RealityCheck™ HVAC is an endpoint AI-enabled solution for creating smart, self-diagnosing HVAC and refrigerant systems. The solution combines machine learning and edge processing in the Renesas RA6T2 MCUs, utilizing vibration and electrical signals to allow HVAC systems to natively predict a wide range of anomalies, faults and operating conditions.

Features/Benefits

- Enables cost-effective service schedules and reduces emergency service calls by making the HVAC equipment self-aware:
  - Reports anomalies and service needs in advance to building managers, owners, or servicer
  - Sustainable service schedules to reduce environmental impact
  - Improves efficiency of HVAC systems

- Detects and predicts a wide range of conditions, including:
  - Blocked indoor / outdoor airflow
  - Heating / cooling capacity reduction
  - Faulty fan
  - Coil frosting
  - Faulty compressor
  - Failing capacitor
  - Filter life prediction
  - Refrigerant charge issues - undercharge / overcharge
  - Other conditions

Target Applications

- Automated Home and Building HVAC systems for:
  - Smart Cities
  - Smart Industry
  - Smart Home
  - Industry 4.0

For more details, please visit: renesas.com/realityai