Tait Unified Vehicle

SPECIFICATIONS

Much more than a radio. A mobile applications platform.

Supercharge the performance of your existing or new Tait mobile radio with the Tait Unified Vehicle platform.

Tait Unified Vehicle loads your mobile with more computing power, WiFi, wireless broadband, and more. Increase productivity and safety with more connectivity, and powerful new applications.

It’s time to re-imagine the mobile radio.

KEY FEATURES

- Powerful applications platform
- P25 and DMR mobiles supported
- 3G/LTE Cellular connectivity with Dual SIM Capability
- Broadband connectivity options and sharing (tethering)
- Create a network of networks
- Applicable to new and existing mobiles
- Improved voice and data support
- Embedded Applications include:
  - PTToX (Push-to-talk over LMR, WiFi, Cellular and Ethernet), where bearer selection can be
    - Manual
    - Automatic (configurable priority)
    - GeoFenced
  - AppBuilder
  - OTAP over WiFi and Cellular networks
  - Voice Recorder
- Multiple bands, regions and carrier approvals (i.e. FirstNet/B14)
Tait Unified Vehicle

SPECIFICATIONS

FEATURES AND BENEFITS

Unifying critical communications
As technology convergence increases complexity and puts added demands on your communication system, consider the Tait Unified Vehicle platform to keep you connected. Ensure your people can continue to communicate simply, regardless of the bearer, when they need it most.

For both new and existing mobiles
Improve the performance of both new and existing Tait radios. Simply add the Tait Unified Vehicle platform option to the TM9300 or TM9400 to increase their capability.

Improved voice and data support
Gain increased business efficiency by connecting your voice network with your data network. Get the right information to the right people and equipment by using the fastest and most reliable methods available.

Broadband connectivity options
Today there are many wireless options that deliver increased bandwidth. The Tait Unified Vehicle platform is designed to support short range high bandwidth technologies like WiFi, as well as longer range services such as 3G and LTE.

Increased coverage
External WiFi and cellular antenna options deliver a coverage boost to devices in and around the vehicle.

AppBuilder
This application provides a more user-friendly way of creating customized communications solutions. Behavior-based and graphical programming formats can be used. AppBuilder has access to a number of APIs that can control the LMR radio, external interfaces or functionality on the Tait Unified Vehicle.

Integration capable
The mobile already supports a number of integration ready features which include the following:
- APIs with radio control
- Space for integration boards
- Access to digital IO lines
- Access to analog signals
- Software defined interfaces
- Status SDM, Packet and IP data

Voice recording
With voice recording and playback, you gain increased security and safety for your people and vehicles.

Ready for OTAP, Fleet Management
The Tait Unified Vehicle WiFi and cellular connection can be used to program your Tait mobile radio with configuration updates and new firmware when used with Tait EnableFleet, an industry leading configuration management tool.

PTToX service
This new Push-to-talk provides crystal clear voice communications with LMR like features and robustness. It offers an alternative voice service over WiFi, cellular or Ethernet to further extend your communication needs where LMR coverage is not available.

The selection of network can be manual or automatic based on networks.

PTToX service allows a seamless user experience (currently only with Tait DMR Tier3 networks). Field workers can focus on their job knowing that they will remain connected to their team wherever they are.

Location service is available and other supplementary data services are planned.

All these services fully inter-work with LMR networks. Refer to the dedicated PTToX service brochure for more details.

SUPPORTED NETWORKS AND FEATURES

<table>
<thead>
<tr>
<th>LMR Components</th>
<th>LMR Network Vendor</th>
<th>Tait Networks</th>
<th>Any network Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMR Network Types</td>
<td>Tait DMR Trunked Tier 3</td>
<td>DMR Trunked Tier 3</td>
<td>DMR Conventional Tier 2</td>
</tr>
<tr>
<td>Tait Mobile Radio Type</td>
<td>TM9300</td>
<td>TM9300</td>
<td>TM9300</td>
</tr>
<tr>
<td>Broadband Data</td>
<td>Cellular/WiFi/Ethernet</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Native Applications</td>
<td>Voice Recording</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Remote Application</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>DTA updates over Cellular/WiFi/Ethernet</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>AppBuilder</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tait PTToX Service</td>
<td>Manual network switching</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>GeoFenced network switching</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Automatic network switching</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>LMR interworking</td>
<td>✓ (Full)</td>
<td>Future</td>
</tr>
</tbody>
</table>

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Tait Unified Vehicle

SPECIFICATIONS

**GENERAL**

<table>
<thead>
<tr>
<th>Supported Devices</th>
<th>TM9300, TM9400 (in hand-held control head or remote head configuration only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN (Ethernet)</td>
<td>mDNS, DNS Proxy, DHCP Server, DHCP Client.</td>
</tr>
<tr>
<td></td>
<td>*10/100Mbps</td>
</tr>
<tr>
<td>WLAN</td>
<td>2.4 GHz IEEE 802.11 b/g/n SISO 20 MHz</td>
</tr>
<tr>
<td></td>
<td>5 GHz IEEE 802.11 a/n SISO 2048 MHz</td>
</tr>
<tr>
<td>Client security modes</td>
<td>Open, WEP-40/128 PSK, 802.11i Draft/RSN/Mixed PSK with CCMP/TKIP/CCMP+TKIP cipher, 802.11 Enterprise TTLS/PEAP with CCMP/TKIP/CCMP+TKIP cipher</td>
</tr>
<tr>
<td>Host interfaces</td>
<td>*10/100 Base-T RJ45 Ethernet port, Serial Port on DB-15 Connector (on radio unit), RS-232 optional (on radio unit)</td>
</tr>
<tr>
<td></td>
<td>3 SMA antenna connectors (Primary, Secondary/Diversity/Cellular, WiFi)</td>
</tr>
<tr>
<td>Serial port</td>
<td>Optional TTL level with up to 115200 baud (serial input will support RS-232 levels)</td>
</tr>
<tr>
<td>GPS/Location</td>
<td>Optional add-on, via LMR Radio connectors</td>
</tr>
<tr>
<td>Input/output (GPIO)</td>
<td>Up to 3 configurable GPIOs and 3 GPIOs on DB15 connector (on radio unit)</td>
</tr>
<tr>
<td></td>
<td>Up to 7 additional configurable GPIOs on optional interface board (on radio unit)</td>
</tr>
<tr>
<td></td>
<td>Refer to the 3DK Hardware Developer's Kit Application Manual MMA-000710-03 for more details</td>
</tr>
<tr>
<td>Power consumption</td>
<td>Ignition Sense and Power Management, Low-power mode triggered on timer delay (Ignition sense), or periodic timer</td>
</tr>
<tr>
<td></td>
<td>Supply voltage (via LMR terminal) 10.7 to 16.0 VDC additional power consumption compared to LMR radio</td>
</tr>
<tr>
<td></td>
<td>*80mA standby - 500mA active. Note: the LMR radio can consume 100mA on standby to receive, 1 amp on receive at full volume and 6.5A transmit (25W 470MHz)</td>
</tr>
<tr>
<td>Input voltage range</td>
<td>10.7 to 16.0 VDC (via LMR terminal)</td>
</tr>
<tr>
<td>Audio Codec Support</td>
<td>Radio microphone and LMR radio (mono)</td>
</tr>
<tr>
<td></td>
<td>Radio speaker and LMR radio (mono)</td>
</tr>
<tr>
<td>Support and warranty</td>
<td>1-year standard warranty</td>
</tr>
<tr>
<td>Dimensions and environmental ratings</td>
<td>Refer to TM9300 and TM9400 specifications.</td>
</tr>
</tbody>
</table>

**CELLULAR WAN**

| LTE Cat | 1 | 4 |
| Uplink  | Max 5Mbps | 12Mbps |
| Downlink | Max 10Mbps | 20Mbps |
| Support | Rx Diversity and MIMO DL, 2x2 |

<table>
<thead>
<tr>
<th>Region</th>
<th>Module Type (LTE Category)</th>
<th>Regulatory Compliances</th>
<th>Supported Frequency Bands</th>
<th>Carrier Approvals (in progress)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America &amp; Canada</td>
<td>NA (Cat4)</td>
<td>PTCRB, FCC, IC</td>
<td>- 4G/LTE: B2, B4, B5, B12, B13</td>
<td>USA: Verizon, AT&amp;T</td>
</tr>
<tr>
<td></td>
<td>NF (Cat4)</td>
<td></td>
<td>- 3G: B2, B5</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>EU (Cat4)</td>
<td>ETSI, CE</td>
<td>- 4G/LTE: B1, B3, B7, B8, B20</td>
<td>USA: AT&amp;T, FirstNet Canada, Bell Canada</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>AP (Cat1)</td>
<td>ETSI, RCM</td>
<td>- 3G: B1, B8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- 2G: B3, B8</td>
<td></td>
</tr>
</tbody>
</table>

**COMPUTING PLATFORM**

<table>
<thead>
<tr>
<th>Hardware Processor</th>
<th>AM3352 Sitara, ARM Cortex A8 32 bit 600MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>RAM 512 MB DDR3 plus SD card slot fitted with 16GB, non-volatile memory</td>
</tr>
<tr>
<td>Storage</td>
<td>1 GB of SLC NAND Flash</td>
</tr>
<tr>
<td>Operating System</td>
<td>Linux (OpenEmbedded LTS)</td>
</tr>
</tbody>
</table>

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## EVENTS ENGINE

**General**
- Custom event triggers and reports
- Configurable interface, no programming
- User notifications

**Event/Action Types**
- GPIO, LMR Messages, Timer, Modbus, SMS, Email, TCP/UDP (Binary, XML, CSV), Serial Port, HTTP/HTTPS, Security Alarms, GPS location, Cloud Integration, MQTT Client, Status Messages

## APPLICATIONS

**PTTOX service**
- Push-to-talk client over any IP bearers (WiFi, Cellular, Ethernet networks)

**Voice Recorder**
- Accessible via local web interface, records can be exported

**Remote App**
- On connected smartphone (Android, and iOS coming soon), to remotely place and receive calls

**Tait Unified Vehicle AppBuilder**
- With Visual and Script capability

**Customization**
- Ability to load new applications locally

## MANAGEMENT INTERFACES

**Web-Based User Interface**
- Network configuration
- User access configuration
- Firmware updates
- Application installation

**Extendible web-based user interface**
- Voice recording configuration
- For applications. SFTP for audit log access and audio files, Device Configuration Templates, Over-the-air software and radio module firmware updates. Optional SSH access

**Over-the-air (OTA) with Tait EnableFleet**
- Firmware, configuration, and application updates

## NETWORK & ROUTING

**General**
- Network Address Translation (NAT)
- Port Forwarding
- NTP

**IP routing**
- WiFi-to-Cellular, Ethernet-to-Cellular, Ethernet-to-WiFi

## SECURITY

**Firewall**
- Inbound and Outbound Port Filtering

**Client security modes**
- Open
- WEP 40/128 PSK
- 802.11i Draft/RSN/Mixed PSK with CCMP/TKIP/CCMP+TKIP cipher
- 802.11i Enterprise TTLS/PEAP with CCMP/TKIP/CCMP+TKIP cipher

**AP mode**
- 802.11i Mixed PSK with CCMP cipher

**Web user interface**
- HTTPS

## INDUSTRY CERTIFICATIONS

**Safety**
- IECCE Certification Bodies Scheme (C3 Scheme) UL 60950

**Vehicle Usage**
- ISO7637-2, EMark

**Environmental**
- RoHS, WEEE, IPS4

## TAIT COMMUNICATIONS

Tait has taken every care in compiling this specification sheet, but we’re always innovating and therefore changes to our models, designs, technical specification, visuals and other information included in this specification sheet could occur. For the most up-to-date information and for a copy of our terms and conditions please visit our website www.taitradio.com.

The words ‘Tait’, ‘Tait Unified’, the ‘Tait’ logo and ‘Tait Unified’ logo are trademarks of Tait International Limited.

Tait International Limited facilities are certified for ISO 9001:2015 (Quality Management System), ISO 14001:2015 (Environmental Management System) and ISO 45001:2018 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO 9001.

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**Authorized Partners**

![DMR](image)