



## Antenna Line Devices



MOBILE  
COMMUNICATION

Solutions for  
Site Optimisation

# KATHREIN

# Introduction

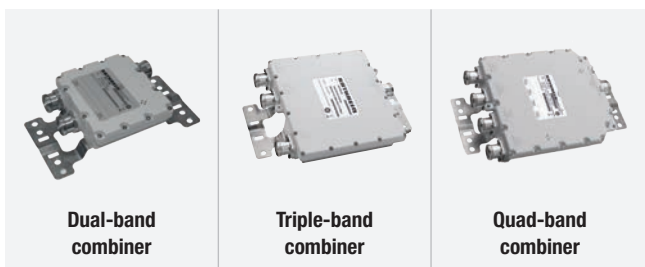
Quality and cost-effectiveness are two of the main matters when building up mobile communication sites. Besides antennas and base station equipment, the cabling is also an important factor in terms of investment. The higher the antenna site, the more costly the cabling. One common approach to save feeder lines is to use combiners near the base station and antenna in order to combine different frequency paths on common feeder cables and to split them up at the antenna again. This cannot only be realised for different frequencies with multi-band combiners, for the same frequency band same-band combiners can be used.

When it comes to network quality, dropped calls or decreased data rates should be avoided in any case. An imbalanced network can be the reason for such problems. By using DTMAs, the balance of the network can be restored and optimised.

In order to optimise the PIM performance of the network, the latest Kathrein antenna line devices are equipped with 4.3-10 connectors.

### Multi-band Combiners

- Feeder line/antenna sharing
- Co-siting of two or more BTS operated in different frequency bands
- Various auto-sense models available



#### Auto-sense Technology

- Automatic DC/AISG signal detection on the input ports; signals are bypassed to the according antenna line devices
- Simplified type choice, thus less warehouse costs
- Prevention of installation mistakes
- Customised prioritisation of different ports possible

## Same-band Combiners

### Same-band/Hybrid Combiners

- Co-siting of two or more BTS operated in the same frequency band
- Feeder line sharing
- Antenna sharing/in-band combining



**Duplex hybrid combiner**  
**EGSM 900/UMTS 900**



**Same-band combiner**  
**LTE 1800/GSM 1800**



**2:1 Hybrid combiner**  
**698-2690 MHz**



**3:3 Hybrid combiner**  
**548-2690 MHz**



For product data sheets and details about types of antenna line devices, please ask your local Kathrein sales representative or visit [www.kathrein.com](http://www.kathrein.com).

## DTMA's and System Components

### Double Tower Mounted Amplifiers (DTMA's)

- Small design and optimised weight
- Multi-band DTMA's for feeder sharing scenarios
- DTMA's for all common frequency bands
- DTMA's with bypass functionality
- Reliable alarm management with AISG/CWA
- MTBF > 1,000,000 h/TMA



### Filters and System Components

- Compact size
- Feeder line sharing
- Low RF insertion loss
- For indoor and outdoor applications



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