

SFD/SMD-Cx DETECTION

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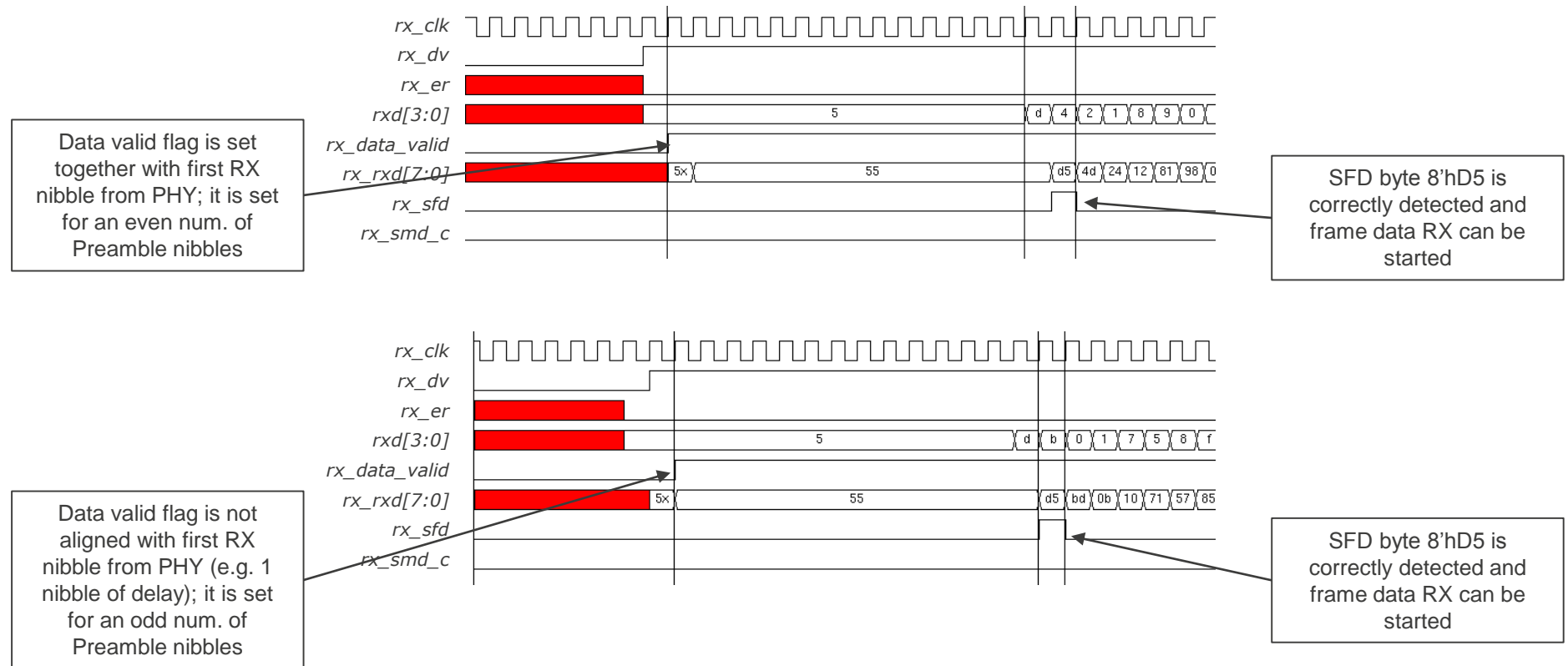
AUTOMOTIVE NETWORK COMMUNICATION PROTOCOL

RENESAS ELECTRONICS CORPORATION

BEHAVIOR ACCORDING TO 802.3-2012

Usually MII implementation do not count the received preamble nibbles it just try to recognize the SFD filed 0x5D

- The interface is able to identify SFD byte 8'hD5 at each new nibble received from PHY interface once the data valid is set to 1'b1



PROPOSAL

The problem occurred due to the encoding of the “D” in the byte of the SMD-C3 as consequent a continuation fragment with SMD-C3 will never be transferred, as the frame is interpreted as express frame with 0x5D

- The misinterpretation of the SFD will result to invalid FCS (mCRC)

The problem will not occur with the other encoding values like SMD-S0, SMD-S2, SMD-C1 etc.

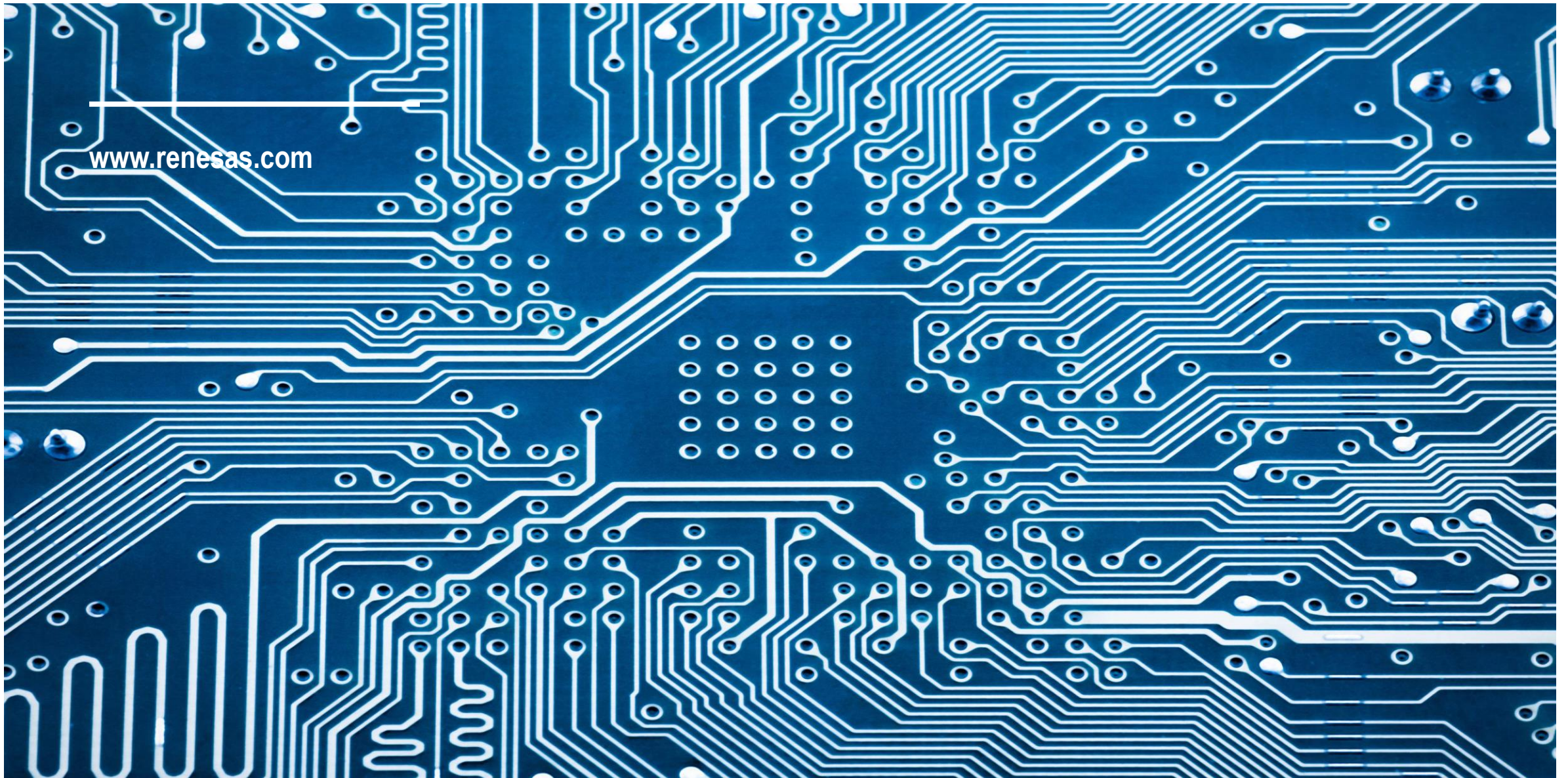
Therefore our proposal would be to change the encoding value of SMD-C3 different than 0x?D

APPENDIX

SMD VALUES

Table 99–1—SMD values

mPacket type	Notation	Frame count	Encoding
verify packet	SMD-V	—	0x07
respond packet	SMD-R	—	0x19
express packet	SMD-E	—	0xD5
preemptable packet start	SMD-S0	0	0xE6
	SMD-S1	1	0x4C
	SMD-S2	2	0x7F
	SMD-S3	3	0xB3
continuation fragment	SMD-C0	0	0x61
	SMD-C1	1	0x52
	SMD-C2	2	0x9E
	SMD-C3	3	0xAD



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