



EEE OAM and Alert

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Result of Plenary meeting in Bangkok regarding OAM

- OAM was changed to include RS encoding of RS(16,14)
 - The CRC check on the OAM frame was change to a Reed Solomon error correction
 - This allows a path for OAM to not require the protection from RS(360,326) encoding during refresh

OAM during LPI

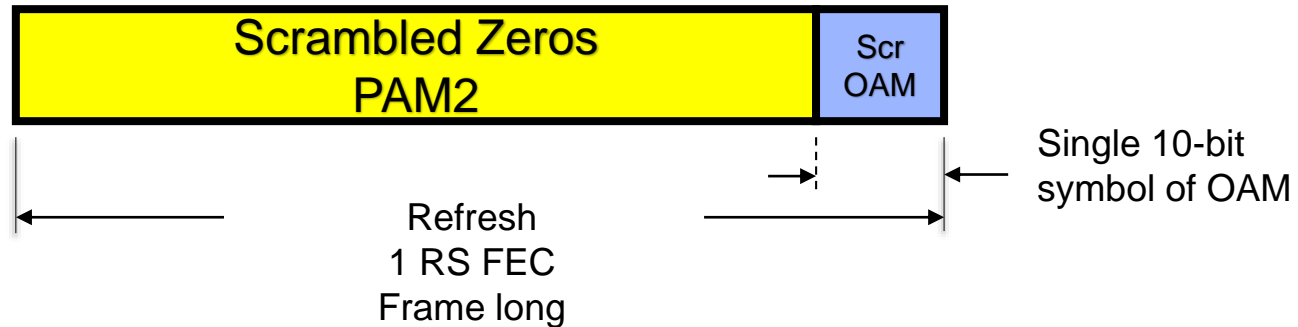
- 802.3bp OAM transmission during refresh is as follows



- 802.3ch Refresh is a single Reed Solomon frame long
- If we try to model the OAM in LPI after 802.3bp and include the frame RS parity, we would need to stop the interleaving during LPI so that the payload would fit in one RS frame time

OAM during LPI

- Given that the OAM has its own Reed Solomon protection, we propose to completely remove the RS(360,326) encoding during LPI and only send the single 10-bit symbol of OAM by xoring with the last 10 bits of refresh.
- **This allows us to power down the PCS circuitry and its associated FEC**



Result of Plenary meeting in Bangkok regarding Alert

- Concept of Alert was accepted
 - It was accepted to include alert in the EEE LPI sequencing to precede Wake as a lower power method of detecting LPI end
 - Alert should preferably be present only during certain frame counts to reduce power consumption of alert detector
 - There is a desire to use the link synchronization sequence as alert

Alert alignment

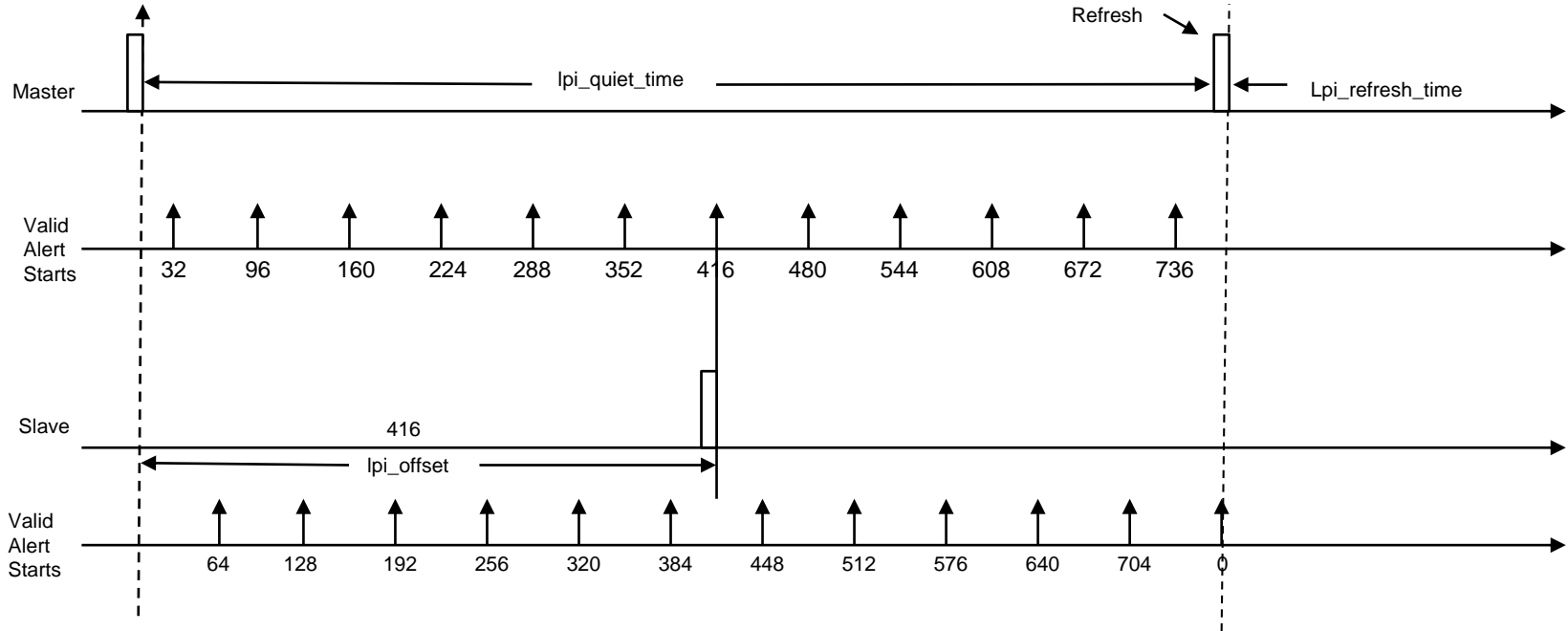
- To align with 802.3bp, we discussed in Bangkok using Alert every other super-frame to
 - Not overlap with refresh
 - Further reduce power of alert detection
- In order to accommodate this, we need the total number of RS frames in QR cycle to be a multiple of 8 (two super frames) – current spec is 100 frames
- To assure alert from two sides does not overlap
$$lpi_offset = lpi_qr_time/2 + 4$$

Parameter	RS frames	Partial Frames
<code>lpi_qr_time</code>	96	768
<code>lpi_offset</code>	52	416

Alert

- We propose that Alert is only allowed to start on every 8th RS frame and is exactly four frames long. This provides for
 - Alert can not overlap refresh
 - Further power saving is realized by not constantly looking for alert
- As discussed in Bangkok, we propose that alert use the same PAM2 sequence that is used for link synchronization. Simulation to follow.
- Four RS frames of Alert are followed immediately by 8 RS frames of wake

EEE Alert timing



Thank you.

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