

Features

- Worldwide FM band support (64–108 MHz)
- Worldwide AM band support (520–1710 kHz)
- LW band support (144–288 kHz)
- SW band support (2.3–30 MHz)
- On-chip soft-decision RDS/RDBS demodulator/decoder
- AM/FM:
 - Comprehensive AM/FM signal processing firmware
 - Integrated active FM buffer for background/data tuners
 - Analog FM phase diversity with two, three or four tuners (Si47921 Only)
 - Fully integrated AGC for AM and FM inputs
- HD Radio (Si47921 Only):
 - Digital I/Q interface to HD Radio Processor
 - AM/FM HD Radio IBOC blend
 - Fast FM HD Radio band scan

- Audio:
 - HiFi2-EP Audio-DSP with 288 kB for program and data memory
 - Seven analog audio inputs
 - Four analog audio outputs
 - Five digital audio ports (I²S)
 - Up to 24 synchronous or asynchronous sample rate converters
 - Multi-channel audio reference design
- Frequency synthesizer with fully integrated PLL-VCO
- Integrated clock oscillator
- 1.8 V or 3.3 V digital power supply
- 3.3 V analog and 1.8 V digital power supplies
- QFN 84-pin, 12x12x0.85 mm
- Pb-free/RoHS compliant
- AEC-Q100 qualified

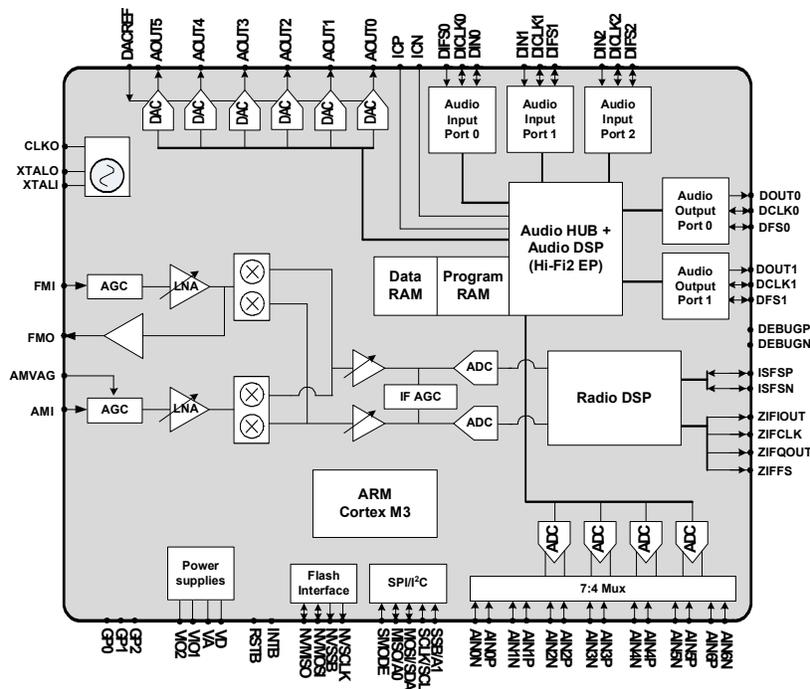
Description

The Si47920/21 integrates AM/FM radio receiver with audio processing. The analog AM/FM receiver sets a new standard for automotive broadcast reception. The integrated audio processing sub-system enables to synchronize, process, aggregate and distribute all digital and analog audio signals in the head-unit.

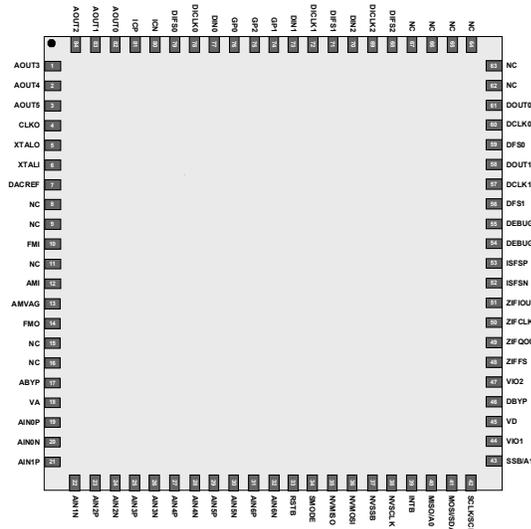
The Si47920/21 is the most integrated monolithic IC in the industry with the smallest external bill of materials. Si47920/21 based systems can scale from low-cost single tuner AM/FM radio to highest performance systems with multiple tuners and multiple antennas, enabling the radio suppliers to reuse their R&D across multiple product lines, all with a common software API. The Si47920/21 meets rigorous automotive quality standards.

Applications

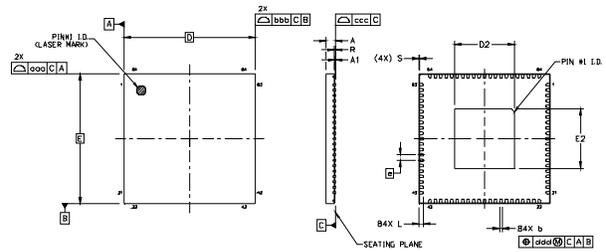
- Automotive OEM infotainment systems
- Aftermarket car radio systems



Pin Assignments



Package Information



Dimensions	Min	Nom	Max
A	0.80	0.85	0.90
A1	0.00	0.03	0.05
b	0.20	0.25	0.30
D	12.00 BSC.		
D2	5.40	5.50	5.60
e	0.50 BSC.		
E	12.00 BSC.		
E2	5.40	5.50	5.60
L	0.35	0.40	0.45
R	0.075	—	—
S	—	—	0.075
aaa	—	—	0.10
bbb	—	—	0.10
ccc	—	—	0.08
ddd	—	—	0.10

Notes:

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



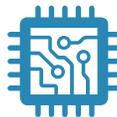
SKYWORKS®

**Connecting Everyone
and Everything,
All the Time**



Portfolio

www.skyworksinc.com



Quality

www.skyworksinc.com/quality



Support & Resources

www.skyworksinc.com/support

Copyright © 2021 Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. ("Skyworks") products or services. These materials, including the information contained herein, are provided by Skyworks as a service to its customers and may be used for informational purposes only by the customer. Skyworks assumes no responsibility for errors or omissions in these materials or the information contained herein. Skyworks may change its documentation, products, services, specifications or product descriptions at any time, without notice. Skyworks makes no commitment to update the materials or information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from any future changes.

No license, whether express, implied, by estoppel or otherwise, is granted to any intellectual property rights by this document. Skyworks assumes no liability for any materials, products or information provided hereunder, including the sale, distribution, reproduction or use of Skyworks products, information or materials, except as may be provided in Skyworks' Terms and Conditions of Sale.

THE MATERIALS, PRODUCTS AND INFORMATION ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT; ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. SKYWOKS DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. SKYWOKS SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING BUT NOT LIMITED TO ANY SPECIAL, INDIRECT, INCIDENTAL, STATUTORY, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THE MATERIALS OR INFORMATION, WHETHER OR NOT THE RECIPIENT OF MATERIALS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Skyworks products are not intended for use in medical, lifesaving or life-sustaining applications, or other equipment in which the failure of the Skyworks products could lead to personal injury, death, physical or environmental damage. Skyworks customers using or selling Skyworks products for use in such applications do so at their own risk and agree to fully indemnify Skyworks for any damages resulting from such improper use or sale.

Customers are responsible for their products and applications using Skyworks products, which may deviate from published specifications as a result of design defects, errors, or operation of products outside of published parameters or design specifications. Customers should include design and operating safeguards to minimize these and other risks. Skyworks assumes no liability for applications assistance, customer product design, or damage to any equipment resulting from the use of Skyworks products outside of Skyworks' published specifications or parameters.

Skyworks, the Skyworks symbol, Sky5®, SkyOne®, SkyBlue™, Skyworks Green™, Clockbuilder®, DSPLL®, ISOModem®, ProSLIC®, and SiPHY® are trademarks or registered trademarks of Skyworks Solutions, Inc. or its subsidiaries in the United States and other countries. Third-party brands and names are for identification purposes only and are the property of their respective owners. Additional information, including relevant terms and conditions, posted at www.skyworksinc.com, are incorporated by reference.

Skyworks Solutions, Inc. | Nasdaq: SWKS | sales@skyworksinc.com | www.skyworksinc.com

USA: 781-376-3000 | Asia: 886-2-2735 0399 | Europe: 33 (0)1 43548540 |