INTERNAL USE

# MT2503 Download Debug SOP V0.1

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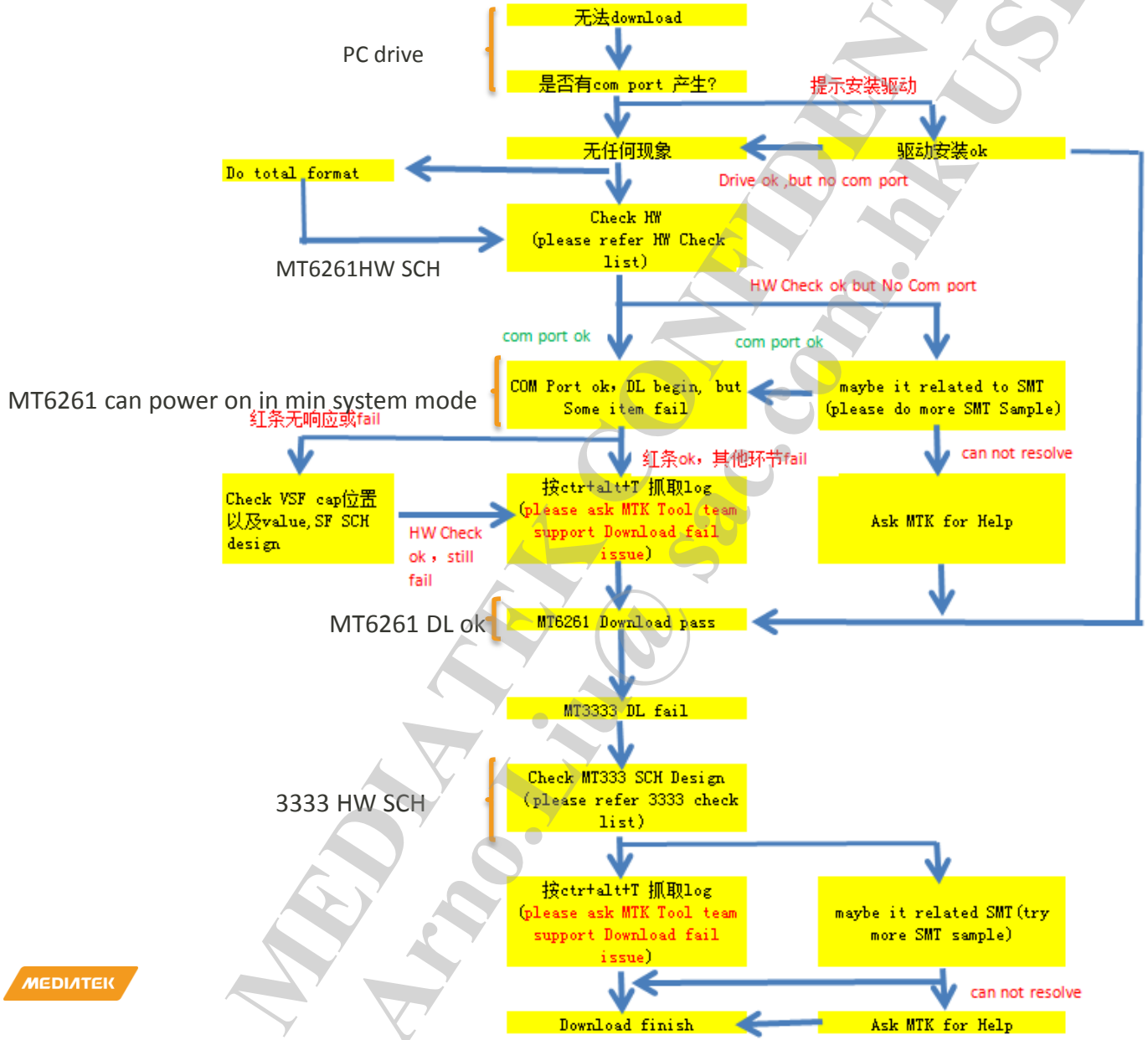
# Download issue Debug Follow1/3

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# Download issue HW Check list—BB(2/3)

Please follow bellow table to check BB Hardware design and output signal ,if all of them is ok ,but still can not Download ,please ask Mediatek support team for help immediately ,thanks

| Category | | Check Item |
|---|---|---|
| System setting | | insert battery or USB cable |
| | | VRF/VRTC 2.8V |
| | | 26M CLK |
| | | Test mode D pin 10K PD |
| | | LSCK pin low |
| | | USB trace |
| | | |
| USB Detect Circuit | | VCDET =330K:39K |
| | | CHR LDO 2.8V |
| | | CHR LDO 1uf BB pin 1cm |
| | | Rsense |
| | | Rsense 0.67ohm |
| | | VBAT 3.2V 4.2V |
| | | |
| System power On check | | VRF/VRTC 2.8V |
| | | Vcore 1.25V |
| | | VDDK pin 1.25V~1.3V |
| | | VIO18/VIO28/VSF/VA/VUSB |
| | | VSF serial flash |
| | | LSA0 PD/PU configure |
| | | 1uf cap external serial flash |
| | | Resetb pin high |

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# Download issue HW Check list—GPS(3/3)

Please follow bellow table to check GPS Hardware design and output signal ,if all of them is ok ,but still can not Download ,please ask Mediatek support team for help immediately ,thanks

| Category | | Check Item |
|---|---|---|
| System setting | | GPS UART connect to BB uart2(GPSRX---KROW4&GPSTX---KCOL4) |
| | | GPS 32K connect to BB Krow3 |
| | | GPS VBAT power LDO enable Pin should be conncet to Krow2 |
| | | GPS SCK1/GPS_SCS1 Pin Configure should be right(floating for 16.368MHZ tcxo/SCK1 10k PD ,SCS1 Floating for 26MHZ tcxo) |
| | | |
| System CLK Check | | GNSS_TCXO_SW should be 2.8V Output,TCXO Should be output CLK |
| | | GPS 32K pin can find 32K CLK |
| | | |
| System power On check | | GPS AVDD43 VBAT/DCV should be 3.3V |
| | | GPS AVDD28 TLDO Should be 2.8V |
| | | GPS DCV should be 1.8V output(after inductor) |
| | | GPS AVDD11 CLDO Should be output 1.1V |

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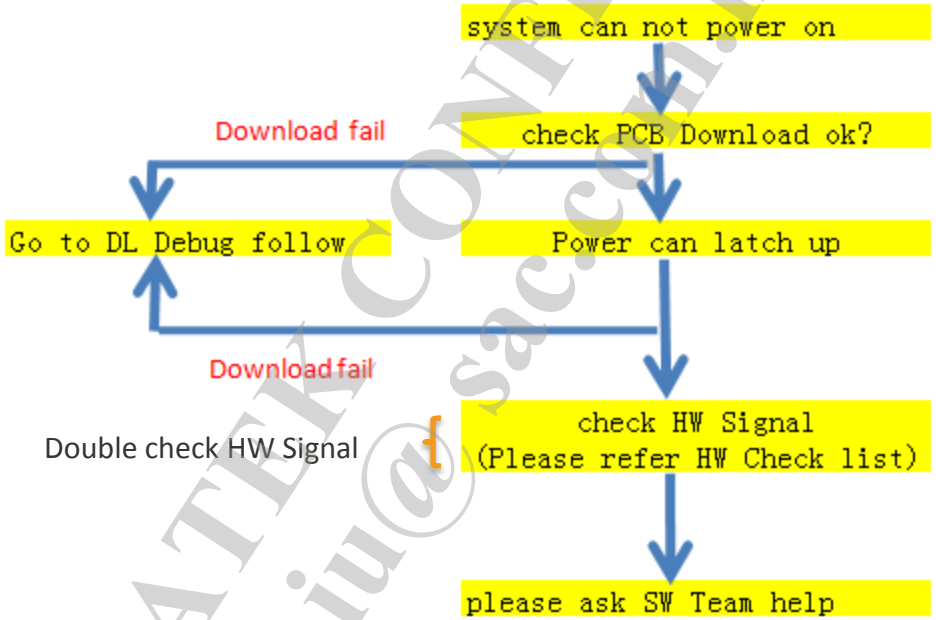
# Power on issue Debug Follow1/2

download pass fail HW issue power on debug sop download ok power ready ok SW log

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# Power on issue Debug Follow2/2

Please follow bellow table to check MT2503 Hardware design and output signal ,if all of them is ok ,but still can not power on ,please ask Mediatek support team for help immediately ,thanks

| Categury | | Check Item |
|---|---|---|
| System setting | | Insert battery VRF/VRTC 2.8V |
| | | 26M CLK |
| | | Test mode D pin 10K PD |
| | | LSCK pin low |
| | | |
| System power On check | | VRF/VRTC 2.8V |
| | | Vcore 1.25V |
| | | VDDK pin 1.25V~1.3V |
| | | VIO18/VIO28/VSF/VA/VUSB |
| | | VSF serial flash |
| | | LSA0 PD/PU configure |
| | | 1uf cap external serial flash |
| | | Resetb pin high |
| | | |
| Others | | System Re-download ok |

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# Case1@GPS DL Fail

- **Issue Description**
- MT6261 dl ok but MT333 DL fail ,No Respond
- **Root cause**
- Test GPS AVDD43_VBAT power is 0V(should be 3.3V),Review Customer SCH Customer change GPS LDO enable pin to another GPIO ,So Flash tool can't enable GPS power.
- GPS SCH design should as follow table :

| MT6261 | MT3333 | Direction of MT6261 | Note |
|---|---|---|---|
| **KCOL4 (pin D11)** | GNSS_UART_TX (pin M16) | INPUT | **Don't change to other pin** |
| KCOL3 (pin D9) | GNSS_TXIND (pin E18) | INPUT | |
| **KROW4 (pin E9)** | GNSS_UART_RX (pin K16) | OUTOUT | **Don't change to other pin** |
| **KROW3 (pin D8)** | GPS_32K (pin A17) | OUTOUT | **Don't change to other pin** |
| **KROW2 (pin C10)** | GPS_LDO_EN (to external LDO of enable) | OUTOUT | **Don't change to other pin** |

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# Case2@GPS DL Fail

- **Issue Description**
- MT6261 dl ok but MT333 DL fail ,No Respond
- **Root cause**
- Test GPS TCXO power(GPS GNSS_TCXO_SW)is 0v(should be 2.8V) ,test GPS other powers is ok Review Customer SCH ,and find customer use crystal for TCXO ,so ,GPS TCXO power short to GND .
- Change Components from crystal to TCXO ,download is ok .

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# Case3@GPS DL Fail

- **Issue Description**
- MT6261 dl ok but MT333 DL fail in stress test ,GPS Download No Respond
- **Root cause**
- Flash tool use 32k CLK before MT6261 Finish 32k Calibration in sometimes ,so HW test 32k is 37K(or other frequency),in this time ,GPS download will be fail .
- Update flash After W1613 .

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# Appendix

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