



LTE 800/UMTS 900 (850) Products

LTE 800/UMTS 900 (850)
Antennas, Filters,
Combiners and Amplifiers
from the World's largest
Antenna Supplier

- Multi-system
- Site-sharing
- Re-farming
- MIMO

- New solutions for easy upgrade
- 100% tested VSWR and IM-performance
- Special mechanical strength

KATHREIN

Antennen · Electronic



LTE 800/UMTS 900 (850) Products

Low-band XPol Antennas

LTE 800/GSM 900/UMTS 900 (850)

- ▶ All existing low-band XPol antennas cover UMTS 900, the majority UMTS 850
- ▶ All modern panels will be upgraded step-by-step to the enlarged frequency range for LTE 800
- ▶ Types supporting GSM 900, UMTS 900 (850) and also LTE 800 are already available
- ▶ 33°/65° and 90° half-power beam widths
- ▶ Best gain values with shortest length
- ▶ 2 x 2 MIMO possible

2 x Panel Mounting Kit

- ▶ Existing GSM antennas may be reused
- ▶ Adding a new UMTS or LTE panel on a 2 x panel mounting kit
- ▶ Additional mechanical down-tilt possible



Combiner




- ▶ Combination of different base stations by means of separate combiners possible



LTE 800/UMTS 900 (850) Products

Low-band XXPol Antennas

- ▶ Already available for UMTS 900 (850)
- ▶ Introduction of new antennas covering LTE 800 also
- ▶ Individual down-tilt for two different technologies
- ▶ 65° and 90° half-power beam widths
- ▶ Various MIMO possibilities

			
Type	Side-by-Side	Dual-band	Side-by-Side
1st System	GSM 900 UMTS 900 (850)	GSM 900 UMTS 900	GSM 900 UMTS 900 (850) LTE 800
2nd System	GSM 900 UMTS 900 (850)	LTE 800	GSM 900 UMTS 900 (850) LTE 800
Optimized for	Width (374 mm); Compared to 560 mm of two standard antennas	Width (299 mm); Isolation (>30 dB); Weight	Gain/Height; Isolation
MIMO Possibilities	2 x 2 2 x 4 4 x 4	2 x 2	2 x 2 2 x 4 4 x 4



LTE 800/UMTS 900 (850) Products

Low-band/High-band XXPol Antennas

LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS

- ▶ UMTS 900 (850) included
- ▶ Frequency range of existing antenna types are either already enlarged with LTE 800 or will soon be enlarged
- ▶ Individual adjustable down-tilt
- ▶ 65° and 90° half-power beam widths
- ▶ 2 x 2 MIMO possible





LTE 800/UMTS 900 (850) Products

Low-band/Low-band/High-band XXXPol Antennas

LTE 800/
GSM 900/UMTS 900 (850)/
GSM 1800/UMTS

- ▶ Individual adjustable down-tilt for LTE 800 and UMTS 900 (850) and GSM 1800/UMTS
- ▶ Optimized for width (299 mm)
- ▶ 65° half-power beam widths
- ▶ 2 x 2 MIMO possible

Low-band/High-band/High-band XXXPol Antennas

LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS/
GSM 1800/UMTS

- ▶ UMTS 900 (850) included
- ▶ Frequency enlargement to LTE 800 in progress
First types already available
- ▶ Individual adjustable down-tilt
- ▶ Stacked and gain-optimized versions
- ▶ Enlargement to LTE 2.6
- ▶ 2 x 2 MIMO, 2 x (2 x 2) MIMO





LTE 800/UMTS 900 (850) Products

VPol

All existing VPol Panels including GSM 900 also cover UMTS 900, the majority UMTS 850

Directive

- ▶ LogPer also covering LTE 800
- ▶ 20°/51°/65°/120° half-power beam widths
- ▶ Fixed down-tilt

Omnis

- ▶ Gain values 2/5/8/11 dBi
- ▶ Special strong lightning protection
- ▶ Low tip deflection
- ▶ Several dual-band versions available



Indoor

- ▶ Indoor antennas including GSM 900 also cover UMTS 900, the majority UMTS 850 and LTE 800
- ▶ Omni and directional antennas for ceiling and wall mounting
- ▶ Diverse designs
- ▶ Very broad-band versions





LTE 800/UMTS 900 (850) Products

Multiband Combiners

Dual-band Combiners

- ▶ LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS/LTE 2.6
- ▶ LTE 800/GSM 900



SmartPlex Dual-band Combiners

- ▶ LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS/LTE 2.6

Triple-band Combiners

- ▶ LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS



Quad-band/Hybrid Combiners

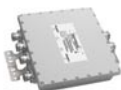
- ▶ LTE 800/GSM 900/UMTS 900 (850)/
GSM 1800/UMTS/LTE 2.6



Same-band/Hybrid Combiners

Same-band Combiners

- ▶ No 3 dB insertion loss in
Tx and Rx path



Duplex Hybrid Combiners

- ▶ No 3 dB insertion loss in
Tx path



LTE 800/UMTS 900 (850) Products

Hybrid Combiner 2:1

- ▶ 806-960 MHz,
including UMTS 900 (850)
- ▶ 790-2690 MHz,
including LTE 800 and UMTS 900 (850)
- ▶ Frequency independent
- ▶ Excellent IM-performance



Band-pass Filters



System Components

- ▶ DC-Stops
- ▶ Attenuators
- ▶ 50 Ω Loads
- ▶ Smart Bias Tees



DTMA

- ▶ Fullband Double Dual Duplex
TMA/MHA for UMTS 900
- ▶ Supporting AISG as well as CWA
- ▶ 12/32 dB gain





LTE 800/UMTS 900 (850) Products



Network planning is becoming ever more complicated, especially with the advent of 3G. The challenge for wireless network operators is to balance coverage, capacity, call quality and costs, in order to gain maximum revenue from their network. The possibility of coverage adjustment through the vertical antenna pattern is a very important aspect for mobile communication planners.

Kathrein's Remote Electrical Tilt (RET) system represents the latest antenna system technology.



RET system components

- ▶ Central Control Unit (CCU)
- ▶ Portable Control Adapter (PCA)
- ▶ Remote Control Unit (RCU)
- ▶ DC power and signal splitter
- ▶ Control cables
- ▶ Lightning Protection Device (LPD)
- ▶ Earthing clamp

Optional

- ▶ Bias Tee/Smart Bias Tee
- ▶ Double Tower Mounted Amplifier (DTMA)



The Kathrein Group

Kathrein is an international enterprise active in antenna and communications technology. For more than 90 years our group of companies has been developing, producing and marketing a wide range of antenna systems and electronic components. Always being one step ahead in technology has ensured that Kathrein is the leading company in the world market.

More Information?

Visit our website

<http://www.kathrein.de>

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