

ISO 20794-2:2020-02 (E)

Road vehicles - Clock extension peripheral interface (CXPI) - Part 2: Application layer

Contents		Page
	Foreword.....	v
	Introduction.....	vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	3
	4.1 Symbols.....	3
	4.2 Abbreviated terms.....	3
5	Conventions	4
6	Introduction to application and application layer	4
	6.1 Application properties.....	4
	6.2 Application layer properties.....	4
	6.3 Message transmission.....	4
	6.4 Communication methods.....	4
	6.5 Message types.....	5
	6.6 Error handling.....	5
7	Service interface parameters (SIP)	5
	7.1 SIP — General.....	5
	7.2 SIP — Data type definitions.....	5
	7.3 SIP — Mtype, message type.....	6
	7.4 SIP — ReqId, request identifier.....	6
	7.5 SIP — ReqTypeId, request type identifier.....	6
	7.6 SIP — PDU, protocol data unit.....	6
	7.7 SIP — Length, length of PDU.....	6
	7.8 SIP — ev_wakeup_ind, event wake-up indication (optional).....	6
	7.9 SIP — cmd_wakeup_req, command wake-up request.....	7
	7.10 SIP — NMInfo, network management information.....	7
	7.11 SIP — SCT, sequence count.....	8
	7.12 SIP — Result, result.....	8
8	SI — Service interface (SI) definition to application and lower OSI layers	8
	8.1 SI — A_Data.req and A_Data.ind service interface.....	8
	8.2 SI — A_Data.req and A_Data.ind service interface parameter mapping.....	9
9	Application (APP)	9
	9.1 APP — Message exchange.....	9
	9.2 APP — Communication methods.....	9
	9.2.1 APP — General.....	9
	9.2.2 APP — Event-triggered method.....	10
	9.2.3 APP — Polling method.....	10
	9.3 APP — Network management (NM).....	11
	9.3.1 APP — General.....	11
	9.3.2 APP — Normal, standby, and sleep states.....	12
	9.3.3 APP — Normal state.....	13
	9.3.4 APP — Sleep state (optional).....	14
	9.3.5 APP — Standby state (optional).....	14
	9.3.6 APP — Wake-up/sleep function (optional).....	14
	9.3.7 APP — Wake-up/sleep sequence parameter.....	24
	9.4 APP — Multi clock master sequence processing.....	24

9.5	APP — Measurement and/or control data	25
9.5.1	APP — Publisher and subscriber data	25
9.5.2	APP — Measurement and/or control data management	26
9.5.3	APP — Measurement and/or control data types	26
9.5.4	APP — Measurement and/or control data consistency	26
9.5.5	APP — Assignment of ReqId	27
9.5.6	APP — Priority of ReqId	27
9.6	APP — Error handling	28
9.6.1	APP — General	28
9.6.2	APP — CXPI network error	28
9.6.3	APP — Network management information	29
9.6.4	APP — SCT, sequence count (optional)	30
9.6.5	APP — Sequence count (SCT) error (optional)	31
9.6.6	APP — Transmission prohibition	31
9.6.7	APP — Retransmission	32
9.6.8	APP — Error notification on CXPI network (optional)	32
10	Application layer (AL)	33
10.1	AL — Message exchange	33
10.2	AL — Message structure	34
10.3	AL — Request protected type identifier field	35
10.4	AL — Request protected identifier field	35
10.4.1	AL — General	35
10.4.2	AL — Judgment of received message	35
10.5	AL — Response field (A_PDU)	35
10.5.1	AL — General	35
10.5.2	AL — A_PDU	35
10.5.3	AL — Wake-up indication and request	36
10.6	AL — Error detection	36
	Bibliography	37