

G-Unit RFID Goals

Product:

- The product will be placed into the refrigerated cavity (11" high x 17" wide x 13" deep) in two bag-in-box boxes (10" x 8" x 13" each).
- Each box contains a plastic/foil laminate bag of 36 deg. F liquid slush mix.
- The liquid will be drawn out through a peristaltic pump and converted into a frozen slush beverage in the product bowls.

Product Identification/Control Requirements:

- Determine which product is being fed to which bowl, via the left and right cabinet antenna's, so that machine setup parameters (such as the Initial Freeze-down Temperature Setpoint) can be loaded from the RFID tag into the machine microprocessor
- Load product-manufacturing information into machine database for usage tracking purposes

Data Upload/Download System:

- Customer card is written to from customer card antenna located in the front panel of the unit. Customer card antenna writes to the smart card, when the option is selected from the manager's menu on the unit. Using a "smart card" with multiple RFID tags on it will allow storage of > 2kbits data on the card – need to determine feasibility and upper limitations of this concept so that practical data structures and amounts can be determined
- Card will be mailed to customer, possibly with data on it that we wish to transfer to the microprocessor in the machine (ie: to change text displayed on the Operator Interface or to modify operational parameters of the machine)
- Once data has been uploaded to the machine microprocessor, product usage and machine preventive maintenance data will be downloaded to the card, which the customer will then return in a pre-paid mailer
- Card data will be captured to Kan-pak databases for marketing and support purposes

Hardware goals/requirements:

- Currently, the three antenna's are multiplexed via a daughterboard connected to the TI reader card.
- The TI reader card communicates to the main control through a single RS-232 port, and also generates the signals to go out the antenna's.
- Antennas for product identification will be located in the refrigerated cabinet and kept at a constant 36 deg. F