ISO 21806-12:2021-05 (E)

Road vehicles - Media Oriented Systems Transport (MOST) - Part 12: 50-Mbit/s balanced media physical layer

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Symbols and abbreviated terms **2**
4.1 Symbols 2
4.2 Abbreviated terms 2

5 Conventions **3**

6 Physical layer service interface to OSI data link layer **3**
6.1 Overview 3
6.2 Data type definitions 3
6.3 Event indications and action requests 3
6.3.1 P_EVENT.INDICATE 3
6.3.2 P_ACTION.REQUEST 4
6.4 Parameters 4
6.4.1 PHY_Event 4
6.4.2 PHY_Request 4

7 Basic physical layer requirements **5**
7.1 Logic terminology 5
7.1.1 Single-ended low-voltage digital signals 5
7.1.2 Differential signals 5
7.2 SPs 5
7.3 Phase variation 6
7.3.1 General 6
7.3.2 Wander 6
7.3.3 Jitter 6
7.3.4 Clock recovery and reference clock 7
7.3.5 Link quality 8
7.3.6 MOST network quality 10

8 MOST50 bPHY requirements **13**
8.1 General MOST network parameters 13
8.1.1 MOST network coding 13
8.1.2 Link and interconnect type 15
8.1.3 SP details 15
8.1.4 Analogue frontend 16
8.2 Models and measurement methods 17
8.2.1 Golden PLL 17
8.2.2 Jitter filter 18
8.2.3 Stress pattern 18

9 Link specifications **19**
9.1 General 19
9.2 SP2 19
9.3 Electrical link requirements 22
9.3.1 General 22
9.3.2 Electrical interconnect, length and attenuation 22

9.3.3 Characteristic impedance and return loss (RL) 23
9.4 SP3 25
10 Power-on and power-off 26
10.1 Frequency reference and power supply 26
10.2 Power supply monitoring circuitry 27
10.3 Electrical transceiver EBC and BEC 27
10.3.1 General 27
10.3.2 BTR requirements 27
10.3.3 EBC requirements 28
10.3.4 EBC power-on and power-off sequence 29
10.3.5 BEC requirements 29
10.3.6 BEC power-on and power-off sequence 31
11 MOST network requirements 31
11.1 SP3 receiver tolerance 31
11.2 TimingMaster delay tolerance 32
11.3 Environmental considerations and requirements 32
12 Bit rate and frequency tolerance 33
Bibliography 34