



Management Interface Use Cases for Single Pair Ethernet

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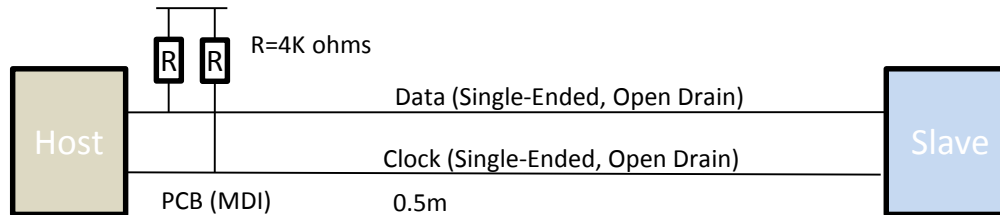
Background

- This deck presents Single Pair use cases that will illustrate I2C like applications for 10SPE

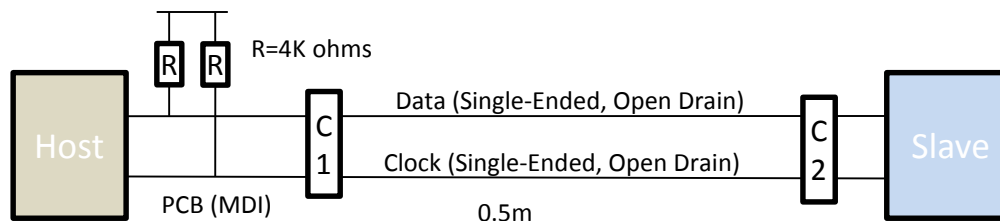
Supporters

I2C Use Cases

- Chip-to-Chip: On the SAME board (FR4 Type) up to 0.5m. board
 - Interface configuration pre-determined and selected on reset. Does not change for life of the product

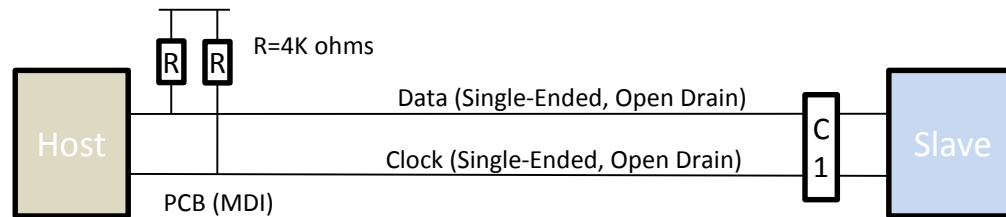


- Chip-to-Chip: Board-to-Board over Backplane up to 1m
 - Interface configuration can not be specified at reset – modules can be used during system operation
 - Ability to dynamically identify interface type is desired

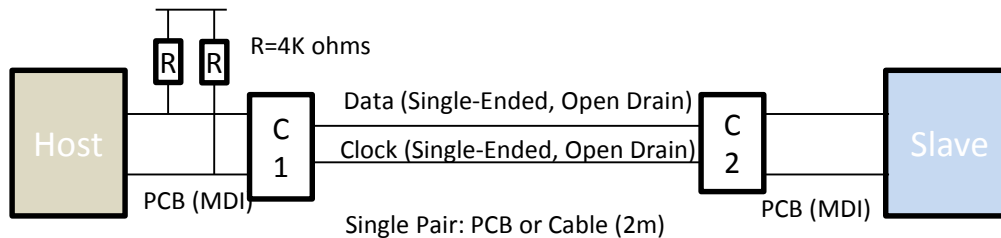


I2C Use Cases

- Chip-to-Module/Plug (Fiber/Copper) up to 0.5m
 - Interface configuration can not be specified at reset – modules can be dynamically changed during system operation



- Other Examples using up to 2m Cable
 - Host-to-FAN Tray
 - Host-to-Power Supply
 - Interface configuration can be pre-determined on reset and or hot swappable,
 - Ability to dynamically identify interface type



Feature comparison

I2C	10SPE	Comment
Single Ended Data/Clock	Differential Pair	Option for SPE to support Single Ended and Differential Pair
DC coupled 4.7K pullup termination	AC Coupled	Option for SPE to support DC and AC coupling
Chip-to-Chip on same PCB	Chip-to-Chip on same PCB	0.5m Link Segment
Chip-to-Chip on different PCB via backplane/connector	Chip-to-Chip on different PCB via backplane/connectors	1m Link Segment
Chip-to-Module on same PCB with connector	Chip-to-Module on with connector	0.5m Link Segment
Chip-to-Chip: Board to Board via Twinx Cable	Chip-to-Chip: Board to Board via Twinx Cable	2m Link Segment

Summary: Management Interface

- 2-wire: Reduce inter-connect
- At least 10Mb/s (up to 100Mb/s should be considered for future)
- Ethernet based – one common driver
- Switched Point-to-Point full duplex – for BW or hot-swappable devices
- Interface can be on the same PHYSICAL board or across backplane or twinax cable with at least two connectors
- Additional consideration
 - Operate over current I2C Pins - this is critical for wide adoption
 - 10SPE will have to co-exist with I2C in a same system
 - 10SPE with ability to support “Link Segment” compatibility with I2C will enable faster SPE adoption

THANK YOU!

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