TUALCOM

S BAND TDMA MESH (ADHOC) DATA LINK

GENERAL DESCRIPTION

S Band TDMA MESH (ADHOC) Data Link is a compact data link based on TDMA communication algorithm, enabling the use of both point-point and point-multipoint communication.

The system can be used for applications where communication network is established. Compact size and low power consumption allows terminals to be used in many platforms including mini, midi and tactical UAVs.

The system incorporates SDR modem in which advanced modulation techniques are used for improved performance and spectrum utilization. AES-256 encryption and spread spectrum techniques like FHSS or DSSS are also offered as an option.

The system has relay capability for establishing mesh networks. Data rate can be adjusted up to 10 Mbps manually or automatically depending on the nature of the application.

TDM data links can form ad-hoc networks. Each participant can automatically join, rejoin or leave network. Time slot reallocation can be made in order to provide high bandwidth for a specific participant.

BENEFITS

Mission Critical Applications;
- Swarm UAV / UWA / UGA
- Mesh Network Communication
- Reliable Time Synchronization
- Range / Position Calculation
- Convoy connectivity
- Joint Picture / Command and Control
- Relay Capability
- Improved Communication Ranges
- Tactical Communication

EXTREME CONDITION CIVIL APPLICATIONS

Mining, oil and gas, harbor and ports, agriculture, utilities and in all extreme conditions uninterrupted connectivity.

- Integrated and optimized operations
- Higher productivity
- Reliable command and control
- Autonomous and joint operations' endurance.

S BAND TDMA MESH (ADHOC) DATA LINK

TDMS 2W/10W/20W

Weight (g)

TDMS 2W	**100**
TDMS 10W	**210**
TDMS 20W	**215**

Dimensions (cm)

TDMS 2W	**7.1 x 6 x 1.4**
TDMS 10W	**13.2 x 6 x 1.5**
TDMS 20W	**13.2 x 6 x 1.5**

Frequency
S Band

RF Output Power
2 W / 10 W / 20 W

Data Rate
Up to 10 Mbps

Modulation
CPFSK / PSK

ECCM (Optional)
FHSS / DSSS

FEC
Reed Solomon (RS) and Convolutional, LDPC

Data Encryption
AES 256 (Optional)

Data Interfaces
Ethernet, RS 422/485, RS 232

Antenna Interface
SMA

Operating Voltage
28 V (24 - 32 V)

Power Consumption (Nominal)

TDMS 2W	**10 W**
TDMS 10W	**30 W**
TDMS 20W	**35 W**

Environmental Tests
MIL-STD-810G

EMI / EMC
MIL-STD-461F

KEY SPECIFICATIONS

- High Efficiency
- Light Weight
- Compact Size
- Easy Integration
- Point-multipoint Communication
- Automatic Networking
- Up to 10 Mbps Data Rate
- Full mesh network capable
- Swarm Capability
- Dynamic and ef cient route planning
- Relay mechanism between mesh nodes
- Self-forming and Self-healing structure
- 10 Mbit/s total throughput capacity
- Accurate Time Synchronization
- RF Range Determination

With Autotracking Antenna System, the range can be more than 200 km.

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