

DATASHEET

SC-RF2-5Gn78

Indoor 5G Small Cell Standalone gNodeB Reference Platform



- Includes two high quality, flexible and 40MHz bandwidth RF channels, supporting 2x2 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-RF2-5Gn78 is a high-performance Arm and DSP based processing platform with two integrated RF transceiver channels. It can be used as a complete baseband and RF small cell solution.

It supports wireless baseband processing and a 2x2 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.

An NXP Layerscape Access® wireless SoC provides the L1 PHY processing, combining VSPA DSP cores with wireless accelerators and RF transceivers. RF output power up to +14dBm average is supported and bandwidths up to 40MHz on each of two RF channels.

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

Key Features

- Two 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 1PPS
- GbE backhaul interface with 10GbE option
- Unparalleled support team

Hardware Specifications

- Datapath acceleration for 5G L2/3
- 50Gbps security accelerator
- Timing from GPS or 1PPS
- Dimensions: 320 (L) x 225 (W) x 102mm (H)

External I/O:

- RJ45 1000Base-T Ethernet port
- SFP+ 10GBase-SR/LR option
- 2 off SMA TRX RF connectors
- Mini USB-B UART serial debug interface
- GPS SMB antenna port
- 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. 75W
- 2014/30/EU and FCC EMC compliant
- 2015/863 RoHS, EC/1907/2006 REACH

Resulting Benefits

- Supports 2x2 MIMO downlink operation
- Supports 2 channel SISO 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, 3.4-3.6GHz
- Up to two channels at 40MHz bandwidth
- Digital RF filtering
- All channels frequency synchronized
- TDD operation supported
- Maximum Rated Output Power (PRAT) +14dBm gNodeB per channel
- Suitable for cabled operation only

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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