

MyDP

(Mobility DisplayPort)

Unlock the Power of a Mobile Device
by
Analogix Semiconductor
(Soumendra Mohanty)

Got Questions?

- What problems are we trying to solve?
- What is MyDP?
- Why do we need MyDP?
- How MyDP Works?
- How MyDP is better?
- How MyDP is applied?

Mobile went from 2nd screen

to 1st screen.



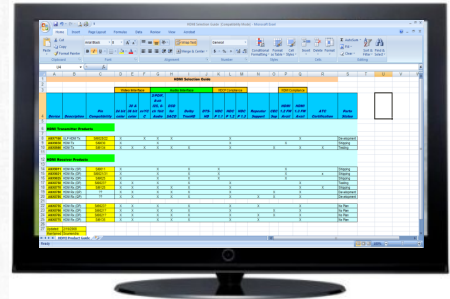
2010



2013

Mobile needs to connect

and share



Monitor



Projector



HDTV



Shrinking
Size of
Mobile
devices

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MyDP is DisplayPort



Video Electronics Standards Association

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Newark, CA 94560

Phone: 510 651 5122
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URL: www.vesa.org

VESA® Mobility DisplayPort® (MyDP) Standard

Version 1

May 21, 2012

Purpose

The purpose of this document is to define Mobility DisplayPort (MyDP) Standard, a digital audio/video (AV) interconnect based on the VESA® DisplayPort® Standard for a mobile AV Source device.

Summary

MyDP is a digital AV interconnect standard for a mobile source device capable of audio and video stream sourcing. MyDP may be mapped to a connector with as few as five pins found in the majority of mobile consumer products, such as tablets and smart phones.

Mobile to any
display connectivity

Supports 5-pin
connector to any
display

MyDP is a feature



Naming Conventions for Optional DisplayPort Features

DisplayPort Specification Feature	Name Convention(s) for Product Marketing Use
Dual-Mode	Dual-Mode DisplayPort (Applies to upstream devices or adaptors) (Use of the Dual-Mode DisplayPort logo is optional)
HBR2	HBR2 (option: High Bit Rate 2)
MST	Multi-Stream
HDCP	HDCP or HDCP Content Protection
Audio Only	Audio Only
Deep Color	Deep Color
DisplayPort 3D	DisplayPort 3D
High bit rate audio	High Precision Audio
GTC (Global Time Code)	Accu-Sync
Mobility DisplayPort	<u>MyDP</u>

Notes:

- Any Optional DisplayPort Features claimed to be supported by a device must be validated during compliance testing.
- If an Optional DisplayPort Feature can be enabled through a device upgrade path, then such feature should be followed by the word "Ready". For an example a product might be labeled "Multi-Stream Ready" if it can be updated to support Multi-Stream through a future firmware update.



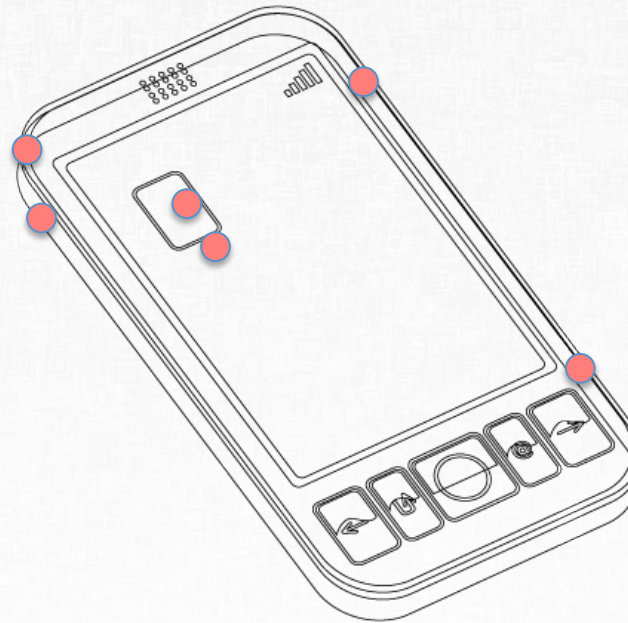
DisplayPort Everywhere



- Drives internal and external notebook screens
- TV's need notebook connectivity and 4K x 2K
- So do phones and tablets

DisplayPort is Architected for Mobile

3G/4G
GPS
Wi-Fi
Bluetooth
MIPI



USB
MyDP

- Fixed data rate & spread spectrum clock - pass EMI easily
- Low power consumption – extends battery life
- Reduce noise - strengthens incoming & outgoing RF signal

DisplayPort Technology



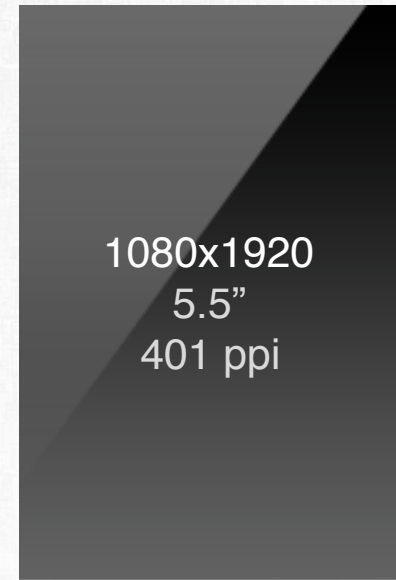
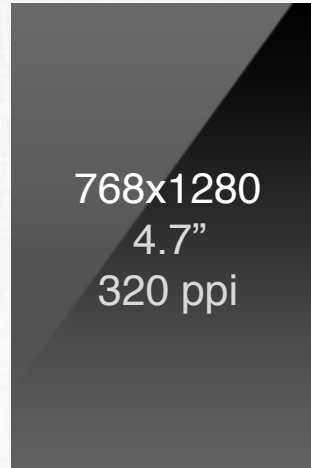
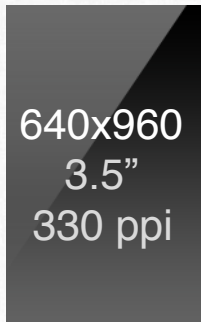
- **Open and free** standard: www.vesa.org
- Architected for mobile devices – **EMI/RFI** Friendly, low-power, **charging** while display etc.
- Used in Computers, Tablets & **Mobile Phones**
- Displays Supported – VGA, Full-HD, **4K**, and 3D...
- Advanced Features – **Multi-screen**
- **Progressive** Standard – More features to come

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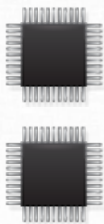
Core Technology trends

Screens

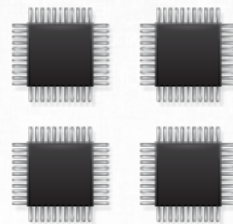


Processors

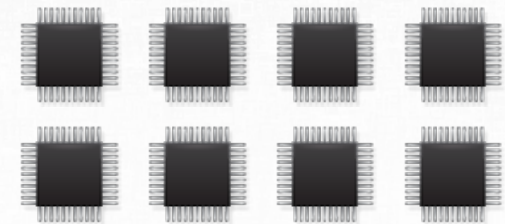
2-core



4-core



8-core

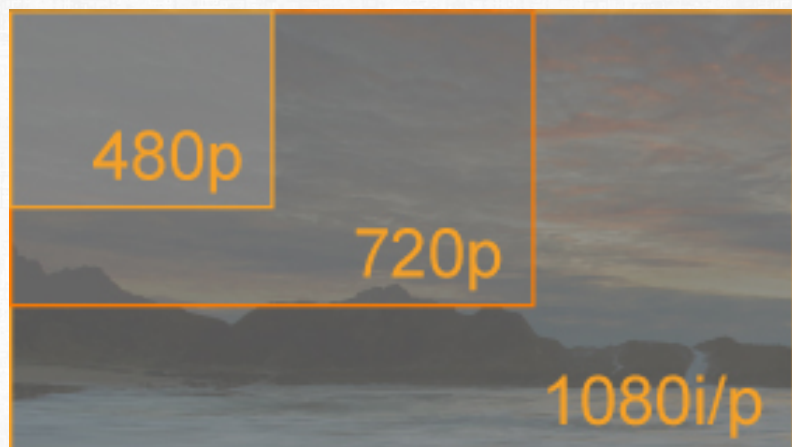


2011

2012

2013

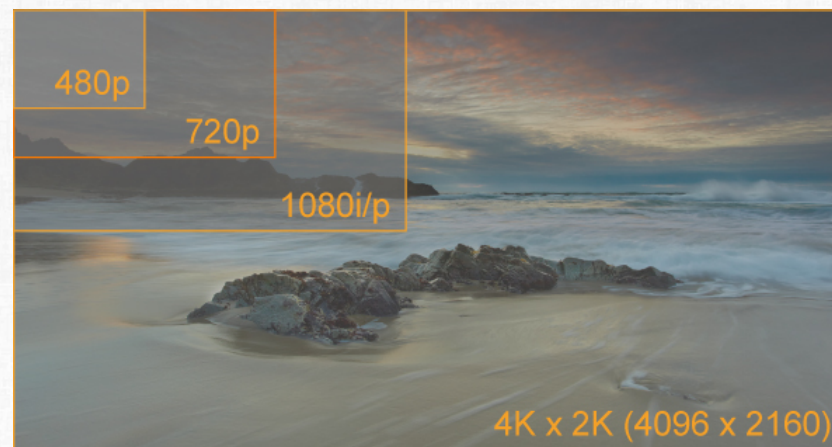
Camera trends



iPhone 4S camera spec – **8MP**

8MP camera – capable of **1080p** pictures and videos

2010



Galaxy S4 camera spec – **13MP**

13MP camera – capable of **4K** pictures and videos

2013

TV trends



< 2010

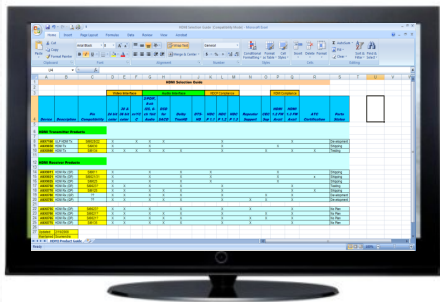


2012



2013

Billions of displays



Monitors



Projector



HDTV

Native Display Rendering



VGA to 4K

Mobile content is no longer just
an individual experience.



Your mobile device is becoming
your gaming console



Your mobile device is becoming
your entertainment center



Your mobile device is becoming your work computer



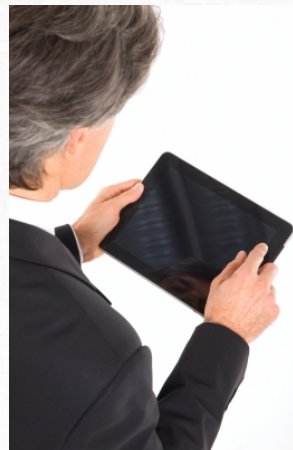
Converging Functions

Communication



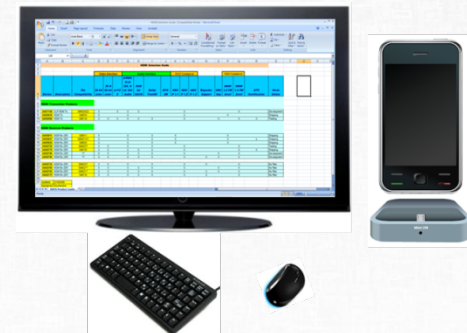
< 2010

Consumption



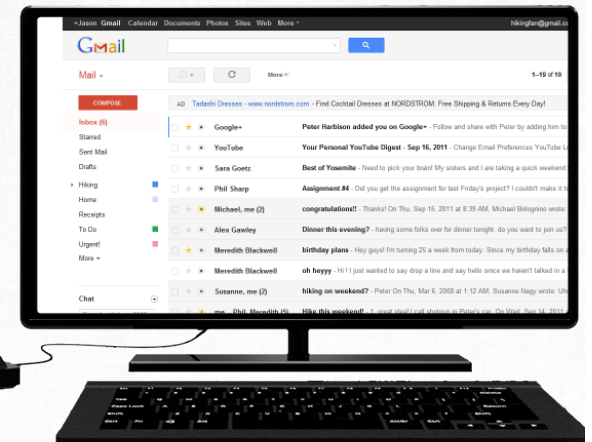
2012

PC – Light Usage



2013

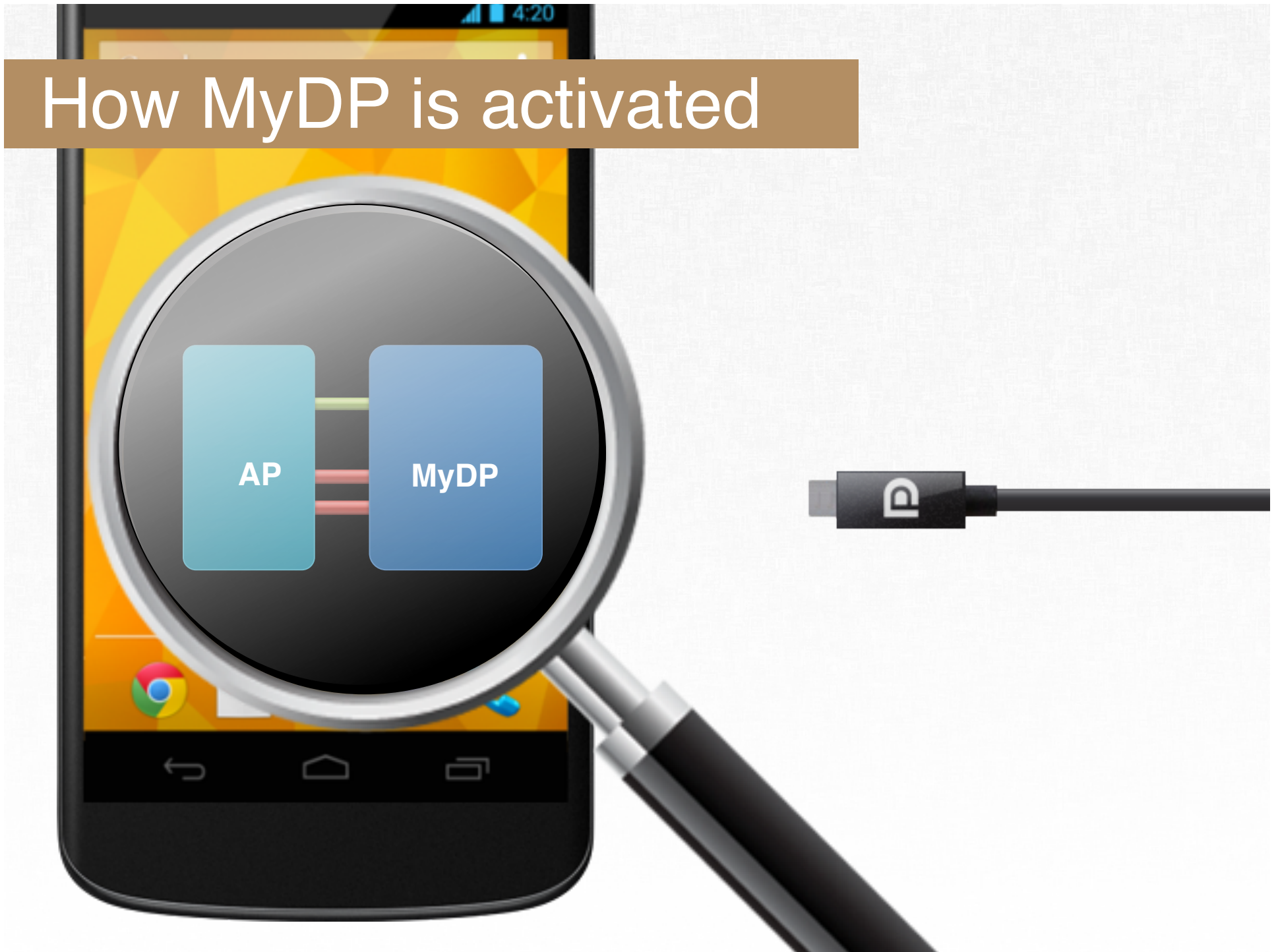
It's a natural evolution



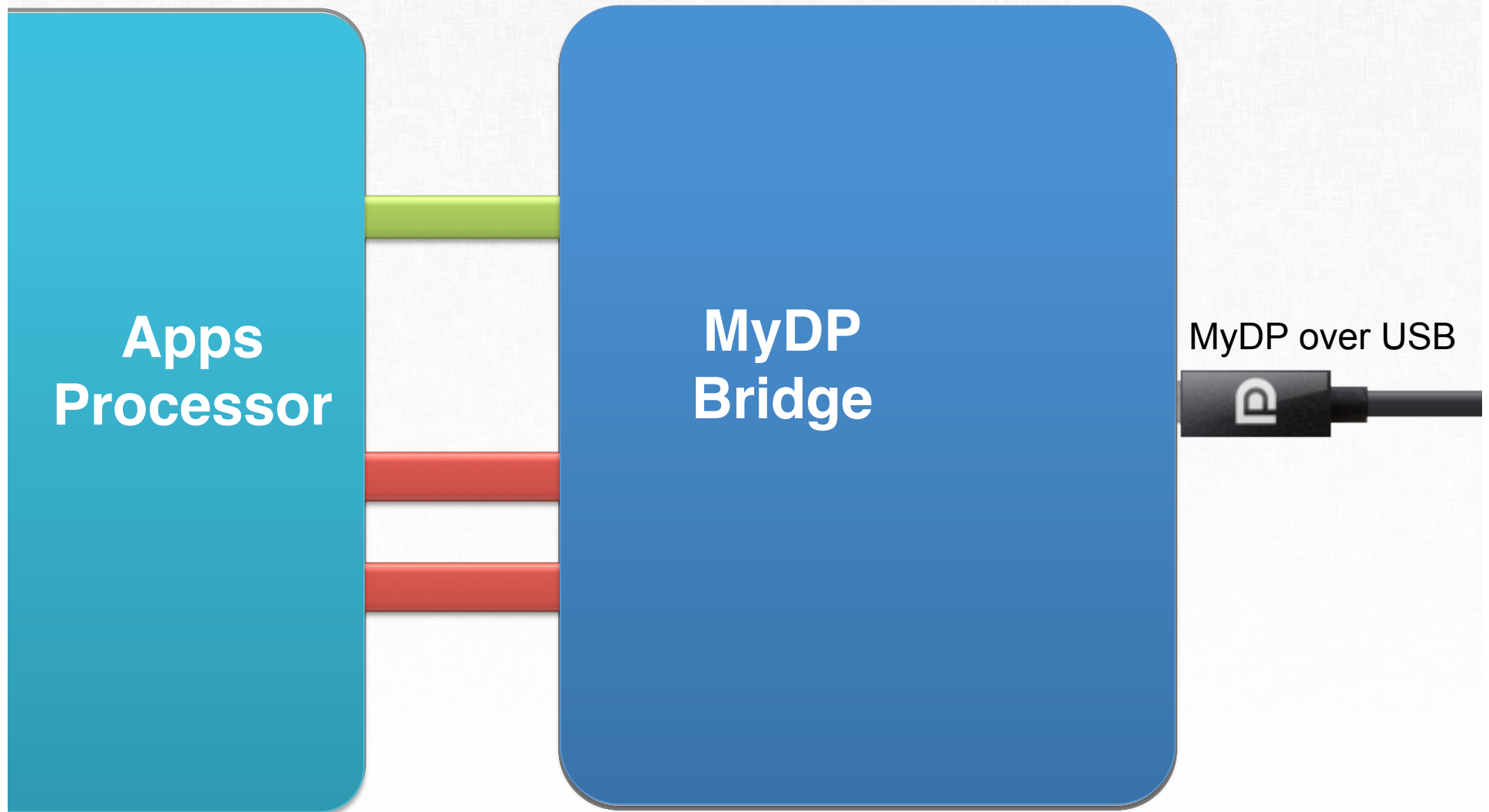
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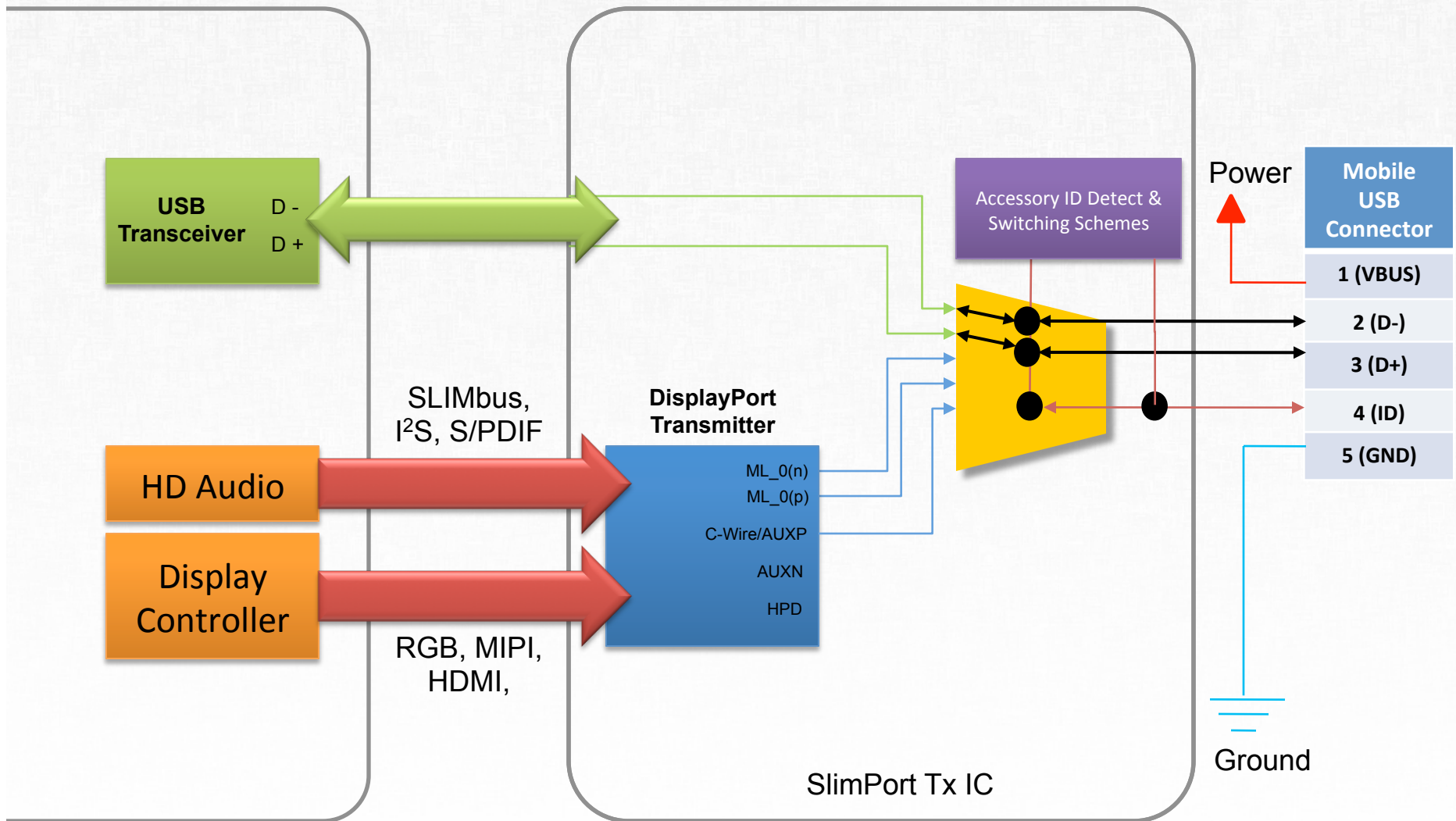
How MyDP is activated



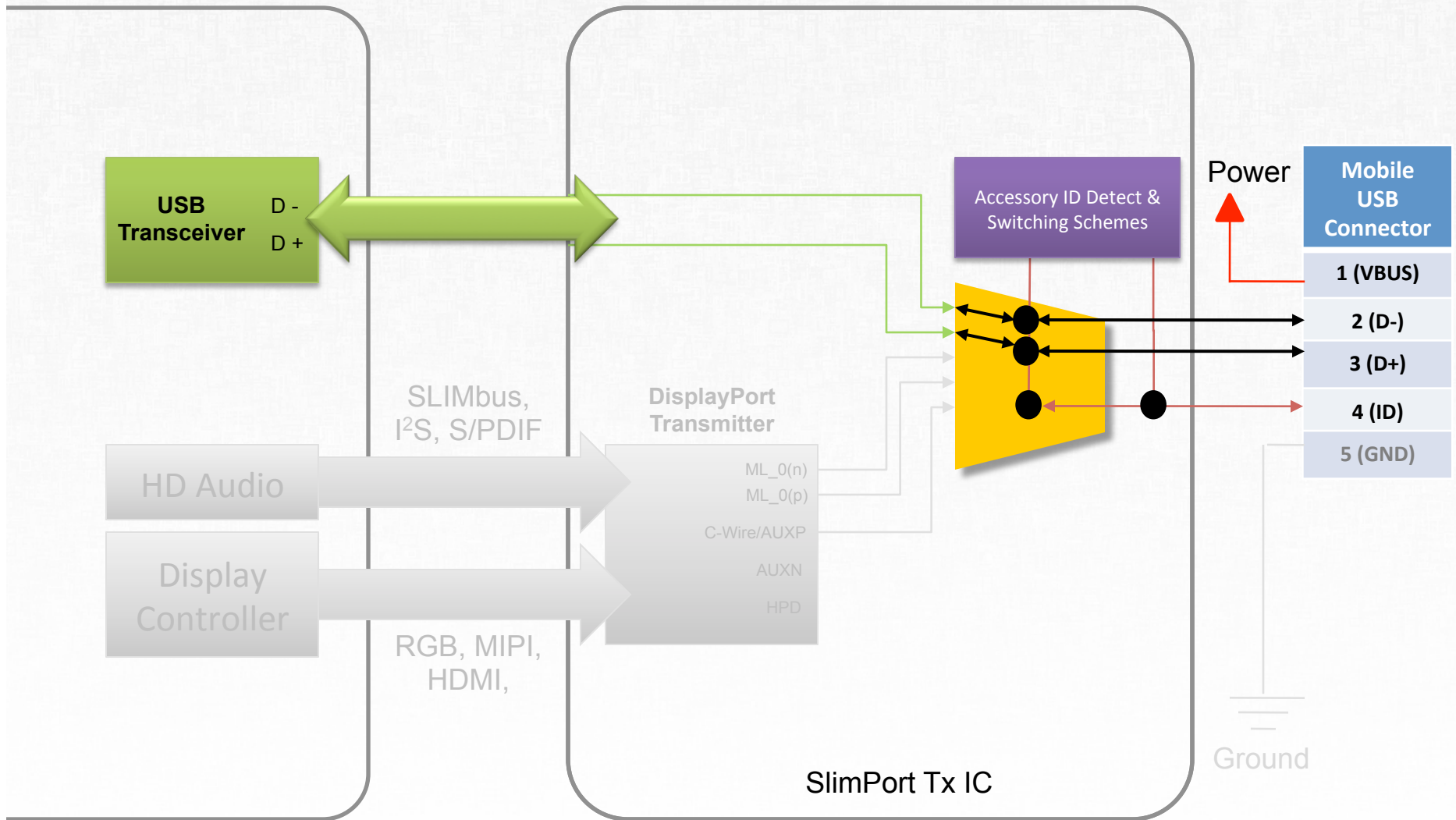
How MyDP is activated



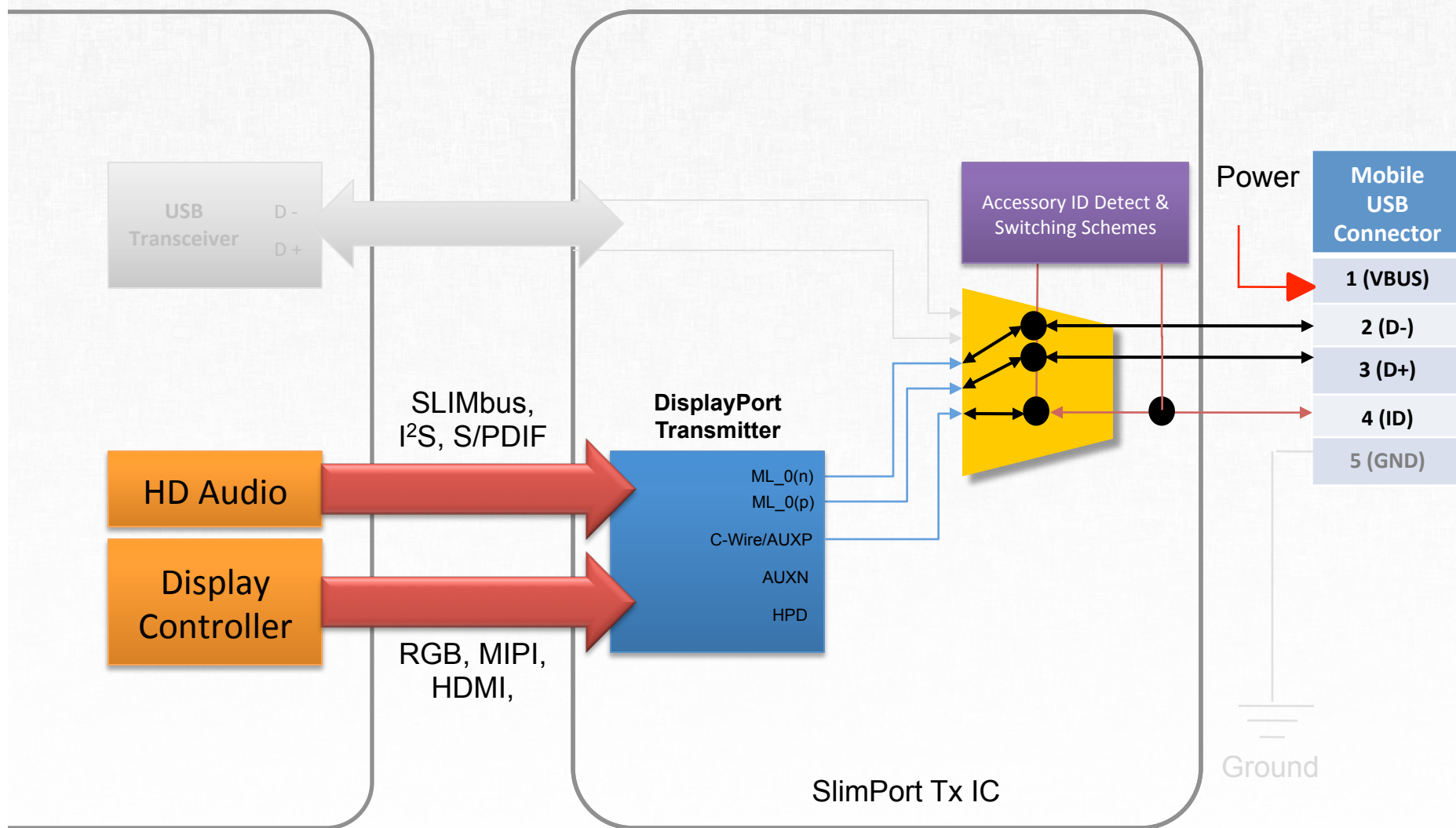
USB Function



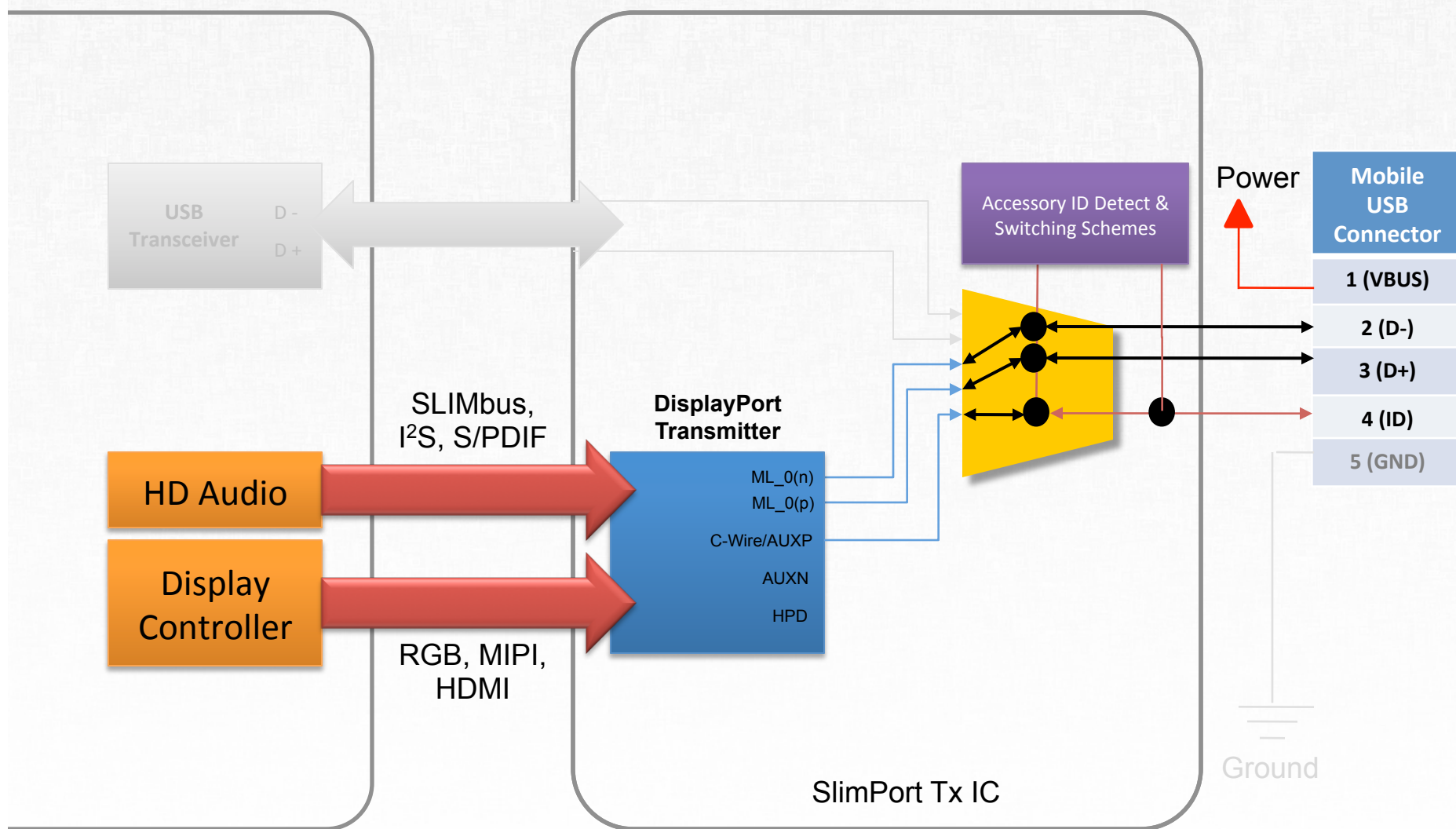
USB Function



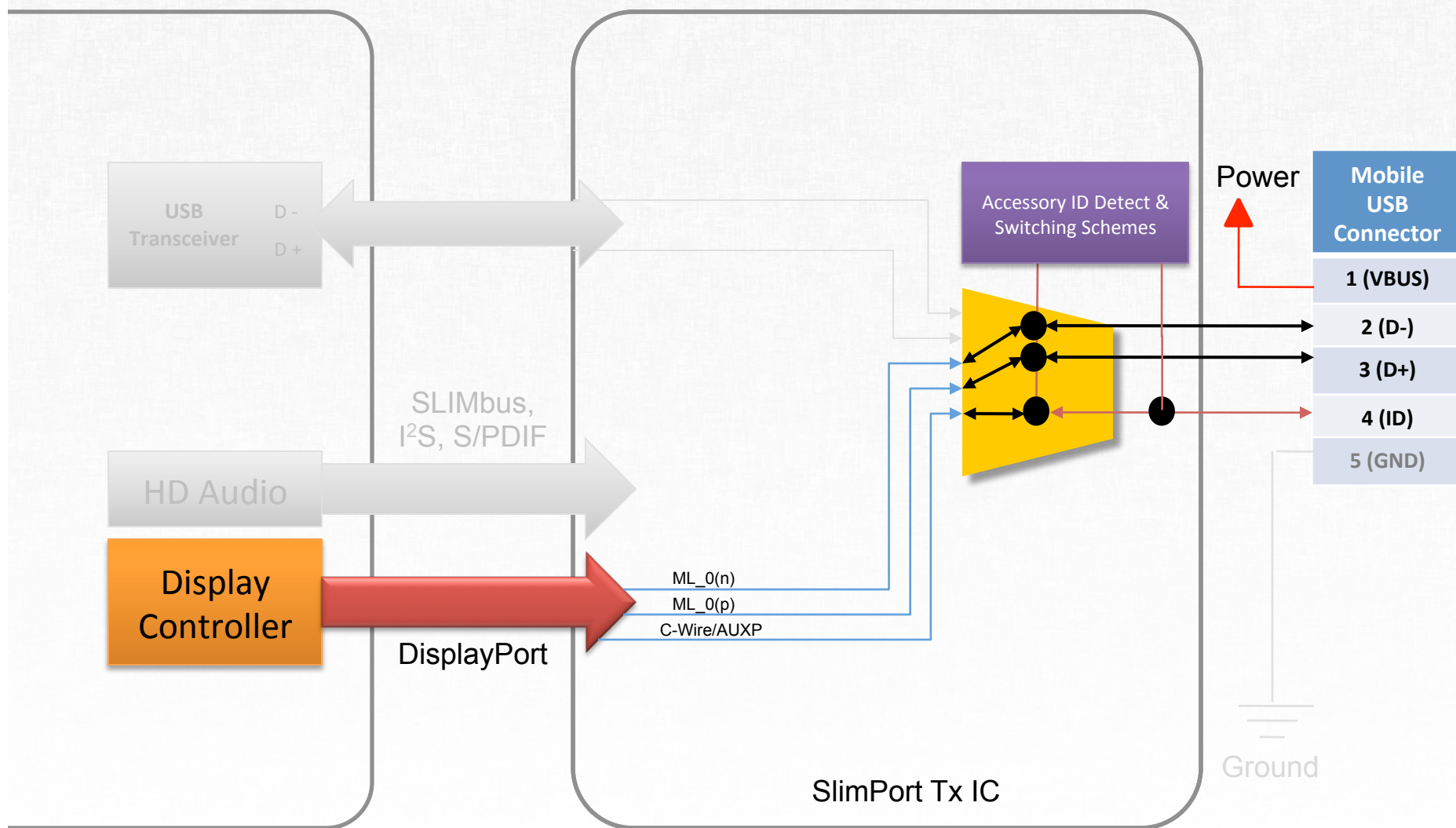
MyDP Function



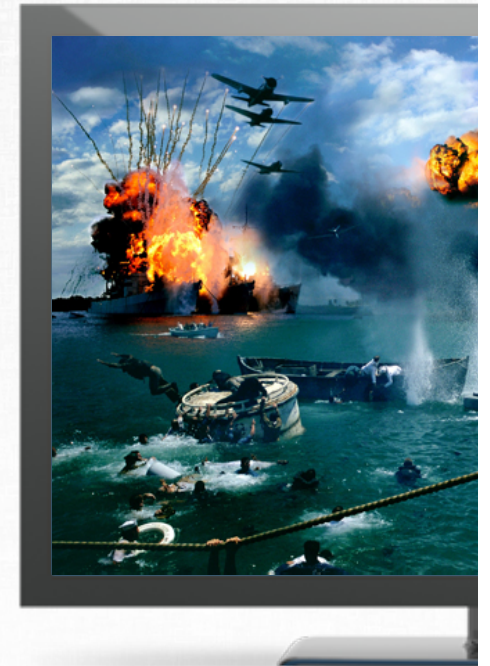
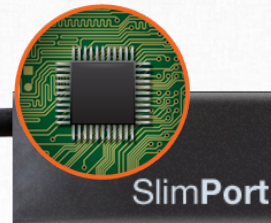
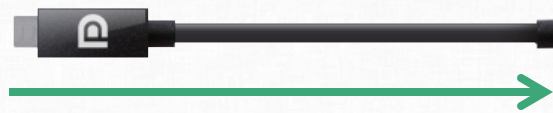
MyDP Function (Mobile Charging)



MyDP Function (Mobile Charging)

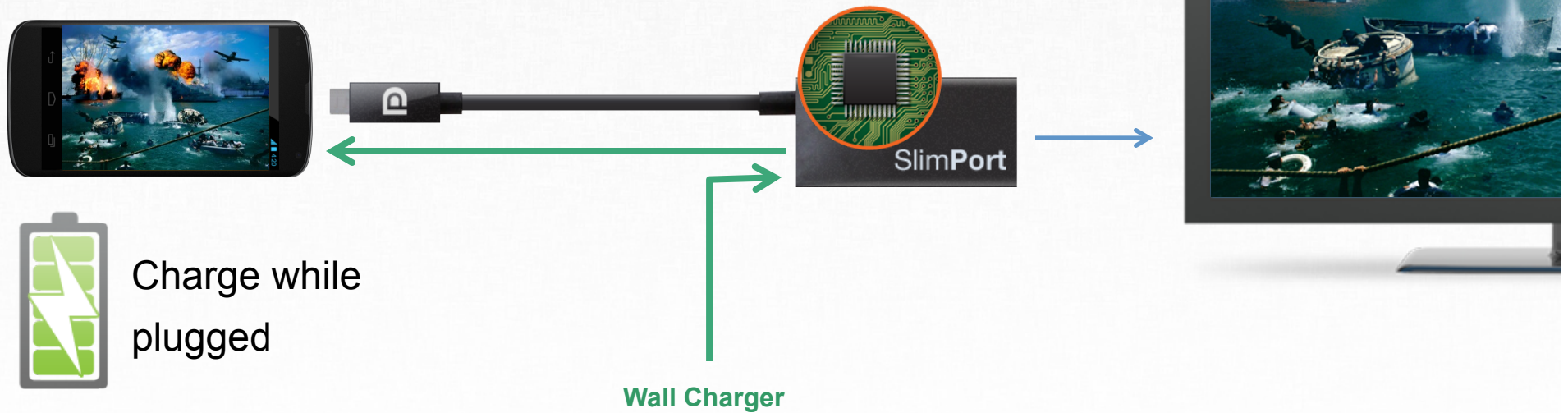


Power is bidirectional

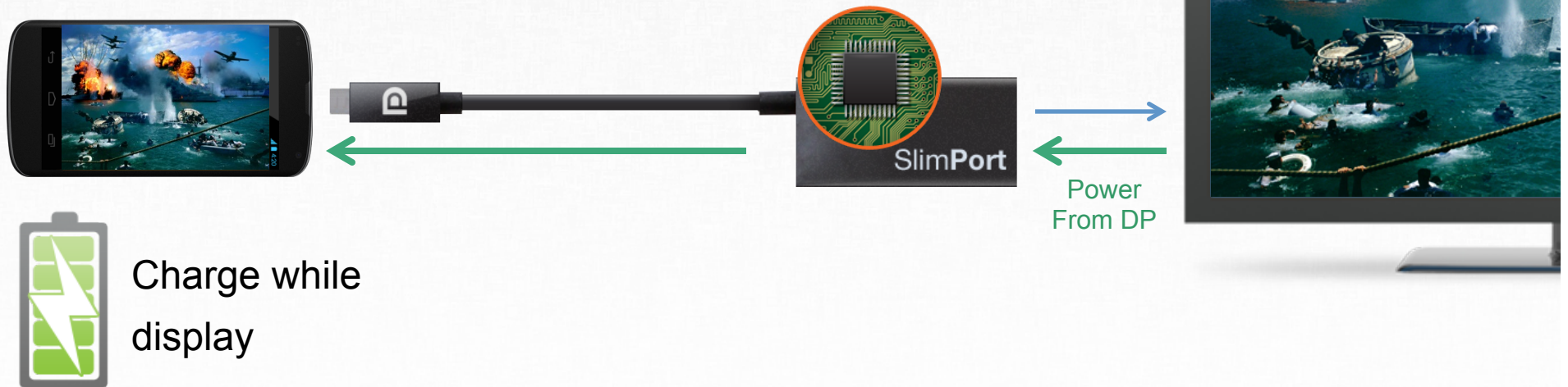


Low power
consumption

Power is bidirectional

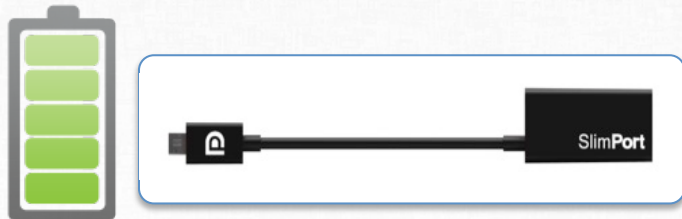


Power is bidirectional

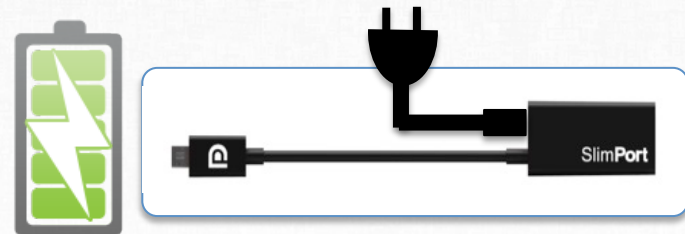


Power Considerations

- 2.5W is basic default mode
- 7.5W, and 15W are up modes



Low power consumption



Charge while plugged

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How MyDP is better

Technology - License & Royalty **FREE**

Architecture – Superior and Proven **EMI Friendly**

Bandwidth – Supports **any Display** Resolution

Power Consumption – **Lower** System Impact

Charge during Display – Wall Charger or **Display**

Connectivity – **Any** HDTV, Monitor & Projector

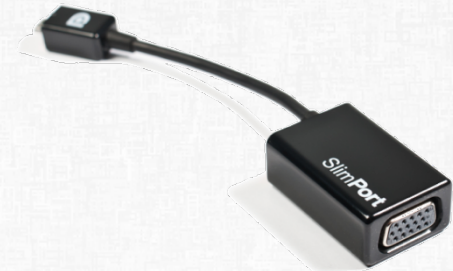
SoC Integration – Facilitates **Cost Reduction**



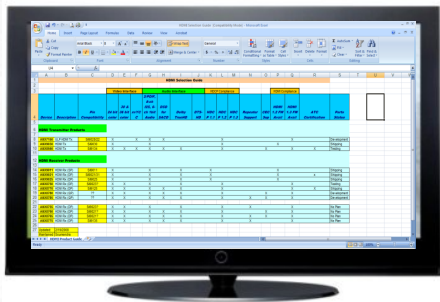
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Mobile Accessories Necessaries



Billions of displays



Monitors



Projector

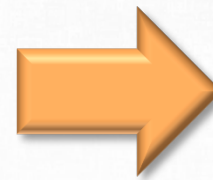


HDTV

Mobile to any display




MyDP over USB



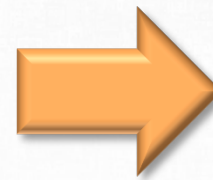
VGA 

DVI 

HDMI 

DisplayPort 

Docked like a Desktop



VGA 

DVI 

HDMI 

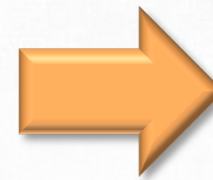
DisplayPort 

**Passive Cable
Connectivity**

Docked like a Laptop



Left View



VGA 

DVI 

HDMI 

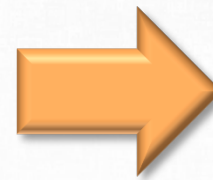
DisplayPort 

**Passive Cable
Connectivity**

Phone/Tablet/UltraLite NB



Left View



VGA 

DVI 

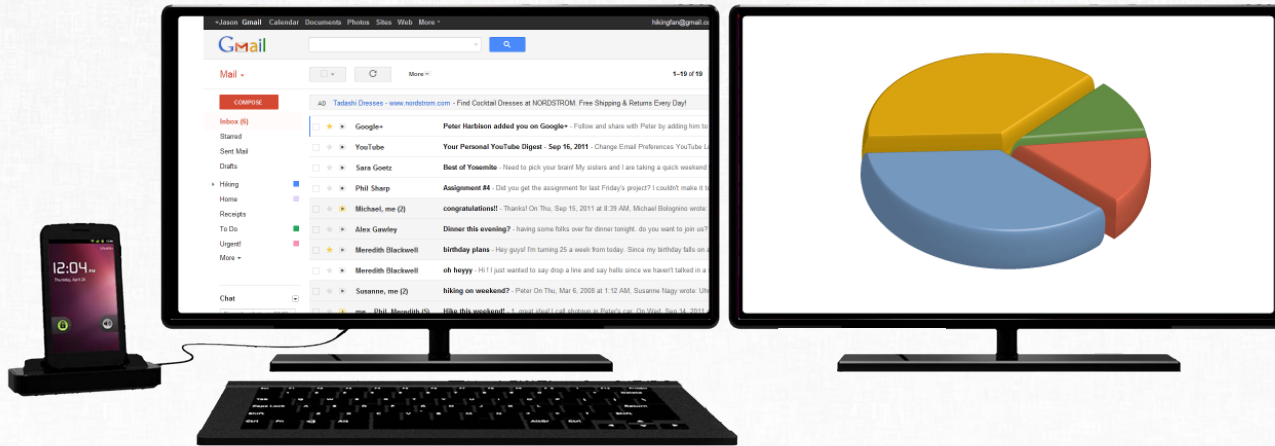
HDMI 



Passive Cable Connectivity

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Thank You