

## 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.

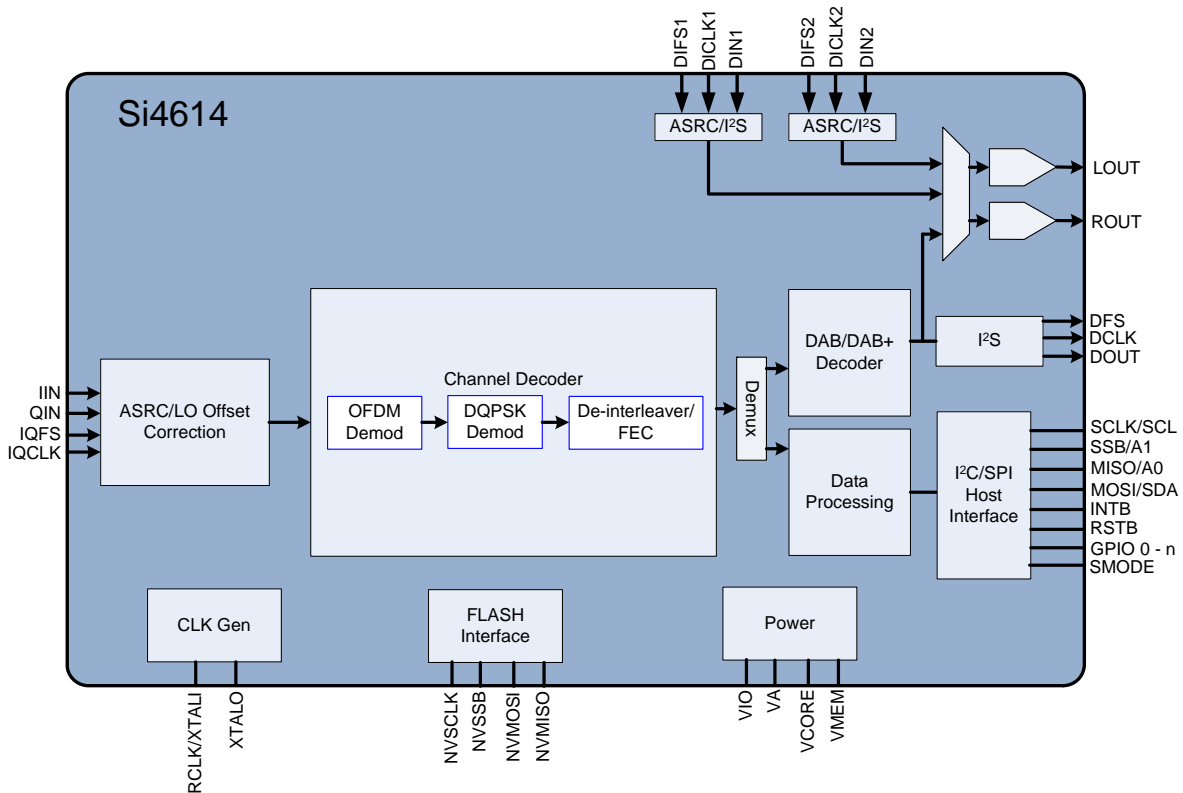
The Si4614 Radio processor provides DAB/DAB+ demodulation and decoding. In addition, the Si4614 provides an integrated clock oscillator or accepts a reference clock and supports a selectable control interface (SPI or I<sup>2</sup>C). The Si4614 processor system specifies a low minimal bill of materials, 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

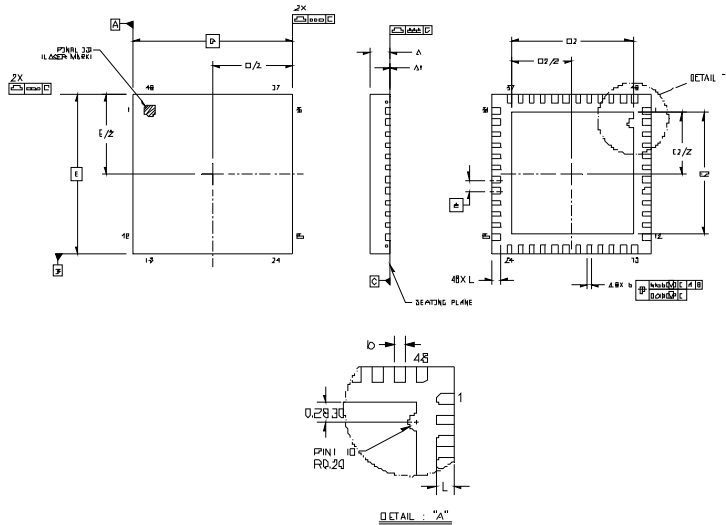
- Aftermarket car radio systems
- OEM automotive infotainment systems
- OEM automotive PND docking systems



## 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:**

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



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