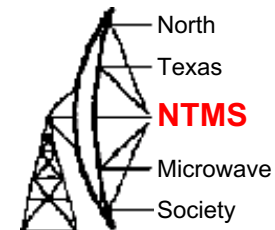


# Available Microwave IC ? And Cheap Radio Telescope

November 2, 2019

N5BRG

# MiniCircuits



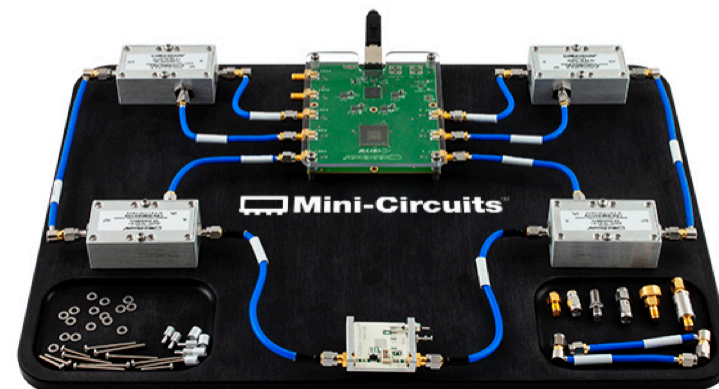
## MICROWAVE TRANSCEIVER KIT

UVNA-63

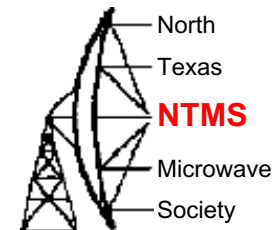
Project No. 1: DIY Vector Network Analyzer

### Features

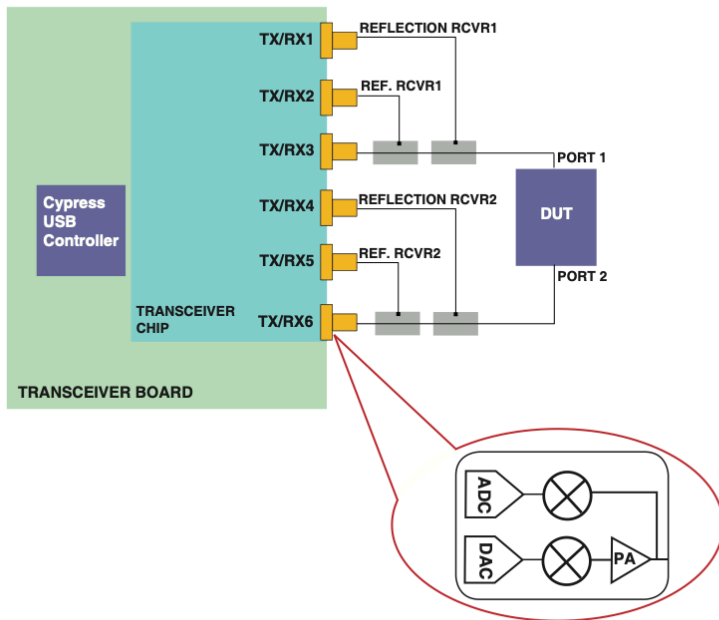
- Hands-on learning tool for EM Course Work
- Complete kit for full 2-Port Vector measurements
- Open access to the entire VNA RF chain
- Implement in multiple software environments



# Specifications



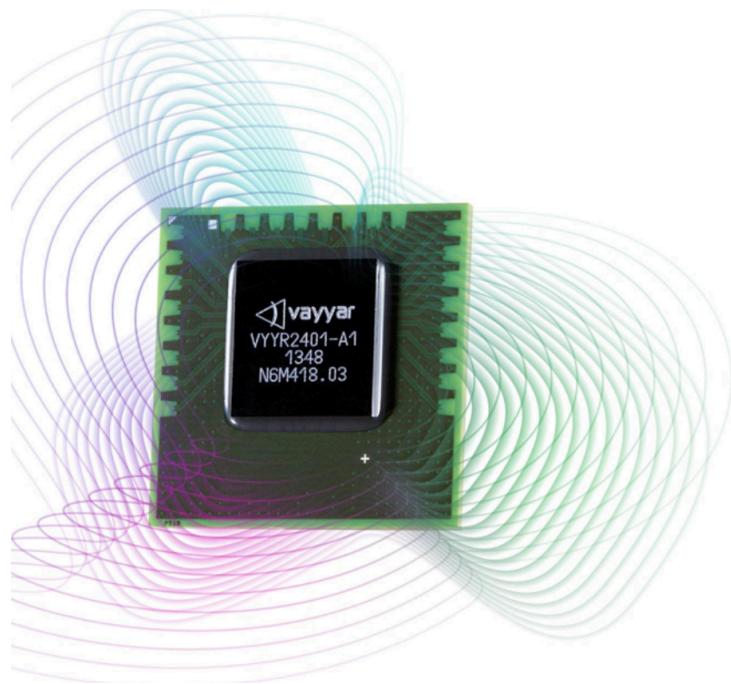
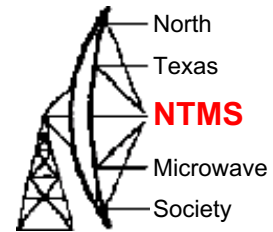
## Functional Block Diagram



## Transceiver Electrical Specifications

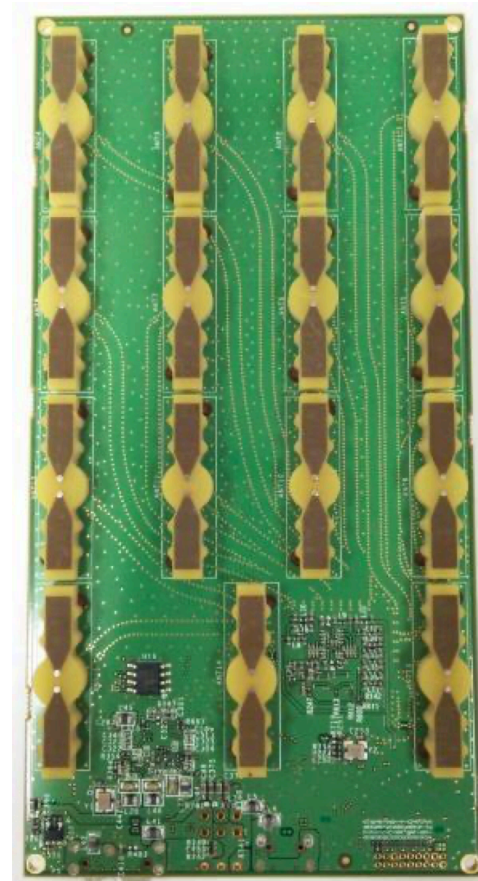
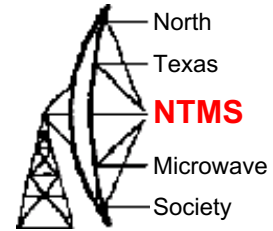
Parameter	Symbol	Min.	Typ.	Max.	Units
Load Impedance	$Z_L$		50		$\Omega$
Frequency Range	$f_{LO}$	100		6000	MHz
Isolation between ports	Iso		80		dB
Port Return Loss	RL		-10		dB
TX Output Power Setting	$P_{tx\_set}$	-26		0	dBm
TX Power Step size	$P_{tx\_step}$		2		dB
TX Power @-10dBm Setting	$P_{tx\_ -10\ dBm}$	-12		-8	dBm
Absolute Maximum Input Power				10	dBm
USB Supply Voltage	$V_{SUPPLY}$	4.75		5.25	V
Operational Current Consumption	$I_{SUPPLY}$	0.4		0.65	A
Operating Temperature		18		35	$^{\circ}C$

# Vayyar (Israeli Corp.) VYYR2401-A1



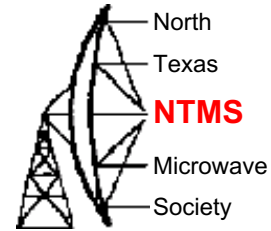
- ✓ Monitors real-time activity, with a high degree of privacy
- ✓ Works in all lighting and weather conditions
- ✓ Can be installed in a concealed location
- ✓ Detects objects accurately and within a wide range
- ✓ Customizable systems to accommodate different needs and requirements

# SparkFun Project Mouser



# SparkFun Project Mouser

## \$150



### SEN-14534



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reference only  
See Product  
Specifications

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<b>Mouser #:</b>	474-SEN-14534
<b>Mfr. #:</b>	SEN-14534
<b>Mfr.:</b>	<a href="#">SparkFun</a>
<b>Customer #:</b>	<input type="text" value="Customer #"/>
<b>Description:</b>	Multiple Function Sensor Development Tools Walabot Starter
<b>Lifecycle:</b>	<b>New Product:</b> New from this manufacturer.
<b>Datasheet:</b>	<a href="#">SEN-14534 Datasheet</a>
<b>More Information:</b>	<a href="#">Learn more about SparkFun SEN-14534</a>

### In Stock: 3

**Stock:** 3 Can Ship Immediately

**On Order:** 0

Minimum: 1 Multiples: 1

**Enter  
Quantity:**

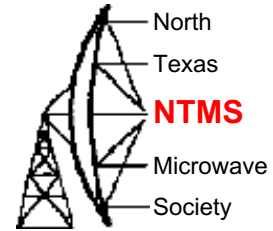
### Pricing (USD)

Qty.	Unit Price	Ext. Price
1	\$150.00	\$150.00

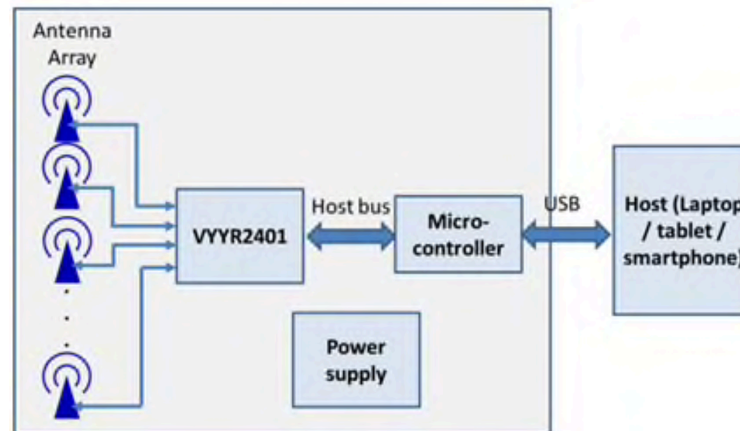
The US/FCC models of Walabot Developer can operate over 3.3-10 GHz range.

# SparkFun Project Mouser

## \$150



### SEN-14534 WALABOT PLATFORM BLOCK DIAGRAM



### SEN-14535 WALABOT DEVELOPER



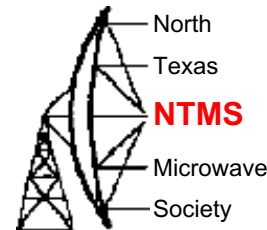
#### SparkFun SEN-14535 Walabot Developer

Programmable 3D sensor with high sensing capabilities, short-range imaging, and raw data recording.

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# Walabot DIY Plus Amazon \$90



Roll over image to zoom in



## Walabot DIY Plus - Advanced Wall Scanner, Stud Finder - for Android Smartphones

by Walabot

★★★★☆ 10 ratings

| 11 answered questions

Amazon's Choice for "wallabot"

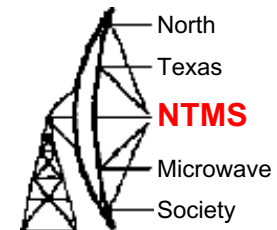
Price: \$89.95 ✓prime & FREE Returns

Get \$70 off instantly: Pay \$19.95 \$89.95 upon approval for the Amazon Prime Rewards Visa Card. No annual fee.

- See it, don't hear it! Use cutting-edge technology to see clearly inside your walls. Don't just rely on a 'beep'.
- See wooden studs, metal studs, pipes and wires.

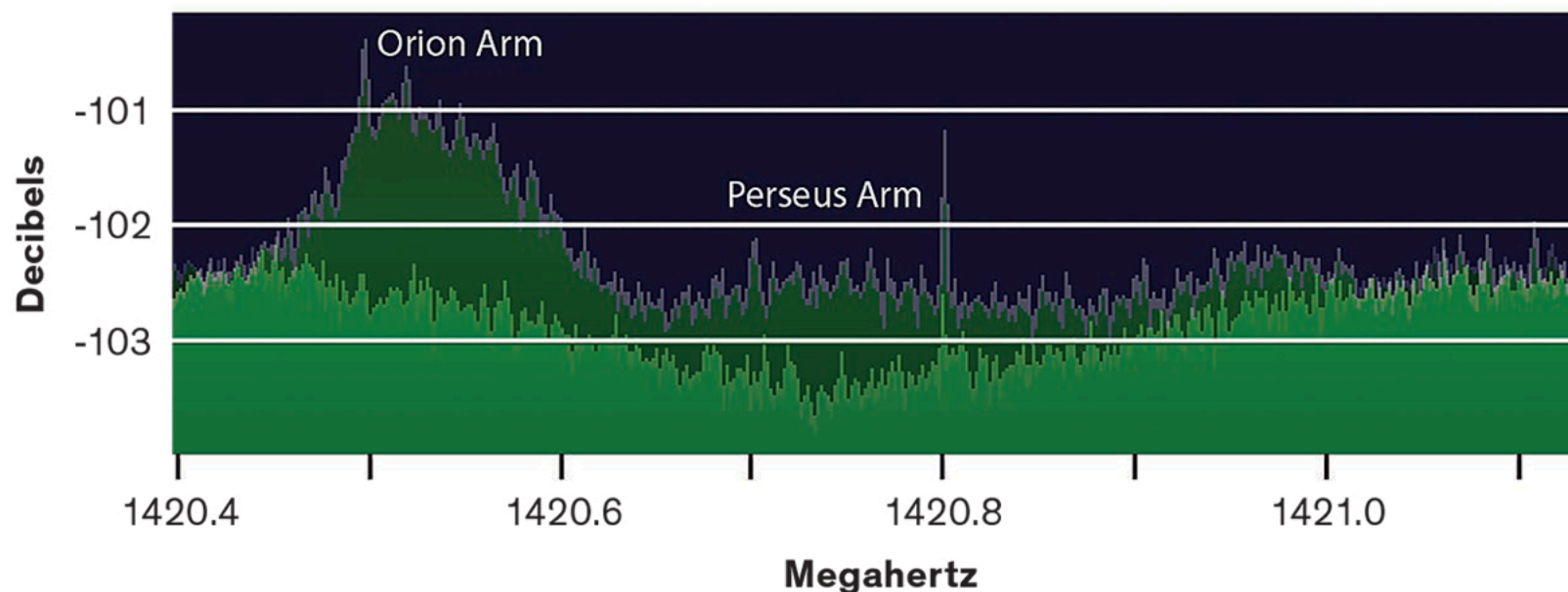


Search for: IEEE Spectrum October 2019 radio telescope  
Cost ~ \$150 1420 MHz Receiver and



<https://spectrum.ieee.org/geek-life/hands-on/track-the-movement-of-the-milky-way-with-this-diy-radio-telescope>

## David Schneider's "First Light"



**Spiral Arms:** The antenna can detect emissions from the hydrogen gas in nearby arms of the galaxy: Dark green [above] represents the signal from the sky; light green shows the baseline system response with no signal.