IEEE P802.11  
Wireless LANs

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| LB 266 Resolution for CIDs in Quarantine – Part 2 | | | | |
| Date: December 02, 2022 | | | | |
| Author(s): | | | | |
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| Alfred Asterjadhi |  |  |  |  |

Abstract

This submission proposes resolutions for following 92 CIDs received for TGbe LB266:

* 10008, 11594,
* 13589, 10028, 10206, 10426, 10572, 10876,
* 11121, 11642, 12158, 12380, 12484, 12643, 13071, 13620, 13920, 13960,
* 10674, 10710, 12711, 13221, 12940,
* 10841, 10165, 10166, 10167, 11463,
* 11464, 11588, 11589, 11590, 12851, 12856, 12857, 12858, 12859, 12862,
* 12873, 12893, 11106, 11108, 11763, 14055, 10058, 10060,
* 10061, 10367, 10660, 11158, 11657, 13081, 13083, 13084, 13635,
* 10627, 11179, 11598, 12617, 13876, 10627, 11179, 12617, 13876, 11863,
* 12245.

**Revisions:**

* Rev 0: Initial version of the document. Contains all CIDs that were discussed during the Joint or MAC ad-hoc conf calls, from September 18th until October 31st, which have not reached consensus yet.
* Rev 1: Added received technical notes from POCs for a set of the CIDs. Removed 10473 as it was requested for separate discussion by Yonggang (doc pending), 10673, 12832, 13220, 13487, 13489 as it was requested for separate discussion by Duncan (doc 11-22/1457), 11700 requested by Abdel (doc 11-22/1373), 13587, 10039, 10863, 12726, 12728, 12892, 13588, 13813 requested by Vishnu (doc 11-22/1335r0), 11852, 13453 requested by Li-Hsiang (doc pending), 10059, 11656, 10042, 10046, 10047 requested by Morteza (doc pending), removed 10434 and 12813 as they were already resolved in Nov meeting, removed 13452 as requested by Ming (doc pending), 10386 as requested by Guogang (doc pending).

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e., they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

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| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 10008 | Jay Yang | 35.3.17 | 463.38 | 11be SPEC should have a resolution to address the initial frame overlapped with goup addressed frame reception. e.g. EMLSR non-AP MLD indicates the group addressed frame receving link to AP MLD, so that AP MLD know when and where to send the initial frame. | the commenter will provide a resolution on this. | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Vishnu Ratnam 22/1335r3  Technical Notes <The group could not reach consensus on the need for a mechanism to indicate the link where an EMLSR non-AP MLD intends to receive group addressed frames.> |
| 11594 | Vishnu Ratnam | 35.3.17 | 463.25 | A mechanism for an EMLSR nonAP MLD to reliably receive beacon frames and other group addressed frames, without significantly hindering data traffic reception is required. | Define a mechanism where an EMLSR nonAP MLD can negotiate a primary link for receiving group addressed frames via an indication in the EML operating mode notification frame. | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Vishnu Ratnam 22/1335r3  Technical Notes <The group could not reach consensus on the need for a mechanism to indicate the link where an EMLSR non-AP MLD intends to receive group addressed frames> |
| 13589 | Yongho Seok | 35.3.17 | 463.40 | "...where the non-AP STA intends to receive the group addressed frames." Please add the field in the EML Operating Mode Notification frame to indicate the STA that intends to receive the group addressed frames as the optional feature. | As in the comment. | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Vishnu Ratnam 22/1335r3  Technical Notes < The group could not reach consensus on the need for a mechanism to indicate the link where an EMLSR non-AP MLD intends to receive group addressed frames.> |
| 10028 | Morteza Mehrnoush | 9.4.2.315 | 251.06 | In this sentense it should be changed to "not all TIDs" because it's already negotiated a mapping and so it's not all TID to all link mapping. Please change it to: "negotiated a TID-to-link mapping with an AP MLD and not all the TIDs are mapped to all the enabled links" | as in comment | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution was ‘REJECTED’ with the following rejection reason “The phrase “…or link recommendation for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and all TIDs are mapped to all the enabled links…” is to cover a case where TID-to-link mapping is done but mapping all TIDs to all enabled links. This is allowed in the current spec.” but the commenter disagreed with the resolution and couldn’t reach consensus.> |
| 10206 | John Wullert | 9.4.2.315 | 250.40 | The sentence "The AID Offset subfield indicates a bit numbered k of the traffic indication virtual bitmap." is not clear. The value of k is not defined and the phrase "a bit numbered k" does not clearly define its purpose. | Rephrase sentence to define "k" and clarify its purpose. | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The AID Offset subfield was removed from the proposed resolution, but the group couldn’t reach consensus> |
| 10426 | yan li | 35.3.12.4 | 443.28 | Since figure 35-16 shows AIDs assigned to pre-EHT STAs are out of the scope of AIDs for Non-AP MLD,do we need a note to clarify that AIDs for per-EHT STAs should be out of the consecutive bit set for non-AP MLD(e.g.if AID(5) is for pre-EHT STA and AIDs(4,6) are for non-AP MLDs,per-traffic indication bitmap corresponding to AID(6) may incorrectly be mapped to AID(5) for pre-EHT STA when AID offset is set to 4). | separate the bit set of AIDs for pre-EHT STAs from the bit set of AIDs for non-AP MLDs | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame was discussed in the group to resolve the beacon bloating problem and the figure was modified based on the proposed resolution but the group couldn’t reach consensus.> |
| 10572 | Abhishek Patil | 9.4.2.315 | 250.02 | The Multi-Link Traffic element will cause beacon bloat which would further cause inter-op issues between an EHT AP affiliated with an AP MLD and a legacy client associated with it. The size of the Multi-Link Traffic Indication element is governed by the number of link bitmaps being signaled (including the ones for legacy and default mapping) in the element. The size of each link bitmap is the same and determined by the maximum bitmap to be signaled for any client. In addition, the number of bits in the link bitmap are based on the 'spread' of the Link ID value assigned to each link on which the AP MLD operates on and current there aren't any rules requiring continuous link IDs. | Move the Multi-Link Traffic Indication element out of the Beacon frame and provide the indication via a separate frame. | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame was discussed in the group to resolve the beacon bloating problem, but the group couldn’t reach consensus.> |
| 10876 | Yousi Lin | 35.3.12.4 | 443.50 | The AID list in figure 35-16 may not always follow the given order. Non-AP MLDs with default mapping or non default mapping can be changing all the time. | as in comment | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame was discussed in the group to resolve the beacon bloating problem and the figure was modified based on the proposed resolution but the group couldn’t reach consensus.> |
| 11121 | Brian Hart | 9.4.2.315 | 250.57 | We need to limit the size of Beacons due to legacy implementations, and the Multi-Link Traffic element could be a big problem here. The size of Multi-Link Traffic element is currently directly proportional to max linkId among \*all\* the non-AP MLDs being signaled. Even if only a single STA has link 15 defined, then \*all\* non-AP STAs need 16 bits and then this element is 16x bigger than the TIM at worst, but 3x bigger seems likely to be typical in the EHT timeframe. Then future amendments are expected to add support for more links between an AP MLD and non-AP MLD, so this will only get worse. | Move the Multi-Link Traffic element out of the Beacon. A frame sent shortly after each DTIM Beacon would suffice instead | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame was discussed in the group to resolve the beacon bloating problem, but the group couldn’t reach consensus.> |
| 11642 | Morteza Mehrnoush | 9.4.2.315 | 251.06 | In this sentence it should be changed to "not all TIDs" because it's already negotiated a mapping and so it's not all TID to all link mapping. Please change it to: "negotiated a TID-to-link mapping with an AP MLD and not all the TIDs are mapped to all the enabled links" | as in comment | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution was ‘REJECTED’ with the following rejection reason “The phrase “…or link recommendation for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and all TIDs are mapped to all the enabled links…” is to cover a case where TID-to-link mapping is done but mapping all TIDs to all enabled links. This is allowed in the current spec.” but the commenter disagreed with the resolution and couldn’t reach consensus.> |
| 12158 | Michail Koundourakis | 9.3.3.2 | 172.31 | Multi-Link Traffic Indication has variable size and can become very long, to the point the Beacon frames size increases beyond the valid limit. | We need to come up with a solution about how to communication information which does not fit in the Beacon. | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and defining a new Beacon-A frame that can contain potentially long information elements was discussed in the group to resolve the beacon bloating problem, but the group couldn’t reach consensus.> |
| 12380 | Rojan Chitrakar | 35.3.12.4 | 443.50 | As shown in Figure 35-16, an AP MLD should maintain separate AID spaces used to allocate AIDs for associated STAs that do not require additional ML Traffic Indication Bitmap (e.g., pre-EHT STAs or Non-AP MLDs with default TID-to-Link mapping) and a separate AID space used to allocate AIDs for associated STAs that require additional ML Traffic Indication Bitmap (e.g., EHT STAs or Non-AP MLDs with non-default TID-to-Link mapping), else the ML traffic element will carry unnecessary ML Traffic Indication Bitmap even for STAs that do not require them. | Add normative sentences stating that an AP MLD should maintain separate AID space used to allocate AIDs for associated STAs that do not require additional ML Traffic Indication Bitmap (e.g., pre-EHT STAs or Non-AP MLDs with default TID-to-Link mapping) and a separate AID space used to allocate AIDs for associated STAs that require additional ML Traffic Indication Bitmap (e.g., EHT STAs or Non-AP MLDs with non-default TID-to-Link mapping). At the very least, the AID assignment should be described in the context of the cited example. | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and include it in a new Beacon-A frame and use the AID Bitmap element was discussed in the group to resolve the beacon bloating problem and to improve efficiency of the MLTI element and the figure was modified based on the proposed resolution, but the group couldn’t reach consensus.> |
| 12484 | Prashant Kota | 35.3.12.4 | 443.28 | In "Figure 35-16--Example of Multi-Link Traffic Indication element construction", solid line separating default mapped AIDS from non-default mapped AIDs is between (Nx8 = k) and (Nx8+1). | We propose to place the solid line between (Nx8-1) and (Nx8 = k) | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and include it in a new Beacon-A frame and use the AID Bitmap element was discussed in the group to resolve the beacon bloating problem and to improve efficiency of the MLTI element and the figure was modified based on the proposed resolution, but the group couldn’t reach consensus.> |
| 12643 | Arik Klein | 35.3.12.4 | 443.28 | Figure 35-16 shows different ranges of AIDs that are assigned for non-AP MLD with default mapping and for non-AP MLD with non-default mapping. It seems to be incorrect since AID is assigned as one-time value once the non-AP MLD has became associated with the AP MLD (till this association is torn-down) while having default mapping or non-default mapping may be changed frequently during the association period (so the AID will not be re-assigned for each change).  Moreover, it contradicts with the following sentence in section 9.4.2.315(P251L7):"When a Per-Link Traffic Indication Bitmap subfield corresponds to an AID of a STA that is not affiliated with a non-AP MLD, the Per-Link Traffic Indication Bitmap subfield is reserved" (which means that the adjacent bits in the Partial Virtual bitmap of the TIM may corresponds to non-AP MLDs and non-MLD STAs) | Please remove the captions "AID assigned to Pre-EHT STAs or Non-AP MLDs (default mapping)" and "AIDs assigned to Non-AP MLDs (non default mapping)" from Figure 35-16 or explain why these ranges are required. | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and include it in a new Beacon-A frame and use the AID Bitmap element was discussed in the group to resolve the beacon bloating problem and to improve efficiency of the MLTI element and the figure was modified based on the proposed resolution, but the group couldn’t reach consensus.> |
| 13071 | Chittabrata Ghosh | 9.4.2.315 | 251.06 | In this sentense it should be changed to "not all TIDs" because it's already negotiated a mapping and so it's not all TID to all link mapping. Please change it to: "negotiated a TID-to-link mapping with an AP MLD and not all the TIDs are mapped to all the enabled links" | as in comment | Rejected—  This CID is discussed on September 28, 2022, but no straw poll is conducted yet.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution was ‘REJECTED’ with the following rejection reason “The phrase “…or link recommendation for a non-AP MLD that has negotiated a TID-to-link mapping with an AP MLD and all TIDs are mapped to all the enabled links…” is to cover a case where TID-to-link mapping is done but mapping all TIDs to all enabled links. This is allowed in the current spec.” but the commenter disagreed with the resolution and couldn’t reach consensus.> |
| 13620 | Rubayet Shafin | 35.3.12.4 | 443.14 | "STA of the non-AP MLD" should be replaced with "STA affiliated with the non-AP MLD" for homegeneity in the spec | As in comment | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and defining a new Beacon-A frame that can contain potentially long information elements was discussed in the group to resolve the beacon bloating problem, but the group couldn’t reach consensus.> |
| 13920 | Ming Gan | 35.3.12.4 | 443.12 | please add an exception, add ""except for TID to same links subset" after "with nondefault mapping" | add ""except for TID to same links subset" after "with nondefault mapping" | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4, but no straw poll is conducted yet.  Minyoung Park 22/1381r3  Technical Notes < The proposed resolution in doc 22/1381r5 that moves MLTI element out from the Beacon frame and defining a new Beacon-A frame that can contain potentially long information elements was discussed in the group to resolve the beacon bloating problem, but the group couldn’t reach consensus.> |
| 13960 | Geonjung Ko | 9.4.2.315 | 250.41 | It would be better to add a description that can be understood by itself. The current description should be interpreted with the below part. | Please add the description such as: "The AID Offset subfield indicates an AID that corresponds to the first Per-Link Traffic Indication Bitmap subfield in the Per-Link Traffic Indication List field." | Rejected—  This CID is discussed on September 28, 2022 with 22/1381r3, but no straw poll is conducted yet.  This CID is discussed on November 15, 2022 with 22/1381r4. The straw poll results are 32 Yes, 29 No, 16 Abstain.  Minyoung Park 22/1381r3  Technical Notes < The AID Offset subfield was removed from the proposed resolution, but the group couldn’t reach consensus.> |
| 10674 | Duncan Ho | 9.4.2.316 | 251.40 | Currently, the standard lacks a fast way to convey dynamic QoS info (e.g., delay deadline of the HOL packet). Add a more dynamic mechanism for QoS reporting | Add a more dynamic mechanism for QoS reporting. Contribution to follow | Rejected—  This CID is discussed on September 26, 2022 with 22/1454r1, but no straw poll is conducted yet.  This CID is discussed on November 14, 2022 with 22/1454r2. The straw poll results are 39 Yes, 24 No, 27 Abstain.  Duncan Ho 22/1454r1  Technical Notes <Main concern mentioned by members was that it is late to address in TGbe> |
| 10710 | Liangxiao Xin | 9.2.4.6.4 | 122.44 | Letancy sensitive traffic requires to be transmitted before it is expired. However,there is no legancy information in BSR for the latency sensitive traffic. AP may schedule trigger-based transmission wihtout considering the legacy requirement. AP may schedule the trigger transmission after the latency sensitive traffic expires. | add expiration time in BSR for latency sensitive traffic | Rejected—  This CID is discussed on September 26, 2022 with 22/1454r1, but no straw poll is conducted yet.  This CID is discussed on November 14, 2022 with 22/1454r2, but no straw poll is conducted yet.  Duncan Ho 22/1454r1  Technical Notes <Main concern mentioned by members was that it is late to address in TGbe> |
| 12711 | Pascal VIGER | 9.2.4.6.4 | 934.11 | QoS Characteristics element provides parameters that describe traffic characteristics (within the SCS procedure), especially the low latency (LL) parameters, so that AP shall be able to create an optimal schedule . Unfortunatly, it is well known that such traffic is never well specified and does not inform the real amount of LL at a given time inside buffer's STA. An updated BSR shall be provided for Latency Sensitive data | An updated BSR Control shall inform the AP scheduler of an amount of data with regards to a timing indication, which provides the expected date for delivery (e.g. UL trigger). This greatly helps the AP scheduling UL RUs accordingly (date and size). | Rejected—  This CID is discussed on September 26, 2022 with 22/1454r1, but no straw poll is conducted yet.  This CID is discussed on November 14, 2022 with 22/1454r2, but no straw poll is conducted yet.  Duncan Ho 22/1454r1  Technical Notes <Main concern mentioned by members was that it is late to address in TGbe> |
| 13221 | Evgeny Khorov | 9.4.2.316 | 66.54 | It is not clear, how a STA can indicate the current BSR with the delay budget of the head-of-line packet | Add the corresponding mechanism | Rejected—  This CID is discussed on September 26, 2022 with 22/1454r1, but no straw poll is conducted yet.  This CID is discussed on November 14, 2022 with 22/1454r2. The straw poll results are 39 Yes, 24 No, 27 Abstain.  Duncan Ho 22/1454r1  Technical Notes <Main concern mentioned by members was that it is late to address in TGbe> |
| 12940 | Kirill Chemrov |  | 0.00 | There is a terms conflict between Link (identifier) ID in context of MLD and Link ID in context of Mesh, link identifier in context of TDLS. | Change the term (for example, Link Index) or add a note not to confuse these terms. | Rejected—  This CID is discussed on September 26, 2022, but no straw poll is conducted yet.  Gaurang Naik 22/1477r1  Technical Notes <Several options were discussed to rename the Link ID subfield. However, the group did not agree to rename the subfield since it would entail several changes throughout the draft as Link ID subfield is integral to several aspects of Multi-Link operations.> |
| 10841 | Jay Yang | 35.4.2 | 482.30 | the BA bitmap length is upto 1024/8=128bytes, it's too long, 11be should provide an efficient solution to address the BA bloating issue. | the commenter will provide a solution on it. | Rejected—  This CID is discussed on October 17, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1501r1  Technical Notes <> |
| 10165 | Julien Sevin | 35.3.18 | 466.58 | When a non-AP MLD operates in EMLMR mode, it is not specified how a non-AP MLD initiates a frame exchange for untriggered UL transmissions. | Specify clearly the procedure for a non-AP MLD to initiate a frame exchange for untriggered UL transmission. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 10166 | Julien Sevin | 35.3.18 | 466.58 | Contrary to the EMLSR mode, it is not indicated that a non-AP STA affiliated with a non-AP MLD operating in the EMLMR mode does not need to transmit an initial frame to initiate frame exchanges with the AP MLD | Indicate that a non-AP STA affiliated with a non-AP MLD operating in the EMLMR mode does not need to transmit an initial frame to initiate frame exchanges with the AP MLD | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 10167 | Julien Sevin | 35.3.18 | 466.58 | When a non-AP MLD operates in EMLMR mode and intends to grant the medium for transmitting UL data, the backoff procedure is not clearly specified. | Specify clearly the use of the backoff procedure when an non-AP MLD operates in EMLMR mode and intends to operate an untriggered UL transmission. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11463 | Gaurang Naik | 35.3.18 | 466.61 | There is no need to define an 'eMLMR' STA. Similar descriptions in the EMLSR subclause use 'STA operating on the EMLSR links'. Better to keep the text consistent in the two subclauses. Also, it should be 'EMLMR' and not 'eMLMR'. | Remove the definition of an eMLMR STA. Replace the corresponding text throughout the subclause with 'STA operating on EMLMR link'. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11464 | Gaurang Naik | 35.3.18 | 466.01 | Support for EMLSR and EMLMR is mutually exclusive at the non-AP MLD. Add normative text to specify this. | Add the following - 'A non-AP MLD with dot11EHTMLMROptionImplemented equal to true shall have dot11EHTEMLSROptionImplemented equal to false.' | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11588 | Vishnu Ratnam | 35.3.18 | 468.05 | When a STA of an EMLMR nonAP MLD is involved in a frame exchange sequence with an AP of the AP MLD, what is the state of the other STAs of the nonAP MLD? | Provide a mehcanism where during switch to EMLMR mode, a nonAP MLD can indicate the capability of its other EMLMR links when one EMLMR link is involved in a frame exchange sequence. Note: Retaining some NSS on other links can improve channel access, prevent loss of medium synchornization etc. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11589 | Vishnu Ratnam | 35.3.18 | 468.10 | How does a EMLMR nonAP MLD know how many NSS an AP of AP MLD plans to use for a frame exchange sequence, and accordingly if it needs to switch radios from other EMLMR links? Note that due to link condition, multi-user transmission etc, the AP may not always use the highest possible NSS. | A mechanism is required for an AP MLD to indicate the NSS it plans to use for the current frame exchange sequence with an EMLMR nonAP MLD. This can help the nonAP MLD determine how many additional radios it needs to switch to current link. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11590 | Vishnu Ratnam | 35.3.18 | 468.05 | When a STA of an EMLMR nonAP MLD is involved in a frame exchange sequence with an AP of the AP MLD, can the other EMLMR STAs of a nonAP MLD contend for channel access and transmit in uplink? | Propose mechanism and rules for the frame exchanges on other EMLMR links, e.g., end time alignment of the PPDUs with frame exchange on the first link. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12851 | Mikael Lorgeoux | 35.3.18 | 466.55 | In EMLMR mode, for untriggered UL transmission, considering EDCA backoff procedure independently for each EMLMR link is not adapted as it doesn't take into account that only one EMLMR link is usabled at a time. | For untriggered uplink transmission in EMLMR mode, specify an EDCA backoff procedure taking into account the dependencies between EMLMR links | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12856 | Mikael Lorgeoux | 35.3.18 | 466.55 | Lack of rules for an efficient operation of EMLMR mode regarding uplink TID-To-Link Mapping. Especially, in some situations, EMLMR links may be not in line with the uplink TID-To-Link mapping in use. | Speficy rules for EMLMR links regarding uplink TID-To-Link mapping. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12857 | Mikael Lorgeoux | 35.3.18 | 466.55 | Lack of rules for an efficient operation of EMLMR mode regarding uplink TID-To-Link Mapping. Especially, in some situations, the transmitted BSRP TF (Initial frame) may be not in line with the uplink TID-To-Link mapping in use. | Specify rules for transmission of BSRP TF regarding uplink TID-To-Link mapping. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12858 | Mikael Lorgeoux | 35.3.18 | 466.55 | Lack of rules for an efficient operation of EMLMR mode regarding uplink TID-To-Link Mapping. Especially, in some situations, the buffered data reported in BSR sent in reponse to BSRP TF may be not in line with the uplink TID-To-Link mapping in use. | Specify rules for buffered data reporting in BSR regarding uplink TID-To-Link mapping. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12859 | Mikael Lorgeoux | 35.3.18 | 466.55 | Current EMLMR operation mandates that the EMLMR link to be used for frame exchange is the link in which the initial frame was received. For uplink traffic transmission, depending on uplink TID-To-Link mapping, it may be inefficient. | Specify an EMLMR operation allowing to select the EMLMR link to be used for frame exchange among the set of EMLMR links. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12862 | Mikael Lorgeoux | 35.3.18 | 466.55 | The current text considers only one set of EMLMR links, it is restrictive. | Add text for the support of non-AP MLD implementations with several sets of radios supporting the EMLMR mode independently. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12873 | Zinan Lin | 35.3.18 | 468.05 | Is there any capability limitation regarding Supported Nss and MCS when multiple links are transmitted or received simultaneously? | Please calrify if there is a need to have the cabability of supported MCS and NSS set across multiple links in EMLMR | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 12893 | Ilya Levitsky | 35.3.18 | 466.55 | It is not clear if an AP is allowed to perform a new frame exchange with a non-AP in EMLMR mode during an ongoing frame exchange in a different link. If it is allowed, what are the per-link spatial stream capabilities and operating mode on links with new frame exchange? The single EMLMR Supported MCS And NSS Set subfield of the EML Control field of the EML Operating Mode Notification frame does not provide this information. | Please clarify what are per-link spatial stream capabilities and operating mode on EMLMR links other than the EMLMR link with the ongoing frame exchange. | Rejected—  This CID is discussed on October 13, 2022, but no straw poll is conducted yet.  Liwen Chu 22/1503r2  Technical Notes <> |
| 11106 | Brian Hart | 35.3.7.1.3 | 429.15 | When a STA can just decline a neg for almost any reason, we know from experience that the neg will rarely succeed in the field, even if it helps the collective experience of all STAs in the area . | Given the AP is most responsible and most able to improve the collective experience of all STAs in an area, ensure the AP can enforce a T2LM neg. At the same time non-AP STAs (and APs) have constraints that need to be considered and addressed: they need to be able express their constraints and to propose alteratives, and for these constraints and alternative to be taken into account by the AP. Incorporate these considerations into the T2LM feature. | Rejected—  This CID is discussed on October 12, 2022 with 22/1509r4. The straw poll result is 52Y, 34N, 28A.  Yongho Seok 22/1509r4  Technical Notes <> |
| 11108 | Brian Hart | 35.3.7.1.3 | 429.17 | PREFERRED\_TID\_TO\_LINK\_MAPPING\_SUGGESTED is a very opaque status code:. Preferred for what reason? Are the reasons different for different links? | Add richer and per-link status/reason codes. | Rejected—  This CID is discussed on October 12, 2022 with 22/1509r4. The straw poll result is 52Y, 34N, 28A.  Yongho Seok 22/1509r4  Technical Notes <> |
| 11763 | Gaurav Patwardhan | 9.6.35.3 | 267.49 | TID-to-link mapping is versatile tool which can be used in multiple use cases. The reason code for an MLD to reject a proposed mapping by its peer MLD should be descriptive enough in each of the myriad use cases that the peer MLD can understand why the mapping was rejected and can propose a better mapping. | Extend the status code field to more reason codes to address more use cases. | Rejected—  This CID is discussed on October 12, 2022 with 22/1509r4. The straw poll result is 52Y, 34N, 28A.  Yongho Seok 22/1509r4  Technical Notes <> |
| 14055 | Pooya Monajemi | 35.3.7.1 | 427.05 | There are situations in which performing load balancing between links by an AP becomes vital to the operation of an 802.11 network. The spec needs an enforceable and flexible mechanism to perform load balancing between links | Introduce a load balancing mechanism, preferably by extending TID to Link Mapping | Rejected—  This CID is discussed on October 12, 2022 with 22/1509r4. The straw poll result is 52Y, 34N, 28A.  Yongho Seok 22/1509r4  Technical Notes <> |
| 10058 | Morteza Mehrnoush | 35.3.21.2 | 471.12 | The current spec text for the TDLS operation only works when all the links of the non-AP MLD has STR link relation, however when the links of non-AP MLD have NSTR link relation (lets say L1 and L2 are NSTR link pair), the peer STA of non-AP MLD may initiate PPDU over L1 and AP of AP MLD may initiate PPDU over L2, and the end time of the PPDUs are not aligned, so the response frame by the non-AP MLD may corrupts either of the PPDUs. A mechanism to prevent such a self interference among NSTR link pair is needed. | as in comment | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 10060 | Morteza Mehrnoush | 35.3.21.1 | 470.60 | If non-AP MLD is operating in EMLSR mode, and one STA of non-AP MLD wants to extablish a TDLS link with another device, there will be some limitations. The other deivce could be legacy device or EHT device (MLD and non-MLD); if it's a legacy deivce, it cannot initiate frame exchange considering the EMLSR rules; if it's a EHT device, it needs some information from the non-AP MLD which is operating in EMLSR mode like padding delay, etc, to be able to do the TDLS operation when the non-AP MLD operates in EMLSR mode for some scenarios. | there is no description of TDLS procedure when non-AP MLD operates in EMLSR mode and one of the STAs establishes a TDLS direct with anohter device; please add text to propose a solution for this. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 10061 | Morteza Mehrnoush | 35.3.21.1 | 470.60 | There is no text in spec to explain the TDLS power save procedure for the non-AP MLD which establishes TDLS direct link over a single link. The description of the procedure and solution to potential issues for the non-AP MLD operating in NSTR/EMLSR/EMLMR modes needs to be discussed. | as in comment | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 10367 | Tomoko Adachi | 35.3.21 | 0.00 | When an AP MLD having an NSTR link pair with a non-AP MLD and the non-AP MLD starts direct link communication in one of the NSTR link pair with a peer STA, as the non-AP MLD cannot receive frames on the other link, the AP MLD needs to be aware of which link is used for direct link communication in order to select the proper link where the non-AP MLD can receive frames from the AP MLD. | Add a mechanism or constraints to solve the problem. One way is to add a mechanism for an AP MLD to know when the NSTR link pair is used at the non-AP MLD for direct link communication. Or, add a rule on the link that can be used as direct link communication when it is one of the NSTR link pair so that the AP can just monitor the link without pior knowledge to the direct link. Or, only allow direct link(s) when the non-AP MLD can perform STR on those links. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 10660 | Abhishek Patil | 35.3.21 | 470.57 | Baseline spec provides Channel Usage feature to enable an AP/non-AP coordinate the channel to use for p2p operation so that it doesn't interfere with infra-BSS operation. TGbe spec should explore utilizing and if needed expanding this feature for p2p operation when at least one of the link between the AP and non-AP MLD is an nSTR link. | As in comment | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 11158 | Boon Loong Ng | 35.3.21 | 470.55 | TDLS operation with a non-AP MLD can be impacted by NSTR constraints of the non-AP MLD or peer non-AP MLD hosting that TDLS peer STA. | A procedure to handle the TDLS operation with MLD under NSTR constraints needs be described in the spec. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 11657 | Morteza Mehrnoush | 35.3.21.1 | 470.60 | If non-AP MLD is operating in EMLSR mode, and one STA of non-AP MLD wants to establish a TDLS link with another device, there will be some limitations. The other device could be legacy device or EHT device (MLD and non-MLD); if it's a legacy device, it cannot initiate frame exchange considering the EMLSR rules; if it's a EHT device, it needs some information from the non-AP MLD which is operating in EMLSR mode like padding delay, etc, to be able to do the TDLS operation when the non-AP MLD operates in EMLSR mode for some scenarios. | there is no description of TDLS procedure when non-AP MLD operates in EMLSR mode and one of the STAs establishes a TDLS direct with another device; please add text to propose a solution for this. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 13081 | Chittabrata Ghosh | 35.3.21.2 | 471.12 | The current spec text for the TDLS operation only works when all the links of the non-AP MLD has STR link relation, however when the links of non-AP MLD have NSTR link relation (lets say L1 and L2 are NSTR link pair), the peer STA of non-AP MLD may initiate PPDU over L1 and AP of AP MLD may initiate PPDU over L2, and the end time of the PPDUs are not aligned, so the response frame by the non-AP MLD may corrupts either of the PPDUs. A mechanism to prevent such a self interference among NSTR link pair is needed. | as in comment | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 13083 | Chittabrata Ghosh | 35.3.21.1 | 470.60 | If non-AP MLD is operating in EMLSR mode, and one STA of non-AP MLD wants to extablish a TDLS link with another device, there will be some limitations. The other deivce could be legacy device or EHT device (MLD and non-MLD); if it's a legacy deivce, it cannot initiate frame exchange considering the EMLSR rules; if it's a EHT device, it needs some information from the non-AP MLD which is operating in EMLSR mode like padding delay, etc, to be able to do the TDLS operation when the non-AP MLD operates in EMLSR mode for some scenarios. | there is no description of TDLS procedure when non-AP MLD operates in EMLSR mode and one of the STAs establishes a TDLS direct with anohter device; please add text to propose a solution for this. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 13084 | Chittabrata Ghosh | 35.3.21.1 | 470.60 | There is no text in spec to explain the TDLS power save procedure for the non-AP MLD which establishes TDLS direct link over a single link. The description of the procedure and solution to potential issues for the non-AP MLD operating in NSTR/EMLSR/EMLMR modes needs to be discussed. | as in comment | Rejected—  This CID is discussed on September 26, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 13635 | Rubayet Shafin | 35.3.21.2 | 471.09 | Whenever, there is a peer-to-peer link (e.g. TDLS link) between any pair of STAs affiliated with a pair of non-AP MLDs over one link, and if any of the non-AP MLDs is not STR capable over any of the links, the other NSTR link(s) become essentially ineffective. Consider the following scenario that illustrates this situation--Assume that MLD\_S and MLD\_R are two non-AP MLDs and MLD\_A is an AP MLD. STA1 and STA2 are two non-AP STAs affiliated with the non-AP MLD, MLD\_S; STA3 and STA4 are two non-AP STAs affiliated with non-AP MLD, MLD\_R; and AP1 and AP2 are two APs affiliated with AP MLD, MLD\_A. Two links have been set up between MLD\_S and MLD\_A--- one between STA1 and AP1 over Link 1, and the other between STA2 and AP2 over Link 2. Moreover, two links have been set up between MLD\_R and MLD\_A--- one between STA3 and AP1 over Link 1, and the other between STA4 and AP2 over Link 2. STA3 and STA4, operating on Link 1 and Link 2, respectively, form an NSTR link pair. Now, a TDLS link has been established between STA1 and STA3. When STA3 is communicating to STA1 over the TDLS direct link, AP MLD, MLD\_A, usually is not aware of the communication over the TDLS link. MLD\_A is aware of MLD\_R' s NSTR capability; so without the TDLS link as long as STA3 is not transmitting to AP1 over Link 1, AP2 can perform downlink transmission to STA4 over Link 2. However, over the TDLS direct link, if STA3 is transmitting to STA1, then STA4 would not be able to receive packets from AP2 over Link2. | Spec needs to provide solution/guideline for handling NSTR issue when one or more non-AP STAs, affiliated with a non-AP MLD and forming NSTR link pair(s), establish TDLS direct link with one or more non-AP STAs affiliated with another non-AP MLD. | Rejected—  This CID is discussed on September 26, 2022 with 22/1586r2, but no straw poll is conducted yet.  This CID is discussed on November 17, 2022 with 22/1586r2. The straw poll results are 31 Yes, 45 No, 29 Abstain.  Abhishek Patil 22/1586r2  Technical Notes <> |
| 10627 | Abhishek Patil | 35.3.5.1 | 422.12 | in the future, advances in Wi-Fi technology would make it possible for an AP MLD to setup more than one link on the same channel. Therefore, TGbe should not put an artificial bound on what can be achieved by future Wi-Fi generations. | Either delete this paragraph or tie it to dot11EHTBaselineFeatureOnly set to true. | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 11179 | Joseph Levy | 35.3.5.1 | 422.12 | Stating that an MLD "ensures that" is not a requirement, the specification should state that the MLD "shall ensure that". | Replace: "An MLD that requests or accepts multi-link (re)setup for any two links ensures that each link is located on different nonoverlapping channels." With: "An MLD that sends a (Re)Association Request or Response frame containing a Basic Multi-Link element shall ensure that all the links in the Basic Multi-Link element are on channels that do not have any overlap." | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 12617 | Arik Klein | 35.3.5.1 | 422.25 | There is a mismatch between the requirement to assign an AID to a non-AP MLD between the sentence in P422L20, where the AP MLD shall assign the AID and the following Note 3 on P422L25, which says that "AP affiliated with AP MLD does not assign AID to non-AP MLD...." Please align the conflict, as proposed. | In Note 3, Please replace the "an AP affiliated with an AP MLD does not assign, to a non-AP MLD an AID value that is less than..." with "an AP MLD does not assign..." so it will be aligned with the language in the preceding paragraph which says that "An AP MLD shall assign a single AID.." | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 13876 | Ming Gan | 35.3.5.1 | 422.24 | Change this note to be normative text since this is related to multiple links and not mentioned in other places | please change the note to be normative text | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 10627 | Abhishek Patil | 35.3.5.1 | 422.12 | in the future, advances in Wi-Fi technology would make it possible for an AP MLD to setup more than one link on the same channel. Therefore, TGbe should not put an artificial bound on what can be achieved by future Wi-Fi generations. | Either delete this paragraph or tie it to dot11EHTBaselineFeatureOnly set to true. | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 11179 | Joseph Levy | 35.3.5.1 | 422.12 | Stating that an MLD "ensures that" is not a requirement, the specification should state that the MLD "shall ensure that". | Replace: "An MLD that requests or accepts multi-link (re)setup for any two links ensures that each link is located on different nonoverlapping channels." With: "An MLD that sends a (Re)Association Request or Response frame containing a Basic Multi-Link element shall ensure that all the links in the Basic Multi-Link element are on channels that do not have any overlap." | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 11598 | Vishnu Ratnam | 35.3.5.1 | 422.24 | Note 3: Doesn't this note have to be updated given that the group-addressed traffic for other links of the AP MLD are also indicated? | As in comment | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 12617 | Arik Klein | 35.3.5.1 | 422.25 | There is a mismatch between the requirement to assign an AID to a non-AP MLD between the sentence in P422L20, where the AP MLD shall assign the AID and the following Note 3 on P422L25, which says that "AP affiliated with AP MLD does not assign AID to non-AP MLD...." Please align the conflict, as proposed. | In Note 3, Please replace the "an AP affiliated with an AP MLD does not assign, to a non-AP MLD an AID value that is less than..." with "an AP MLD does not assign..." so it will be aligned with the language in the preceding paragraph which says that "An AP MLD shall assign a single AID.." | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 13876 | Ming Gan | 35.3.5.1 | 422.24 | Change this note to be normative text since this is related to multiple links and not mentioned in other places | please change the note to be normative text | Rejected—  This CID is discussed on October 19, 2022, but no straw poll is conducted yet.  Abhishek Patil 22/1690r5  Technical Notes <> |
| 11863 | Alfred Asterjadhi | 9.4.2.199 | 205.42 | Multi-Link Information element is providing the same functionality as this Link ID Bitmap field in the TWT element. Use one single way of signaling for simplicity. | As in comment. | Rejected—  This CID is discussed on October 27, 2022, but no straw poll is conducted yet.  Ming Gan 22/1746r4  Technical Notes <> |
| 12245 | Stephen McCann | 9.2.4.7.10 | 127.50 | What is an "assisting AP". There are only 2 occurences of this term in clause 35.3.16.8.3 and it doesn't appear to be useful. | Change each occurrence of "assisting AP" in the draft to "AP" | Rejected—  This CID is discussed on October 27, 2022, but no straw poll is conducted yet.  Ming Gan 22/1746r4  Technical Notes <> |
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