

# RENESAS TECHNICAL UPDATE

1753, Shimonumabe, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8668 Japan  
Renesas Electronics Corporation

Product Category	System LSI		Document No.	TN-RIN-A003B/E	Rev.	2.00
Title	Restriction on 10Base-T half-duplex mode		Information Category	Technical Notification		
Applicable Product	See following	Lot No.	Reference Document	R-IN32M3 Series User's Manual R-IN32M3-EC (R18UZ0003EJ0301) R-IN32M3 Series User's Manual Peripheral Functions R-IN32M3-CL R-IN32M3-EC (R18UZ0005EJ0601)		
		All lots				

Restriction on 10Base-T half-duplex mode as described below. Please take this into account whenever Ethernet switch feature of R-IN32M3-EC is used on your system.

## 1. Applicable Product

Product Type	Model Marking	Product Code
R-IN32M3-EC	MC-10287F1	MC-10287F1-HN4-A
		MC-10287F1-HN4-M1-A

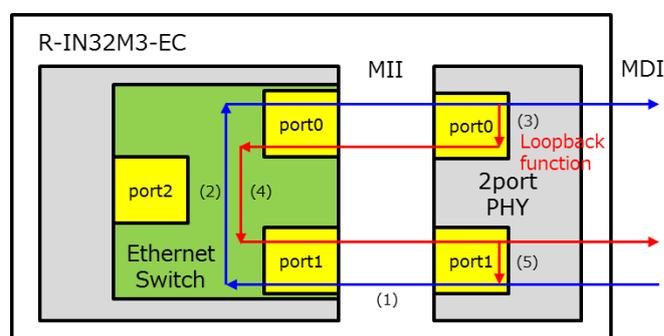
## 2. Conditions

When using Ethernet Switch with two Ethernet ports on 10Base-T half-duplex mode

## 3. Issue

Embedded Ethernet PHY on R-IN32M3-EC transmits data from MII to MDI and also loops back the data to MII on 10Base-T half-duplex mode. This loopback function has a potential to cause an endless frame transfer between Ethernet ports. A specific example is here.

- (1) Port1 on R-IN32M3-EC receives a frame
- (2) Ethernet switch in R-IN32M3-EC forwards the frame to port0
- (3) Ethernet PHY for port0 transmits the frame not only to MDI but also to MII (Loopback)
- (4) Ethernet switch in R-IN32M3-EC receives the looped-back frame from PHY and forwards it to port1
- (5) Ethernet PHY for port1 transmits the frame to MDI and loops back it to MII
- (6) Repeats (2) – (5)



## 4. Workaround

None. R-IN32M3-EC cannot operate Ethernet switch function in 10Base-T half-duplex mode.

5. Revision Plan

Renesas plans to revise the applicable products in order to remove this concern.

Regarding update schedule, please contact to Renesas sales or distributors.