



WIDEBAND SPECTRUM SENSING WITH SIGNAL AGILITY

Michael Cobb

IMS2026
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ADI RadioVerse[®] Transceivers Used in Multiple Markets



WIRELESS

Comms infrastructure
General-purpose radio
repeater

Fixed wireless access
Distributed antenna systems



INSTRUMENTATION

Portable field instruments
Wireless test and
measurement emulators

Software-defined radios
RF communication testers



AEROSPACE & DEFENSE

Portable and secure radio
communications
Phased array radar

Electronic warfare
Military communications
Drone detection



INDUSTRIAL AUTOMATION

Portable and fixed
UHF RFID readers

Industrial testers
Energy smart metering

Three New Product Releases Available Now on ADI Website

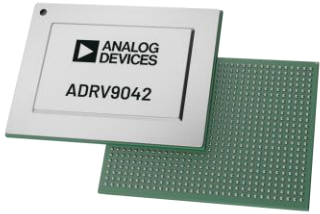
ADRV9032R



ADRV9022



ADRV9042



Part Number	ADRV9032BBPZ-2T1	ADRV9022BBPZ-4T1	ADRV9042BBPZ-8T1
Configuration	2T2R20RX	4T4R20RX	8T8R20RX
LO Tuning Range	450MHz to 7.125GHz	75MHz to 6GHz	600MHz to 7.125GHz
RF Range	350MHz to 7.225GHz	10MHz to 6.1GHz	500MHz to 7.455GHz
Bandwidth Support	200MHz	200MHz	400MHz
Tx Large Signal BW	200MHz	200MHz	660MHz, LO > 1200MHz
Tx Synthesis BW	450MHz	450MHz	800MHz, LO > 1200MHz
ORx BW	450MHz	450MHz	800MHz, LO > 1200MHz
DFE Support	N/A	DPD/CFR	DPD/CFR/CDUC/CDDC
DPD Support BW	N/A	200MHz	400MHz
Interface (Number of Lanes)	16Gbps JESD204B/C (eight lanes)	24.33Gbps JESD204B/C (four lanes)	14.74Gbps JESD204B/ 24.33Gbps JESD204C (eight lanes)
Package Size	19mm × 18.5mm BGA	14mm × 14mm BGA	27mm × 20mm BGA
Power Consumption (Use Case)	4.82W (200MHz TDD)	6.89W (200MHz TDD)	10.44W (100MHz, TDD)

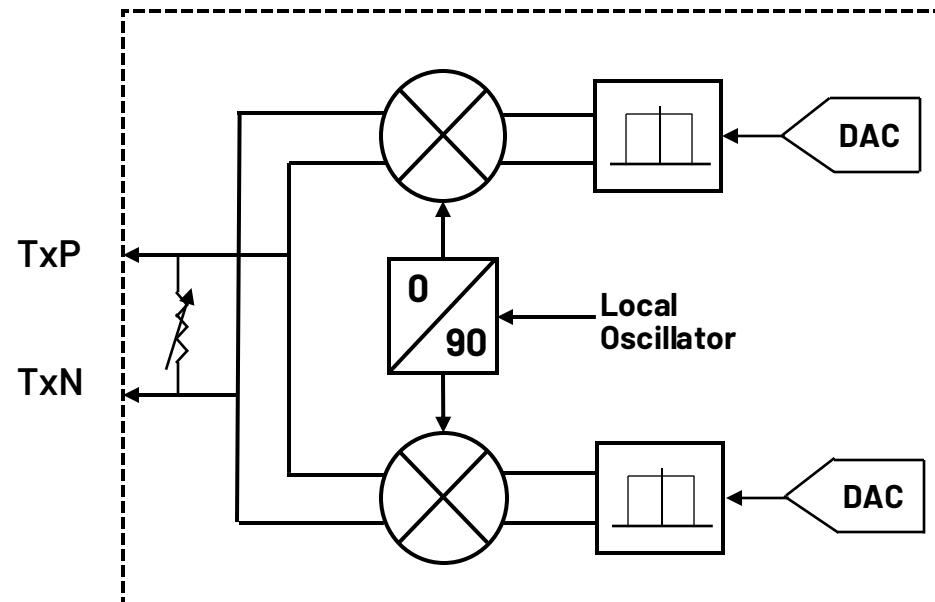
*All products also support multichip synchronization (MCS) and external LO input

Zero-IF Approach

Balanced power and performance

MM transceivers have been advancing the state of the art in zero-IF signal chain design for more than 15 years

ZERO-IF BLOCK DIAGRAM



OPTIMIZED POWER CONSUMPTION

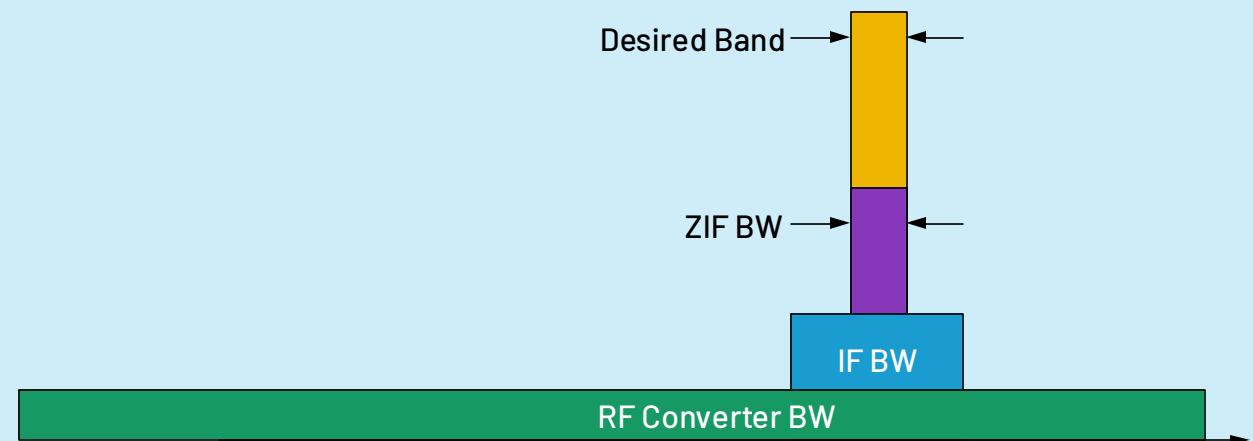
- Optimal efficiency at lower BW
- Lower power RF front end
- Highest power consumption block operates at lowest iBW

REDUCED SYSTEM COMPLEXITY

- Up to eight transmitter/receiver channels
- IF filters are not needed
- DFE (DPD/CFR/CDUC/CDDC) integration

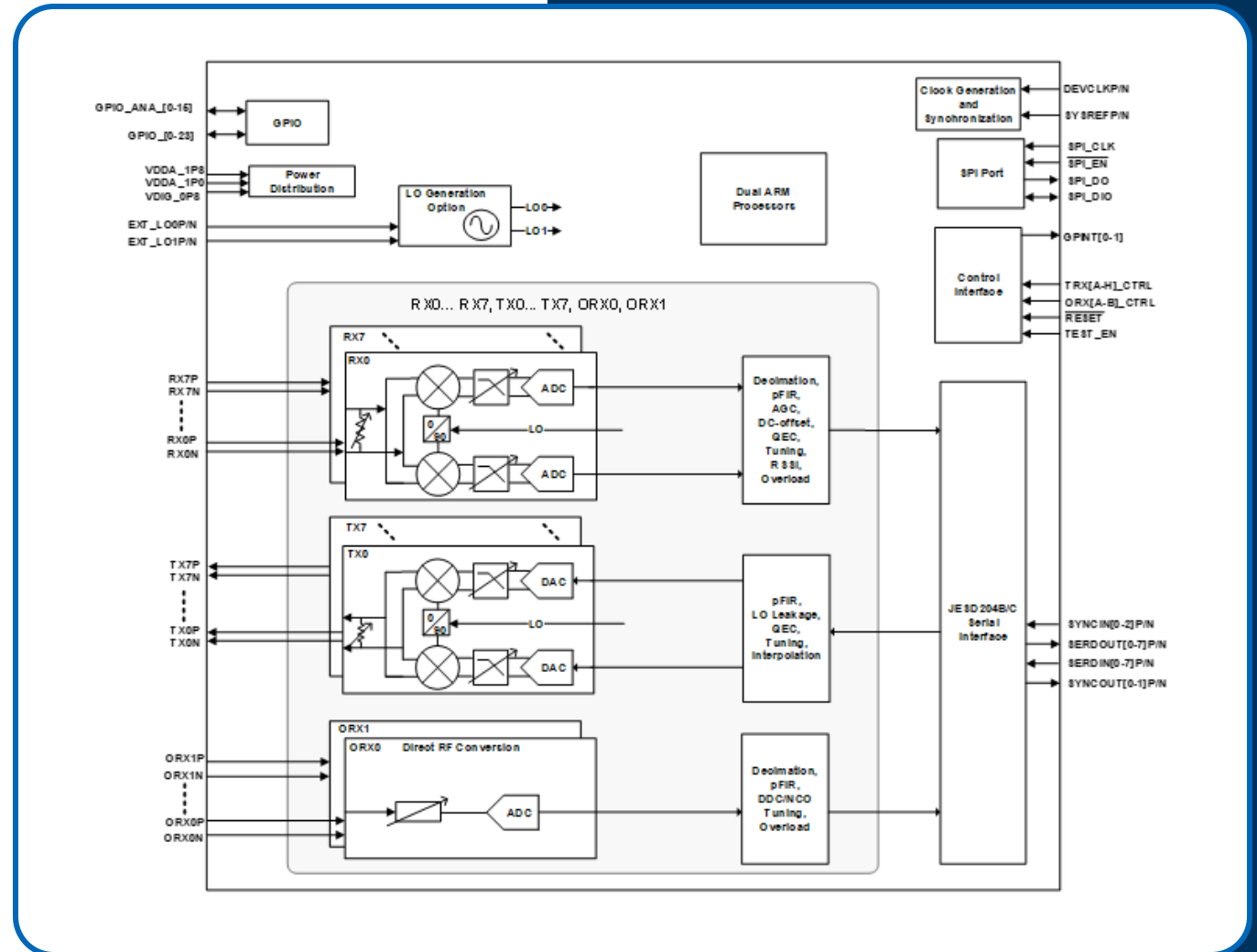
OPTIMIZED RF PERFORMANCE

- Up to 7.125GHz BW performance
- Up to 660MHz iBW performance
- MCS and external LO features



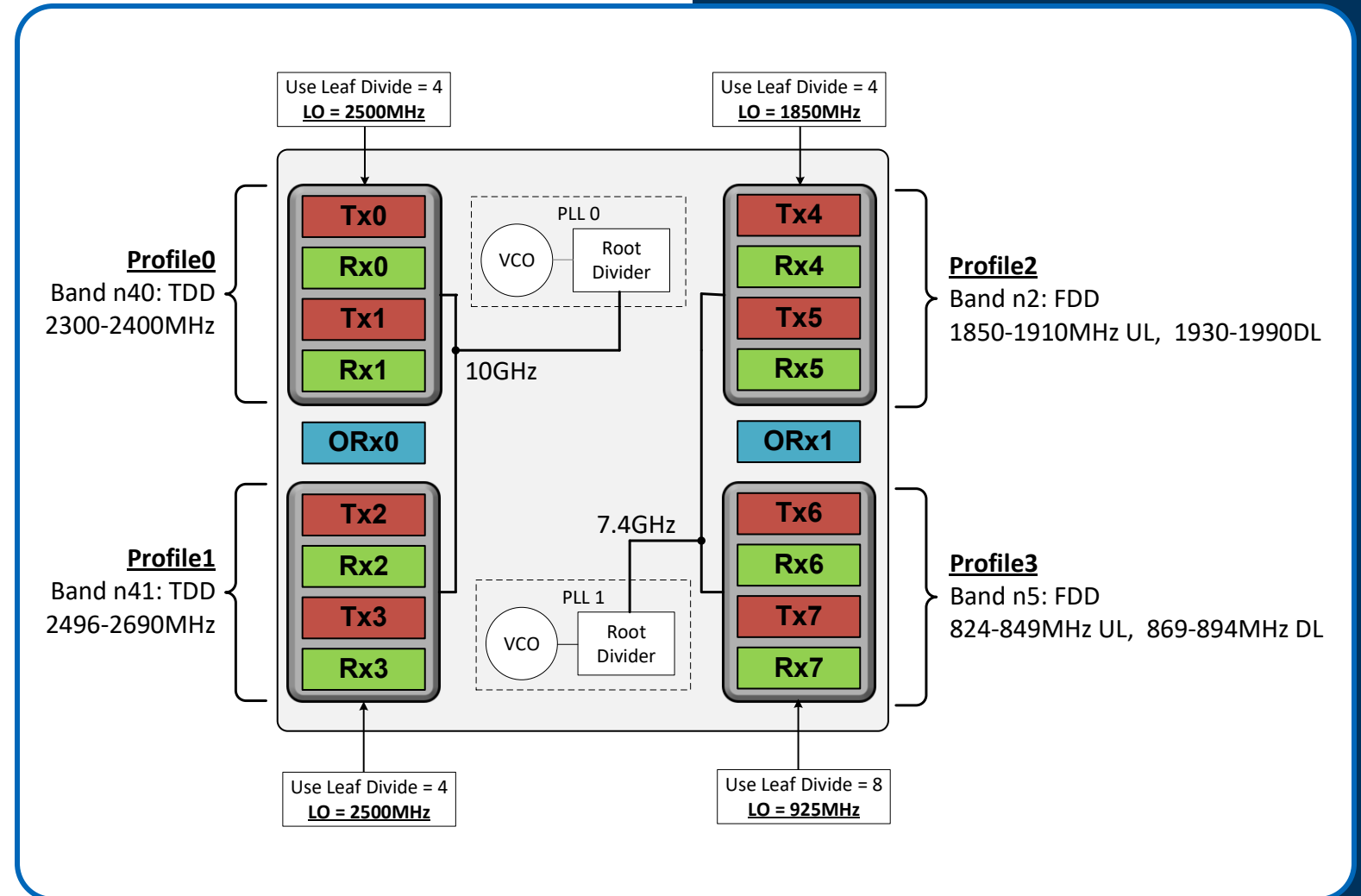
New Product Paris Overview

- Up to eight transmit and receive channels
- Up to 600MHz RF BW and beyond
- RF range supporting up to ~7.4GHz
- ~1W per channel power performance
- <0.5% receive EVM performance
- Multichip phase synchronization
- Wideband frequency hopping
- Boot support
- 19mm × 19mm package



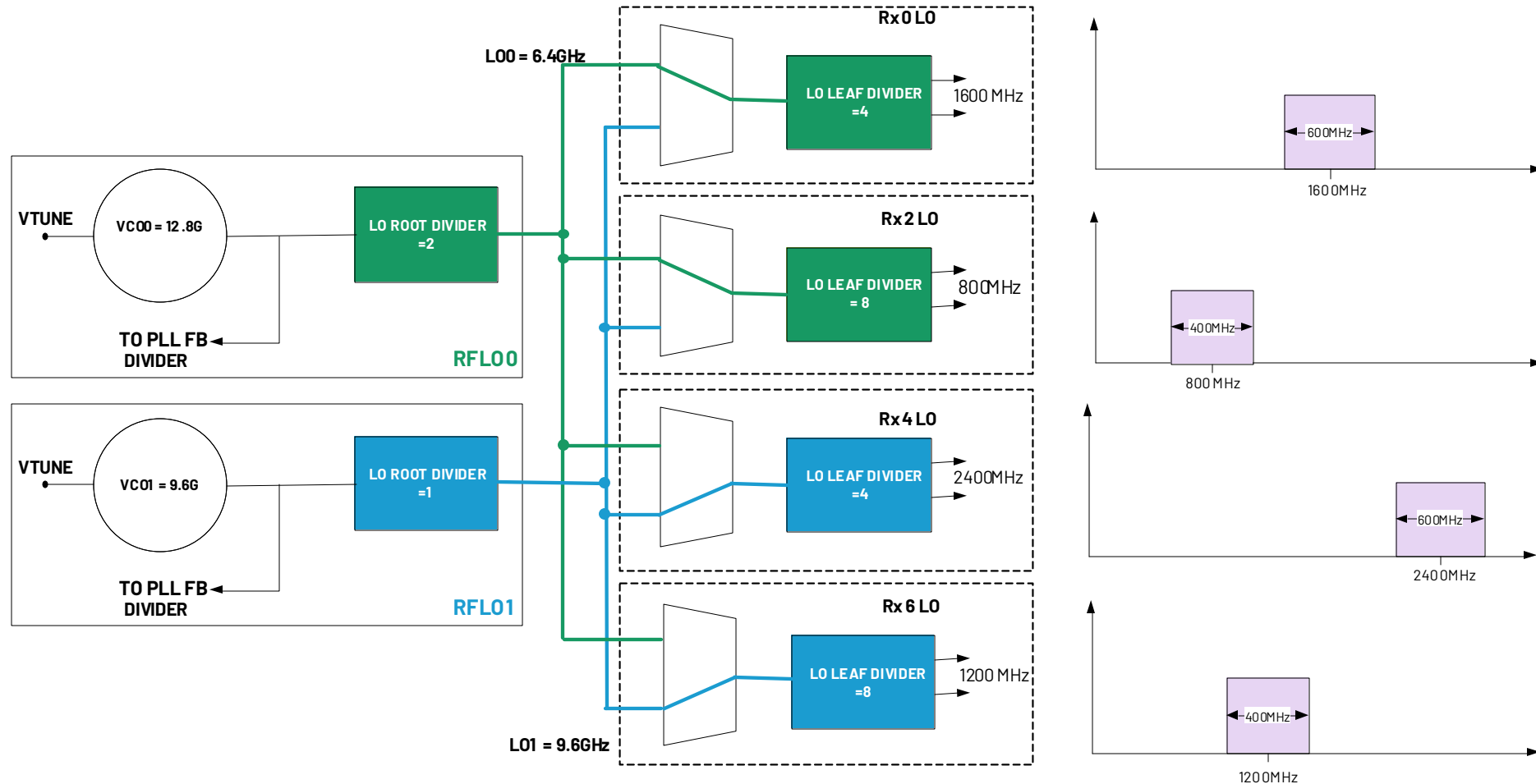
Paris Flexible LO Configuration

- ADRV9038R has two LOs—can set to four LO locations and leaf divide each by factor of 2/4/6/8. This provides a great deal of flexibility for multiband support.
- Example shows how ADRV9038 can enable a 4× 2T2R use case supporting four bands (n2, n5, n40, n41).
- Based on Tx-Orx mapping state, Orx channel NCO setting will change to ensure observation of desired transmit band.

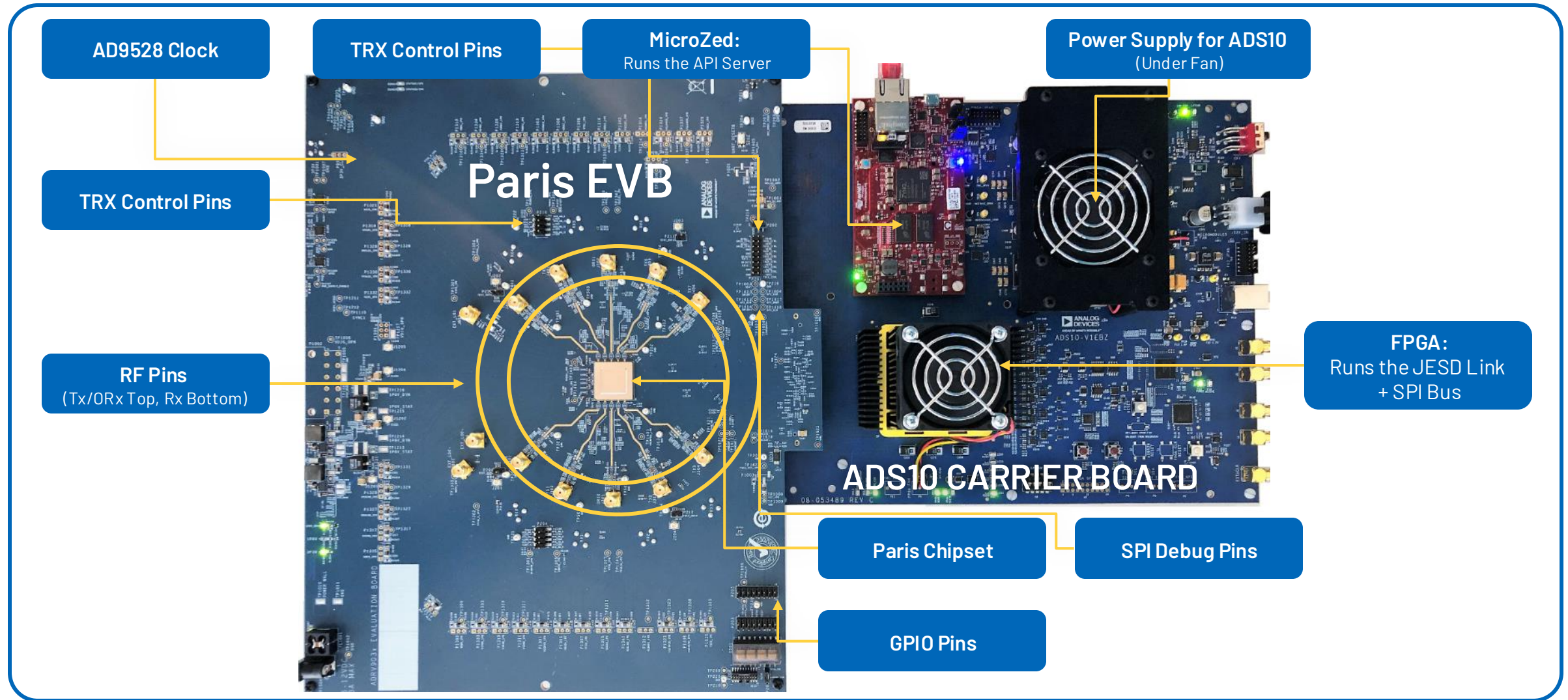


DEMO: Multichannel Spectrum Sensing LO Setup

Utilizes two LOs and internal dividers to observe wide RF BW



Example Evaluation Platform



AHEAD OF WHAT'S POSSIBLE

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