

# TCU Terminal Cellular Unit for Boeing 787

## High-speed, Low-cost Connectivity Available Worldwide



The Teledyne Controls Terminal Cellular Unit (TCU) provides an Avionics Maintenance Off-board feature that allows airlines to use existing cellular ground infrastructure for airplane data uplinks and downlinks at the gate, as an alternate option to the existing WiFi TWLU (Terminal Wireless LAN Unit) connection that the 787 currently provides as part of the baseline. The TCU is offered as a Cabin Systems Equipment or Customer Selectable Equipment (CSE). The TCU incorporates advanced 3G/4G HSPA+ radios, enabling the use of new cellular technologies as they become available. Each radio drives its own TCS chassis-mounted cell antenna, eliminating the need for an external, fuselage-mounted antenna and its associated airframe modifications.

### Global Leader in Aircraft Cellular Communications

The TCU is a derivative of Teledyne's fifth-generation Aircraft Wireless LAN Unit (AWLU), which is Type Certified on the Boeing 777.

### Flexible SIM Card Management

The SIM cards for the TCU are externally accessible and are managed and changed by the airline under their own control. Additionally, the SIM quantity is dependent on the airlines' needs and is determined by the network availability in the area the airline operates. The ease of SIM management is one area where TCU customers will benefit greatly from Teledyne's cellular system experience.

### System Integrity and Reliability

The Aircraft Wireless LAN Unit device is not repackaged COTS equipment, but purposefully built for avionics use. It features the same hardware platform that Teledyne's Network Extension Device (NED) and Network File Server (NFS) relies upon, thus sharing the same environmental characteristics and obsolescence management required for the components of the ONS. This makes it a logical choice when extending the ONS onboard network to off-board wireless LANs and WANs.

## Key Features:

- Provides Cellular 3G/4G connectivity with HSPA+ offering quad-band UMTS/HSPA and quad-band GSM/GPRS/EDGE network access for roaming worldwide
- Two LRU attached cell antennas, no fuselage mounted antennas required
- ARINC 763 form factor with 2 inch maximum height
- 115 VAC variable frequency power
- Once connected to the cellular networks, the TCU will provide the airplane with an IP connection to the airline back offices
- Onboard applications (OBEDS/BEGSS) will utilize the TCU link to transfer data (uplink and downlink files) using standard IP protocols
- The TCU power is controlled by the airplane power distribution system. TCU will be powered when the airplane has weight-on-wheels, allowing operation at the gate and while in taxi.

## 787 Applications Supported:

### Transfer of Reports

- Over 100 types of reports on the 787
  - Engine and other on-board system generated reports
  - MSD reports, requested by the ground station

### Transfer LSAPs up to the plane

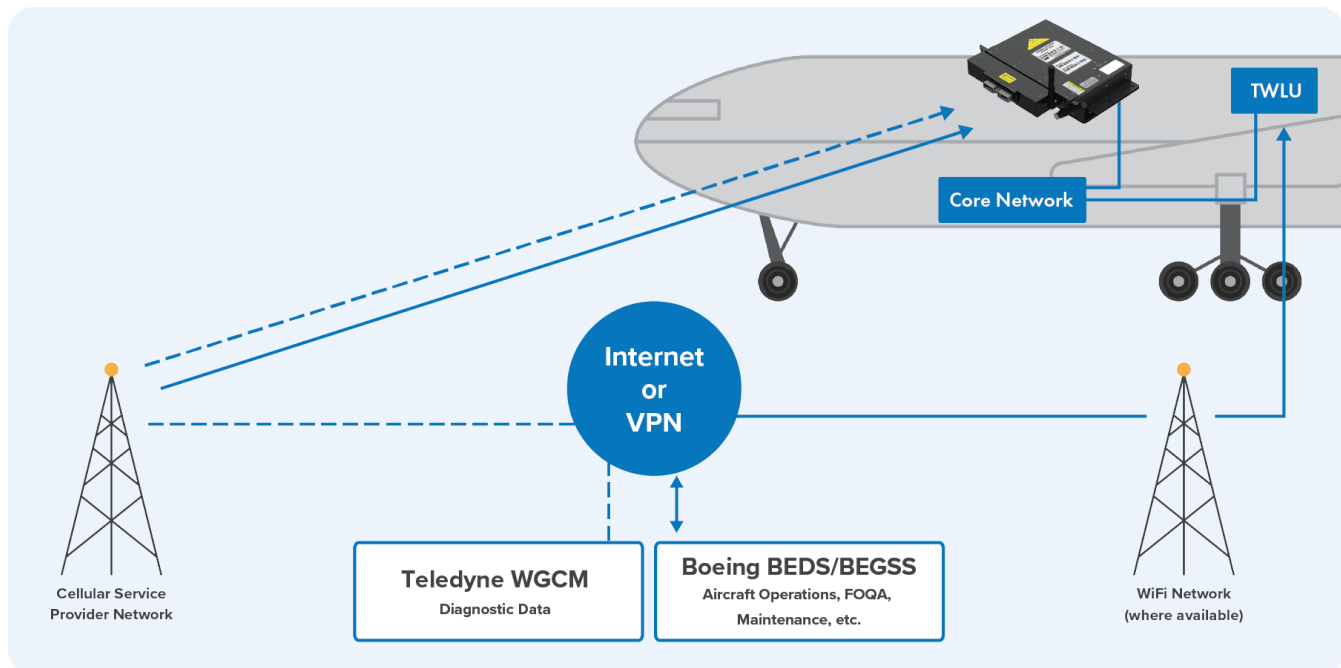
- FMCF Navigation Databases and other loadable databases and software

### EFB Application Support

- Boeing Electronic Logbook and other third party applications

### CPL Data Download

- Continuous raw flight data for FOQA and MOQA Programs



## TCU Availability

The TCU is available on the 787-9 aircraft, and will soon be available on the 787-8 aircraft. Aftermarket installations for in-service 787s will be accomplished via a Boeing Commercial Aviation Services kit and Service Bulletin. Service Bulletin availability will follow production certification and will be driven by airline demand. Please see your Boeing Customer Engineering representative for details.