

# IEEE P1722b – Status about MIPI Support

Don Pannell

IEEE 1722 Secretary

14 Jan 2020 Meeting



## Beginning of the Formal Request to MIPI

- On 16 Oct 2019, IEEE 1722 leadership presented a proposal to MIPI's Board to add MIPI CSI/DSI-2 support as part of the IEEE P1722b project.
- At this time they were made aware that the PAR for IEEE P1722b was being worked on and that there was a desire to get it done soon.
- On 6 Dec 2019, the following response was received:



## 6 Dec 2019 Response from MIPI

Apologies for the delay in my response as the MIPI Alliance Board evaluated the request and discussed on their next monthly teleconference following our discussion on 16 October. During their 21 November teleconference the MIPI Board has directed a joint internal technical review by the MIPI Technical Steering Group and the MIPI Camera Working Group to better assess the MIPI use case, applications and approach. We will coordinate with you as needed during this assessment. At this time the MIPI Board will not be taking action on the IEEE P1722b request to support MIPI CSI/DSI-2 frame formats until such time as the internal review is completed.

I do not have an estimate for the duration of the review though I do anticipate it will be a topic of discussion during the next F2F meeting of the Alliance during the week of 16 March 2020 in Boston.

Regards,

Peter

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**Peter B. Lefkin**

Managing Director, MIPI Alliance



# IEEE 1722's Next Steps

- IEEE 1722 decided to leave the reference to MIPI support in the IEEE P1722b PAR because:
  - IEEE PARs limit the work that can be done, i.e., a work item that is not listed in the Scope cannot be part of the standards work
  - Just because a work item is listed in an IEEE PAR does not mean that item must be completed before the standard can complete. Instead the work item can be dropped.
  - As the 6-Dec-19 response from MIPI stated they were putting forth effort in evaluating IEEE 1722's request, with a possible answer early in the IEEE P1722b project, MIPI support was left in the IEEE P1722b PAR with the understanding that work could not, and would not start, on the MIPI portion without explicit approval from the MIPI Board.
  - If support for MIPI was left out and then allowed after MIPI's March 2020 meeting, a PAR modification or a new PAR would need to be created causing a lot of work and significant delays to the project. Thus MIPI was left in for the above reasons.



## 8 Jan 2020 e-mail from MIPI

As a follow-up to my email of 6 December (see below), and our discussion on 16 October when you presented the IEEE 1722 liaison proposal to MIPI Alliance (see attached), we are now aware of an IEEE P1722b PAR request submitted on 28 October 2019 for Amendment to IEEE 1722-2016. I have copied Gordon Bechtel (PAR Submitter) on this email.

As we discussed explicitly on the 16 October teleconference with the MIPI Alliance Board of Directors it was our suggestion/preference that you not reference MIPI Alliance CSI/DSI in any PAR until such time that the MIPI Alliance Board approved the liaison and provided appropriate authorizations to IEEE to reference/leverage the MIPI specifications. I recognize my email with the Board disposition was provided after the PAR Request Date of 28 October 2019, though you did reference that this PAR was in process. We are surprised by this approach following our discussion. I'm also aware of prior related background within IEEE 1722 that specifically questioned the IEEE 1722 / MIPI Liaison and possible situation where MIPI Alliance may not provide approval.

Within the PAR it explicitly indicates that the scope of the project "...specifies extensions to IEEE Std 1722 to add support for...the MIPI camera and display interfaces..." We also note that the answer to the Intellectual Property question 6.1.a. "Is the Sponsor aware of any copyright permissions needed for this project?" the answer is "No" and there is no intent indicated to jointly develop the document with another organization.

As previously communicated the MIPI Board has directed the MIPI Technical Steering Group and the MIPI Camera WG to assess the relevant use cases, applications and IEEE 1722 liaison request from a technical perspective. As noted in my email, "At this time the MIPI Board will not be taking action on the IEEE P1722b request to support MIPI CSI/DSI-2 frame formats until such time as the internal review is completed." To reiterate, IEEE 1722b does not currently have the authorizations necessary to proceed to utilize or reference MIPI CSI or DSI specifications within IEEE 1722b.

I'd like to follow-up to obtain an update directly from you and a response on how you plan to address this before any further action is taken by IEEE 1722b and/or any escalations to IEEE are initiated by MIPI Alliance. We continue to reserve our rights to protect our specifications and intellectual property assets in a similar way that IEEE does with its specifications. The difference is the MIPI CSI and DSI specifications are not publicly available for implementation by non-MIPI members as you are well aware, unless by MIPI Board approval.

Regards,

Peter



# Proposed IEEE 1722's Proposed Response to MIPI

Peter,

Per your request, all references to MIPI and related text will be removed from the proposed IEEE 1722b PAR and IEEE 1722 will re-vote the modified proposed PAR.

Please be aware that MIPI reference was left in the proposed PAR with the explicit understanding of the IEEE 1722 members that no work in this area would start until it was officially supported by the MIPI Board. So why list MIPI in the PAR then? In IEEE, the Scope of a PAR limits what the project/standards work can do. But it does not indicate that everything in the PAR must be done. It is allowed in IEEE to complete a project without completing everything listed in the PAR. But if something needs to be added to the project & it is not listed in the PAR, then it can't be worked on without a PAR modification – or a new project, which is a lot of extra work & can take a bit of time. So considering that your Dec 6, 2019 e-mail indicated that the MIPI Board was still reviewing 1722's request, and an answer could be available in March 2020, MIPI was listed in the proposed PAR as a mechanism to “keep the door” open for a possible positive response from MIPI. Again, work on MIPI in IEEE 1722 cannot, and will not start, without support from MIPI. This has always been the intention and what has always been stated.

We acknowledge that the Intellectual Property question 6.1.a should have been “yes” and that if all you have access to is the text in the proposed PAR, the above stated intent is not visible unless you are aware of the way PARs work in IEEE. We apologize for any misunderstanding and, as stated above, all references to MIPI will be removed and the proposed PAR will be re-voted.

We are optimistic that the MIPI Board will see the value of an IEEE standard for the transport of MIPI data over Ethernet & WiFi and how this standardization can greatly expand MIPI's markets and use-cases. We at IEEE 1722 feel the right place for this standardization is in IEEE 1722 as it already supports similar data types. At such time that the MIPI Board agrees, only then will IEEE 1722 generate a PAR modification, or a new PAR project to include MIPI in its text.

Again, we apologize for any confusion this may have caused and hopefully our actions are seen as consistent with our intentions. We look forward to hear a status update after your March 2020 Board meeting.

Sincerely, IEEE 1722 Work Group,

P.S., Corrected PAR with mark-ups is attached.



## Motion

- IEEE 1722 members approve the Proposed Response e-mail to MIPI as edited during the 14 Jan 2020 call:
  - Approved by acclamation

Marked up corrected PAR's Scope follows:



## Marked up corrected PAR Scope Attached to MIPI Response

- **5.2.b. Scope of the project:** This project specifies extensions to IEEE Std 1722 to add support for H.265 and AV1 video formats, ~~the MIPI camera and display interfaces,~~ and a new audio format that supports temporal redundancy. This project will also improve the Clock Reference Stream format, enlarge the AVTP sequence number, improve the CAN (Controller Area Network) and LIN (Local Interconnect Network) formats, improve support for tracking grandmaster changes, support longer presentation time intervals, clarify clock stability indicators, and provide guidance on how to handle out-of-order arrival of AVTP PDUs.
- This project will also reserve additional numerical identifiers contained in IEEE 1722-2016 for use by other organizations.
- This project includes technical and editorial corrections to existing functionality.





