

INTERTEK TESTING SERVICES

EXHIBIT 1

GENERAL DESCRIPTION

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1.0 General Description

1.1 Product Description

The Equipment Under Test (EUT) is a transmitter portion of pool alarm system operating at 315 MHz which is controlled by a crystal. The EUT is powered by a 9V battery. This pool alarm system is designed to improve the safety and security of residential swimming pools. If an object weighting more than 15 lbs falls in the pool, the EUT will give the alarm and transmit signal via RF means to a remote receiver. The transmission lasts 1 second and then rests 4 seconds before next transmission. After 3 transmissions, the EUT will return to idle state.

The brief circuit description is attached in the following pages.

1.2 Related Submittal(s) Grants

This is a single application for certification of a transmitter. The FCC ID of the receiver associated with this transmitter is NQB8L102-PS08RX.

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PS-08 TRANSMITTER UNIT TECHNICAL DESCRIPTION

1. **SENSOR INPUT AND SENSITIVITY CONTROL:**

A magnetic sensor is used to detect the water wave in the swimming pool. Once a heavy body is dropped into the water and create a wave. It will trigger the sensor and active the alarm. The sensitivity control at the front panel is used to adjust the sensitivity of the sensor regarding to the water vibration. Main components for this circuit are Q5, U1, etc.

2. **RF CIRCUIT/CONVERTER:**

Once the alarm is triggered, the unit will sound the buzzer and start sending the alarm code. The converter will convert the code into the rf signal and transmit through the rf circuit. This alarm code will repeat 3 times. It will transmit 1 seconds and then rest for 4 seconds before the next transmission, after the 3 transmission, the rf circuit will back to idle. The code format is consists of a leading code (500Hz) and then follow by a 1kHz code. Main components in this circuit are U1, SAW 315MHz, Q9, etc.

3. **REGULATED POWER SUPPLIES/LOW BATTERIES MONITORING CIRCUIT:**

A 9V battery is used to supply the power, and a low batteries detection circuit is also used to monitor the voltage. If the input voltage is too low (less than 7.0 volts), the buzzer will start beeping and warn the user to change the battery. Main components in this circuit are Q1, Q2, Q3, Q4 D2, D3, etc.

4. **WAKE-UP TIMING CIRCUIT:**

The main controller has a power saving mode, so a wake-up circuit is needed to wake-up the main controller to monitor the sensor. Main components for this circuit are U1 (4011 IC), etc.

5. **ALARM OUTPUT CIRCUITS:**

When the sensor is triggered, the main controller will trigger the the buzzer circuit to sound the alarm and also transmit the alarm code the the PS-08 receiver unit.. Main Components for this circuit are Q7, Q8, etc.

6. **MAIN CONTROLLER:**

The main controller (U2) is used to monitor the sensor, activate the alarm and transmit the alarm code to the PS-08 receiver unit.