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Data acquisition conditioning transmission analysing

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TSmart Radio

High-performance embedded MIMO radio/mesh router in a tiny form factor

Key Specifications:

Throughput:	Up to 100 Mbps
Range:	Up to 20 km
RF Power:	Up to 32 dBm
Size:	57 x 65 x 11 mm
Weight:	60 grams

The TSmart Radio was developed to provide an ultra-reliable, encrypted, high-throughput data link between one or more mobile units and the base station.

The TSmart Radio has been designed to allow mobile systems to maintain full functionality from several kilometers away. It includes a self-healing and self-forming mobile mesh to maintain maximum uptime.

Integrated Mesh

Self-forming and self-healing, peer to peer mesh. With multi-frequency mesh capabilities, the TSmart Radio extends the range of mobile units and improves robustness of the network.

Long Range (BLOS)

Go further than ever before without worrying about being out of range. The TSmart Radio enables sending and receiving crystal clear 4K video streams up to 20 km away.

Encryption and Immunity Against Cyber Attacks

Public safety, defense, and many commercial applications transmit highly sensitive data. The TSmart Radio incorporates advanced 256-bit AES encryption for the highest levels of security.

Low SWaP

Size and weight matter. The TSmart Radio is one of the lowest SWaP radios in the industry. It's just about the size of a deck of cards.

Industrial and Military-Grade Construction

Drones operate in harsh environments so the TSmart Radio is housed in a rugged body and has no loss in performance in extreme temperature conditions from -40C to +85C.

Many Frequencies

The TSmart Radio is available between 100 MHz - 4 GHzv in form factor compatible models. Simply swap out the module based on the end-customer's requirements.

Example Frequencies:

900 MHz ISM	2.4 GHz ISM
1370 MHz (L-Band)	2250 MHz (S-Band)

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Model Category	STANDARD	PRO	XTREME

Performance Overview

Max Operating Range	1 Km	8 Km	>20 Km
Max Data Throughput	80 Mbps (20 MHz Channel)		100 Mbps (26 MHz Channel)
Over the Air Data Encryption	128-bit AES hardware data encryption @ full rate		256-bit AES software encryption
Operating Modes	Mesh, AP, and Client	+ Transparent Bridge	+ Gateway
Command & Control Channel	Advanced Qos	Ultra-Reliable Low Latency Channel (URLLC)	
Video Channel	Advanced Qos	Optimized video streaming channel	

RF Specifications

Frequency Range	100 MHz - 4 GHz in form factor compatible models, including: 900 MHz ISM, 2.4 GHz ISM, 1370 MHz (L-Band), 2250 MHz (S-Band)	
Channel Sizes (Software Selectable)	5, 10, 20 MHz	3, 5, 10, 20, 26 MHz

Networking Specifications

Mesh Router	Self-Forming/Self-Healing, Peer to Peer	
Video Multicast	Standard Rate	High Rate
Radio Management	LuCI Web Interface, and UCI command line interface	

Hardware Specifications

Dimensions, Weight	65 x 57 x 11 mm, 60 grams		
Operating Temperature Range	-10 C to +50 C	-40 C to +70 C	-40 C to +85 C
Shock and Vibration Resistance	Standard	Compliant to MIL-STD-202G for high shock and vibration	