



26.5 – 45 GHz · 5G/6G MMWAVE · BEAMFORMING
· BBOX · UD BOX · RIS ANTENNAS

TMYTEK delivers 5G mmWave beamforming modules and antenna platforms. The BBox™ and BBoard™ product families enable flexible development across 26/28/39 GHz bands — serving research institutions, defence programmes and 5G network deployments.



Product Portfolio

BBox One

28/39 GHz

16-channel beamforming platform for 28 GHz or 39 GHz. Designed for 5G research and testing environments.

BBox Lite

28/39 GHz

4-channel beamforming unit — compact entry point for mmWave beamsteering applications.

BBoard

28/39 GHz

4-channel developer board providing flexible architecture for custom 5G system integration.

UD Box

RF 24-44 GHz

Up/down converter box with IF 0.01-14 GHz for versatile frequency translation.

PLO Modules

UP TO 45 GHz

Phase-locked oscillators across three bands, available as SMT, EVA board or connectorised variants.

Passive Components

UP TO 53 GHz

Baluns, bias tees, DC blocks and bandpass filters covering bands up to 53 GHz.

UD Box 0630

RF 6-30 GHz / IF 1-8 GHz

Dual-channel up/down converter with OCXO reference for Ku-band LEO satellite, WiFi 6e/7, UWB and defence radar systems.

UD Box 1753

RF 17-53 GHz / IF 1-8 GHz

Wideband converter extending to Q-band — supports Ka/Q satellite, FR2 (n257-n260), defence radar and UWB applications.

UDBoard

RF 23-30 GHz

Compact up/down conversion board with X4 LO multiplier — Tx 11.5 dB gain, Rx 8 dB gain, half-duplex operation.

XRifle Dynamic RIS

3.5 / 4.7 / 28 GHz

Reconfigurable intelligent surface — three variants for FR1 and FR2; one controller manages up to four modules simultaneously.

XRifle Reflector

26 – 30 GHz

Fixed-beam reflectarray antenna in eight standard models for enhancing mmWave signal distribution.

Horn Antennas

6 – 30 GHz

Dual-polarisation horn antennas with 2.92 mm K-connector, 15 dB peak gain — for 5G FR3, OTA testing and antenna measurements.

mmWave Developer Kit

26 – 30 GHz

Complete education kit with BBoard, patch array antenna, 28 GHz CW source and power detector — widely adopted in university teaching.

Strengths at a glance

5G mmWave Leadership

Established provider of 5G NR FR2 beamforming platforms with global reach and research partnerships.

Complete System Approach

Hardware (BBox, UD Box, XRifle), software (TMXLAB Kit) and service from a single source — integrated mmWave ecosystem.

RIS Innovation

XRifle Dynamic RIS pioneers reconfigurable intelligent surfaces — critical technology for 6G networks and smart cities.

Software-Defined

APIs for Python, MATLAB, LabVIEW and C++ — complete access to all hardware functionality, designed for research and automation.

Education & Research

NextGen Wireless Education Kit and mmWave Developer Kit — adopted by universities worldwide for teaching and advanced research.

CE/FCC Certified

All systems certified to CE, FCC, UKCA and ICES — ready for deployment in European research and industrial environments.

Industries & Use Cases

5G / 6G Research

Universities and research institutes worldwide use BBox, UD Box and XRifle for next-generation wireless programmes.

Antenna Development

BBox One with detachable AA kit enables antenna designers to rapidly iterate custom mmWave array designs.

SATCOM & LEO

UD Box 0630 for Ku-band LEO satellites, UD Box 1753 for Ka/Q-band — ground station conversion and FR3/FR2 bands.

Defence Radar

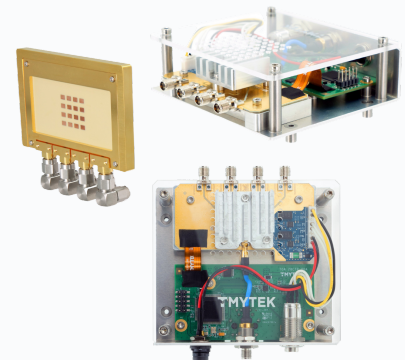
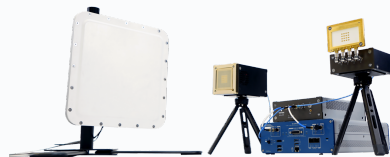
mmWave components for defence radar, EW systems and reconnaissance with short development cycles.

OTA Test & ATE

Beamformers and UD Box as core building blocks in over-the-air test setups and automated test environments.

5G Coverage / RIS

XRifle Dynamic RIS and Reflector optimise mmWave radio coverage in 5G/6G networks — smart cities and IoT.



Available through bq-microwave

bq-microwave is the authorized European distributor for TMYTEK. Fast procurement, short lead times and personal technical consultation.

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