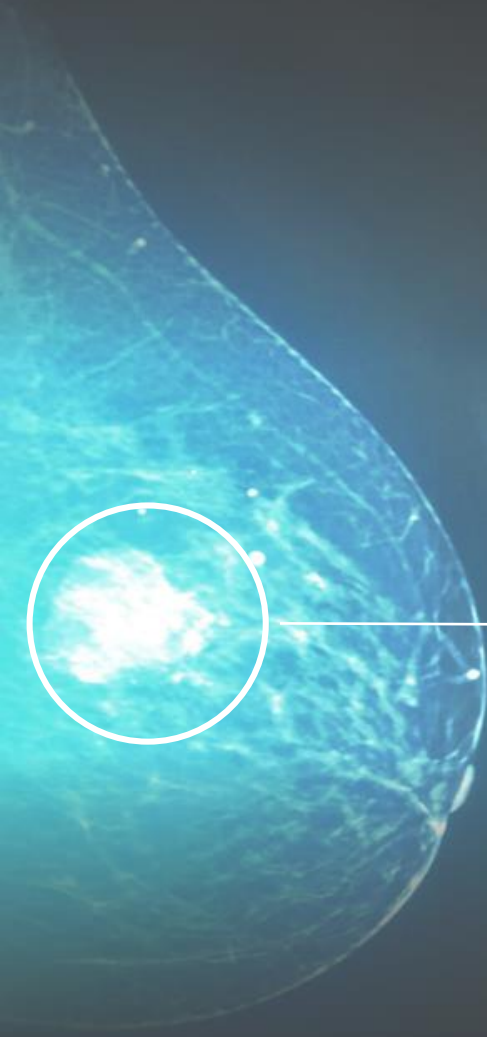


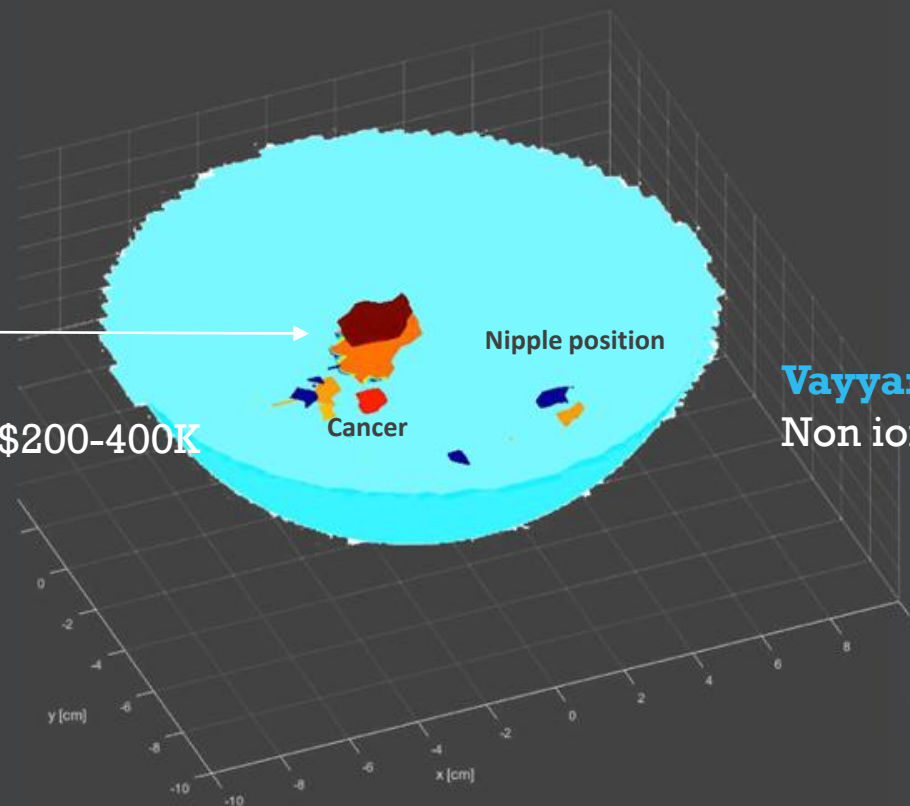
Ovi Jacob
Vayyar Imaging

EDICON 2018
Santa Clara, CA

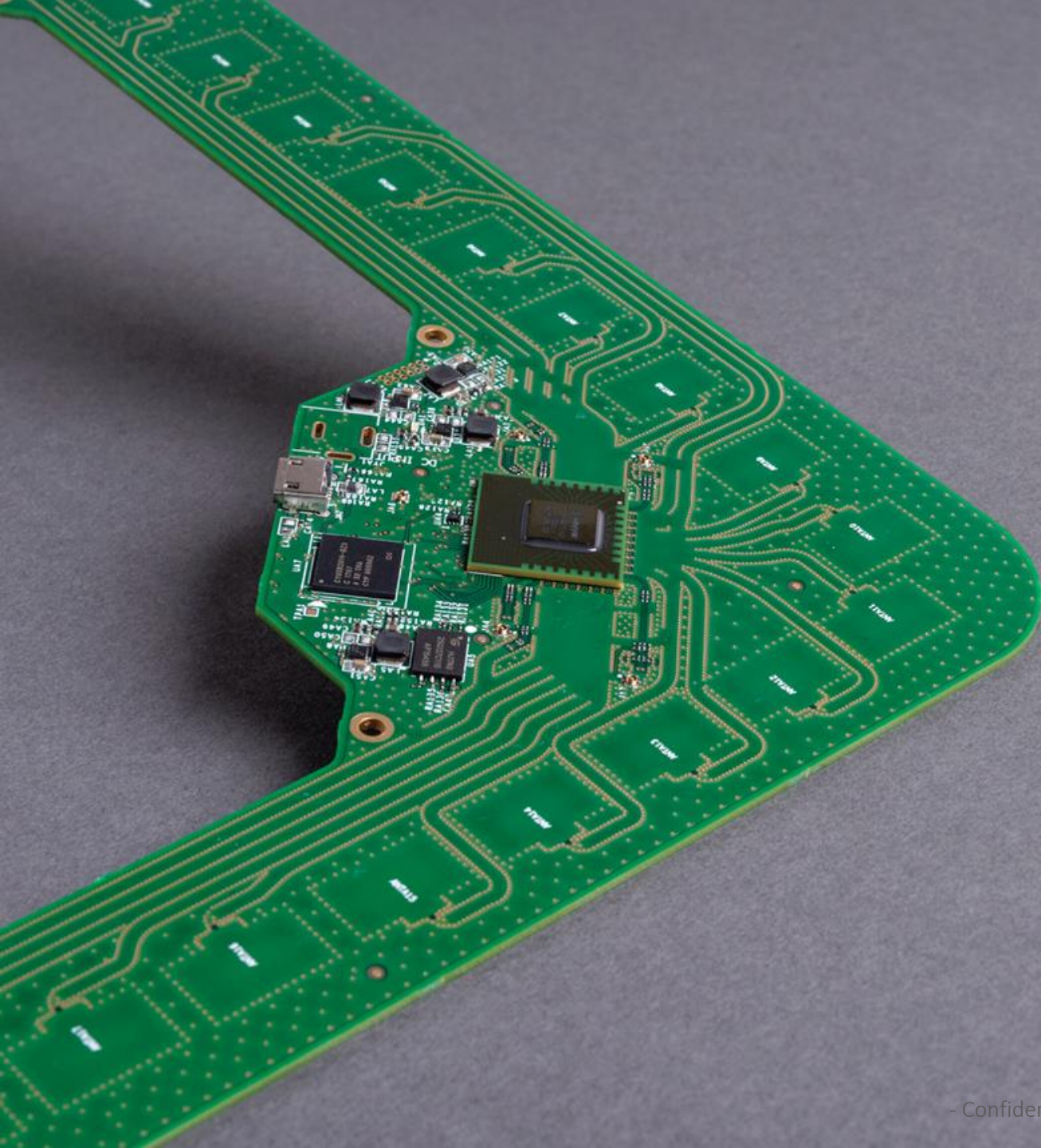
A new modality for breast cancer screening



Mammography (2D)
Ionizing, painful, large \$200-400K



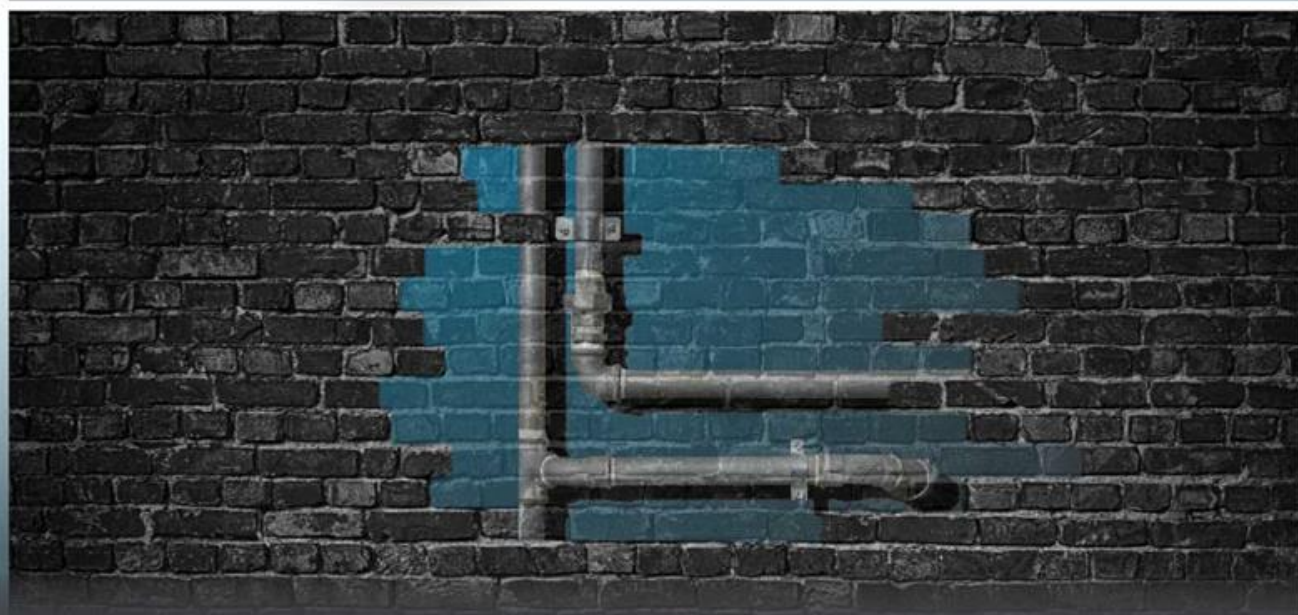
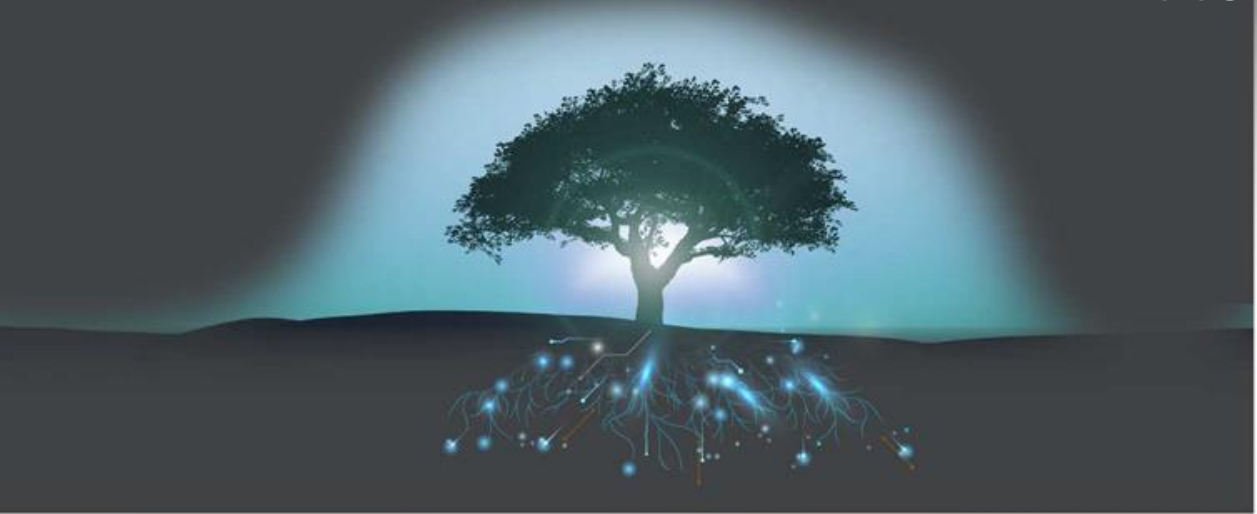
Vayyar's 3D imaging sensor
Non ionizing, not painful, mobile, <\$5K

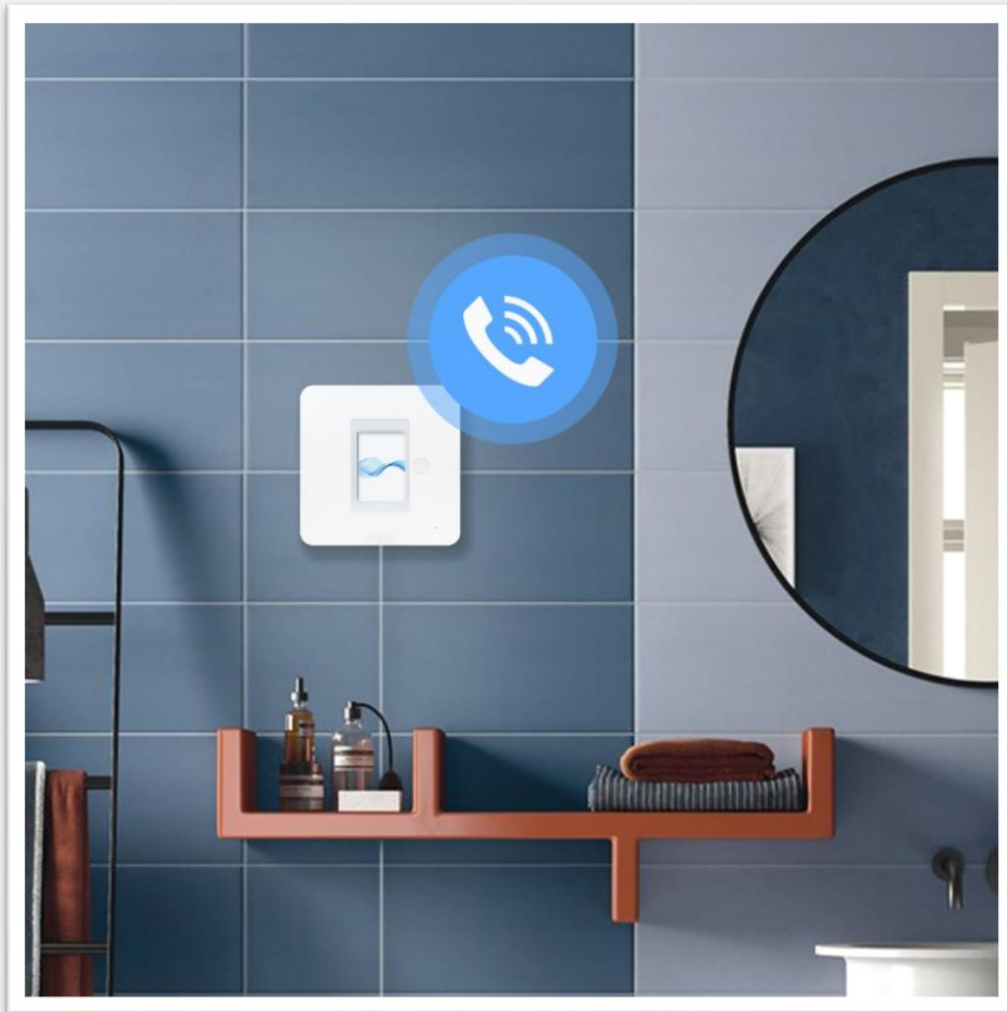


Vayyar Develops radio waves based 3D imaging sensors

Based on a unique RF chip that covers imaging and radar bands from 3GHz-81GHz; up to 72 transmitters and 72 receivers in one chip, as well an integrated, high-performance DSP with large internal memory

Using Radar to “see” inside and through materials ...





Contactless and Private Fall Detection

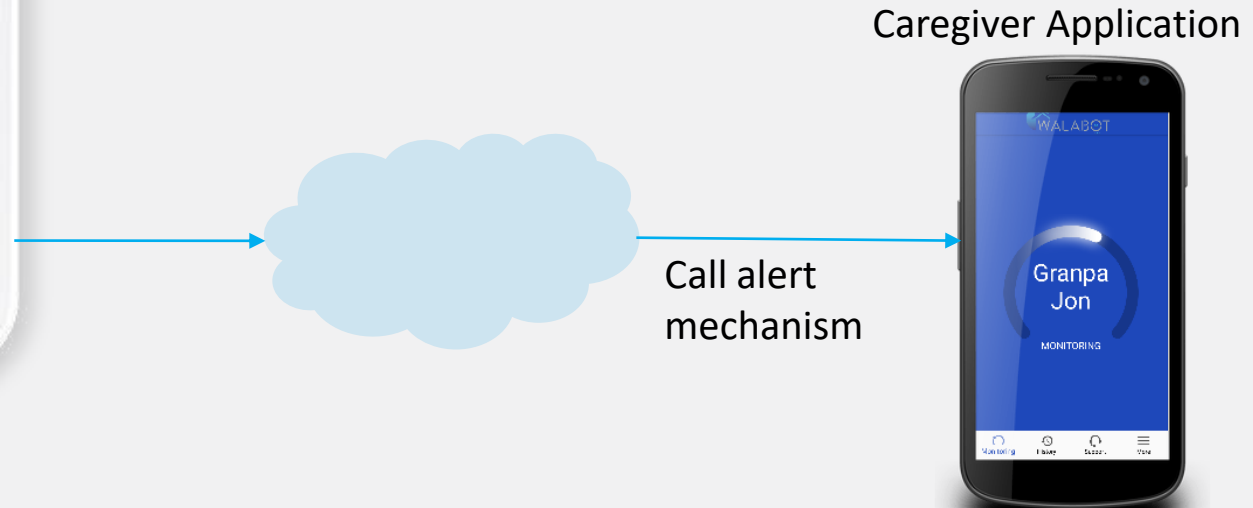
- Private – RF based, no optics
- Passive - no need to wear a pendant
- Easily installed
- Robust - Works in steam, humidity, and in all lighting conditions
- Real-Time Alert - VOIP call initiated to caregiver
- Penetration – penetrates through obstacles

“Walabot Home” – Fall Detection Product



Walabot Home Device

- Based on VYYR2401 RFIC
- 21 Tx\Rx Channels
- 6-8.3GHz (UWB) frequency bands
- VOIP call alert mechanism
- Form factor - $\sim 17^2\text{cm}$



Seat Belt Reminder



Location

Static vs. Passenger

In/Out of Position

Passengers Safety



Babies left in
locked car

Passengers Status
after accident

Breathing & Activity levels

Airbag optimization

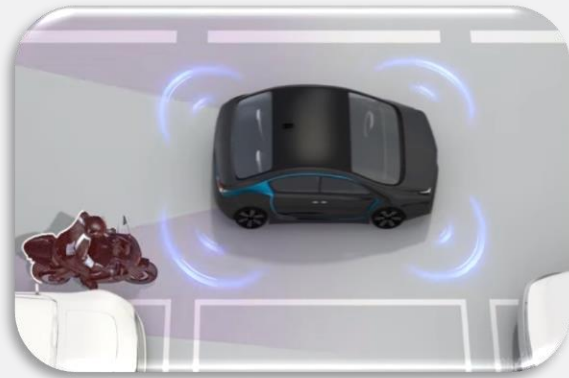


Dimensions

Position

Posture

360° Protection



Blind Spot Detection

—
Lane Switching

Parking Assistance



Wide FOV

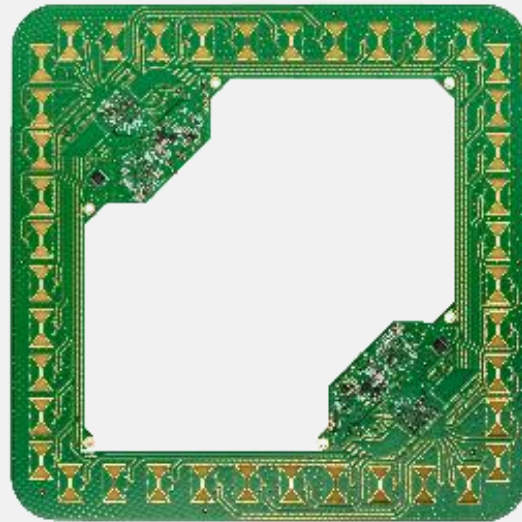
—
Any weather & light condition

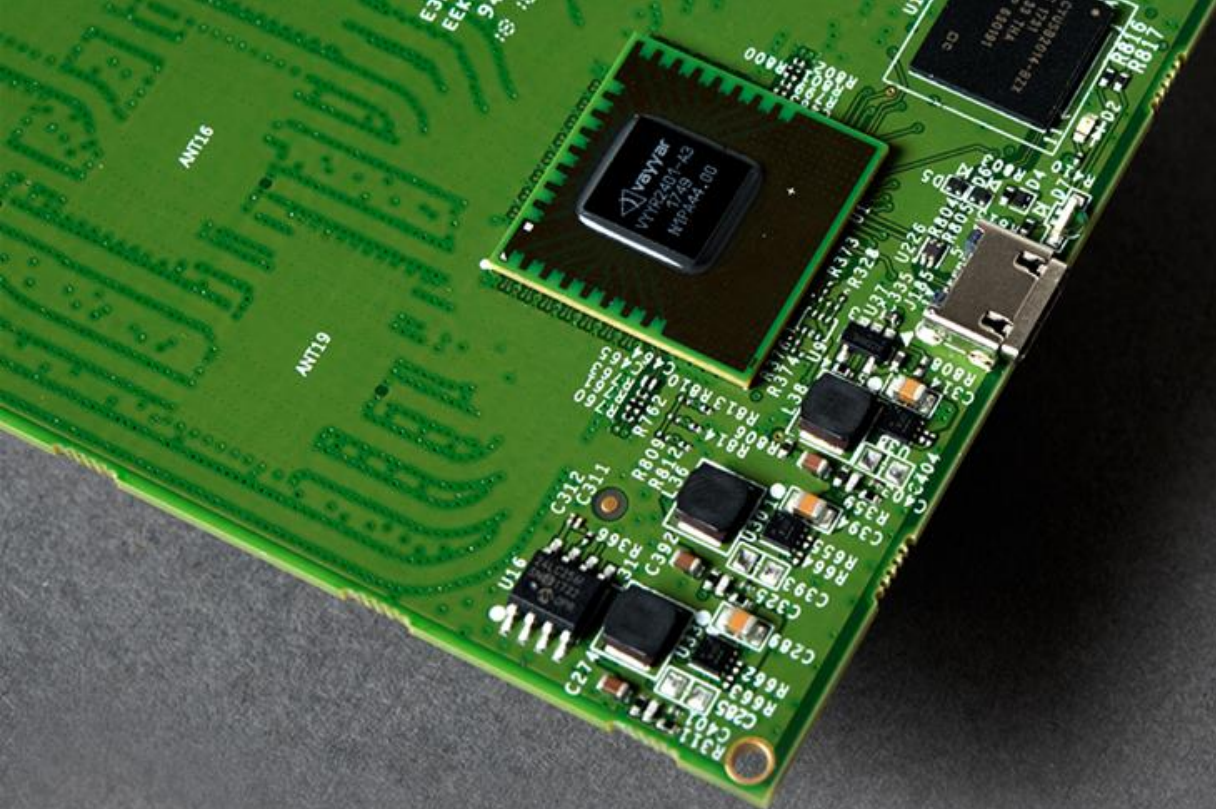
—
Aesthetic installation
– no holes

Retailers use radar to collect data on their customers and products in a safe and private manner.

Applications include

- Smart Shelf
- Que Monitoring
- Door Counting
- Touchless Sizing





**Enabling Engineers,
Researchers and Hobbyists
to develop their own RF
applications**

Evaluation Kits

DIY Vector Network Analyzer Kit

Includes everything students need to build a fully functioning VNA, bridging the gap between classroom theory and real-world measurement in the lab.

Possible build-your-own applications

- S Parameters plot
- Error Analysis
- Device Calibration

 **Mini-Circuits®**





Walabot Developers Kit is a Programmable 3D Imaging Sensor

- Operating from 3-10 GHz
- 18 Tx/Rx
- Open API
- Program in Python, Matlab

For Makers, Developers, Engineers & Universities



Power To The Makers

The "Power to the Makers" contest, a worldwide competition hosted by Hackster, challenged makers to create consumer apps with its fully-programmable, Raspberry Pi-enabled 3D sensor, Walabot. Below you can see examples for some applications which were created, to see full list [click here](#)



Walabot FX - Guitar Effect Control

Dave Clarke

Control your favourite guitar effect using nothing but awesome guitar poses



Tracking TV Stand

Scott Mendenhall

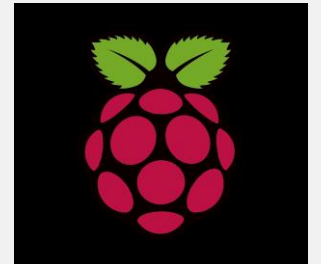
The Tracking TV Stand uses a Walabot to angle a monitor in the optimal angle for viewing depending on the audience in the field of view.



Vehicle Rear Vision

Team Safer Drivers

Vehicle Rear Vision for older cars.

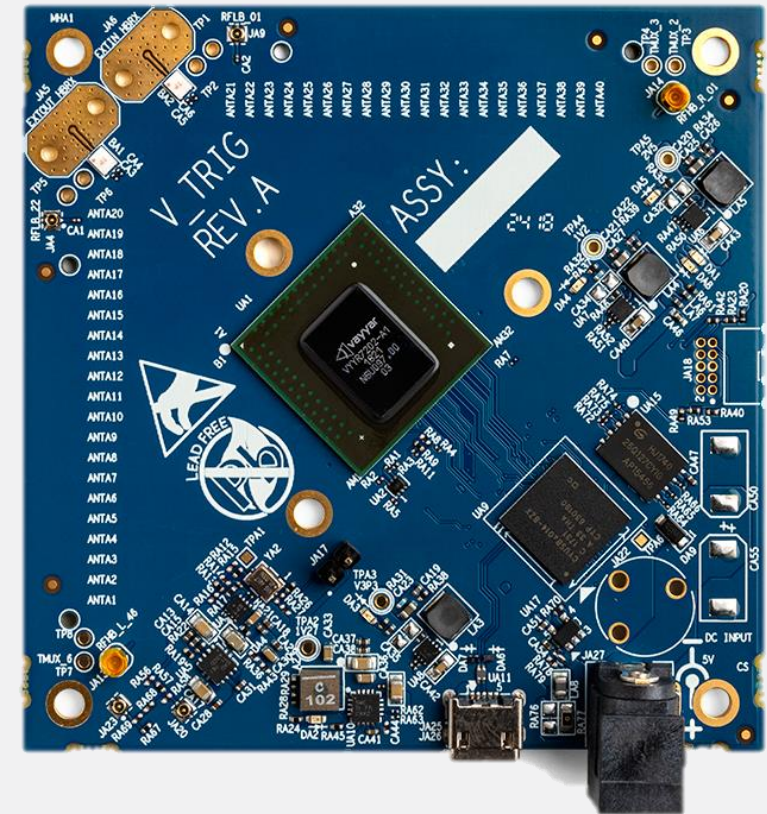


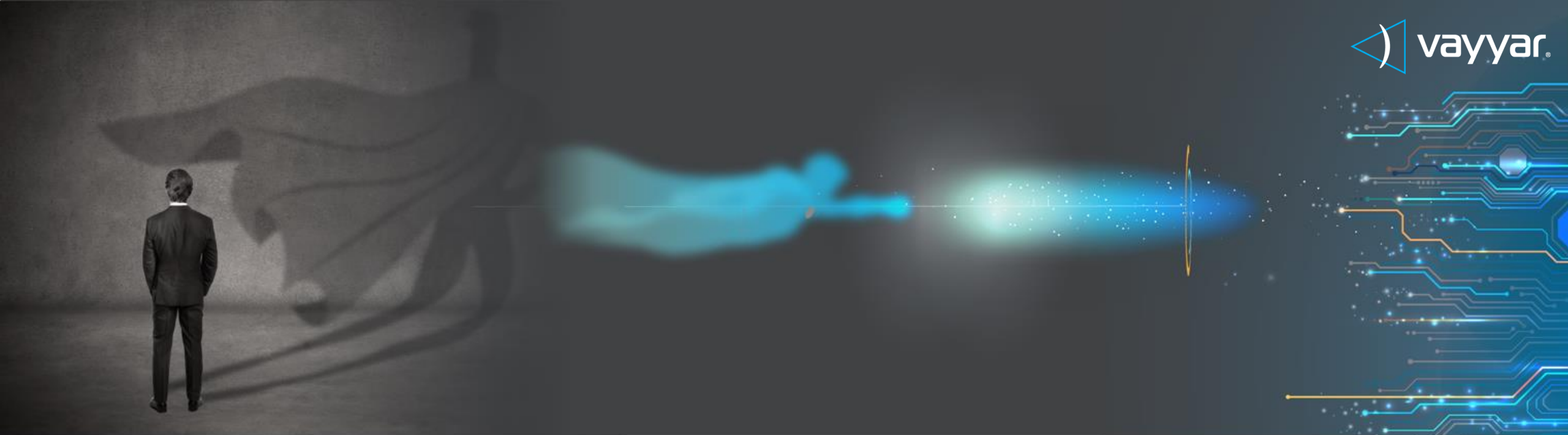
Vayyar mmWave Frequency Evaluation Kit

Transmit and receive signals from 57-71GHz Range with 40+ antennas, USB or 5v DC powered.

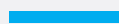
Possible build-your-own applications:

- High resolution 3D imaging
- People tracking and counting
- Gesture detection





Thank you



Ovi Jacob

Ovi.Jacob@vayyar.com