

## General Description

The SC2200 evaluation kits (SC2200-EVK) provide the hardware and software graphical user interface (GUI) necessary for the evaluation of the SC2200. The SC2200 belongs to the 4th-generation family of RF PA linearizers (RFPAL) that provide increased integration and functionality over the previous generations. The SC2200 is a dual-path linearizer that is a fully-adaptive, RFIN/RFOUT predistortion linearization solution optimized for a wide range of amplifiers, power levels, and communication protocols. It supports 2G to 4G standards (FDD and TDD) from 698MHz to 2700MHz, as well as an expanded range of signal bandwidths from 60MHz down to 1.2MHz. The device accepts single-ended RF signals to eliminate baluns and features a mirrored pinout facilitating design of both paths. The SC2200 uses the PA output and input signals to adaptively generate an optimized correction function to minimize the PA's distortion. Using RF-domain analog signal processing enables the SC2200 to operate over wide bandwidths and with very low power consumption. The dual linearizer can be used for small cell MIMO, active antennas, distributed antennas, or in systems requiring two different simplex bands.

## Applications

- Cellular Infrastructure
  - Single/Multicarrier, Multistandard: CDMA/EVDO, TD-SCDMA, WiMAX, WCDMA/HSDPA, LTE, and TD-LTE
  - BTS Amplifiers, RRH, Booster Amplifiers, Repeaters, Small Cells, Microcells, Picocells, DAS, AAS, and MIMO Systems
- Wide Range of PAs and Output Power
  - Amplifier: Class A/AB, Doherty
  - Average PA Output Power Examples:
    - Cellular Infrastructure: 27dBm to 40dBm
  - PA Process: LDMOS, GaN, HBT, GaAs, and InGaP

## Benefits

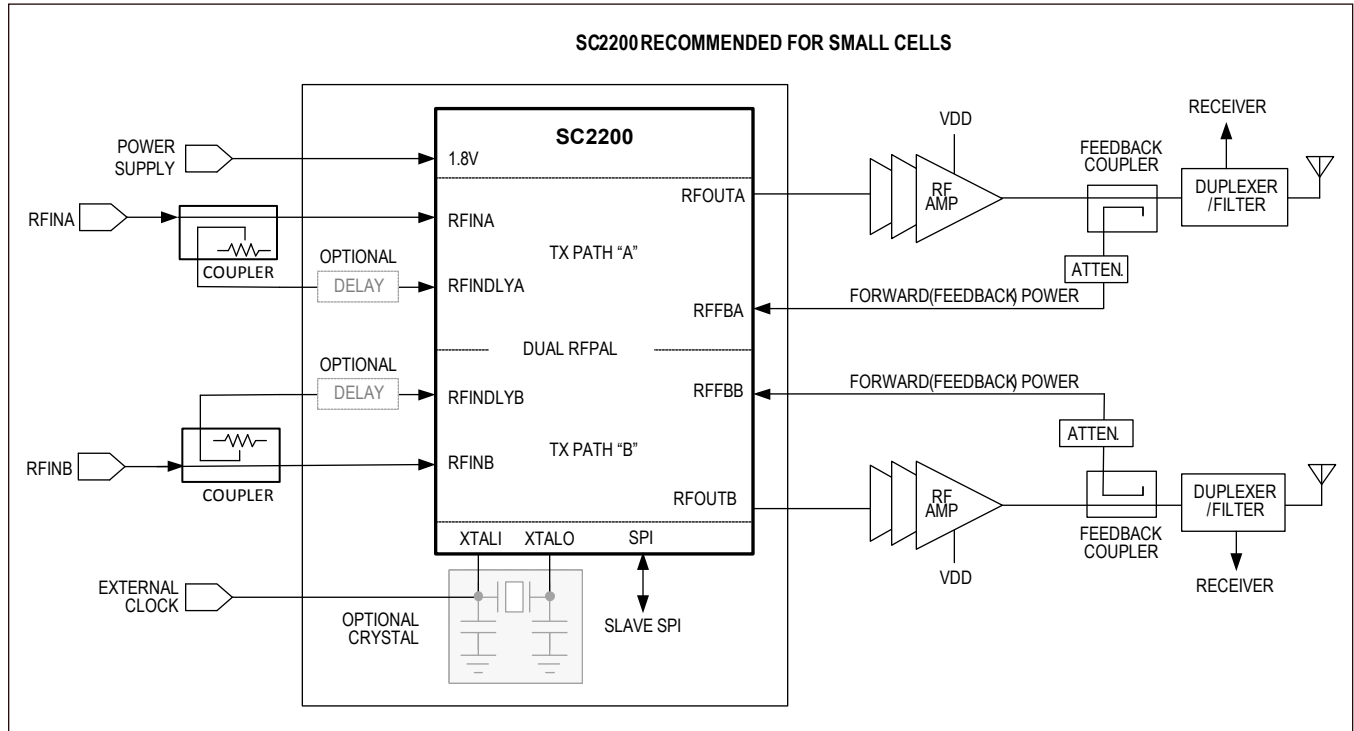
- Ease of Use
  - Integrated RFIN/RFOUT Solution
- Reduces System Power Consumption and OPEX
- Reduces BOM Costs and Total Volume
  - Smaller Power Supply, Heat Sink, and Enclosure
  - Lower Back-Off Reduces Transistor Costs

## Features

- Frequency Ranges:
  - SC2200-EVK900: 698–960MHz
  - SC2200-EVK1900: 1800–2200MHz
  - SC2200-EVK2400: 2300–2700MHz
- Integrated Preamp and Single-Ended RF I/Os
- Single +5V Supply Voltage
- Dual-Path RFIN/RFOUT Linearizer
- Fully Adaptive Correction
- Up to 28dB ACLR and 38dB IMD Improvement (1)
- $1.2\text{MHz} < \text{BWSIG} \leq 60\text{MHz}$

*[Ordering Information](#) and [Block Diagram](#) appears at end of data sheet.*

### Typical Application Block Diagram



### Evaluation Kit Ordering Information

| PART NUMBER    | DESCRIPTION                                 |
|----------------|---|
| SC2200-EVK900  | Evaluation kit, dual-RFPAL, 698MHz–960MHz   |
| SC2200-EVK1900 | Evaluation kit, dual-RFPAL, 1800MHz–2200MHz |
| SC2200-EVK2400 | Evaluation kit, dual-RFPAL, 2300MHz–2700MHz |

### Component Information, PCB Layout, and Schematic

See the following links for component information, PCB layout diagram, and schematic.


- [SC2200 EV BOMs](#)
- [SC2200 EV PCB](#)
- [SC2200 EV Schematic](#)

## Revision History

| REVISION NUMBER | REVISION DATE | DESCRIPTION     | PAGES CHANGED |
|-----------------|---------------|-----------------|---------------|
| 0               | 11/15         | Initial release | —             |

For pricing, delivery, and ordering information, please contact Maxim Direct at 1-888-629-4642, or visit Maxim Integrated's website at [www.maximintegrated.com](http://www.maximintegrated.com).

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| Bill of Materials  |                   |   |          |                                      |                            |                        |
|--|-------------------|---|----------|--------------------------------------|----------------------------|------------------------|
| Part Number:   | SC2200-RDB900     |    |          |                                      |                            |                        |
| Revision:  | 1                 |   |          |                                      |                            |                        |
| Date:  | 6/15/2015         |   |          |                                      |                            |                        |
| Designator   | Comment           | Description   | Quantity | Manufacturer 1                       | Manufacturer Part Number 1 | Supplier 1             |
| C100, R121, R124, R161, R162, R167, R168, R194, R201, R252, R253, R255, R262 | NL                | NL Cap 0402, NL Res 0402, NL Res 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402 | 13       |                                      |                            |                        |
| C101, C102, C130, C131   | 10pF              | 10pF 0402   | 4        | Murata Electronics                   | GJM1555C1H100FB01D         | Mouser                 |
| C106, C107, C120, C132   | 0.1uF             | Cap 0.1uF 0402  | 4        | TDK Corporation                      | C1005X7R1A104K050BB        | Digi-Key               |
| C108, C109, C111, C113, C114, C115, C116, C119, C126, C138, C140             | 1000pF            | 1000pF 0402   | 11       | Murata Electronics                   | GRM1555C1H102JA01D         | Mouser                 |
| C112, C118, C139, C141   | 2.2uF             | 2.2uF 0603  | 4        | Murata Electronics                   | GRM188R71A225KE15J         | Mouser                 |
| C122, C124   | 22uF              | Cap 22uF 0805   | 2        | Murata Electronics                   | GRM21BR60J226ME39L         | Mouser                 |
| C125   | 5.0pF             | 5.0pF 0402  | 1        | Murata Electronics                   | GJM1555C1H5R0BB01D         | Mouser                 |
| C133, C151, C152   | 1uF               | Cap 1uF 0402  | 3        | Murata Electronics                   | GRM155R61A105KE15D         | Mouser                 |
| C134   | 680pF             | 680pF 0402  | 1        | Murata Electronics North America     | GRM1555C1H681JA01D         | Digi-Key               |
| C135   | 10uF              | Cap 10uF 0805   | 1        | Murata Electronics North America     | GRM21BR71A106KE51L         | Digi-Key               |
| C142   | 1uF               | 1uF 0603 ceramic capacitor  | 1        | Murata Electronics North America     | GRM188R61A105KA61D         | Digi-Key               |
| C143, C146, C154, C156   | 100pF             | 100pF 0402 Murata Capacitor   | 4        | Murata                               | GRM1555C1H101JD01D         | Farnell                |
| C147, C148   | 5.1pF             | 5.1pF 0402  | 2        | Murata Electronics                   | GJM1555C1H5R1BB01D         | Mouser                 |
| C153, C155   | 1nF               | 1000pF 0402   | 2        | Murata Electronics                   | GRM1555C1H102JA01D         | Mouser                 |
| C160, C163, C292, C293   | 432               | RESISTOR 432 Ohm 0402   | 4        | Panasonic Electronic Components      | ERJ-3EKF4320V              | Digi-Key               |
| C161, C162   | 0.5pF             | 0.5pF 0402  | 2        | Murata Electronics North America     | GJM1555C1HR50BB01D         | Digi-Key               |
| DC104, DC1015  | 5dB Coupler       | Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-3, Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-4  | 2        | Anaren                               | DC2327J5005AHF             | Reil.com               |
| FT100, FT101, FT102, FT103   | Bead 120 ohm      | Bead 0603 120 ohm   | 4        | Murata Electronics                   | BLM18AG121SN1D             | Mouser                 |
| FT104, FT105   | Bead 470 ohm      | Bead 0402 470 ohm   | 2        | Murata Electronics                   | BLM15BD471SN1D             | Mouser                 |
| J107   | Banana Jack Red   | Banana Supply Connector Red   | 1        | Deltron                              | 571-0900                   | Mouser                 |
| J108   | Banana Jack Black | Banana Supply Connector Black   | 1        | Deltron                              | 571-0100                   | Mouser                 |
| J112   | HEADER 12         | Header 50mil SMT  | 1        | HARTING                              | 15110122601000             | Mouser                 |
| L104, L105   | 18nH              | 18nH  | 2        | Taiyo Yuden                          | HK100518NJ-T               | Digi-Key               |
| R110   | NL                | NL Res 0603   | 1        |                                      |                            |                        |
| R111   | 10                | RESISTOR 10 Ohm 0402  | 1        | Panasonic Electronic Components      | ERJ-2GEJ100X               | Digi-Key               |
| R112   | 237k              | RESISTOR 237 kOhm 0402  | 1        | Panasonic Electronic Components      | ERJ-2RKF2373X              | Digi-Key               |
| R114   | 118k              | RESISTOR 118 kOhm 0402  | 1        | Panasonic Electronic Components      | ERJ-2RKF1183X              | Digi-Key               |
| R118   | 10k               | 10k Ohm 0402  | 1        | Yageo                                | RC0402FR-0710KL            | Digi-Key               |
| R165, R166, R195, R222, R223, R241, R250, R251, R254, R263, R300, R301       | 0 Ohm             | 0 Ohm 0402, 0 Ohm 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402   | 12       | Yageo                                | RC0402JR-0709L             | Digi-Key               |
| R172, R265   | 49.9 Ohm          | 49.9 Ohm 0402   | 2        | KOA Speer                            | RK73H1ELTP49R9F            | Mouser                 |
| R192, R193   | 11.5 Ohm          | 0 Ohm 0402  | 2        | Panasonic Electronic Components      | ERJ-2RKF11R5X              | Digi-Key               |
| RFXLX_A, RFXLX_B, RFFB_A, RFFB_B, RFIN_A, RFIN_B, RFOUT_A, RFOUT_B           | SMA_EDGE          | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 8        | Cinch Connectivity Solutions Johnson | 142-0701-801               | Digi-Key               |
| S100   | SW-PB             | SW, PUSH, Omronm B3S-1000P  | 1        | Omron Electronics Inc-EMC Div        | B3S-1000                   | Digi-Key               |
| U100   | SC2200            | SC2200B   | 1        | Maxim Integrated Products            | SC2220-25                  | Engineering to provide |
| U102   | EP53F8QJ          | Enpirion Voltage Regulator  | 1        | ENPIRION                             | EP53F8QJ                   | Newark                 |
| U103, U104   | 3ns Delay         | 3ns Delay Line (Anaren)   | 2        | Anaren                               | XDL15-3-030S               | Reil.com               |
| XTAL1  | NL                | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 1        | Johnson-Cinch Connectivity Solutions | 142-0701-201               | Allied                 |
| Y100   | 278-20.0M-20-W    | Crystal 20MHz 278-20.0M-20-W  | 1        | Oscilont                             | 278-20.0M-20-W             | Oscilont               |
|  |                   |   | 108      |                                      |                            |                        |

**Notes:**  
Please use this BoM to build 10 boards and label the board SC2200-RDB900 and serialize the board 1 to 10 in the white box.  
(NL) are no load parts.

# Bill of Materials

|              |                |
|--------------|----------------|
| Part Number: | SC2200-RDB1900 |
| Revision:    | 1              |
| Date:        | 6/15/2015      |



| Designator   | Comment           | Description   | Quantity | Manufacturer 1  | Manufacturer Part Number 1  | Supplier 1   |
|--|-------------------|---|----------|---|---|--|
| C100, C160, C163, R121, R124, R161, R162, R167, R168, R194, R201, R252, R253, R255, R262 | NL                | NL Cap 0402, 1.2pF 0402, 1.2pF 0402, NL Res 0402, NL Res 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402 | 15       | [NoParam], Murata Electronics, Murata Electronics, [NoParam], [NoParam], [NoParam], [NoParam], Yageo, Yageo, Yageo, Yageo | [NoParam], GJM1555C1H1R2B801D, GJM1555C1H1R2B801D, [NoParam], [NoParam], [NoParam], [NoParam], [NoParam], [NoParam], RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL | [NoParam], Mouser, Mouser, [NoParam], [NoParam], [NoParam], [NoParam], [NoParam], Digi-Key, Digi-Key, Digi-Key, Digi-Key, Digi-Key, Digi-Key |
| C101, C102, C130, C131   | 10pF              | 10pF 0402   | 4        | Murata Electronics  | GJM1555C1H100FB01D  | Mouser   |
| C106, C107, C120, C132   | 0.1uF             | Cap 0.1uF 0402  | 4        | TDK Corporation   | C1005X7R1A104K050BB   | Digi-Key   |
| C108, C109, C111, C113, C114, C115, C116, C119, C126, C138, C140                         | 1000pF            | 1000pF 0402   | 11       | Murata Electronics  | GRM1555C1H102JA01D  | Mouser   |
| C112, C118, C139, C141   | 2.2uF             | 2.2uF 0603  | 4        | Murata Electronics  | GRM188R71A225KE15J  | Mouser   |
| C122, C124   | 22uF              | Cap 22uF 0805   | 2        | Murata Electronics  | GRM21BR60J226ME39L  | Mouser   |
| C125   | 5.0pF             | 5.0pF 0402  | 1        | Murata Electronics  | GJM1555C1H5R0B801D  | Mouser   |
| C133, C151, C152   | 1uF               | Cap 1uF 0402  | 3        | Murata Electronics  | GRM155R61A105KE15D  | Mouser   |
| C134   | 680pF             | 680pF 0402  | 1        | Murata Electronics North America  | GRM1555C1H681JA01D  | Digi-Key   |
| C135   | 10uF              | Cap 10uF 0805   | 1        | Murata Electronics North America  | GRM21BR71A106KE51L  | Digi-Key   |
| C142   | 1uF               | 1uF 0603 ceramic capacitor  | 1        | Murata Electronics North America  | GRM188R61A105KA61D  | Digi-Key   |
| C143, C146, R300, R301   | 2.2pF             | 2.2pF 0402  | 4        | Murata Electronics  | GJM1555C1H2R2B801D  | Mouser   |
| C147, C148   | 5.6nH             | 5.6nH   | 2        | Taiyo Yuden   | HK1005SN6S-T  | Digi-Key   |
| C153, C155   | 1nF               | 1000pF 0402   | 2        | Murata Electronics  | GRM1555C1H102JA01D  | Mouser   |
| C154, C156   | 100pF             | 100pF 0402 Murata Capacitor   | 2        | Murata  | GRM1555C1H101JD01D  | Farnell  |
| C161, C162   | 0.5pF             | 0.5pF 0402  | 2        | Murata Electronics North America  | GJM1555C1HR50B801D  | Digi-Key   |
| C292, C293   | 1.3pF             | 1.3pF 0402  | 2        | Murata Electronics  | GJM1555C1H1R3B801D  | Mouser   |
| DC104, DC1015  | 5dB Coupler       | Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-3, Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-4  | 2        | Anaren  | DC2327J5005AHF  | Reil.com   |
| FT100, FT101, FT102, FT103   | Bead 120 ohm      | Bead 0603 120 ohm   | 4        | Murata Electronics  | BLM18AG121SN1D  | Mouser   |
| FT104, FT105   | Bead 470 ohm      | Bead 0402 470 ohm   | 2        | Murata Electronics  | BLM15BD471SN1D  | Mouser   |
| J107   | Banana Jack Red   | Banana Supply Connector Red   | 1        | Deltron   | 571-0500  | Mouser   |
| J108   | Banana Jack Black | Banana Supply Connector Black   | 1        | Deltron   | 571-0100  | Mouser   |
| J112   | HEADER 12         | Header 50mil SMT  | 1        | HARTING   | 15110122601000  | Mouser   |
| L104, L105   | 10nH              | 10nH  | 2        | Taiyo Yuden   | HK100510NJ-T  | Digi-Key   |
| R110   | NL                | NL Res 0603   | 1        |   |   |  |
| R111   | 10                | RESISTOR 10 Ohm 0402  | 1        | Panasonic Electronic Components   | ERJ-2GEJ100X  | Digi-Key   |
| R112   | 237k              | RESISTOR 237 kOhm 0402  | 1        | Panasonic Electronic Components   | ERJ-2RKF2373X   | Digi-Key   |
| R114   | 118k              | RESISTOR 118 kOhm 0402  | 1        | Panasonic Electronic Components   | ERJ-2RKF1183X   | Digi-Key   |
| R118   | 10k               | 10k Ohm 0402  | 1        | Yageo   | RC0402FR-0710KL   | Digi-Key   |
| R165, R166, R195, R222, R223, R241, R250, R251, R254, R263                               | 0 Ohm             | 0 Ohm 0402, 0 Ohm 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402   | 10       | Yageo   | RC0402JR-070RL  | Digi-Key   |
| R172, R265   | 49.9 Ohm          | 49.9 Ohm 0402   | 2        | KOA Speer   | RK73H1ELTP49R9F   | Mouser   |
| R192, R193   | 1.0nH             | 1.0nH   | 2        | Taiyo Yuden   | HK10051N0S-T  | Digi-Key   |
| RFAUX_A, RFAUX_B, RFFB_A, RFFB_B, RFIN_A, RFIN_B, RFOUT_A, RFOUT_B                       | SMA_EDGE          | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 8        | Cinch Connectivity Solutions Johnson  | 142-0701-801  | Digi-Key   |
| S100   | SW-PB             | SW, PUSH, Omronm B3S-1000P  | 1        | Omron Electronics Inc-EMC Div   | B3S-1000  | Digi-Key   |
| U100   | SC2200            | SC2200B   | 1        | Maxim Integrated Products   | SC2220-25   | Engineering to provide   |
| U102   | EP53F8Q1          | Enpirion Voltage Regulator  | 1        | Loading...  | Loading...  | Newark   |
| U103, U104   | 3ns Delay         | 3ns Delay Line (Anaren)   | 2        | Anaren  | XD15-3-030S   | Reil.com   |
| XTALI  | NL                | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 1        | Johnson-Cinch Connectivity Solutions  | 142-0701-201  | Allied   |
| Y100   | 278-20.0M-20-W    | Crystal 20MHz 278-20.0M-20-W  | 1        | Oscilent  | 278-20.0M-20-W  | Oscilent   |

**Notes:**  
Please use this BoM to build 10 boards and label the board SC2200-RDB1900 and serialize the board 11 to 20 in the white box. (NL) are no load parts.

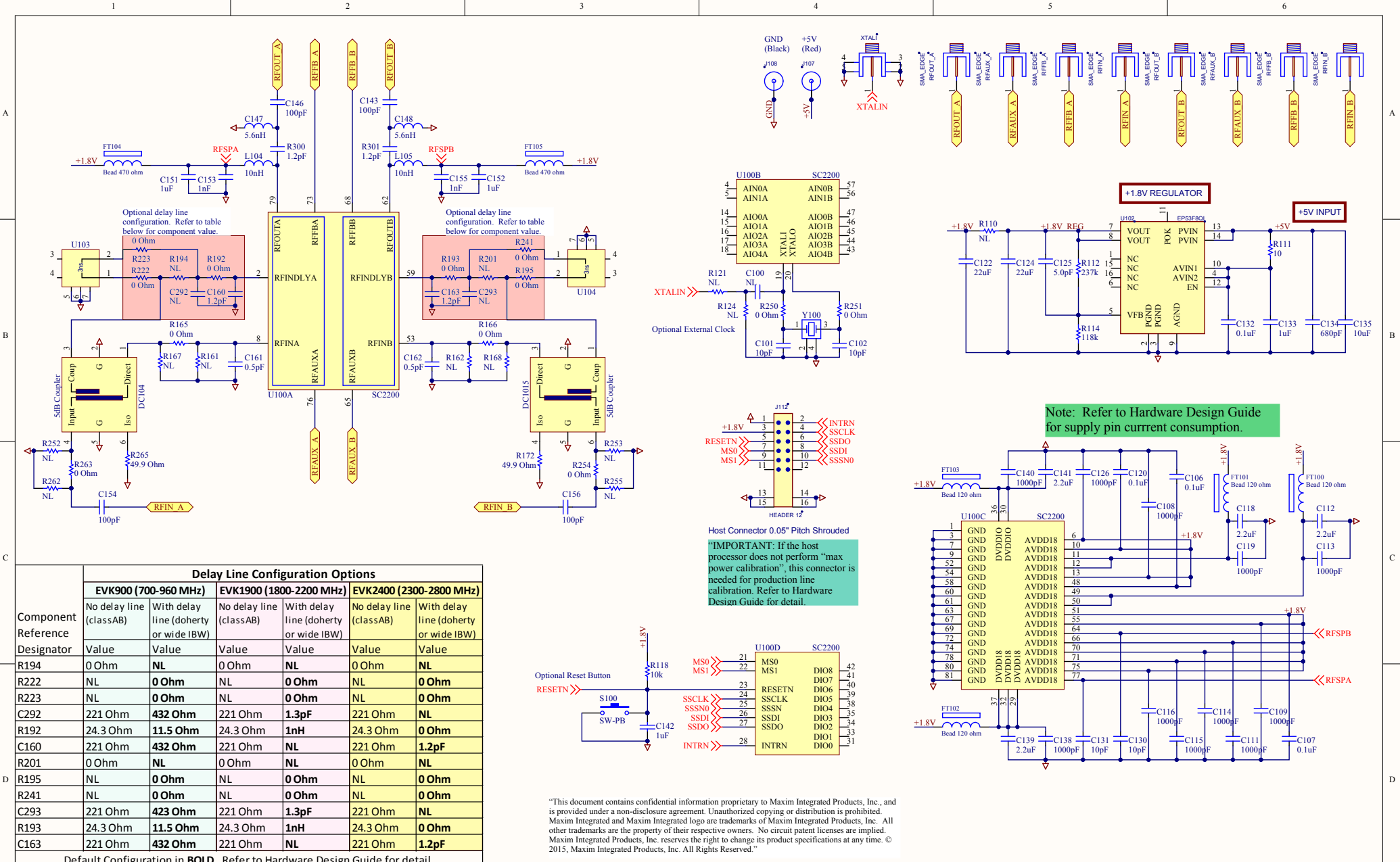
# Bill of Materials

|              |                |
|--------------|----------------|
| Part Number: | SC2200_RDB2400 |
| Revision:    | 1              |
| Date:        | 6/15/2015      |



| Designator   | Comment           | Description   | Quantity | Manufacturer 1   | Manufacturer Part Number 1  | Supplier 1  |
|--|-------------------|---|----------|--|---|---|
| C100, C292, C293, R121, R124, R161, R162, R167, R168, R194, R201, R252, R253, R255, R262 | NL                | NL Cap 0402, 1.3pF 0402, 1.3pF 0402, NL Res 0402, NL Res 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402 | 15       | [NoParam], Murata Electronics, Murata Electronics, [NoParam], [NoParam], [NoParam], Yageo, Yageo, Yageo, Yageo | [NoParam], GJM1555C1H1R3B801D, GJM1555C1H1R3B801D, [NoParam], [NoParam], [NoParam], [NoParam], RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL, RC0402JR-070RL | [NoParam], Mouser, Mouser, [NoParam], [NoParam], [NoParam], [NoParam], Digi-Key, Digi-Key, Digi-Key, Digi-Key |
| C101, C102, C130, C131   | 10pF              | 10pF 0402   | 4        | Murata Electronics   | GJM1555C1H100FB01D  | Mouser  |
| C106, C107, C120, C132   | 0.1uF             | Cap 0.1uF 0402  | 4        | TDK Corporation  | C1005X7R1A104K050BB   | Digi-Key  |
| C108, C109, C111, C113, C114, C115, C116, C119, C126, C138, C140                         | 1000pF            | 1000pF 0402   | 11       | Murata Electronics   | GRM1555C1H102JA01D  | Mouser  |
| C112, C118, C139, C141   | 2.2uF             | 2.2uF 0603  | 4        | Murata Electronics   | GRM188R71A225KE15J  | Mouser  |
| C122, C124   | 22uF              | Cap 22uF 0805   | 2        | Murata Electronics   | GRM21BR60J226ME39L  | Mouser  |
| C125   | 5.0pF             | 5.0pF 0402  | 1        | Murata Electronics   | GJM1555C1H5R0B801D  | Mouser  |
| C133, C151, C152   | 1uF               | Cap 1uF 0402  | 3        | Murata Electronics   | GRM155R61A105KE15D  | Mouser  |
| C134   | 680pF             | 680pF 0402  | 1        | Murata Electronics North America   | GRM1555C1H681JA01D  | Digi-Key  |
| C135   | 10uF              | Cap 10uF 0805   | 1        | Murata Electronics North America   | GRM21BR71A106KE51L  | Digi-Key  |
| C142   | 1uF               | 1uF 0603 ceramic capacitor  | 1        | Murata Electronics North America   | GRM188R61A105KA61D  | Digi-Key  |
| C143, C146, C154, C156   | 100pF             | 100pF 0402 Murata Capacitor   | 4        | Murata   | GRM1555C1H101JD01D  | Farnell   |
| C147, C148   | 5.6nH             | 5.6nH   | 2        | Taiyo Yuden  | HK10055N6S-T  | Digi-Key  |
| C153, C155   | 1nF               | 1000pF 0402   | 2        | Murata Electronics   | GRM1555C1H102JA01D  | Mouser  |
| C160, C163, R300, R301   | 1.2pF             | 1.2pF 0402  | 4        | Murata Electronics   | GJM1555C1H1R2B801D  | Mouser  |
| C161, C162   | 0.5pF             | 0.5pF 0402  | 2        | Murata Electronics North America   | GJM1555C1HR50B801D  | Digi-Key  |
| DC104, DC1015  | 5dB Coupler       | Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-3, Anaren 2300 - 2700 MHz 0805 5dB Coupler Conf-4  | 2        | Anaren   | DC2327J5005AHF  | Reel.com  |
| FT100, FT101, FT102, FT103   | Bead 120 ohm      | Bead 0603 120 ohm   | 4        | Murata Electronics   | BLM18AG121SN1D  | Mouser  |
| FT104, FT105   | Bead 470 ohm      | Bead 0402 470 ohm   | 2        | Murata Electronics   | BLM15BD471SN1D  | Mouser  |
| J107   | Banana Jack Red   | Banana Supply Connector Red   | 1        | Deltron  | 571-0500  | Mouser  |
| J108   | Banana Jack Black | Banana Supply Connector Black   | 1        | Deltron  | 571-0100  | Mouser  |
| J112   | HEADER 12         | Header 50mil SMT  | 1        | HARTING  | 15110122601000  | Mouser  |
| L104, L105   | 10nH              | 10nH  | 2        | Taiyo Yuden  | HK100510NJ-T  | Digi-Key  |
| R110   | NL                | NL Res 0603   | 1        |  |   |   |
| R111   | 10                | RESISTOR 10 Ohm 0402  | 1        | Panasonic Electronic Components  | ERJ-2GEJ100X  | Digi-Key  |
| R112   | 237k              | RESISTOR 237 kOhm 0402  | 1        | Panasonic Electronic Components  | ERJ-2RKF2373X   | Digi-Key  |
| R114   | 118k              | RESISTOR 118 kOhm 0402  | 1        | Panasonic Electronic Components  | ERJ-2RKF1183X   | Digi-Key  |
| R118   | 10k               | 10k Ohm 0402  | 1        | Yageo  | RC0402FR-0710KL   | Digi-Key  |
| R165, R166, R192, R193, R195, R222, R223, R241, R250, R251, R254, R263                   | 0 Ohm             | 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, NO LOAD RESISTOR 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402, 0 Ohm 0402   | 12       | Yageo  | RC0402JR-070RL  | Digi-Key  |
| R172, R265   | 49.9 Ohm          | 49.9 Ohm 0402   | 2        | KOA Speer  | RK73H1ELTP49R9F   | Mouser  |
| RFAUX_A, RFAUX_B, RFFB_A, RFFB_B, RFIN_A, RFIN_B, RFOUT_A, RFOUT_B                       | SMA_EDGE          | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 8        | Cinch Connectivity Solutions Johnson   | 142-0701-801  | Digi-Key  |
| S100   | SW-PB             | SW, PUSH, Omronm B3S-1000P  | 1        | Omron Electronics Inc-EMC Div  | B3S-1000  | Digi-Key  |
| U100   | SC2200            | SC2200B   | 1        | Maxim Integrated Products  | SC2200-25   | Engineering to provide  |
| U102   | EP53F8QJ          | Enenion Voltage Regulator   | 1        | ENPIRION   | EP53F8QJ  | Newark  |
| U103, U104   | 3ns Delay         | 3ns Delay Line (Anaren)   | 2        | Anaren   | XDL15-3-030S  | Reel.com  |
| XTALI  | NL                | SMA RECEPTACLE END LAUNCH, Emerson 142-0701-801   | 1        | Johnson-Cinch Connectivity Solutions   | 142-0701-201  | Allied  |
| Y100   | 278-20.0M-20-W    | Crystal 20MHz 278-20.0M-20-W  | 1        | Oscilent   | 278-20.0M-20-W  | Oscilent  |

**Notes:**  
Please use this BoM to build 10 boards and label the board SC2200-RDB2400 and serialize the board 21 to 30 in the white box. (NL) are no load parts.



A

B

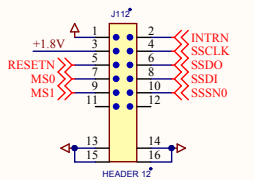
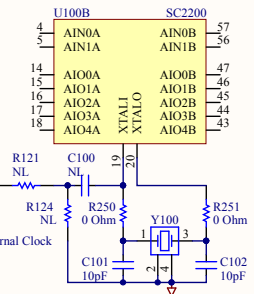
C

D

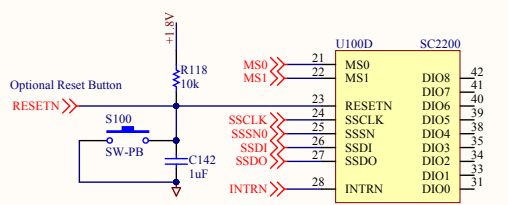
**Delay Line Configuration Options**

| Component Reference | Delay Line Configuration Options |                                       |                         |                                       |                         |                                       |
|---------------------|----------------------------------|---------------------------------------|-------------------------|---------------------------------------|-------------------------|---------------------------------------|
|                     | EVK900 (700-960 MHz)             |                                       | EVK1900 (1800-2200 MHz) |                                       | EVK2400 (2300-2800 MHz) |                                       |
| Designator          | No delay line (classAB)          | With delay line (doherty or wide IBW) | No delay line (classAB) | With delay line (doherty or wide IBW) | No delay line (classAB) | With delay line (doherty or wide IBW) |
| R194                | 0 Ohm                            | <b>NL</b>                             | 0 Ohm                   | <b>NL</b>                             | 0 Ohm                   | <b>NL</b>                             |
| R222                | NL                               | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          |
| R223                | NL                               | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          |
| C292                | 221 Ohm                          | <b>432 Ohm</b>                        | 221 Ohm                 | <b>1.3pF</b>                          | 221 Ohm                 | <b>NL</b>                             |
| R192                | 24.3 Ohm                         | <b>11.5 Ohm</b>                       | 24.3 Ohm                | <b>1nH</b>                            | 24.3 Ohm                | <b>0 Ohm</b>                          |
| C160                | 221 Ohm                          | <b>432 Ohm</b>                        | 221 Ohm                 | <b>NL</b>                             | 221 Ohm                 | <b>1.2pF</b>                          |
| R201                | 0 Ohm                            | <b>NL</b>                             | 0 Ohm                   | <b>NL</b>                             | 0 Ohm                   | <b>NL</b>                             |
| R195                | NL                               | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          |
| R241                | NL                               | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          | NL                      | <b>0 Ohm</b>                          |
| C293                | 221 Ohm                          | <b>423 Ohm</b>                        | 221 Ohm                 | <b>1.3pF</b>                          | 221 Ohm                 | <b>NL</b>                             |
| R193                | 24.3 Ohm                         | <b>11.5 Ohm</b>                       | 24.3 Ohm                | <b>1nH</b>                            | 24.3 Ohm                | <b>0 Ohm</b>                          |
| C163                | 221 Ohm                          | <b>432 Ohm</b>                        | 221 Ohm                 | <b>NL</b>                             | 221 Ohm                 | <b>1.2pF</b>                          |

Default Configuration in **BOLD**. Refer to Hardware Design Guide for detail.

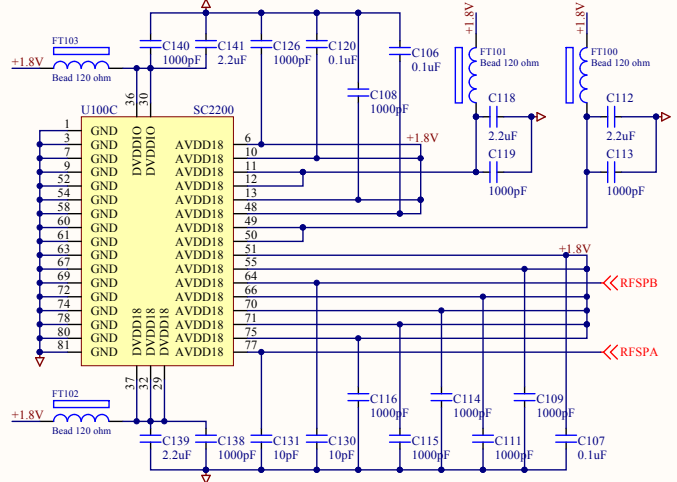


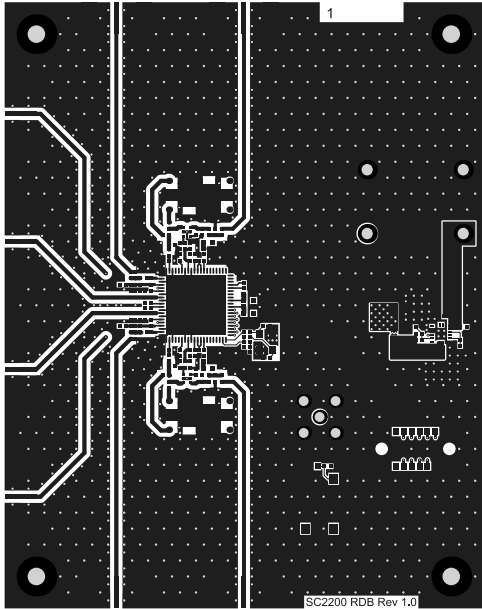
Host Connector 0.05" Pitch Shrouded  
**"IMPORTANT: If the host processor does not perform "max power calibration", this connector is needed for production line calibration. Refer to Hardware Design Guide for detail.**



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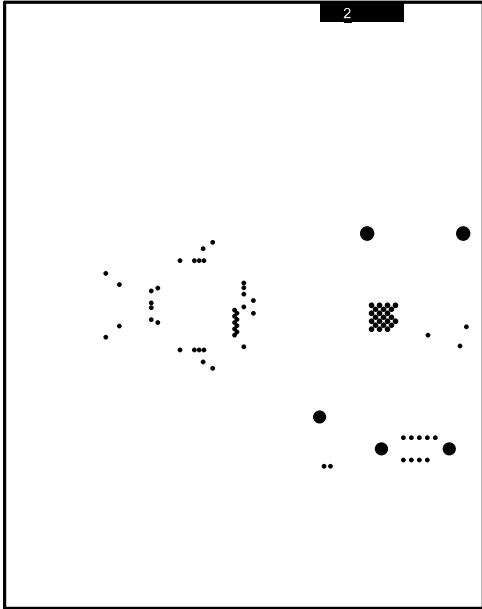
Note: Refer to Hardware Design Guide for supply pin current consumption.



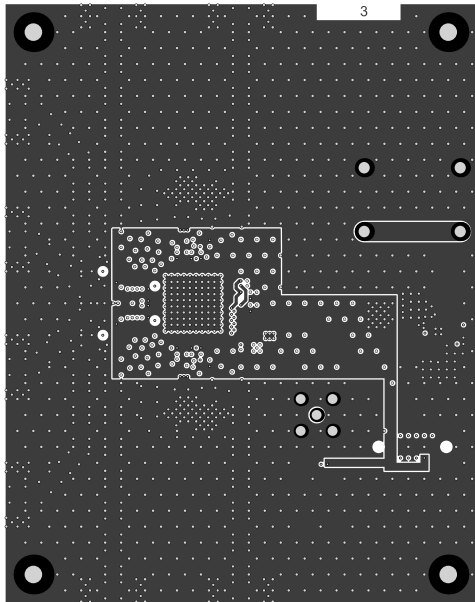


Maxim Integrated  
Top Layer 1

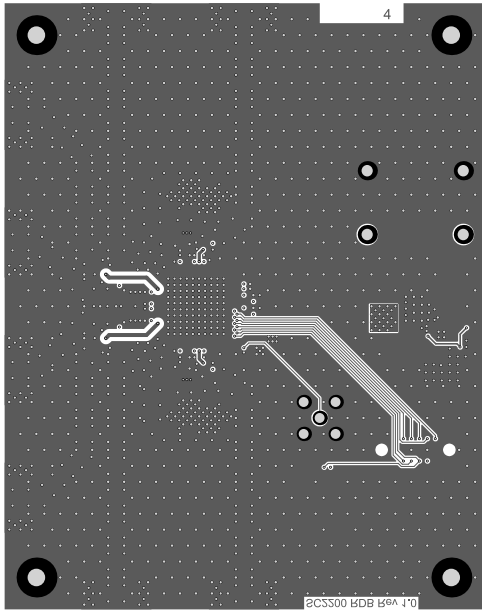




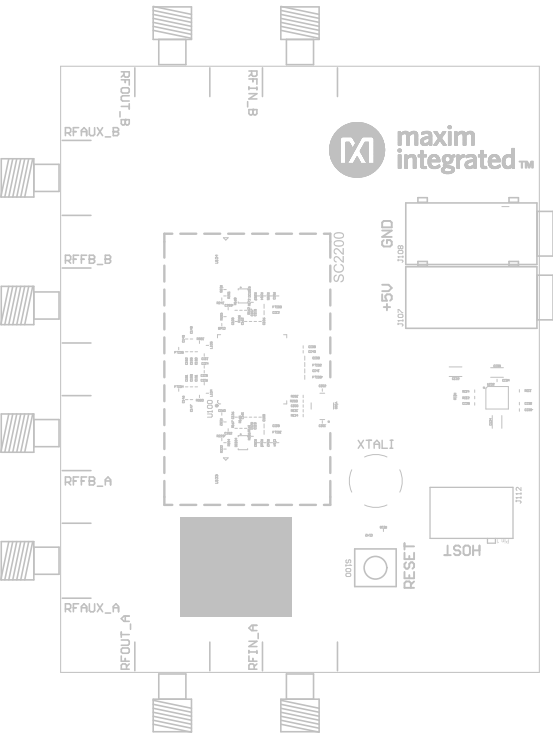
Maxim Integrated  
GND Layer 2



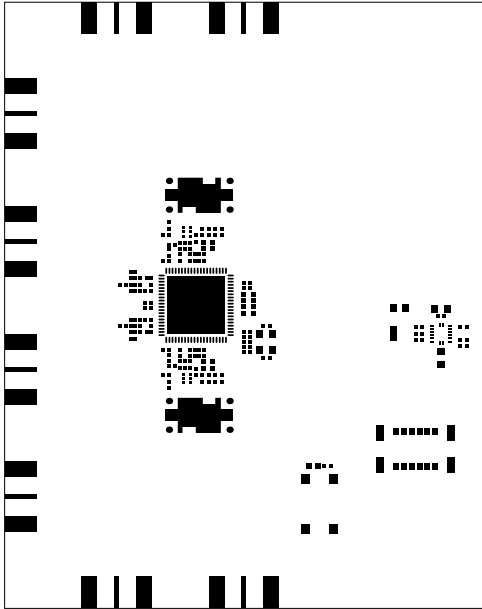
Maxim Integrated  
Internal Layer 3



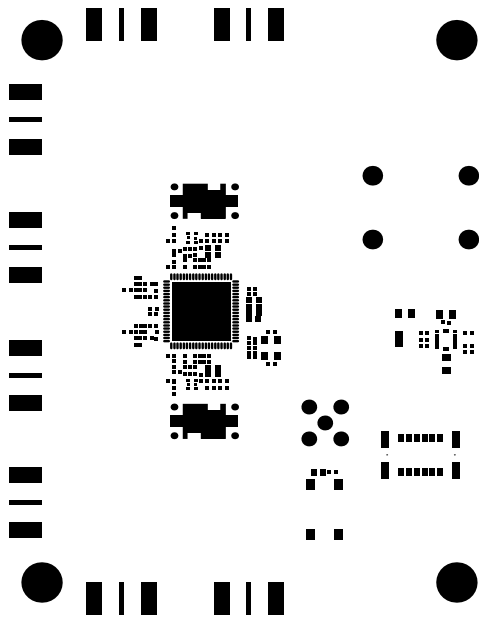
Maxim Integrated  
Bottom Layer 4



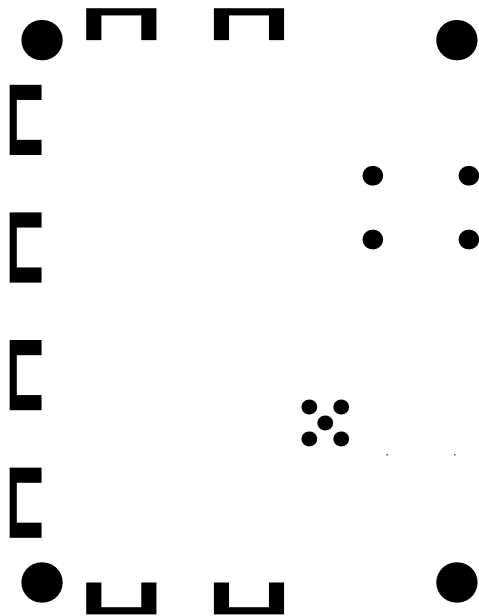
Maxim Integrated  
Top Overlay



Maxim Integrated  
Top Paste



Maxim Integrated  
Top Solder Mask



Maxim Integrated  
Bottom Solder Mask

| Symbol | Hit Count  | Finished Hole Size  | Plated | Hole Type |
|--------|------------|---------------------|--------|-----------|
| ⊗      | 2          | 62.99mil (1.600mm)  | NPTH   | Round     |
| ◇      | 4          | 71.00mil (1.803mm)  | PTH    | Round     |
| ■      | 4          | 110.00mil (2.794mm) | PTH    | Round     |
| ⊙      | 5          | 62.00mil (1.575mm)  | PTH    | Round     |
| □      | 58         | 10.00mil (0.254mm)  | PTH    | Round     |
| ○      | 1457       | 15.00mil (0.381mm)  | PTH    | Round     |
|        | 1530 Total |                     |        |           |

