

APPLICATION NOTE

Product Name	S76S /S78S LoRa IoT SiP Module
Version	A
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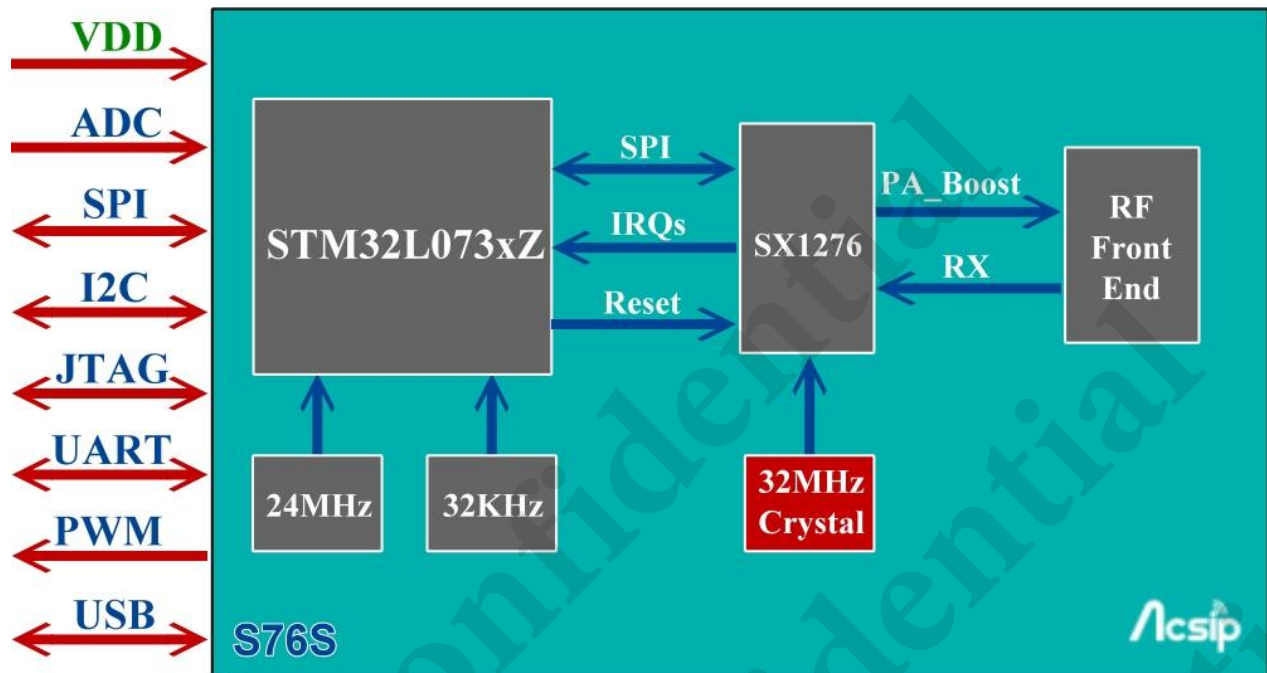
Document History

Date	Revised Contents	Revised By	Version
Dec 30, 2016	Initial release	Kenny	A

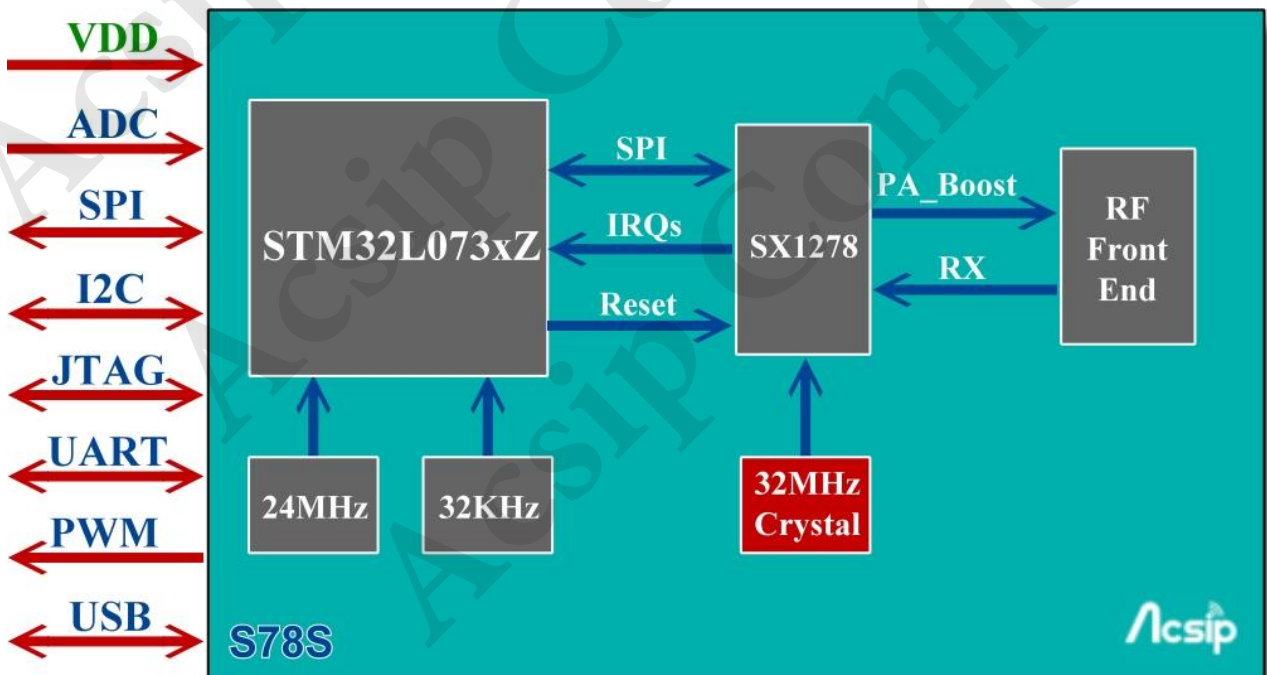
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1. Block Diagram

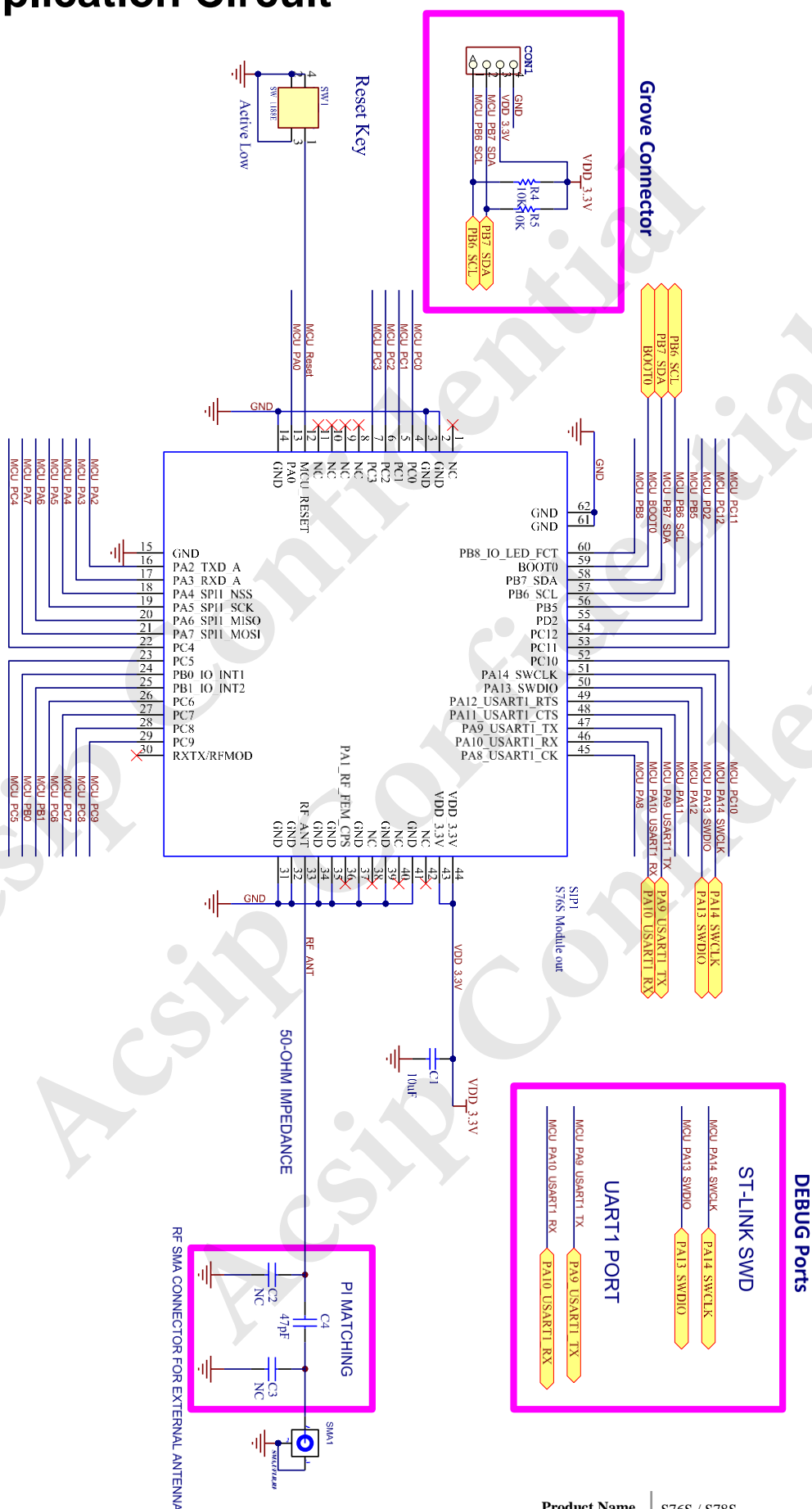


Supporting global 868 MHz or 915 MHz ISM-Bands.



Supporting global 433 MHz or 470 MHz ISM-Bands

2. Application Circuit



3. Layout Guide

3-1. Power Trace Management

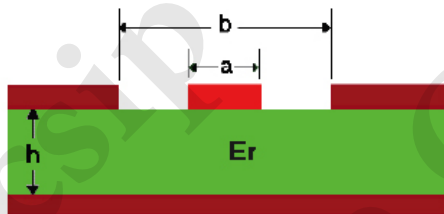
- Power traces should be directly connected with regulator outputs. And add 10uF bypass capacitors close to module on each power trace.
- Never let power trace cross another one including signal trace.

3-2. Ground Management

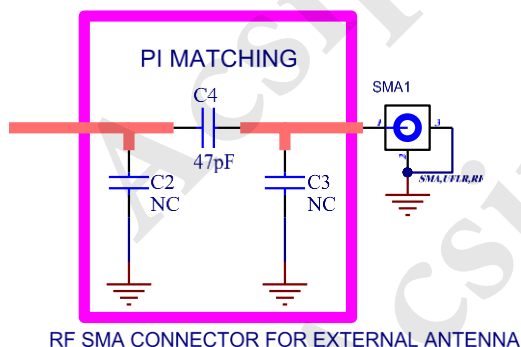
- Please ensure the regional first layer used to mount module is complete to the ground.
- The ground plane on both sides of RF trace needs to add via holes and. We recommend the distance between adding via holes less than $1/8\lambda$.

3-3. RF Trace Management

- CPW type traces used for RF function are recommended, which having better EMC and RF capability. And discuss $a/b/h/Er$ with PCB manufacturer to keep RF trace 50ohm.



- Suggest reserving pi matching circuit between module and Antenna.



3-4. Other schematic

- ST-LINK SWD Port

User needs to connect this two SWDIO & SWCLK pins with ST-LINK/V2 unit.

ST-LINK SWD



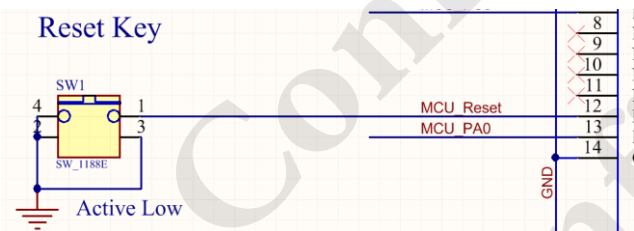
- UART1 Port

UART1 PORT



- MCU Reset

System Reset, Active Low.



- Grove I2C

Grove Connector

