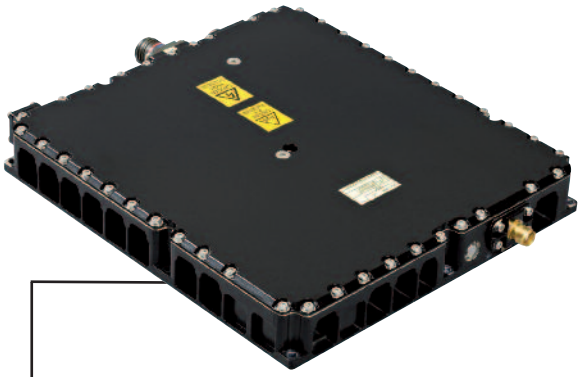
THALES

TH 24475

Microwave Power Module



Optimized for SAR applications

- **Light, compact transmitter**
- **Easy to integrate**
- **Conduction cooled**
- **Qualified for airborne applications**

Microwave solutions for Defense Systems: 110 W from 13.5 to 18 GHz

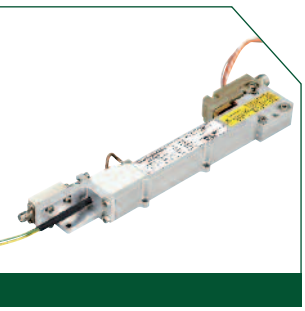
The TH 24475 is a Microwave Power Module (MPM) transmitter designed for airborne Synthetic Aperture Radars (SAR). It includes a micro-TWT (Traveling Wave Tube), a gain equalizer, a Solid-State Pre-Amplifier (SSPA) and an optimized power supply.

The TH 24475 is qualified in temperature, vibration, shock, altitude, EMC, salt fog, humidity and corrosive environment for airborne applications, according to military standards.

The TH 24475 MPM is designed, developed and manufactured at a production plant certified to ISO 9001: 2008, ISO 14001 and AQAP 2110.

TH 24475

Microwave Power Module for radar applications



Specially designed for Synthetic Aperture Radar (SAR) applications, the TH 24475 offers state-of-the-art performance:

- High RF output power from a compact design
- High electrical efficiency
- Excellent phase noise

Given its small size and light weight, it's the ideal solution for small or medium platforms, including UAVs, helicopters, etc.

For specific requirements, our engineers will be pleased to work with you throughout the initial specifications phase to provide you with solutions tailored to your projects, in particular:

- Fitted to your system environment
- Compliant with your operating standards
- Integrating your own command/control interface protocols
- Meeting your specifications for lifetime, reliability, maintainability and long-term support.

Technical specifications

	min	max		
Frequency range	13.5	18	GHz	
Frequency bandwidth		2	GHz	
Peak output power	110		W	
Input power	-3	+3	dBm	
2nd harmonic saturated output power:		-20	dBc	
Pulse width	0.2	150	µs	
Pulse repetition frequency		100	KHz	
Noise power density:				
• beam off		-105	dBm/MHz	
• beam on (at 18 GHz)		-39	dBm/MHz	
Spurious		-50	dBc	
Load VSWR (no damage)		3.0:1		
Phase noise:				
• at 10 Hz		-50	dBc/Hz	
• at 10 KHz		-105	dBc/Hz	
Phase rotation		1	°/µs	
Electrical characteristics				
Power supply: prime power				
• 270 V DC		MIL-STD-704E		
• 28 V DC		available upon request		
Power consumption		160	W	max
Mechanical characteristics				
Overall dimensions		250 x 232 x 35	mm	
Weight		3.0	kg	max
RF connectors:				
• input		SMA female		
• output		TNC female		
Environment				
Cooling		by conduction - forced air available upon request		
Baseplate operating temperature range		-40 to +85	°C	
Storage temperature range		-55 to +100	°C	
Vibration		0.04 g^2/Hz from 5 to 2 000	Hz	
Shock		40 g, 6 ms half sine		
EMC standards		MIL STD 461E		

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THALES
Microwave & Imaging Sub-Systems
2, rue Marcel Dassault - BP 23
78141 Vélizy-Villacoublay Cedex - France
Tel: + 33 (0) 1 30 70 35 00 - Fax: + 33 (0) 1 30 70 35 35
Mail: rfms.marketing@thalesgroup.com

Thales Electron Devices S.A. - 2, rue Marcel Dassault - 78140 Vélizy-Villacoublay - France
Capital de 30 998 925 euros - SIRET : 340 723 626 00099 - RCS Versailles 340 723 626 00107