

SAS-2 SNW-3 Definition T10/06-355r0

Amr Wassal & Robert Watson

www.pmc-sierra.com



References

- 05-397r5 (Newman) SAS-2 Startup Training Sequence
- 06-354r0 (Finch) Startup Training Sequence Proposal
- 06-295r1 (Wassal/Watson) SAS-2 Speed Negotiation
- 06-324r0 (Wassal) SAS-2 Modifications to SAS Speed Negotiation

SNW-3 Description

- As in 06-354, maintain RCDT for the clock system to switch and stabilize before starting to transmit at the new speed.
- Use COMSAS to synchronize the start of the SNTT period.
- Use COMWAKE to indicate a '1' bit, and DC idle for a COMWAKE period (2 200 OOB) to indicate a '0' bit.
 - Already have a robust mechanism for COMWAKE/COMSAS detection and we would like to reuse it.
 - Use the last 8 bits as a CRC that covers the data portion (COMWAKE/lack of COMWAKE bursts) in SNLT.
 - If the CRC fails, restart OOB sequence.
 - SNLT period of 153 600 OOB, less COMSAS period of 12 000 OOB, gives us 141 600 OOB which corresponds to 64 bits at a COMWAKE period of 2 200 OOB. (56 bits + 8 CRC bits).

SNW-3 Diagram

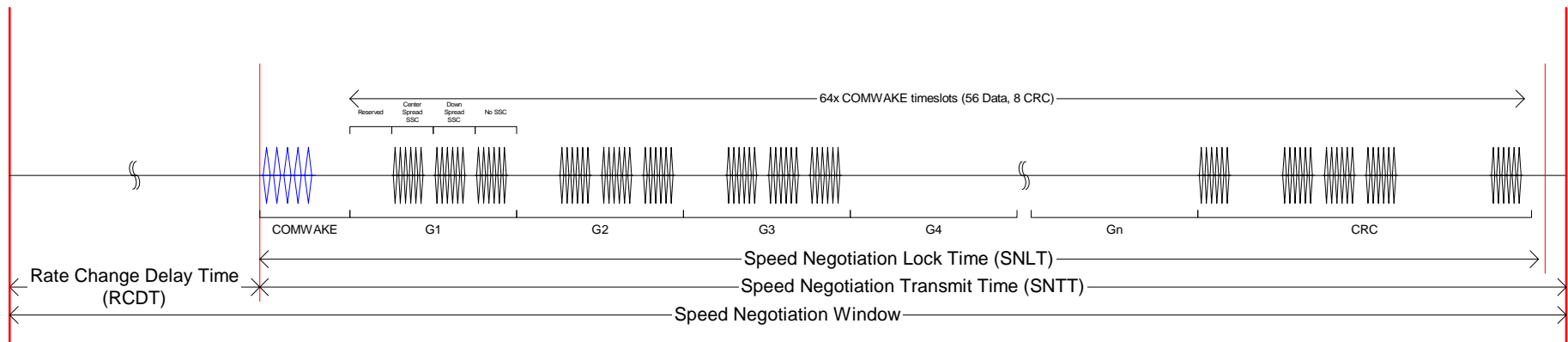
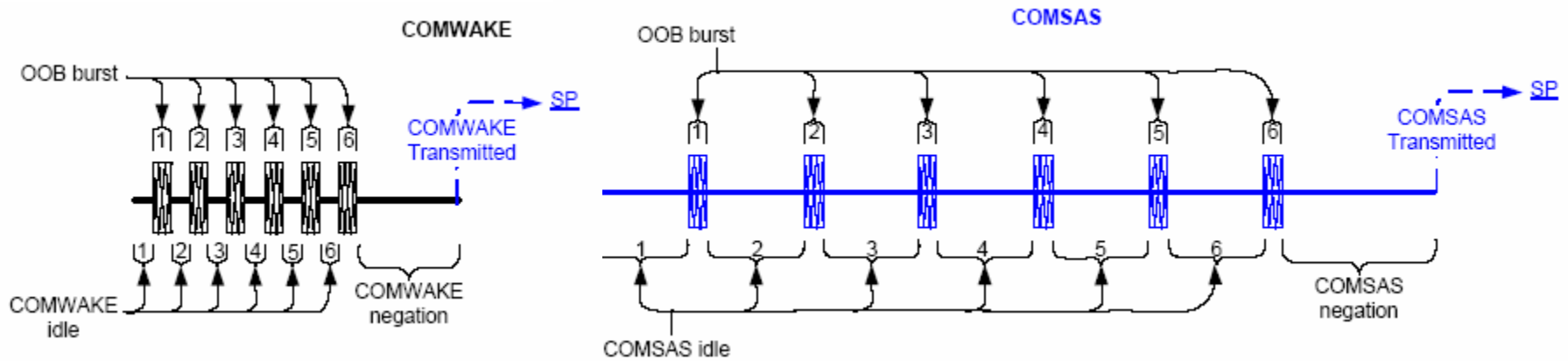


Figure 1 – SNW-3

SNW-3 Details

- One nibble per rate (G1 followed by G2 etc)
 - Nibble format is {Reserved, Centered SSC, Downspread SSC, Non-SSC}. Values can also be encoded to consume less bits.
 - More than one nibble per rate may be better for future use.
- After SNW-3 completes we begin the Final Speed Negotiation window as discussed earlier (06-324, ref 05-397)
- Use of COMWAKE & COMSAS allows re-use of current detection circuitry.



Enabling connectivity. Empowering people.

www.pmc-sierra.com