

## Standard Coupling Unit SCF-0360-6G

MTS-No.: 31238

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### Application

With the MTS Standard Coupling Unit you can emulate air interfaces for all imaginable scenarios. To avoid the influence from the live-net, the signals can be connected with cables directly from the different signal sources, as for example GSM, LTE+ or 5G base stations or signal generators etc. over the MTS SCF to mobile devices.

### Description

The MTS Standard Coupling Unit SCF-0360-6G is a very flexible solution for air interface emulation. The design of the shown unit is divided into 3 groups. Every group allows program controlled attenuation of 2 input to 1 output signals at the same time means 6 base stations and 3 mobile devices. The function is carried out by attenuators and combiners. Additionally combiners are attached downside.



### Characteristics

- ▶ 3 groups each with 2 inputs leading through 95 dB attenuators to 1 output (6 inputs, 3 outputs)
- ▶ Frequency range from 500 MHz to 6000 MHz
- ▶ Attenuation range from 0 dB to 95 dB in 1 dB steps at each attenuator
- ▶ LEDs at the front panel show the power level indication for 700 – 6000 MHz (function and tolerance @ manual)
- ▶ Integrated combiners (1x 4/1, 2x 2/1)
- ▶ Switching time up to 10 ms on request additional information text (2 lines, up to 20 signs per line)
- ▶ Switching time up to 10 ms
- ▶ Integrated power supply 100 V - 240 V AC
- ▶ Manual control (LC display with keypad)
- ▶ Remote control by RS-232 and LAN with integrated LAN-switch (4 ports)
- ▶ 19" rack mount case with 6 HU
- ▶ Windows control programs can be offered
- ▶ High quality materials and components for extended durability
- ▶ Coupling Units can be designed according to customers individual requirements

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## Configuration:

3 groups each with 2 inputs leading through 95 dB attenuators to 1 output (6 inputs, 3 outputs), as well as power level indication for 700 MHz- 6000 MHz (function and tolerance @ manual) at the front panel and additional combiners 1x 4/1 and 2x 2/1

## Technical data:

### 1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	+30 dBm max. @ the inputs		
1.3 Frequency range	500 MHz - 6000 MHz		
1.4 RF-connections	N female		
1.5 Attenuation @ BTS path	0 dB - 95 dB in 1 dB steps 0.5 / 0.25 dB on request		
1.6 VSWR in @ BTS path @ Cb path @ 790 - 5750 MHz @ 500 - 6000 MHz	<b>min.</b>	<b>typ.</b>	<b>max.</b>
		1.35	1.70
VSWR out @ BTS path @ 790 - 5850 MHz @ 500 - 6000 MHz @ Cb path @ 790 - 5750 MHz @ 500 - 6000 MHz		1.10	1.30
		1.30	1.60
1.7 Insertion loss (IL) @ BTS path @ Cb path 2-way @ Cb path 4-way		10.0 dB	14.5 dB
		3.6 dB	5.0 dB
1.8 IL derating / 20 MHz		7.2 dB	9.0 dB
		0.03 dB	
1.9 Isolation (see plot) @ BTS path @ 500 - 790 MHz @ 790 - 6000 MHz @ Cb path @ 500 - 790 MHz @ 790 - 6000 MHz	(without attenuation)		
		19 dB	26 dB
1.10 Attenuation accuracy @ 500 - 3000 MHz @ 0 - 30 dB @ 31 - 60 dB @ 61 - 95 dB @ 3000 - 6000 MHz @ 0 - 30 dB @ 31 - 45 dB @ 46 - 60 dB @ 61 - 85 dB @ 86 - 95 dB		29 dB	36 dB
		13 dB	19 dB
		18 dB	23 dB
		±0.1	±0.8 dB
		±0.4	+1.5/-0.8 dB
		±0.8	+2.5/-1.5 dB
		0/-0.7	+0.8/-1.5 dB
		0/-2.6	+0.8/-3.0 dB
		0/-2.6	+0.8/-4.5 dB
		0/-4.0	+1.5/-6.0 dB
		0/-5.2	+1.5/-9.0 dB
1.11 Switching time	10 ms		

### 2 Connections:

2.1 Front side	RF-connections Power switch with integrated control lamp LC display with keypad UP/DOWN-keys LEDs for power level indication
2.2 Rear side	RF-connections Power supply with integrated control lamp Control card with control interfaces Appliance plug with the integrated fuses F1 and F2 Ground connector

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### Technical data:

#### 3 General specifications:

3.1 Power supply	100 V - 240 V 50 Hz / 60 Hz
3.2 Internal voltage	+5 V DC, +28 V DC
3.3 Control displays	Control lamp in the power switch Green LCD LEDs for power level indication Control LED for +5 V DC at the power supply unit
3.4 Control interfaces	RS-232 LAN
3.5 Power consumption primarily	200 mA max. @ 230 V
3.6 Mains connection	Power cable CEE7/7 / IEC C13
3.7 Operating environment	Temperature: 0 °C - +50 °C Altitude: 2000 m max. Relative humidity: 85% max. up to 40 °C, non-condensing
3.8 Reference temperature for specifications	+25 °C
3.9 References	Designed for indoor in industrial and laboratory environments
3.10 Dimensions	19"-unit x 6 HU x 310 mm (dimensions without handles and connections)
3.11 Colour	Front side colourless anodized Rear side colourless anodized
3.12 Weight	12.6 kg

#### 4 Delivered parts:

SCF-0360-6G  
Power cable  
CD with operating manual

#### 5 Comments:

Warranty 12 months  
RoHS-compliant Yes

#### 6 Recommended accessories:

Shielding box of the series MSB-02xx or MSB-01xx  
RF-cables  
Control software

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## Typical measurements:

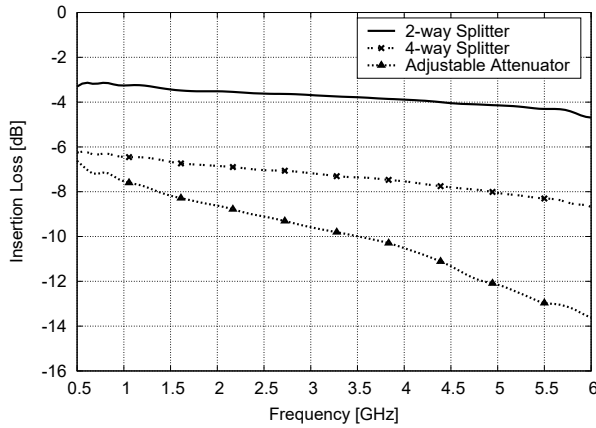


Fig. 1: Input port to output port insertion loss

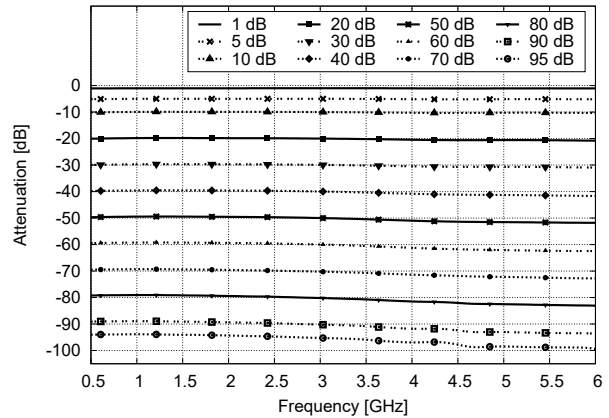


Fig. 2: Attenuation relative to insertion loss

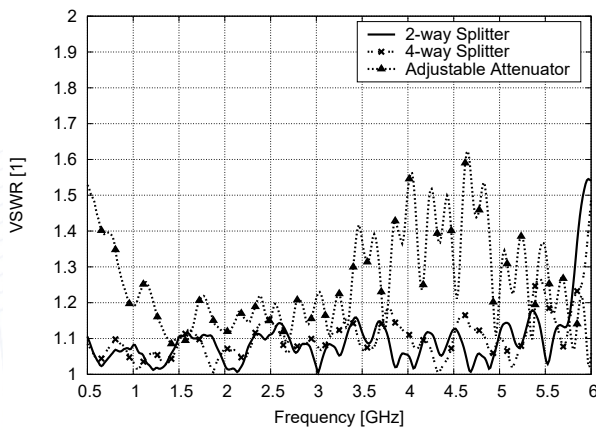


Fig. 3: VSWR for input ports

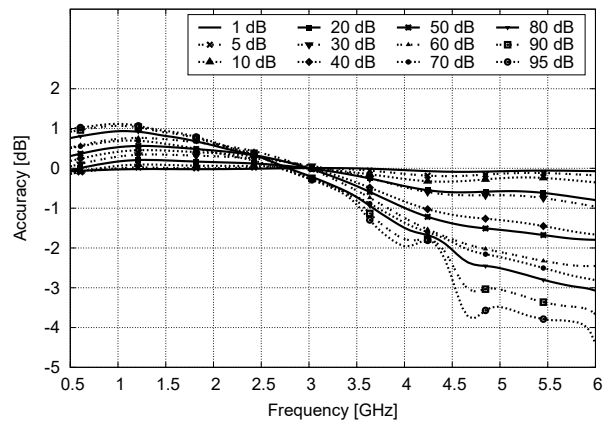


Fig. 4: Attenuation accuracy

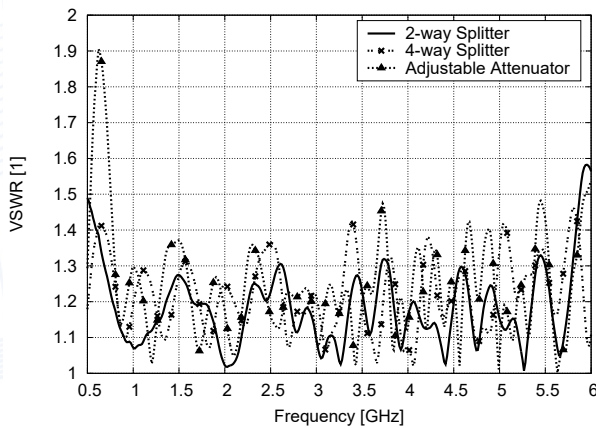


Fig. 5: VSWR for output ports

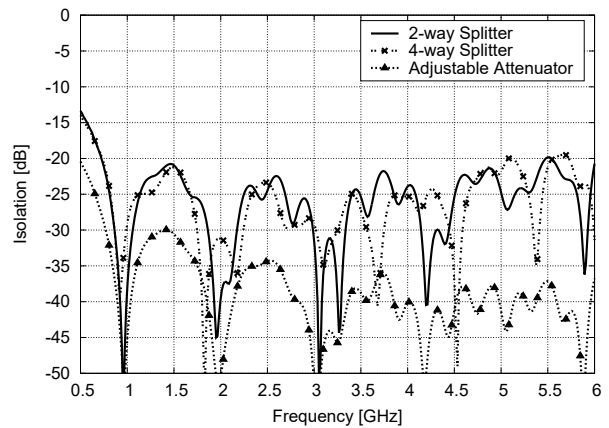


Fig. 6: Isolation between input ports

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Views:

