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March 30, 2020

Dear Customer,

Agilent Technologies, Inc. does not recommend the use of a UPS or other isolation device to supply power to a GC or GC-MS system. The Agilent system creates a highly varying load to these isolation devices. The oven of a GC, for example, is controlled by either turning the power on or off for each half-cycle of the AC power line. This creates a varying load condition on the UPS or isolation device of approximately 100 Watts when the oven heater is off and up to 2000 Watts when the oven heater is on. Since the heater may be powered off for one half-cycle and powered on for the next half-cycle of the line voltage, this creates a highly repetitive level of load variation. Many isolation devices require several line cycles to recover from high load variations; these isolation devices do not have sufficient damping and capacity to correct for the level and frequency of load variation created by the Agilent system.

Some isolation devices create undamped oscillations when subjected to repeated high-level load variations, which may result in very high levels of transient voltage supplied to the load. These undamped oscillations often exceed the specifications for the Agilent system or the isolation device. This may cause early or unexpected failure of the Agilent system, the isolation device, or both.

Additionally, the high variation in load is created at a 50/60 Hz rate. Use of UPS or other isolation devices utilizing Ferro-resonant transformers, regulators, or supplies is specifically NOT RECOMMENDED since the large load variations at the resonant frequency of the transformer may cause the transformer to operate unpredictably. This operation often causes the Ferro-resonant transformer to overheat or malfunction.

Please contact the manufacturer of the UPS or other isolation device if you wish to use such a device to supply power to an Agilent Technologies GC or GC-MS system. Inform the isolation device manufacturer of the varying half-cycle-by-half-cycle load behavior of the Agilent system to obtain a recommendation from the manufacturer for the proper size, capacity, and type of UPS or other isolation device.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Wyan", written in a cursive style.

Joe Wyan  
Quality Engineering Manager  
Agilent Technologies, Inc.