

ISO 20794-5:2020 (E)

Road vehicles — Clock extension peripheral interface (CXPI) — Part 5: Application layer conformance test plan

Contents

| | |
|---------|---|
| | Foreword |
| | Introduction |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | Symbols and abbreviated terms |
| 4.1 | Symbols |
| 4.2 | Abbreviated terms |
| 5 | Conventions |
| 6 | General test specification considerations |
| 6.1 | General |
| 6.2 | Test conditions |
| 6.3 | IUT requirements |
| 6.4 | CTC definition |
| 6.5 | Test system set-up |
| 6.6 | Configuration of test system and IUT |
| 6.6.1 | General |
| 6.6.2 | IUT-specific set-up parameters |
| 6.6.3 | User_Specific configurations |
| 6.6.4 | W/S_Init configurations |
| 6.6.5 | W/S_Passive configurations |
| 6.6.6 | W/S_RdySleep configurations |
| 6.6.7 | W/S_NotRdySleep configurations |
| 6.6.8 | A_WSSup configurations |
| 6.6.9 | NonW/S configurations |
| 6.6.10 | ErrDet configurations |
| 6.6.11 | Event configurations |
| 6.6.12 | Polling configurations |
| 6.7 | SUT initialisation |
| 6.7.1 | General |
| 6.7.2 | Default initialisation |
| 6.7.3 | Sleep initialisation |
| 6.7.4 | Power-off initialisation |
| 6.7.5 | Transmission prohibition initialisation |
| 6.7.6 | Clock supply of secondary clock master initialisation |
| 7 | Application conformance test plan |
| 7.1 | General |
| 7.2 | Network management |
| 7.2.1 | General |
| 7.2.2 | State transition definition |
| 7.2.3 | State transition CTCs |
| 7.2.3.1 | 8.CTC_1.1 – State machine – Master node – Wake-up/Sleep supported |
| 7.2.3.2 | 8.CTC_1.2 – State machine – Master node – Wake-up/Sleep not supported |
| 7.2.3.3 | 8.CTC_1.3 – State machine – Slave node – Wake-up/Sleep supported |
| 7.2.3.4 | 8.CTC_1.4 – State machine – Slave node – Sleep permission |

| | |
|---------|--|
| 7.2.3.5 | 8.CTC_1.5 – State machine – Slave node – Sleep prohibition |
| 7.2.3.6 | 8.CTC_1.6 – State machine – Slave node – Transition into the normal state |
| 7.2.4 | Wake-up request/notification of master node trigger CTCs |
| 7.2.4.1 | 8.CTC_2.1 – Master node wake-up sequence – Master node trigger |
| 7.2.4.2 | 8.CTC_2.2 – Slave node wake-up sequence – Master node trigger |
| 7.2.4.3 | 8.CTC_2.3 – Master node wakeup_ind value verification, master node trigger |
| 7.2.4.4 | 8.CTC_2.4 – Slave node wakeup_ind value verification, master node trigger |
| 7.2.5 | Wake-up request/notification of slave node trigger CTCs |
| 7.2.5.1 | 8.CTC_3.1 – Slave node wake-up request – Slave node trigger |
| 7.2.5.2 | 8.CTC_3.2 – Slave node wake-up pulse retransmission sequence – Slave node trigger |
| 7.2.5.3 | 8.CTC_3.3 – Slave node wake-up notification – Slave node trigger |
| 7.2.5.4 | 8.CTC_3.4 – Master node wake-up sequence – Slave node trigger |
| 7.2.5.5 | 8.CTC_3.5 – Slave node wake-up sequence – Dominant pulse |
| 7.2.5.6 | 8.CTC_3.6 – Master node wakeup_ind value verification, slave node trigger |
| 7.2.5.7 | 8.CTC_3.7 – Slave node wakeup_ind value verification, slave node trigger |
| 7.2.5.8 | 8.CTC_3.8 – Slave node wakeup_ind value verification upon wake-up pulse transmission |
| 7.2.6 | Sleep request/notification CTCs |
| 7.2.6.1 | 8.CTC_4.1 – Master node sleep_ind verification |
| 7.2.6.2 | 8.CTC_4.2 – Slave node sleep_ind verification |
| 7.2.6.3 | 8.CTC_4.3 – Sleep message reception |
| 7.2.6.4 | 8.CTC_4.4 – Sleep message transmission |
| 7.2.6.5 | 8.CTC_4.5 – Abort sleep message transmission by losing arbitration 1 |
| 7.2.6.6 | 8.CTC_4.6 – Abort sleep message transmission by losing arbitration 2 |
| 7.2.6.7 | 8.CTC_4.7 – Abort sleep message transmission by transmission error |
| 7.2.7 | Network Management multi clock master processing CTCs |
| 7.2.7.1 | 8.CTC_5.1 – Multi clock master sequence – Wake-up/Sleep supported |
| 7.2.7.2 | 8.CTC_5.2 – Multi clock master sequence – Wake-up/Sleep not supported |
| 7.2.7.3 | 8.CTC_5.3 – Clock supply stop of secondary clock master 1 |
| 7.2.7.4 | 8.CTC_5.4 – Clock supply stop of secondary clock master 2 |
| 7.3 | Fault management |
| 7.3.1 | Error detection/recovery CTCs |
| 7.3.1.1 | 8.CTC_6.1 – Transmission prohibition 1 as master |
| 7.3.1.2 | 8.CTC_6.2 – Transmission prohibition 1 as slave |
| 7.3.1.3 | 8.CTC_6.3 – Transmission prohibition 2 as master |
| 7.3.1.4 | 8.CTC_6.4 – Transmission prohibition 2 as slave |
| 7.3.1.5 | 8.CTC_6.5 – Master node recovery from transmission prohibition by system reset |
| 7.3.1.6 | 8.CTC_6.6 – Master node recovery from transmission prohibition by sleep/wake-up |
| 7.3.1.7 | 8.CTC_6.7 – Slave node recovery from transmission prohibition by sleep/wake-up |
| 7.3.1.8 | 8.CTC_6.8 – Slave node recovery from transmission prohibition by system reset |
| 7.3.1.9 | 8.CTC_6.9 – Recovery from transmission prohibition by normal reception |
| 7.3.2 | CXPI network error CTCs |
| 7.3.2.1 | 8.CTC_7.1 – CXPI network error handling – Wake-up/Sleep supported |
| 7.3.2.2 | 8.CTC_7.2 – CXPI network error handling |
| 7.3.3 | SCT error CTCs |
| 7.3.3.1 | 8.CTC_8.1 – Outbreak of the count error and recovery from SCT error |
| 7.3.4 | Error notification between CXPI nodes CTCs |
| 7.3.4.1 | 8.CTC_9.1 – Supported error types for error notification between CXPI nodes |

8 Application layer conformance test plan

| | |
|-------|---|
| 8.1 | General |
| 8.2 | Transfer management CTCs |
| 8.2.1 | General |
| 8.2.2 | 7.CTC_10.1 – Master node event-triggered method |
| 8.2.3 | 7.CTC_10.2 – Slave node event-triggered method |
| 8.2.4 | 7.CTC_10.3 – Master node polling method |
| 8.2.5 | 7.CTC_10.4 – Slave node polling method |
| 8.2.6 | 7.CTC_10.5 – Behaviour of unknown or invalid ReqId reception |
| 8.2.7 | 7.CTC_10.6 – Master node sets unused bits in response message |
| 8.2.8 | 7.CTC_10.7 – Slave node sets unused bits in response message |