

Standard Coupling Unit SCF-0350-4G

MTS-No.: 26134-01

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 or UMTS base stations or signal generators etc. over the MTS SCF to mobile devices.

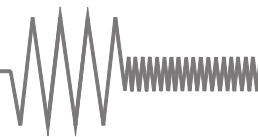
Description

The MTS Standard Coupling Unit series SCF-0350-4G emulates an air interface between 6 base stations and 3 mobile devices.



Characteristics

- ▶ 3 groups, each with 2 inputs coupled to 1 output through 95 dB attenuators
- ▶ Frequency range from 400 MHz to 4000 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 – 3800 MHz (function and tolerance @ manual)
- ▶ Integrated combiners (1x 4/1, 2x 2/1)
- ▶ 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 unit (84 TE) 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 paths each with 2 variable attenuators connected by 2/1 combiner to 1 output, as well as power level indication for 700 MHz- 3800 MHz (function and tolerance @ manual) at the front panel and additional combiners 1x 4/1 and 2x 2/1

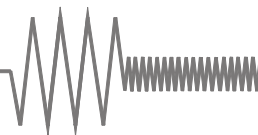
Technical data:

1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	+30 dBm max.		
1.3 Frequency range	400 MHz - 4000 MHz		
1.4 RF-connections	N female		
1.5 Attenuation @ BTS path	0 dB - 95 dB in 1 dB steps		
	min.	typ.	max.
1.6 VSWR in @ BTS p.		1.4	1.7
VSWR in @ Cb path		1.2	1.5
VSWR out @ BTS p.			
400 MHz - 4000 MHz		1.6	2.5
700 MHz - 3800 MHz		1.2	1.5
VSWR out @ Cb path		1.2	1.7
1.7 Insertion loss (IL) @ BTS path		9.0 dB	12.0 dB
@ Cb path 2-way		3.5 dB	4.5 dB
@ Cb path 4-way		7.5 dB	8.5 dB
1.8 IL derating / 100 MHz @ BTS path		0.1 dB	0.2 dB
1.9 Isolation @ BTS path (without attenuation) (see plot)			
@ 400 - 4000 MHz	20 dB		
@ 700 - 3600 MHz	30 dB	37 dB	
Isolation @ Cb path (see plot)			
@ 400 - 4000 MHz	10 dB		
@ 700 - 3600 MHz	20 dB	27 dB	
1.10 Attenuation accuracy (negative means more attenuation)			
@ 400 - 3000 MHz			
@ 1 - 30 dB		±0.1	±0.8 dB
@ 31 - 60 dB		±0.4	+1.5/-0.8 dB
@ 61 - 95 dB		±0.8	+2.5/-1.5 dB
@ 3000 - 4000 MHz			
@ 1 - 30 dB		0/-0.3	±0.8
@ 31 - 60 dB		0/-1.1	+0.8/-1.5 dB
@ 61 - 95 dB		0/-1.9	+1.5/-2.5 dB
1.11 Switching time			10 ms

2 Connections:

2.1 Front side	RF-connections Power switch with integrated control lamp LCD display Keyboard UP/DOWN-keys LEDs for power level indication
2.2 Rear side	RF-connections Power supply Control card and 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
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	Keyboard and UP/DOWN-keys RS-232 LAN
3.5 Power consumption primarily	200 mA max. @ 230 V
3.6 Voltage supply	Standard rubber connector
3.7 Operating temperature	0 °C - +40 °C
3.8 Reference temperature for specifications	+25 °C
3.9 Dimensions	19" rack mount unit 84 TE x 6 HU x 310 mm (without handles and connections)
3.10 Colour	Front side colourless anodized Rear side colourless anodized
3.11 Weight	12.8 kg

4 Delivered parts:

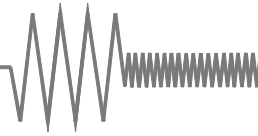
SCF-0350-4G
Power cable
CD with operating manual

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:

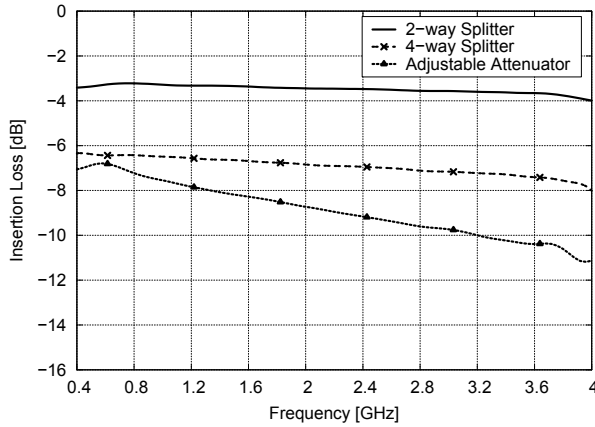


Fig. 1: Input port to output port insertion loss

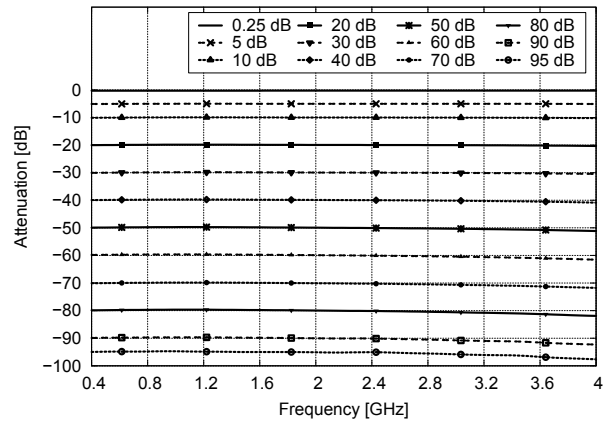


Fig. 2: Attenuation relative to insertion loss

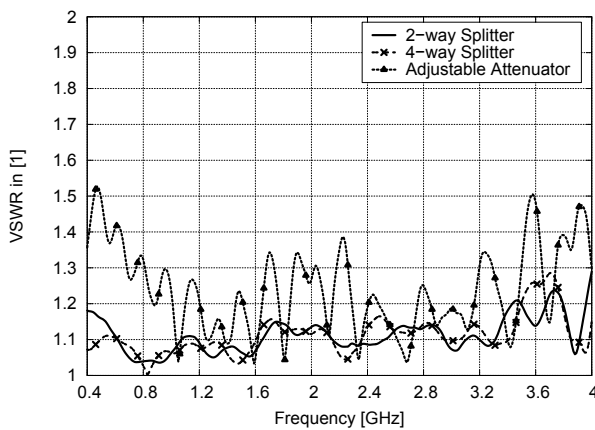


Fig. 3: VSWR for input ports

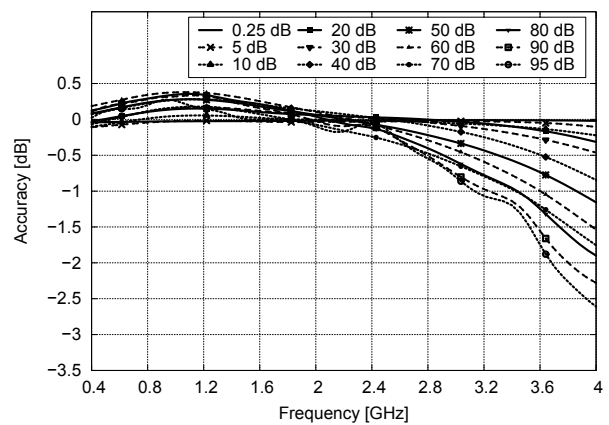


Fig. 4: Attenuation accuracy

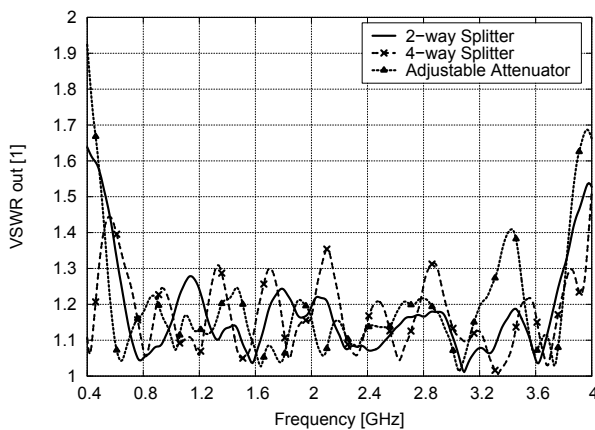


Fig. 5: VSWR for output ports

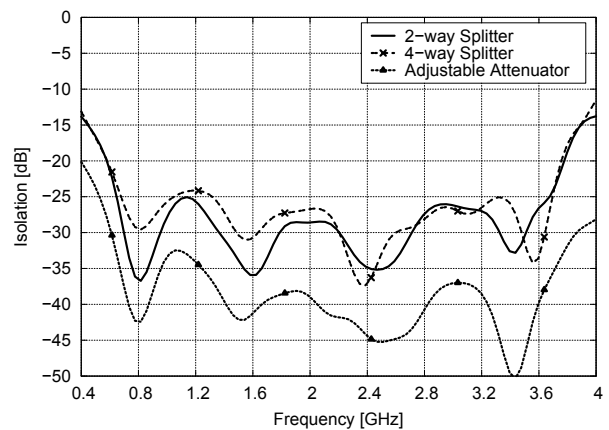


Fig. 6: Isolation between output ports

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Views:

