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> Home (/cms/en/) > Products (/cms/en/product/) > Evaluation Boards (/cms/en/product/evaluation-boards/)
> DEMO DISTANCE2GOL

DEMO DISTANCE2GOL NEW

Overview

XENSIV™ 24GHz radar demo platform for range measurements & 1D tracking of humans with the BGT24LTR11 MMIC

The Distance2GoL radar system is a demo platform for Infineon's 24GHz BGT24LTR11 radar transceiver. The Distance2GoL consists of two boards – the microcontroller board with the XMC4700 (RADAR BB XMC4700) and a radar frontend board (BGT24LTR11 Shield), which features a 4x1 array antenna for the transmitter and receiver sections. It is shielded with a metal cover and absorber material to get the best RF performance.

The heart of the Distance2GoL module is the highly integrated BGT24LTR11 MMIC, which is a radar transceiver operating from 24.00 to 24.25 GHz. In order to keep the output frequency within this ISM band, this demo board features a software-based closed loop. Such an implementation eliminates the need for an external hardware PLL and makes it a low cost and low powers solution.

The Distance2GoL isa low-power solution for motion sensing and range detection with 24 GHz radar for a human target. It additionally allows direction of movement detection, proximity sensing as well as real presence sensing. The smart tracking algorithm enables reliable one-dimensional tracking of a human target despite possible clutter or stationary objects around. Hence, the Distance2GoL is suitable for indoor as well as outdoor applications.

Summary of Features

- User configurable detection range up to 15 m for a human target
- Detects distance and velocity of closest human or a moving target
- Low power consumption due to duty cycling options
- Compatible with Arduino for ease of use and prototyping
- Micro-strip patch antennas with 10 dBi gain and 29°/80° field of view

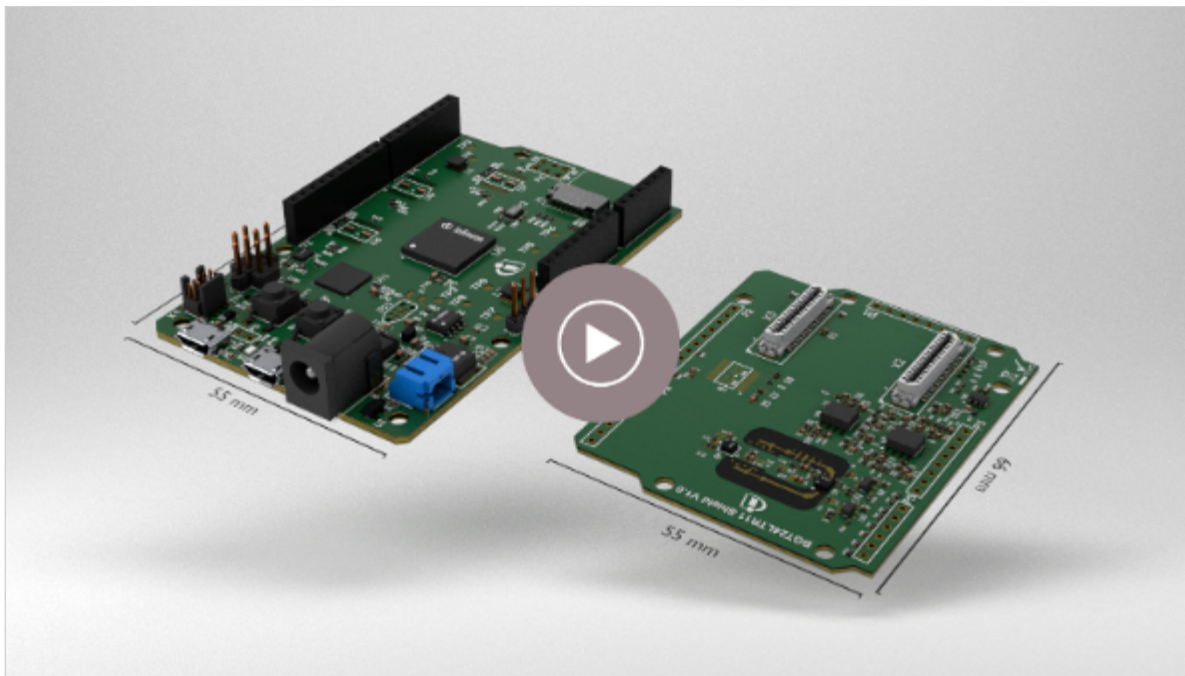
Benefits

- Software controlled FMCW for power saving, reduced costs and less PCB space

- Software-controlled FMCW for power saving, reduced costs and less PCB space
- Smart algorithm enables reliable one-dimensional tracking of a human target
- Operates in harsh environments and detects through non-metallic materials
- Compliant with FCC & ETSI regulations
- Compatible with Arduino for ease of use and fast prototyping

Potential Applications

- **Lighting systems & lighting control (Indoor & Outdoor)** (</cms/en/applications/industrial/led-lighting/connected-and-smart-lighting/>)
- **Smart buildings** (</cms/en/applications/industrial/smart-building/>)
- **Smart Home devices** (</cms/en/applications/consumer/smart-home/>) (e.g. thermostats, smoke detectors, smart speakers)
- **Smart Home security systems** (</cms/en/applications/security/security-for-iot/smart-home-security/>) from commercial surveillance cameras to low-power IP cameras
- **HVAC products like smart room air conditioners** (</cms/en/applications/industrial/smart-building/condition-monitoring-and-predictive-maintenance/>)
- Unmanned Aerial Vehicles (UAV) such as drones – Altimeter for landing control, collision avoidance
- Smart sanitary facilities (e.g. Smart Toilets)
- Automated door openers



(</cms/media/pss-3dmodels/distance2gol/>)
 3D model of DEMO DISTANCE2GOL

> **Explore** (</cms/media/pss-3dmodels/distance2gol/>)





Parametrics

	<p>DEMO DISTANCE2GOL</p>
<p>Dimensions</p>	<p>Radar Baseboard XMC4700: 85 mm x 55 mm BGT 24LTR11 Shield: 66 x 55 mm</p>

Parameters Family	DEMO DISTANCE2GoL XENSIV 24 GHz Radar Sensors
Input Type	DC
Product Description	Demo platform for the XENSIV BGT24LTR11 radar transceiver MMIC
Product Name	BGT24LTR11
Supply Voltage	5.0 V
Target Application	Smart Building ; Lighting systems ; Security systems ; UAVs ; HVAC ; Smart Home devices

Documents

+ Expand all

+ Data Sheets



Infineon-BGT 24LTR11N16-DS-v01_00-EN (/dgd/Infineon-BGT24LTR11N16-DS-v01_03-EN.pdf?fileId=5546d4625696ed7601569d2ae3a9158a)

> EN (/dgd/Infineon-BGT24LTR11N16-DS-v01_03-EN.pdf?fileId=5546d4625696ed7601569d2ae3a9158a)

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01_03 | 2018-05-22 | pdf | 441 KB

+ Product Brief



Distance2GoL: XENSIV™ 24GHz demo platform for the BGT24LTR11 (/dgd/Infineon-Distance2GoL_PB-ProductBrief-v01_00-EN.pdf?fileId=5546d46277fc7439017845d422f57e83)

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+ Application Notes



Distance2GoL XENSIV™ 24 GHz low-power radar shield using BGT24LTR11 for range detection and human tracking - Application note AN615 (/dgd/Infineon-Distance2GoL_Application_Note_AN615-ApplicationNotes-v01_00-EN.pdf?fileId=5546d46278d64ffd0178db047b496acf)

> EN (/dgd/Infineon-Distance2GoL_Application_Note_AN615-ApplicationNotes-v01_00-EN.pdf?fileId=5546d46278d64ffd0178db047b496acf)

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XENSIV™ Radar Baseboard XMC4700 24GHz radar system platform AN602 (/dgd/Infineon-Radar_XMC4700_Application_Note_AN602-ApplicationNotes-v02_00-EN.pdf?fileId=5546d46277fc7439017845ec236c0207)

> EN (/dgd/Infineon-Radar_XMC4700_Application_Note_AN602-ApplicationNotes-v02_00-EN.pdf?fileId=5546d46277fc7439017845ec236c0207)

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+ User Manual



Distance2GoL Software User Manual (/dgd/Infineon-Distance2GoL_Software_User_Manual-UserManual-v01_00-EN.pdf?fileId=5546d46278d64ffd0178db048a856ad7)

> EN (/dgd/Infineon-Distance2GoL_Software_User_Manual-UserManual-v01_00-EN.pdf?fileId=5546d46278d64ffd0178db048a856ad7)

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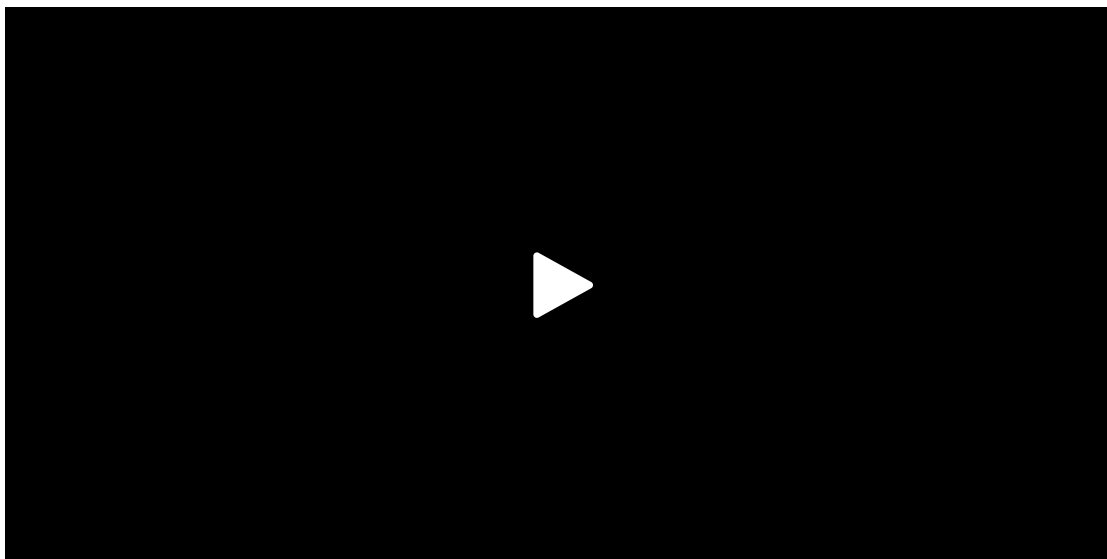
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Order

Sales Product Name	DEMO DISTANCE2GOL
OPN	DEMODISTANCE2GOLTOB01
Product Status	active

Infineon Package name Sales Product Name	-- DEMO DISTANCE2GOL
Standard Package name	
Order online	Buy online
Completely lead free	
Halogen free	
RoHS compliant	yes
Packing Size	1
Packing Type	CONTAINER
Moisture Level	
Moisture Packing	DRY

Videos



Distance2GoL – Infineon’s low power 24GHz radar solution for range detection and human tracking

The Distance2GoL radar board is a demo platform for Infineon’s XENSIV™ BGT24LTR11 radar transceiver. It shows a low-power solution for long range motion sensing and range detection with 24GHz radar. It additionally allows direction of movement, proximity as well as real presence sensing. The smart tracking algorithm enables reliable one-dimensional tracking of a human target despite possible clutter or