RadioVerse: TECHNOLOGY AND RADIO DESIGN ECOSYSTEM

- Market-Leading Radio Technology
- Robust Design Environment—Boards, Software, Tools, and More
- Reference Designs and Partners
- Market-Specific Technical Insights

Visit analog.com/radioverse
CONCEPT TO CREATION AT LIGHT SPEED
Insatiable consumer appetite for data and connectivity is creating difficult wireless communications problems.

Radio technology is a pervasive and crucial part of wireless communication systems that cuts across many different industries and applications. From base stations, drones, and military communications, to car to car connectivity and IoT networks; radio technology is at the core. Our customers—constrained by faster time to market, slashed R&D budgets, and lack of expertise—need quick radio solutions more than ever before.

Analog Devices launched a radio design and technology ecosystem destination for our customers to solve their toughest radio challenges.

Our goal is to help our customers by listening, anticipating future needs, and communicating key insights to help solve all their radio challenges. We offer a range of technologies, software, tools, evaluation and prototyping platforms, and full radio solutions. And if we can’t support customers’ needs, we have an ADI approved radio technology global partnership network who can.
RadioVerse Consists of The Three Pillars

Market Leading Radio Technologies
Advanced and innovative RF and mixed-signal solutions targeting applications where robust performance, power consumption, and footprint are critical success metrics. Combining expertise in radio architectures, signal processing, circuit design, and semiconductor process technologies, RadioVerse™ technologies drive breakthroughs in RF connectivity, drastically reducing time to market and total cost while meeting the tough technical challenges of the future.

Radio Design Environment
To get our customers to market as quickly as possible, we provide board support packages, software, tools, reference designs, and modules with the help of many ADI approved partners to simplify radio development across a wide range of applications.

Accessible Expertise
ADI offers support and education with our technical experts. We strive to give customers market and technical insights, and solutions for common radio architecture problems in the form of technical articles, how-to videos, white papers, etc.

Brand Goal: We want customers to think of ADI’s RadioVerse as a destination to go first for solving their difficult radio challenges.
RadioVerse Wideband Transceiver Design Environment

<table>
<thead>
<tr>
<th>Evaluation Kits</th>
<th>AD936x</th>
<th>AD9371</th>
<th>AD9375</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD-FMCOMMS2 (AD9361),</td>
<td>ADRV9371-N/PCBZ,</td>
<td>ADRV9375-N/PCBZ and power</td>
<td></td>
</tr>
<tr>
<td>AD-FMCOMMS3 (AD9361),</td>
<td>ADRV9371-W/PCBZ</td>
<td>amplifier daughter card</td>
<td></td>
</tr>
<tr>
<td>AD-FMCOMMS4 (AD9364),</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AD-FMCOMMS5 (AD9361)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrier Platforms</td>
<td>Xilinx® ZC706, ZC702, VC707,</td>
<td>Xilinx ZC706</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AC705, AC701, ZedBoard™, MITX045</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simulation Tools</td>
<td>AD936x Filter Wizard,</td>
<td>AD937x Filter Wizard,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATLAB® Simulink model</td>
<td>MATLAB Simulink model</td>
<td></td>
</tr>
<tr>
<td>Software Driver and GUI</td>
<td>Linux® driver, IIO Oscilloscope on Linux, No-OS driver</td>
<td>Windows® GUI, Linux driver, IIO Oscilloscope on Linux, API</td>
<td>DPD GUI, Windows GUI, API, Linux driver</td>
</tr>
<tr>
<td>Reference Designs</td>
<td>Arrow® ARRADIO, Epiq® Maverick, Ettus® USRP B200/B210, Vantage® vPrism, ZeroTech® ZT3024, SIHID wireless video module</td>
<td>Ettus USRP N310—coming soon, HJX AD9371 SDR</td>
<td>Small cell radio reference design, NanoSemi® DPD solution, tested PA program partnered with PA vendors</td>
</tr>
<tr>
<td>Customer Support Forum</td>
<td>ADI EngineerZone®—wideband RF transceivers, API, Linux drivers, FPGA reference designs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Visit analog.com/radioverse-wideband

RadioVerse SDR Integrated Wideband Transceivers

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Bandwidth</th>
<th>Functionality</th>
<th>RF Tuning Range</th>
<th>EVM (dB)</th>
<th>Package Size (mm)</th>
<th>DPD Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD9361</td>
<td>56 MHz</td>
<td>2 Rx, 2 Tx</td>
<td>70 MHz to 6 GHz</td>
<td>−40</td>
<td>10 × 10</td>
<td>N/A</td>
</tr>
<tr>
<td>AD9364</td>
<td>56 MHz</td>
<td>1 Rx, 1 Tx</td>
<td>70 MHz to 6 GHz</td>
<td>−40</td>
<td>10 × 10</td>
<td>N/A</td>
</tr>
<tr>
<td>AD9363</td>
<td>20 MHz</td>
<td>2 Rx, 2 Tx</td>
<td>325 MHz to 3.8 GHz</td>
<td>−34</td>
<td>10 × 10</td>
<td>N/A</td>
</tr>
<tr>
<td>AD9371</td>
<td>100 MHz Rx, 250 MHz Tx, and ORx</td>
<td>2 Rx, 2 Tx ORx and SnRx</td>
<td>300 MHz to 6 GHz</td>
<td>−40</td>
<td>12 × 12</td>
<td>N/A</td>
</tr>
<tr>
<td>AD9375</td>
<td>100 MHz Rx, 250 MHz Tx, and ORx</td>
<td>2 Rx, 2 Tx ORx and SnRx</td>
<td>300 MHz to 6 GHz</td>
<td>−40</td>
<td>12 × 12</td>
<td>Linearization BW up to 40 MHz</td>
</tr>
</tbody>
</table>
## RadioVerse Ultralow Power Transceivers for IoT

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Frequency Ranges (MHz)</th>
<th>Modulation Mode</th>
<th>$P_{out}$ RF Max (typ) (dBm)</th>
<th>Data Rate Device (max) (kbps)</th>
<th>Channel Spacing (mi) (kHz)</th>
<th>Price 1000 to 4999 ($U.S.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF7030-1</td>
<td>169, 433, 450 to 470, 868, 902 to 928, 950</td>
<td>4 FSK, FSK</td>
<td>17</td>
<td>400</td>
<td>3</td>
<td>1.99</td>
</tr>
<tr>
<td>ADF7030</td>
<td>169</td>
<td>4 FSK, FSK</td>
<td>17</td>
<td>6.4</td>
<td>12.5</td>
<td>—</td>
</tr>
<tr>
<td>ADF7024</td>
<td>433, 868, 902 to 928</td>
<td>FSK</td>
<td>13.5</td>
<td>300</td>
<td>100</td>
<td>0.99</td>
</tr>
<tr>
<td>ADF7023-J</td>
<td>902 to 928, 950</td>
<td>FSK</td>
<td>13.5</td>
<td>300</td>
<td>100</td>
<td>1.79</td>
</tr>
<tr>
<td>ADF7241</td>
<td>2400</td>
<td>DSSS to OQPSK</td>
<td>4.8</td>
<td>250</td>
<td>600</td>
<td>1.59</td>
</tr>
<tr>
<td>ADF7023</td>
<td>433, 868, 902 to 928</td>
<td>FSK, OOK</td>
<td>13.5</td>
<td>300</td>
<td>100</td>
<td>1.79</td>
</tr>
</tbody>
</table>

Visit [analog.com/radioverse-power-trx](http://analog.com/radioverse-power-trx)
Resources

Visit analog.com/radioverse-education

Transceiver Technology Education
► Where Zero-IF Wins: 50% Smaller PCB Footprint at 1/3 the Cost
► Complex RF Mixers, Zero-IF Architecture, and Advanced Algorithms: The Black Magic in Next-Generation SDR Transceivers
► AN-1354: Integrated ZIF, RF-to-Bits, LTE, Wide Area Receiver Analysis and Test Result

Application Notes for System Design
► A Simple Baseband Processor for RF Transceivers
► Digital Filter Design for Integrated RF Transceivers
► Developing Multiple-Input Multiple-Output (MIMO) Systems with the AD9361

Blogs
► Genesis of AD9361
► A Fellow’s Path: An Interview with Tony Montalvo
► A Screwdriver Can Only Do So Much

Application Specific—ADEF/SDR
► Small Form Factor Satcom Solutions
► X- and Ku-Band Small Form Factor Radio Design

► Transceivers Speed Development of New Military and First Responder Communication Solutions
► RF Transceivers Provide Breakthrough SWaP Solutions for Aerospace and Defense
► Wirelessly Linking the Aerospace and Defense World
► Multiband Military Communications Challenges Overcome by Software-Defined Radio
► Advanced RF Transceiver Meets the Demands of SDR Applications
► The Evolving Architecture of Military Communication Systems

Application Specific—Small Cell/BTS
► Enabling Small Form Factor, High Capacity Small Cell Platforms
► Expanding the Role of WiMAX CPE Transceivers into Base Station Applications

Application Specific—UAV
► High Definition, Low Delay, SDR-Based Video Transmission in UAV Applications

Application Specific—IoT
► Reliable Communication Is a Key to IoT Growth

Videos
Overview
► RadioVerse

Product Specific
► AD9361
► AD9371

Demonstrations
► PicoZed SDR
► Using Model-Based Design for Software-Defined Radio

EngineerZone® Online Support Community

Engage with the Analog Devices technology experts in our online support community. Ask your tough design questions, browse FAQs, or join a conversation.

Visit ez.analog.com