



MIPI ALLIANCE DEVELOPERS CONFERENCE

Peter Lefkin
Managing Director, MIPI Alliance

State of the Alliance

28-29
SEPTEMBER
2021



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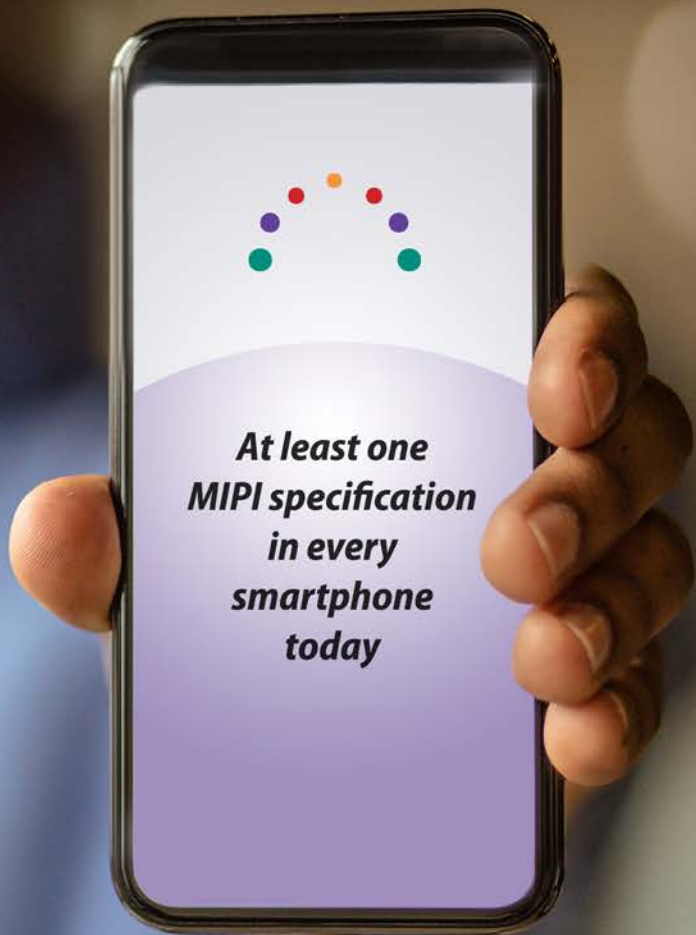
MIPI Alliance Overview

2003

THE CELL PHONE MARKET



**IN 2003
MIPI ALLIANCE
WAS FORMED
TO STANDARDIZE
CAMERA AND
DISPLAY
INTERFACES**

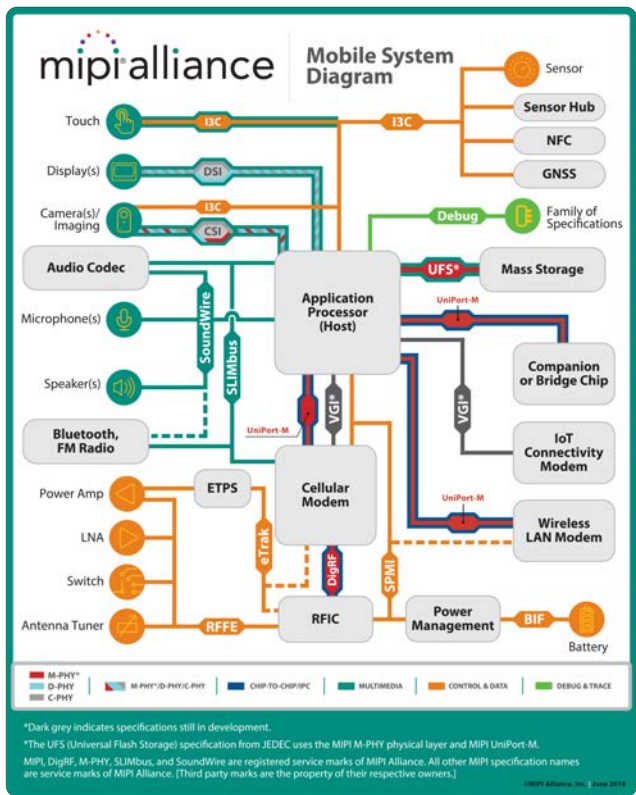


**MIPI ALLIANCE HAS
DEVELOPED MORE THAN
50 SPECIFICATIONS
COVERING THE FULL
RANGE OF INTERFACE
APPLICATIONS NEEDED
FOR MOBILE DEVICES**

MIPI Alliance Member Ecosystem



MIPI Specifications Leveraged Beyond Mobile



50+
Current specifications



Fundamentally, usage rights are granted to members royalty free for implementation of MIPI specifications from all MIPI members

Board and Contributor Members

Contributor Members



Board Members





MIPI ALLIANCE DEVELOPERS CONFERENCE

MIPI Focus Areas:

- Technical Roadmap
- Automotive SerDes
- Security
- 5G
- IoT
- Developer Education

28-29
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MIPI Technical Roadmap

17

MIPI
SPECIFICATIONS
ADOPTED BY
YEAR-END

Major updates and new versions of all MIPI PHYs in 2021



MIPI
CSI-2 v4.0
(coming soon)



MIPI
DSI-2 v2.0



MIPI
I3C Basic v1.1.1

A-PHY v1.1
(coming soon)

C-PHY v2.1

D-PHY v3.0

M-PHY v5.0
(coming soon)

TERMINOLOGY UPDATE

MIPI working groups replacing objectionable terms in specifications and supporting documents

ROADMAP UPDATE



James Goel
MIPI Technical Steering
Group Chair

*The MIPI Specification Roamap:
Driving Advancements in
Mobile, IoT, Automotive and 5G*

28 SEP | 07:25-07:40 PDT

NEW SPECIFICATION PANEL DISCUSSIONS: MIPI CSI-2 v4.0 & MIPI I3C ECOSYSTEM

*MIPI CSI-2 v4.0 Panel
Discussion with
the MIPI Camera
Working Group*

28 SEP | 09:50-10:50 PDT



Haran Thanigasalam
Intel Corporation
MIPI Camera Working
Group Chair



Natsuko Ibuki
Google, LLC



Yuichi Mizutani
Sony Corporation



Wonseok Lee
Samsung Electronics, Co.

*MIPI I3C Under
the Spotlight:
A Fireside Chat with
the I3C Experts*

29 SEP | 10:40-11:10 PDT



Tim McKee
Intel Corporation
MIPI I3C Working
Group Chair



Matthew Schnoor
Intel Corporation



Eyuel Zewdu Teferi
STMicroelectronics
MIPI I3C Basic Ad-Hoc
Working Group Vice Chair



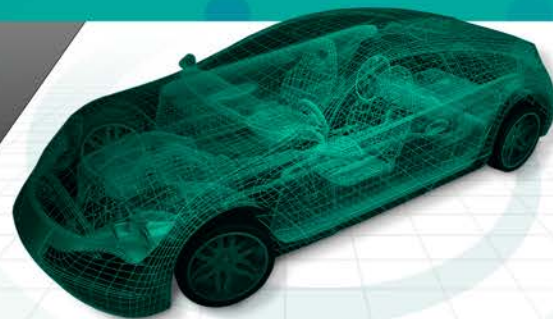
Radu Pitigoi-Aron
Qualcomm
Technologies Inc.

Automotive SerDes

MIPI
AUTOMOTIVE
SerDes
SOLUTIONS

MASS FRAMEWORK NEARS COMPLETION

Security to Come in 2022



LEARN MORE:



James Goel
MIPI Technical Steering
Group Chair



Rick Wietfeldt
MIPI Security Working
Group Co-Chair

*Latest Developments
within MIPI Automotive
SerDes Solutions (MASS)*

28 SEP | 07:40-08:10 PDT



An Introductory Guide to MIPI
Automotive SerDes Solutions (MASS)

MIPI ALLIANCE NEWS


**MIPI A-PHY v1.0
ADOPTED AS
IEEE STANDARD**


**MIPI A-PHY v1.1
DEVELOPMENT
COMPLETE**

MIPI Security



IN DEVELOPMENT

*MIPI Security
Specification
v1.0*

LEARN MORE ABOUT MIPI SECURITY



*Phil Hawkes
and Rick Wietfeldt
Security Working
Group Co-Chairs*

MIPI Security for Automotive and IoT – Initial Focus on MASS

29 SEP | 08:15-08:45 PDT



NEW GROUP FORMED
Security Working Group

5G Activity



5G

MIPI Mobile Interfaces:
**WIRING THE
FUTURE OF 5G**

IN DEVELOPMENT:

**5G SWOT
Analysis and
White Paper
Update**



MIPI in IoT

elektroniknet.de

Interview with Ian Smith, MIPI Alliance
This makes developing for the IoT much easier

April 13, 2021, 3:21 P. | [Sallym Jones](#)

Industrial Cable Assembly
Powering up the factory floor

Time the Beast!

The Beastie of applications for IoT applications is a challenge for designers, because the device must meet high requirements, low latency, low power, and high reliability. Ian Smith explains how the use of standardized cellular wireless helps to meet the challenge.

5.4 MIPI—in the Smart Factory

USE CASES

In Robots with Machine Vision:

- CI-2 user CI-20-PMT as a high-resolution interface to connect ultra-high-resolution camera enabling vision sensor processing and feedback loops.
- A MIPI can be used to target machines in a factory to create the physical digital model of the factory to be the central system in a smart (AM environment) or predictive (Industry 4.0) environment to allow the sensors and solutions used to enable the robot.

In Machine Control Systems with Advanced I/O:

- CI-2 user CI-20-PMT to allow a high-resolution digital Touch user I/O to enable an advanced touch screen based user interface.
- CI-2 can provide a shared bus for sensor data to connect single I/O components such as push buttons, LEDs and buttons.
- A MIPI as a long reach I/O can allow relative physical location to be a control panel for the level of the user based in a smart environment, such as a factory.

In Automated Guided Vehicles (AGVs):

- CI-2 user CI-20-PMT as a highly reliable interface to connect multiple ultra-high-resolution cameras enabling low power vision processing and real-time motion for the AGV to navigate around the factory and avoid obstacles.
- A MIPI as a long reach I/O can allow relative physical location to be a control panel for the level of the user based in a smart environment.
- CI-2 can provide a shared bus for sensor data to connect single I/O components such as push buttons, LEDs and buttons.
- MIPI can allow real-time communication.

In Industrial Tools:

- CI-2 can provide a shared bus for sensor data to connect multiple ultra-high-resolution cameras enabling low power vision processing and real-time motion for the AGV to navigate around the factory and avoid obstacles.
- MIPI can allow real-time communication.

LEGEND

- Functionally safe and secure I/O device that will benefit from MIPI's focus on safety and security
- I/O device with controlled power supply
- I/O device with wide area cellular connectivity
- I/O device with wide area cellular connectivity that will benefit from MIPI's 5G capabilities
- Non-combated, tightly packaged I/O device benefiting from MIPI's low power, low area, low EMI interface

mipialliance

Enabling the IoT Opportunity

WHITE PAPER

September 2020
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MIPI Specifications: Enabling Low-Power Consumer IoT

USE CASES

In AR Glasses:

- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.
- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.
- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.

In Smartwatches:

- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.
- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.
- CI-2 user CI-20-PMT as a low power, high-resolution camera enabling low power vision processing.

Example Smart Watch Schematic

In Smart Earbuds:

- CI-2 can provide a shared bus for sensor data to connect multiple ultra-high-resolution cameras enabling low power vision processing and real-time motion for the AGV to navigate around the factory and avoid obstacles.
- MIPI can allow real-time communication.

In Smart Speakers:

- CI-2 can provide a shared bus for sensor data to connect multiple ultra-high-resolution cameras enabling low power vision processing and real-time motion for the AGV to navigate around the factory and avoid obstacles.
- MIPI can allow real-time communication.

LEGEND

- Functionally safe and secure I/O device that will benefit from MIPI's focus on safety and security
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- I/O device with wide area cellular connectivity
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NEW MARKETING SUBGROUP FORMED

IoT Interest Group

Seeking feedback for future requirements

Developer Education in New Formats

WEBINARS

~1 hour with Q&A
Live and on demand



MIPI BYTES

3-5 minutes
On demand



WORKSHOP

Multiple sessions on a single topic with Q&A

MIPI ALLIANCE EDUCATION

Automotive
Workshop



17 November 2021

MULTI-DAY CONFERENCE

mipi
DEVCON

Liaisons: Extending The MIPI Ecosystem





MIPI ALLIANCE DEVELOPERS CONFERENCE

THANK
YOU!

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