

# mmWave Pulsed Doppler Radar Testbed

## What can you do

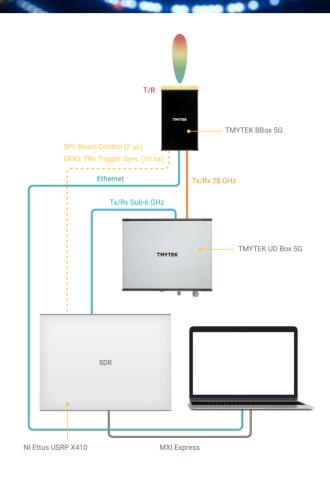
- Velocity/range/angle measurement
- Drone, UAV, air fighter detection
- Weather monitoring

#### Who need this testbed

- Defense and military prototyping
- Automotive prototyping
- Aviation prototyping
- Academic and research institutions

### Getting start reference

- Detection range : < 300m for RCS = 0.5 m<sup>2</sup>
   (\*optimized by algorithms and scalable BBox architecture is preferable)
- Range resolution : > 0.375m (400 MHz bandwidth)



#### What's inside

#### **Hardware:**

TMYTEK UD Box 5G Single: Frequency up/down convertor



- TMYTEK BBox:
- 3D scan beamformer as 4×4 AESA (26/28/39 GHz)



#### • NI Ettus USRP X410:

Signal transceiver & digital processor



#### **Software:**

- TMYTEK UD Box/BBox Control GUI
- TMYTEK UD Box/BBox Control API: Python, LabView, C++, C#, MATLAB
- GNU radio reference code

