

DATASHEET

SC-RF4-5Gn78

Indoor 5G Small Cell Standalone gNodeB Reference Platform



- Includes four high quality, flexible and 100MHz bandwidth RF channels, supporting 4x4 MIMO downlink operation
- Combines 16 Arm® Cortex®-A72 cores with NXP VSPA DSP cores, security and wireless accelerators
- Supported by CommAgility 5G SmallCellPHY and SmallCellSTACK stack software
- A highly integrated low-cost standalone 5G small cell solution

The SC-RF4-5Gn78 is a high-performance Arm and DSP based processing platform with four integrated RF transceiver channels. It can be used as a complete baseband and RF small cell solution.

It supports wireless baseband processing and a 4x4 MIMO air interface in radio test systems and gNodeBs. The gNodeB is available with CommAgility's industry-leading SmallCellPHY-5G and SmallCellSTACK-5G software, pre-integrated and tested to reduce risk and effort. The main processor is the LX2160A, part of NXP's Layerscape® family. It provides 5G Layer 2-3 processing with Ethernet

connectivity to the core network, including security acceleration.

Two NXP Layerscape Access® wireless SoCs provide the L1 PHY processing, combining VSPA DSP cores with wireless accelerators and RF transceivers. RF output power up to +18dBm average is supported and bandwidths up to 100MHz on each of four RF channels.

RF personality interface modules provide mixing, amplification and filtering to support specific bands in over-the-air applications allowing band specific customisation.

Key Features

- Four RF channels
- Band specific RF personality module capability
- NXP LX2160A Layerscape MPSoC
- NXP wireless SoC front end
- Pre-integrated 5G PHY and stack
- 12V DC input power with external AC/DC adapter
- Internal fan forced air cooling
- 120 active, 360 connected users
- Master timing from GPS or IEEE1588
- GbE backhaul interface with 10GbE option
- Unparalleled support team

Hardware Specifications

- Datapath acceleration for 5G L2/3
- 50Gbps security accelerator
- Timing from GPS or IEEE1588
- Dimensions: 320 (L) x 225 (W) x 102mm (H)

External I/O:

- RJ45 1000Base-T Ethernet port
- SFP+ 10GBase-SR/LR option
- Four SMA antenna ports
- Mini USB-B UART interface
- GPS SMB antenna port
- SDHC Card Slot
- 12V power connector

Software

5G Layers 1-3: For gNodeB, the card is supported by CommAgility's SmallCellPHY-5G and SmallCellSTACK-5G 3GPP Release 15 software.

Environment/EMC/Safety

- Operating temp: 0°C to +40°C ambient (forced air cooled)
- Power consumption: approx. 90W
- 2014/30/EU and FCC EMC compliant
- 2015/863 RoHS, EC/1907/2006 REACH
- 2014/53/EU Radio Equipment Directive

Resulting Benefits

- Supports 4x4 MIMO downlink operation
- Supports 2 sector 2x2 MIMO operation
- Allows regional product configuration
- High performance multi-Arm device
- Flexible, high quality RF at low cost
- Reduced cost, effort and risk
- Minimal external hardware required for deployment, saving system cost
- Easy desktop operation
- Ideal for densification solutions
- Highly flexible for gNodeB and test applications
- Standard connections to packet core and for control and management
- Faster and easier project development

RF Specifications

- 5G NR Band n78, 3.3-3.8GHz
- Up to four channels at 100MHz bandwidth
- Digital and analog RF filtering
- All channels frequency synchronized
- TDD operation supported
- Maximum Rated Output Power (PRAT) +18dBm gNodeB per antenna
- Suitable for over-the-air operation

OEM Partnership Services

IN DEVELOPMENT: support and training; hardware customization; software development.

IN PRODUCTION: lead-time reduction; extended warranty; and repair; quick turn repairs and/or spares stocking.

EXTENDED LIFE: obsolescence management; guaranteed lifecycle; Escrow.

LICENSING can be offered for high volume projects.




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