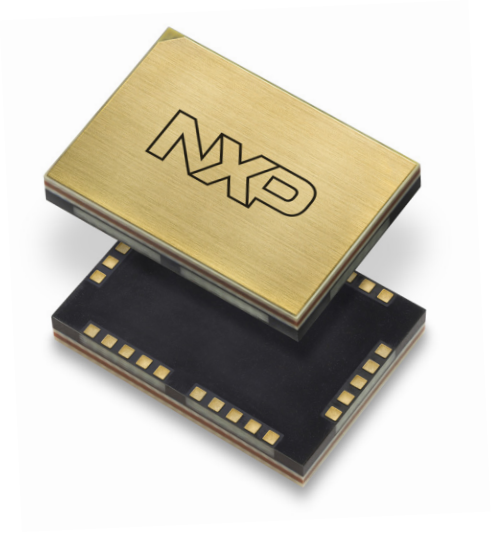
TOP-SIDE COOLING RF POWER MODULES FOR 5G INFRASTRUCTURE

NXP's top-side cooling technology helps radio designers create thinner, lighter 5G radio units while reducing design and manufacturing complexities.

This 8 W module series is designed for massive MIMO radios covering 3.3 GHz to 3.8 GHz — typically 32T32R (200 W) or 64T64R (320 W) radios. The devices combine NXP's in-house LDMOS and GaN semiconductor technologies to enable high gain and efficiency with wideband performance.



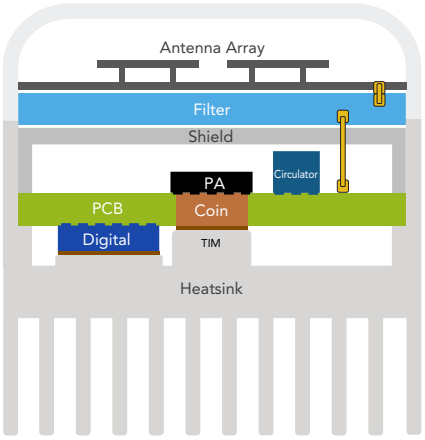
TARGET APPLICATIONS:

- Communication infrastructure
- 5G mMIMO active antenna systems
- Driver for high power 5G macro remote radio heads
- Outdoor small cells
- Suitable for open RAN and proprietary networks

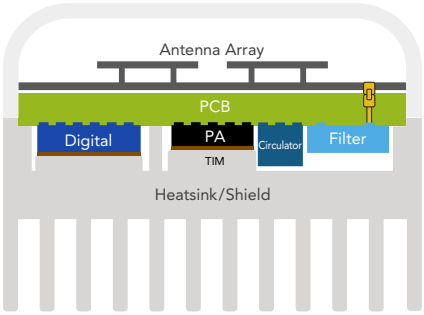
BENEFITS

- Clean separation of thermal and RF paths
- Lower thermal resistance
- Heatsink serves as RF shield
- Fewer, shorter connections
- Enables > 30% thinner and lighter radio unit

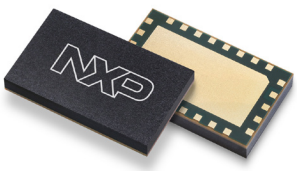
Conventional Radio



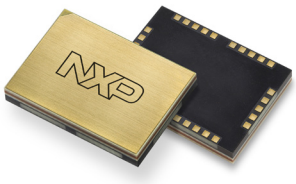
Thin Radio



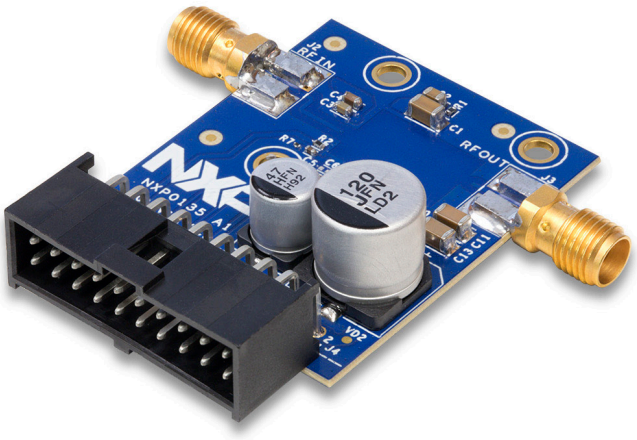
Bottom-side Cooling

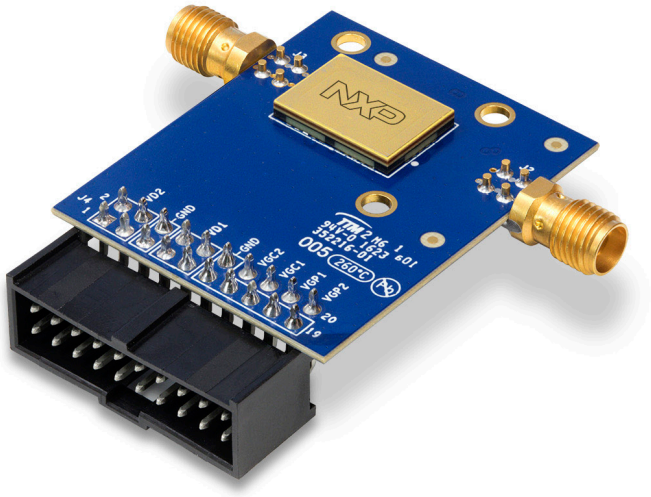


Top-side Cooling



A5M36TG140-TC EVALUATION BOARD





TYPICAL PERFORMANCE:

Frequency (MHz)	Avg. Power (dBm)	Gain (dB)	Lineup Efficiency (%)	OBO (dB)	V_{DD} (V)	Top-side Cooling Evaluation Board Part Number
3400-3800	40.2	30.7	46.6	9.3	5/48	A5M36TG140TC-EVB

Example of mMIMO Active Antenna System

BOARD DESIGN FILES INCLUDE:

- Board layout
- Schematic
- Board parts list
- Mechanical drawings

RELATED PRODUCTS

- A5M36TG140-TC: Top-side cooling power amplifier module
- A5M35TG140-TC: Top-side cooling power amplifier module
- A5M34TG140-TC: Top-side cooling power amplifier module

LEARN MORE

Get the latest information on NXP's top-side cooled front-end modules: nxp.com/TSCEVB

www.nxp.com/RF

Document Number: TSCEVBFS REV 0