

Microsemi Corporation

November 24, 2015

Product/Process Change Notification No: PCN1508

Change Classification: Major

Subject: RTAX and AX FPGA designs that use the internal power on reset/preset circuits

Description of Change

Designers must not use the global clear (GCLR)/global preset (GPSET) signal for future designs. Designs that use the GCLR/GPSET signal must be evaluated to check whether the initialization states of the flip-flops affect the functionality of the design. If the functionality of the design is dependent on the initialization states of the flip-flops, the designers must not rely on the GCLR/GPSET signal to establish the initial values of the flip-flops in the design.

Devices already programmed with designs, which use the GCLR/GPSET signal must be tested to ensure that the flip-flops are initialized in the correct state after power-up. No reliability issues arise from the inconsistent initialization of flip-flops. However, the device operation may be affected if it is dependent on the flip-flops initializing in a specific state and no external power-on reset/preset is used. If the initial state of the flip-flops do not affect the functionality of the design, no change to the design is necessary.

Background Information

RTAX and AX FPGAs include a GCLR/GPSET signal. For designs that utilize the GCLR/GPSET feature, the GCLR/GPSET signal is asserted to reset/preset all flip-flops in the FPGA during power-up. The GCLR/GPSET signal is deasserted automatically on completion of the power-up sequence. However, a thorough investigation has determined that GCLR and GPSET are released too early, which allow spurious inputs to be clocked into flip-flops, resulting in flip-flops powering up in unintended states.

Note: The GCLR/GPSET feature is configured by the Global Set Fuse option in the Libero[®] design tools and is configured to global reset by default. For more information, refer to the [Libero SoC User Guide](#).

Only the designs that rely on GCLR/GPSET to supply the power-on reset/preset have a potential issue. Under this situation, the default power-up state of any flip-flops without user CLR/PRE, or with CLR/PRE driven by internal logic cannot be guaranteed. However, any flip-flops with user CLR/PRE asserted by an external source (I/O), which is not released until the FPGA power-up sequence is complete, is not affected by the behavior of GCLR/GPSET. No other functional issues are expected.

Note: Designs that use an external power-on reset/preset scheme in which internal logic states rely on an external reset/preset signal is not affected by this issue.

Reason for Change

Under certain circumstances, the internal power-on reset/preset circuits on RTAX and AX FPGAs do not initialize the flip-flops to the desired state due to sensitivities of the GCLR/GPSET signal.

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Application Impact

Design Implications

For new designs in progress, an external power-on reset/preset scheme must be used if the default power-up states of the flip-flops are critical to the application. Microsemi will remove the Global Set Fuse option in a future release of the Libero software.

Reliability Implications

No FPGA reliability implications are expected. The inconsistent power-up states of the flip-flops do not cause any excessive voltages or currents, therefore, do not cause any instantaneous device failure or acceleration of device wear-out mechanisms.

Actions to Take

1. For New Designs

Plan to use an external power-on reset/preset circuit.

2. For Existing Designs

- a. If an external power-on reset/preset scheme is utilized (all flip-flops are reset by I/O), no issue is expected.
- b. If an internal power-on reset/preset scheme is utilized (any flip-flops without user CLR/PRE, or the user CLR/PRE driven by internal logic), designers must first evaluate the consequences of powering up these affected flip-flops in unknown states. If this is not expected to cause an operational failure in the FPGA and system design, designers may choose to retire risk at this point. In this case, powering up the flip-flops in unknown or unintended states may not be observable because of how the design operates.

To evaluate whether or not flip-flops are powering up in an unintended state, power up the FPGA at a variety of temperatures including the minimum and maximum at which the design is intended to run, using the same power-up sequence as the production board. If the FPGA consistently powers up and operates correctly, the risk of a functional issue is minimal. Microsemi recommends the designer to verify functionality of sensitive parts of the design through functional simulation. If the FPGA does not power up correctly, please contact Microsemi for a further analysis and evaluation of your design.

Products Affected by this Change

Refer to [Appendix A](#) for the affected products.

Contact Information

If you have further questions related to this topic, contact Microsemi Technical Support at: soc_tech@microsemi.com

Regards,

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Appendix A: Affected Devices

Affected Devices in RTAXS Family			
5962-0421901QUA	5962-0421906VZC	5962-0422007QUA	5962-0422104QUC
5962-0421901QXC	5962-0421907QUA	5962-0422007QXC	5962-0422104QXC
5962-0421901QYC	5962-0421907QXC	5962-0422007QYC	5962-0422104QYC
5962-0421901QZC	5962-0421907QYC	5962-0422008QUA	5962-0422105QMC
5962-0421901VUA	5962-0421907QZC	5962-0422008QXC	5962-0422105QNA
5962-0421901VXC	5962-0421908QUA	5962-0422008QYC	5962-0422105QTA
5962-0421901VYC	5962-0421908QXC	5962-0422101QMC	5962-0422105QUC
5962-0421901VZC	5962-0421908QYC	5962-0422101QNA	5962-0422105QXC
5962-0421902QUA	5962-0421908QZC	5962-0422101QTA	5962-0422105QYC
5962-0421902QXC	5962-0422001QUA	5962-0422101QUC	5962-0422105VMC
5962-0421902QYC	5962-0422001QXC	5962-0422101QXC	5962-0422105VNA
5962-0421902QZC	5962-0422001QYC	5962-0422101QYC	5962-0422105VTA
5962-0421902VUA	5962-0422001VUA	5962-0422101VMC	5962-0422105VUC
5962-0421902VXC	5962-0422001VXC	5962-0422101VNA	5962-0422105VXC
5962-0421902VYC	5962-0422001VYC	5962-0422101VTA	5962-0422105VYC
5962-0421902VZC	5962-0422002QUA	5962-0422101VUC	5962-0422106QMC
5962-0421903QUA	5962-0422002QXC	5962-0422101VXC	5962-0422106QNA
5962-0421903QXC	5962-0422002QYC	5962-0422101VYC	5962-0422106QTA
5962-0421903QYC	5962-0422002VUA	5962-0422102QMC	5962-0422106QUC
5962-0421903QZC	5962-0422002VXC	5962-0422102QNA	5962-0422106QXC
5962-0421904QUA	5962-0422002VYC	5962-0422102QTA	5962-0422106QYC
5962-0421904QXC	5962-0422003QUA	5962-0422102QUC	5962-0422106VMC
5962-0421904QYC	5962-0422003QXC	5962-0422102QXC	5962-0422106VNA
5962-0421904QZC	5962-0422003QYC	5962-0422102QYC	5962-0422106VTA
5962-0421905QUA	5962-0422004QUA	5962-0422102VMC	5962-0422106VUC

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5962-0421905QXC	5962-0422004QXC	5962-0422102VNA	5962-0422106VXC
5962-0421905QYC	5962-0422004QYC	5962-0422102VTA	5962-0422106VYC
5962-0421905QZC	5962-0422005QUA	5962-0422102VUC	5962-0422107QMC
5962-0421905VUA	5962-0422005QXC	5962-0422102VXC	5962-0422107QNA
5962-0421905VXC	5962-0422005QYC	5962-0422102VYC	5962-0422107QTA
5962-0421905VYC	5962-0422005VUA	5962-0422103QMC	5962-0422107QUC
5962-0421905VZC	5962-0422005VXC	5962-0422103QNA	5962-0422107QXC
5962-0421906QUA	5962-0422005VYC	5962-0422103QTA	5962-0422107QYC
5962-0421906QXC	5962-0422006QUA	5962-0422103QUC	5962-0422108QMC
5962-0421906QYC	5962-0422006QXC	5962-0422103QXC	5962-0422108QNA
5962-0421906QZC	5962-0422006QYC	5962-0422103QYC	5962-0422108QTA
5962-0421906VUA	5962-0422006VUA	5962-0422104QMC	5962-0422108QUC
5962-0421906VXC	5962-0422006VXC	5962-0422104QNA	5962-0422108QXC
5962-0421906VYC	5962-0422006VYC	5962-0422104QTA	5962-0422108QYC
Affected Devices in RTAXD Family			
5962-0422109QXC	5962-0422110VXC	5962-0422113QXC	5962-0422114VXC
5962-0422109VXC	5962-0422111QXC	5962-0422113VXC	5962-0422115QXC
5962-0422110QXC	5962-0422112QXC	5962-0422114QXC	5962-0422116QXC
Affected Devices in RTAXS Family			
5962-0822401QXC	5962-0822402VXC	5962-0822405QXC	5962-0822406VYC
5962-0822401QYC	5962-0822402VYC	5962-0822405QYC	5962-0822406VZA
5962-0822401QZA	5962-0822402VZA	5962-0822405QZA	5962-0822407QXC
5962-0822401VXC	5962-0822403QXC	5962-0822405VXC	5962-0822407QYC
5962-0822401VYC	5962-0822403QYC	5962-0822405VZA	5962-0822407QZA
5962-0822401VZA	5962-0822403QZA	5962-0822406QXC	5962-0822408QXC
5962-0822402QXC	5962-0822404QXC	5962-0822406QYC	5962-0822408QYC
5962-0822402QYC	5962-0822404QYC	5962-0822406QZA	5962-0822408QZA

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5962-0822402QZA	5962-0822404QZA	5962-0822406VXC	–
Affected Devices in RTAXD Family			
5962-0822409QXC	5962-0822410VXC	5962-0822413QXC	5962-0822414VXC
5962-0822409VXC	5962-0822411QXC	5962-0822413VXC	5962-0822415QXC
5962-0822410QXC	5962-0822412QXC	5962-0822414QXC	5962-0822416QXC
Affected Devices in Accelerator (AX) Family			
AX1000-1BG729	AX1000-FGG484	AX2000-CQ352M	AX250-PQ208
AX1000-1BG729I	AX1000-FGG484I	AX2000-FG1152	AX250-PQ208I
AX1000-1BG729M	AX1000-FGG484M	AX2000-FG1152I	AX250-PQ208M
AX1000-1BGG729	AX1000-FGG676	AX2000-FG1152M	AX250-PQG208
AX1000-1BGG729I	AX1000-FGG676I	AX2000-FG896	AX250-PQG208I
AX1000-1BGG729M	AX1000-FGG676M	AX2000-FG896I	AX250-PQG208M
AX1000-1CGS624M	AX1000-FGG896	AX2000-FG896M	AX500-1CQ208M
AX1000-1CQ352M	AX1000-FGG896I	AX2000-FGG1152	AX500-1CQ352M
AX1000-1FG484	AX1000-FGG896M	AX2000-FGG1152I	AX500-1FG484
AX1000-1FG484I	AX1000-LG624M	AX2000-FGG1152M	AX500-1FG484I
AX1000-1FG484M	AX125-1FG256	AX2000-FGG896	AX500-1FG484M
AX1000-1FG676	AX125-1FG256I	AX2000-FGG896I	AX500-1FG676
AX1000-1FG676I	AX125-1FG324	AX2000-FGG896M	AX500-1FG676I
AX1000-1FG676M	AX125-1FG324I	AX2000-LG624M	AX500-1FG676M
AX1000-1FG896	AX125-1FGG256	AX250-1CQ208M	AX500-1FGG484
AX1000-1FG896I	AX125-1FGG256I	AX250-1CQ352M	AX500-1FGG484I
AX1000-1FG896M	AX125-1FGG324	AX250-1FG256	AX500-1FGG484M
AX1000-1FGG484	AX125-1FGG324I	AX250-1FG256I	AX500-1FGG676
AX1000-1FGG484I	AX125-2FG256	AX250-1FG256M	AX500-1FGG676I
AX1000-1FGG484M	AX125-2FG256I	AX250-1FG484	AX500-1FGG676M
AX1000-1FGG676	AX125-2FG324	AX250-1FG484I	AX500-1PQ208

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AX1000-1FGG676I	AX125-2FG324I	AX250-1FG484M	AX500-1PQ208I
AX1000-1FGG676M	AX125-2FGG256	AX250-1FGG256	AX500-1PQ208M
AX1000-1FGG896	AX125-2FGG256I	AX250-1FGG256I	AX500-1PQG208
AX1000-1FGG896I	AX125-2FGG324	AX250-1FGG256M	AX500-1PQG208I
AX1000-1FGG896M	AX125-2FGG324I	AX250-1FGG484	AX500-1PQG208M
AX1000-1LG624M	AX125-FG256	AX250-1FGG484I	AX500-2FG484
AX1000-2BG729	AX125-FG256I	AX250-1FGG484M	AX500-2FG484I
AX1000-2BG729I	AX125-FG324	AX250-1PQ208	AX500-2FG676
AX1000-2BGG729	AX125-FG324I	AX250-1PQ208I	AX500-2FG676I
AX1000-2BGG729I	AX125-FGG256	AX250-1PQ208M	AX500-2FGG484
AX1000-2FG484	AX125-FGG256I	AX250-1PQG208	AX500-2FGG484I
AX1000-2FG484I	AX125-FGG324	AX250-1PQG208I	AX500-2FGG676
AX1000-2FG676	AX125-FGG324I	AX250-1PQG208M	AX500-2FGG676I
AX1000-2FG676I	AX2000-1CGS624M	AX250-2FG256	AX500-2PQ208
AX1000-2FG896	AX2000-1CQ256M	AX250-2FG256I	AX500-2PQ208I
AX1000-2FG896I	AX2000-1CQ352M	AX250-2FG484	AX500-2PQG208
AX1000-2FGG484	AX2000-1FG1152	AX250-2FG484I	AX500-2PQG208I
AX1000-2FGG484I	AX2000-1FG1152I	AX250-2FGG256	AX500-CQ208M
AX1000-2FGG676	AX2000-1FG1152M	AX250-2FGG256I	AX500-CQ352M
AX1000-2FGG676I	AX2000-1FG896	AX250-2FGG484	AX500-FG484
AX1000-2FGG896	AX2000-1FG896I	AX250-2FGG484I	AX500-FG484I
AX1000-2FGG896I	AX2000-1FG896M	AX250-2PQ208	AX500-FG484M
AX1000-BG729	AX2000-1FGG1152	AX250-2PQ208I	AX500-FG676
AX1000-BG729I	AX2000-1FGG1152I	AX250-2PQG208	AX500-FG676I
AX1000-BG729M	AX2000-1FGG1152M	AX250-2PQG208I	AX500-FG676M
AX1000-BGG729	AX2000-1FGG896	AX250-CQ208M	AX500-FGG484
AX1000-BGG729I	AX2000-1FGG896I	AX250-CQ352M	AX500-FGG484I

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AX1000-BGG729M	AX2000-1FGG896M	AX250-FG256	AX500-FGG484M
AX1000-CGS624M	AX2000-1LG624M	AX250-FG256I	AX500-FGG676
AX1000-CQ352M	AX2000-2FG1152	AX250-FG256M	AX500-FGG676I
AX1000-FG484	AX2000-2FG1152I	AX250-FG484	AX500-FGG676M
AX1000-FG484I	AX2000-2FG896	AX250-FG484I	AX500-PQ208
AX1000-FG484M	AX2000-2FG896I	AX250-FG484M	AX500-PQ208I
AX1000-FG676	AX2000-2FGG1152	AX250-FGG256	AX500-PQ208M
AX1000-FG676I	AX2000-2FGG1152I	AX250-FGG256I	AX500-PQG208
AX1000-FG676M	AX2000-2FGG896	AX250-FGG256M	AX500-PQG208I
AX1000-FG896	AX2000-2FGG896I	AX250-FGG484	AX500-PQG208M
AX1000-FG896I	AX2000-CGS624M	AX250-FGG484I	–
AX1000-FG896M	AX2000-CQ256M	AX250-FGG484M	–
Affected Devices in RTAXS Family			
RTAX1000S-1CG624PROTO	RTAX1000S-CG624PROTO	RTAX1000SL-1CQ352B	RTAX1000SL-CQ352B
RTAX1000S-1CGS624B	RTAX1000S-CGS624B	RTAX1000SL-1CQ352E	RTAX1000SL-CQ352E
RTAX1000S-1CGS624E	RTAX1000S-CGS624E	RTAX1000SL-1CQ352PROTO	RTAX1000SL-CQ352PROTO
RTAX1000S-1CGS624V	RTAX1000S-CGS624V	RTAX1000SL-1CQ352V	RTAX1000SL-CQ352V
RTAX1000S-1CQ352B	RTAX1000S-CQ352B	RTAX1000SL-1LG624B	RTAX1000S-LG624B
RTAX1000S-1CQ352E	RTAX1000S-CQ352E	RTAX1000SL-1LG624E	RTAX1000S-LG624E
RTAX1000S-1CQ352PROTO	RTAX1000S-CQ352PROTO	RTAX1000SL-1LG624PROTO	RTAX1000S-LG624PROTO
RTAX1000S-1CQ352V	RTAX1000S-CQ352V	RTAX1000SL-1LG624V	RTAX1000S-LG624V
RTAX1000S-1LG624B	RTAX1000SL-1CG624PROTO	RTAX1000SL-CG624PROTO	RTAX1000SL-LG624B
RTAX1000S-1LG624E	RTAX1000SL-1CGS624B	RTAX1000SL-CGS624B	RTAX1000SL-LG624E
RTAX1000S-1LG624PROTO	RTAX1000SL-1CGS624E	RTAX1000SL-CGS624E	RTAX1000SL-LG624PROTO

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RTAX1000S-1LG624V	RTAX1000SL-1CGS624V	RTAX1000SL-CGS624V	RTAX1000SL-LG624V
Affected Devices in RTAXD Family			
RTAX2000D-1CGD1272B	RTAX2000D-CGD1272B	RTAX2000DL-1CQ352B	RTAX2000DL-CQ352B
RTAX2000D-1CGD1272E	RTAX2000D-CGD1272E	RTAX2000DL-1CQ352E	RTAX2000DL-CQ352E
RTAX2000D-1CGD1272EV	RTAX2000D-CGD1272EV	RTAX2000DL-1CQ352PROTO	RTAX2000DL-CQ352PROTO
RTAX2000D-1CGD1272PROTO	RTAX2000D-CGD1272PROTO	RTAX2000DL-1CQ352V	RTAX2000DL-CQ352V
RTAX2000D-1CQ352B	RTAX2000D-CQ352B	RTAX2000DL-1LGD1272B	RTAX2000D-LGD1272B
RTAX2000D-1CQ352E	RTAX2000D-CQ352E	RTAX2000DL-1LGD1272E	RTAX2000D-LGD1272E
RTAX2000D-1CQ352PROTO	RTAX2000D-CQ352PROTO	RTAX2000DL-1LGD1272EV	RTAX2000D-LGD1272EV
RTAX2000D-1CQ352V	RTAX2000D-CQ352V	RTAX2000DL-1LGD1272PROTO	RTAX2000D-LGD1272PROTO
RTAX2000D-1LGD1272B	RTAX2000DL-1CGD1272B	RTAX2000DL-CGD1272B	RTAX2000DL-LGD1272B
RTAX2000D-1LGD1272E	RTAX2000DL-1CGD1272E	RTAX2000DL-CGD1272E	RTAX2000DL-LGD1272E
RTAX2000D-1LGD1272EV	RTAX2000DL-1CGD1272EV	RTAX2000DL-CGD1272EV	RTAX2000DL-LGD1272EV
RTAX2000D-1LGD1272PROTO	RTAX2000DL-1CGD1272PROTO	RTAX2000DL-CGD1272PROTO	RTAX2000DL-LGD1272PROTO
Affected Devices in RTAXS Family			
RTAX2000S-1CG1152B	RTAX2000SL-1CG1152B	RTAX2000S-LG1152B	RTAX250S-CQ352B
RTAX2000S-1CG1152E	RTAX2000SL-1CG1152E	RTAX2000S-LG1152E	RTAX250S-CQ352E
RTAX2000S-1CG1152PROTO	RTAX2000SL-1CG1152PROTO	RTAX2000S-LG1152PROTO	RTAX250S-CQ352PROTO
RTAX2000S-1CG1152V	RTAX2000SL-1CG1152V	RTAX2000S-LG1152V	RTAX250S-CQ352V
RTAX2000S-1CG624PROTO	RTAX2000SL-1CG624PROTO	RTAX2000S-LG624B	RTAX250SL-1CG624B

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RTAX2000S-1CGS624B	RTAX2000SL-1CGS624B	RTAX2000S-LG624E	RTAX250SL-1CG624E
RTAX2000S-1CGS624E	RTAX2000SL-1CGS624E	RTAX2000S-LG624PROTO	RTAX250SL-1CG624PROTO
RTAX2000S-1CGS624V	RTAX2000SL-1CGS624V	RTAX2000S-LG624V	RTAX250SL-1CG624V
RTAX2000S-1CQ256B	RTAX2000SL-1CQ256B	RTAX2000SL-LG1152B	RTAX250SL-1CQ208B
RTAX2000S-1CQ256E	RTAX2000SL-1CQ256E	RTAX2000SL-LG1152E	RTAX250SL-1CQ208E
RTAX2000S-1CQ256PROTO	RTAX2000SL-1CQ256PROTO	RTAX2000SL-LG1152PROTO	RTAX250SL-1CQ208PROTO
RTAX2000S-1CQ256V	RTAX2000SL-1CQ256V	RTAX2000SL-LG1152V	RTAX250SL-1CQ208V
RTAX2000S-1CQ352B	RTAX2000SL-1CQ352B	RTAX2000SL-LG624B	RTAX250SL-1CQ352B
RTAX2000S-1CQ352E	RTAX2000SL-1CQ352E	RTAX2000SL-LG624E	RTAX250SL-1CQ352E
RTAX2000S-1CQ352PROTO	RTAX2000SL-1CQ352PROTO	RTAX2000SL-LG624PROTO	RTAX250SL-1CQ352PROTO
RTAX2000S-1CQ352V	RTAX2000SL-1CQ352V	RTAX2000SL-LG624V	RTAX250SL-1CQ352V
RTAX2000S-1LG1152B	RTAX2000SL-1LG1152B	RTAX250S-1CG624B	RTAX250SL-1LG624B
RTAX2000S-1LG1152E	RTAX2000SL-1LG1152E	RTAX250S-1CG624E	RTAX250SL-1LG624E
RTAX2000S-1LG1152PROTO	RTAX2000SL-1LG1152PROTO	RTAX250S-1CG624PROTO	RTAX250SL-1LG624PROTO
RTAX2000S-1LG1152V	RTAX2000SL-1LG1152V	RTAX250S-1CG624V	RTAX250SL-1LG624V
RTAX2000S-1LG624B	RTAX2000SL-1LG624B	RTAX250S-1CQ208B	RTAX250SL-CG624B
RTAX2000S-1LG624E	RTAX2000SL-1LG624E	RTAX250S-1CQ208E	RTAX250SL-CG624E
RTAX2000S-1LG624PROTO	RTAX2000SL-1LG624PROTO	RTAX250S-1CQ208PROTO	RTAX250SL-CG624PROTO
RTAX2000S-1LG624V	RTAX2000SL-1LG624V	RTAX250S-1CQ208V	RTAX250SL-CG624V
RTAX2000S-CG1152B	RTAX2000SL-CG1152B	RTAX250S-1CQ352B	RTAX250SL-CQ208B
RTAX2000S-CG1152E	RTAX2000SL-CG1152E	RTAX250S-1CQ352E	RTAX250SL-CQ208E
RTAX2000S-CG1152PROTO	RTAX2000SL-CG1152PROTO	RTAX250S-1CQ352PROTO	RTAX250SL-CQ208PROTO
RTAX2000S-CG1152V	RTAX2000SL-CG1152V	RTAX250S-1CQ352V	RTAX250SL-CQ208V
RTAX2000S-CG624PROTO	RTAX2000SL-CG624PROTO	RTAX250S-1LG624B	RTAX250SL-CQ352B

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RTAX2000S-CGS624B	RTAX2000SL-CGS624B	RTAX250S-1LG624E	RTAX250SL-CQ352E
RTAX2000S-CGS624E	RTAX2000SL-CGS624E	RTAX250S-1LG624PROTO	RTAX250SL-CQ352PROTO
RTAX2000S-CGS624V	RTAX2000SL-CGS624V	RTAX250S-1LG624V	RTAX250SL-CQ352V
RTAX2000S-CQ256B	RTAX2000SL-CQ256B	RTAX250S-CG624B	RTAX250S-LG624B
RTAX2000S-CQ256E	RTAX2000SL-CQ256E	RTAX250S-CG624E	RTAX250S-LG624E
RTAX2000S-CQ256PROTO	RTAX2000SL-CQ256PROTO	RTAX250S-CG624PROTO	RTAX250S-LG624PROTO
RTAX2000S-CQ256V	RTAX2000SL-CQ256V	RTAX250S-CG624V	RTAX250S-LG624V
RTAX2000S-CQ352B	RTAX2000SL-CQ352B	RTAX250S-CQ208B	RTAX250SL-LG624B
RTAX2000S-CQ352E	RTAX2000SL-CQ352E	RTAX250S-CQ208E	RTAX250SL-LG624E
RTAX2000S-CQ352PROTO	RTAX2000SL-CQ352PROTO	RTAX250S-CQ208PROTO	RTAX250SL-LG624PROTO
RTAX2000S-CQ352V	RTAX2000SL-CQ352V	RTAX250S-CQ208V	RTAX250SL-LG624V
Affected Devices in RTAXD Family			
RTAX4000D-1CGD1272B	RTAX4000D-CGD1272B	RTAX4000DL-1CQ352B	RTAX4000DL-CQ352B
RTAX4000D-1CGD1272E	RTAX4000D-CGD1272E	RTAX4000DL-1CQ352E	RTAX4000DL-CQ352E
RTAX4000D-1CGD1272EV	RTAX4000D-CGD1272EV	RTAX4000DL-1CQ352PROTO	RTAX4000DL-CQ352PROTO
RTAX4000D-1CGD1272PROTO	RTAX4000D-CGD1272PROTO	RTAX4000DL-1CQ352V	RTAX4000DL-CQ352V
RTAX4000D-1CQ352B	RTAX4000D-CQ352B	RTAX4000DL-1LGD1272B	RTAX4000D-LGD1272B
RTAX4000D-1CQ352E	RTAX4000D-CQ352E	RTAX4000DL-1LGD1272E	RTAX4000D-LGD1272E
RTAX4000D-1CQ352PROTO	RTAX4000D-CQ352PROTO	RTAX4000DL-1LGD1272EV	RTAX4000D-LGD1272EV
RTAX4000D-1CQ352V	RTAX4000D-CQ352V	RTAX4000DL-1LGD1272PROTO	RTAX4000D-LGD1272PROTO
RTAX4000D-1LGD1272B	RTAX4000DL-1CGD1272B	RTAX4000DL-CGD1272B	RTAX4000DL-LGD1272B
RTAX4000D-1LGD1272E	RTAX4000DL-1CGD1272E	RTAX4000DL-CGD1272E	RTAX4000DL-LGD1272E

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RTAX4000D-1LGD1272EV	RTAX4000DL-1CGD1272EV	RTAX4000DL-CGD1272EV	RTAX4000DL-LGD1272EV
RTAX4000D-1LGD1272PROTO	RTAX4000DL-1CGD1272PROTO	RTAX4000DL-CGD1272PROTO	RTAX4000DL-LGD1272PROTO
Affected Devices in RTAXS Family			
RTAX4000S-1CG1272B	RTAX4000S-CG1272B	RTAX4000SL-1CQ352B	RTAX4000SL-CQ352B
RTAX4000S-1CG1272E	RTAX4000S-CG1272E	RTAX4000SL-1CQ352E	RTAX4000SL-CQ352E
RTAX4000S-1CG1272PROTO	RTAX4000S-CG1272PROTO	RTAX4000SL-1CQ352PROTO	RTAX4000SL-CQ352PROTO
RTAX4000S-1CG1272V	RTAX4000S-CG1272V	RTAX4000SL-1CQ352V	RTAX4000SL-CQ352V
RTAX4000S-1CQ352B	RTAX4000S-CQ352B	RTAX4000SL-1LG1272B	RTAX4000S-LG1272B
RTAX4000S-1CQ352E	RTAX4000S-CQ352E	RTAX4000SL-1LG1272E	RTAX4000S-LG1272E
RTAX4000S-1CQ352PROTO	RTAX4000S-CQ352PROTO	RTAX4000SL-1LG1272PROTO	RTAX4000S-LG1272PROTO
RTAX4000S-1CQ352V	RTAX4000S-CQ352V	RTAX4000SL-1LG1272V	RTAX4000S-LG1272V
RTAX4000S-1LG1272B	RTAX4000SL-1CG1272B	RTAX4000SL-CG1272B	RTAX4000SL-LG1272B
RTAX4000S-1LG1272E	RTAX4000SL-1CG1272E	RTAX4000SL-CG1272E	RTAX4000SL-LG1272E
RTAX4000S-1LG1272PROTO	RTAX4000SL-1CG1272PROTO	RTAX4000SL-CG1272PROTO	RTAX4000SL-LG1272PROTO
RTAX4000S-1LG1272V	RTAX4000SL-1CG1272V	RTAX4000SL-CG1272V	RTAX4000SL-LG1272V

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