



PUP_EN24P_T2R4

PUP_EN24P_T2R4 (Figure 1) is a MIMO radar development platform. It works at K-band with two transmitting channels and four receiving channels.

Two transmitter antennas and four receiver antennas are configured as MIMO array (Figure 2). Eight signals can be virtually extracted from the receivers using the orthogonality of the transmitted signals, thereby obtaining a finer spatial resolution compared to its array counterpart.

The RF front-end frequency sweep is implemented with a phase-locked loop (PLL) to achieve the linearity of frequency modulations. The FPGA-based controller connects the front end with an eight-channel LVDS (low-voltage differential signaling) 65Mps pipeline ADC module and connects the user's computer with a high-speed (up to 480Mb/s) USB interface.

This device requires a licensed installation of MATLAB, which must be provided by the user. The platform includes user-friendly MATLAB GUI (Graphical User Interface) source code. The GUI serves not only as an operating interface but also as a reference implementation demonstrating the system workflow, data formats, and signal processing methods. The provided source code can be readily adapted and integrated into your own projects, helping to accelerate development.

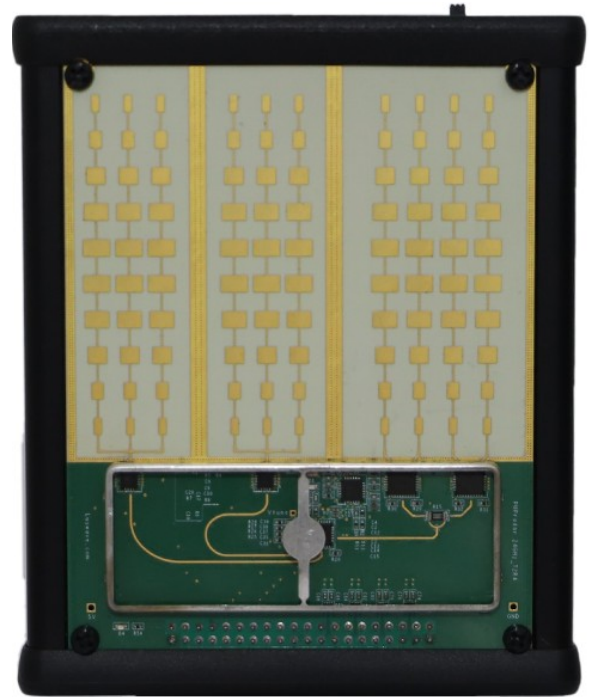


Figure 1. PUP_DUAL24P_T2R4

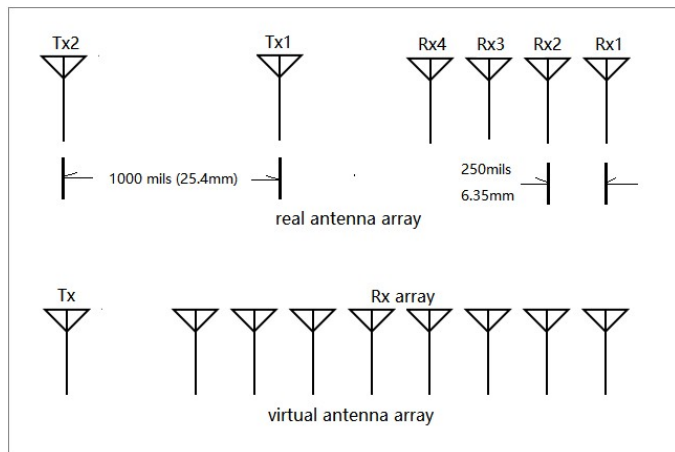


Figure 2. Antenna array

The kit works between 24GHz and 25GHz and is expandable to 24GHz-26GHz. The detectable range is approximately 15 meters for people and 40 meters for a medium-sized vehicle.

Luswave Technology LLC

Sales: +1-703-338-8380 **Technical:** +1-571-296-6435 **Fax:** +1-571-223-5483 **Email:** service@luswave.com

Raw data can be recorded for post-processing.

SPECIFICATIONS

Specification	Minimum	Typical	Maximum
Channels		2x Transmitters, 4x Receivers	
Antennas		6x On Board Patch Antennas	
Modulations		FMCW, CW	
Typical Frequency Range	24GHz		25GHz
Expandable Frequency Range	24GHz		26GHz
Sweep Time		0.5ms, 1ms, 2ms, 4ms, 8ms	
Sample Per Sweep		128, 256, 512, 1024, 2048, 4096	
Tuning Voltage	0		4V
Tuning Sensitivity		0.8GHz/v	
Transmitting Power	16dBm	17dBm	18dBm
SSB Phase Noise @1MHz offset		-99dBc	
Noise Figure		12dB	
Maximum Input power		5dBm	
IIP_1dB		-12dBm	
Supply Voltage	5.75V	6V	6.25V
Supply Current		1100mA	
Operation Temperature	-40°C		85°C
Dimensions		L: 130mm, W: 102mm, H: 15mm	
Weight		12oz	

Luswave Technology LLC

Sales: +1-703-338-8380 **Technical:** +1-571-296-6435 **Fax:** +1-571-223-5483 **Email:** service@luswave.com

WWW.LUSWAVE.COM