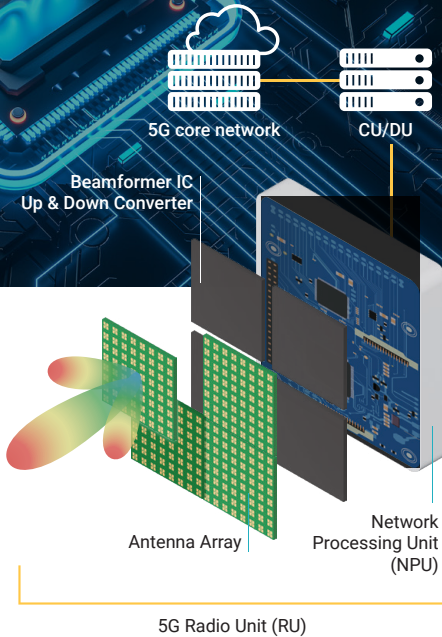


One-Stop Shop **AiP** Solution for **5G mmWave O-RU**

Total solution provider from design, materials, and manufacturing to testing.



The phased array antenna is an essential technology for 5G/B5G and 6G mmWave devices while the Antenna-in-Package (AiP) is a critical component for product commercialization.

TMYTEK is capable of designing various types of antennas that integrate with beamformer chips to fulfill different applications in 28/39/60 GHz bands. The breakthrough system design aims to achieve high EIRP, and a well-balanced thermal and power efficiency to provide the best cost structure for ecosystem players.

As a solution integrator, TMYTEK offers a state-of-the-art architecture that can be rapidly developed and integrated into commercial products. Our solid system architect design with optimized algorithm deployment offers powerful and efficient beamforming and steering capabilities.

Tile-based phased array antenna with scale flexibility

TMYTEK is capable of facilitating the phased array antenna with the best total cost of ownership. With TMYTEK's capabilities and Taiwan's manufacturing supply-chain management, TMYTEK AiP is designed as a tile-based phased array antenna, going through complete verification, and high-yield manufacturing to succeed the cost and performance demand for 5G mmWave O-RAN RU.

- n257, n258, n261 ready
- Dual-polarization
- Modular design for scalability
- Zero calibration at the system level (based on module OTA and conduction testing)

Low-PHY integration-ready

To realize a mosaic structure, it needs to form a large array by assembling standard AiP modules and integrating the up/ down converter of IF to RF circuits into the package. O-RAN opens up opportunities for the radio access network ecosystem where TMYTEK is in a position to provide a low-PHY integration-ready AiP solution for all scales of mmWave RU.

U/D converter integrated with dual-mode operation

- IF mode (2-8 GHz)
- IQ mode (baseband, Low PHY, DC-1.5 GHz)

High-performance EIRP with an energy-efficient design

TMYTEK's phased array antenna system design and integration offer extraordinary performance in EIRP. With experience and process know-how, TMYTEK provides an energy-efficient solution with low power consumption per bit watt and reliability. For example, integration into an 8x8 phased array antenna would result in:

High EIRP & linearity

- 57 dBm@P1dB
- 52 dBm@3% EVM of 800 MHz 64-QAM OFDM

Energy-efficient & low power consumption

- 0.35 W power consumption per channel @57 dBm EIRP

