

## Description

The Si4614 DAB/DAB+ radio processor provides significant advances in size, power consumption, and performance to enable DAB/DAB+ Radio reception in automotive infotainment systems and car radios. It is designed to work with the high-performance automotive Si479x family of radio tuners.

The low power high performance Si4614 DAB/DAB+ Radio processor provides channel demodulation and source decoding of DAB/DAB+ signals delivering audio and data.

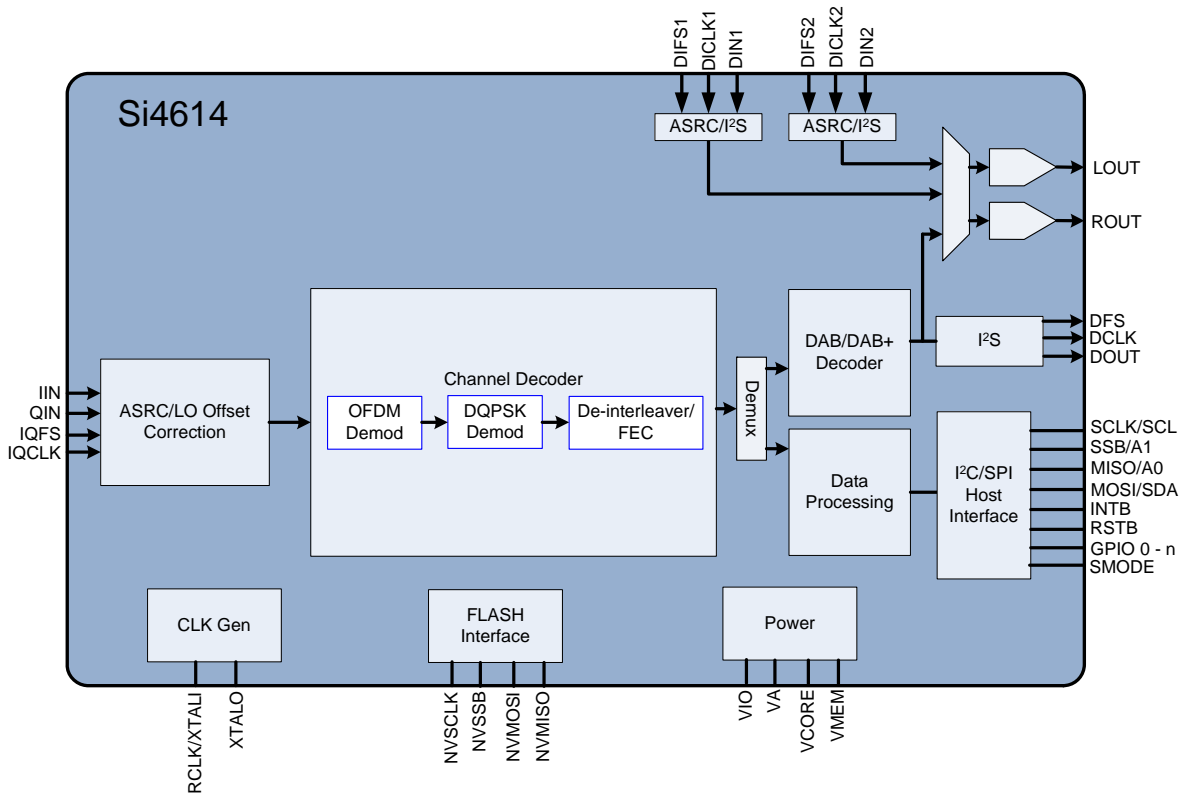
The Si4614 Radio processor provides DAB/DAB+ demodulation and decoding. In addition, the Si4614 provides an integrated clock oscillator or accepts a reference clock and supports a selectable control interface (SPI or I<sup>2</sup>C). The Si4614 processor system specifies a low minimal bill of materials, notably eliminating an external RAM memory module for channel decoding that is typically required in third party DAB/DAB+ Radio processors.

## Features

- DAB/DAB+ demodulator
- Transmission Modes I, II, III, IV detection and decoding
- DAB/DAB+ audio decoder
  - PAD/XPAD outputs available
- FIC decoder
  - Ensemble info
  - Service list
  - Component info
  - Service linking info
- Full support for data services
  - Packet mode
  - Packet mode with Data Groups
  - Enhanced packet mode
  - MOT, TPEG packet outputs
- No external RAM required for channel decoding
- Flash memory interface for application program load
- Support for Si479x Zero-IF digital at 2.048 MS/s
- On-chip crystal oscillator
- Reference clock input
- SPI, I<sup>2</sup>C control interfaces
- 7x7 mm 48-pin QFN package
- Pb-free/RoHS compliant
- AEC-Q100 qualified

## Applications

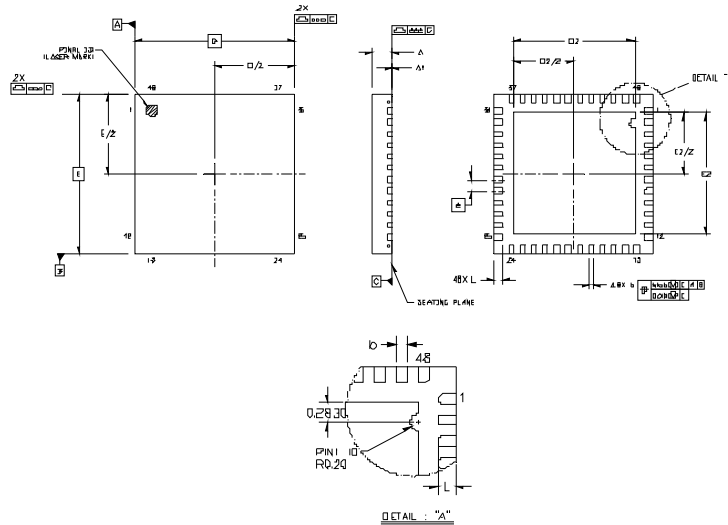
- Aftermarket car radio systems
- OEM automotive infotainment systems
- OEM automotive PND docking systems



## Selected Electrical Specifications

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Analog Supply Voltage	$V_A$	—	1.71	1.8	2.0	V
Interface Supply Voltage	$V_{IO}$	—	1.62	1.8	3.6	V
Core Digital Supply Voltage	$V_{CORE}$	—	1.71	1.8	2.0	V
Memory Supply Voltage	$V_{MEM}$	—	1.71	1.8	2.0	V
<b>Reference Clock</b>						
Reference Clock Frequency	RCLK		—	36.864	—	MHz
Reference Clock Accuracy			-100	—	100	ppm
Reference Clock Duty Cycle			45	—	55	%
<b>Crystal Oscillator</b>						
Crystal Oscillator Frequency			—	36.864	—	MHz
Crystal Frequency Tolerance		37.209 MHz	-100	—	100	ppm
Load Capacitance		37.209 MHz	—	—	10	pF
ESR		37.209 MHz	—	—	50	$\Omega$
Ambient Temperature	$T_A$		-40	25	85	$^{\circ}\text{C}$

**Si4614-A10**



Dimension	Min	Nom	Max
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
b	0.18	0.25	0.30
D	7.00 BSC		
D2	5.20	5.30	5.40
e	0.50 BSC		
E	7.00 BSC		
E2	5.20	5.30	5.40
L	0.30	0.40	0.50
aaa	0.15		
bbb	0.10		
ddd	0.05		
eee	0.08		

**Notes:**

- All dimensions are shown in millimeters (mm) unless otherwise noted.
- Dimensioning and Tolerancing per ASME Y14.5M-1994.
- This drawing conforms to the JEDEC Solid State Outline MO-220, Variation VKKD-4.
- Recommended card reflow profile is per the JEDEC/IPC J-STD-020 specification for Small Body Components.



Smart.  
Connected.  
Energy-Friendly



**Products**  
[www.silabs.com/products](http://www.silabs.com/products)



**Quality**  
[www.silabs.com/quality](http://www.silabs.com/quality)



**Support and Community**  
[community.silabs.com](http://community.silabs.com)

#### Disclaimer

Silicon Laboratories intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Laboratories products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Laboratories reserves the right to make changes without further notice and limitation to product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Silicon Laboratories shall have no liability for the consequences of use of the information supplied herein. This document does not imply or express copyright licenses granted hereunder to design or fabricate any integrated circuits. The products must not be used within any Life Support System without the specific written consent of Silicon Laboratories. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Laboratories products are generally not intended for military applications. Silicon Laboratories products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons.

#### Trademark Information

Silicon Laboratories Inc., Silicon Laboratories, Silicon Labs, SiLabs and the Silicon Labs logo, CMEMS®, EFM, EFM32, EFR, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Ember®, EZLink®, EZMac®, EZRadio®, EZRadioPRO®, DSPLL®, ISOmodem®, Precision32®, ProSLIC®, SiPHY®, USBXpress® and others are trademarks or registered trademarks of Silicon Laboratories Inc. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. All other products or brand names mentioned herein are trademarks of their respective holders.



Silicon Laboratories Inc.  
400 West Cesar Chavez  
Austin, TX 78701  
USA

<http://www.silabs.com>