



Field Bulletin #: FB012

Date of Notice: September 9, 2021

Issue: Ventnor Power Issue

Affected Product(s): Ventnor (8-port and 16-port)

Affected Part Number(s): 070-08-VNT-S01, -S02, -S03, -S04, -C02, C03
070-16-VNT-S01, -S02, -S03, -S04, -C02
070-08-VCOM-S01, -S02, -S03, -S04, -S05, -S06
070-16-VCOM-S01, -S02, -S03, -S04, -S05, -S06

Affected Timeframe: Ventnor systems shipped from Sunhillo Corporation between January 2019 through October 2020.

Problem Description:

Sunhillo has discovered a potential issue with our Ventnor product relating to the EXAR 7724 DC-DC power controller chip which is used to supply DC power to the Ventnor system circuitry. The EXAR 7724 power part in some instances can fail causing the Ventnor system to power off and not be able to power back on.

Analysis:

Failure analysis of the Ventnor systems indicates that the point of failure is with the EXAR 7724 power part used for DC power distribution. Failures indicate that the part malfunctioned in a manner that prevented the proper DC voltages from being distributed within the Ventnor system. In some cases, the flash memory used for storing the power sequencing data inside the EXAR 7724 was also corrupted.

Sunhillo Engineering has worked with MaxLinear product engineers (supplier for the EXAR 7724 part) to determine the root cause for power failures in the Ventnor systems. Analysis with MaxLinear product engineers showed that there could be two possible issues. The first issue is related to internal EXAR logic hazards related to voltage sequencing and the input capacitance of the Ventnor system. The second issue is related to EXAR 7724 part failures where parts can have a corrupted program flash resulting in a part failure.

Resolution:

To address the two issues, the following resolutions have been developed:

1. The first issue is related to EXAR voltage sequencing logic hazards and the input capacitance of the Ventnor system. To address this issue MaxLinear/EXAR provided a programming update to the EXAR 7724 which corrected the hazard condition related to voltage sequencing and tuned the input capacitance of the EXAR 7724 program to match the Ventnor board design more closely. The hazard fix provided a fix for the condition that could cause part damage and the input capacitance fix was an efficiency update.
2. The second issue is related to EXAR 7724 part failures where parts can have a corrupted program flash resulting in a part failure. MaxLinear has claimed the flash corruption error is very rare, however, Maxlinear has recalled all Exar 7724 parts located in unused inventory from our contract manufacturer due to a screening process problem which allowed some defective parts to slip into the supply chain. Going forward, MaxLinear has implemented a more stringent screening process on Exar 7724 parts delivered after August 2019 to prevent this issue in the future.

Recommended Action:

Sunhillo advises our customers to monitor their Ventnor units for any possible issues especially Ventnors that may be power cycled during the normal course of operations. If a failure does occur, please contact Sunhillo Support/Helpdesk and we will diagnose the issue and RMA the Ventnor if the unit needs to be returned to Sunhillo.

Sunhillo is taking the additional step to extend the warranty for fielded Ventnor units for a period of 5 years if any failures, though rare, may occur due to the EXAR power chip.

Sunhillo Corporation takes great pride in our product quality and reliability and the Ventnor product maintains a total defect rate far less than 2%. Sunhillo Corporation will support any and all issues customers may have related to this field bulletin.