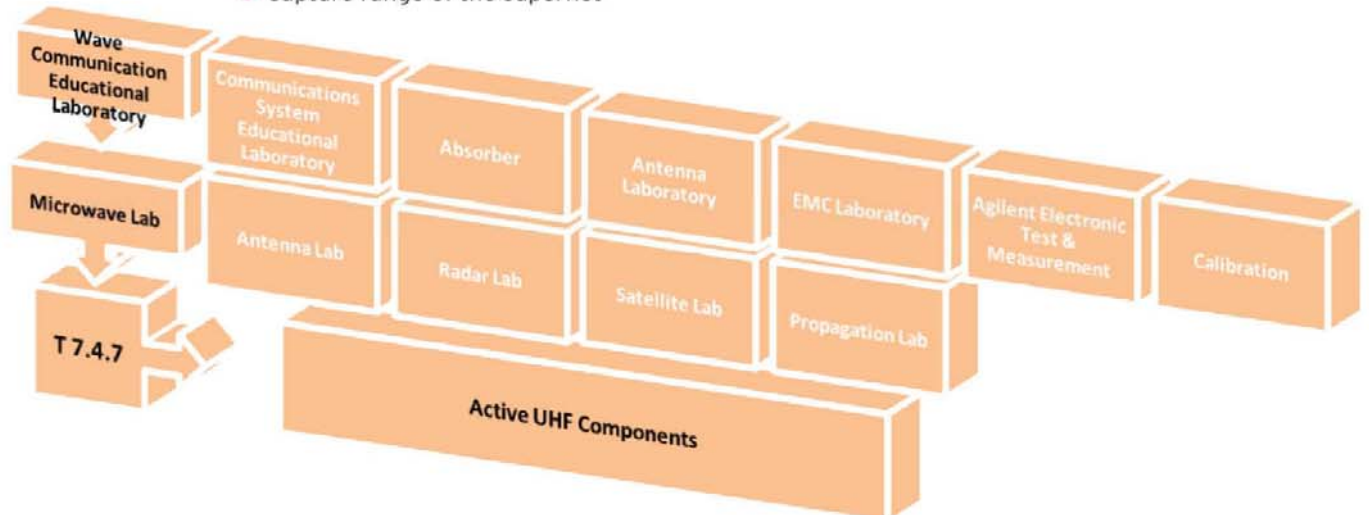
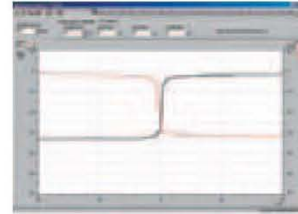


The supplementary set „Active UHF Components“ expands on experiments performed on coaxial passive components and active SMD circuits. There is storage room for this set in the case provided with the COM3LAB course „Microwave Technology I“.

**Topics**

- Determining the resonance of rod antennas
- Insertion loss and stop band attenuation of the circulator
- Circulator bandwidth
- Short-circuited parallel stubs
- Transformation behavior of long lines
- Attenuation of coaxial lines
- Frequency dependency of line attenuation
- Calculation of dielectric constants from phase measurements
- Gain and return loss of an MMIC amplifier
- SPST and SPDT switches with PIN diodes
- PIN diode switching behavior
- Microwave transmission links
- U/f and f/U converter characteristics
- Capture range of the superhet





**RF switches with PIN diodes**

The switching behavior of an SPDT switch (Single Pole Dual Throw). This type of switch is implemented with PIN diodes. Subject to a DC bias current, it exhibits alternating transmission properties from its input to the two outputs at 433 MHz.

- red curve: negative control currents open the PIN diode (1). Positive control currents block.
- black curve: positive control currents open the PIN diode (2). Negative control currents block.

EQUIPMENT SET LIST T 7.4.7

Active UHF Components

QUANTITY	CAT. NO	DESCRIPTION
1	737 51	COM3LAB Course: Microwave Technology I
1	737 52	COM3LAB Course: Microwave Technology II
Within the scope of delivery of 737 52:		
1	737 548	UHF Antennas
1	737 549	3 Port Circulator
1	737 550	MMIC Amplifier +10dB output power max. 50 mW
1	737 551	VCO operating frequency 433.92 MHz, FM modulation with integrated V/f-converter
1	737 552	UHF Superhet Receiver input frequency 433.92 MHz with integrated f/V-converter
1	737 553	RF Switch switches realized with PIN diodes in SPST and SPDT configuration

