

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.

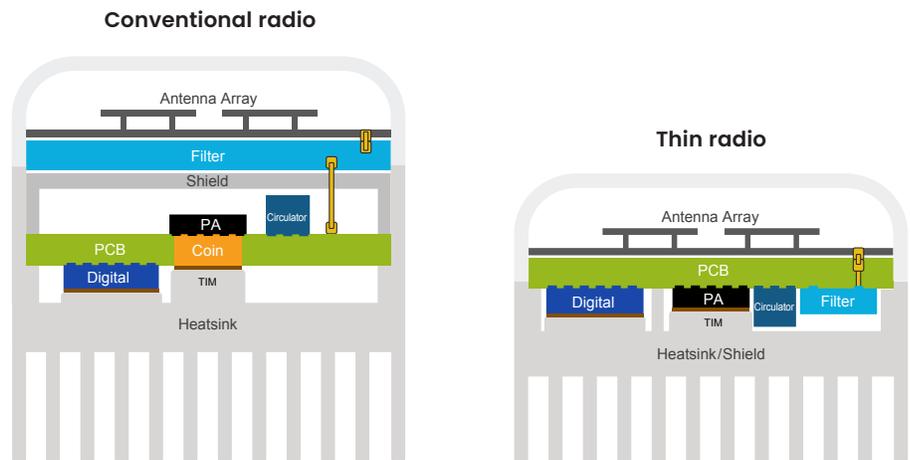
This 8 W module series is designed for massive MIMO radios covering 3.3 GHz to 3.8 GHz – typically 32T32R (200 W) or 64T64R (320 W) radios. The devices combine NXP's in-house LDMOS and GaN semiconductor technologies to enable high gain and efficiency with wideband performance.

Target applications:

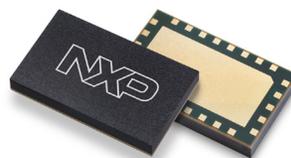
- Communication infrastructure
- 5G mMIMO active antenna systems
- Driver for high power 5G macro remote radio heads
- Outdoor small cells
- Suitable for open RAN and proprietary networks

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



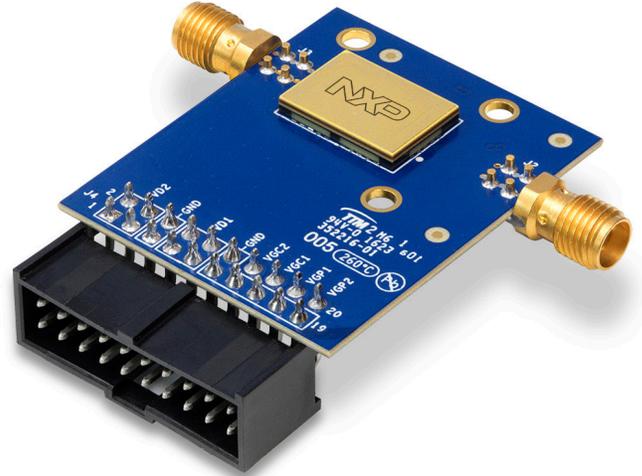
Bottom-side cooling



Top-side cooling



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 mmMIMO active antenna system

Board design files include:

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

Related products

- [A5M34TG040-TC](#): Top-side cooling power amplifier module
- [A5M35TG040-TC](#): Top-side cooling power amplifier module
- [A5M36TG040-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](https://www.nxp.com/TSCEVB)

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