



# TELEMETRY TRANSMITTERS

## GENERAL DESCRIPTION

TUALCOM aeronautical telemetry transmitters are ultra small flight test telemetry modules that are suitable for many aerospace applications, including missiles, rockets and UAV's. Various RF output power level options are available for different range requirements.

IRIG-106 compatible SDR based units are capable of offering data encryption, FEC and randomizer optionally.

PCM/FM (Tier 0), SOQPSK and BPSK type modulation waveforms are available. Data rate is configurable up to 20 Mbps with 0.1 kbps steps. Flexible architectures let systems be modified easily for higher data rates, different form factors and electrical characteristics for specific applications.

TUALCOM transmitters may either operate as a regular transmitter which transmits telemetry frames encoded by an external data acquisition unit, or itself can operate as a Digital Data Acquisition and PCM Encoder unit. This option eliminates the need for an extra DA unit when acquisition through Ethernet or serial port is required.

Power level options up to 20 Watts, enable high communication ranges, which may be up to 200 km, when used with a high gain Autotracking Antenna System on ground at ideal conditions.

## APPLICATION AREAS

- Fixed/Rotary Wing Aircraft Development
- Space Launch Vehicles
- Guided Munition Development and Tests
- Flight Test and Instrumentation
- Unmanned Autonomous System Test and Development

## KEY SPECIFICATIONS

- Low SWaP (Size, Weight and Power)
- Data Acquisition and PCM Encoding Option
- Power Efficient
- Ultra Compact Size
- Light Weight
- Various Output Power Options
- IRIG 106 Compatible
- MIL-STD-810 Compatible
- Support Data Encryption

# TELEMETRY TRANSMITTERS



## Dimensions (cm)

2W: 5.9  $\varnothing$  x 1.7  
10W: 7.5 x 2.0 x 5.5  
20W / 10W: 9.6 x 3.2 x 6.0



## Weight (g)

2W : 75  
10W : 160  
20W / 10W : 410



## Frequency Range

2.2 - 2.4 GHz



## RF Output Power

2W, 10W, 20W



## Nominal Input Current

2W: 450 mA @ 28 V  
10W: 1.4 A @ 28 V  
20W: 2.8 A @ 28 V



## Data Encryption (Optional)

AES 256



## Demodulation Mode

PCM/FM, SOQPSK, BPSK



## FEC

Reed Solomon (RS),  
LDPC, Convolutional (Optional)



## Data Interfaces

Ethernet, TTL, RS-485 / 232



## Input Voltage Range

24-32 V



## Data Rate

Up to 20 Mbps for PCM/FM  
Up to 35 Mbps for SOQPSK  
Up to 16 Mbps for BPSK

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 TUALCOM

 [www.tualcom.com](http://www.tualcom.com)

 [sales@tualcom.com](mailto:sales@tualcom.com)

 +90 (312) 485 22 85



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