

## Wireless Data Logger White Paper for a Confectionary Manufacturer

### Challenge:

To record and monitor temperatures in the laboratory of a major candy confectionary manufacturer in real time. Monitor a wide range of environments, from incubators and hotboxes to refrigerators, ultra freezers, and water baths simultaneously.

### Problem:

Manually taking temperatures every hour is time consuming and costly for lab technicians. The opening and closing of doors to take readings on freezers, coolers, ovens and incubators can change the thermal environment for the samples and cultures. Analyzing temperatures at these time intervals may not allow for adjustments and corrective actions to be implemented prior to samples being jeopardized.

### Solution:

The MadgeTech wireless data logging system. RFTC4000A devices were chosen for the thermocouple wire probe feature which allows for sensor positioning in hard to reach sections of coolers and freezers. RFTC4000A with stainless steel probes were chosen for the areas with water baths. The probes offer immediate and accurate temperature information from the baths.

The Therm-A-Lert system was used in enclosures where doors and lids are opened frequently. The Therm-A-Lert is an RTD based data logger that comes equipped with an ethylene glycol buffer bottle. The buffer bottle simulates actual product temperature, not the ambient air, thus eliminating false alarms.

The data loggers were programmed to send temperature data transmissions in real time to the monitoring computer every 15 minutes. An alarm was set to warn lab personnel if temperatures go out of set ranges, so the technicians can take immediate corrective action on any out of range temperature swings.

*The lab is now equipped with a temperature monitoring system that gives the technicians REAL TIME information on all of the CCP's while improving their overall food safety program.*

### Customer Comments:

*"The current use of the MadgeTech temperature units we use is to maintain temperature on all our incubators, refrigerators, ultra freezers, water baths and hot boxes thus ensuring that the appropriate temperatures are maintain during the testing period of our confectionary products. The systems offer us continuous monitoring and the program ensures that the testing that is done is done in accordance with federal standards. The systems we currently use monitor temperatures from -40 C to 100 C, this variety ensures that all our applications are met. Our previous processes did not allow for continuous monitoring which in today's food conscious environment is an essential part of consumer food safety. In addition to the above description of the applications the technical support from MadgeTech goes above and beyond other small units we have used in the past."*

- A Major Candy Confectionary Manufacturer

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