
arch/./configs/.tmp_defconfig:326:warning: override: reassigning to symbol CMD_FASTBOOT
# configuration written to .config
#
CLEAN    examples/standalone
CLEAN    tools
CLEAN    tools/lib tools/common
CLEAN    u-boot_spinand.img.bin u-boot.lds u-boot.map u-boot.bin u-boot_spinand.xz.img.bin u-boot.s
rec u-boot u-boot_spinand.mz.img.bin System.map
HOSTCC   scripts/basic/fixdep
HOSTCC   scripts/kconfig/conf.o
HOSTCC   scripts/kconfig/zconf.tab.o
HOSTLD   scripts/kconfig/conf
scripts/kconfig/conf --silentoldconfig Kconfig
CHK      include/config.h
GEN      include/autoconf.mk
GEN      include/autoconf.mk.dep
GCC version: 8.2.1
MUXU
chip_id 12M
CHK      include/config/uboot.release
```

```
u-boot_spinand.mz.img.bin
./mkimage -A arm -O u-boot -C mz -a 0 -e 0 -n MUX4##I2M#g6e8f387CM_UBT1501#XUM -d u-boot.bin.mz u-bo
ot_spinand.mz.img.bin
Image Name: MUX4##I2M#g6e8f387CM_UBT1501#XUM
Created: Sun Apr 23 02:35:33 2023
Image Type: ARM U-Boot Kernel Image (mz compressed)
Data Size: 313105 Bytes = 305.77 kB = 0.30 MB
Load Address: 00000000
Entry Point: 00000000

u-boot_spinand.xz.img.bin
./mkimage -A arm -O u-boot -C xz -a 0 -e 0 -n MUX4##I2M#g6e8f387CM_UBT1501#XUM -d u-boot.bin.xz u-bo
ot_spinand.xz.img.bin
Image Name: MUX4##I2M#g6e8f387CM_UBT1501#XUM
Created: Sun Apr 23 02:35:33 2023
Image Type: ARM U-Boot Kernel Image (lzma compressed)
Data Size: 236272 Bytes = 230.73 kB = 0.23 MB
Load Address: 00000000
Entry Point: 00000000

u-boot_spinand.img.bin
./mkimage -A arm -O u-boot -C none -a 0 -e 0 -n MUX4##I2M#g6e8f387CM_UBT1501#XUM -d u-boot.bin u-bo
t_spinand.img.bin
Image Name: MUX4##I2M#g6e8f387CM_UBT1501#XUM
Created: Sun Apr 23 02:35:33 2023
Image Type: ARM U-Boot Kernel Image (uncompressed)
Data Size: 660712 Bytes = 645.23 kB = 0.63 MB
Load Address: 00000000
Entry Point: 00000000

root@ubuntu:/opt/ssd20x#
```

1.3.2 Compile kernel

./build.sh kernel

```
root@ubuntu:/opt/ssd20x# ./build.sh kernel
processing option: kernel
=====Start building kernel=====
kernel overlay
>>>>>infinity2m_spinand_ssc011a_s01a_display_for_ssd202-lvds_defconfig
Extract CHIP NAME (infinity2m) to '.ssstar_chip.txt'
make[1]: Entering directory '/opt/ssd20x/kernel'
#
# configuration written to .config
#
make[1]: Leaving directory '/opt/ssd20x/kernel'
make[1]: Entering directory '/opt/ssd20x/kernel'
scripts/kconfig/conf --silentoldconfig Kconfig
CHK include/config/kernel.release
GCC version: 8.2.1
MUXU
changelist gc34bb39
BRANCHID HEAD
MS_PLATFORM_ID: I2M
CHK include/generated/uapi/linux/version.h
CHK include/generated/utsrelease.h
CHK include/generated/bounds.h
CHK include/generated/timeconst.h
CHK include/generated/asm-offsets.h
CALL scripts/checksyscalls.sh
```



```
Compress Kernel Image
Image Name: MUX4##I2M#gc34bb39KL_LX409##[BR:
Created: Sun Apr 23 02:37:41 2023
Image Type: ARM Linux Kernel Image (lzma compressed)
Data Size: 2544272 Bytes = 2484.64 kB = 2.43 MB
Load Address: 20008000
Entry Point: 20008000
Mode: c, Level: 4
Input File: "arch/arm/boot/Image"
Output File: "arch/arm/boot/Image.mz"
Input file size: 5316608
Total input bytes: 5316608
Total output bytes: 3089479
Success.
```

```
Image Name: MUX4##I2M#gc34bb39KL_LX409##[BR:
Created: Sun Apr 23 02:37:42 2023
Image Type: ARM Linux Kernel Image (mz compressed)
Data Size: 3089479 Bytes = 3017.07 kB = 2.95 MB
Load Address: 20008000
Entry Point: 20008000
```

```
Kernel: arch/arm/boot/zImage is ready
Building modules, stage 2.
MODPOST 29 modules
```

```
Packing modules to '/opt/ssd20x/kernel/modules'
```

```
make[1]: Leaving directory '/opt/ssd20x/kernel'
kernel checkout
root@ubuntu:/opt/ssd20x#
```

1.3.3 Compile project

./build.sh project

```
echo export TERM=vt102 >> /opt/ssd20x/project/image/output/customer/demo.sh; \
echo export TERMINFO=/config/terminfo >> /opt/ssd20x/project/image/output/customer/demo.sh;\
fi;
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo' -> '/opt/ssd20x/project/image/output/miservice
/config/terminfo'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo/v' -> '/opt/ssd20x/project/image/output/miservi
ce/config/terminfo/v'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo/v/vt102-w' -> '/opt/ssd20x/project/image/output
/miservice/config/terminfo/v/vt102-w'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo/v/vt102-nsgr' -> '/opt/ssd20x/project/image/out
put/miservice/config/terminfo/v/vt102-nsgr'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo/v/vt102+enq' -> '/opt/ssd20x/project/image/outp
ut/miservice/config/terminfo/v/vt102+enq'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/terminfo/v/vt102' -> '/opt/ssd20x/project/image/output/m
iservice/config/terminfo/v/vt102'
'/opt/ssd20x/project/tools/glibc/8.2.1/htop/htop' -> '/opt/ssd20x/project/image/output/customer/htop
'
mkdir -p /opt/ssd20x/project/image/output/vendor
mkdir -p /opt/ssd20x/project/image/output/customer
mkdir -p /opt/ssd20x/project/image/output/rootfs/vendor
mkdir -p /opt/ssd20x/project/image/output/rootfs/customer
mkdir -p /opt/ssd20x/project/image/output/rootfs/var/empty
cp -rf /opt/ssd20x/project/hotplug/mdev.conf /opt/ssd20x/project/image/output/rootfs/etc/mdev.conf
mkdir -p /opt/ssd20x/project/image/output/rootfs/etc/hotplug/sd/
mkdir -p /opt/ssd20x/project/image/output/rootfs/etc/hotplug/usb/
cp -rf /opt/ssd20x/project/hotplug/sd_insert /opt/ssd20x/project/image/output/rootfs/etc/hotplug/sd/
cp -rf /opt/ssd20x/project/hotplug/sd_remove /opt/ssd20x/project/image/output/rootfs/etc/hotplug/sd/
cp -rf /opt/ssd20x/project/hotplug/udisk_insert /opt/ssd20x/project/image/output/rootfs/etc/hotplug/
usb/
cp -rf /opt/ssd20x/project/hotplug/udisk_remove /opt/ssd20x/project/image/output/rootfs/etc/hotplug/
usb/
cp -rf /opt/ssd20x/project/image/makefiletools/bin/otaunpack /opt/ssd20x/project/image/output/rootfs
/usr/bin
```

```

make[2]: Leaving directory '/opt/ssd20x/project/image'
make boot_images
make[2]: Entering directory '/opt/ssd20x/project/image'
make[2]: Nothing to be done for 'boot_images'.
make[2]: Leaving directory '/opt/ssd20x/project/image'
make scripts
make[2]: Entering directory '/opt/ssd20x/project/image'
mkdir -p /opt/ssd20x/project/image/output/images/scripts
make set_partition
make[3]: Entering directory '/opt/ssd20x/project/image'
make[3]: Leaving directory '/opt/ssd20x/project/image'
make cis_spinand_script ipl_spinand_script ipl_cust_spinand_script uboot_spinand_script logo_spinand_script kernel_spinand_script rootfs_spinand_ubifs_script miservice_spinand_ubifs_script customer_spinand_ubifs_script appconfigs_spinand_ubifs_script ubi_spinand_partition_script ubi_spinand_config_script
make[3]: Entering directory '/opt/ssd20x/project/image'
kernel-image done!!!
make[3]: Nothing to be done for 'ubi_spinand_partition_script'.
make[3]: Leaving directory '/opt/ssd20x/project/image'
if [ "cis" != "" ]; then \
    echo estar scripts/[[cis.es >> /opt/ssd20x/project/image/output/images/auto_update.txt; \
fi;
if [ "cis" != "" ]; then \
    echo estar scripts_bin/[[cis.es >> /opt/ssd20x/project/image/output/images/auto_update_bin.txt; \
fi;
make[2]: Leaving directory '/opt/ssd20x/project/image'
make[1]: Leaving directory '/opt/ssd20x/project/image'
./split_partition.sh
split customer image

customer.ubifs.0
split -b 35m :0x2300000
total size :0x38CB000
customer.ubifs.0 is ready!
customer.ubifs.1 is ready!
root@ubuntu:/opt/ssd20x#

```

1.3.4 You can get the system image, the image output directory is in project/image/output/images/, when you use TFTP to upgrade, specify the server directory to project/image/output/images

```

root@ubuntu:/opt/ssd20x/project/image/output/images# ls
appconfigs.ubifs      boot                customer.ubifs.0    ipl_s.bin          miservice.ubifs     scripts_bin
auto_update_bin.txt  cis.bin            customer.ubifs.1    kernel             rootfs.ubifs        uboot_s.bin
auto_update.txt       customer.ubifs     ipl_cust_s.bin     logo              scripts

```

1.3.5 With the compiled system firmware written to the board can enter the system.

```

/ # cd etc
/etc # ls
EasyUI.cfg      group              mdev.conf         profile           ssh
core.sh         hostname           mtab              profile.d         ssl
dhcpcd.conf     hosts             network           protocols         ts.conf
fstab           hotplug           nsswitch.conf     resolv.conf       udhcpc
fw_env.config   init.d            os-release        services          usb
fw_printenv     inittab           passwd            shadow
fw_setenv       issue            passwd-           shells
/etc #

```