

## Air Interface Adapter AIAD-4x8/4-4G-S1

MTS-No.: 30083

### Application

With the MTS AIAD 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 LTE+ base stations or signal generators etc. over the MTS AIAD to mobile devices.

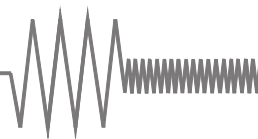
### Description

The Air Interface Adapter series AIAD is our most flexible solution for air interface emulation. With the AIAD it is possible to emulate the in- and outputs according to the demands of the customer. The design of the shown unit is divided into 4 groups. Every group allows program controlled attenuation of 8 input to 1 output signals at the same time. The function is carried out by attenuators and combiners. Additionally each of the 4 outputs has one monitor connection and is divided by 4.



### Characteristics

- ▶ 4 groups each with 8 inputs leading through 95 dB attenuators to 1 output each output divided to 1 monitor and 4 ports (32 inputs, 20 outputs)
- ▶ Frequency range from 400 MHz to 4000 MHz
- ▶ Attenuation range from 0 dB to 95 dB in 1 dB steps at each attenuator
- ▶ On request attenuation in 0.5 dB steps (up to 95 dB) or in 0.25 dB steps (up to 32 dB) or up to 122 dB (by other hardware)
- ▶ Switching time up to 10 ms
- ▶ Integrated power supply 100 V - 240 V AC
- ▶ Remote control by USB and LAN (other interfaces, colour display with touchpanel or web control on request)
- ▶ 19" rack mount case with 6 HU
- ▶ Windows control programs can be offered
- ▶ High quality materials and components for extended durability
- ▶ On request increment and decrement function of separate components with defined values
- ▶ On request user blocking of separate components (with name / name and keyword available)
- ▶ Air Interface Adapters can be designed according to customers individual requirements



## Air Interface Adapter AIAD-4x8/4-4G-S1

MTS-No.: 30083

### Configuration:

4 groups each with 8 inputs leading through 95 dB attenuators to 1 output divided to 1 monitor and 4 ports (32 inputs, 20 outputs)

### Technical data:

#### 1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	+30 dBm max. @ each port		
1.3 Frequency range	400 MHz - 4000 MHz		
1.4 RF-connections	N female		
1.5 Attenuation	0 dB - 95 dB in 1 dB steps 0.5 / 0.25 dB on request		
	<b>min.</b>	<b>typ.</b>	<b>max.</b>
1.6 VSWR @ in / out / monitor		1.3	1.6
1.7 Insertion loss (IL) @ 400 MHz @ in / monitor		15 dB	17 dB
@ in / out		21 dB	23 dB
@ 4000 MHz @ in / monitor		22 dB	25 dB
@ in / out		29 dB	32 dB
1.8 IL derating / 20 MHz		0.05 dB	
1.9 Isolation (see plot) @ in / in	(without attenuation)		
@ 400 - 700 MHz	19 dB	25 dB	
@ 700 - 4000 MHz	25 dB	35 dB	
@ out / monitor @ 400 - 4000 MHz	15 dB	15 dB	
@ 700 - 3600 MHz	23 dB	25 dB	
@ out / out @ 400 - 4000 MHz	10 dB	25 dB	
@ 700 - 3600 MHz	20 dB	25 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 dB	
@ 31 - 45 dB	0/-1.1	+0.8/-1.5 dB	
@ 46 - 60 dB	0/-1.1	+0.8/-2.0 dB	
@ 61 - 85 dB	0/-1.9	+1.5/-2.5 dB	
@ 86 - 95 dB	0/-1.9	+1.5/-3.5 dB	
1.11 Switching time		10 ms	

#### 2 Connections:

2.1 Front side	Power switch with integrated control lamp
2.2 Rear side	RF-connections Control card with control interfaces Appliance plug with the integrated fuses F1 and F2 Ground connector

#### 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
3.4 Control interfaces	USB LAN
3.5 Power consumption primarily	150 mA max. @ 230 V
3.6 Voltage supply	Standard rubber connector
3.7 Operating temperature	0 °C - +50 °C
3.8 Reference temperature for specifications	+25 °C
3.9 Dimensions	19"-unit x 6 HU x 430 mm (dimensions without handles and connections)
3.10 Colour	Front side colourless anodized Rear side colourless anodized
3.11 Weight	18.8 kg

#### 4 Delivered parts:

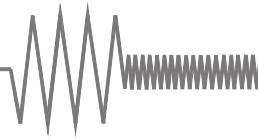
AIAD-4x8/4-4G-S1  
Power cable  
CD with operating manual

#### 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



# Air Interface Adapter AIAD-4x8/4-4G-S1

MTS-No.: 30083

## Typical measurements:

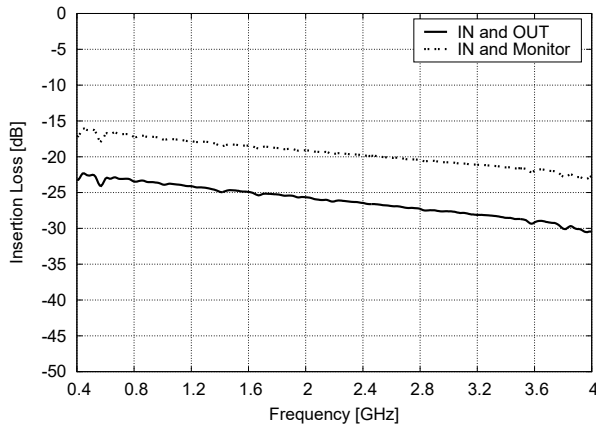


Fig. 1: Input port to output / mon. port insertion loss

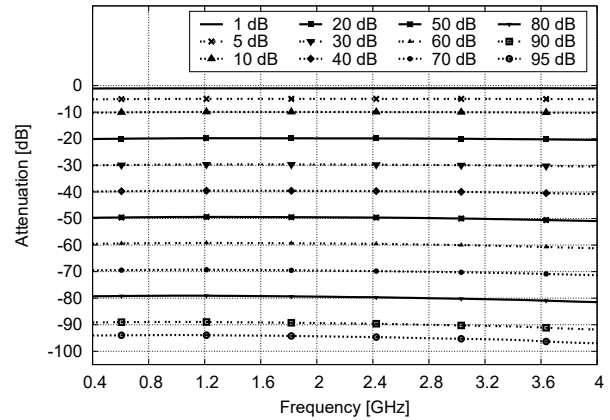


Fig. 2: Attenuation relative to insertion loss

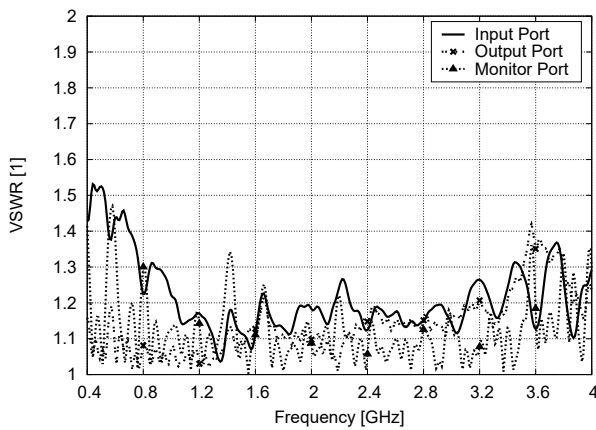


Fig. 3: VSWR for in-, output and monitor ports

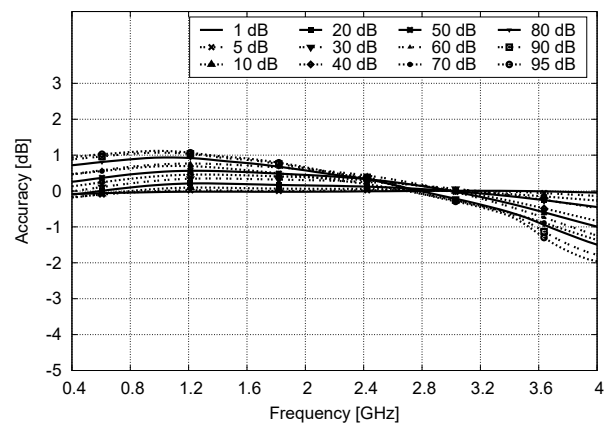


Fig. 4: Attenuation accuracy

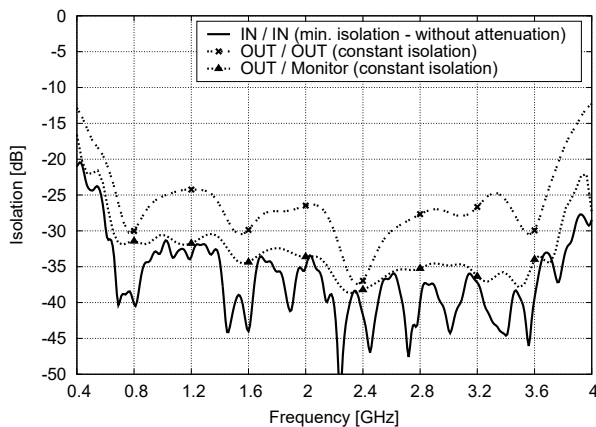
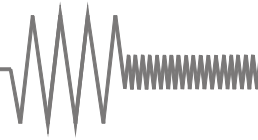


Fig. 5: Isolation between in-, output and monitor ports



# Air Interface Adapter AIAD-4x8/4-4G-S1

MTS-No.: 30083

## Views:

